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

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Addendum

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

From data-month October 2002, a new location program ISCloc has been used in operations. Also, the IASPEI standard seismic phase list has been adopted by the ISC (Storchak,D.A., J.Schweitzer, P.Bormann (2003) The IASPEI Standard Seismic Phase List, Seismological Research Letters 74, 6, 761-772).

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,2170S×17955W,h600km,mb4.6/6,Error ellipse: s-maj=75.5km s-min=25.7km az=151.0*
*IDC **01** 18:45:46.3±2.6,2176S×17970W,h627km±37km,mb3.5/4, mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km s-min=20.6km az=159.0*
ISC 01 18:45:43.1±2.7,**223S**±02×**1796W**±03,**h613**km±42km,**n22,** σ**1§15**/21,**mb4.4**/**9**,**1C**,**South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

THE ***31*** *23:59:53.9, 3847N×2730E, h10km, ML2.7*
ISK ***01*** *00:00:00.5, 3875N×2665E, h30km, MD3.4, ML3.5*
ISCJB ***01*** *00:00:00.7±0.4, 3882N±002×2676E±002, h13km±3km, Error ellipse: s-maj=3.3km s-min=2.6km az=112.9*
NEIC ***01*** *00:00:01.4±0.6, 3876N×2672E, h10km, MD3.4(ISK), MD3.5(ATH), Error ellipse: s-maj=8.1km s-min=6.3km az=67.0*
ATH ***01*** *00:00:02.2, 3872N×2637E, h22km±4km, MD3.5/6*
SOF ***01*** *00:00:05.2, 3923N×2675E, h5km, MD2.9*
ISC 01 00:00:01.7±0.4**, 3882N**±002×**2676E**±002**, h15**km±3km**, n66,** σ**0.98**/88**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.47**	**196**	*i* P	**Pg**	**00 00 10.9**	**-0.2**
URLA				*i* S	**Sg**	**00 00 18.0**	**+0.5**
AYVA	**Ayvalik**	**0.49**	**354**	*i* P	**Pg**	**00 00 10.7**	**-0.8**
AYVA				*i* S	**Sg**	**00 00 18.2**	**+0.1**
KDAG	**Bornova**	**0.57**	**136**	*i* P	**Pg**	**00 00 12.9**	**-0.1**
KDAG				*i* S	**Sg**	**00 00 21.5**	**+0.8**
PRK	**Paraskevi**	**0.57**	**319**	*e*PN	**Pg**	**00 00 12.7**	**-0.3**
PRK				*e*SN	**Sg**	**00 00 20.8**	**+0.2**
IZM	**Izmir**	**0.57**	**137**	*i* PG	**Pg**	**00 00 13.1**	**+0.1**
IZM				*i* SG	**Sg**	**00 00 22.3**	**+1.6**
AKS	**Akhisar**	**0.82**	**85**	*i* PG	**Pg**	**00 00 17.4**	**-0.3**
AKS				*i* SG	**Sg**	**00 00 30.2**	**+1.6**
EZN	**Ezine**	**1.06**	**342**	PN	**Pn**	**00 00 20.6**	**-1.4**
SMG	**Samos**	**1.11**	**177**	*e*PN	**Pn**	**00 00 22.7**	**+0.1**
SMG				*e*SN	**Sn**	**00 00 38.0**	**+0.4**
BALB	**Balikesir**	**1.20**	**46**	PN	**Pn**	**00 00 23.2**	**-0.6**
BALB				SN	**Sn**	**00 00 40.2**	**+0.4**
BTOK	**Tokmak**	**1.36**	**46**	*i* P	**Pn**	**00 00 26.0**	**-0.2**
BTOK				*i* S	**Sn**	**00 00 43.9**	**-0.1**
MANT	**Manisa**	**1.45**	**102**	*i* P	**Pn**	**00 00 27.1**	**-0.1**
MANT				*i* S	**Sn**	**00 00 47.5**	**+1.6**
AYDN	**Tasoluk**	**1.45**	**142**	*i* P	**Pn**	**00 00 27.3**	**-0.1**
AYDN				*i* S	**Sn**	**00 00 44.5**	**-1.6**
LPK	**Lapseki**	**1.55**	**0**	PN	**Pn**	**00 00 27.5**	**-1.3**
LIA	**Limnos Island**	**1.63**	**312**	*e*PN	**Pn**	**00 00 29.9**	**+0.1**
MLSB	**Milas**	**1.72**	**152**	*e*PN	**Pn**	**00 00 29.1**	**-1.9**
EDC	**Edincik**	**1.75**	**29**	PN	**Pn**	**00 00 30.7**	**-0.7**
BNT	**Bandirma**	**1.78**	**30**	PN	**Pn**	**00 00 31.4**	**-0.5**
BNT				SN	**Sn**	**00 00 53.6**	**-0.6**
BODT	**Bodrum**	**1.81**	**166**	*e*PN	**Pn**	**00 00 29.5**	**-2.7**
BDRM	**Kayabasi**	**1.83**	**163**	*i* P	**Pn**	**00 00 32.4**	**-0.1**
BDRM				*i* S	**Sg**	**00 01 01.0**	**+0.3**
MRMT	**Marmara Adasi**	**1.90**	**20**	PN	**Pn**	**00 00 32.3**	**-1.2**
SART	**Tekirdag**	**1.90**	**10**	*i* P	**Pn**	**00 00 33.1**	**-0.4**
SART				*i* S	**Sn**	**00 00 57.3**	**+0.2**
KCT	**Karacabey**	**1.90**	**40**	PN	**Pn**	**00 00 33.0**	**-0.5**
APE	**Apeiranthos**	**2.00**	**209**	*e*PN	**Pn**	**00 00 33.8**	**-1.1**
MFT	**Murefte**	**2.01**	**11**	*e*PN	**Pn**	**00 00 33.4**	**-1.6**
ORLT	**Orhaneli**	**2.06**	**53**	*e*PN	**Pn**	**00 00 35.4**	**-0.3**
YER	**Yerkesik**	**2.07**	**144**	*e*PN	**Pn**	**00 00 34.9**	**-0.9**
DENT	**Denizli**	**2.08**	**120**	*e*PN	**Pn**	**00 00 35.4**	**-0.6**
DNZL	**Cakiroluk**	**2.12**	**121**	*i* P	**Pn**	**00 00 36.9**	**+0.3**
DNZL				*i* S	**Sg**	**00 01 08.9**	**-1.1**
GDZ	**Gediz**	**2.14**	**82**	*i* P	**Pn**	**00 00 38.2**	**+1.4**
GDZ				*i* S	**Sg**	**00 01 09.6**	**-0.9**
ALN	**Alexandroupoli**	**2.15**	**345**	*e*Pn	**Pn**	**00 00 36.4**	**-0.6**
ALN				*e*Sn	**Sg**	**00 01 09.0**	**-1.8**
DAT	**Datca**	**2.18**	**162**	*e*PN	**Pn**	**00 00 35.0**	**-2.4**
ULDT	**Uludag**	**2.27**	**54**	*i* P	**Pn**	**00 00 38.6**	**+0.1**
ULDT				*i* S	**Sg**	**00 01 12.0**	**-2.5**
AOS	**Alonnisos**	**2.27**	**280**	*e*Pn	**Pn**	**00 00 38.6**	**0.0**
IZI	**Iznik**	**2.59**	**53**	*e*PN	**Pn**	**00 00 43.3**	**+0.3**
ALT	**Altintas**	**2.62**	**84**	*e*PN	**Pn**	**00 00 43.5**	**0.0**
OUR	**Ouranopolis**	**2.63**	**306**	*e*Pn	**Pn**	**00 00 43.9**	**+0.4**
PAIG	**Paliouri**	**2.63**	**296**	*e*Pn	**Pn**	**00 00 43.5**	**0.0**
PAIG	**Paliouri**	**2.63**	**296**	*e*Pn	**Pn**	**00 00 43.5**	**-0.1**
CTT	**Catalca**	**2.66**	**28**	*e*PN	**Pn**	**00 00 43.6**	**-0.3**
ELBA	**Catalca**	**2.66**	**28**	*i* P	**Pn**	**00 00 43.8**	**-0.1**
ELBA				*i* S	**Sg**	**00 01 37.8**	**+11**
YLV	**Yalova**	**2.67**	**48**	*e*PN	**Pn**	**00 00 44.2**	**+0.1**
XOR	**Xorichti**	**2.83**	**282**	*e*Pn	**Pn**	**00 00 46.1**	**-0.2**
ISK	**Istanbul-Kandi**	**2.86**	**37**	*e*PN	**Pn**	**00 00 46.0**	**-0.7**
PLG	**Polygyros**	**3.00**	**302**	*e*PN	**Pn**	**00 00 47.9**	**-0.7**
HRT	**Hereke**	**3.00**	**47**	*e*PN	**Pn**	**00 00 48.6**	**-0.1**
KDZ	**Kurdzhali**	**3.01**	**340**	*e*P	**Pn**	**00 00 49.5**	**+0.7**
EDRB	**Edirne**	**3.03**	**360**	*e*PN	**Pn**	**00 00 49.4**	**+0.4**
BORA	**Eskisehir**	**3.05**	**69**	*i* P	**Pn**	**00 00 49.7**	**+0.3**
BORA				*i* S	**Sg**	**00 01 41.1**	**+1.3**
ELL	**Elmali**	**3.24**	**129**	*e*PN	**Pn**	**00 00 51.2**	**-0.7**
ESKT	**Eskisehir**	**3.26**	**76**	*e*PN	**Pn**	**00 00 53.2**	**+1.0**
ESKT	**Eskisehir**	**3.26**	**76**	*i* P	**Pn**	**00 00 52.8**	**+0.6**
ESKT				*i* S	**Sb**	**00 01 41.1**	**+2.6**
RZN	**Rozhen**	**3.27**	**332**	*i* P	**Pn**	**00 00 53.0**	**+0.7**
SOH	**Sokhos**	**3.30**	**308**	*e*Pn	**Pn**	**00 00 53.6**	**+0.9**
SRS	**Serrai**	**3.35**	**314**	*e*Pn	**Pn**	**00 00 53.7**	**+0.3**
SRS				*e*Sn	**Sb**	**00 01 41.4**	**+0.2**
NVR	**Nevrokopi**	**3.37**	**320**	*e*PN	**Pn**	**00 00 54.4**	**+0.7**
LIT	**Litokhoron**	**3.54**	**293**	*e*Pn	**Pn**	**00 00 57.1**	**+1.0**
MMB	**Musomiste**	**3.61**	**321**	*e*P	**Pn**	**00 01 00.0**	**+2.9**
JMB	**Yambol**	**3.65**	**358**	*e*P	**Pn**	**00 01 00.0**	**+2.4**
GRG	**Griva**	**3.98**	**304**	*e*Pn	**Pn**	**00 01 03.5**	**+1.4**
KIZT	**Kizilcal**	**4.00**	**88**	*e*PN	**Pn**	**00 01 03.3**	**+0.9**
KKB	**Krupnik**	**4.14**	**318**	*e*P	**Pn**	**00 01 08.0**	**+3.6**
PGB	**Panagyurishte**	**4.22**	**333**	*e*P	**Pn**	**00 01 06.0**	**+0.6**
PVL	**Pavlikeni**	**4.53**	**347**	*e*P	**Pn**	**00 01 14.0**	**+4.4**
FNA	**Florina**	**4.59**	**297**	*e*Pn	**Pn**	**00 01 11.5**	**+1.1**
VTS	**Vitosha**	**4.64**	**326**	*e*P	**Pn**	**00 01 12.5**	**+1.4**
BR131	**Keskin Array S**	**5.42**	**78**	*e*Pn	**Pn**	**00 01 22.9**	**+1.0**

BJI ***01*** *00:11:47.9, 231N×96.10E, h23km, mB5.0, mb4.8, Ms4.2, Msz4.0*
ISCJB ***01*** *00:11:48.4±0.5, 226N±007×9606E±006, h26km, mb4.7/51, MS3.9/15, Error ellipse: s-maj=10.4km s-min=8.6km az=163.5*
NEIC ***01*** *00:11:50.7±0.7, 228N×9593E, mb4.7/13, Error ellipse: s-maj=16.4km s-min=7.6km az=199.0*
MOS ***01*** *00:11:51.1±1.2, 261N×96.15E, h33km, mb4.8/11, Error ellipse: s-maj=17.2km s-min=7.8km az=102.6*
IDC ***01*** *00:11:52.2±1.0, 262N×9590E, h22km±3km, mb4.3/16, mb1 4.4/17, mb1mx4.2/25, mbtmp4.4/17, ML4.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/23, Error ellipse: s-maj=25.1km s-min=19.8km az=24.0*
SZGRF ***01*** *00:11:52.0, 238N×9650E, h33km, mb4.6, Northern Sumatera, Indonesia*
ISC 01 00:11:50.6±0.6**, 225N**±008×**9607E**±006**, h28**km**, h28**km±1.2km**:pP-P, n98,** σ**1.15**/103**, mb4.7**/51**, MS3.9**/15**, 6C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.90**	**79**	Pn	**Pn**	**00 12 38.8**	**+3.8**
	21nm,0.3s,baz=286,slow=7.7,SNR=82						
PSI				LR	LR	00 14 09.0	
	comp=Z,985nm,18.1s,baz=253,slow=45						
KULM	**Kulim**	**5.48**	**56**	*e*Pn	**Pn**	**00 13 11.8**	**+1.5**
PALK	**Pallekele**	**16.10**	**289**	Pn	**Pn**	**00 15 29.1**	**-5.8**
KKM	**Kota Kinabalu**	**20.44**	**79**	*e*P	**P**	**00 16 29.3**	**+3.6**
QIZ	**Qiongzhong**	**21.45**	**38**	P	**P**	**00 16 36.2**	**-0.4**
QIZ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.0						
QIZ				LR	LR		
	comp=N,194nm,18.0s						
QIZ				LR	LR		
	comp=Z,211nm,17.0s,MS3.6						
KMI	**Kunming**	**23.63**	**15**	P	**P**	**00 17 00.0**	**+0.5**
KMI				AP		00 17 08.8	
KMI				XP	sP	00 17 12.0	+1.1
KMI				S	**S**	**00 21 11.0**	**-1.1**
KMI				XS	sS	00 21 24.6	-0.8
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,73nm,3.7s						
KMI				LR	LR		
	comp=N,265nm,17.1s,MS3.9						
KMI				LR	LR		
	comp=E,137nm,14.4s,MS3.9						
KMI				LR	LR		
	comp=Z,291nm,16.1s,MS3.8						
GYA	**Guiyang**	**26.13**	**22**	⇑*i*P	**P**	**00 17 21.5**	**-0.8**
GYA				AP	pP	00 17 30.6	+0.3
GYA				XP	sP	00 17 34.8	+1.0
GYA				PP		00 18 03.9	
GYA				S	**S**	**00 21 49.1**	**-3.0**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,640nm,16.2s,MS4.4						
GYA				LR	LR		
	comp=E,570nm,15.8s,MS4.4						
GYA				LR	LR		
	comp=Z,610nm,16.0s,MS4.2						
JIRN	**Jiri**	**26.98**	**340**	*e*P	**P**	**00 17 30.8**	**+0.9**
	comp=Z,101nm,0.7s,mb5.5						
PKI	**Pulchoki**	**27.17**	**339**	*e*P	**P**	**00 17 31.9**	**+0.3**
	comp=Z,23nm,0.6s,mb4.9						
DMN	**Daman**	**27.31**	**338**	*e*P	**P**	**00 17 33.3**	**+0.4**
GUN	**Gumba**	**27.31**	**340**	*e*P	**P**	**00 17 33.6**	**+0.7**
	comp=Z,82nm,0.7s,mb5.4						
KKN	**Kakani**	**27.41**	**339**	*e*P	**P**	**00 17 34.3**	**+0.5**
	comp=Z,73nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.70**	**351**	P	**P**	**00 17 36.8**	**+0.5**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
LSA	**Lhasa**	**27.70**	**351**	*e*P	**P**	**00 17 36.2**	**-0.1**
LSA				*e**PP	pP	00 17 44.1	-0.3
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8						
LSA	**Lhasa**	**27.70**	**351**	*e*P	**P**	**00 17 36.2**	**-0.1**
	comp=Z,15nm,0.6s,mb4.8						
LSA				*e*pP	pP	00 17 44.1	-0.4
GKN	**Gorkha**	**27.84**	**338**	*e*P	**P**	**00 17 38.1**	**+0.5**
	comp=Z,107nm,0.9s,mb5.5						
KOLN	**Koldanda**	**28.04**	**336**	*e*P	**P**	**00 17 40.1**	**+0.7**
	comp=Z,51nm,0.8s,mb5.2						
CD2	**Chengdu**	**29.42**	**14**	P	**P**	**00 17 50.3**	**-1.3**
CD2				AP	pP	00 17 57.6	-2.2
CD2				XP	sP	00 18 01.7	-1.5
CD2				PP	PP	00 18 49.5	-8.7
CD2				S	**S**	**00 22 41.2**	**-2.7**
CD2				XS	sS	00 22 53.1	-4.2
CD2				SS	SS	00 24 15.5	-34
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,4.5s						
CD2				LR	LR		
	comp=N,200nm,14.4s						
CD2				LR	LR		
	comp=Z,150nm,12.6s,MS3.8						
ENH	**Enshi**	**30.64**	**23**	*e*P	**P**	**00 18 01.0**	**-1.4**
	comp=Z,8.4nm,0.6s,mb4.8						
ENH				*e*pP	pP	00 18 10.0	-0.6
XAN	**Xi'an**	**33.83**	**19**	P	**P**	**00 18 28.8**	**-1.6**
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
LZH	**Lanzhou**	**34.43**	**11**	*e*P	**P**	**00 18 34.0**	**-1.6**
LZH				AP	pP	00 18 41.5	-2.3
LZH				XP	sP	00 18 46.5	-0.7
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,105nm,4.3s						
NJ2	**Nanjing**	**36.59**	**33**	*e*P	**P**	**00 18 54.4**	**+0.2**
NJ2				AP	pP	00 19 04.2	+1.8
NJ2				XP	sP	00 19 08.1	+2.3
NJ2				PP	PP	00 20 20.4	+2.7
NJ2				S	**S**	**00 24 36.0**	**+0.8**
NJ2				XS	sS	00 24 53.0	+4.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,220nm,4.9s						
NJ2				LR	LR		
	comp=N,390nm,22.8s,MS4.2						
NJ2				LR	LR		
	comp=E,300nm,20.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,220nm,13.8s						
GTA	**Gaotai**	**37.14**	**5**	P	**P**	**00 18 58.6**	**-0.3**
GTA				AP	pP	00 19 06.6	-0.5
GTA				XP	sP	00 19 10.1	-0.4
GTA				PP	PP	00 20 26.6	+2.8
GTA				S	**S**	**00 24 45.9**	**+2.3**
GTA				XS	sS	00 24 57.7	+0.5
GTA				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
GTA				AMB	AMB		
	comp=Z,51nm,5.7s						
GTA				LR	LR		
	comp=N,82nm,15.2s,MS3.8						
GTA				LR	LR		
	comp=E,69nm,13.3s,MS3.8						
GTA				LR	LR		
	comp=Z,116nm,15.2s,MS3.8						
SSE	**Sheshan**	**37.23**	**37**	P	**P**	**00 19 01.4**	**+1.8**
SSE				AP	pP	00 19 10.3	+2.4
SSE				XP	sP	00 19 14.1	+2.8
SSE				PP	PP	00 20 26.8	+2.0
SSE				S	**S**	**00 24 48.4**	**+3.4**
SSE				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.7						
SSE				AMB	AMB		
	comp=Z,253nm,3.9s						
SSE				LR	LR		
	comp=N,55nm,18.5s,MS3.5						
SSE				LR	LR		
	comp=E,39nm,18.5s,MS3.5						
SSE				LR	LR		
	comp=Z,74nm,20.2s,MS3.5						
HHC	**Hu-ho-hao-te**	**40.90**	**18**	⇑P	**P**	**00 19 30.9**	**+0.6**
HHC				AP	pP	00 19 38.3	-0.3
HHC				XP	sP	00 19 42.4	+0.4
HHC				PP	PP	00 21 09.9	+5.1
HHC				PCP	PcP	00 21 30.9	+0.4
HHC				SCP	ScP	00 25 18.1	-0.1
HHC				PCS	PcS	00 25 21.9	+0.5
HHC				XS	sS	00 25 54.4	+0.6
HHC				SS	SS	00 28 39.5	-2.6
HHC				SCS	ScS	00 29 32.1	-1.2
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,110nm,5.3s						
HHC				LR	LR		
	comp=N,206nm,15.6s						
HHC				LR	LR		
	comp=E,144nm,7.1s						
HHC				LR	LR		
	comp=Z,125nm,12.0s,MS4.0						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**00 19 37.9**	**+0.3**
BJT				*e**SP	sP	00 19 49.0	-0.3
BJT				pmax	pmax		
	comp=Z,60nm,1.0s						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**00 19 37.9**	**+0.3**
	comp=Z,60nm,1.0s,mb5.2						
BJT				*e*pP	pP	00 19 44.8	-1.1
BJT				*e*sP	sP	00 19 49.0	-0.3
WMQ	**Urumqi**	**42.06**	**351**	P	**P**	**00 19 39.6**	**-0.2**
WMQ				AP	pP	00 19 49.6	+1.5
WMQ				XP	sP	00 19 53.6	+2.1
WMQ				PP	PP	00 21 20.6	+3.2
WMQ				S	**S**	**00 25 57.0**	**-0.3**
WMQ				SS	SS	00 29 00.0	-5.0
WMQ				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,74nm,5.0s						
WMQ				LR	LR		
	comp=N,96nm,12.0s,MS4.1						
WMQ				LR	LR		
	comp=E,106nm,12.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,68nm,10.0s,MS3.8						
ULHL	**Ulahol**	**43.61**	**339**	P	**P**	**00 19 52.6**	**+0.2**
	SNR=5.5						
KZA	**Kyzart**	**43.83**	**338**	P	**P**	**00 19 55.4**	**+1.2**
	SNR=6.1						
UCH	**Uchtor**	**44.24**	**337**	P	**P**	**00 19 58.9**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**44.43**	**338**	P	**P**	**00 19 58.1**	**-0.9**
	SNR=6.2						
KBK	**Karagaybulak**	**44.44**	**338**	P	**P**	**00 20 00.5**	**+1.4**
	SNR=13						
AML	**Almayashu**	**44.49**	**336**	P	**P**	**00 20 00.8**	**+1.4**
	SNR=13						
AAK	**Ala-Archa**	**44.60**	**337**	⇑*i*P	**P**	**00 20 00.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,11nm,2.6s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
AAK	**Ala-Archa**	**44.60**	**337**	*e*P	**P**	**00 20 01.4**	**+1.1**
	comp=Z,4.6nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**44.90**	**337**	P	**P**	**00 20 04.2**	**+1.4**
	SNR=7.7						
USP	**Ospenovka**	**45.14**	**338**	P	**P**	**00 20 06.0**	**+1.5**
	SNR=7.5						
MKAR	**Makanchi Array**	**45.96**	**347**	P	**P**	**00 20 10.9**	**-0.2**
	comp=Z,12nm,0.5s,mb5.1,baz=158,slow=8.0,SNR=277						
MKAR				pP	pP	00 20 18.0	-1.5
	comp=Z,4.9nm,0.7s,baz=180,slow=7.3,SNR=16						
SONM	**Songino Array**	**46.28**	**10**	P	**P**	**00 20 13.3**	**-0.4**
	comp=Z,9.1nm,0.6s,mb4.9,baz=191,slow=9.2,SNR=75						
SONM				pP	pP	00 20 21.2	-0.8
	comp=Z,5.0nm,0.7s,baz=188,slow=8.7,SNR=10.0						
SONM				PcP	PcP	00 21 50.7	+1.9
	comp=Z,2.6nm,0.6s,baz=190,slow=3.3,SNR=7.1						
ULN	**Ulaanbaatar**	**46.42**	**10**	*e*P	**P**	**00 20 13.9**	**-0.8**
ULN				*e*		00 21 50.7	
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**46.42**	**10**	*e*P	**P**	**00 20 13.9**	**-0.9**
	comp=Z,4.8nm,0.6s,mb4.6						
ULN				*e*		00 21 50.7	
ZAK	**Zakamensk**	**48.35**	**6**	*e*P	**P**	**00 20 30.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
CN2	**Changchun**	**48.90**	**28**	*e*P	**P**	**00 20 33.7**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KURK	**Kurchatov**	**50.50**	**346**	⇓*i*P	**P**	**00 20 45.6**	**-0.5**
KURK	**Kurchatov**	**50.50**	**346**	*e*P	**P**	**00 20 45.2**	**-0.9**
	comp=Z,7.9nm,0.6s,mb4.9						
HIA	**Hailar**	**51.03**	**20**	*e*P	**P**	**00 20 50.2**	**+0.1**
HIA				*e**PP	pP	00 20 57.9	-0.7
HIA				*e**SP	sP	00 21 03.2	+1.3
HIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HIA	**Hailar**	**51.03**	**20**	*e*P	**P**	**00 20 50.1**	**0.0**
	comp=Z,7.4nm,1.0s,mb4.6						
HIA				*e*pP	pP	00 20 57.9	-0.7
HIA				*e*sP	sP	00 21 03.2	+1.3
MDJ	**Mudanjiang**	**51.52**	**30**	P	**P**	**00 20 55.0**	**+1.2**
MDJ				AP	pP	00 21 01.5	-0.8
MDJ				XP	sP	00 21 04.3	-1.3
MDJ				S	**S**	**00 28 14.4**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,46nm,3.3s						
MDJ				LR	LR		
	comp=N,13nm,17.4s,MS3.5						
MDJ				LR	LR		
	comp=E,42nm,18.4s,MS3.5						
MDJ				LR	LR		
	comp=Z,45nm,19.5s,MS3.5						
ZAL	**Zalesovo**	**52.35**	**352**	P	**P**	**00 20 59.5**	**-0.5**
	comp=Z,17nm,0.5s,mb5.3,baz=307,slow=5.0,SNR=99						
NVS	**Novosibirsk**	**53.46**	**351**	⇑*i*P	**P**	**00 21 06.8**	**-1.4**
NVS				pmax	pmax		
	comp=N,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
CTA	**Charters Tower**	**53.98**	**117**	P	**P**	**00 21 16.9**	**+5.0**
	comp=E,6.0nm,0.7s,mb4.6,baz=294,slow=6.5,SNR=6.2						
CTA				LR	LR	00 46 06.0	
	comp=E,69nm,20.0s,MS3.7,baz=45,slow=38						
CTAO	**Charters Tower**	**53.98**	**117**	P	**P**	**00 21 16.9**	**+4.9**
STKA	**Stephens Creek**	**54.89**	**132**	*e*P	**P**	**00 21 13.6**	**-5.1**
BVAR	**Borovoye Array**	**54.90**	**341**	P	**P**	**00 21 18.1**	**-0.5**
	comp=E,3.8nm,0.5s,mb4.7,baz=139,slow=9.4,SNR=44						
BRVK	**Borovoye**	**54.96**	**341**	*e*P	**P**	**00 21 18.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**54.96**	**341**	*e*P	**P**	**00 21 18.1**	**-1.0**
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**55.29**	**340**	*e*P	**P**	**00 21 20.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**55.29**	**340**	*e*P	**P**	**00 21 20.8**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.5						
KLR	**Kul'dur**	**55.84**	**28**	*e*P	**P**	**00 21 22.5**	**-2.9**
HABR	**Khabarovsk**	**56.91**	**30**	*i* P	**P**	**00 21 25.5**	**-7.5**
BOD	**Bodaibo**	**57.20**	**11**	*e*P	**P**	**00 21 33.9**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
AKTK	**Aktyubinsk**	**57.78**	**332**	P	**P**	**00 21 38.8**	**-0.4**
AKTO	**Aktyubinsk**	**57.78**	**332**	P	**P**	**00 21 38.8**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.6,baz=119,slow=9.1,SNR=17						
KMBO	**Kilima Mbogo**	**58.90**	**267**	P	**P**	**00 21 50.9**	**+3.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=74,slow=19,SNR=4.4						
KMBO				LR	LR	00 45 25.0	
	comp=Z,63nm,18.2s,MS3.8,baz=90,slow=34						
KMBO	**Kilima Mbogo**	**58.90**	**267**	P	**P**	**00 21 50.9**	**+3.9**
KMBO				*e*pP	pP	00 21 53.4	-2.2
KMBO				LR	LR	00 45 25.0	
ARU	**Arti**	**61.78**	**337**	⇑*i*P	**P**	**00 22 05.9**	**-0.9**
ARU				*e*		00 22 43.2	
ARU				*e*		00 24 18.4	
ARU				*e*S	**S**	**00 30 29.0**	**+0.8**
ARU				*e*SS	SS	00 34 33.2	+3.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	**Arti**	**61.78**	**337**	*e*P	**P**	**00 22 06.0**	**-0.7**
	comp=Z,6.6nm,0.9s,mb4.8						
HNR	**Honiara**	**64.68**	**101**	*e*P	**P**	**00 22 26.5**	**+0.6**
YAK	**Yakutsk**	**64.74**	**17**	*i* P	**P**	**00 22 25.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
BR131	**Keskin Array S**	**67.57**	**312**	*e*P	**P**	**00 22 42.0**	**-2.5**
BR131				*e*pP	pP	00 22 51.8	-1.4
BRTR	**Keskin Array B**	**67.57**	**312**	P	**P**	**00 22 45.1**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=153,slow=8.3,SNR=5.2						
BRTR				pP	pP	00 22 51.2	-2.0
	comp=Z,1.1nm,0.8s,baz=117,slow=7.4,SNR=5.5						
CASY	**Casey**	**69.16**	**174**	P	**P**	**00 22 49.7**	**-4.8**
MA2	**Magadan**	**70.89**	**26**	*e*P	**P**	**00 23 03.0**	**-2.0**
OBN	**Obninsk**	**71.14**	**328**	*e*P	**P**	**00 23 04.9**	**-1.7**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
TIXI	**Tiksi**	**72.36**	**10***c*	*i*P	**P**	**00 23 12.9**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
SEY	**Seymchan**	**73.25**	**23**	*i* P	**P**	**00 23 19.4**	**+0.2**
AKASG	**Malin Array Be**	**73.74**	**322**	P	**P**	**00 23 21.0**	**-1.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=91,slow=5.3,SNR=16						
FINES	**FINESS Array B**	**78.55**	**333**	P	**P**	**00 23 49.6**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=12						
PSZ	**Piszkesteto**	**79.08**	**318**	*e*P	**P**	**00 23 49.9**	**-2.5**
MORC	**Moravsky Berou**	**80.88**	**320**	*e*P	**P**	**00 23 59.4**	**-2.6**
MORC				*e*pP	pP	00 24 10.3	-0.6
ARCES	**ARCESS Array B**	**81.17**	**340**	P	**P**	**00 24 03.6**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=90,slow=6.1,SNR=3.9						
ARCES				pP	pP	00 24 09.5	-3.0
	comp=Z,4.0nm,0.8s,baz=94,slow=6.7,SNR=2.5						
GERES	**GERESS Array B**	**83.28**	**319**	P	**P**	**00 24 16.1**	**+1.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=16						
GERES				pP	pP	00 24 23.0	-0.6
	comp=Z,2.5nm,1.0s,baz=90,slow=4.0,SNR=6.4						
HFS	**Hagfors**	**84.25**	**330**	P	**P**	**00 24 20.1**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.4,baz=117,slow=6.6,SNR=7.4						
GRA1	**Grafenberg Arr**	**84.96**	**320**	*e*P	**P**	**00 24 25.2**	**+2.0**
	comp=Z,3.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**84.96**	**320**	*e*P	**P**	**00 24 25.2**	**+2.0**
	comp=Z,3.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**84.96**	**320**	*e*P	**P**	**00 24 25.2**	**+2.0**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**85.55**	**331**	P	**P**	**00 24 26.3**	**+0.2**
	comp=Z,0.1nm,0.6s,mb3.2,baz=88,slow=6.9						
NOA	**NORSAR Array B**	**85.55**	**331**	P	**P**	**00 24 26.1**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.3,baz=89,slow=6.2,SNR=4.5						
DAVOX	**Davos**	**85.76**	**317**	P	**P**	**00 24 28.0**	**+0.8**
	comp=Z,3.0nm,0.5s,mb4.7,baz=166,slow=19,SNR=8.5						
VNDA	**Vanda**	**87.07**	**169**	P	**P**	**00 24 31.8**	**-1.8**
AFI	**Afiamalu**	**92.62**	**104**	*e*P	**P**	**00 25 00.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**93.75**	**283**	P	**P**	**00 25 06.8**	**+2.0**
	comp=Z,0.3nm,0.9s,mb3.7,baz=96,slow=4.8,SNR=2.9						
TORD				pP	pP	00 25 14.7	+0.8

	comp=Z,0.4nm,0.7s,baz=80,slow=3.3,SNR=4.9						
IMA2	**Indian Mountai**	**96.05**	**23**	eP	**P**	**00 25 16.4**	**+1.1**
INK	**Inuvik**	**101.81**	**17**	ePdif	Pdif	00 25 38.9	-2.3
ULM	**Lac du Bonnet**	**126.71**	**10**	PKP	PKPdf	00 30 52.6	+1.2
	comp=Z,0.8nm,0.5s,baz=26,slow=1.4,SNR=3.6						
NVAR	**Mina Array Bea**	**128.58**	**35**	PKP	PKPdf	00 30 59.0	+4.1
	comp=Z,0.3nm,0.6s,baz=262,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**143.35**	**30**	PKhKP		00 31 19.9	
	comp=Z,0.2nm,0.5s,baz=240,slow=1.5,SNR=7.3						
TXAR				PKP	PKPdf	00 31 23.0	+0.7
	comp=Z,0.3nm,0.6s,baz=242,slow=2.2,SNR=7.8						

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*ISCJB **01** 00:14:11.4±0.7, 1383S±007×12279E±009, h10km, mb3.8/4, Error ellipse: s-maj=13.8km s-min=8.1km az=116.2*
*IDC **01** 00:14:12.0±1.1, 1386S×12284E, h0km, mb3.8/4, mb1 4.1/6, mb1mx4.0/13, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=52.0km s-min=21.6km az=65.0*
*NEIC **01** 00:14:13.5±0.6, 1380S×12279E, h10km, mb4.3/1, Error ellipse: s-maj=16.0km s-min=10.1km az=63.0*
ISC 01 00:14:13.7±0.6**, 1383S**±007×**12274E**±009**, h10**km**, n15, σ0^{s}93**/22**, mb3.8**/4**, Northwest of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**5.08**	**147**	eP	**Pn**	**00 15 32.5**	**+2.6**
	278nm,0.5s						
FITZ				eS	**Sn**	**00 16 27.4**	**-1.2**
MBWA	**Marble Bar**	**7.83**	**201**	ePn	**Pn**	**00 16 08.4**	**+0.7**
	66nm,0.4s						
MBWA				eSn	**Sn**	**00 17 29.2**	**-7.2**
WRA	**Warramunga Arr**	**12.65**	**120**	Pn	**Pn**	**00 17 13.5**	**-0.2**
	3.1nm,0.3s,baz=295,slow=14,SNR=33						
WRA				Sn	**Sn**	**00 19 24.7**	**-10**
	11nm,0.3s,baz=293,slow=24,SNR=12						
WRAB	**Tennant Creek**	**12.66**	**120**	ePn	**Pn**	**00 17 14.2**	**+0.5**
	21nm,0.4s						
WRAB				eSn	**Sn**	**00 19 24.7**	**-10**
WB2	**Warramunga Arr**	**12.66**	**120**	eP	**Pn**	**00 17 13.5**	**-0.3**
WB2				eS	**Sn**	**00 19 20.7**	**-14**
ASPA	**Alice Springs**	**14.39**	**134**	eP	**Pn**	**00 17 38.0**	**+0.6**
ASPA				eS	**Sn**	**00 20 07.6**	**-10**
KLBR	**Kellerberrin**	**18.26**	**194**	eP	**Pn**	**00 18 27.0**	**-0.1**
	16nm,0.9s						
KLBR				eS	**Sn**	**00 21 31.8**	**-19**
NWAO	**Narrogin (SRO)**	**19.66**	**194**	P	**Pn**	**00 18 43.1**	**-1.0**
	1.0nm,0.3s,baz=14,slow=11,SNR=8.5						
NWAO	**Narrogin (SRO)**	**19.66**	**194**	eP	**Pn**	**00 18 43.3**	**-0.8**
	6.8nm,0.4s						
KKM	**Kota Kinabalu**	**20.78**	**341**	P	**P**	**00 18 53.5**	**-1.3**
STKA	**Stephens Creek**	**24.92**	**139**	eP	**P**	**00 19 37.2**	**+0.3**
	5.9nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**24.92**	**139**	P	**P**	**00 19 35.4**	**-1.5**
	3.0nm,0.6s,mb4.0,baz=312,slow=9.7,SNR=6.5						
SONM	**Songino Array**	**63.10**	**348**	P	**P**	**00 24 42.0**	**+0.6**
	0.5nm,0.8s,mb3.7,baz=174,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**70.41**	**332**	P	**P**	**00 25 28.9**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=141,slow=7.8,SNR=5.0						
ZAL	**Zalesovo**	**74.85**	**338**	P	**P**	**00 25 54.0**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=310,slow=17,SNR=2.8						

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*CSEM **01** 00:21:06.8±0.1, 6787N×2013E, h1km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.9km az=110.0, Mining explosion.*
*UPP **01** 00:21:06.9, 6784N×2021E, h0km, ML2.7, Mining explosion.*
HEL 01 00:21:07.8±0.1**, 6785N**×**2017E, h0**km**, ML1.8, ML2.7**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**32**	i P	Pg	00 21 09.5	-0.6
KUA				i S	Sg	00 21 11.2	-0.4
NIKU	**Nikkaluokta**	**0.43**	**272**	i P	Pg	00 21 15.5	-0.6
LANU	**Lannavaara**	**0.71**	**73**	i P	Pg	00 21 20.2	-1.3
LANU				i S	Sg	00 21 29.8	-1.0
DUNU	**Dundret**	**0.75**	**168**	i P	Pg	00 21 20.7	-1.5
SALU	**Saltoluokta**	**0.79**	**234**	i P	Pg	00 21 22.0	-1.1
KIF	**Kilpisjarvi**	**1.18**	**11**	eP	Pg	00 21 30.5	+0.1
KIF				eS	Sg	00 21 46.4	+0.7
KIF	**Kilpisjarvi**	**1.18**	**11**	P	Pg	00 21 30.4	0.0
KIF				S	Sg	00 21 46.4	+0.7
PAJU	**Pajala**	**1.41**	**125**	eP	Pn	00 21 32.4	-2.3
ERTU	**Ertsjaerv**	**1.52**	**148**	eP	Pn	00 21 34.4	-1.9
SJUU	**Sjulsmark**	**2.42**	**166**	eP	Pn	00 21 48.6	-0.1
SGF	**Sodankyl**	**2.47**	**97**	eP	Pn	00 21 49.8	+0.6
SGF				eS	Sn	00 22 20.2	+0.2
LILU	**Lilltraesk**	**2.58**	**183**	eP	Pn	00 21 51.5	+0.7
KEV	**Kevo**	**3.13**	**49**	eP	Pn	00 21 58.5	+0.1
KEV				eS	Sn	00 22 36.1	-0.5
KEV				MSG		00 22 42.9	
	comp=Z,2.7nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	P	Pn	00 21 58.5	+0.1
KEV				S	Sn	00 22 36.0	-0.5
	comp=Z,2.7nm,0.3s						
BURU	**Burvik**	**3.32**	**171**	eP	Pn	00 22 01.2	+0.2
OUL	**Oulu**	**3.61**	**138**	eP	Pn	00 22 06.5	+1.6
OUL				eS	Sn	00 22 47.6	-0.6
OUL				eSG	Sg	00 22 58.9	-4.8
OUL				MSG		00 23 00.1	
	comp=Z,1.8nm,0.3s						
OUL	**Oulu**	**3.61**	**138**	P	Pn	00 22 06.5	+1.6
OUL				S	Sn	00 22 47.5	-0.7
OUL				Sg	Sg	00 22 58.8	-4.9
	comp=Z,1.8nm,0.3s						
VAF	**Ylistaro**	**4.94**	**167**	eP	Pn	00 22 24.6	+1.3
VAF				eS	Sn	00 23 20.4	-0.8

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*NEIC **01** 00:49:30.8, 1902N×6509W, h21km, MD3.6(RSPR), After RSPR.*
RSPR 01 00:49:30.8, 1902N×**6509W, h21**km±28km**, MD3.6**/8**, MD3.6**/8**, 5C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CULB	**Culebra**	**0.74**	**198**	⇑eP	Pb	00 49 43.1	-1.9
CULB	**Culebra**	**0.74**	**198**	eS	Sb	00 49 53.2	-1.6
MTP	**Monte Pirata**	**1.02**	**206**	⇓eP	Pb	00 49 47.6	-2.2
MTP				eS	Sb	00 50 00.7	-2.1
CBYP	**Canovanas**	**1.04**	**224**	⇑eP	Pb	00 49 47.3	-2.8
HUMP	**Col San Antoni**	**1.14**	**220**	⇓eP	Pn	00 49 48.7	-2.7
HUMP				eS	Sb	00 50 02.8	-3.2
CPD	**Cerro la Pandu**	**1.25**	**219**	⇑eP	Pn	00 49 50.6	-2.4
CPD				eS	Sn	00 50 06.2	-3.1
SJG	**San Juan**	**1.35**	**228**	⇓eP	Pn	00 49 51.9	-2.5
SJG				eS	Sn	00 50 08.9	-2.8
CELP	**Cerrillos**	**1.70**	**237**	⇓eP	Pn	00 49 57.0	-2.1
CELP				eS	Sn	00 50 16.9	-3.3
AOPR	**Arecibo Observ**	**1.71**	**247**	⇑eP	Pn	00 49 57.1	-2.2
AOPR				eS	Sn	00 50 17.1	-3.4
CRPR	**Cabo Rojo, PR**	**2.17**	**243**	⇑eP	Pn	00 50 04.3	-1.3
CRPR				eS	Sn	00 50 28.4	-3.3

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*CSEM **01** 01:02:19.6±0.5, 4233N×1998E, h10km, ML2.5, Error ellipse: s-maj=8.4km s-min=4.3km az=123.0*
*TIR **01** 01:02:20.8, 4241N×1980E, h1km*
*ISCJB **01** 01:02:21.4±0.3, 4239N±002×1985E±002, h1km, Error ellipse: s-maj=3.0km s-min=2.3km az=75.3*
*PDG **01** 01:02:21.3±0.1, 4239N×1986E, h8km±2km*
*NEIC **01** 01:02:21.3, 4239N×1986E, h8km, ML2.5(PDG), After PDG.*
*SKO **01** 01:02:21.2, 4260N×1994E, h0km*
ISC 01 01:02:21.9±0.3**, 4239N**±002×**1986E**±003**, h3**km±6km**, n22, σ1^{s}22**/43**, 7C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.15**	**99**	i Pg	**Pg**	**01 02 24.3**	**-0.6**
BCI				i Sg	**Sg**	**01 02 27.3**	**+0.3**
PVY	**Plav**	**0.22**	**22**	⇑iPg	**Pg**	**01 02 25.6**	**-0.6**
PVY				eSg	**Sg**	**01 02 29.5**	**+0.4**
PUK	**Puka**	**0.35**	**176**	i Pg	**Pg**	**01 02 27.4**	**-1.2**
PUK				i Sg	**Sg**	**01 02 33.0**	**-0.1**
SDA	**Shkodra**	**0.43**	**219**	i Pg	**Pg**	**01 02 28.8**	**-1.4**
SDA				i Sg	**Sg**	**01 02 36.5**	**+0.7**
TTG	**Podgorica**	**0.45**	**275**	⇑iPg	**Pg**	**01 02 28.7**	**-1.8**
TTG				eSg	**Sg**	**01 02 36.0**	**-0.2**
TTG	**Podgorica**	**0.45**	**275**	⇑iPg	**Pg**	**01 02 28.7**	**-1.8**
TTG				eSg	**Sg**	**01 02 36.0**	**-0.3**
IVA	**Berane**	**0.48**	**3**	⇑iPg	**Pg**	**01 02 30.5**	**-0.6**
IVA				eSg	**Sg**	**01 02 38.2**	**+0.8**
ULC	**Ulcinj**	**0.62**	**227**	⇓iPg	**Pg**	**01 02 32.7**	**-1.1**
ULC				eSg	**Sg**	**01 02 42.7**	**+0.7**
BUM	**Brajici-Budva**	**0.72**	**263**	⇑iPg	**Pg**	**01 02 34.8**	**-0.9**
BUM				eSg	**Sg**	**01 02 45.8**	**+0.8**
NKY	**Niksic**	**0.76**	**304**	⇑iPg	**Pg**	**01 02 35.3**	**-1.3**
NKY				eSg	**Sg**	**01 02 47.4**	**+1.0**
QSH	**Qafa e Shtames**	**0.87**	**178**	i Pg	**Pg**	**01 02 40.0**	**+1.4**
PLE	**Pljevlja**	**1.00**	**340**	ePg	**Pg**	**01 02 39.7**	**-1.4**
PLE				eSg	**Sg**	**01 02 55.8**	**+1.7**
HCY	**Herceg Novi**	**1.01**	**274**	⇓iPg	**Pg**	**01 02 40.0**	**-1.3**
HCY				eSg	**Sg**	**01 02 55.9**	**+1.5**
HCY	**Herceg Novi**	**1.01**	**274**	⇓iPg	**Pg**	**01 02 40.0**	**-1.3**
HCY				eSg	**Sg**	**01 02 55.8**	**+1.4**
UPM	**Unac-Piva**	**1.07**	**320**	⇑iPg	**Pg**	**01 02 41.2**	**-1.3**
UPM				eSg	**Sg**	**01 02 58.1**	**+1.8**
BRY	**Bratogost**	**1.10**	**298**	⇓iPg	**Pg**	**01 02 41.5**	**-1.4**
BRY				eSg	**Sg**	**01 02 58.6**	**+1.4**
SKO	**Skopje**	**1.25**	**109**	ePn	**Pn**	**01 02 45.4**	**-0.8**
SKO				eSg	**Sg**	**01 03 03.8**	**+1.8**
OHR	**Ohrid**	**1.46**	**151**	ePn	**Pg**	**01 02 50.9**	**+1.0**
OHR				eSg	**Sg**	**01 03 12.8**	**+4.0**
STON	**Ston**	**1.67**	**288**	i Pn	**Pn**	**01 02 51.0**	**-1.0**
STON				i Sn	**Sn**	**01 03 16.8**	**+2.9**
STON	**Ston**	**1.67**	**288**	i Pn	**Pn**	**01 02 51.0**	**-1.0**
STON				i Sn	**Sn**	**01 03 16.7**	**+2.8**
BIA	**Bitola**	**1.75**	**141**	ePn	**Pn**	**01 02 54.7**	**+1.4**
BIA				eSg	**Sg**	**01 03 20.5**	**+2.2**
STIP	**Stip**	**1.87**	**111**	ePn	**Pn**	**01 02 53.6**	**-1.2**
STIP				eSg	**Sg**	**01 03 20.6**	**-1.3**

WEL 01 01:46:53.8±0.5**, 3545S**×**17863E, h33**km**, ML3.7**/4**, Error ellipse: s-maj=8.8km s-min=4.1km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.13**	**187**	P*	Pb	01 47 25.9	-5.8
MXZ				eS*	Sb	01 47 52.1	-5.7
MXZ				T		01 49 37.3	
PUZ	**Puketiti**	**2.64**	**186**	ePN	Pn	01 47 33.5	-0.6
PUZ				eSN	Sn	01 48 04.0	-0.9
MWZ	**Matawai**	**3.02**	**197**	P*	Pb	01 47 39.7	-7.1
MWZ				eS*	Sb	01 48 13.8	-9.5
URZ	**Urewera**	**3.06**	**203**	P*	Pb	01 47 40.3	-7.3
URZ				S*	Sb	01 48 15.3	-9.2

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*IDC **01** 01:51:03.1±1.5, 55.11N×16220W, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.8/24, mbtmp3.7/13, ML3.3/3, Error ellipse: s-maj=35.1km s-min=19.7km az=174.0*
*ISCJB **01** 01:51:04.0±3.0, 5539N±008×16237W±009, h8km±20km, mb3.8/10, Error ellipse: s-maj=14.7km s-min=6.7km az=131.2*
*NEIC **01** 01:51:04.4, 5441N×16155W, h5km, ML3.6(AEIC), After AEIC.*
ISC 01 01:51:04.8±2.3**, 554N**±01×**1623W**±02**, h7**km±17km**, n19, σ0^{s}95**/24**, mb3.8**/10**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.04**	**89**	P	**Pg**	**01 51 24.1**	**-0.8**
SDPT				S	**Sg**	**01 51 39.5**	**+1.2**
AKUT	**Akutan**	**2.35**	**240**	P	**Pn**	**01 51 44.0**	**+0.1**
AKUT				S	**Sn**	**01 52 13.5**	**+0.6**
CHGN	**Chignik**	**2.39**	**65**	P	**Pn**	**01 51 46.5**	**+2.1**
CHGN				S	**Sn**	**01 52 20.1**	**+6.1**
UNV	**Unalaska Valle**	**2.87**	**240**	P	**Pn**	**01 51 50.6**	**-0.4**
UNV				S	**Sn**	**01 52 25.1**	**-0.7**
KDAK	**Kodiak Island**	**5.90**	**62**	Pn	**Pn**	**01 52 30.5**	**-2.2**
	0.5nm,0.3s,baz=180,slow=9.1,SNR=4.3						
KDAK				Sn	**Sn**	**01 53 35.1**	**-5.4**
	0.2nm,0.3s,baz=105,slow=23,SNR=1.7						
KDAK				Lg		01 54 03.5	
	0.9nm,0.3s,baz=75,slow=19,SNR=6.4						
ILAR	**Eielson Array**	**12.15**	**33**	Pn	**Pn**	**01 53 56.6**	**-1.7**
	0.0nm,0.3s,baz=224,slow=13,SNR=3.0						
INK	**Inuvik**	**18.54**	**34**	P	**Pn**	**01 55 22.9**	**+0.8**
	0.2nm,0.3s,baz=227,slow=9.2,SNR=5.1						
YKA	**Yellowknife Ar**	**25.11**	**54**	P	**P**	**01 56 29.0**	**-1.2**
	0.2nm,0.4s,mb3.0,baz=271,slow=8.6,SNR=7.0						
YKA	**Yellowknife Ar**	**25.11**	**54**	P	**P**	**01 56 29.0**	**-1.2**
TXAR	**Lajitas Array**	**48.73**	**97**	P	**P**	**01 59 49.5**	**-0.5**
	0.1nm,0.7s,mb3.0,baz=270,slow=3.6,SNR=2.8						
SONM	**Songino Array**	**53.29**	**303**	P	**P**	**02 00 25.4**	**+1.1**
	1.4nm,0.8s,mb3.9,baz=43,slow=6.8,SNR=11						
ARCES	**ARCESS Array B**	**55.30**	**357**	P	**P**	**02 00 39.5**	**+0.6**
	4.2nm,1.0s,mb4.4,baz=14,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**63.36**	**356**	P	**P**	**02 01 34.7**	**-0.1**
	0.4nm,0.5s,mb3.8,baz=63,slow=4.3,SNR=5.8						
FINES	**FINESS Array B**	**63.36**	**356**	P	**P**	**02 01 34.7**	**-0.1**
NOA	**NORSAR Array B**	**63.84**	**4**	P	**P**	**02 01 38.5**	**+0.6**
	2.1nm,1.0s,mb4.1,baz=357,slow=6.6,SNR=2.4						
MKAR	**Makanchi Array**	**64.66**	**317**	P	**P**	**02 01 43.5**	**+0.3**
	0.3nm,0.4s,mb3.7,baz=39,slow=6.3,SNR=15						
AKASG	**Malin Array Be**	**73.89**	**352**	P	**P**	**02 02 40.1**	**-0.4**
	1.2nm,0.5s,mb4.1,baz=8.0,slow=5.8,SNR=8.7						
GERES	**GERESS Array B**	**76.12**	**3**	P	**P**	**02 02 53.4**	**0.0**
	0.4nm,0.6s,mb3.5,baz=333,slow=3.0,SNR=4.4						
BRTR	**Keskin Array B**	**84.32**	**348**	P	**P**	**02 03 38.0**	**+0.5**
	1.8nm,0.9s,mb4.2,baz=25,slow=2.5,SNR=6.3						

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*BJI **01** 01:58:21.2, 070N×9748E, h30km, mb4.4*
*IDC **01** 01:58:24.3±1.4, 136N×9682E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, ML3.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=39.9km s-min=25.0km az=39.0*
*MOS **01** 01:58:27.9±0.5, 145N×9688E, h33km, mb4.3/4, Error ellipse: s-maj=21.3km s-min=15.4km az=109.8*
*ISCJB **01** 01:58:28.0±0.8, 15N±0.1×9696E±0.10, h33km, mb4.1/14, Error ellipse: s-maj=16.8km s-min=13.5km az=33.8*
*NEIC **01** 01:58:29.3±0.5, 146N×9694E, h30km, mb4.0/4, Error ellipse: s-maj=11.5km s-min=8.9km az=197.0*
ISC 01 01:58:30.3±0.8**, 15N**±01×**9697E**±010**, h35**km**, n27, σ0^{s}66**/27**, mb4.1**/14**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**57**	Pn	**Pn**	**01 59 05.5**	**-0.8**
	2.9nm,0.3s,baz=192,slow=3.1,SNR=16						
PSI				LR	LR	01 59 57.8	
	comp=Z,250nm,21.3s,baz=265,slow=38						
PSI	**Prapat**	**2.35**	**57**	Pn	**Pn**	**01 59 05.5**	**-0.8**
PSI				LR	LR	01 59 57.8	
KULM	**Kulim**	**5.26**	**44**	ePn	**Pn**	**01 59 46.6**	**+0.3**
QIZ	**Qiongzhong**	**21.51**	**35**	eP	**P**	**02 03 16.8**	**+0.7**
MSLP	**Maasin**	**29.02**	**72**	eP	**P**	**02 04 19.9**	**-6.9**
MSLP	**Maasin**	**29.02**	**72**	⇑eP	**P**	**02 04 19.9**	**-6.9**
CD2	**Chengdu**	**29.95**	**12**	eP	**P**	**02 04 35.9**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ENH	**Enshi**	**30.99**	**21**	eP	**P**	**02 04 43.8**	**-0.4**
GTA	**Gaotai**	**37.82**	**4**	eP	**P**	**02 05 43.5**	**+0.2**
GTA				AP	pP	02 05 54.6	+1.1
GTA				XP	sP	02 05 58.8	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**42.39**	**122**	P	**P**	**02 06 21.6**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.4,baz=302,slow=9.6,SNR=3.2						
WRAB	**Tennant Creek**	**42.40**	**122**	eP	**P**	**02 06 21.5**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**42.40**	**122**	eP	**P**	**02 06 21.5**	**+0.2**
	comp=Z,8.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**46.87**	**9**	P	**P**	**02 06 57.9**	**+0.9**
	comp=Z,2.9nm,0.7s,mb4.3,baz=191,slow=8.4,SNR=24						
SONM				PcP	PcP	02 08 28.7	-0.7
	comp=Z,0.5nm,0.7s,baz=194,slow=4.6,SNR=3.3						
MKAR	**Makanchi Array**	**46.90**	**346**	P	**P**	**02 06 58.0**	**+0.9**
	comp=Z,3.0nm,0.7s,mb4.3,baz=160,slow=8.0,SNR=51						
KURK	**Kurchatov**	**51.44**	**345**	eP	**P**	**02 07 31.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**51.44**	**345**	eP	**P**	**02 07 31.9**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**53.22**	**351**	P	**P**	**02 07 45.0**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.3,baz=315,slow=6.1,SNR=13						
BRVK	**Borovoye**	**55.95**	**341**	eP	**P**	**02 08 04.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**55.95**	**341**	eP	**P**	**02 08 04.8**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0						
KLR	**Kul'dur**	**56.09**	**27**	eP	**P**	**02 08 04.0**	**-1.9**
ZRNK	**Zerenda**	**56.29**	**340**	eP	**P**	**02 08 07.2**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**56.29**	**340**	eP	**P**	**02 08 07.2**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.8						
AKASG	**Malin Array Be**	**74.88**	**322**	P	**P**	**02 10 06.8**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=96,slow=4.9,SNR=4.0						
FINES	**FINESS Array B**	**79.63**	**333**	P	**P**	**02 10 33.1**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=124,slow=14,SNR=4.3						
ARCES	**ARCESS Array B**	**82.18**	**340**	P	**P**	**02 10 47.5**	**0.0**
	comp=Z,7.4nm,1.1s,mb4.5,baz=63,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**82.18**	**340**	P	**P**	**02 10 47.5**	**-0.1**
GERES	**GERESS Array B**	**84.44**	**319**	P	**P**	**02 10 59.3**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=0.0,slow=0.0,SNR=3.6						

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*ISK **01** 01:58:43.3, 3796N×2670E, h27km, MD2.7*
*ISCJB **01** 01:58:45.5±1.0, 38.19N±004×2656E±005, h6km±6km, Error ellipse: s-maj=7.7km s-min=6.3km az=103.4*
*CSEM **01** 01:58:45.6±0.1, 3822N×2660E, h10km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.3km az=143.0*
*ATH **01** 01:58:45.9, 38.18N×2640E, h10km, MD2.8/3*
ISC 01 01:58:45.4±0.9**, 3818N**±004×**2653E**±006**, h10**km±6km**, n12, σ0^{s}73**/18**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**16**	i P	**Pg**	**01 58 49.5**	**+0.2**
URLA				i S	**Sg**	**01 58 51.9**	**0.0**
BLCB	**Balcova**	**0.45**	**63**	i PG	**Pg**	**01 58 54.0**	**-0.1**
SMG	**Samos**	**0.53**	**153**	ePB	**Pb**	**01 58 57.2**	**+0.4**
IZM	**Izmir**	**0.61**	**69**	PG	**Pg**	**01 58 57.2**	**0.0**
IZM				SG	**Sg**	**01 59 06.0**	**+0.7**
KDAG	**Bornova**	**0.62**	**69**	i P	**Pg**	**01 58 57.0**	**-0.3**
KDAG				i S	**Sg**	**01 59 04.8**	**-0.6**
PRK	**Paraskevi**	**1.08**	**349**	ePB	**Pb**	**01 59 06.1**	**0.0**
AYVA	**Ayvalik**	**1.13**	**6**	i P	**Pb**	**01 59 07.2**	**+0.2**
AYVA				i S	**Sb**	**01 59 22.7**	**+0.9**
AYDN	**Tasoluk**	**1.19**	**116**	i P	**Pb**	**01 59 07.9**	**0.0**
AYDN				i S	**Sb**	**01 59 23.8**	**+0.5**
AKS	**Akhisar**	**1.22**	**55**	ePN	**Pn**	**01 59 05.4**	**-3.1**
APE	**Apeiranthos**	**1.37**	**216**	ePB	**Pb**	**01 59 10.8**	**-0.2**
MANT	**Manisa**	**1.62**	**78**	i P	**Pn**	**01 59 15.2**	**+1.2**
MANT				i S	**Sn**	**01 59 34.6**	**-0.3**
BALB	**Balikesir**	**1.79**	**35**	ePN	**Pn**	**01 59 15.1**	**-1.3**

IDC 01 02:01:30.1±3.5**, 4961S**×**11789E, h0**km**, mb4.0**/2**, mb1 4.3**/2**, mb1mx3.9**/9**, mbtmp4.0**/2**, MS3.6**/6**, Ms1 3.5**/6**, ms1mx3.5**/15**, Error ellipse: s-maj=184.8km s-min=33.1km az=95.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.68**	**358**	LR	LR	02 10 13.8	
	comp=Z,340nm,21.1s,baz=2.8,slow=31						
STKA	**Stephens Creek**	**25.06**	**54**	LR	LR	02 15 08.7	
	comp=Z,154nm,19.1s,baz=207,slow=33						
WRA	**Warramunga Arr**	**32.39**	**30**	P	P	02 08 01.5	0.0
	1.7nm,0.6s,baz=200,slow=9.2,SNR=5.0						
MAW	**Mawson**	**32.39**	**216**	LR	LR	02 19 19.1	
	comp=Z,141nm,18.1s,baz=66,slow=33						
VNDA	**Vanda**	**32.52**	**164**	P	P	02 08 02.2	-0.5
	2.6nm,1.0s,baz=305,slow=5.0,SNR=5.2						
CTA	**Charters Tower**	**37.12**	**48**	LR	LR	02 22 56.6	
	comp=Z,140nm,18.4s,baz=340,slow=35						
SNAA	**Sanae**	**52.03**	**200**	LR	LR	02 30 12.1	
	comp=Z,26nm,18.1s,baz=45,slow=33						
BOSA	**Boshof**	**70.39**	**249**	LR	LR	02 38 10.1	
	comp=Z,16nm,21.2s,baz=313,slow=31						
ILAR	**Eielson Array**	**135.36**	**37**	PKP	PKPdf	02 20 50.6	-1.2
	0.2nm,0.6s,baz=271,slow=3.0,SNR=4.2						
PDAR	**Pinedale Array**	**146.91**	**83**	PKPbc	PKPbc	02 21 13.1	-1.4
	0.5nm,0.7s,baz=207,slow=2.0,SNR=4.5						
YKA	**Yellowknife Ar**	**148.93**	**46**	PKPbc	PKPbc	02 21 17.8	-2.1
	1.1nm,0.8s,baz=277,slow=2.2,SNR=13						

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*NIED **01** 02:37:00, 43.10N×14680E, h38km, Mw4.1 Best double couple: $M_0$1.71000×10^{15} NP1:ϕ_s46.00000°, δ64.00000°, λ136.00000°. NP2:ϕ_s158.00000°, δ52.00000°, λ33.00000°.*
*MOS **01** 02:37:25.5±0.8, 4343N×14654E, h33km, mb4.4/9, Error ellipse: s-maj=16.6km s-min=11.2km az=77.0*
*SKHL **01** 02:37:25.7±0.5, 4327N×14680E, h59km±15km, mb5.0/2*
*JMA **01** 02:37:25.7±0.2, 4307N×14676E, h53km±2km, M4.3*
*ISCJB **01** 02:37:26.4±0.8, 43.13N±006×14671E±006, h54km±7km, mb4.2/27, MS3.6/2, Error ellipse: s-maj=10.2km s-min=6.2km az=114.5*
*NAO **01** 02:37:29.3, 4404N×14734E, h33km, mb4.2*
*NEIC **01** 02:37:30.5±1.2, 4324N×14660E, h72km±13km, mb4.2/14, Error ellipse: s-maj=13.9km s-min=5.7km az=171.0*
*IDC **01** 02:37:31.1±2.4, 4321N×14663E, h78km±20km, mb3.9/13, mb1 4.1/15, mb1mx3.9/23, mbtmp4.2/15, MS3.4/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=32.8km s-min=14.6km az=2.0*
ISC 01 02:37:27.5±0.8**, 4317N**±005×**14670E**±006**, h48**km±7km**, n69, σ0^{s}94**/81**, mb4.2**/27**, MS3.6**/2**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.73**	**286**	P	**Pn**	**02 37 41.0**	**-0.5**
NEM2				eS	**Sn**	**02 37 52.0**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.06**	**325**	eP	**Pn**	**02 37 45.3**	**-0.7**
YUK				AMB	AMB	02 37 46.0	
	1μm,0.4s						
YUK				AMB	AMB	02 37 46.5	
	670nm,0.1s						
YUK				AMB	AMB	02 37 46.5	
	1μm,0.1s						
YUK				eS	**Sn**	**02 37 59.6**	**0.0**
YUK				A		02 38 03.0	
	32μm,1.0s						
YUK				A		02 38 03.5	
	15μm,0.5s						
YUK				A		02 38 03.5	
	2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.06**	**325**	ePN	**Pn**	**02 37 45.3**	**-0.7**
YUK				i		02 37 47.5	
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,670nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax			
	comp=N,32μm,0.8s						
YUK				smax			
	comp=N,15μm,0.6s						
YUK				smax			
	comp=E,2μm,0.4s						
JRA	**Rausu**	**1.38**	**304**	P	**Pn**	**02 37 50.4**	**0.0**
JRA				eS	**Sn**	**02 38 08.8**	**+1.3**
JAK	**Akkeshi**	**1.48**	**264**	P	**Pn**	**02 37 50.9**	**-0.8**
JAK				eS	**Sn**	**02 38 09.0**	**-0.9**
JNK	**Nakash**	**1.50**	**287**	P	**Pn**	**02 37 51.4**	**-0.7**
JNK				eS	**Sn**	**02 38 10.5**	**0.0**
JOB	**Onbets**	**2.12**	**264**	P	**Pn**	**02 37 59.9**	**-0.6**
JOB				eS	**Sn**	**02 38 24.6**	**-1.0**
JAR	**Ashorobuto**	**2.15**	**274**	P	**Pn**	**02 38 00.7**	**-0.2**
JAR				eS	**Sn**	**02 38 26.8**	**+0.5**
JTKR	**Abashiri--Toko**	**2.18**	**292**	P	**Pn**	**02 38 02.0**	**+0.7**
JTKR				eS	**Sn**	**02 38 29.0**	**+1.9**
KUR	**Kuril'sk**	**2.22**	**22**	eP	**Pn**	**02 37 58.5**	**-3.4**
KUR				AMB	AMB	02 38 03.2	
	comp=E,280nm,0.9s						
KUR				eS	**Sn**	**02 38 26.0**	**-2.1**
KUR				A		02 38 29.0	
	comp=E,430nm,0.8s						
KUR				A		02 38 29.0	
	comp=E,320nm,0.8s						
JCH	**Churui**	**2.52**	**258**	P	**Pn**	**02 38 04.9**	**-1.0**
JCH				eS	**Sn**	**02 38 34.1**	**-1.3**
JMP	**Maruseppu**	**2.57**	**290**	P	**Pn**	**02 38 07.5**	**+0.9**
JEM	**Erimo**	**2.86**	**247**	P	**Pn**	**02 38 10.7**	**0.0**

JKK2 Kamakawa 2 **2.96 285** P **Pn** **02 38 13.1 +1.1**
JFR Furan **3.01 271** P **Pn** **02 38 13.3 +0.6**
JFR *e*S **Sn** **02 38 48.4 +1.0**
JNBK Urakawa-nobuka **3.04 254** P **Pn** **02 38 12.6 -0.6**
JNBK *e*S **Sn** **02 38 46.9 -1.5**
ASAJ Asahikawa **3.13 289** P **Pn** **02 38 16.1 +1.8**
comp=E,11nm,0.3s,baz=125,slow=11,SNR=29
ASAJ S **Sn** **02 38 53.9 +3.5**
comp=E,8.3nm,0.3s,baz=243,slow=14,SNR=3.7
ASAJ LR LR 02 39 41.0
comp=E,281nm,19.7s,baz=118,slow=42
ASAJ Asahikawa **3.13 289** PN **Pn** **02 38 16.1 +1.8**
ASAJ S **Sn** **02 38 53.9 +3.5**
ASAJ pmax pmax
comp=Z,11nm,0.3s
ASAJ MLR MLR
comp=Z,281nm,19.7s
YSS Yuzh-Sakhalins **4.70 325** *e*P **Pn** **02 38 41.6 +5.7**
YSS *e*rx rx 02 39 31.0
YSS *e*rx rx 02 39 48.0
YSS Yuzh-Sakhalins **4.70 325** *e*PN **Pn** **02 38 41.6 +5.7**
YSS *e* 02 39 31.0
MJAR Matsushiro Arr **9.30 227** P **Pn** **02 39 41.3 +2.4**
comp=Z,0.2nm,0.3s,baz=25,slow=13,SNR=3.7
EKMR Ekimchan **13.48 322** *e*P **Pn** **02 40 30.0 -6.1**
FX1 Attu Island--F **20.08 52** P **P** **02 41 58.7 +1.8**
comp=Z,24nm,0.7s,baz=153,slow=22,SNR=5.6
FX1 Attu Island--F **20.08 52** P **P** **02 41 58.8 +1.8**
ULN Ulaanbaatar **27.95 294** *e*P **P** **02 43 13.7 +0.3**
ULN pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
ULN Ulaanbaatar **27.95 294** *e*P **P** **02 43 13.7 +0.2**
comp=Z,2.8nm,1.1s,mb3.8
SONM Songino Array **28.40 294** P **P** **02 43 18.4 +1.0**
comp=Z,1.6nm,0.6s,mb3.8,baz=86,slow=8.3,SNR=12
TNA Tin City **33.51 32** *e*P **P** **02 44 02.5 0.0**
comp=Z,9.9nm,1.2s,mb4.6
IMA2 Indian Mountai **39.34 34** *e*P **P** **02 44 52.1 0.0**
ZAL Zalesovo **41.10 307** P **P** **02 45 05.8 -0.8**
comp=Z,1.0nm,0.5s,mb3.7,baz=227,slow=18,SNR=5.6
ZAL LR LR 03 01 23.9
comp=Z,32nm,18.7s,MS3.2,baz=207,slow=35
MCK McKinley **41.29 37** *e*P **P** **02 45 08.1 -0.1**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
MCK McKinley **41.29 37** *e*P **P** **02 45 08.1 -0.2**
comp=Z,1.8nm,0.8s,mb3.8
COLA College **41.73 36** *e*P **P** **02 45 12.3 +0.5**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
COLA College **41.73 36** *e*P **P** **02 45 12.3 +0.5**
comp=Z,3.9nm,0.8s,mb4.1
ILAR Eielson Array **42.15 36** P **P** **02 45 14.8 -0.5**
comp=Z,2.1nm,0.8s,mb3.8,baz=268,slow=5.8,SNR=22
MKAR Makanchi Array **44.57 298** P **P** **02 45 34.8 +0.1**
comp=Z,1.7nm,0.6s,mb4.1,baz=75,slow=9.5,SNR=26
INK Inuvik **47.07 30** *e*P **P** **02 45 54.4 0.0**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik **47.07 30** *e*P **P** **02 45 54.4 -0.1**
comp=Z,10nm,0.7s,mb4.9
ZRNK Zerenda **50.42 310** *e*P **P** **02 46 19.6 -0.6**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
ZRNK Zerenda **50.42 310** *e*P **P** **02 46 19.6 -0.6**
comp=Z,1.4nm,0.8s,mb4.0
ARU Arti **54.55 317** *e*P **P** **02 46 49.9 -0.8**
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARU Arti **54.55 317** *e*P **P** **02 46 49.9 -0.8**
comp=Z,3.2nm,0.6s,mb4.5
RES Resolute Bay **55.61 16** *e*P **P** **02 46 57.5 -0.9**
RES pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
RES Resolute Bay **55.61 16** *e*P **P** **02 46 57.5 -0.9**
comp=Z,9.3nm,0.9s,mb4.8
YKW3 Yellowknife Ar **56.42 33** *e*P **P** **02 47 04.0 -0.2**
YKA Yellowknife Ar **56.46 33** P **P** **02 47 04.4 0.0**
comp=Z,1.5nm,0.8s,mb4.1,baz=299,slow=6.6,SNR=24
JOF Joensuu **62.45 332** *e*p **P** **02 47 43.8 -1.9**
comp=Z,2.7nm,0.7s,mb4.5
SUMG Summit **64.50 2** *e*P **P** **02 47 59.2 0.0**
comp=Z,5.3nm,1.0s,mb4.5
FINES FINESS Array B **65.24 333** P **P** **02 48 03.2 -0.9**
comp=Z,3.1nm,0.7s,mb4.5,baz=46,slow=8.3,SNR=13
FCC Fort Churchill **66.69 30** *e*P **P** **02 48 12.5 -0.9**
FCC pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
FCC Fort Churchill **66.69 30** *e*P **P** **02 48 12.4 -0.9**
comp=Z,1.6nm,0.6s,mb4.2
BOZ Bozeman (W) **67.54 48** *e*P **P** **02 48 19.7 +0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BOZ Bozeman (W) **67.54 48** *e*P **P** **02 48 19.7 +0.9**
comp=Z,2.4nm,0.8s,mb4.3
NVAR Mina Array Bea **68.16 57** P **P** **02 48 23.5 +0.8**
comp=Z,1.5nm,0.7s,mb4.1,baz=284,slow=8.5,SNR=14
NB2 NORSAR Subarra **70.02 339** P **P** **02 48 33.4 -0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=32,slow=6.5
NOA NORSAR Array B **70.02 339** P **P** **02 48 33.7 -0.6**
comp=Z,3.7nm,0.8s,mb4.4,baz=34,slow=6.1,SNR=11
DUG Dugway **70.35 53** *e*P **P** **02 48 37.0 +0.8**
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
DUG Dugway **70.35 53** *e*P **P** **02 48 37.0 +0.8**
comp=Z,2.0nm,0.9s,mb4.0
BW06 Boulder Array **70.53 49** *e*P **P** **02 48 37.5 +0.1**
comp=Z,1.5nm,0.9s,mb3.9
PDAR Pinedale Array **70.53 49** P **P** **02 48 38.0 +0.6**
comp=Z,1.0nm,0.8s,mb3.8,baz=270,slow=3.0,SNR=8.0
AKASG Malin Array Be **71.85 324** P **P** **02 48 44.1 -1.2**
comp=Z,3.9nm,0.8s,mb4.4,baz=40,slow=5.9,SNR=15
SRU San Rafael **72.39 53** *e*P **P** **02 48 49.2 +0.6**
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SRU San Rafael **72.39 53** *e*P **P** **02 48 49.2 +0.6**
comp=Z,2.7nm,0.8s,mb4.2
PV10 Paradox Valley **73.75 53** *e*P **P** **02 48 57.8 +1.2**
STKA Stephens Creek **74.83 185** LR LR 03 21 21.9
comp=Z,69nm,18.6s,MS4.0,baz=205,slow=35
KHC Kasperske Hory **79.31 331** *e*P **P** **02 49 28.5 +0.5**
GERES GERESS Array B **79.50 331** P **P** **02 49 28.7 -0.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=34,slow=4.8,SNR=5.2
TXAR Lajitas Array **83.24 56** P **P** **02 49 49.7 +0.8**
comp=Z,1.7nm,0.9s,mb4.1,baz=290,slow=3.7,SNR=16
BDFB Brasilia **149.81 29** PKPbc PKPbc 02 57 12.1 -0.1
comp=Z,2.0nm,0.6s,baz=131,slow=3.5,SNR=3.9

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*ISCJB **01** 02:48:39.0±0.9, 125N±0.10×97.1E±0.1, h19km, mb4.1/16, MS3.6/1, Error ellipse: s-maj=18.9km s-min=12.9km az=128.9*
*IDC **01** 02:48:39.3±1.3, 136N×9724E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML2.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/28, Error ellipse: s-maj=40.3km s-min=22.0km az=55.0*
*NEIC **01** 02:48:41.4±0.7, 130N×97.18E, mb4.3/6, Error ellipse: s-maj=15.3km s-min=11.5km az=62.0*
*BJI **01** 02:48:41.3, 130N×9720E, h18km, mB4.7, mb4.6, Ms4.4, Msz4.0*
ISC 01 02:48:41.9±0.8**, 132N**±010×**972E**±01**, h20**km**, h20**km±.9km**:pP-P, n20, σ0§92**/19**, mb4.1**/16**, MS3.6**/1**, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat **2.27 50** Pn **Pn** **02 49 17.9 -0.4**
0.7nm,0.3s,baz=197,slow=12,SNR=11
PSI LR LR 02 50 12.8
comp=Z,329nm,21.8s,baz=208,slow=44
KULM Kulim **5.24 41** *e*Pn **Pn** **02 49 59.3 +0.2**
KULM *e*pPn 02 50 05.5
KMI Kunming **24.26 12** P **P** **02 53 59.1 +1.5**
KMI AP 02 54 05.4
KMI XP sP 02 54 08.0 +1.9
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.1
KMI AMB AMB
comp=Z,92nm,3.8s
KMI LR LR
comp=N,196nm,17.4s,MS3.7
KMI LR LR
comp=E,146nm,19.3s,MS3.7
KMI LR LR
comp=Z,148nm,17.4s,MS3.5
GYA Guiyang **26.60 19** P **P** **02 54 23.7 +4.9**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
CD2 Chengdu **30.08 11** *e*P **P** **02 54 53.5 +3.6**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,50nm,4.8s
ENH Enshi **31.07 21** *e*P **P** **02 54 58.4 -0.2**
comp=Z,6.9nm,0.7s,mb4.6
ENH *e*pP pP 02 55 03.1 -1.6
GTA Gaotai **37.98 3** *e*P **P** **02 55 58.5 +0.1**
GTA AP pP 02 56 04.4 -0.1
GTA XP sP 02 56 07.0 0.0
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
WRA Warramunga Arr **42.11 122** P **P** **02 56 33.0 +0.4**
comp=Z,1.0nm,0.7s,mb3.6,baz=300,slow=8.9,SNR=4.0
WRAB Tennant Creek **42.11 122** P **P** **02 56 32.1 -0.6**
comp=Z,4.3nm,0.7s,mb4.2
BJT Baijiatuau **42.21 22** *e*P **P** **02 56 33.3 -0.1**
comp=Z,4.5nm,0.7s,mb4.2
BJT *e*pP pP 02 56 39.4 -0.2
SONM Songino Array **47.01 8** P **P** **02 57 11.5 -0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=194,slow=6.1,SNR=7.5
SONM PcP PcP 02 58 46.7 +2.8
comp=Z,1.1nm,0.6s,baz=180,slow=4.7,SNR=4.8
MKAR Makanchi Array **47.12 346** P **P** **02 57 12.5 -0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=162,slow=7.7,SNR=14
MKAR Makanchi Array **47.12 346** P **P** **02 57 12.5 -0.1**
ULN Ulaanbaatar **47.14 9** *e*P **P** **02 57 13.6 +0.8**
comp=Z,1.7nm,0.6s,mb4.2
ULN *e*pP pP 02 57 18.5 -0.5
KURK Kurchatov **51.67 345** *e*P **P** **02 57 46.4 -0.9**
comp=Z,3.7nm,1.3s,mb4.2
KURK *e*pP pP 02 57 52.9 -0.8
ZAL Zalesovo **53.43 351** P **P** **02 57 59.1 -1.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=319,slow=7.7,SNR=7.9
STKA Stephens Creek **53.44 132** P **P** **02 58 00.5 0.0**
comp=Z,1.9nm,0.7s,mb4.1,baz=329,slow=10,SNR=3.2
ZRNK Zerenda **56.53 340** *e*P **P** **02 58 21.5 -1.3**
comp=Z,0.7nm,0.4s,mb4.0
ZRNK *e*pP pP 02 58 27.3 -1.9
GERES GERESS Array B **84.72 319** P **P** **03 01 16.7 +2.3**
comp=Z,0.5nm,0.8s,mb3.7,baz=76,slow=4.0,SNR=3.4
TXAR Lajitas Array **143.57 32** PKP PKPdf 03 08 15.8 +0.6
comp=Z,0.3nm,0.8s,baz=89,slow=2.4,SNR=4.6

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*ISCJB **01** 02:53:05.0±1.0, 3987N±004×240E±0.1, h10km, Error ellipse: s-maj=12.9km s-min=5.5km az=166.0*
*CSEM **01** 02:53:05.7±0.3, 3988N×2403E, h10km, ML2.1, Error ellipse: s-maj=7.6km s-min=3.6km az=88.0*
*THE **01** 02:53:06.5, 3983N×2396E, h11km, ML2.1*
*ATH **01** 02:53:11.9, 4031N×2387E, h10km, MD2.8/3*
ISC 01 02:53:05.6±0.9**, 3987N**±004×**239E**±01**, h10**km**, n11, σ1§15**/13**, Aegean Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PAIG Paliouri **0.21 286** *e*Pg **Pg** **02 53 11.2 +1.4**
PAIG Paliouri **0.21 286** *e*Pg **Pg** **02 53 11.2 +1.3**
OUR Ouranopolis **0.46 4** *e*Pg **Pg** **02 53 16.3 +1.6**
comp=Z,15nm,0.1s
PLG Polygyros **0.63 323** *e*PB **Pb** **02 53 18.1 -0.5**
AOS Alonnisos **0.70 184** *e*Pg **Pg** **02 53 18.7 -0.4**
AOS *e*Sg **Sg** **02 53 29.4 +1.2**
LIA Limnos Island **0.96 88** *e*PB **Pb** **02 53 32.5 +8.2**
LIT Litokhoron **1.14 282** *e*Pg **Pg** **02 53 27.7 +0.3**
SRS Serrai **1.27 348** *e*Pg **Pg** **02 53 29.7 -0.3**
NVR Nevrokopi **1.48 358** *e*PB **Pb** **02 53 31.5 -1.6**
AGG Agios Georgios **1.51 236** *e*Pg **Pg** **02 53 32.2 -2.2**
GRG Griva **1.60 313** *e*Pb **Pb** **02 53 34.4 -0.7**
GRG *e*Sb **Sb** **02 53 56.2 +0.9**

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*IDC **01** 03:03:56.8±2.1, 3354N×9108E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.7/22, mbtmp3.7/9, ML3.2/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=45.6km s-min=31.4km az=158.0*
*BJI **01** 03:03:58.2, 3356N×91.18E, h21km, mB4.3, mb4.0, ML3.7, Ms4.1, Msz3.7*
*ISCJB **01** 03:03:59.0±3.6, 3384N±006×91.10E±008, h14km±27km, mb3.5/8, MS3.2/3, Error ellipse: s-maj=11.8km s-min=7.7km az=69.8*
*NEIC **01** 03:04:00.6±0.4, 3388N×91.10E, h10km, mb3.7/6, Error ellipse: s-maj=7.7km s-min=4.6km az=110.0*
*MOS **01** 03:04:04.7±0.8, 3420N×9107E, h33km, mb3.9/2, Error ellipse: s-maj=21.1km s-min=10.7km az=102.2*
*DMN **01** 03:04:33.4±37.0, 3193N×8909E, h10km, Mb4.8/2, Error ellipse: s-maj=974.8km s-min=47.9km az=41.0*
ISC 01 03:04:03.0±2.5**, 3387N**±005×**9111E**±008**, h30**km±22km**, n34, σ0§71**/36**, mb3.5**/8**, MS3.2**/3**, Qinghai**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LSA Lhasa **4.16 180** PG **Pn** **03 05 05.6 +1.3**
LSA SG **Sn** **03 05 56.4 +4.6**
LSA Smax
comp=N,150nm,1.0s
LSA Smax
comp=E,200nm,1.0s
LSA Lhasa **4.16 180** *e*Pn **Pn** **03 05 05.4 +1.1**
LSA *e*S **Sn** **03 06 03.7 +12**
GUN Gumba **7.45 219** *e*P **Pn** **03 05 49.8 +0.3**
comp=E,79nm,0.9s
JIRN Jiri **7.50 216** *e*P **Pn** **03 05 50.2 0.0**
comp=E,13nm,0.4s
KKN Kakani **7.86 221** *e*P **Pn** **03 05 54.9 -0.3**
comp=E,22nm,0.6s
PKI Pulchoki **7.96 220** *e*P **Pn** **03 05 56.1 -0.5**
GKN Gorkha **8.06 225** *e*P **Pn** **03 05 57.7 -0.3**
comp=E,33nm,0.8s
SHL Shillong **8.30 175** *e*P **Pn** **03 06 00.0 -1.2**
SHL *e*S Sn 03 07 07.0 -27
KOLN Koldanda **8.86 229** *e*P **Pn** **03 06 09.4 +0.4**
GTA Gaotai **8.92 49** *e*P **Pn** **03 06 09.6 -0.1**
GTA AP 03 06 13.9
GTA XP 03 06 16.6
GTA AMB AMB
comp=Z,5.0nm,1.0s
GTA AMB AMB
comp=Z,37nm,3.8s
GTA LR LR
comp=N,648nm,13.3s
GTA LR LR
comp=E,355nm,8.8s
GTA LR LR
comp=Z,447nm,9.9s
MKAR Makanchi Array **14.54 335** Pn **Pn** **03 07 26.6 0.0**
comp=Z,0.1nm,0.3s,baz=146,slow=14,SNR=16
GYA Guiyang **15.34 115** P **Pn** **03 07 31.3 -5.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s
AAK Ala-Archa **15.69 309** *e*P **Pn** **03 07 43.0 +1.2**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa **15.69 309** *e*P **Pn** **03 07 43.0 +1.2**
comp=Z,4.1nm,1.0s
ENH Enshi **15.99 98** *e*P **Pn** **03 07 46.3 +0.7**
comp=Z,12nm,1.0s
SONM Songino Array **18.07 35** P **Pn** **03 08 11.3 -0.4**
comp=Z,0.1nm,0.3s,baz=225,slow=13,SNR=7.0
SONM LR LR 03 15 48.1
comp=Z,207nm,19.5s,baz=198,slow=39
SONM Songino Array **18.07 35** P **Pn** **03 08 11.3 -0.4**
SONM LR LR 03 15 48.1
ULN Ulaanbaatar **18.41 36** *e*P **Pn** **03 08 15.6 -0.3**
ULN pmax pmax
comp=Z,1.0nm,0.7s
ULN Ulaanbaatar **18.41 36** *e*P **Pn** **03 08 15.6 -0.2**
comp=Z,1.4nm,0.7s
ZAK Zakamensk **18.77 25** *e*P **Pn** **03 08 19.9 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov **19.16 335** *e*P **Pn** **03 08 23.6 -1.3**
comp=Z,3.3nm,0.8s
ZAL Zalesovo **20.56 349** P **P** **03 08 39.4 +0.4**
comp=Z,1.3nm,0.4s,baz=303,slow=10,SNR=10
ZAL LR LR 03 18 18.9
comp=Z,59nm,19.1s,MS3.0,baz=131,slow=41
ZAL Zalesovo **20.56 349** P **P** **03 08 39.4 +0.4**
ZAL LR LR 03 18 18.9
BVAR Borovoye Array **24.20 329** P **P** **03 09 17.1 +0.3**
comp=Z,1.3nm,0.6s,mb3.6,baz=141,slow=9.1,SNR=10
BRVK Borovoye **24.27 329** *e*P **P** **03 09 17.4 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
BRVK Borovoye **24.27 329** *e*P **P** **03 09 17.4 +0.1**
comp=Z,3.3nm,0.9s,mb3.8
ZRNK Zerenda **24.76 327** *e*P **P** **03 09 21.7 -0.1**
ZRNK pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
ZRNK Zerenda **24.76 327** *e*P **P** **03 09 21.7 -0.2**
comp=Z,2.0nm,1.0s,mb3.6
AKTK Aktyubinsk **29.28 314** P **P** **03 10 02.6 +0.1**
AKTK LR LR 03 23 42.5
AKTO Aktyubinsk **29.28 314** P **P** **03 10 02.6 +0.1**
comp=Z,0.6nm,0.7s,mb3.5,baz=40,slow=7.9,SNR=2.8
AKTO LR LR 03 23 42.5
comp=Z,51nm,21.5s,MS3.1,baz=0.0,slow=40
GERES GERESS Array B **57.57 310** P **P** **03 13 50.2 +0.4**
comp=Z,0.4nm,0.8s,mb3.5,baz=79,slow=6.8,SNR=5.2
GERES LR LR 03 43 25.8
comp=Z,47nm,18.5s,MS3.6,baz=112,slow=41
ILAR Eielson Array **71.81 22** P **P** **03 15 24.4 +1.8**
comp=Z,0.4nm,0.8s,mb3.4,baz=301,slow=5.3,SNR=4.1
YKA Yellowknife Ar **81.77 12** P **P** **03 16 17.6 -1.1**
comp=Z,0.2nm,0.9s,mb3.1,baz=339,slow=4.2,SNR=5.5
TORD Torodi Ar. Bea **82.32 281** P **P** **03 16 20.7 -1.0**
comp=Z,1.4nm,0.8s,mb4.0,baz=41,slow=3.9,SNR=14

ISK 01 03:10:23.8, 3482N×2746E, h25km**, MD3.7, Eastern Mediterranean Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DAT Datca **1.91 3** *e*PN Pn 03 10 55.4 +0.6
DAT *e*SN Sn 03 11 18.8 +0.8
YER Yerkesik **2.41 16** *e*PN Pn 03 11 02.7 +1.1
MLSB Milas **2.49 6** *e*PN Pn 03 11 04.6 +1.9
ELL Elmali **2.77 45** *e*PN Pn 03 11 07.5 +1.0
DENT Denizli **3.19 23** *e*PN Pn 03 11 14.2 +1.8
AKS Akhisar **4.07 4** *e*PN Pn 03 11 25.9 +1.5

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*NAO **01** 03:14:56.4, 3329N×13403E, h33km, mb4.2*
*BJI **01** 03:14:57.5, 3278N×13280E, h66km, mB4.5, mb4.0*
*NIED **01** 03:15:00, 3350N×13230E, h44km, Mw4.2 Best double couple: Mo2.15000×10^15 NP1:φs179.00000°, δ61.00000°, λ-73.00000°. NP2:φs327.00000°, δ33.00000°, λ-118.00000°.*
*MOS **01** 03:15:00.2±1.1, 3337N×132.11E, h33km, mb4.4/9, Error ellipse: s-maj=12.6km s-min=9.2km az=94.0*
*ISCJB **01** 03:15:03.3±0.3, 3348N±003×13229E±004, h56km±2km, mb4.1/32, MS4.0/5, Error ellipse: s-maj=5.6km s-min=4.9km az=119.9*
*JMA **01** 03:15:04.3, 3351N×13230E, h46km, M4.3 Broadband fault plane solution: P waves. NP1:φs324.00000°, δ46.00000°, λ-130.00000°. NP2:φs194.00000°, δ57.00000°, λ-57.00000°. Principal axes: T Plg6.0000°, Azm261.0000°; N Plg27.0000°, Azm354.0000°; P Plg62.0000°, Azm159.0000°;*
JMA Felt III J1.
*NEIC **01** 03:15:04.3±0.4, 3345N×13220E, mb4.3/14 Error ellipse: s-maj=9.5km s-min=6.6km az=177.0*
NEIC Recorded [3 JMA] in Ehime and [1 JMA] in Kagawa and Kochi Prefectures. Recorded [2 JMA] in Hiroshima and Yamaguchi; [1 JMA] in Okayama and Shimane Prefectures, Honshu. Also recorded [2 JMA] in Oita and [1 JMA] in Fukuoka and Miyazaki Prefectures, Kyushu.
*IDC **01** 03:15:06.5±1.4, 3350N×132.16E, h72km±12km, mb3.8/16, mb1 4.0/17, mb1mx3.9/25, mbtmp4.1/17, MS3.7/8, Ms1 3.7/8, ms1mx3.3/33, Error ellipse: s-maj=17.0km s-min=15.7km az=178.0*
ISC 01 03:15:04.2±0.3**, 3349N**±003×**13228E**±004**, h49**km±3km**, n82, σ0§93**/86**, mb4.1**/32**, MS4.0**/5**, 6C-3D, Shikoku**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNA Nagahama **0.18 67** ⇓P **Pn** **03 15 11.6 -0.7**
JNA S **Sn** **03 15 16.9 -1.1**
UWA2 Uwa jima 2 **0.40 134** ⇑P **Pn** **03 15 13.8 -0.4**
UWA2 S **Sn** **03 15 20.9 -0.4**
JUS Usuki **0.61 227** ⇑P **Pn** **03 15 16.9 +0.1**
JUS S **Sn** **03 15 25.9 0.0**
JKU Kubokawa **0.68 105** ⇑P **Pn** **03 15 17.4 -0.2**
JKU S **Sn** **03 15 27.2 -0.1**
JHM Kurahashi **0.68 17** ⇓P **Pn** **03 15 17.2 -0.4**
JHM S **Sn** **03 15 26.8 -0.6**
JET Tanbara **0.70 65** ⇑P **Pn** **03 15 17.6 -0.3**
JET S **Sn** **03 15 27.6 -0.2**
JTO Tosashimizu **0.76 145** ⇑P **Pn** **03 15 18.8 +0.1**
JTO S **Sn** **03 15 29.6 +0.3**
JHT Toyohira **1.18 6** ⇓P **Pn** **03 15 24.4 +0.1**
JHT *e*S **Sn** **03 15 39.9 +0.7**
JNU Nakatsue **1.23 253** P **Pn** **03 15 26.1 +1.1**
343nm,0.3s,baz=70,slow=7.5,SNR=2562
JNU S **Sn** **03 15 42.4 +1.8**
556nm,0.3s,baz=254,slow=12,SNR=26
JMN Monobe **1.35 79** ⇑P **Pn** **03 15 25.8 -0.9**
KS15 Wonju Array Si **5.33 319** *e*Pn **Pn** **03 16 21.1 -0.1**
MAJO Matsushiro **5.74 56** *e*P **Pn** **03 16 28.0 +1.2**
MAJO pmax pmax
comp=Z,19nm,0.4s
MAJO Matsushiro **5.74 56** *e*Pn **Pn** **03 16 27.9 +1.2**
comp=Z,19nm,0.4s
MAT Matsushiro **5.74 56** P **Pn** **03 16 27.9 +1.1**
MAT S Sx 03 17 46.6
MAT Matsushiro **5.74 56** *e*P **Pn** **03 16 28.0 +1.2**
MAT pmax pmax
comp=Z,15nm,0.5s
MAT Matsushiro **5.74 56** *e*P **Pn** **03 16 28.0 +1.2**
comp=Z,15nm,0.5s
MAT *e*S Sx 03 18 03.0
MJAR Matsushiro Arr **5.74 56** P **Pn** **03 16 28.5 +1.7**
comp=Z,10nm,0.3s,baz=242,slow=14,SNR=129
MJAR LR LR 03 18 51.5
comp=Z,163nm,21.9s,baz=285,slow=39
JHJ Hachijo jima 2 **6.29 91** P **Pn** **03 16 34.1 -0.3**
comp=Z,16nm,0.3s,baz=353,slow=16,SNR=4.6
JOW Kunigami **7.49 209** LR LR 03 19 57.2
comp=Z,175nm,20.0s,baz=181,slow=39
ASAJ Asahikawa **13.30 34** LR LR 03 22 45.2
comp=Z,94nm,20.9s,baz=174,slow=34
BJT Baijiatuau **14.46 301** P **Pn** **03 18 27.7 +1.8**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuau **14.46 301** Pn **Pn** **03 18 27.7 +1.8**
comp=Z,9.7nm,0.8s
KLR Kul'dur **15.73 359** *e*P pP 03 18 54.2 -2.6
HIA Hailar **18.32 333** P **Pn** **03 19 16.0 +1.4**
HIA pmax pmax
comp=Z,7.0nm,1.0s
HIA Hailar **18.32 333** P **Pn** **03 19 15.9 +1.3**
comp=Z,6.5nm,1.0s
ULN Ulaanbaatar **23.79 315** *e*P **P** **03 20 12.2 -0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
ULN Ulaanbaatar **23.79 315** *e*P **P** **03 20 12.2 -0.1**
comp=Z,2.5nm,1.0s,mb3.6
SONM Songino Array **24.16 314** P **P** **03 20 16.1 +0.4**
comp=Z,3.9nm,0.6s,mb4.0,baz=135,slow=8.8,SNR=27
CD2 Chengdu **24.24 272** *e*P **P** **03 20 16.6 +0.1**
CD2 AP 03 20 28.1
CD2 XP sP 03 20 33.6 -1.3
CD2 PP 03 20 52.0
CD2 S **S** **03 24 28.1 -3.6**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
CD2 AMB AMB
comp=Z,60nm,4.9s
BOD Bodaibo **27.30 339** *e*P **P** **03 20 50.6 +6.4**
ZAL Zalesovo **39.03 316** LR LR 03 40 16.8
comp=Z,78nm,19.0s,MS3.6,baz=178,slow=39
BILL Bilibino **39.69 19** *e*P **P** **03 22 32.1 +0.5**
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
BILL Bilibino **39.69 19** *e*P **P** **03 22 32.1 +0.5**
comp=Z,7.7nm,1.4s,mb4.2
MKAR Makanchi Array **39.81 305** P **P** **03 22 32.5 -0.1**
comp=Z,0.2nm,0.5s,mb3.1,baz=88,slow=9.4,SNR=6.1
MKAR PcP PcP 03 24 37.0 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.2nm,0.4s,baz=70,slow=4.6,SNR=4.6						
MKAR	Makanchi Array	39.81	305	P	P	03 22 32.5	-0.1
MKAR				PcP	PcP	03 24 37.0	-0.9
KURK	Kurchatov	42.38	311	P	P	03 22 52.8	-0.8
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
KURK	Kurchatov	42.38	311	P	P	03 22 52.8	-0.9
	comp=Z,1.0nm,0.6s,mb3.6						
BVAR	Borovoye Array	47.51	314	P	P	03 23 33.8	-0.6
	comp=Z,1.4nm,0.5s,mb4.2,baz=102,slow=8.5,SNR=11						
BVAR				PcP	PcP	03 25 03.0	-0.9
	comp=Z,0.7nm,0.5s,baz=92,slow=4.1,SNR=3.3						
BRVK	Borovoye	47.57	314	*e*P	P	03 23 33.8	-1.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	Borovoye	47.57	314	*e*P	P	03 23 33.8	-1.1
	comp=Z,1.5nm,0.8s,mb4.1						
ZRNK	Zerenda	48.35	314	*e*P	P	03 23 39.6	-1.3
ZRNK				*e**PP	pP	03 23 53.2	-1.0
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	Zerenda	48.35	314	*e*P	P	03 23 39.6	-1.3
	comp=Z,3.7nm,0.9s,mb4.4						
ZRNK				*e*pP	pP	03 23 53.2	-1.0
WRAB	Tennant Creek	53.16	178	*e*P	P	03 24 16.9	-0.2
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
WRAB	Tennant Creek	53.16	178	*e*P	P	03 24 16.9	-0.2
	comp=Z,7.0nm,0.6s,mb4.8						
WB2	Warramunga Arr	53.17	178	*e*P	P	03 24 17.4	+0.2
WRA	Warramunga Arr	53.17	178	P	P	03 24 17.3	+0.1
	comp=Z,5.0nm,0.6s,mb4.6,baz=355,slow=8.2,SNR=32						
AKTK	Aktyubinsk	55.45	312	P	P	03 24 33.2	-0.6
AKTO	Aktyubinsk	55.45	312	P	P	03 24 33.2	-0.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=72,slow=16,SNR=4.4						
ILAR	Eielson Array	56.41	31	P	P	03 24 40.5	-0.1
	comp=Z,1.0nm,0.9s,mb3.9,baz=266,slow=7.1,SNR=13						
ASPA	Alice Springs	56.86	178	*e*P	P	03 24 44.0	+0.2
INK	Inuvik	60.85	25	*e*P	P	03 25 11.4	-0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	60.85	25	*e*P	P	03 25 11.4	-0.1
	comp=Z,1.3nm,0.5s,mb4.3						
ARCES	ARCESS Array B	64.58	338	P	P	03 25 35.0	-1.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=63,slow=8.1,SNR=4.5						
ARCES				LR	LR	04 01 07.3	
	comp=Z,87nm,18.7s,MS4.0,baz=188,slow=43						
JOF	Joensuu	65.45	330	*e*p	P	03 25 41.6	-0.4
	comp=Z,3.4nm,0.7s,mb4.5						
STKA	Stephens Creek	65.61	171	P	P	03 25 41.7	-1.3
	comp=Z,0.6nm,0.3s,mb4.1,baz=357,slow=19,SNR=3.3						
STKA	Stephens Creek	65.61	171	P	P	03 25 41.7	-1.3
RES	Resolute Bay	67.76	12	*e*P	P	03 25 56.0	-0.7
RES				*e**PP	pP	03 26 09.9	-0.7
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	Resolute Bay	67.76	12	*e*P	P	03 25 56.0	-0.7
	comp=Z,2.3nm,0.7s,mb4.3						
RES				*e*pP	pP	03 26 09.9	-0.7
FINES	FINESS Array B	68.31	330	P	P	03 25 58.9	-1.3
	comp=Z,1.8nm,0.6s,mb4.3,baz=63,slow=6.7,SNR=10						
BBB	Bella Bella	69.70	40	LR	LR	04 00 34.9	
	comp=Z,174nm,18.2s,MS4.3,baz=291,slow=39						
YKA	Yellowknife Ar	70.48	27	P	P	03 26 14.0	+0.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=302,slow=6.9,SNR=6.7						
YKA	Yellowknife Ar	70.48	27	P	P	03 26 14.0	+0.4
AKASG	Malin Array Be	72.32	319	P	P	03 26 22.6	-2.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=54,slow=6.2,SNR=6.9						
HFS	Hagfors	74.02	333	P	P	03 26 31.9	-2.8
	comp=Z,1.1nm,0.5s,mb4.1,baz=27,slow=3.3,SNR=9.2						
NB2	NORSAR Subarra	74.34	334	P	P	03 26 35.1	-1.5
	comp=Z,1.7nm,0.7s,mb4.1,baz=47,slow=5.9						
NOA	NORSAR Array B	74.34	334	P	P	03 26 35.4	-1.2
	comp=Z,2.5nm,0.7s,mb4.2,baz=48,slow=5.7,SNR=8.4						
NEW	Newport	77.75	40	LR	LR	03 58 11.5	
	comp=Z,153nm,20.0s,MS4.3,baz=72,slow=33						
FCC	Fort Churchill	80.32	22	*e*P	P	03 27 09.3	-0.7
FCC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FCC	Fort Churchill	80.32	22	*e*P	P	03 27 09.3	-0.8
	comp=Z,2.5nm,0.8s,mb4.2						
FFC	Flin Flon	80.55	29	*e*P	P	03 27 11.2	-0.1
FFC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FFC	Flin Flon	80.55	29	*e*P	P	03 27 11.2	0.0
	comp=Z,1.6nm,0.6s,mb4.1						
DLMT	Dillon	81.99	40	*e*P	P	03 27 20.0	+1.1
	comp=Z,6.8nm,1.0s,mb4.5						
NVAR	Mina Array Bea	83.01	48	P	P	03 27 26.1	+1.9
	comp=Z,0.7nm,0.6s,mb3.9,baz=290,slow=5.5,SNR=6.6						
ELK	Elko	83.44	45	*e*P	P	03 27 28.3	+1.9
DAVOS	Davos	84.77	324	P	P	03 27 33.0	-0.2
DAVOX	Davos	84.77	324	P	P	03 27 33.0	-0.2
	comp=Z,1.8nm,0.6s,mb4.4,baz=312,slow=16						
HWUT	Hardware Ranch	85.00	43	*e*P	P	03 27 35.8	+1.4
	comp=Z,4.7nm,1.1s,mb4.5						
DUG	Dugway	85.21	44	*e*P	P	03 27 36.5	+1.1
DUG				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
DUG	Dugway	85.21	44	*e*P	P	03 27 36.5	+1.1
	comp=Z,4.8nm,1.4s,mb4.4						
PDAR	Pinedale Array	85.35	41	P	P	03 27 37.1	+1.1
	comp=Z,0.8nm,0.8s,mb3.9,baz=270,slow=1.5,SNR=6.1						
PDAR				LR	LR	04 10 56.0	
	comp=Z,65nm,18.2s,MS4.1,baz=87,slow=39						
ULM	Lac du Bonnet	86.38	29	P	P	03 27 41.4	+0.2
	comp=Z,1.8nm,0.6s,mb4.5,baz=337,slow=7.5,SNR=6.2						
PV10	Paradox Valley	88.61	44	*e*P	P	03 27 53.4	+1.5

IDC 01 03:20:53.2±4.1**,860N**×**9235E,h0**^{km}**,mb3.6**/3**,mb1 3.7**/3**, mb1mx3.5**/19**,mbtmp3.6**/3**,Error ellipse: s-maj=148.2km s-min=30.4km az=63.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.02	349	P	P	03 28 21.3	-0.1
	0.6nm,0.6s,baz=166,slow=7.5,SNR=8.8						
SONM	Songino Array	40.87	14	P	P	03 28 37.1	+0.3
	0.7nm,0.7s,baz=189,slow=6.9,SNR=5.3						
WRA	Warramunga Arr	50.12	125	P	P	03 29 50.6	+0.4
	0.5nm,0.6s,baz=305,slow=8.8,SNR=6.1						

IDC 01 03:27:40.3±2.0**,166N**×**9699E,h26**^{km}±6^{km}**,mb3.6**/4**, mb1 3.8**/4**,mb1mx3.4**/19**,mbtmp3.8**/4**,ML2.4**/1**,Error ellipse: s-maj=51.1km s-min=25.3km az=48.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.24	60	Pn	Pn	03 28 15.4	-0.3
	1.2nm,0.3s,baz=239,slow=8.3,SNR=6.1						
WRA	Warramunga Arr	42.45	122	P	P	03 35 33.2	+0.2
	0.3nm,0.7s,baz=304,slow=8.9,SNR=3.2						
SONM	Songino Array	46.71	9	P	P	03 36 07.4	+0.4
	1.3nm,0.7s,baz=190,slow=9.7,SNR=8.5						
SONM				pP	pP	03 36 14.9	+0.1
	0.8nm,0.6s,baz=194,slow=8.7,SNR=5.2						
MKAR	Makanchi Array	46.75	346	P	P	03 36 07.5	+0.2
	1.4nm,0.7s,baz=162,slow=7.7,SNR=18						
MKAR				pP	pP	03 36 15.3	+0.3
	1.0nm,0.7s,baz=158,slow=6.5,SNR=7.1						
ZAL	Zalesovo	53.07	351	P	P	03 36 54.4	-0.9
	0.6nm,0.7s,baz=308,slow=7.9,SNR=3.9						
ZAL				pP	pP	03 37 03.0	-0.2
	1.2nm,0.5s,baz=342,slow=2.8,SNR=3.4						

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*ISCJB **01** 03:31:24.5±4.2,214S±01×1778W±02,h433^{km}±42^{km}, mb3.9/7,Error ellipse: s-maj=35.6km s-min=17.1km az=166.8*

*NEIC **01** 03:31:25.6±2.8,2147S×17779W,h432^{km}±28^{km},mb4.2/2, Error ellipse: s-maj=26.8km s-min=20.8km az=207.0*

*IDC **01** 03:31:25.5±4.5,2155S×17778W,h430^{km}±46^{km},mb3.6/4, mb1 3.7/6,mb1mx3.3/15,mbtmp4.4/6,Error ellipse: s-maj=32.1km s-min=29.4km az=121.0*

ISC 01 03:31:26.0±3.4**,216S**±01×**1777W**±02**,h443**^{km}±33^{km}**,n15,** σ**1§07**/11**,mb3.9**/7**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.77	265	P	P	03 34 34.4	-0.4
	0.2nm,0.3s,baz=90,slow=20,SNR=3.0						
URZ	Urewera	17.18	194	P	P	03 35 01.5	+1.3
	2.2nm,0.3s,baz=356,slow=13,SNR=5.6						
URZ				S	S	03 37 56.3	-0.9
	0.2nm,0.3s,baz=145,slow=18,SNR=1.8						
CTAO	Charters Tower	33.72	266	*e*P	P	03 37 27.9	-0.7
	2.8nm,0.4s,mb4.0						
STKA	Stephens Creek	37.60	246	P	P	03 38 00.9	-0.2
	11nm,0.9s,mb4.2,baz=90,slow=11,SNR=17						
WB2	Warramunga Arr	44.77	263	*e*P	P	03 38 57.6	-0.8
WRA	Warramunga Arr	44.78	263	P	P	03 38 57.7	-0.7
	2.2nm,0.4s,mb3.8,baz=96,slow=7.6,SNR=20						
WRA				PcP	PcP	03 40 33.4	+2.0
	0.3nm,0.3s,baz=90,slow=3.8,SNR=5.2						
FITZ	Fitzroy Crossi	53.21	263	*e*P	P	03 40 03.5	+2.2
	14nm,1.5s,mb4.0						
MBWA	Marble Bar	57.93	258	*e*P	P	03 40 34.8	+0.5
	8.7nm,0.6s,mb4.3						
PSI	Prapat	84.91	275	P	P	03 43 14.6	+1.6
	1.4nm,0.5s,mb4.0,baz=132,slow=14,SNR=4.2						
ILAR	Eielson Array	89.34	13	P	P	03 43 32.6	-1.3
	0.5nm,0.6s,mb3.4,baz=216,slow=5.1,SNR=11						
ZRNK	Zerenda	120.99	320	*e*PKPdf	PKPdf	03 49 27.1	+0.1
ARCES	ARCESS Array B	130.09	350	PKP	PKPdf	03 49 44.5	+0.1
	2.9nm,1.0s,baz=45,slow=1.7,SNR=3.6						
AKASG	Malin Array Be	144.16	331	PKP	PKPdf	03 50 09.2	-1.0
	2.5nm,0.4s,baz=43,slow=4.1,SNR=23						
BRTR	Keskin Array B	147.83	311	PKPbc	PKPbc	03 50 21.1	+1.0
	0.4nm,0.7s,baz=117,slow=5.3,SNR=4.1						
GERES	GERESS Array B	151.37	344	PKPbc	PKPbc	03 50 29.7	+1.2
	0.6nm,0.7s,baz=0.0,slow=1.3,SNR=5.5						

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*ISCJB **01** 03:38:59.5±1.1,2708N±008×534E±01,h10^{km},mb3.6/5, Error ellipse: s-maj=16.0km s-min=8.9km az=103.7*

*CSEM **01** 03:39:00.4,2702N×5343E,h34^{km},ML3.3,After THR*

*THR **01** 03:39:00.4±0.3,2702N×5343E,h34^{km}±4^{km},ML3.3*

*IDC **01** 03:39:02.3±2.5,2758N×5311E,h0^{km},mb3.5/5,mb1 3.7/5, mb1mx3.5/20,mbtmp3.6/5,Error ellipse: s-maj=63.8km s-min=26.9km az=154.0*

*TEH **01** 03:39:07.9,2743N×5322E,h19^{km},Mn3.7*

ISC 01 03:39:01.7±1.1**,2711N**±009×**535E**±01**,h10**^{km}**,n12,** σ**1§13**/14**,mb3.6**/5**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.25	340	*e*PG	Pg	03 39 24.6	-1.1
GHIR				*e*SG	Sg	03 39 42.3	+0.4
GHIR				AML	AML	03 39 48.5	
	comp=N,389nm,0.4s						
GHIR	Ghir-Karzin	1.25	340	*e*Pg	Pg	03 39 24.6	-1.1
	SNR=99						
GHIR				*e*Sg	Sg	03 39 42.3	+0.4
	comp=N,389nm,0.4s,SNR=99						
BNDS	Bandar-Abbas	2.42	83	*e*PN	Pn	03 39 40.4	-0.8
BNDS				AML	AML	03 40 25.3	
	comp=N,154nm,0.4s						
KRBR	Kerman	4.07	45	*e*PN	Pn	03 40 03.9	0.0
KRBR				AML	AML	03 41 01.1	
	comp=E,35nm,0.6s						
KRBR				AML	AML	03 41 02.3	
	comp=N,28nm,0.5s						
NASN	Na'in	5.70	354	*e*PN	Pn	03 40 26.3	-0.1
ASAO	Ashtian	7.99	339	*e*PN	Pn	03 40 57.8	+0.1
BRTR	Keskin Array B	20.74	312	P	P	03 43 37.0	-5.4
	comp=N,0.2nm,0.5s,baz=127,slow=12,SNR=3.6						
BVAR	Borovoye Array	28.79	21	P	P	03 45 02.2	+2.5
	comp=N,0.5nm,0.7s,mb3.4,baz=214,slow=5.3,SNR=3.6						
MKAR	Makanchi Array	30.01	41	P	P	03 45 09.8	-0.7
	comp=N,0.1nm,0.4s,mb2.9,baz=234,slow=8.2,SNR=4.6						
ZAL	Zalesovo	35.34	32	P	P	03 45 58.9	+1.8
	comp=N,1.0nm,0.3s,mb4.3,baz=79,slow=16,SNR=3.5						
FINES	FINESS Array B	38.94	339	P	P	03 46 25.8	-2.0
	comp=N,1.1nm,0.9s,mb3.6,baz=141,slow=8.9,SNR=2.8						
TORD	Torodi Ar. Bea	50.23	265	P	P	03 47 58.4	+0.5
	comp=N,0.7nm,0.5s,mb3.9,baz=63,slow=8.1,SNR=24						

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*NAO **01** 03:42:54.4,5241N×16501W,h33^{km},mb4.1*

*IDC **01** 03:43:03.1±1.0,5441N×16172W,h0^{km},mb4.4/14, mb1 4.5/17,mb1mx4.4/23,mbtmp4.3/17,ML3.8/3,MS3.8/7, Ms1 3.8/7,ms1mx3.3/32,Error ellipse: s-maj=26.2km s-min=15.5km az=172.0*

*ISCJB **01** 03:43:07.6±0.4,5454N±007×16168W±008,h33^{km}, mb4.6/70,MS3.8/12,Error ellipse: s-maj=10.9km s-min=4.5km az=126.5*

*BJI **01** 03:43:07.4,55.13N×162.10W,h10^{km},mB4.9,mb4.7,Ms4.4, Msz4.0*

*NEIC **01** 03:43:09.6,5438N×16158W,h15^{km},mb4.6/25, ML4.1(AEIC),After AEIC.*

*MOS **01** 03:43:11.3±0.7,5521N×16205W,h33^{km},mb4.7/29,Error ellipse: s-maj=19.4km s-min=5.7km az=89.9*

*SZGRF **01** 03:43:13.5,5543N×16244W,h33^{km},mb4.6,Alaska Peninsula, United States*

ISC 01 03:43:08.5±0.4**,5441N**±007×**16166W**±008**,h35**^{km}**, (h22**^{km}±6.2^{km}**:pP-P),n180,**σ**0§93**/183**,mb4.6**/70**,MS3.8**/12**, 10C-10D,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	Sand Point	1.17	35	P	Pn	03 43 28.5	+0.2
SDPT				S	Sn	03 43 44.1	+1.2
AKA	Akutan	2.43	265	P	Pn	03 43 48.4	+2.8
AKUT	Akutan	2.43	265	P	Pn	03 43 48.3	+2.7
AKUT				S	Sn	03 44 18.7	+4.6
CHGN	Chignik	2.65	43	P	Pn	03 43 50.0	+1.3
UNV	Unalaska Valle	2.91	261	P	Pn	03 43 53.6	+1.5
NIKO	Nikolski	4.51	254	P	Pn	03 44 17.4	+3.2
KDAK	Kodiak Island	6.10	53	Pn	Pn	03 44 35.0	-1.1
	1.9nm,0.3s,baz=206,slow=9.8,SNR=26						
KDAK				Sn	Sn	03 45 39.5	-5.1
	1.1nm,0.3s,baz=123,slow=18,SNR=6.0						
KDAK	Kodiak Island	6.10	53	P	Pn	03 44 36.6	+0.5
SVW2	Sparrevohn	7.45	23	P	Pn	03 44 56.2	+1.5
SLKM	Skilak Lake	8.68	41	*e*P	Pn	03 45 11.8	+0.4
TT01	Tatalina	9.01	17	P	Pn	03 45 17.0	+1.0
TTA	Tatalina	9.04	17	*e*P	Pn	03 45 17.6	+1.2
SML	Sawmill	10.22	38	*e*P	Pn	03 45 34.7	+2.2
MCK	McKinley	11.39	30	P	Pn	03 45 47.2	-1.4
TNA	Tin City	11.61	347	*e*Pn	Pn	03 45 54.3	+2.7
IMA2	Indian Mountai	12.34	15	*e*Pn	Pn	03 46 02.4	+0.9
COLA	College	12.57	28	*i* P	Pn	03 46 10.4	+5.7
COLA	College	12.57	28	*e*Pn	Pn	03 46 01.7	-3.0
ILAR	Eielson Array	12.76	30	Pn	Pn	03 46 03.2	-4.1
	0.1nm,0.3s,baz=221,slow=14,SNR=7.9						
ILAR				Sn	Sn	03 48 29.4	+1.3
	0.1nm,0.3s,baz=204,slow=20,SNR=3.7						
ILAR				LR	LR	03 51 27.6	
	comp=Z,326nm,20.0s,baz=82,slow=40						
ILAR	Eielson Array	12.76	30	P	Pn	03 46 03.3	-4.1
ILAR						03 48 29.4	
DAWY	Dawson	14.86	41	*e*Pn	Pn	03 46 34.2	-1.7
INK	Inuvik	19.12	32	P	Pn	03 47 26.1	-3.3
	0.6nm,0.3s,baz=225,slow=12,SNR=15						
INK				LR	LR	03 55 40.7	
	comp=Z,342nm,19.7s,baz=32,slow=40						
INK	Inuvik	19.12	32	*e*P	Pn	03 47 27.0	-2.4
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	Inuvik	19.12	32	*e*P	Pn	03 47 26.9	-2.5
	comp=Z,6.2nm,0.8s						
BILL	Bilibino	20.27	325	*e*P	P	03 47 41.2	+0.3
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	Bilibino	20.27	325	*e*P	P	03 47 41.2	+0.3
	comp=Z,7.5nm,1.0s						
YKA	Yellowknife Ar	25.38	52	P	P	03 48 32.1	-0.3
	comp=Z,1.1nm,0.7s,mb3.5,baz=269,slow=9.4,SNR=27						
YKA				PcP	PcP	03 52 03.0	-1.2
	comp=Z,0.6nm,0.7s,baz=272,slow=2.3,SNR=7.8						
YKA	Yellowknife Ar	25.38	52	P	P	03 48 32.1	-0.3
YKA				PcP	PcP	03 52 03.0	-1.2
YBH	Yreka Blue Hor	28.56	100	LR	LR	03 58 15.5	
	comp=Z,153nm,18.0s,MS3.6,baz=339,slow=32						
TIXI	Tiksi	33.44	327	*e*P	P	03 49 43.0	-0.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.8						
ELK	Elko	33.52	95	P	P	03 49 46.0	+1.4
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	Elko	33.52	95	P	P	03 49 46.0	+1.3
	comp=Z,2.7nm,0.9s,mb4.2						
YAK	Yakutsk	35.34	311	*e*P	P	03 49 59.6	-0.7
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.5						
ULM	Lac du Bonnet	39.10	68	P	P	03 50 32.1	-0.2
	comp=Z,3.1nm,0.8s,mb4.1,baz=292,slow=9.5,SNR=8.4						
MDJ	Mudanjiang	44.01	287	P	P	03 51 12.6	+0.1
MDJ				AP	pP	03 51 21.5	-1.3
MDJ				XP	sP	03 51 26.2	-0.8
MDJ				PP	PP	03 52 54.4	-0.9
MDJ				S	S	03 57 42.1	-0.1
MDJ				XS	sS	03 57 56.0	-3.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,31nm,4.2s						
MDJ				LR	LR		
	comp=N,31nm,20.1s,MS3.4						
MDJ				LR	LR		
	comp=E,37nm,24.3s,MS3.4						
MDJ				LR	LR		
	comp=Z,37nm,20.1s,MS3.3						
BOD	Bodaibo	44.26	310	*e*P	P	03 51 11.8	-2.7
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
MJAR	Matsushiro Arr	44.32	272	P	P	03 51 15.0	0.0
	comp=Z,4.3nm,1.1s,mb4.1,baz=42,slow=7.5,SNR=5.4						
CN2	Changchun	46.84	288	*e*P	P	03 51 33.8	-1.1
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
TXAR	Lajitas Array	48.24	97	P	P	03 51 46.1	+0.4
	comp=Z,0.2nm,0.5s,mb3.5,baz=294,slow=5.6,SNR=6.9						
TXAR				PcP	PcP	03 53 12.6	+0.1
	comp=Z,0.7nm,0.8s,baz=285,slow=1.3,SNR=3.8						
TXAR				LR	LR	04 10 21.0	
	comp=Z,56nm,21.1s,MS3.5,baz=285,slow=34						
TXAR	Lajitas Array	48.24	97	P	P	03 51 46.2	+0.4
TXAR						03 53 12.6	
SCHQ	Schefferville	50.71	48	P	P	03 52 03.1	-1.5
	comp=Z,6.1nm,1.1s,mb4.4,baz=326,slow=11,SNR=4.0						
SCHQ				LR	LR	04 15 57.4	
	comp=Z,93nm,18.3s,MS3.8,baz=38,slow=39						
SCHQ	Schefferville	50.71	48	P	P	03 52 02.1	-2.5
ZAK	Zakamensk	53.83	308	*e*P	P	03 52 27.6	-0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
SONM	Songino Array	54.12	304	P	P	03 52 30.3	+0.4
	comp=Z,4.0nm,0.6s,mb4.5,baz=38,slow=7.8,SNR=21						
SONM				PcP	PcP	03 53 34.5	+0.2
	comp=Z,1.2nm,0.6s,baz=53,slow=1.8,SNR=4.4						
ARCES	ARCESS Array B	56.26	357	P	P	03 52 43.8	-1.5
	comp=Z,6.2nm,0.9s,mb4.6,baz=15,slow=6.9,SNR=8.9						
ARCES				PcP	PcP	03 53 41.6	-0.9
	comp=Z,7.4nm,1.0s,baz=18,slow=5.7,SNR=3.5						
HHC	Hu-ho-hao-te	56.39	295	*e*P	P	03 52 46.9	+0.7
HHC				XP	sP	03 53 02.1	+1.2
HHC				PCP	PcP	03 53 45.2	+2.1
HHC				PP	PP	03 54 53.6	+1.7
HHC				SCP	ScP	03 57 39.0	-0.7
HHC				PCS	PcS	03 57 45.0	+1.3
HHC				S	S	04 00 30.4	-4.1
HHC				XS	sS	04 00 47.2	-4.7
HHC				SCS	ScS	04 02 31.5	-1.2
HHC				SS	SS	04 04 14.6	-7.1
HHC				AMB	AMB		
	comp=Z,60nm,9.6s						
HHC				LR	LR		
	comp=N,129nm,15.6s,MS4.4						
HHC				LR	LR		
	comp=E,170nm,14.4s,MS4.4						
HHC				LR	LR		
	comp=Z,95nm,14.4s,MS4.0						
SSE	Sheshan	58.10	280	P	P	03 52 56.3	-2.0
SSE				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.8						
SSE				AMB	AMB		
	comp=Z,92nm,4.4s						
NJ2	Nanjing	58.73	282	*e*P	P	03 53 07.1	+4.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
ZAL	Zalesovo	58.92	321	P	P	03 53 03.5	-0.6
	comp=Z,2.4nm,0.3s,mb4.7,baz=136,slow=6.3,SNR=4.1						
ZAL				LR	LR	04 21 35.4	
	comp=Z,97nm,18.1s,MS4.0,baz=70,slow=39						
ZAL	Zalesovo	58.92	321	P	P	03 53 03.5	-0.6
ZAL				LR	LR	04 21 35.4	
JOF	Joensuu	62.57	353	*e*p	P	03 53 27.1	-1.8
	comp=Z,4.5nm,0.8s,mb4.7						
GTA	Gaotai	63.52	301	*e*P	P	03 53 35.3	+0.1
GTA				AP	pP	03 53 40.0	-5.9
GTA				XP	sP	03 53 42.4	-7.6
GTA				PP	PP	03 55 54.6	-0.5
GTA				S	S	04 02 03.4	-2.7
GTA				XS	sS	04 02 12.9	-11
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,27nm,3.8s						
GTA				LR	LR		
	comp=N,66nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=E,92nm,17.1s,MS4.1						
GTA				LR	LR		
	comp=Z,80nm,13.7s,MS4.1						
KAF	Kangasniemi	63.65	356	*e*p	P	03 53 34.0	-2.1
	comp=Z,7.9nm,0.9s,mb4.7,baz=1.8,slow=6.2						
KAF	Kangasniemi	63.65	356	*e*P	P	03 53 34.0	-2.1
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KURK	Kurchatov	63.77	322	⇓*i*P	P	03 53 35.8	-1.0
LZH	Lanzhou	63.98	296	*e*P	P	03 53 39.1	+0.9
LZH				AP	pP	03 53 44.6	-4.4
LZH				XP	sP	03 53 46.8	-6.2
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
FINES	FINESS Array B	64.33	356	P	P	03 53 39.4	-1.1
	comp=Z,8.8nm,0.9s,mb4.8,baz=14,slow=7.9,SNR=21						
FINES				LR	LR	04 20 10.5	
	comp=Z,65nm,18.6s,MS3.9,baz=315,slow=35						
FINES	FINESS Array B	64.33	356	P	P	03 53 39.4	-1.1
FINES				LR	LR	04 20 10.5	
BVA0	Borovoye Array	64.57	328	*i* P	P	03 53 41.9	-0.2
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	Borovoye	64.58	328	*e*P	P	03 53 41.6	-0.5
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BRVK	Borovoye	64.58	328	*e*P	P	03 53 41.6	-0.5
	comp=Z,5.7nm,1.1s,mb4.5						
VOSK	Vostochnaya	64.65	328	P	P	03 53 42.2	-0.4
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ARU	Arti	64.75	337	⇑*i*P	P	03 53 41.9	-1.3
ARU				*e*		03 56 00.0	
ARU				*e*PPP		03 57 35.3	
ARU				*e*S	S	04 02 13.5	-7.8
ARU				*e*SS	SS	04 06 23.2	-9.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARU	Arti	64.75	337	*e*P	P	03 53 42.2	-1.0
	comp=Z,9.3nm,0.5s,mb5.1						
NB2	NORSAR Subarra	64.76	4	P	P	03 53 42.5	-0.8
	comp=Z,1.2nm,0.6s,mb4.1,baz=358,slow=6.5						
NOA	NORSAR Array B	64.76	4	P	P	03 53 42.9	-0.4
	comp=Z,7.1nm,1.0s,mb4.6,baz=355,slow=6.5,SNR=8.2						
ZRNK	Zerenda	65.06	329	*e*P	P	03 53 45.2	0.0
ZRNK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
ZRNK	Zerenda	65.06	329	*e*P	P	03 53 45.2	-0.1
	comp=Z,16nm,1.0s,mb5.0						
MKAR	Makanchi Array	65.60	317	P	P	03 53 47.8	-1.0
	comp=Z,1.2nm,0.4s,mb4.3,baz=39,slow=6.8,SNR=35						
WMQ	Urumqi	65.76	312	*e*P	P	03 53 54.0	+4.2
WMQ				S	S	04 02 36.0	+2.3
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,114nm,5.0s						
WMQ				LR	LR		
	comp=N,35nm,15.0s,MS3.8						
WMQ				LR	LR		
	comp=E,24nm,12.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,48nm,12.0s,MS3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	67.28	355	⇑eP	P	03 53 58.5	-1.0
CD2	Chengdu	68.00	292	eP	P	03 54 04.8	+0.7
CD2				AP	pP	03 54 15.1	+0.2
CD2				XP	sP	03 54 19.1	+0.2
CD2				PP	PP	03 56 36.4	+2.2
CD2				S	S	04 02 59.1	-1.7
CD2				XS	sS	04 03 16.1	-2.5
CD2				SS	SS	04 07 22.2	-1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=E,80nm,10.8s						
CD2				LR	LR		
	comp=Z,60nm,10.8s,MS4.1						
OBN	Obninsk	69.82	349	⇑eP	P	03 54 13.9	-1.4
OBN				e		03 54 28.3	
OBN				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
AB31	Akbulak array	70.94	333	iP	P	03 54 21.8	-0.4
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SUW	Suwalki	71.87	357	eP	P	03 54 26.8	-1.0
AAK	Ala-Archa	72.11	320	eP	P	03 54 28.6	-0.6
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AAK	Ala-Archa	72.11	320	eP	P	03 54 28.6	-0.7
	comp=Z,5.2nm,1.0s,mb4.4						
KK31	Karatay Array	73.16	323	iP	P	03 54 34.9	-0.6
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KKAR	Karatay Array	73.16	323	iP	P	03 54 34.9	-0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
VRSR	Storozhevoye	73.31	346	eP	P	03 54 35.2	-1.2
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
VRSR				pmax	pmax		
	comp=N,3.0nm,1.1s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.8s						
CLZ	Clausthal	73.91	5	eP	P	03 54 40.5	+0.6
	comp=Z,10.0nm,1.3s,mb4.6						
CLZ	Clausthal	73.91	5	eP	P	03 54 40.5	+0.6
CLZ				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
BUG	Bochum--Univer	74.12	7	eP	P	03 54 41.0	-0.1
	comp=Z,12nm,1.5s,mb4.6						
CLL	Collm	74.56	3	eP	P	03 54 43.4	-0.3
	comp=Z,5.0nm,1.0s,mb4.4						
CLL	Collm	74.56	3	⇓iP	P	03 54 43.3	-0.4
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	Collm	74.56	3	⇓iP	P	03 54 43.3	-0.4
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	Collm	74.56	3	⇓iP	P	03 54 43.3	-0.4
	comp=Z,8.0nm,1.0s,mb4.6						
BEBN	Eben Emael	74.63	8	⇓P	sP	03 55 00.7	+1.7
MEM	Membach	74.85	8	⇑P	P	03 54 44.3	-1.1
AKASG	Malin Array Be	74.87	353	P	P	03 54 44.4	-1.1
	comp=Z,8.8nm,0.6s,mb4.8,baz=8.1,slow=5.8,SNR=38						
BRG	Berggiesshubel	75.03	3	eP	P	03 54 46.2	-0.2
	comp=Z,5.0nm,1.2s,mb4.3						
BRG	Berggiesshubel	75.03	3	iP	P	03 54 46.2	-0.2
	comp=Z,4.9nm,1.2s,mb4.3						
BRG	Berggiesshubel	75.03	3	iP	P	03 54 46.2	-0.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MOX	Moxa	75.17	4	eP	P	03 54 47.2	0.0
	comp=Z,7.0nm,1.2s,mb4.5						
MOX	Moxa	75.17	4	eP	P	03 54 47.1	-0.1
	comp=Z,15nm,1.5s,mb4.7						
MOX	Moxa	75.17	4	eP	P	03 54 47.1	-0.1
MOX				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
DOU	Dourbes	75.23	9	⇓P	sP	03 55 04.2	+1.7
	comp=Z,8.0nm,2.7s						
PVCC	Panska Ves	75.39	2	eP	P	03 54 48.6	+0.1
TNS	Taunus Mts	75.41	7	eP	P	03 54 48.5	-0.1
	comp=Z,4.0nm,0.9s,mb4.3						
TNS	Taunus Mts	75.41	7	eP	P	03 54 48.5	-0.1
TNS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
UPC	Upice	75.44	2	eP	P	03 54 48.7	-0.1
DPC	Dobruska-Polom	75.60	1	eP	P	03 54 49.6	-0.1
NKC	Novy Kostel	75.61	4	eP	P	03 54 49.7	-0.1
WLF	Walferdange	75.80	8	eP	P	03 54 51.1	+0.3
	comp=Z,10.0nm,1.3s,mb4.6						
WLF	Walferdange	75.80	8	⇑P	P	03 54 51.4	+0.6
	comp=Z,10nm,2.2s,mb4.4						
PRU	Pruhonice	75.93	3	eP	P	03 54 51.7	+0.1
FLN	La Foliniere	75.99	13	eP	P	03 54 51.4	-0.5
ROTZ	Rotzenmuhle	76.07	4	eP	P	03 54 52.4	0.0
	comp=Z,6.0nm,1.2s,mb4.4						
GRA1	Grafenberg Arr	76.10	5	eP	P	03 54 52.9	+0.4
	comp=Z,7.0nm,0.9s,mb4.6						
GRF	Grafenberg Arr	76.10	5	eP	P	03 54 52.9	+0.4
	comp=Z,7.0nm,0.9s,mb4.6						
GRF	Grafenberg Arr	76.10	5	eP	P	03 54 52.9	+0.4
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
OKC	Ostrava-Krasne	76.13	0	eP	P	03 54 51.1	-1.6
LDF	La Druitiere	76.20	13	eP	P	03 54 53.5	+0.4
	comp=Z,12nm,1.1s,mb4.4						
LDF	La Druitiere	76.20	13	eP	P	03 54 53.5	+0.4
LDF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
LDF	La Druitiere	76.20	13	eP	P	03 54 53.5	+0.4
	comp=Z,6.1nm,1.1s,mb4.4						
SGMF	Saint Gilles	76.20	14	eP	P	03 54 53.0	-0.1
KWP	Kalwaria	76.27	357	eP	P	03 54 54.0	+0.5
STHS	Stebnicka Huta	76.52	358	eP	P	03 54 55.9	+1.0
TREC	Trest	76.64	2	eP	P	03 54 55.0	-0.6
KHC	Kasperske Hory	76.76	3	eP	P	03 54 56.8	+0.5
KHC	Kasperske Hory	76.76	3	⇑eP	P	03 54 56.4	+0.1
STU	Stuttgart	76.91	6	eP	P	03 54 58.1	+1.0
	comp=Z,4.0nm,0.7s,mb4.5						
KOLS	Kolonicke sedl	76.98	357	eP	P	03 54 57.5	0.0
CRVS	Cervenica-Dubn	77.03	358	eP	P	03 54 58.1	+0.3
GEC2	GERESS Array S	77.05	3	eP	P	03 54 58.1	+0.2
	comp=Z,8.0nm,1.3s,mb4.5						
GEC2	GERESS Array S	77.05	3	eP	P	03 54 58.1	+0.2
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
GERES	GERESS Array B	77.05	3	P	P	03 54 57.6	-0.2
	comp=Z,2.7nm,0.9s,mb4.2,baz=0.0,slow=5.3,SNR=17						
CDF	Champ du Feu	77.13	8	eP	P	03 54 58.2	-0.1
	comp=Z,7.9nm,1.0s,mb4.3						
CDF	Champ du Feu	77.13	8	eP	P	03 54 58.2	-0.1
CDF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CDF	Champ du Feu	77.13	8	eP	P	03 54 58.2	-0.1
	comp=Z,4.0nm,1.0s,mb4.3						
BFO	Black Forest	77.29	7	eP	P	03 54 59.4	+0.2
	comp=Z,4.0nm,1.3s,mb4.2						
BFO	Black Forest	77.29	7	eP	P	03 54 59.4	+0.2
BFO				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
SMOL	Smolenice	77.45	1	eP	P	03 55 00.9	+0.8
HAU	Haudompre	77.46	8	eP	P	03 54 59.9	-0.3
KECS	Kecovo	77.47	359	eP	P	03 55 00.5	+0.3
VYHS	Vyhne	77.47	360	eP	P	03 55 00.7	+0.4
ZST	Bratislava	77.77	1	eP	P	03 55 02.6	+0.7
LOR	Lormes	77.96	10	eP	P	03 55 02.8	-0.2
	comp=Z,9.8nm,1.0s,mb4.4						
LOR	Lormes	77.96	10	eP	P	03 55 02.8	-0.2
LOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
LOR	Lormes	77.96	10	eP	P	03 55 02.8	-0.2
	comp=Z,4.9nm,1.0s,mb4.4						
SSF	Saint Saulge	78.13	10	eP	P	03 55 03.8	-0.1
	comp=Z,7.2nm,0.9s,mb4.3						
SSF	Saint Saulge	78.13	10	eP	P	03 55 03.8	-0.1
SSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
SSF	Saint Saulge	78.13	10	eP	P	03 55 03.8	-0.1
	comp=Z,3.6nm,0.9s,mb4.3						
MFF	Saint Martin d	78.15	13	eP	P	03 55 03.9	-0.1
	comp=Z,19nm,1.2s,mb4.6						
MFF	Saint Martin d	78.15	13	eP	P	03 55 03.9	-0.1
MFF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
MFF	Saint Martin d	78.15	13	eP	P	03 55 03.9	-0.1
	comp=Z,9.4nm,1.2s,mb4.6						
BURAR	Bucovina Array	78.19	355	⇓P	P	03 55 04.4	+0.2
AVF	Avril sur Loir	78.38	10	eP	P	03 55 04.7	-0.6
MOTA	Moosalm	78.44	5	⇓iP	P	03 55 06.0	+0.4
	comp=Z,12nm,1.2s,mb4.7						
BGF	Bois d'Agland	78.56	11	eP	P	03 55 06.2	-0.1
SQTA	Sankt Quirin	78.57	5	⇑iP	P	03 55 06.8	+0.4
	comp=Z,8.0nm,1.1s,mb4.6						
SMF	Signal de Mont	78.57	10	eP	P	03 55 05.9	-0.5
	comp=Z,19nm,1.2s,mb4.6						
SMF	Signal de Mont	78.57	10	eP	P	03 55 05.9	-0.5
SMF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
SMF	Signal de Mont	78.57	10	eP	P	03 55 05.9	-0.5
	comp=Z,9.6nm,1.2s,mb4.6						
ARSA	Arzberg	78.69	2	⇑iP	P	03 55 07.9	+0.8
	comp=Z,8.7nm,1.1s,mb4.6						
GOF	Gofitskoye	78.70	342	eP	P	03 55 06.8	-0.3
GOF				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6						
TCF	Toulx Ste Croi	78.75	11	eP	P	03 55 08.0	+0.7
KBA	Koelnbreinsper	78.80	3	⇑iP	P	03 55 08.7	+1.1
	comp=Z,13nm,1.2s,mb4.7						
CABF	La Chapelle	78.82	9	eP	P	03 55 08.0	+0.3
PERS	Pernice	79.30	2	iP	P	03 55 11.3	+1.0
OBKA	Obir	79.41	3	⇑iP	P	03 55 11.2	+0.3
	comp=Z,13nm,0.8s,mb5.0						
GROS	Grobnik	79.48	2	eP	P	03 55 11.5	+0.2
GUN	Gumba	79.62	304	eP	P	03 55 12.7	+0.6
	comp=Z,8.3nm,0.3s,mb5.1						
JIRN	Jiri	79.68	303	eP	P	03 55 13.3	+0.9
	comp=Z,30nm,0.4s,mb5.6						
KIV	Kislovodsk	79.83	342	eP	P	03 55 13.7	+0.4
KIV				e		03 55 30.1	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV	Kislovodsk	79.83	342	eP	P	03 55 13.7	+0.4
	comp=Z,9.0nm,0.8s,mb4.8						
KIV				e		03 55 30.1	
LFF	La Frestale	79.90	13	eP	P	03 55 13.5	-0.1
KKN	Kakani	80.02	304	eP	P	03 55 14.7	+0.5
	comp=Z,8.7nm,0.5s,mb4.9						
PKI	Pulchoki	80.14	304	eP	P	03 55 15.1	+0.2
	comp=Z,9.9nm,0.4s,mb5.0						
GKN	Gorkha	80.15	305	eP	P	03 55 15.3	+0.3
DMN	Daman	80.25	304	eP	P	03 55 16.1	+0.6
BZS	Buzias	80.31	358	⇓P	P	03 55 16.0	+0.2
BOJS	Bojanci	80.43	2	eP	P	03 55 16.8	+0.4
CFR	Carcaliu	80.44	353	⇓P	P	03 55 16.4	-0.1
KOLN	Koldanda	80.84	305	eP	P	03 55 19.0	+0.3
	comp=Z,9.2nm,0.6s,mb4.9						
ESDC	Sonseca Array	84.35	17	P	P	03 55 37.3	+0.4
	comp=Z,2.9nm,0.9s,mb4.4,baz=344,slow=4.7,SNR=13						
BR131	Keskin Array S	85.32	348	eP	P	03 55 42.1	+0.2
	comp=Z,7.6nm,1.0s,mb4.8						
BRTR	Keskin Array B	85.32	348	P	P	03 55 42.5	+0.6
	comp=Z,6.4nm,1.0s,mb4.7,baz=34,slow=2.6,SNR=22						
TSUM	Tsumeb	144.85	1	PKP	PKPdf	04 02 40.7	-0.9
	comp=Z,6.1nm,0.8s,baz=355,slow=6.4,SNR=12						
TSUM	Tsumeb	144.85	1	ePKPbc	PKPdf	04 02 39.8	-1.9

IDC 01 03:43:57.2±2.6**, 1489N**×**9228W, h0^{km}, mb3.7**/2**, mb1 3.8**/3**, mb1mx3.4**/18**, mbtmp3.4**/3**, ML3.3**/1**, Error ellipse: s-maj=212.2km s-min=27.2km az=59.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	17.81	326	P	Pn	03 48 07.1	+0.6
	baz=152,slow=15,SNR=2.4						
LPAZ	La Paz	39.09	141	P	P	03 51 27.1	+1.0
	0.8nm,0.3s,baz=302,slow=2.5,SNR=7.0						
YKA	Yellowknife Ar	50.11	347	P	P	03 52 53.6	-0.4
	0.3nm,0.7s,baz=148,slow=7.3,SNR=5.7						

IDC 01 03:57:41.2±1.5**, 752S**×**13006E, h0^{km}, mb3.9**/2**, mb1 4.1**/3**, mb1mx3.9**/13**, mbtmp4.0**/3**, ML4.1**/1**, Error ellipse: s-maj=124.0km s-min=25.8km az=64.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.03	162	Pn	Pn	04 00 45.7	-1.9
	1.1nm,0.3s,baz=345,slow=13,SNR=25						
WRA				Sn	Sn	04 03 01.0	-12
	2.2nm,0.3s,baz=334,slow=22,SNR=9.9						
STKA	Stephens Creek	26.51	158	P	P	04 03 21.1	+0.7
	1.5nm,0.7s,baz=342,slow=9.2,SNR=2.3						
MKAR	Makanchi Array	68.69	327	P	P	04 08 46.5	0.0
	0.5nm,0.5s,baz=117,slow=7.4,SNR=14						
TORD	Torodi Ar. Bea	128.97	281	PKP	PKPdf	04 16 52.0	+1.1
	0.5nm,0.6s,baz=83,slow=1.9,SNR=8.6						

*ISCJB **01** 04:20:37.1±1.6, 05N±0.1×1004E±02, h152^{km}±11^{km}, mb4.0/13, Error ellipse: s-maj=32.3km s-min=15.2km az=96.0*
*NEIC **01** 04:20:38.5±1.4, 044N×10044E, h154^{km}±11^{km}, mb3.9/4, Error ellipse: s-maj=23.9km s-min=14.8km az=61.0*
*IDC **01** 04:20:38.5±2.0, 042N×10028E, h151^{km}±14^{km}, mb3.8/9, mb1 3.8/10, mb1mx3.6/20, mbtmp4.2/10, Error ellipse: s-maj=32.1km s-min=18.3km az=54.0*
ISC 01 04:20:38.0±1.6**, 05N**±01×**1004E**±02**, h143^{km}**±11^{km}**, n23, σ0^{s}87**/22**, mb4.0**/13**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.75	328	P	Pn	04 21 23.4	+1.5
	8.1nm,0.3s,baz=156,slow=9.2,SNR=41						
PSI				S	Sn	04 21 54.8	-1.0
	2.6nm,0.3s,baz=83,slow=15,SNR=6.1						
KULM	Kulim	4.81	3	Pn	Pn	04 21 48.1	-0.7
JIRN	Jiri	30.29	334	eP	P	04 26 36.8	+1.2
GUN	Gumba	30.64	334	eP	P	04 26 40.1	+1.4
	13nm,0.5s,mb4.9						
DMN	Daman	30.73	333	eP	P	04 26 40.3	+0.8
KKN	Kakani	30.80	333	eP	P	04 26 40.0	-0.1
KOLN	Koldanda	31.57	331	eP	P	04 26 48.1	+1.2
	11nm,0.6s,mb4.8						
WRA	Warramunga Arr	38.95	123	P	P	04 27 50.0	0.0
	0.7nm,0.4s,mb3.7,baz=307,slow=8.7,SNR=7.4						
WRA				PcP	PcP	04 30 01.9	+4.3
	0.4nm,0.4s,baz=310,slow=2.6,SNR=5.3						
WB2	Warramunga Arr	38.96	123	eP	P	04 27 50.1	0.0
MKAR	Makanchi Array	48.79	344	P	P	04 29 08.9	+0.4
	1.2nm,0.3s,mb4.0,baz=156,slow=8.1,SNR=57						
ZAL	Zalesovo	54.84	349	P	P	04 29 53.2	-0.1
	1.6nm,0.4s,mb4.1,baz=327,slow=7.6,SNR=4.2						
BRVK	Borovoye	58.10	339	P	P	04 30 15.7	-0.7
	1.0nm,0.4s,mb4.0						
ZRNK	Zerenda	58.48	338	eP	P	04 30 18.2	-0.8
	0.8nm,0.7s,mb3.7						
BR131	Keskin Array S	71.98	312	eP	P	04 31 44.1	-1.8
	1.1nm,0.6s,mb3.8						
BRTR	Keskin Array B	71.98	312	P	P	04 31 44.5	-1.4
	2.4nm,0.6s,mb4.1,baz=135,slow=6.8,SNR=14						
BOSA	Boshof	77.19	241	P	P	04 32 15.9	-0.1
	1.7nm,0.3s,mb4.1,baz=184,slow=5.1,SNR=7.9						
AKASG	Malin Array Be	77.80	322	P	P	04 32 18.1	-1.3
	0.7nm,0.5s,mb3.5,baz=92,slow=4.9,SNR=5.1						
FINES	FINESS Array B	82.14	332	P	P	04 32 42.2	-0.6
	0.5nm,0.4s,mb3.5,baz=124,slow=6.9,SNR=6.9						
FINES	FINESS Array B	82.14	332	P	P	04 32 42.2	-0.6
GERES	GERESS Array B	87.47	319	P	P	04 33 09.5	+0.1
	0.5nm,0.6s,mb3.5,baz=90,slow=2.7,SNR=6.6						
DAVOX	Davos	90.02	317	P	P	04 33 21.9	+0.6
	4.0nm,0.7s,mb4.5,baz=139,slow=5.6,SNR=6.9						
TXAR	Lajitas Array	142.51	36	PKP	PKPdf	04 39 52.8	-1.1
	0.2nm,0.6s,baz=233,slow=1.4,SNR=3.6						
BDFB	Brasilia	145.36	243	PKPbc	PKPbc	04 39 59.7	+0.7
	1.3nm,0.3s,baz=147,slow=8.4,SNR=4.7						

MAN 01 04:24:31.9, 1335N×11997E, h15^{km}, mb2.4, ML4.0, MS3.3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.97	81	⇓iP	Pb	04 24 47.5	-3.0
PGP				iS	Sb	04 24 51.0	-12
LBPH	Los Banos	1.43	56	eP	Pn	04 24 55.8	-1.4
NBP	Mount Natib	1.45	17	⇓eP	Pn	04 24 57.6	0.0
CUYO	Cuyo Island	2.69	157	eP	Pn	04 25 13.6	-1.0

MAN 01 04:35:29.7, 1336N×12005E, h6^{km}, mb2.2, ML3.9, MS2.7, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.90	81	eP	Pg	04 35 47.3	+0.4
LBPH	Los Banos	1.36	54	eP	Pn	04 35 55.1	0.0
NBP	Mount Natib	1.42	15	eP	Pn	04 35 55.7	-0.3

*NEIC **01** 04:44:25.4±0.9, 1958S×6914W, h95^{km}±9^{km}, Error ellipse: s-maj=15.1km s-min=10.8km az=225.0*
*ISCJB **01** 04:44:27.3±0.8, 1973S±005×690W±01, h135^{km}±9^{km}, mb3.6/5, Error ellipse: s-maj=18.9km s-min=8.6km az=7.8*
*IDC **01** 04:44:28.1±1.0, 1971S×6911W, h123^{km}±10^{km}, mb3.5/6, mb1 3.7/8, mb1mx3.6/16, mbtmp3.9/8, Error ellipse: s-maj=24.3km s-min=8.5km az=95.0*
ISC 01 04:44:28.5±0.8**, 1974S**±005×**690W**±01**, h130^{km}**±9^{km}**, n18, σ1^{s}15**/18**, mb3.6**/5**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.86	178	P	Pn	04 45 12.3	-1.1
	14nm,0.3s,baz=345,slow=8.5,SNR=214						
LVC				S	Sn	04 45 49.0	+1.1
	63nm,0.3s,baz=208,slow=15,SNR=16						
LVC	Limon Verde	2.86	178	ePn	Pn	04 45 12.3	-1.0
LPAZ	La Paz	3.53	14	P	Pn	04 45 22.1	+0.1
	2.2nm,0.3s,baz=191,slow=8.5,SNR=72						
LPAZ				S	Sn	04 46 04.3	+0.9
	0.4nm,0.3s,baz=218,slow=18,SNR=3.4						
LPAZ	La Paz	3.53	14	ePn	Pn	04 45 21.8	-0.2
ARE	Arequipa	4.03	324	eP	Pn	04 45 22.0	-6.6
ARE				e		04 45 26.0	
SIV	San Ignacio	8.42	65	P	Pn	04 46 25.4	-2.2
	1.5nm,0.3s,baz=256,slow=11,SNR=63						
SIV				S	Sn	04 47 50.6	-10
	3.3nm,0.3s,baz=248,slow=9.9,SNR=12						
CPUP	Villa Florida	12.59	124	ePn	Pn	04 47 22.3	-0.6
	19nm,0.8s						
BDFB	Brasilia	20.40	82	P	P	04 48 57.4	+2.2
	2.8nm,0.5s,baz=250,slow=5.7,SNR=9.3						
TXAR	Lajitas Array	59.14	325	P	P	04 54 14.8	-0.7
	0.2nm,0.8s,mb3.0,baz=157,slow=6.9,SNR=2.8						
ULM	Lac du Bonnet	73.62	342	P	P	04 55 46.4	-1.2
	1.5nm,0.6s,mb3.9,baz=176,slow=7.7,SNR=4.4						
ULM	Lac du Bonnet	73.62	342	P	P	04 55 46.4	-1.2
NVAR	Mina Array Bea	74.06	322	P	P	04 55 51.3	+1.1
	0.6nm,0.9s,mb3.3,baz=159,slow=11,SNR=3.9						
TORD	Torodi Ar. Bea	76.85	71	P	P	04 56 06.9	+0.8
	0.7nm,0.5s,mb3.5,baz=253,slow=5.6,SNR=23						
YKA	Yellowknife Ar	89.50	341	P	P	04 57 10.7	-0.2
	2.7nm,0.7s,mb4.3,baz=131,slow=4.7,SNR=60						
YKA				pP	pP	04 57 37.7	-6.5
	0.8nm,0.9s,baz=134,slow=4.8,SNR=5.9						
YKA	Yellowknife Ar	89.50	341	P	P	04 57 10.7	-0.2
YKA				pP	pP	04 57 37.7	-6.5
WRA	Warramunga Arr	134.42	211	PKP	PKPdf	05 03 33.0	+1.8
	0.3nm,0.5s,baz=165,slow=1.7,SNR=4.7						
MKAR	Makanchi Array	144.25	34	PKP	PKPdf	05 03 48.7	-0.3
	0.1nm,0.5s,baz=346,slow=5.4,SNR=3.5						
SONM	Songino Array	151.72	7	PKPbc	PKPbc	05 04 09.4	+1.7
	1.0nm,0.5s,baz=329,slow=1.8,SNR=4.6						

*IDC **01** 04:44:42.9±1.6, 2522S×7032W, h0^{km}, mb4.2/2, mb1 4.1/4, mb1mx3.8/16, mbtmp4.1/4, Error ellipse: s-maj=47.5km s-min=28.8km az=109.0*
*ISCJB **01** 04:44:48.2±0.5, 2551S±003×6984W±007, h33^{km}, mb4.1/2, Error ellipse: s-maj=9.5km s-min=4.2km az=9.4*
*NEIC **01** 04:44:49.5, 2552S×7017W, h39^{km}, MD4.3(GUC), After GUC.*
NEIC Felt [III] at Paposo and Taltal.
*GUC **01** 04:44:49.5±1.2, 2552S×7017W, h39^{km}±6^{km}, MD4.3, ML4.0*
ISC 01 04:44:48.4±1.3**, 2552S**±003×**6993W**±009**, h25^{km}**±12^{km}**, n18, σ0^{s}97**/25**, mb4.1**/2**, 3C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	0.98	334	⇑iP	Pb	04 45 07.4	+0.6
CPN1				iS	Sb	04 45 20.4	+1.1
CPN1				AMP		04 45 21.5	
	comp=E,11µm,0.5s						
CRCH	Chaqaral	1.03	217	⇑iP	Pn	04 45 07.5	+0.1
CRCH				iS	Sb	04 45 19.7	-1.1
CRCH				AMP		04 45 22.5	
	comp=N,18µm,0.3s						
CRCH	Chaqaral	1.03	217	⇑iP	Pn	04 45 07.5	+0.1
CRCH				iS	Sb	04 45 19.7	-1.1
CDCH	Caldera	1.75	207	⇓iP	Pn	04 45 16.5	-0.7
CDCH				iS	Sn	04 45 38.4	-0.3
CDCH				AMP		04 45 40.7	
	comp=E,2µm,0.3s						
CDCH	Caldera	1.75	207	⇓iP	Pn	04 45 16.5	-0.7
CDCH				iS	Sn	04 45 38.4	-0.3
CPCH	Copiapo	1.87	192	eP	Pn	04 45 19.4	+0.4
CPCH				iS	Sn	04 45 43.1	+1.3
ANCH	Antofagasta	1.88	346	⇓iP	Pn	04 45 18.3	-0.6
ANCH				iS	Sn	04 45 43.0	+1.2
ANCH				AMP		04 45 45.9	
	comp=N,2µm,0.5s						
ANCH	Antofagasta	1.88	346	P	Pn	04 45 18.3	-0.6
ANCH				iS	Sn	04 45 43.0	+1.2
CEN1	Los Morros	2.13	353	eP	Pn	04 45 21.1	-1.3
CEN1				iS	Sn	04 45 45.1	-3.0
CEN1				AMP		04 45 56.9	
	comp=E,1µm,0.5s						
LVC	Limon Verde	3.04	18	ePn	Pn	04 45 40.2	+5.3
CFAA	Coronel Fontan	6.25	167	Pn	Pn	04 46 22.6	+3.6
	comp=E,0.6nm,0.3s,baz=346,slow=14,SNR=45						
CFAA				Sn	Sn	04 47 38.5	+8.9
	comp=E,0.7nm,0.3s,baz=185,slow=18,SNR=11						
SIV	San Ignacio	12.58	43	Pn	Pn	04 47 45.1	-0.7
	comp=E,0.7nm,0.3s,baz=299,slow=14,SNR=12						
TRQA	Tornquist	14.21	154	eP	Pn	04 48 08.2	+0.3
	comp=E,4.2nm,0.5s						
BDFB	Brasilia	22.72	69	P	P	04 49 48.5	+0.2
	comp=E,2.2nm,0.6s,mb3.8,baz=241,slow=11,SNR=4.9						
TORD	Torodi Ar. Bea	79.59	70	P	P	04 56 53.5	+0.1
	comp=E,3.1nm,0.6s,mb4.4,baz=259,slow=5.1,SNR=18						
WRA	Warramunga Arr	129.03	210	PKP	PKPdf	05 03 52.7	-1.4
	comp=E,0.5nm,0.4s,baz=159,slow=1.7,SNR=5.9						
MKAR	Makanchi Array	149.38	39	PKPbc	PKPbc	05 04 33.9	-1.2
	comp=E,2.2nm,0.7s,baz=306,slow=2.5,SNR=28						
MKAR	Makanchi Array	149.38	39	PKPbc	PKPbc	05 04 33.9	-1.3

*NAO **01** 04:47:31.6, 3199N×9165E, h33^{km}, mb4.5*
*BJI **01** 04:47:37.4, 3364N×9122E, h4^{km}, mB4.8, mb4.6, ML4.6, Ms4.9, Msz4.5*
*IDC **01** 04:47:38.5±0.6, 3370N×91.16E, h0^{km}, mb4.3/18, mb1 4.5/20, mb1mx4.4/23, mbtmp4.3/20, ML3.4/2, MS4.3/16, Ms1 4.3/16, ms1mx4.2/20, Error ellipse: s-maj=21.6km s-min=14.4km az=53.0*
*ISCJB **01** 04:47:40.3±1.0, 3372N±003×91.15E±003, h24^{km}±7^{km}, mb4.5/63, MS4.4/31, Error ellipse: s-maj=4.6km s-min=4.0km az=175.9*
*NEIC **01** 04:47:40.7±0.3, 3386N×91.16E, h10^{km}, mb4.8/36, Error ellipse: s-maj=6.6km s-min=4.6km az=97.0*
*LDG **01** 04:47:42.5±0.3, 3390N×9090E, h33^{km}, Mb5.0/19, Ms4.3/8, Error ellipse: s-maj=12.7km s-min=4.8km az=123.0*
*MOS **01** 04:47:42.0±0.9, 3380N×91.17E, h33^{km}, mb4.9/36, MS4.3/11, Error ellipse: s-maj=8.0km s-min=4.8km az=115.3*
*SZGRF **01** 04:47:51.4, 3700N×9325E, h33^{km}, mb4.6, MS4.7, Qinghai, China*
ISC 01 04:47:43.2±1.0**, 3375N**±003×**9115E**±003**, h29^{km}**±7^{km}**, n196, σ1^{s}10**/212**, mb4.5**/63**, MS4.4**/31**, 6C-3D, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.03	180	PG	Pn	04 48 47.2	+4.3
LSA				SG	Sn	04 49 38.0	+8.8
LSA				Smax			
	comp=N,1µm,1.1s						
LSA				Smax			
	comp=E,1µm,1.0s						
LSA	Lhasa	4.03	180	ePn	Pn	04 48 47.3	+4.4
LSA				eSg	Sn	04 49 46.9	+18

GUN	Gumba	7.37	219	eP	Pn	04 49 30.3	+1.5
	comp=E,287nm,1.0s						
JIRN	Jiri	7.42	216	eP	Pn	04 49 31.3	+1.9
	comp=E,68nm,0.5s						
KKN	Kakani	7.79	222	eP	Pn	04 49 36.6	+2.1
	comp=E,88nm,0.8s						
PKI	Pulchoki	7.89	220	eP	Pn	04 49 37.3	+1.4
	comp=E,210nm,0.9s						
GKN	Gorkha	8.00	226	eP	Pn	04 49 38.6	+1.2
	comp=E,67nm,0.5s						
DMN	Daman	8.03	222	eP	Pn	04 49 39.7	+1.9
	comp=E,92nm,0.8s						
SHL	Shillong	8.18	175	eP	Pn	04 49 40.0	+0.2
SHL				ex	x	04 52 00.0	
KOLN	Koldanda	8.81	229	eP	Pn	04 49 49.2	+0.7
	comp=E,45nm,0.9s						
GTA	Gaotai	8.97	48	⇓P	Pn	04 49 50.9	+0.2
GTA				AP		04 49 55.1	
GTA				XP		04 49 57.7	
GTA				S	Sn	04 51 25.6	-5.2
GTA				AMB	AMB		
	comp=Z,32nm,1.2s						
GTA				AMB	AMB		
	comp=Z,202nm,4.7s						
GTA				LR	LR		
	comp=N,3µm,13.7s						
GTA				LR	LR		
	comp=E,4µm,8.7s						
GTA				LR	LR		
	comp=Z,2µm,14.1s						
AGT	Agartala	9.83	179	iP	Pn	04 50 09.0	+6.5
AGT				iS	Sn	04 51 52.0	+0.2
WMQ	Urumqi	10.41	346	P	Pn	04 50 11.8	+1.3
WMQ				XP		04 50 18.0	
WMQ				S	Sn	04 52 09.0	+2.9
WMQ				SS		04 52 23.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,52nm,3.0s						
WMQ				LR	LR		
	comp=N,2µm,10.0s						
WMQ				LR	LR		
	comp=E,6µm,12.0s						
WMQ				LR	LR		
	comp=Z,1µm,9.0s						
LZH	Lanzhou	10.68	74	eP	Pn	04 50 15.1	+0.9
LZH				AP		04 50 20.2	
LZH				XP		04 50 25.9	
LZH				eS	Sn	04 52 15.0	+2.2
LZH				XS		04 52 22.0	
LZH				eSS		04 52 28.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=N,4µm,10.7s						
LZH				LR	LR		
	comp=Z,4µm,11.2s						
CD2	Chengdu	11.04	101	eP	Pn	04 50 16.8	-2.2
CD2				AP		04 50 20.1	
CD2				XP		04 50 23.2	
CD2				PP		04 50 25.3	
CD2				S	Sn	04 52 18.4	-3.0
CD2				XS		04 52 24.2	
CD2				SS		04 52 35.2	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				AMB	AMB		
	comp=Z,40nm,4.5s						
CD2				LR	LR		
	comp=N,5µm,12.0s						
CD2				LR	LR		
	comp=Z,4µm,9.2s						
KLP	Kalpa	11.10	262	eP	Pn	04 50 17.6	-2.2
KALG	Kalgarh	11.38	252	eP	Pn	04 50 18.0	-5.6
AGRA	Agra	13.10	244	eP	Pn	04 50 41.2	-6.0
AGRA				AMb	AMB	04 50 41.7	
	comp=Z,37nm,0.3s						
AYAN	Aya Nagar	13.11	250	eP	Pn	04 50 44.2	-3.1
SONA	Sohna	13.25	249	eP	Pn	04 50 46.7	-2.5
SONA				AMb	AMB	04 50 52.2	
	comp=Z,11nm,0.3s						
KMI	Kunming	13.25	127	P	Pn	04 50 47.3	-2.0
KMI				AP		04 50 51.3	
KMI				XP		04 50 53.6	
KMI				PP		04 50 59.3	
KMI				S	Sn	04 53 24.2	+8.6
KMI				AMB	AMB		
	comp=Z,17nm,1.2s						
KMI				AMB	AMB		
	comp=Z,102nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,11.6s						
KMI				LR	LR		
	comp=E,1µm,10.9s						
KMI				LR	LR		
	comp=Z,2µm,12.5s						
KSH	Kashi	13.47	300	eP	Pn	04 50 56.0	+3.7
KSH				eAP		04 50 59.1	
KSH				eXP		04 51 02.0	
KSH				ePP		04 51 07.0	
KSH				eS	Sn	04 53 28.0	+7.0
KSH				eXS		04 53 35.0	
KSH				eSS		04 53 46.0	
KSH				AMB	AMB		
	comp=Z,180nm,2.2s						
KSH				LR	LR		
	comp=N,4µm,9.1s						
KSH				LR	LR		
	comp=E,4µm,12.4s						
KUDL	Kundal	13.76	250	eP	Pn	04 50 54.8	-1.4
KUDL				AMb	AMB	04 50 58.5	
	comp=Z,10.0nm,1.1s						
KHET	Khetri	14.33	251	eP	Pn	04 51 01.2	-2.8
KHET				AMb	AMB	04 51 02.6	
	comp=Z,5.8nm,0.8s						
ULHL	Ulahol	14.48	310	P	Pn	04 51 07.3	+1.2
	SNR=6.3						
MKAR	Makanchi Array	14.67	335	Pn	Pn	04 51 06.6	-2.0
	comp=Z,0.1nm,0.3s,baz=144,slow=10,SNR=34						
XAN	Xi'an	14.77	84	P	Pn	04 51 09.5	-0.5
TKM2	Tokmak 2	15.24	311	P	Pn	04 51 16.2	0.0
TKM2				pmax	pmax		
	comp=Z,110nm,1.9s						
GYA	Guiyang	15.26	114	⇓iP	Pn	04 51 12.8	-3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,50nm,4.5s						
GYA				LR	LR		
	comp=N,3µm,9.9s						
GYA				LR	LR		
	comp=E,2µm,11.7s						
GYA				LR	LR		
	comp=Z,3µm,11.7s						
AAK	Ala-Archa	15.79	309	⇑iP	Pn	04 51 24.1	+0.7
AAK				pmax	pmax		
	comp=Z,78nm,1.4s						
AAK				MLR	MLR		
	comp=Z,1µm,14.0s						
AAK	Ala-Archa	15.79	309	eP	Pn	04 51 24.2	+0.7
	comp=Z,144nm,1.6s						
ENH	Enshi	15.94	98	eP	Pn	04 51 21.4	-3.9
	comp=Z,48nm,1.0s						
NGP	Nagpur	16.50	224	eP	Pn	04 51 29.0	-3.4
NGP				ex	x	04 51 32.3	
	comp=Z,85nm,1.3s						
NGP				ex	x	04 54 50.3	
BTO	Baotou	16.51	60	eP	Pn	04 51 34.4	+1.8
HHC	Hu-ho-hao-te	17.70	60	eP	Pn	04 51 50.7	+3.2
HHC				PP		04 52 05.3	
HHC				PCP	PcP	04 56 29.0	+4.2
HHC				SCS	ScS	05 03 41.8	+3.7
HHC				AMB	AMB		
	comp=Z,11nm,1.4s						
HHC				AMB	AMB		
	comp=Z,122nm,2.9s						
HHC				LR	LR		
	comp=N,3µm,15.3s						
HHC				LR	LR		
	comp=E,1µm,15.5s						
HHC				LR	LR		
	comp=Z,1µm,18.0s						
SONM	Songino Array	18.15	35	P	Pn	04 51 52.7	-0.3
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=22						
SONM				LR	LR	04 59 29.6	
	comp=Z,2µm,19.4s,baz=239,slow=39						
ULN	Ulaanbaatar	18.49	36	⇑eP	Pn	04 51 56.1	-1.0
ULN	Ulaanbaatar	18.49	36	eP	Pn	04 51 57.1	0.0
	comp=Z,26nm,1.1s						
KK31	Karatay Array	18.63	306	iP	Pn	04 51 59.4	+0.5
KK31				pmax	pmax		
	comp=Z,49nm,1.3s						
KKAR	Karatay Array	18.63	306	iP	Pn	04 51 59.4	+0.5
KKAR				pmax	pmax		
	comp=Z,64nm,1.3s						
JASL	Jaisalmer	18.74	254	eP	Pn	04 51 59.2	-0.9
ZAK	Zakamensk	18.86	25	eP	Pn	04 52 02.0	+0.4
ZAK				pmax	pmax		
	comp=Z,33nm,1.2s						
KURK	Kurchatov	19.28	335	eP	Pn	04 52 05.5	-1.2
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
KURK	Kurchatov	19.28	335	eP	Pn	04 52 05.5	-1.1
	comp=Z,22nm,1.0s						
MOY	Mondy	19.28	19	eP	Pn	04 52 07.6	+0.9
MOY				pmax	pmax		
	comp=Z,54nm,1.9s						
HYB	Hyderabad	19.80	218	iP	Pn	04 52 13.0	+0.1
HYB				eS	Sn	04 56 02.0	+7.4
HYB	Hyderabad	19.80	218	eP	Pn	04 52 13.0	+0.1
HYB				eS	Sn	04 56 00.0	+5.4
WHN	Wuhan	19.90	93	eP	Pn	04 52 12.0	-2.0
ZAL	Zalesovo	20.68	349	P	P	04 52 20.3	-0.4
	comp=Z,6.5nm,0.8s,baz=312,slow=10,SNR=26						
BJT	Baijiatuau	20.93	65	eP	P	04 52 23.0	-0.5
BJT				pmax	pmax		
	comp=Z,23nm,1.0s						
BJT	Baijiatuau	20.93	65	eP	P	04 52 23.0	-0.5
	comp=Z,23nm,1.0s						
TIA	Tai'an	21.41	76	eP	P	04 52 29.0	+0.4
POO	Poona	21.65	230	eP	P	04 52 31.0	-0.2
POO				iRg		05 01 04.4	
NVS	Novosibirsk	21.81	348	iP	P	04 52 32.1	-0.8
QIZ	Qiongzhong	22.20	127	P	P	04 52 38.0	+0.9
QIZ				S	S	04 56 41.7	+1.7
QIZ				SS		04 57 13.7	
QIZ				LR	LR		
	comp=N,903nm,10.4s,MS4.6						
QIZ				LR	LR		
	comp=E,844nm,10.1s,MS4.6						
QIZ				LR	LR		
	comp=Z,2µm,8.8s						
QIZ	Qiongzhong	22.20	127	eP	P	04 52 38.7	+1.6
	comp=Z,28nm,1.3s,mb4.5						
NJ2	Nanjing	23.30	86	eP	P	04 52 48.5	-0.2
NJ2				AP		04 52 52.7	
NJ2				XP	sP	04 52 55.6	-4.7
NJ2				PP		04 53 19.4	
NJ2				S	S	04 56 55.0	-4.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
NJ2				LR	LR		
	comp=N,520nm,16.4s						
NJ2				LR	LR		
	comp=E,660nm,21.5s						
NJ2				LR	LR		
	comp=Z,230nm,24.8s						
VOSK	Vostochnaya	23.85	329	P	P	04 52 53.7	-0.2
VOSK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
BVA0	Borovoye Array	24.32	329	iP	P	04 52 58.6	+0.5
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
BVAR	Borovoye Array	24.32	329	P	P	04 52 58.8	+0.7
	comp=Z,6.8nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=33						
BVAR				PcP	PcP	04 56 37.3	-0.1
	comp=Z,0.5nm,0.5s,baz=145,slow=2.7,SNR=3.8						
BRVK	Borovoye	24.39	329	eP	P	04 52 58.1	-0.7
BRVK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
BRVK	Borovoye	24.39	329	eP	P	04 52 58.1	-0.7
	comp=Z,14nm,1.0s,mb4.3						
ZRNK	Zerenda	24.88	327	eP	P	04 53 02.5	-0.8
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
ZRNK	Zerenda	24.88	327	eP	P	04 53 02.5	-0.7
	comp=Z,9.6nm,1.1s,mb4.2						
QZH	Quanzhou	25.42	103	eP	P	04 53 08.0	-0.2
QZH				eS	S	04 57 32.2	-0.9
QZH				LR	LR		
	comp=N,4µm,11.2s,MS5.2						
QZH				LR	LR		
	comp=E,2µm,11.0s,MS5.2						
QZH				LR	LR		
	comp=Z,4µm,10.1s,MS5.2						
SSE	Sheshan	25.45	88	P	P	04 53 07.8	-0.7
SSE				XP	sP	04 53 12.3	-8.2
SSE				S	S	04 57 31.5	-2.2
SSE				XS	sS	04 57 36.6	-11
SSE				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,91nm,6.3s						
SSE				LR	LR		
	comp=N,1µm,23.8s,MS4.4						
SSE				LR	LR		
	comp=E,559nm,23.8s,MS4.4						
SSE				LR	LR		
	comp=Z,684nm,16.8s						
SNY	Shenyang	26.75	63	⇑P	P	04 53 19.0	-1.2
SNY				S	S	04 58 02.0	+7.9
SNY				LR	LR		
	comp=N,900nm,12.9s,MS4.7						
SNY				LR	LR		
	comp=E,770nm,11.4s,MS4.7						
SNY				LR	LR		
	comp=Z,1µm,26.5s						
AB31	Akbulak array	27.79	313	iP	P	04 53 29.9	+0.3
AB31				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
CN2	Changchun	28.39	59	eP	P	04 53 36.9	+2.0
CN2				eS	S	04 58 22.2	+2.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2µm,16.0s,MS4.9						
CN2				LR	LR		
	comp=E,1µm,16.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1µm,18.0s,MS4.6						
BOD	Bodaibo	28.60	26	eP	P	04 53 35.6	-1.2
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
AKTK	Aktyubinsk	29.39	315	P	P	04 53 44.0	+0.2
AKTK				LR	LR	05 06 48.4	
AKTO	Aktyubinsk	29.39	315	P	P	04 53 44.0	+0.2
	comp=Z,3.5nm,0.8s,mb4.2,baz=106,slow=9.9,SNR=12						
AKTO				LR	LR	05 06 48.4	
	comp=Z,585nm,20.0s,MS4.2,baz=0.0,slow=39						
MDJ	Mudanjiang	31.45	58	P	P	04 54 02.4	+0.4
MDJ				AP	pP	04 54 07.5	-3.0
MDJ				XP	sP	04 54 09.8	-4.2
MDJ				S	S	04 59 09.2	+1.2
MDJ				SCS	ScS	05 04 35.5	+2.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,35nm,3.7s						
MDJ				LR	LR		
	comp=N,1µm,16.2s						
MDJ				LR	LR		
	comp=Z,1µm,19.0s,MS4.5						
ARU	Arti	31.81	325	eP	P	04 54 04.8	-0.4
ARU				e		04 55 07.1	
ARU				eS	S	04 59 10.1	-3.5
ARU				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,200nm,18.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,500nm,20.0s,MS4.2						
ARU	Arti	31.81	325	eP	P	04 54 05.5	+0.3
	comp=E,9.1nm,0.8s,mb4.7						
KLR	Kul'dur	33.67	50	eP	P	04 54 20.2	-1.2
KLR				MLR	MLR		
	comp=Z,3µm,11.0s,MS5.3						
SOKR	Solikamsk	34.30	329	⇑iP	P	04 54 28.3	+1.4
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SOKR				MLR	MLR		
	comp=Z,1µm,28.0s,MS4.4						
HABR	Khabarovsk	35.69	52	eP	P	04 54 39.5	+0.7
HABR				MLR	MLR		
	comp=Z,534nm,12.0s,MS4.5						
MJAR	Matsushiro Arr	38.29	72	LR	LR	05 11 25.3	
	comp=Z,212nm,19.4s,MS4.0,baz=235,slow=37						
GOF	Gofitskoye	38.34	302	eP	P	04 55 03.2	+1.8
KIV	Kislovodsk	38.60	300	eP	P	04 55 03.7	+0.1
KIV				eS	S	05 00 57.4	-0.6
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
KIV				MLR	MLR		
	comp=Z,373nm,15.0s,MS4.3						
ASAJ	Asahikawa	40.75	60	LR	LR	05 13 07.5	
	comp=Z,720nm,19.9s,MS4.5,baz=326,slow=38						
KLMR	Klimovskoe	42.66	326	eP	P	04 55 36.3	-0.8
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
TIXI	Tiksi	42.84	17	eP	P	04 55 36.4	-2.2
TIXI				eSS	SS	05 05 08.1	-4.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,317nm,14.0s,MS4.4						
OBN	Obninsk	43.11	317	⇓eP	P	04 55 40.9	+0.1
OBN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.2						
BR131	Keskin Array S	45.80	295	eP	P	04 56 02.2	0.0
	comp=Z,4.7nm,1.0s,mb4.4						
BRTR	Keskin Array B	45.80	295	P	P	04 56 02.6	+0.4
	comp=Z,3.2nm,1.0s,mb4.2,baz=94,slow=4.9,SNR=10.0						
JOF	Joensuu	46.90	327	ep	P	04 56 07.5	-3.4
	comp=Z,5.7nm,1.0s,mb4.5						
AKASG	Malin Array Be	47.46	310	P	P	04 56 14.7	-0.5
	comp=Z,3.2nm,0.9s,mb4.3,baz=79,slow=6.5,SNR=9.3						
SEY	Seymchan	47.54	33	⇑eP	P	04 56 17.4	+1.6
FINES	FINESS Array B	49.18	325	P	P	04 56 28.3	-0.2
	comp=Z,1.4nm,0.5s,mb4.2,baz=91,slow=7.6,SNR=11						
FINES				LR	LR	05 19 20.4	
	comp=Z,350nm,21.8s,MS4.3,baz=131,slow=39						
ARCES	ARCESS Array B	50.32	335	P	P	04 56 37.6	+0.4
	comp=Z,4.9nm,1.0s,mb4.5,baz=90,slow=8.1,SNR=4.6						
ARCES				LR	LR	05 19 51.8	
	comp=Z,290nm,19.2s,MS4.3,baz=100,slow=38						
KWP	Kalwaria	51.74	310	eP	P	04 56 48.4	+0.5
KWP				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KWP	Kalwaria	51.74	310	eP	P	04 56 48.4	+0.5
	comp=Z,15nm,1.0s,mb4.9						
GUMO	Guam	52.52	99	LR	LR	05 17 56.2	
	comp=Z,190nm,20.6s,MS4.1,baz=61,slow=35						
BILL	Bilibino	53.65	27	eP	P	04 57 05.0	+3.1
BILL				e		04 58 02.5	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.3						
BILL				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.7						
NB2	NORSAR Subarra	56.37	325	P	P	04 57 20.8	-0.8
	comp=Z,8.7nm,1.2s,mb4.7,baz=81,slow=7.4						
NOA	NORSAR Array B	56.37	325	P	P	04 57 20.9	-0.7
	comp=Z,4.3nm,1.0s,mb4.5,baz=80,slow=7.0,SNR=5.6						
NOA				LR	LR	05 23 22.5	
	comp=Z,596nm,18.9s,MS4.7,baz=70,slow=38						
BRG	Berggiesshubel	57.00	313	eP	P	04 57 26.5	+0.4
	comp=Z,4.0nm,1.0s,mb4.4						
BRG	Berggiesshubel	57.00	313	eP	P	04 57 26.8	+0.7
	comp=Z,4.3nm,1.1s,mb4.4						
BRG				i		04 57 43.9	
	comp=Z,5.4nm,1.5s						
BRG	Berggiesshubel	57.00	313	eP	P	04 57 26.8	+0.7
BRG				i		04 57 43.9	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CLL	Collm	57.46	313	eP	P	04 57 29.1	-0.2
	comp=Z,4.0nm,1.0s,mb4.4						
CLL	Collm	57.46	313	eP	P	04 57 30.0	+0.7
	comp=Z,7.0nm,1.0s,mb4.7						
CLL	Collm	57.46	313	eP	P	04 57 30.0	+0.7
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
GEC2	GERESS Array S	57.67	310	eP	P	04 57 33.0	+2.2
	comp=Z,7.0nm,1.1s,mb4.6						
GEC2	GERESS Array S	57.67	310	eP	P	04 57 33.0	+2.2
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
GERES	GERESS Array B	57.67	310	P	P	04 57 30.9	+0.1
	comp=Z,3.9nm,1.0s,mb4.4,baz=79,slow=6.8,SNR=12						
GERES				LR	LR	05 26 56.2	
	comp=Z,361nm,18.6s,MS4.5,baz=84,slow=41						
WERD	Werda	58.11	312	eP	P	04 57 34.4	+0.5
	comp=Z,6.0nm,1.6s,mb4.4						
WET	Wettzell	58.11	311	eP	P	04 57 34.7	+0.8
	comp=Z,9.0nm,1.7s,mb4.5						
WET	Wettzell	58.11	311	eP	P	04 57 34.7	+0.8
WET				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
ROTZ	Rotzenmuhle	58.36	312	eP	P	04 57 36.8	+1.1
	comp=Z,14nm,1.4s,mb4.8						
MOX	Moxa	58.48	313	eP	P	04 57 36.7	+0.2
	comp=Z,4.0nm,1.2s,mb4.3						
CLZ	Clausthal	58.90	314	eP	P	04 57 39.8	+0.4
	comp=Z,9.0nm,1.1s,mb4.7						
CLZ	Clausthal	58.90	314	eP	P	04 57 39.8	+0.4
CLZ				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
GRA1	Grafenberg Arr	59.00	312	eP	P	04 57 41.2	+1.1
	comp=Z,15nm,1.1s,mb4.9						
GRF	Grafenberg Arr	59.00	312	eP	P	04 57 41.2	+1.1
	comp=Z,15nm,1.1s,mb4.9						
GRF				eL		05 25 16.2	
	comp=Z,487nm,18.1s						
TNS	Taunus Mts	60.54	313	eP	P	04 57 51.2	+0.5
	comp=Z,5.0nm,1.0s,mb4.6						
TNS	Taunus Mts	60.54	313	eP	P	04 57 51.2	+0.5
TNS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
BFO	Black Forest	61.23	311	eP	P	04 57 56.5	+1.1
KMBO	Kilima Mbogo	61.31	247	P	P	04 57 55.9	0.0
	comp=Z,1.5nm,0.7s,mb4.2,baz=59,slow=19,SNR=2.4						
KMBO				LR	LR	05 26 32.7	
	comp=Z,91nm,19.7s,MS3.9,baz=90,slow=38						
CDF	Champ du Feu	61.86	311	eP	P	04 57 59.1	-0.6
	comp=Z,18nm,1.1s,mb4.8						
CDF	Champ du Feu	61.86	311	eP	P	04 57 59.1	-0.6
CDF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
CDF	Champ du Feu	61.86	311	eP	P	04 57 59.1	-0.6
	comp=Z,9.1nm,1.1s,mb4.8						
MEM	Membach	61.89	314	⇑P	P	04 58 00.8	+1.0
MEM				XP	sP	04 58 04.6	-7.7
WLF	Walferdange	62.13	313	eP	P	04 58 02.3	+0.9
	comp=Z,10.0nm,1.1s,mb4.9						
WLF	Walferdange	62.13	313	⇑P	P	04 58 02.2	+0.8
	comp=Z,13nm,2.0s,mb4.7						
WLF	Walferdange	62.13	313	eP	P	04 58 01.9	+0.5
WLF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
WLF	Walferdange	62.13	313	eP	P	04 58 01.9	+0.5
	comp=Z,18nm,1.2s,mb5.1						
HINF	Hinteralfeld	62.34	311	eP	P	04 58 02.1	-0.7
HAU	Haudompre	62.59	311	eP	P	04 58 03.9	-0.6
HAU				eR			
	comp=Z,351nm,21.2s						
HAU	Haudompre	62.59	311	eP	P	04 58 03.9	-0.6
HAU				LR	LR		
	comp=Z,350nm,21.3s,MS4.5						
GIVF	Givet	62.78	314	eP	P	04 58 04.5	-1.3
MEZF	Maizieres J'vi	63.22	312	eP	P	04 58 07.5	-1.2
LPG	La Plagne	63.24	308	eP	P	04 58 09.2	+0.4
	comp=Z,34nm,1.4s,mb5.0						
LPG	La Plagne	63.24	308	eP	P	04 58 09.2	+0.4
LPG				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
LPG	La Plagne	63.24	308	eP	P	04 58 09.2	+0.4
	comp=Z,17nm,1.4s,mb5.0						
LPL	La Plagne	63.24	308	eP	P	04 58 09.1	+0.2
	comp=Z,26nm,1.1s,mb5.0						
LPL	La Plagne	63.24	308	eP	P	04 58 09.1	+0.2
LPL				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						

LPL	La Plagne	63.24	308	eP	P	04 58 09.1	+0.2
	comp=Z,13nm,1.1s,mb5.0						
CABF	La Chapelle	63.26	310	eP	P	04 58 08.4	-0.6
SBF	Sospel	63.40	306	eP	P	04 58 09.3	-0.6
	comp=Z,45nm,1.3s,mb5.1						
SBF	Sospel	63.40	306	eP	P	04 58 09.3	-0.6
SBF				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
SBF	Sospel	63.40	306	eP	P	04 58 09.3	-0.6
	comp=Z,22nm,1.3s,mb5.1						
MBDF	Montbardon	63.51	308	eP	P	04 58 11.1	+0.4
ORIF	Oris-en-Rattie	64.03	308	eP	P	04 58 14.3	+0.3
	comp=Z,15nm,1.1s,mb4.6						
ORIF				eR			
	comp=Z,571nm,22.2s						
ORIF	Oris-en-Rattie	64.03	308	eP	P	04 58 14.3	+0.3
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ORIF	Oris-en-Rattie	64.03	308	eP	P	04 58 14.3	+0.3
	comp=Z,7.7nm,1.1s,mb4.7						
LOR	Lormes	64.42	311	eP	P	04 58 15.7	-0.9
LOR				eR			
	comp=Z,213nm,23.0s						
LOR	Lormes	64.42	311	eP	P	04 58 15.7	-0.9
LOR				LR	LR		
	comp=Z,210nm,23.0s,MS4.3						
SMF	Signal de Mont	64.68	310	eP	P	04 58 17.5	-0.8
	comp=Z,27nm,1.3s,mb4.8						
SMF	Signal de Mont	64.68	310	eP	P	04 58 17.5	-0.8
SMF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
SMF	Signal de Mont	64.68	310	eP	P	04 58 17.5	-0.8
	comp=Z,14nm,1.3s,mb4.8						
SSF	Saint Saulge	64.73	311	eP	P	04 58 18.8	+0.2
	comp=Z,33nm,1.4s,mb4.9						
SSF	Saint Saulge	64.73	311	eP	P	04 58 18.8	+0.2
SSF				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
SSF	Saint Saulge	64.73	311	eP	P	04 58 18.8	+0.2
	comp=Z,16nm,1.4s,mb4.9						
VIVF	Saint-Julien-l	64.84	308	eP	P	04 58 19.0	-0.4
AVF	Avril sur Loir	64.93	311	eP	P	04 58 19.2	-0.7
	comp=Z,17nm,1.1s,mb4.7						
AVF	Avril sur Loir	64.93	311	eP	P	04 58 19.2	-0.7
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
AVF	Avril sur Loir	64.93	311	eP	P	04 58 19.2	-0.7
	comp=Z,8.3nm,1.1s,mb4.7						
BGF	Bois d'Agland	65.34	311	eP	P	04 58 22.1	-0.5
TCF	Toulx Ste Croi	65.85	311	eP	P	04 58 25.5	-0.4
	comp=Z,23nm,1.0s,mb4.8						
TCF	Toulx Ste Croi	65.85	311	eP	P	04 58 25.5	-0.4
TCF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
TCF	Toulx Ste Croi	65.85	311	eP	P	04 58 25.5	-0.4
	comp=Z,12nm,1.0s,mb4.9						
LDF	La Druitiere	66.34	314	eP	P	04 58 27.9	-1.2
FLN	La Foliniere	66.49	314	eP	P	04 58 28.9	-1.1
	comp=Z,22nm,1.2s,mb4.8						
FLN				eR			
	comp=Z,417nm,20.5s						
FLN	La Foliniere	66.49	314	eP	P	04 58 28.9	-1.1
FLN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
FLN				MLR	MLR		
	comp=Z,420nm,20.5s,MS4.6						
FLN	La Foliniere	66.49	314	eP	P	04 58 28.9	-1.1
	comp=Z,11nm,1.2s,mb4.8						
FLN				LR	LR		
	comp=Z,420nm,20.5s,MS4.6						
CAF	Calviac	66.51	309	eP	P	04 58 30.0	-0.1
	comp=Z,9.3nm,1.0s,mb4.5						
CAF	Calviac	66.51	309	eP	P	04 58 30.0	-0.1
CAF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CAF	Calviac	66.51	309	eP	P	04 58 30.0	-0.1
	comp=Z,4.7nm,1.0s,mb4.5						
GRR	Gorron	66.88	314	eP	P	04 58 31.4	-1.1
	comp=Z,21nm,1.0s,mb4.8						
GRR	Gorron	66.88	314	eP	P	04 58 31.4	-1.1
GRR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
GRR	Gorron	66.88	314	eP	P	04 58 31.4	-1.1
	comp=Z,10nm,1.0s,mb4.8						
LFF	La Frestale	67.36	310	eP	P	04 58 35.3	-0.2
WRAB	Tennant Creek	67.42	136	eP	P	04 58 36.2	+0.3
WRAB				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
WRAB	Tennant Creek	67.42	136	eP	P	04 58 36.2	+0.4
	comp=Z,21nm,1.1s,mb5.1						
WRA	Warramunga Arr	67.42	136	P	P	04 58 35.8	-0.1
	comp=Z,6.8nm,1.0s,mb4.7,baz=332,slow=6.8,SNR=14						
ROSF	Rostrenen	68.35	314	eP	P	04 58 40.2	-1.6
	comp=Z,53nm,1.5s,mb5.1						
ROSF	Rostrenen	68.35	314	eP	P	04 58 40.2	-1.6
ROSF				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
ROSF	Rostrenen	68.35	314	eP	P	04 58 40.2	-1.6
	comp=Z,27nm,1.5s,mb5.0						
EPF	Esparros	68.45	308	eP	P	04 58 41.9	-0.5
SUMG	Summit	68.46	346	eP	P	04 58 43.3	+0.8
	comp=Z,5.4nm,1.0s,mb4.5						
ETSF	Etsaut	69.10	308	eP	P	04 58 46.2	-0.2
ASAR	Alice Springs	70.11	139	P	P	04 58 52.4	-0.2
	comp=Z,10nm,0.9s,mb4.7,baz=325,slow=6.5,SNR=34						
ASAR	Alice Springs	70.11	139	P	P	04 58 52.4	-0.3
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ILAR	Eielson Array	71.91	22	P	P	04 59 03.1	-0.5
	comp=Z,1.3nm,0.9s,mb3.9,baz=296,slow=5.7,SNR=13						
ILAR				LR	LR	05 35 32.2	
	comp=Z,140nm,18.8s,MS4.2,baz=176,slow=40						
ESDC	Sonseca Array	72.89	306	P	P	04 59 08.2	-1.2
	comp=Z,1.4nm,0.8s,mb4.0,baz=48,slow=5.9,SNR=4.9						
STKA	Stephens Creek	80.74	138	P	P	04 59 54.0	+0.3
	comp=Z,1.8nm,0.7s,mb4.1,baz=359,slow=11,SNR=3.2						
STKA				LR	LR	05 39 53.0	
	comp=Z,112nm,20.1s,MS4.2,baz=204,slow=39						
YKA	Yellowknife Ar	81.88	12	P	P	04 59 59.4	-0.3
	comp=Z,0.7nm,0.8s,mb3.6,baz=330,slow=5.2,SNR=13						
YKA				LR	LR	05 38 32.5	
	comp=Z,130nm,18.3s,MS4.3,baz=355,slow=37						
TORD	Torodi Ar. Bea	82.37	281	P	P	05 00 02.6	+0.3
	comp=Z,8.9nm,1.0s,mb4.7,baz=49,slow=4.0,SNR=31						
LBTB	Lobatse	85.39	236	eP	P	05 00 18.1	+0.4
LBTB				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
LBTB	Lobatse	85.39	236	eP	P	05 00 18.1	+0.3
	comp=Z,18nm,0.8s,mb5.3						
BOSA	Boshof	87.95	233	P	P	05 00 31.7	+1.5
	comp=Z,3.2nm,0.7s,mb4.7,baz=8.8,slow=8.9,SNR=6.3						
BOSA				LR	LR	05 37 18.0	
	comp=Z,124nm,18.1s,MS4.4,baz=249,slow=34						
BOSA	Boshof	87.95	233	eP	P	05 00 32.0	+1.8
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
BOSA	Boshof	87.95	233	eP	P	05 00 32.0	+1.8
	comp=Z,6.1nm,0.9s,mb4.8						
SCHQ	Schefferville	89.77	347	LR	LR	05 41 54.5	
	comp=Z,151nm,20.6s,MS4.4,baz=37,slow=36						

ISCJB ***01*** *04:58:20.8±4.8, 2.4N±0.2×95.77E±0.08, h6km±30km, mb3.8/6, Error ellipse: s-maj=34.5km s-min=12.7km az=23.4*
IDC ***01*** *04:58:21.9±2.1, 2.37N×95.83E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=52.6km s-min=23.5km az=39.0*
NEIC ***01*** *04:58:26.5±1.1, 2.39N×95.88E, h30km, mb4.0/2, Error ellipse: s-maj=23.9km s-min=11.6km az=205.0*
ISC 01 04:58:22.3±5.7**, 2.4N**±0.2×**95.79E**±0.09**, h2**km±36km**, n9, σ0^{s}36**/11**, mb3.8**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.16	82	Pn	Pn	04 59 12.9	-0.1
	2.3nm,0.3s,baz=296,slow=7.2,SNR=11						
PSI				Sn	Sn	04 59 51.2	0.0
	3.2nm,0.3s,baz=303,slow=19,SNR=3.8						
PSI	Prapat	3.16	82	Pn	Pn	04 59 12.9	-0.1
PSI				Sn	Sn	04 59 51.2	0.0
KULM	Kulim	5.65	59	ePn	Pn	04 59 47.3	+0.1
WRA	Warramunga Arr	43.84	122	P	P	05 06 29.8	0.0
	0.6nm,0.7s,mb3.4,baz=298,slow=9.5,SNR=3.6						
MKAR	Makanchi Array	45.78	347	P	P	05 06 45.4	+0.1
	0.9nm,0.6s,mb3.9,baz=162,slow=7.7,SNR=11						
SONM	Songino Array	46.21	10	P	P	05 06 48.1	-0.5
	0.9nm,0.6s,mb3.9,baz=189,slow=7.9,SNR=4.9						
KURK	Kurchatov	50.31	346	eP	P	05 07 21.0	+0.6
	1.7nm,0.8s,mb4.1						
BVAR	Borovoye Array	54.70	341	P	P	05 07 53.2	+0.3
	0.3nm,0.5s,mb3.6,baz=143,slow=7.4,SNR=3.7						
ZRNK	Zerenda	55.08	341	P	P	05 07 55.1	-0.6
	0.5nm,0.4s,mb3.9						

IDC ***01*** *05:01:52.4±1.2, 56.01N×164.43E, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.4/8, ML3.3/1, Error ellipse: s-maj=35.3km s-min=12.3km az=33.0*
ISCJB ***01*** *05:01:54.3±0.8, 56.06N±0.04×164.66E±0.05, h16km±6km, mb3.4/7, Error ellipse: s-maj=6.6km s-min=4.1km az=26.8*
MOS ***01*** *05:01:54.7±2.3, 55.98N×164.55E, h15km, mb4.1/2, Error ellipse: s-maj=18.3km s-min=15.1km az=59.0*
KRSC ***01*** *05:01:54.8±1.0, 56.06N×164.56E, h15km±2km, ML4.0*
NAO ***01*** *05:02:11.2, 56.45N×163.37E, h33km, mb3.8*
ISC 01 05:01:55.8±1.0**, 56.05N**±0.04×**164.68E**±0.05**, h20**km±9km**, n48, σ1^{s}32**/71**, mb3.4**/7**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.05	279	P	Pn	05 02 12.4	-3.0
KBTR				S	Sb	05 02 25.3	-3.4
KBTR	Krutoberegovo	1.05	279	eP	Pn	05 02 12.4	-3.0
KBTR				eS	Sb	05 02 25.7	-3.0
BKI	Bering	1.12	139	i P	Pn	05 02 15.7	-0.7
BKI				i S	Sb	05 02 30.2	-0.5
BKI				Smax			
	3μm,0.4s						
KBG	Krutoberegovo	1.12	281	i P	Pn	05 02 13.5	-2.9
KBG				i S	Sb	05 02 27.8	-2.9
KBG				Smax			
	3μm,0.7s						
SMKR	Semkarok	1.87	288	i P	Pn	05 02 25.6	-1.0
BDR	Baidarnaya	2.00	286	i P	Pn	05 02 28.0	-0.5
BDR				eS	Sn	05 02 52.7	-0.2
SRKR	Sorokina	2.05	289	i P	Pn	05 02 28.5	-0.6
SRKR				eS	Sn	05 02 53.4	-0.6
ZLN	Zelenaya	2.18	271	i P	Pn	05 02 31.1	+0.2
ZLN				eS	Sn	05 02 57.0	-0.2
CIRR	Tsirk	2.21	273	eP	Pn	05 02 31.4	+0.1
CIRR				eS	Sn	05 02 58.2	+0.3
MKZ	Mys Kozlova	2.26	230	P	Pn	05 02 30.7	-1.3
MKZ				S	Sn	05 02 57.2	-2.0
MKZ	Mys Kozlova	2.26	230	i P	Pn	05 02 30.7	-1.3
MKZ				eS	Sn	05 02 56.9	-2.3
KLY	Klyuchi	2.27	278	P	Pn	05 02 30.4	-1.7
KLY				S	Sn	05 02 56.3	-3.2
KLY	Klyuchi	2.27	278	eP	Pn	05 02 30.1	-2.0
KLY				eS	Sn	05 02 56.3	-3.2
KRSR	Krestovskiy	2.31	276	eP	Pn	05 02 32.9	+0.2
KRSR				eS	Sn	05 02 59.6	-0.9
KPT	Kopyto	2.51	270	eP	Pn	05 02 36.4	+1.0
KMNR	Kamenistaya	2.52	265	eP	Pn	05 02 36.4	+0.8
KMNR				eS	Sn	05 03 07.3	+1.6
TUMR	Tumrok	2.68	255	eP	Pn	05 02 38.7	+0.9
KOZR	Kozyr	2.68	272	PN	Pn	05 02 39.3	+1.5
KOZR				S	Sn	05 03 11.9	+2.2
KOZ	Kozyrevsk	2.70	272	P	Pn	05 02 39.3	+1.3
KOZ				S	Sn	05 03 11.9	+1.9
KOZ	Kozyrevsk	2.70	272	eP	Pn	05 02 39.2	+1.2
KOZ				eS	Sn	05 03 11.1	+1.1
SRDR	Sredinnyy	2.79	277	i P	Pn	05 02 39.8	+0.5
SRDR				eS	Sn	05 03 13.0	+0.7
ESO	Esso	3.36	270	eP	Pn	05 02 49.1	+1.9
ESO				Smax			
	40nm,1.2s						
SPN	Mys Shipunski	4.01	224	P	Pn	05 02 54.9	-1.2
SPN				S	Sn	05 03 37.5	-5.1
SMAR	Somma	4.41	233	i P	Pn	05 03 02.1	+0.5
UGLR	Uglovaya	4.44	232	i P	Pn	05 03 02.5	+0.5
AVH	Avacha	4.44	233	eP	Pn	05 03 02.4	+0.4
AVH				eS	Sn	05 03 52.1	-1.0
KOK	Koryaka	4.47	234	eP	Pn	05 03 02.9	+0.5
GNL	Ganaly	4.55	242	eP	Pn	05 03 04.7	+1.2
PET	Petropavlovsk	4.64	232	eS	Sn	05 03 55.9	-2.1
KRMR	Karymshinskiy	5.00	233	eP	Pn	05 03 11.0	+1.3
RUS	Russkaya	5.12	227	P	Pn	05 03 11.4	0.0
RUS				S	Sn	05 04 06.2	-3.7
RUS	Russkaya	5.12	227	eP	Pn	05 03 11.4	0.0
RUS				eS	Sn	05 04 06.6	-3.3
GRL	Gorelyy	5.22	231	eP	Pn	05 03 14.2	+1.5
APC	Apacha	5.39	238	P	Pn	05 03 17.5	+2.5
FX1	Attu Island--F	5.88	119	Pn	Pn	05 03 21.7	0.0
	2.6nm,0.3s,baz=123,slow=5.6,SNR=21						
FX1				Sn	Sn	05 04 25.4	-3.1
	1.6nm,0.3s,baz=78,slow=19,SNR=2.8						
MIPR	Malaya Ipel'ka	6.00	234	i P	Pn	05 03 25.1	+1.7
KAMR	Kamenskoye	6.47	6	i P	Pn	05 03 30.7	+0.8
KAMR				eS	Sn	05 04 42.0	-1.1
PAU	Pauzhetka	6.55	229	eP	Pn	05 03 31.6	+0.7
ILAR	Eielson Array	24.84	50	P	P	05 07 17.4	+0.6
	0.5nm,0.9s,mb3.0,baz=233,slow=9.0,SNR=2.5						
YKA	Yellowknife Ar	39.18	46	P	P	05 09 23.1	+0.9
	0.2nm,0.4s,mb3.2,baz=298,slow=7.9,SNR=6.7						
MKAR	Makanchi Array	49.27	296	P	P	05 10 42.2	-0.9
	0.3nm,0.8s,mb3.4,baz=37,slow=7.2,SNR=3.4						
BVAR	Borovoye Array	50.63	309	P	P	05 10 51.2	-2.2
	0.8nm,0.7s,mb3.8,baz=53,slow=7.4,SNR=4.7						
BVAR	Borovoye Array	50.63	309	P	P	05 10 51.2	-2.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	53.80	66	P	P	05 11 17.6	+0.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=11,slow=4.6,SNR=2.6						
NB2	NORSAR Subarra	61.39	346	P	pP	05 12 19.4	+2.5
	comp=Z,0.7nm,0.5s,baz=17,slow=6.9						
NOA	NORSAR Array B	61.39	346	P	P	05 12 07.8	-2.5
	comp=Z,1.1nm,0.9s,mb4.0,baz=18,slow=6.9,SNR=3.6						
NOA	NORSAR Array B	61.39	346	P	P	05 12 07.9	-2.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	Lajitas Array	67.09	71	P	P	05 12 49.2	+1.5
	comp=Z,0.2nm,0.6s,mb3.3,baz=300,slow=6.1,SNR=4.0						

IDC ***01*** *05:03:13.0±3.5, 54.07N×161.66W, h0km, mb3.8/7, mb1 3.7/9, mb1mx3.6/25, mbtmp3.7/9, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=82.0km s-min=22.7km az=161.0*
ISCJB ***01*** *05:03:19.2±1.8, 54.3N±0.2×161.4W±0.2, h53km±9km, mb3.7/8, Error ellipse: s-maj=36.3km s-min=10.2km az=117.6*
NEIC ***01*** *05:03:22.6±1.1, 54.82N×161.80W, h36km±11km, mb4.2/1, ML3.3(AEIC), ML3.6(PMR), Error ellipse: s-maj=41.6km s-min=7.7km az=154.0*
ISC 01 05:03:22.1±1.6**, 54.8N**±0.3×**161.7W**±0.3**, h41**km±11km**, n16, σ0^{s}96**/19**, mb3.7**/8**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.91	49	P	Pn	05 03 39.9	+1.5
SDPT				S	Sn	05 03 55.4	+5.1
CHGN	Chignik	2.41	49	eP	Pn	05 04 01.1	+2.0
AKUT	Akutan	2.47	257	P	Pn	05 04 00.3	+0.4
UNV	Unalaska Valle	2.97	254	P	Pn	05 04 05.4	-1.4
KDAK	Kodiak Island	5.90	55	Pn	Pn	05 04 46.6	-0.3
	0.8nm,0.3s,baz=136,slow=20,SNR=12						
KDAK				Sn	Sn	05 05 51.2	-2.1
	0.4nm,0.3s,baz=344,slow=15,SNR=3.7						
KDAK	Kodiak Island	5.90	55	Pn	Pn	05 04 46.6	-0.3
KDAK				Sn	Sn	05 05 51.2	-2.1
ILAR	Eielson Array	12.46	30	Pn	Pn	05 06 15.7	-1.1
	0.0nm,0.3s,baz=219,slow=15,SNR=2.4						
YKA	Yellowknife Ar	25.17	53	P	P	05 08 43.6	0.0
	0.2nm,0.6s,mb2.8,baz=266,slow=8.9,SNR=6.8						
SONM	Songino Array	53.92	304	P	P	05 12 41.3	-0.1
	0.9nm,0.7s,mb3.8,baz=22,slow=7.8,SNR=2.9						
FINES	FINESS Array B	63.98	356	P	P	05 13 51.1	-0.1
	1.9nm,0.9s,mb4.1,baz=34,slow=10.0,SNR=3.9						
BVAR	Borovoye Array	64.27	328	P	P	05 13 53.9	+0.8
	0.8nm,0.5s,mb4.0,baz=45,slow=6.3,SNR=5.7						
ZRNK	Zerenda	64.75	329	eP	P	05 13 56.4	+0.1
	2.0nm,0.9s,mb4.2						
MKAR	Makanchi Array	65.34	317	P	P	05 13 59.5	-0.6
	0.3nm,0.8s,mb3.4,baz=45,slow=6.1,SNR=3.3						
AKTK	Aktyubinsk	70.05	334	P	P	05 14 30.2	+0.4
AKTO	Aktyubinsk	70.05	334	P	P	05 14 30.2	+0.4
	1.3nm,0.7s,mb4.0,baz=351,slow=8.8,SNR=5.2						
AKASG	Malin Array Be	74.52	353	P	P	05 14 56.0	-0.4
	0.5nm,0.5s,mb3.7,baz=9.4,slow=5.5,SNR=4.6						

NIED ***01*** *05:12:00, 43.00N×138.90E, h250km, Mw4.2 Best double couple: $M_0$2.53000×10^{15} NP1:ϕ_s197.00000°, δ76.00000°, λ111.00000°. NP2:ϕ_s320.00000°, δ25.00000°, λ35.00000°.*
NAO ***01*** *05:12:31.1, 44.97N×140.63E, h33km, mb3.9*
MOS ***01*** *05:12:40.7±0.7, 43.13N×138.77E, h197km, mb4.4/14, Error ellipse: s-maj=12.3km s-min=8.6km az=119.0*
ISCJB ***01*** *05:12:42.1±0.2, 42.94N±0.04×138.88E±0.04, h221km±2km, mb4.0/52, Error ellipse: s-maj=6.1km s-min=4.3km az=141.9*
IDC ***01*** *05:12:43.0±1.4, 42.93N×138.81E, h214km±13km, mb3.8/19, mb1 4.0/20, mb1mx3.9/25, mbtmp4.3/20, Error ellipse: s-maj=11.9km s-min=10.2km az=146.0*
BJI ***01*** *05:12:42.3, 43.00N×138.86E, h228km, mB4.6, mb4.4*
NEIC ***01*** *05:12:43.2±0.7, 42.95N×138.82E, h216km±7km, mb4.2/21, Error ellipse: s-maj=7.0km s-min=4.6km az=163.0*
JMA ***01*** *05:12:43.4±0.1, 43.00N×138.92E, h216km±2km, M3.5*
ISC 01 05:12:43.0±0.2**, 42.98N**±0.04×**138.86E**±0.04**, h214**km±2km**, n120, σ0^{s}83**/136**, mb4.0**/52**, 1C-1D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	Shimam	0.93	111	P	Pn	05 13 14.3	+0.5
JSH				eS	S	05 13 38.0	+0.2
JOSM	Okushiri--Mats	1.00	153	P	Pn	05 13 15.0	+0.8
JOSM				eS	S	05 13 39.4	+0.8
JSK	Shakotan	1.24	72	P	Pn	05 13 15.9	0.0
JSK				eS	S	05 13 41.7	+0.2
JYM2	Yakumo 2	1.41	127	P	Pn	05 13 18.0	+0.8
JYM2				eS	S	05 13 44.5	+0.6
JEW	Eniwo	1.91	93	P	Pn	05 13 22.3	+0.7
JKB	Kayabe	1.94	123	P	Pn	05 13 22.3	+0.3
JKB				eS	S	05 13 52.6	+0.1
JHR	Hokuryu	2.22	69	P	Pn	05 13 25.7	+0.9
JOT	Ohata	2.28	134	P	Pn	05 13 25.3	-0.1
JYG	Yagishiri	2.36	51	P	Pn	05 13 26.6	+0.4
JFR	Furan	2.74	85	P	Pn	05 13 30.5	+0.1
JFR				eS	S	05 14 06.7	-0.9
ASAJ	Asahikawa	2.94	66	P	Pn	05 13 33.2	+0.5
	19nm,0.3s,baz=253,slow=11,SNR=63						
ASAJ	Asahikawa	2.94	66	P	Pn	05 13 33.3	+0.6
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
JNBK	Urakawa-nobuka	2.96	102	P	Pn	05 13 32.4	-0.4
JKK2	Kamakawa 2	2.97	71	P	Pn	05 13 33.7	+0.7
JKK2				eS	S	05 14 12.2	-0.1
JWK2	Keihoku	3.20	42	P	Pn	05 13 37.1	+1.4
JANG	Nango	3.27	142	P	Pn	05 13 35.3	-1.2
JANG				eS	S	05 14 16.3	-2.4
JCH	Churui	3.33	95	P	Pn	05 13 35.9	-1.3
JCH				eS	S	05 14 16.6	-3.3
JSE	Soyaes	3.34	52	P	Pn	05 13 37.8	+0.5
JSE				eS	S	05 14 20.5	+0.5
JAR	Ashorobuto	3.61	83	P	Pn	05 13 39.9	-0.6
JAR				eS	S	05 14 24.1	-1.7
JTKR	Abashiri--Toko	3.81	73	P	Pn	05 13 42.9	0.0
JTKR				eS	S	05 14 29.1	-1.0
YSS	Yuzh-Sakhalins	4.84	33	P	Pn	05 13 56.8	+1.1
YSS				e		05 14 53.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
HABR	Khabarovsk	6.11	335	eP	Pn	05 14 03.2	-8.6
HABR				eS	S	05 15 21.1	-1.2
MJAR	Matsushiro Arr	6.45	185	P	Pn	05 14 16.6	+0.4
	comp=Z,0.7nm,0.3s,baz=8.2,slow=13,SNR=4.1						
MDJ	Mudanjiang	6.90	287	P	Pn	05 14 22.6	+0.6
MDJ				AMB	AMB		
	comp=Z,22nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,99nm,3.8s						
MDJ	Mudanjiang	6.90	287	ePn	Pn	05 14 22.0	0.0
	comp=Z,15nm,0.8s						
KLR	Kul'dur	7.97	324	eP	Pn	05 14 32.0	-3.7
CN2	Changchun	9.80	279	eP	Pn	05 14 59.9	+0.5
CN2				eS	S	05 16 48.1	-1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
BJT	Baijiatuau	17.25	268	eP	P	05 16 29.4	-0.2
BJT				pmax	pmax		
	comp=Z,12nm,0.7s						
BJT	Baijiatuau	17.25	268	eP	P	05 16 29.4	-0.1
	comp=Z,12nm,0.7s						
MA2	Magadan	18.16	20	eP	P	05 16 38.9	-0.6
MA2				eS	S	05 19 53.0	-3.1
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	Magadan	18.16	20	eP	P	05 16 38.6	-0.9
SSE	Sheshan	18.39	236	P	P	05 16 41.0	-1.0
SSE				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SSE				AMB	AMB		
	comp=Z,112nm,6.6s						
NJ2	Nanjing	19.21	242	eP	P	05 16 51.4	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
HHC	Hu-ho-hao-te	20.39	273	eP	P	05 17 02.4	-1.1
HHC				PP		05 17 33.3	
HHC				S	S	05 20 35.5	-4.3
HHC				PCP	PcP	05 21 09.0	+2.5
HHC				AMB	AMB		
	comp=Z,7.0nm,1.0s						
HHC				AMB	AMB		
	comp=Z,143nm,7.2s						
HHC				LR	LR		
	comp=N,148nm,13.2s						
HHC				LR	LR		
	comp=E,128nm,14.4s						
HHC				LR	LR		
	comp=Z,116nm,12.0s						
ULN	Ulaanbaatar	22.76	293	eP	P	05 17 25.7	-1.1
SONM	Songino Array	23.20	293	P	P	05 17 30.1	-0.7
	comp=Z,2.5nm,0.5s,mb4.0,baz=85,slow=8.8,SNR=11						
FX1	Attu Island--F	24.81	54	P	P	05 17 46.9	+1.5
	comp=Z,23nm,0.6s,mb5.0,baz=297,slow=4.5,SNR=10						
FX1	Attu Island--F	24.81	54	eP	P	05 17 46.4	+1.0
LZH	Lanzhou	27.73	268	eP	P	05 18 12.1	+0.6
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.6						
GTA	Gaotai	29.42	276	eP	P	05 18 27.4	+1.0
GTA				AP	pP	05 19 10.2	+0.5
GTA				PP	PP	05 19 32.4	-5.0
GTA				XP	sP	05 19 34.1	-0.3
GTA				S	S	05 23 06.8	+2.5
GTA				XS	sS	05 24 22.1	+0.5
GTA				SS	SS	05 24 58.6	-20
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,186nm,4.2s						
GTA				LR	LR		
	comp=N,120nm,14.1s						
GTA				LR	LR		
	comp=E,120nm,17.1s						
GTA				LR	LR		
	comp=Z,115nm,14.4s						
CD2	Chengdu	30.32	258	eP	P	05 18 34.1	-0.3
CD2				PP	PP	05 19 39.3	-8.0
CD2				S	S	05 23 17.7	-0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,80nm,4.8s						
ZAL	Zalesovo	36.63	307	PcP	PcP	05 21 46.6	-0.3
	comp=Z,1.1nm,0.6s,baz=317,slow=4.2,SNR=4.2						
ZAL				ScP	ScP	05 25 12.6	-0.5
	comp=Z,0.8nm,0.5s,baz=39,slow=5.4,SNR=6.1						
WMQ	Urumqi	36.70	289	P	P	05 19 30.0	+0.6
WMQ				PP	PP	05 21 01.0	+3.3
WMQ				S	S	05 25 00.0	+3.4
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,71nm,5.0s						
WMQ				LR	LR		
	comp=N,78nm,9.0s						
WMQ				LR	LR		
	comp=E,112nm,12.0s						
WMQ				LR	LR		
	comp=Z,98nm,11.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TNA	**Tin City**	**36.82**	**34**	*e*P	**P**	**05 19 29.4**	**-1.0**
	comp=Z,1.7nm,0.7s,mb3.7						
MK31	**Makanchi Array**	**39.53**	**296**	*i* P	**P**	**05 19 52.0**	**-1.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**39.53**	**296**	P	**P**	**05 19 53.0**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.0,baz=78,slow=9.9,SNR=65						
MKAR				PcP	PcP	05 21 55.9	0.0
	comp=Z,0.3nm,0.5s,baz=76,slow=5.9,SNR=3.1						
MKAR				ScP	ScP	05 25 24.3	+0.3
	comp=Z,0.6nm,0.9s,baz=80,slow=2.2,SNR=3.8						
MKAR	**Makanchi Array**	**39.53**	**296**	P	**P**	**05 19 53.0**	**0.0**
MKAR						05 21 55.9	
KURK	**Kurchatov**	**40.90**	**303**	*d i*P	**P**	**05 20 03.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.9						
KURK	**Kurchatov**	**40.90**	**303**	*e*P	**P**	**05 20 03.8**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.3						
IMA2	**Indian Mountai**	**42.70**	**34**	*e*P	**P**	**05 20 17.7**	**-1.1**
KDAK	**Kodiak Island**	**44.17**	**46**	P	**P**	**05 20 30.0**	**-0.5**
	comp=Z,5.0nm,0.6s,mb4.0,baz=305,slow=12,SNR=5.5						
FIB	**Fire Island**	**44.75**	**41**	*e*P	**P**	**05 20 35.8**	**+0.7**
	comp=Z,6.0nm,0.3s,mb4.4						
JIRN	**Jiri**	**44.90**	**268**	*e*P	**P**	**05 20 36.5**	**+0.3**
	comp=Z,9.9nm,0.4s,mb4.5						
GUN	**Gumba**	**44.98**	**268**	*e*P	**P**	**05 20 37.3**	**+0.4**
	comp=Z,18nm,0.4s,mb4.7						
VOSK	**Vostochnaya**	**44.99**	**307**	P	**P**	**05 20 36.7**	**-0.3**
BVA0	**Borovoye Array**	**45.25**	**308**	*i* P	**P**	**05 20 39.1**	**+0.1**
BVAR	**Borovoye Array**	**45.25**	**308**	P	**P**	**05 20 39.1**	**+0.1**
	comp=Z,5.3nm,0.5s,mb4.1,baz=66,slow=8.7,SNR=40						
BVAR				PcP	PcP	05 22 15.2	+0.1
	comp=Z,0.4nm,0.3s,baz=104,slow=5.9,SNR=2.7						
BVAR	**Borovoye Array**	**45.25**	**308**	P	**P**	**05 20 39.1**	**+0.1**
BVAR				PcP	PcP	05 22 15.2	+0.1
TKM2	**Tokmak 2**	**45.30**	**293**	P	**P**	**05 20 40.3**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
BRVK	**Borovoye**	**45.30**	**308**	*e*P	**P**	**05 20 39.5**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
BRVK	**Borovoye**	**45.30**	**308**	*e*P	**P**	**05 20 39.5**	**0.0**
	comp=Z,2.6nm,0.4s,mb3.9						
KKN	**Kakani**	**45.49**	**269**	*e*P	**P**	**05 20 42.1**	**+1.2**
PKI	**Pulchoki**	**45.52**	**268**	*e*P	**P**	**05 20 40.0**	**-1.1**
ILAR	**Eielson Array**	**45.65**	**35**	P	**P**	**05 20 41.6**	**-0.5**
	comp=Z,2.3nm,0.6s,mb3.7,baz=281,slow=8.7,SNR=46						
DMN	**Daman**	**45.72**	**269**	*e*P	**P**	**05 20 43.1**	**+0.4**
	comp=Z,7.7nm,0.4s,mb4.4						
GKN	**Gorkha**	**45.84**	**269**	*e*P	**P**	**05 20 43.8**	**+0.1**
	comp=Z,18nm,0.4s,mb4.8						
ZRNK	**Zerenda**	**46.08**	**308**	*e*P	**P**	**05 20 45.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**46.08**	**308**	*e*P	**P**	**05 20 45.5**	**0.0**
	comp=Z,6.6nm,0.4s,mb4.3						
AAK	**Ala-Archa**	**46.16**	**293**	*e*P	**P**	**05 20 45.4**	**-0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
AAK	**Ala-Archa**	**46.16**	**293**	*e*P	**P**	**05 20 45.4**	**-0.7**
	comp=Z,2.1nm,0.3s,mb4.0						
KOLN	**Koldanda**	**46.73**	**270**	*e*P	**P**	**05 20 51.0**	**+0.4**
KK31	**Karatay Array**	**48.64**	**295**	*i* P	**P**	**05 21 05.0**	**-0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
KKAR	**Karatay Array**	**48.64**	**295**	*i* P	**P**	**05 21 05.0**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
INK	**Inuvik**	**50.07**	**29**	P	**P**	**05 21 15.9**	**-0.1**
	comp=Z,6.3nm,0.4s,mb4.3,baz=301,slow=7.3,SNR=35						
INK	**Inuvik**	**50.07**	**29**	P	**P**	**05 21 15.9**	**-0.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
INK	**Inuvik**	**50.07**	**29**	*e*P	**P**	**05 21 15.8**	**-0.1**
	comp=Z,5.0nm,0.5s,mb4.1						
ARU	**Arti**	**50.69**	**315**	⇑*i*P	**P**	**05 21 22.0**	**+1.4**
ARU				*e*		05 23 20.9	
ARU				*e*PPP		05 24 24.7	
ARU				*e*S	**S**	**05 28 38.0**	**+19**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ARU	**Arti**	**50.69**	**315**	*e*P	**P**	**05 21 22.4**	**+1.8**
AB31	**Akbulak array**	**52.73**	**306**	*i* P	**P**	**05 21 35.6**	**-0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
AKTO	**Aktyubinsk**	**53.35**	**308**	*i* P	**P**	**05 21 40.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
ARCES	**ARCESS Array B**	**57.76**	**338**	P	**P**	**05 22 11.8**	**+0.3**
	comp=Z,6.6nm,1.0s,mb4.2,baz=61,slow=7.0,SNR=9.3						
YKA	**Yellowknife Ar**	**59.69**	**31**	P	**P**	**05 22 24.4**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.0,baz=304,slow=6.6,SNR=102						
YKA				PcP	PcP	05 23 09.4	-0.1
	comp=Z,0.8nm,0.5s,baz=309,slow=3.8,SNR=14						
YKA	**Yellowknife Ar**	**59.69**	**31**	P	**P**	**05 22 24.4**	**-0.4**
YKA				PcP	PcP	05 23 09.4	-0.1
FINES	**FINESS Array B**	**62.67**	**330**	P	**P**	**05 22 44.2**	**-0.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=67,slow=6.7,SNR=17						
WB2	**Warramunga Arr**	**62.74**	**185**	*e*P	**P**	**05 22 44.8**	**-0.5**
WRA	**Warramunga Arr**	**62.74**	**185**	P	**P**	**05 22 44.7**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.1,baz=2.2,slow=7.0,SNR=46						
SUMG	**Summit**	**64.73**	**359**	*e*P	**P**	**05 22 58.5**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.1						
KIV	**Kislovodsk**	**65.62**	**308**	*e*P	**P**	**05 23 04.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
SOC	**Sochi**	**67.55**	**309**	*e*P	**P**	**05 23 12.9**	**-3.3**
SOC				*e*SS	SS	05 36 27.2	+7.1
SOC				pmax	pmax		
	comp=Z,243nm,2.1s						
NB2	**NORSAR Subarra**	**67.96**	**335**	P	**P**	**05 23 18.1**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.6,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**67.96**	**335**	P	**P**	**05 23 17.8**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.5,baz=38,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**68.45**	**320**	P	**P**	**05 23 21.3**	**-0.5**
	comp=Z,0.6nm,0.3s,mb3.6,baz=45,slow=6.5,SNR=5.3						
FCC	**Fort Churchill**	**69.56**	**26**	*e*P	**P**	**05 23 27.9**	**-0.7**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
FCC	**Fort Churchill**	**69.56**	**26**	*e*P	**P**	**05 23 27.9**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.1						
FFC	**Flin Flon**	**69.77**	**33**	*e*P	**P**	**05 23 29.6**	**-0.3**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
FFC	**Flin Flon**	**69.77**	**33**	*e*P	**P**	**05 23 29.6**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.3						
HLID	**Hailey**	**71.77**	**47**	P	**P**	**05 23 43.0**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.6						
BOZ	**Bozeman (W)**	**71.81**	**44**	*e*P	**P**	**05 23 42.7**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
BOZ	**Bozeman (W)**	**71.81**	**44**	*e*P	**P**	**05 23 42.7**	**+0.5**
	comp=Z,3.6nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**73.00**	**53**	P	**P**	**05 23 50.4**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.7,baz=291,slow=5.7,SNR=7.6						
NVAR	**Mina Array Bea**	**73.00**	**53**	P	**P**	**05 23 50.4**	**+1.2**
STKA	**Stephens Creek**	**74.53**	**178**	P	**P**	**05 23 57.0**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.0,baz=359,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**74.53**	**178**	*e*P	**P**	**05 23 56.6**	**-1.5**
HWUT	**Hardware Ranch**	**74.64**	**47**	*e*P	**P**	**05 23 59.6**	**+0.9**
	comp=Z,2.1nm,0.8s,mb3.8						
BW06	**Boulder Array**	**74.89**	**45**	*e*P	**P**	**05 24 00.5**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**74.89**	**45**	P	**P**	**05 24 00.6**	**+0.5**
	comp=Z,6.0nm,0.8s,mb4.3,baz=298,slow=1.8,SNR=50						
DUG	**Dugway**	**74.94**	**49**	*e*P	**P**	**05 24 01.2**	**+0.8**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.2						
DUG	**Dugway**	**74.94**	**49**	*e*P	**P**	**05 24 01.2**	**+0.8**
	comp=Z,10nm,1.6s,mb4.2						
ULM	**Lac du Bonnet**	**75.59**	**33**	P	**P**	**05 24 03.8**	**-0.4**
	comp=Z,5.9nm,0.5s,mb4.5,baz=320,slow=6.7,SNR=14						
GERES	**GERESS Array B**	**76.66**	**326**	P	**P**	**05 24 09.8**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=27,slow=6.0,SNR=4.6						
PV10	**Paradox Valley**	**78.29**	**48**	*e*P	**P**	**05 24 20.7**	**+1.5**
ANMO	**Albuquerque**	**82.20**	**49**	*e*P	**P**	**05 24 41.3**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	**Albuquerque**	**82.20**	**49**	*e*P	**P**	**05 24 41.3**	**+1.3**
	comp=Z,1.2nm,0.7s,mb3.6						
MNTX	**Cornudas Mount**	**85.22**	**50**	*e*P	**P**	**05 24 55.8**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.7						
TXAR	**Lajitas Array**	**87.97**	**51**	P	**P**	**05 25 09.1**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=267,slow=3.1,SNR=12						
WVT	**Waverly**	**90.50**	**36**	*e*P	**P**	**05 25 20.6**	**+0.2**
WVT				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
WVT	**Waverly**	**90.50**	**36**	*e*P	**P**	**05 25 20.6**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3						
LPAZ	**La Paz**	**144.82**	**49**	PKP	PKPdf	05 31 55.5	+1.2
	comp=Z,0.4nm,0.4s,baz=0.0,slow=6.1,SNR=2.2						
SNAA	**Sanae**	**145.75**	**200**	PKPbc	PKPbc	05 31 54.8	-1.8
	comp=Z,1.5nm,0.6s,baz=206,slow=7.4,SNR=12						
BDFB	**Brasilia**	**152.13**	**14**	PKPbc	PKPbc	05 32 13.1	+0.2
	comp=Z,2.2nm,0.7s,baz=297,slow=2.3,SNR=4.1						

*IDC **01** 05:32:58.2±4.7, 15.22N×91.00W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=164.2km s-min=28.6km az=34.0*
*ISCJB **01** 05:33:01.3±1.7, 14.0N±0.2×91.9W±0.1, h96km±14km, mb3.5/3, Error ellipse: s-maj=28.6km s-min=19.2km az=28.8*
*CASC **01** 05:33:03.7±1.8, 14.15N×91.83W, h30km±19km, MD4.2, ML4.6, mb3.5(NEIC)*
ISC 01 05:33:01.8±1.7**, 14.0N**±0.2×**91.9W**±0.1**, h89**km±15km**, n16, σ0.s74**/13**, mb3.5**/3**, 6C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.09**	**67**	⇑*e*P	**Pn**	**05 33 21.6**	**-0.9**
PCG	**Pacaya**	**1.29**	**73**	⇑*e*P	**Pn**	**05 33 25.1**	**+0.2**
PCG				*e*S	**Sn**	**05 33 41.6**	**-0.7**
IXG	**Ixpaco**	**1.39**	**83**	⇑*e*P	**Pn**	**05 33 25.9**	**-0.2**
IXG				*e*S	**Sn**	**05 33 44.8**	**+0.3**
IXG				AML	AML	05 33 49.2	
	comp=N,30μm,0.3s						
NBG	**Las Nubes**	**1.59**	**69**	⇓*e*P	**Pn**	**05 33 30.3**	**+1.6**
NBG				*e*S	**Sn**	**05 33 48.5**	**-0.5**
RTR	**El Retiro**	**2.17**	**93**	⇑*e*P	Px	05 33 40.2	
RTR				*e*S	Sx	05 34 06.5	
SBLS	**San Blas**	**2.20**	**94**	*e*P	Px	05 33 40.5	
SBLS				*e*S	Sx	05 34 07.7	
MRL	**Marmol**	**2.36**	**64**	⇑*e*P	**Pn**	**05 33 38.9**	**+0.1**
MRL				*e*S	**Sn**	**05 34 07.7**	**+0.6**
BOQS	**Boqueron**	**2.54**	**96**	*e*P	Px	05 33 45.1	
BOQS				*e*S	Sx	05 34 16.0	
LFRS	**El Faro**	**2.77**	**98**	*e*P	Px	05 33 48.2	
LFRS				*e*S	Sx	05 34 20.8	
LBRS	**Las Brisas**	**2.77**	**95**	⇑*e*P	Px	05 33 48.1	
LBRS				*e*S	Sx	05 34 23.8	
LCBS	**La Ceiba**	**2.84**	**97**	*e*P	Px	05 33 49.2	
LCBS				*e*S	Sx	05 34 22.3	
SNVI	**San Vicente**	**2.98**	**97**	*e*P	Px	05 33 51.4	
SNVI				*e*S	Sx	05 34 26.5	
TXAR	**Lajitas Array**	**18.74**	**326**	P	**Pn**	**05 37 15.3**	**+0.3**
	baz=157,slow=9.5,SNR=4.5						
SDV	**Santo Domingo**	**21.43**	**101**	P	**P**	**05 37 42.7**	**0.0**
	comp=N,0.7nm,0.3s,mb3.4,baz=329,slow=14,SNR=4.7						
NVAR	**Mina Array Bea**	**33.73**	**321**	P	**P**	**05 39 38.6**	**+3.9**
	comp=N,0.6nm,0.8s,mb3.5,baz=146,slow=9.8,SNR=4.5						
YKA	**Yellowknife Ar**	**51.03**	**347**	P	**P**	**05 41 53.9**	**-0.9**
	comp=N,0.3nm,0.5s,mb3.6,baz=150,slow=7.6,SNR=13						

NNC 01 05:38:17.2±28.0**, 36.95N**×**70.39E, h205**km±499km**, mb2.5, mpv3.4, 1C-2D, Error ellipse: s-maj=348.8km s-min=158.4km az=23.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.14**	**1**	P	Pn	05 39 48.2	+1.9
	0.6nm,0.5s,baz=178,slow=11,SNR=24						
KK31				⇑S	Sn	05 40 57.3	+0.3
	2.8nm,0.3s,baz=184,slow=23						
TKM2	**Tokmak 2**	**7.18**	**32**	⇓P	Pn	05 39 57.8	-1.9
	4.7nm,0.7s						
AB31	**Akbulak array**	**14.46**	**332**	⇓P	Pn	05 41 32.7	+0.3
	3.0nm,1.4s						

MAN 01 06:03:33.4, 16.80N×**120.97E, h5**km**, mb1.6, ML3.5, MS0.8, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.56**	**222**	⇓*i*P	Pg	06 03 43.8	-0.3
BCPH				*i* S	Sg	06 03 51.6	+0.4

MEX 01 06:07:32.3±1.0**, 15.41N**×**93.13W, h91**km±29km**, MD4.4, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.29**	**47**	*i* P	Pn	06 07 54.8	-0.7
CCIG				*i* S	Sn	06 08 11.6	-1.2
SCX	**San Cristobal**	**1.40**	**20**	*i* P	Pn	06 07 55.5	-1.3
SCX				*i* S	Sn	06 08 15.0	-0.4
OXX	**Oaxaca**	**3.84**	**296**	*e*P	Pn	06 08 27.0	-2.1
TEIG	**Tepich**	**6.66**	**43**	*i* P	Pn	06 09 06.7	-0.7
TEIG				*i* S	Sn	06 10 17.8	-4.0

*PGC **01** 06:10:26.6, 49.82N×129.92W, h10km, MLSn3.4/1, Mw4.0, West of Vancouver Island, British Columbia*
*ISCJB **01** 06:10:28.5±0.9, 50.00N±0.05×129.62W±0.08, h10km, mb3.2/2, MS3.7/1, Error ellipse: s-maj=7.8km s-min=6.8km az=86.3*
*IDC **01** 06:10:29.3±2.3, 49.97N×129.41W, h0km, mb3.3/2, mb1 3.7/8, mb1mx3.5/24, mbtmp3.4/8, ML3.4/6, MS3.4/2, Ms1 3.5/2, ms1mx2.9/14, Error ellipse: s-maj=39.8km s-min=12.5km az=79.0*
ISC 01 06:10:29.8±0.9**, 50.04N**±0.05×**129.57W**±0.08**, h10**km**, n20, σ1.s18**/27**, mb3.2**/2**, MS3.7**/1**, 2D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.10**	**56**	Pn	**Pn**	**06 10 50.2**	**-1.0**
HOLB				Sn	**Sn**	**06 11 07.0**	**+0.6**
	comp=Z,33nm,0.1s						
HOLB				Trac		06 11 08.5	
	comp=Z,33nm,0.1s						
BPBC	**Brooks Peninsu**	**1.17**	**84**	Pn	**Pn**	**06 10 49.4**	**-2.7**
BPBC				Sn	**Sn**	**06 11 07.5**	**-0.5**
	comp=Z,142nm,0.2s						
BPBC				Trac		06 11 08.6	
	comp=Z,142nm,0.2s						
PHC	**Port Hardy**	**1.52**	**63**	Pn	**Pn**	**06 10 56.2**	**-0.8**
PHC				Sn	**Sn**	**06 11 17.7**	**+0.8**
PHC				Trac		06 11 18.6	
	comp=Z,64nm,0.3s						
MAYB	**Maynard**	**1.58**	**76**	⇓Pn	**Pn**	**06 10 56.4**	**-1.4**
MAYB				Sn	**Sn**	**06 11 18.1**	**-0.3**
	comp=Z,11nm,0.1s						
MAYB				Trac		06 11 20.1	
	comp=Z,11nm,0.1s						
WOSB	**Woss**	**1.94**	**85**	Pn	**Pn**	**06 11 02.1**	**-0.6**
WOSB				Trac		06 11 21.4	
	comp=Z,20nm,0.4s						
WOSB				Sn	**Sn**	**06 11 29.3**	**+2.2**
	comp=Z,20nm,0.4s						
NCRB	**Newcastle Ridg**	**2.29**	**80**	Pn	**Pn**	**06 11 07.6**	**0.0**
NCRB				Trac		06 11 42.6	
	comp=Z,39nm,0.5s						
BBB	**Bella Bella**	**2.34**	**23**	Pn	**Pn**	**06 11 07.8**	**-0.4**
	30nm,0.3s,baz=216,slow=13,SNR=92						
BBB				Sn	**Sn**	**06 11 36.9**	**-0.1**
	31nm,0.3s,baz=306,slow=23,SNR=20						
BBB	**Bella Bella**	**2.34**	**23**	⇓Pn	**Pn**	**06 11 07.8**	**-0.4**
BBB				Sn	**Sn**	**06 11 37.1**	**+0.1**
BBB				Trac		06 11 40.0	
	comp=Z,90nm,0.3s						
BTB	**Buttle Lake**	**2.69**	**101**	Pn	**Pn**	**06 11 13.3**	**+0.2**
BTB				Sn	**Sn**	**06 11 45.8**	**+0.1**
	comp=Z,22nm,0.4s						
BTB				Trac		06 11 49.8	
	comp=Z,22nm,0.4s						
CBB	**Campbell River**	**2.71**	**89**	Pn	**Pn**	**06 11 12.7**	**-0.7**
CBB				Sn	**Sn**	**06 11 47.6**	**+1.4**
CBB				Trac		06 11 49.2	
	comp=Z,6.0nm,0.3s						
MGB	**Mount Grey**	**3.35**	**106**	Pn	**Pn**	**06 11 21.1**	**-1.0**
MGB				Trac		06 12 01.7	
	comp=Z,2.0nm,0.1s						
YBH	**Yreka Blue Hor**	**9.58**	**148**	LR	LR	06 16 07.5	
	comp=Z,138nm,18.4s,baz=2.8,slow=36						
NVAR	**Mina Array Bea**	**14.12**	**141**	Pn	**Pn**	**06 13 50.1**	**+0.4**
	0.1nm,0.3s,baz=297,slow=7.9,SNR=3.6						
YKA	**Yellowknife Ar**	**14.94**	**28**	Pn	**Pn**	**06 13 58.9**	**-2.0**
	baz=220,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**15.58**	**110**	Pn	**Pn**	**06 14 12.2**	**+2.8**
	0.1nm,0.3s,baz=306,slow=9.9,SNR=11						
ILAR	**Eielson Array**	**17.36**	**335**	P	**Pn**	**06 14 34.7**	**+2.6**
	0.1nm,0.3s,baz=131,slow=9.6,SNR=3.5						
INK	**Inuvik**	**18.43**	**355**	P	**Pn**	**06 14 47.2**	**+1.9**
	0.0nm,0.3s,baz=188,slow=3.7,SNR=3.4						
ANMO	**Albuquerque**	**22.62**	**123**	P	**P**	**06 15 30.9**	**+0.2**
	0.4nm,0.4s,mb3.2,baz=314,slow=13,SNR=4.4						
TXAR	**Lajitas Array**	**28.48**	**127**	P	**P**	**06 16 25.0**	**0.0**
	0.4nm,0.8s,mb3.1,baz=304,slow=9.8,SNR=5.0						
ARCES	**ARCESS Array B**	**59.35**	**10**	LR	LR	06 50 41.7	
	comp=Z,51nm,18.6s,MS3.7,baz=297,slow=41						

CASC 01 06:32:08.1±2.5**, 13.47N**×**90.32W, h32**km±5km**, MD3.8, ML3.0, 3C-5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**350**	⇓*e*P	Pn	06 32 20.3	-1.6
IXG				*e*S	Sb	06 32 32.4	+0.9
SBLS	**San Blas**	**0.77**	**62**	⇑*e*P	Pn	06 32 23.5	+0.8
SBLS				*e*S	Sn	06 32 34.9	+1.7
RTR	**El Retiro**	**0.78**	**57**	⇑*e*P	Pn	06 32 23.9	+1.0
RTR				*e*S	Sn	06 32 35.5	+2.0
PCG	**Pacaya**	**0.95**	**343**	*e*P	Pn	06 32 27.1	+1.8
PCG				*e*S	Sn	06 32 40.3	+2.5
BOQS	**Boqueron**	**1.05**	**76**	⇓*e*P	Pn	06 32 27.1	+0.6
BOQS				*e*S	Sn	06 32 41.2	+1.2
NBG	**Las Nubes**	**1.11**	**359**	*e*P	Pn	06 32 28.5	+1.1
NBG				*e*S	Sn	06 32 42.7	+1.1
LFRS	**El Faro**	**1.23**	**83**	⇓*e*P	Pn	06 32 29.1	0.0
LFRS				*e*S	Sn	06 32 44.9	+0.2
LBRS	**Las Brisas**	**1.27**	**78**	⇓*e*P	Pn	06 32 30.3	+0.7
LBRS				*e*S	Sn	06 32 45.8	+0.3
MTO2	**Montecristo 2**	**1.31**	**45**	⇑*e*P	Pn	06 32 31.6	+1.4
MTO2				*e*S	Sn	06 32 50.1	+3.5
LCBS	**La Ceiba**	**1.32**	**82**	⇓*e*P	Pn	06 32 30.3	0.0
LCBS				*e*S	Sn	06 32 46.7	-0.1
SNVI	**San Vicente**	**1.45**	**84**	*e*P	Pn	06 32 32.6	+0.5
SNVI				*e*S	Sn	06 32 50.3	+0.3
MRL	**Marmol**	**1.70**	**21**	*e*P	Pn	06 32 34.9	-0.6
MRL				*e*S	Sn	06 32 57.1	+1.0
MRL				AML	AML	06 33 03.0	
	comp=N,98nm,0.6s						

*BJI **01** 07:03:25.6, 16.02N×146.05E, h380km, mB4.6, mb4.4*
*ISCJB **01** 07:03:30.6±0.6, 16.20N±0.05×145.49E±0.05, h389km±6km, mb4.3/62, Error ellipse: s-maj=8.3km s-min=7.5km az=125.5*
*MOS **01** 07:03:30.1±1.0, 16.25N×145.45E, h385km, mb4.2/18, Error ellipse: s-maj=13.0km s-min=7.5km az=101.6*
*NEIC **01** 07:03:31.0±0.6, 16.21N×145.48E, h378km±7km, mb4.3/23, Error ellipse: s-maj=6.9km s-min=5.8km az=160.0*
*IDC **01** 07:03:32.2±1.4, 16.19N×145.53E, h391km±15km, mb3.9/13, mb1 4.0/15, mb1mx3.8/23, mbtmp4.7/15, Error ellipse: s-maj=16.4km s-min=12.7km az=74.0*
ISC 01 07:03:31.4±0.6**, 16.21N**±0.05×**145.54E**±0.05**, h382**km±6km**, h390**km±4.8km**:pP-P, n116, σ0.s96**/119**, mb4.3**/62**, 5C-4D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.68**	**194**	P	**Pn**	**07 04 31.5**	**+1.0**
	719nm,0.3s,baz=120,slow=3.2,SNR=301						
GUMO				S	**S**	**07 05 17.2**	**-1.1**
	720nm,0.3s,baz=180,slow=23,SNR=20						
GUMO	**Guam**	**2.68**	**194**	*e*Pn	**Pn**	**07 04 30.1**	**-0.4**
GUMO				*e*Sn	**S**	**07 05 17.3**	**-1.0**
CBIJ	**Chichi jima**	**11.28**	**345**	P	**Pn**	**07 06 06.0**	**+1.8**
	18nm,0.3s,baz=213,slow=23,SNR=7.2						
JOW	**Kunigami**	**19.21**	**306**	P	**P**	**07 07 29.6**	**+0.2**
	11nm,0.3s,baz=136,slow=11,SNR=9.5						
MJAR	**Matsushiro Arr**	**21.28**	**344**	P	**P**	**07 07 48.3**	**-0.3**
	3.6nm,0.5s,mb4.0,baz=177,slow=12,SNR=8.1						
MAJO	**Matsushiro**	**21.28**	**344**	*e*P	**P**	**07 07 45.7**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.4						
MAJO	**Matsushiro**	**21.28**	**344**	*e*P	**P**	**07 07 45.7**	**-2.9**
	comp=Z,8.4nm,0.5s,mb4.4						
JNU	**Nakatsue**	**21.43**	**324**	P	**P**	**07 07 50.9**	**+0.9**
	comp=Z,21nm,0.5s,mb4.8,baz=256,slow=29,SNR=12						
NACB	**Ninganchiao**	**23.81**	**293**	*e*P	**P**	**07 08 10.5**	**-1.0**
TGY	**Tagaytay City**	**23.84**	**268**	P	**P**	**07 08 11.7**	**-0.1**
	comp=Z,232nm,0.3s,baz=125,slow=13,SNR=3.4						
YHNB	**Yeheng**	**24.13**	**294**	*e*P	**P**	**07 08 14.3**	**-0.1**
QZH	**Quanzhou**	**26.65**	**293**	P	**P**	**07 08 36.7**	**-0.1**
SSE	**Sheshan**	**26.70**	**308**	P	**P**	**07 08 36.0**	**-1.3**
SSE				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.4						
SSE				AMB	AMB		
	comp=Z,175nm,3.9s						
ASAJ	**Asahikawa**	**27.93**	**355**	P	**P**	**07 08 49.2**	**+1.0**
	comp=Z,7.1nm,0.8s,mb4.1,baz=220,slow=17,SNR=4.5						
NJ2	**Nanjing**	**28.91**	**308**	*e*P	**P**	**07 08 59.6**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
TSM	**Tawau**	**29.64**	**249**	P	**P**	**07 09 00.4**	**-2.8**
KKM	**Kota Kinabalu**	**30.45**	**254**	P	**P**	**07 09 10.5**	**+0.2**
MDJ	**Mudanjiang**	**31.36**	**338**	P	**P**	**07 09 16.7**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,60nm,3.2s						
WHN	**Wuhan**	**31.86**	**302**	⇓P	**P**	**07 09 23.5**	**+1.0**
WHN				AMB	AMB		
	comp=Z,30nm,0.5s,mb4.9						
CN2	**Changchun**	**32.37**	**332**	*e*P	**P**	**07 09 27.4**	**+0.5**
QIZ	**Qiongzhong**	**34.11**	**280**	⇓P	**P**	**07 09 42.8**	**+1.1**
KLR	**Kul'dur**	**34.80**	**344**	*e*P	**P**	**07 09 43.8**	**-3.8**
XAN	**Xi'an**	**37.36**	**305**	P	**P**	**07 10 09.5**	**+0.5**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.3						
GYA	**Guiyang**	**37.50**	**292**	⇑*i*P	**P**	**07 10 11.6**	**+1.4**
GYA				AP	pP	07 11 25.2	+2.4
GYA				XP	sP	07 12 07.9	+1.3
GYA				PCP	PcP	07 12 20.8	+1.7
GYA				S	**S**	**07 15 33.2**	**+3.1**
GYA				SCS	ScS	07 19 39.0	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**37.56**	**197**	*e*P	**P**	**07 10 11.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
WRAB	**Tennant Creek**	**37.56**	**197**	*e*P	**P**	**07 10 11.1**	**+0.4**
	comp=Z,4.2nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**37.57**	**197**	*e*P	**P**	**07 10 11.1**	**+0.3**
WRA	**Warramunga Arr**	**37.57**	**197**	P	**P**	**07 10 10.8**	**0.0**
	comp=Z,3.2nm,0.4s,mb4.0,baz=18,slow=8.0,SNR=28						
KSM	**Kuching**	**37.67**	**251**	*e*P	**P**	**07 10 09.8**	**-1.8**
HHC	**Hu-ho-hao-te**	**38.27**	**317**	⇑P	**P**	**07 10 17.2**	**+0.6**
HHC				PP	PP	07 11 52.8	-1.1
HHC				PCP	PcP	07 12 25.2	+3.6
HHC				S	**S**	**07 15 46.6**	**+4.9**
HHC				SS	SS	07 18 40.4	-8.5
HHC				AMB	AMB		
	comp=Z,85nm,10.8s						
HHC				AMB	AMB		
	comp=Z,186nm,9.6s						
HHC				LR	LR		
	comp=N,106nm,9.6s						
HHC				LR	LR		
	comp=E,180nm,13.2s						
HHC				LR	LR		
	comp=Z,63nm,12.0s						
HIA	**Hailar**	**39.09**	**333**	*e*P	**P**	**07 10 23.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.33**	**211**	*e*P	**P**	**07 10 25.1**	**-0.1**
	comp=Z,13nm,0.9s,mb4.3						
CD2	**Chengdu**	**40.76**	**299**	⇑*i*P	**P**	**07 10 37.1**	**+0.3**
CD2				AP	pP	07 11 51.7	+1.0
CD2				XP	sP	07 12 34.1	-0.1
CD2				S	**S**	**07 16 18.4**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
KMI	**Kunming**	**40.88**	**290**	P	**P**	**07 10 38.7**	**+0.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.0						
ASPA	**Alice Springs**	**41.23**	**196**	*e*P	**P**	**07 10 40.6**	**0.0**
LZH	**Lanzhou**	**41.95**	**306**	P	**P**	**07 10 47.5**	**+1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH				AP	pP	07 12 04.5	+3.7
LZH				XP	sP	07 12 43.5	-0.6
LZH				AMB	AMB		
	comp=Z,43nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,128nm,4.5s						
MA2	Magadan	43.47	4c	iP	P	07 10 59.0	+0.5
MA2				pmax	pmax		
	comp=N,10.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
MA2	Magadan	43.47	4	eP	P	07 10 58.7	+0.2
	comp=Z,16nm,0.7s,mb4.5						
ULN	Ulaanbaatar	44.65	323	eP	P	07 11 08.0	+0.3
ULN	Ulaanbaatar	44.65	323	eP	P	07 11 07.4	-0.3
	comp=Z,4.8nm,0.6s,mb4.0						
MBWA	Marble Bar	44.95	215	eP	P	07 11 09.4	-0.6
	comp=Z,8.7nm,0.5s,mb4.3						
SONM	Songino Array	45.01	323	P	P	07 11 11.3	+0.8
	comp=Z,3.8nm,0.5s,mb4.0,baz=135,slow=7.6,SNR=15						
KULM	Kulim	45.32	261	eP	P	07 11 13.5	+0.6
GTA	Gaotai	45.98	310	⇑P	P	07 11 19.1	+1.1
GTA				PP	PP	07 13 11.7	+0.4
GTA				S	S	07 17 32.5	-0.9
GTA				XS	sS	07 19 48.7	-1.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.3						
GTA				AMB	AMB		
	comp=Z,45nm,4.2s						
GTA				LR	LR		
	comp=N,250nm,19.4s						
GTA				LR	LR		
	comp=E,351nm,18.6s						
GTA				LR	LR		
	comp=Z,72nm,11.8s						
SEY	Seymchan	46.92	4	eP	P	07 11 24.9	-0.3
YAK	Yakutsk	47.13	350	eP	P	07 11 25.2	-1.6
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
BOD	Bodaibo	47.74	338	eP	P	07 11 29.1	-2.3
ZAK	Zakamensk	48.07	325	eP	P	07 11 34.0	+0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.6						
SHL	Shillong	50.71	290	eP	P	07 11 54.0	+0.4
UNV	Unalaska Valle	52.79	34	eP	P	07 12 09.2	+0.3
	comp=Z,26nm,0.4s,mb4.8						
BILL	Bilibino	53.49	10d	iP	P	07 12 13.5	-0.4
BILL				e*PP	pP	07 13 36.9	+4.3
BILL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.1						
BILL	Bilibino	53.49	10	eP	P	07 12 13.7	-0.2
	comp=Z,3.9nm,0.4s,mb4.0						
JIRN	Jiri	55.77	293	eP	P	07 12 30.7	+0.6
	comp=Z,60nm,0.6s,mb5.1						
WMQ	Urumqi	55.84	312	eP	P	07 12 30.0	-0.6
WMQ				AP	pP	07 13 50.0	-0.1
WMQ				PP	PP	07 14 41.0	+1.0
WMQ				S	S	07 19 45.0	-2.5
WMQ				XS	sS	07 22 06.0	-3.5
WMQ				AMB	AMB		
	comp=Z,18nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,65nm,6.0s						
WMQ				LR	LR		
	comp=N,56nm,8.0s						
WMQ				LR	LR		
	comp=E,64nm,10.0s						
WMQ				LR	LR		
	comp=Z,42nm,8.0s						
GUN	Gumba	56.04	293	eP	P	07 12 32.5	+0.5
	comp=Z,56nm,0.7s,mb5.0						
KRAR	Krasnoyarsk	56.17	327	iP	P	07 12 33.6	+0.7
TIXI	Tiksi	56.32	354	eP	P	07 12 31.6	-2.3
PKI	Pulchoki	56.47	293	eP	P	07 12 35.0	+0.1
	comp=Z,32nm,0.5s,mb4.9						
KKN	Kakani	56.58	293	eP	P	07 12 35.8	+0.1
	comp=Z,21nm,0.6s,mb4.7						
DMN	Daman	56.74	293	eP	P	07 12 37.1	+0.3
	comp=Z,31nm,0.5s,mb4.9						
GKN	Gorkha	57.14	293	eP	P	07 12 39.8	+0.2
	comp=Z,20nm,0.3s,mb4.9						
KOLN	Koldanda	58.06	293	eP	P	07 12 46.1	+0.1
TNA	Tin City	58.18	21	eP	P	07 12 46.9	+0.1
	comp=Z,1.8nm,0.4s,mb3.8						
MKAR	Makanchi Array	60.09	315	P	P	07 13 00.1	+0.4
	comp=Z,7.8nm,0.4s,mb4.5,baz=82,slow=8.5,SNR=168						
KDAK	Kodiak Island	61.52	33	P	P	07 13 09.4	+0.2
	comp=Z,8.4nm,0.5s,mb4.5,baz=270,slow=3.0,SNR=5.3						
KURK	Kurchatov	63.03	319	eP	P	07 13 19.1	0.0
KURK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
KURK	Kurchatov	63.03	319	eP	P	07 13 19.1	-0.1
	comp=Z,18nm,0.8s,mb4.7						
SLKM	Skilak Lake	63.41	30	eP	P	07 13 20.8	-0.7
IMA2	Indian Mountai	63.60	23	eP	P	07 13 22.4	-0.4
PMR	Palmer	64.19	29	eP	P	07 13 26.0	-0.6
PMR				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
PMR	Palmer	64.19	29	eP	P	07 13 26.0	-0.6
	comp=Z,21nm,0.8s,mb4.7						
TKM2	Tokmak 2	64.52	310	P	P	07 13 29.4	+0.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
MCK	McKinley	64.82	27	eP	P	07 13 30.1	-0.5
MCK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
MCK	McKinley	64.82	27	eP	P	07 13 30.1	-0.6
	comp=Z,2.9nm,0.7s,mb4.0						
AAK	Ala-Archa	65.33	310	eP	P	07 13 32.9	-1.0
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
COLA	College	65.56	25	eP	P	07 13 34.9	-0.5
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
COLA	College	65.56	25	eP	P	07 13 34.9	-0.5
	comp=Z,5.7nm,0.8s,mb4.2						
ILAR	Eielson Array	65.94	26	P	P	07 13 36.4	-1.3
	comp=Z,6.9nm,0.5s,mb4.6,baz=250,slow=5.9,SNR=264						
KK31	Karatay Array	68.25	310	iP	P	07 13 52.2	+0.1
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
KKAR	Karatay Array	68.25	310	eP	P	07 13 52.2	+0.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
BVA0	Borovoye Array	68.30	321	iP	P	07 13 52.4	0.0
BRVK	Borovoye	68.37	321	eP	P	07 13 53.2	+0.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
BRVK	Borovoye	68.37	321	eP	P	07 13 53.2	+0.4
	comp=Z,1.1nm,0.4s,mb3.8						
ZRNK	Zerenda	69.14	321	eP	P	07 13 57.0	-0.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
ZRNK	Zerenda	69.14	321	eP	P	07 13 57.0	-0.5
	comp=Z,1.8nm,0.5s,mb4.0						
INK	Inuvik	71.71	23	eP	P	07 14 12.4	-0.5
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	Inuvik	71.71	23	eP	P	07 14 12.4	-0.6
	comp=Z,3.7nm,0.7s,mb4.0						
ARU	Arti	75.01	325	eP	P	07 14 31.8	-0.1
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.0						
AB31	Akbulak array	75.06	317	eP	P	07 14 31.6	-0.6
YKA	Yellowknife Ar	80.25	28	P	P	07 15 00.2	-0.4
	comp=Z,4.4nm,0.5s,mb4.4,baz=287,slow=5.1,SNR=139						
RES	Resolute Bay	81.87	14	eP	P	07 15 08.6	-0.4
RES				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
RES	Resolute Bay	81.87	14	eP	P	07 15 08.6	-0.4
	comp=Z,3.5nm,0.6s,mb4.3						
NEW	Newport	82.85	42	eP	P	07 15 14.8	+0.7
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	Newport	82.85	42	eP	P	07 15 14.8	+0.8
	comp=Z,4.8nm,0.8s,mb4.3						
CMB	Columbia Colle	83.32	52	eP	P	07 15 17.2	+0.8
CMB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
CMB	Columbia Colle	83.32	52	eP	P	07 15 17.2	+0.7
	comp=Z,1.6nm,0.5s,mb4.0						
NVAR	Mina Array Bea	84.79	52	P	P	07 15 25.1	+1.4
	comp=Z,3.0nm,0.6s,mb4.2,baz=261,slow=6.2,SNR=30						
ARCES	ARCESS Array B	84.81	342	P	P	07 15 22.6	-1.2
	comp=Z,1.6nm,0.6s,mb3.9,baz=90,slow=7.3,SNR=7.4						
HLID	Hailey	86.06	46	eP	P	07 15 31.0	+1.1
	comp=Z,5.5nm,0.9s,mb4.3						
ELK	Elko	86.36	49	eP	P	07 15 32.7	+1.3
ELK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ELK	Elko	86.36	49	eP	P	07 15 32.7	+1.3
	comp=Z,10nm,1.0s,mb4.5						
KIV	Kislovodsk	87.86	315d	iP	P	07 15 35.9	-2.6
KIV				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.6						
NEN	Nelson	88.27	53	eP	P	07 15 41.2	+0.8
DUG	Dugway	88.29	49	eP	P	07 15 41.6	+1.1
DUG				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
DUG	Dugway	88.29	49	eP	P	07 15 41.6	+1.1
	comp=Z,21nm,1.4s,mb4.7						
KAF	Kangasniemi	88.62	336	ep	P	07 15 38.7	-3.3
	comp=Z,3.2nm,0.8s,mb4.1,baz=54,slow=4.5						
KAF	Kangasniemi	88.62	336	eP	P	07 15 38.7	-3.3
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
HWUT	Hardware Ranch	88.70	47	eP	P	07 15 43.3	+0.9
	comp=Z,3.4nm,0.8s,mb4.1						
FINES	FINESS Array B	89.08	335	P	P	07 15 42.1	-2.1
	comp=Z,2.6nm,0.7s,mb4.1,baz=70,slow=4.2,SNR=13						
PDAR	Pinedale Array	89.67	45	P	P	07 15 47.2	+0.3
	comp=Z,0.6nm,0.5s,mb3.7,baz=207,slow=9.9,SNR=9.0						
FCC	Fort Churchill	90.94	27	eP	P	07 15 52.2	-0.7
PV10	Paradox Valley	91.68	49	eP	P	07 15 57.4	+1.2
TORD	Torodi Ar. Bea	133.87	307	PP	PP	07 24 38.5	+0.2
	comp=Z,0.9nm,1.0s,baz=41,slow=4.7,SNR=3.7						
LVC	Limon Verde	146.94	107	ePKPbc	PKPbc	07 22 31.4	+1.9
LPAZ	La Paz	147.69	95	PKPbc	PKPbc	07 22 34.0	+2.5
	comp=Z,5.0nm,0.5s,baz=331,slow=2.6,SNR=31						
LPAZ	La Paz	147.69	95	ePKPbc	PKPbc	07 22 33.8	+2.2

ISC 01 07:55:19.0±0.7**, 40.50N**±0.03×**41.40E**±0.06**, h10**^{km}**, n7,** σ**1**^{s}**00**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERZM	Erzurum	0.60	182	iP	Pg	07 55 29.9	-0.6
ERZM				iS	Sg	07 55 39.3	+1.0
EZM	Erzurum	0.60	183	iPG	Pg	07 55 30.0	-0.5
EZM				iSG	Sg	07 55 38.3	0.0
ARTV	Artvin	0.79	30	iP	Pg	07 55 33.8	-0.5
ARTV				iS	Sg	07 55 45.1	+0.5
MACK	Trabzon	1.32	290	iP	Pn	07 55 42.8	-0.6
MACK				iS	Sb	07 56 00.8	+0.1
GUMT	Gumushane	1.47	269	iPN	Pn	07 55 44.6	-0.8
GUMT				iSN	Sn	07 56 01.5	-3.2
KELT	Kelkit	1.68	259	iP	Pn	07 55 48.6	+0.2
KELT				iS	Sn	07 56 10.2	+0.3
GRSN	GIRESUNGRSN	2.42	281	iP	Pn	07 56 01.4	+2.9
GRSN				iS	Sn	07 56 31.9	+3.7

*IDC **01** 08:22:15.7±2.8, 24.08S×179.90E, h497^{km}±29^{km}, mb3.5/3, mb1 3.6/5, mb1mx3.4/14, mbtmp4.3/5, Error ellipse: s-maj=47.0km s-min=25.5km az=164.0*
*ISCJB **01** 08:22:18.1±3.2, 24.2S±0.2×179.8E±0.2, h536^{km}±38^{km}, mb4.3/6, Error ellipse: s-maj=40.3km s-min=24.9km az=48.5*
*NEIC **01** 08:22:18.7±2.2, 24.24S×179.81E, h531^{km}±26^{km}, mb4.7/2, Error ellipse: s-maj=28.3km s-min=19.7km az=201.0*
ISC 01 08:22:17.9±2.7**, 24.2S**±0.2×**179.9E**±0.2**, h518**^{km}±31^{km}**, n13,** σ**0**^{s}**57**/12**, mb4.3**/6**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.55	277	P	P	08 25 01.9	-0.2
	0.2nm,0.3s,baz=80,slow=18,SNR=3.0						
URZ	Urewera	14.21	189	P	P	08 25 19.7	+0.2
	0.9nm,0.3s,baz=328,slow=19,SNR=6.8						
CTA	Charters Tower	31.38	271	⇓iP	P	08 27 57.2	+1.3
	16nm,0.3s,mb5.0						
CTAO	Charters Tower	31.38	271	eP	P	08 27 56.5	+0.6
	13nm,0.4s,mb4.8						
STKA	Stephens Creek	34.52	248	P	P	08 28 21.3	-1.2
	1.6nm,0.5s,mb3.8,baz=98,slow=11,SNR=7.9						
STKA	Stephens Creek	34.52	248	eP	P	08 28 21.7	-0.8
ASPA	Alice Springs	41.89	261	eP	P	08 29 22.8	+0.3
WB2	Warramunga Arr	42.27	267	eP	P	08 29 25.5	0.0
WRAB	Tennant Creek	42.28	267	eP	P	08 29 24.8	-0.7
	6.6nm,0.4s,mb4.5						
WRA	Warramunga Arr	42.29	267	P	P	08 29 25.5	-0.1
	5.8nm,0.4s,mb4.5,baz=103,slow=8.1,SNR=31						
WRA				ScP	ScP	08 34 11.6	+3.0
	0.6nm,1.0s,baz=97,slow=4.4,SNR=5.6						
FITZ	Fitzroy Crossi	50.70	266	eP	P	08 30 30.1	+0.7
	5.2nm,0.4s,mb4.2						
TXAR	Lajitas Array	90.67	58	P	P	08 34 24.9	-0.1
	0.7nm,0.8s,mb3.7,baz=207,slow=6.1,SNR=9.7						
AKASG	Malin Array Be	145.17	327	PKPbc	PKPbc	08 40 55.3	-1.8
	0.6nm,0.3s,baz=41,slow=3.4,SNR=5.1						

*NAO **01** 08:22:39.4, 35.40N×74.90E, h33^{km}, mb4.1*
*NEIC **01** 08:23:05.8±1.7, 37.05N×71.57E, h63^{km}±17^{km}, mb4.0/5, Error ellipse: s-maj=21.4km s-min=6.8km az=57.0*
*IDC **01** 08:23:05.9±6.1, 36.95N×71.65E, h76^{km}±47^{km}, mb3.7/7, mb1 3.9/10, mb1mx3.7/21, mbtmp4.1/10, ML4.1/3, Error ellipse: s-maj=42.6km s-min=24.1km az=172.0*
*BJI **01** 08:23:06.7, 37.10N×71.60E, h62^{km}, mb4.6, ML4.3*
*MOS **01** 08:23:07.1±1.1, 37.07N×71.57E, h102^{km}, mb4.2/2, Error ellipse: s-maj=15.8km s-min=6.4km az=91.6*
*ISCJB **01** 08:23:08.7±0.5, 37.11N±0.02×71.62E±0.06, h122^{km}±6^{km}, mb4.1/13, Error ellipse: s-maj=8.1km s-min=3.4km az=151.0*
*NNC **01** 08:23:19.2±4.4, 37.87N×71.53E, h198^{km}±37^{km}, mb3.3, mpv4.9, Error ellipse: s-maj=40.5km s-min=20.6km az=17.0*
ISC 01 08:23:10.2±0.4**, 37.12N**±0.02×**71.68E**±0.06**, h124**^{km}±6^{km}**, n79,** σ**1**^{s}**42**/102**, mb4.1**/13**, 16C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.29	177	⇑P	Pn	08 24 02.2	+1.7
CHCP	Chirah Chowk	3.69	159	⇑P	Pn	08 24 08.0	+2.3
CHCP				S	Sn	08 24 48.0	-0.6
KSH	Kashi	4.14	53	⇑P	Pn	08 24 14.8	+3.2
KSH				S	Sn	08 25 02.0	+2.7
KSH				Smax			
	comp=N,390nm,1.0s						
KSH				Smax			
	comp=E,700nm,1.4s						
THW	Thamme Wali	4.32	179	⇑P	Pn	08 24 15.2	+1.2
SBDP	Sheikh Budin	4.86	189	⇑P	Pn	08 24 22.0	+0.7
AML	Almayashu	5.24	17	P	Pn	08 24 26.7	+0.3
	SNR=320						
SARP	Sargodha	5.25	171	P	Pn	08 24 26.7	+0.2
UCH	Uchtor	5.55	22	P	Pn	08 24 31.3	+0.7
	SNR=102						
KZA	Kyzart	5.67	28	P	Pn	08 24 32.7	+0.5
	SNR=42						
THN	Thein Dam	5.73	143	eP	Pn	08 24 33.2	+0.2
THN				eS	Sn	08 25 37.0	-0.6
EKS2	Erkin-Say	5.76	16	P	Pn	08 24 34.0	+0.5
	SNR=95						
DLH	Dalhousie	5.77	141	eP	Pn	08 24 35.0	+1.5
DLH				eS	Sn	08 25 38.0	-0.4
AAK	Ala-Archa	5.92	21	P	Pn	08 24 36.5	+1.0
	SNR=126						
AAK	Ala-Archa	5.92	21	⇑ePN	Pn	08 24 35.3	-0.2
AAK				pmax	pmax		
	comp=Z,74nm,0.5s						
AAK	Ala-Archa	5.92	21	⇑ePn	Pn	08 24 35.3	-0.3
	comp=Z,74nm,0.5s						
AAK				eSn	Sn	08 25 38.7	-3.3
KK31	Karatay Array	6.04	352	⇑P	Pn	08 24 36.8	-0.5
	comp=Z,109nm,0.5s,baz=176,slow=12,SNR=1279						
KK31				⇑S	Sn	08 25 40.1	-5.0
	comp=Z,15nm,0.4s,baz=182,slow=23,SNR=3.9						
KK31	Karatay Array	6.04	352	iPN	Pn	08 24 36.7	-0.5
KK31				pmax	pmax		
	comp=Z,69nm,0.1s						
KKAR	Karatay Array	6.04	352	PN	Pn	08 24 36.7	-0.5
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.2s						
KBK	Karagaybulak	6.07	23	P	Pn	08 24 38.6	+0.9
	SNR=31						
FRU	Bishkek	6.13	21	⇑iPN	Pn	08 24 39.8	+1.3
FRU				i		08 25 51.5	
FRU				pmax	pmax		
	comp=Z,100nm,1.2s						
FRU				pmax	pmax		
	comp=E,160nm,1.5s						
ULHL	Ulahol	6.21	33	P	Pn	08 24 39.9	+0.4
	SNR=8.7						
PONG	Pong	6.24	144	eP	Pn	08 24 42.0	+2.1
PONG				eS	Sn	08 25 49.0	-0.9
CHMS	Chumysh	6.33	21	P	Pn	08 24 41.6	+0.6
	SNR=62						
USP	Ospenovka	6.51	18	P	Pn	08 24 43.5	0.0
	SNR=26						
TKM2	Tokmak 2	6.53	26	P	Pn	08 24 44.4	+0.6
	SNR=96						
TKM2	Tokmak 2	6.53	26	⇑P	Pn	08 24 44.3	+0.6
	comp=E,71nm,0.8s						
TKM2				⇑S	Sn	08 25 54.5	-2.2
	comp=E,28nm,0.8s						
BHK	Bhakra	6.91	144	ex	Sn	08 26 08.2	+2.2
SDNR	Sundarnagar	7.11	141	eP	Pn	08 24 52.2	+0.6
SDNR				iS	Sn	08 26 06.0	-4.9
KLP	Kalpa	7.78	134	eP	Pn	08 25 01.8	+1.1
KLP				eS	Sn	08 26 21.8	-5.3
KLP				AML	AML	08 26 27.9	
	comp=E,647nm,0.5s						
KLP				AML	AML	08 26 28.8	
	comp=N,500nm,0.6s						
DDI	Dehra Dun	8.61	140	eP	Pn	08 25 11.0	-0.9
DDI				eS	Sn	08 26 42.0	-5.2
KHET	Khetri	9.66	158	eP	Pn	08 25 23.6	-2.5
KHET				eS	Sn	08 27 03.2	-10
KHET				AML	AML	08 27 10.2	
	comp=E,74nm,0.3s						
KHET				AML	AML	08 27 10.4	
	comp=N,57nm,0.5s						
AYAN	Aya Nagar	9.75	150	eP	Pn	08 25 26.3	-1.0
AYAN				eS	Sn	08 27 06.6	-8.3
KUDL	Kundal	9.82	154	eP	Pn	08 25 25.6	-2.6
KUDL				eS	Sn	08 27 08.1	-8.5
KUDL				AML	AML	08 27 14.8	
	comp=E,63nm,0.5s						
KUDL				AML	AML	08 27 14.8	
	comp=N,57nm,0.7s						
SONA	Sohna	9.94	151	eP	Pn	08 25 28.4	-1.4
SONA				eS	Sn	08 27 09.9	-10
SONA				AML	AML	08 27 18.0	
	comp=E,124nm,0.3s						
SONA				AML	AML	08 27 20.1	
	comp=N,67nm,0.3s						
AJM	Ajmer	10.90	166	iP	Pn	08 25 42.0	-0.6
AJM				iS	Sn	08 27 36.0	-6.7
MK09	Makanchi Array	12.45	36	⇑P	Pn	08 26 02.8	-0.2
	comp=N,5.7nm,0.7s						
MKAR	Makanchi Array	12.47	36	P	Pn	08 26 01.9	-1.3
	comp=N,0.4nm,0.3s,baz=225,slow=14,SNR=61						
KOLN	Koldanda	13.71	129	eP	Pn	08 26 17.7	-1.6
	comp=N,11nm,0.3s						
KOLN				eS	Sn	08 28 41.4	-9.1
GKN	Gorkha	14.20	126	eP	Pn	08 26 24.5	-1.1
	comp=N,27nm,0.4s						
KURK	Kurchatov	14.47	18	⇓P	Pn	08 26 25.6	-3.5
	comp=N,2.3nm,0.7s						
KURK	Kurchatov	14.47	18	eP	Pn	08 26 25.8	-3.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	Kurchatov	14.47	18	ePn	Pn	08 26 25.8	-3.2
	comp=Z,4.5nm,0.7s						
DMN	Daman	14.77	126	eP	Pn	08 26 31.7	-1.1
AB31	Akbulak array	14.82	329	P	Pn	08 26 31.3	-2.2
	comp=Z,5.3nm,0.5s,baz=152,slow=11,SNR=236						
AB31				⇓S	Sn	08 29 04.0	-13
	comp=Z,10.0nm,0.6s						
AB31	Akbulak array	14.82	329	eP	Pn	08 26 31.2	-2.3
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PKI	Pulchoki	14.99	125	eP	Pn	08 26 34.2	-1.4
	comp=Z,22nm,0.5s						
JIRN	Jiri	15.45	123	eP	Pn	08 26 39.9	-1.4
	comp=Z,43nm,0.4s						
VOSK	Vostochnaya	15.61	358	⇑P	Pn	08 26 41.3	-2.0
	comp=Z,9.9nm,1.2s						
VOSK	Vostochnaya	15.61	358	P	Pn	08 26 41.6	-1.7
VOSK				pmax	pmax		
	comp=Z,12nm,1.2s						
BVA0	Borovoye Array	15.93	357	P	Pn	08 26 45.6	-1.7
	comp=Z,0.9nm,0.8s,baz=171,slow=14,SNR=33						
BVA0	Borovoye Array	15.93	357	iP	Pn	08 26 45.6	-1.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	15.93	357	P	Pn	08 26 45.8	-1.5
	comp=Z,1.2nm,0.3s,baz=162,slow=13,SNR=34						
BVAR				S	S	08 29 46.5	-2.9
	baz=175,slow=18,SNR=3.7						
ZRNK	Zerenda	15.94	354	⇑P	Pn	08 26 45.6	-1.8
	comp=Z,4.6nm,0.7s						
ZRNK	Zerenda	15.94	354	eP	Pn	08 26 45.9	-1.5
ZRNK				e		08 29 47.1	
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZRNK	Zerenda	15.94	354	ePn	Pn	08 26 45.9	-1.5
	comp=Z,5.9nm,0.5s						
ZRNK				eSn	Sn	08 29 47.1	+2.8
BRVK	Borovoye	15.97	357	eP	Pn	08 26 46.2	-1.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	Borovoye	15.97	357	eP	Pn	08 26 46.2	-1.6
	comp=Z,6.5nm,0.9s						
AKTK	Aktyubinsk	16.53	328	P	Pn	08 26 53.6	-1.1
AKTK				S	S	08 29 50.8	-8.2
AKTO	Aktyubinsk	16.53	328	⇓P	Pn	08 26 53.6	-1.1
	comp=Z,1.2nm,0.6s						
AKTO				⇑S	S	08 29 43.4	-16
	comp=Z,1.8nm,0.8s						
AKTO	Aktyubinsk	16.53	328	P	Pn	08 26 53.6	-1.1
	comp=Z,1.4nm,0.3s,baz=134,slow=13,SNR=24						
AKTO				S	S	08 29 50.8	-8.2
	comp=Z,0.2nm,0.3s,baz=229,slow=20,SNR=4.8						
LSA	Lhasa	17.84	109	eP	Pn	08 27 10.9	+0.4
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	Lhasa	17.84	109	eP	Pn	08 27 10.9	+0.4
	comp=Z,4.6nm,0.6s						
NVS	Novosibirsk	19.41	20	eP	P	08 27 26.9	+0.3
ARU	Arti	21.23	340	eP	P	08 27 37.5	-8.7
GTA	Gaotai	22.17	75	⇓P	P	08 27 59.8	+3.7
GTA				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.6						
CD2	Chengdu	27.22	94	eP	P	08 28 44.8	+2.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
SONM	Songino Array	27.53	56	P	P	08 28 47.7	+2.5
	comp=Z,1.5nm,0.7s,mb3.7,baz=292,slow=8.8,SNR=5.1						
ENH	Enshi	32.03	91	eP	P	08 29 28.3	+3.4
	comp=Z,4.1nm,0.8s,mb4.2						
JOF	Joensuu	35.61	329	ep	P	08 29 58.7	+2.9
	comp=Z,2.3nm,0.6s,mb4.3						
FINES	FINESS Array B	37.28	325	P	P	08 30 11.6	+1.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=6.5						
ARCES	ARCESS Array B	40.78	337	P	P	08 30 40.9	+1.7
	comp=Z,2.8nm,0.7s,mb4.2,baz=115,slow=7.7,SNR=14						
NB2	NORSAR Subarra	44.22	323	P	P	08 31 08.1	+1.2
	comp=Z,2.4nm,0.8s,mb4.0,baz=93,slow=7.9						
NOA	NORSAR Array B	44.22	323	P	P	08 31 08.4	+1.5
	comp=Z,3.2nm,0.8s,mb4.1,baz=94,slow=7.8,SNR=11						
TIXI	Tiksi	44.99	22	eP	P	08 31 13.1	0.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
SUMG	Summit	60.66	341	P	P	08 33 09.8	+1.7
	comp=Z,3.2nm,0.8s,mb4.4						
TORD	Torodi Ar. Bea	66.28	269	P	P	08 33 46.1	+1.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=48,slow=5.9,SNR=9.0						
ILAR	Eielson Array	74.03	16	P	P	08 34 33.1	+0.7
	comp=Z,0.6nm,0.8s,mb3.4,baz=321,slow=5.6,SNR=7.6						
YKA	Yellowknife Ar	80.60	3	P	P	08 35 10.3	+1.4
	comp=Z,1.5nm,0.7s,mb4.0,baz=351,slow=5.5,SNR=52						
YKA	Yellowknife Ar	80.60	3	P	P	08 35 10.3	+1.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*CSEM **01** 08:40:53.7±0.2, 35.16N×3.99W, h10^{km}, MD2.7, Error ellipse: s-maj=8.3km s-min=3.7km az=88.0*
*ISCJB **01** 08:40:54.3±0.7, 35.18N±0.03×3.95W±0.07, h12^{km}±5^{km},*

Error ellipse: s-maj=10.3km s-min=4.6km az=171.7
*CNRM **01** 08:40:54.5, 35.19N×376W, h5km, MD2.7*
*MDD **01** 08:40:54.8±0.5, 35.15N×390W, h0km, mbLg2.0/5, Error ellipse: s-maj=9.0km s-min=3.6km az=67.0, PRXIMO*
ISC 01 08:40:54.7±0.7, 3516N±003×392W±008, h12km±5km, n18, σ0.87/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.07	343	eP	Pg	08 40 58.0	+0.9
TOU	Touzarine	0.24	146	P	Pg	08 40 59.0	-0.7
TOU				S	Sg	08 41 02.0	-1.0
TOU	Touzarine	0.24	146	iP	Pg	08 40 59.0	-0.7
TZK	Tazeka	1.09	192	iP	Pb	08 41 15.0	-0.5
TZK				iS	Sb	08 41 30.0	+0.3
EMIJ	Mijas	1.56	334	P	Pn	08 41 21.9	-0.4
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	Sn	08 41 42.2	-0.4
	8.3nm,0.2s,SNR=7.9						
EBER	Berja	1.93	25	P	Pn	08 41 28.1	+0.8
	0.7nm,0.2s,SNR=4.0						
EBER				S	Sn	08 41 51.2	-0.3
	7.8nm,0.4s,SNR=7.9						
EBER	Berja	1.93	25	P	Pn	08 41 28.1	+0.8
	0.7nm,0.2s,SNR=4.0						
EBER				S	Sn	08 41 51.2	-0.3
	7.8nm,0.4s,SNR=7.9						
CZD	Col de Zad	2.32	204	eP	Pn	08 41 32.0	-0.7
CZD				iS	Sn	08 42 02.5	+1.3
EADA	Adamuz	3.05	350	P	Pn	08 41 44.9	+2.1
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	08 42 19.6	+0.4
	0.9nm,0.3s,SNR=4.0						
EADA	Adamuz	3.05	350	P	Pn	08 41 44.9	+2.1
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	08 42 19.8	+0.6
	0.9nm,0.3s,SNR=4.0						
ECAB	El Cabril	3.15	338	P	Pn	08 41 44.8	+0.6
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	08 42 21.0	-0.7
	2.3nm,0.4s,SNR=7.9						
ECAB	El Cabril	3.15	338	P	Pn	08 41 44.8	+0.6
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	08 42 21.0	-0.7
	2.3nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	3.42	320	P	Pn	08 41 48.3	+0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 42 27.4	-1.0
	1.5nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	3.42	320	P	Pn	08 41 48.3	+0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 42 27.4	-1.0
	1.5nm,0.4s,SNR=7.9						
EGRO	El Granado	3.73	311	P	Pn	08 41 52.8	+0.7
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	08 42 35.6	-0.3
	1.1nm,0.1s,SNR=7.9						
EGRO	El Granado	3.73	311	P	Pn	08 41 52.8	+0.7
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	08 42 35.6	-0.4
	1.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	4.36	326	P	Pn	08 42 01.3	+0.5
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	08 42 49.9	-1.7
	1.0nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.36	326	P	Pn	08 42 01.3	+0.5
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	08 42 49.9	-1.7
	1.0nm,0.3s,SNR=7.9						

BJI 01 08:53:11.2, 3366N×9085E, h13km, mb3.5, ML3.6, Ms4.0, Msz3.6, Qinghai

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.96	176	PG	Pg	08 54 20.2	-6.8
LSA				SG	Sg	08 55 12.6	-5.6
LSA				Smax			
	comp=N,80nm,1.1s						
LSA				Smax			
	comp=E,190nm,1.2s						
SHL	Shillong	8.12	173	eP	Pn	08 55 24.0	+15
SHL				eS	Sn	08 57 27.0	+47
GTA	Gaotai	9.21	49	eP	Pn	08 55 23.8	0.0
GTA				AP		08 55 27.4	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
GTA				LR	LR		
	comp=N,537nm,13.7s						
GTA				LR	LR		
	comp=E,424nm,8.8s						
GTA				LR	LR		
	comp=Z,420nm,11.8s						
GYA	Guiyang	15.45	113	eP	Pn	08 56 46.7	-2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						

BJI 01 08:56:36.9, 3536N×12300E, h10km, ML3.8, Yellow Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DL2	Dalian	3.71	343	eP	Pn	08 57 35.2	+1.0
DL2				PG	Pg	08 57 46.6	-1.3
DL2				SG	Sg	08 58 33.2	-2.7
DL2				Smax			
	comp=N,190nm,0.5s						
DL2				Smax			
	comp=E,140nm,0.5s						
SSE	Sheshan	4.52	200	P	Pn	08 57 48.5	+3.2
SSE				SG	Sg	08 59 02.0	+0.1
SSE				Smax			
	comp=N,43nm,0.6s						
SSE				Smax			
	comp=E,120nm,0.8s						
NJ2	Nanjing	4.78	227	eP	Pn	08 57 47.6	-1.3
NJ2				SG	Sg	08 59 10.0	-0.3
NJ2				Smax			
	comp=N,150nm,0.6s						
NJ2				Smax			
	comp=E,190nm,0.7s						

JMA 01 09:45:38.3±0.2, 4391N×14756E, h8km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.43	248	P	Pn	09 46 04.5	0.0
NEM2				eS	Sn	09 46 23.5	+0.1
JRA	Rausu	1.76	272	P	Pn	09 46 09.5	+0.4
JRA				eS	Sn	09 46 32.3	+0.6
JNK	Nakash	2.08	262	P	Pn	09 46 14.1	+0.6
JNK				eS	Sn	09 46 40.1	+0.4
JAK	Akkeshi	2.28	247	P	Pn	09 46 16.7	+0.5
JAK				eS	Sn	09 46 44.9	+0.5
JTKR	Abashiri--Toko	2.64	273	P	Pn	09 46 21.6	+0.5
JAR	Ashorobuto	2.82	259	P	Pn	09 46 24.9	+1.2
JAR				eS	Sn	09 46 59.2	+1.4
JOB	Onbets	2.90	251	P	Pn	09 46 25.8	+1.1
JOB				eS	Sn	09 47 00.7	+1.0
JMP	Maruseppu	3.04	273	P	Pn	09 46 27.1	+0.5
JCH	Churui	3.33	249	P	Pn	09 46 31.6	+1.0
JCH				eS	Sn	09 47 10.6	+0.2
JNBK	Urakawa-nobuka	3.88	247	P	Pn	09 46 39.1	+0.9
JNBK				eS	Sn	09 47 23.0	-0.9

*ISCJB **01** 10:06:32.7±1.7, 623S±0.08×15441E±0.06, h85km±16km, mb4.5/24, Error ellipse: s-maj=13.8km s-min=9.2km az=171.5*
*IDC **01** 10:06:33.3±2.6, 608S×15433E, h80km±23km, mb4.0/10, mb1 4.3/13, mb1mx4.2/16, mbtmp4.4/13, MS4.0/9, Ms1 4.0/9, ms1mx3.7/20, Error ellipse: s-maj=23.1km s-min=14.5km az=172.0*
*NEIC **01** 10:06:34.2±1.2, 623S×15449E, h88km±11km, mb4.9/6, Error ellipse: s-maj=9.9km s-min=8.8km az=186.0*
*BJI **01** 10:06:34.1, 620S×15450E, h88km, mB5.0, mb4.8*
*HRVD **01** 10:06:34.2±1.3, 635S×15477E, h103km±11km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s39,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.42±.29; $M_{\theta\theta}$0.05±.21; $M_{\phi\phi}$1.37±.22; $M_{r\theta}$-0.54±.16; $M_{\theta\phi}$1.19±.22; $M_{\phi r}$0.67±.19; Best double couple: $M_0$2.02200×10^{16} NP1:ϕ_s59.00000°, δ48.00000°, λ-46.00000°. NP2:ϕ_s183.00000°, δ58.00000°, λ-128.00000°. Principal axes: T 2.0980, Plg5.0000°, Azm299.0000°; N -0.1550, Plg32.0000°, Azm206.0000°; P -1.9460, Plg58.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 10:06:34.3±1.4, 632S±008×15453E±006, h88km±14km, n44, σ1.17/44, mb4.5/24, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.20	120	P	Pn	10 08 05.0	+1.8
	21nm,0.3s,baz=259,slow=10,SNR=4.2						
HNR				S	Sn	10 09 21.1	+8.6
	15nm,0.3s,baz=91,slow=22,SNR=4.9						
HNR				LR	LR	10 10 23.9	
	comp=Z,965nm,20.6s,baz=177,slow=36						
PMG	Port Moresby	7.92	247	P	Pn	10 08 24.2	-2.4
	11nm,0.3s,baz=50,slow=9.2,SNR=30						
PMG				S	Sn	10 09 52.6	-1.9
	9.2nm,0.3s,baz=160,slow=22,SNR=6.8						
PMG				LR	LR	10 11 28.6	
	comp=Z,987nm,20.3s,baz=40,slow=38						
PMG	Port Moresby	7.92	247	ePn	Pn	10 08 24.8	-1.8
	96nm,0.8s						
PMG				eSn	Sn	10 09 56.2	+1.6
CTA	Charters Tower	15.87	210	P	Pn	10 10 14.5	+2.0
	0.6nm,0.3s,baz=33,slow=13,SNR=24						
CTA				LR	LR	10 15 40.7	
	comp=Z,375nm,20.6s,baz=36,slow=34						
CTA	Charters Tower	15.87	210	P	Pn	10 10 14.5	+2.0
CTA				LR	LR	10 15 40.7	
CTAO	Charters Tower	15.87	210	eP	Pn	10 10 14.1	+1.6
DZM	Mont Dzumac	19.44	145	P	Pn	10 10 54.2	-1.6
	0.9nm,0.3s,baz=342,slow=10,SNR=12						
DZM				LR	LR	10 17 27.8	
	comp=Z,292nm,21.2s,baz=203,slow=33						
WRAB	Tennant Creek	23.82	233	eP	P	10 11 37.8	-1.3
	35nm,1.1s,mb4.6						
WB2	Warramunga Arr	23.82	233	eP	P	10 11 38.4	-0.7
WRA	Warramunga Arr	23.83	233	P	P	10 11 38.6	-0.6
	14nm,0.9s,mb4.3,baz=57,slow=9.6,SNR=30						
WRA				PcP	PcP	10 15 20.7	+0.5
	4.4nm,0.8s,baz=48,slow=2.0,SNR=10						
ASPA	Alice Springs	26.28	227	eP	P	10 12 00.8	-0.7
STKA	Stephens Creek	28.15	204	P	P	10 12 19.4	+1.1
	2.9nm,0.7s,mb3.9,baz=48,slow=12,SNR=2.8						
STKA				LR	LR	10 23 37.5	
	comp=Z,316nm,19.5s,baz=25,slow=36						
STKA	Stephens Creek	28.15	204	eP	P	10 12 18.7	+0.5
FITZ	Fitzroy Crossi	30.51	245	eP	P	10 12 38.3	-0.8
	7.3nm,0.6s,mb4.6						
NACB	Ninganchiao	44.15	315	eP	P	10 14 34.0	-0.2
YHNB	Yeheng	44.62	315	eP	P	10 14 38.7	+0.8
KS15	Wonju Array Si	50.13	332	eP	P	10 15 20.1	-0.6
ENH	Enshi	56.44	313	eP	P	10 16 07.1	+0.2
	18nm,1.0s,mb5.0						
KMI	Kunming	59.25	304	P	P	10 16 28.4	+1.9
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
CD2	Chengdu	61.02	310	P	P	10 16 38.8	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
LZH	Lanzhou	63.51	316	eP	P	10 16 55.5	+0.3
LZH				AP	pP	10 17 24.0	+6.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
GTA	Gaotai	67.93	317	eP	P	10 17 24.3	+0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.0						
SONM	Songino Array	68.52	327	P	P	10 17 25.9	-1.4
	comp=Z,1.3nm,0.5s,mb4.0,baz=108,slow=9.1,SNR=3.3						
SHL	Shillong	68.55	300	eP	P	10 17 29.0	+1.5
LSA	Lhasa	70.51	304	eP	P	10 17 41.3	+1.8
	comp=Z,14nm,0.8s,mb4.8						
LSA				epP	pP	10 17 56.8	-5.3
JIRN	Jiri	74.04	301	eP	P	10 18 01.7	+1.1
	comp=Z,45nm,0.9s,mb5.2						
PKI	Pulchoki	74.68	301	eP	P	10 18 04.9	+0.6
KKN	Kakani	74.85	301	eP	P	10 18 06.1	+0.8
	comp=Z,38nm,0.9s,mb5.1						
DMN	Daman	74.95	301	eP	P	10 18 06.9	+1.0
GKN	Gorkha	75.45	301	eP	P	10 18 09.4	+0.6
	comp=Z,99nm,1.0s,mb5.5						
KOLN	Koldanda	76.28	300	eP	P	10 18 14.0	+0.5
	comp=Z,59nm,0.8s,mb5.3						
MCK	McKinley	81.61	22	eP	P	10 18 40.9	-1.7
	comp=Z,1.7nm,0.8s,mb3.9						
MKAR	Makanchi Array	82.59	319	P	P	10 18 47.1	-0.6
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=6.1,SNR=5.0						
COLA	College	82.62	21	eP	P	10 18 46.3	-1.6
ILAR	Eielson Array	82.92	22	P	P	10 18 47.2	-2.2
	comp=Z,1.3nm,0.9s,mb3.8,baz=255,slow=4.6,SNR=10.0						
ILAR				LR	LR	10 52 40.9	
	comp=Z,166nm,18.1s,baz=181,slow=33						
QSPA	South Pole Qui	83.65	180	eP	P	10 18 53.8	+0.7
	comp=Z,6.3nm,0.3s,mb4.9						
MAW	Mawson	84.84	203	P	P	10 18 59.4	+0.2
	comp=Z,5.5nm,0.8s,mb4.5,baz=80,slow=11,SNR=4.4						
BVAR	Borovoye Array	91.48	323	P	P	10 19 29.0	-1.9
	comp=Z,0.5nm,0.5s,mb3.9,baz=90,slow=7.4,SNR=3.6						
NVAR	Mina Array Bea	91.67	52	P	P	10 19 32.9	+1.1
	comp=Z,4.5nm,0.9s,mb4.7,baz=254,slow=7.9,SNR=23						
YKA	Yellowknife Ar	95.96	28	P	P	10 19 50.6	-0.9
	comp=Z,0.7nm,0.9s,mb4.1,baz=265,slow=4.6,SNR=8.9						
YKA				LR	LR	10 59 30.3	
	comp=Z,98nm,19.2s,baz=155,slow=33						
PDAR	Pinedale Array	98.59	48	P	P	10 20 03.0	-0.3
	comp=Z,0.6nm,0.6s,mb4.3,baz=197,slow=3.0,SNR=6.5						
PDAR				LR	LR	11 02 31.2	
	comp=Z,103nm,19.7s,baz=272,slow=34						
BOSA	Boshof	120.07	232	PKP	PKPdf	10 25 15.5	+0.7
	comp=Z,1.6nm,0.7s,baz=35,slow=1.7,SNR=5.6						
BDFB	Brasilia	148.78	135	PKP	PKPdf	10 26 08.3	+0.6
	comp=Z,2.4nm,0.5s,baz=32,slow=17,SNR=2.4						
BDFB				PKPbc	PKPbc	10 26 11.7	+0.2
	comp=Z,1.9nm,0.4s,baz=270,slow=1.0,SNR=3.4						
TORD	Torodi Ar. Bea	152.40	286	PKPbc	PKPbc	10 26 20.7	+0.6
	comp=Z,3.3nm,0.4s,baz=77,slow=1.6,SNR=45						
TORD				PKPab	PKPab	10 26 30.8	+0.2
	comp=Z,5.0nm,0.7s,baz=73,slow=3.9,SNR=14						

*ISCJB **01** 10:20:36.5±0.5, 4489N±0.06×142.11E±0.09, h269km±4km, mb3.2/5, Error ellipse: s-maj=10.6km s-min=9.1km az=97.2*
*JMA **01** 10:20:36.8±0.2, 4500N×14203E, h266km±2km, M2.9*
*IDC **01** 10:20:37.3±1.3, 4547N×14198E, h236km±48km, mb3.1/5, mb1 3.4/5, mb1mx3.1/19, mbtmp3.7/5, Error ellipse: s-maj=102.5km s-min=15.9km az=170.0*
ISC 01 10:20:37.3±0.5, 4488N±006×14211E±009, h266km±4km, n26, σ0.93/40, mb3.2/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.34	76	P	Pn	10 21 11.3	-0.3
JSE				eS	S	10 21 37.4	-1.2
JWK2	Keihoku	0.46	341	P	Pn	10 21 11.2	-0.6
JWK2				eS	S	10 21 37.7	-1.4
JSS	Shosan	0.51	201	P	Pn	10 21 12.2	+0.2
JSS				eS	S	10 21 39.4	+0.1
JRR	Rishiri	0.62	295	P	Pn	10 21 11.8	-0.5
JYG	Yagishiri	0.67	228	P	Pn	10 21 12.3	-0.2
ASAJ	Asahikawa	0.84	155	P	Pn	10 21 13.6	+0.5
ASAJ				eS	S	10 21 42.3	+0.8
ASAJ	Asahikawa	0.84	155	P	Pn	10 21 13.8	+0.6
	4.4nm,0.3s,baz=330,slow=4.0,SNR=43						
ASAJ				S	S	10 21 42.5	+1.0
	1.1nm,0.3s,baz=20,slow=33,SNR=20						
JKK2	Kamakawa 2	1.10	155	P	Pn	10 21 15.3	+0.8
JKK2				eS	S	10 21 44.8	+0.9
JHR	Hokuryu	1.17	194	P	Pn	10 21 15.4	+0.5
JMP	Maruseppu	1.25	134	P	Pn	10 21 16.0	+0.6
JMP				eS	S	10 21 46.2	+0.8
JTKR	Abashiri--Toko	1.57	125	P	Pn	10 21 18.4	+0.8
JTKR				eS	S	10 21 50.6	+1.2
JFR	Furan	1.75	168	P	Pn	10 21 19.7	+0.8
JSK	Shakotan	1.93	218	P	Pn	10 21 20.5	+0.1
JAR	Ashorobuto	1.98	142	P	Pn	10 21 21.9	+1.0
JEW	Eniwo	2.09	193	P	Pn	10 21 22.7	+0.9
JEW				eS	S	10 21 57.7	+0.6
JRA	Rausu	2.35	113	P	Pn	10 21 25.7	+1.5
JCH	Churui	2.44	158	P	Pn	10 21 24.4	-0.6
JCH				eS	S	10 22 00.7	-2.2
JNBK	Urakawa-nobuka	2.64	170	P	Pn	10 21 27.6	+0.6
JNBK				eS	S	10 22 05.8	-0.6
JAK	Akkeshi	2.65	134	P	Pn	10 21 27.4	+0.3
JAK				eS	S	10 22 05.5	-1.1
NEM2	Nemuro 2	3.02	119	P	Pn	10 21 30.3	-0.6
NEM2				eS	S	10 22 11.4	-2.1
JKB	Kayabe	3.09	195	P	Pn	10 21 31.3	-0.4
JKB				eS	S	10 22 11.9	-3.0
SONM	Songino Array	24.69	290	P	P	10 25 34.6	+0.3
	1.5nm,0.4s,mb3.8,baz=82,slow=8.6,SNR=3.3						
MKAR	Makanchi Array	40.84	295	P	P	10 27 52.4	-1.0
	1.1nm,0.7s,mb3.2,baz=77,slow=9.2,SNR=16						
ILAR	Eielson Array	42.73	37	P	P	10 28 07.7	-0.9
	0.5nm,0.7s,mb2.9,baz=273,slow=7.7,SNR=8.1						
YKA	Yellowknife Ar	56.84	33	P	P	10 29 54.1	-0.3
	0.3nm,0.5s,mb3.0,baz=307,slow=7.0,SNR=13						
PDAR	Pinedale Array	71.87	47	P	P	10 31 32.5	+1.0
	0.4nm,0.6s,mb3.2,baz=242,slow=3.4,SNR=4.1						

JMA 01 10:20:51.2±0.2, 2922N×13062E, h21km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.90	314	P	Pb	10 21 07.8	-0.3
JNN				eS	Sb	10 21 20.3	+0.7
JAM	Amami Oshima	1.20	228	P	Pn	10 21 13.1	+0.4
JAM				eS	Sb	10 21 27.7	-0.6
JKC	Kuchinoerabu	1.29	344	P	Pn	10 21 14.2	+0.2
JKC				eS	Sn	10 21 30.8	+0.2
JTK	Tokunoshima	2.05	226	P	Pn	10 21 24.0	-0.4

IDC 01 10:40:01.8±3.4, 2071S×17909W, h596km±35km, mb3.1/7, mb1 3.4/7, mb1mx3.2/15, mbtmp4.0/7, Error ellipse: s-maj=102.9km s-min=14.4km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.45	265	P	P	10 45 45.1	+0.6
	2.2nm,0.5s,baz=90,slow=11,SNR=8.0						
ASAR	Alice Springs	43.48	257	P	P	10 47 14.1	+0.5
	1.8nm,0.8s,baz=91,slow=8.3,SNR=14						
ASAR				S	S	10 53 01.3	+1.4
	0.8nm,0.8s,baz=90,slow=15,SNR=5.6						
WRA	Warramunga Arr	43.56	262	P	P	10 47 13.9	-0.3
	0.8nm,0.3s,baz=91,slow=6.1,SNR=18						
NVAR	Mina Array Bea	81.88	44	P	P	10 51 20.6	+0.8
	0.7nm,0.5s,baz=225,slow=8.3,SNR=8.2						
TXAR	Lajitas Array	88.03	58	P	P	10 51 50.5	+0.9
	0.3nm,0.6s,baz=236,slow=4.5,SNR=5.9						
ILAR	Eielson Array	88.74	13	P	P	10 51 51.9	-1.0
	0.7nm,0.4s,baz=218,slow=5.2,SNR=31						
PDAR	Pinedale Array	89.81	44	P	P	10 51 57.9	+0.1
	0.8nm,0.7s,baz=237,slow=4.5,SNR=5.9						
MKAR	Makanchi Array	110.60	313	PKiKP	PKiKP	10 57 26.6	-0.8
	0.1nm,0.4s,baz=58,slow=0.5,SNR=4.8						
ARCES	ARCESS Array B	128.94	349	PKP	PKPdf	10 58 01.6	-1.0
	4.2nm,0.9s,baz=344,slow=2.0,SNR=11						
FINES	FINESS Array B	135.68	343	PKP	PKPdf	10 58 13.5	-1.7
	1.0nm,0.7s,baz=183,slow=34,SNR=3.7						
AKASG	Malin Array Be	142.69	330	PKP	PKPdf	10 58 25.3	-2.7
	4.4nm,0.5s,baz=44,slow=4.1,SNR=31						
BRTR	Keskin Array B	146.22	311	PKPbc	PKPbc	10 58 37.2	+0.9
	1.0nm,0.5s,baz=138,slow=4.7,SNR=5.6						
GERES	GERESS Array B	150.11	343	PKPbc	PKPbc	10 58 46.1	0.0
	0.4nm,0.3s,baz=34,slow=4.8,SNR=6.0						

IDC 01 10:56:24.6±5.4, 1102N×9315E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=307.5km s-min=28.1km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	11.61	306	iP	Pn	10 58 54.0	-18
VIS				iS	Sn	11 00 48.0	-34
MKAR	Makanchi Array	36.82	348	P	P	11 03 34.2	-0.1
	0.5nm,0.8s,baz=164,slow=8.8,SNR=4.3						
WRA	Warramunga Arr	50.90	127	P	P	11 05 27.1	-0.3
	1.4nm,0.7s,baz=305,slow=8.5,SNR=9.0						
ASAR	Alice Springs	52.69	131	P	P	11 05 40.8	-0.1
	0.7nm,0.5s,baz=302,slow=7.2,SNR=11						
STKA	Stephens Creek	62.98	134	P	P	11 06 55.0	+1.9
	1.8nm,0.6s,baz=287,slow=9.3,SNR=3.7						

IDC 01 10:58:11.9±10.0, 598S×15392E, h113km±66km, mb3.2/2, mb1 3.6/4, mb1mx3.3/15, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/9, Error ellipse: s-maj=113.0km s-min=53.6km az=99.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.51	243	P	Pn	10 59 58.9	+0.1
	1.0nm,0.3s,baz=73,slow=14,SNR=3.9						
PMG				LR	LR	11 03 02.7	
	comp=Z,104nm,19.3s,baz=206,slow=39						
CTA	Charters Tower	15.88	207	P	Pn	11 01 48.7	-0.2
	0.1nm,0.3s,baz=33,slow=17,SNR=4.4						
WRA	Warramunga Arr	23.55	232	P	P	11 03 13.1	+1.2
	2.3nm,0.8s,baz=56,slow=9.7,SNR=9.3						
ASAR	Alice Springs	26.07	226	P	P	11 03 34.5	-0.2
	0.3nm,0.6s,baz=57,slow=8.9,SNR=5.6						
TORD	Torodi Ar. Bea	151.72	287	PKPbc	PKPbc	11 17 54.0	+1.0
	0.8nm,0.7s,baz=44,slow=3.3,SNR=5.9						
TORD				PKPab	PKPab	11 18 02.8	+0.6
	0.9nm,0.7s,baz=80,slow=4.4,SNR=5.0						

*ISCJB **01** 11:00:25.4±1.8, 384N±0.1×69.19E±0.09, h10km, Error ellipse: s-maj=17.9km s-min=9.4km az=18.7*
*NNC **01** 11:00:31.2±3.1, 3871N×6920E, h15km±19km, mb3.6, mpv3.4, Error ellipse: s-maj=29.1km s-min=21.8km az=7.0*
ISC 01 11:00:26.7±1.8, 383N±01×6918E±009, h10km, n15, σ1.21/20, 8C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.92	11	Pn	Pn	11 01 41.4	+0.8
	0.6nm,0.3s,baz=197,slow=15,SNR=44						
KK31				Pg	Pb	11 01 53.9	+1.0
	4.7nm,0.5s,baz=191,slow=16,SNR=18						
KK31				⇓Sn	Sn	11 02 36.5	-1.1
	7.1nm,0.4s						
KK31				⇑Lg		11 02 53.5	
	64nm,0.9s,baz=191,slow=28,SNR=13						
AML	Almayashu	5.17	41	P	Pn	11 01 42.6	-1.5
	SNR=32						
EKS2	Erkin-Say	5.60	37	P	Pn	11 01 51.7	+1.6
	SNR=10						
UCH	Uchtor	5.67	44	P	Pn	11 01 50.0	-0.9
	SNR=14						
AAK	Ala-Archa	5.94	41	P	Pn	11 01 55.6	+0.9
	SNR=7.0						
KZA	Kyzart	6.00	49	P	Pn	11 01 58.2	+2.8
	SNR=12						
USP	Ospenovka	6.41	37	P	Pn	11 02 01.6	+0.4
	SNR=7.8						
TKM2	Tokmak 2	6.73	45	P	Pn	11 02 04.0	-1.5
	SNR=11						
TKM2	Tokmak 2	6.73	45	⇑Pn	Pn	11 02 03.5	-2.0
	5.3nm,0.6s						
TKM2				⇑Sn	Sn	11 03 23.0	+0.8
	5.4nm,0.7s						
AB31	Akbulak array	12.82	332	⇑P	Pn	11 03 29.8	+0.8
	0.5nm,0.4s						
AB31				⇑S	Sn	11 05 45.6	-6.2
	2.6nm,0.8s						
MK09	Makanchi Array	12.84	45	⇓P	Pn	11 03 25.6	-3.7
	0.7nm,0.7s						
VOSK	Vostochnaya	14.49	4	⇑P	Pn	11 03 51.1	-0.7
	5.3nm,2.5s						
AKTO	Aktyubinsk	14.51	330	⇓P	Pn	11 03 51.8	-0.2
	0.5nm,0.8s						
AKTO				⇑S	Sn	11 06 33.7	+0.7
	0.3nm,0.8s						
ZRNK	Zerenda	14.66	360	⇑P	Pn	11 03 53.7	-0.5
	1.3nm,0.8s						
BVA0	Borovoye Array	14.76	3	P	Pn	11 03 53.4	-2.1
	0.1nm,0.5s,baz=167,slow=9.4,SNR=7.9						

NAO ***01*** *11:35:40.3, 34.90N×140.33E, h33km, mb4.6*
BJI ***01*** *11:35:51.4, 35.68N×139.88E, h108km, mB5.0, mb5.2*
ISCJB ***01*** *11:35:52.4±0.2, 35.72N±0.02×139.99E±0.02, h105km, mb4.9/106, Error ellipse: s-maj=2.8km s-min=2.1km az=88.4*
MOS ***01*** *11:35:52.0±1.0, 35.65N×139.80E, h104km, mb4.9/33, Error ellipse: s-maj=10.3km s-min=5.2km az=115.0*
JMA ***01*** *11:35:53.0±0.2, 35.76N×140.00E, h101km±2km, M5.1 Broadband fault plane solution: P waves. NP1: φs=320.00000°, δ=66.00000°, λ=-174.00000°. NP2: φs=227.00000°, δ=85.00000°, λ=-24.00000°. Principal axes: T Plg=13.0000°, Azm=276.0000°; N Plg=65.0000°, Azm=36.0000°; P Plg=21.0000°, Azm=181.0000°;*
JMA Felt IV J1.
IDC ***01*** *11:35:53.3±0.5, 35.64N×139.97E, h105km±4km, mb4.5/20, mb1 4.7/22, mb1mx4.7/24, mbtmp4.9/22, MS4.0/7, Ms1 4.0/7, ms1mx3.6/28 Error ellipse: s-maj=9.7km s-min=6.0km az=69.0*
NEIC ***01*** *11:35:53.7±0.2, 35.64N×139.81E, mb4.7/44, MW5.1(NIED), Error ellipse: s-maj=4.6km s-min=3.8km az=159.0*
NEIC Recorded [4 JMA] in Kanagawa and Saitama; [3 JMA] in Chiba, Gumma, Ibaraki, Shizuoka, Tochigi, Tokyo and Yamanashi; [2 JMA] in Fukushima, Miyagi, Nagano and Niigata; [1 JMA] in Iwate and Yamagata Prefectures.
SZGRF ***01*** *11:35:58.9, 36.81N×139.68E, h105km, mb4.8, Eastern Honshu, Japan*
NIED ***01*** *11:36:00, 35.80N×140.00E, h95km, Mw5.1 Best double couple: M0:5.07000×10^16 NP1:φs=324.00000°, δ=84.00000°, λ=-162.00000°. NP2:φs=232.00000°, δ=72.00000°, λ=-6.00000°.*

ISC 01 11:35:53.8±0.2, 3571N±0.02×13997E±0.02, h107km, h107km±1.8km: pP-P, n368, σ1=8.08/403, mb4.9/106, 62C-41D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.17**	**261**	⇑P	**Pn**	**11 36 08.2**	**-0.5**
TOK				S	**Sn**	**11 36 19.5**	**-0.4**
BSO4	**Boso 4**	**0.78**	**157**	⇑P	**Pn**	**11 36 12.0**	**-0.6**
JAG	**Ashikaga**	**0.82**	**330**	⇓P	**Pn**	**11 36 11.6**	**-1.3**
JAG				*e*S	**Sn**	**11 36 26.3**	**-1.0**
JOD2	**Odawara 2**	**0.85**	**238**	⇑P	**Pn**	**11 36 12.0**	**-1.1**
JOD2				S	**Sn**	**11 36 26.2**	**-1.5**
JRY	**Ryogami san**	**0.92**	**290**	⇑P	**Pn**	**11 36 13.6**	**-0.2**
JRY				*e*S	**Sn**	**11 36 29.4**	**+0.5**
BSO3	**Boso 3**	**1.01**	**154**	⇑P	**Pn**	**11 36 13.8**	**-1.0**
JHO	**Hitachi**	**1.02**	**28**	⇓P	**Pn**	**11 36 13.2**	**-1.7**
JIM2	**Oshima 3**	**1.09**	**204**	⇓P	**Pn**	**11 36 14.3**	**-1.3**
JIM2				*e*S	**Sn**	**11 36 30.3**	**-1.8**
JYN	**Shimob**	**1.18**	**260**	⇑P	**Pn**	**11 36 16.1**	**-0.5**
JYN				*e*S	**Sn**	**11 36 33.9**	**0.0**
JKT	**Katashina**	**1.20**	**331**	⇓P	**Pn**	**11 36 15.8**	**-1.1**
JKT				*e*S	**Sn**	**11 36 33.5**	**-0.8**
JSB	**Shiboa**	**1.25**	**358**	⇓P	**Pn**	**11 36 16.4**	**-1.0**
JIZS	**Izushimoda**	**1.33**	**222**	⇓P	**Pn**	**11 36 17.8**	**-0.6**
JIZS				*e*S	**Sn**	**11 36 36.4**	**-0.7**
BSO1	**Boso 1**	**1.34**	**142**	P	**Pn**	**11 36 17.1**	**-1.4**
JGK	**Kuni**	**1.37**	**309**	P	**Pn**	**11 36 18.0**	**-0.8**
NJJJ	**Nii jima 2**	**1.42**	**203**	⇓P	**Pn**	**11 36 18.9**	**-0.6**
JNT	**Takato**	**1.49**	**277**	⇑P	**Pn**	**11 36 20.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.54**	**26**	⇓P	**Pn**	**11 36 19.0**	**-1.8**
SHZ3	**Shizuoka 3**	**1.57**	**246**	⇑P	**Pn**	**11 36 21.4**	**+0.1**
MJAR	**Matsushiro Arr**	**1.64**	**301**	P	**Pn**	**11 36 21.3**	**-0.8**
	1μm,0.3s,baz=130,slow=11,SNR=8723						
MJAR				S	**Sn**	**11 36 44.6**	**+0.9**
	970nm,0.3s,baz=174,slow=15,SNR=13						
MAJO	**Matsushiro**	**1.65**	**301**	⇑*e*P	**Pn**	**11 36 21.7**	**-0.4**
MAT	**Matsushiro**	**1.65**	**301**	P	**Pn**	**11 36 21.8**	**-0.3**
MAT				S	**Sn**	**11 36 44.2**	**+0.5**
MAT	**Matsushiro**	**1.65**	**301**	P	**Pn**	**11 36 21.7**	**-0.4**
MAT	**Matsushiro**	**1.65**	**301**	*e*P	**Pn**	**11 36 22.0**	**-0.1**
MAT				*e*S	**Sn**	**11 36 44.0**	**+0.3**
JNG	**Nsakai**	**1.66**	**295**	⇑P	**Pn**	**11 36 21.9**	**-0.4**
JKO	**Kozu shima**	**1.67**	**204**	P	**Pn**	**11 36 22.0**	**-0.4**
JFY	**Yanaizu**	**1.70**	**353**	⇓P	**Pn**	**11 36 22.2**	**-0.6**
JHK	**Hiroka**	**1.71**	**334**	⇓P	**Pn**	**11 36 22.3**	**-0.6**
JNY	**Yasuok**	**1.75**	**259**	⇑P	**Pn**	**11 36 24.0**	**+0.5**
JNY				S	**Sn**	**11 36 47.8**	**+1.7**
JSG	**Sagara**	**1.79**	**235**	P	**Pn**	**11 36 24.7**	**+0.8**
JFK	**Kawauchi**	**1.80**	**24**	⇓P	**Pn**	**11 36 22.4**	**-1.7**
JFT	**Otama**	**1.82**	**9**	⇓P	**Pn**	**11 36 23.5**	**-0.9**
JJN	**Nakama**	**2.01**	**314**	⇓P	**Pn**	**11 36 27.2**	**+0.5**
JJN				S	**Sn**	**11 36 53.9**	**+2.0**
HMMJ	**Hamamatsu 2**	**2.03**	**246**	⇑P	**Pn**	**11 36 27.3**	**+0.4**
JIZZ	**Izumozaki**	**2.08**	**331**	⇓P	**Pn**	**11 36 27.9**	**+0.3**
JGF	**Kuroka**	**2.13**	**268**	⇑P	**Pn**	**11 36 28.9**	**+0.7**
JNS	**Sasagawa**	**2.16**	**346**	⇓P	**Pn**	**11 36 28.2**	**-0.5**
TK04	**Tokai 4**	**2.17**	**233**	⇑P	**Pn**	**11 36 29.3**	**+0.6**
JGN	**Niukaw**	**2.21**	**284**	⇑P	**Pn**	**11 36 29.6**	**+0.3**
JMM	**Marumori**	**2.25**	**17**	⇓P	**Pn**	**11 36 28.6**	**-1.2**
JAO	**Obara**	**2.25**	**259**	⇑P	**Pn**	**11 36 30.3**	**+0.5**
JTT	**Ttatey**	**2.31**	**293**	⇑P	**Pn**	**11 36 31.0**	**+0.5**
JYS	**Shirataka**	**2.50**	**2**	⇓P	**Pn**	**11 36 32.6**	**-0.5**
TK02	**Tokai 2**	**2.53**	**226**	P	**Pn**	**11 36 33.8**	**+0.3**
JAA	**Atsumi**	**2.55**	**246**	⇑P	**Pn**	**11 36 34.1**	**+0.4**
JHJ	**Hachijo jima 2**	**2.59**	**183**	P	**Pn**	**11 36 33.5**	**-0.8**
	5μm,0.3s,baz=327,slow=3.9,SNR=293						
JHJ				S	**Sn**	**11 37 03.9**	**-1.5**
	3μm,0.3s,baz=220,slow=21,SNR=14						
JHJ2	**Mitsune**	**2.60**	**183**	⇓P	**Pn**	**11 36 33.2**	**-1.1**
JGM	**Miyama**	**2.64**	**271**	⇑P	**Pn**	**11 36 35.4**	**+0.5**
JSD	**Sado**	**2.69**	**330**	⇓P	**Pn**	**11 36 34.6**	**-1.0**
JOU	**Okura**	**2.70**	**12**	⇓P	**Pn**	**11 36 34.9**	**-0.8**
JSZ	**Suzu**	**2.72**	**310**	⇑P	**Pn**	**11 36 35.3**	**-0.6**
TK01	**Tokai 1**	**2.76**	**226**	P	**Pn**	**11 36 36.5**	**+0.1**
JAW	**Awa shima**	**2.80**	**348**	⇓P	**Pn**	**11 36 36.2**	**-0.7**
JJH	**Hakui**	**2.84**	**296**	⇑P	**Pn**	**11 36 37.5**	**0.0**
JYA	**Atsumi**	**2.88**	**356**	⇓P	**Pn**	**11 36 37.7**	**-0.3**
JIO	**Ouri**	**2.95**	**22**	⇓P	**Pn**	**11 36 36.8**	**-2.2**
JEG	**Eigenji**	**2.98**	**260**	⇑P	**Pn**	**11 36 39.9**	**+0.6**
JIE	**Ise**	**2.98**	**245**	⇑P	**Pn**	**11 36 39.5**	**+0.1**
JIE				S	**Sn**	**11 37 13.9**	**-0.7**
JKG	**Kaga**	**3.00**	**282**	⇑P	**Pn**	**11 36 40.3**	**+0.7**
TSUJ	**Tsu 2**	**3.07**	**252**	⇑P	**Pn**	**11 36 41.0**	**+0.4**
JYK	**Kaneyama**	**3.21**	**5**	⇓P	**Pn**	**11 36 41.8**	**-0.7**
JHG	**Hegura jima**	**3.24**	**312**	⇑P	**Pn**	**11 36 42.5**	**-0.4**
JFM	**Mihama**	**3.25**	**268**	⇑P	**Pn**	**11 36 43.3**	**+0.3**
JKN2	**Miekihoku**	**3.37**	**245**	⇑P	**Pn**	**11 36 44.8**	**+0.2**
JKN2				S	**Sn**	**11 37 22.8**	**-1.0**
JMK	**Ichinoseki**	**3.38**	**17**	⇓P	**Pn**	**11 36 42.8**	**-1.9**
OFUJ	**Ofunato**	**3.62**	**21**	⇓P	**Pn**	**11 36 45.7**	**-2.2**
JHE	**Heguri**	**3.66**	**254**	⇑P	**Pn**	**11 36 48.9**	**+0.4**
JRG	**Rokugo**	**3.71**	**8**	⇓P	**Pn**	**11 36 48.3**	**-0.9**
JWT	**Wachi**	**3.75**	**265**	⇑P	**Pn**	**11 36 50.1**	**+0.5**
JYW	**Yuwa**	**3.82**	**3**	⇓P	**Pn**	**11 36 50.4**	**-0.2**
JWY	**Kouya**	**3.89**	**249**	P	**Pn**	**11 36 52.4**	**+0.9**
JWY				S	**Sn**	**11 37 35.4**	**-0.9**
JOM	**Ohasama**	**3.90**	**15**	⇓P	**Pn**	**11 36 49.9**	**-1.7**
JKY	**Yasaka**	**3.96**	**270**	⇑P	**Pn**	**11 36 52.6**	**+0.1**
JMIK	**Miki**	**4.12**	**259**	⇑P	**Pn**	**11 36 55.3**	**+0.7**
JWZ	**Kozaga**	**4.13**	**239**	⇑P	**Pn**	**11 36 55.0**	**+0.3**
JWM	**Minabe**	**4.23**	**245**	⇑P	**Pn**	**11 36 56.3**	**+0.2**
JKS	**Kasai**	**4.25**	**262**	⇑P	**Pn**	**11 36 56.7**	**+0.3**
JAJ2	**Tsuna**	**4.36**	**254**	⇑P	**Pn**	**11 36 58.3**	**+0.4**
JKZ	**Kuzumaki**	**4.40**	**14**	⇓P	**Pn**	**11 36 56.4**	**-2.0**
JAD	**Aida**	**4.80**	**262**	P	**Pn**	**11 37 04.1**	**+0.3**
JANG	**Nango**	**4.81**	**14**	P	**Pn**	**11 37 01.2**	**-2.7**
JIW	**Iwasaki**	**4.87**	**0**	P	**Pn**	**11 37 03.7**	**-1.0**
JAI	**Aioi**	**4.93**	**249**	⇑P	**Pn**	**11 37 06.3**	**+0.8**
JKR	**Kurayoshi**	**5.02**	**268**	⇑P	**Pn**	**11 37 07.5**	**+0.7**
JJS	**Sakaide**	**5.13**	**257**	⇑P	**Pn**	**11 37 08.3**	**+0.1**
JSI2	**Shiura 2**	**5.35**	**4**	⇑P	**Pn**	**11 37 09.7**	**-1.5**
JMN	**Monobe**	**5.39**	**250**	⇑P	**Pn**	**11 37 12.6**	**+0.8**
SAI	**Saigo**	**5.40**	**277**	P	**Pn**	**11 37 12.6**	**+0.7**
JHS	**Saijyo**	**5.64**	**265**	⇑P	**Pn**	**11 37 16.3**	**+1.1**
JNM	**Ikuma**	**5.66**	**270**	⇑P	**Pn**	**11 37 16.1**	**+0.7**
JJG	**Jouge**	**5.68**	**261**	⇑P	**Pn**	**11 37 16.1**	**+0.4**
JOT	**Ohata**	**5.72**	**8**	P	**Pn**	**11 37 14.0**	**-2.3**
JET	**Tanbara**	**6.01**	**253**	⇑P	**Pn**	**11 37 21.1**	**+0.9**
JHM	**Kurahashi**	**6.31**	**258**	P	**Pn**	**11 37 25.1**	**+0.9**
UWA2	**Uwa jima 2**	**6.56**	**250**	⇑P	**Pn**	**11 37 28.5**	**+0.9**
JTO	**Tosashimizu**	**6.58**	**246**	⇑P	**Pn**	**11 37 28.6**	**+0.7**
JHIK	**Hikimi**	**6.69**	**262**	P	**Pn**	**11 37 30.7**	**+1.3**
JKD	**Kudamatsu**	**6.85**	**258**	P	**Pn**	**11 37 33.0**	**+1.4**
JEW	**Eniwo**	**7.21**	**9**	⇑P	**Pn**	**11 37 32.5**	**-3.9**
JCH	**Churui**	**7.38**	**20**	P	**Pn**	**11 37 34.1**	**-4.6**
OIT2	**Oita 2**	**7.44**	**253**	P	**Pn**	**11 37 41.8**	**+2.3**
JFR	**Furan**	**7.71**	**14**	P	**Pn**	**11 37 38.2**	**-5.1**
JNU	**Nakatsue**	**7.94**	**254**	P	**Pn**	**11 37 46.6**	**+0.2**
	26nm,0.3s,baz=61,slow=17,SNR=34						
JAB	**Ashibetsu**	**7.97**	**12**	P	**Pn**	**11 37 42.6**	**-4.2**
JAR	**Ashorobuto**	**8.12**	**20**	P	**Pn**	**11 37 43.3**	**-5.5**
ASAJ	**Asahikawa**	**8.63**	**13**	P	**Pn**	**11 37 50.5**	**-5.3**
	34nm,0.3s,baz=223,slow=11,SNR=94						
ASAJ				S	**Sn**	**11 39 25.4**	**-5.9**
	6.7nm,0.3s,baz=24,slow=31,SNR=2.8						
ASAJ				LR	LR	11 41 19.1	
	comp=Z,392nm,20.6s,baz=194,slow=37						
ASAJ	**Asahikawa**	**8.63**	**13**	P	**Pn**	**11 37 50.5**	**-5.3**
ASAJ				S	**Sn**	**11 39 25.4**	**-5.9**
ASAJ				pmax	pmax		
	comp=Z,34nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,392nm,20.6s						
CBIJ	**Chichi jima**	**8.80**	**167**	P	**Pn**	**11 37 51.6**	**-6.4**
	comp=Z,703nm,0.3s,baz=81,slow=5.5,SNR=165						
CBIJ				S	**Sn**	**11 39 22.8**	**-13**
	comp=Z,402nm,0.3s,baz=260,slow=23,SNR=11						
JHHJ	**Haha-jima-NKT**	**9.25**	**168**	P	**Pn**	**11 37 58.5**	**-5.7**
YUK	**Yuzh-Kuril'sk**	**9.46**	**27**	*e*P	**Pn**	**11 38 02.6**	**-4.4**
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,470nm,0.3s						
YUK				pmax	pmax		
	comp=E,250nm,0.3s						
KS15	**Wonju Array Si**	**9.87**	**284**	*e*Pn	**Pn**	**11 38 14.4**	**+1.9**
INCN	**Inchon**	**10.86**	**283**	*e*Pn	**Pn**	**11 38 26.2**	**+0.2**
	comp=E,28nm,0.7s						
KUR	**Kuril'sk**	**11.24**	**30**	⇑*i*P	**Pn**	**11 38 24.4**	**-6.7**
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,320nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.42**	**10**	⇑*i*P	**Pn**	**11 38 29.7**	**-3.8**
YSS				*e*S	**Sn**	**11 40 31.1**	**-8.0**
YSS				pmax	pmax		
	comp=Z,350nm,0.7s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,600nm,13.0s						
YSS	**Yuzh-Sakhalins**	**11.42**	**10**	*e*Pn	**Pn**	**11 38 29.0**	**-4.4**
	comp=N,264nm,0.5s						
MDJ	**Mudanjiang**	**11.91**	**321**	P	**Pn**	**11 38 39.3**	**-0.6**
MDJ				XP		11 39 12.1	
MDJ				S	**Sn**	**11 40 52.4**	**+1.5**
MDJ				SCP	ScP	11 47 40.3	-0.2
MDJ				PCS	PcS	11 47 52.8	+1.2
MDJ				SCS	ScS	11 51 16.4	+0.1
MDJ				AMB	AMB		
	comp=Z,26nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,144nm,3.5s						
MDJ				LR	LR		
	comp=N,1μm,14.4s						
MDJ				LR	LR		
	comp=E,1μm,13.6s						
MDJ				LR	LR		
	comp=Z,497nm,8.7s						
HABR	**Khabarovsk**	**13.26**	**346**	*i* P	Px	11 39 13.7	
HABR				pmax	pmax		
	comp=Z,128nm,1.7s						
HABR				pmax	pmax		
	comp=E,82nm,1.4s						
HABR				pmax	pmax		
	comp=N,95nm,1.6s						
JOW	**Kunigami**	**13.35**	**232**	P	**Pn**	**11 39 03.0**	**+4.1**
	comp=N,15nm,0.3s,baz=69,slow=8.1,SNR=9.0						
UGL	**Uglegorsk**	**13.44**	**6**	*e*P	**Pn**	**11 38 55.0**	**-5.1**
UGL				*e*S	**Sn**	**11 41 36.0**	**+7.9**
UGL				pmax	pmax		
	comp=Z,119nm,0.6s						
UGL				smax			
	comp=N,500nm,6.0s						
UGL				smax			
	comp=E,500nm,7.0s						
UGL				MLR	MLR		
	comp=N,500nm,16.0s						
UGL				MLR	MLR		
	comp=Z,500nm,16.0s						
UGL				MLR	MLR		
	comp=E,600nm,18.0s						
CN2	**Changchun**	**13.77**	**310**	*e*P	**Pn**	**11 39 05.3**	**+1.0**
CN2				*e*XP		11 39 36.2	
CN2				*e*S	**Sn**	**11 41 32.8**	**-3.1**
CN2				AMB	AMB		
	comp=Z,60nm,0.7s						
CN2				AMB	AMB		
	comp=Z,370nm,6.0s						
CN2				LR	LR		
	comp=N,960nm,16.0s						
CN2				LR	LR		
	comp=E,570nm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
SNY	**Shenyang**	**14.16**	**300**	⇑P	**Pn**	**11 39 08.1**	**-1.3**
SNY				S	**Sn**	**11 41 47.3**	**+1.9**
SNY				LR	LR		
	comp=N,600nm,11.1s						
SNY				LR	LR		
	comp=E,640nm,10.5s						
SNY				LR	LR		
	comp=Z,530nm,11.4s						
KLR	**Kul'dur**	**14.79**	**338**	*e*P	**Pn**	**11 39 10.5**	**-6.9**
KLR				*e*		11 42 03.0	
KLR				MLR	MLR		
	comp=N,700nm,11.0s						
KLR				MLR	MLR		
	comp=E,600nm,11.0s						
KLR				MLR	MLR		
	comp=Z,4μm,11.0s						
DL2	**Dalian**	**14.94**	**288**	P	**Pn**	**11 39 17.4**	**-1.9**
DL2				S	**Sn**	**11 41 59.8**	**-4.3**
DL2				AMB	AMB		
	comp=Z,100nm,0.5s						
DL2				LR	LR		
	comp=E,400nm,8.6s						
DL2				LR	LR		
	comp=Z,500nm,10.4s						
SSE	**Sheshan**	**16.34**	**259**	P	**Pn**	**11 39 35.5**	**-1.3**
SSE				XP	sP	11 40 11.0	+0.1
SSE				S	**S**	**11 42 30.8**	**-12**
SSE				AMB	AMB		
	comp=Z,33nm,1.3s						
SSE				AMB	AMB		
	comp=Z,155nm,6.6s						
SSE				LR	LR		
	comp=N,527nm,24.0s						
SSE				LR	LR		
	comp=E,169nm,24.1s						
SSE				LR	LR		
	comp=Z,241nm,15.8s						
NJ2	**Nanjing**	**17.90**	**264**	*e*P	**Pn**	**11 39 54.8**	**-1.0**
NJ2				S	**S**	**11 43 10.0**	**-4.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,11.4s						
NJ2				LR	LR		
	comp=E,780nm,15.6s						
NJ2				LR	LR		
	comp=Z,390nm,18.6s						
YHNB	**Yeheng**	**19.44**	**241**	*e*P	**P**	**11 40 10.1**	**-1.7**
NACB	**Ninganchiao**	**19.60**	**239**	*e*P	**P**	**11 40 11.4**	**-2.1**
QZH	**Quanzhou**	**21.30**	**246**	P	**P**	**11 40 29.3**	**-2.4**
PET	**Petropavlovsk**	**21.75**	**31**	*e*P	**P**	**11 40 37.5**	**+1.0**
PET				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
PET	**Petropavlovsk**	**21.75**	**31**	*e*P	**P**	**11 40 37.5**	**+1.0**
	comp=Z,21nm,0.6s,mb4.6						
WHN	**Wuhan**	**22.04**	**264**	⇑P	**P**	**11 40 38.5**	**-1.0**
WHN				AMB	AMB		
	comp=Z,190nm,0.6s,mb5.6						
GUMO	**Guam**	**22.47**	**167**	P	**P**	**11 40 42.6**	**-1.5**
	comp=Z,78nm,0.3s,mb5.5,baz=230,slow=4.6,SNR=4.5						
GUMO	**Guam**	**22.47**	**167**	*e*P	**P**	**11 40 43.3**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,1μm,1.3s						
GUMO	**Guam**	**22.47**	**167**	*e*P	**P**	**11 40 43.2**	**-0.8**
	comp=Z,1μm,1.3s						
HHC	**Hu-ho-hao-te**	**22.82**	**292**	⇑P	**P**	**11 40 42.0**	**-5.7**
HHC				AP		11 41 05.3	
HHC				PP		11 41 14.3	
HHC				XP	sP	11 41 18.6	-3.2
HHC				PCP	PcP	11 44 37.2	+2.1
HHC				S	**S**	**11 44 43.5**	**-5.1**
HHC				AMB	AMB		
	comp=Z,183nm,1.9s,mb5.1						
HHC				LR	LR		
	comp=N,399nm,15.7s						
HHC				LR	LR		
	comp=E,310nm,9.7s						
HHC				LR	LR		
	comp=Z,322nm,12.0s						
CLNS	**Chul'man**	**23.45**	**339**	*e*P	**P**	**11 40 50.4**	**-3.0**
CLNS				*e*		11 41 11.2	
CLNS				*e*		11 44 40.9	
CLNS				*e*S	**S**	**11 44 50.4**	**-8.4**
CLNS				*e*SS		11 45 27.4	
CLNS				pmax	pmax		
	comp=Z,67nm,0.6s,mb5.2						
CLNS				pmax	pmax		
	comp=N,51nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,0.5s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.7						
CLNS				pmax	pmax		
	comp=N,21nm,0.8s						
CLNS				pmax	pmax		
	comp=E,15nm,0.7s						
CLNS				smax			
	comp=N,129nm,11.6s						
CLNS				smax			
	comp=Z,113nm,12.3s						
CLNS				smax			
	comp=E,379nm,13.1s						
CLNS				MLR	MLR		
	comp=N,100nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,12.0s						
CLNS				MLR	MLR		
	comp=E,300nm,14.0s						
BTO	**Baotou**	**23.98**	**291**	*e*P	**P**	**11 40 54.1**	**-4.2**
APYP	**Conner**	**24.33**	**228**	*e*P	**P**	**11 40 57.4**	**-3.9**
CIT	**Chita**	**24.87**	**319**	*e*P	**P**	**11 41 03.7**	**-2.6**
CIT				*e*		11 45 27.0	
CIT				pmax	pmax		
	comp=Z,39nm,1.5s,mb4.6						
MA2	**Magadan**	**24.89**	**13**	⇓*e*P	**P**	**11 41 06.8**	**+0.3**
MA2				pmax	pmax		
	comp=Z,88nm,0.6s,mb5.4						
MA2	**Magadan**	**24.89**	**13**	⇓*e*P	**P**	**11 41 06.8**	**+0.3**
	comp=Z,88nm,0.6s,mb5.4						
XAN	**Xi'an**	**25.47**	**275**	P	**P**	**11 41 10.4**	**-1.4**
XAN				AMB	AMB		
	comp=Z,71nm,0.6s,mb5.3						
YAK	**Yakutsk**	**27.12**	**349**	*e*P	**P**	**11 41 26.2**	**-0.4**
YAK				*e**PP	pP	11 41 53.5	+3.4
YAK				*e*		11 42 19.1	
YAK				*e*		11 44 38.3	
YAK				*e*S	**S**	**11 46 05.5**	**+8.4**
YAK				*e**SS	sS	11 46 44.4	+6.2
YAK				*e*		11 52 02.2	
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,14nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
YAK				pmax	pmax		
	comp=E,9.0nm,1.3s						
YAK				smax			
	comp=N,16nm,1.2s						
YAK				smax			
	comp=E,24nm,1.2s						
YAK	**Yakutsk**	**27.12**	**349**	⇓*e*P	**P**	**11 41 25.8**	**-0.9**
	comp=E,77nm,0.7s,mb5.3						
YAK				*e*S	**S**	**11 46 09.8**	**+13**
ULN	**Ulaanbaatar**	**27.17**	**307**	*i* P	**P**	**11 41 26.0**	**-1.0**
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**11 41 29.8**	**-1.0**
	comp=E,20nm,0.5s,mb5.0,baz=111,slow=9.2,SNR=68						
SONM				LR	LR	11 52 45.6	
	comp=E,393nm,18.8s,baz=69,slow=37						
BOD	**Bodaibo**	**28.05**	**330**	*e*P	**P**	**11 41 34.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.0						
SEY	**Seymchan**	**28.32**	**12**	*e*P	**P**	**11 41 38.2**	**+1.0**
SEY				*PP	pP	11 42 02.4	+1.5
SEY				*e**SP	sP	11 42 15.4	+2.1
SEY				*e*		11 42 41.3	
SEY				*e*S	**S**	**11 46 16.7**	**+0.9**
SEY				*e**SS	sS	11 46 59.4	+2.4
SEY				pmax	pmax		
	comp=N,10.0nm,0.6s						
SEY				pmax	pmax		
	comp=E,7.0nm,0.6s						
SEY				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.8						
SEY				smax			
	comp=N,100nm,5.0s						
SEY				smax			
	comp=E,140nm,5.0s						
SEY	**Seymchan**	**28.32**	**12**	*e*P	**P**	**11 41 36.6**	**-0.6**
LZH	**Lanzhou**	**29.16**	**281**	⇑P	**P**	**11 41 44.0**	**-0.7**
LZH				XP	sP	11 42 21.0	+0.2
LZH				PP	PP	11 42 42.0	-10
LZH				S	**S**	**11 46 22.0**	**-7.1**
LZH				XS	sS	11 47 05.0	-5.3
LZH				*e*SS	SS	11 47 59.0	-38
LZH				AMB	AMB		
	comp=Z,520nm,1.5s,mb5.9						
LZH				AMB	AMB		
	comp=Z,840nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.7s						
LZH				LR	LR		
	comp=Z,3μm,16.0s						
GYA	**Guiyang**	**29.86**	**261**	⇑*i*P	**P**	**11 41 49.6**	**-1.3**
GYA				AP	pP	11 42 13.9	-0.7

comp=Z,7.0nm,0.7s,mb4.5
QIZ LR LR
comp=N,260nm,26.8s
QIZ LR LR
comp=Z,242nm,20.6s
GTA Gaotai 31.86 289 *e*P **P 11 42 08.0 -0.5**
GTA AP pP 11 42 35.5 +3.2
GTA XP sP 11 42 48.1 +3.4
GTA PP PP 11 43 17.3 -5.1
GTA PCP PcP 11 44 58.0 +1.2
GTA S **S 11 47 08.5 -2.8**
GTA XS sS 11 47 50.3 -2.4
GTA SCP ScP 11 48 31.7 +1.4
GTA SS SS 11 49 05.2 -27
GTA SCS ScS 11 52 28.0 -0.9
GTA AMB AMB
comp=Z,44nm,0.7s,mb5.3
GTA AMB AMB
comp=Z,70nm,4.2s
GTA LR LR
comp=N,232nm,14.1s
GTA LR LR
comp=E,372nm,14.1s
GTA LR LR
comp=Z,320nm,12.9s
MOY Mondy 31.93 312 *e*P **P 11 42 08.6 -0.5**
KMI Kunming 33.62 262 P **P 11 42 22.4 -1.4**
KMI AP pP 11 42 47.2 -0.5
KMI XP sP 11 43 01.9 +1.8
KMI PP PP 11 43 40.9 -1.0
KMI S **S 11 47 38.4 -0.1**
KMI XS sS 11 48 18.3 -1.8
KMI SS SS 11 49 44.8 -23
KMI AMB AMB
comp=Z,33nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,80nm,3.1s
KMI LR LR
comp=N,375nm,15.4s
KMI LR LR
comp=E,144nm,16.9s
KMI LR LR
comp=Z,257nm,12.3s
BILL Bilibino 35.62 17 *e*P **P 11 42 40.8 -0.3**
BILL *e* 11 44 04.3
BILL *e* 11 45 06.9
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 35.62 17 *e*P **P 11 42 40.5 -0.6**
comp=Z,5.4nm,0.6s,mb4.7
BILL *e*pP pP 11 43 08.1 +2.9
BILL *e*SP 11 43 21.2
TIXI Tiksi 36.47 354 *e*P **P 11 42 45.0 -3.3**
TIXI *e*S **S 11 48 16.4 -5.9**
TIXI pmax pmax
comp=Z,15nm,0.7s,mb5.0
TIXI MLR MLR
comp=Z,130nm,15.0s
TIXI Tiksi 36.47 354 *e*P **P 11 42 47.6 -0.7**
WMQ Urumqi 40.41 298 P **P 11 43 22.0 +0.7**
WMQ AP pP 11 43 47.4 +1.6
WMQ XP sP 11 44 00.4 +2.4
WMQ PP PP 11 45 00.0 +3.7
WMQ S **S 11 49 22.0 +0.4**
WMQ XS sS 11 50 06.0 +2.1
WMQ SS SS 11 52 20.0 -4.7
WMQ AMB AMB
comp=Z,98nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,104nm,5.0s
WMQ LR LR
comp=N,412nm,12.0s
WMQ LR LR
comp=E,128nm,12.0s
WMQ LR LR
comp=Z,134nm,12.0s
LSA Lhasa 41.17 276 P **P 11 43 29.4 +1.8**
SHL Shillong 42.23 270 *e*P **P 11 43 36.0 -0.2**
SHL *e*S **S 11 49 46.0 -2.5**
TNA Tin City 42.57 29 *e*P **P 11 43 39.5 +0.5**
comp=Z,5.9nm,0.8s,mb4.4
TNA *e*pP pP 11 44 05.6 +2.0
NVS Novosibirsk 42.92 315 *i* P **P 11 43 41.1 -0.7**
NVS *e**PP pP 11 44 01.0 -5.5
NVS *e*PPP 11 45 55.7
NVS *i* S **S 11 49 57.6 -1.1**
NVS pmax pmax
comp=Z,550nm,0.6s
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=E,54nm,0.6s
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,25nm,2.0s
MK31 Makanchi Array 43.84 303 P **P 11 43 49.2 0.0**
MK31 pmax pmax
comp=Z,21nm,0.5s,mb5.1
MKAR Makanchi Array 43.84 303 P **P 11 43 49.1 -0.1**
comp=Z,46nm,0.5s,mb5.5,baz=76,slow=9.3,SNR=470
MKAR ScP ScP 11 49 16.1 +0.6
comp=Z,1.7nm,0.8s,baz=59,slow=7.1,SNR=4.0
PMG Port Moresby 45.39 170 *e*P **P 11 44 01.8 +0.4**
PMG Port Moresby 45.39 170 *e*P **P 11 44 01.4 0.0**
KURK Kurchatov 45.84 309 *e*P **P 11 44 04.6 -0.4**
KURK pmax pmax
comp=Z,269nm,0.6s
KURK Kurchatov 45.84 309 *e*P **P 11 44 04.6 -0.4**
comp=Z,269nm,0.6s
JIRN Jiri 45.98 276 *e*P **P 11 44 07.0 +0.9**
comp=Z,62nm,0.4s,mb5.7
GUN Gumba 46.13 276 *e*P **P 11 44 08.0 +0.7**
comp=Z,71nm,0.6s,mb5.6
PKI Pulchoki 46.65 276 *e*P **P 11 44 11.2 -0.1**
comp=Z,51nm,0.8s,mb5.3
KKN Kakani 46.66 276 *e*P **P 11 44 12.1 +0.7**
comp=Z,52nm,0.5s,mb5.5
DMN Daman 46.88 276 *e*P **P 11 44 13.5 +0.4**
comp=Z,23nm,0.6s,mb5.1
GKN Gorkha 47.10 277 *e*P **P 11 44 14.9 +0.1**
comp=Z,127nm,0.5s,mb5.9
SVW2 Sparrevohn 47.28 37 *e*P **P 11 44 18.8 +2.6**
KOLN Koldanda 48.03 277 *e*P **P 11 44 22.5 +0.5**
comp=Z,63nm,0.6s,mb5.6
IMA2 Indian Mountai 48.41 30 *e*P **P 11 44 27.9 +2.9**
KDAK Kodiak Island 48.86 41 P **P 11 44 28.4 0.0**
comp=Z,13nm,0.4s,mb5.2,baz=284,slow=3.5,SNR=15
KDAK Kodiak Island 48.86 41 P **P 11 44 28.4 0.0**
ULHL Ulahol 48.95 298 P **P 11 44 31.3 +2.3**
SNR=36
TKM2 Tokmak 2 49.24 299 P **P 11 44 32.5 +1.2**
SNR=251
KZA Kyzart 49.70 298 P **P 11 44 36.8 +2.0**
SNR=121
KBK Karagaybulak 49.77 299 P **P 11 44 36.3 +1.0**
SNR=147
CHMS Chumysh 49.82 299 P **P 11 44 36.2 +0.5**
SNR=24
KSH Kashi 49.88 295 *e*P **P 11 44 40.0 +3.8**
KSH *e*PP PP 11 46 36.0 +4.1
KSH *e*S **S 11 51 40.5 +2.4**
KSH AMB AMB
comp=Z,110nm,0.8s,mb5.8
KSH LR LR
comp=N,220nm,5.1s
KSH LR LR
comp=E,180nm,4.2s
USP Ospenovka 49.93 300 P **P 11 44 36.8 +0.3**
SNR=27
FRU Bishkek 49.96 299 *e*P **P 11 44 37.0 +0.3**
LGTI Lohaghat 50.05 281 *e*P **P 11 44 40.0 +2.6**
AAK Ala-Archa 50.10 299 P **P 11 44 38.4 +0.6**
SNR=49
AAK Ala-Archa 50.10 299 *e*P **P 11 44 37.3 -0.5**
AAK pmax pmax
comp=Z,34nm,0.5s,mb5.5
AAK Ala-Archa 50.10 299 *e*P **P 11 44 37.3 -0.5**
comp=Z,34nm,0.5s,mb5.5
UCH Uchtor 50.19 298 P **P 11 44 39.6 +1.1**
SNR=44
VOSK Vostochnaya 50.30 312 P **P 11 44 38.9 -0.4**
VOSK pmax pmax
comp=Z,45nm,0.7s,mb5.5
MCK McKinley 50.38 33 *e*P **P 11 44 40.6 +0.7**
MCK *e**PP pP 11 45 07.0 +1.7
MCK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
MCK McKinley 50.38 33 *e*P **P 11 44 40.6 +0.7**
comp=Z,2.1nm,0.4s,mb4.4
MCK *e*pP pP 11 45 07.0 +1.7
PMR Palmer 50.38 36 *e*P **P 11 44 41.9 +2.0**
PMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PMR Palmer 50.38 36 *e*P **P 11 44 41.9 +2.0**
comp=Z,10nm,1.0s,mb4.7
EKS2 Erkin-Say 50.60 299 P **P 11 44 41.8 +0.3**
SNR=54
BVA0 Borovoye Array 50.60 313 *i* P **P 11 44 41.3 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
BRVK Borovoye 50.66 313 *e*P **P 11 44 42.0 0.0**
BRVK pmax pmax
comp=Z,48nm,0.3s
BRVK Borovoye 50.66 313 *e*P **P 11 44 42.0 0.0**
comp=Z,48nm,0.3s
AML Almayashu 50.80 299 P **P 11 44 44.6 +1.5**
SNR=224
COLA College 50.81 32 *e*P **P 11 44 44.2 +1.0**
COLA *e**PP pP 11 45 11.5 +2.9
COLA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
COLA College 50.81 32 *e*P **P 11 44 44.2 +1.0**
comp=Z,7.3nm,0.6s,mb4.9
COLA *e*pP pP 11 45 11.5 +2.9
ILAR Eielson Array 51.23 32 P **P 11 44 45.9 -0.4**
comp=Z,4.6nm,0.7s,mb4.6,baz=270,slow=5.6,SNR=82
ILAR pP pP 11 45 09.7 -2.1
comp=Z,4.8nm,0.7s,baz=263,slow=5.7,SNR=3.9
ZRNK Zerenda 51.44 313 *e*P **P 11 44 47.7 -0.2**
ZRNK *e*S **S 11 52 00.1 +0.5**
ZRNK pmax pmax
comp=Z,179nm,0.6s
ZRNK Zerenda 51.44 313 *e*P **P 11 44 47.7 -0.1**
comp=Z,179nm,0.6s
ZRNK *e*S **S 11 52 00.1 +0.5**
DDI Dehra Dun 51.45 283 *e*P **P 11 44 46.1 -1.8**
THN Thein Dam 52.47 286 *e*P **P 11 44 54.4 -1.1**
KK31 Karatay Array 52.78 301 *i* P **P 11 44 57.9 +0.1**
KKAR Karatay Array 52.78 301 P **P 11 44 57.8 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
MENT Mentasta 52.78 34 *e*P **P 11 44 59.9 +2.1**
FITZ Fitzroy Crossi 55.22 197⇓ *i*P **P 11 45 15.7 +0.2**
comp=Z,74nm,0.6s,mb5.9
WRAB Tennant Creek 55.60 186 *d*P **P 11 45 17.0 -1.2**
WRAB Tennant Creek 55.60 186 *e*P **P 11 45 17.4 -0.8**
comp=Z,121nm,0.8s
WB2 Warramunga Arr 55.61 186⇓ *i*P **P 11 45 17.5 -0.8**
WB2 *e*S **S 11 52 54.0 -1.9**
WRA Warramunga Arr 55.61 186 P **P 11 45 17.5 -0.8**
comp=Z,52nm,0.3s,baz=0.2,slow=7.6,SNR=333
CTA Charters Tower 55.81 173⇓ *i*P **P 11 45 19.2 -0.6**
comp=Z,5.3nm,1.5s,mb4.3
CTAO Charters Tower 55.81 173 *e*P **P 11 45 19.0 -0.8**
CTAO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
CTAO Charters Tower 55.81 173 *e*P **P 11 45 19.0 -0.7**
comp=Z,6.0nm,0.6s,mb4.8
INK Inuvik 56.09 27 *e*P **P 11 45 22.0 +0.3**
INK pmax pmax
comp=Z,11nm,0.8s
INK Inuvik 56.09 27 *e*P **P 11 45 22.0 +0.3**
comp=Z,11nm,0.8s,mb5.0
ARU Arti 56.58 319⇑ *i*P **P 11 45 24.9 -0.3**
ARU *e* 11 47 28.1
ARU *e*S **S 11 53 13.5 +4.8**
ARU *e*SS SS 11 57 01.4 +3.8
ARU pmax pmax
comp=Z,30nm,0.5s,mb5.6
ARU Arti 56.58 319⇑ *e*P **P 11 45 24.8 -0.4**
comp=Z,77nm,0.4s
HYB Hyderabad 57.00 268 *i* P **P 11 45 28.0 -0.2**
HYB *e*S **S 11 53 13.0 -1.3**
HYB Hyderabad 57.00 268 *e*P **P 11 45 28.0 -0.2**
AB31 Akbulak array 57.90 310 *i* P **P 11 45 34.6 +0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
ASAR Alice Springs 59.33 186 P **P 11 45 43.8 -0.6**
comp=Z,13nm,0.5s,mb5.2,baz=0.2,slow=5.4,SNR=183
ASPA Alice Springs 59.34 186⇓ *i*P **P 11 45 43.8 -0.7**
MBWA Marble Bar 59.72 202⇓ *e*P **P 11 45 46.7 -0.4**
comp=Z,79nm,0.6s,mb5.9
PALK Pallekele 60.94 257 *e*P **P 11 45 55.9 +0.5**
comp=Z,6.0nm,0.5s,mb4.9
DZM Mont Dzumac 62.70 152 P **P 11 46 08.7 +1.5**
comp=Z,17nm,0.6s,mb5.1,baz=347,slow=6.9,SNR=34
LVZ Lovozero 62.83 336 *e*P **P 11 46 07.7 -0.4**
LVZ pmax pmax
comp=Z,73nm,1.7s,mb5.3
LVZ pmax pmax
comp=N,33nm,1.9s
RES Resolute Bay 64.17 14 *e*P **P 11 46 16.6 -0.2**
RES *e* pP 11 46 39.4 -3.9
RES pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
RES Resolute Bay 64.17 14 *e*P **P 11 46 16.6 -0.3**
comp=Z,7.9nm,0.5s,mb4.8
RES *e* pP 11 46 39.4 -3.9
KLMR Klimovskoe 64.25 328 *e*P **P 11 46 15.8 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
KEV Kevo 64.26 339 *e*p **P 11 46 17.2 -0.2**
comp=Z,8.3nm,0.7s,mb4.7
KEV Kevo 64.26 339 *e*P **P 11 46 17.2 -0.2**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
ARCES ARCESS Array B 64.82 339 P **P 11 46 20.6 -0.4**
comp=Z,4.1nm,0.6s,mb4.4,baz=54,slow=7.0,SNR=61
ARE0 ARCESS Array S 64.82 339 *e*P **P 11 46 21.1 0.0**
YKA Yellowknife Ar 65.53 29 P **P 11 46 25.8 +0.1**
comp=Z,5.5nm,0.6s,mb4.2,baz=306,slow=6.9,SNR=75
YKA pP pP 11 46 50.3 -1.9
comp=Z,1.4nm,0.6s,baz=306,slow=7.5,SNR=2.8
YKA Yellowknife Ar 65.53 29 P **P 11 46 25.8 +0.1**
YKA pP pP 11 46 50.3 -2.0
JOF Joensuu 66.57 332 *e*p **P 11 46 32.4 0.0**
comp=Z,14nm,0.6s,mb5.0
DAG Danmarks Havn 66.98 355⇑ *i*P **P 11 46 35.1 +0.1**
comp=Z,2.7nm,0.6s,mb4.2
DAG Danmarks Havn 66.98 355⇑ *i*P **P 11 46 35.1 +0.1**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
STKA Stephens Creek 67.25 178⇓ *i*P **P 11 46 34.3 -2.4**
comp=Z,7.8nm,0.4s,mb4.9
STKA Stephens Creek 67.25 178 P **P 11 46 34.3 -2.4**
comp=Z,12nm,0.5s,mb5.0,baz=350,slow=7.1,SNR=25
STKA Stephens Creek 67.25 178 *e*P **P 11 46 34.2 -2.5**
MOS Moscow 67.61 323 *e*P **P 11 46 47.3 +8.4**
OBN Obninsk 68.45 323⇑ *e*P **P 11 46 42.9 -1.3**
OBN *e* pP 11 47 08.0 -2.9
OBN pmax pmax
comp=Z,26nm,0.7s,mb5.2
OBN Obninsk 68.45 323 *i* Pr 11 46 42.9
OBN LR LR
comp=Z,200nm,22.0s
KAF Kangasniemi 68.94 333 *e*p **P 11 46 46.1 -1.1**
comp=Z,8.9nm,0.6s,mb4.8,baz=51,slow=5.9
KAF Kangasniemi 68.94 333 *e*P **P 11 46 46.1 -1.1**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
VRSR Storozhevoye 69.14 319 *c* *i*P **P 11 46 47.9 -0.5**
VRSR *i* pP 11 47 12.8 -2.4
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
FINES FINESS Array B 69.43 332 P **P 11 46 49.6 -0.7**
comp=E,7.9nm,0.6s,mb4.8,baz=81,slow=6.1,SNR=41
FINES LR LR 12 18 17.6
comp=E,128nm,18.2s,baz=30,slow=37
KLBR Kellerberrin 70.12 200⇓ *i*P **P 11 46 53.6 -0.9**
comp=E,11nm,0.4s,mb5.0
KIV Kislovodsk 70.88 311 *e*P **P 11 46 58.3 -0.8**
KIV *e* 11 47 18.2
KIV *e*S S 11 56 05.5 -0.4
KIV *e*SS SS 12 00 44.3 +3.9
KIV pmax pmax
comp=Z,35nm,1.0s,mb5.1
KIV Kislovodsk 70.88 311 *e*P **P 11 47 00.4 +1.3**
comp=Z,20nm,0.7s,mb5.0
KIV *e* 11 47 32.6
VSU Vasula 70.99 329 *e*P **P 11 46 59.4 -0.4**
NWAO Narrogin (SRO) 71.53 200 *e*P **P 11 47 02.4 -0.6**
NWAO pmax pmax
comp=Z,43nm,1.3s
NWAO Narrogin (SRO) 71.53 200 *e*P **P 11 47 02.4 -0.6**
comp=Z,43nm,1.3s,mb5.1
GNI Garni 71.55 306 *e*P **P 11 47 02.4 -0.7**
NEW Newport 71.89 43 *e*P **P 11 47 06.7 +1.6**
SUMG Summit 72.00 359 *e*P **P 11 47 06.8 +1.0**
comp=Z,11nm,0.7s,mb4.8
SCO Scoresbysund 73.30 354 *i* P **P 11 47 14.8 +1.3**
SCO Scoresbysund 73.30 354 *e*P **P 11 47 14.8 +1.3**
ANN Anapa 73.60 314 *e*P **P 11 47 24.8 +10**
ANN pmax pmax
comp=Z,60nm,0.8s,mb5.4
BMO Blue Mountains 73.68 46 *e*P **P 11 47 17.6 +1.8**
comp=Z,5.5nm,0.7s,mb4.4
BMO *e*pP pP 11 47 47.0 +4.1
WVOR Wild Horse Val 74.24 49 *e*P **P 11 47 20.6 +1.6**
comp=Z,4.3nm,0.6s,mb4.4
AKASG Malin Array Be 74.62 322 P **P 11 47 20.4 -0.7**
comp=Z,8.3nm,0.4s,mb4.8,baz=48,slow=6.0,SNR=77
HFS Hagfors 74.80 335 LR LR 12 20 08.4
comp=Z,146nm,21.3s,baz=229,slow=36
NB2 NORSAR Subarra 74.94 337 P **P 11 47 22.7 -0.4**
comp=Z,4.4nm,0.7s,mb4.3,baz=41,slow=5.9
NOA NORSAR Array B 74.94 337 P **P 11 47 22.8 -0.3**
comp=Z,10nm,0.8s,mb4.6,baz=41,slow=5.9,SNR=13
NOA PP PP 11 50 02.8 -9.3
comp=Z,1.3nm,0.7s,baz=38,slow=7.5,SNR=3.5
NOA LR LR 12 20 13.4
comp=Z,111nm,21.0s,baz=190,slow=36
SUW Suwalki 75.36 327 *e*P **P 11 47 25.6 +0.1**
FCC Fort Churchill 75.70 26 *e*P **P 11 47 27.4 0.0**
FCC pmax pmax
comp=Z,22nm,1.3s,mb4.7
FCC Fort Churchill 75.70 26 *e*P **P 11 47 27.4 0.0**
comp=Z,22nm,1.3s,mb4.7
HRY Holter Researc 75.72 42 *e*P **P 11 47 29.3 +1.8**
DLMT Dillon 76.10 44 *e*P **P 11 47 31.5 +1.8**
comp=Z,9.0nm,0.6s,mb4.7
DLMT *e*pP pP 11 47 58.0 +1.2
MCMT McKenzie Canyo 76.28 44 *e*P **P 11 47 32.0 +1.3**
MALT Malatya 76.66 308 *e*P **P 11 47 34.2 +1.4**
comp=Z,6.3nm,0.8s,mb4.4
NVAR Mina Array Bea 76.72 52 P **P 11 47 34.9 +1.8**
comp=Z,4.1nm,0.6s,mb4.3,baz=292,slow=5.4,SNR=29
NVAR Mina Array Bea 76.72 52 P **P 11 47 34.9 +1.8**
TPH Tonopah 77.62 52 *e*P **P 11 47 40.4 +2.3**
comp=Z,11nm,0.9s,mb4.6
LKWY Lake 77.82 44 *e*P **P 11 47 42.0 +2.7**
comp=Z,20nm,1.0s,mb4.8
KWP Kalwaria 78.51 324 *e*P **P 11 47 44.0 +0.9**
BR131 Keskin Array S 78.84 311 *e*P **P 11 47 45.1 +0.2**
comp=Z,2.3nm,0.5s,mb4.3
BRTR Keskin Array B 78.84 311 P **P 11 47 44.9 -0.1**
comp=Z,3.2nm,0.6s,mb4.3,baz=71,slow=3.8,SNR=12
BRTR pP pP 11 48 10.6 -1.7
comp=Z,2.7nm,0.8s,baz=34,slow=4.5,SNR=2.7
BRTR PP PP 11 50 42.5 -2.2
comp=Z,2.2nm,0.7s,baz=80,slow=7.5,SNR=5.4
HWUT Hardware Ranch 78.98 46 *e*P **P 11 47 48.1 +2.4**
comp=Z,12nm,1.2s,mb4.6
DUG Dugway 79.10 48 *e*P **P 11 47 48.3 +1.9**
comp=Z,7.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 79.19 324 *e*P **P 11 47 46.8 -0.1**
KOLS *e* 11 48 04.9
STHS Stebnicka Huta 79.36 324 *e*P **P 11 47 48.7 +1.0**
STHS *e* 11 47 54.9
STHS *e*pP pP 11 48 14.2 -0.9
STHS Stebnicka Huta 79.36 324 *e*P **P 11 47 48.7 +1.0**
STHS *e* 11 47 54.9
STHS *e* pP 11 48 14.2 -0.9
STHS *e* 12 03 21.7
BW06 Boulder Array 79.42 45 *e*P **P 11 47 49.5 +1.4**
comp=Z,2.1nm,0.6s,mb4.1
PDAR Pinedale Array 79.42 45 P **P 11 47 48.9 +0.7**
comp=Z,2.9nm,0.5s,mb4.4,baz=39,slow=0.7,SNR=38
PDAR pP pP 11 48 15.0 -0.5
comp=Z,2.0nm,0.6s,baz=235,slow=2.1,SNR=3.8
OJC Ojcow 79.47 326 *e*P **P 11 47 48.2 -0.2**
GSC Goldstone 79.51 54 *e*P **P 11 47 50.6 +2.0**
CRVS Cervenica-Dubn 79.61 324 *e*P **P 11 47 49.8 +0.7**
NIE Niedzica 79.79 325 *e*P **P 11 47 51.3 +1.2**
ARUT Antelope Range 80.19 50 *e*P **P 11 47 54.5 +2.3**
ARUT *e*pP pP 11 48 22.2 +2.5
ARUT *e*SP 11 48 34.1
KECS Kecovo 80.36 324 *e*P **P 11 47 53.0 -0.2**
KECS *e* 11 48 08.5
RUE Ruedersdorf 80.45 330 *e*P **P 11 47 53.5 -0.1**
comp=Z,9.0nm,0.8s,mb4.7
MSU Marysvale 80.53 49 *e*P **P 11 47 56.6 +2.6**
NEN Nelson 80.59 53 *e*P **P 11 47 56.3 +1.9**
KSP Ksiaz 80.60 328 *e*P **P 11 47 52.7 -1.7**
KSP *e*PcP PcP 11 48 00.4 -0.5
KSP *e*pP pP 11 48 21.5 -0.4
BSEG Bad Segeberg 80.70 333 *e*P **P 11 47 54.3 -0.7**
comp=Z,14nm,1.2s,mb4.7
PFO Pinyon Flat Ob 80.75 55 *e*P **P 11 47 56.6 +1.4**
comp=Z,17nm,1.2s,mb4.7
MORC Moravsky Berou 80.82 326 *e*P **P 11 47 55.9 +0.3**
MORC *e**PP pP 11 48 22.5 -0.6
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MORC Moravsky Berou 80.82 326 *e*P **P 11 47 55.9 +0.3**
comp=Z,6.6nm,0.9s,mb4.5
MORC *e*pP pP 11 48 22.5 -0.6
PSZ Piszkesteto 81.04 324 *e*P **P 11 47 57.5 +0.7**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
PSZ Piszkesteto 81.04 324 *e*P **P 11 47 57.5 +0.7**
comp=Z,9.4nm,0.9s,mb4.6
VYHS Vyhne 81.14 325 *e*P **P 11 47 58.0 +0.7**
VYHS *e*pP pP 11 48 25.4 +0.6
SRU San Rafael 81.16 48 *e*P **P 11 47 59.3 +1.9**
SRU pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
SRU San Rafael 81.16 48 *e*P **P 11 47 59.2 +1.8**
comp=Z,10nm,0.5s,mb4.9
ULM Lac du Bonnet 81.24 33 P **P 11 47 58.0 +0.2**
comp=Z,2.7nm,0.5s,mb4.3,baz=314,slow=5.9,SNR=7.8
PVCC Panska Ves 81.57 328 *e*P **P 11 48 00.4 +0.8**
BRG Berggiesshubel 81.58 329 *e*P **P 11 47 59.4 -0.2**
comp=Z,3.0nm,0.8s,mb4.2
BRG Berggiesshubel 81.58 329 *e*P **P 11 47 59.6 -0.1**
comp=Z,4.1nm,1.0s,mb4.2
BRG *i* 11 48 08.0
comp=Z,4.5nm,0.8s
CLL Collm 81.65 330 *e*P **P 11 47 59.4 -0.6**
comp=Z,9.0nm,1.0s,mb4.5
CLL Collm 81.65 330 *i* P **P 11 47 59.5 -0.5**
comp=Z,13nm,1.2s,mb4.6
CLL *i* PcP PcP 11 48 06.4 +0.9
comp=Z,18nm,1.0s
CLL *i* pP pP 11 48 27.2 -0.3
CLL *e*pPcP 11 48 36.0
CLL *e*sP sP 11 48 40.0 +1.0
CLL Collm 81.65 330 *i* P **P 11 47 59.5 -0.5**
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.6
CLL Collm 81.65 330 *i* P **P 11 47 59.5 -0.5**
comp=Z,13nm,1.2s,mb4.6
CLL *i* 11 48 06.4
CLL *e*pP pP 11 48 14.0 -14
PRU Pruhonice 81.99 328 *e*PCP PcP 11 48 09.4 +2.4
CLZ Clausthal 82.30 331 *e*P **P 11 48 03.4 0.0**
comp=Z,7.0nm,1.0s,mb4.5
CLZ Clausthal 82.30 331 *e*P **P 11 48 03.4 0.0**
CLZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PV10 Paradox Valley 82.52 48 *e*P **P 11 48 07.2 +2.7**
PV10 *e* 11 48 45.6
WERD Werda 82.59 329 *e*P **P 11 48 04.7 -0.2**
comp=Z,2.0nm,1.0s,mb3.9
MOX Moxa 82.72 330 *e*P **P 11 48 05.4 -0.2**
comp=Z,10.0nm,1.4s,mb4.5
PV01 Paradox Valley 82.96 48 *e*P **P 11 48 09.1 +2.3**
KHC Kasperske Hory 83.05 328 *e*P **P 11 48 07.8 +0.6**
ROTZ Rotzenmuhle 83.15 329 *e*P **P 11 48 08.2 +0.4**

comp=Z,14nm,1.3s,mb4.6
GEC2 GERESS Array S 83.21 328 *e*P **P 11 48 07.8 -0.3**
comp=Z,5.0nm,1.1s,mb4.3
GEC2 GERESS Array S 83.21 328 *e*P **P 11 48 07.8 -0.3**
GEC2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
GERES GERESS Array B 83.21 328 P **P 11 48 08.0 -0.1**
comp=Z,1.8nm,0.5s,mb4.2,baz=40,slow=5.3,SNR=17
GERES LR LR 12 32 29.1
comp=Z,110nm,18.2s,baz=213,slow=41
WET Wettzell 83.34 328 *e*P **P 11 48 08.9 +0.2**
comp=Z,8.0nm,1.5s,mb4.3
WET Wettzell 83.34 328 *e*P **P 11 48 08.9 +0.2**
WET pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
GRA1 Grafenberg Arr 83.62 329 *e*P **P 11 48 10.6 +0.4**
comp=Z,27nm,1.4s,mb4.9
GRA1 *e*pP pP 11 48 37.7 -0.1
GRF Grafenberg Arr 83.62 329 *e*P **P 11 48 10.6 +0.4**
comp=Z,27nm,1.4s,mb4.9
GRF *e*pP pP 11 48 37.7 -0.1
GRF Grafenberg Arr 83.62 329 *e*P **P 11 48 10.6 +0.4**
GRF *e**PP pP 11 48 37.7 -0.1
GRF pmax pmax
comp=Z,27nm,1.4s,mb4.9
GRF Grafenberg Arr 83.62 329 *e*P **P 11 48 10.6 +0.4**
GRF *e**PP pP 11 48 37.7 -0.1
GRF pmax pmax
comp=Z,27nm,1.4s,mb4.9
PERS Pernice 84.22 325 *e*P **P 11 48 13.8 +0.6**
GOLS Golise 84.44 325 *e*P **P 11 48 14.5 +0.1**
LEGS Legarje 84.64 325 *e*P **P 11 48 15.6 +0.3**
MEM Membach 84.95 333 ⇑P **P 11 48 16.3 -0.6**
MEM AP pP 11 48 45.2 +0.5
SDCO Great Sand Dun 85.04 46 *e*P **P 11 48 19.6 +2.2**
SDCO *e*pP pP 11 48 45.0 -0.1
SDCO *e*SP 11 48 59.6
PPT Papeete 85.11 116 *e*LR LR 12 14 29.4
comp=Z,81nm,23.0s
PPT Papeete 85.11 116 *e*T 13 21 37.7
comp=Z,5.4nm,0.3s
STU Stuttgart 85.17 330 *e*P **P 11 48 17.7 -0.3**
comp=Z,11nm,0.5s,mb5.0
WLF Walferdange 85.66 332 *e*P **P 11 48 20.8 +0.3**
comp=Z,8.0nm,1.3s,mb4.5
BFO Black Forest 85.87 330 *e*P **P 11 48 21.2 -0.3**
comp=Z,7.0nm,1.3s,mb4.4
BFO Black Forest 85.87 330 *e*P **P 11 48 21.2 -0.3**
BFO pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ANMO Albuquerque 86.33 49 *e*P **P 11 48 26.4 +2.7**
ANMO Albuquerque 86.33 49 *e*P **P 11 48 26.3 +2.6**
comp=Z,10nm,1.7s,mb4.5
ANMO *e*pP pP 11 48 51.1 -0.4
MEH Mehetia 86.41 115 *e*T 13 23 15.6
comp=Z,36nm,0.3s
SCHQ Schefferville 86.92 15 P **P 11 48 26.4 -0.2**
comp=Z,4.4nm,0.6s,mb4.5,baz=18,slow=7.1,SNR=18
SCHQ LR LR 12 30 09.5
comp=Z,84nm,21.0s,baz=255,slow=37
SCHQ Schefferville 86.92 15 *e*P **P 11 48 27.5 +0.9**
TBI Tubuai 88.87 120 *e*LR LR 12 16 14.9
comp=Z,123nm,23.5s
TBI Tubuai 88.87 120 *e*T 13 26 19.3
comp=Z,20nm,0.3s
TXAR Lajitas Array 91.85 52 P **P 11 48 50.9 +1.2**
comp=Z,1.7nm,0.5s,mb4.5,baz=301,slow=2.6,SNR=36
TXAR pP pP 11 49 19.1 +1.3
comp=Z,1.4nm,0.5s,baz=304,slow=3.1,SNR=4.9
TXAR Lajitas Array 91.85 52 P **P 11 48 50.9 +1.2**
TXAR pP pP 11 49 19.1 +1.3
RKT Rikitea 99.35 112 *e*LR LR 12 21 05.6
TORD Torodi Ar. Bea 117.41 313 PKP PKPdf 11 54 26.7 0.0
comp=Z,0.9nm,0.5s,baz=24,slow=1.2,SNR=17
TORD PP PP 11 55 27.5 -12
comp=Z,1.2nm,0.5s,baz=26,slow=4.8,SNR=4.8
QSPA South Pole Qui 125.46 180 *e*PKPdf PKPdf 11 54 40.7 -1.5
LPAZ La Paz 148.37 60 *e*PKPdf PKPdf 11 55 26.7 +2.7
LPAZ *e*PKPbc PKPbc 11 55 29.6 +2.1
LVC Limon Verde 151.72 70 *e*PKPbc PKPbc 11 55 38.0 +2.3

ISC 01 11:41:18.8±0.6, 4857N±004×2076E±005, h10km, n7, σ0°89/14, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.20**	**245**	*e*PG	**Pg**	**11 41 21.9**	**-1.2**
KECS				*e*SG	**Sg**	**11 41 26.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**0.57**	**54**	*e*PG	**Pg**	**11 41 28.8**	**-1.1**
CRVS				*e*SG	**Sg**	**11 41 36.9**	**-0.5**
PSZ	**Piszkesteto**	**0.87**	**222**	⇑*e*P	**Pg**	**11 41 35.1**	**-0.5**
PSZ				*e*S	**Sg**	**11 41 48.5**	**+1.5**
NIE	**Niedzica**	**0.90**	**341**	*e*Pg	**Pg**	**11 41 37.6**	**+1.4**
NIE				*e*Sg	**Sg**	**11 41 47.3**	**-0.6**
STHS	**Stebnicka Huta**	**0.91**	**20**	*e*PG	**Pg**	**11 41 35.9**	**-0.4**
STHS				*e*SG	**Sg**	**11 41 49.2**	**+1.1**
KOLS	**Kolonicke sedl**	**1.06**	**69**	*e*PG	**Pg**	**11 41 39.0**	**-0.3**
KOLS				*e*SG	**Sg**	**11 41 54.1**	**+1.0**
VYHS	**Vyhne**	**1.28**	**267**	*e*PG	**Pg**	**11 41 42.5**	**-0.9**
VYHS				*e*SG	**Sg**	**11 42 00.3**	**+0.2**

*IDC **01** 11:48:59.9±1.3, 333N×9824E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=90.6km s-min=9.6km az=47.0*
*ISCJB **01** 11:49:04.3±2.0, 33N×01.0×984E±0.1, h43km±17km, mb4.0/9, Error ellipse: s-maj=25.0km s-min=15.8km az=146.1*
*NEIC **01** 11:49:04.6±0.8, 330N×9840E, h30km, mb4.1/4, Error ellipse: s-maj=19.4km s-min=13.9km az=55.0*
ISC 01 11:49:01.9±2.7, 33N±01×983E±01, h11km±17km, n16, σ0°95/16, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.84**	**128**	Pg	**Pg**	**11 49 18.0**	**-0.2**
	74nm,0.3s,baz=319,slow=16,SNR=37						
PSI				Lg		11 49 30.6	
	92nm,0.3s,baz=13,slow=17,SNR=17						
PSI	**Prapat**	**0.84**	**128**	Pg	**Pg**	**11 49 18.0**	**-0.2**
PSI				Lg		11 49 30.6	
IPM	**Ipoh**	**2.99**	**67**	P	**Pn**	**11 49 49.9**	**+0.6**
KULM	**Kulim**	**3.08**	**51**	*e*Pn	**Pn**	**11 49 51.0**	**+0.5**
PALK	**Pallekele**	**17.91**	**283**	*e*P	**Pn**	**11 53 21.6**	**+11**
	6.2nm,0.4s						
ENH	**Enshi**	**28.83**	**20**	*e*P	**P**	**11 55 01.7**	**+1.5**
	2.2nm,0.6s,mb4.1						
NACB	**Ninganchiao**	**30.60**	**45**	*e*P	**P**	**11 55 14.4**	**-1.5**
WRA	**Warramunga Arr**	**42.31**	**125**	P	**P**	**11 56 56.4**	**+0.6**
	1.6nm,0.8s,mb3.7,baz=302,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**43.88**	**130**	P	**P**	**11 57 08.1**	**-0.3**
	0.7nm,0.9s,mb3.4,baz=301,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**45.46**	**345**	P	**P**	**11 57 20.8**	**-0.3**
	0.9nm,0.8s,mb3.7,baz=158,slow=6.5,SNR=7.8						
MKAR	**Makanchi Array**	**45.46**	**345**	P	**P**	**11 57 20.8**	**-0.3**
PMG	**Port Moresby**	**50.34**	**105**	P	**P**	**11 57 58.2**	**-0.7**
	20nm,1.0s,mb5.1						
BVAR	**Borovoye Array**	**54.62**	**340**	P	**P**	**11 58 29.7**	**-0.9**
	0.8nm,0.6s,mb3.9,baz=146,slow=10,SNR=4.6						
BRTR	**Keskin Array B**	**68.49**	**311**	P	**P**	**12 00 04.7**	**+0.4**
	0.9nm,0.6s,mb4.0,baz=149,slow=7.2,SNR=4.9						
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**12 00 38.3**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=4.6						
LBTB	**Lobatse**	**75.78**	**243**	*e*P	**P**	**12 00 51.4**	**+3.4**
	1.5nm,0.6s,mb4.1						

*CSEM **01** 11:51:22.6±0.1, 3519N×2776E, h8km, Ms3.0, Mw3.6, Error ellipse: s-maj=1.5km s-min=1.1km az=39.0*
*ISCJB **01** 11:51:24.7±0.2, 3517N±002×2768E±002, h46km±4km, mb4.1/28, MS3.5/4, Error ellipse: s-maj=3.3km s-min=2.5km az=88.9*
*HLW **01** 11:51:24.7, 3536N×2777E, h33km, Mb4.0*
*NEIC **01** 11:51:24.3, 3525N×2767E, h25km, mb4.1/19, MD3.7(ISK), ML4.5(ATH), After ATH.*
*ATH **01** 11:51:24.3, 3525N×2767E, h25km±2km, MD4.2/14, ML4.5*
*BJI **01** 11:51:24.6, 3530N×2770E, h25km, mB4.9, mb4.7, Ms4.5, Msz4.3*
*NIC **01** 11:51:25.7±0.2, 3593N×2775E, h25km, mb4.2, ML3.8, MW3.6*
*MOS **01** 11:51:25.5±1.3, 3533N×2753E, h33km, mb4.4/13, Error ellipse: s-maj=6.9km s-min=4.5km az=108.9*

*ISK **01** 11:51:27.7, 3549N×2769E, h52km, MD3.8, ML4.0*
*IDC **01** 11:51:29.2±2.1, 3550N×2745E, h54km±18km, mb3.6/13, mb1 3.8/19, mb1mx3.7/28, mbtmp3.9/19, ML3.8/5, MS3.3/4, Ms1 3.3/4, ms1mx2.8/29, Error ellipse: s-maj=25.0km s-min=11.9km az=155.0*
*NAO **01** 11:51:40.7, 3795N×3061E, h33km, mb3.8*
ISC 01 11:51:25.6±0.6, 3521N±002×2762E±002, h29km±5km, n223, σ1°24/244, mb4.1/28, MS3.5/4, 8C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.50**	**313**	⇑*i*PN	**Pb**	**11 51 34.2**	**-1.8**
KARP				*e*SN	**Sb**	**11 51 42.3**	**-0.8**
ARG	**Arkhangelos**	**1.09**	**22**	*e*PN	**Pn**	**11 51 43.7**	**-1.2**
ARG				*e*SN	**Sn**	**11 51 59.7**	**+0.8**
NISR	**Nisiros**	**1.46**	**344**	*e*PB	**Pb**	**11 51 49.5**	**-2.5**
NPS	**Neapolis**	**1.64**	**272**	*e*PN	**Pn**	**11 51 54.5**	**+2.1**
DALT	**Dalyan (Mudla)**	**1.77**	**28**	PN	**Pn**	**11 51 53.7**	**-0.5**
DALT	**Dalyan (Mudla)**	**1.77**	**28**	Pn	**Pn**	**11 51 52.3**	**-1.9**
DALT	**Dalyan (Mudla)**	**1.77**	**28**	Pn	**Pn**	**11 51 52.3**	**-1.9**
BODT	**Bodrum**	**1.87**	**353**	PN	**Pn**	**11 51 55.5**	**-0.1**
BODT	**Bodrum**	**1.87**	**353**	Pn	**Pn**	**11 51 54.2**	**-1.4**
AKAS	**Kas**	**1.92**	**57**	*i* P	**Pn**	**11 51 57.2**	**+1.0**
MLSB	**Milas**	**2.09**	**4**	PN	**Pn**	**11 51 57.4**	**-1.2**
MLSB	**Milas**	**2.09**	**4**	Pn	**Pn**	**11 51 57.5**	**-1.1**
SANT	**Santorini**	**2.10**	**304**	*e*Pn	**Pn**	**11 52 00.1**	**+1.3**
SANT				*e*Sn	**Sn**	**11 52 24.3**	**+0.3**
SANT	**Santorini**	**2.10**	**304**	*e*Pn	**Pn**	**11 52 00.1**	**+1.3**
SANT				*e*Sn	**Sn**	**11 52 24.3**	**+0.3**
IDI	**Anoyia**	**2.23**	**273**	P	**Pn**	**11 52 02.2**	**+1.6**
	7.7nm,0.3s,baz=90,slow=14,SNR=35						
IDI				LR	LR	11 52 33.2	
	comp=Z,318nm,18.9s,baz=112,slow=30						
ELL	**Elmali**	**2.41**	**50**	PN	**Pn**	**11 52 03.1**	**0.0**
ELL	**Elmali**	**2.41**	**50**	Pn	**Pn**	**11 52 03.1**	**+0.1**
APE	**Apeiranthos**	**2.51**	**318**	PN	**Pn**	**11 52 05.0**	**+0.6**
APE	**Apeiranthos**	**2.51**	**318**	*e*PN	**Pn**	**11 52 05.5**	**+1.1**
APE				*e*SN	**Sn**	**11 52 36.2**	**+2.2**
GOLH	**Golhisar**	**2.56**	**37**	*i* P	**Pn**	**11 52 06.7**	**+1.6**
SMG	**Samos**	**2.57**	**346**	*e*PN	**Pn**	**11 52 05.8**	**+0.5**
DENT	**Denizli**	**2.79**	**24**	PN	**Pn**	**11 52 07.3**	**-0.9**
DENT	**Denizli**	**2.79**	**24**	Pn	**Pn**	**11 52 06.0**	**-2.2**
VAM	**Vamos**	**2.80**	**275**	*e*PB	**Pb**	**11 52 13.1**	**-1.8**
GVD	**Gavdhos**	**2.92**	**264**	*e*Pn	**Pn**	**11 52 09.0**	**-1.0**
GVD	**Gavdhos**	**2.92**	**264**	*e*Pn	**Pn**	**11 52 09.0**	**-1.0**
IZM	**Izmir**	**3.20**	**355**	*e*PN	**Pn**	**11 52 13.0**	**-0.8**
KDAG	**Bornova**	**3.20**	**355**	*i* P	**Pn**	**11 52 14.4**	**+0.5**
KDAG	**Bornova**	**3.20**	**355**	*i* P	**Pn**	**11 52 14.4**	**+0.5**
URLA	**Izmir**	**3.25**	**346**	*i* P	**Pn**	**11 52 15.0**	**+0.4**
BCK	**Bucak**	**3.29**	**46**	*e*PN	**Pn**	**11 52 14.9**	**-0.2**
KHL	**Karahalli**	**3.47**	**26**	*e*PN	**Pn**	**11 52 16.3**	**-1.2**
KHL	**Karahalli**	**3.47**	**26**	Pn	**Pn**	**11 52 16.3**	**-1.2**
ISP	**Isparta**	**3.52**	**41**	*e*PN	**Pn**	**11 52 18.2**	**0.0**
ISP	**Isparta**	**3.52**	**41**	*e*P	**Pn**	**11 52 18.8**	**+0.6**
ISP	**Isparta**	**3.52**	**41**	*e*Pn	**Pn**	**11 52 18.8**	**+0.6**
TKTP	**Tekketepe**	**3.57**	**37**	*i* P	**Pn**	**11 52 19.1**	**+0.2**
AKS	**Akhisar**	**3.67**	**2**	*e*PN	**Pn**	**11 52 19.6**	**-0.7**
AKS	**Akhisar**	**3.67**	**2**	Pn	**Pn**	**11 52 19.6**	**-0.7**
AKMC	**Akamas**	**3.87**	**91**	P	**Pn**	**11 52 22.2**	**-0.9**
KYTH	**Kithira**	**3.88**	**287**	*e*PN	**Pn**	**11 52 24.0**	**+0.8**
PPCY	**Paphos**	**3.89**	**93**	P	**Pn**	**11 52 23.3**	**-0.1**
KVR	**Kavouri**	**4.05**	**311**	*e*PN	**Pn**	**11 52 28.0**	**+2.4**
ALFC	**Alevga**	**4.08**	**89**	P	**Pn**	**11 52 24.8**	**-1.2**
	9.2nm,0.3s						
ALFC				S	**Sn**	**11 53 11.0**	**-1.8**
VLI	**Veliai**	**4.08**	**293**	*e*PN	**Pn**	**11 52 29.4**	**+3.4**
HMAT	**Matruh**	**4.12**	**186**	⇑P	**Pn**	**11 52 28.2**	**+1.6**
PTL	**Penteli**	**4.14**	**314**	*e*PN	**Pn**	**11 52 28.7**	**+1.9**
PRK	**Paraskevi**	**4.17**	**346**	*e*PN	**Pn**	**11 52 28.9**	**+1.7**
ATH	**Athens Observa**	**4.18**	**312**	*e*PN	**Pn**	**11 52 29.5**	**+2.2**
NAIG	**Nisos Aigina**	**4.19**	**309**	*e*PB	**Pb**	**11 52 34.7**	**-3.8**
SLUM		**4.22**	**209**	⇓P	**Pn**	**11 52 29.4**	**+1.6**
SLUM				S	**Sn**	**11 53 16.6**	**+0.6**
SLUM		**4.22**	**209**	P	**Pn**	**11 52 29.4**	**+1.6**
SLUM				S	**Sn**	**11 53 16.6**	**+0.5**
DABA	**Dabaa**	**4.22**	**172**	⇓P	**Pn**	**11 52 29.1**	**+1.2**
MPAR	**Parnis Oros**	**4.28**	**314**	*e*PN	**Pn**	**11 52 32.0**	**+3.2**
ALT	**Altintas**	**4.33**	**27**	*e*PN	**Pn**	**11 52 28.5**	**-0.9**
ALT	**Altintas**	**4.33**	**27**	Pn	**Pn**	**11 52 28.6**	**-0.8**
SZAC	**Souni-Zanaja**	**4.35**	**94**	P	**Pn**	**11 52 29.1**	**-0.6**
SZAC				S	**Sn**	**11 53 19.3**	**-0.1**
BALB	**Balikesir**	**4.43**	**3**	*e*PN	**Pn**	**11 52 30.4**	**-0.4**
BALB	**Balikesir**	**4.43**	**3**	Pn	**Pn**	**11 52 30.4**	**-0.3**
ERMK	**Ermenek**	**4.53**	**70**	*i* P	**Pn**	**11 52 33.3**	**+1.1**
CSS	**Prodhromos**	**4.69**	**91**	P	**Pn**	**11 52 33.6**	**-0.8**
CSS				S	**Sn**	**11 53 27.2**	**-0.7**
CSS	**Prodhromos**	**4.69**	**91**	*e*Pn	**Pn**	**11 52 33.7**	**-0.7**
CSS				S	**Sn**	**11 53 27.2**	**-0.7**
CSS	**Prodhromos**	**4.69**	**91**	*e*Pn	**Pn**	**11 52 33.7**	**-0.7**
CSS				*e*Sn	**Sn**	**11 53 29.3**	**+1.5**
KONT	**Konya--Tatoy**	**4.70**	**53**	*e*PN	**Pn**	**11 52 35.1**	**+0.7**
KONT	**Konya--Tatoy**	**4.70**	**53**	Pn	**Pn**	**11 52 35.2**	**+0.7**
HBRG	**Burj al 'Arab**	**4.98**	**157**	⇑P	**Pn**	**11 52 39.1**	**+0.7**
HBRG				S	**Sn**	**11 53 32.8**	**-2.2**
ITM	**Ithomi**	**5.00**	**295**	*e*PN	**Pn**	**11 52 42.0**	**+3.3**
KIZT	**Kizilcal**	**5.01**	**42**	*e*PN	**Pn**	**11 52 39.4**	**+0.7**
ESKT	**Eskisehir**	**5.02**	**30**	*e*PN	**Pn**	**11 52 38.9**	**0.0**
ESKT	**Eskisehir**	**5.02**	**30**	*i* P	**Pn**	**11 52 39.1**	**+0.3**
ESKT	**Eskisehir**	**5.02**	**30**	Pn	**Pn**	**11 52 38.9**	**+0.1**
SEYT	**Eskypehyr**	**5.02**	**30**	*i* P	**Pn**	**11 52 39.1**	**+0.2**
LKR	**Lokris**	**5.05**	**314**	*e*PN	**Pn**	**11 52 42.7**	**+3.4**
LIA	**Limnos Island**	**5.07**	**338**	*e*PN	**Pn**	**11 52 41.6**	**+2.1**
EDC	**Edincik**	**5.13**	**2**	Pn	**Pn**	**11 52 40.8**	**+0.3**
EDC	**Edincik**	**5.13**	**2**	Pn	**Pn**	**11 52 40.8**	**+0.3**
YLV	**Yalova**	**5.53**	**14**	*e*PN	**Pn**	**11 52 45.9**	**0.0**
MERS	**Mersin**	**5.84**	**72**	*e*PN	**Pn**	**11 52 53.0**	**+2.9**
EVR	**Evrytania**	**5.94**	**310**	*e*PN	**Pn**	**11 52 54.2**	**+2.7**
HMYD	**Mayadein**	**6.03**	**153**	P	**Pn**	**11 52 53.6**	**+0.9**
HNAT	**Natroun**	**6.11**	**155**	P	**Pn**	**11 52 54.6**	**+0.8**
SQR		**6.11**	**149**	P	**Pn**	**11 52 54.5**	**+0.6**
SWA1		**6.14**	**196**	P	**Pn**	**11 52 55.9**	**+1.6**
SWA1				S	**Sn**	**11 54 02.7**	**-0.9**
RDO	**Rodhopi**	**6.15**	**345**	*e*PN	**Pn**	**11 52 56.0**	**+1.6**
FYM	**Al Fayyum**	**6.21**	**151**	⇑P	**Pn**	**11 52 55.4**	**+0.1**
SWA2		**6.22**	**198**	P	**Pn**	**11 52 57.3**	**+1.9**
KARA	**Karaisali**	**6.35**	**69**	*e*PN	**Pn**	**11 52 58.7**	**+1.5**
KOT	**Kottamia**	**6.35**	**145**	P	**Pn**	**11 52 57.2**	**0.0**
KAMT	**Kaman**	**6.39**	**48**	*e*PN	**Pn**	**11 52 58.7**	**+0.9**
KAMT	**Kaman**	**6.39**	**48**	Pn	**Pn**	**11 52 58.7**	**+0.9**
HHAG	**Hagoal**	**6.46**	**143**	P	**Pn**	**11 52 59.2**	**+0.5**
HSAF	**As Saff**	**6.49**	**148**	⇑*e*P	**Pn**	**11 52 58.9**	**-0.3**
HSAF	**As Saff**	**6.49**	**148**	P	**Pn**	**11 52 58.8**	**-0.3**
BRTR	**Keskin Array B**	**6.58**	**45**	P	**Pn**	**11 53 01.1**	**+0.8**
	0.8nm,0.3s,baz=211,slow=13,SNR=22						
BRTR				S	**Sn**	**11 54 15.1**	**+0.7**
	0.6nm,0.3s,baz=216,slow=21,SNR=12						
BR131	**Keskin Array S**	**6.58**	**45**	*e*Pn	**Pn**	**11 53 01.6**	**+1.3**
	4.8nm,0.4s						
BR131	**Keskin Array S**	**6.58**	**45**	*e*Pn	**Pn**	**11 53 01.6**	**+1.3**
	4.8nm,0.4s						
BR131				*e*Sn	**Sn**	**11 54 15.7**	**+1.4**
GLL	**Jalalah**	**6.59**	**147**	⇑P	**Pn**	**11 53 00.3**	**-0.2**
MMA0	**Mount Meron ar**	**6.82**	**106**	Pn	**Pn**	**11 53 03.5**	**-0.1**
SLTI	**Sal'it**	**6.86**	**113**	Pn	**Pn**	**11 53 04.2**	**+0.1**
HWQ	**Hawqa**	**6.92**	**95**	*e*Pn	**Pn**	**11 53 03.9**	**-1.1**
KOZT	**Kozan**	**7.00**	**69**	*e*PN	**Pn**	**11 53 06.9**	**+0.7**
MMLI	**Mount Malkishu**	**7.06**	**111**	Pn	**Pn**	**11 53 06.6**	**-0.3**
DSI	**Dead Sea**	**7.44**	**117**	Pn	**Pn**	**11 53 11.1**	**-1.0**
HNKL	**Nakhl**	**7.52**	**133**	⇑P	**Pn**	**11 53 12.6**	**-0.6**
MZDA	**Masada**	**7.56**	**119**	Pn	**Pn**	**11 53 13.0**	**-0.8**
KMTI	**Karmit**	**7.86**	**128**	Pn	**Pn**	**11 53 17.0**	**-0.9**
PRNI	**Paran**	**7.88**	**126**	Pn	**Pn**	**11 53 17.6**	**-0.6**
PRNI				Sn	**Sn**	**11 54 40.9**	**-5.5**
HRFI	**Mount Harif**	**8.11**	**127**	Pn	**Pn**	**11 53 20.9**	**-0.4**
HRFI				Sn	**Sn**	**11 54 46.1**	**-5.9**
EIL	**Elat**	**8.30**	**130**	Pn	**Pn**	**11 53 23.8**	**-0.1**
TR2		**8.56**	**141**	P	**Pn**	**11 53 27.5**	**0.0**
HKAT	**Jabal Katrina**	**8.59**	**139**	P	**Pn**	**11 53 28.1**	**+0.2**
HDHB	**Dhahab**	**8.78**	**135**	P	**Pn**	**11 53 30.2**	**-0.4**
TR1		**8.98**	**141**	P	**Pn**	**11 53 31.9**	**-1.4**
TIP	**Timpagrande**	**9.52**	**298**	*e*Pn	**Pn**	**11 53 39.1**	**-1.6**
TIP				*e*Sn	**Sn**	**11 55 25.1**	**-1.7**
TIP	**Timpagrande**	**9.52**	**298**	*e*Pn	**Pn**	**11 53 39.1**	**-1.6**
TIP				*e*Sn	**Sn**	**11 55 25.1**	**-1.6**
MLR	**Muntele Rosu**	**10.35**	**353**	P	**Pn**	**11 53 51.8**	**-0.2**
	0.4nm,0.3s,baz=145,slow=15,SNR=2.7						
MLR				LR	LR	11 58 13.7	
	comp=Z,112nm,20.7s,baz=136,slow=40						
ANN	**Anapa**	**12.17**	**35**	*e*P	**Pn**	**11 54 17.9**	**+0.9**
	85nm,1.2s						
ANN				*e*S	**Sn**	**11 56 28.6**	**-3.1**
ANN	**Anapa**	**12.17**	**35**	*e*P	**Pn**	**11 54 17.9**	**+0.9**
ANN				*e*S	**Sn**	**11 56 28.6**	**-3.1**
ANN				pmax	pmax		
	comp=Z,85nm,1.2s						
GNI	**Garni**	**14.43**	**65**	P	**Pn**	**11 54 50.7**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=169,slow=23,SNR=2.3						
KIV	**Kislovodsk**	**14.52**	**48**	*e*P	**Pn**	**11 54 50.2**	**+1.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.7s						
VOY	**Vojsko**	**14.99**	**320**	*e*Pn	**Pn**	**11 54 55.2**	**-0.2**
VOY				*e*		11 55 05.7	
NIE	**Niedzica**	**15.18**	**342**	*e*P		11 55 14.0	
AKASG	**Malin Array Be**	**15.53**	**4**	P	**Pn**	**11 55 03.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=195,slow=11,SNR=7.1						
OJC	**Ojcow**	**16.05**	**342**	*e*P	**Pn**	**11 55 11.4**	**+2.3**
PGF	**Pioggiola**	**16.23**	**302**	*e*P	**Pn**	**11 55 17.6**	**+6.2**
	comp=Z,50nm,1.3s						
PGF	**Pioggiola**	**16.23**	**302**	*e*P	**Pn**	**11 55 17.6**	**+6.2**
PGF				pmax	pmax		
	comp=Z,25nm,1.3s						
PGF	**Pioggiola**	**16.23**	**302**	*e*P	**Pn**	**11 55 17.6**	**+6.2**
	comp=Z,25nm,1.3s						
VRAC	**Vranov**	**16.26**	**333**	LR	LR	12 01 25.3	
	comp=Z,41nm,19.3s,baz=340,slow=37						
GERES	**GERESS Array B**	**17.07**	**327**	P	**Pn**	**11 55 20.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=111,slow=11,SNR=9.9						
KHC	**Kasperske Hory**	**17.33**	**328**	*e*P	**Pn**	**11 55 25.5**	**+0.2**
KHC				pP	pP	11 55 32.0	-2.2
KHC	**Kasperske Hory**	**17.33**	**328**	*e*P	**Pn**	**11 55 25.5**	**+0.2**
KHC				*e*		11 55 32.0	
PRU	**Pruhonice**	**17.59**	**331**	*e*P	**Pn**	**11 55 35.5**	**+7.0**
DAVOX	**Davos**	**17.64**	**316**	P	**Pn**	**11 55 29.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=334,slow=19,SNR=2.1						
SBF	**Sospel**	**17.77**	**305**	*e*P	**Pn**	**11 55 29.4**	**-1.3**
	comp=Z,20nm,0.7s						
SBF	**Sospel**	**17.77**	**305**	*e*P	**Pn**	**11 55 29.4**	**-1.3**
	comp=Z,10nm,0.7s						
SBF	**Sospel**	**17.77**	**305**	*e*P	**Pn**	**11 55 29.4**	**-1.3**
SBF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MBDF	**Montbardon**	**18.55**	**307**	*e*P	**Pn**	**11 55 39.3**	**-0.9**
	comp=Z,7.3nm,0.6s						
MBDF	**Montbardon**	**18.55**	**307**	*e*P	**Pn**	**11 55 39.3**	**-0.9**
	comp=Z,3.7nm,0.6s						
MBDF	**Montbardon**	**18.55**	**307**	*e*P	**Pn**	**11 55 39.3**	**-0.9**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GRA1	**Grafenberg Arr**	**18.80**	**325**	*e*P	**Pn**	**11 55 42.0**	**-1.3**
	comp=Z,5.0nm,0.9s						
GRF	**Grafenberg Arr**	**18.80**	**325**	*e*P	**Pn**	**11 55 42.0**	**-1.3**
	comp=Z,5.0nm,0.9s						
GRF	**Grafenberg Arr**	**18.80**	**325**	*e*P	**Pn**	**11 55 42.0**	**-1.3**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GRF	**Grafenberg Arr**	**18.80**	**325**	*e*P	**Pn**	**11 55 42.0**	**-1.3**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPL	**La Plagne**	**18.90**	**309**	*e*P	**Pn**	**11 55 43.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**19.21**	**307**	*e*P	**Pn**	**11 55 47.3**	**-0.9**
	comp=Z,5.9nm,0.6s						
ORIF				*e*R			
	comp=Z,129nm,20.2s						
ORIF	**Oris-en-Rattie**	**19.21**	**307**	*e*P	**Pn**	**11 55 47.3**	**-0.9**
	comp=Z,3.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**19.21**	**307**	*e*P	**Pn**	**11 55 47.3**	**-0.9**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**19.23**	**331**	*e*(P)	**Pn**	**11 55 49.0**	**+0.5**
CLL				*e*(sPP)		11 56 11.0	
CABF	**La Chapelle**	**19.79**	**312**	*e*P	**Pn**	**11 55 50.4**	**-4.8**
	comp=Z,15nm,0.7s						
CABF	**La

comp=Z,5.0nm,0.5s,mb4.3
ESDC Sonseca Array 25.39 290 P **P 11 56 49.7 -0.6**
comp=Z,3.0nm,0.8s,mb3.9,baz=81,slow=10,SNR=5.2
SGMF Saint Gilles 25.83 310 *e*P **P 11 56 53.9 -0.4**
comp=Z,5.4nm,0.5s,mb4.0
SGMF Saint Gilles 25.83 310 *e*P **P 11 56 53.9 -0.4**
comp=Z,2.7nm,0.5s,mb4.0
SGMF Saint Gilles 25.83 310 *e*P **P 11 56 53.9 -0.4**
SGMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
QUIF Quistinic 26.11 309 *e*P **P 11 56 55.3 -1.6**
FINES FINESS Array B 26.27 358 P **P 11 56 54.9 -3.4**
comp=Z,0.8nm,0.5s,mb3.5,baz=173,slow=34,SNR=4.0
ROSF Rostrenen 26.31 309 *e*P **P 11 57 00.6 +1.9**
comp=Z,22nm,1.0s,mb4.4
ROSF Rostrenen 26.31 309 *e*P **P 11 57 00.6 +1.9**
ROSF pmax pmax
comp=Z,11nm,1.0s,mb4.3
ROSF Rostrenen 26.31 309 *e*P **P 11 57 00.6 +1.9**
comp=Z,11nm,1.0s,mb4.3
HFS Hagfors 26.53 344 P **P 11 56 58.0 -2.7**
comp=Z,2.7nm,0.5s,mb4.0,baz=140,slow=12,SNR=12
AKTK Aktyubinsk 26.76 46 P **P 11 57 02.2 -0.5**
AKTK Aktyubinsk 26.76 46 P **P 11 57 02.1 -0.6**
AKTO Aktyubinsk 26.76 46 P **P 11 57 02.1 -0.6**
comp=Z,2.5nm,0.6s,mb3.9,baz=253,slow=10.0,SNR=12
MDT Midelt 26.76 274 P **P 11 57 03.0 +0.2**
comp=Z,0.4nm,0.4s,mb3.3,baz=33,slow=12,SNR=2.5
KLMR Klimovskoe 26.78 13 *e*P **P 11 57 04.0 +1.1**
KLMR pmax pmax
comp=Z,40nm,2.7s,mb4.5
NB2 NORSAR Subarra 27.91 343 P **P 11 57 11.1 -1.9**
comp=Z,1.3nm,0.6s,mb3.7,baz=143,slow=9.3
NOA NORSAR Array B 27.91 343 P **P 11 57 10.6 -2.5**
comp=Z,1.8nm,0.7s,mb3.8,baz=145,slow=8.7,SNR=5.1
TORD Torodi Ar. Bea 32.09 233 P **P 11 57 50.9 +0.8**
comp=Z,3.0nm,0.9s,mb4.1,baz=36,slow=9.2,SNR=9.3
ZRNK Zerenda 34.03 46 *e*P **P 11 58 06.7 -0.3**
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 34.03 46 *e*P **P 11 58 06.7 -0.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 34.03 46 *e*P **P 11 58 06.7 -0.3**
comp=Z,1.6nm,0.7s,mb4.1
ARCES ARCESS Array B 34.40 359 P **P 11 58 08.3 -1.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=175,slow=9.2,SNR=6.0
BVAR Borovoye Array 34.87 46 P **P 11 58 14.9 +0.7**
comp=Z,0.7nm,0.8s,mb3.7,baz=256,slow=6.1,SNR=3.8
KURK Kurchatov 39.59 51 *e i*P **P 11 58 59.5 +5.2**
MKAR Makanchi Array 42.07 57 P **P 11 59 16.3 +1.6**
comp=Z,0.7nm,0.5s,mb3.6,baz=263,slow=8.7,SNR=12
MKAR Makanchi Array 42.07 57 P **P 11 59 16.3 +1.6**
WMQ Urumqi 46.24 60 *e*P **P 11 59 48.7 +0.6**
WMQ PP PP 12 01 37.0 +0.2
WMQ S **S 12 06 30.0 -2.8**
WMQ SS SS 12 09 47.0 -11
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,108nm,5.0s
WMQ LR LR
comp=N,218nm,12.0s,MS4.5
WMQ LR LR
comp=E,198nm,10.0s,MS4.5
WMQ LR LR
comp=Z,204nm,11.0s,MS4.3
ZAK Zakamensk 55.20 49 *e*P **P 12 00 59.0 +3.3**
ZAK pmax pmax
comp=Z,4.0nm,2.0s,mb4.1
ULN Ulaanbaatar 58.30 51 *e*P **P 12 01 22.9 +5.2**
CD2 Chengdu 62.49 70 *e*P **P 12 01 48.9 +2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,60nm,4.8s
HHC Hu-ho-hao-te 63.93 57 *e*P **P 12 02 01.2 +5.4**
HHC PCP PcP 12 02 37.3 +6.0
HHC PP PP 12 04 22.5 +5.9
HHC AMB AMB
comp=Z,427nm,2.6s
SCHQ Schefferville 64.44 320 P **P 12 01 58.3 -0.9**
comp=Z,3.3nm,0.7s,mb4.5,baz=30,slow=5.7,SNR=12
NJ2 Nanjing 73.26 62 *e*P **P 12 03 00.4 +6.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
YKA Yellowknife Ar 78.01 343 P **P 12 03 19.4 -1.8**
comp=Z,0.3nm,0.6s,mb3.4,baz=30,slow=5.6,SNR=15
YKA Yellowknife Ar 78.01 343 P **P 12 03 19.4 -1.8**
ILAR Eielson Array 80.26 358 P **P 12 03 32.2 -1.3**
comp=Z,0.3nm,0.7s,mb3.3,baz=345,slow=3.1,SNR=8.0

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*CSEM **01** 12:17:52.5±0.4,2665N×5579E, h2km, ML4.2, Error ellipse: s-maj=11.3km s-min=3.4km az=159.0*
*ISCJB **01** 12:17:53.5±1.1,267N±0.1×5583E±007, h9km, mb3.7/12, Error ellipse: s-maj=18.9km s-min=7.9km az=150.3*
*NEIC **01** 12:17:54.8,2676N×5586E, h9km, mb4.0/3, ML4.0(THR), After THR.*
*IDC **01** 12:17:54.2±2.1,2678N×5586E, h0km, mb3.7/12, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, MS3.3/1, Ms1 3.3/1, ms1mx2.8/19, Error ellipse: s-maj=45.8km s-min=23.3km az=164.0*
*THR **01** 12:17:54.8±0.5,2676N×5586E, h9km±7km, ML4.0*
*TEH **01** 12:17:58.8,2681N×5579E, h18km, Mn3.9*
ISC 01 12:17:55.6±1.1,267N±01×5588E±007, h9km, n33, σ1§08/34, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.72**	**21**	*e*PG	**Pg**	**12 18 08.5**	**-1.0**
BNDS				AML	AML	12 18 45.0	
	comp=N,12μm,0.6s						
BNDS				AML	AML	12 18 45.1	
	comp=E,9μm,0.5s						
GHIR	**Ghir-Karzin**	**3.00**	**302**	*e*PN	**Pn**	**12 18 44.2**	**+0.9**
GHIR				AML	AML	12 19 58.4	
	comp=E,296nm,0.7s						
KRBR	**Kerman**	**3.34**	**13**	*e*PN	**Pn**	**12 18 49.2**	**+1.3**
KRBR				AML	AML	12 19 50.2	
	comp=N,262nm,0.7s						
KRBR				AML	AML	12 19 59.3	
	comp=E,287nm,0.6s						
ZHSF	**Zahedan**	**5.19**	**55**	*e*PN	**Pn**	**12 19 14.8**	**+1.4**
NASN	**Na'in**	**6.62**	**337**	*e*PN	**Pn**	**12 19 33.9**	**+1.0**
QRN	**Al-Qurain**	**7.33**	**288**	*e*P	**Pn**	**12 19 42.3**	**-0.4**
RDF	**Al-Radifah**	**7.69**	**288**	*e*P	**Pn**	**12 19 47.6**	**-0.1**
RDF				AML	AML	12 21 12.8	
	comp=Z,29nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.73**	**293**	*e*P	**Pn**	**12 19 48.1**	**-0.1**
UMR				AML	AML	12 21 12.5	
	comp=Z,33nm,0.4s						
NAY	**Al-Naaiem**	**8.04**	**290**	*e*P	**Pn**	**12 19 52.2**	**-0.2**
MALT	**Malatya**	**18.67**	**313**	*e*P	**Pn**	**12 22 14.0**	**-0.2**
	comp=Z,7.6nm,0.8s						
MALT	**Malatya**	**18.67**	**313**	*e*P	**Pn**	**12 22 14.0**	**-0.2**
	comp=Z,7.6nm,0.8s						
KIV	**Kislovodsk**	**20.24**	**332**	*e*P	**P**	**12 22 34.2**	**+3.3**
	comp=Z,17nm,0.8s						
KIV	**Kislovodsk**	**20.24**	**332**	*e*P	**P**	**12 22 34.2**	**+3.3**
	comp=Z,17nm,0.8s						
AKL	**Akola**	**20.25**	**103**	*e*P	**P**	**12 22 25.7**	**-5.4**
AKL				AMb	AMB	12 22 29.2	
	comp=Z,69nm,1.1s						
AKL				*e*S	**S**	**12 26 22.4**	**+4.2**
BR131	**Keskin Array S**	**22.60**	**311**	*e*P	**P**	**12 22 57.7**	**+1.4**
BR131	**Keskin Array S**	**22.60**	**311**	*e*P	**P**	**12 22 57.6**	**+1.3**
	comp=Z,0.7nm,0.4s,mb3.4						
BRTR	**Keskin Array B**	**22.60**	**311**	P	**P**	**12 22 56.8**	**+0.5**
	comp=Z,1.9nm,0.8s,mb3.6,baz=124,slow=11,SNR=5.3						
AKTK	**Aktyubinsk**	**23.73**	**3**	P	**P**	**12 23 06.4**	**-1.6**
AKTK	**Aktyubinsk**	**23.73**	**3**	P	**P**	**12 23 06.4**	**-1.6**
AKTO	**Aktyubinsk**	**23.73**	**3**	P	**P**	**12 23 06.4**	**-1.6**
	comp=Z,0.5nm,0.3s,mb3.4,baz=201,slow=15,SNR=4.2						
BVAR	**Borovoye Array**	**28.42**	**19**	P	**P**	**12 23 48.4**	**-2.0**
	comp=Z,1.1nm,0.6s,mb3.7,baz=202,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**28.91**	**39**	P	**P**	**12 23 54.5**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.4,baz=225,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**28.91**	**39**	P	**P**	**12 23 54.5**	**-0.3**
AKASG	**Malin Array Be**	**31.40**	**327**	P	**P**	**12 24 16.0**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.4,baz=130,slow=8.8,SNR=3.0						
AKASG	**Malin Array Be**	**31.40**	**327**	P	**P**	**12 24 16.0**	**-0.8**
GERES	**GERESS Array B**	**39.32**	**316**	P	**P**	**12 25 25.9**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.5,baz=346,slow=38,SNR=2.8						
FINES	**FINESS Array B**	**40.08**	**338**	P	**P**	**12 25 29.8**	**-1.4**

comp=Z,2.5nm,0.9s,mb4.0,baz=135,slow=11,SNR=5.3
HFS Hagfors 44.03 331 P **P 12 26 03.8 +0.4**
comp=Z,2.1nm,0.9s,mb3.9,baz=129,slow=9.2,SNR=3.0
SONM Songino Array 44.47 48 P **P 12 26 07.2 +0.3**
comp=Z,0.6nm,0.6s,mb3.5,baz=270,slow=12,SNR=2.6
TORD Torodi Ar. Bea 52.34 266 P **P 12 27 06.7 -1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=64,slow=6.7,SNR=7.5
INK Inuvik 85.00 3 P **P 12 30 31.7 +0.4**
comp=Z,0.8nm,0.8s,mb3.9,baz=343,slow=4.5,SNR=5.1
ILAR Eielson Array 87.10 10 P **P 12 30 43.2 +1.6**
comp=Z,0.5nm,1.0s,mb3.7,baz=321,slow=4.0,SNR=4.5
ILAR Eielson Array 87.10 10 P **P 12 30 43.2 +1.5**

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*IDC **01** 12:18:08.6±0.5,483N×9294E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.6/26, mbtmp4.6/21, ML4.0/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/16, Error ellipse: s-maj=23.3km s-min=13.0km az=47.0*
*ISCJB **01** 12:18:11.2±0.3,484N±004×9303E±003, h30km, mb4.9/86, MS4.3/26, Error ellipse: s-maj=6.2km s-min=4.0km az=46.4*
*MOS **01** 12:18:11.9±1.0,490N×9307E, h33km, mb5.1/35, MS4.3/4, Error ellipse: s-maj=10.4km s-min=5.3km az=114.4*
*BJI **01** 12:18:11.6,477N×93.11E, h35km, mB5.1, mb5.0, Ms4.8, Msz4.5*
*SZGRF **01** 12:18:12.4,522N×9394E, h33km, mb4.7, Off west coast of northern Sumatera, Indonesia*
*NEIC **01** 12:18:13.9±0.3,492N×9300E, h30km, mb4.9/22, Error ellipse: s-maj=9.8km s-min=5.9km az=215.0*
*HRVD **01** 12:18:13.9±0.7,495N×9291E, h12km±2km, MW4.7/40, Centroid moment Tensor Solution. LP body waves: s8,c9;Mantle waves: s40,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.17±.14; $M_{\theta\theta}$-0.20±.08; $M_{\phi\phi}$-0.97±.10; $M_{r\theta}$-0.57±.29; $M_{\theta\phi}$0.34±.07; $M_{\phi r}$0.06±.28; Best double couple: $M_0$1.25500×10^{16} NP1:ϕ_s176.00000°, δ41.00000°, λ119.00000°. NP2:ϕ_s320.00000°, δ55.00000°, λ67.00000°. Principal axes: T 1.3770, Plg70.0000°, Azm176.0000°; N -0.2470, Plg19.0000°, Azm334.0000°; P -1.1340, Plg7.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 12:18:13.8±0.3,490N±004×9301E±003, h31km, h31km±1.6km:pP-P, n205, σ0§99/199, mb4.9/86, MS4.3/26, 17C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.26**	**109**	Pn	**Pn**	**12 19 43.5**	**-0.4**
	3.5nm,0.3s,baz=300,slow=6.6,SNR=17						
PBA	**Port Blair**	**6.72**	**358**	*e*P	Px	12 20 00.7	
PBA				*e*S	Sx	12 21 05.5	
KULM	**Kulim**	**7.62**	**87**	*e*Pn	**Pn**	**12 20 02.4**	**-0.2**
KULM				*e*Sn	**Sn**	**12 21 27.5**	**-0.4**
PALK	**Pallekele**	**12.46**	**282**	Pn	**Pn**	**12 21 09.1**	**+0.1**
	75nm,0.9s						
PALK				Sn	**Sn**	**12 23 14.1**	**-13**
NST	**Nakhon Sawan**	**12.79**	**33**	P	**Pn**	**12 21 22.0**	**+8.5**
KKTK	**Khon Kaen**	**14.90**	**40**	⇑P	**Pn**	**12 21 47.5**	**+5.3**
	2μm,0.4s						
UBT	**Ubonrachathani**	**15.66**	**48**	P	**Pn**	**12 21 57.4**	**+5.3**
VIS	**Vishakhapatnam**	**15.88**	**324**	*e*P	**Pn**	**12 21 53.4**	**-1.5**
VIS				*e*S	rx	12 24 36.2	
CHRT	**Chiangrai**	**16.28**	**23**	⇑P	**Pn**	**12 22 00.0**	**-0.1**
	342nm,0.8s						
TRD	**Trivandrum**	**16.34**	**284**	*e*P	**Pn**	**12 22 01.4**	**+0.6**
TRD				*e*S	**Sn**	**12 25 20.4**	**+19**
KSM	**Kuching**	**17.60**	**101**	*e*P	**Pn**	**12 22 18.9**	**+2.3**
HYB	**Hyderabad**	**18.85**	**312**	*i* P	**Pn**	**12 22 33.0**	**+1.2**
HYB				*e*S	**Sn**	**12 26 04.0**	**+2.2**
HYB	**Hyderabad**	**18.85**	**312**	*e*P	**Pn**	**12 22 33.0**	**+1.2**
HYB				*e*S	**Sn**	**12 25 57.0**	**-4.8**
AGT	**Agartala**	**18.95**	**355**	*i* P	**Pn**	**12 22 36.0**	**+2.9**
AGT				*i* x	x	12 23 18.0	
BOK	**Bokaro**	**20.01**	**341**	*e*P	**P**	**12 22 43.5**	**-0.2**
BOK				AMb	AMB	12 22 55.5	
	comp=Z,52nm,0.7s						
BOK				*e*S	**S**	**12 26 19.1**	**-8.0**
BLSP	**Bilaspur**	**20.11**	**329**	*e*P	**P**	**12 22 45.0**	**+0.1**
BLSP				*e*S	**S**	**12 26 23.0**	**-6.2**
SHL	**Shillong**	**20.58**	**357**	*e*x	x	12 22 17.0	
SHL				AMb	AMB	12 22 18.2	
	comp=Z,413nm,0.2s						
SHL				*e*S	**S**	**12 26 37.0**	**-1.5**
LATR	**Latur**	**20.95**	**311**	*e*S	**S**	**12 26 43.1**	**-2.7**
NGP	**Nagpur**	**21.09**	**321**	*e*P	**P**	**12 22 54.7**	**-0.8**
NGP				AMb	AMB	12 22 57.9	
	comp=Z,67nm,1.3s,mb4.8						
NGP				*e*x	x	12 26 49.8	
QIZ	**Qiongzhong**	**21.61**	**48**	⇑*i*P	**P**	**12 23 01.8**	**+0.7**
QIZ				XP	sP	12 23 14.3	+0.8
QIZ				S	**S**	**12 27 02.1**	**+3.3**
QIZ				XS	sS	12 27 10.9	-1.3
QIZ				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,232nm,5.4s						
QIZ				LR	LR		
	comp=N,1μm,15.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.2s,MS4.3						
JBP	**Jabalpur**	**22.09**	**327**	*e*P	**P**	**12 23 07.1**	**+0.8**
JBP				*e*x	x	12 27 14.2	
KMI	**Kunming**	**22.18**	**24**	P	**P**	**12 23 08.2**	**+1.0**
KMI				AP		12 23 17.6	
KMI				XP	sP	12 23 21.7	+2.1
KMI				PP		12 23 39.4	
KMI				S	**S**	**12 27 09.9**	**+0.1**
KMI				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,174nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,11.3s,MS4.7						
KMI				LR	LR		
	comp=E,825nm,10.9s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,9.9s						
KAD	**Karad**	**22.18**	**305**	*e*P	**P**	**12 23 05.6**	**-1.6**
KAD				AMb	AMB	12 23 10.3	
	comp=Z,46nm,1.0s,mb4.9						
KAD				*e*S	**S**	**12 27 07.6**	**-2.3**
GTK	**Gangtok**	**22.70**	**350**	*e*x	x	12 22 28.0	
POO	**Poona**	**23.11**	**307**	*e*P	**P**	**12 23 15.0**	**-2.0**
POO				*e*x	x	12 23 39.5	
POO				*e*x	x	12 27 33.0	
JIRN	**Jiri**	**23.55**	**345**	*e*P	**P**	**12 23 21.8**	**+0.3**
	comp=Z,279nm,1.4s,mb5.5						
BHPL	**Bhopal**	**23.64**	**322**	*e*P	**P**	**12 23 20.8**	**-1.6**
BHPL				AMb	AMB	12 23 26.7	
	comp=Z,25nm,1.2s,mb4.5						
BHPL				AML	AML	12 24 32.3	
	comp=Z,44nm,0.9s						
BHPL				*e*S	**S**	**12 27 31.5**	**-3.2**
PKI	**Pulchoki**	**23.68**	**343**	*e*P	**P**	**12 23 23.2**	**+0.5**
	comp=Z,257nm,1.4s,mb5.5						
DMN	**Daman**	**23.81**	**342**	*e*P	**P**	**12 23 24.3**	**+0.4**
KKN	**Kakani**	**23.93**	**343**	*e*P	**P**	**12 23 25.2**	**+0.2**
	comp=Z,88nm,0.9s,mb5.2						
GKN	**Gorkha**	**24.32**	**342**	*e*P	**P**	**12 23 29.2**	**+0.6**
	comp=Z,324nm,1.1s,mb5.7						
KOLN	**Koldanda**	**24.45**	**340**	*e*P	**P**	**12 23 30.4**	**+0.7**
	comp=Z,53nm,0.8s,mb5.0						
LSA	**Lhasa**	**24.73**	**356**	P	**P**	**12 23 32.5**	**+0.2**
LSA				AP		12 23 41.6	
LSA				XP	sP	12 23 45.3	+0.1
LSA				S	**S**	**12 27 55.1**	**+2.7**
LSA				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.0						
LSA				AMB	AMB		
	comp=Z,190nm,5.0s						
LSA				LR	LR		
	comp=N,300nm,13.6s,MS4.3						
LSA				LR	LR		
	comp=E,570nm,13.0s,MS4.3						
LSA				LR	LR		
	comp=Z,550nm,12.3s,MS4.3						
LSA	**Lhasa**	**24.73**	**356**	*e*P	**P**	**12 23 34.0**	**+1.7**
LSA				*e**PP		12 23 39.8	
LSA				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.2						
LSA	**Lhasa**	**24.73**	**356**	*e*P	**P**	**12 23 34.0**	**+1.7**

	comp=Z,53nm,0.7s,mb5.2						
LSA				*e*pP		12 23 39.8	
GYA	**Guiyang**	**25.10**	**30**	⇑*i*P	**P**	**12 23 35.7**	**0.0**
GYA				AP	pP	12 23 44.8	+0.1
GYA				XP	sP	12 23 49.0	+0.5
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,300nm,5.0s						
GYA				LR	LR		
	comp=N,1μm,11.6s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,12.6s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,11.1s,MS4.6						
CD2	**Chengdu**	**27.79**	**20**	⇑*i*P	**P**	**12 23 59.3**	**-0.6**
CD2				XP	sP	12 24 12.4	-0.3
CD2				PP		12 24 48.3	
CD2				S	**S**	**12 28 35.4**	**-5.2**
CD2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,5.3s						
CD2				LR	LR		
	comp=N,520nm,11.4s						
CD2				LR	LR		
	comp=Z,640nm,10.2s,MS4.5						
NDI	**New Delhi**	**28.00**	**329**	*e*P	**P**	**12 24 02.4**	**+0.5**
DDI	**Dehra Dun**	**28.96**	**333**	*e*P	**P**	**12 24 10.7**	**+0.4**
THN	**Thein Dam**	**31.82**	**332**	*e*P	**P**	**12 24 34.8**	**-0.7**
WHN	**Wuhan**	**32.48**	**36**	⇑P	**P**	**12 24 41.5**	**+0.1**
LZH	**Lanzhou**	**32.60**	**16**	⇑P	**P**	**12 24 42.4**	**-0.1**
LZH				AP	pP	12 24 55.0	+3.4
LZH				XP	sP	12 25 01.0	+5.6
LZH				PP	PP	12 25 50.0	-6.4
LZH				S	**S**	**12 29 52.5**	**-3.6**
LZH				XS	sS	12 30 10.0	-1.2
LZH				AMB	AMB		
	comp=Z,140nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,270nm,4.5s						
LZH				LR	LR		
	comp=E,940nm,13.2s						
LZH				LR	LR		
	comp=Z,630nm,18.4s						
GTA	**Gaotai**	**34.91**	**9**	*e*P	**P**	**12 25 02.9**	**+0.4**
GTA				AP	pP	12 25 11.9	+0.3
GTA				XP	sP	12 25 15.7	+0.3
GTA				PP	PP	12 26 19.9	-2.0
GTA				PCP	PcP	12 27 34.6	-0.1
GTA				S	**S**	**12 30 30.9**	**-0.9**
GTA				XS	sS	12 30 46.1	-0.8
GTA				SCP	ScP	12 31 16.6	-1.3
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,142nm,5.3s						
GTA				LR	LR		
	comp=N,249nm,11.0s,MS4.3						
GTA				LR	LR		
	comp=E,244nm,13.3s,MS4.3						
GTA				LR	LR		
	comp=Z,241nm,14.8s,MS4.1						
NJ2	**Nanjing**	**36.27**	**39**	*e*P	**P**	**12 25 14.2**	**0.0**
NJ2				AP	pP	12 25 24.0	+0.6
NJ2				XP	sP	12 25 27.9	+0.8
NJ2				PP	PP	12 26 37.3	+0.4
NJ2				S	**S**	**12 30 54.0**	**+1.3**
NJ2				XS	sS	12 31 10.0	+2.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,220nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,21.7s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,21.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,550nm,18.8s,MS4.4						
SSE	**Sheshan**	**37.15**	**42**	P	**P**	**12 25 22.0**	**+0.3**
SSE				AP	pP	12 25 30.7	-0.2
SSE				XP	sP	12 25 34.9	+0.2
SSE				S	**S**	**12 31 06.4**	**+0.2**
SSE				XS	sS	12 31 21.7	+0.4
SSE				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
SSE				AMB	AMB		
	comp=Z,166nm,5.4s						
SSE				LR	LR		
	comp=N,180nm,22.0s,MS3.9						
SSE				LR	LR		
	comp=E,130nm,22.0s,MS3.9						
SSE				LR	LR		
	comp=Z,224nm,15.2s						
KSH	**Kashi**	**37.75**	**338**	*e*P	**P**	**12 25 28.0**	**+1.2**
KSH				*e*AP	pP	12 25 37.1	+1.1
KSH				*e*XP	sP	12 25 41.2	+1.4
KSH				*e*PP	PP	12 26 57.3	+4.0
KSH				*e*PCP	PcP	12 27 45.3	+2.0
KSH				*e*S	**S**	**12 31 14.7**	**-0.6**
KSH				*e*SCP	ScP	12 31 29.1	+0.7
KSH				*e*XS	sS	12 31 31.2	+0.7
KSH				*e*PCS	PcS	12 31 33.0	+1.0
KSH				*e*SS	SS	12 33 49.1	-13
KSH				*e*SCS	ScS	12 35 36.1	-1.1
KSH				AMB	AMB		
	comp=Z,140nm,4.4s						
KSH				LR	LR		
	comp=N,270nm,5.4s						
KSH				LR	LR		
	comp=E,270nm,5.6s						
WMQ	**Urumqi**	**39.05**	**354**	P	**P**	**12 25 38.5**	**+0.8**
WMQ				AP	pP	12 25 48.5	+1.6
WMQ				XP	sP	12 25 52.5	+1.8
WMQ				PP	PP	12 27 15.0	+7.6
WMQ				S	**S**	**12 31 41.0**	**+6.2**
WMQ				XS	sS	12 31 58.0	+7.9
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,109nm,5.0s						
WMQ				LR	LR		
	comp=N,131nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=E,178nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,125nm,12.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**39.47**	**126**	*e*P	**P**	**12 25 40.6**	**-0.6**
	comp=Z,9.3nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**39.48**	**22**	*e*P	**P**	**12 25 41.7**	**+0.4**
HHC				AP	pP	12 25 50.9	+0.4
HHC				XP	sP	12 25 55.4	+1.1
HHC				PP	PP	12 27 19.0	+6.8
HHC				PCS	PcS	12 31 33.4	-5.2
HHC				S	**S**	**12 31 47.4**	**+6.0**
HHC				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,187nm,2.7s,mb5.3						
HHC				LR	LR		
	comp=N,415nm,15.0s,MS4.6						
HHC				LR	LR		
	comp=E,518nm,14.4s,MS4.6						
HHC				LR	LR		
	comp=Z,335nm,12.3s,MS4.4						
ULHL	**Ulahol**	**40.08**	**341**	P	**P**	**12 25 46.9**	**+0.6**
	SNR=11						
KZA	**Kyzart**	**40.27**	**339**	P	**P**	**12 25 48.9**	**+1.0**
	SNR=12						
UCH	**Uchtor**	**40.66**	**339**	P	**P**	**12 25 52.0**	**+0.9**
	SNR=20						
AML	**Almayashu**	**40.88**	**338**	P	**P**	**12 25 54.1**	**+1.3**
	SNR=40						
KBK	**Karagaybulak**	**40.88**	**340**	P	**P**	**12 25 54.1**	**+1.2**
	SNR=22						
TKM2	**Tokmak 2**	**40.90**	**340**	P	**P**	**12 25 53.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**41.02**	**339**	P	**P**	**12 25 55.5**	**+1.5**
	SNR=11						
FRU	**Bishkek**	**41.15**	**339**	*e*P	**P**	**12 25 55.5**	**+0.4**
FRU				*e*		12 27 51.0	
FRU				MLR

SNR=10
USP Ospenovka 41.58 340 P **P 12 25 59.0 +0.4**
SNR=20
MK31 Makanchi Array 42.76 349 P **P 12 26 07.8 -0.4**
MK31 pmax pmax
comp=Z,16nm,0.9s,mb4.8
MKAR Makanchi Array 42.76 349 P **P 12 26 08.1 -0.1**
comp=Z,8.7nm,0.9s,mb4.5,baz=162,slow=7.7,SNR=44
KK31 Karatay Array 42.95 336 *i* P **P 12 26 09.8 0.0**
KK31 pmax pmax
comp=Z,13nm,1.0s,mb4.6
KKAR Karatay Array 42.95 336 *i* P **P 12 26 09.8 0.0**
KKAR pmax pmax
comp=Z,13nm,1.0s,mb4.6
SONM Songino Array 44.30 13 P **P 12 26 21.1 +0.5**
comp=Z,6.6nm,0.7s,mb4.5,baz=193,slow=8.3,SNR=18
SONM PcP PcP 12 28 05.8 +1.2
comp=Z,4.3nm,0.7s,baz=209,slow=3.8,SNR=4.8
SONM LR LR 12 46 47.7
comp=Z,223nm,18.1s,MS4.1,baz=210,slow=39
SONM Songino Array 44.30 13 P **P 12 26 21.1 +0.5**
SONM 12 28 05.8
SONM Songino Array 44.30 13 P **P 12 26 21.1 +0.5**
SONM PcP PcP 12 28 05.8 +1.2
SONM LR LR 12 46 47.7
ULN Ulaanbaatar 44.48 13 P **P 12 26 22.3 +0.2**
ULN 12 28 05.9
ULN pmax pmax
comp=Z,18nm,1.2s,mb4.7
ULN Ulaanbaatar 44.48 13 P **P 12 26 22.3 +0.3**
comp=Z,18nm,1.2s,mb4.7
ULN PP PP 12 28 05.9 -0.2
ZAK Zakamensk 46.15 9⇑ *iP* **P 12 26 35.7 +0.4**
ZAK *e* 12 28 10.3
ZAK pmax pmax
comp=Z,16nm,1.9s,mb4.6
ZAK pmax pmax
comp=Z,13nm,1.6s,mb4.6
MOY Mondy 47.09 7 *eP* **P 12 26 44.4 +1.7**
KURK Kurchatov 47.23 348*c iP* **P 12 26 43.7 -0.1**
KURK Kurchatov 47.23 348 P **P 12 26 44.0 +0.2**
comp=Z,34nm,1.2s,mb5.2
TLY Talaya 47.46 9 *eP* **P 12 26 43.3 -2.3**
WRA Warramunga Arr 47.53 123 P **P 12 26 46.3 +0.2**
comp=Z,16nm,0.8s,mb5.1,baz=300,slow=9.0,SNR=59
WRAB Tennant Creek 47.54 123*c iP* **P 12 26 44.6 -1.6**
WRAB Tennant Creek 47.54 123 P **P 12 26 46.2 0.0**
comp=Z,47nm,0.9s,mb5.5
WB2 Warramunga Arr 47.54 123 *eP* **P 12 26 46.2 0.0**
IRK Irkutsk 48.11 9 *eP* **P 12 26 41.1 -9.5**
IRK pmax pmax
comp=Z,29nm,1.4s,mb5.1
CN2 Changchun 48.14 31 *eP* **P 12 26 49.5 -1.3**
CN2 S **S 12 33 45.5 -2.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,180nm,8.0s
CN2 LR LR
comp=N,450nm,13.0s,MS4.8
CN2 LR LR
comp=E,450nm,13.0s,MS4.8
CN2 LR LR
comp=Z,520nm,15.0s,MS4.6
ASPA Alice Springs 48.94 127 *eP* **P 12 26 57.2 +0.2**
ASAR Alice Springs 48.95 127 P **P 12 26 57.2 +0.2**
comp=Z,6.6nm,0.8s,mb4.7,baz=301,slow=7.8,SNR=50
ASAR PcP PcP 12 28 21.9 +1.0
comp=Z,2.7nm,0.8s,baz=316,slow=4.6,SNR=4.5
RDF Al-Radifah 49.20 304 *eP* **P 12 27 00.2 +1.3**
RDF AMb AMB 12 27 03.0
comp=Z,111nm,1.1s,mb5.8
NAY Al-Naaiem 49.56 305 *eP* **P 12 27 02.9 +1.1**
NAY AMb AMB 12 27 05.7
comp=Z,46nm,1.1s,mb5.4
MIB Mutribah 49.68 305 *eP* **P 12 27 03.9 +1.2**
MIB AMb AMB 12 27 06.2
comp=Z,87nm,1.3s,mb5.6
CIT Chita 49.97 16 *eP* **P 12 27 05.6 +0.8**
CIT *e* 12 27 19.2
CIT pmax pmax
comp=Z,65nm,2.9s,mb5.2
NVS Novosibirsk 50.42 353⇑ *iP* **P 12 27 07.4 -0.9**
NVS pmax pmax
comp=Z,24nm,1.0s,mb5.2
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,16nm,1.3s
MDJ Mudanjiang 50.89 33 P **P 12 27 12.4 +0.6**
MDJ AP pP 12 27 20.3 -1.0
MDJ XP sP 12 27 23.9 -1.1
MDJ PP PP 12 29 08.3 0.0
MDJ S **S 12 34 27.4 +1.2**
MDJ XS sS 12 34 41.9 +0.1
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,64nm,3.2s
MDJ LR LR
comp=N,93nm,16.9s,MS4.2
MDJ LR LR
comp=E,164nm,15.2s,MS4.2
MDJ LR LR
comp=Z,134nm,22.3s
VOSK Vostochnaya 51.02 343 P **P 12 27 12.2 -0.6**
VOSK pmax pmax
comp=Z,12nm,1.0s,mb4.8
BVA0 Borovoye Array 51.45 343 *i* P **P 12 27 15.4 -0.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 51.45 343 P **P 12 27 15.4 -0.6**
comp=Z,8.4nm,1.0s,mb4.6,baz=158,slow=8.0,SNR=24
BRVK Borovoye 51.52 343 P **P 12 27 16.0 -0.5**
BRVK pmax pmax
comp=Z,15nm,1.3s,mb4.8
BRVK Borovoye 51.52 343 P **P 12 27 16.0 -0.5**
comp=Z,15nm,1.3s,mb4.8
ZRNK Zerenda 51.81 342 P **P 12 27 18.2 -0.5**
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZRNK Zerenda 51.81 342 P **P 12 27 18.2 -0.5**
comp=Z,8.7nm,1.0s,mb4.6
MJAR Matsushiro Arr 52.00 46 P **P 12 27 20.9 +0.8**
comp=Z,2.2nm,0.7s,mb4.2,baz=255,slow=8.1,SNR=5.5
MJAR PcP PcP 12 28 33.4 +1.3
comp=Z,7.1nm,1.1s,baz=248,slow=4.2,SNR=5.9
MJAR LR LR 12 51 39.4
comp=Z,242nm,18.0s,MS4.3,baz=240,slow=39
MJAR Matsushiro Arr 52.00 46 P **P 12 27 20.9 +0.8**
MJAR 12 28 33.4
AB31 Akbulak array 52.33 333 *i* P **P 12 27 22.4 -0.1**
AB31 pmax pmax
comp=Z,17nm,1.0s,mb4.9
AKTK Aktyubinsk 54.04 333 P **P 12 27 34.9 -0.3**
AKTO Aktyubinsk 54.04 333 P **P 12 27 34.9 -0.3**
comp=Z,6.5nm,1.0s,mb4.5,baz=121,slow=7.7,SNR=13
KLR Kul'dur 55.01 30 *eP* **P 12 27 38.8 -3.4**
KLR pmax pmax
comp=E,21nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s,mb5.3
GNI Garni 55.75 316 LR LR 12 53 12.9
comp=Z,64nm,19.0s,MS3.7,baz=126,slow=38
GNI Garni 55.75 316 *eP* **P 12 27 47.5 0.0**
GNI pmax pmax
comp=Z,24nm,1.3s
PMG Port Moresby 55.80 105 *eP* **P 12 27 46.0 -1.9**
HABR Khabarovsk 56.24 32 *i* P **P 12 27 50.9 -0.1**
HABR *eS* **S 12 35 38.7 0.0**
HABR pmax pmax
comp=Z,33nm,1.2s,mb5.2
ZEI Tsey 57.48 319 *eP* **P 12 27 58.3 -1.5**
ZEI *i* *PP pP 12 28 07.5 -1.9
ZEI *i* 12 28 50.3
ZEI *i* 12 30 02.2
ZEI pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CLNS Chul'man 57.60 20 *eP* **P 12 27 57.7 -3.0**
CLNS pmax pmax
comp=Z,26nm,1.2s,mb5.1
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.0s

CTA Charters Tower 57.89 117 *eP* **P 12 28 03.4 +0.7**
comp=E,7.5nm,1.1s,mb4.6
CTAO Charters Tower 57.89 117 P **P 12 28 03.6 +0.9**
CTAO pmax pmax
comp=Z,18nm,1.4s,mb4.9
CTAO Charters Tower 57.89 117 P **P 12 28 03.5 +0.8**
comp=Z,18nm,1.4s,mb4.9
ARU Arti 58.20 338⇓ *iP* **P 12 28 03.7 -1.2**
ARU *e* 12 30 11.5
ARU *eS* **S 12 36 05.1 +0.6**
ARU *eSS* SS 12 40 01.3 +5.0
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
ARU Arti 58.20 338 P **P 12 28 04.1 -0.8**
comp=Z,26nm,1.3s,mb5.1
ASAJ Asahikawa 58.40 40 LR LR 12 53 54.8
comp=Z,187nm,18.5s,MS4.2,baz=355,slow=37
KIV Kislovodsk 58.80 319 *eP* **P 12 28 07.6 -1.4**
KIV *e* 12 28 56.5
KIV *e* 12 30 18.6
KIV *eS* **S 12 36 10.6 -1.6**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
STKA Stephens Creek 58.92 132⇑ *iP* **P 12 28 08.3 -1.6**
comp=Z,8.6nm,0.9s,mb4.8
STKA Stephens Creek 58.92 132 P **P 12 28 08.6 -1.3**
comp=Z,10.0nm,0.8s,mb4.9,baz=298,slow=6.7,SNR=18
STKA LR LR 12 54 18.1
comp=Z,207nm,18.6s,MS4.3,baz=205,slow=37
MALT Malatya 59.56 312 P **P 12 28 15.7 +1.4**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MALT Malatya 59.56 312 P **P 12 28 15.7 +1.4**
comp=Z,9.3nm,1.1s,mb4.7
YSS Yuzh-Sakhalins 59.81 37 *eP* **P 12 28 17.2 +1.1**
YSS *i* 12 28 24.2
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 59.81 37 P **P 12 28 16.8 +0.8**
comp=Z,40nm,1.0s,mb5.4
SOKR Solikamsk 61.17 340⇑ *iP* **P 12 28 25.1 -0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
YAK Yakutsk 63.16 18*c iP* **P 12 28 38.0 -0.6**
YAK pmax pmax
comp=Z,44nm,1.3s,mb5.4
BR131 Keskin Array S 63.55 312 P **P 12 28 41.4 +0.2**
comp=Z,12nm,1.0s,mb4.9
BRTR Keskin Array B 63.55 312 P **P 12 28 41.0 -0.2**
comp=Z,7.5nm,0.9s,mb4.7,baz=130,slow=7.2,SNR=29
ISP Isparta 65.42 309 *eP* **P 12 28 54.2 +0.8**
MOS Moscow 67.04 330 *eP* **P 12 29 01.9 -2.0**
MOS *e* 12 29 28.5
MOS pmax pmax
comp=Z,57nm,1.1s,mb5.5
LSZ Lusaka 67.24 251 *eP* **P 12 29 06.6 +1.5**
LSZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LSZ Lusaka 67.24 251 *eP* **P 12 29 06.6 +1.5**
comp=Z,8.0nm,1.1s,mb4.7
OBN Obninsk 67.30 329⇓ *eP* **P 12 29 04.7 -0.8**
OBN pmax pmax
comp=Z,22nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
KLMR Klimovskoe 68.65 335 *eP* **P 12 29 11.2 -2.8**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.1
AKASG Malin Array Be 69.80 323 P **P 12 29 20.1 -1.0**
comp=Z,0.2nm,0.3s,baz=90,slow=5.3,SNR=5.3
MA2 Magadan 69.91 27 *eP* **P 12 29 21.8 0.0**
MA2 *e* 12 29 44.9
MA2 *eS* S 12 38 25.8 -3.8
MA2 *e* 12 39 14.7
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 MLR MLR
comp=Z,200nm,18.0s,MS4.4
MA2 Magadan 69.91 27 P **P 12 29 21.4 -0.4**
comp=Z,26nm,1.3s,mb5.0
TIXI Tiksi 70.36 11*c iP* **P 12 29 23.4 -1.1**
TIXI pmax pmax
comp=Z,64nm,1.3s,mb5.4
TIXI Tiksi 70.36 11 P **P 12 29 23.6 -0.8**
MLR Muntele Rosu 70.53 317 P **P 12 29 25.8 +0.2**
comp=Z,22nm,1.1s,mb5.0,baz=22,slow=6.8,SNR=12
LBTB Lobatse 71.85 242 *eP* **P 12 29 34.7 +1.2**
LBTB pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LBTB Lobatse 71.85 242 *eP* **P 12 29 34.7 +1.2**
comp=Z,9.4nm,1.0s,mb4.7
SEY Seymchan 72.09 24 *eP* **P 12 29 32.4 -2.6**
JOF Joensuu 73.05 335 *ep* **P 12 29 39.6 -1.1**
comp=Z,7.6nm,1.0s,mb4.6
BOSA Boshof 73.06 238 P **P 12 29 40.9 +0.1**
comp=Z,5.1nm,1.1s,mb4.4,baz=131,slow=5.6,SNR=3.6
BOSA LR LR 12 56 03.8
comp=Z,123nm,19.1s,MS4.2,baz=260,slow=31
BOSA Boshof 73.06 238 P **P 12 29 40.9 +0.1**
BOSA LR LR 12 56 03.8
KOLS Kolonicke sedl 73.71 320 *eP* **P 12 29 44.8 +0.2**
KOLS *ep*P pP 12 29 53.1 -1.3
KOLS *e* 12 30 09.9
KOLS Kolonicke sedl 73.71 320 *eP* **P 12 29 44.8 +0.2**
KOLS *e* pP 12 29 53.1 -1.3
CRVS Cervenica-Dubn 74.23 319 *e* **P 12 29 51.0 +3.4**
APA Apatity 74.23 340⇑ *iP* **P 12 29 43.0 -4.6**
APA *i* 12 30 04.0
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS Stebnicka Huta 74.47 320 *eP* **P 12 29 50.5 +1.5**
STHS *ep*P pP 12 29 58.2 -0.7
KECS Kecovo 74.79 319 *eP* **P 12 29 50.9 0.0**
FINES FINESS Array B 74.81 333 P **P 12 29 50.3 -0.7**
comp=Z,8.3nm,1.2s,mb4.5,baz=315,slow=2.7,SNR=4.8
FINES LR LR 13 10 09.8
comp=Z,114nm,19.1s,MS4.2,baz=140,slow=42
KAF Kangasniemi 74.92 333 *ep* **P 12 29 50.6 -1.1**
comp=Z,9.0nm,1.0s,mb4.7
KAF Kangasniemi 74.92 333 *eP* **P 12 29 50.6 -1.1**
KAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
OJC Ojcow 75.53 321 *eP* **P 12 29 54.9 -0.3**
VYHS Vyhne 75.87 319 *eP* **P 12 29 56.9 -0.2**
MORC Moravsky Berou 76.90 320 P **P 12 30 03.1 +0.2**
ZST Bratislava 76.98 318 *eP* **P 12 30 03.8 +0.4**
ARCES ARCESS Array B 77.68 341 P **P 12 30 07.2 -0.1**
comp=Z,6.2nm,1.0s,mb4.5,baz=96,slow=8.2,SNR=4.3
ARCES LR LR 13 08 47.2
comp=Z,260nm,18.2s,MS4.6,baz=14,slow=39
KSP Ksiaz 77.84 321 *eP* **P 12 30 08.7 +0.5**
BILL Bilibino 79.25 22*d iP* **P 12 30 16.0 0.0**
BILL *e* 12 30 28.8
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.5
BILL Bilibino 79.25 22 *eP* **P 12 30 15.9 -0.1**
comp=Z,11nm,1.1s,mb4.7
GERES GERESS Array B 79.30 319 P **P 12 30 17.0 +0.8**
comp=Z,6.4nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=26
GERES LR LR 13 11 53.5
comp=Z,53nm,20.1s,MS3.9,baz=284,slow=41
BRG Berggiesshubel 79.32 321 *eP* **P 12 30 17.2 +0.8**
comp=Z,5.4nm,1.3s,mb4.3
BRG Berggiesshubel 79.32 321 *eP* **P 12 30 17.2 +0.9**
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KHC Kasperske Hory 79.40 319 *eP* **P 12 30 16.6 -0.2**
CLL Collm 79.95 321⇓ *iP* **P 12 30 19.6 -0.2**
CLL *i* pP pP 12 30 26.8 -2.9
CLL *ex* x 12 30 38.0
CLL Collm 79.95 321⇓ *iP* **P 12 30 19.6 -0.2**
CLL *i* pP pP 12 30 26.8 -2.9
HFS Hagfors 80.45 330 P **P 12 30 22.0 -0.5**
comp=Z,8.7nm,1.1s,mb4.6,baz=135,slow=6.3,SNR=3.6
GRA1 Grafenberg Arr 80.97 319 *eP* **P 12 30 25.8 +0.5**
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 80.97 319 *eP* **P 12 30 25.8 +0.5**
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 80.97 319 *eP* **P 12 30 25.8 +0.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6

GRF Grafenberg Arr 80.97 319 *eP* **P 12 30 25.8 +0.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
DAVOX Davos 81.75 316 P **P 12 30 29.9 +0.6**
comp=Z,6.6nm,0.6s,mb4.7,baz=125,slow=6.8,SNR=6.7
NOA NORSAR Array B 81.76 331 P **P 12 30 28.3 -1.1**
comp=Z,3.7nm,1.2s,mb4.2,baz=93,slow=6.0,SNR=2.4
NOA LR LR 13 09 22.8
comp=Z,87nm,18.4s,MS4.2,baz=80,slow=38
SYO Syowa Base 82.25 197⇑ *eP* **P 12 30 33.4 +1.4**
LPL La Plagne 83.93 315 *eP* **P 12 30 38.9 -1.8**
comp=Z,20nm,1.1s,mb4.9
LPL La Plagne 83.93 315 *eP* **P 12 30 38.9 -1.8**
comp=Z,10nm,1.1s,mb4.9
GAMB Gambell 87.99 26 P **P 12 31 00.5 -0.2**
TNA Tin City 89.33 24 P **P 12 31 07.1 +0.1**
comp=Z,6.8nm,0.9s,mb5.0
EKA Eskdalemuir Ar 89.52 325 P **P 12 31 07.2 -0.7**
comp=Z,1.2nm,0.9s,mb4.2,baz=63,slow=5.6,SNR=4.1
ILAR Eielson Array 97.91 22 P **P 12 31 45.4 -1.1**
comp=Z,0.3nm,0.7s,mb3.9,baz=276,slow=3.7,SNR=3.3
ILAR PP PP 12 35 40.4 -4.8
comp=Z,2.3nm,1.1s,baz=301,slow=8.8,SNR=9.0
INK Inuvik 100.15 16 P Pdif 12 31 56.0 -0.4
comp=Z,0.8nm,0.8s,baz=306,slow=3.2,SNR=2.8
YKA Yellowknife Ar 109.56 13 PKiKP PKiKP 12 36 42.8 +1.6
comp=Z,0.4nm,1.0s,baz=350,slow=4.2,SNR=4.8
YKA PP PP 12 37 07.6 -4.5
comp=Z,0.7nm,1.0s,baz=335,slow=8.0,SNR=4.5
YKA PKKPbc PKKPbc 12 47 59.4 +14
comp=Z,0.2nm,0.8s,baz=141,slow=3.7,SNR=5.4
YKA Yellowknife Ar 109.56 13 PKPdf PKiKP 12 36 42.8 +1.6
YKA PP PP 12 37 07.6 -4.5
YKA PKKPbc PKKPbc 12 47 59.4 +14
MSO Missoula 123.25 22 PKPdf PKPdf 12 37 08.2 +0.8
ULM Lac du Bonnet 124.54 7 PKP PKPdf 12 37 08.2 -1.7
comp=Z,3.5nm,0.8s,baz=19,slow=4.7,SNR=7.9
HLID Hailey 125.78 24 PKPdf PKPdf 12 37 14.3 +2.0
LAO LASA Array 125.89 16 PKPdf PKPdf 12 37 14.8 +2.3
LKWY Lake 126.47 21 PKPdf PKPdf 12 37 17.1 +3.5
LOHW Long Hollow 127.22 21 PKPdf PKPdf 12 37 17.3 +2.3
SNOW Snow King Moun 127.29 22 PKPdf PKPdf 12 37 18.0 +2.8
REDW Red Top Meadow 127.34 22 PKPdf PKPdf 12 37 17.3 +2.0
NVAR Mina Array Bea 128.03 31 PKP PKPdf 12 37 19.3 +2.8
comp=Z,1.6nm,0.7s,baz=298,slow=1.2,SNR=14
BW06 Boulder Array 128.33 21 PKPdf PKPdf 12 37 18.5 +1.4
PDAR Pinedale Array 128.33 21 PKP PKPdf 12 37 18.6 +1.4
comp=Z,3.1nm,0.9s,baz=60,slow=1.2,SNR=17
DUG Dugway 129.24 26 PKPdf PKPdf 12 37 21.7 +2.8
DAC Darwin (Calif) 130.02 32 PKPdf PKPdf 12 37 23.4 +3.1
MSU Marysvale 130.91 26 *e*PKPdf PKPdf 12 37 25.3 +3.3
GLA Glamis 133.95 33 PKPdf PKPdf 12 37 31.4 +3.7
ANMO Albuquerque 136.33 23 PKP PKPdf 12 37 34.1 +1.9
comp=Z,4.3nm,1.0s,baz=182,slow=1.2,SNR=9.8
LPM Los Pinos Moun 136.82 24 *e*PKPdf PKPdf 12 37 36.4 +3.3
TXAR Lajitas Array 142.39 24 PKP PKPdf 12 37 41.8 -1.5
comp=Z,1.2nm,0.9s,baz=225,slow=1.8,SNR=6.0
TXAR PP PP 12 41 00.4 +10
comp=Z,1.4nm,1.1s,baz=0.0,slow=7.5,SNR=3.9
JCT Junction City 142.75 18 *e*PKPdf PKPdf 12 37 40.8 -3.1
CPUP Villa Florida 144.53 230 *e*PKIKP PKPdf 12 37 46.9 -0.1
SIV San Ignacio 152.27 245 PKPbc PKPbc 12 38 06.3 0.0
baz=138,slow=10
TEIG Tepich 155.00 3 *e*PKPab PKPab 12 38 29.2 +1.3
LPAZ La Paz 158.31 237 PKP PKPdf 12 38 09.5 +1.7
comp=Z,1.7nm,1.0s,baz=345,slow=4.7,SNR=6.2
LPAZ PKPab PKPab 12 38 44.5 +2.5
comp=Z,2.0nm,0.9s,baz=121,slow=10,SNR=4.7
LPAZ La Paz 158.31 237 *e*PKPdf PKPdf 12 38 10.1 +2.3
LPAZ *e*PKPab PKPab 12 38 44.4 +2.3

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*NAO **01** 12:26:49.4±3.8, 6076N×2894E, ML2.4*
*BER **01** 12:26:51.5±2.8, 6092N×2901E, h0km, ML2.4(NAO), Suspected explosion*
HEL 01 12:26:50.7±0.3, 6099N×2918E, h0km, ML1.6, ML2.4(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.92**	**241**	*eP*	Pg	12 27 07.5	-0.8
VJF				*eS*	Sg	12 27 19.2	-1.0
FIA0	**FINESS Array S**	**1.57**	**288**	*eP*	Pn	12 27 18.5	-1.3
FIA0				*eS*	Sn	12 27 39.1	-1.7
FIA0	**FINESS Array S**	**1.57**	**288**	Pn	Pn	12 27 18.0	-1.8
baz=112,slow=18							
FIA0				Lg		12 27 38.9	
baz=107,slow=28							
FIA0				Rg		12 27 46.4	
baz=120,slow=37							
PVF	**Pernaja**	**1.69**	**256**	*eP*	Pn	12 27 20.4	-1.1
PVF				*eS*	Sn	12 27 42.2	-1.7
KAF	**Kangasniemi**	**1.78**	**310**	*e*SN	Sn	12 27 46.7	+0.7
SUF	**Sumiainen**	**2.25**	**322**	*e*SG	Sg	12 28 00.4	-2.7
SUF				MSG		12 28 02.4	
comp=Z,1.7nm,0.1s							
KEF	**Keuruu**	**2.38**	**302**	*e*SG	Sg	12 28 03.3	-3.8
KEF				MSG		12 28 04.7	
comp=Z,2.1nm,0.2s							
MEF	**Metsahovi**	**2.49**	**254**	*eP*	Pn	12 27 32.1	-0.3
HFS	**Hagfors**	**7.68**	**270**	Lg		12 30 46.6	
baz=65,slow=28							
HFS	**Hagfors**	**7.68**	**270**	*e*SG		12 30 46.6	
HFS	**Hagfors**	**7.68**	**270**	Lg		12 30 46.6	
baz=65,slow=28							
ARA0	**ARCESS Array S**	**8.71**	**351**	Pn	Pn	12 28 57.4	-0.6
baz=163,slow=14							
ARA0	**ARCESS Array S**	**8.71**	**351**	*eP*	Pn	12 28 57.4	-0.6

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*ISCJB **01** 12:38:29.7±0.8, 40S±0.1×82.1W±02, h33km, mb3.8/8, Error ellipse: s-maj=26.4km s-min=12.1km az=109.6*
*IDC **01** 12:38:32.1±8.0, 404S×8199W, h44km±72km, mb3.5/7, mb1 3.8/9, mb1mx3.6/20, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=71.1km s-min=23.1km az=60.0*
*NEIC **01** 12:38:35.3±4.2, 394S×8182W, h72km±37km, mb3.9/3, Error ellipse: s-maj=33.1km s-min=10.3km az=70.0*
ISC 01 12:38:34.4±6.8, 40S±01×819W±03, h60km±64km, n18, n0 0 62/13, mb3.8/8, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**17.00**	**41**	P	**Pn**	**12 42 28.7**	**+0.8**
0.2nm,0.3s,baz=297,slow=10,SNR=6.5							
SDV	**Santo Domingo**	**17.00**	**41**	*eP*	**Pn**	**12 42 28.0**	**0.0**
6.6nm,0.9s							
LPAZ	**La Paz**	**18.27**	**133**	P	**Pn**	**12 42 42.5**	**-0.9**
0.1nm,0.3s,baz=334,slow=11,SNR=7.4							
LPAZ	**La Paz**	**18.27**	**133**	P	**Pn**	**12 42 42.0**	**-1.5**
3.4nm,0.9s							
LVC	**Limon Verde**	**22.42**	**147**	*eP*	**P**	**12 43 29.2**	**+1.3**
14nm,1.4s,mb4.2							
SIV	**San Ignacio**	**23.72**	**122**	P	**P**	**12 43 40.7**	**-0.1**
1.2nm,0.8s,mb3.4,baz=321,slow=12,SNR=5.8							
PDAR	**Pinedale Array**	**52.80**	**335**	P	**P**	**12 47 43.8**	**+0.3**
0.4nm,0.8s,mb3.4,baz=121,slow=8.6,SNR=3.6							
NVAR	**Mina Array Bea**	**53.96**	**325**	P	**P**	**12 47 51.8**	**-0.1**
0.8nm,0.8s,mb3.7,baz=136,slow=7.8,SNR=5.1							
ULM	**Lac du Bonnet**	**55.31**	**349**	P	**P**	**12 48 01.4**	**-0.3**
0.9nm,0.4s,mb4.1,baz=180,slow=3.0,SNR=3.3							
YKA	**Yellowknife Ar**	**70.78**	**345**	P	**P**	**12 49 43.8**	**-0.4**
0.6nm,0.9s,mb3.5,baz=143,slow=5.9,SNR=7.6							
INK	**Inuvik**	**80.39**	**343**	P	**P**	**12 50 39.5**	**+0.2**
1.8nm,1.1s,mb3.9,baz=176,slow=6.2,SNR=4.8							
INK	**Inuvik**	**80.39**	**343**	P	**P**	**12 50 39.5**	**+0.2**
ILAR	**Eielson Array**	**83.16**	**337**	P	**P**	**12 50 53.9**	**0.0**
1.1nm,1.0s,mb3.8,baz=130,slow=2.9,SNR=6.6							
ZAL	**Zalesovo**	**128.99**	**10**	PKP	PKPdf	12 57 34.6	-0.6
0.7nm,0.6s,baz=298,slow=7.9,SNR=5.4							
MKAR	**Makanchi Array**	**135.17**	**15**	PKP	PKPdf	12 57 46.4	-0.5
0.3nm,0.8s,baz=0.0,slow=2.4,SNR=3.7							
MKAR	**Makanchi Array**	**135.17**	**15**	PKP	PKPdf	12 57 46.4	-0.5
ASAR	**Alice Springs**	**135.60**	**230**	PKP	PKPdf	12 57 47.6	-0.1
0.7nm,0.8s,baz=120,slow=1.9,SNR=6.1							
WRA	**Warramunga Arr**	**137.20**	**235**	PKP	PKPdf	12 57 51.8	+1.1
0.8nm,0.7s,baz=130,slow=1.5,SNR=9.7							

MEX 01 12:57:54.5±0.5, 1599N×9806W, h6km±4km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**351**	*i* P	Pg	12 58 02.0	-0.3

PNIG				*i* S	Sg	12 58 08.0	+0.3
VHO	**Vista Hermosa**	**1.67**	**50**	*i* P	Pn	12 58 20.9	-3.3
VHO				*i* S	Sn	12 58 41.2	-4.7
OXX	**Oaxaca**	**1.68**	**50**	*e*P	Pn	12 58 25.0	+0.6
OXX				*i* S	Sn	12 58 44.5	-1.8
UTMO	**Huajuapan**	**1.85**	**8**	*i* P	Pn	12 58 24.1	-2.7
UTMO				*i* S	Sn	12 58 46.5	-3.9
HUIG	**Huatulco**	**1.89**	**96**	*i* P	Pn	12 58 29.6	+2.3
HUIG				*i* S	Sn	12 58 47.2	-4.3
ACX	**Acapulco**	**1.98**	**296**	*e*P	Pn	12 58 24.0	-4.6
CAIG	**El Cayaco**	**2.37**	**297**	*i* P	Pn	12 58 31.0	-2.8
CAIG				*i* S	Sn	12 58 59.6	-3.5
MEIG	**Mezcala**	**2.44**	**322**	*e*P	Pn	12 58 31.0	-3.8
MEIG				*i* S	Sn	12 59 00.2	-4.7
PLIG	**Platanillo**	**2.76**	**330**	*i* P	Pn	12 58 37.3	-1.9
PLIG				*i* S	Sn	12 59 08.2	-4.7
YAIG	**Yautepec**	**3.02**	**342**	*e*P	Pn	12 58 40.7	-2.1
YAIG				*i* S	Sn	12 59 15.7	-3.5
PPM	**Popocatepetl**	**3.11**	**350**	*e*P	Pn	12 58 42.7	-1.3
PPM				*i* S	Sn	12 59 19.7	-1.8

IDC 01 13:04:27.8±1.8, 068N×12502E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=184.8km s-min=23.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.44**	**156**	P	P	13 09 27.9	-0.3
	1.3nm,0.5s,baz=334,slow=11,SNR=18						
WB2	**Warramunga Arr**	**22.45**	**156**	*e*P	P	13 09 29.1	+0.8
ASAR	**Alice Springs**	**25.70**	**161**	P	P	13 10 00.4	+0.8
	0.5nm,0.5s,baz=345,slow=11,SNR=14						
ASPA	**Alice Springs**	**25.70**	**161**	*e*P	P	13 10 01.1	+1.5
MKAR	**Makanchi Array**	**59.12**	**327**	P	P	13 14 30.1	+0.1
	0.3nm,0.5s,baz=115,slow=7.8,SNR=9.8						

IGQ 01 13:05:38.4, 194S×7889W, h12km±6km, Mb4.0, Ms3.8, 3C-5D, Error ellipse: s-maj=6.3km s-min=1.8km az=40.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**1.01**	**30**	⇑P	Pb	13 05 58.5	+0.6
PISA				S	Sg	13 06 12.2	+1.1
TAMB	**Tambo**	**1.34**	**23**	⇑P	Pn	13 06 04.6	+1.6
TAMB				S	Sb	13 06 22.5	+1.8
VC1	**Cotopaxi 1**	**1.38**	**21**	⇓P	Pn	13 06 05.1	+1.6
VC1				S	Sn	13 06 24.3	+2.7
ANTI	**Antisana**	**1.65**	**26**	⇓P	Pn	13 06 10.0	+2.8
ANTI				S	Sn	13 06 30.5	+2.1
JUA2	**San Juan 2**	**1.74**	**9**	⇓P	Pn	13 06 11.5	+3.1
JUA2				S	Sn	13 06 35.3	+4.8
TERV	**Terraza Guagua**	**1.78**	**9**	P	Pn	13 06 13.0	+4.0
GGP	**Refugio Guagua**	**1.78**	**10**	⇓P	Pn	13 06 12.2	+3.2
PINO	**Pino**	**1.79**	**9**	P	Pn	13 06 12.9	+3.7
PINO				S	Sn	13 06 36.6	+4.7
YANA	**Yana**	**1.84**	**10**	⇑P	Pn	13 06 12.8	+3.0
MAG1	**Magdalena**	**2.06**	**335**	⇓P	Pn	13 06 14.4	+1.7
ANGU	**Angureal**	**2.16**	**24**	P	Pn	13 06 20.2	+6.0
CAYA	**Cayambe**	**2.19**	**24**	P	Pn	13 06 20.8	+6.1
CONE	**Cono NE Rev Vo**	**2.24**	**34**	P	Pn	13 06 21.7	+6.4
CONE				S	Sn	13 06 50.8	+8.0

IDC 01 13:18:54.0±2.1, 319N×12584E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=195.4km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.46**	**160**	P	P	13 24 13.4	-1.1
	0.7nm,0.7s,baz=339,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**27.82**	**164**	P	P	13 24 47.1	+2.2
	0.3nm,0.9s,baz=340,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**57.49**	**326**	P	P	13 28 44.9	0.0
	0.2nm,0.4s,baz=113,slow=7.4,SNR=7.2						

IDC 01 13:24:59.1±2.1, 776S×8020W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.5/17, mbtmp3.8/2, MS3.6/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=100.7km s-min=62.2km az=14.0, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**14.53**	**127**	Pn	Pn	13 28 26.6	+0.8
	0.1nm,0.3s,baz=313,slow=12,SNR=5.9						
BDFB	**Brasilia**	**32.44**	**107**	LR	LR	13 44 47.0	
	comp=Z,108nm,19.2s,baz=80,slow=37						
TORD	**Torodi Ar. Bea**	**83.92**	**76**	P	P	13 37 31.8	+0.9
	0.5nm,0.7s,baz=270,slow=5.8,SNR=3.8						
ASAR	**Alice Springs**	**134.34**	**226**	PKP	PKPdf	13 44 19.5	+0.5
	0.3nm,0.9s,baz=141,slow=1.9,SNR=4.3						
WRA	**Warramunga Arr**	**136.26**	**230**	PKP	PKPdf	13 44 23.4	+0.9
	0.8nm,1.0s,baz=122,slow=2.2,SNR=6.0						

*MOS **01** 13:28:59.3±0.8, 2461S×7018E, h10km, mb4.9/18, Error ellipse: s-maj=23.9km s-min=10.2km az=101.3*
*IDC **01** 13:28:59.8±0.9, 2454S×6998E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, MS4.0/6, Ms1 4.0/6, ms1mx3.8/16, Error ellipse: s-maj=34.4km s-min=17.1km az=13.0*
*ISCJB **01** 13:29:00.0±0.5, 245S±0.1×7002E±009, h10km, mb4.5/41, MS4.3/8, Error ellipse: s-maj=16.4km s-min=11.3km az=13.5*
*NEIC **01** 13:29:02.6±0.5, 2433S×7003E, h10km, mb4.6/15, Error ellipse: s-maj=15.2km s-min=12.2km az=210.0*
*BJI **01** 13:29:02.6, 2430S×7000E, h10km, mB5.1, mb4.8, Ms4.7, Msz4.2*

ISC 01 13:29:02.0±0.5, 245S±01×6997E±009, h10km, (h21km±3.0km:pP-P), n77, σ1§09/71, mb4.5/41, MS4.3/8, 1C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.98**	**281**	P	P	13 33 57.2	+1.1
	5.5nm,0.9s,mb4.0,baz=107,slow=11,SNR=6.1						
KMBO	**Kilima Mbogo**	**39.23**	**301**	P	P	13 36 29.6	-0.8
	0.9nm,0.4s,mb3.8,baz=148,slow=5.7,SNR=3.9						
KMBO				LR	LR	13 48 50.1	
	comp=Z,201nm,21.0s,MS3.9,baz=93,slow=30						
KMBO	**Kilima Mbogo**	**39.23**	**301**	*e*P	P	13 36 32.8	+2.4
KMBO	**Kilima Mbogo**	**39.23**	**301**	*e*P	P	13 36 31.6	+1.2
	1.8nm,0.9s,mb3.8						
BOSA	**Boshof**	**40.05**	**254**	LR	LR	13 50 44.6	
	comp=Z,490nm,18.4s,MS4.4,baz=106,slow=33						
LSZ	**Lusaka**	**40.22**	**275**	P	P	13 36 39.3	+0.6
	2.7nm,0.8s,mb4.0,baz=123,slow=8.2,SNR=5.8						
LSZ	**Lusaka**	**40.22**	**275**	*e*P	P	13 36 39.8	+1.2
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
LSZ	**Lusaka**	**40.22**	**275**	*e*P	P	13 36 39.8	+1.2
	comp=Z,7.6nm,1.3s,mb4.3						
LSZ				*e*		13 36 50.1	
LSA	**Lhasa**	**57.56**	**22**	*e*P	P	13 38 54.0	+2.3
LSA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
LSA	**Lhasa**	**57.56**	**22**	*e*P	P	13 38 54.0	+2.2
	comp=Z,8.7nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**57.89**	**104**	P	P	13 38 53.5	-0.6
	comp=Z,2.3nm,0.8s,mb4.3,baz=250,slow=6.3,SNR=19						
KMI	**Kunming**	**58.61**	**35**	P	P	13 39 01.2	+2.1
KMI				AP	pP	13 39 06.5	+4.2
KMI				XP	sP	13 39 09.9	+6.4
KMI				PP	PP	13 41 13.4	+4.7
KMI				S	**S**	13 47 09.7	+6.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,102nm,4.9s						
KMI				LR	LR		
	comp=N,221nm,15.1s,MS4.5						
KMI				LR	LR		
	comp=E,166nm,18.0s,MS4.5						
KMI				LR	LR		
	comp=Z,155nm,18.0s,MS4.2						
WRA	**Warramunga Arr**	**59.30**	**99**	P	P	13 39 03.6	-0.3
	comp=Z,3.6nm,0.9s,mb4.4,baz=255,slow=6.8,SNR=15						
WRAB	**Tennant Creek**	**59.32**	**99**	*d i* P	P	13 39 03.4	-0.6
CD2	**Chengdu**	**63.86**	**32**	*e*P	P	13 39 38.2	+3.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,4.9s						
QSPA	**South Pole Qui**	**65.67**	**180**	*e*P	P	13 39 47.2	+0.7
	comp=Z,17nm,1.3s,mb4.9						
VNDA	**Vanda**	**66.72**	**166**	*e*P	P	13 39 57.1	+3.9
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VNDA	**Vanda**	**66.72**	**166**	*e*P	P	13 39 57.1	+3.9
	comp=Z,3.0nm,0.7s,mb4.4						
KK31	**Karatay Array**	**67.22**	**0**	*i* P	P	13 39 56.9	+0.5
KK31				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
KKAR	**Karatay Array**	**67.22**	**0**	*i* P	P	13 39 56.9	+0.5
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
LZH	**Lanzhou**	**68.19**	**29**	*e*P	P	13 40 09.3	+6.8
LZH				AP	pP	13 40 15.8	+10
LZH				XP	sP	13 40 19.1	+12
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.0						
MALT	**Malatya**	**69.09**	**334**	*e*P	P	13 40 09.7	+1.5
MALT				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
MALT	**Malatya**	**69.09**	**334**	*e*P	P	13 40 09.7	+1.5
	comp=Z,6.3nm,1.2s,mb4.4						
GTA	**Gaotai**	**69.38**	**24**	*e*P	P	13 40 10.8	+0.8
GTA				AP	pP	13 40 16.6	+3.4
GTA				XP	sP	13 40 19.3	+4.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**69.86**	**14**	*e*P	P	13 40 14.0	+1.1
WMQ				XP	sP	13 40 21.0	+3.6
WMQ				PP	PP	13 42 50.0	+2.6
WMQ				S	S	13 49 21.0	-1.5
WMQ				SS	SS	13 53 50.0	-1.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,121nm,7.0s						
WMQ				LR	LR		
	comp=N,35nm,10.0s,MS4.3						
WMQ				LR	LR		
	comp=E,81nm,10.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,34nm,9.0s						
MK31	**Makanchi Array**	**71.78**	**9**	P	P	13 40 23.8	-0.8
MK31				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**71.78**	**9**	P	P	13 40 24.4	-0.2
	comp=Z,4.2nm,0.7s,mb4.5,baz=191,slow=6.2,SNR=50						
BRTR	**Keskin Array B**	**72.29**	**331**	P	P	13 40 28.1	+0.5
	comp=Z,5.5nm,1.1s,mb4.4,baz=169,slow=6.3,SNR=12						
BR131	**Keskin Array S**	**72.29**	**331**	*e*P	P	13 40 27.1	-0.6
	comp=Z,4.6nm,1.0s,mb4.4						
BR131				*e*		13 40 34.1	
KIV	**Kislovodsk**	**72.53**	**340**	*e*P	P	13 40 30.2	+1.1
KIV				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
KIV	**Kislovodsk**	**72.53**	**340**	*e*P	P	13 40 29.8	+0.7
	comp=Z,7.6nm,0.6s,mb4.8						
NJ2	**Nanjing**	**73.05**	**42**	*e*P	P	13 40 30.6	-1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
GOF	**Gofitskoye**	**73.42**	**340**	*e*P	P	13 40 34.6	+0.3
SSE	**Sheshan**	**73.85**	**44**	P	P	13 40 37.2	+0.3
SSE				AP	pP	13 40 47.0	+6.8
SSE				XP	sP	13 40 50.5	+9.1
SSE				PCP	PcP	13 40 53.1	+0.7
SSE				PP	PP	13 43 21.1	-0.5
SSE				S	S	13 50 06.1	-2.4
SSE				XS	sS	13 50 22.6	+8.7
SSE				SS	SS	13 54 51.7	-0.7
SSE				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
SSE				AMB	AMB		
	comp=Z,107nm,4.8s						
SSE				LR	LR		
	comp=N,48nm,25.6s,MS3.8						
SSE				LR	LR		
	comp=E,30nm,25.7s,MS3.8						
SSE				LR	LR		
	comp=Z,40nm,20.2s						
AB31	**Akbulak array**	**73.92**	**353**	*i* P	P	13 40 36.7	-0.6
AB31				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
KURK	**Kurchatov**	**75.23**	**6**	*e*P	P	13 40 44.7	-0.2
KURK				*e*		13 40 50.9	
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KURK	**Kurchatov**	**75.23**	**6**	*e*P	P	13 40 44.6	-0.2
	comp=Z,12nm,1.1s,mb4.8						
KURK				*e*		13 40 50.9	
HHC	**Hu-ho-hao-te**	**75.59**	**31**	*e*P	P	13 40 50.7	+3.7
HHC				AP	pP	13 40 54.7	+4.4
HHC				XP	sP	13 40 58.3	+6.8
HHC				PCP	PcP	13 41 01.9	+2.0
HHC				S	S	13 50 37.3	+9.4
HHC				SKS		13 50 56.5	
HHC				SCS	ScS	13 51 03.7	+3.0
HHC				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
HHC				LR	LR		
	comp=N,144nm,10.8s,MS4.7						
HHC				LR	LR		
	comp=E,150nm,12.0s,MS4.7						
HHC				LR	LR		
	comp=Z,67nm,12.0s,MS4.2						
TORD	**Torodi Ar. Bea**	**76.38**	**291**	P	P	13 40 50.9	-0.6
	comp=Z,4.8nm,1.1s,mb4.3,baz=122,slow=4.1,SNR=16						
ZRNK	**Zerenda**	**77.08**	**359**	*e*P	P	13 40 54.9	-0.5
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
ZRNK	**Zerenda**	**77.08**	**359**	*e*P	P	13 40 54.9	-0.6
	comp=Z,4.4nm,1.2s,mb4.3						
BVA0	**Borovoye Array**	**77.15**	**0**	*i* P	P	13 40 54.7	-1.1
BVA0				pmax	pmax		
	comp=Z,4.0nm,2.1s,mb4.0						
BRVK	**Borovoye**	**77.18**	**0**	*e*P	P	13 40 55.5	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BRVK	**Borovoye**	**77.18**	**0**	*e*P	P	13 40 55.5	-0.5
	comp=Z,2.2nm,1.0s,mb4.0						
SONM	**Songino Array**	**79.05**	**24**	P	P	13 41 06.6	+0.2
	comp=Z,2.0nm,1.0s,mb4.0,baz=207,slow=5.2,SNR=7.9						
ZAL	**Zalesovo**	**79.11**	**9**	P	P	13 41 06.2	-0.5
	comp=Z,2.6nm,0.8s,mb4.2,baz=281,slow=4.9,SNR=20						
ULN	**Ulaanbaatar**	**79.33**	**24**	*e*P	P	13 41 08.0	+0.1
ULN				*e*		13 41 13.4	
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**79.33**	**24**	*e*P	P	13 41 08.0	+0.1
	comp=Z,6.7nm,1.1s,mb4.5						
ULN				*e*		13 41 13.4	
NVS	**Novosibirsk**	**79.79**	**8**	*i* P	P	13 41 09.8	-0.6
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.7s						
ARU	**Arti**	**81.14**	**354**	*e*P	P	13 41 17.9	+0.2
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
KRAR	**Krasnoyarsk**	**82.48**	**13**	*e*P	P	13 41 23.2	-1.5
KRAR				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KRAR				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.6						
AKASG	**Malin Array Be**	**83.03**	**335**	P	P	13 41 26.4	-1.2
	comp=Z,1.2nm,0.6s,mb4.1,baz=147,slow=4.6,SNR=8.3						
OBN	**Obninsk**	**84.25**	**341**	*e*P	P	13 41 32.3	-1.5
OBN				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.9						
KOLS	**Kolonicke sedl**	**84.55**	**331**	*e*P	P	13 41 35.8	+0.5
CN2	**Changchun**	**84.83**	**37**	*e*P	P	13 41 39.1	+2.3
KECS	**Kecovo**	**85.03**	**329**	*e*P	P	13 41 36.2	-1.6
STHS	**Stebnicka Huta**	**85.36**	**330**	*e*P	P	13 41 40.2	+0.8
VYHS	**Vyhne**	**85.81**	**329**	*e*P	P	13 41 41.8	+0.1
MORC	**Moravsky Berou**	**87.32**	**329**	*e*P	P	13 41 48.8	-0.2
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
MORC	**Moravsky Berou**	**87.32**	**329**	*e*P	P	13 41 48.8	-0.3
	comp=Z,3.7nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**87.65**	**38**	P	P	13 41 52.1	+1.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,98nm,4.2s						
KLMR	**Klimovskoe**	**88.53**	**346**	*e*P	P	13 41 53.0	-1.8
KLMR				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.6						
GERES	**GERESS Array B**	**88.55**	**327**	P	P	13 41 54.0	-0.9
	comp=Z,0.6nm,0.7s,mb4.0,baz=135,slow=5.7,SNR=5.7						
KHC	**Kasperske Hory**	**88.80**	**327**	*e*P	P	13 41 54.9	-1.2
KHC	**Kasperske Hory**	**88.80**	**327**	⇑*i*P	P	13 41 54.4	-1.7
PRU	**Pruhonice**	**88.89**	**328**	*e*P	P	13 41 57.2	+0.7
NKC	**Novy Kostel**	**90.07**	**327**	*e*pP	pP	13 42 10.2	+4.8
GRA1	**Grafenberg Arr**	**90.34**	**326**	*e*P	P	13 42 03.3	0.0
	comp=Z,5.0nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**90.34**	**326**	*e*P	P	13 42 03.3	0.0
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**90.34**	**326**	*e*P	P	13 42 03.3	0.0
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**90.34**	**326**	*e*P	P	13 42 03.3	0.0
	comp=Z,5.0nm,0.8s,mb4.9						
SNF	**Seneffe**	**94.43**	**324**	⇓P	P	13 42 19.8	-2.5
YKA	**Yellowknife Ar**	**141.85**	**3**	PKhKP		13 48 25.1	
	comp=Z,0.2nm,0.7s,baz=348,slow=3.3,SNR=4.8						
YKA				PKP	PKPdf	13 48 32.0	-1.9
	comp=Z,0.9nm,1.0s,baz=344,slow=2.4,SNR=9.1						
YKA				PP	PP	13 51 36.8	-1.7
	comp=Z,0.5nm,0.9s,baz=350,slow=7.2,SNR=6.1						
ULM	**Lac du Bonnet**	**152.00**	**340**	PKPbc	PKPbc	13 48 56.2	-1.2
	comp=Z,6.1nm,1.0s,baz=22,slow=6.0,SNR=4.9						
PDAR	**Pinedale Array**	**161.73**	**359**	PKP	PKPdf	13 49 03.2	0.0
	comp=Z,0.8nm,1.1s,baz=0.0,slow=1.8,SNR=3.6						
PDAR				PKPab	PKPab	13 49 48.8	+0.2
	comp=Z,0.4nm,0.9s,baz=270,slow=0.9,SNR=2.6						
NVAR	**Mina Array Bea**	**164.39**	**25**	PKP	PKPdf	13 49 06.5	+0.7
	comp=Z,0.2nm,0.7s,baz=165,slow=33,SNR=2.7						
NVAR				PKPab	PKPab	13 50 01.7	+1.5
	comp=Z,0.2nm,0.4s,baz=281,slow=4.6,SNR=3.3						
TXAR	**Lajitas Array**	**172.53**	**312**	PKPab	PKPab	13 50 37.6	+1.4
	comp=Z,0.3nm,0.3s,baz=63,slow=2.8,SNR=4.2						

IDC 01 13:31:59.5±1.2, 599N×12623E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/9, Error ellipse: s-maj=73.5km s-min=24.4km az=75.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.98**	**163**	P	P	13 37 42.9	+0.1
	0.3nm,0.5s,baz=344,slow=10,SNR=5.7						
PSI	**Prapat**	**27.40**	**265**	LR	LR	13 49 01.5	
	comp=Z,211nm,18.2s,baz=214,slow=37						
ASAR	**Alice Springs**	**30.41**	**166**	P	P	13 38 13.9	+0.5
	0.2nm,0.5s,baz=341,slow=8.2,SNR=5.0						
MKAR	**Makanchi Array**	**55.43**	**325**	P	P	13 41 35.6	0.0
	0.2nm,0.4s,baz=115,slow=7.1,SNR=4.9						
ILAR	**Eielson Array**	**83.30**	**26**	P	P	13 44 28.1	0.0
	0.2nm,0.5s,baz=246,slow=4.8,SNR=11						

*ISCJB **01** 13:44:23.3±0.9, 6943N±004×188E±02, h0km, Error ellipse: s-maj=8.4km s-min=5.1km az=149.9*
*HEL **01** 13:44:25.1±0.2, 6952N×1885E, h0km, ML1.4, MD0.8(BER), ML1.3(BER), Explosion*
*BER **01** 13:44:26.5±3.4, 6969N×1888E, h0km, MD0.8, ML1.3, ML1.6(NAO), Explosion*
*NAO **01** 13:44:28.2±4.0, 6921N×1946E, ML1.6*

ISC 01 13:44:24.8±0.7, 6948N±004×190E±01, h0km, n15, σ1§15/27, 2C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**0.15**	**350**	⇑*i*P	**Pg**	**13 44 26.9**	**-0.9**
TRO				*i* S	**Sg**	**13 44 29.2**	**-0.5**
TRO				AML	AML	13 44 31.2	
	comp=Z,171nm,0.4s						
TRO	**Tromso**	**0.15**	**350**	⇑*i*P	**Pg**	**13 44 26.9**	**-0.9**
TRO				*e*S	**Sg**	**13 44 29.2**	**-0.5**
TRO				AML	AML	13 44 31.2	
	comp=Z,171nm,0.4s						
KIF	**Kilpisjarvi**	**0.80**	**126**	*e*P	**Pg**	**13 44 41.1**	**+0.9**
KIF				*e*S	**Sg**	**13 44 51.2**	**+0.7**
KTK1	**Kautokeino**	**1.58**	**105**	*e*P	**Pn**	**13 44 55.7**	**+1.6**
KTK1				*e*S	**Sn**	**13 45 18.7**	**+3.4**
ARA0	**ARCESS Array S**	**2.29**	**86**	*e*P	**Pn**	**13 45 05.0**	**+1.1**
ARA0				*e*SG	**Sg**	**13 45 36.8**	**-1.6**
ARA0	**ARCESS Array S**	**2.29**	**86**	Pn	**Pn**	**13 45 05.0**	**+1.1**
	baz=264,slow=16						
ARA0				Lg		13 45 36.8	
	baz=264,slow=28						
KEV	**Kevo**	**2.81**	**81**	*e*P	**Pn**	**13 45 12.2**	**+1.1**
KEV				*e*SB	**Sb**	**13 45 51.4**	**+0.4**
KEV				MSG		13 45 52.7	
	comp=Z,1.1nm,0.2s						
SGF	**Sodankyl**	**3.45**	**123**	*e*P	**Pn**	**13 45 20.9**	**+1.2**
SGF				*e*S	**Sn**	**13 46 01.1**	**-0.2**
SGF				MSG		13 46 07.3	
	comp=Z,0.7nm,0.2s						
MOR8	**Moi Rana**	**3.75**	**210**	*e*P	**Pn**	**13 45 23.0**	**-0.9**
MOR8				*e*G		13 46 07.9	
KU4	**Liikasenvaara**	**5.07**	**123**	*e*P	**Pn**	**13 45 43.1**	**+1.1**
KU4				*e*S	**Sn**	**13 46 39.6**	**-1.7**
KU4	**Liikasenvaara**	**5.07**	**123**	P	**Pn**	**13 45 43.0**	**+1.0**
OUL	**Oulu**	**5.16**	**146**	*e*P	**Pn**	**13 45 44.0**	**+0.8**
OUL				*e*S	**Sn**	**13 46 42.7**	**-0.8**
APA0	**Apatity Array**	**5.47**	**104**	Pn	**Pn**	**13 45 47.4**	**-0.1**
	baz=296,slow=11						
APA0				Sn	**Sn**	**13 46 48.4**	**-2.7**
	baz=297,slow=22						
APA0	**Apatity Array**	**5.47**	**104**	*e*P	**Pn**	**13 45 47.4**	**-0.1**
APA0				*e*S	**Sn**	**13 46 48.4**	**-2.7**
KJN	**Kajaani**	**6.41**	**143**	*e*P	**Pn**	**13 46 00.6**	**0.0**
KJN				*e*S	**Sn**	**13 47 12.8**	**-1.6**

*NAO **01** 13:52:06.5, 3023N×7666E, h33km, mb5.1*
*LDG **01** 13:52:35.4±0.1, 3401N×7375E, h10km, Mb4.6/16

BHK	**Bhakra**	**3.54**	**141**	*e*P	**Pn**	**13 53 49.6**	**+16**
BHK				*e*S	**Sn**	**13 54 29.4**	**+14**
SDNR	**Sundarnagar**	**3.78**	**135**	*e*P	**Pn**	**13 53 40.2**	**+3.1**
SDNR				*e*x	**Sn**	**13 54 35.0**	**+13**
DRP	**Derazinda**	**3.93**	**232**	P	**Pn**	**13 53 42.0**	**+2.9**
KLP	**Kalpa**	**4.58**	**125**	*e*P	**Pn**	**13 53 51.2**	**+3.2**
KLP				*e*S	**Sn**	**13 54 42.2**	**+1.0**
KLP				AML	AML	13 55 06.1	
	comp=N,3µm,0.5s						
KLP				AML	AML	13 55 09.5	
	comp=E,4µm,0.3s						
KKR	**Kurukshetra**	**4.94**	**148**	*e*S	**Sn**	**13 54 47.5**	**-2.7**
DDI	**Dehra Dun**	**5.28**	**136**	*e*P	**Pn**	**13 54 00.7**	**+3.1**
DDI				*e*x	x	13 55 20.2	
BHGR	**Bahadurgarh**	**6.12**	**154**	*e*P	**Pn**	**13 54 08.5**	**-0.7**
NDI	**New Delhi**	**6.23**	**152**	*e*P	**Pn**	**13 54 11.0**	**+0.3**
NDI				*e*P		13 54 12.0	
NDI				*e*S	**Sn**	**13 55 19.0**	**-2.9**
KALG	**Kalgarh**	**6.29**	**137**	*e*P	**Pn**	**13 54 11.6**	**+0.1**
KALG				*e*S	**Sn**	**13 55 17.7**	**-5.7**
KALG				AML	AML	13 55 55.6	
	comp=E,951nm,1.1s						
KHET	**Khetri**	**6.35**	**164**	*e*P	**Pn**	**13 54 12.4**	**0.0**
KHET				*e*S	**Sn**	**13 55 21.2**	**-3.8**
AYAN	**Aya Nagar**	**6.37**	**153**	*e*P	**Pn**	**13 54 13.2**	**+0.5**
AYAN				*e*x	**Sn**	**13 55 18.6**	**-6.9**
BISR	**Bishrakh**	**6.42**	**150**	*e*P	**Pn**	**13 54 20.0**	**+6.7**
BISR				*e*S	**Sn**	**13 55 29.5**	**+2.9**
KUDL	**Kundal**	**6.47**	**159**	*e*P	**Pn**	**13 54 14.4**	**+0.5**
KUDL				*e*S	**Sn**	**13 55 26.7**	**-1.1**
KUDL				AML	AML	13 56 21.8	
	comp=N,309nm,0.5s						
KUDL				AML	AML	13 56 24.7	
	comp=E,338nm,0.4s						
SONA	**Sohna**	**6.57**	**154**	*e*P	**Pn**	**13 54 16.0**	**+0.7**
SONA				*e*S	**Sn**	**13 55 27.5**	**-2.7**
PTH	**Pithoragarh**	**7.15**	**129**	*e*P	**Pn**	**13 54 26.8**	**+3.5**
PTH				*e*S	**Sn**	**13 55 44.5**	**0.0**
LGTI	**Lohaghat**	**7.23**	**129**	*e*P	**Pn**	**13 54 25.0**	**+0.5**
LGTI				*e*S	**Sn**	**13 55 42.0**	**-4.6**
JASL	**Jaisalmer**	**7.70**	**200**	*e*P	**Pn**	**13 54 30.4**	**-0.5**
AJM	**Ajmer**	**7.75**	**175**	*i* P	**Pn**	**13 54 32.0**	**+0.5**
AJM				*i* S	**Sn**	**13 55 54.0**	**-5.3**
AGRA	**Agra**	**7.81**	**152**	*e*P	**Pn**	**13 54 32.5**	**+0.1**
AGRA				*e*S	**Sn**	**13 55 58.1**	**-2.8**
AGRA				AML	AML	13 56 57.2	
	comp=E,574nm,0.9s						
AGRA				AML	AML	13 56 57.5	
	comp=N,534nm,0.5s						
AML	**Almayashu**	**7.90**	**359**	P	**Pn**	**13 54 37.6**	**+4.0**
	SNR=95						
KZA	**Kyzart**	**7.92**	**8**	P	**Pn**	**13 54 37.7**	**+3.7**
	SNR=229						
UCH	**Uchtor**	**8.01**	**4**	P	**Pn**	**13 54 39.1**	**+3.9**
	SNR=161						
ULHL	**Ulahol**	**8.23**	**13**	P	**Pn**	**13 54 41.8**	**+3.6**
	SNR=31						
AAK	**Ala-Archa**	**8.42**	**3**	P	**Pn**	**13 54 44.5**	**+3.8**
	SNR=41						
EKS2	**Erkin-Say**	**8.43**	**360**	P	**Pn**	**13 54 44.5**	**+3.6**
	SNR=211						
KBK	**Karagaybulak**	**8.47**	**6**	P	**Pn**	**13 54 45.3**	**+3.8**
	SNR=38						
FRU	**Bishkek**	**8.62**	**4**	*e*P	**Pn**	**13 54 47.0**	**+3.4**
FRU				*i*		13 56 21.0	
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
FRU				pmax	pmax		
	comp=N,360nm,2.0s						
CHMS	**Chumysh**	**8.79**	**4**	P	**Pn**	**13 54 49.4**	**+3.5**
	SNR=65						
TKM2	**Tokmak 2**	**8.80**	**8**	P	**Pn**	**13 54 49.5**	**+3.6**
	SNR=79						
TKM2	**Tokmak 2**	**8.80**	**8**	⇑P	**Pn**	**13 54 49.3**	**+3.3**
	comp=N,74nm,1.2s						
TKM2				⇑S	**Sn**	**13 56 23.3**	**-1.8**
	comp=N,33nm,0.6s						
TKM2	**Tokmak 2**	**8.80**	**8**	P	**Pn**	**13 54 49.2**	**+3.3**
TKM2						13 56 23.3	
TKM2				pmax	pmax		
	comp=Z,92nm,1.3s						
TKM2				smax			
	comp=Z,15nm,0.5s						
USP	**Ospenovka**	**9.05**	**3**	P	**Pn**	**13 54 53.3**	**+3.9**
	SNR=9.8						
KK31	**Karatay Array**	**9.24**	**345**	⇑P	**Pn**	**13 54 53.9**	**+1.9**
	comp=Z,24nm,0.3s,baz=150,slow=10,SNR=1966						
KK31				⇑S	**Sn**	**13 56 34.2**	**-1.9**
	comp=Z,9.1nm,0.4s,baz=175,slow=23,SNR=3.9						
KK31	**Karatay Array**	**9.24**	**345**	*i* P	**Pn**	**13 54 53.9**	**+1.8**
KK31				pmax	pmax		
	comp=Z,71nm,0.3s						
KKAR	**Karatay Array**	**9.24**	**345**	P	**Pn**	**13 54 53.9**	**+1.8**
KKAR						13 56 34.1	
KKAR				pmax	pmax		
	comp=Z,21nm,0.3s						
KKAR				smax			
	comp=Z,4.0nm,0.3s						
KOLN	**Koldanda**	**10.55**	**125**	*e*Pn	**Pn**	**13 55 10.1**	**+0.1**
KOLN				*e*Sn	**Sn**	**13 57 04.9**	**-3.4**
	comp=Z,116nm,0.6s						
GKN	**Gorkha**	**11.13**	**121**	*e*Pn	**Pn**	**13 55 16.7**	**-1.2**
GKN				*e*Sn	**Sn**	**13 57 17.1**	**-5.3**
	comp=Z,153nm,0.4s						
ALBI	**Allahabad**	**11.25**	**140**	*e*x	**Pn**	**13 55 17.0**	**-2.6**
BHPL	**Bhopal**	**11.38**	**163**	*e*P	**Pn**	**13 55 20.4**	**-0.9**
BHPL				AMb	AMB	13 55 22.3	
	comp=Z,15nm,0.7s						
BHPL				*e*S	**Sn**	**13 57 19.0**	**-10**
BHJ	**Bhuj**	**11.52**	**200**	*e*P	**Pn**	**13 55 22.9**	**-0.4**
BHJ				*e*S	**Sn**	**13 57 24.2**	**-7.8**
DMN	**Daman**	**11.70**	**121**	*e*Pn	**Pn**	**13 55 24.1**	**-1.6**
DMN				*e*Sn	**Sn**	**13 57 30.9**	**-5.5**
	comp=Z,96nm,0.6s						
KKN	**Kakani**	**11.72**	**120**	*e*Pn	**Pn**	**13 55 24.1**	**-1.8**
KKN				*e*Sn	**Sn**	**13 57 30.8**	**-6.0**
	comp=Z,210nm,0.8s						
PKI	**Pulchoki**	**11.94**	**121**	*e*Pn	**Pn**	**13 55 27.3**	**-1.7**
PKI				*e*Sn	**Sn**	**13 57 36.3**	**-5.9**
	comp=Z,174nm,0.7s						
GUN	**Gumba**	**12.08**	**118**	*e*Pn	**Pn**	**13 55 30.2**	**-0.7**
JIRN	**Jiri**	**12.45**	**118**	*e*Pn	**Pn**	**13 55 34.1**	**-1.9**
JIRN				*e*Sn	**Sn**	**13 57 48.1**	**-6.6**
	comp=Z,131nm,0.6s						
BHV	**Bhavnagar**	**12.51**	**187**	*e*P	**Pn**	**13 55 38.0**	**+1.2**
NGP	**Nagpur**	**13.81**	**159**	*e*P	**Pn**	**13 55 51.4**	**-3.1**
NGP				*i* x	x	13 55 52.9	
	baz=342,slow=14						
NGP				*e*x	x	13 56 11.3	
	comp=Z,50nm,1.1s						
NGP				*e*x	**Sn**	**13 58 16.9**	**-11**
MK09	**Makanchi Array**	**14.08**	**24**	⇑P	**Pn**	**13 55 59.5**	**+1.3**
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**14.10**	**24**	Pn	**Pn**	**13 55 58.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=210,slow=9.8,SNR=22						
MKAR	**Makanchi Array**	**14.10**	**24**	Pn	**Pn**	**13 55 58.4**	**0.0**
WMQ	**Urumqi**	**14.40**	**44**	P	**Pn**	**13 56 05.5**	**+2.9**
WMQ				AP	pP	13 56 14.0	+1.6
WMQ				XP	sP	13 56 21.0	+7.3
WMQ				S	**Sn**	**13 58 44.0**	**+1.6**
WMQ				SS		13 59 02.1	
WMQ				AMB	AMB		
	comp=Z,22nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,96nm,4.0s						
WMQ				LR	LR		
	comp=N,230nm,6.0s						
WMQ				LR	LR		
	comp=E,220nm,6.0s						
WMQ				LR	LR		
	comp=Z,236nm,6.0s						
BOK	**Bokaro**	**14.78**	**131**	*e*P	**Pn**	**13 56 08.5**	**+0.7**
BOK				AMb	AMB	13 56 09.4	
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**15.37**	**102**	P	**Pn**	**13 56 16.8**	**+1.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**15.37**	**102**	*e*P	**Pn**	**13 56 16.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,33nm,0.9s						
LSA	**Lhasa**	**15.37**	**102**	*e*P	**Pn**	**13 56 16.7**	**+1.1**
	comp=Z,33nm,0.9s						
POO	**Poona**	**15.63**	**180**	*e*x	**Pn**	**13 56 25.1**	**+6.1**
KAD	**Karad**	**16.84**	**179**	*e*P	**Pn**	**13 56 33.9**	**-0.7**
KAD				AMb	AMB	13 56 35.5	
	comp=Z,16nm,0.4s						
KURK	**Kurchatov**	**16.85**	**11**	⇑P	**Pn**	**13 56 32.2**	**-2.5**
	comp=Z,15nm,0.9s						
KURK	**Kurchatov**	**16.85**	**11**	*c i* P	**Pn**	**13 56 32.8**	**-1.9**
KURK	**Kurchatov**	**16.85**	**11**	*e*P	**Pn**	**13 56 33.1**	**-1.6**
	comp=Z,28nm,0.8s						
HYB	**Hyderabad**	**17.26**	**165**	*i* P	**Pn**	**13 56 35.0**	**-4.8**
HYB				*e*pP	pP	13 56 42.0	-2.1
HYB				*e*S	**Sn**	**14 00 00.0**	**+8.2**
HYB				LR	LR	14 03 16.0	
	comp=Z,2.1nm,12.0s						
SHL	**Shillong**	**17.84**	**114**	*e*P	**Pn**	**13 56 48.0**	**+0.9**
SHL				*e*x	**Sn**	**13 59 59.0**	**-7.0**
AB31	**Akbulak array**	**18.21**	**330**	⇓P	**Pn**	**13 56 49.9**	**-1.7**
	comp=Z,24nm,0.7s,baz=136,slow=10,SNR=228						
AB31				⇓S	**Sn**	**14 00 02.3**	**-13**
	comp=Z,4.8nm,0.8s						
AB31	**Akbulak array**	**18.21**	**330**	P	**Pn**	**13 56 49.8**	**-1.8**
AB31				pmax	pmax		
	comp=Z,17nm,0.7s						
VIS	**Vishakhapatnam**	**18.49**	**150**	*i* P	**Pn**	**13 56 47.6**	**-7.5**
VIS				*i* S	**Sn**	**14 00 10.9**	**-11**
VOSK	**Vostochnaya**	**18.61**	**355**	⇓P	**Pn**	**13 56 54.9**	**-1.6**
	comp=Z,19nm,0.6s						
VOSK	**Vostochnaya**	**18.61**	**355**	P	**Pn**	**13 56 54.9**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,11nm,0.6s						
BVA0	**Borovoye Array**	**18.96**	**354**	P	**Pn**	**13 56 59.9**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=161,slow=12,SNR=226						
BVA0	**Borovoye Array**	**18.96**	**354**	*i* P	**Pn**	**13 56 59.8**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**18.96**	**354**	P	**Pn**	**13 56 59.7**	**-1.0**
	comp=Z,8.3nm,0.3s,baz=157,slow=10.0,SNR=244						
BRVK	**Borovoye**	**19.00**	**353**	*e*P	**Pn**	**13 57 00.6**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,37nm,0.8s						
BRVK	**Borovoye**	**19.00**	**353**	*e*P	**Pn**	**13 57 00.6**	**-0.6**
	comp=Z,37nm,0.8s						
ZRNK	**Zerenda**	**19.04**	**351**	⇑P	**Pn**	**13 57 00.0**	**-1.7**
	comp=Z,13nm,0.6s						
ZRNK	**Zerenda**	**19.04**	**351**	*e*P	**Pn**	**13 57 00.6**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,23nm,0.6s						
ZRNK	**Zerenda**	**19.04**	**351**	*e*P	**Pn**	**13 57 00.6**	**-1.1**
	comp=Z,22nm,0.6s						
AKTK	**Aktyubinsk**	**19.92**	**329**	P	**Pn**	**13 57 11.4**	**-0.8**
AKTK				LR	LR	14 05 31.8	
AKTO	**Aktyubinsk**	**19.92**	**329**	⇑P	**Pn**	**13 57 11.3**	**-0.8**
	comp=Z,7.0nm,0.5s						
AKTO	**Aktyubinsk**	**19.92**	**329**	P	**Pn**	**13 57 11.4**	**-0.8**
	comp=Z,9.8nm,0.3s,baz=134,slow=10,SNR=229						
AKTO				LR	LR	14 05 31.8	
	comp=Z,177nm,19.9s,baz=0.0,slow=39						
AKTO	**Aktyubinsk**	**19.92**	**329**	*i* P	**Pn**	**13 57 11.3**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAL	**Zalesovo**	**21.18**	**18**	P	**P**	**13 57 24.1**	**-0.1**
	comp=Z,14nm,0.5s,mb4.5,baz=258,slow=6.7,SNR=77						
ZAL				S	**S**	**14 01 13.4**	**-6.2**
	comp=Z,2.6nm,0.8s,baz=174,slow=21,SNR=7.0						
ZAL				LR	LR	14 07 04.0	
	comp=Z,280nm,20.3s,MS3.6,baz=265,slow=41						
ZAL	**Zalesovo**	**21.18**	**18**	P	**P**	**13 57 24.2**	**0.0**
ZAL				S	**S**	**14 01 13.4**	**-6.2**
GTA	**Gaotai**	**21.40**	**68**	⇑P	**P**	**13 57 27.5**	**+0.9**
GTA				AP		13 57 32.6	
GTA				PP		13 57 48.4	
GTA				S	**S**	**14 01 10.7**	**-13**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,110nm,4.9s						
GTA				LR	LR		
	comp=N,204nm,13.3s,MS3.8						
GTA				LR	LR		
	comp=E,168nm,12.2s,MS3.8						
GTA				LR	LR		
	comp=Z,151nm,12.6s,MS3.6						
NVS	**Novosibirsk**	**21.64**	**15**	*e*P	**P**	**13 57 28.1**	**-1.1**
NVS				*e*		13 57 45.2	
NVS				*e*S	**S**	**14 01 21.9**	**-6.8**
NVS				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.5						
NVS				pmax	pmax		
	comp=N,24nm,1.2s						
NVS				pmax	pmax		
	comp=E,11nm,1.0s						
NVS				smax			
	comp=N,32nm,1.6s						
NVS				smax			
	comp=E,14nm,1.6s						
KBD	**Kabd**	**22.78**	**264**	*e*P	**P**	**13 57 42.5**	**+1.2**
MIB	**Mutribah**	**22.87**	**266**	*e*P	**P**	**13 57 43.6**	**+1.3**
MIB				AMb	AMB	13 57 49.9	
	comp=Z,78nm,0.6s,mb5.3						
RDF	**Al-Radifah**	**22.98**	**264**	*e*P	**P**	**13 57 44.6**	**+1.2**
RDF				AMb	AMB	13 57 45.4	
	comp=Z,42nm,0.7s,mb5.0						
NAY	**Al-Naaiem**	**23.13**	**265**	*e*P	**P**	**13 57 46.1**	**+1.1**
NAY				AMb	AMB	13 57 48.5	
	comp=Z,14nm,0.9s,mb4.4						
GNI	**Garni**	**23.86**	**293**	P	**P**	**13 57 51.7**	**-0.6**
	comp=Z,7.0nm,0.7s,mb4.2,baz=323,slow=12,SNR=4.9						
GNI				LR	LR	14 08 28.3	
	comp=Z,79nm,20.1s,MS3.2,baz=159,slow=40						
GNI	**Garni**	**23.86**	**293**	P	**P**	**13 57 51.7**	**-0.6**
GNI				LR	LR	14 08 28.3	
ARU	**Arti**	**24.56**	**339**	⇓*i* P	**P**	**13 57 59.0**	**+0.3**
ARU				*e*		13 58 37.1	
ARU				*e*S	**S**	**14 02 17.4**	**-2.0**
ARU				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
ARU	**Arti**	**24.56**	**339**	*e*P	**P**	**13 57 59.2**	**+0.5**
	comp=Z,26nm,0.6s,mb4.9						
CD2	**Chengdu**	**25.39**	**89**	*e*P	**P**	**13 58 07.8**	**+1.6**
CD2				AP	pP	13 58 19.3	+10
CD2				XP	sP	13 58 24.9	+14
CD2				PP		13 58 47.3	
CD2				S	**S**	**14 02 28.4**	**-4.3**
CD2				XS	sS	14 02 48.0	+10
CD2				SS		14 03 31.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
CD2				LR	LR		
	comp=N,190nm,18.0s						
CD2				LR	LR		
	comp=Z,90nm,13.2s,MS3.5						
KRAR	**Krasnoyarsk**	**25.43**	**25**	*e*P	**P**	**13 58 06.8**	**+0.2**
KRAR				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.1						
KIV	**Kislovodsk**	**25.93**	**301**	*e*P	**P**	**13 58 11.0**	**-0.1**
KIV				*e*S	**S**	**14 02 38.2**	**-3.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.2						
KIV				MLR	MLR		
	comp=Z,37nm,11.0s,MS3.2						
KMI	**Kunming**	**26.62**	**102**	P	**P**	**13 58 19.2**	**+1.8**
KMI				AP	pP	13 58 31.1	+11
KMI				XP	sP	13 58 35.8	+14
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,74nm,6.0s						
KMI				LR	LR		
	comp=N,252nm,21.8s,MS3.8						
KMI				LR	LR		
	comp=E,128nm,20.8s,MS3.8						
KMI				LR	LR		
	comp=Z,123nm,26.5s						
ZAK	**Zakamensk**	**26.87**	**44**	*e*P	**P**	**13 58 20.5**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.9						
TLY	**Talaya**	**27.66**	**42**	*e*P	**P**	**13 58 27.7**	**+1.0**
SONM	**Songino Array**	**27.84**	**51**	P	**P**	**13 58 29.3**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.2,baz=250,slow=8.9,SNR=40						
SONM				LR	LR	14 11 02.2	
	comp=Z,260nm,18.3s,MS3.9,baz=335,slow=40						
SOC	**Sochi**	**27.99**	**300**	*e*P	**P**	**13 58 25.8**	**-3.8**
SOC				*e*		13 59 18.8	
SOC				*e*S	**S**	**14 03 04.6**	**-9.1**
SOC				*e*SS		14 04 34.6	
SOC				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.1						
ULN	**Ulaanbaatar**	**28.28**	**51**	*e*P	**P**	**13 58 32.5**	**+0.3**
ULN	**Ulaanbaatar**	**28.28**	**51**	*e*P	**P**	**13 58 33.3**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.0						
HHC	**Hu-ho-hao-te**	**30.47**	**66**	*e*P	**P**	**13 58 51.7**	**+0.1**
HHC				AP	pP	13 59 01.9	+7.2
HHC				XP	sP	13 59 09.1	+13
HHC				PP	PP	13 59 48.7	-12
HHC				S	**S**	**14 04 00.4**	**+7.7**
BR131	**Keskin Array S**	**32.39**	**292**	*e*P	**P**	**13 59 08.3**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**32.39**	**292**	P	**P**	**13 59 10.2**	**+1.6**
	comp=Z,3.8nm,1.1s,mb4.1,baz=112,slow=6.7,SNR=8.3						
OBN	**Obninsk**	**33.17**	**321**	⇓*e*P	**P**	**13 59 15.4**	**0.0**
OBN				*e*		14 00 32.3	
OBN				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
BJT	**Baijiatuau**	**34.00**	**68**	*e*P	**P**	**13 59 24.0**	**+1.4**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJT	**Baijiatuau**	**34.00**	**68**	*e*P	**P**	**13 59 24.0**	**+1.4**
	comp=Z,4.5nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**36.19**	**311**	P	**P**	**13 59 41.2**	**-0.2**
	comp=Z,3.2nm,0.4s,mb4.6,baz=80,slow=7.3,SNR=16						
AKASG	**Malin Array Be**	**36.19**	**311**	P	**P**	**13 59 41.2**	**-0.2**
JOF	**Joensuu**	**38.99**	**331**	*e*p	**P**	**14 00 05.7**	**+0.5**
	comp=Z,10nm,0.6s,mb4.7						
PSI	**Prapat**	**39.03**	**138**	P	**P**	**14 00 08.4**	**+2.9**
	comp=Z,4.8nm,0.8s,mb4.3,baz=291,slow=8.6,SNR=3.5						
PSI				LR	LR	14 16 48.5	
	comp=Z,114nm,19.2s,MS3.7,baz=135,slow=37						
VSU	**Vasula**	**39.41**	**323**	*e*P	**P**	**14 00 07.3**	**-1.4**
SSE	**Sheshan**	**39.71**	**81**	P	**P**	**14 00 09.7**	**-1.5**
SSE				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
SSE				AMB	AMB		
	comp=Z,165nm,4.0s						
KOLS	**Kolonicke sedl**	**40.49**	**307**	*e*P	**P**	**14 00 18.1**	**+0.4**
CN2	**Changchun**	**40.65**	**61**	*e*P	**P**	**14 00 21.0**	**+2.0**
FINES	**FINESS Array B**	**40.66**	**327**	P	**P**	**14 00 19.1**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.3,baz=121,slow=10.0,SNR=27						
FINES	**FINESS Array B**	**40.66**	**327**	*e*P	**P**	**14 00 18.9**	**-0.2**
KAF	**Kangasniemi**	**40.79**	**328**	*e*p	**P**	**14 00 15.0**	**-5.2**
	comp=Z,5.1nm,0.9s,mb4.2						
KAF	**Kangasniemi**	**40.79**	**328**	*e*P	**P**	**14 00 15.0**	**-5.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
STHS	**Stebnicka Huta**	**41.18**	**308**	*e*P	**P**	**14 00 23.4**	**0.0**
KECS	**Kecovo**	**41.67**	**307**	*e*P	**P**	**14 00 28.1**	**+0.7**
PSZ	**Piszkesteto**	**42.08**	**306**	*e*P	**P**	**14 00 31.1**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
PSZ	**Piszkesteto**	**42.08**	**306**	*e*P	**P**	**14 00 31.1**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**43.54**	**59**	P	**P**	**14 00 41.8**	**-0.8**
MDJ				S	**S**	**14 07 06.4**	**-5.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,76nm,4.3s						
MDJ				LR	LR		
	comp=E,46nm,19.2s						
MDJ				LR	LR		
	comp=Z,42nm,16.0s,MS3.4						
MORC	**Moravsky Berou**	**43.59**	**309**	*e*P	**P**	**14 00 43.7**	**+0.7**
MORC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MORC	**Moravsky Berou**	**43.59**	**309**	*e*P	**P**	**14 00 43.7**	**+0.7**
	comp=Z,7.3nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**44.13**	**338**	P	**P**	**14 00 47.5**	**+0.1**
	comp=Z,10nm,0.6s,mb4.7,baz=115,slow=8.3,SNR=79						
ARCES				LR	LR	14 20 20.7	
	comp=Z,254nm,19.1s,MS4.2,baz=182,slow=38						
ARCES	**ARCESS Array B**	**44.13**	**338**	P	**P**	**14 00 47.5**	**+0.1**
ARCES				LR	LR	14 20 20.7	
DPC	**Dobruska-Polom**	**44.36**	**309**	*e*P	**P**	**14 00 50.3**	**+1.1**
YAK	**Yakutsk**	**44.52**	**34**	*d i* P	**P**	**14 00 49.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
YAK	**Yakutsk**	**44.52**	**34**	*e*P	**P**	**14 00 49.9**	**-0.6**
	comp=Z,8.7nm,0.6s,mb4.8						
UPC	**Upice**	**44.56**	**310**	*e*P	**P**	**14 00 51.9**	**+1.1**
KLR	**Kul'dur**	**44.66**	**52**	*e*P	**P**	**14 00 48.0**	**-3.6**
PRU	**Pruhonice**	**45.52**	**309**	*e*P	**P**	**14 00 59.3**	**+0.9**
BRG	**Berggiesshubel**	**45.86**	**310**	*i* P	**P**	**14 01 01.4**	**+0.3**
	comp=Z,6.3nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**45.86**	**310**	*i* P	**P**	**14 01 01.4**	**+0.3**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**46.15**	**307**	P	**P**	**14 01 03.7**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=6.3						
GERES				LR	LR	14 22 12.2	
	comp=Z,66nm,19.7s,MS3.6,baz=249,slow=38						
CLL	**Collm**	**46.43**	**311**	*e*P	**P**	**14 01 04.0**	**-1.6**
TIXI	**Tiksi**	**47.05**	**21**	*e*P	**P**	**14 01 07.5**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,372nm,16.0s,MS4.4						
NB2	**NORSAR Subarra**	**47.59**	**324**	P	**P**	**14 01 13.7**	**-0.9**
	comp=Z,18nm,0.7s,mb5.2,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**47.59**	**324**	P	**P**	**14 01 13.7**	**-1.0**
	comp=Z,21nm,0.7s,mb5.3,baz=96,slow=7.6,SNR=35						
NAO01	**NORSAR Array S**	**47.73**	**324**	*e*P	**P**	**14 01 14.3**	**-1.5**
	comp=Z,8.6nm,0.9s,mb4.8						
KONO	**Kongsberg**	**48.31**	**322**	*e*P	**P**	**14 01 19.1**	**-1.1

SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 53.19 306 *eP* **P 14 01 56.3 -0.7**
comp=Z,6.2nm,1.0s,mb4.5
AVF Avril sur Loir 53.35 306 *eP* **P 14 01 57.5 -0.7**
comp=Z,17nm,0.9s,mb4.7
AVF Avril sur Loir 53.35 306 *eP* **P 14 01 57.5 -0.7**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AVF Avril sur Loir 53.35 306 *eP* **P 14 01 57.5 -0.7**
comp=Z,8.3nm,0.9s,mb4.7
LASF Ste Croix 53.67 303 *eP* **P 14 01 59.7 -0.8**
BGF Bois d'Agland 53.75 306 *eP* **P 14 02 00.5 -0.6**
TCF Toulx Ste Croi 54.24 306 *eP* **P 14 02 04.5 -0.2**
comp=Z,16nm,1.0s,mb4.6
TCF Toulx Ste Croi 54.24 306 *eP* **P 14 02 04.5 -0.2**
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 54.24 306 *eP* **P 14 02 04.5 -0.2**
comp=Z,8.3nm,1.0s,mb4.6
CAF Calviac 54.69 304 *eP* **P 14 02 07.9 -0.1**
comp=Z,15nm,1.0s,mb4.7
CAF Calviac 54.69 304 *eP* **P 14 02 07.9 -0.1**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CAF Calviac 54.69 304 *eP* **P 14 02 07.9 -0.1**
comp=Z,7.5nm,1.0s,mb4.7
SEY Seymchan 55.04 33 *eP* **P 14 02 11.0 +0.5**
LDF La Druitiere 55.21 309 *eP* **P 14 02 10.7 -1.0**
SGMF Saint Gilles 56.86 309 *eP* **P 14 02 22.6 -1.0**
ETSF Etsaut 57.08 303 *eP* **P 14 02 25.0 -0.1**
comp=Z,7.2nm,0.5s,mb4.6
ETSF Etsaut 57.08 303 *eP* **P 14 02 25.0 -0.1**
ETSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ETSF Etsaut 57.08 303 *eP* **P 14 02 25.0 -0.1**
comp=Z,3.6nm,0.5s,mb4.7
ROSF Rostrenen 57.30 309 *eP* **P 14 02 25.6 -1.1**
QUIF Quistinic 57.35 309 *eP* **P 14 02 26.1 -0.9**
SJPF Ste Jean 57.48 303 *eP* **P 14 02 27.6 -0.3**
comp=Z,18nm,1.2s,mb4.7
SJPF Ste Jean 57.48 303 *eP* **P 14 02 27.6 -0.3**
SJPF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
SJPF Ste Jean 57.48 303 *eP* **P 14 02 27.6 -0.3**
comp=Z,9.1nm,1.2s,mb4.7
BILL Biiibino 59.64 26‖ *iP* **P 14 02 44.0 +1.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.0
BILL Bilibino 59.64 26 *eP* **P 14 02 43.4 +0.4**
comp=Z,5.4nm,0.9s,mb4.6
ESDC Sonseca Array 60.59 300 P **P 14 02 49.3 -0.2**
comp=Z,2.8nm,0.7s,mb4.5,baz=55,slow=7.5,SNR=8.2
ESLA Sonseca Array 60.59 300 *eP* **P 14 02 49.6 +0.1**
SUMG Summit 63.96 342 *eP* **P 14 03 12.9 +0.8**
comp=Z,9.4nm,1.1s,mb4.7
TORD Torodi Ar. Bea 68.04 271 P **P 14 03 38.2 -0.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=45,slow=5.1,SNR=32
TNA Tin City 69.76 23 *eP* **P 14 03 49.2 +0.2**
comp=Z,4.0nm,0.9s,mb4.3
IMA2 Indian Mountai 73.57 18 *eP* **P 14 04 11.6 -0.4**
LBTB Lobatse 74.61 225 *eP* **P 14 04 19.1 +1.0**
TSUM Tsumeb 75.40 234 *eP* **P 14 04 23.7 +1.0**
comp=Z,1.4nm,0.6s,mb4.1
INK Inuvik 75.76 10 *eP* **P 14 04 24.4 -0.3**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 75.76 10 *eP* **P 14 04 24.4 -0.2**
comp=Z,7.2nm,1.1s,mb4.5
COLA College 76.00 17 *eP* **P 14 04 25.7 -0.3**
COLA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
COLA College 76.00 17 *eP* **P 14 04 25.7 -0.3**
comp=Z,8.9nm,1.1s,mb4.6
ILAR Eielson Array 76.31 17 P **P 14 04 27.1 -0.8**
comp=Z,1.8nm,0.8s,mb4.1,baz=301,slow=5.1,SNR=34
ILAR PP PP 14 07 20.6 +1.4
comp=Z,0.8nm,0.8s,baz=312,slow=8.5,SNR=6.0
LIC Lamto 77.33 269 *eP* **P 14 04 32.9 -0.7**
BOSA Boshof 77.57 222 P **P 14 04 35.2 +0.3**
comp=Z,2.2nm,0.8s,mb4.1,baz=29,slow=12,SNR=4.6
WRA Warramunga Arr 78.81 123 P **P 14 04 42.0 +0.2**
comp=Z,5.5nm,0.8s,mb4.5,baz=320,slow=5.0,SNR=24
WRAB Tennant Creek 78.81 123 *eP* **P 14 04 42.4 +0.6**
WRAB pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WRAB Tennant Creek 78.81 123 *eP* **P 14 04 42.4 +0.6**
comp=Z,7.1nm,0.6s,mb4.8
WB2 Warramunga Arr 78.82 123 *eP* **P 14 04 42.3 +0.5**
ASPA Alice Springs 81.04 126 *eP* **P 14 04 54.1 +0.2**
ASAR Alice Springs 81.04 126 P **P 14 04 54.3 +0.4**
comp=Z,2.8nm,0.5s,mb4.4,baz=312,slow=5.2,SNR=35
ASAR Alice Springs 81.04 126 P **P 14 04 54.3 +0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 83.39 4 P **P 14 05 05.6 -0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=347,slow=5.2,SNR=28
YKA Yellowknife Ar 83.39 4 P **P 14 05 05.6 -0.5**
CTAO Charters Tower 87.47 116 *eP* **P 14 05 31.3 +4.8**
CTAO pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
CTAO Charters Tower 87.47 116 *eP* **P 14 05 31.3 +4.8**
comp=Z,3.6nm,0.7s,mb4.7

*ISCJB **01** 14:03:25.8±0.8,2968N±007×70.10E±008,h10km, mb3.6/11,Error ellipse: s-maj=11.2km s-min=9.1km az=52.3*
*NEIC **01** 14:03:27.4±0.9,2977N×7006E,h10km,mb4.5/1,Error ellipse: s-maj=21.6km s-min=13.1km az=57.0*
*MOS **01** 14:03:29.8±0.9,2974N×7004E,h40km,mb4.7/1,Error ellipse: s-maj=22.6km s-min=14.9km az=87.6*
*IDC **01** 14:03:32.6±9.3,2975N×6998E,h49km±84km,mb3.4/10, mb1 3.6/11,mb1mx3.4/24,mbtmp3.6/11,ML3.0/1,Error ellipse: s-maj=48.8km s-min=25.3km az=42.0*

ISC 01 14:03:27.3±0.7,2971N±006×7009E±007,h10km,n28, σ1§10/29,mb3.6/11,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.03**	**3**	P	**Pn**	**14 04 02.4**	**+0.9**
SBDP	**Sheikh Budin**	**2.65**	**13**	P	**Pn**	**14 04 10.3**	**+0.2**
SARP	**Sargodha**	**3.13**	**45**	P	**Pn**	**14 04 16.5**	**-0.2**
THW	**Thamme Wali**	**3.38**	**24**	P	**Pn**	**14 04 21.9**	**+1.7**
CEP	**Cherat**	**4.38**	**20**	P	**Pn**	**14 04 35.0**	**+1.1**
CEP				S	**Sn**	**14 05 14.0**	**-11**
AJM	**Ajmer**	**5.15**	**128**	*eP*	**Pg**	**14 05 05.0**	**-1.0**
AJM				*i* x	x	14 06 14.0	
THN	**Thein Dam**	**5.54**	**59**	*eP*	**Pn**	**14 04 50.5**	**+0.7**
THN				*e*S	**Sn**	**14 05 52.6**	**-0.9**
NDI	**New Delhi**	**6.31**	**98**	*ex*	x	14 05 13.0	
NDI				*ex*	x	14 06 09.0	
DDI	**Dehra Dun**	**6.93**	**83**	*eP*	**Pb**	**14 05 27.2**	**-0.7**
AAK	**Ala-Archa**	**13.37**	**14**	*eP*	**Pn**	**14 06 35.2**	**-1.9**
LSA	**Lhasa**	**18.30**	**85**	*eP*	**Pn**	**14 07 42.3**	**+1.1**
MKAR	**Makanchi Array**	**19.52**	**26**	P	**Pn**	**14 07 54.0**	**-2.0**
	0.0nm,0.3s,baz=211,slow=14,SNR=4.3						
AKTK	**Aktyubinsk**	**22.61**	**340**	P	**P**	**14 08 27.5**	**-0.6**
AKTO	**Aktyubinsk**	**22.61**	**340**	P	**P**	**14 08 27.5**	**-0.6**
	0.2nm,0.3s,mb3.0,baz=164,slow=7.4,SNR=2.2						
BVAR	**Borovoye Array**	**23.29**	**0**	P	**P**	**14 08 35.2**	**-0.2**
	1.1nm,0.8s,mb3.3,baz=172,slow=10,SNR=6.4						
ZAL	**Zalesovo**	**26.46**	**20**	P	**P**	**14 09 06.2**	**+1.7**
	0.8nm,0.5s,mb3.5,baz=292,slow=7.4,SNR=5.6						
ZAL	**Zalesovo**	**26.46**	**20**	P	**P**	**14 09 06.2**	**+1.7**
SONM	**Songino Array**	**33.20**	**47**	P	**P**	**14 10 05.8**	**+1.6**
	0.3nm,0.6s,mb3.4,baz=254,slow=8.9,SNR=3.2						
ARCES	**ARCESS Array B**	**47.19**	**340**	P	**P**	**14 12 00.6**	**+0.4**
	6.8nm,1.1s,mb4.5,baz=63,slow=2.7,SNR=5.5						
ARCES	**ARCESS Array B**	**47.19**	**340**	P	**P**	**14 12 00.6**	**+0.4**
NOA	**NORSAR Array B**	**49.48**	**327**	P	**P**	**14 12 17.6**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=107,slow=7.3,SNR=3.2						
WRA	**Warramunga Arr**	**79.14**	**120**	P	**P**	**14 15 32.8**	**+0.6**
	1.1nm,0.7s,mb3.9,baz=320,slow=5.1,SNR=10						
WRAB	**Tennant Creek**	**79.14**	**120**	*eP*	**P**	**14 15 32.6**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**79.14**	**120**	*eP*	**P**	**14 15 32.6**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**81.07**	**124**	P	**P**	**14 15 43.5**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=307,slow=5.8,SNR=24						
ILAR	**Eielson Array**	**81.51**	**15**	P	**P**	**14 15 43.1**	**-1.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=300,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**88.04**	**2**	P	**P**	**14 16 16.2**	**-1.6**
	comp=Z,0.1nm,0.6s,mb3.2,baz=345,slow=5.3,SNR=4.4						
YKA	**Yellowknife Ar**	**88.04**	**2**	P	**P**	**14 16 16.2**	**-1.7**

MEX 01 14:12:46.4±0.6,1662N×10049W,h5km±5km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.48**	**27**	*i* P	Pg	14 12 54.9	-0.6
CAIG				*i* S	Sg	14 13 02.5	+0.7
ACX	**Acapulco**	**0.60**	**66**	*i* P	Pg	14 12 57.5	-0.5
ACX				*i* S	Sg	14 13 06.0	+0.2
MEIG	**Mezcala**	**1.54**	**33**	*i* P	Pn	14 13 11.2	-3.3
MEIG				*i* S	Sn	14 13 30.0	-4.9
PLIG	**Platanillo**	**2.00**	**28**	*i* P	Pn	14 13 18.1	-2.7
PLIG				*i* S	Sn	14 13 41.8	-4.4
YAIG	**Yautepec**	**2.61**	**31**	*i* P	Pn	14 13 26.9	-2.3
YAIG				*i* S	Sn	14 13 56.4	-4.9
PPM	**Popocatepetl**	**3.01**	**36**	*i* P	Pn	14 13 36.1	+1.3
PPM				*e*P		14 13 40.5	
PPM				*i* S	Sn	14 14 07.0	-4.1
MRX	**Morelia**	**3.14**	**348**	*e*P	Pn	14 13 40.5	+4.0

IDC 01 14:48:09.0±2.5,1187S×16684E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.6/15,mbtmp3.6/4,Error ellipse: s-maj=121.3km s-min=29.4km az=135.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.61**	**225**	P	P	14 54 24.8	+0.1
	1.0nm,0.5s,baz=68,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**32.22**	**251**	P	P	14 54 39.9	+1.1
	0.4nm,0.8s,baz=82,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**33.40**	**245**	P	P	14 54 49.0	-0.2
	0.7nm,0.7s,baz=71,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**83.95**	**18**	P	P	15 00 40.7	-0.2
	0.3nm,0.6s,baz=230,slow=5.3,SNR=8.7						

IDC 01 14:50:42.7±3.6,1679S×17386E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.8/14,mbtmp3.8/4,MS2.9/2,Ms1 2.9/2, ms1mx2.5/28,Error ellipse: s-maj=159.2km s-min=33.2km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.75**	**232**	LR	LR	14 55 22.5	
	comp=Z,30nm,21.4s,baz=125,slow=32						
URZ	**Urewera**	**21.58**	**173**	LR	LR	15 02 30.4	
	comp=Z,80nm,20.5s,baz=14,slow=33						
STKA	**Stephens Creek**	**32.86**	**237**	P	P	14 57 18.1	-0.1
	1.2nm,0.6s,baz=82,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**37.58**	**259**	P	P	14 57 58.8	0.0
	0.4nm,0.8s,baz=90,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**38.02**	**253**	P	P	14 58 03.3	+0.8
	1.6nm,0.6s,baz=81,slow=8.8,SNR=38						
ILAR	**Eielson Array**	**86.64**	**16**	P	P	15 03 27.8	-0.4
	0.7nm,0.9s,baz=234,slow=5.6,SNR=5.9						

IDC 01 14:53:41.0±7.2,5211N×17962E,h185km±113km,mb2.6/3, mb1 3.0/4,mb1mx2.8/24,mbtmp3.2/4,Error ellipse: s-maj=100.5km s-min=61.0km az=122.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**4.02**	**284**	P	Pn	14 54 43.7	+1.2
	1.0nm,0.3s,baz=85,slow=11,SNR=35						
FX1				S	Sn	14 55 30.4	-0.2
	8.4nm,0.3s,baz=315,slow=20,SNR=32						
ILAR	**Eielson Array**	**21.30**	**41**	P	P	14 58 12.6	-0.6
	0.2nm,0.5s,baz=234,slow=8.3,SNR=7.7						
YKA	**Yellowknife Ar**	**35.44**	**47**	P	P	15 00 19.1	-0.3
	0.2nm,0.5s,baz=283,slow=7.6,SNR=4.7						
PDAR	**Pinedale Array**	**47.02**	**72**	P	P	15 01 53.5	-0.1
	0.2nm,0.4s,baz=315,slow=4.2,SNR=6.4						

*NAO **01** 15:13:16.4,370N×12676E,h33km,mb4.9*
*MAN **01** 15:13:31.7,540N×12635E,h110km,mb4.7,ML5.4,MS3.7*
*MOS **01** 15:13:32.9±0.9,552N×12601E,h109km,mb4.4/14,Error ellipse: s-maj=22.3km s-min=8.7km az=118.7*
*IDC **01** 15:13:33.4±2.2,552N×12599E,h97km±19km,mb4.1/14, mb1 4.2/14,mb1mx4.0/21,mbtmp4.3/14,MS3.9/2, Ms1 3.9/2,ms1mx3.0/23,Error ellipse: s-maj=26.4km s-min=12.0km az=61.0*
*BJI **01** 15:13:33.5,594N×12588E,h76km,mB5.1,mb4.7*
*NEIC **01** 15:13:34.8±1.0,558N×12617E,h109km±8km,mb4.5/13, Error ellipse: s-maj=11.1km s-min=6.8km az=57.0*
*ISCJB **01** 15:13:34.6±0.7,555N±005×12620E±008,h126km±5km, mb4.4/44,Error ellipse: s-maj=13.5km s-min=7.0km az=131.6*

ISC 01 15:13:35.8±0.7,558N±005×12625E±008,h119km±5km, n85,σ1§02/88,mb4.4/44,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.62**	**336**	*e*Pn	**Pn**	**15 14 01.8**	**-2.9**
DMPH	**Davao City--Mi**	**1.67**	**334**	*e*P	**Pn**	**15 14 03.4**	**-1.8**
DMPH				*i* S	**Sn**	**15 14 34.7**	**+10**
KCP	**Kidapawan**	**1.83**	**321**‖	*e*P	**Pn**	**15 14 05.9**	**-1.3**
KCP				*i* S	**Sn**	**15 14 31.2**	**+2.7**
CGP	**Cagayan de Oro**	**3.25**	**332**‖	*i*P	**Pn**	**15 14 26.8**	**+1.5**
CGP				*i* S	**Sn**	**15 15 08.3**	**+5.5**
DCPH	**Dipolog City**	**4.14**	**316**‖	*e*P	**Pn**	**15 14 37.3**	**+0.1**
IPIL	**Ipil**	**4.26**	**301**	*e*P	**Pn**	**15 14 38.5**	**-0.3**
SNPH	**Sibulan**	**4.79**	**322**	*e*P	**Pn**	**15 14 48.0**	**+2.1**
LLP	**Lapu-Lapu**	**5.22**	**335**	*e*P	**Pn**	**15 14 51.5**	**-0.2**
LLP				*e*S	**Sn**	**15 15 53.0**	**+2.3**
KKM	**Kota Kinabalu**	**9.99**	**273**	*e*P	**Pn**	**15 15 54.1**	**-2.1**
KSM	**Kuching**	**16.42**	**256**	*e*P	**Pn**	**15 17 20.2**	**+1.0**
QIZ	**Qiongzhong**	**20.84**	**311**	P	**P**	**15 18 08.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.54**	**181**	*e*P	**P**	**15 18 36.6**	**+1.5**
	10nm,1.0s,mb4.1						
WRAB	**Tennant Creek**	**26.57**	**163**	*e*P	**P**	**15 19 02.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**26.57**	**163**	*e*P	**P**	**15 19 02.4**	**-0.2**
	comp=Z,10nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**26.58**	**163**	P	**P**	**15 19 02.5**	**-0.2**
	comp=Z,3.6nm,0.9s,mb3.9,baz=344,slow=10.0,SNR=14						
WB2	**Warramunga Arr**	**26.58**	**163**	*e*P	**P**	**15 19 03.0**	**+0.3**
PSI	**Prapat**	**27.39**	**265**	P	**P**	**15 19 09.4**	**-0.5**
	comp=Z,8.6nm,0.8s,mb4.3,baz=122,slow=3.0,SNR=7.9						
ENH	**Enshi**	**29.20**	**329**	*e*P	**P**	**15 19 25.6**	**-0.4**
	comp=Z,2.8nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**30.01**	**166**	P	**P**	**15 19 33.0**	**-0.2**
	comp=Z,1.3nm,0.4s,mb3.9,baz=344,slow=6.8,SNR=38						
ASAR				PcP	PcP	15 22 34.2	+1.8
	comp=Z,0.7nm,0.6s,baz=353,slow=2.3,SNR=5.8						
ASAR				ScP	ScP	15 26 06.7	+3.2
	comp=Z,1.2nm,0.7s,baz=343,slow=3.0,SNR=9.2						
ASPA	**Alice Springs**	**30.01**	**166**	*e*P	**P**	**15 19 33.3**	**+0.1**
CTAO	**Charters Tower**	**32.21**	**143**	*e*P	**P**	**15 19 54.1**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**32.21**	**143**	*e*P	**P**	**15 19 54.1**	**+1.6**
	comp=Z,6.4nm,0.8s,mb4.4						
CTAO				*e*		15 20 01.6	
XAN	**Xi'an**	**32.56**	**333**	P	**P**	**15 19 55.0**	**-0.6**
CD2	**Chengdu**	**32.88**	**323**	*e*P	**P**	**15 19 58.3**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
BJT	**Baijiatuau**	**35.47**	**347**	*e*P	**P**	**15 20 21.0**	**+0.3**
BJT				pmax	pmax		
	comp=Z,26nm,1.0s						
BJT	**Baijiatuau**	**35.47**	**347**	*e*P	**P**	**15 20 21.0**	**+0.3**
	comp=Z,26nm,1.0s,mb5.0						
HNR	**Honiara**	**36.74**	**114**	P	**P**	**15 20 34.9**	**+3.4**
	comp=Z,261nm,0.9s,baz=88,slow=10,SNR=4.5						
SHL	**Shillong**	**38.42**	**305**	*e*P	**P**	**15 20 47.0**	**+1.4**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**15 20 57.8**	**-1.1**
	comp=Z,12nm,0.8s,mb4.8,baz=329,slow=8.1,SNR=25						
LSA	**Lhasa**	**40.88**	**310**	P	**P**	**15 21 08.1**	**+2.1**
LSA	**Lhasa**	**40.88**	**310**	*e*P	**P**	**15 21 08.1**	**+2.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**40.88**	**310**	*e*P	**P**	**15 21 08.1**	**+2.1**
	comp=Z,4.4nm,0.7s,mb4.4						
GTA	**Gaotai**	**41.28**	**328**	*e*P	**P**	**15 21 09.7**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.2						
JIRN	**Jiri**	**43.92**	**305**	*e*P	**P**	**15 21 31.2**	**+0.6**
	comp=Z,43nm,0.7s,mb5.3						
GUN	**Gumba**	**44.27**	**305**	*e*P	**P**	**15 21 34.0**	**+0.6**
	comp=Z,45nm,0.6s,mb5.4						
PKI	**Pulchoki**	**44.53**	**304**	*e*P	**P**	**15 21 35.8**	**+0.3**
KKN	**Kakani**	**44.72**	**304**	*e*P	**P**	**15 21 37.3**	**+0.3**
	comp=Z,20nm,0.8s,mb4.9						
DMN	**Daman**	**44.79**	**304**	*e*P	**P**	**15 21 38.0**	**+0.4**
	comp=Z,18nm,0.7s,mb4.9						
ULN	**Ulaanbaatar**	**45.23**	**342**	*e*P	**P**	**15 21 41.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**45.23**	**342**	*e*P	**P**	**15 21 41.1**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.0						
GKN	**Gorkha**	**45.32**	**304**	*e*P	**P**	**15 21 41.5**	**-0.3**
SONM	**Songino Array**	**45.41**	**341**	P	**P**	**15 21 42.3**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=150,slow=8.5,SNR=12						
SONM				PcP	PcP	15 23 21.1	+1.4
	comp=Z,1.3nm,0.7s,baz=166,slow=3.4,SNR=6.5						
SONM				ScP	ScP	15 27 03.9	+2.6
	comp=Z,0.4nm,0.8s,baz=168,slow=4.0,SNR=3.5						
SONM	**Songino Array**	**45.41**	**341**	P	**P**	**15 21 42.3**	**-0.1**
SONM						15 23 21.1	
KOLN	**Koldanda**	**46.09**	**304**	*e*P	**P**	**15 21 48.5**	**+0.7**
	comp=Z,42nm,0.7s,mb5.3						
BOD	**Bodaibo**	**52.98**	**352**	*e*P	**P**	**15 22 37.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**55.78**	**325**	P	**P**	**15 22 59.8**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**55.78**	**325**	P	**P**	**15 22 59.7**	**-0.6**
	comp=Z,3.6nm,0.5s,mb4.7,baz=118,slow=7.6,SNR=150						
MKAR				PcP	PcP	15 23 57.8	-0.2
	comp=Z,1.6nm,0.6s,baz=108,slow=3.8,SNR=5.6						
MKAR				ScP	ScP	15 27 47.5	+1.6
	comp=Z,0.7nm,0.8s,baz=124,slow=4.4,SNR=5.2						
MKAR	**Makanchi Array**	**55.78**	**325**	P	**P**	**15 22 59.7**	**-0.6**
MKAR						15 23 57.8	
YAK	**Yakutsk**	**56.39**	**2**	*e*P	**P**	**15 23 06.6**	**+2.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK	**Yakutsk**	**56.39**	**2**	*e*P	**P**	**15 23 05.5**	**+0.8**
	comp=Z,18nm,0.8s,mb5.1						
KSH	**Kashi**	**56.41**	**314**	*e*P	**P**	**15 23 08.1**	**+3.3**
KSH				AMB	AMB		
	comp=Z,130nm,5.8s						
KZA	**Kyzart**	**57.94**	**317**	P	**P**	**15 23 16.7**	**+1.1**
	SNR=8.0						
TKM2	**Tokmak 2**	**58.06**	**318**	P	**P**	**15 23 16.6**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
UCH	**Uchtor**	**58.50**	**317**	P	**P**	**15 23 20.7**	**+1.3**
	SNR=12						
ZAL	**Zalesovo**	**58.74**	**333**	P	**P**	**15 23 19.6**	**-1.5**
	comp=Z,1.1nm,0.5s,mb4.2,baz=23,slow=4.7,SNR=5.2						
USP	**Ospenovka**	**58.93**	**318**	P	**P**	**15 23 22.4**	**0.0**
	SNR=12						
AML	**Almayashu**	**59.02**	**316**	P	**P**	**15 23 24.1**	**+1.0**
	SNR=6.0						
EKS2	**Erkin-Say**	**59.17**	**317**	P	**P**	**15 23 24.7**	**+0.6**
	SNR=7.9						
KURK	**Kurchatov**	**59.94**	**327**	*e*P	**P**	**15 23 28.7**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
KURK	**Kurchatov**	**59.94**	**327**	*e*P	**P**	**15 23 28.7**	**-0.6**
	comp=Z,7.8nm,0.5s,mb5.0						
KKAR	**Karatay Array**	**61.56**	**316**	*i* P	**P**	**15 23 40.0**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
VOSK	**Vostochnaya**	**65.07**	**327**	P	**P**	**15 24 02.1**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BVA0	**Borovoye Array**	**65.52**	**327**	*i* P	**P**	**15 24 05.9**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
BRVK	**Borovoye**	**65.59**	**327**	*e*P	**P**	**15 24 06.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BRVK	**Borovoye**	**65.59**	**327**	*e*P	**P**	**15 24 06.0**	**-0.8**
	comp=Z,3.4nm,0.9s,mb4.2						
TIXI	**Tiksi**	**66.01**	**1**	*e*P	**P**	**15 24 09.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**66.25**	**326**	*e*P	**P**	**15 24 09.9**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**66.25**	**326**	*e*P	**P**	**15 24 09.9**	**-1.1**
	comp=Z,6.5nm,1.0s,mb4.4						
AB31	**Akbulak array**	**70.43**	**320**	*i* P	**P**	**15 24 36.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
AKTK	**Aktyubinsk**	**71.92**	**321**	P	**P**	**15 24 45.5**	**-0.6**
AKTO	**Aktyubinsk**	**71.92**	**321**	P	**P**	**15 24 45.5**	**-0.6**
	comp=Z,5.9nm,0.7s,mb4.5,baz=105,slow=9.0,SNR=30						
MCK	**McKinley**	**82.73**	**27**	*e*P	**P**	**15 25 47.2**	**+0.9**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
MCK	**McKinley**	**82.73**	**27**	*e*P	**P**	**15 25 47.2**	**+0.9**
	comp=Z,1.4nm,0.8s,mb3.8						
ILAR	**Eielson Array**	**83.65**	**26**	P	**P**	**15 25 51.6**	**+0.6**
	comp=Z,0.7nm,0.9s,mb3.5,baz=218,slow=5.4,SNR=4.2						
OBN	**Obninsk**	**85.28**	**325**	*e*P	**P**	**15 25 59.1**	**-0.1**
OBN				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
JOF	**Joensuu**	**87.33**	**333**	*e*p	**P**	**15 26 09.0

UPC			*e*SG	**Sg**	**15 24 37.9**	**+1.1**
STHS	**Stebnicka Huta**	**1.82 116**	*e*PN	**Pn**	**15 24 13.1**	**+0.6**
STHS			*e*SN	**Sn**	**15 24 37.9**	**+1.6**
KECS	**Kecovo**	**2.11 147**	*e*PN	**Pn**	**15 24 18.0**	**+1.6**
KECS			*e*		15 24 39.6	
CRVS	**Cervenica-Dubn**	**2.23 126**	*e*PN	**Pn**	**15 24 19.5**	**+1.4**
CRVS			*e*SN	**Sn**	**15 24 48.3**	**+2.0**
PVCC	**Panska Ves**	**2.69 277**	*e*SG	**Sg**	**15 25 07.0**	**+0.7**
PRU	**Pruhonice**	**2.72 266**	*e*PG	**Pg**	**15 24 31.9**	**-0.2**
PRU			*e*SG	**Sg**	**15 25 04.9**	**-2.5**
BRG	**Berggiesshubel**	**3.13 283**	PG	**Pg**	**15 24 40.7**	**+0.8**
BRG			SG	**Sg**	**15 25 19.6**	**-0.7**
	5.6nm,0.8s					
BRG	**Berggiesshubel**	**3.13 283**	Pg	**Pg**	**15 24 40.7**	**+0.8**
BRG			Sg	**Sg**	**15 25 19.6**	**-0.7**
KHC	**Kasperske Hory**	**3.54 253**	*e*PG	**Pg**	**15 24 45.9**	**-1.9**
KHC			*e*SG	**Sg**	**15 25 32.6**	**-1.1**
CLL	**Collm**	**3.79 288**	*i* Sg	**Sg**	**15 25 45.1**	**+3.2**
	comp=Z,14nm,1.1s					
MOA	**Molln**	**3.81 232**	⇑*i*Pn	**Pn**	**15 24 40.1**	**+0.3**
MOA			⇑*i*Sg	**Sg**	**15 25 39.5**	**-2.7**
	comp=Z,5.4nm,0.5s					
NKC	**Novy Kostel**	**4.04 272**	*e*SG	**Sg**	**15 25 48.5**	**-1.4**

CSEM ***01*** *15:33:12.5±0.1, 38.14N×3025E, h2km, mb3.8/2, Error ellipse: s-maj=1.3km s-min=1.1km az=167.0*
NEIC ***01*** *15:33:13.0, 38.11N×3026E, h9km, ML3.7(ISK), After ISK.*
ISCJB ***01*** *15:33:13.6±0.5, 38.15N±002×3025E±002, h6km±3km, mb3.5/8, Error ellipse: s-maj=3.5km s-min=2.9km az=166.8*
ISK ***01*** *15:33:13.5, 38.12N×3026E, h9km, MD3.5*
MOS ***01*** *15:33:15.9±1.7, 3839N×3034E, h10km, mb3.9/2, Error ellipse: s-maj=23.0km s-min=13.7km az=94.7*
IDC ***01*** *15:33:17.9±5.6, 38.17N×3021E, h30km±42km, mb3.5/7, mb1 3.7/12, mb1mx3.5/26, mbtmp3.6/12, ML3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=24.9km s-min=16.4km az=150.0*
ISC 01 15:33:15.0±0.4, 3813N±002×3023E±002, h9km±3km, n80, σ1§04/106, mb3.5/5, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.11**	**142**	*i* P	**Pg**	**15 33 17.4**	**-0.2**
TKTP				*i* S	**Sg**	**15 33 21.8**	**+2.4**
ISP	**Isparta**	**0.36**	**142**	*i* PG	**Pg**	**15 33 20.2**	**-1.8**
ISP	**Isparta**	**0.36**	**142**	⇑*i*P	**Pg**	**15 33 21.0**	**-1.0**
KHL	**Karahalli**	**0.59**	**290**	*i* PG	**Pg**	**15 33 25.5**	**-1.0**
KHL				*i* SG	**Sg**	**15 33 35.6**	**+1.4**
BCK	**Bucak**	**0.72**	**157**	*i* PG	**Pg**	**15 33 27.3**	**-1.6**
ALT	**Altintas**	**0.93**	**354**	*i* PG	**Pg**	**15 33 31.8**	**-1.1**
ALT				*i* SG	**Sg**	**15 33 45.8**	**+0.8**
DENT	**Denizli**	**1.02**	**249**	*i* PG	**Pg**	**15 33 33.6**	**-1.0**
DNZL	**Cakiroluk**	**1.04**	**245**	*i* P	**Pg**	**15 33 33.9**	**-1.0**
DNZL				*i* S	**Sg**	**15 33 51.1**	**+2.8**
GOLH	**Golhisar**	**1.04**	**211**	*i* P	**Pg**	**15 33 34.5**	**-0.4**
GOLH				*i* S	**Sg**	**15 33 51.3**	**+2.9**
GDZ	**Gediz**	**1.13**	**329**	*i* P	**Pg**	**15 33 35.5**	**-1.1**
GDZ				*i* S	**Sg**	**15 33 52.8**	**+1.5**
MANT	**Manisa**	**1.37**	**286**	*i* P	**Pn**	**15 33 39.4**	**-0.9**
MANT				*i* S	**Sb**	**15 33 58.8**	**+0.5**
ELL	**Elmali**	**1.40**	**191**	*i* PN	**Pn**	**15 33 40.0**	**-0.7**
ESKT	**Eskisehir**	**1.47**	**19**	*i* P	**Pn**	**15 33 40.9**	**-0.8**
ESKT				*i* S	**Sn**	**15 34 02.7**	**+1.6**
ESKT	**Eskisehir**	**1.47**	**19**	*i* Pn	**Pn**	**15 33 41.1**	**-0.6**
SEYT	**Eskypehyr**	**1.47**	**19**	*i* P	**Pn**	**15 33 40.9**	**-0.8**
SEYT				*i* S	**Sn**	**15 34 02.7**	**+1.6**
KIZT	**Kizilcal**	**1.50**	**59**	*i* PN	**Pn**	**15 33 41.2**	**-0.8**
KONT	**Konya--Tatoy**	**1.69**	**96**	PN	**Pn**	**15 33 44.2**	**-0.5**
BORA	**Eskisehir**	**1.76**	**6**	*i* P	**Pn**	**15 33 44.8**	**-0.8**
BORA				*i* S	**Sn**	**15 34 09.9**	**+1.8**
YER	**Yerkesik**	**1.84**	**238**	PN	**Pn**	**15 33 46.6**	**-0.1**
DALT	**Dalyan (Mudla)**	**1.86**	**224**	PN	**Pn**	**15 33 47.0**	**0.0**
AYDN	**Tasoluk**	**1.92**	**257**	*i* P	**Pn**	**15 33 47.1**	**-0.7**
AYDN				*i* S	**Sn**	**15 34 13.3**	**+1.2**
AKAS	**Kas**	**1.96**	**195**	*i* P	**Pn**	**15 33 50.8**	**+2.5**
AKAS				*i* S	**Sn**	**15 34 19.1**	**+6.1**
AKS	**Akhisar**	**2.04**	**292**	PN	**Pn**	**15 33 48.6**	**-0.9**
ORLT	**Orhaneli**	**2.18**	**332**	PN	**Pn**	**15 33 51.1**	**-0.3**
ULDT	**Uludag**	**2.19**	**337**	*i* P	**Pn**	**15 33 51.2**	**-0.3**
ULDT				*i* S	**Sn**	**15 34 13.7**	**-5.0**
ULDT	**Uludag**	**2.19**	**337**	*i* P	**Pn**	**15 33 51.2**	**-0.3**
ULDT				*i* S	**Sn**	**15 34 13.6**	**-5.1**
KDAG	**Bornova**	**2.35**	**278**	*i* P	**Pn**	**15 33 53.1**	**-0.7**
KDAG				*i* S	**Sn**	**15 34 22.6**	**-0.1**
IZM	**Izmir**	**2.35**	**278**	*e*PN	**Pn**	**15 33 53.1**	**-0.7**
BALB	**Balikesir**	**2.38**	**310**	PN	**Pn**	**15 33 54.1**	**0.0**
MDU	**Mudurnu**	**2.46**	**18**	PN	**Pn**	**15 33 54.5**	**-0.7**
YLV	**Yalova**	**2.53**	**345**	PN	**Pn**	**15 33 55.5**	**-0.7**
BODT	**Bodrum**	**2.55**	**246**	PN	**Pn**	**15 33 56.2**	**-0.4**
KCT	**Karacabey**	**2.59**	**326**	PN	**Pn**	**15 33 56.5**	**-0.5**
ERMK	**Ermenek**	**2.60**	**124**	*i* P	**Pn**	**15 34 00.9**	**+3.7**
ERMK				*i* S	**Sg**	**15 34 40.0**	**+1.6**
HENT	**Hendek**	**2.74**	**11**	*i* P	**Pn**	**15 33 56.5**	**-2.7**
HENT				*i* S	**Sg**	**15 34 41.7**	**-1.3**
SGKT	**Sivrigoynuk**	**2.82**	**29**	*i* P	**Pn**	**15 34 00.9**	**+0.7**
SGKT				*i* S	**Sn**	**15 34 40.3**	**+6.0**
BNT	**Bandirma**	**2.86**	**322**	*e*PN	**Pn**	**15 34 00.6**	**-0.2**
URLA	**Izmir**	**2.87**	**276**	*i* P	**Pn**	**15 34 00.5**	**-0.4**
URLA				*i* S	**Sg**	**15 34 49.9**	**+2.6**
KAMT	**Kaman**	**2.99**	**64**	*e*PN	**Pn**	**15 34 02.2**	**-0.4**
BRTR	**Keskin Array B**	**3.10**	**58**	Pn	**Pn**	**15 34 04.2**	**+0.2**
	5.4nm,0.3s,baz=241,slow=15,SNR=130						
BRTR				Sn	**Sn**	**15 34 41.7**	**+0.5**
	7.9nm,0.3s,baz=235,slow=21,SNR=14						
BRTR	**Keskin Array B**	**3.10**	**58**	Pn	**Pn**	**15 34 04.2**	**+0.1**
BRTR				Sn	**Sn**	**15 34 41.7**	**+0.5**
BRTR	**Keskin Array B**	**3.10**	**58**	P	**Pn**	**15 34 04.3**	**+0.2**
BRTR						15 34 41.7	
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BR131	**Keskin Array S**	**3.10**	**58**	⇓*e*Pn	**Pn**	**15 34 04.2**	**+0.1**
BR131				*e*Sn	**Sn**	**15 34 41.3**	**+0.1**
BR131	**Keskin Array S**	**3.10**	**58**	⇓*e*Pn	**Pn**	**15 34 04.2**	**+0.1**
BR131				*e*Sn	**Sn**	**15 34 41.3**	**+0.1**
IKL	**Isikli**	**3.34**	**123**	PN	**Pn**	**15 34 07.4**	**0.0**
ELDT	**Eldivan**	**3.42**	**45**	*i* P	**Pn**	**15 34 08.1**	**-0.4**
ELDT				*i* S	**Sn**	**15 34 49.8**	**+0.7**
MFT	**Murefte**	**3.50**	**320**	*e*PN	**Pn**	**15 34 09.8**	**+0.2**
CDAG	**Cicekdag**	**3.56**	**64**	*i* P	**Pn**	**15 34 10.8**	**+0.4**
CDAG				*i* S	**Sn**	**15 34 52.0**	**-0.5**
SAFT	**Safranbolu**	**3.64**	**31**	*e*PN	**Pn**	**15 34 11.4**	**-0.1**
KARA	**Karaisali**	**3.92**	**101**	PN	**Pn**	**15 34 15.9**	**+0.5**
CORM	**Corum**	**3.98**	**58**	PN	**Pn**	**15 34 16.7**	**+0.5**
CSS	**Prodhromos**	**4.02**	**141**	*e*Pn	**Pn**	**15 34 15.6**	**-1.2**
CSS	**Prodhromos**	**4.02**	**141**	*e*Pn	**Pn**	**15 34 15.6**	**-1.2**
CTKT	**Corum**	**4.32**	**53**	*i* P	**Pn**	**15 34 21.6**	**+0.7**
CTKT				*i* S	**Sn**	**15 35 13.6**	**+2.2**
EDRB	**Edirne**	**4.58**	**325**	*e*PN	**Pn**	**15 34 23.8**	**-0.6**
IDI	**Anoyia**	**5.14**	**238**	Pn	**Pn**	**15 34 32.9**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=80,slow=3,3,SNR=4.8						
TIRR	**Tirgusor**	**6.47**	**348**	⇑P	**Pn**	**15 34 50.3**	**-0.1**
TIRR	**Tirgusor**	**6.47**	**348**	*e*Pn	**Pn**	**15 34 50.1**	**-0.3**
HARR	**Harsova**	**6.78**	**346**	⇑P	**Pn**	**15 34 54.4**	**-0.3**
CFR	**Carcaliu**	**7.22**	**348**	⇓P	**Pn**	**15 35 00.2**	**-0.5**
MLR	**Muntele Rosu**	**8.02**	**338**	Pn	**Pn**	**15 35 12.7**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=175,slow=10,SNR=4.9						
MLR	**Muntele Rosu**	**8.02**	**338**	P	**Pn**	**15 35 12.7**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VRI	**Vrincioaia**	**8.16**	**342**	⇓P	**Pn**	**15 35 14.1**	**+0.5**
VOIR		**8.27**	**334**	⇑P	**Pn**	**15 35 15.9**	**+0.9**
BZS	**Buzias**	**9.86**	**322**	⇑P	**Pn**	**15 35 36.9**	**0.0**
BURAR	**Bucovina Array**	**10.17**	**340**	⇓P	**Pn**	**15 35 42.8**	**+1.7**
AKASG	**Malin Array Be**	**12.59**	**357**	Pn	**Pn**	**15 36 12.8**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=175,slow=12,SNR=4.6						
AKASG	**Malin Array Be**	**12.59**	**357**	P	**Pn**	**15 36 12.8**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**16.05**	**317**	Pn	**Pn**	**15 37 04.2**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=141,slow=8.5,SNR=4.6						
AKTK	**Aktyubinsk**	**23.24**	**49**	P	**P**	**15 38 23.8**	**+1.3**
	comp=Z,2.0nm,0.6s,mb3.7						
AKTO	**Aktyubinsk**	**23.24**	**49**	P	**P**	**15 38 23.8**	**+1.3**
	comp=Z,1.7nm,0.6s,mb3.6,baz=258,slow=9.9,SNR=7.2						
AKTO	**Aktyubinsk**	**23.24**	**49**	P	**P**	**15 38 23.8**	**+1.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
HFS	**Hagfors**	**24.40**	**340**	P	**P**	**15 38 33.7**	**+0.1**
	comp=Z,2.6nm,0.9s,mb3.7,baz=180,slow=3.0,SNR=3.6						
HFS	**Hagfors**	**24.40**	**340**	P	**P**	**15 38 33.7**	**+0.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**25.84**	**339**	P	**P**	**15 38 45.7**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.3,baz=144,slow=8.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**35.52**	**233**	P	**P**	**15 40 12.1**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=36,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**38.75**	**60**	P	**P**	**15 40 39.0**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.2,baz=269,slow=9.5,SNR=7.5						
SONM	**Songino Array**	**54.45**	**54**	P	**P**	**15 42 42.5**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=285,slow=9.4,SNR=3.1						
YKA	**Yellowknife Ar**	**75.81**	**344**	P	**P**	**15 44 59.6**	**-1.7**
	comp=Z,0.1nm,0.4s,mb3.1,baz=41,slow=5.7,SNR=4.8						
YKA	**Yellowknife Ar**	**75.81**	**344**	P	**P**	**15 44 59.6**	**-1.8**

NEIC ***01*** *15:56:42.6, 41.10S×17355E, h118km, MG3.9(WEL), After WEL.*
WEL 01 15:56:42.6±0.2, 4106S×17353E, h118km±1km, ML3.9/16, 13C-1D, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.20**	**215**	⇑PN	**Pn**	15 56 59.0	0.0
NNZ				SN	**Sn**	15 57 10.5	-0.8
NNZ	**Nelson**	**0.20**	**215**	P	**Pn**	15 56 59.0	+0.1
NNZ				S	**Sn**	15 57 10.5	-0.8
DUWZ	**D'Urville Isla**	**0.39**	**50**	⇑PN	**Pn**	15 57 00.0	+0.3
DUWZ				SN	**Sn**	15 57 12.4	-0.2
TUWZ	**Tuamarina**	**0.49**	**140**	⇑PN	**Pn**	15 57 00.5	+0.3
TUWZ				SN	**Sn**	15 57 13.0	-0.5
TCW	**Tory Channel**	**0.59**	**106**	⇑PN	**Pn**	15 57 01.2	+0.3
TCW				SN	**Sn**	15 57 13.9	-0.8
TCW	**Tory Channel**	**0.59**	**106**	P	**Pn**	15 57 01.2	+0.3
BSWZ	**Blackbirch Sta**	**0.71**	**158**	PN	**Pn**	15 57 02.0	+0.2
BSWZ				SN	**Sn**	15 57 15.8	-0.5
BSWZ	**Blackbirch Sta**	**0.71**	**158**	P	**Pn**	15 57 01.0	-0.8
BSWZ				S	**Sn**	15 57 14.8	-1.5
QRZ	**Quartz Range**	**0.79**	**286**	PN	**Pn**	15 57 02.2	-0.2
QRZ				SN	**Sn**	15 57 16.2	-1.3
QRZ	**Quartz Range**	**0.79**	**286**	P	**Pn**	15 57 02.2	-0.3
THZ	**Tophouse**	**0.85**	**213**	⇑PN	**Pn**	15 57 03.1	+0.1
THZ				SN	**Sn**	15 57 18.0	-0.4
THZ	**Tophouse**	**0.85**	**213**	P	**Pn**	15 57 03.1	+0.1
CMWZ	**Cape Campbell**	**0.86**	**144**	PN	**Pn**	15 57 03.6	+0.5
CMWZ	**Cape Campbell**	**0.86**	**144**	P	**Pn**	15 57 02.7	-0.4
MRW	**Makara Radio**	**0.90**	**101**	PN	**Pn**	15 57 03.4	-0.1
MRW				SN	**Sn**	15 57 18.0	-1.3
MRW	**Makara Radio**	**0.90**	**101**	P	**Pn**	15 57 03.4	-0.1
SNZO	**South Karori**	**0.92**	**106**	⇑PN	**Pn**	15 57 03.5	-0.2
SNZO				SN	**Sn**	15 57 18.3	-1.4
SNZO	**South Karori**	**0.92**	**106**	P	**Pn**	15 57 03.5	-0.2
WEL	**Wellington**	**0.96**	**104**	PN	**Pn**	15 57 04.0	0.0
WEL				SN	**Sn**	15 57 19.1	-1.2
WEL	**Wellington**	**0.96**	**104**	P	**Pn**	15 57 04.0	-0.1
KIW	**Kapiti Island**	**1.06**	**80**	PN	**Pn**	15 57 05.1	0.0
KIW				SN	**Sn**	15 57 21.3	-0.8
KIW	**Kapiti Island**	**1.06**	**80**	P	**Pn**	15 57 05.1	0.0
BHW	**Baring Head**	**1.07**	**110**	⇑PN	**Pn**	15 57 04.9	-0.2
BHW	**Baring Head**	**1.07**	**110**	P	**Pn**	15 57 03.9	-1.3
CAW	**Cannon Point**	**1.17**	**93**	PN	**Pn**	15 57 05.9	-0.2
CAW	**Cannon Point**	**1.17**	**93**	P	**Pn**	15 57 05.9	-0.2
MSWZ	**Moikau Station**	**1.35**	**106**	PN	**Pn**	15 57 07.7	-0.4
MSWZ	**Moikau Station**	**1.35**	**106**	P	**Pn**	15 57 07.7	-0.4
KHZ	**Kahutara**	**1.36**	**180**	⇓PN	**Pn**	15 57 08.1	-0.2
PAWZ	**Paruwai Farm**	**1.47**	**103**	PN	**Pn**	15 57 09.0	-0.5
PAWZ	**Paruwai Farm**	**1.47**	**103**	P	**Pn**	15 57 09.0	-0.5
DSZ	**Denniston Nort**	**1.47**	**241**	⇑PN	**Pn**	15 57 08.9	-0.6
DSZ				SN	**Sn**	15 57 28.0	-2.0
MTW	**Mount Morrison**	**1.50**	**95**	⇑PN	**Pn**	15 57 09.3	-0.5
MTW	**Mount Morrison**	**1.50**	**95**	P	**Pn**	15 57 09.3	-0.5
MRZ	**Mangatainoka R**	**1.60**	**76**	⇑PN	**Pn**	15 57 10.5	-0.6
MRZ				SN	**Sn**	15 57 31.6	-1.3
MRZ	**Mangatainoka R**	**1.60**	**76**	P	**Pn**	15 57 10.5	-0.6
TRWZ	**Traveller**	**1.67**	**103**	PN	**Pn**	15 57 11.4	-0.4
WAZ	**Wanganui**	**1.71**	**41**	⇑PN	**Pn**	15 57 13.0	+0.7
WAZ	**Wanganui**	**1.71**	**41**	P	**Pn**	15 57 13.0	+0.6
NRZ	**Ngariki Road**	**1.74**	**10**	P	**Pn**	15 57 13.3	+0.5
NWEZ	**Newall Road**	**1.80**	**8**	PN	**Pn**	15 57 13.2	-0.2
NWEZ	**Newall Road**	**1.80**	**8**	P	**Pn**	15 57 13.9	+0.5
NEZ	**North Egmont**	**1.83**	**14**	*e*PN	**Pn**	15 57 14.1	+0.2
NEZ	**North Egmont**	**1.83**	**14**	P	**Pn**	15 57 14.3	+0.4
RAEZ	**Rainy Point**	**1.89**	**21**	P	**Pn**	15 57 15.6	+1.1
PKE	**Pukeiti**	**1.89**	**11**	PN	**Pn**	15 57 14.4	-0.2
PKE	**Pukeiti**	**1.89**	**11**	P	**Pn**	15 57 14.4	-0.2
LTZ	**Lake Taylor**	**1.96**	**208**	⇑PN	**Pn**	15 57 14.6	-0.8
LTZ	**Lake Taylor**	**1.96**	**208**	P	**Pn**	15 57 14.6	-0.9
BFZ	**Birch Farm**	**2.10**	**81**	PN	**Pn**	15 57 16.3	-0.8
BFZ	**Birch Farm**	**2.10**	**81**	P	**Pn**	15 57 16.3	-0.8
TSZ	**Takapari Road**	**2.10**	**63**	P	**Pn**	15 57 16.5	-0.7
VRZ	**Vera Road**	**2.15**	**26**	⇑PN	**Pn**	15 57 18.3	+0.5
VRZ	**Vera Road**	**2.15**	**26**	P	**Pn**	15 57 18.3	+0.5
MTVZ	**Mangateitei**	**2.23**	**42**	PN	**Pn**	15 57 18.7	-0.2
PKVZ	**Pokaka**	**2.25**	**39**	PN	**Pn**	15 57 18.8	-0.2
TRVZ	**Turoa**	**2.34**	**42**	PN	**Pn**	15 57 20.4	+0.2
WNVZ	**Wahianoa**	**2.34**	**43**	PN	**Pn**	15 57 20.1	-0.1
WNVZ	**Wahianoa**	**2.34**	**43**	P	**Pn**	15 57 20.2	-0.1
MOVZ	**Moawhango**	**2.37**	**47**	PN	**Pn**	15 57 19.9	-0.7
MOVZ	**Moawhango**	**2.37**	**47**	P	**Pn**	15 57 19.9	-0.7
FWVZ	**Far West T-bar**	**2.37**	**41**	PN	**Pn**	15 57 20.5	-0.1
FWVZ	**Far West T-bar**	**2.37**	**41**	P	**Pn**	15 57 20.6	-0.1
WPVZ	**Whakapapa**	**2.41**	**41**	P	**Pn**	15 57 21.0	-0.1
TUVZ	**Tukino**	**2.42**	**43**	P	**Pn**	15 57 21.2	0.0
NGZ	**Ngauruhoe**	**2.46**	**41**	P	**Pn**	15 57 21.5	-0.3
WTVZ	**West Tongariro**	**2.50**	**40**	P	**Pn**	15 57 21.9	-0.4
CRLZ	**Canterbury Las**	**2.61**	**195**	P	**Pn**	15 57 21.8	-1.9
KATZ	**Kakaramea**	**2.66**	**39**	P	**Pn**	15 57 23.8	-0.6
MQZ	**McQueen's Vall**	**2.73**	**193**	P	**Pn**	15 57 23.1	-2.1
HIZ	**Hauiti**	**2.74**	**22**	P	**Pn**	15 57 25.2	-0.1
RITZ	**Rihia Road**	**2.74**	**42**	P	**Pn**	15 57 24.9	-0.5
WVZ	**Waitaha Valley**	**2.90**	**225**	P	**Pn**	15 57 25.7	-1.7
BKZ	**Black Stump Fm**	**2.95**	**51**	P	**Pn**	15 57 26.8	-1.4
RPZ	**Rata Peaks**	**3.23**	**214**	*e*P	**Pn**	15 57 29.4	-2.4
KNZ	**Kokohu**	**3.78**	**59**	*e*P	**Pn**	15 57 36.6	-2.5
FOZ	**Fox Glacier**	**3.79**	**227**	P	**Pn**	15 57 35.8	-3.5
URZ	**Urewera**	**3.93**	**46**	P	**Pn**	15 57 38.4	-2.7
MWZ	**Matawai**	**4.11**	**50**	*e*P	**Pn**	15 57 40.8	-2.7
LBZ	**Lake Benmore**	**4.14**	**215**	*e*P	**Pn**	15 57 41.0	-2.9
ODZ	**Otahua Downs**	**4.51**	**207**	*e*P	**Pn**	15 57 46.9	-2.0
JCZ	**Jackson Bay**	**4.64**	**228**	P	**Pn**	15 57 47.8	-2.8
PUZ	**Puketiti**	**4.71**	**52**	*e*P	**Pn**	15 57 48.5	-3.1
WKZ	**Wanaka**	**5.02**	**220**	*e*P	**Pn**	15 57 51.6	-4.1
MXZ	**Matakaoa Point**	**5.09**	**48**	*e*P	**Pn**	15 57 54.1	-2.6
EAZ	**Earnscleugh**	**5.19**	**215**	*e*P	**Pn**	15 57 55.0	-3.0
TUZ	**Tuapeka**	**5.66**	**209**	*e*P	**Pn**	15 58 01.9	-2.4

IDC ***01*** *16:00:36.9±2.3, 1188N×12005E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=299.2km s-min=25.9km az=61.0*
ISCJB ***01*** *16:01:32.1±1.6, 76N±01×1272E±01, h33km, mb3.2/2, Error ellipse: s-maj=21.5km s-min=10.8km az=109.1*
ISC 01 16:01:34.1±1.6, 76N±01×1272E±01, h35km, n5, σ1§07/8, mb3.2/2, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.70**	**254**	⇓*i*P	**Pn**	**16 02 01.4**	**+0.2**
DMPH				*i* S	**Sn**	**16 02 28.5**	**+6.8**
CGP	**Cagayan de Oro**	**2.60**	**290**	⇑*e*P	**Pn**	**16 02 10.8**	**-2.8**
CGP				*e*S	**Sn**	**16 02 44.3**	**+0.3**
SCPH	**Surigao**	**2.77**	**324**	*e*P	**Pn**	**16 02 14.9**	**-0.9**
SCPH				*e*S	**Sn**	**16 02 49.0**	**+1.0**
WRA	**Warramunga Arr**	**28.21**	**166**	P	**P**	**16 07 28.2**	**+4.7**
	0.5nm,0.9s,mb3.2,baz=335,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**31.71**	**168**	P	**P**	**16 07 55.0**	**+0.6**
	0.4nm,0.9s,mb3.2,baz=339,slow=7.7,SNR=4.9						

BJI 01 16:03:03.9, 2040N×10059E, h12km, ML4.0, Ms3.9, Msz3.4, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**4.56**	**152**	P	**Pn**	16 04 21.5	+8.8
NST	**Nakhon Sawan**	**4.72**	**185**	P	**Pn**	16 04 04.5	-10
KMI	**Kunming**	**5.10**	**22**	PG	**Pg**	16 04 35.1	-6.5
KMI				SG	**Sg**	16 05 44.2	-3.5
KMI				Smax			
	comp=N,23nm,1.3s						
KMI				Smax			
	comp=E,31nm,1.3s						
KMI				LR	LR		
	comp=N,266nm,8.8s						
KMI				LR	LR		
	comp=E,442nm,10.1s						
KMI				LR	LR		
	comp=Z,137nm,9.0s						
MKAR	**Makanchi Array**	**30.27**	**335**	P	P	16 09 10.8	-3.9
	comp=Z,0.4nm,0.5s,baz=141,slow=8.9,SNR=8.0						

NIED ***01*** *16:24:00, 3100N×13190E, h26km, Mw3.9 Best double couple: M0 7.41000×10^14 NP1:φ0=50.00000°, δ55.00000°, λ92.00000°. NP2:φ0=226.00000°, δ35.00000°, λ87.00000°.*
JMA 01 16:23:10.2±0.2, 3105N×13185E, h29km±2km, M3.2, 7C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.69**	**314**	⇓P	Pb	16 23 23.4	-0.2
JNAR				*e*S	Sb	16 23 33.0	+0.2
JTSR	**Tashiro 2**	**0.81**	**279**	⇑P	Pn	16 23 25.0	-0.6
JTSR				*e*S	Sb	16 23 36.2	0.0
JTN	**Tanegashima 3**	**0.85**	**242**	⇑P	Pn	16 23 26.3	+0.2
JTN				S	Sb	16 23 38.6	+1.3
JTZ	**Takazaki**	**1.07**	**323**	⇑P	Pn	16 23 29.2	0.0
JTZ				*e*S	Sn	16 23 44.2	+1.1
JTSN	**Tsuno**	**1.23**	**346**	⇑P	Pn	16 23 31.8	+0.4
JTSN				*e*S	Sn	16 23 47.2	+0.2
JSU	**Suzuyama**	**1.28**	**291**	⇑P	Pn	16 23 32.1	0.0
JZO	**Okuchi**	**1.52**	**316**	⇑P	Pn	16 23 35.7	+0.2
JKC	**Kuchinoerabu**	**1.54**	**248**	*e*S	Sn	16 23 54.7	0.0
JIU2	**Izumi 2**	**1.73**	**330**	⇑P	Pn	16 23 39.1	+0.8

NAO ***01*** *16:22:52.8, 2599N×14140E, h33km, mb4.1*
IDC ***01*** *16:23:09.2±0.7, 2991N×13997E, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/25, mbtmp4.0/18, ML3.6/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/31, Error ellipse: s-maj=23.3km s-min=16.9km az=70.0*
ISCJB ***01*** *16:23:14.3±1.0, 2979N±006×1400E±01, h54km±10km, mb3.9/17, MS4.3/2, Error ellipse: s-maj=19.0km s-min=7.2km az=138.1*
NEIC ***01*** *16:23:19.3±1.6, 2991N×13995E, h78km±13km, mb4.2/1, Error ellipse: s-maj=16.6km s-min=12.9km az=82.0*
BJI ***01*** *16:23:19.3, 2990N×14000E, h78km, mB4

CBIJ Chichi jima 3.30 145 P **Pn 16 43 33.7 -1.1**
CBIJ eS **Sn 16 44 11.1 -1.6**
CBIJ Chichi jima 3.30 145 Pn **Pn 16 43 33.6 -1.1**
68nm,0.3s,baz=329,slow=5.7,SNR=21
CBIJ Sn **Sn 16 44 11.3 -1.4**
93nm,0.3s,baz=272,slow=23,SNR=10
CBIJ LR LR 16 44 28.2
comp=Z,290nm,20.2s,baz=86,slow=32
JHJ Hachijo jima 2 3.30 356 Pn **Pn 16 43 33.9 -1.0**
14nm,0.3s,baz=30,slow=10,SNR=2.1
JHJ Sn **Sn 16 44 13.8 +1.0**
60nm,0.3s,baz=26,slow=22,SNR=4.5
JHHJ Haha-jima-NKT 3.69 149 P **Pn 16 43 40.5 +0.4**
JHHJ eS **Sn 16 44 22.8 +0.5**
BSO3 Boso 3 4.99 4 eS **Sn 16 44 49.1 -5.2**
BSO4 Boso 4 5.16 3 eS **Sn 16 44 55.1 -3.6**
JOD2 Odawara 2 5.49 352 P **Pn 16 44 08.0 +3.1**
JHU Hanno 6.05 354 P **Pn 16 44 13.3 +0.7**
JHU eS **Sn 16 45 18.8 -1.7**
JRY Ryogami san 6.26 351 P **Pn 16 44 17.2 +1.8**
JAG Ashikaga 6.61 356 eS **Sn 16 45 34.4 +0.2**
JHO Hitachi 6.79 4 P **Pn 16 44 22.5 -0.2**
JHO eS **Sn 16 45 36.1 -2.5**
MJAR Matsushiro Arr 6.88 347 Pn **Pn 16 44 26.5 +2.5**
0.8nm,0.3s,baz=156,slow=11,SNR=4.3
MJAR Sn **Sn 16 45 42.0 +1.0**
baz=151,slow=16,SNR=1.6
MAJO Matsushiro 6.88 347 P **Pn 16 44 27.9 +3.9**
MAT Matsushiro 6.88 347 P **Pn 16 44 30.3 +6.3**
MAT S **Sn 16 45 45.7 +4.7**
MAT Matsushiro 6.88 347 eP **Pn 16 44 30.0 +6.0**
MAT eS **Sn 16 45 46.0 +5.0**
MAT pmax pmax
comp=Z,29nm,1.0s
MAT Matsushiro 6.88 347 eP **Pn 16 44 30.0 +6.0**
comp=Z,29nm,1.0s
MAT eS **Sn 16 45 46.0 +5.0**
JMK Ichinoseki 9.16 6 eS **Sn 16 46 31.0 -5.9**
ASAJ Asahikawa 14.42 7 Pn **Pn 16 46 04.7 -2.1**
comp=Z,0.6nm,0.3s,baz=203,slow=15,SNR=4.9
MDJ Mudanjiang 16.94 334 P **Pn 16 46 38.8 -0.3**
MDJ AMB AMB
comp=Z,9.0nm,1.3s
MDJ AMB AMB
comp=Z,55nm,3.1s
YSS Yuzh-Sakhalins 17.24 6 eP **Pn 16 46 44.3 +1.4**
YSS Yuzh-Sakhalins 17.24 6 eP **Pn 16 46 42.7 -0.1**
comp=Z,10nm,0.7s
NJ2 Nanjing 18.32 282 eP **Pn 16 47 02.9 +6.8**
NJ2 AMB AMB
comp=Z,20nm,1.2s
ENH Enshi 26.43 279 P **P 16 48 16.8 -0.9**
comp=Z,4.8nm,0.8s,mb4.1
BTO Baotou 26.68 302 eP **P 16 48 16.9 -3.1**
XAN Xi'an 26.70 287 P **P 16 48 21.9 +1.7**
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
PET Petropavlovsk 26.90 25 eP **P 16 48 22.2 +0.2**
PET e 16 48 28.9
MA2 Magadan 30.63 11 eP **P 16 48 57.4 +2.2**
MA2 pmax pmax
comp=Z,30nm,0.6s,mb5.3
LZH Lanzhou 30.90 291 eP **P 16 48 58.5 +1.0**
LZH AP pP 16 49 17.0 +6.7
LZH XP sP 16 49 26.0 +10
LZH AMB AMB
comp=Z,30nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,108nm,4.2s
ULN Ulaanbaatar 31.07 315 eP **P 16 48 56.0 -3.0**
CD2 Chengdu 31.25 281 eP **P 16 48 59.9 -0.7**
SONM Songino Array 31.47 314 P **P 16 49 01.7 -0.8**
comp=Z,0.6nm,0.8s,mb3.5,baz=132,slow=6.1,SNR=4.3
SONM LR LR 17 01 03.5
comp=Z,54nm,20.7s,MS3.2,baz=213,slow=35
YAK Yakutsk 32.93 351 eP **P 16 49 13.4 -2.0**
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
FX1 Attu Island--F 33.42 37 eP **P 16 49 22.9 +3.3**
SEY Seymchan 34.08 10 eP **P 16 49 25.3 0.0**
GTA Gaotai 34.23 297 eP **P 16 49 28.1 +1.4**
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
BILL Bilibino 41.27 15 eP **P 16 50 26.2 +0.2**
BILL e 16 52 21.3
BILL pmax pmax
comp=Z,15nm,2.5s,mb4.2
BILL Bilibino 41.27 15 eP **P 16 50 25.8 -0.2**
comp=Z,5.4nm,1.0s,mb4.1
TIXI Tiksi 42.33 355 eP **P 16 50 32.7 -2.0**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
MKAR Makanchi Array 47.32 308 P **P 16 51 14.4 0.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=84,slow=11,SNR=5.0
MKAR Makanchi Array 47.32 308⇑eP **P 16 51 14.3 -0.1**
KURK Kurchatov 49.76 313 eP **P 16 51 31.2 -1.9**
WRA Warramunga Arr 49.77 187 P **P 16 51 34.7 +1.4**
comp=Z,4.1nm,0.8s,mb4.5,baz=6.2,slow=8.0,SNR=17
ASAR Alice Springs 53.50 187 P **P 16 52 02.0 +0.9**
comp=Z,0.8nm,0.5s,mb3.9,baz=1.6,slow=5.8,SNR=16
BRVK Borovoye 54.84 316 eP **P 16 52 10.7 -0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BRVK Borovoye 54.84 316 eP **P 16 52 10.7 -0.1**
comp=Z,0.9nm,0.6s,mb4.0
ZRNK Zerenda 55.62 316 eP **P 16 52 15.8 -0.6**
ZRNK e 16 52 22.1
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ZRNK Zerenda 55.62 316 eP **P 16 52 15.8 -0.7**
comp=Z,1.2nm,0.6s,mb4.1
ZRNK e 16 52 22.1
ILAR Eielson Array 56.26 30 P **P 16 52 20.9 -0.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=262,slow=5.6,SNR=8.7
ILAR LR LR 17 19 45.8
comp=Z,80nm,18.6s,MS3.8,baz=177,slow=40
ARU Arti 61.13 321⇓iP **P 16 52 54.0 -0.9**
ARU e 16 55 08.1
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
STKA Stephens Creek 61.37 179 P **P 16 52 55.5 -1.0**
comp=Z,1.5nm,0.8s,mb4.2,baz=326,slow=3.6,SNR=3.5
ARCES ARCESS Array B 70.36 340 P **P 16 53 54.7 +0.5**
comp=Z,3.3nm,0.5s,mb4.5,baz=74,slow=8.8,SNR=19
ARCES ARCESS Array B 70.36 340 P **P 16 53 54.7 +0.4**
YKA Yellowknife Ar 70.65 28 P **P 16 53 56.4 +0.4**
comp=Z,1.0nm,1.0s,mb3.7,baz=295,slow=5.6,SNR=10.0
YKA Yellowknife Ar 70.65 28 P **P 16 53 56.4 +0.4**
JOF Joensuu 71.82 333 ep **P 16 54 01.2 -1.9**
comp=Z,3.9nm,0.9s,mb4.3
OBN Obninsk 73.23 324 eP **P 16 54 11.1 -0.4**
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KAF Kangasniemi 74.21 333 ep **P 16 54 16.4 -0.9**
comp=Z,2.5nm,0.5s,mb4.4,baz=54,slow=5.5
KAF Kangasniemi 74.21 333 eP **P 16 54 16.4 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
FINES FINESS Array B 74.68 333 P **P 16 54 20.0 0.0**
comp=Z,4.6nm,0.8s,mb4.5,baz=68,slow=6.3,SNR=19
KIV Kislovodsk 74.83 312 eP **P 16 54 21.4 +0.6**
KIV pmax pmax
comp=Z,17nm,1.7s,mb4.7
AKASG Malin Array Be 79.32 323 P **P 16 54 46.0 -0.1**
comp=Z,2.7nm,0.5s,mb4.4,baz=52,slow=5.4,SNR=21
AKASG Malin Array Be 79.32 323 P **P 16 54 46.0 -0.1**
NVAR Mina Array Bea 80.30 51 P **P 16 54 54.0 +2.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=286,slow=6.2,SNR=13
NB2 NORSAR Subarra 80.39 337 P **P 16 54 51.7 -0.1**
comp=Z,12nm,1.2s,mb4.7,baz=44,slow=5.3
NOA NORSAR Array B 80.39 337 P **P 16 54 52.0 +0.2**
comp=Z,3.0nm,0.7s,mb4.3,baz=44,slow=5.3,SNR=10.0
BR131 Keskin Array S 82.79 312 eP **P 16 55 04.7 +0.2**
comp=Z,2.7nm,1.0s,mb4.2
BRTR Keskin Array B 82.79 312 P **P 16 55 05.3 +0.8**
comp=Z,2.4nm,0.9s,mb4.2,baz=107,slow=2.4,SNR=10
PDAR Pinedale Array 83.58 44 P **P 16 55 09.1 +0.5**
comp=Z,0.3nm,0.7s,mb3.5,baz=297,slow=3.3,SNR=3.5
CLL Collm 86.77 330⇑iP **P 16 55 26.6 +2.1**
comp=Z,5.0nm,1.0s,mb4.7
CLL Collm 86.77 330⇑iP **P 16 55 26.6 +2.1**
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
GERES GERESS Array B 88.22 328 P **P 16 55 31.1 -0.4**
comp=Z,0.3nm,0.5s,mb3.8,baz=18,slow=4.2,SNR=3.9

TXAR Lajitas Array 95.44 52 P **P 16 56 07.9 +3.0**
comp=Z,0.2nm,0.3s,mb4.0,baz=284,slow=3.7,SNR=2.6
LPAZ La Paz 150.87 69 PKP PKPdf 17 02 31.1 +4.1
comp=Z,1.7nm,0.9s,baz=347,slow=7.0,SNR=3.7
LPAZ PKPbc PKPbc 17 02 36.5 +3.8
comp=Z,2.4nm,1.0s,baz=18,slow=4.0,SNR=5.7
LPAZ La Paz 150.87 69 PKP PKPdf 17 02 31.1 +4.1
LPAZ PKPbc PKPbc 17 02 36.5 +3.8
PLCA Paso Flores 152.87 122 PKPbc PKPbc 17 02 40.1 +2.9
comp=Z,1.8nm,0.8s,baz=356,slow=21,SNR=4.6

*ISCJB **01** 16:43:25.8±6.4, 180S×06×1767W×07, h400km, mb3.5/4, Error ellipse: s-maj=116.1km s-min=30.3km az=105.0*
*IDC **01** 16:43:31.4±8.7, 1836S×17703W, h416km±83km, mb3.2/4, mb1 3.3/5, mb1mx3.1/18, mbtmp4.1/5, Error ellipse: s-maj=59.0km s-min=30.4km az=37.0*
*NEIC **01** 16:43:37.3±4.0, 1861S×17727W, h473km±43km, mb3.7/2, Error ellipse: s-maj=35.4km s-min=27.3km az=188.0*
ISC 01 16:43:28.3±5.3, 182S±05×1768W±06, h400km, n13, σ0°35/10, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.23**	**254**	P	**P**	**16 46 54.1**	**+0.1**
	0.4nm,0.3s,baz=74,slow=18,SNR=7.1						
URZ	**Urewera**	**20.68**	**194**	P	**P**	**16 47 39.0**	**+0.1**
	3.6nm,0.3s,baz=52,slow=7.3,SNR=7.4						
CTA	**Charters Tower**	**34.95**	**261**	P	**P**	**16 49 44.2**	**-0.3**
	1.7nm,0.5s,mb3.7,baz=90,slow=8.1,SNR=7.1						
CTA	**Charters Tower**	**34.95**	**261**	P	**P**	**16 49 44.2**	**-0.3**
CTAO	**Charters Tower**	**34.95**	**261**	eP	**P**	**16 49 45.0**	**+0.5**
	1.3nm,0.5s,mb3.5						
WB2	**Warramunga Arr**	**46.11**	**260**	eP	**P**	**16 51 14.5**	**0.0**
WRAB	**Tennant Creek**	**46.11**	**260**	eP	**P**	**16 51 15.1**	**+0.6**
	2.0nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**46.12**	**260**	P	**P**	**16 51 14.5**	**-0.1**
	0.9nm,0.5s,mb3.4,baz=97,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**46.22**	**254**	P	**P**	**16 51 14.7**	**-0.6**
	0.7nm,0.4s,mb3.3,baz=92,slow=8.5,SNR=55						
ASAR				PcP	PcP	16 52 45.0	+1.6
	0.6nm,0.6s,baz=110,slow=4.0,SNR=6.1						
ASPA	**Alice Springs**	**46.23**	**254**	eP	**P**	**16 51 15.3**	**-0.1**
ARCES	**ARCESS Array B**	**126.88**	**350**	PKP	PKPdf	17 01 45.0	-0.2
	3.2nm,0.9s,baz=346,slow=3.7,SNR=7.4						
FINES	**FINESS Array B**	**133.90**	**345**	PKP	PKPdf	17 02 00.4	+1.8
	1.5nm,0.9s,baz=288,slow=4.4,SNR=4.0						
GERES	**GERESS Array B**	**148.29**	**347**	PKPbc	PKPbc	17 02 29.0	+1.0
	0.2nm,0.4s,baz=45,slow=1.9,SNR=4.7						

*ISCJB **01** 16:51:36.4±0.6, 408S±02×427E±02, h10km, mb4.0/11, MS4.1/11, Error ellipse: s-maj=27.7km s-min=11.6km az=67.7*
*IDC **01** 16:51:36.4±0.7, 4075S×4279E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, ML4.3/2, MS4.1/13, Ms1 4.0/13, ms1mx4.0/14, Error ellipse: s-maj=35.1km s-min=16.1km az=41.0*
*NEIC **01** 16:51:38.1±0.6, 4071S×4275E, h10km, mb4.6/4, Error ellipse: s-maj=28.9km s-min=12.8km az=215.0*
ISC 01 16:51:38.2±0.6, 408S±02×427E±02, h10km, n26, σ0°89/20, mb4.0/11, MS4.1/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.75**	**305**	P	**Pn**	**16 55 59.1**	**+1.6**
	0.6nm,0.3s,baz=138,slow=11,SNR=16						
BOSA				S	**Sn**	**16 59 17.1**	**-10**
	0.3nm,0.3s,baz=235,slow=15,SNR=3.4						
BOSA				LR	LR	17 01 51.3	
	comp=Z,729nm,18.9s,baz=140,slow=33						
BOSA	**Boshof**	**18.75**	**305**	eP	**Pn**	**16 55 58.3**	**+0.7**
	17nm,0.9s						
BOSA				S	**Sn**	**16 59 17.1**	**-10**
BOSA				LR	LR	17 01 51.3	
SUR	**Sutherland**	**19.45**	**289**	P	**Pn**	**16 56 04.5**	**-1.5**
	1.2nm,0.3s,baz=128,slow=15,SNR=11						
SUR				S	**Sn**	**16 59 32.0**	**-12**
	1.1nm,0.3s,baz=50,slow=18,SNR=5.8						
SUR				LR	LR	17 01 38.9	
	comp=Z,478nm,21.2s,baz=125,slow=31						
LBTB	**Lobatse**	**21.23**	**312**	P	**P**	**16 56 25.3**	**+1.1**
	3.7nm,0.7s,mb3.8,baz=153,slow=8.9,SNR=6.1						
LBTB				LR	LR	17 03 30.5	
	comp=Z,402nm,21.0s,MS3.8,baz=148,slow=34						
LBTB	**Lobatse**	**21.23**	**312**	eP	**P**	**16 56 24.9**	**+0.8**
	20nm,0.5s,mb4.7						
LBTB				LR	LR	17 03 30.5	
LSZ	**Lusaka**	**28.36**	**329**	P	**P**	**16 57 34.1**	**+1.7**
	4.4nm,0.9s,mb4.1,baz=145,slow=8.7,SNR=6.5						
LSZ				LR	LR	17 07 31.5	
	comp=Z,437nm,20.3s,MS4.0,baz=152,slow=34						
LSZ	**Lusaka**	**28.36**	**329**	P	**P**	**16 57 30.4**	**-1.9**
	9.6nm,1.2s,mb4.3						
LSZ				LR	LR	17 07 31.5	
MAW	**Mawson**	**29.07**	**164**	LR	LR	17 05 41.1	
	comp=Z,196nm,19.3s,MS3.7,baz=167,slow=29						
TSUM	**Tsumeb**	**30.40**	**307**	P	**P**	**16 57 50.7**	**+0.2**
	2.9nm,0.4s,mb4.4,baz=138,slow=9.9,SNR=7.7						
TSUM				LR	LR	17 09 14.4	
	comp=Z,381nm,19.5s,MS4.0,baz=129,slow=35						
KMBO	**Kilima Mbogo**	**39.76**	**351**	LR	LR	17 13 15.2	
	comp=Z,432nm,21.8s,MS4.2,baz=282,slow=33						
VNDA	**Vanda**	**56.34**	**167**	P	**P**	**17 01 19.6**	**+0.3**
	1.1nm,0.6s,mb4.1,baz=97,slow=5.6,SNR=7.4						
VNDA				LR	LR	17 24 44.9	
	comp=Z,198nm,18.4s,MS4.2,baz=112,slow=35						
TORD	**Torodi Ar. Bea**	**65.72**	**315**	P	**P**	**17 02 22.8**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=144,slow=5.9,SNR=7.1						
ASAR	**Alice Springs**	**75.80**	**109**	P	**P**	**17 03 24.4**	**0.0**
	0.4nm,0.9s,mb3.3,baz=231,slow=5.5,SNR=4.9						
STKA	**Stephens Creek**	**75.99**	**120**	P	**P**	**17 03 25.7**	**+0.3**
	1.9nm,0.8s,mb4.1,baz=98,slow=4.4,SNR=3.6						
STKA				LR	LR	17 28 51.8	
	comp=Z,223nm,19.6s,MS4.5,baz=209,slow=29						
WRA	**Warramunga Arr**	**78.44**	**106**	P	**P**	**17 03 39.1**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=218,slow=4.5,SNR=3.3						
PLCA	**Paso Flores**	**78.78**	**225**	LR	LR	17 32 40.2	
	comp=Z,59nm,18.4s,MS4.0,baz=142,slow=31						
BDFB	**Brasilia**	**80.51**	**258**	LR	LR	17 32 37.5	
	comp=Z,74nm,19.3s,MS4.0,baz=118,slow=30						
BRTR	**Keskin Array B**	**80.53**	**353**	P	**P**	**17 03 50.0**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=167,slow=7.8,SNR=8.1						
LSA	**Lhasa**	**83.22**	**41**	eP	**P**	**17 04 05.5**	**+0.8**
	5.1nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**92.83**	**341**	LR	LR	17 50 43.8	
	comp=Z,74nm,18.9s,MS4.2,baz=286,slow=38						
MKAR	**Makanchi Array**	**94.02**	**26**	P	**P**	**17 04 55.2**	**-1.3**
	0.5nm,0.7s,mb4.0,baz=217,slow=6.1,SNR=6.6						
MKAR	**Makanchi Array**	**94.02**	**26**	P	**P**	**17 04 55.2**	**-1.3**
LPAZ	**La Paz**	**94.50**	**244**	LR	LR	17 42 48.3	
	comp=Z,43nm,19.7s,MS3.9,baz=34,slow=32						
TXAR	**Lajitas Array**	**150.39**	**258**	PKPbc	PKPbc	17 11 27.4	-2.3
	0.7nm,0.6s,baz=27,slow=2.8,SNR=5						
TXAR				PKPab	PKPab	17 11 35.7	-0.5
	1.4nm,0.8s,baz=135,slow=5.3,SNR=7.1						
TXAR	**Lajitas Array**	**150.39**	**258**	PKPbc	PKPbc	17 11 27.4	-2.3
TXAR				PKPab	PKPab	17 11 35.7	-0.5
YKA	**Yellowknife Ar**	**154.35**	**336**	PKPbc	PKPbc	17 11 39.6	+1.0
	0.4nm,0.8s,baz=29,slow=1.7,SNR=5.8						
YKA				PKPab	PKPab	17 11 49.7	-3.1
	0.2nm,0.6s,baz=37,slow=4.4,SNR=5.9						

IDC 01 16:56:31.1±1.6, 080S×12344E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=233.0km s-min=25.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**151**	P	P	17 01 26.3	+1.5
	0.7nm,0.9s,baz=331,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**24.90**	**157**	P	P	17 01 55.0	-0.6
	0.4nm,0.7s,baz=327,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**59.52**	**328**	P	P	17 06 36.3	+0.2
	0.3nm,0.5s,baz=126,slow=8.1,SNR=7.4						

*BJI **01** 17:21:41.6, 3987N×7484E, h10km, ML3.8*
*ISCJB **01** 17:21:45.7±0.4, 3983N±003×7540E±008, h33km, Error ellipse: s-maj=9.4km s-min=4.6km az=177.5*
*NNC **01** 17:21:45.8±2.1, 4014N×7500E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=21.4km s-min=12.4km az=153.0*

ISC 01 17:21:47.2±0.4, 3984N±003×7553E±008, h35km, n33, σ1°10/31, 9C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.47**	**134**⇑	iPG	**Pn**	**17 21 59.0**	**+1.5**
KSH				SG	**Sn**	**17 22 11.0**	**+6.4**
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.8s						
KZA	**Kyzart**	**2.24**	**355**	P	**Pn**	**17 22 21.3**	**-0.5**
	SNR=157						
ULHL	**Ulahol**	**2.46**	**12**	P	**Pn**	**17 22 26.6**	**+1.8**
	SNR=28						
UCH	**Uchtor**	**2.50**	**342**	P	**Pn**	**17 22 24.7**	**-0.7**
	SNR=124						
AML	**Almayashu**	**2.67**	**329**	P	**Pn**	**17 22 27.5**	**-0.3**
	SNR=128						
KBK	**Karagaybulak**	**2.84**	**351**	P	**Pn**	**17 22 30.5**	**+0.4**
	SNR=79						
AAK	**Ala-Archa**	**2.89**	**345**	P	**Pn**	**17 22 30.7**	**-0.1**
	SNR=62						
TKM2	**Tokmak 2**	**3.08**	**1**	P	**Pn**	**17 22 34.1**	**+0.8**
	SNR=68						
TKM2	**Tokmak 2**	**3.08**	**1**	⇓Pn	**Pn**	**17 22 33.5**	**+0.3**
	comp=E,35nm,0.8s						
TKM2				⇑Lg		17 23 15.2	
	comp=E,56nm,0.6s						
EKS2	**Erkin-Say**	**3.11**	**335**	P	**Pn**	**17 22 33.7**	**0.0**
	SNR=7.0						
CHMS	**Chumysh**	**3.21**	**350**	P	**Pn**	**17 22 35.2**	**+0.1**
	SNR=27						
USP	**Ospenovka**	**3.51**	**348**	P	**Pn**	**17 22 38.8**	**-0.4**
	SNR=31						
KNDC	**Almaty**	**3.54**	**17**	⇑Pn	**Pn**	**17 22 40.2**	**+0.5**
	comp=E,359nm,0.6s						
KNDC				⇓Lg		17 23 32.5	
	comp=E,2μm,0.9s						
KK31	**Karatay Array**	**4.98**	**312**	Pn	**Pn**	**17 22 56.8**	**-2.6**
	comp=E,2.6nm,0.4s,baz=130,slow=11,SNR=55						
KK31				⇑Lg		17 24 10.4	
	comp=E,10nm,0.5s,baz=125,slow=28,SNR=6.6						
CHCP	**Chirah Chowk**	**6.43**	**197**	P	**Pn**	**17 23 23.6**	**+4.2**
CEP	**Cherat**	**6.67**	**207**	P	**Pn**	**17 23 25.8**	**+3.1**
CEP				S	**Sn**	**17 24 37.0**	**-0.5**
THN	**Thein Dam**	**7.40**	**179**	eP	**Sn**	**17 25 04.5**	**+9.2**
THW	**Thamme Wali**	**7.67**	**205**	P	**Pn**	**17 23 38.2**	**+1.8**
MK08	**Makanchi Array**	**8.48**	**33**	⇑Lg		17 26 08.6	
	comp=E,5.0nm,0.8s						
MK09	**Makanchi Array**	**8.49**	**33**	⇓Pn	**Pn**	**17 23 49.5**	**+1.8**
	comp=E,0.6nm,0.6s						
DRP	**Derazinda**	**9.16**	**210**	P	**Pn**	**17 23 58.1**	**+1.2**
KURK	**Kurchatov**	**11.09**	**10**	⇑Lg		17 27 26.3	
	comp=E,12nm,1.5s						
VOSK	**Vostochnaya**	**13.26**	**348**	⇓Lg		17 28 33.3	
	comp=E,9.9nm,1.1s						
BVA0	**Borovoye Array**	**13.65**	**347**	Pn	**Pn**	**17 24 56.8**	**-1.4**
	comp=E,0.3nm,0.8s,baz=157,slow=11,SNR=3.8						
BVA0				⇑Lg		17 28 43.5	
	comp=E,1.9nm,1.1s,baz=150,slow=28,SNR=4.2						
KOLN	**Koldanda**	**13.78**	**149**	eP	**Pn**	**17 24 59.3**	**-0.6**
	comp=E,3.1nm,0.4s						
ZRNK	**Zerenda**	**13.85**	**343**	⇑Lg		17 28 51.4	
	comp=E,9.8nm,1.2s						
GKN	**Gorkha**	**14.01**	**145**	eP	**Pn**	**17 25 02.5**	**-0.7**
	comp=E,7.9nm,0.3s						
KKN	**Kakani**	**14.48**	**143**	eP	**Pn**	**17 25 08.9**	**-0.7**
	comp=E,10nm,0.5s						
AB31	**Akbulak array**	**14.54**	**315**	⇑Pn	**Pn**	**17 25 04.6**	**-5.8**
	comp=E,1.7nm,0.9s,baz=120,slow=8.8,SNR=5.6						
DMN	**Daman**	**14.56**	**144**	eP	**Pn**	**17 25 10.1**	**-0.5**
GUN	**Gumba**	**14.67**	**141**	eP	**Pn**	**17 25 11.6**	**-0.5**
	comp=E,9.1nm,0.4s						
PKI	**Pulchoki**	**14.73**	**143**	eP	**Pn**	**17 25 11.4**	**-1.6**
	comp=E,8.2nm,0.4s						
JIRN	**Jiri**	**15.03**	**141**	eP	**Pn**	**17 25 16.4**	**-0.5**
	comp=E,12nm,0.4s						

NEIC 01 17:38:33.9, 6310N×15160W, h14km, ML3.2(AEIC), **ML3.5**(PMR), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.55**	**34**	P	Pg	17 38 44.9	+0.2
KTH				S	Sg	17 38 52.2	+0.2
TRF	**Thorofare Moun**	**0.69**	**59**	P	Pg	17 38 47.5	+0.1
TRF				S	Sg	17 38 56.7	+0.2
MCK	**McKinley**	**1.36**	**61**	P	Pn	17 38 58.5	+0.1
MCK				S	Sn	17 39 16.6	+0.5
GHO	**Glory Hole Cre**	**1.82**	**136**	P	Pn	17 39 05.2	+0.5
GHO				S	Sn	17 39 27.8	+0.2
PMR	**Palmer**	**1.90**	**142**	P	Pn	17 39 06.1	+0.3
PMR				S	Sn	17 39 31.1	+1.6
SML	**Sawmill**	**2.00**	**129**	P	Pn	17 39 07.9	+0.8
SML				S	Sn	17 39 32.4	+0.6
TT01	**Tatalina**	**2.03**	**266**	P	Pn	17 39 06.9	-0.6
FIB	**Fire Island**	**2.05**	**160**	P	Pn	17 39 08.9	+1.1
RC01	**Rabbit Creek A**	**2.20**	**156**	P	Pn	17 39 10.9	+1.0
RC01				S	Sn	17 39 39.5	+2.7
COLA	**College**	**2.43**	**41**	P	Pn	17 39 12.2	-0.9
IL1	**Eielson Array**	**2.67**	**49**	P	Pn	17 39 15.6	-0.8
SLKM	**Skilak Lake**	**2.68**	**165**	ePn	Pn	17 39 18.0	+1.4
SLKM				eSn	Sn	17 39 52.7	+3.9
SVW2	**Sparrevohn**	**2.75**	**225**	P	Pn	17 39 17.6	+0.2
PAX	**Paxson**	**2.80**	**90**	P	Pn	17 39 18.8	+0.6
IM3	**Indian Mountai**	**3.04**	**343**	P	Pn	17 39 21.9	+0.4
IMA2	**Indian Mountai**	**3.12**	**344**	ePn	Pn	17 39 22.7	+0.2
IMA2				eP		17 39 23.1	
SEW	**Seward**	**3.18**	**160**	P	Pn	17 39 25.8	+2.4
DIV	**Divide**	**3.38**	**123**	Pn	Pn	17 39 20.3	-5.8
DIV				eSn	Sn	17 40 03.6	-2.4
MENT	**Mentasta**	**3.60**	**89**	eP	Pn	17 39 31.1	+2.0
BMRM	**Bremner River**	**3.93**	**120**	P	Pn	17 39 35.9	+2.3
COLD	**Coldfoot**	**4.19**	**7**	P	Pn	17 39 37.7	+0.5
BM3	**Burnt Mountain**	**5.24**	**31**	P	Pn	17 39 51.0	-0.7
TNA	**Tin City**	**7.50**	**296**	P	Pn	17 40 24.1	+1.4

*NEIC **01** 17:49:47.1, 3920N×2151E, h25km, MD3.2(ATH), After ATH.*
*ATH **01** 17:49:47.1, 3920N×2151E, h25km±3km, MD3.2/7*
*SKO **01** 17:49:47.8, 39.15N×2174E, h0km*
*CSEM **01** 17:49:47.6±0.1, 39.19N×2149E, h10km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.9km az=6.0*
*ISCJB **01** 17:49:47.1±0.5, 3923N±002×2151E±003, h9km±4km, Error ellipse: s-maj=4.0km s-min=3.6km az=112.4*
*THE **01** 17:49:48.1, 3923N×2150E, h5km, ML3.0*
ISC 01 17:49:47.8±0.4, 3922N±002×2151E±003, h15km±4km, n22, σ1°09/35, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.38**	**142**	ePB	**Pg**	**17 49 54.9**	**-0.7**
EVR				eSB	**Sg**	**17 50 01.6**	**+0.7**

GRG	**Griva**	**1.87**	**21**	*e*Pb	**Pb**	**17 50 19.5**	**-2.1**
GRG				*e*Sb	**Sb**	**17 50 44.2**	**-0.6**
PLG	**Polygyros**	**1.89**	**52**	*e*PB	**Pb**	**17 50 20.0**	**-2.0**
OHR	**Ohrid**	**1.97**	**344**	*e*Pn	**Pg**	**17 50 24.7**	**-0.9**
OHR				*e*Sn	**Sg**	**17 50 52.2**	**+1.1**
SOH	**Sokhos**	**2.14**	**41**	*e*Pn	**Pn**	**17 50 23.6**	**+0.7**
VAY	**Valandovo**	**2.25**	**21**	*e*Pn	**Pn**	**17 50 26.8**	**+2.3**
VAY				*e*Sn	**Sn**	**17 50 53.1**	**+1.1**
SRS	**Serrai**	**2.48**	**39**	*e*Pn	**Pn**	**17 50 28.1**	**+0.5**

*IDC **01** 17:56:16.9±10.0, 1266S×16677E, h234km±125km, mb3.2/6, mb1 3.3/7, mb1mx3.2/17, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/8, Error ellipse: s-maj=108.8km s-min=28.7km az=159.0*
*ISCJB **01** 17:56:17.2±1.1, 1275±0.1×1668E±02, h250km, mb3.4/6, Error ellipse: s-maj=28.5km s-min=17.2km az=23.6*
*NEIC **01** 17:56:18.2±0.7, 1276S×16679E, h250km, mb3.8/2, Error ellipse: s-maj=18.6km s-min=11.9km az=109.0*
ISC 01 17:56:18.2±1.1, 128S±01×1668E±02, h250km, n10, ∘0∘32/10, mb3.5/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.28**	**182**	P	**Pn**	**17 58 27.7**	**+0.2**
	0.5nm,0.3s,baz=90,slow=16,SNR=18						
DZM				LR	LR	18 00 55.0	
	comp=Z,43nm,18.6s,baz=9.3,slow=30						
CTA	**Charters Tower**	**21.04**	**247**	P	**P**	**18 00 42.7**	**-0.3**
	2.4nm,0.8s,mb3.8,baz=84,slow=10,SNR=3.9						
CTA	**Charters Tower**	**21.04**	**247**	P	**P**	**18 00 42.7**	**-0.3**
CTAO	**Charters Tower**	**21.04**	**247**	P	**P**	**18 00 42.4**	**-0.6**
	2.2nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**31.95**	**253**	P	**P**	**18 02 21.0**	**+0.3**
	0.5nm,1.0s,mb3.0,baz=83,slow=8.7,SNR=3.1						
ASAR	**Alice Springs**	**33.03**	**246**	P	**P**	**18 02 29.9**	**-0.2**
	0.2nm,0.4s,mb3.0,baz=63,slow=11,SNR=4.4						
ULN	**Ulaanbaatar**	**80.30**	**324**	*e*P	**P**	**18 08 01.7**	**+0.4**
	1.6nm,0.7s,mb3.8						
SONM	**Songino Array**	**80.67**	**324**	P	**P**	**18 08 03.6**	**+0.3**
	0.4nm,0.7s,mb3.2,baz=139,slow=6.0,SNR=9.6						
ILAR	**Eielson Array**	**84.79**	**18**	P	**P**	**18 08 23.9**	**-0.5**
	0.4nm,0.6s,mb3.3,baz=233,slow=4.7,SNR=6.3						
MKAR	**Makanchi Array**	**95.49**	**317**	P	**P**	**18 09 14.5**	**-0.1**
	1.0nm,0.6s,mb4.1,baz=85,slow=6.3,SNR=16						

GUC 01 17:57:07.0±0.8, 2741S×6936W, h105km±18km, ML3.9, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.89**	**273**	⇑*i*P	Pn	17 57 26.9	+0.3
CPCH				*i* S	Sn	17 57 41.9	+0.5
CPCH				AMP		17 57 44.3	
	comp=E,23μm,0.1s						
CDCH	**Caldera**	**1.35**	**284**	⇑*i*P	Pn	17 57 32.1	+0.4
CDCH				*i* S	Sn	17 57 50.6	+0.2
CDCH				AMP		17 57 51.7	
	comp=N,1μm,0.5s						
CRCH	**Chaqaral**	**1.54**	**313**	*e*P	Pn	17 57 34.7	+0.6
CRCH				*i* S	Sn	17 57 54.9	+0.3
CRCH				AMP		17 58 00.2	
	comp=E,913nm,0.3s						
CPN1	**Cerro Paranal**	**2.92**	**341**	*e*P	Pn	17 57 52.7	+0.9
CEN1	**Los Morros**	**4.07**	**349**	⇓*i*P	Pn	17 58 04.1	-3.1
CEN1				*i* S	Sn	17 58 49.0	-4.8

*IDC **01** 18:02:20.5±0.9, 937N×9304E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.8/10, Error ellipse: s-maj=45.6km s-min=16.6km az=55.0*
*ISCJB **01** 18:02:23.5±0.8, 94N±01×9311E±02, h33km, mb3.9/13, Error ellipse: s-maj=28.1km s-min=11.1km az=109.3*
*MOS **01** 18:02:23.4±0.9, 939N×9315E, h33km, mb4.4/3, Error ellipse: s-maj=45.9km s-min=14.4km az=107.4*
*NEIC **01** 18:02:24.9±0.6, 938N×9311E, h30km, mb4.2/4, Error ellipse: s-maj=22.6km s-min=9.7km az=56.0*
ISC 01 18:02:26.1±0.8, 94N±01×931E±02, h35km, n22, ∘0∘63/22, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**20.27**	**355**	*e*P	**P**	**18 06 57.5**	**-0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LSA	**Lhasa**	**20.27**	**355**	*e*P	**P**	**18 06 57.5**	**-0.9**
	comp=Z,3.3nm,0.4s						
ENH	**Enshi**	**25.77**	**34**	*e*P	**P**	**18 07 54.1**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**36.90**	**337**	*e*P	**P**	**18 09 32.8**	**+1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**36.90**	**337**	*e*P	**P**	**18 09 32.8**	**+1.5**
	comp=Z,3.0nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**38.38**	**348**	P	**P**	**18 09 43.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=174,slow=8.3,SNR=17						
MKAR	**Makanchi Array**	**38.38**	**348**	P	**P**	**18 09 43.7**	**-0.1**
SONM	**Songino Array**	**39.91**	**14**	P	**P**	**18 09 57.1**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.7,baz=202,slow=8.8,SNR=12						
SONM				PcP	PcP	18 12 03.0	+1.2
	comp=Z,0.2nm,0.4s,baz=187,slow=2.9,SNR=3.4						
SONM	**Songino Array**	**39.91**	**14**	P	**P**	**18 09 57.1**	**+0.6**
SONM				PcP	PcP	18 12 03.0	+1.2
KURK	**Kurchatov**	**42.88**	**346**	*e*P	**P**	**18 10 21.2**	**+0.2**
ZAL	**Zalesovo**	**44.90**	**353**	P	**P**	**18 10 36.2**	**-0.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=272,slow=9.8,SNR=4.2						
BVAR	**Borovoye Array**	**47.21**	**341**	P	**P**	**18 10 54.8**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=129,slow=9.5,SNR=5.2						
WRA	**Warramunga Arr**	**49.98**	**126**	P	**P**	**18 11 16.9**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.3,baz=302,slow=10,SNR=24						
WRA				PcP	PcP	18 12 37.5	+1.1
	comp=Z,0.5nm,0.6s,baz=318,slow=2.8,SNR=6.9						
WRAB	**Tennant Creek**	**49.98**	**126**	*e*P	**P**	**18 11 16.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**49.98**	**126**	*e*P	**P**	**18 11 16.6**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**49.99**	**126**	*e*P	**P**	**18 11 16.9**	**+0.2**
AKTK	**Aktyubinsk**	**50.12**	**331**	P	**P**	**18 11 18.1**	**+0.4**
AKTO	**Aktyubinsk**	**50.12**	**331**	P	**P**	**18 11 18.1**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=107,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**51.68**	**130**	P	**P**	**18 11 29.2**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=303,slow=8.1,SNR=13						
ASAR				PcP	PcP	18 12 44.0	+1.4
	comp=Z,0.3nm,0.6s,baz=320,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**60.66**	**310**	P	**P**	**18 12 34.0**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.9,baz=90,slow=2.9,SNR=3.5						
GERES	**GERESS Array B**	**76.01**	**318**	P	**P**	**18 14 08.7**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=90,slow=4.0,SNR=4.4						
ILAR	**Eielson Array**	**93.70**	**22**	P	**P**	**18 15 38.5**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.9,baz=294,slow=4.7,SNR=5.9						

JMA 01 18:06:24.4±0.5, 3129N×14118E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**5.32**	**345**	P	Pn	18 07 50.1	+5.0
JHO	**Hitachi**	**5.33**	**355**	P	Pn	18 07 47.9	+2.7

*NAO **01** 18:27:28.2, 2742S×17988W, h500km, mb4.5*
*CSEM **01** 18:27:51.5, 2162S×17939W, h33km, mb6.1*
*MOS **01** 18:28:45.8±1.4, 2202S×17964W, h570km, mb5.2/21, Error ellipse: s-maj=10.7km s-min=9.2km az=97.6*
*HRVD **01** 18:28:48.7±0.5, 2206S×17955W, h600km±2km, MW5.4/60, Centroid moment Tensor Solution. LP body waves: s60, c88; Half duration: 1±2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.41±.04; $M_{\theta\theta}$-0.26±.07; $M_{\phi\phi}$0.67±.07; $M_{r\theta}$-0.18±.07; $M_{\theta\phi}$-0.31±.06; $M_{\phi r}$-1.31±.06; Best double couple: $M_0$1.47000×10^{17} NP1:ϕ_s128.00000°, δ19.00000°, λ-148.00000°. NP2:ϕ_s8.00000°, δ80.00000°, λ-74.00000°. Principal axes: T 1.5610, Plg33.0000°, Azm84.0000°; N -0.1810, Plg16.0000°, Azm185.0000°; P -1.3800, Plg52.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s.*
*ISCJB **01** 18:28:48.0±0.2, 2223S±004×17963W±004, h602km, mb5.2/92 Error ellipse: s-maj=5.5km s-min=4.2km az=148.3*

*IDC **01** 18:28:48.4±0.5, 2220S×17966W, h590km±5km, mb4.8/26, mb1 4.8/29, mb1mx4.8/29, mbtmp5.7/29, Error ellipse: s-maj=8.6km s-min=7.1km az=169.0*
*NEIC **01** 18:28:48.7±0.1, 2219S×17965W, mb5.2/46, Error ellipse: s-maj=5.6km s-min=4.4km az=153.0*
*BJI **01** 18:28:48.8, 2174S×17948W, h598km, mB5.1, mb5.4*
*SZGRF **01** 18:28:49.1, 2241S×17839W, h616km, South of Fiji Islands*
*BGS **01** 18:28:52.7±6.1, 2219S×17965W, h600km, mb5.2(NEIC)*
ISC 01 18:28:49.5±0.2, 2222S±005×17959W±004, h604km, h604km±2.5km: pP-P, n596, ∘0∘96/217, mb5.2/91, 69C-117D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.17**	**168**	P	**P**	**18 30 38.4**	**-2.7**
	337nm,0.3s,baz=290,slow=7.0,SNR=9.4						
RAO				S	**S**	**18 32 08.1**	**-4.5**
	83nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO	**Raoul Island**	**7.17**	**168**	*e*P	**P**	**18 30 38.2**	**-3.0**
RAO				pmax	pmax		
	comp=Z,728nm,0.3s						
RAO	**Raoul Island**	**7.17**	**168**	*e*P	**P**	**18 30 38.2**	**-3.0**
	comp=Z,728nm,0.3s						
AFI	**Afiamalu**	**11.11**	**43**	P	**P**	**18 31 13.8**	**-5.4**
	comp=Z,16nm,0.3s,baz=224,slow=23,SNR=7.1						
AFI				S	**S**	**18 33 10.7**	**-12**
	comp=Z,11nm,0.3s,baz=41,slow=19,SNR=8.4						
AFI	**Afiamalu**	**11.11**	**43**	*e*P	**P**	**18 31 13.9**	**-5.3**
AFI				pmax	pmax		
	comp=Z,335nm,0.9s						
AFI	**Afiamalu**	**11.11**	**43**	*e*P	**P**	**18 31 13.9**	**-5.3**
	comp=Z,335nm,0.9s						
DZM	**Mont Dzumac**	**12.95**	**268**	P	**P**	**18 31 36.3**	**-1.4**
	comp=Z,11nm,0.3s,baz=80,slow=17,SNR=75						
DZM				S	**S**	**18 34 00.2**	**+4.3**
	comp=Z,0.4nm,0.3s,baz=318,slow=19,SNR=6.8						
DZM				ScP	ScP	18 38 59.2	+3.3
	comp=Z,0.8nm,0.3s,baz=35,slow=21,SNR=15						
URZ	**Urewera**	**16.24**	**189**	P	**P**	**18 32 06.7**	**-2.1**
	comp=Z,2.7nm,0.3s,baz=360,slow=4.8,SNR=15						
URZ				S	**S**	**18 34 44.0**	**-7.1**
	comp=Z,2.9nm,0.3s,baz=213,slow=16,SNR=6.6						
RPZ	**Rata Peaks**	**22.80**	**198**	P	**P**	**18 33 07.2**	**-0.8**
	comp=Z,9.4nm,0.7s,mb4.5,baz=70,slow=3.8,SNR=6.4						
TBI	**Tubuai**	**27.78**	**98**	*e*P	**P**	**18 33 50.9**	**-0.8**
	comp=Z,580nm,1.0s,mb6.2						
TBI				*e*pP		18 35 19.4	
	comp=Z,378nm,1.4s						
RIV	**Riverview**	**28.20**	**239**	*e*P	**P**	**18 33 56.7**	**+1.3**
PAE	**Paea**	**28.55**	**86**	*e*P	**P**	**18 33 57.1**	**-1.3**
	comp=Z,233nm,1.1s,mb5.7						
PPT	**Papeete**	**28.57**	**86**	*e*P	**P**	**18 33 57.6**	**-1.0**
	comp=Z,206nm,1.3s,mb5.6						
PPT	**Papeete**	**28.57**	**86**	P	**P**	**18 33 58.0**	**-0.6**
	comp=Z,123nm,0.5s,mb5.8,baz=238,slow=4.6,SNR=9.7						
TVO	**Taravao**	**28.82**	**87**	*e*P	**P**	**18 33 59.7**	**-1.1**
	comp=Z,372nm,0.7s,mb6.1						
MEH	**Mehetia**	**29.89**	**87**	*e*P	**P**	**18 34 08.6**	**-1.4**
	comp=Z,211nm,1.0s,mb5.7						
CNB	**Canberra Magne**	**30.05**	**237**	⇓*i*P	**P**	**18 34 12.4**	**+1.1**
	comp=Z,406nm,0.7s,mb6.2						
CNB				*e*S	**S**	**18 38 30.0**	**+1.5**
CNB				*e*SCP	ScP	18 39 43.3	+4.2
CTA	**Charters Tower**	**31.89**	**267**	⇓*i*P	**P**	**18 34 27.2**	**+0.2**
	comp=Z,185nm,0.4s,mb6.1						
CTA				*e*PCP	PcP	18 36 59.0	+0.6
CTA				*e*S	**S**	**18 38 57.0**	**+0.4**
CTA				*e*SCP	ScP	18 39 49.2	+3.9
CTA				*e*SCS	ScS	18 43 50.8	+5.3
CTA	**Charters Tower**	**31.89**	**267**	P	**P**	**18 34 27.3**	**+0.3**
	comp=Z,258nm,0.6s,mb6.0,baz=95,slow=11,SNR=777						
CTA				PcP	PcP	18 36 59.5	+1.0
	comp=Z,42nm,0.6s,baz=108,slow=3.5,SNR=7.1						
CTA				S	**S**	**18 38 57.3**	**+0.7**
	comp=Z,9.4nm,1.1s,baz=255,slow=19,SNR=3.3						
CTA				ScP	ScP	18 39 48.9	+3.6
	comp=Z,35nm,0.9s,baz=117,slow=2.0,SNR=12						
CTA	**Charters Tower**	**31.89**	**267**	P	**P**	**18 34 27.3**	**+0.3**
CTA						18 36 59.5	
CTA				S	**S**	**18 38 57.3**	**+0.7**
CTAO	**Charters Tower**	**31.89**	**267**	⇓*i*P	**P**	**18 34 27.3**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,210nm,0.6s,mb5.9						
CTAO	**Charters Tower**	**31.89**	**267**	⇓*i*P	**P**	**18 34 27.3**	**+0.3**
	comp=Z,210nm,0.6s,mb5.9						
TOO	**Toolangi**	**33.70**	**235**	⇓*i*P	**P**	**18 34 42.8**	**+0.6**
	comp=Z,121nm,0.7s,mb5.6						
PMG	**Port Moresby**	**34.34**	**286**	P	**P**	**18 34 47.5**	**-0.1**
	comp=Z,470nm,0.8s,mb6.1,baz=83,slow=5.5,SNR=94						
PMG				ScP	ScP	18 39 57.6	+3.6
	comp=Z,35nm,0.9s,baz=212,slow=20,SNR=4.4						
PMG	**Port Moresby**	**34.34**	**286**	*d*iP	**P**	**18 34 47.4**	**-0.2**
PMG	**Port Moresby**	**34.34**	**286**	*e*P	**P**	**18 34 47.0**	**-0.6**
	comp=Z,517nm,0.8s,mb6.2						
TAU	**Tasmania Unive**	**34.37**	**225**	P	**P**	**18 34 48.5**	**+0.7**
	comp=Z,381nm,0.7s,mb6.1,SNR=9.9						
TAU	**Tasmania Unive**	**34.37**	**225**	*e*P	**P**	**18 34 48.4**	**+0.6**
TAU				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.2						
TAU	**Tasmania Unive**	**34.37**	**225**	*e*P	**P**	**18 34 48.4**	**+0.6**
	comp=Z,38nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**35.73**	**246**	⇓*i*P	**P**	**18 34 57.6**	**-1.4**
	comp=Z,114nm,0.6s,mb5.6						
STKA				*e*PCP	PcP	18 37 08.7	-0.9
STKA				*e*S	**S**	**18 39 53.1**	**-1.2**
STKA				*e*SCP	ScP	18 40 00.4	+1.4
STKA				*e*PCS	PcS	18 40 56.3	-1.8
STKA	**Stephens Creek**	**35.73**	**246**	P	**P**	**18 34 57.6**	**-1.4**
	comp=Z,159nm,0.7s,mb5.7,baz=92,slow=9.6,SNR=407						
STKA				S	**S**	**18 39 52.5**	**-1.8**
	comp=Z,4.0nm,0.7s,baz=284,slow=17,SNR=2.1						
STKA				ScP	ScP	18 40 00.9	+1.9
	comp=Z,20nm,0.8s,baz=20,slow=13,SNR=8.6						
STKA	**Stephens Creek**	**35.73**	**246**	⇓*i*P	**P**	**18 34 57.5**	**-1.5**
RKT	**Rikitea**	**41.06**	**100**	*e*P	**P**	**18 35 41.5**	**-0.5**
	comp=Z,214nm,1.1s,mb5.6						
ASAR	**Alice Springs**	**42.71**	**259**	P	**P**	**18 35 54.9**	**0.0**
	comp=Z,343nm,0.8s,mb5.9,baz=102,slow=7.8,SNR=3363						
ASAR				PcP	PcP	18 37 32.6	+0.4
	comp=Z,38nm,0.6s,baz=101,slow=3.7,SNR=9.5						
ASAR				ScP	ScP	18 40 29.6	+3.3
	comp=Z,12nm,1.0s,baz=99,slow=3.9,SNR=8.5						
ASAR				S	**S**	**18 41 35.2**	**-0.6**
	comp=Z,47nm,1.0s,baz=95,slow=16,SNR=32						
ASAR				PKiKP	PKiKP	18 44 33.0	-1.0
	comp=Z,1.0nm,0.5s,baz=107,slow=1.5,SNR=4.2						
ASAR				P4KPbc		19 13 44.9	
	comp=Z,0.4nm,0.7s,baz=98,slow=4.7,SNR=7.6						
ASAR	**Alice Springs**	**42.71**	**259**	P	**P**	**18 35 54.9**	**0.0**
ASAR				PcP	PcP	18 37 32.6	+0.4
ASAR				ScP	ScP	18 40 29.6	+3.3
ASAR				S	**S**	**18 41 35.2**	**-0.6**
ASPA	**Alice Springs**	**42.71**	**259**	⇓*i*P	**P**	**18 35 54.8**	**-0.1**
ASPA				*e*S	**S**	**18 41 35.0**	**-0.9**
ASPA				*e*SCS	ScS	18 44 51.4	+3.3
WB2	**Warramunga Arr**	**42.91**	**264**	⇓*i*P	**P**	**18 35 55.9**	**-0.6**
WB2				*e*SCP	ScP	18 40 31.5	+4.4
WB2				*e*S	**S**	**18 41 36.1**	**-2.7**
WB2				*e*SCS	ScS	18 44 53.6	+4.2
WRAB	**Tennant Creek**	**42.92**	**264**	P	**P**	**18 35 55.0**	**-1.5**
	comp=Z,2μm,1.0s						
WRAB	**Tennant Creek**	**42.92**	**264**	⇓*i*P	**P**	**18 35 55.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,418nm,0.7s,mb6.1						
WRAB	**Tennant Creek**	**42.92**	**264**	⇓*i*P	**P**	**18 35 55.8**	**-0.7**
	comp=Z,418nm,0.7s,mb6.1						
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**18 35 55.9**	**-0.7**
	comp=Z,118nm,0.4s,mb5.8,baz=95,slow=8.0,SNR=1213						
WRA				PcP	PcP	18 37 33.5	+0.5
	comp=Z,13nm,0.5s,baz=100,slow=3.7,SNR=7.5						
WRA				ScP	ScP	18 40 30.5	+3.3
	comp=Z,43nm,1.0s,baz=98,slow=4.2,SNR=24						
WRA				S	**S**	**18 41 36.6**	**-2.4**
	comp=Z,13nm,0.9s,baz=98,slow=13,SNR=8.9						
WRA				P3KPbc		19 04 56.0	
	comp=Z,0.5nm,0.6s,baz=295,slow=2.9,SNR=7.6						
WRA				P4KPbc		19 13 45.3	
	comp=Z,0.4nm,0.5s,baz=92,slow=4.1,SNR=8.2						
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**18 35 55.9**	**-0.7**
WRA						18 37 33.5	
WRA				S	**S**	**18 41 36.6**	**-2.3**
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**18 35 55.9**	**-0.6**
WRA				PcP	PcP	18 37 33.5	+0.5
WRA				ScP	ScP	18 40 30.5	+3.3
WRA				S	**S**	**18 41 36.6**	**-2.4**
WRA				*e*		19 04 56.0	
HKL	**Haleakala**	**48.36**	**30**	*e*P	**P**	**18 36 37.5**	**-0.2**
GUMO	**Guam**	**49.80**	**312**	P	**P**	**18 36 47.9**	**-0.4**
	comp=Z,341nm,0.8s,mb5.8,baz=174,slow=8.5,SNR=8.5						
FITZ	**Fitzroy Crossi**	**51.36**	**264**	*e*P	**P**	**18 36 59.8**	**+0.2**
	comp=Z,128nm,0.3s,mb5.8						
FITZ				*e*S	**S**	**18 43 36.5**	**+1.5**
KLBR	**Kellerberrin**	**56.00**	**246**	⇓*i*P	**P**	**18 37 32.1**	**-0.1**
	comp=Z,266nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**56.05**	**259**	⇓*i*P	**P**	**18 37 32.2**	**-0.4**
	comp=Z,227nm,0.4s,mb5.8						
SBA	**Scott Base**	**56.07**	**183**	*e*P	**P**	**18 37 34.5**	**+1.8**
VNDA	**Vanda**	**56.08**	**185**	P	**P**	**18 37 33.8**	**+1.1**
	comp=Z,7.6nm,0.7s,baz=353,slow=7.0,SNR=35						
VNDA				PcP	PcP	18 38 21.5	-0.3
	comp=Z,6.9nm,0.7s,baz=341,slow=7.4,SNR=6.5						
VNDA	**Vanda**	**56.08**	**185**	*e*P	**P**	**18 37 33.8**	**+1.1**
VNDA				*e*		18 38 22.0	
VNDA				pmax	pmax		
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**56.08**	**185**	*e*P	**P**	**18 37 33.8**	**+1.1**
	comp=Z,12nm,0.8s,mb4.2						
VNDA				*e*PcP	PcP	18 38 21.9	+0.2
NWAO	**Narrogin (SRO)**	**56.29**	**244**	*e*P	**P**	**18 37 33.5**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,90nm,0.9s						
NWAO	**Narrogin (SRO)**	**56.29**	**244**	*e*P	**P**	**18 37 33.5**	**-0.7**
	comp=Z,90nm,0.9s,mb5.0						
DAV	**Davao City (W)**	**61.07**	**292**	*e*P	**P**	**18 38 06.2**	**0.0**
	comp=Z,326nm,0.7s,mb5.7						
CBIJ	**Chichi jima**	**61.40**	**321**	P	**P**	**18 38 07.5**	**-0.7**
	comp=Z,197nm,0.6s,mb5.5,baz=268,slow=21,SNR=16						
CASY	**Casey**	**61.79**	**206**	*e*P	**P**	**18 38 10.6**	**-0.2**
CASY	**Casey**	**61.79**	**206**	*e*P	**P**	**18 38 10.4**	**-0.3**
	comp=Z,66nm,0.9s,mb4.9						
SCPH	**Surigao**	**62.52**	**295**	*e*P	**P**	**18 38 14.7**	**-0.8**
MSLP	**Maasin**	**63.23**	**295**	*e*P	**P**	**18 38 19.8**	**-0.3**
RPN	**Rapa Nui**	**63.29**	**110**	P	**P**	**18 38 21.7**	**+1.3**
	comp=Z,51nm,0.5s,mb5.1,baz=283,slow=4.9,SNR=5.3						
PAGZ	**Pagadian**	**63.34**	**292**	*e*P	**P**	**18 38 21.4**	**+0.6**
TBP	**Tagbilaran**	**63.85**	**294**	*e*P	**P**	**18 38 23.7**	**-0.3**
SNPH	**Sibulan**	**64.21**	**293**	*e*P	**P**	**18 38 25.8**	**-0.5**
CNP	**Catarman**	**64.63**	**297**	*e*P	**P**	**18 38 28.8**	**-0.1**
GUIM	**Jordan**	**65.40**	**294**	*e*P	**P**	**18 38 31.5**	**-2.2**
PVCP	**Virac**	**65.63**	**297**	*e*P	**P**	**18 38 35.5**	**+0.4**
TSM	**Tawau**	**66.54**	**285**	P	**P**	**18 38 41.5**	**+0.7**
AUQP	**San Andres**	**66.71**	**296**	*e*P	**P**	**18 38 43.3**	**+1.5**
GQP	**Guinayangan**	**67.20**	**297**	⇓*i*P	**P**	**18 38 44.4**	**-0.4**
JHJ	**Hachijo jima 2**	**67.31**	**324**	P	**P**	**18 38 45.5**	**0.0**
	comp=Z,263nm,0.5s,mb5.9,baz=199,slow=13,SNR=6.6						
QSPA	**South Pole Qui**	**67.86**	**180**	*e*P	**P**	**18 38 49.5**	**+0.7**
	comp=Z,57nm,0.9s,mb5.0						
QSPA				*e*pP	pP	18 40 50.3	+0.8
BUSP	**Coron**	**68.12**	**294**	*e*P	**P**	**18 38 50.5**	**+0.1**
TGY	**Tagaytay City**	**68.55**	**296**	P	**P**	**18 38 53.9**	**+0.9**
	comp=Z,139nm,0.3s,baz=189,slow=1.9,SNR=9.3						
KKM	**Kota Kinabalu**	**68.79**	**286**	P	**P**	**18 38 55.3**	**+0.9**
KKM	**Kota Kinabalu**	**68.79**	**286**	*e*P	**P**	**18 38 54.7**	**+0.3**
NBP	**Mount Natib**	**69.31**	**296**	*e*P	**P**	**18 38 57.6**	**0.0**
JOW	**Kunigami**	**70.16**	**311**	P	**P**	**18 39 03.3**	**+0.7**
	comp=Z,123nm,0.5s,mb5.6,baz=142,slow=8.1,SNR=23						
MJAR	**Matsushiro Arr**	**70.73**	**325**	P	**P**	**18 39 05.3**	**-0.6**
	comp=Z,64nm,0.7s,mb5.2,baz=159,slow=5.8,SNR=110						
MAJO	**Matsushiro**	**70.73**	**325**	*e*P	**P**	**18 39 05.2**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.4						
MAJO	**Matsushiro**	**70.73**	**325**	*e*P	**P**	**18 39 05.2**	**-0.7**
	comp=Z,95nm,0.8s,mb5.4						
MAT	**Matsushiro**	**70.73**	**325**	P	**P**	**18 39 05.3**	**-0.7**
MAT	**Matsushiro**	**70.73**	**325**	*e*P	**P**	**18 39 05.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.2						
MAT	**Matsushiro**	**70.73**	**325**	*e*P	**P**	**18 39 05.0**	**-1.0**
	comp=Z,67nm,0.8s,mb5.2						
KSM	**Kuching**	**72.20**	**279**	*e*P	**P**	**18 39 14.8**	**+0.3**
JNU	**

CN2 eS S 18 49 40.3 0.0
CN2 AMB AMB
comp=Z,150nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,590nm,3.0s
HUMO Hull Mountain 82.95 38 eP **P 18 40 13.1 +0.8**
comp=Z,42nm,1.1s,mb4.9
PSI Prapat 83.18 276 P **P 18 40 12.9 -0.5**
comp=Z,70nm,0.8s,mb5.2,baz=150,slow=5.0,SNR=31
KLR Kul'dur 83.26 330⇑ iP **P 18 40 11.0 -2.8**
KLR e 18 43 29.0
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.0
NVAR Mina Array Bea 83.28 44 P **P 18 40 13.8 -0.1**
comp=Z,19nm,0.9s,mb4.6,baz=229,slow=10,SNR=90
NVAR pP pP 18 42 21.1 -0.5
comp=Z,3.0nm,0.9s,baz=226,slow=10,SNR=6.3
NVAR Mina Array Bea 83.28 44 P **P 18 40 13.8 -0.1**
NVAR pP pP 18 42 21.1 -0.5
TIA Tai'an 83.35 313 eP **P 18 40 15.0 +0.8**
TIA AMB AMB
comp=Z,120nm,0.8s,mb5.5
MNV Mina 83.38 44 eP **P 18 40 14.4 0.0**
comp=Z,29nm,1.0s,mb4.8
MNV epP pP 18 42 23.6 +1.4
USHA Ushuaia 83.50 147 P **P 18 40 15.3 +0.3**
comp=Z,14nm,0.9s,mb4.5,baz=228,slow=6.6,SNR=4.4
LDFC Landfair 83.55 48 eP **P 18 40 16.1 +0.9**
LDFC epP pP 18 42 26.6 +3.5
TPH Tonopah 83.78 45 eP **P 18 40 16.5 +0.1**
TPH pmax pmax
comp=Z,58nm,1.2s,mb5.0
TPH Tonopah 83.78 45 eP **P 18 40 16.5 +0.1**
comp=Z,58nm,1.2s,mb5.0
NEN Nelson 84.04 48⇑ eP **P 18 40 18.0 +0.4**
NEN PP PP 18 43 38.0 -5.0
SYO Syowa Base 84.73 193⇑ iP **P 18 40 19.8 -1.2**
SYO ⇑iPcP PcP 18 40 20.9 -2.3
SYO ⇓epP pP 18 42 28.9 -0.5
SYO eS 18 49 55.9
MA2 Magadan 85.05 345 deP **P 18 40 21.0 -1.5**
MA2 e 18 49 59.0
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.1
MA2 pmax pmax
comp=E,6.0nm,0.8s
MA2 Magadan 85.05 345 ⇓iP **P 18 40 21.2 -1.4**
comp=E,85nm,0.9s,mb5.4
KKTK Khon Kaen 85.06 290 ⇓P **P 18 40 24.0 +1.4**
comp=E,2um,0.4s
BMN Battle Mountai 85.11 43 eP **P 18 40 23.3 +0.5**
BMN pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BMN Battle Mountai 85.11 43 eP **P 18 40 23.3 +0.4**
comp=Z,9.4nm,0.8s,mb4.5
SVW2 Sparrevohn 85.26 11 eP **P 18 40 22.0 -1.5**
WVOR Wild Horse Val 85.39 40 iP **P 18 40 24.5 +0.3**
WVOR pmax pmax
comp=Z,26nm,1.0s,mb4.8
WVOR Wild Horse Val 85.39 40 iP **P 18 40 24.5 +0.3**
comp=Z,26nm,1.0s,mb4.8
WVOR pP pP 18 42 33.3 +0.5
ENH Enshi 85.79 305 ⇓iP **P 18 40 26.8 +0.7**
comp=Z,162nm,0.9s,mb5.7
BJT Baijiatuau 86.07 316 ⇓iP **P 18 40 27.7 +0.3**
BJT pmax pmax
comp=Z,62nm,0.7s
BJT Baijiatuau 86.07 316 ⇓iP **P 18 40 27.7 +0.3**
comp=Z,62nm,0.7s,mb5.3
ARUT Antelope Range 86.13 47 eP **P 18 40 28.4 +0.7**
GYA Guiyang 86.22 300 ⇓iP **P 18 40 28.9 +0.8**
GYA AP pP 18 42 38.3 +1.2
GYA XP sP 18 43 37.4 -0.2
GYA PP PP 18 44 02.1 +1.7
GYA SKS 18 49 57.6
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,160nm,3.4s
NNT Nongplab 86.27 285 P **P 18 40 31.3 +3.0**
WUAZ Wupatki 86.38 49 eP **P 18 40 29.5 +0.6**
comp=Z,22nm,1.0s,mb4.8
VNA3 Neumayer Olymp 86.53 177 P **P 18 40 28.8 -0.8**
VNA3 e 18 40 30.1
VNA3 e 18 40 33.9
VNA3 e 18 44 09.2
VNA2 Neumayer--Watz 86.95 177 P **P 18 40 30.8 -0.8**
baz=192,slow=4.3
VNA2 e 18 40 31.9
VNA2 e 18 40 34.4
VNA2 e 18 40 39.0
VNA2 e pP 18 42 36.5 -4.3
VNA2 e 18 44 13.0
VNA2 e 18 45 37.9
VNA2 e 18 50 03.3
VNA2 e 18 51 22.9
VNA2 e 18 53 56.3
VNA2 e 18 54 09.5
VNA2 e 18 54 25.0
PMR Palmer 87.03 14 eP **P 18 40 30.8 -1.1**
PMR pmax pmax
comp=Z,26nm,0.6s,mb5.1
PMR Palmer 87.03 14 eP **P 18 40 30.8 -1.1**
comp=Z,26nm,0.6s,mb5.1
MSU Marysvale 87.36 46 eP **P 18 40 34.7 +1.2**
MSU pP pP 18 42 43.0 +0.1
BMO Blue Mountains 87.57 39 eP **P 18 40 34.0 -0.4**
comp=Z,16nm,0.9s,mb4.8
SEY Seymchan 87.71 348 eP **P 18 40 34.3 -0.8**
SEY e 18 44 10.5
SEY eS 18 50 06.6
SEY eSSS 19 00 15.9
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SEY pmax pmax
comp=E,6.0nm,0.9s
SEY Seymchan 87.71 348⇑ eP **P 18 40 32.8 -2.3**
TNA Tin City 87.95 5 eP **P 18 40 35.2 -1.0**
comp=E,7.3nm,1.3s,mb4.2
TNA pP pP 18 42 45.9 +0.1
XAN Xi'an 88.00 308 P **P 18 40 38.6 +2.1**
XAN AMB AMB
comp=Z,104nm,0.9s,mb5.6
TMUT Trail Mountain 88.41 46 eP **P 18 40 39.1 +0.8**
HVU Hansel Valley 88.66 43⇑ iP **P 18 40 39.9 +0.4**
comp=Z,23nm,0.8s,mb5.0
SRU San Rafael 88.77 47 eP **P 18 40 40.3 +0.3**
SRU pmax pmax
comp=Z,53nm,1.0s,mb5.3
SRU San Rafael 88.77 47 eP **P 18 40 40.3 +0.2**
comp=Z,53nm,1.0s,mb5.3
SRU pP pP 18 42 49.4 -0.6
KMI Kunming 88.82 298 P **P 18 40 41.2 +0.9**
KMI XP sP 18 43 46.7 -3.7
KMI PP PP 18 44 19.1 -1.7
KMI S 18 50 35.6
KMI AMB AMB
comp=Z,49nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,218nm,4.2s
LAZ Ladron 88.87 52 eP **P 18 40 41.3 +0.8**
DAU Daniels Canyon 88.94 45 eP **P 18 40 41.7 +0.9**
DAU e 18 44 19.7
MNTX Cornudas Mount 88.94 55 eP **P 18 40 41.4 +0.5**
comp=Z,46nm,0.9s,mb5.3
MNTX epP pP 18 42 50.1 -0.7
MCK McKinley 88.96 13⇑ iP **P 18 40 39.5 -1.4**
MCK pmax pmax
comp=Z,18nm,1.2s,mb4.8
MCK McKinley 88.96 13⇑ iP **P 18 40 39.5 -1.5**
comp=Z,18nm,1.2s,mb4.8
PLCA Paso Flores 89.16 134 P **P 18 40 42.8 +1.0**
comp=Z,11nm,0.8s,mb4.7,baz=213,slow=4.8,SNR=24
PLCA PKKPbc PKKPbc 18 58 15.6 +0.7
comp=Z,2.7nm,0.9s,baz=199,slow=4.8,SNR=4.2
PLCA Paso Flores 89.16 134⇑ iP **P 18 40 43.2 +1.4**
PLCA pmax pmax
comp=Z,10.0nm,0.6s
PLCA Paso Flores 89.16 134⇑ iP **P 18 40 43.2 +1.3**
comp=Z,10nm,0.6s,mb4.8
LPM Los Pinos Moun 89.20 52 eP **P 18 40 42.2 +0.1**
TXAR Lajitas Array 89.22 58 P **P 18 40 43.1 +1.0**
comp=Z,23nm,0.9s,mb5.0,baz=225,slow=5.3,SNR=94
TXAR pP pP 18 42 52.0 -0.1
comp=Z,3.4nm,1.0s,baz=217,slow=6.3,SNR=6.2
TXAR PKKPbc PKKPbc 18 58 15.8 +1.1
comp=Z,1.2nm,0.5s,baz=90,slow=3.8,SNR=8.3
TXAR Lajitas Array 89.22 58 P **P 18 40 43.1 +1.0**
TXAR pP pP 18 42 52.0 -0.1
TXAR PKKPbc PKKPbc 18 58 15.8 +1.1
HIA Hailar 89.24 325 ⇓iP **P 18 40 41.7 -0.5**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 89.24 325 ⇓iP **P 18 40 41.7 -0.5**
comp=Z,18nm,0.8s,mb5.0
HHC Hu-ho-hao-te 89.50 315 eP **P 18 40 44.2 +0.8**
HHC AP pP 18 42 55.8 +2.3
HHC XP sP 18 43 55.0 +1.4
HHC PP PP 18 44 22.8 -3.3
HHC S 18 50 33.7
HHC AMB AMB
comp=Z,72nm,0.7s,mb5.6
ANMO Albuquerque 89.62 52⇑ iP **P 18 40 44.5 +0.5**
GDL2 Guadalupe Moun 89.94 55 eP **P 18 40 46.5 +1.0**
IMA2 Indian Mountai 90.18 10 eP **P 18 40 45.0 -1.6**
COLA College 90.20 13 eP **P 18 40 42.7 -3.9**
AHID Auburn Hatcher 90.23 43 eP **P 18 40 47.2 +0.4**
comp=Z,23nm,0.8s,mb5.0
ILAR Eielson Array 90.31 13 P **P 18 40 45.0 -2.1**
comp=Z,3.9nm,0.7s,mb4.3,baz=213,slow=5.1,SNR=36
BTO Baotou 90.40 314 eP **P 18 40 47.6 0.0**
CD2 Chengdu 90.47 303⇑ iP **P 18 40 48.3 +0.4**
CD2 AP pP 18 42 59.7 +1.5
CD2 XP sP 18 43 58.5 +0.3
CD2 PP PP 18 44 37.1 +3.4
CD2 SKS 18 50 23.0
CD2 S 18 50 51.6
CD2 XS sS 18 54 43.2 -2.1
CD2 SS SS 18 57 15.4 +3.2
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
CD2 AMB AMB
comp=Z,90nm,8.9s
BILL Bilibino 90.59 355 diP **P 18 40 46.3 -2.2**
BILL pmax pmax
comp=Z,42nm,1.0s,mb5.3
BILL Bilibino 90.59 355 ⇓eP **P 18 40 47.1 -1.3**
comp=Z,44nm,0.9s,mb5.4
REDW Red Top Meadow 90.69 43 eP **P 18 40 49.1 +0.2**
comp=Z,26nm,1.0s,mb5.1
PDAR Pinedale Array 91.22 44 P **P 18 40 51.0 -0.4**
comp=Z,7.7nm,0.8s,mb4.7,baz=210,slow=2.9,SNR=51
PDAR PP PP 18 44 34.4 -5.1
comp=Z,1.2nm,0.8s,baz=240,slow=5.6,SNR=5.0
PDAR PKKPbc PKKPbc 18 58 10.4 +0.6
comp=Z,1.5nm,0.8s,baz=78,slow=5.5,SNR=8.4
PDAR PKPPKP 19 06 16.4
comp=Z,0.6nm,0.9s,baz=135,slow=4.2,SNR=3.5
DAWY Dawson 91.51 16⇑ iP **P 18 40 52.2 -0.5**
LZH Lanzhou 92.64 308 ⇓P **P 18 40 58.5 +0.6**
LZH AP pP 18 43 13.5 +5.1
LZH AMB AMB
comp=Z,91nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,281nm,4.5s
YAK Yakutsk 93.15 339 diP **P 18 40 58.3 -1.9**
YAK pmax pmax
comp=Z,86nm,0.7s,mb5.9
YAK Yakutsk 93.15 339 eP **P 18 40 58.2 -2.0**
comp=Z,101nm,0.8s,mb5.9
ULN Ulaanbaatar 95.69 320 eP **P 18 41 11.0 -0.7**
ULN pmax pmax
comp=Z,11nm,0.8s,mb5.1
ULN Ulaanbaatar 95.69 320 eP **P 18 41 11.0 -0.7**
comp=Z,11nm,0.8s,mb5.1
SONM Songino Array 96.08 319 P **P 18 41 12.3 -1.2**
comp=Z,2.1nm,0.4s,mb4.7,baz=126,slow=4.2,SNR=34
SONM PP PP 18 45 13.2 -3.5
comp=Z,2.9nm,1.1s,baz=114,slow=6.0,SNR=6.6
BOD Bodaibo 96.84 330 eP **P 18 41 14.1 -2.8**
GTA Gaotai 96.92 310 P **P 18 41 17.6 +0.4**
GTA AP pP 18 43 32.3 +4.1
GTA XP sP 18 44 26.5 -1.5
GTA PP PP 18 45 20.8 -2.2
GTA SKS 18 50 55.7
GTA S 18 51 42.3
GTA XS sS 18 55 37.3 -6.8
GTA AMB AMB
comp=Z,16nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,49nm,4.2s
SHL Shillong 98.04 294 eP Pdif 18 41 23.0 +0.8
SHL eS tx 18 45 00.0
YKA Yellowknife Ar 98.68 25 P Pdif 18 41 23.5 -1.6
comp=Z,0.1nm,0.4s,baz=238,slow=4.7,SNR=3.9
YKA pP pP 18 43 34.3 -1.9
comp=Z,0.4nm,0.8s,baz=243,slow=4.1,SNR=3.4
YKA PP PP 18 45 26.0 -10
comp=Z,0.6nm,0.9s,baz=241,slow=7.1,SNR=4.1
YKA PKiKP PKiKP 18 45 51.1 -1.3
comp=Z,0.2nm,0.4s,baz=264,slow=1.7,SNR=4.5
YKA PKKPbc PKKPbc 18 57 48.4 -1.9
comp=Z,0.6nm,0.4s,baz=38,slow=2.4,SNR=13
YKA PKPPKP 19 06 05.4
comp=Z,0.1nm,0.4s,baz=45,slow=2.0,SNR=3.6
YKA Yellowknife Ar 98.68 25 P Pdif 18 41 23.5 -1.6
YKA pP pP 18 43 34.3 -1.9
YKA PP PP 18 45 26.1 -10
TIXI Tiksi 100.02 345 eP Pdif 18 41 27.5 -3.5
TIXI pmax pmax
comp=Z,4.0nm,1.5s
LSA Lhasa 100.07 298 P Pdif 18 41 32.6 +1.4
LSA Lhasa 100.07 298 eP Pdif 18 41 32.6 +1.4
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 100.07 298 ePdif Pdif 18 41 32.6 +1.3
comp=Z,4.9nm,0.8s
LPAZ La Paz 102.75 114 PKKPbc PKKPbc 18 57 39.5 +0.7
comp=Z,2.4nm,0.7s,baz=324,slow=1.0,SNR=9.2
JIRN Jiri 103.54 295 eP Pdif 18 41 45.9 -0.7
comp=Z,5.3nm,0.5s
JIRN Jiri 103.54 295 eP PKiKP 18 46 01.3 +0.1
comp=Z,32nm,0.6s
GUN Gumba 103.88 295 eP Pdif 18 41 48.3 +0.1
comp=Z,12nm,0.4s
GUN Gumba 103.88 295 eP PKiKP 18 46 01.0 -0.9
comp=Z,16nm,0.6s
PKI Pulchoki 104.17 294 eP PKiKP 18 46 02.0 -0.4
comp=Z,23nm,0.5s
KKN Kakani 104.35 294 eP Pdif 18 41 49.9 -0.3
comp=Z,17nm,0.7s
KKN Kakani 104.35 294 eP PKiKP 18 46 02.0 -0.7
comp=Z,16nm,0.7s
DMN Daman 104.44 294 eP Pdif 18 41 51.0 +0.4
comp=Z,18nm,0.6s
DMN Daman 104.44 294 eP PKiKP 18 46 02.4 -0.5
GKN Gorkha 104.95 294 eP Pdif 18 41 53.1 +0.2
comp=Z,24nm,0.7s
GKN Gorkha 104.95 294 eP PKiKP 18 46 02.2 -1.6
KOLN Koldanda 105.76 294 eP Pdif 18 41 56.4 -0.1
comp=Z,17nm,0.6s
KOLN Koldanda 105.76 294 eP PKiKP 18 46 04.5 -0.8
comp=Z,5.8nm,0.4s
KOLN Koldanda 105.76 294 eP Pdif 18 41 56.4 -0.1
KOLN eP 18 46 04.5
WMQ Urumqi 106.93 311 PDIF Pdif 18 42 02.0 +0.3
WMQ PP PP 18 46 41.0 +4.2
WMQ SS SS 19 00 57.0 -1.8
WMQ PP PP
comp=Z,126nm,8.0s
HYB Hyderabad 107.08 282 iPKP PKiKP 18 46 06.0 -1.8
HYB Hyderabad 107.08 282 eP PKiKP 18 46 05.0 -2.8
ZAL Zalesovo 110.90 321 PKiKP PKiKP 18 46 12.8 -2.2
comp=Z,5.3nm,0.4s,baz=316,slow=2.4,SNR=22
ZAL PP PP 18 46 58.3 -6.7
comp=Z,1.2nm,0.9s,baz=2.2,slow=9.0,SNR=3.2
ZAL Zalesovo 110.90 321 PKPdf PKiKP 18 46 12.8 -2.2
ZAL PP PP 18 46 58.3 -6.7
MK31 Makanchi Array 111.29 313 PKIKP PKiKP 18 46 14.1 -1.6
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 111.29 313 Pdiff Pdif 18 42 21.0 -0.1
comp=Z,0.9nm,0.5s,baz=91,slow=5.1,SNR=17
MKAR PKiKP PKiKP 18 46 14.3 -1.4
comp=Z,6.2nm,0.5s,baz=319,slow=0.3,SNR=93
MKAR PP PP 18 46 59.1 -8.7
comp=Z,2.5nm,1.0s,baz=96,slow=11,SNR=3.7
MKAR PKKPbc PKKPbc 18 57 13.0 +0.2
comp=Z,1.0nm,0.6s,baz=274,slow=2.5,SNR=10.0
MKAR PKKPab PKKPab 18 57 24.6 -0.3
comp=Z,1.4nm,0.8s,baz=288,slow=3.8,SNR=11
MKAR SKKPbc 18 59 59.1
comp=Z,0.8nm,0.7s,baz=297,slow=2.7,SNR=7.1
MKAR Makanchi Array 111.29 313 P Pdif 18 42 21.0 -0.1
MKAR 18 46 14.3
MKAR Makanchi Array 111.29 313 Pdif Pdif 18 42 21.0 -0.1
MKAR PKPdf PKiKP 18 46 14.3 -1.4
MKAR PP PP 18 46 59.1 -8.7
MKAR PKKPbc PKKPbc 18 57 13.0 +0.2
MKAR PKKPab PKKPab 18 57 24.6 -0.3
MKAR SKKPbc 18 59 59.1
POO Poona 111.68 282 eP PKiKP 18 46 15.0 -1.5
NVS Novosibirsk 111.94 322 iPKIKP PKiKP 18 46 14.8 -2.2
NVS pmax pmax
comp=Z,11nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
THN Thein Dam 113.54 297 eP PKiKP 18 46 14.4 -5.6
KURK Kurchatov 114.24 317 diPKIKP PKiKP 18 46 19.3 -2.1
KURK Kurchatov 114.24 317 ePKiKP PKiKP 18 46 19.4 -2.0
KSH Kashi 114.64 304 ePKP PKPdf 18 46 25.0 +2.9
KSH eXPKP 18 49 40.2
KSH ePKS 18 50 00.0
KSH eSKS SKSdf 18 52 40.0 +2.4
KSH PP PP
comp=Z,90nm,3.6s
ULHL Ulahol 114.85 307 P PKPdf 18 46 22.4 -0.1
SNR=8.8
TKM2 Tokmak 2 115.41 308 P PKPdf 18 46 22.7 -0.9
SNR=17
TKM2 Tokmak 2 115.41 308 ePKP PKPdf 18 46 22.5 -1.1
KZA Kyzart 115.56 307 P PKPdf 18 46 24.2 +0.3
SNR=8.6
KBK Karagaybulak 115.85 308 P PKPdf 18 46 24.0 -0.4
SNR=14
CHMS Chumysh 116.04 308 P PKPdf 18 46 23.9 -0.9
SNR=15
UCH Uchtor 116.12 307 P PKPdf 18 46 25.3 +0.3
SNR=22
AAK Ala-Archa 116.18 308 P PKPdf 18 46 24.2 -0.9
SNR=8.3
AAK Ala-Archa 116.18 308 iPKIKP PKPdf 18 46 21.8 -3.3
AAK Ala-Archa 116.18 308 ePKPdf PKPdf 18 46 23.1 -2.0
USP Ospenovka 116.25 308 P PKPdf 18 46 24.4 -0.9
SNR=14
EKS2 Erkin-Say 116.71 308 P PKPdf 18 46 25.7 -0.5
SNR=16
AML Almayashu 116.71 307 P PKPdf 18 46 26.1 0.0
SNR=36
VOSK Vostochnaya 119.07 319 PKIKP PKPdf 18 46 28.7 -2.0
KK31 Karatay Array 119.14 308 ePKIKP PKPdf 18 46 29.8 -1.0
KKAR Karatay Array 119.14 308 iPKIKP PKPdf 18 46 29.8 -1.0
KKAR pmax pmax
comp=Z,11nm,0.6s
BVA0 Borovoye Array 119.42 319 iPKIKP PKPdf 18 46 29.9 -1.4
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 119.42 319 PKP PKPdf 18 46 30.1 -1.2
comp=Z,30nm,0.3s,baz=122,slow=2.2,SNR=229
BVAR PP PP 18 48 02.9 -0.9
comp=Z,5.3nm,0.9s,baz=101,slow=7.6,SNR=5.5
BVAR SKP 18 49 11.2
comp=Z,4.0nm,0.7s,baz=90,slow=1.5,SNR=5.2
BVAR PKKPbc PKKPbc 18 56 45.0 -0.2
comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=4.4
BVAR Borovoye Array 119.42 319 PKIKP PKPdf 18 46 30.1 -1.2
BVAR 18 48 02.9
BDFB Brasilia 119.45 124 PKKPbc PKKPbc 18 56 44.9 -0.1
comp=Z,6.7nm,0.8s,baz=60,slow=6.5,SNR=5.9
BRVK Borovoye 119.48 319 ePKIKP PKPdf 18 46 30.1 -1.4
ZRNK Zerenda 120.26 319 ePKIKP PKPdf 18 46 31.2 -1.7
SCHQ Schefferville 120.93 38 PKKPbc PKKPbc 18 56 39.4 -0.4
comp=Z,3.3nm,0.7s,baz=242,slow=9.8,SNR=6.1
BOSA Boshof 124.07 206 PKP PKPdf 18 46 40.8 +0.5
comp=Z,6.9nm,0.7s,baz=219,slow=2.3,SNR=13
SUMG Summit 125.16 13 ePKPdf PKPdf 18 46 41.3 -1.0
ARU Arti 125.75 324 iPKIKP PKPdf 18 46 42.5 -1.0
ARU e 18 48 41.5
ARU Arti 125.75 324 ePKPdf PKPdf 18 46 42.8 -0.7
SOKR Solikamsk 125.78 328 ⇓iPKIKP PKPdf 18 46 42.9 -0.6
SOKR pmax pmax
comp=Z,30nm,0.7s
AB31 Akbulak array 126.29 316 PKIKP PKPdf 18 46 43.3 -1.2
AB31 pmax pmax
comp=Z,2.0nm,0.6s
APA Apatity 130.20 344 ⇓iPKIKP PKPdf 18 46 50.7 -1.2
APA pmax pmax
comp=Z,13nm,0.6s
ARCES ARCESS Array B 130.32 349 PKhKP 18 46 32.5
comp=Z,4.6nm,1.0s,baz=17,slow=3.5,SNR=8.0
ARCES PKP PKPdf 18 46 50.2 -2.0
comp=Z,22nm,0.6s,baz=42,slow=0.3,SNR=12
ARCES SKPbc SKPbc 18 49 20.9 +1.0
comp=Z,22nm,0.9s,baz=45,slow=3.4,SNR=12
ARCES PKKP 18 56 51.6
comp=Z,6.4nm,1.1s,baz=214,slow=2.2,SNR=10.0
ARCES ARCESS Array B 130.32 349 PKIKP PKPdf 18 46 50.2 -2.0
ARCES 18 49 20.9
ARCES ARCESS Array B 130.32 349 PKP PKPdf 18 46 50.2 -2.0
ARCES SKPbc SKPbc 18 49 20.9 +1.0
ARCES PKKP 18 56 51.6
KLMR Klimovskoe 132.83 335 ePKHKP 18 46 42.3
KLMR e 18 49 26.6
KLMR pmax pmax
comp=Z,30nm,1.7s
JOF Joensuu 134.28 341 ep 18 46 44.6
comp=Z,21nm,0.5s
JOF Joensuu 134.28 341 ePKHKP 18 46 44.6
JOF pmax pmax
comp=Z,21nm,0.5s
TSUM Tsumeb 135.54 203 ePKPdf PKPdf 18 47 02.2 +0.3
TSUM eSKP 18 49 40.5
KAF Kangasniemi 136.36 343 ep 18 46 48.0
comp=Z,13nm,0.5s
KAF Kangasniemi 136.36 343 ePKHKP 18 46 48.0
KAF pmax pmax
comp=Z,13nm,0.5s
FINES FINESS Array B 136.97 342 PKhKP 18 46 51.2
comp=Z,2.4nm,0.4s,baz=42,slow=3.6,SNR=26
FINES PKP PKPdf 18 47 03.4 -1.2
comp=Z,6.4nm,0.3s,baz=74,slow=1.2,SNR=14
FINES SKPbc SKPbc 18 49 42.0 +0.4
comp=Z,7.1nm,0.7s,baz=45,slow=2.7,SNR=10
FINES FINESS Array B 136.97 342 PKP PKPdf 18 47 03.4 -1.2
FINES SKPbc SKPbc 18 49 42.0 +0.4
KMBO Kilima Mbogo 137.23 242 PKhKP 18 46 54.5
comp=Z,2.3nm,0.6s,baz=91,slow=5.4,SNR=8.0
KMBO PKP PKPdf 18 47 06.3 +1.2
comp=Z,9.2nm,0.8s,baz=57,slow=3.6,SNR=14
KMBO SKPbc SKPbc 18 49 45.3 +2.9
comp=Z,13nm,1.0s,baz=28,slow=1.7,SNR=14
KMBO Kilima Mbogo 137.23 242 PKIKP PKPdf 18 47 06.3 +1.2
KMBO Kilima Mbogo 137.23 242 ePKPbc PKPdf 18 47 06.9 +1.8
OBN Obninsk 137.52 330 ePKHKP 18 46 51.9
OBN i 18 47 05.7
OBN pmax pmax
comp=Z,14nm,0.8s
OBN pmax pmax
comp=Z,31nm,0.7s
OBN Obninsk 137.52 330 ePKP PKPdf 18 47 05.7 +0.1
GNI Garni 138.55 306 ePKHKP 18 47 00.1
GNI e 18 47 08.1
KIV Kislovodsk 139.04 312 ePKIKP PKPdf 18 47 07.2 -1.2
VSU Vasula 139.15 339 iPKIKP PKPdf 18 47 06.0 -2.6
VSU Vasula 139.15 339 ePKP PKPdf 18 47 06.1 -2.5
HAKT HAKKARI 139.83 302 iP PKPdf 18 47 02.9 -6.9
NB2 NORSAR Subarra 140.48 352 PKPa 18 47 03.4
comp=Z,8.1nm,0.8s,baz=18,slow=4.0
NOA NORSAR Array B 140.48 352 PKhKP 18 47 03.6
comp=Z,5.8nm,0.5s,baz=0.7,slow=2.2,SNR=34
NOA PKP PKPdf 18 47 12.1 +1.1
comp=Z,6.0nm,0.5s,baz=14,slow=3.7,SNR=13
NOA SKPbc SKPbc 18 49 52.1 +0.9
comp=Z,9.7nm,0.8s,baz=15,slow=4.3,SNR=12
NOA NORSAR Array B 140.48 352 PKP PKPdf 18 47 12.1 +1.1
NOA SKPbc SKPbc 18 49 52.1 +0.9

NAO01 **NORSAR Array S** 140.71 352 *e*PKPpre 18 47 04.9
ERZM **Erzurum** 141.13 307 *i* P PKPdf 18 47 08.0 -4.1
BNGL **BINGOL** 141.52 305 *i* P PKPdf 18 47 09.7 -3.1
MNK **Minsk** 141.73 334 *e*PKHKP 18 47 05.0
KONO **Kongsberg** 142.03 352 *d i*PKIKP PKPdf 18 47 12.6 -1.2
KONO **Kongsberg** 142.03 352 *e*PKPpre 18 47 08.8
KONO *e*PKPr PKPdf 18 47 12.7 -1.1
MARD **Mardin** 142.17 303 *i* P PKPdf 18 47 10.6 -3.4
ANN **Anapa** 142.25 316 *d i*PKHKP 18 47 10.1
ANN pmax pmax
comp=Z,146nm,1.2s
KELT **Kelkit** 142.62 308 *i* P PKPdf 18 47 12.6 -2.2
GRSN **GIRESUNGRSN** 143.10 309 *i* P PKPdf 18 47 13.1 -2.6
ELZG **Elazig** 143.28 305 *i* P PKPdf 18 47 15.7 -0.2
RTO **Tolsta** 143.56 6⇓ *e*P PKPdf 18 47 13.8 -2.6
RTO **Tolsta** 143.56 6⇓ *e*P PKPdf 18 47 13.8 -2.6
RSC **Scourie** 143.68 5⇓ *i*P PKPdf 18 47 14.4 -2.2
RSC **Scourie** 143.68 5⇓ *i*P PKPdf 18 47 14.4 -2.2
MALT **Malatya** 143.75 305 *e*PKPdf PKPdf 18 47 16.8 +0.1
MALT *e*SKP 18 50 02.3
AKASG **Malin Array Be** 143.75 329 PKP PKPdf 18 47 14.6 -2.2
comp=Z,64nm,0.4s,baz=42,slow=4.0,SNR=613
AKASG SKPbc SKPbc 18 50 00.2 +1.1
comp=Z,16nm,0.9s,baz=48,slow=2.2,SNR=18
SUW **Suwalki** 143.88 337 *e*PKPd PKPdf 18 47 15.7 -1.3
REB **Eisghbrachaidh** 143.90 5⇓ *i*P PKPdf 18 47 15.1 -2.0
REB **Eisghbrachaidh** 143.90 5⇓ *i*P PKPdf 18 47 15.1 -2.0
RRH **Rhenigidale** 143.96 6⇓ *i*P PKPdf 18 47 15.3 -1.9
RRH **Rhenigidale** 143.96 6⇓ *i*P PKPdf 18 47 15.3 -1.9
RRR **Rubha Reidh** 144.11 6⇓ *i*P PKPdf 18 47 15.7 -1.7
RRR **Rubha Reidh** 144.11 6⇓ *i*P PKPdf 18 47 15.7 -1.7
GZT **Gaziantep** 144.65 304 *i* P PKPdf 18 47 19.1 +0.8
MUD **Monsted U'grnd** 145.20 351 ⇓ *i*P PKPdf 18 47 19.4 +0.1
comp=Z,46nm,0.6s
MUD **Monsted U'grnd** 145.20 351 ⇓ *i*PKIKP PKPdf 18 47 19.4 +0.1
MUD pmax pmax
comp=Z,46nm,0.6s
BOYT **Boyabat** 145.30 312 *i* P PKPdf 18 47 21.3 +1.9
COP **Copenhagen** 145.40 348 ⇓ *i*P PKPdf 18 47 20.0 +0.4
comp=Z,52nm,0.4s
COP *i* 18 47 21.7
COP *i* S 18 56 45.1
COP **Copenhagen** 145.40 348 ⇓ *i*PKIKP PKPdf 18 47 20.0 +0.4
COP *i* 18 47 21.7
COP pmax pmax
comp=Z,52nm,0.4s
BSD **Bornholm Skovb** 145.40 345 ⇓ *i*P PKPdf 18 47 19.7 +0.1
CTKT **Corum** 145.68 310 *i* P PKPdf 18 47 22.4 +2.3
COBT **Iskenderun** 145.88 303 *i* P PKPdf 18 47 23.0 +2.6
WAR **Warsaw** 146.08 337 *e*PKPd PKPdf 18 47 22.9 +2.2
WAR *e* 18 47 25.4
FKH **Fakeheh** 146.27 299 *e*P PKPdf 18 47 24.5 +3.4
BALT **Daday** 146.30 313 *i* P PKPdf 18 47 23.1 +1.9
CDAG **Cicekdag** 146.35 309 *i* P PKPdf 18 47 23.5 +2.3
GMK **Mull of Kintyr** 146.61 6⇓ *e*P PKPdf 18 47 23.2 +1.6
GMK **Mull of Kintyr** 146.61 6⇓ *e*P PKPdf 18 47 23.2 +1.6
ELDT **Eldivan** 146.69 311 *i* P PKPdf 18 47 24.5 +2.7
LVV **L'vov** 146.76 332 *e*PKP2 PKPab 18 47 24.0 -3.9
ESK **Eskdalemuir** 146.83 4 *e*PKPbc PKPbc 18 47 23.5 -1.4
BR131 **Keskin Array S** 146.84 309 *e*PKPdf PKPdf 18 47 21.2 -0.8
BR131 *e*PKPbc PKPbc 18 47 24.9 -0.1
BRTR **Keskin Array B** 146.84 309 PKP PKPdf 18 47 21.2 -0.8
comp=Z,44nm,0.7s,baz=160,slow=3.5,SNR=111
BRTR PKPbc PKPbc 18 47 24.6 -0.4
comp=Z,44nm,0.7s,baz=135,slow=4.3,SNR=176
BHL **Bhannes** 146.95 298 *e*P PKPdf 18 47 25.7 +3.5
GAL1 **Galloway** 147.17 5⇓ *i*P PKPdf 18 47 24.8 +2.3
GAL1 **Galloway** 147.17 5⇓ *i*P PKPdf 18 47 24.8 +2.3
BSEG **Bad Segeberg** 147.45 349 *e*PKPbc PKPbc 18 47 26.0 -0.6
BSEG *e*PKPab PKPab 18 47 30.1 -0.7
BSEG **Bad Segeberg** 147.45 349 *e*PKP2 PKPab 18 47 30.1 -0.7
KWP **Kalwaria** 147.47 333 *e*PKPd PKPdf 18 47 26.4 +3.3
KWP *e* 18 47 31.0
HLG **Helgoland** 147.58 352 *e*PKPbc PKPbc 18 47 26.7 -0.2
HLG *e*PKPab PKPab 18 47 31.0 -0.3
SGKT **Sivrigoynuk** 147.62 312 *i* P PKPdf 18 47 26.6 +3.3
GMM **Mts of Mourne** 147.66 7⇓ *e*P PKPdf 18 47 25.9 +2.5
GMM **Mts of Mourne** 147.66 7⇓ *e*P PKPdf 18 47 25.9 +2.5
CFR **Carcaliu** 147.77 322 ⇑P PKPdf 18 47 27.3 +3.8
BURAR **Bucovina Array** 147.77 328 ⇑P PKPbc 18 47 27.8 +0.4
WIM **Isle of Man** 147.88 6⇓ *i*P PKPdf 18 47 26.7 +3.0
WIM AMb AMB 18 47 27.4
comp=Z,105nm,1.0s
WIM **Isle of Man** 147.88 6⇓ *i*P PKPdf 18 47 26.7 +3.0
WIM AMb AMB 18 47 27.4
comp=Z,105nm,1.0s
TIRR **Tirgusor** 148.03 321 ⇑P PKPdf 18 47 23.4 -0.6
TIRR **Tirgusor** 148.03 321 PKP2 PKPab 18 47 28.1 -5.0
TIRR **Tirgusor** 148.03 321 *e*PKPdf PKPdf 18 47 22.4 -1.6
TIRR *e*PKPbc PKPbc 18 47 27.9 -0.2
TIRR P 18 47 28.1
RUE **Ruedersdorf** 148.08 344 *e*PKPbc PKPbc 18 47 27.8 -0.4
RUE *e*PKPab PKPab 18 47 32.2 -1.2
RUE **Ruedersdorf** 148.08 344 *e*PKPbc PKPbc 18 47 27.5 -0.6
VRI **Vrincioaia** 148.14 324 ⇑P PKPbc 18 47 28.1 -0.2
VRI **Vrincioaia** 148.14 324 P PKPbc 18 47 27.9 -0.4
OJC **Ojcow** 148.17 336 *i* PKPdf PKPdf 18 47 27.8 +3.6
OJC *e*PKiKP PKiKP 18 47 33.6 +4.0
HARR **Harsova** 148.17 321 ⇓P PKPbc 18 47 28.3 -0.1
KOLS **Kolonicke sedl** 148.18 332 *e*PKP PKPdf 18 47 24.2 0.0
KOLS *i* 18 47 28.2
KOLS *e* 18 47 34.8
KOLS *e* 18 49 45.3
KOLS **Kolonicke sedl** 148.18 332 *e*PKHKP 18 47 24.2
KOLS *e* 18 47 34.8
STHS **Stebnicka Huta** 148.24 334 *i* PKP PKPbc 18 47 28.8 +0.2
STHS *e* 18 47 35.1
STHS *e* 18 49 50.2
HENT **Hendek** 148.30 313 *i* P PKPdf 18 47 28.3 +3.9
DCN **Croghan** 148.37 9 *e*P PKPdf 18 47 27.8 +3.3
UZH **Uzhgorod** 148.40 332 *e*PKHKP 18 47 28.0
ERMK **Ermenek** 148.43 304 *i* P PKPbc 18 47 28.6 -0.4
DLF **Lyons Farm** 148.52 8 *e*P PKPdf 18 47 28.0 +3.2
CRVS **Cervenica-Dubn** 148.55 333 *i* PKP PKPbc 18 47 29.6 +0.3
CRVS *e* 18 47 35.9
CRVS *e* 18 49 42.5
CSS **Prodhromos** 148.58 301 P PKPbc 18 47 29.9 +0.5
CSS **Prodhromos** 148.58 301 *e*PKPdf PKPbc 18 47 29.7 +0.3
PSN **Preselentsi** 148.60 320 *i* P PKPbc 18 47 29.5 +0.1
MAMC **Mammari** 148.61 302 P PKPbc 18 47 30.4 +0.9
NIE **Niedzica** 148.62 335 *i* PKPd PKPbc 18 47 30.0 +0.5
WCB1 **Church Bay** 148.66 6⇓ *i*P PKPdf 18 47 28.4 +3.4
WCB1 AMb AMB 18 47 29.0
comp=Z,79nm,0.9s
WCB1 **Church Bay** 148.66 6⇓ *i*P PKPdf 18 47 28.4 +3.4
WCB1 AMb AMB 18 47 29.0
comp=Z,79nm,0.9s
WME **Myndd Eilian** 148.66 5⇓ *e*P PKPdf 18 47 28.4 +3.4
WME **Myndd Eilian** 148.66 5⇓ *e*P PKPdf 18 47 28.4 +3.4
ISR **Istrita** 148.70 323 ⇓P PKPbc 18 47 29.7 0.0
WLF1 **Llynfaes** 148.76 6⇓ *e*P PKPdf 18 47 28.7 +3.5
WLF1 AMb AMB 18 47 29.3
comp=Z,87nm,0.8s
WLF1 **Llynfaes** 148.76 6⇓ *e*P PKPdf 18 47 28.7 +3.5
WLF1 AMb AMB 18 47 29.3
comp=Z,87nm,0.8s
YRC **Rhoscolyn** 148.78 6⇓ *e*P PKPdf 18 47 28.6 +3.4
YRC AMb AMB 18 47 29.7
comp=Z,60nm,1.0s
YRC **Rhoscolyn** 148.78 6⇓ *e*P PKPdf 18 47 28.6 +3.4
YRC AMb AMB 18 47 29.7
comp=Z,60nm,1.0s
MLR **Muntele Rosu** 148.80 324 ⇑P PKPbc 18 47 29.6 -0.3
MLR **Muntele Rosu** 148.80 324 P PKPbc 18 47 29.7 -0.2
KSP **Ksiaz** 148.85 340 *e*PKPd PKPdf 18 47 30.1 +4.8
KSP *e* 18 47 36.8
KSP **Ksiaz** 148.85 340 *e*PKP2 PKPab 18 47 34.6 -1.9
KSP **Ksiaz** 148.85 340 ⇓ *i*PKPdf PKPbc 18 47 30.0 0.0
KSP *e*PKPab PKPab 18 47 34.6 -1.9
KSP *e* 18 47 36.6
RAC **Raciborz** 148.87 338 *e*PKP2 PKPbc 18 47 30.2 +0.1
ESKT **Eskisehir** 148.90 311 *i* P PKPbc 18 47 29.8 -0.4
SZAC **Souni-Zanaja** 148.99 301 P PKPbc 18 47 31.4 +1.0
BORA **Eskisehir** 149.02 312 *i* P PKPdf 18 47 29.0 +3.4
YRE **Yr Eifl** 149.06 6⇓ *e*P PKPdf 18 47 29.1 +3.5
YRE AMb AMB 18 47 29.8
comp=Z,42nm,0.9s
YRE **Yr Eifl** 149.06 6⇓ *e*P PKPdf 18 47 29.1 +3.5
YRE AMb AMB 18 47 29.8
comp=Z,42nm,0.9s
OKC **Ostrava-Krasne** 149.09 337 *e*PKPDF PKPdf 18 47 29.0 +3.3

OKC ⇑ *e*PKPB PKPab 18 47 35.8 -1.7
ALFC **Alevga** 149.10 302 P PKPab 18 47 30.9 -6.7
UPC **Upice** 149.23 340 ⇑ *e*PKPB PKPbc 18 47 31.1 +0.1
UPC *e*PKPAB PKPab 18 47 38.7 +0.6
SBD1 **Bryn Du** 149.23 4⇓ *i*P PKPbc 18 47 30.2 -0.7
SBD1 AMb AMB 18 47 30.8
comp=Z,140nm,0.8s
SBD1 **Bryn Du** 149.23 4⇓ *i*P PKPbc 18 47 30.2 -0.7
SBD1 AMb AMB 18 47 30.8
comp=Z,140nm,0.8s
DPC **Dobruska-Polom** 149.27 340 ⇑ *e*PKPB PKPbc 18 47 31.4 +0.4
DPC *e*PKPAB PKPab 18 47 38.9 +0.6
KECS **Kecovo** 149.28 333 *i* PKP PKPbc 18 47 30.9 -0.2
KECS *e* 18 47 38.3
KECS *e* 18 49 49.6
KECS **Kecovo** 149.28 333 *i* PKHKP 18 47 30.9
KECS *e* 18 47 38.3
VOIR 149.32 325 ⇓P PKPbc 18 47 30.9 -0.3
PRD **Provadia** 149.34 319 *i* P PKPbc 18 47 31.5 +0.3
AKMC **Akamas** 149.35 302 P PKPbc 18 47 31.4 +0.2
CLL **Collm** 149.35 344 *e*PKPbc PKPbc 18 47 30.8 -0.4
CLL *e*PKPab PKPab 18 47 38.0 -0.6
CLL **Collm** 149.35 344 *e*PKPdf PKPdf 18 47 25.0 -1.1
CLL ⇓ *i*PKPbc PKPbc 18 47 30.9 -0.3
comp=Z,190nm,0.8s
CLL ⇑ *i*PKPab PKPab 18 47 37.9 -0.7
comp=Z,92nm,0.7s
CLL *e*PKPbc pPKPbc 18 49 49.0 -0.3
CLL *e*PP PP 18 51 06.0 -4.0
CLL **Collm** 149.35 344 ⇓ *e*PKIKP PKPdf 18 47 25.0 -1.1
CLL *i* 18 47 37.9
CLL pmax pmax
comp=Z,190nm,0.8s
CLL pmax pmax
comp=Z,92nm,0.7s
MORC **Moravsky Berou** 149.35 338 PKHKP 18 47 31.4
MORC **Moravsky Berou** 149.35 338 *e*PKPdf PKPdf 18 47 25.6 -0.5
MORC *e*PKPbc PKPbc 18 47 31.0 -0.2
PPCY **Paphos** 149.38 301 P PKPbc 18 47 31.4 +0.1
IBBN **Ibbenburen** 149.43 351 *e*PKPbc PKPbc 18 47 30.9 -0.5
CLZ **Clausthal** 149.44 348 *e*PKPdf PKPdf 18 47 25.8 -0.4
CLZ *e*PKPbc PKPbc 18 47 31.3 -0.2
CLZ *e*PKPab PKPab 18 47 38.4 -0.6
CLZ *e*pPKPbc pPKPbc 18 49 51.1 +1.6
CLZ **Clausthal** 149.44 348 *e*PKP2 PKPab 18 47 38.4 -0.6
BRG **Berggiesshubel** 149.50 343 *e*PKPbc PKPbc 18 47 31.4 -0.2
BRG *e*PKPab PKPab 18 47 39.0 -0.2
BRG **Berggiesshubel** 149.50 343 *i* PKP PKPdf 18 47 25.9 -0.4
comp=Z,13nm,1.6s
BRG *i* 18 47 38.9
comp=Z,26nm,0.8s
BRG pPKP pPKPdf 18 49 49.9 +3.8
comp=Z,53nm,2.5s
BRG **Berggiesshubel** 149.50 343 *i* PKIKP PKPdf 18 47 25.9 -0.4
BRG *i* 18 47 38.9
BRG pmax pmax
comp=Z,13nm,1.6s
BRG pmax pmax
comp=Z,86nm,0.6s
BRG pmax pmax
comp=Z,26nm,0.8s
BRG pmax pmax
comp=Z,53nm,2.5s
BRG **Berggiesshubel** 149.50 343 *i* PKP PKPdf 18 47 25.9 -0.4
BRG *i* 18 47 31.4
BRG *i* 18 47 38.9
BRG pPKP pPKPdf 18 49 49.9 +3.8
DRGR 149.57 329 ⇑P PKPbc 18 47 31.5 -0.3
PVCC **Panska Ves** 149.64 342 *e*PKPDF PKPdf 18 47 26.9 +0.4
PVCC ⇑ *e*PKPB PKPbc 18 47 32.1 +0.2
PVCC *e*PKPAB PKPab 18 47 40.3 +0.5
PVCC **Panska Ves** 149.64 342 *e*PKP PKPbc 18 47 32.1 +0.2
PVCC *e* 18 47 40.3
HLM1 **Long Mynd** 149.64 4⇓ *i*P PKPbc 18 47 31.1 -0.8
HLM1 AMb AMB 18 47 31.7
comp=Z,72nm,1.0s
HLM1 **Long Mynd** 149.64 4⇓ *i*P PKPbc 18 47 31.1 -0.8
HLM1 AMb AMB 18 47 31.7
comp=Z,72nm,1.0s
SSP1 **Stoney Pound** 149.73 4⇓ *i*P PKPbc 18 47 31.4 -0.8
SSP1 **Stoney Pound** 149.73 4⇓ *i*P PKPbc 18 47 31.4 -0.8
ULDT **Uludag** 149.81 313 *i* P PKPbc 18 47 32.2 -0.1
ISP **Isparta** 149.81 308 PKHKP 18 47 31.7
ISP **Isparta** 149.81 308 *e*PKPbc PKPbc 18 47 31.5 -0.9
TKTP **Tekketepe** 149.87 308 *i* P PKPbc 18 47 32.1 -0.4
WTSB **Winterswijk** 149.89 352 *e*PKiKP PKiKP 18 47 31.9 -1.2
comp=Z,206nm,0.5s
VYHS **Vyhne** 149.94 335 *i* PKP PKPbc 18 47 32.2 -0.4
VYHS *e* 18 47 41.2
VYHS *e* 18 49 50.8
VYHS **Vyhne** 149.94 335 *i* PKHKP 18 47 32.2
VYHS *e* 18 47 41.2
PSZ **Piszkesteto** 149.97 333 ⇓ *i*PKP/p PKPbc 18 47 32.3 -0.4
PSZ **Piszkesteto** 149.97 333 PKHKP 18 47 32.4
PSZ **Piszkesteto** 149.97 333 *e*PKPbc PKPbc 18 47 32.1 -0.6
VRAC **Vranov** 150.08 339 PKHKP 18 47 32.9
PRU **Pruhonice** 150.13 342 ⇑ *e*PKPB PKPbc 18 47 32.9 -0.2
PRU *e*PKPAB PKPab 18 47 41.9 0.0
PRU **Pruhonice** 150.13 342 *e*PKP PKPbc 18 47 32.9 -0.2
PRU *e* 18 47 41.9
MCH1 **Michaelchurch** 150.15 4⇓ *i*P PKPbc 18 47 32.1 -1.1
MCH1 **Michaelchurch** 150.15 4⇓ *i*P PKPbc 18 47 32.1 -1.1
SZH **Strazhica** 150.18 321 *i* P PKPbc 18 47 33.0 -0.2
MOX **Moxa** 150.30 346 *e*PKPdf PKPdf 18 47 26.9 -0.7
MOX *e*PKPab PKPab 18 47 42.0 -0.6
MOX *e*pPKPbc pPKPbc 18 49 52.7 +1.0
MOX **Moxa** 150.30 346 *e*PKP PKPdf 18 47 27.0 -0.6
MOX *e* 18 47 33.0
comp=Z,109nm,1.1s
MOX *e* 18 47 42.0
WERD **Werda** 150.32 345 *e*PKPbc PKPbc 18 47 33.3 -0.2
WERD *e*PKPab PKPab 18 47 42.4 -0.2
BUG **Bochum--Univer** 150.34 351 *e*PKPbc PKPbc 18 47 32.9 -0.7
TREC **Trest** 150.45 340 ⇑ *e*PKPB PKPbc 18 47 33.6 -0.2
TREC *e*PKPAB PKPab 18 47 43.1 -0.1
SMOL **Smolenice** 150.45 337 *i* PKP PKPbc 18 47 34.3 +0.5
SMOL *e* 18 47 43.8
NKC **Novy Kostel** 150.48 344 ⇑ *e*PKPB PKPbc 18 47 33.9 0.0
NKC *e*PKPAB PKPab 18 47 43.2 -0.1
HGH **Gray Hill** 150.53 4⇓ *i*P PKPbc 18 47 32.9 -1.1
HGH AMb AMB 18 47 33.5
comp=Z,92nm,1.1s
HGH **Gray Hill** 150.53 4⇓ *i*P PKPbc 18 47 32.9 -1.1
HGH AMb AMB 18 47 33.5
comp=Z,92nm,1.1s
SKP1 **Kophill** 150.53 2⇓ *e*P PKPbc 18 47 33.0 -1.0
SKP1 **Kophill** 150.53 2⇓ *e*P PKPbc 18 47 33.0 -1.0
PVL **Pavlikeni** 150.56 321 *i* P PKPbc 18 47 33.0 -1.1
BUD **Budapest** 150.68 334 *e*PKP/p PKPbc 18 47 33.9 -0.4
SRO **Srobarova** 150.70 335 *e*PKP PKPbc 18 47 34.1 -0.3
SWN1 **Swindon** 150.71 3⇓ *e*P PKPbc 18 47 33.5 -0.9
SWN1 **Swindon** 150.71 3⇓ *e*P PKPbc 18 47 33.5 -0.9
BTOK **Tokmak** 150.74 313 *i* P PKPbc 18 47 33.7 -0.8
ZST **Bratislava** 150.84 337 *e*PKP PKPbc 18 47 34.8 +0.1
ZST *e* 18 47 44.3
ZST *e* 18 49 51.1
ZST **Bratislava** 150.84 337 *e*PKIKP PKPbc 18 47 34.8 +0.1
ZST *e* 18 47 44.3
DNZL **Cakiroluk** 150.94 308 *i* P PKPbc 18 47 35.2 +0.3
BZS **Buzias** 150.94 328 ⇑P PKPbc 18 47 34.6 -0.3
BZS **Buzias** 150.94 328 PKIKP PKPbc 18 47 34.4 -0.5
MANT **Manisa** 150.95 310 *i* P PKPbc 18 47 34.9 0.0
ROTZ **Rotzenmuhle** 150.97 344 *e*PKPbc PKPbc 18 47 34.7 -0.3
ROTZ *e*PKPab PKPab 18 47 45.3 -0.1
ROTZ *e*pPKPbc pPKPbc 18 49 55.1 +1.7
SWK **Warminster** 151.05 3⇓ *e*P PKPbc 18 47 34.3 -0.9
SWK **Warminster** 151.05 3⇓ *e*P PKPbc 18 47 34.3 -0.9
DIM **Dimitrovgrad** 151.13 319 *i* P PKPbc 18 47 35.0 -0.4
BEBN **Eben Emael** 151.18 353 ⇑ PKPbc PKPbc 18 47 35.2 -0.3
BEBN ⇑ PKPab PKPab 18 47 45.3 -0.9
KHC **Kasperske Hory** 151.18 342 *e*PKPDF PKPdf 18 47 28.7 -0.2
KHC ⇑ *e*PKPB PKPbc 18 47 35.5 0.0
KHC *e*PKPAB PKPab 18 47 46.6 +0.3
KHC x x 18 49 54.5
KHC **Kasperske Hory** 151.18 342 *e*PKIKP PKPdf 18 47 28.7 -0.2
KHC *e* 18 47 46.6
KHC **Kasperske Hory** 151.18 342 *e*PKP PKPdf 18 47 28.7 -0.2
KHC *e* 18 47 35.5
KHC *e* 18 47 46.6
KHC *e* 18 49 54.5
HGN **Heimansgroeve** 151.18 353 *e*PKiKP PKiKP 18 47 34.8 -1.0

comp=Z,30nm,1.0s
HGN *e*PKPpre 18 47 45.3
comp=Z,43nm,0.9s
GRF **Grafenberg Arr** 151.28 345 *e*PKPbc PKPbc 18 47 35.0 -0.7
GRF *e*PKPab PKPab 18 47 46.6 -0.1
GRF *ep*PKPbc pPKPbc 18 49 56.1 +2.0
UCC **Uccle** 151.31 355 ⇓ PKPbc PKPbc 18 47 35.1 -0.7
UCC ⇑ PKPab PKPab 18 47 45.7 -1.2
MEM **Membach** 151.32 353 ⇓ PKPbc PKPbc 18 47 35.3 -0.5
TNS **Taunus Mts** 151.34 349 *e*PKPbc PKPbc 18 47 35.4 -0.4
TNS *e*PKPab PKPab 18 47 46.2 -0.8
WET **Wettzell** 151.36 343 *e*PKPbc PKPbc 18 47 35.5 -0.4
WET *e*PKPab PKPab 18 47 47.2 +0.1
WET *ep*PKPbc pPKPbc 18 49 56.5 +2.2
GEC2 **GERESS Array S** 151.40 342 *e*PKPdf PKPdf 18 47 28.1 -1.1
GEC2 *e*PKPbc PKPbc 18 47 35.4 -0.6
GEC2 *e*PKPab PKPab 18 47 47.0 -0.2
GERES **GERESS Array B** 151.40 342 PKP PKPdf 18 47 28.5 -0.7
comp=Z,2.3nm,0.8s,baz=90,slow=1.3,SNR=18
GERES PKPbc PKPbc 18 47 35.4 -0.6
comp=Z,16nm,0.4s,baz=13,slow=2.1,SNR=190
GERES PKPab PKPab 18 47 46.9 -0.3
comp=Z,9.0nm,0.5s,baz=27,slow=4.4,SNR=15
GERES pPKPbc pPKPbc 18 49 52.9 -1.6
comp=Z,4.5nm,1.1s,baz=0.0,slow=2.7,SNR=2.8
ALN **Alexandroupoli** 151.46 317 *e*P PKPbc 18 47 35.1 -1.0
PLD **Plovdiv** 151.60 320 *i* P PKPbc 18 47 35.5 -0.9
SNF **Seneffe** 151.60 355 ⇑ PKPbc PKPbc 18 47 35.8 -0.6
SNF ⇓ PKPab PKPab 18 47 47.1 -1.0
AYDN **Tasoluk** 151.79 309 *i* P PKPbc 18 47 36.9 +0.1
ABH **Alteburg** 151.82 350 PKP PKPdf 18 47 26.4 -3.4
RZN **Rozhen** 151.84 319 *i* P PKPbc 18 47 36.0 -0.9
PKSM **Moragy** 151.85 333 PKIKP PKPbc 18 47 36.4 -0.6
TOD **Tromm** 151.87 348 PKP PKPdf 18 47 28.5 -1.4
KDAG **Bornova** 151.90 311 *i* P PKPbc 18 47 36.2 -0.8
DOU **Dourbes** 151.98 354 ⇓ PKPbc PKPbc 18 47 36.7 -0.6
DOU ⇑ PKPab PKPab 18 47 48.7 -1.0
ZAPS **Zavoj/Pirot** 152.04 324 ⇑ *i*P PKPbc 18 47 36.9 -0.5
RUP **Ruppelstein** 152.07 351 PKP PKPdf 18 47 29.5 -0.7
SVIS **Svilajnac** 152.08 327 ⇓ *i*P PKPbc 18 47 36.9 -0.6
MOA **Molln** 152.11 340 ⇓ PKPbc 18 47 36.9 -0.6
comp=Z,13nm,0.5s
MOA **Molln** 152.11 340 ⇑ PKPab 18 47 50.5 +0.2
comp=Z,32nm,1.1s
MOA **Molln** 152.11 340 ⇑ *i*PKPdf PKPdf 18 47 29.2 -1.0
comp=Z,6.6nm,1.6s
MOA ⇓ *i*PKPbc PKPbc 18 47 36.9 -0.6
comp=Z,13nm,0.5s
MOA ⇑ *i*PKPab PKPab 18 47 50.5 +0.2
comp=Z,32nm,1.1s
VTS **Vitosha** 152.17 322 *i* P PKPbc 18 47 37.0 -0.7
ARSA **Arzberg** 152.21 338 ⇑P PKPdf 18 47 30.9 +0.5
comp=Z,5.0nm,1.3s
ARSA **Arzberg** 152.21 338 ⇑ PKPbc 18 47 37.2 -0.5
comp=Z,9.2nm,1.1s
ARSA **Arzberg** 152.21 338 ⇑ PKPab 18 47 50.8 +0.2
comp=Z,32nm,1.3s
ARSA **Arzberg** 152.21 338 ⇑ *i*PKPdf PKPdf 18 47 29.1 -1.4
comp=Z,5.0nm,1.3s
ARSA ⇑ *i*PKPbc PKPbc 18 47 37.2 -0.5
comp=Z,9.2nm,1.1s
ARSA ⇑ *i*PKPab PKPab 18 47 50.8 +0.2
comp=Z,32nm,1.3s
WLF **Walferdange** 152.23 352 *e*PKPbc PKPbc 18 47 37.7 -0.1
WLF *e*PKPab PKPab 18 47 50.2 -0.6
WLF *ep*PKPbc pPKPbc 18 49 59.1 +2.7
WLF **Walferdange** 152.23 352 ⇑ PKPbc PKPbc 18 47 37.8 0.0
WLF ⇓ PKPab PKPab 18 47 50.2 -0.5
MMB **Musomiste** 152.49 320 *i* P PKPbc 18 47 37.5 -0.9
STU **Stuttgart** 152.59 347 *e*PKPdf PKPdf 18 47 30.6 -0.4
STU *e*PKPbc PKPbc 18 47 38.2 -0.4
STU *e*PKPab PKPab 18 47 51.7 -0.6
LANF **Langenberg** 152.65 349 PKP PKPbc 18 47 38.2 -0.5
LANF **Langenberg** 152.65 349 PKP PKPdf 18 47 29.9 -1.2
FUR **Furstenfeldbru** 152.69 344 *e*PKPbc PKPbc 18 47 38.5 -0.3
FUR *e*PKPab PKPab 18 47 52.7 0.0
FUR **Furstenfeldbru** 152.69 344 *e*PKP2 PKPab 18 47 52.7 0.0
KKB **Krupnik** 152.70 321 *i* P PKPbc 18 47 38.0 -0.8
DIVS **Divcibare** 152.84 328 ⇑ *i*P PKPbc 18 47 38.7 -0.4
SRS **Serrai** 152.86 319 *e*P PKPbc 18 47 37.3 -1.9
OUR **Ouranopolis** 153.08 318 *e*P PKPbc 18 47 37.8 -1.8
KBA **Koelnbreinsper** 153.09 340 ⇑ PKPbc 18 47 38.8 -0.9
comp=Z,12nm,0.5s
KBA **Koelnbreinsper** 153.09 340 ⇑ PKPab 18 47 55.0 +0.7
comp=Z,29nm,0.7s
KBA **Koelnbreinsper** 153.09 340 ⇓ *i*PKPdf PKPdf 18 47 31.1 -0.6
comp=Z,9.3nm,1.2s
KBA ⇑ *i*PKPbc PKPbc 18 47 38.8 -0.9
comp=Z,12nm,0.5s
KBA ⇑ *i*PKPab PKPab 18 47 55.0 +0.7
comp=Z,29nm,0.7s
SOH **Sokhos** 153.18 319 *e*P PKPbc 18 47 38.9 -0.9
BFO **Black Forest** 153.18 348 *e*PKPbc PKPbc 18 47 39.1 -0.8
BFO *e*PKPab PKPab 18 47 53.9 -0.9
WLS **Welschbruch** 153.28 350 PKP PKPbc 18 47 39.2 -0.9
WLS **Welschbruch** 153.28 350 PKP PKPdf 18 47 31.3 -0.7
CDF **Champ du Feu** 153.29 350 *e*PKIKP PKPdf 18 47 31.0 -1.0
VAY **Valandovo** 153.34 321 *e*PKP PKPbc 18 47 39.1 -1.1
VAY *e*PKP PKPab 18 47 54.6 -0.9
GCIS **Gornji Cirnik** 153.34 336 *e*PKPdf PKPdf 18 47 31.5 -0.5
GCIS *e*PKPbc PKPbc 18 47 39.8 -0.5
GCIS *e*PKPab PKPab 18 47 55.0 -0.5
WATA **Walderalm** 153.37 343 ⇓ PKPbc 18 47 39.5 -0.8
comp=Z,13nm,0.4s
WATA **Walderalm** 153.37 343 ⇑ PKPab 18 47 55.6 0.0
comp=Z,25nm,0.5s
WATA **Walderalm** 153.37 343 ⇑ *i*PKPdf PKPdf 18 47 31.2 -0.9
comp=Z,3.7nm,0.6s,SNR=7.8
WATA ⇓ *i*PKPbc PKPbc 18 47 39.5 -0.8
comp=Z,13nm,0.4s
WATA ⇑ *i*PKPab PKPab 18 47 55.6 0.0
comp=Z,25nm,0.5s
WTTA **Wattenberg** 153.42 343 ⇓ PKPbc 18 47 40.0 -0.4
comp=Z,27nm,0.4s
WTTA **Wattenberg** 153.42 343 ⇑ PKPab 18 47 55.8 0.0
comp=Z,50nm,0.5s
WTTA **Wattenberg** 153.42 343 ⇓ *i*PKPdf PKPdf 18 47 31.3 -0.9
comp=Z,11nm,0.9s,SNR=13
WTTA ⇓ *i*PKiKP PKiKP 18 47 40.0 -0.4
comp=Z,27nm,0.4s
WTTA ⇑ *i*PKPab PKPab 18 47 55.8 0.0
comp=Z,50nm,0.5s
MOTA **Moosalm** 153.49 344 ⇑ PKPbc 18 47 39.9 -0.6
comp=Z,7.1nm,0.5s
MOTA **Moosalm** 153.49 344 ⇑ PKPab 18 47 56.0 -0.1
comp=Z,43nm,0.9s
MOTA **Moosalm** 153.49 344 ⇓ *i*PKPdf PKPdf 18 47 31.2 -1.0
comp=Z,9.2nm,0.8s
MOTA ⇑ *i*PKPbc PKPbc 18 47 39.9 -0.6
comp=Z,7.1nm,0.5s
MOTA ⇑ *i*PKPab PKPab 18 47 56.0 -0.1
comp=Z,43nm,0.9s
ECH **Echery** 153.50 350 PKP PKPbc 18 47 40.5 0.0
ECH **Echery** 153.50 350 PKP PKPdf 18 47 31.5 -0.8
FLN **La Foliniere** 153.50 1 *e*PKIKP PKPdf 18 47 31.2 -1.1
comp=Z,27nm,0.8s
LSR **Lussari** 153.56 339 ⇑ *e*Pg PKPbc 18 47 39.3 -1.4
LSR *e*Sg PKPab 18 47 55.2 -1.2
SQTA **Sankt Quirin** 153.57 343 ⇓ PKPbc 18 47 40.1 -0.6
comp=Z,11nm,0.5s
SQTA **Sankt Quirin** 153.57 343 ⇑ PKPab 18 47 56.4 -0.1
comp=Z,60nm,1.1s
SQTA **Sankt Quirin** 153.57 343 ⇑ *i*PKPdf PKPdf 18 47 31.7 -0.7
comp=Z,8.0nm,0.8s
SQTA ⇓ *i*PKPbc PKPbc 18 47 40.1 -0.6
comp=Z,11nm,0.5s
SQTA ⇑ *i*PKPab PKPab 18 47 56.4 -0.1
comp=Z,60nm,1.1s
LJU **Ljubljana** 153.60 338 *i* PKPbc PKPbc 18 47 40.2 -0.5
LJU *e*PKPab PKPab 18 47 55.8 -0.8
THEF **They Montfort** 153.66 352 PKP PKPbc 18 47 40.2 -0.7
THEF **They Montfort** 153.66 352 PKP PKPdf 18 47 31.8 -0.7
GRG **Griva** 153.67 320 *e*P PKPbc 18 47 39.1 -1.8
LDF **La Druitiere** 153.68 1 *e*PKIKP PKPdf 18 47 31.3 -1.2
comp=Z,13nm,0.8s
ROSF **Rostrenen** 153.77 6 *e*PKIKP PKPdf 18 47 31.9 -0.7
VOY **Vojsko** 153.83 338 *e*PKPdf PKPdf 18 47 31.2 -1.5
VOY *e*PKPbc PKPbc 18 47 39.7 -1.5
VOY *e*PKPab PKPab 18 47 56.2 -1.4
DAVA **Damuels** 153.85 345 ⇑ PKPbc 18 47 41.1 -0.1
comp=Z,7.9nm,0.5s
DAVA **Damuels** 153.85 345 ⇓ PKPab 18 47 57.0 -0.6
comp=Z,45nm,0.8s
DAVA **Damuels** 153.85 345 ⇑ *i*PKPdf PKPdf 18 47

comp=Z,9.1nm,1.1s
DAVA ⇑*i*PKiKP PKiKP 18 47 41.1 -0.2
comp=Z,7.9nm,0.5s
DAVA ⇓*i*PKPab PKPab 18 47 57.0 -0.6
comp=Z,45nm,0.8s
MOF Molkenrain 153.86 350 PKP PKPbc 18 47 41.5 +0.2
MOF Molkenrain 153.86 350 PKP PKPdf 18 47 31.1 -1.7
GRR Gorron 153.86 2 *e*PKIKP PKPdf 18 47 31.7 -1.1
comp=Z,11nm,0.8s
JAVS Javornik 153.89 338 *i* PKPbc PKPbc 18 47 40.4 -1.0
JAVS *e*PKPab PKPab 18 47 56.9 -1.0
HINF Hinteralfeld 153.94 350 *e*PKIKP PKPdf 18 47 31.8 -1.1
CSO Casso 154.12 341⇑*e*Pg PKPbc 18 47 41.0 -0.8
CSO *e*Sg PKPab 18 47 57.6 -1.2
XOR Xorichti 154.13 317 *e*P PKPbc 18 47 39.9 -2.0
LIT Litokhoron 154.14 319 *e*P PKPbc 18 47 40.4 -1.4
MLNI Malnisio 154.14 340⇓*e*Pg PKPbc 18 47 41.1 -0.8
MLNI *e*Sg PKPab 18 47 57.9 -1.0
FAU Forcella Aurin 154.26 341⇑*e*Pg PKPbc 18 47 41.6 -0.5
FAU *e*Sg PKPab 18 47 58.7 -0.7
FNA Florina 154.38 321 *e*P PKPbc 18 47 41.3 -1.1
LOMF Lomont 154.39 350 PKP PKPbc 18 47 43.0 +0.6
LOMF Lomont 154.39 350 PKP PKPdf 18 47 33.2 -0.3
OHR Ohrid 154.50 322 *e*PKP PKPab 18 47 59.3 -1.1
LOR Lormes 154.85 354 *e*PKIKP PKPdf 18 47 33.4 -0.7
comp=Z,18nm,1.0s
AGG Agios Georgios 154.88 317 *e*P PKPdf 18 47 42.5 +8.3
HYF Humbligny 154.94 356 *e*PKIKP PKPdf 18 47 33.8 -0.4
SSF Saint Saulge 155.09 355 *e*PKIKP PKPdf 18 47 33.7 -0.7
comp=Z,16nm,0.9s
CABF La Chapelle 155.23 351 *e*PKIKP PKPdf 18 47 34.4 -0.2
comp=Z,27nm,0.9s
AVF Avril sur Loir 155.37 355 *e*PKIKP PKPdf 18 47 33.7 -1.1
comp=Z,8.3nm,0.9s
SMF Signal de Mont 155.47 354 *e*PKIKP PKPdf 18 47 33.9 -1.1
comp=Z,23nm,1.1s
BGF Bois d'Agland 155.63 356 *e*PKIKP PKPdf 18 47 34.4 -0.8
comp=Z,22nm,0.9s
MFF Saint Martin d 155.67 1 *e*PKIKP PKPdf 18 47 34.3 -0.9
comp=Z,29nm,1.1s
IGT Igoumenitsa 155.79 320 *e*P PKPdf 18 47 46.1 +11
TCF Toulx Ste Croi 155.94 357 *e*PKIKP PKPdf 18 47 34.7 -0.9
comp=Z,24nm,0.9s
LKD Levkas 156.12 318 *e*P PKPdf 18 47 46.1 +10
AGO Saint Agoulin 156.12 355 PKP PKPdf 18 47 35.2 -0.6
PLDF La Plantade 156.16 354 PKP PKPdf 18 47 35.6 -0.2
LPL La Plagne 156.19 349 *e*PKIKP PKPdf 18 47 35.7 -0.2
LPG La Plagne 156.20 349 *e*PKIKP PKPdf 18 47 35.7 -0.2
comp=Z,16nm,1.2s
PYM Petit Puy Mans 156.43 355 PKP PKPdf 18 47 33.9 -2.3
BNI Bardonecchia 156.65 349 *e*PKPdf PKPdf 18 47 36.5 0.0
BNI *e*PKPab PKPab 18 48 09.6 -0.1
ORIF Oris-en-Rattie 156.91 350 *e*PKIKP PKPdf 18 47 36.2 -0.6
comp=Z,13nm,1.1s
MBDF Montbardon 156.94 348 *e*PKIKP PKPdf 18 47 36.3 -0.5
comp=Z,7.6nm,0.7s
RJF Les Rejaudoux 156.95 358 *e*PKIKP PKPdf 18 47 36.1 -0.8
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 157.15 352 *e*PKIKP PKPdf 18 47 36.5 -0.6
comp=Z,19nm,1.2s
CAF Calviac 157.31 357 *e*PKIKP PKPdf 18 47 36.7 -0.6
comp=Z,22nm,1.2s
LFF La Frestale 157.33 359 *e*PKIKP PKPdf 18 47 36.6 -0.7
LASF Ste Croix 158.01 353 *e*PKIKP PKPdf 18 47 37.8 -0.4
comp=Z,16nm,1.1s
FRF La Foret Royal 158.09 348 *e*PKIKP PKPdf 18 47 37.2 -1.0
comp=Z,23nm,1.1s
LMR La Mourre 158.34 348 *e*PKIKP PKPdf 18 47 38.5 0.0
MTLF Montolieu 158.88 356 *e*PKIKP PKPdf 18 47 38.4 -0.8
comp=Z,30nm,1.3s
SJPF Ste Jean 159.12 3 *e*PKIKP PKPdf 18 47 39.2 -0.2
comp=Z,24nm,1.3s
EPF Esparros 159.24 0 *e*PKIKP PKPdf 18 47 39.2 -0.4
comp=Z,17nm,1.1s
ETSF Etsaut 159.36 2 *e*PKIKP PKPdf 18 47 39.6 -0.1
comp=Z,9.5nm,0.9s
PCBR Castelo Branco 161.19 19 *e*PKPdf PKPdf 18 47 42.1 +0.4
ESDC Sonseca Array 162.20 11 PKPab PKPab 18 48 32.8 -1.2
comp=Z,1.4nm,0.5s,baz=343,slow=3.9,SNR=14
PBEJ Beja 162.71 22 *e*PKPdf PKPdf 18 47 44.3 +1.1
LIC Lamto 163.26 161 *e*PKIKP PKPdf 18 47 43.7 0.0
comp=Z,39nm,1.0s
TORD Torodi Ar. Bea 170.90 188 PKP PKPdf 18 47 48.8 -0.4
comp=Z,7.0nm,0.8s,baz=331,slow=0.7,SNR=39
TORD PKPab PKPab 18 49 12.4 -0.1
comp=Z,8.5nm,0.8s,baz=177,slow=3.9,SNR=20
TORD PP PP 18 53 02.8 -1.4
comp=Z,2.6nm,0.9s,baz=172,slow=5.4,SNR=5.5

*BJI **01** 19:16:03.8,5041S×11700E,h13km,mB4.9,mb5.0*
*ISCJB **01** 19:16:06.6±0.5,4976S±008×1178E±02,h10km,mb4.7/17, MS4.3/12,Error ellipse: s-maj=17.3km s-min=11.5km az=19.8*
*IDC **01** 19:16:06.3±1.0,4973S×11759E,h0km,mb4.4/7, mb1 4.5/8,mb1mx4.4/13,mbtmp4.4/8,ML2.7/1,MS4.3/13, Ms1 4.3/13,ms1mx4.2/19,Error ellipse: s-maj=42.5km s-min=20.3km az=105.0*
*NEIC **01** 19:16:07.9±0.3,4973S×11757E,h10km,mb4.9/4,Error ellipse: s-maj=12.1km s-min=7.9km az=92.0*
*HRVD **01** 19:16:07.9±0.3,4973S×11744E,h12km,MW5.0/62, Centroid moment Tensor Solution. LP body waves: s31,c37;Mantle waves: s62,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.33±.16; $M_{\theta\theta}$3.59±.11; $M_{\phi\phi}$-0.25±.19; $M_{r\theta}$0.23±.37; $M_{\theta\phi}$-1.26±.10; $M_{\phi r}$2.11±.52; Best double couple: $M_0$4.23500×10^{16} NP1:ϕ_s261.00000°,δ48.00000°,λ-129.00000°. NP2: ϕ_s132.00000°,δ55.00000°,λ-54.00000°. Principal axes: T 3.9890, Plg3.0000°, Azm198.0000°; N 0.4910, Plg28.0000°, Azm290.0000°; P -4.4800, Plg61.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 19:16:07.9±0.5,**4979S**±008×**1176E**±02,**h10**km,**n43**, σ0**78**/28,**mb4.7**/17,**MS4.3**/12,**1C**,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.85**	**359**	Pn	**Pn**	**19 20 04.2**	**+0.4**
	1.3nm,0.3s,baz=179,slow=14,SNR=14						
NWAO				LR	LR	19 25 01.5	
	comp=Z,2μm,19.1s,baz=179,slow=32						
CASY	**Casey**	**16.94**	**190**	P	**Pn**	**19 19 57.2**	**-7.8**
STKA	**Stephens Creek**	**25.29**	**54**	P	**P**	**19 21 33.0**	**-1.4**
	6.2nm,0.9s,mb4.2,baz=196,slow=7.5,SNR=9.0						
STKA				LR	LR	19 29 58.0	
	comp=Z,537nm,18.9s,MS4.1,baz=211,slow=33						
STKA	**Stephens Creek**	**25.29**	**54**	*e*P	**P**	**19 21 32.7**	**-1.7**
STKA				P		19 21 33.0	
STKA				LR	LR	19 29 58.0	
ASPA	**Alice Springs**	**29.02**	**32**	*e*P	**P**	**19 22 08.3**	**+0.4**
ASPA				*e*		19 22 15.1	
ASAR	**Alice Springs**	**29.02**	**32**	P	**P**	**19 22 08.0**	**+0.1**
	3.1nm,0.8s,mb4.1,baz=201,slow=7.7,SNR=35						
ASAR				PcP	PcP	19 25 15.8	-0.4
	0.5nm,0.7s,baz=209,slow=1.5,SNR=4.9						
MAW	**Mawson**	**32.15**	**216**	LR	LR	19 33 38.3	
	comp=Z,663nm,18.4s,MS4.4,baz=70,slow=33						
FITZ	**Fitzroy Crossi**	**32.26**	**14**	*e*P	**P**	**19 22 37.5**	**+1.0**
	12nm,1.0s,mb4.7						
FITZ				*e*		19 22 45.0	
VNDA	**Vanda**	**32.40**	**164**	P	**P**	**19 22 38.1**	**+0.4**
	3.7nm,1.0s,mb4.2,baz=294,slow=9.0,SNR=14						
VNDA				LR	LR	19 34 55.4	
	comp=Z,460nm,19.0s,MS4.2,baz=314,slow=35						
WRA	**Warramunga Arr**	**32.62**	**30**	P	**P**	**19 22 39.3**	**-0.4**
	4.7nm,0.7s,mb4.5,baz=200,slow=8.8,SNR=24						
WRA				PcP	PcP	19 25 25.1	-0.6
	1.3nm,0.8s,baz=218,slow=2.8,SNR=5.4						
WB2	**Warramunga Arr**	**32.62**	**30**	*e*P	**P**	**19 22 39.6**	**-0.1**
WB2				*e*		19 22 46.4	
WRAB	**Tennant Creek**	**32.63**	**30**	*e*P	**P**	**19 22 39.4**	**-0.4**
	13nm,0.8s,mb4.9						
RPZ	**Rata Peaks**	**36.43**	**101**	LR	LR	19 34 15.6	
	comp=Z,457nm,19.4s,MS4.3,baz=100,slow=30						
CTA	**Charters Tower**	**37.36**	**48**	P	**P**	**19 23 21.3**	**+0.7**
	1.1nm,0.3s,mb4.1,baz=214,slow=13,SNR=4.3						
CTA				LR	LR	19 38 15.8	
	comp=Z,542nm,18.2s,MS4.4,baz=204,slow=36						
QSPA	**South Pole Qui**	**40.34**	**180**	*e*P	**P**	**19 23 46.0**	**+0.5**
	55nm,2.0s,mb4.9						
PMG	**Port Moresby**	**47.14**	**42**	LR	LR	19 44 06.1	
	comp=Z,413nm,18.1s,MS4.4,baz=201,slow=36						
HNR	**Honiara**	**53.35**	**56**	LR	LR	19 44 04.3	
	comp=Z,296nm,20.0s,MS4.3,baz=181,slow=32						
BOSA	**Boshof**	**70.18**	**249**	LR	LR	19 51 14.9	
	comp=Z,133nm,20.3s,MS4.2,baz=154,slow=30						
SHL	**Shillong**	**78.44**	**336**	*e*P	**P**	**19 28 10.0**	**+1.2**
CD2	**Chengdu**	**81.28**	**348**	*e*P	**P**	**19 28 25.8**	**+1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,9.2s						
JIRN	**Jiri**	**82.02**	**332**	*e*P	**P**	**19 28 27.8**	**-0.4**
PKI	**Pulchoki**	**82.18**	**331**	*e*P	**P**	**19 28 28.4**	**-0.6**
DMN	**Daman**	**82.31**	**331**	*e*P	**P**	**19 28 29.1**	**-0.6**
GUN	**Gumba**	**82.35**	**332**	*e*P	**P**	**19 28 29.3**	**-0.6**
KKN	**Kakani**	**82.42**	**331**	*e*P	**P**	**19 28 29.9**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9						
LSA	**Lhasa**	**82.57**	**337**	P	**P**	**19 28 31.7**	**+0.7**
LSA	**Lhasa**	**82.57**	**337**	*e*P	**P**	**19 28 31.1**	**+0.1**
	comp=Z,35nm,1.8s,mb5.1						
GKN	**Gorkha**	**82.82**	**331**	*e*P	**P**	**19 28 31.6**	**-0.7**
	comp=Z,58nm,1.6s,mb5.4						
KMBO	**Kilima Mbogo**	**82.93**	**277**	LR	LR	19 57 44.2	
	comp=Z,58nm,18.1s,MS4.0,baz=89,slow=30						
KOLN	**Koldanda**	**82.93**	**330**	*e*P	**P**	**19 28 32.1**	**-0.8**
	comp=Z,17nm,1.1s,mb5.0						
LZH	**Lanzhou**	**86.37**	**349**	*e*P	**P**	**19 28 51.8**	**+1.5**
LZH				AMB	AMB		
	comp=Z,22nm,1.6s,mb5.1						
MJAR	**Matsushiro Arr**	**87.86**	**16**	LR	LR	20 06 53.1	
	comp=Z,116nm,18.5s,MS4.3,baz=160,slow=35						
PLCA	**Paso Flores**	**89.58**	**174**	P	**P**	**19 29 05.2**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.5,baz=232,slow=4.0,SNR=4.8						
PLCA				LR	LR	20 10 27.2	
	comp=Z,154nm,18.3s,MS4.5,baz=180,slow=36						
GTA	**Gaotai**	**90.20**	**346**	⇑P	**P**	**19 29 08.5**	**0.0**
GTA				AP	pP	19 29 15.5	+3.7
GTA				XP	sP	19 29 18.9	+5.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb5.2						
SONM	**Songino Array**	**97.72**	**352**	P	**P**	**19 29 41.7**	**-1.3**
	comp=Z,0.5nm,0.8s,mb4.1,baz=157,slow=3.8,SNR=5.1						
SONM				LR	LR	20 11 41.8	
	comp=Z,79nm,20.4s,MS4.2,baz=196,slow=34						
AKASG	**Malin Array Be**	**125.19**	**309**	PKP	PKPdf	19 35 07.3	-1.3
	comp=Z,0.2nm,0.4s,baz=90,slow=1.9,SNR=4.0						
GERES	**GERESS Array B**	**132.44**	**300**	PKP	PKPdf	19 35 21.1	-1.3
	comp=Z,0.8nm,0.9s,baz=117,slow=3.0,SNR=3.8						
PV01	**Paradox Valley**	**145.28**	**92**	*e*P	PKPbc	19 35 46.1	+0.5
BOZ	**Bozeman (W)**	**147.07**	**78**	*e*PKPbc	PKPbc	19 35 51.1	+0.1
PDAR	**Pinedale Array**	**147.09**	**84**	PKPbc	PKPbc	19 35 50.9	-0.1
	comp=Z,1.5nm,0.9s,baz=218,slow=1.8,SNR=11						
DAG	**Danmarks Havn**	**148.10**	**342**	*i* P	PKPdf	19 35 50.0	-0.5
DAG	**Danmarks Havn**	**148.10**	**342**	*e*P	PKPdf	19 35 50.0	-0.5
YKA	**Yellowknife Ar**	**149.17**	**46**	PKPbc	PKPbc	19 35 55.1	-1.4
	comp=Z,2.9nm,0.7s,baz=263,slow=2.2,SNR=9.8						

*NAO **01** 19:23:57.8,1150N×14184E,h33km,mb5.0*
*MOS **01** 19:23:58.3±0.9,1297N×145.19E,h33km,mb4.8/16,Error ellipse: s-maj=14.7km s-min=6.9km az=107.6*
*BJI **01** 19:24:00.6,1271N×14547E,h76km,mB5.1,mb4.8,Ms4.4, Msz4.1*
*ISCJB **01** 19:24:02.6±0.3,1294N±004×14520E±006,h69km, mb4.6/63,Error ellipse: s-maj=7.8km s-min=6.0km az=150.4*
*NEIC **01** 19:24:06.0±0.3,1293N×14506E,mb4.7/12,Error ellipse: s-maj=8.6km s-min=6.4km az=84.0*
NEIC Felt [II] at Santa Rita. Also felt at Barrigada, Dededo, Inarajan and Yigo.
*IDC **01** 19:24:06.4±0.7,1289N×14504E,h85km±6km,mb4.3/23, mb1 4.4/23,mb1mx4.4/27,mbtmp4.6/23,MS3.9/5, Ms1 3.9/5,ms1mx3.4/32,Error ellipse: s-maj=17.4km s-min=9.9km az=85.0*
ISC 01 19:24:04.8±0.3,**1300N**±004×**14523E**±005,**h71**km, **h71**km±2.7km:**pP-P**,**n116**,σ0**99**/122,**mb4.6**/63,**8C-6D**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.68**	**329**	P	**Pn**	**19 24 18.4**	**-1.1**
	4μm,0.3s,baz=137,slow=5.2,SNR=1235						
GUMO				S	**Sn**	**19 24 29.6**	**-0.9**
	10μm,0.3s,baz=32,slow=19,SNR=134						
GUMO	**Guam**	**0.68**	**329**	*e*P	**Pn**	**19 24 18.5**	**-1.1**
GUMO				*e*S	**Sn**	**19 24 29.6**	**-0.9**
BUKP	**Musuan**	**20.47**	**258**⇑	*e*P	**P**	**19 28 35.8**	**-0.8**
JOW	**Kunigami**	**21.02**	**313**	P	**P**	**19 28 43.6**	**+1.1**
	24nm,0.5s,mb4.8,baz=134,slow=17,SNR=6.2						
JOW				LR	LR	19 35 16.0	
	comp=Z,241nm,21.6s,baz=96,slow=32						
POLP	**Polilio Island**	**22.67**	**277**	*e*P	**P**	**19 29 10.2**	**+10**
CAUP	**Cauayan**	**22.94**	**283**	*e*P	sP	19 29 26.6	-0.3
APYP	**Conner**	**23.61**	**285**	*e*P	**P**	**19 29 08.9**	**-0.3**
JNU	**Nakatsue**	**23.94**	**329**	P	**P**	**19 29 12.4**	**+0.3**
	42nm,0.9s,mb4.8,baz=148,slow=12,SNR=9.0						
MJAR	**Matsushiro Arr**	**24.28**	**346**	P	**P**	**19 29 15.7**	**+0.5**
	7.7nm,0.6s,mb4.2,baz=175,slow=5.9,SNR=21						
MJAR				sP	sP	19 29 45.5	+5.1
	11nm,0.8s,baz=167,slow=11,SNR=6.1						
MJAR				LR	LR	19 37 54.3	
	comp=Z,181nm,19.2s,baz=175,slow=34						
MJAR	**Matsushiro Arr**	**24.28**	**346**	P	**P**	**19 29 15.7**	**+0.4**
MJAR				*SP	sP	19 29 45.5	+5.1
MJAR	**Matsushiro Arr**	**24.28**	**346**	P	**P**	**19 29 15.7**	**+0.5**
MJAR				sP	sP	19 29 45.5	+5.1
MJAR				LR	LR	19 37 54.3	
MAJO	**Matsushiro**	**24.28**	**346**	*e*P	**P**	**19 29 14.6**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**24.28**	**346**	*e*P	**P**	**19 29 14.6**	**-0.7**
	comp=Z,26nm,0.6s,mb4.7						
MAT	**Matsushiro**	**24.28**	**346**	P	**P**	**19 29 13.8**	**-1.5**
MAT	**Matsushiro**	**24.28**	**346**	*e*P	**P**	**19 29 15.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.6						
MAT	**Matsushiro**	**24.28**	**346**	*e*P	**P**	**19 29 15.0**	**-0.3**
	comp=Z,20nm,0.7s,mb4.6						
NACB	**Ningcanchiao**	**24.96**	**300**	*e*P	**P**	**19 29 19.6**	**-1.9**
SSE	**Sheshan**	**28.54**	**313**	P	**P**	**19 29 53.2**	**-0.4**
SSE				AP	pP	19 30 09.8	-0.8
SSE				XP	sP	19 30 17.6	-1.3
SSE				S	**S**	**19 34 34.0**	**-2.5**
SSE				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,108nm,4.6s						
SSE				LR	LR		
	comp=N,51nm,25.9s						
SSE				LR	LR		
	comp=E,90nm,25.8s						
SSE				LR	LR		
	comp=Z,138nm,26.8s						
KKM	**Kota Kinabalu**	**29.41**	**259**	P	**P**	**19 30 02.3**	**+1.0**
NJ2	**Nanjing**	**30.73**	**312**	*e*P	**P**	**19 30 14.4**	**+1.4**
NJ2				AP	pP	19 30 29.1	-0.9
NJ2				XP	sP	19 30 36.2	-2.1
NJ2				PP	PP	19 31 16.5	-7.0
NJ2				S	**S**	**19 35 11.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,170nm,6.6s						
NJ2				LR	LR		
	comp=N,350nm,19.3s						
NJ2				LR	LR		
	comp=E,320nm,20.3s						
NJ2				LR	LR		
	comp=Z,180nm,21.6s						
CTA	**Charters Tower**	**32.89**	**178**	P	**P**	**19 30 31.9**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.3,baz=353,slow=10.0,SNR=6.1						
CTA				pP	pP	19 30 50.9	+1.8
	comp=Z,4.5nm,0.7s,baz=29,slow=8.4,SNR=4.1						
CTAO	**Charters Tower**	**32.89**	**178**	*e*P	**P**	**19 30 31.9**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**32.89**	**178**	*e*P	**P**	**19 30 31.9**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.3						
YSS	**Yuzh-Sakhalins**	**33.91**	**357**	*e*P	**P**	**19 30 41.2**	**+0.4**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
YSS	**Yuzh-Sakhalins**	**33.91**	**357**	*e*P	**P**	**19 30 41.2**	**+0.4**
	comp=Z,5.4nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**34.43**	**198**	*e*P	**P**	**19 30 44.9**	**-0.4**
WRAB				*e*		19 30 51.2	
WRAB				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**34.43**	**198**	*e*P	**P**	**19 30 44.9**	**-0.4**
	comp=Z,18nm,0.6s,mb5.1						
WRAB				*e*		19 30 51.1	
WRAB				*e*	pP	19 31 04.8	+2.3
WB2	**Warramunga Arr**	**34.44**	**198**	*e*P	**P**	**19 30 45.0**	**-0.4**
WB2				*e*	pP	19 31 04.7	+2.2
WRA	**Warramunga Arr**	**34.44**	**198**	P	**P**	**19 30 45.0**	**-0.4**
	comp=Z,7.3nm,0.5s,mb4.8,baz=22,slow=9.7,SNR=98						
WRA				pP	pP	19 31 04.9	+2.4
	comp=Z,9.0nm,0.6s,baz=20,slow=9.6,SNR=9.7						
QIZ	**Qiongzhong**	**34.49**	**285**	*e*P	**P**	**19 30 47.2**	**+1.3**
QIZ				S	**S**	**19 36 12.0**	**+2.8**
QIZ				LR	LR		
	comp=Z,196nm,22.0s						
CN2	**Changchun**	**35.09**	**335**	*e*P	**P**	**19 30 54.3**	**+3.3**
HABR	**Khabarovsk**	**36.37**	**349**	*e*P	**P**	**19 30 57.0**	**-4.9**
KLR	**Kul'dur**	**37.80**	**346**	*e*P	**P**	**19 31 11.3**	**-2.8**
ASAR	**Alice Springs**	**38.08**	**197**	P	**P**	**19 31 16.2**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.1,baz=10,slow=11,SNR=38						
ASAR				pP	pP	19 31 36.3	+2.5
	comp=Z,2.5nm,0.7s,baz=21,slow=7.9,SNR=5.5						
ASPA	**Alice Springs**	**38.08**	**197**	*e*P	**P**	**19 31 16.2**	**-0.3**
GYA	**Guiyang**	**38.53**	**296**⇑	*i*P	**P**	**19 31 21.2**	**+1.0**
GYA				AP	pP	19 31 36.0	-1.6
GYA				XP	sP	19 31 43.3	-2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,3.2s						
GYA				LR	LR		
	comp=N,490nm,16.8s						
GYA				LR	LR		
	comp=E,430nm,17.0s						
GYA				LR	LR		
	comp=Z,470nm,17.4s						
HHC	**Hu-ho-hao-te**	**40.45**	**320**	*e*P	**P**	**19 31 36.3**	**+0.2**
HHC				AP	pP	19 31 51.5	-2.1
HHC				PP	PP	19 33 13.0	+2.6
HHC				PCP	PcP	19 33 39.4	+1.7
HHC				SCP	ScP	19 37 21.2	+0.5
HHC				PCS	PcS	19 37 28.4	0.0
HHC				S	**S**	**19 37 40.4**	**+1.0**
HHC				SCS	ScS	19 41 34.1	-0.9
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,259nm,4.4s						
HHC				LR	LR		
	comp=N,201nm,13.2s						
HHC				LR	LR		
	comp=E,466nm,13.2s						
HHC				LR	LR		
	comp=Z,156nm,15.6s						
DZM	**Mont Dzumac**	**40.59**	**149**	P	**P**	**19 31 37.6**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.5,baz=287,slow=18,SNR=6.5						
BTO	**Baotou**	**41.30**	**318**	*e*P	**P**	**19 31 41.3**	**-1.9**
KMI	**Kunming**	**41.76**	**293**	P	**P**	**19 31 47.8**	**+0.9**
KMI				AP	pP	19 32 03.8	-0.7
KMI				XP	sP	19 32 12.2	-0.5
KMI				PP	PP	19 33 27.7	+3.0
KMI				S	**S**	**19 37 57.9**	**-1.1**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=N,282nm,19.9s						
KMI				LR	LR		
	comp=E,157nm,17.9s						
KMI				LR	LR		
	comp=Z,253nm,22.0s						
CD2	**Chengdu**	**42.10**	**302**	*e*P	**P**	**19 31 50.0**	**+0.3**
CD2				AP	pP	19 32 05.3	-2.0
CD2				XP	sP	19 32 12.5	-3.0
CD2				PP	PP	19 33 31.2	+2.9
CD2				S	**S**	**19 38 04.1**	**+0.1**
CD2				SS	SS	19 41 07.1	-6.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,90nm,7.2s						
CD2				LR	LR		
	comp=E,90nm,16.8s						
CD2				LR	LR		
	comp=Z,60nm,20.4s						
LZH	**Lanzhou**	**43.66**	**309**	*e*P	**P**	**19 32 03.0**	**+0.7**
LZH				AP	pP	19 32 20.0	0.0
LZH				XP	sP	19 32 26.0	-2.1
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,106nm,4.2s						
STKA	**Stephens Creek**	**44.75**	**184**	*e*P	**P**	**19 32 08.4**	**-2.6**
	comp=Z,2.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**44.75**	**184**	P	**P**	**19 32 08.5**	**-2.5**
	comp=Z,3.3nm,0.6s,mb4.3,baz=0.3,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**44.75**	**184**	*e*P	**P**	**19 32 07.9**	**-3.2**
PSI	**Prapat**	**46.89**	**262**	P	**P**	**19 32 26.6**	**-1.2**
	comp=Z,8.5nm,0.7s,mb4.6,baz=64,slow=5.4,SNR=6.7						
ULN	**Ulaanbaatar**	**47.06**	**325**⇑	*e*P	**P**	**19 32 29.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**47.06**	**325**⇑	*e*P	**P**	**19 32 29.2**	**0.0**
	comp=Z,5.1nm,0.7s,mb4.4						
SONM	**Songino Array**	**47.41**	**325**	P	**P**	**19 32 32.5**	**+0.6**
	comp=Z,7.3nm,0.6s,mb4.6,baz=136,slow=7.5,SNR=67						
SONM				PcP	PcP	19 34 03.2	+1.7
	comp=Z,2.6nm,0.6s,baz=135,slow=4.1,SNR=4.0						
SONM				LR	LR	19 52 11.3	
	comp=Z,123nm,19.9s,baz=208,slow=36						
SONM	**Songino Array**	**47.41**	**325**	P	**P**	**19 32 32.5**	**+0.6**
SONM						19 34 03.2	
GTA	**Gaotai**	**47.83**	**312**	⇓P	**P**	**19 32 36.2**	**+1.1**
GTA				AP	pP	19 32 53.2	+0.2
GTA				XP	sP	19 33 00.8	-0.3
GTA				PCP	PcP	19 34 05.6	+2.7
GTA				PP	PP	19 34 27.9	+0.5
GTA				S	**S**	**19 39 26.8**	**+0.1**
GTA				SS	SS	19 42 50.9	-5.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,114nm,4.2s						

WMQ			XP	sP	19 34 12.5	-2.5
WMQ			PCP	PcP	19 34 41.5	+1.0
WMQ			PP	PP	19 36 00.0	+2.7
WMQ			S	**S**	**19 41 42.0**	**-0.4**
WMQ			SCS	ScS	19 43 30.0	-1.5
WMQ			SS	SS	19 45 35.0	+1.1
WMQ			AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0					
WMQ			AMB	AMB		
	comp=Z,118nm,6.0s					
WMQ			LR	LR		
	comp=N,78nm,20.0s					
WMQ			LR	LR		
	comp=E,67nm,20.0s					
WMQ			LR	LR		
	comp=Z,59nm,20.0s					
GKN	**Gorkha**	**58.16 295**	*e*P	**P**	**19 33 51.2**	**+0.1**
	comp=Z,36nm,0.8s,mb5.5					
KOLN	**Koldanda**	**59.07 295**	*e*P	**P**	**19 33 57.7**	**+0.2**
	comp=Z,29nm,0.7s,mb5.4					
TIXI	**Tiksi**	**59.46 354**	⇓*i*P	**P**	**19 33 58.9**	**-1.2**
TIXI			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4					
TNA	**Tin City**	**61.28 20**	*e*P	**P**	**19 34 12.9**	**+0.3**
	comp=Z,2.2nm,0.9s,mb4.2					
MKAR	**Makanchi Array**	**62.16 316**	P	**P**	**19 34 19.1**	**+0.7**
	comp=Z,5.5nm,0.6s,mb4.8,baz=86,slow=8.4,SNR=95					
MKAR			PcP	PcP	19 34 58.7	+0.7
	comp=Z,2.4nm,0.6s,baz=83,slow=7.2,SNR=6.6					
MKAR	**Makanchi Array**	**62.16 316**	P	**P**	**19 34 19.1**	**+0.7**
MKAR			PcP	PcP	19 34 58.7	+0.7
ZAL	**Zalesovo**	**62.31 324**	P	**P**	**19 34 19.1**	**-0.5**
	comp=Z,1.5nm,0.3s,mb4.5,baz=351,slow=5.3,SNR=8.2					
ZAL			PcP	PcP	19 34 58.7	+0.1
	comp=Z,3.6nm,0.4s,baz=324,slow=4.5,SNR=9.9					
ZAL	**Zalesovo**	**62.31 324**	P	**P**	**19 34 19.1**	**-0.5**
ZAL			PcP	PcP	19 34 58.7	+0.1
NVS	**Novosibirsk**	**63.45 325**	*e*P	**P**	**19 34 26.1**	**-0.9**
NVS			pmax	pmax		
	comp=Z,19nm,2.2s,mb4.6					
NVS			pmax	pmax		
	comp=E,12nm,2.0s					
HYB	**Hyderabad**	**64.22 283**	*i* P	**P**	**19 34 32.5**	**+0.4**
HYB	**Hyderabad**	**64.22 283**	*e*P	**P**	**19 34 32.5**	**+0.4**
KDAK	**Kodiak Island**	**64.39 32**	P	**P**	**19 34 34.8**	**+1.6**
	comp=E,11nm,0.6s,mb4.9,baz=6.2,slow=16,SNR=10					
KURK	**Kurchatov**	**65.26 320**	*d i*P	**P**	**19 34 39.0**	**+0.1**
KURK	**Kurchatov**	**65.26 320**	*e*P	**P**	**19 34 38.3**	**-0.5**
	comp=E,14nm,0.8s,mb4.8					
SLKM	**Skilak Lake**	**66.33 29**	*e*P	**P**	**19 34 46.4**	**+0.6**
IMA2	**Indian Mountai**	**66.66 23**	*e*P	**P**	**19 34 48.7**	**+0.9**
SML	**Sawmill**	**67.56 28**	*e*P	**P**	**19 34 54.2**	**+0.6**
POO	**Poona**	**68.54 285**	*e*P	**P**	**19 34 54.0**	**-5.7**
COLA	**College**	**68.58 25**	*e*P	**P**	**19 34 58.3**	**-1.6**
ILAR	**Eielson Array**	**68.95 25**	P	**P**	**19 35 01.6**	**-0.6**
	comp=E,12nm,0.6s,mb4.9,baz=252,slow=5.9,SNR=3.9					
KK31	**Karatay Array**	**70.10 311**	*i* P	**P**	**19 35 09.7**	**+0.4**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3					
KKAR	**Karatay Array**	**70.10 311**	*i* P	**P**	**19 35 09.7**	**+0.4**
KKAR			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9					
VOSK	**Vostochnaya**	**70.22 322**	P	**P**	**19 35 09.8**	**-0.3**
VOSK			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8					
BVA0	**Borovoye Array**	**70.61 322**	*e*P	**P**	**19 35 12.7**	**+0.3**
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8					
BRVK	**Borovoye**	**70.67 322**	*e*P	**P**	**19 35 12.9**	**+0.1**
ZRNK	**Zerenda**	**71.44 322**	*e*P	**P**	**19 35 16.9**	**-0.5**
ZRNK			*e*	pP	19 35 36.2	-0.2
ZRNK			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4					
ZRNK	**Zerenda**	**71.44 322**	*e*P	**P**	**19 35 16.9**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.4					
ZRNK			*e*	pP	19 35 36.2	-0.2
ZRNK			*e*		19 36 17.9	
DAWY	**Dawson**	**72.01 27**	*e*P	**P**	**19 35 22.2**	**+1.4**
INK	**Inuvik**	**74.78 22**	P	**P**	**19 35 37.8**	**+0.6**
	comp=Z,6.8nm,0.7s,mb4.5,baz=270,slow=4.6,SNR=33					
INK	**Inuvik**	**74.78 22**	*e*P	**P**	**19 35 37.8**	**+0.7**
INK			pmax	pmax		
	comp=Z,8.0nm,0.8s					
INK	**Inuvik**	**74.78 22**	*e*P	**P**	**19 35 37.8**	**+0.6**
	comp=Z,8.2nm,0.8s,mb4.5					
AB31	**Akbulak array**	**77.21 318**	*i* P	**P**	**19 35 50.9**	**-0.1**
ARU	**Arti**	**77.45 325**	⇓*i*P	**P**	**19 35 53.0**	**+0.7**
ARU			*e*		19 38 49.8	
ARU			*e*PPP		19 40 36.0	
ARU			*e*S	S	19 45 39.5	+2.1
ARU			*e*SS	SS	19 50 42.2	+4.8
ARU			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1					
ARU	**Arti**	**77.45 325**	*e*P	**P**	**19 35 52.4**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.3					
YKA	**Yellowknife Ar**	**83.22 27**	P	**P**	**19 36 24.3**	**+1.0**
	comp=Z,1.0nm,0.3s,mb4.1,baz=284,slow=5.1,SNR=6.3					
APA	**Apatity**	**86.14 339**	⇑*i*P	**P**	**19 36 36.6**	**-1.4**
APA			pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9					
NVAR	**Mina Array Bea**	**87.02 51**	P	**P**	**19 36 44.9**	**+2.6**
	comp=Z,2.6nm,0.5s,mb4.5,baz=264,slow=6.1,SNR=27					
ARCES	**ARCESS Array B**	**87.75 342**	P	**P**	**19 36 45.5**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.7,baz=74,slow=6.4,SNR=34					
JOF	**Joensuu**	**88.98 335**	*e*p	**P**	**19 36 51.2**	**-0.4**
	comp=Z,4.6nm,0.6s,mb4.7					
OBN	**Obninsk**	**89.79 327**	⇑*e*P	**P**	**19 36 55.5**	**+0.2**
OBN			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9					
KAF	**Kangasniemi**	**91.40 336**	*e*p	**P**	**19 37 01.1**	**-1.8**
	comp=Z,4.1nm,0.5s,mb4.8,baz=57,slow=4.5					
KAF	**Kangasniemi**	**91.40 336**	*e*P	**P**	**19 37 01.1**	**-1.8**
KAF			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8					
FINES	**FINESS Array B**	**91.84 335**	P	**P**	**19 37 04.3**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.9,baz=62,slow=5.0,SNR=44					
PDAR	**Pinedale Array**	**92.13 45**	P	**P**	**19 37 08.6**	**+2.4**
	comp=Z,0.4nm,0.5s,mb3.9,baz=221,slow=3.0,SNR=6.4					
AKASG	**Malin Array Be**	**95.70 325**	P	**P**	**19 37 21.5**	**-1.1**
	comp=Z,0.8nm,0.6s,mb4.4,baz=51,slow=4.2,SNR=6.0					
BRTR	**Keskin Array B**	**97.72 314**	P	**P**	**19 37 31.5**	**-0.3**
	comp=Z,0.6nm,0.6s,mb4.3,baz=72,slow=2.0,SNR=3.6					
NB2	**NORSAR Subarra**	**97.72 339**	P	**P**	**19 37 29.8**	**-2.0**
	comp=Z,1.7nm,0.7s,mb4.7,baz=49,slow=4.6					
NOA	**NORSAR Array B**	**97.72 339**	P	**P**	**19 37 30.6**	**-1.2**
	comp=Z,0.5nm,0.8s,mb4.1,baz=52,slow=4.2,SNR=9.0					
NOA			LR	LR	20 25 01.2	
	comp=Z,35nm,19.8s,baz=90,slow=37					
TORD	**Torodi Ar. Bea**	**135.49 304**	PKP	PKPdf	19 43 18.9	+2.3
	comp=Z,2.2nm,0.6s,baz=47,slow=2.1,SNR=20					
LVC	**Limon Verde**	**146.19 111**	*e*PKPbc	PKPbc	19 43 40.3	+3.4
LVC			*e*		19 43 49.5	
LPAZ	**La Paz**	**147.58 100**	PKPbc	PKPbc	19 43 43.9	+3.0
	comp=Z,2.2nm,0.5s,baz=294,slow=3.6,SNR=11					
LPAZ	**La Paz**	**147.58 100**	*e*PKPbc	PKPbc	19 43 44.0	+3.2

*IDC **01** 19:37:38.4±1.2, 1722S×16773E, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.2/17, mbtmp4.1/9, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.3/18, Error ellipse: s-maj=38.9km s-min=20.9km az=132.0*

*ISCJB **01** 19:37:42.5±0.6, 1733S±006×16752E±006, h33km, mb4.1/9, MS3.6/2, Error ellipse: s-maj=9.6km s-min=8.0km az=52.4*

*LDG **01** 19:37:43.5±0.4, 1716S×16709E, h10km, Mb4.3/2, Error ellipse: s-maj=61.2km s-min=7.7km az=90.0*

*NEIC **01** 19:37:44.7±0.8, 1732S×16754E, h30km, mb4.5/3, Error ellipse: s-maj=23.7km s-min=15.9km az=115.0*

ISC 01 19:37:44.3±0.6, 1730S±006×16763E±007, h35km, n35, σ19/18/20, mb4.1/9, MS3.6/2, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.69**	**122**	⇑*i*P	**Pn**	**19 37 56.5**	**-1.0**
BKM				S	**Sn**	**19 38 08.1**	**+1.1**
DZM	**Mont Dzumac**	**4.88**	**193**	Pn	**Pn**	**19 38 54.6**	**-0.4**
	4.3nm,0.3s,baz=40,slow=17,SNR=31						
DZM				Sn	**Sn**	**19 39 49.6**	**-0.7**
	7.1nm,0.3s,baz=312,slow=22,SNR=6.7						
CTA	**Charters Tower**	**20.44**	**259**	*e*P	**P**	**19 42 20.8**	**+2.3**
	13nm,1.0s						
CTA	**Charters Tower**	**20.44**	**259**	P	**P**	**19 42 20.5**	**+2.0**
	13nm,0.9s,baz=79,slow=14,SNR=9.4						
CTA				LR	LR	19 48 47.6	
	comp=Z,250nm,18.5s,MS3.6,baz=61,slow=33						
CTA	**Charters Tower**	**20.44**	**259**	P	**P**	**19 42 20.5**	**+2.0**
CTA				LR	LR	19 48 47.6	
CTAO	**Charters Tower**	**20.44**	**259**	*e*P	**P**	**19 42 20.2**	**+1.7**
	24nm,1.1s						
STKA	**Stephens Creek**	**27.67**	**234**	*e*P	**P**	**19 43 28.6**	**-0.2**
	5.7nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.67**	**234**	P	**P**	**19 43 28.9**	**0.0**
	6.1nm,0.8s,mb4.3,baz=56,slow=9.4,SNR=11						
STKA				LR	LR	19 53 22.5	
	comp=Z,141nm,19.9s,MS3.5,baz=24,slow=34						
STKA	**Stephens Creek**	**27.67**	**234**	*e*P	**P**	**19 43 28.5**	**-0.4**
STKA				LR	LR	19 53 22.5	
WRA	**Warramunga Arr**	**31.63**	**260**	P	**P**	**19 44 03.3**	**-0.6**
	0.9nm,0.6s,mb3.8,baz=80,slow=5.8,SNR=15						
ASAR	**Alice Springs**	**32.17**	**253**	P	**P**	**19 44 08.1**	**-0.5**
	3.4nm,0.8s,mb4.3,baz=80,slow=8.3,SNR=7.3						
ASAR				PcP	PcP	19 46 59.9	+2.9
	0.7nm,0.9s,baz=69,slow=3.0,SNR=5.7						
ASPA	**Alice Springs**	**32.17**	**253**	*e*P	**P**	**19 44 08.7**	**0.0**
MJAR	**Matsushiro Arr**	**60.34**	**333**	P	**P**	**19 47 48.5**	**-1.1**
	0.5nm,0.4s,mb3.9,baz=154,slow=7.5,SNR=2.0						
QSPA	**South Pole Qui**	**72.74**	**180**	*e*P	**P**	**19 49 11.2**	**+2.3**
	9.7nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**84.41**	**324**	*e*P	**P**	**19 50 15.7**	**+2.7**
	3.3nm,1.0s,mb4.4						
SONM	**Songino Array**	**84.76**	**324**	P	**P**	**19 50 14.9**	**+0.1**
	0.9nm,0.9s,mb3.9,baz=151,slow=7.6,SNR=6.4						
NVAR	**Mina Array Bea**	**88.68**	**49**	P	**P**	**19 50 32.1**	**-1.8**
	0.2nm,0.3s,mb3.9,baz=229,slow=8.3,SNR=2.6						
ILAR	**Eielson Array**	**88.85**	**18**	P	**P**	**19 50 34.5**	**-0.2**
	0.3nm,0.8s,mb3.7,baz=233,slow=3.9,SNR=5.0						
BFO	**Black Forest**	**144.74**	**336**	*e*PKPdf	PKPdf	19 57 18.7	+1.4
CDF	**Champ du Feu**	**145.07**	**337**	*e*PKP1	PKPbc	19 57 19.2	+1.9
	23nm,0.9s						
HINF	**Hinteralfeld**	**145.72**	**337**	*e*PKP1	PKPbc	19 57 21.0	+1.6
	10nm,0.9s						
HAU	**Haudompre**	**145.75**	**337**	*e*PKP1	PKPbc	19 57 22.5	+3.0
	60nm,1.4s						
MEZF	**Maizieres J'vi**	**145.79**	**339**	*e*PKP1	PKPbc	19 57 21.8	+2.2
	38nm,1.0s						
FLN	**La Foliniere**	**147.16**	**345**	*e*PKP1	PKPbc	19 57 24.9	+1.3
	22nm,0.9s						
LDF	**La Druitiere**	**147.23**	**345**	*e*PKP1	PKPbc	19 57 25.1	+1.3
	10nm,1.0s						
LOR	**Lormes**	**147.26**	**339**	*e*PKP1	PKPbc	19 57 25.8	+1.9
	12nm,0.9s						
SSF	**Saint Saulge**	**147.56**	**340**	*e*PKP1	PKPbc	19 57 26.6	+1.9
	16nm,1.0s						
GRR	**Gorron**	**147.60**	**346**	*e*PKP1	PKPbc	19 57 25.9	+1.1
	12nm,0.8s						
LPL	**La Plagne**	**147.66**	**335**	*e*PKP1	PKPbc	19 57 27.5	+2.5
	12nm,1.0s						
LPG	**La Plagne**	**147.67**	**334**	*e*PKP1	PKPbc	19 57 27.5	+2.5
	9.9nm,0.9s						
BNI	**Bardonecchia**	**148.06**	**334**	*e*PKPbc	PKPbc	19 57 29.2	+3.1
ORIF	**Oris-en-Rattie**	**148.50**	**335**	*e*PKP1	PKPbc	19 57 31.1	+3.9
TCF	**Toulx Ste Croi**	**148.66**	**340**	*e*PKP1	PKPbc	19 57 30.6	+3.0
MFF	**Saint Martin d**	**149.07**	**343**	*e*PKP1	PKPbc	19 57 30.4	+1.7
	9.4nm,0.7s						
RJF	**Les Rejaudoux**	**149.76**	**340**	*e*PKP1	PKPbc	19 57 32.4	+2.0
	14nm,0.9s						

IDC 01 19:42:35.4±6.7, 050N×9723E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.3/3, MS3.8/1, Ms1 3.7/1, ms1mx3.3/5, Error ellipse: s-maj=329.6km s-min=29.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.65**	**121**	P	P	19 50 25.7	+0.2
	0.4nm,0.9s,baz=297,slow=8.6,SNR=3.5						
ASAR	**Alice Springs**	**42.96**	**127**	P	P	19 50 36.5	+0.5
	0.1nm,0.4s,baz=297,slow=7.8,SNR=6.1						
MKAR	**Makanchi Array**	**47.92**	**346**	P	P	19 51 15.5	0.0
	0.3nm,0.5s,baz=149,slow=8.5,SNR=6.0						
ZAL	**Zalesovo**	**54.24**	**351**	LR	LR	20 17 31.8	
	comp=Z,82nm,20.6s,baz=332,slow=39						

IDC 01 20:34:44.6±1.4, 363N×12732E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, Error ellipse: s-maj=127.3km s-min=20.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.42**	**164**	P	P	20 40 04.7	0.0
	0.8nm,0.3s,baz=343,slow=11,SNR=19						
ASAR	**Alice Springs**	**27.88**	**167**	P	P	20 40 36.9	+0.9
	0.2nm,0.3s,baz=353,slow=7.3,SNR=8.2						
SONM	**Songino Array**	**47.58**	**341**	P	P	20 43 21.7	-0.3
	0.3nm,0.9s,baz=145,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**57.97**	**325**	P	P	20 44 39.2	+0.3
	0.2nm,0.3s,baz=109,slow=7.6,SNR=13						

IDC 01 20:38:43.8±2.6, 570N×12618E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=236.3km s-min=25.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.71**	**163**	P	P	20 44 25.0	+0.3
	0.8nm,0.9s,baz=342,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**30.14**	**166**	P	P	20 44 55.8	+0.4
	0.3nm,0.5s,baz=344,slow=7.1,SNR=9.5						
MKAR	**Makanchi Array**	**55.64**	**325**	P	P	20 48 21.6	+0.1
	0.3nm,0.5s,baz=115,slow=7.3,SNR=9.2						

NNC 01 20:55:51.2±19.0, 3725N×7152E, h159km±384km, mb2.4, mpv3.2, 3C-2D, Error ellipse: s-maj=197.1km s-min=93.1km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.90**	**353**	⇑P	Pn	20 57 18.4	+1.9
	0.7nm,0.4s,baz=166,slow=12,SNR=26						
KK31				⇓S	Sn	20 58 24.1	+0.6
	0.8nm,0.2s,baz=177,slow=23,SNR=10.0						
TKM2	**Tokmak 2**	**6.47**	**28**	⇓P	Pn	20 57 23.0	-1.2
	3.3nm,1.0s						
TKM2				⇑S	Sn	20 58 37.3	+0.2
	1.8nm,0.9s						
AB31	**Akbulak array**	**14.65**	**329**	⇑P	Pn	20 59 10.5	-0.2
	0.3nm,0.6s,baz=138,slow=12,SNR=5.2						

*NEIC **01** 20:56:20.6, 4140S×17450E, h30km, ML3.9(WEL), After WEL.*

WEL 01 20:56:20.9±0.1, 4133S×17451E, h31km, ML2.8/11, 3C-4D, Error ellipse: s-maj=1.1km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.15**	**81**	P*	Pb	20 56 26.7	-0.1
SNZO				S*	Sb	20 56 31.0	+0.3
SNZO	**South Karori**	**0.15**	**81**	P	Pb	20 56 26.7	0.0
SNZO				S	Sb	20 56 31.4	+0.7
MRW	**Makara Radio**	**0.17**	**54**	⇓P*	Pb	20 56 27.0	0.0
MRW				S*	Sb	20 56 31.3	+0.2
MRW	**Makara Radio**	**0.17**	**54**	P	Pb	20 56 27.0	0.0
WEL	**Wellington**	**0.20**	**76**	⇓P*	Pb	20 56 27.3	+0.1
WEL				S*	Sb	20 56 32.1	+0.5
WEL	**Wellington**	**0.20**	**76**	P	Pb	20 56 27.3	+0.1
WEL				S	Sb	20 56 32.3	+0.8
TCW	**Tory Channel**	**0.21**	**304**	⇓P*	Pb	20 56 27.3	-0.2
TCW				S*	Sb	20 56 31.8	0.0
TCW	**Tory Channel**	**0.21**	**304**	P	Pb	20 56 27.3	-0.1
BHW	**Baring Head**	**0.28**	**106**	⇓P*	Pb	20 56 28.3	0.0
BHW				S*	Sb	20 56 33.8	+0.7
BHW	**Baring Head**	**0.28**	**106**	P	Pb	20 56 27.3	-0.9
TUWZ	**Tuamarina**	**0.44**	**257**	P*	Pb	20 56 29.9	-0.6
TUWZ				S*	Sb	20 56 36.2	-0.7
CAW	**Cannon Point**	**0.48**	**62**	⇑P*	Pb	20 56 30.9	-0.1
CAW				S*	Sb	20 56 38.2	+0.3
CAW	**Cannon Point**	**0.48**	**62**	P	Pb	20 56 30.9	-0.1
KIW	**Kapiti Island**	**0.56**	**33**	⇑P*	Pb	20 56 32.0	-0.4
MSWZ	**Moikau Station**	**0.56**	**99**	P*	Pb	20 56 32.5	+0.1
MSWZ	**Moikau Station**	**0.56**	**99**	P	Pb	20 56 32.5	+0.1
BSWZ	**Blackbirch Sta**	**0.61**	**231**	P*	Pb	20 56 32.9	-0.4
BSWZ	**Blackbirch Sta**	**0.61**	**231**	P	Pb	20 56 31.9	-1.3
PAWZ	**Paruwai Farm**	**0.69**	**94**	⇑P*	Pb	20 56 34.0	-0.5
PAWZ	**Paruwai Farm**	**0.69**	**94**	P	Pb	20 56 34.1	-0.4
DUWZ	**D'Urville Isla**	**0.69**	**320**	P*	Pb	20 56 34.3	-0.3
MTW	**Mount Morrison**	**0.77**	**77**	P*	Pb	20 56 35.0	-0.8
MTW	**Mount Morrison**	**0.77**	**77**	P	Pn	20 56 35.1	-0.5
NNZ	**Nelson**	**0.86**	**277**	PN	Pn	20 56 36.9	0.0
NNZ				SN	Sn	20 56 48.4	0.0
NNZ	**Nelson**	**0.86**	**277**	P	Pn	20 56 37.0	+0.1
MRZ	**Mangatainoka R**	**1.05**	**51**	P*	Pb	20 56 39.3	-1.2
MRZ				S*	Sb	20 56 52.8	-1.2
MRZ	**Mangatainoka R**	**1.05**	**51**	P	Pn	20 56 39.3	-0.2
THZ	**Tophouse**	**1.28**	**250**	P*	Pb	20 56 43.1	-1.3
THZ	**Tophouse**	**1.28**	**250**	*e*P	Pn	20 56 43.1	+0.4
KHZ	**Kahutara**	**1.30**	**213**	P*	Pb	20 56 42.6	-2.2
KHZ	**Kahutara**	**1.30**	**213**	*e*P	Pn	20 56 42.6	-0.4
QRZ	**Quartz Range**	**1.58**	**288**	PN	Pn	20 56 47.9	+1.0
QRZ	**Quartz Range**	**1.58**	**288**	*e*P	Pn	20 56 48.0	+1.2
WAZ	**Wanganui**	**1.62**	**13**	*e*PN	Pn	20 56 48.9	+1.5
WAZ	**Wanganui**	**1.62**	**13**	*e*P	Pn	20 56 49.2	+1.9
MOVZ	**Moawhango**	**2.14**	**27**	P	Pn	20 56 56.3	+1.7
WNVZ	**Wahianoa**	**2.17**	**23**	P	Pn	20 56 57.7	+2.8
TUVZ	**Tukino**	**2.24**	**23**	P	Pn	20 56 59.0	+3.1
WPVZ	**Whakapapa**	**2.27**	**21**	P	Pn	20 56 59.8	+3.5
NGZ	**Ngauruhoe**	**2.31**	**22**	P	Pn	20 57 00.5	+3.7
WTVZ	**West Tongariro**	**2.36**	**21**	P	Pn	20 57 00.5	+2.9

WEL 01 20:56:34.6±0.1, 3830S×17764E, h64km±1km, ML3.8/7, 4C-4D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.10**	**249**	⇑PN	Pn	20 56 43.8	-0.3
MWZ				SN	Sn	20 56 50.6	-0.4
URZ	**Urewera**	**0.42**	**275**	⇓PN	Pn	20 56 45.8	-0.3
URZ				SN	Sn	20 56 54.4	-0.2
PUZ	**Puketiti**	**0.53**	**65**	⇓PN	Pn	20 56 47.0	-0.3
PUZ				SN	Sn	20 56 56.3	-0.1
KNZ	**Kokohu**	**0.72**	**178**	⇑PN	Pn	20 56 49.1	-0.2
KNZ				SN	Sn	20 57 00.6	+0.4
EDRZ	**Edgecumbe**	**0.74**	**285**	⇑PN	Pn	20 56 49.4	-0.1
MARZ	**Manawahe**	**0.82**	**292**	PN	Pn	20 56 49.9	-0.6
TAZ	**Tarawera**	**0.90**	**274**	⇑PN	Pn	20 56 51.5	+0.1
MXZ	**Matakaoa Point**	**0.90**	**36**	⇓PN	Pn	20 56 51.5	0.0
MXZ				*e*SN	Sn	20 57 04.6	+0.5
PATZ	**Paeroa**	**1.09**	**265**	PN	Pn	20 56 53.8	-0.2
BKZ	**Black Stump Fm**	**1.25**	**226**	⇓PN	Pn	20 56 56.1	+0.1
HATZ	**Hinemaiaia**	**1.35**	**244**	PN	Pn	20 56 57.0	-0.3
RITZ	**Rihia Road**	**1.55**	**244**	PN	Pn	20 57 00.1	0.0
RITZ	**Rihia Road**	**1.55**	**244**	P	Pn	20 57 00.1	0.0
OTVZ	**Oturere**	**1.77**	**240**	PN	Pn	20 57 00.8	-2.2
PXZ	**Pawanui**	**1.83**	**199**	PN	Pn	20 57 02.0	-1.9
FWVZ	**Far West T-bar**	**1.89**	**239**	PN	Pn	20 57 04.4	-0.3
FWVZ	**Far West T-bar**	**1.89**	**239**	P	Pn	20 57 04.4	-0.2
WNVZ	**Wahianoa**	**1.90**	**237**	PN	Pn	20 57 04.5	-0.2
TRVZ	**Turoa**	**1.92**	**238**	PN	Pn	20 57 04.8	-0.2
HIZ	**Hauiti**	**2.20**	**264**	P	Pn	20 57 08.3	-0.5
BFZ	**Birch Farm**	**2.61**	**204**	PN	Pn	20 57 12.3	-2.1
BFZ				*e*SN	Sn	20 57 43.1	-1.9
MRZ	**Mangatainoka R**	**2.85**	**213**	PN	Pn	20 57 14.8	-2.8
MRZ				*e*SN	Sn	20 57 48.0	-2.8

MAN 01 21:01:18.0, 971N×12452E, h32km, mb2.2, ML3.9, MS2.9, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.54**	**39**	*e*P	Pb	21 01 29.3	+0.1
MSLP				*e*S	Sb	21 01 38.4	+1.5
TBP	**Tagbilaran**	**0.65**	**269**	*e*P	Pb	21 01 31.4	+0.5
TBP				*e*S	Sb	21 01 40.8	+1.2
LLP	**Lapu-Lapu**	**0.81**	**318**	⇓*i*P	Pn	21 01 33.5	+0.4
LLP				*e*S	Sn	21 01 44.5	+0.4
DCPH	**Dipolog City**	**1.60**	**226**	⇓*e*P	Pn	21 01 46.5	+2.5
DCPH				*e*S	Sn	21 02 07.8	+4.2

*NEIC **01** 21:33:16.3, 3744S×17777E, h93km, ML3.9(WEL), After WEL.*

WEL 01 21:33:16.3±0.2, 3746S×17777E, h94km±1km, ML3.9/6, 2C-4D, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.44**	**104**	⇑P*	Pn	21 33 30.9	-0.1
MXZ				S*

Error ellipse: s-maj=5.1km s-min=3.0km az=86.0 15 km SSE of Ostrava Suspected Mining induced.

ISC 01 21:58:29.6±0.3,4983N±002×1849E±002,h0km,n65, σ1§09/112,9C-4D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**272**	*e*PG	**Pg**	**21 58 33.8**	**-0.1**
OKC				*e*SG	**Sg**	**21 58 38.2**	**+1.4**
	382nm,0.5s						
RAC	**Raciborz**	**0.32**	**323**	*e*Pg	**Pg**	**21 58 37.7**	**+2.0**
RAC				*e*Sg	**Sg**	**21 58 43.3**	**+3.4**
MORC	**Moravsky Berou**	**0.62**	**265**	*e*Pg	**Pg**	**21 58 41.9**	**+0.4**
MORC				*e*Sg	**Sg**	**21 58 50.2**	**+0.7**
	74nm,0.3s						
MORC	**Moravsky Berou**	**0.62**	**265**	*e*P	**Pg**	**21 58 41.7**	**+0.3**
OJC	**Ojcow**	**0.93**	**65**	*e*Pg	**Pg**	**21 58 47.2**	**-0.2**
OJC				*e*Sg	**Sg**	**21 58 59.5**	**0.0**
JAVC	**Velka Javorina**	**1.11**	**209**	*e*Pg	**Pg**	**21 58 51.8**	**+0.9**
JAVC				*e*Sg	**Sg**	**21 59 08.5**	**+3.2**
	39nm,0.3s						
NIE	**Niedzica**	**1.25**	**108**	*e*Pg	**Pg**	**21 58 53.7**	**0.0**
NIE				*e*Sg	**Sg**	**21 59 12.1**	**+2.2**
VRAC	**Vranov**	**1.34**	**248**	Pg	**Pg**	**21 58 55.2**	**-0.1**
	34nm,0.3s,baz=68,slow=15,SNR=89						
VRAC				Lg		21 59 13.5	
	22nm,0.3s,baz=352,slow=21,SNR=11						
VRAC	**Vranov**	**1.34**	**248**	*e*Pg	**Pg**	**21 58 55.0**	**-0.4**
VRAC	**Vranov**	**1.34**	**248**	P	**Pg**	**21 58 55.2**	**-0.2**
	34nm,0.3s						
VRAC				*e*Sg	**Sg**	**21 59 12.5**	**-0.3**
	63nm,0.5s						
VYHS	**Vyhne**	**1.36**	**170**	*i* PN	**Pn**	**21 58 55.0**	**-0.8**
VYHS				*e*SN	**Sn**	**21 59 13.8**	**-0.7**
SMOL	**Smolenice**	**1.49**	**208**	*i* PN	**Pn**	**21 58 57.2**	**-0.5**
SMOL				*e*SN	**Sn**	**21 59 17.5**	**-0.3**
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG	**Pn**	**21 58 57.8**	**+0.1**
DPC				*e*SG	**Sg**	**21 59 18.8**	**+1.2**
	44nm,0.5s						
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*Pn	**Pn**	**21 58 57.6**	**-0.1**
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*Pg	**Pn**	**21 58 57.8**	**+0.1**
DPC				*e*Sg	**Sg**	**21 59 17.5**	**-0.1**
DPC				*e*S	**Sg**	**21 59 18.8**	**+1.2**
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*P	**Pn**	**21 58 57.8**	**+0.1**
DPC				*e*		21 59 18.8	
DPC				smax			
	comp=N,44nm,0.5s						
KRUC	**Moravsky**	**1.57**	**241**	*e*Pn	**Pn**	**21 58 58.7**	**0.0**
KRUC				*e*Sg	**Sg**	**21 59 19.5**	**-0.6**
	comp=N,49nm,0.5s						
UPC	**Upice**	**1.73**	**294**	*e*PG	**Pg**	**21 59 02.1**	**-0.8**
UPC				*e*SG	**Sg**	**21 59 26.2**	**+0.9**
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pg**	**21 59 00.5**	**-2.4**
KSP				e		21 59 04.9	
KSP				*e*Sg	**Sg**	**21 59 25.9**	**+0.5**
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pg**	**21 59 00.5**	**-2.4**
KSP				*e*		21 59 04.9	
KSP				*e*Sg	**Sg**	**21 59 24.9**	**-0.5**
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*PN	**Pn**	**21 59 04.5**	**+2.1**
STHS				*e*SN	**Sn**	**21 59 30.9**	**+4.6**
ZST	**Bratislava**	**1.87**	**210**	*e*PN	**Pn**	**21 59 02.8**	**-0.1**
ZST				*e*SN	**Sn**	**21 59 27.2**	**-0.1**
KECS	**Kecovo**	**1.88**	**135**	*i* PN	**Pn**	**21 59 02.4**	**-0.6**
KECS				*e*SN	**Sn**	**21 59 27.7**	**+0.3**
PENC	**Penc**	**2.11**	**165**	⇑*i*P	**Pn**	**21 59 06.1**	**0.0**
PSZ	**Piszkesteto**	**2.12**	**154**	*e*Pn	**Pn**	**21 59 06.7**	**+0.3**
PSZ	**Piszkesteto**	**2.12**	**154**	*e*P	**Pn**	**21 59 06.1**	**-0.3**
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*PN	**Pn**	**21 59 08.0**	**+1.3**
CRVS				*e*PG	**Pg**	**21 59 09.9**	**-1.0**
CRVS				*e*		21 59 39.2	
CRVS	**Cervenica-Dubn**	**2.15**	**114**	*e*Pg	**Pg**	**21 59 09.9**	**-1.0**
CRVS				*e*S	**Sn**	**21 59 39.2**	**+5.1**
PRU	**Pruhonice**	**2.56**	**275**	*e*SG	**Sg**	**21 59 51.5**	**-0.4**
	comp=N,29nm,0.9s						
PVCC	**Panska Ves**	**2.62**	**287**	*e*PN	**Pn**	**21 59 14.1**	**+1.0**
PVCC				*e*PG	**Pg**	**21 59 17.7**	**-2.1**
PVCC				*e*SG	**Sg**	**21 59 54.1**	**+0.4**
	comp=N,33nm,0.4s						
PVCC	**Panska Ves**	**2.62**	**287**	*e*Pg	**Pg**	**21 59 17.7**	**-2.1**
PVCC				*e*Sg	**Sg**	**21 59 54.1**	**+0.4**
	comp=N,33nm,0.4s						
PVCC	**Panska Ves**	**2.62**	**287**	*e*P	**Pn**	**21 59 14.1**	**+1.0**
PVCC				*e*		21 59 54.1	
PVCC				smax			
	comp=N,33nm,0.4s						
KOLS	**Kolonicke sedl**	**2.63**	**109**	*e*PN	**Pn**	**21 59 15.3**	**+2.0**
KOLS				*e*PG	**Pg**	**21 59 20.2**	**+0.2**
KOLS				*e*SG	**Sg**	**21 59 53.8**	**-0.3**
KOLS	**Kolonicke sedl**	**2.63**	**109**	*e*Pg	**Pg**	**21 59 20.2**	**+0.2**
KOLS				*e*Sg	**Sg**	**21 59 53.8**	**-0.3**
KWP	**Kalwaria**	**2.74**	**93**	*e*P	**Pn**	**21 59 18.5**	**+3.6**
BRG	**Berggiesshubel**	**3.10**	**291**	*e*Pg	**Pg**	**21 59 26.6**	**-2.3**
BRG	**Berggiesshubel**	**3.10**	**291**	PG	**Pg**	**21 59 26.6**	**-2.4**
BRG				SG	**Sg**	**22 00 10.5**	**+1.4**
	comp=N,13nm,1.1s						
ARSA	**Arzberg**	**3.25**	**219**	⇑Sg	**Sg**	**22 00 15.2**	**+1.1**
	comp=N,4.1nm,0.4s						
ARSA	**Arzberg**	**3.25**	**219**	⇓*i*Pn	**Pn**	**21 59 22.5**	**+0.7**
ARSA				⇑*i*Sg	**Sg**	**22 00 15.2**	**+1.1**
	comp=N,4.1nm,0.4s						
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN	**Pn**	**21 59 22.4**	**+0.1**
KHC				*e*PG	**Pg**	**21 59 29.4**	**-3.1**
KHC				*e*x	x	21 59 53.8	
KHC				*e*SG	**Sg**	**22 00 14.9**	**-0.1**
	comp=N,14nm,0.6s						
KHC	**Kasperske Hory**	**3.28**	**260**	*e*Pg	**Pg**	**21 59 29.4**	**-3.1**
GEC2	**GERESS Array S**	**3.29**	**254**	*e*Pg	**Pg**	**21 59 30.9**	**-1.7**
GEC2				*e*Sg	**Sg**	**22 00 14.2**	**-1.0**
GERES	**GERESS Array B**	**3.29**	**254**	Pn	**Pn**	**21 59 22.1**	**-0.2**
	comp=N,0.3nm,0.3s,baz=70,slow=14,SNR=9.0						
GERES				Pg	**Pg**	**21 59 29.1**	**-3.5**
	comp=N,3.7nm,0.3s,baz=70,slow=15,SNR=50						
GERES				Sn	**Sn**	**22 00 02.3**	**+0.2**
	comp=N,1.6nm,0.3s,baz=71,slow=24,SNR=6.4						
GERES				Lg		22 00 14.7	
	comp=N,3.3nm,0.3s,baz=72,slow=29,SNR=11						
MOA	**Molln**	**3.42**	**236**	⇓Sg	**Sg**	**22 00 18.5**	**-1.1**
	comp=N,17nm,0.5s						
MOA	**Molln**	**3.42**	**236**	⇑*i*Pn	**Pn**	**21 59 23.6**	**-0.6**
MOA				⇓*i*Sg	**Sg**	**22 00 18.5**	**-1.1**
	comp=N,17nm,0.5s						
WET	**Wettzell**	**3.72**	**262**	*e*Pn	**Pn**	**21 59 27.3**	**-1.1**
WET				*e*Sg	**Sg**	**22 00 29.9**	**+0.6**
WET	**Wettzell**	**3.72**	**262**	*e*Pn	**Pn**	**21 59 27.3**	**-1.1**
WET				*e*Sg	**Sg**	**22 00 29.9**	**+0.6**
CLL	**Collm**	**3.80**	**295**	*e*Pn	**Pn**	**21 59 29.6**	**+0.2**
CLL				*e*Pg	**Pg**	**21 59 41.0**	**-1.5**
CLL				*e*Sg	**Sg**	**22 00 31.5**	**-0.2**
CLL	**Collm**	**3.80**	**295**	*i* Pn	**Pn**	**21 59 29.8**	**+0.4**
CLL				*e*Pg	**Pg**	**21 59 41.0**	**-1.5**
CLL				*i* Sg	**Sg**	**22 00 31.7**	**0.0**
	comp=Z,13nm,0.6s						
CLL	**Collm**	**3.80**	**295**	Pg	**Pg**	**21 59 41.0**	**-1.5**
CLL				Sg	**Sg**	**22 00 31.5**	**-0.2**
NKC	**Novy Kostel**	**3.92**	**278**	*e*PG	**Pg**	**21 59 41.7**	**-3.0**
NKC				*e*SG	**Sg**	**22 00 36.7**	**+1.2**
DRGR		**4.14**	**136**	⇑P	**Pn**	**21 59 34.0**	**-0.1**
KBA	**Koelnbreinsper**	**4.39**	**233**	⇑Sg	**Sg**	**22 00 51.3**	**+0.5**
	comp=Z,5.2nm,0.7s						
KBA	**Koelnbreinsper**	**4.39**	**233**	⇓*i*Pn	**Pn**	**21 59 37.9**	**+0.3**
KBA				⇑*i*Sg	**Sg**	**22 00 51.3**	**+0.5**
	comp=Z,5.2nm,0.7s						
KBA	**Koelnbreinsper**	**4.39**	**233**	Pn	**Pn**	**21 59 37.8**	**+0.2**
KBA				Sg	**Sg**	**22 00 51.3**	**+0.5**
	comp=Z,5.2nm,0.7s						
MOX	**Moxa**	**4.49**	**283**	*e*Pn	**Pn**	**21 59 38.9**	**0.0**
MOX				*e*Pg	**Pg**	**21 59 54.7**	**-1.0**
MOX				*e*Sg	**Sg**	**22 00 56.3**	**+2.4**
MOX	**Moxa**	**4.49**	**283**	*e*Pg	**Pg**	**21 59 54.7**	**-1.0**
BZS	**Buzias**	**4.71**	**152**	⇑P	**Pn**	**21 59 41.7**	**-0.3**
GRF	**Grafenberg Arr**	**4.71**	**271**	*e*Sg	**Sg**	**22 01 02.4**	**+1.2**
BURAR	**Bucovina Array**	**4.97**	**114**	⇑P	**Pn**	**21 59 45.8**	**+0.3**
DAVOX	**Davos**	**6.50**	**245**	Pn	**Pn**	**22 00 05.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=42,slow=18,SNR=3.1						
DAVOX				Lg		22 01 56.9	
	comp=Z,0.3nm,0.3s,baz=352,slow=22,SNR=2.5						
AKASG	**Malin Array Be**	**6.94**	**79**	Pn	**Pn**	**22 00 09.8**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=260,slow=13,SNR=4.2						
AKASG				Lg		22 02 10.7	
	baz=276,slow=38,SNR=2.9						
AKASG	**Malin Array Be**	**6.94**	**79**	P	**Pn**	**22 00 09.8**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**11.96**	**343**	Pn	**Pn**	**22 01 19.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=2.9						
FINES	**FINESS Array B**	**12.39**	**17**	Pn	**Pn**	**22 01 22.5**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=5.4						

IDC 01 22:08:37.8±0.8,659N×7280W,h159km±8km,mb3.2/2, mb1 3.3/4,mb1mx3.0/21,mbtmp3.7/4,Error ellipse: s-maj=50.3km s-min=7.7km az=132.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.30**	**222**	P	Pn	22 09 18.8	+1.9
	17nm,0.3s,baz=280,slow=15,SNR=54						
ROSC				S	Sn	22 09 48.1	+1.0
	41nm,0.3s,baz=113,slow=19,SNR=9.0						
SDV	**Santo Domingo**	**3.13**	**43**	P	Pn	22 09 28.3	+1.1
	20nm,0.3s,baz=265,slow=7.9,SNR=122						
SDV				S	Sn	22 10 06.0	+0.5
	38nm,0.3s,baz=84,slow=24,SNR=38						
SJG	**San Juan**	**13.16**	**29**	S	Sn	22 14 11.7	+7.3
	9.8nm,0.3s,baz=325,slow=16,SNR=7.7						
SCHQ	**Schefferville**	**48.34**	**5**	P	P	22 17 03.1	-0.1
	2.9nm,1.1s,baz=184,slow=8.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**73.47**	**78**	P	P	22 19 53.6	+0.8
	0.2nm,0.9s,baz=281,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**122.43**	**20**	PKP	PKPdf	22 27 14.0	0.0
	0.1nm,0.4s,baz=297,slow=3.2,SNR=4.1						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	PKPbc	22 28 11.2	+0.7
	0.3nm,0.5s,baz=107,slow=2.7,SNR=9.6						

NAO ***01*** *22:23:50.2,27.10N×8164E,h33km,mb4.8*
IDC ***01*** *22:24:08.1±0.5,3024N×8047E,h0km,mb4.6/20, mb1 4.7/21,mb1mx4.7/25,mbtmp4.6/21,ML4.1/1,MS3.9/9, Ms1 3.9/9,ms1mx3.8/20,Error ellipse: s-maj=19.0km s-min=12.0km az=55.0*
ISCJB ***01*** *22:24:09.8±0.7,3029N±002×8039E±002,h16km±5km, mb4.7/123,MS3.9/23,Error ellipse: s-maj=4.0km s-min=2.7km az=55.7*
DMN ***01*** *22:24:09.9±0.8,3060N×8016E,h10km,Ml5.3/4,Error ellipse: s-maj=50.9km s-min=16.2km az=29.0*
LDG ***01*** *22:24:11.3±0.1,3027N×8039E,h33km,Mb5.0/35,Ms3.5/6, Error ellipse: s-maj=9.7km s-min=4.4km az=40.0*
SZGRF ***01*** *22:24:11.0,2952N×8065E,h33km,mb4.7,Nepal-India border region*
NDI ***01*** *22:24:12.3±5.0,3030N×8040E,h14km±13km,mb5.1, mb4.9(NEIC)*
BJI ***01*** *22:24:12.1,3045N×8046E,h22km,mB4.9,mb4.5,ML4.8, Ms4.4,Msz4.1*
MOS ***01*** *22:24:12.5±1.0,3035N×8048E,h33km,mb4.9/42,Error ellipse: s-maj=7.9km s-min=4.2km az=121.2*
NEIC ***01*** *22:24:15.9±0.7,3029N×8048E,h51km±7km,mb4.9/71, Error ellipse: s-maj=7.2km s-min=4.9km az=212.0*
HRVD ***01*** *22:24:15.9±1.1,3006N×8031E,h31km±2km,MW4.7/34, Centroid moment Tensor Solution. LP body waves: s8,c8;Mantle waves: s34,c46; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.97±.29; $M_{\theta\theta}$-0.71±.17; $M_{\phi\phi}$1.68±.18; $M_{r\theta}$-0.55±.29; $M_{\theta\phi}$0.38±.12; $M_{\phi r}$-0.06±.17; Best double couple: $M_0$1.58100×10^16 NP1:ϕ_s156.00000°, δ54.00000°,λ-141.00000°. NP2:ϕ_s41.00000°,δ59.00000°, λ-43.00000°. Principal axes: T 1.7460, Plg3.0000°, Azm99.0000°; N -0.3340, Plg39.0000°, Azm192.0000°; P -1.4150, Plg51.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 22:24:11.0±0.8,3032N±002×8039E±002,h9km±5km, h36km±3.9km:pP-P,n371,σ1§15/401,mb4.7/123,MS3.9/23, 53C-13D,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.78**	**191**	*e*x	**Pg**	**22 24 23.8**	**-2.2**
PTH				*e*S	**Sg**	**22 24 37.9**	**+1.7**
LGTI	**Lohaghat**	**0.87**	**188**	*e*x	**Pg**	**22 24 26.5**	**-1.3**
LGTI				*e*S	**Sg**	**22 24 45.0**	**+5.8**
DDI	**Dehra Dun**	**2.02**	**271**	*e*P	**Pn**	**22 24 47.4**	**+2.3**
DDI				*e*S	**Sn**	**22 25 10.4**	**0.0**
SDNR	**Sundarnagar**	**3.17**	**293**	*e*P	**Pn**	**22 25 04.4**	**+3.5**
SDNR				*e*x	x	22 25 46.0	
NDI	**New Delhi**	**3.21**	**240**	*e*P	**Pn**	**22 25 01.5**	**0.0**
NDI				*e*S	**Sn**	**22 25 38.5**	**-1.3**
BHK	**Bhakra**	**3.59**	**289**	*e*P	**Pn**	**22 25 14.7**	**+8.0**
BHK				*e*S	**Sn**	**22 25 55.1**	**+6.0**
KOLN	**Koldanda**	**3.79**	**131**	*e*Pn	**Pn**	**22 25 11.0**	**+1.5**
PONG	**Pong**	**4.14**	**294**	*e*P	**Pn**	**22 25 15.0**	**+0.7**
PONG				*e*S	**Sn**	**22 26 05.0**	**+2.2**
GKN	**Gorkha**	**4.37**	**121**	*e*Pn	**Pn**	**22 25 18.9**	**+1.4**
DLH	**Dalhousie**	**4.38**	**302**	*e*P	**Pn**	**22 25 19.0**	**+1.4**
DLH				*e*x	**Sn**	**22 26 15.0**	**+6.3**
THN	**Thein Dam**	**4.52**	**299**	*e*P	**Pn**	**22 25 19.3**	**-0.2**
THN				*e*x	**Sn**	**22 26 26.8**	**+15**
DMN	**Daman**	**4.94**	**122**	*e*Pn	**Pn**	**22 25 26.6**	**+1.4**
DMN				*e*Sn	**Sn**	**22 26 23.5**	**+1.1**
	1μm,0.6s						
KKN	**Kakani**	**4.97**	**119**	*e*Pn	**Pn**	**22 25 26.9**	**+1.2**
KKN				*e*Sn	**Sn**	**22 26 23.9**	**+0.7**
	797nm,0.4s						
ALBI	**Allahabad**	**5.15**	**166**	*i* P	**Pn**	**22 25 28.5**	**+0.4**
PKI	**Pulchoki**	**5.18**	**121**	*e*Pn	**Pn**	**22 25 29.7**	**+1.1**
PKI				*e*Sn	**Sn**	**22 26 29.9**	**+1.4**
	573nm,0.3s						
GUN	**Gumba**	**5.37**	**115**	*e*Pn	**Pn**	**22 25 32.2**	**+1.0**
JIRN	**Jiri**	**5.73**	**116**	*e*Pn	**Pn**	**22 25 37.4**	**+1.3**
JIRN				*e*Sn	**Sn**	**22 26 41.9**	**-0.1**
	773nm,0.3s						
AJM	**Ajmer**	**6.34**	**234**	*i* P	**Pn**	**22 25 44.0**	**-0.5**
AJM				*i* x	Sn	22 27 26.0	+29
SARP	**Sargodha**	**6.81**	**286**	P	**Pn**	**22 25 49.3**	**-1.6**
SARP				S	**Sn**	**22 27 01.0**	**-7.5**
CHCP	**Chirah Chowk**	**6.91**	**301**	P	**Pn**	**22 25 52.8**	**+0.5**
BHPL	**Bhopal**	**7.53**	**201**	*e*P	**Pn**	**22 25 59.2**	**-1.6**
BHPL				*e*S	**Sn**	**22 27 20.3**	**-6.0**
THW	**Thamme Wali**	**7.78**	**291**	P	**Pn**	**22 26 02.6**	**-1.7**
CEP	**Cherat**	**8.00**	**298**	P	**Pn**	**22 26 05.9**	**-1.4**
BOK	**Bokaro**	**8.14**	**142**	*e*P	**Pn**	**22 26 08.2**	**-1.0**
BOK				*e*S	**Sn**	**22 27 34.4**	**-6.9**
BOK				*i* x	x	22 27 35.3	
BLSP	**Bilaspur**	**8.30**	**169**	*e*P	**Pn**	**22 26 10.0**	**-1.5**
BLSP				*e*x	**Sn**	**22 27 45.0**	**-0.3**
SBDP	**Sheikh Budin**	**8.43**	**286**	P	**Pn**	**22 26 12.2**	**-1.0**
DRP	**Derazinda**	**8.85**	**282**	⇓P	**Pn**	**22 26 18.7**	**-0.3**
NGP	**Nagpur**	**9.21**	**188**	*e*P	**Pn**	**22 26 24.3**	**+0.4**
NGP				*e*S	**Sn**	**22 28 02.5**	**-5.1**
LSA	**Lhasa**	**9.35**	**91**	P	**Pn**	**22 26 28.4**	**+2.6**
LSA				S	**Sn**	**22 28 08.8**	**-2.3**
LSA				Smax			
	comp=N,70nm,0.8s						
LSA				Smax			
	comp=E,90nm,0.8s						
LSA	**Lhasa**	**9.35**	**91**	*e*P	**Pn**	**22 26 28.1**	**+2.3**
LSA				*e*		22 28 09.8	
LSA				pmax	pmax		
	comp=Z,48nm,0.4s						
LSA	**Lhasa**	**9.35**	**91**	*e*Pn	**Pn**	**22 26 28.1**	**+2.2**
	comp=Z,48nm,0.4s						
LSA				*e*Sn	**Sn**	**22 28 09.8**	**-1.3**
KSH	**Kashi**	**9.86**	**340**	*e*P	**Pn**	**22 26 34.0**	**+1.1**
KSH				S	**Sn**	**22 28 21.0**	**-2.7**
KSH				AMB	AMB		
	comp=Z,40nm,0.7s						
KSH				LR	LR		
	comp=N,1μm,7.2s						
KSH				LR	LR		
	comp=E,2μm,7.5s						
SHL	**Shillong**	**11.21**	**112**	*e*P	**Pn**	**22 26 51.4**	**+0.1**
SHL				*e*S	**Sn**	**22 28 46.0**	**-11**
BHV	**Bhavnagar**	**11.30**	**223**	*e*P	**Pn**	**22 26 53.0**	**+0.5**
AGT	**Agartala**	**11.60**	**121**	*i* x	**Pn**	**22 27 03.0**	**+6.3**
AGT				*i* x	x	22 28 34.0	
BHJ	**Bhuj**	**11.89**	**236**	*e*P	**Pn**	**22 26 59.5**	**-1.1**
BHJ				AMb	AMB	22 27 02.2	
	comp=Z,34nm,0.9s						
BHJ				*e*S	**Sn**	**22 29 03.5**	**-10**
LATR	**Latur**	**12.35**	**197**	*e*P	**Pn**	**22 27 05.0**	**-1.9**
LATR				*e*S	**Sn**	**22 29 12.6**	**-12**
ULHL	**Ulahol**	**12.36**	**345**	P	**Pn**	**22 27 06.5**	**-0.6**
	SNR=12						
KZA	**Kyzart**	**12.44**	**342**	P	**Pn**	**22 27 07.0**	**-1.1**
	SNR=35						
UCH	**Uchtor**	**12.79**	**340**	P	**Pn**	**22 27 12.5**	**-0.3**
	SNR=9.8						
VIS	**Vishakhapatnam**	**12.82**	**167**	*e*P	**Pn**	**22 27 12.8**	**-0.5**
VIS				*e*S	**Sn**	**22 29 25.0**	**-11**
HYB	**Hyderabad**	**12.95**	**188**	*i* P	**Pn**	**22 27 10.5**	**-4.6**
	comp=Z,120nm,1.0s						
HYB				*e*S	**Sn**	**22 29 46.0**	**+6.7**
HYB				LR	LR	22 32 20.0	
	comp=Z,2.8nm,12.0s						
HYB	**Hyderabad**	**12.95**	**188**	*e*P	**Pn**	**22 27 10.5**	**-4.6**
HYB				pmax	pmax		
	comp=Z,120nm,1.0s						
HYB	**Hyderabad**	**12.95**	**188**	*e*P	**Pn**	**22 27 10.5**	**-4.6**
	comp=Z,120nm,1.0s						
HYB				*e*S	**Sn**	**22 29 30.0**	**-9.3**
AML	**Almayashu**	**12.96**	**337**	P	**Pn**	**22 27 14.6**	**-0.6**
	SNR=8.5						
KBK	**Karagaybulak**	**13.06**	**342**	P	**Pn**	**22 27 18.8**	**+2.2**
	SNR=20						
TKM2	**Tokmak 2**	**13.15**	**344**	P	**Pn**	**22 27 18.2**	**+0.4**
	SNR=20						
TKM2	**Tokmak 2**	**13.15**	**344**	P	**Pn**	**22 27 18.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
POO	**Poona**	**13.15**	**208**	*ex*	x	22 27 36.7	
POO				AMb	AMB	22 27 41.3	
	comp=Z,48nm,0.9s						
POO				*ex*	x	22 29 58.8	
AAK	**Ala-Archa**	**13.17**	**341**	P	**Pn**	**22 27 16.8**	**-1.2**
	SNR=21						
AAK	**Ala-Archa**	**13.17**	**341**	Pn	**Pn**	**22 27 15.7**	**-2.4**
BOM	**Bombay**	**13.29**	**213**	*e*P	**Pn**	**22 27 17.6**	**-2.1**
BOM				*e*S	**Sn**	**22 29 33.4**	**-14**
FRU	**Bishkek**	**13.32**	**341**	*e*P	**Pn**	**22 27 20.0**	**-0.1**
FRU				pmax	pmax		
	comp=Z,50nm,1.5s						
FRU				pmax	pmax		
	comp=E,50nm,1.5s						
EKS2	**Erkin-Say**	**13.41**	**339**	P	**Pn**	**22 27 21.1**	**-0.2**
	SNR=17						
CHMS	**Chumysh**	**13.43**	**342**	P	**Pn**	**22 27 20.6**	**-1.1**
	SNR=6.8						
USP	**Ospenovka**	**13.75**	**342**	P	**Pn**	**22 27 26.1**	**+0.1**
	SNR=15						
KAD	**Karad**	**14.14**	**205**	*ex*	**Pn**	**22 27 27.2**	**-4.0**
KAD				AMb	AMB	22 27 27.8	
	comp=Z,34nm,0.9s						
KAD				*ex*	x	22 29 56.6	
WMQ	**Urumqi**	**14.68**	**21**	P	**Pn**	**22 27 40.0**	**+1.4**
WMQ				AP	pP	22 27 48.6	+1.0
WMQ				S	**Sn**	**22 30 23.0**	**+1.6**
WMQ				SS		22 30 40.0	
WMQ				AMB	AMB		
	comp=Z,17nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,105nm,3.0s						
WMQ				LR	LR		
	comp=N,275nm,7.0s						
WMQ				LR	LR		
	comp=E,187nm,7.0s						
WMQ				LR	LR		
	comp=Z,268nm,7.0s						
KK31	**Karatay Array**	**15.00**	**331**	*i* P	**Pn**	**22 27 37.9**	**-5.2**
KK31				pmax	pmax		
	comp=Z,11nm,0.3s						
KKAR	**Karatay Array**	**15.00**	**331**	*e*P	**Pn**	**22 27 37.9**	**-5.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MK31	**Makanchi Array**	**16.52**	**5**	P	**Pn**	**22 27 59.3**	**-3.5**
MK31				pmax	pmax		
	comp=Z,48nm,0.8s						
MKAR	**Makanchi Array**	**16.52**	**5**	Pn	**Pn**	**22 27 59.5**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=188,slow=11,SNR=38						
MKAR				Sn	**Sn**	**22 30 58.3**	**-7.8**
	comp=Z,0.4nm,0.3s,baz=191,slow=22,SNR=4.6						
GTA	**Gaotai**	**18.31**	**55**	*e*P	**Pn**	**22 28 23.6**	**-1.5**
GTA				AP	pP	22 28 34.2	+6.3
GTA				PP		22 28 39.8	
GTA				S	**Sn**	**22 31 39.6**	**-10**
GTA				XS	sS	22 31 56.0	-2.9
GTA				SS		22 32 03.6	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,83nm,4.6s						
GTA				LR	LR		
	comp=N,936nm,12.9s						
GTA				LR	LR		
	comp=E,265nm,10.3s						
GTA				LR	LR		
	comp=Z,255nm,14.1s						
CD2	**Chengdu**	**20.12**	**82**	*e*P	**P**	**22 28 46.5**	**+1.5**
CD2				PP		22 29 06.8	
CD2				S	**S**	**22 32 24.0**	**-7.0**
CD2				SS		22 32 53.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		

BRVK *e*S **S** **22 33 42.6 +1.6**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
BRVK Borovoye 23.89 345 *e*P **P** **22 29 25.2 +0.4**
comp=Z,10.0nm,0.8s,mb4.3
BRVK *e*S **S** **22 33 42.5 +1.5**
ZRNK Zerenda 24.10 343 P **P** **22 29 26.2 -0.6**
ZRNK pmax pmax
comp=Z,12nm,0.7s,mb4.4
ZRNK Zerenda 24.10 343 P **P** **22 29 25.9 -0.8**
XAN Xi'an 24.40 74 P **P** **22 29 28.5 -1.0**
XAN AMB AMB
comp=Z,22nm,1.3s,mb4.4
AB31 Akbulak array 24.45 326 *e*P **P** **22 29 29.7 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
NVS Novosibirsk 24.59 4 *e*P **P** **22 29 30.7 -0.6**
NVS *e* 22 30 09.9
NVS *e*S **S** **22 33 46.5 -5.8**
NVS *e*SS 22 34 58.1
NVS pmax pmax
comp=N,44nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,30nm,1.6s,mb4.6
NVS smax
comp=N,12nm,1.6s
NVS smax
comp=E,12nm,1.6s
KKTK Khon Kaen 24.80 119 P **P** **22 29 35.0 +1.9**
ENH Enshi 25.10 83 *e*P **P** **22 29 35.2 -0.7**
comp=E,13nm,0.8s,mb4.5
BTO Baotou 26.12 59 *e*P **P** **22 29 43.4 -1.7**
AKTK Aktyubinsk 26.17 327 P **P** **22 29 44.7 -0.8**
AKTK LR 22 41 04.7
AKTO Aktyubinsk 26.17 327 P **P** **22 29 44.7 -0.8**
comp=E,16nm,0.6s,mb4.7,baz=125,slow=11,SNR=34
AKTO LR LR 22 41 04.6
comp=E,477nm,19.6s,MS4.0,baz=0.0,slow=39
ZAK Zakamensk 26.38 34 *e*P **P** **22 29 47.5 0.0**
ZAK pmax pmax
comp=Z,7.0nm,2.0s,mb3.8
SONM Songino Array 26.52 41 P **P** **22 29 49.9 +1.1**
comp=Z,5.2nm,0.8s,mb4.1,baz=234,slow=9.1,SNR=25
SONM PcP PcP 22 33 12.8 -0.6
comp=Z,1.1nm,0.5s,baz=222,slow=3.6,SNR=10
SONM LR LR 22 41 14.9
comp=Z,146nm,19.0s,MS3.5,baz=351,slow=39
SONM Songino Array 26.52 41 P **P** **22 29 49.9 +1.1**
SONM 22 33 12.8
ULN Ulaanbaatar 26.92 42 *e*P **P** **22 29 51.7 -0.6**
ULN Ulaanbaatar 26.92 42 P **P** **22 29 55.5 +3.2**
KRAR Krasnoyarsk 27.16 15 *e*P **P** **22 29 54.0 -0.5**
KRAR pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
HHC Hu-ho-hao-te 27.32 59 ⇑P **P** **22 29 57.9 +2.0**
HHC AP pP 22 30 01.7 +2.9
HHC XP sP 22 30 04.1 +4.1
HHC PP 22 30 46.1
HHC PCP PcP 22 33 17.1 +1.9
HHC S **S** **22 34 38.7 +3.2**
HHC XS sS 22 34 41.1 +0.8
HHC SS 22 35 48.2
HHC SCP ScP 22 36 58.9 +3.1
HHC PCS PcS 22 37 00.1 +3.2
HHC AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
HHC AMB AMB
comp=Z,105nm,7.2s
HHC LR LR
comp=N,848nm,20.4s,MS4.4
HHC LR LR
comp=E,862nm,21.6s,MS4.4
HHC LR LR
comp=Z,279nm,14.4s
TLY Talaya 27.42 32 *e*P **P** **22 29 56.6 -0.2**
QIZ Qiongzhong 28.95 106 *e*P **P** **22 30 14.1 +3.7**
QIZ S **S** **22 35 05.8 +4.6**
ARU Arti 30.28 336 ⇑*i*P **P** **22 30 20.8 -1.5**
ARU *e* 22 31 19.2
ARU *e*PPP 22 31 29.8
ARU *e* 22 33 21.4
ARU *e*SS SS 22 36 57.2 -34
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ARU Arti 30.28 336 P **P** **22 30 24.2 +1.9**
comp=Z,8.1nm,0.8s,mb4.5
GNI Garni 30.55 298 *e*P **P** **22 30 26.6 +2.0**
GNI pmax pmax
comp=Z,69nm,1.5s
GNI Garni 30.55 298 *e*P **P** **22 30 26.6 +2.0**
comp=Z,69nm,1.5s,mb5.3
BJT Baijiatuau 30.64 62 *e*P **P** **22 30 26.1 +0.7**
BJT pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuau 30.64 62 *e*P **P** **22 30 26.1 +0.7**
comp=Z,11nm,0.8s,mb4.8
PSI Prapat 32.51 144 P **P** **22 30 42.6 +0.7**
comp=Z,2.7nm,0.4s,mb4.5,baz=343,slow=9.2,SNR=3.7
KIV Kislovodsk 32.70 305 *e*P **P** **22 30 44.7 +1.1**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,176nm,15.0s,MS3.9
KIV Kislovodsk 32.70 305 P **P** **22 30 44.8 +1.2**
comp=Z,8.6nm,0.8s,mb4.7
GOF Gofitskoye 32.70 307 *e*P **P** **22 30 41.0 -2.6**
NJ2 Nanjing 32.84 77 *e*P **P** **22 30 47.4 +2.6**
NJ2 AP pP 22 30 58.5 +11
NJ2 XP sP 22 31 02.3 +13
NJ2 PP PP 22 31 57.6 -1.4
NJ2 S **S** **22 35 58.0 -4.1**
NJ2 XS sS 22 36 19.0 +12
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,260nm,3.7s
NJ2 LR LR
comp=N,650nm,14.8s,MS4.5
NJ2 LR LR
comp=E,400nm,13.8s,MS4.5
NJ2 LR LR
comp=Z,400nm,13.9s,MS4.3
SSE Sheshan 34.95 78 P **P** **22 31 01.9 -1.2**
SSE AP pP 22 31 10.6 +4.6
SSE XP sP 22 31 14.5 +7.3
SSE PP PP 22 32 21.0 -1.3
SSE S **S** **22 36 30.3 -4.5**
SSE XS sS 22 36 45.4 +5.8
SSE AMB AMB
comp=Z,11nm,1.2s,mb4.7
SSE AMB AMB
comp=Z,118nm,5.8s
SSE LR LR
comp=N,128nm,19.2s,MS3.7
SSE LR LR
comp=E,21nm,19.2s,MS3.7
SSE LR LR
comp=Z,104nm,24.9s
HIA Hailar 35.16 46 *e*P **P** **22 31 03.3 -1.7**
HIA pmax pmax
comp=Z,6.0nm,0.8s
HIA Hailar 35.16 46 *e*P **P** **22 31 03.3 -1.7**
comp=Z,6.3nm,0.8s,mb4.6
MALT Malatya 35.32 295 P **P** **22 31 07.7 +1.4**
BOD Bodaibo 35.94 30 *e*P **P** **22 31 12.1 +0.5**
ANN Anapa 36.55 305 *e*P **P** **22 31 20.3 +3.4**
ANN pmax pmax
comp=Z,92nm,1.6s,mb5.4
VRSR Storozhevoye 36.90 316 *c i*P **P** **22 31 20.1 +0.3**
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
VRSR pmax pmax
comp=N,2.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,0.9s
CN2 Changchun 37.94 56 *e*P **P** **22 31 28.3 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
BR131 Keskin Array S 39.04 297 P **P** **22 31 38.5 +0.6**
BRTR Keskin Array B 39.04 297 P **P** **22 31 38.0 +0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=130,slow=9.6,SNR=13
OBN Obninsk 39.69 321 *d i*P **P** **22 31 42.9 -0.4**
OBN *i* 22 33 19.7
OBN *i* S **S** **22 37 45.7 -1.1**
OBN pmax pmax
comp=Z,19nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,21.0s,MS3.9
OBN Obninsk 39.69 321 P **P** **22 31 43.7 +0.4**
comp=Z,13nm,0.6s,mb4.8
KS15 Wonju Array Si 39.73 67 P **P** **22 31 44.0 +0.3**
KLMR Klimovskoe 40.70 331 *e*P **P** **22 31 51.3 -0.5**
KLMR pmax pmax
comp=Z,20nm,1.4s,mb4.5
MDJ Mudanjiang 40.97 56 P **P** **22 31 53.2 -0.7**
MDJ AP pP 22 32 04.8 +7.9
MDJ XP sP 22 32 09.4 +11
MDJ PP PP 22 33 28.2 -0.2
MDJ S **S** **22 38 02.7 -3.2**
MDJ SS SS 22 41 05.3 -2.4
MDJ AMB AMB
comp=Z,7.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,71nm,3.1s
MDJ LR LR
comp=N,98nm,16.0s
MDJ LR LR
comp=Z,74nm,16.0s,MS3.6
AKASG Malin Array Be 42.91 313 P **P** **22 32 09.3 -0.4**
comp=Z,6.1nm,0.6s,mb4.5,baz=83,slow=7.5,SNR=19
AKASG Malin Array Be 42.91 313 *i* P **P** **22 32 09.3 -0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
CFR Carcaliu 43.16 305 ⇑P **P** **22 32 12.2 +0.4**
VRI Vrincioaia 44.16 306 ⇑P **P** **22 32 22.8 +2.9**
MLR Muntele Rosu 44.71 306 ⇑P **P** **22 32 26.3 +2.0**
YAK Yakutsk 44.86 30 *d i*P **P** **22 32 24.0 -1.5**
YAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
JOF Joensuu 45.10 331 *e*p **P** **22 32 26.7 -0.7**
comp=Z,14nm,0.8s,mb4.8
BURAR Bucovina Array 45.25 309 ⇓P **P** **22 32 29.6 +1.0**
VOIR 45.34 305 ⇑P **P** **22 32 31.4 +2.1**
FINES FINESS Array B 46.93 328 P **P** **22 32 41.1 -0.7**
comp=Z,7.5nm,0.6s,mb4.8,baz=108,slow=8.3,SNR=36
FINES LR LR 22 54 07.6
comp=Z,181nm,18.9s,MS4.1,baz=153,slow=38
FINES FINESS Array B 46.93 328 *i* P **P** **22 32 41.0 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.6s
DRGR 46.95 307 ⇓P **P** **22 32 44.2 +2.2**
KWP Kalwaria 46.98 311 *e*P **P** **22 32 43.3 +1.1**
SUW Suwalki 47.01 317 *e*P **P** **22 32 43.6 +1.2**
KAF Kangasniemi 47.02 329 *e*p **P** **22 32 42.6 +0.1**
comp=Z,5.7nm,0.8s,mb4.5
KAF Kangasniemi 47.02 329 *e*P **P** **22 32 42.6 +0.1**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KOLS Kolonicke sedl 47.25 310 *e*P **P** **22 32 45.2 +0.9**
KOLS *e* 22 32 53.1
BZS Buzias 47.74 306 ⇓P **P** **22 32 49.2 +1.0**
CRVS Cervenica-Dubn 47.79 310 *e*P **P** **22 32 50.7 +2.2**
CRVS *e* 22 32 55.5
STHS Stebnicka Huta 47.93 311 *e*P **P** **22 32 49.4 -0.2**
KECS Kecovo 48.43 310 *e*P **P** **22 32 55.6 +2.1**
NIE Niedzica 48.54 311 *e*P **P** **22 32 57.4 +3.1**
PSZ Piszkesteto 48.84 309 P **P** **22 32 57.1 +0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PSZ Piszkesteto 48.84 309 P **P** **22 32 57.1 +0.5**
comp=Z,6.4nm,0.8s,mb4.7
TIXI Tiksi 48.85 18 ⇑*i*P **P** **22 32 55.8 -0.9**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.9
TIXI Tiksi 48.85 18 P **P** **22 32 55.6 -1.1**
OJC Ojcow 48.88 312 *e*P **P** **22 32 59.4 +2.5**
KEV Kevo 49.43 338 *e*P **P** **22 33 01.0 -0.1**
VYHS Vyhne 49.53 310 *e*P **P** **22 33 04.0 +2.1**
ARCES ARCESS Array B 49.83 338 P **P** **22 33 03.9 -0.3**
comp=Z,19nm,0.7s,mb5.2,baz=109,slow=6.8,SNR=42
ARCES LR LR 22 54 15.0
comp=Z,114nm,20.3s,MS3.9,baz=131,slow=36
ARE0 ARCESS Array S 49.83 338 P **P** **22 33 06.3 +2.1**
OKC Ostrava-Krasne 49.94 312 *e*P **P** **22 33 01.7 -3.3**
YSS Yuzh-Sakhalins 50.16 52 *i* P **P** **22 33 05.5 -1.2**
MORC Moravsky Berou 50.34 311 P **P** **22 33 08.9 +0.9**
MORC pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MORC Moravsky Berou 50.34 311 P **P** **22 33 08.9 +0.9**
comp=Z,8.0nm,0.7s,mb4.9
KTK1 Kautokeino 50.39 337 *e*P **P** **22 33 08.7 +0.2**
DPC Dobruska-Polom 51.10 312 *e*P **P** **22 33 14.9 +1.1**
UPC Upice 51.29 312 *e*P **P** **22 33 16.1 +0.9**
KOGS Kog 51.42 307 *e*P **P** **22 33 16.9 +0.7**
KMBO Kilima Mbogo 51.60 241 P **P** **22 33 17.1 -0.5**
comp=Z,7.9nm,0.8s,mb4.7,baz=48,slow=11,SNR=18
KMBO LR LR 22 56 53.2
comp=Z,47nm,19.0s,MS3.5,baz=85,slow=38
KMBO Kilima Mbogo 51.60 241 P **P** **22 33 18.5 +0.9**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 51.60 241 P **P** **22 33 18.5 +0.9**
comp=Z,5.9nm,0.8s,mb4.6
TREC Trest 51.70 311 *e*P **P** **22 33 19.1 +0.8**
ARSA Arzberg 51.84 308 ⇑*i*P **P** **22 33 20.4 +1.1**
comp=Z,4.2nm,0.8s,mb4.5
CRES Cresnjev 52.03 307 *e*P **P** **22 33 20.9 +0.2**
TRO Tromso 52.04 337 *e*P **P** **22 33 19.2 -1.6**
PERS Pernice 52.17 308 *e*P **P** **22 33 22.4 +0.5**
PVCC Panska Ves 52.21 313 *e*P **P** **22 33 24.4 +2.3**
PRU Pruhonice 52.27 312 *e*P **P** **22 33 23.4 +0.9**
BRG Berggiesshubel 52.59 313 *e*P **P** **22 33 25.0 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 52.59 313 *i* P **P** **22 33 25.0 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 52.59 313 *i* P **P** **22 33 25.0 +0.1**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MOA Molln 52.63 309 ⇑*i*P **P** **22 33 24.7 -0.4**
comp=Z,12nm,0.9s,mb4.8
GEC2 GERESS Array S 52.91 310 *e*P **P** **22 33 27.5 +0.3**
comp=Z,52nm,2.8s,mb5.0
GEC2 GERESS Array S 52.91 310 *e*P **P** **22 33 27.5 +0.3**
GEC2 pmax pmax
comp=Z,52nm,2.8s,mb5.0
GERES GERESS Array B 52.91 310 P **P** **22 33 27.6 +0.4**
comp=Z,2.9nm,0.6s,mb4.4,baz=90,slow=6.7,SNR=18
GERES LR LR 23 00 53.7
comp=Z,67nm,18.9s,MS3.7,baz=292,slow=42
KHC Kasperske Hory 52.96 311 *e*P **P** **22 33 28.3 +0.7**
MOR8 Moi Rana 52.98 332 *e*P **P** **22 33 26.9 -0.8**
CLL Collm 53.15 314 *e*P **P** **22 33 25.0 -4.0**
CLL *i* x x 22 33 41.5
CLL *i* (PPP) 22 36 24.4
CLL Collm 53.15 314 *e*P **P** **22 33 25.0 -4.0**
CLL *i* 22 33 41.5
CADS Cadrg 53.17 307 *e*P **P** **22 33 28.8 -0.4**
KBA Koelnbreinsper 53.33 308 ⇑*i*P **P** **22 33 31.0 +0.6**
comp=Z,4.9nm,0.6s,mb4.7
STOK Stokkvaagen 53.57 332 *e*P **P** **22 33 31.5 -0.6**
STOK AMb AMB 22 33 38.0
comp=Z,133nm,2.2s,mb5.5
WERD Werda 53.66 313 *e*P **P** **22 33 32.9 +0.1**
comp=Z,3.0nm,0.9s,mb4.2
ROTZ Rotzenmuhle 53.79 312 *e*P **P** **22 33 34.5 +0.8**
comp=Z,13nm,1.0s,mb4.8
NB2 NORSAR Subarra 53.96 326 P **P** **22 33 33.6 -1.4**
comp=Z,10.0nm,0.8s,mb4.8,baz=93,slow=7.4
NOA NORSAR Array B 53.96 326 P **P** **22 33 34.2 -0.8**
comp=Z,7.6nm,0.7s,mb4.7,baz=92,slow=7.3,SNR=37
NOA LR LR 22 57 52.2
comp=Z,173nm,19.6s,MS4.1,baz=220,slow=37
NOA NORSAR Array B 53.96 326 P **P** **22 33 34.2 -0.8**
NOA LR LR 22 57 52.2
MOX Moxa 54.08 313 *e*P **P** **22 33 36.0 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
MOX Moxa 54.08 313 *e*P **P** **22 33 33.5 -2.4**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 54.08 313 *e*P **P** **22 33 33.5 -2.4**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.7
GRA1 Grafenberg Arr 54.43 312 *e*P **P** **22 33 39.5 +1.1**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 54.43 312 *e*P **P** **22 33 39.5 +1.1**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 54.43 312 *e*P **P** **22 33 39.5 +1.1**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 54.43 312 *e*P **P** **22 33 39.5 +1.1**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
WTTA Wattenberg 54.47 309 ⇑*i*P **P** **22 33 38.6 0.0**
comp=Z,14nm,1.0s,mb4.8
WATA Walderalm 54.49 309 ⇑*i*P **P** **22 33 39.5 +0.6**
comp=Z,4.1nm,1.0s,mb4.3
MA2 Magadan 54.54 36 P **P** **22 33 38.8 -0.4**
MA2 pmax pmax
comp=Z,10.0nm,1.7s,mb4.6
MA2 Magadan 54.54 36 P **P** **22 33 39.0 -0.2**
comp=Z,9.1nm,0.8s,mb4.9
BSEG Bad Segeberg 54.60 317 *e*P **P** **22 33 39.7 +0.1**
comp=Z,10.0nm,1.1s,mb4.8
CLZ Clausthal 54.74 314 *e*P **P** **22 33 40.7 0.0**
comp=Z,10.0nm,0.9s,mb4.8
CLZ Clausthal 54.74 314 *e*P **P** **22 33 40.7 0.0**
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SQTA Sankt Quirin 54.76 309 ⇑*i*P **P** **22 33 40.7 -0.1**
comp=Z,5.5nm,0.8s,mb4.6
MOTA Moosalm 54.81 309 ⇓*i*P **P** **22 33 40.4 -0.8**
comp=Z,6.8nm,0.8s,mb4.7
SEY Seymchan 55.33 32 ⇓*i*P **P** **22 33 44.0 -0.9**
DAVA Damuels 55.64 309 ⇑*i*P **P** **22 33 46.5 -0.7**
comp=Z,21nm,0.6s,mb5.3
STU Stuttgart 55.87 311 *e*P **P** **22 33 48.8 0.0**
comp=Z,9.0nm,0.8s,mb4.8
TNS Taunus Mts 56.14 313 *e*P **P** **22 33 50.8 +0.1**
comp=Z,3.0nm,0.8s,mb4.4
TNS Taunus Mts 56.14 313 *e*P **P** **22 33 50.8 +0.1**
TNS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
IBBN Ibbenburen 56.29 315 *e*P **P** **22 33 51.8 0.0**
comp=Z,6.0nm,0.9s,mb4.6
LANF Langenberg 56.74 311 *e*P **P** **22 33 54.9 -0.1**
RUP Ruppelstein 57.11 312 *e*P **P** **22 33 59.2 +1.6**
PGF Pioggiola 57.16 304 *e*P **P** **22 33 58.5 +0.5**
comp=Z,29nm,1.1s,mb4.9
PGF Pioggiola 57.16 304 *e*P **P** **22 33 58.5 +0.5**
PGF pmax pmax
comp=Z,15nm,1.1s,mb4.9
PGF Pioggiola 57.16 304 *e*P **P** **22 33 58.5 +0.5**
comp=Z,15nm,1.1s,mb4.9
CDF Champ du Feu 57.19 311 *e*P **P** **22 33 57.5 -0.7**
comp=Z,7.0nm,0.8s,mb4.4
CDF Champ du Feu 57.19 311 *e*P **P** **22 33 57.5 -0.7**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CDF Champ du Feu 57.19 311 *e*P **P** **22 33 57.5 -0.7**
comp=Z,3.5nm,0.8s,mb4.4
ECH Echery 57.30 310 *e*P **P** **22 33 59.8 +0.8**
MOF Molkenrain 57.38 310 *e*P **P** **22 33 56.3 -3.2**
HINF Hinteralfeld 57.57 310 ⇑*i*P **P** **22 34 00.1 -0.8**
comp=Z,18nm,0.7s,mb4.9
HINF Hinteralfeld 57.57 310 ⇑*i*P **P** **22 34 00.1 -0.8**
HINF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
HINF Hinteralfeld 57.57 310 ⇑*i*P **P** **22 34 00.1 -0.8**
comp=Z,8.9nm,0.7s,mb4.9
MEM Membach 57.62 313 ⇓P **P** **22 34 03.0 +1.7**
MEM XP sP 22 34 11.1 +5.6
WLF Walferdange 57.69 312 *e*P **P** **22 34 02.4 +0.6**
comp=Z,8.0nm,1.1s,mb4.7
WLF Walferdange 57.69 312 ⇓P **P** **22 34 02.8 +1.0**
WLF XP sP 22 34 10.4 +4.4
WLF Walferdange 57.69 312 P **P** **22 34 03.3 +1.5**
WLF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WLF Walferdange 57.69 312 P **P** **22 34 03.2 +1.5**
comp=Z,10nm,0.9s,mb4.8
BEBN Eben Emael 57.80 314 ⇓P **P** **22 34 03.7 +1.2**
HAU Haudompre 57.87 310 *e*P **P** **22 34 03.3 +0.3**
comp=Z,27nm,0.7s,mb5.1
HAU *e*R
comp=Z,57nm,18.2s
HAU Haudompre 57.87 310 *e*P **P** **22 34 03.3 +0.3**
HAU pmax pmax
comp=Z,14nm,0.7s,mb5.1
HAU MLR MLR
comp=Z,60nm,18.3s,MS3.7
HAU Haudompre 57.87 310 *e*P **P** **22 34 03.3 +0.3**
comp=Z,14nm,0.7s,mb5.1
HAU LR LR
comp=Z,60nm,18.3s,MS3.7
SBF Sospel 57.98 305 *e*P **P** **22 34 03.4 -0.4**
comp=Z,30nm,0.8s,mb5.0
SBF Sospel 57.98 305 *e*P **P** **22 34 03.4 -0.4**
SBF pmax pmax
comp=Z,15nm,0.8s,mb5.1
SBF Sospel 57.98 305 *e*P **P** **22 34 03.4 -0.4**
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 58.10 307 ⇑*i*P **P** **22 34 04.7 +0.1**
comp=Z,66nm,0.7s,mb5.5
LPG La Plagne 58.10 307 ⇑*i*P **P** **22 34 04.7 +0.1**
LPG pmax pmax
comp=Z,33nm,0.7s,mb5.5
LPG La Plagne 58.10 307 ⇑*i*P **P** **22 34 04.7 +0.1**
comp=Z,33nm,0.7s,mb5.5
LPL La Plagne 58.11 307 ⇑*i*P **P** **22 34 04.8 +0.1**
comp=Z,63nm,0.7s,mb5.5
LPL La Plagne 58.11 307 ⇑*i*P **P** **22 34 04.8 +0.1**
LPL pmax pmax
comp=Z,32nm,0.7s,mb5.5
LPL La Plagne 58.11 307 ⇑*i*P **P** **22 34 04.8 +0.1**
comp=Z,32nm,0.7s,mb5.5
RSL Roselend 58.15 308 *e*P **P** **22 34 07.4 +2.4**
BNI Bardonecchia 58.25 307 P **P** **22 34 06.0 +0.3**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BNI Bardonecchia 58.25 307 P **P** **22 34 06.0 +0.3**
comp=Z,7.7nm,0.8s,mb4.8
MBDF Montbardon 58.26 306 ⇑*i*P **P** **22 34 05.5 -0.2**
comp=Z,18nm,0.7s,mb4.9
MBDF Montbardon 58.26 306 ⇑*i*P **P** **22 34 05.5 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
MBDF Montbardon 58.26 306 ⇑*i*P **P** **22 34 05.5 -0.2**
comp=Z,9.1nm,0.7s,mb4.9
CABF La Chapelle 58.32 309 *e*P **P** **22 34 05.8 -0.4**
comp=Z,20nm,0.8s,mb4.9
CABF La Chapelle 58.32 309 *e*P **P** **22 34 05.8 -0.4**
CABF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CABF La Chapelle 58.32 309 *e*P **P** **22 34 05.8 -0.4**
comp=Z,10nm,0.8s,mb4.9
GIVF Givet 58.46 313 *e*P **P** **22 34 05.9 -1.2**
comp=Z,24nm,0.7s,mb5.0
GIVF Givet 58.46 313 *e*P **P** **22 34 05.9 -1.2**
GIVF pmax pmax
comp=Z,12nm,0.7s,mb5.0
GIVF Givet 58.46 313 *e*P **P** **22 34 05.9 -1.2**
comp=Z,12nm,0.7s,mb5.0
DOU Dourbes 58.61 313 ⇑P **P** **22 34 07.6 -0.5**
FRF La Foret Royal 58.61 305 *e*P **P** **22 34 08.1 -0.1**
comp=Z,19nm,0.8s,mb4.8
FRF La Foret Royal 58.61 305 *e*P **P** **22 34 08.1 -0.1**
FRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FRF La Foret Royal 58.61 305 *e*P **P** **22 34 08.1 -0.1**
comp=Z,9.4nm,0.8s,mb4.9
MEZF Maizieres J'vi 58.62 311 *e*P **P** **22 34 07.8 -0.5**
comp=Z,20nm,0.7s,mb4.9
MEZF Maizieres J'vi 58.62 311 *e*P **P** **22 34 07.8 -0.5**
comp=Z,20nm,0.7s,mb5.3
UCC Uccle 58.62 314 ⇑P **P** **22 34 10.1 +1.8**
SNF Seneffe 58.73 314 ⇑P **P** **22 34 08.9 -0.1**
SNF XP sP 22 34 15.9 +2.7
ORIF Oris-en-Rattie 58.83 307 *e*P **P** **22 34 09.8 +0.1**
comp=Z,18nm,1.0s,mb4.8
ORIF *e*R
comp=Z,75nm,22.2s
ORIF Oris-en-Rattie 58.83 307 *e*P **P** **22 34 09.8 +0.1**
ORIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 58.83 307 *e*P **P** **22 34 09.8 +0.1**
comp=Z,9.1nm,1.0s,mb4.8
GRN Grenoble 58.85 307 *e*P **P** **22 34 12.3 +2.5**
SMRF Simiane la Rot 59.26 306 *e*P **P** **22 34 12.8 +0.1**
LOR Lormes 59.67 310 *e*P **P** **22 34 14.4 -1.1**
comp=Z,15nm,0.8s,mb4.8
LOR *e*R
comp=Z,90nm,18.8s
LOR Lormes 59.67 310 *e*P **P** **22 34 14.4 -1.1**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8

LOR MLR MLR
comp=Z,90nm,18.8s,MS3.9
LOR Lormes 59.67 310 *eP* **P 22 34 14.4 -1.1**
comp=Z,7.6nm,0.8s,mb4.8
LOR LR LR
comp=Z,90nm,18.8s,MS3.9
VIVF Saint-Julien-I 59.68 307 *eP* **P 22 34 15.2 -0.4**
comp=Z,15nm,0.7s,mb4.8
VIVF Saint-Julien-I 59.68 307 *eP* **P 22 34 15.2 -0.4**
comp=Z,7.6nm,0.7s,mb4.8
SMF Signal de Mont 59.83 309⇑*iP* **P 22 34 15.8 -0.8**
comp=Z,28nm,0.7s,mb5.1
SMF Signal de Mont 59.83 309⇑*iP* **P 22 34 15.8 -0.8**
comp=Z,14nm,0.7s,mb5.1
SSF Saint Saulge 59.95 310⇑*iP* **P 22 34 16.5 -1.0**
comp=Z,30nm,0.9s,mb5.0
SSF Saint Saulge 59.95 310⇑*iP* **P 22 34 16.5 -1.0**
comp=Z,15nm,0.9s,mb5.0
AVF Avril sur Loir 60.12 309⇑*iP* **P 22 34 17.6 -1.0**
comp=Z,25nm,0.9s,mb4.9
AVF Avril sur Loir 60.12 309⇑*iP* **P 22 34 17.6 -1.0**
comp=Z,12nm,0.9s,mb4.9
PLDF La Plantade 60.13 308 *eP* **P 22 34 18.0 -0.7**
LASF Ste Croix 60.44 306⇑*iP* **P 22 34 20.6 -0.2**
comp=Z,18nm,0.8s,mb4.8
AGO Saint Agoulin 60.44 309 *eP* **P 22 34 20.6 -0.2**
HYF Humbligny 60.48 310 *eP* **P 22 34 20.7 -0.4**
BGF Bois d'Agland 60.51 309 *eP* **P 22 34 20.4 -0.9**
comp=Z,15nm,0.7s,mb4.9
BGF Bois d'Agland 60.51 309 *eP* **P 22 34 20.4 -0.9**
comp=Z,7.3nm,0.7s,mb4.9
LBL Lubilhac 60.57 308 *eP* **P 22 34 21.7 0.0**
BILL Bilibino 60.74 25d *iP* **P 22 34 22.1 -0.8**
BILL *e* 22 35 05.6
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.0
TCF Toulx Ste Croi 61.01 309⇑*iP* **P 22 34 24.2 -0.4**
comp=Z,36nm,1.0s,mb5.2
TCF Toulx Ste Croi 61.01 309⇑*iP* **P 22 34 24.2 -0.4**
comp=Z,18nm,1.0s,mb5.2
CAF Calviac 61.46 308⇑*iP* **P 22 34 27.5 -0.2**
comp=Z,23nm,0.9s,mb5.0
CAF Calviac 61.46 308⇑*iP* **P 22 34 27.5 -0.2**
comp=Z,11nm,0.9s,mb5.0
RJF Les Rejaudoux 61.73 308 *eP* **P 22 34 29.5 -0.1**
comp=Z,27nm,1.0s,mb5.0
RJF *eR*
comp=Z,77nm,20.8s
RJF Les Rejaudoux 61.73 308 *eP* **P 22 34 29.5 -0.1**
comp=Z,13nm,1.0s,mb5.0
RJF LR LR
comp=Z,80nm,20.8s,MS3.9
MTLF Montolieu 61.78 306 *eP* **P 22 34 29.7 -0.2**
comp=Z,12nm,0.9s,mb4.7
MTLF Montolieu 61.78 306 *eP* **P 22 34 29.7 -0.2**
comp=Z,5.9nm,0.9s,mb4.7
LDF La Druitiere 61.95 312⇑*iP* **P 22 34 29.9 -1.1**
comp=Z,21nm,0.7s,mb5.1
LDF La Druitiere 61.95 312⇑*iP* **P 22 34 29.9 -1.1**
comp=Z,10nm,0.7s,mb5.1
FLN La Foliniere 62.14 312 *eP* **P 22 34 31.0 -1.3**
FLN *eR*
comp=Z,82nm,22.2s
FLN La Foliniere 62.14 312 *eP* **P 22 34 31.0 -1.3**
FLN LR LR
comp=Z,80nm,22.3s,MS3.8
LFF La Frestale 62.36 308⇑*iP* **P 22 34 33.4 -0.4**
comp=Z,19nm,0.6s,mb5.1
LFF La Frestale 62.36 308⇑*iP* **P 22 34 33.4 -0.4**
comp=Z,9.4nm,0.6s,mb5.1
GRR Gorron 62.48 312⇑*iP* **P 22 34 33.3 -1.3**
comp=Z,16nm,0.7s,mb4.9
GRR Gorron 62.48 312⇑*iP* **P 22 34 33.3 -1.3**
comp=Z,7.8nm,0.7s,mb5.0
MFF Saint Martin d 62.49 310 *eP* **P 22 34 33.6 -1.1**
comp=Z,14nm,0.7s,mb4.9
MFF Saint Martin d 62.49 310 *eP* **P 22 34 33.6 -1.1**
comp=Z,6.8nm,0.7s,mb4.9
EMIR Miracle 62.68 304 P **P 22 34 35.1 -0.8**
comp=Z,12nm,0.8s,mb5.1
EPOB Poblet 63.17 304 P **P 22 34 39.3 +0.1**
comp=Z,9.5nm,0.9s,mb4.9
EBIE Bielsa 63.43 306 P **P 22 34 40.8 -0.1**
comp=Z,0.7nm,0.5s,mb4.0
EGRA Graus 63.46 305 P **P 22 34 40.8 -0.3**
comp=Z,3.9nm,0.5s,mb4.8
SGMF Saint Gilles 63.60 312⇑*iP* **P 22 34 41.3 -0.7**
comp=Z,24nm,0.8s,mb5.0
SGMF Saint Gilles 63.60 312⇑*iP* **P 22 34 41.3 -0.7**
comp=Z,12nm,0.8s,mb5.0
ERTA Horta de San J 63.83 304 P **P 22 34 48.0 +4.5**
comp=Z,13nm,0.7s,mb5.1
ETSF Etsaut 63.85 306 *eP* **P 22 34 44.1 +0.4**
comp=Z,10.0nm,0.8s,mb4.6
ETSF Etsaut 63.85 306 *eP* **P 22 34 44.1 +0.4**
comp=Z,5.0nm,0.8s,mb4.6
ROSF Rostrenen 64.04 312⇑*iP* **P 22 34 43.9 -1.0**
comp=Z,78nm,1.4s,mb5.2
ROSF Rostrenen 64.04 312⇑*iP* **P 22 34 43.9 -1.0**
comp=Z,39nm,1.4s,mb5.2
QUIF Quistinic 64.09 312 *eP* **P 22 34 44.1 -1.2**
SJPF Ste Jean 64.25 306 *eP* **P 22 34 46.2 -0.1**
EMOS Mosqueruela 64.60 303 P **P 22 34 50.6 +2.0**
comp=Z,26nm,1.0s,mb5.2
EARI Arriondas 66.94 308 P **P 22 35 07.3 +3.7**
comp=Z,16nm,1.3s,mb4.9
ENIJ Nijar 67.04 300 P **P 22 35 05.6 +1.3**
comp=Z,7.6nm,0.9s,mb4.7
GUD Guadarrama 67.14 305 P **P 22 35 04.6 -0.3**
comp=Z,1.5nm,0.6s,mb4.2
ESDC Sonseca Array 67.35 304 P **P 22 35 06.0 -0.3**
comp=Z,5.4nm,0.7s,mb4.7,baz=65,slow=6.9,SNR=4.9
ESLA Sonseca Array 67.35 304 P **P 22 35 06.3 0.0**
EQES Quesada 67.38 302 P **P 22 35 06.4 -0.1**
comp=Z,7.1nm,0.8s,mb4.8
EBER Berja 67.58 301 P **P 22 35 07.7 -0.1**
comp=Z,3.2nm,0.7s,mb4.5
LSZ Lusaka 67.67 236 P **P 22 35 08.0 -0.3**
comp=Z,5.9nm,0.8s,mb4.7
EBAN Banos Encina 67.77 302 P **P 22 35 08.1 -0.9**
comp=Z,3.4nm,0.5s,mb4.6
EADA Adamuz 68.35 302 P **P 22 35 15.9 +3.3**
comp=Z,7.9nm,1.0s,mb4.7
ELUQ Luque 68.35 302 P **P 22 35 14.2 +1.6**
comp=Z,2.4nm,0.5s,mb4.5
EBAD Badajoz 69.89 304 P **P 22 35 23.9 +1.7**
comp=Z,8.1nm,0.7s,mb4.8
EMIN Mina Concepcio 70.03 303 P **P 22 35 24.7 +1.7**
comp=Z,7.5nm,0.8s,mb4.7
TNA Tin City 71.11 24 P **P 22 35 29.6 0.0**
WRA Warramunga Arr 72.04 127 P **P 22 35 34.2 -0.9**
comp=Z,7.0nm,0.8s,mb4.6,baz=322,slow=6.0,SNR=29
WRA Warramunga Arr 72.04 127 *i P* **P 22 35 34.2 -1.0**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 72.04 127 *eP* **P 22 35 33.1 -2.1**
WRAB Tennant Creek 72.04 127 P **P 22 35 34.2 -0.9**
WB2 Warramunga Arr 72.04 127 *eP* **P 22 35 34.2 -1.0**
TORD Torodi Ar. Bea 73.82 276 P **P 22 35 44.6 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=55,slow=4.9,SNR=19
ASAR Alice Springs 74.28 130 P **P 22 35 47.2 -1.2**
comp=Z,2.1nm,0.5s,mb4.3,baz=315,slow=6.1,SNR=16
ASAR Alice Springs 74.28 130 P **P 22 35 47.3 -1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
RES Resolute Bay 75.22 359 P **P 22 35 55.0 +1.1**
IMA2 Indian Mountai 75.43 20 *eP* **P 22 35 53.2 -1.9**
LBTB Lobatse 76.05 230 P **P 22 35 58.3 -0.4**
ILAR Eielson Array 78.33 19 P **P 22 36 09.4 -2.0**
comp=Z,1.4nm,0.6s,mb4.0,baz=315,slow=4.5,SNR=12
ILAR PP PP 22 39 08.4 0.0
comp=Z,1.6nm,0.8s,baz=315,slow=6.8,SNR=5.1
INK Inuvik 78.50 12 P **P 22 36 12.3 -0.1**
BOSA Boshof 78.73 227 P **P 22 36 12.6 -1.1**
comp=Z,10nm,0.7s,mb4.9,baz=21,slow=5.1,SNR=26
BOSA Boshof 78.73 227 *eP* **P 22 36 12.5 -1.2**
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOSA Boshof 78.73 227 *eP* **P 22 36 12.5 -1.2**
comp=Z,10nm,0.8s,mb4.8
SLKM Skilak Lake 80.51 23 *eP* **P 22 36 21.3 -2.0**
CTA Charters Tower 80.75 120 *eP* **P 22 36 24.3 -0.3**
comp=Z,6.9nm,0.8s,mb4.6
CTA Charters Tower 80.75 120 P **P 22 36 23.5 -1.1**
comp=Z,6.1nm,0.8s,mb4.6,baz=318,slow=7.4,SNR=7.5
CTA Charters Tower 80.75 120 P **P 22 36 23.5 -1.1**
CTAO Charters Tower 80.75 120 P **P 22 36 24.5 -0.1**
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CTAO Charters Tower 80.75 120 P **P 22 36 24.5 -0.1**
comp=Z,8.6nm,0.8s,mb4.7
LIC Lamto 82.95 273 *eP* **P 22 36 35.2 -1.0**
STKA Stephens Creek 84.81 132 *eP* **P 22 36 41.9 -3.8**
comp=Z,3.5nm,0.7s,mb4.6
STKA Stephens Creek 84.81 132 P **P 22 36 42.4 -3.4**
comp=Z,5.2nm,0.8s,mb4.7,baz=336,slow=6.5,SNR=8.2
STKA Stephens Creek 84.81 132 P **P 22 36 42.5 -3.3**
YKA Yellowknife Ar 86.73 7 P **P 22 36 53.1 -2.1**
comp=Z,1.3nm,0.6s,mb4.4,baz=340,slow=5.1,SNR=14
YKA PKKPbc PKKPbc 22 54 46.1 -3.5
comp=Z,0.2nm,0.7s,baz=154,slow=2.1,SNR=5.6
LKWY Lake 104.83 8 Pdif Pdif 22 38 20.7 +2.8
MTUM Tungsten Hills 110.38 16 Pdif Pdif 22 38 38.2 -4.4
VNDA Vanda 117.54 166 PKP PKPdf 22 42 54.5 -2.6
comp=Z,1.5nm,1.1s,baz=20,slow=4.8,SNR=3.7
VNDA Vanda 117.54 166 PKIKP PKPdf 22 42 54.5 -2.6
VNDA pmax pmax
comp=Z,2.0nm,1.1s
TXAR Lajitas Array 120.56 4 PKP PKPdf 22 43 01.9 -1.0
comp=Z,0.2nm,0.3s,baz=56,slow=3.3,SNR=4.6
TXAR Lajitas Array 120.56 4 PKP PKPdf 22 43 01.9 -1.0
CPUP Villa Florida 142.72 265 PKIKP PKPdf 22 43 43.9 -0.6
LPAZ La Paz 148.02 289 PKPbc PKPbc 22 43 54.6 -2.1
comp=Z,1.3nm,0.8s,baz=74,slow=10.0,SNR=5.1
LPAZ La Paz 148.02 289 PKIKP PKPdf 22 43 54.6 +1.0
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
TRQA Tornquist 148.09 246 PKPdf PKPdf 22 43 57.0 +3.2
LVC Limon Verde 151.53 278 PKPdf PKPdf 22 44 00.5 +1.3
LVC PKPbc PKPbc 22 44 06.2 +0.9

*NEIC **01** 22:26:03.5±0.4, 651S×15282E, mb4.5/7, Error ellipse: s-maj=12.0km s-min=9.2km az=107.0*
*ISCJB **01** 22:26:04.5±3.0, 656S±008×15283E±009, h56km±26km, mb4.3/23, MS3.7/6, Error ellipse: s-maj=16.3km s-min=12.5km az=119.9*
*IDC **01** 22:26:05.6±4.5, 651S×15277E, h56km±40km, mb4.0/13, mb1 4.2/14, mb1mx4.1/17, mbtmp4.3/14, ML3.4/1, MS3.6/9, Ms1 3.6/9, ms1mx3.6/18, Error ellipse: s-maj=24.3km s-min=18.0km az=62.0*
*BJI **01** 22:26:07.2, 574S×15248E, h34km, mB5.2, mb4.7*
ISC 01 22:26:07.4±2.4, 659S±008×15284E±009, h68km±21km, **n45**, σ1°**08/40, mb4.2**/23, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**243**	P	**Pn**	**22 27 36.2**	**-1.1**
	5.1nm,0.3s,baz=68,slow=12,SNR=10						
PMG				S	**Sn**	**22 28 48.9**	**+1.2**
	3.1nm,0.3s,baz=39,slow=19,SNR=3.3						
PMG				LR	LR	22 29 55.4	
	comp=Z,402nm,20.1s,baz=219,slow=37						
HNR	**Honiara**	**7.59**	**112**	LR	LR	22 30 15.4	
	comp=Z,158nm,21.8s,baz=180,slow=32						
CTA	**Charters Tower**	**14.87**	**205**	*eP*	**Pn**	**22 29 37.2**	**+3.6**
	5.9nm,0.9s						
CTA	**Charters Tower**	**14.87**	**205**	P	**Pn**	**22 29 36.6**	**+3.0**
	baz=31,slow=14,SNR=5.4						
CTA				LR	LR	22 34 39.8	
	comp=Z,291nm,19.2s,baz=47,slow=34						
CTAO	**Charters Tower**	**14.87**	**205**	*eP*	**Pn**	**22 29 37.3**	**+3.6**
	18nm,1.3s						
DZM	**Mont Dzumac**	**20.24**	**141**	P	**P**	**22 30 36.9**	**0.0**
	18nm,1.0s,baz=338,slow=11,SNR=7.7						
GUMO	**Guam**	**21.55**	**338**	LR	LR	22 36 53.3	
	comp=Z,128nm,19.2s,baz=70,slow=30						
WRAB	**Tennant Creek**	**22.32**	**232**	*eP*	**P**	**22 30 58.3**	**-0.9**
WRAB				epP		22 31 12.5	
WB2	**Warramunga Arr**	**22.32**	**232**	*eP*	**P**	**22 30 58.3**	**-1.0**
WRA	**Warramunga Arr**	**22.34**	**232**	P	**P**	**22 30 58.6**	**-0.8**
	3.4nm,0.8s,mb3.8,baz=57,slow=9.8,SNR=16						
ARMA	**Armidale**	**23.73**	**183**	*eP*	**P**	**22 31 13.3**	**+0.1**
ASAR	**Alice Springs**	**24.89**	**225**	P	**P**	**22 31 23.9**	**+0.1**
	11nm,0.8s,mb4.3,baz=58,slow=9.3,SNR=70						
ASPA	**Alice Springs**	**24.89**	**225**	*eP*	**P**	**22 31 24.7**	**+1.0**
STKA	**Stephens Creek**	**27.27**	**201**	*eP*	**P**	**22 31 42.3**	**-2.9**
	7.8nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.27**	**201**	P	**P**	**22 31 43.9**	**-1.3**
	9.4nm,0.8s,mb4.4,baz=13,slow=10,SNR=12						
STKA				LR	LR	22 42 07.5	
	comp=Z,177nm,21.2s,baz=24,slow=35						
FITZ	**Fitzroy Crossi**	**28.88**	**244**	*eP*	**P**	**22 31 59.5**	**0.0**
	23nm,0.8s,mb4.8						
URZ	**Urewera**	**38.44**	**149**	P	**P**	**22 33 23.1**	**+0.7**
	12nm,1.0s,mb4.6,baz=260,slow=6.1,SNR=2.8						
NWAO	**Narrogin (SRO)**	**42.18**	**227**	LR	LR	22 51 56.4	
	comp=Z,153nm,18.1s,baz=61,slow=37						
ENH	**Enshi**	**55.40**	**314**	*eP*	**P**	**22 35 35.0**	**+0.5**
ENH				epP	pP	22 35 47.2	-4.9
CD2	**Chengdu**	**59.93**	**311**	*eP*	**P**	**22 36 06.9**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LZH	**Lanzhou**	**62.54**	**316**	*eP*	**P**	**22 36 26.5**	**+2.6**
LZH				AP	pP	22 36 40.0	-1.8
LZH				XP	sP	22 36 44.0	-5.4
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	**Gaotai**	**66.99**	**318**	*eP*	**P**	**22 36 56.0**	**+3.1**
GTA				AP	pP	22 37 02.0	-9.0
GTA				XP	sP	22 37 04.3	-14
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.1						
ULN	**Ulaanbaatar**	**67.53**	**329**	*eP*	**P**	**22 36 55.5**	**-0.8**
	comp=Z,4.1nm,1.0s,mb4.2						
SONM	**Songino Array**	**67.85**	**328**	P	**P**	**22 36 59.1**	**+0.8**
	comp=Z,2.4nm,0.9s,mb4.0,baz=149,slow=5.0,SNR=11						
SONM				LR	LR	23 06 29.7	
	comp=Z,41nm,19.5s,baz=189,slow=36						
SONM	**Songino Array**	**67.85**	**328**	P	**P**	**22 36 59.1**	**+0.8**
SONM				LR	LR	23 06 29.7	
LSA	**Lhasa**	**69.28**	**305**	*eP*	**P**	**22 37 07.9**	**+0.7**
	comp=Z,6.4nm,1.0s,mb4.4						
VNDA	**Vanda**	**71.05**	**178**	P	**P**	**22 37 18.2**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.1,baz=336,slow=8.3,SNR=6.1						
VNDA	**Vanda**	**71.05**	**178**	*eP*	**P**	**22 37 18.6**	**+0.5**
BILL	**Bilibino**	**75.06**	**5**	*eP*	**P**	**22 37 41.8**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7						
BILL				*e*		22 37 49.9	
TNA	**Tin City**	**77.50**	**16**	P	**P**	**22 37 56.0**	**+0.4**
	comp=Z,3.6nm,1.3s,mb3.9						
MKAR	**Makanchi Array**	**81.69**	**319**	P	**P**	**22 38 16.0**	**-2.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=117,slow=5.4,SNR=4.8						
IMA2	**Indian Mountai**	**82.12**	**19**	*eP*	**P**	**22 38 20.5**	**0.0**
ZAL	**Zalesovo**	**82.66**	**326**	P	**P**	**22 38 21.2**	**-2.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=85,slow=3.6,SNR=3.2						
ZAL	**Zalesovo**	**82.66**	**326**	P	**P**	**22 38 21.2**	**-2.2**
QSPA	**South Pole Qui**	**83.39**	**180**	*eP*	**P**	**22 38 27.6**	**+0.5**
	comp=Z,7.8nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**22 38 27.2**	**-1.9**
	comp=Z,2.7nm,0.8s,mb4.1,baz=256,slow=5.3,SNR=11						
ILAR				LR	LR	23 17 22.7	
	comp=Z,69nm,18.5s,baz=353,slow=37						
KURK	**Kurchatov**	**85.19**	**322**	*eP*	**P**	**22 38 36.3**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**85.92**	**314**	*eP*	**P**	**22 38 40.0**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2						
DAWY	**Dawson**	**86.39**	**24**	*eP*	**P**	**22 38 43.3**	**+1.1**
BVAR	**Borovoye Array**	**90.69**	**323**	P	**P**	**22 39 01.3**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.8,baz=76,slow=6.1,SNR=3.9						
NVAR	**Mina Array Bea**	**93.15**	**52**	P	**P**	**22 39 14.4**	**+0.5**
	comp=Z,0.1nm,0.5s,mb3.5,baz=293,slow=6.0,SNR=2.3						
YKA	**Yellowknife Ar**	**96.98**	**28**	P	**P**	**22 39 31.2**	**-0.1**
	comp=Z,0.6nm,0.8s,mb4.0,baz=277,slow=4.6,SNR=7.4						
AKTO	**Aktyubinsk**	**98.11**	**320**	LR	LR	23 24 17.4	
	comp=Z,20nm,19.6s,baz=303,slow=36						
BDFB	**Brasilia**	**149.76**	**137**	PKPbc	PKPbc	22 45 50.9	+1.5
	comp=Z,6.7nm,0.9s,baz=226,slow=2.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**150.85**	**285**	PKPbc	PKPbc	22 45 52.9	+0.9
	comp=Z,8.4nm,0.8s,baz=64,slow=2.4,SNR=42						

*CASC **01** 22:30:53.7±2.4, 1465N×9053W, h210km±23km, MD4.2, ML4.5*
*MEX **01** 22:30:55.7±0.8, 1431N×9044W, h155km±62km, MD4.1*
*ISCJB **01** 22:30:56.3±0.9, 1465N±009×9060W±008, h195km±8km, Error ellipse: s-maj=17.8km s-min=7.9km az=80.9*
ISC 01 22:30:57.2±0.9,**1466N**±009×**9058W**±008,**h192**km±8km, **n17**, σ0°**75**/18, **5C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG	**Guatemala City**	**0.09**	**146**	*eP*	**Pn**	**22 31 21.7**	**-0.6**
NBG	**Las Nubes**	**0.24**	**107**⇓	*eP*	**Pn**	**22 31 22.5**	**-0.1**
PCG	**Pacaya**	**0.26**	**185**⇑	*eP*	**Pn**	**22 31 22.5**	**-0.1**
FUG	**Fuego 3**	**0.33**	**230**⇑	*iP*	**Pn**	**22 31 22.1**	**-0.7**
TP2	**Tecpan 2**	**0.44**	**286**⇑	*eP*	**Pn**	**22 31 22.6**	**-0.5**
TP2			⇑	*eP*		22 31 22.6	
IXG	**Ixpaco**	**0.50**	**165**⇑	*eP*	**Pn**	**22 31 21.7**	**-1.6**
IXG				*eS*	**Sn**	**22 31 45.5**	**+2.0**
IXG				AML	AML	22 31 54.6	
	comp=E,6μm,0.3s						
MRL	**Marmol**	**0.95**	**65**⇓	*eP*	**Pn**	**22 31 26.1**	**+0.3**
MRL				*eS*	**Sn**	**22 31 47.6**	**-0.2**
SNJE	**San Jose**	**1.23**	**130**	*eP*	Px	22 31 36.5	
SBLS	**San Blas**	**1.24**	**131**	*eP*	Px	22 31 36.8	
SBLS				*eS*	Sx	22 32 03.6	
LFRS	**El Faro**	**1.80**	**125**	*eP*	Px	22 31 41.3	
LCBS	**La Ceiba**	**1.85**	**122**	*eP*	Px	22 31 41.9	
LCBS				*eS*	Sx	22 32 12.1	
CCIG	**Comitan**	**2.20**	**317**	*i P*	**Pn**	**22 31 37.5**	**+0.3**
CCIG				*i S*	**Sn**	**22 32 08.3**	**-0.1**
SCX	**San Cristobal**	**2.86**	**317**	*i P*	**Pn**	**22 31 45.5**	**+0.8**
SCX				*i S*	**Sn**	**22 32 22.0**	**+0.3**
TEIG	**Tepich**	**5.96**	**21**	*i P*	**Pn**	**22 32 23.6**	**-0.1**
OXX	**Oaxaca**	**6.38**	**293**	*i P*	**Pn**	**22 32 29.5**	**+0.3**
OXX				*eS*	**Sn**	**22 33 38.0**	**-4.0**
CAO	**Cobano**	**7.28**	**132**	*eP*	**Pn**	**22 32 40.9**	**0.0**
EPA	**Esparza**	**7.47**	**128**	*eP*	**Pn**	**22 32 44.1**	**+0.7**

IDC 01 23:09:25.7±1.2,**4590N**×**15144E, h0**km,**mb3.7**/5, **mb1 3.9**/5, **mb1mx3.6**/21, **mbtmp3.7**/5, **Error ellipse: s-maj=36.6km s-min=34.7km az=132.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.30**	**297**	P	P	23 17 53.2	+0.1
	0.2nm,0.7s,baz=55,slow=6.7,SNR=5.4						
YKA	**Yellowknife Ar**	**52.30**	**36**	P	P	23 18 37.5	-1.4
	0.2nm,0.6s,baz=292,slow=6.5,SNR=4.2						
FINES	**FINESS Array B**	**64.31**	**334**	P	P	23 20 02.0	-0.9
	1.6nm,1.0s,baz=63,slow=6.2,SNR=4.0						
STKA	**Stephens Creek**	**77.92**	**189**	P	P	23 21 24.9	-0.6
	1.8nm,0.7s,baz=346,slow=8.3,SNR=4.7						
TXAR	**Lajitas Array**	**78.92**	**59**	P	P	23 21 32.2	+1.2
	0.3nm,0.3s,baz=301,slow=3.3,SNR=4.1						

*NNC **01** 23:21:23.9±8.1, 3880N×7297E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=66.5km s-min=43.2km az=2.0*
*IDC **01** 23:21:24.8±1.8, 3899N×7320E, h0km, mb3.3/4, mb1 3.5/8, mb1mx3.3/24, mbtmp3.4/8, ML3.0/4, Error ellipse: s-maj=31.9km s-min=19.1km az=158.0*
*ISCJB **01** 23:21:26.8±1.2, 3889N±009×7307E±008, h33km, mb3.3/4, Error ellipse: s-maj=13.3km s-min=8.8km az=150.1*
*MOS **01** 23:21:28.6±1.6, 3916N×7313E, h33km, mb3.8/1, Error ellipse: s-maj=24.1km s-min=9.2km az=90.1*
*NEIC **01** 23:21:31.6±1.8, 3927N×7310E, h35km, Error ellipse: s-maj=23.8km s-min=13.7km az=178.0*
ISC 01 23:21:27.2±1.4,**388N**±01×**7313E**±008,**h35**km,**n31**, σ1°**36**/35, **mb3.3**/4, **3C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.37**	**7**	P	**Pn**	**23 22 17.8**	**+0.4**
	SNR=129						
UCH	**Uchtor**	**3.60**	**17**	P	**Pn**	**23 22 20.4**	**-0.1**
	SNR=26						
KZA	**Kyzart**	**3.67**	**26**	P	**Pn**	**23 22 20.4**	**-1.0**
	SNR=17						
EKS2	**Erkin-Say**	**3.91**	**7**	P	**Pn**	**23 22 26.0**	**+1.3**
	SNR=29						
AAK	**Ala-Archa**	**3.98**	**15**	P	**Pn**	**23 22 26.2**	**+0.4**
	SNR=27						
AAK	**Ala-Archa**	**3.98**	**15**	*e*Pn	**Pn**	**23 22 25.1**	**-0.8**
AAK				*e*Sn	**Sn**	**23 23 13.2**	**+1.9**
KBK	**Karagaybulak**	**4.11**	**19**	P	**Pn**	**23 22 28.0**	**+0.5**
	SNR=9.5						
ULHL	**Ulahol**	**4.20**	**33**	P	**Pn**	**23 22 35.2**	**+6.5**
	SNR=11						
CHMS	**Chumysh**	**4.39**	**16**	P	**Pn**	**23 22 32.1**	**+0.7**
	SNR=14						
TKM2	**Tokmak 2**	**4.54**	**24**	P	**Pn**	**23 22 34.8**	**+1.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**4.54**	**24**	⇑Pn	**Pn**	**23 22 33.2**	**-0.2**
	6.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**23 23 33.3**	**+8.4**
	68nm,1.6s						
USP	**Ospenovka**	**4.60**	**13**	P	**Pn**	**23 22 35.2**	**+1.0**
	SNR=7.2						
KK31	**Karatay Array**	**4.75**	**336**	⇓Pn	**Pn**	**23 22 38.7**	**+2.4**
	5.1nm,0.5s,baz=141,slow=13,SNR=72						
KK31				Sn	**Sn**	**23 23 36.7**	**+6.6**
	89nm,1.3s,baz=150,slow=24,SNR=10						
KKAR	**Karatay Array**	**4.75**	**336**	*i* PN	**Pn**	**23 22 38.6**	**+2.3**
KKAR						23 23 36.7	
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KKAR				smax			
	comp=Z,3.0nm,0.4s						
MK09	**Makanchi Array**	**10.44**	**37**	⇓P	**Pn**	**23 23 53.5**	**-0.8**
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**10.46**	**37**	Pn	**Pn**	**23 23 52.9**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=240,slow=12,SNR=3.1						
KURK	**Kurchatov**	**12.55**	**16**	P	**Pn**	**23 24 21.7**	**-1.5**
AB31	**Akbulak array**	**14.11**	**322**	⇑Pn	**Pn**	**23 24 43.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=129,slow=13,SNR=9.3						
AB31				⇓Sn	**Sn**	**23 27 19.2**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=133,slow=22,SNR=5.0						
BVAR	**Borovoye Array**	**14.37**	**353**	Pn	**Pn**	**23 24 44.2**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=7.4						
BRVK	**Borovoye**	**14.41**	**353**	P	**Pn**	**23 24 47.4**	**-1.3**
ZRNK	**Zerenda**	**14.46**	**350**	*eP*	**Pn**	**23 24 47.2**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**14.46**	**350**	*e*Pn	**Pn**	**23 24 47.2**	**-2.1**
	comp=Z,0.9nm,0.6s						
AKTK	**Aktyubinsk**	**15.82**	**322**	Pn	**Pn**	**23 25 06.3**	**-0.9**
AKTO	**Aktyubinsk**	**15.82**	**322**	⇓Pn	**Pn**	**23 25 08.0**	**+0.7**
	comp=Z,0.5nm,1.0s						
AKTO	**Aktyubinsk**	**15.82**	**322**	Pn	**Pn**	**23 25 06.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=264

BUTP	**Butuan**	**1.65**	213	*e*P	**Pn**	**23 54 50.4 -2.2**
MSLP	**Maasin**	**1.66**	262	*e*P	**Pn**	**23 54 52.7 -0.1**
PLP	**Palo**	**1.72**	298	*i* P	**Pn**	**23 54 52.2 -1.4**
PLP				*i* S	**Sn**	**23 55 13.1 -1.3**
OCLP	**Ormoc**	**2.01**	290	*e*P	**Pn**	**23 54 57.9 +0.3**
LLP	**Lapu-Lapu**	**2.52**	269	*e*P	**Pn**	**23 55 04.8 +0.1**
CGP	**Cagayan de Oro**	**2.62**	224⇓	*e*P	**Pn**	**23 55 05.2 -0.8**
CGP				*e*S	**Sn**	**23 55 37.6 +1.1**
TBP	**Tagbilaran**	**2.71**	256	*e*P	**Pn**	**23 55 06.9 -0.4**
TBP				*e*S	**Sn**	**23 55 44.5 +5.8**
CNP	**Catarman**	**2.81**	320	*e*P	**Pn**	**23 55 06.9 -1.7**
BUKP	**Musuan**	**2.86**	211	*e*P	**Pn**	**23 55 09.6 +0.3**
GUIM	**Jordan**	**3.88**	274	*e*P	**Pn**	**23 55 25.3 +2.0**
RCP	**Roxas**	**3.90**	288⇑	*e*P	**Pn**	**23 55 24.2 +0.6**
PVCP	**Virac**	**3.97**	324	*e*P	**Pn**	**23 55 26.4 +2.0**
JOW	**Kunigami**	**16.47**	6	LR	LR	00 04 29.3
	comp=Z,246nm,18.8s,baz=136,slow=36					
GUMO	**Guam**	**18.22**	78	LR	LR	00 04 20.1
	comp=Z,251nm,18.7s,baz=248,slow=32					
CBIJ	**Chichi jima**	**22.25**	39	LR	LR	00 05 48.4
	comp=Z,669nm,19.7s,MS4.1,baz=74,slow=30					
WHN	**Wuhan**	**23.06**	332	*e*P	**P**	**23 59 28.0 +0.4**
MJAR	**Matsushiro Arr**	**28.13**	20	LR	LR	00 10 30.8
	comp=Z,263nm,19.3s,MS3.8,baz=230,slow=34					
CD2	**Chengdu**	**29.42**	317	*e*P	**P**	**00 00 25.4 +0.2**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.6					
WRA	**Warramunga Arr**	**31.08**	166	P	**P**	**00 00 39.7 -0.2**
	comp=Z,1.0nm,1.0s,mb3.6,baz=345,slow=9.4,SNR=4.2					
WRA				pP	pP	00 00 52.8 +0.7
	comp=Z,0.7nm,0.5s,baz=347,slow=10,SNR=4.9					
ASAR	**Alice Springs**	**34.58**	168	P	**P**	**00 01 10.9 +0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=347,slow=6.9,SNR=5.3					
ASAR				PcP	PcP	00 03 44.8 +0.5
	comp=Z,0.8nm,0.9s,baz=34,slow=0.9,SNR=5.2					
CTA	**Charters Tower**	**35.95**	147	P	**P**	**00 01 23.4 +1.1**
	comp=Z,4.5nm,1.1s,mb4.3,baz=285,slow=7.0,SNR=4.8					
CTAO	**Charters Tower**	**35.95**	147	P	**P**	**00 01 24.3 +2.0**
GTA	**Gaotai**	**37.45**	325	*e*P	**P**	**00 01 35.6 +0.6**
GTA				AP	aP	00 01 45.4 -2.0
GTA				XP	sP	00 01 49.3 -3.5
GTA				PP	PP	00 03 00.6 -0.5
GTA				S	**S**	**00 07 16.1 -4.2**
GTA				AMB	AMB	
	comp=Z,7.0nm,1.1s,mb4.4					
GTA				AMB	AMB	
	comp=Z,133nm,4.6s					
GTA				LR	LR	
	comp=N,121nm,13.7s,MS4.1					
GTA				LR	LR	
	comp=E,153nm,13.3s,MS4.1					
GTA				LR	LR	
	comp=Z,176nm,14.1s,MS4.0					
HNR	**Honiara**	**38.63**	119	LR	LR	00 16 48.1
	comp=Z,60nm,20.7s,MS3.4,baz=2.1,slow=35					
KLR	**Kul'dur**	**38.99**	5	*e*P	**P**	**00 01 49.0 +1.0**
ULN	**Ulaanbaatar**	**40.83**	340	*e*P	**P**	**00 02 03.9 +0.7**
ULN				*e**PP	pP	00 02 17.7 +2.0
ULN				pmax	pmax	
	comp=Z,3.0nm,1.2s,mb3.8					
ULN	**Ulaanbaatar**	**40.83**	340	*e*P	**P**	**00 02 03.9 +0.7**
	comp=Z,3.0nm,1.2s,mb3.8					
ULN				*e*pP	pP	00 02 17.6 +2.0
SONM	**Songino Array**	**41.02**	339	P	**P**	**00 02 05.3 +0.5**
	comp=Z,0.5nm,0.7s,mb3.2,baz=156,slow=10,SNR=9.4					
SONM				pP	pP	00 02 17.3 0.0
	comp=Z,0.6nm,0.6s,baz=157,slow=11,SNR=5.4					
SONM				PcP	PcP	00 04 04.7 +0.6
	comp=Z,0.2nm,0.5s,baz=241,slow=2.9,SNR=4.0					
KLBR	**Kellerberrin**	**42.55**	191	*e*P	**P**	**00 02 17.5 +0.2**
	comp=Z,28nm,1.4s,mb4.8					
NWAO	**Narrogin (SRO)**	**43.95**	191	P	**P**	**00 02 27.7 -0.9**
	comp=Z,3.5nm,0.6s,mb4.3,baz=10,slow=11,SNR=5.5					
NWAO	**Narrogin (SRO)**	**43.95**	191	*e*P	**P**	**00 02 28.2 -0.4**
ZAK	**Zakamensk**	**44.27**	339	*e*P	**P**	**00 02 22.2 -9.0**
ZAK				*e*		00 02 28.3
ZAK				pmax	pmax	
	comp=Z,7.0nm,1.8s,mb4.1					
STKA	**Stephens Creek**	**44.41**	162	*e*P	**P**	**00 02 30.4 -1.8**
	comp=Z,1.3nm,0.4s,mb4.0					
STKA	**Stephens Creek**	**44.41**	162	P	**P**	**00 02 30.8 -1.5**
	comp=Z,1.7nm,0.4s,mb4.2,baz=359,slow=4.3,SNR=9.0					
MOY	**Mondy**	**46.16**	338	*e*P	**P**	**00 02 47.9 +1.8**
MKAR	**Makanchi Array**	**52.11**	323	P	**P**	**00 03 31.4 -0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=98,slow=8.6,SNR=7.0					
MKAR				pP	pP	00 03 43.9 -0.5
	comp=Z,0.9nm,0.4s,baz=83,slow=9.8,SNR=2.1					
MKAR				PcP	PcP	00 04 43.5 +0.5
	comp=Z,1.9nm,0.8s,baz=108,slow=4.6,SNR=4.9					
ZAL	**Zalesovo**	**54.67**	331	P	**P**	**00 03 49.5 -0.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=1.4,slow=6.2,SNR=12					
ZAL				pP	pP	00 04 02.6 -0.7
	comp=Z,3.3nm,0.8s,baz=337,slow=2.2,SNR=4.5					
ZAL	**Zalesovo**	**54.67**	331	P	**P**	**00 03 49.5 -0.9**
ZAL				pP	pP	00 04 02.6 -0.7
NVS	**Novosibirsk**	**55.95**	331	*e*P	**P**	**00 03 58.0 -1.6**
KURK	**Kurchatov**	**56.14**	325	*e*P	**P**	**00 04 00.8 -0.2**
KURK				*e*		00 04 56.0
KURK				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.7					
KURK	**Kurchatov**	**56.14**	325	*e*P	**P**	**00 04 00.8 -0.2**
	comp=Z,6.1nm,0.8s,mb4.7					
KURK				*e*PcP	PcP	00 04 56.0 -2.5
TAU	**Tasmania Unive**	**56.32**	162	*e*P	**P**	**00 04 02.4 +0.2**
TIXI	**Tiksi**	**61.26**	1	*e*P	**P**	**00 04 32.8 -3.8**
TIXI				pmax	pmax	
	comp=Z,3.0nm,1.2s,mb4.3					
TIXI				MLR	MLR	
	comp=Z,134nm,20.0s,MS4.1					
BRVK	**Borovoye**	**61.81**	325	*e*P	**P**	**00 04 39.7 -0.6**
BRVK				*e*		00 05 20.4
BRVK				pmax	pmax	
	comp=Z,1.0nm,0.8s,mb4.0					
BRVK	**Borovoye**	**61.81**	325	*e*P	**P**	**00 04 39.7 -0.6**
	comp=Z,1.3nm,0.8s,mb4.1					
BRVK				*e*PcP	PcP	00 05 20.4 -0.6
CASY	**Casey**	**77.33**	187	*e*P	**P**	**00 06 15.2 -0.8**
	comp=Z,35nm,0.6s					
ILAR	**Eielson Array**	**79.25**	26	P	**P**	**00 06 27.6 +1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=237,slow=5.2,SNR=6.2					
ILAR				pP	pP	00 06 39.0 -1.1
	comp=Z,0.5nm,1.0s,baz=238,slow=4.7,SNR=2.9					
JOF	**Joensuu**	**83.23**	333	*e*p	**P**	**00 06 48.6 +1.0**
ARCES	**ARCESS Array B**	**84.20**	340	P	**P**	**00 06 51.8 -0.8**
	comp=Z,12nm,0.9s,mb5.0,baz=79,slow=6.2,SNR=8.9					
ARCES				pP	pP	00 07 04.7 -1.6
	comp=Z,4.5nm,0.6s,baz=76,slow=6.5,SNR=3.4					
KAF	**Kangasniemi**	**85.67**	332	*e*p	**P**	**00 07 00.5 +0.5**
FINES	**FINESS Array B**	**85.93**	332	P	**P**	**00 07 00.2 -1.0**
	comp=Z,5.6nm,1.0s,mb4.8,baz=47,slow=3.8,SNR=10					
FINES				pP	pP	00 07 14.2 -0.8
	comp=Z,1.2nm,0.8s,baz=61,slow=5.0,SNR=1.7					
AKASG	**Malin Array Be**	**86.66**	321	P	**P**	**00 07 03.6 -1.2**
	comp=Z,0.2nm,0.2s,mb3.9,baz=64,slow=4.3,SNR=4.8					
NB2	**NORSAR Subarra**	**92.79**	334	P	**P**	**00 07 34.6 +1.0**
	comp=Z,0.8nm,0.7s,mb4.3,baz=61,slow=4.6					
NOA	**NORSAR Array B**	**92.79**	334	P	**P**	**00 07 32.5 -1.2**
	comp=Z,1.3nm,0.8s,mb4.4,baz=63,slow=4.6,SNR=5.5					
YKA	**Yellowknife Ar**	**93.57**	24	P	**P**	**00 07 37.7 +0.5**
	comp=Z,0.4nm,0.7s,mb3.9,baz=298,slow=4.5,SNR=8.0					
YKA	**Yellowknife Ar**	**93.57**	24	P	**P**	**00 07 37.7 +0.5**
TORD	**Torodi Ar. Bea**	**120.47**	292	PKP	PKPdf	00 13 12.4 -0.1
	comp=Z,0.9nm,0.8s,baz=62,slow=2.3,SNR=4.2					
PLCA	**Paso Flores**	**146.19**	156	PKPbc	PKPbc	00 14 02.8 +1.4
	comp=Z,1.7nm,0.8s,baz=279,slow=4.2,SNR=3.1					

ISCJB ***02*** *00:05:55.4±0.5, 48.39S×0.08×315E±02, h10km, mb4.4/13, MS3.9/8, Error ellipse: s-maj=24.0km s-min=8.6km az=142.3*

IDC ***02*** *00:05:55.5±0.6, 48.34S×31.75E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.4/12, ML4.8/1, MS4.0/10, Ms1 3.9/10, ms1mx3.8/18, Error ellipse: s-maj=33.4km s-min=11.8km az=69.0*

NEIC ***02*** *00:05:57.1±0.3, 48.38S×31.65E, h10km, mb4.8/6, Error ellipse: s-maj=17.6km s-min=7.0km az=71.0*

ISC 02 00:05:56.8±4.3, 48.42S±0.08×316E±0.3, h9km±27km, n27, σ0§66/25, mb4.4/13, MS3.9/8, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.97**	**329**	P	**Pn**	**00 10 06.1**	**-0.7**
	4.0nm,0.3s,baz=145,slow=10,SNR=31						
SUR				S	**Sn**	**00 13 12.9**	**-14**
	0.5nm,0.3s,baz=110,slow=7.7,SNR=3.8						
SUR				LR	LR	00 15 44.8	
	comp=Z,569nm,19.4s,baz=167,slow=33						
BOSA	**Boshof**	**20.37**	**344**	P	**P**	**00 10 33.9**	**+0.3**
	15nm,0.7s,baz=178,slow=10,SNR=34						
BOSA				S	**S**	**00 14 07.0**	**-15**
	0.9nm,0.4s,baz=62,slow=20,SNR=2.3						
BOSA				LR	LR	00 16 45.0	
	comp=Z,375nm,20.6s,MS3.7,baz=177,slow=32						
BOSA	**Boshof**	**20.37**	**344**	*e*P	**P**	**00 10 34.2**	**+0.6**
	11nm,0.6s						
BOSA				S	**S**	**00 14 07.0**	**-15**
BOSA				LR	LR	00 16 45.0	
LBTB	**Lobatse**	**23.83**	**346**	P	**P**	**00 11 10.0**	**-0.2**
	5.2nm,0.8s,mb4.0,baz=169,slow=10,SNR=12						
LBTB				S	**S**	**00 15 26.0**	**+0.1**
	2.3nm,0.7s,baz=275,slow=19,SNR=3.0						
LBTB				LR	LR	00 18 49.1	
	comp=Z,259nm,19.6s,MS3.7,baz=215,slow=32						
MAW	**Mawson**	**24.90**	**152**	P	**P**	**00 11 20.3**	**+0.4**
	31nm,0.9s,mb4.8,baz=284,slow=8.8,SNR=6.1						
MAW				LR	LR	00 18 36.5	
	comp=Z,269nm,21.6s,MS3.7,baz=144,slow=30						
SNAA	**Sanae**	**28.20**	**202**	P	**P**	**00 11 50.1**	**+0.5**
	3.2nm,1.1s,mb3.9,baz=117,slow=9.0,SNR=2.8						
TSUM	**Tsumeb**	**31.28**	**334**	P	**P**	**00 12 17.7**	**+0.8**
	2.8nm,0.7s,mb4.2,baz=164,slow=14,SNR=10						
TSUM				LR	LR	00 24 10.8	
	comp=Z,424nm,18.6s,MS4.1,baz=156,slow=35						
TSUM	**Tsumeb**	**31.28**	**334**	*e*P	**P**	**00 12 17.3**	**+0.4**
	4.3nm,0.8s,mb4.3						
LSZ	**Lusaka**	**33.17**	**354**	P	**P**	**00 12 33.7**	**+0.2**
	5.2nm,0.8s,mb4.5,baz=179,slow=12,SNR=11						
LSZ				LR	LR	00 23 50.8	
	comp=Z,326nm,21.4s,MS4.0,baz=161,slow=32						
LSZ	**Lusaka**	**33.17**	**354**	*e*P	**P**	**00 12 34.9**	**+1.4**
	26nm,1.4s,mb5.0						
LSZ				LR	LR	00 23 50.8	
QSPA	**South Pole Qui**	**41.80**	**180**	*e*P	**P**	**00 13 46.0**	**-0.7**
	28nm,0.6s,mb5.1						
CASY	**Casey**	**42.80**	**144**	P	**P**	**00 13 55.1**	**+0.3**
KMBO	**Kilima Mbogo**	**47.36**	**8**	P	**P**	**00 14 30.3**	**-0.7**
VNDA	**Vanda**	**50.63**	**168**	P	**P**	**00 14 55.6**	**-0.6**
	5.1nm,0.9s,mb4.5,baz=236,slow=8.3,SNR=16						
VNDA				LR	LR	00 36 21.9	
	comp=Z,268nm,18.2s,MS4.3,baz=189,slow=36						
SBA	**Scott Base**	**51.04**	**169**	*e*P	**P**	**00 14 59.2**	**0.0**
	11nm,0.9s,mb4.8						
TORD	**Torodi Ar. Bea**	**66.79**	**328**	P	**P**	**00 16 49.1**	**+0.5**
	3.0nm,0.7s,mb4.4,baz=166,slow=6.9,SNR=22						
CFAA	**Coronel Fontan**	**73.03**	**242**	LR	LR	00 42 44.3	
	comp=Z,13nm,20.8s,MS3.2,baz=206,slow=30						
STKA	**Stephens Creek**	**78.58**	**125**	P	**P**	**00 17 57.4**	**-1.3**
	1.9nm,0.7s,mb4.1,baz=256,slow=7.8,SNR=4.1						
STKA				LR	LR	00 44 57.2	
	comp=Z,89nm,20.3s,MS4.1,baz=205,slow=30						
ASAR	**Alice Springs**	**80.36**	**115**	P	**P**	**00 18 09.1**	**+0.7**
	2.1nm,0.8s,mb4.2,baz=215,slow=5.2,SNR=21						
WRA	**Warramunga Arr**	**83.42**	**113**	P	**P**	**00 18 24.6**	**+0.1**
	1.9nm,1.0s,mb4.1,baz=210,slow=3.8,SNR=8.1						
WRAB	**Tennant Creek**	**83.44**	**113**	*e*P	**P**	**00 18 25.4**	**+0.8**
	9.6nm,1.0s,mb4.8						
GNI	**Garni**	**88.95**	**10**	P	**P**	**00 18 50.6**	**-1.1**
TXAR	**Lajitas Array**	**140.96**	**257**	PKP	PKPdf	00 25 27.0	-0.3
	0.2nm,0.4s,baz=135,slow=2.6,SNR=2.5						
PV10	**Paradox Valley**	**149.98**	**265**	*e*PKPbc	PKPbc	00 25 48.6	+1.0
MSU	**Marysvale**	**152.13**	**263**	*e*PKPbc	PKPbc	00 25 53.9	+1.3
PDAR	**Pinedale Array**	**152.45**	**273**	PKPbc	PKPbc	00 25 52.3	-1.0
	1.0nm,0.8s,baz=123,slow=3.1,SNR=8.1						
YKA	**Yellowknife Ar**	**156.57**	**319**	PKPab	PKPab	00 26 21.8	+0.8
	0.2nm,0.7s,baz=68,slow=5.8,SNR=5.1						

ISCJB ***02*** *00:34:46.8±0.6, 5963S±0.09×262W±02, h10km, mb4.5/12, MS4.0/8, Error ellipse: s-maj=18.6km s-min=8.1km az=102.7*

NEIC ***02*** *00:34:51.8±0.4, 5965S×26.18W, h35km, mb4.7/4, Error ellipse: s-maj=16.3km s-min=7.2km az=51.0*

IDC ***02*** *00:34:52.6±2.7, 5966S×2627W, h40km±22km, mb4.2/8, mb1 4.4/9, mb1mx4.2/16, mbtmp4.5/9, ML4.6/1, MS4.0/8, Ms1 3.9/8, ms1mx3.8/12, Error ellipse: s-maj=26.0km s-min=18.4km az=45.0*

ISC 02 00:34:48.5±0.6, 5963S±0.09×262W±02, h10km, n38, σ1§01/22, mb4.5/12, MS4.0/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.76**	**309**	P	**Pn**	**00 36 52.0**	**+11**
	385nm,1.4s						
VNA1	**Neumayer--Stat**	**13.30**	**153**	P	**Pn**	**00 37 57.6**	**+0.3**
VNA1				*e*		00 37 58.9	
VNA3	**Neumayer Olymp**	**13.45**	**157**	P	**Pn**	**00 37 59.2**	**-0.2**
VNA3				*e*		00 38 00.5	
VNA3				*e*		00 38 07.4	
VNA3				*e*		00 38 15.7	
VNA3				*e*		00 39 16.2	
VNA3				*e*		00 40 15.8	
VNA2	**Neumayer--Watz**	**13.70**	**153**	P	**Pn**	**00 38 02.3**	**-0.5**
	baz=305,slow=14						
VNA2				*e*		00 38 03.6	
VNA2				*e*		00 38 10.0	
VNA2				*e*		00 38 20.2	
VNA2				*e*		00 39 17.5	
VNA2				*e*		00 40 22.4	
SNAA	**Sanae**	**15.29**	**152**	P	**Pn**	**00 38 23.6**	**-0.7**
	2.7nm,0.3s,baz=320,slow=14,SNR=66						
SNAA				S	**Sn**	**00 40 59.6**	**-14**
	0.5nm,0.3s,baz=280,slow=22,SNR=5.5						
USHA	**Ushuaia**	**23.05**	**263**	P	**P**	**00 39 54.2**	**+0.4**
	45nm,1.0s,mb4.9,baz=88,slow=7.1,SNR=7.3						
TRIS	**Tristan da Cun**	**24.29**	**28**	*e*P	**P**	**00 39 54.6**	**-11**
QSPA	**South Pole Qui**	**30.61**	**180**	*e*P	**P**	**00 41 04.0**	**+1.4**
	18nm,1.1s,mb4.8						
TRQA	**Tornquist**	**31.33**	**297**	*e*P	**P**	**00 41 09.8**	**+0.8**
	7.9nm,0.8s,mb4.6						
PLCA	**Paso Flores**	**33.28**	**285**	P	**P**	**00 41 25.0**	**-1.1**
	2.7nm,0.8s,mb4.2,baz=130,slow=7.4,SNR=5.0						
PLCA				LR	LR	00 53 23.2	
	comp=Z,213nm,19.4s,MS3.9,baz=144,slow=33						
MAW	**Mawson**	**37.00**	**140**	LR	LR	00 55 24.8	
	comp=Z,215nm,19.2s,MS4.0,baz=243,slow=33						
CFAA	**Coronel Fontan**	**39.54**	**296**	P	**P**	**00 42 19.2**	**-0.3**
	0.9nm,0.7s,mb3.6,baz=155,slow=9.0,SNR=17						
CPUP	**Villa Florida**	**39.62**	**313**	*e*P	**P**	**00 42 19.5**	**-0.7**
	9.5nm,0.6s,mb4.7						
SBA	**Scott Base**	**42.53**	**184**	P	**P**	**00 42 46.6**	**+2.4**
VNDA	**Vanda**	**43.01**	**183**	P	**P**	**00 42 48.4**	**+0.4**
	7.3nm,0.7s,mb4.5,baz=177,slow=6.3,SNR=22						
VNDA	**Vanda**	**43.01**	**183**	P	**P**	**00 42 48.4**	**+0.4**
BOSA	**Boshof**	**46.48**	**72**	LR	LR	00 58 13.8	
	comp=Z,108nm,19.1s,MS3.8,baz=7.9,slow=30						
BOSA	**Boshof**	**46.48**	**72**	*e*P	**P**	**00 43 16.9**	**+1.2**
BDFB	**Brasilia**	**46.74**	**331**	LR	LR	00 59 41.1	
	comp=Z,154nm,21.1s,MS3.9,baz=349,slow=32						
LVC	**Limon Verde**	**47.60**	**302**	*e*P	**P**	**00 43 24.5**	**+0.1**
	4.9nm,0.6s,mb4.7						
LPAZ	**La Paz**	**52.91**	**306**	P	**P**	**00 44 05.0**	**+0.4**
	1.8nm,0.4s,mb4.4,baz=102,slow=4.8,SNR=12						
LPAZ				LR	LR	01 05 35.4	
	comp=Z,82nm,21.7s,MS3.7,baz=264,slow=35						
ROSC	**El Rosal**	**74.60**	**310**	LR	LR	01 19 13.7	
	comp=Z,47nm,20.8s,MS3.8,baz=112,slow=36						
KMBO	**Kilima Mbogo**	**75.89**	**67**	LR	LR	01 16 40.3	
	comp=Z,249nm,19.7s,MS4.5,baz=96,slow=33						
TORD	**Torodi Ar. Bea**	**75.95**	**28**	P	**P**	**00 46 35.6**	**+0.2**
	3.5nm,0.9s,mb4.3,baz=199,slow=6.2,SNR=22						
STKA	**Stephens Creek**	**88.27**	**170**	P	**P**	**00 47 37.8**	**-2.3**
	3.6nm,0.8s,mb4.7,baz=144,slow=1.7,SNR=8.0						
PPT	**Papeete**	**90.47**	**233**	LR	LR	01 19 56.2	
	comp=Z,166nm,18.9s,MS4.5,baz=119,slow=30						
ASAR	**Alice Springs**	**95.41**	**162**	P	**P**	**00 48 11.5**	**-1.7**
	1.5nm,0.7s,mb4.5,baz=188,slow=3.6,SNR=14						
FINES	**FINESS Array B**	**127.30**	**29**	PKP	PKPdf	00 53 51.6	-1.7
	2.5nm,1.0s,baz=214,slow=5.0,SNR=3.7						
SFJD	**Kangerlussuaq**	**127.60**	**348**	PKPdf	PKPdf	00 53 51.0	-2.8
ARCES	**ARCESS Array B**	**134.07**	**23**	PKP	PKPdf	00 54 03.7	-2.4
	3.0nm,0.9s,baz=243,slow=2.0,SNR=10						
ARCES	**ARCESS Array B**	**134.07**	**23**	PKP	PKPdf	00 54 03.7	-2.4
MKAR	**Makanchi Array**	**137.44**	**74**	PKhKP		00 54 06.7	
	0.6nm,0.9s,baz=256,slow=5.0,SNR=4.2						
MKAR				PKP	PKPdf	00 54 10.3	-2.0
	0.6nm,0.9s,baz=236,slow=1.9,SNR=4.2						
MKAR	**Makanchi Array**	**137.44**	**74**	PKP	PKPdf	00 54 06.7	-5.7
MKAR				PKP	PKPdf	00 54 10.3	-2.0
YKA	**Yellowknife Ar**	**139.13**	**315**	PKP	PKPdf	00 54 11.5	-4.0
	0.5nm,0.6s,baz=136,slow=2.0,SNR=13						
YKA				SKPbc	SKPbc	00 57 44.0	-6.6
	0.6nm,0.8s,baz=120,slow=2.1,SNR=9.1						
YKA	**Yellowknife Ar**	**139.13**	**315**	PKP	PKPdf	00 54 11.5	-4.0
YKA				SKPbc	SKPbc	00 57 44.0	-6.6
ZAL	**Zalesovo**	**143.35**	**68**	PKhKP		00 54 17.6	
	1.1nm,0.3s,baz=230,slow=2.3,SNR=6.0						
SONM	**Songino Array**	**150.25**	**92**	PKPbc	PKPbc	00 54 38.1	-1.6
	4.0nm,0.6s,baz=219,slow=3.5,SNR=49						
ILAR	**Eielson Array**	**152.78**	**306**	PKPbc	PKPbc	00 54 42.3	-3.3
	2.3nm,1.0s,baz=162,slow=2.4,SNR=14						

ISCJB ***02*** *00:41:46.9±1.3, 3528N±0.09×27.1E±0.1, h20km, Error ellipse: s-maj=15.5km s-min=9.9km az=101.6*

CSEM ***02*** *00:41:46.8±0.4, 3528N×27.14E, h20km, MD3.2, Error ellipse: s-maj=11.6km s-min=5.0km az=142.0*

ATH ***02*** *00:41:46.9, 3541N×2708E, h29km±1km, MD3.2/4*

NEIC ***02*** *00:41:46.9, 3541N×2708E, h29km, MD3.2(ATH), After ATH.*

ISK ***02*** *00:41:51.0, 3547N×2741E, h28km, MD3.2*

ISC 02 00:41:44.5±1.9, 3516N±0.08×271E±0.1, h3km±9km, n11, σ1§11/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.39**	**6**	*e*PB	**Pg**	**00 41 52.2**	**+0.2**
KARP				*e*SB	**Sg**	**00 41 57.0**	**-0.1**
NPS	**Neapolis**	**1.23**	**275**	*e*PN	**Pn**	**00 42 09.3**	**+0.8**
ARG	**Arkhangelos**	**1.34**	**38**	*e*PN	**Pn**	**00 42 09.1**	**-1.0**
BODT	**Bodrum**	**1.91**	**5**	*e*PN	**Pn**	**00 42 18.0**	**+0.1**
BDRM	**Kayabasi**	**1.92**	**8**	*i* P	**Pn**	**00 42 18.9**	**+0.8**
BDRM				*i* S	**Sn**	**00 42 44.0**	**+1.2**
YER	**Yerkesik**	**2.19**	**25**	PN	**Pn**	**00 42 20.5**	**-1.2**
YER				SN	**Sn**	**00 42 42.8**	**-6.5**
APE	**Apeiranthos**	**2.30**	**327**	*e*PN	**Pn**	**00 42 21.8**	**-1.4**
AYDN	**Tasoluk**	**2.58**	**14**	*i* P	**Pn**	**00 42 27.5**	**+0.5**
AYDN				*i* S	**Sn**	**00 42 56.0**	**-2.8**
ELL	**Elmali**	**2.77**	**54**	*e*PN	**Pn**	**00 42 29.1**	**-0.6**
DNZL	**Cakiroluk**	**2.97**	**31**	*i* P	**Pn**	**00 42 33.5**	**+1.0**
DNZL				*i* S	**Sn**	**00 43 10.4**	**+1.8**
DENT	**Denizli**	**3.02**	**30**	*e*PN	**Pn**	**00 42 33.5**	**+0.3**

NEIC ***02*** *00:55:43.7, 3538N×27.15E, h29km, MD3.3(ATH), After ATH.*

ATH ***02*** *00:55:43.7, 3538N×27.15E, h29km±2km, MD3.3/4*

CSEM ***02*** *00:55:44.7±0.3, 3525N×27.17E, h40km, MD3.3, Error ellipse: s-maj=10.7km s-min=3.1km az=155.0*

ISCJB ***02*** *00:55:47.1±0.6, 3571N±0.04×2726E±0.08, h7km±6km, Error ellipse: s-maj=11.1km s-min=5.5km az=40.1*

ISK ***02*** *00:55:59.4, 3649N×2775E, h79km, MD3.3*

ISC 02 00:55:47.5±0.7, 3564N±0.05×2723E±0.08, h13km±4km, n22, σ1§25/28, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.11**	**211**⇓	*i*PB	**Pg**	**00 55 49.4**	**-1.1**
KARP				*e*SB	**Sg**	**00 55 54.1**	**+1.4**
ARG	**Arkhangelos**	**0.93**	**51**	*e*PN	**Pn**	**00 56 05.9**	**-0.3**
NPS	**Neapolis**	**1.37**	**254**	*e*PB	**Pn**	**00 56 06.4**	**-6.0**
BODT	**Bodrum**	**1.42**	**3**	PG	**Pg**	**00 56 15.0**	**+0.2**
BODT				SG	**Sn**	**00 56 27.5**	**-4.1**
BDRM	**Kayabasi**	**1.43**	**7**	*i* P	**Pg**	**00 56 14.8**	**-0.2**
BDRM				*i* S	**Sg**	**00 56 41.2**	**+7.6**
DALT	**Dalyan (Mudla)**	**1.60**	**45**	PG	**Pg**	**00 56 16.3**	**-1.9**
MLSB	**Milas**	**1.71**	**15**	PG	**Pn**	**00 56 16.3**	**-0.7**
APE	**Apeiranthos**	**1.98**	**317**

SNR=18
FRU Bishkek 7.19 262 *e*PN **Pn 01 05 50.0 +1.0**
FRU *e* 01 07 10.0
FRU *e* 01 07 36.5
FRU pmax pmax
comp=Z,50nm,1.5s
FRU pmax pmax
comp=E,280nm,1.6s
AAK Ala-Archa 7.33 261 P **Pn 01 05 52.2 +1.3**
SNR=7.6
AAK Ala-Archa 7.33 261 *e*PN **Pn 01 05 50.3 -0.6**
AAK pmax pmax
comp=Z,42nm,0.8s
AAK Ala-Archa 7.33 261 *e*Pn **Pn 01 05 50.3 -0.6**
comp=Z,42nm,0.8s
AAK *e*Sn **Sn 01 07 11.6 -1.5**
UCH Uchtor 7.44 258 P **Pn 01 05 54.1 +1.7**
SNR=45
KURK Kurchatov 7.54 331 ⇓Pn **Pn 01 05 53.8 0.0**
comp=Z,6.1nm,0.7s
KURK ⇑Sn **Sn 01 07 16.4 -1.8**
comp=Z,19nm,0.5s
KURK ⇑Lg 01 07 59.3
comp=Z,174nm,0.7s
KURK Kurchatov 7.54 331 ⇓P **Pn 01 05 53.8 0.0**
KURK 01 07 16.4
EKS2 Erkin-Say 7.83 262 P **Pn 01 05 59.1 +1.3**
SNR=8.1
AML Almayashu 8.04 258 P **Pn 01 06 02.8 +2.1**
SNR=11
ZAL Zalesovo 9.71 2 Pn **Pn 01 06 23.8 +0.2**
comp=Z,30nm,0.3s,baz=293,slow=9.8,SNR=306
ZAL Sn **Sn 01 08 09.4 -2.2**
comp=Z,18nm,0.3s,baz=239,slow=16,SNR=11
ZAL Lg 01 09 12.1
comp=Z,1.6nm,0.3s,baz=25,slow=19,SNR=1.6
ZAL Zalesovo 9.71 2 P **Pn 01 06 23.8 +0.2**
ZAL 01 08 09.4
KK31 Karatay Array 10.07 268 ⇑Pn **Pn 01 06 28.3 -0.2**
comp=Z,9.9nm,1.1s,baz=72,slow=14,SNR=40
KK31 ⇑Lg 01 09 17.2
comp=Z,32nm,0.8s,baz=76,slow=28,SNR=5.4
KK31 Karatay Array 10.07 268 ⇑P **Pn 01 06 28.3 -0.2**
comp=Z,9.9nm,1.1s
KK31 Lg 01 09 17.2
KKAR Karatay Array 10.07 268 P **Pn 01 06 28.6 +0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.5s
NVS Novosibirsk 10.63 357 *i* P **Pn 01 06 36.2 -0.1**
NVS *i* 01 08 32.2
VOSK Vostochnaya 12.24 319 ⇓Pn **Pn 01 06 56.8 -1.5**
comp=Z,3.3nm,0.6s
VOSK ⇑Sn **Sn 01 09 08.3 -5.4**
comp=Z,6.1nm,0.5s
VOSK Vostochnaya 12.24 319 ⇓P **Pn 01 06 56.8 -1.5**
VOSK 01 09 08.3
VOSK pmax pmax
comp=Z,3.0nm,0.6s
VOSK Vostochnaya 12.24 319 ⇓Pn **Pn 01 06 56.8 -1.5**
comp=Z,3.3nm,0.6s
VOSK Sn **Sn 01 09 08.3 -5.4**
GTA Gaotai 12.52 107 *e*P **Pn 01 07 01.1 -1.0**
GTA AP 01 07 03.9
GTA PP 01 07 12.7
GTA S **Sn 01 09 21.9 +1.4**
GTA SS 01 09 33.8
GTA AMB AMB
comp=Z,1.0nm,0.8s
GTA AMB AMB
comp=Z,57nm,3.8s
GTA LR LR
comp=N,188nm,7.6s
GTA LR LR
comp=E,222nm,6.1s
GTA LR LR
comp=Z,178nm,6.1s
BVA0 Borovoye Array 12.71 319 Pn **Pn 01 07 02.7 -2.0**
comp=Z,0.5nm,0.5s,baz=130,slow=14,SNR=36
BVA0 ⇓Sn **Sn 01 09 18.8 -6.3**
comp=Z,0.9nm,0.5s
BVA0 ⇓Lg 01 10 41.4
comp=Z,12nm,0.9s
BVA0 Borovoye Array 12.71 319 Pn **Pn 01 07 02.7 -2.0**
comp=Z,0.5nm,0.4s
BVA0 Sn **Sn 01 09 18.8 -6.3**
BVA0 Lg 01 10 41.4
BVAR Borovoye Array 12.71 319 Pn **Pn 01 07 03.2 -1.5**
comp=Z,1.1nm,0.3s,baz=127,slow=13,SNR=36
BVAR Sn **Sn 01 09 21.0 -4.1**
comp=Z,1.3nm,0.3s,baz=130,slow=22,SNR=3.8
BVAR Lg 01 10 49.8
comp=Z,1.1nm,0.3s,baz=128,slow=17,SNR=3.6
BVAR Borovoye Array 12.71 319 P **Pn 01 07 03.2 -1.5**
BVAR 01 09 21.0
BRVK Borovoye 12.78 319 *e*P **Pn 01 07 03.8 -1.9**
BRVK *e* 01 09 23.0
BRVK pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 12.78 319 *e*Pn **Pn 01 07 03.8 -1.9**
comp=Z,3.5nm,0.4s
BRVK *e*Sn **Sn 01 09 23.0 -3.9**
ZRNK Zerenda 13.34 316 ⇑Pn **Pn 01 07 11.1 -2.2**
comp=Z,6.8nm,0.9s
ZRNK ⇑Sn **Sn 01 09 34.9 -5.7**
comp=Z,4.1nm,0.5s
ZRNK ⇓Lg 01 10 60.0
comp=Z,87nm,1.5s
ZRNK Zerenda 13.34 316 *e*P **Pn 01 07 11.1 -2.2**
ZRNK *e* 01 09 35.0
ZRNK pmax pmax
comp=Z,7.0nm,0.5s
ZRNK Zerenda 13.34 316 *e*Pn **Pn 01 07 11.1 -2.2**
comp=Z,7.1nm,0.5s
ZRNK *e*Sn **Sn 01 09 35.0 -5.6**
CHCP Chirah Chowk 13.61 223 ⇓P **Pn 01 07 16.8 -0.1**
CEP Cherat 14.17 227 ⇓P **Pn 01 07 23.6 -0.9**
CEP S **Sn 01 10 00.0 -0.6**
ZAK Zakamensk 14.24 58 *e*P **Pn 01 07 30.8 +5.3**
ZAK pmax pmax
comp=Z,6.0nm,1.7s
ZAK pmax pmax
comp=Z,50nm,1.6s
DDI Dehra Dun 14.75 202 *ex* x 01 07 31.0
THW Thamme Wali 15.06 225 ⇓P **Pn 01 07 35.4 -1.2**
LSA Lhasa 15.50 157 *e*P **Pn 01 07 49.1 +6.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 15.50 157 *e*Pn **Pn 01 07 49.1 +6.8**
comp=Z,8.6nm,0.8s
SONM Songino Array 15.74 69 Pn **Pn 01 07 45.8 +0.4**
comp=Z,0.1nm,0.3s,baz=260,slow=11,SNR=4.4
SONM Lg 01 12 30.5
comp=Z,0.1nm,0.3s,baz=267,slow=30,SNR=5.1
SBDP Sheikh Budin 15.93 226 ⇓P **Pn 01 07 50.5 +2.6**
ULN Ulaanbaatar 16.18 69 *e*P **Pn 01 07 57.9 +6.8**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 16.18 69 *e*Pn **Pn 01 07 57.9 +6.7**
comp=Z,4.0nm,1.0s
GKN Gorkha 16.21 179 *e*P **Pn 01 07 49.8 -1.7**
comp=Z,44nm,0.5s
GUN Gumba 16.34 175 *e*P **Pn 01 07 52.1 -1.1**
KKN Kakani 16.43 177 *e*P **Pn 01 07 52.6 -1.8**
comp=Z,24nm,0.6s
KOLN Koldanda 16.45 182 *e*P **Pn 01 07 51.7 -2.8**
comp=Z,27nm,0.7s
DMN Daman 16.61 178 *e*P **Pn 01 07 55.2 -1.4**
comp=Z,8.8nm,0.5s
JIRN Jiri 16.61 174 *e*P **Pn 01 07 56.3 -0.3**
comp=Z,34nm,0.4s
PKI Pulchoki 16.66 177 *e*P **Pn 01 07 55.6 -1.6**
comp=Z,44nm,0.8s
DRP Derazinda 16.68 226 ⇓P **Pn 01 07 59.5 +2.0**
LZH Lanzhou 16.98 112 *e*P **Pn 01 08 02.5 +1.3**
LZH AP pP 01 08 10.3 -0.7
LZH XP sP 01 08 15.0 0.0
LZH PP 01 08 17.1
LZH *e*S **Sn 01 11 09.2 +0.3**
LZH XS sS 01 11 21.5 -10
LZH *e*SS 01 11 30.2
LZH AMB AMB
comp=Z,26nm,1.2s
LZH AMB AMB
comp=Z,94nm,4.1s
LZH LR LR
comp=N,451nm,8.2s
LZH LR LR
comp=Z,706nm,10.3s
AB31 Akbulak array 17.41 295 P **Pn 01 08 03.7 -2.9**
comp=Z,6.5nm,1.0s,baz=98,slow=14,SNR=33
AB31 Akbulak array 17.41 295 P **Pn 01 08 03.7 -2.9**
AB31 pmax pmax
comp=Z,7.0nm,1.0s
AKTK Aktyubinsk 18.81 299 P **Pn 01 08 23.6 -0.2**
AKTK S **Sn 01 11 42.2 -11**
AKTK Lg 01 14 01.7
AKTO Aktyubinsk 18.81 299 P **Pn 01 08 23.6 -0.2**
comp=Z,0.4nm,0.3s,baz=102,slow=10,SNR=12
AKTO S **Sn 01 11 42.2 -11**
comp=Z,0.1nm,0.3s,baz=15,slow=20,SNR=2.1
AKTO Lg 01 14 01.7
comp=Z,0.1nm,0.3s,baz=26,slow=6.6,SNR=3.6
AKTO Aktyubinsk 18.81 299 P **Pn 01 08 23.6 -0.2**
AKTO S **Sn 01 11 42.2 -11**
SHL Shillong 19.62 159 *e*P **Pn 01 08 33.0 -0.4**
CD2 Chengdu 20.29 124 *e*P **P 01 08 39.5 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s
ARU Arti 20.33 316 *e*P **P 01 08 40.0 +0.4**
ARU *e* 01 08 59.2
ARU *e*PPP 01 09 07.4
ARU *e*S 01 12 44.8
ARU Arti 20.33 316 *e*P **P 01 08 39.9 +0.3**
comp=Z,8.5nm,0.6s
ARU *e*S **S 01 12 21.9 -3.9**
BOD Bodaibo 22.86 43 *e*P **P 01 09 08.0 +1.3**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb3.9
GYA Guiyang 25.30 127 ⇑*i*P **P 01 09 30.9 +1.1**
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.7
YAK Yakutsk 31.66 40 *e*P **P 01 10 30.3 +3.8**
YAK pmax pmax
comp=Z,19nm,0.5s,mb5.2
YAK Yakutsk 31.66 40 *e*P **P 01 10 30.3 +3.8**
comp=Z,19nm,0.5s,mb5.2
OBN Obninsk 32.14 307 *e*P **P 01 10 35.2 +4.4**
OBN pmax pmax
comp=Z,6.0nm,1.4s,mb4.2
MALT Malatya 34.63 276 *e*P **P 01 10 52.3 -0.2**
JOF Joensuu 35.30 321 *ep* **P 01 10 59.7 +1.5**
AKASG Malin Array Be 37.05 300 P **P 01 11 12.9 -0.3**
comp=Z,0.3nm,0.3s,mb3.6,baz=64,slow=9.2,SNR=2.9
BR131 Keskin Array S 37.45 281 *e*P **P 01 11 17.8 +1.2**
comp=Z,0.8nm,0.4s,mb3.9
BR131 *e* pP 01 11 26.9 +1.2
BRTR Keskin Array B 37.45 281 P **P 01 11 17.8 +1.1**
comp=Z,1.3nm,0.9s,mb3.8,baz=101,slow=7.1,SNR=8.7
KAF Kangasniemi 37.57 319 *ep* **P 01 11 17.6 0.0**
FINES FINESS Array B 37.67 318 P **P 01 11 19.1 +0.6**
comp=Z,0.4nm,0.3s,mb3.6,baz=64,slow=6.3,SNR=6.9
FINES PcP PcP 01 13 35.1 -0.2
comp=Z,0.7nm,0.4s,baz=103,slow=3.3,SNR=9.8
KEV Kevo 38.10 332 *ep* **P 01 11 22.3 +0.2**
ARCES ARCESS Array B 38.58 331 P **P 01 11 27.0 +0.9**
comp=Z,5.4nm,0.9s,mb4.3,baz=88,slow=7.3,SNR=24
ARCES PcP PcP 01 13 38.9 +0.7
comp=Z,2.4nm,0.8s,baz=117,slow=4.0,SNR=3.4
NB2 NORSAR Subarra 44.84 319 P **P 01 12 17.5 +0.2**
comp=Z,2.5nm,0.5s,mb4.3,baz=78,slow=8.6
NOA NORSAR Array B 44.84 319 P **P 01 12 17.8 +0.5**
comp=Z,3.0nm,0.6s,mb4.3,baz=77,slow=7.8,SNR=16
CLL Collm 46.70 305 *e*P **P 01 12 37.0 +5.0**
GERES GERESS Array B 47.19 302 LR LR 01 35 50.1
comp=Z,30nm,19.0s,MS3.3,baz=105,slow=40
IMA2 Indian Mountai 61.35 23 *e*P **P 01 14 25.1 +6.2**
ILAR Eielson Array 64.21 22 P **P 01 14 38.7 +0.8**
comp=Z,0.6nm,0.7s,mb3.8,baz=316,slow=5.0,SNR=8.9
YKA Yellowknife Ar 72.54 9 P **P 01 15 30.9 +0.9**
comp=Z,0.3nm,0.6s,mb3.4,baz=340,slow=6.0,SNR=9.1
YKA LR LR 01 47 55.9
comp=Z,82nm,18.1s,MS4.0,baz=100,slow=36
YKA Yellowknife Ar 72.54 9 P **P 01 15 30.9 +0.9**
YKA LR LR 01 47 55.9
MBWA Marble Bar 72.70 145 *e*P **P 01 15 31.0 0.0**
TORD Torodi Ar. Bea 75.70 274 P **P 01 15 48.4 0.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=45,slow=5.3,SNR=27
WRAB Tennant Creek 78.54 133 *e*P **P 01 16 05.1 +0.7**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WRAB Tennant Creek 78.54 133 *e*P **P 01 16 05.1 +0.7**
comp=Z,9.2nm,0.6s,mb4.9
WRA Warramunga Arr 78.54 133 P **P 01 16 04.5 +0.1**
comp=Z,4.7nm,0.6s,mb4.6,baz=334,slow=5.0,SNR=54
WB2 Warramunga Arr 78.54 133 *e*P **P 01 16 04.8 +0.4**
ASAR Alice Springs 81.39 135 P **P 01 16 20.1 +0.2**
comp=Z,3.3nm,0.6s,mb4.4,baz=327,slow=5.2,SNR=42
NWAO Narrogin (SRO) 82.45 153 *e*P **P 01 16 24.6 -0.8**
CTAO Charters Tower 85.39 124 *e*P **P 01 16 46.4 +6.0**
HNR Honiara 86.40 107 LR LR 01 56 00.8
comp=Z,174nm,18.7s,MS4.5,baz=183,slow=36
STKA Stephens Creek 92.00 134 P **P 01 17 09.3 -2.5**
comp=Z,1.3nm,0.7s,mb4.4,baz=319,slow=9.3,SNR=3.9
STKA Stephens Creek 92.00 134 P **P 01 17 09.3 -2.5**

NEIC ***02*** *01:10:15.4, 1904N×6860W, h169km, MD4.0(RSPR), After RSPR.*
RSPR 02 01:10:15.4, 1904N×6860W, h169km±7km, MD4.0/6, MD4.0/6, 7C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.75**	**126**	⇑*e*P	Pn	01 10 49.0	0.0
CRPR				*e*S	Sn	01 11 15.1	+0.2
AOPR	**Arecibo Observ**	**1.88**	**111**	⇑*e*P	Pn	01 10 50.7	+0.2
AOPR				*e*S	Sn	01 11 18.2	+0.7
CELP	**Cerrillos**	**2.14**	**116**	⇑*e*P	Pn	01 10 53.9	+0.6
CELP				*e*S	Sn	01 11 23.7	+1.1
SJG	**San Juan**	**2.50**	**111**	⇑*e*P	Pn	01 10 57.5	0.0
SJG				*e*S	Sn	01 11 30.6	+0.5
CBYP	**Canovanas**	**2.71**	**106**	⇑*e*P	Pn	01 11 00.2	+0.2
CBYP				*e*S	Sn	01 11 35.2	+0.6
HUMP	**Col San Antoni**	**2.76**	**108**	⇓*e*P	Pn	01 11 00.7	+0.1
HUMP				*e*S	Sn	01 11 37.0	+1.4
MTP	**Monte Pirata**	**3.04**	**108**	⇑*e*P	Pn	01 11 04.7	+0.7
MTP				*e*S	Sn	01 11 43.3	+1.6
CULB	**Culebra**	**3.18**	**103**	*e*S	Sn	01 11 46.6	+1.6
CULB	**Culebra**	**3.18**	**103**	⇑*e*P	Pn	01 11 07.3	+1.4

ISCJB ***02*** *01:11:55.8±0.5, 4606N±002×139W±004, h4km±4km, Error ellipse: s-maj=5.3km s-min=3.1km az=110.5*
STR ***02*** *01:11:57.8±0.3, 4596N×144W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***02*** *01:11:58.6±0.1, 4603N×141W, h5km, Md2.3/1, Ml2.0/15, Error ellipse: s-maj=2.1km s-min=1.3km az=54.0*
ISC 02 01:11:57.0±0.5, 4602N±002×141W±004, h9km±3km, n23, σ0°89/40, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.08**	**148**	Pg	**Pg**	**01 11 59.2**	**0.0**
OLEF				Sg	**Sg**	**01 12 00.8**	**0.0**
LRYF	**La Roche-sur-Y**	**0.57**	**351**	Pg	**Pg**	**01 12 09.5**	**+1.4**
LRYF				Sg	**Sg**	**01 12 18.3**	**+2.7**
CHIF	**Chize**	**0.71**	**80**	Pg	**Pg**	**01 12 11.5**	**+0.8**
CHIF				Sg	**Sg**	**01 12 21.8**	**+1.9**
MFF	**Saint Martin d**	**1.05**	**56**	*e*Pg	**Pg**	**01 12 18.3**	**+1.0**
MFF	**Saint Martin d**	**1.05**	**56**	*e*Pn	**Pn**	**01 12 18.6**	**+0.6**
MFF				*e*Sg	**Sg**	**01 12 31.6**	**+0.6**
MFF				*e*Sn	**Sn**	**01 12 32.7**	**-0.1**
5.0nm,0.2s							
LFF	**La Frestale**	**1.86**	**125**	*e*Pn	**Pn**	**01 12 29.9**	**+0.9**
LFF				*e*Sn	**Sn**	**01 12 51.7**	**-0.9**
LFF				*e*Sg	**Sg**	**01 12 57.1**	**+0.4**
2.6nm,0.3s							
RJF	**Les Rejaudoux**	**2.17**	**108**	*e*Pn	**Pn**	**01 12 34.1**	**+0.8**
RJF				*e*Sn	**Sn**	**01 12 59.6**	**-0.8**
3.8nm,0.2s							
QUIF	**Quistinic**	**2.25**	**328**	*e*Pn	**Pn**	**01 12 35.2**	**+0.8**
QUIF	**Quistinic**	**2.25**	**328**	*e*Pg	**Pg**	**01 12 39.9**	**-0.2**
QUIF				*e*Sg	**Sg**	**01 13 09.0**	**-0.3**
1.2nm,0.2s							
SGMF	**Saint Gilles**	**2.37**	**341**	*e*Pn	**Pn**	**01 12 36.3**	**+0.2**
SGMF	**Saint Gilles**	**2.37**	**341**	*e*Pg	**Pg**	**01 12 42.2**	**-0.3**
SGMF				*e*Sg	**Sg**	**01 13 12.1**	**-1.1**
0.7nm,0.2s							
GRR	**Gorron**	**2.40**	**9**	*e*Pn	**Pn**	**01 12 36.6**	**+0.1**
GRR				*e*Sg	**Sg**	**01 13 13.7**	**-0.5**
1.1nm,0.2s							
TCF	**Toulx Ste Croi**	**2.53**	**83**	*e*Pn	**Pn**	**01 12 39.0**	**+0.7**
TCF				*e*Sg	**Sg**	**01 13 17.8**	**-0.5**
1.5nm,0.2s							
ROSF	**Rostrenen**	**2.65**	**332**	*e*Pn	**Pn**	**01 12 40.3**	**+0.4**
ROSF	**Rostrenen**	**2.65**	**332**	*e*Pg	**Pg**	**01 12 47.3**	**-0.4**
ROSF				*e*Sg	**Sg**	**01 13 21.3**	**-0.7**
0.7nm,0.2s							
CAF	**Calviac**	**2.68**	**113**	*e*Pn	**Pn**	**01 12 41.0**	**+0.7**
CAF	**Calviac**	**2.68**	**113**	*e*Pg	**Pg**	**01 12 48.6**	**+0.3**
CAF				*e*Sn	**Sn**	**01 13 11.4**	**-1.4**
CAF				*e*Sg	**Sg**	**01 13 22.5**	**-0.5**
1.0nm,0.2s							
LDF	**La Druitiere**	**2.73**	**18**	*e*Sg	**Sg**	**01 13 23.4**	**-1.1**
0.6nm,0.2s							
FLN	**La Foliniere**	**2.82**	**13**	*e*Sg	**Sg**	**01 13 25.7**	**-1.9**
1.0nm,0.2s							
SJPF	**Ste Jean**	**2.91**	**177**	*e*Pn	**Pn**	**01 12 44.1**	**+0.7**
SJPF				*e*Sg	**Sg**	**01 13 29.0**	**-1.3**
0.3nm,0.2s							
BGF	**Bois d'Agland**	**3.00**	**78**	*e*Sg	**Sg**	**01 13 32.1**	**-1.3**
3.3nm,0.3s							
ETSF	**Etsaut**	**3.17**	**169**	*e*Pn	**Pn**	**01 12 47.5**	**+0.4**
EPF	**Esparros**	**3.24**	**157**	*e*Pn	**Pn**	**01 12 47.7**	**-0.3**
EPF				*e*Sg	**Sg**	**01 13 40.2**	**-0.7**
0.7nm,0.2s							

ISK ***02*** *01:24:58.5, 3481N×2656E, h66km, MD3.7*
ISCJB ***02*** *01:25:03.9±0.7, 3512N±005×2720E±006, h10km, mb3.3/3, Error ellipse: s-maj=8.8km s-min=5.6km az=82.9*
IDC ***02*** *01:25:04.1±1.5, 3530N×2725E, h0km, mb3.4/3, mb1 3.3/4, mb1mx3.2/19, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=201.7km s-min=23.5km az=141.0*
CSEM ***02*** *01:25:05.5±0.2, 3520N×2722E, h12km, MD3.4, Error ellipse: s-maj=5.5km s-min=2.4km az=148.0*
NEIC ***02*** *01:25:05.6, 3527N×2717E, h26km, MD3.4(ATH), After ATH.*
ATH ***02*** *01:25:05.6, 3527N×2717E, h26km±5km, MD3.4/5*
ISC 02 01:25:03.6±1.3, 3512N±005×2717E±007, h0km±8km, n24, σ1°09/31, mb3.4/3, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**359**	⇓*i*PB	**Pg**	**01 25 12.8**	**+1.0**
KARP				*e*SB	**Sg**	**01 25 17.5**	**+0.1**
XRY	**Khrisi**	**1.24**	**259**	*e*PB	**Pb**	**01 25 28.0**	**+0.2**
NPS	**Neapolis**	**1.29**	**277**	*e*PN	**Pn**	**01 25 29.6**	**+0.8**
ARG	**Arkhangelos**	**1.34**	**35**	*e*PN	**Pn**	**01 25 29.0**	**-0.5**
BODT	**Bodrum**	**1.94**	**3**	PN	**Pn**	**01 25 36.1**	**-1.7**
BODT				SN	**Sn**	**01 26 03.3**	**+0.4**
BDRM	**Kayabasi**	**1.96**	**6**	*i* P	**Pn**	**01 25 37.0**	**-1.0**
BDRM				*i* S	**Sn**	**01 26 04.3**	**+1.1**
DALT	**Dalyan (Mudla)**	**2.03**	**35**	PN	**Pn**	**01 25 39.8**	**+0.8**
MLSB	**Milas**	**2.23**	**12**	PN	**Pn**	**01 25 40.2**	**-1.5**
APE	**Apeiranthos**	**2.36**	**326**	*e*PN	**Pn**	**01 25 43.2**	**-0.3**
VAM	**Vamos**	**2.45**	**278**	*e*PB	**Pb**	**01 25 48.2**	**-0.3**
SMG	**Samos**	**2.60**	**354**	*e*PN	**Pn**	**01 25 45.4**	**-1.4**
AYDN	**Tasoluk**	**2.60**	**12**	*i* P	**Pn**	**01 25 47.3**	**+0.5**
AYDN				*i* S	**Sn**	**01 26 18.9**	**-0.3**
ELL	**Elmali**	**2.75**	**53**	*e*PN	**Pn**	**01 25 49.9**	**+1.0**
DNZL	**Cakiroluk**	**2.98**	**30**	*i* P	**Pn**	**01 25 52.6**	**+0.6**
DNZL				*i* S	**Sn**	**01 26 31.0**	**+2.6**
DENT	**Denizli**	**3.03**	**29**	*e*PN	**Pn**	**01 25 53.1**	**+0.4**
BLCB	**Balcova**	**3.26**	**358**	*e*PN	**Pn**	**01 25 53.9**	**-2.0**
MANT	**Manisa**	**3.55**	**18**	*i* P	**Pn**	**01 25 59.7**	**-0.1**
MANT				*i* S	**Sn**	**01 26 43.5**	**+1.1**
AKS	**Akhisar**	**3.79**	**8**	*e*PN	**Pn**	**01 26 02.4**	**-0.8**
KIZT	**Kizilcal**	**5.32**	**44**	*e*PN	**Pn**	**01 26 25.1**	**+0.9**
BRTR	**Keskin Array B**	**6.90**	**46**	Pn	**Pn**	**01 26 46.2**	**+0.3**
0.1nm,0.3s,baz=232,slow=16,SNR=5.0							
BRTR				Sn	**Sn**	**01 28 02.1**	**-3.0**
baz=214,slow=22,SNR=2.6							
BRTR	**Keskin Array B**	**6.90**	**46**	Pn	**Pn**	**01 26 46.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**31.75**	**233**	P	**P**	**01 31 31.6**	**+2.3**
0.2nm,0.4s,mb3.4,baz=32,slow=8.7,SNR=5.0							
MKAR	**Makanchi Array**	**42.42**	**57**	P	**P**	**01 32 59.3**	**-0.6**
0.5nm,0.6s,mb3.5,baz=260,slow=8.0,SNR=7.0							
SONM	**Songino Array**	**58.23**	**51**	P	**P**	**01 34 58.4**	**-1.2**
0.2nm,0.6s,mb3.3,baz=293,slow=8.9,SNR=2.4							

NDI 02 01:28:00.4±5.9, 3076N×8031E, h33km, ML3.2, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.21**	**184**	*e*P	Pn	01 28 04.4	-17
PTH				*e*S	Sn	01 28 18.8	-17
LGTI	**Lohaghat**	**1.31**	**182**	*ex*	x	01 28 07.5	
LGTI				*ex*	x	01 28 28.5	
KLP	**Kalpa**	**1.93**	**294**	*e*P	Pn	01 28 30.7	-0.2
KLP				*e*S	Sn	01 28 54.4	+0.5
KLP				AML	AML	01 29 04.8	
comp=N,544nm,0.7s							
KLP				AML	AML	01 29 07.0	
comp=E,664nm,0.6s							
DDI	**Dehra Dun**	**1.99**	**258**	*ex*	x	01 28 24.9	
DDI				*e*S	Sn	01 28 54.4	-1.2
SMLA	**Simla**	**2.73**	**279**	*e*P	Pn	01 29 34.8	+53
SMLA				*e*S	Sn	01 30 10.2	+57
SDNR	**Sundarnagar**	**2.96**	**285**	*e*P	Pn	01 28 45.0	0.0
SDNR				*ex*	x	01 29 34.0	
NDI	**New Delhi**	**3.39**	**233**	*e*P	Pn	01 28 50.5	-0.5
NDI				*e*S	Sn	01 29 27.0	-3.1
AYAN	**Aya Nagar**	**3.58**	**231**	*e*P	Pn	01 28 54.6	+1.0
AYAN				*e*S	Sn	01 29 32.4	-2.3
AYAN				AML	AML	01 30 00.8	
comp=Z,25nm,0.4s							
SONA	**Sohna**	**3.76**	**229**	*e*P	Pn	01 28 55.7	-0.4
SONA				*e*S	Sn	01 29 35.7	-3.6
SONA				AML	AML	01 29 52.3	
comp=N,53nm,0.5s							
SONA				AML	AML	01 29 52.5	
comp=E,52nm,0.3s							
AGRA	**Agra**	**4.08**	**211**	*e*P	Pn	01 29 03.0	+2.5
AGRA				*e*S	Sn	01 29 46.6	-0.4
AGRA				AML	AML	01 29 55.4	
comp=E,102nm,0.6s							
AGRA				AML	AML	01 29 56.6	
comp=N,113nm,0.5s							
KUDL	**Kundal**	**4.23**	**233**	*e*P	Pn	01 29 01.9	-0.6
KUDL				*e*S	Sn	01 29 48.4	-2.3
KUDL				AML	AML	01 29 59.5	
comp=E,32nm,0.5s							
KUDL				AML	AML	01 30 02.2	
comp=N,40nm,0.4s							
THN	**Thein Dam**	**4.26**	**294**	*e*P	Pn	01 29 03.8	+0.9
THN				*ex*	x	01 30 05.9	
ALBI	**Allahabad**	**5.59**	**166**	*ex*	x	01 30 30.5	
BHPL	**Bhopal**	**7.92**	**200**	*e*P	Pn	01 29 43.2	-10
BHPL				*e*S	Sn	01 31 03.5	-18
BHPL				AML	AML	01 31 04.1	
comp=N,17nm,0.5s							
BHPL				AML	AML	01 31 06.1	
comp=E,26nm,0.3s							
BOK	**Bokaro**	**8.53**	**143**	*e*P	Pn	01 29 48.9	-13
BOK				*e*S	Sn	01 31 17.8	-19
BOK				AML	AML	01 31 25.6	
comp=N,8.0nm,0.3s							
BOK				AML	AML	01 31 27.4	
comp=E,11nm,0.6s							
POO	**Poona**	**13.51**	**207**	*ex*	Sn	01 33 40.0	+1.3
POO	**Poona**	**13.51**	**207**	*e*P	Sn	01 33 40.0	+1.3

IDC ***02*** *01:32:36.5±0.6, 332S×131.12E, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.6/17, mbtmp4.5/13, MS4.0/9, Ms1 4.0/9, ms1mx3.6/28, Error ellipse: s-maj=31.1km s-min=14.5km az=74.0*
ISCJB ***02*** *01:32:38.1±2.8, 3455S±005×13105E±008, h21km±20km, mb4.5/44, MS4.0/13, Error ellipse: s-maj=14.3km s-min=8.1km az=146.0*
BJI ***02*** *01:32:38.2, 3595S×13144E, h39km, mB4.8, mb4.7, Ms4.6, Msz3.7*
MOS ***02*** *01:32:40.0±1.0, 334S×13108E, h33km, mb4.8/16, Error ellipse: s-maj=18.6km s-min=7.8km az=115.2*
NEIC ***02*** *01:32:42.3±0.3, 3455S×13101E, h35km, mb4.8/10, Error ellipse: s-maj=11.1km s-min=6.3km az=56.0*
ISC 02 01:32:42.9±2.2, 3465S±006×13114E±008, h44km±21km,

h39^{km}±4.2^{km}:pP-P,n86,σ0°97/81,mb4.5/44,MS4.0/13, 1C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.68**	**169**	*eP*	**Pn**	**01 36 28.2**	**-5.1**
WRAB				pmax	pmax		
comp=Z,73nm,1.0s							
WRAB	**Tennant Creek**	**16.68**	**169**	*e*Pn	**Pn**	**01 36 28.2**	**-5.1**
comp=Z,73nm,1.0s							
WRAB				*e*S	**S**	**01 39 26.6**	**-20**
WRA	**Warramunga Arr**	**16.68**	**169**	Pn	**Pn**	**01 36 27.4**	**-6.0**
comp=Z,0.8nm,0.3s,baz=345,slow=13,SNR=27							
WRA				Sn	**Sn**	**01 39 26.0**	**-12**
comp=Z,1.6nm,0.3s,baz=346,slow=24,SNR=7.2							
PMG	**Port Moresby**	**16.98**	**111**	P	**Pn**	**01 36 39.0**	**+1.9**
comp=Z,1.2nm,0.3s,baz=168,slow=15,SNR=3.9							
PMG	**Port Moresby**	**16.98**	**111**	*e*P	**Pn**	**01 36 41.4**	**+4.3**
ASAR	**Alice Springs**	**20.27**	**173**	P	**P**	**01 37 15.9**	**+1.3**
comp=Z,21nm,0.4s,baz=351,slow=11,SNR=183							
ASAR				S	**S**	**01 40 56.4**	**-3.1**
comp=Z,6.4nm,1.0s,baz=339,slow=17,SNR=6.0							
MBWA	**Marble Bar**	**20.80**	**211**	*e*P	**P**	**01 37 18.8**	**-1.6**
comp=Z,13nm,0.8s							
KSM	**Kuching**	**21.39**	**283**	*e*P	**P**	**01 37 26.1**	**-0.6**
BJII	**Banjamegara**	**21.67**	**259**	P	**P**	**01 37 35.9**	**+6.1**
comp=Z,48nm,1.3s,mb4.8							
GUMO	**Guam**	**21.74**	**39**	LR	LR	01 45 28.9	
comp=Z,117nm,20.9s,MS3.3,baz=252,slow=36							
CTA	**Charters Tower**	**22.15**	**139**	P	**P**	**01 37 35.9**	**+1.0**
comp=Z,4.4nm,0.7s,mb4.0,baz=333,slow=11,SNR=4.5							
CTAO	**Charters Tower**	**22.15**	**139**	*e*P	**P**	**01 37 36.8**	**+2.0**
STKA	**Stephens Creek**	**29.93**	**162**	*e*P	**P**	**01 38 46.4**	**-0.3**
comp=Z,8.1nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**29.93**	**162**	P	**P**	**01 38 46.0**	**-0.7**
comp=Z,5.1nm,0.7s,mb4.3,baz=341,slow=9.0,SNR=9.7							
JOW	**Kunigami**	**30.24**	**355**	LR	LR	01 48 38.3	
comp=Z,405nm,19.6s,MS4.1,baz=123,slow=32							
KLBR	**Kellerberrin**	**30.69**	**203**	*e*P	**P**	**01 38 53.1**	**-0.3**
comp=Z,7.0nm,0.4s,mb4.8							
NWAO	**Narrogin (SRO)**	**32.08**	**202**	P	**P**	**01 39 04.7**	**-0.9**
comp=Z,9.7nm,0.9s,mb4.6,baz=33,slow=9.1,SNR=4.0							
NWAO	**Narrogin (SRO)**	**32.08**	**202**	P	**P**	**01 39 04.7**	**-0.9**
PSI	**Prapat**	**32.79**	**281**	P	**P**	**01 39 11.3**	**-0.5**
comp=Z,5.2nm,0.8s,mb4.5,baz=96,slow=11,SNR=5.7							
SSE	**Sheshan**	**35.64**	**345**	*e*P	**P**	**01 39 36.4**	**-0.2**
SSE				AP	pP	01 39 45.3	-3.1
SSE				XP	sP	01 39 49.2	-4.4
SSE				PP	PP	01 40 57.3	-0.7
SSE				PCP	PcP	01 42 03.0	-1.4
SSE				S	**S**	**01 45 12.1**	**+2.3**
SSE				XS	sS	01 45 27.2	-2.4
SSE				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.8							
SSE				AMB	AMB		
comp=Z,72nm,5.3s							
SSE				LR	LR		
comp=N,40nm,22.9s,MS3.6							
SSE				LR	LR		
comp=E,121nm,22.9s,MS3.6							
SSE				LR	LR		
comp=Z,84nm,29.6s							
NJ2	**Nanjing**	**37.19**	**343**	*e*P	**P**	**01 39 49.0**	**-0.7**
NJ2				AP	pP	01 39 58.6	-3.0
NJ2				XP	sP	01 40 03.4	-3.4
NJ2				PP	PP	01 41 15.1	0.0
NJ2				S	**S**	**01 45 33.0**	**-0.5**
NJ2				XS	sS	01 45 51.0	-2.3
NJ2				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.6							
NJ2				AMB	AMB		
comp=Z,190nm,10.6s							
NJ2				LR	LR		
comp=N,680nm,28.4s							
NJ2				LR	LR		
comp=E,910nm,33.5s							
NJ2				LR	LR		
comp=Z,360nm,29.9s,MS4.0							
ENH	**Enshi**	**39.41**	**330**	*e*P	**P**	**01 40 07.9**	**-0.5**
comp=Z,6.4nm,0.8s,mb4.4							
KMI	**Kunming**	**39.58**	**317**	P	**P**	**01 40 11.4**	**+1.6**
KMI				XP	sP	01 40 21.5	-5.4
KMI				AMB	AMB		
comp=Z,6.0nm,1.3s,mb4.2							
KMI				LR	LR		
comp=Z,77nm,26.5s,MS3.4							
MJAR	**Matsushiro Arr**	**40.33**	**9**	P	**P**	**01 40 12.9**	**-3.2**
comp=Z,3.1nm,0.8s,mb4.1,baz=185,slow=9.4,SNR=6.9							
XAN	**Xi'an**	**42.77**	**332**	P	**P**	**01 40 35.3**	**-0.8**
XAN				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.5							
CD2	**Chengdu**	**43.01**	**325**	*e*P	**P**	**01 40 39.0**	**+1.0**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
BJT	**Baijiatuau**	**45.39**	**344**	*e*P	**P**	**01 40 55.8**	**-1.2**
BJT				pmax	pmax		
comp=Z,16nm,1.0s							
BJT	**Baijiatuau**	**45.39**	**344**	*e*P	**P**	**01 40 55.8**	**-1.2**
comp=Z,16nm,1.0s,mb4.8							
LZH	**Lanzhou**	**46.89**	**329**	*e*P	**P**	**01 41 09.4**	**+0.6**
LZH				AP	pP	01 41 21.1	+0.2
LZH				XP	sP	01 41 25.0	-1.1
LZH				AMB	AMB		
comp=Z,25nm,1.5s,mb4.9							
LZH				AMB	AMB		
comp=Z,52nm,6.3s							
LZH				LR	LR		
comp=E,367nm,12.9s							
LZH				LR	LR		
comp=Z,442nm,17.2s,MS4.5							
LSA	**Lhasa**	**50.51**	**314**	P	**P**	**01 41 37.6**	**+1.0**
LSA	**Lhasa**	**50.51**	**314**	P	**P**	**01 41 37.4**	**+0.8**
GTA	**Gaotai**	**51.48**	**329**	*e*P	**P**	**01 41 44.5**	**+0.6**
GTA				AP	pP	01 41 59.1	+2.9
GTA				AMB	AMB		
comp=Z,6.0nm,1.1s,mb4.4							
HABR	**Khabarovsk**	**51.83**	**3**	*e*P	**P**	**01 41 45.0**	**-1.5**
KLR	**Kul'dur**	**52.47**	**1**	*e*P	pP	01 42 05.6	+2.0
JIRN	**Jiri**	**53.20**	**309**	*e*P	**P**	**01 41 57.6**	**+1.0**
HIA	**Hailar**	**53.43**	**351**	*e*P	**P**	**01 41 57.3**	**-1.0**
GUN	**Gumba**	**53.56**	**309**	*e*P	**P**	**01 42 00.3**	**+1.0**
PKI	**Pulchoki**	**53.77**	**308**	*e*P	**P**	**01 42 01.4**	**+0.6**
KKN	**Kakani**	**53.97**	**308**	*e*P	**P**	**01 42 02.9**	**+0.6**
DMN	**Daman**	**54.03**	**308**	*e*P	**P**	**01 42 03.5**	**+0.8**
GKN	**Gorkha**	**54.58**	**308**	*e*P	**P**	**01 42 07.6**	**+0.9**
KOLN	**Koldanda**	**55.29**	**307**	*e*P	**P**	**01 42 12.2**	**+0.3**
comp=Z,41nm,1.0s,mb5.4							
ULN	**Ulaanbaatar**	**55.29**	**340**	*e*P	**P**	**01 42 12.4**	**+0.5**
ULN				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
ULN	**Ulaanbaatar**	**55.29**	**340**	*e*P	**P**	**01 42 12.4**	**+0.5**
comp=Z,10nm,1.1s,mb4.8							
SONM	**Songino Array**	**55.49**	**340**	P	**P**	**01 42 11.7**	**-1.5**
comp=Z,4.4nm,1.1s,mb4.4,baz=159,slow=7.0,SNR=19							
SONM				LR	LR	02 07 15.4	
comp=Z,112nm,20.3s,MS3.9,baz=118,slow=38							
CIT	**Chita**	**57.25**	**347**	*e*P	**P**	**01 42 22.2**	**-3.6**
ZAK	**Zakamensk**	**58.73**	**340**	*e*P	**P**	**01 42 36.9**	**+0.7**
ZAK				pmax	pmax		
comp=Z,8.0nm,1.8s,mb4.5							
WMQ	**Urumqi**	**61.10**	**325**	*e*P	**P**	**01 42 52.6**	**+0.2**
WMQ				AP	pP	01 43 02.6	-2.4
WMQ				AMB	AMB		
comp=Z,12nm,0.8s,mb5.1							
BOD	**Bodaibo**	**62.62**	**350**	*e*P	**P**	**01 43 00.2**	**-2.4**
BOD				pmax	pmax		
comp=Z,6.0nm,1.6s,mb4.5							
YAK	**Yakutsk**	**65.31**	**359**	*e*P	**P**	**01 43 20.5**	**+0.2**
YAK				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
MK31	**Makanchi Array**	**65.93**	**325**	P	**P**	**01 43 24.3**	**0.0**
MK31				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
MKAR	**Makanchi Array**	**65.93**	**325**	P	**P**	**01 43 24.7**	**+0.4**
comp=Z,4.9nm,0.7s,mb4.6,baz=116,slow=8.1,SNR=49							
TKM2	**Tokmak 2**	**68.02**	**319**	P	**P**	**01 43 38.5**	**+0.9**
TKM2				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
SEY	**Seymchan**	**68.14**	**10**	⇑*e*P	**P**	**01 43 39.5**	**+1.2**
AAK	**Ala-Archa**	**68.61**	**319**	*e*P	**P**	**01 43 41.6**	**+0.3**
AAK				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**68.95**	**333**	P	**P**	**01 43 42.4**	**-1.0**
comp=Z,3.9nm,1.0s,mb4.3,baz=1.3,slow=6.9,SNR=26							
ZAL				LR	LR	02 15 29.9	
comp=Z,52nm,20.3s,MS3.8,baz=246,slow=37							
ZAL	**Zalesovo**	**68.95**	**333**	P	**P**	**01 43 42.4**	**-1.0**
ZAL				LR	LR	02 15 29.9	
KURK	**Kurchatov**	**70.13**	**328**	*e*P	**P**	**01 43 52.3**	**+1.6**
KURK				pmax	pmax		
comp=Z,19nm,1.0s,mb5.0							
KURK	**Kurchatov**	**70.13**	**328**	*e*P	**P**	**01 43 52.3**	**+1.6**
comp=Z,19nm,1.0s,mb5.0							
NVS	**Novosibirsk**	**70.23**	**333**	*i* P	**P**	**01 43 50.4**	**-0.9**
NVS				pmax	pmax		
comp=Z,11nm,1.4s,mb4.6							
NVS				pmax	pmax		
comp=N,6.0nm,1.3s							
NVS				pmax	pmax		
comp=E,9.0nm,1.3s							
KK31	**Karatay Array**	**71.47**	**318**	*i* P	**P**	**01 43 58.6**	**-0.2**
KK31				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
KKAR	**Karatay Array**	**71.47**	**318**	*i* P	**P**	**01 43 58.6**	**-0.2**
TIXI	**Tiksi**	**74.98**	**359**	*d* iP	**P**	**01 44 18.7**	**-0.8**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
VOSK	**Vostochnaya**	**75.25**	**327**	P	**P**	**01 44 20.6**	**-0.5**
VOSK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
BILL	**Bilibino**	**75.43**	**13**	*e*P	**P**	**01 44 21.7**	**-0.4**
BILL				*e*S	S	01 54 01.8	+2.9
BILL				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.9							
BVA0	**Borovoye Array**	**75.70**	**327**	*i* P	**P**	**01 44 23.6**	**-0.1**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
BRVK	**Borovoye**	**75.78**	**327**	*e*P	**P**	**01 44 23.8**	**-0.3**
BRVK				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
BRVK	**Borovoye**	**75.78**	**327**	*e*P	**P**	**01 44 23.8**	**-0.3**
comp=Z,9.9nm,1.0s,mb4.7							
VNDA	**Vanda**	**75.81**	**173**	P	**P**	**01 44 24.9**	**+0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=305,slow=5.8,SNR=8.1							
ZRNK	**Zerenda**	**76.43**	**327**	*e*P	**P**	**01 44 27.7**	**-0.1**
ZRNK				*e*		01 47 17.9	
ZRNK				pmax	pmax		
comp=Z,13nm,1.0s,mb4.8							
ZRNK	**Zerenda**	**76.43**	**327**	*e*P	**P**	**01 44 27.7**	**-0.1**
comp=Z,12nm,1.0s,mb4.8							
ZRNK				*e*PP	PP	01 47 17.9	-2.0
AB31	**Akbulak array**	**80.47**	**321**	*i* P	**P**	**01 44 50.7**	**+0.6**
TNA	**Tin City**	**81.53**	**22**	P	**P**	**01 44 56.3**	**+0.5**
comp=Z,4.0nm,1.2s,mb4.2							
AKTO	**Aktyubinsk**	**81.99**	**322**	LR	LR	02 25 41.5	
comp=Z,45nm,18.4s,MS3.9,baz=328,slow=39							
ARU	**Arti**	**83.32**	**328**	*e*P	**P**	**01 45 04.4**	**-0.7**
ARU				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.3							
KDAK	**Kodiak Island**	**85.62**	**31**	LR	LR	02 16 51.9	
comp=Z,117nm,20.1s,MS4.3,baz=282,slow=31							
ILAR	**Eielson Array**	**89.68**	**25**	P	**P**	**01 45 36.8**	**+0.7**
comp=Z,0.6nm,0.7s,mb4.1,baz=281,slow=4.6,SNR=2.9							
ILAR				LR	LR	02 29 10.7	
comp=Z,73nm,18.2s,MS4.2,baz=357,slow=38							
DAWY	**Dawson**	**92.85**	**26**	*e*P	**P**	**01 45 52.1**	**+1.2**
KMBO	**Kilima Mbogo**	**93.81**	**269**	LR	LR	02 23 41.0	
comp=Z,113nm,20.2s,MS4.3,baz=97,slow=33							
INK	**Inuvik**	**95.17**	**22**	P	**P**	**01 46 00.1**	**-1.5**
comp=Z,5.0nm,1.1s,mb4.8,baz=268,slow=7.1,SNR=6.7							
OBN	**Obninsk**	**95.43**	**325**	*e*P	**P**	**01 46 02.5**	**-0.3**
OBN				*e*		01 49 52.6	
OBN				pmax	pmax		
comp=Z,9.0nm,2.5s,mb4.8							
ARCES	**ARCESS Array B**	**98.66**	**340**	P	**P**	**01 46 16.8**	**-0.6**
comp=Z,5.6nm,1.0s,mb5.0,baz=72,slow=5.7,SNR=4.4							
ARCES				LR	LR	02 36 09.7	
comp=Z,90nm,18.9s,MS4.3,baz=206,slow=39							
TORD	**Torodi Ar. Bea**	**129.15**	**284**	PKP	PKPdf	01 51 48.0	+1.9
comp=Z,1.3nm,0.7s,baz=108,slow=2.3,SNR=12							
TORD				SKPbc		01 55 09.0	
comp=Z,1.0nm,1.0s,baz=83,slow=4.6,SNR=5.2							
LBNH	**Lisbon**	**134.57**	**23**	*e*Pdif	Pdif	01 48 57.6	+0.6
CPUP	**Villa Florida**	**149.28**	**165**	*e*PKPbc	PKPbc	01 52 30.1	+3.4
LPAZ	**La Paz**	**152.66**	**136**	PKPbc	PKPbc	01 52 38.7	+4.0
comp=Z,1.6nm,0.4s,baz=36,slow=1.3,SNR=8.0							

*LDG **02** 01:37:22.9±0.1, 4967N×837E, h20^{km}, Ml2.3/8, Error ellipse: s-maj=1.4km s-min=1.2km az=176.0*
*STR **02** 01:37:23.3±0.2, 4967N×836E, h5^{km}±1^{km}, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR 02 01:37:23.2±0.3, 4968N×841E, h10^{km}, ML1.7/3, Error ellipse: s-maj=4.4km s-min=3.3km az=165.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNS	**Taunus Mts**	**0.54**	**3**	*e*Pg	Pg	01 37 34.2	+0.5
SNR=3.9							
TNS				*e*Sg	Sg	01 37 41.2	+0.4
LANF	**Langenberg**	**0.80**	**210**	Pg	Pg	01 37 38.3	-0.4
LANF				Sg	Sg	01 37 48.9	-0.3
BFO	**Black Forest**	**1.35**	**182**	*e*Pg	Pg	01 37 49.0	-0.1
SNR=1.3							
BFO				*e*Sg	Sg	01 38 06.4	-0.3
WLS	**Welschbruch**	**1.45**	**209**	Pg	Pg	01 37 49.7	-1.2
WLF	**Walferdange**	**1.47**	**270**	*e*Pg	Pg	01 37 50.0	-1.3
SNR=1.0							
WLF				*e*Sg	Sg	01 38 09.0	-1.3
CDF	**Champ du Feu**	**1.47**	**211**	*e*Pn	Pn	01 37 46.7	-3.0
CDF	**Champ du Feu**	**1.47**	**211**	*e*Pg	Pg	01 37 49.9	-1.5
CDF				*e*Sg	Sg	01 38 09.0	-1.5
4.6nm,0.3s							
GRF	**Grafenberg Arr**	**1.83**	**89**	*e*Pg	Pg	01 37 59.1	+0.9
SNR=1.7							
GRF				*e*Sg	Sg	01 38 20.4	-1.5
HINF	**Hinteralfeld**	**2.13**	**209**	*e*Sg	Sg	01 38 29.8	-1.8
3.6nm,0.2s							
HAU	**Haudompre**	**2.16**	**220**	*e*Pn	Pn	01 37 56.0	-3.2
HAU	**Haudompre**	**2.16**	**220**	*e*Pg	Pg	01 38 02.7	-1.9
HAU				*e*Sg	Sg	01 38 30.5	-2.1
3.7nm,0.3s							
RFYF	**Reffroy**	**2.19**	**242**	*e*Pn	Pn	01 37 56.2	-3.5
RFYF				*e*Sg	Sg	01 38 31.1	-2.6
2.7nm,0.2s							
MOX	**Moxa**	**2.28**	**64**	*e*Sg	Sg	01 38 35.0	-1.3
GIVF	**Givet**	**2.36**	**282**	*e*Pn	Pn	01 37 58.5	-3.4
GIVF				*e*Sg	Sg	01 38 36.6	-2.3
2.9nm,0.2s							
SFTF	**Sexfontaines**	**2.67**	**238**	*e*Pn	Pn	01 38 02.6	-3.6
SFTF				*e*Sg	Sg	01 38 45.8	-3.1
2.7nm,0.3s							
TANN	**Tannenbergstha**	**2.71**	**73**	*e*Sg	Sg	01 38 48.0	-2.4
WET	**Wettzell**	**2.97**	**99**	*e*Pn	Pn	01 38 09.5	-0.8
WET				*e*Sg	Sg	01 38 57.5	-1.1
LOR	**Lormes**	**3.87**	**233**	*e*Pn	Pn	01 38 19.1	-3.6
LOR				*e*Sg	Sg	01 39 24.3	-3.2
0.6nm,0.3s							
SSF	**Saint Saulge**	**4.19**	**233**	*e*Pn	Pn	01 38 23.9	-3.2

*MOS **02** 01:40:09.0±1.1, 599S×129.19E, h201^{km}, mb4.3/7, Error ellipse: s-maj=17.5km s-min=7.6km az=114.5*
*BJI **02** 01:40:09.4, 635S×12935E, h226^{km}, mB4.7, mb4.6*
*ISCJB **02** 01:40:10.5±1.0, 6.12S±003×12926E±006, h217^{km}±9^{km}, mb4.5/57, Error ellipse: s-maj=9.8km s-min=4.5km az=137.1*
*NEIC **02** 01:40:13.1±0.9, 607S×12928E, h229^{km}±8^{km}, mb4.7/13, Error ellipse: s-maj=7.3km s-min=4.1km az=57.0*
*IDC **02** 01:40:15.8±1.6, 6.14S×12929E, h255^{km}±15^{km}, mb4.2/18, mb1 4.3/20, mb1mx4.3/22, mbtmp4.9/20, Error ellipse: s-maj=14.7km s-min=7.1km az=68.0*
ISC 02 01:40:13.4±1.0, 611S±004×12931E±006, h228^{km}±10^{km}, h222^{km}±2.7^{km}:pP-P,n174,σ1°00/134,mb4.5/56,14C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**10.78**	**298**	P	**Pn**	**01 42 47.6**	**+5.6**
87nm,1.0s							
FITZ	**Fitzroy Crossi**	**12.45**	**196**	⇓*i* P	**Pn**	**01 43 01.1**	**-1.9**
344nm,0.4s							
FITZ				*i* S	**S**	**01 45 13.6**	**-8.2**
WRAB	**Tennant Creek**	**14.59**	**161**	Pn	**Pn**	**01 43 28.5**	**-0.9**
WRAB				Sn	**S**	**01 46 04.1**	**-6.8**
WRA	**Warramunga Arr**	**14.60**	**161**	P	**Pn**	**01 43 27.9**	**-1.6**
16nm,0.3s,baz=337,slow=12,SNR=69							
WRA				S	**S**	**01 46 03.4**	**-7.6**
11nm,0.3s,baz=336,slow=22,SNR=11							
WB2	**Warramunga Arr**	**14.60**	**161**	⇓*i* P	**Pn**	**01 43 28.1**	**-1.4**
WB2				*e*S	**S**	**01 46 04.6**	**-6.5**
MBWA	**Marble Bar**	**17.61**	**211**	P	**P**	**01 44 03.6**	**+0.6**
85nm,0.8s							
MBWA				Sn	**S**	**01 47 19.4**	**+5.5**
KKM	**Kota Kinabalu**	**17.79**	**312**	*e*P	**P**	**01 44 05.3**	**+0.3**
PMG	**Port Moresby**	**17.98**	**102**	P	**P**	**01 44 07.2**	**+0.2**
0.9nm,0.3s,baz=250,slow=12,SNR=2.6							
PMG	**Port Moresby**	**17.98**	**102**	P	**P**	**01 44 13.1**	**+6.0**
ASAR	**Alice Springs**	**18.01**	**166**	P	**P**	**01 44 08.8**	**+1.4**
34nm,0.3s,baz=347,slow=11,SNR=406							
ASAR				S	**S**	**01 47 17.3**	**-4.5**
7.9nm,0.3s,baz=343,slow=18,SNR=19							
ASPA	**Alice Springs**	**18.01**	**166**	*e*P	**P**	**01 44 08.6**	**+1.3**
ASPA				*e*S	**S**	**01 47 19.2**	**-2.6**
BJII	**Banjamegara**	**19.51**	**265**	P	**P**	**01 44 27.6**	**+4.1**
57nm,1.7s							
KSM	**Kuching**	**20.41**	**291**	*e*P	**P**	**01 44 32.5**	**-0.6**
CTA	**Charters Tower**	**21.54**	**132**	⇑*i* P	**P**	**01 44 46.1**	**+1.3**
44nm,0.6s,mb5.2							
CTA	**Charters Tower**	**21.54**	**132**	P	**P**	**01 44 46.4**	**+1.5**
53nm,0.7s,mb5.2,baz=308,slow=12,SNR=56							
CTAO	**Charters Tower**	**21.54**	**132**	P	**P**	**01 44 46.2**	**+1.4**
CTAO				pmax	pmax		
comp=Z,56nm,0.7s,mb5.2							
CTAO	**Charters Tower**	**21.54**	**132**	P	**P**	**01 44 46.2**	**+1.4**
comp=Z,56nm,0.7s,mb5.2							
TGY	**Tagaytay City**	**21.73**	**338**	P	**P**	**01 44 46.7**	**+0.2**
comp=Z,201nm,0.3s,baz=137,slow=13,SNR=4.9							
KLBR	**Kellerberrin**	**27.57**	**202**	*e*P	**P**	**01 45 39.4**	**+0.2**
comp=Z,65nm,1.6s,mb5.0							
STKA	**Stephens Creek**	**28.09**	**157**	*e*P	**P**	**01 45 42.5**	**-1.4**
comp=Z,19nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**28.09**	**157**	P	**P**	**01 45 42.4**	**-1.5**
comp=Z,22nm,0.9s,mb4.8,baz=330,slow=9.1,SNR=20							
STKA	**Stephens Creek**	**28.09**	**157**	P	**P**	**01 45 42.6**	**-1.3**
NWAO	**Narrogin (SRO)**	**28.96**	**201**	P	**P**	**01 45 51.1**	**-0.4**
comp=Z,4.8nm,0.3s,mb4.6,baz=29,slow=6.4,SNR=8.6							
NWAO	**Narrogin (SRO)**	**28.96**	**201**	*e*P	**P**	**01 45 52.0**	**+0.5**
NWAO				pmax	pmax		
comp=Z,17nm,0.6s							
NWAO	**Narrogin (SRO)**	**28.96**	**201**	*e*P	**P**	**01 45 52.0**	**+0.5**
comp=Z,17nm,0.6s,mb4.8							
HNR	**Honiara**	**30.52**	**98**	*e*P	**P**	**01 46 06.2**	**+0.8**
comp=Z,106nm,0.9s,mb5.5							
KULM	**Kulim**	**30.77**	**291**	*e*P	**P**	**01 46 08.5**	**+1.0**
PSI	**Prapat**	**31.61**	**285**	P	**P**	**01 46 15.4**	**+0.6**
comp=Z,8.7nm,0.8s,mb4.4,baz=151,slow=4.3,SNR=8.6							
ARMA	**Armidale**	**32.02**	**142**	*e*P	**P**	**01 46 19.9**	**+1.5**
QZH	**Quanzhou**	**32.58**	**342**	⇓*i* P	**P**	**01 46 22.9**	**-0.3**
QZH				AMB	AMB		
comp=Z,60nm,0.9s,mb5.1							
JOW	**Kunigami**	**32.76**	**358**	P	**P**	**01 46 25.1**	**+0.3**
comp=Z,17nm,0.7s,mb4.7,baz=216,slow=11,SNR=3.8							
CNB	**Canberra Magne**	**34.44**	**150**	*e*P	**P**	**01 46 41.6**	**+2.3**
comp=Z,24nm,0.8s,mb4.8							
TOO	**Toolangi**	**34.61**	**157**	*e*P	**P**	**01 46 43.3**	**+2.5**
comp=Z,9.9nm,0.4s,mb4.7							
SSE	**Sheshan**	**37.80**	**349**	*e*P	**P**	**01 47 08.6**	**+0.9**
SSE				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
SSE				AMB	AMB		
comp=Z,109nm,4.1s							
GYA	**Guiyang**	**39.12**	**327**	⇑*i* P	**P**	**01 47 18.6**	**-0.1**
GYA				AP	pP	01 48 05.5	-0.5
GYA				XP	sP	01 48 30.7	-1.3
GYA				PP	PP	01 48 56.7	+3.2
GYA				PCP	PcP	01 49 24.6	+1.2
GYA				S	**S**	**01 53 01.2**	**+0.3**
GYA				XS	sS	01 54 22.8	-2.2
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB		
comp=Z,180nm,3.8s							
GYA				LR	LR		
comp=N,640nm,17.8s							
GYA				LR	LR		
comp=E,790nm,18.0s							
GYA				LR	LR		
comp=Z,720nm,17.6s							
WHN	**Wuhan**	**39.16**	**339**	⇓P	**P**	**01 47 19.8**	**+0.8**
DZM	**Mont Dzumac**	**39.21**	**118**	P	**P**	**01 47 19.9**	**+0.5**
comp=Z,8.3nm,0.7s,mb4.4,baz=290,slow=8.9,SNR=7.9							
NJ2	**Nanjing**	**39.23**	**346**	*e*P	**P**	**01 47 19.9**	**+0.3**
NJ2				AP	pP	01 48 05.3	-1.7
NJ2				XP	sP	01 48 30.6	-2.4
NJ2				PP	PP	01 48 58.0	+3.3
NJ2				S	**S**	**01 53 05.0**	**+2.4**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
NJ2				AMB	AMB		
comp=Z,380nm,4.9s							
NJ2				LR	LR		
comp=N,8μm,25.7s							
NJ2				LR	LR		
comp=E,2μm,27.

GTA S **S** **01 56 13.5 -2.9**
GTA XS sS 01 57 41.4 -3.3
GTA SCS ScS 01 58 30.5 -0.9
GTA SS SS 01 59 56.3 -2.2
GTA AMB AMB
comp=Z,15nm,0.7s,mb4.5
GTA AMB AMB
comp=Z,177nm,4.6s
GTA LR LR
comp=N,88nm,14.8s
GTA LR LR
comp=E,125nm,12.2s
GTA LR LR
comp=Z,89nm,12.2s
JIRN Jiri 53.49 311 *e*P **P** **01 49 10.2 0.0**
comp=Z,27nm,0.7s,mb4.8
URZ Urewera 53.77 134 P **P** **01 49 12.3 0.0**
comp=Z,5.6nm,0.3s,mb4.5,baz=268,slow=4.0,SNR=9.7
GUN Gumba 53.85 311 *e*P **P** **01 49 12.9 0.0**
PKI Pulchoki 54.03 310 *e*P **P** **01 49 13.8 -0.3**
comp=Z,19nm,0.6s,mb4.8
KKN Kakani 54.24 311 *e*P **P** **01 49 15.4 -0.2**
comp=Z,20nm,0.7s,mb4.8
DMN Daman 54.28 310 *e*P **P** **01 49 15.8 -0.1**
comp=Z,20nm,0.6s,mb4.8
GKN Gorkha 54.84 310 *e*P **P** **01 49 19.7 -0.2**
comp=Z,36nm,0.5s,mb5.2
KLR Kul'dur 55.15 2 *e*P **P** **01 49 18.8 -3.3**
KOLN Koldanda 55.51 310 *e*P **P** **01 49 24.7 0.0**
comp=Z,30nm,0.8s,mb4.9
DGAR Diego Garcia 56.45 265 *e*P **P** **01 49 31.1 -0.3**
ULN Ulaanbaatar 57.21 342 *e*P **P** **01 49 36.6 -0.1**
ULN Ulaanbaatar 57.21 342 P **P** **01 49 34.9 -1.8**
comp=Z,6.5nm,0.6s,mb4.4
SONM Songino Array 57.38 342 P **P** **01 49 38.1 +0.2**
comp=Z,1.5nm,0.4s,mb4.0,baz=163,slow=6.5,SNR=28
SONM PcP PcP 01 50 27.9 -1.2
comp=Z,1.3nm,0.6s,baz=163,slow=3.1,SNR=4.3
SONM S **S** **01 57 15.4 -1.0**
comp=Z,0.4nm,0.9s,baz=162,slow=4.6,SNR=3.2
SONM PKP2bc 02 19 28.2
comp=Z,0.6nm,0.8s,baz=248,slow=2.8,SNR=4.5
SONM Songino Array 57.38 342 P **P** **01 49 38.1 +0.2**
SONM pP 01 50 27.9 -1.0
SONM S **S** **01 57 15.4 -0.9**
SONM Songino Array 57.38 342 P **P** **01 49 38.1 +0.2**
SONM PcP PcP 01 50 27.9 -1.2
SONM S **S** **01 57 15.4 -1.0**
SONM ⇑*e* 02 19 28.2
ZAK Zakamensk 60.60 341 *e*P **P** **01 49 54.0 -6.0**
ZAK *e* pP 01 50 41.3 -10
ZAK pmax pmax
comp=Z,6.0nm,2.0s,mb3.9
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.0
CASY Casey 61.48 189 *e*P **P** **01 50 06.1 +0.2**
WMQ Urumqi 62.28 327 ⇓*i*P **P** **01 50 11.8 +0.6**
WMQ AP pP 01 51 03.0 -0.1
WMQ XP sP 01 51 27.0 -0.9
WMQ PP PP 01 52 33.0 +1.9
WMQ S **S** **01 58 19.0 +0.3**
WMQ XS sS 01 59 48.0 -1.6
WMQ SS SS 02 02 28.0 +1.8
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,121nm,5.0s
WMQ LR LR
comp=N,58nm,12.0s
WMQ LR LR
comp=E,78nm,14.0s
WMQ LR LR
comp=Z,55nm,12.0s
MOY Mondy 62.45 341 *e*P **P** **01 50 13.2 +0.9**
MOY pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
BOD Bodaibo 64.91 351 *e*P **P** **01 50 26.7 -1.6**
BOD pmax pmax
comp=Z,4.0nm,1.5s,mb3.8
MK31 Makanchi Array 67.11 327 P **P** **01 50 42.1 -0.2**
MK31 pmax pmax
comp=Z,40nm,1.1s,mb5.0
MKAR Makanchi Array 67.11 327 P **P** **01 50 42.5 +0.2**
comp=Z,8.4nm,0.4s,mb4.7,baz=110,slow=8.5,SNR=181
MKAR PcP PcP 01 51 07.8 -0.8
comp=Z,3.0nm,0.6s,baz=111,slow=4.4,SNR=4.3
MKAR S S 01 59 18.4 +0.7
comp=Z,0.4nm,0.8s,baz=119,slow=15,SNR=3.1
YAK Yakutsk 67.94 0*d* *i*P **P** **01 50 46.5 -1.0**
YAK pmax pmax
comp=Z,20nm,0.8s,mb4.8
YAK Yakutsk 67.94 0 P **P** **01 50 47.0 -0.5**
KZA Kyzart 68.66 320 P **P** **01 50 52.3 +0.3**
SNR=14
UCH Uchtor 69.21 320 P **P** **01 50 56.9 +1.6**
SNR=30
AAK Ala-Archa 69.42 320*d* *i*P **P** **01 50 56.7 +0.1**
AAK pmax pmax
comp=Z,11nm,1.7s,mb4.2
AAK Ala-Archa 69.42 320 P **P** **01 50 56.5 -0.2**
AML Almayashu 69.69 319 P **P** **01 50 59.5 +1.2**
SNR=6.7
USP Ospenovka 69.73 320 P **P** **01 50 58.8 +0.3**
SNR=11
EKS2 Erkin-Say 69.89 320 P **P** **01 51 00.5 +1.0**
SNR=7.2
ZAL Zaisovo 70.49 334 P **P** **01 51 01.9 -1.3**
comp=Z,4.7nm,0.7s,mb4.2,baz=353,slow=4.0,SNR=34
ZAL S S 01 59 52.6 -4.7
comp=Z,0.5nm,0.5s,baz=118,slow=22,SNR=15
SEY Seymchan 71.06 11 ⇓*i*P **P** **01 51 05.7 -0.9**
KURK Kurchatov 71.40 329 *e*P **P** **01 51 06.1 -2.5**
KURK Kurchatov 71.40 329 P **P** **01 51 08.6 0.0**
KK31 Karatay Array 72.22 319 *i* P **P** **01 51 13.3 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
KKAR Karatay Array 72.22 319 *i* P **P** **01 51 13.3 -0.2**
VNDA Vanda 73.41 173 P **P** **01 51 19.7 -0.7**
comp=Z,9.9nm,0.6s,mb4.6,baz=320,slow=6.3,SNR=60
VNDA Vanda 73.41 173 P **P** **01 51 20.1 -0.4**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 73.41 173 P **P** **01 51 20.1 -0.3**
comp=Z,9.9nm,0.7s,mb4.5
SBA Scott Base 74.31 172 *e*P **P** **01 51 26.0 +0.4**
SBA pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
SBA Scott Base 74.31 172 *e*P **P** **01 51 26.0 +0.4**
comp=Z,8.1nm,0.8s,mb4.4
MAW Mawson 75.53 201 P **P** **01 51 32.3 -0.3**
comp=Z,8.5nm,0.7s,mb4.5,baz=101,slow=11,SNR=6.2
VOSK Vostochnaya 76.49 328 P **P** **01 51 36.7 -1.3**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BVA0 Borovoye Array 76.95 328 P **P** **01 51 39.5 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
BRVK Borovoye 77.02 328 P **P** **01 51 40.6 -0.4**
TIXI Tiksi 77.60 360 P **P** **01 51 43.3 -0.9**
ZRNK Zerenda 77.65 327 P **P** **01 51 44.0 -0.5**
BILL Bilibino 78.41 13 *e*P **P** **01 51 48.3 -0.3**
BILL *e**PP pP 01 51 56.4 -47
BILL *e* 01 52 34.5
BILL pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
OPO Ambohidratompo 80.64 252 P **P** **01 52 01.7 +1.1**
comp=Z,2.6nm,0.8s,mb3.9,baz=52,slow=2.3,SNR=5.1
AB31 Akbulak array 81.39 322 P **P** **01 52 04.0 -0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
GAMB Gambell 82.36 23 P **P** **01 52 10.2 +0.5**
QSPA South Pole Qui 83.86 180 *e*P **P** **01 52 16.8 -0.6**
comp=Z,19nm,0.6s,mb5.0
SYO Syowa Base 84.24 201⇑*e*P **P** **01 52 19.0 -0.3**
SYO Syowa Base 84.24 201⇑*e*PP PP 01 55 39.6 +2.5
ARU Arti 84.59 328⇑*i*P **P** **01 52 19.9 -1.1**
ARU *e* 01 55 39.0
ARU *e*PPP 01 57 31.5
ARU *e*S 02 02 21.7
ARU *e*SS SS 02 08 06.4 +1.5
ARU pmax pmax
comp=Z,15nm,0.9s,mb4.7
ARU Arti 84.59 328 P **P** **01 52 20.4 -0.6**
comp=Z,29nm,1.2s,mb4.9
TNA Tin City 84.65 22 P **P** **01 52 21.0 -0.3**

GNI Garni 89.76 310 *e*P **P** **01 52 47.3 +1.5**
ILAR Eielson Array 92.83 25 P **P** **01 52 57.5 -2.5**
comp=Z,1.9nm,0.8s,mb4.2,baz=269,slow=4.4,SNR=21
ILAR PKKPbc PKKPbc 02 10 09.4 -0.1
comp=Z,0.7nm,0.7s,baz=7.1,slow=0.6,SNR=7.4
MALT Malatya 94.44 308 *e*P **P** **01 53 07.9 +0.6**
DAWY Dawson 96.02 26 P **P** **01 53 14.4 -0.1**
OBN Obninsk 96.54 325 *e*P **P** **01 53 13.9 -3.0**
OBN pmax pmax
comp=Z,42nm,2.5s,mb5.2
OBN Obninsk 96.54 325 *e*P **P** **01 53 13.3 -3.6**
BRTR Keskin Array B 98.23 309 P **P** **01 53 23.4 -1.1**
comp=Z,0.5nm,0.7s,mb4.0,baz=146,slow=8.9,SNR=4.3
LSZ Lusaka 99.06 254 *e*Pdif Pdif 01 53 28.0 -0.2
BOSA Boshof 99.32 240 P Pdif 01 53 29.4 0.0
comp=Z,2.6nm,0.8s,baz=116,slow=8.0,SNR=6.3
BOSA Boshof 99.32 240 *e*Pdif Pdif 01 53 29.8 +0.4
LBTB Lobatse 99.76 243 *e*Pdif Pdif 01 53 31.6 +0.3
ARCES ARCESS Array B 100.51 340 P Pdif 01 53 32.5 -2.1
comp=Z,5.1nm,1.1s,baz=78,slow=7.2,SNR=5.2
ARCES PKiKP PKiKP 01 57 59.0 -1.0
comp=Z,3.6nm,0.9s,baz=90,slow=1.8,SNR=3.9
FINES FINESS Array B 101.66 331 PKiKP PKiKP 01 58 01.7 -0.3
comp=Z,0.9nm,0.7s,baz=0.0,slow=1.9,SNR=4.7
SANT Santorini 104.75 306 *e*Pdif Pdif 01 53 53.6 +0.1
YKA Yellowknife Ar 107.25 26 Pdiff Pdif 01 54 03.8 -0.8
comp=Z,0.2nm,0.8s,baz=298,slow=5.0,SNR=5.2
YKA PKiKP PKiKP 01 58 11.2 -1.1
comp=Z,0.6nm,0.6s,baz=291,slow=1.7,SNR=18
YKA PKKPbc PKKPbc 02 09 27.8 -0.9
comp=Z,1.2nm,0.6s,baz=107,slow=3.1,SNR=27
YKA PKKP PKKPbc 02 09 42.7 +14
comp=Z,0.5nm,0.8s,baz=100,slow=4.8,SNR=6.9
YKA Yellowknife Ar 107.25 26 Pdif Pdif 01 54 03.8 -0.8
YKA PKPdf PKiKP 01 58 11.2 -1.1
YKA PKKPbc PKKPbc 02 09 27.8 -0.9
YKA PKKP PKKPbc 02 09 42.7 +14
GERES GERESS Array B 111.30 320 PKiKP PKiKP 01 58 19.4 -0.5
comp=Z,1.0nm,0.5s,baz=86,slow=1.2,SNR=15
CDF Champ du Feu 115.48 321 *e*PKIKP PKPdf 01 58 28.1 +0.2
comp=Z,1.5nm,0.4s
HINF Hinteralfeld 115.96 321⇑*i*PKIKP PKPdf 01 58 28.0 -0.9
comp=Z,4.9nm,0.6s
HAU Haudompre 116.21 321 *e*PKIKP PKPdf 01 58 29.6 +0.3
PDAR Pinedale Array 116.75 45 PKP PKPdf 01 58 30.6 +0.3
comp=Z,1.0nm,0.7s,baz=240,slow=1.4,SNR=9.1
PDAR PKKPbc PKKPbc 02 08 57.1 -0.3
comp=Z,1.0nm,0.7s,baz=119,slow=7.1,SNR=4.8
MEZF Maizieres J'vi 116.82 322⇑*i*PKIKP PKPdf 01 58 30.3 -0.2
LPG La Plagne 116.84 318 *e*PKIKP PKPdf 01 58 30.6 +0.1
comp=Z,6.1nm,0.7s
LPL La Plagne 116.85 318⇑*i*PKIKP PKPdf 01 58 30.5 -0.1
comp=Z,4.3nm,0.5s
CABF La Chapelle 116.88 320⇑*i*PKIKP PKPdf 01 58 30.5 -0.1
comp=Z,8.3nm,0.5s
MBDF Montbardon 117.09 318 *e*PKIKP PKPdf 01 58 31.1 +0.1
ORIF Oris-en-Rattie 117.62 318 *e*PKIKP PKPdf 01 58 31.7 -0.3
comp=Z,3.2nm,0.6s
LOR Lormes 118.05 321 *e*PKIKP PKPdf 01 58 32.4 -0.5
SMRF Simiane la Rot 118.16 317 *e*PKIKP PKPdf 01 58 33.0 -0.1
comp=Z,13nm,1.0s
SMF Signal de Mont 118.31 320⇑*i*PKIKP PKPdf 01 58 32.6 -0.8
comp=Z,1.6nm,0.4s
SSF Saint Saulge 118.35 321 *e*PKIKP PKPdf 01 58 33.1 -0.4
comp=Z,3.7nm,0.5s
PV10 Paradox Valley 118.39 50 *e*PKPdf PKPdf 01 58 34.8 +1.2
AVF Avril sur Loir 118.56 321⇑*i*PKIKP PKPdf 01 58 33.1 -0.7
comp=Z,2.2nm,0.4s
BGF Bois d'Agland 118.97 321 *e*PKIKP PKPdf 01 58 34.4 -0.2
comp=Z,13nm,0.7s
TCF Toulx Ste Croi 119.48 321 *e*PKIKP PKPdf 01 58 35.4 -0.2
comp=Z,4.8nm,0.7s
RSSD Black Hills 120.05 42 *e*PKPdf PKPdf 01 58 36.4 -0.4
MTLF Montolieu 120.65 317 *e*PKIKP PKPdf 01 58 37.5 -0.4
MFF Saint Martin d 120.82 322⇑*i*PKIKP PKPdf 01 58 37.8 -0.4
comp=Z,14nm,0.7s
ANMO Albuquerque 121.31 53 PKP PKPdf 01 58 40.0 +0.8
comp=Z,2.4nm,0.8s,baz=230,slow=5.2,SNR=6.8
ANMO Albuquerque 121.31 53 *i* PKIKP PKPdf 01 58 39.4 +0.3
SGMF Saint Gilles 121.48 324 *e*PKIKP PKPdf 01 58 38.8 -0.7
comp=Z,3.4nm,0.3s
ROSF Rostrenen 121.85 325 *e*PKIKP PKPdf 01 58 39.5 -0.7
QUIF Quistinic 122.00 324 *e*PKIKP PKPdf 01 58 39.9 -0.6
EPF Esparros 122.04 318 *e*PKIKP PKPdf 01 58 40.5 0.0
comp=Z,2.2nm,0.5s
ULM Lac du Bonnet 122.07 33 PKP PKPdf 01 58 39.3 -1.3
comp=Z,2.2nm,0.5s,baz=6.3,slow=4.0,SNR=6.6
ULM PKKPbc PKKPbc 02 08 38.5 +0.5
comp=Z,0.7nm,0.3s,baz=136,slow=6.3,SNR=3.3
SJPF Ste Jean 123.04 318 *e*PKIKP PKPdf 01 58 42.9 +0.4
TXAR Lajitas Array 125.05 58 PKP PKPdf 01 58 47.1 +0.8
comp=Z,1.8nm,0.8s,baz=219,slow=1.8,SNR=21
TXAR PKKPbc 02 08 27.4
comp=Z,0.3nm,0.7s,baz=118,slow=7.5,SNR=4.7
TXAR Lajitas Array 125.05 58 PKP PKPdf 01 58 47.1 +0.8
TXAR PKKPbc 02 08 27.4
TORD Torodi Ar. Bea 127.96 282 PKP PKPdf 01 58 52.5 +0.6
comp=Z,3.3nm,0.7s,baz=71,slow=1.8,SNR=21
TORD SKPbc 02 01 47.9
comp=Z,0.7nm,0.7s,baz=76,slow=3.1,SNR=5.6
JCT Junction City 127.97 56 *e*PKPdf PKPdf 01 58 52.6 +0.7
SCHQ Schefferville 129.70 12 PKP PKPdf 01 58 54.6 -0.6
comp=Z,2.9nm,0.9s,baz=226,slow=12,SNR=3.9
PLCA Paso Flores 129.94 160 PKP PKPdf 01 58 56.9 +1.3
comp=Z,0.9nm,0.6s,baz=202,slow=5.1,SNR=5.2
LIC Lamto 134.62 273 *e*PKIKP PKPdf 01 59 03.0 -1.4
comp=Z,8.7nm,0.7s
JTS JuntasAbangare 145.84 81 *e*PKPdf PKPdf 01 59 27.2 +2.5
LVC Limon Verde 146.34 149 *e*PKPdf PKPdf 01 59 28.1 +2.6
CPUP Villa Florida 147.12 169 *e*PKIKP PKPdf 01 59 28.1 +1.3
NNA Nana 148.38 125 *e*PKPbc PKPbc 01 59 32.7 +0.1
CAM4 Nova Friburgo 150.62 195⇓*i*P PKPdf 01 59 39.9 +7.5
CAM4 *i* 01 59 42.3
CAM4 *i* 01 59 47.5
CAM3 Guarapari 151.53 200⇓*i*P PKPdf 01 59 41.1 +7.3
CAM3 *i* 01 59 43.8
CAM3 *i* 01 59 50.4
LPAZ La Paz 151.84 142 PKP PKPdf 01 59 36.6 +2.4
comp=Z,2.2nm,0.9s,baz=121,slow=1.0,SNR=5.8
LPAZ PKPbc PKPbc 01 59 43.2 +2.3
comp=Z,4.4nm,0.4s,baz=355,slow=0.9,SNR=31
LPAZ PKPab PKPab 01 59 53.3 +2.4
comp=Z,11nm,0.8s,baz=235,slow=2.6,SNR=13
LPAZ La Paz 151.84 142 *e*PKPdf PKPdf 01 59 36.9 +2.6
LPAZ *e*PKPbc PKPbc 01 59 43.3 +2.4
LPAZ *e*PKPab PKPab 01 59 52.4 +1.5
BDFB Brasilia 158.23 187 PKP PKPdf 01 59 44.3 +1.4
comp=Z,2.4nm,0.7s,baz=94,slow=3.6,SNR=5.4

VIE ***02*** *01:46:12.1±0.8, 4551N×1009E, h8km, mb1.9/1, ML2.4/3, Error ellipse: s-maj=4.4km s-min=3.9km az=21.0 69 km E of Mailand*
ISCJB ***02*** *01:46:13.7±0.4, 4551N±002×987E±003, h24km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=165.3*
CSEM ***02*** *01:46:13.8±0.1, 4550N×1016E, h20km, ML2.5/15, Error ellipse: s-maj=1.4km s-min=1.3km az=112.0*
ROM ***02*** *01:46:13.2±0.2, 4552N×997E, h5km, Md2.8/14, Ml2.1/7, Error ellipse: s-maj=3.3km s-min=2.1km az=3.0*
LDG ***02*** *01:46:14.0±0.1, 4547N×1001E, h10km, Ml2.5/15, Error ellipse: s-maj=2.2km s-min=1.4km az=87.0*
ISC 02 01:46:13.0±0.3, 4551N±002×998E±002, h19km±2km, n73, σ1§04/121, 3C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDI	**Monti di Nese**	**0.33**	**326**	Pg	**Pg**	**01 46 19.6**	**-0.5**
	148nm,0.4s						
SAL	**Salo**	**0.40**	**75**	Pg	**Pg**	**01 46 21.6**	**+0.3**
	79nm,0.2s						
SALO	**Salr**	**0.40**	**74**	Pg	**Pg**	**01 46 21.5**	**+0.1**
SALO				Sg	**Sg**	**01 46 29.5**	**+2.5**
	98nm,0.2s						
MABI	**Malga Bissina**	**0.67**	**34**	Pg	**Pg**	**01 46 26.0**	**-0.2**
	70nm,0.5s						
MUGIO	**Muggio**	**0.77**	**303**	Pg	**Pg**	**01 46 28.4**	**+0.2**
VAI	**Varese**	**0.92**	**294**	Pg	**Pg**	**01 46 29.5**	**-1.4**
VAI				Sg	**Sg**	**01 46 45.4**	**+2.3**
	43nm,0.4s						
BRMO	**Bormio**	**1.01**	**16**	Pg	**Pg**	**01 46 32.4**	**-0.2**
BRMO				Sg	**Sg**	**01 46 46.4**	**+0.5**
	25nm,0.8s						
GRAM		**1.02**	**176**	P	**Pb**	**01 46 32.7**	**+0.7**
TUE	**Stuetta**	**1.06**	**336**	Pg	**Pg**	**01 46 34.2**	**+0.6**

TUE Sg **Sg** **01 46 49.1 +1.6**
24nm,0.7s
CODM 1.12 185 P **Pn** **01 46 35.2 +1.6**
ERBM Eremo 1.13 164 Pg **Pg** **01 46 35.7 +0.8**
14nm,0.4s
VALM 1.17 170 P **Pn** **01 46 35.4 +1.0**
TEOL Teolo 1.20 96⇑*i*Pg **Pg** **01 46 35.2 -1.1**
TEOL *i* Sg **Sg** **01 46 51.8 -0.2**
DAVOX Davos 1.28 357 Pg **Pg** **01 46 37.9 +0.2**
CTI Castel Tesino 1.29 65 Pg **Pg** **01 46 36.9 -1.1**
CTI Sg **Sg** **01 46 55.4 +0.5**
34nm,0.2s
APPI Appiano 1.31 42 Pg **Pg** **01 46 38.1 -0.2**
APPI Sg **Sg** **01 46 56.6 +1.2**
109nm,0.4s
CGRP Cima Grappa 1.33 73⇓*i*Pg **Pg** **01 46 37.0 -1.8**
CGRP *i* Sg **Sg** **01 46 55.4 -0.7**
SARO Sassorosso 1.36 167 P **Pn** **01 46 38.3 +1.4**
PCP Pian Castagno 1.40 227 P **Pn** **01 46 38.4 +0.9**
ORO Oropa 1.41 276 Pg **Pg** **01 46 39.1 -1.0**
ORO Sg **Sg** **01 46 57.6 -0.9**
38nm,0.2s
ORX Oropa 1.41 276 P **Pn** **01 46 36.8 -0.8**
DAVA Damuels 1.78 358⇓*i*Pg **Pg** **01 46 46.6 -0.7**
DAVA ⇓*i*Sg **Sg** **01 47 12.1 +1.6**
9.3nm,0.3s
PII Pisa 1.83 167 Pg **Pg** **01 46 46.7 -1.5**
14nm,0.2s
SQTA Sankt Quirin 1.92 26⇑*i*Pg **Pg** **01 46 48.6 -1.3**
SQTA ⇓*i*Sg **Sg** **01 47 14.6 -0.2**
6.0nm,0.3s
ROB Roburent 1.93 232 P **Pn** **01 46 45.6 +0.9**
SEST Monte Rota 1.99 51 Pg **Pg** **01 46 48.6 -2.7**
33nm,0.7s
MOTA Moosalm 2.00 23⇓*i*Pg **Pg** **01 46 49.4 -2.0**
MOTA ⇑*i*Sg **Sg** **01 47 17.0 -0.4**
4.8nm,0.4s
LPG La Plagne 2.27 271 *e*Pn **Pn** **01 46 50.2 +0.8**
SNR=1.0
LPG La Plagne 2.27 271 *e*P **Pn** **01 46 52.9 +3.5**
LPG *e*Sn **Sn** **01 47 17.4 +0.6**
SNR=1.0
LPG *e*Sg **Sg** **01 47 26.2 +0.2**
8.6nm,0.4s,SNR=1.0
LPG La Plagne 2.27 271 *e*P **Pn** **01 46 52.9 +3.5**
LPG *e*Sn **Sn** **01 47 17.4 +0.6**
SNR=1.0
LPG *e*Sg **Sg** **01 47 26.2 +0.2**
4.3nm,0.4s,SNR=1.0
LPL La Plagne 2.28 271 *e*Pn **Pn** **01 46 49.8 +0.2**
SNR=1.0
LPL La Plagne 2.28 271 *e*P **Pn** **01 46 52.8 +3.2**
LPL *e*Sn **Sn** **01 47 17.2 0.0**
LPL *e*Sg **Sg** **01 47 26.4 0.0**
4.3nm,0.3s,SNR=1.0
LPL La Plagne 2.28 271 *e*P **Pn** **01 46 52.8 +3.2**
LPL *e*Sn **Sn** **01 47 17.2 0.0**
LPL *e*Sg **Sg** **01 47 26.4 0.0**
2.2nm,0.3s,SNR=1.0
MBDF Montbardon 2.40 252 *e*Pn **Pn** **01 46 50.9 -0.3**
SNR=1.0
MBDF *e*Sn **Sn** **01 47 19.9 -0.2**
4.7nm,0.3s,SNR=1.0
MBDF Montbardon 2.40 252 *e*Pn **Pn** **01 46 50.9 -0.3**
SNR=1.0
MBDF *e*Sn **Sn** **01 47 19.9 -0.2**
2.3nm,0.3s,SNR=1.0
SBF Sospel 2.45 229 *e*Pn **Pn** **01 46 52.4 +0.5**
SNR=1.0
SBF Sospel 2.45 229 *e*P **Pn** **01 46 54.9 +3.0**
SBF *e*Sn **Sn** **01 47 20.3 -1.0**
4.5nm,0.2s,SNR=1.0
SBF Sospel 2.45 229 *e*P **Pn** **01 46 54.9 +3.0**
SBF *e*Sn **Sn** **01 47 20.3 -1.0**
2.2nm,0.2s,SNR=1.0
CABF La Chapelle 2.92 294 *e*Pn **Pn** **01 46 59.4 +0.9**
CABF La Chapelle 2.92 294 *e*P **Pn** **01 47 02.2 +3.7**
CABF *e*Sn **Sn** **01 47 33.0 0.0**
1.3nm,0.3s
CABF La Chapelle 2.92 294 *e*P **Pn** **01 47 02.2 +3.7**
CABF *e*Sn **Sn** **01 47 33.0 0.0**
0.6nm,0.3s
ORIF Oris-en-Rattie 2.95 260 *e*Pn **Pn** **01 47 00.3 +1.4**
SNR=1.0
ORIF *e*Sn **Sn** **01 47 33.3 -0.5**
9.3nm,0.4s
ORIF Oris-en-Rattie 2.95 260 *e*Pn **Pn** **01 47 00.3 +1.4**
SNR=1.0
ORIF *e*Sn **Sn** **01 47 33.3 -0.5**
4.7nm,0.4s
PGF Pioggiola 3.04 194 *e*Pn **Pn** **01 47 00.0 -0.1**
SNR=1.0
FRF La Foret Royal 3.07 232 *e*Pn **Pn** **01 47 00.4 -0.1**
SNR=1.0
FRF La Foret Royal 3.07 232 *e*Pg **Pg** **01 47 10.7 -1.2**
SNR=1.0
FRF *e*Sn **Sn** **01 47 35.9 -0.9**
2.6nm,0.3s
FRF La Foret Royal 3.07 232 *e*Pg **Pg** **01 47 10.7 -1.2**
SNR=1.0
FRF *e*Sn **Sn** **01 47 35.9 -0.9**
1.3nm,0.3s
HINF Hinteralfeld 3.16 318 *e*Pn **Pn** **01 47 02.6 +0.9**
SNR=1.0
HINF *e*Sn **Sn** **01 47 37.6 -1.2**
2.4nm,0.3s,SNR=1.0
HINF Hinteralfeld 3.16 318 *e*Pn **Pn** **01 47 02.6 +0.9**
SNR=1.0
HINF *e*Sn **Sn** **01 47 37.6 -1.2**
1.2nm,0.3s,SNR=1.0
LMR La Mourre 3.30 230 *e*Pn **Pn** **01 47 03.7 +0.1**
SNR=1.0
LMR La Mourre 3.30 230 *e*P **Pn** **01 47 07.0 +3.4**
LMR La Mourre 3.30 230 *e*P **Pn** **01 47 07.0 +3.4**
CDF Champ du Feu 3.44 329 *e*Pn **Pn** **01 47 06.4 +0.8**
SNR=1.0
CDF *e*Sn **Sn** **01 47 45.6 -0.3**
2.3nm,0.4s,SNR=1.0
CDF Champ du Feu 3.44 329 *e*Pn **Pn** **01 47 06.4 +0.8**
SNR=1.0
CDF *e*Sn **Sn** **01 47 45.6 -0.3**
1.1nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.49 246 *e*Pn **Pn** **01 47 06.8 +0.6**
SNR=1.0
SMRF *e*Sg **Sg** **01 48 03.6 -1.5**
3.3nm,0.6s,SNR=1.0
SMRF Simiane la Rot 3.49 246 *e*Pn **Pn** **01 47 06.8 +0.6**
SNR=1.0
SMRF *e*Sg **Sg** **01 48 03.6 -1.5**
1.6nm,0.6s,SNR=1.0
HAU Haudompre 3.53 316 *e*Pn **Pn** **01 47 07.4 +0.6**
SNR=1.0
HAU *e*Sn **Sn** **01 47 47.4 -0.6**
3.4nm,0.2s,SNR=1.0
HAU Haudompre 3.53 316 *e*Pn **Pn** **01 47 07.4 +0.6**
SNR=1.0
HAU *e*Sn **Sn** **01 47 47.4 -0.6**
1.7nm,0.2s,SNR=1.0
NVLJ Novalja 3.60 103 *i* Pn **Pn** **01 47 07.8 +0.1**
NVLJ *i* Sn **Sn** **01 47 48.3 -1.4**
NVLJ Novalja 3.60 103 *i* Pn **Pn** **01 47 07.8 +0.1**
NVLJ *i* Sn **Sn** **01 47 48.2 -1.5**
VIVF Saint-Julien-l 3.81 262 *e*Pn **Pn** **01 47 10.9 +0.3**
SNR=1.0
SMF Signal de Mont 4.42 287 *e*Pn **Pn** **01 47 20.1 +1.1**
SNR=1.0
SMF *e*Sn **Sn** **01 48 08.6 -1.3**
2.7nm,0.5s,SNR=1.0
SMF Signal de Mont 4.42 287 *e*Pn **Pn** **01 47 20.1 +1.1**
SNR=1.0
SMF *e*Sn **Sn** **01 48 08.6 -1.3**
1.4nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 4.51 313 *e*Pn **Pn** **01 47 21.1 +0.9**
SNR=1.0
LASF Ste Croix 4.58 254 *e*Pn **Pn** **01 47 21.7 +0.4**
LOR Lormes 4.58 295 *e*Pn **Pn** **01 47 22.5 +1.2**
SNR=1.0
LOR *e*Sn **Sn** **01 48 12.8 -1.2**
2.6nm,0.4s,SNR=1.0
LOR Lormes 4.58 295 *e*Pn **Pn** **01 47 22.5 +1.2**
SNR=1.0
LOR *e*Sn **Sn** **01 48 12.8 -1.2**
1.3nm,0.4s,SNR=1.0
SSF Saint Saulge 4.75 291 *e*Pn **Pn** **01 47 24.4 +0.9**
SSF *e*Sn **Sn** **01 48 16.4 -1.6**
0.8nm,0.3s

SSF	**Saint Saulge**	**4.75 291**	*e*Pn	**Pn**	**01 47 24.4**	**+0.9**
SSF			*e*Sn	**Sn**	**01 48 16.4**	**-1.6**
	0.4nm,0.3s					
AVF	**Avril sur Loir**	**4.78 288**	*e*Pn	**Pn**	**01 47 24.0**	**0.0**
	SNR=1.0					
BGF	**Bois d'Agland**	**5.07 284**	*e*Pn	**Pn**	**01 47 28.5**	**+0.5**
BGF			*e*Sn	**Sn**	**01 48 24.1**	**-2.0**
	2.7nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**5.07 284**	*e*Pn	**Pn**	**01 47 28.5**	**+0.5**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**01 48 24.1**	**-2.0**
	1.4nm,0.3s,SNR=1.0					
CAF	**Calviac**	**5.62 267**	*e*Pn	**Pn**	**01 47 36.0**	**+0.5**

*NNC **02** 01:50:07.7±124.0,3969N×7728E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=1084.2km s-min=924.1km az=158.0
*ISCJB **02** 01:50:13.0±3.2,400N±02×773E±02,h10km,Error ellipse:*
s-maj=27.7km s-min=21.9km az=56.3

ISC 02 01:50:13.0±3.1,400N±02×775E±02,h10km,n7,σ1°14/8,
2C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.46**	**338**	P	**Pn**	**01 50 53.7**	**+0.5**
	SNR=8.8						
TKM2	**Tokmak 2**	**3.27**	**335**	P	**Pn**	**01 51 09.0**	**+4.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**3.27**	**335**	⇑P	**Pn**	**01 51 03.5**	**-0.8**
	11nm,0.7s						
TKM2				⇑S	**Sn**	**01 51 44.5**	**+1.2**
KBK	**Karagaybulak**	**3.29**	**325**	P	**Pn**	**01 51 03.1**	**-1.5**
	SNR=20						
AAK	**Ala-Archa**	**3.48**	**321**	P	**Pn**	**01 51 08.4**	**+1.2**
	SNR=6.1						
CHMS	**Chumysh**	**3.65**	**327**	P	**Sn**	**01 51 51.2**	**-1.6**
	SNR=7.5						
KK31	**Karatay Array**	**6.10**	**303**	⇓S	**Sn**	**01 52 53.4**	**+0.4**
	4.7nm,0.8s,baz=128,slow=24						

IDC 02 01:53:58.1±2.1,522S×15256E,h0km,mb3.4/4,mb1 3.7/4,
mb1mx3.5/14,mbtmp3.4/4,Error ellipse: s-maj=98.2km
s-min=27.6km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.78**	**232**	Sn	Sn	01 56 54.6	-2.0
	2.6nm,0.3s,baz=324,slow=7.9,SNR=4.1						
WRA	**Warramunga Arr**	**22.99**	**229**	P	P	01 59 04.3	0.0
	0.7nm,0.7s,baz=54,slow=9.9,SNR=4.7						
ASAR	**Alice Springs**	**25.68**	**223**	P	P	01 59 30.1	+0.5
	0.5nm,0.6s,baz=58,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**80.48**	**319**	P	P	02 06 12.1	+0.2
	0.1nm,0.5s,baz=104,slow=5.9,SNR=1.9						
ILAR	**Eielson Array**	**82.64**	**22**	P	P	02 06 23.2	-0.1
	0.4nm,0.6s,baz=245,slow=5.4,SNR=9.3						

WEL 02 02:30:24.3±0.3,3757S×17635E,h198km±3km,ML3.5/13,
Error ellipse: s-maj=5.0km s-min=4.3km az=90.0,North
Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.91**	**139**	PN	Pn	02 30 53.4	+0.2
URZ				SN	Sn	02 31 15.3	-0.4
MWZ	**Matawai**	**1.20**	**130**	PN	Pn	02 30 55.5	+0.2
MWZ				SN	Sn	02 31 19.1	-0.3
MXZ	**Matakaoa Point**	**1.56**	**90**	PN	Pn	02 30 58.3	0.0
MXZ				SN	Sn	02 31 25.3	+0.6
PUZ	**Puketiti**	**1.59**	**109**	PN	Pn	02 30 58.4	-0.2
PUZ				SN	Sn	02 31 25.7	+0.4
BKZ	**Black Stump Fm**	**1.59**	**176**	PN	Pn	02 30 58.8	+0.1
BKZ				SN	Sn	02 31 25.2	-0.2
TUVZ	**Tukino**	**1.78**	**198**	PN	Pn	02 31 01.3	+0.9
KNZ	**Kokohu**	**1.78**	**145**	PN	Pn	02 31 00.7	+0.3
WNVZ	**Wahianoa**	**1.85**	**198**	PN	Pn	02 31 01.5	+0.4
MOVZ	**Moawhango**	**1.89**	**194**	PN	Pn	02 31 01.5	0.0
WAZ	**Wanganui**	**2.43**	**206**	PN	Pn	02 31 07.8	+0.6
PXZ	**Pawanui**	**2.49**	**171**	PN	Pn	02 31 07.4	-0.5
TSZ	**Takapari Road**	**2.50**	**187**	PN	Pn	02 31 07.5	-0.5
BFZ	**Birch Farm**	**3.10**	**181**	PN	Pn	02 31 13.9	-1.2
MQZ	**McQueen's Vall**	**6.74**	**203**	*e*SN	Sn	02 33 09.6	-8.2

*ISCJB **02** 02:39:19.1±0.3,4737N±002×686E±002,h9km±3km,Error*
ellipse: s-maj=2.9km s-min=2.7km az=77.7
*ZUR **02** 02:39:20.1,4738N×697E,h5km±1km,ML1.4/10*
*LDG **02** 02:39:20.1±0.1,4738N×697E,h6km,Md2.5/2,Ml2.0/11,*
Error ellipse: s-maj=1.0km s-min=0.9km az=103.0
*STR **02** 02:39:20.4±0.3,4738N×695E,h10km±1km,Ml1.8,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 02 02:39:19.9±0.3,4738N±002×692E±003,h15km±2km,n37,
σ0°72/58,3C-1D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.07**	**242**	Pg	**Pg**	**02 39 23.8**	**+1.0**
LOMF				Sg	**Sg**	**02 39 25.3**	**+0.6**
BOURR	**Bourrignon**	**0.21**	**87**	*e*S	**Pg**	**02 39 24.3**	**-0.5**
	116nm,0.3s						
BOURR	**Bourrignon**	**0.21**	**87**	*i* P	**Sg**	**02 39 27.1**	**-1.0**
	116nm,0.3s						
HINF	**Hinteralfeld**	**0.44**	**355**	*e*Pg	**Pg**	**02 39 28.5**	**-0.2**
HINF				*e*Sg	**Sg**	**02 39 34.3**	**-0.3**
	7.1nm,0.2s						
MOF	**Molkenrain**	**0.49**	**17**	Pg	**Pg**	**02 39 30.5**	**+0.8**
MOF				Sg	**Sg**	**02 39 37.1**	**+0.8**
BALST	**Balsthal**	**0.53**	**95**	*i* S	**Pg**	**02 39 30.1**	**-0.4**
	45nm,0.5s						
BALST	**Balsthal**	**0.53**	**95**	⇓*i* P	**Sg**	**02 39 36.9**	**-0.7**
	45nm,0.5s						
BRANT	**Les Verrieres**	**0.54**	**214**	⇑*i* P	**Pg**	**02 39 31.9**	**+1.4**
	9.3nm,1.0s						
TORNY	**Torny**	**0.61**	**177**	*i* S	**Pg**	**02 39 35.3**	**+3.4**
	85nm,0.2s						
HAU	**Haudompre**	**0.73**	**329**	*e*Pg	**Pg**	**02 39 34.4**	**+0.2**
HAU	**Haudompre**	**0.73**	**329**	*e*Pn	**Pn**	**02 39 35.7**	**0.0**
HAU				*e*Sg	**Sg**	**02 39 44.2**	**+0.3**
HAU				*e*Sn	**Sn**	**02 39 47.0**	**+0.3**
	15nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.83**	**79**	*e*P	**Pg**	**02 39 37.4**	**+1.4**
	28nm,0.1s						
ECH	**Echery**	**0.85**	**11**	Pg	**Pg**	**02 39 37.4**	**+1.0**
ECH				Sg	**Sg**	**02 39 48.0**	**+0.4**
CABF	**La Chapelle**	**0.96**	**217**	*e*Pg	**Pg**	**02 39 38.8**	**+0.3**
CABF	**La Chapelle**	**0.96**	**217**	*e*Pn	**Pn**	**02 39 39.1**	**+0.3**
CABF				*e*Sg	**Sg**	**02 39 51.1**	**+0.1**
CABF				*e*Sn	**Sn**	**02 39 52.4**	**+0.2**
	1.4nm,0.2s						
GIMEL	**Gimel**	**0.96**	**208**	⇑*i* P	**Pb**	**02 39 40.3**	**+2.0**
	18nm,0.2s						
AIGLE	**Aigle**	**1.04**	**179**	*e*P	**Pb**	**02 39 40.7**	**+1.0**
	18nm,0.2s						
HASLI	**Hasliberg**	**1.05**	**126**	*e*P	**Pb**	**02 39 40.5**	**+0.7**
	18nm,0.3s						
THEF	**They Montfort**	**1.05**	**324**	Pg	**Pg**	**02 39 41.5**	**+1.2**
THEF				Sg	**Sg**	**02 39 54.7**	**+0.7**
CDF	**Champ du Feu**	**1.06**	**13**	*e*Pn	**Pn**	**02 39 39.7**	**-0.5**
CDF	**Champ du Feu**	**1.06**	**13**	*e*Pg	**Pg**	**02 39 39.9**	**-0.5**
CDF				*e*Sg	**Sg**	**02 39 53.1**	**-1.1**
	6.6nm,0.3s						
WLS	**Welschbruch**	**1.07**	**16**	Pg	**Pg**	**02 39 40.4**	**-0.3**
BNALP	**Bannalp**	**1.15**	**116**	⇑*i* P	**Pn**	**02 39 42.0**	**+0.5**
	13nm,0.4s						
BFO	**Black Forest**	**1.34**	**45**	*e*Pg	**Pg**	**02 39 45.1**	**-0.7**
	SNR=2.8						
BFO				*e*Sg	**Sg**	**02 40 02.1**	**-1.3**
SFTF	**Sexfontaines**	**1.51**	**304**	*e*Pn	**Pn**	**02 39 46.5**	**+0.1**
SFTF	**Sexfontaines**	**1.51**	**304**	*e*Pg	**Pg**	**02 39 49.1**	**+0.1**
	baz=118						
SFTF				*e*Sn	**Sn**	**02 40 05.4**	**-0.4**
SFTF				*e*Sg	**Sg**	**02 40 08.8**	**+0.2**
	1.3nm,0.2s						
RFYF	**Reffroy**	**1.58**	**323**	*e*Pn	**Pn**	**02 39 47.2**	**-0.2**
RFYF	**Reffroy**	**1.58**	**323**	*e*Pg	**Pg**	**02 39 50.1**	**-0.2**
	baz=140						
RFYF				*e*Sg	**Sg**	**02 40 11.2**	**+0.4**
	3.8nm,0.3s						
MEZF	**Maizieres J'vi**	**1.68**	**312**	*e*Pg	**Pg**	**02 39 52.2**	**0.0**
	baz=128						
MEZF				*e*Sg	**Sg**	**02 40 13.9**	**-0.2**
	1.2nm,0.3s						
LPL	**La Plagne**	**1.87**	**184**	*e*Pg	**Pg**	**02 39 54.9**	**-1.0**
LPG	**La Plagne**	**1.89**	**183**	*e*Pg	**Pg**	**02 39 55.4**	**-0.8**
LPG				*e*Sg	**Sg**	**02 40 20.1**	**-0.6**
	0.6nm,0.3s						
LOR	**Lormes**	**2.08**	**268**	*e*Pg	**Pg**	**02 39 59.8**	**-0.1**
	baz=91						
LOR				*e*Sg	**Sg**	**02 40 26.2**	**-0.7**
	2.5nm,0.2s						
SMF	**Signal de Mont**	**2.23**	**252**	*e*Pn	**Pn**	**02 39 56.5**	**+0.2**
SMF	**Signal de Mont**	**2.23**	**252**	*e*Pg	**Pg**	**02 40 02.0**	**-0.7**
SMF				*e*Sg	**Sg**	**02 40 31.1**	**-0.5**
	2.5nm,0.3s						
SSF	**Saint Saulge**	**2.34**	**263**	*e*Sn	**Sn**	**02 40 25.9**	**-0.6**
SSF				*e*Sg	**Sg**	**02 40 35.7**	**+0.4**
	1.0nm,0.3s						
AVF	**Avril sur Loir**	**2.50**	**258**	*e*Pg	**Pg**	**02 40 07.1**	**-0.9**
AVF				*e*Sn	**Sn**	**02 40 29.9**	**-0.5**
AVF				*e*Sg	**Sg**	**02 40 39.7**	**-0.8**
	0.5nm,0.3s						
BGF	**Bois d'Agland**	**2.91**	**255**	*e*Sg	**Sg**	**02 40 52.2**	**-1.1**
	3.5nm,0.5s						

*ISCJB **02** 02:43:03.2±0.5,4441N±002×716E±005,h5km,Error*
ellipse: s-maj=5.1km s-min=2.6km az=128.4
*STR **02** 02:43:03.9±0.6,4442N×722E,h5km±1km,Ml1.9,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **02** 02:43:04.1±0.1,4442N×720E,h2km,Md2.2/1,Ml1.8/7,*
Error ellipse: s-maj=1.4km s-min=0.7km az=64.0

ISC 02 02:43:03.6±0.6,4441N±002×719E±005,h16km±6km,n14,
σ0°34/26,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.28**	**284**	Pg	**Pg**	**02 43 10.0**	**+0.4**
SURF				Sg	**Sg**	**02 43 14.0**	**+0.4**
MBDF	**Montbardon**	**0.43**	**317**	*e*Pg	**Pg**	**02 43 12.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**02 43 18.4**	**+0.3**
	12nm,0.2s						
AUTN	**L'Aution**	**0.45**	**157**	Pg	**Pg**	**02 43 12.7**	**0.0**
AUTN				Sg	**Sg**	**02 43 19.0**	**+0.1**
SAOF	**Saorge**	**0.50**	**148**	Pg	**Pg**	**02 43 13.6**	**-0.1**
SAOF				Sg	**Sg**	**02 43 19.7**	**-0.7**
MVIF	**Mont Vial**	**0.52**	**183**	Pg	**Pg**	**02 43 14.5**	**+0.6**
SBF	**Sospel**	**0.58**	**162**	*e*Pg	**Pg**	**02 43 15.4**	**+0.3**
SBF				*e*Sg	**Sg**	**02 43 22.8**	**0.0**
	7.6nm,0.2s						
FRF	**La Foret Royal**	**0.94**	**205**	*e*Pg	**Pg**	**02 43 21.9**	**+0.1**
FRF				*e*Sg	**Sg**	**02 43 34.1**	**0.0**
	6.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.06**	**299**	*e*Pg	**Pg**	**02 43 24.0**	**-0.1**
ORIF				*e*Sg	**Sg**	**02 43 37.4**	**-0.6**
	1.3nm,0.2s						
LPG	**La Plagne**	**1.13**	**344**	*e*Pg	**Pg**	**02 43 25.4**	**0.0**
LPG				*e*Sg	**Sg**	**02 43 40.0**	**-0.1**
	0.9nm,0.2s						
LPL	**La Plagne**	**1.15**	**344**	*e*Pg	**Pg**	**02 43 25.8**	**0.0**
LPL				*e*Sg	**Sg**	**02 43 40.7**	**-0.1**
	1.1nm,0.2s						
LMR	**La Mourre**	**1.19**	**205**	*e*Pn	**Pn**	**02 43 26.1**	**+0.5**
LMR	**La Mourre**	**1.19**	**205**	*e*Pg	**Pg**	**02 43 26.4**	**-0.1**
LMR				*e*Sg	**Sg**	**02 43 41.7**	**-0.3**
	3.7nm,0.2s						
SMRF	**Simiane la Rot**	**1.24**	**250**	*e*Pg	**Pg**	**02 43 27.5**	**0.0**
SMRF				*e*Sg	**Sg**	**02 43 43.6**	**-0.1**
	3.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.85**	**285**	*e*Pg	**Pg**	**02 43 38.2**	**-0.9**
VIVF				*e*Sn	**Sn**	**02 43 57.7**	**0.0**
	0.7nm,0.3s						

*ISCJB **02** 02:51:39.9±1.3,4197N±008×788E±0.1,h10km,Error*
ellipse: s-maj=17.7km s-min=6.2km az=73.7
*BJI **02** 02:51:43.3,4162N×7950E,h13km,ML2.9*
*NNC **02** 02:51:45.8±3.8,4215N×7914E,h0km,mb3.4,mpv3.0,*
Error ellipse: s-maj=41.8km s-min=13.0km az=152.0

ISC 02 02:51:42.6±1.3,4197N±008×789E±01,h10km,n5,σ1°48/6,
7C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**2.59**	**293**	⇑Pn	**Pg**	**02 52 31.5**	**-0.7**
	4.9nm,0.4s						
TKM2				⇑Lg		02 53 11.3	
	23nm,0.6s						
KSH	**Kashi**	**3.28**	**223**	*e*PG	**Pg**	**02 52 43.3**	**-2.1**
KSH				*e*SG	**Sg**	**02 53 29.2**	**+1.3**
KSH				Smax			
	comp=N,40nm,0.8s						
KSH				Smax			
	comp=E,40nm,1.0s						
MK03	**Makanchi Array**	**5.40**	**26**	⇑Pn	**Pn**	**02 53 03.7**	**+0.5**
	comp=E,1.8nm,0.8s,baz=199,slow=12						
MK03				⇑Sn	**Sn**	**02 54 05.4**	**0.0**
	comp=E,6.6nm,1.0s,baz=202,slow=24						
MK03				⇓Lg		02 54 29.7	
	comp=E,2.3nm,0.5s,baz=202,slow=25						
KK31	**Karatay Array**	**6.26**	**283**	⇑Pg	**Pg**	**02 53 43.1**	**+0.6**
	comp=E,0.3nm,0.3s,baz=90,slow=15,SNR=13						
KK31				⇑Lg		02 55 09.4	
	comp=E,1.9nm,0.6s,baz=106,slow=27,SNR=7.2						
KURK	**Kurchatov**	**8.75**	**359**	⇑Lg		02 56 16.7	
	comp=E,3.0nm,0.7s						

*CSEM **02** 02:52:51.2±1.0,3881N×2906W,h6km±6km,ML1.6,Error*
ellipse: s-maj=13.8km s-min=5.2km az=67.0,After PDA
*PDA **02** 02:52:51.2±1.0,3881N×2906W,h6km±6km,MD3.1,ML1.6,*
Error ellipse: s-maj=13.8km s-min=5.2km az=67.0

SVSA 02 02:52:51.2±1.0,3881N×2906W,h6km±6km,MD3.1,ML1.6,
Error ellipse: s-maj=13.8km s-min=5.2km az=67.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.30**	**138**	*e*S	Sg	02 53 01.2	0.0
PTCA							
	19nm,0.1s						
CALA	**Caldeira**	**0.36**	**130**	*e*P	Pg	02 52 57.4	-0.8
CALA				*e*S	Sg	02 53 02.3	-0.6
HOR	**Horta**	**0.44**	**131**	*e*P	Pg	02 52 58.6	-1.1
HOR				*e*S	Sg	02 53 04.1	-1.3
PCND	**Candelaria**	**0.58**	**126**	*e*S	Sg	02 53 08.5	-1.3
PCND							
	13nm,0.2s						
PICO	**Pico**	**0.58**	**122**	*i* P	Pg	02 53 01.3	-1.1
PICO				*e*S	Sg	02 53 08.5	-1.5
PICO	**Pico**	**0.58**	**122**	*e*S	Sg	02 53 08.5	-1.5
ROSA	**Rosais**	**0.64**	**98**	*e*P	Pg	02 53 02.1	-1.5
ROSA				*e*S	Sg	02 53 09.7	-2.2
PBOI	**Pico dos Bois**	**0.65**	**125**	*e*S	Sg	02 53 10.3	-1.9
PBOI							
	9.5nm,0.1s						

*ISCJB **02** 03:01:09.9±0.3,4442N±002×723E±004,h18km±4km,*
Error ellipse: s-maj=5.0km s-min=2.8km az=123.9
*ROM **02** 03:01:09.8±0.2,4442N×723E,h14km±3km,Md2.2/3,*
Ml2.4/1,Error ellipse: s-maj=4.4km s-min=3.4km az=9.0
*LDG **02** 03:01:09.9±0.1,4443N×721E,h3km,Md2.5/1,Ml2.3/10,*
Error ellipse: s-maj=1.3km s-min=0.6km az=62.0
*STR **02** 03:01:09.9±0.5,4443N×721E,h5km±1km,Ml2.1,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 02 03:01:09.6±0.3,4442N±002×719E±003,h17km±3km,n28,
σ0°55/45,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.09**	**28**	Pg	**Pg**	**03 01 13.5**	**+0.5**
DOI				Sg	**Sg**	**03 01 15.7**	**+0.4**
	913nm,0.3s						
PZZ	**Prazzo**	**0.10**	**323**		**Pg**	**03 01 13.5**	**+0.4**
STV	**Sta Anna Valdi**	**0.20**	**151**		**Pg**	**03 01 14.6**	**+0.2**
ENR	**Entracque**	**0.26**	**139**		**Pg**	**03 01 15.3**	**0.0**
SURF	**Saint Ours**	**0.27**	**282**	Pg	**Pg**	**03 01 16.0**	**+0.4**
SURF				Sg	**Sg**	**03 01 19.7**	**+0.1**
MBDF	**Montbardon**	**0.42**	**316**	*e*Pg	**Pg**	**03 01 18.6**	**+0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**03 01 24.5**	**+0.5**
	40nm,0.2s						
AUTN	**L'Aution**	**0.46**	**158**	Pg	**Pg**	**03 01 18.9**	**0.0**
AUTN				Sg	**Sg**	**03 01 25.3**	**+0.2**
ROB	**Roburent**	**0.51**	**104**		**Pg**	**03 01 19.7**	**0.0**
SAOF	**Saorge**	**0.51**	**149**	Pg	**Pg**	**03 01 19.7**	**-0.1**
SAOF				Sg	**Sg**	**03 01 25.8**	**-0.9**
MVIF	**Mont Vial**	**0.53**	**183**	Pg	**Pg**	**03 01 20.8**	**+0.7**
MVIF				Sg	**Sg**	**03 01 27.5**	**+0.3**
RRL	**Cesana Torines**	**0.57**	**330**		**Pg**	**03 01 22.0**	**+1.1**
SBF	**Sospel**	**0.59**	**162**	*e*Pg	**Pg**	**03 01 21.5**	**+0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**03 01 28.8**	**-0.3**
	22nm,0.3s						
IMI	**Imperia**	**0.72**	**135**	Pg	**Pg**	**03 01 23.4**	**-0.3**
IMI				Sg	**Sg**	**03 01 32.8**	**-0.4**
	5.0nm,0.2s						
RSP	**Reno Superiore**	**0.73**	**4**		**Pb**	**03 01 22.9**	**-0.9**
FIN	**Finale Ligure**	**0.76**	**106**	Pg	**Pg**	**03 01 24.2**	**-0.3**
	5.0nm,0.2s						
FRF	**La Foret Royal**	**0.95**	**204**	*e*Pg	**Pg**	**03 01 27.7**	**-0.2**
FRF	**La Foret Royal**	**0.95**	**204**	*e*Pn	**Pn**	**03 01 28.7**	**+0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**03 01 40.3**	**-0.1**
	15nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.05**	**298**	*e*Pg	**Pg**	**03 01 30.0**	**0.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**03 01 43.4**	**-0.4**
	6.6nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.12**	**344**	*e*Pg	**Pg**	**03 01 31.0**	**-0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**03 01 45.4**	**-0.4**
	8.0nm,0.4s,SNR=1.0						
LPG				*e*Sn	**Sn**	**03 01 46.2**	**+0.8**
	SNR=1.0						
LPL	**La Plagne**	**1.14**	**344**	*e*Pg	**Pg**	**03 01 31.4**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**03 01 46.2**	**-0.3**
	5.1nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.19**	**204**	*e*Pn	**Pn**	**03 01 32.1**	**+0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.19**	**204**	*e*Pg	**Pg**	**03 01 32.6**	**0.0**
LMR				*e*Sg	**Sg**	**03 01 48.0**	**-0.2**
	5.6nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.24**	**249**	*e*Pg	**Pg**	**03 01 33.5**	**0.0**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**03 01 50.1**	**+0.3**
	20nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.85**	**284**	*e*Pn	**Pn**	**03 01 41.0**	**+0.6**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.85**	**284**	*e*Pg	**Pg**	**03 01 44.4**	**-0.6**
VIVF				*e*Sn	**Sn**	**03 02 03.9**	**+0.5**
	1.9nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.29**	**144**	*e*Pn	**Pn**	**03 01 46.6**	**0.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**03 02 13.9**	**-0.5**
	7.6nm,0.9s,SNR=1.0						
LOR	**Lormes**	**3.67**	**322**	*e*Sg	**Sg**	**03 03 06.4**	**-1.2**
	1.6nm,0.4s,SNR=1.0						
CAF	**Calviac**	**3.69**	**280**	*e*Sg	**Sg**	**03 03 05.9**	**-2.1**
	0.5nm,0.2s,SNR=1.0						

*IDC **02** 03:35:11.6±1.2,327N×9825E,h0km,mb3.6/7,mb1 3.8/7,*
mb1mx3.6/20,mbtmp3.6/7,MS3.1/2,Ms1 3.1/2,
ms1mx2.6/21,Error ellipse: s-maj=63.5km s-min=9.2km
az=45.0
*ISCJB **02** 03:35:13.8±2.5,33N±0.1×982E±0.1,h26km±18km,mb3.6/8,*
MS3.2/2,Error ellipse: s-maj=23.9km s-min=19.4km
az=152.3
*NEIC **02** 03:35:15.8±0.7,326N×9833E,h30km,mb4.0/1,Error*
ellipse: s-maj=19.9km s-min=10.9km az=51.0

ISC 02 03:35:13.0±3.0,33N±01×982E±01,h7km±20km,n15,
σ0°35/13,mb3.6/8,MS3.2/2,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.87**	**128**	Pg	**Pg**	**03 35 29.8**	**0.0**
	111nm,0.3s,baz=316,slow=13,SNR=159						
PSI				Lg		03 35 39.5	
	126nm,0.3s,baz=336,slow=19,SNR=25						
PSI				Rg		03 35 46.2	
	462nm,0.6s,baz=239,slow=18,SNR=9.9						
PSI	**Prapat**	**0.87**	**128**	Pg	**Pg**	**03 35 29.8**	**0.0**
PSI				Lg		03 35 39.5	
PSI				Rg		03 35 46.2	
IPM	**Ipoh**	**3.01**	**68**	P	**Pn**	**03 36 01.3**	**+0.2**
KULM	**Kulim**	**3.10**	**51**	*e*Pn	**Pn**	**03 36 02.1**	**-0.2**
KGM	**Kluang**	**5.25**	**104**	P	**Pb**	**03 36 45.0**	**-0.1**
WRA	**Warramunga Arr**	**42.34**	**125**	P	**P**	**03 43 07.6**	**0.0**
	1.1nm,0.8s,mb3.5,baz=297,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**43.90**	**130**	P	**P**	**03 43 20.3**	**0.0**
	0.6nm,0.9s,mb3.3,baz=302,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**44.88**	**8**	P	**P**	**03 43 28.7**	**+0.5**
	0.2nm,0.6s,mb3.1,baz=194,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**45.45**	**345**	P	**P**	**03 43 32.8**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=153,slow=6.8,SNR=5.6						
OPO	**Ambohidratompo**	**54.75**	**245**	LR	LR	04 02 16.2	
	comp=Z,8.5nm,19.7s,MS2.8,baz=141,slow=30						
ZRNK	**Zerenda**	**55.03**	**339**	*e*P	**P**	**03 44 44.6**	**-0.6**
	1.8nm,1.0s,mb4.1						
ATD	**Arta Tunnel**	**55.44**	**282**	LR	LR	04 02 21.0	
	comp=Z,43nm,20.6s,MS3.5,baz=86,slow=29						
BRTR	**Keskin Array B**	**68.46**	**312**	P	**P**	**03 46 16.1**	**+0.3**
	1.2nm,0.9s,mb3.9,baz=102,slow=5.9,SNR=6.9						
FINES	**FINESS Array B**	**78.60**	**332**	P	**P**	**03 47 14.7**	**-0.7**
	0.3nm,0.3s,mb3.7,baz=116,slow=6.7,SNR=4.8						
GERES	**GERESS Array B**	**83.90**	**319**	P	**P**	**03 47 44.0**	**+0.4**
	0.3nm,0.6s,mb3.6,baz=129,slow=8.5,SNR=4.7						

*ISCJB **02** 04:21:49.1±0.8,1000N±007×86.17W±005,h17km,mb3.4/8,*
Error ellipse: s-maj=11.0km s-min=4.5km az=61.4
*CASC **02** 04:21:49.8±2.5,1000N×8616W,h17km±9km,MD3.8,*
*ML3.

comp=E,1.2nm,0.5s,mb4.0,baz=202,slow=5.4,SNR=6.4
YKA Yellowknife Ar 56.25 345 P **P** **04 31 27.4 -2.4**
comp=E,0.1nm,0.7s,mb3.0,baz=142,slow=7.1,SNR=4.6
YKA PcP PcP 04 32 27.7 +0.4
comp=E,0.2nm,0.7s,baz=143,slow=4.3,SNR=4.8
YKA Yellowknife Ar 56.25 345 P **P** **04 31 27.4 -2.4**
YKA PcP PcP 04 32 27.7 +0.4
ILAR Eielson Array 68.73 336 P **P** **04 32 53.0 -0.2**
comp=E,0.2nm,0.5s,mb3.3,baz=127,slow=4.5,SNR=4.1

*ISCJB **02** 04:26:39.5±0.8, 197S±02×1776W±0.2, h500km, mb3.8/10, Error ellipse: s-maj=27.4km s-min=15.0km az=120.2*
*IDC **02** 04:26:42.6±6.2, 1982S×17752W, h530km±70km, mb3.2/6, mb1 3.5/7, mb1mx3.3/16, mbtmp4.1/7, Error ellipse: s-maj=46.2km s-min=25.3km az=171.0*
*NEIC **02** 04:26:45.3±4.0, 1993S×17758W, h564km±48km, mb4.2/3, Error ellipse: s-maj=32.9km s-min=18.1km az=181.0*
ISC 02 04:26:40.4±0.8, 198S±02×1775W±02, h500km, n21, σ0°78/15, mb3.8/10, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.01**	**193**	P	**P**	**04 30 29.7**	**-0.2**
	1.2nm,0.3s,baz=0.0,slow=2.0,SNR=6.6						
CTA	**Charters Tower**	**34.06**	**263**	*e*P	**P**	**04 32 43.4**	**+1.1**
	4.8nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**34.06**	**263**	*e*P	**P**	**04 32 43.0**	**+0.7**
	6.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.55**	**243**	P	**P**	**04 33 18.5**	**-0.9**
	3.8nm,0.8s,mb3.9,baz=91,slow=8.8,SNR=7.7						
STKA	**Stephens Creek**	**38.55**	**243**	*e*P	**P**	**04 33 18.4**	**-1.1**
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**04 34 12.3**	**+0.5**
	6.7nm,0.8s,mb4.1,baz=92,slow=7.3,SNR=58						
ASAR				PcP	PcP	04 35 41.3	-0.3
	0.7nm,0.4s,baz=108,slow=3.8,SNR=6.3						
ASPA	**Alice Springs**	**45.17**	**256**	*e*P	**P**	**04 34 12.3**	**+0.5**
WB2	**Warramunga Arr**	**45.19**	**261**	⇑*i*P	**P**	**04 34 11.9**	**0.0**
WRAB	**Tennant Creek**	**45.19**	**261**	*e*P	**P**	**04 34 11.2**	**-0.7**
	5.4nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**45.20**	**261**	P	**P**	**04 34 12.1**	**+0.1**
	1.5nm,0.3s,mb3.9,baz=98,slow=7.2,SNR=68						
FITZ	**Fitzroy Crossi**	**53.62**	**262**	*e*P	**P**	**04 35 14.7**	**+0.5**
	3.4nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**58.50**	**257**	*e*P	**P**	**04 35 47.7**	**-0.3**
	8.8nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**86.25**	**57**	P	**P**	**04 38 29.7**	**+1.2**
	0.4nm,0.7s,mb3.2,baz=221,slow=6.6,SNR=6.8						
ILAR	**Eielson Array**	**87.50**	**13**	P	**P**	**04 38 32.5**	**-1.9**
	0.3nm,0.5s,mb3.3,baz=239,slow=5.2,SNR=8.0						
PDAR	**Pinedale Array**	**88.09**	**43**	P	**P**	**04 38 37.5**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=231,slow=3.6,SNR=3.9						
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	PKiKP	04 44 14.6	-2.0
	0.2nm,0.5s,baz=227,slow=1.8,SNR=4.6						
ARCES	**ARCESS Array B**	**128.30**	**350**	PKP	PKPdf	04 44 47.7	-1.9
	4.8nm,0.9s,baz=33,slow=2.0,SNR=6.7						
ARCES	**ARCESS Array B**	**128.30**	**350**	PKP	PKPdf	04 44 47.7	-1.9
AKASG	**Malin Array Be**	**142.62**	**332**	PKhKP		04 45 10.5	
	0.9nm,0.5s,baz=44,slow=3.9,SNR=9.2						
BRTR	**Keskin Array B**	**146.71**	**313**	PKPbc	PKPbc	04 45 24.8	-1.0
	1.1nm,0.5s,baz=134,slow=3.7,SNR=9.8						
GERES	**GERESS Array B**	**149.63**	**345**	PKPbc	PKPbc	04 45 32.2	-0.9
	1.2nm,0.6s,baz=45,slow=1.9,SNR=12						

MEX 02 04:31:53.4±0.9, 1763N×10172W, h8km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.25**	**96**	*i*P	Pg	04 31 57.6	-0.7
ZIIG				*i*S	Sg	04 32 02.1	+0.4
CAIG	**El Cayaco**	**1.51**	**113**	*i*P	Pn	04 32 16.8	-3.9
CAIG				*i*S	Sn	04 32 35.3	-5.3
ACX	**Acapulco**	**1.89**	**114**	*e*P	Pn	04 32 24.0	-1.9
ACX				*i*S	Sn	04 32 47.0	-2.9
MEIG	**Mezcala**	**2.02**	**81**	*i*P	Pn	04 32 25.1	-2.7
MEIG				*i*S	Sn	04 32 47.8	-5.6
MOIG	**Morelia**	**2.10**	**14**	*i*P	Pn	04 32 26.0	-2.8
MOIG				*i*S	Sn	04 32 51.4	-3.7
PLIG	**Platanillo**	**2.24**	**70**	*i*P	Pn	04 32 28.4	-2.4
PLIG				*i*S	Sn	04 32 53.0	-5.7

*BER **02** 04:35:03.8±2.9, 5854N×221W, h10km, MD2.3, ML1.7, ML1.9(BGS)*
BGS 02 04:35:05.1, 5853N×237W, h16km, mb3.6, ML1.9, 1C, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCD	**Coleburn Disti**	**1.06**	**207**	⇑*i*P	Pb	04 35 23.7	-1.3
MCD				*e*S	Sb	04 35 37.1	-1.5
MCD				AML	AML	04 35 45.6	
	comp=N,32nm,0.1s						
MCD				AML	AML	04 35 46.5	
	comp=E,33nm,0.3s						
MME1	**Meikle Cairn**	**1.26**	**195**	*e*P	Pn	04 35 26.8	-1.2
RSC	**Scourie**	**1.48**	**264**	*e*P	Pn	04 35 30.4	-0.7
MDO	**Dochfour**	**1.52**	**225**	*e*P	Pn	04 35 29.5	-2.1
REB	**Eisghbrachaidh**	**1.59**	**256**	*e*P	Pn	04 35 30.4	-2.2
LRW	**Lerwick**	**1.73**	**20**	*e*P	Pn	04 35 32.3	-2.1
LRW				AML	AML	04 36 04.0	
	comp=N,4.9nm,0.2s						
LRW				AML	AML	04 36 04.1	
	comp=E,8.3nm,0.3s						
WAL1	**Walls**	**1.78**	**12**	*e*P	Pn	04 35 33.9	-1.2
RRR	**Rubha Reidh**	**1.94**	**251**	*e*P	Pn	04 35 35.2	-2.1
RRR				AML	AML	04 36 10.2	
	comp=E,14nm,0.2s						
RRR				AML	AML	04 36 10.4	
	comp=N,23nm,0.3s						
RRR	**Rubha Reidh**	**1.94**	**251**	*e*P	Pn	04 35 35.2	-2.1
RRR				AML	AML	04 36 10.2	
	comp=E,14nm,0.2s						
RRR				AML	AML	04 36 10.4	
	comp=N,23nm,0.3s						
RTO	**Tolsta**	**2.03**	**267**	*e*P	Pn	04 35 37.2	-1.4
RRH	**Rhenigidale**	**2.37**	**257**	*e*P	Pn	04 35 41.7	-1.5
EAB	**Aberfoyle**	**2.58**	**205**	*e*P	Pn	04 35 44.5	-1.7
KMY	**Karmoy**	**4.01**	**77**	*e*P	Pn	04 36 02.8	-3.1
	comp=Z,2.4nm,0.5s						
KMY				*e*S	Sn	04 36 45.0	-7.5
KMY	**Karmoy**	**4.01**	**77**	*e*P	Pn	04 36 03.1	-2.7
KMY				*e*S	Sn	04 36 45.5	-7.0
KMY				AML	AML	04 36 49.9	
	comp=Z,2.4nm,0.5s						
RUND	**Rundenannen**	**4.38**	**61**	*e*S	Sn	04 36 52.4	-9.0
BLS5	**Blasjo**	**4.65**	**75**	*e*P	Pn	04 36 13.2	-1.5
BLS5				*e*S	Sn	04 37 01.4	-6.9
BLS5				AML	AML	04 37 08.2	
	comp=Z,2.0nm,0.4s						
FOO	**Floro**	**4.82**	**47**	*e*P	Pn	04 36 14.2	-2.8
FOO				*e*S	Sn	04 37 03.5	-9.0
ODD1	**Odda**	**4.83**	**69**	*e*P	Pn	04 36 13.5	-3.5
ODD1				*e*S	Sn	04 37 03.2	-9.3
ODD1	**Odda**	**4.83**	**69**	*e*P	Pn	04 36 13.5	-3.5
ODD1				*e*S	Sn	04 37 03.2	-9.3
SNART	**Snartemo**	**5.04**	**88**	*e*S	Sn	04 37 08.9	-8.9

*CSEM **02** 04:43:03.6±0.9, 3870N×2899W, h0km±13km, ML1.4, Error ellipse: s-maj=16.7km s-min=4.9km az=78.0, After PDA*
*PDA **02** 04:43:03.6±0.9, 3870N×2899W, h0km±13km, MD3.2, ML1.4, Error ellipse: s-maj=16.7km s-min=4.9km az=78.0*
SVSA 02 04:43:03.6±0.9, 3870N×2899W, h0km±13km, MD3.2, ML1.4, Error ellipse: s-maj=16.7km s-min=4.9km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.19**	**126**	*e*S	Sg	04 43 10.4	+0.7
PTCA							
	27nm,0.2s						
CALA	**Caldeira**	**0.25**	**116**	*e*P	Pg	04 43 08.1	-0.4
CALA				*e*S	Sg	04 43 12.1	+0.3
HOR	**Horta**	**0.33**	**121**	*e*P	Pg	04 43 09.6	-0.3
HOR				*e*S	Sg	04 43 14.3	+0.1
PCND	**Candelaria**	**0.47**	**118**	*e*S	Sg	04 43 18.7	-0.1
PCND							
	15nm,0.1s						
PICO	**Pico**	**0.48**	**113**	*e*P	Pg	04 43 12.7	-0.2
PICO				*e*S	Sg	04 43 19.2	0.0
PBOI	**Pico dos Bois**	**0.55**	**118**	*e*S	Sg	04 43 21.1	-0.1
PBOI							
	11nm,0.1s						
ROSA	**Rosais**	**0.59**	**87**	*e*P	Pg	04 43 14.3	-0.6
ROSA				*e*S	Sg	04 43 21.7	-0.8

*SKO **02** 04:46:05.5, 4194N×2128E, h15km, M1.9, ML2.3*
*NEIC **02** 04:46:06.1, 4208N×2131E, h6km, MD2.8(PDG), After PDG.*
*PDG **02** 04:46:06.1±0.2, 4208N×2131E, h6km*
*ISCJB **02** 04:46:06.4±0.3, 4196N±002×2130E±002, h10km, Error ellipse: s-maj=3.3km s-min=2.0km az=72.9*
*BEO **02** 04:46:07.5±0.5, 4198N×2131E, h11km±1km*
*CSEM **02** 04:46:07.9±0.2, 4205N×2147E, h10km, ML2.9, Error ellipse: s-maj=8.7km s-min=4.4km az=37.0*
*THE **02** 04:46:07.1, 4197N×2123E, h6km, ML2.9*
*TIR **02** 04:46:12.5, 4214N×2067E, h21km*
ISC 02 04:46:06.9±0.3, 4197N±002×2132E±002, h10km, n31, σ1°35/57, 1C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.09**	**87**	*i*Pg	**Pg**	**04 46 09.1**	**-0.3**
SKO				*e*Sg	**Sg**	**04 46 12.0**	**+0.8**
SKO				*e*Lg		04 46 12.1	
	comp=E,740nm,0.2s						
SKO				*e*Lg		04 46 12.2	
	comp=N,1μm,0.3s						
KOZJ	**Kozjak Brana**	**0.13**	**226**	*i*Pg	**Pg**	**04 46 08.8**	**-1.2**
KOZJ				*i*Sg	**Sg**	**04 46 11.8**	**-0.3**
BELI	**Belica**	**0.29**	**187**	*i*Pg	**Pg**	**04 46 10.3**	**-2.4**
BELI				*i*		04 46 11.3	
BELI				*i*Sg	**Sg**	**04 46 17.1**	**+0.5**
KKS	**Kukesi**	**0.68**	**279**	*i*Pg	**Pg**	**04 46 17.6**	**-2.5**
KKS				*i*Sg	**Sg**	**04 46 27.8**	**-1.3**
STIP	**Stip**	**0.70**	**113**	*e*Pg	**Pg**	**04 46 19.1**	**-1.5**
STIP				*e*Sg	**Sg**	**04 46 31.0**	**+1.2**
STIP				*e*Lg		04 46 31.6	
	comp=N,45nm,0.4s						
STIP				*e*Lg		04 46 32.3	
	comp=E,39nm,0.5s						
OHR	**Ohrid**	**0.94**	**205**	*i*Pg	**Pg**	**04 46 23.8**	**-1.2**
OHR				*e*Sg	**Sg**	**04 46 38.2**	**+1.0**
BIA	**Bitola**	**0.95**	**180**	*i*Pg	**Pg**	**04 46 24.3**	**-0.8**
BIA				*e*Sg	**Sg**	**04 46 38.4**	**+0.9**
BIA				*e*Lg		04 46 38.5	
	comp=E,128nm,0.4s						
BIA				*e*Lg		04 46 39.4	
	comp=N,125nm,0.3s						
BCI	**Bajram Curri**	**1.01**	**294**	*i*Pg	**Pg**	**04 46 23.9**	**-2.5**
BCI				*i*Sg	**Sg**	**04 46 39.4**	**-0.1**
PUK	**Puka**	**1.06**	**275**	*i*Pg	**Pg**	**04 46 24.5**	**-2.9**
PUK				*i*Sg	**Sg**	**04 46 40.5**	**-0.7**
VAY	**Valandovo**	**1.14**	**124**	*e*Pn	**Pn**	**04 46 28.5**	**-0.4**
VAY				*e*Sn	**Sn**	**04 46 45.3**	**+0.7**
VAY				*e*Lg		04 46 45.4	
	comp=E,68nm,0.5s						
VAY				*e*Lg		04 46 45.8	
	comp=N,48nm,0.5s						
QSH	**Qafa e Shtames**	**1.15**	**248**	*i*Pn	**Pn**	**04 46 30.0**	**+1.0**
QSH				*i*Sn	**Sn**	**04 46 48.0**	**+3.2**
PVY	**Plav**	**1.18**	**303**	⇓*i*Pg	**Pg**	**04 46 26.7**	**-2.8**
PVY				*e*Sg	**Sg**	**04 46 44.4**	**-0.5**
FNA	**Florina**	**1.18**	**178**	*e*Pg	**Pg**	**04 46 29.1**	**-0.6**
	comp=N,3.7nm,0.5s						
FNA				*e*Sg	**Sg**	**04 46 47.3**	**+2.2**
GRG	**Griva**	**1.30**	**141**	*e*Pg	**Pg**	**04 46 31.3**	**-0.5**
GRG				*e*Sg	**Sg**	**04 46 50.1**	**+1.4**
IVA	**Berane**	**1.39**	**311**	⇑*i*Pg	**Pg**	**04 46 30.3**	**-3.2**
IVA				*e*Sg	**Sg**	**04 46 50.9**	**-0.7**
KNT	**Kendrikon**	**1.43**	**124**	*e*Pg	**Pg**	**04 46 33.9**	**-0.5**
ULC	**Ulcinj**	**1.54**	**271**	*e*Pg	**Pg**	**04 46 34.5**	**-2.0**
ULC				*e*Sg	**Sg**	**04 46 58.3**	**+1.8**
TTG	**Podgorica**	**1.60**	**287**	⇓*i*Pg	**Pg**	**04 46 34.2**	**-3.3**
TTG				*e*Sg	**Sg**	**04 46 58.4**	**+0.1**
ZAPS	**Zavoj/Pirot**	**1.64**	**35**	⇓*i*Pn	**Pn**	**04 46 35.4**	**-0.4**
ZAPS				Sn	**Sn**	**04 46 57.7**	**+0.8**
BUM	**Brajici-Budva**	**1.83**	**281**	⇓*i*Pn	**Pn**	**04 46 39.0**	**+0.6**
BUM				*e*Sn	**Sn**	**04 47 04.7**	**+3.0**
SRS	**Serrai**	**1.91**	**116**	*e*Pb	**Pb**	**04 46 40.1**	**-1.7**
SOH	**Sokhos**	**1.91**	**126**	*e*Pb	**Pb**	**04 46 40.6**	**-1.2**
NKY	**Niksic**	**1.92**	**297**	⇓*i*Pn	**Pn**	**04 46 39.9**	**+0.3**
NKY				*e*Sn	**Sn**	**04 47 05.7**	**+1.9**
NKY	**Niksic**	**1.92**	**297**	⇓*i*Pn	**Pn**	**04 46 39.8**	**+0.2**
NKY				*e*Sn	**Sn**	**04 47 05.7**	**+2.0**
PLE	**Pljevlja**	**1.97**	**314**	*e*Pn	**Pn**	**04 46 39.9**	**-0.4**
PLE				*e*Sn	**Sn**	**04 47 06.5**	**+1.5**
GRUS	**Gruza**	**1.97**	**347**	*e*Pn	**Pn**	**04 46 40.3**	**-0.1**
GRUS				Sn	**Sn**	**04 47 08.3**	**+3.2**
LIT	**Litokhoron**	**2.06**	**154**	*e*Pn	**Pn**	**04 46 42.1**	**+0.5**
HCY	**Herceg Novi**	**2.15**	**284**	*e*Pn	**Pn**	**04 46 43.3**	**+0.5**
HCY				*e*Sn	**Sn**	**04 47 12.1**	**+2.6**
UPM	**Unac-Piva**	**2.16**	**306**	*e*Pn	**Pn**	**04 46 42.9**	**-0.1**
UPM				*e*Sn	**Sn**	**04 47 11.2**	**+1.3**
BRY	**Bratogost**	**2.25**	**295**	*e*Pn	**Pn**	**04 46 44.2**	**0.0**
BRY				*e*Sn	**Sn**	**04 47 14.2**	**+2.1**
DIVS	**Divcibare**	**2.34**	**336**	*e*Pn	**Pn**	**04 46 47.0**	**+1.5**

*NEIC **02** 05:00:33.9, 5317N×16434W, h10km, mb3.7/1, ML3.3(AEIC), After AEIC.*
*ISCJB **02** 05:00:34.1±3.2, 5328N±0.1×16444W±0.1, h31km±18km, mb3.7/7, Error ellipse: s-maj=25.0km s-min=10.4km az=178.8*
*IDC **02** 05:00:34.5±1.9, 5369N×16497W, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.6/24, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=47.9km s-min=24.4km az=177.0*
ISC 02 05:00:33.2±3.9, 5318N±010×16443W±010, h14km±24km, n15, σ0°91/18, mb3.7/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKA	**Akutan**	**1.25**	**321**	P	**Pn**	**05 00 55.6**	**-0.6**
AKA				S	**Sb**	**05 01 12.8**	**+0.4**
AKUT	**Akutan**	**1.25**	**321**	P	**Pn**	**05 00 55.5**	**-0.6**
AKUT				S	**Sb**	**05 01 12.9**	**+0.6**
UNV	**Unalaska Valle**	**1.41**	**299**	P	**Pn**	**05 00 58.2**	**-0.2**
UNV				S	**Sn**	**05 01 16.4**	**-0.3**
NIKO	**Nikolski**	**2.68**	**267**	P	**Pn**	**05 01 16.9**	**+1.1**
SDPT	**Sand Point**	**3.18**	**45**	P	**Pn**	**05 01 22.8**	**+0.1**
ILAR	**Eielson Array**	**14.65**	**31**	Pn	**Pn**	**05 03 58.1**	**-1.8**
	0.0nm,0.3s,baz=228,slow=11,SNR=3.0						
INK	**Inuvik**	**21.04**	**32**	*e*P	**P**	**05 05 18.6**	**+2.1**
	3.3nm,0.8s,mb3.7						
YKA	**Yellowknife Ar**	**27.43**	**50**	P	**P**	**05 06 19.3**	**+0.9**
	0.2nm,0.8s,mb2.7,baz=273,slow=8.6,SNR=4.6						
YKA	**Yellowknife Ar**	**27.43**	**50**	P	**P**	**05 06 19.3**	**+0.9**
TXAR	**Lajitas Array**	**49.77**	**94**	P	**P**	**05 09 32.0**	**+6.8**
	0.4nm,0.8s,mb3.5,baz=304,slow=3.3,SNR=3.3						
SONM	**Songino Array**	**53.42**	**303**	P	**P**	**05 09 52.2**	**-0.3**
	1.0nm,1.0s,mb3.7,baz=33,slow=6.4,SNR=6.4						
MKAR	**Makanchi Array**	**65.37**	**316**	P	**P**	**05 11 13.7**	**-1.4**
	0.7nm,0.7s,mb3.8,baz=37,slow=6.1,SNR=7.1						
AKTK	**Aktyubinsk**	**70.73**	**333**	P	**P**	**05 11 48.5**	**-0.3**
AKTO	**Aktyubinsk**	**70.73**	**333**	P	**P**	**05 11 48.5**	**-0.3**
	3.1nm,0.7s,mb4.3,baz=49,slow=5.5,SNR=16						
BRTR	**Keskin Array B**	**86.16**	**346**	P	**P**	**05 13 14.8**	**+0.9**
	0.6nm,0.8s,mb3.9,baz=27,slow=2.8,SNR=3.8						

*IDC **02** 05:03:21.7±2.0, 2253S×17130E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.9/14, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=93.2km s-min=26.5km az=166.0*
*ISCJB **02** 05:03:24.9±4.7, 2305S±04×17138E±02, h37km±36km, mb3.9/4, Error ellipse: s-maj=69.9km s-min=28.8km az=171.1*
ISC 02 05:03:25.6±7.0, 229S±04×1714E±01, h28km±49km, n14, σ0°80/6, mb3.9/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.61**	**279**	P	**Pn**	**05 04 33.3**	**0.0**
	3.7nm,0.3s,baz=98,slow=19,SNR=26						
DZM				Sn	**Sn**	**05 05 26.0**	**+0.1**
	3.5nm,0.3s,baz=337,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**34.35**	**261**	P	**P**	**05 10 10.5**	**+0.6**
	0.8nm,0.6s,mb3.9,baz=86,slow=7.9,SNR=8.7						
WRA	**Warramunga Arr**	**34.53**	**268**	P	**P**	**05 10 10.6**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=96,slow=8.6,SNR=9.6						
NVAR	**Mina Array Bea**	**89.74**	**48**	P	**P**	**05 16 21.5**	**+0.3**
	0.9nm,0.8s,mb4.2,baz=208,slow=6.2,SNR=4.5						
SONM	**Songino Array**	**91.28**	**322**	P	**P**	**05 16 28.1**	**-0.3**
	0.3nm,0.6s,mb3.8,baz=143,slow=4.0,SNR=3.6						
KECS	**Kecovo**	**145.53**	**325**	*e*	PKPdf	05 23 01.3	+0.3
DPC	**Dobruska-Polom**	**146.33**	**331**	*e*P	PKPdf	05 23 03.6	+1.2
PVCC	**Panska Ves**	**146.97**	**333**	*e*P	PKPdf	05 23 05.2	+1.8
BRG	**Berggiesshubel**	**146.97**	**333**	*e*(P)	PKPdf	05 23 14.9	+11
	2.2nm,1.0s						
CLL	**Collm**	**147.01**	**335**	*e*P	PKPdf	05 23 05.0	+1.5
	comp=Z,5.0nm,0.8s						
PRU	**Pruhonice**	**147.38**	**332**	*e*P	PKPdf	05 23 02.1	-2.0
PRU				*ex*	x	05 23 05.8	
NKC	**Novy Kostel**	**148.07**	**334**	*e*P	PKPdf	05 23 08.2	+2.9
KHC	**Kasperske Hory**	**148.44**	**332**	*e*P	PKPdf	05 23 09.2	+3.3
KHC				*ex*	x	05 23 12.7	
GERES	**GERESS Array B**	**148.60**	**331**	PKPbc	PKPbc	05 23 09.2	-0.6
	comp=Z,1.3nm,0.7s,baz=45,slow=1.9,SNR=12						

*CSEM **02** 05:12:31.7±0.2, 3697N×4255E, h30km, MD3.8, Error ellipse: s-maj=7.3km s-min=2.1km az=2.0*
*ISK **02** 05:12:32.9, 3708N×4250E, h32km, MD3.8*
*ISCJB **02** 05:12:33.3±0.9, 3704N±008×4255E±004, h33km, Error ellipse: s-maj=12.2km s-min=4.7km az=9.7*
ISC 02 05:12:34.0±0.9, 3705N±009×4258E±004, h35km, n13, σ0°85/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.84**	**76**	*i*PG	**Pn**	**05 12 50.2**	**+0.8**
CUKT				*i*SG	**Sn**	**05 13 01.3**	**+0.7**
MSL	**Mosul**	**0.86**	**151**	*ex*	x	05 12 56.0	
MSL				*i* x	x	05 13 10.0	
HAKT	**HAKKARI**	**1.03**	**60**	*i*P	**Pn**	**05 12 51.3**	**-0.7**
HAKT				*i*S	**Sn**	**05 13 05.0**	**-0.2**
HKR	**Hakkari**	**1.07**	**60**	*i*PN	**Pn**	**05 12 52.5**	**0.0**
BEST	**Besiri**	**1.34**	**309**	*i*P	**Pn**	**05 12 55.3**	**-0.9**
BEST				*i*S	**Sn**	**05 13 12.3**	**-0.5**
BTMT	**Batman**	**1.43**	**323**	*i*PN	**Pn**	**05 12 56.5**	**-1.0**
BTMT				*i*SN	**Sn**	**05 13 14.6**	**-0.5**
MARD	**Mardin**	**1.46**	**281**	*i*P	**Pn**	**05 12 58.8**	**+0.8**
MARD				*i*S	**Sn**	**05 13 17.9**	**+2.0**
VANB	**Van**	**1.67**	**22**	*e*PN	**Pn**	**05 13 00.7**	**-0.1**
DIY	**Diyarbakir**	**2.05**	**295**	PN	**Pn**	**05 13 05.2**	**-0.9**
BNGL	**BINGOL**	**2.21**	**330**	*i*P	**Pn**	**05 13 08.3**	**+0.1**
BNGL				*i*S	**Sn**	**05 13 35.8**	**+1.5**
URFA	**Urfa**	**3.02**	**279**	*e*PN	**Pn**	**05 13 18.2**	**-1.2**
PTK	**Pertek**	**3.12**	**307**	*e*PN	**Pn**	**05 13 21.2**	**+0.5**
MYA	**Malataya**	**3.53**	**292**	*e*PN	**Pn**	**05 13 26.2**	**-0.2**

*ISCJB **02** 05:54:46.7±0.7, 1111N±004×6218W±003, h70km±10km, Error ellipse: s-maj=6.4km s-min=4.2km az=121.3*
*NEIC **02** 05:54:47.6, 1117N×6205W, h14km, MD3.2(TRN), After TRN.*
*TRN **02** 05:54:47.6, 1117N×6205W, h15km, MD3.2*
*FUNV **02** 05:54:49.4, 1107N×6219W, h55km, MW2.8*
ISC 02 05:54:47.6±0.7, 1111N±004×6218W±003, h63km±12km, n15, σ0°92/29, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.46**	**185**	*e*P	**Pn**	**05 54 59.7**	**+0.3**
GUIV				*e*S	**Sn**	**05 55 08.2**	**+0.2**
TRN	**Trinidad (W)**	**0.89**	**121**	*e*P	**Pn**	**05 55 04.1**	**-0.2**
TRN				*e*S	**Sn**	**05 55 15.1**	**-1.6**
ITEV	**Isla Los Testi**	**0.97**	**285**	*e*P	**Pn**	**05 55 05.7**	**+0.4**
ITEV				*e*S	**Sn**	**05 55 19.6**	**+1.2**
CRUV	**Carupano**	**1.12**	**248**	*e*P	**Pn**	**05 55 08.7**	**+1.3**
CRUV				*e*S	**Sn**	**05 55 21.7**	**-0.4**
GRW	**Mount Saint Ca**	**1.16**	**26**	*e*P	**Pn**	**05 55 07.9**	**0.0**
GRW				*e*S	**Sn**	**05 55 21.6**	**-1.4**
GUNV	**Guanoco**	**1.20**	**219**	*e*P	**Pn**	**05 55 09.4**	**+1.0**
GUNV				*e*S	**Sn**	**05 55 23.5**	**-0.4**
GRHS	**Sauteurs**	**1.23**	**25**	⇑*i*P	**Pn**	**05 55 08.5**	**-0.2**
GRHS				*e*S	**Sn**	**05 55 24.0**	**-0.5**
TBH	**Brigand Hill**	**1.26**	**120**	*e*P	**Pn**	**05 55 11.4**	**+2.3**
TBH				*e*S	**Sn**	**05 55 25.7**	**+0.5**
GRSS	**Sisters**	**1.31**	**25**	*e*P	**Pn**	**05 55 09.9**	**+0.1**
GRSS				*e*S	**Sn**	**05 55 27.6**	**+1.2**
TPR	**Prospect**	**1.38**	**87**	*e*P	**Pn**	**05 55 10.7**	**0.0**
TPR				*e*S	**Sn**	**05 55 27.1**	**-0.9**
BOT	**Bacolet**	**1.44**	**88**	*e*P	**Pn**	**05 55 11.2**	**-0.2**
BOT				*e*S	**Sn**	**05 55 29.8**	**+0.4**
GRCU	**Cariacou**	**1.53**	**28**	*e*P	**Pn**	**05 55 12.3**	**-0.4**
GRCU				*e*S	**Sn**	**05 55 31.7**	**0.0**
PCRV	**Puerto La Cruz**	**2.59**	**249**	*e*P	**Pn**	**05 55 27.5**	**+0.4**
PCRV				*e*S	**Sn**	**05 55 55.5**	**-1.8**
CUPV	**Cœpira**	**3.70**	**254**	*e*P	**Pn**	**05 55 42.8**	**+0.6**
CUPV				*e*S	**Sn**	**05 56 21.9

YKA Yellowknife Ar 149.23 45 PKPbc PKPbc 07 08 42.9 -1.8
0.6nm,0.7s,baz=278,slow=2.3,SNR=19

*ISCJB **02** 06:52:38.2±0.3,4797N±002×751E±002,h10km±2km, Error ellipse: s-maj=2.9km s-min=1.9km az=173.5*
*STR **02** 06:52:39.9±0.2,4801N×751E,h5km±1km,Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **02** 06:52:39.7±0.3,4799N×757E,h11km±3km,ML1.9, Error ellipse: s-maj=8.2km s-min=5.0km az=24.0*
*LDG **02** 06:52:39.7±0.0,4800N×756E,h11km,Md2.5/2,Ml2.4/9, Error ellipse: s-maj=0.9km s-min=0.7km az=169.0*
*ZUR **02** 06:52:40.0,4798N×758E,h7km±5km,ML2.0/6*
ISC 02 06:52:39.1±0.2,4799N±002×753E±002,h18km±2km,n51, σ0§67/85,3C-2D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.17**	**17**	P*	**Pg**	**06 52 43.7**	**+0.1**
FBB	**Freiburg**	**0.22**	**86**	P*	**Pg**	**06 52 44.1**	**-0.2**
KIZ	**Kirchzarten**	**0.26**	**96**	⇑iP*	**Pg**	**06 52 44.7**	**-0.4**
KIZ				*i* S*	**Sg**	**06 52 48.0**	**-1.0**
KIZ	**Kirchzarten**	**0.26**	**96**	⇑iP	**Pg**	**06 52 44.7**	**-0.4**
KIZ				*i* S	**Sg**	**06 52 48.0**	**-1.0**
MOF	**Molkenrain**	**0.30**	**243**	P*	**Pg**	**06 52 45.7**	**+0.2**
ECH	**Echery**	**0.34**	**313**	Pg	**Pg**	**06 52 46.4**	**+0.1**
ECH				Sg	**Sg**	**06 52 50.9**	**-0.2**
ECH	**Echery**	**0.34**	**313**	P*	**Pg**	**06 52 46.6**	**+0.3**
ECH				S*	**Sg**	**06 52 51.0**	**-0.1**
FELD	**Feldberg**	**0.34**	**109**	P*	**Pg**	**06 52 46.1**	**-0.2**
WLS	**Welschbruch**	**0.44**	**345**	Pg	**Pg**	**06 52 48.3**	**+0.2**
WLS				Sg	**Sg**	**06 52 54.4**	**+0.2**
WLS	**Welschbruch**	**0.44**	**345**	P*	**Pb**	**06 52 48.5**	**+0.1**
WLS				S*	**Sb**	**06 52 54.5**	**-0.3**
CDF	**Champ du Feu**	**0.46**	**339**	*e*Pg	**Pg**	**06 52 48.6**	**+0.2**
CDF				*e*Sg	**Sg**	**06 52 54.6**	**-0.1**
	20nm,0.2s						
HINF	**Hinteralfeld**	**0.48**	**250**	*e*Pg	**Pg**	**06 52 49.1**	**+0.2**
HINF				*e*Sg	**Sg**	**06 52 56.6**	**+1.1**
HINF				*e*Sn	**Sg**	**06 52 58.7**	**+3.2**
	8.0nm,0.2s						
BBS	**Basel-Blauen**	**0.52**	**181**	PmP		06 52 51.3	
SULZ	**Sulz-Cheisache**	**0.61**	**139**	⇑*i*P	**Pg**	**06 52 51.3**	**+0.2**
	229nm,0.2s						
SULZ				*e*S	**Sg**	**06 52 59.3**	**+0.1**
	229nm,0.2s						
BOURR	**Bourrignon**	**0.63**	**199**	*e*P	**Pg**	**06 52 52.5**	**+1.0**
	143nm,0.5s						
BFO	**Black Forest**	**0.64**	**57**	⇓P*	**Pg**	**06 52 51.4**	**-0.3**
BFO				*e*Pg	**Pg**	**06 52 51.9**	**+0.2**
	SNR=4.3						
BFO				PmP		06 52 52.4	
BFO				*e*Sg	**Sg**	**06 52 59.8**	**-0.5**
BFO				SmS		06 53 01.7	
BFO	**Black Forest**	**0.64**	**57**	⇓P	**Pg**	**06 52 51.4**	**-0.3**
BFO				P		06 52 52.4	
BFO				S	**Sg**	**06 53 01.7**	**+1.4**
BALST	**Balsthal**	**0.66**	**170**	*e*P	**Pb**	**06 52 52.7**	**+0.6**
	31nm,0.5s						
SLE	**Schleitheim**	**0.69**	**108**	*i* S	**Pb**	**06 52 52.6**	**0.0**
	330nm,0.2s						
SLE	**Schleitheim**	**0.69**	**108**	⇑*i*P	**Sb**	**06 53 01.5**	**-0.2**
	330nm,0.2s						
HAU	**Haudompre**	**0.79**	**272**	*e*Pn	**Pn**	**06 52 55.8**	**+0.4**
HAU	**Haudompre**	**0.79**	**272**	*e*P	**Pb**	**06 52 56.5**	**+2.1**
HAU				*e*Sg	**Sg**	**06 53 06.3**	**+1.2**
	15nm,0.2s						
LOMF	**Lomont**	**0.79**	**217**	Pg	**Pg**	**06 52 55.5**	**+0.9**
LOMF				Sg	**Sg**	**06 53 05.4**	**+0.3**
LOMF	**Lomont**	**0.79**	**217**	P	**Pb**	**06 52 55.8**	**+1.4**
TRULL	**Truellikon**	**0.85**	**113**	*e*S	**Pb**	**06 52 55.8**	**+0.5**
	61nm,0.2s						
TRULL	**Truellikon**	**0.85**	**113**	*e*P	**Sb**	**06 53 07.1**	**+0.7**
	61nm,0.2s						
SISB	**Singen-Sch Ber**	**1.01**	**107**	Pg	**Pg**	**06 52 58.8**	**0.0**
SISB				Sg	**Sg**	**06 53 12.2**	**+0.1**
THEF	**They Montfort**	**1.06**	**284**	Pg	**Pg**	**06 52 59.9**	**+0.2**
THEF				Sg	**Sg**	**06 53 13.9**	**+0.3**
THEF	**They Montfort**	**1.06**	**284**	P	**Pb**	**06 52 60.0**	**+1.0**
GUT	**Gutenstein**	**1.07**	**85**	Pg	**Pg**	**06 52 59.6**	**-0.2**
GUT				PmP		06 52 59.9	
GUT				Sg	**Sg**	**06 53 12.3**	**-1.5**
GUT				SmS		06 53 13.9	
GUT	**Gutenstein**	**1.07**	**85**	P	**Pg**	**06 52 59.6**	**-0.2**
GUT				P		06 52 59.9	
GUT				S	**Sb**	**06 53 13.9**	**+1.2**
LBG	**Lerchenberg**	**1.09**	**51**	Pg	**Pg**	**06 52 59.7**	**-0.5**
LBG				PmP		06 53 00.2	
LBG				Sg	**Sg**	**06 53 13.5**	**-0.9**
TUBL	**Tuebingen Lnz**	**1.17**	**62**	Pg	**Pg**	**06 53 02.1**	**+0.3**
TUBL				Sg	**Sg**	**06 53 17.0**	**-0.1**
RFYF	**Reffroy**	**1.51**	**296**	*e*Pn	**Pn**	**06 53 05.5**	**+0.2**
RFYF	**Reffroy**	**1.51**	**296**	*e*Pg	**Pg**	**06 53 08.3**	**0.0**
	baz=113						
RFYF				*e*Sn	**Sn**	**06 53 24.1**	**-0.5**
RFYF				*e*Sg	**Sg**	**06 53 28.9**	**+0.9**
	8.3nm,0.3s,baz=108						
SFTF	**Sexfontaines**	**1.68**	**278**	*e*Pn	**Pn**	**06 53 07.8**	**+0.2**
SFTF	**Sexfontaines**	**1.68**	**278**	*e*Pg	**Pg**	**06 53 11.6**	**+0.1**
	baz=96						
SFTF				*e*Sn	**Sn**	**06 53 28.3**	**-0.5**
SFTF				*e*Sg	**Sg**	**06 53 33.9**	**+0.5**
	4.9nm,0.2s,baz=101						
CABF	**La Chapelle**	**1.69**	**216**	*e*Pn	**Pn**	**06 53 07.9**	**+0.2**
CABF	**La Chapelle**	**1.69**	**216**	*e*Pg	**Pg**	**06 53 11.6**	**0.0**
CABF				*e*Sn	**Sn**	**06 53 28.1**	**-0.8**
CABF				*e*Sg	**Sg**	**06 53 33.3**	**-0.3**
	3.1nm,0.2s						
MEZF	**Maizieres J'vi**	**1.73**	**288**	*e*Pn	**Pn**	**06 53 08.4**	**+0.1**
MEZF	**Maizieres J'vi**	**1.73**	**288**	*e*Pg	**Pg**	**06 53 12.4**	**-0.1**
MEZF				*e*Sn	**Sn**	**06 53 29.2**	**-0.8**
UBR	**Uberruh**	**1.77**	**99**	Pg	**Pg**	**06 53 13.3**	**+0.3**
UBR				Sg	**Sg**	**06 53 36.2**	**+0.2**
SIND	**Sindeldorf**	**1.94**	**45**	Pg	**Pg**	**06 53 16.3**	**-0.1**
SIND				Sg	**Sg**	**06 53 41.2**	**-0.3**
LOR	**Lormes**	**2.58**	**255**	*e*Pn	**Pn**	**06 53 20.2**	**+0.2**
LOR	**Lormes**	**2.58**	**255**	*e*Pg	**Pg**	**06 53 28.4**	**-0.3**
	baz=82						
LOR				*e*Sg	**Sg**	**06 54 01.9**	**-0.3**
	2.0nm,0.2s,baz=75						
SMF	**Signal de Mont**	**2.84**	**243**	*e*Pg	**Pg**	**06 53 32.6**	**-1.0**
SMF				*e*Sg	**Sg**	**06 54 09.2**	**-1.3**
	4.0nm,0.4s						
SSF	**Saint Saulge**	**2.88**	**253**	*e*Pg	**Pg**	**06 53 33.8**	**-0.5**
SSF				*e*Sg	**Sg**	**06 54 10.7**	**-0.9**
	1.8nm,0.3s						
AVF	**Avril sur Loir**	**3.08**	**249**	*e*Pn	**Pn**	**06 53 26.8**	**0.0**
AVF	**Avril sur Loir**	**3.08**	**249**	*e*Pg	**Pg**	**06 53 37.2**	**-0.9**
AVF				*e*Sn	**Sn**	**06 54 01.5**	**-1.7**
AVF				*e*Sg	**Sg**	**06 54 16.9**	**-1.1**
	1.4nm,0.3s						
BGF	**Bois d'Agland**	**3.49**	**248**	*e*Pn	**Pn**	**06 53 32.8**	**+0.3**
BGF	**Bois d'Agland**	**3.49**	**248**	*e*Pg	**Pg**	**06 53 44.9**	**-1.1**

*ISCJB **02** 06:57:40.9±0.7,5792N±008×1564W±0.1,h136km±10km, mb3.5/2, Error ellipse: s-maj=16.5km s-min=9.2km az=97.5*
*IDC **02** 06:57:42.4±2.7,5811N×15627W,h121km±23km,mb3.2/3, mb1 3.5/5,mb1mx3.1/23,mbtmp3.7/5, Error ellipse: s-maj=29.8km s-min=25.3km az=56.0*
*NEIC **02** 06:57:43.3,5787N×15637W,h134km,MG2.9(AEIC), After AEIC.*
ISC 02 06:57:41.8±0.7,5790N±008×1563W±01,h134km±10km, n20,σ0§72/23,mb3.5/2,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.96**	**216**	*e*P	**Pn**	**06 58 15.6**	**+0.1**
KDAK	**Kodiak Island**	**2.01**	**92**	P	**Pn**	**06 58 16.6**	**+0.5**
	12nm,0.3s,baz=285,slow=8.9,SNR=171						
KDAK				S	**Sn**	**06 58 41.5**	**-1.0**
	24nm,0.3s,baz=145,slow=22,SNR=59						
KDAK	**Kodiak Island**	**2.01**	**92**	P	**Pn**	**06 58 16.7**	**+0.6**
KDAK				S	**Sn**	**06 58 41.6**	**-0.8**
SVW2	**Sparrevohn**	**3.23**	**7**	P	**Pn**	**06 58 32.2**	**+0.6**
SDPT	**Sand Point**	**3.43**	**224**	*e*P	**Pn**	**06 58 33.8**	**-0.3**
SLKM	**Skilak Lake**	**4.09**	**48**	*e*Pn	**Pn**	**06 58 43.5**	**+0.7**
SEW	**Seward**	**4.19**	**55**	P	**Pn**	**06 58 44.8**	**+0.6**
FIB	**Fire Island**	**4.54**	**41**	P	**Pn**	**06 58 49.9**	**+1.1**
RC01	**Rabbit Creek A**	**4.64**	**44**	P	**Pn**	**06 58 50.3**	**+0.1**
PMR	**Palmer**	**5.20**	**42**	P	**Pn**	**06 58 58.1**	**+0.5**
GHO	**Glory Hole Cre**	**5.39**	**41**	P	**Pn**	**06 58 59.6**	**-0.6**
EYAK	**Cordova Ski Ar**	**6.05**	**60**	P	**Pn**	**06 59 09.0**	**0.0**
KTH	**Kantishna Hill**	**6.26**	**23**	P	**Pn**	**06 59 12.0**	**+0.1**
MCK	**McKinley**	**6.88**	**29**	P	**Pn**	**06 59 19.6**	**-0.6**
PAX	**Paxson**	**7.40**	**42**	P	**Pn**	**06 59 27.4**	**+0.2**
ILAR	**Eielson Array**	**8.25**	**29**	P	**Pn**	**06 59 37.0**	**-1.6**
	2.5nm,0.3s,baz=216,slow=13,SNR=162						
ILAR				S	**Sn**	**07 01 03.9**	**-6.2**
	0.4nm,0.3s,baz=212,slow=29,SNR=5.5						
INK	**Inuvik**	**14.56**	**35**	P	**Pn**	**07 00 59.7**	**-1.7**
	0.3nm,0.3s,baz=226,slow=12,SNR=13						
YKA	**Yellowknife Ar**	**20.96**	**60**	P	**P**	**07 02 14.8**	**+0.7**
	0.7nm,0.5s,baz=274,slow=9.9,SNR=24						
SCHQ	**Schefferville**	**46.19**	**53**	P	**P**	**07 05 53.5**	**+0.3**
	2.3nm,0.9s,mb3.8,baz=282,slow=9.3,SNR=6.0						
SONM	**Songino Array**	**54.60**	**305**	P	**P**	**07 06 56.2**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=64,slow=7.0,SNR=2.7						

*NNC **02** 06:59:29.3±5.0,4306N×48.18E,h66km±45km,mb3.3, Error ellipse: s-maj=64.4km s-min=36.8km az=130.0*
MOS 02 06:59:15.7±1.5,4231N×4746E,h96km,mb4.2/1,3C-4D, Error ellipse: s-maj=21.2km s-min=8.7km az=34.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.38**	**283**	⇓*i*P	Pn	06 59 31.0	+0.8
GNBR				*e*S	Sn	06 59 42.7	+1.7
GNBR				pmax	pmax		
	comp=Z,169nm,0.3s						
MNSR	**Manas**	**0.44**	**26**	*e*P	Pn	06 59 35.0	+4.4
MNSR				*e*S	Sn	06 59 47.7	+6.0
MNSR				pmax	pmax		
	comp=Z,214nm,0.3s						
BUJR	**Buynaksk**	**0.58**	**334**	⇑*i*P	Pn	06 59 25.4	-6.3
BUJR				pmax	pmax		
	comp=Z,324nm,0.2s						
MAK	**Makhachkala**	**0.66**	**3**	*e*P	Pn	06 59 32.2	-0.1
MAK				pmax	pmax		
	comp=Z,125nm,0.1s						
VLKR	**Vladikavkaz**	**2.18**	**291**	*e*P	Pn	06 59 51.0	+0.6
VLKR				*i* S	Sn	07 00 14.3	-2.7
LACR	**Lac**	**2.39**	**284**	*i* P	Pn	06 59 53.7	+0.5
LACR				*i* S	Sn	07 00 19.2	-2.8
BTKR	**Batakoyurt**	**2.40**	**297**	*e*P	Pn	06 59 53.6	+0.3
BTKR				*i* S	Sn	07 00 18.8	-3.3
TRKR	**Terskaya**	**2.45**	**306**	*e*P	Pn	06 59 54.4	+0.4
TRKR				*i* S	Sn	07 00 20.1	-3.3
ARNR	**Ardon**	**2.50**	**292**	*e*P	Pn	06 59 54.9	+0.2
ARNR				*e*S	Sn	07 00 21.3	-3.3
KMSR	**Komsomolskaya**	**2.56**	**296**	*e*P	Pn	06 59 55.6	+0.1
KMSR				*i* S	Sn	07 00 22.6	-3.4
ZEI	**Tsey**	**2.67**	**281**	*i* P	Pn	06 59 57.2	+0.3
ZEI				*i* S	Sn	07 00 25.6	-3.0
PRTR	**Priterechnaya**	**2.74**	**303**	*i* P	Pn	06 59 57.8	0.0
PRTR				*i* S	Sn	07 00 26.8	-3.5
LSNR	**Lesken**	**2.85**	**291**	*i* P	Pn	06 59 59.4	+0.1
LSNR				*i* S	Sn	07 00 29.3	-3.6
KIV	**Kislovodsk**	**3.86**	**297**	*e*P	Pn	07 00 16.1	+3.2
NAGR	**Nagutskaya**	**4.04**	**304**	*i* P	Pn	07 00 18.3	+3.0
GUMR	**Gum-Bashi**	**4.09**	**293**	*e*P	Pn	07 00 20.1	+4.1
GOF	**Gofitskoye**	**4.23**	**312**	*e*P	Pn	07 00 26.6	+8.8
GOF				*i* S	Sn	07 01 06.4	+0.3
GOF				pmax	pmax		
	comp=Z,30nm,0.7s						
GOF				smax			
	comp=N,90nm,0.7s						
GOF				smax			
	comp=E,90nm,0.7s						
ANN	**Anapa**	**7.70**	**292**	*e*P	Pn	07 01 03.4	-1.6
ANN				pmax	pmax		
	comp=Z,43nm,1.0s						
AKTO	**Aktyubinsk**	**10.91**	**38**	⇓P	Pn	07 01 49.8	+1.1
	comp=Z,1.5nm,1.7s						
AKTO				⇑S	Sn	07 03 40.5	-8.3
	comp=Z,0.7nm,1.0s						
AB31	**Akbulak array**	**11.14**	**47**	P	Pn	07 01 53.5	+1.6
	comp=Z,0.5nm,0.3s,baz=240,slow=12,SNR=35						
AB31				⇓S	Sn	07 03 47.9	-6.4
	comp=Z,1.7nm,0.5s,baz=236,slow=22,SNR=7.1						
ARU	**Arti**	**15.85**	**23**	*e*P	Pn	07 02 53.0	-0.1
ARU				*e*S	S	07 05 40.6	-16
ZRNK	**Zerenda**	**17.93**	**46**	⇓P	Pn	07 03 23.2	+4.5
	comp=Z,9.5nm,2.2s						
BVA0	**Borovoye Array**	**18.71**	**47**	P	Pn	07 03 33.5	+5.4
	comp=Z,0.5nm,1.0s,baz=236,slow=12,SNR=8.4						
BVAR	**Borovoye Array**	**18.71**	**47**	P	Pn	07 03 33.5	+5.4
	comp=Z,0.5nm,1.0s,baz=236,SNR=8.4						
VOSK	**Vostochnaya**	**18.91**	**48**	⇑P	Pn	07 03 33.5	+3.1
	comp=Z,9.8nm,2.6s						
FINES	**FINESS Array B**	**23.07**	**333**	*i* P	P	07 04 19.7	+6.8

*ISCJB **02** 07:07:45.1±0.5,3130S±004×6893W±005,h116km±5km, mb3.5/3, Error ellipse: s-maj=8.0km s-min=6.5km az=62.6*
*IDC **02** 07:07:46.0±1.5,3146S×6888W,h110km±9km,mb3.4/3, mb1 3.7/5,mb1mx3.5/15,mbtmp3.8/5, Error ellipse: s-maj=49.5km s-min=33.1km az=35.0*
*NEIC **02** 07:07:45.5,3133S×69.17W,h150km,mb4.2/3, After GUC.*
*GUC **02** 07:07:45.5±0.8,3133S×69.17W,h150km,ML4.2*
ISC 02 07:07:46.1±0.5,3130S±004×6893W±005,h109km±6km, n33,σ0§85/45,mb3.5/3,5C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.67**	**117**	P	**Pn**	**07 08 04.2**	**+0.1**
	20nm,0.3s,baz=295,slow=7.4,SNR=1409						
CFAA				S	**Sn**	**07 08 17.9**	**+0.3**
	147nm,0.3s,baz=167,slow=19,SNR=383						
CMCH	**Combarbala**	**1.78**	**274**	⇓*i*P	**Pn**	**07 08 16.7**	**+0.4**
CMCH				*i* S	**Sn**	**07 08 40.1**	**+0.9**
CMCH				AMP		07 08 42.1	
	comp=E,13μm,0.5s						
CMCH	**Combarbala**	**1.78**	**274**	⇓*i*P	**Pn**	**07 08 16.7**	**+0.4**
CMCH				*i* S	**Sn**	**07 08 40.1**	**+0.9**
ILCH	**Illapel**	**1.94**	**259**	*e*P	**Pn**	**07 08 18.1**	**-0.2**
ILCH				*i* S	**Sn**	**07 08 42.8**	**-0.1**
ILCH				AMP		07 08 44.1	
	comp=N,4μm,0.3s						
ILCH	**Illapel**	**1.94**	**259**	*e*P	**Pn**	**07 08 18.1**	**-0.2**
ILCH				*i* S	**Sn**	**07 08 42.8**	**-0.1**
JACH	**Jahuel**	**1.97**	**225**	*e*P	**Pn**	**07 08 19.3**	**+0.5**
CHNG	**Los Chungos**	**2.27**	**254**	⇑*i*P	**Pn**	**07 08 21.6**	**-0.8**
CHNG				*i* S	**Sn**	**07 08 48.3**	**-2.1**
CHNG				AMP		07 08 56.5	
	comp=E,890nm,0.6s						
FCH	**Farellones**	**2.33**	**209**	*e*P	**Pn**	**07 08 24.1**	**+0.8**
FCH				*i* S	**Sn**	**07 08 54.0**	**+2.3**
FCH				AMP		07 09 00.8	
	comp=E,447nm,0.3s						
PEL	**Peldehue**	**2.37**	**218**	⇑*i*P	**Pn**	**07 08 23.8**	**+0.1**
PEL				*i* S	**Sn**	**07 08 52.7**	**+0.1**
PEL				AMP		07 08 57.1	
	comp=E,889nm,0.3s						
PEL	**Peldehue**	**2.37**	**218**	⇑*i*P	**Pn**	**07 08 23.8**	**+0.1**
PEL				*i* S	**Sn**	**07 08 52.7**	**+0.1**
ROCH	**El Roble**	**2.43**	**226**	*e*P	**Pn**	**07 08 24.3**	**-0.2**
PACH	**Papudo**	**2.46**	**239**	*i* P	**Pn**	**07 08 24.0**	**-1.0**
FSR	**Penalolen**	**2.56**	**211**	*e*P	**Pn**	**07 08 26.6**	**+0.4**
FSR				*i* S	**Sn**	**07 08 57.5**	**+0.4**
FSR				AMP		07 09 04.4	
	comp=N,476nm,0.4s						
FSR	**Penalolen**	**2.56**	**211**	*e*P	**Pn**	**07 08 26.6**	**+0.4**
FSR				*i* S	**Sn**	**07 08 57.5**	**+0.4**
PCH	**Pirque**	**2.67**	**210**	*e*P	**Pn**	**07 08 28.0**	**+0.2**
ANTU	**Antumapu**	**2.68**	**212**	⇑*i*P	**Pn**	**07 08 27.9**	**0.0**
ANTU				*i* S	**Sn**	**07 08 59.8**	**-0.3**
ANTU				AMP		07 09 07.7	
	comp=E,414nm,0.2s						
ANTU	**Antumapu**	**2.68**	**212**	⇑*i*P	**Pn**	**07 08 27.9**	**0.0**
ANTU				*i* S	**Sn**	**07 08 59.8**	**-0.3**
RCDM	**Rinconada Maip**	**2.70**	**215**	*e*P	**Pn**	**07 08 27.9**	**-0.3**
RCDM				*i* S	**Sn**	**07 09 00.1**	**-0.3**
CHCH	**Chadas Angostu**	**3.00**	**208**	*e*P	**Pn**	**07 08 31.8**	**-0.3**
CACH	**El Canelo**	**3.14**	**206**	*e*P	**Pn**	**07 08 34.0**	**+0.1**
CICH	**Cipreses**	**3.26**	**202**	*e*P	**Pn**	**07 08 35.8**	**+0.2**
CDCH	**Caldera**	**4.53**	**338**	⇓*i*P	**Pn**	**07 08 52.6**	**+0.1**
LVC	**Limon Verde**	**8.65**	**0**	*e*Pn	**Pn**	**07 09 46.7**	**-1.7**
	comp=E,3.1nm,0.4s						
TRQA	**Tornquist**	**8.84**	**142**	*e*Pn	**Pn**	**07 09 48.9**	**-2.1**
	comp=E,18nm,0.4s						
LPAZ	**La Paz**	**14.96**	**3**	P	**Pn**	**07 11 15.0**	**+3.2**
	comp=E,0.1nm,0.3s,baz=176,slow=8.2,SNR=11						
LPAZ	**La Paz**	**14.96**	**3**	Pn	**Pn**	**07 11 11.9**	**+0.1**
	comp=E,2.1nm,0.8s						
SIV	**San Ignacio**	**16.84**	**27**	P	**Pn**	**07 11 36.2**	**+1.0**
	comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=6.6						
SYO	**Syowa Base**	**67.40**	**158**	⇓*e*P	**P**	**07 18 28.5**	**-1.3**
TXAR	**Lajitas Array**	**68.76**	**328**	P	**P**	**07 18 39.0**	**+0.8**
	comp=E,0.3nm,0.6s,mb3.3,baz=154,slow=9.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**80.81**	**69**	P	**P**	**07 19 48.0**	**+0.4**
	comp=E,2.0nm,0.9s,mb3.9,baz=283,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**82.61**	**331**	P	**P**	**07 19 57.7**	**+0.6**
	comp=E,0.3nm,0.5s,mb3.4,baz=135,slow=8.4,SNR=4.1						
ZAL	**Zalesovo**	**150.55**	**32**	PKPbc	PKPbc	07 27 24.2	-0.8
	comp=E,2.0nm,0.4s,baz=115,slow=2.8,SNR=8.5						
MKAR	**Makanchi Array**	**153.01**	**47**	PKPbc	PKPbc	07 27 30.1	-0.5
	comp=E,0.9nm,0.6s,baz=252,slow=0.6,SNR=7.0						
MKAR				PKPab	PKPab	07 27 42.2	-0.2
	comp=E,0.6nm,0.6s,baz=304,slow=4.4,SNR=5.7						

*LDG **02** 07:13:05.5±0.2,2144S×16926E,h10km,Mb5.5/4,Ms5.1/9, Error ellipse: s-maj=23.1km s-min=2.9km az=159.0*
*NAO **02** 07:13:06.6,2258S×17247E,h33km,mb4.7*
*MOS **02** 07:13:09.1±1.1,2112S×16960E,h33km,mb5.6/29, MS5.2/11, Error ellipse: s-maj=11.2km s-min=8.5km az=121.7*
*IDC **02** 07:13:09.1±2.0,2111S×16964E,h25km±12km,mb4.5/19, mb1 4.7/22,mb1mx4.7/23,mbtmp4.7/22,ML3.9/3,MS5.0/20, Ms1 5.0/20,ms1mx5.0/23, Error ellipse: s-maj=15.7km s-min=11.8km az=160.0*
*SZGRF **02** 07:13:09.7,2160S×16948E,h33km,mb5.3,Southeast of Loyalty Islands*
*ISCJB **02** 07:13:10.0±0.2,2118S±004×16957E±004,h41km, mb5.2/75,MS5.0/35, Error ellipse: s-maj=6.1km s-min=5.2km az=106.5*
*CSEM **02** 07:13:10.0,2132S×16957E,h33km,mb5.5*
*HRVD **02** 07:13:11.4±0.1,2125S×16942E,h31km,MW5.6/87, Centroid moment Tensor Solution. LP body waves: s87,c175;Mantle waves: s86,c175; Half duration: 1§6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.77±.05; $M_{\theta\theta}$-0.05±.04; $M_{\phi\phi}$-2.71±.04; $M_{r\theta}$0.12±.07; $M_{\theta\phi}$1.46±.03; $M_{\phi r}$-1.79±.07; Best double couple: $M_0$3.56300×10^{17} NP1:ϕ_s323.00000°,δ32.00000°,λ68.00000°. NP2: ϕ_s168.00000°,δ61.00000°,λ103.00000°. Principal axes: T 3.3320, Plg71.0000°, Azm108.0000°; N 0.4710, Plg11.0000°, Azm341.0000°; P -3.7950, Plg15.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **02** 07:13:11.7,2047S×16978E,h41km,mB5.6,mb5.1,Ms5.2, Msz4.9*
*NEIC **02** 07:13:11.4±0.2,2118S×16961E,mb5.4/27,MS5.2/9, MW5.6, Error ellipse: s-maj=6.9km s-min=6.1km az=163.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}2.61; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-2.75; $M_{r\theta}$0.24; $M_{\theta\phi}$-0.07; $M_{\phi r}$-1.95; Best double couple: $M_0$3.30000×10^{17} NP1: ϕ_s176.00000°,δ63.00000°,λ85.00000°. NP2:ϕ_s7.00000°, δ27.00000°,λ100.00000°. Principal axes: T 3.2600, Plg71.0000°, Azm75.0000°; N 0.1300, Plg4.0000°, Azm178.0000°; P -3.3900, Plg18.0000°, Azm270.0000°;*
*BGS **02** 07:13:12.8±4.4,2118S×16960E,h45km,mb5.4(NEIC)*
ISC 02 07:13:11.7±0.2,2119S±004×16965E±004,h43km, h43km±1.8km:pP-P,n371,σ1§00/153,mb5.2/75,MS5.0/35, 17C-14D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.11**	**253**	Pn	**Pn**	**07 13 55.5**	**-2.8**
	27nm,0.3s,baz=80,slow=17,SNR=159						
DZM				Sn	**Sn**	**07 14 30.7**	**-3.5**
	58nm,0.3s,baz=138,slow=23,SNR=4.7						
DZM				LR	LR	07 15 06.1	
	comp=Z,22μm,18.9s,baz=39,slow=38						
BKM	**Butte a Klehm**	**3.75**	**339**	⇑*i*P	**Pn**	**07 14 07.2**	**+0.1**
RAO	**Raoul Island**	**13.81**	**128**	LR	LR	07 20 47.6	
	comp=Z,9μm,19.4s,baz=323,slow=33						
HNR	**Honiara**	**14.97**	**320**	P	**Pn**	**07 16 41.2**	**+0.9**
HNR				pmax	pmax		
	comp=Z,313nm,1.0s						
HNR	**Honiara**	**14.97**	**320**	Pn	**Pn**	**07 16 41.2**	**+0.8**
	comp=Z,313nm,1.0s						
URZ	**Urewera**	**18.19**	**161**	P	**Pn**	**07 17 21.8**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=350,slow=7.1,SNR=19						
URZ				LR	LR	07 22 57.5	
	comp=Z,8μm,20.4s,baz=170,slow=32						
AFI	**Afiamalu**	**19.12**	**71**	P	**Pn**	**07 17 31.3**	**-0.8**
	comp=Z,4.8nm,0.3s,baz=279,slow=17,SNR=5.5						
AFI				LR	LR	07 23 33.1	
	comp=Z,7μm,20.

PPT eLQ 07 29 36.4
comp=Z,7µm,30.8s
PPT eLR LR 07 31 07.5
comp=Z,5µm,25.8s,baz=256
FITZ Fitzroy Crossi 41.47 266 eP **P 07 20 54.9 +0.6**
comp=Z,96nm,0.9s,mb5.4
GUMO Guam 42.27 323 P **P 07 21 00.1 -0.7**
comp=Z,120nm,0.9s,mb5.5,baz=113,slow=13,SNR=3.4
GUMO Guam 42.27 323 eP **P 07 21 02.0 +1.1**
GUMO pmax pmax
comp=Z,271nm,1.2s,mb5.8
GUMO Guam 42.27 323 eP **P 07 21 02.0 +1.1**
comp=Z,271nm,1.2s,mb5.8
MBWA Marble Bar 46.39 261 eP **P 07 21 34.2 +0.5**
comp=Z,119nm,1.1s,mb5.7
KLBR Kellerberrin 47.26 246 eP **P 07 21 40.7 +0.2**
comp=Z,62nm,0.9s,mb5.5
NWAO Narrogin (SRO) 47.70 244 eP **P 07 21 45.0 +1.0**
NWAO pmax pmax
comp=Z,44nm,1.3s
NWAO Narrogin (SRO) 47.70 244 eP **P 07 21 45.0 +1.1**
comp=Z,44nm,1.3s,mb5.3
DRV Dumont d'Urvil 49.25 195 S **S 07 28 58.0 -0.9**
DRV R 07 37 00.0
RKT Rikitea 51.06 103 eS **S 07 29 30.9 +6.9**
comp=Z,1µm,29.0s
RKT eLR LR 07 36 45.9
comp=Z,2µm,30.0s,baz=257
VNDA Vanda 56.50 182 P **P 07 22 49.3 -0.1**
comp=Z,8.0nm,1.1s,mb4.7,baz=8.6,slow=7.4,SNR=9.9
VNDA LR LR 07 42 53.9
comp=Z,1µm,21.5s,MS5.0,baz=17,slow=32
VNDA Vanda 56.50 182 eP **P 07 22 49.1 -0.3**
VNDA pmax pmax
comp=Z,74nm,1.8s
VNDA Vanda 56.50 182 eP **P 07 22 49.1 -0.3**
comp=Z,74nm,1.8s,mb5.4
SBA Scott Base 56.73 181 eP **P 07 22 50.7 -0.3**
SBA pmax pmax
comp=Z,27nm,0.8s,mb5.3
SBA Scott Base 56.73 181 eP **P 07 22 50.7 -0.3**
comp=Z,27nm,0.8s,mb5.3
CASY Casey 58.51 204 eP **P 07 23 02.6 -0.9**
CASY e 07 23 10.9
CASY Casey 58.51 204 eP **P 07 23 02.6 -0.9**
comp=Z,106nm,1.3s,mb5.7
CASY LR LR
comp=Z,2µm,20.0s,MS5.2
KKM Kota Kinabalu 58.99 291 eP **P 07 23 07.3 +0.5**
KSM Kuching 62.20 284 eP **P 07 23 28.8 +0.1**
MJAR Matsushiro Arr 64.65 332 P **P 07 23 44.2 -0.7**
comp=Z,29nm,1.2s,mb5.2,baz=164,slow=7.0,SNR=21
MJAR LR LR 07 52 28.8
comp=Z,547nm,18.3s,MS4.8,baz=135,slow=37
MAJO Matsushiro 64.65 332 eP **P 07 23 44.4 -0.5**
MAJO pmax pmax
comp=Z,82nm,1.4s,mb5.6
MAJO MLR MLR
comp=Z,871nm,20.0s,MS4.9
MAJO Matsushiro 64.65 332 eP **P 07 23 44.4 -0.5**
comp=Z,82nm,1.4s,mb5.6
MAJO LR LR
comp=Z,871nm,20.0s,MS4.9
MAT Matsushiro 64.65 332 P **P 07 23 44.1 -0.8**
MAT eS **S 07 32 22.2 +0.4**
MAT Matsushiro 64.65 332 eP **P 07 23 44.0 -0.9**
MAT S **S 07 32 22.0 +0.2**
MAT pmax pmax
comp=Z,67nm,1.4s,mb5.5
MAT Matsushiro 64.65 332 eP **P 07 23 44.0 -0.9**
comp=Z,67nm,1.4s,mb5.5
MAT S **S 07 32 22.0 +0.2**
YHNB Yeheng 65.43 312 eP **P 07 23 50.2 +0.2**
QZH Quanzhou 67.56 310⇑ iP **P 07 24 04.4 +0.8**
QZH S S 07 32 56.5 -0.6
QZH AMB AMB
comp=Z,1µm,3.8s
QSPA South Pole Qui 68.87 180 eP **P 07 24 11.8 0.0**
comp=Z,167nm,1.3s,mb5.8
SSE Sheshan 69.75 317⇑P **P 07 24 17.6 +0.4**
SSE AP pP 07 24 32.8 +2.9
SSE XP sP 07 24 38.6 +3.7
SSE PCP PcP 07 24 40.7 +1.0
SSE PP PP 07 26 53.3 +1.5
SSE S S 07 33 24.9 +1.8
SSE SCS ScS 07 34 15.0 -0.6
SSE AMB AMB
comp=Z,12nm,1.5s,mb4.6
SSE AMB AMB
comp=Z,267nm,6.2s
SSE LR LR
comp=N,88nm,23.7s,MS4.5
SSE LR LR
comp=E,298nm,23.7s,MS4.5
SSE LR LR
comp=Z,330nm,22.4s,MS4.5
QIZ Qiongzhong 70.89 300⇑ iP **P 07 24 25.7 +1.5**
QIZ AP pP 07 24 34.2 -2.7
QIZ S S 07 33 39.1 +2.8
QIZ XS sS 07 33 56.3 -1.2
QIZ SCS ScS 07 34 21.5 -3.0
QIZ AMB AMB
comp=Z,26nm,2.1s,mb4.8
QIZ LR LR
comp=N,289nm,17.5s,MS4.7
QIZ LR LR
comp=E,245nm,20.6s,MS4.7
QIZ LR LR
comp=Z,510nm,23.7s,MS4.7
NJ2 Nanjing 71.88 316 eP **P 07 24 31.2 +1.0**
NJ2 AP pP 07 24 45.1 +2.2
NJ2 XP sP 07 24 49.5 +1.7
NJ2 PCP PcP 07 24 50.6 +1.8
NJ2 S S 07 33 48.0 +0.2
NJ2 AMB AMB
comp=Z,60nm,1.5s,mb5.3
NJ2 AMB AMB
comp=Z,240nm,10.8s
NJ2 LR LR
comp=N,2µm,22.7s,MS5.5
NJ2 LR LR
comp=E,1µm,18.8s,MS5.5
NJ2 LR LR
comp=Z,770nm,26.2s
YSS Yuzh-Sakhalins 72.04 341⇑ eP **P 07 24 33.0 +1.8**
YSS e 07 24 40.6
YSS eS S 07 33 50.0 +0.3
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 72.04 341 eP **P 07 24 32.2 +1.1**
KULM Kulim 72.54 283 eP **P 07 24 34.4 +0.3**
FX1 Attu Island--F 73.82 2 eP **P 07 24 40.9 -0.8**
WHN Wuhan 73.94 312⇓P **P 07 24 43.0 +0.6**
PET Petropavlovsk 74.52 353 eP **P 07 24 48.7 +3.0**
PET eS S 07 34 20.8 +3.1
PET ePS 07 35 09.7
PET pmax pmax
comp=Z,300nm,15.8s
PET smax
comp=N,400nm,19.9s
PET MLR MLR
comp=Z,900nm,21.0s,MS5.0
MDJ Mudanjiang 75.02 332 P **P 07 24 48.8 +0.2**
MDJ AP pP 07 25 00.6 -0.8
MDJ XP sP 07 25 05.6 -0.8
MDJ PP PP 07 27 36.2 -0.6
MDJ S S 07 34 26.3 +3.0
MDJ XS sS 07 34 44.4 -0.2
MDJ AMB AMB
comp=Z,20nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,229nm,4.5s
MDJ LR LR
comp=N,570nm,24.5s,MS4.8
MDJ LR LR
comp=E,267nm,25.3s,MS4.8
MDJ LR LR
comp=Z,765nm,24.1s,MS4.9
MDJ Mudanjiang 75.02 332 eP **P 07 24 48.8 +0.2**
comp=Z,46nm,1.4s,mb5.2
TIA Tai'an 75.66 319 P **P 07 24 52.3 0.0**
SNY Shenyang 75.81 326⇑P **P 07 24 48.8 -4.4**
SNY AP pP 07 25 03.1 -2.9
SNY S S 07 34 27.2 -4.9
SNY AMB AMB
comp=Z,20nm,2.5s,mb4.6
SNY AMB AMB
comp=Z,380nm,12.5s
SNY LR LR
comp=E,680nm,21.6s
SNY LR LR
comp=Z,500nm,20.1s,MS4.8
HABR Khabarovsk 75.94 337 iP **P 07 24 53.7 -0.2**
HABR i pP 07 25 05.3 -1.5
HABR iS S 07 34 36.2 +2.7
HABR pmax pmax
comp=Z,79nm,1.7s,mb5.4
HABR MLR MLR
comp=Z,289nm,18.6s,MS4.6
CN2 Changchun 76.32 329 eP **P 07 24 55.7 -0.4**
CN2 eXP sP 07 25 14.2 +0.4
CN2 eS S 07 34 38.3 +0.6
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,510nm,3.0s
CN2 LR LR
comp=N,600nm,21.0s,MS5.0
CN2 LR LR
comp=E,600nm,21.0s,MS5.0
CN2 LR LR
comp=Z,2µm,21.0s,MS5.4
MAW Mawson 76.78 202 P **P 07 24 58.6 -0.1**
comp=Z,17nm,1.0s,mb4.9,baz=130,slow=11,SNR=3.0
MAW LR LR 07 55 00.1
comp=Z,1µm,19.4s,MS5.3,baz=322,slow=33
ENH Enshi 77.21 310 eP **P 07 25 01.0 -0.1**
comp=Z,132nm,1.5s,mb5.6
GYA Guiyang 77.25 305⇑ iP **P 07 25 02.1 +0.8**
GYA AP pP 07 25 15.4 +1.2
GYA XP sP 07 25 20.6 +1.5
GYA PP PP 07 27 59.8 +4.1
GYA S S 07 34 49.7 +1.9
GYA SKS 07 35 06.9
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,260nm,4.5s
GYA LR LR
comp=N,2µm,18.7s,MS5.6
GYA LR LR
comp=E,2µm,18.6s,MS5.6
GYA LR LR
comp=Z,2µm,18.3s,MS5.5
KLR Kul'dur 77.80 336 eP **P 07 25 01.8 -2.6**
KLR e 07 25 09.8
KLR pmax pmax
comp=E,67nm,2.0s
KLR pmax pmax
comp=Z,200nm,2.0s,mb5.7
KLR pmax pmax
comp=Z,1µm,9.0s
KLR MLR MLR
comp=E,900nm,19.0s
BJT Baijiatuau 78.68 321 eP **P 07 25 08.4 -0.9**
BJT pmax pmax
comp=Z,53nm,1.4s
BJT Baijiatuau 78.68 321 eP **P 07 25 08.4 -0.9**
comp=Z,53nm,1.4s,mb5.3
KMI Kunming 79.63 302 P **P 07 25 15.8 +1.3**
KMI AP pP 07 25 25.2 -2.2
KMI XP sP 07 25 30.4 -1.9
KMI PP PP 07 28 17.4 +1.8
KMI S S 07 35 19.1 +5.8
KMI XS sS 07 35 35.6 +0.7
KMI AMB AMB
comp=Z,44nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,543nm,5.6s
KMI LR LR
comp=N,245nm,19.3s,MS4.8
KMI LR LR
comp=E,376nm,20.9s,MS4.8
KMI LR LR
comp=Z,422nm,25.5s,MS4.7
XAN Xi'an 79.71 313 P **P 07 25 15.7 +0.8**
XAN AP pP 07 25 23.9 -3.9
XAN AMB AMB
comp=Z,25nm,0.6s,mb5.3
CD2 Chengdu 81.73 308 eP **P 07 25 26.5 +0.8**
CD2 AP pP 07 25 39.2 +0.6
CD2 XP sP 07 25 45.6 +2.1
CD2 PP PP 07 28 36.7 +3.8
CD2 S S 07 35 32.9 -2.3
CD2 SS SS 07 40 52.5 -0.9
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,230nm,5.1s
CD2 LR LR
comp=E,260nm,16.8s
CD2 LR LR
comp=Z,310nm,20.0s,MS4.7
HHC Hu-ho-hao-te 81.95 319 eP **P 07 25 27.7 +0.9**
HHC AP pP 07 25 41.0 +1.2
HHC XP sP 07 25 45.9 +1.2
HHC S S 07 35 39.1 +1.6
HHC AMB AMB
comp=Z,25nm,1.9s,mb4.8
HHC AMB AMB
comp=Z,436nm,4.5s
HHC LR LR
comp=N,352nm,26.5s
HHC LR LR
comp=E,717nm,19.2s
HHC LR LR
comp=Z,596nm,24.0s,MS4.9
MA2 Magadan 81.95 350 P **P 07 25 23.4 -3.4**
MA2 e 07 25 31.4
MA2 eS S 07 35 31.6 -5.9
MA2 ePS 07 36 22.6
MA2 eSS SS 07 41 01.4 +4.7
MA2 eSSS 07 44 21.3
MA2 MLR MLR
comp=Z,900nm,20.0s,MS5.1
BTO Baotou 82.75 319 eP **P 07 25 29.3 -1.7**
SYO Syowa Base 83.18 196⇑ eP **P 07 25 31.3 -1.9**
SYO Syowa Base 83.18 196‖ ePcP PcP 07 25 34.7 -3.0
LZH Lanzhou 84.32 312 eP **P 07 25 40.5 +1.4**
LZH AP pP 07 25 51.1 -1.0
LZH XP sP 07 25 55.0 -1.9
LZH PP PP 07 28 57.7 +3.6
LZH SKS 07 35 57.8
LZH eS 07 36 03.1
LZH XS sS 07 36 20.5 -2.7
LZH AMB AMB
comp=Z,49nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,506nm,8.7s
LZH LR LR
comp=N,635nm,15.2s
LZH LR LR
comp=Z,987nm,18.0s,MS5.2
SEY Seymchan 84.94 352 eP **P 07 25 40.9 -1.3**
SEY 07 28 56.2
SEY eS 07 36 05.1
SEY pmax pmax
comp=Z,20nm,1.1s,mb5.2
SEY smax
comp=N,810nm,22.1s
SEY smax
comp=E,460nm,28.9s
CLNS Chul'man 86.33 337 eP **P 07 25 48.6 -0.5**
CLNS e*PP pP 07 25 56.9 -5.2
CLNS e pP 07 26 03.8 +1.7
CLNS ePPP 07 31 03.6
CLNS pmax pmax
comp=Z,57nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,34nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SAO San Andreas Ge 86.81 49 eP **P 07 25 52.5 +1.1**
comp=Z,15nm,0.9s,mb5.2
SAO epP pP 07 26 03.8 -0.7
KCPM Cahto Peak 86.82 45 eP **P 07 25 52.4 +0.9**
KCPM epP pP 07 26 05.3 +0.8
NVL N'lazarevskaya 86.98 187⇓ iP **P 07 25 51.2 -1.1**
NVL e*SP sP 07 26 00.2 -10
NVL e 07 36 28.1
NVL pmax pmax
comp=Z,34nm,0.9s,mb5.6
NVL MLR MLR
comp=N,963nm,18.8s
NVL MLR MLR
comp=Z,906nm,17.5s,MS5.2
PTRM Twissleman Ran 87.15 50 eP **P 07 25 54.5 +1.4**
PTRM epP pP 07 26 06.5 +0.3
SNAA Sanae 87.24 182 P **P 07 25 52.6 -0.9**
comp=Z,8.8nm,0.8s,mb5.0,baz=201,slow=4.4,SNR=15
CIT Chita 87.76 329 eP **P 07 25 52.9 -3.1**
CIT e pP 07 26 04.1 -5.0
CIT pmax pmax
comp=Z,102nm,2.8s,mb5.6
VNA3 Neumayer Olymp 87.81 180⇑ iP **P 07 25 54.8 -1.5**
VNA3 e 07 26 03.7
VNA3 e pP 07 26 06.8 -2.6
VNA3 e 07 26 14.8
VNA3 e 07 26 21.8
VNA2 Neumayer--Watz 88.11 181⇑ iP **P 07 25 57.1 -0.6**
baz=186,slow=3.8
VNA2 e 07 26 05.2
VNA2 e pP 07 26 08.6 -2.2
VNA2 e pP 07 26 10.6 -0.2
VNA2 e 07 26 17.1
TNA Tin City 88.16 9 eP **P 07 25 57.4 -0.5**
comp=Z,7.6nm,1.4s,mb4.7
TNA epP pP 07 26 12.9 +1.9
CMB Columbia Colle 88.16 48 eP **P 07 25 58.2 +0.2**
CMB e*PP pP 07 26 10.6 -0.4
CMB pmax pmax
comp=Z,11nm,0.8s,mb5.1
CMB Columbia Colle 88.16 48 eP **P 07 25 58.2 +0.2**
comp=Z,11nm,0.8s,mb5.1
CMB epP pP 07 26 10.6 -0.5
VNA1 Neumayer--Stat 88.40 181⇑ iP **P 07 25 58.7 -0.4**
YBH Yreka Blue Hor 88.43 44 P **P 07 25 58.3 -0.9**
comp=Z,7.3nm,0.7s,mb5.0,baz=32,slow=2.1,SNR=16
AGT Agartala 88.45 296 eP **P 07 26 06.0 +6.7**
SHL Shillong 88.61 298 eP **P 07 26 00.5 +0.5**
ULN Ulaanbaatar 88.65 323 eP **P 07 26 00.4 +0.1**
ULN e*SP sP 07 26 15.4 -2.8
ULN pmax pmax
comp=Z,69nm,1.5s,mb5.8
ULN MLR MLR
comp=Z,589nm,22.0s,MS5.0
ULN Ulaanbaatar 88.65 323 eP **P 07 26 00.4 +0.1**
comp=Z,69nm,1.5s,mb5.8
ULN eSP sP 07 26 15.4 -2.8
ULN LR LR
comp=Z,589nm,22.0s,MS5.0
GTA Gaotai 88.74 313 eP **P 07 26 01.0 +0.3**
GTA AP pP 07 26 15.4 +1.6
GTA XP sP 07 26 19.8 +1.2
GTA PP PP 07 29 31.9 +2.0
GTA SKS 07 36 24.0
GTA S 07 36 43.0
GTA XS sS 07 37 05.8 -0.6
GTA SS SS 07 42 38.5 +1.9
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,164nm,3.8s
GTA LR LR
comp=N,201nm,21.3s,MS4.8
GTA LR LR
comp=E,301nm,20.2s,MS4.8
GTA LR LR
comp=Z,420nm,28.9s
YAK Yakutsk 88.84 342 eP **P 07 26 00.6 -0.5**
BILL Bilibino 89.00 359 iP **P 07 26 01.0 -0.9**
BILL e 07 29 27.8
BILL e 07 36 21.3
BILL pmax pmax
comp=Z,44nm,2.8s,mb5.3
BILL Bilibino 89.00 359 eP **P 07 26 00.9 -1.0**
comp=Z,16nm,1.1s,mb5.3
SONM Songino Array 89.00 323 P **P 07 26 01.7 -0.3**
comp=Z,5.0nm,0.9s,mb4.8,baz=137,slow=2.7,SNR=35
SONM PKKPbc PKKPbc 07 43 39.6 -0.2
comp=Z,0.4nm,0.8s,baz=279,slow=2.9,SNR=4.2
SONM LR LR 08 07 52.0
comp=Z,405nm,18.7s,MS4.9,baz=253,slow=37
NVAR Mina Array Bea 89.80 48 P **P 07 26 05.7 0.0**
comp=Z,9.4nm,0.7s,mb5.2,baz=232,slow=10.0,SNR=66
MNV Mina 89.90 48 eP **P 07 26 06.4 +0.3**
comp=Z,13nm,0.8s,mb5.3
TPH Tonopah 90.39 49 eP **P 07 26 08.5 +0.1**
comp=Z,7.9nm,0.8s,mb5.1
LSA Lhasa 90.88 301 P **P 07 26 11.4 +0.7**
NEN Nelson 91.05 52 eP **P 07 26 11.6 +0.2**
BOD Bodaibo 91.25 334 eP **P 07 26 09.9 -2.5**
BOD e 07 26 18.1
BOD pmax pmax
comp=Z,16nm,1.8s,mb5.0
BOD pmax pmax
comp=Z,16nm,1.6s,mb5.1
WVOR Wild Horse Val 91.42 45 eP **P 07 26 13.1 -0.1**
comp=Z,44nm,1.6s,mb5.5
WVOR epP pP 07 26 26.8 +0.5
WVOR LR LR
comp=Z,1µm,19.0s,MS5.5
ILAR Eielson Array 91.97 17 P **P 07 26 12.9 -2.8**
comp=Z,0.7nm,0.6s,mb4.2,baz=236,slow=4.2,SNR=12
ILAR PKiKP PKiKP 07 31 03.9 -2.0
comp=Z,0.3nm,0.8s,baz=292,slow=3.3,SNR=4.8
ILAR LR LR 08 04 09.4
comp=Z,785nm,19.5s,MS5.2,baz=230,slow=33
ZAK Zakamensk 92.10 324 eP **P 07 26 15.7 -0.6**
ZAK e 07 30 01.2
ZAK pmax pmax
comp=Z,52nm,1.6s,mb5.6
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.8
TUC Tucson 92.75 56 eP **P 07 26 19.3 0.0**
comp=Z,7.0nm,1.4s,mb4.9
ARUT Antelope Range 92.97 51 P **P 07 26 20.4 +0.1**
MOY Mondy 94.00 324 eP **P 07 26 23.7 -1.4**
MOY pmax pmax
comp=Z,43nm,2.8s,mb5.4
JIRN Jiri 94.11 298 eP **P 07 26 26.3 +0.7**
comp=Z,36nm,1.2s,mb5.7
MSU Marysvale 94.17 50 eP **P 07 26 27.4 +1.5**
DUG Dugway 94.40 49 eP **P 07 26 27.8 +0.9**
GUN Gumba 94.46 298 eP **P 07 26 27.9 +0.7**
HLID Hailey 94.70 45 eP **P 07 26 28.2 -0.1**
comp=Z,3.3nm,0.9s,mb4.8
PKI Pulchoki 94.72 298 eP **P 07 26 28.0 -0.4**
comp=Z,55nm,1.2s,mb5.9
KKN Kakani 94.91 298 eP **P 07 26 29.3 0.0**
comp=Z,56nm,1.2s,mb5.9
DMN Daman 94.99 298 eP **P 07 26 29.6 0.0**
comp=Z,65nm,1.1s,mb6.0
NEW Newport 95.01 40 P **P 07 26 30.2 +0.5**
comp=Z,0.6nm,0.4s,mb4.3,baz=166,slow=9.1,SNR=3.1
NEW Newport 95.01 40 eP **P 07 26 29.9 +0.1**
GKN Gorkha 95.52 298 eP **P 07 26 31.8 -0.2**
comp=Z,26nm,0.9s,mb5.7
KOLN Koldanda 96.30 297 eP **P 07 26 34.3 -1.3**
comp=Z,26nm,1.1s,mb5.6
PV10 Paradox Valley 96.39 51 eP **P 07 26 36.0 0.0**
TIXI Tiksi 96.72 348 iP **P 07 26 35.0 -2.5**
PLCA Paso Flores 96.82 138 P **P 07 26 38.6 +0.7**
comp=Z,1.5nm,0.9s,mb4.4,baz=212,slow=10,SNR=2.7
PLCA LR LR 08 00 15.1
comp=Z,426nm,21.4s,MS4.9,baz=233,slow=29
ANMO Albuquerque 97.08 55 P **P 07 26 40.0 +0.9**
comp=Z,0.3nm,0.3s,mb4.2,baz=94,slow=3.0,SNR=4.5
HYB Hyderabad 97.12 286 iP **P 07 26 48.0 +8.7**
TXAR Lajitas Array 97.35 62 P **P 07 26 41.4 +1.0**
comp=Z,0.3nm,0.8s,mb3.8,baz=203,slow=6.9,SNR=2.6
TXAR PKKPbc PKKPbc 07 43 26.8 +8.6
comp=Z,0.5nm,0.9s,baz=135,slow=1.8,SNR=3.5
TXAR LR LR 08 02 27.8
comp=Z,1µm,19.7s,MS5.4,baz=215,slow=30
PDAR Pinedale Array 97.65 47 P **P 07 26 41.6 -0.1**
comp=Z,0.3nm,0.5s,mb4.1,baz=174,slow=3.8,SNR=5.7
PDAR PP PP 07 30 39.4 -0.3
comp=Z,0.4nm,0.9s,baz=180,slow=1.5,SNR=3.9
PDAR PKKPbc PKKPbc 07 43 27.9 +11
comp=Z,0.5nm,0.8s,baz=214,slow=3.3,SNR=3.8
PDAR LR LR 08 07 14.4
comp=Z,372nm,19.4s,MS4.9,baz=254,slow=33

INK	Inuvik	98.27	18	P	P	07 26 42.9	-1.5
	comp=Z,2.1nm,1.1s,mb4.6,baz=258,slow=9.3,SNR=4.4						
INK				PKiKP	PKiKP	07 31 14.8	-2.1
	comp=Z,0.9nm,0.8s,baz=155,slow=6.0,SNR=6.7						
INK	Inuvik	98.27	18	P	P	07 26 42.9	-1.5
WMQ	Urumqi	98.83	314	eP	P	07 26 45.0	-2.0
WMQ				AP	pP	07 26 59.0	-1.1
WMQ				PP	PP	07 30 49.0	+0.3
WMQ				SKS		07 37 18.0	
WMQ				S		07 38 08.0	
WMQ				SS	SS	07 44 59.0	-1.6
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,132nm,6.0s						
WMQ				LR	LR		
	comp=N,168nm,15.0s,MS4.9						
WMQ				LR	LR		
	comp=E,210nm,15.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,157nm,14.0s,MS4.7						
YKA	Yellowknife Ar	102.21	27	P	Pdif	07 27 00.5	-1.5
	comp=Z,0.9nm,0.9s,baz=257,slow=4.4,SNR=10.0						
YKA				PKiKP	PKiKP	07 31 22.4	-1.6
	comp=Z,0.5nm,0.7s,baz=270,slow=1.2,SNR=9.4						
MKAR	Makanchi Array	103.39	315	Pdiff	Pdif	07 27 06.4	-0.9
	comp=Z,0.7nm,0.7s,baz=90,slow=4.9,SNR=9.9						
MKAR				PKiKP	PKiKP	07 31 25.6	-0.5
	comp=Z,0.6nm,0.7s,baz=262,slow=0.9,SNR=5.6						
MKAR				PKKPbc	PKKPbc	07 43 04.0	+3.1
	comp=Z,0.3nm,0.4s,baz=278,slow=1.8,SNR=6.0						
MKAR				PKKP	PKKPbc	07 43 20.3	+19
	comp=Z,1.3nm,0.8s,baz=315,slow=3.4,SNR=7.8						
ZAL	Zalesovo	103.91	323	Pdiff	Pdif	07 27 08.3	-1.2
	comp=Z,0.7nm,0.4s,baz=139,slow=9.3,SNR=3.0						
KURK	Kurchatov	106.74	318	ePKPdf	PKiKP	07 31 31.2	-1.1
ULM	Lac du Bonnet	108.80	43	PKiKP	PKiKP	07 31 35.4	-0.7
	comp=Z,0.7nm,0.3s,baz=120,slow=3.8,SNR=2.9						
BRVK	Borovoye	112.22	320	i PKIKP	PKiKP	07 31 41.3	-1.3
ZRNK	Zerenda	112.98	320	ePKIKP	PKiKP	07 31 42.1	-1.9
ARU	Arti	119.04	324	i PKIKP	PKPdf	07 31 52.8	-2.8
ARU				e		07 38 44.2	
ARU				eSS	SS	07 49 25.6	-7.1
ARU	Arti	119.04	324	ePKPdf	PKPdf	07 31 53.3	-2.3
SADO	Sadowa	119.52	50	PKP	PKPdf	07 31 56.2	-0.3
	comp=Z,5.8nm,0.9s,baz=347,slow=1.2,SNR=3.8						
SADO	Sadowa	119.52	50	PKP	PKPdf	07 31 56.2	-0.3
BOSA	Boshof	119.73	216	PKP	PKPdf	07 31 58.6	+1.7
	comp=Z,1.2nm,0.4s,baz=142,slow=11,SNR=3.7						
SDV	Santo Domingo	120.81	92	ePKPdf	PKPdf	07 31 58.1	-0.9
LBTB	Lobatse	122.30	219	ePKPdf	PKPdf	07 32 02.8	+0.9
FRB	Frobisher Bay	122.72	27	PKP	PKPdf	07 32 00.7	-2.1
	comp=Z,11nm,0.8s,baz=288,slow=3.9,SNR=12						
MIV	Mineville/With	123.54	51	ePKPdf	PKPdf	07 32 03.1	-1.2
DAG	Danmarks Havn	124.22	2	⇓i P	PKPdf	07 32 02.9	-2.7
	comp=Z,3.3nm,0.6s						
DAG	Danmarks Havn	124.22	2	⇓i PKIKP	PKPdf	07 32 02.9	-2.7
DAG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
APA	Apatity	126.20	341	⇑i PKIKP	PKPdf	07 32 08.0	-1.4
APA				pmax	pmax		
	comp=Z,38nm,1.4s						
SUMG	Summit	126.20	10	ePKPdf	PKPdf	07 32 08.4	-1.0
SCHQ	Schefferville	126.24	37	PKP	PKPdf	07 32 09.2	-0.2
	comp=Z,3.4nm,0.8s,baz=33,slow=2.5,SNR=10						
CAM4	Nova Friburgo	126.51	142	eP	PKPdf	07 32 07.9	-2.1
CAM4				i		07 32 11.5	
CAM4				i		07 32 14.6	
CAM4				i		07 32 23.4	
ARCES	ARCESS Array B	127.04	345	PKP	PKPdf	07 32 09.4	-1.6
	comp=Z,6.4nm,0.6s,baz=73,slow=1.9,SNR=50						
ARE0	ARCESS Array S	127.04	345	ePKPdf	PKPdf	07 32 09.6	-1.4
KLMR	Klimovskoe	127.43	332	ePKIKP	PKPdf	07 32 09.5	-2.2
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s						
SJG	San Juan	127.58	83	ePKPdf	PKPdf	07 32 11.4	-0.7
LSZ	Lusaka	127.62	229	ePKPdf	PKPdf	07 32 13.5	+1.4
BDFB	Brasilia	127.98	132	PKP	PKPdf	07 32 13.1	+0.3
	comp=Z,5.5nm,0.7s,baz=206,slow=2.9,SNR=13						
KMBO	Kilima Mbogo	128.47	251	PKP	PKPdf	07 32 15.0	+1.3
	comp=Z,1.9nm,0.8s,baz=38,slow=4.7,SNR=5.8						
KMBO	Kilima Mbogo	128.47	251	ePKPdf	PKPdf	07 32 16.1	+2.4
JOF	Joensuu	129.69	337	ep	PKPdf	07 32 15.0	-1.0
KIV	Kislovodsk	130.83	310	i PKIKP	PKPdf	07 32 18.3	+0.1
KIV				e		07 34 30.0	
KIV				eSS	SS	07 52 01.9	+0.8
KIV				eSSS		07 56 58.1	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN	Obninsk	131.33	326	i PKIKP	PKPdf	07 32 18.4	-0.7
OBN				e		07 32 26.7	
OBN				e		07 39 19.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TSUM	Tsumeb	131.43	216	ePKPdf	PKPdf	07 32 20.6	+1.3
KAF	Kangasniemi	132.00	338	ep	PKPdf	07 32 18.0	-2.4
	baz=49,slow=1.9						
FINES	FINESS Array B	132.53	337	PKP	PKPdf	07 32 19.8	-1.6
	comp=Z,1.4nm,0.4s,baz=38,slow=3.0,SNR=18						
FINES				SKPbc	SKPbc	07 35 45.1	+0.3
	comp=Z,5.5nm,0.9s,baz=45,slow=5.4,SNR=10						
FINES	FINESS Array B	132.53	337	PKP	PKPdf	07 32 19.8	-1.6
FINES				SKPbc	SKPbc	07 35 45.1	+0.3
SOC	Sochi	133.02	310	eP	Pdif	07 29 18.5	-0.5
SOC				e		07 34 50.8	
SOC				ePPP		07 37 47.8	
VSU	Vasula	134.19	334	i PKIKP	PKPdf	07 32 22.9	-1.6
AKASG	Malin Array Be	137.29	323	PKP	PKPdf	07 32 28.9	-1.5
	comp=Z,1.2nm,0.5s,baz=62,slow=1.6,SNR=12						
AKASG				SKPbc	SKPbc	07 36 01.3	+1.2
	comp=Z,0.3nm,0.4s,baz=49,slow=3.5,SNR=5.9						
NB2	NORSAR Subarra	137.42	345	PKPd	PKPdf	07 32 29.7	-0.8
	comp=Z,3.0nm,1.0s,baz=27,slow=1.8						
NOA	NORSAR Array B	137.42	345	PKP	PKPdf	07 32 29.1	-1.4
	comp=Z,1.6nm,0.7s,baz=30,slow=2.0,SNR=7.9						
NOA				SKPbc	SKPbc	07 36 00.1	-0.3
	comp=Z,1.6nm,1.0s,baz=55,slow=5.4,SNR=2.4						
BRTR	Keskin Array B	138.30	306	PKP	PKPdf	07 32 33.5	+1.3
	comp=Z,0.9nm,0.8s,baz=63,slow=2.8,SNR=4.9						
BRTR	Keskin Array B	138.30	306	i PKIKP	PKPdf	07 32 34.5	+2.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SUW	Suwalki	138.53	331	ePKP	PKPdf	07 32 33.7	+1.1
KOLS	Kolonicke sedl	142.04	325	e	PKPdf	07 32 35.0	-4.0
STHS	Stebnicka Huta	142.31	326	ePKP	PKPdf	07 32 39.5	+0.1
DRGR		142.99	321	PKIKP	PKPdf	07 32 37.9	-2.7
RCBR	Riachuelo	143.26	134	ePKPdf	PKPdf	07 32 41.0	-0.1
KECS	Kecovo	143.27	325	ePKP	PKPdf	07 32 38.3	-2.8
OKC	Ostrava-Krasne	143.60	329	ePKP	PKPdf	07 32 40.9	-0.8
OKC				AMS	AMS	08 34 10.0	
	comp=Z,600nm,18.9s						
KSP	Ksiaz	143.78	331	ePKP	PKPdf	07 32 39.8	-2.2
KSP	Ksiaz	143.78	331	ePKP	PKPdf	07 32 39.3	-2.7
KSP				ePP	PP	07 35 53.0	-2.1
KSP				eSS	SS	07 54 37.0	+2.2
KSP				LR	LR		
	comp=Z,2μm,25.5s,MS5.7						
PSZ	Piszkesteto	143.92	325	⇓i PKP/D		07 32 40.5	
PSZ	Piszkesteto	143.92	325	ePKPdf	PKPdf	07 32 40.5	-1.8
PSZ	Piszkesteto	143.92	325	P	PKPdf	07 32 40.7	-1.6
MORC	Moravsky Berou	143.93	329	ePKPdf	PKPdf	07 32 40.8	-1.5
DPC	Dobruska-Polom	144.11	331	ePKP	PKPdf	07 32 40.1	-2.5
DPC				epPKP	pPKPdf	07 32 48.8	-7.3
DPC				AMS	AMS	08 31 20.0	
DPC	Dobruska-Polom	144.11	331	ePKP	PKPdf	07 32 40.1	-2.5
DPC				e		07 32 48.8	
RZN	Rozhen	144.12	313	P	PKPdf	07 32 41.0	-1.6
VYHS	Vyhne	144.12	326	ePKP	PKPdf	07 32 39.8	-2.8
PGB	Panagyurishte	144.13	314	eP	PKPdf	07 32 41.0	-1.6
UPC	Upice	144.14	331	ePKP	PKPdf	07 32 40.6	-2.1
UPC				epPKP	pPKPdf	07 32 48.9	-7.3
BZS	Buzias	144.26	321	PKIKP	PKPdf	07 32 41.0	-1.9
VTS	Vitosha	144.75	315	P	PKPdf	07 32 43.0	-0.7
PVCC	Panska Ves	144.77	332	ePKP	PKPdf	07 32 42.7	-1.0
PVCC				epPKP	pPKPdf	07 32 51.0	-6.3
PVCC				AMS	AMS	08 32 50.0	
	comp=Z,1μm,28.9s						
BRG	Berggiesshubel	144.78	333	ePKPbc	PKPdf	07 32 40.7	-3.1
BRG	Berggiesshubel	144.78	333	i PKP	PKPdf	07 32 41.9	-1.9
	comp=Z,108nm,1.8s						
BRG				i		07 32 50.8	
	comp=Z,32nm,1.1s						
BRG							
	comp=Z,360nm,18.3s						
BRG							
	comp=N,379nm,20.4s						
BRG							
	comp=E,216nm,20.4s						
BRG	Berggiesshubel	144.78	333	i PKIKP	PKPdf	07 32 41.9	-1.9
BRG				i		07 32 50.8	
BRG				pmax	pmax		
	comp=Z,108nm,1.8s						
BRG				pmax	pmax		
	comp=Z,32nm,1.1s						
BRG				MLR	MLR		
	comp=N,360nm,20.4s,MS5.3						
BRG				MLR	MLR		
	comp=E,379nm,20.4s,MS5.3						
BRG	Berggiesshubel	144.78	333	i PKP	PKPdf	07 32 41.9	-1.9
BRG				i		07 32 50.8	
BRG				LR	LR		
	comp=Z,360nm,18.3s,MS5.2						
SRO	Srobarova	144.83	326	ePKP	PKPdf	07 32 42.9	-0.9
SMOL	Smolenice	144.83	327	ePKP	PKPdf	07 32 43.4	-0.4
MMB	Musomiste	144.83	313	P	PKPdf	07 32 42.5	-1.4
CLL	Collm	144.84	334	ePKPbc	PKPdf	07 32 40.9	-3.0
CLL	Collm	144.84	334	⇓i PKPdf	PKPdf	07 32 42.0	-1.9
	comp=Z,53nm,1.1s						
CLL				i x	x	07 32 50.7	
CLL				i pPKPdf	pPKPdf	07 32 56.5	-0.9
CLL				ePP	PP	07 36 00.0	-1.5
CLL				LmV		07 40 00.0	
	comp=Z,500nm,21.6s						
CLL	Collm	144.84	334	⇓i PKIKP	PKPdf	07 32 42.0	-1.9
CLL				e		07 32 51.0	
CLL				pmax	pmax		
	comp=Z,53nm,1.1s						
CLL	Collm	144.84	334	⇓i PKP	PKPdf	07 32 42.0	-1.9
CLL				epPKP	pPKPdf	07 32 51.0	-6.4
BOLS	Boljevac	144.97	318	⇓i P	PKPdf	07 32 42.9	-1.2
KKB	Krupnik	145.15	314	eP	PKPbc	07 32 44.0	0.0
PRA	Prague	145.16	332	PKP	PKPdf	07 32 43.0	-1.4
PRA				pPKP	pPKPdf	07 32 53.0	-5.0
PRU	Pruhonice	145.18	332	ePKP	PKPdf	07 32 43.6	-0.8
PRU				epPKP	pPKPdf	07 32 53.0	-5.0
PRU				AMS	AMS	08 33 10.0	
	comp=Z,1μm,24.7s						
ZST	Bratislava	145.20	327	ePKP	PKPdf	07 32 44.6	+0.1
ZST				e		07 35 28.6	
TREC	Trest	145.24	330	ePKP	PKPdf	07 32 44.1	-0.5
TREC				epPKP	pPKPdf	07 32 52.5	-5.6
TREC				AMS	AMS	08 32 10.0	
	comp=Z,800nm,24.5s						
BEO	Belgrade	145.38	320	⇑i P	PKPbc	07 32 42.3	-2.5
SANT	Santorini	145.39	304	ePKPbc	PKPbc	07 32 45.0	+0.2
CLZ	Clausthal	145.42	337	ePKPbc	PKPbc	07 32 43.1	-1.8
ESK	Eskdalemuir	145.50	353	ePKPdf	PKPdf	07 32 42.9	-2.1
PKSM	Moragy	145.63	323	PKP2	PKPab	07 32 45.4	-0.5
GMK	Mull of Kintyr	145.71	355	eP	PKPdf	07 32 44.6	-0.8
GMK	Mull of Kintyr	145.71	355	eP	PKPdf	07 32 44.6	-0.8
VAY	Valandovo	145.74	313	ePKP	PKPdf	07 32 44.2	-1.2
WERD	Werda	145.78	334	ePKPbc	PKPbc	07 32 43.0	-3.0
NKC	Novy Kostel	145.89	334	ePKP	PKPdf	07 32 46.0	+0.3
NKC				AMS	AMS	08 36 30.0	
MOX	Moxa	145.91	335	ePKPbc	PKPbc	07 32 44.1	-2.3
MOX	Moxa	145.91	335	ePKP	PKPdf	07 32 44.4	-1.3
	comp=Z,108nm,1.9s						
MOX							
	comp=Z,400nm,22.0s						
IBBN	Ibbenburen	145.92	340	ePKPbc	PKPbc	07 32 44.1	-2.3
IBBN				ePKPab	PKPab	07 32 45.7	-1.3
GCL	Cushendall	146.02	356	eP	PKPdf	07 32 45.6	-0.3
GCL	Cushendall	146.02	356	eP	PKPdf	07 32 45.6	-0.3
GAL1	Galloway	146.11	354	eP	PKPdf	07 32 44.7	-1.4
GAL1	Galloway	146.11	354	eP	PKPdf	07 32 44.7	-1.4
SKO	Skopje	146.20	315	ePKP	PKPdf	07 32 46.0	-0.2
KHC	Kasperske Hory	146.23	331	ePKP	PKPdf	07 32 47.3	+1.1
KHC				epPKP	pPKPdf	07 32 55.6	-4.2
KHC				AMS	AMS	08 34 40.0	
	comp=Z,1μm,26.9s						
ROTZ	Rotzenmuhle	146.35	333	ePKPbc	PKPbc	07 32 45.8	-1.9
GEC2	GERESS Array S	146.38	331	ePKPbc	PKPbc	07 32 45.9	-1.9
GERES	GERESS Array B	146.38	331	PKP	PKPdf	07 32 45.8	-0.7
	comp=Z,16nm,0.6s,baz=27,slow=2.2,SNR=120						
GERES				PKPbc	PKPbc	07 32 47.5	-0.3
	comp=Z,16nm,0.6s,baz=35,slow=2.4,SNR=125						
WTSB	Winterswijk	146.52	341	ePKiKP	PKiKP	07 32 47.0	-4.1
	comp=Z,90nm,1.8s						
WET	Wettzell	146.53	332	ePKPbc	PKPbc	07 32 45.0	-3.3
GRF	Grafenberg Arr	146.81	334	ePKPbc	PKPbc	07 32 46.5	-2.6
GRF				ePKPab	PKPab	07 32 48.9	-1.5
GRF				eL		08 41 38.3	
	comp=Z,468nm,20.3s						
GRF	Grafenberg Arr	146.81	334	ePKP2	PKPab	07 32 48.9	-1.5
WIM	Isle of Man	146.81	354	eP	PKPdf	07 32 47.2	0.0
WIM				AMb	AMB	07 32 50.5	
	comp=Z,137nm,1.7s						
WIM	Isle of Man	146.81	354	eP	PKPdf	07 32 47.2	0.0
WIM				AMb	AMB	07 32 50.5	
	comp=Z,137nm,1.7s						
BUG	Bochum--Univer	146.82	340	ePKPbc	PKPbc	07 32 47.6	-1.5
MOA	Molln	146.83	329	⇓i P	PKPdf	07 32 46.9	-0.4
	comp=Z,34nm,1.2s,SNR=13						
OHR	Ohrid	147.02	314	ePKP	PKPdf	07 32 48.8	+1.2
PERS	Pernice	147.25	327	ePKPbc	PKPbc	07 32 49.5	-0.8
SISC	Sisak	147.34	324	i PKP	PKPdf	07 32 50.5	+2.3
TNS	Taunus Mts	147.45	337	ePKPbc	PKPbc	07 32 48.8	-2.0
WCB1	Church Bay	147.56	354	eP	PKPdf	07 32 48.6	+0.1
WCB1				AMb	AMB	07 32 52.1	
	comp=Z,69nm,1.3s						
WCB1	Church Bay	147.56	354	eP	PKPdf	07 32 48.6	+0.1
WCB1				AMb	AMB	07 32 52.1	
	comp=Z,69nm,1.3s						
WLF1	Llynfaes	147.63	353	eP	PKPdf	07 32 49.7	+1.1
WLF1	Llynfaes	147.63	353	eP	PKPdf	07 32 49.7	+1.1
YRC	Rhoscolyn	147.69	354	eP	PKPdf	07 32 47.7	-1.0
YRC				AMb	AMB	07 32 50.6	
	comp=Z,43nm,1.1s						
YRC	Rhoscolyn	147.69	354	eP	PKPdf	07 32 47.7	-1.0
YRC				AMb	AMB	07 32 50.6	
	comp=Z,43nm,1.1s						
DCN	Croghan	147.82	357	⇑i P	PKPdf	07 32 50.7	+1.8
DCN	Croghan	147.82	357	eP	PKPdf	07 32 53.4	+4.5
DCN	Croghan	147.82	357	eP	PKPdf	07 32 53.4	+4.5
DLF	Lyons Farm	147.82	356	⇑i P	PKPdf	07 32 50.5	+1.6
DLF	Lyons Farm	147.82	356	eP	PKPdf	07 32 53.3	+4.4
DLF	Lyons Farm	147.82	356	eP	PKPdf	07 32 53.3	+4.4
KBA	Koelnbreinsper	147.82	329	⇓i P	PKPdf	07 32 48.1	-0.8
	comp=Z,23nm,0.8s,SNR=8.0						
TOD	Tromm	147.83	336	PKP	PKPdf	07 32 51.2	+2.3
HGN	Heimansgroeve	147.83	340	ePKiKP	PKiKP	07 32 46.6	-7.2
	comp=Z,46nm,1.4s						
HGN				ePP	PP	07 36 16.8	-2.3
SBD1	Bryn Du	147.87	352	eP	PKPdf	07 32 49.6	+0.6
SBD1	Bryn Du	147.87	352	eP	PKPdf	07 32 49.6	+0.6
BOJS	Bojanci	147.92	325	ePKPdf	PKPdf	07 32 49.1	0.0
BOJS				i PKPbc	PKPbc	07 32 52.2	0.0
YRE	Yr Eifl	147.94	353	eP	PKPdf	07 32 48.0	-1.1
YRE	Yr Eifl	147.94	353	eP	PKPdf	07 32 48.0	-1.1
MEM	Membach	147.94	340	PKPbc	PKPbc	07 32 51.2	-1.0
MEM				PKPab	PKPab	07 32 58.4	+3.5
LJU	Ljubljana	147.95	326	ePKPdf	PKPdf	07 32 48.4	-0.7
LJU				ePKPbc	PKPbc	07 32 51.9	-0.3
FUR	Furstenfeldbru	147.97	332	ePKPbc	PKPbc	07 32 49.8	-2.5
ABH	Alteburg	148.05	338	PKP	PKPdf	07 32 51.5	+2.2
HLM1	Long Mynd	148.20	351	eP	PKPdf	07 32 48.2	-1.3
HLM1				AMb	AMB	07 32 55.7	
	comp=Z,47nm,1.6s						
HLM1	Long Mynd	148.20	351	eP	PKPdf	07 32 48.2	-1.3
HLM1				AMb	AMB	07 32 55.7	
	comp=Z,47nm,1.6s						
UCC	Uccle	148.27	342	PKPbc	PKPbc	07 32 52.4	-0.7
UCC				PKPab	PKPab	07 32 55.5	-0.7
SSP1	Stoney Pound	148.33	352	eP	PKPdf	07 32 50.8	+1.1
SSP1	Stoney Pound	148.33	352	eP	PKPdf	07 32 50.8	+1.1
STU	Stuttgart	148.35	335	ePKPbc	PKPbc	07 32 53.0	-0.3
STU				ePKPab	PKPab	07 32 57.6	+1.1
RUP	Ruppelstein	148.37	338	PKP	PKPdf	07 32 53.3	+3.5
WTTA	Wattenberg	148.49	331	⇓i PKPdf	PKPdf	07 32 49.7	-0.3
	comp=Z,30nm,0.9s						
SNF	Seneffe	148.55	342	PKPbc	PKPbc	07 32 53.2	-0.6
MOTA	Moosalm	148.66	331	⇑i P	PKPdf	07 32 49.9	-0.4
	comp=Z,24nm,0.9s,SNR=8.0						
LANF	Langenberg	148.71	337	PKP	PKPdf	07 32 54.2	+3.8
SQTA	Sankt Quirin	148.71	331	⇑i P	PKPdf	07 32 50.2	-0.2
	comp=Z,21nm,0.9s,SNR=15						
WLF	Walferdange	148.71	339	ePKPbc	PKPbc	07 32 51.5	-2.7
WLF	Walferdange	148.71	339	PKP	PKPdf	07 32 51.7	+1.3
WLF				PKPbc	PKPbc	07 32 54.6	+0.4
WLF	Walferdange	148.71	339	ePKPbc	PKPbc	07 32 54.6	+0.4
WLF				ePKPab	PKPab	07 32 58.0	+0.1
MCH1	Michaelchurch	148.72	351	eP	PKPdf	07 32 52.9	+2.6
MCH1	Michaelchurch	148.72	351	eP	PKPdf	07 32 52.9	+2.6
GIVF	Givet	148.75	341	ePKP1	PKPbc	07 32 53.3	-1.0
	comp=Z,74nm,1.0s						
DOU	Dourbes	148.83	341	PKP	PKPdf	07 32 53.0	+2.4
DOU				PKPbc	PKPbc	07 32 56.8	+2.3
DOU				PKPab	PKPab	07 33 00.6	+2.1
HGH	Gray Hill	149.05	351	eP	PKPdf	07 32 52.5	+1.6
HGH				AMb	AMB	07 32 56.3	
	comp=Z,117nm,1.6s						
HGH	Gray Hill	149.05	351	eP	PKPdf	07 32 52.5	+1.6
HGH				AMb	AMB	07 32 56.3	
	comp=Z,117nm,1.6s						
BFO	Black Forest	149.05	335	ePKPbc	PKPbc	07 32 53.6	-1.4
BFO				ePKPab	PKPab	07 32 59.1	-0.2
DAVA	Damuels	149.25	333	⇑i P	PKPdf	07 32 50.6	-0.6
	comp=Z,47nm,1.5s,SNR=7.1						
WLS	Welschbruch	149.35	337	PKP	PKPdf	07 32 55.6	+4.2
CDF	Champ du Feu	149.38	337	ePKP1	PKPbc	07 32 54.9	-1.0
	comp=Z,123nm,1.4s						
ECH	Echery	149.59	337	PKP	PKPdf	07 32 55.8	+4.0
MOF	Molkenrain	149.90	336	PKP	PKPdf	07 32 56.8	+4.5
THEF	They Montfort	150.00	338	PKP	PKPdf	07 32 57.0	+4.6
HINF	Hinteralfeld	150.03	336	ePKP1	PKPbc	07 32 56.3	-1.2
	comp=Z,53nm,1.0s						
HAU	Haudompre	150.06	337	ePKP1	PKPbc	07 32 57.5	0.0
	comp=Z,86nm,1.0s						
HAU				eR			
	comp=Z,585nm,22.8s						
BBS	Basel-Blauen	150.07	335	PKP	PKPdf	07 32 56.9	+4.4
MEZF	Maizieres J'vi	150.08	339	ePKP1	PKPbc	07 32 57.0	-0.6
	comp=Z,277nm,1.3s						
LOMF	Lomont	150.43	336	PKP	PKPdf	07 32 58.4	+5.3
CRQ2	Rosemanowes 2	150.80	353	eP	PKPdf	07 32 51.9	-1.7
CRQ2	Rosemanowes 2	150.80	353	eP	PKPdf	07 32 51.9	-1.7
CMA1	Manaccan	150.88	353	eP	PKPdf	07 32 54.2	+0.4
CMA1	Manaccan	150.88	353	eP	PKPdf	07 32 54.2	+0.4
CGH1	Goonhilly	150.91	353	eP	PKPdf	07 32 52.5	-1.3
CGH1	Goonhilly	150.91	353	eP	PKPdf	07 32 52.5	-1.3
JLP	Les Platons	151.25	349	eP	PKPdf	07 32 58.5	+4.2
JLP	Les Platons	151.25	349	eP	PKPdf	07 32 58.5	+4.2
JVM	Valle D.L. Mar	151.29	349	eP	PKPdf	07 32 57.5	+3.1
JVM	Valle D.L. Mar	151.29	349	eP	PKPdf	07 32 57.5	+3.1
CABF	La Chapelle	151.33	336	ePKP1	PKPbc	07 33 00.1	-0.4
	comp=Z,81nm,0.8s						
FLN	La Foliniere	151.38	346	ePKP1	PKPbc	07 32 59.4	-1.2
	comp=Z,105nm,0.9s						
FLN				eR			
	comp=Z,823nm,22.8s						
LDF	La Druitiere	151.46	346	ePKP1	PKPbc	07 32 59.4	-1.4
	comp=Z,74nm,1.0s						
LOR	Lormes	151.55	339	ePKP1	PKPbc	07 33 00.1	-0.9
	comp=Z,67nm,0.9s						
LOR				eR			
	comp=Z,1μm,22.8s						
GRR	Gorron	151.81	347	ePKP1	PKPbc	07 33 00.5	-1.1
	comp=Z,30nm,0.6s						
SSF	Saint Saulge	151.85	340	ePKP1	PKPbc	07 33 00.8	-0.9
	comp=Z,63nm,1.0s						
HYF	Humbligny	151.94	341	ePKP1	PKPbc	07 33 01.4	-0.5
LPL	La Plagne	151.97	334	ePKP1	PKPbc	07 33 01.6	-0.4
	comp=Z,55nm,0.9s						
LPG	La Plagne	151.98	334	ePKP1	PKPbc	07 33 01.8	-0.2
	comp=Z,69nm,0.9s						
SMF	Signal de Mont	152.10	339	ePKP1	PKPbc	07 33 01.1	-1.2
	comp=Z,66nm,1.3s						
AVF	Avril sur Loir	152.14	340	ePKP1	PKPbc	07 33 01.0	-1.4
	comp=Z,40nm,1.2s						
SGMF

8.7nm,0.1s
ROSA Rosais 0.59 87 *e*P Pg 08 16 47.7 -1.1
ROSA *e*S Sg 08 16 55.0 -1.5
PPNO Prainha do Nor 0.62 111 *e*P Pg 08 16 48.1 -1.2
PPNO *e*S Sg 08 16 56.0 -1.3
PMAN Manadas 0.71 95 *e*S Sg 08 16 58.4 -2.0

HLW 02 08:26:46.0, 3520N×2818E, h33km, Mb3.7, 3C-6D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**4.19**	**193**	⇓*e*P	Pn	08 27 47.6	0.0
HMAT				S	Sn	08 28 33.3	-2.1
SLUM		**4.46**	**215**	⇓*e*P	Pn	08 27 51.6	+0.4
SLUM				S	Sn	08 28 38.6	-3.2
KOT	**Kottamia**	**6.09**	**149**	⇓P	Pn	08 28 14.0	+0.3
HHAG	**Hagoal**	**6.19**	**147**	⇓P	Pn	08 28 15.1	0.0
AMAG	**Maghara**	**6.21**	**136**	⇑P	Pn	08 28 16.3	+1.0
SWA1		**6.28**	**200**	⇑*e*P	Pn	08 28 16.9	+0.7
SWA1				S	Sn	08 29 23.1	-3.7
GLL	**Jalalah**	**6.35**	**151**	⇓*e*P	Pn	08 28 17.7	+0.5
SWA2		**6.37**	**202**	⇓*i*P	Pn	08 28 18.4	+0.9
HFRF	**Wahat Farafira**	**8.03**	**179**	⇑*e*P	Pn	08 28 40.6	+0.4

*IDC **02** 08:37:55.5±3.3, 1415N×9191E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=138.6km s-min=23.9km az=66.0*
*ISCJB **02** 08:37:56.9±1.1, 140N±02×916E±0.1, h33km, mb3.7/4, Error ellipse: s-maj=30.2km s-min=11.1km az=57.8*
ISC 02 08:38:00.1±1.0, 141N±02×917E±01, h35km, n6, σ0 ±50/6, mb3.7/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWNR	**Bhubaneshwar**	**8.32**	**319**	*ex*	x	08 39 20.2	
BWNR				*ex*	x	08 40 44.7	
VIS	**Vishakhapatnam**	**8.79**	**295**	*e*P	**Pn**	**08 40 09.8**	**+5.2**
VIS				*e*S	**Sn**	**08 41 42.3**	**-0.1**
VIS				AML	AML	08 41 49.8	
	comp=N,41nm,0.2s						
VIS				AML	AML	08 41 49.9	
	comp=E,17nm,0.2s						
MKAR	**Makanchi Array**	**33.53**	**348**	P	**P**	**08 44 36.7**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.6,baz=162,slow=7.7,SNR=8.0						
SONM	**Songino Array**	**35.80**	**17**	P	**P**	**08 44 55.6**	**-0.3**
	comp=E,0.2nm,0.6s,mb3.2,baz=207,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**53.91**	**128**	P	**P**	**08 47 19.5**	**-0.4**
	comp=E,0.9nm,0.5s,mb3.9,baz=308,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**55.80**	**132**	P	**P**	**08 47 34.0**	**+0.4**
	comp=E,1.1nm,0.6s,mb4.0,baz=310,slow=6.8,SNR=19						

IDC 02 08:43:45.1±14.0, 1894S×6721W, h262km±69km, mb3.1/2, mb1 3.1/4, mb1mx2.9/18, mbtmp3.5/4, Error ellipse: s-maj=299.2km s-min=31.1km az=14.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.78**	**341**	P	Pn	08 44 36.8	+0.7
	0.5nm,0.3s,baz=139,slow=6.5,SNR=13						
SIV	**San Ignacio**	**6.55**	**64**	P	Pn	08 45 20.6	+0.3
	2.5nm,0.3s,baz=248,slow=14,SNR=70						
TORD	**Torodi Ar. Bea**	**74.99**	**70**	P	P	08 54 58.2	+0.5
	0.8nm,0.6s,baz=255,slow=6.0,SNR=6.6						
YKA	**Yellowknife Ar**	**89.33**	**340**	P	P	08 56 11.4	-0.4
	0.1nm,0.6s,baz=134,slow=4.6,SNR=8.1						

KRSC 02 09:04:38.9±1.2, 5496N×16561E, h21km±4km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**40**	*e*P	Pb	09 04 45.6	-0.4
BKI				*i* S	Sb	09 04 50.4	-0.4
BKI				Smax			
	13μm,0.3s						
KBTR	**Krutoberegovo**	**2.02**	**309**	*i* P	Pn	09 05 10.4	-1.3
KBG	**Krutoberegovo**	**2.10**	**309**	*e*S	Sn	09 05 36.3	-1.9
KBG				Smax			
	200nm,0.8s						
MKZ	**Mys Kozlova**	**2.29**	**261**	*e*P	Pn	09 05 16.0	+0.6
MKZ				*e*S	Sn	09 05 42.9	0.0
SMKR	**Semkarok**	**2.85**	**306**	*e*P	Pn	09 05 23.7	+0.6
ZLN	**Zelenaya**	**2.93**	**293**	*e*P	Pn	09 05 26.1	+1.8
ZLN				*e*S	Sn	09 06 02.5	+3.7
BDR	**Baidarnaya**	**2.96**	**305**	*e*P	Pn	09 05 26.0	+1.3
BDR				*e*S	Sn	09 06 01.5	+1.9
CIRR	**Tsirk**	**3.00**	**295**	*e*P	Pn	09 05 27.1	+2.0
CIRR				*e*S	Sn	09 06 02.7	+2.3
SRKR	**Sorokina**	**3.03**	**306**	*e*P	Pn	09 05 26.8	+1.2
SRKR				*e*S	Sn	09 06 02.8	+1.6
KLY	**Klyuchi**	**3.12**	**298**	*e*P	Pn	09 05 27.0	+0.2
KLY				*e*S	Sn	09 06 01.8	-1.7
TUMR	**Tumrok**	**3.15**	**278**	*e*P	Pn	09 05 29.2	+1.9
TUMR				*e*S	Sn	09 06 06.9	+2.6
KMNR	**Kamenistaya**	**3.17**	**287**	*e*P	Pn	09 05 29.7	+2.2
KMNR				*e*S	Sn	09 06 05.6	+0.9
KPT	**Kopyto**	**3.23**	**290**	*i* P	Pn	09 05 30.6	+2.3
KPT				*e*S	Sn	09 06 08.6	+2.4
KOZ	**Kozyrevsk**	**3.44**	**291**	*e*P	Pn	09 05 33.7	+2.4
KOZ				*e*S	Sn	09 06 13.6	+2.2
SRDR	**Sredinnyy**	**3.61**	**295**	*e*P	Pn	09 05 35.7	+2.2
SRDR				*e*S	Sn	09 06 17.1	+1.6
KII	**Karymskiy**	**3.71**	**258**	P	Pn	09 05 38.3	+3.4
SPN	**Mys Shipunski**	**3.79**	**243**	*e*P	Pn	09 05 36.5	+0.5
ESO	**Esso**	**4.05**	**287**	*e*P	Pn	09 05 41.6	+1.9
ESO				*e*S	Sn	09 06 26.8	+0.3
NLC	**Nalytchevo**	**4.10**	**247**	*i* P	Pn	09 05 41.6	+1.2
NLC				*e*S	Sn	09 06 26.3	-1.4
SMAR	**Somma**	**4.35**	**250**	*e*P	Pn	09 05 45.8	+2.0
SMAR				*e*S	Sn	09 06 34.6	+0.7
UGLR	**Uglovaya**	**4.36**	**249**	*e*P	Pn	09 05 45.9	+2.0
UGLR				*e*S	Sn	09 06 34.7	+0.5
AVH	**Avacha**	**4.39**	**250**	*e*P	Pn	09 05 46.4	+2.2
AVH				*e*S	Sn	09 06 35.1	+0.4
KOK	**Koryaka**	**4.43**	**251**	*e*P	Pn	09 05 46.9	+2.1
KOK				*e*S	Sn	09 06 35.2	-0.6
PET	**Petropavlovsk**	**4.54**	**248**	*e*P	Pn	09 05 47.4	+1.0
PET				*e*S	Sn	09 06 37.0	-1.5
GNL	**Ganaly**	**4.66**	**257**	*i* P	Pn	09 05 50.7	+2.6
GNL				*e*S	Sn	09 06 43.6	+2.0
KRMR	**Karymshinskiy**	**4.91**	**247**	*e*P	Pn	09 05 53.8	+2.3
KRMR				*e*S	Sn	09 06 48.4	+0.8
RUS	**Russkaya**	**4.92**	**242**	P	Pn	09 05 51.9	+0.3
RUS				*e*S	Sn	09 06 45.8	-2.0
GRL	**Gorelyy**	**5.08**	**245**	*i* P	Pn	09 05 56.8	+3.0
GRL				*e*S	Sn	09 06 51.7	-0.1
APC	**Apacha**	**5.39**	**251**	*e*P	Pn	09 06 01.0	+2.9
APC				*e*S	Sn	09 07 00.1	+0.6
MIPR	**Malaya Ipel'ka**	**5.91**	**247**	*e*P	Pn	09 06 08.2	+3.0
KAMR	**Kamenskoye**	**7.53**	**2**	*i* P	Pn	09 06 29.3	+1.9
KAMR				*e*S	Sn	09 07 51.5	-0.5

PGC 02 09:17:26.2, 4873N×12896W, h10km, MLSn3.1/1, Mw3.8, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.62**	**28**	Pn	Pn	09 17 52.5	-2.3
BPBC				Sn	Sn	09 18 12.4	-3.4
	comp=Z,65nm,0.2s						
BPBC				Trac		09 18 13.1	
	comp=Z,65nm,0.2s						
EDB	**Eliza Dome**	**1.66**	**46**	Pn	Pn	09 17 53.5	-1.9
EDB				Sn	Sn	09 18 12.4	-4.3
EDB				Trac		09 18 13.8	
	comp=Z,42nm,0.3s						
HOLB	**Holberg**	**1.98**	**15**	Pn	Pn	09 17 57.7	-2.1
HOLB				Sn	Sn	09 18 22.0	-2.7
	comp=Z,6.0nm,0.1s						
HOLB				Trac		09 18 25.1	
	comp=Z,6.0nm,0.1s						
MAYB	**Maynard**	**2.04**	**34**	Pn	Pn	09 17 58.8	-1.8
MAYB				Sn	Sn	09 18 22.9	-3.2
	comp=Z,13nm,0.2s						
MAYB				Trac		09 18 23.9	
	comp=Z,13nm,0.2s						
WOSB	**Woss**	**2.11**	**47**	Pn	Pn	09 18 00.4	-1.2
WOSB				Sn	Sn	09 18 24.0	-4.0
	comp=Z,21nm,0.3s						
WOSB				Trac		09 18 27.0	
	comp=Z,21nm,0.3s						
PHC	**Port Hardy**	**2.21**	**26**	Pn	Pn	09 18 01.3	-1.6
PHC				Sn	Sn	09 18 26.6	-3.7
PHC				Trac		09 18 28.4	
	comp=Z,19nm,0.3s						
OZB	**Mount Ozzard**	**2.30**	**83**	Pn	Pn	09 18 02.5	-1.6
OZB				Sn	Sn	09 18 28.6	-3.9
OZB				Trac		09 18 31.6	
	comp=Z,12nm,0.1s						
BTB	**Buttle Lake**	**2.38**	**71**	Pn	Pn	09 18 04.2	-1.0
BTB				Sn	Sn	09 18 32.5	-1.9
	comp=Z,70nm,0.3s						
BTB				Trac		09 18 33.8	
	comp=Z,70nm,0.3s						
NCRB	**Newcastle Ridg**	**2.52**	**47**	Pn	Pn	09 18 06.8	-0.5
NCRB				Sn	Sn	09 18 32.3	-5.7
	comp=Z,19nm,0.3s						
NCRB				Trac		09 18 38.1	
	comp=Z,19nm,0.3s						
CBB	**Campbell River**	**2.68**	**60**	Pn	Pn	09 18 09.0	-0.5
CBB				Sn	Sn	09 18 40.1	-1.9
CBB				Trac		09 18 42.2	
	comp=Z,23nm,0.5s						
ALB	**Alberni**	**2.77**	**77**	Pn	Pn	09 18 09.9	-0.7
ALB				Sn	Sn	09 18 41.1	-3.0
	comp=Z,6.0nm,0.3s						
ALB				Trac		09 18 43.8	
	comp=Z,6.0nm,0.3s						
MGB	**Mount Grey**	**2.83**	**83**	Pn	Pn	09 18 09.9	-1.5
MGB				Sn	Sn	09 18 42.3	-3.3
MGB				Trac		09 18 45.8	
	comp=Z,7.0nm,0.2s						
TXB	**Texada**	**3.12**	**70**	Pn	Pn	09 18 15.2	-0.2
TXB				Sn	Sn	09 18 50.6	-2.1
	comp=Z,17nm,0.3s						
TXB				Trac		09 18 53.4	
	comp=Z,17nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.31**	**80**	Pn	Pn	09 18 18.4	+0.3
NLLB				Sn	Sn	09 18 57.3	-0.2
NLLB				Trac		09 18 59.4	
	comp=Z,21nm,0.3s						
SHB	**Sechelt**	**3.45**	**74**	Pn	Pn	09 18 20.0	+0.1
SHB				Sn	Sn	09 18 60.0	-0.8
SHB				Trac		09 19 03.9	
	comp=Z,13nm,0.4s						
BBB	**Bella Bella**	**3.50**	**9**	Pn	Pn	09 18 19.4	-1.3
BBB				Sn	Sn	09 18 58.5	-3.7
BBB				Trac		09 19 03.3	
	comp=Z,5.0nm,0.2s						
BIB	**Bowen Island**	**3.78**	**78**	Pn	Pn	09 18 24.3	-0.2
BIB				Sn	Sn	09 19 07.6	-1.3
	comp=Z,6.0nm,0.4s						
BIB				Trac		09 19 12.3	
	comp=Z,6.0nm,0.4s						
WPB	**Watts Point**	**3.88**	**74**	Pn	Pn	09 18 26.2	+0.3
WPB				Sn	Sn	09 19 06.3	-5.3
	comp=Z,5.0nm,0.4s						
WPB				Trac		09 19 12.0	
	comp=Z,5.0nm,0.4s						
WSLR	**Whistler**	**4.18**	**68**	Pn	Pn	09 18 31.2	+1.2
WSLR				Trac		09 19 22.8	
	comp=Z,6.0nm,0.6s						
LLLB	**Lillooet**	**4.96**	**65**	Pn	Pn	09 18 41.6	+0.8
LLLB				Trac		09 19 41.4	
	comp=Z,3.0nm,0.4s						
FSB	**Fort Saint Jam**	**6.43**	**25**	Pn	Pn	09 19 02.0	+1.0

*ISCJB **02** 09:41:33.2±0.7, 7270N±006×42E±02, h10km, mb3.1/4, Error ellipse: s-maj=11.5km s-min=6.9km az=108.5*
*IDC **02** 09:41:33.0±1.2, 7266N×359E, h0km, mb3.3/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=28.9km s-min=17.0km az=39.0*
*BER **02** 09:41:37.7±2.4, 7277N×387E, h2km±58km, ML2.4, ML2.4(NAO)*
*NAO **02** 09:41:38.7±9.3, 7285N×467E, ML2.4*
ISC 02 09:41:34.8±0.7, 7269N±006×39E±02, h10km, n15, σ1 ±25/19, mb3.1/4, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.60**	**140**	*e*P	**Pn**	**09 43 00.1**	**+2.0**
LOF				*e*S	**Sn**	**09 44 03.0**	**+0.5**
LOF				AML	AML	09 44 07.4	
	comp=Z,6.9nm,0.6s						
TRO	**Tromso**	**5.74**	**115**	*e*P	**Pn**	**09 43 00.4**	**+0.4**
SPA0	**Spitsbergen Ar**	**6.33**	**24**	Pn	**Pn**	**09 43 09.2**	**+1.0**
	baz=216,slow=16						
KBS	**Kingsbay**	**6.57**	**14**	Pn	**Pn**	**09 43 12.2**	**+0.7**
KTK1	**Kautokeino**	**7.32**	**111**	*e*P	**Pn**	**09 43 23.8**	**+2.1**
MOR8	**Moi Rana**	**7.50**	**145**	*e*P	**Pn**	**09 43 25.1**	**+0.8**
MOR8				*e*S	**Sn**	**09 44 45.7**	**-3.7**
MOR8				AML	AML	09 44 47.9	
	comp=Z,5.3nm,0.4s						
ARA0	**ARCESS Array S**	**7.65**	**104**	Pn	**Pn**	**09 43 27.0**	**+0.6**
	baz=311,slow=12						
ARA0				Sn	**Sn**	**09 44 51.1**	**-2.0**
	baz=300,slow=22						
ARCES	**ARCESS Array B**	**7.65**	**104**	Pn	**Pn**	**09 43 26.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=314,slow=11,SNR=29						
ARCES				Sn	**Sn**	**09 44 51.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=306,slow=20,SNR=3.0						
APA0	**Apatity Array**	**11.01**	**103**	Pn	**Pn**	**09 44 13.0**	**+0.6**
	baz=316,slow=14						
HFS	**Hagfors**	**13.17**	**158**	Pn	**Pn**	**09 44 40.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=16,slow=10,SNR=4.9						
FINES	**FINESS Array B**	**14.07**	**132**	Pn	**Pn**	**09 44 53.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=337,slow=18,SNR=3.2						
GERES	**GERESS Array B**	**24.32**	**164**	P	**P**	**09 46 53.6**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.3,baz=0.0,slow=6.7,SNR=6.5						
YKA	**Yellowknife Ar**	**38.87**	**319**	P	**P**	**09 48 59.2**	**-1.1**
	comp=Z,0.1nm,0.6s,mb2.7,baz=20,slow=9.1,SNR=3.2						
ILAR	**Eielson Array**	**41.41**	**342**	P	**P**	**09 49 19.6**	**-1.8**
	comp=Z,0.3nm,0.9s,mb2.9,baz=176,slow=14,SNR=3.5						
TORD	**Torodi Ar. Bea**	**59.53**	**183**	P	**P**	**09 51 37.0**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=358,slow=6.5,SNR=5.0						

*GII **02** 09:49:41.7±0.5, 2724N×3490E, h5km±30km, mb5.0/8, ML5.0/8, Mw4.5/7*
*CSEM **02** 09:49:49.9, 2788N×3441E, h2km, mb4.6*
*BJI **02** 09:49:49.5, 2790N×3440E, h2km, mB5.1, mb4.8, Ms4.2, Msz4.3*
*NEIC **02** 09:49:49.9, 2788N×3441E, h2km, mb4.5/19, ML4.5(HLW), ML5.0(GII), After CSEM.*
*ISCJB **02** 09:49:51.1±0.3, 2803N±003×3440E±003, h2km, mb4.4/63, MS3.9/13, Error ellipse: s-maj=4.5km s-min=3.9km az=121.5*
*IDC **02** 09:49:52.4±0.6, 2806N×3434E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.2/30, mbtmp4.2/25, ML3.5/2, MS3.9/14, Ms1 3.9/14, ms1mx3.6/30, Error ellipse: s-maj=15.3km s-min=13.8km az=100.0*
*MOS **02** 09:49:53.1±1.2, 2812N×3445E, h10km, mb4.7/23, Error ellipse: s-maj=10.1km s-min=4.7km az=97.9*
*NAO **02** 09:50:00.0, 2908N×3602E, h33km, mb4.1*
ISC 02 09:49:53.0±0.3, 2809N±003×3438E±003, h2km, n204, σ1 ±26/203, mb4.4/63, MS3.9/13, 9C-2D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRM		**0.29**	**228**	P	**Pg**	**09 49 56.9**	**-1.8**
TR2		**0.65**	**297**	P	**Pg**	**09 50 05.9**	**+0.4**
HDHB	**Dhahab**	**0.67**	**18**	P	**Pg**	**09 50 07.0**	**+1.2**
HHRG	**Al Ghardaqah**	**1.13**	**220**	P	**Pg**	**09 50 10.5**	**-4.1**
HRDS	**Abu Rudays**	**1.14**	**303**	P	**Pg**	**09 50 15.0**	**+0.1**
HBST	**Basata**	**1.17**	**15**	P	**Pg**	**09 50 16.1**	**+0.7**
GRB	**Gharib**	**1.42**	**278**	P	**Pn**	**09 50 17.2**	**-2.6**
EIL	**Elat**	**1.65**	**17**	Pn	**Pn**	**09 50 20.9**	**-2.1**
EIL				Sn	Sx	09 50 51.6	
EIL	**Elat**	**1.65**	**17**	Pn	**Pn**	**09 50 21.0**	**-2.0**
MBH	**Mount Berech**	**1.76**	**15**	Pn	**Pn**	**09 50 23.5**	**-1.1**
ZNM		**1.84**	**314**	P	**Pn**	**09 50 25.6**	**-0.1**
HNKL	**Nakhl**	**1.87**	**349**	P	**Pn**	**09 50 25.9**	**-0.1**
ZAF		**2.00**	**307**	P	**Pn**	**09 50 26.8**	**-1.0**
HRFI	**Mount Harif**	**2.02**	**16**	Pn	**Pn**	**09 50 27.3**	**-0.9**
HRFI				Sn	Sx	09 51 01.3	
KMTI	**Karmit**	**2.03**	**8**	Pn	**Pn**	**09 50 27.3**	**-0.9**
PRNI	**Paran**	**2.32**	**13**	Pn	**Pn**	**09 50 31.4**	**-0.8**
RMNI	**Mount Ramon**	**2.52**	**7**	Pn	**Pn**	**09 50 33.7**	**-1.3**
ZFRI	**Zfri**	**2.55**	**16**	Pn	**Pn**	**09 50 34.4**	**-1.1**
AMAG	**Maghara**	**2.74**	**338**	P	**Pn**	**09 50 37.5**	**-0.5**
KZIT	**Kziot**	**2.81**	**0**	Pn	**Pn**	**09 50 38.7**	**-0.2**
KZIT				Sn	Sx	09 51 24.6	
SVTA	**Shivta**	**2.84**	**4**	Pn	**Pn**	**09 50 39.3**	**-0.1**
HSAF	**As Saff**	**2.91**	**302**	P	**Pn**	**09 50 40.0**	**-0.3**
HBNS	**Bani Suwayf**	**2.92**	**288**	P	**Pn**	**09 50 39.5**	**-0.9**
HEDF	**Idfu**	**3.17**	**200**	P	**Pn**	**09 50 37.9**	**-6.0**
AYT	**Al 'Ayyat**	**3.26**	**300**	P	**Pn**	**09 50 45.0**	**-0.1**
MZDA	**Masada**	**3.32**	**15**	Pn	**Pn**	**09 50 44.6**	**-1.4**
MZDA				Sn	**Sb**	**09 51 33.8**	**+0.3**
MZDA	**Masada**	**3.32**	**15**	Pn	**Pn**	**09 50 45.2**	**-0.8**
FYM	**Al Fayyum**	**3.33**	**299**	P	**Pn**	**09 50 46.1**	**-0.1**
DSI	**Dead Sea**	**3.58**	**14**	Pn	**Pn**	**09 50 48.7**	**-0.8**
DRGI	**Dragot**	**3.60**	**14**	Pn	**Pn**	**09 50 48.7**	**-1.1**
MKRJ	**Makawir**	**3.62**	**17**	Pn	**Pn**	**09 50 47.5**	**-2.6**
SLTI	**Sal'it**	**4.18**	**8**	Pn	**Pn**	**09 50 57.6**	**-0.1**
SLTI	**Sal'it**	**4.18**	**8**	Pn	**Pn**	**09 50 57.6**	**-0.2**
GTR	**Jabal at Tayr**	**4.27**	**234**	P	**Pn**	**09 50 56.1**	**-3.0**
MMLI	**Mount Malkishu**	**4.43**	**11**	Pn	**Pn**	**09 51 01.0**	**-0.2**
MMLI	**Mount Malkishu**	**4.43**	**11**	Pn	**Pn**	**09 51 01.1**	**-0.1**
OFRI	**'Ofer**	**4.55**	**6**	Pn	**Pn**	**09 51 03.3**	**+0.5**
HNTI	**Hanita**	**5.03**	**8**	Pn	**Pn**	**09 51 09.9**	**+0.5**
KSDI	**Kefar Szold**	**5.21**	**12**	Pn	**Pn**	**09 51 10.7**	**-1.2**
HFRF	**Wahat Farafira**	**5.47**	**262**	P	**Pn**	**09 51 12.4**	**-3.1**
HWQ	**Hawqa**	**6.31**	**12**	*e*P	**Pn**	**09 51 32.3**	**+5.2**
FKH	**Fakeheh**	**6.37**	**15**	*e*P	**Pg**	**09 51 50.7**	**-4.3**
BHD	**Baghdad**	**10.04**	**57**	*ex*	x	09 52 18.0	
BHD				*ex*	x	09 54 12.0	
BHD				*i* x	x	09 55 18.0	
BHD				*i* x	x	09 55 38.0	
BHD				*i* x	x	09 56 35.0	
ISP	**Isparta**	**10.26**	**343**	*i* P	**Pn**	**09 52 32.2**	**+11**
TKTP	**Tekketepe**	**10.49**	**342**	*i* P	**Pn**	**09 52 24.1**	**-0.3**
TKTP	**Tekketepe**	**10.49**	**342**	*i* P	**Pn**	**09 52 24.1**	**-0.3**
DNZL	**Cakiroluk**	**10.57**	**336**	*i* P	**Pn**	**09 52 28.5**	**+3.0**
IDI	**Anoyia**	**10.81**	**314**	Pn	**Pn**	**09 52 28.3**	**-0.4**
	1.2nm,0.3s,baz=328,slow=13,SNR=4.2						
IDI				Sn	**Sn**	**09 54 33.9**	**+3.7**
	1.0nm,0.3s,baz=183,slow=21,SNR=2.6						
AYDN	**Tasoluk**	**10.99**	**332**	*i* P	**Pn**	**09 52 32.5**	**+1.1**
MSL	**Mosul**	**11.01**	**40**	*ex*	x	09 53 20.0	
MSL				*ex*	x	09 55 59.0	
MSL				*ex*	x	09 57 36.0	
BRTR	**Keskin Array B**	**11.62**	**357**	Pn	**Pn**	**09 52 40.9**	**+0.9**
	0.1nm,0.3s,baz=170,slow=14,SNR=22						
BR131	**Keskin Array S**	**11.62**	**357**	Pn	**Pn**	**09 52 38.3**	**-1.6**
	12nm,1.1s						
GNI	**Garni**	**14.76**	**33**	Pn	**Pn**	**09 53 29.9**	**+7.1**
	0.5nm,0.3s,baz=50,slow=4.0,SNR=7.3						
GNI				LR	LR	09 58 46.8	
	comp=Z,258nm,19.8s,baz=175,slow=36						
GNI	**Garni**	**14.76**	**33**	*i* P	**Pn**	**09 53 28.9**	**+6.1**
GNI				pmax	pmax		
	comp=Z,81nm,1.7s						
GNI				MLR	MLR		
	comp=Z,500nm,13.0s						
SOC	**Sochi**	**16.05**	**14**	*i* P	**Pn**	**09 53 42.4**	**+2.6**
	comp=Z,82nm,1.4s						
SOC	**Sochi**	**16.05**	**14**	*c* P	**Pn**	**09 53 42.4**	**+2.6**
SOC				*e*		09 56 27.7	
SOC				pmax	pmax		
	comp=Z,82nm,1.4s						
SOC				MLR	MLR		
	comp=Z,596nm,14.0s						
KIV	**Kislovodsk**	**17.18**	**21**	P	**Pn**	**09 53 53.1**	**-1.1**
	comp=Z,27nm,1.1s						
KIV	**Kislovodsk**	**17.18**	**21**	*e*P	**Pn**	**09 53 53.0**	**-1.2**
KIV				pmax	pmax		
	comp=Z,33nm,1.2s						
KIV				MLR	MLR		
	comp=Z,233nm,11.0s						
KIV	**Kislovodsk**	**17.18**	**21**	P	**Pn**	**09 53 53.1**	**-1.1**
	comp=Z,27nm,1.1s						
MLR	**Muntele Rosu**	**18.62**	**341**	P	**Pn**	**09 54 13.4**	**+1.5**
	baz=216,slow=19,SNR=2.6						
MLR				LR	LR	10 03 23.3	
	comp=Z,216nm,18.7s,baz=124,slow=44						
PKSM	**Moragy**	**21.94**	**330**	*e*P	**P**	**09 54 48.8**	**+1.0**
PSZ	**Piszkesteto**	**22.78**	**334**	*e*P	**P**	**09 54 56.4**	**-0.4**
	comp=Z,15nm,0.9s,mb4.4						
PSZ	**Piszkesteto**	**22.78**	**334**	*e*P	**P**	**09 54 56.4**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
PSZ	**Piszkesteto**	**22.78**	**334**	*e*P	**P**	**09 54 56.4**	**-0.4**
	comp=Z,16nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**22.81**	**339**	*e*P	**P**	**09 54 56.7**	**-0.4**
AKASG	**Malin Array Be**	**22.92**	**352**	P	**P**	**09 54 55.6**	**-2.6**
	comp=Z,4.3nm,0.8s,mb3.9,baz=169,slow=8.9,SNR=18						
KECS	**Kecovo**	**23.03**	**336**	*e*P	**P**	**09 54 59.2**	**-0.2**
VRSR	**Storozhevoye**	**23.38**	**8**	*e*P	**P**	**09 55 01.7**	**-1.4**
	comp=Z,8.0nm,0.9s,mb4.2						
VRSR	**Storozhevoye**	**23.38**	**8**	*e*P	**P**	**09 55 01.7**	**-1.4**
VRSR				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,1.0nm,1.0s						
STHS	**Stebnicka Huta**	**23.57**	**338**	*e*P	**P**	**09 55 04.4**	**-0.6**
VYHS	**Vyhne**	**23.66**	**334**	*e*pP	pP	09 55 07.9	+1.4
NIE	**Niedzica**	**23.88**	**337**	*e*P	**P**	**09 55 08.4**	**+0.5**
VOR	**Voronezh**	**23.89**	**7**	P	**P**	**

OBN	**Obninsk**	27.05	3	*i* P	P	09 55 36.1	-0.6
OBN				*e*		09 56 19.9	
OBN				*e*		09 58 52.3	
OBN				pmax	pmax		
	comp=Z,60nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.4						
DAVA	**Damuels**	27.07	322⇑	*i* P	P	09 55 42.3	+5.4
	comp=Z,11nm,0.7s,mb4.5						
LMR	**La Mourre**	27.11	312	*e*P	P	09 55 43.2	+6.0
	comp=Z,45nm,1.3s,mb4.5						
LMR	**La Mourre**	27.11	312	*e*P	P	09 55 43.2	+6.0
LMR				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
LMR	**La Mourre**	27.11	312	*e*P	P	09 55 43.2	+6.0
	comp=Z,22nm,1.3s,mb4.5						
FRF	**La Foret Royal**	27.11	312	*e*P	P	09 55 43.5	+6.2
BRG	**Berggiesshubel**	27.51	331	*e*P	P	09 55 41.1	+0.2
	comp=Z,6.0nm,1.2s,mb4.1						
BRG	**Berggiesshubel**	27.51	331	*e*P	P	09 55 41.2	+0.3
	comp=Z,6.0nm,1.2s,mb4.1						
BRG	**Berggiesshubel**	27.51	331	*e*P	P	09 55 41.2	+0.3
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
MBDF	**Montbardon**	27.55	314	*e*P	P	09 55 44.1	+2.9
	comp=Z,12nm,0.8s,mb4.3						
MBDF	**Montbardon**	27.55	314	*e*P	P	09 55 44.1	+2.9
	comp=Z,5.9nm,0.8s,mb4.3						
MBDF	**Montbardon**	27.55	314	*e*P	P	09 55 44.1	+2.9
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
NKC	**Novy Kostel**	27.70	329	*e*P	P	09 55 42.8	+0.2
GRA1	**Grafenberg Arr**	27.91	327	*e*P	P	09 55 47.3	+2.9
	comp=Z,9.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	27.91	327	*e*P	P	09 55 47.3	+2.9
	comp=Z,9.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	27.91	327	*e*P	P	09 55 47.3	+2.9
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	27.91	327	*e*P	P	09 55 47.3	+2.9
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
LPG	**La Plagne**	27.93	316	*e*P	P	09 55 52.5	+7.9
LPL	**La Plagne**	27.95	316	*e*P	P	09 55 52.5	+7.7
CLL	**Collm**	28.23	331	*e*P	P	09 55 47.0	-0.3
	comp=Z,16nm,1.3s,mb4.5						
CLL	**Collm**	28.23	331	*e*P	P	09 55 47.0	-0.3
CLL				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.5						
MOX	**Moxa**	28.37	329	*e*P	P	09 55 49.0	+0.4
	comp=Z,6.0nm,1.2s,mb4.1						
MOX	**Moxa**	28.37	329	*e*P	P	09 55 49.0	+0.4
MOX				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
BFO	**Black Forest**	28.54	322	*e*P	P	09 55 55.2	+5.2
	comp=Z,4.0nm,1.0s,mb4.1						
BFO	**Black Forest**	28.54	322	*e*P	P	09 55 55.2	+5.2
BFO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
AKTK	**Aktyubinsk**	28.63	32	P	P	09 55 52.5	+1.6
AKTK	**Aktyubinsk**	28.63	32	P	P	09 55 52.5	+1.6
AKTK				LR	LR	10 09 23.3	
AKTO	**Aktyubinsk**	28.63	32	P	P	09 55 52.5	+1.6
	comp=Z,1.7nm,0.7s,mb3.9,baz=242,slow=11,SNR=8.2						
AKTO				LR	LR	10 09 23.3	
	comp=Z,193nm,19.1s,MS3.7,baz=0.0,slow=41						
CABF	**La Chapelle**	28.88	317	*e*P	P	09 56 00.1	+7.0
HINF	**Hinteralfeld**	29.06	320	*e*P	P	09 56 02.1	+7.4
CDF	**Champ du Feu**	29.16	321	*e*P	P	09 56 02.6	+7.1
KMBO	**Kilima Mbogo**	29.18	174	P	P	09 55 56.9	+1.2
	comp=Z,0.5nm,0.3s,mb3.7,baz=326,slow=3.6,SNR=3.2						
KMBO				LR	LR	10 06 58.7	
	comp=Z,144nm,20.4s,MS3.6,baz=90,slow=35						
KMBO	**Kilima Mbogo**	29.18	174	P	P	09 55 56.9	+1.2
KMBO				LR	LR	10 06 58.7	
SMF	**Signal de Mont**	30.26	316	*e*P	P	09 56 12.3	+7.0
ETSF	**Etsaut**	31.80	307	*e*P	P	09 56 24.7	+5.8
SJPF	**Ste Jean**	32.33	307	*e*P	P	09 56 27.7	+4.2
	comp=Z,24nm,1.0s,mb4.7						
SJPF	**Ste Jean**	32.33	307	*e*P	P	09 56 27.7	+4.2
SJPF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
SJPF	**Ste Jean**	32.33	307	*e*P	P	09 56 27.7	+4.2
	comp=Z,12nm,1.0s,mb4.7						
KLMR	**Klimovskoe**	32.95	5	*e*P	P	09 56 27.4	-1.5
KLMR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
ARU	**Arti**	33.15	25	*e*P	P	09 56 30.1	-0.6
	comp=Z,6.2nm,0.3s,mb5.0						
ARU	**Arti**	33.15	25	*i* P	P	09 56 29.9	-0.8
ARU				*e*		09 57 42.6	
ARU				*e*SS	SS	10 03 52.8	-21
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
ARU	**Arti**	33.15	25	*e*P	P	09 56 30.1	-0.7
	comp=Z,6.2nm,0.3s,mb5.0						
LDF	**La Druitiere**	33.52	317	*e*P	P	09 56 40.4	+6.4
ESDC	**Sonseca Array**	33.63	300	P	P	09 56 35.8	+0.9
	comp=Z,5.9nm,0.8s,mb4.6,baz=83,slow=8.6,SNR=14						
ESLA	**Sonseca Array**	33.63	300	*e*P	P	09 56 37.1	+2.2
	comp=Z,1.3nm,0.9s,mb3.9						
ESLA	**Sonseca Array**	33.63	300	*e*P	P	09 56 37.1	+2.2
	comp=Z,1.3nm,0.9s,mb3.9						
MDT	**Midelt**	33.81	288	P	P	09 56 37.1	+0.6
	comp=Z,1.5nm,0.8s,mb4.0,baz=80,slow=8.4,SNR=5.1						
MDT				LR	LR	10 12 26.8	
	comp=Z,199nm,19.8s,MS3.8,baz=87,slow=40						
FINES	**FINESS Array B**	33.81	353	P	P	09 56 34.8	-1.7
	comp=Z,1.2nm,0.5s,mb4.1,baz=148,slow=10,SNR=8.7						
FINES				LR	LR	10 14 21.3	
	comp=Z,93nm,19.0s,MS3.5,baz=178,slow=43						
TORD	**Torodi Ar. Bea**	33.88	251	P	P	09 56 35.6	-1.5
	comp=Z,2.4nm,1.0s,mb4.1,baz=55,slow=8.9,SNR=12						
TORD				PcP	PcP	09 59 16.0	+0.2
	comp=Z,0.7nm,0.8s,baz=45,slow=2.4,SNR=3.3						
GRR	**Gorron**	33.88	316	*e*P	P	09 56 43.3	+6.2
KAF	**Kangasniemi**	34.44	353	*e*p	P	09 56 39.5	-2.5
JOF	**Joensuu**	34.89	358	*e*p	P	09 56 43.1	-2.7
HFS	**Hagfors**	35.00	342	P	P	09 56 45.8	-1.0
	comp=Z,4.6nm,0.7s,mb4.5,baz=124,slow=5.3,SNR=8.5						
AAK	**Ala-Archa**	35.44	55	*i* P	P	09 56 52.9	+2.3
	comp=Z,100nm,14.0s						
AAK	**Ala-Archa**	35.44	55	*i* P	P	09 56 52.9	+2.3
AAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.7						
FRU	**Bishkek**	35.57	55	*e*P	P	09 56 54.0	+2.3
BVAR	**Borovoye Array**	36.39	37	P	P	09 56 59.3	+0.6
	comp=Z,0.6nm,0.5s,mb3.8,baz=217,slow=7.4,SNR=6.1						
BVAR				PP	PP	09 58 20.5	-0.8
	comp=Z,2.1nm,1.0s,baz=254,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	36.39	37	PP	PP	09 58 20.5	-0.9
NB2	**NORSAR Subarra**	36.44	341	P	P	09 56 57.4	-1.7
	comp=Z,2.5nm,0.8s,mb4.2,baz=141,slow=8.6						
NOA	**NORSAR Array B**	36.44	341	P	P	09 56 57.6	-1.5
	comp=Z,3.2nm,0.8s,mb4.3,baz=140,slow=8.8,SNR=10						
KURK	**Kurchatov**	40.19	43	*e*P	P	09 57 32.0	+1.3
	comp=Z,11nm,1.1s,mb4.5						
KURK	**Kurchatov**	40.19	43	*e*P	P	09 57 32.0	+1.3
KURK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
KURK	**Kurchatov**	40.19	43	*e*P	P	09 57 32.0	+1.3
	comp=Z,11nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	41.65	50	P	P	09 57 42.0	-0.7
	comp=Z,7.4nm,0.8s,mb4.3,baz=265,slow=5.8,SNR=37						
MKAR	**Makanchi Array**	41.65	50	*i* P	P	09 57 42.0	-0.8
	comp=Z,7.0nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	41.65	50	*i* P	P	09 57 42.0	-0.8
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES	**ARCESS Array B**	41.80	355	P	P	09 57 42.8	-1.2
	comp=Z,3.6nm,0.8s,mb4.0,baz=172,slow=8.6,SNR=5.3						
ARCES				LR	LR	10 15 28.3	
	comp=Z,92nm,21.7s,MS3.6,baz=29,slow=37						
KOLN	**Koldanda**	43.24	78	*e*P	P	09 57 54.0	-1.7
	comp=Z,11nm,1.0s,mb4.5						
LSZ	**Lusaka**	43.52	189	P	P	09 57 57.7	-0.2
	comp=Z,1.5nm,0.6s,mb3.9,baz=56,slow=10,SNR=2.9						
NVS	**Novosibirsk**	44.08	39	*e*P	P	09 58 02.6	+0.1
GKN	**Gorkha**	44.09	78	*e*P	P	09 58 01.7	-0.8
	comp=Z,32nm,1.1s,mb5.0						
DMN	**Daman**	44.58	78	*e*P	P	09 58 07.0	+0.5
	comp=Z,81nm,1.5s,mb5.3						
KKN	**Kakani**	44.69	78	*e*P	P	09 58 07.8	+0.4
	comp=Z,13nm,0.5s,mb5.0						
ZAL	**Zalesovo**	44.72	40	P	P	09 58 06.0	-1.6
	comp=Z,1.1nm,0.6s,mb3.9,baz=23,slow=2.8,SNR=6.8						
ZAL				LR	LR	10 19 53.9	
	comp=Z,119nm,19.2s,MS3.8,baz=314,slow=40						
PKI	**Pulchoki**	44.85	78	*e*P	P	09 58 10.4	+1.8
GUN	**Gumba**	45.18	78	*e*P	P	09 58 12.7	+1.4
TSUM	**Tsumeb**	49.74	201	P	P	09 58 45.6	-1.2
	comp=Z,3.9nm,1.0s,mb4.4,baz=35,slow=6.6,SNR=6.2						
GTA	**Gaotai**	54.50	60	*e*P	P	09 59 23.3	+1.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,77nm,4.6s						
GTA				LR	LR		
	comp=N,118nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=E,153nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,212nm,15.6s,MS4.3						
ZAK	**Zakamensk**	55.71	46	*e*P	P	09 59 31.0	+0.1
	comp=Z,6.0nm,1.7s,mb4.3						
ZAK	**Zakamensk**	55.71	46	*e*P	P	09 59 31.0	+0.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
SONM	**Songino Array**	58.00	49	P	P	09 59 47.8	+0.6
	comp=Z,2.0nm,0.9s,mb4.2,baz=281,slow=7.9,SNR=17						
SONM				LR	LR	10 27 58.4	
	comp=Z,146nm,20.2s,MS4.1,baz=304,slow=39						
LZH	**Lanzhou**	58.28	63	*e*P	P	09 59 50.5	+1.4
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	58.44	49	*i* P	P	09 59 51.4	+1.2
CD2	**Chengdu**	59.54	69	*e*P	P	09 59 57.1	-0.8
CD2				PP	PP	10 02 10.3	+1.1
CD2				S	**S**	**10 08 05.9**	**-2.6**
CD2				SS	SS	10 12 02.0	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=E,50nm,16.7s						
CD2				LR	LR		
	comp=Z,90nm,16.7s,MS4.0						
BOD	**Bodaibo**	61.26	37	*e*P	P	10 00 09.0	-0.7
	comp=Z,5.0nm,0.9s,mb4.6						
BOD	**Bodaibo**	61.26	37	*e*P	P	10 00 09.0	-0.7
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
TIXI	**Tiksi**	65.02	20	*i* P	P	10 00 33.7	-0.9
	comp=Z,8.0nm,1.8s,mb4.5						
TIXI	**Tiksi**	65.02	20	*i* P	P	10 00 33.7	-0.9
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.5						
PSI	**Prapat**	66.29	100	P	P	10 00 44.6	+1.8
	comp=Z,2.0nm,0.5s,mb4.4,baz=190,slow=21,SNR=4.1						
FRB	**Frobisher Bay**	70.64	333	P	P	10 01 08.8	-1.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=353,slow=7.6,SNR=4.8						
NJ2	**Nanjing**	71.36	63	*e*P	P	10 01 09.1	-5.3
NJ2				AP		10 01 14.0	
NJ2				XP	sP	10 01 17.1	+1.8
NJ2				PCP	PcP	10 01 28.0	-6.1
NJ2				S	S	10 10 24.0	-9.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,220nm,10.7s						
NJ2				LR	LR		
	comp=Z,230nm,24.6s,MS4.3						
SCHQ	**Schefferville**	73.58	324	P	P	10 01 27.7	0.0
	comp=Z,3.6nm,1.0s,mb4.3,baz=198,slow=13,SNR=2.7						
BILL	**Bilibino**	77.76	17	*e*P	P	10 01 51.1	-0.5
	comp=Z,100nm,21.0s						
BILL	**Bilibino**	77.76	17	*e*P	P	10 01 51.1	-0.5
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.1						
IMA2	**Indian Mountai**	85.94	3	*e*P	P	10 02 34.6	-0.1
YKA	**Yellowknife Ar**	86.38	346	P	P	10 02 35.8	-1.0
	comp=Z,0.4nm,0.6s,mb3.8,baz=29,slow=5.5,SNR=9.9						
YKA	**Yellowknife Ar**	86.38	346	P	P	10 02 35.8	-1.0
COLA	**College**	87.33	1	*i* P	P	10 02 40.7	-0.8
ILAR	**Eielson Array**	87.44	1	P	P	10 02 41.2	-0.8
	comp=Z,1.2nm,0.9s,mb4.1,baz=334,slow=3.2,SNR=11						

IDC 02 09:55:31.1±2.3, 942S×11293E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=104.6km s-min=21.9km az=50.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**119**	P	P	10 00 39.1	-0.1
	1.4nm,0.8s,baz=293,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.55**	**128**	P	P	10 00 53.0	+0.6
	1.4nm,0.6s,baz=303,slow=8.5,SNR=25						
SONM	**Songino Array**	**57.29**	**355**	P	P	10 05 20.6	+0.1
	0.5nm,0.6s,baz=177,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**62.27**	**337**	P	P	10 05 55.0	+0.2
	0.4nm,0.5s,baz=147,slow=7.4,SNR=11						

*SKO **02** 10:21:02.5, 4195N×2126E, h15km, M2.0, ML2.4*
*PDG **02** 10:21:03.2±0.6, 4202N×2129E, h11km±1km*
*NEIC **02** 10:21:03.2, 4202N×2129E, h11km, MD2.6(PDG), After PDG.*
*ISCJB **02** 10:21:03.5±0.3, 4197N±002×2129E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.1km az=76.3*
*THE **02** 10:21:03.6, 4215N×2105E, h26km, ML3.1*
*CSEM **02** 10:21:04.7±0.2, 4200N×2146E, h10km, ML3.1, Error ellipse: s-maj=7.8km s-min=4.4km az=46.0*
*BEO **02** 10:21:04±0.6, 4201N×2130E, h13km±1km*

ISC 02 10:21:03.5±0.5, 4201N±003×2130E±003, h0km±4km, n30, σ1§04/52, 3C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.11**	**109**	⇑*i* Pg	**Pg**	**10 21 06.5**	**+0.9**
SKO				*e*Sg	**Sg**	**10 21 09.1**	**+2.1**
SKO				*e*Lg		10 21 09.2	
	comp=E,729nm,0.3s						
SKO				*e*Lg		10 21 09.6	
	comp=N,1μm,0.3s						
KOZJ	**Kozjak Brana**	**0.15**	**212**	⇑*i* Pg	**Pg**	**10 21 05.0**	**-1.4**
KOZJ				*i* Sg	**Sg**	**10 21 07.9**	**-0.5**
BELI	**Belica**	**0.32**	**184**	*i* Pg	**Pg**	**10 21 08.7**	**-1.0**
BELI				*i*		10 21 09.9	
BELI				*i* Sg	**Sg**	**10 21 15.6**	**+1.6**
STIP	**Stip**	**0.73**	**115**	*e*Pg	**Pg**	**10 21 17.2**	**-0.3**
STIP				*e*Sg	**Sg**	**10 21 27.9**	**+0.8**
STIP				*e*Lg		10 21 28.2	
	comp=N,44nm,0.3s						
STIP				*e*Lg		10 21 28.4	
	comp=E,40nm,0.6s						
OHR	**Ohrid**	**0.97**	**203**	*e*Pg	**Pg**	**10 21 20.6**	**-1.6**
OHR				*e*Sg	**Sg**	**10 21 35.1**	**+0.4**
BCI	**Bajram Curri**	**0.98**	**292**	*i* Pg	**Pg**	**10 21 31.6**	**+9.2**
BCI				*i* Sg	**Sg**	**10 21 36.9**	**+1.7**
BIA	**Bitola**	**0.99**	**179**	*i* Pg	**Pg**	**10 21 21.6**	**-0.9**
BIA				*e*Sg	**Sg**	**10 21 35.6**	**+0.4**
BIA				*e*Lg		10 21 35.9	
	comp=E,214nm,0.3s						
BIA				*e*Lg		10 21 36.6	
	comp=N,176nm,0.3s						
PVY	**Plav**	**1.15**	**301**	⇓*i* Pg	**Pg**	**10 21 24.0**	**-1.5**
PVY				*e*Sg	**Sg**	**10 21 41.6**	**+1.2**
QSH	**Qafa e Shtames**	**1.15**	**246**	*i* Pg	**Pg**	**10 21 26.0**	**+0.4**
VAY	**Valandovo**	**1.17**	**125**	*e*Pg	**Pg**	**10 21 24.7**	**-1.3**
VAY				*e*Sg	**Sg**	**10 21 42.1**	**+0.9**
VAY				*e*Lg		10 21 42.5	
	comp=N,55nm,0.6s						
VAY				*e*Lg		10 21 42.7	
	comp=E,91nm,0.6s						
FNA	**Florina**	**1.22**	**177**	*e*Pg	**Pg**	**10 21 26.3**	**-0.6**
	comp=E,5.0nm,0.4s						
FNA				*e*Sg	**Sg**	**10 21 43.8**	**+0.9**
GRG	**Griva**	**1.33**	**141**	*e*Pg	**Pg**	**10 21 28.5**	**-0.6**
GRG				*e*Sg	**Sg**	**10 21 48.6**	**+2.1**
IVA	**Berane**	**1.35**	**310**	*e*Pg	**Pg**	**10 21 27.2**	**-2.2**
IVA				*e*Sg	**Sg**	**10 21 48.3**	**+1.3**
IVA	**Berane**	**1.35**	**310**	*e*Sg	**Sg**	**10 21 48.3**	**+1.3**
ULC	**Ulcinj**	**1.53**	**269**	*e*Pg	**Pg**	**10 21 31.8**	**-1.1**
ULC				*e*Sg	**Sg**	**10 21 54.4**	**+1.6**
TTG	**Podgorica**	**1.57**	**286**	⇓*i* Pg	**Pg**	**10 21 31.3**	**-2.4**
TTG				*e*Sg	**Sg**	**10 21 54.1**	**0.0**
ZAPS	**Zavoj/Pirot**	**1.61**	**37**	⇑*i* Pn	**Pn**	**10 21 32.9**	**-0.3**
ZAPS				Sn	**Sn**	**10 21 54.5**	**-0.2**
BUM	**Brajici-Budva**	**1.81**	**280**	⇓*i* Pn	**Pn**	**10 21 36.3**	**+0.4**
BUM				*e*Sn	**Sn**	**10 22 00.8**	**+1.3**
NKY	**Niksic**	**1.89**	**296**	⇓*i* Pn	**Pn**	**10 21 36.3**	**-0.7**
NKY				*e*Sn	**Sn**	**10 22 01.9**	**+0.5**
PLE	**Pljevlja**	**1.93**	**314**	*e*Pn	**Pn**	**10 21 36.8**	**-0.8**
PLE				*e*Sn	**Sn**	**10 22 02.8**	**+0.3**
SRS	**Serrai**	**1.94**	**117**	*e*Pn	**Pn**	**10 21 36.9**	**-0.8**
SRS	**Serrai**	**1.94**	**117**	*e*Pn	**Pn**	**10 21 36.8**	**-0.8**
SOH	**Sokhos**	**1.94**	**127**	*e*Pn	**Pn**	**10 21 37.8**	**0.0**
LIT	**Litokhoron**	**2.10**	**154**	*e*Pn	**Pn**	**10 21 39.8**	**-0.2**
HCY	**Herceg Novi**	**2.13**	**283**	*e*Pn	**Pn**	**10 21 40.4**	**+0.1**
HCY				*e*Sn	**Sn**	**10 22 07.9**	**+0.5**
UPM	**Unac-Piva**	**2.13**	**305**	⇓*i* Pn	**Pn**	**10 21 39.8**	**-0.5**
UPM				*e*Sn	**Sn**	**10 22 08.0**	**+0.5**
MEV	**Metsovon**	**2.22**	**181**	*e*Pn	**Pn**	**10 21 40.3**	**-1.2**
BRY	**Bratogost**	**2.23**	**295**	⇓*i* Pn	**Pn**	**10 21 41.8**	**+0.1**
BRY				*e*Sn	**Sn**	**10 22 10.2**	**+0.4**
BRY	**Bratogost**	**2.23**	**295**	⇓*i* Pn	**Pn**	**10 21 41.8**	**+0.1**
BRY				*e*Sn	**Sn**	**10 22 10.2**	**+0.4**
AGG	**Agios Georgios**	**3.08**	**165**	*e*Pn	**Pn**	**10 21 52.6**	**-0.8**

*IDC **02** 11:15:28.6±1.2, 142N×12792E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=117.5km s-min=18.3km az=69.0*
*ISCJB **02** 11:15:30.9±1.1, 17N±04×1285E±09, h33km, mb4.0/8, Error ellipse: s-maj=144.9km s-min=12.2km az=140.4*
*NEIC **02** 11:15:32.2±0.9, 168N×12865E, h30km, mb4.3/3, Error ellipse: s-maj=119.0km s-min=9.9km az=70.0*

ISC 02 11:15:33.2±1.1, 17N±03×1286E±10, h35km, n9, σ0§73/9, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.20**	**165**	*e*P	**P**	**11 20 26.6**	**+0.4**
	4.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**22.20**	**166**	P	**P**	**11 20 26.1**	**-0.2**
	2.2nm,0.6s,mb3.8,baz=342,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.70**	**169**	P	**P**	**11 21 01.2**	**+1.3**
	0.7nm,0.5s,mb3.4,baz=349,slow=14,SNR=13						
STKA	**Stephens Creek**	**35.57**	**161**	P	**P**	**11 22 25.7**	**-1.3**
	1.3nm,0.6s,mb4.0,baz=333,slow=9.6,SNR=3.5						
ULN	**Ulaanbaatar**	**49.65**	**341**	*e*P	**P**	**11 24 21.7**	**+0.4**
	3.1nm,0.9s,mb4.3						
SONM	**Songino Array**	**49.84**	**341**	P	**P**	**11 24 23.3**	**+0.6**
	1.4nm,0.7s,mb4.1,baz=153,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**60.30**	**325**	P	**P**	**11 25 38.2**	**0.0**
	1.5nm,0.5s,mb4.3,baz=115,slow=8.1,SNR=42						
KURK	**Kurchatov**	**64.47**	**327**	*e*P	**P**	**11 26 05.8**	**-0.3**
	2.5nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**70.78**	**326**	*e*P	**P**	**11 26 45.1**	**-0.8**

*CSEM **02** 11:30:21.8±0.3, 6087N×6187E, h10km, mb3.8, Error ellipse: s-maj=10.9km s-min=3.8km az=22.0, After OBN*

MOS 02 11:30:21.8±1.3, 6087N×6187E, h10km, mb3.8/1, Error ellipse: s-maj=31.6km s-min=13.6km az=88.3, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**4.11**	**190**	*i* P	Pn	11 31 26.4	+1.8
ARU	**Arti**	**4.78**	**203**	*e*P	Pn	11 31 36.3	+2.5
BRVK	**Borovoye**	**9.07**	**146**	*e*P	Pn	11 32 37.4	+4.6
	2.0nm,1.7s						
BRVK	**Borovoye**	**9.07**	**146**	*e*P	Pn	11 32 37.4	+4.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
AB31	**Akbulak array**	**11.69**	**186**	*e*P	Pn	11 33 10.9	+2.2
OBN	**Obninsk**	**14.54**	**258**	*e*P	Pn	11 33 49.3	+1.7
	comp=Z,4.0nm,0.6s						
OBN	**Obninsk**	**14.54**	**258**	*e*P	Pn	11 33 49.3	+1.7
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**19.80**	**152**	*i* P	Pn	11 34 55.1	+1.3
SOC	**Sochi**	**21.81**	**228**	*e*P	P	11 35 13.7	-0.3
SOC				*e*		11 35 35.9	
SOC				*e*S	S	11 39 15.5	+0.4

IDC 02 11:33:07.3±1.1, 384N×12652E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=124.4km s-min=18.8km az=68.0, Talaud Islands

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

BDFB Brasilia 21.76 90 P **P 12 06 47.9 -0.9**
0.9nm,0.3s,mb3.6,baz=234,slow=8.7,SNR=1.6
PLCA Paso Flores 23.95 180 P **P 12 07 12.3 +1.2**
2.2nm,0.8s,mb3.6,baz=356,slow=21,SNR=4.2
RPN Rapa Nui 37.23 247 LR LR 12 19 41.4
comp=Z,282nm,19.0s,MS4.1,baz=140,slow=28
TORD Torodi Ar. Bea 77.37 72 P **P 12 13 49.8 -1.7**
1.2nm,1.1s,mb3.8,baz=249,slow=5.1,SNR=3.7
YKA Yellowknife Ar 86.14 341 P **P 12 14 40.3 +2.7**
0.3nm,0.9s,mb3.5,baz=134,slow=4.9,SNR=6.4
YKA Yellowknife Ar 86.14 341 P **P 12 14 40.3 +2.7**
ZAL Zalesovo 138.22 22 PKP PKPdf 12 21 22.8 +1.2
0.5nm,0.4s,baz=148,slow=17,SNR=3.1
ZAL Zalesovo 138.22 22 PKP PKPdf 12 21 22.8 +1.2
SONM Songino Array 148.85 4 PKPbc PKPbc 12 21 46.2 +2.1
0.7nm,0.7s,baz=329,slow=2.8,SNR=6.6

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*NEIC **02** 12:02:10.4±0.4, 17.15S×69.80W, mb4.9/21, Error ellipse: s-maj=14.4km s-min=9.7km az=62.0*
NEIC Felt [III] at Carumas and Moquegua.
*HRVD **02** 12:02:10.4±0.4, 1697S×7060W, h64km±3km, MW5.3/38, Centroid moment Tensor Solution. LP body waves: s38,c59;Mantle waves: s36,c38; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29±.05; $M_{\theta\theta}$-0.54±.06; $M_{\phi\phi}$0.83±.06; $M_{r\theta}$0.04±.06; $M_{\theta\phi}$-0.91±.05; $M_{r\phi}$0.13±.07; Best double couple: $M_0$1.14800×10^{17} NP1:φ289.00000°, δ82.00000°, λ-177.00000°. NP2: φ198.00000°, δ87.00000°, λ-8.00000°. Principal axes: T 1.2910, Plg4.0000°, Azm244.0000°; N -0.2860, Plg81.0000°, Azm359.0000°; P -1.0050, Plg8.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **02** 12:02:10.3, 1720S×69.80W, h39km, mB5.1, Ms5.3, Msz5.0*
*ISCJB **02** 12:02:11.7±0.3, 1670S±006×7025W±008, h37km, mb4.8/30, MS5.1/2, Error ellipse: s-maj=12.3km s-min=6.6km az=111.2*
*IDC **02** 12:02:13.1±3.4, 1673S×7027W, h34km±27km, mb4.3/11, mb1 4.5/13, mb1mx4.4/21, mbtmp4.5/13, ML5.0/2, Error ellipse: s-maj=21.9km s-min=18.0km az=82.0*
*MOS **02** 12:02:16.1±1.1, 1504S×6879W, h34km, mb5.1/13, Error ellipse: s-maj=31.5km s-min=10.3km az=120.8*

ISC 02 12:02:14.0±0.3, 1674S±006×7026W±008, h39km, h39km±4.1km: pP-P, n103, σ1§09/72, mb4.8/30, MS5.1/1, 1C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.09**	**78**	P	g	**Pn**	**12 02 51.6**	**+5.1**
	132nm,0.3s,baz=263,slow=12,SNR=57							
LPAZ					Lg		12 03 22.4	
	89nm,0.3s,baz=105,slow=9.1,SNR=4.6							
LVC	**Limon Verde**	**5.98**	**168**	Pn		**Pn**	**12 03 40.3**	**+0.3**
	6.0nm,0.3s,baz=334,slow=8.0,SNR=23							
NNA	**Nana**	**7.93**	**306**	*e*Pn		**Pn**	**12 04 06.7**	**-0.1**
	32nm,0.8s							
NNA					*e*Sn	**Sn**	**12 05 27.3**	**-7.9**
SIV	**San Ignacio**	**8.85**	**87**	Pn		**Pn**	**12 04 20.3**	**+1.0**
	5.4nm,0.3s,baz=273,slow=12,SNR=23							
SIV					Lg		12 06 55.6	
	3.5nm,0.3s,baz=16,slow=22,SNR=3.2							
CFAA	**Coronel Fontan**	**14.92**	**173**	Pn		**Pn**	**12 05 41.4**	**-0.8**
	0.1nm,0.3s,baz=342,slow=11,SNR=7.0							
BDFB	**Brasilia**	**21.39**	**90**	P		**P**	**12 06 58.5**	**+0.3**
	7.0nm,0.8s,mb4.0,baz=279,slow=8.8,SNR=7.7							
BAO	**Brasilia Array**	**21.41**	**90**	P		**P**	**12 07 01.0**	**+2.5**
TRQA	**Tornquist**	**22.45**	**163**	*e*P		**P**	**12 07 08.8**	**-0.7**
	61nm,1.4s,mb4.8							
PLCA	**Paso Flores**	**23.91**	**181**	P		**P**	**12 07 24.6**	**+0.4**
	6.5nm,0.8s,mb4.1,baz=344,slow=9.8,SNR=6.9							
SDV	**Santo Domingo**	**25.46**	**359**	P		**P**	**12 07 39.5**	**+1.3**
	14nm,1.1s,mb4.4,baz=237,slow=5.8,SNR=7.5							
SDV	**Santo Domingo**	**25.46**	**359**	*e*P		**P**	**12 07 41.4**	**+3.2**
	26nm,1.1s,mb4.7							
SDV					*e*pP	pP	12 07 51.7	+2.7
JTS	**JuntasAbangare**	**30.53**	**331**	*e*P		**P**	**12 08 26.4**	**+2.8**
JTS					pmax	pmax		
	comp=Z,11nm,0.9s							
JTS	**JuntasAbangare**	**30.53**	**331**	*e*P		**P**	**12 08 26.4**	**+2.9**
	comp=Z,11nm,0.9s,mb4.7							
LRAL	**Lakeview Retre**	**52.01**	**342**	*e*P		**P**	**12 11 19.0**	**-0.4**
	comp=Z,32nm,1.6s,mb5.0							
JCT	**Junction City**	**54.88**	**329**	*e*P		**P**	**12 11 40.0**	**-0.5**
JCT				*e**PP		pP	12 11 53.5	+1.5
JCT					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7							
JCT	**Junction City**	**54.88**	**329**	*e*P		**P**	**12 11 40.0**	**-0.5**
	comp=Z,8.2nm,1.0s,mb4.7							
JCT					*e*pP	pP	12 11 53.5	+1.5
WVT	**Waverly**	**55.14**	**343**	*e*P		**P**	**12 11 40.2**	**-2.2**
WVT					pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
WVT	**Waverly**	**55.14**	**343**	*e*P		**P**	**12 11 40.2**	**-2.2**
	comp=Z,8.5nm,0.9s,mb4.8							
UALR	**University of**	**55.36**	**338**	*e*P		**P**	**12 11 43.5**	**-0.5**
	comp=Z,25nm,1.0s,mb5.2							
MIAR	**Mount Ida**	**55.61**	**337**	*e*P		**P**	**12 11 44.9**	**-0.9**
MIAR					pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1							
MIAR	**Mount Ida**	**55.61**	**337**	*e*P		**P**	**12 11 44.9**	**-0.9**
	comp=Z,22nm,1.1s,mb5.1							
TXAR	**Lajitas Array**	**56.02**	**325**	P		**P**	**12 11 48.6**	**-0.1**
	comp=Z,26nm,0.8s,mb4.3,baz=146,slow=8.7,SNR=20							
PARMO	**Parma**	**56.21**	**341**	*e*P		**P**	**12 11 49.2**	**-0.9**
SIUC	**Southern Illin**	**57.02**	**342**	*e*P		**P**	**12 11 54.4**	**-1.4**
	comp=Z,78nm,0.7s,mb5.8							
FVM	**French Village**	**57.63**	**341**	*e*P		**P**	**12 11 59.0**	**-1.1**
FVM					pmax	pmax		
	comp=Z,56nm,0.9s,mb5.6							
FVM	**French Village**	**57.63**	**341**	*e*P		**P**	**12 11 59.0**	**-1.2**
	comp=Z,56nm,0.9s,mb5.6							
WMOK	**Wichita Mounta**	**57.92**	**332**	*e*P		**P**	**12 12 01.1**	**-1.1**
WMOK					pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9							
WMOK	**Wichita Mounta**	**57.92**	**332**	*e*P		**P**	**12 12 01.1**	**-1.1**
	comp=Z,19nm,1.6s,mb4.9							
GDL2	**Guadalupe Moun**	**58.61**	**326**	*e*P		**P**	**12 12 05.6**	**-1.3**
RKT	**Rikitea**	**60.76**	**253**	*e*S		**S**	**12 20 38.7**	**+2.7**
	comp=Z,1μm,27.5s							
RKT					*e*SS	SS	12 24 38.3	+3.2
	comp=Z,162nm,28.5s							
RKT					*e*LR	LR	12 30 24.9	
	comp=Z,462nm,28.8s							
KSU1	**Kansas State U**	**60.77**	**337**	*e*P		**P**	**12 12 20.7**	**-1.1**
KSU1					*e*pP	pP	12 12 31.4	-2.0
BNM	**Barren Site**	**61.32**	**326**	*e*P		**P**	**12 12 26.7**	**+1.1**
LPM	**Los Pinos Moun**	**61.44**	**326**	*e*P		**P**	**12 12 26.9**	**+0.5**
LAZ	**Ladron**	**61.78**	**326**	*e*P		**P**	**12 12 29.5**	**+0.8**
LAZ					*e*pP	pP	12 12 41.0	+0.7
ANMO	**Albuquerque**	**61.84**	**327**	*e*P		**P**	**12 12 29.1**	**0.0**
ANMO					pmax	pmax		
	comp=Z,42nm,1.8s							
ANMO	**Albuquerque**	**61.84**	**327**	*e*P		**P**	**12 12 29.1**	**0.0**
	comp=Z,42nm,1.8s,mb5.3							
SDCO	**Great Sand Dun**	**63.52**	**329**	*e*P		**P**	**12 12 40.6**	**+0.4**
	comp=Z,36nm,1.3s,mb5.2							
WUAZ	**Wupatki**	**64.95**	**324**	*e*P		**P**	**12 12 50.6**	**+1.0**
	comp=Z,14nm,1.0s,mb5.0							
WUAZ					*e*pP	pP	12 13 02.2	+0.9
WUAZ					*e*SP		12 13 08.9	
ISCO	**Idaho Springs**	**65.19**	**331**	*e*P		**P**	**12 12 51.6**	**+0.4**
ISCO					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
ISCO	**Idaho Springs**	**65.19**	**331**	*e*P		**P**	**12 12 51.6**	**+0.4**
	comp=Z,9.3nm,1.0s,mb4.8							
PV01	**Paradox Valley**	**65.36**	**327**	*e*P		**P**	**12 12 52.9**	**+0.6**
PV10	**Paradox Valley**	**65.78**	**327**	*e*P		**P**	**12 12 55.3**	**+0.3**
NEN	**Nelson**	**67.06**	**322**	*e*P		**P**	**12 13 03.7**	**+0.5**
MSU	**Marysvale**	**67.55**	**325**	*e*P		**P**	**12 13 07.3**	**+1.0**
ARUT	**Antelope Range**	**67.73**	**324**	*e*P		**P**	**12 13 09.2**	**+1.8**
DAU	**Daniels Canyon**	**68.44**	**327**	*e*P		**P**	**12 13 12.6**	**+0.7**
DUG	**Dugway**	**69.10**	**326**	*e*P		**P**	**12 13 16.8**	**+0.8**
DUG					pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0							
DUG	**Dugway**	**69.10**	**326**	*e*P		**P**	**12 13 16.8**	**+0.8**
	comp=Z,35nm,1.6s,mb5.0							
PDAR	**Pinedale Array**	**69.36**	**330**	P		**P**	**12 13 17.2**	**-0.4**
	comp=Z,3.5nm,1.0s,mb4.2,baz=143,slow=7.4,SNR=13							
HWUT	**Hardware Ranch**	**69.48**	**328**	*e*P		**P**	**12 13 18.4**	**0.0**
	comp=Z,14nm,1.1s,mb4.8							
TPH	**Tonopah**	**70.10**	**322**	*e*P		**P**	**12 13 23.9**	**+1.7**
	comp=Z,4.0nm,0.6s,mb4.5							
ULM	**Lac du Bonnet**	**70.41**	**343**	P		**P**	**12 13 22.4**	**-1.6**
	comp=Z,8.8nm,0.6s,mb4.9,baz=150,slow=6.4,SNR=3.3							
ULM	**Lac du Bonnet**	**70.41**	**343**	P		**P**	**12 13 22.4**	**-1.6**
NVAR	**Mina Array Bea**	**70.97**	**322**	P		**P**	**12 13 28.4**	**+0.9**
	comp=Z,2.8nm,0.9s,mb4.2,baz=177,slow=7.2,SNR=17							
LKWY	**Lake**	**71.13**	**331**	*e*P		**P**	**12 13 29.8**	**+1.4**
LKWY					*e**PP	pP	12 13 37.1	-3.1
LKWY					pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9							
LKWY	**Lake**	**71.13**	**331**	*e*P		**P**	**12 13 29.8**	**+1.4**
	comp=Z,15nm,1.0s,mb4.9							
LKWY					*e*pP	pP	12 13 37.1	-3.1
QLMT	**Earthquake Lak**	**71.81**	**330**	*e*P		**P**	**12 13 33.5**	**+1.0**
CMB	**Columbia Colle**	**71.97**	**320**	*e*P		**P**	**12 13 34.9**	**+1.4**
HRY	**Holter Researc**	**73.40**	**332**	*e*P		**P**	**12 13 41.6**	**-0.4**
TBI	**Tubuai**	**73.87**	**250**	*e*S		S	12 23 16.3	+2.7
	comp=Z,884nm,28.8s							
TBI					*e*SS	SS	12 28 02.0	+3.8
	comp=Z,324nm,30.0s							
TBI					*e*LR	LR	12 36 31.2	
	comp=Z,589nm,31.0s							
PPT	**Papeete**	**75.21**	**256**	*e*S		S	12 23 30.6	+2.0
	comp=Z,1μm,30.0s							
PPT					*e*LR	LR	12 37 13.5	
	comp=Z,353nm,30.8s							
YBH	**Yreka Blue Hor**	**75.68**	**322**	P		**P**	**12 13 54.9**	**-0.3**
	comp=Z,5.8nm,1.1s,mb4.4,baz=120,slow=4.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**77.03**	**72**	P		**P**	**12 14 01.4**	**-1.5**
	comp=Z,7.4nm,1.0s,mb4.6,baz=253,slow=5.5,SNR=16							
FCC	**Fort Churchill**	**77.73**	**348**	*e*P		**P**	**12 14 05.4**	**-1.4**
FCC					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
FCC	**Fort Churchill**	**77.73**	**348**	*e*P		**P**	**12 14 05.4**	**-1.4**
	comp=Z,9.8nm,1.1s,mb4.7							
EDM	**Edmonton**	**78.92**	**335**	*e*P		**P**	**12 14 12.1**	**-1.3**
SYO	**Syowa Base**	**81.39**	**160⇑**	*e*P		**P**	**12 14 23.4**	**-3.3**
TSUM	**Tsumeb**	**82.67**	**108**	*e*P		**P**	**12 14 33.4**	**0.0**
YKA	**Yellowknife Ar**	**86.29**	**341**	P		**P**	**12 14 50.1**	**-1.5**
	comp=Z,6.4nm,1.0s,mb4.8,baz=131,slow=4.6,SNR=45							
YKW3	**Yellowknife Ar**	**86.34**	**341**	*e*P		**P**	**12 14 50.9**	**-1.0**
YKW3					*e*pP	pP	12 15 02.3	-1.7
INK	**Inuvik**	**96.05**	**340**	P		**P**	**12 15 36.6**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.6,baz=94,slow=8.7,SNR=7.4							
INK	**Inuvik**	**96.05**	**340**	*e*P		**P**	**12 15 36.3**	**-0.9**
INK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**96.05**	**340**	*e*P		**P**	**12 15 36.3**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**99.41**	**335**	PP		PP	12 19 52.9	-3.0
	comp=Z,0.8nm,1.0s,baz=104,slow=5.8,SNR=4.9							
OBN	**Obninsk**	**113.18**	**37**	*e*PKIKP		PKiKP	12 20 45.3	-1.9
OBN					pmax	pmax		
	comp=Z,4.0nm,1.2s							
ASAR	**Alice Springs**	**133.42**	**211**	PKP		PKPdf	12 21 25.6	-0.3
	comp=Z,0.4nm,0.8s,baz=140,slow=2.1,SNR=6.1							
WRA	**Warramunga Arr**	**136.27**	**215**	PKP		PKPdf	12 21 31.0	-0.2
	comp=Z,1.2nm,0.8s,baz=152,slow=1.7,SNR=6.1							
NVS	**Novosibirsk**	**136.84**	**22**	*e*PKIKP		PKPdf	12 21 29.9	-2.4
KURK	**Kurchatov**	**137.93**	**29**	*e*PKIKP		PKPdf	12 21 35.2	+0.9
ZAL	**Zalesovo**	**138.12**	**22**	PKP		PKPdf	12 21 32.1	-2.5
	comp=Z,7.2nm,1.0s,baz=225,slow=2.0,SNR=14							
ZAL	**Zalesovo**	**138.12**	**22**	PKP		PKPdf	12 21 32.1	-2.5
AAK	**Ala-Archa**	**140.41**	**42**	*e*PKIKP		PKPdf	12 21 37.7	-1.1
AAK				*e*			12 21 50.3	
MKAR	**Makanchi Array**	**142.39**	**31**	PKP		PKPdf	12 21 40.8	-1.6
	comp=Z,2.5nm,1.0s,baz=297,slow=2.7,SNR=12							
MOY	**Mondy**	**144.46**	**9**	*e*PKIKP		PKPdf	12 21 44.8	-1.2
MOY					pmax	pmax		
	comp=Z,55nm,2.2s							
CIT	**Chita**	**144.66**	**356**	*e*PKIKP		PKPdf	12 21 46.1	-0.3
ZAK	**Zakamensk**	**146.03**	**7⇓**	*i*PKIKP		PKPdf	12 21 50.0	+1.3
ZAK					pmax	pmax		
	comp=Z,66nm,1.8s							
WMQ	**Urumqi**	**147.17**	**30**	PKP		PKPdf	12 21 51.0	+0.4
WMQ					PP	PP	12 25 17.0	-1.0
WMQ					SKS	SKSdf	12 28 55.0	-1.2
WMQ					SKKS	SKKSac	12 32 08.0	+1.2
WMQ					PP	PP		
	comp=Z,29nm,8.0s							
MDJ	**Mudanjiang**	**147.56**	**333**	PKP		PKPdf	12 21 50.6	-0.7
MJAR	**Matsushiro Arr**	**147.99**	**314**	PKPbc		PKPbc	12 21 56.0	+0.9
	comp=Z,18nm,1.0s,baz=107,slow=0.6,SNR=30							
MAJO	**Matsushiro**	**148.00**	**314**	*e*PKIKP		PKPdf	12 21 54.8	+2.8
MAT	**Matsushiro**	**148.00**	**314**	PKP2		PKPab	12 21 55.4	-2.5
MAT	**Matsushiro**	**148.00**	**314**	*e*PKP		PKPdf	12 21 55.0	+3.0
DDI	**Dehra Dun**	**148.08**	**59**	*ex*		PKPdf	12 21 52.6	+0.5
SONM	**Songino Array**	**148.86**	**4**	PKPbc		PKPbc	12 21 57.6	+0.3
	comp=Z,9.0nm,0.8s,baz=309,slow=1.9,SNR=7.9							
ULN	**Ulaanbaatar**	**148.88**	**4**	*e*PKIKP		PKPdf	12 21 55.0	+1.6
ULN				*e*			12 21 58.1	
ULN				*e*			12 22 01.7	
CN2	**Changchun**	**149.91**	**337**	*e*PKP		PKPdf	12 21 55.8	+0.7
GTA	**Gaotai**	**155.80**	**19**	PKP		PKPdf	12 22 04.1	+0.4
GTA				APKP			12 22 17.6	
HHC	**Hu-ho-hao-te**	**155.92**	**357**	*e*PKP		PKPdf	12 22 05.4	+1.6
HHC				APKP			12 22 15.9	
HHC				XPKP			12 22 19.5	
HHC				PKS			12 25 37.3	
HHC				PP		PP	12 26 13.3	+5.3
HHC				SKS		SKSdf	12 29 05.9	-1.1
HHC				SKKS		SKKSac	12 32 57.3	+2.7
HHC				SS		SS	12 45 56.5	+3.4
HHC				PP		PP		
	comp=Z,108nm,7.2s							
HHC				LR		LR		
	comp=N,110nm,10.8s,MS5.3							
HHC				LR		LR		
	comp=E,233nm,12.0s,MS5.3							
HHC				LR		LR		
	comp=Z,100nm,12.0s,MS4.9							
LZH	**Lanzhou**	**160.03**	**14**	*e*PKP		PKPdf	12 22 07.0	-1.9
LZH				APKP			12 22 19.6	
LZH				XPKP			12 22 24.2	
LZH				PKS			12 25 39.3	
LZH				*e*PP		PP	12 26 32.6	+2.1
LZH				SKKS		SKKSac	12 33 14.2	-2.0
LZH				*e*SS		SS	12 46 35.5	-1.4
LZH				PP		PP		
	comp=Z,79nm,8.5s							
LZH				LR		LR		
	comp=E,169nm,18.2s							
LZH				LR		LR		
	comp=Z,298nm,20.0s							
SSE	**Sheshan**	**162.30**	**326**	*e*PKP		PKPdf	12 22 10.8	-0.5
NJ2	**Nanjing**	**162.65**	**333**	*e*PKP		PKPdf	12 22 12.1	+0.5
NJ2				APKP			12 22 22.5	
NJ2				XPKP			12 22 26.9	
NJ2				PKP2		PKPab	12 23 02.9	+2.7
NJ2				PP		PP	12 26 48.0	+3.4
NJ2				PP		PP		
	comp=Z,200nm,10.4s							
NJ2				LR		LR		
	comp=Z,260nm,20.2s							
CD2	**Chengdu**	**164.87**	**20**	*e*PKP		PKPdf	12 22 13.4	-0.3
GYA	**Guiyang**	**169.91**	**16**	*e*PKP		PKPdf	12 22 18.9	+1.6
GYA				APKP			12 22 29.7	
GYA				XPKP			12 22 33.3	
GYA				PP		PP		
	comp=Z,120nm,7.8s							

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*BJI **02** 12:24:28.2, 590S×15390E, h16km, mB5.3, mb4.8*
*IDC **02** 12:24:30.1±1.2, 570S×15363E, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML3.3/1, MS3.6/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=51.5km s-min=20.3km az=125.0*
*ISCJB **02** 12:24:31.8±5.8, 58S±01×1537E±02, h26km±40km, mb4.3/14, Error ellipse: s-maj=34.1km s-min=13.5km az=84.0*
*NEIC **02** 12:24:31.2±7.3, 591S×15390E, h17km±43km, mb4.4/3, Error ellipse: s-maj=27.3km s-min=12.6km az=108.0*

ISC 02 12:24:33.0±5.8, 59S±01×1538E±02, h26km±40km, n19, σ0§84/18, mb4.3/14, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.47**	**242**	Pn		**Pn**	**12 26 20.6**	**+0.4**
	2.8nm,0.3s,baz=195,slow=4.3,SNR=8.6							
PMG					Sn	**Sn**	**12 27 43.1**	**-1.0**
	3.4nm,0.3s,baz=125,slow=20,SNR=6.4							
GUMO	**Guam**	**21.34**	**335**	*e*P		**P**	**12 29 17.3**	**-0.8**
	289nm,1.4s,mb5.4							
WRA	**Warramunga Arr**	**23.52**	**232**	P		**P**	**12 29 40.8**	**-0.4**
	1.6nm,1.0s,mb3.4,baz=56,slow=9.6,SNR=8.0							
WRA					PcP	PcP	12 33 29.8	+3.8
	0.5nm,0.6s,baz=56,slow=2.1,SNR=5.0							
ASAR	**Alice Springs**	**26.06**	**225**	P		**P**	**12 30 04.7**	**+0.4**
	2.6nm,0.8s,mb3.8,baz=58,slow=8.7,SNR=26							
ASAR					PcP	PcP	12 33 35.7	+4.1
	0.5nm,0.6s,baz=66,slow=2.2,SNR=6.4							
STKA	**Stephens Creek**	**28.24**	**202**	LR		LR	12 42 34.3	
	comp=Z,99nm,18.0s,baz=26,slow=38							
CD2	**Chengdu**	**60.26**	**311**	*e*P		**P**	**12 34 40.3**	**+1.3**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
HIA	**Hailar**	**62.48**	**336**	*e*P		**P**	**12 34 54.1**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.5							
GTA	**Gaotai**	**67.19**	**317**	*e*P		**P**	**12 35 23.3**	**-1.4**
GTA					AP	pP	12 35 32.3	-0.6
GTA					XP	sP	12 35 36.6	+0.7
GTA					AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3							
ULN	**Ulaanbaatar**	**67.50**	**328**	*e*P		**P**	**12 35 26.2**	**-0.5**
	comp=Z,0.7nm,0.5s,mb4.0							
SONM	**Songino Array**	**67.83**	**328**	P		**P**	**12 35 29.4**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.3,baz=144,slow=5.6,SNR=37							
JIRN	**Jiri**	**73.26**	**301**	*e*P		**P**	**12 36 02.6**	**+0.7**
	comp=Z,5.2nm,0.6s,mb4.6							
GUN	**Gumba**	**73.59**	**301**	*e*P		**P**	**12 36 04.7**	**+0.8**
	comp=Z,10nm,0.7s,mb4.9							
DMN	**Daman**	**74.17**	**301**	*e*P		**P**	**12 36 08.2**	**+1.0**
GKN	**Gorkha**	**74.68**	**301**	*e*P		**P**	**12 36 11.5**	**+1.3**
KOLN	**Koldanda**	**75.50**	**301**	*e*P		**P**	**12 36 15.0**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**82.67**	**326**	P		**P**	**12 36 53.0**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=5.7,slow=4.0,SNR=6.9							
ILAR	**Eielson Array**	**82.81**	**22**	P		**P**	**12 36 53.7**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=234,slow=5.3,SNR=7.8							
YKA	**Yellowknife Ar**	**95.94**	**28**	P		**P**	**12 37 57.3**	**-0.2**
	comp=Z,0.1nm,0.6s,mb3.5,baz=268,slow=4.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**151.64**	**287**	PKPbc		PKPbc	12 44 26.6	+1.7
	comp=Z,2.3nm,0.7s,baz=55,slow=2.1,SNR=16							

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*NNC **02** 12:34:46.6±5.7, 4581N×9029E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=46.0km s-min=24.8km az=89.0*

BJI 02 12:34:47.6, 4623N×9050E, h18km, ML3.4, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.12**	**221**	*e*P		Pn	12 35 36.8	+0.9
WMQ					S	Sn	12 36 13.6	+0.8
WMQ					Smax			
	comp=N,120nm,0.5s							
WMQ					Smax			
	comp=E,168nm,0.5s							
MK02	**Makanchi Array**	**5.68**	**278**	⇓Lg			12 37 44.8	
	comp=E,25nm,0.8s,baz=97,slow=32							
MK01	**Makanchi Array**	**5.69**	**278**	⇓Pn		Pn	12 36 11.2	0.0
	comp=E,1.2nm,0.6s,baz=100,slow=15							
MK01				⇑Pg		Pg	12 36 29.7	-6.8
	comp=E,4.8nm,0.9s,baz=94,slow=18							
KURK	**Kurchatov**	**9.08**	**304**	⇓Sn		Sn	12 38 45.3	+5.9
	comp=E,0.7nm,0.4s							
KURK				⇑Lg			12 39 39.5	
	comp=E,6.7nm,0.9s							

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*ISCJB **02** 12:37:34.7±1.4, 3327S±009×1794E±02, h217km±13km, mb3.5/2, Error ellipse: s-maj=23.2km s-min=11.9km az=45.8*
*IDC **02** 12:37:34.6±8.8, 3317S×17981E, h224km±61km, mb3.4/2, mb1 3.5/3, mb1mx3.3/14, mbtmp3.9/3, Error ellipse: s-maj=89.5km s-min=32.2km az=46.0*

ISC 02 12:37:37.0±1.5, 334S±01×1794E±02, h222km±14km, n26, σ1§17/32, mb3.5/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.73**	**191**	PN		**Pn**	**12 38 47.5**	**-1.1**
PUZ					SN	**S**	**12 39 49.3**	**+4.1**
MWZ	**Matawai**	**5.13**	**197**	PN		**Pn**	**12 38 53.5**	**0.0**
MWZ					SN	**S**	**12 39 59.9**	**+5.6**
URZ	**Urewera**	**5.17**	**201**	P		**Pn**	**12 38 56.7**	**+2.6**
	1.2nm,0.3s,baz=306,slow=6.5,SNR=4.0							
URZ					S	**S**	**12 40 01.2**	**+5.9**
	9.2nm,0.3s,baz=30,slow=22,SNR=17							
URZ	**Urewera**	**5.17**	**201**	PN		**Pn**	**12 38 55.1**	**+1.0**
URZ					SN	**S**	**12 40 01.1**	**+5.8**
KNZ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**1.74**	**197**	PN	Pn	12 45 31.5	-0.1
LTZ				SN	Sn	12 45 54.2	-2.4
LTZ	**Lake Taylor**	**1.74**	**197**	*e*P	Pn	12 45 31.5	-0.1
MSWZ	**Moikau Station**	**1.75**	**100**	PN	Pn	12 45 31.3	-0.5
MSWZ	**Moikau Station**	**1.75**	**100**	P	Pn	12 45 31.3	-0.4
PAWZ	**Paruwai Farm**	**1.88**	**99**	*e*PN	Pn	12 45 32.4	-0.7
MTW	**Mount Morrison**	**1.92**	**92**	⇑PN	Pn	12 45 33.0	-0.6
MTW	**Mount Morrison**	**1.92**	**92**	P	Pn	12 45 33.0	-0.6
MRZ	**Mangatainoka R**	**2.04**	**78**	⇑PN	Pn	12 45 34.0	-1.0
WAZ	**Wanganui**	**2.06**	**49**	PN	Pn	12 45 35.1	-0.2
WAZ	**Wanganui**	**2.06**	**49**	P	Pn	12 45 35.1	-0.1
VRZ	**Vera Road**	**2.42**	**35**	PN	Pn	12 45 38.2	-1.4
VRZ				SN	Sn	12 46 08.9	-1.8
VRZ	**Vera Road**	**2.42**	**35**	P	Pn	12 45 38.2	-1.3
CRLZ	**Canterbury Las**	**2.47**	**186**	PN	Pn	12 45 39.0	-1.1
CRLZ				SN	Sn	12 46 08.3	-3.4
CRLZ	**Canterbury Las**	**2.47**	**186**	P	Pn	12 45 39.0	-1.1
BFZ	**Birch Farm**	**2.53**	**81**	PN	Pn	12 45 39.9	-0.9
BFZ				SN	Sn	12 46 10.0	-3.0
BFZ	**Birch Farm**	**2.53**	**81**	*e*P	Pn	12 45 39.9	-0.9
WVZ	**Waitaha Valley**	**2.56**	**220**	PN	Pn	12 45 40.0	-1.2
WVZ	**Waitaha Valley**	**2.56**	**220**	*e*P	Pn	12 45 40.0	-1.2
MQZ	**McQueen's Vall**	**2.60**	**185**	PN	Pn	12 45 40.2	-1.4
MQZ	**McQueen's Vall**	**2.60**	**185**	*e*P	Pn	12 45 40.2	-1.4
RPZ	**Rata Peaks**	**2.95**	**208**	PN	Pn	12 45 44.7	-1.4
RPZ				*e*SN	Sn	12 46 18.4	-4.1
RPZ	**Rata Peaks**	**2.95**	**208**	*e*P	Pn	12 45 45.0	-1.1
BKZ	**Black Stump Fm**	**3.34**	**55**	PN	Pn	12 45 48.9	-2.1
BKZ	**Black Stump Fm**	**3.34**	**55**	*e*P	Pn	12 45 48.9	-2.0
FOZ	**Fox Glacier**	**3.44**	**224**	PN	Pn	12 45 49.3	-2.9
FOZ	**Fox Glacier**	**3.44**	**224**	*e*P	Pn	12 45 49.3	-3.0
LBZ	**Lake Benmore**	**3.85**	**211**	PN	Pn	12 45 55.7	-1.9
LBZ	**Lake Benmore**	**3.85**	**211**	*e*P	Pn	12 45 55.7	-1.8
ODZ	**Otahua Downs**	**4.27**	**203**	PN	Pn	12 46 01.8	-1.3
ODZ	**Otahua Downs**	**4.27**	**203**	*e*P	Pn	12 46 01.8	-1.2
JCZ	**Jackson Bay**	**4.28**	**225**	PN	Pn	12 46 01.0	-2.1
JCZ	**Jackson Bay**	**4.28**	**225**	*e*P	Pn	12 46 01.0	-2.1
WKZ	**Wanaka**	**4.70**	**217**	PN	Pn	12 46 06.1	-2.5
WKZ	**Wanaka**	**4.70**	**217**	*e*P	Pn	12 46 06.1	-2.5
EAZ	**Earnscleugh**	**4.90**	**212**	*e*P	Pn	12 46 08.5	-2.8
TUZ	**Tuapeka**	**5.41**	**205**	*e*P	Pn	12 46 16.4	-1.5
MLZ	**Mavora Lakes**	**5.48**	**218**	*e*P	Pn	12 46 17.2	-1.8

NAO ***02*** *12:47:24.9, 1847S×17858W, h600km, mb5.8*
ORF ***02*** *12:47:44.3, 1559S×17874W, h30km, mb7.3*
MOS ***02*** *12:48:41.4±0.9, 1764S×17837W, h580km, mb6.0/63, MS5.5/10, Error ellipse: s-maj=8.6km s-min=6.3km az=67.2*
ISCJB ***02*** *12:48:42.4±0.1, 1783S±002×17833W±003, h598km, mb6.0/160, Error ellipse: s-maj=3.4km s-min=2.3km az=45.9*
BJI ***02*** *12:48:42.7, 1748S×17785W, h610km, mB6.1, mb5.9*
NEIC ***02*** *12:48:43.4±0.1, 1775S×17839W, mb5.9/115, ME6.3, MW6.7, Error ellipse: s-maj=4.8km s-min=2.4km az=110.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{19}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.40000×10^{19} NP1: ϕ_s11.00000°, δ62.00000°, λ-120.00000°. NP2: ϕ_s242.00000°, δ41.00000°, λ-47.00000°. Principal axes: T 1.3900, Plg12.0000°, Azm122.0000°; N -0.0200, Plg27.0000°, Azm26.0000°; P -1.3700, Plg61.0000°, Azm234.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s249.00000°, δ38.00000°, λ-43.00000°. NP2: ϕ_s15.00000°, δ65.00000°, λ-120.00000°. Principal axes: T Plg15.0000°, Azm226.0000°; N Plg0.0000°, Azm0.0000°; P Plg59.0000°, Azm242.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***02*** *12:48:43.4±0.1, 1777S×178.13W, h612km, MW6.7/99, Centroid moment Tensor Solution. LP body waves: s99,c258; Mantle waves: s93,c190; Half duration: 5±5 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.89±.01; $M_{\theta\theta}$0.16±.01; $M_{\phi\phi}$0.73±.01; $M_{r\theta}$0.15±.01; $M_{\theta\phi}$0.80±.01; $M_{r\phi}$-0.92±.01; Best double couple: $M_0$1.47500×10^{19} NP1: ϕ_s244.00000°, δ37.00000°, λ-39.00000°. NP2: ϕ_s7.00000°, δ67.00000°, λ-121.00000°. Principal axes: T 1.4960, Plg17.0000°, Azm119.0000°; N -0.0430, Plg28.0000°, Azm20.0000°; P -1.4540, Plg56.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
IDC ***02*** *12:48:43.3±0.3, 1790S×17834W, h592km±3km, mb5.6/28, mb1 5.6/30, mb1mx5.6/30, mbtmp6.5/30 Error ellipse: s-maj=6.8km s-min=5.5km az=146.0*
CRAAG ***02*** *12:48:44.1, 1744S×17842W, Mw6.7*
SZGRF ***02*** *12:48:47.2, 1731S×17770W, h611km, Fiji Islands region*
ISC 02 12:48:43.9±0.1, 1783S±002×17828W±003, h600km, h600km±.9km: pP-P, n1445, σ1.916/589, mb6.0/158, 72C-103D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ				ScS	ScS	13 02 51.0	-0.3
	comp=Z,65nm,0.7s,baz=315,slow=23,SNR=11						
URZ	**Urewera**	**20.75**	**190**	PN	**P**	**12 52 40.9**	**-3.3**
URZ				SN	**S**	**12 55 57.6**	**-0.5**
URZ	**Urewera**	**20.75**	**190**	*e*P	**P**	**12 52 42.5**	**-1.8**
MWZ	**Matawai**	**20.75**	**189**	PN	**P**	**12 52 41.0**	**-3.3**
MWZ				SN	**S**	**12 55 54.2**	**-4.1**
MWZ	**Matawai**	**20.75**	**189**	*e*P	**P**	**12 52 43.1**	**-1.2**
TAZ	**Tarawera**	**20.83**	**192**	PN	**P**	**12 52 45.2**	**+0.2**
TAZ	**Tarawera**	**20.83**	**192**	P	**P**	**12 52 45.2**	**+0.2**
UTU	**Utuhina**	**20.84**	**192**	PN	**P**	**12 52 46.2**	**+1.1**
UTU	**Utuhina**	**20.84**	**192**	P	**P**	**12 52 46.2**	**+1.1**
PATZ	**Paeroa**	**21.02**	**192**	PN	**P**	**12 52 46.2**	**-0.5**
PATZ	**Paeroa**	**21.02**	**192**	P	**P**	**12 52 46.2**	**-0.5**
KNZ	**Kokohu**	**21.41**	**189**	PN	**P**	**12 52 49.7**	**-0.5**
KNZ				SN	**S**	**12 56 04.9**	**-3.6**
KNZ	**Kokohu**	**21.41**	**189**	*e*P	**P**	**12 52 49.7**	**-0.5**
HIZ	**Hauiti**	**21.46**	**195**	PN	**P**	**12 52 52.1**	**+1.5**
HIZ	**Hauiti**	**21.46**	**195**	*e*P	**P**	**12 52 52.1**	**+1.4**
RATZ	**Rangitukua**	**21.59**	**193**	PN	**P**	**12 52 51.1**	**-0.7**
RATZ	**Rangitukua**	**21.59**	**193**	P	**P**	**12 52 52.0**	**+0.2**
BKZ	**Black Stump Fm**	**21.74**	**191**	PN	**P**	**12 52 49.1**	**-4.1**
BKZ				SN	**S**	**12 56 07.5**	**-6.3**
BKZ	**Black Stump Fm**	**21.74**	**191**	*e*P	**P**	**12 52 50.3**	**-2.8**
WTVZ	**West Tongariro**	**21.87**	**193**	PN	**P**	**12 52 53.5**	**-0.8**
WTVZ	**West Tongariro**	**21.87**	**193**	P	**P**	**12 52 53.5**	**-0.8**
OTVZ	**Oturere**	**21.90**	**193**	PN	**P**	**12 52 53.1**	**-1.4**
NGZ	**Ngauruhoe**	**21.93**	**193**	PN	**P**	**12 52 54.1**	**-0.7**
NGZ	**Ngauruhoe**	**21.93**	**193**	P	**P**	**12 52 54.1**	**-0.7**
WPVZ	**Whakapapa**	**21.96**	**193**	PN	**P**	**12 52 54.1**	**-1.0**
WPVZ	**Whakapapa**	**21.96**	**193**	*e*P	**P**	**12 52 54.1**	**-1.0**
TUVZ	**Tukino**	**22.00**	**193**	PN	**P**	**12 52 54.3**	**-1.2**
TUVZ	**Tukino**	**22.00**	**193**	P	**P**	**12 52 54.3**	**-1.2**
FWVZ	**Far West T-bar**	**22.01**	**193**	PN	**P**	**12 52 54.5**	**-1.1**
FWVZ	**Far West T-bar**	**22.01**	**193**	*e*P	**P**	**12 52 55.2**	**-0.4**
VRZ	**Vera Road**	**22.07**	**195**	PN	**P**	**12 52 56.3**	**+0.2**
VRZ	**Vera Road**	**22.07**	**195**	*e*P	**P**	**12 52 57.2**	**+1.2**
WNVZ	**Wahianoa**	**22.07**	**193**	PN	**P**	**12 52 54.6**	**-1.4**
WNVZ	**Wahianoa**	**22.07**	**193**	P	**P**	**12 52 54.9**	**-1.2**
MOVZ	**Moawhango**	**22.12**	**192**	PN	**P**	**12 52 54.8**	**-1.6**
MOVZ	**Moawhango**	**22.12**	**192**	P	**P**	**12 52 54.8**	**-1.7**
MTVZ	**Mangateitei**	**22.15**	**193**	PN	**P**	**12 52 55.0**	**-1.8**
RAEZ	**Rainy Point**	**22.31**	**195**	PN	**P**	**12 53 00.4**	**+2.2**
RAEZ	**Rainy Point**	**22.31**	**195**	P	**P**	**12 53 00.4**	**+2.2**
PKE	**Pukeiti**	**22.32**	**196**	PN	**P**	**12 53 00.2**	**+1.9**
PKE	**Pukeiti**	**22.32**	**196**	P	**P**	**12 53 01.2**	**+2.9**
NEZ	**North Egmont**	**22.37**	**196**	PN	**P**	**12 53 01.1**	**+2.4**
NEZ	**North Egmont**	**22.37**	**196**	P	**P**	**12 53 01.1**	**+2.4**
NWEZ	**Newall Road**	**22.43**	**196**	PN	**P**	**12 53 01.3**	**+2.0**
NWEZ	**Newall Road**	**22.43**	**196**	*e*P	**P**	**12 53 02.1**	**+2.8**
NRZ	**Ngariki Road**	**22.47**	**196**	PN	**P**	**12 53 02.1**	**+2.4**
NRZ	**Ngariki Road**	**22.47**	**196**	*e*P	**P**	**12 53 02.1**	**+2.4**
PXZ	**Pawanui**	**22.52**	**190**	PN	**P**	**12 52 58.6**	**-1.5**
WAZ	**Wanganui**	**22.61**	**194**	PN	**P**	**12 53 00.2**	**-0.7**
WAZ	**Wanganui**	**22.61**	**194**	*e*P	**P**	**12 53 01.1**	**+0.2**
TSZ	**Takapari Road**	**22.70**	**192**	*e*P	**P**	**12 53 00.9**	**-0.8**
HNR	**Honiara**	**22.72**	**289**	P	**P**	**12 53 01.4**	**-0.5**
	comp=Z,487nm,0.5s,mb6.4,baz=126,slow=2.8,SNR=17						
HNR	**Honiara**	**22.72**	**289**	*e*P	**P**	**12 53 02.7**	**+0.8**
HNR				*e*S	**S**	**12 56 28.2**	**-1.1**
HNR				pmax	pmax		
	comp=Z,512nm,0.6s,mb6.3						
HNR	**Honiara**	**22.72**	**289**	*e*P	**P**	**12 53 02.7**	**+0.8**
	comp=Z,512nm,0.6s,mb6.3						
HNR				*e*S	**S**	**12 56 28.2**	**-1.1**
BFZ	**Birch Farm**	**23.26**	**191**	PN	**P**	**12 53 05.5**	**-1.1**
BFZ				SN	**S**	**12 56 35.8**	**-1.8**
BFZ	**Birch Farm**	**23.26**	**191**	*e*P	**P**	**12 53 05.5**	**-1.1**
MRZ	**Mangatainoka R**	**23.36**	**192**	PN	**P**	**12 53 05.0**	**-2.5**
MRZ				SN	**S**	**12 56 34.1**	**-5.2**
MRZ	**Mangatainoka R**	**23.36**	**192**	*e*P	**P**	**12 53 05.0**	**-2.5**
KIW	**Kapiti Island**	**23.69**	**193**	PN	**P**	**12 53 09.0**	**-1.4**
KIW	**Kapiti Island**	**23.69**	**193**	P	**P**	**12 53 09.0**	**-1.4**
MTW	**Mount Morrison**	**23.86**	**192**	PN	**P**	**12 53 11.2**	**-0.7**
MTW				SN	**S**	**12 56 42.1**	**-5.0**
MTW	**Mount Morrison**	**23.86**	**192**	P	**P**	**12 53 11.2**	**-0.7**
DUWZ	**D'Urville Isla**	**23.86**	**195**	PN	**P**	**12 53 10.4**	**-1.5**
CAW	**Cannon Point**	**23.89**	**192**	PN	**P**	**12 53 11.0**	**-1.3**
CAW	**Cannon Point**	**23.89**	**192**	P	**P**	**12 53 11.0**	**-1.2**
TRWZ	**Traveller**	**24.05**	**191**	PN	**P**	**12 53 12.8**	**-0.9**
PAWZ	**Paruwai Farm**	**24.09**	**192**	PN	**P**	**12 53 12.8**	**-1.2**
PAWZ	**Paruwai Farm**	**24.09**	**192**	P	**P**	**12 53 12.8**	**-1.1**
MRW	**Makara Radio**	**24.09**	**193**	PN	**P**	**12 53 13.0**	**-0.9**
MRW	**Makara Radio**	**24.09**	**193**	*e*P	**P**	**12 53 13.0**	**-1.0**
WEL	**Wellington**	**24.13**	**193**	PN	**P**	**12 53 14.0**	**-0.3**
WEL	**Wellington**	**24.13**	**193**	P	**P**	**12 53 14.0**	**-0.3**
MSWZ	**Moikau Station**	**24.15**	**192**	PN	**P**	**12 53 13.4**	**-1.1**
MSWZ	**Moikau Station**	**24.15**	**192**	P	**P**	**12 53 13.4**	**-1.1**
SNZO	**South Karori**	**24.16**	**193**	PN	**P**	**12 53 13.7**	**-0.9**
SNZO	**South Karori**	**24.16**	**193**	*e*P	**P**	**12 53 13.7**	**-0.9**
TCW	**Tory Channel**	**24.16**	**194**	PN	**P**	**12 53 13.8**	**-0.8**
TCW	**Tory Channel**	**24.16**	**194**	P	**P**	**12 53 13.8**	**-0.8**
BHW	**Baring Head**	**24.22**	**193**	PN	**P**	**12 53 14.4**	**-0.7**
BHW	**Baring Head**	**24.22**	**193**	P	**P**	**12 53 13.4**	**-1.8**
QRZ	**Quartz Range**	**24.25**	**197**	PN	**P**	**12 53 15.6**	**+0.3**
QRZ	**Quartz Range**	**24.25**	**197**	*e*P	**P**	**12 53 15.9**	**+0.5**
NNZ	**Nelson**	**24.39**	**195**	PN	**P**	**12 53 15.2**	**-1.4**
NNZ				SN	**S**	**12 56 51.6**	**-3.8**
NNZ	**Nelson**	**24.39**	**195**	*e*P	**P**	**12 53 15.2**	**-1.4**
TUWZ	**Tuamarina**	**24.45**	**194**	PN	**P**	**12 53 15.7**	**-1.5**
BSWZ	**Blackbirch Sta**	**24.73**	**194**	PN	**P**	**12 53 19.7**	**0.0**
BSWZ	**Blackbirch Sta**	**24.73**	**194**	P	**P**	**12 53 18.7**	**-1.0**
THZ	**Tophouse**	**25.02**	**196**	PN	**P**	**12 53 20.8**	**-1.4**
THZ				SN	**S**	**12 57 02.6**	**-2.7**
THZ	**Tophouse**	**25.02**	**196**	*e*P	**P**	**12 53 21.2**	**-1.0**
DSZ	**Denniston Nort**	**25.30**	**198**	PN	**P**	**12 53 24.4**	**-0.3**
DSZ				SN	**S**	**12 57 09.6**	**-0.2**
DSZ	**Denniston Nort**	**25.30**	**198**	*e*P	**P**	**12 53 24.4**	**-0.3**
KHZ	**Kahutara**	**25.48**	**194**	PN	**P**	**12 53 24.7**	**-1.5**
LTZ	**Lake Taylor**	**26.14**	**196**	PN	**P**	**12 53 30.5**	**-1.5**
LTZ				SN	**S**	**12 57 20.9**	**-1.9**
LTZ	**Lake Taylor**	**26.14**	**196**	*e*P	**P**	**12 53 30.5**	**-1.5**
CRLZ	**Canterbury Las**	**26.79**	**195**	PN	**P**	**12 53 36.6**	**-1.2**
CRLZ	**Canterbury Las**	**26.79**	**195**	*e*P	**P**	**12 53 36.6**	**-1.2**
WVZ	**Waitaha Valley**	**26.84**	**198**	PN	**P**	**12 53 36.3**	**-1.8**
WVZ	**Waitaha Valley**	**26.84**	**198**	*e*P	**P**	**12 53 37.3**	**-0.8**
MQZ	**McQueen's Vall**	**26.91**	**195**	PN	**P**	**12 53 37.5**	**-1.3**
MQZ	**McQueen's Vall**	**26.91**	**195**	*e*P	**P**	**12 53 36.6**	**-2.2**
PAE	**Paea**	**27.33**	**94**	⇑*i*P	**P**	**12 53 41.9**	**-0.5**
	comp=Z,7μm,1.4s,mb7.1						
PAE				*e*ScP	ScP	12 59 29.4	+3.8
	comp=Z,424nm,1.1s						
RPZ	**Rata Peaks**	**27.33**	**197**	P	**P**	**12 53 41.3**	**-1.2**
	comp=Z,610nm,0.7s,mb6.4,baz=316,slow=1.2,SNR=154						
RPZ				S	**S**	**12 57 36.3**	**-5.1**
	comp=Z,576nm,1.2s,baz=51,slow=6.5,SNR=5.0						
RPZ				ScS	ScS	13 03 19.3	+0.8
	comp=Z,13nm,0.8s,baz=113,slow=22,SNR=7.8						
RPZ	**Rata Peaks**	**27.33**	**197**	PN	**P**	**12 53 41.0**	**-1.5**
RPZ	**Rata Peaks**	**27.33**	**197**	*e*P	**P**	**12 53 41.0**	**-1.5**
PPT	**Papeete**	**27.34**	**94**	⇑*i*P	**P**	**12 53 42.2**	**-0.3**
	comp=Z,3μm,1.3s,mb6.8						
PPT				*e*pP		12 55 13.2	
	comp=Z,542nm,1.5s						
PPT				*e*ScP	ScP	12 59 29.6	+4.0
	comp=Z,314nm,1.3s						
PPT	**Papeete**	**27.34**	**94**	P	**P**	**12 53 42.2**	**-0.3**
	comp=Z,1μm,0.8s,mb6.7,baz=256,slow=2.5,SNR=80						
TBI	**Tubuai**	**27.51**	**106**	⇑*i*P	**P**	**12 53 44.4**	**+0.4**
	comp=Z,3μm,0.9s,mb7.0						
FOZ	**Fox Glacier**	**27.60**	**199**	PN	**P**	**12 53 43.0**	**-1.8**
FOZ	**Fox Glacier**	**27.60**	**199**	P	**P**	**12 53 43.0**	**-1.8**
TVO	**Taravao**	**27.63**	**94**	⇑*i*P	**P**	**12 53 44.8**	**-0.3**
	comp=Z,3μm,0.8s,mb6.9						
TVO				*e*ScP	ScP	12 59 30.7	+4.2
	comp=Z,388nm,0.9s						
LBZ	**Lake Benmore**	**28.20**	**198**	PN	**P**	**12 53 48.1**	**-1.8**
LBZ	**Lake Benmore**	**28.20**	**198**	*e*P	**P**	**12 53 48.2**	**-1.8**
JCZ	**Jackson Bay**	**28.35**	**200**	PN	**P**	**12 53 50.6**	**-0.7**
JCZ	**Jackson Bay**	**28.35**	**200**	*e*P	**P**	**12 53 50.6**	**-0.7**
ODZ	**Otahua Downs**	**28.67**	**196**	PN	**P**	**12 53 53.0**	**-1.1**
ODZ	**Otahua Downs**	**28.67**	**196**	*e*P	**P**	**12 53 53.0**	**-1.1**
WKZ	**Wanaka**	**28.95**	**199**	PN	**P**	**12 53 55.4**	**-1.0**
WKZ	**Wanaka**	**28.95**	**199**	*e*P	**P**	**12 53 55.4**	**-1.0**
MSZ	**Milford Sound**	**29.16**	**200**	PN	**P**	**12 53 58.3**	**0.0**
MSZ	**Milford Sound**	**29.16**	**200**	*e*P	**P**	**12 53 58.3**	**0.0**
EAZ	**Earnscleugh**	**29.22**	**198**	PN	**P**	**12 53 58.0**	**-0.8**
EAZ	**Earnscleugh**	**29.22**	**198**	*e*P	**P**	**12 53 58.0**	**-0.8**
MLZ	**Mavora Lakes**	**29.68**	**199**	*e*P	**P**	**12 54 03.2**	**+0.5**
TUZ	**Tuapeka**	**29.79**	**197**	*e*P	**P**	**12 54 03.8**	**+0.1**
KWAJ	**Kwajalein Atol**	**29.91**	**331**	P	**P**	**12 54 04.1**	**-0.6**
	comp=Z,15μm,0.7s,SNR=5.3						
KWAJ	**Kwajalein Atol**	**29.91**	**331**	*e*P	**P**	**12 54 04.4**	**-0.3**
	comp=Z,3μm,0.9s,mb6.8						
DCZ	**Deep Cove**	**30.12**	**201**	*e*P	**P**	**12 54 06.8**	**+0.2**
WHZ	**Wether Hill Ro**	**30.23**	**199**	PN	**P**	**12 54 07.9**	**+0.4**
WHZ	**Wether Hill Ro**	**30.23**	**199**	*e*P	**P**	**12 54 07.9**	**+0.4**
RIV	**Riverview**	**31.63**	**234**	*e*P	**P**	**12 54 20.8**	**+1.4**
RIV				*e*S	**S**	**12 58 51.1**	**+3.6**
CNB	**Canberra Magne**	**33.57**	**232**	⇓*i*P	**P**	**12 54 37.0**	**+1.3**
	comp=Z,4μm,0.6s						
CNB				*e*		12 58 43.6	
CNB				*e*S	**S**	**12 59 19.7**	**+2.9**
CNB				*e*SCP	ScP	12 59 51.5	+5.1
CNB				*e*SCS	ScS	13 03 57.0	+7.4
CTA	**Charters Tower**	**33.58**	**260**	*e*P	**P**	**12 54 36.1**	**+0.3**
	comp=Z,939nm,0.6s,mb6.6						
CTA				*e*S	**S**	**12 59 18.7**	**+1.7**
CTA				*e*SCP	ScP	12 59 53.2	+6.8
CTA				*e*SCS	ScS	13 03 55.5	+5.9
CTA	**Charters Tower**	**33.58**	**260**	P	**P**	**12 54 36.4**	**+0.6**
	comp=Z,1μm,0.7s,mb6.6,baz=89,slow=10.0,SNR=1029						
CTA				PcP	PcP	12 56 58.7	+0.6
	comp=Z,258nm,1.0s,baz=275,slow=2.4,SNR=3.6						
CTA				S	**S**	**12 59 18.4**	**+1.4**
	comp=Z,52nm,0.9s,baz=151,slow=19,SNR=4.2						
CTA				ScS	ScS	13 03 52.2	+2.6
	comp=Z,7.0nm,0.6s,baz=87,slow=17,SNR=2.7						
CTA				P3KPbc		13 25 32.6	
	comp=Z,10nm,0.9s,baz=269,slow=5.3,SNR=11						
CTA	**Charters Tower**	**33.58**	**260**	P	**P**	**12 54 36.4**	**+0.6**
CTA						12 56 58.7	
CTA				S	**S**	**12 59 18.4**	**+1.4**
CTA						13 03 52.2	
CTA	**Charters Tower**	**33.58**	**260**	P	**P**	**12 54 36.4**	**+0.6**
CTA				PcP	PcP	12 56 58.7	+0.6
CTA				S	**S**	**12 59 18.4**	**+1.4**
CTA				ScS	ScS	13 03 52.2	+2.6
CTA				*e*		13 25 32.6	
CTAO	**Charters Tower**	**33.58**	**260**	*e*P	**P**	**12 54 36.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,1μm,0.8s,mb6.6						
CTAO	**Charters Tower**	**33.58**	**260**	*e*P	**P**	**12 54 36.2**	**+0.4**
	comp=Z,1μm,0.8s,mb6.6						
PMG	**Port Moresby**	**34.56**	**279**	P	**P**	**12 54 45.2**	**+1.2**
	comp=Z,1μm,0.8s,mb6.6,baz=78,slow=5.7,SNR=170						
PMG				S	**S**	**12 59 34.1**	**+2.3**
	comp=Z,88nm,1.1s,baz=259,slow=23,SNR=14						
PMG	**Port Moresby**	**34.56**	**279**	*e*P	**P**	**12 54 45.9**	**+1.9**
PMG				*e*		12 56 59.3	
PMG				*e*S	**S**	**12 59 33.9**	**+2.1**
PMG				pmax	pmax		
	comp=Z,1μm,0.8s						
PMG	**Port Moresby**	**34.56**	**279**	*e*P	**P**	**12 54 45.9**	**+1.9**
	comp=Z,1μm,0.8s,mb6.7						
PMG				*e*PcP	PcP	12 56 59.3	-1.7
PMG				*e*S	**S**	**12 59 33.9**	**+2.1**
COEN	**Coen**	**37.22**	**270**	P	**P**	**12 55 04.8**	**-1.1**
TOO	**Toolangi**	**37.31**	**231**	⇓*i*P	**P**	**12 55 08.0**	**+1.4**
	comp=Z,4μm,1.4s,mb6.7						
TOO				*e*S	**S**	**13 00 14.2**	**+1.6**
TAOE	**Nuku Hiva Isla**	**38.10**	**82**	⇑*i*P	**P**	**12 55 13.0**	**0.0**
	comp=Z,7μm,1.0s						
TAU	**Tasmania Unive**	**38.38**	**222**	P	**P**	**12 55 16.2**	**+1.0**
	comp=Z,7μm,0.7s						
TAU	**Tasmania Unive**	**38.38**	**222**	*e*P	**P**	**12 55 16.1**	**+0.9**
TAU				pmax	pmax		
	comp=Z,2μm,1.1s,mb6.5						
TAU	**Tasmania Unive**	**38.38**	**222**	*e*P	**P**	**12 55 16.1**	**+0.9**
	comp=Z,2μm,1.1s,mb6.5						
STKA	**Stephens Creek**	**38.77**	**241**	⇓*i*P	**P**	**12 55 17.4**	**-1.0**
	comp=Z,1μm,0.4s,mb6.8						
STKA				*e*S	**S**	**13 00 33.6**	**-0.4**
STKA				*e*SCS	ScS	13 04 22.6	+3.5
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**12 55 17.8**	**-0.6**
	comp=Z,2μm,0.5s,mb6.8,baz=89,slow=9.4,SNR=956						
STKA				S	**S**	**13 00 34.7**	**+0.7**
	comp=Z,223nm,1.0s,baz=305,slow=18,SNR=5.8						
STKA				P3KPbc		13 25 07.1	
	comp=Z,8.8nm,0.8s,baz=266,slow=4.5,SNR=12						
STKA	**Stephens Creek**	**38.77**	**241**	*e*P	**P**	**12 55 18.1**	**-0.3**
STKA				*e*S	**S**	**13 00 34.0**	**0.0**
WAKE	**Wake Island**	**39.74**	**337**	*e*P	**P**	**12 55 25.4**	**-0.7**
	comp=Z,894nm,0.7s,mb6.4						
MCQ	**Macquarie Isla**	**40.57**	**200**	⇓*i*P	**P**	**12 55 34.4**	**+1.6**
RKT	**Rikitea**	**40.80**	**105**	⇑*i*P	**P**	**12 55 34.9**	**+0.3**
	comp=Z,3μm,1.2s,mb6.6						
RKT				*e*ScP	ScP	13 00 18.9	+5.1
	comp=Z,249nm,1.2s						
KKH	**Kailua Kona**	**43.19**	**31**	P	**P**	**12 55 58.2**	**+4.9**
KKH	**Kailua Kona**	**43.19**	**31**	*e*P	**P**	**12 55 54.8**	**+1.5**
HON	**Honolulu**	**43.69**	**28**	*e*P	**P**	**12 55 57.9**	**+0.7**
HON				*e*ScP	ScP	13 00 26.9	+1.4
KIP	**Kipapa**	**43.77**	**28**	*e*P	**P**	**12 55 57.9**	**+0.1**
KIP				pmax	pmax		
	comp=Z,626nm,0.9s,mb6.1						
KIP	**Kipapa**	**43.77**	**28**	*e*P	**P**	**12 55 57.9**	**+0.2**
	comp=Z,626nm,0.9s,mb6.1						
KIP				*e*ScP	ScP	13 00 29.0	+3.2
HKL	**Haleakala**	**43.97**	**30**	*e*P	**P**	**12 56 00.7**	**+1.4**
WB2	**Warramunga Arr**	**44.75**	**259**	⇓*i*P	**P**	**12 56 04.8**	**-0.5**
WB2				*e*S	**S**	**13 01 55.2**	**-4.4**
WB2				*e*SCS	ScS	13 05 00.2	+3.8
WRAB	**Tennant Creek**	**44.75**	**259**	P	**P**	**12 56 05.3**	**0.0**
	comp=Z,10μm,0.5s						
WRAB	**Tennant Creek**	**44.75**	**259**	*e*P	**P**	**12 56 05.7**	**+0.4**
WRAB				*e*S	**S**	**13 01 55.9**	**-3.7**
WRAB				pmax	pmax		
	comp=Z,2μm,0.9s,mb6.7						
WRAB	**Tennant Creek**	**44.75**	**259**	*e*P	**P**	**12 56 05.7**	**+0.4**
	comp=Z,2μm,0

GUMO PcP PcP 12 57 46.3 +0.8
comp=Z,199nm,0.6s,baz=189,slow=9.5,SNR=3.6
GUMO Guam 47.92 308 *e*P **P** **12 56 29.5 +0.4**
GUMO *e* 12 57 45.3
GUMO pmax pmax
comp=Z,2μm,1.1s,mb6.5
GUMO Guam 47.92 308 *e*P **P** **12 56 29.5 +0.4**
comp=Z,2μm,1.1s,mb6.5
GUMO *e*PcP PcP 12 57 45.3 -0.2
FITZ Fitzroy Crossi 53.16 260⇓*i*P **P** **12 57 07.4 +0.3**
comp=Z,493nm,0.6s,mb6.0
FITZ *e*S **S** **13 03 57.0 +3.2**
FITZ *e*SCS ScS 13 05 58.4 +4.4
FITZ *e*sS sS 13 07 15.9 +1.6
DRV Dumont d'Urvil 55.77 199 P **P** **12 57 40.0 +15**
DRV Dumont d'Urvil 55.77 199 PP Px 12 59 49.0
DRV S Sx 13 04 55.0
DRV SS SS 13 08 49.0 +23
DRV L 13 12 00.0
MBWA Marble Bar 58.21 256 *e*P **P** **12 57 42.5 +0.7**
comp=Z,2.4nm,0.8s
MBWA *e*pP pP 12 59 37.6 +1.1
MBWA *e*S **S** **13 05 08.8 +10**
CBIJ Chichi jima 58.86 318 P **P** **12 57 45.8 -0.5**
comp=Z,422nm,0.7s,mb5.7,baz=272,slow=3.4,SNR=22
KLBR Kellerberrin 58.97 243⇓*i*P **P** **12 57 46.9 -0.1**
comp=Z,1μm,0.6s,mb6.2
KLBR *e*S **S** **13 05 08.6 +0.2**
NWAO Narrogin (SRO) 59.35 242 P **P** **12 57 49.7 +0.2**
NWAO S **S** **13 05 14.9 +1.7**
NWAO Narrogin (SRO) 59.35 242 P **P** **12 57 49.8 +0.2**
comp=Z,471nm,0.8s,mb5.7,baz=106,slow=5.3,SNR=119
NWAO S **S** **13 05 14.5 +1.3**
comp=Z,6.8nm,0.6s,baz=295,slow=17,SNR=3.1
NWAO Narrogin (SRO) 59.35 242 P **P** **12 57 49.8 +0.3**
NWAO S **S** **13 05 14.5 +1.3**
NWAO pmax pmax
comp=Z,471nm,0.8s
NWAO Narrogin (SRO) 59.35 242 *e*P **P** **12 57 50.4 +0.8**
comp=Z,392nm,0.8s,mb5.6
BIPH Bislig 60.46 291⇑*e*P **P** **12 57 56.6 -0.3**
SBA Scott Base 60.50 184 *e*P **P** **12 57 59.3 +2.2**
SBA *e**PP pP 12 59 58.2 +5.1
SBA pmax pmax
comp=Z,660nm,0.7s,mb6.0
SBA Scott Base 60.50 184 *e*P **P** **12 57 59.3 +2.1**
comp=Z,660nm,0.7s,mb6.0
SBA *e*pP pP 12 59 58.2 +5.1
VNDA Vanda 60.53 185 P **P** **12 57 58.2 +0.9**
comp=Z,200nm,0.6s,mb5.5,baz=358,slow=6.7,SNR=626
VNDA S **S** **13 05 29.6 +1.7**
comp=Z,5.1nm,0.8s,baz=0.0,slow=13,SNR=1.6
VNDA PKPPKP 13 27 07.6
comp=Z,5.9nm,1.1s,baz=250,slow=6.8,SNR=5.1
VNDA Vanda 60.53 185 P **P** **12 57 58.2 +0.9**
VNDA S **S** **13 05 29.6 +1.7**
VNDA pmax pmax
comp=Z,201nm,0.6s
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA Vanda 60.53 185 *e*P **P** **12 57 58.8 +1.5**
comp=Z,228nm,0.7s,mb5.5
DAV Davao City (W) 60.69 289⇓*e*P **P** **12 58 01.0 +2.7**
DAV Davao City (W) 60.69 289 *e*P **P** **12 57 59.4 +1.1**
comp=Z,912nm,0.9s,mb6.0
SCPH Surigao 61.93 292 *e*P **P** **12 58 06.7 +0.2**
SCPH *e*S Px 12 58 11.2
CTBH Cotabato--PC H 61.95 289⇑*i*P **P** **12 58 07.3 +0.7**
CTBH *i*S Px 12 58 18.0
CGP Cagayan de Oro 62.06 290⇓*i*P **P** **12 58 09.5 +2.2**
PLP Palo 62.99 293 *e*P **P** **12 58 12.2 -1.0**
DCPH Dipolog City 63.32 290⇓*e*P **P** **12 58 15.7 +0.3**
TBP Tagbilaran 63.33 291 *e*P **P** **12 58 13.3 -2.1**
LLP Lapu-Lapu 63.51 292⇑*i*P **P** **12 58 17.4 +0.8**
IPIL Ipil 63.70 288 *e*P **P** **12 58 18.3 +0.5**
RPN Rapa Nui 63.71 112 P **P** **12 58 19.2 +1.4**
comp=Z,2μm,1.4s,mb6.3,SNR=6.2
RPN Rapa Nui 63.71 112 P **P** **12 58 19.8 +2.0**
comp=Z,233nm,1.0s,mb5.5,baz=297,slow=4.1,SNR=9.6
RPN Rapa Nui 63.71 112 *e*P **P** **12 58 19.6 +1.8**
comp=Z,432nm,1.1s,mb5.7
SNPH Sibulan 63.74 290 *e*P **P** **12 58 18.0 0.0**
RCP Roxas 65.13 292⇓*e*P **P** **12 58 26.6 -0.1**
RCP Roxas 65.13 292⇑*e*P pP 13 00 27.9 +2.6
CASY Casey 66.26 205⇓*i*P **P** **12 58 33.9 +0.1**
CASY Casey 66.26 205 *e*P **P** **12 58 33.9 +0.1**
comp=Z,932nm,0.9s,mb6.2
CASY *e*S S 13 06 34.3 -2.6
GQP Guinayangan 66.42 294⇑*i*P **P** **12 58 35.2 +0.5**
comp=Z,592μm,2.0s
TSM Tawau 66.66 283 P **P** **12 58 37.4 +1.1**
BOAC Boac 66.75 294 *e*P **P** **12 58 36.5 -0.3**
BUSP Coron 67.57 292 *e*P **P** **12 58 42.2 +0.4**
MJAR Matsushiro Arr 67.92 323 P **P** **12 58 42.8 -1.1**
comp=Z,194nm,0.5s,mb5.8,baz=151,slow=5.9,SNR=347
MJAR PcP PcP 12 59 05.6 +0.5
comp=Z,95nm,1.0s,baz=146,slow=4.5,SNR=6.4
MJAR S S 13 06 59.3 +3.0
comp=Z,2.8nm,0.9s,baz=153,slow=5.6,SNR=4.0
MJAR PKPPKP 13 26 55.9
comp=Z,26nm,1.1s,baz=300,slow=3.5,SNR=19
MJAR Matsushiro Arr 67.92 323 P **P** **12 58 42.8 -1.1**
MJAR 12 59 05.6
MJAR S S 13 06 59.3 +3.0
MJAR Matsushiro Arr 67.92 323 P **P** **12 58 42.8 -1.1**
MJAR PcP PcP 12 59 05.6 +0.5
MJAR S S 13 06 59.3 +3.0
MJAR P'P' 13 26 55.9
MAJO Matsushiro 67.92 323 *e*P **P** **12 58 43.1 -0.8**
MAJO pmax pmax
comp=Z,571nm,0.9s,mb6.0
MAJO Matsushiro 67.92 323 *e*P **P** **12 58 43.1 -0.8**
comp=Z,571nm,0.9s,mb6.0
MAT Matsushiro 67.92 323 P **P** **12 58 42.7 -1.2**
MAT S S 13 06 54.0 -2.3
MAT Matsushiro 67.92 323 *e*P **P** **12 58 43.0 -0.9**
MAT *e*S S 13 06 54.0 -2.3
MAT pmax pmax
comp=Z,490nm,1.0s,mb5.9
MAT Matsushiro 67.92 323 *e*P **P** **12 58 43.0 -0.9**
comp=Z,490nm,1.0s,mb5.9
MAT *e*S S 13 06 54.0 -2.3
BALP Baler 68.00 296 *e*P **P** **12 58 44.8 +0.3**
LUBP Lubang 68.26 293 *e*P **P** **12 58 44.4 -1.6**
PCPH Palayan 68.33 295⇑*e*P **P** **12 58 46.6 +0.2**
CAUP Cauayan 68.33 297 *e*P **P** **12 58 47.4 +0.9**
CVP Callao Caves 68.69 298⇓*e*P **P** **12 58 49.0 +0.4**
comp=Z,82μm,1.0s
SGCP Mt. Cagua 68.75 298 *e*P **P** **12 58 49.9 +0.9**
KKM Kota Kinabalu 68.84 284 P **P** **12 58 51.0 +1.5**
KKM Kota Kinabalu 68.84 284 *e*P **P** **12 58 50.0 +0.5**
KKM *e*S S 13 07 05.8 -1.1
BCPH Baguio City Da 69.14 296⇓*i*P **P** **12 58 51.8 +0.5**
APYP Conner 69.25 298 *e*P **P** **12 58 52.1 +0.2**
ADK Adak 69.43 1 *e*P **P** **12 58 50.9 -2.1**
ADK pmax pmax
comp=Z,830nm,0.9s,mb6.2
ADK Adak 69.43 1 *e*P **P** **12 58 50.9 -2.1**
comp=Z,830nm,0.9s,mb6.2
SCZP Santa Cruz 69.45 295 *e*P **P** **12 58 52.1 -1.0**
ABRA Dolores 69.60 297 *e*P **P** **12 58 54.4 +0.3**
BOLP Bolinao 69.71 296 *e*P **P** **12 58 54.6 -0.1**
YUK Yuzh-Kuril'sk 69.75 333 *e*P **P** **12 58 53.0 -1.9**
YUK *e* 13 01 55.2
YUK *e*S S 13 07 20.0 +2.7
YUK pmax pmax
comp=N,10μm,5.0s
YUK pmax pmax
comp=Z,13μm,5.0s
YUK pmax pmax
comp=E,10μm,4.0s
YUK pmax pmax
comp=Z,390nm,0.5s,mb6.1
YUK pmax pmax
comp=Z,5μm,5.5s
YUK smax
comp=E,26μm,9.0s
YUK smax
comp=N,20μm,8.0s
PIP Pasuquin 69.99 298⇓*e*P **P** **12 58 56.4 +0.1**
SMY Shemya 70.57 355 *e*P **P** **12 58 57.7 -2.1**
SMY pmax pmax
comp=Z,947nm,0.8s,mb6.4
SMY MLR MLR
comp=Z,2μm,19.0s
SMY Shemya 70.57 355 *e*P **P** **12 58 57.7 -2.1**
comp=Z,947nm,0.8s,mb6.4
SMY LR LR
comp=Z,2μm,19.0s
FX1 Attu Island--F 70.80 355 *e*P **P** **12 58 59.3 -1.8**
NIKO Nikolski 70.98 6 *e*P **P** **12 58 59.8 -2.4**
NIKO *e*pP pP 13 01 00.7 -2.9
NACB Ninganchiao 71.97 304 *e*P **P** **12 59 07.2 -0.7**
NACB *e*pP pP 13 01 08.2 -1.7
UNV Unalaska Valle 72.10 7 *e*P **P** **12 59 06.0 -2.7**
comp=Z,3μm,1.2s,mb6.7
UNV *e*pP pP 13 01 02.7 -8.0
QSPA South Pole Qui 72.22 180 *e*P **P** **12 59 10.5 +1.2**
comp=Z,9.6nm,0.6s
QSPA *e*pP pP 13 01 11.4 0.0
QSPA *e*S S 13 07 46.3 +1.3
YHNB Yeheng 72.39 304 *e*P **P** **12 59 09.6 -0.8**
YHNB *e*S S 13 07 46.1 -0.7
TATO Taipei 72.45 304 *e*P **P** **12 59 10.5 -0.1**
comp=Z,821nm,1.1s,mb6.2
AKUT Akutan 72.47 8 *e*P **P** **12 59 08.0 -2.8**
comp=Z,447nm,0.7s,mb6.1
AKUT LR LR
comp=Z,2μm,19.0s
KSM Kuching 72.79 277 *e*P **P** **12 59 13.6 +1.0**
KSM *e*pP pP 13 01 17.7 +2.8
MIR Mirnyy 73.29 205*d i*P **P** **12 59 15.4 0.0**
MIR *e* 13 02 12.0
MIR *e*S S 13 07 57.0 +0.2
MIR *e*PS 13 08 29.0
MIR pmax pmax
comp=Z,2μm,2.0s,mb6.4
MIR pmax pmax
comp=Z,10μm,12.0s
MIR pmax pmax
comp=N,909nm,4.0s
MIR pmax pmax
comp=E,3μm,12.0s
MIR smax
comp=N,9μm,12.0s
MIR smax
comp=E,2μm,7.0s
PET Petropavlovsk 73.33 346κ *i*P **P** **12 59 13.8 -1.9**
PET *e**PP pP 13 01 18.2 -0.1
PET *e**SP sP 13 02 15.6 -4.2
PET *i*S S 13 07 56.4 -0.8
PET *e*SP 13 08 34.0
PET *e*SS SS 13 12 58.3 +2.1
PET pmax pmax
comp=Z,396nm,0.7s,mb6.0
PET pmax pmax
comp=Z,6μm,4.5s
PET pmax pmax
comp=Z,4μm,13.9s
PET pmax pmax
comp=Z,2μm,16.6s
PET pmax pmax
comp=Z,3μm,9.4s
PET pmax pmax
comp=Z,3μm,12.5s
PET smax
comp=N,7μm,10.9s
PET smax
comp=N,8μm,35.4s
PET smax
comp=E,8μm,19.5s
PET smax
comp=E,6μm,17.4s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 73.33 346 *e*P **P** **12 59 13.9 -1.8**
comp=Z,204nm,0.6s,mb5.8
PET *e*pP pP 13 01 16.8 -1.5
YSS Yuzh-Sakhalins 73.40 333κ *i*P **P** **12 59 16.5 +0.4**
YSS *e**PP pP 13 01 20.0 +1.3
YSS *e**SP sP 13 02 18.0 -2.2
YSS *i*S S 13 08 00.0 +2.0
YSS *i* 13 08 26.0
YSS pmax pmax
comp=N,170nm,1.0s
YSS pmax pmax
comp=E,220nm,1.0s
YSS pmax pmax
comp=Z,510nm,1.0s,mb6.0
YSS pmax pmax
comp=Z,4μm,3.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS smax
comp=N,550nm,2.0s
YSS smax
comp=E,650nm,2.0s
YSS smax
comp=N,8μm,8.0s
YSS smax
comp=E,13μm,10.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS Yuzh-Sakhalins 73.40 333 *e*P **P** **12 59 15.7 -0.4**
comp=N,720nm,1.1s,mb6.1
YSS *e*pP pP 13 01 16.4 -2.3
SDPT Sand Point 74.44 10 *e*P **P** **12 59 19.3 -2.7**
comp=N,1μm,1.1s,mb6.3
SDPT LR LR
comp=Z,2μm,19.0s
KS15 Wonju Array Si 74.74 318 *e*P **P** **12 59 24.2 +0.6**
INCN Inchon 75.56 318 *e*P **P** **12 59 28.7 +0.5**
comp=Z,526nm,1.1s,mb5.9
CHGN Chignik 75.72 11 *e*P **P** **12 59 26.6 -2.4**
SSE Sheshan 75.78 310⇓P **P** **12 59 29.0 -0.4**
SSE PCP PcP 12 59 38.4 -0.3
SSE AP pP 13 01 32.7 -0.4
SSE PP PP 13 02 28.9 -1.6
SSE XP sP 13 02 34.2 -0.1
SSE S S 13 08 22.6 -1.1
SSE SCS ScS 13 08 47.0 -1.5
SSE XS sS 13 12 02.9 -1.3
VLA Vladivostok 75.95 325 *i*P **P** **12 59 30.0 -0.3**
VLA *i* 12 59 38.8
VLA *i**PP pP 13 01 33.3 -0.8
VLA *i**SP sP 13 02 35.6 +0.3
VLA *i*S S 13 08 26.1 +0.5
VLA *i* 13 08 49.4
VLA pmax pmax
comp=Z,441nm,1.1s,mb5.8
SAO San Andreas Ge 76.29 44 P **P** **12 59 32.8 +0.6**
SAO pmax pmax
comp=Z,620nm,0.9s,mb6.0
SAO San Andreas Ge 76.29 44 *e*P **P** **12 59 32.7 +0.5**
comp=Z,621nm,0.8s,mb6.1
SAO *e*pP pP 13 01 35.2 -0.9
LRV Little Rabbit 76.38 44 *e*P **P** **12 59 33.4 +0.7**
LRV *e*pP pP 13 01 37.7 +1.0
PTRM Twissleman Ran 76.49 45 *e*P **P** **12 59 33.8 +0.6**
PTRM *e*PcP PcP 12 59 41.0 -0.9
PTRM *e*pP pP 13 01 39.0 +1.7
HOPS Hopland 76.54 41 *e*P **P** **12 59 33.8 +0.3**
comp=Z,386nm,1.0s,mb5.8
HOPS *e*pP pP 13 01 38.0 +0.4
NSHM Saint Helena R 76.55 42 *e*P **P** **12 59 34.6 +0.9**
NSHM *e*pP pP 13 01 38.4 +0.7
KCPM Cahto Peak 76.63 40 *e*P **P** **12 59 34.5 +0.4**
KCPM *e*pP pP 13 01 38.9 +0.7
KIPM Iron Peak 76.77 40 *e*P **P** **12 59 35.4 +0.6**
KIPM *e*pP pP 13 01 41.1 +2.2
HKC Hong Kong 77.17 299⇓*i*P **P** **12 59 40.0 +3.0**
HKC *i*S S 13 08 46.0 +7.6
MWC Mount Wilson 77.20 48 *e*P **P** **12 59 29.3 -7.8**
MWC Mount Wilson 77.20 48 *e*P **P** **12 59 37.3 +0.2**
MWC *e*pP pP 13 01 40.4 -1.1
KHMM Horse Mountain 77.26 39 *e*P **P** **12 59 38.4 +0.9**
KHMM *e*pP pP 13 01 43.7 +1.9
BAR Barrett 77.39 49 *e*P **P** **12 59 38.5 +0.3**
BAR *e*pP pP 13 01 43.1 +0.6
ISA Isabella 77.68 46 P **P** **12 59 33.7 -6.0**
ISA pmax pmax
comp=Z,640nm,1.6s,mb5.8
ISA Isabella 77.68 46 *e*P **P** **12 59 40.2 +0.5**
comp=Z,637nm,1.6s,mb5.8
ISA *e*pP pP 13 01 41.0 -3.2
CMB Columbia Colle 77.70 43 P **P** **12 59 39.8 0.0**
CMB pmax pmax
comp=Z,420nm,0.9s,mb5.9
CMB Columbia Colle 77.70 43 *e*P **P** **12 59 40.0 +0.2**
comp=Z,418nm,0.9s,mb5.9
CMB *e*pP pP 13 01 44.8 +0.4
OHCM Honcut 77.74 42 *e*P **P** **12 59 40.0 0.0**
OHCM *e*pP pP 13 01 45.7 +1.0
WDC Whiskeytown Da 77.81 40 *e*P **P** **12 59 40.6 +0.2**
WDC *e**PP pP 13 01 46.4 +1.4
WDC pmax pmax
comp=Z,500nm,1.3s,mb5.8
WDC Whiskeytown Da 77.81 40 *e*P **P** **12 59 40.6 +0.2**
comp=Z,498nm,1.3s,mb5.8
WDC *e*pP pP 13 01 46.4 +1.4
NJ2 Nanjing 77.98 309 *e*P **P** **12 59 40.8 -0.5**
NJ2 AP pP 13 01 44.0 -2.0
NJ2 XP sP 13 02 47.0 0.0
NJ2 PP PP 13 02 49.0 +0.4
NJ2 S S 13 08 51.0 +4.1
NJ2 XS sS 13 12 33.0 +3.9
NJ2 AMB AMB
comp=Z,530nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,4μm,11.6s
HABR Khabarovsk 78.00 330 *i*P **P** **12 59 41.9 +0.4**
HABR *e* 12 59 42.6
HABR *i**PP pP 13 01 48.2 +2.1
HABR *i* 13 02 48.7
HABR *i*S S 13 08 46.4 -0.8
HABR *i*SS SS 13 14 08.5 +2.5
HABR pmax pmax
comp=Z,1μm,1.1s,mb6.2
HABR pmax pmax
comp=N,371nm,1.8s
HABR pmax pmax
comp=E,327nm,1.0s
HABR pmax pmax
comp=Z,3μm,1.8s,mb6.4
PFO Pinyon Flat Ob 78.02 49 P **P** **12 59 41.7 +0.2**
comp=Z,981nm,1.0s,mb6.2,SNR=32
PFO Pinyon Flat Ob 78.02 49 *e*P **P** **12 59 41.9 +0.4**
PFO *e**PP pP 13 01 43.3 -2.9
PFO pmax pmax
comp=Z,190nm,1.0s,mb5.5
PFO Pinyon Flat Ob 78.02 49 *e*P **P** **12 59 41.8 +0.2**
comp=Z,186nm,1.0s,mb5.5
PFO *e*pP pP 13 01 43.3 -2.9
KEBM Edson Butte 78.12 37 *e*P **P** **12 59 43.6 +1.6**
KEBM *e*pP pP 13 01 45.7 -1.1
MDJ Mudanjiang 78.19 325 P **P** **12 59 42.4 -0.1**
MDJ AP pP 13 01 45.5 -1.7
MDJ XP sP 13 02 45.8 -2.4
MDJ PP PP 13 02 49.0 -1.4
MDJ S S 13 08 49.1 0.0
MDJ XS sS 13 12 28.7 -2.8
MDJ SS SS 13 14 08.1 -0.6
MDJ AMB AMB
comp=Z,196nm,1.1s,mb5.5
MDJ AMB AMB
comp=Z,5μm,7.8s
MDJ Mudanjiang 78.19 325 *e*P **P** **12 59 42.7 +0.2**
comp=Z,743nm,1.0s,mb6.1
MDJ *e*pP pP 13 01 46.1 -1.2
GZH Guangzhou 78.19 299 P **P** **12 59 43.5 +1.0**
GZH S S 13 08 52.1 +3.0
GZH AMB AMB
comp=Z,5μm,12.0s
KDAK Kodiak Island 78.30 14 P **P** **12 59 41.0 -2.0**
comp=Z,4μm,0.9s,mb6.9,SNR=83
KDAK Kodiak Island 78.30 14 PKKPbc PKKPbc 13 18 36.6 +2.0
comp=Z,6.2nm,0.6s,baz=246,slow=13,SNR=6.9
YBH Yreka Blue Hor 78.39 39 P **P** **12 59 43.9 +0.3**
comp=Z,266nm,0.8s,mb5.7,baz=147,slow=1.8,SNR=204
YBH pP pP 13 01 48.4 +0.1
comp=Z,48nm,1.1s,baz=176,slow=5.8,SNR=4.9
YBH PKKPbc PKKPbc 13 18 35.5 +1.1
comp=Z,1.3nm,0.6s,baz=116,slow=12,SNR=3.3
YBH PKPPKP 13 26 38.1
comp=Z,7.7nm,1.1s,baz=93,slow=4.4,SNR=4.7
YBH Yreka Blue Hor 78.39 39 P **P** **12 59 43.9 +0.4**
YBH *PP pP 13 01 48.4 0.0
YBH pmax pmax
comp=Z,266nm,0.8s
YBH pmax pmax
comp=Z,48nm,1.1s
YBH pmax pmax
comp=Z,1.0nm,0.6s
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 78.39 39 *e*P **P** **12 59 44.1 +0.5**
comp=Z,322nm,0.9s,mb5.8
YBH *e*pP pP 13 01 48.2 -0.2
DAC Darwin (Calif) 78.61 46 *e*P **P** **12 59 44.9 +0.2**
DAC *e**PP pP 13 01 50.2 +0.6
DAC pmax pmax
comp=Z,120nm,0.9s,mb5.2
DAC Darwin (Calif) 78.61 46 *e*P **P** **12 59 44.9 +0.2**
comp=Z,124nm,0.9s,mb5.2
DAC *e*pP pP 13 01 50.2 +0.6
HUMO Hull Mountain 78.77 38 *e*P **P** **12 59 45.8 +0.2**
comp=Z,366nm,1.0s,mb5.7
HUMO *e*pP pP 13 01 50.0 -0.5
GLA Glamis 78.91 50 *e*P **P** **12 59 47.6 +1.3**
GLA *e**PP pP 13 01 51.0 -0.4
NVAR Mina Array Bea 79.28 44 P **P** **12 59 48.5 +0.2**
comp=Z,294nm,0.8s,mb5.6,baz=229,slow=8.6,SNR=327
NVAR pP pP 13 01 54.6 +1.1
comp=Z,104nm,1.1s,baz=239,slow=13,SNR=9.8
NVAR PKKP PKKPbc 13 18 24.3 -8.1
comp=Z,2.4nm,0.9s,baz=204,slow=1.9,SNR=4.3
NVAR PKKPbc PKKPbc 13 18 36.0 +3.6
comp=Z,1.9nm,0.4s,baz=53,slow=4.0,SNR=24
NVAR PKPPKP 13 26 33.8
comp=Z,6.3nm,1.0s,baz=95,slow=5.4,SNR=14
MNV Mina 79.39 44 *e*P **P** **12 59 49.1 +0.3**
MNV *e**PP pP 13 01 54.3 +0.2
MNV pmax pmax
comp=Z,420nm,1.0s,mb5.7
MNV Mina 79.39 44 *e*P **P** **12 59 49.1 +0.3**
comp=Z,422nm,1.0s,mb5.7
MNV *e*pP pP 13 01 54.3 +0.2
QIZ Qiongzhong 79.53 294⇓*i*P **P** **12 59 50.3 +0.8**
QIZ AP pP 13 01 53.3 -1.6
QIZ XP sP 13 02 57.4 +1.7
QIZ S S 13 09 07.1 +4.2
QIZ XS sS 13 12 50.0 +3.7
QIZ AMB AMB
comp=Z,149nm,1.2s,mb5.2
QIZ AMB AMB
comp=Z,5μm,14.2s
QIZ Qiongzhong 79.53 294 *e*P **P** **12 59 50.6 +1.0**
comp=Z,249nm,1.3s,mb5.4
KGM Kluang 79.58 276 P **P** **12 59 51.6 +1.8**
LDFC Landfair 79.72 48 *e*P **P** **12 59 51.4 +0.8**
LDFC *e*pP pP 13 01 56.3 +0.3
COR Corvallis 79.77 36 *e*P **P** **12 59 50.9 +0.1**
COR pmax pmax
comp=Z,230nm,0.8s,mb5.6
COR Corvallis 79.77 36 *e*P **P** **12 59 50.9 +0.2**
comp=Z,233nm,0.8s,mb5.6
TPH Tonopah 79.81 45 *e*P **P** **12 59 51.3 +0.3**
TPH *e**PP pP 13 01 57.0 +0.5
TPH pmax pmax
comp=Z,390nm,1.1s,mb5.7
TPH Tonopah 79.81 45 *e*P **P** **12 59 51.3 +0.2**
comp=Z,385nm,1.2s,mb5.6
TPH *e*pP pP 13 01 57.0 +0.5
MOD Modoc 79.95 40 *e*P **P** **12 59 51.9 +0.2**
comp=Z,285nm,1.3s,mb5.4
MOD *e*pP pP 13 01 57.3 +0.1
SNY Shenyang 80.00 320⇓P **P** **12 59 51.9 -0.1**
SNY XP sP 13 02 54.3 -4.0
SNY S S 13 09 13.7 +6.0
SNY AMB AMB
comp=Z,190nm,1.3s,mb5.3
SNY AMB AMB
comp=Z,4μm,14.2s
CN2 Changchun 80.03 322⇓P **P** **12 59 51.9 -0.3**
CN2 *e*AP pP 13 01 59.2 +1.5
CN2 *e*XP sP 13 02 59.5 +1.1
CN2 *e*S S 13 09 03.0 -5.0
CN2 SS SS 13 14 41.7 +5.8
CN2 AMB AMB
comp=Z,910nm,1.1s,mb6.0
CN2 AMB AMB

comp=Z,6μm,5.0s
KLR Kul'dur 80.10 329 α *i*P **P 12 59 48.3 -4.2**
KLR *e* pP 13 01 54.0 -4.1
KLR *e*S S 13 09 09.5 +0.7
KLR pmax pmax
comp=E,240nm,1.8s
KLR pmax pmax
comp=Z,600nm,1.8s,mb5.6
KLR pmax pmax
comp=N,1μm,12.0s
KLR pmax pmax
comp=E,1μm,12.0s
KLR pmax pmax
comp=Z,8μm,12.0s
KLR smax
comp=E,8μm,19.0s
NEN Nelson 80.19 48 *e*P **P 12 59 53.1 +0.1**
NEN *e*pP pP 13 01 59.5 +0.9
WHN Wuhan 80.66 306 ⇓P **P 12 59 56.0 +0.6**
WHN AP pP 13 01 59.3 -1.9
WHN XP sP 13 03 00.4 -1.5
WHN S S 13 09 17.1 +2.7
WHN AMB AMB
comp=Z,714nm,1.4s,mb5.9
SVW2 Sparrevohn 80.74 11 *e*P **P 12 59 53.7 -2.1**
MA2 Magadan 81.15 345 *i*P **P 12 59 56.2 -1.7**
MA2 *e**PP pP 13 02 01.0 -3.0
MA2 *e**SP sP 13 02 57.6 -7.0
MA2 *e*S S 13 09 15.3 -4.1
MA2 *e*SP 13 10 10.3
MA2 *e*SS SS 13 14 59.8 +7.4
MA2 pmax pmax
comp=N,70nm,1.1s
MA2 pmax pmax
comp=Z,300nm,1.1s,mb5.6
MA2 pmax pmax
comp=E,60nm,1.2s
MA2 Magadan 81.15 345 *e*P **P 12 59 55.8 -2.2**
comp=E,549nm,1.1s,mb5.9
MA2 *e*pP pP 13 02 01.9 -2.1
OCWA Octopus Mounta 81.24 34 *e*P **P 12 59 58.8 +0.4**
comp=E,605nm,0.9s,mb6.0
OCWA *e*pP pP 13 02 09.7 +5.2
WVOR Wild Horse Val 81.27 40 P **P 12 59 58.7 +0.2**
WVOR pmax pmax
comp=Z,750nm,1.0s,mb6.1
WVOR Wild Horse Val 81.27 40 *e*P **P 12 59 58.8 +0.2**
comp=Z,751nm,1.0s,mb6.1
WVOR *e*pP pP 13 02 05.6 +0.9
TIA Tai'an 81.28 312 *e*P **P 12 59 58.0 -0.6**
TIA AP pP 13 02 08.2 +3.5
TIA XP sP 13 03 09.5 +4.2
TIA S S 13 09 23.0 +2.3
TIA AMB AMB
comp=Z,179nm,1.1s,mb5.4
TIA AMB AMB
comp=Z,4μm,10.0s
SLKM Skilak Lake 81.29 14 *e*P **P 12 59 56.9 -1.8**
SLKM *e*pP pP 13 02 04.4 -0.3
COCO West Island 81.55 260 P **P 13 00 01.9 +1.9**
comp=Z,4μm,1.2s,mb6.8,SNR=7.8
COCO West Island 81.55 260 *e*P **P 13 00 01.4 +1.4**
comp=Z,893nm,1.1s,mb6.2
TUC Tucson 81.56 52 P **P 13 00 01.2 +1.2**
TUC pmax pmax
comp=Z,340nm,1.0s,mb5.8
TUC Tucson 81.56 52 *e*P **P 13 00 01.4 +1.4**
comp=Z,342nm,0.9s,mb5.9
TUC *e*pP pP 13 02 06.5 +0.3
FIB Fire Island 81.89 13 P **P 13 00 00.4 -1.3**
FIB pmax pmax
comp=Z,310nm,0.8s,mb5.9
FIB Fire Island 81.89 13 *e*P **P 13 00 00.4 -1.3**
comp=Z,312nm,0.8s,mb5.9
PGC Sidney 82.18 33 *e*P **P 13 00 02.8 -0.4**
comp=Z,543nm,0.8s,mb6.1
PGC *e*pP pP 13 02 08.1 -1.6
ARUT Antelope Range 82.23 46 P **P 13 00 04.4 +1.0**
ARUT Antelope Range 82.23 46 *e*P **P 13 00 04.2 +0.7**
ARUT *e*pP pP 13 02 11.1 +1.1
CRAG Craig 82.40 24 *e*P **P 13 00 04.4 +0.1**
comp=Z,546nm,1.4s,mb5.9
CRAG LR LR
comp=Z,2μm,17.0s
UBT Ubonrachathani 82.41 289 ⇓P **P 13 00 06.8 +2.5**
comp=Z,1μm,0.8s,mb6.5
PMR Palmer 82.50 14 P **P 13 00 01.6 -3.2**
PMR pmax pmax
comp=Z,250nm,0.8s,mb5.8
PMR Palmer 82.50 14 *e*P **P 13 00 02.6 -2.2**
comp=Z,426nm,0.8s,mb6.0
PMR LR LR
comp=Z,1μm,17.0s
IPM Ipoh 82.53 277 P **P 13 00 06.7 +1.8**
WUAZ Wupatki 82.60 49 *e*P **P 13 00 05.9 +0.6**
comp=Z,660nm,1.1s,mb6.1
WUAZ *e*pP pP 13 02 13.0 +1.1
SIT Sitka 82.76 22 P **P 13 00 05.5 -0.6**
SIT pmax pmax
comp=Z,400nm,1.2s,mb5.8
SIT Sitka 82.76 22 *e*P **P 13 00 06.1 0.0**
comp=Z,403nm,1.2s,mb5.8
SIT LR LR
comp=Z,2μm,19.0s
SML Sawmill 82.87 14 P **P 13 00 04.5 -2.1**
SML Sawmill 82.87 14 *e*P **P 13 00 04.6 -2.0**
SML *e*pP pP 13 02 13.7 +0.4
DIV Divide 82.89 15 *e*P **P 12 59 55.3 -11**
HAWA Hanford 82.97 37 *e*P **P 13 00 07.3 +0.1**
comp=Z,34nm,0.8s
HAWA *e*pP pP 13 02 15.5 +1.6
KULM Kulim 83.14 278 *e*P **P 13 00 09.3 +1.3**
BMO Blue Mountains 83.41 39 P **P 13 00 08.8 -0.5**
BMO pmax pmax
comp=Z,150nm,0.8s,mb5.6
BMO Blue Mountains 83.41 39 *e*P **P 13 00 09.0 -0.3**
comp=Z,148nm,0.8s,mb5.6
BMO *e*pP pP 13 02 17.4 +1.1
MVU Marysvale 83.43 46 *e*P **P 13 00 15.7 +6.3**
comp=Z,248nm,1.0s,mb5.7
MVU *e*pP pP 13 02 23.7 +7.3
MVU *e*PP PP 13 03 39.3 +6.5
MSU Marysvale 83.46 46 *e*P **P 13 00 10.3 +0.7**
MSU *e*pP pP 13 02 17.6 +1.1
TNA Tin City 83.51 4 *e*P **P 13 00 08.3 -1.5**
comp=Z,468nm,1.2s,mb5.9
TNA *e*pP pP 13 02 17.2 +0.4
SEY Seymchan 83.73 347 *i*P **P 13 00 09.3 -1.6**
SEY *PP pP 13 02 16.5 -1.5
SEY *e*S S 13 09 38.7 -6.1
SEY SS SS 13 15 24.9 -5.1
SEY pmax pmax
comp=E,150nm,0.8s
SEY pmax pmax
comp=Z,340nm,0.8s,mb5.9
SEY pmax pmax
comp=N,30nm,0.5s
SEY smax
comp=N,14μm,11.4s
SEY smax
comp=E,11μm,11.4s
SEY Seymchan 83.73 347 *i*Pr **P 13 00 09.3 -1.6**
SNG Songkhla 83.77 280 P **P 13 00 13.0 +1.9**
comp=E,572nm,1.0s,mb6.1
BJT Baijiatuau 83.81 315 *e*P **P 13 00 11.3 0.0**
BJT pmax pmax
comp=Z,849nm,1.2s
BJT Baijiatuau 83.81 315 *e*P **P 13 00 11.3 +0.1**
comp=Z,849nm,1.2s,mb6.2
BJT *e*pP pP 13 02 23.5 +5.1
PMSA Palmer Station 83.83 157 *e*P **P 13 00 13.2 +1.8**
comp=Z,157nm,0.9s,mb5.5
PMSA *e*pP pP 13 02 20.8 +2.2
DUG Dugway 83.84 44 *e*P **P 13 00 11.4 0.0**
DUG pmax pmax
comp=Z,218nm,1.4s,mb5.5
DUG Dugway 83.84 44 *e*P **P 13 00 11.4 -0.1**
comp=Z,218nm,1.4s,mb5.5
DUG *e*pP pP 13 02 21.2 +2.6
MAW Mawson 83.97 200 ⇓*i*P **P 13 00 12.1 0.0**
comp=Z,737nm,0.9s,mb6.2
MAW *e*S S 13 09 39.5 -7.7
MAW Mawson 83.97 200 P **P 13 00 12.2 +0.1**
comp=Z,662nm,0.7s,mb6.3,baz=119,slow=5.8,SNR=179
MAW S S 13 09 38.9 -8.3
comp=Z,11nm,0.9s,baz=99,slow=19,SNR=1.6
MAW Mawson 83.97 200 *e*P **P 13 00 12.6 +0.5**
MAW *e**PP pP 13 02 20.6 +1.3
MAW pmax pmax
comp=Z,782nm,0.8s
MAW Mawson 83.97 200 *e*P **P 13 00 12.6 +0.5**
comp=Z,782nm,0.8s,mb6.3
MAW *e*pP pP 13 02 20.6 +1.2
PSI Prapat 84.00 275 P **P 13 00 11.9 -0.3**
comp=Z,946nm,0.9s,mb6.3,baz=164,slow=2.2
PSI PKKPbc PKKPbc 13 18 22.4 +0.5
comp=Z,17nm,0.8s,baz=261,slow=2.7,SNR=9.5
PSI Prapat 84.00 275 P **P 13 00 11.9 -0.3**
PSI PKKPbc PKKPbc 13 18 22.4 +0.5
BGU Big Grassy Mou 84.06 44 *e*P **P 13 00 15.4 +3.0**
BGU *e*pP pP 13 02 22.9 +3.1
BGU *e*PP PP 13 03 40.5 +2.7
NLU North Lily Min 84.22 45 *e*P **P 13 00 12.2 -1.0**
NLU *e*pP pP 13 02 20.6 0.0
ENH Enshi 84.33 304 P **P 13 00 14.4 +0.6**
ENH sP sP 13 03 23.7 +2.3
ENH SKSac SKSac 13 09 42.5 +1.6
ENH S 13 09 54.7
ENH SPn 13 10 54.6
ENH Enshi 84.33 304 *e*P **P 13 00 14.7 +0.8**
comp=Z,2μm,1.1s,mb6.5
ENH *e*pP pP 13 02 25.6 +4.5
MCK McKinley 84.44 13 *e*P **P 13 00 12.2 -2.2**
MCK *e**PP pP 13 02 20.9 -0.9
MCK pmax pmax
comp=Z,230nm,0.6s,mb5.9
MCK McKinley 84.44 13 *e*P **P 13 00 12.2 -2.2**
comp=Z,226nm,0.6s,mb5.9
MCK *e*pP pP 13 02 20.9 -0.8
HLID Hailey 84.49 41 *e*P **P 13 00 14.9 +0.3**
comp=Z,228nm,0.5s,mb6.0
TMUT Trail Mountain 84.49 46 *e*P **P 13 00 15.4 +0.7**
TMUT *e*pP pP 13 02 22.9 +0.9
NOQ North Oquirrh 84.53 44 *e*P **P 13 00 14.8 0.0**
comp=Z,158nm,1.1s,mb5.6
NOQ *e*pP pP 13 02 22.9 +0.6
MPU Maple Canyon 84.55 45 *e*P **P 13 00 15.2 +0.4**
comp=Z,117nm,1.0s,mb5.5
MPU *e*pP pP 13 02 23.4 +1.1
MPU *e*PP PP 13 03 43.0 +1.3
SPUT South Promonto 84.63 44 *e*P **P 13 00 15.1 -0.2**
SPUT *e*pP pP 13 02 25.2 +2.4
SPUT *e*PP PP 13 03 42.1 -0.3
HVU Hansel Valley 84.64 43 P **P 13 00 15.4 0.0**
HVU pmax pmax
comp=Z,380nm,1.3s,mb5.9
HVU Hansel Valley 84.64 43 *e*P **P 13 00 15.3 -0.1**
comp=Z,380nm,1.4s,mb5.8
HVU *e*pP pP 13 02 23.6 +0.7
HVU *e*PP PP 13 03 40.8 -1.7
KKTK Khon Kaen 84.77 289 ⇓P **P 13 00 17.0 +1.0**
comp=Z,3μm,0.8s,mb6.9
SRU San Rafael 84.88 46 P **P 13 00 16.6 +0.1**
SRU pmax pmax
comp=Z,190nm,0.8s,mb5.8
SRU San Rafael 84.88 46 *e*P **P 13 00 16.5 0.0**
comp=Z,189nm,0.8s,mb5.8
SRU *e*pP pP 13 02 27.9 +3.8
MENT Mentasta 84.94 15 *e*P **P 13 00 15.0 -1.8**
DAU Daniels Canyon 84.99 45 P **P 13 00 17.8 +0.8**
DAU Daniels Canyon 84.99 45 *e*P **P 13 00 17.4 +0.3**
DAU *e*pP pP 13 02 28.1 +3.4
GYA Guiyang 85.10 300 ⇓*i*P **P 13 00 18.3 +0.7**
GYA AP pP 13 02 26.6 +1.4
GYA XP sP 13 03 26.0 +0.6
GYA AMB AMB
comp=Z,420nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,4μm,9.3s
LAZ Ladron 85.22 52 *e*P **P 13 00 19.0 +0.9**
LAZ *e*pP pP 13 02 27.3 +1.4
LAZ *e*PP PP 13 03 46.9 -0.1
TCUT Toone Canyon 85.22 44 *e*P **P 13 00 18.3 +0.2**
TCUT *e*pP pP 13 02 29.9 +4.0
TCUT *e*PP PP 13 03 47.6 +0.5
LENM Lemitar 85.24 52 *e*P **P 13 00 19.1 +0.9**
LENM *e*pP pP 13 02 26.6 +0.6
TIY Taiyuan 85.30 312 ⇑P **P 13 00 15.0 -3.5**
HWUT Hardware Ranch 85.35 44 *e*P **P 13 00 18.3 -0.5**
comp=Z,120nm,0.8s,mb5.6
HWUT *e*pP pP 13 02 27.2 +0.7
HWUT *e*PP PP 13 03 46.9 -1.2
NEW Newport 85.38 36 S 13 09 48.6
comp=Z,0.9nm,0.5s,baz=80,slow=17,SNR=4.6
NEW PKKPbc PKKPbc 13 18 19.2 +0.5
comp=Z,2.2nm,0.3s,baz=310,slow=9.2,SNR=7.7
NEW Newport 85.38 36 P **P 13 00 17.9 -1.0**
NEW pmax pmax
comp=Z,240nm,0.9s
NEW Newport 85.38 36 *e*P **P 13 00 17.9 -1.0**
comp=Z,235nm,0.9s,mb5.8
NEW *e*pP pP 13 02 28.0 +1.3
MNTX Cornudas Mount 85.44 55 *e*P **P 13 00 19.8 +0.7**
comp=Z,1μm,1.0s,mb6.6
MNTX *e*pP pP 13 02 27.4 +0.4
MNTX *e*SP 13 03 29.2
MNTX *e*PP PP 13 03 49.6 +0.8
BNM Barren Site 85.49 52 *e*P **P 13 00 20.1 +0.7**
BNM *e*pP pP 13 02 27.6 +0.3
LPM Los Pinos Moun 85.56 52 *e*P **P 13 00 20.3 +0.6**
LPM *e*pP pP 13 02 28.4 +0.7
PV10 Paradox Valley 85.58 47 *e*P **P 13 00 19.7 -0.1**
PV10 *e*pP pP 13 02 25.3 -2.4
COLA College 85.67 13 *d i*P **P 13 00 17.8 -2.5**
COLA College 85.67 13 *e*P **P 13 00 17.8 -2.5**
comp=Z,476nm,1.0s,mb6.1
COLA *e*pP pP 13 02 27.1 -1.1
COLA *e*S 13 09 58.6
IMA2 Indian Mountai 85.67 10 *e*P **P 13 00 18.4 -1.9**
ILAR Eielson Array 85.78 13 P **P 13 00 18.8 -2.0**
comp=Z,184nm,0.8s,mb5.8,baz=219,slow=4.5,SNR=439
ILAR pP pP 13 02 27.8 -1.0
comp=Z,111nm,1.2s,baz=229,slow=5.0,SNR=7.4
ILAR PKiKP PKiKP 13 05 23.9 -1.3
comp=Z,4.1nm,0.7s,baz=286,slow=2.8,SNR=5.3
ILAR S 13 09 49.6
comp=Z,3.1nm,0.8s,baz=224,slow=4.6,SNR=4.3
ILAR PKKPbc PKKPbc 13 18 17.2 -0.5
comp=Z,4.8nm,0.5s,baz=330,slow=2.9,SNR=14
ILAR PKPPKP 13 26 09.0
comp=Z,1.8nm,0.9s,baz=344,slow=2.1,SNR=6.8
ILAR Eielson Array 85.78 13 P **P 13 00 18.8 -2.0**
ILAR pP pP 13 02 27.8 -1.0
PV01 Paradox Valley 85.80 48 *e*P **P 13 00 20.9 0.0**
PV01 *e*pP pP 13 02 29.9 +1.1
PV01 *e*PP PP 13 03 51.1 -0.5
TXAR Lajitas Array 85.85 58 P **P 13 00 22.3 +1.1**
comp=Z,383nm,0.9s,mb6.0,baz=217,slow=6.0,SNR=557
TXAR pP pP 13 02 29.4 +0.2
comp=Z,50nm,1.1s,baz=243,slow=5.6,SNR=5.0
TXAR S 13 09 54.0
comp=Z,0.6nm,0.9s,baz=248,slow=4.9,SNR=3.6
TXAR PKKPbc PKKPbc 13 18 18.9 +1.3
comp=Z,6.4nm,0.9s,baz=154,slow=2.5,SNR=11
TXAR PKPPKP 13 26 09.3
comp=Z,1.6nm,1.0s,baz=124,slow=4.5,SNR=4.9
TXAR Lajitas Array 85.85 58 P **P 13 00 22.3 +1.1**
TXAR *PP pP 13 02 29.4 +0.2
TXAR S 13 09 54.0
TXAR pmax pmax
comp=Z,383nm,0.9s
TXAR pmax pmax
comp=Z,50nm,1.1s
TXAR pmax pmax
comp=Z,6.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 85.95 51 P **P 13 00 22.2 +0.6**
comp=Z,324nm,1.1s,mb5.9,baz=240,slow=4.8,SNR=166
ANMO pP pP 13 02 29.1 -0.6
comp=Z,90nm,1.3s,baz=254,slow=5.4,SNR=8.1
ANMO S 13 09 54.2
comp=Z,0.5nm,0.5s,baz=292,slow=16,SNR=7.7
ANMO PKPPKP 13 26 24.9
comp=Z,3.8nm,1.0s,baz=41,slow=2.5,SNR=7.7
ANMO Albuquerque 85.95 51 P **P 13 00 22.3 +0.7**
ANMO *PP pP 13 02 29.1 -0.6
ANMO S 13 09 54.2
ANMO pmax pmax
comp=Z,324nm,1.1s
ANMO pmax pmax
comp=Z,90nm,1.3s
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 85.95 51 *e*P **P 13 00 21.9 +0.3**
comp=Z,305nm,1.0s,mb5.9
ANMO *e*pP pP 13 02 30.6 +0.9
ANMO *e*PP PP 13 03 52.1 -0.8
MCMT McKenzie Canyo 86.10 40 *e*P **P 13 00 22.6 +0.2**
MCMT *e*pP pP 13 02 33.0 +2.5
MCMT *e*PP PP 13 03 54.7 +0.7
AHID Auburn Hatcher 86.21 43 *e*P **P 13 00 23.1 +0.3**
comp=Z,420nm,1.2s,mb5.9
AHID *e*pP pP 13 02 31.9 +0.9
AHID *e*PP PP 13 03 54.5 -0.4
XAN Xi'an 86.31 307 P **P 13 00 23.9 +0.6**
XAN AMB AMB
comp=Z,905nm,1.2s,mb6.3
XAN AMB AMB
comp=Z,4μm,13.9s
NNT Nongplab 86.34 284 P **P 13 00 26.3 +2.8**
BILL Bilibino 86.37 354 *d i*P **P 13 00 20.9 -2.7**
BILL *e**PP pP 13 02 30.7 -1.1
BILL *e* 13 09 50.1
BILL *e*SS SS 13 16 09.1 +0.9
BILL pmax pmax
comp=Z,452nm,1.3s,mb5.9
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 86.37 354 *e*P **P 13 00 21.9 -1.7**
comp=Z,279nm,0.9s,mb5.9
BILL *e*pP pP 13 02 32.0 +0.2
BILL *e*S 13 10 09.2
HIA Hailar 86.37 325 *e*P **P 13 00 23.2 -0.4**
comp=Z,390nm,1.4s,mb5.8
HIA *e*pP pP 13 02 33.9 +2.1
HIA *e*SP sP 13 03 31.4 -0.5
HIA *e*PP PP 13 03 53.7 -2.5
GDL2 Guadalupe Moun 86.43 55 *e*P **P 13 00 24.6 +0.8**
GDL2 *e*pP pP 13 02 33.2 +1.1
GDL2 *e*PP PP 13 03 55.6 -1.1
MSO Missoula 86.45 38 *e*P **P 13 00 22.7 -1.2**
comp=Z,45nm,0.8s,mb5.2
MSO *e*pP pP 13 02 33.5 +1.3
USHA Ushuaia 86.50 147 S 13 09 54.7
comp=Z,16nm,1.0s,baz=288,slow=20,SNR=2.8
USHA PKPPKP 13 26 24.2
comp=Z,27nm,1.1s,baz=82,slow=9.1,SNR=3.0
DLMT Dillon 86.52 40 *e*P **P 13 00 24.4 0.0**
comp=Z,691nm,1.2s,mb6.3
DLMT *e*pP pP 13 02 34.5 +1.9
REDW Red Top Meadow 86.65 42 *e*P **P 13 00 25.3 +0.4**
comp=Z,673nm,1.2s,mb6.2
REDW *e*pP pP 13 02 33.1 -0.1
REDW *e*PP PP 13 03 58.9 +0.5
SNOW Snow King Moun 86.76 42 *e*P **P 13 00 25.9 +0.5**
comp=Z,425nm,0.9s,mb6.2
SNOW *e*pP pP 13 02 34.4 +0.5
CLNB Carlsbad 86.83 55 *e*P **P 13 00 27.5 +1.7**
CLNB *e*pP pP 13 02 34.8 +0.6
LOHW Long Hollow 86.93 42 *e*P **P 13 00 26.2 0.0**
comp=Z,424nm,1.3s,mb6.0
LOHW *e*pP pP 13 02 35.6 +0.9
LOHW *e*PP PP 13 04 00.9 +0.3
DAWY Dawson 86.98 16 *e*P **P 13 00 25.2 -1.3**
DAWY *e*pP pP 13 02 35.5 +0.6
NST Nakhon Sawan 86.98 287 ⇑P **P 13 00 28.0 +1.5**
comp=Z,217nm,1.4s,mb5.7
QLMT Earthquake Lak 86.98 41 *e*P **P 13 00 27.2 +0.7**
QLMT *e*pP pP 13 02 36.2 +1.3
QLMT *e*PP PP 13 04 00.5 -0.6
YFT Old Faithful 87.18 41 *e*P **P 13 00 29.0 +1.7**
YFT *e*pP pP 13 02 38.1 +2.2
YFT *e*PP PP 13 04 02.7 +0.1
YMR Madison River 87.20 41 *e*P **P 13 00 28.3 +0.8**
comp=Z,329nm,0.8s,mb6.1
YMR *e*pP pP 13 02 37.2 +1.1
YMR *e*PP PP 13 04 03.3 +0.6
BW06 Boulder Array 87.21 43 *e*P **P 13 00 27.1 -0.4**
comp=Z,427nm,0.8s,mb6.2
BW06 *e*pP pP 13 02 35.7 -0.4
BW06 *e*PP PP 13 04 01.5 -1.4
PDAR Pinedale Array 87.21 43 P **P 13 00 27.1 -0.5**
comp=Z,178nm,0.8s,mb5.8,baz=213,slow=3.0,SNR=369
PDAR pP pP 13 02 35.6 -0.5
comp=Z,38nm,1.1s,baz=207,slow=3.3,SNR=7.6
PDAR PP PP 13 04 01.8 -1.1
comp=Z,21nm,0.9s,baz=238,slow=6.3,SNR=4.7
PDAR S 13 10 02.8
comp=Z,1.4nm,1.0s,baz=90,slow=4.5,SNR=3.1
PDAR PKKPbc PKKPbc 13 18 14.3 -0.1
comp=Z,15nm,0.8s,baz=92,slow=4.8,SNR=20
PDAR PKPPKP 13 26 15.6
comp=Z,2.2nm,0.8s,baz=111,slow=3.2,SNR=9.0
BOZ Bozeman (W) 87.25 40 *e*P **P 13 00 27.8 +0.1**
BOZ *e**PP pP 13 02 35.7 -0.6
BOZ pmax pmax
comp=Z,39nm,0.4s,mb5.5
BOZ Bozeman (W) 87.25 40 *e*P **P 13 00 27.8 0.0**
comp=Z,39nm,0.4s,mb5.5
BOZ *e*pP pP 13 02 35.7 -0.7
HHC Hu-ho-hao-te 87.30 314 *e*P **P 13 00 28.3 +0.3**
HHC AP pP 13 02 37.7 +1.1
HHC SKS 13 09 52.7
HHC AMB AMB
comp=Z,407nm,1.3s,mb6.0
HHC AMB AMB
comp=Z,4μm,9.8s
SMCO Snowmass 87.38 47 *e*P **P 13 00 28.8 +0.5**
comp=Z,170nm,1.0s,mb5.7
SMCO *e*pP pP 13 02 38.3 +1.4
SMCO *e*PP PP 13 04 04.0 -0.1
LKWY Lake 87.51 42 *e*P **P 13 00 30.5 +1.6**
LKWY pmax pmax
comp=Z,290nm,0.9s,mb6.0
LKWY Lake 87.51 42 *e*P **P 13 00 30.6 +1.6**
comp=Z,287nm,0.9s,mb6.0
LKWY *e*pP pP 13 02 39.7 +2.2
LKWY *e*PP PP 13 04 06.6 +1.4
HRY Holter Researc 87.65 39 *e*P **P 13 00 29.3 -0.3**
HRY *e*pP pP 13 02 39.9 +1.5
SDCO Great Sand Dun 87.82 49 *e*P **P 13 00 30.5 +0.1**
comp=Z,770nm,1.3s,mb6.3
SDCO *e*pP pP 13 02 40.0 +0.9
SDCO *e*PP PP 13 04 06.1 -1.5
PAYG Puerto Ayora 87.89 90 *e*P **P 13 00 34.2 +3.5**
comp=Z,122nm,1.1s,mb5.5
PAYG *e*pP pP 13 02 42.0 +2.5
KMI Kunming 87.90 297 P **P 13 00 32.6 +1.8**
KMI AP pP 13 02 42.4 +2.8
KMI XP sP 13 03 42.9 +3.4
KMI S 13 10 29.4
KMI XS sS 13 14 18.9 +5.0
KMI SS SS 13 16 33.8 +3.5
KMI AMB AMB
comp=Z,363nm,1.3s,mb6.0
KMI AMB AMB
comp=Z,4μm,7.9s
NRGR Nerungri 88.12 332 *e*P **P 13 00 31.3 -0.5**
NRGR S 13 09 58.2
CLNS Chul'man 88.15 333 *e*P **P 13 00 31.2 -0.7**
CLNS pmax pmax
comp=Z,367nm,0.9s,mb6.1
CLNS pmax pmax
comp=N,256nm,1.3s
CLNS pmax pmax
comp=E,145nm,1.1s
CLNS pmax pmax
comp=Z,226nm,1.4s,mb5.7
CLNS pmax pmax
comp=N,165nm,1.8s
CLNS pmax pmax
comp=E,58nm,1.0s
BTO Baotou 88.25 314 *e*P **P 13 00 31.9 -0.5**
COYC Coyhaique 88.29 138 *e*P **P 13 00 35.0 +2.4**
RWWY Rawlins 88.30 45 *e*P **P 13 00 32.6 0.0**
comp=E,347nm,1.0s,mb6.0
RWWY *e*pP pP 13 02 41.1 -0.4
GCMT Greycliff 88.53 41 *e*P **P 13 00 34.3 +0.6**
GCMT *e*pP pP 13 02 44.0 +1.3
ISCO Idaho Springs 88.59 47 P **P 13 00 34.1 +0.1**
ISCO pmax pmax
comp=Z,170nm,1.4s,mb5.7

ISCO	**Idaho Springs**	**88.59**	**47**	*e*P	**P**	**13 00 34.5**	**+0.5**
	comp=Z,169nm,1.4s,mb5.7						
ISCO				*e*pP	pP	13 02 43.6	+0.6
CHRT	**Chiangrai**	**88.68**	**291**	⇑P	**P**	**13 00 36.0**	**+1.6**
	comp=Z,2µm,1.2s,mb6.9						
CD2	**Chengdu**	**89.13**	**303**	P	**P**	**13 00 37.1**	**+0.6**
CD2				AP	pP	13 02 47.4	+1.8
CD2				XP	sP	13 03 44.7	-0.7
CD2				PP	PP	13 04 21.9	+4.0
CD2				SKS		13 10 09.3	
CD2				S		13 10 34.0	
CD2				XS	sS	13 14 22.3	-3.6
CD2				SS	SS	13 16 48.1	+0.3
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
CD2				AMB	AMB		
	comp=Z,2µm,7.9s						
SYO	**Syowa Base**	**89.26**	**193**	⇑*i*P	**P**	**13 00 36.2**	**-0.9**
SYO	**Syowa Base**	**89.26**	**193**	⇓*i*PcP	PcP	13 00 38.1	+0.1
SYO	**Syowa Base**	**89.26**	**193**	*e*SH		13 10 34.5	
PHWY	**Pilot Hill**	**89.32**	**46**	*e*P	**P**	**13 00 37.3**	**-0.1**
PHWY				*e*pP	pP	13 02 47.5	+0.9
PHWY				*e*PP	PP	13 04 18.3	-1.1
JCT	**Junction City**	**89.39**	**58**	P	**P**	**13 00 37.4**	**-0.3**
JCT				pmax	pmax		
	comp=Z,160nm,0.8s,mb5.9						
JCT	**Junction City**	**89.39**	**58**	*e*P	**P**	**13 00 37.8**	**+0.1**
	comp=Z,159nm,0.8s,mb5.9						
JCT				*e*pP	pP	13 02 55.0	+8.1
YAK	**Yakutsk**	**89.55**	**338**	*d i*P	**P**	**13 00 36.0**	**-2.4**
YAK				*i* *PP	pP	13 02 46.4	-1.3
YAK				*i*		13 04 17.1	
YAK				*e*PPP		13 06 21.9	
YAK				*e*S		13 10 08.1	
YAK				*e*		13 10 34.9	
YAK				*e*SS	SS	13 16 52.4	-1.5
YAK				pmax	pmax		
	comp=Z,204nm,1.3s,mb5.8						
YAK				pmax	pmax		
	comp=N,73nm,1.8s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
YAK				pmax	pmax		
	comp=N,30nm,1.7s						
YAK				pmax	pmax		
	comp=E,28nm,1.3s						
YAK				smax			
	comp=N,49nm,1.9s						
YAK				smax			
	comp=E,34nm,2.0s						
YAK	**Yakutsk**	**89.55**	**338**	*e*P	**P**	**13 00 36.2**	**-2.2**
	comp=E,235nm,0.8s,mb6.1						
EDM	**Edmonton**	**90.03**	**33**	P	**P**	**13 00 39.3**	**-1.3**
EDM	**Edmonton**	**90.03**	**33**	*e*P	**P**	**13 00 39.2**	**-1.4**
EDM				*e*pP	pP	13 02 49.8	-0.2
SNAA	**Sanae**	**90.67**	**179**	P	**P**	**13 00 42.7**	**-0.9**
	comp=E,157nm,0.9s,mb6.0,baz=195,slow=4.0,SNR=212						
SNAA				pP	pP	13 02 51.6	-1.5
	comp=E,13nm,1.1s,baz=212,slow=10.0,SNR=0.8						
SNAA				S		13 10 18.0	
	comp=E,3.9nm,0.8s,baz=0.0,slow=20,SNR=18						
SNAA				PKKPbc	PKKPbc	13 18 05.0	-1.0
	comp=E,5.3nm,0.9s,baz=22,slow=3.9,SNR=8.2						
SNAA	**Sanae**	**90.67**	**179**	P	**P**	**13 00 42.7**	**-0.9**
SNAA				*PP	pP	13 02 51.6	-1.5
SNAA				S		13 10 18.0	
SNAA				pmax	pmax		
	comp=Z,157nm,0.9s						
SNAA				pmax	pmax		
	comp=Z,13nm,1.1s						
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNA3	**Neumayer Olymp**	**90.81**	**176**	⇑*i*P	**P**	**13 00 44.5**	**+0.3**
VNA3				*e*		13 00 53.9	
VNA3				*e*		13 01 03.5	
VNA3				*e*		13 01 15.8	
VNA3				*e*		13 02 16.4	
VNA3				*e*		13 02 27.1	
VNA3				*e*	pP	13 02 54.9	+1.2
VNA3				*e*	pP	13 02 57.9	+4.2
VNA3				*e*		13 03 10.3	
LZH	**Lanzhou**	**90.94**	**308**	⇓*i*P	**P**	**13 00 45.4**	**+0.6**
LZH				AP	pP	13 02 57.1	+2.8
LZH				XP	sP	13 03 54.5	+0.6
LZH				PP	PP	13 04 35.4	+3.4
LZH				SKS		13 10 20.2	
LZH				S		13 10 50.3	
LZH				XS	sS	13 14 41.2	-2.1
LZH				SS	SS	13 17 18.5	+4.9
LZH				AMB	AMB		
	comp=Z,557nm,1.3s,mb6.3						
LZH				AMB	AMB		
	comp=Z,4µm,9.4s						
LAO	**LASA Array**	**91.08**	**41**	*e*P	**P**	**13 00 46.0**	**+0.6**
	comp=Z,548nm,1.0s,mb6.4						
LAO				*e*pP	pP	13 02 55.5	+0.5
CIT	**Chita**	**91.17**	**325**	*e*P	**P**	**13 00 45.6**	**-0.3**
CIT				pmax	pmax		
	comp=Z,583nm,1.9s,mb6.2						
VNA2	**Neumayer--Watz**	**91.25**	**177**	⇑*i*P	**P**	**13 00 46.6**	**+0.3**
	baz=184,slow=2.8						
VNA2				*e*		13 00 55.5	
VNA2				*e*		13 01 05.1	
VNA2				*e*		13 01 11.4	
VNA2				*e*		13 01 17.4	
VNA2				*e*		13 01 30.2	
VNA2				*e*		13 02 18.1	
VNA2				*e*		13 02 28.5	
VNA2				*e*	pP	13 02 57.4	+1.6
VNA2				*e*	pP	13 03 00.6	+4.8
VNA2				*e*		13 03 11.7	
PLCA	**Paso Flores**	**91.30**	**134**	P	**P**	**13 00 48.2**	**+1.8**
	comp=Z,52nm,1.0s,mb5.4,baz=227,slow=4.7,SNR=54						
PLCA				pP	pP	13 02 55.9	-0.2
	comp=Z,47nm,1.3s,baz=255,slow=6.8,SNR=3.8						
PLCA				PP	PP	13 04 33.4	-1.4
	comp=Z,23nm,1.1s,baz=247,slow=6.9,SNR=4.6						
PLCA				S		13 10 22.7	
	comp=Z,2.4nm,0.9s,baz=163,slow=14,SNR=2.0						
PLCA				PKKPbc	PKKPbc	13 18 04.3	-0.1
	comp=Z,20nm,1.0s,baz=87,slow=2.2,SNR=16						
PLCA				PKPPKP		13 26 09.7	
	comp=Z,12nm,1.0s,baz=74,slow=5.6,SNR=5.3						
PLCA	**Paso Flores**	**91.30**	**134**	P	**P**	**13 00 48.3**	**+1.8**
PLCA				*PP	pP	13 02 55.9	-0.1
PLCA						13 04 33.4	
PLCA				S		13 10 22.7	
PLCA				pmax	pmax		
	comp=Z,52nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,47nm,1.3s						
PLCA				pmax	pmax		
	comp=Z,23nm,1.1s						
PLCA				pmax	pmax		
	comp=Z,20nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,12nm,1.0s						
PLCA	**Paso Flores**	**91.30**	**134**	*e*P	**P**	**13 00 49.0**	**+2.5**
	comp=Z,65nm,1.0s,mb5.5						
PLCA				*e*pP	pP	13 02 58.8	+2.7
PLCA				*e*PP	PP	13 04 33.2	-1.6
NVL	**N'lazarevskaya**	**91.35**	**183**	*e*P	**P**	**13 00 46.8**	**+0.1**
NVL				*e*	pP	13 02 58.4	+2.1
NVL				*e*PPP		13 04 32.6	
NVL				*e*S		13 10 17.8	
NVL				*e*SSS		13 17 32.9	
NVL				pmax	pmax		
	comp=Z,347nm,1.0s,mb6.2						
RSSD	**Black Hills**	**91.43**	**44**	P	**P**	**13 00 46.6**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,140nm,0.8s,mb5.9						
RSSD	**Black Hills**	**91.43**	**44**	*e*P	**P**	**13 00 46.7**	**-0.4**
	comp=Z,143nm,0.8s,mb6.0						
RSSD				*e*pP	pP	13 03 00.1	+3.4
VNA1	**Neumayer--Stat**	**91.48**	**177**	⇑*i*P	**P**	**13 00 47.8**	**+0.5**
VNA1				*e*		13 01 31.8	
VNA1				*e*	pP	13 02 55.9	-1.0
VNA1				*e*	pP	13 03 01.2	+4.3
VNA1				*e*		13 03 10.8	
WMOK	**Wichita Mounta**	**91.70**	**54**	P	**P**	**13 00 47.8**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.7						
WMOK	**Wichita Mounta**	**91.70**	**54**	*e*P	**P**	**13 00 48.4**	**0.0**
	comp=Z,80nm,1.2s,mb5.6						
INK	**Inuvik**	**91.78**	**15**	P	**P**	**13 00 46.4**	**-2.3**
INK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
INK	**Inuvik**	**91.78**	**15**	*e*P	**P**	**13 00 46.4**	**-2.3**
	comp=Z,0.5nm,1.4s						
CBKS	**Cedar Bluff**	**92.42**	**50**	P	**P**	**13 00 52.4**	**+0.8**
CBKS				pmax	pmax		
	comp=Z,380nm,1.1s,mb6.3						
CBKS	**Cedar Bluff**	**92.42**	**50**	*e*P	**P**	**13 00 52.4**	**+0.7**
	comp=Z,380nm,1.1s,mb6.3						
CBKS				*e*PP	PP	13 04 42.5	-0.9
HKT	**Hockley**	**92.44**	**59**	P	**P**	**13 00 52.1**	**+0.4**
HKT				pmax	pmax		
	comp=Z,170nm,1.5s,mb5.8						
HKT	**Hockley**	**92.44**	**59**	*e*P	**P**	**13 00 53.2**	**+1.5**
	comp=Z,171nm,1.5s,mb5.9						
HKT				*e*pP	pP	13 03 02.8	+1.4
HKT				*e*PP	PP	13 04 44.1	+0.5
DGMT	**Dagmar**	**93.06**	**40**	*e*P	**P**	**13 00 54.4**	**-0.1**
	comp=Z,444nm,0.8s,mb6.5						
DGMT				*e*pP	pP	13 03 04.9	+0.6
DGMT				*e*PP	PP	13 04 47.0	-1.3
ULN	**Ulaanbaatar**	**93.17**	**319**	P	**P**	**13 00 54.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,330nm,1.2s,mb6.2						
ULN	**Ulaanbaatar**	**93.17**	**319**	*e*P	**P**	**13 00 54.5**	**-0.5**
	comp=Z,330nm,1.3s,mb6.2						
ULN				*e*pP	pP	13 03 05.9	+1.1
EFI	**East Falkland**	**93.46**	**147**	P	**P**	**13 00 58.7**	**+2.3**
	comp=Z,1µm,1.1s,mb6.8,SNR=8.0						
EFI	**East Falkland**	**93.46**	**147**	P	**P**	**13 00 58.2**	**+1.8**
EFI				pmax	pmax		
	comp=Z,250nm,1.1s,mb6.2						
EFI	**East Falkland**	**93.46**	**147**	*e*P	**P**	**13 00 58.0**	**+1.6**
	comp=Z,246nm,1.1s,mb6.2						
EFI				*e*pP	pP	13 03 06.7	+0.5
SONM	**Songino Array**	**93.57**	**319**	P	**P**	**13 00 55.9**	**-1.0**
	comp=Z,37nm,0.8s,mb5.6,baz=136,slow=3.7,SNR=159						
SONM				PKIKP	PKiKP	13 05 38.4	+0.1
	comp=Z,3.4nm,0.6s,baz=77,slow=1.0,SNR=18						
SONM				S		13 10 36.0	
	comp=Z,1.8nm,0.9s,baz=259,slow=5.9,SNR=3.6						
SONM				PKKPbc	PKKPbc	13 17 58.1	-0.5
	comp=Z,14nm,0.9s,baz=282,slow=3.2,SNR=17						
SONM				PKPPKP		13 26 02.3	
	comp=Z,2.7nm,1.0s,baz=274,slow=2.0,SNR=6.2						
SONM	**Songino Array**	**93.57**	**319**	P	**P**	**13 00 55.9**	**-1.0**
SONM				S		13 10 36.0	
SONM						13 17 58.1	
SONM				pmax	pmax		
	comp=Z,37nm,0.8s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOD	**Bodaibo**	**93.66**	**330**	*e*P	**P**	**13 00 54.4**	**-2.9**
BOD				*e*		13 10 32.6	
BOD				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.7						
NATX	**Nacogdoches**	**93.97**	**58**	*e*P	**P**	**13 01 00.3**	**+1.6**
	comp=Z,59nm,0.9s,mb5.7						
NATX				*e*pP	pP	13 03 10.0	+1.5
YKA	**Yellowknife Ar**	**94.21**	**25**	P	**P**	**13 00 57.8**	**-2.0**
	comp=Z,64nm,0.8s,mb5.8,baz=245,slow=4.3,SNR=415						
YKA				pP	pP	13 03 08.4	-1.2
	comp=Z,12nm,1.1s,baz=242,slow=4.5,SNR=5.0						
YKA				PP	PP	13 04 51.7	-5.4
	comp=Z,10nm,1.0s,baz=240,slow=6.9,SNR=4.5						
YKA				PKiKP	PKiKP	13 05 38.3	-1.1
	comp=Z,2.7nm,0.5s,baz=262,slow=1.4,SNR=9.3						
YKA				S		13 10 38.4	
	comp=Z,0.3nm,0.6s,baz=103,slow=4.7,SNR=2.7						
YKA				PKKPbc	PKKPbc	13 17 56.0	-1.0
	comp=Z,4.4nm,0.4s,baz=41,slow=2.2,SNR=20						
YKA				SKKPbc		13 20 45.0	
	comp=Z,1.2nm,1.0s,baz=153,slow=4.1,SNR=2.6						
YKA				PKPPKP		13 26 07.3	
	comp=Z,1.1nm,0.7s,baz=52,slow=1.7,SNR=6.5						
YKA	**Yellowknife Ar**	**94.21**	**25**	P	**P**	**13 00 57.8**	**-2.0**
YKA				*PP	pP	13 03 08.4	-1.2
YKA						13 04 51.7	
YKA				S		13 10 38.4	
YKA						13 17 56.0	
YKA				pmax	pmax		
	comp=Z,64nm,0.8s						
YKA				pmax	pmax		
	comp=Z,12nm,1.1s						
YKA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
YKA				smax			
	comp=N,1.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**94.21**	**25**	P	**P**	**13 00 57.9**	**-2.0**
YKA				pP	pP	13 03 08.4	-1.2
YKA				PP	PP	13 04 51.7	-5.4
YKW3	**Yellowknife Ar**	**94.24**	**25**	*e*P	**P**	**13 00 58.0**	**-1.9**
YKW3				*e*pP	pP	13 03 08.9	-0.8
YKW3				*e*PP	PP	13 04 52.3	-5.1
KSU1	**Kansas State U**	**94.81**	**51**	*e*P	**P**	**13 01 02.9**	**+0.4**
GTA	**Gaotai**	**95.08**	**310**	⇓P	**P**	**13 01 03.6**	**-0.1**
GTA				AP	pP	13 03 17.3	+3.7
GTA				XP	sP	13 04 12.4	-0.7
GTA				SKS		13 10 44.1	
GTA				S		13 11 33.5	
GTA				AMB	AMB		
	comp=Z,83nm,1.2s,mb5.7						
GTA				AMB	AMB		
	comp=Z,2µm,7.2s						
MIAR	**Mount Ida**	**95.70**	**56**	*e*P	**P**	**13 01 07.3**	**+0.8**
MIAR				*e**PP	pP	13 03 16.4	-0.1
MIAR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.5						
MIAR	**Mount Ida**	**95.70**	**56**	*e*P	**P**	**13 01 07.3**	**+0.7**
	comp=Z,30nm,1.0s,mb5.5						
MIAR				*e*pP	pP	13 03 16.4	-0.1
TIXI	**Tiksi**	**96.11**	**345**	*e*P	**P**	**13 00 59.1**	**-9.3**
TIXI				*e*S		13 10 41.4	
TIXI				*e*SS	SS	13 18 21.5	-4.8
TIXI				pmax	pmax		
	comp=Z,85nm,0.9s,mb6.0						
TIXI				pmax	pmax		
	comp=N,18nm,1.0s						
TIXI				pmax	pmax		
	comp=E,28nm,0.9s						
TIXI				pmax	pmax		
	comp=Z,2µm,6.4s						
TIXI				smax			
	comp=N,2µm,11.3s						
TIXI				smax			
	comp=E,2µm,10.8s						
TIXI	**Tiksi**	**96.11**	**345**	*i* Pr	**P**	**13 01 05.3**	**-3.1**
JTS	**JuntasAbangare**	**96.23**	**81**	*e*P	**P**	**13 01 11.4**	**+2.5**
JTS				pmax	pmax		
	comp=Z,25nm,0.9s						
JTS	**JuntasAbangare**	**96.23**	**81**	*e*P	**P**	**13 01 11.4**	**+2.5**
	comp=Z,24nm,0.8s,mb5.5						
JTS				*e*pP	pP	13 03 19.4	+0.5
JTS				*e*PP	PP	13 05 12.9	+0.4
ZAK	**Zakamensk**	**96.40**	**321**	*e*P	**P**	**13 01 08.4**	**-1.3**
ZAK				*e*		13 05 17.8	
ZAK				pmax	pmax		
	comp=Z,94nm,1.2s,mb5.9						
ZAK				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.3						
ZAK				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.6						
UALR	**University of**	**96.73**	**56**	*e*P	**P**	**13 01 12.5**	**+1.4**
	comp=Z,31nm,1.0s,mb5.5						
UALR				*e*pP	pP	13 03 22.4	+1.2
CFAA	**Coronel Fontan**	**96.89**	**126**	pP	pP	13 03 21.4	-0.6
	baz=236,slow=7.3						
CFAA				PP	PP	13 05 15.4	-2.0
	comp=Z,7.2nm,1.1s,baz=245,slow=5.6,SNR=13						
CFAA				S		13 10 52.5	
	comp=Z,0.5nm,0.8s,baz=72,slow=3.2,SNR=9.2						
CFAA				PKKPbc	PKKPbc	13 17 49.4	-0.6
	comp=Z,1.3nm,0.8s,baz=46,slow=1.7,SNR=9.4						
CFAA				PKPPKP		13 25 57.4	
	comp=Z,0.5nm,0.7s,baz=18,slow=1.8,SNR=4.6						
SHL	**Shillong**	**97.36**	**294**	*i* P	**P**	**13 01 14.5**	**+0.5**
SHL				*e*S		13 10 53.5	
ULM	**Lac du Bonnet**	**98.78**	**40**	P	Pdif	13 01 18.7	-1.5
	comp=Z,20nm,0.9s,baz=259,slow=4.8,SNR=18						
ULM				pP	pP	13 03 30.0	-0.6
	comp=Z,5.9nm,0.7s,baz=284,slow=7.9,SNR=2.6						
ULM				PP	PP	13 05 30.2	-1.4
	comp=Z,7.5nm,0.8s,baz=248,slow=5.0,SNR=4.7						
ULM				S	tx	13 11 00.9	
	comp=Z,2.3nm,0.7s,baz=214,slow=3.6,SNR=3.0						
ULM				PKKPbc	PKKPbc	13 17 44.5	-0.3
	comp=Z,3.3nm,0.3s,baz=72,slow=3.5,SNR=9.3						
ULM				PKPPKP		13 25 58.5	
	comp=Z,2.8nm,0.8s,baz=53,slow=4.5,SNR=4.4						
LSA	**Lhasa**	**99.10**	**298**	*e*Pdif	Pdif	13 01 23.5	+1.8
	comp=Z,36nm,1.1s						
LSA				*e*PKKPbc	PKKPbc	13 17 46.8	+2.8
FVM	**French Village**	**99.11**	**53**	*e*P	Pdif	13 01 22.5	+0.7
FVM				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.7						
FVM	**French Village**	**99.11**	**53**	*e*P	Pdif	13 01 22.5	+0.7
	comp=Z,36nm,1.0s						
FVM				*e*pP	pP	13 03 33.2	+1.1
PARMO	**Parma**	**99.28**	**55**	*e*Pdif	Pdif	13 01 24.1	+1.6
SLM	**Saint Louis**	**99.43**	**53**	P	Pdif	13 01 24.4	+1.2
SLM	**Saint Louis**	**99.43**	**53**	*e*Pdif	Pdif	13 01 22.6	-0.6
SLM				*e*pP	pP	13 03 33.6	+0.1
SLM				*e*SP	sP	13 04 31.2	-1.7
CAL	**Calcutta**	**99.67**	**291**	*e*x	x	13 03 20.2	
CAL				*e*x	x	13 08 27.2	
	comp=Z,9µm,0.2s						
CAL				*e*x	x	13 08 28.1	
UTMT	**University of**	**99.89**	**55**	*e*Pdif	Pdif	13 01 26.5	+1.3
UTMT				*e*pP	pP	13 03 37.1	+1.5
LVC	**Limon Verde**	**100.11**	**118**	P	Pdif	13 01 28.6	+2.4
	comp=Z,11nm,1.0s,baz=283,slow=2.2,SNR=2.1						
LVC				PP	PP	13 05 40.6	-1.0
	comp=Z,30nm,1.1s,baz=243,slow=8.8,SNR=4.8						
LVC				S	tx	13 11 10.1	
	comp=Z,2.1nm,0.6s,baz=78,slow=14,SNR=7.5						
LVC				PKKPbc	PKKPbc	13 17 42.8	+1.6
	comp=Z,18nm,0.5s,baz=9.3,slow=1.6,SNR=17						
LVC	**Limon Verde**	**100.11**	**118**	*e*Pdif	Pdif	13 01 30.5	+4.3
	comp=Z,12nm,1.0s						
LVC				*e*pP	pP	13 03 38.9	+2.3
LVC				*e*PP	PP	13 05 42.4	+0.7
PLAL	**Pickwick Lake**	**100.17**	**57**	*e*Pdif	Pdif	13 01 28.1	+1.6
	comp=Z,17nm,0.9s						
PLAL				*e*pP	pP	13 03 36.4	-0.4
WVT	**Waverly**	**100.65**	**55**	*e*P	Pdif	13 01 31.2	+2.6
WVT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WVT	**Waverly**	**100.65**	**55**	*e*Pdif	Pdif	13 01 31.2	+2.6
	comp=Z,8.6nm,0.8s						
WVT				*e*pP	pP	13 03 44.0	+5.0
WVT				*e*PP	PP	13 05 44.4	-1.2
EYMN	**Ely**	**100.92**	**43**	*e*Pdif	Pdif	13 01 29.4	-0.3
	comp=Z,16nm,1.0s						
EYMN				*e*pP	pP	13 03 39.1	-1.1
FCC	**Fort Churchill**	**102.10**	**32**	*e*P	Pdif	13 01 34.3	-0.7
FCC				pmax	pmax		
	comp=Z,26nm,0.8s						
FCC	**Fort Churchill**	**102.10**	**32**	*e*Pdif	Pdif	13 01 34.2	-0.8
	comp=Z,26nm,0.8s						
FCC				*e*PP	PP	13 05 55.1	-1.2
JIRN	**Jiri**	**102.82**	**295**	*e*P	Pdif	13 01 39.0	+0.8
	comp=Z,46nm,0.9s						
JIRN	**Jiri**	**102.82**	**295**	*e*P	PKKPbc	13 17 34.7	+1.3
	comp=Z,28nm,0.7s						
LPA	**La Plata**	**102.84**	**133**	*de*P	Pdif	13 01 36.0	-2.3
LPA				*e*pP		13 03 48.0	
LPA				*e*PP	PP	13 06 02.0	+0.3
LPA				*e*SKS		13 11 19.0	
LPA				*e*PS	PS	13 15 26.0	-1.5
VIS	**Vishakhapatnam**	**102.97**	**285**	*e*x	PKiKP	13 05 56.7	+1.7
VIS				AMb	AMB	13 06 08.8	
	comp=Z,113nm,1.7s						
GUN	**Gumba**	**103.15**	**295**	*e*P	Pdif	13 01 40.2	+0.5
	comp=Z,65nm,1.0s						
GUN	**Gumba**	**103.15**	**295**	*e*P	PKKPbc	13 17 33.2	+0.7
	comp=Z,84nm,0.7s						
LPAZ	**La Paz**	**103.32**	**112**	Pdiff	Pdif	13 01 45.4	+5.0
	comp=Z,8.9nm,0.8s,baz=210,slow=1.7,SNR=20						
LPAZ				PP	PP	13 06 07.3	+2.1
	comp=Z,31nm,1.2s,baz=268,slow=6.7,SNR=9.4						
LPAZ				SKSac	SKSac	13 11 26.5	+4.0
	comp=Z,2.5nm,0.9s,baz=162,slow=20,SNR=7.1						
LPAZ				PKKPbc	PKKPbc	13 17 32.3	+0.3
	comp=Z,9.9nm,0.7s,baz=78,slow=2.1,SNR=14						
LPAZ				PKPPKP		13 25 52.8	
	comp=Z,3.0nm,1.0s,baz=45,slow=3.1,SNR=3.7						
LPAZ	**La Paz**	**103.32**	**112**	P	Pdif	13 01 45.4	+5.0
LPAZ						13 06 07.4	
LPAZ						13 11 26.5	
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,31nm,1.2s						
LPAZ				pmax	pmax		
	comp=N,3.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ	**La Paz**	**103.32**	**112**	*e*Pdif	Pdif	13 01 46.8	+6.4
	comp=Z,9.3nm,0.8s						
LPAZ				*e*PP	PP	13 06 07.4	+2.1
PKI	**Pulchoki**	**103.47**	**295**	*e*P	Pdif	13 01 41.9	+0.8
	comp=Z,48nm,0.9s						
PKI	**Pulchoki**	**103.47**	**295**	*e*P	PKKPbc	13 17 32.5	+1.0
	comp=Z,20nm,0.7s						
KKN	**Kakani**	**103.64**	**295**	*e*P	Pdif	13 01 42.6	+0.7
	comp=Z,38nm,0.8s						
KKN	**Kakani**	**103.64**	**295**	*e*P	PKKPbc	13 17 32.1	+1.0
	comp=Z,29nm,0.5s						
DMN	**Daman**	**103.75**	**295**	*e*P	Pdif	13 01 42.3	0.0
	comp=Z,85nm,0.9s						
DMN	**Daman**	**103.75**	**295**	*e*P	PKKPbc	13 17 31.3	+0.6
	comp=Z,60nm,1.0s						
MGV	**Manicaragua**	**103.97**	**71**	*e*P	PP	13 06 10.9	+0.9
GKN	**Gorkha**	**104.24**	**295**	*e*P	Pdif	13 01 44.6	+0.1
	comp=Z,65nm,1.0s						
GKN	**Gorkha**	**104.24**	**295**	*e*P	PKKPbc	13 17 29.0	-0.3
	comp=Z,37nm,0.6s						
KOLN	**Koldanda**	**105.08**	**295**	*e*P	Pdif	13 01 48.1	-0.2
	comp=Z,39nm,0.9s						
KOLN	**Koldanda**	**105.08**	**295**	*e*P	PKKPbc	13 17 26.8	0.0
AAM	**Ann Arbor**	**105.13**	**50**	*e*Pdif	Pdif	13 01 49.9	+1.4
RES	**Resolute Bay**	**105.32**	**16**	*e*PKPdf	PKiKP	13 05 57.1	-2.2
CCCC	**Cccc**	**105.76**	**72**	*e*P	PP	13 06 22.0	-1

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MKAR Makanchi Array  109.17 314  Pdiff   Pdif    13 02 05.8 -0.7
     comp=Z,4.9nm,0.7s,baz=80,slow=5.1,SNR=49
MKAR                             PKiKP   PKiKP   13 06 05.1 -1.4
     comp=Z,20nm,0.4s,baz=64,slow=1.1,SNR=68
MKAR                             PKKPbc  PKKPbc  13 17 14.8 +0.4
     comp=Z,24nm,0.9s,baz=281,slow=3.1,SNR=20
MKAR                             PKKP    PKKPbc  13 17 30.1 +16
     comp=Z,11nm,0.9s,baz=297,slow=2.7,SNR=5.4
MKAR                             PKPPKP          13 25 46.4
     comp=Z,2.4nm,1.0s,baz=297,slow=2.7,SNR=5.1
NVS  Novosibirsk     109.24 323  eP      Pdif    13 02 05.7 -1.1
NVS                              pmax    pmax
     comp=Z,30nm,1.6s
SDV  Santo Domingo   109.40  87  PKiKP   PKiKP   13 06 07.0  0.0
     comp=Z,25nm,0.8s,baz=276,slow=3.5,SNR=20
SDV                              SKSac   SKSac   13 11 50.2 +1.4
     comp=Z,18nm,0.9s,baz=358,slow=22,SNR=20
SDV                              PKKP    PKKPbc  13 17 28.8 +15
     comp=Z,17nm,1.0s,baz=111,slow=3.4,SNR=5.3
SDV  Santo Domingo   109.40  87  ePKPdf  PKiKP   13 06 06.7 -0.3
SDV                              ePP     PP      13 06 46.2 -2.9
AKL  Akola           109.47 286  ex      x       13 05 25.2
SIV  San Ignacio     109.61 115  Pdiff   Pdif    13 02 10.6 +2.2
     comp=Z,0.4nm,0.4s,baz=223,slow=19,SNR=2.5
SIV                              PKiKP   PKiKP   13 06 07.1 -0.2
     comp=Z,5.8nm,0.9s,baz=192,slow=2.2,SNR=9.4
SIV                              PP      PP      13 06 51.0 +0.4
     comp=Z,56nm,1.2s,baz=249,slow=11,SNR=17
SIV                              SKSac   SKSac   13 11 51.4 +1.7
     comp=Z,2.3nm,0.9s,baz=31,slow=22,SNR=15
SIV                              PKKPbc  PKKPbc  13 17 13.4 +0.5
     comp=Z,25nm,0.8s,baz=85,slow=5.4,SNR=26
SIV                              PKKP    PKKPbc  13 17 27.8 +15
     comp=Z,16nm,0.9s,baz=84,slow=6.1,SNR=9.9
SIV                              PKPPKP          13 25 36.4
     comp=Z,2.3nm,1.0s,baz=8.2,slow=8.4,SNR=4.2
BHPL Bhopal          109.61 289  ex      PKiKP   13 06 07.9 +0.5
BHPL                             AMb     AMB     13 06 09.8
     comp=Z,100nm,0.9s
MNGI Mangalore       109.73 278  eP      PP      13 06 44.9 -6.6
MNGI                             eS      Sdif    13 13 38.2 +8.2
AGRA Agra            109.90 293  ex      PKiKP   13 06 06.9 -1.1
AGRA                             AMb     AMB     13 06 08.9
     comp=Z,65nm,0.4s
DDI  Dehra Dun       110.33 296  eP      PKiKP   13 06 08.2 -0.5
DDI                              ex      x       13 08 34.2
KLP  Kalpa           110.35 298  eP      PKiKP   13 06 08.5 -0.3
KLP                              AMb     AMB     13 06 12.1
     comp=Z,144nm,0.8s
NDI  New Delhi       110.78 295  eP      PKiKP   13 06 08.0 -1.6
NDI                              eP              13 06 08.7
NDI                              AMb     AMB     13 06 11.4
     comp=Z,98nm,1.1s
AYAN Aya Nagar       110.83 294  eP      PKiKP   13 06 08.9 -0.8
AYAN                             AMb     AMB     13 06 11.3
     comp=Z,72nm,0.7s
SONA Sohna           110.83 294  eP      PKiKP   13 06 07.6 -2.1
SONA                             AMb     AMB     13 06 11.5
     comp=Z,99nm,1.0s
SMLA Simla           111.21 297  ex      PP      13 07 00.8 -1.1
SMLA                             AMb     AMB     13 07 07.9
     comp=Z,164nm,0.8s
KUDL Kundal          111.33 294  eP      PKiKP   13 06 09.5 -1.1
KUDL                             AMb     AMB     13 06 12.6
     comp=Z,70nm,1.6s
SDNR Sundarnagar     111.43 297  eP      PKiKP   13 06 05.0 -5.8
KURK Kurchatov       111.85 318  ePdif   Pdif    13 02 18.0 -0.3
KURK                             ⇓iPKPdf PKiKP   13 06 09.6 -2.0
KURK                             ePKPdf  PKiKP   13 06 10.0 -1.6
BHK  Bhakra          111.89 297  ex      PKiKP   13 06 22.9 +11
KHET Khetri          111.91 294  eP      PKiKP   13 06 10.2 -1.6
KHET                             AMb     AMB     13 06 13.3
     comp=Z,93nm,1.3s
POO  Poona           111.93 283  ex      PKiKP   13 06 34.9 +23
POO                              AMb     AMB     13 06 37.5
     comp=Z,144nm,0.8s
PONG Pong            112.35 298  ex      x       13 05 03.0
PONG                             eP              13 06 13.0
THN  Thein Dam       112.61 298  eP      PKiKP   13 06 11.9 -1.2
AJM  Ajmer           112.68 292  iP      PKiKP   13 06 12.0 -1.2
AJM                              eP              13 06 12.6
AJM                              AMb     AMB     13 06 15.4
     comp=Z,115nm,0.8s
MIV  Mineville/With  112.69  49  ePKPdf  PKiKP   13 06 12.0 -1.3
MIV                              ePP     PP      13 07 11.3 -1.0
ULHL Ulahol          113.11 309  P       PKiKP   13 06 14.1  0.0
     SNR=9.6
KSH  Kashi           113.13 306  iPKP    PKiKP   13 06 16.2 +2.1
KSH                              XPKP            13 09 31.2
KSH                              PKS             13 09 51.0
KSH                              SKS     SKSdf   13 12 32.1 +2.2
KSH                              PP      PP
     comp=Z,430nm,5.6s
QUA2 Belchertown     113.45  51  ePKPdf  PKiKP   13 06 13.6 -1.1
TKM2 Tokmak 2        113.63 310  P       PKiKP   13 06 14.1 -0.9
     SNR=55
TKM2 Tokmak 2        113.63 310  PKIKP   PKiKP   13 06 13.8 -1.2
TKM2                             pmax    pmax
     comp=Z,198nm,1.3s
KZA  Kyzart          113.84 309  P       PKiKP   13 06 15.9 +0.5
     SNR=22
BRYW Bryant College  114.04  51  ePKPdf  PKiKP   13 06 15.2 -0.7
KBK  Karagaybulak    114.09 309  P       PKiKP   13 06 15.6 -0.3
     SNR=38
CHMS Chumysh         114.25 310  P       PKiKP   13 06 15.0 -1.2
     SNR=67
FRU  Bishkek         114.34 309  ⇓iPKIKP PKiKP   13 06 15.0 -1.4
FRU                              pmax    pmax
     comp=Z,220nm,1.2s
UCH  Uchtor          114.39 309  P       PKiKP   13 06 16.8 +0.3
     SNR=50
AAK  Ala-Archa       114.42 309  P       PKiKP   13 06 16.1 -0.4
     SNR=42
AAK  Ala-Archa       114.42 309  eP      Pdif    13 02 34.1 +4.3
AAK                              e               13 06 15.0
AAK  Ala-Archa       114.42 309  ePdif   Pdif    13 02 34.1 +4.3
AAK                              ⇓iPKPdf PKPdf   13 06 14.8 -1.7
AAK                              ePKPdf  PKPdf   13 06 14.9 -1.6
USP  Ospenovka       114.44 310  P       PKiKP   13 06 15.9 -0.7
     SNR=60
EKS2 Erkin-Say       114.95 309  P       PKPdf   13 06 17.0 -0.6
     SNR=60
AML  Almayashu       115.00 309  P       PKPdf   13 06 17.5 -0.2
     SNR=69
SJG  San Juan        115.81  78  PKP     PKPdf   13 06 17.8 -1.4
     comp=Z,97nm,0.9s,baz=336,slow=19,SNR=7.8
SJG  San Juan        115.81  78  PKIKP   PKPdf   13 06 17.8 -1.4
SJG                              pmax    pmax
     comp=Z,97nm,0.9s
SJG  San Juan        115.81  78  ePKPdf  PKPdf   13 06 18.5 -0.7
CPD  Cerro la Pandu  116.01  78  ePKIKP  PKPdf   13 06 19.3 -0.3
CPD  Cerro la Pandu  116.01  78  ePKPdf  PKPdf   13 06 18.9 -0.7
JASL Jaisalmer       116.06 292  eP      PKPdf   13 06 19.4 -0.3
MTP  Monte Pirata    116.36  78  ePKPdf  PKPdf   13 06 20.2 -0.1
MTP                              ePP     PP      13 07 39.5 +1.8
VOSK Vostochnaya     116.53 321  PKIKP   PKPdf   13 06 18.4 -2.2
VOSK                             pmax    pmax
     comp=Z,174nm,1.0s
SCHQ Schefferville   116.73  37  PKP     PKPdf   13 06 19.0 -1.9
     comp=Z,21nm,0.9s,baz=320,slow=4.6,SNR=13
SCHQ                             PKKPbc  PKKPbc  13 16 49.2 -0.2
     comp=Z,3.5nm,0.4s,baz=120,slow=3.6,SNR=8.3
SCHQ Schefferville   116.73  37  PKP     PKPdf   13 06 19.0 -2.0
SCHQ                             PKKPbc  PKKPbc  13 16 49.2 -0.2
BVA0 Borovoye Array  116.86 321  iPKIKP  PKPdf   13 06 19.5 -1.7
BVA0                             pmax    pmax
     comp=Z,54nm,1.2s
BRVK Borovoye        116.92 321  ePKPdf  PKPdf   13 06 20.0 -1.3
BRVK                             ePP     PP      13 07 35.5 -6.0
BRVK                             eSKPdf  SKPdf   13 08 54.6 -6.0
KKAR Karatay Array   117.36 310  iPKIKP  PKPdf   13 06 20.5 -1.7
KKAR                             pmax    pmax
     comp=Z,173nm,1.1s
ZRNK Zerenda         117.70 321  P       Pdif    13 02 44.2 -0.2
ZRNK Zerenda         117.70 321  ePdif   Pdif    13 02 43.9 -0.5
KBS  Kingsbay        118.67 358  e       PKPdf   13 06 23.4 -1.3
KBS                              ePP     PP      13 07 48.0 -5.4
KBS  Kingsbay        118.67 358  PKIKP   PKPdf   13 06 23.3 -1.4
KBS  Kingsbay        118.67 358  eP      PKPdf   13 06 23.4 -1.3
DAG  Danmarks Havn   120.12   5⇑iP      PKPdf   13 06 24.6 -2.9
     comp=Z,52nm,0.6s
DAG                              i               13 07 58.3
DAG  Danmarks Havn   120.12   5⇑ePKIKP  PKPdf   13 06 24.6 -2.9
DAG                              i               13 07 58.3
DAG                              pmax    pmax
     comp=Z,52nm,0.6s
DAG  Danmarks Havn   120.12   5⇑eP      PKPdf   13 06 24.6 -2.9
DAG                              i               13 07 58.3
SFJD Kangerlussuaq   120.57  21  PKP     PKPdf   13 06 26.2 -2.2
     comp=Z,61nm,0.7s,baz=225,slow=1.4,SNR=7.5
SFJD                             PKKPbc  PKKPbc  13 16 35.7 -0.1
     comp=Z,16nm,0.6s,baz=114,slow=3.4,SNR=9.0
SFJD Kangerlussuaq   120.57  21  iP      PKPdf   13 06 26.2 -2.2
     comp=Z,61nm,0.7s
SFJD                             i               13 12 34.5
SFJD                             e               13 14 05.0
SFJD Kangerlussuaq   120.57  21  iPKIKP  PKPdf   13 06 26.2 -2.2
SFJD                             i               13 12 34.5
SFJD                             pmax    pmax
     comp=Z,61nm,0.7s
SUMG Summit          120.63  13  ePKPdf  PKPdf   13 06 27.5 -0.9
SUMG                             ePP     PP      13 08 02.3 -4.3
SUMG                             epPKPdf pPKPdf  13 08 45.4 -1.4
BDFB Brasilia        120.78 121  PKP     PKPdf   13 06 28.9 +0.1
     comp=Z,43nm,0.8s,baz=290,slow=2.1,SNR=34
BDFB                             SKP             13 09 10.5
     comp=Z,13nm,1.0s,baz=258,slow=0.7,SNR=3.1
BDFB                             PKKPbc  PKKPbc  13 16 36.6 +1.5
     comp=Z,32nm,0.7s,baz=84,slow=3.3,SNR=18
BAO  Brasilia Array  120.80 121  PKPdf   PKPdf   13 06 29.0 +0.2
CAM4 Nova Friburgo   121.08 131  ⇓eP     PKPdf   13 06 29.6 +0.2
CAM4                             i               13 06 33.1
OPO  Ambohidratompo  122.50 233  PKKPbc  PKKPbc  13 16 29.8 +1.1
     comp=Z,6.4nm,0.9s,baz=292,slow=1.9,SNR=5.2
BJO1 Bjornoya        122.53 355  eP      PKPdf   13 06 31.7 -0.4
SOKR Solikamsk       122.65 330  c iPKIKP PKPdf  13 06 30.0 -2.4
SOKR                             e               13 08 17.5
SOKR                             pmax    pmax
     comp=Z,310nm,0.7s
ARU  Arti            122.85 326  iPKIKP  PKPdf   13 06 31.2 -1.5
ARU                              e               13 08 17.9
ARU                              ePPP            13 11 08.7
ARU                              ePS     PS      13 18 55.1 +28
ARU  Arti            122.85 326  ePKPdf  PKPdf   13 06 31.4 -1.3
ARU                              ePP     PP      13 08 25.9 +4.5
ARU                              epPKPdf pPKPdf  13 08 50.6 -0.4
ARU                              ePKKPab PKKPab  13 16 28.3 -0.4
AB31 Akbulak array   123.95 318  iPKIKP  PKPdf   13 06 33.4 -1.5
AB31                             pmax    pmax
     comp=Z,284nm,1.2s
AKTO Aktyubinsk      124.89 320  PKIKP   PKPdf   13 06 34.8 -1.8
AKTO                             pmax    pmax
     comp=Z,49nm,1.0s
LVZ  Lovozero        125.75 345  iPKIKP  PKPdf   13 06 36.8 -1.5
LVZ                              i               13 09 46.1
LVZ                              pmax    pmax
     comp=Z,184nm,0.9s
LVZ                              pmax    pmax
     comp=N,27nm,1.1s
LVZ                              pmax    pmax
     comp=E,42nm,0.9s
LVZ                              pmax    pmax
     comp=E,43nm,1.0s
LVZ                              pmax    pmax
     comp=Z,239nm,1.0s
LVZ  Lovozero        125.75 345  ⇑iPKP    PKPdf   13 06 35.0 -3.3
KEV  Kevo            125.81 349  ePKPdf  PKPdf   13 06 36.8 -1.6
KEV                              epPKPdf pPKPdf  13 08 56.1 -0.6
ARCES ARCESS Array B 126.26 350  PKP     PKPdf   13 06 37.5 -1.7
     comp=Z,217nm,0.8s,baz=45,slow=1.3,SNR=86
ARCES                            PKKPbc          13 16 14.0
     comp=Z,31nm,0.7s,baz=203,slow=1.0,SNR=25
ARCES                            PKKP            13 16 56.2
     comp=Z,2.2nm,0.4s,baz=219,slow=2.3,SNR=4.3
ARCES                            SKKPbc          13 19 07.8
     comp=Z,3.1nm,0.6s,baz=163,slow=2.9,SNR=4.0
ARCES                            tx      tx      13 42 12.8
     comp=Z,2.1nm,0.8s,baz=56,slow=4.4,SNR=5.5
ARCES ARCESS Array B 126.26 350  PKP     PKPdf   13 06 37.5 -1.7
ARCES                            PKKPbc          13 16 14.0
ARCES                            PKKP            13 16 56.2
ARCES                            SKKPbc          13 19 07.8
ARE0 ARCESS Array S  126.26 350  ePKPdf  PKPdf   13 06 37.6 -1.7
ARE0                             ePP     PP      13 08 37.6 -6.3
ARE0                             epPKPdf pPKPdf  13 09 02.8 +5.2
ARE0                             eSKPdf  SKPdf   13 09 20.6 +2.2
APA  Apatity         126.31 346  ⇑iPKIKP PKPdf   13 06 36.4 -2.9
APA                              e*PP            13 08 39.0
APA                              ePPP            13 11 38.0
APA                              e               13 12 50.0
APA                              ePS     SP      13 17 47.0 -2.0
APA                              pmax    pmax
     comp=Z,160nm,1.0s
JMIC Jan Mayen       126.50   4  e       PKPdf   13 06 38.5 -1.2
JMIC                             ePP     PP      13 08 43.2 -2.2
SUR  Sutherland      126.83 200  PKP     PKPdf   13 06 41.5 +1.2
SUR                              PKKPbc          13 16 13.0
TRO  Tromso          127.13 353  e               13 06 30.8
TRO                              ePP     PP      13 08 43.1 -6.4
TRO  Tromso          127.13 353  eP      PKPdf   13 06 37.1 -3.8
BOSA Boshof          128.52 207  PKhKP           13 06 31.8
     comp=Z,2.1nm,0.3s,baz=187,slow=4.7,SNR=9.6
BOSA                             PKP     PKPdf   13 06 45.0 +1.4
     comp=Z,96nm,0.8s,baz=167,slow=2.0,SNR=38
BOSA                             PP      PP      13 09 00.6 +2.1
     comp=Z,61nm,0.8s,baz=158,slow=6.3,SNR=7.8
BOSA                             PKKPbc          13 16 04.7
     comp=Z,5.8nm,0.8s,baz=345,slow=4.2,SNR=6.2
BOSA                             PKKP            13 16 50.3
     comp=Z,7.0nm,0.9s,baz=46,slow=2.7,SNR=3.2
BOSA Boshof          128.52 207  iPKHKP           13 06 31.8
BOSA                                             13 06 45.0
BOSA                                             13 09 00.6
BOSA                             pmax    pmax
     comp=Z,2.0nm,0.4s
BOSA                             pmax    pmax
     comp=Z,96nm,0.8s
BOSA                             pmax    pmax
     comp=Z,61nm,0.8s
BOSA                             pmax    pmax
     comp=Z,6.0nm,0.8s
BOSA                             pmax    pmax
     comp=Z,7.0nm,0.9s
BOSA Boshof          128.52 207  ePKPdf  PKPdf   13 06 45.2 +1.6
BOSA                             epPKPdf pPKPdf  13 09 03.8 +1.9
KLMR Klimovskoe      129.33 337  c iPKIKP PKPdf  13 06 44.1 -1.0
KLMR                             e               13 08 58.5
KLMR                             pmax    pmax
     comp=Z,550nm,1.6s
PECR Pechory         130.16 331  ePKIKP  PKPdf   13 06 45.4 -1.3
PECR                             e               13 09 05.4
PECR                             e               13 12 00.0
PECR                             e               13 20 04.0
PECR                             pmax    pmax
     comp=Z,1μm,8.0s
PECR                             pmax    pmax
     comp=Z,3μm,7.0s
PECR                             pmax    pmax
     comp=E,1μm,4.0s
BORG Borgarnes       130.61  13  PKP     PKPdf   13 06 46.9 -0.7
     comp=E,63nm,0.6s,baz=263,slow=1.3,SNR=18
BORG                             SKPbc   SKPbc   13 09 17.9 +1.6
     comp=E,46nm,0.7s,baz=318,slow=2.6,SNR=7.5
BORG Borgarnes       130.61  13  ePKPdf  PKPdf   13 06 47.2 -0.4
BORG                             eSKPbc  SKPbc   13 09 16.9 +0.7
LBTB Lobatse         131.47 209  PKhKP           13 06 36.9
     comp=E,10nm,0.8s,baz=144,slow=3.8,SNR=13
LBTB                             PKP     PKPdf   13 06 51.1 +2.0
     comp=E,79nm,0.8s,baz=172,slow=3.1,SNR=30
LBTB                             SKPbc   SKPbc   13 09 22.9 +3.6
     comp=E,35nm,1.0s,baz=134,slow=3.0,SNR=7.4
LBTB Lobatse         131.47 209  iPKHKP          13 06 36.9
LBTB                                             13 06 51.1
LBTB                                             13 09 22.9
LBTB                             pmax    pmax
     comp=Z,10.0nm,0.8s
LBTB                             pmax    pmax
     comp=Z,79nm,0.8s
LBTB                             pmax    pmax
     comp=N,35nm,1.0s
LBTB Lobatse         131.47 209  ePKPdf  PKPdf   13 06 51.2 +2.0
LBTB                             eSKPbc  SKPbc   13 09 23.0 +3.7
KAF  Kangasniemi     132.52 345  epkp            13 06 33.2
FINES FINESS Array B 133.15 344  PKhKP           13 06 36.2
     comp=N,3.3nm,0.4s,baz=43,slow=3.7,SNR=20
FINES                            PKP     PKPdf   13 06 52.0 -0.4
     comp=N,69nm,0.7s,baz=45,slow=2.0,SNR=39
FINES                            SKPbc   SKPbc   13 09 26.1 +1.1
     comp=N,35nm,0.7s,baz=18,slow=4.4,SNR=6.5
FINES                            PKKPbc          13 15 52.5
     comp=N,1.4nm,0.5s,baz=209,slow=2.1,SNR=4.5
FINES                            PKKP            13 16 42.1
     comp=N,1.4nm,0.5s,baz=143,slow=1.0,SNR=3.6
FINES                            SKKPbc          13 18 43.5
     comp=N,3.0nm,0.6s,baz=129,slow=5.3,SNR=4.0
FINES                            tx      tx      13 42 43.2
     comp=N,3.3nm,0.8s,baz=45,slow=2.0,SNR=10
FINES FINESS Array B 133.15 344  iPKHKP          13 06 36.3
FINES                                            13 06 52.0
FINES                                            13 09 26.1
FINES                            S       SP      13 18 43.5 -4.4
FINES                            pmax    pmax
     comp=Z,3.0nm,0.4s
FINES                            pmax    pmax
     comp=Z,69nm,0.7s
FINES                            pmax    pmax
     comp=N,35nm,0.7s
FINES                            pmax    pmax
     comp=Z,1.0nm,0.5s
FINES                            pmax    pmax
     comp=Z,1.0nm,0.5s
FINES                            smax
     comp=N,3.0nm,0.6s
FINES FINESS Array B 133.15 344  PKP     PKPdf   13 06 52.0 -0.4
FINES                            SKPbc   SKPbc   13 09 26.1 +1.1
FINES                            PKKPbc          13 15 52.5
FINES                            PKKP            13 16 42.1
FINES                            SKKPbc          13 18 43.5
PUL  Pulkovo         133.29 341  iPKIKP  PKPdf   13 06 52.8 +0.2
PUL                              i               13 09 06.8
PUL                              iPPP            13 12 25.8
PUL                              pmax    pmax
     comp=N,417nm,0.9s
PUL                              pmax    pmax
     comp=E,419nm,0.9s
PUL                              pmax    pmax
     comp=Z,344nm,0.9s
PUL                              pmax    pmax
     comp=Z,262nm,0.8s
PUL                              pmax    pmax
     comp=N,517nm,0.9s
PUL                              pmax    pmax
     comp=E,276nm,0.9s
MOS  Moscow          133.42 333  ePKIKP  PKPdf   13 06 51.7 -1.1
MOS                              e               13 09 29.2
MOS                              ePPP            13 12 25.7
MOS                              pmax    pmax
     comp=Z,500nm,1.2s
MOS                              pmax    pmax
     comp=Z,377nm,1.2s
MAK  Makhachkala     133.97 313  c iPKIKP PKPdf  13 06 50.0 -3.8
MAK                              iPPP            13 12 32.0
MAK                              pmax    pmax
     comp=Z,3μm,5.0s
MAK                              pmax    pmax
     comp=Z,2μm,8.0s
MAK                              MLR     MLR
     comp=Z,2μm,16.0s
OBN  Obninsk         134.28 333  d iPKIKP PKPdf  13 06 54.2 -0.2
OBN                              e               13 09 30.6
OBN                              e               13 12 42.4
OBN                              eSS     SS      13 26 38.1 -0.4
OBN                              pmax    pmax
     comp=Z,174nm,0.9s
OBN                              MLR     MLR
     comp=Z,900nm,17.0s
OBN  Obninsk         134.28 333  ePKPdf  PKPdf   13 06 54.3 -0.1
OBN                              eSKPab          13 09 30.2
GNBR Gunib           134.53 312  ePKHKP          13 06 40.7
GNBR                             eS      PKPdf   13 06 54.7 -0.2
GNBR                             pmax    pmax
     comp=Z,51nm,0.3s
VOR  Voronezh        135.11 328  PKIKP   PKPdf   13 06 56.0  0.0
VOR                              e               13 09 35.0
VOR                              pmax    pmax
     comp=N,100nm,1.1s
VOR                              pmax    pmax
     comp=Z,370nm,1.1s
VOR                              pmax    pmax
     comp=E,80nm,1.0s
VRSR Storozhevoye    135.41 327  iPKIKP  PKPdf   13 06 55.6 -0.9
VRSR                             e               13 12 45.9
VRSR                             pmax    pmax
     comp=Z,50nm,1.1s
VRSR                             pmax    pmax
     comp=N,10.0nm,0.9s
VRSR                             pmax    pmax
     comp=E,10.0nm,0.9s
VORD Divnogorie      135.49 327  ePKIKP  PKPdf   13 06 54.8 -1.9
VORD                             pmax    pmax
     comp=Z,30nm,0.9s
VORD                             pmax    pmax
     comp=N,40nm,1.0s
VORD                             pmax    pmax
     comp=E,20nm,1.0s
DGRG David-gareji    135.95 312  P               13 06 46.9
RCBR Riachuelo       136.05 119  ePKPdf          13 06 48.2
RCBR                             epPKPdf SKPbc   13 09 35.7 +1.6
GOF  Gofitskoye      136.20 317  ePKHKP          13 06 51.2
GOF                              pmax    pmax
     comp=Z,160nm,0.8s
TBLG Delisi          136.31 312  P               13 06 47.5
NB2  NORSAR Subarra  136.31 353  PKPd            13 06 43.6
     comp=Z,38nm,1.0s,baz=14,slow=1.8
NB2  NORSAR Subarra  136.31 353  PKPd            13 06 43.6
     baz=14,slow=1.8
NOA  NORSAR Array B  136.31 353  PKhKP           13 06 44.6
     comp=Z,20nm,0.8s,baz=11,slow=4.5,SNR=40
NOA                              PKP     PKPdf   13 06 58.1 -0.1
     comp=Z,56nm,0.7s,baz=13,slow=4.0,SNR=32
NOA                              SKPbc   SKPbc   13 09 38.3 +3.4
     comp=Z,21nm,0.9s,baz=11,slow=4.5,SNR=6.4
NOA                              PP      PP      13 09 44.3 -3.3
     comp=Z,17nm,0.8s,baz=12,slow=3.1,SNR=8.4
NOA                              PKKP            13 16 36.3
     comp=Z,2.3nm,0.8s,baz=179,slow=1.7,SNR=4.2
NOA                              SKKPbc          13 18 31.6
     comp=Z,1.5nm,0.8s,baz=192,slow=5.9,SNR=4.0
NOA                              tx      tx      13 42 56.6
     comp=Z,6.3nm,1.0s,baz=12,slow=3.1,SNR=11
NOA  NORSAR Array B  136.31 353  iPKHKP          13 06 44.7
NOA                                              13 06 58.1
NOA                                              13 09 44.3
NOA                              pmax    pmax
     comp=Z,20nm,0.8s
NOA                              pmax    pmax
     comp=Z,56nm,0.7s
NOA                              pmax    pmax
     comp=N,21nm,0.9s
NOA                              pmax    pmax
     comp=Z,17nm,0.8s
NOA                              pmax    pmax
     comp=Z,2.0nm,0.8s
NOA  NORSAR Array B  136.31 353  PKP     PKPdf   13 06 58.1 -0.1
NOA                              SKPbc   SKPbc   13 09 38.3 +3.4
NOA                              PP      PP      13 09 44.3 -3.2
NOA                              PKKP            13 16 36.3
NOA                              SKKPbc          13 18 31.6
QRN  Al-Qurain       136.43 293  eP              13 06 47.0
ZEI  Tsey            136.53 314  iPKHKP          13 06 48.0
NAO01 NORSAR Array S 136.54 353  ePKPdf          13 06 46.3
UMR  Umm Al-Rimmam   136.54 294  eP              13 06 46.4
KBD  Kabd            136.59 294  eP              13 06 46.5
RDF  Al-Radifah      136.74 293  eP              13 06 47.7
GNI  Garni           136.82 310  ePKPdf  PKPdf   13 07 00.5 +1.3
GNI                              epPKPdf pPKPdf  13 09 22.9 +5.4
MIB  Mutribah        136.85 295  eP              13 06 46.9
HFS  Hagfors         136.88 351  PKhKP           13 06 45.6
     comp=Z,24nm,0.4s,baz=72,slow=4.7,SNR=40
HFS                              PKP     PKPdf   13 06 58.8 -0.5
     comp=Z,92nm,0.8s,baz=135,slow=2.0,SNR=21
HFS                              SKPbc   SKPbc   13 09 38.2 +1.7
     comp=Z,33nm,0.8s,baz=27,slow=3.3,SNR=5.3
HFS                              SKKPbc          13 18 30.9
     comp=Z,5.8nm,0.8s,baz=214,slow=5.3,SNR=3.9
HFS                              tx      tx      13 42 58.8
     comp=Z,4.5nm,0.9s,baz=288,slow=4.7,SNR=4.5
HFS  Hagfors         136.88 351  iPKHKP          13 06 45.6
HFS                                              13 06 58.8
HFS                              pmax    pmax
     comp=Z,24nm,0.4s
HFS                              pmax    pmax
     comp=Z,92nm,0.8s
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HFS			pmax	pmax		
	comp=N,33nm,0.8s					
HFS	**Hagfors**	**136.88 351**	PKP	PKPdf	13 06 58.8	-0.5
HFS			SKPbc	SKPbc	13 09 38.2	+1.7
HFS			SKKPbc		13 18 30.9	
KIV	**Kislovodsk**	**136.88 316**	*e*PKHKP		13 06 46.1	
KIV			*e**SP		13 09 58.8	
KIV			*e*		13 12 52.8	
KIV			pmax	pmax		
	comp=Z,188nm,1.2s					
KIV	**Kislovodsk**	**136.88 316**	*e*PKPdf	PKPdf	13 07 00.3	+1.0
KIV			*ep*PKPdf	pPKPdf	13 09 18.9	+1.3
KIV			*e*SKPbc	SKPbc	13 09 37.8	+1.2
KIV			*e*SKPab		13 09 41.7	
KIV			*e*PP	PP	13 09 49.8	-1.2
ONI	**Oni**	**136.90 314**	P	PKPdf	13 06 51.4	-7.9
NAY	**Al-Naaiem**	**136.98 294**	*e*P	PKPdf	13 06 47.4	-12
AKH	**Akhalkalaki**	**137.30 312**	P	PKPdf	13 07 01.4	+1.4
CLDR	**Caldiran**	**137.74 309**	P	PKPdf	13 06 52.8	-8.0
KONO	**Kongsberg**	**137.85 354**	*e*		13 06 48.6	
KONO			AMb	AMB	13 07 03.1	
	comp=Z,161nm,1.5s					
KONO			*i*		13 09 13.4	
LSZ	**Lusaka**	**138.01 220**	PKhKP		13 06 53.0	
	comp=Z,28nm,0.8s,baz=155,slow=3.0,SNR=30					
LSZ			PKP	PKPdf	13 07 03.2	+1.9
	comp=Z,72nm,0.5s,baz=134,slow=3.5,SNR=21					
LSZ			pPKP	pPKPdf	13 09 20.9	+1.2
	comp=Z,8.0nm,0.8s,baz=199,slow=4.0,SNR=1.4					
LSZ			SKPbc	SKPbc	13 09 43.4	+3.7
	comp=Z,28nm,0.7s,baz=153,slow=4.5,SNR=4.8					
LSZ	**Lusaka**	**138.01 220**	*i* PKHKP		13 06 53.0	
LSZ					13 07 03.2	
LSZ			pmax	pmax		
	comp=Z,28nm,0.8s					
LSZ			pmax	pmax		
	comp=Z,72nm,0.5s					
LSZ			pmax	pmax		
	comp=Z,8.0nm,0.8s					
LSZ			pmax	pmax		
	comp=N,28nm,0.7s					
LSZ	**Lusaka**	**138.01 220**	*e*PKPdf		13 06 53.1	
LSZ			PKP	PKPdf	13 07 03.2	+1.9
LSZ			pPKP	pPKPdf	13 09 20.9	+1.1
LSZ			*e*SKPbc	SKPbc	13 09 41.1	+1.3
LSZ			SKPbc	SKPbc	13 09 43.4	+3.7
VANB	**Van**	**138.30 308**	P	PKPdf	13 06 53.7	-8.1
TVAN	**Van**	**138.31 308**	*i* P		13 06 51.2	
HKR	**Hakkari**	**138.33 307**	P		13 06 53.5	
ARTV	**Artvin**	**138.48 313**	*i* P		13 06 46.4	
CUKT	**Cukurca**	**138.53 306**	P		13 06 53.3	
BHD	**Baghdad**	**138.85 300**	*ex*	x	13 06 52.5	
BHD			*ex*	x	13 09 21.0	
BHD			*ex*	x	13 09 28.0	
BHD			*ex*	x	13 10 42.0	
BHD			*ex*	x	13 12 23.0	
BHD			*ex*	x	13 14 55.0	
SOC	**Sochi**	**138.99 317***c*	*i* PKHKP		13 06 53.9	
SOC			*e*		13 13 19.7	
RSC	**Scourie**	**139.22 6**	*e*P		13 06 54.6	
RSC	**Scourie**	**139.22 6**	*e*P		13 06 54.6	
ERZM	**Erzurum**	**139.34 311**	*i* P		13 06 55.0	
EZM	**Erzurum**	**139.35 311**	P		13 06 57.4	
BNGL	**BINGOL**	**139.84 310**	*i* P		13 06 52.1	
BTMT	**Batman**	**139.84 309**	P		13 06 58.1	
ANN	**Anapa**	**139.85 320**	*i* PKHKP		13 06 58.6	
ANN			*e*SS	SS	13 28 17.3	+34
ANN			*e*SSS		13 33 02.2	
ANN			pmax	pmax		
	comp=Z,169nm,1.8s					
TSUM	**Tsumeb**	**140.03 204**	PKhKP		13 07 00.2	
	comp=Z,20nm,0.4s,baz=145,slow=4.3,SNR=63					
TSUM			pPKP	pPKPdf	13 09 24.3	+0.8
	comp=Z,16nm,0.9s,baz=310,slow=7.3,SNR=1.0					
TSUM			SKPbc	SKPbc	13 09 49.9	+4.6
	comp=Z,43nm,0.9s,baz=148,slow=4.9,SNR=4.4					
TSUM	**Tsumeb**	**140.03 204**	*e*PKPdf	PKPdf	13 06 59.3	-5.7
TSUM			*ep*PKPdf	pPKPdf	13 09 30.2	+6.7
TSUM			*e*SKPbc	SKPbc	13 09 49.4	+4.1
TSUM			*e*PP	PP	13 10 10.8	+0.6
TSUM			*es*PKPdf		13 10 19.6	
MACK	**Trabzon**	**140.08 313**	*i* P		13 06 53.1	
SUW	**Suwalki**	**140.25 340**	*e*PKPdf	PKPdf	13 06 59.5	-5.9
SUW			*ep*PKPdf	pPKPdf	13 09 25.5	+1.6
SUW			*e*		13 09 49.3	
SUW			*e*PP	PP	13 10 07.0	-4.5
SUW			*e*SKS	SKSdf	13 13 02.8	-17
SUW			*e*SS	SS	13 28 22.8	+35
SUW	**Suwalki**	**140.25 340**	*e*PKHKP		13 06 59.5	
SUW			*e*		13 10 07.0	
SUW			*e*SS	SS	13 28 22.8	+35
SUW	**Suwalki**	**140.25 340**	*e*PKPdf	PKPdf	13 06 59.2	-6.2
KMBO	**Kilima Mbogo**	**140.27 245**	PKhKP		13 07 00.6	
	comp=Z,59nm,1.0s,baz=68,slow=3.8,SNR=54					
KMBO			SKPbc	SKPbc	13 09 50.3	+4.5
	comp=Z,13nm,0.8s,baz=113,slow=5.1,SNR=4.6					
KMBO	**Kilima Mbogo**	**140.27 245**	*i* PKHKP		13 07 00.6	
KMBO			pmax	pmax		
	comp=Z,59nm,1.0s					
KMBO			pmax	pmax		
	comp=N,13nm,0.8s					
KMBO	**Kilima Mbogo**	**140.27 245**	*e*PKPdf	PKPdf	13 07 01.7	-3.7
KMBO			*e*SKPbc	SKPbc	13 09 50.9	+5.0
AKASG	**Malin Array Be**	**140.55 332**	PKhKP		13 06 58.3	
	comp=N,23nm,0.3s,baz=38,slow=3.8,SNR=85					
AKASG			PKP	PKPdf	13 07 05.9	0.0
	comp=N,61nm,0.5s,baz=44,slow=3.3,SNR=45					
AKASG			pPKP	pPKPdf	13 09 24.3	-0.2
	comp=N,22nm,1.0s,baz=22,slow=2.0,SNR=2.8					
AKASG			SKPbc	SKPbc	13 09 49.3	+2.8
	comp=N,20nm,0.9s,baz=40,slow=3.4,SNR=4.0					
AKASG			SKKPbc		13 18 18.2	
	comp=N,2.2nm,0.6s,baz=225,slow=4.4,SNR=8.1					
AKASG	**Malin Array Be**	**140.55 332**	*i* PKHKP		13 06 58.3	
AKASG					13 07 05.9	
AKASG			pmax	pmax		
	comp=Z,23nm,0.3s					
AKASG			pmax	pmax		
	comp=Z,61nm,0.5s					
AKASG			pmax	pmax		
	comp=Z,22nm,1.0s					
AKASG			pmax	pmax		
	comp=N,20nm,0.9s					
AKASG	**Malin Array Be**	**140.55 332**	PKP	PKPdf	13 07 05.9	0.0
AKASG			pPKP	pPKPdf	13 09 24.3	-0.2
AKASG			SKPbc	SKPbc	13 09 49.3	+2.8
AKASG			SKKPbc		13 18 18.2	
MARD	**Mardin**	**140.66 308**	*i* P		13 06 52.1	
KELT	**Kelkit**	**140.75 312**	*i* P		13 06 51.2	
MUD	**Monsted U'grnd**	**141.03 353**	*i* P		13 07 00.4	
	comp=N,134nm,0.6s					
MUD			*e*		13 09 23.4	
MUD			*i*		13 09 51.4	
MUD			*i*		13 10 42.2	
MUD			*e*		13 13 04.7	
MUD						
	comp=Z,860nm,18.0s					
MUD	**Monsted U'grnd**	**141.03 353**	*i* PKHKP		13 07 00.4	
MUD			pmax	pmax		
	comp=Z,130nm,0.6s					
MUD			MLR	MLR		
	comp=Z,870nm,18.0s					
GRSN	**GIRESUNGRSN**	**141.12 314**	*i* P		13 06 56.0	
COP	**Copenhagen**	**141.34 350**	*i* P	PKPdf	13 07 01.8	-5.6
	comp=Z,52nm,0.5s					
COP			*i*		13 09 21.7	
COP			*i*		13 10 51.4	
COP			*i*		13 13 00.9	
COP			*e*		13 14 04.7	
COP						
	comp=Z,580nm,18.0s					
COP	**Copenhagen**	**141.34 350**	*e*PKHKP		13 07 01.8	
COP			pmax	pmax		
	comp=Z,52nm,0.5s					
COP			MLR	MLR		
	comp=Z,590nm,18.0s					
COP	**Copenhagen**	**141.34 350**	*e*P	PKPdf	13 07 01.8	-5.6
COP			*i*		13 09 21.7	
COP			*i*		13 10 51.4	
COP			*i*		13 13 00.9	
COP			*e*		13 14 04.7	
COP			LR	LR		
	comp=Z,590nm,18.0s					
BSD	**Bornholm Skovb**	**141.44 348**	⇑*i* P	PKPdf	13 07 01.3	-6.2
	comp=Z,179nm,0.7s					
BSD			*i*		13 09 24.6	
BSD			*e*		13 09 51.7	
BSD			*i*		13 10 41.7	
BSD			*i*		13 13 00.3	
BSD						
	comp=Z,2μm,18.0s					
BSD	**Bornholm Skovb**	**141.44 348**	⇑*i*PKHKP		13 07 01.3	
BSD			pmax	pmax		
	comp=Z,180nm,0.7s					
BSD			MLR	MLR		
	comp=Z,2μm,18.0s					
ELZG	**Elazig**	**141.58 310**	*i* P	PKPdf	13 07 01.7	-6.0
MALT	**Malatya**	**142.06 310**	P	PKPdf	13 07 03.9	-4.8
MALT	**Malatya**	**142.06 310**	⇑PKIKP	PKPdf	13 07 06.0	-2.6
MALT	**Malatya**	**142.06 310**	*e*PKPdf	PKPdf	13 07 05.9	-2.8
RGN	**Rugen**	**142.28 349**	*e*PKPdf	PKPdf	13 07 05.6	-3.4
EKA	**Eskdalemuir Ar**	**142.38 5**	PKhKP		13 07 04.3	
	comp=Z,98nm,0.8s,baz=346,slow=2.8,SNR=124					
EKA			PKKP		13 16 25.1	
	comp=Z,4.4nm,0.9s,baz=90,slow=1.7,SNR=3.9					
EKA			SKKPbc		13 18 10.1	
	comp=Z,3.6nm,0.8s,baz=158,slow=4.5,SNR=3.5					
EKA	**Eskdalemuir Ar**	**142.38 5**	*i* PKHKP		13 07 04.4	
EKA			pmax	pmax		
	comp=Z,98nm,0.8s					
EKA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
ESK	**Eskdalemuir**	**142.39 5**	*e*PKHKP		13 07 04.2	
WAR	**Warsaw**	**142.45 341**	*e*PKPdf	PKPdf	13 07 06.3	-3.0
WAR			*ep*PKPdf	pPKPdf	13 09 30.1	+2.2
WAR			*e*SKS	SKSdf	13 13 09.6	-13
WAR			*e*SS	SS	13 28 52.7	+39
ATAB	**Bozova**	**142.47 309**	*i* P	PKPdf	13 07 02.7	-6.7
BYBT	**Boyabat**	**143.21 317**	P	PKPdf	13 07 09.4	-1.3
KMPD	**K-Podol'skiy**	**143.34 332**	P	PKPdf	13 07 08.0	-2.9
KIS	**Kishinev**	**143.35 329***c*	*i*PKHKP		13 07 07.0	
KIS			*e*		13 10 28.0	
KIS			*e*		13 22 03.0	
KIS			*e*SS	SS	13 28 22.0	-1.6
KIS			pmax	pmax		
	comp=Z,8μm,10.0s					
KIS			pmax	pmax		
	comp=Z,5μm,16.0s					
KIS			MLR	MLR		
	comp=Z,1μm,20.0s					
KIS			MLR	MLR		
	comp=Z,1μm,22.0s					
BSEG	**Bad Segeberg**	**143.35 351**	*e*PKP	PKPdf	13 07 08.5	-2.4
GAZ	**Gaziantep**	**143.38 309**	P	PKPdf	13 07 10.2	-0.8
LVV	**L'vov**	**143.39 336**	*e*PKIKP	PKPdf	13 07 08.0	-3.0
LVV			*e*		13 10 22.0	
LVV	**L'vov**	**143.39 336**	*e*P	PKPdf	13 07 08.9	-2.1
IAS	**Iasi**	**143.83 330**	⇓P	PKPdf	13 07 10.1	-1.6
IAS	**Iasi**	**143.83 330**	⇓PKIKP	PKPdf	13 07 10.2	-1.5
IAS	**Iasi**	**143.83 330**	P	PKPdf	13 07 10.7	-1.0
DCN	**Croghan**	**143.87 9**	⇓*i*P	PKPdf	13 07 09.6	-2.2
TOS	**Tosya**	**143.91 317**	P	PKPdf	13 07 11.6	-0.3
CORM	**Corum**	**143.93 315**	P	PKPdf	13 07 12.2	+0.3
DLF	**Lyons Farm**	**144.03 8**	⇓*i*P	PKPdf	13 07 10.2	-1.9
KWP	**Kalwaria**	**144.05 337**	*e*PKPdf	PKPdf	13 07 11.3	-0.8
KWP			*ep*PKPdf	pPKPdf	13 09 32.7	+2.0
KWP			*e*SKS	SKSdf	13 13 10.3	-15
RUE	**Ruedersdorf**	**144.15 347**	*e*PKPdf	PKPdf	13 07 11.1	-1.2
RUE			*e*PKPbc	PKPdf	13 07 11.7	-0.6
RUE	**Ruedersdorf**	**144.15 347**	*e*PKPdf	PKPdf	13 07 11.2	-1.1
KOZT	**Kozan**	**144.27 310**	P	PKPdf	13 07 12.3	-0.2
COBT	**Iskenderun**	**144.33 308**	*i* P	PKPdf	13 07 12.3	-0.3
CANT	**Cankiri**	**144.39 316**	P	PKPdf	13 07 13.0	+0.3
CEYT	**Ceyhan**	**144.52 309**	P	PKPdf	13 07 13.6	+0.7
HTY	**Hatay**	**144.57 308**	P	PKPdf	13 07 13.5	+0.5
ELDT	**Eldivan**	**144.57 316**	*i* P	PKPdf	13 07 12.3	-0.7
OJC	**Ojcow**	**144.58 340**	*e*PKPdf	PKPdf	13 07 12.6	-0.4
OJC			*e*PKiKP	PKiKP	13 07 16.0	-1.0
OJC			*e*		13 09 26.5	
OJC			*e*SKSdf	SKSdf	13 13 27.9	+1.8
OJC			*e*SS	SS	13 28 32.8	-4.8
OJC			L		14 04 15.3	
	comp=Z,11nm,20.9s					
OJC	**Ojcow**	**144.58 340**	*i* PKIKP	PKPdf	13 07 16.0	+3.0
OJC			*e*		13 09 26.5	
OJC			*e*		13 13 27.9	
OJC			*e*SS	SS	13 28 32.8	-4.8
OJC	**Ojcow**	**144.58 340**	*e*PKPdf	PKPdf	13 07 12.6	-0.4
OJC			*e*PKPdf	PKPdf	13 07 16.0	+3.0
OJC			*e*		13 09 26.5	
OJC			*e*SKSdf	SKSdf	13 13 27.9	+1.8
OJC			*e*SS	SS	13 28 32.8	-4.8
OJC			LR	LR		
	comp=Z,11μm,20.9s					
BURAR	**Bucovina Array**	**144.60 332**	⇓P	PKPdf	13 07 12.8	-0.3
BURAR	**Bucovina Array**	**144.60 332**	P	PKPdf	13 07 12.9	-0.2
SAFT	**Safranbolu**	**144.67 318**	P	PKPdf	13 07 12.6	-0.6
VAL	**Valentia**	**144.68 13**	⇓*i*P	PKPdf	13 07 12.2	-1.0
STHS	**Stebnicka Huta**	**144.76 338**	*e*PKP	PKPdf	13 07 13.5	+0.2
STHS			*e*		13 09 38.2	
STHS	**Stebnicka Huta**	**144.76 338**	*e*PKP	PKPdf	13 07 13.5	+0.2
STHS			*e*		13 09 38.1	
KOLS	**Kolonicke sedl**	**144.78 336**	*e*PKP	PKPdf	13 07 13.5	+0.1
BR131	**Keskin Array S**	**144.81 315**	*e*PKPdf	PKPdf	13 07 14.2	+0.8
BR131			*ep*PKPdf	pPKPdf	13 09 33.1	+1.0
BR131			*e*SKPbc	SKPbc	13 10 00.7	+3.8
BR131			*es*PKPdf		13 10 30.8	
BR131			*e*PP	PP	13 10 38.6	0.0
BRTR	**Keskin Array B**	**144.81 315**	PKP	PKPdf	13 07 12.2	-1.3
	comp=Z,378nm,0.5s,baz=139,slow=2.9,SNR=510					
BRTR			pPKP	pPKPdf	13 09 32.8	+0.7
	comp=Z,34nm,1.0s,baz=147,slow=0.3,SNR=4.0					
BRTR			SKP		13 09 52.1	
	comp=Z,22nm,1.0s,baz=117,slow=3.2,SNR=2.9					
BRTR			SKKPbc		13 18 01.0	
	comp=Z,19nm,0.8s,baz=229,slow=3.6,SNR=16					
NIG	**Nigde**	**144.88 312**	P	PKPdf	13 07 15.2	+1.6
KARA	**Karaisali**	**144.93 310**	P	PKPdf	13 07 14.5	+0.9
KAMT	**Kaman**	**144.93 314**	P	PKPdf	13 07 13.5	-0.1
CFR	**Carcaliu**	**144.94 327**	⇑P	PKPdf	13 07 12.7	-0.9
UZH	**Uzhgorod**	**145.02 336**	*e*PKIKP	PKPdf	13 07 14.0	+0.2
FKH	**Fakeheh**	**145.02 305**	*e*P	PKPdf	13 07 14.3	+0.5
KSP	**Ksiaz**	**145.07 344**	*e*PKPdf	PKPdf	13 07 14.6	+0.7
KSP			*ep*PKPdf	pPKPdf	13 09 32.2	-0.3
KSP			*e*SKS	SKSdf	13 13 16.5	-10
KSP			*e*SS	SS	13 28 50.3	+7.3
KSP			*e*		13 32 25.9	
KSP	**Ksiaz**	**145.07 344**	*i* PKIKP	PKPdf	13 07 14.5	+0.6
KSP			*e*		13 09 29.6	
KSP	**Ksiaz**	**145.07 344**	⇓*e*PKPdf	PKPdf	13 07 13.4	-0.5
KSP			*i* PKPab	PKPab	13 07 14.5	-1.5
KSP			*i*		13 07 16.1	
KSP			*ep*PKPdf	pPKPdf	13 09 29.6	-2.9
KSP			*e*		13 32 16.0	
NIE	**Niedzica**	**145.09 339**	*e*PKPdf	PKPdf	13 07 14.8	+0.9
CRVS	**Cervenica-Dubn**	**145.11 337**	*e*PKP	PKPdf	13 07 15.1	+1.2
VRI	**Vrincioaia**	**145.18 329**	⇓P	PKPdf	13 07 15.6	+1.6
VRI	**Vrincioaia**	**145.18 329**	P	PKPdf	13 07 14.9	+0.8
RAC	**Raciborz**	**145.21 341**	*e*PKPdf	PKPdf	13 07 14.0	-0.1
RAC			*ep*PKPdf	pPKPdf	13 09 31.9	-0.8
BRD	**Bordesti**	**145.25 328**	PKIKP	PKPdf	13 07 14.9	+0.7
TIRR	**Tirgusor**	**145.27 326**	⇑P	PKPdf	13 07 14.4	+0.2
TIRR	**Tirgusor**	**145.27 326**	*e*PKPbc	PKPbc	13 07 15.2	-0.2
TIRR			*ep*PKPdf	pPKPdf	13 09 34.3	+1.5
LOD	**Lodumlu**	**145.32 316**	P	PKPdf	13 07 14.5	+0.2
HARR	**Harsova**	**145.37 326**	⇓P	PKPdf	13 07 15.7	+1.3
HARR	**Harsova**	**145.37 326**	P	PKPdf	13 07 15.6	+1.2
CLZ	**Clausthal**	**145.38 351**	*e*PKPdf	PKPdf	13 07 13.6	-0.8
CLZ			*e*PKPbc	PKPbc	13 07 15.8	0.0
CLL	**Collm**	**145.41 348**	*e*PKPdf	PKPdf	13 07 13.7	-0.7
	comp=Z,25nm,1.2s					
CLL			*e*PKPbc	PKPbc	13 07 14.6	-1.3
	comp=Z,1μm,1.0s					
CLL			*ep*PKPbc		13 09 34.0	
CLL			*ep*PP		13 12 41.9	
CLL			*es*PP		13 13 41.6	
CLL			*e*SKKSac	SKKSac	13 16 31.7	-2.6
CLL			*e*SKSP		13 19 56.5	
CLL			*e*		13 22 25.4	
CLL			*e*SS	SS	13 28 46.6	-0.3
CLL			*es*SS		13 32 20.4	
CLL	**Collm**	**145.41 348**	*e*PKPdf	PKPdf	13 07 14.0	-0.4
	comp=Z,567nm,0.9s					
CLL			⇓*i*PKPbc	PKPbc	13 07 15.0	-0.9
	comp=Z,1μm,1.0s					
CLL			*ep*PKPbc		13 09 34.0	
CLL			*ep*PP		13 12 40.0	
CLL			*es*PP		13 13 42.0	
CLL			*e*SKKSac	SKKSac	13 16 32.0	-2.3
CLL			*e*SKKPbc		13 17 58.0	
	comp=Z,29nm,1.5s					
CLL			*e*SKSP		13 19 57.0	
CLL			*e*SPP		13 22 23.0	
CLL			*e*SS	SS	13 28 46.0	-0.9
CLL			*es*SS		13 32 19.0	
CLL	**Collm**	**145.41 348**	⇓*e*PKIKP	PKPdf	13 07 14.0	-0.4
CLL			*i*		13 07 15.0	
CLL			pmax	pmax		
	comp=Z,567nm,0.9s					
CLL			pmax	pmax		
	comp=Z,1μm,1.0s					
CLL	**Collm**	**145.41 348**	*e*PKP	PKPdf	13 07 14.0	-0.4
CLL			⇓*i*PKP	PKPdf	13 07 15.0	+0.6
CLL			*ep*PKP	pPKPdf	13 09 34.0	+0.9
CLL			*e*SKKS	SKKSac	13 16 32.0	-2.3
CLL			*e*SKSP		13 19 57.0	
SGKT	**Sivrigoynuk**	**145.43 317**	*i* P	PKPdf	13 07 13.2	-1.2
OKC	**Ostrava-Krasne**	**145.44 341**	*e*PKPDF	PKPdf	13 07 12.7	-1.8
OKC			⇑*e*PKPB		13 07 14.2	
OKC			*ep*PKP	pPKPdf	13 09 30.4	-2.7
OKC			*e*SKKP		13 17 57.2	
OKC			*ex*	x	13 29 47.3	
OKC			*ex*	x	13 32 28.4	
OKC	**Ostrava-Krasne**	**145.44 341**	*e*PKP	PKPdf	13 07 12.7	-1.8
OKC			*e*		13 07 14.2	
OKC			*e*		13 09 30.4	
OKC			*e*SS	tx	13 29 47.3	
OKC			*e*		13 32 28.4	
UPC	**Upice**	**145.45 344**	*e*PKP	PKPdf	13 07 14.4	-0.1
UPC			*ex*	x	13 07 16.1	
UPC			*e*SKKP		13 17 56.9	
UPC	**Upice**	**145.45 344**	*e*PKP	PKPdf	13 07 14.4	-0.1
UPC			*e*		13 07 16.1	
MERS	**Mersin**	**145.47 310**	P	PKPdf	13 07 15.0	+0.4
DPC	**Dobruska-Polom**	**145.51 343**	*e*PKPDF	PKPdf	13 07 14.3	-0.3
DPC			⇑*e*PKPB	PKPbc	13 07 16.4	+0.3
DPC			*ep*PKP	pPKPdf	13 09 32.7	-0.6
DPC			*e*SKKP		13 17 56.6	
DPC			*ex*	x	13 29 32.1	
DPC			*ex*	x	13 32 33.2	
DPC	**Dobruska-Polom**	**145.51 343**	*e*PKIKP	PKPdf	13 07 14.3	-0.3
DPC			*e*		13 07 16.4	
DPC			*e*SS	SS	13 29 32.1	+44
DPC	**Dobruska-Polom**	**145.51 343**	*e*PKP	PKPdf	13 07 14.3	-0.3
DPC			*e*		13 07 16.4	
DPC			*e*		13 09 32.7	
DPC			*e*SS	SS	13 29 32.1	+44
DPC			*e*		13 32 33.2	
BRG	**Berggiesshubel**	**145.62 346**	*e*PKPdf	PKPdf	13 07 14.0	-0.8
BRG			*e*PKPbc	PKPbc	13 07 16.5	+0.1
BRG	**Berggiesshubel**	**145.62 346**	*i* PKP	PKPdf	13 07 14.2	-0.6
	comp=Z,24nm,1.0s					
BRG			*i*		13 07 16.2	
	comp=Z,783nm,1.2s					
BRG			pPKP	pPKPdf	13 09 34.1	+0.6
	comp=Z,183nm,1.6s					
BRG			SKKP		13 17 57.2	
	comp=Z,80nm,2.2s					
BRG			SKKS	SKKSdf	13 22 32.0	-2.5
BRG			*e*		13 32 34.0	
BRG						
	comp=Z,1μm,19.5s					
BRG						
	comp=N,1μm,29.1s					
BRG						
	comp=E,2μm,29.1s					
BRG	**Berggiesshubel**	**145.62 346**	*i* PKIKP	PKPdf	13 07 14.2	-0.6
BRG			*i*		13 07 16.2	
BRG					13 22 32.0	
BRG			pmax	pmax		
	comp=Z,6.0nm,1.0s					
BRG			pmax	pmax		
	comp=Z,783nm,1.2s					
BRG			pmax	pmax		
	comp=Z,183nm,1.6s					
BRG			MLR	MLR		
	comp=N,1μm,29.1s					
BRG			MLR	MLR		
	comp=E,1μm,29.1s					
BRG	**Berggiesshubel**	**145.62 346**	*i* PKP	PKPdf	13 07 14.2	-0.6
BRG			*i*		13 07 16.2	
BRG			pPKP	pPKPdf	13 09 34.1	+0.6
BRG			SKKP		13 17 57.2	
BRG			SKKS	SKKSdf	13 22 32.0	-2.5
BRG			*e*		13 32 34.0	
BRG			LR	LR		
	comp=Z,1μm,19.5s					
MORC	**Moravsky Berou**	**145.68 342**	⇓PKIKP	PKPdf	13 07 15.1	+0.2
MORC	**Moravsky Berou**	**145.68 342**	*e*PKPdf	PKPdf	13 07 14.8	-0.1
MORC			*e*PKPbc	PKPbc	13 07 16.6	0.0
MORC			*ep*PKPdf	pPKPdf	13 09 36.2	+2.7
MORC			*e*PP	PP	13 10 39.5	-4.1
HAE	**Alders End**	**145.70 5**	*e*P	PKPdf	13 07 15.1	+0.2
HAE			AMb	AMB	13 07 19.1	
	comp=Z,3μm,1.2s					
HAE	**Alders End**	**145.70 5**	*e*P	PKPdf	13 07 15.1	+0.2
HAE			AMb	AMB	13 07 19.1	
	comp=Z,3μm,1.2s					
BHL	**Bhannes**	**145.72 304**	*e*P	PKPdf	13 07 15.1	+0.1
ISR	**Istrita**	**145.79 328**	⇑P	PKPdf	13 07 17.1	+2.0
ISR	**Istrita**	**145.79 328**	P	PKPdf	13 07 17.0	+1.9
PVCC	**Panska Ves**	**145.79 345**	*e*PKPDF	PKPdf	13 07 15.0	-0.1
PVCC			⇑*e*PKPB	PKPbc	13 07 18.3	+1.4
PVCC			*ep*PKP	pPKPdf	13 09 31.0	-2.8
PVCC			*ex*	x	13 32 31.7	
PVCC	**Panska Ves**	**145.79 345**	*e*PKIKP	PKPdf	13 07 15.0	-0.1
PVCC			*e*		13 07 18.3	
KECS	**Kecovo**	**145.82 338**	*e*PKP	PKPdf	13 07 14.9	-0.2
KECS			*e*		13 07 17.1	
KECS			*e*		13 09 35.5	
KECS	**Kecovo**	**145.82 338**	*e*PKIKP	PKPdf	13 07 14.9	-0.2
KECS			*e*		13 07 17.1	
SSW	**Stow on the Wo**	**145.82 4**	*e*P	PKPdf	13 07 15.7	+0.5
SSW	**Stow on the Wo**	**145.82 4**	*e*P	PKPdf	13 07 15.7	+0.5
MLR	**Muntele Rosu**	**145.83 329**	PKP	PKPdf	13 07 14.0	-1.1
	comp=Z,287nm,0.6s,baz=360,slow=3.6,SNR=65					
MLR			PKPbc	PKPbc	13 07 16.3	-0.7
	comp=Z,287nm,0.6s,baz=352,slow=14,SNR=111					
ML

PRU				eSS	SS	13 29 41.1	+44
PRU	**Pruhonice**	**146.30**	**345**	ePKP	PKPdf	13 07 15.5	-0.4
PRU				e		13 07 18.2	
PRU				e		13 09 34.4	
PRU				eSS	SS	13 29 41.1	+44
PRU				e		13 32 41.9	
MOX	**Moxa**	**146.32**	**349**	ePKPdf	PKPdf	13 07 15.1	-0.9
MOX				ePKPbc	PKPbc	13 07 18.3	-0.1
MOX	**Moxa**	**146.32**	**349**	ePKP	PKPdf	13 07 15.2	-0.8
	comp=Z,1µm,1.5s						
MOX				e		13 09 38.1	
MOX							
	comp=Z,2µm,19.0s						
DRGR		**146.32**	**334**	⇓P	PKPdf	13 07 14.9	-1.1
DRGR		**146.32**	**334**	P	PKPdf	13 07 15.6	-0.3
PTCA	**Ponta do Capel**	**146.32**	**46**	ePKP	PKPdf	13 07 19.6	+3.6
IKL	**Isikli**	**146.35**	**309**	P	PKPdf	13 07 16.4	+0.3
HNTI	**Hanita**	**146.36**	**303**	P	PKPdf	13 07 15.7	-0.3
MMLI	**Mount Malkishu**	**146.36**	**302**	P	PKPdf	13 07 16.2	+0.2
PCED	**Cedros**	**146.37**	**46**	ePKP	PKPdf	13 07 18.7	+2.6
VRAC	**Vranov**	**146.37**	**342**	PKP	PKPdf	13 07 15.3	-0.7
	comp=Z,472nm,1.0s,baz=36,slow=2.0,SNR=43						
VRAC				PKPbc	PKPbc	13 07 18.9	+0.4
	comp=Z,680nm,1.1s,baz=17,slow=3.9,SNR=108						
VRAC	**Vranov**	**146.37**	**342**	PKIKP	PKPdf	13 07 15.3	-0.8
VRAC						13 07 18.9	
VRAC				pmax	pmax		
	comp=Z,472nm,1.0s						
VRAC				pmax	pmax		
	comp=Z,681nm,1.1s						
VRAC	**Vranov**	**146.37**	**342**	P	PKPdf	13 07 15.5	-0.6
VYHS	**Vyhne**	**146.39**	**339**	ePKP	PKPdf	13 07 15.6	-0.5
VYHS				e		13 07 18.9	
VYHS				e		13 09 34.0	
VYHS	**Vyhne**	**146.39**	**339**	ePKIKP	PKPdf	13 07 15.6	-0.5
VYHS				e		13 07 18.9	
CALA	**Caldeira**	**146.39**	**46**	ePKP	PKPdf	13 07 19.5	+3.4
MTUR	**Matau**	**146.45**	**330**	⇑P	PKPdf	13 07 18.4	+2.2
MTUR	**Matau**	**146.45**	**330**	P	PKPdf	13 07 17.4	+1.3
PSZ	**Piszkesteto**	**146.51**	**338**	⇓ePKP/B	PKPbc	13 07 16.8	-2.1
PSZ				*i* pPKP/F	pPKPdf	13 09 35.2	+0.2
PSZ	**Piszkesteto**	**146.51**	**338**	P	PKPdf	13 07 15.5	-0.8
PSZ				ePKPbc	PKPbc	13 07 18.8	-0.1
PSZ				ePKPab	PKPab	13 07 20.4	-1.4
BERN	**Bernov**	**146.53**	**347**	⇑P	PKPdf	13 07 20.7	+4.4
KONT	**Konya--Tatoy**	**146.54**	**313**	P	PKPdf	13 07 17.0	+0.7
HTL	**Hartland**	**146.54**	**7**	eP	PKPdf	13 07 17.5	+1.1
HTL	**Hartland**	**146.54**	**7**	eP	PKPdf	13 07 17.5	+1.1
NKC	**Novy Kostel**	**146.55**	**347**	ePKPDF	PKPdf	13 07 16.0	-0.4
NKC				⇑ePKPB	PKPbc	13 07 19.0	0.0
NKC				epPKP	pPKPdf	13 09 34.7	-0.4
NKC				ex	x	13 29 51.4	
NKC				ex	x	13 32 41.5	
NKC	**Novy Kostel**	**146.55**	**347**	ePKIKP	PKPdf	13 07 16.0	-0.4
NKC				e		13 07 19.0	
HEX	**Exmoor**	**146.55**	**6**	eP	PKPdf	13 07 14.9	-1.4
HEX	**Exmoor**	**146.55**	**6**	eP	PKPdf	13 07 14.9	-1.4
PHNC	**Paralimni**	**146.58**	**307**	P	PKPdf	13 07 19.1	+2.7
	comp=Z,21nm,1.1s						
PVIA	**Vitoria**	**146.59**	**45**	ePKP	PKPdf	13 07 20.3	+3.9
BUC1	**Bucharest**	**146.60**	**328**	PKIKP	PKPdf	13 07 16.2	-0.2
SWK	**Warminster**	**146.61**	**5**	eP	PKPdf	13 07 15.9	-0.6
SWK	**Warminster**	**146.61**	**5**	eP	PKPdf	13 07 15.9	-0.6
PCND	**Candelaria**	**146.61**	**46**	ePKP	PKPdf	13 07 19.6	+3.1
STGR	**Santa Cruz**	**146.61**	**45**	ePKP	PKPdf	13 07 19.1	+2.6
PICO	**Pico**	**146.62**	**46**	ePKP	PKPdf	13 07 19.7	+3.2
ROSA	**Rosais**	**146.64**	**45**	ePKP	PKPdf	13 07 19.3	+2.8
PGRA	**Graciosa**	**146.65**	**45**	ePKP	PKPdf	13 07 19.6	+3.1
OFRI	**'Ofer**	**146.66**	**303**	P	PKPdf	13 07 15.6	-0.9
PBOI	**Pico dos Bois**	**146.69**	**46**	ePKP	PKPdf	13 07 19.7	+3.1
TREC	**Trest**	**146.69**	**344**	ePKPDF	PKPdf	13 07 16.4	-0.2
TREC				⇑ePKPB	PKPbc	13 07 19.3	-0.1
TREC				epPKP	pPKPdf	13 09 35.2	-0.1
TREC				eSKKP		13 17 52.3	
TREC				ex	x	13 29 46.4	
TREC				ex	x	13 32 48.2	
TREC	**Trest**	**146.69**	**344**	ePKIKP	PKPdf	13 07 16.4	-0.2
TREC				e		13 07 19.3	
TREC				eSS	SS	13 29 46.4	+45
PAMA	**Santo Amaro**	**146.70**	**45**	ePKP	PKPdf	13 07 20.9	+4.3
GPA	**Golpazari**	**146.70**	**318**	P	PKPdf	13 07 17.1	+0.5
MZDA	**Masada**	**146.73**	**300**	P	PKPdf	13 07 16.4	-0.3
ERMK	**Ermenek**	**146.74**	**311**	*i* P	PKPdf	13 07 14.2	-2.5
PPNO	**Prainha do Nor**	**146.74**	**46**	ePKP	PKPdf	13 07 19.6	+2.9
ESKT	**Eskisehir**	**146.77**	**317**	P	PKPdf	13 07 16.1	-0.6
ESKT	**Eskisehir**	**146.77**	**317**	*i* P	PKPdf	13 07 15.1	-1.6
PMAN	**Manadas**	**146.78**	**45**	ePKP	PKPdf	13 07 19.5	+2.8
HRT	**Hereke**	**146.80**	**319**	P	PKPdf	13 07 15.9	-0.8
SMOL	**Smolenice**	**146.83**	**341**	ePKP	PKPdf	13 07 17.0	+0.2
SMOL				e		13 09 20.3	
SMOL				e		13 09 37.2	
SMOL	**Smolenice**	**146.83**	**341**	ePKIKP	PKPdf	13 07 17.0	+0.2
SMOL				e		13 07 20.3	
BORA	**Eskisehir**	**146.83**	**317**	*i* P	PKPdf	13 07 13.2	-3.6
BEBN	**Eben Emael**	**146.96**	**355**	E	PKPdf	13 07 17.4	+0.4
BEBN				PKPbc	PKPbc	13 07 19.2	-0.9
BEBN				E		13 07 20.6	
BEBN				APKP		13 09 37.1	
BEBN				APKiKP		13 09 40.1	
UCC	**Uccle**	**147.04**	**357**	E	PKPdf	13 07 15.9	-1.3
UCC				PKP	PKPdf	13 07 17.6	+0.5
UCC				PKPbc	PKPbc	13 07 19.4	-0.9
UCC				PKhKP		13 07 20.6	
ZFRI	**Zfri**	**147.08**	**299**	P	PKPdf	13 07 17.1	-0.1
MEM	**Membach**	**147.12**	**355**	E		13 07 16.7	
MEM				PKP	PKPdf	13 07 17.9	+0.6
MEM				PKPbc	PKPbc	13 07 21.3	+0.8
MEM				PKPab	PKPab	13 07 24.7	+0.5
MEM				APKP		13 09 37.0	
MEM				APKiKP		13 09 40.6	
CSA1	**St Austell**	**147.12**	**8**	eP	PKPdf	13 07 17.6	+0.2
CSA1	**St Austell**	**147.12**	**8**	eP	PKPdf	13 07 17.6	+0.2
MAMC	**Mammari**	**147.13**	**308**	P	PKPdf	13 07 18.4	+1.1
YLV	**Yalova**	**147.13**	**319**	P	PKPdf	13 07 15.7	-1.6
SIW	**Isle of Wight**	**147.14**	**4**	eP	PKPdf	13 07 17.5	+0.1
SIW	**Isle of Wight**	**147.14**	**4**	eP	PKPdf	13 07 17.5	+0.1
SRO	**Srobarova**	**147.15**	**339**	ePKP	PKPdf	13 07 18.4	+1.0
SRO				e		13 07 20.8	
SRO				e		13 09 37.7	
SRO	**Srobarova**	**147.15**	**339**	ePKIKP	PKPdf	13 07 18.4	+1.0
SRO				e		13 07 20.8	
BUD	**Budapest**	**147.19**	**338**	ePKP/B	PKPbc	13 07 18.0	-2.7
IZI	**Iznik**	**147.20**	**319**	P	PKPdf	13 07 16.9	-0.5
ZST	**Bratislava**	**147.21**	**341**	ePKP	PKPdf	13 07 17.3	-0.2
ZST				e		13 09 36.3	
CPZ	**Penzance**	**147.22**	**9**	eP	PKPdf	13 07 17.2	-0.2
CPZ				AMb	AMB	13 07 22.4	
	comp=Z,773nm,1.3s						
CPZ	**Penzance**	**147.22**	**9**	eP	PKPdf	13 07 17.2	-0.2
CPZ				AMb	AMB	13 07 22.4	
	comp=Z,773nm,1.3s						
PSBA	**Serra de Santa**	**147.23**	**45**	ePKP	PKPdf	13 07 20.1	+2.6
TNS	**Taunus Mts**	**147.24**	**352**	ePKPdf	PKPdf	13 07 16.7	-0.8
TNS				ePKPbc	PKPbc	13 07 20.9	+0.1
CCA1	**Carnmenellis**	**147.24**	**8**	eP	PKPdf	13 07 16.5	-1.0
CCA1	**Carnmenellis**	**147.24**	**8**	eP	PKPdf	13 07 16.5	-1.0
ASBA	**Santa Barbara**	**147.25**	**45**	ePKP	PKPdf	13 07 20.8	+3.3
CRQ2	**Rosemanowes 2**	**147.27**	**8**	eP	PKPdf	13 07 16.3	-1.2
CRQ2				AMb	AMB	13 07 21.9	
	comp=Z,835nm,1.3s						
CRQ2	**Rosemanowes 2**	**147.27**	**8**	eP	PKPdf	13 07 16.3	-1.2
CRQ2				AMb	AMB	13 07 21.9	
	comp=Z,835nm,1.3s						
PBIS	**Biscoitos**	**147.28**	**44**	ePKP	PKPdf	13 07 21.7	+4.1
PPAD	**Pico dos Padre**	**147.29**	**45**	ePKP	PKPdf	13 07 21.0	+3.4
GRA1	**Grafenberg Arr**	**147.31**	**349**	ePKPdf	PKPdf	13 07 16.9	-0.7
GRA1				ePKPbc	PKPbc	13 07 21.3	+0.3
GRA1				epPKPbc	pPKPbc	13 09 39.3	+2.0
GRA1				eSKKSac	SKKSac	13 16 46.8	+2.0
GRA1				eSKKS	SKKSdf	13 22 41.8	+11
GRF	**Grafenberg Arr**	**147.31**	**349**	ePKPdf	PKPdf	13 07 16.9	-0.7
GRF				ePKPbc	PKPbc	13 07 21.3	+0.3
GRF				epPKPbc	pPKPbc	13 09 39.3	+2.0
GRF				eSKKSac	SKKSac	13 16 46.8	+2.0
GRF				eSKKSdf	SKKSdf	13 22 41.8	+11
CGW	**Gweek**	**147.33**	**8**	eP	PKPdf	13 07 17.6	-0.1
CGW	**Gweek**	**147.33**	**8**	eP	PKPdf	13 07 17.6	-0.1
KHC	**Kasperske Hory**	**147.33**	**346**	ePKPDF	PKPdf	13 07 17.4	-0.3
KHC				ePKPDF	PKPdf	13 07 18.3	+0.6
KHC				⇑ePKPB	PKPbc	13 07 21.2	+0.1
KHC				epPKP	pPKPdf	13 09 36.9	+0.5
KHC				eSKKP		13 17 49.1	
KHC				ex	x	13 29 54.7	
KHC				ex	x	13 32 50.3	
KHC	**Kasperske Hory**	**147.33**	**346**	ePKIKP	PKPdf	13 07 17.4	-0.3
KHC				e		13 07 18.3	
KHC				e		13 07 21.2	
KHC				eSS	SS	13 29 54.7	+46
KHC	**Kasperske Hory**	**147.33**	**346**	ePKP	PKPdf	13 07 17.4	-0.3
KHC				e		13 07 18.3	
KHC				e		13 07 21.2	
KHC				e		13 09 36.9	
KHC				eSS	SS	13 29 54.7	+46
KHC				e		13 32 50.3	
SNF	**Seneffe**	**147.34**	**357**	E	PKPdf	13 07 16.9	-0.8
SNF				PKP	PKPdf	13 07 18.1	+0.5
SNF				PKPbc	PKPbc	13 07 20.4	-0.6
SNF				APKP		13 09 38.4	
SNF				APKiKP		13 09 41.5	
PVNV	**Vila Nova**	**147.34**	**44**	ePKP	PKPdf	13 07 21.8	+4.1
ADH	**Angra Heroismo**	**147.35**	**45**	ePKP	PKPdf	13 07 19.2	+1.5
ADH	**Angra Heroismo**	**147.35**	**45**	*i* PKP	PKPdf	13 07 27.5	+10
ADH				*i*		13 09 45.0	
CMA1	**Manaccan**	**147.36**	**8**	eP	PKPdf	13 07 17.0	-0.7
CMA1	**Manaccan**	**147.36**	**8**	eP	PKPdf	13 07 17.0	-0.7
ELBA	**Catalca**	**147.36**	**321**	*i* P	PKPdf	13 07 14.2	-3.5
CTT	**Catalca**	**147.36**	**321**	P	PKPdf	13 07 17.3	-0.4
RIB2	**Ribeirinha**	**147.38**	**45**	ePKP	PKPdf	13 07 20.9	+3.2
CGH1	**Goonhilly**	**147.38**	**8**	eP	PKPdf	13 07 15.3	-2.4
CGH1	**Goonhilly**	**147.38**	**8**	eP	PKPdf	13 07 15.3	-2.4
SZH	**Strazhica**	**147.40**	**326**	P	PKPdf	13 07 18.0	+0.2
PFAV	**Pico das Favas**	**147.42**	**44**	ePKP	PKPdf	13 07 20.6	+2.8
SVTA	**Shivta**	**147.45**	**300**	P	PKPdf	13 07 17.4	-0.4
WET	**Wettzell**	**147.48**	**346**	ePKPdf	PKPdf	13 07 17.0	-0.9
WET				ePKPbc	PKPbc	13 07 21.7	+0.2
EIL	**Elat**	**147.49**	**297**	ePKPdf	PKPdf	13 07 18.1	+0.2
EIL				ePKPbc	PKPbc	13 07 21.8	+0.3
EIL				epPKPdf	pPKPdf	13 09 41.8	+5.1
MBH	**Mount Berech**	**147.49**	**298**	P	PKPdf	13 07 17.7	-0.2
ALT	**Altintas**	**147.50**	**316**	P	PKPdf	13 07 17.7	-0.3
ULDT	**Uludag**	**147.52**	**319**	*i* P	PKPdf	13 07 17.1	-0.9
SZAC	**Souni-Zanaja**	**147.55**	**307**	P	PKPdf	13 07 19.0	+1.0
	comp=Z,28nm,1.0s						
GEC2	**GERESS Array S**	**147.57**	**345**	ePKPdf	PKPdf	13 07 17.1	-0.9
GEC2				ePKPbc	PKPbc	13 07 21.7	0.0
GEC2				epPKPbc	pPKPbc	13 09 40.0	+1.9
GERES	**GERESS Array B**	**147.57**	**345**	PKP	PKPdf	13 07 17.1	-0.9
	comp=Z,371nm,0.7s,baz=56,slow=0.8,SNR=231						
GERES				PKPbc	PKPbc	13 07 21.2	-0.5
	comp=Z,373nm,0.7s,baz=18,slow=3.1,SNR=342						
GERES				pPKPbc	pPKPbc	13 09 36.5	-1.7
	comp=Z,34nm,1.2s,baz=258,slow=14,SNR=1.9						
GERES	**GERESS Array B**	**147.57**	**345**	PKIKP	PKPdf	13 07 17.1	-0.9
GERES				pmax	pmax		
	comp=Z,371nm,0.7s						
GERES				pmax	pmax		
	comp=Z,373nm,0.7s						
GERES				pmax	pmax		
	comp=Z,34nm,1.2s						
JMB	**Yambol**	**147.59**	**325**	eP	PKPdf	13 07 18.0	-0.1
ALFC	**Alevga**	**147.60**	**308**	P	PKPdf	13 07 18.5	+0.4
	comp=Z,25nm,0.8s						
KZIT	**Kziot**	**147.64**	**300**	P	PKPdf	13 07 18.0	-0.2
GIVF	**Givet**	**147.71**	**356**	ePKIKP	PKPdf	13 07 17.3	-1.0
	comp=Z,346nm,1.4s						
BZS	**Buzias**	**147.72**	**333**	⇓P	PKPdf	13 07 17.5	-0.8
BZS	**Buzias**	**147.72**	**333**	P	PKPdf	13 07 17.5	-0.7
CRAR	**CRAIOVA**	**147.72**	**330**	PKIKP	PKPdf	13 07 19.1	+0.8
DOU	**Dourbes**	**147.73**	**357**	E		13 07 17.4	
DOU				PKP	PKPdf	13 07 18.6	+0.3
DOU				PKPbc	PKPbc	13 07 21.2	-0.8
DOU				PKPab	PKPab	13 07 25.2	-1.5
DOU				APKPab		13 09 39.1	
DOU				APKiKP		13 09 42.2	
ORLT	**Orhaneli**	**147.73**	**319**	P	PKPdf	13 07 19.0	+0.7
PVL	**Pavlikeni**	**147.75**	**327**	eP	PKPdf	13 07 18.0	-0.3
TOD	**Tromm**	**147.79**	**351**	PKP	PKPdf	13 07 19.5	+1.1
SOP	**Sopron**	**147.84**	**341**	⇓ePKP/F	PKPdf	13 07 19.0	+0.5
SOP				*i* pPKP/F	pPKPdf	13 09 40.5	+3.3
AKMC	**Akamas**	**147.85**	**308**	P	PKPdf	13 07 21.5	+3.0
ISP	**Isparta**	**147.87**	**314**	P	PKPdf	13 07 20.8	+2.2
ISP	**Isparta**	**147.87**	**314**	*i* PKIKP	PKPdf	13 07 21.7	+3.2
ISP	**Isparta**	**147.87**	**314**	*i* PKPbc	PKPbc	13 07 22.0	-0.5
ISP				epPKPdf	pPKPdf	13 09 40.6	+3.3
TKTP	**Tekketepe**	**147.90**	**315**	*i* P	PKPdf	13 07 16.1	-2.5
PPCY	**Paphos**	**147.90**	**308**	P	PKPdf	13 07 18.7	+0.1
EDRB	**Edirne**	**147.91**	**323**	P	PKPdf	13 07 17.5	-1.1
RUP	**Ruppelstein**	**147.92**	**353**	PKP	PKPdf	13 07 18.5	-0.1
BCK	**Bucak**	**148.00**	**314**	P	PKPdf	13 07 22.2	+3.4
WLF	**Walferdange**	**148.04**	**355**	ePKPdf	PKPdf	13 07 18.5	-0.3
WLF				ePKPbc	PKPbc	13 07 23.4	+0.5
WLF	**Walferdange**	**148.04**	**355**	PKP	PKPdf	13 07 19.1	+0.3
WLF				PKPbc	PKPbc	13 07 22.7	-0.2
WLF				PKPab	PKPab	13 07 26.4	-1.6
WLF				APKP		13 09 40.8	
WLF	**Walferdange**	**148.04**	**355**	ePKPdf	PKPdf	13 07 19.2	+0.4
WLF				ePKPbc	PKPbc	13 07 22.6	-0.2
WLF				epPKPdf	pPKPdf	13 09 41.1	+3.5
BNT	**Bandirma**	**148.15**	**320**	P	PKPdf	13 07 19.1	+0.1
KTD	**Kalmit**	**148.17**	**352**	PKP	PKPdf	13 07 20.4	+1.4
EDC	**Edincik**	**148.19**	**320**	P	PKPdf	13 07 22.6	+3.5
MFT	**Murefte**	**148.27**	**321**	P	PKPdf	13 07 18.5	-0.7
KHL	**Karahalli**	**148.28**	**316**	P	PKPdf	13 07 20.4	+1.2
MOA	**Molln**	**148.35**	**344**	⇓*i* P	PKPdf	13 07 18.4	-0.9
	comp=Z,1µm,1.6s,SNR=62						
MOA	**Molln**	**148.35**	**344**	P	PKPdf	13 07 17.8	-1.5
SART	**Tekirdag**	**148.39**	**321**	*i* P	PKPdf	13 07 16.1	-3.3
PKSM	**Moragy**	**148.41**	**337**	PKIKP	PKPdf	13 07 18.5	-0.9
BTOK	**Tokmak**	**148.44**	**319**	*i* P	PKPdf	13 07 18.0	-1.4
DIM	**Dimitrovgrad**	**148.44**	**325**	eP	PKPdf	13 07 20.0	+0.5
JLP	**Les Platons**	**148.51**	**5**	eP	PKPdf	13 07 22.5	+2.9
JLP	**Les Platons**	**148.51**	**5**	eP	PKPdf	13 07 22.5	+2.9
JVM	**Valle D.L. Mar**	**148.53**	**5**	eP	PKPdf	13 07 22.6	+3.0
JVM	**Valle D.L. Mar**	**148.53**	**5**	eP	PKPdf	13 07 22.6	+3.0
ARSA	**Arzberg**	**148.54**	**342**	⇓eP	PKPdf	13 07 18.6	-1.0
	comp=Z,1µm,1.8s,SNR=101						
ARSA	**Arzberg**	**148.54**	**342**	P	PKPdf	13 07 18.5	-1.1
LANF	**Langenberg**	**148.54**	**352**	PKP	PKPdf	13 07 19.1	-0.5
STU	**Stuttgart**	**148.54**	**351**	ePKPdf	PKPdf	13 07 19.1	-0.5
STU				ePKPbc	PKPbc	13 07 24.3	+0.2
STU	**Stuttgart**	**148.54**	**351**	ePKPdf	PKPdf	13 07 19.5	-0.2
STU				ePKPbc	PKPbc	13 07 23.9	-0.3
STU				ePKPab	PKPab	13 07 29.3	-0.8
STU				epPKPdf	pPKPdf	13 09 40.5	+2.0
JSA	**Saint Aubin**	**148.56**	**5**	eP	PKPdf	13 07 22.8	+3.1
JSA	**Saint Aubin**	**148.56**	**5**	eP	PKPdf	13 07 22.8	+3.1
JRS	**Jersey**	**148.56**	**5**	eP	PKPdf	13 07 22.6	+3.0
JRS	**Jersey**	**148.56**	**5**	eP	PKPdf	13 07 22.6	+3.0
BALB	**Balikesir**	**148.60**	**319**	P	PKPdf	13 07 20.2	+0.5
FUR	**Furstenfeldbru**	**148.75**	**348**	ePKPdf	PKPdf	13 07 19.5	-0.5
FUR				ePKPbc	PKPbc	13 07 24.6	0.0
FUR	**Furstenfeldbru**	**148.75**	**348**	ePKP2	PKPab	13 07 24.6	-6.3
KDZ	**Kurdzhali**	**148.78**	**324**	P	PKPdf	13 07 19.0	-1.0
PSET	**Sete Cidades**	**148.80**	**45**	ePKP	PKPdf	13 07 22.5	+2.5
MANT	**Manisa**	**148.83**	**317**	*i* P	PKPdf	13 07 19.0	-1.1
ELL	**Elmali**	**148.83**	**313**	P	PKPdf	13 07 21.1	0.0
LPK	**Lapseki**	**148.84**	**321**	P	PKPdf	13 07 24.6	+4.5
BEO	**Belgrade**	**148.85**	**334**	⇑*i* PKP	PKPdf	13 07 19.8	-0.3
PDA	**Ponta Delgada**	**148.88**	**45**	*i* PKP	PKPdf	13 07 22.5	+2.4
PDA	**Ponta Delgada**	**148.88**	**45**	ePKP	PKPdf	13 07 28.0	+7.8
PDA				*i*		13 07 34.0	
PDA				*i*		13 09 42.0	
PDA				*i*		13 10 46.0	
DENT	**Denizli**	**148.91**	**315**	P	PKPdf	13 07 21.7	+1.4
ALN	**Alexandroupoli**	**148.92**	**323**	eP	PKPdf	13 07 18.9	-1.3
SVIS	**Svilajnac**	**148.93**	**332**	⇑*i* PKP	PKPdf	13 07 19.4	-0.8
DNZL	**Cakiroluk**	**148.94**	**315**	*i* P	PKPdf	13 07 21.9	+1.6
CML	**Cha da Macela**	**148.94**	**45**	ePKP	PKPdf	13 07 24.5	+4.2
BOLS	**Boljevac**	**148.96**	**331**	⇑*i* PKP	PKPdf	13 07 20.7	+0.4
LFA	**Lagoa do Fogo**	**148.98**	**45**	ePKP	PKPdf	13 07 24.6	+4.3
MESC	**Monte Escuro**	**149.00**	**45**	ePKP	PKPdf	13 07 24.2	+3.9
PRCH	**Ribeira Ch**	**149.01**	**45**	ePKP	PKPdf	13 07 24.5	+4.1
VIF	**Vila Franca**	**149.03**	**45**	ePKP	PKPdf	13 07 24.5	+4.1
PCNG	**Congro**	**149.04**	**45**	ePKP	PKPdf	13 07 24.0	+3.6
RDO	**Rodhopi**	**149.05**	**324**	eP	PKPdf	13 07 19.4	-1.0
PFAD	**Fenais da Ajud**	**149.05**	**44**	ePKP	PKPdf	13 07 24.0	+3.6
AKS	**Akhisar**	**149.09**	**318**	P	PKPdf	13 07 19.9	-0.6
FLN	**La Foliniere**	**149.10**	**3**	ePKIKP	PKPdf	13 07 19.4	-1.1
	comp=Z,655nm,1.2s						
FLN				eR			
	comp=Z,2µm,22.8s						
FLN	**La Foliniere**	**149.10**	**3**	ePKPdf	PKPdf	13 07 19.4	-1.1
FLN				LR	LR		
	comp=Z,2µm,22.8s						
BFO	**Black Forest**	**149.10**	**351**	ePKPdf	PKPdf	13 07 19.5	-1.0
BFO				ePKPbc	PKPbc	13 07 25.4	-0.1
BFO				epPKPbc	pPKPbc	13 09 44.5	+2.0
BFO	**Black Forest**	**149.10**	**351**	ePKHKP		13 07 25.4	
MIRA	**Miradouro**	**149.11**	**44**	ePKP	PKPdf	13 07 26.1	+5.6
RZN	**Rozhen**	**149.14**	**325**	P	PKPdf	13 07 20.0	-0.6
WLS	**Welschbruch**	**149.15**	**353**	PKP	PKPdf	13 07 20.4	-0.2
CDF	**Champ du Feu**	**149.16**	**353**	ePKIKP	PKPdf	13 07 19.5	-1.1
	comp=Z,138nm,1.1s						
PERS	**Pernice**	**149.21**	**342**	ePKPdf	PKPdf	13 07 19.1	-1.6
PERS				ePKPbc	PKPbc	13 07 25.9	+0.1
PERS				ePKPab	PKPab	13 07 33.3	+0.5
SPAK	**Spaichingen**	**149.26**	**351**	PKP	PKPdf	13 07 21.1	+0.3
LDF	**La Druitiere**	**149.28**	**2**	ePKIKP	PKPdf	13 07 19.6	-1.2
	comp=Z,365nm,1.1s						
VTS	**Vitosha**	**149.29**	**328**	P	PKPdf	13 07 22.0	+1.2
VTS	**Vitosha**	**149.29**	**328**	PKHKP		13 07 21.8	
MEZF	**Maizieres J'vi**	**149.29**	**356**	ePKIKP	PKPdf	13 07 20.2	-0.6
	comp=Z,389nm,1.2s						
AKAS	**Kas**	**149.29**	**312**	*i* P	PKPdf	13 07 21.9	+1.0
KBA	**Koelnbreinsper**	**149.30**	**344**	⇓eP	PKPdf	13 07 19.4	-1.5
	comp=Z,638nm,1.1s,SNR=71						
KBA	**Koelnbreinsper**	**149.30**	**344**	P	PKPdf	13 07 20.3	-0.5
ROSF	**Rostrenen**	**149.30**	**7**	ePKIKP	PKPdf	13 07 19.5	-1.3
	comp=Z,321nm,1.3s						
ECH	**Echery**	**149.37**	**353**	PKP	PKPdf	13 07 20.4	-0.5
ECH	**Echery**	**149.37**	**353**	PKP	PKPdf	13 07 21.1	+0.2
LIBD	**Limburg**	**149.38**	**352**	PKP	PKPdf	13 07 21.9	+1.0
EZN	**Ezine**	**149.44**	**321**	P	PKPdf	13 07 25.8	+4.8
GRR	**Gorron**	**149.45**	**3**	ePKIKP	PKPdf	13 07 20.0	-1.1
	comp=Z,503nm,1.0s						
SGMF	**Saint Gilles**	**149.46**	**6**	ePKIKP	PKPdf	13 07 19.8	-1.3
	comp=Z,540nm,1.3s						
THEF	**They Montfort**	**149.48**	**354**	PKP	PKPdf	13 07 20.2	-0.9
OBKA	**Obir**	**149.49**	**342**	⇓*i* P	PKPdf	13 07 19.6	-1.6
	comp=Z,774nm,1.5s,SNR=71						
OBKA	**Obir**	**149.49**	**342**	P	PKPdf	13 07 21.1	0.0
WTTA	**Wattenberg**	**149.53**	**347**	⇓*i* P	PKPdf	13 07 20.3	-0.9
	comp=Z,2µm,1.3s,SNR=102						
WTTA	**Wattenberg**	**149.53**	**347**	P	PKPdf	13 07 20.4	-0.8
AYVA	**Ayvalik**	**149.54**	**320**	*i* P	PKPdf	13 07 20.9	-0.3
MOTA	**Moosalm**	**149.57**	**347**	⇓*i* P	PKPdf

LOR LR LR
comp=Z,2µm,23.0s
MRKH Merkhyat 150.59 270 *i* S 13 07 22.7
MRKH AMS AMS 13 07 48.7
comp=Z,656nm,21.4s
SKO Skopje 150.63 329 *e*PKP PKPdf 13 07 23.3 +0.5
SKO *e*PKP PKPbc 13 07 28.7 -0.3
SKO *e*pPK 13 09 41.9
HYF Humbligny 150.63 359 *e*PKIKP PKPdf 13 07 22.4 -0.5
IVA Berane 150.65 332⇑*i*PKP PKPdf 13 07 22.1 -0.8
HASLI Hasliberg 150.67 351⇓*i*P PKPdf 13 07 21.8 -1.1
comp=Z,749nm,1.0s
CTI Castel Tesino 150.68 346 P PKPdf 13 07 21.8 -1.2
VDL Val di Lei 150.71 349 ⇓P PKPdf 13 07 22.3 -0.7
PLG Polygyros 150.74 325 *e*P PKPdf 13 07 22.5 -0.5
TUE Stuetta 150.75 349 P PKPdf 13 07 22.3 -0.8
UPM Unac-Piva 150.81 334⇑*i*PKP PKPdf 13 07 22.1 -1.0
SSF Saint Saulge 150.81 357 *e*PKIKP PKPdf 13 07 22.5 -0.7
comp=Z,377nm,1.2s
TORNY Torny 150.81 353⇓*i*P PKPdf 13 07 21.8 -1.4
comp=Z,1µm,1.1s
THE Thessaloniki 150.82 326 *e*P PKPdf 13 07 21.6 -1.6
PVY Plav 150.83 332⇑*i*PKP PKPdf 13 07 22.3 -0.9
FUSIO Fusio 150.88 350⇓*i*P PKPdf 13 07 21.8 -1.5
comp=Z,1µm,1.1s
GRG Griva 150.89 327 *e*P PKPdf 13 07 23.5 +0.2
PAIG Paliouri 150.91 324 *e*P PKPdf 13 07 21.8 -1.5
MABI Malga Bissina 150.92 347 P PKPdf 13 07 22.2 -1.1
BCI Bajram Curri 150.97 331 *i* p PKPdf 13 07 28.1 +4.7
KKS Kukesi 151.04 330 *i* p PKPbc 13 07 29.5 -0.5
CABF La Chapelle 151.07 354 *e*PKIKP PKPdf 13 07 23.4 -0.2
comp=Z,570nm,1.4s
AVF Avril sur Loir 151.09 358 *e*PKIKP PKPdf 13 07 22.6 -1.0
comp=Z,188nm,1.3s
NKY Niksic 151.09 333⇑*i*PKP PKPdf 13 07 22.3 -1.2
LKBD Leukerbad 151.11 352 ⇓P PKPdf 13 07 23.2 -0.4
NVLJ Novalja 151.15 340 *i* P PKPdf 13 07 22.2 -1.5
LCHF La Chataignera 151.17 4 PKP PKPdf 13 07 23.7 0.0
LRYF La Roche-sur-Y 151.21 5 PKP PKPdf 13 07 22.5 -1.3
BRY Bratogost 151.21 334⇑*i*PKP PKPdf 13 07 22.4 -1.3
SMF Signal de Mont 151.21 357 *e*PKIKP PKPdf 13 07 22.8 -1.0
comp=Z,285nm,1.2s
AIGLE Aigle 151.24 352⇓*i*P PKPdf 13 07 22.2 -1.6
comp=Z,971nm,1.1s
MFF Saint Martin d 151.27 3 *e*PKIKP PKPdf 13 07 22.8 -1.0
comp=Z,448nm,1.1s
TTG Podgorica 151.28 332⇑*i*PKP PKPdf 13 07 22.8 -1.1
PUK Puka 151.31 331 *i* p PKPdf 13 07 30.2 +6.3
AOS Alonnisos 151.31 322 *e*P PKPdf 13 07 22.5 -1.4
MUGIO Muggio 151.33 349⇓*i*P PKPdf 13 07 22.4 -1.5
comp=Z,812nm,1.1s
BGF Bois d'Agland 151.34 358 *e*PKIKP PKPdf 13 07 23.2 -0.8
comp=Z,378nm,1.4s
KAP Karpathos 151.34 313 *e*P PKPbc 13 07 32.2 +1.5
SAL Salo 151.35 347 P PKPdf 13 07 23.6 -0.4
MMK Mattmark 151.38 351 ⇓P PKPdf 13 07 23.9 -0.1
BIA Bitola 151.40 328 *e*PKP PKPdf 13 07 23.9 -0.2
BIA *e*PKP PKPbc 13 07 29.5 -1.3
BIA *e*pPK 13 09 43.5
VAI Varese 151.44 350 P PKPdf 13 07 23.0 -1.1
DIX Grande Dixence 151.44 352⇓*e*P PKPdf 13 07 22.5 -1.6
comp=Z,622nm,1.1s
DIX Grande Dixence 151.44 352 ⇓P PKPdf 13 07 24.1 0.0
LIT Litokhoron 151.45 325 *e*P PKPdf 13 07 23.1 -1.0
EMV Vieux Emosson 151.52 352 ⇓P PKPdf 13 07 23.8 -0.4
FNA Florina 151.54 328 *e*P PKPdf 13 07 23.4 -0.9
BUM Brajici-Budva 151.55 333⇑*i*PKP PKPdf 13 07 24.9 +0.6
XOR Xorichti 151.57 323 *e*P PKPdf 13 07 22.8 -1.5
OHR Ohrid 151.59 329 *e*PKP PKPdf 13 07 24.2 -0.2
OHR *e*PKP PKPbc 13 07 30.1 -1.2
OHR *e*pPK 13 09 42.9
HCY Herceg Novi 151.60 333⇑*i*PKP PKPdf 13 07 22.6 -1.7
APE Apeiranthos 151.61 317⇓*i*PKIKP PKPbc 13 07 29.4 -1.9
TCF Toulx Ste Croi 151.62 359 *e*PKIKP PKPdf 13 07 23.5 -0.9
comp=Z,349nm,1.2s
ULC Ulcinj 151.66 332⇑*i*PKP PKPdf 13 07 23.6 -0.8
KZN Kozani 151.69 326 *e*P PKPdf 13 07 24.5 0.0
QSH Qafa e Shtames 151.71 330 *i* p PKPdf 13 07 26.0 +1.5
ORO Oropa 151.80 351 P PKPdf 13 07 23.2 -1.4
AGO Saint Agoulin 151.83 358 PKP PKPdf 13 07 24.5 -0.2
PLDF La Plantade 151.90 357 PKP PKPdf 13 07 24.8 0.0
MATF Mathat 152.03 3 PKP PKPdf 13 07 25.0 0.0
SANT Santorini 152.06 316 *e*PKPbc PKPbc 13 07 30.7 -1.6
SANT *e*PKPab PKPab 13 07 44.8 0.0
SANT *e*pPKPdf pPKPdf 13 09 51.0 +7.0
LPL La Plagne 152.08 352 *e*PKIKP PKPdf 13 07 25.0 -0.1
comp=Z,175nm,1.2s
LPG La Plagne 152.10 352 *e*PKIKP PKPdf 13 07 25.2 +0.1
comp=Z,213nm,1.2s
PYM Petit Puy Mans 152.14 358 PKP PKPdf 13 07 25.2 +0.1
VERF Verneugheol 152.16 359 PKP PKPdf 13 07 24.5 -0.7
LKR Lokris 152.17 323 *e*P PKPdf 13 07 24.4 -0.8
AGG Agios Georgios 152.29 324 *e*P PKPdf 13 07 24.0 -1.4
PESA Pesaro 152.33 343 P PKPdf 13 07 26.6 +1.2
COLF Collangettes 152.34 357 PKP PKPdf 13 07 25.6 +0.2
MEV Metsovon 152.35 326 *e*P PKPdf 13 07 24.9 -0.6
ZCCA Zocca 152.44 346 P PKPdf 13 07 25.8 +0.2
RSM Repubblica di 152.45 343 P PKPdf 13 07 25.8 +0.2
AOI Ancona 152.46 341 P PKPdf 13 07 25.4 -0.2
ERBM Eremo 152.50 346 P PKPdf 13 07 25.5 -0.2
GSCL Gusciola 152.53 346 P PKPdf 13 07 25.3 -0.4
BNI Bardonecchia 152.54 352 *e*PKPdf PKPdf 13 07 26.1 +0.3
BNI *e*PKPbc PKPbc 13 07 33.6 +0.3
BNI *e*PKPab PKPab 13 07 46.7 -0.2
BNI *e*pPKPdf pPKPdf 13 09 52.3 +7.5
FNVD Fontana Vidola 152.57 345 P PKPdf 13 07 25.0 -0.8
FSSB Fossombrone 152.58 342 P PKPdf 13 07 25.3 -0.5
RJF Les Rejaudoux 152.61 0 *e*PKIKP PKPdf 13 07 25.0 -0.8
comp=Z,444nm,1.2s
RJF *e*R
comp=Z,1µm,22.0s
RJF Les Rejaudoux 152.61 0 *e*PKPdf PKPdf 13 07 25.0 -0.8
RJF LR LR
comp=Z,1µm,22.0s
SEI Scarperia 152.62 345 P PKPdf 13 07 25.5 -0.3
SFI Santa Sofia 152.64 344 P PKPdf 13 07 25.5 -0.4
JAN Janina 152.65 327 *e*P PKPdf 13 07 27.3 +1.4
LBL Lubilhac 152.65 358 PKP PKPdf 13 07 25.9 0.0
VMG Vicchio 152.66 344 P PKPdf 13 07 25.3 -0.6
ARV Arcevia 152.71 342 P PKPdf 13 07 25.6 -0.4
OG22 Abries 152.73 352 PKP PKPdf 13 07 25.6 -0.4
CING Cingoli 152.74 342 P PKPdf 13 07 25.4 -0.6
VLC Villacollemand 152.75 346 *e*PKPdf PKPdf 13 07 25.2 -0.8
VLC *e*PKPbc PKPbc 13 07 33.2 -0.6
VLC *e*SKPdf SKPdf 13 10 04.1 +1.0
VLC *e*PP PP 13 11 20.5 -3.4
ORIF Oris-en-Rattie 152.77 354 *e*PKIKP PKPdf 13 07 25.7 -0.3
comp=Z,225nm,1.2s
ORIF *e*R
comp=Z,2µm,20.5s
PIEI Piela 152.79 343 P PKPdf 13 07 25.5 -0.6
BDI Bagni Di Lucca 152.80 346 P PKPdf 13 07 24.8 -1.3
MBDF Montbardon 152.85 352 *e*PKIKP PKPdf 13 07 25.8 -0.4
comp=Z,309nm,1.2s
CRE Caprese Michel 152.87 344 P PKPdf 13 07 24.6 -1.6
BADI Badiali 152.90 343 P PKPdf 13 07 25.1 -1.1
SNTG Esanatoglia 152.93 342 P PKPdf 13 07 25.4 -0.9
VIVF Saint-Julien-l 152.94 355 *e*PKIKP PKPdf 13 07 25.9 -0.4
comp=Z,358nm,1.5s
LFF La Frestale 152.96 2 *e*PKIKP PKPdf 13 07 25.5 -0.8
comp=Z,270nm,1.1s
CAF Calviac 152.98 359 *e*PKIKP PKPdf 13 07 25.9 -0.5
comp=Z,393nm,1.4s
MURB Monte Urbino 153.04 342 P PKPdf 13 07 25.3 -1.1
IDI Anoyia 153.05 315 PKP PKPdf 13 07 26.9 +0.4
comp=Z,63nm,0.8s,baz=165,slow=24,SNR=10
IDI PKPbc PKPbc 13 07 35.9 +1.4
comp=Z,265nm,0.9s,baz=352,slow=9.8,SNR=41
PII Pisa 153.14 346 P PKPdf 13 07 24.6 -2.0
FIN Finale Ligure 153.14 350 P PKPdf 13 07 25.7 -0.9
KEK Kerkira 153.15 328 *e*P PKPdf 13 07 26.8 +0.2
OG26 St.-Nazaire-De 153.16 354 PKP PKPdf 13 07 27.1 +0.5
OCF Saint Nazaire 153.16 354 PKP PKPdf 13 07 27.1 +0.5
NRCA Norcia 153.26 341 P PKPdf 13 07 25.9 -0.9
FGMS Monte Sant'Ang 153.26 336 P PKPdf 13 07 26.6 -0.2
TERO Teramo 153.30 340 P PKPdf 13 07 25.7 -1.1
EMAZ Mazaricos 153.37 18 PKP PKPdf 13 07 27.9 +1.0
RGNG Rignano Grg 153.43 336 P PKPdf 13 07 26.2 -0.8
BRT Bari-Castellan 153.44 333 P PKPdf 13 07 26.7 -0.3
LKD Levkas 153.44 325 *e*P PKPdf 13 07 26.3 -0.7
VAM Vamos 153.45 316 *e*P PKPdf 13 07 36.6 +10
RLS Riolos of Patr 153.45 323 *e*P PKPdf 13 07 26.1 -0.9
SAOF Saorge 153.46 351 PKP PKPdf 13 07 26.7 -0.3
VLI Veliai 153.47 319 *e*P PKPdf 13 07 34.3 +7.3
AUTN L'Aution 153.47 351 PKP PKPdf 13 07 27.7 +0.6
AUTN L'Aution 153.47 351 PKP PKPdf 13 07 27.0 -0.1
AUTN L'Aution 153.47 351 PKP PKPdf 13 07 27.0 -0.1
AUTN PKP PKPdf 13 07 27.7 +0.6
LCI Lecce 153.48 331 P PKPdf 13 07 28.2 +1.1
FG2 Serracapriola 153.48 337 P PKPdf 13 07 27.4 +0.3
IMI Imperia 153.48 350 P PKPdf 13 07 26.6 -0.5
TOUF Mont Tournerai 153.48 351 PKP PKPdf 13 07 27.0 -0.1
EPON Pontenova 153.50 15 PKP PKPdf 13 07 26.6 -0.5
STS Santiago 153.54 17 PKP PKPdf 13 07 27.4 +0.3
GRFL Gerfalco 153.57 345 P PKPdf 13 07 25.8 -1.4
AQU L'Aquila 153.60 340 PKIKP PKPdf 13 07 28.2 +1.0
AQU L'Aquila 153.60 340 *e*PKPdf PKPdf 13 07 28.0 +0.7
AQU *e*PKPbc PKPbc 13 07 35.4 -0.2
AQU *e*PKPab PKPab 13 07 52.1 +0.7
AQU *e*SKPdf SKPdf 13 10 04.5 +0.3
AQU *e*PP PP 13 11 29.3 +0.7
SBF Sospel 153.60 351 *e*PKIKP PKPdf 13 07 26.2 -1.0
comp=Z,559nm,1.4s
MVIF Mont Vial 153.61 351 PKP PKPdf 13 07 27.2 0.0
REVF Revere 153.73 351 PKP PKPdf 13 07 27.4 0.0
SMRF Simiane la Rot 153.73 354 *e*PKIKP PKPdf 13 07 27.3 -0.1
comp=Z,485nm,1.5s
INTR Introdacqua 153.74 339 P PKPdf 13 07 25.4 -2.0
FIAM Fiamignano 153.77 341 P PKPdf 13 07 26.6 -0.9
LASF Ste Croix 153.77 357 *e*PKIKP PKPdf 13 07 27.2 -0.3
comp=Z,220nm,1.0s
ITM Ithomi 153.78 321 *e*P PKPdf 13 07 27.0 -0.5
MNS Montasola 153.80 341 P PKPdf 13 07 26.0 -1.5
GVD Gavdhos 153.85 315 *e*PKPdf PKPdf 13 07 28.4 +0.8
GVD *e*PKPbc PKPbc 13 07 36.9 +0.8
GVD *e*PKPab PKPab 13 07 51.7 -0.7
GVD *e*pPKPdf pPKPdf 13 09 52.9 +6.2
CII Carovilli 153.86 338 P PKPdf 13 07 27.9 +0.3
PTQR Pietraquaria 153.90 340 P PKPdf 13 07 26.9 -0.8
FG4 Candela 153.92 336 P PKPdf 13 07 28.2 +0.5
RNI2 Rionero Sannit 153.93 338 P PKPdf 13 07 27.4 -0.3
EARI Arriondas 153.94 12 PKP PKPdf 13 07 28.8 +1.1
MIDA Miranda 153.95 338 P PKPdf 13 07 27.0 -0.7
VVLD Villa Vallelon 153.96 339 P PKPdf 13 07 26.1 -1.6
FRF La Foret Royal 154.01 352 *e*PKIKP PKPdf 13 07 26.9 -0.9
comp=Z,179nm,1.2s
MTCE Montecelio 154.11 341 P PKPdf 13 07 26.6 -1.3
PSB1 Pescosannita 154.11 337 P PKPdf 13 07 26.7 -1.2
SGG Gregorio Mates 154.13 338 P PKPdf 13 07 27.8 -0.2
GUAR Guarcino 154.13 340 P PKPdf 13 07 28.2 +0.2
EZAM Zamans 154.18 18 PKP PKPdf 13 07 28.1 +0.1
MAON Monte Argentar 154.20 344 P PKPdf 13 07 26.0 -2.1
LMR La Mourre 154.25 352 *e*PKIKP PKPdf 13 07 27.2 -0.9
comp=Z,330nm,1.5s
MRLC Muro Lucano 154.25 335 P PKPdf 13 07 27.1 -1.0
TOLF Tolfa 154.30 342 P PKPdf 13 07 27.4 -0.8
ELAN Lanestosa 154.31 9 ⇓PKP PKPdf 13 07 28.9 +0.7
RFI Roccamonfina 154.35 338 P PKPdf 13 07 29.4 +1.1
CSSN Cassano Irpino 154.35 336 P PKPdf 13 07 27.5 -0.8
ERUA La Rua 154.38 15 PKP PKPdf 13 07 29.6 +1.2
ORI Oriolo Calabro 154.44 333 P PKPdf 13 07 28.2 -0.2
SGO Sicignano 154.49 335 P PKPdf 13 07 27.2 -1.3
OSSF Osses 154.53 5 PKP PKPdf 13 07 29.5 +1.0
EALK Alkurruntz 154.54 5 ⇓PKP PKPdf 13 07 29.5 +1.0
MTLF Montolieu 154.57 359 *e*PKIKP PKPdf 13 07 27.9 -0.7
comp=Z,261nm,1.3s
PGF Pioggiola 154.59 347 *e*PKIKP PKPdf 13 07 27.7 -0.9
comp=Z,783nm,1.3s
ELIZ Elizondo 154.60 6 PKP PKPdf 13 07 28.8 +0.1
ELOB Lobios 154.62 17 PKP PKPdf 13 07 29.8 +1.1
SJPF Ste Jean 154.67 5 *e*PKIKP PKPdf 13 07 28.3 -0.4
comp=Z,206nm,1.5s
ATE Arette 154.74 4 PKP PKPdf 13 07 28.4 -0.4
LARF Larrau 154.77 5 PKP PKPdf 13 07 28.6 -0.2
REYF Montagne du Re 154.78 4 PKP PKPdf 13 07 29.7 +0.8
PCAB Cabril 154.78 17 *e*PKPdf PKPdf 13 07 29.2 +0.3
PCAB Cabril 154.78 17 *e*PKPdf PKPdf 13 07 28.8 -0.1
CORF Corte 154.80 347 PKP PKPdf 13 07 28.2 -0.7
LABF Labassere 154.82 3 PKP PKPdf 13 07 29.9 +1.0
EPF Esparros 154.85 2 *e*PKIKP PKPdf 13 07 28.5 -0.5
comp=Z,212nm,1.1s
ECAL Calabor 154.91 15 PKP PKPdf 13 07 30.1 +1.0
ETSF Etsaut 154.94 4 *e*PKIKP PKPdf 13 07 28.9 -0.2
comp=Z,204nm,1.1s
MLS Moulis 154.95 1 PKP PKPdf 13 07 30.4 +1.3
LRDF Laroque-de-Fa 154.96 359 PKP PKPdf 13 07 28.4 -0.7
VIEF Viey 154.99 3 PKP PKPdf 13 07 29.7 +0.6
MELF Melles 155.03 2 PKP PKPdf 13 07 30.8 +1.6
TIP Timpagrande 155.03 331 *e*PKPdf PKPdf 13 07 28.5 -0.7
TIP *e*PKPbc PKPdf 13 07 38.2 +9.1
TIP *e*PKPab PKPab 13 07 54.0 -3.5
TIP *e*PP PP 13 11 29.9 -6.6
PBRG Braganca 155.03 15 *e*PKPdf PKPdf 13 07 30.1 +0.9
PBRG Braganca 155.03 15 *e*PKPdf PKPdf 13 07 30.3 +1.1
ECRI Cripan 155.04 7 PKP PKPdf 13 07 30.0 +0.8
RESF Ens 155.08 2 PKP PKPdf 13 07 30.4 +1.1
SALF Salau 155.15 1 PKP PKPdf 13 07 31.0 +1.7
EBIE Bielsa 155.19 3 ⇓PKP PKPdf 13 07 30.3 +0.9
PVRL Vila Real 155.27 17 *e*PKPdf PKPdf 13 07 29.7 +0.2
FILF Fillols 155.34 359 PKP PKPdf 13 07 29.5 -0.1
SJAF Saint Jean de 155.41 358 PKP PKPdf 13 07 29.1 -0.6
EJON La Jonquera 155.44 358 ⇓PKP PKPdf 13 07 30.3 +0.6
VALF Valcebollere 155.51 359 PKP PKPdf 13 07 30.1 +0.3
EGRA Graus 155.69 3 ⇑PKP PKPdf 13 07 30.8 +0.7
PVIS Viseu 155.74 18 *e*PKPdf PKPdf 13 07 30.4 +0.3
PVIS Viseu 155.74 18 *e*PKPdf PKPdf 13 07 29.9 -0.2
EMIR Miracle 156.00 0 PKP PKPdf 13 07 31.7 +1.3
ESAC San Caprasio 156.12 4 PKP PKPdf 13 07 30.0 -0.6
MTE Manteigas 156.13 18 *e*PKPdf PKPdf 13 07 30.2 -0.4
MTE Manteigas 156.13 18 *e*PKPdf PKPdf 13 07 30.2 -0.5
MTE *e*PKPab PKPab 13 08 01.2 -1.1
MTE *e*pPKPdf pPKPdf 13 09 49.9 0.0
MTE *e*SKPdf SKPdf 13 10 01.0 -6.3
SOI Samo 156.25 331 P PKPdf 13 07 31.2 +0.4
MTTG Motta San Giov 156.47 331 P PKPdf 13 07 30.5 -0.6
EPOB Poblet 156.55 1 ⇓PKP PKPdf 13 07 31.9 +0.7
PTOM Tomar 156.58 20 *e*PKPdf PKPdf 13 07 31.3 +0.1
PTOM Tomar 156.58 20 *e*PKPdf PKPdf 13 07 31.9 +0.7
PCBR Castelo Branco 156.66 18 *e*PKPdf PKPdf 13 07 31.3 0.0
GUD Guadarrama 156.71 11 ⇑PKP PKPdf 13 07 32.2 +0.8
ERTA Horta de San J 156.92 3 PKP PKPdf 13 07 31.3 -0.3
PLOU Loures 156.98 22 *e*PKPdf PKPdf 13 07 33.2 +1.5
LIS Lisbon 157.13 22 *e*P PKPdf 13 07 32.2 +0.3
VSL Villasalto 157.41 344 *e*PKPdf PKPdf 13 07 32.8 +0.6
VSL *e*PKPab PKPab 13 08 08.3 +0.5
VSL *e*pPKPdf pPKPdf 13 09 52.9 +1.4
EMOS Mosqueruela 157.47 4 PKP PKPdf 13 07 33.4 +1.1
MOE Montemor 157.59 21 *e*PKPdf PKPdf 13 07 33.4 +0.9
MOE Montemor 157.59 21 *e*PKPdf PKPdf 13 07 33.3 +0.8
ESDC Sonseca Array 157.68 12 PKP PKPdf 13 07 32.2 -0.4
comp=Z,31nm,1.0s,baz=349,slow=2.4,SNR=64
ESDC PKPab PKPab 13 08 08.2 -0.8
comp=Z,72nm,0.9s,baz=334,slow=3.5,SNR=23
ESDC pPKP pPKPdf 13 09 51.1 -0.8
comp=Z,2.3nm,0.7s,baz=196,slow=32,SNR=1.6
ESDC Sonseca Array 157.68 12 PKP PKPdf 13 07 32.8 +0.2
ESLA Sonseca Array 157.68 12 *e*PKPdf PKPdf 13 07 33.4 +0.9
ESLA *e*PKPab PKPab 13 08 08.8 -0.2
ESLA *e*PP PP 13 11 53.6 +2.7
ERC Erice 157.73 337 P PKPdf 13 07 34.0 +1.4
PAB San Pablo 157.73 12 PKPdf PKPdf 13 07 32.7 +0.1
CRJA Costa Raja 157.78 336 P PKPdf 13 07 33.2 +0.5
EBAD Badajoz 157.80 18 PKP PKPdf 13 07 33.8 +1.1
MFNL Monte Finestre 157.82 336 P PKPdf 13 07 33.1 +0.4
CLTB Caltabellotta 157.88 335 P PKPdf 13 07 33.5 +0.7
MMGO Monte Magaggia 157.91 336 P PKPdf 13 07 32.7 -0.2
ETOS Mallorca 158.12 358 PKP PKPdf 13 07 34.9 +1.8
ECHE Chera 158.19 6 ⇑PKP PKPdf 13 07 33.8 +0.6
PBEJ Beja 158.20 21 *e*PKPdf PKPdf 13 07 33.6 +0.4
PBEJ Beja 158.20 21 *e*PKPdf PKPdf 13 07 33.8 +0.6
PTEO Sao Teotonio 158.32 23 *e*PKPdf PKPdf 13 07 34.1 +0.8
PTEO Sao Teotonio 158.32 23 *e*PKPdf PKPdf 13 07 34.0 +0.7
MORF Marmelete 158.56 23 *e*P PKPdf 13 07 33.4 -0.2
EGRO El Granado 158.77 21 ⇓PKP PKPdf 13 07 35.5 +1.6
EMIN Mina Concepcio 158.82 19 ⇓PKP PKPdf 13 07 34.1 +0.1
EIBI Ibiza 158.88 1 PKP PKPdf 13 07 35.4 +1.4
EVIA Vianos 158.94 9 PKP PKPdf 13 07 36.9 +2.8
EADA Adamuz 159.00 14 PKP PKPdf 13 07 34.1 0.0
PTS Pantelleria 159.03 336 P PKPdf 13 07 33.2 -1.0
ETOB Tobarra 159.07 7 PKP PKPdf 13 07 34.5 +0.3
EHIG Higuera 159.15 56 ⇓PKP PKPdf 13 07 37.4 +3.1
EBAN Banos Encina 159.18 12 ⇑PKP PKPdf 13 07 34.9 +0.6
CHIE El Hierro 159.38 58 PKP PKPdf 13 07 36.9 +2.3
ELUQ Luque 159.65 14 ⇑PKP PKPdf 13 07 35.4 +0.5
EQES Quesada 159.66 11 PKP PKPdf 13 07 34.6 -0.3
EHUE Huescar 159.74 10 PKP PKPdf 13 07 37.8 +2.9
EGOM La Gomera 159.80 56 PKP PKPdf 13 07 38.0 +3.0
ESPR Espera 159.89 18 PKP PKPdf 13 07 36.4 +1.3
EMUR La Murta 159.90 7 PKP PKPdf 13 07 36.5 +1.4
ELOJ Sierra Loja 160.07 14 ⇑PKP PKPdf 13 07 35.4 0.0
ECOG Cogollos-Vega 160.08 12 PKP PKPdf 13 07 35.0 -0.4
CCAN Las Canadas 160.24 55 PKP PKPdf 13 07 38.1 +2.6
ERON Agron 160.28 13 PKP PKPdf 13 07 35.4 -0.2
EBAJ Bajamar 160.30 54 PKP PKPdf 13 07 37.8 +2.2
EJIF Jimena Fronter 160.39 17 PKP PKPdf 13 07 37.7 +2.0
EMIJ Mijas 160.48 16 PKP PKPdf 13 07 36.1 +0.3
EGUA Guajares 160.50 13 PKP PKPdf 13 07 37.8 +1.9
EBER Berja 160.58 11 PKP PKPdf 13 07 37.2 +1.3
CAEH 'Ain El Ouahch 160.59 348 P PKPdf 13 07 36.0 +0.1
CMAH Djebel Manchou 160.61 346 P PKPdf 13 07 38.0 +2.1
ENIJ Nijar 160.62 10 PKP PKPdf 13 07 36.5 +0.6
ABSA Djebel Ababsia 160.94 346 P PKPdf 13 07 37.5 +1.2
CKFL Kef-Lekhel 160.98 348 P PKPdf 13 07 37.0 +0.7
DFRA Djebel Bou Aff 161.00 350 P PKPdf 13 07 38.0 +1.7
ABA Alger-Bouzarea 161.07 357 P PKPdf 13 07 38.0 +1.6
CASM Ain Smara 161.16 348 P PKPdf 13 07 37.5 +1.0
CTEI Djebel Teioual 161.37 348 P PKPdf 13 07 37.5 +0.8
SET Setif 161.41 351 P PKPdf 13 07 36.0 -0.8
EALB Alboran 161.48 12 PKP PKPdf 13 07 37.4 +0.6
CKHR Kef el Ahmar 161.58 350 P PKPdf 13 07 38.0 +1.1
EBNR Beni Rached 161.61 0 P PKPdf 13 07 38.0 +1.0
EMHD Djebel Mahouad 161.67 357 P PKPdf 13 07 36.7 -0.3
ECHA Ech Chlef 161.75 1 P PKPdf 13 07 38.3 +1.2
CMER Merouana 161.90 349 P PKPdf 13 07 39.0 +1.8
EANR 'Ain N'Sour 161.94 2 P PKPdf 13 07 38.3 +1.0
CFTV Fuerteventura 162.07 51 PKP PKPdf 13 07 38.6 +1.2
EFAM Famara 162.08 48 PKP PKPdf 13 07 40.0 +2.6
ETRT Tiaret 162.51 1 P PKPdf 13 07 37.8 0.0
MDT Midelt 164.03 20 PKP PKPdf 13 07 40.1 +0.8
comp=Z,167nm,1.0s,baz=356,slow=0.6,SNR=112
MDT PKPab PKPab 13 08 36.7 -0.2
comp=Z,126nm,1.0s,baz=333,slow=5.1,SNR=14
MDT pPKP pPKPdf 13 09 58.6 -0.3
comp=Z,17nm,1.1s,baz=0.0,slow=17,SNR=2.0
MDT pPKPab pPKPab 13 10 48.8 +1.3
comp=Z,37nm,1.2s,baz=338,slow=6.0,SNR=3.7
LIC Lamto 166.72 149⇓*i*PKIKP PKPdf 13 07 40.5 -0.9
LIC *e*R
comp=Z,3µm,21.5s
LIC Lamto 166.72 149⇓*i*PKPdf PKPdf 13 07 40.5 -0.9
LIC LR LR
comp=Z,2µm,21.5s

IDC 02 12:57:53.2±25.0, 1781S×17795W, h530km±241km, mb3.9/4, mb1 4.1/4, mb1mx3.7/15, mbtmp4.8/4, Error ellipse: s-maj=156.3km s-min=53.1km az=95.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.06**	**241**	P	P	13 04 34.0	-0.4
	7.6nm,0.5s,baz=81,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**45.08**	**259**	P	P	13 05 21.9	+0.2
	8.4nm,0.7s,baz=95,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**45.24**	**254**	P	P	13 05 23.6	+0.6
	28nm,0.6s,baz=87,slow=8.1,SNR=16						
MJAR	**Matsushiro Arr**	**68.08**	**323**	P	P	13 07 59.8	-0.1
	1.8nm,0.8s,baz=136,slow=5.9,SNR=4.6						
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc	PKPbc	13 16 29.8	-0.9
	3.1nm,0.7s,baz=132,slow=5.7,SNR=8.2						
GERES	**GERESS Array B**	**147.62**	**346**	PKPbc	PKPbc	13 16 37.8	-0.1
	1.9nm,0.5s,baz=19,slow=2.9,SNR=12						
DAVOX	**Davos**	**150.39**	**349**	PKPbc	PKPbc	13 16 44.7	+0.1
	4.2nm,0.5s,baz=322,slow=18,SNR=2.5						

IDC 02 13:04:08.3±67.0, 1738S×17968E, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/15, mbtmp4.2/3, Error ellipse: s-maj=1201.0km s-min=156.0km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.30**	**240**	P	P	13 11 21.6	-0.4
	5.0nm,0.9s,baz=45,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	**42.94**	**259**	P	P	13 12 09.2	+0.4
	1.0nm,0.5s,baz=92,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**43.18**	**254**	P	P	13 12 11.4	+0.7
	3.2nm,0.5s,baz=87,slow=8.8,SNR=36						

IDC 02 13:05:54.9±14.0, 1849S×17779W, h570km±136km, mb3.4/4, mb1 3.5/4, mb1mx3.3/16, mbtmp4.4/4, 2C, Error ellipse: s-maj=124.6km s-min=63.0km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.93**	**261**	P	P	13 11 53.5	+1.9
	1.3nm,0.4s,baz=63,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**38.87**	**242**	P	P	13 12 31.9	-0.1
	2.9nm,0.8s,baz=78,slow=8.3,SNR=5.3						
WB2	**Warramunga Arr**	**45.09**	**260**	*e*P	P	13 13 20.0	-0.9
WRA	**Warramunga Arr**	**45.10**	**260**	*e*P	P	13 13 20.5	-0.5
	1.6nm,0.5s,baz=95,slow=7.1,SNR=26						
WRA				PcP	PcP	13 14 49.9	+0.7
	0.4nm,0.4s,baz=90,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**45.20**	**255**	P	P	13 13 21.9	+0.2
	9.1nm,0.5s,baz=87,slow=8.5,SNR=75						
ASAR				PcP	PcP	13 14 50.4	+0.8
	1.0nm,0.5s,baz=104,slow=3.8,SNR=6.9						
ASPA	**Alice Springs**	**45.20**	**255**	*e*P	P	13 13 21.8	0.0
VNA3	**Neumayer Olymp**	**90.12**	**176**	⇑*i*	P	13 18 04.3	+9.5
VNA3				*e*		13 18 07.5	
VNA2	**Neumayer--Watz**	**90.57**	**177**		P	13 18 03.1	+6.2
	baz=347,slow=4.5						
VNA2				*e*		13 18 06.6	
VNA2				*e*		13 18 23.0	
VNA2				*e*		13 18 33.8	
VNA1	**Neumayer--Stat**	**90.79**	**177**	⇑*i*	P	13 18 02.4	+4.5
VNA1				*e*		13 18 05.2	
ARCES	**ARCESS Array B**	**126.99**	**350**	PKP	PKPdf	13 23 53.0	-1.6
	1.8nm,0.8s,baz=315,slow=1.7,SNR=5.1						
BRTR	**Keskin Array B**	**145.61**	**315**	PKPbc	PKPbc	13 24 29.8	-0.6
	0.7nm,0.4s,baz=117,slow=3.4,SNR=6.0						
GERES	**GERESS Array B**	**148.32**	**345**	PKPbc	PKPbc	13 24 37.4	-0.2
	1.2nm,0.4s,baz=20,slow=3.5,SNR=13						
DAVOX	**Davos**	**151.09**	**349**	PKPbc	PKPbc	13 24 44.3	+0.2
	3.2nm,0.5s,baz

1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.12**	**273**	*i* P	Pg	13 25 07.5	+0.8
RCP	**Roxas**	**1.26**	**232**	⇓*e*P	Pg	13 25 28.0	-0.4
RCP				*e*S	Sg	13 25 46.4	+1.6
AUQP	**San Andres**	**1.43**	**313**	*e*P	Pn	13 25 32.2	+1.0
OCLP	**Ormoc**	**1.54**	**147**	*e*P	Pn	13 25 33.5	+0.8
PLP	**Palo**	**1.68**	**134**	*e*P	Pn	13 25 33.8	-0.8
PLP				*i* S	Sn	13 25 57.5	+0.7

IDC ***02*** *13:25:05.3±1.1, 6.11S×12286E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, ML3.5/1, Error ellipse: s-maj=56.3km s-min=22.2km az=56.0*
ISCJB ***02*** *13:25:08.0±0.7, 62S±02×1229E±03, h33km, mb4.0/5, Error ellipse: s-maj=46.2km s-min=11.1km az=108.3*
ISC 02 13:25:10.4±0.7, 61S±02×1229E±03, h35km, n9, σ1§21/9, mb4.0/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.67**	**142**	P	**Pn**	**13 29 12.1**	**-1.6**
	0.2nm,0.3s,baz=317,slow=13,SNR=26						
WB2	**Warramunga Arr**	**17.68**	**142**	*e*P	**Pn**	**13 29 12.4**	**-1.3**
ASPA	**Alice Springs**	**20.40**	**150**	*e*P	**P**	**13 29 46.6**	**+2.4**
ASAR	**Alice Springs**	**20.40**	**150**	P	**P**	**13 29 45.5**	**+1.2**
	3.1nm,0.8s,baz=332,slow=12,SNR=21						
PSI	**Prapat**	**25.52**	**290**	P	**P**	**13 30 35.0**	**-0.5**
	6.8nm,0.9s,mb4.2,baz=127,slow=5.1,SNR=5.5						
SONM	**Songino Array**	**55.68**	**347**	P	**P**	**13 34 44.1**	**+1.0**
	1.1nm,0.8s,mb4.0,baz=161,slow=8.2,SNR=9.0						
MKAR	**Makanchi Array**	**63.80**	**330**	P	**P**	**13 35 39.5**	**+0.6**
	1.7nm,0.7s,mb4.2,baz=124,slow=7.2,SNR=19						
ZAL	**Zalesovo**	**67.85**	**337**	P	**P**	**13 36 04.2**	**-0.8**
	1.2nm,0.3s,mb4.3,baz=44,slow=7.9,SNR=6.8						
BVAR	**Borovoye Array**	**73.68**	**330**	P	**P**	**13 36 40.0**	**-0.5**
	0.5nm,0.7s,mb3.5,baz=153,slow=6.6,SNR=4.0						

IDC 02 13:33:10.8±26.0, 1788S×17137W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, MS4.3/1, Ms1 4.3/1, ms1mx3.9/24, Error ellipse: s-maj=501.7km s-min=181.0km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.81**	**207**	LR	LR	13 40 10.7	
	comp=Z,1μm,19.3s,baz=300,slow=33						
CTA	**Charters Tower**	**40.06**	**260**	P	P	13 40 46.7	-1.1
	0.6nm,0.3s,baz=77,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**44.56**	**243**	P	P	13 41 24.5	0.0
	1.4nm,1.0s,baz=86,slow=11,SNR=2.8						
WB2	**Warramunga Arr**	**51.21**	**259**	*e*P	P	13 42 16.6	+0.6
WRA	**Warramunga Arr**	**51.22**	**259**	P	P	13 42 16.9	+0.9
	1.0nm,0.5s,baz=98,slow=6.2,SNR=19						
ASAR	**Alice Springs**	**51.24**	**254**	P	P	13 42 17.2	+1.0
	3.9nm,0.5s,baz=90,slow=8.2,SNR=100						
ASPA	**Alice Springs**	**51.25**	**254**	*e*P	P	13 42 17.1	+0.8

IDC ***02*** *13:34:42.8±1.4, 2444S×11603W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.1/8, Error ellipse: s-maj=50.5km s-min=20.7km az=49.0*
ISCJB ***02*** *13:34:46.2±0.5, 2396S±008×1154W±01, h10km, mb4.6/17, MS5.3/2, Error ellipse: s-maj=14.9km s-min=10.8km az=111.8*
NEIC ***02*** *13:34:47.9±0.5, 2400S×11536W, h10km, mb5.1/10, Error ellipse: s-maj=13.9km s-min=10.9km az=56.0*
BJI ***02*** *13:34:47.9, 2400S×11540W, h10km, mB5.7, Ms5.2, Msz5.0*
ISC 02 13:34:48.4±0.5, 2398S±009×1154W±01, h10km, (h37km±3.3km:pP-P), n53, σ1§16/37, mb4.6/17, MS5.3/2, 2C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**13.47**	**262**	P	**Pn**	**13 38 00.2**	**+0.7**
PLCA	**Paso Flores**	**40.89**	**125**	P	**P**	**13 42 29.8**	**-0.9**
	3.2nm,0.9s,mb3.9,baz=300,slow=11,SNR=4.3						
PLCA	**Paso Flores**	**40.89**	**125**	*e*P	**P**	**13 42 30.2**	**-0.4**
	14nm,1.2s,mb4.5						
CFAA	**Coronel Fontan**	**42.11**	**111**	P	**P**	**13 42 38.7**	**-1.9**
	0.1nm,0.4s,baz=265,slow=13,SNR=3.0						
LVC	**Limon Verde**	**42.53**	**98**	*e*P	**P**	**13 42 46.6**	**+2.6**
LVC				*e*pP	pP	13 42 56.2	+9.1
LPAZ	**La Paz**	**44.82**	**89**	P	**P**	**13 43 04.6**	**+2.1**
	3.9nm,0.8s,mb4.3,baz=261,slow=3.4,SNR=10.0						
LPAZ	**La Paz**	**44.82**	**89**	P	**P**	**13 43 04.6**	**+2.1**
LPAZ				*e*pP	pP	13 43 11.3	+5.7
JTS	**JuntasAbangare**	**45.19**	**45**	*e*pP	pP	13 43 16.8	+8.3
TRQA	**Tornquist**	**47.24**	**120**	*e*P	**P**	**13 43 21.2**	**-0.4**
TXAR	**Lajitas Array**	**54.18**	**13**	P	**P**	**13 44 13.8**	**-0.1**
	0.2nm,0.3s,mb3.6,baz=197,slow=9.4,SNR=5.9						
SDV	**Santo Domingo**	**54.53**	**59**	*e*P	**P**	**13 44 12.7**	**-3.7**
	15nm,1.4s,mb4.8						
JCT	**Junction City**	**56.16**	**16**	*e*P	**P**	**13 44 29.3**	**+1.1**
	53nm,1.4s,mb5.4						
JCT				*e*pP	pP	13 44 38.5	+7.1
LENM	**Lemitar**	**58.37**	**8**	*e*P	**P**	**13 44 41.8**	**-2.0**
LENM				*e*pP	pP	13 44 56.2	+9.2
BNM	**Barren Site**	**58.40**	**8**	*e*P	**P**	**13 44 44.2**	**+0.2**
LPM	**Los Pinos Moun**	**58.56**	**8**	*e*P	**P**	**13 44 46.0**	**+0.9**
LAZ	**Ladron**	**58.58**	**8**	*e*P	**P**	**13 44 45.9**	**+0.6**
ANMO	**Albuquerque**	**59.21**	**8**	P	**P**	**13 44 50.3**	**+0.7**
	0.7nm,0.5s,mb3.9,baz=141,slow=6.5,SNR=2.3						
NEN	**Nelson**	**59.30**	**0**	*e*P	**P**	**13 44 51.1**	**+0.8**
ARUT	**Antelope Range**	**61.46**	**2**	*e*P	**P**	**13 45 06.2**	**+1.2**
CMB	**Columbia Colle**	**61.86**	**355**	*e*P	**P**	**13 45 07.6**	**-0.1**
	18nm,1.6s,mb5.0						
SDCO	**Great Sand Dun**	**62.09**	**9**	*e*P	**P**	**13 45 09.9**	**+0.6**
	39nm,1.8s,mb5.2						
NVAR	**Mina Array Bea**	**62.14**	**357**	P	**P**	**13 45 10.3**	**+0.7**
	2.1nm,0.9s,mb4.3,baz=165,slow=9.7,SNR=15						
NVAR	**Mina Array Bea**	**62.14**	**357**	P	**P**	**13 45 10.3**	**+0.7**
MSU	**Marysvale**	**62.23**	**3**	*e*P	**P**	**13 45 11.5**	**+1.3**
PV10	**Paradox Valley**	**62.31**	**6**	*e*P	**P**	**13 45 10.8**	**0.0**
PV10				*e*pP	pP	13 45 22.6	+8.6
BDFB	**Brasilia**	**63.39**	**96**	P	**P**	**13 45 18.8**	**+0.8**
	2.4nm,0.7s,mb4.5,baz=149,slow=3.1,SNR=4.2						
DAU	**Daniels Canyon**	**64.17**	**3**	*e*P	**P**	**13 45 23.0**	**-0.1**
DAU				*e*pP	pP	13 45 35.0	+8.6
WVT	**Waverly**	**65.20**	**24**	*e*P	**P**	**13 45 29.6**	**-0.2**
	14nm,1.5s,mb4.8						
QSPA	**South Pole Qui**	**66.18**	**180**	*e*P	**P**	**13 45 36.4**	**+0.3**
	19nm,1.1s,mb5.0						
PDAR	**Pinedale Array**	**66.62**	**5**	P	**P**	**13 45 37.5**	**-1.4**
	1.4nm,0.7s,mb4.1,baz=173,slow=7.5,SNR=11						
HLID	**Hailey**	**67.21**	**1**	*e*P	**P**	**13 45 42.8**	**+0.1**
	4.3nm,0.9s,mb4.5						
QLMT	**Earthquake Lak**	**68.57**	**3**	*e*P	**P**	**13 45 51.8**	**+0.5**
HRY	**Holter Researc**	**70.43**	**3**	*e*P	**P**	**13 46 02.4**	**-0.3**
NEW	**Newport**	**71.92**	**359**	*e*P	**P**	**13 46 09.8**	**-2.0**
	25nm,1.6s,mb4.9						
EDM	**Edmonton**	**76.89**	**1**	*e*P	**P**	**13 46 38.8**	**-1.9**
FCC	**Fort Churchill**	**84.30**	**11**	*e*P	**P**	**13 47 18.6**	**-1.8**
	34nm,1.6s,mb5.2						
SYO	**Syowa Base**	**85.50**	**171⇑**	*e*P	**P**	**13 47 21.5**	**-5.0**
SYO	**Syowa Base**	**85.50**	**171⇑**	*es*P	sP	13 47 39.1	+8.1
YKA	**Yellowknife Ar**	**86.17**	**0**	P	**P**	**13 47 27.0**	**-2.8**
	1.7nm,0.8s,mb4.3,baz=174,slow=5.1,SNR=27						
MDJ	**Mudanjiang**	**124.02**	**309**	PKP	PKPdf	13 53 47.5	+0.6
NJ2	**Nanjing**	**131.89**	**292**	*e*PKP	PKPdf	13 54 02.6	+0.7
HHC	**Hu-ho-hao-te**	**137.50**	**305**	*e*PKP	PKPdf	13 54 08.5	-3.9
HHC				PP	PP	13 56 56.6	-1.5
HHC				PKS		13 57 42.1	
HHC				PP	PP		
	comp=Z,738nm,9.6s						
HHC				LR	LR		
	comp=N,503nm,15.6s,MS5.5						
HHC				LR	LR		
	comp=E,516nm,16.8s,MS5.5						
HHC				LR	LR		
	comp=Z,819nm,16.8s,MS5.5						
SONM	**Songino Array**	**139.33**	**317**	PKP	PKPdf	13 54 11.3	-4.4
	comp=Z,1.5nm,1.1s,baz=89,slow=2.2,SNR=5.4						
AKASG	**Malin Array Be**	**141.80**	**37**	PKP	PKPdf	13 54 16.9	-3.3
	comp=Z,0.2nm,0.2s,baz=324,slow=1.4,SNR=4.4						
LZH	**Lanzhou**	**144.21**	**299**	PKP	PKPdf	13 54 18.6	-5.9
LZH				APKP		13 54 28.9	
LZH				XPKP		13 54 32.8	
LZH				*e*PP	PP	13 57 36.9	-2.2
LZH				PP	PP		
	comp=Z,82nm,7.9s						
LZH				LR	LR		
	comp=E,174nm,18.3s						
LZH				LR	LR		
	comp=Z,348nm,20.0s,MS5.1						
CD2	**Chengdu**	**144.75**	**290**	*e*PKP	PKPdf	13 54 24.7	-0.7
KMI	**Kunming**	**145.41**	**280**	PKP	PKPdf	13 54 21.8	-4.7
ZAL	**Zalesovo**	**146.47**	**338**	PKPbc	PKPbc	13 54 25.1	-4.6
	comp=Z,1.4nm,0.7s,baz=92,slow=3.5,SNR=8.1						
GTA	**Gaotai**	**146.60**	**306**	*e*PKP	PKPdf	13 54 26.3	-2.3
ARU	**Arti**	**147.28**	**6**	*e*PKPdf	PKPdf	13 54 27.8	-1.9
ARU				*ep*PKPdf	pPKPdf	13 54 42.4	+9.2
BRTR	**Keskin Array B**	**149.53**	**52**	PKPbc	PKPbc	13 54 35.6	-2.2
	comp=Z,2.3nm,0.9s,baz=225,slow=1.7,SNR=9.9						
WMQ	**Urumqi**	**152.63**	**322**	*e*PKP	PKPdf	13 54 37.0	-1.1
MKAR	**Makanchi Array**	**153.19**	**333**	PKP	PKPdf	13 54 34.9	-4.1
	comp=Z,0.6nm,1.0s,baz=18,slow=3.8,SNR=4.1						
MKAR				PKPbc	PKPbc	13 54 42.5	-3.9
	comp=Z,0.8nm,0.7s,baz=27,slow=2.7,SNR=6.9						

IDC 02 13:40:06.3±4.4, 1762S×17717W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx3.4/22, Error ellipse: s-maj=190.4km s-min=34.1km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.67**	**287**	LR	LR	13 51 34.9	
	comp=Z,152nm,21.5s,baz=2.5,slow=29						
STKA	**Stephens Creek**	**39.80**	**241**	P	P	13 47 40.5	-0.5
	0.6nm,0.3s,baz=69,slow=6.0,SNR=4.0						
WB2	**Warramunga Arr**	**45.83**	**259**	*e*P	P	13 48 30.5	+0.5
WRA	**Warramunga Arr**	**45.84**	**259**	P	P	13 48 30.4	+0.3
	0.8nm,0.3s,baz=94,slow=7.5,SNR=35						
ASAR	**Alice Springs**	**46.00**	**254**	P	P	13 48 32.5	+1.2
	0.5nm,0.4s,baz=86,slow=8.6,SNR=4.6						
ASPA	**Alice Springs**	**46.01**	**254**	*e*P	P	13 48 32.6	+1.2
ILAR	**Eielson Array**	**85.35**	**13**	P	P	13 52 44.9	-0.4
	0.2nm,0.5s,baz=221,slow=5.3,SNR=6.7						

IDC 02 14:18:03.9±73.0, 1779S×17950E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=1318.0km s-min=157.1km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.95**	**240**	P	P	14 25 14.3	-0.3
	0.6nm,0.4s,baz=108,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	**42.69**	**260**	P	P	14 26 02.8	+0.5
	0.3nm,0.4s,baz=93,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**42.90**	**254**	P	P	14 26 04.7	+0.6
	1.6nm,0.5s,baz=86,slow=8.8,SNR=34						

IDC 02 14:20:54.7±1.7, 029S×12451E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=233.9km s-min=24.0km az=62.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**154**	P	P	14 25 48.2	+0.2
	0.7nm,0.9s,baz=330,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**24.96**	**159**	P	P	14 26 21.9	+2.1
	0.5nm,0.8s,baz=330,slow=8.4,SNR=4.8						
STKA	**Stephens Creek**	**35.33**	**154**	P	P	14 27 49.9	-1.7
	0.5nm,0.4s,baz=320,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**59.66**	**328**	P	P	14 31 00.8	+0.1
	0.2nm,0.5s,baz=110,slow=7.3,SNR=8.3						

IDC ***02*** *14:26:30.9±3.2, 528S×10200E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=144.0km s-min=19.4km az=55.0*
ISCJB ***02*** *14:26:32.9±0.8, 54S±01×1019E±01, h33km, mb4.0/7, Error ellipse: s-maj=19.2km s-min=15.4km az=147.9*
NEIC ***02*** *14:26:36.4±0.6, 541S×10193E, h45km, mb4.6/1, Error ellipse: s-maj=15.9km s-min=12.6km az=72.0*
ISC 02 14:26:35.7±0.8, 54S±01×1019E±01, h35km, n11, σ0§61/9, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**8.46**	**216**	Pn	**Pn**	**14 28 35.6**	**-0.1**
WRA	**Warramunga Arr**	**34.68**	**118**	P	**P**	**14 33 22.2**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=300,slow=10,SNR=7.6						
WRAB	**Tennant Creek**	**34.69**	**118**	P	**P**	**14 33 20.8**	**-1.2**
	10nm,1.2s,mb4.6						
ASAR	**Alice Springs**	**35.76**	**124**	P	**P**	**14 33 32.3**	**+1.1**
	0.4nm,0.5s,mb3.6,baz=293,slow=7.6,SNR=7.2						
STKA	**Stephens Creek**	**45.50**	**130**	P	**P**	**14 34 51.4**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=315,slow=11,SNR=3.8						
SONM	**Songino Array**	**53.10**	**4**	P	**P**	**14 35 49.4**	**-0.3**
	1.0nm,0.6s,mb4.0,baz=185,slow=9.3,SNR=16						
MKAR	**Makanchi Array**	**54.76**	**344**	P	**P**	**14 36 01.7**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.4,SNR=18						
MKAR	**Makanchi Array**	**54.76**	**344**	P	**P**	**14 36 01.7**	**-0.1**
ZAL	**Zalesovo**	**60.80**	**348**	P	**P**	**14 36 44.5**	**+0.4**
	1.2nm,0.3s,mb4.5,baz=316,slow=3.8,SNR=4.5						
TXAR	**Lajitas Array**	**146.01**	**42**	PKPbc	PKPbc	14 46 13.0	+1.3
	1.3nm,0.5s,baz=294,slow=1.4,SNR=13						
TXAR	**Lajitas Array**	**146.01**	**42**	PKPbc	PKPbc	14 46 13.0	+1.3

CSEM ***02*** *14:32:55.8±0.2, 5627N×1119E, h1km, ML2.7, Error ellipse: s-maj=4.1km s-min=3.2km az=13.0, Mining explosion.*
BER ***02*** *14:33:00.2±4.4, 5639N×1148E, h0km±34km, MW2.0, ML2.1(NAO)*
NAO ***02*** *14:33:00.6±2.2, 5651N×1129E, ML2.1*
UPP 02 14:32:59.1, 5630N×1152E, h0km, ML2.7, 1C, Mining explosion., Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COP	**Copenhagen**	**0.80**	**140**	*i* P	Pg	14 33 15.0	+0.6
COP				*i*		14 33 15.3	
COP				*i* S	Sg	14 33 21.4	-3.4
COP				*i*		14 33 22.2	
MUD	**Monsted U'grnd**	**1.32**	**278**	*i* P	Pg	14 33 18.8	-5.5
MUD				*i*		14 33 23.9	
MUD				*e*S	Sg	14 33 42.7	+1.3
MUD	**Monsted U'grnd**	**1.32**	**278**	*e*P	Pg	14 33 18.8	-5.5
VXJU	**Vaexsjoe**	**1.99**	**70**	P	Pn	14 33 33.9	-0.1
BSD	**Bornholm Skovb**	**2.26**	**120**	*i* P	Pn	14 33 36.1	-1.6
BSD				*e*		14 33 38.9	
BSD				*i*		14 33 43.7	
BSD				*i* S	Sn	14 34 09.5	+3.3
BSD	**Bornholm Skovb**	**2.26**	**120**	*e*P	Pn	14 33 36.1	-1.6
BSD				*i* S	Sn	14 34 09.5	+3.3
BLEU	**Blekinge**	**2.39**	**88**	P	Pn	14 33 40.1	+0.6
EKSU	**Eksjoe**	**2.43**	**57**	P	Pn	14 33 41.1	+1.0
OSKU	**Oskarshamn**	**2.67**	**69**	P	Pn	14 33 43.2	-0.2
LNKU	**Linkoeping**	**2.90**	**47**	P	Pn	14 33 46.0	-0.5
VSTU	**Vaestervik**	**3.06**	**61**	P	Pn	14 33 48.9	+0.1
ASKU	**Askersund**	**3.15**	**33**	P	Pn	14 33 49.9	-0.1
FINU	**Finntorp**	**3.15**	**9**	P	Pn	14 33 48.7	-1.3
NRAU	**Nora**	**3.78**	**28**	P	Pn	14 33 57.8	-0.8
ESKU	**Eskilstuna**	**3.93**	**40**	P	Pn	14 34 02.9	+2.2
HFS	**Hagfors**	**4.01**	**16**	Pn	Pn	14 34 01.0	-0.8
	baz=210,slow=12						
HFS				Sn	Sn	14 34 46.1	-3.4
	baz=180,slow=28						
HFS				Lg		14 34 59.0	
	baz=192,slow=28						
HFS	**Hagfors**	**4.01**	**16**	Pn	Pn	14 34 01.0	-0.8
	SNR=3.0						
HFS				Sn	Sn	14 34 46.1	-3.4
KMY	**Karmoy**	**4.45**	**314**	*e*P	Pn	14 34 05.2	-2.6
ODD1	**Odda**	**4.46**	**326**	*e*P	Pn	14 34 05.0	-2.9
NB2	**NORSAR Subarra**	**4.76**	**358**	Pn	Pn	14 34 10.3	-1.8
	baz=182,slow=14						
NB2				Lg		14 35 25.4	
FALU	**Falun**	**4.78**	**27**	P	Pn	14 34 11.9	-0.4
FIA0	**FINESS Array S**	**9.12**	**50**	Pn	Pn	14 35 11.2	-0.8
	baz=239,slow=12						
FIA0	**FINESS Array S**	**9.12**	**50**	Pn	Pn	14 35 11.1	-0.9

SKO ***02*** *14:35:04.8, 4137N×2092E, h1km, M2.2, ML2.6*
ISCJB ***02*** *14:35:05.9±0.3, 4140N±002×2098E±002, h10km, Error ellipse: s-maj=2.9km s-min=2.2km az=111.6*
THE ***02*** *14:35:06.4, 4140N×2101E, h10km, ML3.1*
PDG ***02*** *14:35:06.3±0.2, 4133N×2074E, h10km±1km*
NEIC ***02*** *14:35:06.3±0.4, 4139N×2092E, h10km, MD3.1(PDG), MD3.4(ATH), Error ellipse: s-maj=10.0km s-min=4.3km az=54.0*
CSEM ***02*** *14:35:07.2±0.2, 4137N×2102E, h2km±1km, ML3.1, Error ellipse: s-maj=3.8km s-min=1.9km az=49.0*
TIR ***02*** *14:35:15.0, 4176N×2025E, h5km*
ATH ***02*** *14:35:24.1, 4036N×2144E, h2km, MD3.4/4*
ISC 02 14:35:06.5±0.3, 4139N±002×2099E±002, h10km, n34, σ1§41/58, 4C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.31**	**207**	*i* Pg	**Pg**	**14 35 09.8**	**-3.0**
OHR				⇑*i* Sg	**Sg**	**14 35 14.7**	**-2.3**
SAMO	**Samokov**	**0.32**	**211**	*i* Pg	**Pg**	**14 35 12.0**	**-0.9**
SAMO				*i* Sg	**Sg**	**14 35 17.2**	**-0.1**
BELI	**Belica**	**0.36**	**36**	*e*Pg	**Pg**	**14 35 11.4**	**-2.2**
BELI				*i*		14 35 11.9	
BELI				*i* Sg	**Sg**	**14 35 18.8**	**+0.3**
BELI				*i*		14 35 19.6	
BIA	**Bitola**	**0.45**	**146**	⇑*i* Pg	**Pg**	**14 35 14.1**	**-1.2**
BIA				*i* Sg	**Sg**	**14 35 22.5**	**+1.3**
BIA				*e*Lg		14 35 23.2	
	comp=E,304nm,0.3s						
BIA				*e*Lg		14 35 24.0	
	comp=N,396nm,0.3s						
SKO	**Skopje**	**0.67**	**30**	*i* Pg	**Pg**	**14 35 19.6**	**+0.1**
SKO				*e*Sg	**Sg**	**14 35 29.1**	**+0.8**
SKO				*e*Lg		14 35 29.9	
	comp=E,142nm,0.3s						
SKO				*e*Lg		14 35 30.5	
	comp=N,283nm,0.3s						
FNA	**Florina**	**0.67**	**154**	*e*Pg	**Pg**	**14 35 18.4**	**-1.2**
	comp=N,18nm,0.3s						
FNA				*e*Sg	**Sg**	**14 35 29.1**	**+0.7**
KBN	**Korca**	**0.78**	**191**	*i* Pg	**Pg**	**14 35 24.4**	**+2.8**
KBN				*i* Sg	**Sg**	**14 35 32.8**	**+1.0**
QSH	**Qafa e Shtames**	**0.82**	**279**	*i* pg?	**Pg**	**14 35 21.0**	**-1.4**
QSH				*i* Sg	**Sg**	**14 35 35.0**	**+1.9**
STIP	**Stip**	**0.95**	**71**	*i* Pg	**Pg**	**14 35 24.4**	**-0.3**
STIP				*e*Sg	**Sg**	**14 35 38.3**	**+1.2**
STIP				*e*Lg		14 35 40.6	
	comp=E,37nm,0.5s						
STIP				*e*Lg		14 35 40.6	
	comp=N,42nm,0.3s						
PUK	**Puka**	**1.05**	**309**	*i* Pg	**Pg**	**14 35 22.3**	**-4.3**
PUK				*i* Sg	**Sg**	**14 35 39.5**	**-0.7**
GRG	**Griva**	**1.15**	**112**	*e*Pg	**Pg**	**14 35 28.1**	**-0.5**
GRG				*e*Sg	**Sg**	**14 35 45.5**	**+1.9**
VAY	**Valandovo**	**1.19**	**93**	*e*Sn	**Sn**	**14 35 45.4**	**-0.1**
KZN	**Kozani**	**1.24**	**151**	*e*PG	**Pg**	**14 35 29.5**	**-0.7**
PVY	**Plav**	**1.42**	**328**	⇓*i* Pg	**Pg**	**14 35 31.7**	**-2.1**
PVY				*e*Sg	**Sg**	**14 35 53.4**	**+1.1**
ULC	**Ulcinj**	**1.42**	**294**	⇓*i* Pg	**Pg**	**14 35 30.1**	**-3.7**
ULC				*e*Sg	**Sg**	**14 35 50.0**	**-2.2**
ULC	**Ulcinj**	**1.42**	**294**	⇓*i* Pg	**Pg**	**14 35 30.0**	**-3.8**
ULC				*e*Sg	**Sg**	**14 35 50.0**	**-2.3**
MEV	**Metsovon**	**1.61**	**173**	*e*Pb	**Pb**	**14 35 35.5**	**-0.9**
MEV				*e*Sb	**Sb**	**14 35 59.2**	**+2.4**
TTG	**Podgorica**	**1.66**	**309**	⇓*i* Pg	**Pg**	**14 35 35.4**	**-2.8**
TTG				*e*Sg	**Sg**	**14 35 59.5**	**-0.2**
IVA	**Berane**	**1.69**	**332**	⇓*i* Pn	**Pn**	**14 35 36.2**	**+0.1**
IVA				*e*Sn	**Sn**	**14 36 01.8**	**+4.1**
LIT	**Litokhoron**	**1.72**	**138**	*e*Pb	**Pb**	**14 35 37.3**	**-0.9**
LIT				*e*Sb	**Sb**	**14 36 00.5**	**+0.6**
JAN	**Janina**	**1.74**	**183**	*e*PG	**Pg**	**14 35 39.5**	**-0.3**
BUM	**Brajici-Budva**	**1.81**	**301**	⇓*i* Pn	**Pn**	**14 35 37.0**	**-0.7**
BUM				*e*Sn	**Sn**	**14 36 02.9**	**+2.3**
SOH	**Sokhos**	**1.88**	**107**	*e*Pb	**Pb**	**14 35 39.0**	**-1.9**
IGT	**Igoumenitsa**	**1.92**	**195**	*e*Pb	**Pb**	**14 35 39.3**	**-2.3**
SRS	**Serrai**	**1.98**	**97**	*e*Pb	**Pb**	**14 35 40.9**	**-1.8**
NKY	**Niksic**	**2.05**	**314**	⇓*i* Pn	**Pn**	**14 35 41.9**	**+0.8**
NKY				*e*Sn	**Sn**	**14 36 10.1**	**+3.4**
HCY	**Herceg Novi**	**2.14**	**300**	⇓*i* Pn	**Pn**	**14 35 42.4**	**+0.2**
HCY				*e*Sn	**Sn**	**14 36 11.5**	**+2.8**
BRY	**Bratogost**	**2.36**	**310**	⇓*i* Pn	**Pn**	**14 35 46.0**	**+0.7**
BRY				*e*Sn	**Sn**	**14 36 17.4**	**+3.1**
UPM	**Unac-Piva**	**2.38**	**320**	*e*Pn	**Pn**	**14 35 47.2**	**+1.6**
UPM				*e*Sn	**Sn**	**14 36 18.7**	**+4.0**
EVR	**Evrytania**	**2.55**	**165**	*e*PB	**Pb**	**14 35 52.0**	**-0.4**
AGG	**Agios Georgios**	**2.58**	**156**	*e*Pn	**Pn**	**14 35 49.3**	**+1.0**
AGG				*e*Sn	**Sn**	**14 36 21.6**	**+1.9**
LKD	**Levkas**	**2.69**	**186**	*e*Pn	**Pn**	**14 35 50.5**	**+0.6**
TIP	**Timpag

SJG	**San Juan**	**1.24**	**103**↑	*e*P	Pn	15 27 50.1	-2.2
SJG				*e*S	Sb	15 28 05.7	-2.8
SJG	**San Juan**	**1.24**	**103**↑	*e*P	Pn	15 27 50.0	-2.4
SJG				*e*S	Sb	15 28 05.5	-3.0
HUMP	**Col San Antoni**	**1.51**	**100**↑	*e*P	Pn	15 27 53.8	-2.3
HUMP				*e*S	Sn	15 28 12.4	-3.5
CULB	**Culebra**	**1.99**	**92**↑	*e*P	Pn	15 27 59.9	-2.7
CULB	**Culebra**	**1.99**	**92**	*e*S	Sn	15 28 24.3	-3.3
TBVI	**Tortola**	**2.67**	**89**↑	*e*P	Pn	15 28 09.5	-2.5
TBVI				*e*S	Sn	15 28 40.6	-3.8

IDC 02 15:29:26.8±4.8, 4969S×11821E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/11, mbtmp3.5/2, Error ellipse: s-maj=512.9km s-min=66.3km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.74**	**31**	P	P	15 35 25.6	-0.3
	0.4nm,0.7s,baz=194,slow=8.6,SNR=6.6						
WRA	**Warramunga Arr**	**32.35**	**29**	P	P	15 35 58.0	+0.2
	0.5nm,0.6s,baz=200,slow=8.9,SNR=4.3						
YKA	**Yellowknife Ar**	**148.84**	**46**	PKPbc	PKPbc	15 49 14.5	-1.8
	0.4nm,0.7s,baz=280,slow=2.2,SNR=9.1						

*KNET **02** 15:37:17.7±0.5, 4220N×7370E, h3km±4km, ml1.4, Error ellipse: s-maj=3.8km s-min=2.1km az=76.0*
*ISCJB **02** 15:37:18.8±0.6, 4219N±003×7371E±005, h3km, Error ellipse: s-maj=5.6km s-min=4.4km az=83.7*
*NNC **02** 15:37:20.3±1.0, 4228N×7368E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=16.5km s-min=4.2km az=172.0*
ISC 02 15:37:19.2±0.6, 4219N±004×7371E±005, h3km, n10, σ0§96/18, 11C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.06**	**195**	⇑P	**Pg**	**15 37 19.4**	**-1.0**
	200nm,0.1s,SNR=2437						
AML				⇑S	**Sg**	**15 37 20.8**	**-0.5**
	903nm,0.2s						
EKS2	**Erkin-Say**	**0.48**	**6**	⇑P	**Pg**	**15 37 27.5**	**-0.9**
	2.2nm,0.1s,SNR=15						
EKS2				⇓S	**Sg**	**15 37 34.2**	**-0.4**
	20nm,0.3s						
UCH	**Uchtor**	**0.59**	**86**	⇑P	**Pg**	**15 37 30.1**	**-0.5**
	4.0nm,0.2s,SNR=18						
UCH				⇑S	**Sg**	**15 37 39.3**	**+0.9**
	22nm,0.2s						
AAK	**Ala-Archa**	**0.73**	**52**	⇓P	**Pg**	**15 37 32.2**	**-1.0**
	1.1nm,0.1s						
AAK				⇑S	**Sg**	**15 37 43.2**	**+0.4**
	5.0nm,0.3s						
KBK	**Karagaybulak**	**1.03**	**62**	⇑P	**Pg**	**15 37 38.1**	**-0.9**
	1.6nm,0.1s,SNR=8.5						
USP	**Ospenovka**	**1.23**	**28**	⇑P	**Pg**	**15 37 41.4**	**-1.3**
	1.4nm,0.1s,SNR=12						
USP				⇓S	**Sg**	**15 37 58.4**	**-0.2**
	4.3nm,0.1s						
TKM2	**Tokmak 2**	**1.57**	**61**	⇑P	**Pn**	**15 37 48.1**	**+0.1**
	1.7nm,0.1s,SNR=8.7						
TKM2				⇓S	**Sn**	**15 38 10.6**	**+1.7**
	3.8nm,0.1s						
TKM2	**Tokmak 2**	**1.57**	**61**	⇓P	**Pn**	**15 37 48.7**	**+0.7**
	1.4nm,0.4s						
TKM2				⇑S	**Sn**	**15 38 10.2**	**+1.3**
	1.6nm,0.4s						
ULHL	**Ulahol**	**1.88**	**87**	⇑P	**Pn**	**15 37 53.6**	**+1.4**
	1.0nm,0.1s,SNR=7.5						
KK31	**Karatay Array**	**2.54**	**292**	⇓P	**Pn**	**15 38 01.7**	**+0.5**
	0.5nm,0.4s,baz=109,slow=16,SNR=12						
KK31				⇓S	**Sn**	**15 38 34.5**	**+1.9**
	5.3nm,0.8s,baz=107,slow=29						

IDC 02 15:59:35.8±66.0, 2289S×17981E, h658km±263km, mb3.0/3, mb1 3.2/4, mb1mx2.9/15, mbtmp4.1/4, Error ellipse: s-maj=872.6km s-min=88.1km az=79.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.38**	**271**	P	P	16 02 18.9	+1.3
	0.4nm,0.3s,baz=77,slow=18,SNR=7.0						
CTA	**Charters Tower**	**31.31**	**269**	P	P	16 05 06.4	+0.8
	baz=84,slow=10						
STKA	**Stephens Creek**	**34.95**	**247**	P	P	16 05 35.4	-0.5
	1.8nm,0.5s,baz=83,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**42.03**	**260**	P	P	16 06 33.6	+1.0
	2.8nm,0.8s,baz=98,slow=7.1,SNR=50						
ASPA	**Alice Springs**	**42.04**	**260**	*e*P	P	16 06 33.4	+0.8
WB2	**Warramunga Arr**	**42.30**	**265**	*e*P	P	16 06 34.8	+0.2
WRA	**Warramunga Arr**	**42.31**	**265**	P	P	16 06 35.0	+0.3
	2.0nm,0.8s,baz=97,slow=7.8,SNR=21						

*IDC **02** 16:01:42.2±1.2, 141N×9687E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/20, mbtmp3.7/9, ML3.0/1, Error ellipse: s-maj=38.2km s-min=21.5km az=43.0*
*MOS **02** 16:01:45.7±0.6, 154N×9689E, h33km, mb4.4/6, Error ellipse: s-maj=20.6km s-min=13.9km az=95.3*
*ISCJB **02** 16:01:46.0±0.7, 16N±01×9700E±009, h33km, mb4.0/18, Error ellipse: s-maj=14.8km s-min=13.3km az=15.1*
*NEIC **02** 16:01:47.5±0.6, 161N×9702E, h30km, mb4.3/8, Error ellipse: s-maj=12.9km s-min=11.3km az=189.0*
*BJI **02** 16:01:47.4, 160N×9700E, h30km, mB4.4, mb4.3*
ISC 02 16:01:48.8±3.2, 16N±01×971E±02, h38km±27km, n28, σ0§97/28, mb4.0/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.21**	**58**	Pn	**Pn**	**16 02 22.7**	**-0.3**
	3.1nm,0.3s,baz=253,slow=5.7,SNR=18						
KULM	**Kulim**	**5.13**	**44**	*e*Pn	**Pn**	**16 03 03.0**	**0.0**
KMI	**Kunming**	**24.02**	**13**	P	**P**	**16 07 01.7**	**+1.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
LSA	**Lhasa**	**28.50**	**349**	P	**P**	**16 07 39.8**	**-0.6**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
LSA	**Lhasa**	**28.50**	**349**	P	**P**	**16 07 39.8**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.7						
CD2	**Chengdu**	**29.83**	**12**	*e*P	**P**	**16 07 55.2**	**+3.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,5.3s						
ENH	**Enshi**	**30.86**	**21**	*e*P	**P**	**16 08 00.0**	**-1.2**
	comp=Z,9.1nm,1.1s,mb4.5						
BJT	**Baijiatuan**	**42.00**	**22**	P	**P**	**16 09 36.6**	**+0.4**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJT	**Baijiatuan**	**42.00**	**22**	P	**P**	**16 09 36.6**	**+0.4**
	comp=Z,6.9nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**42.37**	**122**	P	**P**	**16 09 39.4**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=302,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**43.75**	**127**	P	**P**	**16 09 49.8**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=300,slow=7.7,SNR=5.6						
SONM	**Songino Array**	**46.76**	**9**	P	**P**	**16 10 14.8**	**+0.6**
	comp=Z,3.4nm,0.9s,mb4.2,baz=188,slow=8.8,SNR=25						
MKAR	**Makanchi Array**	**46.82**	**346**	P	**P**	**16 10 15.6**	**+0.9**
	comp=Z,2.8nm,0.8s,mb4.3,baz=162,slow=7.7,SNR=38						
ULN	**Ulaanbaatar**	**46.89**	**9**	*e*P	**P**	**16 10 15.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**46.89**	**9**	*e*P	**P**	**16 10 15.3**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.1						
KURK	**Kurchatov**	**51.37**	**345**	P	**P**	**16 10 48.6**	**-0.9**
MAJO	**Matsushiro**	**51.49**	**43**	*e*P	**P**	**16 10 55.8**	**+5.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
MAJO	**Matsushiro**	**51.49**	**43**	*e*P	**P**	**16 10 55.8**	**+5.3**
	comp=Z,6.5nm,0.4s,mb4.9						
BRVK	**Borovoye**	**55.88**	**341**	P	**P**	**16 11 22.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**55.88**	**341**	P	**P**	**16 11 21.9**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**56.22**	**340**	*e*P	**P**	**16 11 24.7**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**56.22**	**340**	*e*P	**P**	**16 11 24.7**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.0						

BRTR	**Keskin Array B**	**68.73**	**312**	P	**P**	**16 12 48.5**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.2,baz=135,slow=8.2,SNR=3.5						
LBTB	**Lobatse**	**73.94**	**244**	P	**P**	**16 13 22.3**	**+2.3**
LBTB				*e*		16 13 28.1	
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
LBTB	**Lobatse**	**73.94**	**244**	P	**P**	**16 13 22.3**	**+2.3**
	comp=Z,7.6nm,1.2s,mb4.5						
LBTB				*e*		16 13 28.1	
AKASG	**Malin Array Be**	**74.85**	**322**	P	**P**	**16 13 23.9**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=123,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**79.57**	**332**	P	**P**	**16 13 51.2**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=270,slow=34,SNR=3.1						
ARCES	**ARCESS Array B**	**82.11**	**340**	P	**P**	**16 14 05.2**	**-0.2**
	comp=Z,2.7nm,1.0s,mb4.2,baz=74,slow=6.6,SNR=3.0						

*STR **02** 16:06:33.9±0.2, 4302N×070W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 16:06:34.0±0.1, 4306N×070W, h10km, Md1.6/2, Error ellipse: s-maj=4.0km s-min=1.7km az=19.0*
MDD 02 16:06:34.0±0.4, 4314N×067W, h0km, mbLg0.8/3, Error ellipse: s-maj=3.3km s-min=1.7km az=23.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.06**	**203**	Pg	Pg	16 06 36.1	+1.0
ATE				Sg	Sg	16 06 37.9	+2.1
ATE	**Arette**	**0.06**	**203**	Pg	Pg	16 06 36.0	+1.0
ATE				Lg		16 06 37.8	
ORDF	**Ordiarp**	**0.21**	**292**	Pg	Pg	16 06 38.8	+0.8
ORDF				Sg	Sg	16 06 42.3	+1.6
ORDF	**Ordiarp**	**0.21**	**292**	Pg	Pg	16 06 37.8	-0.2
ORDF				Lg		16 06 41.5	
ETSF	**Etsaut**	**0.25**	**161**	*e*Pg	Pg	16 06 38.6	-0.3
ETSF				*e*Sg	Sg	16 06 41.3	-0.8
	7.0nm,0.2s						
ETSF	**Etsaut**	**0.25**	**161**	Pg	Pg	16 06 38.6	-0.3
ETSF				Lg		16 06 41.3	
	3.5nm,0.2s						
LARF	**Larrau**	**0.25**	**247**	Pg	Pg	16 06 38.5	-0.4
LARF				Sg	Sg	16 06 42.2	+0.1
LARF	**Larrau**	**0.25**	**247**	Pg	Pg	16 06 38.3	-0.6
LARF				Lg		16 06 41.9	
FDAF	**Les Forges d'A**	**0.33**	**166**	Pg	Pg	16 06 39.6	-0.7
FDAF				Lg		16 06 43.8	
SJPF	**Ste Jean**	**0.41**	**267**	*e*Pg	Pg	16 06 40.9	-0.9
SJPF				*e*Sg	Sg	16 06 45.8	-1.3
	3.3nm,0.2s						
SJPF	**Ste Jean**	**0.41**	**267**	Pg	Pg	16 06 40.9	-0.9
SJPF				Lg		16 06 45.8	
	1.6nm,0.2s						
VIEF	**Viey**	**0.57**	**116**	Pg	Pg	16 06 44.6	-0.3
VIEF				Sg	Sg	16 06 51.8	-0.5
VIEF	**Viey**	**0.57**	**116**	Pg	Pg	16 06 44.7	-0.2
VIEF				Lg		16 06 52.0	
EPF	**Esparros**	**0.75**	**98**	*e*Pg	Pg	16 06 48.5	+0.1
EPF				*e*Sg	Sg	16 06 59.2	+1.1
	1.4nm,0.2s						
EPF	**Esparros**	**0.75**	**98**	Pg	Pg	16 06 48.5	+0.1
EPF				Lg		16 06 59.2	
	0.7nm,0.2s						
EBIE	**Bielsa**	**0.75**	**127**	Pg	Pg	16 06 47.6	-0.8
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		16 06 57.2	
	1.9nm,0.1s,SNR=7.9						

IDC 02 16:17:12.4±5.0, 286S×13929E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/11, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=200.3km s-min=29.7km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.65**	**196**	P	Pn	16 21 18.6	-1.1
	0.1nm,0.3s,baz=17,slow=13,SNR=6.8						
WRA				S	Sn	16 24 24.5	-12
	0.0nm,0.3s,baz=22,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**21.33**	**194**	P	P	16 22 01.9	+0.9
	0.4nm,0.5s,baz=22,slow=10,SNR=21						
MKAR	**Makanchi Array**	**70.26**	**322**	P	P	16 28 27.6	+0.2
	0.2nm,0.5s,baz=101,slow=8.4,SNR=6.0						

WEL 02 16:47:33.9±0.5, 3724S×17745E, h147km±4km, ML3.5/8, 1C, Error ellipse: s-maj=5.8km s-min=5.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.75**	**115**	PN	Pn	16 47 56.7	+0.3
MXZ				SN	Sn	16 48 13.8	+0.2
PUZ	**Puketiti**	**1.05**	**142**	PN	Pn	16 47 58.6	-0.1
PUZ				SN	Sn	16 48 17.4	-0.3
URZ	**Urewera**	**1.05**	**195**	⇑PN	Pn	16 47 59.2	+0.5
URZ				SN	Sn	16 48 17.6	-0.2
MWZ	**Matawai**	**1.09**	**177**	PN	Pn	16 47 58.6	-0.6
MWZ				SN	Sn	16 48 18.7	+0.3
KNZ	**Kokohu**	**1.78**	**174**	PN	Pn	16 48 06.6	+0.3
BKZ	**Black Stump Fm**	**2.06**	**201**	PN	Pn	16 48 09.9	+0.3
PXZ	**Pawanui**	**2.82**	**189**	PN	Pn	16 48 17.3	-1.5
PXZ				SN	Sn	16 48 52.2	-1.4
BFZ	**Birch Farm**	**3.56**	**195**	PN	Pn	16 48 26.6	-1.7
BFZ				SN	Sn	16 49 08.3	-2.1
MRZ	**Mangatainoka R**	**3.71**	**203**	PN	Pn	16 48 29.0	-1.3
KIW	**Kapiti Island**	**4.12**	**208**	*e*PN	Pn	16 48 33.6	-2.0
TCW	**Tory Channel**	**4.67**	**211**	*e*SN	Sn	16 49 31.8	-4.6
MQZ	**McQueen's Vall**	**7.42**	**208**	*e*SN	Sn	16 50 33.3	-9.0

IDC 02 17:05:35.6±1.1, 041S×12442E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.5/5, Error ellipse: s-maj=145.3km s-min=19.8km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**154**	P	P	17 10 27.4	-0.8
	0.4nm,0.6s,baz=332,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**24.88**	**159**	P	P	17 11 01.6	+1.6
	0.8nm,0.8s,baz=326,slow=6.7,SNR=6.7						
ASAR				PcP	PcP	17 14 37.0	+1.1
	0.3nm,0.6s,baz=348,slow=2.3,SNR=4.8						
STKA	**Stephens Creek**	**35.26**	**154**	P	P	17 12 31.1	-0.8
	0.7nm,0.4s,baz=331,slow=9.9,SNR=4.2						
SONM	**Songino Array**	**50.55**	**344**	P	P	17 14 36.0	+0.2
	0.2nm,0.5s,baz=155,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**59.71**	**328**	P	P	17 15 41.8	-0.1
	0.4nm,0.4s,baz=123,slow=8.2,SNR=14						

*NEIC **02** 17:06:59.0±1.0, 4345N×142.15E, h177km±11km, mb4.3/3, Error ellipse: s-maj=18.5km s-min=9.7km az=106.0*
*MOS **02** 17:07:00.9±3.0, 4366N×14208E, h204km, mb4.1/2, Error ellipse: s-maj=33.7km s-min=11.7km az=79.3*
*ISCJB **02** 17:07:02.9±0.4, 4392N±004×14197E±007, h205km±3km, mb3.4/9, Error ellipse: s-maj=8.1km s-min=5.8km az=27.6*
*IDC **02** 17:07:03.8±0.5, 4392N×14193E, h195km±4km, mb3.1/7, mb1 3.3/8, mb1mx3.1/22, mbtmp3.5/8, Error ellipse: s-maj=22.8km s-min=13.8km az=119.0*
*JMA **02** 17:07:03.7±0.2, 4393N×14197E, h202km±2km, M3.3*
ISC 02 17:07:03.8±0.4, 4392N±004×14197E±007, h201km±3km, n39, σ0§78/57, mb3.4/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.25**	**226**	P	**Pn**	**17 07 30.9**	**+0.6**
JHR				*e*S	**Sn**	**17 07 51.7**	**+0.8**
JAB	**Ashibetsu**	**0.45**	**156**	P	**Pn**	**17 07 31.3**	**+0.4**
JAB				*e*S	**Sn**	**17 07 52.3**	**+0.5**
JSS	**Shosan**	**0.49**	**350**	P	**Pn**	**17 07 31.3**	**+0.3**
JSS				*e*S	**Sn**	**17 07 52.2**	**+0.2**
ASAJ	**Asahikawa**	**0.49**	**66**	P	**Pn**	**17 07 31.0**	**0.0**
ASAJ				*e*S	**Sn**	**17 07 51.6**	**-0.5**
ASAJ	**Asahikawa**	**0.49**	**66**	P	**Pn**	**17 07 31.1**	**+0.1**
	90nm,0.3s,baz=247,slow=8.2,SNR=1485						
ASAJ				S	**Sn**	**17 07 51.8**	**-0.3**
	5.1nm,0.3s,baz=8.2,slow=30,SNR=11						
ASAJ	**Asahikawa**	**0.49**	**66**	PN	**Pn**	**17 07 31.2**	**+0.2**
ASAJ				S	**Sn**	**17 07 51.8**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,90nm,0.3s						

JKK2	**Kamakawa 2**	**0.56**	**94**	P	**Pn**	**17 07 31.5**	**+0.2**
JKK2				*e*S	**Sn**	**17 07 52.9**	**+0.3**
JYG	**Yagishiri**	**0.64**	**323**	P	**Pn**	**17 07 31.6**	**0.0**
JYG				*e*S	**Sn**	**17 07 52.6**	**-0.6**
JFR	**Furan**	**0.88**	**149**	P	**Pn**	**17 07 32.9**	**0.0**
JFR				*e*S	**Sn**	**17 07 56.3**	**+0.8**
JSE	**Soyaes**	**1.13**	**23**	P	**Pn**	**17 07 34.6**	**0.0**
JEW	**Eniwo**	**1.14**	**200**	P	**Pn**	**17 07 35.2**	**+0.5**
JEW				*e*S	**Sn**	**17 07 59.6**	**+1.0**
JSK	**Shakotan**	**1.22**	**243**	P	**Pn**	**17 07 35.2**	**-0.1**
JWK2	**Keihoku**	**1.40**	**358**	P	**Pn**	**17 07 36.8**	**+0.1**
JTKR	**Abashiri--Toko**	**1.40**	**87**	P	**Pn**	**17 07 37.6**	**+0.9**
JTKR				*e*S	**Sn**	**17 08 02.9**	**+0.6**
JAR	**Ashorobuto**	**1.45**	**115**	P	**Pn**	**17 07 38.0**	**+0.9**
JAR				*e*S	**Sn**	**17 08 04.2**	**+1.2**
JCH	**Churui**	**1.65**	**142**	P	**Pn**	**17 07 38.2**	**-0.8**
JCH				*e*S	**Sn**	**17 08 04.6**	**-1.7**
JNBK	**Urakawa-nobuka**	**1.73**	**160**	P	**Pn**	**17 07 40.1**	**+0.3**
JNBK				*e*S	**Sn**	**17 08 08.1**	**+0.4**
JKB	**Kayabe**	**2.14**	**199**	P	**Pn**	**17 07 43.4**	**-0.5**
JKB				*e*S	**Sn**	**17 08 13.9**	**-1.2**
JAK	**Akkeshi**	**2.19**	**114**	P	**Pn**	**17 07 43.8**	**-0.6**
JAK				*e*S	**Sn**	**17 08 14.7**	**-1.3**
JOSM	**Okushiri--Mats**	**2.59**	**226**	P	**Pn**	**17 07 48.4**	**-0.4**
JOT	**Ohata**	**2.62**	**195**	P	**Pn**	**17 07 48.3**	**-0.8**
JOT				*e*S	**Sn**	**17 08 22.7**	**-1.8**
YSS	**Yuzh-Sakhalins**	**3.09**	**10**	*e*Pn	**Pn**	**17 07 53.9**	**-0.6**
YSS				*e*Sn	**Sn**	**17 08 32.8**	**-1.4**
MAJO	**Matsushiro**	**7.91**	**203**	PN	**Pn**	**17 08 46.3**	**-10**
MAJO				pmax	pmax		
	comp=Z,18nm,1.1s						
MAJO	**Matsushiro**	**7.91**	**203**	P	**Pn**	**17 08 46.3**	**-9.5**
	comp=Z,18nm,1.1s						
MJAR	**Matsushiro Arr**	**7.91**	**203**	P	**Pn**	**17 08 55.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=14,slow=14,SNR=3.6						
SONM	**Songino Array**	**24.93**	**292**	P	**P**	**17 12 09.1**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.3,baz=82,slow=8.2,SNR=4.9						
YHNB	**Yeheng**	**25.53**	**228**	P	**P**	**17 12 15.7**	**+1.8**
GUMO	**Guam**	**30.33**	**174**	P	**P**	**17 12 49.1**	**-7.3**
	comp=Z,503nm,1.5s						
MKAR	**Makanchi Array**	**41.16**	**296**	P	**P**	**17 14 28.1**	**-0.3**
	comp=Z,0.2nm,0.6s,mb2.7,baz=83,slow=9.8,SNR=4.9						
ILAR	**Eielson Array**	**43.56**	**36**	P	**P**	**17 14 48.2**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.1,baz=280,slow=7.7,SNR=9.4						
INK	**Inuvik**	**48.14**	**30**	P	**P**	**17 15 23.0**	**-0.5**
	comp=Z,1.1nm,0.4s,mb3.5,baz=282,slow=6.2,SNR=11						
INK	**Inuvik**	**48.14**	**30**	*e*P	**P**	**17 15 22.6**	**-0.9**
RES	**Resolute Bay**	**55.85**	**16**	*e*P	**P**	**17 16 19.2**	**-1.2**
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
RES	**Resolute Bay**	**55.85**	**16**	*e*P	**P**	**17 16 19.2**	**-1.2**
	comp=Z,1.7nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**57.71**	**32**	P	**P**	**17 16 33.6**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.0,baz=307,slow=6.8,SNR=7.3						
CTAO	**Charters Tower**	**63.81**	**176**	*e*P	**P**	**17 17 09.7**	**-4.9**
CTAO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
CTAO	**Charters Tower**	**63.81**	**176**	*e*P	**P**	**17 17 09.7**	**-4.9**
	comp=Z,5.3nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**63.93**	**188**	P	**P**	**17 17 15.3**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.2,baz=6.8,slow=6.9,SNR=7.5						
ASAR	**Alice Springs**	**67.66**	**188**	P	**P**	**17 17 40.4**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.3,baz=14,slow=5.4,SNR=6.2						

*NEIC **02** 17:09:28.2, 3822N×2048E, h10km, MD3.4(ATH), After ATH.*
*ATH **02** 17:09:28.2, 3822N×2048E, h10km, MD3.4/3*
*ISCJB **02** 17:09:29.2±1.1, 3827N±006×2058E±008, h10km, Error ellipse: s-maj=9.6km s-min=8.0km az=101.8*
*CSEM **02** 17:09:29.8±0.2, 3823N×2055E, h2km, MD3.4, Error ellipse: s-maj=4.8km s-min=3.7km az=61.0*
*THE **02** 17:09:31.8, 3838N×2058E, h10km*
ISC 02 17:09:29.3±1.3, 3824N±007×2054E±009, h10km, n9, σ0§95/11, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.07**	**149**	*e*PG	**Pg**	**17 09 31.0**	**-0.6**
LKD	**Levkas**	**0.47**	**10**	*e*Pg	**Pg**	**17 09 37.9**	**-0.6**
EVR	**Evrytania**	**1.20**	**55**	*e*PB	**Pb**	**17 09 51.8**	**-0.4**
IGT	**Igoumenitsa**	**1.30**	**353**	*e*Pg	**Pg**	**17 09 53.0**	**-1.2**
IGT				*e*Sg	**Sg**	**17 10 11.2**	**+0.1**
KEK	**Kerkira**	**1.58**	**339**	*e*PB	**Pb**	**17 09 58.0**	**-0.6**
AGG	**Agios Georgios**	**1.60**	**60**	*e*Pg	**Pg**	**17 09 59.6**	**-0.5**
AGG				*e*Sg	**Sg**	**17 10 20.4**	**-0.5**
LIT	**Litokhoron**	**2.40**	**39**	*e*Pn	**Pn**	**17 10 10.1**	**+1.5**
FNA	**Florina**	**2.62**	**14**	*e*Pn	**Pn**	**17 10 13.2**	**+1.5**
GRG	**Griva**	**3.07**	**27**	*e*Pn	**Pn**	**17 10 19.5**	**+1.6**

*IDC **02** 17:09:38.9±0.7, 1411N×9059W, h65km±4km, mb3.9/13, mb1 4.1/14, mb1mx3.9/23, mbtmp4.2/14, MS4.0/12, Ms1 4.0/12, ms1mx3.7/25, Error ellipse: s-maj=24.7km s-min=13.4km az=55.0*
*ISCJB **02** 17:09:38.8±0.3, 1390N±004×9099W±003, h84km±3km, mb4.2/14, Error ellipse: s-maj=7.5km s-min=2.6km az=79.2*
*MEX **02** 17:09:38.9±0.5, 1355N×9119W, h28km±22km, MD4.7*
*CASC **02** 17:09:39.1±2.7, 1382N×9103W, h56km±22km, MD4.5, ML5.0, mb4.4(NEIC)*
*BJI **02** 17:09:44.5, 1400N×9060W, h127km, mB4.7*
*NEIC **02** 17:09:44.6±1.7, 1403N×9058W, h127km±15km, mb4.4/7, MD4.8(SNET), Error ellip

CRIN	San Cristobal	4.00 107	⇑eP	Pn	17 10 40.2	+0.7
TEL3	Telica 3	4.23 108	⇓eP	Pn	17 10 42.0	-0.7
TELN	Telica	4.23 108	eP	Pn	17 10 42.4	-0.3
LEON	Leon	4.24 110	eP	Pn	17 10 42.0	-0.8
CNGN	Cerro Negro	4.39 108	⇑eP	Pn	17 10 44.6	-0.2
MIRN	Miramar	4.40 109	⇑eP	Pn	17 10 45.0	0.0
COPN	Copaltepe	4.60 112	eP	Pn	17 10 46.7	-1.1
APYN	Apoyeque	4.80 110	⇑eP	Pn	17 10 49.8	-0.7
XAVN	Gruta Xavier	4.85 111	eP	Pn	17 10 51.9	+0.7
MGAN	Managua	4.93 111	eP	Pn	17 10 52.2	0.0
MGAN			eS	Sn	17 11 47.2	-0.6
TICN	Ticuantepe	4.98 112	⇑eP	Pn	17 10 53.5	+0.6
SCIG		5.01 358	i P	Pn	17 10 49.8	-3.5
SCIG			i S	Sn	17 11 49.6	-0.3
APON	Apoyo	5.18 112	eP	Pn	17 10 55.7	+0.1
HUIG	Huatulco	5.30 291	i S	Sn	17 11 52.5	-4.5
EVV	El Vigia	6.16 317	eP	Pn	17 11 09.0	0.0
OXX	Oaxaca	6.37 300	eP	Pn	17 11 13.0	+1.1
VHO	Vista Hermosa	6.38 300	i P	Pn	17 11 11.8	-0.2
VHO			i S	Sn	17 12 22.6	-0.8
VCR	Vista de Mar	6.44 125	eP	Pn	17 11 12.6	-0.3
TEIG	Tepich	6.76 22	ePn	Pn	17 11 18.5	+1.3
	comp=N,31nm,0.4s					
TEIG			eSn	Sn	17 12 34.0	+1.3
JTS	JuntasAbangare	6.90 121	ePn	Pn	17 11 18.6	-0.5
	comp=N,96nm,0.6s					
JTS			eSn	Sn	17 12 32.6	-3.6
CAO	Cobano	7.11 126	eP	Pn	17 11 21.5	-0.5
EPA	Esparza	7.36 122	eP	Pn	17 11 26.9	+1.5
CGA2	Cerro Gallo 2	7.45 121	eP	Pn	17 11 28.3	+1.7
CGA2			eS	Sn	17 12 51.0	+1.4
PRS1	Puriscal	7.60 120	eP	Pn	17 11 29.6	+1.0
PRS1			eS	Sn	17 12 54.2	+1.0
UTMO	Huajuapan	7.64 301	i S	Sn	17 12 52.5	-1.6
OCM	Ochomogo	7.94 120	eP	Pn	17 11 32.9	-0.4
IRZ2	Volcan Irazu 2	7.96 119	eP	Pn	17 11 34.3	+0.8
LCR2	La Lucha 2	7.98 121	⇓eP	Pn	17 11 34.4	+0.5
LCR2			eS	Sn	17 13 04.4	+1.8
URSC	Urasca	8.12 119	eP	Pn	17 11 35.0	-0.8
URSC			eS	Sn	17 13 07.6	+1.6
BUS	Buena Vista	8.29 121	⇓eP	Pn	17 11 38.7	+0.7
BUS			eS	Sn	17 13 11.0	+0.9
PPM	Popocatepetl	8.95 306	i P	Pn	17 11 48.6	+1.5
PPM			eP		17 11 50.0	
PPM			i S	Sn	17 13 26.0	-0.1
YAIG	Yautepec	9.19 303	i P	Pn	17 11 49.9	-0.5
MEIG	Mezcala	9.22 297	eP	Pn	17 11 50.2	-0.6
MEIG			i S	Sn	17 13 33.9	+1.0
PLIG	Platanillo	9.32 299	i S	Sn	17 13 34.9	-0.5
CTCR	Cotoan	9.47 121	eP	Pn	17 11 54.5	+0.3
UNM	Universidad Na	9.53 305	eP	Pn	17 12 01.0	+6.1
MGV	Manicaragua	13.23 51	eP	Pn	17 12 54.0	+8.9
SFJM	Santa Fe	13.25 301	eP	Pn	17 12 50.0	+4.6
CCCC	Cccc	14.50 58	eP	Pn	17 13 13.9	+12
ROSC	El Rosal	18.71 117	P	Pn	17 13 53.7	-0.4
	comp=N,0.9nm,0.3s,baz=92,slow=17,SNR=7.2					
TXAR	Lajitas Array	19.32 325	P	Pn	17 14 01.4	+0.1
	baz=150,slow=12,SNR=30					
SDV	Santo Domingo	20.54 102	P	P	17 14 10.1	-2.5
	comp=N,4.5nm,0.8s,baz=291,slow=4.9,SNR=3.1					
SDV			LR	LR	17 22 39.1	
	comp=N,150nm,19.0s,baz=22,slow=39					
SDV	Santo Domingo	20.54 102	eP	P	17 14 08.9	-3.8
	comp=N,9.5nm,0.8s					
MIAR	Mount Ida	20.66 354	eP	P	17 14 14.2	+0.3
	comp=N,14nm,0.9s					
UALR	University of	20.79 357	eP	P	17 14 15.4	+0.1
	comp=N,14nm,0.8s					
WMOK	Wichita Mounta	21.89 343	eP	P	17 14 26.3	-0.8
	comp=N,6.9nm,0.8s,mb4.0					
GDL2	Guadalupe Moun	21.93 328	P	P	17 14 28.4	+0.9
MNTX	Cornudas Mount	22.08 326	eP	P	17 14 29.6	+0.5
	comp=N,13nm,0.8s,mb4.3					
TZTN	Tazewell	23.47 15	eP	P	17 14 41.1	-2.0
LAZ	Ladron	25.09 327	eP	P	17 14 58.4	+0.5
ANMO	Albuquerque	25.17 329	P	P	17 15 00.2	+1.7
NEN	Nelson	30.47 319	eP	P	17 15 47.1	+1.2
MSU	Marysvale	30.85 326	eP	P	17 15 50.6	+1.3
SADO	Sadowa	32.34 16	P	P	17 16 00.5	-1.8
	comp=N,5.6nm,0.3s,mb4.7,baz=220,slow=7.9,SNR=7.6					
SADO			LR	LR	17 29 58.3	
	comp=N,394nm,19.4s,baz=6.0,slow=38					
DUG	Dugway	32.42 328	P	P	17 16 03.7	+0.7
PDAR	Pinedale Array	32.91 334	P	P	17 16 07.6	+0.3
	comp=N,0.2nm,0.4s,mb3.3,baz=141,slow=9.5,SNR=5.2					
PDAR			PcP	PcP	17 18 49.0	-1.0
	comp=N,0.3nm,0.4s,baz=162,slow=5.7,SNR=4.8					
PDAR			ScP	ScP	17 22 30.0	+3.0
	comp=N,0.5nm,0.6s,baz=153,slow=3.3,SNR=4.6					
PDAR			LR	LR	17 30 09.5	
	comp=N,173nm,20.4s,baz=271,slow=37					
NVAR	Mina Array Bea	34.36 320	P	P	17 16 22.2	+2.4
	comp=N,5.3nm,0.8s,mb4.4,baz=150,slow=6.8,SNR=35					
NVAR			pP	pP	17 16 37.4	-1.2
	comp=N,3.7nm,0.9s,baz=158,slow=8.0,SNR=7.5					
NVAR			PcP	PcP	17 18 55.5	+1.4
	comp=N,0.9nm,0.6s,baz=199,slow=4.7,SNR=3.9					
NVAR			pPcP		17 19 13.7	
	comp=N,1.7nm,0.7s,baz=168,slow=3.7,SNR=5.8					
NVAR			ScP	ScP	17 22 36.0	+3.9
	comp=N,0.7nm,0.7s,baz=158,slow=4.1,SNR=4.9					
HLID	Hailey	35.72 330	P	P	17 16 32.8	+1.2
MCMT	McKenzie Canyo	35.98 333	eP	P	17 16 35.0	+1.2
ULM	Lac du Bonnet	36.44 355	P	P	17 16 36.4	-1.3
	comp=N,1.6nm,0.3s,mb4.4,baz=172,slow=6.3,SNR=5.3					
ULM			pP	pP	17 16 51.8	-4.6
	comp=N,1.9nm,0.6s,baz=178,slow=7.1,SNR=3.2					
ULM			LR	LR	17 32 25.7	
	comp=N,168nm,19.8s,baz=107,slow=38					
ULM	Lac du Bonnet	36.44 355	P	P	17 16 36.4	-1.3
ULM			pP	pP	17 16 51.8	-4.6
ULM			LR	LR	17 32 25.7	
LPAZ	La Paz	37.56 142	pP	pP	17 17 03.6	-2.4
	comp=N,1.6nm,0.7s,baz=338,slow=12,SNR=4.2					
LPAZ	La Paz	37.56 142	P	P	17 16 46.3	-0.9
NEW	Newport	40.51 333	LR	LR	17 34 48.3	
	comp=N,185nm,20.0s,baz=134,slow=37					
SIV	San Ignacio	41.92 134	P	P	17 17 22.4	-0.9
	comp=N,3.2nm,0.7s,mb4.2,baz=311,slow=8.9,SNR=24					
SIV			pP	pP	17 17 39.6	-2.8
	comp=N,4.0nm,0.7s,baz=304,slow=7.8,SNR=6.2					
SCHQ	Schefferville	44.94 20	P	P	17 17 45.5	-2.2
	comp=N,3.5nm,0.5s,mb4.3,baz=207,slow=6.0,SNR=20					
SCHQ			pP	pP	17 18 02.8	-4.2
	comp=N,11nm,0.7s,baz=217,slow=6.7,SNR=7.1					
SCHQ			LR	LR	17 37 04.1	
	comp=N,309nm,18.8s,baz=210,slow=37					
SCHQ	Schefferville	44.94 20	P	P	17 17 45.5	-2.2
SCHQ			pP	pP	17 18 02.8	-4.2
SCHQ			LR	LR	17 37 04.1	
YKA	Yellowknife Ar	51.32 346	P	P	17 18 35.0	-1.8
	comp=N,0.3nm,0.3s,mb3.7,baz=148,slow=7.3,SNR=9.9					
YKA			pP	pP	17 18 51.1	-5.4
	comp=N,1.1nm,0.7s,baz=148,slow=7.4,SNR=9.7					
YKA			PcP	PcP	17 19 48.8	-1.9
	comp=N,0.4nm,0.4s,baz=149,slow=3.7,SNR=8.8					
YKA	Yellowknife Ar	51.32 346	P	P	17 18 35.0	-1.8
YKA			pP	pP	17 18 51.1	-5.4
YKA			PcP	PcP	17 19 48.8	-1.9
FRB	Frobisher Bay	52.16 12	P	P	17 18 39.8	-3.2
	comp=N,1.3nm,0.3s,mb4.4,baz=213,slow=11,SNR=7.8					
FRB			pP	pP	17 18 56.5	-6.3
	comp=N,4.3nm,0.8s,baz=190,slow=5.1,SNR=5.4					
FRB			LR	LR	17 42 00.2	
	comp=N,316nm,19.2s,baz=227,slow=37					
FRB	Frobisher Bay	52.16 12	P	P	17 18 39.8	-3.2
FRB			pP	pP	17 18 56.5	-6.3
FRB			LR	LR	17 42 00.2	
RKT	Rikitea	56.67 230	eLR	LR	17 35 54.8	
	comp=N,234nm,28.5s					
RKT	Rikitea	56.67 230	eT		18 19 49.5	
	comp=N,8.5nm,0.3s					
PLCA	Paso Flores	57.59 162	LR	LR	17 38 55.8	
	comp=N,131nm,19.7s,baz=185,slow=30					
INK	Inuvik	60.79 343	P	P	17 19 42.6	-1.7
	comp=N,1.7nm,0.9s,mb4.1,baz=134,slow=8.7,SNR=5.7					
INK			pP	pP	17 20 00.1	-4.5
	comp=N,1.6nm,0.7s,baz=116,slow=5.7,SNR=4.7					
ILAR	Eielson Array	63.30 337	P	P	17 20 00.5	-0.6
	comp=N,0.8nm,0.8s,mb3.7,baz=120,slow=5.3,SNR=17					
ILAR			pP	pP	17 20 17.6	-3.8
	comp=N,1.3nm,0.7s,baz=170,slow=4.3,SNR=7.0					
KDAK	Kodiak Island	63.30 328	P	P	17 20 01.0	-0.1
	comp=N,9.3nm,0.8s,mb4.8,baz=146,slow=4.0,SNR=5.7					
PPT	Papeete	65.76 243	eLR	LR	17 39 40.7	
	comp=N,296nm,27.0s					
PPT	Papeete	65.76 243	LR	LR	17 40 52.4	
	comp=N,99nm,18.2s,baz=262,slow=28					
NOA	NORSAR Array B	83.72 29	pP	pP	17 22 17.1	-5.0
	comp=N,0.5nm,0.6s,baz=290,slow=5.2,SNR=2.6					
NOA			LR	LR	17 55 15.4	
	comp=N,47nm,21.7s,baz=305,slow=33					
ARCES	ARCESS Array B	85.88 18	P	P	17 22 08.5	-3.2
	comp=N,1.9nm,0.7s,mb4.1,baz=288,slow=3.8,SNR=9.3					
ARCES			LR	LR	17 59 11.9	
	comp=N,77nm,18.6s,baz=6.9,slow=35					
ARCES	ARCESS Array B	85.88 18	P	P	17 22 08.5	-3.2
ARCES			LR	LR	17 59 11.9	
FINES	FINESS Array B	90.13 25	LR	LR	18 03 48.2	
	comp=N,45nm,19.9s,baz=340,slow=36					
CN2	Changchun	113.62 332	ePKP	PKiKP	17 28 10.2	+0.4
MKAR	Makanchi Array	119.25 5	PKP	PKPdf	17 28 18.5	-2.1
	comp=N,0.5nm,0.8s,baz=331,slow=2.2,SNR=7.1					
MKAR			pPKP	pPKPdf	17 28 38.2	-4.7
	comp=N,0.3nm,0.6s,baz=314,slow=2.4,SNR=2.9					
BOSA	Boshof	119.42 115	PKhKP		17 28 13.8	
	comp=N,2.1nm,1.0s,baz=130,slow=22,SNR=5.4					
BOSA			pPKP	pPKPdf	17 28 39.3	-4.0
	comp=N,4.9nm,0.9s,baz=225,slow=16,SNR=3.7					
BOSA	Boshof	119.42 115	PKP	PKPdf	17 28 13.8	-7.2
BOSA			pPKP	pPKPdf	17 28 39.3	-4.0
HHC	Hu-ho-hao-te	121.63 340	ePKP	PKPdf	17 28 24.3	-0.9
HHC			PP	PP	17 30 00.4	+2.0
HHC			PKS		17 31 58.8	
HHC			SKS	SKSdf	17 35 25.5	-4.6
HHC			SKKS	SKKSac	17 36 42.8	-7.6
HHC			SS	SS	17 46 25.3	-2.9
HHC			PP	PP		
	comp=Z,56nm,8.5s					
HHC			LR	LR		
	comp=N,80nm,12.1s					
HHC			LR	LR		
	comp=E,120nm,12.1s					
HHC			LR	LR		
	comp=Z,102nm,10.9s					
WMQ	Urumqi	122.51 1	PKP	PKPdf	17 28 26.0	-0.9
WMQ			PP	PP	17 30 08.0	+3.6
WMQ			PKS		17 32 02.0	
WMQ			SKS	SKSdf	17 35 26.0	-5.8
WMQ			SKKS	SKKSac	17 36 50.0	-6.2
WMQ			PP	PP		
	comp=Z,165nm,6.0s					
WMQ			LR	LR		
	comp=N,104nm,16.0s					
WMQ			LR	LR		
	comp=E,127nm,16.0s					
WMQ			LR	LR		
	comp=Z,105nm,15.0s					
SSE	Sheshan	125.61 326	ePKP	PKPdf	17 28 31.6	-1.2
NJ2	Nanjing	126.08 329	ePKP	PKPdf	17 28 34.6	+0.9
LZH	Lanzhou	128.32 345	ePKP	PKPdf	17 28 34.7	-3.3
LZH			LR	LR		
	comp=N,143nm,18.5s					
LZH			LR	LR		
	comp=Z,249nm,20.3s					
CD2	Chengdu	133.22 343	ePKP	PKPdf	17 28 46.3	-1.0
WRA	Warramunga Arr	136.36 256	PKP	PKPdf	17 28 54.1	+0.9
	comp=Z,0.7nm,0.7s,baz=90,slow=2.7,SNR=9.8					
WRA			pPKP	pPKPdf	17 29 12.1	-3.4
	comp=Z,1.3nm,0.8s,baz=89,slow=1.9,SNR=5.9					
ASAR	Alice Springs	136.59 250	PKP	PKPdf	17 28 54.0	+0.4
	comp=Z,0.5nm,0.8s,baz=60,slow=3.4,SNR=4.8					
ASAR			pPKP	pPKPdf	17 29 14.2	-1.7
	comp=Z,0.7nm,0.7s,baz=96,slow=2.7,SNR=4.5					

*ISCJB **02** 17:12:45.3±0.6, 3437N±004×14028E±005, h83km±5km, mb3.3/3, Error ellipse: s-maj=7.6km s-min=5.7km az=141.4*
*JMA **02** 17:12:45.8±0.2, 3439N×14027E, h75km±2km, M2.9*
*IDC **02** 17:12:49.4±2.6, 3424N×13980E, h95km±8km, mb3.1/3, mb1 3.2/4, mb1mx2.9/21, mbtmp3.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.0/7, Error ellipse: s-maj=85.5km s-min=7.5km az=73.0*

ISC 02 17:12:46.4±0.6, 3437N±003×14027E±005, h76km±5km, n18, o0°77/30, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	Boso 3	0.47	25	P	Pn	17 12 58.8	-0.7
BSO3				S	Sn	17 13 09.6	+0.4
BSO4	Boso 4	0.62	5	P	Pn	17 13 00.6	-0.3
BSO4				S	Sn	17 13 12.4	+0.8
BSO1	Boso 1	0.65	64	P	Pn	17 13 00.2	-1.0
BSO1				S	Sn	17 13 11.9	-0.2
JMY	Miyakejima3	0.69	245	P	Pn	17 13 01.6	-0.1
TATJ	Tateyama 2	0.73	335	P	Pn	17 13 02.0	-0.1
TATJ				S	Sn	17 13 14.6	+0.9
JIM2	Oshima 3	0.77	297	P	Pn	17 13 01.8	-0.8
JIM2				eS	Sn	17 13 13.4	-1.1
JKO	Kozu shima	0.96	259	P	Pn	17 13 04.9	+0.2
KTJJ	Kamata 2	1.14	299	P	Pn	17 13 06.1	-0.8
KTJJ				S	Sn	17 13 21.0	-1.2
JIZS	Izushimoda	1.20	287	P	Pn	17 13 07.5	-0.2
JIZS				eS	Sn	17 13 23.6	0.0
JHJ2	Mitsune	1.31	197	P	Pn	17 13 09.7	+0.6
JHJ2				eS	Sn	17 13 26.4	+0.2
JHJ	Hachijo jima 2	1.31	198	P	Pn	17 13 09.8	+0.7
	31nm,0.3s,baz=103,slow=12,SNR=5.1						
JHJ				S	Sn	17 13 27.0	+0.8
	73nm,0.3s,baz=244,slow=22,SNR=13						
JOD2	Odawara 2	1.32	313	P	Pn	17 13 08.5	-0.7
JOD2				eS	Sn	17 13 25.4	-0.9
JYN	Shimob	1.81	309	P	Pn	17 13 15.8	+0.1
MJAR	Matsushiro Arr	2.74	323	P	Pn	17 13 29.1	+0.9
	2.1nm,0.3s,baz=154,slow=13,SNR=18						
MJAR				S	Sn	17 14 01.7	+1.4
	1.9nm,0.3s,baz=125,slow=25,SNR=6.9						
MJAR				LR	LR	17 14 05.1	
	comp=Z,298nm,21.5s,baz=20,slow=29						
MAT	Matsushiro	2.75	323	P	Pn	17 13 29.4	+1.2
MAT				S	Sn	17 14 01.6	+1.2
MKAR	Makanchi Array	44.79	304	P	P	17 20 52.0	-0.6
	0.3nm,0.7s,mb3.2,baz=74,slow=8.9,SNR=6.9						
WRA	Warramunga Arr	54.30	187	P	P	17 22 03.9	-1.0
	0.2nm,0.5s,mb3.4,baz=0.8,slow=7.8,SNR=6.7						
ASAR	Alice Springs	58.03	187	P	P	17 22 31.9	+0.4
	0.3nm,0.8s,mb3.4,baz=17,slow=9.7,SNR=3.1						

MAN 02 17:33:29.0, 1238N×12372E, h1km, mb2.5, ML4.0, MS2.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataram	0.93	82	eP	Pg	17 33 47.0	+0.2
CNP				eS	Sg	17 34 00.8	+2.0
RCP	Roxas	1.25	230	⇓eP	Pg	17 33 53.2	+0.2
RCP				eS	Sg	17 34 11.5	+2.3
PVCP	Virac	1.28	19	eP	Pg	17 33 53.6	0.0
OTRP	Odiongan	1.66	270	eP	Pn	17 33 58.7	-0.5
PLP	Palo	1.72	134	eP	Pn	17 33 59.9	-0.1
PLP				i S	Sn	17 34 23.0	+0.4

IDC 02 17:38:11.5±17.0, 1784S×17827W, h584km±220km, mb3.2/6, mb1 3.5/6, mb1mx3.2/16, mbtmp4.2/6, 2D, Error ellipse: s-maj=74.8km s-min=69.9km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.59	260	eP	P	17 44 05.1	+0.7
	3.0nm,0.8s						
CTA	Charters Tower	33.59	260	P	P	17 44 05.1	+0.7
	2.7nm,0.6s,baz=99,slow=9.9,SNR=12						
STKA	Stephens Creek	38.78	241	⇓iP	P	17 44 46.3	-0.7
	2.9nm,0.6s						
STKA	Stephens Creek	38.78	241	P	P	17 44 46.4	-0.6
	4.0nm,0.5s,baz=90,slow=9.3,SNR=17						
WB2	Warramunga Arr	44.77	259	eP	P	17 45 34.1	+0.1
WRA	Warramunga Arr	44.78	259	P	P	17 45 34.1	0.0
	1.6nm,0.3s,baz=94,slow=7.5,SNR=62						
ASAR	Alice Springs	44.94	254	P	P	17 45 36.0	+0.7
	9.7nm,0.5s,baz=86,slow=8.7,SNR=158						
ASPA	Alice Springs	44.94	254	⇓iP	P	17 45 35.9	+0.6
ILAR	Eielson Array	85.79	13	P	P	17 49 48.5	-1.4
	0.1nm,0.5s,baz=219,slow=4.8,SNR=4.3						
TXAR	Lajitas Array	85.85	58	P	P	17 49 51.2	+1.1
	0.7nm,0.5s,baz=243,slow=5.6,SNR=4.4						

IDC 02 17:41:23.5±18.0, 144S×9998E, h78km±92km, mb3.2/3, mb1 3.4/4, mb1mx3.1/18, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=522.3km s-min=23.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.34	346	P	Pn	17 42 25.9	-1.2
	0.9nm,0.3s,baz=213,slow=9.6,SNR=2.4						
WRA	Warramunga Arr	38.30	121	P	P	17 48 36.7	+0.3
	0.5nm,0.4s,baz=302,slow=9.3,SNR=4.9						
ASAR	Alice Springs	39.60	127	P	P	17 48 47.6	+0.4
	0.3nm,0.4s,baz=301,slow=8.2,SNR=5.9						
MKAR	Makanchi Array	50.48	344	P	P	17 50 13.5	0.0
	0.2nm,0.3s,baz=157,slow=7.8,SNR=9.3						

WEL 02 18:02:50.8±0.4, 3817S×17616E, h157km±4km, ML3.5/14, 1C-1D, Error ellipse: s-maj=6.1km s-min=5.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.76	97	PN	Pn	18 03 14.4	0.0
URZ				SN	Sn	18 03 32.5	0.0
BKZ	Black Stump Fm	1.03	165	PN	Pn	18 03 16.8	+0.3
BKZ				SN	Sn	18 03 36.2	+0.1
MWZ	Matawai	1.09	99	PN	Pn	18 03 17.3	+0.3
MWZ				SN	Sn	18 03 37.4	+0.3
WNVZ	Wahianoa	1.23	201	PN	Pn	18 03 18.6	+0.3
MOVZ	Moawhango	1.27	194	PN	Pn	18 03 18.5	-0.2
PUZ	Puketiti	1.66	87	PN	Pn	18 03 22.4	-0.2
PUZ				SN	Sn	18 03 45.0	-1.9
WAZ	Wanganui	1.83	210	PN	Pn	18 03 24.1	-0.2
TSZ	Takapari Road	1.89	185	PN	Pn	18 03 24.6	-0.5
BFZ	Birch Farm	2.51	178	PN	Pn	18 03 31.0	-1.3
MRZ	Mangatainoka R	2.53	190	⇑PN	Pn	18 03 30.9	-1.7
MRZ				SN	Sn	18 04 03.2	-1.6
KIW	Kapiti Island	2.85	199	PN	Pn	18 03 34.3	-2.3
MTW	Mount Morrison	3.02	189	PN	Pn	18 03 36.3	-2.5
CAW	Cannon Point	3.05	196	PN	Pn	18 03 36.7	-2.4
MRW	Makara Radio	3.25	200	PN	Pn	18 03 38.8	-2.8
MSWZ	Moikau Station	3.31	192	⇓PN	Pn	18 03 39.6	-2.8
SNZO	South Karori	3.33	199	PN	Pn	18 03 39.5	-3.1
SNZO				SN	Sn	18 04 17.8	-4.9
TCW	Tory Channel	3.37	205	PN	Pn	18 03 40.1	-2.9
TCW				SN	Sn	18 04 19.3	-4.2
NNZ	Nelson	3.72	214	PN	Pn	18 03 43.7	-3.9
NNZ				SN	Sn	18 04 27.9	-3.9
QRZ	Quartz Range	3.86	225	PN	Pn	18 03 45.5	-4.0
KHZ	Kahutara	4.69	204	PN	Pn	18 03 56.4	-3.8
MQZ	McQueen's Vall	6.13	205	eSN	Sn	18 05 18.3	-10

*BJI **02** 18:19:00.3, 825S×12944E, h99km, mB5.0, mb4.8*
*IDC **02** 18:19:09.3±5.3, 738S×12868E, h90km±48km, mb4.0/4, mb1 4.0/6, mb1mx3.8/14, mbtmp4.2/6, Error ellipse: s-maj=55.4km s-min=19.0km az=58.0*
*NEIC **02** 18:19:09.8±1.9, 732S×12879E, h99km±18km, mb4.5/7, Error ellipse: s-maj=18.9km s-min=7.3km az=47.0*
*MOS **02** 18:19:10.8±0.6, 743S×12878E, h132km, mb4.2/4, Error ellipse: s-maj=42.9km s-min=12.3km az=121.8*
*ISCJB **02** 18:19:12.1±3.7, 75S±02×1287E±01, h138km±40km, mb4.5/20, Error ellipse: s-maj=32.3km s-min=16.7km az=76.0*

ISC 02 18:19:12.8±3.5, 75S±02×1288E±01, h126km±37km, n46, o0°86/46, mb4.6/20, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	13.52	157	eP	Pn	18 22 19.3	-0.2
WRAB				eS	Sn	18 24 39.5	-9.1
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s						
WRAB	Tennant Creek	13.52	157	eP	Pn	18 22 19.3	-0.2
	comp=Z,13nm,0.8s						
WRAB				eS	Sn	18 24 39.5	-9.1
WRA	Warramunga Arr	13.53	157	P	Pn	18 22 18.5	-1.0
	comp=Z,0.9nm,0.3s,baz=345,slow=13,SNR=37						
WRA				S	Sn	18 24 39.5	-9.2
	comp=Z,2.0nm,0.3s,baz=331,slow=24,SNR=11						
MBWA	Marble Bar	16.20	212	eP	Pn	18 22 53.1	0.0
MBWA				eS	Sx	18 25 37.5	
ASAR	Alice Springs	16.85	164	P	Pn	18 23 02.5	+1.5
	comp=Z,0.3nm,0.3s,baz=340,slow=9.8,SNR=35						
ASAR				S	Sx	18 26 00.1	
	comp=Z,0.5nm,0.3s,baz=324,slow=15,SNR=8.1						
KSM	Kuching	20.47	295	eP	P	18 23 39.6	-0.8
STKA	Stephens Creek	27.07	156	P	P	18 24 43.6	+0.2
	comp=Z,1.6nm,0.7s,mb3.7,baz=318,slow=7.8,SNR=5.9						
PSI	Prapat	31.50	288	P	P	18 25 21.6	-1.0
	comp=Z,4.4nm,0.6s,mb4.4,baz=126,slow=8.3,SNR=7.8						
KMI	Kunming	41.14	323	P	P	18 26 45.4	+1.0
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.4						
CD2	Chengdu	45.06	329	eP	P	18 27 18.1	+2.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,90nm,4.8s						
LZH	Lanzhou	49.25	333	eP	P	18 27 48.8	+0.3
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
LSA	Lhasa	51.71	317	P	P	18 28 07.8	+0.9
LSA	Lhasa	51.71	317	eP	P	18 28 07.6	+0.7
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	Lhasa	51.71	317	eP	P	18 28 07.6	+0.7
	comp=Z,4.5nm,0.6s,mb4.7

ZRNK	Zerenda	78.50	328	*e*P		P	18 30 58.9 -1.0
	comp=Z,4.5nm,0.7s,mb4.4						
BILL	Bilibino	79.83	13	*i* P		P	18 31 12.6 +5.5
ARU	Arti	85.46	328	*i* P		P	18 31 35.1 -1.2
ARU	Arti	85.46	328	*e*P		P	18 31 34.9 -1.4
	comp=Z,3.9nm,0.8s,mb4.4						
GNI	Garni	90.23	310	*i* P		P	18 32 07.2 +8.1
TORD	Torodi Ar. Bea	127.72	281	PKP	PKPdf		18 38 04.2 +1.1
	comp=Z,0.8nm,0.8s,baz=48,slow=0.5,SNR=4.7						
CPUP	Villa Florida	149.30	170	PKPbc	PKPbc		18 38 39.0 +1.5
	comp=Z,5.4nm,0.5s,baz=89,slow=3.0,SNR=4.4						
LPAZ	La Paz	151.07	145	PKPbc	PKPbc		18 38 54.3 +3.4
	comp=Z,0.6nm,0.4s,baz=289,slow=14,SNR=3.5						

IDC 02 18:27:29.6±4.3, 042N×12963E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=351.0km s-min=25.6km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.75	167	P	P	18 32 11.3	-0.6
	0.6nm,0.4s,baz=348,slow=12,SNR=9.4						
ASAR	Alice Springs	24.30	170	P	P	18 32 49.7	+1.0
	0.6nm,0.4s,baz=345,slow=11,SNR=11						
MKAR	Makanchi Array	61.91	325	P	P	18 37 51.0	+0.1
	0.2nm,0.4s,baz=112,slow=8.6,SNR=7.8						

*SZGRF **02** 18:49:30.8, 1780S×17674W, h33km, Fiji Islands region*
*ISCJB **02** 18:50:32.7±1.0, 1788S±009×17831W±008, h591km±13km, mb4.4/22, Error ellipse: s-maj=15.2km s-min=10.5km az=124.4*
*NEIC **02** 18:50:32.8±0.8, 1787S×17826W, h578km±9km, mb4.4/7, Error ellipse: s-maj=11.7km s-min=8.5km az=141.0*
*IDC **02** 18:50:33.8±1.3, 1787S×17829W, h593km±16km, mb3.8/15, mb1 3.9/17, mb1mx3.8/23, mbtmp4.8/17, Error ellipse: s-maj=14.9km s-min=9.5km az=150.0*

ISC 02 18:50:33.6±1.0, 1791S±009×17824W±008, h587km±13km, n99, σ0§87/42, mb4.4/22, 7C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.38	58	P	P	18 52 26.1	-0.4
	23nm,0.3s,baz=298,slow=7.8,SNR=8.8						
DZM	Mont Dzumac	14.98	251	P	P	18 53 42.3	+0.3
	1.2nm,0.3s,baz=67,slow=20,SNR=20						
URZ	Urewera	20.68	190	P	P	18 54 32.2	-1.8
	12nm,0.5s,baz=272,slow=1.6,SNR=10						
SNZO	South Karori	24.09	193	*e*P	P	18 55 03.5	-0.9
RPZ	Rata Peaks	27.27	197	P	P	18 55 30.9	-1.3
	10nm,0.5s,mb4.8,baz=336,slow=4.8,SNR=6.8						
CNB	Canberra Magne	33.55	232	*e*P	P	18 56 27.5	+1.5
	37nm,0.6s,mb5.2						
CTA	Charters Tower	33.60	261	⇓*i* P	P	18 56 27.0	+0.5
	12nm,0.7s,mb4.6						
CTA	Charters Tower	33.60	261	P	P	18 56 27.0	+0.6
	12nm,0.6s,mb4.7,baz=90,slow=11,SNR=53						
CTA	Charters Tower	33.60	261	P	P	18 56 27.0	+0.6
CTAO	Charters Tower	33.60	261	*e*P	P	18 56 26.8	+0.3
	15nm,0.7s,mb4.7						
PMG	Port Moresby	34.62	279	P	P	18 56 36.3	+1.4
	41nm,0.9s,mb5.0,baz=66,slow=3.3,SNR=5.6						
PMG	Port Moresby	34.62	279	*e*P	P	18 56 36.4	+1.4
TOO	Toolangi	37.29	231	⇓*i* P	P	18 56 58.2	+1.3
	18nm,0.5s,mb4.9						
STKA	Stephens Creek	38.77	241	⇓*i* P	P	18 57 08.3	-0.6
	19nm,0.5s,mb4.9						
STKA	Stephens Creek	38.77	241	P	P	18 57 08.3	-0.6
	24nm,0.5s,mb5.0,baz=89,slow=9.4,SNR=128						
WB2	Warramunga Arr	44.78	260	⇓*i* P	P	18 57 55.8	-0.2
WRAB	Tennant Creek	44.78	260	*e*P	P	18 57 55.8	-0.2
	19nm,0.5s,mb4.9						
WRA	Warramunga Arr	44.79	260	P	P	18 57 55.5	-0.6
	10nm,0.3s,mb4.8,baz=94,slow=7.5,SNR=536						
WRA				PcP	PcP	18 59 25.0	-0.2
	1.8nm,0.4s,baz=91,slow=3.4,SNR=6.5						
WRA				S	S	19 03 49.8	-1.5
	1.2nm,0.9s,baz=94,slow=14,SNR=5.4						
ASAR	Alice Springs	44.94	254	P	P	18 57 57.9	+0.6
	74nm,0.5s,mb5.5,baz=86,slow=8.6,SNR=26						
ASAR				PcP	PcP	18 59 25.4	-0.3
	6.9nm,0.8s,baz=103,slow=4.1,SNR=6.2						
ASAR				S	S	19 03 52.8	-0.8
	3.2nm,0.8s,baz=90,slow=15,SNR=22						
ASPA	Alice Springs	44.95	254	⇓*i* P	P	18 57 57.8	+0.5
ASPA				*e*S	S	19 03 52.1	-1.5
FITZ	Fitzroy Crossi	53.19	261	*e*P	P	18 58 58.2	+0.3
	7.4nm,1.1s,mb3.9						
MBWA	Marble Bar	58.23	256	*e*P	P	18 59 32.3	-0.4
	15nm,0.7s,mb4.2						
KLBR	Kellerberrin	58.97	244	*e*P	P	18 59 37.4	-0.3
	26nm,0.7s,mb4.5						
NWAO	Narrogin (SRO)	59.35	242	P	P	18 59 40.2	0.0
	7.9nm,0.6s,mb4.0,baz=107,slow=2.9,SNR=7.8						
NWAO	Narrogin (SRO)	59.35	242	*e*P	P	18 59 40.1	-0.1
	8.4nm,0.8s,mb3.9						
VNDA	Vanda	60.45	185	P	P	18 59 48.5	+1.0
	1.8nm,0.6s,mb3.5,baz=18,slow=3.9,SNR=13						
VNDA	Vanda	60.45	185	*e*P	P	18 59 48.6	+1.1
	2.6nm,0.7s,mb3.6						
MJAR	Matsushiro Arr	68.00	323	P	P	19 00 34.1	-1.1
	1.8nm,0.5s,mb3.8,baz=150,slow=5.8,SNR=7.6						
QSPA	South Pole Qui	72.14	180	*e*P	P	19 01 00.4	+0.8
	11nm,0.7s,mb4.5						
KSM	Kuching	72.84	277	*e*P	P	19 01 04.5	+0.9
NVAR	Mina Array Bea	79.32	44	P	P	19 01 39.2	0.0
	1.7nm,0.7s,mb3.5,baz=232,slow=11,SNR=9.4						
MAW	Mawson	83.91	200	*e*P	P	19 02 02.9	+0.3
PSI	Prapat	84.04	275	P	P	19 02 03.1	-0.1
	11nm,0.7s,mb4.5,baz=108,slow=3.5,SNR=16						
ENH	Enshi	84.41	304	*e*P	P	19 02 05.3	+0.3
	5.1nm,0.6s,mb4.2						
ILAR	Eielson Array	85.86	13	P	P	19 02 09.8	-2.2
	0.4nm,0.4s,mb3.4,baz=220,slow=5.4,SNR=11						
TXAR	Lajitas Array	85.86	58	P	P	19 02 13.2	+1.1
	2.4nm,0.7s,mb4.0,baz=221,slow=6.3,SNR=22						
PDAR	Pinedale Array	87.25	43	P	P	19 02 18.4	-0.1
	1.0nm,0.6s,mb3.7,baz=219,slow=3.3,SNR=7.6						
VNA3	Neumayer Olymp	90.73	176	⇑*i*	P	19 02 34.6	-0.1
VNA2	Neumayer--Watz	91.17	177	⇑*i*	P	19 02 37.6	+0.9
	baz=208,slow=3.6						
MKAR	Makanchi Array	109.25	314	PKiKP	PKiKP	19 07 55.9	-1.8
	0.7nm,0.5s,baz=200,slow=0.8,SNR=2.6						
BVAR	Borovoye Array	116.95	321	PKP	PKPdf	19 08 10.9	-1.5
	0.8nm,0.4s,baz=110,slow=2.0,SNR=10						
ARCES	ARCESS Array B	126.35	350	PKP	PKPdf	19 08 28.4	-2.0
	2.2nm,0.8s,baz=50,slow=1.2,SNR=12						
FINES	FINESS Array B	133.24	344	PKP	PKPdf	19 08 43.0	-0.5
	0.9nm,0.6s,baz=63,slow=4.3,SNR=5.0						
KMBO	Kilima Mbogo	140.27	245	PKP	PKPdf	19 08 58.8	+2.4
	0.8nm,0.6s,baz=213,slow=24,SNR=3.6						
AKASG	Malin Array Be	140.64	332	PKhKP		19 08 50.1	
	0.2nm,0.3s,baz=40,slow=3.8,SNR=4.6						
BSEG	Bad Segeberg	143.44	352	*e*PKPbc	PKPdf	19 08 59.5	-2.5
BURAR	Bucovina Array	144.69	332	⇓P	PKPdf	19 09 05.5	+1.3
STHS	Stebnicka Huta	144.85	338	*e*PKP	PKPdf	19 09 04.9	+0.4
KOLS	Kolonicke sedl	144.87	336	*e*PKP	PKPdf	19 09 04.8	+0.3
BR131	Keskin Array S	144.90	315	*e*PKPdf	PKPdf	19 09 05.2	+0.7
BRTR	Keskin Array B	144.90	315	PKP	PKPdf	19 09 05.0	+0.4
	5.0nm,0.8s,baz=121,slow=4.0,SNR=26						
CFR	Carcaliu	145.03	327	⇓P	PKPdf	19 09 06.3	+1.5
NIE	Niedzica	145.18	339	*e*PX		19 09 06.1	
VRI	Vrincioaia	145.26	329	⇓P	PKPdf	19 09 06.5	+1.3
HARR	Harsova	145.46	326	⇑P	PKPdf	19 09 06.9	+1.4
CLZ	Clausthal	145.47	351	*e*PKPbc	PKPbc	19 09 06.4	-0.6
CLL	Collm	145.50	348	*e*PKPbc	PKPbc	19 09 06.3	-0.8
CLL	Collm	145.50	348	*i* P	PKPdf	19 09 06.0	+0.4
	comp=Z,13nm,1.0s						
OKC	Ostrava-Krasne	145.53	341	*e*PKP	PKPdf	19 09 05.2	-0.4
OKC				*ex*	x	19 09 12.7	
DPC	Dobruska-Polom	145.60	343	*e*PKP	PKPdf	19 09 07.1	+1.4
BRG	Berggiesshubel	145.71	346	*e*PKPbc	PKPbc	19 09 07.0	-0.6
BRG	Berggiesshubel	145.71	346	*i* P	PKPdf	19 09 06.8	+0.9
	comp=Z,8.1nm,1.5s						
PVCC	Panska Ves	145.88	345	*e*PKP	PKPdf	19 09 08.0	+1.8
KECS	Kecovo	145.91	338	*e*PKP	PKPdf	19 09 07.5	+1.2
MOX	Moxa	146.41	349	*e*PKPbc	PKPbc	19 09 08.9	-0.7
WERD	Werda	146.46	348	*e*PKPbc	PKPbc	19 09 09.2	-0.5
VYHS	Vyhne	146.48	339	*e*PKP	PKPdf	19 09 09.0	+1.8
TREC	Trest	146.78	344	*e*PKP	PKPdf	19 09 10.3	+2.6
ROTZ	Rotzenmuhle	147.13	347	*e*PKPbc	PKPbc	19 09 11.2	-0.3
TNS	Taunus Mts	147.32	352	*e*PKPbc	PKPbc	19 09 11.4	-0.6
GRF	Grafenberg Arr	147.39	349	*e*PKPbc	PKPbc	19 09 11.9	-0.3
KHC	Kasperske Hory	147.42	346	*e*PKP	PKPdf	19 09 12.0	+3.2
GEC2	GERESS Array S	147.66	345	*e*PKPbc	PKPbc	19 09 12.3	-0.6
GERES	GERESS Array B	147.66	345	PKPbc	PKPbc	19 09 12.0	-0.8
	comp=Z,4.1nm,0.6s,baz=23,slow=3.1,SNR=45						
GIVF	Givet	147.79	356	*e*PKP1	PKPbc	19 09 11.9	-1.3
	comp=Z,12nm,0.7s						
BZS	Buzias	147.81	333	⇓P	PKPdf	19 09 13.0	+3.6
WLF	Walferdange	148.13	355	*e*PKPbc	PKPbc	19 09 13.8	-0.2
FLN	La Foliniere	149.18	3	*e*PKP1	PKPbc	19 09 15.1	-1.5
	comp=Z,7.4nm,0.6s						
BFO	Black Forest	149.19	351	*e*PKPbc	PKPbc	19 09 16.0	-0.6
CDF	Champ du Feu	149.25	353	*e*PKP1	PKPbc	19 09 15.6	-1.2
	comp=Z,6.6nm,0.5s						
LDF	La Druitiere	149.36	2	*e*PKP1	PKPbc	19 09 15.3	-1.7
	comp=Z,4.3nm,0.5s						
MEZF	Maizieres J'vi	149.37	356	*e*PKP1	PKPbc	19 09 15.7	-1.4
KBA	Koelnbreinsper	149.39	344	⇓*i*PKPbc	PKPbc	19 09 16.0	-1.2
	comp=Z,3.1nm,0.5s						
GRR	Gorron	149.53	3	*e*PKP1	PKPbc	19 09 16.0	-1.4
	comp=Z,7.9nm,0.5s						
WATA	Walderalm	149.57	347	⇑*i*PKPbc	PKPbc	19 09 16.3	-1.3
	comp=Z,2.0nm,0.7s						
WTTA	Wattenberg	149.62	347	⇑*i*PKPbc	PKPbc	19 09 17.0	-0.7
	comp=Z,7.9nm,0.6s						
MOTA	Moosalm	149.66	347	⇑*i*PKPbc	PKPbc	19 09 16.6	-1.2
	comp=Z,2.1nm,0.8s						
HAU	Haudompre	149.75	354	*e*PKP1	PKPbc	19 09 17.7	-0.3
	comp=Z,5.0nm,0.4s						
SQTA	Sankt Quirin	149.75	347	⇑*i*PKPbc	PKPbc	19 09 17.2	-0.7
	comp=Z,4.0nm,0.9s						
HINF	Hinteralfeld	149.88	353	*e*PKP1	PKPbc	19 09 17.0	-1.3
	comp=Z,7.1nm,0.7s						
DAVA	Damuels	149.95	349	⇓*i*PKiKP	PKiKP	19 09 18.7	-0.3
	comp=Z,5.2nm,1.0s						
LOR	Lormes	150.67	357	*e*PKP1	PKPbc	19 09 18.2	-1.9
	comp=Z,7.1nm,0.4s						
SSF	Saint Saulge	150.90	358	*e*PKP1	PKPbc	19 09 19.4	-1.2
	comp=Z,6.8nm,0.5s						
CABF	La Chapelle	151.16	354	*e*PKP1	PKPbc	19 09 20.6	-0.6
	comp=Z,3.7nm,0.5s						
MFF	Saint Martin d	151.35	3	*e*PKP1	PKPbc	19 09 20.1	-1.5
BGF	Bois d'Agland	151.42	358	*e*PKP1	PKPbc	19 09 20.5	-1.3
	comp=Z,6.4nm,0.6s						
TCF	Toulx Ste Croi	151.70	359	*e*PKP1	PKPbc	19 09 21.0	-1.4
	comp=Z,2.1nm,0.5s						
MBDF	Montbardon	152.94	352	*e*PKP1	PKPbc	19 09 23.7	-1.4
	comp=Z,6.1nm,0.7s						
TORD	Torodi Ar. Bea	175.26	179	PKP	PKPdf	19 09 36.3	-0.5
	comp=Z,1.4nm,1.1s,baz=223,slow=1.2,SNR=4.6						
TORD				PKPab	PKPab	19 11 18.4	+0.8
	comp=Z,0.3nm,0.5s,baz=184,slow=4.0,SNR=5.1						

IDC 02 18:57:48.9±2.0, 100N×12764E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, Error ellipse: s-maj=138.9km s-min=27.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.83	163	P	P	19 02 43.4	+0.7
	1.7nm,0.4s,baz=342,slow=11,SNR=19						
ASAR	Alice Springs	25.27	166	P	P	19 03 17.9	+1.2
	1.7nm,0.4s,baz=344,slow=12,SNR=21						
STKA	Stephens Creek	35.28	159	P	P	19 04 43.8	-1.5
	1.0nm,0.5s,baz=342,slow=9.6,SNR=3.4						
MKAR	Makanchi Array	60.30	326	P	P	19 07 59.5	+0.2
	2.2nm,0.3s,baz=129,slow=8.5,SNR=1.1						

*IDC **02** 19:01:57.9±1.4, 5353N×16755W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.7/24, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=49.6km s-min=17.0km az=173.0*
*ISCJB **02** 19:01:59.6±0.7, 534N±0.1×1675W±0.1, h15km, mb3.6/4, Error ellipse: s-maj=18.8km s-min=4.8km az=124.2*
*NEIC **02** 19:02:00.7, 5331N×16735W, h15km, ML3.5(AEIC), After AEIC.*

ISC 02 19:01:59.9±1.1, 533N±01×1674W±01, h11km±7km, n12, σ0§64/16, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	0.73	44	P	Pg	19 02 14.2	+0.1
UNV				S	Sg	19 02 24.1	+0.3
NIKO	Nikolski	0.96	249	P	Pg	19 02 17.9	-0.5
NIKO				S	Sg	19 02 31.1	+0.1
ADK	Adak	5.86	259	*e*P	Pn	19 03 30.2	+3.5
ADK				*e*S	Sn	19 04 34.2	+0.3
KDAK	Kodiak Island	9.49	56	Pn	Pn	19 04 16.6	0.0
	0.6nm,0.3s,baz=150,slow=21,SNR=6.6						
KDAK				Sn	Sn	19 05 58.4	-4.8
	0.2nm,0.3s,baz=82,slow=17,SNR=2.0						
FX1	Attu Island--F	11.71	276	Pn	Pn	19 04 46.7	-0.3
	0.5nm,0.3s,baz=102,slow=19,SNR=5.5						
TNA	Tin City	12.28	359	*e*P	Pn	19 04 54.9	+0.2
ILAR	Eielson Array	15.48	34	Pn	Pn	19 05 38.4	+0.2
	0.0nm,0.3s,baz=233,slow=13,SNR=3.5						
INK	Inuvik	21.88	34	P	P	19 06 51.8	-1.0
	1.2nm,0.4s,mb3.6,baz=234,slow=6.5,SNR=4.8						
YKA	Yellowknife Ar	28.70	50	P	P	19 07 56.2	-0.9
	0.2nm,0.5s,mb3.1,baz=286,slow=6.8,SNR=6.4						
YKA	Yellowknife Ar	28.70	50	P	P	19 07 56.2	-0.9
PDAR	Pinedale Array	39.05	82	P	P	19 09 27.8	+1.0
	0.8nm,0.9s,mb3.5,baz=297,slow=3.3,SNR=4.6						
TXAR	Lajitas Array	51.54	91	P	P	19 11 05.8	-0.1
	1.0nm,0.4s,mb4.1,baz=307,slow=5.4,SNR=14						

IDC 02 19:05:28.7±2.2, 765S×13001E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=133.0km s-min=32.0km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.92	161	Pn	Pn	19 08 33.3	-0.2
	0.3nm,0.3s,baz=344,slow=14,SNR=32						
WRA				Sn	Sn	19 10 50.6	-7.5
	0.3nm,0.3s,baz=345,slow=23,SNR=6.9						
ASAR	Alice Springs	16.36	167	Pn	Pn	19 09 20.5	+0.8
	0.2nm,0.3s,baz=345,slow=11,SNR=16						
ASAR				Sn	Sn	19 12 19.6	-2.2
	0.1nm,0.3s,baz=353,slow=29,SNR=4.3						
MKAR	Makanchi Array	68.77	327	P	P	19 16 34.7	+0.2
	0.2nm,0.5s,baz=128,slow=7.1,SNR=6.0						

IDC 02 19:20:04.0±19.0, 1806S×17800W, h556km±181km, mb3.5/4, mb1 3.6/4, mb1mx3.2/16, mbtmp4.5/4, Error ellipse: s-maj=136.1km s-min=75.2km az=98.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.81	261	P	P	19 26 00.8	+0.4
	3.0nm,0.7s,baz=101,slow=9.7,SNR=9.0						
STKA	Stephens Creek	38.90	241	P	P	19 26 42.0	-0.2
	2.5nm,0.5s,baz=92,slow=9.6,SNR=13						
WB2	Warramunga Arr	44.98	260	*e*P	P	19 27 29.9	-0.2
WRA	Warramunga Arr	44.99	260	P	P	19 27 30.0	-0.2
	2.1nm,0.5s,baz=94,slow=7.5,SNR=106						
ASAR	Alice Springs	45.13	254	P	P	19 27 32.0	+0.9
	10nm,0.5s,baz=86,slow=8.6,SNR=159						
ASAR				PcP	PcP	19 28 59.6	-0.1
	0.6nm,0.6s,baz=104,slow=3.5,SNR=4.4						
ASPA	Alice Springs	45.13	254	*e*P	P	19 27 32.1	+0.9
GERES	GERESS Array B	147.86	345	PKPbc	PKPbc	19 38 46.5	-0.3
	0.3nm,0.5s,baz=14,slow=5.5,SNR=4.1						

IDC 02 19:26:35.8±1.4, 035N×12202E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=206.2km s-min=22.9km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.51	150	P	P	19 31 48.0	+0.5
	0.8nm,0.5s,baz=326,slow=11,SNR=12						
ASAR	Alice Springs	26.52	155	P	P	19 32 16.2	+1.2
	0.3nm,0.5s,baz=344,slow=14,SNR=6.7						
STKA	Stephens Creek	37.02	152	P	P	19 33 46.1	-1.2
	1.2nm,0.7s,baz=8.1,slow=7.1,SNR=4.0						
MKAR	Makanchi Array	57.80	329	P	P	19 36 29.1	+0.2
	0.3nm,0.5s,baz=129,slow=8.4,SNR=8.9						

MAN 02 19:26:52.1, 1013N×12231E, h18km, mb2.0, ML3.7, MS3.3, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.56	29	*e*P	Pg	19 27 04.9	+1.6
GUIM				*e*S	Sg	19 27 15.2	+4.3
SNPH	Sibulan	1.20	131	*e*P	Pn	19 27 13.0	-1.0
CUYO	Cuyo Island	1.46	299	*e*P	Pn	19 27 18.0	+0.4
ENPP	El Nido	3.03	291	*e*P	Pn	19 27 39.3	+0.1

*ISCJB **02** 19:31:47.0±1.0, 23S±01×1288E±03, h33km, mb4.1/6, Error ellipse: s-maj=49.1km s-min=9.1km az=137.3*
*NEIC **02** 19:31:47.7±0.8, 292S×12759E, h10km, mb4.4/4, Error ellipse: s-maj=54.9km s-min=12.0km az=60.0*
*IDC **02** 19:31:49.5±4.0, 295S×12765E, h26km±25km, mb4.1/3, mb1 4.4/4, mb1mx3.8/17, mbtmp4.4/4, ML4.7/1, Error ellipse: s-maj=68.4km s-min=13.3km az=68.0*

ISC 02 19:31:49.7±1.0, 24S±01×1287E±03, h35km, n14, σ0§59/16, mb4.0/6, 1C-1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.86	191	*e*P	Pn	19 35 30.3	+0.1
	3.6nm,0.8s						
WRAB	Tennant Creek	18.23	163	*e*P	Pn	19 36 00.3	+0.4
	57nm,1.1s						
WRA	Warramunga Arr	18.23	163	P	Pn	19 36 00.3	+0.4
	2.5nm,0.3s,baz=341,slow=11,SNR=198						
WRA				S	S	19 39 21.3	-5.3
	0.2nm,0.3s,baz=338,slow=22,SNR=4.7						
WB2	Warramunga Arr	18.24	163	⇑*i* P	Pn	19 36 00.2	+0.3
ASAR	Alice Springs	21.68	167	P	P	19 36 37.9	+0.5
	14nm,0.6s,mb4.6,baz=340,slow=9.6,SNR=245						
ASAR				S	S	19 40 33.0	-2.4
	2.6nm,0.8s,baz=347,slow=21,SNR=13						
ASAR				ScP	ScP	19 44 16.1	+4.1
	0.6nm,1.0s,baz=1.9,slow=3.4,SNR=4.2						
ASPA	Alice Springs	21.68	167	⇓*i* P	P	19 36 37.4	0.0
CTA	Charters Tower	24.50	137	*e*P	P	19 37 12.4	+6.8
	1.2nm,0.6s,mb3.5						
CTA	Charters Tower	24.50	137	P	P	19 37 11.8	+6.2
	1.6nm,0.6s,mb3.7,baz=330,slow=14,SNR=6.3						
CTA	Charters Tower	24.50	137	P	P	19 37 11.8	+6.2
CTAO	Charters Tower	24.50	137	*e*P	P	19 37 12.5	+6.9
	2.1nm,0.7s,mb3.7						
STKA	Stephens Creek	31.68	159	P	P	19 38 09.2	-0.6
	1.8nm,0.4s,mb4.2,baz=337,slow=10,SNR=14						
LSA	Lhasa	48.09	315	*e*P	P	19 40 26.0	+0.2
	2.8nm,0.6s,mb4.5						
MKAR	Makanchi Array	63.76	326	P	P	19 42 17.3	-0.6
	0.2nm,0.6s,mb3.3,baz=113,slow=6.2,SNR=5.4						
KURK	Kurchatov	68.00	328	*e*P	P	19 42 45.5	+0.2
	2.2nm,1.2s,mb4.1						

IDC 02 19:38:40.9±6.5, 1736S×16747E, h105km±68km, mb3.4/5, mb1 3.5/6, mb1mx3.4/17, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=64.4km s-min=46.1km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.78	191	P	Pn	19 39 50.1	-0.6
	5.6nm,0.3s,baz=77,slow=20,SNR=15						
DZM				S	Sn	19 40 46.0	+1.1
	11nm,0.3s,baz=125,slow=23,SNR=9.4						
CTA	Charters Tower	20.27	259	P	P	19 43 09.0	+1.0
	1.0nm,0.5s,baz=45,slow=11,SNR=3.2						
STKA	Stephens Creek	27.51	233	P	P	19 44 16.4	-1.0
	1.8nm,1.0s,baz=76,slow=12,SNR=2.3						
WRA	Warramunga Arr	31.46	260	P	P	19 44 51.8	-0.6
	0.4nm,0.8s,baz=81,slow=6.0,SNR=4.0						
ASAR	Alice Springs	32.00	253	P	P	19 44 58.2	+1.1
	2.6nm,0.7s,baz=76,slow=9.2,SNR=10						
SONM	Songino Array	84.72	324	P	P	19 51 03.6	+0.5
	0.5nm,0.9s,baz=117,slow=3.3,SNR=4.3						

IDC 02 19:41:01.2±2.4, 409N×12354E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=342.9km s-min=26.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.14	156	P	P	19 46 37.3	+0.4
	0.5nm,0.3s,baz=336,slow=9.8,SNR=22						
ASAR	Alice Springs	29.38	160	P	P	19 47 06.2	+0.2
	0.2nm,0.3s,baz=337,slow=7.7,SNR=7.4						
MKAR	Makanchi Array	55.47	327	P	P	19 50 37.8	+0.1
	0.1nm,0.3s,baz=119,slow=7.9,SNR=5.1						

GTA					AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1							
JIRN	**Jiri**	**48.04**	**306**	*e*P	**P**		**19 53 51.5**	**+0.8**
	comp=Z,22nm,0.6s,mb5.2							
GUN	**Gumba**	**48.39**	**306**	*e*P	**P**		**19 53 54.4**	**+1.0**
	comp=Z,28nm,0.6s,mb5.3							
PKI	**Pulchoki**	**48.63**	**306**	*e*P	**P**		**19 53 55.5**	**+0.2**
KKN	**Kakani**	**48.83**	**306**	*e*P	**P**		**19 53 57.0**	**+0.3**
	comp=Z,12nm,0.6s,mb5.0							
DMN	**Daman**	**48.89**	**306**	*e*P	**P**		**19 53 57.9**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0							
ULN	**Ulaanbaatar**	**49.43**	**341**	*i* P	**P**		**19 54 01.3**	**0.0**
GKN	**Gorkha**	**49.43**	**306**	*e*P	**P**		**19 54 01.4**	**0.0**
	comp=Z,6.3nm,0.6s,mb4.7							
SONM	**Songino Array**	**49.62**	**340**	P	**P**		**19 54 02.7**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=151,slow=7.6,SNR=17							
SONM				PcP	PcP		19 55 24.1	+0.7
	comp=Z,0.2nm,0.4s,baz=146,slow=5.2,SNR=2.4							
KOLN	**Koldanda**	**50.18**	**305**	*e*P	**P**		**19 54 07.5**	**+0.4**
	comp=Z,24nm,0.7s,mb5.2							
HYB	**Hyderabad**	**51.62**	**291**	*i* P	**P**		**19 54 17.5**	**-0.3**
HYB	**Hyderabad**	**51.62**	**291**	*e*P	**P**		**19 54 17.5**	**-0.3**
WMQ	**Urumqi**	**55.32**	**325**	*e*P	**P**		**19 54 45.7**	**+0.7**
WMQ					AMB	AMB		
	comp=Z,28nm,0.8s,mb5.3							
YAK	**Yakutsk**	**59.92**	**1**	*e*P	**P**		**19 55 14.5**	**-2.8**
YAK					pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1							
YAK	**Yakutsk**	**59.92**	**1**	*e*P	**P**		**19 55 14.5**	**-2.8**
	comp=Z,16nm,0.8s,mb5.1							
MKAR	**Makanchi Array**	**60.15**	**325**	P	**P**		**19 55 18.6**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.9,baz=114,slow=7.9,SNR=174							
MKAR				LR	LR		20 24 17.2	
	comp=Z,14nm,19.7s,baz=80,slow=39							
THW	**Thamme Wali**	**61.53**	**307**	⇓P	**P**		**19 55 27.6**	**-0.6**
ZAL	**Zalesovo**	**63.07**	**333**	P	**P**		**19 55 36.3**	**-2.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=347,slow=12,SNR=8.4							
ZAL				LR	LR		20 24 07.3	
	comp=Z,39nm,20.3s,baz=310,slow=37							
SEY	**Seymchan**	**63.31**	**12**	*i* P	**P**		**19 55 42.0**	**+1.9**
KURK	**Kurchatov**	**64.31**	**327**	*c i*P	**P**		**19 55 44.6**	**-2.0**
KURK	**Kurchatov**	**64.31**	**327**	*e*P	**P**		**19 55 45.7**	**-0.9**
	comp=Z,15nm,0.8s,mb4.9							
NVS	**Novosibirsk**	**64.35**	**333**	*e*P	**P**		**19 55 44.6**	**-2.3**
NVS					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5							
NVS					pmax	pmax		
	comp=N,5.0nm,1.2s							
NVS					pmax	pmax		
	comp=E,6.0nm,1.1s							
TIXI	**Tiksi**	**69.58**	**0**	*i* P	**P**		**19 56 19.9**	**-0.2**
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**69.89**	**327**	P	**P**		**19 56 21.5**	**-0.5**
	comp=Z,6.3nm,0.8s,mb4.5,baz=127,slow=7.4,SNR=24							
ZRNK	**Zerenda**	**70.62**	**326**	*e*P	**P**		**19 56 25.5**	**-1.0**
ZRNK					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**70.62**	**326**	*e*P	**P**		**19 56 25.5**	**-0.9**
	comp=Z,11nm,1.0s,mb4.7							
AKTK	**Aktyubinsk**	**76.29**	**322**	P	**P**		**19 56 58.5**	**-1.2**
AKTO	**Aktyubinsk**	**76.29**	**322**	P	**P**		**19 56 58.5**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=112,slow=7.7,SNR=5.5							
ARU	**Arti**	**77.50**	**328**	⇓*i*P	**P**		**19 57 04.6**	**-1.9**
ARU				*e*			19 59 59.4	
ARU				*e*S	S		20 06 54.1	+1.8
ARU				*e*SS	SS		20 11 53.0	+0.6
ARU				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
VNDA	**Vanda**	**81.44**	**173**	P	**P**		**19 57 27.2**	**-0.7**
	comp=Z,1.4nm,0.9s,mb3.8,baz=323,slow=5.1,SNR=4.0							
IMA2	**Indian Mountai**	**83.17**	**24**	*e*P	**P**		**19 57 38.9**	**+1.9**
KIV	**Kislovodsk**	**85.81**	**314**	*e*P	**P**		**19 57 39.1**	**-11**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
YKA	**Yellowknife Ar**	**100.25**	**25**	P	Pdif		19 58 56.8	-0.3
	comp=Z,0.2nm,0.7s,baz=301,slow=4.9,SNR=4.2							
YKA	**Yellowknife Ar**	**100.25**	**25**	P	Pdif		19 58 56.8	-0.3

NAO ***02*** *19:53:55.5, 37.37N×74.39E, h33km, mb4.3*
MOS ***02*** *19:54:11.6±1.3, 37.73N×72.40E, h109km, mb4.2/6, Error ellipse: s-maj=10.9km s-min=5.4km az=98.8*
BJI ***02*** *19:54:12.7, 37.62N×72.30E, h123km, mB4.7, mb4.2*
NEIC ***02*** *19:54:12.2±0.9, 37.59N×72.45E, h104km±10km, mb4.5/7, Error ellipse: s-maj=9.2km s-min=5.0km az=52.0*
ISCJB ***02*** *19:54:13.6±0.4, 37.71N±002×72.58E±005, h137km±6km, mb4.0/21, Error ellipse: s-maj=7.1km s-min=3.1km az=154.3*
IDC ***02*** *19:54:13.6±3.6, 37.73N×72.39E, h112km±32km, mb3.7/12, mb1 3.9/16, mb1mx3.8/25, mbtmp4.2/16, Error ellipse: s-maj=20.0km s-min=13.9km az=154.0*
NNC ***02*** *19:54:21.8±2.8, 38.41N×72.14E, h201km±21km, mb3.6, mpv4.7, Error ellipse: s-maj=24.7km s-min=15.4km az=17.0*

ISC 02 19:54:14.2±0.3, 37.69N±002×72.50E±005, h125km±5km, n104, σ1°33/132, mb4.0/21, 12C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.27**	**55**	⇑*i*P	**Pn**	**19 55 08.2**	**+4.0**
KSH				S	**Sn**	**19 55 49.8**	**+7.0**
KSH				Smax			
	comp=N,640nm,0.5s						
KSH				Smax			
	comp=E,730nm,0.5s						
CEP	**Cherat**	**3.89**	**187**	P	**Pn**	**19 55 14.5**	**+2.1**
CEP				S	**Sn**	**19 55 48.0**	**-9.5**
CHCP	**Chirah Chowk**	**4.07**	**171**	P	**Pn**	**19 55 19.1**	**+4.3**
CHCP				S	**Sn**	**19 55 58.0**	**-3.8**
AML	**Almayashu**	**4.53**	**11**	P	**Pn**	**19 55 21.2**	**+0.3**
	SNR=393						
UCH	**Uchtor**	**4.79**	**18**	P	**Pn**	**19 55 25.3**	**+1.0**
	SNR=98						
KZA	**Kyzart**	**4.86**	**25**	P	**Pn**	**19 55 26.2**	**+0.9**
	SNR=52						
EKS2	**Erkin-Say**	**5.06**	**11**	P	**Pn**	**19 55 28.5**	**+0.5**
	SNR=349						
AAK	**Ala-Archa**	**5.16**	**17**	P	**Pn**	**19 55 30.5**	**+1.1**
	SNR=132						
AAK	**Ala-Archa**	**5.16**	**17**	*e*PN	**Pn**	**19 55 29.2**	**-0.2**
AAK				pmax	pmax		
	comp=Z,165nm,0.8s						
AAK	**Ala-Archa**	**5.16**	**17**	*e*P	**Pn**	**19 55 29.2**	**-0.2**
	comp=Z,165nm,0.8s						
KBK	**Karagaybulak**	**5.30**	**20**	P	**Pn**	**19 55 32.3**	**+1.1**
	SNR=41						
ULHL	**Ulahol**	**5.38**	**31**	P	**Pn**	**19 55 33.1**	**+0.8**
	SNR=50						
FRU	**Bishkek**	**5.38**	**17**	*e*PN	**Pn**	**19 55 33.5**	**+1.1**
FRU				*e*S	**Sn**	**19 56 33.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,65nm,0.6s						
FRU				smax			
	comp=N,360nm,1.5s						
SBDP	**Sheikh Budin**	**5.56**	**195**	P	**Pn**	**19 55 35.4**	**+0.7**
CHMS	**Chumysh**	**5.57**	**17**	P	**Pn**	**19 55 35.6**	**+0.7**
	SNR=90						
KK31	**Karatay Array**	**5.61**	**345**	⇑P	**Pn**	**19 55 34.1**	**-1.4**
	comp=N,146nm,0.3s,baz=160,slow=12,SNR=4.6						
KK31				⇓S	**Sn**	**19 56 32.3**	**-6.5**
	comp=N,95nm,0.3s,baz=167,slow=22,SNR=4.2						
KKAR	**Karatay Array**	**5.61**	**345**	PN	**Pn**	**19 55 34.1**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,32nm,0.2s						
TKM2	**Tokmak 2**	**5.73**	**23**	P	**Pn**	**19 55 39.2**	**+2.2**
	SNR=15						
TKM2	**Tokmak 2**	**5.73**	**23**	⇓P	**Pn**	**19 55 38.1**	**+1.0**
	comp=Z,18nm,0.6s						
TKM2				⇑S	**Sn**	**19 56 41.1**	**-0.5**
	comp=Z,98nm,0.8s						
TKM2	**Tokmak 2**	**5.73**	**23**	PN	**Pn**	**19 55 37.8**	**+0.8**
TKM2						19 56 40.7	
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2				smax			
	comp=Z,73nm,0.8s						
SARP	**Sargodha**	**5.76**	**179**	P	**Pn**	**19 55 38.3**	**+0.9**
USP	**Ospenovka**	**5.77**	**15**	P	**Pn**	**19 55 37.7**	**+0.1**
	SNR=37						
DLH	**Dalhousie**	**5.87**	**150**	*e*P	**Pn**	**19 55 42.0**	**+3.1**
DLH				*e*S	**Sn**	**19 56 47.0**	**+2.0**
THN	**Thein Dam**	**5.87**	**152**	*e*P	**Pn**	**19 55 40.3**	**+1.4**
THN				*e*S	**Sn**	**19 56 45.1**	**+0.1**
DRP	**Derazinda**	**6.23**	**198**	⇓P	**Pn**	**19 55 45.0**	**+1.2**
DRP				S	**Sn**	**19 56 51.0**	**-2.6**
PONG	**Pong**	**6.39**	**153**	*e*P	**Pn**	**19 55 48.0**	**+2.1**
PONG				*e*S	**Sn**	**19 56 58.0**	**+0.5**
BHK	**Bhakra**	**7.04**	**152**	*e*S	**Sn**	**19 57 13.4**	**+0.1**
SDNR	**Sundarnagar**	**7.19**	**148**	*e*P	**Pn**	**19 55 57.0**	**+0.3**
SDNR				*e*S	**Sn**	**19 57 14.0**	**-2.9**
DDI	**Dehra Dun**	**8.67**	**146**	*e*P	**Pn**	**19 56 16.3**	**-0.5**
DDI				*e*S	**Sn**	**19 57 49.3**	**-3.5**
NDI	**New Delhi**	**9.81**	**155**	*e*P	**Pn**	**19 56 33.5**	**+1.5**
NDI				AMb	AMB	19 56 34.3	
	comp=Z,26nm,0.3s						
NDI				*e*S	**Sn**	**19 58 15.0**	**-5.3**
PTH	**Pithoragarh**	**10.35**	**139**	*e*P	**Pn**	**19 56 40.1**	**+0.8**
PTH				*e*S	**Sn**	**19 58 29.9**	**-3.6**
LGTI	**Lohaghat**	**10.45**	**140**	*ex*	x	19 56 34.3	
LGTI				*e*S	**Sn**	**19 58 32.5**	**-3.3**
AJM	**Ajmer**	**11.33**	**170**	*i* P	**Pn**	**19 56 52.0**	**-0.2**
AJM				*i* S	**Sn**	**19 58 51.0**	**-6.0**
MK31	**Makanchi Array**	**11.62**	**35**	P	**Pn**	**19 56 56.6**	**+0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**11.62**	**35**	P	**Pn**	**19 56 56.9**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=231,slow=15,SNR=12						
MKAR	**Makanchi Array**	**11.62**	**35**	P	**Pn**	**19 56 56.9**	**+0.7**
MK05	**Makanchi Array**	**11.62**	**35**	⇑P	**Pn**	**19 56 56.7**	**+0.5**
	comp=Z,3.4nm,0.5s						
KOLN	**Koldanda**	**13.60**	**133**	*e*Pn	**Pn**	**19 57 20.8**	**-1.1**
KOLN				*e*Sn	**Sn**	**19 59 45.9**	**-5.9**
	comp=Z,46nm,0.5s						
KURK	**Kurchatov**	**13.73**	**17**	⇑P	**Pn**	**19 57 20.0**	**-3.6**
	comp=Z,6.1nm,0.7s						
KURK	**Kurchatov**	**13.73**	**17**	*e*P	**Pn**	**19 57 20.6**	**-3.0**
KURK				*e*		19 57 28.3	
GKN	**Gorkha**	**14.04**	**130**	*e*Pn	**Pn**	**19 57 26.2**	**-1.3**
GKN				*e*Sn	**Sn**	**19 59 53.3**	**-9.2**
	comp=Z,60nm,0.4s						
KKN	**Kakani**	**14.58**	**129**	*e*Pn	**Pn**	**19 57 32.5**	**-1.9**
KKN				*e*Sn	**Sn**	**20 00 05.8**	**-10**
	comp=Z,67nm,0.9s						
BHJ	**Bhuj**	**14.60**	**190**	*e*P	**Pn**	**19 57 35.2**	**+0.5**
BHJ				AMP		19 57 41.4	
BHJ				*ex*	x	20 00 05.7	
DMN	**Daman**	**14.61**	**130**	*e*Pn	**Pn**	**19 57 33.7**	**-1.0**
DMN				*e*Sn	**Sn**	**20 00 07.0**	**-9.2**
	comp=Z,66nm,0.6s						
AB31	**Akbulak array**	**14.70**	**326**	⇑P	**Pn**	**19 57 29.9**	**-6.0**
	comp=Z,8.5nm,0.3s,baz=143,slow=12,SNR=196						
AB31				S	**Sn**	**20 00 01.8**	**-17**
	comp=Z,7.2nm,0.3s,baz=0.0,slow=0.1,SNR=20						
AB31	**Akbulak array**	**14.70**	**326**	*e*P	**Pn**	**19 57 32.0**	**-3.9**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PKI	**Pulchoki**	**14.82**	**129**	*e*Pn	**Pn**	**19 57 36.0**	**-1.4**
PKI				*e*Sn	**Sn**	**20 00 11.6**	**-10**
	comp=Z,39nm,0.7s						
GUN	**Gumba**	**14.87**	**127**	*e*Pn	**Pn**	**19 57 36.6**	**-1.5**
GUN				*e*Sn	**Sn**	**20 00 12.6**	**-10**
	comp=Z,50nm,0.8s						
BHPL	**Bhopal**	**15.01**	**162**	AMb	AMB	19 57 44.2	
	comp=Z,8.4nm,0.3s						
BHPL				*e*P		19 57 44.3	
BHPL				*ex*	x	20 00 22.4	
VOSK	**Vostochnaya**	**15.07**	**356**	⇑P	**Pn**	**19 57 37.5**	**-3.0**
	comp=Z,9.0nm,1.0s						
VOSK				⇑S	S	20 00 14.5	-21
	comp=Z,8.8nm,0.9s						
VOSK	**Vostochnaya**	**15.07**	**356**	P	**Pn**	**19 57 36.2**	**-4.3**
VOSK						20 00 14.4	
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VOSK				smax			
	comp=Z,8.0nm,1.0s						
JIRN	**Jiri**	**15.24**	**127**	*e*Pn	**Pn**	**19 57 41.8**	**-0.9**
JIRN				*e*Sn	**Sn**	**20 00 21.7**	**-10**
	comp=Z,67nm,0.6s						
BVA0	**Borovoye Array**	**15.40**	**355**	⇑P	**Pn**	**19 57 40.3**	**-4.4**
	comp=Z,4.7nm,1.0s,baz=159,slow=9.6,SNR=141						
BVA0				S	**S**	**20 00 24.0**	**-18**
	comp=Z,1.1nm,0.6s,baz=185,slow=18,SNR=11						
BVA0	**Borovoye Array**	**15.40**	**355**	*i* P	**Pn**	**19 57 43.3**	**-1.4**
BVA0				*i*		20 00 24.0	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0				smax			
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**15.40**	**355**	P	**Pn**	**19 57 42.3**	**-2.4**
	comp=Z,6.9nm,0.3s,baz=158,slow=10.0,SNR=67						
BVAR				S	**S**	**20 00 24.3**	**-18**
	comp=Z,1.2nm,0.3s,baz=166,slow=24,SNR=12						
BRVK	**Borovoye**	**15.44**	**355**	*e*P	**Pn**	**19 57 42.9**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,23nm,0.9s						
BRVK	**Borovoye**	**15.44**	**355**	*e*P	**Pn**	**19 57 42.9**	**-2.3**
	comp=Z,23nm,0.9s						
ZRNK	**Zerenda**	**15.45**	**352**	⇑P	**Pn**	**19 57 42.3**	**-3.0**
	comp=Z,36nm,0.6s						
ZRNK				S	**S**	**20 00 24.1**	**-19**
	comp=Z,4.9nm,0.7s						
ZRNK	**Zerenda**	**15.45**	**352**	*e*P	**Pn**	**19 57 42.6**	**-2.8**
ZRNK				*e*		19 57 47.4	
AKTK	**Aktyubinsk**	**16.41**	**326**	P	**Pn**	**19 57 54.5**	**-2.6**
AKTK				S	**S**	**20 00 45.6**	**-15**
AKTO	**Aktyubinsk**	**16.41**	**326**	⇑P	**Pn**	**19 57 54.0**	**-3.1**
	comp=Z,3.1nm,0.5s						
AKTO				⇓S	**S**	**20 00 45.0**	**-15**
	comp=Z,2.9nm,0.5s						
AKTO	**Aktyubinsk**	**16.41**	**326**	P	**Pn**	**19 57 54.5**	**-2.6**
	comp=Z,3.0nm,0.3s,baz=136,slow=12,SNR=54						
AKTO				S	**S**	**20 00 45.6**	**-15**
	comp=Z,1.9nm,0.3s,baz=106,slow=22,SNR=13						
AKL	**Akola**	**17.38**	**166**	*ex*	x	19 57 31.1	
AKL				AMb	AMB	19 57 32.6	
	comp=Z,23nm,0.6s						
LSA	**Lhasa**	**17.43**	**112**	P	**Pn**	**19 58 12.4**	**+2.9**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BOK	**Bokaro**	**17.98**	**137**	*ex*	x	19 58 11.2	
BOK				AMb	AMB	19 58 20.6	
	comp=Z,16nm,1.0s						
BOK				*ex*	x	20 01 18.6	
ZAL	**Zalesovo**	**18.32**	**24**	P	**P**	**19 58 18.4**	**-0.3**
	comp=Z,4.3nm,0.3s,baz=261,slow=6.3,SNR=39						
ZAL				S	**S**	**20 01 42.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=347,slow=20,SNR=3.2						
NVS	**Novosibirsk**	**18.65**	**20**	*e*P	**P**	**19 58 22.1**	**-0.1**
NVS				*e*		20 01 43.5	
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,12nm,1.3s						
NVS				smax			
	comp=E,34nm,1.9s						
POO	**Poona**	**19.13**	**176**	*e*P	**P**	**19 58 28.5**	**+1.0**
	comp=E,15nm,1.0s						
POO				*ex*	x	20 02 24.0	
POO				*e*PCP	PcP	20 02 31.0	-15
POO				*ex*	x	20 02 38.5	
POO				*ex*	x	20 02 58.5	
POO				*e*SSS		20 03 12.5	
POO				*ex*	x	20 03 40.5	
SHL	**Shillong**	**20.41**	**121**	*e*P	**P**	**19 58 45.0**	**+3.7**
BWNR	**Bhubaneshwar**	**20.84**	**143**	*ex*	x	19 58 12.9	
BWNR				AMb	AMB	19 58 14.4	
	comp=Z,16nm,0.8s						
BWNR				*ex*	x	20 01 10.2	
HYB	**Hyderabad**	**20.89**	**164**	*i* P	**P**	**19 58 49.0**	**+2.6**
HYB				*e*S	**S**	**20 02 33.5**	**+1.3**
HYB	**Hyderabad**	**20.89**	**164**	*e*P	**P**	**19 58 49.0**	**+2.6**
HYB				*e*S	**S**	**20 02 33.5**	**+1.3**
ARU	**Arti**	**20.94**	**338**	⇑*i*P	**P**	**19 58 46.0**	**-0.9**
ARU				*e*SS		20 03 08.5	
ARU				pmax	pmax		
	comp=Z,15nm,0.9s						
ARU	**Arti**	**20.94**	**338**	*e*P	**P**	**19 58 46.2**	**-0.7**
	comp=Z,11nm,0.7s						
GTA	**Gaotai**	**21.40**	**77**	*e*P	**P**	**19 58 56.7**	**+4.8**
GTA				XP	sP	19 59 37.8	+7.2
GTA				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.2						
GNI	**Garni**	**21.71**	**285**	P	**P**	**19 58 55.2**	**+0.1**
	comp=Z,15nm,0.8s,mb4.4,baz=3.1,slow=3.5,SNR=6.8						
ZEI	**Tsey**	**22.36**	**292**	*e*P	**P**	**19 59 04.7**	**+2.7**
KIV	**Kislovodsk**	**23.34**	**295**	*e*P	**P**	**19 59 10.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
KIV	**Kislovodsk**	**23.34**	**295**	*e*P	**P**	**19 59 11.3**	**+0.2**
	comp=Z,11nm,0.6s,mb4.4						
ZAK	**Zakamensk**	**25.30**	**50**	*e*P	**P**	**19 59 32.1**	**+3.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.7						
CD2	**Chengdu**	**26.61**	**95**	*e*P	**P**	**19 59 40.0**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.6s						
SONM	**Songino Array**	**26.67**	**57**	P	**P**	**19 59 43.8**	**+2.4**
	comp=Z,0.5nm,0.7s,mb3.1,baz=260,slow=8.9,SNR=4.3						
VRSR	**Storozhevoye**	**27.09**	**311**	*e*P	**P**	**19 59 44.9**	**-0.2**
VRSR				pmax	pmax		
	comp=N,1.0nm,0.7s						
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.8s						
OBN	**Obninsk**	**29.85**	**317**	*e*P	**P**	**20 00 09.6**	**0.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
BRTR	**Keskin Array B**	**30.24**	**286**	P	**P**	**20 00 14.0**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.6,baz=100,slow=7.7,SNR=5.6						
AKASG	**Malin Array Be**	**33.16**	**307**	P	**P**	**20 00 38.5**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.1,baz=87,slow=7.3,SNR=14						
BJT	**Baijiatuau**	**33.83**	**72**	*e*P	**P**	**20 00 44.8**	**+0.4**
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuau**	**33.83**	**72**	*e*P	**P**	**20 00 44.8**	**+0.3**
	comp=Z,18nm,0.6s,mb5.1						
FINES	**FINESS Array B**	**37.18**	**325**	P	**P**	**20 01 12.8**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.4,baz=112,slow=8.4,SNR=22						
KAF	**Kangasniemi**	**37.30**	**326**	*e*p	**P**	**20 01 13.6**	**-0.4**
KEV	**Kevo**	**40.15**	**337**	*e*p	**P**	**20 01 37.0**	**-0.9**
ARCES	**ARCESS Array B**	**40.52**	**337**	P	**P**	**20 01 41.2**	**+0.4**
	comp=Z,4.4nm,0.5s,mb4.5,baz=115,slow=9.1,SNR=44						
ARCES	**ARCESS Array B**	**40.52**	**337**	P	**P**	**20 01 41.2**	**+0.4**
BRG	**Berggiesshubel**	**42.84**	**307**	*i* P	**P**	**20 02 01.0**	**+1.2**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.2						
BRG	**Berggiesshubel**	**42.84**	**307**	*i* P	**P**	**20 02 01.0**	**+1.2**
	comp=Z,1.4nm,0.2s,mb4.3						
GERES	**GERESS Array B**	**43.24**	**304**	P	**P**	**20 02 02.9**	**-0.1**
	comp=Z,0.1nm,0.3s,mb3.0,baz=79,slow=6.8,SNR=3.6						
CLL	**Collm**	**43.39**	**308**	*i* P	**P**	**20 02 04.5**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.1						
CLL	**Collm**	**43.39**	**308**	*i* P	**P**	**20 02 04.5**	**+0.3**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
NB2	**NORSAR Subarra**	**44.16**	**322**	P	**P**	**20 02 10.0**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.2,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.16**	**322**	P	**P**	**20 02 09.9**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.2,baz=93,slow=7.7,SNR=16						
TORD	**Torodi Ar. Bea**	**66.94**	**269**	P	**P**	**20 04 53.1**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.2,baz=46,slow=5.6,SNR=38						
YKA	**Yellowknife Ar**	**79.99**	**3**	P	**P**	**20 06 10.6**	**+1.0**
	comp=Z,2.8nm,0.5s,mb4.3,baz=350,slow=5.6,SNR=80						
SCHQ	**Schefferville**	**81.46**	**338**	P	**P**	**20 06 17.7**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.0,baz=14,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**81.61**	**123**	P	**P**	**20 06 19.4**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=321,slow=4.7,SNR=9.7						

SKO ***02*** *20:03:07.9, 41.98N×21.19E, h15km, M1.6, ML2.0*
ISCJB ***02*** *20:03:08.4±0.8, 42.00N±004×21.27E±004, h4km±7km, Error ellipse: s-maj=7.2km s-min=4.7km az=172.7*
THE ***02*** *20:03:09.5, 42.14N×21.08E, h21km, ML2.9*

ISC 02 20:03:07.8±1.1, 42.05N±005×21.22E±005, h1km±7km, n16, σ0°72/27, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZJ	**Kozjak Brana**	**0.17**	**186**	*i* Pg	**Pg**	**20 03 11.3**	**+0.2**
KOZJ				*i* Sg	**Sg**	**20 03 14.2**	**+0.8**
SKO	**Skopje**	**0.18**	**115**	*i* Pg	**Pg**	**20 03 11.9**	**+0.6**
SKO				*e*Sg	**Sg**	**20 03 14.2**	**+0.5**
	comp=E,221nm,0.3s						
SKO				*e*Lg		20 03 14.6	
	comp=E,221nm,0.3s						
SKO				*e*Lg		20 03 14.9	
	comp=N,627nm,0.3s						
SAMO	**Samokov**	**0.36**	**189**	*e*Pg	**Pg**	**20 03 14.6**	**-0.2**
SAMO				*i*		20 03 15.3	
SAMO				*i* Sg	**Sg**	**20 03 20.1**	**+0.6**
BELI	**Belica**	**0.37**	**173**	*e*Pg	**Pg**	**20 03 12.5**	**-2.5**
BELI				*i*		20 03 13.6	
BELI				*i* Sg	**Sg**	**20 03 19.4**	**-0.3**
STIP	**Stip**	**0.81**	**116**	*e*Pg	**Pg**	**20 03 23.8**	**+0.5**
STIP				*e

KIW	Kapiti Island	1.08 246	PN	Pn	20 49 11.2	+0.1
KIW	Kapiti Island	1.08 246	P	Pn	20 49 11.2	+0.1
MOVZ	Moawhango	1.08 341	PN	Pn	20 49 10.9	-0.1
MOVZ	Moawhango	1.08 341	P	Pn	20 49 10.9	-0.2
CAW	Cannon Point	1.10 232	PN	Pn	20 49 11.3	0.0
CAW	Cannon Point	1.10 232	P	Pn	20 49 11.3	0.0
PAWZ	Paruwai Farm	1.12 212	PN	Pn	20 49 11.8	+0.2
PAWZ	Paruwai Farm	1.12 212	P	Pn	20 49 11.8	+0.2
WAZ	Wanganui	1.16 305	PN	Pn	20 49 12.5	+0.4
WAZ	Wanganui	1.16 305	P	Pn	20 49 12.6	+0.5
MTVZ	Mangateitei	1.19 331	PN	Pn	20 49 12.7	+0.2
WNVZ	Wahianoa	1.20 337	PN	Pn	20 49 12.9	+0.3
WNVZ	Wahianoa	1.20 337	P	Pn	20 49 12.9	+0.3
MSWZ	Moikau Station	1.22 216	PN	Pn	20 49 12.8	-0.2
MSWZ	Moikau Station	1.22 216	P	Pn	20 49 12.8	-0.2
TUVZ	Tukino	1.24 340	PN	Pn	20 49 13.6	+0.4
TUVZ	Tukino	1.24 340	P	Pn	20 49 13.6	+0.4
TRVZ	Turoa	1.24 336	PN	Pn	20 49 13.6	+0.4
DRZ	Dome Shelter	1.26 337	PN	Pn	20 49 14.1	+0.7
DRZ	Dome Shelter	1.26 337	P	Pn	20 49 14.1	+0.7
FWVZ	Far West T-bar	1.28 337	⇓PN	Pn	20 49 14.1	+0.4
BKZ	Black Stump Fm	1.28 10	⇑PN	Pn	20 49 13.4	-0.3
BKZ			SN	Sn	20 49 29.1	-0.8
BKZ	Black Stump Fm	1.28 10	P	Pn	20 49 13.4	-0.4
BKZ			S	Sn	20 49 29.4	-0.5
PKVZ	Pokaka	1.32 330	PN	Pn	20 49 14.6	+0.3
WPVZ	Whakapapa	1.33 337	PN	Pn	20 49 14.8	+0.5
WPVZ	Whakapapa	1.33 337	P	Pn	20 49 14.8	+0.4
OTVZ	Oturere	1.33 342	PN	Pn	20 49 14.8	+0.3
NGZ	Ngauruhoe	1.34 339	PN	Pn	20 49 14.9	+0.3
NGZ	Ngauruhoe	1.34 339	P	Pn	20 49 14.9	+0.4
WEL	Wellington	1.39 232	PN	Pn	20 49 15.0	-0.2
WEL	Wellington	1.39 232	P	Pn	20 49 15.0	-0.2
MRW	Makara Radio	1.40 235	PN	Pn	20 49 15.1	-0.2
MRW	Makara Radio	1.40 235	P	Pn	20 49 15.1	-0.2
WTVZ	West Tongariro	1.40 340	PN	Pn	20 49 15.6	+0.3
WTVZ	West Tongariro	1.40 340	P	Pn	20 49 15.6	+0.3
KRVZ	Karewarewa	1.40 342	PN	Pn	20 49 15.7	+0.3
BHW	Baring Head	1.41 226	PN	Pn	20 49 15.0	-0.5
BHW	Baring Head	1.41 226	P	Pn	20 49 14.0	-1.5
SNZO	South Karori	1.44 232	PN	Pn	20 49 15.5	-0.4
SNZO	South Karori	1.44 232	P	Pn	20 49 15.5	-0.4
RITZ	Rihia Road	1.48 349	PN	Pn	20 49 16.9	+0.5
RITZ	Rihia Road	1.48 349	P	Pn	20 49 16.9	+0.5
TWVZ	Taurewa	1.48 336	PN	Pn	20 49 16.5	0.0
TWVZ	Taurewa	1.48 336	P	Pn	20 49 16.5	0.0
KATZ	Kakaramea	1.51 345	PN	Pn	20 49 17.2	+0.4
KATZ	Kakaramea	1.51 345	P	Pn	20 49 17.2	+0.4
HATZ	Hinemaiaia	1.54 357	PN	Pn	20 49 17.0	-0.2
HATZ	Hinemaiaia	1.54 357	P	Pn	20 49 17.0	-0.3
RATZ	Rangitukua	1.60 348	PN	Pn	20 49 18.2	+0.2
RATZ	Rangitukua	1.60 348	P	Pn	20 49 18.2	+0.2
TCW	Tory Channel	1.66 241	PN	Pn	20 49 18.4	-0.6
TCW	Tory Channel	1.66 241	P	Pn	20 49 18.4	-0.5
VRZ	Vera Road	1.72 319	PN	Pn	20 49 19.8	+0.2
VRZ	Vera Road	1.72 319	P	Pn	20 49 19.8	+0.1
WATZ	Wairara	1.76 348	PN	Pn	20 49 20.1	-0.1
WATZ	Wairara	1.76 348	P	Pn	20 49 20.1	-0.1
WHTZ	Whakaora	1.77 354	PN	Pn	20 49 20.8	+0.4
DUWZ	D'Urville Isla	1.78 257	PN	Pn	20 49 20.2	-0.3
RAEZ	Rainy Point	1.80 309	PN	Pn	20 49 21.7	+0.8
RAEZ	Rainy Point	1.80 309	P	Pn	20 49 21.9	+1.0
KNZ	Kokohu	1.81 39	PN	Pn	20 49 20.4	-0.5
KNZ	Kokohu	1.81 39	eP	Pn	20 49 20.4	-0.5
TUWZ	Tuamarina	1.98 239	PN	Pn	20 49 22.5	-0.9
NEZ	North Egmont	2.00 305	PN	Pn	20 49 24.6	+1.1
NEZ	North Egmont	2.00 305	P	Pn	20 49 24.8	+1.3
PATZ	Paeroa	2.05 1	PN	Pn	20 49 23.9	-0.3
PATZ	Paeroa	2.05 1	P	Pn	20 49 23.9	-0.3
NRZ	Ngariki Road	2.06 301	PN	Pn	20 49 25.5	+1.1
NRZ	Ngariki Road	2.06 301	P	Pn	20 49 25.5	+1.1
PKE	Pukeiti	2.11 305	PN	Pn	20 49 26.0	+1.0
PKE			SN	Sn	20 49 50.5	+0.4
PKE	Pukeiti	2.11 305	P	Pn	20 49 26.2	+1.2
NWEZ	Newall Road	2.14 302	PN	Pn	20 49 26.2	+0.8
NWEZ	Newall Road	2.14 302	P	Pn	20 49 26.7	+1.3
BSWZ	Blackbirch Sta	2.18 233	PN	Pn	20 49 25.3	-0.6
HIZ	Hauiti	2.18 331	PN	Pn	20 49 25.6	-0.4
HIZ	Hauiti	2.18 331	eP	Pn	20 49 26.0	0.0
TAZ	Tarawera	2.21 6	PN	Pn	20 49 25.8	-0.6
TAZ	Tarawera	2.21 6	P	Pn	20 49 25.8	-0.6
URZ	Urewera	2.28 18	Pn	Pn	20 49 25.8	-1.5
	6.4nm,0.3s,baz=230,slow=5.8,SNR=26					
URZ			Sn	Sn	20 49 52.1	-2.1
	42nm,0.3s,baz=104,slow=19,SNR=37					
URZ	Urewera	2.28 18	PN	Pn	20 49 25.8	-1.5
URZ	Urewera	2.28 18	eP	Pn	20 49 25.8	-1.5
MWZ	Matawai	2.33 26	PN	Pn	20 49 26.8	-1.2
KHZ	Kahutara	2.82 224	PN	Pn	20 49 33.3	-1.5
KHZ	Kahutara	2.82 224	eP	Pn	20 49 33.3	-1.5
QRZ	Quartz Range	2.83 261	PN	Pn	20 49 33.9	-0.9
QRZ	Quartz Range	2.83 261	P	Pn	20 49 33.9	-0.9
THZ	Tophouse	2.83 241	PN	Pn	20 49 33.8	-1.0
THZ	Tophouse	2.83 241	eP	Pn	20 49 33.8	-1.1
PUZ	Puketiti	2.84 35	eP	Pn	20 49 33.7	-1.3
DSZ	Denniston Nort	3.58 247	eP	Pn	20 49 43.9	-1.2
RPZ	Rata Peaks	5.05 228	Pn	Pn	20 50 03.2	-2.1
	1.0nm,0.3s,baz=126,slow=13,SNR=7.0					
RPZ			Sn	Sn	20 50 57.3	-4.9
	11nm,0.3s,baz=29,slow=20,SNR=70					
STKA	Stephens Creek	29.08 276	P	P	20 54 45.9	-1.3
	0.8nm,0.6s,mb3.6,baz=106,slow=15,SNR=2.9					
ASAR	Alice Springs	39.15 282	P	P	20 56 14.8	+0.5
	1.3nm,0.4s,mb4.0,baz=129,slow=7.7,SNR=35					
ASAR			PcP	PcP	20 58 23.1	+0.2
	0.6nm,0.7s,baz=124,slow=3.7,SNR=4.4					
ASPA	Alice Springs	39.15 282	eP	P	20 56 14.7	+0.4
WB2	Warramunga Arr	41.07 287	eP	P	20 56 30.7	+0.5
WRA	Warramunga Arr	41.08 287	P	P	20 56 30.7	+0.5
	2.9nm,0.3s,mb4.3,baz=125,slow=8.3,SNR=70					
MDJ	Mudanjiang	94.46 329	P	P	21 02 08.8	+2.7
MDJ			AP	pP	21 02 23.5	+1.3
MDJ			XP	sP	21 02 28.9	+0.5
MDJ			PP	PP	21 05 57.4	+3.3
MDJ			AMB	AMB		
	comp=Z,8.0nm,1.4s,mb5.0					
MDJ			AMB	AMB		
	comp=Z,99nm,4.4s					
CD2	Chengdu	97.61 304	eP	P	21 02 24.7	+4.3
CD2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.5					
CD2			AMB	AMB		
	comp=Z,50nm,4.9s					
WMQ	Urumqi	115.56 307	ePKP	PKPdf	21 07 31.0	+3.2
MKAR	Makanchi Array	120.34 307	PKP	PKPdf	21 07 36.5	-0.5
	comp=Z,0.3nm,0.6s,baz=223,slow=2.3,SNR=8.0					
ARCES	ARCESS Array B	147.02 342	PKPbc	PKPbc	21 08 28.1	-0.5
	comp=Z,2.9nm,0.7s,baz=67,slow=2.2,SNR=15					
BRTR	Keskin Array B	151.49 281	PKPbc	PKPbc	21 08 40.5	+0.7
	comp=Z,0.5nm,0.8s,baz=156,slow=5.1,SNR=4.0					
BRTR			PKPab	PKPab	21 08 48.9	+0.6
	comp=Z,0.6nm,0.8s,baz=153,slow=5.5,SNR=4.0					
TORD	Torodi Ar. Bea	152.40 192	PKPbc	PKPbc	21 08 43.7	+1.9
	comp=Z,0.5nm,1.1s,baz=192,slow=3.9,SNR=4.3					

IDC ***02*** *21:05:18.4±3.1, 3506S×17901E, h0km, mb4.1/2, mb1 4.3/3, mb1mx4.1/13, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=64.7km s-min=34.2km az=98.0*

ISCJB ***02*** *21:05:22.3±1.8, 3525S±008×1788E±02, h33km, mb3.9/2, Error ellipse: s-maj=29.2km s-min=11.1km az=2.9*

ISC 02 21:05:22.2±1.9, 3522S±008×1791E±03, h35km, n11, σ1§20/13, mb3.9/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.94	194	PN	Pn	21 06 05.5	-0.8
PUZ				SN	Sn	21 06 42.7	+2.4
MWZ	Matawai	3.37	202	PN	Pn	21 06 12.1	-0.2
MWZ				SN	Sn	21 06 56.5	+5.5
URZ	Urewera	3.44	208	Pn	Pn	21 06 14.3	+0.9
	13nm,0.3s,baz=49,slow=2.6,SNR=58						
URZ				Sn	Sn	21 06 58.7	+5.8
	8.5nm,0.3s,baz=156,slow=22,SNR=9.1						
URZ	Urewera	3.44	208	PN	Pn	21 06 14.3	+0.9
KNZ	Kokohu	3.97	197	PN	Pn	21 06 18.7	-1.9
KIW	Kapiti Island	6.55	209	SN	Sn	21 08 09.8	+0.4
TCW	Tory Channel	7.10	211	SN	Sn	21 08 21.5	-1.5
RPZ	Rata Peaks	10.53	214	Sn	Sn	21 09 42.9	-4.5
	0.6nm,0.3s,baz=100,slow=18,SNR=3.8						
ASAR	Alice Springs	40.73	274	P	P	21 13 00.2	+0.7
	2.0nm,0.9s,mb3.8,baz=111,slow=7.3,SNR=18						
WRA	Warramunga Arr	42.17	279	P	P	21 13 11.5	+0.1
	2.4nm,0.6s,mb4.0,baz=120,slow=7.5,SNR=23						
FINES	FINESS Array B	148.68	335	PKPbc	PKPbc	21 25 06.0	+0.3
	1.0nm,0.9s,baz=14,slow=5.7,SNR=3.0						

KRSC 02 21:32:58.5±1.2, 5384N×16908E, h20km±10km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.27	308	eP	Pn	21 33 33.8	-1.0
BKI				i S	Sn	21 33 59.6	-2.6
BKI				Smax			
	1μm,1.0s						
KBTR	Krutoberegovo	4.31	306	eP	Pn	21 34 03.6	+0.7
KBTR				eS	Sn	21 34 52.4	-0.2
SMKR	Semkarok	5.15	305	eP	Pn	21 34 16.5	+2.0
ZLN	Zelenaya	5.25	298	eP	Pn	21 34 19.1	+3.3
ZLN				eS	Sn	21 35 17.6	+1.9
BDR	Baidarnaya	5.27	304	eP	Pn	21 34 18.8	+2.7
CIRR	Tsirk	5.31	299	eP	Pn	21 34 18.5	+1.8
SRKR	Sorokina	5.33	305	eP	Pn	21 34 18.5	+1.6
SRKR				eS	Sn	21 35 16.8	-1.0
TUMR	Tumrok	5.40	289	eP	Pn	21 34 20.2	+2.4
TUMR				eS	Sn	21 35 19.7	+0.4
KLY	Klyuchi	5.44	300	eP	Pn	21 34 19.7	+1.3
KLY				eS	Sn	21 35 18.1	-2.3
SPN	Mys Shipunski	5.46	266	i P	Pn	21 34 20.5	+1.8
SPN				eS	Sn	21 35 19.3	-1.6
KMNR	Kamenistaya	5.46	294	eP	Pn	21 34 20.1	+1.4
KMNR				eS	Sn	21 35 21.6	+0.6
KPT	Kopyto	5.54	296	eP	Pn	21 34 21.8	+2.0
KPT				eS	Sn	21 35 23.2	+0.4
KII	Karymskiy	5.69	276	eP	Pn	21 34 23.0	+1.1
KOZ	Kozyrevsk	5.75	296	eS	Sn	21 35 28.7	+0.6
NLC	Nalytchevo	5.85	267	i P	Pn	21 34 25.7	+1.7
NLC				eS	Sn	21 35 27.9	-2.6
SRDR	Sredinnyy	5.92	299	eP	Pn	21 34 26.9	+1.9
SRDR				eS	Sn	21 35 32.0	-0.3
UGLR	Uglovaya	6.15	268	eP	Pn	21 34 30.2	+2.0
UGLR				eS	Sn	21 35 37.1	-0.8
SMAR	Somma	6.16	269	eP	Pn	21 34 30.3	+2.1
SMAR				eS	Sn	21 35 37.7	-0.3
AVH	Avacha	6.19	269	eP	Pn	21 34 31.0	+2.2
AVH				eS	Sn	21 35 39.4	+0.5
KOK	Koryaka	6.25	269	i P	Pn	21 34 31.6	+2.1
KOK				eS	Sn	21 35 39.2	-1.1
PET	Petropavlovsk	6.29	267	P	Pn	21 34 33.1	+3.0
PET				eS	Sn	21 35 41.7	+0.4
ESO	Esso	6.34	293	eP	Pn	21 34 32.7	+1.9
RUS	Russkaya	6.51	262	eP	Pn	21 34 36.7	+3.5
RUS				eS	Sn	21 35 46.5	-0.4
GNL	Ganaly	6.61	273	i P	Pn	21 34 36.9	+2.5
GNL				eS	Sn	21 35 48.6	-0.6
KRMR	Karymshinskiy	6.64	266	eP	Pn	21 34 37.3	+2.4
KRMR				eS	Sn	21 35 49.6	-0.3
GRL	Gorelyy	6.74	263	P	Pn	21 34 39.0	+2.7
APC	Apacha	7.19	267	P	Pn	21 34 45.7	+3.2

MAN 02 21:41:31.7, 949N×12549E, h2km, mb2.7, ML4.1, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.29	0	eP	Pg	21 41 38.0	+0.7
SCPH				eS	Sg	21 41 49.3	+8.2
BUTP	Butuan	0.53	166	eP	Pg	21 41 41.5	-0.4
BUTP				eS	Sg	21 41 56.3	+7.5
MSLP	Maasin	0.89	316	eP	Pg	21 41 48.6	-0.2
CGP	Cagayan de Oro	1.29	217⇑	eP	Pg	21 41 56.2	-0.3
CGP				i S	Sg	21 42 21.7	+8.5
BUKP	Musuan	1.65	195	eP	Pn	21 41 59.2	-2.5
PAGZ	Pagadian	2.64	232	eP	Pn	21 42 18.8	+3.4

NEIC ***02*** *21:42:58.9, 4056N×2124E, h20km, MD3.4(ATH), After ATH.*

ATH ***02*** *21:42:58.9, 4056N×2124E, h20km±2km, MD3.4/6*

ISCJB ***02*** *21:42:59.5±0.3, 4047N±002×2124E±003, h10km, Error ellipse: s-maj=2.8km s-min=2.4km az=20.5*

SKO ***02*** *21:43:00.3, 4049N×2120E, h0km, M1.9, ML2.4*

CSEM ***02*** *21:43:00.3±0.1, 4046N×2127E, h5km, ML3.1, Error ellipse: s-maj=2.5km s-min=1.5km az=133.0*

THE ***02*** *21:43:00.4, 4048N×2125E, h8km, ML3.1*

ISC 02 21:43:00.0±0.3, 4047N±002×2124E±003, h10km, n34, σ1§34/54, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.33	18	ePg	Pg	21 43 06.5	-0.1
FNA				eSg	Sg	21 43 11.7	+0.6
KBN	Korca	0.38	294	i Pg	Pg	21 43 06.8	-0.7
KBN				i Sg	Sg	21 43 13.0	+0.4
KZN	Kozani	0.43	112⇑	iPB	Pg	21 43 08.7	+0.2
KZN				eSB	Sg	21 43 16.1	+1.8
BIA	Bitola	0.56	6	i Pg	Pg	21 43 09.3	-1.5
BIA				i Sg	Sg	21 43 18.1	0.0
BIA				eLg		21 43 18.9	
	comp=E,409nm,0.6s						
BIA				eLg		21 43 19.1	
	comp=N,436nm,0.5s						
LSK	Leskovik	0.58	237	i Pg	Pg	21 43 09.6	-1.8
LSK				i Sg	Sg	21 43 18.7	-0.4
MEV	Metsovon	0.68	181	ePg	Pg	21 43 12.1	-1.1
MEV				eSg	Sg	21 43 24.4	+2.3
OHR	Ohrid	0.73	332	i Pg	Pg	21 43 12.2	-1.9
OHR				i Sg	Sg	21 43 24.0	+0.4
JAN	Janina	0.86	201	ePB	Pb	21 43 16.3	-0.8
GRG	Griva	1.01	61	ePg	Pg	21 43 18.7	-0.7
GRG				eSg	Sg	21 43 34.2	+1.7
LIT	Litokhoron	1.02	111	ePg	Pg	21 43 19.0	-0.7
LIT				eSg	Sg	21 43 35.0	+2.0
SRN	Sarande	1.12	239	i Pn	Pn	21 43 23.6	+1.9
SRN				i Sn	Sn	21 43 41.4	+4.2
IGT	Igoumenitsa	1.17	217	ePg	Pg	21 43 21.9	-0.6
IGT				eSg	Sg	21 43 39.4	+1.8
SAMO	Samokov	1.23	356	i Pg	Pg	21 43 21.4	-2.2
SAMO				i Sg	Sg	21 43 39.2	-0.3
VAY	Valandovo	1.32	49	ePn	Pn	21 43 24.0	-0.5
VAY				eSn	Sn	21 43 43.1	+1.0
VAY				eLg		21 43 44.0	
	comp=N,41nm,0.8s						
VAY				eLg		21 43 44.6	
	comp=E,53nm,0.8s						
THE	Thessaloniki	1.32	82	ePg	Pg	21 43 24.5	-0.9
KEK	Kerkira	1.34	236	ePN	Pn	21 43 26.1	+1.3
STIP	Stip	1.42	30	ePn	Pn	21 43 27.3	+1.5
STIP				eSn	Sn	21 43 47.1	+2.5
STIP				eLg		21 43 48.4	
	comp=N,14nm,0.5s						
STIP				eLg		21 43 48.8	
	comp=E,16nm,0.5s						
QSH	Qafa e Shtames	1.46	317	i Pn	Pn	21 43 30.2	+3.7
QSH				i Sn	Sn	21 43 52.2	+6.6
SKO	Skopje	1.51	6	ePn	Pn	21 43 28.6	+1.5
SKO				eSn	Sn	21 43 47.8	+1.0
SKO				eLg		21 43 49.3	
	comp=E,76nm,0.7s						
SKO				eLg		21 43 49.9	
	comp=N,70nm,0.6s						
EVR	Evrytania	1.61	164	ePN	Pn	21 43 29.0	+0.5
EVR				eSN	Sn	21 43 52.6	+3.3
SOH	Sokhos	1.65	77	ePb	Pb	21 43 28.7	-1.7
SOH				eSb	Sb	21 43 50.3	-0.9
AGG	Agios Georgios	1.67	150	ePb	Pb	21 43 29.5	-1.4
AGG				eSb	Sb	21 43 51.7	-0.3
PLG	Polygyros	1.68	92	ePN	Pn	21 43 29.5	0.0
LKD	Levkas	1.82	195	ePb	Pb	21 43 32.3	-1.1
XOR	Xorichti	1.86	126	ePb	Pb	21 43 31.2	-2.9
	comp=N,2.1nm,0.4s						
PUK	Puka	1.87	328	i Pn	Pn	21 43 33.2	+1.1
PUK				i Sn	Sn	21 44 01.2	+5.4
SRS	Serrai	1.90	69	ePb	Pb	21 43 31.6	-3.2
NEO	Neokhori	1.92	127	ePB	Pb	21 43 32.5	-2.5
PAIG	Paliouri	1.94	105	ePb	Pb	21 43 32.7	-2.8
OUR	Ouranopolis	2.10	93	ePn	Pn	21 43 34.9	-0.3
AOS	Alonnisos	2.41	122	ePn	Pn	21 43 40.2	+0.7
RLS	Riolos of Patr	2.41	176	ePN	Pn	21 43 40.6	+1.1
ALN	Alexandroupoli	3.68	82	ePn	Pn	21 43 57.5	+0.6
ALN	Alexandroupoli	3.68	82	ePn	Pn	21 43 57.5	+0.6

NAO ***02*** *21:48:47.2, 3327N×7521E, h33km, mb4.9*

LDG ***02*** *21:48:57.4±0.1, 3450N×7314E, h10km, Mb4.8/32, Ms4.0/9, Error ellipse: s-maj=8.2km s-min=3.5km az=26.0*

ISCJB ***02*** *21:48:59.7±0.1, 3470N±002×7319E±002, h13km, mb4.9/159, MS4.2/42, Error ellipse: s-maj=2.7km s-min=1.8km az=104.0*

IDC ***02*** *21:48:59.5±0.5, 3473N×7316E, h0km, mb4.9/20, mb1 5.1/23, mb1mx5.1/23, mbtmp4.9/23, ML4.9/3, MS4.1/17, Ms1 4.1/17, ms1mx3.8/31, Error ellipse: s-maj=13.9km s-min=13.7km az=17.0*

NDI ***02*** *21:48:59.4±5.9, 3488N×7291E, h10km, mb5.1, ML4.8, mb4.9(NEIC)*

CRAAG ***02*** *21:48:59.6, 3481N×7316E, Mb5.0*

NEIC ***02*** *21:49:00.8±0.1, 3468N×7318E, h10km, mb4.9/104, Error ellipse: s-maj=4.5km s-min=2.8km az=206.0*

NEIC Felt in the Umerkot area.

BJI ***02*** *21:49:00.2, 3474N×7337E, h6km, mB5.1, mb4.9, ML5.3, Ms4.7, Msz4.3*

HRVD ***02*** *21:49:00.9±0.4, 3483N×7318E, h19km±1km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s21,c27;Mantle waves: s49,c75; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.63±.25; Mθθ-0.94±.17; Mφφ-1.69±.17; Mrθ-1.08±.43; Mφθ1.83±.12; Mφr-0.09±.36; Best double couple: M0 3.13100×1016 NP1:φs160.00000°, δ42.00000°, λ120.00000°. NP2: φs302.00000°, δ54.00000°, λ66.00000°. Principal axes: T 3.0150, Plg69.0000°, Azm156.0000°; N 0.2370, Plg20.0000°, Azm317.0000°; P -3.2470, Plg6.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *21:49:01.8±0.9, 3476N×7309E, h24km, mb5.0/73, MS4.1/20 Error ellipse: s-maj=6.2km s-min=3.4km az=117.1*

SZGRF ***02*** *21:49:04.4, 3482N×7323E, h33km, mb4.7, Pakistan*

NNC ***02*** *21:49:09.4±5.2, 3495N×7326E, h81km±45km, mb4.5, mpv5.2, Error ellipse: s-maj=39.2km s-min=38.0km az=144.0*

ISC 02 21:49:01.8±0.1, 3474N±001×7319E±002, h13km, h13km±1.1km: pP-P, n518, σ1§10/558, mb4.9/159, MS4.2/42, 41C-29D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.08	176	⇓P	Pb	21 49 22.6	+0.3
CEP	Cherat	1.40	229	⇓P	Pn	21 49 25.9	-1.1
CEP				S	Sn	21 49 46.0	+0.8
THW	Thamme Wali	2.28	212	⇑P	Pn	21 49 41.3	+2.2
SARP	Sargodha	2.84	189	⇓P	Pn	21 49 48.5	+1.6
THN	Thein Dam	3.12	137	eP	Pn	21 49 53.1	+2.4
THN				eSB	Sb	21 50 39.5	+4.3
SBDP	Sheikh Budin	3.14	220	P	Pn	21 49 53.3	+2.4
DLH	Dalhousie	3.19	133	eP	Pn	21 49 53.0	+1.3
DLH				eSB	Sb	21 50 40.0	+2.9
PONG	Pong	3.62	139	eP	Pn	21 50 01.0	+3.5
PONG				eS	Sn	21 50 46.0	+6.0
DRP	Derazinda	3.90	221	⇓P	Pn	21 50 03.5	+2.2
BHK	Bhakra	4.28	140	ex	Pn	21 50 15.6	+9.0
BHK				ex	Sg	21 51 19.2	-0.1
SDNR	Sundarnagar	4.53	134	eP	Pn	21 50 12.0	+2.0
SDNR				eSB	Sb	21 51 22.0	+6.4
KLP	Kalpa	5.32	126	eP	Pn	21 50 22.9	+2.1
KLP				eS	Sn	21 51 25.4	+3.5
KLP				AML	AML	21 51 56.9	
	comp=N,3μm,0.8s						
KLP				AML	AML	21 51 57.7	
	comp=E,5μm,0.8s						
DDI	Dehra Dun	6.03	136	eP	Pn	21 50 30.8	+0.2
DDI				ex	Sn	21 51 45.3	+5.9
BHGR	Bahadurgarh	6.83	151	eP	Pn	21 50 42.0	+0.4
NDI	New Delhi	6.95	149	eP	Pn	21 50 46.0	+2.8
NDI				eS	Sn	21 52 03.5	+1.4
KHET	Khetri	7.01	161	eP	Pn	21 50 44.5	+0.3
KHET				eS	Sn	21 52 01.1	-2.7
KALG	Kalgarh	7.04	136	ex	Pn	21 50 39.9	-4.6
KALG				eS	Sn	21 52 03.6	-0.7
AYAN	Aya Nagar	7.09	151	eP	Pn	21 50 45.4	+0.3
AYAN				eS	Sn	21 52 03.6	-1.9
AYAN				AML	AML	21 52 10.0	
	comp=Z,266nm,0.6s						
KUDL	Kundal	7.16	156	eP	Pn	21 50 46.5	+0.4
KUDL				eS	Sn	21 52 06.7	-0.5
SONA	Sohna	7.28	152	eP	Pn	21 50 48.2	+0.4
SONA				eS	Sn	21 52 08.7	-1.5
AML	Almayashu	7.39	3	P	Pn	21 50 52.4	+3.0
	SNR=84						
KZA	Kyzart	7.50	12	P	Pn	21 50 54.8	+3.9
	SNR=14						
UCH	Uchtor	7.55	8	P	Pn	21 50 55.1	+3.6
	SNR=56						
ULHL	Ulahol	7.87	17	P	Pn	21 51 00.4	+4.5
	SNR=12						
PTH	Pithoragarh	7.89	129	eP	Pn	21 50 58.5	+2.3
PTH				eS	Sn	21 52 25.6	+0.2
EKS2	Erkin-Say	7.92	3	P	Pn	21 50 59.8	+3.2
	SNR=79						
AAK	Ala-Archa	7.95	7	P	Pn	21 51 00.9	+3.9
	SNR=40						
AAK	Ala-Archa	7.95	7	c iP	Pn	21 50 59.0	+2.0
AAK	Ala-Archa	7.95	7	eP	Pn	21 50 59.1	+2.1
	comp=Z,111nm,0.8s						
LGT

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AAA                                  MLR     MLR
     comp=Z,3µm,6.3s
KOLN Koldanda      11.29 125 ePn     Pn      21 51 41.3 -1.5
KOLN                         eSn     Sn      21 53 43.3 -5.6
     comp=Z,460nm,0.7s
BHJ  Bhuj          11.85 196 eP      Pn      21 51 48.2 -2.2
BHJ                           AMP            21 51 53.4
BHJ                          eS      Sn      21 53 53.7 -8.9
BHJ                          ⇓ex     x       21 55 01.3
BHJ                          ex      x       21 55 27.1
GKN  Gorkha        11.86 121 ePn     Pn      21 51 48.7 -1.9
GKN                          eSn     Sn      21 53 55.3 -7.5
     comp=Z,430nm,0.5s
ALBI Allahabad     12.00 139 ex      Pn      21 51 48.0 -4.5
BHPL Bhopal        12.04 161 eP      Pn      21 51 51.8 -1.3
BHPL                         ex      x       21 53 44.8
DMN  Daman         12.43 122 ePn     Pn      21 51 56.2 -2.2
DMN                          eSn     Sn      21 54 09.3 -7.4
     comp=Z,799nm,0.8s
KKN  Kakani        12.45 121 ePn     Pn      21 51 56.2 -2.4
KKN                          eSn     Sn      21 54 10.0 -7.1
     comp=Z,853nm,1.0s
PKI  Pulchoki      12.67 121 ePn     Pn      21 51 59.2 -2.4
PKI                          eSn     Sn      21 54 14.9 -7.6
     comp=Z,531nm,0.8s
GUN  Gumba         12.80 119 ePn     Pn      21 52 01.6 -1.9
GUN                          eSn     Sn      21 54 18.8 -7.0
     comp=Z,452nm,0.9s
BHV  Bhavnagar     12.97 184 eP      Pn      21 52 04.5 -1.3
JIRN Jiri          13.17 119 ePn     Pn      21 52 06.3 -2.2
JIRN                         eSn     Sn      21 54 28.0 -6.9
     comp=Z,537nm,0.8s
MK01 Makanchi Array 13.85  27 ⇑P      Pn      21 52 18.5 +0.8
     comp=Z,30nm,0.9s
MK01 Makanchi Array 13.85  27 ⇑P      Pn      21 52 18.5 +0.8
     comp=Z,30nm,0.9s
MKAR Makanchi Array 13.86  27 Pn      Pn      21 52 18.7 +0.7
     comp=Z,0.6nm,0.3s,baz=196,slow=12,SNR=39
MKAR                         Sn      Sn      21 54 50.1 -1.6
     baz=202,slow=7.8,SNR=1.7
MKAR                         Lg              21 56 19.1
     baz=201,slow=25,SNR=2.3
MKAR                         LR      LR      21 58 04.4
     comp=Z,2µm,18.3s,baz=187,slow=39
MKAR Makanchi Array 13.86  27 P       Pn      21 52 18.7 +0.7
MKAR                                         21 54 50.2
MKAR Makanchi Array 13.86  27 Pn      Pn      21 52 18.7 +0.7
MKAR                         Sn      Sn      21 54 50.1 -1.6
MKAR                         Lg              21 56 19.1
MKAR                         LR      LR      21 58 04.4
WMQ  Urumqi        14.42  47 P       Pn      21 52 25.0 -0.6
WMQ                          XP      sP      21 52 32.0 -5.9
WMQ                          PP              21 52 37.0
WMQ                          S       Sn      21 55 06.0 +0.7
WMQ                          SS              21 55 23.0
WMQ                          AMB     AMB
     comp=Z,58nm,1.0s
WMQ                          LR      LR
     comp=N,1µm,6.0s
WMQ                          LR      LR
     comp=E,1µm,6.0s
WMQ                          LR      LR
     comp=Z,1µm,6.0s
NGP  Nagpur        14.49 158 eP      Pn      21 52 22.9 -3.6
NGP                          ex      Sn      21 54 59.2 -7.8
BOK  Bokaro        15.53 131 ex      Pn      21 52 36.5 -3.9
BOK                          ex      Sn      21 55 15.5 -17
BOM  Bombay        15.79 181 i P     Pn      21 52 43.9 +0.2
BOM                          ex      x       21 52 51.7
     comp=Z,135nm,1.4s
BOM                          eS      Sn      21 55 38.0 -0.5
LSA  Lhasa         16.01 103 P       Pn      21 52 44.0 -2.6
LSA                          S       Sn      21 55 37.0 -6.9
LSA                          PCP     PcP     21 57 44.8 +1.5
LSA                          LR      LR
     comp=N,590nm,11.2s
LSA                          LR      LR
     comp=E,470nm,9.5s
LSA  Lhasa         16.01 103 eP      Pn      21 52 43.5 -3.1
LSA                          pmax    pmax
     comp=Z,50nm,0.8s
LSA  Lhasa         16.01 103 eP      Pn      21 52 43.5 -3.1
     comp=Z,50nm,0.8s
POO  Poona         16.16 178 eP      Pn      21 52 46.0 -2.5
     comp=Z,50nm,1.0s
POO                          ⇑ePP            21 52 58.0
POO                          ePPP            21 53 05.5
POO                          ex      x       21 53 08.0
POO                           AMb    AMB     21 53 13.2
     comp=Z,55nm,1.1s
POO                          ex      x       21 55 30.0
POO                          i x     x       21 55 35.0
POO                          ex      x       21 55 35.5
POO                          ex      x       21 55 52.0
POO                          i SSS           21 56 05.0
POO                          i x     x       21 56 12.5
POO                          i PCP   PcP     21 57 54.5 +11
KURK Kurchatov     16.45  12 ⇓P      Pn      21 52 50.1 -2.1
     comp=Z,27nm,1.2s
KURK Kurchatov     16.45  12⇑eP      Pn      21 52 50.5 -1.8
KURK Kurchatov     16.45  12 ⇓P      Pn      21 52 50.1 -2.1
LATR Latur         16.53 169 eP      Pn      21 52 53.2 -0.1
KAD  Karad         17.38 177 eP      Pn      21 53 05.2 +1.2
KAD                           AMb    AMB     21 53 12.3
     comp=Z,109nm,1.3s
KAD                          ex      x       21 56 11.7
AB31 Akbulak array 17.49 330 ⇑P      Pn      21 53 02.7 -2.6
     comp=Z,28nm,0.6s
AB31 Akbulak array 17.49 330 eP      Pn      21 53 03.3 -2.0
AB31                         S       Sn      21 56 08.0 -12
AB31                         pmax    pmax
     comp=Z,16nm,0.5s
AB31                         smax
     comp=Z,2.0nm,0.4s
HYB  Hyderabad     17.91 163 i P     Pn      21 53 06.5 -4.0
     comp=Z,140nm,1.0s
HYB                          eS      Sn      21 56 34.0 +4.0
HYB                          LR      LR      22 00 09.0
     comp=Z,4.2nm,12.0s
HYB  Hyderabad     17.91 163 eP      Pn      21 53 06.5 -4.0
HYB                          pmax    pmax
     comp=Z,140nm,1.0s
HYB  Hyderabad     17.91 163 eP      Pn      21 53 06.5 -4.0
     comp=Z,140nm,1.0s
HYB                          eS      Sn      21 56 15.5 -14
VOSK Vostochnaya   18.05 356 ⇑P      Pn      21 53 10.8 -1.4
     comp=Z,16nm,0.6s
VOSK Vostochnaya   18.05 356 ⇑P      Pn      21 53 10.8 -1.4
VOSK                         pmax    pmax
     comp=Z,17nm,0.6s
VOSK Vostochnaya   18.05 356 ⇑P      Pn      21 53 10.8 -1.4
     comp=Z,16nm,0.6s
BVA0 Borovoye Array 18.39 355 ⇓P     Pn      21 53 16.6 +0.2
     comp=Z,7.4nm,0.7s,baz=163,slow=12,SNR=453
BVA0 Borovoye Array 18.39 355 eP     Pn      21 53 16.3 -0.1
BVA0                         i S     Sn      21 56 41.7 +0.1
BVA0                         pmax    pmax
     comp=Z,10.0nm,1.0s
BVA0                         smax
     comp=Z,41nm,2.0s
BVAR Borovoye Array 18.39 355 Pn     Pn      21 53 14.8 -1.6
     comp=Z,9.8nm,0.3s,baz=156,slow=8.2,SNR=199
BVAR                         Sn      Sn      21 56 39.0 -2.6
     baz=172,slow=20,SNR=3.1
BVAR                         Lg              21 58 51.2
     baz=175,slow=32,SNR=2.0
BVAR Borovoye Array 18.39 355 P      Pn      21 53 14.8 -1.6
BVAR                                         21 56 39.0
BRVK Borovoye      18.43 354 eP      Pn      21 53 16.7 -0.2
BRVK                         pmax    pmax
     comp=Z,55nm,0.8s
BRVK Borovoye      18.43 354 eP      Pn      21 53 16.7 -0.2
     comp=Z,55nm,0.8s
ZRNK Zerenda       18.45 352 ⇑P      Pn      21 53 17.2 +0.1
     comp=Z,34nm,0.7s
ZRNK Zerenda       18.45 352 eP      Pn      21 53 16.2 -0.9
ZRNK                         pmax    pmax
     comp=Z,40nm,0.6s
ZRNK Zerenda       18.45 352 eP      Pn      21 53 16.2 -0.9
     comp=Z,40nm,0.6s
SHL  Shillong      18.55 114 eP      Pn      21 53 16.0 -2.4
AGT  Agartala      19.08 120 i P     Pn      21 53 26.0 +1.2
AGT                          i x     x       21 55 25.0
AKTK Aktyubinsk    19.19 329 ⇑P      Pn      21 53 25.8 -0.4
     comp=Z,24nm,1.2s
AKTO Aktyubinsk    19.19 329 P       Pn      21 53 25.8 -0.4
     comp=Z,11nm,0.3s,baz=132,slow=12,SNR=207
AKTO                         S       Sn      21 56 52.0 -9.1
     comp=Z,0.5nm,0.3s,baz=52,slow=19,SNR=2.9
AKTO                         LR      LR      22 00 25.5
     comp=Z,113nm,20.9s,baz=0.0,slow=36
AKTO Aktyubinsk    19.19 329 P       Pn      21 53 25.0 -1.2
AKTO                         S       Sn      21 56 46.9 -14
AKTO                         pmax    pmax
     comp=Z,8.0nm,0.7s
AKTO                         smax
     comp=Z,24nm,1.7s
VIS  Vishakhapatnam 19.21 149 eP     Pn      21 53 25.4 -1.0
VIS                           AMb    AMB     21 53 41.6
     comp=Z,70nm,1.2s
VIS                          ex      x       21 56 45.3
VIS                          i x     x       21 56 52.1
ZAL  Zalesovo      20.86  20 P       P       21 53 42.5 -0.8
     comp=Z,32nm,0.5s,baz=255,slow=7.4,SNR=129
ZAL                          S       S       21 57 29.4 -6.3
     comp=Z,2.1nm,0.6s,baz=180,slow=20,SNR=4.2
NVS  Novosibirsk   21.28  16 eP      P       21 53 47.3 -0.7
NVS                          eS      S       21 57 38.7 -5.4
NVS                          pmax    pmax
     comp=Z,122nm,1.5s,mb5.0
NVS                          pmax    pmax
     comp=N,103nm,1.4s
NVS                          smax
     comp=N,298nm,1.9s
MAK  Makhachkala   21.56 300 eP      P       21 53 58.0 +7.1
MAK                          e               21 57 55.0
MAK                          MLR     MLR
     comp=Z,1µm,10.0s,MS4.5
GTA  Gaotai        21.72  70 ⇑P      P       21 53 53.7 +1.1
GTA                           AP             21 53 58.6
GTA                           XP     sP      21 54 01.8 +3.7
GTA                           PP             21 54 15.5
GTA                           S      S       21 57 44.6 -8.0
GTA                           XS     sS      21 57 51.8 -6.9
GTA                           SS             21 58 18.8
GTA                           SCP    ScP     22 01 32.9 +2.9
GTA                           SCS    ScS     22 05 17.1 +2.7
GTA                           AMB    AMB
     comp=Z,47nm,1.0s,mb4.9
GTA                           AMB    AMB
     comp=Z,379nm,3.8s
GTA                           LR     LR
     comp=N,760nm,15.6s,MS4.3
GTA                           LR     LR
     comp=E,518nm,16.7s,MS4.3
GTA                           LR     LR
     comp=Z,806nm,20.2s,MS4.1
MNGI Mangalore     21.75 176 eP      P       21 53 54.5 +1.5
MNGI                         ex      S       21 58 11.3 +18
QRN  Al-Qurain     22.27 261 eP      P       21 53 58.7 +0.1
KBD  Kabd          22.30 263 eP      P       21 53 59.7 +0.9
KBD                           AMb    AMB     21 54 03.3
     comp=Z,725nm,1.0s
MIB  Mutribah      22.38 264 eP      P       21 54 00.6 +0.9
MIB                           AMb    AMB     21 54 04.0
     comp=Z,578nm,1.0s
RDF  Al-Radifah    22.51 262 eP      P       21 54 01.5 +0.5
RDF                           AMb    AMB     21 54 06.3
     comp=Z,471nm,1.0s,mb5.9
NAY  Al-Naaiem     22.64 263 eP      P       21 54 02.9 +0.4
NAY                           AMb    AMB     21 54 06.7
     comp=Z,261nm,1.0s,mb5.6
DGRG David-gareji  22.83 295 P       P       21 54 06.2 +1.8
GNI  Garni         23.16 292 eP      P       21 54 10.5 +2.5
GNI  Garni         23.16 292 P       P       21 54 10.3 +2.3
     comp=Z,49nm,0.8s,mb5.0,baz=53,slow=1.4,SNR=20
GNI                          LR      LR      22 05 15.9
     comp=Z,241nm,19.1s,MS3.7,baz=98,slow=42
MTA  Mtatsminda    23.30 296 P       P       21 54 10.8 +1.5
TBLG Delisi        23.34 296 P       P       21 54 09.3 -0.5
DUS  Dusheti       23.42 297 P       P       21 54 16.7 +6.0
CLDR Caldiran      23.75 289 eP      P       21 54 15.8 +1.9
ARU  Arti          23.89 340⇑i P     P       21 54 15.4 +0.3
ARU                          ePPP            21 54 51.0
ARU                          eS      S       21 58 31.4 +0.6
ARU                          eSS             21 59 12.9
ARU                          pmax    pmax
     comp=Z,36nm,0.9s,mb4.8
ARU                          MLR     MLR
     comp=N,200nm,14.0s,MS3.8
ARU                          MLR     MLR
     comp=Z,400nm,14.0s,MS4.0
ARU                          MLR     MLR
     comp=E,100nm,15.0s,MS3.8
ARU  Arti          23.89 340 eP      P       21 54 14.3 -0.8
     comp=E,30nm,0.6s,mb4.9
BHD  Baghdad       23.89 275 ex      x       21 54 14.5
BHD                          ex      x       21 54 48.0
BHD                          ex      x       21 58 42.0
ZEI  Tsey          24.12 298 eP      P       21 54 18.6 +1.4
ZEI                          i *PP           21 54 25.7
ZEI                          i               21 54 46.6
ZEI                          pmax    pmax
     comp=Z,28nm,0.9s,mb4.7
VANB Van           24.16 288 eP      P       21 54 26.8 +9.3
MSL  Mosul         24.50 282 ex      x       21 54 24.0
MSL                          ex      x       21 59 04.0
LZH  Lanzhou       24.98  78 ⇑P      P       21 54 26.7 +1.7
LZH                           AP             21 54 29.5
LZH                           XP     sP      21 54 31.4 +0.7
LZH                           PP             21 55 04.2
LZH                           PCP    PcP     21 58 02.5 +2.5
LZH                           eS     S       21 58 47.5 -0.9
LZH                           XS     sS      21 58 53.7 -1.4
LZH                           SCP    ScP     22 01 39.8 +1.1
LZH                           PCS    PcS     22 01 41.7 +1.4
LZH                           SCS    ScS     22 05 27.5 +0.5
LZH                           AMB    AMB
     comp=Z,97nm,1.4s,mb5.1
LZH                           AMB    AMB
     comp=Z,247nm,4.6s
LZH                           LR     LR
     comp=E,1µm,10.3s
LZH                           LR     LR
     comp=Z,2µm,13.2s,MS4.8
GOF  Gofitskoye    25.19 303 eP      P       21 54 28.2 +1.2
GOF                           pmax    pmax
     comp=Z,60nm,1.0s,mb5.1
KIV  Kislovodsk    25.20 301 eP      P       21 54 28.2 +1.2
KIV                          e               21 55 02.2
KIV                          eS      S       21 58 52.9 +1.0
KIV                          eSS             21 59 44.3
KIV                          pmax    pmax
     comp=Z,25nm,1.0s,mb4.7
KIV                          MLR     MLR
     comp=Z,249nm,15.0s,MS3.9
KIV  Kislovodsk    25.20 301 eP      P       21 54 27.5 +0.5
     comp=Z,31nm,0.8s,mb4.9
BTMT Batman        25.66 287 eP      P       21 54 32.6 +1.5
EZM  Erzurum       25.75 291 i P     P       21 54 35.4 +3.4
CD2  Chengdu       25.92  90 P       P       21 54 34.6 +1.0
CD2                           XP     sP      21 54 42.6 +3.3
CD2                           PP             21 55 13.5
CD2                           S      S       21 59 01.4 -2.0
CD2                           XS     sS      21 59 07.4 -2.7
CD2                           SS             22 00 08.0
CD2                           AMB    AMB
     comp=Z,30nm,0.9s,mb4.8
CD2                           AMB    AMB
     comp=Z,110nm,5.6s
CD2                           LR     LR
     comp=N,690nm,14.4s
CD2                           LR     LR
     comp=Z,490nm,12.6s,MS4.2
MOY  Mondy         26.17  41 eP      P       21 54 40.2 +4.3
MOY                          pmax    pmax
     comp=Z,51nm,2.2s,mb4.7
DIY  Diyarbakir    26.67 286 eP      P       21 54 38.5 -1.8
ZAK  Zakamensk     26.88  45⇑eP      P       21 54 43.3 +1.0
ZAK                          e               21 55 22.0
ZAK                          pmax    pmax
     comp=Z,23nm,1.8s,mb4.4
ZAK                          pmax    pmax
     comp=Z,28nm,1.7s,mb4.5
ZAK                          pmax    pmax
     comp=Z,15nm,1.7s,mb4.2
ZAK                          pmax    pmax
     comp=Z,10.0nm,1.9s,mb4.0
SOKR Solikamsk     27.07 342d iP     P       21 54 45.4 +1.4
SOKR                         pmax    pmax
     comp=Z,20nm,0.9s,mb4.7
SOKR                         MLR     MLR
     comp=Z,240nm,11.0s,MS4.0
SOC  Sochi         27.26 299 eP      P       21 54 51.8 +6.1
SOC                          eSSS            22 00 53.8
SOC                          pmax    pmax
     comp=Z,19nm,1.0s,mb4.6
SOC                          MLR     MLR
     comp=Z,199nm,14.0s,MS3.8
KMI  Kunming       27.26 103 P       P       21 54 45.8 +0.1
KMI                           AP     pP      21 54 49.9 +0.1
KMI                           XP     sP      21 54 52.4 +1.0
KMI                           PP             21 55 34.4
KMI                           S      S       21 59 29.4 +4.8
KMI                           XS     sS      21 59 36.1 +4.8
KMI                           AMB    AMB
     comp=Z,13nm,1.0s,mb4.4
KMI                           AMB    AMB
     comp=Z,88nm,3.1s
KMI                           LR     LR
     comp=N,857nm,20.4s,MS4.4
KMI                           LR     LR
     comp=E,389nm,15.6s,MS4.4
KMI                           LR     LR
     comp=Z,465nm,14.3s,MS4.2
CHRT Chiangrai     27.78 115 ⇑P      P       21 54 51.5 +1.2
     comp=Z,284nm,0.9s,mb5.9
SONM Songino Array 27.94  52 P       P       21 54 53.1 +1.3
     comp=Z,5.3nm,0.8s,mb4.2,baz=255,slow=8.9,SNR=35
SONM                         LR      LR      22 07 26.3
     comp=Z,2µm,19.3s,MS4.7,baz=90,slow=40
MALT Malatya       28.06 288 eP      P       21 54 54.9 +2.1
MALT                         pmax    pmax
     comp=Z,9.0nm,0.9s,mb4.4
MALT Malatya       28.06 288 eP      P       21 54 54.9 +2.1
     comp=Z,8.7nm,0.9s,mb4.4
ULN  Ulaanbaatar   28.38  52⇑eP      P       21 54 57.5 +1.8
ULN  Ulaanbaatar   28.38  52 eP      P       21 54 56.5 +0.8
     comp=Z,5.0nm,0.8s,mb4.2
ANN  Anapa         29.05 301 eP      Px      21 55 21.3
ANN                          pmax    pmax
     comp=Z,46nm,0.9s,mb5.2
ANN                          MLR     MLR
     comp=N,565nm,17.0s,MS4.4
ANN                          MLR     MLR
     comp=E,486nm,17.0s,MS4.4
ANN                          MLR     MLR
     comp=Z,401nm,17.0s,MS4.1
XAN  Xi'an         29.41  81 P       P       21 55 05.2 +0.4
XAN                           AMB    AMB
     comp=Z,13nm,1.3s,mb4.5
VRSR Storozhevoye  29.49 314 eP      P       21 55 04.8 -0.7
VRSR                         pmax    pmax
     comp=N,1.0nm,1.0s
VRSR                         pmax    pmax
     comp=E,2.0nm,1.0s
VRSR                         pmax    pmax
     comp=Z,1.0nm,1.0s
BTO  Baotou        29.59  68 eP      P       21 55 05.2 -1.2
GYA  Guiyang       29.87  97⇑i P     P       21 55 08.6 -0.3
GYA                           AP     pP      21 55 12.8 -0.2
GYA                           XP     sP      21 55 15.8 +1.1
GYA                           AMB    AMB
     comp=Z,30nm,0.8s,mb5.1
GYA                           AMB    AMB
     comp=Z,130nm,3.8s
GYA                           LR     LR
     comp=N,810nm,17.8s,MS4.6
GYA                           LR     LR
     comp=E,870nm,17.6s,MS4.6
GYA                           LR     LR
     comp=Z,790nm,18.0s,MS4.4
NST  Nakhon Sawan  30.75 121 P       P       21 55 17.5 +0.9
HHC  Hu-ho-hao-te  30.76  67 eP      P       21 55 18.7 +1.9
HHC                           AP     pP      21 55 22.7 +1.9
HHC                           XP     sP      21 55 25.1 +2.6
HHC                           PP     PP      21 56 20.3 -5.9
HHC                           PCP    PcP     21 58 18.6 +4.5
HHC                           S      S       22 00 19.2 -0.3
HHC                           XS     sS      22 00 26.4 +0.2
HHC                           PCS    PcS     22 01 53.9 -4.1
HHC                           AMB    AMB
     comp=Z,11nm,1.2s,mb4.6
HHC                           AMB    AMB
     comp=Z,84nm,4.0s
HHC                           LR     LR
     comp=N,525nm,12.0s
HHC                           LR     LR
     comp=E,127nm,9.6s
HHC                           LR     LR
     comp=Z,152nm,7.6s
ENH  Enshi         30.83  88 eP      P       21 55 17.9 +0.5
     comp=Z,46nm,0.8s,mb5.4
BR131 Keskin Array S 31.70 291 eP    P       21 55 25.7 +0.7
     comp=Z,7.1nm,0.8s,mb4.5
BRTR Keskin Array B 31.70 291 P      P       21 55 25.7 +0.7
     comp=Z,7.6nm,0.9s,mb4.5,baz=100,slow=8.1,SNR=22
BRTR Keskin Array B 31.70 291 i P    P       21 55 26.1 +1.1
BRTR                         pmax    pmax
     comp=Z,8.0nm,0.9s
MOS  Moscow        32.14 322 eP      P       21 55 28.0 -1.0
KKTK Khon Kaen     32.24 117 P       P       21 55 30.6 +0.8
     comp=Z,401nm,0.8s
OBN  Obninsk       32.43 320c iP     P       21 55 31.1 -0.4
OBN                          e               21 56 37.4
OBN                          e               21 58 17.7
OBN                          eS      S       22 00 43.6 -2.0
OBN                          eSS     SS      22 02 35.9 -29
OBN                          pmax    pmax
     comp=Z,44nm,1.2s,mb5.2
OBN                          MLR     MLR
     comp=Z,200nm,22.0s,MS3.8
OBN  Obninsk       32.43 320 eP      P       21 55 30.7 -0.7
     comp=Z,20nm,0.5s,mb5.2
OBN                          ePP     PP      21 56 45.6 +0.9
CIT  Chita         33.52  46 eP      P       21 55 43.4 +2.4
KLMR Klimovskoe    33.88 331c iP     P       21 55 43.6 -0.6
KLMR                         pmax    pmax
     comp=Z,110nm,1.2s,mb5.7
BJT  Baijiatuau    34.31  68 eP      P       21 55 49.6 +1.7
BJT                          pmax    pmax
     comp=Z,19nm,1.0s
BJT  Baijiatuau    34.31  68 eP      P       21 55 49.6 +1.7
     comp=Z,19nm,1.0s,mb5.0
WHN  Wuhan         34.74  85 ⇑P      P       21 55 52.5 +0.9
KIS  Kishinev      35.26 304 eP      P       21 55 58.0 +1.9
KIS                          e               21 56 12.0
KIS                          e               21 57 18.0
KIS                          e               21 57 30.0
AKASG Malin Array Be 35.44 310 P     P       21 55 56.2 -1.4
     comp=Z,6.7nm,0.6s,mb4.8,baz=80,slow=7.4,SNR=28
AKASG                        PP      PP      21 57 14.2 -3.9
     comp=Z,4.8nm,0.7s,baz=87,slow=10.0,SNR=5.9
AKASG                        PcP     PcP     21 58 26.0 -1.2
     comp=Z,1.3nm,0.5s,baz=87,slow=2.9,SNR=4.3
BOD  Bodaibo       35.64  37 eP      P       21 55 57.1 -2.2
CFR  Carcaliu      35.66 301 ⇑P      P       21 55 59.9 +0.4
ATD  Arta Tunnel   35.98 237 LR      LR      22 12 26.2
     comp=Z,194nm,20.8s,MS3.9,baz=328,slow=39
QIZ  Qiongzhong    36.02 106 eP      P       21 56 03.5 +0.9
QIZ                           S       S       22 01 42.8 +1.8
QIZ                           LR      LR
     comp=Z,138nm,22.4s,MS3.7
VRI  Vrincioaia    36.66 302 ⇑P      P       21 56 09.7 +1.7
MLR  Muntele Rosu  37.20 301 ⇓P      P       21 56 14.7 +2.0
BURAR Bucovina Array 37.74 305 ⇓P    P       21 56 22.2 +4.9
VOIR               37.83 301 ⇑P      P       21 56 19.0 +1.0
NJ2  Nanjing       37.98  81 eP      P       21 56 20.6 +1.4
NJ2                           AP     pP      21 56 25.6 +2.2
NJ2                           XP     sP      21 56 28.1 +3.1
NJ2                           PP     PP      21 57 50.3 +4.3
NJ2                           S      S       22 02 10.0 -0.9
NJ2                           XS     sS      22 02 17.0 -0.7
NJ2                           AMB    AMB
     comp=Z,10.0nm,0.8s,mb4.6
NJ2                           AMB    AMB
     comp=Z,90nm,8.0s
NJ2                           LR     LR
     comp=N,2µm,20.8s
NJ2                           LR     LR
     comp=E,2µm,25.9s
NJ2                           LR     LR
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comp=Z,370nm,16.6s,MS4.3
RZN Rozhen 38.30 295 P **P 21 56 23.0 +1.1**
VSU Vasula 38.66 322⇑ *eP* **P 21 56 26.5 +1.5**
KULM Kulim 38.77 133 *eP* **P 21 56 26.5 +0.6**
MMB Musomiste 39.04 295 P **P 21 56 29.0 +0.8**
VTS Vitosha 39.32 297 P **P 21 56 31.5 +1.0**
DRGR 39.44 303 ⇓P **P 21 56 32.5 +1.0**
KWP Kalwaria 39.49 308 *eP* **P 21 56 32.0 +0.1**
KKB Krupnik 39.49 296 P **P 21 56 32.5 +0.6**
SUW Suwalki 39.62 315 *eP* **P 21 56 31.9 -1.1**
IPM Ipoh 39.64 133 P **P 21 56 34.0 +0.8**
SNY Shenyang 39.71 64 ⇓P **P 21 56 34.8 +1.0**
SNY AMB AMB
comp=Z,20nm,0.6s,mb5.0
SNY AMB AMB
comp=Z,250nm,5.7s
SNY LR LR
comp=E,580nm,15.1s
SNY LR LR
comp=Z,470nm,22.6s
KOLS Kolonicke sedl 39.75 307 *eP* **P 21 56 33.6 -0.5**
KOLS *ePP* PP 21 58 06.7 +1.3
KOLS *e* 22 13 34.7
KOLS Kolonicke sedl 39.75 307 *eP* **P 21 56 33.6 -0.5**
KOLS *e* 21 58 06.7
KOLS Kolonicke sedl 39.75 307 *eP* **P 21 56 33.6 -0.5**
KOLS *ePP* PP 21 58 06.7 +1.3
KOLS *e* 22 13 34.7
LVZ Lovozero 39.75 338 *c iP* **P 21 56 34.9 +0.8**
LVZ pmax pmax
comp=Z,68nm,0.9s,mb5.4
LVZ pmax pmax
comp=N,22nm,0.8s
LVZ pmax pmax
comp=E,26nm,1.0s
LVZ MLR MLR
comp=Z,735nm,15.0s,MS4.7
LVZ MLR MLR
comp=N,381nm,14.0s,MS4.5
LVZ MLR MLR
comp=E,340nm,14.0s,MS4.5
FINES FINESS Array B 39.93 327 P **P 21 56 35.6 0.0**
comp=E,16nm,0.8s,mb4.8,baz=117,slow=9.4,SNR=53
FINES FINESS Array B 39.93 327 *i P* **P 21 56 35.5 -0.1**
FINES pmax pmax
comp=Z,16nm,0.8s
VAY Valandovo 39.94 295 *eP* **P 21 56 35.0 -0.7**
APA Apatity 39.94 338⇑ *iP* **P 21 56 35.0 -0.7**
APA *i* 21 56 45.0
APA pmax pmax
comp=Z,39nm,1.0s,mb5.1
APA MLR MLR
comp=Z,1μm,14.0s,MS4.9
KAF Kangasniemi 40.06 328 *ep* **P 21 56 35.5 -1.2**
comp=Z,18nm,0.9s,mb4.8,baz=110,slow=8.2
KAF Kangasniemi 40.06 328 *eP* **P 21 56 35.5 -1.2**
KAF pmax pmax
comp=Z,18nm,0.9s,mb4.8
SSE Sheshan 40.16 81 *eP* **P 21 56 36.5 -1.0**
SSE AP pP 21 56 39.8 -1.9
SSE XP sP 21 56 40.9 -2.4
SSE PP PP 21 58 08.2 -1.7
SSE PCP PcP 21 58 42.0 +0.3
SSE S **S 22 02 42.5 -1.3**
SSE XS sS 22 02 48.2 -2.4
SSE SCS ScS 22 06 45.7 +1.7
SSE AMB AMB
comp=Z,17nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,66nm,4.4s
SSE LR LR
comp=N,264nm,22.7s,MS4.0
SSE LR LR
comp=E,69nm,22.6s,MS4.0
SSE LR LR
comp=Z,146nm,25.1s,MS3.7
BZS Buzias 40.24 302 ⇓P **P 21 56 38.9 +0.7**
CRVS Cervenica-Dubn 40.28 307 *eP* **P 21 56 38.1 -0.4**
CRVS *ePP* PP 21 58 14.0 +2.8
STHS Stebnicka Huta 40.44 308 *eP* **P 21 56 39.8 0.0**
STHS *e* 21 58 40.9
STHS *e* 22 13 39.0
STHS Stebnicka Huta 40.44 308 *eP* **P 21 56 39.8 0.0**
STHS *e* 21 58 40.9
CN2 Changchun 40.87 61 *eP* **P 21 56 43.7 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 LR LR
comp=N,530nm,18.0s,MS4.6
CN2 LR LR
comp=E,570nm,18.0s,MS4.6
CN2 LR LR
comp=Z,620nm,18.0s,MS4.5
KECS Kecovo 40.93 306 *eP* **P 21 56 44.3 +0.4**
KECS *ePP* PP 21 58 21.3 +3.1
KECS Kecovo 40.93 306 *eP* **P 21 56 44.3 +0.4**
KECS *ePP* PP 21 58 21.3 +3.1
CLNS Chul'man 41.03 41 *eP* **P 21 56 42.1 -2.6**
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS MLR MLR
comp=Z,300nm,15.0s,MS4.3
CLNS MLR MLR
comp=N,100nm,14.0s
NIE Niedzica 41.04 308 *eP* **P 21 56 45.5 +0.7**
PSZ Piszkesteto 41.33 305 *eP* **P 21 56 47.1 -0.1**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
PSZ Piszkesteto 41.33 305 *eP* **P 21 56 47.1 -0.1**
comp=Z,7.6nm,0.8s,mb4.4
OJC Ojcow 41.39 309 *eP* **P 21 56 46.4 -1.2**
VYHS Vyhne 42.02 306 *eP* **P 21 56 53.1 +0.2**
VYHS *ePP* PP 21 58 36.9 +6.8
VYHS Vyhne 42.02 306 *eP* **P 21 56 53.1 +0.2**
VYHS *ePP* PP 21 58 36.9 +6.8
OKC Ostrava-Krasne 42.45 308 *epP* pP 21 57 08.2 +7.7
OKC AMS AMS 22 16 30.0
comp=Z,400nm,5.4s
MORC Moravsky Berou 42.84 308 *eP* **P 21 56 59.6 +0.1**
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MORC Moravsky Berou 42.84 308 *eP* **P 21 56 59.5 0.0**
comp=Z,8.1nm,0.8s,mb4.5
SMOL Smolenice 42.96 306 *eP* **P 21 57 00.7 +0.2**
SMOL *ePP* PP 21 58 45.9 +5.7
KGM Kluang 42.98 133 P **P 21 57 02.3 +1.7**
KEV Kevo 43.09 338 *ep* **P 21 57 01.1 -0.4**
ZST Bratislava 43.19 306 *eP* **P 21 57 02.9 +0.6**
ARCES ARCESS Array B 43.45 338 P **P 21 57 04.8 +0.4**
comp=Z,72nm,0.8s,mb5.5,baz=113,slow=7.6,SNR=108
ARCES LR LR 22 16 27.8
comp=Z,282nm,19.9s,MS4.2,baz=158,slow=38
ARE0 ARCESS Array S 43.45 338 *eP* **P 21 57 04.2 -0.2**
DPC Dobruska-Polom 43.62 309 *eP* **P 21 57 03.7 -2.1**
DPC *ePP* PP 21 58 55.8 +8.6
MDJ Mudanjiang 43.74 59 P **P 21 57 05.8 -1.0**
MDJ AP pP 21 57 08.8 -2.1
MDJ XP sP 21 57 10.3 -2.3
MDJ PP PP 21 58 47.4 -1.2
MDJ SCP ScP 22 02 44.8 0.0
MDJ PCS PcS 22 02 46.1 -0.2
MDJ S **S 22 03 35.8 -0.9**
MDJ XS sS 22 03 41.0 -2.5
MDJ AMB AMB
comp=Z,5.0nm,2.0s,mb3.9
MDJ AMB AMB
comp=Z,162nm,5.2s
MDJ LR LR
comp=N,326nm,13.6s
MDJ LR LR
comp=E,431nm,20.6s
MDJ LR LR
comp=Z,643nm,19.3s
UPC Upice 43.81 309 *eP* **P 21 57 07.7 +0.4**
TREC Trest 44.20 307 *eP* **P 21 57 10.6 +0.1**
TREC AMS AMS 22 17 40.0
comp=Z,200nm,13.9s
YAK Yakutsk 44.39 34 *eP* **P 21 57 11.8 -0.2**
YAK pmax pmax
comp=Z,56nm,0.8s,mb5.3
YAK Yakutsk 44.39 34 *eP* **P 21 57 11.8 -0.2**
comp=Z,56nm,0.8s,mb5.3
PVCC Panska Ves 44.73 309 *eP* **P 21 57 14.3 -0.4**
KLR Kul'dur 44.77 53 *eP* **P 21 57 12.8 -2.2**
PRU Pruhonice 44.77 309 *eP* **P 21 57 15.4 +0.3**
PRU *ePP* PP 21 59 08.9 +9.3
PRU AMS AMS 22 17 10.0
PRU Pruhonice 44.77 309 *eP* **P 21 57 15.4 +0.3**
PRU *ePP* PP 21 59 08.9 +9.3
BRG Berggiesshubel 45.11 310 *eP* **P 21 57 17.4 -0.3**
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 45.11 310⇑ *iP* **P 21 57 17.5 -0.3**
comp=Z,6.7nm,1.0s,mb4.4
BRG *e* 21 57 30.6
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 45.11 310⇑ *iP* **P 21 57 17.5 -0.2**
BRG *e* 21 57 30.6
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MOA Molln 45.12 305 ⇓*iP* **P 21 57 17.1 -0.7**
comp=Z,12nm,0.9s,mb4.7
GEC2 GERESS Array S 45.40 307 *eP* **P 21 57 19.6 -0.4**
comp=Z,5.0nm,1.0s,mb4.3
GEC2 *ePcP* PcP 21 58 58.7 -0.5
GEC2 GERESS Array S 45.40 307 *eP* **P 21 57 19.6 -0.4**
GEC2 *e* 21 58 58.7
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
GERES GERESS Array B 45.40 307 P **P 21 57 19.7 -0.3**
comp=Z,1.9nm,0.7s,mb4.0,baz=80,slow=8.1,SNR=16
GERES PcP PcP 21 58 58.9 -0.3
comp=Z,3.6nm,0.9s,baz=90,slow=4.0,SNR=5.7
GERES LR LR 22 17 28.9
comp=Z,153nm,20.7s,MS3.9,baz=97,slow=38
GERES GERESS Array B 45.40 307 P **P 21 57 19.7 -0.3**
GERES 21 58 58.9
KHC Kasperske Hory 45.46 307 *eP* **P 21 57 20.8 +0.3**
KHC *ePP* PP 21 59 14.2 +7.3
KHC AMS AMS 22 17 10.0
comp=Z,200nm,21.3s
KHC Kasperske Hory 45.46 307 *eP* **P 21 57 20.8 +0.3**
KHC *ePP* PP 21 59 14.2 +7.3
KHC LR LR
comp=Z,200nm,21.3s,MS4.0
TRO Tromso 45.59 337 *eP* **P 21 57 21.0 -0.5**
VLA Vladivostok 45.61 61 *eP* **P 21 57 22.3 +0.6**
VLA pmax pmax
comp=Z,65nm,1.0s,mb5.5
CLL Collm 45.68 310 *eP* **P 21 57 21.0 -1.3**
comp=Z,10.0nm,1.5s,mb4.5
CLL Collm 45.68 310 *eP* **P 21 57 21.0 -1.3**
CLL pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
KBA Koelnbreinsper 45.82 305⇑ *iP* **P 21 57 23.2 -0.2**
comp=Z,7.4nm,1.1s,mb4.5
NKC Novy Kostel 46.10 309 *eP* **P 21 57 26.3 +0.7**
NKC AMS AMS 22 19 20.0
comp=Z,200nm,7.5s
WERD Werda 46.18 309 *eP* **P 21 57 25.7 -0.5**
comp=Z,3.0nm,1.2s,mb4.1
MOR8 Moi Rana 46.22 331 *eP* **P 21 57 25.4 -1.1**
MOR8 AMb AMB 21 57 26.6
comp=Z,94nm,1.0s,mb5.7
MOR8 Moi Rana 46.22 331 *eP* **P 21 57 25.4 -1.1**
comp=Z,94nm,1.0s,mb5.7
ROTZ Rotzenmuhle 46.30 308 *eP* **P 21 57 27.2 +0.1**
comp=Z,9.0nm,1.1s,mb4.6
AQU L'Aquila 46.53 298 P **P 21 57 29.4 +0.5**
AQU pmax pmax
comp=Z,18nm,1.0s,mb5.0
AQU L'Aquila 46.53 298 P **P 21 57 29.4 +0.4**
comp=Z,18nm,1.0s,mb5.0
MOX Moxa 46.60 310 *eP* **P 21 57 29.2 -0.3**
comp=Z,7.0nm,1.3s,mb4.4
MOX *ePcP* PcP 21 59 03.0 -0.4
MOX Moxa 46.60 310 *eP* **P 21 57 29.2 -0.3**
comp=Z,10.0nm,1.1s,mb4.7
MOX
comp=Z,200nm,17.0s
MOX Moxa 46.60 310 *eP* **P 21 57 29.2 -0.3**
MOX pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.1
TIXI Tiksi 46.76 21⇑ *eP* **P 21 57 31.7 +1.0**
TIXI pmax pmax
comp=Z,22nm,1.4s,mb4.9
NB2 NORSAR Subarra 46.85 324 P **P 21 57 30.3 -1.1**
comp=Z,12nm,0.7s,mb4.9,baz=94,slow=7.9
NOA NORSAR Array B 46.85 324 P **P 21 57 30.4 -1.1**
comp=Z,10nm,0.6s,mb4.9,baz=96,slow=7.7,SNR=50
NOA LR LR 22 20 37.0
comp=Z,101nm,19.7s,MS3.8,baz=335,slow=40
NSS Namsos 46.93 329 *eP* **P 21 57 31.9 -0.2**
NSS Namsos 46.93 329 *eP* **P 21 57 29.9 -2.2**
GRA1 Grafenberg Arr 46.94 308 *eP* **P 21 57 32.6 +0.4**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 46.94 308 *eP* **P 21 57 32.6 +0.4**
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 46.94 308 *eP* **P 21 57 32.6 +0.4**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 46.94 308 *eP* **P 21 57 32.6 +0.4**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
BSEG Bad Segeberg 47.19 314 *eP* **P 21 57 34.0 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BSEG *ePcP* PcP 21 59 04.8 -0.7
SQTA Sankt Quirin 47.25 305 ⇓*iP* **P 21 57 33.5 -1.0**
comp=Z,4.3nm,0.7s,mb4.5
CLZ Clausthal 47.29 311 *eP* **P 21 57 35.2 +0.4**
comp=Z,14nm,1.1s,mb4.8
CLZ *ePcP* PcP 21 59 06.2 +0.4
CLZ Clausthal 47.29 311 *eP* **P 21 57 35.2 +0.4**
CLZ *e* 21 59 06.2
CLZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
MOTA Moosalm 47.30 305 ⇓*iP* **P 21 57 33.8 -1.2**
comp=Z,7.5nm,0.7s,mb4.7,SNR=7.1
KONO Kongsberg 47.57 322 *eP* **P 21 57 36.5 -0.5**
KONO pmax pmax
comp=Z,15nm,0.6s,mb5.2
KONO Kongsberg 47.57 322 *eP* **P 21 57 36.5 -0.5**
comp=Z,15nm,0.6s,mb5.2
KSM Kuching 47.86 126 *eP* **P 21 57 40.5 +1.2**
DAVA Damuels 48.13 305⇑ *iP* **P 21 57 40.6 -0.8**
comp=Z,33nm,0.8s,mb5.4,SNR=12
STU Stuttgart 48.37 307 *eP* **P 21 57 42.8 -0.5**
comp=Z,20nm,1.8s,mb4.8
STU *ePcP* PcP 21 59 08.9 -0.8
TNS Taunus Mts 48.66 309 *eP* **P 21 57 45.3 -0.2**
comp=Z,4.0nm,0.9s,mb4.5
TNS *ePcP* PcP 21 59 10.4 -0.3
TNS Taunus Mts 48.66 309 *eP* **P 21 57 45.3 -0.2**
TNS *e* 21 59 10.4
TNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MOL Molde 48.69 326 *eP* **P 21 57 50.1 +4.3**
KKM Kota Kinabalu 48.85 116 P **P 21 57 49.1 +2.2**
KKM Kota Kinabalu 48.85 116 *eP* **P 21 57 48.8 +1.9**
IBBN Ibbenburen 48.85 312 *eP* **P 21 57 47.1 +0.1**
comp=Z,12nm,0.9s,mb4.9
BFO Black Forest 49.01 307 *eP* **P 21 57 49.1 +1.0**
comp=Z,6.0nm,1.3s,mb4.5
BFO *ePcP* PcP 21 59 11.4 -0.6
BFO Black Forest 49.01 307 *eP* **P 21 57 49.1 +1.0**
BFO *e* 21 59 11.4
BFO pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
KMBO Kilima Mbogo 49.03 231 P **P 21 57 50.0 +1.6**
comp=Z,10nm,0.8s,mb5.0,baz=33,slow=12,SNR=22
KMBO LR LR 22 21 33.6
comp=Z,173nm,18.8s,MS4.1,baz=89,slow=40
KMBO Kilima Mbogo 49.03 231 *i P* **P 21 57 50.4 +2.1**
KMBO pmax pmax
comp=Z,11nm,0.8s
KMBO Kilima Mbogo 49.03 231 *eP* **P 21 57 50.6 +2.2**
comp=Z,8.6nm,0.7s,mb4.9
ODD1 Odda 49.08 322 *eP* **P 21 57 48.6 -0.1**
ODD1 AMb AMB 21 58 03.3
comp=Z,25nm,2.4s,mb4.8
ODD1 Odda 49.08 322 *eP* **P 21 57 48.2 -0.5**
BLS5 Blasjo 49.17 322 *eP* **P 21 57 50.9 +1.6**
BLS5 AMb AMB 21 57 55.8
comp=Z,16nm,0.9s,mb5.0
BLS5 Blasjo 49.17 322 *eP* **P 21 57 52.6 +3.2**
comp=Z,16nm,0.9s,mb5.0
LANF Langenberg 49.25 308 *eP* **P 21 57 50.8 +0.8**
PGF Pioggiola 49.67 299 *eP* **P 21 57 52.4 -0.8**
comp=Z,18nm,0.7s,mb4.9
PGF Pioggiola 49.67 299 *eP* **P 21 57 52.4 -0.8**
PGF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
PGF Pioggiola 49.67 299 *eP* **P 21 57 52.4 -0.8**
comp=Z,8.9nm,0.7s,mb4.9
CDF Champ du Feu 49.69 307 *eP* **P 21 57 52.5 -0.8**
comp=Z,8.5nm,0.8s,mb4.5
CDF Champ du Feu 49.69 307 *eP* **P 21 57 52.5 -0.8**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CDF Champ du Feu 49.69 307 *eP* **P 21 57 52.5 -0.8**
comp=Z,4.3nm,0.8s,mb4.5
RUND Rundenannen 49.70 323 *eP* **P 21 57 53.8 +0.3**
MOF Molkenrain 49.88 306 *eP* **P 21 57 55.7 +0.9**
HINF Hinteralfeld 50.07 306 *eP* **P 21 57 55.1 -1.1**
comp=Z,12nm,0.8s,mb4.7
HINF Hinteralfeld 50.07 306 *eP* **P 21 57 55.1 -1.1**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
HINF Hinteralfeld 50.07 306 *eP* **P 21 57 55.1 -1.1**
comp=Z,6.0nm,0.8s,mb4.7
MEM Membach 50.15 310 P **P 21 57 56.8 -0.1**
WLF Walferdange 50.21 309 *eP* **P 21 57 57.5 +0.2**
comp=Z,11nm,1.0s,mb4.8
WLF Walferdange 50.21 309 P **P 21 57 57.6 +0.3**
comp=Z,13nm,1.1s,mb4.9
WLF AP pP 21 57 59.8 -1.7
WLF Walferdange 50.21 309 *eP* **P 21 57 57.8 +0.5**
WLF pmax pmax
comp=Z,27nm,1.1s,mb5.2
WLF Walferdange 50.21 309 *eP* **P 21 57 57.8 +0.4**
comp=Z,27nm,1.1s,mb5.2
SAOF Saorge 50.37 301 *eP* **P 21 57 59.3 +0.8**
HAU Haudompre 50.37 307 *eP* **P 21 57 57.7 -0.8**
comp=Z,11nm,0.8s,mb4.7
HAU *eR*
comp=Z,66nm,18.5s
HAU Haudompre 50.37 307 *eP* **P 21 57 57.7 -0.8**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HAU MLR MLR
comp=Z,70nm,18.5s,MS3.7
HAU Haudompre 50.37 307 *eP* **P 21 57 57.7 -0.8**
comp=Z,5.4nm,0.8s,mb4.6
HAU LR LR
comp=Z,70nm,18.5s,MS3.7
AUTN L'Aution 50.45 301 *eP* **P 21 58 00.4 +1.2**
SBF Sospel 50.48 301 *eP* **P 21 57 58.4 -0.9**
comp=Z,48nm,1.0s,mb5.2
SBF Sospel 50.48 301 *eP* **P 21 57 58.4 -0.9**
SBF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SBF Sospel 50.48 301 *eP* **P 21 57 58.4 -0.9**
comp=Z,24nm,1.0s,mb5.2
THEF They Montfort 50.56 307 *eP* **P 21 57 58.8 -1.2**
LPG La Plagne 50.59 303 *eP* **P 21 58 00.2 0.0**
comp=Z,20nm,0.8s,mb4.8
LPG La Plagne 50.59 303 *eP* **P 21 58 00.2 0.0**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 50.59 303 *eP* **P 21 58 00.2 0.0**
comp=Z,10nm,0.8s,mb4.8
LPL La Plagne 50.60 303 *eP* **P 21 58 00.4 +0.1**
comp=Z,28nm,0.8s,mb4.9
LPL La Plagne 50.60 303 *eP* **P 21 58 00.4 +0.1**
LPL pmax pmax
comp=Z,14nm,0.8s,mb4.9
LPL La Plagne 50.60 303 *eP* **P 21 58 00.4 +0.1**
comp=Z,14nm,0.8s,mb4.9
RSL Roselend 50.64 304 *eP* **P 21 57 59.9 -0.7**
BNI Bardonecchia 50.74 303 *eP* **P 21 58 00.5 -0.8**
BNI pmax pmax
comp=Z,35nm,1.3s,mb5.1
BNI Bardonecchia 50.74 303 *eP* **P 21 58 00.5 -0.8**
comp=Z,35nm,1.3s,mb5.1
MBDF Montbardon 50.75 302 *eP* **P 21 58 00.9 -0.5**
comp=Z,25nm,0.9s,mb4.8
MBDF Montbardon 50.75 302 *eP* **P 21 58 00.9 -0.5**
MBDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
MBDF Montbardon 50.75 302 *eP* **P 21 58 00.9 -0.5**
comp=Z,13nm,0.9s,mb4.8
CABF La Chapelle 50.81 305 *eP* **P 21 58 01.1 -0.8**
comp=Z,31nm,1.1s,mb4.8
CABF La Chapelle 50.81 305 *eP* **P 21 58 01.1 -0.8**
CABF pmax pmax
comp=Z,15nm,1.1s,mb4.8
CABF La Chapelle 50.81 305 *eP* **P 21 58 01.1 -0.8**
comp=Z,15nm,1.1s,mb4.8
GIVF Givet 50.98 310 *eP* **P 21 58 03.1 -0.1**
FRF La Foret Royal 51.11 301 *eP* **P 21 58 03.0 -1.1**
comp=Z,14nm,0.8s,mb4.6
FRF La Foret Royal 51.11 301 *eP* **P 21 58 03.0 -1.1**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FRF La Foret Royal 51.11 301 *eP* **P 21 58 03.0 -1.1**
comp=Z,6.8nm,0.8s,mb4.6
MEZF Maizieres J'vi 51.13 308 *eP* **P 21 58 03.5 -0.7**
comp=Z,19nm,0.9s,mb4.7
MEZF Maizieres J'vi 51.13 308 *eP* **P 21 58 03.5 -0.7**
comp=Z,19nm,0.9s,mb5.0
DOU Dourbes 51.13 310 P **P 21 58 04.3 +0.1**
DOU AP pP 21 58 08.6 +0.1
SNF Seneffe 51.26 310 P **P 21 58 05.2 0.0**
ORIF Oris-en-Rattie 51.32 303 *eP* **P 21 58 04.7 -1.0**
comp=Z,11nm,0.9s,mb4.5
ORIF *eR*
comp=Z,156nm,21.0s
ORIF Oris-en-Rattie 51.32 303 *eP* **P 21 58 04.7 -1.0**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 51.32 303 *eP* **P 21 58 04.7 -1.0**
comp=Z,5.6nm,0.9s,mb4.5
SMRF Simiane la Rot 51.76 302 *eP* **P 21 58 08.2 -0.8**
PUYF Puyloubier 51.78 301 *eP* **P 21 58 08.8 -0.3**
MAJO Matsushiro 51.95 68 *eP* **P 21 58 10.5 +0.1**
MAJO pmax pmax
comp=Z,80nm,0.8s,mb5.7
MAJO Matsushiro 51.95 68 *eP* **P 21 58 10.5 +0.1**
comp=Z,80nm,0.8s,mb5.7
MAT Matsushiro 51.95 68 P **P 21 58 10.1 -0.3**
MAT Matsushiro 51.95 68 *eP* **P 21 58 10.0 -0.4**
MAT pmax pmax
comp=Z,52nm,0.8s,mb5.5
MAT Matsushiro 51.95 68 *eP* **P 21 58 10.0 -0.4**
comp=Z,52nm,0.8s,mb5.5
MJAR Matsushiro Arr 51.95 68 P **P 21 58 11.3 +0.9**
comp=Z,42nm,0.8s,mb5.4,baz=290,slow=10.0,SNR=70
MJAR LR LR 22 23 10.2
comp=Z,175nm,20.4s,MS4.1,baz=190,slow=39
GELF Grande-Etoile 52.01 301 *eP* **P 21 58 09.6 -1.2**
PRAF Pradon 52.09 302 *eP* **P 21 58 11.6 +0.2**
LOR Lormes 52.16 306 *eP* **P 21 58 11.3 -0.7**
LOR *eR*
comp=Z,140nm,20.8s
LOR Lormes 52.16 306 *eP* **P 21 58 11.3 -0.7**
LOR LR LR
comp=Z,140nm,20.8s,MS4.0
VIVF Saint-Julien-l 52.17 303 *eP* **P 21 58 11.4 -0.6**
comp=Z,9.8nm,0.7s,mb4.5
VIVF Saint-Julien-l 52.17 303 *eP* **P 21 58 11.4 -0.6**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 52.17 303 *eP* **P 21 58 11.4 -0.6**
comp=Z,4.9nm,0.7s,mb4.5
SMF Signal de Mont 52.32 305 *eP* **P 21 58 12.2 -0.9**
comp=Z,23nm,0.7s,mb4.9
SMF Signal de Mont 52.32 305 *eP* **P 21 58 12.2 -0.9**
SMF pmax pmax
comp=Z,11nm,0.7s,mb4.9
SMF Signal de Mont 52.32 305 *eP* **P 21 58 12.2 -0.9**
comp=Z,11nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 52.40 54 ⇓*eP* **P 21 58 15.0 +1.3**
YSS *e* 21 58 23.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 52.40 54 *eP* **P 21 58 14.2 +0.5**
comp=Z,35nm,0.8s,mb5.3
SSF Saint Saulge 52.45 306 *eP* **P 21 58 13.1 -1.0**
comp=Z,10nm,0.8s,mb4.5
SSF Saint Saulge 52.45 306 *eP* **P 21 58 13.1 -1.0**

SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 52.45 306 *eP* **P 21 58 13.1 -1.0**
comp=Z,5.1nm,0.8s,mb4.5
AVF Avril sur Loir 52.61 306 *eP* **P 21 58 13.9 -1.4**
comp=Z,24nm,0.8s,mb4.9
AVF Avril sur Loir 52.61 306 *eP* **P 21 58 13.9 -1.4**
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.9
AVF Avril sur Loir 52.61 306 *eP* **P 21 58 13.9 -1.4**
comp=Z,12nm,0.8s,mb4.9
LASF Ste Croix 52.93 302 *eP* **P 21 58 17.1 -0.6**
comp=Z,35nm,1.1s,mb4.9
AGO Saint Agoulin 52.93 305 *eP* **P 21 58 17.7 0.0**
HYF Humbligny 52.97 306 *eP* **P 21 58 17.5 -0.5**
ASAJ Asahikawa 52.98 58 LR LR 22 23 03.8
comp=Z,313nm,18.1s,MS4.4,baz=333,slow=39
BGF Bois d'Agland 53.00 306 *eP* **P 21 58 17.4 -0.8**
CASM Ain Smara 53.32 292 P **P 21 58 21.0 +0.5**
TCF Toulx Ste Croi 53.50 305 *eP* **P 21 58 20.8 -1.0**
comp=Z,19nm,0.8s,mb4.8
TCF Toulx Ste Croi 53.50 305 *eP* **P 21 58 20.8 -1.0**
TCF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TCF Toulx Ste Croi 53.50 305 *eP* **P 21 58 20.8 -1.0**
comp=Z,9.5nm,0.8s,mb4.8
DFRA Djebel Bou Aff 53.69 293 P **P 21 58 25.0 +1.8**
CAF Calviac 53.95 304 *eP* **P 21 58 24.4 -0.7**
comp=Z,18nm,1.0s,mb4.7
CAF Calviac 53.95 304 *eP* **P 21 58 24.4 -0.7**
CAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CAF Calviac 53.95 304 *eP* **P 21 58 24.4 -0.7**
comp=Z,9.1nm,1.0s,mb4.7
SET Setif 54.17 293 P **P 21 58 27.0 +0.3**
RJF Les Rejaudoux 54.22 304 *eP* **P 21 58 26.4 -0.7**
comp=Z,14nm,0.9s,mb4.6
RJF *eR*
comp=Z,132nm,23.0s
RJF Les Rejaudoux 54.22 304 *eP* **P 21 58 26.4 -0.7**
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,130nm,23.0s,MS3.9
RJF Les Rejaudoux 54.22 304 *eP* **P 21 58 26.4 -0.7**
comp=Z,7.1nm,0.9s,mb4.6
RJF LR LR
comp=Z,130nm,23.0s,MS3.9
MTLF Montolieu 54.28 302 *eP* **P 21 58 26.8 -0.7**
comp=Z,18nm,1.0s,mb4.7
MTLF Montolieu 54.28 302 *eP* **P 21 58 26.8 -0.7**
MTLF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MTLF Montolieu 54.28 302 *eP* **P 21 58 26.8 -0.7**
comp=Z,9.1nm,1.0s,mb4.7
LDF La Druitiere 54.46 309 *eP* **P 21 58 28.1 -0.8**
comp=Z,7.7nm,0.6s,mb4.5
LDF La Druitiere 54.46 309 *eP* **P 21 58 28.1 -0.8**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LDF La Druitiere 54.46 309 *eP* **P 21 58 28.1 -0.8**
comp=Z,3.8nm,0.6s,mb4.5
FLN La Foliniere 54.65 309 *eP* **P 21 58 29.6 -0.7**
comp=Z,23nm,0.8s,mb4.9
FLN *eR*
comp=Z,129nm,18.0s
FLN La Foliniere 54.65 309 *eP* **P 21 58 29.6 -0.7**
FLN pmax pmax
comp=Z,11nm,0.8s,mb4.9
FLN MLR MLR
comp=Z,130nm,18.0s,MS4.0
FLN La Foliniere 54.65 309 *eP* **P 21 58 29.6 -0.7**
comp=Z,11nm,0.8s,mb5.0
FLN LR LR
comp=Z,130nm,18.0s,MS4.0
MA2 Magadan 54.66 38 *eP* **P 21 58 31.1 +0.8**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
MA2 Magadan 54.66 38 *eP* **P 21 58 31.3 +0.9**
comp=Z,28nm,1.1s,mb5.2
LFF La Frestale 54.85 304 *eP* **P 21 58 31.0 -0.7**
SEY Seymchan 54.90 33 *eP* **P 21 58 32.9 +0.9**
SEY *e* 22 01 46.3
SEY *e* 22 06 16.4
SEY *e* 22 08 20.0
SEY pmax pmax
comp=E,6.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRR Gorron 54.99 309 *eP* **P 21 58 31.9 -0.8**
MFF Saint Martin d 54.99 306 *eP* **P 21 58 31.8 -0.9**
comp=Z,18nm,1.0s,mb4.7
MFF Saint Martin d 54.99 306 *eP* **P 21 58 31.8 -0.9**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MFF Saint Martin d 54.99 306 *eP* **P 21 58 31.8 -0.9**
comp=Z,8.8nm,1.0s,mb4.7
EPF Esparros 55.68 302 *eP* **P 21 58 36.8 -0.9**
comp=Z,7.9nm,0.7s,mb4.5
EPF Esparros 55.68 302 *eP* **P 21 58 36.8 -0.9**
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
EPF Esparros 55.68 302 *eP* **P 21 58 36.8 -0.9**
comp=Z,4.0nm,0.7s,mb4.6
EBIE Bielsa 55.92 302 P **P 21 58 38.4 -1.0**
comp=Z,5.4nm,0.9s,mb4.6
EGRA Graus 55.95 301 P **P 21 58 39.4 -0.2**
comp=Z,6.0nm,0.7s,mb4.7
EMHD Djebel Mahouad 56.02 293 P **P 21 58 48.0 +7.9**
SGMF Saint Gilles 56.12 309 *eP* **P 21 58 39.9 -0.9**
EBR Ebro Roquetas 56.27 299 *e*Ts **P 21 58 41.5 -0.4**
ETSF Etsaut 56.35 302 *eP* **P 21 58 42.2 -0.3**
comp=Z,23nm,0.7s,mb5.0
ETSF Etsaut 56.35 302 *eP* **P 21 58 42.2 -0.3**
ETSF pmax pmax
comp=Z,11nm,0.7s,mb5.0
ETSF Etsaut 56.35 302 *eP* **P 21 58 42.2 -0.3**
comp=Z,11nm,0.7s,mb5.0
ROSF Rostrenen 56.55 309 *eP* **P 21 58 43.1 -0.8**
QUIF Quistinic 56.60 308 *eP* **P 21 58 43.4 -0.9**
comp=Z,22nm,0.9s,mb4.9
QUIF Quistinic 56.60 308 *eP* **P 21 58 43.4 -0.9**
QUIF pmax pmax
comp=Z,11nm,0.9s,mb4.9
QUIF Quistinic 56.60 308 *eP* **P 21 58 43.4 -0.9**
comp=Z,11nm,0.9s,mb4.9
ESAC San Caprasio 56.66 301 P **P 21 58 44.7 0.0**
comp=Z,24nm,0.8s,mb5.3
SJPF Ste Jean 56.74 302 *eP* **P 21 58 44.8 -0.5**
DAG Danmarks Havn 56.91 344⇓ *i*P **P 21 58 46.1 -0.4**
comp=Z,25nm,0.7s,mb5.3
DAG Danmarks Havn 56.91 344⇓ *e*P **P 21 58 46.1 -0.4**
DAG pmax pmax
comp=Z,25nm,0.7s,mb5.3
DAG Danmarks Havn 56.91 344⇓ *e*P **P 21 58 46.1 -0.4**
comp=Z,25nm,0.7s,mb5.3
ECRI Cripan 57.80 302 P **P 21 58 52.0 -0.8**
ECRI pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
ECRI Cripan 57.80 302 P **P 21 58 52.0 -0.8**
comp=Z,6.8nm,1.3s,mb4.5
ELAN Lanestosa 58.23 303 P **P 21 58 56.0 +0.2**
comp=Z,23nm,1.0s,mb5.2
ETOB Tobarra 58.49 298 P **P 21 58 57.9 +0.3**
comp=Z,9.1nm,0.7s,mb4.9
SCO Scoresbysund 59.37 337 *i* P **P 21 59 04.5 +0.8**
comp=Z,12nm,0.7s,mb5.0
SCO Scoresbysund 59.37 337 *e*P **P 21 59 04.5 +0.8**
SCO pmax pmax
comp=Z,12nm,0.7s,mb5.0
BILL Bilibino 59.41 26⇓ *i*P **P 21 59 04.4 +0.5**
BILL *e* 21 59 52.8
BILL *e*SS **S 22 07 09.4 -3.2**
BILL *e*SS SS 22 11 05.8 -1.7
BILL pmax pmax
comp=Z,25nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.3
BILL Bilibino 59.41 26 *e*P **P 21 59 04.6 +0.6**
comp=Z,25nm,1.0s,mb5.2
ENIJ Nijar 59.60 296 P **P 21 59 05.2 -0.1**
ENIJ pmax pmax
comp=Z,13nm,0.8s,mb5.0
ENIJ Nijar 59.60 296 P **P 21 59 05.2 -0.1**
comp=Z,13nm,0.8s,mb5.0
GUD Guadarrama 59.64 301 P **P 21 59 05.6 0.0**
GUD pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
GUD Guadarrama 59.64 301 P **P 21 59 05.6 +0.1**
comp=Z,8.2nm,0.6s,mb4.9
ESDC Sonseca Array 59.86 300 P **P 21 59 06.5 -0.6**
comp=Z,7.0nm,0.7s,mb4.8,baz=54,slow=7.5,SNR=23
ESDC Sonseca Array 59.86 300 P **P 21 59 06.9 -0.2**
comp=Z,4.9nm,0.6s,mb4.7
ESLA Sonseca Array 59.86 300 *eP* **P 21 59 06.4 -0.7**
comp=Z,4.0nm,1.2s,mb4.3
EQES Quesada 59.92 297 P **P 21 59 07.5 +0.1**
comp=Z,11nm,0.5s,mb5.1
EBER Berja 60.13 296 P **P 21 59 09.4 +0.4**
comp=Z,15nm,0.7s,mb5.1
EBAN Banos Encina 60.30 298 P **P 21 59 10.0 -0.1**
EBAN pmax pmax
comp=Z,11nm,0.6s,mb5.1
EBAN Banos Encina 60.30 298 P **P 21 59 10.0 -0.1**
comp=Z,11nm,0.6s,mb5.1
ECOG Cogollos-Vega 60.48 297 P **P 21 59 10.9 -0.4**
ECOG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ECOG Cogollos-Vega 60.48 297 P **P 21 59 10.9 -0.4**
comp=Z,5.3nm,0.6s,mb4.8
ERON Agron 60.76 297 P **P 21 59 12.4 -0.8**
comp=Z,10nm,0.8s,mb5.0
EADA Adamuz 60.88 298 P **P 21 59 14.6 +0.6**
comp=Z,8.4nm,1.1s,mb4.8
ELUQ Luque 60.89 297 P **P 21 59 13.5 -0.6**
ELUQ pmax pmax
comp=Z,17nm,1.0s,mb5.1
ELUQ Luque 60.89 297 P **P 21 59 13.5 -0.6**
comp=Z,17nm,1.0s,mb5.1
EMIJ Mijas 61.65 297 P **P 21 59 17.5 -1.8**
comp=Z,4.9nm,0.6s,mb4.8
ELOB Lobios 61.91 303 P **P 21 59 21.3 +0.3**
comp=Z,18nm,0.8s,mb5.3
MTE Manteigas 62.13 301 *eP* **P 21 59 22.9 +0.4**
comp=Z,48nm,1.2s,mb5.5
PVIS Viseu 62.25 302 *eP* **P 21 59 23.5 +0.2**
comp=Z,52nm,1.3s,mb5.5
ESPR Espera 62.33 297 P **P 21 59 23.0 -0.8**
comp=Z,5.2nm,0.5s,mb4.9
EBAD Badajoz 62.40 300 P **P 21 59 24.4 +0.1**
comp=Z,21nm,0.7s,mb5.4
EMIN Mina Concepcio 62.55 298 P **P 21 59 25.1 -0.2**
comp=Z,6.0nm,0.7s,mb4.8
PTOM Tomar 63.05 301 *eP* **P 21 59 29.2 +0.6**
comp=Z,61nm,1.2s,mb5.6
MDT Midelt 63.09 293 LR LR 22 27 31.5
comp=Z,62nm,19.7s,MS3.8,baz=223,slow=37
EGRO El Granado 63.24 299 P **P 21 59 29.4 -0.5**
comp=Z,14nm,0.9s,mb5.1
SUMG Summit 63.29 342 *eP* **P 21 59 30.7 +0.5**
comp=Z,86nm,0.9s,mb5.9
PBEJ Beja 63.31 299 *eP* **P 21 59 30.5 +0.1**
LSZ Lusaka 65.57 229 *eP* **P 21 59 45.7 +0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSZ Lusaka 65.57 229 *eP* **P 21 59 45.7 +0.6**
comp=Z,9.4nm,0.8s,mb4.9
TORD Torodi Ar. Bea 67.49 271 P **P 21 59 57.1 -0.3**
comp=Z,22nm,0.6s,mb5.4,baz=46,slow=5.8,SNR=409
FX1 Attu Island--F 68.61 40 *eP* **P 22 00 04.5 +0.1**
TNA Tin City 69.50 23 *eP* **P 22 00 10.7 +0.7**
comp=Z,19nm,1.1s,mb4.9
SFJD Kangerlussuaq 70.03 340⇑ *i*P **P 22 00 12.5 -0.7**
comp=Z,26nm,0.6s,mb5.3
SFJD
comp=Z,120nm,18.0s
SFJD Kangerlussuaq 70.03 340⇑ *i*P **P 22 00 12.5 -0.7**
SFJD pmax pmax
comp=Z,26nm,0.6s,mb5.3
SFJD MLR MLR
comp=Z,120nm,18.0s,MS4.2
RES Resolute Bay 70.57 357 *eP* **P 22 00 16.1 -0.4**
RES pmax pmax
comp=Z,11nm,1.4s,mb4.6
RES Resolute Bay 70.57 357 *eP* **P 22 00 16.1 -0.4**
comp=Z,11nm,1.4s,mb4.6
FITZ Fitzroy Crossi 72.41 128 *eP* **P 22 00 28.1 +0.4**
comp=Z,23nm,1.1s,mb5.0
IMA2 Indian Mountai 73.25 18 *eP* **P 22 00 32.2 -0.5**
LBTB Lobatse 74.61 224 *eP* **P 22 00 41.6 +1.0**
LBTB pmax pmax
comp=Z,35nm,0.7s,mb5.4
LBTB Lobatse 74.61 224 *eP* **P 22 00 41.6 +1.1**
comp=Z,35nm,0.7s,mb5.4
TSUM Tsumeb 75.27 234 *eP* **P 22 00 45.5 +1.1**
comp=Z,10nm,1.0s,mb4.7
INK Inuvik 75.34 10 *eP* **P 22 00 44.8 0.0**
INK pmax pmax
comp=Z,53nm,1.0s
INK Inuvik 75.34 10 *eP* **P 22 00 44.8 -0.1**
comp=Z,53nm,1.0s,mb5.4
COLA College 75.66 17⇓ *i*P **P 22 00 46.3 -0.3**
COLA College 75.66 17 *eP* **P 22 00 46.7 +0.1**
comp=Z,31nm,1.0s,mb5.2
ILAR Eielson Array 75.97 17 P **P 22 00 47.6 -0.8**
comp=Z,5.9nm,0.8s,mb4.5,baz=314,slow=5.1,SNR=68
ILAR LR LR 22 38 32.2
comp=Z,127nm,18.4s,MS4.3,baz=352,slow=39
MCK McKinley 76.34 18 *eP* **P 22 00 50.6 +0.1**
comp=Z,2.3nm,0.7s,mb4.2
LIC Lamto 76.80 268 *eP* **P 22 00 53.5 +0.4**
comp=Z,116nm,0.9s,mb5.5
LIC *eR*
comp=Z,435nm,19.2s
LIC Lamto 76.80 268 *eP* **P 22 00 53.5 +0.4**
comp=Z,58nm,0.9s,mb5.5
LIC LR LR
comp=Z,220nm,19.3s,MS4.5
BOSA Boshof 77.59 222 P **P 22 00 58.0 +0.5**
comp=Z,36nm,0.7s,mb5.4,baz=42,slow=5.6,SNR=90
BOSA LR LR 22 38 01.2
comp=Z,116nm,20.3s,MS4.2,baz=137,slow=38
BOSA Boshof 77.59 222 P **P 22 00 58.1 +0.5**
BOSA pmax pmax
comp=Z,36nm,0.7s,mb5.4
BOSA MLR MLR
comp=Z,116nm,20.3s,MS4.2
BOSA Boshof 77.59 222 *eP* **P 22 00 58.0 +0.5**
comp=Z,43nm,0.8s,mb5.4
SML Sawmill 78.09 19 *eP* **P 22 01 00.5 +0.1**
KLBR Kellerberrin 78.17 142 *eP* **P 22 00 59.8 -1.0**
comp=Z,45nm,1.3s,mb5.2
DAWY Dawson 78.21 14 *eP* **P 22 01 00.5 -0.5**
WRA Warramunga Arr 79.55 123 P **P 22 01 08.9 +0.5**
comp=Z,15nm,0.7s,mb5.0,baz=322,slow=5.1,SNR=134
WRA Warramunga Arr 79.55 123 *i* P **P 22 01 08.8 +0.5**
WRA pmax pmax
comp=Z,15nm,0.7s
WRAB Tennant Creek 79.55 123*c i*P **P 22 01 09.1 +0.7**
WRAB Tennant Creek 79.55 123 *e*P **P 22 01 08.6 +0.3**
comp=Z,20nm,0.8s,mb5.1
WB2 Warramunga Arr 79.55 123⇑ *i*P **P 22 01 08.8 +0.4**
ASPA Alice Springs 81.78 126⇑ *i*P **P 22 01 20.7 +0.4**
ASAR Alice Springs 81.78 126 P **P 22 01 20.5 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=310,slow=5.2,SNR=117
ASAR PP PP 22 04 28.9 +1.6
comp=Z,1.4nm,1.0s,baz=309,slow=7.0,SNR=4.3
ASAR Alice Springs 81.78 126 P **P 22 01 20.5 +0.2**
ASAR 22 04 29.0
ASAR pmax pmax
comp=Z,11nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,1.0s
YKW3 Yellowknife Ar 82.83 4 *eP* **P 22 01 25.2 -0.6**
YKA Yellowknife Ar 82.90 4 P **P 22 01 25.7 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=347,slow=5.3,SNR=291
YKA PKKPbc PKKPbc 22 19 47.2 -1.6
comp=Z,0.2nm,0.6s,baz=169,slow=2.6,SNR=5.9
YKA LR LR 22 43 01.6
comp=Z,82nm,18.6s,MS4.1,baz=350,slow=39
YKA Yellowknife Ar 82.90 4 P **P 22 01 25.8 -0.4**
YKA PKKPbc PKKPbc 22 19 47.2 -1.6
YKA LR LR 22 43 01.6
SCHQ Schefferville 84.40 338 P **P 22 01 32.8 -1.1**
comp=Z,18nm,0.9s,mb5.2,baz=34,slow=5.3,SNR=18
CTA Charters Tower 88.18 116 *eP* **P 22 01 52.4 -0.1**
comp=Z,8.0nm,0.9s,mb5.0
CTAO Charters Tower 88.18 116 *eP* **P 22 01 52.5 0.0**
CTAO pmax pmax
comp=Z,14nm,0.9s,mb5.2
CTAO Charters Tower 88.18 116 *eP* **P 22 01 52.5 0.0**
comp=Z,14nm,0.9s,mb5.2
EDM Edmonton 92.22 4 *eP* **P 22 02 11.4 +0.1**
STKA Stephens Creek 92.31 128 *eP* **P 22 02 10.3 -1.4**
comp=Z,1.6nm,0.7s,mb4.5
STKA Stephens Creek 92.31 128 P **P 22 02 10.2 -1.5**
comp=Z,1.6nm,0.6s,mb4.5,baz=212,slow=4.3,SNR=4.5
ULM Lac du Bonnet 94.83 353 P **P 22 02 22.2 -1.1**
comp=Z,4.2nm,0.9s,mb4.9,baz=16,slow=4.4,SNR=8.1
ULM LR LR 22 46 05.2
comp=Z,92nm,20.4s,MS4.2,baz=26,slow=36
ULM Lac du Bonnet 94.83 353 P **P 22 02 22.2 -1.1**
ULM LR LR 22 46 05.2
PDAR Pinedale Array 102.83 2 PKiKP PKiKP 22 07 19.8 +0.1
comp=Z,0.7nm,0.7s,baz=59,slow=2.7,SNR=5.3
SYO Syowa Base 106.38 192⇑ *e*P Pdif 22 03 10.5 -4.5
SYO Syowa Base 106.38 192⇑ *e*PKiKP PKiKP 22 07 27.0 +0.8
TXAR Lajitas Array 116.20 357 PKP PKPdf 22 07 45.2 +0.5
comp=Z,0.5nm,0.6s,baz=0.0,slow=0.0,SNR=4.2
TXAR PKKPbc PKKPbc 22 18 14.9 +0.9
comp=Z,0.7nm,0.7s,baz=180,slow=8.8,SNR=4.8
TXAR Lajitas Array 116.20 357 PKiKP PKPdf 22 07 45.3 +0.5
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
VNA2 Neumayer--Watz 119.43 202 PKPdf PKPdf 22 07 49.8 -1.2
baz=349,slow=2.3
VNA1 Neumayer--Stat 119.60 202 PKPdf PKPdf 22 07 45.5 -5.8
VNA3 Neumayer Olymp 120.24 202 PKPdf PKPdf 22 07 52.0 -0.5
VNDA Vanda 123.33 165 PKP PKPdf 22 07 56.2 -2.3
comp=Z,3.6nm,1.1s,baz=303,slow=5.8,SNR=5.1
VNDA Vanda 123.33 165 PKiKP PKPdf 22 07 56.2 -2.3
VNDA pmax pmax
comp=Z,4.0nm,1.1s
VNDA Vanda 123.33 165 PKP PKPdf 22 07 56.2 -2.3
QSPA South Pole Qui 124.54 180 *e*PKPdf PKPdf 22 07 59.2 -1.6
NNA Nana 144.60 302 *e*PKPdf PKPdf 22 08 37.2 -0.8
LVC Limon Verde 144.82 280 *e*PKPdf PKPdf 22 08 38.1 -0.3
PLCA Paso Flores 150.85 247 PKPbc PKPbc 22 08 53.5 -0.4
comp=Z,12nm,1.1s,baz=143,slow=7.0,SNR=3.1
PLCA Paso Flores 150.85 247 PKiKP PKPdf 22 08 53.5 +5.2
PLCA pmax pmax
comp=Z,12nm,1.1s
PLCA Paso Flores 150.85 247 *e*PKPbc PKPbc 22 08 54.2 +0.2

IDC 02 21:59:41.0±1.6,**345N**×**12854E**,**h0**km,**mb3.7**/5,**mb1 3.8**/5,
mb1mx3.6/18,**mbtmp3.7**/5,**MS3.2**/1,**Ms1 3.2**/1,
ms1mx2.8/28,**Error ellipse: s-maj=144.1km**
s-min=18.5km az=67.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.02**	**57**	LR	LR		22 09 51.7	
comp=Z,76nm,20.3s,baz=87,slow=32								
WRA	**Warramunga Arr**	**23.94**	**166**	P	P		22 04 57.6	+0.9
0.9nm,0.4s,baz=345,slow=10,SNR=8.8								
ASAR	**Alice Springs**	**27.46**	**169**	P	P		22 05 30.4	+1.7
0.2nm,0.3s,baz=353,slow=8.6,SNR=3.0								
STKA	**Stephens Creek**	**37.26**	**161**	P	P		22 06 52.6	-1.8
0.9nm,0.6s,baz=333,slow=11,SNR=2.9								
MKAR	**Makanchi Array**	**58.82**	**325**	P	P		22 09 41.7	+0.5
0.5nm,0.4s,baz=112,slow=7.8,SNR=19								
BVAR	**Borovoye Array**	**68.54**	**327**	P	P		22 10 45.4	0.0
0.4nm,0.4s,baz=104,slow=5.1,SNR=10.0								

NAO ***02*** *22:10:32.0,2520S×178.16W,h33km,mb3.8*
NEIC ***02*** *22:11:24.5±2.5,2515S×17986E,h492km±23km,mb4.4/3,*
Error ellipse: s-maj=29.5km s-min=16.9km az=54.0
ISCJB ***02*** *22:11:25.6±2.2,2525S±0.1×1797E±0.3,h511km±23km,*
mb3.9/7,Error ellipse: s-maj=39.0km s-min=14.9km
az=123.5
IDC ***02*** *22:11:26.9±2.3,2524S×17963E,h507km±24km,mb3.1/4,*
mb1 3.3/6,mb1mx3.2/15,mbtmp4.1/6,Error ellipse:
s-maj=25.7km s-min=17.3km az=180.0
ISC 02 22:11:27.1±2.1,**254S**±01×**1796E**±02,**h496**km±19km,**n21,**
σ0$55/16,mb3.9/7,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.48**	**283**	P	P		**22 14 10.9**	**+0.2**
0.2nm,0.3s,baz=73,slow=19,SNR=4.2								
URZ	**Urewera**	**13.01**	**189**	P	P		**22 14 15.7**	**-0.6**
1.7nm,0.3s,baz=348,slow=3.7,SNR=6.8								
URZ				S	S		**22 16 36.2**	**+0.4**
1.0nm,0.3s,baz=204,slow=20,SNR=5.2								
CTA	**Charters Tower**	**31.14**	**273**⇓	*i*P	P		**22 17 05.3**	**+0.9**
9.1nm,0.5s,mb4.5								
CTAO	**Charters Tower**	**31.14**	**273**	*e*P	P		**22 17 05.5**	**+1.1**
13nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**33.84**	**250**	P	P		**22 17 26.2**	**-1.2**
0.6nm,0.3s,mb3.4,baz=90,slow=9.1,SNR=2.9								
STKA	**Stephens Creek**	**33.84**	**250**	P	P		**22 17 26.2**	**-1.2**
ASAR	**Alice Springs**	**41.45**	**262**	P	P		**22 18 30.1**	**+0.5**
2.7nm,0.9s,mb3.7,baz=102,slow=8.3,SNR=22								
ASAR				S	S		**22 24 08.7**	**+0.3**
0.4nm,0.5s,baz=101,slow=15,SNR=4.9								
WB2	**Warramunga Arr**	**41.94**	**268**⇓	*i*P	P		**22 18 33.3**	**-0.3**
WRAB	**Tennant Creek**	**41.95**	**268**	*e*P	P		**22 18 33.5**	**-0.1**
4.6nm,0.6s,mb4.1								
WRA	**Warramunga Arr**	**41.95**	**268**	P	P		**22 18 33.5**	**-0.2**
2.9nm,0.5s,mb3.9,baz=104,slow=7.8,SNR=37								
WRA				S	S		**22 24 15.5**	**-0.3**
0.7nm,0.8s,baz=102,slow=13,SNR=4.2								
VNDA	**Vanda**	**52.88**	**185**	P	P		**22 19 56.5**	**+0.6**
1.2nm,0.9s,mb3.2,baz=8.3,slow=9.2,SNR=3.3								
NWAO	**Narrogin (SRO)**	**54.29**	**247**	P	P		**22 20 05.9**	**0.0**
CASY	**Casey**	**58.62**	**206**	*e*P	P		**22 20 35.5**	**-0.3**
8.1nm,0.5s,mb4.3								
FINES	**FINESS Array B**	**139.72**	**341**	SKPbc	SKPbc		22 32 44.5	-2.1
0.9nm,0.6s,baz=0.0,slow=3.8,SNR=4.2								
NB2	**NORSAR Subarra**	**143.48**	**351**	PKPa			22 30 00.2	
comp=Z,1.1nm,0.6s,baz=14,slow=3.3								
NOA	**NORSAR Array B**	**143.48**	**351**	PKP	PKPdf		22 30 00.2	-4.5
comp=Z,1.8nm,0.8s,baz=17,slow=4.6,SNR=6.1								
NOA	**NORSAR Array B**	**143.48**	**351**	PKP	PKPdf		22 30 00.2	-4.5
HFS	**Hagfors**	**143.92**	**348**	PKP	PKPdf		22 30 01.5	-4.0
comp=Z,3.3nm,0.5s,baz=59,slow=5.0,SNR=10.0								
AKASG	**Malin Array Be**	**146.00**	**326**	PKPbc	PKPbc		22 30 08.3	-2.5
comp=Z,0.8nm,0.4s,baz=40,slow=4.4,SNR=6.5								
BRTR	**Keskin Array B**	**148.15**	**305**	PKPbc	PKPbc		22 30 15.3	-1.3
comp=Z,0.4nm,0.7s,baz=127,slow=2.7,SNR=3.0								
BRTR				PKPab	PKPab		22 30 20.9	-0.4
comp=Z,0.9nm,0.8s,baz=75,slow=2.9,SNR=5.3								
TORD	**Torodi Ar. Bea**	**167.67**	**190**	PKPab	PKPab		22 31 45.6	-0.1
comp=Z,0.5nm,0.6s,baz=148,slow=5.4,SNR=4.6								

ISCJB ***02*** *22:11:49.1±1.1,3811N±004×2660E±006,h1km±8km,*
Error ellipse: s-maj=7.7km s-min=6.0km az=141.4
ISK ***02*** *22:11:49.7,3848N×2660E,h16km,MD2.7*
CSEM ***02*** *22:11:50.9±0.2,3812N×2693E,h30km,MD2.7,Error*
ellipse: s-maj=7.0km s-min=4.4km az=111.0
ATH ***02*** *22:11:50.0,3807N×2660E,h35km±9km,MD3.2/3*
ISC 02 22:11:50.2±0.8,**3814N**±003×**2661E**±006,**h8**km±5km,**n12,**
σ1$01/20,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**357**	*i* P		**Pg**	**22 11 55.3**	**+0.7**
URLA				*i* S		**Sg**	**22 11 58.0**	**+0.3**
BLCB	**Balcova**	**0.42**	**54**	*i* PG		**Pg**	**22 11 57.5**	**-0.9**
BLCB				*i* SG		**Sg**	**22 12 03.3**	**-0.6**
SMG	**Samos**	**0.47**	**157**⇑	*i*PB		**Pg**	**22 11 59.5**	**+0.2**
SMG				*e*SB		**Sg**	**22 12 06.6**	**+1.2**
IZM	**Izmir**	**0.58**	**63**	*i* PG		**Pg**	**22 12 00.9**	**-0.4**
IZM				*i* SG		**Sg**	**22 12 08.6**	**-0.3**
KDAG	**Bornova**	**0.58**	**63**	*i* P		**Pg**	**22 12 00.9**	**-0.5**
KDAG				*i* S		**Sg**	**22 12 10.8**	**+1.8**
AYDN	**Tasoluk**	**1.11**	**115**	*i* P		**Pg**	**22 12 11.3**	**-0.3**
PRK	**Paraskevi**	**1.14**	**347**	*e*PN		**Pn**	**22 12 12.3**	**0.0**
PRK				*e*SN		**Sn**	**22 12 28.4**	**+0.3**
AKS	**Akhisar**	**1.20**	**52**	PG		**Pg**	**22 12 11.0**	**-2.2**
APE	**Apeiranthos**	**1.37**	**219**	*e*PN		**Pn**	**22 12 13.9**	**-1.7**
MANT	**Manisa**	**1.57**	**77**	*i* P		**Pn**	**22 12 18.9**	**+0.6**
MANT				*i* S		**Sn**	**22 12 38.5**	**-0.4**
BALB	**Balikesir**	**1.80**	**33**	*e*PN		**Pn**	**22 12 16.6**	**-4.8**
BTOK	**Tokmak**	**1.96**	**34**	*i* P		**Pn**	**22 12 26.0**	**+2.3**
BTOK				*i* S		**Sn**	**22 12 53.9**	**+5.4**

IDC ***02*** *22:23:48.5±0.8,3824N×2080E,h0km,mb3.8/15,*
mb1 3.9/19,mb1mx3.8/29,mbtmp3.8/19,ML3.6/3,Error
ellipse: s-maj=17.2km s-min=15.1km az=6.0

*THE **02** 22:23:49.8, 3807N×2067E, h10km, ML3.8*
*SKO **02** 22:23:49.3, 3803N×2067E, h0km*
*ISCJB **02** 22:23:50.9±0.2, 3826N±002×2067E±002, h10km, mb3.8/15, Error ellipse: s-maj=2.9km s-min=2.1km az=8.7*
*ROM **02** 22:23:50.9±0.7, 3810N×2075E, h10km, Ml3.7/13, Error ellipse: s-maj=10.4km s-min=5.3km az=53.0*
*ATH **02** 22:23:51.0, 3816N×2070E, h17km±1km, MD4.0/14, ML3.9*
*CSEM **02** 22:23:51.2±0.1, 3809N×2073E, h5km, mb4.3/9, Error ellipse: s-maj=2.0km s-min=1.3km az=5.0*
*MOS **02** 22:23:51.2±1.9, 3821N×2069E, h33km, mb4.0/10, Error ellipse: s-maj=18.9km s-min=9.0km az=83.6*
*NEIC **02** 22:23:51.0, 3816N×2070E, h17km, ML3.8(THE), ML3.9(ATH), After ATH.*
*PDG **02** 22:23:53.2±0.6, 3831N×2072E, h20km±2km*
*NAO **02** 22:23:53.1, 3821N×2141E, h33km, mb3.5*
ISC 02 22:23:51.8±0.2, 3818N±002×2072E±002, h10km, n190, σ1°38/232, mb3.8/15, 8C-20D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.10	267	ePB	Pg	22 23 54.7	+0.4
VLS				eSB	Sg	22 23 57.5	+1.4
LKD	Levkas	0.53	355	ePg	Pg	22 24 01.7	-0.3
LKD				eSg	Sg	22 24 10.8	+1.9
RLS	Riolos of Patr	0.61	102	⇓iPB	Pb	22 24 02.1	-2.3
RLS				eSN	Sg	22 24 12.1	+0.6
EVR	Evrytania	1.13	49	ePN	Pn	22 24 12.8	-0.8
EVR				eSN	Sn	22 24 28.8	-0.3
IGT	Igoumenitsa	1.38	348	ePg	Pg	22 24 16.6	-1.6
IGT				eSg	Sg	22 24 38.2	+2.1
IGT	Igoumenitsa	1.38	348	ePg	Pg	22 24 16.6	-1.6
IGT				eSg	Sg	22 24 38.2	+2.0
ITM	Ithomi	1.39	136	ePN	Pn	22 24 16.5	-0.7
ITM				eSN	Sn	22 24 36.4	+0.8
JAN	Janina	1.48	4	ePN	Pn	22 24 19.2	+0.8
JAN				eSN	Sn	22 24 39.9	+2.2
AGG	Agios Georgios comp=Z,9.0nm,0.4s	1.52	56	ePg	Pg	22 24 18.9	-2.0
AGG				eSg	Sg	22 24 41.7	+1.1
MEV	Metsovon	1.65	14	ePb	Pb	22 24 21.1	-1.2
MEV	Metsovon	1.65	14	ePb	Pb	22 24 21.0	-1.2
KEK	Kerkira	1.69	335	ePn	Pn	22 24 22.7	+1.4
KEK	Kerkira	1.69	335	ePN	Pn	22 24 21.4	+0.1
LKR	Lokris	1.85	75	ePN	Pn	22 24 24.1	+0.5
LSK	Leskovik	1.97	357	iPn	Pn	22 24 26.5	+1.4
LSK				iSn	Sg	22 25 03.5	+8.5
NAIG	Nisos Aigina	2.23	100	ePN	Pn	22 24 30.0	+1.2
NEO	Neokhori	2.26	59	ePB	Pb	22 24 29.6	-3.0
XOR	Xorichti comp=Z,8.0nm,0.5s	2.27	58	ePn	Pn	22 24 29.6	+0.3
KZN	Kozani	2.27	21	ePN	Pn	22 24 30.7	+1.4
VLI	Veliai	2.29	129	ePN	Pn	22 24 31.3	+1.7
LIT	Litokhoron comp=Z,5.0nm,0.5s	2.36	35	ePn	Pn	22 24 30.9	+0.4
LIT				eSn	Sn	22 25 01.9	+2.3
ATH	Athens Observa	2.38	94	ePN	Pn	22 24 31.3	+0.5
MPAR	Parnis Oros	2.38	90	ePN	Pn	22 24 32.0	+1.2
KVR	Kavouri	2.44	97	ePN	Pn	22 24 32.2	+0.6
PTL	Penteli	2.49	92	ePN	Pn	22 24 32.5	+0.2
SCTE	Santa Cesarea	2.57	318	Pn	Pn	22 24 33.2	-0.2
SCTE				Sn	Sn	22 25 05.6	+0.8
FNA	Florina comp=Z,5.0nm,0.4s	2.65	11	ePn	Pn	22 24 35.0	+0.5
KYTH	Kithira	2.65	135	ePB	Pb	22 24 36.4	-2.9
AOS	Alonnisos	2.67	67	ePn	Pn	22 24 34.4	-0.4
AOS				eSn	Sn	22 25 09.5	+2.4
AOS	Alonnisos	2.67	67	ePn	Pn	22 24 34.3	-0.4
BIA	Bitola	2.87	9	ePn	Pn	22 24 38.5	+1.0
BIA				eSn	Sn	22 25 14.5	+2.3
PAIG	Paliouri	2.89	52	ePn	Pn	22 24 37.7	-0.1
PAIG				eSn	Sn	22 25 15.7	+3.1
OHR	Ohrid	2.93	1	ePn	Pn	22 24 39.3	+1.0
OHR				eSn	Sn	22 25 16.9	+3.4
LCI	Lecce 110nm,0.5s	2.95	318	Pn	Pn	22 24 38.5	-0.1
THE	Thessaloniki	3.00	35	ePn	Pn	22 24 39.3	-0.1
PLG	Polygyros	3.05	43	ePN	Pn	22 24 40.0	0.0
GRG	Griva	3.06	25	ePn	Pn	22 24 40.3	+0.2
TIR	Tirane 200nm,0.7s	3.23	349	Pn	Pn	22 24 43.2	+0.7
TIP	Timpagrande 136nm,1.4s	3.25	289	Pn	Pn	22 24 42.5	-0.3
OUR	Ouranopolis comp=Z,2.5nm,0.4s	3.32	49	ePn	Pn	22 24 44.0	+0.3
SOH	Sokhos	3.33	37	ePn	Pn	22 24 44.7	+0.7
PLAC	Placanica 26nm,0.6s	3.37	276	Pn	Pn	22 24 43.9	-0.6
QSH	Qafa e Shtames	3.39	350	iPn	Pn	22 24 47.6	+2.9
GRI	Girifalco 143µm,29.0s	3.43	282	Pn	Pn	22 24 45.5	+0.3
VAY	Valandovo	3.44	24	ePn	Pn	22 24 46.8	+1.4
SOI	Samo 21nm,0.4s	3.68	270	Pn	Pn	22 24 48.0	-0.6
SOI				Sn	Sn	22 25 31.0	-1.0
SRS	Serrai	3.68	36	ePn	Pn	22 24 48.7	+0.1
ORI	Oriolo Calabro 62nm,0.4s	3.81	301	Pn	Pn	22 24 52.1	+1.6
BRT	Bari-Castellan 52nm,0.4s	3.82	316	Pn	Pn	22 24 50.9	+0.3
SKO	Skopje	3.83	8	ePn	Pn	22 24 51.8	+1.1
NOCI	Noci 351nm,1.0s	3.84	314	Pn	Pn	22 24 50.7	-0.2
LIA	Limnos Island	3.88	62	ePN	Pn	22 24 52.7	+1.3
ULC	Ulcinj	3.94	344	⇓iPn	Pn	22 24 51.5	-0.7
ULC				eSn	Sn	22 25 36.2	-2.4
ULC	Ulcinj	3.94	344	⇓iPn	Pn	22 24 51.5	-0.8
ULC				eSn	Sn	22 25 36.2	-2.3
NVR	Nevrokopi	3.99	36	ePN	Pn	22 24 54.4	+1.5
SG1	Sgolgore (BA)	4.10	312	ePn	Pn	22 24 54.1	-0.3
KKB	Krupnik	4.10	26	P	Pn	22 24 55.0	+0.5
MMB	Musomiste	4.12	33	P	Pn	22 24 55.5	+0.8
ATN	Antennamare	4.14	271	Pn	Pn	22 24 55.1	+0.1
BAI	Bari	4.16	316	ePn	Pn	22 24 55.0	-0.3
AMUR	Altamura 42nm,0.5s	4.18	312	Pn	Pn	22 24 55.5	-0.1
CUC	Castrocucco 256nm,1.0s	4.22	297	Pn	Pn	22 24 57.6	+1.5
BUM	Brajici-Budva	4.34	342	⇓iPn	Pn	22 24 57.0	-0.8
BUM				eSn	Sn	22 25 46.5	-1.9
TTG	Podgorica	4.38	346	⇓iPn	Pn	22 24 57.6	-0.8
TTG				eSn	Sn	22 25 47.0	-2.5
IDI	Anoyia 1.3nm,0.3s,baz=306,slow=16,SNR=16	4.43	129	Pn	Pn	22 24 57.5	-1.4
IDI				Sn	Sn	22 25 47.4	-3.1
PVY	Plav 4.8nm,0.3s,baz=305,slow=18,SNR=4.3	4.44	353	⇓iPn	Pn	22 24 59.7	+0.5
PVY				eSn	Sn	22 25 49.9	-1.1
MGR	Morigerati 49nm,0.7s	4.46	298	Pn	Pn	22 25 00.0	+0.6
CDT	Castel del Mon	4.49	312	ePn	Pn	22 24 59.9	+0.1
SLCN	Sala Consilina 43nm,0.5s	4.52	301	Pn	Pn	22 25 01.5	+1.3
HCY	Herceg Novi	4.58	339	⇓iPn	Pn	22 24 59.9	-1.2
HCY				eSn	Sn	22 25 52.3	-2.2
RZN	Rozhen	4.66	40	P	Pn	22 25 03.0	+0.9
CMPR	Campora 70nm,0.5s	4.71	299	Pn	Pn	22 25 02.7	-0.2
IVA	Berane	4.72	353	⇓iPn	Pn	22 25 02.8	-0.3
IVA				eSn	Sn	22 25 56.3	-1.6
RDO	Rodhopi	4.75	50	ePN	Pn	22 25 04.6	+1.1
MRLC	Muro Lucano	4.79	304	Pn	Pn	22 25 04.9	+0.9
NKY	Niksic	4.81	345	⇓iPn	Pn	22 25 03.6	-0.6
NKY				eSn	Sn	22 25 57.6	-2.3
SGO	Sicignano 45nm,0.6s	4.82	301	Pn	Pn	22 25 05.8	+1.5
ALN	Alexandroupoli	4.93	55	ePn	Pn	22 25 06.0	+0.1
FG4	Candela 44nm,0.3s	4.98	308	Pn	Pn	22 25 07.5	+1.0
BRY	Bratogost	4.99	341	⇓iPn	Pn	22 25 06.2	-0.5
BRY				eSn	Sn	22 26 03.0	-1.6
MCRV	Calabrutti - M 73nm,0.4s	5.01	303	Pn	Pn	22 25 08.3	+1.3
VAE	Valguarnera 0.7nm,0.3s,baz=153,slow=4.5,SNR=3.5	5.04	264	Pn	Pn	22 25 09.2	+1.8
VAE				Sn	Sn	22 26 02.5	-3.2
SNAL	S. Angelo Dei 2.9nm,0.3s,baz=84,slow=10,SNR=3.6 163nm,1.0s	5.06	304	Pn	Pn	22 25 08.8	+1.1
SGTA	Sant Agata di 67nm,0.5s	5.07	307	Pn	Pn	22 25 09.6	+1.8
FGMS	Monte Sant'Ang 37nm,0.3s	5.08	315	Pn	Pn	22 25 08.0	+0.1
MS1	Monte Sant'Ang	5.08	315	ePn	Pn	22 25 07.9	0.0
CAFE	Carife 100nm,0.7s	5.10	306	Pn	Pn	22 25 09.2	+1.1
UPM	Unac-Piva	5.20	345	⇓iPn	Pn	22 25 09.9	+0.3
UPM				eSn	Sn	22 26 07.6	-2.0
FG5	Orsara di Pugl 64nm,0.1s	5.22	308	Pn	Pn	22 25 11.2	+1.4
STON	Ston	5.22	335	iPn	Pn	22 25 07.4	-2.4
STON				iSn	Sn	22 26 05.9	-4.1
STON	Ston	5.22	335	iPn	Pn	22 25 07.4	-2.4
STON				iSn	Sn	22 26 05.8	-4.2
PLE	Pljevlja	5.24	349	⇓iPn	Pn	22 25 11.1	+1.0
PLE				eSn	Sn	22 26 08.0	-2.6
RGNG	Rignano Grg	5.26	313	Pn	Pn	22 25 10.6	+0.2
ISOR	Termini	5.49	298	Pn	Pn	22 25 13.7	+0.1
OVO	Vesuviano	5.55	300	Pn	Pn	22 25 16.2	+1.8
FG2	Serracapriola 53nm,0.4s	5.59	312	Pn	Pn	22 25 15.5	+0.5
BSSO	Busso 45nm,0.7s	5.78	307	Pn	Pn	22 25 19.1	+1.5
DIVS	Divcibare	5.94	355	⇑iPn	Pn	22 25 18.3	-1.4
DIVS				Sn	Sn	22 26 25.2	-2.5
TRIV	Trivento	5.94	309	Pn	Pn	22 25 19.7	0.0
VAGA	Valle Agricola	5.94	305	Pn	Pn	22 25 20.6	+0.8
FRES	Fresagrandinar 156nm,1.6s	5.99	311	Pn	Pn	22 25 21.7	+1.3
MSC	Monte Massico	6.01	302	Pn	Pn	22 25 21.3	+0.7
MIDA	Miranda 29nm,1.1s	6.05	307	Pn	Pn	22 25 23.6	+2.4
RFI	Roccamonfina 2.0nm,0.4s	6.05	303	Pn	Pn	22 25 22.3	+1.1
CII	Carovilli 12nm,0.7s	6.06	308	Pn	Pn	22 25 23.2	+1.8
RNI2	Rionero Sannit 132nm,1.5s	6.15	307	Pn	Pn	22 25 25.1	+2.5
INTR	Introdacqua 53nm,0.6s	6.47	308	Pn	Pn	22 25 27.5	+0.5
VVLD	Villa Vallelon 49nm,0.8s	6.57	306	Pn	Pn	22 25 29.9	+1.5
VCEL	Villa Celiera 38nm,0.5s	6.73	311	Pn	Pn	22 25 32.2	+1.6
PTQR	Pietraquaria 9.0nm,0.6s	6.79	307	Pn	Pn	22 25 33.2	+1.8
FAGN	Fagnano 59nm,0.5s	6.81	309	Pn	Pn	22 25 34.4	+2.7
AQU	L'Aquila 21nm,0.8s	6.97	309	Pn	Pn	22 25 31.7	-2.2
AQU	L'Aquila 21nm,0.8s	6.97	309	Pn	Pn	22 25 31.7	-2.2
TERO	Teramo 22nm,0.6s	7.01	311	Pn	Pn	22 25 35.5	+1.1
CAMP	Campotosto 456nm,4.5s	7.07	310	Pn	Pn	22 25 37.0	+1.7
NRCA	Norcia 11nm,0.4s	7.42	311	Pn	Pn	22 25 41.7	+1.6
CING	Cingoli 20nm,0.8s	7.71	315	Pn	Pn	22 25 44.4	+0.4
NVLJ	Novalja	7.74	327	iPn	Pn	22 25 43.4	-1.1
NVLJ				iSn	Sn	22 27 07.2	-4.9
SNTG	Esanatoglia 16nm,0.6s	7.78	313	Pn	Pn	22 25 46.0	+1.0
ARV	Arcevia 11nm,0.6s	7.93	314	Pn	Pn	22 25 47.5	+0.4
FSSB	Fossombrone	8.14	315	Pn	Pn	22 25 50.2	+0.2
MLR	Muntele Rosu 0.2nm,0.3s,baz=189,slow=13,SNR=3.9	8.28	26	Pn	Pn	22 25 53.4	+1.5
VOY	Vojsko	9.33	329	ePn	Pn	22 26 05.8	-0.5
VOY				eSn	Sn	22 27 45.3	-6.0
OBKA	Obir	9.49	333	⇑Sn	Sn	22 27 47.1	-8.0
OBKA	Obir	9.49	333	⇓iPn	Pn	22 26 06.9	-1.5
OBKA				⇑iSn	Sn	22 27 51.0	-4.1
ARSA	Arzberg	9.83	339	⇓Sn	Sn	22 27 55.9	-7.6
ARSA	Arzberg	9.83	339	⇓iPn	Pn	22 26 11.6	-1.6
ARSA				⇓iSn	Sn	22 27 60.0	-3.6
PGF	Pioggiola	9.95	300	ePn	Pn	22 26 17.4	+2.7
BRTR	Keskin Array B 0.1nm,0.3s,baz=170,slow=8.8,SNR=3.5	10.19	77	Pn	Pn	22 26 16.4	-1.6
KBA	Koelnbreinsper	10.41	331	⇑Sn	Sn	22 28 10.7	-7.1
KBA	Koelnbreinsper	10.41	331	⇓iPn	Pn	22 26 20.5	-0.6
KBA				⇑iSn	Sn	22 28 12.7	-5.1
MOA	Molln	10.75	336	⇑Sn	Sn	22 28 18.1	-7.9
MOA	Molln	10.75	336	⇓iPn	Pn	22 26 24.4	-1.3
MOA				⇓iSn	Sn	22 28 21.2	-4.8
WTTA	Wattenberg	11.26	327	⇑Sn	Sn	22 28 30.6	-8.0
WTTA	Wattenberg	11.26	327	⇓iPn	Pn	22 26 31.8	-0.9
WTTA				⇑iSn	Sn	22 28 30.6	-8.0
SBF	Sospel 22nm,1.0s	11.52	304	ePn	Pn	22 26 37.1	+0.9
SBF	Sospel 11nm,1.0s	11.52	304	ePn	Pn	22 26 37.1	+0.9
DAVOX	Davos baz=328,slow=19	11.73	321	Sn	Sn	22 28 40.0	-10
GERES	GERESS Array B 0.6nm,0.3s,baz=158,slow=14,SNR=13	11.80	337	Pn	Pn	22 26 37.9	-2.3
GERES				Sn	Sn	22 28 42.1	-10
GERES	GERESS Array B	11.80	337	P	Pn	22 26 37.9	-2.2
GERES						22 28 42.1	
GERES	comp=Z,1.0nm,0.3s			pmax	pmax		
FRF	La Foret Royal	11.92	301	ePn	Pn	22 26 42.2	+0.4
KHC	Kasperske Hory	12.10	337	ePn	Pn	22 26 40.3	-3.8
KHC				eS	Sn	22 28 49.7	-9.3
MBDF	Montbardon comp=Z,24nm,1.1s	12.33	306	ePn	Pn	22 26 46.1	-1.2
MBDF	Montbardon comp=Z,24nm,1.1s	12.33	306	ePn	Pn	22 26 46.1	-1.2
LPL	La Plagne	12.73	310	ePn	Pn	22 26 51.8	-1.0
SMRF	Simiane la Rot comp=Z,41nm,1.4s	12.80	302	ePn	Pn	22 26 53.8	+0.1
SMRF	Simiane la Rot comp=Z,40nm,1.4s	12.80	302	ePn	Pn	22 26 53.8	+0.1
ORIF	Oris-en-Rattie comp=Z,18nm,1.2s	12.98	306	ePn	Pn	22 26 55.3	-0.9
ORIF	Oris-en-Rattie comp=Z,17nm,1.2s	12.98	306	ePn	Pn	22 26 55.3	-0.9
CABF	La Chapelle comp=Z,3.1nm,0.6s	13.69	313	ePn	Pn	22 27 00.4	-5.5
CABF	La Chapelle comp=Z,1.5nm,0.6s	13.69	313	ePn	Pn	22 27 00.4	-5.5
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=3.2	13.90	23	Pn	Pn	22 27 10.4	+1.7
HINF	Hinteralfeld comp=Z,4.5nm,0.6s	13.96	318	ePn	Pn	22 27 07.7	-2.0
HINF	Hinteralfeld comp=Z,4.0nm,0.6s	13.96	318	ePn	Pn	22 27 07.7	-2.0
LOR	Lormes	15.33	312	ePn	Pn	22 27 22.7	-5.5
SSF	Saint Saulge	15.44	311	ePn	Pn	22 27 27.1	-2.5
TCF	Toulx Ste Croi	15.89	307	ePn	Pn	22 27 30.8	-4.7
RJF	Les Rejaudoux	15.98	303	ePn	Pn	22 27 31.5	-5.1
LFF	La Frestale	16.38	301	ePn	Pn	22 27 38.4	-3.4
OBN	Obninsk comp=Z,5.0nm,0.7s	20.05	27	iP	P	22 28 22.9	-2.1
OBN	Obninsk comp=Z,5.0nm,0.7s	20.05	27	iP	P	22 28 22.9	-2.1
OBN				pmax	pmax		
ROSF	Rostrenen comp=Z,44nm,1.2s	20.13	308	ePn	P	22 28 22.5	-3.3
ROSF	Rostrenen comp=Z,44nm,1.2s	20.13	308	ePn	P	22 28 22.5	-3.3
MDT	Midelt comp=Z,1.4nm,0.6s,mb3.5,baz=82,slow=11,SNR=7.2	21.28	263	P	P	22 28 37.5	-0.8
HFS	Hagfors comp=Z,1.3nm,0.4s,mb3.7,baz=166,slow=12,SNR=14	22.42	351	P	P	22 28 48.5	-2.0
HFS	Hagfors comp=Z,1.0nm,0.4s	22.42	351	P	P	22 28 48.5	-2.0
HFS				pmax	pmax		
EKA	Eskdalemuir Ar comp=Z,1.7nm,0.6s,mb3.7,baz=123,slow=9.8,SNR=12	23.51	325	P	P	22 29 00.4	-1.7
EKA	Eskdalemuir Ar comp=Z,2.0nm,0.6s	23.51	325	P	P	22 29 00.4	-1.7
EKA				pmax	pmax		
FINES	FINESS Array B comp=Z,1.4nm,0.6s,mb3.6,baz=174,slow=13,SNR=7.3	23.52	6	P	P	22 28 58.8	-3.4
FINES	FINESS Array B comp=Z,1.0nm,0.6s	23.52	6	P	P	22 28 58.8	-3.4
FINES				pmax	pmax		
NB2	NORSAR Subarra comp=Z,1.3nm,0.7s,mb3.5,baz=160,slow=10	23.64	348	P	P	22 29 01.1	-2.2
NOA	NORSAR Array B comp=Z,1.3nm,0.7s,mb3.5,baz=157,slow=9.4,SNR=6.4	23.64	348	P	P	22 29 01.0	-2.3
NOA	NORSAR Array B	23.64	348	P	P	22 29 01.0	-2.3
NOA				pmax	pmax		
KAF	Kangasniemi comp=Z,1.0nm,0.7s	24.20	6	ep	P	22 29 01.7	-6.7
TORD	Torodi Ar. Bea comp=Z,0.7nm,0.6s,mb3.5,baz=30,slow=9.3,SNR=19	30.13	219	P	P	22 30 00.1	-1.5
ARCES	ARCESS Array B comp=Z,1.4nm,0.7s,mb3.9,baz=194,slow=11,SNR=8.3	31.52	3	P	P	22 30 11.6	-2.3
ARCES	ARCESS Array B comp=Z,1.0nm,0.7s	31.52	3	P	P	22 30 11.6	-2.3
ARCES				pmax	pmax		
ARCES	ARCESS Array B comp=Z,0.9nm,0.7s,mb3.7,baz=265,slow=6.9,SNR=6.3	31.52	3	P	P	22 30 11.6	-2.3
BVAR	Borovoye Array comp=Z,1.0nm,0.7s	37.00	50	P	P	22 30 59.4	-2.0
BVAR	Borovoye Array comp=Z,1.0nm,0.7s	37.00	50	P	P	22 30 59.4	-2.0
BVAR				pmax	pmax		
MKAR	Makanchi Array comp=Z,1.7nm,0.4s,mb4.2,baz=274,slow=7.5,SNR=62	45.17	58	P	P	22 32 05.8	-2.8
MKAR	Makanchi Array comp=Z,2.0nm,0.4s	45.17	58	P	P	22 32 05.8	-2.8
MKAR				pmax	pmax		
ZAL	Zalesovo comp=Z,1.8nm,0.5s,mb4.3,baz=197,slow=10,SNR=9.7	45.56	48	P	P	22 32 08.6	-3.2
ZAL	Zalesovo comp=Z,2.0nm,0.5s	45.56	48	P	P	22 32 08.6	-3.2
ZAL				pmax	pmax		
SCHQ	Schefferville comp=Z,1.9nm,0.8s,mb4.2,baz=41,slow=9.3,SNR=5.6	58.56	317	P	P	22 33 46.8	-1.8
SONM	Songino Array comp=Z,1.2nm,1.0s,mb3.9,baz=292,slow=8.4,SNR=5.7	60.34	51	P	P	22 33 58.5	-2.3
SONM	Songino Array comp=Z,1.0nm,1.0s	60.34	51	P	P	22 33 58.5	-2.3
SONM				pmax	pmax		
YKA	Yellowknife Ar comp=Z,0.4nm,0.8s,mb3.4,baz=34,slow=5.1,SNR=8.1	73.44	340	P	P	22 35 22.6	-1.6
ULM	Lac du Bonnet comp=Z,1.2nm,0.4s,mb4.2,baz=55,slow=8.0,SNR=4.2	75.79	324	P	P	22 35 36.7	-1.1
PDAR	Pinedale Array comp=Z,0.3nm,0.5s,mb3.8,baz=56,slow=3.3,SNR=3.2	87.63	326	P	P	22 36 38.0	-2.3

*BJI **02** 22:27:24.7, 796S×1228E, h537km, mB4.5, mb4.2*
*IDC **02** 22:27:31.8±1.6, 724S×1225E, h535km±19km, mb3.5/11, mb1 3.5/13, mb1mx3.4/21, mbtmp4.3/13, Error ellipse: s-maj=19.7km s-min=9.9km az=70.0*
*ISCJB **02** 22:27:32.3±1.1, 725S±007×1225E±0.1, h556km±18km, mb4.0/23, Error ellipse: s-maj=18.5km s-min=8.9km az=132.5*
*NEIC **02** 22:27:32.1±0.9, 722S×1226E, h538km±12km, mb4.0/6, Error ellipse: s-maj=13.9km s-min=6.3km az=68.0*
*MOS **02** 22:27:33.0±0.8, 718S×1225E, h566km, mb3.8/4, Error ellipse: s-maj=27.7km s-min=13.2km az=115.3*
ISC 02 22:27:32.5±1.1, 725S±007×1226E±01, h542km±16km, n46, σ0°74/44, mb4.0/23, 1D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 18nm,0.4s	11.18	165	⇓iP	P	22 30 02.5	0.0
MBWA	Marble Bar	14.11	191	eP	P	22 30 32.1	-0.7
KKM	Kota Kinabalu	14.67	334	eP	P	22 30 37.9	-0.8
WRA	Warramunga Arr 0.4nm,0.3s,baz=312,slow=12,SNR=35	16.98	139	P	P	22 31 02.1	+0.8
WRAB	Tennant Creek	16.98	139	eP	P	22 31 02.5	+1.1
WRAB				pmax	pmax		
WRAB	Tennant Creek comp=Z,4.0nm,0.5s	16.98	139	eP	P	22 31 02.5	+1.2
WRAB	Tennant Creek comp=Z,3.5nm,0.5s	16.98	139	eP	P	22 31 01.7	+0.3
WB2	Warramunga Arr	16.98	139	eP	P	22 31 01.7	+0.3
ASAR	Alice Springs comp=Z,0.3nm,0.3s,baz=313,slow=8.0,SNR=15	19.59	148	P	P	22 31 26.1	+0.9
ASAR				ScP	ScP	22 38 03.5	-0.2
KLBR	Kellerberrin baz=339,slow=2.3,SNR=4.5	24.64	190	eP	P	22 32 09.8	-0.7
PSI	Prapat comp=Z,9.9nm,0.4s,mb4.8	25.68	292	P	P	22 32 19.1	-0.5
NWAO	Narrogin (SRO) comp=Z,5.4nm,0.7s,mb4.3,baz=153,slow=4.5,SNR=7.6	26.04	190	P	P	22 32 21.5	-1.3
NWAO	Narrogin (SRO) comp=Z,11nm,0.5s,mb4.7,baz=22,slow=6.2,SNR=24	26.04	190	eP	P	22 32 23.1	+0.3
QIZ	Qiongzhong	28.99	334	eP	P	22 32 48.6	0.0
STKA	Stephens Creek comp=Z,3.4nm,0.6s,mb4.0	30.22	147	eP	P	22 32 58.3	-0.9
STKA	Stephens Creek comp=Z,3.7nm,0.5s,mb4.1,baz=316,slow=9.3,SNR=14	30.22	147	P	P	22 32 58.3	-0.9
ENH	Enshi comp=Z,5.7nm,0.6s,mb4.3	39.38	342	eP	P	22 34 15.4	-0.1
CD2	Chengdu	42.03	335	eP	P	22 34 36.8	+0.2
CD2				AMB	AMB		
MJAR	Matsushiro Arr comp=Z,10.0nm,0.8s,mb4.4	45.95	18	P	P	22 35 06.6	-0.3
LZH	Lanzhou comp=Z,7.5nm,0.8s,mb4.3,baz=190,slow=7.9,SNR=17	46.58	339	eP	P	22 35 12.5	+0.8
LZH				AMB	AMB		
LSA	Lhasa comp=Z,21nm,1.3s,mb4.5	47.59	322	eP	P	22 35 21.3	+1.9
LSA				pmax	pmax		
LSA	Lhasa comp=Z,3.0nm,0.6s,mb4.0	47.59	322	eP	P	22 35 21.3	+1.9
JIRN	Jiri comp=Z,3.0nm,0.6s,mb4.0	49.45	316	eP	P	22 35 33.6	+0.4
GUN	Gumba comp=Z,5.3nm,0.4s,mb4.3	49.82	316	eP	P	22 35 36.3	+0.4
PKI	Pulchoki comp=Z,4.6nm,0.3s,mb4.4	49.94	315	eP	P	22 35 36.6	-0.1
DMN	Daman	50.17	315	eP	P	22 35 39.7	+1.3
GKN	Gorkha	50.74	315	eP	P	22 35 42.7	+0.1
GTA	Gaotai	51.01	337	eP	P	22 35 45.2	+0.7
GTA				AMB	AMB		
KOLN	Koldanda comp=Z,6.0nm,0.6s,mb4.1	51.33	314	eP	P	22 35 47.0	+0.1
ULN	Ulaanbaatar comp=Z,1.7nm,0.2s,mb4.0	56.57	347	eP	P	22 36 23.7	-0.1
ULN				pmax	pmax		
ULN	Ulaanbaatar comp=Z,2.0nm,0.4s,mb3.7	56.57	347	eP	P	22 36 23.7	-0.1
SONM	Songino Array comp=Z,2.4nm,0.4s,mb3.8	56.69	347	P	P	22 36 24.7	+0.1
SONM				ScP	ScP	22 40 20.6	+0.1
MKAR	Makanchi Array comp=Z,4.6nm,0.6s,mb3.9,baz=161,slow=8.3,SNR=42	64.63	331	P	P	22 37 16.9	0.0
ZAL	Zalesovo comp=Z,0.4nm,0.6s,baz=167,slow=5.0,SNR=3.4	68.76	337	P	P	22 37 40.9	-1.6
KURK	Kurchatov comp=Z,2.3nm,0.5s,m

Ms1 3.3/3,ms1mx2.8/23,Error ellipse: s-maj=17.9km s-min=16.5km az=136.0
*TEH **02** 22:47:06.7,2747N×5401E,h23km,Mn4.0*
*NEIC **02** 22:47:06.7,2747N×5401E,h23km,mb4.3/14, ML4.0(TEH),After TEH.*

ISC 02 22:47:06.9±0.6,2747N±004×5405E±003,h46km±5km, h24km±4.1km:pP-P,n148,σ1§04/172,mb4.2/42,MS3.3/3,5C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.25**	**311**	*e*PG	**Pn**	**22 47 29.1**	**+1.2**
GHIR				*e*SG	**Sn**	**22 47 49.2**	**+5.8**
GHIR				AML	AML	22 47 54.7	
	comp=E,4μm,0.5s						
GHIR				AML	AML	22 47 56.7	
	comp=N,2μm,0.7s						
BNDS	**Bandar-Abbas**	**1.89**	**92**	*e*PG	**Pn**	**22 47 34.2**	**-2.4**
BNDS				*e*SG	**Sn**	**22 47 58.9**	**-0.3**
BNDS				AML	AML	22 48 13.4	
	comp=E,1μm,0.8s						
BNDS				AML	AML	22 48 15.5	
	comp=N,2μm,0.5s						
BNDS	**Bandar-Abbas**	**1.89**	**92**	*e*Pg	**Pn**	**22 47 34.2**	**-2.4**
	SNR=91						
BNDS				*e*Sg	**Sn**	**22 47 58.8**	**-0.3**
	SNR=91						
IMOK	**Mook**	**1.97**	**323**	*e*Pn	**Pn**	**22 47 39.5**	**+1.8**
IPAR	**Pars**	**2.52**	**340**	*e*Pn	**Pn**	**22 47 46.8**	**+1.4**
IPAR	**Pars**	**2.52**	**340**	Pn	**Pn**	**22 47 46.7**	**+1.3**
KRBR	**Kerman**	**3.46**	**43**	*e*PN	**Pn**	**22 47 58.8**	**+0.7**
KRBR				AML	AML	22 48 49.4	
	comp=E,389nm,0.8s						
KRBR				AML	AML	22 48 57.8	
	comp=N,306nm,0.7s						
IMEH	**Mehriz**	**3.94**	**7**	*e*Pn	**Pn**	**22 48 05.4**	**+0.6**
IMEH	**Mehriz**	**3.94**	**7**	Pn	**Pn**	**22 48 05.3**	**+0.5**
IBAF	**Bafgh**	**4.32**	**17**	*e*Pn	**Pn**	**22 48 10.0**	**0.0**
IBAF				*e*Sn	**Sn**	**22 48 58.2**	**-0.8**
IBAF	**Bafgh**	**4.32**	**17**	Pn	**Pn**	**22 48 09.9**	**-0.1**
IBAF				Sn	**Sn**	**22 48 58.1**	**-0.9**
ISAD	**Sadrabad**	**4.44**	**356**	*e*Sn	**Sn**	**22 49 01.2**	**-0.9**
ICHK	**Chekchek**	**4.77**	**4**	*e*Pn	**Pn**	**22 48 16.6**	**+0.4**
ICHK				*e*Sn	**Sn**	**22 49 09.0**	**-1.2**
ICHK	**Chekchek**	**4.77**	**4**	Pn	**Pn**	**22 48 16.6**	**+0.4**
ICHK				Sn	**Sn**	**22 49 08.9**	**-1.3**
IGAR	**Garneh**	**5.03**	**342**	*e*Sn	**Sn**	**22 49 19.1**	**+2.6**
IZEF	**Zefreh**	**5.61**	**345**	*e*Pn	**Pn**	**22 48 27.6**	**-0.2**
IZEF				*e*Sn	**Sn**	**22 49 28.1**	**-2.8**
IZEF	**Zefreh**	**5.61**	**345**	Pn	**Pn**	**22 48 27.5**	**-0.3**
IZEF				Sn	**Sn**	**22 49 28.1**	**-2.8**
KBD	**Kabd**	**5.86**	**288**	*e*P	**Pn**	**22 48 30.9**	**-0.2**
KBD				AML	AML	22 49 40.6	
	comp=Z,124nm,0.3s						
KBD	**Kabd**	**5.86**	**288**	*e*P	**Pn**	**22 48 31.9**	**+0.8**
IPIR	**Pirpir**	**5.88**	**333**	*e*Pn	**Pn**	**22 48 31.2**	**-0.2**
IPIR				*e*Sn	**Sn**	**22 49 34.4**	**-3.0**
RDF	**Al-Radifah**	**5.92**	**286**	*e*P	**Pn**	**22 48 31.7**	**-0.2**
RDF				AML	AML	22 49 43.4	
	comp=Z,43nm,0.5s						
UMR	**Umm Al-Rimmam**	**5.95**	**292**	*e*P	**Pn**	**22 48 32.6**	**+0.3**
UMR				AML	AML	22 49 41.9	
	comp=Z,43nm,0.3s						
IKLH	**Kalahroud**	**6.21**	**340**	*e*Pn	**Pn**	**22 48 35.8**	**-0.2**
IKLH				*e*Sn	**Sn**	**22 49 42.5**	**-3.1**
IKLH	**Kalahroud**	**6.21**	**340**	Pn	**Pn**	**22 48 35.8**	**-0.2**
IKLH				Sn	**Sn**	**22 49 42.4**	**-3.2**
NAY	**Al-Naaiem**	**6.26**	**288**	*e*P	**Pn**	**22 48 36.6**	**0.0**
NAY				AML	AML	22 49 51.2	
	comp=Z,39nm,0.7s						
ZHSF	**Zahedan**	**6.29**	**69**	*e*PN	**Pn**	**22 48 36.3**	**-0.8**
MIB	**Mutribah**	**6.34**	**293**	*e*P	**Pn**	**22 48 37.7**	**-0.1**
MIB				*e*S	**Sn**	**22 49 49.7**	**+0.8**
MIB				AML	AML	22 49 54.0	
	comp=Z,57nm,0.6s						
MIB	**Mutribah**	**6.34**	**293**	*e*P	**Pn**	**22 48 37.7**	**-0.1**
MIB				*e*S	**Sn**	**22 49 49.7**	**+0.8**
IVRN	**Varamin**	**7.76**	**346**	*e*Pn	**Pn**	**22 48 56.9**	**-0.4**
IVRN				*e*Sn	**Sn**	**22 50 17.6**	**-6.2**
IVRN	**Varamin**	**7.76**	**346**	Pn	**Pn**	**22 48 56.8**	**-0.5**
IVRN				Sn	**Sn**	**22 50 17.6**	**-6.2**
ILAS	**Lasjerd**	**7.95**	**354**	*e*Pn	**Pn**	**22 48 59.7**	**-0.1**
IANJ	**Anjiloo**	**7.98**	**359**	*e*Pn	**Pn**	**22 49 00.0**	**-0.2**
IANJ				*e*Sn	**Sn**	**22 50 24.4**	**-4.6**
IANJ	**Anjiloo**	**7.98**	**359**	Pn	**Pn**	**22 49 00.0**	**-0.2**
IANJ				Sn	**Sn**	**22 50 24.3**	**-4.7**
ISHM	**Shahmirzad**	**8.34**	**356**	*e*Pn	**Pn**	**22 49 05.1**	**-0.1**
ISHM	**Shahmirzad**	**8.34**	**356**	Pn	**Pn**	**22 49 05.0**	**-0.2**
IRAZ	**Razeghan**	**8.66**	**337**	*e*Pn	**Pn**	**22 49 09.2**	**-0.3**
IDHR	**Dehrash**	**9.75**	**320**	*e*Pn	**Pn**	**22 49 22.5**	**-2.0**
GNI	**Garni**	**14.81**	**331**	Pn	**Pn**	**22 50 40.7**	**+7.3**
	comp=Z,1.2nm,0.3s,baz=33,slow=1.1,SNR=13						
GNI	**Garni**	**14.81**	**331**	*i* P	**Pn**	**22 50 32.6**	**-0.8**
	comp=Z,17nm,1.4s						
GNI	**Garni**	**14.81**	**331**	*i* P	**Pn**	**22 50 32.6**	**-0.8**
GNI				pmax	pmax		
	comp=Z,17nm,1.4s						
MALT	**Malatya**	**16.98**	**313**	*e*P	**Pn**	**22 51 02.6**	**+1.6**
	comp=Z,9.0nm,0.8s						
MALT	**Malatya**	**16.98**	**313**	*e*P	**Pn**	**22 51 02.6**	**+1.6**
MALT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MALT	**Malatya**	**16.98**	**313**	*e*Pn	**Pn**	**22 51 02.5**	**+1.5**
	comp=Z,9.5nm,0.8s						
ZEI	**Tsey**	**17.36**	**334**	*e*P	**Pn**	**22 51 07.3**	**+1.6**
KIV	**Kislovodsk**	**18.83**	**334**	*e*P	**Pn**	**22 51 24.5**	**+0.8**
	comp=Z,17nm,1.2s						
KIV				*e*S	**S**	**22 54 57.3**	**+2.8**
	comp=Z,63nm,9.0s						
KIV	**Kislovodsk**	**18.83**	**334**	*e*P	**Pn**	**22 51 24.5**	**+0.8**
KIV				*e*S	**S**	**22 54 57.3**	**+2.8**
KIV				pmax	pmax		
	comp=Z,17nm,1.2s						
KIV				MLR	MLR		
	comp=Z,63nm,9.0s						
KIV	**Kislovodsk**	**18.83**	**334**	*e*P	**Pn**	**22 51 24.6**	**+0.9**
	comp=Z,18nm,1.0s						
SOC	**Sochi**	**19.82**	**328**	*e*P	**Pn**	**22 51 40.8**	**+5.4**
	comp=Z,62nm,9.0s						
SOC	**Sochi**	**19.82**	**328**	*e*P	**Pn**	**22 51 40.8**	**+5.4**
SOC				pmax	pmax		
	comp=Z,16nm,0.9s						
SOC				MLR	MLR		
	comp=Z,62nm,9.0s						
CTKT	**Corum**	**20.61**	**314**	*i* P	**P**	**22 51 44.6**	**+2.5**
BR131	**Keskin Array S**	**20.89**	**311**	*e*P	**P**	**22 51 46.7**	**+1.6**
	comp=Z,4.7nm,0.8s						
BR131	**Keskin Array S**	**20.89**	**311**	*e*P	**P**	**22 51 46.7**	**+1.5**
	comp=Z,4.7nm,0.8s						
BRTR	**Keskin Array B**	**20.89**	**311**	P	**P**	**22 51 46.0**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=129,slow=12,SNR=14						
ELDT	**Eldivan**	**21.41**	**313**	*i* P	**P**	**22 51 52.2**	**+1.4**
BALT	**Daday**	**21.99**	**315**	*i* P	**P**	**22 51 60.0**	**+3.0**
SGKT	**Sivrigoynuk**	**22.36**	**311**	*i* P	**P**	**22 52 03.0**	**+2.1**
AAK	**Ala-Archa**	**22.48**	**42**	*e*P	**P**	**22 52 04.1**	**+2.0**
	comp=Z,12nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**22.48**	**42**	*e*P	**P**	**22 52 04.1**	**+2.0**
AAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**22.48**	**42**	*e*P	**P**	**22 52 04.1**	**+1.9**
	comp=Z,12nm,1.1s,mb4.2						
ESKT	**Eskisehir**	**22.71**	**308**	*i* P	**P**	**22 52 05.7**	**+1.1**
SEYT	**Eskypehyr**	**22.71**	**308**	*i* P	**P**	**22 52 05.7**	**+1.1**
AKTK	**Aktyubinsk**	**23.14**	**6**	P	**P**	**22 52 09.4**	**+0.3**
AKTK				S	**S**	**22 56 20.1**	**+3.2**
AKTK	**Aktyubinsk**	**23.14**	**6**	P	**P**	**22 52 09.4**	**+0.3**
AKTK				S	**S**	**22 56 20.1**	**+3.2**
AKTO	**Aktyubinsk**	**23.14**	**6**	P	**P**	**22 52 09.4**	**+0.3**
	comp=Z,4.4nm,0.5s,mb4.1,baz=181,slow=12,SNR=16						
AKTO				S	**S**	**22 56 20.1**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=3.3						
IDI	**Anoyia**	**26.02**	**295**	P	**P**	**22 52 37.0**	**+1.4**
	comp=Z,8.4nm,0.7s,mb4.4,baz=112,slow=9.2,SNR=5.9						
KOLN	**Koldanda**	**26.16**	**82**	*e*P	**P**	**22 52 37.3**	**+0.5**
	comp=Z,13nm,1.0s,mb4.4						
GKN	**Gorkha**	**27.05**	**82**	*e*P	**P**	**22 52 44.2**	**-0.6**
	comp=Z,7.5nm,0.7s,mb4.3						
DMN	**Daman**	**27.50**	**82**	*e*P	**P**	**22 52 49.3**	**+0.4**
KKN	**Kakani**	**27.63**	**82**	*e*P	**P**	**22 52 50.1**	**0.0**
	comp=Z,6.2nm,0.3s,mb4.7						
PKI	**Pulchoki**	**27.77**	**82**	*e*P	**P**	**22 52 51.7**	**+0.4**
	comp=Z,17nm,0.8s,mb4.7						
GUN	**Gumba**	**28.15**	**82**	*e*P	**P**	**22 52 55.1**	**+0.5**
	comp=Z,21nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**28.27**	**21**	P	**P**	**22 52 55.9**	**+0.2**
	comp=Z,1.9nm,0.5s,mb4.0,baz=217,slow=8.0,SNR=13						
JIRN	**Jiri**	**28.45**	**82**	*e*P	**P**	**22 52 57.3**	**0.0**
	comp=Z,12nm,0.7s,mb4.7						
ARU	**Arti**	**29.12**	**5**	*e*P	**P**	**22 53 06.0**	**+2.7**
ARU				*e*		22 54 01.6	
ARU				*e*S	**S**	**22 57 58.2**	**+6.1**
ARU				*e*SS	SS	22 59 31.3	-25
MKAR	**Makanchi Array**	**29.40**	**41**	P	**P**	**22 53 05.8**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=230,slow=9.9,SNR=33						
MKAR	**Makanchi Array**	**29.40**	**41⇑**	*e*P	**P**	**22 53 05.9**	**+0.1**
AKASG	**Malin Array Be**	**29.90**	**328**	P	**P**	**22 53 09.5**	**-0.7**
	comp=Z,0.9nm,0.4s,mb3.8,baz=134,slow=8.3,SNR=5.0						
AKASG	**Malin Array Be**	**29.90**	**328**	P	**P**	**22 53 09.5**	**-0.7**
OBN	**Obninsk**	**30.41**	**340**	*e*P	**P**	**22 53 16.2**	**+1.5**
	comp=Z,3.0nm,0.9s,mb4.0						
OBN	**Obninsk**	**30.41**	**340**	*e*P	**P**	**22 53 16.2**	**+1.5**
OBN				*e**PP	pP	22 53 25.1	-1.8
OBN				*e*		22 54 15.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**34.76**	**32**	P	**P**	**22 53 52.0**	**-0.7**
	comp=Z,1.9nm,0.5s,mb4.3,baz=244,slow=6.5,SNR=10						
ZAL				LR	LR	23 10 45.5	
	comp=Z,38nm,18.7s,MS3.2,baz=164,slow=41						
GERES	**GERESS Array B**	**37.65**	**316**	P	**P**	**22 54 17.1**	**-0.3**
	comp=Z,0.1nm,0.4s,mb2.9,baz=95,slow=11,SNR=3.4						
WTTA	**Wattenberg**	**38.49**	**312⇑**	*i*P	**P**	**22 54 24.6**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.1						
SQTA	**Sankt Quirin**	**38.76**	**312⇑**	*i*P	**P**	**22 54 26.7**	**-0.1**
	comp=Z,3.5nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**38.79**	**339**	P	**P**	**22 54 26.8**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=136,slow=9.4,SNR=20						
FINES	**FINESS Array B**	**38.79**	**339**	*i* P	**P**	**22 54 27.1**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**38.79**	**339**	P	**P**	**22 54 26.8**	**-0.3**
PGF	**Pioggiola**	**39.38**	**304**	*e*P	**P**	**22 54 30.8**	**-1.1**
	comp=Z,44nm,1.2s,mb4.8						
PGF	**Pioggiola**	**39.38**	**304**	*e*P	**P**	**22 54 30.8**	**-1.1**
	comp=Z,22nm,1.2s,mb4.8						
PGF	**Pioggiola**	**39.38**	**304**	*e*P	**P**	**22 54 30.8**	**-1.1**
PGF				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.8						
GTA	**Gaotai**	**39.62**	**61**	*e*P	**P**	**22 54 34.6**	**+0.7**
GTA				AP	pP	22 54 41.8	-4.5
GTA				XP	sP	22 54 45.1	-6.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
DAVA	**Damuels**	**39.65**	**312⇑**	*i*P	**P**	**22 54 34.2**	**0.0**
	comp=Z,10nm,0.5s,mb4.9						
SBF	**Sospel**	**40.69**	**306**	*e*P	**P**	**22 54 41.8**	**-1.0**
	comp=Z,42nm,1.1s,mb4.7						
SBF	**Sospel**	**40.69**	**306**	*e*P	**P**	**22 54 41.8**	**-1.0**
	comp=Z,21nm,1.1s,mb4.7						
SBF	**Sospel**	**40.69**	**306**	*e*P	**P**	**22 54 41.8**	**-1.0**
SBF				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.7						
FRF	**La Foret Royal**	**41.22**	**306**	*e*P	**P**	**22 54 46.2**	**-0.9**
	comp=Z,16nm,0.9s,mb4.3						
FRF	**La Foret Royal**	**41.22**	**306**	*e*P	**P**	**22 54 46.2**	**-0.9**
	comp=Z,7.9nm,0.9s,mb4.3						
FRF	**La Foret Royal**	**41.22**	**306**	*e*P	**P**	**22 54 46.2**	**-0.9**
FRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
MBDF	**Montbardon**	**41.28**	**307**	*e*P	**P**	**22 54 47.2**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.0						
MBDF	**Montbardon**	**41.28**	**307**	*e*P	**P**	**22 54 47.2**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.0						
MBDF	**Montbardon**	**41.28**	**307**	*e*P	**P**	**22 54 47.2**	**-0.5**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LMR	**La Mourre**	**41.29**	**305**	*e*P	**P**	**22 54 46.9**	**-0.8**
	comp=Z,27nm,1.2s,mb4.4						
LMR	**La Mourre**	**41.29**	**305**	*e*P	**P**	**22 54 46.9**	**-0.8**
	comp=Z,13nm,1.2s,mb4.4						
LMR	**La Mourre**	**41.29**	**305**	*e*P	**P**	**22 54 46.9**	**-0.8**
LMR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
LPG	**La Plagne**	**41.41**	**309**	*e*P	**P**	**22 54 47.7**	**-1.1**
LPL	**La Plagne**	**41.43**	**309**	*e*P	**P**	**22 54 48.0**	**-0.9**
CDF	**Champ du Feu**	**41.62**	**313**	*e*P	**P**	**22 54 49.3**	**-1.1**
HINF	**Hinteralfeld**	**41.77**	**312**	*e*P	**P**	**22 54 50.4**	**-1.3**
CABF	**La Chapelle**	**42.05**	**310**	*e*P	**P**	**22 54 53.4**	**-0.6**
	comp=Z,6.4nm,0.7s,mb4.0						
CABF	**La Chapelle**	**42.05**	**310**	*e*P	**P**	**22 54 53.4**	**-0.6**
	comp=Z,3.2nm,0.7s,mb4.0						
CABF	**La Chapelle**	**42.05**	**310**	*e*P	**P**	**22 54 53.4**	**-0.6**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
LZH	**Lanzhou**	**42.80**	**66**	*e*P	**P**	**22 55 00.3**	**+0.2**
LZH				AP	pP	22 55 06.8	-5.8
LZH				XP	sP	22 55 09.1	-8.9
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.7						
MEZF	**Maizieres J'vi**	**43.09**	**313**	*e*P	**P**	**22 55 01.5**	**-0.9**
	comp=Z,12nm,0.8s,mb4.4						
MEZF	**Maizieres J'vi**	**43.09**	**313**	*e*P	**P**	**22 55 01.5**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.4						
CD2	**Chengdu**	**43.25**	**73**	*e*P	**P**	**22 55 05.4**	**+1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**43.59**	**310**	*e*P	**P**	**22 55 05.4**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.0						
SMF	**Signal de Mont**	**43.59**	**310**	*e*P	**P**	**22 55 05.4**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.0						
SMF	**Signal de Mont**	**43.59**	**310**	*e*P	**P**	**22 55 05.4**	**-1.0**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LOR	**Lormes**	**43.67**	**311**	*e*P	**P**	**22 55 06.4**	**-0.6**
SSF	**Saint Saulge**	**43.88**	**310**	*e*P	**P**	**22 55 08.1**	**-0.6**
NB2	**NORSAR Subarra**	**44.12**	**332**	P	**P**	**22 55 09.7**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.6,baz=119,slow=7.9						
NOA	**NORSAR Array B**	**44.12**	**332**	P	**P**	**22 55 09.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.7,baz=119,slow=8.0,SNR=6.5						
NOA				LR	LR	23 15 30.0	
	comp=Z,23nm,20.4s,MS3.1,baz=60,slow=39						
NOA	**NORSAR Array B**	**44.12**	**332**	P	**P**	**22 55 09.9**	**-0.8**
BGF	**Bois d'Agland**	**44.26**	**310**	*e*P	**P**	**22 55 11.0**	**-0.8**
CAF	**Calviac**	**44.63**	**307**	*e*P	**P**	**22 55 14.1**	**-0.7**
TCF	**Toulx Ste Croi**	**44.66**	**309**	*e*P	**P**	**22 55 14.1**	**-0.9**
SONM	**Songino Array**	**45.19**	**49**	P	**P**	**22 55 19.3**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.6,baz=262,slow=10,SNR=7.5						
SONM				LR	LR	23 16 42.9	
	comp=Z,59nm,18.3s,MS3.6,baz=92,slow=39						
ARCES	**ARCESS Array B**	**45.25**	**346**	P	**P**	**22 55 19.8**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.1,baz=148,slow=9.3,SNR=13						
LFF	**La Frestale**	**45.57**	**307**	*e*P	**P**	**22 55 21.4**	**-0.8**
ULN	**Ulaanbaatar**	**45.63**	**49**	*e*P	**P**	**22 55 24.1**	**+1.4**
ETSF	**Etsaut**	**46.42**	**304**	*e*P	**P**	**22 55 28.1**	**-0.8**
LDF	**La Druitiere**	**46.50**	**312**	*e*P	**P**	**22 55 28.6**	**-0.9**
SJPF	**Ste Jean**	**46.92**	**305**	*e*P	**P**	**22 55 31.9**	**-0.9**
	comp=Z,5.4nm,0.6s,mb4.4						
SJPF	**Ste Jean**	**46.92**	**305**	*e*P	**P**	**22 55 31.9**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.4						
SJPF	**Ste Jean**	**46.92**	**305**	*e*P	**P**	**22 55 31.9**	**-0.9**
SJPF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
GRR	**Gorron**	**46.96**	**312**	*e*P	**P**	**22 55 32.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**50.78**	**265**	P	**P**	**22 56 02.6**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.5,baz=60,slow=8.5,SNR=42						
BOD	**Bodaibo**	**51.27**	**36**	*e*P	**P**	**22 56 00.5**	**-5.6**
	comp=Z,13nm,0.8s,mb4.9						
BOD	**Bodaibo**	**51.27**	**36**	*e*P	**P**	**22 56 00.5**	**-5.6**
BOD				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
BOSA	**Boshof**	**62.22**	**209**	P	**P**	**22 57 24.1**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=31,slow=5.9,SNR=3.1						
SFJD	**Kangerlussuaq**	**70.52**	**336**	*e*P	**P**	**22 58 21.4**	**+4.5**
SCHQ	**Schefferville**	**83.67**	**330**	P	**P**	**22 59 30.9**	**+0.3**
	comp=Z,5.4nm,1.0s,mb4.6,baz=4.5,slow=8.5,SNR=4.1						
ILAR	**Eielson Array**	**86.63**	**9**	P	**P**	**22 59 44.8**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.8,baz=320,slow=3.5,SNR=7.2						
YKA	**Yellowknife Ar**	**89.89**	**355**	P	**P**	**23 00 01.4**	**+0.5**
	comp=Z,0.2nm,0.6s,mb3.6,baz=8.0,slow=5.1,SNR=9.4						
WRA	**Warramunga Arr**	**90.83**	**112**	P	**P**	**23 00 05.1**	**-0.2**
	comp=Z,0.4nm,0.5s,mb4.0,baz=315,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**90.83**	**112**	*i* P	**P**	**23 00 05.0**	**-0.3**
ASAR	**Alice Springs**	**92.27**	**115**	P	**P**	**23 00 11.6**	**-0.4**
	comp=Z,0.7nm,0.6s,mb4.1,baz=305,slow=5.1,SNR=4.9						
SYO	**Syowa Base**	**96.77**	**185⇑**	*e*P	**P**	**23 00 39.2**	**+6.6**

*ISCJB **02** 22:51:41.6±1.9,1131S×008×162.1E±0.1,h35km±16km, mb4.2/14,MS4.1/4,Error ellipse: s-maj=19.1km s-min=13.6km az=147.2*
*IDC **02** 22:51:43.9±3.7,1121S×16199E,h39km±30km,mb3.9/9, mb1 4.1/12,mb1mx4.1/18,mbtmp4.2/12,ML3.8/3,MS3.9/5, Ms1 3.9/5,ms1mx3.6/19,Error ellipse: s-maj=26.5km s-min=19.3km az=107.0*
*BJI **02** 22:51:43.0,1120S×162.10E,h35km,mB4.8,mb4.4*
*NEIC **02** 22:51:43.1±0.5,1119S×162.10E,h35km,mb4.5/3,Error ellipse: s-maj=11.7km s-min=9.8km az=103.0*

ISC 02 22:51:43.4±4.2,1123S±009×1621E±01,h33km±30km,n31, σ1§11/26,mb4.2/14,MS4.1/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.77**	**310**	Pn	**Pn**	**22 52 25.0**	**-0.3**
	20nm,0.3s,baz=84,slow=10,SNR=4.1						
HNR	**Honiara**	**2.77**	**310**	Pn	**Pn**	**22 52 25.0**	**-0.3**
HNR				*e*S	**Sn**	**22 53 13.6**	**+16**
DZM	**Mont Dzumac**	**11.55**	**159**	Pn	**Pn**	**22 54 25.9**	**0.0**
	0.2nm,0.3s,baz=293,slow=14,SNR=5.5						
CTA	**Charters Tower**	**17.60**	**238**	*e*P	**Pn**	**22 55 47.2**	**+1.3**
	7.2nm,0.7s						
CTA	**Charters Tower**	**17.60**	**238**	P	**Pn**	**22 55 47.3**	**+1.4**
	0.5nm,0.3s,baz=67,slow=12,SNR=17						
CTA				LR	LR	23 00 17.1	
	comp=Z,127nm,19.1s,baz=66,slow=29						
CTAO	**Charters Tower**	**17.60**	**238**	*e*Pn	**Pn**	**22 55 47.5**	**+1.6**
	10nm,0.8s						
STKA	**Stephens Creek**	**27.93**	**220**	*e*P	**P**	**22 57 28.7**	**-1.7**
	3.8nm,1.2s,mb3.9						
STKA	**Stephens Creek**	**27.93**	**220**	P	**P**	**22 57 28.8**	**-1.6**
	2.5nm,0.8s,mb3.9,baz=38,slow=10,SNR=6.1						
STKA				LR	LR	23 08 10.4	
	comp=Z,293nm,19.0s,MS3.9,baz=29,slow=35						
STKA	**Stephens Creek**	**27.93**	**220**	P	**P**	**22 57 28.8**	**-1.6**
STKA				LR	LR	23 08 10.4	
WRAB	**Tennant Creek**	**28.05**	**249**	*e*Pn	**P**	**22 57 31.6**	**+0.1**
	18nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**28.06**	**249**	P	**P**	**22 57 30.8**	**-0.9**
	1.5nm,0.8s,mb3.7,baz=76,slow=9.5,SNR=9.2						
WRA				PcP	PcP	23 00 46.3	+0.7
	1.1nm,0.8s,baz=69,slow=2.4,SNR=5.6						
ASAR	**Alice Springs**	**29.53**	**241**	P	**P**	**22 57 44.1**	**-0.5**
	3.2nm,0.8s,mb4.1,baz=74,slow=9.4,SNR=25						
ASAR				PcP	PcP	23 00 49.7	+0.4
	0.3nm,0.6s,baz=90,slow=1.3,SNR=5.3						
NACB	**Ninganchiao**	**52.95**	**312**	P	**P**	**23 00 56.5**	**+0.1**
YHNB	**Yeheng**	**53.40**	**312**	P	**P**	**23 00 58.4**	**-1.3**
VNDA	**Vanda**	**66.28**	**180**	P	**P**	**23 02 29.2**	**+1.0**
	2.0nm,0.8s,mb4.2,baz=29,slow=8.3,SNR=5.8						
KMI	**Kunming**	**68.18**	**303**	P	**P**	**23 02 43.0**	**+2.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
CD2	**Chengdu**	**69.89**	**309**	*e*P	**P**	**23 02 51.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**76.38**	**325**	*e*P	**P**	**23 03 29.3**	**+0.1**
	comp=Z,6.0nm,1.0s,mb4.5						
GTA	**Gaotai**	**76.63**	**315**	*e*P	**P**	**23 03 33.2**	**+2.5**
GTA				AP	pP	23 03 40.7	-0.4
GTA				AMB	AMB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.58	129	eP	Pg	23 08 40.8	-1.0
VIF				eS	Sg	23 08 48.6	-0.7
VIF							
	117nm,0.2s						
VIF	Vila Franca	0.58	129	eP	Pg	23 08 40.8	-1.0
VIF				eS	Sg	23 08 48.6	-0.7
PCNG	Congro	0.59	125	eP	Pg	23 08 40.8	-1.3
PCNG				eS	Sg	23 08 48.9	-0.9
PCNG							
	139nm,0.3s						
PCNG	Congro	0.59	125	eP	Pg	23 08 40.8	-1.3
PCNG				eS	Sg	23 08 48.9	-0.9
PFAD	Fenais da Ajud	0.61	116	eP	Pg	23 08 41.1	-1.2
PFAD				eS	Sg	23 08 49.3	-0.9
FRA1	Furnas	0.63	125	eP	Pg	23 08 41.1	-1.7
FRA1				eS	Sg	23 08 49.6	-1.5
MIRA	Miradouro	0.66	119	i P	Pg	23 08 41.5	-1.9
MIRA				eS	Sg	23 08 50.1	-1.9
PFAV	Pico das Favas	1.04	306	eP	Pg	23 08 47.1	-3.5
PFAV				eS	Sg	23 08 59.9	-4.1
PFAV							
	37nm,0.2s						
PSCM	Serra do Cume	1.05	304	eP	Pg	23 08 46.2	-4.6
PSCM				eS	Sg	23 08 58.8	-5.7
PSCM							
	160nm,0.1s						
RIB2	Ribeirinha	1.07	302	eP	Pg	23 08 47.7	-3.6
RIB2				eS	Sg	23 09 00.6	-4.6
RIB2							
	113nm,0.1s						
ADH	Angra Heroismo	1.11	300	eS	Sg	23 09 00.0	-6.2
PVNV	Vila Nova	1.11	306	eP	Pg	23 08 48.3	-3.7
PVNV				eS	Sg	23 09 01.5	-4.9
PVNV							
	56nm,0.2s						
PPAD	Pico dos Padre	1.16	301	eP	Pg	23 08 49.3	-3.7
PPAD				eS	Sg	23 09 02.9	-5.2
PPAD							
	60nm,0.2s						
PBIS	Biscoitos	1.17	304	eS	Sg	23 09 03.2	-5.2
PBIS							
	24nm,0.1s						
ASBA	Santa Barbara	1.20	301	eP	Pg	23 08 49.9	-3.8
ASBA				eS	Sg	23 09 03.9	-5.3
ASBA							
	106nm,0.2s						
PSMN	Pico do Norte,	1.34	146	eS	Sg	23 09 05.2	-8.4
ROSA	Rosais	1.86	290	eP	Pn	23 08 57.6	-5.9
ROSA				eS	Sn	23 09 18.5	-9.0
PICO	Pico	1.94	282	eP	Pn	23 08 58.5	-6.2
PICO				eS	Sn	23 09 19.9	-10
CALA	Caldeira	2.17	283	eP	Pn	23 09 01.9	-5.9
CALA				eS	Sn	23 09 25.9	-9.3

IDC 02 23:25:27.2±6.1, 490S×13327E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.4/11, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=365.7km s-min=31.0km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.98	176	Pn	Pn	23 28 58.3	-1.9
	0.0nm,0.3s,baz=356,slow=13,SNR=3.9						
WRA				Sn	Sn	23 31 38.4	-8.5
	0.1nm,0.3s,baz=6.7,slow=23,SNR=4.3						
ASAR	Alice Springs	18.66	178	P	Pn	23 29 47.8	+0.9
	0.1nm,0.3s,baz=3.6,slow=9.7,SNR=11						
MKAR	Makanchi Array	68.33	325	P	P	23 36 30.4	+0.2
	0.2nm,0.6s,baz=117,slow=8.1,SNR=2.8						

*SKO **02** 23:54:46.2, 4040N×21.17E, h5km, M3.1, ML3.5*
*TIR **02** 23:54:46.1, 4048N×2130E, h4km*
*ISCJB **02** 23:54:46.2±0.3, 4048N±001×2126E±002, h12km±2km, mb3.6/9, Error ellipse: s-maj=2.3km s-min=2.0km az=126.2*
*ATH **02** 23:54:47.8, 4045N×2132E, h26km±1km, MD3.9/14, ML4.2*
*PDG **02** 23:54:47.4±0.5, 4049N×2128E, h18km±1km*
*THE **02** 23:54:47.5, 4045N×2129E, h5km, ML3.8*
*PRU **02** 23:54:47.5, 4038N×2045E, h0km*
*CSEM **02** 23:54:47.6±0.1, 4055N×2120E, h23km±1km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.2km az=37.0*
*NEIC **02** 23:54:47.8, 4045N×2132E, h26km, ML4.0(PDG), ML3.6(THE), ML4.2(ATH), After ATH.*
*MOS **02** 23:54:48.2±0.8, 4046N×2123E, h33km, mb3.7/1, Error ellipse: s-maj=6.4km s-min=4.1km az=122.6*
*IDC **02** 23:54:51.3±1.4, 4049N×2125E, h62km±16km, mb3.4/10, mb1 3.6/17, mb1mx3.5/29, mbtmp3.6/17, Error ellipse: s-maj=14.3km s-min=11.7km az=83.0*
*NAO **02** 23:54:57.8, 4144N×2173E, h33km, mb3.0*
ISC 02 23:54:47.2±0.3, 4047N±001×2128E±002, h9km±2km, n156, σ1§31/221, mb3.6/9, 24C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.32	12	ePg	Pg	23 54 53.9	+0.2
FNA				eSg	Sg	23 54 59.9	+1.9
FNA	Florina	0.32	12	ePg	Pg	23 54 53.8	+0.2
FNA				eSg	Sg	23 54 59.9	+1.9
KZN	Kozani	0.41	113	⇑iPB	Pg	23 54 56.2	+1.1
KZN				eSB	Sg	23 55 03.3	+2.8
KBN	Korca	0.41	293	i Pg	Pg	23 54 54.6	-0.6
KBN				i Sg	Sg	23 55 00.7	+0.1
BIA	Bitola	0.55	3	⇑iPg	Pg	23 54 56.8	-1.1
BIA				eSg	Sg	23 55 05.7	+0.5
BIA				eLg		23 55 06.7	
	comp=E,5μm,0.5s						
BIA				eLg		23 55 06.7	
	comp=N,7μm,0.4s						
LSK	Leskovik	0.61	239	i Pg	Pg	23 54 57.7	-1.3
LSK				i Sg	Sg	23 55 06.9	-0.1
MEV	Metsovon	0.68	184	ePg	Pg	23 54 59.4	-1.9
OHR	Ohrid	0.74	330	i Pg	Pg	23 54 59.6	-1.9
OHR				eSg	Sg	23 55 11.6	+0.4
JAN	Janina	0.88	202	ePB	Pb	23 55 03.9	-0.6
JAN				eSN	Sn	23 55 16.7	-1.8
GRG	Griva	0.98	60	ePg	Pg	23 55 06.1	0.0
TPE	Tepelena	0.99	260	i pg?	Pg	23 55 04.5	-1.7
TPE				i Sg	Sg	23 55 20.0	+1.0
LIT	Litokhoron	0.99	111	ePg	Pg	23 55 06.2	-0.1
LIT				eSg	Sg	23 55 20.9	+1.7
SRN	Sarande	1.15	240	i Pg	Pg	23 55 10.5	+1.3
SRN				i Sg	Sg	23 55 28.1	+4.0
IGT	Igoumenitsa	1.19	218	ePg	Pg	23 55 08.3	-1.6
IGT				eSg	Sg	23 55 27.4	+2.0
BELI	Belica	1.22	360	i Pn	Pn	23 55 06.8	-3.5
BELI				i Pg	Pg	23 55 09.6	-0.9
BELI				i Sg	Sg	23 55 30.7	+4.4
SAMO	Samokov	1.23	355	i Pn	Pn	23 55 08.7	-1.8
SAMO				i		23 55 09.4	
SAMO				i		23 55 10.0	
SAMO				i Sn	Sn	23 55 26.9	-0.4
THE	Thessaloniki	1.29	82	ePg	Pg	23 55 11.0	-1.0
THE				eSg	Sg	23 55 29.5	+0.7
VAY	Valandovo	1.30	48	i Pg	Pg	23 55 10.7	-1.4
VAY				eSg	Sg	23 55 30.1	+1.2
VAY				eLg		23 55 31.1	
	comp=E,621nm,0.8s						
VAY				eLg		23 55 32.3	
	comp=N,853nm,0.9s						
VLO	Vlora	1.36	271	i pn?	Pn	23 55 15.4	+3.0
VLO				i Sn	Sn	23 55 35.9	+5.4
KEK	Kerkira	1.37	237	ePn	Pn	23 55 13.5	+1.1
KEK				eSN	Sn	23 55 32.8	+2.2
STIP	Stip	1.40	29	i Pg	Pg	23 55 12.8	-1.3
STIP				eSg	Sg	23 55 35.6	+3.2
STIP				eLg		23 55 36.1	
	comp=N,216nm,0.6s						
STIP				eLg		23 55 36.6	
	comp=E,213nm,0.7s						
KOZJ	Kozjak Brana	1.41	357	i Pn	Pn	23 55 12.0	-1.0
KOZJ				i		23 55 12.6	
KOZJ				i		23 55 13.9	
KOZJ				i Sn	Sn	23 55 32.8	+1.2
KOZJ				i		23 55 34.1	
QSH	Qafa e Shtames	1.48	316	i Pn	Pn	23 55 16.4	+2.4
QSH				i Sn	Sn	23 55 39.4	+5.9
SKO	Skopje	1.51	4	i Pg	Pg	23 55 14.7	-1.5
SKO				eSg	Sg	23 55 37.1	+1.4
SKO				eLg		23 55 38.6	
	comp=E,861nm,0.6s						
SKO				eLg		23 55 38.9	
	comp=N,835nm,0.6s						
EVR	Evrytania	1.60	165	ePN	Pn	23 55 16.5	+0.9
SOH	Sokhos	1.61	77	ePg	Pg	23 55 16.1	-2.1
SOH	Sokhos	1.61	77	ePg	Pg	23 55 16.0	-2.2
AGG	Agios Georgios	1.65	150	ePb	Pb	23 55 16.3	-1.5
	comp=N,14nm,0.4s						
PLG	Polygyros	1.65	93	ePN	Pn	23 55 16.9	+0.6
LKD	Levkas	1.82	196	ePb	Pb	23 55 18.5	-2.2
LKD				eSb	Sb	23 55 43.8	+0.2
XOR	Xorichti	1.83	126	ePb	Pb	23 55 18.7	-2.2
	comp=N,20nm,0.9s						
SRS	Serrai	1.87	69	ePb	Pb	23 55 18.8	-2.7
NEO	Neokhori	1.89	127	ePB	Pb	23 55 19.7	-2.1
NEO				eSN	Sn	23 55 43.6	+0.1
NEO	Neokhori	1.89	127	eSn	Sn	23 55 43.6	+0.1
PUK	Puka	1.89	327	i Pn	Pn	23 55 21.6	+2.0
PUK				i Sn	Sn	23 55 48.4	+4.9
PAIG	Paliouri	1.91	106	ePb	Pb	23 55 19.4	-2.8
OUR	Ouranopolis	2.06	93	ePn	Pn	23 55 22.2	+0.2
BCI	Bajram Curri	2.11	335	i Pn	Pn	23 55 24.2	+1.6
BCI				i Sn	Sn	23 55 55.2	+6.3
ULC	Ulcinj	2.14	315	⇑iPn	Pn	23 55 23.1	0.0
ULC				eSn	Sn	23 55 50.6	+0.9
NVR	Nevrokopi	2.14	65	ePN	Pn	23 55 23.0	-0.1
LKR	Lokris	2.25	143	ePN	Pn	23 55 24.9	+0.4
PVY	Plav	2.34	336	⇑iPn	Pn	23 55 26.1	+0.3
PVY				eSn	Sn	23 55 55.6	+0.9
VLS	Valsamata	2.35	193	ePN	Pn	23 55 26.4	+0.5
VLS				eSN	Sn	23 55 55.5	+0.7
AOS	Alonnisos	2.38	122	ePn	Pn	23 55 26.3	-0.1
RLS	Riolos of Patr	2.41	177	ePB	Pb	23 55 28.5	-2.2
TTG	Podgorica	2.48	323	⇑iPn	Pn	23 55 27.6	-0.1
TTG				eSn	Sn	23 55 58.9	+0.8
BUM	Brajici-Budva	2.56	316	⇑iPn	Pn	23 55 29.0	+0.1
BUM				eSn	Sn	23 56 00.9	+0.8
IVA	Berane	2.62	337	⇑iPn	Pn	23 55 29.8	+0.2
IVA				eSn	Sn	23 56 01.9	+0.4
HCY	Herceg Novi	2.88	314	⇑iPn	Pn	23 55 32.9	-0.4
HCY				eSn	Sn	23 56 08.1	+0.1
HCY	Herceg Novi	2.88	314	⇑iPn	Pn	23 55 32.8	-0.4
NKY	Niksic	2.90	325	⇑iPn	Pn	23 55 33.8	+0.3
NKY				eSn	Sn	23 56 09.4	+0.9
PE1	Pezze di Greco	2.96	278	ePn	Pn	23 55 33.6	-0.7
MPAR	Parnis Oros	2.99	140	ePN	Pn	23 55 35.5	+0.7
ZAPS	Zavoj/Pirot	3.00	19	⇑iPn	Pn	23 55 34.4	-0.4
ZAPS				Sn	Sn	23 56 09.9	-0.9
ATH	Athens Observa	3.13	142	ePN	Pn	23 55 36.5	-0.1
PTL	Penteli	3.14	139	ePN	Pn	23 55 37.0	+0.3
BRY	Bratogost	3.18	321	⇑iPn	Pn	23 55 37.3	0.0
BRY				eSn	Sn	23 56 15.7	+0.3
PLE	Pljevlja	3.19	334	⇑iPn	Pn	23 55 38.0	+0.6
PLE				eSn	Sn	23 56 16.1	+0.5
NAIG	Nisos Aigina	3.20	147	ePN	Pn	23 55 38.0	+0.4
UPM	Unac-Piva	3.26	328	⇑iPn	Pn	23 55 38.8	+0.3
UPM				eSn	Sn	23 56 18.0	+0.7
KVR	Kavouri	3.27	143	ePN	Pn	23 55 39.0	+0.5
RDO	Rodhopi	3.30	77	ePN	Pn	23 55 39.8	+0.8
ITH	Ithomi	3.32	171	ePN	Pn	23 55 40.9	+1.6
BAI	Bari	3.41	282	ePn	Pn	23 55 39.8	-0.6
SG1	Sgolgore (BA)	3.52	278	ePn	Pn	23 55 41.2	-0.8
STON	Ston	3.60	313	i Pn	Pn	23 55 41.7	-1.5
STON				i Sn	Sn	23 56 22.8	-3.0
STON	Ston	3.60	313	i Pn	Pn	23 55 41.7	-1.4
STON				i Sn	Sn	23 56 22.7	-3.1
ALN	Alexandroupoli	3.65	82	ePn	Pn	23 55 43.9	+0.1
TIP	Timpagrande	3.71	251	ePn	Pn	23 55 43.9	-0.8
TIP				eSn	Sn	23 56 28.0	-0.6
CDT	Castel del Mon	3.85	281	ePn	Pn	23 55 46.0	-0.6
VLI	Veliai	3.96	160	ePN	Pn	23 55 49.7	+1.6
MS1	Monte Sant'Ang	4.22	289	ePn	Pn	23 55 50.9	-0.8
BZS	Buzias	5.15	3	⇓P	Pn	23 56 03.1	-1.4
MTUR	Matau	5.51	29	⇑P	Pn	23 56 15.6	+6.3
VOIR		5.68	28	⇓P	Pn	23 56 12.8	+1.1
IDI	Anoyia	5.90	150	P	Pn	23 56 17.0	+2.2
	comp=N,0.8nm,0.3s,baz=73,slow=18,SNR=4.3						
IDI				S	Sn	23 57 22.8	+0.2
	comp=N,1.9nm,0.3s,baz=273,slow=10,SNR=4.3						
PKSM	Moragy	6.06	342	⇓eP	Pn	23 56 16.2	-0.7
PKSM				eS	Sn	23 57 23.0	-3.3
MLR	Muntele Rosu	6.07	33	P	Pn	23 56 20.4	+3.3
	comp=N,0.7nm,0.3s,baz=10,slow=9.7,SNR=6.3						
MLR	Muntele Rosu	6.07	33	⇑P	Pn	23 56 21.0	+3.9
RHK1	Bakonya	6.09	338	eP	Pn	23 56 17.9	+0.5
RHK1				eS	Sn	23 57 24.1	-3.1
	comp=N,1.2nm,0.5s						
VAE	Valguarnera	6.13	243	P	Pn	23 56 18.9	+1.0
	comp=N,0.4nm,0.3s,baz=310,slow=20,SNR=2.3						
VAE				S	Sn	23 57 30.3	+2.2
	comp=N,1.3nm,0.3s,baz=322,slow=3.1,SNR=3.3						
AQU	L'Aquila	6.22	290	eP	Pn	23 56 19.7	+0.6
	comp=N,23nm,0.8s						
AQU				eS	Sn	23 57 30.2	-0.1
AQU	L'Aquila	6.22	290	eP	Pn	23 56 19.7	+0.6
AQU				e		23 57 30.2	
AQU				pmax	pmax		
	comp=Z,23nm,0.8s						
AQU	L'Aquila	6.22	290	ePn	Pn	23 56 19.7	+0.6
	comp=Z,23nm,0.8s						
AQU				eSn	Sn	23 57 30.2	-0.1
NVLJ	Novalja	6.26	313	i Pn	Pn	23 56 18.9	-0.8
NVLJ				i Sn	Sn	23 57 26.8	-4.6
NVLJ	Novalja	6.26	313	i Pn	Pn	23 56 18.9	-0.8
NVLJ				i Sn	Sn	23 57 26.7	-4.6
HARR	Harsova	6.47	47	⇑P	Pn	23 56 27.3	+4.7
VRI	Vrincioaia	6.70	35	⇑P	Pn	23 56 27.9	+2.1
PSZ	Piszkesteto	7.52	353	⇓eP	Pn	23 56 36.8	-0.1
PSZ				eS	Sn	23 57 58.9	-3.3
PSZ	Piszkesteto	7.52	353	⇓eP	Pn	23 56 36.8	-0.1
PSZ				eS	Sn	23 57 59.7	-2.5
PSZ	Piszkesteto	7.52	353	eP	Pn	23 56 38.8	+1.9
PSZ				e		23 57 59.7	
PSZ				pmax	pmax		
	comp=Z,15nm,0.8s						
PSZ	Piszkesteto	7.52	353	ePn	Pn	23 56 38.8	+1.9
	comp=Z,15nm,0.8s						
PSZ				eSn	Sn	23 57 59.7	-2.5
BURAR	Bucovina Array	7.69	20	⇓P	Pn	23 56 40.5	+1.3
VOY	Vojsko	7.75	318	ePn	Pn	23 56 39.9	-0.2
VOY				e		23 56 45.3	
VOY				eSn	Sn	23 58 02.5	-5.4
OBKA	Obir	7.77	323	⇑Sn	Sn	23 58 04.5	-4.0
OBKA	Obir	7.77	323	⇑iPn	Pn	23 56 39.3	-1.1
OBKA				⇑iSn	Sn	23 58 04.5	-4.0
OBKA	Obir	7.77	323	Pn	Pn	23 56 39.3	-1.1
ARSA	Arzberg	7.95	330	⇑Sn	Sn	23 58 07.9	-5.1
ARSA	Arzberg	7.95	330	⇓iPn	Pn	23 56 42.6	-0.3
	SNR=7.9						
ARSA				⇑iSn	Sn	23 58 07.9	-5.1
ARSA	Arzberg	7.95	330	Pn	Pn	23 56 42.6	-0.3
	comp=Z,7.0nm,9.0s						
KECS	Kecovo	8.04	356	ePN	Pn	23 56 46.2	+2.2
KECS				eSN	Sn	23 58 15.9	+0.9
KECS				e		23 59 05.3	
KECS	Kecovo	8.04	356	eP	Pn	23 56 46.2	+2.2
KECS				e		23 58 15.9	
VYHS	Vyhne	8.21	349	ePN	Pn	23 56 49.2	+2.7
VYHS				eSN	Sn	23 58 18.4	-1.0
VYHS	Vyhne	8.21	349	eP	Pn	23 56 49.2	+2.7
VYHS				eS	Sn	23 58 18.4	-1.0
CRS	Cervenica-Dubn	8.44	1	ePN	Pn	23 56 52.8	+3.3
KOLS	Kolonicke sedl	8.49	4	ePN	Pn	23 56 52.1	+1.8
SMOL	Smolenice	8.50	342	eSN	Sn	23 58 21.9	-4.6
SMOL	Smolenice	8.50	342	ePn	Pn	23 56 55.1	+4.7
SMOL				eSn	Sn	23 58 21.9	-4.6
KBA	Koelnbreinsper	8.75	322	⇓Sn	Sn	23 58 27.5	-5.1
KBA	Koelnbreinsper	8.75	322	⇓iPn	Pn	23 56 51.5	-2.4
KBA				⇓iSn	Sn	23 58 27.5	-5.1
MOA	Molln	8.94	328	⇓Sn	Sn	23 58 33.8	-3.3
MOA	Molln	8.94	328	⇑iPn	Pn	23 56 54.5	-1.9
MOA				⇓iSn	Sn	23 58 33.8	-3.3
STHS	Stebnicka Huta	8.95	360	e	Pn	23 57 03.5	+6.9
VRAC	Vranov	9.44	341	P	Pn	23 57 05.4	+2.1
	comp=Z,0.1nm,0.3s,baz=185,slow=15,SNR=2.2						
PGF	Pioggiola	9.45	287	eP	Pn	23 57 04.3	+0.9
BRTR	Keskin Array B	9.50	90	P	Pn	23 57 07.1	+3.0
	comp=Z,0.1nm,0.3s,baz=152,slow=39,SNR=2.7						
GERES	GERESS Array B	9.96	330	P	Pn	23 57 09.6	-0.8
	comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=6.3						
GERES				S	Sn	23 58 59.3	-3.0
	comp=Z,0.4nm,0.3s,baz=155,slow=21,SNR=5.4						
KHC	Kasperske Hory	10.24	330	eP	Pn	23 57 09.8	-4.5
KHC				eS	Sn	23 59 03.4	-5.8
DAVOX	Davos	10.39	311	P	Pn	23 57 18.6	+2.2
	comp=Z,0.5nm,0.3s,baz=168,slow=21,SNR=6.5						
DAVOX				S	Sn	23 59 04.7	-8.3
	comp=Z,0.6nm,0.3s,baz=333,slow=21,SNR=3.9						
SBF	Sospel	10.82	293	eP	Pn	23 57 23.3	+1.0
FRF	La Foret Royal	11.32	291	eP	Pn	23 57 30.1	+1.1
MBDF	Montbardon	11.51	296	eP	Pn	23 57 32.7	+1.0
	comp=Z,1.7nm,0.6s						
MBDF	Montbardon	11.51	296	eP	Pn	23 57 32.7	+1.0
	comp=Z,0.9nm,0.6s						
MBDF	Montbardon	11.51	296	eP	Pn	23 57 32.7	+1.0
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPG	La Plagne	11.77	300	eP	Pn	23 57 35.8	+0.6
	comp=Z,3.1nm,0.4s						
LPG	La Plagne	11.77	300	eP	Pn	23 57 35.8	+0.6
	comp=Z,1.5nm,0.4s						
LPG	La Plagne	11.77	300	eP	Pn	23 57 35.8	+0.6
LPG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPL	La Plagne	11.79	300	eP	Pn	23 57 36.2	+0.8
	comp=Z,2.4nm,0.4s						
LPL	La Plagne	11.79	300	eP	Pn	23 57 36.2	+0.8
	comp=Z,1.2nm,0.4s						
LPL	La Plagne	11.79	300	eP	Pn	23 57 36.2	+0.8
LPL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ORIF	Oris-en-Rattie	12.17	296	eP	Pn	23 57 41.3	+0.6
CABF	La Chapelle	12.61	304	eP	Pn	23 57 47.1	+0.4
	comp=Z,4.0nm,0.5s						
CABF	La Chapelle	12.61	304	eP	Pn	23 57 47.1	+0.4
	comp=Z,2.0nm,0.5s						
CABF	La Chapelle	12.61	304	eP	Pn	23 57 47.1	+0.4
CABF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CDF	Champ du Feu	12.76	313	eP	Pn	23 57 49.4	+0.6
VIVF	Saint-Julien-l	12.99	295	eP	Pn	23 57 52.6	+0.8
SMF	Signal de Mont	14.06	302	eP	Pn	23 58 06.6	+0.1
LOR	Lormes	14.28	304	eP	Pn	23 58 09.4	0.0
SSF	Saint Saulge	14.42	303	eP	Pn	23 58 14.6	+3.2
AVF	Avril sur Loir	14.43	302	eP	Pn	23 58 11.2	-0.3
BGF	Bois d'Agland	14.69	301	eP	Pn	23 58 14.6	-0.4
GRR	Gorron	17.64	304	eP	Pn	23 58 52.2	-1.0
OBN	Obninsk	17.83	30	eP	Pn	23 59 04.3	+8.8
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	20.25	349	P	P	23 59 20.9	-1.8
	comp=Z,1.1nm,0.4s,baz=151,slow=15,SNR=6.3						
FINES	FINESS Array B	21.21	6	P	P	23 59 31.1	-2.0
	comp=Z,2.6nm,1.0s,mb3.5,baz=153,slow=12,SNR=4.2						
NB2	NORSAR Subarra	21.51	347	P	P	23 59 34.3	-2.0
	comp=Z,0.5nm,0.5s,mb3.2,baz=157,slow=11						
NOA	NORSAR Array B	21.51	347	P	P	23 59 33.5	-2.8
	comp=Z,0.8nm,0.8s,mb3.2,baz=222,slow=20,SNR=4.1						
EKA	Eskdalemuir Ar	21.96	321	P	P	23 59 40.1	-1.1
	comp=Z,1.7nm,0.7s,mb3.6,baz=122,slow=9.3,SNR=7.0						
ARCES	ARCESS Array B	29.22	3	P	P	00 00 45.5	-3.7
	comp=Z,1.6nm,0.8s,mb3.8,baz=186,slow=11,SNR=5.8						
TORD	Torodi Ar. Bea	32.19	218	P	P	00 01 13.0	-2.3
	comp=Z,0.5nm,0.5s,mb3.6,baz=36,slow=9.5,SNR=17						
MKAR	Makanchi Array	43.63	61	P	P	00 02 49.8	-2.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=284,slow=7.1,SNR=7.4						
YKA	Yellowknife Ar	71.44	340	P	P	00 06 04.2	-3.6
	comp=Z,0.2nm,0.6s,mb3.2,baz=36,slow=5.6,SNR=5.9						
YKA	Yellowknife Ar	71.44	340	P	P	00 06 04.2	-3.6
BDFB	Brasilia	85.03	245	P	P	00 07 21.1	-2.0
	comp=Z,2.2nm,0.8s,mb4.3,baz=102,slow=7.1,SNR=4.1						
TXAR	Lajitas Array	93.82	314	P	P	00 08 03.2	-1.5
	comp=Z,0.3nm,0.6s,mb3.9,baz=135,slow=1.8,SNR=4.4						
TXAR	Lajitas Array	93.82	314	P	P	00 08 03.2	-1.5

*SKO **03** 00:00:23.9, 4032N×21.19E, h0km, M3.2, ML3.7*
*ISCJB **03** 00:00:25.5±0.3, 4046N±001×2125E±002, h8km±2km, mb3.5/9, MS3.7/1, Error ellipse: s-maj=2.0km s-min=2.0km az=98.7*
*CSEM **03** 00:00:26.4±0.1, 4052N×21.11E, h20km, ML3.6, Error ellipse: s-maj=1.6km s-min=1.0km az=51.0*
*ATH **03** 00:00:27.3, 4044N×2131E, h25km±1km, MD3.9/13, ML4.0*
*THE **03** 00:00:27.2, 4043N×2130E, h5km, ML3.6*
*NEIC **03** 00:00:27.3, 4044N×2131E, h25km, ML3.6(THE), ML4.0(ATH), After ATH.*
*TIR **03** 00:00:28.8, 4045N×2096E, h17km*
*IDC **03** 00:00:29.8±1.8, 4043N×2116E, h55km±20km, mb3.3/10, mb1 3.5/15, mb1mx3.5/27, mbtmp3.5/15, ML3.3/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/18, Error ellipse: s-maj=19.4km s-min=12.6km az=78.0*
*NAO **03** 00:00:29.0, 4018N×1893E, h33km, mb3.3*
*SOF **03** 00:00:29.1, 4066N×2151E, h10km, MD3.8*
ISC 03 00:00:26.3±0.3, 4044N±001×2125E±002, h7km±2km, n132, σ1§27/188, mb3.5/9, MS3.7/1, 18C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.35	15	ePg	Pg	00 00 33.6	+0.4
KBN	Korca	0.40	297	i Pg	Pg	00 00 34.2	+0.1
KBN				i Sg	Sg	00 00 40.1	+0.8
KZN	Kozani	0.42	109	ePB	Pg	00 00 35.9	+1.4
KZN				eSB	Sg	00 00 43.0	+3.0
BIA	Bitola

SKO	Skopje	1.53	5	⇑ *i*Pn	Pn	00 00 54.1	+0.1
SKO				*e*Sn	Sn	00 01 16.2	+2.0
SKO				*e*Lg		00 01 17.9	
	comp=N,778nm,0.5s						
SKO				*e*Lg		00 01 18.1	
	comp=E,957nm,0.7s						
SKO	Skopje	1.53	5	⇑ *i*Pn	Pn	00 00 54.1	0.0
SKO				*e*Sn	Sn	00 01 16.2	+2.0
EVR	Evrytania	1.58	164	*e*PN	Pn	00 00 55.7	+0.9
SOH	Sokhos	1.64	76	*e*Pg	Pg	00 00 55.6	-2.2
	comp=E,15nm,0.5s						
AGG	Agios Georgios	1.65	149	*e*Pg	Pg	00 00 56.1	-1.7
AGG				*e*Sg	Sg	00 01 17.7	-1.5
PLG	Polygyros	1.68	92	*e*PN	Pn	00 00 56.1	+0.1
PLG				*e*SN	Sn	00 01 17.4	-0.3
LKD	Levkas	1.80	195	*e*Pb	Pb	00 00 59.4	-0.2
XOR	Xorichti	1.84	125	*e*Pb	Pb	00 00 58.2	-2.0
	comp=E,20nm,0.5s						
NEO	Neokhori	1.89	126	*e*PB	Pb	00 00 59.3	-1.9
NEO				*e*SN	Sn	00 01 23.9	+0.8
PUK	Puka	1.90	328	*i*Pn	Pn	00 01 00.9	+1.8
SRS	Serrai	1.90	69	*e*Pb	Pb	00 00 58.4	-2.8
PAIG	Paliouri	1.93	105	*e*Pb	Pb	00 00 59.1	-2.7
KKB	Krupnik	1.98	44	P	Pn	00 01 00.0	-0.2
OUR	Ouranopolis	2.09	92	*e*Pn	Pn	00 01 01.3	-0.4
	comp=E,8.0nm,0.5s						
OUR				*e*Sn	Sn	00 01 28.6	+0.8
OUR	Ouranopolis	2.09	92	*e*Pn	Pn	00 01 01.3	-0.4
	comp=E,8.0nm,0.5s						
OUR				*e*Sn	Sn	00 01 28.6	+0.7
BCI	Bajram Curri	2.12	335	*i* pn?	Pn	00 01 08.6	+6.5
ULC	Ulcinj	2.14	316	⇓ *i*Pn	Pn	00 01 03.0	+0.5
ULC				*e*Sn	Sn	00 01 30.6	+1.3
NVR	Nevrokopi	2.17	65	*e*PN	Pn	00 01 02.8	-0.1
MMB	Musomiste	2.19	58	P	Pn	00 01 02.5	-0.7
LKR	Lokris	2.24	142	⇑ *i*PN	Pn	00 01 04.5	+0.7
VLS	Valsamata	2.32	193	*e*PN	Pn	00 01 06.2	+1.3
PVY	Plav	2.35	336	⇑ *i*Pn	Pn	00 01 05.7	+0.3
PVY				*e*Sn	Sn	00 01 35.3	+0.8
RLS	Riolos of Patr	2.39	176	*e*PB	Pb	00 01 07.9	-1.7
RLS				*e*SN	Sn	00 01 35.6	+0.3
AOS	Alonnisos	2.39	121	*e*Pn	Pn	00 01 05.5	-0.4
AOS	Alonnisos	2.39	121	*e*Pn	Pn	00 01 05.4	-0.4
TTG	Podgorica	2.49	324	⇑ *i*Pn	Pn	00 01 07.7	+0.6
TTG				*e*Sn	Sn	00 01 38.6	+0.9
BUM	Brajici-Budva	2.57	317	⇑ *i*Pn	Pn	00 01 09.0	+0.7
BUM				*e*Sn	Sn	00 01 41.1	+1.4
VTS	Vitosha	2.60	34	P	Pn	00 01 09.0	+0.3
IVA	Berane	2.63	338	⇑ *i*Pn	Pn	00 01 09.3	+0.2
IVA				*e*Sn	Sn	00 01 41.4	+0.1
HCY	Herceg Novi	2.88	315	⇑ *i*Pn	Pn	00 01 13.3	+0.7
HCY				*e*Sn	Sn	00 01 48.3	+0.8
RZN	Rozhen	2.90	63	P	Pn	00 01 14.3	+1.5
NKY	Niksic	2.91	325	⇑ *i*Pn	Pn	00 01 13.8	+0.8
NKY				*e*Sn	Sn	00 01 49.0	+0.8
MPAR	Parnis Oros	2.99	139	*e*PN	Pn	00 01 15.0	+0.9
ZAPS	Zavoj/Pirot	3.03	19	⇑ *i*Pn	Pn	00 01 14.3	-0.3
ZAPS				Sn	Sn	00 01 55.9	+4.9
PGB	Panagyurishte	3.04	45	P	Pn	00 01 17.0	+2.3
LIA	Limnos Island	3.06	99	*e*PN	Pn	00 01 15.6	+0.5
ATH	Athens Observa	3.12	141	*e*PN	Pn	00 01 16.9	+1.0
ATH				*e*SN	Sn	00 01 53.1	-0.4
PTL	Penteli	3.13	139	*e*PN	Pn	00 01 17.0	+0.9
BRY	Bratogost	3.19	321	⇑ *i*Pn	Pn	00 01 17.3	+0.5
BRY				*e*Sn	Sn	00 01 55.9	+0.9
PLE	Pljevlja	3.20	335	⇑ *i*Pn	Pn	00 01 17.9	+0.9
PLE				*e*Sn	Sn	00 01 55.4	0.0
KVR	Kavouri	3.26	142	*e*PN	Pn	00 01 19.0	+1.1
UPM	Unac-Piva	3.27	328	⇑ *i*Pn	Pn	00 01 18.7	+0.8
UPM				*e*Sn	Sn	00 01 57.6	+0.6
ITM	Ithomi	3.30	171	*e*PN	Pn	00 01 20.8	+2.4
RDO	Rodhopi	3.33	76	*e*PN	Pn	00 01 19.5	+0.8
KDZ	Kurdzhali	3.37	68	P	Pn	00 01 19.5	+0.2
BAI	Bari	3.39	283	*e*Pn	Pn	00 01 19.1	-0.5
SG1	Sgolgore (BA)	3.50	278	*e*Pn	Pn	00 01 20.6	-0.6
STON	Ston	3.60	313	*i*Pn	Pn	00 01 21.8	-0.7
STON				*i*Sn	Sn	00 02 02.9	-2.3
ALN	Alexandroupoli	3.67	81	*e*Pn	Pn	00 01 23.6	+0.1
ALN				*e*Sn	Sn	00 02 08.0	+1.0
DIVS	Divcibare	3.77	346	⇓ *i*Pn	Pn	00 01 24.3	-0.5
DIVS				Sn	Sn	00 02 08.9	-0.5
CDT	Castel del Mon	3.84	281	*e*Pn	Pn	00 01 25.4	-0.3
VLI	Veliai	3.95	160	*e*PN	Pn	00 01 29.1	+1.8
MS1	Monte Sant'Ang	4.21	289	*e*Pn	Pn	00 01 30.0	-0.9
BEO	Belgrade	4.41	353	⇑ *i*Pn	Pn	00 01 34.9	+1.2
BEO				Sn	Sn	00 02 29.3	+4.0
SZH	Strazhica	4.49	50	*e*P	Pg	00 01 53.9	+1.5
IDI	Anoyia	5.90	150	P	Pn	00 01 55.1	+1.0
	comp=E,0.7nm,0.3s,baz=349,slow=13,SNR=6.7						
IDI				S	Sn	00 03 01.2	-0.6
	comp=E,2.4nm,0.3s,baz=42,slow=16,SNR=7.6						
PKSM	Moragy	6.07	343	*e*S	Sn	00 03 05.0	-1.2
MLR	Muntele Rosu	6.11	33	P	Pn	00 01 59.8	+2.9
	comp=E,1.1nm,0.3s,baz=156,slow=11,SNR=7.2						
MLR				S	Sn	00 03 07.8	+0.8
	comp=E,0.5nm,0.3s,baz=295,slow=18,SNR=1.7						
RHK1	Bakonya	6.11	339	*e*S	Sn	00 03 05.3	-1.7
	comp=E,0.5nm,0.3s						
NVLJ	Novalja	6.26	313	*i*Pn	Pn	00 01 58.0	-1.1
NVLJ				*i*Sn	Sn	00 03 05.1	-5.7
NVLJ	Novalja	6.26	313	*i*Pn	Pn	00 01 57.9	-1.1
NVLJ				*i*Sn	Sn	00 03 05.1	-5.7
CRES	Cresnjev	6.85	324	*e*Pn	Pn	00 02 05.5	-1.6
CEY	Cerknica	7.28	319	*e*Pn	Pn	00 02 12.2	-0.8
GROS	Grobnik	7.33	327	*i*Pn	Pn	00 02 12.6	-1.1
PSZ	Piszkesteto	7.54	353	⇓ *i*P	Pn	00 02 15.8	-0.8
PSZ				*i*		00 03 37.4	
PERS	Pernice	7.62	326	*e*Pn	Pn	00 02 16.8	-1.0
VOY	Vojsko	7.75	319	*e*Pn	Pn	00 02 20.9	+1.4
VOY				*e*		00 02 24.7	
VOY				*e*Sn	Sn	00 03 43.2	-4.2
ARSA	Arzberg	7.96	331	⇓ *i*Sn	Sn	00 03 47.3	-5.4
ARSA	Arzberg	7.96	331	⇓ *i*Pn	Pn	00 02 22.3	-0.1
ARSA				⇓ *i*Sn	Sn	00 03 47.3	-5.4
ARSA	Arzberg	7.96	331	⇓ Pn	Pn	00 02 22.3	-0.1
ARSA				Sn	Sn	00 03 47.3	-5.4
KECS	Kecovo	8.06	356	*e*PN	Pn	00 02 27.7	+4.0
KECS				*e*SN	Sn	00 03 53.3	-1.7
VYHS	Vyhne	8.23	349	*e*SN	Sn	00 03 55.0	-4.3
VYHS	Vyhne	8.23	349	*e*Pn	Pn	00 02 29.1	+3.0
VYHS				*e*Sn	Sn	00 03 55.0	-4.3
VYHS	Vyhne	8.23	349	*e*	Pn	00 02 29.1	+3.0
CRVS	Cervenica-Dubn	8.46	1	*e*Pn	Pn	00 02 35.3	+6.1
CRVS	Cervenica-Dubn	8.46	1	*e*	Pn	00 02 35.3	+6.1
SMOL	Smolenice	8.52	343	*e*PN	Pn	00 02 31.4	+1.4
SMOL				*e*SN	Sn	00 04 03.6	-2.8
KOLS	Kolonicke sedl	8.52	5	*e*PN	Pn	00 02 31.2	+1.1
KBA	Koelnbreinsper	8.76	322	⇓ Sn	Sn	00 04 07.5	-4.7
KBA	Koelnbreinsper	8.76	322	⇓ *i*Pn	Pn	00 02 31.9	-1.4
KBA				⇓ *i*Sn	Sn	00 04 07.5	-4.7
MOA	Molln	8.94	328	⇓ Sn	Sn	00 04 12.5	-4.3
MOA	Molln	8.94	328	⇓ *i*Pn	Pn	00 02 34.7	-1.2
MOA				⇓ *i*Sn	Sn	00 04 12.5	-4.3
MOA	Molln	8.94	328	⇓ Pn	Pn	00 02 34.7	-1.2
MOA				Sn	Sn	00 04 12.5	-4.3
STHS	Stebnicka Huta	8.97	360	*e*PN	Pn	00 02 35.1	-1.2
STHS				*e*SN	Sn	00 04 13.2	-4.3
BRTR	Keskin Array B	9.52	90	P	Pn	00 02 46.7	+2.9
	comp=E,0.1nm,0.3s,baz=278,slow=15,SNR=3.1						
GERES	GERESS Array B	9.97	330	P	Pn	00 02 49.9	0.0
	comp=E,0.1nm,0.3s,baz=146,slow=11,SNR=4.1						
GERES				LR	LR	00 06 56.4	
	comp=E,32nm,20.4s,baz=288,slow=39						
KHC	Kasperske Hory	10.25	330	*e*P	Pn	00 03 00.9	+7.1
DAVOX	Davos	10.39	311	P	Pn	00 02 55.0	-0.7
	baz=142,slow=18						
LPG	La Plagne	11.76	300	*e*P	Pn	00 03 14.0	-0.4
	comp=E,3.2nm,0.5s						
LPG	La Plagne	11.76	300	*e*P	Pn	00 03 14.0	-0.4
	comp=E,1.6nm,0.5s						
LPL	La Plagne	11.78	300	*e*P	Pn	00 03 14.3	-0.4
HINF	Hinteralfeld	12.69	310	*e*P	Pn	00 03 27.3	+0.1
	comp=E,5.6nm,0.7s						
HINF	Hinteralfeld	12.69	310	*e*P	Pn	00 03 27.3	+0.1
	comp=E,2.8nm,0.7s						
HFS	Hagfors	20.27	349	P	P	00 04 59.6	-2.7
	comp=E,1.1nm,0.5s,baz=159,slow=13,SNR=4.5						
FINES	FINESS Array B	21.23	6	P	P	00 05 09.8	-3.0
	comp=E,1.2nm,0.7s,mb3.3,baz=174,slow=14,SNR=4.9						
NB2	NORSAR Subarra	21.53	347	P	P	00 05 13.8	-2.1
	comp=Z,1.1nm,0.7s,mb3.4,baz=164,slow=11						
NOA	NORSAR Array B	21.53	347	P	P	00 05 13.3	-2.7
	comp=Z,0.8nm,0.7s,mb3.3,baz=165,slow=11,SNR=5.8						
NOA	NORSAR Array B	21.53	347	P	P	00 05 13.3	-2.7
EKA	Eskdalemuir Ar	21.97	321	P	P	00 05 19.7	-1.0
	comp=Z,1.3nm,0.6s,mb3.5,baz=118,slow=10,SNR=5.9						
EKA	Eskdalemuir Ar	21.97	321	P	P	00 05 19.6	-1.1
ARCES	ARCESS Array B	29.24	3	P	P	00 06 25.1	-3.6
	comp=Z,6.6nm,1.1s,mb4.3,baz=189,slow=11,SNR=7.4						
TORD	Torodi Ar. Bea	32.16	218	P	P	00 06 52.0	-2.6
	comp=Z,0.6nm,0.9s,mb3.4,baz=35,slow=8.9,SNR=5.0						
MKAR	Makanchi Array	43.66	61	P	P	00 08 29.6	-2.0
	comp=Z,0.2nm,0.6s,mb3.0,baz=289,slow=7.6,SNR=7.3						
SONM	Songino Array	58.60	52	LR	LR	00 38 01.4	
	comp=Z,58nm,18.1s,MS3.7,baz=69,slow=38						
YKA	Yellowknife Ar	71.46	340	P	P	00 11 45.1	-2.3
	comp=Z,0.2nm,0.5s,mb3.3,baz=36,slow=5.2,SNR=6.8						
ILAR	Eielson Array	74.71	355	P	P	00 12 03.5	-3.2
	comp=Z,0.2nm,0.8s,mb3.1,baz=0.0,slow=3.6,SNR=3.9						
TXAR	Lajitas Array	93.82	314	P	P	00 13 40.0	-4.2
	comp=Z,0.5nm,0.8s,mb4.0,baz=27,slow=2.8,SNR=4.2						

*IDC **03** 00:07:22.7±3.1, 3161N×13078E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.6/3, Error ellipse: s-maj=197.6km s-min=32.5km az=71.0*
*ISCJB **03** 00:07:42.2±0.7, 3134N±009×1304E±02, h171km±5km, mb3.3/3, Error ellipse: s-maj=22.1km s-min=13.7km az=154.3*
*JMA **03** 00:07:44.4±0.1, 3133N×13044E, h161km±1km, M3.4*
ISC 03 00:07:43.4±0.7, 3135N±008×1304E±01, h167km±5km, n9, σ0§50/15, mb3.3/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.16	4	P	Pn	00 08 06.1	+0.4
JSU				S	Sn	00 08 22.6	-0.1
JTSR	Tashiro 2	0.45	114	P	Pn	00 08 06.8	+0.3
JTSR				S	Sn	00 08 23.4	-0.8
JSJ	Shimokoshiki	0.70	298	P	Pn	00 08 08.0	+0.3
JSJ				S	Sn	00 08 26.2	-0.2
JTZ	Takazaki	0.78	45	P	Pn	00 08 08.8	+0.6
JTZ				*e*S	Sn	00 08 27.0	-0.3
JTN	Tanegashima 3	0.83	146	P	Pn	00 08 09.0	+0.4
JTN				*e*S	Sn	00 08 27.5	-0.4
JIU2	Izumi 2	1.24	15	P	Pn	00 08 12.4	+0.6
JIU2				*e*S	Sn	00 08 33.5	-0.1
WRA	Warramunga Arr	51.13	175	P	P	00 16 29.2	+0.2
	0.2nm,0.3s,mb3.2,baz=354,slow=7.9,SNR=5.4						
FINES	FINESS Array B	69.39	330	P	P	00 18 31.8	-1.3
	0.4nm,0.5s,mb3.4,baz=76,slow=7.9,SNR=6.4						
BRTR	Keskin Array B	75.44	308	P	P	00 19 09.1	+0.2
	0.6nm,0.7s,mb3.4,baz=63,slow=5.5,SNR=5.0						

WEL 03 00:19:25.2±0.5, 3559S×17870E, h216km±11km, ML3.7/5, Error ellipse: s-maj=15.9km s-min=8.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.50	188	PN	Pn	00 20 10.3	+0.2
PUZ				SN	S	00 20 44.2	-1.1
MWZ	Matawai	2.90	199	*e*PN	Pn	00 20 14.6	+0.1
MWZ				SN	S	00 20 53.1	-0.1
URZ	Urewera	2.95	205	PN	Pn	00 20 15.2	0.0
URZ				SN	S	00 20 54.2	-0.1
KNZ	Kokohu	3.52	193	PN	Pn	00 20 21.4	-0.4
KNZ				SN	S	00 21 05.9	-0.4
MRZ	Mangatainoka R	5.63	205	*e*PN	Pn	00 20 46.2	-1.7
MRZ				SN	S	00 21 50.7	-2.9
KIW	Kapiti Island	6.05	208	*e*SN	S	00 22 00.7	-2.6
TCW	Tory Channel	6.60	210	*e*SN	S	00 22 12.3	-3.8
KHZ	Kahutara	7.91	209	*e*PN	Pn	00 21 15.3	-1.9
MQZ	McQueen's Vall	9.35	208	*e*SN	S	00 23 13.5	-7.3

*ISCJB **03** 00:24:32.5±1.2, 273N±0.1×54.18E±006, h10km, mb3.5/5, Error ellipse: s-maj=18.7km s-min=5.5km az=32.2*
*IDC **03** 00:24:33.3±2.6, 2739N×54.15E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, Error ellipse: s-maj=57.9km s-min=29.6km az=151.0*
*CSEM **03** 00:24:37.6, 2758N×5429E, h14km, ML3.2, After THR*
*THR **03** 00:24:37.6±1.1, 2758N×5429E, h14km±12km, ML3.2*
ISC 03 00:24:36.8±1.1, 2762N±009×5431E±004, h16km±7km, n12, σ0§91/18, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.35	300	*e*PG	Pg	00 25 02.8	+0.1
GHIR				*e*SG	Sg	00 25 20.7	+0.3
GHIR				AML	AML	00 25 27.2	
	comp=N,384nm,0.2s						
GHIR				AML	AML	00 25 28.2	
	comp=E,702nm,0.4s						
GHIR	Ghir-Karzin	1.35	300	*e*Pg	Pg	00 25 02.8	+0.1
	SNR=90						
GHIR				*e*Sg	Sg	00 25 20.7	+0.4
	comp=E,702nm,0.4s,SNR=90						
BNDS	Bandar-Abbas	1.67	97	*e*PG	Pg	00 25 08.3	-0.5
BNDS				*e*SG	Sg	00 25 31.0	+0.6
BNDS				AML	AML	00 25 47.8	
	comp=E,230nm,0.7s						
BNDS				AML	AML	00 25 48.5	
	comp=N,234nm,0.6s						
BNDS	Bandar-Abbas	1.67	97	*e*Pg	Pg	00 25 08.3	-0.5
	SNR=90						
BNDS				*e*Sg	Sg	00 25 31.0	+0.6
	comp=N,234nm,0.6s,SNR=90						
KRBR	Kerman	3.19	42	*e*PN	Pn	00 25 30.9	+4.7
KRBR				*e*SG	Sg	00 26 18.4	-0.8
KRBR				AML	AML	00 26 22.8	
	comp=E,45nm,0.5s						
KRBR				AML	AML	00 26 33.3	
	comp=N,44nm,0.6s						
KRBR	Kerman	3.19	42	*e*Pn	Pn	00 25 30.9	+4.7
	SNR=52						
KRBR				*e*Sg	Sg	00 26 18.4	-0.8
	comp=N,44nm,0.6s,SNR=90						
GNI	Garni	14.80	330	Pn	Pn	00 28 13.2	+7.9
	comp=N,0.4nm,0.3s,baz=176,slow=13,SNR=4.4						
BRTR	Keskin Array B	20.96	310	P	P	00 29 19.8	+0.8
	comp=N,0.7nm,0.7s,baz=126,slow=11,SNR=4.5						
MKAR	Makanchi Array	29.14	41	P	P	00 30 38.7	+1.8
	comp=N,0.2nm,0.4s,mb3.2,baz=229,slow=10.0,SNR=8.5						
FINES	FINESS Array B	38.74	339	P	P	00 31 59.6	-0.5
	comp=N,0.8nm,0.6s,mb3.6,baz=135,slow=9.8,SNR=5.7						
ARCES	ARCESS Array B	45.16	346	P	P	00 32 52.5	-0.1
	comp=N,2.6nm,1.0s,mb4.0,baz=142,slow=10,SNR=6.1						
TORD	Torodi Ar. Bea	51.02	265	P	P	00 33 36.1	-1.8
	comp=N,0.7nm,0.6s,mb3.8,baz=60,slow=8.1,SNR=13						

BJI 03 00:32:43.4, 2024N×10064E, h11km, ML3.6, Ms3.7, Msz3.6, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	5.23	21	PG	Pg	00 34 17.4	-6.2
KMI				SG	Sg	00 35 21.5	-10
KMI				Smax			
	comp=N,16nm,1.3s						
KMI				Smax			
	comp=E,18nm,1.4s						
KMI				LR	LR		
	comp=N,115nm,5.3s						
KMI				LR	LR		
	comp=E,225nm,8.4s						

*SKO **03** 00:46:42.0, 4037N×21.16E, h0km, M1.9, ML2.3*
*CSEM **03** 00:46:42.9±0.1, 4049N×2117E, h8km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.6km az=81.0*
*THE **03** 00:46:43.9, 4049N×2123E, h10km, ML2.6*
*ISCJB **03** 00:46:43.1±0.4, 4047N±002×2124E±003, h12km±5km, Error ellipse: s-maj=4.7km s-min=3.1km az=72.4*
*NEIC **03** 00:46:45.5, 4030N×2134E, h30km, MD3.3(ATH), After ATH.*
*ATH **03** 00:46:45.5, 4030N×2134E, h30km±4km, MD3.3/4*
ISC 03 00:46:43.4±0.4, 4048N±002×2122E±003, h19km±4km, n32, σ1§28/52, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	Florina	0.33	21	*e*Pg	Pg	00 46 50.2	-0.3
FNA				*e*Sg	Sg	00 46 55.5	+0.1
KBN	Korca	0.36	294	*i*Pg	Pg	00 46 50.8	-0.3
KZN	Kozani	0.45	112	*e*PB	Pb	00 46 53.0	+0.3
KZN				*e*SB	Sb	00 47 00.0	+1.0
BIA	Bitola	0.55	8	*i*Pg	Pg	00 46 53.1	-1.4
BIA				*e*Sg	Sg	00 47 02.3	+0.5
BIA				*e*Lg		00 47 02.7	
	comp=E,306nm,0.5s						
BIA				*e*Lg		00 47 02.8	
	comp=N,356nm,0.4s						
BIA	Bitola	0.55	8	*i*Pg	Pg	00 46 53.0	-1.4
BIA				*e*Sg	Sg	00 47 02.3	+0.5
LSK	Leskovik	0.58	236	*i*Pg	Pg	00 46 53.5	-1.4
LSK				*i*Sg	Sg	00 47 03.3	+0.6
MEV	Metsovon	0.69	180	*e*Pg	Pg	00 46 56.0	-1.0
MEV				*e*Sg	Sg	00 47 08.2	+2.0
OHR	Ohrid	0.71	333	*i*Pg	Pg	00 46 56.0	-1.4
OHR				⇓ *i*Sg	Sg	00 47 08.0	+1.0
OHR	Ohrid	0.71	333	*i*Pg	Pg	00 46 56.0	-1.4
OHR				⇓ *i*Sg	Sg	00 47 07.9	+1.0
JAN	Janina	0.87	199	*e*PN	Pn	00 47 00.2	-0.3
GRG	Griva	1.02	61	*e*Pg	Pg	00 47 02.5	-0.7
GRG				*e*Sg	Sg	00 47 17.7	+1.2
LIT	Litokhoron	1.04	111	*e*Pg	Pg	00 47 03.1	-0.5
	comp=N,3.0nm,0.3s						
LIT				*e*Sg	Sg	00 47 19.0	+1.7
SRN	Sarande	1.11	238	*i*Pg	Pg	00 47 08.5	+3.6
SRN				*i*Sg	Sg	00 47 24.9	+5.4
IGT	Igoumenitsa	1.16	216	*e*Pg	Pg	00 47 05.3	-0.6
IGT				*e*Sg	Sg	00 47 22.7	+1.5
VAY	Valandovo	1.33	50	*e*Pn	Pn	00 47 07.6	+0.8
VAY				*i*Sg	Sg	00 47 26.9	+0.5
VAY				*e*Lg		00 47 27.4	
	comp=E,35nm,0.8s						
VAY				*e*Lg		00 47 29.2	
	comp=N,54nm,0.8s						
VAY	Valandovo	1.33	50	*e*Pn	Pn	00 47 07.6	+0.8
VAY				*i*Sg	Sg	00 47 26.8	+0.4
KEK	Kerkira	1.33	236	*e*PN	Pn	00 47 10.0	+3.1
THE	Thessaloniki	1.34	83	*e*Pg	Pg	00 47 07.2	-2.0
THE	Thessaloniki	1.34	83	*e*Pg	Pg	00 47 07.2	-2.0
STIP	Stip	1.42	31	*e*Pn	Pn	00 47 11.0	+3.0
STIP				*i*Sg	Sg	00 47 32.3	+3.0
STIP				*e*Lg		00 47 32.8	
	comp=E,13nm,0.6s						
STIP				*e*Lg		00 47 33.1	
	comp=N,18nm,0.7s						
STIP	Stip	1.42	31	*e*Pn	Pn	00 47 11.0	+2.9
STIP				*i*Sg	Sg	00 47 32.2	+2.9
QSH	Qafa e Shtames	1.44	317	*i*Pg	Pg	00 47 20.8	+10
QSH				*i*Sg	Sg	00 47 36.8	+6.7
EVR	Evrytania	1.62	164	*e*PN	Pn	00 47 11.3	+0.4
SOH	Sokhos	1.66	77	*e*Pb	Pb	00 47 12.3	-1.0
SOH				*e*Sb	Sb	00 47 34.0	+0.3
SOH	Sokhos	1.66	77	*e*Pb	Pb	00 47 12.3	-1.0
SOH				*e*Sb	Sb	00 47 34.0	+0.2
AGG	Agios Georgios	1.68	149	*e*Pb	Pb	00 47 12.6	-1.1
AGG				*e*Sb	Sb	00 47 35.0	+0.5
LKD	Levkas	1.82	194	*e*Pb	Pb	00 47 15.1	-0.9
XOR	Xorichti	1.88	126	*e*Pb	Pb	00 47 14.9	-2.1
SRS	Serrai	1.91	70	*e*Pb	Pb	00 47 15.1	-2.5
PAIG	Paliouri	1.96	105	*e*Pb	Pb	00 47 16.2	-2.2
OUR	Ouranopolis	2.11	93	*e*Pn	Pn	00 47 18.6	+0.9
OUR	Ouranopolis	2.11	93	*e*Pn	Pn	00 47 18.5	+0.9

*IDC **03** 00:49:01.4±1.1, 1055N×6361W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/23, mbtmp3.6/6, ML3.7/1, MS3.0/4, Ms1 3.0/4, ms1mx2.9/31, Error ellipse: s-maj=31.7km s-min=26.6km az=48.0*
*ISCJB **03** 00:49:02.3±1.1, 1057N±003×6378W±002, h14km±8km, mb3.5/5, Error ellipse: s-maj=5.8km s-min=4.0km az=160.9*
*NEIC **03** 00:49:02.1, 1059N×6372W, h2km, MW4.2(CAR), After CAR.*
*FUNV **03** 00:49:02.1, 1059N×6372W, h2km, MW4.2*
ISC 03 00:49:02.2±0.9, 1054N±003×6378W±003, h2km±6km, n29, σ1§20/41, mb3.5/5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.55	76	*e*P	Pg	00 49 12.7	-0.1
CRUV				*e*S	Sg	00 49 20.6	+0.6
GUNV	Guanoco	0.91	114	*e*P	Pg	00 49 18.6	-0.9
GUNV				*e*S	Sg	00 49 30.2	-1.1
ITEV	Isla Los Testi	1.03	38	*e*P	Pg	00 49 20.6	-1.4
ITEV				*e*S	Sg	00 49 34.1	-1.3
ORIV	Oritupano	1.50	166	*e*P	Pn	00 49 31.0	+0.9
ORIV				*e*S	Sn	00 49 51.2	+0.9
GUIV

NAO ***03*** *00:53:58.3, 1946N×7088E, h33km, mb3.9*
SZGRF ***03*** *00:54:15.4, 2193N×7089E, h33km, mb4.6, Southern India*
BJI ***03*** *00:54:18.2, 2347N×7007E, h10km, mB5.0, mb4.5, Ms4.5, Msz4.1*
ISCJB ***03*** *00:54:21.3±1.1, 2388N±003×7048E±003, h5km±7km, mb4.4/68, MS3.8/15, Error ellipse: s-maj=4.7km s-min=3.8km az=24.5*
IDC ***03*** *00:54:21.8±0.8, 2372N×7036E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.1/22, mbtmp4.1/15, MS3.6/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=23.7km s-min=16.8km az=39.0*
NEIC ***03*** *00:54:23.5±0.4, 2383N×7056E, h10km, mb4.5/36, Error ellipse: s-maj=9.9km s-min=4.4km az=190.0*
NEIC Felt at Bhuj. Also felt at Chachro, Diplo, Mitthi Nagar Parkar and Umarkot, Pakistan.
NDI ***03*** *00:54:25.4±6.2, 2384N×7045E, h10km, mb5.0, ML4.3*
MOS ***03*** *00:54:25.4±0.8, 2375N×7030E, h33km, mb4.7/33, Error ellipse: s-maj=11.4km s-min=5.1km az=124.3*
ISC 03 00:54:24.6±1.2, 2390N±002×7046E±002, h12km±7km, h21km±5.2km; pP-P, n211, σ1§05/226, mb4.4/68, MS3.8/15, 10C-7D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.98**	**229**	*eP*	**Pb**	**00 54 43.7**	**+0.1**
BHJ				*eS*	**Sb**	**00 54 56.6**	**0.0**
BHJ				*ex*	x	00 55 06.5	
	comp=N,6μm,0.1s						
BHJ				*ex*	x	00 55 07.1	
	comp=E,6μm,0.1s						
BHV	**Bhavnagar**	**2.65**	**144**	*eP*	**Pn**	**00 55 07.5**	**+0.4**
BHV				*eS*	**Sn**	**00 55 40.5**	**+1.4**
AJM	**Ajmer**	**4.57**	**55**	*i P*	**Pn**	**00 55 35.0**	**+1.4**
AJM				*i x*	**Sb**	**00 56 47.0**	**+7.2**
BOM	**Bombay**	**5.44**	**156**	*i P*	**Pn**	**00 55 44.1**	**-1.4**
BOM				*ex*	**Sb**	**00 56 55.6**	**-9.2**
POO	**Poona**	**6.21**	**149**	⇓*i P*	**Pn**	**00 55 54.0**	**-2.1**
	comp=E,36nm,0.5s						
POO				*e*PP		00 56 01.5	
POO				*e*PPP		00 56 08.5	
POO				*eP*		00 56 19.4	
POO				*ex*	x	00 56 58.5	
POO				*i x*	x	00 57 11.0	
POO				*i x*	x	00 57 16.5	
POO				*i* SS		00 57 22.0	
POO				*eS*	**Sb**	**00 57 29.2**	**+2.2**
POO				*i* SSS		00 57 33.0	
POO				AML	AML	00 57 39.5	
	comp=N,1μm,0.2s						
POO				*e*PCP	PcP	01 02 51.0	-5.1
POO	**Poona**	**6.21**	**149**	⇑*i P*	**Pn**	**00 56 01.5**	**+5.4**
	comp=N,36nm,0.5s						
BHPL	**Bhopal**	**6.42**	**94**	*eP*	**Pn**	**00 56 00.2**	**+1.2**
BHPL				*eS*	**Sn**	**00 57 09.3**	**-3.0**
BHPL				AML	AML	00 57 23.5	
	comp=E,265nm,0.5s						
BHPL				AML	AML	00 57 25.1	
	comp=N,247nm,0.5s						
KAD	**Karad**	**7.43**	**151**	*eP*	**Pn**	**00 56 13.5**	**+0.7**
KAD				*eS*	**Sn**	**00 57 33.0**	**-4.0**
KAD				AML	AML	00 58 17.2	
	comp=E,480nm,0.8s						
KAD				AML	AML	00 58 19.9	
	comp=N,298nm,1.1s						
NDI	**New Delhi**	**7.71**	**50**	*ex*	x	00 56 24.0	
NDI				*ex*	x	00 58 26.0	
DRP	**Derazinda**	**7.81**	**358**	⇓*i P*	**Pn**	**00 56 18.4**	**+0.3**
LATR	**Latur**	**7.88**	**133**	*eP*	**Pn**	**00 56 20.6**	**+1.5**
SARP	**Sargodha**	**8.22**	**13**	P	**Pn**	**00 56 24.0**	**+0.3**
SBDP	**Sheikh Budin**	**8.37**	**2**	⇓P	**Pn**	**00 56 26.0**	**+0.3**
NGP	**Nagpur**	**8.40**	**107**	*eP*	**Pn**	**00 56 26.9**	**+0.8**
NGP				*eS*	**Sn**	**00 57 53.8**	**-7.1**
NGP				*ex*	x	00 58 55.5	
	comp=N,187nm,0.8s						
THW	**Thamme Wali**	**8.93**	**7**	⇓P	**Pn**	**00 56 32.9**	**-0.5**
BHK	**Bhakra**	**9.16**	**34**	*ex*	**Sn**	**00 58 24.9**	**+5.4**
BHK				*ex*	x	00 59 19.6	
DDI	**Dehra Dun**	**9.30**	**45**	*eP*	**Pn**	**00 56 44.4**	**+5.8**
DDI				*eS*	**Sn**	**00 58 23.4**	**+0.2**
PONG	**Pong**	**9.37**	**30**	*eP*	**Pn**	**00 56 44.0**	**+4.5**
PONG				*ex*	x	00 58 45.0	
SDNR	**Sundarnagar**	**9.51**	**36**	*eP*	**Pn**	**00 56 43.0**	**+1.6**
SDNR				*ex*	x	00 58 14.0	
THN	**Thein Dam**	**9.68**	**27**	*eP*	**Pn**	**00 56 44.1**	**+0.4**
THN				*ex*	x	00 58 48.3	
HYB	**Hyderabad**	**9.95**	**129**	*i P*	**Pn**	**00 56 46.0**	**-1.4**
HYB				*eS*	**Sn**	**00 58 41.0**	**+2.1**
HYB				LR	LR	01 00 30.0	
	comp=N,2.1nm,12.0s						
HYB	**Hyderabad**	**9.95**	**129**	*eP*	**Pn**	**00 56 46.0**	**-1.4**
HYB				*eS*	**Sn**	**00 58 31.0**	**-7.9**
CEP	**Cherat**	**9.96**	**7**	P	**Pn**	**00 56 47.1**	**-0.5**
CEP				S	**Sn**	**00 58 49.0**	**+10**
PTH	**Pithoragarh**	**10.37**	**55**	*eP*	**Pn**	**00 56 57.3**	**+4.1**
PTH				*ex*	**Sn**	**00 58 54.3**	**+4.9**
MNGI	**Mangalore**	**11.66**	**158**	*eP*	**Pn**	**00 57 11.3**	**+0.5**
MNGI				*ex*	x	01 00 26.6	
KOLN	**Koldanda**	**12.44**	**69**	*eP*	**Pn**	**00 57 20.3**	**-1.2**
KOLN				*eS*	**Sn**	**00 59 40.4**	**+0.4**
GKN	**Gorkha**	**13.39**	**69**	*eP*	**Pn**	**00 57 32.5**	**-1.9**
VIS	**Vishakhapatnam**	**13.51**	**115**	*i P*	**Pn**	**00 57 33.0**	**-3.0**
VIS				*eP*		00 57 35.8	
VIS				*i x*	x	00 59 57.0	
DMN	**Daman**	**13.70**	**71**	*eP*	**Pn**	**00 57 36.7**	**-2.0**
KKN	**Kakani**	**13.89**	**71**	*eP*	**Pn**	**00 57 38.7**	**-2.6**
PKI	**Pulchoki**	**13.96**	**72**	*eP*	**Pn**	**00 57 40.0**	**-2.2**
PKI				*eS*	**Sn**	**01 00 17.4**	**+0.4**
BOK	**Bokaro**	**14.12**	**87**	*eP*	**Pn**	**00 57 43.8**	**-0.5**
GUN	**Gumba**	**14.44**	**71**	*eP*	**Pn**	**00 57 46.4**	**-2.3**
JIRN	**Jiri**	**14.65**	**72**	*eP*	**Pn**	**00 57 48.3**	**-3.4**
KSH	**Kashi**	**16.25**	**15**	*eP*	**Pn**	**00 58 19.0**	**+6.3**
KSH				*e*PP		00 58 33.2	
KSH				*eS*	**Sn**	**01 01 11.5**	**-1.4**
KSH				SS		01 01 44.3	
KSH				AMB	AMB		
	comp=Z,180nm,5.7s						
KSH				LR	LR		
	comp=N,480nm,6.0s						
KSH				LR	LR		
	comp=E,540nm,3.8s						
TRD	**Trivandrum**	**16.52**	**157**	*eP*	**Pn**	**00 58 15.4**	**-0.8**
TRD				*ex*	**Sn**	**01 01 26.4**	**+6.9**
AML	**Almayashu**	**18.38**	**8**	P	**Pn**	**00 58 38.2**	**-1.0**
SNR=17							
EKS2	**Erkin-Say**	**18.91**	**8**	P	**Pn**	**00 58 48.1**	**+2.4**
SNR=9.7							
AAK	**Ala-Archa**	**18.98**	**9**	P	**Pn**	**00 58 48.9**	**+2.3**
SNR=13							
AAK	**Ala-Archa**	**18.98**	**9**	*eP*	**Pn**	**00 58 45.9**	**-0.6**
AAK				*eS*	**Sn**	**01 02 15.2**	**-3.7**
AAK				pmax	pmax		
	comp=Z,12nm,0.6s						
AAK	**Ala-Archa**	**18.98**	**9**	*eP*	**Pn**	**00 58 45.9**	**-0.6**
	comp=Z,12nm,0.6s						
AAK				*eS*	**Sn**	**01 02 15.2**	**-3.7**
KBK	**Karagaybulak**	**19.07**	**10**	P	**Pn**	**00 58 47.0**	**-0.7**
SNR=12							
FRU	**Bishkek**	**19.19**	**9**	*eP*	**Pn**	**00 58 50.5**	**+1.4**
FRU				pmax	pmax		
	comp=Z,37nm,1.4s						
LSA	**Lhasa**	**19.34**	**68**	P	**Pn**	**00 58 53.8**	**+2.9**
LSA				S	**Sn**	**01 02 35.8**	**+8.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**19.34**	**68**	*eP*	**Pn**	**00 58 53.9**	**+3.0**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	**19.34**	**68**	*eP*	**Pn**	**00 58 53.9**	**+3.0**
	comp=Z,7.9nm,0.7s						
TKM2	**Tokmak 2**	**19.44**	**11**	P	**Pn**	**00 58 53.0**	**+1.0**
SNR=8.4							
SHL	**Shillong**	**19.53**	**81**	*eP*	**Pn**	**00 58 52.0**	**-1.1**
USP	**Ospenovka**	**19.60**	**9**	P	**Pn**	**00 58 53.5**	**-0.5**
SNR=11							
WMQ	**Urumqi**	**24.39**	**31**	*eP*	**P**	**00 59 44.0**	**+1.3**
WMQ				XP	sP	00 59 51.0	+3.3
WMQ				PP		01 00 20.0	
WMQ				PCP	PcP	01 03 24.0	+2.2
WMQ				S	**S**	**01 04 01.0**	**-1.2**
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.4						
WMQ				LR	LR		
	comp=N,187nm,5.0s						
WMQ				LR	LR		
	comp=E,228nm,5.0s						
WMQ				LR	LR		
	comp=Z,275nm,5.0s						
MKAR	**Makanchi Array**	**24.74**	**20**	P	**P**	**00 59 45.9**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.4,baz=208,slow=10.0,SNR=19						
MKAR				LR	LR	01 11 35.3	
	comp=Z,23nm,19.0s,MS2.7,baz=75,slow=41						
MKAR	**Makanchi Array**	**24.74**	**20**	⇑*eP*	**P**	**00 59 46.2**	**+0.3**
GNI	**Garni**	**27.03**	**313**	LR	LR	01 13 09.9	
	comp=Z,69nm,20.1s,MS3.2,baz=156,slow=42						
GNI	**Garni**	**27.03**	**313**	*i P*	**P**	**01 00 07.5**	**+0.9**
GNI				pmax	pmax		
	comp=Z,29nm,2.3s						
KURK	**Kurchatov**	**27.50**	**11**	*eP*	**P**	**01 00 11.7**	**+0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
KURK	**Kurchatov**	**27.50**	**11**	*eP*	**P**	**01 00 11.7**	**+0.8**
	comp=Z,7.1nm,1.1s,mb4.2						
AKTK	**Aktyubinsk**	**28.20**	**343**	P	**P**	**01 00 17.8**	**+0.7**
AKTO	**Aktyubinsk**	**28.20**	**343**	P	**P**	**01 00 17.8**	**+0.7**
	comp=Z,1.5nm,0.5s,mb3.9,baz=160,slow=8.1,SNR=3.9						
ZRNK	**Zerenda**	**29.03**	**358**	*eP*	**P**	**01 00 25.3**	**+0.9**
ZRNK				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.5						
ZRNK	**Zerenda**	**29.03**	**358**	*eP*	**P**	**01 00 25.3**	**+0.9**
	comp=Z,18nm,2.0s,mb4.5						
BVAR	**Borovoye Array**	**29.08**	**360**	P	**P**	**01 00 25.7**	**+0.8**
	comp=Z,0.8nm,0.4s,mb3.8,baz=167,slow=9.3,SNR=5.9						
BRVK	**Borovoye**	**29.11**	**360**	*eP*	**P**	**01 00 25.6**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**29.11**	**360**	*eP*	**P**	**01 00 25.6**	**+0.4**
	comp=Z,1.6nm,0.7s,mb3.9						
GTA	**Gaotai**	**29.21**	**51**	*eP*	**P**	**01 00 27.8**	**+1.7**
GTA				AP	pP	01 00 32.2	+2.5
GTA				XP	sP	01 00 35.0	+3.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,41nm,4.0s						
GTA				LR	LR		
	comp=N,94nm,13.7s,MS4.0						
GTA				LR	LR		
	comp=E,239nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=Z,260nm,15.2s,MS4.0						
KIV	**Kislovodsk**	**30.29**	**318**	*eP*	**P**	**01 00 34.4**	**-1.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
MALT	**Malatya**	**30.79**	**305**	P	**P**	**01 00 42.5**	**+2.5**
MALT				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.4						
MALT	**Malatya**	**30.79**	**305**	P	**P**	**01 00 42.5**	**+2.5**
	comp=Z,11nm,1.7s,mb4.4						
ARU	**Arti**	**33.64**	**348**	⇑*i P*	**P**	**01 01 06.4**	**+1.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
SONM	**Songino Array**	**37.15**	**41**	P	**P**	**01 01 37.1**	**+1.8**
	comp=Z,2.3nm,0.7s,mb4.1,baz=240,slow=7.8,SNR=20						
ULN	**Ulaanbaatar**	**37.56**	**41**	*i P*	**P**	**01 01 40.1**	**+1.4**
ULN	**Ulaanbaatar**	**37.56**	**41**	*eP*	**P**	**01 01 39.8**	**+1.0**
	comp=Z,3.6nm,1.1s,mb4.0						
HHC	**Hu-ho-hao-te**	**38.21**	**54**	*eP*	**P**	**01 01 45.5**	**+1.2**
HHC				AP	pP	01 01 49.9	+2.1
HHC				XP	sP	01 01 52.6	+3.3
HHC				PP	PP	01 03 17.3	+5.7
HHC				PCP	PcP	01 03 59.5	+0.9
HHC				S	**S**	**01 07 39.5**	**+1.8**
HHC				SCP	ScP	01 07 45.5	-0.7
HHC				PCS	PcS	01 07 49.2	+1.6
HHC				SCS	ScS	01 11 58.1	+2.2
HHC				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,139nm,7.3s						
HHC				LR	LR		
	comp=N,151nm,19.3s,MS4.1						
HHC				LR	LR		
	comp=E,201nm,16.9s,MS4.1						
HHC				LR	LR		
	comp=Z,215nm,19.3s,MS4.0						
OBN	**Obninsk**	**39.98**	**330**	*i* P	**P**	**01 01 59.8**	**+0.8**
OBN				*e*		01 04 02.1	
OBN				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
AKASG	**Malin Array Be**	**41.53**	**321**	P	**P**	**01 02 11.5**	**-0.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=116,slow=6.5,SNR=6.2						
MLR	**Muntele Rosu**	**41.80**	**312**	LR	LR	01 24 44.8	
	comp=Z,74nm,20.9s,MS3.5,baz=293,slow=44						
NJ2	**Nanjing**	**43.21**	**68**	*eP*	**P**	**01 02 25.5**	**0.0**
NJ2				AP	pP	01 02 35.1	+6.0
NJ2				XP	sP	01 02 39.0	+8.5
NJ2				PCP	PcP	01 04 10.5	-4.3
NJ2				S	**S**	**01 08 51.0**	**-1.1**
NJ2				XS	sS	01 09 08.0	+10
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,130nm,10.0s						
NJ2				LR	LR		
	comp=N,1μm,23.6s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,23.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,410nm,23.5s,MS4.3						
KWP	**Kalwaria**	**45.07**	**317**	*eP*	**P**	**01 02 41.2**	**+0.8**
KOLS	**Kolonicke sedl**	**45.15**	**316**	*eP*	**P**	**01 02 42.1**	**+1.0**
SSE	**Sheshan**	**45.24**	**69**	*eP*	**P**	**01 02 39.6**	**-2.2**
SSE				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
SSE				AMB	AMB		
	comp=Z,142nm,4.2s						
CRVS	**Cervenica-Dubn**	**45.66**	**316**	*eP*	**P**	**01 02 44.1**	**-1.0**
JOF	**Joensuu**	**46.91**	**337**	*ep*	**P**	**01 02 55.3**	**+0.3**
	comp=Z,2.5nm,0.4s,mb4.5						
VYHS	**Vyhne**	**47.25**	**315**	*eP*	**P**	**01 02 58.9**	**+1.3**
FINES	**FINESS Array B**	**48.12**	**333**	P	**P**	**01 03 03.8**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.4,baz=126,slow=9.1,SNR=23						
FINES				LR	LR	01 26 34.4	
	comp=Z,106nm,18.9s,MS3.8,baz=180,slow=40						
KAF	**Kangasniemi**	**48.37**	**334**	*ep*	**P**	**01 03 05.5**	**-0.8**
	comp=Z,2.6nm,0.4s,mb4.6,baz=121,slow=7.4						
KAF	**Kangasniemi**	**48.37**	**334**	*eP*	**P**	**01 03 05.5**	**-0.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
VRAC	**Vranov**	**48.87**	**315**	LR	LR	01 28 33.6	
	comp=Z,46nm,18.3s,MS3.5,baz=180,slow=42						
DPC	**Dobruska-Polom**	**49.24**	**317**	*eP*	**P**	**01 03 13.9**	**+0.9**
TREC	**Trest**	**49.58**	**315**	*eP*	**P**	**01 03 15.1**	**-0.4**
CEY	**Cerknica**	**49.78**	**310**	*i P*	**P**	**01 03 17.5**	**+0.4**
CADS	**Cadrg**	**50.31**	**311**	*eP*	**P**	**01 03 21.1**	**0.0**
PVCC	**Panska Ves**	**50.38**	**317**	*eP*	**P**	**01 03 21.7**	**+0.1**
GEC2	**GERESS Array S**	**50.66**	**314**	*eP*	**P**	**01 03 24.2**	**+0.4**
	comp=Z,7.0nm,1.1s,mb4.5						
GEC2	**GERESS Array S**	**50.66**	**314**	*eP*	**P**	**01 03 24.2**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**50.66**	**314**	P	**P**	**01 03 23.8**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=101,slow=6.8,SNR=22						
GERES				PcP	PcP	01 04 40.9	-0.2
	comp=Z,0.8nm,0.7s,baz=153,slow=3.0,SNR=4.8						
GERES				LR	LR	01 27 02.9	
	comp=Z,42nm,18.2s,MS3.5,baz=297,slow=39						
GERES	**GERESS Array B**	**50.66**	**314**	P	**P**	**01 03 23.8**	**0.0**
GERES						01 04 40.9	
KBA	**Koelnbreinsper**	**50.67**	**312**	⇑*i P*	**P**	**01 03 24.4**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.7						
KHC	**Kasperske Hory**	**50.78**	**315**	*eP*	**P**	**01 03 24.2**	**-0.5**
KHC	**Kasperske Hory**	**50.78**	**315**	*i P*	**P**	**01 03 24.2**	**-0.5**
BRG	**Berggiesshubel**	**50.83**	**317**	*eP*	**P**	**01 03 26.3**	**+1.3**
	comp=Z,7.0nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**50.83**	**317**	*i P*	**P**	**01 03 25.9**	**+0.9**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
BRG	**Berggiesshubel**	**50.83**	**317**	*i P*	**P**	**01 03 25.9**	**+0.9**
	comp=Z,6.9nm,1.1s,mb4.5						
CLL	**Collm**	**51.49**	**317**	*eP*	**P**	**01 03 30.5**	**+0.5**
	comp=Z,7.0nm,1.5s,mb4.4						
CLL	**Collm**	**51.49**	**317**	*eP*	**P**	**01 03 30.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
NKC	**Novy Kostel**	**51.67**	**316**	*eP*	**P**	**01 03 32.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**51.76**	**315**	*eP*	**P**	**01 03 32.4**	**+0.4**
	comp=Z,8.0nm,1.4s,mb4.5						
WERD	**Werda**	**51.79**	**316**	*eP*	**P**	**01 03 33.3**	**+1.1**
	comp=Z,2.0nm,1.1s,mb4.0						
WTTA	**Wattenberg**	**51.85**	**312**	⇓*i P*	**P**	**01 03 32.3**	**-0.4**
	comp=Z,16nm,1.0s,mb4.9						
WTTA	**Wattenberg**	**51.85**	**312**	⇓P	**P**	**01 03 32.3**	**-0.4**
WATA	**Walderalm**	**51.90**	**312**	⇑*i P*	**P**	**01 03 32.2**	**-0.9**
	comp=Z,3.9nm,1.0s,mb4.3						
WATA	**Walderalm**	**51.90**	**312**	⇑P	**P**	**01 03 32.1**	**-0.9**
SQTA	**Sankt Quirin**	**52.14**	**312**	⇓*i P*	**P**	**01 03 34.1**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.5						
MOTA	**Moosalm**	**52.22**	**312**	⇑*i P*	**P**	**01 03 34.0**	**-1.4**
	comp=Z,12nm,1.1s,mb4.7						
MOX	**Moxa**	**52.26**	**316**	*eP*	**P**	**01 03 36.8**	**+1.1**
	comp=Z,7.0nm,1.0s,mb4.5						
MOX	**Moxa**	**52.26**	**316**	*eP*	**P**	**01 03 36.8**	**+1.1**
MOX				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
GRA1	**Grafenberg Arr**	**52.38**	**315**	*eP*	**P**	**01 03 37.8**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**52.38**	**315**	*eP*	**P**	**01 03 37.8**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**52.38**	**315**	*eP*	**P**	**01 03 37.8**	**+1.2**
GRF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**52.38**	**315**	*eP*	**P**	**01 03 37.8**	**+1.2**
GRF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KEV	**Kevo**	**52.48**	**342**	*ep*	**P**	**01 03 36.7**	**-0.7**
ARCES	**ARCESS Array B**	**52.77**	**342**	P	**P**	**01 03 39.4**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.5,baz=120,slow=7.5,SNR=23						
ARCES				PcP	PcP	01 04 49.3	+0.3
	comp=Z,2.8nm,0.9s,baz=153,slow=4.0,SNR=2.3						
ARCES				LR	LR	01 29 18.4	
	comp=Z,102nm,19.7s,MS3.9,baz=8.9,slow=40						
ARCES	**ARCESS Array B**	**52.77**	**342**	P	**P**	**01 03 39.4**	**-0.1**
ARCES						01 04 49.3	
ARCES	**ARCESS Array B**	**52.77**	**342**	P	**P**	**01 03 39.4**	**-0.1**
ARCES				PcP	PcP	01 04 49.3	+0.3
ARCES				LR	LR	01 29 18.4	
DAVA	**Damuels**	**53.05**	**312**	⇑*i P*	**P**	**01 03 40.8**	**-0.8**
	comp=Z,16nm,0.7s,mb5.1						
DAVA	**Damuels**	**53.05**	**312**	⇑P	**P**	**01 03 40.8**	**-0.8**
HFS	**Hagfors**	**53.14**	**328**	LR	LR	01 30 07.6	
	comp=Z,122nm,18.1s,MS4.0,baz=250,slow=40						
CLZ	**Clausthal**	**53.19**	**318**	*eP*	**P**	**01 03 43.3**	**+0.7**
	comp=Z,15nm,2.0s,mb4.6						
CLZ	**Clausthal**	**53.19**	**318**	*eP*	**P**	**01 03 43.3**	**+0.7**
CLZ				pmax	pmax		
	comp=Z,15nm,2.0s,mb4.6						
BSEG	**Bad Segeberg**	**53.54**	**320**	*eP*	**P**	**01 03 45.8**	**+0.7**
	comp=Z,8.0nm,1.4s,mb4.5						
STU	**Stuttgart**	**53.62**	**314**	*eP*	**P**	**01 03 45.6**	**-0.1**
	comp=Z,11nm,0.3s,mb5.3						
BFO	**Black Forest**	**54.16**	**313**	*eP*	**P**	**01 03 49.4**	**-0.3**
	comp=Z,4.0nm,1.3s,mb4.2						
BFO	**Black Forest**	**54.16**	**313**	*eP*	**P**	**01 03 49.4**	**-0.3**
BFO				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
TNS	**Taunus Mts**	**54.22**	**316**	*eP*	**P**	**01 03 51.1**	**+0.9**
	comp=Z,4.0nm,0.9s,mb4.3						
TNS	**Taunus Mts**	**54.22**	**316**	*eP*	**P**	**01 03 51.1**	**+0.9**
TNS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**54.57**	**329**	P	**P**	**01 03 51.2**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=107,slow=6.9						
NOA	**NORSAR Array B**	**54.57**	**329**	P	**P**	**01 03 50.9**	**-1.8**
	comp=Z,2.0nm,0.8s,mb4.2,baz=105,slow=7.3,SNR=6.0						
NOA				LR	LR	01 30 46.7	
	comp=Z,65nm,19.5s,MS3.7,baz=240,slow=40						
SBF	**Sospel**	**54.66**	**308**	*eP*	**P**	**01 03 52.5**	**-0.8**
	comp=Z,12nm,0.6s,mb4.8						
SBF	**Sospel**	**54.66**	**308**	*eP*	**P**	**01 03 52.5**	**-0.8**
SBF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
SBF	**Sospel**	**54.66**	**308**	*eP*	**P**	**01 03 52.5**	**-0.8**
	comp=Z,6.1nm,0.6s,mb4.8						
IBBN	**Ibbenburen**	**54.85**	**318**	*eP*	**P**	**01 03 55.6**	**+0.9**
	comp=Z,7.0nm,0.4s,mb5.0						
CDF	**Champ du Feu**	**54.86**	**313**	*eP*	**P**	**01 03 55.0**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.2						
CDF	**Champ du Feu**	**54.86**	**313**	*eP*	**P**	**01 03 55.0**	**+0.2**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CDF	**Champ du Feu**	**54.86**	**313**	*eP*	**P**	**01 03 55.0**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2						
HINF	**Hinteralfeld**	**55.12**	**313**	*eP*	**P**	**01 03 56.1**	**-0.6**
	comp=Z,9.8nm,0.8s,mb4.6						
HINF	**Hinteralfeld**	**55.12**	**313**	*eP*	**P**	**01 03 56.1**	**-0.6**
HINF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
HINF	**Hinteralfeld**	**55.12**	**313**	*eP*	**P**	**01 03 56.1**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.6						
MBDF	**Montbardon**	**55.13**	**309**	*eP*	**P**	**01 03 57.0**	**+0.3**
	comp=Z,9.4nm,0.7s,mb4.7			

comp=Z,5.1nm,0.5s,mb4.5
MTLF Montolieu 58.46 307 *e*P **P 01 04 19.8 -0.6**
MTLF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
MTLF Montolieu 58.46 307 *e*P **P 01 04 19.8 -0.6**
comp=Z,2.5nm,0.5s,mb4.5
CAF Calviac 58.47 309 *e*P **P 01 04 20.1 -0.4**
comp=Z,11nm,1.0s,mb4.6
CAF Calviac 58.47 309 *e*P **P 01 04 20.1 -0.4**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CAF Calviac 58.47 309 *e*P **P 01 04 20.1 -0.4**
comp=Z,5.7nm,1.0s,mb4.6
RJF Les Rejaudoux 58.84 310 *e*P **P 01 04 22.7 -0.3**
comp=Z,15nm,1.0s,mb4.7
RJF Les Rejaudoux 58.84 310 *e*P **P 01 04 22.7 -0.3**
RJF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
RJF Les Rejaudoux 58.84 310 *e*P **P 01 04 22.7 -0.3**
comp=Z,7.6nm,1.0s,mb4.7
FLN La Foliniere 60.01 314 *e*P **P 01 04 30.4 -0.7**
comp=Z,28nm,1.1s,mb5.0
ETSF Etsaut 60.53 307 *e*P **P 01 04 34.3 -0.4**
comp=Z,28nm,1.1s,mb5.0
ETSF Etsaut 60.53 307 *e*P **P 01 04 34.3 -0.4**
ETSF pmax pmax
comp=Z,14nm,1.1s,mb5.0
ETSF Etsaut 60.53 307 *e*P **P 01 04 34.3 -0.4**
comp=Z,14nm,1.1s,mb5.0
SJPF Ste Jean 60.99 307 *e*P **P 01 04 37.5 -0.3**
comp=Z,4.4nm,0.6s,mb4.5
SJPF Ste Jean 60.99 307 *e*P **P 01 04 37.5 -0.3**
SJPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
SJPF Ste Jean 60.99 307 *e*P **P 01 04 37.5 -0.3**
comp=Z,2.2nm,0.6s,mb4.5
SGMF Saint Gilles 61.42 313 *e*P **P 01 04 40.1 -0.7**
ESDC Sonseca Array 63.52 304 P **P 01 04 53.6 -1.2**
comp=Z,1.3nm,0.5s,mb4.2,baz=65,slow=6.2,SNR=11
SEY Seymchan 65.35 30 *i*P **P 01 05 07.1 +0.4**
TORD Torodi Ar. Bea 65.55 274 P **P 01 05 07.5 -0.5**
comp=Z,5.6nm,1.0s,mb4.6,baz=80,slow=5.2,SNR=26
BOSA Boshof 67.98 222 LR LR 01 31 38.6
comp=Z,93nm,18.9s,MS4.0,baz=158,slow=33
WRA Warramunga Arr 75.97 119 P **P 01 06 10.8 -0.6**
comp=Z,1.2nm,0.7s,mb3.9,baz=316,slow=5.0,SNR=18
WRA Warramunga Arr 75.97 119 *i*P **P 01 06 11.3 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRAB Tennant Creek 75.97 119 *e*P **P 01 06 11.2 -0.3**
WRAB pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
WRAB Tennant Creek 75.97 119 *e*P **P 01 06 11.2 -0.3**
comp=Z,1.9nm,0.5s,mb4.3
ASAR Alice Springs 77.62 123 P **P 01 06 20.2 -0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=304,slow=5.7,SNR=16
CTAO Charters Tower 85.78 114 P **P 01 07 04.6 +0.8**
ILAR Eielson Array 87.01 15 P **P 01 07 08.7 -1.2**
comp=Z,0.7nm,1.0s,mb3.8,baz=296,slow=3.6,SNR=4.3
YKA Yellowknife Ar 93.81 2 P **P 01 07 41.0 -0.7**
comp=Z,0.4nm,0.9s,mb3.9,baz=340,slow=4.9,SNR=8.7
YKA LR LR 01 55 30.1
comp=Z,83nm,18.3s,MS4.2,baz=100,slow=39
YKA Yellowknife Ar 93.81 2⇑*e*P **P 01 07 41.5 -0.2**
YKA Yellowknife Ar 93.81 2 P **P 01 07 41.0 -0.7**
YKA LR LR 01 55 30.1
PDAR Pinedale Array 113.67 0 PKiKP PKiKP 01 13 01.9 -1.0
comp=Z,0.2nm,0.5s,baz=128,slow=3.1,SNR=4.4
TXAR Lajitas Array 126.77 354 PKP PKPdf 01 13 28.8 +0.7
comp=Z,0.6nm,1.0s,baz=0.0,slow=0.0,SNR=4.0

*ATH **03** 01:02:38.5, 3831N×2794E, h37km±9km, MD3.4/3*
*ISCJB **03** 01:02:39.7±0.5, 3841N±002×2774E±003, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=109.8*
*CSEM **03** 01:02:39.3±0.1, 3839N×2772E, h10km, MD3.3, Error ellipse: s-maj=1.6km s-min=1.2km az=104.0*
*ISK **03** 01:02:40.2, 3844N×2767E, h18km, MD3.3*
ISC 03 01:02:40.1±0.4,**3840N**±002×**2774E**±003,**h9**km±3km,**n36,**
σ0°90/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.37**	**271**	*i* P		**Pg**	**01 02 47.7**	**+0.3**
KDAG				*i* S		**Sg**	**01 02 52.7**	**+0.4**
IZM	**Izmir**	**0.37**	**270**	*i* PG		**Pg**	**01 02 47.6**	**+0.2**
IZM				*i* SG		**Sg**	**01 02 52.9**	**+0.5**
AKS	**Akhisar**	**0.48**	**7**	*i* PG		**Pg**	**01 02 49.4**	**-0.1**
AKS				*i* SG		**Sg**	**01 02 56.4**	**+0.5**
BLCB	**Balcova**	**0.55**	**269**	*i* PG		**Pg**	**01 02 51.0**	**+0.3**
BLCB				*i* SG		**Sg**	**01 02 58.0**	**+0.1**
MANT	**Manisa**	**0.65**	**82**	*i* P		**Pg**	**01 02 52.5**	**-0.1**
MANT				*i* S		**Sg**	**01 03 00.3**	**-0.9**
AYDN	**Tasoluk**	**0.74**	**171**	*i* P		**Pg**	**01 02 54.8**	**+0.3**
AYDN				*i* S		**Sg**	**01 03 05.0**	**+0.9**
URLA	**Izmir**	**0.90**	**268**	*i* P		**Pg**	**01 02 58.1**	**+0.7**
SMG	**Samos**	**0.99**	**226**	*e*PN		**Pn**	**01 02 58.9**	**-1.3**
SMG				*e*SN		**Sn**	**01 03 12.9**	**-1.4**
MLSB	**Milas**	**1.10**	**178**	*i* PN		**Pn**	**01 03 01.1**	**-0.6**
DENT	**Denizli**	**1.21**	**122**	PN		**Pn**	**01 03 04.2**	**+1.0**
DENT				SN		**Sn**	**01 03 21.0**	**+1.3**
BALB	**Balikesir**	**1.25**	**5**	PN		**Pn**	**01 03 03.0**	**-0.7**
DNZL	**Cakiroluk**	**1.25**	**124**	*i* P		**Pn**	**01 03 03.4**	**-0.4**
DNZL				*i* S		**Sb**	**01 03 20.1**	**-0.1**
YER	**Yerkesik**	**1.33**	**161**	PN		**Pn**	**01 03 04.7**	**-0.2**
BDRM	**Kayabasi**	**1.35**	**190**	*i* P		**Pn**	**01 03 05.8**	**+0.6**
BDRM				*i* S		**Sb**	**01 03 22.1**	**-0.9**
BODT	**Bodrum**	**1.38**	**194**	PN		**Pn**	**01 03 05.5**	**0.0**
BTOK	**Tokmak**	**1.38**	**9**	*i* P		**Pn**	**01 03 04.4**	**-1.2**
PRK	**Paraskevi**	**1.43**	**307**	*e*PN		**Pn**	**01 03 06.0**	**-0.2**
PRK				*e*SN		**Sn**	**01 03 26.6**	**+1.5**
GDZ	**Gediz**	**1.53**	**63**	*i* P		**Pn**	**01 03 08.5**	**+0.9**
ORLT	**Orhaneli**	**1.88**	**28**	PN		**Pn**	**01 03 12.8**	**+0.4**
KCT	**Karacabey**	**1.93**	**14**	PN		**Pn**	**01 03 13.2**	**+0.1**
EDC	**Edincik**	**1.95**	**3**	PN		**Pn**	**01 03 12.4**	**-1.0**
BNT	**Bandirma**	**1.96**	**4**	PN		**Pn**	**01 03 12.3**	**-1.3**
ULDT	**Uludag**	**2.05**	**31**	*i* P		**Pn**	**01 03 17.2**	**+2.4**
APE	**Apeiranthos**	**2.20**	**234**	*e*PN		**Pn**	**01 03 15.8**	**-1.0**
MRMT	**Marmara Adasi**	**2.21**	**357**	*e*PN		**Pn**	**01 03 17.0**	**+0.1**
SART	**Tekirdag**	**2.33**	**349**	*i* P		**Pn**	**01 03 17.3**	**-1.3**
IZI	**Iznik**	**2.36**	**34**	*e*PN		**Pn**	**01 03 19.7**	**+0.7**
ELL	**Elmali**	**2.38**	**133**	*e*PN		**Pn**	**01 03 19.9**	**+0.5**
MFT	**Murefte**	**2.41**	**352**	*e*PN		**Pn**	**01 03 18.6**	**-1.2**
YLV	**Yalova**	**2.51**	**30**	*e*PN		**Pn**	**01 03 22.0**	**+0.9**
ESKT	**Eskisehir**	**2.67**	**64**	*e*PN		**Pn**	**01 03 25.0**	**+1.6**
ESKT	**Eskisehir**	**2.67**	**64**	*i* P		**Pg**	**01 03 29.8**	**-1.6**
ISK	**Istanbul-Kandi**	**2.85**	**21**	*e*PN		**Pn**	**01 03 26.3**	**+0.5**
MDU	**Mudurnu**	**3.39**	**51**	*e*PN		**Pn**	**01 03 34.8**	**+1.5**
HENT	**Hendek**	**3.44**	**44**	*i* P		**Pg**	**01 03 44.7**	**-1.4**
SGKT	**Sivrigoynuk**	**3.98**	**56**	*i* P		**Pg**	**01 03 56.0**	**-0.5**

*MOS **03** 01:04:29.7±1.2, 3689N×7164E, h110km, mb3.6/1, Error ellipse: s-maj=32.9km s-min=11.0km az=91.8*
*NEIC **03** 01:04:32.8±7.5, 3703N×7167E, h114km±45km, mb3.5/2, Error ellipse: s-maj=73.5km s-min=23.0km az=191.0*
*ISCJB **03** 01:04:38.9±1.8, 3759N±0.10×719E±0.1, h155km±15km, mb3.4/4, Error ellipse: s-maj=16.7km s-min=12.9km az=56.7*
*NNC **03** 01:04:44.4±8.4, 3806N×7162E, h211km±110km, mb2.6, mpv3.7, Error ellipse: s-maj=87.5km s-min=43.2km az=11.0*
*IDC **03** 01:04:53.4±6.7, 3812N×7185E, h261km±51km, mb3.1/4, mb1 3.0/7, mb1mx2.8/23, mbtmp3.6/7, Error ellipse: s-maj=63.5km s-min=36.8km az=11.0*
ISC 03 01:04:44.8±1.8,**380N**±01×**717E**±01,**h177**km±14km,**n18,**
σ1°17/25,mb3.4/4,6C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.13**	**24**	*e*PN		**Pn**	**01 05 58.4**	**-1.9**
AAK				pmax		pmax		
comp=Z,2.0nm,0.4s								
AAK	**Ala-Archa**	**5.13**	**24**	*e*Pn		**Pn**	**01 05 58.4**	**-2.0**
comp=Z,1.9nm,0.4s								
AAK				*e*S		**Sn**	**01 07 00.8**	**+1.2**
KK31	**Karatay Array**	**5.22**	**350**	⇑P		**Pn**	**01 06 00.6**	**-0.9**
comp=Z,9.7nm,0.6s,baz=176,slow=12,SNR=98								
KK31				⇑S		**Sn**	**01 07 01.2**	**-0.6**
comp=Z,14nm,0.5s,baz=171,slow=19,SNR=17								
TKM2	**Tokmak 2**	**5.77**	**30**	⇑P		**Pn**	**01 06 07.1**	**-1.6**
comp=Z,3.5nm,0.6s								
TKM2				⇑S		**Sn**	**01 07 15.3**	**+0.5**
comp=Z,3.2nm,0.9s								
MKAR Makanchi Array 11.78 38 P **Pn 01 07 32.4 +4.9**								
comp=Z,0.1nm,0.3s,baz=214,slow=9.8,SNR=4.9								
KURK Kurchatov 13.67 19 *e*P **Pn 01 07 54.7 +3.3**								
AB31 Akbulak array 14.13 327 ⇑P **Pn 01 07 56.9 -0.3**								
comp=Z,0.6nm,0.4s								
AB31				⇑S		**Sn**	**01 10 26.6**	**-7.9**
comp=Z,5.7nm,0.8s								
BVAR Borovoye Array 15.10 357 P **Pn 01 08 10.1 +1.0**								
comp=Z,0.2nm,0.3s,baz=162,slow=11,SNR=4.7								
BVAR				S		**S**	**01 10 56.2**	**-0.9**
comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=3.7								
ZRNK Zerenda 15.11 354 *e*P **Pn 01 08 12.5 +3.2**								
ZRNK				pmax		pmax		
comp=Z,1.0nm,0.4s								
ZRNK Zerenda 15.11 354 *e*P **Pn 01 08 12.5 +3.2**								
comp=Z,0.8nm,0.4s								
BRVK Borovoye 15.13 357 P **Pn 01 08 10.7 +1.1**								
AKTK Aktyubinsk 15.84 326 P **Pn 01 08 19.5 +1.3**								
AKTK				S		**S**	**01 11 13.7**	**-0.5**
AKTO Aktyubinsk 15.84 326 P **Pn 01 08 19.5 +1.2**								
comp=Z,0.2nm,0.3s,baz=135,slow=8.9,SNR=7.5								
AKTO				S		**S**	**01 11 13.7**	**-0.5**
comp=Z,0.1nm,0.3s,baz=16,slow=16,SNR=6.7								
ULN Ulaanbaatar 27.50 58 P **P 01 10 14.2 -0.3**								
FINES FINESS Array B 36.61 325 P **P 01 11 34.2 +0.4**								
comp=Z,0.7nm,0.7s,mb3.4,baz=112,slow=10,SNR=3.6								
ARCES ARCESS Array B 40.03 337 P **P 01 12 02.8 +0.4**								
comp=Z,1.8nm,0.8s,mb3.7,baz=113,slow=9.2,SNR=6.1								
NOA NORSAR Array B 43.57 322 P **P 01 12 30.9 -0.2**								
comp=Z,0.8nm,0.9s,mb3.4,baz=107,slow=7.5,SNR=2.2								
YKA Yellowknife Ar 79.77 3 P **P 01 16 30.9 -2.2**								
comp=Z,0.2nm,0.5s,mb3.0,baz=351,slow=5.4,SNR=7.5								

*ISCJB **03** 01:07:02.5±0.5, 6626N±005×142.1W±0.1, h55km, Error ellipse: s-maj=7.4km s-min=6.4km az=71.4*
*PGC **03** 01:07:02.8, 6622N×141.92W, h1km, ML2.9/2, Eastern Alaska.*
*NEIC **03** 01:07:02.9, 6628N×142.13W, h55km, ML2.9(AEIC), After AEIC.*
ISC 03 01:07:04.0±0.5,**6627N**±005×**1422W**±01,**h55**km,**n16,**
σ0°91/25,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.50**	**321**	P		**Pn**	**01 07 27.6**	**-0.9**
BM3				S		**Sn**	**01 07 46.8**	**-0.3**
IL1	**Eielson Array**	**2.47**	**235**	P		**Pn**	**01 07 41.4**	**-0.4**
DAWY	**Dawson**	**2.51**	**151**	Pn		**Pn**	**01 07 42.4**	**0.0**
DAWY				Sg		**Sn**	**01 08 19.0**	**+7.3**
DAWY				Trac			01 08 24.4	
comp=Z,32nm,0.5s								
DAWY Dawson 2.51 151 Pn **Pn 01 07 41.9 -0.4**								
COLA College 2.75 242 *e*Pn **Pn 01 07 51.9 +6.3**								
COLA				*e*Sn		**Sn**	**01 08 26.2**	**+8.7**
COLD Coldfoot 3.32 290 P **Pn 01 07 54.2 +0.8**								
MENT Mentasta 3.42 192 P **Pn 01 07 55.1 +0.4**								
PAX Paxson 3.61 205 P **Pn 01 07 58.8 +1.4**								
MCK McKinley 3.84 231 *e*Pn **Pn 01 07 58.8 -1.7**								
MCK				*e*Pg		**Pn**	**01 08 12.9**	**+12**
MCK				*e*Sn		**Sn**	**01 08 37.7**	**-6.7**
INK Inuvik 3.93 55 Pn **Pn 01 08 03.3 +1.5**								
INK				Sn		**Sn**	**01 08 46.8**	**+0.2**
INK				Sg		**Sn**	**01 09 03.2**	**+17**
INK				Trac			01 09 09.8	
comp=Z,16nm,0.7s								
INK Inuvik 3.93 55 *e*Pn **Pn 01 08 02.9 +1.2**								
INK				*e*Sn		**Sn**	**01 08 47.5**	**+1.0**
IMA2 Indian Mountai 4.67 273 *e*Pn **Pn 01 08 12.6 +0.6**								
IM3 Indian Mountai 4.71 272 P **Pn 01 08 12.1 -0.4**								
HYT Haines Junctio 5.85 157 Pn **Pn 01 08 28.7 +0.5**								
HYT				Sg		Sn	01 10 01.3	+27
HYT				Trac			01 10 09.2	
comp=Z,9.0nm,0.7s								
WHY Whitehorse 6.51 147 Pn **Pn 01 08 36.3 -0.9**								
WHY				Sg		Sn	01 10 25.2	+35
WHY				Trac			01 10 48.1	
comp=Z,2.0nm,0.7s								
YKW3 Yellowknife Ar 12.42 95 Pn **Pn 01 09 56.2 -1.7**								
YKW3				Sn		**Sn**	**01 12 05.5**	**-9.1**
YKW3				Trac			01 12 27.5	

*ISCJB **03** 01:07:17.6±0.8, 3924N±003×2054E±005, h7km±6km, Error ellipse: s-maj=6.8km s-min=5.1km az=104.6*
*CSEM **03** 01:07:18.5±0.1, 3922N×2058E, h0km, MD3.2, Error ellipse: s-maj=3.5km s-min=2.5km az=68.0*
*NEIC **03** 01:07:18.4, 3926N×2061E, h24km, MD3.2(ATH), After ATH.*
*ATH **03** 01:07:18.4, 3926N×2061E, h24km±2km, MD3.2/4*
*THE **03** 01:07:18.3, 3922N×2055E, h10km*
ISC 03 01:07:18.3±0.7,**3923N**±004×**2056E**±005,**h7**km±6km,**n16,**
σ0°82/22,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.35**	**330**	*e*Pg		**Pg**	**01 07 24.9**	**-0.3**
IGT				*e*Sg		**Sg**	**01 07 30.5**	**+0.8**
JAN	**Janina**	**0.48**	**28**	*e*PB		**Pg**	**01 07 26.9**	**-0.8**
JAN				*e*SB		**Sg**	**01 07 34.2**	**+0.2**
LKD	**Levkas**	**0.53**	**172**	*e*Pg		**Pg**	**01 07 28.0**	**-0.5**
MEV	**Metsovon**	**0.76**	**43**	*e*Pg		**Pg**	**01 07 32.4**	**-0.6**
MEV	**Metsovon**	**0.76**	**43**	*e*Pg		**Pg**	**01 07 32.3**	**-0.6**
KEK	**Kerkira**	**0.76**	**310**	*e*PN		**Pn**	**01 07 34.0**	**-1.4**
KEK				*e*SN		**Sg**	**01 07 44.4**	**+1.5**
EVR	**Evrytania**	**1.02**	**107**	*e*PN		**Pn**	**01 07 37.8**	**-1.2**
VLS	**Valsamata**	**1.05**	**179**	*e*PN		**Pn**	**01 07 39.3**	**-0.1**
RLS	**Riolos of Patr**	**1.37**	**148**	*e*PN		**Pn**	**01 07 43.9**	**+0.2**
RLS				*e*SN		**Sn**	**01 08 03.1**	**+1.0**
AGG	**Agios Georgios**	**1.39**	**98**	*e*Pg		**Pg**	**01 07 44.1**	**-0.9**
AGG				*e*Sg		**Sg**	**01 07 54.6**	**+1.4**
FNA	**Florina**	**1.68**	**22**	*e*Pb		**Pb**	**01 07 48.6**	**-0.8**
LIT	**Litokhoron**	**1.73**	**59**	*e*Pb		**Pb**	**01 07 49.5**	**-0.8**
LIT				*e*Sb		**Sb**	**01 08 12.7**	**+0.5**
XOR	**Xorichti**	**2.05**	**85**	*e*PN		**Pn**	**01 07 53.7**	**+0.6**
GRG	**Griva**	**2.23**	**39**	*e*PN		**Pn**	**01 07 55.5**	**-0.1**
SOH	**Sokhos**	**2.67**	**53**	*e*PN		**Pn**	**01 08 02.0**	**+0.3**
OUR	**Ouranopolis**	**2.86**	**66**	*e*Pn		**Pn**	**01 08 05.1**	**+0.9**

*ISCJB **03** 01:13:51.7±2.7, 555N±02×1607E±02, h89km±30km, mb3.6/5, Error ellipse: s-maj=36.6km s-min=10.7km az=145.3*
*MOS **03** 01:13:55.4±2.3, 5499N×16078E, h150km, mb4.1/2, Error ellipse: s-maj=49.7km s-min=28.2km az=60.2*
*IDC **03** 01:14:01.6±3.8, 5479N×16171E, h169km±41km, mb3.2/5, mb1 3.6/6, mb1mx3.2/22, mbtmp3.7/6, Error ellipse: s-maj=39.0km s-min=15.6km az=154.0*
ISC 03 01:13:52.6±2.7,**555N**±02×**1606E**±02,**h87**km±30km,**n10,**
σ0°53/13,mb3.6/5,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**2.73**	**206**	*e*PN		**Pn**	**01 14 34.8**	**+0.4**
PET				*e*S		**Sn**	**01 15 05.9**	**-0.6**
PET				smax				
comp=E,118nm,0.4s								
FX1 Attu Island--F 7.81 104 P **Pn 01 15 43.3 -0.2**								
comp=E,1.9nm,0.3s,baz=219,slow=14,SNR=8.1								
FX1				S		**Sn**	**01 17 10.6**	**+0.4**
comp=E,2.7nm,0.3s,baz=150,slow=17,SNR=6.6								
FX1 Attu Island--F 7.81 104 Pn **Pn 01 15 43.3 -0.2**								
FX1				S		**Sn**	**01 17 10.6**	**+0.3**
FX1				pmax		pmax		
comp=Z,2.0nm,0.3s								
MJAR Matsushiro Arr 24.33 228 P **P 01 19 03.0 +0.8**								
comp=Z,7.7nm,0.4s,mb4.4,baz=29,slow=12,SNR=16								
MJAR Matsushiro Arr 24.33 228 P **P 01 19 03.0 +0.9**								
MJAR				pmax		pmax		
comp=Z,8.0nm,0.4s								
ILAR Eielson Array 26.95 49 P **P 01 19 25.8 0.0**								
comp=Z,0.4nm,0.6s,mb3.1,baz=253,slow=6.9,SNR=9.5								
YKA Yellowknife Ar 41.21 45 P **P 01 21 28.8 +0.1**								
comp=Z,0.4nm,0.5s,mb3.5,baz=300,slow=7.9,SNR=9.8								
MKAR Makanchi Array 47.42 294 P **P 01 22 26.2 +8.0**								
comp=Z,0.4nm,1.0s,mb3.1,baz=45,slow=6.1,SNR=3.4								
TXAR Lajitas Array 69.44 68 P **P 01 24 50.4 -0.9**								
comp=Z,0.5nm,0.4s,mb3.7,baz=294,slow=5.4,SNR=12								
TXAR Lajitas Array 69.44 68 P **P 01 24 50.4 -0.9**								
TXAR				pmax		pmax		
comp=Z,1.0nm,0.4s								

*ISCJB **03** 01:17:24.8±1.3, 3644N±008×2238E±008, h45km±18km, Error ellipse: s-maj=14.8km s-min=9.9km az=56.8*
*CSEM **03** 01:17:24.8±0.3, 3649N×2228E, h12km, MD3.4, Error ellipse: s-maj=6.3km s-min=2.7km az=31.0*
*ATH **03** 01:17:24.3, 3648N×2232E, h29km±2km, MD3.4/4*
*NEIC **03** 01:17:25.7, 3645N×2240E, h32km, MD3.4(ATH), ML3.0(THE), After THE.*
*THE **03** 01:17:25.7, 3645N×2240E, h21km*
ISC 03 01:17:24.9±1.3,**3647N**±008×**2232E**±007,**h18**km±5km,**n20,**
σ0°68/25,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.56**	**63**	*e*PN		**Pg**	**01 17 35.5**	**-0.6**
VLI				*e*SN		**Sg**	**01 17 44.5**	**+0.9**
KYTH	**Kithira**	**0.61**	**108**	*e*PN		**Pg**	**01 17 37.0**	**0.0**
ITM	**Ithomi**	**0.78**	**336**	*e*PN		**Pg**	**01 17 38.8**	**-1.4**
ITM				*e*SN		**Sg**	**01 17 51.0**	**+0.5**
RLS	**Riolos of Patr**	**1.73**	**337**	*e*PN		**Pn**	**01 17 55.2**	**+1.2**
LKR	**Lokris**	**2.25**	**14**	*e*PN		**Pn**	**01 18 01.2**	**0.0**
EVR	**Evrytania**	**2.48**	**351**	*e*PN		**Pn**	**01 18 04.3**	**-0.1**
AGG	**Agios Georgios**	**2.55**	**0**	*e*PN		**Pn**	**01 18 05.5**	**+0.2**
AGG				*e*SN		**Sn**	**01 18 35.6**	**-0.3**
LKD	**Levkas**	**2.60**	**330**	*e*PN		**Pn**	**01 18 06.2**	**+0.1**
LKD				*e*SN		**Sn**	**01 18 37.9**	**+0.8**
NEO	**Neokhori**	**2.92**	**14**	*e*PN		**Pn**	**01 18 11.4**	**+0.9**
AOS	**Alonnisos**	**2.97**	**24**	*e*PN		**Pn**	**01 18 10.1**	**-1.0**
XOR	**Xorichti**	**2.98**	**13**	*e*PN		**Pn**	**01 18 11.3**	**+0.1**
XOR				*e*SN		**Sn**	**01 18 45.3**	**-1.0**
MEV	**Metsovon**	**3.42**	**346**	*e*PN		**Pn**	**01 18 17.9**	**+0.6**
IGT	**Igoumenitsa**	**3.44**	**333**	*e*PN		**Pn**	**01 18 16.5**	**-1.0**
PAIG	**Paliouri**	**3.62**	**17**	*e*PN		**Pn**	**01 18 19.5**	**-0.5**
LIT	**Litokhoron**	**3.63**	**2**	*e*PN		**Pn**	**01 18 20.7**	**+0.5**
OUR	**Ouranopolis**	**4.08**	**18**	*e*PN		**Pn**	**01 18 25.8**	**-0.5**
FNA	**Florina**	**4.37**	**351**	*e*PN		**Pn**	**01 18 29.7**	**-0.7**
SOH	**Sokhos**	**4.42**	**10**	*e*PN		**Pn**	**01 18 31.3**	**+0.2**
GRG	**Griva**	**4.48**	**1**	*e*PN		**Pn**	**01 18 32.4**	**+0.4**
SRS	**Serrai**	**4.75**	**12**	*e*PN		**Pn**	**01 18 36.1**	**+0.6**

*IDC **03** 01:18:38.3±0.7, 676N×7784W, h0km, mb3.9/12, mb1 4.2/14, mb1mx4.0/22, mbtmp4.0/14, ML5.2/2, MS3.7/2, Ms1 3.6/2, ms1mx3.1/26, Error ellipse: s-maj=22.8km s-min=15.5km az=68.0*
*ISCJB **03** 01:18:40.2±2.7, 681N±006×7783W±005, h23km±21km, mb4.0/13, Error ellipse: s-maj=10.8km s-min=8.9km az=20.5*
*NEIC **03** 01:18:43.0±2.4, 679N×7785W, h30km±18km, mb4.2/4, Error ellipse: s-maj=9.7km s-min=7.8km az=224.0*
ISC 03 01:18:43.6±2.7,**681N**±006×**7786W**±005,**h32**km±20km,**n32,**
σ0°93/31,mb4.0/13,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.01**	**119**	Pn		**Pn**	**01 19 44.1**	**+1.4**
2.4nm,0.3s,baz=90,slow=7.8,SNR=5.5								
ROSC				Lg			01 20 44.3	
5.1nm,0.3s,baz=86,slow=22,SNR=6.5								
SDV	**Santo Domingo**	**7.45**	**73**	Pn		**Pn**	**01 20 29.9**	**-0.1**
4.3nm,0.3s,baz=293,slow=5.5,SNR=27								
SDV				Sn		**Sn**	**01 21 53.3**	**-0.1**
4.8nm,0.3s,baz=95,slow=17,SNR=6.3								
SDV				LR		LR	01 23 34.0	
comp=Z,326nm,19.3s,baz=110,slow=40								
SDV	**Santo Domingo**	**7.45**	**73**	Pn		**Pn**	**01 20 29.9**	**-0.1**
SDV				Sn		**Sn**	**01 21 53.3**	**-0.1**
SDV				LR		LR	01 23 34.0	
JTS	**JuntasAbangare**	**7.82**	**297**	*e*Pn		**Pn**	**01 20 36.4**	**+1.3**
6.4nm,0.4s								
JTS				*e*Sg			01 22 46.6	
PAYG	**Puerto Ayora**	**14.46**	**240**	*e*Pn		**Pn**	**01 22 04.0**	**-1.9**
SJG	**San Juan**	**16.01**	**44**	Pn		**Pn**	**01 22 26.0**	**-0.3**
1.8nm,0.3s,baz=215,slow=12,SNR=3.6								
SJG	**San Juan**	**16.01**	**44**	*e*Pn		**Pn**	**01 22 24.6**	**-1.7**
9.3nm,0.6s								
TEIG	**Tepich**	**16.73**	**324**	P		**Pn**	**01 22 35.3**	**-0.1**
LPAZ	**La Paz**	**24.89**	**157**	P		**P**	**01 24 04.0**	**+0.6**
1.1nm,0.8s,mb3.5,baz=3.8,slow=12,SNR=3.5								
LPAZ	**La Paz**	**24.89**	**157**	P		**P**	**01 24 04.0**	**+0.6**
SIV	**San Ignacio**	**28.10**	**144**	P		**P**	**01 24 31.5**	**-0.9**
1.7nm,0.5s,mb3.9,baz=325,slow=9.7,SNR=13								
LVC	**Limon Verde**	**30.53**	**164**	*e*P		**P**	**01 24 54.1**	**+0.2**
0.8nm,0.5s,mb3.8								
TXAR	**Lajitas Array**	**33.07**	**316**	P		**P**	**01 25 17.2**	**+1.1**
0.2nm,0.6s,baz=122,slow=8.5,SNR=3.2								
BDFB	**Brasilia**	**37.03**	**127**	LR		LR	01 42 03.4	
comp=Z,136nm,18.2s,baz=202,slow=38								
CPUP	**Villa Florida**	**38.50**	**150**	P		**P**	**01 26 00.4**	**-2.4**
5.0nm,0.5s,mb4.5,baz=322,slow=5.7,SNR=5.9			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.73**	**285**	⇑*i*Pg	**Pg**	**01 25 00.3**	**-0.7**
	4μm,0.6s						
OGRR				⇓*i*Pg	**Pg**	**01 25 00.3**	**-0.7**
	7μm,0.6s						
OGRR				⇑*i*Pg	**Pg**	**01 25 00.3**	**-0.7**
	8μm,0.6s						
OGRR				Pmax		01 25 00.6	
	6μm,0.6s						
OGRR				*i* Sg	**Sg**	**01 25 10.5**	**-0.2**
OGRR				Smax		01 25 11.4	
	17μm,0.3s						
OGRR	**Ongureny**	**0.73**	**285**	*e*PG	**Pg**	**01 25 00.3**	**-0.7**
OGRR				*e*		01 25 10.6	
OGRR				pmax	pmax		
	comp=Z,6μm,0.6s						
SYVR	**Suvo**	**0.75**	**74**	⇑*i*Pg	**Pg**	**01 24 59.4**	**-2.0**
	comp=Z,1μm,0.7s						
SYVR				⇑*i*Pg	**Pg**	**01 24 59.4**	**-2.0**
	comp=Z,2μm,0.7s						
SYVR				⇑*i*Pg	**Pg**	**01 24 59.4**	**-2.0**
	comp=Z,3μm,0.7s						
SYVR				*e*Pb	**Pb**	**01 25 02.4**	**+0.8**
SYVR				max		01 25 03.9	
	comp=Z,4μm,0.9s						
SYVR				*e*Sg	**Sg**	**01 25 09.3**	**-2.0**
SYVR				Smax		01 25 10.7	
	comp=Z,14μm,1.6s						
SYVR	**Suvo**	**0.75**	**74**	*e*PG	**Pg**	**01 24 59.6**	**-1.8**
SYVR				*e*		01 25 09.6	
SYVR				pmax	pmax		
	comp=Z,3μm,0.6s						
SYVR				smax			
	comp=E,9μm,0.4s						
KELR	**Kotokel**	**0.82**	**212**	*e*Pg	**Pg**	**01 25 00.6**	**-2.0**
KELR				*e*Sg	**Sg**	**01 25 11.7**	**-1.7**
KELR				*e*Sb	**Sb**	**01 25 16.1**	**+2.5**
TRG	**Tyrgan**	**1.63**	**246**	*e*Pn	**Pn**	**01 25 14.9**	**-0.1**
TRG				*e*Pg	**Pg**	**01 25 15.7**	**-2.3**
TRG				*e*		01 25 18.6	
TRG				max		01 25 19.0	
	comp=E,2μm,0.6s						
TRG				*e*Sn	**Sn**	**01 25 36.9**	**+1.2**
TRG				*e*Sg	**Sg**	**01 25 38.1**	**-1.0**
TRG				Smax		01 25 39.7	
	comp=E,9μm,0.4s						
TRG	**Tyrgan**	**1.63**	**246**	*e*PN	**Pn**	**01 25 14.9**	**-0.1**
TRG				*e*		01 25 15.4	
TRG				*e*		01 25 37.2	
TRG				pmax	pmax		
	comp=Z,2μm,0.4s						
TRG				smax			
	comp=E,10μm,0.4s						
KAB	**Kabansk**	**1.91**	**223**	*e*Pn	**Pn**	**01 25 18.8**	**-0.1**
KAB				*e*Pg	**Pg**	**01 25 20.1**	**-3.4**
KAB				Pmax		01 25 24.8	
	comp=E,3μm,1.0s						
KAB				*e*Sg	**Sg**	**01 25 46.2**	**-2.2**
KAB				*e*		01 25 50.0	
KAB				max		01 25 51.7	
	comp=E,32μm,0.6s						
KAB	**Kabansk**	**1.91**	**223**	*e*PN	**Pn**	**01 25 21.7**	**+2.8**
KAB				*e*		01 25 46.8	
KAB				pmax	pmax		
	comp=Z,4μm,0.7s						
KAB				smax			
	comp=N,3μm,0.7s						
STDB	**Stepnoy Dvoret**	**1.95**	**230**	*e*Pn	**Pn**	**01 25 20.6**	**+1.1**
STDB				*e*Pg	**Pg**	**01 25 22.6**	**-1.7**
STDB				Pmax		01 25 34.9	
	comp=N,3μm,0.7s						
STDB				*e*Sg	**Sg**	**01 25 49.8**	**+0.2**
STDB				Smax		01 25 54.4	
	comp=N,25μm,0.6s						
HRMR	**Khuramsha**	**2.15**	**212**	*e*Pn	**Pn**	**01 25 22.5**	**+0.4**
HRMR				*e*Pg	**Pb**	**01 25 24.2**	**-1.2**
HRMR				Pmax		01 25 30.3	
	comp=N,7μm,0.8s						
HRMR				*e*Sg	**Sb**	**01 25 53.2**	**+1.4**
HRMR				Smax		01 25 54.6	
	comp=N,43μm,0.4s						
NIZ	**Nizh Angarsk**	**2.36**	**10**	⇓*i*Pn	**Pn**	**01 25 26.2**	**+1.1**
	comp=N,224nm,0.8s						
NIZ				⇓*i*Pn	**Pn**	**01 25 26.2**	**+1.1**
	comp=N,185nm,0.8s						
NIZ				⇓*i*Pn	**Pn**	**01 25 26.2**	**+1.1**
	comp=N,445nm,0.8s						
NIZ				*e*Pg	**Pg**	**01 25 28.8**	**-3.3**
NIZ				Pmax		01 25 35.2	
	comp=N,1μm,0.8s						
NIZ				*e*Sg	**Sg**	**01 25 58.5**	**-4.3**
NIZ				Smax		01 26 01.0	
	comp=N,8μm,0.6s						
NIZ	**Nizh Angarsk**	**2.36**	**10**	*e*PN	**Pn**	**01 25 26.2**	**+1.1**
NIZ				*e*		01 25 28.8	
NIZ				*e*		01 25 59.1	
NIZ				pmax	pmax		
	comp=Z,1μm,0.8s						
NIZ				smax			
	comp=N,10μm,0.6s						
BTMB	**Babushkin**	**2.52**	**227**	*e*Pn	**Pn**	**01 25 26.5**	**-0.7**
BTMB				⇑*i*Pg	**Pb**	**01 25 31.1**	**-0.6**
BTMB				Pmax		01 25 33.7	
	comp=N,1μm,0.5s						
BTMB				*e*Sn	**Sn**	**01 25 58.9**	**+1.2**
BTMB				*e*Sg	**Sb**	**01 26 04.8**	**+2.2**
BTMB				Smax		01 26 07.3	
	comp=N,10μm,0.8s						
KMO	**Kumora**	**2.81**	**29**	*e*Pn	**Pn**	**01 25 32.0**	**+0.8**
KMO				*e*Pg	**Pb**	**01 25 36.1**	**-0.6**
KMO				Pmax		01 25 43.0	
	comp=N,3μm,0.5s						
KMO				*e*Sn	**Sn**	**01 26 05.2**	**+0.3**
KMO				*e*Sg	**Sb**	**01 26 13.7**	**+2.7**
KMO				Smax		01 26 23.1	
	comp=N,13μm,1.0s						
KMO	**Kumora**	**2.81**	**29**	*e*PN	**Pn**	**01 25 32.1**	**+0.9**
KMO				*e*		01 25 37.3	
KMO				*e*S	**Sn**	**01 26 06.3**	**+1.4**
KMO				*e*		01 26 13.8	
KMO				pmax	pmax		
	comp=Z,3μm,0.5s						
LSTR	**Listvyanka**	**2.88**	**238**	⇓*i*Pn	**Pn**	**01 25 32.2**	**-0.1**
LSTR				*e*Pg	**Pb**	**01 25 36.7**	**-1.3**
LSTR				Pmax		01 25 40.8	
	comp=Z,430nm,0.9s						
LSTR				*e*Sn	**Sn**	**01 26 08.1**	**+1.3**
LSTR				*e*Sg	**Sb**	**01 26 15.4**	**+2.3**
LSTR				Smax		01 26 20.0	
	comp=Z,2μm,0.8s						
LSTR	**Listvyanka**	**2.88**	**238**	⇓*i*PN	**Pn**	**01 25 32.2**	**-0.1**
LSTR				*e*		01 25 38.0	
LSTR				*e*S	**Sn**	**01 26 07.2**	**+0.4**
LSTR				*e*		01 26 15.3	
LSTR				pmax	pmax		
	comp=Z,440nm,0.8s						
LSTR				smax			
	comp=N,2μm,0.9s						
IRK	**Irkutsk**	**3.00**	**248**	*e*Pn	**Pn**	**01 25 33.7**	**-0.1**
IRK				*e*Pg	**Pg**	**01 25 40.0**	**-4.2**
IRK				*e*		01 25 47.6	
IRK				max		01 25 50.0	
	comp=N,148nm,0.8s						
IRK				*e*Sn	**Sn**	**01 26 08.8**	**-0.6**
IRK				*e*Sg	**Sg**	**01 26 18.5**	**-4.5**
IRK				Smax		01 26 35.6	
	comp=N,2μm,1.2s						
IRK	**Irkutsk**	**3.00**	**248**	*e*PN	**Pn**	**01 25 33.7**	**-0.1**
IRK				*e*		01 25 41.0	
IRK				*e*S	**Sn**	**01 26 09.0**	**-0.4**
IRK				*e*		01 26 18.5	
IRK				pmax	pmax		
	comp=Z,1μm,0.8s						
IRK				smax			
	comp=N,3μm,0.8s						
YOA	**Uoyan**	**3.17**	**31**	*e*Pn	**Pn**	**01 25 38.2**	**+1.9**
YOA				*e*Pg	**Pb**	**01 25 43.3**	**+0.4**
YOA				Pmax		01 25 54.6	
	comp=N,4μm,1.3s						
YOA				*e*Sn	**Sn**	**01 26 14.6**	**+0.7**
YOA				*e*Sg	**Sb**	**01 26 25.5**	**+4.0**
YOA				*e*SgSg		01 26 37.7	
YOA				max		01 26 39.1	
	comp=N,29μm,1.8s						
YOA	**Uoyan**	**3.17**	**31**	⇓*i*PN	**Pb**	**01 25 43.3**	**+0.4**
YOA				*i*		01 26 26.6	
YOA				pmax	pmax		
	comp=Z,2μm,0.4s						
YOA				smax			
	comp=N,5μm,1.0s						
CIT	**Chita**	**3.24**	**114**	*e*Pn	**Pn**	**01 25 36.2**	**-0.9**
CIT				*e*Pg	**Pb**	**01 25 41.9**	**-2.1**
CIT				Pmax		01 25 46.1	
	comp=N,2μm,1.0s						
CIT				*e*Sn	**Sn**	**01 26 14.8**	**-0.6**
CIT				*e*Sg	**Sb**	**01 26 25.3**	**+2.1**
CIT				Smax		01 26 33.4	
	comp=N,11μm,1.9s						
CIT	**Chita**	**3.24**	**114**	*e*PN	**Pn**	**01 25 36.2**	**-0.9**
CIT				*e*		01 25 43.4	
CIT				*e*S	**Sn**	**01 26 14.8**	**-0.6**
CIT				*e*		01 26 24.4	
CIT				pmax	pmax		
	comp=Z,2μm,0.6s						
CIT				smax			
	comp=N,10μm,1.0s						
UKT	**Uakit**	**3.48**	**52**	⇓*i*Pn	**Pn**	**01 25 40.9**	**+0.4**
UKT				*e*Pg	**Pb**	**01 25 47.6**	**-0.6**
UKT				Pmax		01 25 51.6	
	comp=N,739nm,1.1s						
UKT				*e*Sn	**Sn**	**01 26 23.1**	**+1.6**
UKT				*e*Sg	**Sb**	**01 26 33.9**	**+3.6**
UKT				Smax		01 26 43.2	
	comp=N,3μm,1.2s						
TLY	**Talaya**	**3.61**	**242**	⇓*i*Pn	**Pn**	**01 25 41.9**	**-0.3**
TLY				*e*Pg	**Pb**	**01 25 51.2**	**+0.9**
TLY				Pmax		01 25 57.9	
	comp=N,413nm,0.5s						
TLY				*e*Sg	**Sb**	**01 26 38.7**	**+4.8**
TLY				Smax		01 26 38.9	
	comp=N,2μm,0.5s						
TLY	**Talaya**	**3.61**	**242**	⇑*i*PN	**Pn**	**01 25 41.9**	**-0.3**
TLY				*e*		01 25 50.6	
TLY				*e*S	**Sn**	**01 26 24.7**	**+0.2**
TLY				*e*		01 26 36.9	
TLY				pmax	pmax		
	comp=Z,410nm,0.6s						
TLY				smax			
	comp=E,2μm,0.6s						
SVKR	**Severomuysk**	**3.84**	**44**	*e*Pn	**Pn**	**01 25 46.4**	**+1.0**
SVKR				*e*Pg	**Pb**	**01 25 56.9**	**+2.6**
SVKR				Pmax		01 26 04.2	
	comp=E,1μm,0.8s						
SVKR				*e*Sg	**Sb**	**01 26 47.3**	**+6.7**
SVKR				Smax		01 26 59.6	
	comp=E,10μm,1.1s						
SVKR	**Severomuysk**	**3.84**	**44**	*e*PN	**Pn**	**01 25 57.0**	**+12**
SVKR				*e*		01 26 45.9	
SVKR				pmax	pmax		
	comp=Z,1μm,0.8s						
SVKR				smax			
	comp=N,370nm,1.2s						
ARS	**Arshan**	**4.17**	**251**	*e*Pn	**Pn**	**01 25 49.5**	**-0.4**
ARS				⇑*i*		01 25 50.9	
ARS				*e*Pg	**Pg**	**01 26 00.1**	**-6.5**
ARS				*e*		01 26 03.9	
ARS				max		01 26 05.3	
	comp=N,820nm,0.6s						
ARS				*e*Sn	**Sn**	**01 26 39.9**	**+1.6**
ARS				*e*Sg	**Sg**	**01 26 54.7**	**-5.8**
ARS				Smax		01 27 01.0	
	comp=N,9μm,0.7s						
KPC	**Khapcheranga**	**4.38**	**148**	⇑*i*Pn	**Pn**	**01 25 51.2**	**-1.6**
KPC				*e*Pg	**Pb**	**01 26 02.8**	**-0.6**
KPC				Pmax		01 26 08.3	
	comp=N,579nm,1.1s						
KPC				*e*Sg	**Sb**	**01 26 58.9**	**+2.9**
KPC				Smax		01 27 07.9	
	comp=N,4μm,1.1s						
KPC	**Khapcheranga**	**4.38**	**148**	*e*PN	**Pn**	**01 25 51.3**	**-1.5**
KPC				*e*		01 26 02.9	
KPC				*e*S	**Sn**	**01 26 42.0**	**-1.5**
KPC				*e*		01 26 59.8	
KPC				pmax	pmax		
	comp=Z,539nm,0.4s						
KPC				smax			
	comp=E,4μm,1.3s						
ZAK	**Zakamensk**	**4.59**	**230**	⇓*i*Pn	**Pn**	**01 25 56.3**	**+0.6**
ZAK				*e*Pg	**Pb**	**01 26 09.0**	**+1.9**
ZAK				Pmax		01 26 23.7	
	comp=E,239nm,1.3s						
ZAK				*e*Sn	**Sn**	**01 26 45.2**	**-3.6**
ZAK				*e*Sg	**Sb**	**01 27 08.5**	**+6.3**
ZAK				Smax		01 27 19.1	
	comp=E,860nm,0.7s						
ZAK	**Zakamensk**	**4.59**	**230**	*e*PN	**Pn**	**01 25 56.2**	**+0.5**
ZAK				*e*		01 26 09.4	
ZAK				*e*		01 27 08.4	
ZAK				pmax	pmax		
	comp=Z,243nm,1.3s						
ZAK				smax			
	comp=N,902nm,1.3s						
NLYR	**Nelyaty**	**5.01**	**50**	*e*Pn	**Pn**	**01 26 01.4**	**-0.1**
NLYR				*e*Pg	**Pb**	**01 26 18.6**	**+4.4**
NLYR				Pmax		01 26 27.2	
	comp=N,366nm,0.8s						
NLYR				*e*Sg	**Sb**	**01 27 23.9**	**+10**
NLYR				Smax		01 27 30.8	
	comp=N,5μm,1.2s						
NLYR	**Nelyaty**	**5.01**	**50**	⇑*i*PN	**Pn**	**01 26 01.4**	**-0.1**
NLYR				*e*		01 26 18.7	
MOY	**Mondy**	**5.08**	**252**	*e*Pn	**Pn**	**01 26 03.1**	**+0.7**
MOY				*e*Pg	**Pg**	**01 26 15.8**	**-8.3**
MOY				*e*		01 26 21.4	
MOY				max		01 26 27.6	
	comp=N,505nm,0.8s						
MOY				*e*Sn	**Sn**	**01 27 02.5**	**+1.6**
MOY				*e*Sg	**Sg**	**01 27 23.1**	**-6.7**
MOY				*e*		01 27 33.5	
MOY				max		01 27 35.7	
	comp=N,4μm,1.2s						
MOY	**Mondy**	**5.08**	**252**	*e*PN	**Pn**	**01 26 03.9**	**+1.5**
MOY				*e*		01 26 16.5	
MOY				*e*S	**Sn**	**01 27 01.8**	**+0.9**
BOD	**Bodaibo**	**5.28**	**32**	*e*PN	**Pn**	**01 26 03.8**	**-1.3**
ORL	**Orlik**	**5.50**	**264**	*e*Pn	**Pn**	**01 26 09.4**	**+1.2**
ORL				max		01 26 15.6	
	comp=N,434nm,0.8s						
ORL				*e*Sn	**Sn**	**01 27 13.2**	**+2.0**
ORL				*e*Sg	**Sg**	**01 27 37.6**	**-5.6**
ORL				Smax		01 27 42.2	
	comp=N,2μm,1.0s						
ORL	**Orlik**	**5.50**	**264**	*e*PN	**Pn**	**01 26 10.1**	**+1.9**
ORL				*e*S	Sn	01 27 37.5	+26
ORL				smax			
	comp=N,2μm,0.8s						
ULN	**Ulaanbaatar**	**5.71**	**192**	⇑*e*Pn	**Pn**	**01 26 11.1**	**0.0**
	comp=N,168nm,0.7s						
ULN				*e*Sg	**Sg**	**01 27 44.6**	**-5.3**
SONM	**Songino Array**	**5.83**	**196**	Pn	**Pn**	**01 26 13.0**	**+0.3**
	comp=N,13nm,0.3s,baz=11,slow=14,SNR=100						
SONM				Pg	**Pg**	**01 26 31.2**	**-7.2**
	comp=N,47nm,0.3s,baz=9.9,slow=16,SNR=25						
SONM				Lg		01 27 50.6	
	comp=N,98nm,0.3s,baz=18,slow=29,SNR=4.5						
SONM				LR	LR	01 28 50.3	
	comp=N,791nm,19.4s,baz=322,slow=42						
SONM	**Songino Array**	**5.83**	**196**	PN	**Pn**	**01 26 13.0**	**+0.2**
SONM						01 26 31.2	
SONM						01 27 50.6	
CRS	**Chara**	**6.43**	**54**	⇑*i*Pn	**Pn**	**01 26 21.4**	**+0.4**
CRS				*e*Pg	**Pg**	**01 26 43.4**	**-6.5**
CRS				Pmax		01 26 52.9	
	comp=N,360nm,1.1s						
CRS				*e*Sg	**Sg**	**01 28 07.3**	**-5.9**
CRS				Smax		01 28 16.8	
	comp=N,2μm,1.0s						
CRS	**Chara**	**6.43**	**54**	*e*PN	**Pn**	**01 26 20.8**	**-0.2**
CRS				*e*		01 26 43.2	
CRS				*e*		01 28 04.4	
CRS				pmax	pmax		
	comp=Z,360nm,1.1s						
CRS				smax			
	comp=E,2μm,1.1s						
TUP	**Tupik**	**6.67**	**77**	*e*Pn	**Pn**	**01 26 23.7**	**-0.5**
TUP				*e*		01 26 28.5	
TUP				*e*Pg	**Pg**	**01 26 46.2**	**-8.2**
TUP				Pmax		01 26 50.7	
	comp=E,230nm,0.9s						
TUP				*e*Sg	**Sg**	**01 28 12.0**	**-8.7**
TUP				Smax		01 28 19.3	
	comp=E,4μm,1.9s						
TUP	**Tupik**	**6.67**	**77**	*e*PN	**Pn**	**01 26 23.7**	**-0.5**
TUP				*e*		01 26 44.8	
TUP				*e*S	**Sn**	**01 27 38.3**	**-1.7**
TUP				*e*		01 28 10.8	
TUP				pmax	pmax		
	comp=Z,198nm,0.8s						
TUP				smax			
	comp=N,3μm,1.3s						
KHNR	**Khani**	**7.29**	**57**	*e*Pn	**Pn**	**01 26 33.4**	**+0.7**
KHNR				*e*Pg	Pn	01 26 59.5	+27
KHNR				*e*		01 28 06.3	
KHNR				*e*Sg	Sn	01 28 34.7	+39
YKLR	**Yuktali**	**8.03**	**62**	*e*	Sx	01 28 36.3	
YKLR				*e*Sg	Sx	01 28 54.9	
YKLR				Smax		01 29 16.0	
	comp=N,2μm,1.1s						
HIA	**Hailar**	**8.04**	**117**	⇑*i*PN	**Pn**	**01 26 40.0**	**-3.1**
HIA				*e*		01 29 01.3	
HIA				pmax	pmax		
	comp=Z,40nm,0.4s						
HIA	**Hailar**	**8.04**	**117**	⇑*i*Pn	**Pn**	**01 26 40.0**	**-3.1**
	comp=Z,40nm,0.4s						
HIA				*e*Sg	Sn	01 29 01.3	+48
HHC	**Hu-ho-hao-te**	**12.75**	**170**	⇓P	**Pn**	**01 27 46.9**	**-0.7**
HHC				AP		01 27 50.9	
HHC				XP		01 27 55.7	
HHC				PP		01 27 59.3	
HHC				S	**Sn**	**01 30 11.2**	**+1.8**
HHC				XS		01 30 17.2	
HHC				SS		01 30 26.8	
HHC				AMB	AMB		
	comp=Z,12nm,1.3s						
HHC				AMB	AMB		
	comp=Z,84nm,3.6s						
HHC				LR	LR		
	comp=N,2μm,7.8s						
HHC				LR	LR		
	comp=E,3μm,9.0s						
HHC				LR	LR		
	comp=Z,2μm,9.6s						
BTO	**Baotou**	**12.88**	**176**	*e*P	**Pn**	**01 27 49.6**	**+0.2**
BTO				S	**Sn**	**01 30 17.8**	**+5.2**
BTO				LR	LR		
	comp=N,2μm,3.9s						
BTO				LR	LR		
	comp=E,4μm,9.6s						
YAK	**Yakutsk**	**14.02**	**44**	*e*P	**Pn**	**01 28 03.3**	**-1.6**
YAK				*e*S	**Sn**	**01 30 43.4**	**+3.1**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,16nm,1.6s						
YAK				smax			
	comp=E,38nm,0.9s						
YAK				smax			
	comp=Z,43nm,1.2s						
YAK				smax			
	comp=N,69nm,1.4s						
YAK				MLR	MLR		
	comp=Z,156nm,13.0s						
ZAL	**Zalesovo**	**14.20**	**282**	Pn	**Pn**	**01 28 06.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=11						
BJT	**Baijiatuau**	**14.35**	**157**	*e*P	**Pn**	**01 28 08.1**	**-1.4**
BJT				pmax	pmax		
	comp=Z,35nm,0.4s						
BJT	**Baijiatuau**	**14.35**	**157**	*e*Pn	**Pn**	**01 28 08.1**	**-1.3**
	comp=Z,34nm,0.4s						
CN2	**Changchun**	**14.62**	**125**	*e*P	**Pn**	**01 28 10.9**	**-2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**14.94**	**97**	*e*P	**Pn**	**01 28 14.6**	**-2.9**
KLR				*e*		01 31 02.8	
NVS	**Novosibirsk**	**15.01**	**286**	*e*P	**Pn**	**01 28 16.0**	**-2.4**
NVS				*e*		01 30 59.2	
GTA	**Gaotai**	**15.33**	**207**	*e*P	**Pn**	**01 28 25.4**	**+2.8**
GTA				AP	pP	01 28 33.1	+1.7
GTA				XP	sP	01 28 35.9	+2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s						
GTA				LR	LR		
	comp=N,2μm,7.6s						
GTA				LR	LR		
	comp=E,1μm,12.2s						
GTA				LR	LR		
	comp=Z,2μm,8.4s						
WMQ	**Urumqi**	**16.89**	**244**	⇑P	**Pn**	**01 28 47.0**	**+4.4**
WMQ				AP	pP	01 28 54.5	+5.9
WMQ				PP		01 28 59.5	
WMQ				AMB	AMB		
	comp=Z,28nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,101nm,4.0s						
WMQ				LR	LR		
	comp=N,561nm,5.0s						
WMQ				LR	LR		
	comp=E,513nm,5.0s						
WMQ				LR	LR		
	comp=Z,418nm,5.0s						
LZH	**Lanzhou**	**17.71**	**193**	*e*P	**Pn**	**01 28 49.5**	**-3.4**
LZH				AP	pP	01 28 56.5	-1.2
LZH				PP		01 29 04.3	
LZH				*e*S	**Sn**	**01 32 04.6**	**-5.4**
LZH				*e*SS		01 32 27.4	
LZH				AMB	AMB		
	comp=Z,55nm,1.1s						
LZH				AMB	AMB		
	comp=Z,218nm,5.7s						
LZH				LR	LR		
	comp=N,1μm,7.8s						
LZH				LR	LR		
	comp=Z,2μm,9.3s						
MK31	**Makanchi Array**	**18.18**	**259**	P	**Pn**	**01 28 55.9**	**-2.8**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**18.18**	**259**	P	**Pn**	**01 28 56.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=59,slow=8.9,SNR=35						
MKAR				Lg		01 34 09.6	
	comp=Z,0.0nm,0.3s,baz=56,slow=26,SNR=4.3						
KURK	**Kurchatov**	**18.67**	**274**	*i* P	**Pn**	**01 29 01.3**	**-3.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**18.67**	**274**	*e*P	**Pn**	**01 29 02.0**	**-2.6**
	comp=Z,9.8nm,0.5s						
TIXI	**Tiksi**	**20.26**	**18**	*e*P	**P**	**01 29 18.0**	**-3.7**
TIXI				*e*S	**S**	**01 33 02.7**	**-5.8**
TIXI				pmax	pmax		
	comp=Z,21nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,465nm,12.0s,MS4.1						
VOSK	**Vostochnaya**	**22.55**	**283**	P	**P**	**01 29 44.2**	**-2.1**
VOSK						01 33 51.8	
VOSK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
BVA0	**Borovoye Array**	**22.80**	**285**	*i* P	**P**	**01 29 47.2**	**-1.8**
BVA0				*i*		01 34 00.3	
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**22.80**	**285**	P	**P**	**01 29 47.5**	**-1.4**
	comp=Z,12nm,0.6s,mb4.5,baz=76,slow=9.7,SNR=70						
CD2	**Chengdu**	**22.83**	**191**	P	**P**	**01 29 51.5**	**+2.3**
CD2				S	**S**	**01 34 01.9**	**+3.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CD2				LR	LR		
	comp=N,450nm,12.0s						
CD2				LR	LR		
	comp=Z,470nm,10.2s,MS4.2						
BRVK	**Borovoye**	**22.85**	**285**	*e*P	**P**	**01 29 48.2**	**-1.3**
BRVK				*e*S	**S**	**01 33 47.0**	**-12**
BRVK				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.8						
BRVK	**Borovoye**	**22.85**	**285**	*e*P	**P**	**01 29 48.1**	**-1.4**
	comp=Z,22nm,0.6s,mb4.8						
BRVK				*e*S	**S**	**01 33 47.0**	**-12**
ENH	**Enshi**	**23.17**	**178**	*e*P	**P**	**01 29 53.3**	**+0.4**
	comp=Z,7.7nm,1.0s,mb4.1						
ZRNK	**Zerenda**	**23.62**	**285**	*e*P	**P**	**01 29 55.9**	**-1.6**
ZRNK				*e*S	**S**	**01 34 15.5**	**+4.2**

ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb3.5
ZRNK Zerenda 23.62 285 *e*P **P 01 29 55.9 -1.6**
comp=Z,0.6nm,0.5s
ZRNK *e*S **S 01 34 15.5 +4.3**
MA2 Magadan 23.63 58*c i*P **P 01 29 59.0 +1.5**
SSE Sheshan 24.09 153 *e*P **P 01 30 01.4 -0.3**
SSE AP 01 30 06.5
SSE XP sP 01 30 09.1 +1.3
SSE PCP PcP 01 33 41.7 -1.2
SSE S **S 01 34 19.6 +0.8**
SSE XS sS 01 34 28.5 +2.6
SSE SCS ScS 01 41 06.0 -2.1
SSE AMB AMB
comp=Z,11nm,1.2s,mb4.2
SSE AMB AMB
comp=Z,55nm,4.4s
SSE LR LR
comp=N,242nm,16.5s,MS4.2
SSE LR LR
comp=E,553nm,16.4s,MS4.2
SSE LR LR
comp=Z,296nm,16.2s,MS3.9
TKM2 Tokmak 2 24.29 258 P **P 01 30 03.1 -0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
SEY Seymchan 24.38 50 *e*P **P 01 30 06.2 +1.8**
SEY *e* 01 33 45.2
SEY pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
AAK Ala-Archa 25.11 258⇑ *e*P **P 01 30 10.4 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
AAK MLR MLR
comp=Z,200nm,19.0s,MS3.6
AAK Ala-Archa 25.11 258 *e*P **P 01 30 10.9 -0.1**
comp=Z,7.0nm,0.8s,mb4.2
KK31 Karatay Array 27.18 263 *i* P **P 01 30 31.0 +1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
KKAR Karatay Array 27.18 263 *i* P **P 01 30 31.0 +1.2**
KKAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
ARU Arti 28.48 296⇑ *e*P **P 01 30 41.0 -0.4**
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
ARU MLR MLR
comp=Z,200nm,15.0s,MS3.8
ARU Arti 28.48 296 *e*P **P 01 30 40.7 -0.7**
comp=Z,8.8nm,0.6s,mb4.6
BILL Bilibino 30.29 39 *e*P **P 01 30 58.1 +0.7**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.3
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.5
BILL Bilibino 30.29 39 *e*P **P 01 30 58.0 +0.6**
comp=Z,4.4nm,0.8s,mb4.2
AB31 Akbulak array 30.30 282 P **P 01 30 56.7 -0.9**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
JIRN Jiri 30.70 222 *e*P **P 01 31 02.4 +1.3**
AKTK Aktyubinsk 30.90 285 P **P 01 31 02.5 -0.3**
AKTO Aktyubinsk 30.90 285 P **P 01 31 02.5 -0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=73,slow=13,SNR=7.4
KKN Kakani 30.96 223 *e*P **P 01 31 05.0 +1.7**
comp=Z,26nm,0.8s,mb5.1
KKN Kakani 30.96 223 *e*P **P 01 31 05.0 +1.7**
KKN pmax pmax
comp=Z,13nm,0.8s,mb4.8
GKN Gorkha 31.04 225 *e*P **P 01 31 05.2 +1.2**
comp=Z,35nm,0.9s,mb5.2
DMN Daman 31.19 223 *e*P **P 01 31 06.9 +1.5**
KOLN Koldanda 31.68 226 *e*P **P 01 31 11.0 +1.3**
comp=Z,18nm,0.8s,mb5.0
KLMR Klimovskoe 36.63 310 *e*P **P 01 31 52.2 -0.4**
KLMR *e* 01 33 12.5
KLMR pmax pmax
comp=Z,30nm,2.0s,mb4.8
ARCES ARCESS Array B 39.20 326 P **P 01 32 13.2 -1.2**
comp=Z,2.9nm,0.7s,mb4.1,baz=80,slow=9.3,SNR=7.4
ARCES PcP PcP 01 34 21.9 -1.6
comp=Z,2.2nm,0.7s,baz=90,slow=4.9,SNR=5.2
ARCES LR LR 01 53 19.3
comp=Z,63nm,18.3s,MS3.5,baz=14,slow=44
ARCES ARCESS Array B 39.20 326 P **P 01 32 13.2 -1.2**
ARCES 01 34 21.9
JOF Joensuu 39.47 315 *e*p **P 01 32 16.3 -0.3**
comp=Z,7.4nm,0.9s,mb4.4
OBN Obninsk 40.45 303 *e*P **P 01 32 24.3 -0.4**
OBN *e* 01 34 03.7
OBN *e* 01 34 25.8
OBN *e*S **S 01 38 29.2 -3.6**
OBN *e*SS SS 01 41 34.1 +2.0
OBN pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
OBN MLR MLR
comp=Z,400nm,15.0s,MS4.4
TNA Tin City 40.72 39 *e*P **P 01 32 27.5 +0.6**
comp=Z,4.1nm,0.9s,mb4.1
KAF Kangasniemi 41.91 316 *e*p **P 01 32 35.7 -1.0**
comp=Z,7.6nm,1.0s,mb4.3,baz=62,slow=7.9
KAF Kangasniemi 41.91 316 *e*P **P 01 32 35.7 -1.0**
KAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
FINES FINESS Array B 42.32 315 P **P 01 32 39.2 -0.9**
comp=Z,5.9nm,0.8s,mb4.3,baz=76,slow=7.9,SNR=14
FINES LR LR 01 51 52.0
comp=Z,173nm,18.1s,MS4.0,baz=73,slow=38
KIV Kislovodsk 43.17 285⇑ *e*P **P 01 32 47.2 +0.3**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.8
ZEI Tsey 43.18 283 *i* P **P 01 32 47.2 +0.1**
ZEI *i* *PP pP 01 32 51.7 +0.2
ZEI pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
IMA2 Indian Mountai 45.59 34 *e*P **P 01 33 06.6 +0.3**
AKASG Malin Array Be 46.57 301 P **P 01 33 13.4 -0.7**
comp=Z,4.4nm,0.7s,mb4.5,baz=48,slow=8.2,SNR=24
HFS Hagfors 48.14 318 P **P 01 33 24.7 -1.6**
comp=Z,5.3nm,0.7s,mb4.7,baz=53,slow=7.4,SNR=8.1
HFS LR LR 01 54 48.3
comp=Z,67nm,20.9s,MS3.6,baz=63,slow=38
NB2 NORSAR Subarra 48.56 320 P **P 01 33 28.6 -0.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=49,slow=7.9
NOA NORSAR Array B 48.56 320 P **P 01 33 28.9 -0.6**
comp=Z,1.2nm,0.6s,mb4.1,baz=52,slow=7.3,SNR=8.0
NOA LR LR 01 55 21.9
comp=Z,59nm,19.1s,MS3.6,baz=105,slow=38
NOA NORSAR Array B 48.56 320 P **P 01 33 28.9 -0.6**
NOA LR LR 01 55 21.9
ILAR Eielson Array 48.65 34 P **P 01 33 30.6 +0.4**
comp=Z,9.6nm,0.8s,mb4.9,baz=301,slow=6.5,SNR=94
MALT Malatya 49.23 282 *e*P **P 01 33 37.3 +2.6**
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MALT Malatya 49.23 282 *e*P **P 01 33 37.3 +2.6**
comp=Z,4.1nm,1.0s,mb4.4
INK Inuvik 50.16 25 P **P 01 33 40.9 -0.9**
comp=Z,1.7nm,0.9s,mb4.1,baz=331,slow=7.9,SNR=11
INK LR LR 01 54 45.0
comp=Z,89nm,18.8s,MS3.8,baz=301,slow=36
KWP Kalwaria 50.54 303 *e*P **P 01 33 45.0 +0.4**
KWP pmax pmax
comp=Z,14nm,0.9s,mb4.9
KWP Kalwaria 50.54 303 *e*P **P 01 33 45.0 +0.4**
comp=Z,14nm,0.9s,mb4.9
BURAR Bucovina Array 50.54 299 ⇑P **P 01 33 45.7 +1.1**
CFR Carcaliu 50.56 295 ⇑P **P 01 33 45.8 +1.1**
KDAK Kodiak Island 51.05 43 P **P 01 33 47.2 -1.2**
comp=Z,5.2nm,0.7s,mb4.6,baz=333,slow=6.8,SNR=4.8
KDAK Kodiak Island 51.05 43 P **P 01 33 47.2 -1.2**
BR131 Keskin Array S 51.07 287 *e*P **P 01 33 50.0 +1.4**
comp=Z,4.5nm,0.9s,mb4.4
BRTR Keskin Array B 51.07 287 P **P 01 33 49.2 +0.6**
comp=Z,3.1nm,0.7s,mb4.4,baz=69,slow=5.2,SNR=26
KOLS Kolonicke sedl 51.21 302 *e*P **P 01 33 50.7 +1.1**
STHS Stebnicka Huta 51.41 303 *e* **P 01 33 47.5 -3.7**
KECS Kecovo 52.40 303 *e*P **P 01 33 57.3 -1.2**
DPC Dobruska-Polom 53.20 307 *e*P **P 01 34 05.4 +0.9**
DPC *e*pP pP 01 34 08.7 -0.3
VYHS Vyhne 53.22 304 *e*P **P 01 34 05.6 +1.0**
UPC Upice 53.25 307 *e*P **P 01 34 09.1 +4.3**
BZS Buzias 53.73 300 ⇑P **P 01 34 09.9 +1.6**
VRAC Vranov 53.77 306 P **P 01 34 09.9 +1.2**
comp=Z,2.6nm,0.7s,mb4.3,baz=270,slow=4.0,SNR=3.7
SMOL Smolenice 53.90 305 *e*P **P 01 34 10.8 +1.2**
PVCC Panska Ves 53.92 308 *e*P **P 01 34 10.8 +1.1**
BRG Berggiesshubel 53.98 309 *e*P **P 01 34 10.6 +0.4**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG MLR MLR
comp=N,140nm,13.0s,MS4.4
BRG MLR MLR
comp=E,142nm,12.4s,MS4.4
BRG MLR MLR
comp=Z,206nm,10.6s,MS4.5
CLL Collm 54.12 310 *e*P **P 01 34 11.0 -0.2**
comp=Z,3.0nm,0.6s,mb4.4
CLL *e*x x 01 34 17.0
CLL Collm 54.12 310 *e*P **P 01 34 11.0 -0.2**
CLL *e* pP 01 34 17.0 +1.3
CLL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PRU Pruhonice 54.30 308 *e*P **P 01 34 13.2 +0.7**
PRU *e*pP pP 01 34 16.1 -0.9
TREC Trest 54.31 306 *e*P **P 01 34 13.1 +0.5**
TREC *e*pP pP 01 34 17.1 0.0
MOX Moxa 55.21 310 *e*(P) **P 01 34 17.9 -1.2**
KHC Kasperske Hory 55.34 307 *e*P **P 01 34 20.1 +0.1**
GERES GERESS Array B 55.48 307 P **P 01 34 21.3 +0.2**
comp=Z,1.4nm,1.0s,mb4.0,baz=56,slow=4.8,SNR=7.9
GERES LR LR 02 00 21.1
comp=Z,85nm,19.8s,MS3.8,baz=72,slow=38
GRA1 Grafenberg Arr 56.06 309 *e*P **P 01 34 26.1 +0.9**
comp=Z,8.0nm,1.2s,mb4.6
GRA1 *e*pP pP 01 34 30.1 +0.4
GRF Grafenberg Arr 56.06 309 *e*P **P 01 34 26.1 +0.9**
comp=Z,8.0nm,1.2s,mb4.6
GRF *e*pP pP 01 34 30.1 +0.4
comp=Z,8.0nm,1.2s
GRF Grafenberg Arr 56.06 309 *e*P **P 01 34 26.1 +0.9**
GRF *e**PP pP 01 34 30.1 +0.4
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
GRF Grafenberg Arr 56.06 309 *e*P **P 01 34 26.1 +0.9**
GRF *e*PP pP 01 34 30.1 +0.4
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
YKA Yellowknife Ar 59.46 22 P **P 01 34 47.7 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=331,slow=7.0,SNR=46
YKA Yellowknife Ar 59.46 22 P **P 01 34 47.7 -1.4**
CABF La Chapelle 60.66 310 *e*P **P 01 34 58.5 +1.2**
comp=Z,15nm,1.0s,mb4.8
CABF La Chapelle 60.66 310 *e*P **P 01 34 58.5 +1.2**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CABF La Chapelle 60.66 310 *e*P **P 01 34 58.5 +1.2**
comp=Z,7.4nm,1.0s,mb4.8
LPL La Plagne 61.17 308 *e*P **P 01 35 01.0 +0.2**
LPG La Plagne 61.18 308 *e*P **P 01 35 01.2 +0.3**
SMF Signal de Mont 61.66 311 *e*P **P 01 35 04.6 +0.5**
comp=Z,9.3nm,0.8s,mb4.7
SMF Signal de Mont 61.66 311 *e*P **P 01 35 04.6 +0.5**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SMF Signal de Mont 61.66 311 *e*P **P 01 35 04.6 +0.5**
comp=Z,4.7nm,0.8s,mb4.7
LDF La Druitiere 61.92 315 *e*P **P 01 35 04.5 -1.4**
comp=Z,8.9nm,0.7s,mb4.7
LDF La Druitiere 61.92 315 *e*P **P 01 35 04.5 -1.4**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
LDF La Druitiere 61.92 315 *e*P **P 01 35 04.5 -1.4**
comp=Z,4.4nm,0.6s,mb4.8
FLN La Foliniere 61.94 315 *e*P **P 01 35 04.7 -1.3**
ORIF Oris-en-Rattie 62.02 308 *e*P **P 01 35 06.4 -0.2**
FRB Frobisher Bay 63.12 359 P **P 01 35 12.6 -1.3**
comp=Z,5.2nm,1.0s,mb4.6,baz=325,slow=6.0,SNR=4.9
QUIF Quistinic 63.73 316 *e*P **P 01 35 17.0 -0.9**
EPF Esparros 66.03 310 *e*P **P 01 35 32.3 -0.6**
comp=Z,5.4nm,0.8s,mb4.3
EPF Esparros 66.03 310 *e*P **P 01 35 32.3 -0.6**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
EPF Esparros 66.03 310 *e*P **P 01 35 32.3 -0.6**
comp=Z,2.7nm,0.8s,mb4.3
EBIE Bielsa 66.39 310 P **P 01 35 34.4 -0.9**
comp=Z,9.9nm,0.8s,mb4.9
EGRA Graus 66.70 310 P **P 01 35 37.1 -0.1**
comp=Z,10nm,1.2s,mb4.7
EPOB Poblet 67.01 309 P **P 01 35 39.0 -0.2**
comp=Z,1.9nm,0.6s,mb4.3
ESAC San Caprasio 67.43 310 P **P 01 35 41.2 -0.6**
comp=Z,29nm,1.1s,mb5.2
EMOS Mosqueruela 68.51 309 P **P 01 35 48.6 0.0**
comp=Z,33nm,1.8s,mb5.0
EPON Pontenova 69.08 315 P **P 01 35 50.9 -1.3**
comp=Z,144nm,2.0s
GUD Guadarrama 69.96 312 P **P 01 35 55.9 -1.7**
GUD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GUD Guadarrama 69.96 312 P **P 01 35 55.9 -1.8**
comp=Z,6.1nm,0.8s,mb4.6
ECAL Calabor 70.03 314 P **P 01 35 55.3 -2.8**
comp=Z,30nm,1.1s,mb5.1
ESDC Sonseca Array 70.66 311 P **P 01 36 02.2 +0.3**
comp=Z,4.6nm,0.8s,mb4.5,baz=29,slow=6.5,SNR=12
ESDC Sonseca Array 70.66 311 P **P 01 36 02.5 +0.6**
comp=Z,5.6nm,0.7s,mb4.6
SCHQ Schefferville 72.02 357 P **P 01 36 09.2 -0.9**
comp=Z,4.1nm,0.9s,mb4.4,baz=287,slow=2.6,SNR=5.4
EBER Berja 72.42 309 P **P 01 36 11.9 -0.6**
comp=Z,22nm,1.1s,mb5.0
ELUQ Luque 72.52 310 P **P 01 36 13.3 +0.2**
ELUQ pmax pmax
comp=Z,196nm,4.3s
ELUQ Luque 72.52 310 P **P 01 36 13.3 +0.2**
comp=Z,196nm,4.3s
EBAD Badajoz 72.77 313 P **P 01 36 14.2 -0.4**
comp=Z,4.3nm,0.7s,mb4.5
EMIN Mina Concepcio 73.44 312 P **P 01 36 19.4 +0.8**
comp=Z,7.4nm,0.8s,mb4.7
EMIJ Mijas 73.56 310 P **P 01 36 18.8 -0.5**
comp=Z,8.7nm,1.7s,mb4.4
MSO Missoula 73.68 29 *e*P **P 01 36 20.7 +0.8**
comp=Z,13nm,1.3s,mb4.7
CHMT Chamberlain Mo 73.80 29 *e*P **P 01 36 21.4 +0.7**
ESPR Espera 73.81 311 P **P 01 36 22.1 +1.4**
comp=Z,10nm,0.9s,mb4.8
EGRO El Granado 73.99 312 P **P 01 36 20.2 -1.6**
comp=Z,43nm,1.6s,mb5.1
HRY Holter Researc 74.38 28 *e*P **P 01 36 24.8 +0.7**
BMO Blue Mountains 74.43 32 *e*P **P 01 36 25.2 +0.8**
comp=Z,16nm,1.1s,mb4.9
ULM Lac du Bonnet 74.60 16 P **P 01 36 24.0 -1.3**
comp=Z,0.8nm,0.3s,mb4.1,baz=267,slow=4.0,SNR=4.3
DLMT Dillon 75.40 29 *e*P **P 01 36 30.7 +0.8**
comp=Z,16nm,1.1s,mb4.8
QLMT Earthquake Lak 76.22 28 *e*P **P 01 36 34.9 +0.2**
WRAB Tennant Creek 76.36 155 *e*P **P 01 36 36.1 +0.7**
WRAB pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 76.36 155 *e*P **P 01 36 36.0 +0.6**
comp=Z,16nm,0.9s,mb5.0
WRA Warramunga Arr 76.36 155 P **P 01 36 34.8 -0.7**
comp=Z,5.9nm,0.8s,mb4.6,baz=347,slow=6.2,SNR=16
WRA Warramunga Arr 76.36 155 *i* P **P 01 36 37.9 +2.5**
WRA pmax pmax
comp=Z,6.0nm,0.8s
WB2 Warramunga Arr 76.36 155 *e*P **P 01 36 34.9 -0.6**
MDT Midelt 76.57 307 P **P 01 36 37.1 +0.5**
comp=Z,5.0nm,0.7s,mb4.6,baz=55,slow=6.3,SNR=16
PDAR Pinedale Array 78.65 28 P **P 01 36 48.1 -0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=30,slow=3.3,SNR=20
HWUT Hardware Ranch 79.14 30 *e*P **P 01 36 52.2 +1.2**
ASAR Alice Springs 79.83 157 P **P 01 36 54.6 -0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=352,slow=5.6,SNR=25
NVAR Mina Array Bea 79.84 36 P **P 01 36 54.8 0.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=348,slow=3.5,SNR=11
NEN Nelson 83.54 34 *e*P **P 01 37 15.6 +1.3**
TORD Torodi Ar. Bea 89.43 291 P **P 01 37 43.2 +0.1**
comp=Z,2.8nm,0.8s,mb4.7,baz=29,slow=4.3,SNR=22
TXAR Lajitas Array 92.87 28 P **P 01 37 60.0 +0.9**
comp=Z,0.9nm,1.2s,mb4.1,baz=34,slow=4.5,SNR=4.2
TXAR LR LR 02 25 11.9
comp=Z,70nm,19.4s,MS4.1,baz=50,slow=39
SNAA Sanae 146.10 212 PKPbc PKPbc 01 44 24.1 -2.3
comp=Z,3.4nm,0.9s,baz=0.0,slow=0.0,SNR=2.9
VNA2 Neumayer--Watz 147.53 213⇓*i* PKPdf 01 44 28.7 +0.9
baz=61,slow=3.3
VNA2 *e* 01 44 30.3
VNA2 *e* 01 44 32.4
VNA2 *e* 01 44 36.0
VNA2 *e* 01 44 40.0
VNA2 *e* 01 44 58.1
VNA3 Neumayer Olymp 148.27 213⇓*i* PKPdf 01 44 29.8 +0.8
VNA3 *e* 01 44 30.7
VNA3 *e* 01 44 32.7
VNA3 *e* 01 44 36.5
VNA3 *e* 01 44 40.6
VNA3 *e* 01 44 58.3
CPUP Villa Florida 150.99 334 PKPbc PKPbc 01 44 37.8 -1.3
comp=Z,19nm,0.8s,baz=351,slow=2.7,SNR=14

OTT 03 01:42:34.5±0.3, 4596N×5776W, h18km, ML2.8/18,
Laurentian Channel. 171km east from Louisbourg, Ns
Eastern Background Seismic Zone., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODG	**Codroy Newfoun**	**2.14**	**332**	PN	Pn	01 43 08.5	-0.8
CODG				SN	Sn	01 43 35.5	+0.1
CODG				LG		01 43 39.5	
CODG				Trac		01 43 40.4	
comp=Z,64nm,0.3s							
GBN	**Guysborough**	**2.69**	**259**	PN	Pn	01 43 16.0	-0.9
GBN				SN	Sn	01 43 48.1	-0.8
GBN				Trac		01 43 55.3	
comp=Z,13nm,0.2s							
MADG	**Magdalen Islan**	**3.01**	**297**	PN	Pn	01 43 20.7	-0.6
MADG				SN	Sn	01 43 55.2	-1.7
MADG				LG		01 44 06.2	
MADG				Trac		01 44 07.9	
comp=Z,14nm,0.2s							
DRLN	**Deer Lake**	**3.30**	**3**	PN	Pn	01 43 24.7	-0.6
DRLN				SN	Sn	01 44 02.6	-1.5
DRLN				Trac		01 44 21.4	
comp=Z,21nm,0.3s							
SJNN	**Saint John's**	**3.85**	**63**	SN	Sn	01 44 17.0	-0.7
MALG	**Malagash, Nova**	**3.89**	**269**	PN	Pn	01 43 33.3	-0.1
MALG				SN	Sn	01 44 16.3	-2.4
HAL	**Halifax**	**4.32**	**254**	SN	Sn	01 44 25.3	-4.0
HAL				Trac		01 44 49.6	
comp=Z,3.2nm,0.1s							
LMN	**Caledonia Moun**	**4.92**	**271**	PN	Pn	01 43 46.3	-1.2
LMN				SN	Sn	01 44 40.0	-4.0
LMN				Trac		01 44 42.7	
comp=Z,2.0nm,0.2s							
LMN				LG		01 45 06.1	
NATG	**Natashquan Que**	**5.49**	**324**	PN	Pn	01 43 54.6	-0.8
NATG				SN	Sn	01 44 54.0	-4.1
NATG				Trac		01 44 57.1	
comp=Z,1.2nm,0.1s							
BATG	**Bathurst New B**	**5.87**	**286**	PN	Pn	01 43 58.6	-2.0
BATG				SN	Sn	01 45 00.8	-6.5
BATG				Trac		01 45 05.4	
comp=Z,1.4nm,0.1s							
GASG	**Gaspe, Quebec**	**6.40**	**301**	PN	Pn	01 44 06.8	-1.2
GASG				SN	Sn	01 45 14.9	-5.7
GASG				Trac		01 45 19.4	
comp=Z,5.3nm,0.1s							
GGN	**Saint George**	**6.43**	**266**	PN	Pn	01 44 06.8	-1.5
GGN				SN	Sn	01 45 15.3	-6.0
GGN				Trac		01 45 17.6	
comp=Z,1.5nm,0.2s							
GSQ	**Grosses Roches**	**6.99**	**298**	PN	Pn	01 44 15.9	-0.1
GSQ				SN	Sn	01 45 29.5	-5.6
GSQ				Trac		01 45 40.6	
comp=Z,0.5nm,0.2s							
ICQ	**Pointe Anglais**	**7.33**	**302**	PN	Pn	01 44 19.5	-1.2
ICQ				SN	Sn	01 45 37.8	-5.7
ICQ				Trac		01 45 39.1	
comp=Z,0.6nm,0.1s							
SMQ	**Clarke City**	**7.35**	**309**	PN	Pn	01 44 19.0	-1.9
SMQ				SN	Sn	01 45 37.0	-6.8
SMQ				Trac		01 45 45.0	
comp=Z,0.8nm,0.2s							
CNQ	**Baie Comeau**	**7.73**	**299**	SN	Sn	01 45 45.0	-8.2
CNQ				Trac		01 46 19.1	
comp=Z,0.9nm,0.1s							
A21	**Saint Andre**	**8.37**	**286**	PN	Pn	01 44 31.5	-3.4
A21				SN	Sn	01 46 02.2	-6.7
A21				Trac		01 48 14.5	
comp=Z,0.5nm,0.1s							
A61	**Sainte Mathild**	**8.63**	**286**	PN	Pn	01 44 32.9	-5.6
A61				Trac		01 46 14.0	
comp=Z,0.3nm,0.1s							
MNQ	**Manicouagan**	**8.65**	**306**	PN	Pn	01 44 33.0	-5.8
MNQ				SN	Sn	01 46 08.9	-7.0
MNQ				Trac		01 46 44.7	
comp=Z,0.4nm,0.1s							
LMQ	**La Malbaie**	**8.78**	**285**	PN	Pn	01 44 39.4	-1.1
LMQ				SN	Sn	01 46 11.5	-7.4
LMQ				Trac		01 46 17.0	
comp=Z,0.8nm,0.2s							
A54	**Misere**	**8.82**	**284**	PN	Pn	01 44 39.1	-2.0
A54				Trac		01 46 03.0	
comp=Z,0.5nm,0.1s							
DAQ	**Lac Daran**	**9.44**	**287**	PN	Pn	01 44 47.5	-2.0
DAQ				SN	Sn	01 46 23.8	-11
DAQ				Trac		01 46 43.6	
comp=Z,0.5nm,0.1s							
SCHQ	**Schefferville**	**10.59**	**330**	PN	Pn	01 45 02.3	-3.1
SCHQ				SN	Sn	01 46 54.2	-9.3
SCHQ				Trac		01 47 01.1	
comp=Z,0.2nm,0.2s							
YOSQ	**Ashton Mining**	**11.66**	**312**	PN	Pn	01 45 17.1	-2.8
YOSQ				SN	Sn	01 47 18.2	-11
YOSQ				Trac		01 47 19.9	
comp=Z,0.1nm,0.1s							

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*ISCJB **03** 01:47:46.2±0.3, 4797N±002×12241W±003, h20km±3km, mb3.4/3, Error ellipse: s-maj=3.3km s-min=2.0km az=98.8*
*PGC **03** 01:47:46.7, 4795N×12239W, h33km, ML3.4/27, MD3.3(SEA)*
PGC Near Everett, Washington. Felt (I) in Victoria and Ladner.
*PNSN **03** 01:47:46.7, 4795N×12240W, h33km, MD3.3, Fault plane solution: NP1:φ±25.00000°, δ35.00000°, NP2: φ±170.00000°, δ60.00000°, Principal axes: T Plg69.0000°, Azm40.0000°; P Plg13.0000°, Azm274.0000°;*
*NEIC **03** 01:47:47.0, 4795N×12240W, h29km, MD3.6(SEA), After SEA.*
NEIC Felt [IV] at Granite Falls; [III] at Bothell, Camano Island, Carnation, Clinton, Duvall, Edmonds, Everett, Freeland, Indianola, Issaquah, Kenmore, Kirkland, Lake Stevens, Langley, Lynnwood, Marysville, Mountlake Terrace, Port Ludlow, Poulsbo, Quilcene, Seattle and Snohomish; [II] at Bainbridge Island, Bellevue, Bellingham, Bremerton, Coupeville, Gig Harbor, Greenbank, Kingston, Monroe, Mukilteo, Oak Harbor, Port Townsend, Redmond, Sammamish, Silverdale, Stanwood and Woodinville. Also felt at Anacortes, Belfair, Eastsound, Eatonville, Enumclaw, Friday Harbor, Greenbank, Hansville, Lopez Island, Mount Vernon, North Bend, Olalla, Olympia, Port Angeles, Port Hadlock, Port Orchard, Puyallup, Snoqualmie and Suquamish. Felt at Ladner and Victoria, British Columbia.
*IDC **03** 01:47:48.5±4.0, 4780N×122.19W, h35km±47km, mb3.2/3, mb1 3.4/5, mb1mx3.1/23, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=29.3km s-min=15.7km az=124.0*

ISC 03 01:47:46.5±0.4, 4797N±002×12243W±002, h18km±3km,
n96, σ0.95/125, mb3.4/3, 19D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.30**	**116**	⇓P	**Pg**	**01 47 53.5**	**+0.5**
BLN	**Blyn Mountain**	**0.36**	**276**	⇓P	**Pg**	**01 47 54.8**	**+0.7**
JCW	**Jim Creek**	**0.40**	**56**	⇓P	**Pg**	**01 47 55.1**	**+0.4**
HTW	**Haystack Looko**	**0.48**	**110**	⇑P	**Pg**	**01 47 56.0**	**0.0**
GMW	**Gold Mountain**	**0.49**	**210**	⇑P	**Pg**	**01 47 56.1**	**-0.1**
GNW	**Green Mountain**	**0.49**	**213**	⇓P	**Pg**	**01 47 56.1**	**-0.1**
GNW				S	**Sg**	**01 48 03.3**	**+0.5**
GNW	**Green Mountain**	**0.49**	**213**	Pg	**Pg**	**01 47 56.1**	**-0.2**
GNW				Sb	**Sb**	**01 48 02.3**	**-1.0**
CMW	**Cultus Mountai**	**0.50**	**25**	P	**Pg**	**01 47 57.2**	**+0.7**

RMW	Rattlesnake Mo	0.66	140	⇓P	Pg	01 47 58.9	-0.7
VGZ	Gonzales	0.74	307	P	Pb	01 47 59.9	-1.0
VGZ				S	Sb	01 48 10.0	-0.7
VGZ				Trac		01 48 10.7	
	comp=Z,818nm,0.1s						
MCW	Mount Constitu	0.76	339	⇓P	Pb	01 48 01.2	+0.1
RPW	Rockport	0.78	52	⇓P	Pb	01 48 01.3	-0.2
MEW	McNeil Island	0.78	191	P	Pb	01 48 01.4	-0.1
STW	Striped Peak	0.85	283	⇓P	Pb	01 48 02.0	-0.7
GSM	Grass Mountain	0.88	150	⇑P	Pb	01 48 02.2	-1.0
SMW	South Mountain	0.90	224	⇓P	Pb	01 48 02.8	-0.7
GHW	Garrison Hill	0.94	173	P	Pb	01 48 03.2	-1.0
SNB	Saturna Island	0.94	329	P	Pb	01 48 04.0	-0.3
SNB				S	Sb	01 48 16.8	+0.3
SNB				Trac		01 48 17.3	
	comp=Z,1μm,0.3s						
PGC	Sidney	0.96	315	P	Pb	01 48 03.5	-1.1
PGC				S	Sb	01 48 16.2	-0.8
PGC				Trac		01 48 16.6	
	comp=Z,2μm,0.2s						
PGC	Sidney	0.96	315	Pb	Pb	01 48 03.9	-0.7
PGC				Sb	Sb	01 48 16.3	-0.7
VDB	Vedder Mountai	1.08	12	P	Pb	01 48 06.2	-0.4
VDB				S	Sb	01 48 19.4	-0.9
VDB				Trac		01 48 22.0	
	comp=Z,81nm,0.1s						
LZB	Mount Lazard	1.13	305	P	Pn	01 48 05.9	-1.5
LZB				S	Sb	01 48 20.7	-1.2
LZB				Trac		01 48 22.3	
	comp=Z,221nm,0.1s						
FMW	Mount Fremont	1.16	153	⇓P	Pn	01 48 06.6	-1.3
OCWA	Octopus Mounta	1.20	260	P	Pn	01 48 09.4	+1.0
OCWA	Octopus Mounta	1.20	260	Pn	Pn	01 48 09.4	+1.1
GOBB	Galiano Island	1.21	324	P	Pn	01 48 07.9	-0.7
GOBB				S	Sb	01 48 23.5	-0.8
GOBB				Trac		01 48 25.1	
	comp=Z,622nm,0.2s						
LON	Longmire	1.29	161	P	Pn	01 48 08.7	-0.9
LON	Longmire	1.29	161	Pn	Pn	01 48 08.8	-0.9
LMW	Ladd Mountain	1.31	176	P	Pn	01 48 09.3	-0.5
HNB	Haney	1.31	356	P	Pn	01 48 09.3	-0.5
HNB				S	Sn	01 48 26.2	-0.7
HNB				Trac		01 48 28.4	
	comp=Z,721nm,0.2s						
LCW	Lucas Creek	1.31	188	P	Pn	01 48 09.2	-0.7
TWW	Teanaway	1.35	128	⇓P	Pn	01 48 10.8	+0.3
WPW	White Pass	1.41	154	⇑P	Pn	01 48 10.9	-0.3
NLW	Nelson Butte	1.41	85	⇓P	Pn	01 48 11.0	-0.2
ETW	Entiat	1.46	104	⇓P	Pn	01 48 11.8	-0.2
PFB	Port Renfrew	1.47	295	P	Pn	01 48 11.3	-0.8
PFB				S	Sn	01 48 29.6	-1.3
PFB				Trac		01 48 35.5	
	comp=Z,196nm,0.2s						
TBM	Table Mountain	1.48	122	⇓P	Pn	01 48 12.8	+0.6
GLK	Glacier Lake	1.52	158	P	Pn	01 48 13.2	+0.4
BIB	Bowen Island	1.55	338	P	Pn	01 48 13.2	+0.1
BIB				S	Sn	01 48 33.2	+0.4
BIB				Trac		01 48 34.6	
	comp=Z,414nm,0.2s						
HOPB	Hope	1.57	25	P	Pn	01 48 13.5	0.0
HOPB				S	Sn	01 48 33.0	-0.3
HOPB				Trac		01 48 35.4	
	comp=Z,322nm,0.5s						
CBSW	Chelan Butte S	1.62	95	⇓P	Pn	01 48 13.9	-0.2
NLLB	Nanaimo Lost L	1.63	321	P	Pn	01 48 13.8	-0.5
NLLB				S	Sn	01 48 33.9	-0.9
NLLB				Trac		01 48 35.9	
	comp=Z,339nm,0.2s						
TDL	Tradedollar La	1.63	175	P	Pn	01 48 14.3	+0.1
NAC	Naches	1.65	138	P	Pn	01 48 15.1	+0.5
EBG	Ellensburg	1.65	129	⇓P	Pn	01 48 15.6	+1.1
WTV	Waterville	1.69	98	⇓P	Pn	01 48 14.9	-0.2
SOSW	Source of Smit	1.74	173	P	Pn	01 48 16.4	+0.6
WPB	Watts Point	1.76	343	P	Pn	01 48 16.4	+0.3
WPB				S	Sn	01 48 37.9	-0.2
WPB				Trac		01 48 39.7	
	comp=Z,314nm,0.2s						
FL2	Flat Top 2	1.78	178	P	Pn	01 48 16.6	+0.3
SHW	Mount Saint He	1.78	176	P	Pn	01 48 17.1	+0.7
DHW2	Dyer Hill 2	1.79	89	P	Pn	01 48 16.4	-0.1
MGB	Mount Grey	1.82	305	P	Pn	01 48 16.3	-0.4
MGB				S	Sn	01 48 39.4	-0.2
MGB				Trac		01 48 41.2	
	comp=Z,561nm,0.3s						
CDFW	Cedar Flats	1.87	172	P	Pn	01 48 18.5	+0.9
SHB	Sechelt	1.89	330	P	Pn	01 48 18.1	+0.2
SHB				S	Sn	01 48 42.1	+1.0
SHB				Trac		01 48 44.0	
	comp=Z,585nm,0.3s						
MXC	Moxie City	2.02	133	⇓P	Pn	01 48 20.1	+0.5
ALB	Alberni	2.06	310	P	Pn	01 48 20.7	+0.5
ALB				S	Sn	01 48 45.9	+0.5
ALB				Trac		01 48 49.5	
	comp=Z,165nm,0.3s						
SAW	Saint Andrews	2.06	96	P	Pn	01 48 19.4	-0.7
BVW	Beverly	2.08	123	P	Pn	01 48 20.8	+0.3
TXB	Texada	2.18	323	P	Pn	01 48 22.7	+0.9
TXB				S	Sn	01 48 49.6	+1.2
TXB				Trac		01 48 51.3	
	comp=Z,402nm,0.3s						
WSLR	Whistler	2.18	352	P	Pn	01 48 22.6	+0.8
WSLR				S	Sn	01 48 50.4	+1.9
WSLR				Trac		01 48 53.6	
	comp=Z,161nm,0.3s						
OZB	Mount Ozzard	2.27	297	P	Pn	01 48 25.1	+2.1
OZB				S	Sn	01 48 48.8	-1.8
OZB				Trac		01 48 56.4	
	comp=Z,176nm,0.3s						
MDW	Midway	2.27	126	⇓P	Pn	01 48 23.4	+0.3
PNT	Penticton	2.30	53	P	Pn	01 48 23.4	-0.1
PNT				Sg	Sg	01 48 56.9	-3.6
LOCW	Locke Island	2.40	120	P	Pn	01 48 24.3	-0.5
HAWA	Hanford	2.53	128	Pn	Pn	01 48 26.6	-0.1
HAWA				Sb	Sb	01 49 02.4	+0.2
BTB	Buttle Lake	2.54	307	P	Pn	01 48 28.1	+1.4
BTB				S	Sn	01 49 00.0	+2.8
BTB				Trac		01 49 08.1	
	comp=Z,243nm,0.4s						
LLLB	Lilloet	2.67	8	P	Pn	01 48 28.9	+0.4
LLLB				Sg	Sb	01 49 03.4	-2.7
LLLB				Trac		01 49 15.6	
	comp=Z,93nm,0.5s						
CBB	Campbell River	2.83	318	P	Pn	01 48 32.8	+2.0
CBB				S	Sn	01 49 05.8	+1.4
CBB				Trac		01 49 14.5	
	comp=Z,46nm,0.3s						
NCRB	Newcastle Ridg	3.40	317	P	Pn	01 48 43.0	+4.4
NCRB				Trac		01 49 34.1	
	comp=Z,58nm,0.5s						
WOSB	Woss	3.49	310	P	Pn	01 48 41.6	+1.7
WOSB				Sg	Sb	01 49 29.5	-0.4
WOSB				Trac		01 49 37.1	
	comp=Z,42nm,0.4s						
NEW	Newport	3.57	83	Pn	Pn	01 48 40.3	-0.7
	8.4nm,0.3s,baz=252,slow=14,SNR=77						
NEW				Lg		01 49 36.1	
	5.4nm,0.3s,baz=37,slow=21,SNR=5.6						
NEW	Newport	3.57	83	Pn	Pn	01 48 40.3	-0.7
NEW				Sb	Sb	01 49 41.5	+9.4
EDB	Eliza Dome	3.63	303	Trac		01 49 43.5	
	comp=Z,27nm,0.5s						
MAYB	Maynard	3.95	310	P	Pn	01 48 50.0	+3.8
MAYB				Trac		01 49 53.0	
	comp=Z,21nm,0.4s						
SLEB	Sale Mountain	4.25	40	P	Pn	01 48 51.7	+1.4
SLEB				Trac		01 50 01.9	
	comp=Z,15nm,0.3s						
PHC	Port Hardy	4.26	312	Trac		01 49 59.5	
	comp=Z,29nm,0.7s						
PHC	Port Hardy	4.26	312	Sg	Sb	01 49 50.4	-1.6
DOWB	Downie Slide	4.37	34	P	Pn	01 48 52.2	+0.3
DOWB				Trac		01 50 11.2	
	comp=Z,343nm,0.6s						
HOLB	Holberg	4.59	308	P	Pn	01 48 57.3	+2.3
BMO	Blue Mountains	4.72	129	Pn	Pn	01 48 56.9	+0.1
MNB	Mounoet Dainar	4.97	30	P	Pn	01 49 01.2	+1.0
BSMT	Bassoo Peak	5.14	89	Pn	Pn	01 49 01.7	-0.8
WALA	Waterton Lakes	5.76	76	P	Pn	01 49 11.6	+0.5
WALA				Trac		01 51 03.0	
	comp=Z,22nm,0.6s						
MSO	Missoula	5.88	98	Pn	Pn	01 49 11.6	-1.1
MSO				Sb	Sb	01 50 41.6	+3.2
YBH	Yreka Blue Hor	6.24	182	Pn	Pn	01 49 19.1	+1.4
	0.2nm,0.3s,baz=184,slow=14,SNR=2.8						
CHMT	Chamberlain Mo	6.32	96	Pn	Pn	01 49 17.7	-1.0
CHMT				Sn	Sn	01 50 28.9	-1.4
HLID	Hailey	7.13	125	Pn	Pn	01 49 30.6	+0.8
DLMT	Dillon	7.25	107	*e*Pn	Pn	01 49 31.1	-0.5
	7.5nm,0.5s						
DLMT				*e*Sn	Sn	01 50 57.5	+4.1
HRY	Holter Researc	7.31	96	Pn	Pn	01 49 33.1	+0.7
BOZ	Bozeman (W)	7.77	103	Pn	Pn	01 49 38.3	-0.4
EDM	Edmonton	7.81	44	Pn	Pn	01 49 43.3	+4.1
YKA	Yellowknife Ar	15.20	14	Pn	Pn	01 51 17.7	-2.5
	baz=204,slow=12,SNR=5.8						
YKA	Yellowknife Ar	15.20	14	Pn	Pn	01 51 17.7	-2.5
INK	Inuvik	21.15	349	P	P	01 52 32.2	+1.7
	1.3nm,0.8s,mb3.3,baz=143,slow=7.6,SNR=6.0						
ILAR	Eielson Array	21.37	331	P	P	01 52 34.3	+1.4
	0.7nm,0.9s,mb3.0,baz=135,slow=9.2,SNR=7.9						
FINES	FINESS Array B	68.03	16	P	P	01 58 43.7	-1.1
	1.2nm,0.9s,mb3.9,baz=338,slow=7.5,SNR=3.5						

CSEM ***03*** *01:53:34.7±0.1, 3841N×2777E, h3km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.6km az=73.0*
ATH ***03*** *01:53:34.7, 3844N×2779E, h19km±1km, MD3.4/5*
ISCJB ***03*** *01:53:35.6±0.5, 3841N±002×2774E±003, h8km±4km, Error ellipse: s-maj=3.4km s-min=3.3km az=102.4*
NEIC ***03*** *01:53:35.0, 3842N×2771E, h14km, MD3.3(ISK), MD3.4(ATH), After ISK.*
ISK ***03*** *01:53:35.7, 3841N×2772E, h13km, MD3.3, ML3.1*
ISC 03 01:53:36.2±0.4, 3839N±002×2774E±003, h11km±3km, n41, σ0°71/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	Bornova	0.37	272	*i* P	Pg	01 53 43.5	0.0
KDAG				*i* S	Sg	01 53 48.9	+0.4
IZM	Izmir	0.37	271	*i* PG	Pg	01 53 43.7	+0.1
IZM				*i* SG	Sg	01 53 48.6	0.0
AKS	Akhisar	0.49	7	*i* PG	Pg	01 53 44.6	-1.2
AKS				*i* SG	Sg	01 53 52.5	+0.2
BLCB	Balcova	0.55	270	*i* PG	Pg	01 53 46.7	-0.1
MANT	Manisa	0.65	81	*i* P	Pg	01 53 48.4	-0.4
MANT				*i* S	Sg	01 53 56.3	-1.1
AYDN	Tasoluk	0.74	171	*i* P	Pg	01 53 50.5	+0.1
AYDN				*i* S	Sg	01 54 01.4	+1.3
URLA	Izmir	0.90	268	*i* P	Pg	01 53 53.4	-0.1
URLA				*i* S	Sg	01 54 05.6	+0.4
SMG	Samos	0.98	227	*e*PN	Pn	01 53 54.8	-1.2
SMG				*e*SN	Sn	01 54 09.0	-0.9
MLSB	Milas	1.09	178	*i* PN	Pn	01 53 57.4	-0.1
DENT	Denizli	1.20	121	PN	Pn	01 53 59.4	+0.4
AYVA	Ayvalik	1.23	319	*i* P	Pn	01 53 58.3	-1.1
AYVA				*i* S	Sb	01 54 15.9	+0.6
DNZL	Cakiroluk	1.25	124	*i* P	Pn	01 53 58.4	-1.2
DNZL				*i* S	Sb	01 54 16.6	+0.7
BALB	Balikesir	1.25	5	PN	Pn	01 53 59.2	-0.5
YER	Yerkesik	1.33	161	PN	Pn	01 54 00.5	-0.2
BDRM	Kayabasi	1.34	190	*i* P	Pn	01 54 00.4	-0.5
BDRM				*i* S	Sb	01 54 17.8	-0.8
BODT	Bodrum	1.37	194	PN	Pn	01 54 01.2	-0.1
BTOK	Tokmak	1.39	9	*i* P	Pn	01 54 00.2	-1.4
BTOK				*i* S	Sn	01 54 16.4	-3.5
PRK	Paraskevi	1.43	307	*e*PN	Pn	01 54 01.6	-0.5
PRK				*e*SN	Sn	01 54 21.5	+0.6
GDZ	Gediz	1.53	62	*i* P	Pn	01 54 04.2	+0.7
GDZ				*i* S	Sn	01 54 23.4	-0.1
DALT	Dalyan (Mudla)	1.77	156	PN	Pn	01 54 07.5	+0.7
ORLT	Orhaneli	1.88	28	PN	Pn	01 54 08.6	+0.2
KCT	Karacabey	1.93	14	PN	Pn	01 54 09.0	-0.1
EDC	Edincik	1.96	3	PN	Pn	01 54 09.3	-0.1
ULDT	Uludag	2.06	31	*i* P	Pn	01 54 12.7	+1.9
TKTP	Tekketepe	2.06	99	*i* P	Pn	01 54 10.4	-0.5
APE	Apeiranthos	2.19	234	*e*PN	Pn	01 54 13.4	+0.8
MRMT	Marmara Adasi	2.21	357	PN	Pn	01 54 12.9	0.0
SART	Tekirdag	2.34	350	*i* P	Pn	01 54 14.2	-0.4
IZI	Iznik	2.36	34	*e*PN	Pn	01 54 15.4	+0.4
ELL	Elmali	2.38	133	*e*PN	Pn	01 54 16.0	+0.8
MFT	Murefte	2.42	352	PN	Pn	01 54 15.4	-0.3
LIA	Limnos Island	2.49	308	*e*PN	Pn	01 54 16.7	0.0
YLV	Yalova	2.52	30	*e*PN	Pn	01 54 18.0	+0.9
BORA	Eskisehir	2.58	54	*i* P	Pn	01 54 24.3	+6.3
ESKT	Eskisehir	2.68	64	*i* P	Pn	01 54 24.3	+5.1
CTT	Catalca	2.81	11	*e*PN	Pn	01 54 21.3	+0.3
HRT	Hereke	2.85	31	*e*PN	Pn	01 54 22.0	+0.3
ISK	Istanbul-Kandi	2.86	20	*e*PN	Pn	01 54 22.8	+1.0
EDRB	Edirne	3.54	348	*e*PN	Pn	01 54 31.6	+0.5
SGKT	Sivrigoynuk	3.99	56	*i* P	Pn	01 54 50.7	+13
NVR	Nevrokopi	4.20	316	*e*PN	Pn	01 54 40.3	+0.1

CSEM ***03*** *01:56:54.0±0.1, 3501N×402W, h10km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.6km az=47.0*
ISCJB ***03*** *01:56:54.5±0.7, 3504N±003×409W±003, h11km±4km, Error ellipse: s-maj=5.4km s-min=4.5km az=41.2*
MDD ***03*** *01:56:55.3±0.6, 3499N×403W, h0km, mb3.2/7, Error ellipse: s-maj=6.9km s-min=4.0km az=22.0, PRXIMO*
NEIC ***03*** *01:56:55.5, 3488N×399W, h17km, MG2.9(MDD), After MDD.*
SFS ***03*** *01:56:55.0, 3488N×399W, h17km, ML3.5*
CNRM ***03*** *01:56:55.2, 3498N×404W, h0km, MD3.3*
ISC 03 01:56:55.2±0.7, 3503N±003×403W±004, h11km±4km, n33, σ1°04/62, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.21	21	*i* P	Pg	01 57 00.0	+0.4
MPAL				*i* S	Sg	01 57 03.0	+0.4
TOU	Touzarine	0.24	107	P	Pg	01 56 59.5	-0.7
TOU				S	Sg	01 57 02.0	-1.5
TOU	Touzarine	0.24	107	*i* P	Pg	01 56 59.5	-0.7
EMEL	Melilla	0.92	73	P	Pg	01 57 12.8	-0.2
	28nm,0.2s,SNR=5.0						
EMEL				S	Sg	01 57 24.9	-0.1
	4.5nm,0.1s,SNR=7.9						
EMLI	Melilla	0.93	73	P	Pg	01 57 12.8	-0.3
	28nm,0.2s,SNR=5.0						
EMLI				S	Sg	01 57 24.9	-0.3
	4.5nm,0.1s,SNR=7.9						
MELI	Melilla	0.94	73	S	Sg	01 57 26.4	+0.9
MELI	Melilla	0.94	73	*e*P	Pg	01 57 22.6	+9.3
MELI				*e*S	Sg	01 57 26.4	+0.9
ZAI	Zaio	1.06	93	*i* P	Pb	01 57 15.0	-0.5
ZAI				*i* S	Sb	01 57 30.0	+0.7
EALB	Alboran	1.22	42	P	Pn	01 57 18.2	+0.1
	7.7nm,0.2s,SNR=7.9						
EALB				S	Sb	01 57 32.2	-1.7
	12nm,0.2s,SNR=4.9						
EALB	Alboran	1.22	42	P	Pn	01 57 17.6	-0.5
EALB				S	Sb	01 57 32.5	-1.4
	12nm,0.2s,SNR=4.9						
EALB	Alboran	1.22	42	P	Pn	01 57 17.6	-0.5
EALB				S	Sb	01 57 32.0	-1.9
EMIJ	Mijas	1.64	339	P	Pn	01 57 23.5	-0.4
	1.6nm,0.3s,SNR=6.2						
EMIJ				S	Sn	01 57 42.9	-2.2
	1.9nm,0.1s,SNR=6.2						
EMIJ	Mijas	1.64	339	P	Pn	01 57 23.6	-0.3
EMIJ				S	Sn	01 57 45.2	+0.2
	1.9nm,0.1s,SNR=6.2						
EMIJ	Mijas	1.64	339	P	Pn	01 57 23.6	-0.3
EMIJ				S	Sn	01 57 43.8	-1.2
EBER	Berja	2.08	26	P	Pn	01 57 29.4	-0.6
	1.9nm,0.4s,SNR=5.2						
EBER				S	Sn	01 57 55.6	-0.3
	1.0nm,0.2s,SNR=5.8						
EBER	Berja	2.08	26	P	Pn	01 57 29.4	-0.5
	0.6nm,0.2s,SNR=5.2						
EBER				S	Sn	01 57 56.2	+0.4
EBER	Berja	2.08	26	P	Pn	01 57 29.4	-0.6
EBER				S	Sn	01 57 56.1	+0.3
CZD	Col de Zad	2.16	203	*i* P	Pn	01 57 31.0	-0.1
CZD				*i* S	Sn	01 57 58.0	+0.2
ECOG	Cogollos-Vega	2.27	9	P	Pn	01 57 34.3	+1.7
	1.5nm,0.3s,SNR=7.9						
ECOG				S	Sn	01 58 05.2	+4.6
	1.8nm,0.3s,SNR=7.9						
ELUQ	Luque	2.53	356	P	Pn	01 57 37.7	+1.6
	1.2nm,0.2s,SNR=7.9						
ELUQ				S	Sn	01 58 08.0	+1.1
	0.7nm,0.2s,SNR=7.9						
EQES	Quesada	2.87	15	P	Pn	01 57 42.6	+1.8
	1.7nm,0.3s,SNR=10						
EQES				S	Sn	01 58 16.3	+1.0
	1.0nm,0.2s,SNR=5.6						
EQES	Quesada	2.87	15	P	Pn	01 57 42.2	+1.4
	0.9nm,0.2s,SNR=10						
EQES				S	Sn	01 58 16.3	+0.9
	1.0nm,0.2s,SNR=5.6						
EQES	Quesada	2.87	15	P	Pn	01 57 42.2	+1.3
EQES				S	Sn	01 58 16.3	+1.0
EMIN	Mina Concepcio	3.46	323	P	Pn	01 57 49.3	+0.4
	0.8nm,0.4s,SNR=7.9						
EMIN				S	Sn	01 58 28.3	-1.6
	0.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.46	323	P	Pn	01 57 49.3	+0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	01 58 28.3	-1.6
	0.3nm,0.2s,SNR=7.9						
EGRO	El Granado	3.74	313	P	Pn	01 57 53.6	+0.8
	1.1nm,0.3s,SNR=6.6						
EGRO				S	Sn	01 58 34.9	-1.9
	0.9nm,0.2s,SNR=7.9						
EGRO	El Granado	3.74	313	P	Pn	01 57 53.6	+0.8
	0.3nm,0.1s,SNR=6.6						
EGRO				S	Sn	01 58 34.9	-1.9
	0.9nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.12	28	P	Pn	01 57 58.8	+0.8
ETOB				S	Sn	01 58 44.3	-1.8
ETOB	Tobarra	4.12	28	P	Pn	01 57 58.9	+0.9
ETOB				S	Sn	01 58 44.4	-1.8
EBAD	Badajoz	4.42	328	P	Pn	01 58 03.0	+0.9
	0.8nm,0.3s,SNR=7.9						
EBAD				S	Sn	01 58 51.8	-1.6
	0.9nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.42	328	P	Pn	01 58 03.0	+0.9
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	01 58 51.8	-1.7
	0.9nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.63	1	P	Pn	01 58 06.5	+1.4
	0.8nm,0.1s,baz=180,slow=12,SNR=6.3						
ESDC	Sonseca Array	4.63	1	P	Pn	01 58 06.5	+1.4
	0.8nm,0.1s,SNR=6.3						

LDG ***03*** *01:57:43.8±0.2, 2716N×8637E, h10km, Mb5.0/38, Ms2.8/1, Error ellipse: s-maj=7.8km s-min=6.0km az=24.0*
IDC ***03*** *01:57:44.7±0.5, 2722N×8639E, h0km, mb4.7/22, mb1 4.8/23, mb1mx4.8/25, mbtmp4.7/23, ML5.0/1, MS3.6/5, Ms1 3.6/5, ms1mx3.4/18, Error ellipse: s-maj=16.7km s-min=12.8km az=49.0*
DMN ***03*** *01:57:45.4±0.7, 2735N×8655E, h30km±3km, Ml5.6/4, Error ellipse: s-maj=14.4km s-min=11.1km az=11.0*
NDI ***03*** *01:57:45.9±4.3, 2733N×8650E, h10km, mb5.4, ML4.6, mb5.0(NEIC)*
MOS ***03*** *01:57:45.9±0.8, 2725N×8640E, h19km, mb5.0/70, Error ellipse: s-maj=7.7km s-min=3.7km az=125.3*
ISCJB ***03*** *01:57:47.1±0.6, 2726N±003×8633E±002, h26km±3km, mb4.8/160, MS4.0/7, Error ellipse: s-maj=4.3km s-min=3.5km az=147.0*
NEIC ***03*** *01:57:47.2±0.6, 2725N×8638E, h14km±3km, mb5.0/109, Error ellipse: s-maj=4.3km s-min=3.3km az=178.0*
HRVD ***03*** *01:57:47.2±1.1, 2694N×8670E, h31km±2km, MW4.8/34, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s34,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.43±.31; $M_{\theta\theta}$-1.32±.17; $M_{\phi\phi}$-0.11±.16; $M_{r\theta}$0.83±.14; $M_{\theta\phi}$0.17±.08; $M_{\phi r}$-0.10±.19; Best double couple: $M_0$1.61800×10^{16} NP1:ϕ_s279.00000°, δ30.00000°, λ91.00000°. NP2:ϕ_s98.00000°, δ60.00000°, λ90.00000°. Principal axes: T 1.6610, Plg75.0000°, Azm6.0000°; N -0.0870, Plg0.0000°, Azm98.0000°; P -1.5750, Plg15.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***03*** *01:57:47.6, 2758N×8667E, h11km, mB4.9, mb4.8, Ms4.4, Msz4.3*
CRAAG ***03*** *01:57:50.6, 2742N×8635E, Mb5.0*
NAO ***03*** *01:57:52.9, 2778N×8629E, h33km, mb4.8*
SZGRF ***03*** *01:57:55.1, 2796N×8599E, h33km, mb4.8, Nepal*
ISC 03 01:57:48.2±0.6, 2729N±003×8640E±002, h19km±3km, h19km±2.1km: pP-P, n444, σ0°86/468, mb4.8/160, MS4.0/7, 103C-5D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	0.41	334	*e*Sg	Sg	01 58 03.0	+0.5
	67μm,0.3s						
JIRN	Jiri	0.41	334	*e*Pg	Pg	01 57 55.4	-1.3
JIRN				*e*Sg	Sg	01 58 03.0	+0.5
GUN	Gumba	0.77	324	*e*Sg	Sg	01 58 14.6	+1.0
GUN	Gumba	0.77	324	*e*Pg	Pg	01 58 02.1	-1.2
GUN				*e*Sg	Sg	01 58 14.6	+1.0
PKI	Pulchoki	0.92	288	*e*Sg	Sg	01 58 20.5	+2.2
	10μm,0.3s						
PKI	Pulchoki	0.92	288	*e*Pg	Pg	01 58 05.8	-0.3
PKI				*e*Sg	Sg	01 58 20.5	+2.2
KKN	Kakani	1.11	297	*e*Sg	Sg	01 58 25.8	+1.5
	8μm,0.2s						
KKN	Kakani	1.11	297	*e*Pg	Pg	01 58 08.9	-0.8
KKN				*e*Sg	Sg	01 58 25.8	+1.5
DMN	Daman	1.19	286	*e*Pg	Pg	01 58 10.5	-0.7
GKN	Gorkha	1.72	295	*e*Sg	Sg	01 58 43.9	+0.4
	16μm,0.3s						
GKN	Gorkha	1.72	295	*e*Pn	Pn	01 58 19.3	+2.3
GKN				*e*Sg	Sg	01 58 43.9	+0.4
KOLN	Koldanda	2.53	282	*e*Sn	Sn	01 59 03.1	+4.6
	7μm,0.5s						
KOLN	Koldanda	2.53	282	*e*Pn	Pn	01 58 29.8	+1.6
KOLN				*e*Sn	Sn	01 59 03.1	+4.6
BOK	Bokaro	3.51	188	*e*P	Pn	01 58 41.1	-0.6
BOK				*e*S	Sn	01 59 21.1	-1.6
LSA	Lhasa	4.82	59	PG

HYB eS Sn 02 02 47.0 -10
SARP Sargodha 12.80 294 P Pn 02 00 46.2 -2.9
SARP S Sn 02 03 02.0 -9.0
CHCP Chirah Chowk 12.98 302 P Pn 02 00 49.2 -2.3
CHCP S Sn 02 03 13.0 -2.4
THW Thamme Wali 13.82 297 P Pn 02 00 58.9 -4.2
CEP Cherat 14.07 301 P Pn 02 01 02.6 -3.9
CEP S Sn 02 03 36.0 -6.1
BHV Bhavnagar 14.09 250 eP Pn 02 01 04.5 -2.2
CHG Chiang Mai 14.29 124 P Pn 02 01 17.0 +7.6
SBDP Sheikh Budin 14.43 294 P Pn 02 01 07.7 -3.6
POO Poona 14.47 236⇑ix x 02 01 32.0
comp=E,80nm,1.0s
POO ix x 02 01 42.5
POO ix x 02 03 56.0
POO ix x 02 04 04.0
POO ix x 02 04 19.0
POO iPCP x 02 06 58.5
KMI Kunming 14.83 95 P Pn 02 01 19.2 +2.4
KMI AP pP 02 01 24.0 -3.8
KMI XP sP 02 01 26.3 -4.0
KMI PP 02 01 32.4
KMI S Sn 02 04 06.0 +5.5
KMI XS sS 02 04 11.8 -15
KMI AMB AMB
comp=Z,9.0nm,1.0s
KMI AMB AMB
comp=Z,146nm,4.7s
KMI LR LR
comp=N,306nm,9.2s
KMI LR LR
comp=E,191nm,8.0s
KMI LR LR
comp=Z,239nm,13.2s
KSH Kashi 14.97 327 iPR 02 01 18.0
KSH eAP pP 02 01 23.2 -6.2
KSH eXP sP 02 01 26.1 -5.8
KSH ePP 02 01 36.1
KSH AMB AMB
comp=Z,70nm,0.6s
KSH LR LR
comp=N,490nm,6.3s
KSH LR LR
comp=E,400nm,6.4s
BOM Bombay 15.02 239 eP Pn 02 01 18.4 -1.0
BOM ex x 02 03 58.0
BOM AML AML 02 04 49.2
comp=E,122nm,0.0s
BOM AML AML 02 05 55.5
comp=N,128nm,0.2s
KAD Karad 15.04 231 eP Pn 02 01 19.1 -0.4
CD2 Chengdu 15.60 73⇓iP Pn 02 01 24.6 -2.3
CD2 AP pP 02 01 29.5 -6.9
CD2 XP sP 02 01 32.5 -6.4
CD2 PP 02 01 38.8
CD2 S Sn 02 04 14.1 -5.1
CD2 SS 02 04 29.8
CD2 AMB AMB
comp=Z,10.0nm,1.0s
CD2 LR LR
comp=N,290nm,10.2s
CD2 LR LR
comp=Z,670nm,10.8s
GTA Gaotai 16.46 39 eP Pn 02 01 35.1 -2.9
GTA AP pP 02 01 40.6 -5.4
GTA XP sP 02 01 43.3 -5.2
GTA PP 02 01 49.8
GTA AMB AMB
comp=Z,15nm,1.0s
GTA AMB AMB
comp=Z,92nm,5.3s
GTA LR LR
comp=N,524nm,8.8s
GTA LR LR
comp=E,638nm,9.5s
GTA LR LR
comp=Z,768nm,8.4s
WMQ Urumqi 16.53 3 P Pn 02 01 38.5 -0.4
WMQ XP sP 02 01 47.0 -2.2
WMQ PP 02 01 52.5
WMQ S Sn 02 04 42.0 +0.2
WMQ AMB AMB
comp=Z,16nm,0.8s
WMQ AMB AMB
comp=Z,105nm,5.0s
WMQ LR LR
comp=N,225nm,7.0s
WMQ LR LR
comp=E,214nm,7.0s
WMQ LR LR
comp=Z,203nm,6.0s
ULHL Ulahol 17.07 334 P Pn 02 01 44.5 -1.2
SNR=14
LZH Lanzhou 17.23 55 eP Pn 02 01 45.5 -2.2
LZH AP pP 02 01 50.2 -4.2
LZH XP sP 02 01 54.1 -2.8
LZH PP 02 02 00.5
LZH eS Sn 02 04 55.0 -3.7
LZH XS sS 02 05 02.7 -13
LZH eSS 02 05 16.5
LZH AMB AMB
comp=Z,56nm,1.4s
LZH AMB AMB
comp=Z,147nm,4.3s
LZH LR LR
comp=E,663nm,10.0s
LZH LR LR
comp=Z,869nm,11.3s
UCH Uchtor 17.79 330 P Pn 02 01 53.0 -1.6
SNR=21
TKM2 Tokmak 2 17.90 333 P Pn 02 01 55.7 -0.3
SNR=12
KBK Karagaybulak 17.95 332 P Pn 02 01 57.0 +0.4
SNR=19
AML Almayashu 18.09 328 P Pn 02 01 56.4 -1.9
SNR=12
GYA Guiyang 18.10 88⇑iP Pn 02 01 55.4 -3.1
GYA AP pP 02 02 02.2 -1.9
GYA XP sP 02 02 04.3 -2.3
GYA PP 02 02 10.6
GYA AMB AMB
comp=Z,80nm,1.0s
GYA AMB AMB
comp=Z,110nm,5.1s
GYA LR LR
comp=N,480nm,10.8s
GYA LR LR
comp=E,640nm,12.4s
GYA LR LR
comp=Z,680nm,11.8s
AAK Ala-Archa 18.12 331 P Pn 02 01 58.6 -0.1
SNR=8.5
AAK Ala-Archa 18.12 331 iP Pn 02 01 58.0 -0.7
AAK pmax pmax
comp=Z,35nm,1.3s
AAK Ala-Archa 18.12 331 ePn Pn 02 01 57.5 -1.3
comp=Z,18nm,0.9s
FRU Bishkek 18.23 331 eP Pn 02 02 01.8 +1.7
FRU pmax pmax
comp=Z,64nm,1.8s
EKS2 Erkin-Say 18.46 329 P Pn 02 02 02.5 -0.4
SNR=12
MK31 Makanchi Array 19.74 352 P Pn 02 02 16.5 -1.7
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 19.74 352 P Pn 02 02 16.9 -1.3
comp=Z,4.3nm,0.3s,baz=175,slow=9.7,SNR=116
MKAR Makanchi Array 19.74 352⇑eP Pn 02 02 16.8 -1.4
KK31 Karatay Array 20.38 325 iP P 02 02 23.8 +0.1
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 20.38 325 eP P 02 02 23.8 +0.1
KKAR pmax pmax
comp=Z,2.0nm,0.5s
ENH Enshi 20.45 76 eP P 02 02 24.2 -0.3
comp=Z,40nm,0.8s
XAN Xi'an 20.49 65 P P 02 02 23.7 -1.2
XAN AMB AMB
comp=Z,13nm,1.3s
QIZ Qiongzhong 23.04 106⇑P P 02 02 52.4 +0.2
QIZ S S 02 07 00.2 -1.8
QIZ AMB AMB
comp=Z,25nm,1.1s,mb4.6
BTO Baotou 23.59 50 eP P 02 02 57.3 -0.5
KURK Kurchatov 24.13 348 P P 02 03 02.3 -0.5
comp=Z,322nm,0.5s,SNR=16
KURK Kurchatov 24.13 348 c iP P 02 03 02.9 +0.1
KURK Kurchatov 24.13 348 P P 02 03 02.7 -0.1
HHC Hu-ho-hao-te 24.75 50⇑P P 02 03 09.1 +0.7
HHC AP 02 03 14.2
HHC XP sP 02 03 17.9 +1.3
HHC S S 02 07 32.0 +2.4
HHC PCS PcS 02 10 21.9 -3.1
HHC AMB AMB
comp=Z,11nm,0.9s,mb4.4
HHC AMB AMB
comp=Z,159nm,3.7s
HHC LR LR
comp=N,331nm,12.2s,MS4.3
HHC LR LR
comp=E,579nm,14.5s,MS4.3
HHC LR LR
comp=Z,851nm,12.0s,MS4.5
KULM Kulim 25.75 146 eP P 02 03 18.3 +0.8
SONM Songino Array 25.78 32 P P 02 03 18.5 +0.6
comp=Z,27nm,0.7s,mb4.9,baz=218,slow=9.5,SNR=261
SONM PcP PcP 02 06 47.1 -0.1
comp=Z,0.8nm,0.4s,baz=216,slow=3.6,SNR=5.8
SONM LR LR 02 15 09.4
comp=Z,98nm,18.8s,MS3.4,baz=167,slow=40
SONM Songino Array 25.78 32 P P 02 03 18.5 +0.7
SONM 02 06 47.1
ULN Ulaanbaatar 26.12 33 c iP P 02 03 20.8 0.0
ULN Ulaanbaatar 26.12 33 P P 02 03 21.2 +0.3
comp=Z,30nm,1.0s,mb4.8
ZAK Zakamensk 26.42 25⇑P P 02 03 23.8 +0.2
ZAK pmax pmax
comp=Z,24nm,1.0s,mb4.7
ZAL Zalesovo 26.65 358 P P 02 03 25.0 -0.7
comp=Z,7.3nm,0.4s,mb4.6,baz=304,slow=6.3,SNR=33
MOY Mondy 26.72 20 eP P 02 03 27.4 +1.1
MOY pmax pmax
comp=Z,22nm,1.8s,mb4.4
NVS Novosibirsk 27.62 356 eP P 02 03 33.3 -1.1
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.4
NVS pmax pmax
comp=N,14nm,1.4s
BJT Baijiatuau 27.71 55 eP P 02 03 35.8 +0.7
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuau 27.71 55 eP P 02 03 35.8 +0.7
comp=Z,7.4nm,0.8s,mb4.4
VOSK Vostochnaya 27.89 340 P P 02 03 36.6 -0.2
VOSK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BVA0 Borovoye Array 28.34 339 iP P 02 03 40.3 -0.5
BVAR Borovoye Array 28.34 339 P P 02 03 41.0 +0.2
comp=Z,1.3nm,0.4s,mb3.9,baz=155,slow=11,SNR=11
NJ2 Nanjing 28.54 73 eP P 02 03 45.9 +3.4
NJ2 AP pP 02 03 50.8 +2.5
NJ2 XP sP 02 03 53.6 +2.9
NJ2 S S 02 08 29.0 -0.5
NJ2 XS sS 02 08 42.0 +2.9
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
NJ2 AMB AMB
comp=Z,200nm,4.0s
NJ2 LR LR
comp=N,960nm,17.6s,MS4.7
NJ2 LR LR
comp=E,1μm,14.4s,MS4.7
NJ2 LR LR
comp=Z,280nm,11.2s,MS4.1
ZRNK Zerenda 28.72 338 iP P 02 03 43.8 -0.4
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
ZRNK Zerenda 28.72 338 P P 02 03 44.5 +0.3
AB31 Akbulak array 29.94 324 iP P 02 03 55.6 +0.6
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
SSE Sheshan 30.53 74 eP P 02 03 59.7 -0.5
SSE AP pP 02 04 06.1 0.0
SSE XP sP 02 04 08.3 -0.1
SSE PCP PcP 02 06 58.2 -0.7
SSE S S 02 09 00.2 -0.7
SSE XS sS 02 09 10.6 +0.2
SSE SCS ScS 02 14 37.3 +0.7
SSE AMB AMB
comp=Z,16nm,1.4s,mb4.7
SSE AMB AMB
comp=Z,74nm,3.5s
AKTK Aktyubinsk 31.64 325 P P 02 04 10.4 +0.4
AKTO Aktyubinsk 31.64 325 P P 02 04 10.4 +0.4
comp=Z,8.5nm,0.6s,mb4.7,baz=119,slow=8.9,SNR=48
SNY Shenyang 33.60 55⇑P P 02 04 27.2 0.0
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
HIA Hailar 33.74 40 eP P 02 04 29.1 +0.7
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 33.74 40 eP P 02 04 29.1 +0.7
comp=Z,9.8nm,0.6s,mb4.9
UMR Umm Al-Rimmam 33.99 283 eP P 02 04 31.1 +0.6
RDF Al-Radifah 34.20 282 eP P 02 04 32.9 +0.5
MIB Mutribah 34.29 284 eP P 02 04 33.8 +0.6
MIB AMb AMB 02 04 34.8
comp=Z,80nm,0.6s,mb5.9
NAY Al-Naaiem 34.44 283 eP P 02 04 35.0 +0.6
NAY AMb AMB 02 04 36.9
comp=Z,22nm,0.5s,mb5.3
ARU Arti 35.27 333 P P 02 04 42.8 +1.1
comp=Z,92nm,0.6s,mb5.9,SNR=6.2
ARU Arti 35.27 333⇑iP P 02 04 42.0 +0.3
ARU pmax pmax
comp=Z,13nm,0.9s,mb4.9
ARU Arti 35.27 333 P P 02 04 42.0 +0.3
comp=Z,7.9nm,0.6s,mb4.8
CN2 Changchun 35.42 52⇑P P 02 04 43.1 +0.2
CN2 eXP sP 02 04 53.0 +1.9
CN2 eS S 02 10 15.5 -1.2
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,12.0s,MS4.5
CN2 LR LR
comp=E,400nm,12.0s,MS4.5
CN2 LR LR
comp=Z,500nm,13.0s,MS4.5
BOD Bodaibo 36.17 25 eP P 02 04 49.0 -0.3
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZEI Tsey 37.65 305 iP P 02 05 03.9 +1.9
ZEI i*PP pP 02 05 12.9 +5.1
ZEI pmax pmax
comp=Z,27nm,0.9s,mb5.0
SOKR Solikamsk 38.15 336 d iP P 02 05 07.1 +1.0
SOKR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
MDJ Mudanjiang 38.50 52 P P 02 05 08.9 -0.2
MDJ AP pP 02 05 14.6 -0.4
MDJ XP sP 02 05 17.1 -0.3
MDJ AMB AMB
comp=Z,17nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,117nm,5.0s
KIV Kislovodsk 38.74 307 iP P 02 05 11.2 +0.1
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
VRHR Novokhopersk 41.21 318 eP P 02 05 31.4 -0.2
VRHR pmax pmax
comp=Z,70nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.4s
MALT Malatya 41.38 298⇑P P 02 05 35.3 +2.2
MALT Malatya 41.38 298 P P 02 05 34.7 +1.7
VOR Voronezh 42.84 318 eP P 02 05 44.5 -0.5
VOR pmax pmax
comp=Z,50nm,1.1s,mb5.2
HABR Khabarovsk 42.98 47 eP P 02 05 39.2 -6.8
MJAR Matsushiro Arr 44.48 65 P P 02 05 58.0 -0.1
comp=Z,8.7nm,1.0s,mb4.4,baz=276,slow=9.4,SNR=7.8
SIM Simferopol' 44.95 307⇑eP P 02 06 02.4 +0.5
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.0
BR131 Keskin Array S 45.12 300 P P 02 06 04.2 +1.0
BRTR Keskin Array B 45.12 300 P P 02 06 04.0 +0.7
comp=Z,2.4nm,0.4s,mb4.4,baz=125,slow=6.6,SNR=33
OBN Obninsk 45.32 322 P P 02 06 04.0 -0.9
comp=Z,128nm,0.4s,SNR=5.4
OBN Obninsk 45.32 322 iP P 02 06 04.7 -0.2
OBN e 02 07 42.1
OBN pmax pmax
comp=Z,36nm,1.8s,mb4.9
OBN Obninsk 45.32 322 P P 02 06 04.7 -0.2
KLMR Klimovskoe 45.94 330 eP P 02 06 08.6 -1.1
KLMR pmax pmax
comp=Z,30nm,2.0s,mb4.9
YSS Yuzh-Sakhalins 47.94 50 iP P 02 06 25.8 +0.5
YSS pmax pmax
comp=Z,47nm,1.2s,mb5.4
AKASG Malin Array Be 48.80 315 P P 02 06 31.3 -0.7
comp=Z,6.4nm,0.5s,mb4.9,baz=82,slow=7.1,SNR=48
AKASG Malin Array Be 48.80 315 iP P 02 06 31.2 -0.8
AKASG pmax pmax
comp=Z,6.0nm,0.5s
CFR Carcaliu 49.19 307⇓P P 02 06 35.6 +0.6
TIXI Tiksi 50.17 16 iP P 02 06 41.7 -0.8
TIXI pmax pmax
comp=Z,13nm,0.6s,mb5.1
TIXI Tiksi 50.17 16 P P 02 06 41.6 -0.8
VRI Vrincioaia 50.19 308⇑P P 02 06 44.1 +1.5
JOF Joensuu 50.31 331 ep P 02 06 44.1 +0.6
comp=Z,23nm,0.6s,mb5.4
MLR Muntele Rosu 50.74 308⇑P P 02 06 48.4 +1.7
BURAR Bucovina Array 51.24 311⇓P P 02 06 51.3 +0.8
VOIR 51.37 308⇑P P 02 06 52.4 +0.9
FINES FINESS Array B 52.29 328 P P 02 06 58.0 -0.3
comp=Z,7.8nm,0.6s,mb4.8,baz=104,slow=7.6,SNR=41
FINES LR LR 02 30 55.7
comp=Z,72nm,18.4s,MS3.7,baz=138,slow=38
FINES FINESS Array B 52.29 328 iP P 02 06 58.0 -0.3
FINES pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 52.33 329 ep P 02 06 57.8 -0.8
comp=Z,7.7nm,0.7s,mb4.7,baz=104,slow=7.4
KAF Kangasniemi 52.33 329 eP P 02 06 57.8 -0.8
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SUW Suwalki 52.78 319 P P 02 07 02.2 +0.2
SUW pmax pmax
comp=Z,26nm,0.9s,mb5.2
SUW Suwalki 52.78 319 P P 02 07 02.2 +0.2
comp=Z,26nm,0.9s,mb5.2
VTS Vitosha 52.85 304⇑P P 02 07 03.5 +1.0
KWP Kalwaria 52.92 313 eP P 02 07 03.3 +0.3
KWP pmax pmax
comp=Z,58nm,1.0s,mb5.5
KWP Kalwaria 52.92 313 eP P 02 07 03.3 +0.3
comp=Z,58nm,1.0s,mb5.5
DRGR 52.96 310⇑P P 02 07 04.3 +1.0
KOLS Kolonicke sedl 53.20 312 eP P 02 07 05.4 +0.3
VAY Valandovo 53.44 303 eP P 02 07 06.1 -0.7
STIP Stip 53.69 303 iP P 02 07 08.0 -0.7
CRVS Cervenica-Dubn 53.74 312 epP pP 02 07 12.8 -2.3
BZS Buzias 53.77 308⇑P P 02 07 10.1 +0.8
STHS Stebnicka Huta 53.87 313 eP P 02 07 10.2 +0.2
MA2 Magadan 53.95 35 iP P 02 07 10.2 -0.4
MA2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
MA2 Magadan 53.95 35 eP P 02 07 10.2 -0.4
comp=Z,10nm,0.9s,mb4.8
KECS Kecovo 54.40 312 eP P 02 07 14.1 +0.2
BIA Bitola 54.41 302 eP P 02 07 13.2 -0.7
NIE Niedzica 54.48 313 eP P 02 07 15.4 +0.9
ARCES ARCESS Array B 54.61 338 P P 02 07 15.3 0.0
comp=Z,22nm,0.8s,mb5.2,baz=104,slow=7.8,SNR=72
ARCES LR LR 02 31 05.2
comp=Z,37nm,20.7s,MS3.4,baz=188,slow=37
ARE0 ARCESS Array S 54.61 338 eP P 02 07 15.6 +0.2
OJC Ojcow 54.79 314 eP P 02 07 16.5 -0.2
OHR Ohrid 54.79 303 eP P 02 07 16.1 -0.6
PSZ Piszkesteto 54.82 311 P P 02 07 17.8 +0.9
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
PSZ Piszkesteto 54.82 311 P P 02 07 17.8 +0.9
comp=Z,6.2nm,0.8s,mb4.7
KMBO Kilima Mbogo 55.03 247 P P 02 07 18.4 0.0
comp=Z,2.2nm,0.8s,mb4.3,baz=64,slow=23,SNR=5.2
KMBO Kilima Mbogo 55.03 247⇑eP P 02 07 17.7 -0.7
SEY Seymchan 55.16 31 iP P 02 07 19.4 0.0
KTK1 Kautokeino 55.24 337 eP P 02 07 19.9 -0.1
KTK1 AMb AMB 02 07 20.6
comp=Z,30nm,0.8s,mb5.4
KTK1 epP pP 02 07 24.2 -1.8
KTK1 Kautokeino 55.24 337 eP P 02 07 19.9 -0.1
comp=Z,30nm,0.8s,mb5.4
VYHS Vyhne 55.49 312 eP P 02 07 23.1 +1.3
OKC Ostrava-Krasne 55.87 313 eP P 02 07 23.0 -1.5
MORC Moravsky Berou 56.27 313 P P 02 07 27.7 +0.4
ZST Bratislava 56.67 311 eP P 02 07 30.6 +0.4
TRO Tromso 56.87 337 eP P 02 07 30.3 -1.3
VRAC Vranov 56.91 313⇓P P 02 07 32.6 +0.7
KSP Ksiaz 57.00 315 eP P 02 07 32.6 +0.1
DPC Dobruska-Polom 57.01 314 eP P 02 07 33.2 +0.6
UPC Upice 57.20 314 eP P 02 07 34.3 +0.4
TREC Trest 57.64 313 eP P 02 07 37.1 +0.1
ARSA Arzberg 57.83 310⇑iP P 02 07 38.5 +0.1
comp=Z,4.9nm,0.6s,mb4.7
ARSA Arzberg 57.83 310⇑P P 02 07 38.5 +0.1
comp=Z,4.9nm,0.6s,mb4.7
MOR8 Moi Rana 58.08 333 eP P 02 07 38.8 -1.4
MOR8 AMb AMB 02 07 39.8
comp=Z,24nm,0.9s,mb5.2
MOR8 Moi Rana 58.08 333 eP P 02 07 38.8 -1.4
comp=Z,24nm,0.9s,mb5.2
PVCC Panska Ves 58.12 314 eP P 02 07 40.7 +0.3
PERS Pernice 58.18 310 eP P 02 07 41.2 +0.4
PRU Pruhonice 58.18 314 eP P 02 07 41.1 +0.2
BOJS Bojanci 58.23 308 eP P 02 07 41.4 +0.2
RUE Ruedersdorf 58.44 317 eP P 02 07 42.5 -0.1
comp=Z,13nm,0.6s,mb5.1
RUE Ruedersdorf 58.44 317 P P 02 07 42.9 +0.2
BRG Berggiesshubel 58.48 315 eP P 02 07 43.2 +0.3
comp=Z,8.0nm,0.7s,mb4.9
BRG Berggiesshubel 58.48 315⇑iP P 02 07 43.2 +0.3
BRG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BRG Berggiesshubel 58.48 315⇑iP P 02 07 43.2 +0.3
comp=Z,7.6nm,0.7s,mb4.8
LOF Lofoten 58.59 335 eP P 02 07 44.7 +1.0
LOF AMb AMB 02 07 48.0
comp=Z,103nm,1.6s,mb5.6
LOF Lofoten 58.59 335 eP P 02 07 44.7 +1.0
comp=Z,103nm,1.6s,mb5.6
MOA Moln 58.60 311 iP P 02 07 43.6 -0.2
comp=Z,17nm,1.3s,mb4.9,SNR=11
MOA Moln 58.60 311 iP P 02 07 43.6 -0.2
comp=Z,17nm,1.3s,mb4.9
LJU Ljubljana 58.66 309 iP P 02 07 44.9 +0.7
STOK Stokkvaagen 58.67 333 eP P 02 07 43.8 -0.5
STOK AMb AMB 02 07 47.8
comp=Z,116nm,1.4s,mb5.7
STOK epP pP 02 07 48.1 -2.2
STOK Stokkvaagen 58.67 333 eP P 02 07 43.8 -0.5
comp=Z,116nm,1.4s,mb5.7
CEY Cerknica 58.77 309 eP P 02 07 45.4 +0.4
GEC2 GERESS Array S 58.85 313 eP P 02 07 45.7 +0.2
comp=Z,8.0nm,1.0s,mb4.7
GEC2 GERESS Array S 58.85 313 eP P 02 07 45.7 +0.2
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GERES GERESS Array B 58.85 313 P P 02 07 45.8 +0.2
comp=Z,4.0nm,0.7s,mb4.6,baz=82,slow=6.2,SNR=39
GERES PP PP 02 09 56.5 +0.9
comp=Z,0.8nm,0.9s,baz=76,slow=5.5,SNR=4.0
KHC Kasperske Hory 58.90 313 iP P 02 07 46.0 +0.1
KHC Kasperske Hory 58.90 313 eP P 02 07 46.1 +0.2
JAVS Javornik 59.00 309 iP P 02 07 46.7 +0.1
CLL Collm 59.03 315 eP P 02 07 46.3 -0.4
comp=Z,4.0nm,0.9s,mb4.5
CLL Collm 59.03 315 eP P 02 07 47.0 +0.3
comp=Z,7.0nm,0.9s,mb4.7
CLL Collm 59.03 315 eP P 02 07 47.0 +0.3
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
NSS Namsos 59.04 331 eP P 02 07 45.0 -1.8
NSS AMb AMB 02 07 45.7
comp=Z,42nm,1.1s,mb5.4
NSS Namsos 59.04 331 eP P 02 07 45.0 -1.8
comp=Z,42nm,1.1s,mb5.4

CADS **Cadrg** 59.18 309 *eP* P 02 07 47.6 -0.1
KBA **Koelnbreinsper** 59.32 311⇑*iP* P 02 07 48.5 -0.3
comp=Z,8.9nm,1.2s,mb4.7,SNR=5,1
KBA **Koelnbreinsper** 59.32 311⇑*iP* P 02 07 48.5 -0.3
KBA pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
KBA **Koelnbreinsper** 59.32 311⇑*iP* P 02 07 48.5 -0.3
comp=Z,8.9nm,1.2s,mb4.7
WET **Wettzell** 59.35 313 *eP* P 02 07 49.3 +0.3
comp=Z,6.0nm,0.8s,mb4.7
WET **Wettzell** 59.35 313 *eP* P 02 07 49.3 +0.3
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NB2 **NORSAR Subarra** 59.39 327 P P 02 07 48.2 -1.1
comp=Z,7.4nm,0.6s,mb4.9,baz=88,slow=6.9
NOA **NORSAR Array B** 59.39 327 P P 02 07 48.4 -0.9
comp=Z,8.7nm,0.7s,mb4.9,baz=88,slow=6.9,SNR=43
NOA PP PP 02 10 00.5 0.0
comp=Z,1.3nm,0.9s,baz=92,slow=8.9,SNR=3.5
NOA LR LR 02 34 57.0
comp=Z,98nm,18.3s,MS4.0,baz=100,slow=38
NOA **NORSAR Array B** 59.39 327 P P 02 07 48.4 -0.9
NOA 02 10 00.5
NOA **NORSAR Array B** 59.39 327 P P 02 07 48.4 -0.9
NOA PP PP 02 10 00.5 0.0
NOA LR LR 02 34 57.0
NKC **Novy Kostel** 59.50 314 *eP* P 02 07 49.3 -0.7
NAO01 **NORSAR Array S** 59.56 327 P P 02 07 49.7 -0.8
comp=Z,5.4nm,0.6s,mb4.8
WERD **Werda** 59.56 315 *eP* P 02 07 50.5 +0.1
comp=Z,4.0nm,0.6s,mb4.6
ROTZ **Rotzenmuhle** 59.71 314 *eP* P 02 07 52.3 +0.9
comp=Z,14nm,0.8s,mb5.0
MOX **Moxa** 59.97 315 *eP* P 02 07 53.4 +0.1
comp=Z,4.0nm,0.8s,mb4.5
MOX **Moxa** 59.97 315 *eP* P 02 07 53.5 +0.2
comp=Z,14nm,1.0s,mb5.0
MOX **Moxa** 59.97 315 *eP* P 02 07 53.5 +0.2
MOX pmax pmax
comp=Z,14nm,1.0s,mb5.0
KONO **Kongsberg** 60.26 325 *iP* P 02 07 54.8 -0.4
GRA1 **Grafenberg Arr** 60.35 314 *eP* P 02 07 56.6 +0.7
comp=Z,8.0nm,0.8s,mb4.8
GRF **Grafenberg Arr** 60.35 314 *eP* P 02 07 56.5 +0.6
comp=Z,8.0nm,0.8s,mb4.8
GRF **Grafenberg Arr** 60.35 314 *eP* P 02 07 56.6 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GRF **Grafenberg Arr** 60.35 314 *eP* P 02 07 56.6 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GRF **Grafenberg Arr** 60.35 314 *eP* P 02 07 56.6 +0.7
comp=Z,8.0nm,0.8s,mb4.8
BSEG **Bad Segeberg** 60.37 319 *eP* P 02 07 56.4 +0.4
comp=Z,11nm,0.8s,mb4.9
WTTA **Wattenberg** 60.45 311⇑*iP* P 02 07 55.9 -0.6
comp=Z,10nm,0.8s,mb4.9
WTTA **Wattenberg** 60.45 311 ⇑P P 02 07 55.9 -0.6
WTTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
WATA **Walderalm** 60.48 311⇑*iP* P 02 07 55.9 -0.8
comp=Z,4.5nm,0.9s,mb4.5
WATA **Walderalm** 60.48 311 ⇑P P 02 07 55.9 -0.8
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WATA **Walderalm** 60.48 311 ⇑P P 02 07 55.9 -0.8
comp=Z,4.5nm,0.9s,mb4.5
CLZ **Clausthal** 60.59 316 *eP* P 02 07 57.8 +0.3
comp=Z,13nm,0.8s,mb5.1
CLZ **Clausthal** 60.59 316 *eP* P 02 07 57.8 +0.3
CLZ pmax pmax
comp=Z,13nm,0.8s,mb5.1
SQTA **Sankt Quirin** 60.74 311⇑*iP* P 02 07 57.7 -0.8
comp=Z,5.2nm,0.9s,mb4.6,SNR=9,9
SQTA **Sankt Quirin** 60.74 311⇑*iP* P 02 07 57.7 -0.8
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
SQTA **Sankt Quirin** 60.74 311⇑*iP* P 02 07 57.7 -0.8
comp=Z,5.2nm,0.9s,mb4.7
MOTA **Moosalm** 60.79 311 *iP* P 02 07 58.3 -0.5
comp=Z,7.2nm,0.9s,mb4.8,SNR=10
MOTA **Moosalm** 60.79 311 *iP* P 02 07 58.3 -0.6
MOTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
MOTA **Moosalm** 60.79 311 *iP* P 02 07 58.3 -0.5
comp=Z,7.2nm,0.9s,mb4.8
MOL **Molde** 61.06 329 *eP* P 02 08 00.2 -0.5
MOL AMb AMB 02 08 01.1
comp=Z,31nm,1.3s,mb5.3
MOL *e*pP pP 02 08 05.2 -1.6
MOL **Molde** 61.06 329 *eP* P 02 08 00.2 -0.5
comp=Z,31nm,1.3s,mb5.3
BILL **Bilibino** 61.22 25⇑*iP* P 02 08 02.4 +0.6
BILL pmax pmax
comp=Z,30nm,1.2s,mb5.3
BILL **Bilibino** 61.22 25 *eP* P 02 08 02.0 +0.2
comp=Z,26nm,1.1s,mb5.3
DAVA **Damuels** 61.62 311⇑*iP* P 02 08 04.1 -0.4
comp=Z,12nm,0.9s,mb5.0
DAVA **Damuels** 61.62 311 ⇑P P 02 08 04.1 -0.4
comp=Z,12nm,0.9s,mb5.0
ODD1 **Odda** 61.73 326 *eP* P 02 08 04.2 -1.1
STU **Stuttgart** 61.81 313 *eP* P 02 08 05.8 0.0
comp=Z,7.0nm,0.9s,mb4.8
HYA **Hoyanger** 61.82 327 *eP* P 02 08 05.7 -0.1
TNS **Taunus Mts** 62.04 315 *eP* P 02 08 07.3 0.0
comp=Z,7.0nm,0.8s,mb4.8
TNS **Taunus Mts** 62.04 315 *eP* P 02 08 07.3 0.0
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
FOO **Floro** 62.32 328 *eP* P 02 08 08.8 -0.3
BUG **Bochum--Univer** 62.56 316 *eP* P 02 08 11.2 +0.4
comp=Z,5.0nm,0.7s,mb4.8
CDF **Champ du Feu** 63.13 313⇑*iP* P 02 08 14.2 -0.4
comp=Z,16nm,1.0s,mb4.8
CDF **Champ du Feu** 63.13 313⇑*iP* P 02 08 14.2 -0.4
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CDF **Champ du Feu** 63.13 313⇑*iP* P 02 08 14.2 -0.4
comp=Z,8.2nm,1.0s,mb4.8
PGF **Pioggiola** 63.21 306 *eP* P 02 08 15.6 +0.5
comp=Z,23nm,0.9s,mb5.0
PGF **Pioggiola** 63.21 306 *eP* P 02 08 15.6 +0.5
PGF pmax pmax
comp=Z,11nm,0.9s,mb5.0
PGF **Pioggiola** 63.21 306 *eP* P 02 08 15.6 +0.5
comp=Z,11nm,0.9s,mb5.0
MEM **Membach** 63.50 315 P P 02 08 17.2 +0.2
HINF **Hinteralfeld** 63.53 312⇑*iP* P 02 08 16.8 -0.4
comp=Z,22nm,1.0s,mb4.8
HINF **Hinteralfeld** 63.53 312⇑*iP* P 02 08 16.8 -0.4
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.8
HINF **Hinteralfeld** 63.53 312⇑*iP* P 02 08 16.8 -0.4
comp=Z,11nm,1.0s,mb4.8
WLF **Walferdange** 63.60 314 *eP* P 02 08 18.2 +0.5
comp=Z,9.0nm,0.9s,mb4.8
WLF **Walferdange** 63.60 314 P P 02 08 18.1 +0.5
comp=Z,9.2nm,0.9s,mb4.8
WLF **Walferdange** 63.60 314 P P 02 08 18.0 +0.3
HAU **Haudompre** 63.82 313 *eP* P 02 08 19.7 +0.6
comp=Z,17nm,0.7s,mb4.9
HAU **Haudompre** 63.82 313 *eP* P 02 08 19.7 +0.6
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
HAU **Haudompre** 63.82 313 *eP* P 02 08 19.7 +0.6
comp=Z,8.3nm,0.7s,mb4.9
SBF **Sospel** 64.01 308⇑*iP* P 02 08 20.3 -0.1
comp=Z,45nm,0.8s,mb5.2
SBF **Sospel** 64.01 308⇑*iP* P 02 08 20.3 -0.1
SBF pmax pmax
comp=Z,22nm,0.8s,mb5.2
SBF **Sospel** 64.01 308⇑*iP* P 02 08 20.3 -0.1
comp=Z,22nm,0.8s,mb5.2
LPG **La Plagne** 64.11 310⇑*iP* P 02 08 21.4 +0.4
comp=Z,24nm,0.8s,mb5.0
LPG **La Plagne** 64.11 310⇑*iP* P 02 08 21.4 +0.4
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.0
LPG **La Plagne** 64.11 310⇑*iP* P 02 08 21.4 +0.4
comp=Z,12nm,0.8s,mb5.0
LPL **La Plagne** 64.12 310⇑*iP* P 02 08 21.5 +0.4
comp=Z,22nm,0.7s,mb5.0
LPL **La Plagne** 64.12 310⇑*iP* P 02 08 21.5 +0.4
LPL pmax pmax
comp=Z,11nm,0.7s,mb5.0
LPL **La Plagne** 64.12 310⇑*iP* P 02 08 21.5 +0.4
comp=Z,11nm,0.7s,mb5.0
BNI **Bardonecchia** 64.26 309 P P 02 08 21.5 -0.5
BNI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BNI **Bardonecchia** 64.26 309 P P 02 08 21.5 -0.5
comp=Z,7.2nm,0.9s,mb4.7
MBDF **Montbardon** 64.27 309 *eP* P 02 08 21.4 -0.7
comp=Z,10nm,0.6s,mb4.8
MBDF **Montbardon** 64.27 309 *eP* P 02 08 21.4 -0.7
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MBDF **Montbardon** 64.27 309 *eP* P 02 08 21.4 -0.7
comp=Z,5.3nm,0.6s,mb4.8
CABF **La Chapelle** 64.30 311 *eP* P 02 08 22.2 -0.1
comp=Z,6.8nm,0.7s,mb4.5
CABF **La Chapelle** 64.30 311 *eP* P 02 08 22.2 -0.1
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CABF **La Chapelle** 64.30 311 *eP* P 02 08 22.2 -0.1
comp=Z,3.4nm,0.7s,mb4.5
GIVF **Givet** 64.35 315 *eP* P 02 08 22.7 +0.1
comp=Z,10.0nm,0.6s,mb4.8
GIVF **Givet** 64.35 315 *eP* P 02 08 22.7 +0.1
GIVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
GIVF **Givet** 64.35 315 *eP* P 02 08 22.7 +0.1
comp=Z,5.0nm,0.6s,mb4.7
MEZF **Maizieres J'vi** 64.56 313⇑*iP* P 02 08 23.9 -0.1
comp=Z,24nm,0.7s,mb5.0
MEZF **Maizieres J'vi** 64.56 313⇑*iP* P 02 08 23.9 -0.1
comp=Z,24nm,0.7s,mb5.3
FRF **La Foret Royal** 64.64 308⇑*iP* P 02 08 24.2 -0.3
comp=Z,25nm,0.7s,mb5.1
FRF **La Foret Royal** 64.64 308⇑*iP* P 02 08 24.2 -0.3
FRF pmax pmax
comp=Z,13nm,0.7s,mb5.1
FRF **La Foret Royal** 64.64 308⇑*iP* P 02 08 24.2 -0.3
comp=Z,13nm,0.7s,mb5.1
LMR **La Mourre** 64.80 307 *eP* P 02 08 25.3 -0.2
comp=Z,12nm,0.8s,mb4.7
LMR **La Mourre** 64.80 307 *eP* P 02 08 25.3 -0.2
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LMR **La Mourre** 64.80 307 *eP* P 02 08 25.3 -0.2
comp=Z,6.1nm,0.8s,mb4.7
ORIF **Oris-en-Rattie** 64.84 309 *eP* P 02 08 25.6 -0.2
comp=Z,7.9nm,0.7s,mb4.5
ORIF **Oris-en-Rattie** 64.84 309 *eP* P 02 08 25.6 -0.2
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ORIF **Oris-en-Rattie** 64.84 309 *eP* P 02 08 25.6 -0.2
comp=Z,4.0nm,0.7s,mb4.6
SMRF **Simiane la Rot** 65.29 308⇑*iP* P 02 08 29.0 +0.3
comp=Z,9.8nm,0.6s,mb4.7
SMRF **Simiane la Rot** 65.29 308⇑*iP* P 02 08 29.0 +0.3
comp=Z,9.8nm,0.6s,mb5.0
LOR **Lormes** 65.63 312⇑*iP* P 02 08 30.1 -0.8
comp=Z,14nm,1.0s,mb4.6
LOR **Lormes** 65.63 312⇑*iP* P 02 08 30.1 -0.8
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
LOR **Lormes** 65.63 312⇑*iP* P 02 08 30.1 -0.8
comp=Z,6.9nm,1.0s,mb4.6
VIVF **Saint-Julien-l** 65.69 309⇑*iP* P 02 08 31.2 -0.1
comp=Z,11nm,0.9s,mb4.6
VIVF **Saint-Julien-l** 65.69 309⇑*iP* P 02 08 31.2 -0.1
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
VIVF **Saint-Julien-l** 65.69 309⇑*iP* P 02 08 31.2 -0.1
comp=Z,5.4nm,0.9s,mb4.6
SMF **Signal de Mont** 65.80 311⇑*iP* P 02 08 31.4 -0.6
comp=Z,24nm,0.9s,mb4.9
SMF **Signal de Mont** 65.80 311⇑*iP* P 02 08 31.4 -0.6
SMF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SMF **Signal de Mont** 65.80 311⇑*iP* P 02 08 31.4 -0.6
comp=Z,12nm,0.9s,mb4.9
SSF **Saint Saulge** 65.91 312⇑*iP* P 02 08 32.3 -0.5
comp=Z,25nm,0.8s,mb5.0
SSF **Saint Saulge** 65.91 312⇑*iP* P 02 08 32.3 -0.5
SSF pmax pmax
comp=Z,13nm,0.8s,mb5.0
SSF **Saint Saulge** 65.91 312⇑*iP* P 02 08 32.3 -0.5
comp=Z,13nm,0.8s,mb5.0
WRA **Warramunga Arr** 66.03 130 P P 02 08 34.0 +0.5
comp=Z,10nm,0.5s,mb5.1,baz=322,slow=6.4,SNR=377
WRA **Warramunga Arr** 66.03 130 *iP* P 02 08 34.0 +0.5
WRA pmax pmax
comp=Z,10.0nm,0.5s
WRAB **Tennant Creek** 66.03 130 P P 02 08 33.9 +0.4
comp=Z,128nm,0.4s,SNR=14
WRAB **Tennant Creek** 66.03 130*c iP* P 02 08 33.7 +0.2
WRAB **Tennant Creek** 66.03 130 P P 02 08 33.6 0.0
WB2 **Warramunga Arr** 66.04 130⇑*iP* P 02 08 34.0 +0.4
AVF **Avril sur Loir** 66.08 312⇑*iP* P 02 08 33.3 -0.6
comp=Z,16nm,0.8s,mb4.8
AVF **Avril sur Loir** 66.08 312⇑*iP* P 02 08 33.3 -0.6
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
AVF **Avril sur Loir** 66.08 312⇑*iP* P 02 08 33.3 -0.6
comp=Z,7.8nm,0.8s,mb4.8
HYF **Humbligny** 66.43 312⇑*iP* P 02 08 36.2 +0.1
LASF **Ste Croix** 66.46 309⇑*iP* P 02 08 36.4 +0.1
comp=Z,20nm,0.9s,mb4.8
BGF **Bois d'Agland** 66.48 312 *eP* P 02 08 35.9 -0.5
comp=Z,6.2nm,0.6s,mb4.5
BGF **Bois d'Agland** 66.48 312 *eP* P 02 08 35.9 -0.5
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BGF **Bois d'Agland** 66.48 312 *eP* P 02 08 35.9 -0.5
comp=Z,3.1nm,0.6s,mb4.5
FX1 **Attu Island--F** 66.85 41 P P 02 08 38.4 -0.4
TCF **Toulx Ste Croi** 66.98 311⇑*iP* P 02 08 39.6 0.0
comp=Z,24nm,0.8s,mb5.0
TCF **Toulx Ste Croi** 66.98 311⇑*iP* P 02 08 39.6 0.0
TCF pmax pmax
comp=Z,12nm,0.8s,mb5.0
TCF **Toulx Ste Croi** 66.98 311⇑*iP* P 02 08 39.6 0.0
comp=Z,12nm,0.8s,mb5.0
CAF **Calviac** 67.46 310⇑*iP* P 02 08 42.7 +0.1
comp=Z,14nm,0.7s,mb4.8
CAF **Calviac** 67.46 310⇑*iP* P 02 08 42.7 +0.1
CAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
CAF **Calviac** 67.46 310⇑*iP* P 02 08 42.7 +0.1
comp=Z,6.8nm,0.7s,mb4.8
RJF **Les Rejaudoux** 67.72 311⇑*iP* P 02 08 44.5 +0.2
comp=Z,23nm,0.8s,mb5.0
RJF **Les Rejaudoux** 67.72 311⇑*iP* P 02 08 44.5 +0.2
RJF pmax pmax
comp=Z,12nm,0.8s,mb5.0
RJF **Les Rejaudoux** 67.72 311⇑*iP* P 02 08 44.5 +0.2
comp=Z,12nm,0.8s,mb5.0
MTLF **Montolieu** 67.81 308⇑*iP* P 02 08 44.8 0.0
comp=Z,7.7nm,0.9s,mb4.5
MTLF **Montolieu** 67.81 308⇑*iP* P 02 08 44.8 0.0
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MTLF **Montolieu** 67.81 308⇑*iP* P 02 08 44.8 0.0
comp=Z,3.8nm,0.9s,mb4.4
LDF **La Druitiere** 67.86 314⇑*iP* P 02 08 44.6 -0.5
comp=Z,24nm,0.7s,mb5.0
LDF **La Druitiere** 67.86 314⇑*iP* P 02 08 44.6 -0.5
LDF pmax pmax
comp=Z,12nm,0.7s,mb5.0
LDF **La Druitiere** 67.86 314⇑*iP* P 02 08 44.6 -0.5
comp=Z,12nm,0.7s,mb5.0
FLN **La Foliniere** 68.04 315 *eP* P 02 08 45.5 -0.8
ASPA **Alice Springs** 68.33 133 *eP* P 02 08 48.6 +0.5
ASAR **Alice Springs** 68.33 133 P P 02 08 48.5 +0.4
comp=Z,4.9nm,0.6s,mb4.7,baz=311,slow=6.3,SNR=66
LFF **La Frestale** 68.35 310 *eP* P 02 08 48.3 0.0
comp=Z,24nm,0.8s,mb5.0
LFF **La Frestale** 68.35 310 *eP* P 02 08 48.3 0.0
LFF pmax pmax
comp=Z,12nm,0.8s,mb5.0
LFF **La Frestale** 68.35 310 *eP* P 02 08 48.3 0.0
comp=Z,12nm,0.8s,mb5.0
GRR **Gorron** 68.39 314⇑*iP* P 02 08 47.9 -0.6
comp=Z,14nm,0.7s,mb4.8
GRR **Gorron** 68.39 314⇑*iP* P 02 08 47.9 -0.6
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
GRR **Gorron** 68.39 314⇑*iP* P 02 08 47.9 -0.6
comp=Z,7.2nm,0.7s,mb4.8
MFF **Saint Martin d** 68.45 312⇑*iP* P 02 08 48.3 -0.6
comp=Z,18nm,0.8s,mb4.9
MFF **Saint Martin d** 68.45 312⇑*iP* P 02 08 48.3 -0.6
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF **Saint Martin d** 68.45 312⇑*iP* P 02 08 48.3 -0.6
comp=Z,9.3nm,0.8s,mb4.9
ETOS **Mallorca** 68.45 305 P P 02 08 49.9 +1.0
comp=Z,16nm,0.8s,mb5.1
EMIR **Miracle** 68.72 307 P P 02 08 51.6 +1.0
comp=Z,8.6nm,0.6s,mb4.9
EPOB **Poblet** 69.22 307 P P 02 08 52.9 -0.7
comp=Z,17nm,1.1s,mb4.9
EBIE **Bielsa** 69.46 308 P P 02 08 55.3 +0.2
comp=Z,46nm,1.8s,mb5.1
EGRA **Graus** 69.49 308 P P 02 08 55.8 +0.5
comp=Z,5.3nm,0.7s,mb4.6
EMHD **Djebel Mahouad** 69.49 301 P P 02 08 56.0 +0.7
SGMF **Saint Gilles** 69.51 314 *eP* P 02 08 55.2 -0.2
comp=Z,27nm,0.7s,mb5.0
SGMF **Saint Gilles** 69.51 314 *eP* P 02 08 55.2 -0.2
SGMF pmax pmax
comp=Z,14nm,0.7s,mb5.0
SGMF **Saint Gilles** 69.51 314 *eP* P 02 08 55.2 -0.2
comp=Z,14nm,0.7s,mb5.0
EIBI **Ibiza** 69.77 304 P P 02 08 58.4 +1.3
comp=Z,20nm,0.6s,mb5.2
ERTA **Horta de San J** 69.88 306 P P 02 08 57.0 -0.7
comp=Z,9.3nm,0.8s,mb4.8
ETSF **Etsaut** 69.88 309⇑*iP* P 02 08 58.0 +0.3
comp=Z,8.9nm,0.6s,mb4.6
ETSF **Etsaut** 69.88 309⇑*iP* P 02 08 58.0 +0.3
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ETSF **Etsaut** 69.88 309⇑*iP* P 02 08 58.0 +0.3
comp=Z,4.4nm,0.6s,mb4.6
ROSF **Rostrenen** 69.94 315 *eP* P 02 08 57.7 -0.4
comp=Z,28nm,0.8s,mb4.9
ROSF **Rostrenen** 69.94 315 *eP* P 02 08 57.7 -0.4
ROSF pmax pmax
comp=Z,14nm,0.8s,mb4.9
ROSF **Rostrenen** 69.94 315 *eP* P 02 08 57.7 -0.4
comp=Z,14nm,0.8s,mb4.9
ESAC **San Caprasio** 70.20 307 P P 02 08 59.1 -0.5
comp=Z,6.0nm,0.7s,mb4.6
EALK **Alkurruntz** 70.43 309 P P 02 09 01.2 +0.1
comp=Z,16nm,0.9s,mb4.9
LSZ **Lusaka** 70.54 240 *eP* P 02 09 02.2 +0.4
comp=Z,8.1nm,0.4s,mb5.0
EBNR **Beni Rached** 70.55 301 P P 02 09 03.0 +1.2
EMOS **Mosqueruela** 70.65 306 P P 02 09 02.3 -0.1
comp=Z,26nm,0.9s,mb5.2
GAMB **Gambell** 70.91 27 P P 02 09 04.5 +0.5
EANR **'Ain N'Sour** 70.99 301 P P 02 09 05.7 +1.2
ETRT **Tiaret** 71.03 301 P P 02 09 06.0 +1.2
TNA **Tin City** 71.66 25 P P 02 09 08.9 +0.3
ELAN **Lanestosa** 71.75 310 P P 02 09 08.9 -0.2
comp=Z,37nm,1.4s,mb5.1
ETOB **Tobarra** 72.02 305 P P 02 09 11.2 +0.4
comp=Z,11nm,0.7s,mb4.9
EARI **Arriondas** 72.94 310 P P 02 09 16.4 +0.2
comp=Z,56nm,1.6s,mb5.2
ENIJ **Nijar** 73.11 303 P P 02 09 17.5 +0.3
comp=Z,6.8nm,0.6s,mb4.8
GUD **Guadarrama** 73.18 307 P P 02 09 18.4 +0.7
comp=Z,7.0nm,0.7s,mb4.7
ESDC **Sonseca Array** 73.40 306 P P 02 09 19.1 +0.2
comp=Z,4.6nm,0.7s,mb4.5,baz=58,slow=5.4,SNR=15
ESDC **Sonseca Array** 73.40 306 P P 02 09 19.2 +0.2
comp=Z,4.3nm,0.7s,mb4.5
ESLA **Sonseca Array** 73.40 306 P P 02 09 20.0 +1.1
comp=Z,18nm,1.6s,mb4.7
EQES **Quesada** 73.45 304 P P 02 09 19.4 +0.2
comp=Z,15nm,0.8s,mb5.0
SUMG **Summit** 73.64 345 P P 02 09 21.0 +0.6
comp=Z,14nm,0.9s,mb4.9
EBER **Berja** 73.65 303 P P 02 09 21.4 +1.0
comp=Z,16nm,0.8s,mb5.0
EBAN **Banos Encina** 73.84 305 P P 02 09 22.5 +1.0
comp=Z,13nm,1.1s,mb4.8
ECOG **Cogollos-Vega** 74.01 304 P P 02 09 23.3 +0.8
comp=Z,5.7nm,1.0s,mb4.5
EPON **Pontenova** 74.24 311 P P 02 09 24.8 +0.9
comp=Z,42nm,1.5s,mb5.2
ERON **Agron** 74.28 304 P P 02 09 23.7 -0.4
comp=Z,11nm,0.9s,mb4.8
EADA **Adamuz** 74.41 305 P P 02 09 25.6 +0.7
comp=Z,6.9nm,0.8s,mb4.6
ELUQ **Luque** 74.42 304 P P 02 09 24.7 -0.2
comp=Z,6.4nm,0.8s,mb4.6
ELOJ **Sierra Loja** 74.49 304 P P 02 09 25.4 +0.1
comp=Z,2.6nm,0.8s,mb4.2
EMIJ **Mijas** 75.17 304 P P 02 09 28.6 -0.7
comp=Z,4.6nm,0.6s,mb4.6
ELOB **Lobios** 75.43 310 P P 02 09 31.2 +0.5
comp=Z,3.2nm,0.5s,mb4.5
EMAZ **Mazaricos** 75.62 311 P P 02 09 32.4 +0.5
comp=Z,9.3nm,0.8s,mb4.8
EJIF **Jimena Fronter** 75.73 304 P P 02 09 32.1 -0.4
comp=Z,13nm,1.1s,mb4.8
ESPR **Espera** 75.86 304 P P 02 09 33.0 -0.2
comp=Z,15nm,1.2s,mb4.8
EBAD **Badajoz** 75.94 306 P P 02 09 33.9 +0.3
comp=Z,7.6nm,0.7s,mb4.7
EMIN **Mina Concepcio** 76.09 305 P P 02 09 34.5 0.0
comp=Z,37nm,1.4s,mb5.1
IMA2 **Indian Mountai** 76.39 21 *eP* P 02 09 36.3 +0.1
TTA **Tatalina** 77.47 25 P P 02 09 43.4 +1.1
RES **Resolute Bay** 78.28 0 P P 02 09 46.8 0.0
comp=Z,30nm,2.0s,mb4.9
LBTB **Lobatse** 78.34 234 P P 02 09 48.1 +1.0
comp=Z,5.2nm,0.7s,mb4.6
STKA **Stephens Creek** 78.90 135 *eP* P 02 09 47.7 -2.5
comp=Z,2.1nm,0.4s,mb4.4
STKA **Stephens Creek** 78.90 135 P P 02 09 48.2 -2.1
comp=Z,2.3nm,0.4s,mb4.4,baz=314,slow=5.1,SNR=13
STKA **Stephens Creek** 78.90 135 P P 02 09 48.2 -2.1
COLA **College** 79.03 21 *iP* P 02 09 50.9 0.0
COLA **College** 79.03 21 *eP* P 02 09 51.3 +0.4
comp=Z,15nm,1.1s,mb4.8
ILAR **Eielson Array** 79.40 20 P P 02 09 52.0 -0.9
comp=Z,5.9nm,0.7s,mb4.6,baz=305,slow=4.8,SNR=70
ILAR PP PP 02 12 50.9 -2.1
comp=Z,0.9nm,0.7s,baz=305,slow=7.1,SNR=7.8
ILAR PKKPbc PKKPbc 02 28 40.2 -1.9
comp=Z,0.2nm,0.7s,baz=180,slow=3.6,SNR=4.2
ILAR **Eielson Array** 79.40 20 P P 02 09 52.1 -0.8
ILAR 02 12 50.9
TORD **Torodi Ar. Bea** 79.45 279 P P 02 09 53.2 0.0
comp=Z,3.6nm,0.6s,mb4.5,baz=61,slow=4.5,SNR=61
INK **Inuvik** 80.24 14 P P 02 09 57.6 +0.1
comp=Z,13nm,0.9s,mb4.9,baz=354,slow=6.0,SNR=47
INK **Inuvik** 80.24 14 P P 02 09 57.6 +0.1
INK pmax pmax
comp=Z,17nm,0.9s
INK **Inuvik** 80.24 14 P P 02 09 57.6 +0.1
comp=Z,17nm,0.9s,mb5.0
BOSA **Boshof** 80.77 231 P P 02 10 00.1 -0.2
comp=Z,2.8nm,0.8s,mb4.2,baz=49,slow=10,SNR=3.8
KDAK **Kodiak Island** 81.99 28 P P 02 10 07.3 +0.5
comp=Z,13nm,0.5s,mb5.1,baz=282,slow=5.7,SNR=28
DAWY **Dawson** 82.14 19 P P 02 10 07.7 +0.1
LIC **Lamto** 88.45 276 *eP* P 02 10 38.9 -0.2
comp=Z,11nm,0.8s,mb4.8
LIC **Lamto** 88.45 276 *eP* P 02 10 38.9 -0.2
comp=Z,5.4nm,0.8s,mb4.8
YKW3 **Yellowknife Ar** 88.89 10 P P 02 10 40.6 -0.6
YKA **Yellowknife Ar** 88.96 10 P P 02 10 40.8 -0.7
comp=Z,2.6nm,0.6s,mb4.7,baz=333,slow=4.8,SNR=74
YKA PKKPbc PKKPbc 02 28 18.2 -1.6
comp=Z,0.3nm,0.5s,baz=161,slow=2.3,SNR=15
YKA **Yellowknife Ar** 88.96 10 P P 02 10 40.8 -0.7
YKA PKKPbc PKKPbc 02 28 18.2 -1.6
TXAR **Lajitas Array** 122.88 10 PKP PKPdf 02 16 42.9 0.0
comp=Z,0.3nm,0.5s,baz=194,slow=0.7,SNR=8.2
TXAR **Lajitas Array** 122.88 10 PKP PKPdf 02 16 42.9 0.0
USHA **Ushuaia** 146.93 207 PKPbc PKPbc 02 17 28.6 -0.7
comp=Z,12nm,1.0s,baz=90,slow=3.0,SNR=4.3
CPUP **Villa Florida** 147.68 263 PKPbc PKPbc 02 17 31.2 -0.2
comp=Z,31nm,0.6s,baz=59,slow=3.1,SNR=25
CPUP **Villa Florida** 147.68 263 *e*PKPdf PKPdf 02 17 29.1 +0.4
TRQA **Tornquist** 151.42 240 *e*PKPbc PKPbc 02 17 41.1 +0.4
LPAZ **La Paz** 153.99 290 PKPbc PKPbc 02 17 47.4 +1.0
comp=Z,0.8nm,0.7s,baz=342,slow=8.5,SNR=4.0
LPAZ PKPab PKPab 02 17 60.0 +0.2
comp=Z,1.4nm,0.8s,baz=72,slow=1.7,SNR=5.0

GUC 03 02:15:57.1±0.9,3133S×7177W,h32km±5km,MD4.0, ML3.6,6C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.60**	**121**	⇑*iP*	Pb	02 16 09.0	-0.2
ILCH				*i* S	Sb	02 16 17.7	+0.3
CMCH	**Combarbala**	**0.68**	**77**	⇑*iP*	Pn	02 16 10.3	-0.1
CMCH				*i* S	Sb	02 16 20.0	+0.4
JACH	**Jahuel**	**1.68**	**144**	⇓*iP*	Pn	02 16 26.5	+2.2
JACH				*i* S	Sn	02 16 47.9	+3.2
ROCH	**El Roble**	**1.76**	**159**	⇑*iP*	Pn	02 16 26.9	+1.5
PEL	**Peldehue**	**2.03**	**153**	⇑*iP*	Pn	02 16 30.5	+1.4
PEL				*i* S	Sn	02 16 56.5	+3.1
PEL				AMP		02 17 03.0	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**2.30**	**160**	*eP*	Pn	02 16 33.8	+1.0
RCDM				*i* S	Sn	02 17 02.9	+2.7
RCDM				AMP		02 17 15.1	
	comp=E,495nm,0.2s						
FCH	**Farellones**	**2.35**	**148**	⇑*iP*	Pn	02 16 35.8	+2.2
FCH				*i* S	Sn	02 17 05.3	+4.0
FCH				AMP		02 17 15.1	
	comp=E,310nm,0.4s						
TACH	**Talagante**	**2.42**	**163**	⇑*iP*	Pn	02 16 36.1	+1.6
ANTU	**Antumapu**	**2.43**	**157**	*i* S	Sn	02 17 05.7	+2.4
ANTU				AMP		02 17 15.3	
	comp=E,370nm,0.3s						
PCH	**Pirque**	**2.52**	**155**	*i* P	Pn	02 16 37.9	+2.0
CHCH	**Chadas Angostu**	**2.76**	**160**	*i* P	Pn	02 16 41.1	+1.9
CHCH				*i* S	Sn	02 17 13.3	+1.8
CICH	**Cipreses**	**3.19**	**159**	*i* P	Pn	02 16 47.0	+2.0

*ISCJB **03** 02:25:44.9±0.6,00S±01×1232E±03,h200km,mb3.7/11, Error ellipse: s-maj=43.9km s-min=9.5km az=138.1*
*IDC **03** 02:25:44.4±6.8,008N×12349E,h176km±65km,mb3.4/6, mb1 3.5/6,mb1mx3.3/16,mbtmp3.8/6,Error ellipse: s-maj=55.3km s-min=14.5km az=73.0*
*NEIC **03** 02:25:55.9±0.5,004N×12369E,h300km,mb3.9/5,Error ellipse: s-maj=43.3km s-min=9.7km az=68.0*

ISC 03 02:25:46.8±0.6,00S±01×1234E±03,h200km,n14, σ1°11/13,mb3.7/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.11**	**173**	*eP*	**P**	**02 29 42.8**	**-0.9**
	5.8nm,0.4s						
WRAB	**Tennant Creek**	**22.52**	**152**	*eP*	**P**	**02 30 30.2**	**+0.5**
	2.4nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**22.52**	**152**	P	**P**	**02 30 29.7**	**0.0**
	1.6nm,0.5s,mb3.8,baz=330,slow=11,SNR=42						
WB2	**Warramunga Arr**	**22.53**	**152**	*eP*	**P**	**02 30 29.9**	**+0.2**
ASAR	**Alice Springs**	**25.63**	**157**	P	**P**	**02 30 59.4**	**+1.6**
	0.6nm,0.7s,mb3.4,baz=343,slow=14,SNR=5.9						
ASAR				PcP	PcP	02 34 25.1	+2.2
	0.5nm,0.5s,baz=346,slow=2.3,SNR=6.9						
ENH	**Enshi**	**32.90**	**337**	*eP*	**P**	**02 32 04.1**	**+2.2**
	3.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**36.07**	**153**	P	**P**	**02 32 28.3**	**-0.9**
	0.7nm,0.5s,mb3.5,baz=354,slow=10,SNR=3.6						
MJAR	**Matsushiro Arr**	**38.88**	**19**	P	**P**	**02 32 51.4**	**-1.3**
	2.7nm,0.6s,mb4.0,baz=194,slow=9.5,SNR=5.0						
ULN	**Ulaanbaatar**	**49.76**	**346**	*eP*	**P**	**02 34 20.2**	**+1.4**
	1.4nm,0.4s,mb3.6						
SONM	**Songino Array**	**49.90**	**345**	P	**P**	**02 34 20.1**	**+0.2**
	1.4nm,0.6s,mb3.4,baz=158,slow=9.3,SNR=15						
SONM				PcP	PcP	02 35 37.2	+0.1
	0.2nm,0.4s,baz=161,slow=4.8,SNR=5.0						
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**02 35 24.1**	**-0.1**
	0.7nm,0.5s,mb3.6,baz=123,slow=8.3,SNR=22						
MKAR				PcP	PcP	02 36 10.9	-0.6
	0.5nm,0.5s,baz=128,slow=3.2,SNR=5.8						
KURK	**Kurchatov**	**63.18**	**330**	*eP*	**P**	**02 35 52.7**	**-0.8**
	2.2nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**69.38**	**328**	*eP*	**P**	**02 36 30.9**	**-1.9**
	1.3nm,0.6s,mb3.7						
TORD	**Torodi Ar. Bea**	**120.80**	**285**	PKP	PKPdf	02 44 15.9	+1.0
	0.1nm,0.3s,baz=108,slow=2.2,SNR=12						

GUC 03 02:49:28.6±0.8,3087S×7149W,h34km±4km,MD4.3, ML4.2,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.52**	**126**	⇑*iP*	Pb	02 49 39.4	-0.1
CMCH				*i* S	Sb	02 49 47.4	+0.4
CMCH				AMP		02 49 48.4	
	comp=E,68μm,0.7s						
ILCH	**Illapel**	**0.81**	**161**	⇑*iP*	Pn	02 49 44.0	+0.3
ILCH				*i* S	Sn	02 49 55.0	+0.5
JACH	**Jahuel**	**1.96**	**157**	*eP*	Pn	02 50 00.9	+1.4
JACH				*i* S	Sn	02 50 26.0	+3.1
ROCH	**El Roble**	**2.14**	**169**	*eP*	Pn	02 50 04.4	+2.5
PEL	**Peldehue**	**2.37**	**164**	*eP*	Pn	02 50 06.5	+1.4
PEL				*i* S	Sn	02 50 35.7	+2.7
PEL				AMP		02 50 49.2	
	comp=E,2μm,0.3s						
LCCH	**Las Cruces**	**2.60**	**182**	⇓*iP*	Pn	02 50 09.0	+0.7
FCH	**Farellones**	**2.66**	**158**	*eP*	Pn	02 50 11.2	+2.2
FCH				*i* S	Sn	02 50 43.3	+3.2
FCH				AMP		02 50 57.2	
	comp=E,599nm,0.4s						
RCDM	**Rinconada Maip**	**2.68**	**168**	*eP*	Pn	02 50 11.0	+1.7
RCDM				*i* S	Sn	02 50 43.2	+2.6
RCDM				AMP		02 50 54.6	
	comp=E,622nm,0.2s						
FSR	**Penalolen**	**2.73**	**163**	*eP*	Pn	02 50 11.6	+1.5
ANTU	**Antumapu**	**2.79**	**165**	*i* P	Pn	02 50 12.7	+1.9
ANTU				AMP		02 50 53.1	
	comp=E,674nm,0.4s						
CHCH	**Chadas Angostu**	**3.14**	**167**	*eP*	Pn	02 50 16.8	+1.1

*ISCJB **03** 03:07:41.4±0.6,307N±01×9909E±005,h9km,mb3.8/2, MS3.7/3,Error ellipse: s-maj=15.1km s-min=5.6km az=169.2*
*IDC **03** 03:07:42.5±1.8,3071N×9903E,h0km,mb3.4/2,mb1 3.6/3, mb1mx3.3/20,mbtmp3.4/3,ML3.2/1,MS3.6/3,Ms1 3.7/3, ms1mx2.8/25,Error ellipse: s-maj=80.1km s-min=28.2km az=64.0*
*BJI **03** 03:07:44.8,3075N×9889E,h9km,mb4.2,ML3.7,Ms4.1, Msz3.7*
*NEIC **03** 03:07:44.2±0.8,3073N×9907E,h10km,mb3.9/1,Error ellipse: s-maj=15.5km s-min=9.1km az=143.0*

ISC 03 03:07:43.6±2.0,308N±01×9902E±007,h1km±17km,n15, σ0°89/13,mb3.9/2,MS3.7/3,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.08**	**87**	PG	**Pg**	**03 09 01.2**	**-0.5**
CD2				SG	**Sg**	**03 09 54.6**	**0.0**
CD2				Smax			
	comp=N,30nm,0.8s						
CD2				Smax			
	comp=E,50nm,1.0s						
CD2				LR	LR		
	comp=N,2μm,6.9s						
GYA	**Guiyang**	**7.99**	**121**	⇓*iP*	**Pn**	**03 09 42.2**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s						
GYA				LR	LR		
	comp=N,4μm,12.0s						
GYA				LR	LR		
	comp=E,2μm,9.3s						
GYA				LR	LR		
	comp=Z,460nm,10.8s						
JIRN	**Jiri**	**11.64**	**258**	*eP*	**Pn**	**03 10 32.0**	**+1.2**
	comp=Z,7.3nm,0.3s						
GUN	**Gumba**	**11.82**	**259**	*eP*	**Pn**	**03 10 34.0**	**+0.7**
	comp=Z,9.4nm,0.3s						
PKI	**Pulchoki**	**12.32**	**258**	*eP*	**Pn**	**03 10 40.3**	**+0.1**
	comp=Z,12nm,0.4s						
KKN	**Kakani**	**12.36**	**259**	*eP*	**Pn**	**03 10 40.6**	**-0.2**
DMN	**Daman**	**12.56**	**259**	*eP*	**Pn**	**03 10 43.2**	**-0.3**
KOLN	**Koldanda**	**13.79**	**261**	*eP*	**Pn**	**03 10 57.2**	**-3.1**
	comp=Z,6.3nm,0.6s						
SONM	**Songino Array**	**17.92**	**16**	P	**Pn**	**03 11 54.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=199,slow=9.4,SNR=5.1						
MKAR	**Makanchi Array**	**20.54**	**326**	P	**P**	**03 12 23.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=123,slow=12,SNR=14						
KURK	**Kurchatov**	**25.03**	**328**	*eP*	**P**	**03 13 08.9**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.0						
CBIJ	**Chichi jima**	**37.78**	**85**	LR	LR	03 30 34.0	
	comp=Z,137nm,21.2s,MS3.7,baz=342,slow=36						
FINES	**FINESS Array B**	**55.38**	**326**	LR	LR	03 41 04.2	
	comp=Z,25nm,22.0s,MS3.2,baz=344,slow=36						
WRA	**Warramunga Arr**	**60.81**	**141**	P	**P**	**03 17 56.0**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=335,slow=7.0,SNR=10.0						
ILAR	**Eielson Array**	**71.95**	**24**	LR	LR	03 51 44.9	
	comp=Z,80nm,18.8s,MS4.0,baz=175,slow=37						

*ISCJB **03** 03:08:19.9±0.6,2278S±007×6847W±009,h123km±8km, mb4.0/2,Error ellipse: s-maj=16.0km s-min=8.3km az=61.9*
*IDC **03** 03:08:20.5±0.7,2269S×6841W,h108km±9km,mb3.9/3, mb1 4.0/6,mb1mx3.6/17,mbtmp4.2/6,Error ellipse: s-maj=24.8km s-min=23.2km az=33.0*
*GUC **03** 03:08:21.6±0.3,2292S×6856W,h130km,MD4.1,ML4.2*
*NEIC **03** 03:08:21.6,2292S×6856W,h130km,mb4.2/2, MD4.1(GUC),After GUC.*

ISC 03 03:08:21.1±0.6,2277S±007×6850W±009,h119km±8km, n19,σ0°84/29,mb4.0/2,2C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.41**	**292**	P	**Pn**	**03 08 38.7**	**+0.2**
	460nm,0.3s,baz=46,slow=4.5,SNR=2537						
LVC				S	**Sn**	**03 08 51.3**	**-0.2**
	1μm,0.3s,baz=283,slow=19,SNR=231						
LVC	**Limon Verde**	**0.41**	**292**	*e*Pn	**Pn**	**03 08 38.3**	**-0.2**
LVC				*e*Sn	**Sn**	**03 08 51.3**	**-0.2**
CEN1	**Los Morros**	**1.68**	**248**	*eP*	**Pn**	**03 08 53.5**	**+2.9**
CEN1				*i* S	**Sn**	**03 09 17.5**	**+4.4**
CEN1				AMP		03 09 20.0	
	comp=E,1μm,0.6s						
ANCH	**Antofagasta**	**1.98**	**242**	⇓*iP*	**Pn**	**03 08 53.3**	**-0.9**
ANCH				*i* S	**Sn**	**03 09 18.4**	**-1.1**
ANCH				AMP		03 09 20.1	
	comp=E,2μm,0.1s						
ANCH	**Antofagasta**	**1.98**	**242**	⇓*iP*	**Pn**	**03 08 53.3**	**-0.9**
ANCH				*i* S	**Sn**	**03 09 18.4**	**-1.1**
CPN1	**Cerro Paranal**	**2.54**	**223**	*eP*	**Pn**	**03 09 02.1**	**+0.8**
CPN1				*i* S	**Sn**	**03 09 33.1**	**+0.8**
CPN1				AMP		03 09 35.1	
	comp=N,819nm,0.8s						
CRCH	**Chaqaral**	**4.05**	**208**	⇑*iP*	**Pn**	**03 09 21.5**	**+0.2**
CRCH				*i* S	**Sn**	**03 10 07.0**	**-0.9**
CRCH				AMP		03 10 08.3	
	comp=E,333nm,0.2s						
CRCH	**Chaqaral**	**4.05**	**208**	⇑*iP*	**Pn**	**03 09 21.5**	**+0.2**
CRCH				*i* S	**Sn**	**03 10 07.0**	**-0.9**
LPAZ	**La Paz**	**6.46**	**3**	P	**Pn**	**03 09 54.1**	**+0.4**
	comp=E,1.9nm,0.3s,baz=187,slow=4.9,SNR=47						
LPAZ	**La Paz**	**6.46**	**3**	*e*Pn	**Pn**	**03 09 53.6**	**0.0**
	comp=E,5.4nm,0.4s						
ARE	**Arequipa**	**6.88**	**335**	P	**Pn**	**03 10 10.0**	**+11**
ARE				*e*S	**Sn**	**03 11 08.0**	**-8.1**
CFAA	**Coronel Fontan**	**8.80**	**179**	P	**Pn**	**03 10 25.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=0.6,slow=12,SNR=11						
CFAA				S	**Sn**	**03 11 58.0**	**-4.8**
	comp=E,0.1nm,0.3s,baz=7.9,slow=9.1,SNR=3.9						
SIV	**San Ignacio**	**9.72**	**47**	P	**Pn**	**03 10 33.9**	**-4.0**
	comp=E,1.6nm,0.3s,baz=234,slow=12,SNR=66						
SIV				S	**Sn**	**03 12 15.0**	**-10**
	comp=E,0.8nm,0.3s,baz=144,slow=22,SNR=15						
CPUP	**Villa Florida**	**10.77**	**111**	P	**Pn**	**03 10 51.8**	**-0.1**
	comp=E,0.5nm,0.3s,baz=277,slow=14,SNR=5.9						
BDFB	**Brasilia**	**20.59**	**73**	P	**P**	**03 12 50.1**	**-0.5**
	comp=E,7.8nm,0.5s,baz=255,slow=11,SNR=23						
BAO	**Brasilia Array**	**20.61**	**73**	P	**P**	**03 12 51.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.43**	**70**	P	**P**	**03 20 03.6**	**+0.5**
	comp=E,1.4nm,0.5s,mb3.9,baz=258,slow=5.5,SNR=24						
YKA	**Yellowknife Ar**	**92.50**	**340**	P	**P**	**03 21 18.3**	**-0.4**
	comp=E,1.0nm,1.0s,mb4.1,baz=138,slow=4.6,SNR=16						
MKAR	**Makanchi Array**	**146.42**	**37**	PKPbc	PKPbc	03 27 47.8	-0.4
	comp=E,0.3nm,0.6s,baz=324,slow=2.9,SNR=4.2						

*NAO **03** 03:08:40.1,2787N×10165E,h33km,mb4.2*
*IDC **03** 03:08:59.4±0.8,3068N×9901E,h0km,mb3.8/13, mb1 3.9/14,mb1mx3.8/22,mbtmp3.8/14,ML3.8/1,MS3.7/1, Ms1 3.7/1,ms1mx2.5/30,Error ellipse: s-maj=33.6km s-min=16.9km az=52.0*
*ISCJB **03** 03:08:59.3±0.4,3073N±005×9893E±005,h10km, mb4.0/17,Error ellipse: s-maj=7.0km s-min=6.1km az=28.2*
*BJI **03** 03:09:01.8,3092N×9907E,h18km,mB4.8,mb4.5,ML4.2, Ms4.2,Msz4.0*
*NEIC **03** 03:09:01.0±0.4,3069N×9895E,h10km,mb4.2/5,Error ellipse: s-maj=9.2km s-min=6.2km az=163.0*
*MOS **03** 03:09:04.7±1.1,3097N×9891E,h33km,mb4.3/5,Error ellipse: s-maj=17.9km s-min=11.1km az=106.6*

ISC 03 03:09:01.4±0.3,3082N±004×9902E±004,h10km,n48, σ1°23/52,mb4.0/17,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.08**	**87**	PG	**Pg**	**03 10 17.6**	**-1.9**
CD2				SG	**Sg**	**03 11 10.6**	**-1.7**
CD2				Smax			
	comp=N,180nm,1.2s						
CD2				Smax			
	comp=E,180nm,1.2s						
CD2				LR	LR		
	comp=N,2μm,6.9s						
CD2				LR	LR		
	comp=Z,4μm,7.3s						
KMI	**Kunming**	**6.55**	**149**	P	**Pn**	**03 10 40.1**	**+2.3**
KMI				S	**Sn**	**03 11 54.3**	**+1.7**
KMI				LR	LR		
	comp=N,1μm,7.7s						
KMI				LR	LR		
	comp=E,1μm,7.1s						
KMI				LR	LR		
	comp=Z,721nm,9.5s						
LZH	**Lanzhou**	**6.62**	**36**	*eP*	**Pn**	**03 10 39.5**	**+0.7**
LZH				*e*S	**Sn**	**03 11 52.7**	**-1.7**
LZH				Smax			
	comp=N,175nm,1.2s						
LZH				Smax			
	comp=E,218nm,1.2s						
LZH				LR	LR		
	comp=E,829nm,7.2s						
LZH				LR	LR		
	comp=Z,987nm,8.6s						
LSA	**Lhasa**	**6.90**	**263**	P	**Pn**	**03 10 43.4**	**+0.9**
LSA	**Lhasa**	**6.90**	**263**	*eP*	**Pn**	**03 10 46.6**	**+4.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**6.90**	**263**	*e*Pn	**Pn**	**03 10 46.6**	**+4.1**
	comp=Z,9.3nm,0.6s						
ENH	**Enshi**	**9.04**	**91**	*e*Pn	**Pn**	**03 11 12.8**	**+0.7**
	comp=Z,8.5nm,0.8s						
JIRN	**Jiri**	**11.64**	**258**	*eP*	**Pn**	**03 11 48.4**	**+0.9**
	comp=Z,25nm,0.4s						
GUN	**Gumba**	**11.82**	**259**	*eP*	**Pn**	**03 11 49.7**	**-0.3**
	comp=Z,54nm,0.5s						
PKI	**Pulchoki**	**12.32**	**258**	*eP*	**Pn**	**03 11 56.0**	**-0.9**
	comp=Z,49nm,0.5s						
KKN	**Kakani**	**12.36**	**259**	*eP*	**Pn**	**03 11 56.1**	**-1.3**
	comp=Z,29nm,0.5s						
DMN	**Daman**	**12.56**	**259**	*eP*	**Pn**	**03 11 59.0**	**-1.2**
	comp=Z,34nm,0.8s						
GKN	**Gorkha**	**12.85**	**261**	*eP*	**Pn**	**03 12 01.2**	**-2.8**
	comp=Z,13nm,0.3s						
KOLN	**Koldanda**	**13.79**	**261**	*eP*	**Pn**	**03 12 14.3**	**-2.7**
	comp=Z,25nm,0.7s						
WMQ	**Urumqi**	**15.78**	**328**	P	**Pn**	**03 12 47.6**	**+4.0**
WMQ				XP	sP	03 12 56.0	+4.3
WMQ				PP		03 13 00.0	
WMQ				S	**Sn**	**03 15 35.0**	**-3.6**
WMQ				SS		03 15 52.0	
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,157nm,4.0s						
WMQ				LR	LR		
	comp=N,194nm,5.0s						
WMQ				LR	LR		
	comp=E,175nm,5.0s						
WMQ				LR	LR		
	comp=Z,213nm,5.0s						
SONM	**Songino Array**	**17.91**	**16**	P	**Pn**	**03 13 10.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=209,slow=12,SNR=12						
SONM				LR	LR	03 20 42.6	
	comp=Z,255nm,19.3s,baz=332,slow=39						
ULN	**Ulaanbaatar**	**18.11**	**18**	*eP*	**Pn**	**03 13 15.1**	**+2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**18.11**	**18**	*eP*	**Pn**	**03 13 15.1**	**+2.1**
	comp=Z,2.8nm,0.6s						
ZAK	**Zakamensk**	**19.81**	**8**	*eP*	**Pn**	**03 13 28.9**	**-4.6**
ZAK				pmax	pmax		
	comp=Z,11nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s						
MKAR	**Makanchi Array**	**20.54**	**326**	P	**P**	**03 13 40.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=122,slow=14,SNR=14						
MKAR	**Makanchi Array**	**20.54**	**326**	P	**P**	**03 13 40.2**	**+0.3**
TATO	**Taipei**	**20.68**	**101**	*eP*	**P**	**03 13 36.2**	**-5.2**
	comp=Z,109nm,0.7s						
MOY	**Mondy**	**20.89**	**3**	*eP*	**P**	**03 13 45.9**	**+2.2**
MOY				pmax	pmax		
	comp=Z,19nm,1.8s						
AAK	**Ala-Archa**	**22.84**	**308**	*eP*	**P**	**03 14 05.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**22.84**	**308**	*eP*	**P**	**03 14 05.3**	**+0.7**
	comp=Z,6.4nm,1.0s,mb4.0						
CN2	**Changchun**	**24.58**	**51**	*eP*	**P**	**03 14 21.6**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**25.03**	**328**	*eP*	**P**	**03 14 25.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**25.03**	**328**	*eP*	**P**	**03 14 25.4**	**-0.1**
	comp=Z,7.0nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**36.19**	**315**	P	**P**	**03 16 05.9**	**+1.8**
AKTO	**Aktyubinsk**	**36.19**	**315**	P	**P**	**03 16 05.9**	**+1.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=99,slow=12,SNR=7.7						
ARU	**Arti**	**38.05**	**324**	*eP*	**P**	**03 16 19.7**	**-0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ARU	**Arti**	**38.05**	**324**	*eP*	**P**	**03 16 19.7**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**53.07**	**299**	P	**P**	**03 18 19.0**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=81,slow=6.5,SNR=2.6						
BRTR	**Keskin Array B**	**53.07**	**299**	P	**P**	**03 18 19.0**	**+0.3**
AKASG	**Malin Array Be**	**54.38**	**313**	P	**P**	**03 18 27.6**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=68,slow=7.0,SNR=4.1						
FINES	**FINESS Array B**	**55.37**	**326**	P	**P**	**03 18 35.1**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=72,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**55.73**	**336**	P	**P**	**03 18 39.2**	**+1.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=72,slow=7.7,SNR=5.3						
WRAB	**Tennant Creek**	**60.82**	**141**	*eP*	**P**	**03 19 13.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**60.82**	**141**	*eP*	**P**	**03 19 13.5**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**60.82**	**141**	P	**P**	**03 19 12.7**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.2,baz=320,slow=8.8,SNR=16						
NB2	**NORSAR Subarra**	**62.53**	**327**	P	**P**	**03 19 24.3**	**-1.0**
	comp=Z,3.3nm,1.1s,mb4.4,baz=75,slow=6.5						
NOA	**NORSAR Array B**	**62.53**	**327**	P	**P**	**03 19 24.1**	**-1.1**
	comp=Z,1.1nm,0.9s,mb4.0,baz=75,slow=6.5,SNR=3.1						
ASAR	**Alice Springs**	**63.66**	**144**	P	**P**	**03 19 32.2**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=326,slow=6.8,SNR=7.0						
ASAR	**Alice Springs**	**63.66**	**144**	P	**P**	**03 19 32.2**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**64.59**	**313**	P	**P**	**03 19 38.9**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=90,slow=3.9,SNR=3.6						
ILAR	**Eielson Array**	**71.94**	**24**	P	**P**	**03 20 25.9**	**+0.9**
	comp=Z,0.6nm,1.0s,mb3.5,baz=287,slow=4.1,SNR=5.9						
INK	**Inuvik**	**73.82**	**18**	P	**P**	**03 20 35.6**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=330,slow=6.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**89.52**	**285**	P	**P**	**03 21 59.2**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.8,baz=53,slow=3.9,SNR=2.9						

*SZGRF **03** 03:10:57.5,438N×9566E,h33km,mb4.9,Northern Sumatera, Indonesia*
*BJI **03** 03:11:09.9,584N×9272E,h41km,mB5.0,mb4.6,Ms4.3, Msz4.0*
*MOS **03** 03:11:12.4±0.9,636N×9281E,h33km,mb4.6/14,Error ellipse: s-maj=18.0km s-min=6.6km az=117.1*
*ISCJB **03** 03:11:12.9±0.4,629N±005×9274E±004,h38km,mb4.5/51, MS3.8/9,Error ellipse: s-maj=8.4km s-min=5.0km az=54.5*
*IDC **03** 03:11:15.4±0.7,641N×9276E,h41km±5km,mb4.0/14, mb1 4.1/15,mb1mx3.9/23,mbtmp4.2/15,ML4.0/1,MS3.7/5, Ms1 3.7/5,ms1mx3.2/30,Error ellipse: s-maj=36.1km s-min=12.2km az=48.0*
*NEIC **03** 03:11:15.5±0.3,644N×9284E,mb4.5/12,Error ellipse: s-maj=10.9km s-min=5.3km az=39.0*

ISC 03 03:11:15.5±0.3,636N±005×9275E±004,h40km, h40km±2.4km:pP-P,n123,σ1°04/124,mb4.5/50,MS3.8/9, 8C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**5.26**	**360**	*eP*	Px	03 12 44.6	
PBA				*e*S	Sx	03 13 37.4	
PSI	**Prapat**	**7.10**	**120**	P	**Pn**	**03 12 56.4**	**-0.5**
	2.6nm,0.3s,baz=297,slow=14,SNR=7.2						
PSI				S	**Sn**	**03 14 15.1**	**-1.2**
	2.8nm,0.3s,baz=28,slow=4.5,SNR=5.1						
PSI	**Prapat**	**7.10**	**120**	P	**Pn**	**03 12 56.4**	**-0.5**
PSI				S	**Sn**	**03 14 15.1**	**-1.2**
KULM	**Kulim**	**7.93**	**97**	*e*Pn	**Pn**	**03 13 06.0**	**-2.3**
PALK	**Pallekele**	**11.99**	**275**	*e*Pn	**Pn**	**03 14 06.3**	**+2.4**
	24nm,0.8s						
PALK				*e*Sn	**Sn**	**03 16 03.0**	**-13**
VIS	**Vishakhapatnam**	**14.56**	**322**	*eP*	**Pn**	**03 14 36.1**	**-2.8**
VIS				*ex*	**Sn**	**03 17 05.4**	**-13**
TRD	**Trivandrum**	**15.80**	**279**	*eP*	**Pn**	**03 14 54.0**	**-1.0**
TRD				*e*S	**S**	**03 17 44.6**	**-18**
TRD				*ex*	x	03 18 46.3	
HYB	**Hyderabad**	**17.69**	**310

comp=Z,24nm,1.2s,mb4.5
GUN Gumba 22.40 344 *e*P **P 03 16 10.4 0.0**
comp=Z,58nm,0.9s,mb5.0
KKN Kakani 22.46 342 *e*P **P 03 16 11.1 +0.1**
comp=Z,83nm,1.0s,mb5.1
GKN Gorkha 22.86 341 *e*P **P 03 16 15.2 0.0**
comp=Z,122nm,1.1s,mb5.3
KOLN Koldanda 22.99 339 *e*P **P 03 16 16.7 0.0**
comp=Z,97nm,1.3s,mb5.1
LSA Lhasa 23.26 356 P **P 03 16 20.0 +0.5**
LSA Lhasa 23.26 356 *e*P **P 03 16 19.0 -0.5**
LSA pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
LSA Lhasa 23.26 356 *e*P **P 03 16 19.0 -0.5**
comp=Z,10nm,0.7s,mb4.4
GYA Guiyang 23.99 32⇓ *i*P **P 03 16 27.2 +0.9**
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.7
CD2 Chengdu 26.51 22 P **P 03 16 50.3 +1.1**
CD2 PP 03 17 33.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
CD2 AMB AMB
comp=Z,60nm,4.9s
CD2 LR LR
comp=E,80nm,9.7s
CD2 LR LR
comp=Z,70nm,9.6s
NDI New Delhi 26.62 328 *e*P **P 03 16 52.0 +1.8**
NDI *ex* x 03 16 52.0
DDI Dehra Dun 27.55 332 *ex* **P 03 16 46.5 -12**
LZH Lanzhou 31.28 17 *e*P **P 03 17 33.2 +1.6**
LZH AP pP 03 17 41.6 -1.0
LZH *e*PP PP 03 18 36.6 -6.1
LZH AMB AMB
comp=Z,23nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,47nm,5.3s
LZH LR LR
comp=N,257nm,13.5s
LZH LR LR
comp=Z,338nm,17.2s,MS4.1
GTA Gaotai 33.51 10 *e*P **P 03 17 51.1 0.0**
GTA AP pP 03 17 59.6 -2.6
GTA XP sP 03 18 04.2 -2.8
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb4.2
NJ2 Nanjing 35.31 40 *e*P **P 03 18 07.4 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
SSE Sheshan 36.26 44 *e*P **P 03 18 13.8 -1.0**
SSE AP pP 03 18 23.3 -2.7
SSE XP sP 03 18 27.3 -3.4
SSE PP PP 03 19 36.0 -1.8
SSE PCP PcP 03 20 38.0 -1.3
SSE S **S 03 23 51.8 -0.8**
SSE AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
SSE AMB AMB
comp=Z,65nm,4.0s
SSE LR LR
comp=N,65nm,24.9s,MS3.4
SSE LR LR
comp=E,49nm,24.9s,MS3.4
SSE LR LR
comp=Z,46nm,15.6s
KSH Kashi 36.30 338 *e*P **P 03 18 16.4 +1.2**
KSH *e*AP pP 03 18 26.1 -0.2
KSH *e*XP sP 03 18 29.8 -1.3
KSH *e*PP PP 03 19 40.1 +1.9
KSH *e*PCP PcP 03 20 42.2 +2.8
KSH *e*S **S 03 23 53.1 -0.1**
KSH *e*SCP ScP 03 24 24.0 +1.4
KSH *e*PCS PcS 03 24 28.2 +1.1
KSH *e*SCS ScS 03 28 29.4 +0.7
KSH AMB AMB
comp=Z,140nm,7.0s
KSH LR LR
comp=N,160nm,4.9s
KSH LR LR
comp=E,190nm,5.8s
WMQ Urumqi 37.57 354 *e*P **P 03 18 26.0 0.0**
WMQ XP sP 03 18 40.0 -1.9
WMQ PP PP 03 19 54.0 +1.9
WMQ AMB AMB
comp=Z,127nm,5.0s
WMQ LR LR
comp=N,97nm,15.0s,MS4.0
WMQ LR LR
comp=E,132nm,14.0s,MS4.0
WMQ LR LR
comp=Z,87nm,12.0s,MS3.8
KZA Kyzart 38.81 339 P **P 03 18 37.0 +0.6**
SNR=5.3
UCH Uchtor 39.21 338 P **P 03 18 41.0 +1.3**
SNR=19
KBK Karagaybulak 39.42 339 P **P 03 18 42.6 +1.1**
SNR=17
AML Almayashu 39.43 338 P **P 03 18 43.0 +1.5**
SNR=27
TKM2 Tokmak 2 39.43 340 P **P 03 18 42.6 +1.0**
SNR=5.7
AAK Ala-Archa 39.57 339 P **P 03 18 40.0 -2.7**
SNR=7.8
AAK Ala-Archa 39.57 339⇑ *e*P **P 03 18 42.5 -0.2**
AAK pmax pmax
comp=Z,18nm,1.2s,mb4.7
AAK Ala-Archa 39.57 339 *e*P **P 03 18 43.0 +0.3**
comp=Z,16nm,1.0s,mb4.7
EKS2 Erkin-Say 39.85 338 P **P 03 18 46.0 +0.9**
SNR=9.0
USP Ospenovka 40.12 339 P **P 03 18 47.8 +0.5**
SNR=18
MKAR Makanchi Array 41.27 349 P **P 03 18 56.3 -0.5**
comp=Z,6.1nm,0.8s,mb4.3,baz=166,slow=8.2,SNR=45
MKAR Makanchi Array 41.27 349⇑ *e*P **P 03 18 56.2 -0.6**
KK31 Karatay Array 41.51 335 *i*P **P 03 18 58.8 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
KKAR Karatay Array 41.51 335 *i*P **P 03 18 58.8 0.0**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
SONM Songino Array 42.94 13 P **P 03 19 10.2 -0.1**
comp=Z,1.7nm,0.7s,mb3.9,baz=194,slow=8.6,SNR=14
SONM pPcP 03 21 12.9
comp=Z,1.4nm,0.7s,baz=201,slow=3.6,SNR=9.4
ULN Ulaanbaatar 43.12 14 P **P 03 19 11.8 -0.1**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ULN Ulaanbaatar 43.12 14 P **P 03 19 11.8 -0.1**
comp=Z,1.4nm,0.5s,mb4.0
KURK Kurchatov 45.75 347⇑ *e*P **P 03 19 32.6 -0.3**
KURK Kurchatov 45.75 347 *e*P **P 03 19 32.5 -0.4**
comp=Z,7.5nm,1.1s,mb4.5
CN2 Changchun 47.03 32 *e*P **P 03 19 44.0 +1.1**
WRA Warramunga Arr 48.55 124 P **P 03 19 54.9 +0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=305,slow=9.0,SNR=6.6
WRA pP pP 03 20 06.9 +0.8
comp=Z,5.4nm,0.8s,baz=304,slow=9.1,SNR=13
WRA pPcP 03 21 33.6
comp=Z,0.9nm,0.6s,baz=315,slow=2.7,SNR=5.3
WRA Warramunga Arr 48.55 124 P **P 03 19 54.9 +0.2**
WRA *PP pP 03 20 06.9 +0.8
WRAB Tennant Creek 48.55 124 *i*P **P 03 19 58.1 +3.4**
NVS Novosibirsk 48.94 353 *e*P **P 03 19 56.5 -1.2**
MDJ Mudanjiang 49.82 34 P **P 03 20 03.7 -0.7**
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,152nm,4.6s
BVAR Borovoye Array 49.98 343 P **P 03 20 04.8 -0.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=12
ASAR Alice Springs 50.05 128 P **P 03 20 06.6 +0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=300,slow=7.7,SNR=9.5
ASAR pP pP 03 20 18.2 +0.7
comp=Z,5.3nm,0.7s,baz=298,slow=7.4,SNR=17
ASAR pPcP 03 21 39.4
comp=Z,1.2nm,0.6s,baz=304,slow=3.6,SNR=5.2
BRVK Borovoye 50.05 342 *e*P **P 03 20 05.4 -0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 50.05 342 *e*P **P 03 20 05.4 -0.7**
comp=Z,1.8nm,0.8s,mb4.2
ZRNK Zerenda 50.34 342 *e*P **P 03 20 07.5 -0.9**
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ZRNK Zerenda 50.34 342 *e*P **P 03 20 07.5 -0.9**
comp=Z,2.2nm,0.8s,mb4.2
AB31 Akbulak array 50.91 333 *i*P **P 03 20 12.5 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MJAR Matsushiro Arr 51.19 47 LR LR 03 43 58.7
comp=Z,62nm,21.6s,MS3.6,baz=195,slow=38
AKTK Aktyubinsk 52.62 333 P **P 03 20 24.7 -0.7**
AKTO Aktyubinsk 52.62 333 P **P 03 20 24.7 -0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=134,slow=8.6,SNR=6.1
BOD Bodaibo 53.93 14 *e*P **P 03 20 34.7 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
GNI Garni 54.52 316 P **P 03 20 39.2 -0.1**
comp=Z,14nm,1.0s,mb5.0,baz=206,slow=20,SNR=4.8
GNI Garni 54.52 316⇑ *e*P **P 03 20 34.9 -4.4**
KMBO Kilima Mbogo 55.89 264 LR LR 03 40 51.5
comp=Z,43nm,20.0s,MS3.5,baz=89,slow=32
ARU Arti 56.75 338⇑ *e*P **P 03 20 54.9 -0.4**
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
KIV Kislovodsk 57.52 319⇑ *e*P **P 03 21 01.5 +0.7**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.9
STKA Stephens Creek 60.09 132 P **P 03 21 19.2 +0.6**
comp=Z,1.8nm,1.0s,mb4.1,baz=11,slow=9.7,SNR=3.0
STKA pP pP 03 21 29.9 -0.5
comp=Z,3.5nm,0.8s,baz=330,slow=8.8,SNR=5.4
STKA LR LR 03 50 00.5
comp=Z,117nm,18.8s,MS4.0,baz=204,slow=39
ANN Anapa 61.31 318 *e*P **P 03 21 40.9 +14**
ANN *e*S S 03 30 12.6 +28
ANN pmax pmax
comp=Z,29nm,0.7s,mb5.5
BR131 Keskin Array S 62.38 312 *e*P **P 03 21 33.8 -0.3**
comp=Z,3.5nm,0.8s,mb4.5
BR131 *e* 03 21 50.1
BRTR Keskin Array B 62.38 312 P **P 03 21 33.9 -0.2**
comp=Z,3.9nm,0.8s,mb4.6,baz=124,slow=7.5,SNR=28
BRTR Keskin Array B 62.38 312⇑ *e*P **P 03 21 33.9 -0.2**
OBN Obninsk 65.92 328 *e*P **P 03 21 56.9 -0.4**
OBN *e* 03 22 28.7
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
AKASG Malin Array Be 68.48 322 P **P 03 22 12.1 -1.5**
comp=Z,1.0nm,0.6s,mb4.0,baz=94,slow=5.4,SNR=7.2
TIXI Tiksi 68.98 12⇑ *e*P **P 03 22 15.9 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.1s,mb4.9
MLR Muntele Rosu 69.29 316 LR LR 03 57 41.5
comp=Z,53nm,19.6s,MS3.8,baz=182,slow=40
VAY Valandovo 70.96 311 *e*P **P 03 22 27.1 -1.7**
STIP Stip 71.30 312 *e*P **P 03 22 30.0 -0.8**
JOF Joensuu 71.61 335 *ep* **P 03 22 29.0 -3.7**
comp=Z,4.9nm,1.1s,mb4.3
STHS Stebnicka Huta 73.18 320 *e* **P 03 22 39.9 -2.2**
FINES FINESS Array B 73.40 333 P **P 03 22 41.6 -1.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=5.5
FINES pP pP 03 22 55.1 -0.3
comp=Z,1.9nm,0.7s,baz=108,slow=6.0,SNR=3.6
KAF Kangasniemi 73.50 333 *ep* **P 03 22 42.3 -1.7**
comp=Z,3.2nm,0.9s,mb4.2,baz=104,slow=5.5
KAF Kangasniemi 73.50 333 *e*P **P 03 22 42.3 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 73.52 319 *e*P **P 03 22 43.8 -0.3**
SRO Srobarova 74.86 318 *e*P **P 03 22 53.4 +1.5**
SRO *ep*P pP 03 23 06.6 +2.6
OKC Ostrava-Krasne 75.24 320 *e*P **P 03 22 52.4 -1.7**
ZST Bratislava 75.72 318 *e*P **P 03 22 57.4 +0.6**
ARCES ARCESS Array B 76.21 340 P **P 03 22 59.3 -0.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=111,slow=7.7,SNR=3.8
ARCES pP pP 03 23 11.8 +0.1
comp=Z,3.0nm,0.9s,baz=108,slow=3.8,SNR=2.3
ARCES LR LR 03 59 15.4
comp=Z,83nm,21.9s,MS4.0,baz=181,slow=38
ARCES ARCESS Array B 76.21 340 P **P 03 22 59.3 -0.3**
ARCES *PP pP 03 23 11.8 +0.1
ARCES ARCESS Array B 76.21 340 P **P 03 22 59.3 -0.4**
ARCES pP pP 03 23 11.8 +0.1
ARCES LR LR 03 59 15.4
DPC Dobruska-Polom 76.47 320 *e*P **P 03 23 00.2 -0.9**
UPC Upice 76.68 320 *e*P **P 03 23 03.1 +0.8**
PERS Pernice 76.91 316 *e*P **P 03 23 04.1 +0.6**
PRU Pruhonice 77.57 320 *e*P **P 03 23 07.4 +0.1**
GORS Gorjuse 77.66 316 *i*P **P 03 23 08.5 +0.7**
CADS Cadrg 77.83 316 *e*P **P 03 23 09.0 +0.3**
BILL Bilibino 77.99 22 *e*P **P 03 23 08.6 -1.0**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
GERES GERESS Array B 78.03 318 P **P 03 23 10.6 +0.7**
comp=Z,3.8nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=33
KHC Kasperske Hory 78.13 319 *e*P **P 03 23 10.6 +0.2**
GRA1 Grafenberg Arr 79.70 319 *e*P **P 03 23 20.1 +1.1**
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.70 319 *e*P **P 03 23 20.1 +1.1**
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.70 319 *e*P **P 03 23 20.1 +1.1**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.70 319 *e*P **P 03 23 20.1 +1.1**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LPG La Plagne 82.70 315 *e*P **P 03 23 35.5 +0.6**
comp=Z,6.6nm,0.7s,mb4.5
LPG La Plagne 82.70 315 *e*P **P 03 23 35.5 +0.6**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPG La Plagne 82.70 315 *e*P **P 03 23 35.5 +0.6**
comp=Z,3.3nm,0.7s,mb4.5
TORD Torodi Ar. Bea 89.59 283 P **P 03 24 10.4 +1.5**
comp=Z,0.5nm,0.7s,mb4.0,baz=83,slow=4.3,SNR=5.0
ULM Lac du Bonnet 123.12 7 PKP PKPdf 03 30 06.9 -0.8
comp=Z,1.3nm,0.5s,baz=334,slow=1.8,SNR=3.6
ULM pPKP pPKPdf 03 30 20.2 -0.2
comp=Z,0.7nm,0.4s,baz=14,slow=4.9,SNR=1.9
ULM Lac du Bonnet 123.12 7 PKP PKPdf 03 30 06.9 -0.8
ULM pPKP pPKPdf 03 30 20.2 -0.2
NVAR Mina Array Bea 126.91 30 PKP PKPdf 03 30 15.4 +0.5
comp=Z,0.2nm,0.3s,baz=355,slow=1.4,SNR=4.0
NVAR pPKP pPKPdf 03 30 29.5 +1.9
comp=Z,0.8nm,0.7s,baz=261,slow=3.9,SNR=5.8
PDAR Pinedale Array 127.06 21 PKP PKPdf 03 30 15.9 +0.7
comp=Z,0.8nm,0.8s,baz=37,slow=0.6,SNR=6.0
PDAR pPKP pPKPdf 03 30 28.9 +0.9
comp=Z,0.9nm,0.7s,baz=20,slow=0.3,SNR=6.1
TXAR Lajitas Array 141.15 23 PKiKP PKiKP 03 30 45.7 +1.4
comp=Z,0.5nm,0.7s,baz=209,slow=0.4,SNR=6.9
TXAR Lajitas Array 141.15 23 PKPdf PKPdf 03 30 45.7 +4.2

NAO ***03*** *03:15:11.0, 1565N×12456E, h33km, mb3.8*
MOS ***03*** *03:15:30.9±0.8, 1899N×12172E, h33km, mb4.9/3, Error ellipse: s-maj=44.6km s-min=16.9km az=106.7*
ISCJB ***03*** *03:15:38.8±0.5, 1912N±004×12187E±006, h100km±4km, mb4.1/19, Error ellipse: s-maj=9.7km s-min=6.6km az=179.8*
IDC ***03*** *03:15:39.0±2.4, 1898N×12188E, h90km±20km, mb3.8/15, mb1 3.9/16, mb1mx3.8/24, mbtmp4.1/16, Error ellipse: s-maj=28.5km s-min=12.1km az=72.0*
BJI ***03*** *03:15:38.9, 1900N×12200E, h99km, mB5.0, mb4.7*
MAN ***03*** *03:15:39.7, 1912N×12178E, h81km, mb3.4, ML4.6, MS2.3*
NEIC ***03*** *03:15:39.9±1.3, 1902N×12199E, h100km±13km, mb4.7/3, Error ellipse: s-maj=16.1km s-min=8.6km az=74.0*
ISC 03 03:15:39.9±0.5, 1911N±004×12187E±006, h95km±4km, n42, σ1§08/50, mb4.1/19, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.88**	**169**	*e*P	**Pn**	**03 15 59.0**	**+0.4**
SGCP				*e*S	**Sn**	**03 16 13.1**	**+0.5**
APYP	**Conner**	**1.37**	**206**	*e*P	**Pn**	**03 16 04.2**	**-0.1**
APYP				*e*S	**Sn**	**03 16 22.6**	**-0.1**
CVP	**Callao Caves**	**1.40**	**182**⇑	*i*P	**Pn**	**03 16 05.0**	**+0.4**
CVP				*i*S	**Sn**	**03 16 24.0**	**+0.7**
PIP	**Pasuquin**	**1.42**	**237**⇑	*i*P	**Pn**	**03 16 04.2**	**-0.7**
PIP				*e*S	**Sn**	**03 16 21.6**	**-2.1**
ABRA	**Dolores**	**1.82**	**217**	*e*P	**Pn**	**03 16 09.5**	**-0.4**
ABRA				*e*S	**Sn**	**03 16 32.1**	**-0.7**
BOLP	**Bolinao**	**3.29**	**215**	*e*P	**Pn**	**03 16 29.3**	**-0.1**
BOLP				*e*S	**Sn**	**03 17 09.8**	**+2.2**
BALP	**Baler**	**3.36**	**185**	*e*P	**Pn**	**03 16 31.6**	**+1.3**
SCZP	**Santa Cruz**	**3.80**	**210**	*e*P	**Pn**	**03 16 37.5**	**+1.2**
SCZP				*e*S	**Sn**	**03 17 24.0**	**+4.0**
YHNB	**Yeheng**	**5.55**	**355**	*e*Sn	**Sn**	**03 18 01.0**	**-1.6**
YHNB	**Yeheng**	**5.55**	**355**	*e*Pn	**Pn**	**03 17 01.2**	**+1.1**
GZH	**Guangzhou**	**8.89**	**298**	P	**Pn**	**03 17 43.5**	**-1.9**
GZH				Smax			
comp=N,70nm,0.8s
GZH				Smax			
comp=E,69nm,0.7s
JOW	**Kunigami**	**9.69**	**36**	P	**Pn**	**03 17 56.7**	**+0.3**
comp=E,1.6nm,0.3s,baz=264,slow=8.0,SNR=4.0
QIZ	**Qiongzhong**	**11.37**	**272**	P	**Pn**	**03 18 18.4**	**-0.8**
QIZ				AMB	AMB		
comp=Z,18nm,1.2s
CD2	**Chengdu**	**20.15**	**309**	P	**P**	**03 20 11.4**	**+4.9**
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s
KULM	**Kulim**	**24.83**	**239**	*e*P	**P**	**03 20 55.3**	**+2.1**
SONM	**Songino Array**	**31.30**	**340**	P	**P**	**03 21 51.6**	**+0.7**
comp=Z,2.5nm,0.9s,mb4.0,baz=158,slow=9.0,SNR=8.6
WMQ	**Urumqi**	**37.74**	**318**	*e*P	**P**	**03 22 48.0**	**+1.6**
WMQ				AP	pP	03 23 13.0	+4.6
WMQ				PP	PP	03 24 21.0	+6.6
WMQ				S	**S**	**03 28 32.0**	**+2.1**
WMQ				SS	SS	03 31 15.0	-4.2
WMQ				AMB	AMB		
comp=Z,14nm,0.9s,mb4.8
WMQ				AMB	AMB		
comp=Z,118nm,5.0s
WMQ				LR	LR		
comp=N,78nm,10.0s
WMQ				LR	LR		
comp=E,134nm,13.0s
WMQ				LR	LR		
comp=Z,78nm,11.0s
WRAB	**Tennant Creek**	**40.68**	**162**	*e*P	**P**	**03 23 09.3**	**-1.6**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.5s,mb4.8
WRAB	**Tennant Creek**	**40.68**	**162**	*e*P	**P**	**03 23 09.3**	**-1.6**
comp=Z,6.6nm,0.5s,mb4.7
WRA	**Warramunga Arr**	**40.69**	**162**	P	**P**	**03 23 09.8**	**-1.2**
comp=Z,3.3nm,0.4s,mb4.5,baz=343,slow=9.1,SNR=30
WRA				ScP	ScP	03 28 51.4	-0.2
comp=Z,0.6nm,1.0s,baz=340,slow=3.8,SNR=5.2
WB2	**Warramunga Arr**	**40.69**	**162**	*e*P	**P**	**03 23 09.5**	**-1.5**
MKAR	**Makanchi Array**	**42.51**	**320**	P	**P**	**03 23 27.4**	**+1.5**
comp=Z,4.9nm,0.7s,mb4.3,baz=116,slow=8.9,SNR=40
MKAR				PcP	PcP	03 25 17.2	+0.4
comp=Z,0.5nm,0.6s,baz=90,slow=3.6,SNR=4.4
ASPA	**Alice Springs**	**44.10**	**164**⇓	*i*P	**P**	**03 23 38.3**	**-0.3**
ASAR	**Alice Springs**	**44.10**	**164**	P	**P**	**03 23 38.1**	**-0.5**
comp=Z,3.3nm,0.4s,mb4.4,baz=347,slow=6.9,SNR=39
ASAR				ScP	ScP	03 29 05.7	+0.3
comp=Z,0.7nm,0.9s,baz=351,slow=5.5,SNR=5.3
NWAO	**Narrogin (SRO)**	**51.93**	**185**	P	**P**	**03 24 38.2**	**-0.7**
comp=Z,4.9nm,0.5s,mb4.8,baz=15,slow=7.0,SNR=4.3
BVAR	**Borovoye Array**	**52.05**	**323**	P	**P**	**03 24 40.3**	**+0.5**
comp=Z,2.2nm,0.6s,mb4.4,baz=110,slow=6.9,SNR=9.1
BRVK	**Borovoye**	**52.12**	**323**	*e*P	**P**	**03 24 40.7**	**+0.4**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5
BRVK	**Borovoye**	**52.12**	**323**	*e*P	**P**	**03 24 40.7**	**+0.4**
comp=Z,2.9nm,0.6s,mb4.5
ZRNK	**Zerenda**	**52.81**	**323**	*e*P	**P**	**03 24 46.1**	**+0.7**
ZRNK				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7
ZRNK	**Zerenda**	**52.81**	**323**	*e*P	**P**	**03 24 46.1**	**+0.6**
comp=Z,7.3nm,0.9s,mb4.7
STKA	**Stephens Creek**	**54.11**	**159**	P	**P**	**03 24 51.9**	**-3.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=355,slow=8.1,SNR=4.6
STKA	**Stephens Creek**	**54.11**	**159**	*e*P	**P**	**03 24 52.1**	**-2.8**
AKTK	**Aktyubinsk**	**58.89**	**318**	P	**P**	**03 25 29.1**	**+0.3**
AKTO	**Aktyubinsk**	**58.89**	**318**	P	**P**	**03 25 29.1**	**+0.3**
comp=Z,0.8nm,0.3s,mb4.2,baz=98,slow=11,SNR=5.6
ILAR	**Eielson Array**	**73.43**	**27**	P	**P**	**03 27 03.5**	**+1.6**
comp=Z,0.2nm,0.7s,mb3.0,baz=276,slow=5.4,SNR=4.9
ARCES	**ARCESS Array B**	**74.47**	**339**	P	**P**	**03 27 07.0**	**-0.9**
comp=Z,2.2nm,0.8s,mb3.9,baz=84,slow=8.2,SNR=7.7
FINES	**FINESS Array B**	**76.14**	**331**	P	**P**	**03 27 17.0**	**-0.4**
comp=Z,1.1nm,0.7s,mb3.7,baz=79,slow=9.7,SNR=4.9
INK	**Inuvik**	**77.68**	**22**	P	**P**	**03 27 25.8**	**-0.3**
comp=Z,0.4nm,0.4s,mb3.5,baz=250,slow=3.0,SNR=7.0
NB2	**NORSAR Subarra**	**83.00**	**333**	P	**P**	**03 27 53.6**	**-1.0**
comp=Z,0.4nm,0.6s,mb3.4,baz=62,slow=4.8
NOA	**NORSAR Array B**	**83.00**	**333**	P	**P**	**03 27 53.9**	**-0.7**
comp=Z,0.8nm,0.7s,mb3.7,baz=57,slow=7.4,SNR=4.1
GERES	**GERESS Array B**	**87.16**	**321**	P	**P**	**03 28 14.8**	**-0.5**
comp=Z,0.4nm,0.7s,mb3.5,baz=90,slow=2.7,SNR=4.4
YKA	**Yellowknife Ar**	**87.38**	**23**	P	**P**	**03 28 16.5**	**+0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=306,slow=4.5,SNR=17

IDC ***03*** *03:48:56.8±1.8, 0.39S×9657E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=60.0km s-min=21.9km az=58.0*
ISCJB ***03*** *03:48:59.5±1.0, 03S±01×966E±01, h33km, mb3.6/6, Error ellipse: s-maj=19.2km s-min=13.1km az=50.4*
NEIC ***03*** *03:49:01.1±1.0, 032S×9661E, h30km, mb3.7/1, Error ellipse: s-maj=27.0km s-min=15.9km az=61.0*
ISC 03 03:49:02.0±1.0, 03S±01×966E±01, h35km, n9, σ0§96/9, mb3.6/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.82**	**37**	Pn	**Pn**	**03 49 57.1**	**-1.2**
1.4nm,0.3s,baz=342,slow=23,SNR=6.0
PSI				Sn	**Sn**	**03 50 42.3**	**+0.4**
1.3nm,0.3s,baz=210,slow=21,SNR=3.8
KULM	**Kulim**	**6.83**	**36**	*e*Pn	**Pn**	**03 50 35.2**	**-4.4**
WRA	**Warramunga Arr**	**41.77**	**120**	P	**P**	**03 56 47.5**	**-0.3**
0.5nm,0.9s,mb3.2,baz=299,slow=9.8,SNR=10.0
ASAR	**Alice Springs**	**42.99**	**125**	P	**P**	**03 56 58.2**	**+0.5**
0.5nm,0.6s,mb3.4,baz=301,slow=7.4,SNR=5.8
MKAR	**Makanchi Array**	**48.53**	**347**	P	**P**	**03 57 42.5**	**+1.0**
1.2nm,0.5s,mb4.2,baz=159,slow=8.4,SNR=23
SONM	**Songino Array**	**48.66**	**9**	P	**P**	**03 57 44.3**	**+1.7**
0.7nm,0.6s,mb3.9,baz=190,slow=8.3,SNR=5.1
BVAR	**Borovoye Array**	**57.45**	**342**	P	**P**	**03 58 46.5**	**-0.8**
0.3nm,0.5s,mb3.5,baz=149,slow=8.4,SNR=3.4
BRVK	**Borovoye**	**57.51**	**341**	P	**P**	**03 58 46.7**	**-1.0**
0.4nm,0.4s,mb3.8
TXAR	**Lajitas Array**	**145.21**	**32**	PKPbc	PKPbc	04 08 37.1	+1.6
0.3nm,0.4s,baz=194,slow=0.8,SNR=10

ISCJB ***03*** *03:54:00.2±1.0, 4316N±007×021E±004, h10km, Error ellipse: s-maj=9.5km s-min=4.4km az=169.6*
LDG ***03*** *03:54:01.4±0.0, 4303N×022E, h15km, Md1.4/1, Ml1.1/2, Error ellipse: s-maj=2.1km s-min=0.7km az=170.0*
STR ***03*** *03:54:01.8±0.0, 4304N×004W, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***03*** *03:54:03.1±0.3, 4300N×020E, h0km, mbLg0.4/2, Error ellipse: s-maj=3.1km s-min=2.2km az=166.0, PRXIMO*
ISC 03 03:54:00.9±1.2, 4306N±008×022E±005, h18km±8km, n12, σ0§23/14, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**106**	*e*Pg	**Pg**	**03 54 04.7**	**+0.2**
EPF				*e*Sg	**Sg**	**03 54 06.8**	**0.0**
4.9nm,0.2s
EPF	**Esparros**	**0.09**	**106**	Pg	**Pg**	**03 54 04.7**	**+0.2**
EPF				Lg		03 54 06.8	
2.5nm,0.2s
LABF	**Labassere**	**0.11**	**265**	Pg	**Pg**	**03 54 04.8**	**+0.2**
LABF				Sg	**Sg**	**03 54 07.0**	**-0.1**
LABF	**Labassere**	**0.11**	**265**	Pg	**Pg**	**03 54 04.9**	**+0.3**
LABF				Lg		03 54 07.1	
VIEF	**Viey**	**0.23**	**220**	Pg	**Pg**	**03 54 06.2**	**0.0**
VIEF				Sg	**Sg**	**03 54 09.4**	**-0.4**
VIEF	**Viey**	**0.23**	**220**	Pg	**Pg**	**03 54 06.2**	**0.0**
VIEF				Lg		03 54 09.5	
EBIE	**Bielsa**	**0.37**	**189**	Pg	**Pg**	**03 54 08.8**	**+0.1**
0.3nm,0.1s,SNR=7.9
EBIE				Lg		03 54 13.5	
2.0nm,0.2s,SNR=7.9
ETSF	**Etsaut**	**0.59**	**255**	*e*Pg	**Pg**	**03 54 12.8**	**+0.1**
ETSF				*e*Sg	**Sg**	**03 54 21.0**	**+0.4**
SJPF	**Ste Jean**	**1.06**	**274**	*e*Sg	**Sg**	**03 54 35.0**	**-0.4**
0.2nm,0.3s
SJPF	**Ste Jean**	**1.06**	**274**	Lg		03 54 35.0	
0.1nm,0.3s
MTLF	**Montolieu**	**1.49**	**78**	*e*Sg	**Sg**	**03 54 48.8**	**-0.2**
0.4nm,0.2s

MTLF Montolieu 1.49 78 Lg 03 54 48.8
0.2nm,0.2s

NIED ***03*** *04:03:00,3790N×14190E,h44km,Mw4.5 Best double couple: M₀6.10000×10¹⁵ NP1:φ₀21.00000°,δ73.00000°, λ97.00000°. NP2:φ₀179.00000°,δ18.00000°,λ69.00000°.*
NAO ***03*** *04:03:40.1,3540N×145.12E,h33km,mb4.3*
MOS ***03*** *04:03:57.9±1.0,3794N×14191E,h33km,mb4.8/44,Error ellipse: s-maj=9.2km s-min=5.3km az=106.6*
ISCJB ***03*** *04:03:60.0±0.6,3789N±003×14186E±005,h51km±3km, mb4.5/91,MS3.8/13,Error ellipse: s-maj=6.8km s-min=4.2km az=73.1*
JMA ***03*** *04:03:59.7±0.1,3787N×14188E,h42km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φ₀210.00000°,δ30.00000°,λ70.00000°. NP2:φ₀53.00000°, δ62.00000°,λ101.00000°. Principal axes: T Plg71.0000°, Azm349.0000°; N Plg10.0000°, Azm228.0000°; P Plg16.0000°, Azm135.0000°;*
JMA Felt II J1.
BJI ***03*** *04:04:00.2,3788N×14183E,h65km,mB5.0,mb4.8,Ms4.2, Msz3.9*
SZGRF ***03*** *04:04:01.1,3817N×14135E,h33km,mb4.4,Near east coast of eastern Honshu, Japan*
NEIC ***03*** *04:04:02.9±0.7,3784N×14182E,h67km±6km,mb4.6/52, MW4.5(NIED),Error ellipse: s-maj=6.7km s-min=5.1km az=152.0*
NEIC Recorded [2 JMA] in Fukushima, Iwate and Miyagi Prefectures.
IDC ***03*** *04:04:03.7±2.7,3787N×14179E,h75km±25km,mb4.0/19, mb1 4.1/21,mb1mx4.1/25,mbtmp4.3/21,MS3.8/6, Ms1 3.8/6,ms1mx3.2/35,Error ellipse: s-maj=16.1km s-min=14.5km az=70.0*
ISC 03 04:04:01.1±0.6,3790N±003×14183E±005,h48km±3km, h75km±5.5km:pP-P,n234,σ0§86/252,mb4.5/91,MS3.8/13, 16C-18D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.67**	**326**	⇓P			**Pn**	**04 04 13.6**	**-0.8**
JIO				S			**Sn**	**04 04 23.1**	**-0.9**
JMM	**Marumori**	**0.82**	**268**	⇓P			**Pn**	**04 04 15.7**	**-0.7**
JMM				*e*S			**Sn**	**04 04 27.1**	**-0.4**
JFK	**Kawauchi**	**0.93**	**235**	⇓P			**Pn**	**04 04 16.4**	**-1.4**
JFK				S			**Sn**	**04 04 28.5**	**-1.5**
JOU	**Okura**	**1.03**	**297**	⇓P			**Pn**	**04 04 19.1**	**-0.1**
JOU				*e*S			**Sn**	**04 04 32.9**	**+0.3**
JMK	**Ichinoseki**	**1.16**	**336**	⇓P			**Pn**	**04 04 20.3**	**-0.6**
JFT	**Otama**	**1.25**	**253**	⇓P			**Pn**	**04 04 22.2**	**+0.1**
JFT				S			**Sn**	**04 04 38.6**	**+0.9**
JYS	**Shiratake**	**1.43**	**284**	⇓P			**Pn**	**04 04 24.7**	**+0.1**
JYK	**Kaneyama**	**1.54**	**312**	⇓P			**Pn**	**04 04 26.1**	**0.0**
JOM	**Ohasama**	**1.63**	**345**	⇓P			**Pn**	**04 04 27.0**	**-0.3**
JOM				S			**Sn**	**04 04 46.9**	**-0.2**
JFY	**Yanaizu**	**1.76**	**254**	⇓P			**Pn**	**04 04 29.2**	**+0.1**
JYA	**Atsumi**	**1.81**	**293**	⇓P			**Pn**	**04 04 29.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.19**	**246**	P			**Pn**	**04 04 49.9**	**+1.1**
	20nm,0.3s,baz=53,slow=11,SNR=91								
MJAR				S			**Sn**	**04 05 31.5**	**+5.9**
	14nm,0.3s,baz=86,slow=19,SNR=6.6								
MJAR				LR			LR	04 06 19.1	
	comp=Z,2μm,20.5s,baz=65,slow=43								
MJAR	**Matsushiro Arr**	**3.19**	**246**	P			**Pn**	**04 04 49.9**	**+1.1**
MJAR				S			**Sn**	**04 05 31.5**	**+5.9**
MAJO	**Matsushiro**	**3.19**	**246**	*e*P			**Pn**	**04 04 49.6**	**+0.8**
MAT	**Matsushiro**	**3.19**	**246**	P			**Pn**	**04 04 49.8**	**+1.0**
MAT				S			**Sn**	**04 05 28.4**	**+2.8**
MAT	**Matsushiro**	**3.19**	**246**	*e*P			**Pn**	**04 04 50.0**	**+1.2**
MAT				*e*S			**Sn**	**04 05 28.0**	**+2.4**
JHJ	**Hachijo jima 2**	**5.05**	**200**	P			**Pn**	**04 05 17.5**	**+3.2**
	61nm,0.3s,baz=76,slow=19,SNR=7.6								
JHJ				S			**Sn**	**04 06 08.5**	**-2.9**
	27nm,0.3s,baz=88,slow=22,SNR=3.7								
ASAJ	**Asahikawa**	**6.24**	**5**	P			**Pn**	**04 05 29.6**	**-1.0**
	10nm,0.3s,baz=224,slow=9.6,SNR=16								
ASAJ				S			**Sn**	**04 06 42.1**	**+1.6**
	6.6nm,0.3s,baz=159,slow=34,SNR=3.3								
ASAJ	**Asahikawa**	**6.24**	**5**	P			**Pn**	**04 05 29.6**	**-1.0**
ASAJ				S			**Sn**	**04 06 42.2**	**+1.7**
ASAJ				pmax			pmax		
	comp=Z,10.0nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**6.84**	**25**	P			**Pn**	**04 05 35.7**	**-3.2**
YUK				*i* S			**Sn**	**04 06 48.7**	**-6.7**
YUK				smax					
	comp=N,740nm,0.5s								
YUK				smax					
	comp=E,740nm,0.5s								
YSS	**Yuzh-Sakhalins**	**9.07**	**4⇑**	*e*P			**Pn**	**04 06 11.0**	**+1.6**
YSS				pmax			pmax		
	comp=Z,60nm,2.1s								
VLA	**Vladivostok**	**9.19**	**308**	*e*P			**Pn**	**04 06 18.6**	**+7.6**
VLA				pmax			pmax		
	comp=Z,53nm,0.7s								
KS15	**Wonju Array Si**	**11.07**	**272**	*e*Pn			**Pn**	**04 06 39.9**	**+3.2**
MDJ	**Mudanjiang**	**11.39**	**310**	P			**Pn**	**04 06 42.9**	**+1.8**
MDJ				S			**Sn**	**04 08 50.5**	**+3.6**
MDJ				SS				04 09 03.7	
MDJ				PCS		PcS		04 16 05.0	-0.5
MDJ				AMB		AMB			
	comp=Z,15nm,1.3s								
MDJ				AMB		AMB			
	comp=Z,150nm,4.4s								
MDJ				LR		LR			
	comp=N,199nm,24.4s								
MDJ				LR		LR			
	comp=E,186nm,23.1s								
MDJ				LR		LR			
	comp=Z,354nm,23.1s								
MDJ	**Mudanjiang**	**11.39**	**310**	*e*Pn			**Pn**	**04 06 45.6**	**+4.5**
	comp=Z,32nm,1.0s								
HABR	**Khabarovsk**	**11.66**	**337**	*i* P			**Pn**	**04 06 45.1**	**+0.3**
HABR				pmax			pmax		
	comp=Z,12nm,0.3s								
KLR	**Kul'dur**	**13.46**	**330**	*e*P			**Pn**	**04 07 14.7**	**+5.3**
CN2	**Changchun**	**13.72**	**301**	*e*P			**Pn**	**04 07 16.9**	**+4.0**
SSE	**Sheshan**	**18.30**	**254**	*e*P			**Pn**	**04 08 10.2**	**-1.2**
SSE				AP		pP		04 08 26.6	+4.4
SSE				XP		sP		04 08 35.6	+7.3
SSE				S		**S**		**04 11 32.8**	**-4.9**
SSE				SCS		ScS		04 19 49.4	-4.0
SSE				AMB		AMB			
	comp=Z,26nm,1.0s								
SSE				AMB		AMB			
	comp=Z,150nm,3.6s								
SSE				LR		LR			
	comp=N,110nm,23.0s								
SSE				LR		LR			
	comp=E,86nm,22.9s								
SSE				LR		LR			
	comp=Z,146nm,26.3s								
HIA	**Hailar**	**19.55**	**313**	*e*P			**Pn**	**04 08 24.3**	**-2.0**
HIA				pmax			pmax		
	comp=Z,5.0nm,0.5s								
HIA	**Hailar**	**19.55**	**313**	*e*P			**Pn**	**04 08 24.3**	**-2.1**
	comp=Z,4.9nm,0.5s								
NJ2	**Nanjing**	**19.69**	**260**	*e*P			**Pn**	**04 08 26.4**	**-1.6**
NJ2				AP		pP		04 08 41.3	+3.8
NJ2				PP				04 08 46.3	
NJ2				XP		sP		04 08 50.6	+7.0
NJ2				S		**S**		**04 11 56.0**	**-10**
NJ2				XS		sS		04 12 16.0	-7.7
NJ2				AMB		AMB			
	comp=Z,20nm,1.1s								
NJ2				AMB		AMB			
	comp=Z,330nm,4.6s								
NJ2				LR		LR			
	comp=N,510nm,16.5s								
NJ2				LR		LR			
	comp=E,790nm,14.1s								
NJ2				LR		LR			
	comp=Z,420nm,13.8s								
BJT	**Baijiatuau**	**20.05**	**284**	*e*P			**P**	**04 08 27.8**	**-2.4**
BJT				pmax			pmax		
	comp=Z,16nm,0.6s								
BJT	**Baijiatuau**	**20.05**	**284**	*e*P			**P**	**04 08 27.8**	**-2.4**
	comp=Z,16nm,0.6s								
CLNS	**Chul'man**	**22.04**	**335**	*e*P			**P**	**04 08 48.9**	**-2.6**
CLNS				pmax			pmax		
	comp=N,6.0nm,0.7s								
CLNS				pmax			pmax		
	comp=Z,11nm,0.7s,mb4.4								
CLNS				pmax			pmax		
	comp=E,5.0nm,0.8s								
CLNS				MLR			MLR		
	comp=Z,200nm,16.0s,MS3.6								
CLNS				MLR			MLR		
	comp=N,70nm,12.0s,MS3.5								
CLNS				MLR			MLR		
	comp=E,100nm,14.0s,MS3.5								
MA2	**Magadan**	**22.44**	**12**	*e*P			**P**	**04 08 56.2**	**+0.4**
MA2				*e*PP				04 09 13.0	
MA2				*e*S			**S**	**04 12 55.2**	**-4.2**
MA2				*e*				04 13 11.5	
MA2				pmax			pmax		
	comp=Z,10.0nm,0.7s,mb4.3								
MA2	**Magadan**	**22.44**	**12**	*e*P			**P**	**04 08 56.1**	**+0.3**
	comp=Z,9.0nm,0.7s,mb4.3								
HHC	**Hu-ho-hao-te**	**23.53**	**287**	*e*P			**P**	**04 09 06.1**	**-0.8**
HHC				AP				04 09 21.3	
HHC				XP			sP	04 09 30.4	+5.6
HHC				PP				04 09 42.3	
HHC				PCP			PcP	04 12 47.7	-3.4
HHC				S			**S**	**04 13 15.4**	**-1.8**
HHC				PCS			PcS	04 16 25.7	-4.8
HHC				AMB			AMB		
	comp=Z,17nm,0.7s,mb4.6								
HHC				AMB			AMB		
	comp=Z,116nm,7.4s								
HHC				LR			LR		
	comp=N,160nm,11.0s,MS4.0								
HHC				LR			LR		
	comp=E,256nm,14.5s,MS4.0								
HHC				LR			LR		
	comp=Z,249nm,16.0s,MS3.8								
GUMO	**Guam**	**24.36**	**173**	LR			LR	04 16 31.8	
	comp=Z,126nm,20.1s,MS3.4,baz=89,slow=31								
YAK	**Yakutsk**	**25.30**	**347**	*d i*P			**P**	**04 09 22.4**	**-0.7**
YAK				pmax			pmax		
	comp=Z,50nm,1.6s,mb4.8								
YAK	**Yakutsk**	**25.30**	**347**	*e*P			**P**	**04 09 22.4**	**-0.7**
	comp=Z,22nm,0.5s,mb5.0								
SEY	**Seymchan**	**25.88**	**11**	*e*P			**P**	**04 09 29.3**	**+1.0**
SEY				*e*				04 10 17.8	
SEY								04 12 55.6	
SEY				*e*S			**S**	**04 13 53.2**	**-1.6**
SEY				*e*SS				04 15 01.6	
SEY				pmax			pmax		
	comp=N,10.0nm,0.8s								
SEY				pmax			pmax		
	comp=Z,6.0nm,0.8s,mb4.2								
SEY				pmax			pmax		
	comp=E,6.0nm,1.0s								
SEY				smax					
	comp=N,60nm,15.4s								
SEY				smax					
	comp=E,25nm,14.3s								
SEY				MLR			MLR		
	comp=Z,30nm,11.0s,MS3.1								
SEY				MLR			MLR		
	comp=N,40nm,14.0s,MS3.1								
SEY				MLR			MLR		
	comp=E,19nm,18.0s,MS3.1								
ULN	**Ulaanbaatar**	**27.16**	**303**	*d i*P			**P**	**04 09 40.6**	**+0.8**
ULN	**Ulaanbaatar**	**27.16**	**303**	*e*P			**P**	**04 09 40.1**	**+0.3**
	comp=E,8.2nm,0.8s,mb4.3								
SONM	**Songino Array**	**27.59**	**302**	P			**P**	**04 09 44.6**	**+0.9**
	comp=E,11nm,0.8s,mb4.6,baz=99,slow=8.6,SNR=86								
SONM				LR			LR	04 21 14.7	
	comp=E,142nm,18.2s,MS3.6,baz=72,slow=37								
ENH	**Enshi**	**27.75**	**264**	*e*P			**P**	**04 09 44.9**	**-0.2**
	comp=E,55nm,0.9s,mb5.2								
ZAK	**Zakamensk**	**30.00**	**307**	*e*P			**P**	**04 10 05.0**	**-0.1**
ZAK				pmax			pmax		
	comp=Z,11nm,1.5s,mb4.4								
LZH	**Lanzhou**	**30.26**	**278**	*e*P			**P**	**04 10 07.5**	**+0.1**
LZH				AP			pP	04 10 25.4	+5.4
LZH				XP			sP	04 10 34.5	+8.8
LZH				*e*PP			PP	04 11 08.7	-7.6
LZH				AMB			AMB		
	comp=Z,25nm,1.5s,mb4.7								
LZH				AMB			AMB		
	comp=Z,53nm,5.7s								
LZH				LR			LR		
	comp=N,318nm,13.5s								
LZH				LR			LR		
	comp=Z,357nm,17.3s,MS4.1								
GYA	**Guiyang**	**31.70**	**259**	⇓*i*P			**P**	**04 10 19.8**	**-0.3**
GYA				S			**S**	**04 15 19.6**	**-6.7**
GYA				AMB			AMB		
	comp=Z,30nm,0.9s,mb5.1								
GYA				AMB			AMB		
	comp=Z,110nm,3.2s								
GYA				LR			LR		
	comp=N,670nm,16.4s,MS4.6								
GYA				LR			LR		
	comp=E,840nm,16.8s,MS4.6								
GYA				LR			LR		
	comp=Z,750nm,16.6s,MS4.5								
CD2	**Chengdu**	**32.01**	**269**	⇓*i*P			**P**	**04 10 22.2**	**-0.6**
CD2				AMB			AMB		
	comp=Z,10.0nm,0.9s,mb4.7								
CD2				AMB			AMB		
	comp=Z,80nm,4.9s								
GTA	**Gaotai**	**32.64**	**286**	*e*P			**P**	**04 10 28.2**	**-0.1**
GTA				AP			pP	04 10 45.6	+4.7
GTA				XP			sP	04 10 53.5	+6.8
GTA				PP			PP	04 11 42.7	0.0
GTA				S			**S**	**04 15 38.8**	**-2.0**
GTA				XS			sS	04 16 08.4	+6.3
GTA				SS			SS	04 17 42.0	-21
GTA				AMB			AMB		
	comp=Z,9.0nm,0.9s,mb4.7								
GTA				AMB			AMB		
	comp=Z,81nm,3.8s								
GTA				LR			LR		
	comp=N,67nm,15.2s,MS3.8								
GTA				LR			LR		
	comp=E,155nm,19.8s,MS3.8								
GTA				LR			LR		
	comp=Z,213nm,20.1s,MS3.8								
KMI	**Kunming**	**35.43**	**260**	⇓P			**P**	**04 10 52.9**	**+0.4**
KMI				AP			pP	04 11 12.3	+7.1
KMI				S			**S**	**04 16 21.0**	**-3.0**
KMI				SS			SS	04 18 42.0	-17
KMI				AMB			AMB		
	comp=Z,11nm,1.1s,mb4.7								
KMI				AMB			AMB		
	comp=Z,107nm,4.0s								
KMI				LR			LR		
	comp=Z,99nm,21.7s,MS3.5								
TNA	**Tin City**	**39.94**	**30**	*e*P			**P**	**04 11 31.0**	**+0.4**
	comp=Z,11nm,1.7s,mb4.3								
WMQ	**Urumqi**	**40.75**	**296**	P			**P**	**04 11 38.0**	**+0.7**
WMQ				AP			pP	04 11 56.0	+5.8
WMQ				XP			sP	04 12 05.0	+9.1
WMQ				PP			PP	04 13 16.0	+4.1
WMQ				S			**S**	**04 17 43.0**	**-1.5**
WMQ				XS			sS	04 18 14.0	+7.9
WMQ				SS			SS	04 20 42.0	-4.6
WMQ				AMB			AMB		
	comp=Z,28nm,1.0s,mb4.8								
WMQ				AMB			AMB		
	comp=Z,135nm,6.0s								
WMQ				LR			LR		
	comp=N,85nm,12.0s,MS4.0								
WMQ				LR			LR		
	comp=E,109nm,14.0s,MS4.0								
WMQ				LR			LR		
	comp=Z,102nm,13.0s,MS3.9								
LSA	**Lhasa**	**42.47**	**274**	P			**P**	**04 11 52.6**	**+1.3**
LSA	**Lhasa**	**42.47**	**274**	*e*P			**P**	**04 11 53.0**	**+1.7**
LSA				pmax			pmax		
	comp=Z,15nm,0.8s,mb4.7								
LSA	**Lhasa**	**42.47**	**274**	*e*P			**P**	**04 11 53.0**	**+1.7**
	comp=Z,15nm,0.8s,mb4.7								
NVS	**Novosibirsk**	**42.49**	**313**	*e*P			**P**	**04 11 50.8**	**-0.7**
NVS				pmax			pmax		
	comp=Z,16nm,1.1s,mb4.6								
NVS				pmax			pmax		
	comp=E,18nm,1.2s								
SHL	**Shillong**	**43.75**	**269**	*e*P			**P**	**04 12 02.0**	**+0.3**
MK31	**Makanchi Array**	**43.95**	**301**	*i* P			**P**	**04 12 03.2**	**-0.1**
MK31				pmax			pmax		
	comp=Z,4.0nm,0.5s,mb4.4								
MKAR	**Makanchi Array**	**43.95**	**301**	P			**P**	**04 12 03.4**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.3,baz=81,slow=9.9,SNR=42								
MKAR				LR			LR	04 30 44.9	
	comp=Z,54nm,18.4s,MS3.5,baz=177,slow=36								
MKAR	**Makanchi Array**	**43.95**	**301**	P			**P**	**04 12 03.4**	**+0.1**
MKAR				LR			LR	04 30 44.9	
KURK	**Kurchatov**	**45.67**	**307**	*c i*P			**P**	**04 12 16.8**	**-0.2**
KURK	**Kurchatov**	**45.67**	**307**	*e*P			**P**	**04 12 16.4**	**-0.5**
	comp=Z,25nm,0.7s,mb5.3								
IMA2	**Indian Mountai**	**45.77**	**31**	P			**P**	**04 12 18.1**	**+0.3**
JIRN	**Jiri**	**47.28**	**275**	*e*P			**P**	**04 12 30.6**	**+1.0**
	comp=Z,22nm,0.6s,mb5.2								
GUN	**Gumba**	**47.41**	**275**	*e*P			**P**	**04 12 31.5**	**+0.9**
	comp=Z,63nm,0.7s								
PKI	**Pulchoki**	**47.93**	**275**	*e*P			**P**	**04 12 35.0**	**+0.3**
	comp=Z,14nm,0.6s,mb5.2								
KKN	**Kakani**	**47.93**	**275**	*e*P			**P**	**04 12 35.3**	**+0.6**
	comp=Z,37nm,0.7s,mb5.5								
DMN	**Daman**	**48.15**	**275**	*e*P			**P**	**04 12 36.9**	**+0.5**
	comp=Z,16nm,0.6s,mb5.3								
GKN	**Gorkha**	**48.34**	**276**	*e*P			**P**	**04 12 38.5**	**+0.7**
	comp=Z,77nm,0.9s								
ILAR	**Eielson Array**	**48.59**	**33**	P			**P**	**04 12 39.4**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=264,slow=5.5,SNR=22								
KOLN	**Koldanda**	**49.27**	**276**	*e*P			**P**	**04 12 45.6**	**+0.7**
	comp=Z,8.4nm,0.4s,mb5.2								
TKM2	**Tokmak 2**	**49.52**	**298**	P			**P**	**04 12 47.9**	**+1.1**
	SNR=22								
KZA	**Kyzart**	**50.02**	**297**	P			**P**	**04 12 53.0**	**+2.3**
	SNR=9.7								
KBK	**Karagaybulak**	**50.05**	**298**	P			**P**	**04 12 51.7**	**+0.8**
	SNR=22								
USP	**Ospenovka**	**50.17**	**299**	P			**P**	**04 12 52.4**	**+0.6**
	SNR=13								
BVA0	**Borovoye Array**	**50.24**	**312**	*i* P			**P**	**04 12 52.1**	**-0.2**
BVA0				pmax			pmax		
	comp=Z,1.0nm,0.6s,mb4.0								
BVAR	**Borovoye Array**	**50.24**	**312**	P			**P**	**04 12 51.9**	**-0.4**
	comp=Z,3.6nm,0.5s,mb4.7,baz=73,slow=7.5,SNR=38								
BVAR				PcP			PcP	04 14 10.7	-0.1
	comp=Z,2.0nm,0.8s,baz=0.0,slow=1.5,SNR=4.2								
BRVK	**Borovoye**	**50.30**	**312**	*e*P			**P**	**04 12 52.5**	**-0.2**
BRVK				pmax			pmax		
	comp=Z,4.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**50.30**	**312**	*e*P			**P**	**04 12 52.5**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**50.38**	**298**	P			**P**	**04 12 54.0**	**+0.6**
	SNR=5.4								
AAK	**Ala-Archa**	**50.38**	**298**	*c i*P			**P**	**04 12 52.8**	**-0.6**
AAK				pmax			pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
AAK	**Ala-Archa**	**50.38**	**298**	*e*P			**P**	**04 12 52.7**	**-0.7**
	comp=Z,7.4nm,0.9s,mb4.7								
UCH	**Uchtor**	**50.49**	**297**	P			**P**	**04 12 55.5**	**+1.3**
	SNR=6.0								
EKS2	**Erkin-Say**	**50.87**	**298**	P			**P**	**04 12 57.6**	**+0.5**
	SNR=8.1								
ZRNK	**Zerenda**	**51.07**	**312**	*e*P			**P**	**04 12 58.1**	**-0.5**
ZRNK				pmax			pmax		
	comp=Z,8.0nm,0.8s,mb4.7								
ZRNK	**Zerenda**	**51.07**	**312**	*e*P			**P**	**04 12 58.1**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.7								
AML	**Almayashu**	**51.10**	**297**	P			**P**	**04 13 00.3**	**+1.5**
	SNR=19								
KK31	**Karatay Array**	**52.98**	**300**	*i* P			**P**	**04 13 13.0**	**+0.2**
KK31				pmax			pmax		
	comp=Z,2.0nm,0.3s,mb4.5								
KKAR	**Karatay Array**	**52.98**	**300**	*i* P			**P**	**04 13 13.0**	**+0.2**
KKAR				pmax			pmax		
	comp=Z,1.0nm,0.4s,mb4.1								
INK	**Inuvik**	**53.47**	**27**	P			**P**	**04 13 16.1**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=285,slow=6.6,SNR=10								
INK	**Inuvik**	**53.47**	**27**	*e*P			**P**	**04 13 16.4**	**0.0**
INK				pmax			pmax		
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**53.47**	**27**	*e*P			**P**	**04 13 16.4**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2								
ARU	**Arti**	**55.94**	**318⇑**	*i*P			**P**	**04 13 34.1**	**-0.1**
ARU				pmax			pmax		
	comp=Z,20nm,0.7s,mb5.3								
ARU	**Arti**	**55.94**	**318**	*e*P			**P**	**04 13 33.8**	**-0.4**
	comp=Z,19nm,0.8s,mb5.2								
AB31	**Akbulak array**	**57.64**	**310**	*i* P			**P**	**04 13 45.7**	**-0.6**
AB31				pmax			pmax		
	comp=Z,5.0nm,0.6s,mb4.7								
WRAB	**Tennant Creek**	**57.95**	**188**	*e*P			**P**	**04 13 47.9**	**-0.6**
WRAB				*e*			pP	04 14 00.4	-1.6
WRAB				pmax			pmax		
	comp=Z,6.0nm,0.8s,mb4.7								
WRAB	**Tennant Creek**	**57.95**	**188**	*e*P			**P**	**04 13 47.9**	**-0.6**
	comp=Z,6.3nm,0.8s,mb4.7								
WRAB				*e*			pP	04 14 00.4	-1.6
WB2	**Warramunga Arr**	**57.96**	**188**	*e*P			**P**	**04 13 47.7**	**-0.9**
WRA	**Warramunga Arr**	**57.96**	**188**	P			**P**	**04 13 47.8**	**-0.8**
	comp=Z,4.3nm,0.6s,mb4.7,baz=5.8,slow=7.2,SNR=70								
AKTK	**Aktyubinsk**	**58.35**	**312**	P			**P**	**04 13 50.2**	**-1.0**
AKTO	**Aktyubinsk**	**58.35**	**312**	P			**P**	**04 13 50.2**	**-1.0**
	comp=Z,5.8nm,0.7s,mb4.7,baz=73,slow=12,SNR=20								
RES	**Resolute Bay**	**61.68**	**15**	*e*P			**P**	**04 14 11.5**	**-2.6**
RES				pmax			pmax		
	comp=Z,5.0nm,0.8s,mb4.7								
RES	**Resolute Bay**	**61.68**	**15**	*e*P			**P**	**04 14 11.5**	**-2.6**
	comp=Z,4.6nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**61.69**	**188**	P			**P**	**04 14 13.6**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=9.5,slow=6.7,SNR=18								
ASAR	**Alice Springs**	**61.69**	**188**	P			**P**	**04 14 13.6**	**-0.6**
ASAR				pmax			pmax		
	comp=Z,2.0nm,0.8s								
KEV	**Kevo**	**62.75**	**339**	*e*p			**P**	**04 14 20.3**	**-1.0**
YKA	**Yellowknife Ar**	**62.90**	**30**	P			**P**	**04 14 21.6**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.1,baz=304,slow=6.5,SNR=30								
ARCES	**ARCESS Array B**	**63.31**	**339**	P			**P**	**04 14 24.4**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.3,baz=58,slow=8.1,SNR=16								
DZM	**Mont Dzumac**	**63.98**	**155**	LR			LR	04 40 14.1	
	comp=Z,112nm,19.1s,MS4.1,baz=43,slow=34								
JOF	**Joensuu**	**65.36**	**332**	*e*p			**P**	**04 14 38.6**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.3								
OBN	**Obninsk**	**67.61**	**323**	*e*P			**P**	**04 14 52.2**	**-0.5**
OBN				pmax			pmax		
	comp=Z,7.0nm,1.2s,mb4.6								
KAF	**Kangasniemi**	**67.69**	**333**	*e*p			**P**	**04 14 51.9**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.5,

comp=Z,1.1nm,0.6s,mb3.9,baz=282,slow=1.7,SNR=11
KWP Kalwaria 77.62 324 *e*P **P 04 15 53.1 +0.9**
BR131 Keskin Array S 78.53 312 *e*P **P 04 15 57.5 +0.2**
comp=Z,0.7nm,0.5s,mb3.9
BRTR Keskin Array B 78.53 312 P **P 04 15 57.6 +0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=76,slow=5.1,SNR=9.4
BSEG Bad Segeberg 79.44 333 *e*P **P 04 16 02.3 +0.1**
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 79.82 327 *e*P **P 04 16 03.9 -0.4**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MORC Moravsky Berou 79.82 327 *e*P **P 04 16 03.9 -0.4**
comp=Z,6.2nm,1.1s,mb4.5
UPC Upice 79.91 328 *e*P **P 04 16 05.3 +0.5**
PSZ Piszkesteto 80.15 325 *e*P **P 04 16 06.8 +0.7**
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PSZ Piszkesteto 80.15 325 *e*P **P 04 16 06.8 +0.7**
comp=Z,3.4nm,0.8s,mb4.3
BRG Berggiesshubel 80.48 330 *e*P **P 04 16 07.9 0.0**
comp=Z,4.0nm,1.2s,mb4.2
BRG Berggiesshubel 80.48 330 *e*P **P 04 16 07.8 -0.1**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 80.48 330 *e*P **P 04 16 07.8 0.0**
comp=Z,3.9nm,1.1s,mb4.2
PVCC Panska Ves 80.49 329 *e*P **P 04 16 07.9 0.0**
CLL Collm 80.51 330 *e*P **P 04 16 08.0 0.0**
comp=Z,6.0nm,1.0s,mb4.5
CLL Collm 80.51 330 *i*P **P 04 16 08.0 0.0**
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 80.51 330 *i*P **P 04 16 08.0 0.0**
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
PRU Pruhonice 80.92 329 *e*P **P 04 16 10.3 +0.1**
CLZ Clausthal 81.10 332 *e*P **P 04 16 11.2 0.0**
comp=Z,5.0nm,0.8s,mb4.5
CLZ Clausthal 81.10 332 *e*P **P 04 16 11.2 0.0**
CLZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WERD Werda 81.46 330 *e*P **P 04 16 13.0 -0.1**
comp=Z,1.0nm,0.8s,mb3.8
MOX Moxa 81.58 331 *e*P **P 04 16 13.6 -0.1**
comp=Z,2.0nm,0.8s,mb4.1
KHC Kasperske Hory 81.98 329 *e*P **P 04 16 15.5 +0.7**
KHC Kasperske Hory 81.98 329 *e*P **P 04 16 15.2 -0.6**
KHC Kasperske Hory 81.98 329⇓*i*P **P 04 16 15.8 0.0**
KHC Kasperske Hory 81.98 329 *e*P **P 04 16 15.2 -0.6**
ROTZ Rotzenmuhle 82.04 330 *e*P **P 04 16 16.4 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
GEC2 GERESS Array S 82.15 328 *e*P **P 04 16 16.5 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 82.15 328 *e*P **P 04 16 16.5 -0.2**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GERES GERESS Array B 82.15 328 P **P 04 16 16.2 -0.5**
comp=Z,1.5nm,0.5s,mb4.2,baz=41,slow=5.8,SNR=19
WET Wettzell 82.26 329 *e*P **P 04 16 17.6 +0.3**
comp=Z,3.0nm,1.1s,mb4.1
WET Wettzell 82.26 329 *e*P **P 04 16 17.6 +0.3**
WET pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
GRA1 Grafenberg Arr 82.49 330 *e*P **P 04 16 18.8 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 82.49 330 *e*P **P 04 16 18.8 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 82.49 330 *e*P **P 04 16 18.8 +0.3**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 82.49 330 *e*P **P 04 16 18.8 +0.3**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GROS Grobnik 83.22 326 *e*P **P 04 16 22.5 +0.2**
PERS Pernice 83.26 326 *i*P **P 04 16 22.8 +0.3**
EIL Elat 84.19 303 *e*P **P 04 16 27.4 +0.2**
comp=Z,87nm,0.7s
SCHQ Schefferville 84.42 16 P **P 04 16 28.1 -0.3**
comp=Z,3.0nm,1.0s,mb4.4,baz=352,slow=6.4,SNR=6.5
BFO Black Forest 84.71 331 *e*P **P 04 16 30.0 +0.1**
comp=Z,4.0nm,0.8s,mb4.6
CDF Champ du Feu 85.05 332⇑*i*P **P 04 16 31.5 -0.1**
comp=Z,13nm,0.9s,mb4.8
CDF Champ du Feu 85.05 332⇑*i*P **P 04 16 31.5 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CDF Champ du Feu 85.05 332⇑*i*P **P 04 16 31.5 -0.1**
comp=Z,6.6nm,0.9s,mb4.8
RPZ Rata Peaks 85.45 159 LR LR 04 51 21.7
comp=Z,225nm,19.8s,MS4.6,baz=6.9,slow=33
HINF Hinteralfeld 85.70 331 *e*P **P 04 16 34.3 -0.5**
HAU Haudompre 85.73 332⇑*i*P **P 04 16 35.6 +0.6**
comp=Z,11nm,0.7s,mb4.9
HAU Haudompre 85.73 332⇑*i*P **P 04 16 35.6 +0.6**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
HAU Haudompre 85.73 332⇑*i*P **P 04 16 35.6 +0.6**
comp=Z,5.4nm,0.7s,mb4.9
MEZF Maizieres J'vi 85.79 333 *e*P **P 04 16 34.7 -0.6**
CABF La Chapelle 86.99 331 *e*P **P 04 16 41.1 -0.1**
LOR Lormes 87.27 333 *e*P **P 04 16 42.4 -0.1**
comp=Z,7.7nm,0.8s,mb4.7
LOR Lormes 87.27 333 *e*P **P 04 16 42.4 -0.1**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
LOR Lormes 87.27 333 *e*P **P 04 16 42.4 -0.1**
comp=Z,3.8nm,0.8s,mb4.7
FLN La Foliniere 87.46 336 *e*P **P 04 16 43.1 -0.3**
LDF La Druitiere 87.49 336 *e*P **P 04 16 43.2 -0.4**
comp=Z,9.2nm,0.8s,mb4.8
LDF La Druitiere 87.49 336 *e*P **P 04 16 43.2 -0.4**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
LDF La Druitiere 87.49 336 *e*P **P 04 16 43.2 -0.4**
comp=Z,4.6nm,0.8s,mb4.8
SSF Saint Saulge 87.57 333 *e*P **P 04 16 43.9 0.0**
comp=Z,4.0nm,0.7s,mb4.4
SSF Saint Saulge 87.57 333 *e*P **P 04 16 43.9 0.0**
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
SSF Saint Saulge 87.57 333 *e*P **P 04 16 43.9 0.0**
comp=Z,2.0nm,0.7s,mb4.5
LPL La Plagne 87.65 330⇑*i*P **P 04 16 44.9 +0.6**
comp=Z,4.1nm,0.7s,mb4.5
LPL La Plagne 87.65 330⇑*i*P **P 04 16 44.9 +0.6**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
LPL La Plagne 87.65 330⇑*i*P **P 04 16 44.9 +0.6**
comp=Z,2.0nm,0.7s,mb4.5
LPG La Plagne 87.66 330⇑*i*P **P 04 16 45.0 +0.6**
comp=Z,6.9nm,0.7s,mb4.7
LPG La Plagne 87.66 330⇑*i*P **P 04 16 45.0 +0.6**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
LPG La Plagne 87.66 330⇑*i*P **P 04 16 45.0 +0.6**
comp=Z,3.5nm,0.7s,mb4.7
HYF Humbligny 87.70 334 *e*P **P 04 16 45.0 +0.4**
SMF Signal de Mont 87.80 333 *e*P **P 04 16 45.1 +0.1**
AVF Avril sur Loir 87.86 333 *e*P **P 04 16 45.3 0.0**
comp=Z,12nm,0.8s,mb4.9
AVF Avril sur Loir 87.86 333 *e*P **P 04 16 45.3 0.0**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
AVF Avril sur Loir 87.86 333 *e*P **P 04 16 45.3 0.0**
comp=Z,5.8nm,0.8s,mb4.9
GRR Gorron 87.91 336 *e*P **P 04 16 45.6 +0.1**
comp=Z,12nm,0.8s,mb4.9
GRR Gorron 87.91 336 *e*P **P 04 16 45.6 +0.1**
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRR Gorron 87.91 336 *e*P **P 04 16 45.6 +0.1**
comp=Z,5.9nm,0.8s,mb4.9
TIP Timpagrande 88.19 320 *e*P **P 04 16 46.7 -0.2**
BGF Bois d'Agland 88.23 333 *e*P **P 04 16 47.2 +0.1**
comp=Z,5.6nm,0.7s,mb4.6
BGF Bois d'Agland 88.23 333 *e*P **P 04 16 47.2 +0.1**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
BGF Bois d'Agland 88.23 333 *e*P **P 04 16 47.2 +0.1**
comp=Z,2.8nm,0.7s,mb4.6
ORIF Oris-en-Rattie 88.48 330 *e*P **P 04 16 48.7 +0.4**
comp=Z,12nm,1.0s,mb4.8
ORIF Oris-en-Rattie 88.48 330 *e*P **P 04 16 48.7 +0.4**
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 88.48 330 *e*P **P 04 16 48.7 +0.4**
comp=Z,6.1nm,1.0s,mb4.8
SGMF Saint Gilles 88.56 337 *e*P **P 04 16 49.3 +0.7**
comp=Z,21nm,1.0s,mb5.1
SGMF Saint Gilles 88.56 337 *e*P **P 04 16 49.3 +0.7**
SGMF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
SGMF Saint Gilles 88.56 337 *e*P **P 04 16 49.3 +0.7**
comp=Z,10nm,1.0s,mb5.1
MFF Saint Martin d 89.24 335 *e*P **P 04 16 52.1 +0.3**
TXAR Lajitas Array 89.33 53 P **P 04 16 52.4 +0.2**
comp=Z,0.8nm,0.6s,mb4.2,baz=294,slow=2.9,SNR=15
TXAR Lajitas Array 89.33 53 P **P 04 16 52.4 +0.2**
RJF Les Rejaudoux 89.79 333 *e*P **P 04 16 54.6 +0.2**
comp=Z,4.2nm,0.7s,mb4.6
RJF Les Rejaudoux 89.79 333 *e*P **P 04 16 54.6 +0.2**
RJF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
RJF Les Rejaudoux 89.79 333 *e*P **P 04 16 54.6 +0.2**
comp=Z,1.0nm,0.7s,mb4.6
CAF Calviac 89.92 333 *e*P **P 04 16 55.7 +0.7**
comp=Z,6.0nm,0.8s,mb4.7
CAF Calviac 89.92 333 *e*P **P 04 16 55.7 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
CAF Calviac 89.92 333 *e*P **P 04 16 55.7 +0.7**
comp=Z,3.0nm,0.8s,mb4.7
LFF La Frestale 90.38 334 *e*P **P 04 16 57.5 +0.3**
TORD Torodi Ar. Bea 116.95 316 PKP PKPdf 04 22 39.8 -0.7
comp=Z,0.3nm,0.6s,baz=36,slow=2.4,SNR=4.6
LPAZ La Paz 145.97 59 PKPbc PKPbc 04 23 36.5 +1.1
comp=Z,3.0nm,0.9s,baz=324,slow=3.4,SNR=13
LPAZ La Paz 145.97 59 *e*PKPbc PKPbc 04 23 36.3 +1.0

ISCJB ***03*** *04:22:26.3±0.7,305N±0.1×99.12E±0.05,h13km, Error ellipse: s-maj=19.1km s-min=5.4km az=168.7*
BJI ***03*** *04:22:31.9,3074N×9897E,h13km,ML3.3,Ms3.5,Msz3.3*
ISC 03 04:22:28.7±1.7,306N±01×9907E±006,h6km±14km,n8,
σ0°83/10,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.04**	**85**	PG	**Pg**	**04 23 45.9**	**-0.2**
CD2				S	**Sn**	**04 24 18.6**	**-0.1**
CD2				SG	**Sg**	**04 24 38.8**	**+0.3**
CD2				Smax			
	comp=N,30nm,1.1s						
CD2				Smax			
	comp=E,40nm,1.0s						
KMI	**Kunming**	**6.38**	**149**	PG	**Pg**	**04 24 30.8**	**-0.1**
GYA	**Guiyang**	**7.87**	**120**	P	**Pn**	**04 24 28.5**	**+4.9**
JIRN	**Jiri**	**11.64**	**258**	*e*P	**Pn**	**04 25 16.7**	**+1.4**
GUN	**Gumba**	**11.83**	**260**	*e*P	**Pn**	**04 25 18.3**	**+0.4**
KKN	**Kakani**	**12.38**	**260**	*e*P	**Pn**	**04 25 25.2**	**-0.1**
DMN	**Daman**	**12.58**	**260**	*e*P	**Pn**	**04 25 28.4**	**+0.3**
KOLN	**Koldanda**	**13.81**	**262**	*e*P	**Pn**	**04 25 42.8**	**-2.2**
	comp=E,2.7nm,0.3s						

IDC 03 04:24:15.9±5.8,2030S×17742W,h0km,mb4.0/3,
mb1 4.2/3,mb1mx3.7/14,mbtmp4.0/3,Error ellipse:
s-maj=177.4km s-min=94.1km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.36**	**244**	P	P	04 31 37.8	-0.8
	0.8nm,0.3s,baz=98,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**45.09**	**256**	P	P	04 32 34.5	+0.8
	1.4nm,0.5s,baz=99,slow=7.8,SNR=19						
WRA	**Warramunga Arr**	**45.16**	**262**	P	P	04 32 34.9	+0.6
	1.0nm,0.3s,baz=96,slow=7.8,SNR=54						
AKASG	**Malin Array Be**	**143.10**	**332**	PKP	PKPdf	04 43 50.9	-0.9
	0.4nm,0.3s,baz=42,slow=4.6,SNR=6.3						

NEIC ***03*** *04:31:43.1±1.8,3787S×17640E,h219km±17km, MG3.8(WEL), Error ellipse: s-maj=22.7km s-min=11.5km az=142.0*
ISCJB ***03*** *04:31:46.1±1.1,381S±0.1×1765E±0.1,h188km±10km, Error ellipse: s-maj=24.6km s-min=8.6km az=85.0*
WEL ***03*** *04:31:48.4±0.3,3790S×17639E,h161km±2km,ML3.6/18, Error ellipse: s-maj=3.1km s-min=3.1km az=0.0*
ISC 03 04:31:46.8±1.1,381S±01×1765E±01,h185km±10km,n38,
σ0°95/46,1D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.50**	**110**	⇓PN	**Pn**	**04 32 12.1**	**-0.1**
URZ				SN	**Sn**	**04 32 30.4**	**-1.3**
URZ	**Urewera**	**0.50**	**110**	P	**Pn**	**04 32 12.1**	**-0.1**
MWZ	**Matawai**	**0.83**	**107**	PN	**Pn**	**04 32 14.4**	**+0.4**
MWZ				SN	**Sn**	**04 32 34.1**	**-0.7**
MWZ	**Matawai**	**0.83**	**107**	*e*P	**Pn**	**04 32 14.6**	**+0.7**
BKZ	**Black Stump Fm**	**1.08**	**181**	PN	**Pn**	**04 32 16.6**	**+1.0**
BKZ				SN	**Sn**	**04 32 38.0**	**+0.2**
BKZ	**Black Stump Fm**	**1.08**	**181**	*e*P	**Pn**	**04 32 16.7**	**+1.1**
BKZ				S	**Sn**	**04 32 38.0**	**+0.2**
KNZ	**Kokohu**	**1.30**	**136**	PN	**Pn**	**04 32 19.1**	**+1.7**
KNZ	**Kokohu**	**1.30**	**136**	*e*P	**Pn**	**04 32 19.2**	**+1.8**
TUVZ	**Tukino**	**1.36**	**210**	PN	**Pn**	**04 32 19.2**	**+1.2**
TUVZ	**Tukino**	**1.36**	**210**	P	**Pn**	**04 32 19.2**	**+1.3**
PUZ	**Puketiti**	**1.37**	**90**	PN	**Pn**	**04 32 18.4**	**+0.3**
PUZ				SN	**Sn**	**04 32 41.1**	**-1.1**
PUZ	**Puketiti**	**1.37**	**90**	*e*P	**Pn**	**04 32 18.3**	**+0.2**
WNVZ	**Wahianoa**	**1.43**	**210**	PN	**Pn**	**04 32 19.7**	**+1.2**
MOVZ	**Moawhango**	**1.45**	**204**	PN	**Pn**	**04 32 19.4**	**+0.7**
PKVZ	**Pokaka**	**1.51**	**217**	*e*PN	**Pn**	**04 32 20.3**	**+1.0**
MXZ	**Matakaoa Point**	**1.51**	**70**	PN	**Pn**	**04 32 19.5**	**+0.2**
MXZ				SN	**Sn**	**04 32 43.6**	**-0.8**
MXZ	**Matakaoa Point**	**1.51**	**70**	P	**Pn**	**04 32 19.3**	**0.0**
PXZ	**Pawanui**	**1.96**	**172**	PN	**Pn**	**04 32 25.7**	**+1.9**
TSZ	**Takapari Road**	**2.02**	**192**	PN	**Pn**	**04 32 25.2**	**+0.8**
TSZ	**Takapari Road**	**2.02**	**192**	P	**Pn**	**04 32 25.5**	**+1.1**
WAZ	**Wanganui**	**2.05**	**215**	PN	**Pn**	**04 32 25.6**	**+0.9**
WAZ	**Wanganui**	**2.05**	**215**	*e*P	**Pn**	**04 32 25.6**	**+0.9**
BFZ	**Birch Farm**	**2.60**	**185**	PN	**Pn**	**04 32 32.0**	**+1.1**
BFZ	**Birch Farm**	**2.60**	**185**	*e*P	**Pn**	**04 32 32.0**	**+1.1**
MRZ	**Mangatainoka R**	**2.67**	**195**	PN	**Pn**	**04 32 32.2**	**+0.4**
MRZ				SN	**Sn**	**04 33 05.8**	**-1.0**
MRZ	**Mangatainoka R**	**2.67**	**195**	P	**Pn**	**04 32 32.2**	**+0.4**
KIW	**Kapiti Island**	**3.04**	**204**	PN	**Pn**	**04 32 35.7**	**-0.4**
KIW				*e*SN	**Sn**	**04 33 14.5**	**0.0**
KIW	**Kapiti Island**	**3.04**	**204**	P	**Pn**	**04 32 35.9**	**-0.2**
MTW	**Mount Morrison**	**3.16**	**194**	P	**Pn**	**04 32 37.6**	**-0.1**
CAW	**Cannon Point**	**3.22**	**200**	P	**Pn**	**04 32 38.2**	**-0.1**
MSWZ	**Moikau Station**	**3.46**	**196**	P	**Pn**	**04 32 41.0**	**-0.3**
SNZO	**South Karori**	**3.51**	**203**	P	**Pn**	**04 32 41.3**	**-0.6**
BHW	**Baring Head**	**3.55**	**200**	P	**Pn**	**04 32 40.9**	**-1.5**
TCW	**Tory Channel**	**3.57**	**208**	P	**Pn**	**04 32 42.1**	**-0.5**
QRZ	**Quartz Range**	**4.12**	**227**	*e*P	**Pn**	**04 32 47.6**	**-2.0**
THZ	**Tophouse**	**4.60**	**216**	*e*P	**Pn**	**04 32 55.1**	**-0.6**
KHZ	**Kahutara**	**4.89**	**207**	P	**Pn**	**04 32 58.5**	**-0.9**
LTZ	**Lake Taylor**	**5.70**	**213**	P	**Pn**	**04 33 08.6**	**-1.3**

MAN 03 04:33:31.5,1639N×12048E,h6km,mb2.2,ML3.8,MS1.6,
2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.10**	**93**	⇓*i*P	Pg	04 33 35.0	+1.3
BOLP	**Bolinao**	**0.54**	**269**	*e*P	Pg	04 33 42.5	+0.6
BOLP				*e*S	Sg	04 33 50.6	+1.7
SCZP	**Santa Cruz**	**0.81**	**222**	*e*P	Pg	04 33 38.0	-9.1
PCPH	**Palayan**	**1.01**	**144**	⇓*e*P	Pg	04 33 50.7	-0.3
PCPH				*i*S	Sg	04 34 04.8	+0.7
BALP	**Baler**	**1.24**	**121**	*e*P	Pg	04 33 54.5	-0.8
BALP				*e*S	Sg	04 34 12.4	+1.2
ABRA	**Dolores**	**1.27**	**10**	*e*P	Pn	04 34 05.6	+10
ABRA				*e*S	Sg	04 34 15.6	+3.1
CAUP	**Cauayan**	**1.41**	**67**	*e*P	Pn	04 33 58.4	+0.8
APYP	**Conner**	**1.64**	**26**	*e*P	Pn	04 34 00.0	-0.9
APYP				*e*S	Sn	04 34 22.1	-0.1

NIED ***03*** *04:37:00,3620N×14170E,h23km,Mw5.7 Best double couple: M0=3.90000×10¹⁷ NP1:φs=27.00000°,δ72.00000°, λ85.00000°. NP2:φs=224.00000°,δ19.00000°,λ106.00000°.*
BJI ***03*** *04:37:34.1,3629N×14137E,h24km,mB5.7,mb5.5,Ms5.9, Msz5.8*
JMA ***03*** *04:37:35.3±0.2,3621N×14161E,h62km±4km,M5.9*
JMA Felt III J1.
ISCJB ***03*** *04:37:36.1±0.1,3619N±002×14154E±002,h35km, mb5.5/268,MS5.5/195,Error ellipse: s-maj=2.9km s-min=2.2km az=124.5*
NEIC ***03*** *04:37:36.4±0.1,3616N×14145E,h28km,mb5.5/157, ME5.6,MS5.4/143,MW5.7,MWS.7(NIED),Error ellipse: s-maj=4.7km s-min=3.2km az=165.0,Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁷Nm; Mrr2.21; Mθθ-0.80; Mφφ-1.41; Mrθ1.43; Mφθ-1.58; Mφr4.21; Best double couple: M0=5.10000×10¹⁷ NP1:φs=21.00000°, δ76.00000°,λ79.00000°. NP2:φs=241.00000°,δ18.00000°, λ128.00000°. Principal axes: T 5.0100, Plg57.0000°, Azm276.0000°; N 0.1900, Plg11.0000°, Azm24.0000°; P -5.1900, Plg30.0000°, Azm120.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*
NEIC Felt at Tokyo. Recorded [3 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi; [2 JMA] in Chiba, Gumma, Iwate, Kanagawa, Nagano, Niigata, Saitama, Tokyo and Yamagata; [1 JMA] in Aichi, Akita and Aomori, Shizuoka and Yamanashi Prefectures. Recorded [1 JMA] in south-central Hokkaido.
HRVD ***03*** *04:37:36.4±0.1,3612N×14181E,h32km,MW5.7/97, Centroid moment Tensor Solution. LP body waves: s87,c175;Mantle waves: s97,c213; Half duration: 1s8 Moment tensor: Scale 10¹⁷Nm; Mrr2.91±.05; Mθθ-0.55±.04; Mφφ-2.36±.04; Mrθ1.46±.07; Mφθ-1.83±.03; Mφr3.35±.06; Best double couple: M0=4.86400×10¹⁷ NP1:φs=221.00000°,δ21.00000°,λ105.00000°. NP2: φs=25.00000°,δ70.00000°,λ84.00000°. Principal axes: T 4.5950, Plg65.0000°, Azm285.0000°; N 0.5350, Plg5.0000°, Azm27.0000°; P -5.1330, Plg24.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CRAAG ***03*** *04:37:37.4,3628N×14139E,Mb5.4*
IDC ***03*** *04:37:37.7±2.1,3613N×14153E,h38km±17km,mb4.8/31, mb1 4.9/35,mb1mx4.9/36,mbtmp5.1/35,ML5.3/3,MS5.4/14, Ms1 5.4/14,ms1mx5.2/19,Error ellipse: s-maj=12.0km s-min=9.3km az=101.0*
MOS ***03*** *04:37:38.0±0.8,3660N×14141E,h33km,mb5.7/76, MS5.9/36,Error ellipse: s-maj=6.6km s-min=4.0km az=108.3*
BGS ***03*** *04:37:38.0,3601N×14041E,h33km,mb5.4*
SZGRF ***03*** *04:37:40.3,3695N×14193E,h42km,mb5.3,MS5.9,Near east coast of eastern Honshu, Japan*
NAO ***03*** *04:37:48.3,3780N×14028E,h33km,mb5.7*
ISC 03 04:37:37.8±0.1,3623N±002×14154E±002,h37km,
h37km±1.0km:pP-P,n888,σ1°07/827,mb5.5/268,MS5.5/195,
122C-31D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.76**	**227**	⇓P	**Pn**	**04 37 51.0**	**-1.1**
CHOJ				*e*S	**Sn**	**04 38 02.6**	**+0.3**
JHO	**Hitachi**	**0.87**	**296**	⇓P	**Pn**	**04 37 52.3**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.06**	**326**	⇓P	**Pn**	**04 37 54.7**	**-1.4**
JYT	**Yasato**	**1.09**	**270**	⇓P	**Pn**	**04 37 55.6**	**-0.9**
JFK	**Kawauchi**	**1.26**	**335**	⇓P	**Pn**	**04 37 57.4**	**-1.5**
JFK				*e*S	**Sn**	**04 38 14.7**	**+0.2**
JSB	**Shiboa**	**1.50**	**300**	⇓P	**Pn**	**04 38 02.2**	**0.0**
BSO4	**Boso 4**	**1.57**	**219**	P	**Pn**	**04 38 03.6**	**+0.3**
JFT	**Otama**	**1.61**	**324**	⇓P	**Pn**	**04 38 03.8**	**+0.1**
BSO1	**Boso 1**	**1.64**	**196**	P	**Pn**	**04 38 02.7**	**-1.4**
BSO3	**Boso 3**	**1.65**	**211**	P	**Pn**	**04 38 03.6**	**-0.7**
JAG	**Ashikaga**	**1.69**	**277**	⇓P	**Pn**	**04 38 04.3**	**-0.6**
JMM	**Marumori**	**1.74**	**340**	⇓P	**Pn**	**04 38 04.4**	**-1.2**
JMM				*e*S	**Sn**	**04 38 28.1**	**+1.6**
JFY	**Yanaizu**	**1.89**	**309**	⇓P	**Pn**	**04 38 07.6**	**+0.1**
JKT	**Katashina**	**1.92**	**287**	⇓P	**Pn**	**04 38 08.2**	**+0.2**
JRY	**Ryogami san**	**2.15**	**265**	↑P	**Pn**	**04 38 10.6**	**-0.5**
JOD2	**Odawara 2**	**2.21**	**245**	⇑P	**Pn**	**04 38 12.6**	**+0.6**
JIO	**Ouri**	**2.23**	**356**	⇑P	**Pn**	**04 38 10.8**	**-1.5**
JHK	**Hiroka**	**2.27**	**297**	⇓P	**Pn**	**04 38 13.4**	**+0.6**
JNS	**Sasagawa**	**2.38**	**312**	P	**Pn**	**04 38 14.9**	**+0.5**
JYN	**Shimob**	**2.54**	**254**	⇑P	**Pn**	**04 38 17.7**	**+1.2**
JIZZ	**Izumozaki**	**2.62**	**301**	P	**Pn**	**04 38 20.1**	**+2.5**
MJAR	**Matsushiro Arr**	**2.71**	**278**	Pn	**Pn**	**04 38 18.6**	**-0.2**
	500nm,0.3s,baz=7.3,slow=32,SNR=928						
MJAR				Sn	**Sn**	**04 38 52.9**	**+2.6**
	181nm,0.3s,baz=72,slow=16,SNR=9.3						
MJAR	**Matsushiro Arr**	**2.71**	**278**	Pn	**Pn**	**04 38 18.6**	**-0.2**
MJAR				Sn	**Sn**	**04 38 52.9**	**+2.6**
MAJO	**Matsushiro**	**2.71**	**278**	Pn	**Pn**	**04 38 19.9**	**+1.1**
MAJO	**Matsushiro**	**2.71**	**278**	*e*Pn	**Pn**	**04 38 19.8**	**+1.0**
MAT	**Matsushiro**	**2.71**	**278**	P	**Pn**	**04 38 19.2**	**+0.4**
MAT				S	**Sn**	**04 38 50.3**	**0.0**
MAT	**Matsushiro**	**2.71**	**278**	P	**Pn**	**04 38 19.8**	**+1.0**
MAT	**Matsushiro**	**2.71**	**278**	*e*P	**Pn**	**04 38 19.0**	**+0.2**
MAT				*e*S	**Sn**	**04 38 50.0**	**-0.3**
JNG	**Nsakai**	**2.78**	**275**	⇓P	**Pn**	**04 38 20.8**	**+0.9**
JYK	**Kaneyama**	**2.84**	**341**	⇑P	**Pn**	**04 38 20.8**	**+0.1**
JAW	**Awa shima**	**2.88**	**321**	P	**Pn**	**04 38 21.4**	**+0.2**
JNY	**Yasuok**	**3.11**	**255**	⇑P	**Pn**	**04 38 26.5**	**+2.1**
JSD	**Sado**	**3.18**	**306**	P	**Pn**	**04 38 25.6**	**+0.2**
HMMJ	**Hamamatsu 2**	**3.40**	**247**	P	**Pn**	**04 38 30.7**	**+2.4**
JTT	**Ttatey**	**3.41**	**278**	P	**Pn**	**04 38 32.6**	**+4.1**
JGN	**Niukaw**	**3.42**	**271**	P	**Pn**	**04 38 30.1**	**+1.5**
JHJ	**Hachijo jima 2**	**3.42**	**206**	Pn	**Pn**	**04 38 27.6**	**-1.1**
	578nm,0.3s,baz=18,slow=6.4,SNR=66						
JHJ				Sn	**Sn**	**04 39 06.2**	**-1.7**
	908nm,0.3s,baz=71,slow=20,SNR=8.0						
JGF	**Kuroka**	**3.45**	**261**	⇑P	**Pn**	**04 38 31.5**	**+2.4**
JSZ	**Suzu**	**3.56**	**291**	P	**Pn**	**04 38 31.9**	**+1.3**
JAA	**Atsumi**	**3.93**	**247**	P	**Pn**	**04 38 37.4**	**+1.8**
JIE	**Ise**	**4.36**	**247**	P	**Pn**	**04 38 43.3**	**+1.8**
JFM	**Mihama**	**4.56**	**263**	P	**Pn**	**04 38 47.3**	**+2.9**
JKN2	**Miekihoku**	**4.74**	**247**	P	**Pn**	**04 38 48.1**	**+1.3**
JKU	**Kubokawa**	**7.56**	**250**	P	**Pn**	**04 39 27.7**	**+2.3**
JNA	**Nagahama**	**7.91**	**253**	P	**Pn**	**04 39 32.7**	**+2.5**
ASAJ	**Asahikawa**	**7.92**	**6**	Pn	**Pn**	**04 39 28.4**	**-2.1**
	17nm,0.3s,baz=212,slow=12,SNR=22						
ASAJ				Sn	**Sn**	**04 40 58.9**	**0.0**
	25nm,0.3s,baz=128,slow=20,SNR=3.8						
ASAJ				LR	LR	04 43 26.5	
	comp=Z,34μm,19.7s,baz=186,slow=44						
ASAJ	**Asahikawa**	**7.92**	**6**	P	**Pn**	**04 39 28.4**	**-2.1**
ASAJ						04 40 58.9	
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,34μm,19.7s						
JTO	**Tosashimizu**	**7.95**	**248**	P	**Pn**	**04 39 32.8**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**8.47**	**22**	⇑*i*P	**Pn**	**04 39 37.4**	**-0.6**
YUK				pmax	pmax		
	comp=Z,740nm,0.5s						
YUK				M

comp=N,650nm,0.8s
KUR smax
comp=E,950nm,0.8s
KUR smax
comp=N,13μm,11.0s
KUR smax
comp=E,18μm,11.0s
KUR smax
comp=Z,32μm,11.0s
YSS Yuzh-Sakhalins 10.76 4 *e*P **Pn 04 40 07.9 -1.4**
YSS *e*S **Sn 04 42 03.0 -5.4**
YSS pmax pmax
comp=Z,100nm,0.8s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS pmax pmax
comp=N,1μm,5.0s
YSS pmax pmax
comp=N,340nm,1.0s
YSS pmax pmax
comp=E,160nm,1.0s
YSS pmax pmax
comp=Z,280nm,1.0s
YSS smax
comp=E,2μm,4.0s
YSS MLR MLR
comp=Z,14μm,16.0s
YSS Yuzh-Sakhalins 10.76 4 *e*Pn **Pn 04 40 06.7 -2.6**
comp=Z,231nm,0.9s
KS15 Wonju Array Si 11.01 280 *e*Pn **Pn 04 40 16.4 +3.7**
INCN Inchon 12.01 280 *e*Pn **Pn 04 40 29.7 +3.3**
comp=Z,186nm,1.2s
MDJ Mudanjiang 12.36 316 P **Pn 04 40 31.6 +0.4**
MDJ AP 04 40 36.9
MDJ XP 04 40 43.2
MDJ S **Sn 04 42 49.9 +2.2**
MDJ SS 04 43 06.0
MDJ PCS PcS 04 49 45.3 +0.3
MDJ AMB AMB
comp=Z,172nm,1.4s
MDJ AMB AMB
comp=Z,2μm,10.8s
MDJ LR LR
comp=N,26μm,17.3s
MDJ LR LR
comp=E,20μm,17.9s
MDJ LR LR
comp=Z,45μm,16.7s
MDJ Mudanjiang 12.36 316 *e*Pn **Pn 04 40 31.2 -0.1**
comp=Z,333nm,1.2s
UGL Uglegorsk 12.85 2 *e*P **Pn 04 40 43.0 +5.1**
UGL S **Sn 04 42 55.0 -4.6**
UGL pmax pmax
comp=Z,40nm,0.6s
UGL pmax pmax
comp=N,2μm,14.0s
UGL pmax pmax
comp=Z,1μm,14.0s
UGL smax
comp=E,2μm,16.0s
UGL smax
comp=N,2μm,18.0s
UGL MLR MLR
comp=Z,23μm,18.0s
UGL MLR MLR
comp=N,21μm,22.0s
UGL MLR MLR
comp=E,43μm,17.0s
HABR Khabarovsk 13.14 341 *i* P **Pn 04 40 51.0 +9.2**
HABR pmax pmax
comp=Z,136nm,1.2s
HABR MLR MLR
comp=Z,31μm,14.6s
CN2 Changchun 14.45 306 ⇑P **Pn 04 40 59.0 -0.8**
CN2 *e*S **Sn 04 43 38.1 -0.6**
CN2 AMB AMB
comp=Z,50nm,1.3s
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,24μm,16.0s
CN2 LR LR
comp=E,31μm,16.0s
CN2 LR LR
comp=Z,34μm,17.0s
JOW Kunigami 14.67 234 Pn **Pn 04 41 00.1 -2.6**
comp=Z,0.7nm,0.3s,baz=101,slow=8.0,SNR=6.7
JOW LR LR 04 46 35.7
comp=Z,12μm,21.1s,baz=57,slow=37
KLR Kul'dur 14.84 334 *e*P **Pn 04 41 01.6 -3.3**
SNY Shenyang 15.03 297 ⇑P **Pn 04 41 06.9 -0.6**
SNY AMB AMB
comp=Z,120nm,1.7s
SNY AMB AMB
comp=Z,4μm,14.1s
SNY LR LR
comp=N,30μm,17.7s
SNY LR LR
comp=E,15μm,15.6s
SNY LR LR
comp=Z,34μm,17.2s
DL2 Dalian 16.01 286 ⇑P **Pn 04 41 20.4 +0.2**
DL2 S **S 04 44 20.5 -8.8**
DL2 AMB AMB
comp=Z,50nm,1.3s
DL2 AMB AMB
comp=Z,1μm,8.4s
DL2 LR LR
comp=N,9μm,11.7s
DL2 LR LR
comp=E,22μm,15.0s
DL2 LR LR
comp=Z,25μm,15.7s
OKH Okha 17.35 3 *e*P **Pn 04 41 38.0 +0.9**
OKH *e*S **S 04 44 40.0 -17**
OKH pmax pmax
comp=Z,4μm,12.0s
OKH smax
comp=N,7μm,12.0s
OKH smax
comp=E,8μm,12.5s
OKH smax
comp=Z,49μm,15.0s
SSE Sheshan 17.69 259 *e*P **Pn 04 41 40.3 -1.0**
SSE S **S 04 44 53.9 -10**
SSE SCS ScS 04 53 28.8 -2.0
SSE AMB AMB
comp=Z,51nm,1.3s
SSE AMB AMB
comp=Z,2μm,8.8s
SSE LR LR
comp=N,14μm,21.3s
SSE LR LR
comp=E,2μm,21.3s
SSE LR LR
comp=Z,14μm,15.1s
NJ2 Nanjing 19.22 264 *e*P **Pn 04 41 57.2 -2.7**
NJ2 AP pP 04 42 06.5 -1.7
NJ2 XP sP 04 42 12.8 0.0
NJ2 PP 04 42 15.4
NJ2 S **S 04 45 25.0 -9.5**
NJ2 XS sS 04 45 41.0 -8.5
NJ2 AMB AMB
comp=Z,70nm,0.9s
NJ2 AMB AMB
comp=Z,2μm,10.4s
NJ2 LR LR
comp=N,33μm,22.6s
NJ2 LR LR
comp=E,30μm,20.3s
NJ2 LR LR
comp=Z,14μm,19.6s
TIA Tai'an 19.69 277 ⇑P **Pn 04 42 01.8 -3.7**
TIA AMB AMB
comp=Z,1μm,10.0s
TIA LR LR
comp=N,10μm,13.0s
TIA LR LR
comp=E,14μm,13.0s
BJT Baijiatuau 20.29 288⇑*i*P **P 04 42 07.3 -3.1**
BJT pmax pmax
comp=Z,117nm,0.6s
BJT MLR MLR
comp=Z,14μm,19.0s
BJT Baijiatuau 20.29 288⇑*i*P **P 04 42 07.3 -3.1**
comp=Z,118nm,0.6s
BJT LR LR
comp=Z,14μm,19.0s,MS5.3
TATO Taipei 20.54 242 PFAKE 04 42 20.0 +7.0
TATO LR LR
comp=Z,12μm,19.0s,MS5.3
HIA Hailar 20.55 316⇑*e*P **P 04 42 08.7 -4.4**
comp=Z,94nm,0.8s
PET Petropavlovsk 20.66 30 *e*P **P 04 42 14.3 0.0**
PET *e*S **S 04 45 54.5 -8.6**
PET pmax pmax
comp=Z,140nm,1.2s
PET pmax pmax
comp=Z,1μm,8.7s
PET smax
comp=N,5μm,26.0s
PET smax
comp=E,6μm,21.4s
PET MLR MLR
comp=Z,8μm,20.0s,MS5.1
PET MLR MLR
comp=Z,7μm,16.0s
PET Petropavlovsk 20.66 30 *e*P **P 04 42 16.4 +2.0**
comp=Z,137nm,1.0s
PET LR LR
comp=Z,8μm,21.0s,MS5.0
YHNB Yeheng 20.81 242 *e*P **P 04 42 14.0 -1.9**
NACB Ninganchiao 20.96 241 *e*P **P 04 42 13.8 -3.8**
QZH Quanzhou 22.67 247⇓*i*P **P 04 42 32.0 -3.9**
QZH AMB AMB
comp=Z,120nm,0.8s,mb5.4
QZH LR LR
comp=N,14μm,17.1s,MS5.8
QZH LR LR
comp=E,30μm,19.2s,MS5.8
QZH LR LR
comp=Z,36μm,19.3s,MS5.8
GUMO Guam 22.74 172 P **P 04 42 34.8 -1.8**
GUMO pmax pmax
comp=Z,315nm,1.0s,mb5.7
GUMO MLR MLR
comp=Z,9μm,20.0s,MS5.2
GUMO Guam 22.74 172 P **P 04 42 34.8 -1.8**
comp=Z,315nm,1.0s,mb5.7
GUMO LR LR
comp=Z,9μm,20.0s,MS5.2
TIY Taiyuan 23.26 282 *e*P **P 04 42 35.0 -7.1**
TIY LR LR
comp=N,25μm,14.0s
WHN Wuhan 23.36 264 P **P 04 42 40.7 -2.4**
WHN S **S 04 46 53.8 +0.7**
WHN LR LR
comp=Z,41μm,14.3s,MS6.0
NRGR Nerungri 23.37 336 *e*P **P 04 42 39.2 -4.0**
NRGR S **S 04 46 35.7 -18**
CLNS Chul'man 23.46 337 *e*P **P 04 42 41.4 -2.7**
CLNS *e**PP 04 42 48.0
CLNS *e* 04 42 56.5
CLNS *e*PPP 04 43 07.2
CLNS *e*S **S 04 46 44.9 -10**
CLNS *e* 04 53 49.1
CLNS pmax pmax
comp=N,140nm,1.0s
CLNS pmax pmax
comp=Z,200nm,1.0s,mb5.5
CLNS pmax pmax
comp=E,44nm,1.4s
CLNS pmax pmax
comp=Z,149nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,124nm,1.0s
CLNS pmax pmax
comp=E,92nm,1.0s
CLNS smax
comp=N,1μm,10.2s
CLNS smax
comp=Z,2μm,14.8s
CLNS smax
comp=E,2μm,10.5s
CLNS MLR MLR
comp=Z,22μm,14.0s,MS5.8
CLNS MLR MLR
comp=N,5μm,13.0s,MS5.7
CLNS MLR MLR
comp=E,14μm,12.0s,MS5.7
HHC Hu-ho-hao-te 23.84 290 ⇑P **P 04 42 43.8 -3.7**
HHC AP 04 42 48.1
HHC PP 04 43 16.1
HHC PCP PcP 04 46 31.7 +1.8
HHC S **S 04 46 55.1 -5.7**
HHC XS sS 04 47 05.7 -12
HHC SS 04 47 42.6
HHC SCP ScP 04 50 04.5 -0.8
HHC PCS PcS 04 50 07.5 -2.0
HHC AMB AMB
comp=Z,26nm,1.5s,mb4.4
HHC AMB AMB
comp=Z,2μm,7.2s
HHC LR LR
comp=N,9μm,14.3s,MS5.7
HHC LR LR
comp=E,15μm,14.3s,MS5.7
HHC LR LR
comp=Z,18μm,16.0s,MS5.7
MA2 Magadan 24.12 12*c* *i*P **P 04 42 49.8 -0.3**
MA2 *i**PP 04 43 01.9
MA2 *e* 04 43 25.8
MA2 *i* S **S 04 47 04.8 -0.6**
MA2 pmax pmax
comp=Z,70nm,1.4s,mb4.9
MA2 pmax pmax
comp=E,20nm,1.3s
MA2 pmax pmax
comp=N,40nm,1.4s
MA2 MLR MLR
comp=Z,7μm,18.0s,MS5.2
MA2 Magadan 24.12 12⇑*i*P **P 04 42 49.5 -0.6**
comp=Z,101nm,0.8s,mb5.3
MA2 LR LR
comp=Z,4μm,21.0s,MS4.9
BTO Baotou 25.00 290 *e*P **P 04 42 54.1 -4.1**
BTO S **S 04 47 14.4 -5.2**
BTO AMB AMB
comp=Z,105nm,0.9s,mb5.4
BTO LR LR
comp=N,1μm,10.2s,MS5.7
BTO LR LR
comp=E,13μm,13.6s,MS5.7
CIT Chita 25.33 317 *e*P **P 04 42 58.9 -2.2**
CIT *e* pP 04 43 07.1 -4.4
CIT *e* 04 43 11.7
CIT *e*S **S 04 47 24.3 -0.5**
CIT pmax pmax
comp=Z,654nm,2.2s,mb5.8
CVP Callao Caves 25.39 229 *e*P **P 04 43 08.0 +6.3**
XAN Xi'an 26.70 275 P **P 04 43 12.3 -1.2**
XAN AP pP 04 43 22.5 -1.3
XAN S **S 04 47 47.9 +1.5**
XAN AMB AMB
comp=Z,236nm,1.6s,mb5.5
XAN AMB AMB
comp=Z,13μm,11.0s
XAN LR LR
comp=N,3μm,17.2s,MS5.5
XAN LR LR
comp=E,10μm,16.1s,MS5.5
XAN LR LR
comp=Z,12μm,16.1s,MS5.5
YAK Yakutsk 26.88 348*c* *i*P **P 04 43 14.1 -1.0**
YAK *e**PP pP 04 43 23.2 -2.2
YAK *e* 04 43 54.5
YAK *i* S **S 04 47 49.4 +0.1**
YAK *e*SS 04 49 06.6
YAK pmax pmax
comp=Z,271nm,1.1s,mb5.7
YAK pmax pmax
comp=N,197nm,1.3s
YAK pmax pmax
comp=E,80nm,1.3s
YAK pmax pmax
comp=Z,114nm,1.3s,mb5.2
YAK smax
comp=E,163nm,1.4s
YAK smax
comp=Z,161nm,1.5s
YAK smax
comp=N,280nm,1.4s
YAK MLR MLR
comp=N,7μm,15.0s
YAK MLR MLR
comp=Z,7μm,15.0s,MS5.3
YAK MLR MLR
comp=E,10μm,24.0s
YAK Yakutsk 26.88 348⇑*i*P **P 04 43 14.2 -0.9**
comp=E,352nm,0.8s,mb5.9
YAK LR LR
comp=Z,6μm,20.0s,MS5.2
ENH Enshi 27.38 267⇑*i*P **P 04 43 18.6 -1.0**
comp=Z,310nm,0.7s,mb6.0
ENH LR LR
comp=Z,9μm,19.0s,MS5.3
HKC Hong Kong 27.50 247 P **P 04 43 24.0 +3.3**
SEY Seymchan 27.56 11 *e*P **P 04 43 21.9 +0.6**
SEY *PP pP 04 43 35.4 +3.8
SEY 04 44 08.9
SEY 04 46 37.6
SEY *e*S **S 04 47 59.7 -0.3**
SEY pmax pmax
comp=Z,110nm,1.1s,mb5.4
SEY pmax pmax
comp=N,80nm,1.2s
SEY pmax pmax
comp=E,30nm,1.2s
SEY smax
comp=N,1μm,6.0s
SEY smax
comp=E,670nm,6.0s
SEY MLR MLR
comp=N,29μm,17.0s,MS6.0
SEY MLR MLR
comp=Z,42μm,17.0s,MS6.1
SEY MLR MLR
comp=E,17μm,18.0s,MS6.0
SEY Seymchan 27.56 11⇓*i*P **P 04 43 21.1 -0.2**
FX1 Attu Island--F 27.71 43 *e*P **P 04 43 23.6 +1.0**
WAKE Wake Island 27.78 121 PFAKE 04 43 40.0 +17
WAKE LR LR
comp=Z,12μm,20.0s,MS5.5
ULN Ulaanbaatar 27.90 305*c* *i*P **P 04 43 24.4 +0.2**
ULN Ulaanbaatar 27.90 305⇑*i*P **P 04 43 23.8 -0.5**
comp=Z,68nm,0.8s,mb5.3
ULN LR LR
comp=Z,11μm,20.0s,MS5.5
SMY Shemya 28.17 44 PFAKE 04 43 40.0 +13
SMY LR LR
comp=Z,7μm,20.0s,MS5.3
BOD Bodaibo 28.27 329 *e*P **P 04 43 26.7 -0.8**
BOD pmax pmax
comp=Z,209nm,1.0s,mb5.7
SONM Songino Array 28.32 305 P **P 04 43 27.9 -0.2**
comp=Z,79nm,0.6s,mb5.5,baz=108,slow=9.2,SNR=219
SONM LR LR 04 55 11.2
comp=Z,14μm,19.1s,MS5.6,baz=93,slow=37
LZH Lanzhou 30.31 281 ⇑P **P 04 43 45.3 -0.4**
LZH AP pP 04 43 53.5 -2.6
LZH XP sP 04 43 56.8 -3.7
LZH PP PP 04 44 44.6 -10
LZH S **S 04 48 41.5 -1.7**
LZH SS SS 04 50 21.2 -32
LZH AMB AMB
comp=Z,461nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,6μm,5.3s
LZH LR LR
comp=E,24μm,15.2s
LZH LR LR
comp=Z,29μm,18.5s,MS6.0
ZAK Zakamensk 30.85 309⇓*i*P **P 04 43 50.7 +0.2**
ZAK pmax pmax
comp=Z,206nm,1.4s,mb5.8
ZAK pmax pmax
comp=Z,68nm,1.8s,mb5.2
GYA Guiyang 31.20 262⇑*i*P **P 04 43 52.2 -1.3**
GYA AP pP 04 43 56.6 -7.3
GYA XP sP 04 43 59.8 -8.5
GYA PP PP 04 44 51.4 -13
GYA PCP PcP 04 46 50.6 +3.0
GYA S **S 04 48 52.2 -4.9**
GYA SCP ScP 04 50 31.5 +3.8
GYA AMB AMB
comp=Z,160nm,1.2s,mb5.7
GYA AMB AMB
comp=Z,1μm,6.9s
GYA LR LR
comp=N,6μm,12.0s,MS5.8
GYA LR LR
comp=E,13μm,16.2s,MS5.8
GYA LR LR
comp=Z,14μm,17.1s,MS5.7
CD2 Chengdu 31.79 271⇑*i*P **P 04 43 57.9 -0.8**
CD2 AP pP 04 44 02.3 -6.8
CD2 PP PP 04 44 59.3 -11
CD2 AMB AMB
comp=Z,70nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,610nm,10.2s
CD2 LR LR
comp=N,8μm,18.6s
CD2 LR LR
comp=Z,7μm,18.6s,MS5.3
DAV Davao City (W) 32.49 211 PFAKE 04 44 20.0 +15
DAV LR LR
comp=Z,2μm,19.0s,MS4.8
MOY Mondy 32.54 311 *e*P **P 04 44 05.6 +0.3**
MOY pmax pmax
comp=Z,181nm,1.4s,mb5.8
QIZ Qiongzhong 32.70 247 P **P 04 44 08.3 +1.7**
QIZ AP pP 04 44 16.7 -0.4
QIZ PP PP 04 45 18.7 -2.2
QIZ S **S 04 49 21.3 +0.8**
QIZ XS sS 04 49 38.7 +0.9
QIZ AMB AMB
comp=Z,21nm,1.0s,mb5.0
QIZ AMB AMB
comp=Z,566nm,8.2s
QIZ LR LR
comp=N,10μm,16.1s
QIZ LR LR
comp=Z,8μm,17.0s,MS5.5
QIZ Qiongzhong 32.70 247 *e*P **P 04 44 06.7 0.0**
comp=Z,35nm,1.1s,mb5.2
QIZ LR LR
comp=Z,7μm,19.0s,MS5.4
GTA Gaotai 32.91 288 *e*P **P 04 44 08.1 -0.4**
GTA AP pP 04 44 12.0 -6.9
GTA XP sP 04 44 14.8 -8.5
GTA PP PP 04 45 17.9 -5.3
GTA S **S 04 49 24.6 +0.9**
GTA XS sS 04 49 31.9 -9.1
GTA SCP ScP 04 50 36.9 +3.4
GTA PCS PcS 04 50 38.0 +0.4
GTA SS SS 04 51 22.9 -23
GTA SCS ScS 04 54 35.6 +2.0
GTA AMB AMB
comp=Z,115nm,1.2s,mb5.7
GTA AMB AMB
comp=Z,1μm,4.9s
GTA LR LR
comp=N,6μm,17.5s,MS5.8
GTA LR LR
comp=E,15μm,17.1s,MS5.8
GTA LR LR
comp=Z,17μm,17.9s,MS5.8
BILL Bilibino 34.77 16⇓*i*P **P 04 44 24.2 -0.5**
BILL pmax pmax
comp=Z,33nm,1.3s,mb5.1
BILL MLR MLR
comp=Z,7μm,19.0s,MS5.4
BILL Bilibino 34.77 16 *e*P **P 04 44 24.1 -0.6**
comp=Z,123nm,1.4s,mb5.6
BILL LR LR
comp=Z,5μm,20.0s,MS5.3
KMI Kunming 34.95 263 ⇑P **P 04 44 25.9 -0.3**
KMI PP PP 04 45 45.0 -0.8
KMI S **S 04 49 51.6 -3.7**
KMI SS SS 04 52 06.5 -21
KMI SCS ScS 04 54 43.7 -0.6
KMI AMB AMB
comp=Z,111nm,1.5s,mb5.6
KMI AMB AMB
comp=Z,911nm,3.4s
KMI LR LR
comp=N,10μm,17.1s,MS5.8

KMI LR LR
comp=E,12μm,17.6s,MS5.8
KMI LR LR
comp=Z,13μm,16.5s,MS5.8
MIDW Midway 35.46 91 PFAKE 04 44 40.0 +9.4
MIDW LR LR
comp=Z,7μm,22.0s,MS5.4
TIXI Tiksi 36.10 353 *e*P **P 04 44 31.6 -4.5**
TIXI *e* 04 45 52.1
TIXI *e*S **S 04 50 08.6 -4.4**
TIXI pmax pmax
comp=Z,46nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,12μm,16.0s,MS5.8
TIXI Tiksi 36.10 353⇑ *i*P **P 04 44 35.5 -0.6**
TIXI LR LR
comp=Z,8μm,19.0s,MS5.5
KWAJ Kwajalein Atol 36.17 133 PFAKE 04 44 50.0 +13
KWAJ LR LR
comp=Z,2μm,22.0s,MS4.8
KKM Kota Kinabalu 37.96 224 P **P 04 44 52.5 +0.5**
KKM Kota Kinabalu 37.96 224 *e*P **P 04 44 51.3 -0.6**
TSM Tawau 38.53 220 P **P 04 44 56.1 -0.6**
KKTK Khon Kaen 39.62 250 P **P 04 45 07.0 +1.2**
comp=Z,802nm,0.5s
UNV Unalaska Valle 39.72 47 PFAKE 04 45 20.0 +13
UNV LR LR
comp=Z,11μm,21.0s,MS5.7
CHRT Chiangrai 39.96 257 ⇑P **P 04 45 07.5 -1.1**
comp=Z,387nm,1.2s,mb6.0
CHG Chiang Mai 41.20 257 P **P 04 45 19.0 +0.2**
comp=Z,26nm,0.9s,mb4.8
WMQ Urumqi 41.30 298⇑ *i*P **P 04 45 20.6 +0.9**
WMQ XP sP 04 45 28.0 -6.7
WMQ PP PP 04 46 59.0 +3.6
WMQ SCP ScP 04 51 08.0 +3.2
WMQ S **S 04 51 33.0 +1.6**
WMQ XS sS 04 51 41.0 -7.9
WMQ SS SS 04 54 31.0 -4.7
WMQ AMB AMB
comp=Z,458nm,1.1s,mb6.0
WMQ AMB AMB
comp=Z,3μm,5.0s
WMQ LR LR
comp=N,7μm,10.0s,MS5.9
WMQ LR LR
comp=E,6μm,11.0s,MS5.9
WMQ LR LR
comp=Z,8μm,11.0s,MS5.8
TNA Tin City 41.51 29 *e*P **P 04 45 21.9 +0.5**
comp=Z,30nm,1.0s,mb4.9
TNA LR LR
comp=Z,2μm,19.0s,MS5.0
NST Nakhon Sawan 42.08 252 ⇓P **P 04 45 26.6 +0.5**
comp=Z,46nm,0.9s,mb5.1
LSA Lhasa 42.39 276 P **P 04 45 30.0 +1.4**
LSA AP pP 04 45 38.2 -1.0
LSA XP sP 04 45 42.5 -1.1
LSA PP PP 04 47 09.5 +2.3
LSA PCP PcP 04 47 18.0 -3.4
LSA SCP ScP 04 51 07.3 -1.8
LSA PCS PcS 04 51 11.6 -1.7
LSA S **S 04 51 51.9 +4.4**
LSA SCS ScS 04 55 28.5 +1.1
LSA AMB AMB
comp=Z,80nm,1.6s,mb5.1
LSA LR LR
comp=N,3μm,13.8s,MS5.9
LSA LR LR
comp=E,10μm,14.4s,MS5.9
LSA LR LR
comp=Z,20μm,13.8s,MS6.2
LSA Lhasa 42.39 276⇑ *i*P **P 04 45 30.2 +1.6**
LSA pmax pmax
comp=Z,81nm,0.8s,mb5.4
LSA MLR MLR
comp=Z,18μm,19.0s,MS6.0
LSA Lhasa 42.39 276⇑ *i*P **P 04 45 30.2 +1.6**
comp=Z,81nm,0.8s,mb5.4
LSA LR LR
comp=Z,18μm,19.0s,MS6.0
NVS Novosibirsk 43.47 314⇑ *i*P **P 04 45 36.8 -0.6**
NVS *e*S **S 04 52 02.0 -1.4**
NVS *e* 04 55 32.0
NVS pmax pmax
comp=E,606nm,2.0s
NVS pmax pmax
comp=Z,593nm,2.0s,mb6.0
NVS smax
comp=N,340nm,2.9s
SHL Shillong 43.50 270 *e*P **P 04 45 37.5 -0.1**
SHL *ex* x 04 52 10.8
MK31 Makanchi Array 44.64 303 *i* P **P 04 45 47.0 +0.3**
MK31 pmax pmax
comp=Z,297nm,1.0s,mb6.1
MKAR Makanchi Array 44.64 303 P **P 04 45 47.0 +0.3**
comp=Z,99nm,0.7s,mb5.7,baz=83,slow=8.1,SNR=303
MKAR Makanchi Array 44.64 303⇑ *e*P **P 04 45 47.0 +0.3**
KSM Kuching 45.07 227⇑ *i*P **P 04 45 50.0 -0.2**
PMG Port Moresby 45.69 172 P **P 04 45 55.8 +0.7**
comp=Z,13nm,0.7s,mb4.9,baz=15,slow=12,SNR=3.5
PMG LR LR 05 03 42.6
comp=Z,2μm,19.6s,MS5.0,baz=269,slow=34
PMG Port Moresby 45.69 172 *e*P **P 04 45 55.3 +0.2**
PMG pmax pmax
comp=Z,76nm,1.1s
PMG MLR MLR
comp=Z,1μm,19.0s
PMG Port Moresby 45.69 172 *e*P **P 04 45 55.3 +0.2**
comp=Z,76nm,1.1s,mb5.5
PMG LR LR
comp=Z,1μm,19.0s,MS4.8
TTA Tatalina 46.03 34 *e*P **P 04 45 57.3 -0.4**
TTA pmax pmax
comp=Z,24nm,1.1s,mb5.0
TTA Tatalina 46.03 34 *e*P **P 04 45 57.2 -0.5**
comp=Z,24nm,1.1s,mb5.0
SVW2 Sparrevohn 46.10 37 *e*P **P 04 45 59.9 +1.6**
KURK Kurchatov 46.51 309*c i*P **P 04 46 01.4 -0.1**
KURK Kurchatov 46.51 309⇑ *i*P **P 04 46 01.3 -0.2**
comp=Z,194nm,0.6s,mb6.2
KURK LR LR
comp=Z,2μm,20.0s,MS5.2
JIRN Jiri 47.20 276 *e*P **P 04 46 08.3 +1.4**
comp=Z,535nm,0.7s
GUN Gumba 47.34 276 *e*P **P 04 46 09.2 +1.2**
comp=Z,789nm,1.1s
KDAK Kodiak Island 47.63 41 P **P 04 46 10.1 -0.2**
comp=Z,18nm,0.7s,mb5.2,baz=282,slow=7.0,SNR=15
KDAK LR LR 05 06 08.7
comp=Z,4μm,20.3s,MS5.4,baz=253,slow=36
KDAK Kodiak Island 47.63 41 P **P 04 46 10.1 -0.2**
KDAK LR LR 05 06 08.7
CAL Calcutta 47.78 269 *ex* x 04 46 19.7
CAL *ex* x 04 48 16.3
PKI Pulchoki 47.86 276 *e*P **P 04 46 12.8 +0.8**
comp=Z,311nm,0.9s,mb6.3
KKN Kakani 47.87 277 *e*P **P 04 46 13.0 +0.9**
comp=Z,415nm,0.9s,mb6.5
DMN Daman 48.09 276 *e*P **P 04 46 14.7 +0.9**
comp=Z,335nm,1.1s,mb6.3
GKN Gorkha 48.30 277 *e*P **P 04 46 16.3 +0.9**
comp=Z,1μm,1.0s
KULM Kulim 48.50 240⇑ *i*P **P 04 46 16.8 -0.2**
HNR Honiara 48.61 155 PFAKE 04 46 30.0 +12
HNR LR LR
comp=Z,4μm,21.0s,MS5.4
FIB Fire Island 48.73 37 *e*P **P 04 46 20.9 +2.2**
FIB pmax pmax
comp=Z,27nm,0.7s,mb5.4
FIB Fire Island 48.73 37 *e*P **P 04 46 20.6 +1.9**
comp=Z,27nm,0.7s,mb5.4
FIB LR LR
comp=Z,1μm,20.0s,MS4.9
IPM Ipoh 48.81 239 P **P 04 46 19.1 -0.2**
KGM Kluang 49.05 235 P **P 04 46 22.2 +1.0**
AAA Alma-Ata 49.06 299 *e*P **P 04 46 23.0 +1.7**
AAA *e*S **S 04 53 27.0 +3.5**
AAA pmax pmax
comp=Z,2μm,3.8s
AAA smax
comp=N,4μm,8.5s
AAA MLR MLR
comp=Z,32μm,15.5s,MS6.4
BOK Bokaro 49.16 272 *e*P **P 04 46 23.0 +1.0**
BOK AMb AMB 04 46 25.7
comp=Z,163nm,1.1s,mb6.0
PMR Palmer 49.21 36 *e*P **P 04 46 22.2 -0.2**
PMR pmax pmax
comp=Z,53nm,1.5s,mb5.3
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.0
PMR Palmer 49.21 36 *e*P **P 04 46 22.2 -0.2**
comp=Z,53nm,1.5s,mb5.3
PMR LR LR
comp=Z,2μm,20.0s,MS5.0
KOLN Koldanda 49.23 277 *e*P **P 04 46 23.4 +0.8**
comp=Z,519nm,1.1s,mb6.5
MCK McKinley 49.25 33 *e*P **P 04 46 23.6 +0.9**
MCK pmax pmax
comp=Z,14nm,0.9s,mb5.0
MCK MLR MLR
comp=Z,1μm,21.0s,MS4.9
MCK McKinley 49.25 33 *e*P **P 04 46 23.6 +0.8**
comp=Z,14nm,0.9s,mb5.0
MCK LR LR
comp=Z,1μm,21.0s,MS4.9
SML Sawmill 49.59 36 *e*P **P 04 46 25.9 +0.6**
COLA College 49.71 32 *i* P **P 04 46 26.6 +0.4**
COLA College 49.71 32 *e*P **P 04 46 26.9 +0.7**
comp=Z,19nm,0.7s,mb5.2
COLA LR LR
comp=Z,2μm,19.0s,MS5.2
ULHL Ulahol 49.83 298 P **P 04 46 28.3 +1.2**
SNR=19
TKM2 Tokmak 2 50.11 299 P **P 04 46 30.8 +1.5**
SNR=160
ILAR Eielson Array 50.12 32 P **P 04 46 28.8 -0.6**
comp=Z,9.3nm,0.6s,mb5.0,baz=260,slow=5.0,SNR=51
KZA Kyzart 50.59 298 P **P 04 46 35.0 +2.2**
SNR=37
KBK Karagaybulak 50.64 299 P **P 04 46 34.6 +1.4**
SNR=110
CHMS Chumysh 50.68 299 P **P 04 46 34.4 +0.9**
SNR=25
USP Ospenovka 50.78 300 P **P 04 46 35.2 +0.8**
SNR=96
FRU Bishkek 50.82 299⇑ *i*P **P 04 46 35.6 +1.0**
FRU *i* pP 04 46 46.0 +0.5
FRU pmax pmax
comp=Z,360nm,2.0s,mb6.0
FRU MLR MLR
comp=E,15μm,18.0s
FRU MLR MLR
comp=Z,22μm,18.0s,MS6.2
KSH Kashi 50.83 295⇑ *i*P **P 04 46 37.1 +2.4**
KSH PCP PcP 04 47 53.2 +2.1
KSH PP PP 04 48 36.0 +4.9
KSH SCP ScP 04 51 43.1 -1.3
KSH PCS PcS 04 51 49.4 +0.8
KSH S **S 04 53 46.6 -1.6**
KSH SCS ScS 04 56 19.0 -3.5
KSH SS SS 04 57 22.1 -0.9
KSH AMB AMB
comp=Z,1μm,3.3s
KSH LR LR
comp=N,14μm,19.7s,MS6.1
KSH LR LR
comp=E,8μm,15.8s,MS6.1
DIV Divide 50.86 37 *e*P **P 04 46 26.2 -8.7**
comp=E,215nm,1.1s,mb6.0
DIV LR LR
comp=Z,5μm,20.0s,MS5.5
AAK Ala-Archa 50.97 299 P **P 04 46 36.6 +0.9**
SNR=35
AAK Ala-Archa 50.97 299*c i*P **P 04 46 35.6 -0.1**
AAK pmax pmax
comp=Z,109nm,1.7s,mb5.5
AAK MLR MLR
comp=Z,24μm,18.0s,MS6.2
AAK Ala-Archa 50.97 299⇑ *i*P **P 04 46 35.4 -0.3**
comp=Z,53nm,0.8s,mb5.5
AAK LR LR
comp=Z,7μm,19.0s,MS5.7
UCH Uchtor 51.07 298 P **P 04 46 38.1 +1.6**
SNR=31
PTH Pithoragarh 51.19 281 *e*P **P 04 46 38.0 +0.6**
PTH *ex* x 04 48 27.0
BVA0 Borovoye Array 51.19 313 *i* P **P 04 46 37.4 0.0**
BVA0 pmax pmax
comp=Z,253nm,2.1s,mb5.8
BVAR Borovoye Array 51.19 313 P **P 04 46 37.5 +0.1**
comp=Z,48nm,0.8s,mb5.5,baz=79,slow=7.6,SNR=135
LGTI Lohaghat 51.20 281 *e*P **P 04 46 39.0 +1.5**
BRVK Borovoye 51.25 313⇑ *i*P **P 04 46 37.9 +0.1**
comp=Z,46nm,0.8s,mb5.5
BRVK LR LR
comp=Z,2μm,19.0s,MS5.2
EKS2 Erkin-Say 51.46 299 P **P 04 46 40.1 +0.6**
SNR=31
PSI Prapat 51.47 240 P **P 04 46 39.5 0.0**
comp=Z,36nm,0.7s,mb5.4,baz=21,slow=6.8,SNR=38
MENT Mentasta 51.64 34 *e*P **P 04 46 43.7 +2.9**
AML Almayashu 51.68 299 P **P 04 46 42.6 +1.5**
SNR=157
ALBI Allahabad 51.75 276 *e*P **P 04 46 40.0 -1.6**
ZRNK Zerenda 52.03 313⇑ *i*P **P 04 46 43.8 +0.2**
ZRNK pmax pmax
comp=Z,74nm,0.7s,mb5.7
ZRNK Zerenda 52.03 313⇑ *i*P **P 04 46 43.8 +0.1**
comp=Z,74nm,0.7s,mb5.7
DDI Dehra Dun 52.58 283 *e*P **P 04 46 44.5 -3.2**
DDI *ex* x 04 48 34.6
BHK Bhakra 53.41 285 *ex* x 04 47 02.9
DAWY Dawson 53.43 33 *e*P **P 04 46 55.0 +1.0**
THN Thein Dam 53.55 286 *e*P **P 04 46 54.0 -0.9**
THN *ex* x 04 48 41.8
PONG Pong 53.56 286 *e*P **P 04 46 55.0 0.0**
KK31 Karatay Array 53.62 301 *i* P **P 04 46 55.8 +0.4**
KK31 pmax pmax
comp=Z,204nm,1.1s,mb6.0
KKAR Karatay Array 53.62 301 P **P 04 46 55.8 +0.4**
KKAR pmax pmax
comp=Z,234nm,1.2s,mb6.0
NDI New Delhi 53.93 282 *e*P **P 04 46 57.3 -0.4**
NDI AMb AMB 04 47 00.7
comp=Z,168nm,1.8s,mb5.7
NDI *ex* x 04 48 44.0
VIS Vishakhapatnam 54.27 266 *e*P **P 04 47 01.3 +1.2**
VIS AMb AMB 04 47 04.3
comp=Z,123nm,0.9s,mb5.8
VIS *ex* x 04 48 56.8
VIS *i* S **S 04 54 36.5 +1.4**
NIL Nilore 54.97 289 P **P 04 47 06.0 +0.8**
comp=Z,195nm,0.7s,mb6.2,SNR=6.0
INK Inuvik 55.06 27 P **P 04 47 05.2 -0.6**
comp=Z,13nm,0.6s,mb5.2,baz=289,slow=5.8,SNR=87
NGP Nagpur 55.97 273 *e*P **P 04 47 12.3 -0.1**
NGP *ex* x 04 47 14.6
comp=Z,180nm,0.9s
NGP AMb AMB 04 47 15.8
comp=Z,178nm,1.9s,mb5.8
NGP *ex* x 04 55 07.9
FITZ Fitzroy Crossi 56.09 198 *e*P **P 04 47 13.0 -0.3**
comp=Z,30nm,0.7s,mb5.4
FITZ *i* S **S 04 54 59.2 -0.3**
CTAO Charters Tower 56.18 175 *e*P **P 04 47 13.1 -0.8**
CTAO pmax pmax
comp=Z,22nm,1.1s,mb5.1
CTAO MLR MLR
comp=Z,1μm,19.0s,MS5.1
CTAO Charters Tower 56.18 175 *e*P **P 04 47 13.1 -0.9**
comp=Z,22nm,1.1s,mb5.1
CTAO LR LR
comp=Z,1μm,19.0s,MS5.1
BHPL Bhopal 56.25 276 *e*P **P 04 47 14.8 +0.3**
BHPL AMb AMB 04 47 17.5
comp=Z,121nm,1.4s,mb5.7
BHPL *ex* x 04 51 09.0
WRAB Tennant Creek 56.27 188 P **P 04 47 13.0 -1.5**
comp=Z,308nm,0.8s,mb6.4,SNR=9.8
WRAB Tennant Creek 56.27 188 ⇓*i*P **P 04 47 14.7 +0.2**
WRAB Tennant Creek 56.27 188 *e*P **P 04 47 13.2 -1.3**
comp=Z,79nm,0.9s,mb5.8
WRAB LR LR
comp=Z,614nm,20.0s,MS4.7
WB2 Warramunga Arr 56.27 188 *e*P **P 04 47 13.3 -1.3**
WRA Warramunga Arr 56.28 188 P **P 04 47 13.4 -1.2**
comp=Z,14nm,0.6s,mb5.1,baz=5.7,slow=7.5,SNR=74
WRA S **S 04 54 59.9 -2.1**
comp=Z,2.6nm,1.1s,baz=11,slow=12,SNR=4.6
FUNA Funafuti 56.87 134 PFAKE 04 47 30.0 +11
FUNA LR LR
comp=Z,5μm,21.0s,MS5.6
SIT Sitka 56.94 40 PFAKE 04 47 30.0 +11
SIT LR LR
comp=Z,3μm,20.0s,MS5.4
AJM Ajmer 56.95 280 *i* P **P 04 47 19.0 -0.4**
AJM *e*P 04 47 19.3
AJM AMb AMB 04 47 22.4
comp=Z,130nm,0.9s,mb6.0
AJM *ex* x 04 49 30.0
ARU Arti 57.03 319*c i*P **P 04 47 19.8 -0.2**
ARU pmax pmax
comp=Z,267nm,1.2s,mb6.2
ARU MLR MLR
comp=Z,14μm,16.0s,MS6.2
ARU Arti 57.03 319⇑ *i*P **P 04 47 19.7 -0.2**
comp=Z,250nm,1.1s,mb6.2
ARU LR LR
comp=Z,3μm,19.0s,MS5.4
SOKR Solikamsk 57.03 323*c i*P **P 04 47 19.0 -1.0**
SOKR S **S 04 55 12.6 +0.6**
SOKR pmax pmax
comp=Z,70nm,0.8s,mb5.7
SOKR MLR MLR
comp=Z,11μm,25.0s,MS5.9
AKL Akola 57.83 273 *i* x x 04 46 45.6
AKL *i* x x 04 50 13.4
HYB Hyderabad 58.29 269⇑ *i*P **P 04 47 27.0 -1.8**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S **S 04 55 28.0 -0.4**
HYB LR LR 05 14 00.0
comp=Z,4.6nm,24.0s
HYB Hyderabad 58.29 269⇑ *e*P **P 04 47 29.0 +0.2**
HYB *e*S **S 04 55 30.0 +1.6**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 58.29 269⇑ *e*P **P 04 47 29.0 +0.2**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S **S 04 55 30.0 +1.6**
AB31 Akbulak array 58.54 311 P **P 04 47 30.4 -0.2**
AB31 pmax pmax
comp=Z,57nm,0.6s,mb5.8
AB31 Akbulak array 58.54 311⇑ *e*P **P 04 47 30.4 -0.2**
AKTK Aktyubinsk 59.29 312 P **P 04 47 34.8 -0.9**
AKTO Aktyubinsk 59.29 312 P **P 04 47 34.8 -0.9**
comp=Z,52nm,0.8s,mb5.6,baz=74,slow=6.6,SNR=66
LATR Latur 59.37 271 *e*P **P 04 47 37.5 +1.2**
ASAR Alice Springs 60.00 188 P **P 04 47 39.8 -0.9**
comp=Z,6.9nm,0.7s,mb4.8,baz=12,slow=7.4,SNR=56
ASAR Alice Springs 60.00 188 P **P 04 47 39.8 -0.9**
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASPA Alice Springs 60.00 188 *e*P **P 04 47 40.9 +0.2**
MBWA Marble Bar 60.69 203 *e*P **P 04 47 44.4 -0.9**
comp=Z,100nm,1.3s,mb5.8
MBWA LR LR
comp=Z,1μm,20.0s,MS5.0
ALE Alert 60.91 3 P **P 04 47 42.0 -4.9**
comp=Z,142nm,1.0s,mb6.0,SNR=8.2
KBS Kingsbay 61.47 350 *e*P **P 04 47 51.4 +0.8**
KBS *e*S **S 04 56 09.0 -0.3**
KBS *e*SS SS 05 00 18.0 +7.4
KBS AMS AMS 05 19 09.0
comp=Z,1μm,18.4s,MS5.1
KBS Kingsbay 61.47 350⇑ *e*P **P 04 47 50.7 +0.1**
KAD Karad 61.88 271 *e*P **P 04 47 53.9 +0.5**
KAD AMb AMB 04 47 56.7
comp=Z,112nm,1.1s,mb5.9
BOM Bombay 62.15 274 *e*P **P 04 47 54.8 -0.5**
BOM *ex* x 04 47 57.3
comp=Z,655nm,2.0s
BOM *e*S **S 04 56 19.6 +1.7**
PALK Pallekele 62.30 258⇑ *i*P **P 04 47 56.9 +0.7**
comp=Z,49nm,1.1s,mb5.5
PALK LR LR
comp=Z,627nm,22.0s,MS4.7
BHJ Bhuj 62.47 280 *e*P **P 04 47 57.9 +0.5**
BHJ AMb AMB 04 48 00.5
comp=Z,120nm,0.8s,mb6.0
DZM Mont Dzumac 62.58 154 LR LR 05 13 01.2
comp=Z,6μm,20.8s,MS5.8,baz=339,slow=34
LVZ Lovozero 62.89 336*c i*P **P 04 47 59.1 -1.1**
LVZ *i* 04 48 39.9
LVZ *i* 04 50 12.8
LVZ *i* S **S 04 56 22.9 -4.3**
LVZ *i* 04 57 51.3
LVZ *i* SS SS 05 00 25.9 -6.8
LVZ pmax pmax
comp=N,18nm,1.4s
LVZ pmax pmax
comp=E,17nm,1.4s
LVZ pmax pmax
comp=Z,49nm,1.4s,mb5.4
LVZ pmax pmax
comp=N,199nm,3.0s
LVZ pmax pmax
comp=Z,595nm,3.0s
LVZ smax
comp=N,1μm,18.0s
LVZ smax
comp=Z,217nm,10.1s
LVZ smax
comp=E,463nm,12.1s
LVZ smax
comp=N,517nm,3.8s
LVZ smax
comp=Z,523nm,3.7s
LVZ smax
comp=E,460nm,4.2s
LVZ MLR MLR
comp=N,4μm,19.0s,MS5.9
LVZ MLR MLR
comp=E,6μm,19.0s,MS5.9
LVZ MLR MLR
comp=Z,10μm,19.0s,MS6.0
LVZ Lovozero 62.89 336⇑ *e*P **P 04 48 00.9 +0.7**
BJO Bjornoya 63.23 345 *e*P **P 04 48 05.2 +2.8**
BJO AMS AMS 05 19 43.5
comp=Z,6μm,16.7s,MS5.9
BJO1 Bjornoya 63.27 345 *e*P **P 04 48 05.2 +2.5**
BJO1 LR LR
comp=Z,6212μm,16.7s
RES Resolute Bay 63.36 14 *e*P **P 04 48 02.8 -0.5**
RES pmax pmax
comp=Z,94nm,1.2s,mb5.8
RES Resolute Bay 63.36 14 *e*P **P 04 48 02.8 -0.5**
comp=Z,94nm,1.2s,mb5.8
APA Apatity 63.47 336⇓ *i*P **P 04 48 03.7 -0.3**
APA *i* S **S 04 56 34.0 -0.4**
APA *i* PS 04 56 56.0
APA *i* SS SS 05 00 44.0 +2.3
APA pmax pmax
comp=Z,77nm,1.3s,mb5.7
APA MLR MLR
comp=Z,14μm,18.0s,MS6.2
MNGI Mangalore 63.73 267 *e*P **P 04 48 06.2 +0.4**
MNGI *ex* x 04 56 59.5
COCO West Island 63.99 230 PFAKE 04 48 20.0 +13
COCO LR LR
comp=Z,222nm,19.0s
KEV Kevo 64.23 339 *e*p **P 04 48 08.3 -0.7**
comp=Z,25nm,0.9s,mb5.2
KEV Kevo 64.23 339 *e*P **P 04 48 08.3 -0.7**
KEV pmax pmax
comp=Z,25nm,0.9s,mb5.2
ABKT Ailbek 64.31 299 P **P 04 48 10.5 +0.9**
comp=Z,320nm,0.8s,mb6.4,SNR=14
YKW3 Yellowknife Ar 64.42 30 *e*P **P 04 48 09.7 -0.5**
YKA Yellowknife Ar 64.46 30 P **P 04 48 10.0 -0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=298,slow=6.2,SNR=42
YKA Yellowknife Ar 64.46 30 *i* P **P 04 48 10.0 -0.5**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 64.46 30 P **P 04 48 10.0 -0.5**
KLMR Klimovskoe 64.49 328*c i*P **P 04 48 10.3 -0.4**
KLMR *e* 04 50 30.1
KLMR pmax pmax
comp=Z,170nm,1.3s,mb5.9
KLMR pmax pmax
comp=Z,450nm,8.6s
KLMR MLR MLR
comp=Z,4μm,18.0s,MS5.7
PECR Pechory 64.52 322 *i* P **P 04 48 10.6 -0.3**
PECR pmax pmax

comp=Z,530nm,2.0s,mb6.2
PECR pmax pmax
comp=Z,1μm,3.0s
TRD Trivandrum 64.55 262 *e*P **P 04 48 11.1 0.0**
TRD AMb AMB 04 48 14.7
comp=Z,73nm,1.1s,mb5.6
ARCES ARCESS Array B 64.79 340 P **P 04 48 12.3 -0.3**
comp=Z,28nm,0.9s,mb5.3,baz=46,slow=7.2,SNR=34
ARE0 ARCESS Array S 64.79 340 *e*P **P 04 48 12.3 -0.4**
TRO Tromso 66.51 341 *e*P **P 04 48 21.6 -2.1**
TRO *e*S S 04 57 12.6 +0.8
TRO *e*SS SS 05 01 29.9 +0.7
TRO AMS AMS 05 22 41.6
comp=Z,4μm,16.4s,MS5.8
AFI Afiamalu 66.54 130 PFAKE 04 48 40.0 +16
AFI LR LR
comp=Z,5μm,20.0s,MS5.7
DAG Danmarks Havn 66.59 355⇓ *i*P **P 04 48 24.0 -0.3**
comp=Z,16nm,0.7s,mb5.2
DAG *i* pP 04 48 35.3 -0.1
DAG Danmarks Havn 66.59 355⇓ *i*P **P 04 48 24.0 -0.3**
DAG *i* pP 04 48 35.3 -0.1
DAG pmax pmax
comp=Z,16nm,0.7s,mb5.2
JOF Joensuu 66.72 332 *e*p **P 04 48 25.1 0.0**
comp=Z,15nm,0.4s,mb5.4
OCWA Octopus Mounta 66.83 47 PFAKE 04 48 40.0 +14
OCWA LR LR
comp=Z,2μm,22.0s,MS5.3
ARMA Armidale 66.97 171 *e*P **P 04 48 27.1 +0.4**
STKA Stephens Creek 67.75 180⇓ *i*P **P 04 48 29.7 -1.9**
comp=Z,7.6nm,0.6s,mb4.9
STKA Stephens Creek 67.75 180 P **P 04 48 29.1 -2.5**
comp=Z,5.3nm,0.6s,mb4.7,baz=335,slow=6.7,SNR=16
STKA LR LR 05 17 11.8
comp=Z,2μm,20.9s,MS5.4,baz=356,slow=35
STKA Stephens Creek 67.75 180 *e*P **P 04 48 29.4 -2.3**
MOS Moscow 67.96 324α *i*P **P 04 48 33.0 +0.1**
MOS *i* pP 04 48 44.1 0.0
MOS *e* 04 48 57.2
MOS *e* 04 51 00.4
MOS *e*PPP 04 52 39.6
MOS *e*S S 04 57 29.6 +0.3
MOS *i* 04 57 49.1
MOS pmax pmax
comp=Z,238nm,1.4s,mb6.0
MOS smax
comp=N,1μm,4.2s
MOS MLR MLR
comp=Z,8μm,14.4s,MS6.1
MOS MLR MLR
comp=N,3μm,16.0s,MS5.8
MOS MLR MLR
comp=E,2μm,14.0s,MS5.8
VRHR Novokhopersk 68.35 318 *e*P **P 04 48 33.9 -1.5**
VRHR *e*S S 04 57 32.9 -1.1
VRHR *e*SP 04 57 50.1
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR smax
comp=N,180nm,2.4s
VRHR smax
comp=Z,60nm,1.3s
VRHR smax
comp=E,150nm,2.6s
VRHR MLR MLR
comp=Z,13μm,16.0s,MS6.3
VRHR MLR MLR
comp=N,3μm,19.0s
VRHR MLR MLR
comp=E,7μm,13.0s
OBN Obninsk 68.80 323*c* *i*P **P 04 48 38.1 -0.1**
OBN *e* pP 04 48 50.0 +0.6
OBN *i* S S 04 57 36.2 -3.1
OBN pmax pmax
comp=Z,179nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,10μm,17.0s,MS6.1
OBN Obninsk 68.80 323⇑ *i*P **P 04 48 37.8 -0.4**
comp=Z,142nm,1.2s,mb5.8
OBN LR LR
comp=Z,1μm,19.0s,MS5.1
COR Corvallis 68.92 50 PFAKE 04 48 50.0 +11
COR LR LR
comp=Z,2μm,21.0s,MS5.3
PUL Pulkovo 68.94 330*c* *i*P **P 04 48 39.2 +0.1**
PUL *i* 04 49 07.4
PUL *i* 04 51 06.4
PUL *i* S S 04 57 33.0 -7.9
PUL *i* SSS 05 05 11.6
PUL pmax pmax
comp=Z,163nm,1.1s,mb5.9
PUL pmax pmax
comp=N,496nm,0.9s
PUL pmax pmax
comp=E,426nm,0.9s
PUL pmax pmax
comp=Z,42nm,0.3s,mb5.8
PUL smax
comp=Z,143nm,10.0s
PUL smax
comp=N,415nm,11.0s
PUL smax
comp=E,717nm,11.0s
PUL MLR MLR
comp=Z,8μm,17.0s,MS6.0
PUL MLR MLR
comp=N,4μm,18.0s,MS6.0
PUL MLR MLR
comp=E,7μm,18.0s,MS6.0
MAK Makhachkala 69.04 308*c* *i*P **P 04 48 33.9 -5.8**
MAK *e* 04 49 02.7
MAK *e*PPP 04 52 47.3
MAK *i* S S 04 57 33.0 -9.1
MAK *e*SS SS 05 02 01.4 -6.8
MAK *e*SSS 05 05 05.1
MAK pmax pmax
comp=Z,521nm,1.7s,mb6.2
MAK pmax pmax
comp=Z,691nm,1.7s,mb6.3
MAK MLR MLR
comp=Z,13μm,18.0s,MS6.2
KAF Kangasniemi 69.07 333 *e*p **P 04 48 38.8 -1.1**
comp=Z,40nm,1.0s,mb5.3,baz=49,slow=5.9
KAF Kangasniemi 69.07 333 *e*P **P 04 48 38.8 -1.1**
KAF pmax pmax
comp=Z,40nm,1.0s,mb5.3
VOR Voronezh 69.31 320 P **P 04 48 41.0 -0.4**
VOR *e* pP 04 48 51.5 -1.1
VOR pmax pmax
comp=Z,200nm,2.0s,mb5.7
VOR pmax pmax
comp=E,110nm,1.6s
FINES FINESS Array B 69.58 332 P **P 04 48 42.7 -0.3**
comp=E,38nm,0.9s,mb5.3,baz=56,slow=6.9,SNR=42
FINES FINESS Array B 69.58 332 *i*P **P 04 48 42.7 -0.3**
FINES pmax pmax
comp=Z,38nm,0.9s
FINES FINESS Array B 69.58 332 P **P 04 48 42.7 -0.3**
VRSR Storozhevoye 69.59 319 *e*P **P 04 48 42.8 -0.3**
VRSR *e**PP pP 04 48 53.8 -0.6
VRSR *e*S S 04 57 47.7 -1.0
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR smax
comp=N,40nm,3.9s
VRSR smax
comp=Z,5.0nm,2.7s
VRSR smax
comp=E,20nm,3.9s
VRSR MLR MLR
comp=Z,2μm,16.0s,MS5.5
VRSR MLR MLR
comp=N,890nm,17.0s,MS5.3
VRSR MLR MLR
comp=E,1μm,17.0s,MS5.3
VORD Divnogorie 69.67 319 *e*P **P 04 48 42.6 -1.0**
VORD pmax pmax
comp=Z,50nm,1.3s,mb5.3
VORD pmax pmax
comp=N,50nm,1.5s
VORD pmax pmax
comp=E,60nm,1.0s
EDM Edmonton 69.92 38 *e*P **P 04 48 45.7 +0.6**
EDM Edmonton 69.92 38 *e*P **P 04 48 45.8 +0.7**
HUMO Hull Mountain 70.15 51 *e*P **P 04 48 47.1 +0.5**
comp=E,40nm,1.7s,mb5.1
HUMO LR LR
comp=Z,2μm,19.0s,MS5.4
MOR8 Moi Rana 70.16 340⇑ *i*P **P 04 48 45.1 -1.5**
MOR8 AMb AMB 04 48 46.7
comp=Z,130nm,1.4s,mb5.7
MOR8 Moi Rana 70.16 340 *e*P **P 04 48 44.6 -1.9**
comp=Z,130nm,1.4s,mb5.7
NEW Newport 70.64 44 P **P 04 48 49.3 -0.2**
comp=Z,5.1nm,0.6s,mb4.6,baz=309,slow=4.1,SNR=9.8
NEW Newport 70.64 44 *e*P **P 04 48 49.5 0.0**
NEW pmax pmax
comp=Z,30nm,1.1s
NEW Newport 70.64 44 *e*P **P 04 48 49.5 0.0**
comp=Z,30nm,1.2s,mb5.1
GOF Gofitskoye 70.71 312⇓ *i*P **P 04 48 50.0 0.0**
GOF pmax pmax
comp=Z,110nm,1.0s,mb5.7
YBH Yreka Blue Hor 70.76 52 P **P 04 48 51.3 +1.1**
comp=Z,5.4nm,0.7s,mb4.6,baz=359,slow=3.5,SNR=12
YBH Yreka Blue Hor 70.76 52 P **P 04 48 51.3 +1.1**
YBH LR LR
comp=Z,2μm,19.0s,MS5.3
JMIC Jan Mayen 70.96 350 *e*P **P 04 48 56.8 +5.3**
JMIC *e*S S 04 58 04.5 -0.1
JMIC AMS AMS 05 22 45.1
comp=Z,1μm,18.6s,MS5.2
JMIC Jan Mayen 70.96 350 *e*P **P 04 48 46.6 -4.9**
JMIC LR LR
comp=Z,1299μm,18.6s
KLBR Kellerberrin 71.05 201 *e*P **P 04 48 50.7 -1.3**
comp=Z,18nm,0.7s,mb5.1
DGRG David-gareji 71.17 308 P **P 04 48 52.8 0.0**
VSU Vasula 71.20 330⇑ *e*P **P 04 48 53.3 +0.4**
DUS Dusheti 71.26 309 P **P 04 48 57.2 +3.9**
ZEI Tsey 71.40 310 *e*P **P 04 48 52.5 -1.7**
ZEI *i* 04 49 13.8
ZEI pmax pmax
comp=Z,43nm,1.3s,mb5.2
TBLG Delisi 71.43 308 P **P 04 48 54.8 +0.5**
WDC Whiskeytown Da 71.47 53 *e*P **P 04 48 56.2 +1.6**
comp=Z,36nm,1.3s,mb5.1
WDC LR LR
comp=Z,1μm,19.0s,MS5.2
SUMG Summit 71.49 360 *e*P **P 04 48 55.2 +0.5**
comp=Z,99nm,1.2s,mb5.6
SUMG *e* pP 04 49 08.0 +2.0
KIV Kislovodsk 71.51 311*c* *i*P **P 04 48 55.7 +0.9**
KIV pmax pmax
comp=Z,190nm,1.2s,mb5.9
KIV MLR MLR
comp=Z,4μm,16.0s,MS5.8
KIV Kislovodsk 71.51 311 *e*P **P 04 48 55.4 +0.5**
comp=Z,149nm,0.9s,mb5.9
KIV LR LR
comp=Z,5μm,19.0s,MS5.8
ONI Oni 71.78 310 P **P 04 48 57.3 +0.8**
MUN Mundaring 71.88 202 *e*P **P 04 48 59.1 +2.1**
HOPS Hopland 71.97 55 PFAKE 04 49 10.0 +12
HOPS LR LR
comp=Z,3μm,19.0s,MS5.5
NSS Namsos 72.07 339 *e*P **P 04 48 57.1 -1.1**
NSS AMS AMS 05 24 31.1
comp=Z,6μm,16.9s,MS6.0
MOD Modoc 72.19 51 *e*P **P 04 49 00.6 +1.7**
comp=Z,30nm,1.3s,mb5.1
MOD LR LR
comp=Z,2μm,19.0s,MS5.3
GNI Garni 72.27 307 P **P 04 49 00.5 +1.1**
comp=Z,21nm,0.8s,mb5.1,baz=188,slow=2.1,SNR=20
GNI Garni 72.27 307 P **P 04 49 00.5 +1.1**
GNI LR LR
comp=Z,3μm,20.0s,MS5.5
BMO Blue Mountains 72.41 47 *e*P **P 04 49 00.5 +0.4**
comp=Z,33nm,1.1s,mb5.2
BMO LR LR
comp=Z,1μm,20.0s,MS5.1
NWAO Narrogin (SRO) 72.45 201 *e*P **P 04 48 59.5 -1.0**
comp=Z,21nm,0.8s,mb5.1
NWAO LR LR
comp=Z,678nm,19.0s,MS4.9
OHCM Honcut 72.83 54 *e*P **P 04 49 03.6 +0.9**
SCO Scoresbysund 72.93 354 *i*P **P 04 49 03.8 +0.5**
comp=Z,7.7nm,1.0s,mb4.6
SCO *e* 04 50 05.4
SCO Scoresbysund 72.93 354 *i*P **P 04 49 03.8 +0.5**
SCO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WVOR Wild Horse Val 72.94 50 P **P 04 49 05.4 +2.1**
WVOR pmax pmax
comp=Z,79nm,1.6s,mb5.4
WVOR Wild Horse Val 72.94 50 *e*P **P 04 49 04.6 +1.3**
comp=Z,79nm,1.6s,mb5.4
WVOR LR LR
comp=Z,2μm,19.0s,MS5.4
MSO Missoula 73.23 44 *e*P **P 04 49 05.1 +0.1**
comp=Z,33nm,1.4s,mb5.1
MSO LR LR
comp=Z,1μm,20.0s,MS5.1
MNK Minsk 73.24 326 *e*P **P 04 49 03.0 -2.1**
MNK pmax pmax
comp=Z,530nm,1.2s,mb6.3
MNK MLR MLR
comp=Z,15μm,16.0s,MS6.4
MNK MLR MLR
comp=E,16μm,18.0s
SOC Sochi 73.51 312*c* *i*P **P 04 49 05.0 -1.7**
SOC *i* pP 04 49 17.5 -0.5
SOC *e* 04 51 45.2
SOC *e*PPP 04 53 33.8
SOC *i* S S 04 58 34.7 +0.9
SOC *e* 04 59 15.9
SOC *e*SS SS 05 03 18.1 +1.2
SOC pmax pmax
comp=Z,119nm,1.5s,mb5.6
SOC pmax pmax
comp=Z,785nm,3.1s
SOC MLR MLR
comp=Z,9μm,20.0s,MS6.1
CHMT Chamberlain Mo 73.56 44 *e*P **P 04 49 07.1 +0.1**
VANB Van 74.00 306 *e*P **P 04 49 17.9 +8.3**
ANN Anapa 74.16 314 *e*P **P 04 49 08.0 -2.5**
ANN *e*S S 04 58 34.8 -6.4
ANN pmax pmax
comp=Z,510nm,7.8s
SAO San Andreas Ge 74.26 56 PFAKE 04 49 20.0 +8.9
SAO LR LR
comp=Z,2μm,21.0s,MS5.3
CMB Columbia Colle 74.26 54 P **P 04 49 13.0 +1.9**
CMB pmax pmax
comp=Z,35nm,1.3s,mb5.1
CMB Columbia Colle 74.26 54 *e*P **P 04 49 11.8 +0.7**
comp=Z,35nm,1.3s,mb5.1
CMB LR LR
comp=Z,2μm,21.0s,MS5.3
HKR Hakkari 74.33 305 *e*P **P 04 49 11.7 +0.2**
FFC Flin Flon 74.33 33 P **P 04 49 11.3 -0.2**
FFC pmax pmax
comp=Z,65nm,1.1s,mb5.5
FFC Flin Flon 74.33 33 *e*P **P 04 49 11.0 -0.5**
comp=Z,65nm,1.1s,mb5.5
FFC LR LR
comp=Z,524nm,21.0s,MS4.8
HRY Holter Researc 74.47 43 *e*P **P 04 49 12.7 +0.4**
EZM Erzurum 74.57 308 P **P 04 49 14.4 +1.5**
FCC Fort Churchill 74.68 26 P **P 04 49 13.0 -0.5**
FCC pmax pmax
comp=Z,48nm,1.0s,mb5.4
FCC Fort Churchill 74.68 26 *e*P **P 04 49 12.8 -0.8**
comp=Z,48nm,1.1s,mb5.3
DOMB Dombas 74.83 339 *e*P **P 04 49 14.6 +0.2**
DOMB AMb AMB 04 49 16.0
comp=Z,91nm,1.5s,mb5.5
DOMB Dombas 74.83 339 *e*P **P 04 49 14.6 +0.2**
comp=Z,91nm,1.5s,mb5.5
DLMT Dillon 74.84 45 *e*P **P 04 49 15.2 +0.7**
comp=Z,127nm,1.4s,mb5.7
HLID Hailey 74.85 47 *e*P **P 04 49 15.7 +1.1**
comp=Z,10nm,0.9s,mb4.8
HFS Hagfors 74.86 336 P **P 04 49 14.5 -0.1**
comp=Z,30nm,1.0s,mb5.2,baz=108,slow=4.7,SNR=23
HFS Hagfors 74.86 336 P **P 04 49 14.5 -0.1**
HFS pmax pmax
comp=Z,30nm,1.0s
BMN Battle Mountai 74.94 51 PFAKE 04 49 30.0 +15
BMN LR LR
comp=Z,1μm,19.0s,MS5.3
NB2 NORSAR Subarra 74.97 337 P **P 04 49 15.1 -0.1**
comp=Z,130nm,1.4s,mb5.7,baz=40,slow=6.2
NOA NORSAR Array B 74.97 337 P **P 04 49 15.1 -0.1**
comp=Z,38nm,1.0s,mb5.3,baz=39,slow=5.8,SNR=57
AKASG Malin Array Be 75.00 322 P **P 04 49 15.1 -0.3**
comp=Z,26nm,0.5s,mb5.4,baz=47,slow=5.8,SNR=126
AKASG Malin Array Be 75.00 322 *i*P **P 04 49 15.1 -0.3**
AKASG pmax pmax
comp=Z,26nm,0.5s
MCMT McKenzie Canyo 75.02 45 *e*P **P 04 49 17.4 +1.9**
BOZ Bozeman (W) 75.22 44 P **P 04 49 17.5 +0.8**
BOZ pmax pmax
comp=Z,40nm,1.0s,mb5.3
BOZ Bozeman (W) 75.22 44 *e*P **P 04 49 17.3 +0.7**
comp=Z,40nm,1.0s,mb5.3
BOZ LR LR
comp=Z,1μm,20.0s,MS5.2
NAO01 NORSAR Array S 75.22 337 *e*P **P 04 49 16.0 -0.7**
comp=Z,24nm,0.8s,mb5.2
NAO01 LR LR
comp=Z,5μm,20.0s,MS5.8
NVAR Mina Array Bea 75.39 53 P **P 04 49 18.7 +1.0**
comp=Z,6.5nm,0.6s,mb4.7,baz=288,slow=6.0,SNR=53
NVAR Mina Array Bea 75.39 53 P **P 04 49 18.7 +1.0**
GUMT Gumushane 75.44 310 *i*P **P 04 49 17.9 0.0**
BTMT Batman 75.46 307 *e*P **P 04 49 17.2 -0.8**
MSL Mosul 75.48 304 *e*x x 04 49 21.0
MSL *e*x x 04 59 17.0
MNV Mina 75.49 53 P **P 04 49 19.4 +1.2**
MNV pmax pmax
comp=Z,45nm,1.5s,mb5.2
MNV Mina 75.49 53 *e*P **P 04 49 19.3 +1.1**
comp=Z,45nm,1.5s,mb5.2
MNV LR LR
comp=Z,2μm,21.0s,MS5.3
SUW Suwalki 75.62 328 *e*Pc 04 49 18.7
comp=Z,0.8nm,3.3s
SUW *e*PcP PcP 04 49 30.5 -1.2
SUW *e*S S 04 58 58.4 +1.0
SUW *e*SKS 04 59 16.7
SUW *e*SS SS 05 03 46.2 -2.8
SUW L 05 25 32.2
comp=Z,5.4nm,18.4s
SUW Suwalki 75.62 328⇑ *e*P **P 04 49 18.7 -0.3**
SUW *e* pP 04 49 30.5 +0.2
SUW *e*S S 04 58 58.4 +1.0
SUW *e* 04 59 16.7
SUW *e*SS SS 05 03 46.2 -2.8
SUW pmax pmax
comp=Z,800nm,3.3s
SUW MLR MLR
comp=Z,5μm,18.4s,MS5.9
SUW Suwalki 75.62 328⇑ *e*P **P 04 49 18.7 -0.3**
SUW *e*PcP PcP 04 49 30.5 -1.2
SUW *e*S S 04 58 58.4 +1.0
SUW *e*SKS 04 59 16.7
SUW *e*SS SS 05 03 46.2 -2.8
QLMT Earthquake Lak 75.83 45 *e*P **P 04 49 21.6 +1.5**
SIM Simferopol' 75.97 316⇑ *e*P **P 04 49 21.2 +0.2**
SIM *e*S S 04 59 01.2 -0.1
SIM pmax pmax
comp=Z,63nm,1.0s,mb5.5
SIM pmax pmax
comp=Z,420nm,17.3s
SIM MLR MLR
comp=Z,6μm,17.0s,MS6.0
UMR Umm Al-Rimmam 76.01 296 *e*P **P 04 49 21.0 -0.2**
MIB Mutribah 76.14 297 *e*P **P 04 49 21.7 -0.3**
MIB AMb AMB 04 49 34.0
comp=Z,130nm,0.8s,mb5.9
YMR Madison River 76.19 44 *e*P **P 04 49 24.3 +2.1**
comp=Z,73nm,1.3s,mb5.5
YMR LR LR
comp=Z,2μm,22.0s,MS5.3
GCMT Greycliff 76.23 43 *e*P **P 04 49 23.9 +1.5**
KBD Kabd 76.23 296 *e*P **P 04 49 22.0 -0.4**
KBD AMb AMB 04 49 24.5
comp=Z,472nm,0.7s,mb6.5
TPH Tonopah 76.29 53 P **P 04 49 25.1 +2.3**
TPH pmax pmax
comp=Z,39nm,1.2s,mb5.2
TPH Tonopah 76.29 53 *e*P **P 04 49 24.5 +1.7**
comp=Z,39nm,1.2s,mb5.2
TPH LR LR
comp=Z,2μm,20.0s,MS5.3
BHD Baghdad 76.30 301 *e*x x 04 49 21.5
BHD *e*x x 04 59 15.0
QRN Al-Qurain 76.31 296 *e*P **P 04 49 23.0 +0.1**
QRN AMb AMB 04 49 25.0
comp=Z,196nm,0.7s,mb6.2
YFT Old Faithful 76.39 45 *e*P **P 04 49 25.2 +1.9**
PTK Pertek 76.40 308 P **P 04 49 26.1 +2.7**
RDF Al-Radifah 76.48 296 *e*P **P 04 49 23.9 0.0**
RDF AMb AMB 04 49 26.9
comp=Z,214nm,1.0s,mb6.0
NAY Al-Naaiem 76.52 296 *e*P **P 04 49 23.9 -0.2**
NAY AMb AMB 04 49 25.9
comp=Z,87nm,0.7s,mb5.8
KONO Kongsberg 76.56 337 *e*P **P 04 49 23.2 -1.1**
KONO *e*S S 04 59 05.9 -1.8
KONO Kongsberg 76.56 337 P **P 04 49 24.3 0.0**
KONO pmax pmax
comp=Z,26nm,1.0s,mb5.1
LKWY Lake 76.57 44 *e*P **P 04 49 28.2 +3.8**
LKWY pmax pmax
comp=Z,55nm,1.3s,mb5.3
LKWY Lake 76.57 44 *e*P **P 04 49 26.8 +2.4**
comp=Z,55nm,1.3s,mb5.3
LKWY LR LR
comp=Z,2μm,20.0s,MS5.4
SFJD Kangerlussuaq 76.68 5 *i*P **P 04 49 24.8 -0.2**
comp=Z,19nm,0.9s,mb5.0
SFJD *i* pP 04 49 37.3 +1.0
SFJD *i* 04 59 13.4
SFJD Kangerlussuaq 76.68 5 *i*P **P 04 49 24.8 -0.2**
SFJD *i* pP 04 49 37.3 +1.0
SFJD *i* 04 59 13.4
SFJD pmax pmax
comp=Z,19nm,0.9s,mb5.0
ISA Isabella 76.86 55 PFAKE 04 49 40.0 +14
ISA LR LR
comp=Z,519nm,22.0s,MS4.8
MOOW Moose Ponds 76.87 45 *e*P **P 04 49 27.6 +1.5**
comp=Z,85nm,1.6s,mb5.4
HVU Hansel Valley 76.88 48 P **P 04 49 27.7 +1.6**
HVU pmax pmax
comp=Z,18nm,0.9s,mb5.0
HVU Hansel Valley 76.88 48 *e*P **P 04 49 27.2 +1.1**
comp=Z,18nm,0.9s,mb5.0
HVU *e* pP 04 49 38.1 +0.7
LOHW Long Hollow 77.04 45 *e*P **P 04 49 28.0 +1.0**
comp=Z,48nm,1.5s,mb5.2
SNOW Snow King Moun 77.04 45 *e*P **P 04 49 27.7 +0.7**
comp=Z,18nm,0.9s,mb5.0
REDW Red Top Meadow 77.05 46 *e*P **P 04 49 28.9 +1.8**
comp=Z,66nm,1.4s,mb5.4
DAC Darwin (Calif) 77.09 55 *e*P **P 04 49 28.7 +1.4**
DAC pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
DAC Darwin (Calif) 77.09 55 *e*P **P 04 49 28.5 +1.2**
comp=Z,7.5nm,0.8s,mb4.7
DAC LR LR
comp=Z,1μm,20.0s,MS5.3
RUND Rundenannen 77.21 339 *e*P **P 04 49 28.5 +0.6**
RUND AMb AMB 04 49 30.0
comp=Z,152nm,1.6s,mb5.7
BGU Big Grassy Mou 77.24 48 *e*P **P 04 49 31.9 +3.8**
BER Bergen 77.25 339 *e*P **P 04 49 29.3 +1.1**
BER AMb AMB 04 49 46.0
comp=Z,92nm,1.4s,mb5.5
BER *e*S S 04 59 13.3 -2.0
BER *e*SS SS 05 04 06.2 -7.3
BER AMS AMS 05 27 12.5
comp=Z,8μm,18.1s,MS6.1
BER Bergen 77.25 339 *e*P **P 04 49 22.4 -5.8**
BER LR LR

comp=Z,7542µm,18.0s
AHID Auburn Hatcher 77.27 46 *e*P **P 04 49 29.2 +0.9**
comp=Z,35nm,1.3s,mb5.1
AHID LR LR
comp=Z,1µm,19.0s,MS5.3
SVSK Karacayir 77.30 310 *e*P **P 04 49 28.6 +0.2**
MYA Malatya 77.34 308 *e*P **P 04 49 29.5 +0.8**
MALT Malatya 77.35 308 *e*P **P 04 49 25.4 -3.3**
MALT Malatya 77.35 308 ⇓P **P 04 49 30.5 +1.7**
MALT Malatya 77.35 308 *e*P **P 04 49 29.2 +0.5**
comp=Z,53nm,1.1s,mb5.4
DGMT Dagmar 77.41 38 *e*P **P 04 49 29.6 +0.6**
comp=Z,56nm,1.1s,mb5.4
DGMT LR LR
comp=Z,2µm,19.0s,MS5.4
LAO LASA Array 77.52 41 *e*P **P 04 49 30.5 +0.8**
comp=Z,155nm,1.6s,mb5.7
LAO LR LR
comp=Z,1µm,19.0s,MS5.3
KIS Kishinev 77.57 320 *e*P **P 04 49 28.0 -2.0**
KIS *i* 04 49 35.0
KIS *i* pP 04 49 41.0 -0.4
KIS *e*S S 04 59 14.0 -4.8
KIS *e* 04 59 34.0
KIS *e*PS 04 59 46.0
KIS *e* 05 00 07.0
KIS pmax pmax
comp=Z,110nm,1.4s,mb5.6
KIS pmax pmax
comp=Z,800nm,5.0s
KIS MLR MLR
comp=N,11µm,16.0s,MS6.4
KIS MLR MLR
comp=E,11µm,16.0s,MS6.4
KIS MLR MLR
comp=Z,17µm,16.0s,MS6.5
KIS MLR MLR
comp=Z,11µm,16.0s
HWUT Hardware Ranch 77.70 47 *e*P **P 04 49 32.0 +1.3**
comp=Z,78nm,1.4s,mb5.5
HWUT LR LR
comp=Z,2µm,19.0s,MS5.3
BLS5 Blasjo 77.70 338⇑*i*P **P 04 49 31.9 +1.2**
BLS5 AMb AMB 04 49 40.0
comp=Z,33nm,1.6s,mb5.0
BLS5 Blasjo 77.70 338 *e*P **P 04 49 30.9 +0.2**
WAR Warsaw 77.79 327 *e*P **P 04 49 32.0 +0.8**
WAR *e*PcP PcP 04 49 44.0 +2.9
WAR *e*PP PP 04 52 36.0 +9.1
WAR *e*S S 04 59 21.5 +0.4
WAR *e*SKS 04 59 48.6
WAR L 05 26 30.0
comp=Z,3.3nm,19.1s
WAR Warsaw 77.79 327 *e*P **P 04 49 32.0 +0.8**
WAR *e* pP 04 49 44.0 +1.4
WAR *e*S S 04 59 21.5 +0.4
WAR *e* 04 59 48.6
WAR MLR MLR
comp=Z,3µm,19.1s,MS5.7
DUG Dugway 77.81 49 P **P 04 49 32.3 +1.0**
DUG pmax pmax
comp=Z,23nm,1.0s,mb5.1
DUG Dugway 77.81 49 *e*P **P 04 49 32.2 +0.9**
comp=Z,23nm,1.0s,mb5.1
DUG LR LR
comp=Z,1µm,19.0s,MS5.3
DGAR Diego Garcia 77.83 251 PFAKE 04 49 40.0 +8.6
DGAR LR LR
comp=Z,557nm,19.0s,MS4.9
NOQ North Oquirrh 77.95 48 *e*P **P 04 49 32.8 +0.7**
comp=Z,88nm,1.2s,mb5.6
LVV L'vov 78.09 324*d i*P **P 04 49 33.2 +0.3**
LVV *e*S S 04 59 25.6 +1.2
LVV MLR MLR
comp=Z,9µm,16.0s,MS6.2
TCUT Toone Canyon 78.09 48 *e*P **P 04 49 32.5 -0.4**
IAS Iasi 78.10 320 P **P 04 49 33.8 +0.9**
BW06 Boulder Array 78.16 45 *e*P **P 04 49 33.4 +0.1**
comp=Z,20nm,1.1s,mb5.0
BW06 LR LR
comp=Z,2µm,19.0s,MS5.3
PDAR Pinedale Array 78.16 45 P **P 04 49 33.5 +0.3**
comp=Z,6.2nm,0.6s,mb4.7,baz=274,slow=2.2,SNR=42
PDAR LR LR 05 19 17.6
comp=Z,943nm,20.8s,MS5.1,baz=96,slow=32
BSD Bornholm Skovb 78.20 332⇑*i*P **P 04 49 33.1 -0.4**
comp=Z,27nm,0.8s,mb5.2
BSD *i* pP 04 49 43.7 -1.2
BSD *e* 04 51 46.4
BSD *i*S S 04 59 23.1 -2.5
BSD *i* 04 59 43.8
BSD
comp=Z,4µm,18.0s
BSD Bornholm Skovb 78.20 332⇑*i*P **P 04 49 33.1 -0.4**
BSD *i* pP 04 49 43.7 -1.2
BSD *i*S S 04 59 23.1 -2.5
BSD *i* 04 59 43.8
BSD pmax pmax
comp=Z,27nm,0.8s,mb5.2
BSD MLR MLR
comp=Z,4µm,18.0s,MS5.8
BSD Bornholm Skovb 78.20 332⇑*i*P **P 04 49 33.1 -0.4**
comp=Z,27nm,0.8s,mb5.2
BSD *i* pP 04 49 43.7 -1.2
BSD *e* 04 51 46.4
BSD *i*S S 04 59 23.1 -2.5
BSD *i* 04 59 43.8
NLU North Lily Min 78.40 49 *e*P **P 04 49 32.5 -2.1**
BORG Borgarnes 78.46 353 *e*P **P 04 49 35.8 +0.9**
comp=Z,118nm,1.1s,mb5.7
DAU Daniels Canyon 78.62 48 P **P 04 49 37.1 +1.3**
DAU Daniels Canyon 78.62 48 *e*P **P 04 49 36.7 +0.9**
MPU Maple Canyon 78.64 49 *e*P **P 04 49 36.0 +0.1**
comp=Z,36nm,1.1s,mb5.2
MPU LR LR
comp=Z,3µm,20.0s,MS5.6
COP Copenhagen 78.69 333⇑*i*P **P 04 49 36.4 +0.2**
comp=Z,23nm,0.6s,mb5.3
COP *i* pP 04 49 47.5 -0.1
COP *e*S S 04 59 37.6 +6.8
COP *i* 04 59 50.7
COP
comp=Z,2µm,19.0s
COP Copenhagen 78.69 333⇑*i*P **P 04 49 36.4 +0.2**
COP *i* pP 04 49 47.5 -0.1
COP *e*S S 04 59 37.6 +6.8
COP *i* 04 59 50.7
COP pmax pmax
comp=Z,23nm,0.6s,mb5.3
COP MLR MLR
comp=Z,2µm,19.0s,MS5.5
KWP Kalwaria 78.84 325 *e*Pc 04 49 38.1
comp=Z,0.6nm,1.9s
KWP *e*PcP PcP 04 49 48.6 +2.9
KWP *e*S S 04 59 35.1 +2.7
KWP *e*SKS 04 59 51.8
KWP L 05 27 52.7
comp=Z,15nm,16.2s
KWP Kalwaria 78.84 325⇑*e*P **P 04 49 38.1 +1.1**
KWP *e* pP 04 49 48.6 +0.2
KWP *e*S S 04 59 35.1 +2.7
KWP *e* 04 59 51.8
KWP pmax pmax
comp=Z,600nm,1.9s,mb6.2
KWP MLR MLR
comp=Z,15µm,16.2s,MS6.4
KWP Kalwaria 78.84 325⇑*e*P **P 04 49 38.1 +1.1**
KWP *e*PcP PcP 04 49 48.6 +2.9
KWP *e*S S 04 59 35.1 +2.7
KWP *e*SKS 04 59 51.8
ARUT Antelope Range 78.87 51 P **P 04 49 39.3 +2.1**
ARUT Antelope Range 78.87 51 *e*P **P 04 49 38.9 +1.7**
TAU Tasmania Unive 78.94 176 PFAKE 04 49 50.0 +12
TAU LR LR
comp=Z,612nm,20.0s,MS4.9
BURAR Bucovina Array 79.01 322 P **P 04 49 38.8 +0.9**
CFR Carcaliu 79.12 319⇑P **P 04 49 39.1 +0.6**
MVU Marysvale 79.21 50 *e*P **P 04 49 41.8 +2.8**
comp=Z,20nm,1.1s,mb5.0
MVU LR LR
comp=Z,1µm,21.0s,MS5.1
MSU Marysvale 79.22 50 P **P 04 49 40.4 +1.3**
MSU Marysvale 79.22 50 *e*P **P 04 49 40.3 +1.2**
MUD Monsted U'grnd 79.23 335⇑*i*P **P 04 49 39.1 0.0**
comp=Z,25nm,1.1s,mb5.0
MUD *i* 04 52 42.6
MUD *i*S S 04 59 55.5 +19
MUD *i* 05 04 42.4
MUD
comp=Z,5µm,17.0s
MUD Monsted U'grnd 79.23 335⇑*i*P **P 04 49 39.1 0.0**
MUD *i* 04 52 42.6
MUD *i*S S 04 59 55.5 +19
MUD *i* 05 04 42.4
MUD pmax pmax
comp=Z,25nm,1.1s,mb5.1
MUD MLR MLR
comp=Z,5µm,17.0s,MS5.9
MUD Monsted U'grnd 79.23 335⇑*i*P **P 04 49 39.1 0.0**
comp=Z,25nm,1.1s,mb5.0
MUD *i* 04 52 42.6
MUD *i*S S 04 59 55.5 +19
MUD *i* 05 04 42.4
NEN Nelson 79.26 54 *e*P **P 04 49 40.3 +1.0**
TMUT Trail Mountain 79.34 49 *e*P **P 04 49 40.8 +1.0**
VRI Vrincioaia 79.41 320⇓P **P 04 49 40.6 +0.5**
VRI Vrincioaia 79.41 320 P **P 04 49 41.4 +1.3**
PFO Pinyon Flat Ob 79.41 56 P **P 04 49 41.9 +1.8**
PFO pmax pmax
comp=Z,32nm,1.7s,mb5.0
PFO Pinyon Flat Ob 79.41 56 *e*P **P 04 49 41.2 +1.1**
comp=Z,32nm,1.8s,mb4.9
PFO LR LR
comp=Z,838nm,19.0s,MS5.1
BR131 Keskin Array S 79.46 312 *e*P **P 04 49 40.5 +0.1**
comp=Z,17nm,0.8s,mb5.0
BR131 LR LR
comp=Z,3µm,19.0s,MS5.6
BRTR Keskin Array B 79.46 312 P **P 04 49 40.9 +0.4**
comp=Z,32nm,1.1s,mb5.2,baz=90,slow=3.7,SNR=73
BRTR Keskin Array B 79.46 312⇑*e*P **P 04 49 40.9 +0.5**
KOLS Kolonicke sedl 79.53 324 *e*P **P 04 49 41.5 +0.7**
KOLS *e*sP sP 04 49 52.1 -4.3
STHS Stebnicka Huta 79.68 325 *e*P **P 04 49 42.5 +0.9**
STHS *e*sP sP 04 49 54.3 -2.9
UZH Uzhgorod 79.74 324 *e*P **P 04 49 42.0 +0.1**
UZH *e*S S 04 59 41.0 -0.9
UZH MLR MLR
comp=Z,6µm,15.5s,MS6.0
OJC Ojcow 79.77 326 *i* Pc 04 49 42.6
OJC *e*PcP PcP 04 49 53.2 +3.5
OJC *e*PP PP 04 52 42.0 -1.4
OJC *e*S S 04 59 41.9 -0.3
OJC *e*SS SS 05 04 47.8 -3.6
OJC L 05 28 43.2
comp=Z,60nm,16.6s
BAR Barrett 79.81 57 *e*P **P 04 49 43.0 +0.7**
SRU San Rafael 79.87 49 P **P 04 49 43.6 +1.0**
SRU pmax pmax
comp=Z,30nm,0.7s,mb5.3
SRU San Rafael 79.87 49 *e*P **P 04 49 43.3 +0.7**
comp=Z,30nm,0.7s,mb5.3
CRVS Cervenica-Dubn 79.94 325 *e*P **P 04 49 46.8 +3.8**
CRVS *e*S S 05 00 01.3 +17
MLR Muntele Rosu 80.07 320⇑P **P 04 49 44.0 +0.3**
MLR Muntele Rosu 80.07 320 P **P 04 49 44.8 +1.1**
NIE Niedzica 80.11 325 *e*P **P 04 49 44.8 +0.9**
NIE *e*PcP PcP 04 49 56.7 +5.5
ULM Lac du Bonnet 80.12 33 P **P 04 49 42.7 -1.3**
comp=Z,4.1nm,0.6s,mb4.5,baz=318,slow=6.4,SNR=7.9
ULM LR LR 05 24 56.7
comp=Z,922nm,21.4s,MS5.1,baz=331,slow=35
RSSD Black Hills 80.36 42 PFAKE 04 50 00.0 +15
RSSD LR LR
comp=Z,542nm,20.0s,MS4.9
VOIR 80.57 320⇑P **P 04 49 47.0 +0.6**
RAC Raciborz 80.58 327 *e*P **P 04 49 47.3 +0.9**
RAC *e*S S 04 59 52.0 +1.3
RAC MLR MLR
comp=Z,7µm,17.5s,MS6.1
RUE Ruedersdorf 80.64 331 *e*P **P 04 49 46.7 -0.1**
comp=Z,32nm,1.2s,mb5.1
RUE *e*pP pP 04 49 58.8 +0.6
RUE Ruedersdorf 80.64 331 *e*P **P 04 49 45.0 -1.8**
comp=Z,204nm,1.5s,mb5.8
KECS Kecovo 80.69 325 *e*P **P 04 49 47.5 +0.5**
KECS *e*sP sP 04 49 58.8 -3.9
KECS *e* 04 51 36.2
KECS *e*PP PP 04 52 52.3 +1.2
KECS Kecovo 80.69 325 *e*P **P 04 49 47.5 +0.5**
KECS *e* pP 04 49 58.8 +0.3
KECS *e* 04 52 52.3
OKC Ostrava-Krasne 80.78 327 *e*P **P 04 49 46.1 -1.4**
OKC *e*pP pP 04 49 56.8 -2.1
OKC *e*S S 04 59 50.0 -2.8
OKC AMS AMS 05 28 30.0
comp=Z,10µm,17.5s
OKC Ostrava-Krasne 80.78 327 *e*P **P 04 49 46.1 -1.4**
OKC *e*pP pP 04 49 56.8 -2.1
OKC *e*S S 04 59 50.0 -2.8
DRGR 80.82 322⇓P **P 04 49 48.4 +0.7**
BSEG Bad Segeberg 80.83 333 *e*P **P 04 49 47.7 -0.1**
comp=Z,41nm,1.4s,mb5.2
BSEG *e*PP PP 04 52 51.9 -0.3
GLA Glamis 80.83 56 *e*P **P 04 49 46.4 -1.4**
KSP Ksiaz 80.84 328 *e*Pc 04 49 48.4
comp=Z,1.0nm,3.4s
KSP *e*PcP PcP 04 49 59.6 +5.2
KSP *e*PP PP 04 52 52.5 +0.1
KSP *e*S S 04 59 55.2 +1.7
KSP *e*SKS 05 00 14.0
KSP L 05 29 10.7
comp=Z,12nm,18.7s
KSP Ksiaz 80.84 328⇑*i*P **P 04 49 48.4 +0.6**
KSP *e*PcP PcP 04 49 54.7 +0.3
KSP *e*pP pP 04 49 59.7 +0.4
KSP *e*PP PP 04 52 49.5 -2.9
KSP *e*S S 04 59 53.0 -0.5
KSP *e*SS SS 05 05 08.0 +0.5
KSP LR LR
comp=Z,14µm,18.7s,MS6.3
MORC Moravsky Berou 81.09 327⇑P **P 04 49 49.9 +0.7**
MORC Moravsky Berou 81.09 327 *e*P **P 04 49 49.2 +0.1**
comp=Z,29nm,1.0s,mb5.2
DPC Dobruska-Polom 81.19 328 *e*P **P 04 49 50.2 +0.5**
DPC *e*pP pP 04 50 00.3 -0.8
DPC *e*S S 04 59 53.7 -3.5
DPC AMS AMS 05 29 10.0
comp=Z,8µm,17.0s
UPC Upice 81.21 328 *e*P **P 04 49 50.0 +0.2**
UPC *e*pP pP 04 50 00.1 -1.1
PSZ Piszkesteto 81.37 325⇑*i*P **P 04 49 51.4 +0.7**
PSZ Piszkesteto 81.37 325 P **P 04 49 51.5 +0.8**
PSZ Piszkesteto 81.37 325 *e*P **P 04 49 50.9 +0.3**
comp=Z,147nm,1.4s,mb5.7
VYHS Vyhne 81.45 326 *e*P **P 04 49 51.8 +0.7**
VYHS *e*sP sP 04 50 03.6 -3.1
VYHS *e*S S 05 00 01.8 +2.0
SZH Strazhica 81.57 318 P **P 04 49 52.3 +0.6**
SZH Strazhica 81.57 318 P **P 04 49 52.3 +0.6**
WUAZ Wupatki 81.58 52 *e*P **P 04 49 52.8 +1.0**
comp=Z,22nm,0.9s,mb5.1
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.5
JMB Yambol 81.76 317 P **P 04 49 53.7 +1.0**
JMB Yambol 81.76 317 P **P 04 49 53.7 +1.0**
BRG Berggiesshubel 81.80 330 *e*P **P 04 49 52.7 -0.2**
comp=Z,28nm,1.5s,mb5.0
BRG Berggiesshubel 81.80 330 *i* P **P 04 49 53.0 +0.1**
BRG *i* pP 04 50 03.4 -0.9
BRG *e* 04 53 05.0
BRG 05 00 04.0
BRG pmax pmax
comp=Z,28nm,1.5s,mb5.0
BRG pmax pmax
comp=Z,53nm,1.4s,mb5.3
BRG pmax pmax
comp=Z,14nm,1.4s,mb4.7
BRG MLR MLR
comp=N,3µm,14.7s,MS5.8
BRG MLR MLR
comp=E,2µm,18.7s,MS5.8
BRG MLR MLR
comp=Z,4µm,14.5s,MS6.0
BRG Berggiesshubel 81.80 330 *i* P **P 04 49 53.0 +0.1**
comp=Z,28nm,1.5s,mb5.0
BRG *i* pP 04 50 03.4 -0.9
BRG *e*PP PP 04 53 05.0 +4.8
BRG SKS 05 00 04.0
BRG S S 05 00 16.0 +13
BRG SS SS 05 05 47.0 +25
BRG LR LR
comp=Z,4µm,14.5s,MS6.0
PVCC Panska Ves 81.80 329 *e*P **P 04 49 53.1 +0.2**
PVCC *e*pP pP 04 50 03.2 -1.2
PVCC AMS AMS 05 31 40.0
comp=Z,4µm,14.5s
CLL Collm 81.85 330⇑*i*P **P 04 49 52.9 -0.3**
comp=Z,35nm,1.3s,mb5.1
CLL *e*sP sP 04 50 03.7 -5.1
CLL *e*PP PP 04 53 10.2 +10
CLL *e*PPP 04 55 02.5
CLL *e*S S 05 00 02.6 -1.3
CLL *e*sS sS 05 00 22.9 0.0
CLL *e*SS SS 05 05 22.4 -0.1
CLL *e*L 05 30 37.9
comp=Z,4µm,18.0s
CLL Collm 81.85 330 *i* P **P 04 49 52.6 -0.6**
comp=Z,59nm,1.3s,mb5.4
CLL *e*sP sP 04 50 05.0 -3.8
CLL *e*PP PP 04 53 08.0 +7.3
CLL *e*S S 05 00 02.0 -1.9
CLL *e*sS sS 05 00 23.0 +0.1
CLL *e*SS SS 05 05 22.0 -0.5
CLL Collm 81.85 330 *i* P **P 04 49 52.6 -0.6**
CLL *e**SP sP 04 50 05.0 -3.8
CLL *e*S S 05 00 02.0 -1.9
CLL pmax pmax
comp=Z,59nm,1.3s,mb5.4
CLL MLR MLR
comp=Z,6µm,17.8s,MS6.0
CLL Collm 81.85 330 *i* P **P 04 49 52.6 -0.6**
comp=Z,59nm,1.3s,mb5.4
CLL *e*sP sP 04 50 05.0 -3.8
CLL *e*S S 05 00 02.0 -1.9
CLL LR LR
comp=Z,6µm,17.8s,MS6.0
VRAC Vranov 81.85 327⇑P **P 04 49 53.8 +0.6**
VRAC Vranov 81.85 327 P **P 04 49 54.0 +0.8**
SMCO Snowmass 81.95 47 *e*P **P 04 49 54.7 +1.0**
comp=Z,42nm,1.2s,mb5.2
MCD Coleburn Disti 81.96 342 *e*P **P 04 49 53.6 -0.2**
MCD Coleburn Disti 81.96 342 *e*P **P 04 49 53.6 -0.2**
SMOL Smolenice 82.07 326 *e*P **P 04 49 55.5 +1.2**
SMOL *e* 04 50 02.2
BZS Buzias 82.18 322⇑P **P 04 49 55.3 +0.4**
BZS Buzias 82.18 322 P **P 04 49 55.1 +0.2**
SRO Srobarova 82.18 325 *e*P **P 04 49 56.3 +1.4**
SRO *e*sP sP 04 50 08.0 -2.6
SRO *e*PP PP 04 53 04.0 +0.6
PRA Prague 82.21 329 P **P 04 49 56.0 +0.9**
PRA pP pP 04 50 07.0 +0.5
PRU Pruhonice 82.22 329 *e*P **P 04 49 55.1 0.0**
PRU *e*pP pP 04 50 05.4 -1.2
PRU *e*S S 05 00 00.6 -7.2
PRU AMS AMS 05 31 00.0
comp=Z,7µm,14.6s
ISCO Idaho Springs 82.34 46 P **P 04 49 57.2 +1.4**
ISCO pmax pmax
comp=Z,11nm,0.8s,mb4.8
ISCO Idaho Springs 82.34 46 *e*P **P 04 49 56.4 +0.6**
comp=Z,11nm,0.8s,mb4.8
ISCO LR LR
comp=Z,2µm,20.0s,MS5.4
TREC Trest 82.34 328 *e*P **P 04 49 56.0 +0.2**
TREC *e*pP pP 04 50 05.6 -1.6
TREC AMS AMS 05 30 50.0
comp=Z,10µm,15.5s
MDO Dochfour 82.36 342 *e*P **P 04 49 55.6 -0.3**
MDO Dochfour 82.36 342 *e*P **P 04 49 55.6 -0.3**
ZST Bratislava 82.45 326 *e*P **P 04 49 58.1 +1.8**
ZST *e*sP sP 04 50 09.1 -2.9
ZST *e* 04 51 45.4
ZST *e*S S 05 00 13.8 +3.7
ZST Bratislava 82.45 326 *e*P **P 04 49 58.1 +1.8**
ZST *e* pP 04 50 09.1 +1.3
ZST *e*S S 05 00 13.8 +3.7
CLZ Clausthal 82.46 332 *e*P **P 04 49 56.4 0.0**
comp=Z,36nm,1.4s,mb5.1
CLZ *e*PP PP 04 53 05.6 -0.1
ISP Isparta 82.55 312 P **P 04 49 56.9 +0.1**
ISP pmax pmax
comp=Z,36nm,1.0s,mb5.4
ISP Isparta 82.55 312 *e*P **P 04 49 55.0 -1.8**
comp=Z,36nm,1.0s,mb5.4
CSS Prodhromos 82.64 308 *e*P **P 04 49 56.3 -1.0**
comp=Z,25nm,0.6s,mb5.4
WERD Werda 82.79 330 *e*P **P 04 49 58.1 0.0**
comp=Z,22nm,1.8s,mb4.9
NKC Novy Kostel 82.90 330 *e*P **P 04 49 58.7 0.0**
NKC *e*pP pP 04 50 09.0 -1.1
NKC AMS AMS 05 30 20.0
comp=Z,9µm,15.7s
NKC Novy Kostel 82.90 330 *e*P **P 04 49 58.7 0.0**
NKC *e*pP pP 04 50 09.0 -1.1
MOX Moxa 82.92 331 *e*P **P 04 49 58.6 -0.1**
comp=Z,29nm,1.6s,mb5.1
MOX *e*pP pP 04 50 10.9 +0.7
MOX *e*PP PP 04 53 08.5 -0.9
MOX Moxa 82.92 331*c e*P **P 04 49 58.6 -0.1**
MOX *e* pP 04 50 11.3 +1.1
comp=Z,217nm,2.2s
MOX *e* 04 53 21.0
MOX
comp=Z,6µm,18.0s
MOX Moxa 82.92 331*c e*P **P 04 49 58.6 -0.1**
MOX *e* pP 04 50 11.3 +1.1
MOX pmax pmax
comp=Z,217nm,2.2s,mb5.8
MOX MLR MLR
comp=Z,6µm,18.0s,MS6.0
MOX Moxa 82.92 331⇑*e*P **P 04 49 58.6 -0.1**
comp=Z,217nm,2.2s,mb5.8
MOX *e* pP 04 50 11.3 +1.1
MOX *e* 04 53 21.0
MOX LR LR
comp=Z,6µm,18.0s,MS6.0
SNZO South Karori 82.94 155 PFAKE 04 50 10.0 +11
SNZO LR LR
comp=Z,3µm,21.0s,MS5.6
IBBN Ibbenburen 83.06 333 *e*P **P 04 49 59.1 -0.4**
comp=Z,13nm,0.6s,mb5.1
SOP Sopron 83.08 326⇑*i*P **P 04 50 00.4 +0.8**
SOP *e*pP pP 04 50 10.7 -0.3
ALN Alexandroupoli 83.11 316 *e*P **P 04 49 59.0 -0.8**
PKSM Moragy 83.20 324 P **P 04 50 00.2 0.0**
RDO Rodhopi 83.23 317 *e*P **P 04 50 00.9 +0.5**
BOLS Boljevac 83.27 321⇓*i*P **P 04 49 59.8 -0.8**
KHC Kasperske Hory 83.28 329 *e*P **P 04 50 00.8 +0.1**
KHC *e*pP pP 04 50 10.3 -1.8
KHC *e*S S 05 00 17.7 -0.9
KHC AMS AMS 05 31 40.0
comp=Z,13µm,15.8s
RZN Rozhen 83.31 318 *i* P **P 04 50 01.8 +1.0**
RZN Rozhen 83.31 318 *i* P **P 04 50 01.8 +1.0**
ZAPS Zavoj/Pirot 83.31 320⇑*i*P **P 04 50 01.3 +0.5**
ROTZ Rotzenmuhle 83.36 330 *e*P **P 04 50 01.6 +0.5**
comp=Z,89nm,1.7s,mb5.5
GEC2 GERESS Array S 83.45 328 *e*P **P 04 50 01.3 -0.2**
comp=Z,34nm,1.5s,mb5.2
GEC2 *e*PP PP 04 53 11.9 -1.9
GERES GERESS Array B 83.45 328 P **P 04 50 01.5 0.0**
comp=Z,6.9nm,0.7s,mb4.8,baz=39,slow=5.9,SNR=43
GERES GERESS Array B 83.45 328 P **P 04 50 01.5 0.0**
GERES pmax pmax
comp=Z,7.0nm,0.7s
EAB Aberfoyle 83.48 342 *e*P **P 04 50 01.8 +0.1**
EAB AMb AMB 04 50 06.4
comp=Z,71nm,1.5s,mb5.5
EAB Aberfoyle 83.48 342 *e*P **P 04 50 01.8 +0.1**
EAB AMb AMB 04 50 06.4
comp=Z,71nm,1.5s,mb5.5
VTS Vitosha 83.49 319 *i* P **P 04 50 02.7 +1.0**
VTS Vitosha 83.49 319 *i* P **P 04 50 02.7 +1.0**
VTS Vitosha 83.49 319⇑P **P 04 50 02.6 +0.9**
EBL Broad Law 83.51 341 *e*P **P 04 50 01.9 +0.1**
EBL Broad Law 83.51 341 *e*P **P 04 50 01.9 +0.1**
EAU Auchinoon 83.55 341 *e*P **P 04 50 01.6 -0.5**
EAU AMb AMB 04 50 04.6
comp=Z,73nm,2.2s,mb5.4
EAU Auchinoon 83.55 341 *e*P **P 04 50 01.6 -0.5**

EAU AMb AMB 04 50 04.6
comp=Z,73nm,2.2s,mb5.4
WET Wettzell 83.57 329 *e*P **P 04 50 02.3 +0.2**
comp=Z,36nm,1.6s,mb5.2
WET *e*PP PP 04 53 14.0 -0.8
WTSB Winterswijk 83.68 334 *e*P **P 04 50 02.0 -0.6**
comp=Z,107nm,3.0s
EYMN Ely 83.76 33 *e*P **P 04 50 01.7 -1.4**
comp=Z,39nm,1.1s,mb5.5
EYMN LR LR
comp=Z,1µm,21.0s,MS5.3
SDCO Great Sand Dun 83.76 47 *e*P **P 04 50 02.2 -0.9**
comp=Z,32nm,1.3s,mb5.3
SDCO LR LR
comp=Z,2µm,20.0s,MS5.5
GRA1 Grafenberg Arr 83.82 330 *e*P **P 04 50 03.9 +0.5**
comp=Z,113nm,1.5s,mb5.8
GRA1 *e*pP pP 04 50 16.0 +1.1
GRA1 *e* 04 52 04.0
GRA1 *e*S S 05 00 25.9 +1.9
GRA1 LR LR
comp=Z,4µm,18.6s,MS5.9
GRF Grafenberg Arr 83.82 330 *e*P **P 04 50 03.9 +0.5**
comp=Z,113nm,1.5s,mb5.8
GRF *e*pP pP 04 50 16.0 +1.1
GRF *e* 04 52 04.0
GRF *e*S S 05 00 25.9 +1.9
GRF *e*L 05 30 25.9
comp=Z,4µm,18.6s
GRFO Grafenberg 83.82 330 P **P 04 50 03.9 +0.5**
ARSA Arzberg 83.87 326⇑ *i*P **P 04 50 03.9 +0.3**
comp=Z,40nm,1.3s,mb5.4
MMB Musomiste 83.91 318 *i* P **P 04 50 04.3 +0.4**
MMB Musomiste 83.91 318 *i* P **P 04 50 04.3 +0.4**
BUG Bochum--Univer 83.94 333 *e*P **P 04 50 03.5 -0.5**
comp=Z,10.0nm,1.1s,mb4.9
ESK Eskdalemuir 83.95 341 P **P 04 50 01.9 -2.2**
ESK pmax pmax
comp=Z,76nm,1.6s,mb5.6
ESK Eskdalemuir 83.95 341 *e*P **P 04 50 01.8 -2.3**
comp=Z,76nm,1.6s,mb5.6
ESK LR LR
comp=Z,1µm,20.0s,MS5.2
MOA Molln 83.97 327 *i* P **P 04 50 04.4 +0.3**
comp=Z,57nm,1.4s,mb5.5,SNR=6.8
TUC Tucson 83.97 54 *e*P **P 04 50 05.4 +1.2**
comp=Z,14nm,1.3s,mb4.9
TUC LR LR
comp=Z,2µm,21.0s,MS5.6
NVR Nevrokopi 84.00 318 *e*P **P 04 50 04.7 +0.4**
KKB Krupnik 84.06 319 *i* P **P 04 50 05.5 +0.9**
KKB Krupnik 84.06 319 *i* P **P 04 49 55.0 -10**
DIVS Divcibare 84.08 322⇓ *i*P **P 04 50 04.7 0.0**
PRK Paraskevi 84.10 315 *e*P **P 04 50 04.9 +0.1**
KOGS Kog 84.14 325⇑ *e*P **P 04 50 04.5 -0.5**
PPT Papeete 84.18 117 *e*PP PP 04 53 15.4 -4.4
comp=Z,137nm,23.8s
PPT Papeete 84.18 117 *e*SS SS 05 06 00.9 +3.8
comp=Z,588nm,24.0s
PPT *e*LR LR 05 15 41.3
comp=Z,5µm,21.5s,baz=312
LIA Limnos Island 84.28 316 *e*P **P 04 50 05.8 +0.1**
SRS Serrai 84.31 318 *e*P **P 04 50 05.5 -0.4**
TNS Taunus Mts 84.48 332 *e*P **P 04 50 06.8 0.0**
comp=Z,12nm,0.5s,mb5.3
TNS *e*PP PP 04 53 24.4 +2.1
PERS Pernice 84.52 326⇑ *e*P **P 04 50 07.0 0.0**
GMK Mull of Kintyr 84.55 342 *e*P **P 04 50 06.7 -0.4**
GMK Mull of Kintyr 84.55 342 *e*P **P 04 50 06.7 -0.4**
OUR Ouranopolis 84.64 317 *e*P **P 04 50 07.6 0.0**
SOH Sokhos 84.65 318 *e*P **P 04 50 04.4 -3.2**
VAY Valandovo 84.72 319⇑ *i*P **P 04 50 07.7 -0.3**
GAL1 Galloway 84.75 341 *e*P **P 04 50 08.0 -0.1**
GAL1 Galloway 84.75 341 *e*P **P 04 50 08.0 -0.1**
TOD Tromm 84.84 331 *e*P **P 04 50 08.3 -0.3**
SKO Skopje 84.86 320⇑ *i*P **P 04 50 10.0 +1.3**
EIL Elat 84.90 303 *e*P **P 04 50 08.5 -0.4**
comp=Z,1µm,1.1s
PLG Polygyros 84.91 317 *e*P **P 04 50 08.5 -0.4**
GCL Cushendall 84.93 342 *e*P **P 04 50 09.1 +0.1**
GCL Cushendall 84.93 342 *e*P **P 04 50 09.1 +0.1**
PLE Pljevlja 84.93 322⇑ *i*P **P 04 50 09.9 +0.9**
KBA Koelnbreinsper 84.96 327⇑ *i*P **P 04 50 09.1 -0.1**
comp=Z,40nm,1.3s,mb5.4,SNR=8.9
LAZ Ladron 84.96 51 *e*P **P 04 50 09.1 -0.1**
HGN Heimansgroeve 84.98 334 *e*P **P 04 50 06.8 -2.5**
comp=Z,105nm,1.7s,mb5.7
HGN *e*PP PP 04 52 52.8 -33
HGN *e*S 05 00 08.0
FUR Furstenfeldbru 85.00 329 *e*P **P 04 50 09.5 +0.1**
comp=Z,47nm,1.4s,mb5.4
IVA Berane 85.01 321⇑ *i*P **P 04 50 09.8 +0.4**
ANMO Albuquerque 85.03 50 P **P 04 50 10.5 +1.0**
comp=Z,7.4nm,1.0s,mb4.8,baz=300,slow=5.9,SNR=12
ANMO Albuquerque 85.03 50 P **P 04 50 10.5 +1.0**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 85.03 50 *e*P **P 04 50 09.2 -0.3**
comp=Z,15nm,1.0s,mb5.1
ANMO LR LR
comp=Z,2µm,19.0s,MS5.4
BEBN Eben Emael 85.04 334 P **P 04 50 09.3 -0.3**
BEBN XP sP 04 50 20.8 -4.5
ARG Arkhangelos 85.05 312 *e*P **P 04 50 23.7 +14**
GRG Griva 85.07 318 *e*P **P 04 50 09.2 -0.5**
MEM Membach 85.08 333 P **P 04 50 09.2 -0.5**
MEM AP pP 04 50 15.2 -6.0
MEM XP sP 04 50 21.6 -3.8
MEM E 04 50 32.3
MEM E 04 50 48.1
PAIG Paliouri 85.09 317 *e*P **P 04 50 09.6 -0.2**
ABH Alteburg 85.10 332 *e*P **P 04 50 09.6 -0.3**
PVY Plav 85.17 321⇑ *i*P **P 04 50 09.8 -0.4**
LJU Ljubljana 85.23 326⇑ *e*P **P 04 50 10.0 -0.5**
LJU *e* pP 04 50 22.9 +0.9
LJU *e* 04 53 46.2
UPM Unac-Piva 85.27 322⇑ *i*P **P 04 50 10.0 -0.7**
KBI1 Birley Grange 85.30 339 *e*P **P 04 50 10.3 -0.6**
KBI1 Birley Grange 85.30 339 *e*P **P 04 50 10.3 -0.6**
BOJS Bojanci 85.31 325⇑ *e*P **P 04 50 10.6 -0.3**
BOJS *e*PP PP 04 53 30.5 +1.5
BOJS *e* 04 55 26.6
BOJS *e*S 05 00 30.4
BOJS *e* 05 00 54.3
LPM Los Pinos Moun 85.34 50 *e*P **P 04 50 11.8 +0.7**
STU Stuttgart 85.36 331 *e*P **P 04 50 11.0 -0.2**
comp=Z,37nm,1.2s,mb5.4
STU Stuttgart 85.36 331 P **P 04 50 11.8 +0.6**
STU pmax pmax
comp=Z,41nm,0.8s,mb5.6
STU Stuttgart 85.36 331 *e*P **P 04 50 10.3 -0.9**
comp=Z,41nm,0.8s,mb5.6
WIM Isle of Man 85.39 341 *e*P **P 04 50 11.2 -0.2**
WIM AMb AMB 04 50 13.0
comp=Z,74nm,1.5s,mb5.6
WIM Isle of Man 85.39 341 *e*P **P 04 50 11.2 -0.2**
WIM AMb AMB 04 50 13.0
comp=Z,74nm,1.5s,mb5.6
RUP Ruppelstein 85.43 332 *e*P **P 04 50 11.4 -0.1**
BNM Barren Site 85.45 51 *e*P **P 04 50 13.2 +1.6**
NKY Niksic 85.50 322⇑ *i*P **P 04 50 11.6 -0.3**
AOS Alonnisos 85.51 316 *e*P **P 04 50 09.0 -2.9**
UCC Uccle 85.51 334 P **P 04 50 12.1 +0.2**
UCC AP pP 04 50 21.1 -2.3
UCC XP sP 04 50 23.7 -3.9
UCC E 04 52 08.6
UCC E 04 52 11.6
VOY Vojsko 85.52 326 *e*P **P 04 50 10.5 -1.5**
VOY *e* pP 04 50 20.9 -2.6
VOY *e* 04 50 30.6
WTTA Wattenberg 85.55 328⇑ *i*P **P 04 50 12.3 +0.2**
comp=Z,35nm,1.4s,mb5.4
WTTA Wattenberg 85.55 328⇑⇑P **P 04 50 12.3 +0.2**
comp=Z,35nm,1.4s,mb5.4
JAVS Javornik 85.55 326⇑ *i*P **P 04 50 11.2 -0.9**
JAVS *e* pP 04 50 23.9 +0.2
JAVS *e*S 05 00 33.4
KWE Weaver Farm 85.60 339 *e*P **P 04 50 12.0 -0.4**
KWE Weaver Farm 85.60 339 *e*P **P 04 50 12.0 -0.4**
LIT Litokhoron 85.62 318 *e*P **P 04 50 10.2 -2.3**
GMM Mts of Mourne 85.64 342 *e*P **P 04 50 12.3 -0.3**
GMM Mts of Mourne 85.64 342 *e*P **P 04 50 12.3 -0.3**
TTG Podgorica 85.65 321⇑ *i*P **P 04 50 12.6 -0.1**

BRY Bratogost 85.67 322⇑ *i*P **P 04 50 11.3 -1.4**
MOTA Moosalm 85.71 329⇑ *i*P **P 04 50 12.7 -0.2**
comp=Z,220nm,2.1s,mb6.0,SNR=7.1
LANF Langenberg 85.73 331 *e*P **P 04 50 12.8 -0.2**
FNA Florina 85.74 319 *e*P **P 04 50 10.8 -2.2**
XOR Xorichti 85.75 317 *e*P **P 04 50 10.8 -2.4**
SQTA Sankt Quirin 85.77 329⇑ *i*P **P 04 50 13.0 -0.2**
comp=Z,202nm,2.2s,mb6.0
SQTA Sankt Quirin 85.77 329⇑⇑P **P 04 50 13.0 -0.2**
comp=Z,202nm,2.2s,mb6.0
SNF Seneffe 85.78 334 P **P 04 50 13.1 -0.2**
comp=Z,25nm,1.5s,mb5.2
SNF XP sP 04 50 25.4 -3.5
SNF E 04 52 01.9
SNF E 04 52 13.0
NEO Neokhori 85.78 317 *e*P **P 04 50 12.4 -0.8**
WLF Walferdange 85.80 333 *e*P **P 04 50 13.6 +0.2**
comp=Z,60nm,1.7s,mb5.5
WLF *e*pP pP 04 50 26.6 +1.7
WLF Walferdange 85.80 333 P **P 04 50 13.5 +0.1**
comp=Z,48nm,2.2s,mb5.3
WLF XP sP 04 50 26.0 -3.0
WLF E 04 52 13.4
WLF E 04 52 22.5
WLF Walferdange 85.80 333 P **P 04 50 14.1 +0.7**
WLF pmax pmax
comp=Z,380nm,2.1s,mb6.3
WLF Walferdange 85.80 333 *e*P **P 04 50 13.1 -0.2**
comp=Z,381nm,2.1s,mb6.3
OHR Ohrid 85.81 319⇑ *i*P **P 04 50 12.5 -0.9**
KZN Kozani 85.86 318 *e*P **P 04 50 13.1 -0.6**
GIVF Givet 85.92 334 *e*P **P 04 50 12.2 -1.8**
BUM Brajici-Budva 85.93 321⇑ *i*P **P 04 50 13.7 -0.3**
QSH Qafa e Shtames 85.98 320 *i* p **P 04 50 16.6 +2.3**
ULC Ulcinj 86.00 321⇑ *i*P **P 04 50 14.6 +0.2**
DOU Dourbes 86.01 334⇑⇑P **P 04 50 14.0 -0.4**
comp=Z,23nm,2.1s,mb5.0
DOU AP pP 04 50 20.6 -5.3
DOU XP sP 04 50 26.4 -3.7
DOU E 04 52 14.0
DOU APKiKP 04 55 32.4
HCY Herceg Novi 86.02 322⇑ *i*P **P 04 50 13.9 -0.6**
WCB1 Church Bay 86.04 340 *e*P **P 04 50 14.1 -0.4**
WCB1 Church Bay 86.04 340 *e*P **P 04 50 14.1 -0.4**
BFO Black Forest 86.06 331 *e*P **P 04 50 14.4 -0.2**
comp=Z,35nm,1.4s,mb5.4
BFO Black Forest 86.06 331 P **P 04 50 14.5 -0.1**
SPAK Spaichingen 86.06 330 *e*P **P 04 50 15.1 +0.4**
WLF1 Llynfaes 86.08 340 *e*P **P 04 50 14.4 -0.4**
WLF1 AMb AMB 04 50 16.4
comp=Z,96nm,1.6s,mb5.8
WLF1 Llynfaes 86.08 340 *e*P **P 04 50 14.4 -0.4**
WLF1 AMb AMB 04 50 16.4
comp=Z,96nm,1.6s,mb5.8
SCHQ Schefferville 86.08 16 P **P 04 50 14.2 -0.5**
comp=Z,8.1nm,0.6s,mb5.1,baz=356,slow=5.1,SNR=25
SCHQ Schefferville 86.08 16 P **P 04 50 14.2 -0.5**
SCHQ LR LR
comp=Z,4µm,21.0s,MS5.8
YRC Rhoscolyn 86.16 340 *e*P **P 04 50 14.8 -0.4**
YRC AMb AMB 04 50 16.1
comp=Z,86nm,1.5s,mb5.8
YRC Rhoscolyn 86.16 340 *e*P **P 04 50 14.8 -0.4**
YRC AMb AMB 04 50 16.1
comp=Z,86nm,1.5s,mb5.8
NVLJ Novalja 86.20 325 *i* P **P 04 50 14.1 -1.2**
DAVA Damuels 86.27 329⇑ *i*P **P 04 50 15.6 0.0**
comp=Z,46nm,1.1s,mb5.6
DAVA Damuels 86.27 329⇑⇑P **P 04 50 15.6 0.0**
comp=Z,46nm,1.1s,mb5.6
HLM1 Long Mynd 86.34 339 *e*P **P 04 50 15.8 -0.2**
HLM1 AMb AMB 04 50 17.9
comp=Z,81nm,1.4s,mb5.8
HLM1 Long Mynd 86.34 339 *e*P **P 04 50 15.8 -0.2**
HLM1 AMb AMB 04 50 17.9
comp=Z,81nm,1.4s,mb5.8
CBKS Cedar Bluff 86.35 43 *e*P **P 04 50 16.2 +0.1**
comp=Z,29nm,1.1s,mb5.4
CBKS LR LR
comp=Z,1µm,19.0s,MS5.4
LKR Lokris 86.36 316 *e*P **P 04 50 14.7 -1.4**
WLS Welschbruch 86.37 331 *e*P **P 04 50 15.4 -0.8**
CDF Champ du Feu 86.40 331 *e*P **P 04 50 14.7 -1.6**
comp=Z,85nm,1.0s,mb5.6
CDF Champ du Feu 86.40 331 *e*P **P 04 50 14.7 -1.6**
comp=Z,43nm,1.0s,mb5.6
ATH Athens Observa 86.43 316 *e*P **P 04 50 13.5 -3.0**
AGG Agios Georgios 86.47 317 *e*P **P 04 50 15.1 -1.5**
SSP1 Stoney Pound 86.49 339 *e*P **P 04 50 16.7 -0.1**
SSP1 Stoney Pound 86.49 339 *e*P **P 04 50 16.7 -0.1**
ECH Echery 86.61 331 *e*P **P 04 50 16.9 -0.4**
DLF Lyons Farm 86.64 341 *e*P **P 04 50 27.0 +10**
DLF Lyons Farm 86.64 341 *e*P **P 04 50 17.3 -0.2**
DLF *e*P pP 04 50 27.0 -2.0
DCN Croghan 86.78 342 *e*P **P 04 50 28.0 +10**
DCN Croghan 86.78 342 *e*P **P 04 50 18.2 0.0**
DCN *e*P pP 04 50 28.0 -1.7
JAN Janina 86.82 318 *e*P **P 04 50 18.4 0.0**
EVR Evrytania 86.83 317 *e*P **P 04 50 17.9 -0.5**
MCH1 Michaelchurch 86.83 339 *e*P **P 04 50 18.2 -0.2**
MCH1 Michaelchurch 86.83 339 *e*P **P 04 50 18.2 -0.2**
MOF Molkenrain 86.92 331 *e*P **P 04 50 18.4 -0.4**
THEF They Montfort 87.05 332 *e*P **P 04 50 18.9 -0.6**
HINF Hinteralfeld 87.05 331 *e*P **P 04 50 17.5 -2.0**
comp=Z,44nm,1.0s,mb5.3
HINF Hinteralfeld 87.05 331 *e*P **P 04 50 17.5 -2.0**
comp=Z,22nm,1.0s,mb5.3
BBS Basel-Blauen 87.08 331 *e*P **P 04 50 19.8 +0.1**
HAU Haudompre 87.09 332 *e*P **P 04 50 18.7 -1.0**
comp=Z,49nm,1.0s,mb5.4
HAU *e*R
comp=Z,4µm,17.0s
HAU Haudompre 87.09 332 *e*P **P 04 50 18.7 -1.0**
comp=Z,24nm,1.0s,mb5.4
HAU LR LR
comp=Z,4µm,17.0s,MS5.9
HGH Gray Hill 87.09 339 *e*P **P 04 50 19.4 -0.3**
HGH AMb AMB 04 50 21.8
comp=Z,91nm,2.0s,mb5.7
HGH Gray Hill 87.09 339 *e*P **P 04 50 19.4 -0.3**
HGH AMb AMB 04 50 21.8
comp=Z,91nm,2.0s,mb5.7
IGT Igoumenitsa 87.19 319 *e*P **P 04 50 18.1 -2.1**
KEK Kerkira 87.34 319 *e*P **P 04 50 20.4 -0.5**
LOMF Lomont 87.44 331 *e*P **P 04 50 17.7 -3.7**
IDI Anoyia 87.61 313 P **P 04 50 22.6 +0.4**
comp=Z,8.7nm,0.6s,mb5.2,baz=14,slow=14,SNR=5.5
LKD Levkas 87.61 318 *e*P **P 04 50 22.3 +0.1**
RLS Riolos of Patr 87.63 317 *e*P **P 04 50 23.5 +1.2**
VLI Veliai 87.75 315 *e*P **P 04 50 24.9 +2.0**
KSU1 Kansas State U 87.85 41 *e*P **P 04 50 22.5 -0.9**
MNTX Cornudas Mount 87.85 52 *e*P **P 04 50 24.2 +0.8**
comp=Z,5.6nm,1.0s,mb4.8
MNTX LR LR
comp=Z,2µm,20.0s,MS5.4
ITM Ithomi 88.00 316 *e*P **P 04 50 23.1 -1.0**
TBI Tubuai 88.03 121 *e*PP PP 04 53 49.6 -1.3
comp=Z,83nm,26.7s
TBI Tubuai 88.03 121 *e*SKSac SKSac 05 00 47.6 -2.2
comp=Z,941nm,28.6s
TBI *e*SS SS 05 06 49.2 -4.3
comp=Z,482nm,27.2s
TBI *e*LR LR 05 17 33.5
comp=Z,6µm,25.5s,baz=309
VLS Valsamata 88.03 317 *e*P **P 04 50 14.4 -10**
GDL2 Guadalupe Moun 88.16 51 *e*P **P 04 50 25.2 +0.4**
CABF La Chapelle 88.34 331 *e*P **P 04 50 24.0 -1.7**
comp=Z,57nm,1.4s,mb5.3
CABF La Chapelle 88.34 331 *e*P **P 04 50 24.0 -1.7**
comp=Z,29nm,1.4s,mb5.3
AQU L'Aquila 88.58 324 P **P 04 50 27.1 +0.3**
AQU pmax pmax
comp=Z,49nm,0.9s,mb5.8
AQU L'Aquila 88.58 324 *e*P **P 04 50 26.2 -0.6**
comp=Z,49nm,0.9s,mb5.8
LOR Lormes 88.64 333 *e*P **P 04 50 25.3 -1.8**
comp=Z,158nm,1.5s,mb5.8
LOR *e*R
comp=Z,5µm,17.8s
LOR Lormes 88.64 333 *e*P **P 04 50 25.3 -1.8**
comp=Z,79nm,1.5s,mb5.8
LOR LR LR
comp=Z,5µm,17.8s,MS6.0
FLN La Foliniere 88.89 336 *e*P **P 04 50 26.6 -1.6**
comp=Z,139nm,1.6s,mb5.8
FLN *e*R
comp=Z,7µm,20.0s
FLN La Foliniere 88.89 336 *e*P **P 04 50 26.6 -1.6**
comp=Z,70nm,1.5s,mb5.8
FLN LR LR
comp=Z,7µm,20.0s,MS6.1
LDF La Druitiere 88.91 336 *e*P **P 04 50 26.6 -1.8**
comp=Z,105nm,1.6s,mb5.6
LDF La Druitiere 88.91 336 *e*P **P 04 50 26.6 -1.8**
comp=Z,52nm,1.5s,mb5.6
SSF Saint Saulge 88.95 333 *e*P **P 04 50 27.0 -1.5**
comp=Z,102nm,1.4s,mb5.7
SSF Saint Saulge 88.95 333 *e*P **P 04 50 27.0 -1.5**
comp=Z,51nm,1.4s,mb5.7
LPL La Plagne 88.98 330 *e*P **P 04 50 27.4 -1.3**
comp=Z,38nm,0.9s,mb5.4
LPL La Plagne 88.98 330 *e*P **P 04 50 27.4 -1.3**
comp=Z,19nm,0.9s,mb5.4
JLP Les Platons 88.99 337 *e*P **P 04 50 28.4 -0.4**
JLP Les Platons 88.99 337 *e*P **P 04 50 28.4 -0.4**
LPG La Plagne 88.99 330 *e*P **P 04 50 27.5 -1.2**
comp=Z,23nm,0.7s,mb5.3
LPG La Plagne 88.99 330 *e*P **P 04 50 27.5 -1.2**
comp=Z,12nm,0.7s,mb5.3
HYF Humbligny 89.09 333 *e*P **P 04 50 28.2 -1.0**
SMF Signal de Mont 89.17 332 *e*P **P 04 50 28.0 -1.6**
comp=Z,165nm,1.6s,mb5.8
SMF Signal de Mont 89.17 332 *e*P **P 04 50 28.0 -1.6**
comp=Z,83nm,1.6s,mb5.8
AVF Avril sur Loir 89.23 333 *e*P **P 04 50 28.4 -1.5**
comp=Z,86nm,1.1s,mb5.7
AVF Avril sur Loir 89.23 333 *e*P **P 04 50 28.4 -1.5**
comp=Z,43nm,1.1s,mb5.7
TIP Timpagrande 89.33 320 *e*P **P 04 50 30.1 -0.2**
GRR Gorron 89.34 336 *e*P **P 04 50 28.9 -1.5**
comp=Z,124nm,1.3s,mb5.8
GRR Gorron 89.34 336 *e*P **P 04 50 28.9 -1.5**
comp=Z,62nm,1.3s,mb5.8
BNI Bardonecchia 89.39 330 P **P 04 50 32.1 +1.5**
BNI pmax pmax
comp=Z,110nm,2.0s,mb5.8
BNI Bardonecchia 89.39 330 *e*P **P 04 50 31.5 +0.9**
comp=Z,113nm,2.0s,mb5.8
MSEY Mahe Island 89.56 264 PFAKE 04 50 40.0 +8.6
MSEY LR LR
comp=Z,353nm,19.0s,MS4.8
MBDF Montbardon 89.61 330 *e*P **P 04 50 30.8 -0.9**
comp=Z,24nm,0.7s,mb5.3
MBDF Montbardon 89.61 330 *e*P **P 04 50 30.8 -0.9**
comp=Z,12nm,0.7s,mb5.3
BGF Bois d'Agland 89.62 333 *e*P **P 04 50 30.1 -1.6**
comp=Z,148nm,1.8s,mb5.7
BGF Bois d'Agland 89.62 333 *e*P **P 04 50 30.1 -1.6**
comp=Z,74nm,1.8s,mb5.7
WMOK Wichita Mounta 89.77 46 *e*P **P 04 50 32.8 +0.4**
comp=Z,20nm,1.3s,mb5.3
WMOK LR LR
comp=Z,2µm,19.0s,MS5.6
ORIF Oris-en-Rattie 89.82 330 *e*P **P 04 50 31.0 -1.6**
comp=Z,30nm,1.1s,mb5.3
ORIF *e*R
comp=Z,6µm,20.0s
ORIF Oris-en-Rattie 89.82 330 *e*P **P 04 50 31.0 -1.6**
comp=Z,15nm,1.0s,mb5.3
PLDF La Plantade 89.82 332 *e*P **P 04 50 32.4 -0.2**
AGO Saint Agoulin 89.94 332 *e*P **P 04 50 34.0 +0.8**
TOUF Mont Tournerai 90.00 329 *e*P **P 04 50 32.8 -0.7**
SGMF Saint Gilles 90.00 337 *e*P **P 04 50 32.2 -1.3**
comp=Z,79nm,1.1s,mb5.7
SGMF Saint Gilles 90.00 337 *e*P **P 04 50 32.2 -1.3**
comp=Z,40nm,1.1s,mb5.7
SBF Sospel 90.04 329 *e*P **P 04 50 32.7 -1.0**
comp=Z,131nm,1.4s,mb5.8
SBF Sospel 90.04 329 *e*P **P 04 50 32.7 -1.0**
comp=Z,66nm,1.4s,mb5.8
TCF Toulx Ste Croi 90.08 333 *e*P **P 04 50 32.4 -1.4**
comp=Z,51nm,1.1s,mb5.5
TCF Toulx Ste Croi 90.08 333 *e*P **P 04 50 32.4 -1.4**
comp=Z,26nm,1.1s,mb5.5
MVIF Mont Vial 90.14 329 *e*P **P 04 50 33.1 -1.0**
ROSF Rostrenen 90.15 337 *e*P **P 04 50 32.9 -1.3**
comp=Z,122nm,1.4s,mb5.8
ROSF Rostrenen 90.15 337 *e*P **P 04 50 32.9 -1.3**
comp=Z,61nm,1.4s,mb5.7
PYM Petit Puy Mans 90.24 332 *e*P **P 04 50 35.4 +0.8**
VIVF Saint-Julien-I 90.35 331 *e*P **P 04 50 33.4 -1.7**
comp=Z,55nm,1.3s,mb5.4
VIVF Saint-Julien-I 90.35 331 *e*P **P 04 50 33.4 -1.7**
comp=Z,28nm,1.3s,mb5.4
PGF Pioggiola 90.43 327 *e*P **P 04 50 33.4 -2.1**
comp=Z,110nm,1.4s,mb5.7
PGF Pioggiola 90.43 327 *e*P **P 04 50 33.4 -2.1**
comp=Z,55nm,1.4s,mb5.7
QUIF Quistinic 90.49 337 *e*P **P 04 50 34.2 -1.6**
comp=Z,66nm,1.2s,mb5.5
QUIF Quistinic 90.49 337 *e*P **P 04 50 34.2 -1.6**
comp=Z,33nm,1.3s,mb5.5
TXAR Lajitas Array 90.53 52 P **P 04 50 36.6 +0.6**
comp=Z,3.3nm,0.7s,mb4.8,baz=302,slow=3.3,SNR=38
TXAR LR LR 05 34 06.7
comp=Z,2µm,18.5s,MS5.6,baz=330,slow=37
TXAR Lajitas Array 90.53 52 P **P 04 50 36.6 +0.6**
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR MLR MLR
comp=Z,2µm,18.5s
CORF Corte 90.57 327 *e*P **P 04 50 37.9 +1.8**
FRF La Foret Royal 90.62 329 *e*P **P 04 50 34.0 -2.4**
comp=Z,96nm,1.5s,mb5.6
FRF La Foret Royal 90.62 329 *e*P **P 04 50 34.0 -2.4**
comp=Z,48nm,1.5s,mb5.6
MFF Saint Martin d 90.65 335 *e*P **P 04 50 35.1 -1.4**
comp=Z,66nm,1.1s,mb5.6
MFF Saint Martin d 90.65 335 *e*P **P 04 50 35.1 -1.4**
comp=Z,33nm,1.1s,mb5.6
SMRF Simiane la Rot 90.72 330 *e*P **P 04 50 35.2 -1.6**
comp=Z,69nm,1.6s,mb5.4
SMRF Simiane la Rot 90.72 330 *e*P **P 04 50 35.2 -1.6**
comp=Z,69nm,1.6s,mb5.7
LMR La Mourre 90.86 329 *e*P **P 04 50 35.4 -2.1**
comp=Z,119nm,1.4s,mb5.7
LMR La Mourre 90.86 329 *e*P **P 04 50 35.4 -2.1**
comp=Z,59nm,1.4s,mb5.7
PRAF Pradon 91.03 330 *e*P **P 04 50 38.5 +0.3**
TREF Trevaresse 91.09 330 *e*P **P 04 50 37.7 -0.8**
RJF Les Rejaudoux 91.17 333 *e*P **P 04 50 37.6 -1.3**
comp=Z,130nm,1.5s,mb5.7
RJF Les Rejaudoux 91.17 333 *e*P **P 04 50 37.6 -1.3**
comp=Z,65nm,1.5s,mb5.7
BERF Bertagne 91.22 329 *e*P **P 04 50 38.0 -1.1**
CAF Calviac 91.29 333 *e*P **P 04 50 38.6 -0.9**
comp=Z,124nm,1.5s,mb5.7
CAF Calviac 91.29 333 *e*P **P 04 50 38.6 -0.9**
comp=Z,62nm,1.5s,mb5.7
LASF Ste Croix 91.32 331 *e*P **P 04 50 38.3 -1.3**
comp=Z,48nm,1.1s,mb5.4
AAM Ann Arbor 91.61 32 PFAKE 04 50 50.0 +9.0
AAM LR LR
comp=Z,2µm,20.0s,MS5.5
LFF La Frestale 91.77 333 *e*P **P 04 50 40.5 -1.2**
comp=Z,65nm,1.1s,mb5.6
LFF La Frestale 91.77 333 *e*P **P 04 50 40.5 -1.2**
comp=Z,32nm,1.1s,mb5.6
JCT Junction City 92.17 49 P **P 04 50 45.6 +2.1**
JCT *e* pP 04 50 55.3 +0.2
JCT pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
JCT Junction City 92.17 49 *e*P **P 04 50 44.5 +0.9**
comp=Z,4.0nm,0.5s,mb5.0
JCT LR LR
comp=Z,1µm,20.0s,MS5.3
MTLF Montolieu 92.58 332 *e*P **P 04 50 44.1 -1.3**
comp=Z,97nm,1.6s,mb5.7
MTLF Montolieu 92.58 332 *e*P **P 04 50 44.1 -1.3**
comp=Z,49nm,1.6s,mb5.7
MIAR Mount Ida 92.85 43 P **P 04 50 47.9 +1.2**
MIAR pmax pmax
comp=Z,46nm,1.3s,mb5.8
MIAR Mount Ida 92.85 43 *e*P **P 04 50 46.8 +0.1**
comp=Z,46nm,1.4s,mb5.7
MIAR LR LR
comp=Z,1µm,20.0s,MS5.4
ERPA Erie 93.28 30 PFAKE 04 51 00.0 +11
ERPA LR LR
comp=Z,3µm,19.0s,MS5.8
MLS Moulis 93.33 332 *e*P **P 04 50 49.1 +0.2**

EPF	Esparros	93.56	333	eP	P	04 50 48.3	-1.6
	comp=Z,22nm,1.2s,mb5.2						
EPF	Esparros	93.56	333	eP	P	04 50 48.3	-1.6
	comp=Z,11nm,1.2s,mb5.2						
ACSO	Alum Creek Sta	93.60	33	PFAKE		04 51 00.0	+10
ACSO				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
WCI	Wyandotte Cave	93.72	36	PFAKE		04 51 00.0	+9.3
WCI				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
RESF	Ens	93.75	332	eP	P	04 50 51.8	+1.0
NCB	Newcomb	93.82	25	PFAKE		04 51 00.0	+8.8
NCB				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
ETSF	Etsaut	94.00	333	eP	P	04 50 51.1	-0.9
SJPF	Ste Jean	94.06	334	eP	P	04 50 51.0	-1.2
	comp=Z,43nm,1.5s,mb5.4						
SJPF	Ste Jean	94.06	334	eP	P	04 50 51.0	-1.2
	comp=Z,22nm,1.5s,mb5.4						
NATX	Nacogdoches	94.30	45	PFAKE		04 51 00.0	+6.7
NATX				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
LBNH	Lisbon	94.34	23	PFAKE		04 51 00.0	+6.4
LBNH				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
WVT	Waverly	94.64	38	eP	P	04 50 55.0	+0.1
	comp=Z,8.2nm,1.2s,mb5.0						
WVT				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
HKT	Hockley	94.94	47	PFAKE		04 51 10.0	+14
HKT				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
OXF	Oxford	95.10	40	PFAKE		04 51 10.0	+13
OXF				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
EBR	Ebro Roquetas	95.40	331	eTs		04 51 20.0	
MCWV	Mont Chateau	95.41	31	PFAKE		04 51 10.0	+12
MCWV				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
PLAL	Pickwick Lake	95.42	39	PFAKE		04 51 10.0	+12
PLAL				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
HRV	Harvard--Oak R	96.02	24	PFAKE		04 51 10.0	+8.8
HRV				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
WES	Weston	96.20	24	PFAKE		04 51 10.0	+8.0
WES				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
LRAL	Lakeview Retre	97.50	39	PFAKE		04 51 20.0	+12
LRAL				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
CBN	Corbin	97.66	30	PFAKE		04 51 20.0	+11
CBN				LR	LR		
	comp=Z,3μm,22.0s,MS5.7						
ESDC	Sonseca Array	98.06	334	P	P	04 51 09.7	-0.7
	comp=Z,0.8nm,0.6s,mb4.4,baz=53,slow=3.6,SNR=3.2						
RKT	Rikitea	98.35	112	ePP	PP	04 55 09.6	-2.3
	comp=Z,161nm,29.5s						
RKT	Rikitea	98.35	112	ePS	PS	05 04 06.0	0.0
	comp=Z,1μm,30.0s						
RKT	Rikitea	98.35	112	eSKSac	SKSac	05 01 45.8	-1.0
	comp=Z,801nm,28.0s						
RKT				eSS	SS	05 09 20.9	-0.4
	comp=Z,744nm,28.8s						
RKT				eLR	LR	05 22 17.3	
	comp=Z,5μm,25.0s,baz=305						
MTE	Manteigas	98.62	337	ePP	PP	04 55 17.4	+3.5
MTE				eS		05 02 44.0	
NHSC	New Hope	100.76	35	PFAKE		04 51 30.0	+7.5
NHSC				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
KMBO	Kilima Mbogo	102.18	278	PFAKE		04 51 40.0	+11
KMBO				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
DRV	Dumont d'Urvil	102.57	181	Pdif	Pdif	04 51 31.0	+0.5
DRV	Dumont d'Urvil	102.57	181	SKKS	SKKSac	05 02 48.0	+1.3
DRV				SS	SS	05 10 24.0	+3.9
PTCN	Pitcairn Islan	103.12	111	PFAKE		04 51 40.0	+7.0
PTCN				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
DWPF	Disney	104.29	38	PFAKE		04 51 50.0	+12
DWPF				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
CASY	Casey	104.93	192	PFAKE		04 51 50.0	+9.0
CASY				LR	LR		
	comp=Z,753nm,21.0s,MS5.2						
TEIG	Tepich	106.72	49	PFAKE		04 56 10.0	+11
TEIG				LR	LR		
	comp=Z,127nm,20.0s,MS4.5						
BBSR	BB Station	107.47	23	PFAKE		04 56 10.0	+9.4
BBSR				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
VNDA	Vanda	114.16	175	PKP	PKiKP	04 56 12.1	-1.1
	comp=Z,0.5nm,0.6s,baz=139,slow=13,SNR=5.4						
VNDA	Vanda	114.16	175	PKP	PKiKP	04 56 12.1	-1.1
VNDA				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
SBA	Scott Base	114.84	174	PFAKE		04 56 20.0	+5.5
SBA				LR	LR		
	comp=Z,625nm,19.0s,MS5.2						
JTS	JuntasAbangare	116.32	53	PFAKE		04 56 30.0	+13
JTS				LR	LR		
	comp=Z,149nm,21.0s,MS4.6						
LSZ	Lusaka	117.60	271	PKP	PKPdf	04 56 20.5	+0.7
	comp=Z,4.6nm,0.6s,baz=38,slow=1.8,SNR=15						
LSZ	Lusaka	117.60	271	PKIKP	PKPdf	04 56 20.5	+0.7
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSZ	Lusaka	117.60	271	ePKPdf	PKPdf	04 56 20.7	+0.9
LSZ				LR	LR		
	comp=Z,2μm,22.0s,MS5.6						
TORD	Torodi Ar. Bea	117.97	315	PKP	PKPdf	04 56 20.4	-0.2
	comp=Z,2.1nm,0.6s,baz=20,slow=1.0,SNR=24						
SJG	San Juan	119.94	31	PFAKE		04 56 40.0	+16
SJG				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
RPN	Rapa Nui	120.20	103	PFAKE		04 56 40.0	+15
RPN				LR	LR		
	comp=Z,831nm,20.0s,MS5.4						
PAYG	Puerto Ayora	120.44	66	PFAKE		04 56 40.0	+15
PAYG				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
LBTB	Lobatse	124.64	263	ePKPdf	PKPdf	04 56 34.0	+0.6
LBTB				LR	LR		
	comp=Z,958nm,21.0s,MS5.4						
SDV	Santo Domingo	125.88	40	ePKPdf	PKPdf	04 56 35.7	0.0
SDV				LR	LR		
	comp=Z,861nm,19.0s,MS5.4						
QSPA	South Pole Qui	125.97	180	ePKPdf	PKPdf	04 56 34.7	-1.2
QSPA				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
BOSA	Boshof	126.52	259	PKP	PKPdf	04 56 37.8	+0.9
	comp=Z,5.7nm,0.8s,baz=5.5,slow=2.8,SNR=9.9						
BOSA	Boshof	126.52	259	PKIKP	PKPdf	04 56 37.8	+0.9
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BOSA	Boshof	126.52	259	ePKPdf	PKPdf	04 56 37.3	+0.4
BOSA				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
LIC	Lamto	127.41	316	ePKIKP	PKPdf	04 56 37.5	-1.1
	comp=Z,40nm,1.3s						
LIC				eR			
	comp=Z,2μm,20.8s						
LIC	Lamto	127.41	316	ePKPdf	PKPdf	04 56 37.5	-1.1
LIC				LR	LR		
	comp=Z,1μm,20.8s,MS5.6						
SYO	Syowa Base	127.53	206	ePKiKP	PKiKP	04 56 41.7	+2.3
TSUM	Tsumeb	128.25	273	ePKPdf	PKPdf	04 56 40.9	+0.6
TSUM				epPKPdf	pPKPdf	04 56 50.6	-1.5
TSUM				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
NNA	Nana	137.87	65	PFAKE		04 57 10.0	+12
NNA				LR	LR		
	comp=Z,367nm,21.0s,MS5.1						
VNA2	Neumayer--Watz	141.57	196	PKPdf	PKPdf	04 57 00.4	-4.6
	baz=124,slow=1.2						
VNA2				e		04 57 05.2	
VNA2				e		04 57 26.6	
VNA2				e		04 57 29.7	
VNA2				e		04 57 40.1	
VNA2				e		04 58 04.6	
VNA2				e		04 58 16.0	
VNA2				e		04 58 21.3	
VNA2				e		04 58 35.9	
VNA3	Neumayer Olymp	141.81	195	PKPdf	PKPdf	04 56 59.6	-5.9
VNA3				e		04 57 04.4	
VNA3				e		04 57 24.7	
VNA3				e		04 57 28.4	
VNA3				e		04 57 37.1	
ASCN	Ascension	144.27	316	PFAKE		04 57 20.0	+10
ASCN				LR	LR		
	comp=Z,421nm,20.0s,MS5.2						
ARE	Arequipa	144.70	65	eP	PKPdf	04 57 12.0	+1.4
LPAZ	La Paz	147.01	61	PKPbc	PKPbc	04 57 17.2	+0.7
	comp=Z,8.0nm,0.5s,baz=344,slow=2.3,SNR=46						
LPAZ	La Paz	147.01	61	PKIKP	PKPdf	04 57 17.3	+2.8
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LPAZ	La Paz	147.01	61	ePKPbc	PKPbc	04 57 17.4	+0.9
LPAZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
PMSA	Palmer Station	147.58	160	PFAKE		04 57 30.0	+15
PMSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
RCBR	Riachuelo	149.66	355	ePKPdf	PKPdf	04 57 19.4	+0.6
RCBR				ePKPbc	PKPbc	04 57 23.9	+0.4
RCBR				LR	LR		
	comp=Z,795nm,20.0s,MS5.5						
LVC	Limon Verde	150.35	71	PKPbc	PKPbc	04 57 26.5	+1.4
	comp=Z,10.0nm,0.6s,baz=287,slow=1.4,SNR=17						
LVC	Limon Verde	150.35	71	ePKPbc	PKPbc	04 57 26.5	+1.4
LVC				e		04 57 34.4	
LVC				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
SIV	San Ignacio	151.52	51	PKP	PKPdf	04 57 22.3	+0.6
	comp=Z,6.2nm,0.6s,baz=261,slow=3.3,SNR=12						
SIV				PKPbc	PKPbc	04 57 27.8	-0.1
	comp=Z,17nm,0.6s,baz=260,slow=1.2,SNR=59						
USHA	Ushuaia	152.27	142	PKPbc	PKPbc	04 57 29.0	-0.6
	comp=Z,15nm,0.9s,baz=342,slow=14,SNR=3.9						
PLCA	Paso Flores	154.56	110	PKPbc	PKPbc	04 57 35.8	+1.2
	comp=Z,1.4nm,0.7s,baz=191,slow=14,SNR=2.3						
PLCA				PKPab	PKPab	04 57 48.3	-1.0
	comp=Z,4.3nm,0.9s,baz=237,slow=4.7,SNR=5.8						
PLCA	Paso Flores	154.56	110	PKIKP	PKPdf	04 57 35.8	+10
PLCA						04 57 48.3	
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PLCA	Paso Flores	154.56	110	PKPbc	PKPbc	04 57 35.8	+1.2
PLCA				PKPab	PKPab	04 57 48.3	-1.0
PLCA				LR	LR		
	comp=Z,1μm,22.0s,MS5.8						
CFAA	Coronel Fontan	154.91	88	PKPbc	PKPbc	04 57 35.8	+0.5
	comp=Z,0.2nm,0.5s,baz=226,slow=2.0,SNR=1.7						
CFAA				PKPab	PKPab	04 57 48.5	-2.2
	comp=Z,0.7nm,0.7s,baz=206,slow=0.9,SNR=3.3						
BDFB	Brasilia	157.80	25	PKPab	PKPab	04 58 03.0	-0.1
	comp=Z,3.2nm,0.8s,baz=292,slow=5.7,SNR=4.8						
BDFB	Brasilia	157.80	25	PKP2	PKPab	04 58 03.0	-0.1
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BAO	Brasilia Array	157.80	25	PKPdf	PKPdf	04 57 18.0	-12
TRIS	Tristan da Cun	159.02	260	PFAKE		04 57 40.0	+8.1
TRIS				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
EFI	East Falkland	159.18	144	PFAKE		04 57 40.0	+8.0
EFI				LR	LR		
	comp=Z,432nm,22.0s,MS5.2						
CPUP	Villa Florida	161.12	64	PFAKE		04 57 50.0	+16
CPUP				LR	LR		
	comp=Z,145nm,20.0s						
TRQA	Tornquist	161.17	103	PFAKE		04 57 40.0	+5.7
TRQA				LR	LR		
	comp=Z,1μm,20.0s						
HOPE	Hope Point	161.89	184	PFAKE		04 57 40.0	+5.0
HOPE				LR	LR		
	comp=Z,400nm,20.0s						

NIED ***03*** *04:39:00, 3620N×14150E, h23km, Mw5.1 Best double couple: M0=5.91000×10^16 NP1:φs=33.00000°, δ=73.00000°, λ=95.00000°. NP2:φs=197.00000°, δ=18.00000°, λ=75.00000°.*
NAO ***03*** *04:39:23.7, 3575N×14122E, h33km, mb5.3*
ISCJB ***03*** *04:39:24.8±0.3, 3629N±004×14151E±005, h31km, mb5.1/39, MS5.2/2, Error ellipse: s-maj=5.7km s-min=5.2km az=62.9*
BJI ***03*** *04:39:24.4, 3660N×14150E, h31km, mB4.6, mb5.5*
JMA ***03*** *04:39:25.1±0.1, 3625N×14148E, h53km±3km, M4.9*
JMA Felt II J1.
MOS ***03*** *04:39:26.1±0.8, 3665N×14149E, h33km, mb5.3/16, Error ellipse: s-maj=13.0km s-min=8.4km az=44.8*
NEIC ***03*** *04:39:27.5±0.3, 3658N×14146E, mb5.1/28, MW5.1(NIED), Error ellipse: s-maj=8.4km s-min=6.0km az=158.0*
IDC ***03*** *04:39:27.7±0.8, 3661N×14154E, h32km±5km, mb4.8/13, mb1 4.9/15, mb1mx4.7/23, mbtmp5.0/15, ML4.8/2, MS5.2/2, Ms1 5.2/2, ms1mx4.1/26, Error ellipse: s-maj=21.7km s-min=19.1km az=81.0*

ISC 03 04:39:26.3±0.4, 3625N±004×14148E±005, h33km, h33km±1.2km:pP-P, n93, σ0=94/92, mb5.1/39, MS5.2/2, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.74	223	P	Pn	04 39 39.5	-0.9
CHOJ				S	Sn	04 39 50.2	-0.4
JHO	Hitachi	0.82	296	P	Pn	04 39 40.3	-1.1
ONAJ	Iwakimizuishiy	1.01	327	P	Pn	04 39 43.6	-0.5
JYT	Yasato	1.04	269	P	Pn	04 39 43.6	-0.9
JFK	Kawauchi	1.22	337	P	Pn	04 39 46.1	-0.8
JFK				S	Sn	04 40 02.1	-0.1
JFT	Otama	1.56	324	P	Pn	04 39 52.1	+0.4
JAG	Ashikaga	1.65	277	P	Pn	04 39 52.8	0.0
JMM	Marumori	1.70	341	P	Pn	04 39 53.2	-0.4
JFY	Yanaizu	1.83	310	P	Pn	04 39 56.3	+0.9
MJAR	Matsushiro Arr	2.66	277	Pn	Pn	04 40 07.5	+0.8
	239nm,0.3s,baz=336,slow=19,SNR=7.1						
MAJO	Matsushiro	2.66	277	eP	Pn	04 40 08.1	+1.4
MAT	Matsushiro	2.66	277	P	Pn	04 40 07.9	+1.2
MAT				S	Sn	04 40 38.2	+0.4
MAT	Matsushiro	2.66	277	eP	Pn	04 40 08.0	+1.3
MAT				eS	Sn	04 40 38.0	+0.2
JHJ	Hachijo jima 2	3.42	205	Pn	Pn	04 40 17.5	+0.3
	baz=221,slow=20,SNR=3.0						
JHJ				Sn	Sn	04 40 55.0	-1.7
	382nm,0.3s,baz=58,slow=23,SNR=5.1						
VLA	Vladivostok	10.08	316	e iP	Px	04 42 05.6	
VLA				e	Sn	04 43 43.4	+2.9
JOW	Kunigami	14.65	234	Pn	Pn	04 42 56.4	+5.3
	6.8nm,0.3s,baz=37,slow=12,SNR=7.0						
BJT	Baijiatuau	20.24	288	eP	P	04 43 58.3	-0.3
BJT				pmax	pmax		
	comp=Z,51nm,0.6s						
BJT	Baijiatuau	20.24	288	eP	P	04 43 58.3	-0.3
	comp=Z,51nm,0.6s						
HIA	Hailar	20.50	316	eP	P	04 43 59.3	-2.1
HIA				pmax	pmax		
	comp=Z,47nm,0.8s						
HIA	Hailar	20.50	316	eP	P	04 43 59.3	-2.0
	comp=Z,47nm,0.8s						
YAK	Yakutsk	26.84	348	eP	P	04 45 01.1	-2.5
YAK				pmax	pmax		
	comp=Z,196nm,1.0s,mb5.6						
YAK	Yakutsk	26.84	348	eP	P	04 45 01.1	-2.5
	comp=Z,196nm,1.0s,mb5.6						
ENH	Enshi	27.33	267	eP	P	04 45 07.2	-0.8
	comp=Z,78nm,0.6s,mb5.4						
ULN	Ulaanbaatar	27.85	305	eP	P	04 45 12.5	-0.1
ULN				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.1						
ULN	Ulaanbaatar	27.85	305	eP	P	04 45 12.5	-0.1
	comp=Z,39nm,0.8s,mb5.1						
SONM	Songino Array	28.27	305	P	P	04 45 16.3	-0.1
	comp=Z,29nm,0.6s,mb5.1,baz=106,slow=8.4,SNR=6.3						
CD2	Chengdu	31.74	271	eP	P	04 45 48.3	+1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
LSA	Lhasa	42.34	276	eP	P	04 47 20.0	+3.0
LSA				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
LSA	Lhasa	42.34	276	eP	P	04 47 20.0	+2.9
	comp=Z,25nm,0.6s,mb5.0						
MKAR	Makanchi Array	44.59	303	P	P	04 47 35.0	-0.1
	comp=Z,49nm,0.9s,mb5.3,baz=91,slow=6.1,SNR=4.9						
KSM	Kuching	45.05	227	eP	P	04 47 40.1	+1.2
KURK	Kurchatov	46.46	309	P	P	04 47 49.1	-0.9
	comp=Z,879nm,0.5s,SNR=5.9						
KURK	Kurchatov	46.46	309	eP	P	04 47 49.4	-0.6
KURK				pmax	pmax		
	comp=Z,88nm,0.6s,mb5.9						
KURK	Kurchatov	46.46	309	eP	P	04 47 49.4	-0.5
	comp=Z,88nm,0.6s,mb5.9						
ILAR	Eielson Array	50.13	32	LR	LR	05 13 13.2	
	comp=Z,2μm,18.1s,MS5.1,baz=296,slow=41						
AAK	Ala-Archa	50.91	299	eP	P	04 48 25.5	+1.3
AAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
AAK	Ala-Archa	50.91	299	eP	P	04 48 25.5	+1.3
	comp=Z,26nm,0.8s,mb5.2						
BVAR	Borovoye Array	51.14	313	P	P	04 48 25.2	-0.7
	comp=Z,13nm,0.7s,mb5.0,baz=84,slow=8.7,SNR=3.2						
BRVK	Borovoye	51.20	313	eP	P	04 48 26.0	-0.3
BRVK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
BRVK	Borovoye	51.20	313	eP	P	04 48 26.0	-0.4
	comp=Z,22nm,0.8s,mb5.1						
ZRNK	Zerenda	51.98	313	eP	P	04 48 31.6	-0.5
ZRNK				pmax	pmax		
	comp=Z,24nm,0.5s,mb5.4						
ZRNK	Zerenda	51.98	313	eP	P	04 48 31.6	-0.6
	comp=Z,24nm,0.5s,mb5.4						
WRA	Warramunga Arr	56.29	188	P	P	04 49 07.8	+4.2
	comp=Z,13nm,0.5s,mb5.2,baz=0.3,slow=7.5,SNR=4.7						
ARU	Arti	56.98	319	eP	P	04 49 07.9	-0.6
ARU				e*PP	pP	04 49 18.3	-0.3
ARU				pmax	pmax		
	comp=Z,99nm,0.9s,mb5.8						
ARU	Arti	56.98	319	eP	P	04 49 07.9	-0.6
	comp=Z,99nm,0.9s,mb5.8						
ARU				epP	pP	04 49 18.3	-0.3
ASAR	Alice Springs	60.02	188	P	P	04 49 34.1	+4.4
	comp=Z,6.2nm,0.8s,mb4.7,baz=14,slow=7.6,SNR=2.8						
MBWA	Marble Bar	60.69	203	eP	P	04 49 37.5	+3.3
	comp=Z,8.6nm,0.6s,mb5.1						
YKA	Yellowknife Ar	64.46	30	P	P	04 49 58.8	-0.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=304,slow=6.8,SNR=1.9						
YKA				pP	pP	04 50 08.0	-1.6
	comp=Z,9.2nm,0.9s,baz=297,slow=6.8,SNR=5.5						
YKA	Yellowknife Ar	64.46	30	P	P	04 49 58.8	-0.6
YKA				*PP	pP	04 50 08.0	-1.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YKA	Yellowknife Ar	64.46	30	P	P	04 49 58.9	-0.5
YKA				pP	pP	04 50 08.0	-1.6
ARCES	ARCESS Array B	64.75	340	P	P	04 50 01.3	0.0
	comp=Z,16nm,0.9s,mb5.1,baz=56,slow=8.7,SNR=3.7						
ARCES				pP	pP	04 50 11.9	+0.4
	comp=Z,8.2nm,0.6s,baz=59,slow=8.2,SNR=2.7						
ARCES	ARCESS Array B	64.75	340	P	P	04 50 01.3	0.0
ARCES				pP	pP	04 50 11.9	+0.4
JOF	Joensuu	66.68	332	ep	P	04 50 13.5	-0.2
KAF	Kangasniemi	69.03	333	ep	P	04 50 25.3	-3.2
FINES	FINESS Array B	69.53	332	P	P	04 50 31.1	-0.5
	comp=Z,18nm,0.9s,mb5.0,baz=53,slow=6.9,SNR=4.1						
FINES				pP	pP	04 50 41.5	-0.5
	comp=Z,13nm,0.7s,baz=56,slow=6.9,SNR=2.8						
NEW	Newport	70.65	44	pP	pP	04 50 48.1	-0.7
	comp=Z,15nm,1.0s,baz=317,slow=3.9,SNR=3.7						
YBH	Yreka Blue Hor	70.78	52	pP	pP	04 50 49.6	0.0
	comp=Z,12nm,0.8s,baz=356,slow=2.1,SNR=4.2						
KIV	Kislovodsk	71.46	311	eP	P	04 50 43.8	+0.4
KIV				e*PP	pP	04 50 54.1	+0.4
KIV				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5						
KIV	Kislovodsk	71.46	311	eP	P	04 50 43.8	+0.4
	comp=Z,53nm,0.9s,mb5.5						
KIV				epP	pP	04 50 54.1	+0.3
FCC	Fort Churchill	74.68	26	eP	P	04 51 01.8	-0.6
FCC				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
FCC	Fort Churchill	74.68	26	eP	P	04 51 01.8	-0.6
	comp=Z,8.3nm,0.5s,mb4.9						
HFS	Hagfors	74.83	336	P	P	04 51 02.6	-0.6
	comp=Z,9.7nm,0.8s,mb4.8,baz=14,slow=5.9,SNR=2.6						
NB2	NORSAR Subarra	74.93	337	P	P	04 51 03.3	-0.6
	comp=Z,25nm,0.8s,mb5.2,baz=40,slow=5.9						
NOA	NORSAR Array B	74.93	337	P	P	04 51 03.4	-0.5
	comp=Z,15nm,0.7s,mb5.0,baz=39,slow=5.8,SNR=3.7						
NOA				pP	pP	04 51 13.4	-0.8
	comp=Z,18nm,0.9s,baz=39,slow=5.8,SNR=3.6						
NOA	NORSAR Array B	74.93	337	P	P	04 51 03.4	-0.5
NOA				pP	pP	04 51 13.4	-0.8
AKASG	Malin Array Be	74.95	322	P	P	04 51 03.4	-0.6
	comp=Z,21nm,0.6s,mb5.2,baz=46,slow=6.1,SNR=5.7						
NAO01	NORSAR Array S	75.18	337	eP	P	04 51 04.7	-0.6
	comp=Z,8.5nm,0.7s,mb4.8						
BOZ	Bozeman (W)	75.24	44	eP	P	04 51 05.8	+0.2
BOZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
BOZ	Bozeman (W)	75.24	44	eP	P	04 51 05.8	+0.2
	comp=Z,14nm,0.8s,mb5.0						
NVAR	Mina Array Bea	75.42	53	pP	pP	04 51 17.2	+0.2
	comp=Z,12nm,0.8s,baz=281,slow=7.6,SNR=5.4						
MOOW	Moose Ponds	76.89	45	P	P	04 51 16.3	+1.2
	comp=Z,11nm,1.0s,mb4.8						
LOHW	Long Hollow	77.05	45	eP	P	04 51 16.4	+0.4
	comp=Z,9.9nm,1.0s,mb4.7						
LOHW				epP	pP	04 51 26.5	+0.1
MALT	Malatya	77.30	308	eP	P	04 51 18.5	+1.1
MALT				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
MALT	Malatya	77.30	308	eP	P	04 51 18.5	+1.1
	comp=Z,25nm,1.1s,mb5.0						
HWUT	Hardware Ranch	77.72	47	eP	P	04 51 21.4	+1.7
	comp=Z,37nm,1.2s,mb5.2						
HWUT				epP	pP	04 51 29.5	-0.6
DUG	Dugway	77.83	49	eP	P	04 51 20.4	+0.1
DUG				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
DUG	Dugway	77.83	49	eP	P	04 51 20.4	+0.1
	comp=Z,31nm,1.1s,mb5.2						
BORG	Borgarnes	78.43	353	LR	LR	05 29 44.4	
	comp=Z,1μm,19.7s,MS5.3,baz=143,slow=39						
BORG	Borgarnes	78.43	353	P	P	04 51 24.6	+1.0
	comp=Z,69nm,1.1s,mb5.5						
BR131	Ke

SCZP	**Santa Cruz**	**0.73 228**	*e*P		Pg	04 40 23.6	+0.4
PCPH	**Palayan**	**0.93 140**⇑	*e*P		Pg	04 40 28.5	+1.6
PCPH			*i* S		Sg	04 40 42.8	+3.9
BALP	**Baler**	**1.19 116**	*e*P		Pg	04 40 32.0	+0.1
BALP			*e*S		Sg	04 40 49.6	+2.5
ABRA	**Dolores**	**1.39 9**	*e*P		Pn	04 40 26.1	-10
ABRA			*e*S		Sg	04 40 45.2	-8.5
CAUP	**Cauayan**	**1.46 63**	*e*P		Pn	04 40 35.9	-0.6
APYP	**Conner**	**1.74 25**	*e*P		Pn	04 40 38.0	-2.4
APYP			*e*S		Sn	04 41 00.3	-3.1
CVP	**Callao Caves**	**1.92 42**	*e*P		Pn	04 40 42.0	-0.9
POLP	**Polilio Island**	**2.09 137**	*e*P		Pn	04 40 49.5	+4.2
POLP			*e*S		Sn	04 41 15.0	+3.2
SGCP	**Mt. Cagua**	**2.47 37**	*e*P		Sn	04 41 19.0	-2.3

JMA 03 05:02:45.8±0.1, 2852N×12968E, h23km±1km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.13 211**		P	Pb	05 02 50.3	-0.1
JAM				S	Sb	05 02 53.2	-0.3
JZK	**Kikaishima**	**0.33 128**		P	Pb	05 02 52.8	-0.3
JZK				S	Sb	05 02 58.3	+0.2
JTK	**Tokunoshima**	**0.97 222**		P	Pb	05 03 03.6	-0.4
JTK				S	Sb	05 03 17.0	+0.6
JNN	**Nakanoshima**	**1.33 7**		P	Pn	05 03 09.3	+0.4
JNN				S	Sn	05 03 25.3	-0.6
JKC	**Kuchinoerabu**	**1.99 13**		P	Pn	05 03 19.1	+1.1
JKC				*e*S	Sn	05 03 42.1	0.0
JOW	**Kunigami**	**2.09 217**		P	Pn	05 03 21.1	+1.7
JOW				S	Sn	05 03 45.4	+0.7
JIH	**Iheya**	**2.12 226**		*e*S	Sn	05 03 45.3	-0.1

*IDC **03** 05:03:23.6±3.5, 3640N×14165E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/23, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=53.5km s-min=39.0km az=86.0*
*ISCJB **03** 05:03:27.7±0.9, 3624N±003×14155E±009, h46km±11km, mb3.3/2, Error ellipse: s-maj=12.6km s-min=5.3km az=176.0*
*JMA **03** 05:03:27.1±0.2, 3625N×14152E, h57km±4km, M3.2*
ISC 03 05:03:27.0±1.4, 3626N±003×14158E±009, h23km±9km, n17, σ0$78/25, mb3.3/2, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.80 227**		⇑P	**Pb**	**05 03 42.1**	**-0.2**
CHOJ				S	**Sb**	**05 03 53.5**	**+0.7**
JHO	**Hitachi**	**0.89 294**		⇓P	**Pb**	**05 03 42.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.05 324**		P	**Pn**	**05 03 45.3**	**-1.0**
JYT	**Yasato**	**1.12 269**		P	**Pn**	**05 03 46.2**	**-1.1**
JFK	**Kawauchi**	**1.24 333**		⇓P	**Pn**	**05 03 48.0**	**-1.0**
JFK				*e*S	**Sn**	**05 04 04.9**	**-0.1**
JFT	**Otama**	**1.60 322**		P	**Pn**	**05 03 54.5**	**+0.6**
JFT				*e*S	**Sn**	**05 04 14.4**	**+0.5**
BSO1	**Boso 1**	**1.67 197**		P	**Pn**	**05 03 54.9**	**0.0**
BSO1				*e*S	**Sn**	**05 04 16.4**	**+0.7**
BSO3	**Boso 3**	**1.69 211**		P	**Pn**	**05 03 55.7**	**+0.5**
JAG	**Ashikaga**	**1.72 276**		P	**Pn**	**05 03 55.2**	**-0.4**
JMM	**Marumori**	**1.72 339**		⇑P	**Pn**	**05 03 55.2**	**-0.4**
JMM				*e*S	**Sn**	**05 04 17.9**	**+1.1**
JFY	**Yanaizu**	**1.89 308**		P	**Pn**	**05 03 58.3**	**+0.4**
JKT	**Katashina**	**1.94 286**		P	**Pn**	**05 03 59.1**	**+0.5**
MJAR	**Matsushiro Arr**	**2.73 277**		Pn	**Pn**	**05 04 10.1**	**+0.7**
	7.6nm,0.3s,baz=104,slow=8.5,SNR=29						
MJAR				Sn	**Sn**	**05 04 42.2**	**+0.4**
	3.1nm,0.3s,baz=82,slow=12,SNR=6.7						
MAT	**Matsushiro**	**2.73 277**		P	**Pn**	**05 04 10.5**	**+1.0**
MAT				S	**Sn**	**05 04 40.9**	**-0.9**
JHJ	**Hachijo jima 2**	**3.46 206**		Pn	**Pn**	**05 04 20.5**	**+1.0**
	16nm,0.3s,baz=50,slow=18,SNR=3.4						
JHJ				Sn	**Sn**	**05 04 57.5**	**-2.2**
	17nm,0.3s,baz=51,slow=23,SNR=3.5						
SONM	**Songino Array**	**28.33 305**		P	**P**	**05 09 18.5**	**-0.6**
	0.4nm,0.6s,mb3.2,baz=105,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**44.65 303**		P	**P**	**05 11 37.6**	**-0.1**
	0.4nm,0.7s,mb3.4,baz=86,slow=8.0,SNR=5.6						

*ISK **03** 05:36:04.5, 3765N×4483E, h14km, MD3.6*
*CSEM **03** 05:36:05.9±0.7, 3769N×4470E, h20km, MD3.6, Error ellipse: s-maj=15.6km s-min=7.9km az=121.0*
*ISCJB **03** 05:36:06.6±1.7, 3774N±007×4477E±0.1, h10km, Error ellipse: s-maj=14.2km s-min=7.9km az=66.1*
ISC 03 05:36:08.8±1.7, 3778N±007×446E±01, h10km, n12, σ1$22/17, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.73 254**		*i* PG	**Pg**	**05 36 21.1**	**-1.8**
HKR				*i* SG	**Sg**	**05 36 33.8**	**+1.4**
HAKT	**HAKKARI**	**0.76 253**		*i* P	**Pg**	**05 36 21.7**	**-1.7**
HAKT				*i* S	**Sg**	**05 36 33.1**	**-0.2**
CUKT	**Cukurca**	**0.97 237**		*i* PG	**Pg**	**05 36 25.4**	**-2.0**
CUKT				*i* SG	**Sg**	**05 36 40.7**	**+0.7**
TVAN	**Van**	**1.21 308**		*i* P	**Pn**	**05 36 27.8**	**-4.0**
TVAN				*i* S	**Sb**	**05 36 46.6**	**-1.0**
VANB	**Van**	**1.27 310**		PN	**Pn**	**05 36 32.4**	**-0.2**
MSL	**Mosul**	**1.93 220**		*ex*	x	05 36 45.0	
MSL				*i* x	x	05 36 49.0	
MSL				*i* x	x	05 37 12.0	
BTMT	**Batman**	**2.51 280**		PN	**Pn**	**05 36 50.3**	**+0.7**
BEST	**Besiri**	**2.66 273**		*i* P	**Pn**	**05 36 53.3**	**+1.7**
BEST				*i* S	**Sn**	**05 37 30.1**	**+6.2**
MARD	**Mardin**	**3.09 262**		*i* P	**Pn**	**05 36 59.5**	**+1.8**
MARD				*i* S	**Sn**	**05 37 45.5**	**+11**
EZM	**Erzurum**	**3.31 311**		PN	**Pn**	**05 37 01.5**	**+0.8**
URFA	**Urfa**	**4.62 268**		*e*PN	**Pn**	**05 37 18.3**	**-0.3**
MYA	**Malataya**	**4.92 278**		*e*PN	**Pn**	**05 37 22.8**	**0.0**

*NIED **03** 05:38:00, 3630N×14170E, h23km, Mw4.7 Best double couple: M0 1.34000×10^16 NP1:φ=23.00000°, δ70.00000°, λ89.00000°. NP2:φ=206.00000°, δ20.00000°, λ93.00000°.*
*SZGRF **03** 05:38:05.8, 3498N×14163E, h30km, mb5.3, Off east coast of Honshu, Japan*
*BJI **03** 05:38:06.6, 3621N×14162E, h32km, mB5.2, mb4.9, Ms4.7, Msz4.5*
*ISCJB **03** 05:38:08.1±0.2, 3618N±003×14160E±003, h32km, mb4.8/114, MS4.6/11, Error ellipse: s-maj=4.2km s-min=3.2km az=126.6*
*JMA **03** 05:38:08.1±0.2, 3621N×14160E, h60km±3km, M4.9*
JMA Felt II J1.
*NEIC **03** 05:38:09.8±0.2, 3617N×14157E, mb4.8/61, MW4.7(NIED), Error ellipse: s-maj=4.8km s-min=3.2km az=167.0*
NEIC Recorded [2 JMA] in Chiba, Fukushima, Ibaraki and Tochigi; [1 JMA] in Gumma, Miyagi, Saitama and Tokyo Prefectures.
*IDC **03** 05:38:10.2±0.5, 3612N×14153E, h37km±3km, mb4.4/23, mb1 4.5/26, mb1mx4.5/28, mbtmp4.6/26, ML4.7/3, MS4.1/2, Ms1 4.2/2, ms1mx3.5/28, Error ellipse: s-maj=12.7km s-min=11.9km az=117.0*
*NAO **03** 05:38:10.9, 3617N×14089E, h33km, mb4.9*
*MOS **03** 05:38:10.6±0.7, 3658N×14142E, h33km, mb5.1/42, Error ellipse: s-maj=8.6km s-min=5.0km az=114.7*
ISC 03 05:38:10.0±0.2, 3619N±003×14158E±003, h34km, h34km±.9km: pP-P, n286, σ0$96/291, mb4.8/114, MS4.6/11, 22C-14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.76 231**		⇓P	**Pn**	**05 38 23.6**	**-0.7**
CHOJ				S	**Sn**	**05 38 35.3**	**+0.7**
JHO	**Hitachi**	**0.92 298**		⇓P	**Pn**	**05 38 25.0**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.11 326**		⇓P	**Pn**	**05 38 27.5**	**-1.6**
JYT	**Yasato**	**1.12 272**		⇓P	**Pn**	**05 38 28.2**	**-1.1**
JFK	**Kawauchi**	**1.31 334**		⇓P	**Pn**	**05 38 30.2**	**-1.7**
BSO1	**Boso 1**	**1.61 198**		P	**Pn**	**05 38 35.6**	**-0.4**
BSO3	**Boso 3**	**1.64 213**		P	**Pn**	**05 38 36.4**	**0.0**
JFT	**Otama**	**1.66 323**		⇓P	**Pn**	**05 38 36.4**	**-0.3**
JAG	**Ashikaga**	**1.73 278**		⇓P	**Pn**	**05 38 36.9**	**-0.9**
JAG				S	**Sn**	**05 38 59.7**	**+1.0**
JMM	**Marumori**	**1.79 340**		⇓P	**Pn**	**05 38 37.3**	**-1.2**
JFY	**Yanaizu**	**1.94 310**		⇓P	**Pn**	**05 38 40.4**	**-0.1**
JKT	**Katashina**	**1.97 288**		⇓P	**Pn**	**05 38 40.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.75 278**		Pn	**Pn**	**05 38 52.1**	**+0.4**
	308nm,0.3s,baz=112,slow=8.6,SNR=782						
MJAR				Sn	**Sn**	**05 39 26.0**	**+2.4**
	114nm,0.3s,baz=95,slow=15,SNR=8.9						
MJAR	**Matsushiro Arr**	**2.75 278**		Pn	**Pn**	**05 38 52.1**	**+0.4**
MJAR				Sn	**Sn**	**05 39 26.0**	**+2.4**
MAJO	**Matsushiro**	**2.75 278**		⇓*e*P	**Pn**	**05 38 52.4**	**+0.7**
MAT	**Matsushiro**	**2.75 278**		P	**Pn**	**05 38 52.3**	**+0.6**
MAT				S	**Sn**	**05 39 25.5**	**+1.8**
MAT	**Matsushiro**	**2.75 278**		*e*P	**Pn**	**05 38 52.0**	**+0.3**
MAT				*e*S	**Sn**	**05 39 26.0**	**+2.3**
JHJ	**Hachijo jima 2**	**3.40 206**		Pn	**Pn**	**05 38 59.8**	**-0.9**
	199nm,0.3s,baz=261,slow=18,SNR=13						
JHJ				Sn	**Sn**	**05 39 38.4**	**-1.5**
	151nm,0.3s,baz=70,slow=22,SNR=8.4						
JHJ				LR	LR	05 39 39.2	
	comp=Z,1μm,20.1s,baz=32,slow=27						
ASAJ	**Asahikawa**	**7.96 5**		Pn	**Pn**	**05 40 01.1**	**-2.2**
	4.1nm,0.3s,baz=238,slow=13,SNR=15						
ASAJ				Sn	**Sn**	**05 41 30.7**	**-1.4**
	baz=9.4,slow=32,SNR=3.2						
ASAJ	**Asahikawa**	**7.96 5**		P	**Pn**	**05 40 01.1**	**-2.2**
ASAJ						05 41 30.7	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**8.49 21**		P	**Pn**	**05 40 11.5**	**+0.9**
YUK				*e*S	**Sn**	**05 41 37.0**	**-8.3**
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
CBIJ	**Chichi jima**	**9.08 177**		Pn	**Pn**	**05 40 17.1**	**-1.6**
	comp=E,24nm,0.3s,baz=254,slow=23,SNR=6.5						
CBIJ				Sn	**Sn**	**05 41 50.4**	**-9.3**
	comp=E,16nm,0.3s,baz=276,slow=20,SNR=3.2						
JNU	**Nakatsue**	**9.33 254**		Pn	**Pn**	**05 40 24.4**	**+2.3**
	comp=E,2.3nm,0.3s,baz=79,slow=16,SNR=10						
VLA	**Vladivostok**	**10.18 316**		*i* P	**Pn**	**05 40 36.2**	**+2.5**
VLA				pmax	pmax		
	comp=Z,184nm,1.7s						
YSS	**Yuzh-Sakhalins**	**10.79 4**		P	**Pn**	**05 40 39.8**	**-2.3**
YSS	**Yuzh-Sakhalins**	**10.79 4**		*e*Pn	**Pn**	**05 40 43.6**	**+1.4**
	comp=Z,40nm,0.7s						
KS15	**Wonju Array Si**	**11.05 281**		*e*Pn	**Pn**	**05 40 46.6**	**+0.9**
MDJ	**Mudanjiang**	**12.41 316**		P	**Pn**	**05 41 04.8**	**+0.5**
MDJ				AP		05 41 09.5	
MDJ				S	**Sn**	**05 43 28.5**	**+7.1**
MDJ				SS		05 43 38.1	
MDJ				AMB	AMB		
	comp=Z,27nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,239nm,6.2s						
MDJ				LR	LR		
	comp=N,1μm,16.4s						
MDJ				LR	LR		
	comp=E,1μm,16.4s						
MDJ				LR	LR		
	comp=Z,2μm,16.8s						
MDJ	**Mudanjiang**	**12.41 316**		*e*Pn	**Pn**	**05 41 04.2**	**-0.1**
	comp=Z,44nm,1.1s						
HABR	**Khabarovsk**	**13.19 341**		*e*P	**Pn**	**05 41 12.3**	**-2.5**
HABR				*e*S	**Sn**	**05 43 34.0**	**-6.2**
CN2	**Changchun**	**14.50 307**		⇑P	**Pn**	**05 41 34.4**	**+1.6**
CN2				*e*XP	sP	05 41 48.0	-4.1
CN2				*e*S	**Sn**	**05 44 14.5**	**+2.2**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
JOW	**Kunigami**	**14.68 234**		Pn	**Pn**	**05 41 41.0**	**+5.9**
	comp=Z,2.8nm,0.3s,baz=39,slow=9.4,SNR=8.3						
KLR	**Kul'dur**	**14.88 334**		*e*P	**Pn**	**05 41 34.2**	**-3.8**
SSE	**Sheshan**	**17.72 259**		*e*P	**Pn**	**05 42 13.7**	**-0.3**
SSE				AP	pP	05 42 24.5	+1.0
SSE				XP	sP	05 42 29.9	+2.1
SSE				S	**Sn**	**05 45 29.6**	**-0.8**
SSE				AMB	AMB		
	comp=Z,13nm,0.8s						
SSE				AMB	AMB		
	comp=Z,133nm,4.9s						
SSE				LR	LR		
	comp=N,663nm,23.3s						
SSE				LR	LR		
	comp=E,226nm,23.3s						
SSE				LR	LR		
	comp=Z,579nm,21.0s						
NJ2	**Nanjing**	**19.25 264**		*e*P	**Pn**	**05 42 34.1**	**+1.4**
NJ2				AP	pP	05 42 42.1	+1.7
NJ2				XP	sP	05 42 46.4	+1.7
NJ2				PP		05 42 51.4	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,470nm,10.7s						
NJ2				LR	LR		
	comp=N,1μm,21.4s						
NJ2				LR	LR		
	comp=E,2μm,23.2s						
NJ2				LR	LR		
	comp=Z,570nm,14.9s						
TIA	**Tai'an**	**19.73 277**		*e*P	**Pn**	**05 42 35.2**	**-3.2**
BJT	**Baijiatuau**	**20.34 289**		*e*P	**P**	**05 42 41.8**	**-1.5**
BJT				pmax	pmax		
	comp=Z,20nm,0.5s						
BJT	**Baijiatuau**	**20.34 289**		*e*P	**P**	**05 42 41.8**	**-1.6**
	comp=Z,20nm,0.5s						
HIA	**Hailar**	**20.60 316**		*e*P	**P**	**05 42 44.4**	**-1.8**
HIA				pmax	pmax		
	comp=Z,19nm,0.8s						
HIA	**Hailar**	**20.60 316**		*e*P	**P**	**05 42 44.4**	**-1.8**
	comp=Z,19nm,0.8s						
PET	**Petropavlovsk**	**20.67 30**⇑		*e*P	**P**	**05 42 47.9**	**+0.9**
PET				pmax	pmax		
	comp=Z,49nm,2.3s						
QZH	**Quanzhou**	**22.69 247**⇑		*i* P	**P**	**05 43 03.8**	**-4.8**
QZH				LR	LR		
	comp=Z,2μm,20.3s,MS4.5						
WHN	**Wuhan**	**23.39 264**		P	**P**	**05 43 14.5**	**-1.4**
WHN				LR	LR		
	comp=Z,2μm,14.1s,MS4.8						
CLNS	**Chul'man**	**23.51 337**		*e*P	**P**	**05 43 13.8**	**-3.2**
CLNS				pmax	pmax		
	comp=N,29nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,44nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.88 290**		*e*P	**P**	**05 43 19.9**	**-0.5**
HHC				AP		05 43 26.5	
HHC				XP	sP	05 43 32.6	-1.6
HHC				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.9						
HHC				AMB	AMB		
	comp=Z,669nm,13.2s						
HHC				LR	LR		
	comp=N,541nm,18.0s,MS4.5						
HHC				LR	LR		
	comp=E,1μm,14.6s,MS4.5						
HHC				LR	LR		
	comp=Z,1μm,17.0s,MS4.4						
MA2	**Magadan**	**24.15 11**		*e*P	**P**	**05 43 22.4**	**-0.5**
MA2				*e*		05 43 34.5	
MA2				*e*S	**S**	**05 47 33.7**	**-5.0**
MA2				*e*SS		05 48 38.6	
MA2				pmax	pmax		
	comp=Z,10.0nm,10.1s						
MA2				MLR	MLR		
	comp=Z,1μm,22.7s,MS4.4						
MA2	**Magadan**	**24.15 11**		*e*P	**P**	**05 43 22.3**	**-0.6**
	comp=Z,17nm,0.8s,mb4.5						
BTO	**Baotou**	**25.05 290**		*e*P	**P**	**05 43 30.5**	**-0.6**
CIT	**Chita**	**25.39 317**		*e*P	**P**	**05 43 32.8**	**-1.3**
CIT				*e*	pP	05 43 42.4	-1.4
XAN	**Xi'an**	**26.74 275**		P	**P**	**05 43 45.4**	**-0.9**
XAN				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.0						
YAK	**Yakutsk**	**26.92 348**		*c i* P	**P**	**05 43 47.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,109nm,1.1s,mb5.3						
YAK	**Yakutsk**	**26.92 348**		*e*P	**P**	**05 43 46.7**	**-1.3**
	comp=Z,84nm,0.8s,mb5.3						
ENH	**Enshi**	**27.41 267**		*e*P	**P**	**05 43 51.1**	**-1.3**
	comp=Z,65nm,0.7s,mb5.3						
SEY	**Seymchan**	**27.59 11**		*e*P	**P**	**05 43 54.0**	**-0.1**
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
SEY				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.8						
ULN	**Ulaanbaatar**	**27.95 305**		*e*P	**P**	**05 43 56.7**	**-0.5**
ULN				*e*	pP	05 44 08.7	+1.8
ULN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**27.95 305**		*e*P	**P**	**05 43 56.7**	**-0.5**
	comp=Z,15nm,0.8s,mb4.7						
ULN				*e*	pP	05 44 08.7	+1.8
BOD	**Bodaibo**	**28.32 329**		*e*P	**P**	**05 43 59.5**	**-1.0**
BOD				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
SONM	**Songino Array**	**28.38 305**		P	**P**	**05 44 01.0**	**-0.1**
	comp=Z,13nm,0.6s,mb4.7,baz=105,slow=8.7,SNR=139						
LZH	**Lanzhou**	**30.35 281**		*e*P	**P**	**05 44 18.5**	**0.0**
LZH				AP	pP	05 44 27.4	-0.9
LZH				XP	sP	05 44 31.5	-0.9
LZH				PP	PP	05 45 17.6	-10
LZH				AMB	AMB		
	comp=Z,54nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,176nm,5.5s						
LZH				LR	LR		
	comp=E,1μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,15.3s,MS4.8						
ZAK	**Zakamensk**	**30.91 309**⇓		*e*P	**P**	**05 44 23.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
GYA	**Guiyang**	**31.22 262**⇑		*i* P	**P**	**05 44 25.0**	**-1.2**
GYA				AP	pP	05 44 34.6	-1.4
GYA				XP	sP	05 44 38.5	-1.6
GYA				PP	PP	05 45 28.2	-8.8
GYA				PCP	PcP	05 47 18.2	-2.1
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,3.2s						
GYA				LR	LR		
	comp=N,670nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,840nm,17.0s,MS4.6						
GYA				LR	LR		
	comp=Z,830nm,16.6s,MS4.5						
CD2	**Chengdu**	**31.82 272**		P	**P**	**05 44 30.2**	**-1.3**
CD2				AP	pP	05 44 37.7	-3.5
CD2				XP	sP	05 44 44.3	-1.0
CD2				PP	PP	05 45 36.4	-7.2
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,160nm,9.0s						
CD2				LR	LR		
	comp=N,570nm,13.8s						
CD2				LR	LR		
	comp=Z,610nm,15.6s,MS4.4						
MOY	**Mondy**	**32.59 311**		*e*P	**P**	**05 44 38.4**	**+0.1**
MOY				pmax	pmax		
	comp=Z,32nm,3.4s						
QIZ	**Qiongzhong**	**32.71 247**		P	**P**	**05 44 42.8**	**+3.5**
QIZ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
QIZ				LR	LR		
	comp=N,496nm,19.2s						
QIZ				LR	LR		
	comp=Z,626nm,18.4s,MS4.3						
GTA	**Gaotai**	**32.95 288**		*e*P	**P**	**05 44 41.7**	**+0.3**
GTA				AP	pP	05 44 50.8	-0.3
GTA				XP	sP	05 44 55.2	0.0
GTA				PP	PP	05 45 51.7	-4.5
GTA				PCP	PcP	05 47 26.4	+1.4
GTA				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,219nm,5.3s						
GTA				LR	LR		
	comp=N,524nm,16.7s,MS4.5						
GTA				LR	LR		
	comp=E,651nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=Z,907nm,14.4s,MS4.6						
BILL	**Bilibino**	**34.80 16**		*e*P	**P**	**05 44 56.6**	**-0.9**
BILL	**Bilibino**	**34.80 16**		*e*P	**P**	**05 44 56.2**	**-1.3**
	comp=Z,6.3nm,0.9s,mb4.5						
KMI	**Kunming**	**34.98 263**		P	**P**	**05 44 58.9**	**-0.1**
KMI				AP	pP	05 45 10.1	+1.3
KMI				XP	sP	05 45 14.8	+1.9
KMI				PP	PP	05 46 18.7	+0.1
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,172nm,3.9s						
KMI				LR	LR		
	comp=N,755nm,17.1s,MS4.6						
KMI				LR	LR		
	comp=E,685nm,17.1s,MS4.6						
TIXI	**Tiksi**	**36.15 353**⇑		*i* P	**P**	**05 45 08.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WMQ	**Urumqi**	**41.35 298**		P	**P**	**05 45 53.5**	**+0.9**
WMQ				AP	pP	05 46 03.5	+1.0
WMQ				XP	sP	05 46 07.5	+0.9
WMQ				PP	PP	05 47 32.0	+3.6
WMQ				AMB	AMB		
	comp=Z,78nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,145nm,5.0s						
WMQ				LR	LR		
	comp=N,533nm,10.0s						
WMQ				LR	LR		
	comp=E,357nm,9.0s						
WMQ				LR	LR		
	comp=Z,385nm,9.0s						
TNA	**Tin City**	**41.53 29**		*e*P	**P**	**05 45 52.6**	**-1.5**
	comp=Z,7.5nm,1.3s,mb4.2						
LSA	**Lhasa**	**42.43 276**		*e*P	**P**	**05 46 02.8**	**+1.4**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
LSA	**Lhasa**	**42.43 276**		*e*P	**P**	**05 46 02.8**	**+1.4**
	comp=Z,17nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**42.60 313**		P	**P**	**05 46 02.7**	**-0.2**
	comp=Z,13nm,0.7s,mb4.7,baz=17,slow=7.6,SNR=74						
ZAL				pP	pP	05 46 13.3	+0.5
	comp=Z,17nm,0.6s,baz=24,slow=8.1,SNR=18						
ZAL	**Zalesovo**	**42.60 313**		*i* P	**P**	**05 46 02.7**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,13nm,0.7s						
ZAL	**Zalesovo**	**42.60 313**		P	**P**	**05 46 02.7**	**-0.2**
ZAL				pP	pP	05 46 13.3	+0.5
NVS	**Novosibirsk**	**43.52 314**⇑		*i* P	**P**	**05 46 09.6**	**-0.7**
NVS				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.0						
NVS				pmax	pmax		
	comp=E,57nm,1.8s						
SHL	**Shillong**	**43.54 270**		*ex*	x	05 46 10.0	
MKAR	**Makanchi Array**	**44.69 303**		P	**P**	**05 46 19.8**	**+0.2**
	comp=E,22nm,0.8s,mb5.0,baz=88,slow=8.2,SNR=135						
MKAR	**Makanchi Array**	**44.69 303**⇑		*i* P	**P**	**05 46 19.7**	**+0.1**
MKAR				pmax	p

comp=Z,103nm,1.0s,mb5.8
DMN Daman 48.13 277 *e*P **P 05 46 47.4 +0.8**
comp=Z,36nm,0.9s,mb5.4
GKN Gorkha 48.34 277 *e*P **P 05 46 49.0 +0.7**
comp=Z,209nm,1.0s
MCK McKinley 49.26 33 *e*P **P 05 46 55.3 -0.1**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MCK McKinley 49.26 33 *e*P **P 05 46 55.3 0.0**
comp=Z,2.0nm,0.8s,mb4.2
KOLN Koldanda 49.27 277 *e*P **P 05 46 56.2 +0.8**
comp=Z,124nm,1.2s,mb5.8
COLA College 49.72 32 *e*P **P 05 46 59.6 +0.7**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
COLA College 49.72 32 *e*P **P 05 46 59.6 +0.8**
comp=Z,4.1nm,0.8s,mb4.5
ILAR Eielson Array 50.14 32 P **P 05 47 01.9 -0.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=264,slow=6.1,SNR=60
ILAR pP pP 05 47 12.9 +0.8
comp=Z,3.5nm,0.7s,baz=259,slow=5.4,SNR=9.1
TKM2 Tokmak 2 50.16 299 P **P 05 47 03.6 +1.4**
SNR=19
KZA Kyzart 50.64 298 P **P 05 47 08.1 +2.3**
SNR=15
KBK Karagaybulak 50.69 299 P **P 05 47 07.3 +1.2**
SNR=14
USP Ospenovka 50.83 300 P **P 05 47 08.0 +0.7**
SNR=14
FRU Bishkek 50.87 299 *e*P **P 05 47 08.0 +0.5**
FRU *e* pP 05 47 17.0 -0.7
FRU pmax pmax
comp=Z,40nm,1.6s,mb5.1
KSH Kashi 50.88 295 *e*P **P 05 47 07.1 -0.5**
KSH *e*AP pP 05 47 20.0 +2.3
KSH *e*XP sP 05 47 24.2 +2.5
KSH *e*PCP PcP 05 48 27.0 +3.2
KSH *e*PP PP 05 49 08.1 +4.1
KSH AMB AMB
comp=Z,490nm,6.2s
KSH LR LR
comp=N,340nm,5.7s
KSH LR LR
comp=E,350nm,8.3s
AAK Ala-Archa 51.02 299 P **P 05 47 11.9 +3.3**
SNR=13
AAK Ala-Archa 51.02 299*c* *i*P **P 05 47 08.3 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AAK Ala-Archa 51.02 299⇑ *e*P **P 05 47 08.3 -0.4**
comp=Z,12nm,0.8s,mb4.9
UCH Uchtor 51.12 299 P **P 05 47 11.4 +2.0**
SNR=10.0
BVA0 Borovoye Array 51.24 313 *i* P **P 05 47 10.3 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 51.24 313 P **P 05 47 10.3 -0.1**
comp=Z,6.8nm,0.6s,mb4.8,baz=73,slow=6.9,SNR=41
BRVK Borovoye 51.30 313 *e*P **P 05 47 10.5 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 51.30 313 *e*P **P 05 47 10.5 -0.3**
comp=Z,11nm,0.8s,mb4.8
PSI Prapat 51.48 240 P **P 05 47 12.4 +0.3**
comp=Z,11nm,0.8s,mb4.9,baz=24,slow=12,SNR=2.4
EKS2 Erkin-Say 51.51 299 P **P 05 47 13.1 +0.7**
SNR=11
AML Almayashu 51.73 299 P **P 05 47 15.8 +1.8**
SNR=32
ZRNK Zerenda 52.08 313⇑ *i*P **P 05 47 16.4 -0.2**
ZRNK pmax pmax
comp=Z,22nm,0.8s,mb5.1
ZRNK Zerenda 52.08 313⇑ *i*P **P 05 47 16.4 -0.2**
comp=Z,22nm,0.8s,mb5.1
DDI Dehra Dun 52.62 283 *e*P **P 05 47 19.6 -1.0**
DDI *e*S 05 50 47.6
KK31 Karatay Array 53.67 301 *i* P **P 05 47 28.4 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
KKAR Karatay Array 53.67 301 *i* P **P 05 47 28.4 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
NDI New Delhi 53.97 282 *ex* x 05 47 29.0
FITZ Fitzroy Crossi 56.06 198 *e*P **P 05 47 45.8 +0.2**
comp=Z,7.5nm,0.7s,mb4.8
WRAB Tennant Creek 56.23 188 *e*P **P 05 47 46.3 -0.5**
WRAB pmax pmax
comp=Z,11nm,0.7s,mb5.0
WRAB Tennant Creek 56.23 188 *e*P **P 05 47 46.3 -0.6**
comp=Z,11nm,0.7s,mb5.0
WB2 Warramunga Arr 56.24 188 *e*P **P 05 47 46.1 -0.8**
WRA Warramunga Arr 56.24 188 P **P 05 47 46.5 -0.5**
comp=Z,3.7nm,0.8s,mb4.5,baz=6.2,slow=7.4,SNR=28
ARU Arti 57.09 319 *e*P **P 05 47 52.4 -0.5**
ARU *e**PP pP 05 48 01.8 -1.4
ARU pmax pmax
comp=Z,25nm,0.6s,mb5.4
ARU Arti 57.09 319 *e*P **P 05 47 52.4 -0.5**
comp=Z,25nm,0.6s,mb5.4
ARU *e*pP pP 05 48 01.8 -1.3
SOKR Solikamsk 57.09 323⇓ *i*P **P 05 47 52.9 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AB31 Abkulak array 58.59 311 P **P 05 48 03.1 -0.4**
AB31 pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
AKTK Aktyubinsk 59.34 312 P **P 05 48 08.2 -0.5**
AKTO Aktyubinsk 59.34 312 P **P 05 48 08.2 -0.5**
comp=Z,13nm,0.8s,mb5.0,baz=76,slow=12,SNR=34
ASAR Alice Springs 59.97 188 P **P 05 48 12.6 -0.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=9.9,slow=7.3,SNR=14
ASAR Alice Springs 59.97 188 P **P 05 48 12.6 -0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
MBWA Marble Bar 60.66 203 *e*P **P 05 48 17.7 -0.1**
comp=Z,7.1nm,0.5s,mb5.0
POO Poona 61.54 273⇑ *i*P **P 05 48 22.0 -1.7**
APA Apatity 63.52 336⇑ *i*P **P 05 48 36.6 -0.3**
APA *i* pP 05 48 47.5 +0.3
APA pmax pmax
comp=Z,29nm,1.2s,mb5.2
KEV Kevo 64.28 339 *e*p **P 05 48 41.3 -0.6**
comp=Z,14nm,1.0s,mb4.9
KEV Kevo 64.28 339 *e*P **P 05 48 41.3 -0.6**
KEV pmax pmax
comp=Z,14nm,1.0s,mb5.0
YKA Yellowknife Ar 64.47 30 P **P 05 48 42.9 -0.3**
comp=Z,1.7nm,0.7s,mb4.2,baz=303,slow=6.9,SNR=43
YKA pP pP 05 48 54.4 +0.8
comp=Z,2.0nm,0.7s,baz=301,slow=6.2,SNR=14
YKA Yellowknife Ar 64.47 30 *i* P **P 05 48 42.9 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 64.54 328 *e*P **P 05 48 42.6 -1.0**
KLMR pmax pmax
comp=Z,30nm,1.7s,mb5.0
ARCES ARCESS Array B 64.84 340 P **P 05 48 45.4 -0.1**
comp=Z,6.3nm,0.8s,mb4.7,baz=51,slow=7.8,SNR=12
ARE0 ARCESS Array S 64.84 340 *e*P **P 05 48 45.3 -0.2**
JOF Joensuu 66.77 332 *e*p **P 05 48 58.1 +0.1**
comp=Z,6.4nm,0.6s,mb4.8
STKA Stephens Creek 67.71 180 P **P 05 49 01.7 -2.2**
comp=Z,1.4nm,0.8s,mb4.1,baz=322,slow=11,SNR=3.6
OBN Obninsk 68.86 323 *e*P **P 05 49 10.7 -0.4**
OBN *e* 05 49 34.1
OBN pmax pmax
comp=Z,52nm,1.6s,mb5.2
KAF Kangasniemi 69.12 333 *e*p **P 05 49 11.9 -0.9**
comp=Z,7.8nm,0.6s,mb4.8,baz=50,slow=5.8
KAF Kangasniemi 69.12 333 *e*P **P 05 49 11.9 -0.9**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
FINES FINESS Array B 69.63 332 P **P 05 49 15.3 -0.6**
comp=Z,8.9nm,0.8s,mb4.8,baz=56,slow=6.9,SNR=30
FINES FINESS Array B 69.63 332⇑ *e*P **P 05 49 15.8 -0.1**
FINES FINESS Array B 69.63 332 P **P 05 49 15.3 -0.6**
VRSR Storozhevoye 69.65 319*c* *i*P **P 05 49 15.5 -0.5**
VRSR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,3.0nm,1.0s
NEW Newport 70.64 44 *e*P **P 05 49 21.4 -0.7**
NEW pmax pmax
comp=Z,18nm,1.5s
NEW Newport 70.64 44 *e*P **P 05 49 21.4 -0.7**
comp=Z,18nm,1.5s,mb4.8
GOF Gofitskoye 70.76 312 *e*P **P 05 49 22.5 -0.4**
GOF pmax pmax
comp=Z,20nm,0.8s,mb5.1
VSU Vasula 71.25 330*c* *i*P **P 05 49 25.6 -0.2**
ZEI Tsey 71.45 310 *i* P **P 05 49 25.6 -1.4**
ZEI *i* *PP pP 05 49 37.0 -0.5
ZEI *i* 05 52 03.0
ZEI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SUMG Summit 71.53 0 *e*P **P 05 49 28.2 +0.7**
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 71.56 311*d* *i*P **P 05 49 28.8 +1.1**
KIV pmax pmax
comp=Z,32nm,1.1s,mb5.2
KIV Kislovodsk 71.56 311 *e*P **P 05 49 28.7 +1.0**
comp=Z,25nm,0.9s,mb5.1
GNI Garni 72.32 307 *e*P **P 05 49 32.7 +0.5**
GNI pmax pmax
comp=Z,18nm,1.1s
GNI Garni 72.32 307 *e*P **P 05 49 32.7 +0.5**
comp=Z,18nm,1.1s,mb4.9
WVOR Wild Horse Val 72.94 50 *e*P **P 05 49 37.3 +1.4**
WVOR pmax pmax
comp=Z,12nm,1.4s,mb4.6
WVOR Wild Horse Val 72.94 50 *e*P **P 05 49 37.3 +1.4**
comp=Z,12nm,1.4s,mb4.6
SOC Sochi 73.56 312 *e*P **P 05 49 39.2 -0.4**
SOC *e* 05 49 53.8
SOC *e* 05 52 31.8
SOC *e*PPP 05 54 01.3
SOC *e*S S 05 59 04.3 -3.0
SOC pmax pmax
comp=Z,50nm,1.5s,mb5.2
FFC Flin Flon 74.34 33 *e*P **P 05 49 43.7 -0.5**
FFC pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
FFC Flin Flon 74.34 33 *e*P **P 05 49 43.6 -0.5**
comp=Z,10.0nm,1.2s,mb4.6
HRY Holter Researc 74.48 43 *e*P **P 05 49 45.5 +0.6**
HRY *e*pP pP 05 49 55.1 -0.4
HLID Hailey 74.85 47 *e*P **P 05 49 47.6 +0.5**
comp=Z,10nm,1.7s,mb4.5
NB2 NORSAR Subarra 75.02 337 P **P 05 49 47.6 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=40,slow=5.9
NOA NORSAR Array B 75.02 337 P **P 05 49 47.3 -0.7**
comp=Z,9.6nm,0.7s,mb4.8,baz=39,slow=5.8,SNR=43
NOA pP pP 05 49 58.7 0.0
comp=Z,9.0nm,0.7s,baz=39,slow=5.8,SNR=15
NOA LR LR 06 28 41.6
comp=Z,358nm,18.3s,MS4.7,baz=10.0,slow=40
NOA NORSAR Array B 75.02 337 P **P 05 49 47.3 -0.8**
NOA *PP pP 05 49 58.7 +0.1
NOA NORSAR Array B 75.02 337 P **P 05 49 47.3 -0.7**
NOA pP pP 05 49 58.7 0.0
NOA LR LR 06 28 41.6
AKASG Malin Array Be 75.05 323 P **P 05 49 47.9 -0.3**
comp=Z,13nm,0.6s,mb5.0,baz=46,slow=5.8,SNR=59
AKASG Malin Array Be 75.05 323 *i* P **P 05 49 47.9 -0.3**
AKASG pmax pmax
comp=Z,13nm,0.6s
BOZ Bozeman (W) 75.23 44 *e*P **P 05 49 50.3 +1.1**
comp=Z,4.2nm,1.1s,mb4.3
NAO01 NORSAR Array S 75.27 337 *e*P **P 05 49 49.1 -0.4**
NVAR Mina Array Bea 75.39 53 P **P 05 49 51.7 +1.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=278,slow=6.9,SNR=15
NVAR pP pP 05 50 02.8 +2.0
comp=Z,4.6nm,0.9s,baz=275,slow=9.9,SNR=14
NVAR Mina Array Bea 75.39 53 P **P 05 49 51.7 +1.5**
NVAR pP pP 05 50 02.8 +2.0
MNV Mina 75.48 53 P **P 05 49 52.0 +1.3**
comp=Z,16nm,1.4s,mb4.8
MNV *e*pP pP 05 50 01.3 0.0
SUW Suwalki 75.67 328 *e*P **P 05 49 52.6 +0.8**
MALT Malatya 77.40 308 *e*P **P 05 50 02.7 +1.1**
MALT *e**PP pP 05 50 12.8 +0.6
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MALT Malatya 77.40 308 *e*P **P 05 50 02.7 +1.1**
comp=Z,10.0nm,1.1s,mb4.7
MALT *e*pP pP 05 50 12.8 +0.6
HWUT Hardware Ranch 77.70 47 *e*P **P 05 50 04.4 +1.1**
comp=Z,4.4nm,1.2s,mb4.3
HWUT *e*pP pP 05 50 13.6 -0.3
DUG Dugway 77.81 49 *e*P **P 05 50 05.2 +1.3**
DUG *e**PP pP 05 50 14.1 -0.4
DUG pmax pmax
comp=Z,11nm,1.1s,mb4.7
DUG Dugway 77.81 49 *e*P **P 05 50 05.2 +1.3**
comp=Z,11nm,1.1s,mb4.7
DUG *e*pP pP 05 50 14.1 -0.4
BW06 Boulder Array 78.16 45 *e*P **P 05 50 06.3 +0.5**
comp=Z,2.7nm,0.8s,mb4.2
BW06 *e*pP pP 05 50 15.2 -1.2
PDAR Pinedale Array 78.16 45 P **P 05 50 06.0 +0.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=278,slow=1.6,SNR=16
PDAR pP pP 05 50 17.7 +1.2
comp=Z,1.9nm,0.7s,baz=301,slow=0.8,SNR=8.3
DAU Daniels Canyon 78.62 48 *e*P **P 05 50 09.6 +1.2**
DAU *e*pP pP 05 50 17.2 -1.8
ARUT Antelope Range 78.87 51 *e*P **P 05 50 11.3 +1.6**
KWP Kalwaria 78.90 325 *e*P **P 05 50 10.8 +0.9**
MSU Marysvale 79.22 50 *e*P **P 05 50 13.3 +1.6**
MSU *e*pP pP 05 50 22.8 +0.5
NEN Nelson 79.26 54 *e*P **P 05 50 12.6 +0.8**
BR131 Keskin Array S 79.51 312 *e*P **P 05 50 13.4 +0.1**
comp=Z,2.2nm,0.6s,mb4.3
BRTR Keskin Array B 79.52 312 P **P 05 50 13.3 +0.1**
comp=Z,6.3nm,1.0s,mb4.5,baz=108,slow=3.9,SNR=24
BRTR Keskin Array B 79.52 312⇑ *e*P **P 05 50 13.6 +0.3**
KOLS Kolonicke sedl 79.59 324 *e*P **P 05 50 14.2 +0.5**
KOLS *e*sP sP 05 50 27.7 -0.5
STHS Stebnicka Huta 79.73 325 *e*P **P 05 50 15.4 +1.0**
STHS *e*pP pP 05 50 26.6 +1.5
OJC Ojcow 79.82 326 *e*P **P 05 50 15.3 +0.4**
SRU San Rafael 79.87 49 *e*P **P 05 50 16.0 +0.8**
comp=Z,10.0nm,0.9s,mb4.8
SRU *e*pP pP 05 50 25.8 0.0
ULM Lac du Bonnet 80.14 33 P **P 05 50 16.5 -0.2**
comp=Z,2.2nm,0.8s,mb4.1,baz=305,slow=6.3,SNR=5.6
KECS Kecovo 80.74 325 *e*P **P 05 50 19.8 -0.1**
KECS *e*sP sP 05 50 34.3 -0.1
KSP Ksiaz 80.89 328 *e*P **P 05 50 29.8 -1.5**
KSP Ksiaz 80.89 328 *e*P **P 05 50 20.8 +0.1**
MORC Moravsky Berou 81.14 327 *e*P **P 05 50 22.1 0.0**
comp=Z,7.1nm,1.1s,mb4.5
MORC *e*pP pP 05 50 30.7 -2.0
DPC Dobruska-Polom 81.25 328 *e*P **P 05 50 23.1 +0.5**
DPC *e*pP pP 05 50 30.8 -2.4
UPC Upice 81.26 328 *e*P **P 05 50 22.7 0.0**
UPC *e*pP pP 05 50 34.2 +0.9
PSZ Piszkesteto 81.42 325 *e*P **P 05 50 23.0 -0.5**
comp=Z,9.3nm,1.0s,mb4.7
VYHS Vyhne 81.50 326 *e*P **P 05 50 24.2 +0.3**
VYHS *e*sP sP 05 50 38.1 -0.3
BRG Berggiesshubel 81.85 330 *e*P **P 05 50 25.8 0.0**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
BRG Berggiesshubel 81.85 330 *e*P **P 05 50 25.8 0.0**
comp=Z,3.7nm,1.0s,mb4.3
BRG *e*PP PP 05 53 54.3 +21
PVCC Panska Ves 81.85 329 *e*P **P 05 50 25.5 -0.3**
CLL Collm 81.90 330⇑ *i*P **P 05 50 25.3 -0.7**
comp=Z,11nm,0.8s,mb4.8
CLL *i* pP pP 05 50 36.7 0.0
CLL LmV 06 32 00.0
comp=Z,400nm,18.3s
CLL Collm 81.90 330⇑ *i*P **P 05 50 25.3 -0.7**
comp=Z,11nm,0.8s,mb4.8
CLL *i* pP pP 05 50 36.7 0.0
SMCO Snowmass 81.95 47 *e*P **P 05 50 26.9 +0.6**
comp=Z,5.8nm,1.1s,mb4.4
PRU Pruhonice 82.28 329 *e*P **P 05 50 28.2 +0.2**
PRU *e*pP pP 05 50 36.2 -2.5
TREC Trest 82.40 328 *e*P **P 05 50 29.2 +0.6**
KHC Kasperske Hory 83.33 329 *e*P **P 05 50 33.5 0.0**
KHC *e*pP pP 05 50 44.5 +0.3
GERES GERESS Array B 83.50 328 P **P 05 50 34.3 -0.1**
comp=Z,2.3nm,0.6s,mb4.5,baz=36,slow=5.7,SNR=24
GERES GERESS Array B 83.50 328 P **P 05 50 34.3 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.6s
SDCO Great Sand Dun 83.77 47 *e*P **P 05 50 36.2 +0.5**
comp=Z,3.1nm,1.0s,mb4.4
GRA1 Grafenberg Arr 83.87 330 *e*P **P 05 50 36.8 +0.6**
comp=Z,22nm,1.1s,mb5.2
GRA1 *e*pP pP 05 50 45.6 -1.3
GRA1 *e*sP sP 05 50 49.2 -1.6
GRF Grafenberg Arr 83.87 330 *e*P **P 05 50 36.8 +0.6**
comp=Z,22nm,1.1s,mb5.2
GRF *e*pP pP 05 50 45.6 -1.3
GRF *e*sP sP 05 50 49.2 -1.6
TUC Tucson 83.97 54 *e*P **P 05 50 37.3 +0.6**
comp=Z,11nm,1.8s,mb4.7
PPT Papeete 84.14 117 *e*LR LR 06 17 06.4
comp=Z,519nm,26.5s
PERS Pernice 84.57 326 *i* P **P 05 50 40.0 +0.2**
STIP Stip 84.71 319 *e*P **P 05 50 38.1 -2.4**
VAY Valandovo 84.77 319 *e*P **P 05 50 38.9 -1.9**
GOLS Golise 84.81 325 *e*P **P 05 50 41.0 0.0**
SKO Skopje 84.91 320 *e*P **P 05 50 39.0 -2.5**
EIL Elat 84.95 303 *e*P **P 05 50 41.7 -0.1**
comp=Z,189nm,1.0s
LEGS Legarje 85.00 326 *i* P **P 05 50 41.9 -0.1**
ANMO Albuquerque 85.03 50 *e*P **P 05 50 43.8 +1.7**
ANMO Albuquerque 85.03 50 *e*P **P 05 50 43.6 +1.6**
comp=Z,2.5nm,1.1s,mb4.3
ANMO *e*pP pP 05 50 52.4 -0.4
BIA Bitola 85.65 319 *e*P **P 05 50 42.4 -2.8**
OHR Ohrid 85.86 319 *e*P **P 05 50 43.7 -2.6**
BFO Black Forest 86.11 331 *e*P **P 05 50 46.7 -0.7**
SCHQ Schefferville 86.11 16 P **P 05 50 47.7 +0.2**
comp=Z,5.4nm,1.0s,mb4.8,baz=41,slow=4.5,SNR=8.9
SCHQ Schefferville 86.11 16 P **P 05 50 47.7 +0.2**
CDF Champ du Feu 86.45 331 *e*P **P 05 50 49.2 0.0**
comp=Z,8.3nm,0.7s,mb4.8
CDF Champ du Feu 86.45 331 *e*P **P 05 50 49.2 0.0**
comp=Z,4.2nm,0.7s,mb4.8
HINF Hinteralfeld 87.10 331 *e*P **P 05 50 51.9 -0.4**
comp=Z,2.7nm,0.5s,mb4.4
HINF Hinteralfeld 87.10 331 *e*P **P 05 50 51.9 -0.4**
comp=Z,1.4nm,0.5s,mb4.5
TBI Tubuai 87.98 121 *e*LR LR 06 18 52.3
comp=Z,463nm,24.0s
CABF La Chapelle 88.39 331 *e*P **P 05 50 58.3 -0.2**
comp=Z,8.8nm,0.8s,mb4.7
CABF La Chapelle 88.39 331 *e*P **P 05 50 58.3 -0.2**
comp=Z,4.4nm,0.8s,mb4.7
LOR Lormes 88.69 333 *e*P **P 05 50 59.8 -0.1**
SSF Saint Saulge 89.00 333 *e*P **P 05 51 01.5 +0.1**
LPL La Plagne 89.03 330 *e*P **P 05 51 01.6 +0.1**
comp=Z,5.1nm,0.7s,mb4.7
LPL La Plagne 89.03 330 *e*P **P 05 51 01.6 +0.1**
comp=Z,2.5nm,0.7s,mb4.7
LPG La Plagne 89.04 330 *e*P **P 05 51 01.8 +0.2**
comp=Z,6.1nm,0.6s,mb4.8
LPG La Plagne 89.04 330 *e*P **P 05 51 01.8 +0.2**
comp=Z,3.0nm,0.6s,mb4.8
SMF Signal de Mont 89.22 332 *e*P **P 05 51 02.4 0.0**
AVF Avril sur Loir 89.28 333 *e*P **P 05 51 02.9 +0.2**
comp=Z,7.5nm,0.7s,mb4.8
AVF Avril sur Loir 89.28 333 *e*P **P 05 51 02.9 +0.2**
comp=Z,3.8nm,0.7s,mb4.8
TIP Tinpagrande 89.38 320 *e*P **P 05 51 02.4 -0.8**
MBDF Montbardon 89.67 330 *e*P **P 05 51 03.9 -0.6**
comp=Z,4.5nm,0.6s,mb4.7
MBDF Montbardon 89.67 330 *e*P **P 05 51 03.9 -0.6**
comp=Z,2.3nm,0.6s,mb4.7
ORIF Oris-en-Rattie 89.87 330 *e*P **P 05 51 05.4 0.0**
comp=Z,2.4nm,0.6s,mb4.4
ORIF Oris-en-Rattie 89.87 330 *e*P **P 05 51 05.4 0.0**
comp=Z,1.2nm,0.6s,mb4.4
SGMF Saint Gilles 90.05 337 *e*P **P 05 51 06.5 +0.2**
comp=Z,1.3nm,0.7s,mb5.1
SGMF Saint Gilles 90.05 337 *e*P **P 05 51 06.5 +0.2**
comp=Z,6.5nm,0.7s,mb5.1
SBF Sospel 90.09 329 *e*P **P 05 51 07.4 +0.9**
TCF Toulx Ste Croi 90.13 333 *e*P **P 05 51 06.9 +0.3**
comp=Z,3.2nm,0.7s,mb4.5
TCF Toulx Ste Croi 90.13 333 *e*P **P 05 51 06.9 +0.3**
comp=Z,1.6nm,0.7s,mb4.5
VIVF Saint-Julien-l 90.40 331 *e*P **P 05 51 08.1 +0.2**
comp=Z,12nm,0.9s,mb4.9
VIVF Saint-Julien-l 90.40 331 *e*P **P 05 51 08.1 +0.2**
comp=Z,5.8nm,0.9s,mb4.9
PGF Pioggiola 90.48 327 *e*P **P 05 51 08.4 +0.1**
TXAR Lajitas Array 90.53 52 P **P 05 51 09.6 +1.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=292,slow=3.7,SNR=16
TXAR pP pP 05 51 20.4 +1.2
comp=Z,1.9nm,0.8s,baz=304,slow=2.1,SNR=12
TXAR Lajitas Array 90.53 52 P **P 05 51 09.6 +1.1**
TXAR *PP pP 05 51 20.5 +1.2
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
MFF Saint Martin d 90.70 335 *e*P **P 05 51 09.7 +0.4**
LMR La Mourre 90.92 329 *e*P **P 05 51 09.8 -0.5**
comp=Z,9.2nm,0.9s,mb4.8
LMR La Mourre 90.92 329 *e*P **P 05 51 09.8 -0.5**
comp=Z,4.6nm,0.9s,mb4.8
RJF Les Rejaudoux 91.22 333 *e*P **P 05 51 12.2 +0.5**
CAF Calviac 91.34 333 *e*P **P 05 51 13.0 +0.7**
comp=Z,11nm,1.0s,mb4.9
CAF Calviac 91.34 333 *e*P **P 05 51 13.0 +0.7**
comp=Z,5.6nm,1.0s,mb4.8
LASF Ste Croix 91.37 331 *e*P **P 05 51 12.8 +0.4**
comp=Z,15nm,1.1s,mb4.9
LFF La Frestale 91.82 333 *e*P **P 05 51 15.0 +0.5**
comp=Z,12nm,0.7s,mb5.0
LFF La Frestale 91.82 333 *e*P **P 05 51 15.0 +0.5**
comp=Z,6.1nm,0.7s,mb5.0
MTLF Montolieu 92.63 332 *e*P **P 05 51 18.7 +0.5**
comp=Z,4.7nm,0.7s,mb4.7
MTLF Montolieu 92.63 332 *e*P **P 05 51 18.7 +0.5**
comp=Z,2.3nm,0.7s,mb4.7
ETSF Etsaut 94.05 333 *e*P **P 05 51 25.5 +0.7**
RKT Rikitea 98.31 112 *e*LR LR 06 23 41.1
comp=Z,369nm,24.5s
LBTB Lobatse 124.66 263 *e*PKPdf PKPdf 05 57 06.8 +0.8
LPAZ La Paz 147.00 61 PKPbc PKPbc 05 57 49.4 +0.3
comp=Z,2.2nm,0.6s,baz=290,slow=4.2,SNR=8.7
LPAZ La Paz 147.00 61 PKIKP PKPdf 05 57 49.4 +2.3
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LVC Limon Verde 150.33 71 *e*PKPbc PKPbc 05 57 59.2 +1.5

NIED ***03*** *05:41:00,3630N×14150E,h26km,Mw4.9 Best double couple: M₀2.28000×10¹⁶ NP1:φ₀23.00000°,δ68.00000°, λ90.00000°. NP2:φ₀203.00000°,δ22.00000°,λ90.00000°.*
BJI ***03*** *05:41:36.2,36.11N×14128E,h19km,mB5.1,mb5.0,Ms4.8, Msz4.5*
MOS ***03*** *05:41:37.6±0.9,36.19N×14153E,h33km,mb5.2/34,Error ellipse: s-maj=9.3km s-min=5.2km az=119.0*
JMA ***03*** *05:41:37.4±0.2,36.22N×14158E,h63km±4km,M5.0*
JMA Felt II J1.
ISCJB ***03*** *05:41:37.4±0.2,36.17N±003×14157E±003,h31km, mb4.9/112,MS4.5/15,Error ellipse: s-maj=4.2km s-min=3.2km az=115.5*
NEIC ***03*** *05:41:39.1±0.2,3621N×14153E,mb4.8/54,MW4.8(NIED), Error ellipse: s-maj=6.8km s-min=3.3km az=170.0*
NEIC Recorded [2 JMA] in Chiba, Fukushima, Ibaraki, Saitama and Tochigi; [1 JMA] in Gumma, Kanagawa, Miyagi, Nagano and Tokyo Prefectures.
IDC ***03*** *05:41:39.8±0.7,36.17N×14152E,h39km±4km,mb4.4/22, mb1 4.6/25,mb1mx4.5/28,mbtmp4.7/25,ML4.9/3,MS4.4/6, Ms1 4.4/6,ms1mx3.9/29,Error ellipse: s-maj=13.4km s-min=12.8km az=171.0*
SZGRF ***03*** *05:41:42.4,36.75N×141.17E,h33km,mb4.7,Near east coast of eastern Honshu, Japan*
NAO ***03*** *05:41:43.1,36.56N×140.41E,h33km,mb5.0*
ISC 03 05:41:39.4±0.2,3621N±003×14154E±003,h33km, h33km±.9km:pP-P,n278,σ0:93/292,mb4.9/112,MS4.5/15, 22C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.75**	**228**	⇓P	**Pn**	**05 41 52.9**	**-0.7**
CHOJ				S	**Sn**	**05 42 04.3**	**+0.5**
JHO	**Hitachi**	**0.88**	**297**	⇓P	**Pn**	**05 41 54.1**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.07**	**326**	⇓P	**Pn**	**05 41 56.5**	**-1.6**
JFK	**Kawauchi**	**1.27**	**335**	⇓P	**Pn**	**05 41 59.4**	**-1.4**

JFK *e*S **Sn** **05 42 17.1 +0.3**
JSB Shiboa 1.51 301 ⇓P **Pn** **05 42 04.0 -0.1**
JFT Otama 1.63 324 ⇓P **Pn** **05 42 05.7 0.0**
JAG Ashikaga 1.70 278 ⇓P **Pn** **05 42 06.1 -0.6**
JMM Marumori 1.76 340 P **Pn** **05 42 06.5 -1.0**
JFY Yanaizu 1.90 310 P **Pn** **05 42 09.6 +0.2**
JKT Katashina 1.93 287 ⇓P **Pn** **05 42 10.0 +0.1**
JRY Ryogami san 2.15 266 P **Pn** **05 42 12.4 -0.4**
JIO Ouri 2.25 356 P **Pn** **05 42 13.0 -1.2**
JIM2 Oshima 3 2.28 230 P **Pn** **05 42 14.4 -0.2**
JHK Hiroka 2.28 298 ⇑P **Pn** **05 42 15.2 +0.5**
JYN Shimob 2.54 255 ⇑P **Pn** **05 42 19.8 +1.6**
MJAR Matsushiro Arr 2.71 278 Pn **Pn** **05 42 21.5 +0.9**
236nm,0.3s,baz=116,slow=8.4,SNR=42
MJAR Sn **Sn** **05 42 51.5 -0.7**
158nm,0.3s,baz=80,slow=15,SNR=7.2
MAJO Matsushiro 2.71 278⇓*e*P **Pn** **05 42 21.6 +1.0**
MAT Matsushiro 2.71 278 P **Pn** **05 42 21.4 +0.8**
MAT S **Sn** **05 42 54.9 +2.6**
MAT Matsushiro 2.71 278 P **Pn** **05 42 21.6 +1.0**
MAT Matsushiro 2.71 278 *e*P **Pn** **05 42 21.0 +0.4**
MAT *e*S **Sn** **05 42 55.0 +2.7**
JNT Takato 2.78 264 P **Pn** **05 42 23.0 +1.5**
JNG Nsakai 2.79 275 ⇓P **Pn** **05 42 22.6 +0.9**
JJN Nakama 2.86 289 P **Pn** **05 42 25.1 +2.4**
JNY Yasuok 3.11 255 ⇓P **Pn** **05 42 28.9 +2.8**
HMMJ Hamamatsu 2 3.40 248 P **Pn** **05 42 33.2 +3.2**
JHJ Hachijo jima 2 3.41 206 Pn **Pn** **05 42 29.7 -0.4**
367nm,0.3s,baz=84,slow=14,SNR=14
JHJ Sn **Sn** **05 43 08.2 -1.2**
331nm,0.3s,baz=72,slow=23,SNR=6.7
JGN Niukaw 3.42 271 P **Pn** **05 42 31.8 +1.5**
ASAJ Asahikawa 7.94 6 Pn **Pn** **05 43 30.6 -1.8**
3.2nm,0.3s,baz=156,slow=17,SNR=5.4
ASAJ Sn **Sn** **05 45 01.8 +0.7**
7.3nm,0.3s,baz=248,slow=30,SNR=2.9
ASAJ LR LR 05 47 19.1
comp=Z,2μm,19.4s,baz=166,slow=42
ASAJ Asahikawa 7.94 6 P **Pn** **05 43 30.6 -1.8**
ASAJ 05 45 01.8
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,19.4s
YUK Yuzh-Kuril'sk 8.49 22 *e*P **Pn** **05 43 41.0 +1.1**
CBIJ Chichi jima 9.10 176 Pn **Pn** **05 43 47.9 -0.5**
comp=Z,36nm,0.3s,baz=282,slow=15,SNR=5.8
CBIJ Sn **Sn** **05 45 19.6 -10**
comp=Z,40nm,0.3s,baz=278,slow=22,SNR=4.1
JNU Nakatsue 9.31 254 Pn **Pn** **05 43 53.4 +2.2**
comp=Z,2.1nm,0.3s,baz=72,slow=17,SNR=8.5
VLA Vladivostok 10.14 316 *e*P **Pn** **05 44 05.4 +2.8**
VLA pmax pmax
comp=Z,123nm,1.3s
KUR Kuril'sk 10.21 26 P **Pn** **05 43 55.0 -8.5**
KUR S **Sn** **05 45 50.0 -6.8**
KUR smax
comp=N,80nm,0.5s
KUR smax
comp=E,80nm,0.5s
YSS Yuzh-Sakhalins 10.78 4 *e*P **Pn** **05 44 09.8 -1.5**
YSS Yuzh-Sakhalins 10.78 4 *e*Pn **Pn** **05 44 18.3 +7.0**
comp=E,92nm,1.1s
KS15 Wonju Array Si 11.02 280 *e*Pn **Pn** **05 44 17.2 +2.6**
MDJ Mudanjiang 12.38 316 P **Pn** **05 44 37.1 +3.9**
MDJ PP 05 44 46.8
MDJ S **Sn** **05 46 58.1 +8.2**
MDJ AMB AMB
comp=Z,36nm,1.2s
MDJ LR LR
comp=N,2μm,17.4s
MDJ LR LR
comp=E,1μm,16.9s
MDJ LR LR
comp=Z,3μm,16.4s
MDJ Mudanjiang 12.38 316 *e*Pn **Pn** **05 44 37.0 +3.8**
JOW Kunigami 14.66 234 Pn **Pn** **05 45 09.8 +5.4**
comp=Z,3.5nm,0.3s,baz=23,slow=10,SNR=9.6
KLR Kul'dur 14.85 334 *e*P **Pn** **05 45 04.7 -2.2**
SNY Shenyang 15.04 297 ⇓P **Pn** **05 45 09.8 +0.4**
SNY AMB AMB
comp=Z,20nm,1.3s
SNY LR LR
comp=N,800nm,17.4s
SNY LR LR
comp=E,2μm,18.0s
SNY LR LR
comp=Z,2μm,18.6s
SSE Sheshan 17.69 259 *e*P **Pn** **05 45 38.7 -4.4**
SSE AMB AMB
comp=Z,12nm,0.8s
SSE AMB AMB
comp=Z,252nm,4.9s
NJ2 Nanjing 19.23 264 *e*P **Pn** **05 45 59.2 -2.6**
NJ2 AP pP 05 46 06.9 -2.5
NJ2 XP sP 05 46 12.3 -1.3
NJ2 PP 05 46 17.1
NJ2 S **Sn** **05 49 24.0 -12**
NJ2 XS sS 05 49 35.0 -16
NJ2 AMB AMB
comp=Z,10.0nm,0.9s
NJ2 AMB AMB
comp=Z,330nm,10.9s
NJ2 LR LR
comp=N,2μm,17.0s
NJ2 LR LR
comp=E,3μm,21.6s
NJ2 LR LR
comp=Z,960nm,18.4s
BJT Baijiatuau 20.30 288 *e*P **P** **05 46 10.4 -2.0**
HIA Hailar 20.57 316 *e*P **P** **05 46 11.8 -3.4**
HIA pmax pmax
comp=Z,17nm,0.7s
HIA Hailar 20.57 316 *e*P **P** **05 46 11.8 -3.4**
comp=Z,17nm,0.7s
PET Petropavlovsk 20.67 30⇑*e*P **P** **05 46 19.5 +3.1**
PET pmax pmax
comp=Z,85nm,2.0s
QZH Quanzhou 22.67 247⇓*i*P **P** **05 46 35.2 -2.6**
QZH *e*S **S** **05 50 36.0 -8.1**
QZH AMB AMB
comp=Z,110nm,1.1s,mb5.2
QZH LR LR
comp=N,2μm,19.2s
GUMO Guam 22.72 172 LR LR 05 54 18.5
comp=N,367nm,20.6s,MS3.8,baz=60,slow=33
WHN Wuhan 23.36 264 P **P** **05 46 43.5 -1.6**
CLNS Chul'man 23.48 337 *e*P **P** **05 46 42.9 -3.3**
CLNS pmax pmax
comp=Z,64nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,36nm,1.0s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS MLR MLR
comp=N,400nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,900nm,13.0s,MS4.5
CLNS MLR MLR
comp=Z,1μm,13.0s,MS4.5
HHC Hu-ho-hao-te 23.84 290 *e*P **P** **05 46 49.8 +0.3**
HHC AP 05 46 58.7
HHC XP sP 05 47 02.9 -0.1
HHC S **S** **05 51 06.9 +3.7**
HHC AMB AMB
comp=Z,27nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,280nm,6.4s
HHC LR LR
comp=N,541nm,14.5s,MS4.5
HHC LR LR
comp=E,1μm,15.5s,MS4.5
HHC LR LR
comp=Z,1μm,16.0s,MS4.5
MA2 Magadan 24.14 12⇑*e*P **P** **05 46 52.0 -0.2**
MA2 pmax pmax
comp=Z,36nm,1.5s,mb4.6
MA2 Magadan 24.14 12 *e*P **P** **05 46 51.6 -0.6**
CIT Chita 25.35 317 *e*P **P** **05 47 01.3 -1.9**
CIT *e* pP 05 47 11.5 -1.2
XAN Xi'an 26.70 275 P **P** **05 47 14.8 -0.7**
YAK Yakutsk 26.90 348 *e*P **P** **05 47 17.1 -0.1**
YAK *e* 05 51 59.5
YAK pmax pmax
comp=Z,74nm,1.1s,mb5.1
YAK pmax pmax
comp=N,50nm,1.4s
YAK pmax pmax
comp=E,35nm,1.4s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=Z,27nm,1.2s,mb4.7
YAK pmax pmax
comp=E,13nm,1.4s
YAK MLR MLR
comp=Z,339nm,15.0s,MS4.0
YAK MLR MLR
comp=N,438nm,18.0s,MS4.2
YAK MLR MLR
comp=E,275nm,14.0s,MS4.2
YAK Yakutsk 26.90 348 *e*P **P** **05 47 14.1 -3.1**
comp=E,120nm,1.0s,mb5.4
ENH Enshi 27.38 267 *e*P **P** **05 47 20.5 -1.1**
comp=E,82nm,0.8s,mb5.3
SEY Seymchan 27.58 11 *e*P **P** **05 47 24.4 +1.0**
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s,mb4.9
SEY pmax pmax
comp=E,15nm,1.4s
FX1 Attu Island--F 27.73 43 LR LR 05 59 23.6
comp=E,12nm,18.9s,baz=132,slow=38
ULN Ulaanbaatar 27.91 305 *e*P **P** **05 47 25.7 -0.6**
ULN *e**PP pP 05 47 35.2 -0.7
ULN pmax pmax
comp=Z,17nm,0.8s,mb4.7
ULN Ulaanbaatar 27.91 305 *e*P **P** **05 47 25.7 -0.6**
comp=Z,17nm,0.8s,mb4.7
ULN *e*pP pP 05 47 35.2 -0.7
BOD Bodaibo 28.29 329 *e*P **P** **05 47 28.7 -0.9**
BOD pmax pmax
comp=Z,39nm,1.0s,mb5.0
SONM Songino Array 28.34 305 P **P** **05 47 30.2 +0.1**
comp=Z,19nm,0.7s,mb4.8,baz=104,slow=8.6,SNR=42
SONM LR LR 05 59 02.4
comp=Z,791nm,20.1s,MS4.3,baz=304,slow=37
LZH Lanzhou 30.32 281 *e*P **P** **05 47 48.0 +0.3**
LZH AP pP 05 47 57.1 -0.2
LZH XP sP 05 48 01.2 -0.1
LZH PP PP 05 48 47.5 -8.9
LZH *e*S **S** **05 52 41.9 -3.7**
LZH *e*SS SS 05 54 22.0 -33
LZH AMB AMB
comp=Z,35nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,106nm,5.6s
LZH LR LR
comp=E,975nm,13.0s
LZH LR LR
comp=Z,1μm,16.3s,MS4.7
ZAK Zakamensk 30.87 309⇓*e*P **P** **05 47 52.4 -0.1**
ZAK pmax pmax
comp=Z,42nm,1.3s,mb5.1
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.3
GYA Guiyang 31.20 262⇑*i*P **P** **05 47 54.5 -0.9**
GYA AP pP 05 48 03.8 -1.2
GYA XP sP 05 48 08.2 -0.8
GYA PP PP 05 48 57.7 -8.4
GYA PCP PcP 05 50 48.9 -0.8
GYA S **S** **05 52 56.7 -2.6**
GYA XS sS 05 53 13.2 -2.0
GYA SCS ScS 05 58 23.8 -3.6
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,120nm,3.4s
GYA LR LR
comp=N,840nm,16.8s,MS4.6
GYA LR LR
comp=E,830nm,17.2s,MS4.6
GYA LR LR
comp=Z,740nm,17.0s,MS4.4
CD2 Chengdu 31.79 272 *e*P **P** **05 47 58.8 -1.8**
MOY Mondy 32.56 311 *e*P **P** **05 48 07.6 +0.2**
MOY pmax pmax
comp=Z,25nm,1.4s,mb5.0
QIZ Qiongzhong 32.69 247 *e*P **P** **05 48 08.0 -0.6**
GTA Gaotai 32.91 288⇓P **P** **05 48 10.8 +0.3**
GTA AP pP 05 48 21.1 +1.0
GTA XP sP 05 48 25.4 +1.3
GTA PP PP 05 49 23.2 -2.0
GTA PCP PcP 05 50 55.5 +1.1
GTA S **S** **05 53 28.1 +2.0**
GTA AMB AMB
comp=Z,36nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,457nm,4.6s
GTA LR LR
comp=N,597nm,15.6s,MS4.7
GTA LR LR
comp=E,957nm,16.4s,MS4.7
GTA LR LR
comp=Z,1μm,16.4s,MS4.6
BILL Bilibino 34.79 16⇑*i*P **P** **05 48 26.2 -0.6**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BILL Bilibino 34.79 16 *e*P **P** **05 48 26.1 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
KMI Kunming 34.95 263 P **P** **05 48 27.6 -0.6**
KMI AP pP 05 48 39.0 +1.2
KMI PP PP 05 49 43.9 -3.8
KMI S **S** **05 53 54.7 -2.9**
KMI XS sS 05 54 12.0 -1.5
KMI SS SS 05 56 09.6 -20
KMI AMB AMB
comp=Z,24nm,1.3s,mb5.0
KMI LR LR
comp=N,755nm,16.1s,MS4.7
KMI LR LR
comp=E,687nm,17.1s,MS4.7
KMI LR LR
comp=Z,764nm,16.5s,MS4.5
TIXI Tiksi 36.12 353⇑*e*P **P** **05 48 37.6 -0.6**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
CHRT Chiangrai 39.96 257⇓P **P** **05 49 11.5 +0.9**
comp=Z,166nm,1.3s,mb5.6
CHRT Chiangrai 39.96 257⇓P **P** **05 49 11.5 +0.9**
comp=Z,166nm,1.3s,mb5.6
CHG Chiang Mai 41.20 257 P **P** **05 49 21.0 +0.2**
CHG Chiang Mai 41.20 257 P **P** **05 49 21.0 +0.2**
WMQ Urumqi 41.31 298⇑*i*P **P** **05 49 22.0 +0.3**
WMQ AP pP 05 49 32.0 +0.5
WMQ XP sP 05 49 36.0 +0.5
WMQ AMB AMB
comp=Z,89nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,124nm,5.0s
WMQ LR LR
comp=N,358nm,10.0s
WMQ LR LR
comp=E,384nm,8.0s
WMQ LR LR
comp=Z,567nm,10.0s,MS4.7
LSA Lhasa 42.40 276 *e*P **P** **05 49 30.0 -0.6**
LSA pmax pmax
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 42.40 276 *e*P **P** **05 49 30.0 -0.6**
comp=Z,22nm,0.8s,mb4.8
ZAL Zalesovo 42.56 313 P **P** **05 49 31.9 -0.1**
comp=Z,16nm,0.9s,mb4.8,baz=20,slow=8.4,SNR=24
ZAL pP pP 05 49 42.5 +0.8
comp=Z,21nm,0.7s,baz=25,slow=7.7,SNR=15
ZAL LR LR 06 07 51.5
comp=Z,557nm,19.1s,MS4.5,baz=46,slow=37
ZAL Zalesovo 42.56 313 P **P** **05 49 31.9 -0.1**
ZAL *PP pP 05 49 42.6 +0.8
NVS Novosibirsk 43.49 314⇑*i*P **P** **05 49 37.8 -1.7**
NVS pmax pmax
comp=Z,106nm,1.9s,mb5.2
NVS pmax pmax
comp=E,65nm,1.3s
MKAR Makanchi Array 44.65 303 P **P** **05 49 49.0 +0.2**
comp=E,35nm,0.9s,mb5.2,baz=83,slow=9.8,SNR=34
MKAR pP pP 05 49 59.5 +0.9
comp=E,21nm,0.8s,baz=88,slow=8.6,SNR=9.0
MKAR LR LR 06 09 19.1
MKAR Makanchi Array 44.65 303⇑*e*P **P** **05 49 49.0 +0.2**
MKAR Makanchi Array 44.65 303 P **P** **05 49 49.0 +0.2**
MKAR pP pP 05 49 59.5 +0.9
MKAR LR LR 06 09 19.1
KURK Kurchatov 46.53 309*c i*P **P** **05 50 03.4 -0.2**
KURK Kurchatov 46.53 309 *e*P **P** **05 50 03.4 -0.2**
KURK *e*pP pP 05 50 14.5 +1.1
KURK sP sP 05 50 18.3 +0.8
JIRN Jiri 47.20 276 *e*P **P** **05 50 10.3 +1.4**
comp=E,185nm,0.9s,mb6.0
GUN Gumba 47.35 276 *e*P **P** **05 50 11.4 +1.4**
KDAK Kodiak Island 47.65 41 P **P** **05 50 12.2 -0.1**
comp=E,5.1nm,0.6s,mb4.7,baz=286,slow=14,SNR=5.6
PKI Pulchoki 47.87 276 *e*P **P** **05 50 14.8 +0.7**
comp=E,94nm,0.9s,mb5.8
KKN Kakani 47.88 277 *e*P **P** **05 50 15.1 +1.0**
comp=E,140nm,1.1s,mb5.9
DMN Daman 48.09 277 *e*P **P** **05 50 16.7 +0.9**
comp=E,72nm,1.1s,mb5.6
GKN Gorkha 48.31 277 *e*P **P** **05 50 18.2 +0.8**
comp=E,326nm,1.0s
KOLN Koldanda 49.24 277 *e*P **P** **05 50 25.4 +0.8**
comp=E,193nm,1.4s,mb6.0
MCK McKinley 49.26 33 *e*P **P** **05 50 25.1 +0.3**
MCK *e**PP pP 05 50 34.6 -0.1
MCK pmax pmax
comp=Z,9μm,1.2s
MCK McKinley 49.26 33 *e*P **P** **05 50 25.1 +0.3**
comp=Z,9μm,1.2s
MCK *e*pP pP 05 50 34.6 -0.1
COLA College 49.72 32 *e*P **P** **05 50 28.8 +0.5**
COLA *e**PP pP 05 50 37.9 -0.3
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
COLA College 49.72 32 *e*P **P** **05 50 28.8 +0.5**
comp=Z,5.6nm,0.8s,mb4.7
COLA *e*pP pP 05 50 37.9 -0.3
ILAR Eielson Array 50.14 32 P **P** **05 50 31.1 -0.3**
comp=Z,5.9nm,0.7s,mb4.7,baz=265,slow=6.1,SNR=35
FRU Bishkek 50.84 299 *e*P **P** **05 50 37.0 +0.3**
FRU pmax pmax
comp=Z,80nm,1.6s,mb5.4
KSH Kashi 50.84 295 *e*P **P** **05 50 39.0 +2.2**
KSH *e*AP pP 05 50 50.1 +3.4
KSH *e*XP sP 05 50 53.2 +2.5
KSH *e*PCP PcP 05 51 54.0 +0.8
KSH *e*PP PP 05 52 37.2 +4.1
KSH *e*SCP ScP 05 55 47.1 +0.3
KSH *e*PCS PcS 05 55 50.5 -0.1
KSH *e*S **S** **05 57 53.0 +2.4**
KSH *e*SCS ScS 06 00 24.1 -0.8
KSH AMB AMB
comp=Z,90nm,2.4s,mb5.3
KSH LR LR
comp=N,420nm,14.0s
KSH LR LR
comp=E,320nm,6.4s
AAK Ala-Archa 50.98 299 *e*P **P** **05 50 37.1 -0.7**
AAK *e**PP pP 05 50 44.8 -3.0
AAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
AAK Ala-Archa 50.98 299 *e*P **P** **05 50 37.1 -0.7**
comp=Z,17nm,0.9s,mb5.0
AAK *e*pP pP 05 50 44.8 -2.9
BVA0 Borovoye Array 51.21 313 *i* P **P** **05 50 39.3 -0.2**
BVA0 pmax pmax
comp=Z,14nm,1.5s,mb4.7
BVAR Borovoye Array 51.21 313 P **P** **05 50 39.5 0.0**
comp=Z,16nm,0.9s,mb5.0,baz=79,slow=7.6,SNR=20
BRVK Borovoye 51.26 313 *e*P **P** **05 50 40.0 +0.1**
ZRNK Zerenda 52.04 313⇑*i*P **P** **05 50 45.6 -0.1**
THN Thein Dam 53.56 286 *e*P **P** **05 50 55.7 -1.3**
KK31 Karatay Array 53.63 301 *i* P **P** **05 50 57.7 +0.2**
KK31 pmax pmax
comp=Z,41nm,1.0s,mb5.3
KKAR Karatay Array 53.63 301 *i* P **P** **05 50 57.7 +0.2**
KKAR pmax pmax
comp=Z,43nm,1.1s,mb5.3
FITZ Fitzroy Crossi 56.07 198 *e*P **P** **05 51 15.3 +0.2**
comp=Z,11nm,0.7s,mb5.0
CTAO Charters Tower 56.16 175 *e*P **P** **05 51 10.6 -5.2**
CTAO pmax pmax
comp=Z,14nm,1.4s,mb4.8
CTAO Charters Tower 56.16 175 *e*P **P** **05 51 10.6 -5.3**
comp=Z,14nm,1.4s,mb4.8
WRAB Tennant Creek 56.25 188*c i*P **P** **05 51 14.6 -1.8**
WRAB Tennant Creek 56.25 188 *e*P **P** **05 51 09.6 -6.8**
comp=Z,18nm,0.8s,mb5.1
WB2 Warramunga Arr 56.26 188 *e*P **P** **05 51 15.3 -1.2**
WRA Warramunga Arr 56.26 188 P **P** **05 51 15.6 -0.9**
comp=Z,7.1nm,1.0s,mb4.7,baz=5.2,slow=7.5,SNR=8.1
ARU Arti 57.05 319⇑*i*P **P** **05 51 21.9 -0.2**
ARU *e**PP pP 05 51 32.3 +0.1
ARU pmax pmax
comp=Z,54nm,1.0s,mb5.5
ARU Arti 57.05 319⇑*i*P **P** **05 51 21.9 -0.2**
comp=Z,54nm,1.0s,mb5.5
ARU *e*pP pP 05 51 32.3 +0.1
SOKR Solikamsk 57.05 323⇑*i*P **P** **05 51 22.7 +0.6**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
HYB Hyderabad 58.29 269 *i* P **P** **05 51 31.0 +0.2**
HYB *e*S **S** **05 59 32.0 +1.2**
HYB Hyderabad 58.29 269 *e*P **P** **05 51 31.0 +0.2**
AB31 Akbulak array 58.55 311 P **P** **05 51 32.3 -0.3**
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
AKTK Aktyubinsk 59.31 312 P **P** **05 51 37.4 -0.5**
AKTO Aktyubinsk 59.31 312 P **P** **05 51 37.4 -0.5**
comp=Z,15nm,0.8s,mb5.1,baz=72,slow=5.0,SNR=17
ASAR Alice Springs 59.98 188 P **P** **05 51 42.1 -0.4**
comp=Z,1.8nm,0.8s,mb4.2,baz=2.3,slow=6.9,SNR=4.6
ASAR Alice Springs 59.98 188 P **P** **05 51 42.2 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
POO Poona 61.51 273 *e*P **P** **05 51 52.0 -0.9**
YKA Yellowknife Ar 64.47 30 P **P** **05 52 12.3 -0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=303,slow=6.8,SNR=12
YKA Yellowknife Ar 64.47 30 *i* P **P** **05 52 12.3 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 64.81 340 P **P** **05 52 13.3 -1.5**
comp=Z,9.0nm,0.8s,mb4.8,baz=34,slow=8.7,SNR=10
ARCES LR LR 06 22 51.7
comp=Z,538nm,20.1s,MS4.7,baz=270,slow=38
ARCES ARCESS Array B 64.81 340 P **P** **05 52 13.3 -1.5**
ARCES LR LR 06 22 51.7
ARE0 ARCESS Array S 64.81 340 *e*P **P** **05 52 14.7 -0.1**
DAG Danmarks Havn 66.61 355⇓*i*P **P** **05 52 26.0 -0.4**
comp=Z,6.2nm,0.7s,mb4.8
DAG Danmarks Havn 66.61 355⇓*e*P **P** **05 52 26.0 -0.4**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
DAG Danmarks Havn 66.61 355⇓*e*P **P** **05 52 26.0 -0.4**
comp=Z,6.2nm,0.7s,mb4.8
JOF Joensuu 66.74 332 *e*p **P** **05 52 27.1 -0.1**
comp=Z,4.5nm,0.6s,mb4.7
MOS Moscow 67.98 324 *e*P **P** **05 52 34.7 -0.4**
MOS *i* pP 05 52 44.5 -0.8
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,800nm,15.1s,MS5.1
OBN Obninsk 68.82 323⇑*i*P **P** **05 52 40.3 0.0**
OBN *i* 05 53 11.5
OBN pmax pmax
comp=Z,21nm,0.9s,mb5.1
KAF Kangasniemi 69.09 333 *e*p **P** **05 52 41.2 -0.8**
comp=Z,17nm,1.0s,mb4.9,baz=50,slow=5.9
KAF Kangasniemi 69.09 333 *e*P **P** **05 52 41.2 -0.8**
KAF pmax pmax
comp=Z,17nm,1.0s,mb4.9
FINES FINESS Array B 69.59 332 P **P** **05 52 44.3 -0.8**
comp=Z,11nm,0.8s,mb4.8,baz=72,slow=6.0,SNR=15
FINES FINESS Array B 69.59 332⇑*e*P **P** **05 52 45.0 -0.1**
VRSR Storozhevoye 69.61 319 *e*P **P** **05 52 44.9 -0.3**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=E,5.0nm,0.8s
GOF Gofitskoye 70.73 312 *e*P **P** **05 52 50.0 -2.1**
GOF pmax pmax
comp=Z,20nm,0.8s,mb5.1

VSU Vasula 71.22 330⇑ *eP* **P 05 52 55.8 +0.7**
SUMG Summit 71.51 360 *eP* **P 05 52 57.5 +0.7**
comp=Z,18nm,0.9s,mb5.0
SUMG *ep*P pP 05 53 06.7 -0.4
KIV Kislovodsk 71.53 311*c i*P **P 05 52 57.4 +0.5**
KIV pmax pmax
comp=Z,55nm,1.1s,mb5.4
KIV Kislovodsk 71.53 311⇑ *i*P **P 05 52 57.3 +0.4**
comp=Z,37nm,0.9s,mb5.3
GNI Garni 72.28 307*d i*P **P 05 53 01.8 +0.3**
GNI pmax pmax
comp=Z,24nm,1.7s
NWAO Narrogin (SRO) 72.44 201 P **P 05 53 01.4 -0.9**
comp=Z,4.7nm,0.8s,mb4.5,baz=15,slow=12,SNR=2.7
WVOR Wild Horse Val 72.95 50 *eP* **P 05 53 04.8 -0.6**
WVOR pmax pmax
comp=Z,11nm,1.4s,mb4.6
WVOR Wild Horse Val 72.95 50 *eP* **P 05 53 04.8 -0.6**
comp=Z,11nm,1.4s,mb4.6
SOC Sochi 73.53 312 *eP* **P 05 53 10.3 +1.5**
SOC *e* pP 05 53 21.6 +2.4
SOC *e* 05 55 55.9
SOC *e*PPP 05 57 34.0
SOC *e*S S 06 02 36.8 +0.4
SOC *e* 06 03 09.6
SOC *e*SSS 06 10 27.1
SOC pmax pmax
comp=Z,25nm,0.9s,mb5.1
SOC MLR MLR
comp=Z,645nm,21.0s,MS4.9
FFC Flin Flon 74.34 33 *eP* **P 05 53 13.1 -0.5**
FFC *e**PP pP 05 53 21.7 -2.3
FFC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
FFC Flin Flon 74.34 33 *eP* **P 05 53 13.1 -0.5**
comp=Z,6.6nm,0.9s,mb4.6
FFC *ep*P pP 05 53 21.7 -2.2
HRY Holter Researc 74.48 43 *eP* **P 05 53 15.2 +0.7**
HRY *ep*P pP 05 53 24.7 0.0
HLID Hailey 74.86 47 *eP* **P 05 53 17.5 +0.9**
comp=Z,5.1nm,1.3s,mb4.3
NB2 NORSAR Subarra 74.99 337 P **P 05 53 16.9 -0.4**
comp=Z,14nm,0.8s,mb4.9,baz=40,slow=5.9
NOA NORSAR Array B 74.99 337 P **P 05 53 16.9 -0.5**
comp=Z,10nm,0.8s,mb4.8,baz=39,slow=5.7,SNR=22
NOA pP pP 05 53 28.8 +1.0
comp=Z,9.4nm,0.7s,baz=39,slow=5.8,SNR=11
AKASG Malin Array Be 75.02 322 P **P 05 53 17.2 -0.3**
comp=Z,13nm,0.6s,mb5.0,baz=47,slow=5.7,SNR=33
AKASG Malin Array Be 75.02 322 *i* P **P 05 53 17.2 -0.3**
AKASG pmax pmax
comp=Z,13nm,0.6s
BOZ Bozeman (W) 75.23 44 *eP* **P 05 53 19.7 +1.0**
comp=Z,5.1nm,1.0s,mb4.4
NAO01 NORSAR Array S 75.24 337 *eP* **P 05 53 18.6 -0.2**
comp=Z,6.1nm,0.7s,mb4.6
NVAR Mina Array Bea 75.40 53 P **P 05 53 20.6 +0.9**
comp=Z,2.2nm,0.8s,mb4.2,baz=276,slow=6.9,SNR=11
NVAR pP pP 05 53 32.0 +1.9
comp=Z,4.4nm,0.8s,baz=289,slow=6.1,SNR=12
MNV Mina 75.50 53 *eP* **P 05 53 21.3 +1.0**
comp=Z,9.2nm,1.2s,mb4.6
MNV *ep*P pP 05 53 31.3 +0.7
SUW Suwalki 75.64 328 *eP* **P 05 53 20.9 -0.2**
MOOW Moose Ponds 76.88 45 *eP* **P 05 53 29.5 +1.4**
comp=Z,7.1nm,1.3s,mb4.4
LOHW Long Hollow 77.05 45 *eP* **P 05 53 29.9 +0.8**
comp=Z,1.7nm,0.7s,mb4.1
SNOW Snow King Moun 77.05 45 *eP* **P 05 53 29.2 +0.1**
comp=Z,4.7nm,0.9s,mb4.4
MALT Malatya 77.37 308 *eP* **P 05 53 31.4 +0.6**
MALT pmax pmax
comp=Z,14nm,1.1s,mb4.8
MALT Malatya 77.37 308 *eP* **P 05 53 31.4 +0.5**
comp=Z,14nm,1.1s,mb4.8
LAO LASA Array 77.53 41 *eP* **P 05 53 32.5 +0.7**
comp=Z,5.9nm,0.8s,mb4.6
HWUT Hardware Ranch 77.71 47 *eP* **P 05 53 34.4 +1.6**
comp=Z,10nm,1.1s,mb4.7
HWUT *ep*P pP 05 53 42.5 -0.7
DUG Dugway 77.82 49 *eP* **P 05 53 34.1 +0.7**
DUG *e**PP pP 05 53 42.4 -1.4
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
DUG Dugway 77.82 49 *eP* **P 05 53 34.1 +0.7**
comp=Z,7.1nm,0.8s,mb4.7
DUG *ep*P pP 05 53 42.4 -1.3
BW06 Boulder Array 78.17 45 *eP* **P 05 53 35.4 0.0**
comp=Z,4.7nm,1.1s,mb4.3
PDAR Pinedale Array 78.17 45 P **P 05 53 35.2 -0.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=267,slow=2.5,SNR=14
KWP Kalwaria 78.86 325 *eP* **P 05 53 40.2 +1.1**
ARUT Antelope Range 78.88 51 *eP* **P 05 53 39.8 +0.5**
NEN Nelson 79.27 54 *eP* **P 05 53 42.3 +1.0**
NEN *ep*P pP 05 53 50.7 -1.1
BR131 Keskin Array S 79.48 312 *eP* **P 05 53 42.7 +0.2**
comp=Z,5.6nm,0.9s,mb4.5
BRTR Keskin Array B 79.48 312 P **P 05 53 42.5 -0.1**
comp=Z,6.7nm,0.9s,mb4.6,baz=99,slow=5.1,SNR=9.3
KOLS Kolnicke sedl 79.55 324 *eP* **P 05 53 43.9 +1.0**
KOLS *ep*P pP 05 53 54.4 +1.1
STHS Stebnicka Huta 79.69 325 *eP* **P 05 53 44.3 +0.6**
OJC Ojcow 79.78 326 *eP* **P 05 53 44.7 +0.5**
SRU San Rafael 79.88 49 *eP* **P 05 53 46.0 +1.3**
comp=Z,12nm,1.1s,mb4.7
SRU *ep*P pP 05 53 53.9 -1.2
CRVS Cervenica-Dubn 79.96 325 *eP* **P 05 53 45.3 +0.2**
ULM Lac du Bonnet 80.14 33 P **P 05 53 45.7 -0.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=295,slow=3.6,SNR=4.9
KECS Kecovo 80.71 325 *eP* **P 05 53 49.2 0.0**
KECS *es*P sP 05 54 03.5 +0.1
OKC Ostrava-Krasne 80.80 327 *eP* **P 05 53 48.3 -1.3**
BSEG Bad Segeberg 80.84 333 *eP* **P 05 53 49.9 0.0**
comp=Z,8.0nm,1.1s,mb4.6
KSP Ksiaz 80.86 328 *eP* **P 05 53 50.7 +0.7**
KSP Ksiaz 80.86 328 *eP* **P 05 53 50.5 +0.5**
MORC Moravsky Berou 81.11 327 *eP* **P 05 53 51.8 +0.6**
comp=Z,5.5nm,1.1s,mb4.4
MORC *e*PcP PcP 05 53 56.1 -1.4
DPC Dobruska-Polom 81.21 328 *eP* **P 05 53 52.6 +0.8**
DPC *ep*P pP 05 54 01.9 -0.4
UPC Upice 81.23 328 *eP* **P 05 53 52.2 +0.3**
UPC *ep*P pP 05 54 02.3 -0.1
VYHS Vyhne 81.46 326 *eP* **P 05 53 53.8 +0.6**
VYHS *e* 05 54 10.0
BRG Berggiesshubel 81.82 330 *eP* **P 05 53 55.0 0.0**
comp=Z,3.0nm,0.9s,mb4.2
PVCC Panska Ves 81.82 329 *eP* **P 05 53 55.6 +0.6**
CLL Collm 81.86 330 *eP* **P 05 53 55.0 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 81.86 330 *i* P **P 05 53 54.8 -0.5**
comp=Z,16nm,0.9s,mb5.0
CLL *ep*P pP 05 54 06.0 +0.2
CLL *es*P sP 05 54 10.0 +0.4
CLL Lm 06 33 00.0
comp=Z,500nm,18.4s
PRU Pruhonice 82.24 329 *eP* **P 05 53 57.5 +0.2**
PRU *ep*P pP 05 54 08.2 +0.5
TREC Trest 82.36 328 *eP* **P 05 53 58.4 +0.5**
CLZ Clausthal 82.48 332 *eP* **P 05 53 58.5 0.0**
comp=Z,10.0nm,1.2s,mb4.6
NKC Novy Kostel 82.92 330 *eP* **P 05 54 00.9 +0.1**
MOX Moxa 82.93 331 *eP* **P 05 54 00.6 -0.3**
comp=Z,3.0nm,0.9s,mb4.3
KHC Kasperske Hory 83.30 329 *eP* **P 05 54 02.8 0.0**
KHC pP pP 05 54 12.0 -1.3
KHC Kasperske Hory 83.30 329 *eP* **P 05 54 02.8 0.0**
KHC *e* pP 05 54 12.0 -1.3
ROTZ Rotzenmuhle 83.38 330 *eP* **P 05 54 03.3 +0.1**
comp=Z,12nm,1.4s,mb4.7
GEC2 GERESS Array S 83.47 328 *eP* **P 05 54 03.4 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
GERES GERESS Array B 83.47 328 P **P 05 54 03.6 -0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=34,slow=4.8,SNR=13
WET Wettzell 83.58 329 *eP* **P 05 54 04.7 +0.5**
comp=Z,3.0nm,1.1s,mb4.3
WET Wettzell 83.58 329 *eP* **P 05 54 04.6 +0.4**
comp=Z,3.0nm,1.1s,mb4.3
SDCO Great Sand Dun 83.77 47 *eP* **P 05 54 06.1 +0.9**
comp=Z,4.0nm,1.1s,mb4.5
SDCO *ep*P pP 05 54 13.8 -1.9
GRA1 Grafenberg Arr 83.84 330 *eP* **P 05 54 06.0 +0.5**
comp=Z,15nm,1.0s,mb5.1
GRF Grafenberg Arr 83.84 330 *eP* **P 05 54 06.0 +0.5**
comp=Z,15nm,1.0s,mb5.1
TUC Tucson 83.98 54 *eP* **P 05 54 07.2 +0.9**
comp=Z,6.3nm,1.4s,mb4.5
TUC *ep*P pP 05 54 15.4 -1.3
TNS Taunus Mts 84.50 332 *eP* **P 05 54 09.0 +0.1**
comp=Z,4.0nm,1.0s,mb4.5
PERS Pernice 84.53 326 *eP* **P 05 54 08.9 -0.1**
VAY Valandovo 84.73 319 *eP* **P 05 54 09.9 -0.2**
EIL Elat 84.92 303 *eP* **P 05 54 11.3 +0.4**
comp=Z,110nm,0.8s,mb6.0
LEGS Legarje 84.96 326 *eP* **P 05 54 10.8 -0.4**
CRES Cresnjev 84.99 325 *eP* **P 05 54 10.9 -0.4**
ANMO Albuquerque 85.03 50⇑ *eP* **P 05 54 14.0 +2.4**
ANMO Albuquerque 85.03 50 *eP* **P 05 54 13.2 +1.6**
comp=Z,2.1nm,1.1s,mb4.2
ANMO *ep*P pP 05 54 20.8 -1.3
GIVF Givet 85.94 334 *eP* **P 05 54 15.4 -0.7**
BFO Black Forest 86.08 331 *eP* **P 05 54 16.6 -0.1**
comp=Z,6.0nm,1.1s,mb4.7
SCHQ Schefferville 86.10 16 P **P 05 54 16.9 0.0**
comp=Z,3.1nm,0.8s,mb4.6,baz=259,slow=6.0,SNR=4.6
CDF Champ du Feu 86.42 331 *eP* **P 05 54 17.9 -0.5**
comp=Z,19nm,0.9s,mb5.0
CDF Champ du Feu 86.42 331 *eP* **P 05 54 17.9 -0.5**
comp=Z,9.4nm,0.9s,mb5.0
HINF Hinteralfeld 87.07 331 *eP* **P 05 54 20.7 -0.9**
HAU Haudompre 87.11 332 *eP* **P 05 54 21.8 0.0**
FLN La Foliniere 88.91 336 *eP* **P 05 54 29.6 -0.8**
LDF La Druitiere 88.93 336 *eP* **P 05 54 29.6 -0.9**
SSF Saint Saulge 88.97 333 *eP* **P 05 54 30.1 -0.5**
LPL La Plagne 89.00 330 *eP* **P 05 54 30.4 -0.4**
comp=Z,10nm,0.8s,mb4.9
LPL La Plagne 89.00 330 *eP* **P 05 54 30.4 -0.4**
comp=Z,5.3nm,0.8s,mb4.9
LPG La Plagne 89.01 330 *eP* **P 05 54 30.6 -0.2**
SMF Signal de Mont 89.19 332 *eP* **P 05 54 31.2 -0.5**
AVF Avril sur Loir 89.25 333 *eP* **P 05 54 31.6 -0.4**
GRR Gorron 89.36 336 *eP* **P 05 54 32.2 -0.3**
comp=Z,18nm,1.0s,mb5.0
GRR Gorron 89.36 336 *eP* **P 05 54 32.2 -0.3**
comp=Z,8.9nm,1.0s,mb5.0
MBDF Montbardon 89.63 330 *eP* **P 05 54 33.2 -0.6**
comp=Z,14nm,1.0s,mb4.9
MBDF Montbardon 89.63 330 *eP* **P 05 54 33.2 -0.6**
comp=Z,6.9nm,1.0s,mb4.9
BGF Bois d'Agland 89.63 333 *eP* **P 05 54 33.3 -0.5**
ORIF Oris-en-Rattie 89.84 330 *eP* **P 05 54 34.0 -0.7**
SGMF Saint Gilles 90.02 337 *eP* **P 05 54 35.3 -0.3**
TCF Toulx Ste Croi 90.10 333 *eP* **P 05 54 35.6 -0.3**
ROSF Rostrenen 90.17 337 *eP* **P 05 54 36.0 -0.3**
VIVF Saint-Julien-l 90.37 331 *eP* **P 05 54 36.7 -0.5**
comp=Z,17nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.37 331 *eP* **P 05 54 36.7 -0.5**
comp=Z,8.4nm,1.0s,mb5.0
QUIF Quistinic 90.51 337 *eP* **P 05 54 37.4 -0.5**
TXAR Lajitas Array 90.54 52 P **P 05 54 38.9 +0.9**
comp=Z,1.1nm,0.8s,mb4.2,baz=287,slow=3.2,SNR=9.5
TXAR Lajitas Array 90.54 52 P **P 05 54 38.9 +0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
FRF La Foret Royal 90.64 329 *eP* **P 05 54 37.2 -1.3**
MFF Saint Martin d 90.67 335 *eP* **P 05 54 38.4 -0.2**
comp=Z,33nm,1.3s,mb5.2
MFF Saint Martin d 90.67 335 *eP* **P 05 54 38.4 -0.2**
comp=Z,17nm,1.3s,mb5.2
LMR La Mourre 90.88 329 *eP* **P 05 54 38.5 -1.1**
RJF Les Rejaudoux 91.19 333 *eP* **P 05 54 40.8 -0.2**
comp=Z,24nm,1.1s,mb5.1
RJF Les Rejaudoux 91.19 333 *eP* **P 05 54 40.8 -0.2**
comp=Z,12nm,1.1s,mb5.1
CAF Calviac 91.31 333 *eP* **P 05 54 41.8 +0.2**
comp=Z,21nm,1.2s,mb5.0
CAF Calviac 91.31 333 *eP* **P 05 54 41.8 +0.2**
comp=Z,10nm,1.2s,mb5.0
LASF Ste Croix 91.34 331 *eP* **P 05 54 41.6 -0.1**
comp=Z,53nm,1.5s,mb5.3
LFF La Frestale 91.78 333 *eP* **P 05 54 43.8 0.0**
MTLF Montolieu 92.60 332 *eP* **P 05 54 47.5 0.0**
comp=Z,8.3nm,0.9s,mb4.8
MTLF Montolieu 92.60 332 *eP* **P 05 54 47.5 0.0**
comp=Z,4.2nm,0.9s,mb4.9
ETSF Etsaut 94.02 333 *eP* **P 05 54 55.0 +0.9**
comp=Z,18nm,1.2s,mb5.1
ETSF Etsaut 94.02 333 *eP* **P 05 54 55.0 +0.9**
comp=Z,8.8nm,1.2s,mb5.1
TORD Torodi Ar. Bea 117.99 315 PKP PKPdf 06 00 22.4 -0.2
comp=Z,0.3nm,0.7s,baz=303,slow=34,SNR=3.4
LPAZ La Paz 147.01 61 PKPbc PKPbc 06 01 19.5 +0.9
comp=Z,2.1nm,0.6s,baz=281,slow=2.6,SNR=6.4
LPAZ La Paz 147.01 61 PKP2 PKPab 06 01 19.5 -0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.6s

NEIC ***03*** *05:41:55.3±0.4, 227N×96.99E, h30km, mb4.5/1, Error ellipse: s-maj=10.4km s-min=7.8km az=33.0*
BJI ***03*** *05:41:55.0, 230N×97.00E, h30km, mB4.9, mb4.8, Ms4.9, Msz4.7*
ISCJB ***03*** *05:41:57.3±1.9, 232N±008×97.13E±009, h62km±17km, mb4.5/19, Error ellipse: s-maj=17.1km s-min=11.0km az=111.4*
IDC ***03*** *05:41:57.9±3.4, 237N×97.10E, h51km±31km, mb4.2/17, mb1 4.2/17, mb1mx4.1/24, mbtmp4.4/17, MS4.8/1, Ms1 5.0/1, ms1mx3.5/27, Error ellipse: s-maj=21.4km s-min=14.4km az=65.0*
ISC 03 05:41:58.8±1.8, 236N±008×9715E±009, h56km±16km, n38, σ0∓69/33, mb4.5/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.82**	**76**	P		**Pn**		**05 42 28.1**	**+0.3**
	40nm,0.3s,baz=269,slow=4.9,SNR=64								
PSI				LR		LR	LR	05 43 23.3	
	comp=Z,2μm,21.2s,baz=272,slow=46								
KULM	**Kulim**	**4.54**	**50**	*eP*n		**Pn**		**05 43 05.2**	**+0.1**
KKM	**Kota Kinabalu**	**19.36**	**78**	*eP*		**Pn**		**05 46 21.2**	**0.0**
KMI	**Kunming**	**23.27**	**13**	P		**P**		**05 47 02.2**	**+0.7**
KMI				AP				05 47 06.8	
KMI				AMB		AMB			
	comp=Z,15nm,0.9s,mb4.4								
HYB	**Hyderabad**	**23.61**	**311**	*i* P		**P**		**05 47 05.0**	**+0.3**
HYB				*es*		**S**		**05 51 16.0**	**+1.0**
HYB	**Hyderabad**	**23.61**	**311**	*eP*		**P**		**05 47 05.0**	**+0.3**
JOW	**Kunigami**	**38.49**	**48**	P		**P**		**05 49 15.3**	**-0.2**
	comp=Z,18nm,0.7s,mb4.9,baz=220,slow=7.9,SNR=3.8								
NWAO	**Narrogin (SRO)**	**39.90**	**153**	P		**P**		**05 49 27.4**	**+0.2**
	comp=Z,16nm,1.0s,mb4.7,baz=306,slow=7.9,SNR=6.7								
BJT	**Baijiatuau**	**41.27**	**22**	*eP*		**P**		**05 49 38.7**	**+0.3**
WMQ	**Urumqi**	**42.13**	**350**	P		**P**		**05 49 46.0**	**+0.5**
WMQ				AP		pP		05 49 56.0	-4.1
WMQ				XP		sP		05 50 00.0	-6.6
WMQ				PP		PP		05 51 27.0	+3.1
WMQ				S		**S**		**05 56 04.0**	**+2.8**
WMQ				XS		sS		05 56 21.0	-4.7
WMQ				SS		SS		05 59 08.0	-2.5
WMQ				AMB		AMB			
	comp=Z,75nm,0.9s,mb5.3								
WMQ				AMB		AMB			
	comp=Z,107nm,5.0s								
WMQ				LR		LR			
	comp=N,312nm,9.0s								
WMQ				LR		LR			
	comp=E,327nm,8.0s								
WMQ				LR		LR			
	comp=Z,413nm,8.0s								
WRA	**Warramunga Arr**	**42.69**	**123**	P		**P**		**05 49 50.2**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.2,baz=301,slow=9.2,SNR=8.6								
WRAB	**Tennant Creek**	**42.70**	**123**	*eP*		**P**		**05 49 50.1**	**0.0**
WB2	**Warramunga Arr**	**42.70**	**123**	*eP*		**P**		**05 49 51.2**	**+1.0**
ASAR	**Alice Springs**	**44.13**	**128**	P		**P**		**05 50 01.9**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.7,baz=313,slow=7.3,SNR=4.8								
AAK	**Ala-Archa**	**44.93**	**336**	*eP*		**P**		**05 50 09.0**	**+1.0**
SONM	**Songino Array**	**46.00**	**9**	P		**P**		**05 50 15.8**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.3,baz=191,slow=9.2,SNR=16								
SONM				PcP		PcP		05 51 52.6	+0.2
	comp=Z,0.6nm,0.4s,baz=195,slow=3.6,SNR=4.8								
MKAR	**Makanchi Array**	**46.11**	**346**	P		**P**		**05 50 16.8**	**-0.6**
	comp=Z,9.8nm,0.7s,mb4.8,baz=156,slow=8.1,SNR=11								
ZAL	**Zalesovo**	**52.41**	**351**	P		**P**		**05 51 04.3**	**-1.1**
	comp=Z,6.0nm,0.4s,mb4.9,baz=308,slow=5.8,SNR=6.8								
STKA	**Stephens Creek**	**54.17**	**133**	*eP*		**P**		**05 51 17.2**	**-1.1**
	comp=Z,3.8nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**54.17**	**133**	P		**P**		**05 51 16.8**	**-1.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=316,slow=13,SNR=3.3								
STKA	**Stephens Creek**	**54.17**	**133**	*eP*		**P**		**05 51 16.9**	**-1.4**
BVAR	**Borovoye Array**	**55.15**	**341**	P		**P**		**05 51 24.0**	**-1.4**
	comp=Z,6.3nm,0.6s,mb4.8,baz=140,slow=12,SNR=4.1								
KMBO	**Kilima Mbogo**	**59.99**	**267**	P		**P**		**05 51 59.8**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=41,slow=10.0,SNR=5.6								
BR131	**Keskin Array S**	**68.31**	**312**	*eP*		**P**		**05 52 52.8**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.4								
BRTR	**Keskin Array B**	**68.31**	**312**	P		**P**		**05 52 53.0**	**-1.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=117,slow=5.5,SNR=4.4								
LSZ	**Lusaka**	**70.40**	**253**	P		**P**		**05 53 07.2**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=121,slow=5.2,SNR=4.7								
BOSA	**Boshof**	**75.32**	**240**	P		**P**		**05 53 36.2**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.4,baz=54,slow=5.3,SNR=4.5								
FINES	**FINESS Array B**	**78.96**	**332**	P		**P**		**05 53 56.2**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=91,slow=6.2,SNR=4.6								
ARCES	**ARCESS Array B**	**81.44**	**340**	P		**P**		**05 54 09.3**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.2,baz=88,slow=4.4,SNR=7.3								
NOA	**NORSAR Array B**	**85.98**	**331**	P		**P**		**05 54 32.8**	**-0.2**
	comp=Z,3.4nm,1.0s,mb4.5,baz=88,slow=5.8,SNR=2.8								
TORD	**Torodi Ar. Bea**	**94.78**	**283**	P		**P**		**05 55 14.7**	**+0.4**
	comp=Z,1.1nm,1.0s,mb4.2,baz=68,slow=5.4,SNR=4.7								
YKA	**Yellowknife Ar**	**110.99**	**15**	PP		PP		06 00 57.3	-7.3
	comp=Z,0.3nm,0.7s,baz=332,slow=7.3,SNR=4.9								
NVAR	**Mina Array Bea**	**127.87**	**35**	PKP		PKPdf		06 00 59.4	+1.2
	comp=Z,0.2nm,0.3s,baz=25,slow=0.9,SNR=3.7								
PDAR	**Pinedale Array**	**129.02**	**25**	PKP		PKPdf		06 01 02.0	+1.7
	comp=Z,0.4nm,0.5s,baz=130,slow=3.2,SNR=4.2								
TXAR	**Lajitas Array**	**142.71**	**31**	PKhKP				06 01 22.7	
	comp=Z,0.3nm,0.4s,baz=186,slow=0.2,SNR=14								
TXAR	**Lajitas Array**	**142.71**	**31**	PKP		PKPdf		06 01 22.7	-3.0
BDFB	**Brasilia**	**143.24**	**247**	PKhKP				06 01 24.2	
	comp=Z,1.7nm,0.9s,baz=214,slow=4.6,SNR=3.0								
CPUP	**Villa Florida**	**145.82**	**223**	PKPbc		PKPbc		06 01 31.8	+0.1
	comp=Z,37nm,0.8s,baz=106,slow=4.7,SNR=35								

IDC ***03*** *05:51:12.6±2.8, 2021S×17802W, h532km±32km, mb3.4/8, mb1 3.7/9, mb1mx3.5/16, mbtmp4.3/9, Error ellipse: s-maj=30.1km s-min=16.5km az=152.0*
ISCJB ***03*** *05:51:16.0±2.5, 204S±02×1780W±0.1, h591km±34km, mb4.0/10, Error ellipse: s-maj=29.3km s-min=17.4km az=143.3*
NEIC ***03*** *05:51:18.1±3.3, 2042S×17808W, h604km±40km, mb4.1/1, Error ellipse: s-maj=28.0km s-min=20.8km az=176.0*
ISC 03 05:51:15.9±2.2, 204S±02×1780W±01, h574km±28km, n19, σ1∓00/15, mb4.0/10, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.64**	**261**	P		**P**		**05 54 22.2**	**+0.8**
	1.2nm,0.3s,baz=93,slow=22,SNR=13								
URZ	**Urewera**	**18.34**	**192**	P		**P**		**05 54 54.7**	**-1.0**
	2.6nm,0.3s,baz=322,slow=4.2,SNR=13								
RPZ	**Rata Peaks**	**25.04**	**199**	P		**P**		**05 55 56.2**	**+0.6**
	7.4nm,0.8s,mb4.3,baz=82,slow=7.1,SNR=2.6								
CTA	**Charters Tower**	**33.54**	**264**	*i*P		**P**		**05 57 09.1**	**+0.2**
	7.9nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**37.88**	**244**	*eP*		**P**		**05 57 43.5**	**-1.3**
	2.5nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**37.88**	**244**	P		**P**		**05 57 43.4**	**-1.4**
	5.0nm,0.8s,mb4.1,baz=99,slow=11,SNR=7.4								
ASAR	**Alice Springs**	**44.59**	**257**	P		**P**		**05 58 38.2**	**+0.5**
	11nm,0.7s,mb4.5,baz=87,slow=8.5,SNR=104								
ASAR				PcP		PcP	PcP	06 00 08.7	+0.8
	0.4nm,0.5s,baz=102,slow=4.3,SNR=4.3								
ASAR				ScP		ScP	ScP	06 03 10.8	+5.0
	0.6nm,0.9s,baz=110,slow=3.7,SNR=4.1								
ASAR				S		**S**	**S**	**06 04 33.5**	**+1.2**
	0.5nm,0.8s,baz=95,slow=15,SNR=4.5								
WB2	**Warramunga Arr**	**44.65**	**262**	*i*P		**P**		**05 58 37.8**	**-0.3**
WRA	**Warramunga Arr**	**44.66**	**262**	P		**P**		**05 58 38.0**	**-0.2**
	5.0nm,0.3s,mb4.5,baz=96,slow=7.6,SNR=139								
NVAR	**Mina Array Bea**	**80.90**	**43**	P		**P**		**06 02 31.5**	**+0.7**
	1.3nm,0.8s,mb3.4,baz=232,slow=10,SNR=7.7								
TXAR	**Lajitas Array**	**86.95**	**57**	P		**P**		**06 03 02.4**	**+1.8**
	1.8nm,0.9s,mb3.8,baz=214,slow=7.2,SNR=12								
COLA	**College**	**88.06**	**12**	*eP*		**P**		**06 03 04.4**	**-1.4**
	1.6nm,0.6s,mb3.9								
ILAR	**Eielson Array**	**88.17**	**13**	P		**P**		**06 03 04.5**	**-1.8**
	0.2nm,0.4s,mb3.2,baz=212,slow=5.5,SNR=8.1								
PDAR	**Pinedale Array**	**88.83**	**43**	P		**P**		**06 03 10.1**	**+0.7**
	1.3nm,0.8s,mb3.8,baz=222,slow=2.2,SNR=8.1								
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP		PKiKP		06 08 43.9	-0.8
	0.2nm,0.5s,baz=14,slow=0.3,SNR=3.6								
BVAR	**Borovoye Array**	**119.00**	**320**	PKP		PKPdf		06 08 59.1	-0.7
	0.4nm,0.4s,baz=180,slow=1.5,SNR=4.5								
AKASG	**Malin Array Be**	**142.91**	**331**	PKhKP				06 09 41.8	
	1.8nm,0.6s,baz=43,slow=4.1,SNR=16								
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc		PKPbc		06 09 54.5	+0.4
	0.9nm,0.6s,baz=136,slow=6.5,SNR=5.8								
GERES	**GERESS Array B**	**150.08**	**344**	PKPbc		PKPbc		06 10 02.7	+0.4
	0.5nm,0.6s,baz=90,slow=1.3,SNR=5.8								

NIED ***03*** *06:10:00, 3620N×14160E, h23km, Mw5.2 Best double couple: M0 7.77000×10^16 NP1:φ=24.00000°, δ69.00000°, λ83.00000°. NP2:φ=223.00000°, δ22.00000°, λ108.00000°.*
JMA ***03*** *06:10:03.6±0.2, 3623N×14161E, h63km±4km, M5.3*
JMA Felt II J1.
BJI ***03*** *06:10:03.4, 36.16N×14121E, h16km, mB5.3, mb5.2, Ms5.2, Msz5.1*
MOS ***03*** *06:10:03.7±1.0, 36.18N×14157E, h32km, mb5.5/44, MS5.3/26, Error ellipse: s-maj=8.6km s-min=4.6km az=118.2*
ISCJB ***03*** *06:10:04.6±0.1, 3620N±002×14155E±002, h36km, mb5.2/202, MS5.0/58, Error ellipse: s-maj=3.2km s-min=2.4km az=126.3*
IDC ***03*** *06:10:05.6±0.4, 36.13N×14154E, h35km±2km, mb4.7/26, mb1 4.8/31, mb1mx4.8/32, mbtmp4.9/31, ML4.3/5, MS4.8/17, Ms1 4.8/17, ms1mx4.7/24, Error ellipse: s-maj=11.4km s-min=9.5km az=109.0*
NEIC ***03*** *06:10:06.0±0.1, 36.18N×14152E, mb5.2/113, MS4.9/14, MW5.2(NIED), Error ellipse: s-maj=3.9km s-min=2.6km az=163.0*
NEIC Recorded [2 JMA] in Chiba, Fukushima, Ibaraki, Miyagi and Tochigi; [1 JMA] in Gumma, Kanagawa, Nagano, Saitama and Tokyo Prefectures.
HRVD ***03*** *06:10:06.1±0.2, 36.15N×14189E, h32km, MW5.3/77, Centroid moment Tensor Solution. LP body waves: s60,c94; Mantle waves: s77,c155; Half duration: 1±1 Moment tensor: Scale 10^17 Nm; Mrr 0.67±.02; Mθθ -0.16±.01; Mφφ -0.51±.02; Mrθ 0.27±.02; Mθφ -0.38±.01; Mφr 0.69±.02; Best double couple: M0 1.03500×10^17 NP1:φ=222.00000°, δ23.00000°, λ107.00000°. NP2: φ=24.00000°, δ68.00000°, λ83.00000°. Principal axes: T 1.0010, Plg66.0000°, Azm282.0000°; N 0.0690, Plg6.0000°, Azm

JGK	**Kuni**	**2.37 279**	P	**Pn**	**06 10 43.0**	**+0.4**
JNS	**Sasagawa**	**2.39 312**	⇑P	**Pn**	**06 10 43.0**	**+0.1**
JIZS	**Izushimoda**	**2.65 236**	P	**Pn**	**06 10 46.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.71 278**	Pn	**Pn**	**06 10 48.0**	**+0.7**
	262nm,0.3s,baz=99,slow=8.8,SNR=850					
MJAR			Sn	**Sn**	**06 11 22.7**	**+3.8**
	130nm,0.3s,baz=199,slow=21,SNR=6.4					
MAJO	**Matsushiro**	**2.71 278**	*e*Pn	**Pn**	**06 10 48.3**	**+0.9**
MAJO			*e*Sn	**Sn**	**06 11 21.2**	**+2.3**
MAT	**Matsushiro**	**2.71 278**	P	**Pn**	**06 10 47.9**	**+0.5**
MAT			S	**Sn**	**06 11 18.6**	**-0.3**
MAT	**Matsushiro**	**2.71 278**	P	**Pn**	**06 10 48.2**	**+0.8**
MAT	**Matsushiro**	**2.71 278**	*e*P	**Pn**	**06 10 48.0**	**+0.6**
MAT			*e*S	**Sn**	**06 11 22.0**	**+3.1**
JNT	**Takato**	**2.78 264**	⇓P	**Pn**	**06 10 49.6**	**+1.2**
JNG	**Nsakai**	**2.79 275**	⇓P	**Pn**	**06 10 49.2**	**+0.8**
JYK	**Kaneyama**	**2.84 341**	⇑P	**Pn**	**06 10 48.9**	**-0.3**
OFUJ	**Ofunato**	**2.85 2**	⇑P	**Pn**	**06 10 47.1**	**-2.1**
JJN	**Nakama**	**2.86 289**	⇑P	**Pn**	**06 10 50.9**	**+1.6**
SHZ3	**Shizuoka 3**	**2.96 248**	P	**Pn**	**06 10 52.1**	**+1.4**
JNY	**Yasuok**	**3.12 255**	⇑P	**Pn**	**06 10 54.5**	**+1.5**
JSD	**Sado**	**3.19 305**	P	**Pn**	**06 10 54.1**	**+0.2**
JGN	**Niukaw**	**3.42 271**	P	**Pn**	**06 10 58.5**	**+1.4**
JHJ	**Hachijo jima 2**	**3.43 206**	Pn	**Pn**	**06 10 56.0**	**-1.1**
	148nm,0.3s,baz=235,slow=11,SNR=28					
JHJ			Sn	**Sn**	**06 11 34.0**	**-2.5**
	999nm,0.3s,baz=76,slow=23,SNR=14					
JHJ			LR	LR	06 11 50.2	
	comp=Z,2μm,21.3s,baz=360,slow=32					
JGF	**Kuroka**	**3.46 261**	⇑P	**Pn**	**06 10 59.5**	**+1.9**
JAO	**Obara**	**3.62 256**	P	**Pn**	**06 11 01.4**	**+1.6**
JGM	**Miyama**	**3.95 264**	P	**Pn**	**06 11 06.3**	**+1.9**
JKN2	**Miekihoku**	**4.75 247**	P	**Pn**	**06 11 16.6**	**+1.2**
ERM	**Erimo**	**5.91 12**	Pn	**Pn**	**06 11 29.5**	**-1.8**
	1μm,0.6s,SNR=6.4					
JHS	**Saijyo**	**6.97 262**	P	**Pn**	**06 11 48.1**	**+2.2**
JNA	**Nagahama**	**7.91 253**	P	**Pn**	**06 12 01.3**	**+2.5**
ASAJ	**Asahikawa**	**7.92 6**	Pn	**Pn**	**06 11 56.4**	**-2.5**
	7.1nm,0.3s,baz=220,slow=14,SNR=14					
ASAJ			Sn	**Sn**	**06 13 27.7**	**+0.6**
	7.0nm,0.3s,baz=72,slow=19,SNR=3.6					
ASAJ			LR	LR	06 15 54.5	
	comp=Z,8μm,19.7s,baz=185,slow=44					
ASAJ	**Asahikawa**	**7.92 6**	P	**Pn**	**06 11 56.4**	**-2.5**
ASAJ					06 13 27.7	
ASAJ			pmax	pmax		
	comp=Z,7.0nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,8μm,19.7s					
YUK	**Yuzh-Kuril'sk**	**8.46 22**	*e*P	**Pn**	**06 12 03.6**	**-2.8**
YUK			MLR	MLR		
	comp=N,11μm,16.0s					
YUK			MLR	MLR		
	comp=E,6μm,16.0s					
YUK			MLR	MLR		
	comp=Z,8μm,16.0s					
CBIJ	**Chichi jima**	**9.12 176**	Pn	**Pn**	**06 12 12.1**	**-3.3**
	comp=Z,45nm,0.3s,baz=45,slow=5.2,SNR=16					
CBIJ			Sn	**Sn**	**06 13 46.1**	**-11**
	comp=Z,116nm,0.3s,baz=266,slow=23,SNR=9.6					
JNU	**Nakatsue**	**9.32 254**	Pn	**Pn**	**06 12 15.9**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=50,slow=11,SNR=2.3					
JNU			LR	LR	06 16 11.3	
	comp=Z,11μm,18.9s,baz=71,slow=39					
VLA	**Vladivostok**	**10.13 316**κ	*i*P	**Pn**	**06 12 31.4**	**+2.2**
VLA			*e*		06 14 30.1	
VLA			pmax	pmax		
	comp=Z,267nm,1.3s					
KUR	**Kuril'sk**	**10.19 26**	P	**Pn**	**06 12 21.8**	**-8.2**
KUR			pmax	pmax		
	comp=Z,110nm,0.8s					
YSS	**Yuzh-Sakhalins**	**10.75 4**	P	**Pn**	**06 12 34.5**	**-3.2**
YSS			*e*S	**Sn**	**06 14 35.0**	**-1.7**
YSS			pmax	pmax		
	comp=N,90nm,1.0s					
YSS			pmax	pmax		
	comp=Z,90nm,1.0s					
YSS			MLR	MLR		
	comp=Z,3μm,16.0s					
YSS			MLR	MLR		
	comp=E,4μm,21.0s					
YSS	**Yuzh-Sakhalins**	**10.75 4**	Pn	**Pn**	**06 12 35.8**	**-1.9**
	comp=E,74nm,0.9s					
KS15	**Wonju Array Si**	**11.02 280**	Pn	**Pn**	**06 12 41.2**	**-0.1**
MDJ	**Mudanjiang**	**12.36 316**	P	**Pn**	**06 13 01.0**	**+1.3**
MDJ			AP		06 13 04.6	
MDJ			S	**Sn**	**06 15 19.1**	**+3.0**
MDJ			SS		06 15 32.7	
MDJ			SCP	ScP	06 22 09.2	+0.2
MDJ			PCS	PcS	06 22 13.0	-0.3
MDJ			SCS	ScS	06 25 47.4	+2.3
MDJ			AMB	AMB		
	comp=Z,69nm,1.5s					
MDJ			AMB	AMB		
	comp=Z,567nm,10.7s					
MDJ			LR	LR		
	comp=N,6μm,18.0s					
MDJ			LR	LR		
	comp=E,4μm,18.9s					
MDJ			LR	LR		
	comp=Z,9μm,16.7s					
MDJ	**Mudanjiang**	**12.36 316**	*e*Pn	**Pn**	**06 13 01.1**	**+1.3**
	comp=Z,102nm,1.0s					
UGL	**Uglegorsk**	**12.85 2**	*e*P	**Pn**	**06 13 16.0**	**+10**
UGL			pmax	pmax		
	comp=Z,39nm,0.5s					
UGL			MLR	MLR		
	comp=N,4μm,16.0s					
UGL			MLR	MLR		
	comp=Z,4μm,16.0s					
UGL			MLR	MLR		
	comp=E,3μm,20.0s					
CN2	**Changchun**	**14.45 306**	⇑P	**Pn**	**06 13 26.7**	**-1.5**
CN2			*e*XP	sP	06 13 41.0	-7.9
CN2			*e*S	**Sn**	**06 16 06.7**	**-0.4**
CN2			AMB	AMB		
	comp=Z,20nm,1.2s					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,4μm,14.0s					
CN2			LR	LR		
	comp=E,6μm,14.0s					
CN2			LR	LR		
	comp=Z,7μm,16.0s					
JOW	**Kunigami**	**14.68 234**	Pn	**Pn**	**06 13 30.0**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=27,slow=11,SNR=3.7					
JOW			LR	LR	06 19 04.0	
	comp=Z,3μm,20.5s,baz=284,slow=37					
KLR	**Kul'dur**	**14.83 334**	*e*P	**Pn**	**06 13 27.8**	**-5.5**
KLR			*e*		06 16 21.5	
KLR			MLR	MLR		
	comp=Z,31μm,12.0s					
SNY	**Shenyang**	**15.03 297**	⇑P	**Pn**	**06 13 35.7**	**-0.3**
SNY			AMB	AMB		
	comp=Z,60nm,1.1s					
SNY			AMB	AMB		
	comp=Z,790nm,12.3s					
SNY			LR	LR		
	comp=N,6μm,15.0s					
SNY			LR	LR		
	comp=E,3μm,16.8s					
SNY			LR	LR		
	comp=Z,7μm,15.7s					
SSE	**Sheshan**	**17.70 259**	*e*P	**Pn**	**06 14 09.4**	**-0.3**
SSE			S	**S**	**06 17 24.9**	**-7.0**
SSE			SCS	ScS	06 25 57.8	-1.1
SSE			AMB	AMB		
	comp=Z,26nm,1.3s					
SSE			AMB	AMB		
	comp=Z,551nm,10.9s					
SSE			LR	LR		
	comp=N,3μm,20.8s					
SSE			LR	LR		
	comp=E,586nm,20.7s					
SSE			LR	LR		
	comp=Z,3μm,15.1s					
NJ2	**Nanjing**	**19.23 264**	*e*P	**Pn**	**06 14 26.0**	**-2.3**
NJ2			AP	pP	06 14 34.1	-2.7
NJ2			XP	sP	06 14 38.8	-2.9
NJ2			PP		06 14 44.5	
NJ2			S	**S**	**06 17 56.0**	**-6.9**
NJ2			XS	sS	06 18 09.0	-9.3
NJ2			AMB	AMB		
	comp=Z,20nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,770nm,5.7s					
NJ2			LR	LR		
	comp=N,7μm,19.7s					
NJ2			LR	LR		
	comp=E,6μm,18.6s					
NJ2			LR	LR		
	comp=Z,3μm,21.2s					
TIA	**Tai'an**	**19.70 277**	*e*P	**Pn**	**06 14 29.5**	**-4.4**
TIA			AMB	AMB		
	comp=Z,86nm,1.3s					
TIA			LR	LR		
	comp=N,2μm,12.0s					
TIA			LR	LR		
	comp=E,2μm,13.0s					
BJT	**Baijiatuau**	**20.30 288**	*e*P	**P**	**06 14 35.3**	**-3.5**
BJT			pmax	pmax		
	comp=Z,40nm,0.6s					
BJT	**Baijiatuau**	**20.30 288**	*e*Pn	**P**	**06 14 35.2**	**-3.5**
	comp=Z,40nm,0.6s					
HIA	**Hailar**	**20.55 316**	*e*P	**P**	**06 14 37.8**	**-3.7**
HIA			pmax	pmax		
	comp=Z,27nm,0.8s					
HIA			MLR	MLR		
	comp=Z,5μm,19.0s					
HIA	**Hailar**	**20.55 316**	*e*P	**P**	**06 14 37.8**	**-3.7**
	comp=Z,27nm,0.8s					
HIA			LR	LR		
	comp=Z,5μm,19.0s,MS4.9					
PET	**Petropavlovsk**	**20.65 30**	*e*P	**P**	**06 14 43.0**	**+0.4**
	comp=Z,143nm,1.4s					
PET			*e*pP		06 14 53.2	
PET			*e*sP	sP	06 15 00.7	+3.5
PET			LR	LR		
	comp=Z,2μm,21.0s,MS4.4					
YHNB	**Yeheng**	**20.82 242**	P	**P**	**06 14 40.6**	**-3.8**
QZH	**Quanzhou**	**22.68 247**	P	**P**	**06 15 01.4**	**-2.9**
QZH			*e*S	**S**	**06 19 03.0**	**-7.2**
QZH			LR	LR		
	comp=N,6μm,22.0s,MS5.2					
QZH			LR	LR		
	comp=E,6μm,17.4s,MS5.2					
QZH			LR	LR		
	comp=Z,8μm,20.0s,MS5.1					
GUMO	**Guam**	**22.74 172**	LR	LR	06 22 42.0	
	comp=Z,1μm,20.4s,MS4.3,baz=276,slow=33					
GUMO	**Guam**	**22.74 172**	P	**P**	**06 15 04.7**	**-0.3**
WHN	**Wuhan**	**23.37 264**	P	**P**	**06 15 08.3**	**-3.2**
WHN			LR	LR		
	comp=Z,9μm,15.3s,MS5.3					
NRGR	**Nerungri**	**23.37 336**	*e*P	**P**	**06 15 07.6**	**-4.0**
CLNS	**Chul'man**	**23.46 337**	*e*P	**P**	**06 15 08.1**	**-4.3**
CLNS			*e**PP		06 15 15.1	
CLNS			*e*		06 15 21.0	
CLNS			*e*		06 18 53.8	
CLNS			*e*S	**S**	**06 19 17.9**	**-5.0**
CLNS			*e*SS		06 20 12.4	
CLNS			*e*		06 26 21.4	
CLNS			pmax	pmax		
	comp=Z,143nm,1.0s,mb5.4					
CLNS			pmax	pmax		
	comp=N,142nm,1.2s					
CLNS			pmax	pmax		
	comp=E,42nm,1.2s					
CLNS			pmax	pmax		
	comp=Z,140nm,1.0s,mb5.3					
CLNS			pmax	pmax		
	comp=N,230nm,1.4s					
CLNS			pmax	pmax		
	comp=E,45nm,0.9s					
CLNS			smax			
	comp=N,316nm,11.3s					
CLNS			smax			
	comp=Z,481nm,14.1s					
CLNS			smax			
	comp=E,506nm,11.0s					
CLNS			MLR	MLR		
	comp=Z,4μm,13.0s,MS5.0					
CLNS			MLR	MLR		
	comp=N,1μm,14.0s,MS4.8					
CLNS			MLR	MLR		
	comp=E,2μm,10.0s,MS4.8					
HHC	**Hu-ho-hao-te**	**23.84 290**	⇓P	**P**	**06 15 15.9**	**0.0**
HHC			AP		06 15 20.7	
HHC			XP	sP	06 15 24.3	-6.8
HHC			PP		06 15 45.9	
HHC			PCP	PcP	06 18 55.3	-2.9
HHC			S	**S**	**06 19 21.7**	**-7.4**
HHC			XS	sS	06 19 36.1	-11
HHC			SS		06 20 10.8	
HHC			AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2					
HHC			AMB	AMB		
	comp=Z,275nm,8.4s					
HHC			LR	LR		
	comp=Z,4μm,14.4s,MS5.0					
MA2	**Magadan**	**24.12 12**c	*i*P	**P**	**06 15 17.7**	**-0.7**
MA2			pmax	pmax		
	comp=Z,66nm,1.3s,mb4.9					
MA2			MLR	MLR		
	comp=Z,1μm,15.0s,MS4.4					
MA2	**Magadan**	**24.12 12**	*e*P	**P**	**06 15 17.8**	**-0.6**
	comp=Z,43nm,0.8s,mb4.9					
BTO	**Baotou**	**25.01 290**	*e*P	**P**	**06 15 22.9**	**-3.6**
BTO			LR	LR		
	comp=N,308nm,11.0s,MS5.0					
BTO			LR	LR		
	comp=E,3μm,13.8s,MS5.0					
CIT	**Chita**	**25.34 317**	*e*P	**P**	**06 15 27.4**	**-2.1**
CIT			*e*	pP	06 15 40.0	-0.1
CIT			*e*		06 16 08.5	
CIT			pmax	pmax		
	comp=Z,225nm,1.6s,mb5.5					
XAN	**Xi'an**	**26.70 275**	P	**P**	**06 15 41.1**	**-0.8**
XAN			AP	pP	06 15 52.5	0.0
XAN			AMB	AMB		
	comp=Z,104nm,0.9s,mb5.4					
YAK	**Yakutsk**	**26.88 348**c	*i*P	**P**	**06 15 43.4**	**0.0**
YAK			*e**PP	pP	06 15 48.4	-5.6
YAK			*e*		06 16 25.2	
YAK			*e*PPP		06 16 43.4	
YAK			*e*S	**S**	**06 20 17.1**	**-0.3**
YAK			pmax	pmax		
	comp=Z,182nm,1.1s,mb5.5					
YAK			pmax	pmax		
	comp=N,127nm,1.2s					
YAK			pmax	pmax		
	comp=E,68nm,1.3s					
YAK			pmax	pmax		
	comp=Z,29nm,1.2s,mb4.7					
YAK			smax			
	comp=N,37nm,1.3s					
YAK			smax			
	comp=Z,22nm,1.5s					
YAK			smax			
	comp=E,37nm,1.6s					
YAK			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.6					
YAK			MLR	MLR		
	comp=N,2μm,18.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,2μm,21.0s,MS4.8					
YAK	**Yakutsk**	**26.88 348**	*e*P	**P**	**06 15 42.6**	**-0.8**
	comp=E,324nm,1.0s,mb5.8					
YAK			*e*pP	pP	06 15 53.9	-0.1
YAK			LR	LR		
	comp=Z,2μm,19.0s,MS4.7					
ENH	**Enshi**	**27.38 267**⇑	*e*P	**P**	**06 15 46.8**	**-1.2**
	comp=Z,144nm,0.7s,mb5.6					
SEY	**Seymchan**	**27.56 11**	*e*P	**P**	**06 15 50.1**	**+0.6**
SEY					06 16 39.7	
SEY			PPP		06 16 49.9	
SEY			*e*		06 19 12.8	
SEY			*e*S	**S**	**06 20 28.4**	**+0.2**
SEY			SS		06 21 53.1	
SEY			pmax	pmax		
	comp=E,40nm,1.3s					
SEY			pmax	pmax		
	comp=Z,160nm,1.3s,mb5.5					
SEY			pmax	pmax		
	comp=N,50nm,1.1s					
SEY			smax			
	comp=N,1μm,18.0s					
SEY			smax			
	comp=E,1μm,25.6s					
GZH	**Guangzhou**	**27.68 250**	P	**P**	**06 15 46.0**	**-4.6**
GZH			LR	LR		
	comp=N,2μm,16.7s,MS4.9					
GZH			LR	LR		
	comp=E,2μm,16.1s,MS4.9					
GZH			LR	LR		
	comp=Z,3μm,14.7s,MS5.0					
FX1	**Attu Island--F**	**27.71 43**	LR	LR	06 24 53.6	
	comp=Z,52nm,19.4s,baz=167,slow=32					
FX1	**Attu Island--F**	**27.71 43**	*e*P	**P**	**06 15 52.4**	**+1.5**
ULN	**Ulaanbaatar**	**27.90 305**	*e*P	**P**	**06 15 51.9**	**-0.7**
ULN			*e*		06 19 08.3	
ULN			pmax	pmax		
	comp=Z,29nm,0.8s,mb5.0					
ULN			MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8					
ULN	**Ulaanbaatar**	**27.90 305**	*e*P	**P**	**06 15 51.9**	**-0.7**
	comp=Z,29nm,0.8s,mb5.0					
ULN			*e*PcP	PcP	06 19 08.3	+0.8
ULN			LR	LR		
	comp=Z,2μm,20.0s,MS4.8					
BOD	**Bodaibo**	**28.27 328**⇓	*e*P	**P**	**06 15 54.6**	**-1.3**
BOD			pmax	pmax		
	comp=Z,70nm,1.0s,mb5.2					
SONM	**Songino Array**	**28.33 305**	P	**P**	**06 15 56.5**	**+0.1**
	comp=Z,40nm,0.7s,mb5.2,baz=104,slow=8.5,SNR=211					
SONM			PcP	PcP	06 19 09.1	+0.6
	comp=Z,4.4nm,0.9s,baz=127,slow=2.1,SNR=5.7					
SONM			LR	LR	06 27 39.8	
	comp=Z,3μm,19.5s,MS4.8,baz=50,slow=37					
SONM	**Songino Array**	**28.33 305**	P	**P**	**06 15 56.5**	**+0.1**
SONM					06 19 09.1	
LZH	**Lanzhou**	**30.32 281**	*e*P	**P**	**06 16 13.5**	**-0.5**
LZH			AP	pP	06 16 18.2	-6.5
LZH			PP	PP	06 17 12.6	-10
LZH			*e*S	**S**	**06 21 09.7**	**-1.8**
LZH			XS	sS	06 21 26.3	-3.0
LZH			SS	SS	06 22 49.5	-32
LZH			AMB	AMB		
	comp=Z,57nm,1.4s,mb5.1					
LZH			AMB	AMB		
	comp=Z,274nm,6.7s					
LZH			LR	LR		
	comp=E,4μm,14.9s					
LZH			LR	LR		
	comp=Z,6μm,17.5s,MS5.3					
ZAK	**Zakamensk**	**30.86 309**⇓	*e*P	**P**	**06 16 18.8**	**0.0**
ZAK			*e*		06 19 11.6	
ZAK			pmax	pmax		
	comp=Z,96nm,1.6s,mb5.4					
ZAK			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6					
TLY	**Talaya**	**30.94 312**	P	**P**	**06 16 20.9**	**+1.4**
	comp=Z,268nm,1.2s,mb6.0,SNR=7.8					
TLY	**Talaya**	**30.94 312**c	*i*P	**P**	**06 16 19.2**	**-0.3**
GYA	**Guiyang**	**31.20 262**⇑	*i*P	**P**	**06 16 20.0**	**-1.8**
GYA			AP	pP	06 16 31.9	-0.7
GYA			XP	sP	06 16 37.3	+0.1
GYA			PP	PP	06 17 25.5	-7.2
GYA			S	**S**	**06 21 25.0**	**-0.4**
GYA			AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5					
GYA			AMB	AMB		
	comp=Z,310nm,4.2s					
GYA			LR	LR		
	comp=N,2μm,13.5s,MS5.0					
GYA			LR	LR		
	comp=E,2μm,13.5s,MS5.0					
GYA			LR	LR		
	comp=Z,3μm,12.6s,MS5.1					
CD2	**Chengdu**	**31.79 271**	P	**P**	**06 16 26.0**	**-1.0**
CD2			AP	pP	06 16 35.5	-2.3
CD2			XP	sP	06 16 40.0	-2.4
CD2			PP	PP	06 17 31.0	-8.2
CD2			S	**S**	**06 21 31.0**	**-3.6**
CD2			XS	sS	06 21 47.0	-5.4
CD2			SS	SS	06 23 18.5	-33
CD2			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1					
CD2			AMB	AMB		
	comp=Z,220nm,5.7s					
CD2			LR	LR		
	comp=N,2μm,19.2s					
CD2			LR	LR		
	comp=Z,1μm,19.8s,MS4.6					
MOY	**Mondy**	**32.54 311**	*e*P	**P**	**06 16 33.8**	**+0.2**
MOY			pmax	pmax		
	comp=Z,59nm,1.4s,mb5.3					
QIZ	**Qiongzhong**	**32.70 247**	*e*P	**P**	**06 16 36.6**	**+1.6**
QIZ			S	**S**	**06 21 49.3**	**+0.5**
QIZ			AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8					
QIZ			LR	LR		
	comp=N,2μm,16.0s					
QIZ			LR	LR		
	comp=Z,2μm,18.0s,MS4.8					
GTA	**Gaotai**	**32.91 288**	⇓P	**P**	**06 16 37.2**	**+0.4**
GTA			AP	pP	06 16 49.6	+2.0
GTA			PP	PP	06 17 47.3	-4.3
GTA			PCP	PcP	06 19 21.8	+1.2
GTA			S	**S**	**06 21 52.9**	**+0.9**
GTA			SCP	ScP	06 23 02.8	+1.2
GTA			SS	SS	06 23 49.6	-25
GTA			SCS	ScS	06 27 02.8	+1.1
GTA			AMB	AMB		
	comp=Z,53nm,1.2s,mb5.3					
GTA			AMB	AMB		
	comp=Z,398nm,4.6s					
GTA			LR	LR		
	comp=N,1μm,17.9s,MS5.1					
GTA			LR	LR		
	comp=E,3μm,17.1s,MS5.1					
GTA			LR	LR		
	comp=Z,3μm,17.5s,MS5.1					
BILL	**Bilibino**	**34.77 16**	*e*P	**P**	**06 16 52.5**	**-0.5**
BILL			*e**PP	pP	06 17 03.1	-0.7
BILL			pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1					
BILL	**Bilibino**	**34.77 16**	*e*P	**P**	**06 16 52.5**	**-0.5**
	comp=Z,28nm,1.1s,mb5.1					
BILL			*e*pP	pP	06 17 03.1	-0.6
BILL			LR	LR		
	comp=Z,1μm,20.0s,MS4.7					
KMI	**Kunming**	**34.95 263**	⇑P	**P**	**06 16 54.1**	**-0.5**
KMI			AP	pP	06 17 06.2	+0.8
KMI			PP	PP	06 18 13.9	-0.3
KMI			PCP	PcP	06 19 28.3	+1.9
KMI			S	**S**	**06 22 24.0**	**+0.4**
KMI			SS	SS	06 24 37.1	-19
KMI			SCS	ScS	06 27 09.9	-2.6
KMI			AMB	AMB		
	comp=Z,49nm,1.3s,mb5.3					
KMI			AMB	AMB		
	comp=Z,198nm,3.1s					
KMI			LR	LR		
	comp=N,2μm,15.5s,MS5.2					
KMI			LR	LR		
	comp=E,3μm,16.8s,MS5.2					
KMI			LR	LR		
	comp=Z,3μm,15.3s,MS5.1					
TIXI	**Tiksi**	**36.10 353**c	*i*P	**P**	**06 17 03.4**	**-1.0**
TIXI			pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3					
KRAR	**Krasnoyarsk**	**38.12 317**⇑	*i*P	**P**	**06 17 20.4**	**-1.1**
KRAR			pmax	pmax		
	comp=Z,157nm,1.7s,mb5.5					
KRAR			MLR	MLR		
	comp=Z,3μm,15.0s,MS5.3					
WMQ	**Urumqi**	**41.30 298**⇑	*i*P	**P**	**06 17 49.4**	**+1.4**
WMQ			AP	pP	06 17 59.4	+0.4
WMQ			XP	sP	06 18 03.4	-0.1
WMQ			PP	PP	06 19 29.0	+5.2
WMQ			S	**S**	**06 24 02.0**	**+2.4**
WMQ			XS	sS	06 24 18.0	+0.3
WMQ			SS	SS	06 27 02.0	-2.0
WMQ			AMB	AMB		
	comp=Z,187nm,1.1s,mb5.6					
WMQ			AMB	AMB		
	comp=Z,254nm,5.0s					
WMQ			LR	LR		
	comp=N,1μm,10.0s					
WMQ			LR	LR		
	comp=E,1μm,9.0s					
WMQ			LR	LR		
	comp=Z,2μm,10.0s,MS5.2					
TNA	**Tin City**	**41.50 29**	*e*P	**P**	**06 17 49.9**	**+0.3**

comp=Z,16nm,1.1s,mb4.5
LSA Lhasa 42.40 276 P P 06 17 56.8 -0.1
LSA AP pP 06 18 06.4 -1.5
LSA XP sP 06 18 10.2 -2.3
LSA SCS ScS 06 27 51.3 -4.2
LSA AMB AMB
comp=Z,40nm,1.2s,mb4.9
LSA LR LR
comp=N,740nm,13.5s,MS5.2
LSA LR LR
comp=E,2µm,14.6s,MS5.2
LSA LR LR
comp=Z,4µm,14.3s,MS5.4
LSA Lhasa 42.40 276⇑ eP P 06 17 58.6 +1.7
LSA pmax pmax
comp=Z,32nm,0.8s,mb5.0
LSA Lhasa 42.40 276⇑ eP P 06 17 58.6 +1.7
comp=Z,32nm,0.8s,mb5.0
ZAL Zalesovo 42.55 313 P P 06 17 57.4 -0.8
comp=Z,29nm,0.8s,mb5.1,baz=17,slow=7.2,SNR=163
ZAL pP pP 06 18 08.7 -0.5
comp=Z,44nm,0.7s,baz=21,slow=8.9,SNR=19
ZAL Zalesovo 42.55 313 P P 06 17 57.4 -0.8
ZAL pP pP 06 18 08.7 -0.5
NVS Novosibirsk 43.47 314⇑ i P P 06 18 05.0 -0.7
NVS pmax pmax
comp=Z,159nm,1.3s,mb5.6
NVS pmax pmax
comp=E,145nm,1.4s
SHL Shillong 43.51 270 eP P 06 18 05.5 -0.5
MKAR Makanchi Array 44.64 303 P P 06 18 15.3 +0.3
comp=E,40nm,0.8s,mb5.3,baz=87,slow=9.2,SNR=353
MKAR LR LR 06 37 37.2
comp=E,2µm,19.3s,MS5.1,baz=84,slow=37
MKAR Makanchi Array 44.64 303⇑ eP P 06 18 15.3 +0.3
KSM Kuching 45.08 227 eP P 06 18 19.6 +1.1
SVW2 Sparrevohn 46.10 37 eP P 06 18 27.8 +1.2
KURK Kurchatov 46.51 309 P P 06 18 29.1 -0.7
comp=E,980nm,0.7s,SNR=82
KURK Kurchatov 46.51 309c i P P 06 18 29.6 -0.2
KURK Kurchatov 46.51 309 eP P 06 18 29.6 -0.2
comp=E,110nm,0.8s,mb5.8
KURK epP pP 06 18 41.1 +0.2
JIRN Jiri 47.20 276 eP P 06 18 36.5 +1.3
comp=E,348nm,0.9s,mb6.3
IMA2 Indian Mountai 47.32 30 eP P 06 18 36.3 +0.1
IMA2 epP pP 06 18 47.3 +0.1
IMA2 esP sP 06 18 54.6 +2.8
GUN Gumba 47.35 276 eP P 06 18 37.6 +1.3
KDAK Kodiak Island 47.63 41 P P 06 18 38.0 -0.5
comp=E,250nm,1.2s,mb6.1,SNR=5.6
KDAK Kodiak Island 47.63 41 P P 06 18 38.1 -0.4
comp=E,11nm,0.7s,mb5.0,baz=289,slow=3.1,SNR=9.6
PKI Pulchoki 47.87 276 eP P 06 18 41.0 +0.6
comp=E,219nm,1.1s,mb6.1
KKN Kakani 47.88 277 eP P 06 18 41.4 +0.9
comp=E,289nm,1.2s,mb6.2
DMN Daman 48.09 276 eP P 06 18 42.9 +0.8
comp=E,249nm,1.5s,mb6.0
GKN Gorkha 48.30 277 eP P 06 18 44.5 +0.7
comp=E,663nm,1.2s
KULM Kulim 48.51 240⇑ eP P 06 18 45.0 -0.3
FIB Fire Island 48.72 37 eP P 06 18 47.1 +0.2
comp=E,18nm,0.7s,mb5.2
FIB ePcP PcP 06 20 13.0 +1.3
BOK Bokaro 49.17 272 eP P 06 18 50.2 -0.2
BOK AMb AMB 06 18 53.8
comp=Z,74nm,1.2s,mb5.6
KOLN Koldanda 49.23 277 eP P 06 18 51.7 +0.8
comp=Z,393nm,1.5s,mb6.2
MCK McKinley 49.24 33 eP P 06 18 51.0 0.0
MCK e*PP pP 06 19 00.5 -1.6
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MCK McKinley 49.24 33 eP P 06 18 51.0 0.0
comp=Z,7.6nm,1.1s,mb4.6
MCK epP pP 06 19 00.5 -1.6
SML Sawmill 49.58 36 eP P 06 18 53.3 -0.2
SML e*PP pP 06 19 03.9 -0.8
SML Sawmill 49.58 36 eP P 06 18 53.3 -0.2
SML epP pP 06 19 03.9 -0.7
SML eScP ScP 06 24 05.5 -1.6
COLA College 49.70 32d i P P 06 18 54.9 +0.4
COLA College 49.70 32 eP P 06 18 55.0 +0.6
comp=Z,15nm,0.8s,mb5.1
COLA epP pP 06 19 06.3 +0.7
COLA LR LR
comp=Z,697nm,20.0s,MS4.7
ULHL Ulahol 49.84 298 P P 06 18 56.5 +1.1
SNR=10
TKM2 Tokmak 2 50.11 299 P P 06 18 59.0 +1.5
SNR=68
ILAR Eielson Array 50.12 32 P P 06 18 56.6 -1.0
comp=Z,13nm,0.8s,mb5.0,baz=268,slow=6.3,SNR=141
KZA Kyzart 50.59 298 P P 06 19 03.5 +2.2
SNR=26
KBK Karagaybulak 50.64 299 P P 06 19 02.8 +1.3
SNR=22
CHMS Chumysh 50.69 299 P P 06 19 02.6 +0.7
SNR=12
USP Ospenovka 50.79 300 P P 06 19 03.4 +0.7
SNR=38
FRU Bishkek 50.83 299⇑ eP P 06 19 04.0 +1.0
FRU e pP 06 19 14.0 -0.2
FRU pmax pmax
comp=Z,360nm,1.6s,mb6.0
KSH Kashi 50.84 295⇑ i P P 06 19 05.2 +2.2
KSH eAP pP 06 19 15.2 +1.0
KSH eXP sP 06 19 19.2 +0.5
KSH ePCP PcP 06 20 20.1 +0.7
KSH ePP PP 06 21 03.6 +4.1
KSH eSCP ScP 06 24 12.6 +0.1
KSH ePCS PcS 06 24 16.6 -0.3
KSH eS S 06 26 16.6 +0.2
KSH eSCS ScS 06 28 51.0 +0.4
KSH AMB AMB
comp=Z,330nm,3.5s
KSH LR LR
comp=N,3µm,18.5s,MS5.4
KSH LR LR
comp=E,2µm,15.7s,MS5.4
DIV Divide 50.85 37 eP P 06 18 53.9 -9.3
comp=E,287nm,1.6s,mb6.0
DIV epP pP 06 19 04.7 -10
AAK Ala-Archa 50.97 299 P P 06 19 04.9 +0.9
SNR=22
AAK Ala-Archa 50.97 299 P P 06 19 03.0 -1.0
comp=E,168nm,0.6s,mb6.2,SNR=28
AAK Ala-Archa 50.97 299c i P P 06 19 03.7 -0.3
AAK pmax pmax
comp=Z,49nm,1.7s,mb5.2
AAK MLR MLR
comp=Z,5µm,18.0s,MS5.6
AAK Ala-Archa 50.97 299 eP P 06 19 03.8 -0.3
comp=Z,16nm,0.6s,mb5.1
UCH Uchtor 51.07 298 P P 06 19 06.5 +1.7
SNR=14
PTH Pithoragarh 51.19 281 eP P 06 19 06.0 +0.3
PTH eP 06 19 06.8
BVA0 Borovoye Array 51.19 313 i P P 06 19 05.6 -0.1
BVA0 pmax pmax
comp=Z,20nm,1.3s,mb4.9
BVAR Borovoye Array 51.19 313 P P 06 19 05.7 0.0
comp=Z,21nm,0.7s,mb5.2,baz=79,slow=7.6,SNR=128
BVAR pP pP 06 19 16.6 -0.3
comp=Z,18nm,0.6s,baz=69,slow=6.9,SNR=12
LGTI Lohaghat 51.21 281 eP P 06 19 06.7 +0.9
BRVK Borovoye 51.25 313 P P 06 19 06.3 +0.1
comp=Z,354nm,0.9s,mb6.3,SNR=32
BRVK Borovoye 51.25 313⇑ eP P 06 19 06.1 -0.1
BRVK e*PP pP 06 19 16.9 -0.5
BRVK pmax pmax
comp=Z,35nm,0.9s,mb5.3
BRVK Borovoye 51.25 313⇑ eP P 06 19 06.1 -0.1
comp=Z,35nm,0.9s,mb5.3
BRVK epP pP 06 19 16.9 -0.5
BRVK esP sP 06 19 24.9 +3.1
EKS2 Erkin-Say 51.47 299 P P 06 19 08.6 +0.8
SNR=20
PSI Prapat 51.48 240 P P 06 19 07.7 -0.2
comp=Z,15nm,0.7s,mb5.0,baz=8.7,slow=6.4,SNR=18
AML Almayashu 51.68 299 P P 06 19 11.2 +1.8
SNR=70
ALBI Allahabad 51.76 276 eP P 06 19 08.0 -2.0
DDI Dehra Dun 52.58 283 eP P 06 19 14.6 -1.5

SMLA Simla 52.95 284 ex x 06 20 12.8
KK31 Karatay Array 53.62 301 i P P 06 19 23.9 +0.2
KK31 pmax pmax
comp=Z,92nm,1.1s,mb5.6
KKAR Karatay Array 53.62 301 i P P 06 19 23.9 +0.2
KKAR pmax pmax
comp=Z,106nm,1.2s,mb5.7
NDI New Delhi 53.93 282 eP P 06 19 25.0 -1.0
VIS Vishakhapatnam 54.27 266 eP P 06 19 28.7 +0.2
VIS AMb AMB 06 19 32.4
comp=Z,80nm,1.3s,mb5.5
INK Inuvik 55.05 27 P P 06 19 34.3 +0.2
comp=Z,17nm,0.8s,mb5.2,baz=289,slow=6.6,SNR=113
NGP Nagpur 55.97 273 eP P 06 19 40.2 -0.5
NGP AMb AMB 06 19 43.5
comp=Z,85nm,1.6s,mb5.5
FITZ Fitzroy Crossi 56.09 198 eP P 06 19 41.1 -0.5
comp=Z,34nm,1.5s,mb5.2
FITZ i S S 06 27 27.9 +0.2
CTA Charters Tower 56.19 175 P P 06 19 42.7 +0.4
comp=Z,0.9nm,0.4s,mb4.2,baz=31,slow=12,SNR=3.4
CTA Charters Tower 56.19 175 P P 06 19 42.7 +0.4
BHPL Bhopal 56.26 276 eP P 06 19 42.8 0.0
BHPL AMb AMB 06 19 46.2
comp=Z,46nm,1.1s,mb5.4
WRAB Tennant Creek 56.27 188 P P 06 19 42.3 -0.6
comp=Z,161nm,1.2s,mb5.9,SNR=5.5
WRAB Tennant Creek 56.27 188d i P P 06 19 41.9 -1.0
WRAB Tennant Creek 56.27 188 eP P 06 19 42.0 -0.9
comp=Z,58nm,1.1s,mb5.5
WRAB LR LR
comp=Z,166nm,22.0s,MS4.1
WB2 Warramunga Arr 56.28 188 eP P 06 19 41.7 -1.2
WRA Warramunga Arr 56.28 188 P P 06 19 41.6 -1.3
comp=Z,5.7nm,0.8s,mb4.7,baz=5.6,slow=7.5,SNR=46
WRA Warramunga Arr 56.28 188 i P P 06 19 41.5 -1.4
WRA pmax pmax
comp=Z,6.0nm,0.8s
AJM Ajmer 56.96 280 i x x 06 19 39.0
ARU Arti 57.03 319 P P 06 19 48.3 0.0
comp=Z,567nm,0.7s,SNR=6.7
ARU Arti 57.03 319 eP P 06 19 48.3 0.0
ARU e*PP pP 06 19 59.6 0.0
ARU pmax pmax
comp=Z,140nm,1.1s,mb5.9
ARU Arti 57.03 319 eP P 06 19 48.3 0.0
comp=Z,140nm,1.1s,mb5.9
ARU epP pP 06 19 59.6 0.0
SOKR Solikamsk 57.03 323c i P P 06 19 48.2 -0.1
SOKR e pP 06 19 59.6 0.0
SOKR S S 06 27 38.4 -1.8
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,2µm,23.0s,MS5.2
AKL Akola 57.84 273 ex x 06 19 12.2
AKL AMb AMB 06 19 15.0
comp=Z,56nm,1.4s,mb5.4
HYB Hyderabad 58.29 269⇑ i P P 06 19 57.0 -0.1
comp=Z,60nm,1.0s,mb5.6
HYB eS S 06 27 57.0 +0.3
HYB Hyderabad 58.29 269⇑ eP P 06 19 57.0 -0.1
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 58.29 269⇑ eP P 06 19 57.0 -0.1
comp=Z,60nm,1.0s,mb5.6
AB31 Akbulak array 58.54 311 i P P 06 19 58.6 -0.3
AB31 pmax pmax
comp=Z,19nm,0.6s,mb5.3
ASAR Alice Springs 60.01 188 P P 06 20 08.1 -1.0
comp=Z,3.0nm,0.8s,mb4.4,baz=14,slow=11,SNR=22
ASAR pP pP 06 20 17.5 -2.9
comp=Z,6.8nm,0.7s,baz=9.1,slow=8.5,SNR=16
ASAR Alice Springs 60.01 188 P P 06 20 08.1 -0.9
ASAR *PP pP 06 20 17.5 -2.9
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASPA Alice Springs 60.01 188 eP P 06 20 08.6 -0.4
MBWA Marble Bar 60.69 203 eP P 06 20 13.3 -0.3
ALE Alert 60.91 3 P P 06 20 14.0 -1.1
comp=Z,171nm,0.9s,mb6.2,SNR=18
KBS Kingsbay 61.47 350⇑ eP P 06 20 19.1 +0.2
POO Poona 61.51 273 i P P 06 20 18.0 -1.2
KAD Karad 61.88 271 eP P 06 20 22.1 +0.3
KAD AMb AMB 06 20 24.8
comp=Z,73nm,1.1s,mb5.7
BOM Bombay 62.16 274 eP P 06 20 22.3 -1.3
PALK Pallekele 62.30 258 eP P 06 20 24.5 -0.1
LVZ Lovozero 62.89 336 P P 06 20 27.7 -0.8
LVZ pmax pmax
comp=Z,48nm,1.8s,mb5.3
LVZ pmax pmax
comp=N,28nm,1.9s
LVZ pmax pmax
comp=E,9.0nm,1.3s
LVZ MLR MLR
comp=Z,2µm,18.0s,MS5.2
LVZ MLR MLR
comp=N,894nm,21.0s,MS5.2
LVZ MLR MLR
comp=E,1µm,21.0s,MS5.2
APA Apatity 63.46 336⇓ i P P 06 20 31.3 -1.0
APA i pP 06 20 41.4 -2.3
APA pmax pmax
comp=Z,36nm,1.0s,mb5.5
APA MLR MLR
comp=Z,25µm,18.0s
KEV Kevo 64.23 339 ep P 06 20 36.8 -0.5
ABKT Ailbek 64.32 299 P P 06 20 38.7 +0.8
comp=Z,152nm,0.8s,mb6.1,SNR=8.3
YKW3 Yellowknife Ar 64.41 30 eP P 06 20 37.8 -0.7
YKA Yellowknife Ar 64.45 30 P P 06 20 38.1 -0.6
comp=Z,4.2nm,0.8s,mb4.5,baz=302,slow=6.7,SNR=111
YKA pP pP 06 20 49.2 -1.0
comp=Z,8.0nm,0.9s,baz=301,slow=6.7,SNR=21
YKA LR LR 06 53 54.2
comp=Z,365nm,18.7s,MS4.6,baz=295,slow=41
YKA Yellowknife Ar 64.45 30 P P 06 20 38.2 -0.6
YKA *PP pP 06 20 49.2 -1.0
YKA Yellowknife Ar 64.45 30 P P 06 20 38.1 -0.6
YKA pP pP 06 20 49.2 -1.0
YKA LR LR 06 53 54.2
KLMR Klimovskoe 64.49 328c i P P 06 20 38.8 -0.2
KLMR pmax pmax
comp=Z,100nm,1.6s,mb5.6
KLMR pmax pmax
comp=Z,110nm,5.4s
KLMR MLR MLR
comp=Z,820nm,16.0s,MS5.0
PECR Pechory 64.53 322 i P P 06 20 38.7 -0.5
PECR pmax pmax
comp=Z,800nm,1.6s
PECR MLR MLR
comp=Z,2µm,19.0s,MS5.4
PECR MLR MLR
comp=Z,2µm,15.0s
PECR MLR MLR
comp=E,2µm,15.0s
ARCES ARCESS Array B 64.79 340 P P 06 20 40.9 -0.1
comp=E,19nm,0.8s,mb5.2,baz=51,slow=7.7,SNR=30
ARCES LR LR 06 53 02.4
comp=E,1µm,18.5s,MS5.0,baz=24,slow=40
ARE0 ARCESS Array S 64.79 340 eP P 06 20 41.1 +0.2
ARE0 ePP PP 06 22 51.3 -12
DAG Danmarks Havn 66.58 355⇓ i P P 06 20 52.1 -0.4
comp=E,16nm,0.6s,mb5.2
DAG Danmarks Havn 66.58 355⇓ i P P 06 20 52.1 -0.4
DAG pmax pmax
comp=Z,16nm,0.6s,mb5.2
JOF Joensuu 66.72 332 ep P 06 20 53.1 -0.3
comp=Z,36nm,1.0s,mb5.3
ARMA Armidale 66.97 171 eP P 06 20 56.3 +1.3
STKA Stephens Creek 67.75 180 eP P 06 21 07.1 +7.2
comp=Z,3.6nm,0.6s,mb4.6
STKA Stephens Creek 67.75 180 P P 06 20 57.7 -2.2
comp=Z,1.0nm,0.4s,mb4.2,baz=2.7,slow=12,SNR=3.1
STKA LR LR 06 49 08.0
comp=Z,408nm,19.6s,MS4.7,baz=8.6,slow=35
STKA Stephens Creek 67.75 180 P P 06 20 57.7 -2.2
STKA LR LR 06 49 08.0
MOS Moscow 67.96 324⇓ i P P 06 21 00.4 -0.8
MOS i pP 06 21 10.4 -2.4
MOS e 06 23 32.9

MOS pmax pmax
comp=Z,152nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,2µm,15.6s,MS5.4
VRHR Novokhopersk 68.36 318 eP P 06 21 03.1 -0.6
VRHR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
OBN Obninsk 68.80 323c i P P 06 21 05.9 -0.6
OBN e 06 21 29.8
OBN pmax pmax
comp=Z,90nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,2µm,17.0s,MS5.5
OBN Obninsk 68.80 323 eP P 06 21 06.2 -0.3
comp=Z,140nm,1.4s,mb5.7
OBN epP pP 06 21 17.4 -0.7
PUL Pulkovo 68.94 330 i P P 06 21 06.6 -0.8
PUL pmax pmax
comp=Z,135nm,0.9s,mb5.9
PUL pmax pmax
comp=N,533nm,1.0s
PUL pmax pmax
comp=E,414nm,1.0s
PUL MLR MLR
comp=Z,2µm,20.0s,MS5.3
PUL MLR MLR
comp=N,933nm,18.0s,MS5.3
PUL MLR MLR
comp=E,1µm,18.0s,MS5.3
KAF Kangasniemi 69.07 333 ep P 06 21 07.0 -1.2
comp=E,8.7nm,0.6s,mb4.9,baz=49,slow=5.9
KAF Kangasniemi 69.07 333 eP P 06 21 07.0 -1.2
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
FINES FINESS Array B 69.58 332 P P 06 21 11.0 -0.3
comp=Z,23nm,0.8s,mb5.2,baz=56,slow=6.9,SNR=56
FINES pP pP 06 21 21.7 -1.2
comp=Z,30nm,0.9s,baz=68,slow=7.5,SNR=13
FINES LR LR 06 54 04.0
comp=Z,860nm,18.4s,MS5.0,baz=17,slow=38
FINES FINESS Array B 69.58 332 i P P 06 21 11.0 -0.3
FINES pmax pmax
comp=Z,23nm,0.8s
VRSR Storozhevoye 69.59 319c i P P 06 21 10.8 -0.6
VRSR e 06 21 34.9
VRSR eS S 06 30 12.7 -4.1
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR smax
comp=N,20nm,5.5s
VRSR smax
comp=Z,30nm,6.1s
VRSR smax
comp=E,10.0nm,4.1s
VRSR MLR MLR
comp=Z,400nm,16.0s,MS4.8
VRSR MLR MLR
comp=N,180nm,17.0s,MS4.7
VRSR MLR MLR
comp=E,280nm,17.0s,MS4.7
NEW Newport 70.63 44 eP P 06 21 18.3 +0.5
GOF Gofitskoye 70.71 312⇑ i P P 06 21 18.0 -0.3
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
YBH Yreka Blue Hor 70.75 52 eP P 06 21 19.8 +1.3
comp=Z,18nm,1.1s,mb4.9
YBH epP pP 06 21 30.7 +0.6
YBH esP sP 06 21 37.4 +2.8
KLBR Kellerberrin 71.06 201 eP P 06 21 18.1 -2.3
comp=Z,32nm,1.4s,mb5.1
VSU Vasula 71.20 330 eP P 06 21 21.3 +0.1
ZEI Tsey 71.40 310 eP P 06 21 21.0 -1.5
ZEI pmax pmax
comp=Z,27nm,1.3s,mb5.0
WDC Whiskeytown Da 71.47 53 eP P 06 21 23.8 +0.9
comp=Z,27nm,1.1s,mb5.1
WDC epP pP 06 21 34.5 0.0
SUMG Summit 71.49 0 eP P 06 21 23.8 +0.8
comp=Z,50nm,1.0s,mb5.4
SUMG epP pP 06 21 35.2 +0.6
KIV Kislovodsk 71.51 311 P P 06 21 23.9 +0.8
comp=Z,522nm,1.0s,SNR=8.1
KIV Kislovodsk 71.51 311⇑ eP P 06 21 23.7 +0.6
KIV e 06 23 59.8
KIV pmax pmax
comp=Z,116nm,1.1s,mb5.7
KIV Kislovodsk 71.51 311⇑ eP P 06 21 23.7 +0.5
comp=Z,116nm,1.1s,mb5.7
KIV ePP PP 06 23 59.8 -2.3
MOD Modoc 72.19 51 eP P 06 21 28.2 +1.0
comp=Z,25nm,1.2s,mb5.0
MOD epP pP 06 21 39.0 +0.2
GNI Garni 72.27 307c i P P 06 21 28.6 +0.9
GNI pmax pmax
comp=Z,51nm,1.3s
GNI MLR MLR
comp=Z,800nm,17.0s
GNI Garni 72.27 307 eP P 06 21 29.1 +1.4
comp=Z,69nm,1.4s,mb5.4
BMO Blue Mountains 72.40 47 eP P 06 21 28.9 +0.5
comp=Z,22nm,1.1s,mb5.0
BMO epP pP 06 21 40.2 +0.2
BMO LR LR
comp=Z,203nm,19.0s,MS4.4
NWAO Narrogin (SRO) 72.46 201 P P 06 21 28.1 -0.8
comp=Z,7.7nm,0.7s,mb4.7,baz=60,slow=5.3,SNR=3.2
NWAO Narrogin (SRO) 72.46 201 P P 06 21 26.7 -2.1
NWAO e*PP pP 06 21 39.5 -0.9
NWAO pmax pmax
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 72.46 201 P P 06 21 26.7 -2.1
comp=Z,15nm,1.1s,mb4.8
NWAO epP pP 06 21 39.5 -0.9
OHCM Honcut 72.82 54 eP P 06 21 31.5 +0.6
SCO Scoresbysund 72.92 354 i P P 06 21 31.1 -0.4
comp=Z,12nm,1.0s,mb4.8
SCO Scoresbysund 72.92 354 i P P 06 21 31.1 -0.4
SCO pmax pmax
comp=Z,12nm,1.0s,mb4.8
WVOR Wild Horse Val 72.93 50 eP P 06 21 32.1 +0.5
comp=Z,51nm,1.6s,mb5.2
MNK Minsk 73.24 326 eP P 06 21 31.0 -2.4
SOC Sochi 73.51 312 eP P 06 21 33.4 -1.6
SOC eS S 06 30 54.9 -7.1
SOC e 06 31 44.7
SOC eSS SS 06 35 39.9 -5.2
SOC eSSS 06 38 52.7
SOC pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOC MLR MLR
comp=Z,2µm,18.0s,MS5.3
CMB Columbia Colle 74.25 54 eP P 06 21 40.3 +0.9
comp=Z,36nm,1.2s,mb5.2
FFC Flin Flon 74.32 33 P P 06 21 39.3 -0.5
comp=Z,109nm,0.9s,mb5.8,SNR=8.9
FFC Flin Flon 74.32 33 eP P 06 21 39.4 -0.4
comp=Z,44nm,1.4s,mb5.2
HRY Holter Researc 74.47 43 eP P 06 21 41.1 +0.6
HRY epP pP 06 21 52.2 -0.1
DLMT Dillon 74.84 45 eP P 06 21 43.7 +1.0
comp=Z,54nm,1.2s,mb5.4
HLID Hailey 74.84 47 eP P 06 21 43.5 +0.7
comp=Z,16nm,1.3s,mb4.8
HLID epP pP 06 21 54.8 +0.4
NB2 NORSAR Subarra 74.97 337 P P 06 21 43.1 -0.4
comp=Z,87nm,1.2s,mb5.6,baz=40,slow=5.9
NOA NORSAR Array B 74.97 337 P P 06 21 43.4 -0.2
comp=Z,35nm,0.9s,mb5.3,baz=39,slow=5.8,SNR=78
NOA pP pP 06 21 54.1 -1.0
comp=Z,15nm,0.8s,baz=39,slow=5.8,SNR=8.4
NOA LR LR 06 58 02.0
comp=Z,2µm,18.2s,MS5.3,baz=20,slow=38
NOA NORSAR Array B 74.97 337 P P 06 21 43.4 -0.1
NOA *PP pP 06 21 54.2 -1.0
AKASG Malin Array Be 75.00 322 P P 06 21 43.3 -0.4
comp=Z,29nm,0.6s,mb5.4,baz=46,slow=5.9,SNR=159
AKASG Malin Array Be 75.00 322 i P P 06 21 43.2 -0.5
AKASG pmax pmax

comp=Z,29nm,0.6s
MCMT McKenzie Canyo 75.01 45 *e*P **P 06 21 44.8 +1.0**
BOZ Bozeman (W) 75.21 44 *e*P **P 06 21 45.5 +0.6**
comp=Z,34nm,1.2s,mb5.2
BOZ *e*pP pP 06 21 56.7 +0.1
NAO01 NORSAR Array S 75.22 337 *e*P **P 06 21 44.9 0.0**
comp=Z,12nm,0.8s,mb4.9
NAO01 *e*pP pP 06 21 56.8 +0.1
NVAR Mina Array Bea 75.39 53 P **P 06 21 46.9 +1.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=281,slow=7.1,SNR=38
NVAR pP pP 06 21 57.8 +0.2
comp=Z,15nm,0.9s,baz=278,slow=6.4,SNR=20
MNV Mina 75.48 53 *e*P **P 06 21 47.4 +0.9**
comp=Z,37nm,1.3s,mb5.2
MNV *e*pP pP 06 21 58.0 -0.2
MNV *e*PP PP 06 24 36.3 +0.5
SUW Suwalki 75.62 328 *e*P **P 06 21 47.0 -0.3**
SUW L 06 58 01.5
comp=Z,1.2nm,18.9s
QLMT Earthquake Lak 75.82 45 *e*P **P 06 21 48.7 +0.3**
SIM Simferopol' 75.98 316⇑ *e*P **P 06 21 49.4 +0.1**
SIM pmax pmax
comp=Z,38nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,1μm,16.0s,MS5.2
GCMT Greycliff 76.22 43 *e*P **P 06 21 51.5 +0.8**
KONO Kongsberg 76.56 337⇑ *e*P **P 06 21 52.7 +0.1**
KONO Kongsberg 76.56 337 *e*P **P 06 21 52.2 -0.4**
comp=Z,20nm,1.2s,mb4.9
LKWY Lake 76.56 44 *e*P **P 06 21 55.2 +2.6**
comp=Z,24nm,1.2s,mb5.0
MOOW Moose Ponds 76.87 45 *e*P **P 06 21 55.5 +1.2**
comp=Z,19nm,1.2s,mb4.9
LOHW Long Hollow 77.03 45 *e*P **P 06 21 56.5 +1.3**
comp=Z,36nm,1.6s,mb5.0
SNOW Snow King Moun 77.03 45 *e*P **P 06 21 56.3 +1.1**
comp=Z,19nm,1.1s,mb4.9
AHID Auburn Hatcher 77.26 46 *e*P **P 06 21 57.5 +0.9**
comp=Z,4.1nm,0.6s,mb4.5
MALT Malatya 77.35 308 ⇑P **P 06 21 58.9 +1.8**
MALT Malatya 77.35 308 *e*P **P 06 21 58.4 +1.3**
comp=Z,40nm,1.2s,mb5.2
DGMT Dagmar 77.40 38 *e*P **P 06 21 57.2 -0.2**
comp=Z,13nm,1.1s,mb4.8
LAO LASA Array 77.51 41 *e*P **P 06 21 58.4 +0.4**
comp=Z,32nm,1.0s,mb5.2
KIS Kishinev 77.58 320 *e*P **P 06 21 57.0 -1.3**
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=Z,3μm,16.0s,MS5.8
KIS MLR MLR
comp=Z,2μm,16.0s
HWUT Hardware Ranch 77.70 47 *e*P **P 06 21 59.9 +0.9**
comp=Z,55nm,1.4s,mb5.3
DUG Dugway 77.80 49 *e*P **P 06 22 00.6 +1.0**
comp=Z,43nm,1.2s,mb5.2
NOQ North Oquirrh 77.94 48 *e*P **P 06 22 01.1 +0.8**
comp=Z,75nm,1.2s,mb5.5
BW06 Boulder Array 78.15 45 *e*P **P 06 22 01.6 +0.1**
comp=Z,20nm,1.2s,mb4.9
PDAR Pinedale Array 78.15 45 P **P 06 22 01.8 +0.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=274,slow=2.0,SNR=37
PDAR pP pP 06 22 12.4 -0.8
comp=Z,6.5nm,0.9s,baz=270,slow=2.7,SNR=14
PDAR LR LR 06 55 33.1
comp=Z,211nm,19.1s,MS4.5,baz=90,slow=35
BORG Borgarnes 78.46 353 P **P 06 22 02.7 -0.5**
KWP Kalwaria 78.84 325 *e*P **P 06 22 06.3 +1.0**
KWP *e* pP 06 22 18.7 +1.6
KWP L 07 00 19.4
comp=Z,3.0nm,16.4s
KWP Kalwaria 78.84 325 *e*P **P 06 22 06.3 +1.0**
KWP *e* pP 06 22 18.7 +1.6
BURAR Bucovina Array 79.01 322 ⇓P **P 06 22 07.1 +0.9**
CFR Carcaliu 79.12 319 ⇑P **P 06 22 06.9 +0.1**
PFO Pinyon Flat Ob 79.40 56 *e*P **P 06 22 09.9 +1.5**
comp=Z,27nm,1.2s,mb5.0
VRI Vrincioaia 79.41 320 ⇓P **P 06 22 09.3 +0.9**
VRI Vrincioaia 79.41 320 P **P 06 22 09.5 +1.1**
BR131 Keskin Array S 79.47 312 *e*P **P 06 22 09.2 +0.4**
BRTR Keskin Array B 79.47 312 P **P 06 22 09.1 +0.4**
comp=Z,19nm,1.0s,mb5.0,baz=108,slow=3.9,SNR=44
BRTR PP PP 06 25 11.2 +2.0
comp=Z,1.4nm,0.8s,baz=66,slow=6.5,SNR=3.9
BRTR Keskin Array B 79.47 312⇑ *e*P **P 06 22 09.1 +0.4**
KOLS Kolonicke sedl 79.53 324 *e*P **P 06 22 09.5 +0.4**
KOLS *e*pP pP 06 22 22.4 +1.5
KOLS *e*PP PP 06 25 05.7 -4.1
STHS Stebnicka Huta 79.68 325 *e*P **P 06 22 10.7 +0.8**
STHS *e*pP pP 06 22 23.4 +1.8
STHS *e*PP PP 06 25 08.4 -2.6
OJC Ojcow 79.77 326 *i* Pc **P 06 22 10.7 +0.3**
OJC *i* PcP PcP 06 22 22.7 +4.7
OJC *e*S S 06 32 27.7 +17
OJC L 07 01 12.7
comp=Z,11nm,16.4s
CRVS Cervenica-Dubn 79.94 325 *e*P **P 06 22 13.5 +2.2**
MLR Muntele Rosu 80.07 320 ⇓P **P 06 22 12.5 +0.5**
MLR Muntele Rosu 80.07 320 P **P 06 22 12.9 +0.9**
NIE Niedzica 80.11 325 *e*P **P 06 22 13.0 +0.8**
ULM Lac du Bonnet 80.11 33 P **P 06 22 11.6 -0.7**
comp=Z,4.9nm,0.8s,mb4.5,baz=320,slow=5.7,SNR=12
RUE Ruedersdorf 80.64 331 *e*P **P 06 22 15.4 +0.4**
comp=Z,24nm,1.1s,mb5.0
KECS Kecovo 80.69 325 *e*P **P 06 22 15.9 +0.6**
KECS *e*pP pP 06 22 28.2 +1.1
KECS *e*PP PP 06 25 20.1 +0.7
OKC Ostrava-Krasne 80.78 327 *e*P **P 06 22 14.5 -1.3**
OKC *e*pP pP 06 22 25.8 -1.8
OKC AMS AMS 07 01 00.0
comp=Z,2μm,15.7s
OKC Ostrava-Krasne 80.78 327 *e*P **P 06 22 14.5 -1.3**
OKC *e*pP pP 06 22 25.8 -1.8
DRGR 80.82 322 P **P 06 22 16.9 +0.9**
BSEG Bad Segeberg 80.82 333 *e*P **P 06 22 16.2 +0.2**
comp=Z,22nm,1.1s,mb5.0
KSP Ksiaz 80.84 328 *e*P **P 06 22 16.6 +0.5**
KSP *e* pP 06 22 27.5 -0.4
KSP L 07 01 53.5
comp=Z,2.4nm,19.1s
KSP Ksiaz 80.84 328 *e*P **P 06 22 16.3 +0.2**
KSP *e*pP pP 06 22 27.4 -0.5
KSP LR LR
comp=Z,3μm,19.1s,MS5.6
MORC Moravsky Berou 81.09 327 ⇓P **P 06 22 17.8 +0.3**
MORC Moravsky Berou 81.09 327 *e*P **P 06 22 17.7 +0.3**
comp=Z,19nm,1.0s,mb5.0
MORC *e*pP pP 06 22 30.4 +1.1
DPC Dobruska-Polom 81.19 328 *e*P **P 06 22 18.6 +0.6**
DPC *e*pP pP 06 22 29.5 -0.3
UPC Upice 81.21 328 *e*P **P 06 22 18.4 +0.3**
UPC *e*pP pP 06 22 29.4 -0.5
PSZ Piszkesteto 81.37 325 P **P 06 22 19.6 +0.6**
PSZ Piszkesteto 81.37 325 *e*P **P 06 22 19.4 +0.4**
comp=Z,42nm,1.3s,mb5.2
PSZ *e*pP pP 06 22 30.9 +0.2
VYHS Vyhne 81.45 326 *i* P **P 06 22 20.1 +0.7**
VYHS *e* pP 06 22 28.6 -2.5
VYHS *e*PP PP 06 25 25.1 -0.6
WUAZ Wupatki 81.57 52 *e*P **P 06 22 21.1 +1.1**
comp=Z,38nm,1.1s,mb5.2
WUAZ *e*pP pP 06 22 32.3 +0.5
BRG Berggiesshubel 81.80 330 *e*P **P 06 22 21.1 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
BRG *e*pP pP 06 22 32.3 -0.7
BRG Berggiesshubel 81.80 330 *e*P **P 06 22 21.1 -0.1**
BRG *i* pP 06 22 32.3 -0.7
BRG *e* 06 25 30.1
BRG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BRG Berggiesshubel 81.80 330 *e*P **P 06 22 21.1 -0.1**
comp=Z,9.9nm,0.9s,mb4.7
BRG *i* pP 06 22 32.4 -0.7
BRG *e*PP PP 06 25 30.1 +1.5
PVCC Panska Ves 81.80 329 *e*P **P 06 22 21.7 +0.5**
PVCC *e*pP pP 06 22 33.0 0.0
CLL Collm 81.85 330 *e*P **P 06 22 21.1 -0.4**
comp=Z,17nm,0.8s,mb5.0
CLL *e*pP pP 06 22 32.3 -1.0

CLL Collm 81.85 330 *i* P **P 06 22 21.2 -0.3**
comp=Z,29nm,0.8s,mb5.3
CLL *e*pP pP 06 22 32.0 -1.3
CLL Collm 81.85 330 *i* P **P 06 22 21.2 -0.3**
CLL *e**SP sP 06 22 32.0 -5.6
CLL pmax pmax
comp=Z,29nm,0.8s,mb5.3
CLL MLR MLR
comp=Z,1μm,17.4s,MS5.3
CLL Collm 81.85 330 *i* P **P 06 22 21.2 -0.3**
comp=Z,29nm,0.8s,mb5.3
CLL *e*sP sP 06 22 32.0 -5.6
CLL LR LR
comp=Z,1μm,17.4s,MS5.3
VRAC Vranov 81.85 327 ⇓P **P 06 22 22.3 +0.8**
VRAC Vranov 81.85 327 P **P 06 22 22.4 +0.9**
SMCO Snowmass 81.95 47 *e*P **P 06 22 22.9 +0.9**
comp=Z,21nm,1.2s,mb5.0
SMCO *e*pP pP 06 22 34.4 +0.6
MCD Coleburn Disti 81.96 342⇑ *e*P **P 06 22 21.9 -0.1**
MCD AMb AMB 06 22 23.4
comp=Z,26nm,1.1s,mb5.1
MCD Coleburn Disti 81.96 342⇑ *e*P **P 06 22 21.9 -0.1**
MCD AMb AMB 06 22 23.4
comp=Z,26nm,1.1s,mb5.1
REB Eisghbrachaidh 81.98 343 *e*P **P 06 22 22.2 +0.1**
REB Eisghbrachaidh 81.98 343 *e*P **P 06 22 22.2 +0.1**
SMOL Smolenice 82.07 326 *e*P **P 06 22 24.1 +1.5**
BZS Buzias 82.18 322 ⇓P **P 06 22 23.5 +0.3**
BZS Buzias 82.18 322 P **P 06 22 23.3 +0.1**
SRO Srobarova 82.18 325 *e*P **P 06 22 24.4 +1.2**
SRO *e*pP pP 06 22 34.0 -1.0
SRO *e*PP PP 06 25 27.2 -4.5
PRU Pruhonice 82.22 329 *e*P **P 06 22 23.5 +0.1**
PRU *e*pP pP 06 22 34.1 -1.1
PRU AMS AMS 07 03 30.0
comp=Z,1μm,14.5s
ISCO Idaho Springs 82.33 46 *e*P **P 06 22 25.0 +0.9**
comp=Z,10nm,1.0s,mb4.7
ISCO *e*pP pP 06 22 36.4 +0.5
TREC Trest 82.34 328 *e*P **P 06 22 24.5 +0.4**
TREC AMS AMS 07 02 10.0
comp=Z,2μm,18.3s
ZST Bratislava 82.45 326 *e*P **P 06 22 25.7 +1.1**
ZST *e*PP PP 06 25 35.0 +1.0
CLZ Clausthal 82.46 332 *e*P **P 06 22 24.8 +0.1**
comp=Z,15nm,1.0s,mb4.9
WERD Werda 82.79 330 *e*P **P 06 22 26.3 -0.1**
comp=Z,5.0nm,1.1s,mb4.5
NKC Novy Kostel 82.90 330 *e*P **P 06 22 27.0 0.0**
NKC AMS AMS 07 03 00.0
comp=Z,2μm,14.0s
MOX Moxa 82.92 331 *e*P **P 06 22 26.9 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
MOX Moxa 82.92 331 *e*P **P 06 22 27.1 +0.1**
comp=Z,32nm,1.6s,mb5.1
MOX
comp=Z,1μm,18.0s
MOX Moxa 82.92 331 *e*P **P 06 22 27.1 +0.1**
MOX pmax pmax
comp=Z,32nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,1μm,18.0s,MS5.3
IBBN Ibbenburen 83.06 333 *e*P **P 06 22 27.6 -0.2**
comp=Z,20nm,0.8s,mb5.2
PKSM Moragy 83.20 324 P **P 06 22 28.4 -0.1**
KHC Kasperske Hory 83.28 329 *e*P **P 06 22 29.1 +0.2**
KHC *e*pP pP 06 22 39.8 -1.0
KHC AMS AMS 07 04 10.0
comp=Z,2μm,16.5s
ZAPS Zavoj/Pirot 83.31 320⇑ *i*P **P 06 22 29.4 +0.4**
ROTZ Rotzenmuhle 83.36 330 *e*P **P 06 22 29.8 +0.5**
comp=Z,20nm,0.9s,mb5.2
GEC2 GERESS Array S 83.45 328 *e*P **P 06 22 29.7 -0.1**
comp=Z,10.0nm,0.8s,mb4.9
GEC2 *e*pP pP 06 22 40.7 -0.9
GERES GERESS Array B 83.45 328 P **P 06 22 29.7 -0.1**
comp=Z,6.0nm,0.6s,mb4.8,baz=36,slow=5.8,SNR=56
GERES pP pP 06 22 40.4 -1.3
comp=Z,6.4nm,0.8s,baz=27,slow=3.0,SNR=14
GERES PP PP 06 25 38.8 -3.4
comp=Z,0.9nm,0.9s,baz=45,slow=6.9,SNR=2.9
GERES LR LR 07 04 26.1
comp=Z,2μm,18.1s,MS5.4,baz=10,slow=39
GERES GERESS Array B 83.45 328 P **P 06 22 29.7 -0.1**
GERES *PP pP 06 22 40.4 -1.2
GERES 06 25 38.8
VTS Vitosha 83.49 319 ⇑P **P 06 22 30.9 +0.9**
VTS Vitosha 83.49 319 P **P 06 22 31.0 +1.0**
WET Wettzell 83.57 329 *e*P **P 06 22 30.6 +0.2**
comp=Z,10.0nm,1.1s,mb4.9
SDCO Great Sand Dun 83.76 47 *e*P **P 06 22 32.3 +0.9**
comp=Z,22nm,1.3s,mb5.1
GRA1 Grafenberg Arr 83.82 330 *e*P **P 06 22 32.2 +0.5**
comp=Z,46nm,1.1s,mb5.5
GRA1 *e*pP pP 06 22 43.2 -0.3
GRA1 LR LR
comp=Z,800nm,18.6s,MS5.1
GRF Grafenberg Arr 83.82 330 *e*P **P 06 22 32.2 +0.5**
comp=Z,46nm,1.1s,mb5.5
GRF *e*pP pP 06 22 43.2 -0.3
GRF *e*L 07 03 50.8
comp=Z,838nm,18.6s
ARSA Arzberg 83.87 326⇑ *i*P **P 06 22 32.3 +0.3**
comp=Z,16nm,1.6s,mb4.9
ESK Eskdalemuir 83.95 341 *e*P **P 06 22 32.3 -0.1**
comp=Z,5.4nm,0.6s,mb4.8
ESK *e*pP pP 06 22 44.7 +0.5
TUC Tucson 83.96 54 *e*P **P 06 22 33.2 +0.8**
comp=Z,19nm,1.3s,mb5.1
MOA Molln 83.97 327⇑ *i*P **P 06 22 32.6 +0.1**
comp=Z,19nm,1.4s,mb5.0
MOA Molln 83.97 327 ⇑P **P 06 22 32.6 +0.1**
comp=Z,19nm,1.4s,mb5.0
DIVS Divcibare 84.08 322⇑ *i*P **P 06 22 32.8 -0.2**
PPT Papeete 84.18 117 *e*LR LR 06 48 07.3
comp=Z,1μm,21.8s,baz=310
PPT Papeete 84.18 117 LR LR 06 53 47.9
comp=Z,734nm,20.0s,MS5.1,baz=243,slow=31
GROS Grobnik 84.47 326 *e*P **P 06 22 34.8 -0.2**
TNS Taunus Mts 84.48 332 *e*P **P 06 22 35.0 -0.1**
comp=Z,9.0nm,1.0s,mb4.8
PERS Pernice 84.52 326 *e*P **P 06 22 35.2 0.0**
GMK Mull of Kintyr 84.55 342⇑ *e*P **P 06 22 35.5 +0.2**
GMK AMb AMB 06 22 37.4
comp=Z,46nm,1.1s,mb5.5
GMK Mull of Kintyr 84.55 342⇑ *e*P **P 06 22 35.5 +0.2**
GMK AMb AMB 06 22 37.4
comp=Z,46nm,1.1s,mb5.5
STIP Stip 84.66 319 *e*P **P 06 22 35.6 -0.3**
VAY Valandovo 84.72 319 *e*P **P 06 22 35.8 -0.5**
GAL1 Galloway 84.75 341⇑ *e*P **P 06 22 36.1 -0.3**
GAL1 AMb AMB 06 22 39.1
comp=Z,63nm,1.3s,mb5.6
GAL1 Galloway 84.75 341⇑ *e*P **P 06 22 36.1 -0.3**
GAL1 AMb AMB 06 22 39.1
comp=Z,63nm,1.3s,mb5.6
GOLS Golise 84.76 325 *i* P **P 06 22 36.2 -0.2**
SKO Skopje 84.86 320 *e*P **P 06 22 38.1 +1.2**
GCIS Gornji Cirnik 84.86 325 *i* P **P 06 22 36.6 -0.4**
OBKA Obir 84.87 326⇑ *i*P **P 06 22 36.9 -0.1**
comp=Z,6.3nm,0.9s,mb4.8
EIL Elat 84.90 303 *e*P **P 06 22 37.9 +0.7**
comp=Z,538nm,1.1s
GCL Cushendall 84.92 342⇑ *e*P **P 06 22 37.2 -0.1**
GCL AMb AMB 06 22 38.9
comp=Z,76nm,1.4s,mb5.6
GCL Cushendall 84.92 342⇑ *e*P **P 06 22 37.2 -0.1**
GCL AMb AMB 06 22 38.9
comp=Z,76nm,1.4s,mb5.6
KBA Koelnbreinsper 84.96 327⇑ *i*P **P 06 22 37.3 -0.2**
comp=Z,10.0nm,1.1s,mb4.9
CRES Cresnjev 84.97 325 *e*P **P 06 22 37.2 -0.3**
HGN Heimansgroeve 84.97 334 *e*P **P 06 22 36.3 -1.2**
comp=Z,26nm,1.3s,mb5.2
FUR Furstenfeldbru 85.00 329 *e*P **P 06 22 38.0 +0.4**
comp=Z,25nm,0.8s,mb5.4
ANMO Albuquerque 85.02 50⇑ *e*P **P 06 22 39.1 +1.3**
ANMO Albuquerque 85.02 50 *e*P **P 06 22 39.5 +1.7**
comp=Z,24nm,1.2s,mb5.2
ANMO *e*pP pP 06 22 50.5 +0.9
BEBN Eben Emael 85.04 334 P **P 06 22 37.6 -0.3**
MEM Membach 85.08 333 P **P 06 22 38.0 -0.1**
MEM AP pP 06 22 49.0 -0.9
MEM XP sP 06 22 55.1 +0.8

VISS Visnje 85.27 326 *e*P **P 06 22 38.4 -0.6**
BOJS Bojanci 85.31 325 *e*P **P 06 22 39.0 -0.2**
LPM Los Pinos Moun 85.33 50 *e*P **P 06 22 40.3 +1.0**
LPM *e*pP pP 06 22 51.5 +0.3
STU Stuttgart 85.36 331 *e*P **P 06 22 39.5 0.0**
comp=Z,23nm,0.8s,mb5.4
STU *e*pP pP 06 22 50.7 -0.6
STU Stuttgart 85.36 331 *e*P **P 06 22 39.5 0.0**
STU *e*pP pP 06 22 51.6 +0.3
STU *e*sP sP 06 22 57.2 +1.5
WIM Isle of Man 85.38 341 *e*P **P 06 22 39.7 +0.1**
WIM AMb AMB 06 22 43.2
comp=Z,52nm,1.3s,mb5.5
WIM Isle of Man 85.38 341 *e*P **P 06 22 39.7 +0.1**
WIM AMb AMB 06 22 43.2
comp=Z,52nm,1.3s,mb5.5
BNM Barren Site 85.44 51 *e*P **P 06 22 41.0 +1.1**
BNM *e*pP pP 06 22 51.7 0.0
GMM Mts of Mourne 85.63 342⇑ *e*P **P 06 22 40.5 -0.3**
GMM AMb AMB 06 22 42.0
comp=Z,71nm,1.4s,mb5.7
GMM Mts of Mourne 85.63 342⇑ *e*P **P 06 22 40.5 -0.3**
GMM AMb AMB 06 22 42.0
comp=Z,71nm,1.4s,mb5.7
SNF Seneffe 85.77 334 P **P 06 22 41.1 -0.4**
comp=Z,15nm,1.4s,mb5.0
SNF XP sP 06 22 58.7 +0.9
WLF Walferdange 85.80 333 *e*P **P 06 22 42.0 +0.3**
comp=Z,22nm,1.6s,mb5.1
WLF Walferdange 85.80 333 P **P 06 22 41.6 0.0**
comp=Z,18nm,1.5s,mb5.1
WLF AP pP 06 22 50.2 -3.3
WLF Walferdange 85.80 333 *e*P **P 06 22 41.5 -0.1**
OHR Ohrid 85.81 319 *e*P **P 06 22 41.0 -0.8**
GIVF Givet 85.92 334⇑ *i*P **P 06 22 41.7 -0.6**
comp=Z,44nm,1.2s,mb5.3
GIVF Givet 85.92 334⇑ *i*P **P 06 22 41.7 -0.6**
comp=Z,22nm,1.2s,mb5.3
DOU Dourbes 86.01 334 P **P 06 22 42.4 -0.3**
comp=Z,5.0nm,1.2s,mb4.6
DOU XP sP 06 22 58.8 -0.1
BFO Black Forest 86.06 331 *e*P **P 06 22 42.6 -0.3**
comp=Z,15nm,0.8s,mb5.3
BFO *e*pP pP 06 22 53.6 -1.2
BFO Black Forest 86.06 331 P **P 06 22 42.0 -0.9**
comp=Z,6.4nm,0.3s,mb5.3,SNR=9.3
WLF1 Llynfaes 86.08 340 *e*P **P 06 22 41.3 -1.7**
WLF1 AMb AMB 06 22 45.0
comp=Z,47nm,1.3s,mb5.6
WLF1 Llynfaes 86.08 340 *e*P **P 06 22 41.3 -1.7**
WLF1 AMb AMB 06 22 45.0
comp=Z,47nm,1.3s,mb5.6
SCHQ Schefferville 86.08 16 P **P 06 22 43.1 +0.1**
comp=Z,7.9nm,0.7s,mb5.0,baz=354,slow=6.1,SNR=16
SCHQ pP pP 06 22 54.4 -0.5
comp=Z,8.0nm,0.8s,baz=1.3,slow=5.8,SNR=6.5
SCHQ LR LR 07 01 44.3
comp=Z,533nm,19.3s,MS5.0,baz=147,slow=36
DAVA Damuels 86.27 329⇑ *i*P **P 06 22 43.8 -0.2**
comp=Z,26nm,1.2s,mb5.3
DAVA Damuels 86.27 329 ⇑P **P 06 22 43.8 -0.2**
comp=Z,26nm,1.2s,mb5.3
CBKS Cedar Bluff 86.34 43 P **P 06 22 44.3 0.0**
YRE Yr Eifl 86.36 340 *e*P **P 06 22 44.2 -0.2**
YRE AMb AMB 06 22 45.8
comp=Z,53nm,1.1s,mb5.7
YRE Yr Eifl 86.36 340 *e*P **P 06 22 44.2 -0.2**
YRE AMb AMB 06 22 45.8
comp=Z,53nm,1.1s,mb5.7
CDF Champ du Feu 86.40 331⇑ *i*P **P 06 22 44.1 -0.5**
comp=Z,60nm,1.2s,mb5.4
CDF Champ du Feu 86.40 331⇑ *i*P **P 06 22 44.1 -0.5**
comp=Z,30nm,1.2s,mb5.4
DLF Lyons Farm 86.64 341 *e*P **P 06 22 45.0 -0.8**
DCN Croghan 86.78 342 *e*P **P 06 22 46.0 -0.5**
HINF Hinterlafeld 87.05 331 *e*P **P 06 22 46.8 -1.0**
comp=Z,5.8nm,0.8s,mb4.6
HINF Hinterlafeld 87.05 331 *e*P **P 06 22 46.8 -1.0**
comp=Z,2.9nm,0.8s,mb4.6
HAU Haudompre 87.09 332⇑ *i*P **P 06 22 48.1 +0.1**
comp=Z,18nm,0.9s,mb5.0
HAU *e*R
comp=Z,772nm,20.5s
HAU Haudompre 87.09 332⇑ *i*P **P 06 22 48.1 +0.1**
comp=Z,9.1nm,0.9s,mb5.0
HAU LR LR
comp=Z,770nm,20.5s,MS5.1
MEZF Maizieres J'vi 87.17 333 *e*P **P 06 22 48.3 -0.1**
KSU1 Kansas State U 87.84 41 *e*P **P 06 22 51.2 -0.4**
KSU1 *e*pP pP 06 23 02.7 -0.8
TBI Tubuai 88.02 121 *e*LR LR 06 49 53.4
comp=Z,1μm,25.5s,baz=311
GDL2 Guadalupe Moun 88.15 51 P **P 06 22 54.2 +1.1**
CABF La Chapelle 88.34 331 *e*P **P 06 22 53.4 -0.6**
comp=Z,10nm,0.8s,mb4.8
CABF La Chapelle 88.34 331 *e*P **P 06 22 53.4 -0.6**
comp=Z,10nm,0.8s,mb4.8
AQU L'Aquila 88.58 324 *e*P **P 06 22 55.4 +0.3**
comp=Z,19nm,0.9s,mb5.4
LOR Lormes 88.64 333 *e*P **P 06 22 54.9 -0.5**
comp=Z,28nm,1.2s,mb5.2
LOR *e*R
comp=Z,1μm,17.8s
LOR Lormes 88.64 333 *e*P **P 06 22 54.9 -0.5**
comp=Z,14nm,1.2s,mb5.2
LOR LR LR
comp=Z,1μm,17.8s,MS5.4
FLN La Foliniere 88.89 336 *e*P **P 06 22 56.0 -0.5**
FLN *e*R
comp=Z,1μm,20.5s
FLN La Foliniere 88.89 336 *e*P **P 06 22 56.0 -0.5**
FLN LR LR
comp=Z,1μm,20.5s,MS5.4
LDF La Druitiere 88.91 336 *e*P **P 06 22 56.2 -0.5**
comp=Z,20nm,0.9s,mb5.2
LDF La Druitiere 88.91 336 *e*P **P 06 22 56.2 -0.5**
comp=Z,10nm,0.9s,mb5.2
SSF Saint Saulge 88.95 333⇑ *i*P **P 06 22 56.4 -0.4**
comp=Z,40nm,1.4s,mb5.3
SSF Saint Saulge 88.95 333⇑ *i*P **P 06 22 56.4 -0.4**
comp=Z,20nm,1.4s,mb5.3
LPL La Plagne 88.98 330⇑ *i*P **P 06 22 56.5 -0.5**
comp=Z,9.9nm,0.6s,mb5.0
LPL La Plagne 88.98 330⇑ *i*P **P 06 22 56.5 -0.5**
comp=Z,4.9nm,0.6s,mb5.0
LPG La Plagne 88.99 330⇑ *i*P **P 06 22 56.7 -0.3**
comp=Z,17nm,0.8s,mb5.2
LPG La Plagne 88.99 330⇑ *i*P **P 06 22 56.7 -0.3**
comp=Z,8.5nm,0.8s,mb5.1
SMF Signal de Mont 89.17 332⇑ *i*P **P 06 22 57.4 -0.5**
comp=Z,54nm,1.3s,mb5.4
SMF Signal de Mont 89.17 332⇑ *i*P **P 06 22 57.4 -0.5**
comp=Z,27nm,1.3s,mb5.4
AVF Avril sur Loir 89.23 333⇑ *i*P **P 06 22 57.8 -0.4**
comp=Z,53nm,1.1s,mb5.5
AVF Avril sur Loir 89.23 333⇑ *i*P **P 06 22 57.8 -0.4**
comp=Z,26nm,1.1s,mb5.5
TIP Timpagrande 89.33 320 *e*P **P 06 22 57.3 -1.3**
GRR Gorron 89.33 336⇑ *i*P **P 06 22 58.3 -0.3**
comp=Z,44nm,1.1s,mb5.4
GRR Gorron 89.33 336⇑ *i*P **P 06 22 58.3 -0.3**
comp=Z,22nm,1.1s,mb5.4
BNI Bardonecchia 89.39 330 P **P 06 22 56.9 -1.9**
MBDF Montbardon 89.61 330⇑ *i*P **P 06 22 58.8 -1.1**
comp=Z,15nm,0.9s,mb5.0
MBDF Montbardon 89.61 330⇑ *i*P **P 06 22 58.8 -1.1**
comp=Z,7.5nm,0.9s,mb5.0
WMOK Wichita Mounta 89.76 46 *e*P **P 06 23 00.8 +0.1**
ORIF Oris-en-Rattie 89.82 330 *e*P **P 06 23 00.3 -0.6**
ORIF *e*R
comp=Z,1μm,19.5s
SGMF Saint Gilles 90.00 337⇑ *i*P **P 06 23 01.4 -0.4**
comp=Z,23nm,0.8s,mb5.2
SGMF Saint Gilles 90.00 337⇑ *i*P **P 06 23 01.4 -0.4**
comp=Z,12nm,0.8s,mb5.3
SBF Sospel 90.04 329⇑ *i*P **P 06 23 02.2 +0.2**
comp=Z,38nm,1.0s,mb5.4
SBF Sospel 90.04 329⇑ *i*P **P 06 23 02.2 +0.2**
comp=Z,19nm,1.0s,mb5.4
TCF Toulx Ste Croi 90.08 333⇑ *i*P **P 06 23 01.8 -0.3**
comp=Z,22nm,1.1s,mb5.1
TCF Toulx Ste Croi 90.08 333⇑ *i*P **P 06 23 01.8 -0.3**
comp=Z,11nm,1.1s,mb5.1
ROSF Rostrenen 90.15 337⇑ *i*P **P 06 23 02.2 -0.3**
comp=Z,37nm,1.1s,mb5.3
ROSF Rostrenen 90.15 337⇑ *i*P **P 06 23 02.2 -0.3**

comp=Z,18nm,1.0s,mb5.4
VIVF Saint-Julien-I 90.35 331⇑iP P 06 23 03.0 -0.4
comp=Z,18nm,1.0s,mb5.1
VIVF Saint-Julien-I 90.35 331⇑iP P 06 23 03.0 -0.4
comp=Z,9.1nm,1.0s,mb5.1
PGF Pioggiola 90.43 327⇑iP P 06 23 02.8 -1.0
comp=Z,35nm,1.0s,mb5.3
PGF Pioggiola 90.43 327⇑iP P 06 23 02.8 -1.0
comp=Z,18nm,1.0s,mb5.3
QUIF Quistinic 90.49 337 eP P 06 23 03.4 -0.6
TXAR Lajitas Array 90.53 52 P **P 06 23 04.9 +0.7**
comp=Z,2.4nm,0.7s,mb4.6,baz=292,slow=3.4,SNR=37
TXAR pP pP 06 23 15.7 -0.4
comp=Z,6.3nm,0.8s,baz=291,slow=2.6,SNR=20
TXAR LR LR 07 05 47.8
comp=Z,476nm,18.1s,MS5.0,baz=285,slow=37
TXAR Lajitas Array 90.53 52 P **P 06 23 04.9 +0.7**
TXAR *PP pP 06 23 15.7 -0.4
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,6.0nm,0.8s
TXAR MLR MLR
comp=Z,476nm,18.1s
FRF La Foret Royal 90.62 329⇑iP P 06 23 03.5 -1.1
comp=Z,26nm,1.1s,mb5.2
FRF La Foret Royal 90.62 329⇑iP P 06 23 03.5 -1.1
comp=Z,13nm,1.1s,mb5.2
MFF Saint Martin d 90.64 335 eP P 06 23 04.6 -0.2
comp=Z,77nm,1.3s,mb5.6
MFF Saint Martin d 90.64 335 eP P 06 23 04.6 -0.2
comp=Z,39nm,1.3s,mb5.6
SMRF Simiane la Rot 90.72 330⇑iP P 06 23 04.8 -0.3
comp=Z,21nm,1.2s,mb5.0
SMRF Simiane la Rot 90.72 330⇑iP P 06 23 04.8 -0.3
comp=Z,21nm,1.2s,mb5.3
LMR La Mourre 90.86 329⇑iP P 06 23 04.8 -1.0
comp=Z,35nm,1.1s,mb5.3
LMR La Mourre 90.86 329⇑iP P 06 23 04.8 -1.0
comp=Z,17nm,1.1s,mb5.3
RJF Les Rejaudoux 91.17 333⇑iP P 06 23 07.1 -0.1
comp=Z,43nm,1.2s,mb5.4
RJF eR
comp=Z,1μm,17.0s
RJF Les Rejaudoux 91.17 333⇑iP P 06 23 07.1 -0.1
comp=Z,22nm,1.2s,mb5.3
RJF LR LR
comp=Z,1μm,17.0s,MS5.4
CAF Calviac 91.29 333⇑iP P 06 23 08.0 +0.3
comp=Z,37nm,1.2s,mb5.3
CAF Calviac 91.29 333⇑iP P 06 23 08.0 +0.3
comp=Z,18nm,1.2s,mb5.3
LASF Ste Croix 91.32 331⇑iP P 06 23 07.8 -0.1
comp=Z,41nm,1.3s,mb5.3
LFF La Frestale 91.77 333⇑iP P 06 23 10.0 0.0
comp=Z,88nm,1.3s,mb5.6
LFF La Frestale 91.77 333⇑iP P 06 23 10.0 0.0
comp=Z,44nm,1.3s,mb5.6
JCT Junction City 92.16 49 eP P 06 23 12.1 +0.3
MTLF Montolieu 92.58 332⇑iP P 06 23 13.6 -0.1
comp=Z,38nm,1.3s,mb5.4
MTLF Montolieu 92.58 332⇑iP P 06 23 13.6 -0.1
comp=Z,19nm,1.3s,mb5.4
SIUC Southern Illin 92.70 38 P **P 06 23 13.5 -0.8**
SIUC epP pP 06 23 25.8 -0.4
MIAR Mount Ida 92.84 43 eP P 06 23 15.3 +0.4
comp=Z,30nm,1.1s,mb5.6
MIAR epP pP 06 23 26.3 -0.6
EPF Esparros 93.56 333 eP P 06 23 17.7 -0.5
ACSO Alum Creek Sta 93.60 33 eP P 06 23 18.4 0.0
comp=Z,7.3nm,0.8s,mb5.2
ACSO epP pP 06 23 29.8 -0.5
WCI Wyandotte Cave 93.72 36 eP P 06 23 19.0 0.0
comp=Z,1.9nm,0.6s,mb4.7
ETSF Etsaut 94.00 333⇑iP P 06 23 20.5 +0.2
comp=Z,20nm,1.1s,mb5.2
ETSF Etsaut 94.00 333⇑iP P 06 23 20.5 +0.2
comp=Z,10nm,1.1s,mb5.2
ESDC Sonseca Array 98.06 334 P **P 06 23 38.1 -0.6**
comp=Z,0.2nm,0.3s,baz=357,slow=0.4,SNR=4.2
RKT Rikitea 98.35 112 eLR LR 06 54 41.8
comp=Z,956nm,24.5s,baz=305
TORD Torodi Ar. Bea 117.97 315 PKP PKPdf 06 28 48.7 -0.1
comp=Z,2.9nm,1.0s,baz=13,slow=1.9,SNR=10
TORD PP PP 06 29 54.3 -9.0
comp=Z,2.1nm,0.8s,baz=36,slow=4.9,SNR=7.4
SDV Santo Domingo 125.87 40 ePKPdf PKPdf 06 29 04.1 +0.1
BOSA Boshof 126.53 259 PKP PKPdf 06 29 05.3 +0.1
comp=Z,7.3nm,1.0s,baz=58,slow=6.8,SNR=5.4
BOSA Boshof 126.53 259 PKIKP PKPdf 06 29 05.3 +0.1
BOSA pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 126.53 259 ePKPdf PKPdf 06 29 05.5 +0.2
ROSC El Rosal 127.11 47 PKP PKPdf 06 29 07.7 +1.4
comp=Z,2.5nm,0.7s,baz=252,slow=3.2,SNR=3.6
SYO Syowa Base 127.54 206⇑ ePdiff Pdif 06 25 50.6 +0.8
SYO Syowa Base 127.54 206⇑ ePKPdf PKPdf 06 29 06.2 -0.9
TSUM Tsumeb 128.26 273 ePKPdf PKPdf 06 29 08.9 +0.3
NNA Nana 137.86 65 ePKPdf PKPdf 06 29 28.0 +1.4
LPAZ La Paz 147.00 61 PKPbc PKPbc 06 29 45.8 +1.0
comp=Z,4.1nm,0.5s,baz=325,slow=3.6,SNR=24
LPAZ pPKPbc pPKPbc 06 29 57.0 0.0
comp=Z,9.5nm,0.5s,baz=351,slow=7.1,SNR=13
LPAZ La Paz 147.00 61 PKP2 PKPab 06 29 45.8 -0.5
LPAZ pmax pmax
comp=Z,4.0nm,0.5s
LPAZ pmax pmax
comp=Z,10.0nm,0.5s
LPAZ La Paz 147.00 61 ePKPbc PKPbc 06 29 45.9 +1.1
LPAZ ePKPab PKPab 06 29 47.8 +1.5
RCBR Riachuelo 149.65 355 ePKPdf PKPdf 06 29 48.0 +0.9
RCBR ePKPbc PKPbc 06 29 52.0 +0.3
RCBR ePKPab PKPab 06 29 58.1 +1.2
LVC Limon Verde 150.34 71 ePKPbc PKPbc 06 29 54.6 +1.2
BDFB Brasilia 157.79 25 PKPab PKPab 06 30 30.5 -0.9
comp=Z,2.5nm,0.9s,baz=346,slow=7.2,SNR=3.4
BDFB Brasilia 157.79 25 PKP2 PKPab 06 30 30.5 -0.9
BDFB pmax pmax
comp=Z,3.0nm,1.0s

*ISCJB **03** 06:18:26.2±1.2, 3564N±003×3134E±004, h11km±9km, Error ellipse: s-maj=5.9km s-min=5.2km az=62.4*
*CSEM **03** 06:18:26.0±0.1, 3563N×3135E, h10km, MD3.6, Error ellipse: s-maj=2.7km s-min=2.0km az=111.0*
*ISK **03** 06:18:29.3, 3601N×3162E, h5km, MD3.6*
*HLW **03** 06:18:34.3, 3537N×3125E, h28km, Mb3.4*
ISC 03 06:18:26.5±1.2, 3571N±003×3135E±005, h1km±10km, n27, σ0°90/39, 7C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**1.57**	**53**	*i* P	**Pn**	06 18 54.4	**-1.1**
ERMK				*i* S	**Sn**	06 19 13.0	**-3.5**
IKL	**Isikli**	**1.97**	**74**	PN	**Pn**	06 19 01.5	**+0.5**
IKL				SN	**Sn**	06 19 24.6	**-1.7**
ISP	**Isparta**	**2.23**	**343**	*e*PN	**Pn**	06 19 05.3	**+0.7**
KONT	**Konya--Tatoy**	**2.38**	**20**	PN	**Pn**	06 19 06.3	**-0.3**
TKTP	**Tekketepe**	**2.47**	**341**	*i* P	**Pg**	06 19 12.6	**-1.2**
TKTP				*i* S	**Sg**	06 19 46.1	**+0.3**
DNZL	**Cakiroluk**	**2.71**	**318**	*i* P	**Pg**	06 19 18.4	**0.0**
DNZL				*i* S	**Sg**	06 19 59.3	**+5.8**
MERS	**Mersin**	**2.81**	**65**	PN	**Pn**	06 19 11.8	**-0.8**
KIZT	**Kizilcal**	**3.19**	**8**	PN	**Pn**	06 19 17.7	**-0.1**
KARA	**Karaisali**	**3.37**	**62**	PN	**Pn**	06 19 20.6	**+0.4**
BDRM	**Kayabasi**	**3.43**	**294**	*i* P	**Pn**	06 19 18.6	**-2.4**
BDRM				*i* S	**Sn**	06 20 02.5	**+0.3**
BDRM	**Kayabasi**	**3.43**	**294**	*i* P	**Pn**	06 19 18.6	**-2.4**
BDRM				*i* S	**Sn**	06 20 02.5	**+0.2**
CEYT	**Ceyhan**	**3.78**	**69**	*e*PN	**Pn**	06 19 26.8	**+0.9**
ESKT	**Eskisehir**	**3.82**	**354**	*i* P	**Pn**	06 19 29.2	**+2.7**
ESKT				*i* S	**Sn**	06 20 16.5	**+4.4**
ESKT	**Eskisehir**	**3.82**	**354**	*e*Pn	**Pn**	06 19 28.1	**+1.6**
SEYT	**Eskypehyr**	**3.82**	**354**	*i* P	**Pn**	06 19 29.2	**+2.7**
SEYT				*i* S	**Sn**	06 20 16.5	**+4.4**
COBT	**Iskenderun**	**4.06**	**77**	*i* P	**Pn**	06 19 31.4	**+1.7**
COBT				*i* S	**Sn**	06 20 18.2	**+0.4**
KAMT	**Kaman**	**4.11**	**27**	*e*PN	**Pn**	06 19 30.5	**+0.1**
GAZ	**Gaziantep**	**4.95**	**71**	*e*PN	**Pn**	06 19 42.9	**+0.9**
AMAG	**Maghara**	**5.29**	**162**	⇓P	**Pn**	06 19 46.6	**-0.1**
AMAG				S	**Sn**	06 20 39.5	**-8.7**
KOT	**Kottamia**	**5.78**	**176**	⇓P	**Pn**	06 19 53.2	**-0.2**
HMAT	**Matruh**	**5.81**	**219**	⇑P	**Pn**	06 19 53.5	**-0.4**
HMAT				S	**Sn**	06 20 52.0	**-9.2**
SUZ		**5.99**	**168**	⇑P	**Pn**	06 19 56.3	**+0.1**
GLL	**Jalalah**	**6.12**	**177**	⇑P	**Pn**	06 19 57.7	**-0.4**
SLUM		**6.62**	**232**	⇑P	**Pn**	06 20 05.5	**+0.5**
SLUM				S	**Sn**	06 21 12.3	**-8.8**
AWBH		**7.65**	**196**	⇑P	**Pn**	06 20 19.3	**+0.2**
SWA2		**8.14**	**219**	⇑P	**Pn**	06 20 26.1	**+0.2**
HFRF	**Wahat Farafira**	**8.92**	**198**	⇑P	**Pn**	06 20 36.4	**-0.1**

IDC 03 06:23:22.4±2.0, 374N×12688E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=163.0km s-min=24.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	06 28 43.2	-1.5
	1.6nm,0.7s,baz=342,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	06 29 17.8	+2.1
	0.2nm,0.4s,baz=355,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	06 33 14.4	+0.1
	0.4nm,0.5s,baz=121,slow=7.5,SNR=11						

*NEIC **03** 06:32:38.9, 4078S×17497E, h47km, ML3.7(WEL), After WEL.*
NEIC Felt in the Hutt Valley and at Wellington.
WEL 03 06:32:38.9±0.1, 4076S×17497E, h44km±1km, ML3.6/14, 5C-7D, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.11**	**203**	⇓P*	Pn	06 32 45.5	-0.5
KIW				S*	Sn	06 32 50.5	-0.5
KIW	**Kapiti Island**	**0.11**	**203**	P	Pn	06 32 45.5	-0.5
KIW				S	Sn	06 32 50.5	-0.5
CAW	**Cannon Point**	**0.35**	**167**	⇓P*	Pn	06 32 48.1	+0.1
CAW				*e*S*	Sn	06 32 55.0	+0.6
CAW	**Cannon Point**	**0.35**	**167**	P	Pn	06 32 48.1	+0.1
CAW				S	Sn	06 32 55.8	+1.4
MRZ	**Mangatainoka R**	**0.48**	**78**	⇑P*	Pn	06 32 49.3	-0.2
MRZ				S*	Sn	06 32 57.6	+0.6
MRZ	**Mangatainoka R**	**0.48**	**78**	P	Pn	06 32 49.4	-0.1
MRW	**Makara Radio**	**0.51**	**203**	P*	Pn	06 32 49.8	-0.1
MRW				S*	Sn	06 32 58.2	+0.6
MRW	**Makara Radio**	**0.51**	**203**	P	Pn	06 32 49.8	-0.1
MRW				S	Sn	06 32 58.3	+0.6
WEL	**Wellington**	**0.54**	**196**	P*	Pn	06 32 50.3	0.0
WEL	**Wellington**	**0.54**	**196**	P	Pn	06 32 50.4	+0.1
MTW	**Mount Morrison**	**0.57**	**134**	P*	Pn	06 32 50.5	-0.1
MTW	**Mount Morrison**	**0.57**	**134**	P	Pn	06 32 50.5	-0.1
SNZO	**South Karori**	**0.58**	**200**	⇓P*	Pn	06 32 50.7	-0.1
SNZO	**South Karori**	**0.58**	**200**	P	Pn	06 32 50.7	-0.1
BHW	**Baring Head**	**0.65**	**186**	P*	Pn	06 32 51.7	0.0
BHW	**Baring Head**	**0.65**	**186**	P	Pn	06 32 50.8	-0.9
MSWZ	**Moikau Station**	**0.69**	**162**	⇑P*	Pn	06 32 52.1	-0.1
TCW	**Tory Channel**	**0.69**	**229**	⇓P*	Pn	06 32 51.7	-0.5
TCW	**Tory Channel**	**0.69**	**229**	P	Pn	06 32 51.7	-0.5
PAWZ	**Paruwai Farm**	**0.71**	**151**	⇑PN	Pn	06 32 52.3	-0.2
PAWZ	**Paruwai Farm**	**0.71**	**151**	P	Pn	06 32 52.3	-0.2
DUWZ	**D'Urville Isla**	**0.79**	**267**	⇑PN	Pn	06 32 52.8	-0.8
TRWZ	**Traveller**	**0.84**	**140**	PN	Pn	06 32 53.5	-0.7
BFZ	**Birch Farm**	**0.98**	**86**	PN	Pn	06 32 55.4	-0.7
BFZ	**Birch Farm**	**0.98**	**86**	P	Pn	06 32 55.5	-0.6
WAZ	**Wanganui**	**1.01**	**1**	⇑PN	Pn	06 32 56.6	0.0
WAZ	**Wanganui**	**1.01**	**1**	P	Pn	06 32 56.6	0.0
TUWZ	**Tuamarina**	**1.02**	**229**	PN	Pn	06 32 56.6	-0.1
TSZ	**Takapari Road**	**1.03**	**48**	PN	Pn	06 32 56.5	-0.4
TSZ	**Takapari Road**	**1.03**	**48**	P	Pn	06 32 56.4	-0.5
BSWZ	**Blackbirch Sta**	**1.26**	**221**	PN	Pn	06 32 59.8	-0.2
BSWZ	**Blackbirch Sta**	**1.26**	**221**	P	Pn	06 32 58.9	-1.1
NNZ	**Nelson**	**1.28**	**249**	PN	Pn	06 32 60.0	-0.3
NNZ	**Nelson**	**1.28**	**249**	P	Pn	06 33 00.2	-0.1
MTVZ	**Mangateitei**	**1.43**	**16**	PN	Pn	06 33 02.3	0.0
MOVZ	**Moawhango**	**1.48**	**24**	⇓PN	Pn	06 33 02.4	-0.7
PKVZ	**Pokaka**	**1.50**	**11**	PN	Pn	06 33 03.0	-0.3
WNVZ	**Wahianoa**	**1.51**	**19**	PN	Pn	06 33 03.4	-0.1
WNVZ	**Wahianoa**	**1.51**	**19**	P	Pn	06 33 03.4	-0.1
TRVZ	**Turoa**	**1.53**	**17**	PN	Pn	06 33 03.8	+0.1
RAEZ	**Rainy Point**	**1.54**	**343**	PN	Pn	06 33 04.7	+0.9
RAEZ	**Rainy Point**	**1.54**	**343**	P	Pn	06 33 04.8	+1.0
FWVZ	**Far West T-bar**	**1.57**	**17**	PN	Pn	06 33 04.3	0.0
FWVZ	**Far West T-bar**	**1.57**	**17**	P	Pn	06 33 04.2	-0.1
TUVZ	**Tukino**	**1.58**	**20**	PN	Pn	06 33 04.4	0.0
TUVZ	**Tukino**	**1.58**	**20**	P	Pn	06 33 04.5	+0.1
WPVZ	**Whakapapa**	**1.62**	**16**	PN	Pn	06 33 05.0	+0.1
WPVZ	**Whakapapa**	**1.62**	**16**	P	Pn	06 33 05.0	+0.1
PXZ	**Pawanui**	**1.62**	**64**	PN	Pn	06 33 04.1	-0.8
NRZ	**Ngariki Road**	**1.63**	**331**	PN	Pn	06 33 05.7	+0.6
NRZ	**Ngariki Road**	**1.63**	**331**	P	Pn	06 33 05.7	+0.6
NEZ	**North Egmont**	**1.63**	**336**	PN	Pn	06 33 05.6	+0.5
NEZ	**North Egmont**	**1.63**	**336**	P	Pn	06 33 05.6	+0.5
VRZ	**Vera Road**	**1.64**	**354**	PN	Pn	06 33 05.3	0.0
VRZ	**Vera Road**	**1.64**	**354**	P	Pn	06 33 05.3	0.0
NGZ	**Ngauruhoe**	**1.66**	**17**	PN	Pn	06 33 05.6	+0.1
NGZ	**Ngauruhoe**	**1.66**	**17**	P	Pn	06 33 05.6	+0.1
OTVZ	**Oturere**	**1.69**	**19**	PN	Pn	06 33 05.9	0.0
NWEZ	**Newall Road**	**1.71**	**330**	P	Pn	06 33 06.6	+0.4
WTVZ	**West Tongariro**	**1.71**	**16**	PN	Pn	06 33 06.2	0.0
WTVZ	**West Tongariro**	**1.71**	**16**	P	Pn	06 33 06.2	0.0
TWVZ	**Taurewa**	**1.73**	**12**	PN	Pn	06 33 06.1	-0.3
TWVZ	**Taurewa**	**1.73**	**12**	P	Pn	06 33 06.0	-0.4
PKE	**Pukeiti**	**1.74**	**334**	PN	Pn	06 33 07.1	+0.6
PKE	**Pukeiti**	**1.74**	**334**	P	Pn	06 33 07.2	+0.6
KRVZ	**Karewarewa**	**1.75**	**18**	PN	Pn	06 33 06.6	0.0
THZ	**Tophouse**	**1.85**	**230**	PN	Pn	06 33 07.4	-0.7
THZ	**Tophouse**	**1.85**	**237**	P	Pn	06 33 07.6	-0.5
QRZ	**Quartz Range**	**1.85**	**267**	PN	Pn	06 33 07.1	-1.0
QRZ	**Quartz Range**	**1.85**	**267**	P	Pn	06 33 07.1	-1.0
KATZ	**Kakaramea**	**1.87**	**18**	PN	Pn	06 33 08.9	+0.5
KATZ	**Kakaramea**	**1.87**	**18**	P	Pn	06 33 09.0	+0.6
KHZ	**Kahutara**	**1.97**	**212**	PN	Pn	06 33 08.8	-0.9
KHZ	**Kahutara**	**1.97**	**212**	*e*P	Pn	06 33 08.9	-0.8
BKZ	**Black Stump Fm**	**1.98**	**37**	⇓PN	Pn	06 33 08.4	-1.4
BKZ	**Black Stump Fm**	**1.98**	**37**	P	Pn	06 33 08.4	-1.5
RATZ	**Rangitukua**	**1.99**	**18**	PN	Pn	06 33 10.6	+0.6
RATZ	**Rangitukua**	**1.99**	**18**	P	Pn	06 33 10.7	+0.6
HIZ	**Hauiti**	**2.25**	**358**	⇓PN	Pn	06 33 13.6	+0.1
HIZ	**Hauiti**	**2.25**	**358**	*e*P	Pn	06 33 13.7	+0.1
DSZ	**Denniston Nort**	**2.58**	**247**	PN	Pn	06 33 16.8	-1.3
DSZ	**Denniston Nort**	**2.58**	**247**	*e*P	Pn	06 33 16.9	-1.2
LTZ	**Lake Taylor**	**2.85**	**224**	PN	Pn	06 33 20.4	-1.5
LTZ	**Lake Taylor**	**2.85**	**224**	*e*P	Pn	06 33 20.7	-1.2
URZ	**Urewera**	**3.00**	**34**	PN	Pn	06 33 20.8	-3.1
URZ	**Urewera**	**3.00**	**34**	*e*P	Pn	06 33 21.0	-2.9
MWZ	**Matawai**	**3.13**	**40**	PN	Pn	06 33 22.7	-3.0
MWZ	**Matawai**	**3.13**	**40**	*e*P	Pn	06 33 22.7	-3.0
MQZ	**McQueen's Vall**	**3.41**	**210**	PN	Pn	06 33 26.5	-2.9
WVZ	**Waitaha Valley**	**3.91**	**232**	*e*PN	Pn	06 33 35.1	-1.3
ODZ	**Otahua Downs**	**5.33**	**215**	PN	Pn	06 33 52.6	-3.2
ODZ	**Otahua Downs**	**5.33**	**215**	*e*P	Pn	06 33 54.4	-1.4

*IDC **03** 06:46:30.2±1.4, 368S×131.18E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/14, mbtmp4.1/6, Error ellipse: s-maj=58.1km s-min=23.8km az=66.0*
*NEIC **03** 06:46:32.6±0.8, 381S×131.12E, h10km, mb4.0/2, Error ellipse: s-maj=23.6km s-min=14.8km az=71.0*
*ISCJB **03** 06:46:36.8±1.5, 42S±0.1×131.1E±0.2, h33km, mb3.9/5, Error ellipse: s-maj=24.7km s-min=15.3km az=141.9*
ISC 03 06:46:42.6±3.2, 44S±02×1312E±02, h61km±26km, n17, σ19°18/17, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.69**	**201**	*e*P	**Pn**	**06 50 05.6**	**-1.3**
	6.5nm,0.6s						
WRAB	**Tennant Creek**	**15.80**	**169**	*e*P	**Pn**	**06 50 20.9**	**-0.3**
WRA	**Warramunga Arr**	**15.81**	**169**	Pn	**Pn**	**06 50 17.7**	**-3.5**
	0.4nm,0.3s,baz=346,slow=13,SNR=10						
WRA				Sn	**Sn**	**06 53 16.2**	**+0.8**
	0.4nm,0.3s,baz=333,slow=23,SNR=5.2						
WB2	**Warramunga Arr**	**15.81**	**169**	*e*P	**Pn**	**06 50 17.5**	**-3.8**
ASAR	**Alice Springs**	**19.39**	**172**	P	**Pn**	**06 51 06.3**	**+1.2**
	5.8nm,0.5s,baz=357,slow=10.0,SNR=76						
ASAR				S	**S**	**06 54 37.8**	**-1.6**
	0.4nm,0.7s,baz=354,slow=27,SNR=2.8						
ASPA	**Alice Springs**	**19.39**	**172**	*e*P	**Pn**	**06 51 06.2**	**+1.1**
MBWA	**Marble Bar**	**20.06**	**213**	*e*P	**P**	**06 51 11.4**	**+0.7**
	18nm,1.3s						
CTA	**Charters Tower**	**21.48**	**138**	P	**P**	**06 51 26.4**	**+0.4**
	2.5nm,0.7s,mb3.7,baz=326,slow=13,SNR=5.1						
CTAO	**Charters Tower**	**21.48**	**138**	*e*P	**P**	**06 51 26.1**	**+0.2**
	1.9nm,0.7s,mb3.5						
STKA	**Stephens Creek**	**29.09**	**162**	P	**P**	**06 52 36.3**	**-0.9**
	1.9nm,0.8s,mb3.9,baz=328,slow=9.8,SNR=4.5						
STKA	**Stephens Creek**	**29.09**	**162**	*e*P	**P**	**06 52 36.4**	**-0.8**
NWAO	**Narrogin (SRO)**	**31.27**	**203**	P	**P**	**06 52 57.2**	**+0.7**
	3.3nm,0.7s,mb4.3,baz=9.5,slow=6.1,SNR=3.6						
NWAO	**Narrogin (SRO)**	**31.27**	**203**	P	**P**	**06 52 57.2**	**+0.7**
MKAR	**Makanchi Array**	**66.67**	**326**	P	**P**	**06 57 19.5**	**-7.4**
	0.7nm,0.8s,mb3.8,baz=139,slow=7.8,SNR=7.0						
VNDA	**Vanda**	**74.93**	**173**	P	**P**	**06 58 16.8**	**-0.1**
	1.9nm,1.2s,mb3.9,baz=338,slow=5.4,SNR=3.2						
WVOR	**Wild Horse Val**	**107.80**	**47**	*e*PKPdf	PKiKP	07 05 01.5	-1.4
SFJD	**Kangerlussuaq**	**117.45**	**1**	*e*PKPdf	PKPdf	07 05 17.5	-3.7

CASC 03 06:53:09.1±2.4, 1306N×8924W, h36km±830km, MD3.8, ML3.6, 6C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.59**	**17**	⇓*e*P	Pn	06 53 43.9	+23
LFRS				*e*S	Sn	06 53 53.0	+24
LCBS	**La Ceiba**	**0.65**	**23**	⇓*i*P	Pn	06 53 44.5	+23
LCBS				*e*S	Sn	06 53 54.8	+24
BOQS	**Boqueron**	**0.67**	**357**	⇓*i*P	Pn	06 53 45.4	+23
BOQS				*e*S	Sn	06 53 56.1	+25
SNVI	**San Vicente**	**0.68**	**36**	⇑*e*P	Pn	06 53 45.2	+23
SNVI				*e*S	Sn	06 53 55.8	+24
LBRS	**Las Brisas**	**0.70**	**16**	⇓*e*P	Pn	06 53 45.8	+23
LBRS				*e*S	Sn	06 53 54.8	+23
SBLS	**San Blas**	**0.86**	**334**	*e*P	Pn	06 53 47.6	+23
SBLS				*e*S	Sn	06 54 00.7	+25
SNJE	**San Jose**	**0.88**	**336**	*e*P	Pn	06 53 47.8	+23
SNJE				*e*S	Sn	06 54 00.3	+24
RTR	**El Retiro**	**0.92**	**335**	⇓*e*P	Pn	06 53 48.6	+23
RTR				*e*S	Sn	06 54 01.9	+24
VSM	**San Miguel**	**1.01**	**69**	⇑*e*P	Pn	06 53 49.8	+23
VSM				*e*S	Sn	06 54 04.5	+25
BLLM	**Bellamira**	**1.05**	**69**	⇓*e*P	Pn	06 53 50.3	+23
BLLM				*e*S	Sn	06 54 04.7	+24
CAHU	**Cacacuatique**	**1.23**	**55**	⇑*e*P	Pn	06 53 53.4	+24
CAHU				*e*S	Sn	06 54 09.1	+24
CNCH	**Conchagua**	**1.39**	**81**	⇑*e*P	Pn	06 53 54.3	+22
CNCH				*e*S	Sn	06 54 12.5	+23
IXG	**Ixpaco**	**1.62**	**313**	⇑*e*P	Pn	06 53 34.7	-0.4
IXG				*e*S	Sn	06 53 55.1	+0.4
IXG				AML	AML	06 54 02.7	
	comp=E,4μm,0.4s						
NBG	**Las Nubes**	**1.86**	**325**	⇑*e*P	Pn	06 53 40.7	+2.2
MRL	**Marmol**	**2.04**	**348**	⇓*e*P	Pn	06 53 41.8	+0.9
FUG	**Fuego 3**	**2.08**	**312**	*e*P	Pn	06 53 42.3	+0.8
MIRN	**Miramar**	**2.54**	**104**	*e*P	Pn	06 53 48.1	+0.2
MGAN	**Managua**	**3.06**	**107**	*e*P	Pn	06 53 56.2	+1.2
MGAN				*i*		06 54 29.1	
	comp=E,84nm,0.6s						

*ISCJB **03** 06:58:15.0±0.5, 5535S±008×280W±0.1, h10km, mb4.3/11, MS5.0/1, Error ellipse: s-maj=12.7km s-min=9.3km az=91.8*
*IDC **03** 06:58:15.4±0.7, 5533S×2786W, h0km, mb4.4/9, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, ML4.1/1, Error ellipse: s-maj=24.0km s-min=16.9km az=20.0*
*NEIC **03** 06:58:16.8±0.4, 5532S×2794W, h10km, mb4.6/4, Error ellipse: s-maj=10.7km s-min=7.4km az=224.0*
*BJI **03** 06:58:16.8, 5530S×2790W, h10km, mB5.5, Ms5.4, Msz4.9*
ISC 03 06:58:16.7±0.5, 5537S±008×279W±01, h10km, n25, σ0°87/18, mb4.3/11, MS5.0/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.07**	**279**	*e*Pn	**Pn**	**06 59 32.1**	**-0.6**
	105nm,0.6s						
HOPE				*e*Sn	**Sn**	**07 00 21.8**	**-9.4**
VNA3	**Neumayer Olymp**	**17.77**	**161**		**Pn**	**07 02 24.6**	**+0.4**
VNA3				*e*		07 02 27.7	
VNA2	**Neumayer--Watz**	**17.98**	**158**		**Pn**	**07 02 27.6**	**+0.9**
VNA2				*e*		07 02 30.6	
VNA2				*e*		07 02 35.9	
VNA2				*e*		07 02 45.1	
VNA2				*e*		07 03 01.6	
VNA2				*e*		07 03 44.8	
SNAA	**Sanae**	**19.53**	**156**	P	**Pn**	**07 02 43.8**	**-1.8**
	0.6nm,0.3s,baz=306,slow=11,SNR=16						
PMSA	**Palmer Station**	**20.04**	**227**	*e*P	**P**	**07 02 49.4**	**-0.5**
	94nm,1.4s						
QSPA	**South Pole Qui**	**34.88**	**180**	*e*P	**P**	**07 05 08.9**	**+0.7**
	8.7nm,0.7s,mb4.8						
CPUP	**Villa Florida**	**36.05**	**312**	P	**P**	**07 05 18.0**	**-0.3**
	3.5nm,0.6s,mb4.5,baz=158,slow=

VHO			*i* S	Sn	07 00 26.1	+0.9
TXAR	**Lajitas Array**	**15.70 326**	P	Pn	07 02 41.1	+0.2
	baz=148,slow=14,SNR=3.2					
NVAR	**Mina Array Bea**	**30.67 320**	P	P	07 05 09.7	0.0
	0.3nm,0.7s,mb3.1,baz=142,slow=10,SNR=3.2					
YKA	**Yellowknife Ar**	**48.25 347**	P	P	07 07 30.2	-5.0
	0.3nm,0.5s,mb3.4,baz=152,slow=7.3,SNR=25					
ILAR	**Eielson Array**	**59.91 337**	P	P	07 08 55.7	-4.1
	0.1nm,0.5s,mb3.1,baz=126,slow=4.7,SNR=5.3					

NIED ***03*** *06:59:00, 3620N×14170E, h35km, Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φ=30.00000°, δ70.00000°, λ87.00000°. NP2:φ=220.00000°, δ20.00000°, λ100.00000°.*
IDC ***03*** *06:59:20.3±5.2, 3640N×14193E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=90.1km s-min=40.4km az=91.0*
JMA ***03*** *06:59:22.6±0.2, 3618N×14171E, h74km±4km, M2.9*
ISCJB ***03*** *06:59:25.6±2.2, 3627N±009×1416E±02, h41km±16km, mb3.5/2, Error ellipse: s-maj=32.4km s-min=14.0km az=19.3*
ISC 03 06:59:24.6±5.4, 3630N±009×1416E±02, h15km±31km, n13, σ0°71/13, mb3.5/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.87**	**292**	P	**Pb**	**06 59 41.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.02**	**323**	P	**Pb**	**06 59 44.4**	**+0.5**
JYT	**Yasato**	**1.11**	**267**	P	**Pb**	**06 59 44.5**	**-1.0**
JFK	**Kawauchi**	**1.21**	**333**	P	**Pn**	**06 59 46.0**	**-0.9**
JFT	**Otama**	**1.57**	**321**	P	**Pn**	**06 59 52.4**	**+0.5**
JMM	**Marumori**	**1.69**	**339**	P	**Pn**	**06 59 53.3**	**-0.2**
JAG	**Ashikaga**	**1.71**	**275**	P	**Pn**	**06 59 53.0**	**-0.9**
JFY	**Yanaizu**	**1.86**	**307**	P	**Pn**	**06 59 57.1**	**+1.2**
MJAR	**Matsushiro Arr**	**2.72**	**276**	Pn	**Pn**	**07 00 08.8**	**+1.0**
	5.4nm,0.3s,baz=98,slow=9.0,SNR=39						
MAT	**Matsushiro**	**2.72**	**276**	P	**Pn**	**07 00 08.3**	**+0.5**
JHJ	**Hachijo jima 2**	**3.49**	**205**	Pn	**Pn**	**07 00 18.8**	**+0.4**
	35nm,0.3s,baz=221,slow=19,SNR=5.3						
SONM	**Songino Array**	**28.31**	**305**	P	**P**	**07 05 17.4**	**-0.2**
	0.7nm,0.6s,mb3.5,baz=100,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**44.62**	**303**	P	**P**	**07 07 35.7**	**-0.6**
	0.6nm,0.6s,mb3.6,baz=87,slow=9.1,SNR=8.2						

NAO ***03*** *06:59:43.2, 3418N×14175E, h33km, mb3.1*
MOS ***03*** *06:59:51.7±1.1, 3609N×14164E, h33km, mb4.2/6, Error ellipse: s-maj=24.6km s-min=16.9km az=124.1*
JMA ***03*** *06:59:52.4±0.2, 3622N×14169E, h60km±4km, M4.0*
NEIC ***03*** *06:59:52.5, 3622N×14169E, h60km, mb4.5/2, MW4.0(NIED), After JMA.*
BJI ***03*** *06:59:52.4, 3620N×14170E, h59km, mb4.7*
ISCJB ***03*** *06:59:52.7±1.0, 3619N±004×14173E±0.10, h41km±9km, mb3.9/13, Error ellipse: s-maj=12.9km s-min=6.8km az=5.8*
IDC ***03*** *06:59:54.3±0.8, 3613N×14163E, h35km±5km, mb3.5/10, mb1 3.8/12, mb1mx3.7/22, mbtmp3.8/12, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/23, Error ellipse: s-maj=21.3km s-min=17.5km az=113.0*
ISC 03 06:59:52.7±1.6, 3620N±004×14172E±008, h26km±11km, h36km±1.5km: pP-P, n41, σ0°91/45, mb3.9/13, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.86**	**235**	P	**Pb**	**07 00 08.8**	**-0.2**
CHOJ				S	**Sb**	**07 00 20.8**	**+0.7**
JHO	**Hitachi**	**1.01**	**294**	P	**Pn**	**07 00 10.5**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.16**	**321**	P	**Pn**	**07 00 12.9**	**-0.4**
JYT	**Yasato**	**1.24**	**272**	P	**Pn**	**07 00 13.3**	**-1.0**
JFK	**Kawauchi**	**1.34**	**330**	P	**Pn**	**07 00 14.8**	**-1.0**
BSO1	**Boso 1**	**1.66**	**202**	S	**Sn**	**07 00 41.6**	**+1.0**
JFT	**Otama**	**1.72**	**320**	P	**Pn**	**07 00 21.3**	**+0.4**
JMM	**Marumori**	**1.82**	**336**	P	**Pn**	**07 00 20.6**	**-1.7**
JAG	**Ashikaga**	**1.85**	**278**	P	**Pn**	**07 00 21.9**	**-0.8**
JFY	**Yanaizu**	**2.02**	**307**	P	**Pn**	**07 00 25.6**	**+0.6**
JKT	**Katashina**	**2.07**	**286**	P	**Pn**	**07 00 26.3**	**+0.5**
JKT				S	**Sn**	**07 00 52.4**	**+1.7**
MJAR	**Matsushiro Arr**	**2.86**	**278**	Pn	**Pn**	**07 00 37.3**	**+0.7**
	25nm,0.3s,baz=98,slow=9.0,SNR=28						
MJAR	**Matsushiro Arr**	**2.86**	**278**	P	**Pn**	**07 00 37.3**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,25nm,0.3s						
MAT	**Matsushiro**	**2.86**	**278**	P	**Pn**	**07 00 37.5**	**+0.9**
MAT				*e*S	**Sn**	**07 01 09.0**	**-1.1**
MAT	**Matsushiro**	**2.86**	**278**	*e*P	**Pn**	**07 00 38.0**	**+1.4**
MAT				*e*S	**Sn**	**07 01 05.0**	**-5.1**
JHJ	**Hachijo jima 2**	**3.47**	**208**	Pn	**Pn**	**07 00 45.3**	**+0.3**
	comp=Z,80nm,0.3s,baz=70,slow=23,SNR=8.3						
JHJ				Sn	**Sn**	**07 01 23.3**	**-1.9**
	comp=Z,112nm,0.3s,baz=269,slow=22,SNR=5.4						
JHJ				LR	LR	07 02 15.0	
	comp=Z,299nm,20.2s,baz=126,slow=42						
ENH	**Enshi**	**27.52**	**267**	*e*P	**P**	**07 05 36.8**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**28.03**	**305↑**	*e*P	pP	07 05 53.7	+4.4
SONM	**Songino Array**	**28.46**	**305**	P	**P**	**07 05 45.8**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.0,baz=105,slow=8.8,SNR=11						
SONM	**Songino Array**	**28.46**	**305**	P	**P**	**07 05 45.8**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CD2	**Chengdu**	**31.93**	**272**	*e*P	**P**	**07 06 11.2**	**-5.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**44.77**	**303**	P	**P**	**07 08 04.2**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=88,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**44.77**	**303**	P	**P**	**07 08 04.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.77**	**303**	P	**P**	**07 08 04.2**	**+0.2**
KURK	**Kurchatov**	**46.64**	**309↑**	*e*P	**P**	**07 08 17.9**	**-0.9**
KURK	**Kurchatov**	**46.64**	**309**	*e*P	**P**	**07 08 18.2**	**-0.6**
	comp=Z,5.5nm,0.7s,mb4.6						
ILAR	**Eielson Array**	**50.06**	**32**	P	**P**	**07 08 46.2**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=265,slow=5.4,SNR=7.4						
ILAR	**Eielson Array**	**50.06**	**32**	P	**P**	**07 08 46.2**	**+1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**56.27**	**188**	P	**P**	**07 09 30.3**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=2.0,slow=7.6,SNR=3.3						
WRA	**Warramunga Arr**	**56.27**	**188**	P	**P**	**07 09 30.3**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**57.15**	**319**	*e*P	**P**	**07 09 36.2**	**-0.9**
ASAR	**Alice Springs**	**60.00**	**188**	P	**P**	**07 09 56.4**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=6.3,slow=8.4,SNR=3.3						
YKA	**Yellowknife Ar**	**64.40**	**30**	P	**P**	**07 10 27.2**	**+0.7**
	comp=Z,0.1nm,0.5s,mb3.1,baz=299,slow=4.7,SNR=4.8						
YKA				pP	pP	07 10 37.7	+3.1
	comp=Z,0.3nm,0.8s,baz=302,slow=6.6,SNR=6.9						
FINES	**FINESS Array B**	**69.66**	**332**	P	**P**	**07 10 59.6**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=27,slow=4.3,SNR=4.6						
FINES	**FINESS Array B**	**69.66**	**332**	*i* P	**P**	**07 11 00.4**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**75.05**	**337**	P	**P**	**07 11 32.0**	**0.0**
	comp=Z,0.2nm,0.7s,mb3.2,baz=47,slow=5.9						
NOA	**NORSAR Array B**	**75.05**	**337**	P	**P**	**07 11 31.8**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=4.4						
NOA				pP	pP	07 11 43.3	+3.0
	comp=Z,1.0nm,0.8s,baz=42,slow=5.4,SNR=2.7						
NOA	**NORSAR Array B**	**75.05**	**337**	P	**P**	**07 11 31.8**	**-0.2**
NOA				*PP	pP	07 11 43.3	+3.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**75.11**	**323**	P	**P**	**07 11 32.3**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=47,slow=5.9,SNR=7.6						
AKASG				pP	pP	07 11 43.4	+2.8
	comp=Z,0.5nm,0.4s,baz=44,slow=6.0,SNR=3.6						
AKASG	**Malin Array Be**	**75.11**	**323**	P	**P**	**07 11 32.3**	**-0.1**
AKASG				*PP	pP	07 11 43.4	+2.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**90.43**	**53**	P	**P**	**07 12 54.0**	**+2.1**
	comp=Z,0.2nm,0.8s,mb3.5,baz=0.0,slow=0.9,SNR=3.1						
TXAR				pP	pP	07 13 04.0	+3.8
	comp=Z,0.4nm,0.9s,baz=315,slow=3.5,SNR=3.3						

ISCJB ***03*** *07:07:38.2±0.7, 3509N±003×404W±004, h18km±7km, Error ellipse: s-maj=5.8km s-min=4.1km az=35.3*
CNRM ***03*** *07:07:38.9, 3499N×396W, h0km, MD3.6*
MDD ***03*** *07:07:38.1±0.5, 3507N×400W, h0km, mb3.6/18, Error ellipse: s-maj=5.7km s-min=3.3km az=41.0, PRXIMO*
CSEM ***03*** *07:07:38.7±0.1, 3512N×402W, h20km, MD3.6, Error ellipse: s-maj=1.7km s-min=1.2km az=92.0*
ISC 03 07:07:38.3±0.6, 3508N±003×400W±003, h15km±4km, n38, σ0°96/70, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.16**	**18**	*i* P	**Pg**	**07 07 42.5**	**+0.2**
TOU	**Touzarine**	**0.23**	**119**	P	**Pg**	**07 07 42.0**	**-1.4**
TOU				S	**Sg**	**07 07 45.0**	**-1.9**
EMEL	**Melilla**	**0.88**	**75**	P	**Pb**	**07 07 56.0**	**+0.6**
	85nm,0.1s,SNR=8.8						
EMEL				S	**Sb**	**07 08 07.1**	**+0.1**
	8.4nm,0.1s,SNR=6.7						
EMLI	**Melilla**	**0.89**	**75**	P	**Pb**	**07 07 56.0**	**+0.5**
	85nm,0.1s,SNR=8.8						
EMLI				S	**Sb**	**07 08 07.1**	**-0.1**
	8.4nm,0.1s,SNR=6.7						
ZAI	**Zaio**	**1.03**	**95**	*i* P	**Pb**	**07 07 57.0**	**-1.0**
ZAI				*i* S	**Sb**	**07 08 11.0**	**-0.4**
EALB	**Alboran**	**1.17**	**42**	P	**Pn**	**07 08 00.1**	**-0.1**
	14nm,0.2s,SNR=15						
EALB				S	**Sb**	**07 08 15.0**	**-0.2**
	18nm,0.1s						
EALB	**Alboran**	**1.17**	**42**	P	**Pn**	**07 08 00.1**	**-0.1**
	5.2nm,0.1s,SNR=15						
EALB				S	**Sb**	**07 08 15.0**	**-0.2**
	18nm,0.1s						
TAF	**Taforalt**	**1.33**	**101**	P	**Pn**	**07 08 03.0**	**+0.6**
TAF				S	**Sn**	**07 08 16.0**	**-3.8**
EMIJ	**Mijas**	**1.61**	**337**	P	**Pn**	**07 08 06.5**	**+0.3**
	3.4nm,0.2s,SNR=6.9						
EMIJ				S	**Sn**	**07 08 25.3**	**-1.5**
	6.8nm,0.1s,SNR=6.5						
EGUA	**Guajares**	**1.79**	**11**	P	**Pn**	**07 08 08.3**	**-0.4**
	0.8nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**07 08 30.7**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
IFR	**Ifrane**	**1.81**	**211**	P	**Pn**	**07 08 10.0**	**+1.0**
IFR				S	**Sn**	**07 08 31.0**	**-0.8**
EJIF	**Jimena Fronter**	**1.82**	**319**	P	**Pn**	**07 08 10.4**	**+1.3**
	2.2nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**07 08 31.6**	**-0.3**
	3.2nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.82**	**319**	P	**Pn**	**07 08 11.0**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**07 08 31.6**	**-0.3**
	3.2nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.94**	**5**	P	**Pn**	**07 08 11.6**	**+0.7**
	5.9nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.03**	**26**	P	**Pn**	**07 08 11.7**	**-0.3**
	6.6nm,0.4s,SNR=7.8						
EBER				S	**Sn**	**07 08 37.2**	**+0.1**
	17nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.03**	**26**	P	**Pn**	**07 08 11.7**	**-0.3**
	2.4nm,0.2s,SNR=7.8						
EBER				S	**Sn**	**07 08 36.7**	**-0.4**
	17nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.07**	**357**	P	**Pn**	**07 08 12.5**	**0.0**
	4.5nm,0.2s,SNR=12						
ELOJ				S	**Sn**	**07 08 38.4**	**+0.3**
	1.8nm,0.2s,SNR=7.3						
EQUE	**Quentar**	**2.17**	**12**	P	**Pn**	**07 08 14.8**	**+0.8**
	3.8nm,0.3s,SNR=6.3						
EQUE				S	**Sn**	**07 08 40.5**	**-0.2**
	1.1nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.21**	**203**	P	**Pn**	**07 08 16.0**	**+1.5**
CZD				S	**Sn**	**07 08 41.0**	**-0.6**
CZD	**Col de Zad**	**2.21**	**203**	*i* P	**Pn**	**07 08 16.0**	**+1.5**
ECOG	**Cogollos-Vega**	**2.23**	**9**	P	**Pn**	**07 08 15.1**	**+0.4**
	5.1nm,0.1s,SNR=12						
ESPR	**Espera**	**2.34**	**320**	P	**Pn**	**07 08 16.7**	**+0.5**
	1.3nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**07 08 44.5**	**-0.2**
	5.9nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.49**	**355**	P	**Pn**	**07 08 21.6**	**+3.3**
	7.3nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**07 08 48.1**	**-0.4**
	4.4nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.82**	**15**	P	**Pn**	**07 08 24.7**	**+1.8**
	4.6nm,0.2s,SNR=9.1						
EQES				S	**Sn**	**07 08 56.8**	**+0.1**
	5.7nm,0.2s,SNR=5.9						
EQES	**Quesada**	**2.82**	**15**	P	**Pn**	**07 08 24.9**	**+2.0**
	1.6nm,0.1s,SNR=9.1						
EQES				S	**Sn**	**07 08 56.8**	**+0.1**
	5.7nm,0.2s,SNR=5.9						
EADA	**Adamuz**	**3.12**	**352**	P	**Pn**	**07 08 28.2**	**+1.2**
	1.2nm,0.2s,SNR=11						
EADA				S	**Sn**	**07 09 04.1**	**0.0**
	3.6nm,0.2s,SNR=4.6						
EADA	**Adamuz**	**3.12**	**352**	P	**Pn**	**07 08 28.2**	**+1.2**
	0.7nm,0.1s,SNR=11						
EADA				S	**Sn**	**07 09 04.1**	**+0.1**
	3.6nm,0.2s,SNR=4.6						
EMIN	**Mina Concepcio**	**3.44**	**322**	P	**Pn**	**07 08 32.0**	**+0.5**
	1.3nm,0.2s,SNR=11						
EMIN				S	**Sn**	**07 09 10.8**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.44**	**322**	P	**Pn**	**07 08 32.0**	**+0.6**
	0.7nm,0.1s,SNR=11						
EMIN				S	**Sn**	**07 09 10.8**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.73**	**312**	P	**Pn**	**07 08 35.3**	**-0.1**
	1.7nm,0.3s,SNR=12						
EGRO				S	**Sn**	**07 09 17.0**	**-2.1**
	1.7nm,0.1s,SNR=4.8						
EGRO	**El Granado**	**3.73**	**312**	P	**Pn**	**07 08 35.3**	**-0.1**
	0.6nm,0.1s,SNR=12						
EGRO				S	**Sn**	**07 09 17.0**	**-2.1**
	1.7nm,0.1s,SNR=4.8						
ETOB	**Tobarra**	**4.07**	**28**	P	**Pn**	**07 08 42.3**	**+2.3**
	3.2nm,0.4s,SNR=4.8						
ETOB				S	**Sn**	**07 09 26.5**	**-1.0**
	0.9nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**4.07**	**28**	P	**Pn**	**07 08 43.1**	**+3.1**
	0.3nm,0.1s,SNR=4.8						
ETOB				S	**Sn**	**07 09 26.5**	**-0.9**
	0.9nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**4.39**	**328**	P	**Pn**	**07 08 44.8**	**+0.2**
	0.9nm,0.1s,SNR=6.6						
EBAD				S	**Sn**	**07 09 32.9**	**-2.5**
	5.9nm,0.3s,SNR=5.7						
EBAD	**Badajoz**	**4.39**	**328**	P	**Pn**	**07 08 44.8**	**+0.3**
	0.6nm,0.1s,SNR=6.6						
EBAD				S	**Sn**	**07 09 32.9**	**-2.6**
	5.9nm,0.3s,SNR=5.7						
ESDC	**Sonseca Array**	**4.59**	**0**	P	**Pn**	**07 08 47.5**	**+0.3**
	1.2nm,0.1s,baz=183,slow=12,SNR=11						
ESDC	**Sonseca Array**	**4.59**	**0**	P	**Pn**	**07 08 47.5**	**+0.3**
	1.2nm,0.1s,SNR=11						
ECAL	**Calabor**	**7.18**	**343**	P	**Pn**	**07 09 23.4**	**+0.6**
	2.6nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**07 10 39.6**	**-4.5**
	8.7nm,0.7s,SNR=7.9						

ATH ***03*** *07:09:05.5, 3717N×2815E, h35km±7km, MD3.4/4*
CSEM ***03*** *07:09:07.2±0.1, 3703N×2783E, h13km±1km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.9km az=34.0*
NEIC ***03*** *07:09:07.0, 3705N×2783E, h14km, MD3.4(ATH), ML3.3(ISK), After ISK.*
ISK ***03*** *07:09:07.6, 3703N×2781E, h15km, MD3.3*
ISCJB ***03*** *07:09:08.2±0.5, 3701N±004×2779E±004, h15km±4km, Error ellipse: s-maj=7.1km s-min=3.8km az=67.6*
ISC 03 07:09:08.5±0.6, 3700N±004×2781E±004, h16km±4km, n19, σ1°12/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.30**	**355**	*i* PG	**Pg**	**07 09 13.3**	**-1.5**
MLSB				*i* SG	**Sg**	**07 09 18.5**	**-0.6**
BODT	**Bodrum**	**0.41**	**279**	*i* PG	**Pg**	**07 09 16.0**	**-0.8**
BODT				*i* SG	**Sg**	**07 09 22.6**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.70**	**109**	PG	**Pg**	**07 09 21.0**	**-1.2**
DALT				SG	**Sg**	**07 09 32.5**	**+1.0**
ARG	**Arkhangelos**	**0.82**	**162**	*e*PN	**Pn**	**07 09 23.7**	**-1.7**
ARG				*e*SN	**Sn**	**07 09 37.5**	**+0.3**
SMG	**Samos**	**1.05**	**313**	*e*PN	**Pn**	**07 09 27.4**	**-1.1**
SMG				*e*SN	**Sn**	**07 09 43.3**	**+0.5**
DENT	**Denizli**	**1.23**	**52**	PN	**Pn**	**07 09 30.6**	**-0.4**
GOLH	**Golhisar**	**1.42**	**80**	*i* P	**Pg**	**07 09 37.1**	**+1.3**
GOLH				*i* S	**Sg**	**07 09 58.4**	**+4.1**
IZM	**Izmir**	**1.46**	**343**	PN	**Pn**	**07 09 33.1**	**-1.1**
KDAG	**Bornova**	**1.47**	**343**	*i* P	**Pn**	**07 09 36.0**	**+1.7**
KDAG				*i* S	**Sn**	**07 10 00.0**	**+6.9**
BLCB	**Balcova**	**1.51**	**336**	PN	**Pn**	**07 09 34.4**	**-0.5**
AKAS	**Kas**	**1.63**	**117**	*i* P	**Pg**	**07 09 40.7**	**+0.8**
AKAS				*i* S	**Sg**	**07 10 05.5**	**+4.4**
KSL	**Kastellorizon**	**1.66**	**120**	*e*PN	**Pn**	**07 09 32.5**	**-4.4**
URLA	**Izmir**	**1.67**	**325**	*i* P	**Pg**	**07 09 43.4**	**+2.9**
URLA				*i* S	**Sg**	**07 10 03.6**	**+1.4**
ELL	**Elmali**	**1.70**	**98**	PN	**Pn**	**07 09 38.2**	**+0.7**
APE	**Apeiranthos**	**1.83**	**273**	*e*PN	**Pn**	**07 09 39.9**	**+0.7**
APE	**Apeiranthos**	**1.83**	**273**	*e*Pn	**Pn**	**07 09 39.8**	**+0.6**
AKS	**Akhisar**	**1.88**	**0**	PN	**Pn**	**07 09 39.5**	**-0.4**
TKTP	**Tekketepe**	**2.25**	**62**	*i* P	**Pg**	**07 09 50.3**	**-1.3**
TKTP				*i* S	**Sg**	**07 10 28.1**	**+7.2**
BALB	**Balikesir**	**2.64**	**1**	*e*PN	**Pn**	**07 09 50.3**	**0.0**

CSEM ***03*** *07:12:17.8±0.1, 3506N×3999W, h12km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.0km az=34.0*
ISCJB ***03*** *07:12:18.5±0.7, 3504N±003×404W±003, h14km±4km, Error ellipse: s-maj=4.5km s-min=4.0km az=59.2*
CNRM ***03*** *07:12:18.7, 3497N×406W, h0km, MD3.4*
MDD ***03*** *07:12:19.2±0.6, 3506N×401W, h0km, mb3.7/20, Error ellipse: s-maj=6.3km s-min=3.3km az=39.0, PRXIMO*
ISC 03 07:12:19.2±0.7, 3503N±003×399W±003, h15km±4km, n40, σ0°96/71, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.20**	**12**	*i* P	**Pg**	**07 12 23.5**	**-0.4**
TOU	**Touzarine**	**0.21**	**109**	P	**Pg**	**07 12 23.0**	**-1.0**
TOU				S	**Sg**	**07 12 27.0**	**-0.2**
TOU	**Touzarine**	**0.21**	**109**	*i* P	**Pg**	**07 12 23.0**	**-1.0**
EMEL	**Melilla**	**0.89**	**72**	P	**Pb**	**07 12 36.0**	**-0.3**
	122nm,0.1s,SNR=5.6						
EMEL				S	**Sb**	**07 12 48.1**	**+0.1**
	24nm,0.2s,SNR=8.0						
EMLI	**Melilla**	**0.89**	**72**	P	**Pb**	**07 12 36.0**	**-0.4**
	122nm,0.1s,SNR=5.6						
EMLI				S	**Sb**	**07 12 48.1**	**0.0**
	24nm,0.2s,SNR=8.0						
ZAI	**Zaio**	**1.02**	**93**	*i* P	**Pb**	**07 12 39.0**	**+0.4**
ZAI				*i* S	**Sb**	**07 12 53.0**	**+1.1**
EALB	**Alboran**	**1.20**	**40**	P	**Pn**	**07 12 40.3**	**-1.0**
	25nm,0.2s,SNR=30						
EALB				S	**Sb**	**07 12 56.3**	**-0.6**
	30nm,0.2s,SNR=8.3						
EALB	**Alboran**	**1.20**	**40**	P	**Pn**	**07 12 40.3**	**-1.1**
	7.6nm,0.1s,SNR=30						
EALB				S	**Sb**	**07 12 56.3**	**-0.6**
	30nm,0.2s,SNR=8.3						
TAF	**Taforalt**	**1.31**	**99**	P	**Pn**	**07 12 42.0**	**-1.0**
TAF				S	**Sb**	**07 13 00.0**	**-0.2**
EMIJ	**Mijas**	**1.66**	**338**	P	**Pn**	**07 12 46.8**	**-0.9**
	7.6nm,0.3s,SNR=8.0						
EMIJ				S	**Sn**	**07 13 05.5**	**-3.2**
	16nm,0.2s,SNR=5.7						
IFR	**Ifrane**	**1.78**	**212**	S	**Sn**	**07 13 13.0**	**+1.3**
EGUA	**Guajares**	**1.83**	**11**	P	**Pn**	**07 12 50.1**	**0.0**
	2.5nm,0.2s,SNR=4.0						
EGUA				S	**Sn**	**07 13 12.2**	**-0.8**
	2.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.83**	**11**	P	**Pn**	**07 12 50.1**	**0.0**
	1.0nm,0.1s,SNR=4.0						
EGUA				S	**Sn**	**07 13 11.7**	**-1.3**
	2.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.86**	**320**	P	**Pn**	**07 12 51.9**	**+1.4**
	2.4nm,0.3s,SNR=13						
EJIF				S	**Sn**	**07 13 13.8**	**+0.1**
	3.1nm,0.2s						
ERON	**Agron**	**1.99**	**4**	P	**Pn**	**07 12 51.9**	**-0.4**
	7.3nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**07 13 16.7**	**-0.3**
	9.1nm,0.4s,SNR=4.0						
EBER	**Berja**	**2.07**	**25**	P	**Pn**	**07 12 52.2**	**-1.1**
	4.0nm,0.2s,SNR=10						
EBER				S	**Sn**	**07 13 18.4**	**-0.4**
	27nm,0.4s,SNR=4.7						
EBER	**Berja**	**2.07**	**25**	P	**Pn**	**07 12 52.2**	**-1.1**
	3.2nm,0.2s,SNR=10						
EBER				S	**Sn**	**07 13 18.4**	**-0.4**
	27nm,0.4s,SNR=4.7						
ELOJ	**Sierra Loja**	**2.12**	**356**	P	**Pn**	**07 12 55.4**	**+1.3**
	9.2nm,0.4s,SNR=7.9						
ELOJ				S	**Sn**	**07 13 19.6**	**-0.4**
	4.1nm,0.3s,SN

*ISCJB **03** 07:46:16.8±1.0, 1089N±006×6244W±004, h58km±13km, Error ellipse: s-maj=9.4km s-min=6.2km az=3.9*
*TRN **03** 07:46:16.4, 1086N×6234W, h63km, MD3.1*
*NEIC **03** 07:46:16.4, 1086N×6234W, h63km, MD3.1(TRN), After TRN.*
*FUNV **03** 07:46:16.7, 1091N×6239W, h59km, MW2.4*

ISC 03 07:46:17.1±1.0, 1088N±006×6244W±004, h58km±13km, n9, σ0§73/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**137**	*e*P	**Pn**	**07 46 27.7**	**+0.6**
GUIV				*e*S	**Sn**	**07 46 33.8**	**-0.5**
CRUV	**Carupano**	**0.81**	**256**	*e*P	**Pn**	**07 46 32.6**	**0.0**
CRUV				*e*S	**Sn**	**07 46 44.2**	**+0.2**
ITEV	**Isla Los Testi**	**0.83**	**305**	*e*P	**Pn**	**07 46 32.1**	**-0.8**
ITEV				*e*S	**Sn**	**07 46 44.2**	**-0.2**
GUNV	**Guanoco**	**0.87**	**215**	*e*P	**Pn**	**07 46 33.1**	**-0.3**
GUNV				*e*S	**Sn**	**07 46 46.1**	**+0.8**
TRN	**Trinidad (W)**	**1.04**	**103**	*e*P	**Pn**	**07 46 35.8**	**+0.1**
TRN				*e*S	**Sn**	**07 46 48.5**	**-0.8**
TBH	**Brigand Hill**	**1.40**	**106**	*e*P	**Pn**	**07 46 40.4**	**-0.1**
TBH				*e*S	**Sn**	**07 47 01.2**	**+3.3**
GRW	**Mount Saint Ca**	**1.48**	**31**	*e*P	**Pn**	**07 46 41.2**	**-0.3**
GRW				*e*S	**Sn**	**07 47 01.4**	**+1.4**
TPR	**Prospect**	**1.66**	**79**	*e*P	**Pn**	**07 46 43.6**	**-0.4**
BOT	**Bacolet**	**1.71**	**80**	*e*P	**Pn**	**07 46 44.0**	**-0.6**

*MOS **03** 08:02:04.0±2.1, 5340N×10884E, h9km, mb4.3/1, Error ellipse: s-maj=18.5km s-min=12.3km az=56.3*

BYKL 03 08:02:04.5±0.2, 5343N×10883E, h7km±13km, 3C-8D, FELT I=II MSK at Ust-Barguzin, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.73**	**71**	⇓*i*Pg	Pg	08 02 18.0	-0.6
SYVR				*e*Sg	Sg	08 02 28.2	0.0
SYVR				*e*Sb	Sb	08 02 32.7	+2.9
SYVR				Pmax			
	49nm,0.5s						
SYVR				Smax			
	650nm,0.4s						
SYVR	**Suvo**	**0.73**	**71**	*e*PG	Pg	08 02 18.1	-0.5
SYVR				*e*		08 02 28.1	
SYVR				pmax	pmax		
	comp=Z,50nm,0.2s						
SYVR				smax			
	comp=E,600nm,0.3s						
OGRR	**Ongureny**	**0.77**	**287**	⇑*i*Pg	Pg	08 02 18.9	-0.4
	comp=E,94nm,0.3s						
OGRR				⇓*i*Pg	Pg	08 02 18.9	-0.4
	comp=E,195nm,0.3s						
OGRR				⇑*i*Pg	Pg	08 02 18.9	-0.4
	comp=E,202nm,0.3s						
OGRR				*i* Sg	Sg	08 02 29.1	-0.1
OGRR				Pmax			
	comp=E,169nm,0.4s						
OGRR				Smax			
	comp=E,480nm,0.3s						
OGRR	**Ongureny**	**0.77**	**287**	*e*PG	Pg	08 02 18.9	-0.4
OGRR				*e*		08 02 29.2	
OGRR				pmax	pmax		
	comp=Z,169nm,0.4s						
OGRR				smax			
	comp=N,483nm,0.4s						
KELR	**Kotokel**	**0.81**	**214**	*e*Pg	Pg	08 02 19.1	-1.0
KELR				*e*		08 02 26.5	
KELR				*e*Sg	Sg	08 02 30.4	-0.2
TRTB	**Turuntaevo**	**1.41**	**212**	*e*Pg	Pg	08 02 29.9	-1.6
TRTB				*e*		08 02 32.8	
TRTB				*e*Sg	Sg	08 02 48.5	-1.2
TRTB				max			
	comp=N,133nm,0.7s						
TRTB				Smax			
	comp=N,467nm,0.6s						
TRG	**Tyrgan**	**1.64**	**247**	*e*Pn	Pn	08 02 33.6	-0.1
TRG				*e*Pg	Pg	08 02 34.7	-1.3
TRG				*e*		08 02 39.5	
TRG				*e*Sg	Sg	08 02 56.3	-0.9
TRG				Pmax			
	comp=N,62nm,0.2s						
TRG				Smax			
	comp=N,247nm,0.4s						
KAB	**Kabansk**	**1.91**	**225**	*e*	Pn	08 02 43.0	+5.5
KAB				*e*Sg	Sg	08 03 05.3	-0.7
KAB				Smax			
	comp=N,771nm,1.2s						
YLYR	**Ulyunkhan**	**2.00**	**42**	⇓*i*Pn	Pn	08 02 39.0	+0.4
	comp=N,31nm,0.5s						
YLYR				⇓*i*Pn	Pn	08 02 39.0	+0.4
	comp=N,28nm,0.5s						
YLYR				⇓*i*Pn	Pn	08 02 39.0	+0.4
	comp=N,49nm,0.5s						
YLYR				*i* Pg	Pg	08 02 40.0	-2.7
YLYR				*e*Sg	Sg	08 03 06.7	-1.9
YLYR				Pmax			
	comp=N,81nm,0.6s						
YLYR				Smax			
	comp=N,225nm,0.3s						
YLYR	**Ulyunkhan**	**2.00**	**42**	*e*PN	Pn	08 02 39.0	+0.4
YLYR				*e*		08 02 40.0	
YLYR				*e*		08 03 06.6	
YLYR				pmax	pmax		
	comp=Z,81nm,0.5s						
YLYR				smax			
	comp=N,222nm,0.4s						
HRMR	**Khuramsha**	**2.14**	**213**	*e*Pn	Pn	08 02 41.3	+0.7
HRMR				⇑*i*Pg	Pg	08 02 43.0	-2.5
HRMR				*e*Sg	Sg	08 03 11.7	-1.5
HRMR				Pmax			
	comp=N,224nm,0.6s						
HRMR				Smax			
	comp=N,1μm,0.4s						
NIZ	**Nizh Angarsk**	**2.39**	**10**	⇓*i*Pn	Pn	08 02 44.8	+0.8
NIZ				*e*Pg	Pg	08 02 47.1	-3.1
NIZ				*e*Sg	Sg	08 03 17.8	-3.4
NIZ				Pmax			
	comp=N,23nm,0.3s						
NIZ				Smax			
	comp=N,288nm,0.6s						
NIZ	**Nizh Angarsk**	**2.39**	**10**	*e*PN	Pn	08 02 44.8	+0.8
NIZ				*e*		08 02 46.7	
NIZ				*e*		08 03 17.4	
NIZ				pmax	pmax		
	comp=Z,23nm,0.4s						
NIZ				smax			
	comp=N,288nm,0.6s						
KMO	**Kumora**	**2.82**	**28**	*e*Pn	Pn	08 02 51.2	+1.2
KMO				⇓*i*Pg	Pg	08 02 54.8	-3.8
KMO				*e*Sg	Sg	08 03 32.6	-2.5
KMO				Pmax			
	comp=N,60nm,0.4s						
KMO				Smax			
	comp=N,309nm,1.1s						
KMO	**Kumora**	**2.82**	**28**	*e*PN	Pn	08 02 49.5	-0.5
KMO				*e*		08 02 54.8	
KMO				*e*S	Sn	08 03 24.1	-0.1
KMO				*e*		08 03 32.1	
KMO				pmax	pmax		
	comp=Z,66nm,0.5s						
KMO				smax			
	comp=E,309nm,0.8s						
LSTR	**Listvyanka**	**2.90**	**239**	*e*Pn	Pn	08 02 52.0	+1.0
LSTR				*e*Sg	Sg	08 03 33.1	-4.4
LSTR				max			
	comp=E,16nm,0.8s						
LSTR				Smax			
	comp=E,72nm,1.1s						
IRK	**Irkutsk**	**3.01**	**249**	*e*Sg	Sg	08 03 36.9	-4.3
IRK				Smax			
	comp=E,344nm,0.5s						
YOA	**Uoyan**	**3.19**	**31**	*e*Sg	Sg	08 03 44.9	-1.9
YOA				Smax			
	comp=E,583nm,0.5s						
CIT	**Chita**	**3.20**	**114**	*e*Pn	Pn	08 02 54.7	-0.5
CIT				*e*Pg	Pg	08 03 01.1	-4.7
CIT				*e*		08 03 07.4	
CIT				*e*Sg	Sg	08 03 43.0	-4.3
CIT				max			
	comp=E,38nm,0.8s						
CIT				Smax			
	comp=E,318nm,1.9s						
CIT	**Chita**	**3.20**	**114**	*e*PN	Pn	08 03 01.0	+5.8
CIT				*e*S	Sn	08 03 32.2	-1.4
CIT				*e*		08 03 41.9	
CIT				pmax	pmax		
	comp=Z,44nm,0.7s						
CIT				smax			
	comp=N,319nm,0.9s						
UKT	**Uakit**	**3.48**	**52**	⇓*i*Pn	Pn	08 02 59.5	+0.5
UKT				*e*Pg	Pg	08 03 07.2	-3.9
UKT				*e*Sg	Sg	08 03 52.3	-3.9
UKT				Pmax			
	comp=N,33nm,0.8s						
UKT				Smax			
	comp=N,82nm,0.5s						
UKT	**Uakit**	**3.48**	**52**	*e*PN	Pn	08 02 59.4	+0.4
UKT				*e*		08 03 07.2	
UKT				*e*		08 03 52.4	
UKT				pmax	pmax		
	comp=Z,22nm,0.5s						
UKT				smax			
	comp=E,74nm,0.5s						
TLY	**Talaya**	**3.62**	**243**	*e*Pn	Pn	08 03 02.0	+1.1
TLY				*e*Pg	Pg	08 03 09.3	-4.5
TLY				*e*Sg	Sg	08 03 56.6	-4.1
TLY				Pmax			
	comp=E,9.0nm,0.8s						
TLY				Smax			
	comp=E,41nm,0.5s						
SVKR	**Severomuysk**	**3.84**	**44**	*e*Sg	Sg	08 04 04.4	-3.4
SVKR				Smax			
	comp=E,224nm,0.7s						
ARS	**Arshan**	**4.18**	**251**	*e*	Pn	08 03 10.9	+2.2
ARS				*e*Pg	Pg	08 03 19.5	-5.1
ARS				*e*Sg	Sg	08 04 13.1	-5.7
ARS				Pmax			
	comp=E,15nm,0.6s						
ARS				Smax			
	comp=E,126nm,0.7s						
ARS	**Arshan**	**4.18**	**251**	*e*PN	Pn	08 03 20.9	+12
ARS				*e*		08 04 11.7	
ARS				pmax	pmax		
	comp=Z,6.0nm,0.2s						
ARS				smax			
	comp=E,126nm,0.5s						
KPC	**Khapcheranga**	**4.34**	**148**	*e*Pn	Pn	08 03 10.0	-0.8
KPC				*e*		08 03 11.1	
KPC				*e*Pg	Pg	08 03 21.2	-6.4
KPC				*e*		08 03 23.3	
KPC				*e*Sn	Sn	08 04 00.8	-0.9
KPC				*e*Sg	Sg	08 04 18.0	-5.8
KPC				max			
	comp=E,16nm,0.5s						
KPC				Smax			
	comp=E,75nm,1.0s						
ZAK	**Zakamensk**	**4.59**	**231**	*e*Sg	Sg	08 04 29.1	-3.0
ZAK				Smax			
	comp=E,26nm,1.0s						
NLYR	**Nelyaty**	**5.01**	**49**	*e*Pn	Pn	08 03 20.3	+0.2
NLYR				*e*Pg	Pg	08 03 34.3	-6.1
NLYR				*e*Sg	Sg	08 04 40.4	-4.9
NLYR				Pmax			
	comp=E,12nm,0.7s						
NLYR				Smax			
	comp=E,109nm,1.0s						
NLYR	**Nelyaty**	**5.01**	**49**	*e*PN	Pn	08 03 19.6	-0.5
NLYR				*e*		08 03 34.1	
NLYR				*e*		08 04 40.2	
NLYR				pmax	pmax		
	comp=Z,16nm,0.6s						
NLYR				smax			
	comp=N,109nm,1.1s						
MOY	**Mondy**	**5.10**	**253**	*e*	Pn	08 03 23.7	+2.4
MOY				*e*Pg	Pg	08 03 34.4	-7.8
MOY				*e*Sn	Sn	08 04 19.9	-0.5
MOY				*e*Sg	Sg	08 04 40.9	-7.3
MOY				Pmax			
	comp=N,10.0nm,0.7s						
MOY				Smax			
	comp=N,48nm,1.3s						
BOD	**Bodaibo**	**5.29**	**32**	*e*Sg	Sg	08 04 46.8	-7.4
BOD				Smax			
	comp=N,35nm,1.4s						
ORL	**Orlik**	**5.52**	**264**	*e*	Pn	08 04 29.4	+62
ORL				*e*Sn	Sn	08 04 31.5	+0.7
ORL				*e*Sg	Sg	08 04 53.0	-8.8
ORL				max			
ORL				Smax			
	comp=N,17nm,1.3s						
CRS	**Chara**	**6.43**	**53**	*e*Sg	Sg	08 05 23.6	-7.3
CRS				Smax			
	comp=N,70nm,1.4s						
TUP	**Tupik**	**6.65**	**77**	*e*Sg	Sg	08 05 29.2	-8.7
TUP				Smax			
	comp=N,127nm,1.7s						
TUP	**Tupik**	**6.65**	**77**	*e*PN	Pn	08 03 42.2	-0.4
TUP				*e*		08 04 03.0	
TUP				*e*S	Sn	08 04 56.9	-1.6
TUP				*e*		08 05 29.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TUP				smax			
	comp=N,98nm,1.4s						

*NEIC **03** 08:14:20.4, 2772S×6993W, h99km, MD3.8(GUC), After GUC.*

GUC 03 08:14:20.4±0.5, 2772S×6993W, h99km±5km, MD3.8, ML3.4, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.52**	**314**	⇓*i*P	Pn	08 14 36.2	0.0
CPCH				*i* S	Sn	08 14 48.6	+0.7
CDCH	**Caldera**	**1.02**	**309**	⇑*i*P	Pn	08 14 41.3	+0.3
CDCH				*i* S	Sn	08 14 56.8	+0.3
CDCH				AMP		08 14 57.6	
	comp=E,932nm,0.3s						
CDCH	**Caldera**	**1.02**	**309**	⇑*i*P	Pn	08 14 41.3	+0.3
CDCH				*i* S	Sn	08 14 56.8	+0.3
CRCH	**Chaqaral**	**1.50**	**336**	⇑*i*P	Pn	08 14 48.5	+1.9
CRCH				*i* S	Sn	08 15 08.5	+2.2
CRCH				AMP		08 15 09.7	
	comp=N,610nm,0.7s						
CRCH	**Chaqaral**	**1.50**	**336**	⇑*i*P	Pn	08 14 48.5	+1.9
CRCH				*i* S	Sn	08 15 08.5	+2.2
CPN1	**Cerro Paranal**	**3.11**	**352**	*i* P	Pn	08 15 09.0	+1.5
CPN1				*i* S	Sn	08 15 45.5	+1.6
CPN1				AMP		08 16 15.9	
	comp=E,96nm,0.4s						
LVC	**Limon Verde**	**5.17**	**11**	Pn	Pn	08 15 35.1	-0.2
CPUP	**Villa Florida**	**11.32**	**86**	Pn	Pn	08 16 59.0	0.0

*NNC **03** 08:22:49.1±5.1, 4469N×9380E, h20km±16km, mb3.5, mpv3.3, Error ellipse: s-maj=80.1km s-min=28.8km az=24.0*

BJI 03 08:22:46.6, 4468N×9429E, h19km, ML4.0, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.81**	**262**	*e*P	Pn	08 24 02.0	+3.9
WMQ				S	Sn	08 24 54.7	+1.4
WMQ				Smax			
	comp=N,203nm,0.7s						
WMQ				Smax			
	comp=E,217nm,0.7s						
GTA	**Gaotai**	**6.68**	**140**	P	Pn	08 24 28.7	+5.0
GTA				S	Sn	08 25 45.8	+6.6
GTA				SG	Sn	08 26 21.9	+43
GTA				Smax			
	comp=N,29nm,0.8s						
GTA				Smax			
	comp=E,27nm,1.0s						
MK31	**Makanchi Array**	**8.66**	**288**	⇑Pn	Pn	08 24 51.3	+0.5
	comp=E,0.8nm,0.8s,baz=96,slow=15						
MK31				⇑Sn	Sn	08 26 27.9	+0.1
	comp=E,2.5nm,0.7s						
MK31				⇓Lg		08 27 13.8	
	comp=E,11nm,0.8s,baz=101,slow=30						
KURK	**Kurchatov**	**12.15**	**305**	⇑Lg		08 29 06.4	
	comp=E,8.3nm,1.1s						

*NEIC **03** 08:54:33.9, 3149S×7162W, h31km, ML2.9(GUC), After GUC.*

GUC 03 08:54:33.9±0.7, 3149S×7162W, h31km±4km, MD3.7, ML2.9, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.41**	**110**	⇑*i*P	Pb	08 54 42.9	-0.1
ILCH				*i* S	Sb	08 54 49.5	+0.3
CMCH	**Combarbala**	**0.62**	**59**	⇑*i*P	Pb	08 54 46.2	-0.1
CMCH				*i* S	Sb	08 54 55.3	+0.5
JACH	**Jahuel**	**1.47**	**144**	⇑*i*P	Pn	08 54 59.8	+1.4
JACH				*i* S	Sn	08 55 19.4	+2.9
ROCH	**El Roble**	**1.56**	**161**	*e*P	Pn	08 55 01.0	+1.4
ROCH				*i* S	Sn	08 55 21.6	+2.8
RCDM	**Rinconada Maip**	**2.11**	**161**	*i* S	Sn	08 55 34.9	+2.8
RCDM				AMP		08 55 37.3	
	comp=E,202nm,0.4s						
FCH	**Farellones**	**2.15**	**149**	*e*P	Pn	08 55 09.5	+1.9
FCH				*i* S	Sn	08 55 37.0	+3.8
FCH				AMP		08 55 44.0	
	comp=N,80nm,0.2s						
PCH	**Pirque**	**2.32**	**156**	*i* P	Pn	08 55 11.1	+1.1

*ISCJB **03** 08:59:09.6±0.3, 3069N±003×9902E±003, h10km, mb4.4/36, MS4.0/15, Error ellipse: s-maj=4.8km s-min=3.9km az=161.8*
*IDC **03** 08:59:10.2±0.6, 3075N×9906E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/25, mbtmp4.2/20, ML4.1/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/32, Error ellipse: s-maj=26.5km s-min=13.9km az=52.0*
*MOS **03** 08:59:13.4±0.9, 3081N×99.14E, h33km, mb4.9/12, Error ellipse: s-maj=11.4km s-min=6.6km az=108.0*
*NEIC **03** 08:59:13.9±0.4, 3070N×9898E, h25km, mb4.4/11, Error ellipse: s-maj=8.3km s-min=5.1km az=160.0*
*BJI **03** 08:59:13.2, 3080N×9900E, h27km, mB5.1, mb4.7, ML4.2, Ms4.6, Msz4.2*
*NAO **03** 08:59:30.3, 33.15N×9850E, h33km, mb4.2*

ISC 03 08:59:10.4±1.1, 3074N±004×9904E±003, h1km±7km, n108, σ1§19/114, mb4.5/36, MS4.0/15, 4C-3D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.06**	**86**	P	**Pn**	**09 00 18.3**	**+4.6**
CD2				PG	**Pg**	**09 00 27.0**	**-1.2**
CD2				S	**Sn**	**09 01 00.0**	**-1.9**
CD2				SG	**Sg**	**09 01 20.8**	**-0.1**
CD2				Smax			
	comp=N,370nm,1.3s						
CD2				Smax			
	comp=E,340nm,1.1s						
CD2				LR	LR		
	comp=N,3μm,6.6s						
CD2				LR	LR		
	comp=Z,8μm,7.3s						
KMI	**Kunming**	**6.48**	**149**	⇓P	**Pn**	**09 00 51.3**	**+4.4**
KMI				S	**Sn**	**09 02 00.6**	**-0.9**
KMI				LR	LR		
	comp=N,2μm,7.1s						
KMI				LR	LR		
	comp=E,2μm,6.5s						
KMI				LR	LR		
	comp=Z,1μm,9.2s						
LZH	**Lanzhou**	**6.67**	**36**	*e*P	**Pn**	**09 00 50.0**	**+0.4**
LZH				*e*S	**Sn**	**09 02 04.5**	**-1.7**
LZH				Smax			
	comp=N,498nm,1.2s						
LZH				Smax			
	comp=E,627nm,1.2s						
LZH				LR	LR		
	comp=N,1μm,7.4s						
LZH				LR	LR		
	comp=Z,1μm,8.7s						
LSA	**Lhasa**	**6.91**	**263**	P	**Pn**	**09 00 56.6**	**+3.9**
LSA				S	**Sn**	**09 02 14.8**	**+2.8**
LSA				Smax			
	comp=N,50nm,0.7s						
LSA				Smax			
	comp=E,70nm,0.7s						
LSA	**Lhasa**	**6.91**	**263**	*e*P	**Pn**	**09 00 57.3**	**+4.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**6.91**	**263**	*e*Pn	**Pn**	**09 00 57.3**	**+4.6**
	comp=Z,20nm,0.6s						
GYA	**Guiyang**	**7.94**	**121**	⇑*i*P	**Pn**	**09 01 08.5**	**+1.5**
GYA				S	**Sn**	**09 02 41.5**	**+4.0**
GYA				AMB	AMB		
	comp=Z,60nm,1.0s						
GYA				AMB	AMB		
	comp=Z,130nm,3.6s						
GYA				LR	LR		
	comp=N,7μm,12.6s						
GYA				LR	LR		
	comp=E,5μm,12.9s						
GYA				LR	LR		
	comp=Z,4μm,8.7s						
SHL	**Shillong**	**8.15**	**233**	*e*P	**Pn**	**09 01 12.0**	**+2.2**
SHL				*e*S	**Sn**	**09 02 38.0**	**-4.6**
GTA	**Gaotai**	**8.67**	**4**	*e*P	**Pn**	**09 01 18.9**	**+1.9**
GTA				AP		09 01 26.4	
GTA				XP		09 01 30.2	
GTA				S	**Sn**	**09 02 59.5**	**+4.1**
GTA				LR	LR		
	comp=N,979nm,8.4s						
GTA				LR	LR		
	comp=E,5μm,11.8s						
GTA				LR	LR		
	comp=Z,624nm,11.4s						
ENH	**Enshi**	**9.03**	**90**	*e*Pn	**Pn**	**09 01 23.2**	**+1.4**
	comp=Z,22nm,0.8s						
JIRN	**Jiri**	**11.64**	**258**	*e*P	**Pn**	**09 01 58.4**	**+0.8**
JIRN				*e*S	**Sn**	**09 04 05.8**	**-2.4**
GUN	**Gumba**	**11.82**	**259**	*e*P	**Pn**	**09 02 00.5**	**+0.3**
	comp=Z,106nm,0.5s						
PKI	**Pulchoki**	**12.32**	**259**	*e*P	**Pn**	**09 02 07.1**	**+0.1**
	comp=Z,150nm,0.6s						
KKN	**Kakani**	**12.37**	**260**	*e*P	**Pn**	**09 02 07.3**	**-0.3**
	comp=Z,76nm,0.5s						
KKN				*e*S	**Sn**	**09 04 21.6**	**-4.5**
DMN	**Daman**	**12.57**	**259**	*e*P	**Pn**	**09 02 10.2**	**-0.1**
	comp=Z,63nm,0.7s						
CAL	**Calcutta**	**12.58**	**232**	*e*x	x	09 03 32.2	
CAL				*e*x	x	09 03 32.2	
CAL				*i* x	x	09 06 38.0	
GKN	**Gorkha**	**12.85**	**261**	*e*P	**Pn**	**09 02 12.8**	**-1.4**
	comp=Z,43nm,0.5s						
BOK	**Bokaro**	**13.58**	**243**	*e*x	x	09 01 54.4	
BOK				*i* x	x	09 02 22.9	
KOLN	**Koldanda**	**13.80**	**261**	*e*P	**Pn**	**09 02 25.0**	**-2.2**
	comp=Z,76nm,0.7s						
WMQ	**Urumqi**	**15.85**	**329**	*e*P	**Pn**	**09 02 53.7**	**-1.0**
WMQ				PP		09 03 08.0	
WMQ				AMB	AMB		
	comp=Z,32nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,98nm,3.0s						
WMQ				LR	LR		
	comp=N,415nm,6.0s						
WMQ				LR	LR		
	comp=E,289nm,5.0s						
WMQ				LR	LR		
	comp=Z,455nm,7.0s						
BJT	**Baijiatuau**	**16.73**	**52**	P	**Pn**	**09 03 06.6**	**+0.6**
BJT				pmax	pmax		
	comp=Z,14nm,1.1s						
BJT	**Baijiatuau**	**16.73**	**52**	P	**Pn**	**09 03 06.6**	**+0.6**
	comp=Z,14nm,1.1s						
KLP	**Kalpa**	**17.82**	**278**	*e*P	**Pn**	**09 03 19.1**	**-0.5**
KLP				AMb	AMB	09 03 23.9	
	comp=Z,24nm,0.8s						
KLP				*i* x	x	09 06 41.9	
SONM	**Songino Array**	**17.98**	**16**	P	**Pn**	**09 03 22.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=203,slow=12,SNR=28						
SONM				LR	LR	09 10 53.4	
	comp=Z,379nm,19.2s,baz=221,slow=39						
DDI	**Dehra Dun**	**18.08**	**274**	*e*P	**Pn**	**09 03 20.1**	**-2.8**
ULN	**Ulaanbaatar**	**18.17**	**18**	*e*P	**Pn**	**09 03 24.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**18.17**	**18**	*e*P	**Pn**	**09 03 24.0**	**0.0**
	comp=Z,12nm,0.9s						
AGRA	**Agra**	**18.78**	**265**	*e*P	**Pn**	**09 03 29.7**	**-1.7**
SSE	**Sheshan**	**19.01**	**83**	*e*P	**Pn**	**09 03 39.3**	**+5.2**

SSE AP pP 09 03 48.0 +14
SSE XP sP 09 03 51.4 +18
SSE S **Sn** **09 07 10.3 +2.8**
SSE AMB AMB
comp=Z,12nm,1.1s
SSE AMB AMB
comp=Z,140nm,4.4s
SSE LR LR
comp=N,826nm,22.0s
SSE LR LR
comp=E,176nm,22.0s
SSE LR LR
comp=Z,185nm,25.3s
SONA Sohna 19.27 268 *eP* **Pn** **09 03 36.5 -0.8**
SONA AMb AMB 09 03 38.4
comp=Z,16nm,0.4s
VIS Vishakhapatnam 19.29 231 *eP* **Pn** **09 03 38.5 +1.0**
VIS AMb AMB 09 03 40.3
comp=Z,20nm,0.8s
KUDL Kundal 19.81 268 *eP* **Pn** **09 03 42.0 -1.7**
KUDL AMb AMB 09 03 43.6
comp=Z,14nm,0.5s
KUDL *i* x x 09 07 21.1
ZAK Zakamensk 19.88 8 *eP* **Pn** **09 03 43.9 -0.7**
ZAK pmax pmax
comp=Z,22nm,1.7s
KHET Khetri 20.41 268 *eP* **P** **09 03 47.8 -1.0**
KHET AMb AMB 09 03 52.3
comp=Z,18nm,1.3s
MKAR Makanchi Array 20.61 326 P **P** **09 03 50.6 -0.4**
comp=Z,6.5nm,0.5s,baz=133,slow=12,SNR=54
MKAR LR LR 09 12 56.9
comp=Z,312nm,18.7s,MS3.7,baz=196,slow=40
BHPL Bhopal 20.64 254 *eP* **P** **09 03 51.2 -0.1**
BHPL AMb AMB 09 03 54.5
comp=Z,45nm,1.2s
MOY Mondy 20.96 3 *eP* **P** **09 03 55.9 +1.1**
TLY Talaya 21.20 8⇑ *eP* **P** **09 03 55.6 -1.7**
KZA Kyzart 22.16 307 P **P** **09 04 12.5 +4.8**
SNR=18
TKM2 Tokmak 2 22.28 310 P **P** **09 04 10.3 +1.4**
SNR=9.5
KBK Karagaybulak 22.60 308 P **P** **09 04 15.9 +3.6**
SNR=10
UCH Uchtor 22.73 307 P **P** **09 04 16.4 +2.7**
SNR=10
FRU Bishkek 22.89 309 *eP* **P** **09 04 16.0 +0.5**
FRU *e* 09 04 39.0
AAK Ala-Archa 22.90 308 P **P** **09 04 18.5 +3.0**
SNR=9.8
AAK Ala-Archa 22.90 308⇑ *eP* **P** **09 04 16.9 +1.4**
AAK pmax pmax
comp=Z,21nm,1.1s,mb4.6
AAK MLR MLR
comp=Z,300nm,18.0s,MS3.8
AAK Ala-Archa 22.90 308 *eP* **P** **09 04 16.2 +0.7**
comp=Z,33nm,1.3s,mb4.7
USP Ospenovka 23.15 309 P **P** **09 04 20.3 +2.1**
SNR=30
AML Almayashu 23.26 306 P **P** **09 04 22.1 +2.8**
SNR=7.8
EKS2 Erkin-Say 23.40 308 P **P** **09 04 22.8 +2.0**
SNR=18
CN2 Changchun 24.61 51 ⇓P **P** **09 04 33.1 +1.0**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
KURK Kurchatov 25.10 328⇑ *iP* **P** **09 04 35.7 -0.9**
KURK Kurchatov 25.10 328 *eP* **P** **09 04 36.3 -0.3**
comp=Z,20nm,0.8s,mb4.9
KRAR Krasnoyarsk 25.63 352 *eP* **P** **09 04 40.5 -0.9**
KRAR pmax pmax
comp=Z,14nm,1.3s,mb4.4
KRAR MLR MLR
comp=Z,600nm,20.0s,MS4.1
NVS Novosibirsk 26.61 339 *eP* **P** **09 04 48.9 -1.4**
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=Z,21nm,1.4s,mb4.7
BVAR Borovoye Array 30.49 325 P **P** **09 05 24.7 -0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=117,slow=9.9,SNR=9.3
BRVK Borovoye 30.56 325 *eP* **P** **09 05 25.9 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BRVK Borovoye 30.56 325 *eP* **P** **09 05 25.9 +0.5**
comp=Z,1.1nm,0.6s,mb4.0
ZRNK Zerenda 31.13 324 *eP* **P** **09 05 30.4 -0.2**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 31.13 324 *eP* **P** **09 05 30.4 -0.1**
comp=Z,1.8nm,0.9s,mb4.0
AKTK Aktyubinsk 36.25 315 P **P** **09 06 15.9 +0.8**
AKTK LR LR 09 21 19.1
AKTO Aktyubinsk 36.25 315 P **P** **09 06 15.9 +0.8**
comp=Z,4.0nm,0.7s,mb4.3,baz=95,slow=14,SNR=14
AKTO LR LR 09 21 19.1
comp=Z,81nm,19.9s,MS3.5,baz=331,slow=37
YAK Yakutsk 37.08 23 *eP* **P** **09 06 21.2 -0.9**
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.7
YAK MLR MLR
comp=Z,200nm,15.0s,MS4.0
ARU Arti 38.12 324 *eP* **P** **09 06 30.9 0.0**
ARU *e* 09 08 01.2
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ARU Arti 38.12 324 *eP* **P** **09 06 30.9 0.0**
comp=Z,8.0nm,0.8s,mb4.5
ARU *e*PP PP 09 08 01.2 +3.4
GNI Garni 44.62 298 LR LR 09 29 40.5
comp=Z,86nm,20.8s,MS3.7,baz=119,slow=41
GNI Garni 44.62 298 *eP* **P** **09 07 28.1 +3.8**
GNI pmax pmax
comp=Z,6.0nm,1.3s
GNI MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 45.87 303 *eP* **P** **09 07 35.9 +1.7**
KIV pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KIV MLR MLR
comp=Z,100nm,20.0s,MS3.8
SEY Seymchan 46.57 30 *eP* **P** **09 07 37.0 -2.8**
VRSR Storozhevoye 48.13 313 *eP* **P** **09 07 52.3 +0.4**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,1.1s
VRSR pmax pmax
comp=E,2.0nm,0.9s
KLMR Klimovskoe 48.91 326 *eP* **P** **09 07 57.2 -0.7**
KLMR pmax pmax
comp=Z,40nm,1.9s,mb5.1
OBN Obninsk 49.84 318 *d iP* **P** **09 08 03.8 -1.2**
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
JOF Joensuu 53.02 328 *ep* **P** **09 08 29.2 +0.4**
comp=Z,2.0nm,0.4s,mb4.4
BR131 Keskin Array S 53.12 299 *eP* **P** **09 08 30.3 +0.8**
comp=Z,0.8nm,0.6s,mb3.8
BRTR Keskin Array B 53.12 299 P **P** **09 08 29.9 +0.4**
comp=Z,1.2nm,0.6s,mb4.0,baz=113,slow=7.2,SNR=7.6
BILL Bilibino 53.37 26 *eP* **P** **09 08 31.0 -0.5**
BILL pmax pmax
comp=Z,14nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.1
AKASG Malin Array Be 54.45 313 P **P** **09 08 39.0 -0.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=72,slow=6.7,SNR=11
KAF Kangasniemi 55.32 327 *ep* **P** **09 08 44.4 -1.2**
baz=88,slow=7.1
FINES FINESS Array B 55.44 326 P **P** **09 08 46.2 -0.3**
comp=Z,2.5nm,0.8s,mb4.3,baz=56,slow=6.9,SNR=7.7
FINES LR LR 09 33 59.7
comp=Z,97nm,20.8s,MS3.9,baz=110,slow=38
FINES FINESS Array B 55.44 326 P **P** **09 08 46.2 -0.3**
FINES LR LR 09 33 59.7
ARCES ARCESS Array B 55.81 336 P **P** **09 08 48.8 -0.4**
comp=Z,3.1nm,0.8s,mb4.4,baz=86,slow=7.6,SNR=5.8
ARCES LR LR 09 34 13.3
comp=Z,122nm,18.8s,MS4.0,baz=195,slow=38
WRA Warramunga Arr 60.75 141 P **P** **09 09 24.3 +0.6**
comp=Z,3.0nm,0.6s,mb4.6,baz=333,slow=7.2,SNR=47
WB2 Warramunga Arr 60.76 141 *eP* **P** **09 09 24.4 +0.6**
IDI Anoyia 60.99 296 P **P** **09 09 24.7 -0.7**
comp=Z,9.8nm,0.9s,mb5.0,baz=101,slow=10,SNR=3.3
HFS Hagfors 61.62 325 P **P** **09 09 29.3 -0.4**
comp=Z,2.3nm,0.7s,mb4.5,baz=90,slow=5.9,SNR=8.3
NB2 NORSAR Subarra 62.60 327 P **P** **09 09 35.3 -0.9**
comp=Z,2.6nm,0.9s,mb4.4,baz=75,slow=6.9
NOA NORSAR Array B 62.60 327 P **P** **09 09 35.5 -0.7**
comp=Z,1.3nm,0.7s,mb4.2,baz=76,slow=6.9,SNR=5.4
NOA LR LR 09 38 21.0
comp=Z,101nm,19.8s,MS4.0,baz=110,slow=38
ASAR Alice Springs 63.59 144 P **P** **09 09 43.5 +0.7**
comp=Z,1.2nm,0.6s,mb4.3,baz=329,slow=6.8,SNR=22
KHC Kasperske Hory 64.64 314 *eP* **P** **09 09 49.3 -0.4**
GERES GERESS Array B 64.66 313 P **P** **09 09 50.5 +0.7**
comp=Z,0.8nm,0.6s,mb4.1,baz=90,slow=6.7,SNR=7.7
GERES LR LR 09 40 03.3
comp=Z,102nm,18.2s,MS4.0,baz=270,slow=38
KMBO Kilima Mbogo 66.61 254 P **P** **09 10 02.5 +0.1**
comp=Z,1.8nm,0.7s,mb4.4,baz=60,slow=9.4,SNR=4.3
DAVOX Davos 67.78 312 P **P** **09 10 10.7 +0.9**
comp=Z,5.9nm,0.8s,mb4.9,baz=115,slow=7.8,SNR=5.3
LPG La Plagne 70.28 312 *eP* **P** **09 10 26.1 +0.7**
comp=Z,17nm,0.9s,mb4.9
LPG La Plagne 70.28 312 *eP* **P** **09 10 26.1 +0.7**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPG La Plagne 70.28 312 *eP* **P** **09 10 26.1 +0.7**
comp=Z,8.4nm,0.9s,mb4.9
LPL La Plagne 70.29 312 *eP* **P** **09 10 26.0 +0.6**
comp=Z,14nm,0.7s,mb4.9
LPL La Plagne 70.29 312 *eP* **P** **09 10 26.0 +0.6**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
LPL La Plagne 70.29 312 *eP* **P** **09 10 26.0 +0.6**
comp=Z,7.2nm,0.7s,mb4.9
MBDF Montbardon 70.58 311 *eP* **P** **09 10 28.0 +0.8**
comp=Z,11nm,0.9s,mb4.7
MBDF Montbardon 70.58 311 *eP* **P** **09 10 28.0 +0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MBDF Montbardon 70.58 311 *eP* **P** **09 10 28.0 +0.8**
comp=Z,5.6nm,0.9s,mb4.7
ILAR Eielson Array 72.00 24 P **P** **09 10 35.2 -0.6**
comp=Z,1.4nm,1.0s,mb4.1,baz=268,slow=3.4,SNR=9.0
ILAR LR LR 09 44 37.2
comp=Z,114nm,18.6s,MS4.2,baz=158,slow=38
STKA Stephens Creek 74.20 143 P **P** **09 10 47.1 -1.7**
comp=Z,1.2nm,0.7s,mb4.0,baz=315,slow=5.7,SNR=2.6
YKA Yellowknife Ar 83.24 15 P **P** **09 11 37.9 -0.7**
comp=Z,0.5nm,0.7s,mb3.8,baz=327,slow=4.9,SNR=10
YKA LR LR 09 53 29.2
comp=Z,57nm,18.5s,MS4.0,baz=270,slow=39
TORD Torodi Ar. Bea 89.56 285 P **P** **09 12 10.4 +0.9**
comp=Z,1.4nm,0.9s,mb4.2,baz=59,slow=4.5,SNR=8.4
POHA Pohakuloa 92.57 65 P **P** **09 12 22.7 -0.8**
POHA *e* 09 12 42.8
SCHQ Schefferville 93.91 352 LR LR 10 01 30.4
comp=Z,76nm,18.9s,MS4.2,baz=348,slow=40
BDFB Brasilia 146.34 289 PKPbc PKPbc 09 18 54.5 +1.6
comp=Z,2.4nm,0.6s,baz=138,slow=6.0,SNR=4.3
BDFB Brasilia 146.34 289 PKP2 PKPab 09 18 54.5 +0.8
BDFB pmax pmax
comp=Z,2.0nm,0.6s

*IDC **03** 09:14:03.9±4.3, 3570N×74.17E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/22, mbtmp3.4/5, ML3.2/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=76.6km s-min=60.4km az=171.0*
*ISCJB **03** 09:14:14.0±2.1, 365N±02×739E±02, h33km, mb3.4/2, MS3.3/1, Error ellipse: s-maj=31.6km s-min=19.6km az=100.9*
ISC 03 09:14:11.3±3.0, 360N±03×739E±02, h35km, n7, σ§98/7, mb3.4/2, MS3.3/1, 1C-1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.58**	**341**	⇓Pn	**Pn**	**09 15 59.2**	**-0.1**
	2.2nm,0.7s,baz=156,slow=12,SNR=23						
KK31				⇑Sn	**Sn**	**09 17 17.8**	**-6.1**
	2.0nm,0.5s,baz=150,slow=23,SNR=6.7						
MKAR	**Makanchi Array**	**12.52**	**28**	Pn	**Pn**	**09 17 07.3**	**+0.4**
	0.0nm,0.3s,baz=220,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**17.23**	**353**	P	**Pn**	**09 18 09.2**	**+0.1**
	0.2nm,0.3s,baz=152,slow=9.3,SNR=5.2						
AKTO	**Aktyubinsk**	**18.45**	**327**	P	**Pn**	**09 18 25.1**	**+1.0**
	0.2nm,0.3s,baz=133,slow=15,SNR=3.6						
IDI	**Anoyia**	**39.48**	**284**	LR	LR	09 41 48.2	
	comp=Z,48nm,20.4s,MS3.3,baz=278,slow=42						
ARCES	**ARCESS Array B**	**42.53**	**337**	P	**P**	**09 22 03.2**	**-0.1**
	1.6nm,0.8s,mb3.8,baz=113,slow=9.2,SNR=6.6						
YKA	**Yellowknife Ar**	**81.64**	**4**	P	**P**	**09 26 24.8**	**-0.9**
	0.1nm,0.5s,mb3.0,baz=345,slow=5.5,SNR=8.0						

IDC 03 09:16:12.0±2.9, 413S×12759E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=354.3km s-min=26.4km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.03**	**158**	P	Pn	09 20 11.8	+0.2
	0.4nm,0.3s,baz=333,slow=13,SNR=14						
WRA				S	Sn	09 23 09.0	-13
	0.2nm,0.3s,baz=60,slow=29,SNR=5.6						
WB2	**Warramunga Arr**	**17.04**	**158**	*eP*	Pn	09 20 12.1	+0.5
ASPA	**Alice Springs**	**20.35**	**163**	*eP*	P	09 20 50.4	+0.4
ASAR	**Alice Springs**	**20.35**	**163**	P	P	09 20 50.3	+0.3
	2.3nm,0.6s,baz=348,slow=12,SNR=27						
ASAR				S	S	09 24 26.6	-12
	0.5nm,0.8s,baz=348,slow=24,SNR=5.2						
MKAR	**Makanchi Array**	**64.53**	**327**	P	P	09 26 50.9	+0.2
	0.5nm,0.4s,baz=114,slow=8.4,SNR=20						

*FIA0 **03** 09:25:50.2, 5905N×2737E, h0km, ML1.3, Explosion*
*NAO **03** 09:25:54.6±1.5, 5929N×2692E, ML2.0*
*BER **03** 09:25:55.1±3.8, 5928N×2714E, h0km, ML2.0(NAO), Suspected explosion*
HEL 03 09:25:54.7±0.2, 5932N×2710E, h0km, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**193**	*i* P	Pg	09 26 10.4	-1.2
VSU				*i* S	Sg	09 26 22.0	-1.1
VSU				*e*RG		09 26 25.9	
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	Pn	09 26 32.2	0.0
	baz=154,slow=12						
FIA0				Lg		09 27 03.0	
	baz=168,slow=37						
FIA0				Rg		09 27 16.4	
	baz=170,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	*eP*	Pn	09 26 32.0	-0.3
FIA0				*e*RG		09 27 23.6	
HFS	**Hagfors**	**6.83**	**283**	*e*S	Sn	09 28 49.1	-5.5
HFS				*e*SG		09 29 24.5	
HFS	**Hagfors**	**6.83**	**283**	Sn	Sn	09 28 49.1	-5.5
	baz=100,slow=28						
HFS				Lg		09 29 24.5	
	baz=105,slow=28						
NB2	**NORSAR Subarra**	**8.10**	**289**	*eP*	Pn	09 27 51.8	-1.8
NB2				*e*		09 30 09.0	
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	Pn	09 28 21.1	-2.3
	baz=174,slow=14						
ARA0				Sn	Sn	09 30 15.7	-3.6
	baz=170,slow=28						
ARA0	**ARCESS Array S**	**10.28**	**357**	*eP*	Pn	09 28 21.1	-2.3
ARA0				*e*S	Sn	09 30 15.7	-3.6

IDC 03 09:34:33.6±1.4, 002N×12063E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=462.2km s-min=23.7km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**147**	P	P	09 39 51.0	+1.4
	0.9nm,0.4s,baz=322,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**26.84**	**152**	P	P	09 40 17.1	+1.3
	0.4nm,0.4s,baz=339,slow=13,SNR=4.4						
STKA	**Stephens Creek**	**37.42**	**150**	P	P	09 41 46.6	-1.8
	1.5nm,0.7s,baz=352,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**57.37**	**330**	P	P	09 44 23.8	+0.1
	0.5nm,0.5s,baz=137,slow=8.5,SNR=8.9						

MAN 03 09:46:46.0, 1200N×12493E, h3km, mb2.3, ML3.9, MS2.3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.57**	**333**	*eP*	Pg	09 47 08.3	+11
CNP				*e*S	Sg	09 47 20.9	+17
BESP	**Borongan**	**0.64**	**129**	*eP*	Pg	09 46 58.4	+0.2
BESP				*e*S	Sg	09 47 03.5	-3.1
PLP	**Palo**	**0.83**	**176**	*i* P	Pg	09 47 02.1	+0.2
PLP				*i* S	Sg	09 47 10.9	-1.9
PVCP	**Virac**	**1.75**	**335**	*eP*	Pn	09 47 17.6	+0.4
MSLP	**Maasin**	**1.86**	**182**	*eP*	Pn	09 47 19.8	+1.1
MSLP				*e*S	Sn	09 47 41.3	-1.4

*ISCJB **03** 10:14:26.4±0.6, 5906N±006×154.1W±02, h135km±9km, mb3.1/2, Error ellipse: s-maj=14.1km s-min=8.1km az=52.0*
*IDC **03** 10:14:26.4±1.9, 5915N×154.34W, h110km±28km, mb2.9/2, mb1 3.5/5, mb1mx3.2/21, mbtmp3.6/5, Error ellipse: s-maj=34.5km s-min=15.6km az=104.0*
*NEIC **03** 10:14:28.9, 5900N×154.15W, h130km, MG3.1(AEIC), After AEIC.*
ISC 03 10:14:27.5±0.6, 5907N±006×1541W±02, h129km±9km, n20, σ1§23/26, mb3.1/2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.51**	**148**	P	**Pn**	**10 14 55.1**	**-0.6**
	63nm,0.3s,baz=331,slow=9.0,SNR=966						
KDAK				S	**Sn**	**10 15 16.6**	**-0.4**
	23nm,0.3s,baz=198,slow=23,SNR=5.6						
KDAK	**Kodiak Island**	**1.51**	**148**	P	**Pn**	**10 14 55.5**	**-0.1**
SVW2	**Sparrevohn**	**2.17**	**340**	P	**Pn**	**10 15 04.6**	**+1.1**
SLKM	**Skilak Lake**	**2.42**	**52**	*eP*	**Pn**	**10 15 07.9**	**+1.3**
SLKM				*e*S	**Sn**	**10 15 36.5**	**-0.1**
FIB	**Fire Island**	**2.87**	**41**	*eP*	**Pn**	**10 15 14.5**	**+2.2**
FIB				*e*S	**Sn**	**10 15 44.1**	**-2.7**
PMR	**Palmer**	**3.52**	**42**	*eP*	**Pn**	**10 15 21.6**	**+0.7**
CHGN	**Chignik**	**3.63**	**222**	*eP*	**Pn**	**10 15 21.2**	**-1.1**
SML	**Sawmill**	**3.95**	**44**	*eP*	**Pn**	**10 15 26.7**	**+0.2**
SML				*e*S	**Sn**	**10 16 07.7**	**-4.6**
TT01	**Tatalina**	**3.96**	**347**	P	**Pn**	**10 15 27.9**	**+1.1**
DIV	**Divide**	**4.64**	**60**	*eP*	**Pn**	**10 15 27.3**	**-8.4**
DIV				*e*S	**Sn**	**10 16 16.6**	**-12**
MCK	**McKinley**	**5.29**	**26**	*eP*	**Pn**	**10 15 44.4**	**+0.1**
	3.7nm,0.5s						
MENT	**Mentasta**	**6.35**	**48**	*eP*	**Pn**	**10 16 00.1**	**+1.4**
COLA	**College**	**6.51**	**24**	P	**Pn**	**10 15 59.5**	**-1.4**
	3.3nm,0.3s						
ILAR	**Eielson Array**	**6.64**	**28**	P	**Pn**	**10 16 01.9**	**-0.7**
	2.2nm,0.3s,baz=217,slow=14,SNR=206						
ILAR				S	**Sn**	**10 17 14.8**	**-2.2**
	0.6nm,0.3s,baz=241,slow=18,SNR=6.3						
INK	**Inuvik**	**12.91**	**36**	P	**Pn**	**10 17 26.3**	**+0.1**
	0.3nm,0.3s,baz=233,slow=12,SNR=22						
INK	**Inuvik**	**12.91**	**36**	P	**Pn**	**10 17 26.3**	**+0.1**
YKA	**Yellowknife Ar**	**19.35**	**63**	P	**P**	**10 18 44.2**	**+1.4**
	baz=275,slow=9.8,SNR=129						
YKA				pP		10 19 05.5	
	baz=275,slow=14,SNR=5.8						
YKA	**Yellowknife Ar**	**19.35**	**63**	P	**P**	**10 18 44.2**	**+1.4**
YKA				pP		10 19 05.5	
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**10 23 45.1**	**+0.4**
	0.3nm,0.4s,mb3.3,baz=34,slow=7.0,SNR=4.7						
MKAR	**Makanchi Array**	**64.81**	**321**	P	**P**	**10 24 50.4**	**-2.0**
	0.1nm,0.6s,mb2.8,baz=45,slow=6.1,SNR=1.6						

IDC 03 11:02:55.4±2.1, 2512N×12346E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=164.6km s-min=21.7km az=65.0, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.38**	**334**	P	P	11 08 32.9	-0.4
	0.5nm,0.9s,baz=144,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**39.14**	**314**	P	P	11 10 25.3	+0.7
	0.1nm,0.7s,baz=100,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**46.03**	**166**	P	P	11 11 20.7	+0.1
	1.9nm,0.8s,baz=346,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**49.55**	**167**	P	P	11 11 48.1	+0.2
	0.3nm,0.6s,baz=346,slow=10.0,SNR=5.6						

MAN 03 11:05:00.1, 1699N×12010E, h27km, mb2.8, ML4.2, MS0.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.63**	**196**	*eP*	Pb	11 05 12.8	+0.3
BOLP				*e*S	Sb	11 05 22.3	+1.2
BCPH	**Baguio City Da**	**0.76**	**143**	⇓*eP*	Pb	11 05 14.9	+0.2
BCPH				*i* S	Sb	11 05 26.1	+1.4
ABRA	**Dolores**	**0.88**	**42**	*eP*	Pn	11 05 16.6	0.0
ABRA				*e*S	Sb	11 05 29.0	+1.1
SCZP	**Santa Cruz**	**1.22**	**189**	*eP*	Pn	11 05 21.2	-0.1
SCZP				*e*S	Sn	11 05 37.4	+0.5
APYP	**Conner**	**1.39**	**51**	*eP*	Pn	11 05 23.5	-0.2
APYP				*e*S	Sn	11 05 41.8	+0.6
CAUP	**Cauayan**	**1.65**	**91**	*eP*	Pn	11 05 30.6	+3.4
CAUP				*e*S	Sn	11 05 55.0	+7.5

IDC 03 11:19:09.2±3.9, 1691S×7020W, h74km±34km, mb3.4/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=52.1km s-min=32.7km az=119.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.08**	**73**	P	Pn	11 19 43.5	+1.5
	30nm,0.3s,baz=261,slow=12,SNR=685						
LVC	**Limon Verde**	**5.80**	**168**	P	Pn	11 20 32.5	-0.1
	1.7nm,0.3s,baz=329,slow=8.2,SNR=17						
SIV	**San Ignacio**	**8.80**	**85**	P	Pn	11 21 12.7	-0.9
	1.9nm,0.3s,baz=283,slow=11,SNR=33						
TORD	**Torodi Ar. Bea**	**77.03**	**72**	P	P	11 30 54.1	-0.1
	1.0nm,0.9s,baz=260,slow=4.3,SNR=4.5						
YKA	**Yellowknife Ar**	**86.48**	**341**	P	P	11 31 43.1	-0.7
	0.2nm,0.5s,baz=134,slow=4.9,SNR=8.8						
MKAR	**Makanchi Array**	**142.51**	**31**	PKP	PKPdf	11 38 35.6	+2.1
	0.3nm,0.8s,baz=315,slow=2.0,SNR=3.7						
SONM	**Songino Array**	**149.03**	**4**	PKPbc	PKPbc	11 38 49.4	+0.6
	0.5nm,0.6s,baz=347,slow=2.9,SNR=7.1						

*INMG **03** 11:36:02.6±0.8, 4278N×722W, h0km, ML2.4, Error ellipse: s-maj=2.0km s-min=1.2km az=85.0*
*CSEM **03** 11:36:02.2±0.1, 4277N×721W, h10km, ML2.4, Error ellipse: s-maj=3.0km s-min=2.4km az=99.0*
MDD 03 11:36:02.3±0.3, 4278N×721W, h0km, mbLg2.3/15, 1D, Error ellipse: s-maj=4.0km s-min=2.5km az=86.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.39**	**173**	Pg	Pg	11 36 09.3	-0.4
	5.6nm,0.2s,SNR=19						
ERUA				Lg		11 36 14.7	
	22nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**0.55**	**4**	Pg	Pg	11 36 12.4	-0.5
	5.9nm,0.1s,SNR=4.0						
EPON				Lg		11 36 19.8	
	10nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**0.55**	**4**	Pg	Pg	11 36 12.4	-0.5
	10nm,0.3s,SNR=4.0						
EPON				Lg		11 36 19.8	
	10nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.91**	**157**	Pg	Pg	11 36 16.7	-3.0
	6.0nm,0.1s,SNR=11						
ECAL				Lg		11 36 31.8	
	4.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.91**	**157**	Pg	Pg	11 36 16.4	-3.3
	7.7nm,0.3s,SNR=11						
ECAL				Lg		11 36 31.8	
	4.6nm,0.1s,SNR=7.9						
STS	**Santiago**	**0.99**	**277**	Pg	Pg	11 36 20.5	-0.9
	14nm,0.2s,SNR=7.9						
STS				Lg		11 36 33.9	
	21nm,0.2s,SNR=6.2						

PBRG	**Braganca**	**1.03 160**	*e*P	Pg	11 36 21.6	-0.5
PBRG			*e*S	Sg	11 36 36.1	+0.6
ELOB	**Lobios**	**1.11 215**	Pg	Pg	11 36 20.3	-3.2
	9.5nm,0.1s,SNR=30					
ELOB			Lg		11 36 37.9	
	4.7nm,0.1s,SNR=14					
ELOB	**Lobios**	**1.11 215**	Pg	Pg	11 36 20.3	-3.3
	19nm,0.4s,SNR=30					
ELOB			Lg		11 36 37.9	
	4.7nm,0.1s,SNR=14					
PCAB	**Cabril**	**1.23 210**	*e*P	Pg	11 36 24.9	-1.0
PCAB			*e*S	Sg	11 36 41.7	-0.1
PCAB						
	87nm,0.1s					
PCAB	**Cabril**	**1.23 210**	*e*P	Pg	11 36 24.9	-1.0
PCAB			*e*S	Sg	11 36 41.7	-0.1
	87nm,0.1s					
EZAM	**Zamans**	**1.27 241**	Pg	Pg	11 36 25.2	-1.5
	4.1nm,0.1s,SNR=7.9					
EZAM			Lg		11 36 43.0	
	7.6nm,0.2s,SNR=7.9					
EZAM	**Zamans**	**1.27 241**	Pg	Pg	11 36 23.5	-3.1
	SNR=7.9					
EZAM			Lg		11 36 43.0	
	7.6nm,0.2s,SNR=7.9					
EMAZ	**Mazaricos**	**1.31 278**	Pg	Pg	11 36 26.5	-1.0
	13nm,0.2s,SNR=14					
EMAZ	**Mazaricos**	**1.31 278**	Pg	Pg	11 36 26.5	-1.0
	16nm,0.3s,SNR=14					
PVRL	**Vila Real**	**1.55 194**	*e*S	Sn	11 36 50.5	-1.4
PVRL						
	42nm,0.1s					
PVRL	**Vila Real**	**1.55 194**	*e*S	Sn	11 36 50.5	-1.4
	42nm,0.1s					
EARI	**Arriondas**	**1.56 70**	⇓Pg	Pg	11 36 31.3	-0.8
	4.0nm,0.3s,SNR=18					
EARI			Lg		11 36 50.7	
	4.6nm,0.1s,SNR=12					
EARI	**Arriondas**	**1.56 70**	Pg	Pg	11 36 31.3	-0.8
EARI			Lg		11 36 50.7	
	4.6nm,0.1s,SNR=12					
PVIS	**Viseu**	**2.12 194**	*e*Sg	Sg	11 37 10.8	+0.2
MTE	**Manteigas**	**2.39 186**	*e*Sg	Sg	11 37 18.8	-0.3
MTE						
	18nm,0.3s					
MTE	**Manteigas**	**2.39 186**	Lg		11 37 18.8	
	8.9nm,0.3s					
ELAN	**Lanestosa**	**2.80 79**	Pn	Pn	11 36 47.8	-0.6
	1.4nm,0.3s,SNR=4.0					
ELAN			Lg		11 37 31.2	
	21nm,0.6s,SNR=7.9					
PCBR	**Castelo Branco**	**2.94 184**	*e*Sg	Sg	11 37 36.5	-0.3
PCBR						
	6.5nm,0.3s					
PCBR	**Castelo Branco**	**2.94 184**	Lg		11 37 36.5	
	3.2nm,0.3s					
GUD	**Guadarrama**	**3.13 132**	Pg	Pg	11 36 60.0	-2.3
	1.6nm,0.3s,SNR=7.9					
GUD			Lg		11 37 40.2	
	11nm,0.4s,SNR=7.9					
PTOM	**Tomar**	**3.29 196**	*e*Sg	Sg	11 37 48.0	+0.1
PTOM						
	11nm,0.2s					
PTOM	**Tomar**	**3.29 196**	*e*Sn	Sg	11 37 48.0	+0.1
PTOM	**Tomar**	**3.29 196**	Lg		11 37 48.0	
	5.6nm,0.2s					

IDC 03 11:41:11.6±7.5, 879S×12606E, h227km±82km, mb2.9/1, mb1 3.0/3, mb1mx2.8/13, mbtmp3.5/3, Error ellipse: s-maj=131.5km s-min=30.2km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.68**	**145**	P	Pn	11 44 16.4	-0.1
	0.3nm,0.3s,baz=324,slow=13,SNR=15						
WRA				S	S	11 46 46.2	-2.3
	1.1nm,0.3s,baz=322,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**16.59**	**154**	P	P	11 44 52.1	+1.9
	0.1nm,0.3s,baz=318,slow=11,SNR=9.7						
ASAR				S	S	11 47 52.1	+0.3
	0.3nm,0.3s,baz=318,slow=22,SNR=8.9						
MKAR	**Makanchi Array**	**67.66**	**329**	P	P	11 51 44.1	-0.1
	0.2nm,0.5s,baz=127,slow=6.5,SNR=5.3						

MAN 03 11:54:33.9, 1030N×12426E, h47km, mb2.0, ML3.7, MS6.2, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.82**	**25**	*e*P	Pn	11 54 50.7	+1.7
SCPH	**Surigao**	**1.32**	**113**	*e*P	Pn	11 54 56.8	+1.0
SCPH				*i* S	Sn	11 55 15.8	+3.6
BESP	**Borongan**	**1.73**	**42**	*e*P	Pn	11 55 01.9	+0.4
BESP				*e*S	Sn	11 55 28.9	+6.5
BUKP	**Musuan**	**2.54**	**162**	*e*P	Pn	11 55 13.8	+1.3

*IDC **03** 12:02:45.4±0.7, 1589S×17291W, h0km, mb4.1/9, mb1 4.5/9, mb1mx4.3/18, mbtmp4.1/9, MS3.9/9, Ms1 3.9/9, ms1mx3.6/25, Error ellipse: s-maj=40.0km s-min=17.5km az=140.0*
*NEIC **03** 12:02:46.6±0.7, 1580S×17287W, h10km, mb4.5/1, Error ellipse: s-maj=35.7km s-min=11.9km az=135.0*
*ISCJB **03** 12:02:48.5±0.7, 158S±0.1×1730W±0.02, h33km, mb4.1/10, MS4.0/8, Error ellipse: s-maj=30.3km s-min=7.8km az=83.8*
ISC 03 12:02:50.5±0.7, 158S±01×1729W±02, h35km, n30, σ0°79/19, mb4.1/10, MS4.0/8, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**30**	Pn	**Pn**	**12 03 20.8**	**-3.3**
	18nm,0.3s,baz=236,slow=15,SNR=5.1						
AFI				Sn	**Sn**	**12 03 49.3**	**-0.5**
	114nm,0.3s,baz=53,slow=23,SNR=12						
AFI	**Afiamalu**	**2.17**	**30**	Pn	**Pn**	**12 03 20.8**	**-3.3**
AFI				Sn	**Sn**	**12 03 49.3**	**-0.5**
RAO	**Raoul Island**	**14.16**	**198**	LR	LR	12 09 20.8	
	comp=Z,119nm,20.8s,baz=358,slow=28						
PPT	**Papeete**	**22.39**	**98**	*e*LR	LR	12 12 26.6	
	477nm,28.0s						
PPT	**Papeete**	**22.39**	**98**	LR	LR	12 13 54.5	
	comp=Z,163nm,18.5s,MS3.5,baz=15,slow=30						
TBI	**Tubuai**	**23.29**	**112**	*e*LR	LR	12 12 56.3	
	476nm,28.2s						
URZ	**Urewera**	**24.04**	**200**	P	**P**	**12 08 01.5**	**-0.6**
	6.3nm,0.6s,mb4.2,baz=35,slow=1.5,SNR=9.2						
RKT	**Rikitea**	**36.40**	**108**	*e*LR	LR	12 18 58.6	
	266nm,27.8s						
STKA	**Stephens Creek**	**44.27**	**240**	P	**P**	**12 10 55.5**	**-1.1**
	2.6nm,0.6s,mb4.1,baz=61,slow=9.9,SNR=4.8						
STKA				LR	LR	12 26 29.9	
	comp=Z,142nm,18.7s,MS3.9,baz=160,slow=32						
STKA	**Stephens Creek**	**44.27**	**240**	P	**P**	**12 10 55.5**	**-1.1**
STKA				LR	LR	12 26 29.9	
WB2	**Warramunga Arr**	**50.22**	**257**	*e*P	**P**	**12 11 42.7**	**-0.2**
WRAB	**Tennant Creek**	**50.23**	**257**	*e*P	**P**	**12 11 44.1**	**+1.2**
	4.2nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**50.23**	**257**	P	**P**	**12 11 43.1**	**+0.1**
	1.8nm,0.6s,mb4.3,baz=94,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**50.46**	**252**	P	**P**	**12 11 44.5**	**-0.2**
	11nm,0.6s,mb5.1,baz=87,slow=8.4,SNR=211						
ASPA	**Alice Springs**	**50.46**	**252**	⇓*i*P	**P**	**12 11 44.5**	**-0.2**
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**12 14 25.4**	**+1.2**
	2.0nm,0.9s,mb4.0,baz=230,slow=11,SNR=14						
NVAR				LR	LR	12 41 12.8	
	comp=Z,51nm,19.9s,MS3.8,baz=280,slow=31						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**12 14 25.4**	**+1.2**
NVAR				LR	LR	12 41 12.8	
TXAR	**Lajitas Array**	**80.43**	**56**	P	**P**	**12 14 58.4**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=225,slow=5.3,SNR=3.6						
TXAR				LR	LR	12 45 20.9	
	comp=Z,57nm,20.9s,MS3.9,baz=180,slow=32						
NEW	**Newport**	**80.77**	**34**	LR	LR	12 48 01.4	
	comp=Z,158nm,18.6s,MS4.4,baz=81,slow=34						
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**12 15 08.2**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=252,slow=2.9,SNR=6.6						
PDAR				LR	LR	12 48 40.1	
	comp=Z,95nm,19.5s,MS4.2,baz=357,slow=34						
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**12 15 11.4**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=221,slow=5.9,SNR=12						
PLCA	**Paso Flores**	**88.87**	**132**	LR	LR	12 47 50.8	
	comp=Z,84nm,19.5s,MS4.2,baz=176,slow=30						
YKA	**Yellowknife Ar**	**90.27**	**23**	P	**P**	**12 15 48.0**	**+0.5**
	1.0nm,1.0s,mb4.1,baz=238,slow=4.0,SNR=15						
YKA	**Yellowknife Ar**	**90.27**	**23**	P	**P**	**12 15 48.0**	**+0.5**
ULM	**Lac du Bonnet**	**93.94**	**39**	LR	LR	12 56 38.0	
	comp=Z,92nm,18.1s,MS4.3,baz=305,slow=34						
MALT	**Malatya**	**144.50**	**315**	*e*PKPdf	PKPdf	12 22 25.5	+2.4
GERES	**GERESS Array B**	**146.62**	**352**	PKPbc	PKPbc	12 22 30.0	+1.8
	1.0nm,0.9s,baz=45,slow=2.8,SNR=6.0						
BR131	**Keskin Array S**	**146.79**	**321**	*e*PKPbc	PKPbc	12 22 30.7	+2.0
BRTR	**Keskin Array B**	**146.79**	**321**	PKPbc	PKPbc	12 22 30.7	+2.0
	3.4nm,1.1s,baz=117,slow=2.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**174.12**	**116**	PKPab	PKPab	12 24 30.5	+2.6
	0.3nm,0.5s,baz=284,slow=5.9,SNR=3.5						

*INMG **03** 12:04:12.2±1.1, 4278N×722W, h13km±7km, ML2.3, Error ellipse: s-maj=3.3km s-min=1.9km az=81.0*
MDD 03 12:04:12.2±0.2, 4278N×721W, h0km, mbLg2.4/15, 5D, Error ellipse: s-maj=3.5km s-min=1.5km az=88.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.39**	**173**	⇓Pg	Pg	12 04 19.6	-0.1
	25nm,0.1s,SNR=18						
ERUA				Lg		12 04 24.4	
	45nm,0.1s,SNR=16						
EPON	**Pontenova**	**0.55**	**5**	Pg	Pg	12 04 22.3	-0.4
	12nm,0.1s,SNR=68						
EPON				Lg		12 04 29.5	
	38nm,0.1s,SNR=19						
ECAL	**Calabor**	**0.91**	**157**	⇓Pg	Pg	12 04 29.1	-0.5
	18nm,0.2s,SNR=18						
ECAL				Lg		12 04 41.1	
	33nm,0.2s						
STS	**Santiago**	**0.99**	**277**	⇓Pg	Pg	12 04 30.5	-0.7
	16nm,0.2s,SNR=18						
STS				Lg		12 04 43.4	
	53nm,0.1s,SNR=19						
PBRG	**Braganca**	**1.03**	**160**	*e*P	Pg	12 04 31.6	-0.4
PBRG				S	Sg	12 04 44.7	-0.7
PBRG							
	21nm,0.2s						
ELOB	**Lobios**	**1.11**	**215**	Pg	Pg	12 04 31.8	-1.6
	22nm,0.1s,SNR=73						
ELOB				Lg		12 04 47.3	
	30nm,0.1s						
PCAB	**Cabril**	**1.23**	**210**	*e*P	Pg	12 04 35.1	-0.7
PCAB				S	Sg	12 04 49.9	-1.8
PCAB							
	69nm,0.2s						
EZAM	**Zamans**	**1.27**	**241**	⇓Pg	Pg	12 04 35.9	-0.6
	8.6nm,0.1s,SNR=18						
EZAM				Lg		12 04 51.9	
	12nm,0.2s,SNR=5.2						
EMAZ	**Mazaricos**	**1.31**	**278**	⇓Pg	Pg	12 04 36.4	-1.0
	19nm,0.2s,SNR=18						
EMAZ				Lg		12 04 53.9	
	52nm,0.1s,SNR=20						
PVRL	**Vila Real**	**1.55**	**194**	*e*Sg	Sg	12 05 01.0	-1.0
PVRL							
	31nm,0.1s						
PVRL	**Vila Real**	**1.55**	**194**	Lg		12 05 01.0	
	16nm,0.1s						
EARI	**Arriondas**	**1.56**	**70**	Pg	Pg	12 04 40.7	-1.3
	2.4nm,0.1s,SNR=39						
EARI				Lg		12 05 01.0	
	15nm,0.2s,SNR=12						
PVIS	**Viseu**	**2.12**	**194**	*e*Sg	Sg	12 05 18.3	-2.2
PVIS							
	24nm,0.1s						
PVIS	**Viseu**	**2.12**	**194**	Lg		12 05 18.3	
	12nm,0.1s						
MTE	**Manteigas**	**2.39**	**186**	*e*Sg	Sg	12 05 27.1	-1.9
MTE							
	14nm,0.5s						
MTE	**Manteigas**	**2.39**	**186**	Lg		12 05 27.1	
	6.9nm,0.5s						
ELAN	**Lanestosa**	**2.81**	**79**	Pn	Pn	12 04 57.4	-0.9
	1.6nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	12 05 03.5	-2.5
	1.7nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	12 05 29.7	-3.1
	1.7nm,0.1s,SNR=7.9						
ELAN				Lg		12 05 38.5	
	5.2nm,0.2s,SNR=5.5						
GUD	**Guadarrama**	**3.13**	**132**	Pn	Pn	12 05 01.3	-1.5
	0.4nm,0.2s,SNR=7.9						
GUD				Pg	Pg	12 05 09.1	-3.1
	1.3nm,0.4s,SNR=7.9						
GUD				Sn	Sn	12 05 37.4	-3.4
	1.3nm,0.2s,SNR=7.9						
GUD				Lg		12 05 49.0	
	3.4nm,0.3s,SNR=7.9						

*ISCJB **03** 12:06:35.3±0.9, 4257N±004×7603E±007, h10km, Error ellipse: s-maj=8.5km s-min=4.4km az=103.9*
*KNET **03** 12:06:35.6±0.6, 4257N×7592E, h0km, ml1.5, Error ellipse: s-maj=4.0km s-min=2.5km az=69.0*
ISC 03 12:06:35.5±0.9, 4257N±004×7600E±006, h10km, n10, σ0°73/18, 15C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.36**	**151**	⇓P	**Pg**	**12 06 42.6**	**-0.1**
	29nm,0.3s,SNR=72						
ULHL				⇑S	**Sg**	**12 06 47.5**	**-0.1**
	24nm,0.1s						
TKM2	**Tokmak 2**	**0.47**	**320**	⇑P	**Pg**	**12 06 44.8**	**+0.2**
	6.9nm,0.1s,SNR=27						
TKM2				⇑S	**Sg**	**12 06 51.2**	**+0.5**
	109nm,0.1s						
KZA	**Kyzart**	**0.74**	**229**	⇑P	**Pg**	**12 06 50.1**	**+0.2**
	5.4nm,0.2s,SNR=8.0						
KZA				⇑S	**Sg**	**12 06 60.0**	**+0.5**
	16nm,0.2s						
KBK	**Karagaybulak**	**0.79**	**277**	⇑P	**Pg**	**12 06 50.9**	**+0.2**
	4.3nm,0.1s,SNR=14						
KBK				⇑S	**Sg**	**12 07 01.1**	**+0.2**
	15nm,0.1s						
CHMS	**Chumysh**	**1.02**	**296**	⇑P	**Pg**	**12 06 54.4**	**-0.8**
	2.4nm,0.1s						
CHMS				⇑S	**Sg**	**12 07 08.0**	**-0.3**
	9.3nm,0.2s						
AAK	**Ala-Archa**	**1.12**	**274**	⇑P	**Pb**	**12 06 56.4**	**-0.5**
	2.2nm,0.1s						
AAK				⇑S	**Sb**	**12 07 11.5**	**0.0**
	8.1nm,0.2s						
UCH	**Uchtor**	**1.15**	**253**	⇓P	**Pb**	**12 06 57.1**	**-0.4**
	2.4nm,0.2s,SNR=6.0						
UCH				⇓S	**Sb**	**12 07 12.4**	**-0.2**
	8.3nm,0.3s						
USP	**Ospenovka**	**1.31**	**303**	⇓P	**Pn**	**12 06 59.8**	**-0.1**
	1.5nm,0.2s						
USP				⇑S	**Sb**	**12 07 17.3**	**+0.3**
	5.6nm,0.1s						
EKS2	**Erkin-Say**	**1.65**	**274**	⇑P	**Pn**	**12 07 06.6**	**+2.1**
	3.0nm,0.2s,SNR=10						
KK31	**Karatay Array**	**4.08**	**279**	⇑Pg	**Pg**	**12 07 50.6**	**-3.0**
	0.6nm,0.6s,baz=98,slow=16						
KK31				⇑Lg		12 08 41.0	
	1.0nm,0.5s,baz=105,slow=28						

*ISCJB **03** 12:44:17.2±0.9, 6099N±004×2901E±0.10, h0km, mb3.3/1, Error ellipse: s-maj=7.6km s-min=4.8km az=73.1*
*NAO **03** 12:44:18.8±3.5, 6107N×2900E, ML2.3*
*IDC **03** 12:44:19.4±1.5, 6098N×2900E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.0/19, mbtmp3.4/3, ML2.4/2, Error ellipse: s-maj=18.9km s-min=9.7km az=5.0*
*BER **03** 12:44:20.0±4.5, 6099N×2894E, h0km, ML2.3(NAO), Suspected explosion*
*HEL **03** 12:44:20.3±0.2, 6097N×2894E, h0km, ML1.5, ML2.3(NAO), Explosion*
ISC 03 12:44:19.1±0.8, 6097N±004×2892E±009, h0km, n17, σ1°21/28, mb3.3/1, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.80**	**238**	*e*P	**Pg**	**12 44 35.0**	**+0.6**
VJF				*e*S	**Sg**	**12 44 45.1**	**+0.3**
FIA0	**FINESS Array S**	**1.46**	**290**	*e*P	**Pn**	**12 44 45.8**	**-0.8**
FIA0				*e*S	**Sg**	**12 45 05.6**	**-0.3**
FIA0	**FINESS Array S**	**1.46**	**290**	Pn	**Pn**	**12 44 45.6**	**-1.0**
	baz=113,slow=16						
FIA0				Lg		12 45 06.5	
	baz=106,slow=28						
FIA0				Rg		12 45 12.8	
	baz=125,slow=37						
FINES	**FINESS Array B**	**1.46**	**290**	Pg	**Pg**	**12 44 45.6**	**-1.3**
	0.5nm,0.3s,baz=106,slow=16,SNR=25						
FINES				Lg		12 45 06.1	
	2.8nm,0.3s,baz=104,slow=30,SNR=32						
FINES				Rg		12 45 12.6	
	27nm,0.6s,baz=101,slow=29,SNR=45						
PVF	**Pernaja**	**1.56**	**255**	*e*P	**Pn**	**12 44 48.1**	**0.0**
PVF				*e*S	**Sn**	**12 45 08.0**	**-1.0**
SUF	**Sumiainen**	**2.19**	**324**	*e*P	**Pn**	**12 44 58.8**	**+2.0**
SUF				*e*S	**Sn**	**12 45 25.9**	**+1.4**
SUF				*e*SG	**Sg**	**12 45 27.9**	**-1.6**
SUF				MSG		12 45 28.9	
	comp=Z,1.9nm,0.2s						
JOF	**Joensuu**	**2.26**	**29**	*e*P	**Pn**	**12 44 58.8**	**+1.1**
JOF				*e*S	**Sn**	**12 45 26.4**	**+0.2**
KEF	**Keuruu**	**2.28**	**304**	*e*P	**Pn**	**12 44 59.4**	**+1.4**
KEF				*e*S	**Sn**	**12 45 29.3**	**+2.6**
KJN	**Kajaani**	**3.18**	**350**	*e*P	**Pn**	**12 45 11.8**	**+1.5**
KJN				*e*S	**Sn**	**12 45 49.4**	**+0.5**
OUL	**Oulu**	**4.35**	**343**	*e*S	**Sn**	**12 46 17.3**	**-0.6**
APA0	**Apatity Array**	**6.89**	**13**	*e*S	**Sn**	**12 47 15.8**	**-4.7**
APA0				*e*SG	**Sg**	**12 47 50.7**	**-10**
APA0	**Apatity Array**	**6.89**	**13**	Sn	**Sn**	**12 47 15.8**	**-4.7**
	baz=184,slow=28						
APA0				Lg		12 47 50.7	
	baz=182,slow=37						
HFS	**Hagfors**	**7.55**	**270**	Pn	**Pn**	**12 46 10.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=111,slow=12,SNR=2.4						
HFS				Lg		12 48 13.0	
	comp=Z,0.2nm,0.3s,baz=75,slow=28,SNR=3.4						
ARA0	**ARCESS Array S**	**8.72**	**352**	Pn	**Pn**	**12 46 25.2**	**-1.2**
	baz=168,slow=16						
ARA0				Sn	**Sn**	**12 48 01.5**	**-3.9**
	baz=167,slow=28						
ARA0				Lg		12 48 45.0	
	baz=162,slow=37						
ARA0	**ARCESS Array S**	**8.72**	**352**	*e*P	**Pn**	**12 46 25.2**	**-1.2**
ARA0				*e*S	**Sn**	**12 48 01.5**	**-3.9**
ARA0				*e*SG		12 48 45.0	
ARCES	**ARCESS Array B**	**8.72**	**352**	Pn	**Pn**	**12 46 25.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**33.46**	**90**	P	**P**	**12 50 58.2**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=323,slow=7.2,SNR=4.4						

IDC 03 12:53:10.2±61.0, 1754S×17807W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, MS3.6/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=1124.0km s-min=165.0km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.09**	**241**	P	P	13 00 39.5	+0.5
	1.2nm,0.4s,baz=90,slow=10,SNR=4.4						
STKA				LR	LR	13 15 45.2	
	comp=Z,75nm,18.3s,baz=207,slow=35						
WB2	**Warramunga Arr**	**45.01**	**259**	*e*P	P	13 01 27.4	0.0
WRA	**Warramunga Arr**	**45.02**	**259**	P	P	13 01 27.5	0.0
	0.4nm,0.4s,baz=96,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**45.20**	**254**	P	P	13 01 29.4	+0.5
	3.4nm,0.6s,baz=88,slow=8.4,SNR=45						
ASPA	**Alice Springs**	**45.21**	**254**	*e*P	P	13 01 29.3	+0.3

*NEIC **03** 13:01:24.1, 3643S×7451W, h47km, MD3.7(GUC), After GUC.*
GUC 03 13:01:24.1±0.6, 3643S×7451W, h47km±999km, MD3.7, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**3.38**	**59**	⇓*i*P	Pn	13 02 14.6	+0.3
SFDO				*i* S	Sn	13 02 53.5	+0.4
CACH	**El Canelo**	**3.94**	**55**	*e*P	Pn	13 02 23.2	+1.2
CACH				*i* S	Sn	13 03 08.1	+1.1
CICH	**Cipreses**	**3.95**	**59**	*e*P	Pn	13 02 23.0	+0.9
CHCH	**Chadas Angostu**	**4.02**	**53**	⇑*i*P	Pn	13 02 24.1	+1.0
CHCH				*i* S	Sn	13 03 09.1	+0.2
TACH	**Talagante**	**4.03**	**48**	*i* P	Pn	13 02 23.9	+0.7
FCH	**Farellones**	**4.64**	**49**	⇑*i*P	Pn	13 02 32.6	+0.9
FCH				*i* S	Sn	13 03 25.3	+1.0

*IDC **03** 13:13:04.8±16.0, 4872N×15461E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=483.5km s-min=33.1km az=167.0*
*KRSC **03** 13:13:20.7±1.4, 4896N×15579E, h41km±53km, ML3.9*
*ISCJB **03** 13:13:21.8±1.7, 491N±02×1558E±03, h104km±18km, mb3.2/3, Error ellipse: s-maj=39.2km s-min=15.5km az=74.5*
ISC 03 13:13:23.1±1.6, 491N±01×1556E±03, h106km±17km, n17, σ1°21/24, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.60**	**11**	*e*P	**Pn**	**13 13 48.0**	**-2.8**
SKR				*e*S	**Sn**	**13 14 09.5**	**-2.4**
ALID	**Alaid**	**1.75**	**358**	P	**Pn**	**13 13 52.1**	**-0.7**
ALID				*e*S	**Sn**	**13 14 15.3**	**0.0**
PAU	**Pauzhetka**	**2.47**	**17**	*e*P	**Pn**	**13 14 02.6**	**+0.6**
PAU				*e*S	**Sn**	**13 14 32.7**	**+0.9**
PAU				Smax			
	220nm,0.3s						
MIPR	**Malaya Ipel'ka**	**3.24**	**12**	*e*P	**Pn**	**13 14 12.1**	**-0.1**
MIPR				*e*S	**Sn**	**13 14 50.0**	**-0.1**
GRL	**Gorelyy**	**3.77**	**23**	P	**Pn**	**13 14 21.0**	**+1.7**
GRL				*e*S	**Sn**	**13 15 04.5**	**+1.7**
RUS	**Russkaya**	**3.79**	**28**	*e*P	**Pn**	**13 14 19.3**	**-0.2**
RUS				*e*S	**Sn**	**13 15 02.1**	**-1.1**
PET	**Petropavlovsk**	**4.35**	**25**	*e*S	**Sn**	**13 15 17.4**	**+0.7**
UGLR	**Uglovaya**	**4.56**	**25**	*e*P	**Pn**	**13 14 31.5**	**+1.6**
KOK	**Koryaka**	**4.59**	**23**	*e*P	**Pn**	**13 14 32.0**	**+1.7**
AVH	**Avacha**	**4.59**	**24**	*e*P	**Pn**	**13 14 29.2**	**-1.1**
SMAR	**Somma**	**4.60**	**24**	*e*P	**Pn**	**13 14 31.6**	**+1.1**
GNL	**Ganaly**	**4.81**	**17**	*e*P	**Pn**	**13 14 33.9**	**+0.7**
SPN	**Mys Shipunski**	**4.85**	**33**	*e*P	**Pn**	**13 14 34.3**	**+0.5**
SPN				*e*S	**Sn**	**13 15 26.7**	**-2.1**
KBTR	**Krutoberegovo**	**8.33**	**29**	*e*P	**Pn**	**13 15 19.7**	**-1.4**
ILAR	**Eielson Array**	**33.65**	**41**	P	**P**	**13 19 53.0**	**-0.6**
	0.4nm,0.8s,mb3.3,baz=262,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**47.37**	**297**	P	**P**	**13 21 37.0**	**-10**
	0.2nm,0.6s,mb3.0,baz=63,slow=9.7,SNR=3.2						
YKA	**Yellowknife Ar**	**48.02**	**39**	P	**P**	**13 21 50.7**	**-0.7**
	0.3nm,0.8s,mb3

31nm,0.3s,SNR=7.9
EMIJ Mijas 1.69 338 P **Pn 13 40 00.5 -0.4**
1.8nm,0.2s,SNR=7.9
EMIJ S **Sn 13 40 22.5 +0.3**
5.9nm,0.2s,SNR=7.9
EMIJ Mijas 1.69 338 P **Pn 13 40 00.9 -0.1**
1.6nm,0.1s,SNR=7.9
EMIJ S **Sn 13 40 22.5 +0.3**
5.9nm,0.2s,SNR=7.9
EGUA Guajares 1.87 11 S **Sn 13 40 26.2 -0.4**
1.2nm,0.2s,SNR=7.9
EBER Berja 2.10 25 P **Pn 13 40 07.2 +0.5**
1.4nm,0.3s,SNR=7.9
EBER S **Sn 13 40 32.8 +0.4**
7.6nm,0.4s,SNR=7.9
EBER Berja 2.10 25 P **Pn 13 40 08.3 +1.6**
0.5nm,0.2s,SNR=7.9
EBER S **Sn 13 40 32.8 +0.4**
7.6nm,0.4s,SNR=7.9
EQES Quesada 2.90 15 P **Pn 13 40 17.9 +0.2**
1.6nm,0.2s,SNR=7.9
EQES S **Sn 13 40 52.5 +0.4**
5.6nm,0.4s,SNR=7.9
EQES Quesada 2.90 15 P **Pn 13 40 19.2 +1.6**
1.0nm,0.1s,SNR=7.9
EQES S **Sn 13 40 52.5 +0.4**
5.6nm,0.4s,SNR=7.9
EADA Adamuz 3.20 352 P **Pn 13 40 22.3 +0.6**
0.8nm,0.3s,SNR=7.9
EADA S **Sn 13 40 59.1 -0.4**
3.1nm,0.4s,SNR=4.0
EADA Adamuz 3.20 352 P **Pn 13 40 23.8 +2.0**
0.3nm,0.1s,SNR=7.9
EADA S **Sn 13 40 59.1 -0.4**
3.1nm,0.4s,SNR=4.0
EMIN Mina Concepcio 3.51 323 P **Pn 13 40 26.4 +0.5**
0.6nm,0.2s,SNR=7.9
EMIN S **Sn 13 41 06.1 -0.9**
1.4nm,0.4s,SNR=7.9
EMIN Mina Concepcio 3.51 323 P **Pn 13 40 26.6 +0.6**
0.4nm,0.1s,SNR=7.9
EMIN S **Sn 13 41 06.1 -1.0**
1.4nm,0.4s,SNR=7.9
EGRO El Granado 3.79 313 P **Pn 13 40 30.3 +0.5**
1.9nm,0.3s,SNR=7.9
EGRO S **Sn 13 41 13.2 -0.8**
1.7nm,0.2s,SNR=7.9
EGRO El Granado 3.79 313 P **Pn 13 40 30.3 +0.5**
0.4nm,0.2s,SNR=7.9
EGRO S **Sn 13 41 13.2 -0.8**
1.7nm,0.2s,SNR=7.9
EBAD Badajoz 4.46 328 P **Pn 13 40 39.4 +0.3**
0.5nm,0.1s,SNR=7.9
EBAD S **Sn 13 41 27.6 -3.0**
1.6nm,0.3s,SNR=7.9
EBAD Badajoz 4.46 328 P **Pn 13 40 39.4 +0.3**
0.3nm,0.2s,SNR=7.9
EBAD S **Sn 13 41 27.6 -3.1**
1.6nm,0.3s,SNR=7.9

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*ISCJB **03** 13:53:10.4±1.0, 541N±02×1652W±02, h76km±7km, mb3.6/4, Error ellipse: s-maj=33.7km s-min=13.9km az=138.4*
*NEIC **03** 13:53:12.3, 5390N×165.14W, h60km, ML3.7(AEIC), After AEIC.*
*IDC **03** 13:53:15.1±8.9, 5426N×164.73W, h81km±61km, mb3.3/5, mb1 3.5/7, mb1mx3.3/23, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=70.3km s-min=37.0km az=29.0*
ISC 03 13:53:11.3±1.0, 541N±02×1651W±02, h69km±7km, n13, σ1§09/16, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.38**	**280**	P	**Pn**	**13 53 23.2**	**+0.2**
AKA				S	**Sn**	**13 53 31.7**	**+0.2**
AKUT	**Akutan**	**0.38**	**279**	P	**Pn**	**13 53 23.1**	**+0.1**
AKUT				S	**Sn**	**13 53 32.3**	**+0.8**
UNV	**Unalaska Valle**	**0.84**	**255**	P	**Pn**	**13 53 27.1**	**-0.7**
UNV				S	**Sn**	**13 53 38.8**	**-1.1**
SDPT	**Sand Point**	**2.99**	**63**	P	**Pn**	**13 53 58.8**	**+2.4**
KDAK	**Kodiak Island**	**7.96**	**57**	P	**Pn**	**13 55 04.4**	**+0.1**
	1.7nm,0.3s,baz=220,slow=8.8,SNR=16						
KDAK				S	**Sn**	**13 56 29.7**	**-3.2**
	0.4nm,0.3s,baz=282,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**14.12**	**33**	P	**Pn**	**13 56 27.2**	**-0.5**
	0.1nm,0.3s,baz=224,slow=11,SNR=8.9						
INK	**Inuvik**	**20.52**	**34**	P	**P**	**13 57 41.7**	**-2.1**
	0.8nm,0.3s,baz=233,slow=12,SNR=20						
YKA	**Yellowknife Ar**	**27.19**	**52**	P	**P**	**13 58 49.1**	**+0.8**
	0.2nm,0.3s,mb3.1,baz=275,slow=7.7,SNR=11						
PDAR	**Pinedale Array**	**37.64**	**84**	P	**P**	**14 00 19.1**	**-0.3**
	0.3nm,0.9s,mb3.1,baz=315,slow=6.4,SNR=2.7						
SONM	**Songino Array**	**52.58**	**302**	PcP	PcP	14 03 26.9	-0.3
	0.2nm,0.4s,baz=36,slow=2.5,SNR=4.9						
ARCES	**ARCESS Array B**	**56.46**	**356**	P	**P**	**14 02 46.3**	**+0.4**
	1.8nm,0.8s,mb4.1,baz=0.0,slow=7.2,SNR=4.0						
ARCES	**ARCESS Array B**	**56.46**	**356**	P	**P**	**14 02 46.3**	**+0.4**
FINES	**FINESS Array B**	**64.49**	**354**	P	**P**	**14 03 41.8**	**+1.2**
	2.4nm,1.1s,mb4.0,baz=0.0,slow=8.3,SNR=3.6						

BJI 03 14:01:34.7, 4654N×12029E, h26km, mB4.3, mb4.4, ML4.2, Ms4.0, Msz4.2, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**4.56**	**125**	*e*P	Pn	14 02 41.5	-0.5
CN2				*e*PG	Pn	14 02 58.8	+17
CN2				*e*SG	Sn	14 03 52.9	+19
CN2				Smax			
	comp=N,400nm,0.7s						
CN2				Smax			
	comp=E,300nm,0.7s						
SNY	**Shenyang**	**5.27**	**152**	⇑PG	Pn	14 03 12.0	+20
SNY				SG	Sn	14 04 12.9	+21
SNY				Smax			
	comp=N,2μm,0.4s						
SNY				Smax			
	comp=E,1μm,0.3s						
LZH	**Lanzhou**	**16.15**	**236**	*e*P	Pn	14 05 21.5	+1.7
LZH				AP	pP	14 05 25.1	-4.7
LZH				XP	sP	14 05 28.5	-4.7
LZH				PP		14 05 34.7	
LZH				*e*S	Sn	14 08 19.6	+1.6
LZH				*e*SS		14 08 38.5	
LZH				AMB	AMB		
	comp=Z,19nm,1.1s						
LZH				AMB	AMB		
	comp=Z,68nm,4.5s						
LZH				LR	LR		
	comp=E,347nm,9.4s						
LZH				LR	LR		
	comp=Z,697nm,11.8s						

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*IDC **03** 14:04:04.4±2.3, 437S×139.55E, h0km, mb3.5/2, mb1 4.1/4, mb1mx3.9/10, mbtmp3.9/4, Error ellipse: s-maj=81.5km s-min=19.3km az=93.0*
*ISCJB **03** 14:04:06.7±2.4, 40S±02×1384E±02, h33km, mb3.4/2, Error ellipse: s-maj=31.6km s-min=25.1km az=61.5*
ISC 03 14:04:08.5±2.4, 40S±02×1384E±02, h35km, n8, σ0§78/10, mb3.4/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**16.29**	**194**	*e*P	**Pn**	**14 07 55.2**	**+0.6**
WRA	**Warramunga Arr**	**16.30**	**194**	Pn	**Pn**	**14 07 54.7**	**+0.1**
	1.6nm,0.3s,baz=19,slow=12,SNR=54						
WRA				Sn	**Sn**	**14 10 53.9**	**-0.3**
	0.3nm,0.3s,baz=6.3,slow=22,SNR=6.4						
CTA	**Charters Tower**	**17.71**	**155**	*e*P	**Pn**	**14 08 12.7**	**+0.4**
	5.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.73**	**221**	*e*P	**Pn**	**14 08 25.1**	**+0.3**
	3.7nm,0.3s						
ASAR	**Alice Springs**	**19.99**	**192**	P	**Pn**	**14 08 39.3**	**-0.5**
	1.6nm,0.3s,baz=18,slow=9.7,SNR=143						
ASAR				S	**S**	**14 12 24.4**	**+3.6**
	0.1nm,0.3s,baz=15,slow=26,SNR=4.9						
ASPA	**Alice Springs**	**19.99**	**192**	*e*P	**Pn**	**14 08 39.2**	**-0.6**
STKA	**Stephens Creek**	**27.86**	**174**	P	**P**	**14 09 51.3**	**-3.5**
	0.6nm,0.6s,mb3.4,baz=348,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**70.63**	**323**	P	**P**	**14 15 27.8**	**+7.5**
	0.2nm,0.5s,mb3.3,baz=111,slow=7.7,SNR=4.1						

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*NAO **03** 14:19:38.4, 1847S×17858W, h480km, mb4.6*
*SZGRF **03** 14:19:49.8, 1796S×17809W, h33km, mb5.1, Fiji Islands region*
*CSEM **03** 14:19:53.3, 1808S×17838W, h33km, mb5.9*
*MOS **03** 14:20:48.7±1.1, 1775S×17861W, h567km, mb5.2/21, Error ellipse: s-maj=10.6km s-min=9.5km az=91.1*
*BJI **03** 14:20:48.8, 1744S×17859W, h555km, mB5.0, mb5.3*
*ISCJB **03** 14:20:48.6±0.6, 1789S±004×17864W±003, h569km±7km, mb5.1/107, Error ellipse: s-maj=6.6km s-min=4.1km az=131.5*
*IDC **03** 14:20:49.7±0.8, 1795S×17852W, h575km±9km, mb4.8/29, mb1 4.8/31, mb1mx4.8/31, mbtmp5.6/31, Error ellipse: s-maj=10.0km s-min=7.4km az=141.0*
*HRVD **03** 14:20:49.6±0.3, 1792S×17843W, h594km±2km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s61,c100; Half duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.37±.04; $M_{\theta\theta}$ 1.14±.06; $M_{\phi\phi}$-0.77±.07; $M_{r\theta}$0.21±.06; $M_{\theta\phi}$-0.55±.06; $M_{\phi r}$-0.91±.06; Best double couple: $M_0$1.47500×10^{17} NP1:ϕ_s66.00000°, δ52.00000°, λ-163.00000°. NP2:ϕ_s326.00000°, δ77.00000°, λ-39.00000°. Principal axes: T 1.4140, Plg16.0000°, Azm21.0000°; N 0.1190, Plg49.0000°, Azm130.0000°; P -1.5360, Plg37.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **03** 14:20:49.6±0.5, 1791S×17861W, h573km±5km, mb5.1/55 Error ellipse: s-maj=5.7km s-min=3.7km az=147.0*
ISC 03 14:20:49.9±0.6, 1788S±004×17857W±003, h569km±6km, h571km±4.2km:pP-P, n596, σ0§96/301, mb5.1/106, 30C-54D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**60**	P	**P**	**14 22 43.2**	**-1.3**
	13nm,0.3s,baz=260,slow=8.0,SNR=5.3						
AFI				S	**S**	**14 24 18.8**	**+0.2**
	15nm,0.3s,baz=199,slow=20,SNR=2.3						
AFI	**Afiamalu**	**7.63**	**60**	*e*P	**P**	**14 22 43.1**	**-1.4**
AFI				pmax	pmax		
	comp=Z,131nm,0.6s						
AFI	**Afiamalu**	**7.63**	**60**	*e*Pn	**P**	**14 22 43.0**	**-1.5**
	comp=Z,131nm,0.6s						
AFI				*e*		14 22 56.5	
FUNA	**Funafuti**	**9.55**	**347**	P	**P**	**14 23 02.5**	**-1.0**
BKM	**Butte a Klehm**	**12.56**	**269**	⇑*i*P	**P**	**14 23 35.5**	**+1.4**
DZM	**Mont Dzumac**	**14.69**	**251**	P	**P**	**14 23 57.0**	**+1.2**
	comp=Z,4.9nm,0.3s,baz=86,slow=15,SNR=56						
DZM				S	**S**	**14 26 30.1**	**+1.3**
	baz=2.4,slow=19,SNR=6.0						
DZM				ScP	ScP	14 31 06.5	+0.9
	comp=Z,0.7nm,0.3s,baz=88,slow=12,SNR=5.3						
OUZ	**Omahuta**	**18.63**	**200**	PN	**P**	**14 24 35.0**	**+2.6**
WCZ	**Waipu Caves**	**19.06**	**198**	PN	**P**	**14 24 38.7**	**+2.3**
URZ	**Urewera**	**20.66**	**190**	P	**P**	**14 24 48.8**	**-2.1**
	comp=Z,28nm,0.5s,baz=8.5,slow=4.9,SNR=19						
URZ	**Urewera**	**20.66**	**190**	*e*PN	**P**	**14 24 48.0**	**-2.8**
MWZ	**Matawai**	**20.67**	**189**	PN	**P**	**14 24 48.5**	**-2.4**
HIZ	**Hauiti**	**21.35**	**194**	*e*PN	**P**	**14 24 59.3**	**+2.3**
HNR	**Honiara**	**22.48**	**289**	P	**P**	**14 25 07.1**	**-0.1**
	comp=Z,444nm,0.7s,mb6.2,baz=36,slow=0.2,SNR=6.5						
SNZO	**South Karori**	**24.06**	**192**	*e*P	**P**	**14 25 19.2**	**-2.0**
	comp=Z,106nm,1.1s,mb5.4						
THZ	**Tophouse**	**24.90**	**195**	*e*PN	**P**	**14 25 27.4**	**-1.2**
RPZ	**Rata Peaks**	**27.21**	**197**	P	**P**	**14 25 47.4**	**-1.6**
	comp=Z,6.0nm,0.5s,mb4.5,baz=66,slow=9.1,SNR=6.9						
PAE	**Paea**	**27.60**	**94**	*e*P	**P**	**14 25 52.6**	**+0.3**
	comp=Z,144nm,1.5s,mb5.4						
PPT	**Papeete**	**27.61**	**94**	*e*P	**P**	**14 25 52.5**	**+0.1**
	comp=Z,58nm,1.5s,mb5.0						
PPT	**Papeete**	**27.61**	**94**	P	**P**	**14 25 52.4**	**0.0**
	comp=Z,27nm,0.7s,mb5.0,baz=279,slow=2.9,SNR=4.9						
TVO	**Taravao**	**27.90**	**94**	*e*P	**P**	**14 25 54.2**	**-0.7**
	comp=Z,133nm,1.4s,mb5.4						
TVO				*e*pP		14 27 23.9	
	comp=Z,167nm,1.4s						
KWAJ	**Kwajalein Atol**	**29.82**	**332**	P	**P**	**14 26 11.6**	**+0.1**
RIV	**Riverview**	**31.38**	**234**	*e*P	**P**	**14 26 26.1**	**+1.2**
CTA	**Charters Tower**	**33.30**	**260**	⇓*i*P	**P**	**14 26 41.4**	**+0.2**
	comp=Z,136nm,0.8s,mb5.5						
CTA				*e*sP	PcP	14 29 04.0	-2.1
CTA				*e*	ScP	14 31 57.9	+1.1
CTA	**Charters Tower**	**33.30**	**260**	P	**P**	**14 26 41.5**	**+0.3**
	comp=Z,150nm,0.7s,mb5.6,baz=91,slow=10,SNR=216						
CTA				PcP	PcP	14 29 05.9	-0.3
	comp=Z,13nm,0.6s,baz=90,slow=5.0,SNR=4.2						
CTA				ScP	ScP	14 31 57.9	+1.1
	comp=Z,22nm,0.9s,baz=45,slow=4.2,SNR=8.0						
CTA	**Charters Tower**	**33.30**	**260**	P	**P**	**14 26 41.5**	**+0.3**
CTA						14 29 05.9	
CTAO	**Charters Tower**	**33.30**	**260**	P	**P**	**14 26 41.5**	**+0.3**
CNB	**Canberra Magne**	**33.32**	**232**	*e*P	**P**	**14 26 42.5**	**+1.1**
	comp=Z,341nm,0.7s,mb6.0						
CNB				*e*PCP	PcP	14 29 07.3	+1.1
CNB				*e*S	**S**	**14 31 23.1**	**+0.8**
CNB				*e*		14 31 56.3	
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**14 26 51.0**	**+1.4**
	comp=Z,828nm,0.8s,baz=77,slow=5.9,SNR=179						
PMG	**Port Moresby**	**34.30**	**280**	*e*P	**P**	**14 26 50.8**	**+1.2**
PMG				pmax	pmax		
	comp=Z,932nm,0.9s						
PMG	**Port Moresby**	**34.30**	**280**	*e*P	**P**	**14 26 50.8**	**+1.2**
	comp=Z,932nm,0.9s						
TOO	**Toolangi**	**37.07**	**231**	⇓*i*P	**P**	**14 27 13.4**	**+1.0**
	comp=Z,163nm,0.8s,mb5.6						
TOO				*e*		14 32 18.3	
TAU	**Tasmania Unive**	**38.16**	**222**	*e*P	**P**	**14 27 21.3**	**0.0**
	comp=Z,49nm,0.9s						
TAOE	**Nuku Hiva Isla**	**38.37**	**82**	*e*P	**P**	**14 27 23.7**	**+0.7**
	comp=Z,1μm,1.0s						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**14 27 23.1**	**-1.0**
	comp=Z,246nm,0.8s,mb5.8						
STKA				*e*PCP	PcP	14 29 20.1	-1.9
STKA				*e*SCP	ScP	14 32 15.7	-0.5
STKA				*e*		14 32 35.7	
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**14 27 23.2**	**-0.9**
	comp=Z,270nm,0.8s,mb5.8,baz=90,slow=9.2,SNR=527						
STKA				PcP	PcP	14 29 20.3	-1.7
	comp=Z,19nm,0.6s,baz=99,slow=6.6,SNR=3.0						
STKA				ScP	ScP	14 32 15.8	-0.4
	comp=Z,11nm,0.7s,baz=39,slow=2.8,SNR=4.5						
STKA				S	**S**	**14 32 35.9**	**-3.7**
	comp=Z,10nm,1.0s,baz=204,slow=19,SNR=5.2						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**14 27 22.3**	**-1.8**
STKA				*e*PcP	PcP	14 29 19.2	-2.8
STKA				*e*ScP	ScP	14 32 14.1	-2.1
HON	**Honolulu**	**43.86**	**28**	*e*P	**P**	**14 28 06.4**	**0.0**
KIP	**Kipapa**	**43.94**	**28**	*e*P	**P**	**14 28 05.6**	**-1.4**
KIP	**Kipapa**	**43.94**	**28**	P	**P**	**14 28 06.7**	**-0.3**
WB2	**Warramunga Arr**	**44.48**	**260**	⇓*i*P	**P**	**14 28 10.6**	**-0.5**
WB2				*e*PCP	PcP	14 29 41.8	-0.2
WB2				*e*S	**S**	**14 34 00.8**	**-4.5**
WB2				*e*SS	SS	14 37 05.8	-31
WRAB	**Tennant Creek**	**44.48**	**260**	P	**P**	**14 28 10.0**	**-1.1**
	comp=Z,2μm,0.7s						
WRAB	**Tennant Creek**	**44.48**	**260**	*d*P	**P**	**14 28 06.5**	**-4.6**
WRAB	**Tennant Creek**	**44.48**	**260**	*e*P	**P**	**14 28 10.6**	**-0.6**
	comp=Z,348nm,0.8s,mb5.9						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**14 28 10.6**	**-0.6**
	comp=Z,198nm,0.7s,mb5.8,baz=94,slow=7.1,SNR=1075						
WRA				PcP	PcP	14 29 41.9	-0.2
	comp=Z,38nm,0.7s,baz=90,slow=3.8,SNR=8.3						
WRA				ScP	ScP	14 32 41.1	+0.9
	comp=Z,12nm,1.0s,baz=88,slow=4.2,SNR=11						
WRA				S	**S**	**14 34 01.1**	**-4.3**
	comp=Z,7.5nm,0.8s,baz=95,slow=13,SNR=6.3						
WRA				PKiKP	PKiKP	14 36 37.9	-1.6
	comp=Z,1.2nm,0.7s,baz=58,slow=0.4,SNR=6.1						
WRA				PKP2bc		15 00 00.4	
	comp=Z,2.0nm,1.1s,baz=292,slow=3.4,SNR=3.8						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**14 28 10.6**	**-0.6**
WRA						14 29 41.9	
WRA				S	**S**	**14 34 01.1**	**-4.4**
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**14 28 10.6**	**-0.6**
WRA				PcP	PcP	14 29 41.9	-0.2
WRA				ScP	ScP	14 32 41.1	+0.9
WRA				S	**S**	**14 34 01.1**	**-4.3**
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**14 28 12.8**	**+0.3**
	comp=Z,1μm,0.7s,baz=88,slow=8.3						
ASAR				PcP	PcP	14 29 42.3	-0.3
	comp=Z,39nm,0.5s,baz=104,slow=3.8,SNR=8.4						
ASAR				ScP	ScP	14 32 42.0	+1.1
	comp=Z,8.3nm,0.7s,baz=95,slow=4.2,SNR=6.5						
ASAR				S	**S**	**14 34 04.8**	**-3.0**
	comp=Z,28nm,1.1s,baz=85,slow=16,SNR=22						
ASAR				P3KPbc		14 56 51.9	
	comp=Z,0.3nm,0.9s,baz=276,slow=3.7,SNR=5.0						
ASAR				PKP2bc		15 00 03.2	
	comp=Z,0.9nm,0.9s,baz=255,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**14 28 12.8**	**+0.3**
ASAR				PcP	PcP	14 29 42.3	-0.3
ASAR				ScP	ScP	14 32 42.0	+1.1
ASAR				S	**S**	**14 34 04.8**	**-3.0**
ASAR				*e*		14 56 51.9	
ASAR				⇑*e*		15 00 03.2	
ASPA	**Alice Springs**	**44.66**	**254**	⇓*i*P	**P**	**14 28 12.7**	**+0.2**
ASPA				*e*PCP	PcP	14 29 42.7	+0.1
ASPA				*e*S	**S**	**14 34 05.0**	**-2.8**
ASPA				*e*SS	SS	14 37 07.0	-33
GUMO	**Guam**	**47.74**	**308**	P	**P**	**14 28 36.3**	**+0.5**
	comp=Z,654nm,0.7s,baz=167,slow=9.5,SNR=21						
GUMO	**Guam**	**47.74**	**308**	P	**P**	**14 28 36.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.88**	**261**	⇓*i*P	**P**	**14 29 13.6**	**+0.3**
	comp=Z,84nm,0.6s,mb5.2						
FITZ				*e*S	**S**	**14 35 59.9**	**-0.1**
MBWA	**Marble Bar**	**57.93**	**256**	*e*P	**P**	**14 29 47.7**	**-0.6**
	comp=Z,150nm,0.7s,mb5.3						
KLBR	**Kellerberrin**	**58.70**	**244**	*e*P	**P**	**14 29 53.0**	**-0.5**
	comp=Z,286nm,0.7s,mb5.6						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	**14 29 55.7**	**-0.3**
	comp=Z,64nm,0.6s,mb5.0,baz=106,slow=5.8,SNR=87						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	*e*P	**P**	**14 29 54.8**	**-1.2**
NWAO				pmax	pmax		
	comp=Z,109nm,0.9s						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	*e*P	**P**	**14 29 54.8**	**-1.2**
	comp=Z,109nm,0.9s,mb5.1						
MUN	**Mundaring**	**60.00**	**243**	⇓*i*P	**P**	**14 30 01.7**	**-0.4**
SBA	**Scott Base**	**60.44**	**184**	*e*P	**P**	**14 30 06.1**	**+1.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
SBA	**Scott Base**	**60.44**	**184**	*e*P	**P**	**14 30 06.1**	**+1.1**
	comp=Z,9.0nm,0.8s,mb4.2						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**14 30 04.4**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=1.1,slow=7.1,SNR=7.5						
VNDA	**Vanda**	**60.46**	**185**	*e*P	**P**	**14 30 04.7**	**-0.5**
VNDA				*e*		14 30 41.9	
VNDA				pmax	pmax		
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**60.46**	**185**	*e*P	**P**	**14 30 04.7**	**-0.5**
	comp=Z,13nm,1.3s,mb4.1						
VNDA				*e*PcP	PcP	14 30 41.9	-1.0
BUTP	**Butuan**	**61.22**	**291**	*e*P	**P**	**14 30 10.5**	**+0.3**
BUKP	**Musuan**	**61.25**	**290**	*e*P	**P**	**14 30 11.0**	**+0.7**
SCPH	**Surigao**	**61.69**	**292**	*e*P	**P**	**14 30 12.9**	**-0.3**
SCPH				*e*S		14 30 19.4	
MSLP	**Maasin**	**62.41**	**292**	*e*P	**P**	**14 30 17.9**	**+0.1**
BESP	**Borongan**	**62.55**	**294**	*e*P	**P**	**14 30 20.0**	**+1.3**
PAGZ	**Pagadian**	**62.75**	**289**	*e*P	**P**	**14 30 20.7**	**+0.6**
OCLP	**Ormoc**	**63.03**	**293**	*e*P	**P**	**14 30 21.9**	**+0.1**
CNP	**Catarman**	**63.64**	**294**	*e*P	**P**	**14 30 26.2**	**+0.5**
JHJ	**Hachijo jima 2**	**64.45**	**322**	P	**P**	**14 30 30.6**	**-0.2**
	comp=Z,362nm,0.4s,mb6.2,baz=108,slow=9.6,SNR=8.3						
PVCP	**Virac**	**64.58**	**295**	*e*P	**P**	**14 30 32.2**	**+0.5**
GUIM	**Jordan**	**64.63**	**291**	*e*P	**P**	**14 30 30.9**	**-1.1**
OTRP	**Odiongan**	**65.88**	**293**	*e*P	**P**	**14 30 39.3**	**-0.5**
CASY	**Casey**	**66.10**	**205**	*e*P	**P**	**14 30 40.6**	**-0.6**
CASY	**Casey**	**66.10**	**205**	*e*P	**P**	**14 30 40.5**	**-0.6**
	comp=Z,67nm,1.0s,mb5.1						
CUYO	**Cuyo Island**	**66.12**	**291**	*e*P	**P**	**14 30 41.1**	**-0.2**
GQP	**Guinayangan**	**66.19**	**295**	⇓*i*P	**P**	**14 30 41.7**	**0.0**
GQP				*e*S		14 30 41.7	
TSM	**Tawau**	**66.41**	**283**	P	**P**	**14 30 43.9**	**+0.8**
BOAC	**Boac**	**66.52**	**294**	*e*P	**P**	**14 30 43.1**	**-0.6**
POLP	**Polillio Island**	**67.00**	**295**	*e*P	**P**	**14 30 45.6**	**-1.1**
BUSP	**Coron**	**67.33**	**292**	*e*P	**P**	**14 30 49.0**	**+0.2**
ENPP	**El Nido**	**67.69**	**291**	*e*P	**P**	**14 30 51.3**	**+0.3**
BALP	**Baler**	**67.77**	**296**	*e*P	**P**	**14 30 51.4**	**-0.1**
MJAR	**Matsushiro Arr**	**67.79**	**323**	P	**P**	**14 30 50.9**	**-0.7**
	comp=Z,67nm,0.6s,mb5.4,baz=154,slow=5.9,SNR=161						
MAJO	**Matsushiro**	**67.79**	**323**	*e*P	**P**	**14 30 51.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,86nm,0.5s,mb5.5						
MAJO	**Matsushiro**	**67.79**	**323**	*e*P	**P**	**14 30 51.2**	**-0.4**
	comp=Z,86nm,0.5s,mb5.5						
MAT	**Matsushiro**	**67.79**	**323**	P	**P**	**14 30 50.9**	**-0.7**
MAT	**Matsushiro**	**67.79**	**323**	*e*P	**P**	**14 30 51.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,79nm,0.7s,mb5.3						
MAT	**Matsushiro**	**67.79**	**323**	*e*P	**P**	**14 30 51.0**	**-0.6**
	comp=Z,79nm,0.7s,mb5.3						
LUBP	**Lubang**	**68.03**	**293**	*e*P	**P**	**14 30 51.0**	**-2.1**
JOW	**Kunigami**	**68.08**	**310**	P	**P**	**14 30 54.2**	**+0.9**
	comp=Z,42nm,0.4s,mb5.3,baz=146,slow=11,SNR=4.7						
CAUP	**Cauayan**	**68.11**	**297**	*e*P	**P**	**14 30 54.0**	**+0.5**
BATP	**Bataraza**	**68.18**	**287**	*e*P	**P**	**14 30 54.3**	**+0.4**
KKM	**Kota Kinabalu**	**68.59**	**284**	P	**P**	**14 30 56.9**	**+0.6**
KKM	**Kota Kinabalu**	**68.59**	**284**	*e*P	**P**	**14 30 56.7**	**+0.4**
BCPH	**Baguio City Da**	**68.91**	**296**	⇑*i*P	**P**	**14 30 58.5**	**+0.2**
APYP	**Conner**	**69.03**	**298**	*e*P	**P**	**14 30 58.9**	**-0.2**
ABRA	**Dolores**	**69.38**	**297**	*e*P	**P**	**14 30 59.0**	**-2.1**
ADK	**Adak**	**69.48**	**1**	*e*P	**P**	**14 30 59.8**	**-1.9**
ADK				pmax	pmax		
	comp=Z,71nm,0.6s,mb5.4						
ADK	**Adak**	**69.48**	**1**	*e*P	**P**	**14 30 59.8**	**-1.9**
	comp=Z,71nm,0.6s,mb5.4						
BOLP	**Bolinao**	**69.49**	**296**	*e*P	**P**	**14 31 01.7**	**-0.1**
JNU	**Nakatsue**	**70.01**	**316**	P	**P**	**14 31 04.8**	**0.0**
	comp=Z,26nm,0.8s,mb4.8,baz=88,slow=6.6,SNR

comp=Z,100nnm,1.0s,mb5.1
ISA Isabella 77.91 46 *e*P **P 14 31 50.0 +0.5**
comp=Z,100nnm,1.0s,mb5.1
HABR Khabarovsk 77.91 330 *i* P **P 14 31 50.3 +0.8**
HABR *e*S S 14 40 54.8 -1.9
HABR pmax pmax
comp=Z,78nnm,1.0s,mb5.0
CMB Columbia Colle 77.92 43 P **P 14 31 49.8 +0.2**
CMB pmax pmax
comp=Z,59nm,0.9s,mb4.9
CMB Columbia Colle 77.92 43 P **P 14 31 49.8 +0.3**
comp=Z,59nm,0.9s,mb4.9
OHCM Honcut 77.95 42 P **P 14 31 49.6 -0.1**
WDC Whiskeytown Da 78.02 40 P **P 14 31 50.5 +0.4**
WDC pmax pmax
comp=Z,54nm,1.2s,mb4.8
WDC Whiskeytown Da 78.02 40 P **P 14 31 50.5 +0.4**
comp=Z,54nm,1.2s,mb4.8
MDJ Mudanjiang 78.07 325 P **P 14 31 51.0 +0.6**
MDJ AP pP 14 33 52.9 +2.9
MDJ XP sP 14 34 48.8 +0.6
MDJ PP PP 14 34 56.3 -0.9
MDJ S S 14 41 00.2 +1.8
MDJ SCS ScS 14 41 18.4 +0.3
MDJ SS SS 14 46 15.7 -0.6
MDJ AMB AMB
comp=Z,112nnm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,151nnm,3.5s
MDJ Mudanjiang 78.07 325 *e*P **P 14 31 50.5 +0.2**
comp=Z,73nnm,0.8s,mb5.1
PFO Pinyon Flat Ob 78.25 49 P **P 14 31 51.3 0.0**
comp=Z,160nnm,0.9s,mb5.3,SNR=8.6
PFO Pinyon Flat Ob 78.25 49 P **P 14 31 51.4 +0.1**
KDAK Kodiak Island 78.41 14 P **P 14 31 51.0 -1.2**
comp=Z,496nnm,0.8s,mb5.9,SNR=26
KDAK Kodiak Island 78.41 14 P **P 14 31 51.2 -0.9**
comp=Z,47nm,0.6s,mb5.0,baz=222,slow=2.3,SNR=40
YBH Yreka Blue Hor 78.60 39 P **P 14 31 53.9 +0.7**
comp=Z,70nm,0.7s,mb5.1,baz=181,slow=2.0,SNR=149
YBH Yreka Blue Hor 78.60 39 P **P 14 31 53.7 +0.5**
comp=Z,63nm,0.8s,mb5.0
WAKR Walker 78.80 43 P **P 14 31 55.1 +0.9**
DAC Darwin (Calif) 78.84 46 P **P 14 31 55.0 +0.6**
GSC Goldstone 78.87 47 P **P 14 31 55.1 +0.4**
HUMO Hull Mountain 78.97 38 P **P 14 31 55.9 +0.7**
comp=Z,59nm,0.9s,mb4.9
GLA Glamis 79.15 50 P **P 14 31 56.7 +0.6**
QIZ Qiongzhong 79.30 294 P **P 14 31 57.3 +0.4**
QIZ S S 14 41 15.3 +4.2
QIZ XS sS 14 44 37.4 -7.9
QIZ AMB AMB
comp=Z,27nm,0.9s,mb4.6
KGM Kluang 79.31 276 P **P 14 31 57.8 +0.9**
NVAR Mina Array Bea 79.51 44 P **P 14 31 58.6 +0.6**
comp=Z,46nm,0.8s,mb4.9,baz=228,slow=10,SNR=396
NVAR PKKPbc PKKPbc 14 50 42.9 +2.0
comp=Z,0.3nm,0.5s,baz=44,slow=3.9,SNR=5.1
MNV Mina 79.61 44 P **P 14 31 59.1 +0.6**
MNV pmax pmax
comp=Z,72nm,1.0s,mb5.0
MNV Mina 79.61 44 P **P 14 31 59.1 +0.6**
comp=Z,72nm,1.0s,mb5.0
CN2 Changchun 79.90 322 ⇑P **P 14 32 00.1 0.0**
CN2 *e*AP pP 14 34 01.0 +0.5
CN2 *e*S S 14 41 20.1 +2.8
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
LDFC Landfair 79.95 48 *e*P **P 14 32 01.2 +0.9**
KLR Kul'dur 80.01 330 *e*P **P 14 31 56.0 -4.6**
TPH Tonopah 80.04 45 P **P 14 32 01.4 +0.7**
comp=Z,59nm,1.0s,mb4.9
MOD Modoc 80.16 40 P **P 14 32 01.8 +0.4**
WHN Wuhan 80.46 306 P **P 14 32 03.6 +0.6**
WHN AMB AMB
comp=Z,60nm,1.0s,mb4.9
SHPR Sheep Range 80.64 47 P **P 14 32 04.6 +0.7**
SHPR PP PP 14 35 17.6 -0.4
SVW2 Sparrevohn 80.84 11 *e*P **P 14 32 03.0 -1.9**
MA2 Magadan 81.12 345 *e*P **P 14 32 04.7 -1.7**
MA2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
MA2 Magadan 81.12 345 *e*P **P 14 32 04.1 -2.3**
comp=Z,16nm,0.9s,mb4.5
BMN Battle Mountai 81.29 43 P **P 14 32 07.3 0.0**
comp=Z,75nm,0.9s,mb5.1
SLKM Skilak Lake 81.40 14 P **P 14 32 06.4 -1.4**
OCWA Octopus Mounta 81.43 34 P **P 14 32 08.8 +0.8**
WVOR Wild Horse Val 81.48 40 *e*P **P 14 32 08.5 +0.3**
WVOR pmax pmax
comp=Z,104nnm,0.9s,mb5.3
WVOR Wild Horse Val 81.48 40 *e*P **P 14 32 08.4 +0.2**
comp=Z,104nnm,0.9s,mb5.3
GAMB Gambell 81.56 3 P **P 14 32 07.6 -1.0**
TUC Tucson 81.80 52 P **P 14 32 11.3 +1.4**
comp=Z,64nm,1.1s,mb5.0
FIB Fire Island 82.00 13 P **P 14 32 10.1 -0.8**
GNW Green Mountain 82.04 34 P **P 14 32 11.1 0.0**
LON Longmire 82.10 35 P **P 14 32 11.0 -0.4**
UBT Ubonrachathani 82.17 289 ⇑P **P 14 32 13.0 +1.3**
UBT Ubonrachathani 82.17 289 ⇑P **P 14 32 13.0 +1.3**
comp=Z,382nm,0.5s,mb6.1
IPM Ipoh 82.27 277 P **P 14 32 13.2 +1.0**
BBB Bella Bella 82.36 29 P **P 14 32 11.9 -0.7**
comp=Z,31nm,0.8s,mb4.8,baz=247,slow=8.8,SNR=14
TTA Tatalina 82.47 10 *e*P **P 14 32 12.1 -1.1**
PMR Palmer 82.61 14 *e*P **P 14 32 12.6 -1.3**
comp=Z,36nm,0.5s,mb5.2
WUAZ Wupatki 82.84 49 P **P 14 32 16.0 +0.9**
comp=Z,88nm,1.0s,mb5.2
KULM Kulim 82.88 278 *e*P **P 14 32 15.9 +0.6**
SML Sawmill 82.98 14 *e*P **P 14 32 13.9 -1.8**
DIV Divide 83.01 15 *e*P **P 14 32 04.5 -11**
HAWA Hanford 83.17 37 P **P 14 32 16.9 +0.1**
TNA Tin City 83.57 4 P **P 14 32 17.9 -0.9**
BMO Blue Mountains 83.61 39 P **P 14 32 18.8 -0.2**
BMO PP PP 14 35 41.1 -1.0
BJT Baijiatuau 83.65 315 *e*P **P 14 32 19.0 -0.1**
BJT pmax pmax
comp=Z,58nm,0.8s
BJT Baijiatuau 83.65 315 *e*P **P 14 32 19.0 -0.1**
comp=Z,58nm,0.8s,mb5.2
MVU Marysvale 83.66 46 P **P 14 32 25.5 +6.3**
comp=Z,54nm,1.2s,mb5.0
MVU PP PP 14 35 47.8 +5.4
MSU Marysvale 83.69 46 P **P 14 32 20.4 +1.1**
MSU PP PP 14 35 42.2 -0.5
SEY Seymchan 83.71 347 *e*P **P 14 32 17.8 -1.6**
SEY *e* 14 35 16.4
SEY *e*S S 14 41 52.9 -2.4
SEY pmax pmax
comp=Z,14nm,0.6s,mb4.7
SEY smax
comp=N,100nm,15.2s
SEY smax
comp=E,340nm,24.4s
PSI Prapat 83.73 275 P **P 14 32 19.2 -0.3**
comp=E,136nm,0.7s,mb5.6,baz=85,slow=3.1,SNR=126
PSI PP PP 14 35 41.0 -2.0
comp=E,19nm,0.9s,baz=136,slow=2.7,SNR=9.7
MAW Mawson 83.84 200 *e*P **P 14 32 19.6 -0.4**
comp=E,32nm,0.8s,mb4.9
MAW Mawson 83.84 200 P **P 14 32 19.6 -0.4**
comp=E,35nm,0.7s,mb5.0,baz=129,slow=5.6,SNR=19
MAW Mawson 83.84 200 *e*P **P 14 32 19.4 -0.6**
MAW pmax pmax
comp=Z,75nm,1.2s
MAW Mawson 83.84 200 *e*P **P 14 32 19.4 -0.6**
comp=Z,75nm,1.2s,mb5.1
PMSA Palmer Station 83.90 157 *e*P **P 14 32 17.6 -2.7**
comp=Z,33nm,1.0s,mb4.8
DUG Dugway 84.07 45 *e*P **P 14 32 21.0 -0.2**
comp=Z,7.7nm,0.6s,mb4.4
ENH Enshi 84.13 304 *e*P **P 14 32 22.1 +0.6**
comp=Z,195nm,0.8s,mb5.7
NLU North Lily Min 84.44 45 P **P 14 32 22.4 -0.6**
NLU PP PP 14 35 45.9 -2.9
KKTK Khon Kaen 84.53 289 P **P 14 32 24.0 +0.6**
comp=Z,741nm,0.6s
HLID Hailey 84.71 41 PP PP 14 35 49.7 -1.2
TMUT Trail Mountain 84.72 46 P **P 14 32 25.6 +1.3**
MPU Maple Canyon 84.77 45 P **P 14 32 25.1 +0.5**
MPU PP PP 14 35 51.3 -0.1

SPUT South Promonto 84.85 44 P **P 14 32 24.7 -0.3**
SPUT PP PP 14 35 51.1 -0.9
HVU Hansel Valley 84.86 43 P **P 14 32 26.4 +1.3**
HVU PP PP 14 35 51.5 -0.6
GYA Guiyang 84.89 300 ⇓*i*P **P 14 32 26.0 +0.8**
GYA XP sP 14 35 17.8 -7.2
GYA PP PP 14 35 53.1 +0.8
GYA SKS 14 41 50.3
GYA S 14 42 07.6
GYA AMB AMB
comp=Z,60nm,0.9s,mb5.1
GYA AMB AMB
comp=Z,120nm,3.8s
MENT Mentasta 85.06 15 *e*P **P 14 32 24.8 -1.2**
SRU San Rafael 85.11 46 P **P 14 32 26.6 +0.3**
SRU PKKPbc PKKPbc 14 50 29.4 +1.2
DAU Daniels Canyon 85.22 45 P **P 14 32 27.6 +0.8**
DAU PP PP 14 35 54.2 -0.7
TCUT Toone Canyon 85.45 44 P **P 14 32 28.6 +0.7**
TCUT PP PP 14 35 56.5 -0.2
LAZ Ladron 85.46 52 *e*P **P 14 32 28.3 +0.4**
LENM Lemitar 85.48 52 P **P 14 32 28.8 +0.7**
HWUT Hardware Ranch 85.57 44 *e*P **P 14 32 27.8 -0.7**
comp=Z,17nm,0.7s,mb4.8
NEW Newport 85.58 36 P **P 14 32 27.8 -0.7**
comp=Z,26nm,0.7s,mb5.0,baz=234,slow=4.1,SNR=41
NEW PP PP 14 35 55.7 -2.1
comp=Z,3.5nm,0.8s,baz=232,slow=5.0,SNR=3.4
NEW Newport 85.58 36 P **P 14 32 27.7 -0.8**
comp=Z,28nm,0.7s,mb5.0
MNTX Cornudas Mount 85.68 55 P **P 14 32 29.8 +0.8**
comp=Z,37nm,1.0s,mb5.0
MNTX PKKPbc PKKPbc 14 50 27.7 +0.8
BNM Barren Site 85.74 52 P **P 14 32 29.5 +0.2**
BNM PKKPbc PKKPbc 14 50 24.1 -2.7
IMA2 Indian Mountai 85.77 10 *e*P **P 14 32 28.0 -1.4**
COLA College 85.78 13 *c i*P **P 14 32 27.0 -2.4**
COLA College 85.78 13 *e*P **P 14 32 26.7 -2.7**
comp=Z,24nm,0.6s,mb5.0
LPM Los Pinos Moun 85.80 52 P **P 14 32 30.1 +0.5**
ILAR Eielson Array 85.89 13 P **P 14 32 27.8 -2.2**
comp=Z,12nm,0.4s,mb4.8,baz=222,slow=4.9,SNR=478
ILAR PP PP 14 36 01.9 +1.7
comp=Z,6.2nm,0.9s,baz=221,slow=7.4,SNR=7.4
ILAR S 14 41 56.5
comp=Z,0.9nm,0.9s,baz=207,slow=8.1,SNR=6.0
NNT Nongplab 86.09 284 P **P 14 32 32.8 +1.9**
TXAR Lajitas Array 86.11 58 P **P 14 32 32.0 +1.0**
comp=Z,49nm,0.8s,mb5.2,baz=219,slow=6.1,SNR=376
TXAR PKKPbc PKKPbc 14 50 26.5 +0.6
comp=Z,0.3nm,0.4s,baz=127,slow=2.2,SNR=6.4
TXAR Lajitas Array 86.11 58 P **P 14 32 32.0 +1.0**
TXAR PKKPbc PKKPbc 14 50 26.5 +0.6
XAN Xi'an 86.12 307 P **P 14 32 31.7 +0.6**
XAN AMB AMB
comp=Z,155nm,0.9s,mb5.6
ANMO Albuquerque 86.20 52 P **P 14 32 31.9 +0.5**
comp=Z,21nm,1.0s,mb4.7,baz=233,slow=4.6,SNR=27
ANMO Albuquerque 86.20 52 *c i*P **P 14 32 31.7 +0.3**
HIA Hailar 86.25 325 *e*P **P 14 32 31.2 -0.5**
HIA pmax pmax
comp=Z,40nm,1.3s
HIA Hailar 86.25 325 *e*P **P 14 32 31.2 -0.5**
comp=Z,40nm,1.3s,mb4.9
MCMT McKenzie Canyo 86.31 41 *e*P **P 14 32 32.3 +0.3**
BILL Bilibino 86.39 354 *e*P **P 14 32 31.2 -1.1**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
BILL Bilibino 86.39 354 *e*P **P 14 32 31.2 -1.1**
comp=Z,4.4nm,0.6s,mb4.3
AHID Auburn Hatcher 86.43 43 *e*P **P 14 32 32.2 -0.3**
comp=Z,23nm,0.8s,mb4.9
AHID PP PP 14 36 03.3 -1.2
GDL2 Guadalupe Moun 86.68 55 P **P 14 32 34.7 +1.0**
BSMT Bassoo Peak 86.68 37 P **P 14 32 33.2 -0.5**
DLMT Dillon 86.73 40 *e*P **P 14 32 34.2 +0.3**
comp=Z,53nm,0.8s,mb5.2
NST Nakhon Sawan 86.74 287 P **P 14 32 35.2 +1.2**
comp=Z,38nm,0.7s,mb5.1
REDW Red Top Meadow 86.87 43 P **P 14 32 35.2 +0.6**
SNOW Snow King Moun 86.98 42 P **P 14 32 35.5 +0.3**
LRM Limekiln Ridge 87.05 40 P **P 14 32 35.5 0.0**
LRM PP PP 14 36 07.8 -1.6
MOOW Moose Ponds 87.12 42 *e*P **P 14 32 36.1 +0.3**
comp=Z,20nm,0.8s,mb4.8
HHC Hu-ho-hao-te 87.14 315 ⇓P **P 14 32 36.4 +0.5**
HHC PP PP 14 36 14.2 +4.0
HHC SKS 14 42 06.6
HHC S 14 42 28.2
HHC XS sS 14 46 01.6 -6.0
HHC AMB AMB
comp=Z,49nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,244nm,3.7s
LOHW Long Hollow 87.15 42 *e*Pdif **P 14 32 36.0 0.0**
comp=Z,49nm,0.8s,mb5.2
QLMT Earthquake Lak 87.20 41 P **P 14 32 37.2 +1.0**
QLMT PP PP 14 36 09.5 -1.1
YFT Old Faithful 87.39 42 P **P 14 32 38.8 +1.8**
BW06 Boulder Array 87.43 43 P **P 14 32 37.1 -0.2**
comp=Z,36nm,0.6s,mb5.2
BW06 PP PP 14 36 09.6 -2.9
PDAR Pinedale Array 87.43 43 P **P 14 32 37.1 -0.2**
comp=Z,31nm,0.6s,mb5.1,baz=218,slow=3.3,SNR=329
PDAR PP PP 14 36 08.9 -3.5
comp=Z,8.5nm,1.0s,baz=243,slow=6.6,SNR=16
PDAR PKKPbc PKKPbc 14 50 21.4 -1.3
comp=Z,1.0nm,0.8s,baz=90,slow=4.4,SNR=7.7
BOZ Bozeman (W) 87.47 40 P **P 14 32 37.5 +0.1**
comp=Z,29nm,1.1s,mb4.8
SMCO Snowmass 87.61 48 *e*P **P 14 32 38.3 +0.3**
comp=Z,31nm,1.0s,mb5.0
SMCO *e*PP PP 14 36 08.1 -5.7
KMI Kunming 87.68 297 ⇓P **P 14 32 40.1 +1.7**
KMI AP pP 14 34 45.5 +3.7
KMI PP PP 14 36 16.4 +2.0
KMI SKS 14 42 12.4
KMI S 14 42 33.5
KMI SS SS 14 48 41.0 +4.4
KMI AMB AMB
comp=Z,59nm,1.0s,mb5.3
KMI AMB AMB
comp=Z,227nm,3.1s
LKWY Lake 87.72 42 P **P 14 32 40.5 +1.9**
comp=Z,44nm,0.9s,mb5.2
HRY Holter Researc 87.86 39 P **P 14 32 39.2 0.0**
SDCO Great Sand Dun 88.06 49 P **P 14 32 40.4 +0.2**
CHRT Chiangrai 88.45 291 ⇓P **P 14 32 43.0 +1.0**
comp=Z,253nm,0.9s,mb6.0
RWWY Rawlins 88.52 45 P **P 14 32 42.6 +0.3**
RWWY PKKPbc PKKPbc 14 50 11.0 -9.2
ISCO Idaho Springs 88.83 47 P **P 14 32 44.4 +0.7**
CD2 Chengdu 88.92 303 ⇓*i*P **P 14 32 44.8 +0.6**
CD2 AP pP 14 34 46.5 -1.5
CD2 PP PP 14 36 28.4 +4.2
CD2 SKS 14 42 23.6
CD2 S 14 42 48.0
CD2 XS sS 14 46 19.2 -6.0
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,121nm,5.1s
SYO Syowa Base 89.15 193 ⇓*e*P **P 14 32 44.0 -1.2**
SYO Syowa Base 89.15 193 ⇓*e*pP pP 14 34 46.4 -2.7
YAK Yakutsk 89.49 338 *e*P **P 14 32 44.7 -2.1**
YAK pmax pmax
comp=Z,14nm,0.7s,mb4.9
YAK Yakutsk 89.49 338 P **P 14 32 45.2 -1.7**
comp=Z,12nm,0.6s,mb4.9
PHWY Pilot Hill 89.55 46 *e*P **P 14 32 47.0 -0.2**
JCT Junction City 89.65 58 P **P 14 32 47.7 +0.2**
comp=Z,29nm,0.7s,mb5.2
EDM Edmonton 90.22 33 PKKPbc PKKPbc 14 50 12.1 -3.9
SNAA Sanae 90.63 179 P **P 14 32 50.7 -1.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=199,slow=4.7,SNR=25
LZH Lanzhou 90.75 308 ⇓*i*P **P 14 32 53.4 +0.8**
LZH S 14 42 53.6
LZH SS SS 14 49 21.4 +0.9
LZH AMB AMB
comp=Z,91nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,267nm,6.4s
VNA3 Neumayer Olymp 90.78 176 ⇓*i*P **P 14 32 51.3 -1.5**
VNA3 *e* 14 32 58.0

VNA3 *e* 14 33 05.0
CIT Chita 91.05 325 *e*P **P 14 32 53.9 -0.1**
CIT pmax pmax
comp=Z,52nm,1.2s,mb5.3
VNA2 Neumayer--Watz 91.22 177 ⇓*i*P **P 14 32 53.7 -1.1**
baz=197,slow=4.9
VNA2 *e* 14 33 00.0
VNA2 *e* 14 33 05.5
VNA2 *e* 14 33 07.6
LAO LASA Array 91.29 41 P **P 14 32 55.2 +0.1**
NVL N'Iazarevskaya 91.29 183 *e*P **P 14 32 53.3 -1.8**
NVL pmax pmax
comp=Z,11nm,0.6s,mb5.0
PLCA Paso Flores 91.46 134 PKKPbc PKKPbc 14 50 12.6 -0.4
comp=Z,3.2nm,1.0s,baz=16,slow=5.1,SNR=4.1
INK Inuvik 91.90 15 P **P 14 32 55.9 -2.0**
comp=Z,19nm,0.8s,mb5.2,baz=219,slow=3.9,SNR=137
INK PP PP 14 36 45.8 -1.6
comp=Z,3.7nm,1.0s,baz=198,slow=8.3,SNR=3.6
INK PKKPbc PKKPbc 14 50 10.6 -1.2
comp=Z,0.6nm,0.6s,baz=323,slow=7.5,SNR=5.9
INK Inuvik 91.90 15 P **P 14 32 55.9 -2.0**
INK PP PP 14 36 45.8 -1.6
INK PKKPbc PKKPbc 14 50 10.6 -1.2
WMOK Wichita Mounta 91.95 54 P **P 14 32 57.4 -0.7**
WMOK PKKPbc PKKPbc 14 50 12.9 +1.2
CBKS Cedar Bluff 92.66 50 P **P 14 33 01.8 +0.3**
HKT Hockley 92.70 60 P **P 14 33 02.7 +1.1**
ULN Ulaanbaatar 93.03 320 *d i*P **P 14 33 02.5 -0.6**
ULN Ulaanbaatar 93.03 320 *e*P **P 14 33 02.1 -1.0**
DGMT Dagmar 93.27 40 P **P 14 33 03.9 -0.3**
DGMT PP PP 14 36 55.9 -2.0
SONM Songino Array 93.43 319 P **P 14 33 04.0 -0.9**
comp=Z,4.6nm,0.5s,mb4.8,baz=129,slow=3.9,SNR=66
SONM PP PP 14 36 56.9 -2.2
comp=Z,1.4nm,1.0s,baz=121,slow=5.3,SNR=3.7
SONM PKiKP PKiKP 14 37 45.6 -1.4
comp=Z,0.6nm,0.3s,baz=97,slow=1.3,SNR=7.8
SONM Songino Array 93.43 319 P **P 14 33 04.0 -0.9**
SONM PP PP 14 36 56.9 -2.2
BOD Bodaibo 93.56 330 *e*P **P 14 33 00.9 -4.6**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
YKA Yellowknife Ar 94.37 25 P **P 14 33 07.7 -1.5**
comp=Z,6.3nm,0.7s,mb4.9,baz=244,slow=4.5,SNR=137
YKA PP PP 14 36 57.1 -9.2
comp=Z,1.1nm,0.7s,baz=242,slow=7.2,SNR=6.1
YKA PKKPbc PKKPbc 14 50 02.9 -2.6
comp=Z,0.6nm,0.5s,baz=43,slow=2.2,SNR=15
YKA Yellowknife Ar 94.37 25 P **P 14 33 07.7 -1.5**
YKA PP PP 14 36 57.1 -9.2
YKA PKKPbc PKKPbc 14 50 02.9 -2.6
GTA Gaotai 94.90 310 ⇓*i*P **P 14 33 11.5 -0.1**
GTA XP sP 14 36 10.2 -2.7
GTA AMB AMB
comp=Z,17nm,0.9s,mb5.2
KSU1 Kansas State U 95.05 51 P **P 14 33 12.8 +0.6**
TIXI Tiksi 96.09 345 *e*P **P 14 33 13.3 -3.7**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
TIXI Tiksi 96.09 345 P **P 14 33 14.2 -2.8**
ZAK Zakamensk 96.27 321 *e*P **P 14 33 14.7 -3.1**
ZAK pmax pmax
comp=Z,13nm,1.5s,mb4.9
FFC Flin Flon 96.92 35 PP PP 14 37 20.5 -5.2
LSA Lhasa 98.89 298 *e*P Pdif 14 33 30.4 +1.0
ULM Lac du Bonnet 98.99 40 P Pdif 14 33 28.6 -1.2
comp=Z,2.2nm,0.5s,baz=242,slow=4.9,SNR=6.4
JIRN Jiri 102.59 295 *e*P PKiKP 14 38 02.5 -0.8
comp=Z,15nm,0.4s
GUN Gumba 102.92 295 *e*P PKiKP 14 38 03.3 -0.6
comp=Z,8.3nm,0.4s
PKI Pulchoki 103.25 295 *e*P PKiKP 14 38 03.2 -1.3
CPCT Cooper Cave 103.36 57 PP PP 14 38 12.1 -1.5
KKN Kakani 103.41 295 *e*P PKiKP 14 38 03.4 -1.4
comp=Z,10nm,0.6s
DMN Daman 103.52 295 *e*P PKiKP 14 38 04.1 -0.9
comp=Z,12nm,0.5s
LPAZ La Paz 103.55 112 PKKPbc PKKPbc 14 49 40.1 -0.1
comp=Z,1.4nm,0.5s,baz=42,slow=2.3,SNR=6.0
GKN Gorkha 104.01 295 *e*P PKiKP 14 38 04.5 -1.4
comp=Z,6.9nm,0.4s
KOLN Koldanda 104.86 295 *e*P PKiKP 14 38 06.3 -1.1
comp=Z,4.7nm,0.4s
MKAR Makanchi Array 109.00 314 Pdiff Pdif 14 34 15.1 +0.7
comp=Z,1.0nm,0.6s,baz=85,slow=5.8,SNR=13
MKAR PKiKP PKiKP 14 38 13.3 -1.8
comp=Z,7.9nm,0.5s,baz=211,slow=0.6,SNR=152
MKAR PP PP 14 38 50.7 -3.8
comp=Z,2.0nm,0.9s,baz=101,slow=6.2,SNR=4.4
MKAR PKKPbc PKKPbc 14 49 23.5 -0.2
comp=Z,0.1nm,0.3s,baz=248,slow=1.9,SNR=6.0
MKAR Makanchi Array 109.00 314 Pdif Pdif 14 34 15.1 +0.7
MKAR PKPdf PKiKP 14 38 13.3 -1.8
MKAR PP PP 14 38 50.7 -3.8
MKAR PKKPbc PKKPbc 14 49 23.5 -0.2
CBN Corbin 109.49 55 PP PP 14 39 05.4 +7.5
SIV San Ignacio 109.84 115 PKKPbc PKKPbc 14 49 20.8 -0.2
comp=Z,3.8nm,0.6s,baz=95,slow=5.3,SNR=17
SIV PKKP PKKPbc 14 49 35.1 +14
comp=Z,2.6nm,0.7s,baz=80,slow=7.2,SNR=9.0
KURK Kurchatov 111.70 318 *i* PKiKP PKiKP 14 38 17.1 -3.2
KURK Kurchatov 111.70 318 *e*PKPdf PKiKP 14 38 18.0 -2.3
TKM2 Tokmak 2 113.45 310 P PKiKP 14 38 22.5 -1.1
SNR=5.8
KZA Kyzart 113.66 309 P PKiKP 14 38 23.9 -0.2
SNR=6.7
KBK Karagaybulak 113.91 309 P PKiKP 14 38 23.9 -0.6
SNR=8.1
CHMS Chumysh 114.07 310 P PKiKP 14 38 23.6 -1.2
SNR=8.4
UCH Uchtor 114.21 309 P PKiKP 14 38 24.8 -0.3
SNR=14
AAK Ala-Archa 114.24 309 *c i*PKIKP PKiKP 14 38 22.3 -2.8
AAK Ala-Archa 114.24 309 *e*PKPdf PKiKP 14 38 22.7 -2.4
USP Ospenovka 114.27 310 P PKiKP 14 38 23.9 -1.3
SNR=15
EKS2 Erkin-Say 114.77 309 P PKPdf 14 38 25.2 -1.0
SNR=7.2
AML Almayashu 114.82 309 P PKPdf 14 38 25.9 -0.3
SNR=18
VOSK Vostochnaya 116.40 320 PKIKP PKPdf 14 38 27.2 -2.1
VOSK pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 116.72 321 *i* PKIKP PKPdf 14 38 28.2 -1.7
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 116.72 321 PKP PKPdf 14 38 28.2 -1.7
comp=Z,18nm,0.4s,baz=120,slow=2.2,SNR=112
BVAR PP PP 14 39 49.1 +0.7
comp=Z,4.1nm,0.8s,baz=101,slow=7.6,SNR=5.9
BRVK Borovoye 116.78 321 *e*PKIKP PKPdf 14 38 28.0 -2.0
KKAR Karatay Array 117.18 310 PKIKP PKPdf 14 38 29.3 -1.5
KKAR pmax pmax
comp=Z,3.0nm,0.6s
ZRNK Zerenda 117.56 321 PKIKP PKPdf 14 38 29.6 -1.9
KBS Kingsbay 118.71 358 PKKPbc PKKPbc 14 48 42.7 -8.7
DAG Danmarks Havn 120.19 5 *i* P PKPdf 14 38 33.0 -3.6
DAG Danmarks Havn 120.19 5 *e*P PKPdf 14 38 33.0 -3.6
BDFB Brasilia 120.98 121 PKKPbc PKKPbc 14 48 44.0 +0.9
comp=Z,4.5nm,0.5s,baz=58,slow=4.6,SNR=6.7
SOKR Solikamsk 122.56 330 *c i*PKIKP PKPdf 14 38 39.7 -1.4
SOKR pmax pmax
comp=Z,20nm,0.6s
ARU Arti 122.74 326 PKIKP PKPdf 14 38 39.9 -1.6
ARU 14 40 31.4
ARU Arti 122.74 326 PKPdf PKPdf 14 38 39.9 -1.6
ARU PP PP 14 40 31.4 +2.4
AB31 Akbulak array 123.81 318 *i* PKIKP PKPdf 14 38 42.1 -1.4
AB31 pmax pmax
comp=Z,3.0nm,0.6s
AKTK Aktyubinsk 124.75 319 PKP PKPdf 14 38 44.2 -1.1
AKTO Aktyubinsk 124.75 319 PKP PKPdf 14 38 44.2 -1.1
comp=Z,14nm,0.7s,baz=81,slow=3.9,SNR=62
ARCES ARCESS Array B 126.26 350 PKhKP 14 38 34.5
comp=Z,2.6nm,0.9s,baz=27,slow=2.7,SNR=5.2
ARCES PKP PKPdf 14 38 46.4 -1.8
comp=Z,8.6nm,0.6s,baz=0.0,slow=0.9,SNR=44
ARE0 ARCESS Array S 126.26 350 *e*PKPdf PKPdf 14 38 46.3 -1.9
BOSA Boshof 128.36 207 PKP PKPdf 14 38 52.9 +0.7
comp=Z,7.1nm,0.8s,baz=145,slow=0.9,SNR=11
BOSA Boshof 128.36 207 PKP PKPdf 14 38 52.9 +0.7
WHFO Wadi Hawf 130.34 279 P PKPdf 14 38 56.7 +0.7
SNR=7.8
JOF Joensuu 130.48 343 *e*pkp PP 14 41 26.9 +7.5

LBTB	Lobatse	131.30 210	PKPdf	PKPdf	14 38 59.0	+1.3
KAF	Kangasniemi	132.49 344	*e*pkp	PP	14 41 32.2	+0.1
FINES	FINESS Array B	133.12 344	PKhKP		14 38 43.9	
	comp=Z,0.8nm,0.5s,baz=63,slow=4.3,SNR=6.3					
FINES			PKP	PKPdf	14 39 00.1	-1.1
	comp=Z,5.1nm,0.6s,baz=72,slow=4.4,SNR=12					
FINES			SKPab		14 41 35.2	
	comp=Z,3.8nm,0.6s,baz=90,slow=3.8,SNR=8.9					
FINES	FINESS Array B	133.12 344	PKP		14 38 43.9	
FINES			PKP	PKPdf	14 39 00.1	-1.1
FINES			SKPab		14 41 35.2	
VRHR	Novokhopersk	134.07 326	*e*PKIKP	PKPdf	14 39 02.4	-0.6
VRHR			pmax	pmax		
	comp=Z,20nm,0.5s					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.6s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.5s					
OBN	Obninsk	134.20 333	*d i* PKIKP	PKPdf	14 39 02.2	-1.0
OBN			*e*		14 41 40.1	
OBN			pmax	pmax		
	comp=Z,14nm,0.8s					
VRSR	Storozhevoye	135.30 327	*e*PKIKP	PKPdf	14 39 05.1	-0.2
VRSR			pmax	pmax		
	comp=Z,5.0nm,1.0s					
VRSR			pmax	pmax		
	comp=N,1.0nm,1.8s					
VRSR			pmax	pmax		
	comp=E,1.0nm,0.6s					
NB2	NORSAR Subarra	136.33 353	PKPd		14 38 57.1	
	comp=Z,1.3nm,0.6s,baz=14,slow=1.8					
NOA	NORSAR Array B	136.33 353	PKhKP		14 38 55.4	
	comp=Z,2.9nm,0.7s,baz=11,slow=2.3,SNR=16					
NOA			PKP	PKPdf	14 39 05.5	-1.7
	comp=Z,3.4nm,0.7s,baz=14,slow=4.0,SNR=13					
NOA			SKP		14 41 43.7	
	comp=Z,5.0nm,0.8s,baz=16,slow=4.5,SNR=9.8					
NAO01	NORSAR Array S	136.56 353	*e*PKPpre		14 38 55.5	
GNI	Garni	136.64 310	PKP	PKPdf	14 39 07.9	+0.2
	comp=Z,10nm,0.8s,baz=9.4,slow=4.7,SNR=7.5					
GNI	Garni	136.64 310	PKP	PKPdf	14 39 07.9	+0.2
KIV	Kislovodsk	136.73 316	*i* PKIKP	PKPdf	14 39 06.3	-1.6
LSZ	Lusaka	137.80 220	PKPdf	PKPdf	14 39 10.7	+0.8
EZM	Erzurum	139.17 311	*e*P	PKPdf	14 39 12.5	+0.1
TSUM	Tsumeb	139.88 204	PKPpre		14 39 07.9	
KMBO	Kilima Mbogo	140.00 246	PKhKP		14 39 08.2	
	comp=Z,3.8nm,0.5s,baz=71,slow=7.3,SNR=10					
KMBO			PKP	PKPdf	14 39 14.2	+0.3
	comp=Z,8.6nm,0.8s,baz=89,slow=2.1,SNR=7.4					
KMBO	Kilima Mbogo	140.00 246	PKPpre		14 39 09.3	
KMBO			PKP	PKPdf	14 39 14.2	+0.3
KMBO			PKPdf	PKPdf	14 39 15.4	+1.5
GUMT	Gumushane	140.30 313	*e*P	PKPdf	14 39 08.2	-6.2
AKASG	Malin Array Be	140.46 332	PKhKP		14 39 06.8	
	comp=Z,6.1nm,0.4s,baz=45,slow=4.1,SNR=42					
AKASG			PKP	PKPdf	14 39 15.2	+0.5
	comp=Z,8.5nm,0.4s,baz=45,slow=3.2,SNR=22					
AKASG			SKPab		14 42 06.7	
	comp=Z,4.4nm,0.8s,baz=44,slow=4.8,SNR=7.2					
AKASG	Malin Array Be	140.46 332	PKHKP		14 39 06.8	
AKASG					14 39 15.3	
AKASG	Malin Array Be	140.46 332	PKP		14 39 06.8	
AKASG			PKP	PKPdf	14 39 15.2	+0.5
AKASG			SKPab		14 42 06.7	
PTK	Pertek	140.96 310	*e*P	PKPdf	14 39 10.8	-4.8
SIM	Simferopol'	141.63 322	⇑*i* PKHKP		14 39 12.9	
SIM			pmax	pmax		
	comp=Z,26nm,0.7s					
MALT	Malatya	141.88 310	*e*P	PKPdf	14 39 13.3	-4.0
MALT	Malatya	141.88 310	⇓PKIKP	PKPdf	14 39 14.1	-3.2
MALT	Malatya	141.88 310	PKPpre		14 39 13.7	
MALT			PKPdf	PKPdf	14 39 16.6	-0.7
MALT			*e*SKP		14 42 01.7	
SVSK	Karacayir	142.26 313	*e*P	PKPdf	14 39 15.0	-3.0
KVT	Kavak	142.39 315	*e*P	PKPdf	14 39 14.5	-3.7
TOKT	Tokat	142.40 314	*e*P	PKPdf	14 39 13.5	-4.7
BYBT	Boyabat	143.06 317	*e*P	PKPdf	14 39 17.2	-2.2
GAZ	Gaziantep	143.19 309	*i* P	PKPdf	14 39 17.4	-2.2
KIS	Kishinev	143.25 328κ	*i* PKIKP	PKPdf	14 39 17.0	-2.7
KIS			pmax	pmax		
	comp=Z,110nm,1.0s					
BSEG	Bad Segeberg	143.36 351	*e*PKPbc	PKPdf	14 39 17.4	-2.5
TOS	Tosya	143.76 316	*e*P	PKPdf	14 39 19.8	-0.8
CORM	Corum	143.77 315	*e*P	PKPdf	14 39 19.0	-1.6
DCN	Croghan	143.96 9	*e*P	PKPdf	14 39 16.2	-4.7
DCN	Croghan	143.96 9	⇓*i* P	PKPdf	14 39 18.8	-2.1
DCN	Croghan	143.96 9	⇓*i* P	PKPdf	14 39 18.8	-2.1
KWP	Kalwaria	143.98 336	*e*PKP	PKPdf	14 39 20.0	-1.0
KOZT	Kozan	144.10 310	*e*P	PKPdf	14 39 20.5	-0.6
DLF	Lyons Farm	144.11 8	*e*P	PKPdf	14 39 16.1	-5.1
DLF	Lyons Farm	144.11 8	⇓*i* P	PKPdf	14 39 18.6	-2.6
DLF	Lyons Farm	144.11 8	⇓*i* P	PKPdf	14 39 18.6	-2.6
RUE	Ruedersdorf	144.13 347	*e*PKPbc	PKPdf	14 39 20.0	-1.2
RUE	Ruedersdorf	144.13 347	PKPdf	PKPdf	14 39 20.1	-1.1
CEYT	Ceyhan	144.34 309	*e*P	PKPdf	14 39 21.3	-0.3
BURAR	Bucovina Array	144.51 332	⇑P	PKPdf	14 39 22.3	+0.4
OJC	Ojcow	144.53 340	*e*PKP	PKPdf	14 39 21.4	-0.5
BR131	Keskin Array S	144.65 315	PKPdf	PKPdf	14 39 21.4	-0.7
BRTR	Keskin Array B	144.65 315	PKP	PKPdf	14 39 21.3	-0.8
	comp=Z,37nm,0.5s,baz=138,slow=4.3,SNR=228					
BRTR			SKKPbc		14 50 11.1	
	comp=Z,2.5nm,1.0s,baz=214,slow=4.5,SNR=7.8					
STHS	Stebnicka Huta	144.70 337	*i* PKP	PKPdf	14 39 22.1	-0.1
KOLS	Kolonicke sedl	144.71 336	*e*PKP	PKPdf	14 39 22.0	-0.2
KAMT	Kaman	144.77 314	*i* P	PKPdf	14 39 21.9	-0.4
FKH	Fakeheh	144.82 304	*e*P	PKPdf	14 39 23.5	+1.1
CFR	Carcaliu	144.83 327	⇑P	PKPdf	14 39 22.8	+0.4
NIE	Niedzica	145.04 338	*e*PKPdf	PKPdf	14 39 23.7	+0.9
NIE	Niedzica	145.04 338	⇓*i* PKP	PKPdf	14 39 23.7	+0.9
KSP	Ksiaz	145.04 344	*e*PKP	PKPdf	14 39 23.5	+0.7
KSP	Ksiaz	145.04 344	*i* PKIKP	PKPdf	14 39 23.4	+0.6
KSP	Ksiaz	145.04 344	*e*PKPdf	PKPdf	14 39 22.1	-0.7
KSP			*i* PKPab	PKPab	14 39 23.4	-1.3
CRVS	Cervenica-Dubn	145.05 337	*e*PKP	PKPdf	14 39 23.0	+0.2
VRI	Vrincioaia	145.07 329	⇑P	PKPdf	14 39 23.6	+0.8
VRI	Vrincioaia	145.07 329	P	PKPdf	14 39 23.3	+0.5
TIRR	Tirgusor	145.16 325	⇓P	PKPdf	14 39 23.6	+0.6
TIRR	Tirgusor	145.16 325	⇓PKP2	PKPab	14 39 23.7	-1.4
TIRR	Tirgusor	145.16 325	*e*PKPdf	PKPdf	14 39 23.1	+0.2
LOD	Lodumlu	145.16 316	*i* P	PKPdf	14 39 23.7	+0.7
HARR	Harsova	145.26 326	⇑P	PKPdf	14 39 24.0	+0.9
HARR	Harsova	145.26 326	⇑PKP2	PKPab	14 39 24.1	-1.4
IBBN	Ibbenburen	145.28 353	*e*PKPbc	PKPbc	14 39 23.7	-0.7
CLZ	Clausthal	145.38 350	*e*PKPbc	PKPbc	14 39 24.3	-0.3
OKC	Ostrava-Krasne	145.39 341	*e*PKP	PKPdf	14 39 22.0	-1.4
CLL	Collm	145.40 347	*e*PKPdf	PKPdf	14 39 23.0	-0.4
CLL			*i* PKPbc	PKPbc	14 39 24.0	-0.7
	comp=Z,59nm,0.6s					
CLL	Collm	145.40 347	*e*PKIKP	PKPdf	14 39 23.0	-0.4
CLL			*i*		14 39 24.0	
CLL			pmax	pmax		
	comp=Z,59nm,0.6s					
UPC	Upice	145.42 344	*e*PKP	PKPdf	14 39 24.6	+1.2
BHL	Bhannes	145.52 304	*e*P	PKPdf	14 39 25.1	+1.6
BRG	Berggiesshubel	145.60 346	*e*PKPbc	PKPbc	14 39 24.7	-0.6
BRG	Berggiesshubel	145.60 346	*i* PKIKP	PKPdf	14 39 23.3	-0.4
BRG			*i*		14 39 24.7	
BRG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BRG			pmax	pmax		
	comp=Z,29nm,1.2s					
BRG	Berggiesshubel	145.60 346	*i* PKP	PKPdf	14 39 23.3	-0.5
BRG			*i*		14 39 24.7	
MORC	Moravsky Berou	145.63 341	⇓PKIKP	PKPdf	14 39 23.8	0.0
MORC	Moravsky Berou	145.63 341	PKPdf	PKPdf	14 39 23.5	-0.3
MLR	Muntele Rosu	145.73 329	PKPbc	PKPbc	14 39 23.9	-1.7
	comp=Z,36nm,0.7s,baz=344,slow=7.5,SNR=29					
MLR			SKKPbc		14 50 04.8	
	comp=Z,2.4nm,0.4s,baz=172,slow=14,SNR=5.4					
MLR	Muntele Rosu	145.73 329	⇑P	PKPdf	14 39 25.4	+1.5
MLR	Muntele Rosu	145.73 329	P	PKPdf	14 39 25.8	+1.9
KECS	Kecovo	145.76 337	*i* PKP	PKPdf	14 39 25.4	+1.4
PVCC	Panska Ves	145.77 345	*e*PKPDF	PKPdf	14 39 23.7	-0.3
PVCC		⇑	*e*PKPB	PKPbc	14 39 25.4	-0.4
PSN	Preselentsi	145.78 324	*i* P	PKPdf	14 39 26.0	+2.0
IKL	Isikli	146.17 309	*i* P	PKPdf	14 39 26.3	+1.7
VOIR		146.20 330	⇑P	PKPdf	14 39 26.7	+2.0
DRGR		146.24 333	⇑P	PKPdf	14 39 26.9	+2.1
DRGR		146.24 333	P	PKPdf	14 39 26.8	+2.0
KIZT	Kizilcal	146.25 315	*i* P	PKPdf	14 39 26.4	+1.5
PRU	Pruhonice	146.28 345	*e*PKPDF	PKPdf	14 39 24.1	-0.8
PRU		⇑	*e*PKPB	PKPbc	14 39 26.6	-0.6
PRU			*e*PKPAB	PKPab	14 39 29.0	-0.6
MOX	Moxa	146.31 348	*e*PKPbc	PKPbc	14 39 26.6	-0.7
MOX	Moxa	146.31 348	*e*P	PKPdf	14 39 24.1	-0.8
	comp=Z,25nm,1.1s					
MOX	Moxa	146.31 348	*e*PKIKP	PKPdf	14 39 24.1	-0.8
MOX			pmax	pmax		
	comp=Z,25nm,1.1s					
VRAC	Vranov	146.33 342	⇓PKP2	PKPab	14 39 27.0	-2.8
VRAC	Vranov	146.33 342	P	PKPdf	14 39 27.3	+2.4
VYHS	Vyhne	146.34 339	*i* PKP	PKPdf	14 39 27.0	+2.0
VYHS			*e*		14 39 29.7	
MTUR	Matau	146.35 329	⇑P	PKPdf	14 39 27.5	+2.5
MTUR	Matau	146.35 329	P	PKPdf	14 39 26.9	+2.0
WERD	Werda	146.36 347	*e*PKPbc	PKPbc	14 39 26.7	-0.7
KONT	Konya--Tatoy	146.37 313	*e*P	PKPdf	14 39 26.3	+1.3
PSZ	Piszkesteto	146.45 337	⇓*i* PKP/p	PKPdf	14 39 27.2	+2.0
PSZ	Piszkesteto	146.45 337	PKP2	PKPab	14 39 27.4	-2.9
PSZ	Piszkesteto	146.45 337	PKPbc	PKPbc	14 39 27.3	-0.4
NKC	Novy Kostel	146.53 347	*e*PKPDF	PKPdf	14 39 24.9	-0.4
NKC		⇑	*e*PKPB	PKPbc	14 39 27.3	-0.6
ESKT	Eskisehir	146.62 316	*i* P	PKPdf	14 39 27.4	+1.9
HRT	Hereke	146.66 319	*e*P	PKPdf	14 39 26.9	+1.4
TREC	Trest	146.66 343	*e*PKPDF	PKPdf	14 39 24.9	-0.6
TREC		⇑	*e*PKPB	PKPbc	14 39 27.6	-0.6
TREC			*e*PKPAB	PKPab	14 39 30.8	-0.3
SMOL	Smolenice	146.78 340	*e*PKP	PKPdf	14 39 28.4	+2.7
SMOL			*e*		14 39 31.9	
CSS	Prodhromos	146.94 307	*e*PKPdf	PKPdf	14 39 27.9	+1.9
YLV	Yalova	146.99 319	*e*P	PKPdf	14 39 27.2	+1.2
ROTZ	Rotzenmuhle	147.02 347	*e*PKPbc	PKPbc	14 39 28.8	-0.4
IZI	Iznik	147.06 319	*i* P	PKPdf	14 39 28.7	+2.5
BUD	Budapest	147.13 338	⇓*e*PKP/p	PKPdf	14 39 29.0	+2.7
MEM	Membach	147.14 355	PKPbc	PKPbc	14 39 28.8	-0.7
ZST	Bratislava	147.17 341	*e*PKP	PKPdf	14 39 29.7	+3.4
CTT	Catalca	147.23 321	*i* P	PKPdf	14 39 29.0	+2.5
TNS	Taunus Mts	147.24 352	*e*PKPbc	PKPbc	14 39 29.4	-0.3
EIL	Elat	147.27 297	PKPdf	PKPdf	14 39 26.0	-0.5
EIL			PKPbc	PKPbc	14 39 29.7	-0.1
SZH	Strazhica	147.28 326	*i* P	PKPdf	14 39 29.7	+3.2
GRA1	Grafenberg Arr	147.30 348	*e*PKPbc	PKPbc	14 39 29.7	-0.2
GRA1			LR	LR		
	comp=Z,300nm,20.6s					
GRF	Grafenberg Arr	147.30 348	*e*PKPbc	PKPbc	14 39 29.7	-0.2
GRF			*e*L		16 02 23.1	
	comp=Z,341nm,20.6s					
KHC	Kasperske Hory	147.31 345	*e*PKPDF	PKPdf	14 39 26.2	-0.4
KHC		⇑	*e*PKPB	PKPbc	14 39 29.7	-0.2
WET	Wettzell	147.46 346	*e*PKPbc	PKPbc	14 39 29.9	-0.4
GEC2	GERESS Array S	147.54 345	*e*PKPbc	PKPbc	14 39 29.9	-0.6
GERES	GERESS Array B	147.54 345	PKP	PKPdf	14 39 25.5	-1.4
	comp=Z,26nm,0.5s,baz=90,slow=1.3,SNR=221					
GERES			PKPbc	PKPbc	14 39 30.0	-0.5
	comp=Z,27nm,0.5s,baz=18,slow=3.1,SNR=219					
BZS	Buzias	147.64 333	PKP2	PKPab	14 39 30.4	-4.7
ABH	Alteburg	147.70 353	PKP	PKPdf	14 39 30.6	+3.4
ISP	Isparta	147.71 314	PKIKP	PKPdf	14 39 29.9	+2.7
ISP	Isparta	147.71 314	PKPbc	PKPbc	14 39 29.5	-1.4
DOU	Dourbes	147.76 356	PKPbc	PKPbc	14 39 30.5	-0.5
TOD	Tromm	147.79 351	PKP	PKPdf	14 39 30.6	+3.2
RUP	Ruppelstein	147.93 353	PKP	PKPdf	14 39 31.3	+3.7
WLF	Walferdange	148.06 354	*e*PKPbc	PKPbc	14 39 32.0	+0.2
WLF	Walferdange	148.06 354	PKPbc	PKPbc	14 39 32.1	+0.3
WLF	Walferdange	148.06 354	PKPbc	PKPbc	14 39 31.7	-0.1
MOA	Molln	148.31 343	*i* P	PKPdf	14 39 31.9	+3.7
	comp=Z,20nm,0.8s,SNR=12					
MOA	Molln	148.31 343	*i* P	PKPdf	14 39 31.9	+3.7
PKSM	Moragy	148.35 337	PKP2	PKPab	14 39 32.0	-6.0
ARSA	Arzberg	148.50 341	⇑*i* P	PKPdf	14 39 32.4	+3.9
	comp=Z,21nm,1.1s,SNR=9.0					
ARSA	Arzberg	148.50 341	*i* P	PKPdf	14 39 32.4	+3.9
STU	Stuttgart	148.54 350	*e*PKPbc	PKPbc	14 39 32.8	-0.2
LANF	Langenberg	148.55 352	PKP	PKPdf	14 39 32.8	+4.2
KDZ	Kurdzhali	148.66 324	*i* P	PKPdf	14 39 33.0	+4.2
ELL	Elmali	148.66 313	P	PKPdf	14 39 32.9	+4.1
FUR	Furstenfeldbru	148.74 347	*e*PKPbc	PKPbc	14 39 33.0	-0.5
BEO	Belgrade	148.77 333	⇑*i* PKP	PKPdf	14 39 31.5	+2.6
ALN	Alexandroupoli	148.79 322	*e*P	PKPdf	14 39 31.3	+2.3
SVIS	Svilajnac	148.85 332	⇓*i* PKP	PKPdf	14 39 33.1	+4.0
AKS	Akhisar	148.94 318	*e*P	PKPdf	14 39 33.2	+4.0
ZAPS	Zavoj/Pirot	148.96 329	⇓*i* PKP	PKPdf	14 39 33.7	+4.4
RZN	Rozhen	149.02 325	*i* P	PKPdf	14 39 33.7	+4.4
BFO	Black Forest	149.11 351	*e*PKPbc	PKPbc	14 39 33.8	-0.6
BFO	Black Forest	149.11 351	*e*PKPdf	PKPdf	14 39 28.3	-1.2
BFO			*e*PKPbc	PKPbc	14 39 33.6	-0.8
BFO			*e*PKPbc	PKPbc	14 39 33.8	-0.6
FLN	La Foliniere	149.16 2	*e*PKIKP	PKPdf	14 39 28.6	-1.0
WLS	Welschbruch	149.16 352	PKP	PKPdf	14 39 34.2	+4.6
PERS	Pernice	149.17 341	*e*PKPbc	PKPbc	14 39 33.5	-1.0
VTS	Vitosha	149.18 328	*i* P	PKPdf	14 39 34.3	+4.7
VTS	Vitosha	149.18 328	⇓PKHKP		14 39 34.4	
KBA	Koelnbreinsper	149.27 344	*i* P	PKPdf	14 39 33.7	+3.9
	comp=Z,25nm,0.5s,SNR=14					
KBA	Koelnbreinsper	149.27 344	⇑P	PKPdf	14 39 33.7	+3.9
LDF	La Druitiere	149.34 2	*e*PKIKP	PKPdf	14 39 28.8	-1.0
	comp=Z,25nm,0.8s					
ROSF	Rostrenen	149.38 6	*e*PKIKP	PKPdf	14 39 28.7	-1.2
	comp=Z,14nm,0.8s					
ECH	Echery	149.38 352	PKP	PKPdf	14 39 33.7	+3.8
WATA	Walderalm	149.46 346	⇓*i* P	PKPdf	14 39 34.4	+4.3
	comp=Z,33nm,1.1s,SNR=8.7					
THEF	They Montfort	149.50 354	PKP	PKPdf	14 39 34.7	+4.6
GRR	Gorron	149.51 3	*e*PKIKP	PKPdf	14 39 28.4	-1.7
	comp=Z,42nm,0.4s					
WTTA	Wattenberg	149.51 346	*i* P	PKPdf	14 39 34.8	+4.7
	comp=Z,68nm,0.6s,SNR=24					
WTTA	Wattenberg	149.51 346	*i* P	PKPdf	14 39 34.8	+4.7
SGMF	Saint Gilles	149.53 5	*e*PKIKP	PKPdf	14 39 29.1	-1.0
	comp=Z,19nm,0.9s					
DIVS	Divcibare	149.54 333	⇑*i* PKP	PKPdf	14 39 34.8	+4.6
MOTA	Moosalm	149.56 347	⇓*i* PKPbc	PKPbc	14 39 34.5	-1.0
	comp=Z,22nm,0.9s					
MOTA	Moosalm	149.56 347	⇓P	PKPdf	14 39 34.5	+4.3
YER	Yerkesik	149.59 315	*e*P	PKPdf	14 39 35.1	+4.9
MMB	Musomiste	149.62 326	*i* P	PKPdf	14 39 35.0	+4.7
SQTA	Sankt Quirin	149.65 347	⇓*i* P	PKPdf	14 39 35.1	+4.8
	comp=Z,27nm,0.9s,SNR=13					
HAU	Haudompre	149.68 353	*e*PKIKP	PKPdf	14 39 29.8	-0.6
MOF	Molkenrain	149.74 352	PKP	PKPdf	14 39 35.4	+4.9
KKB	Krupnik	149.77 327	*i* P	PKPdf	14 39 35.3	+4.8
HINF	Hinteralfeld	149.81 353	*e*PKIKP	PKPdf	14 39 28.8	-1.8
MLSB	Milas	149.84 315	*e*P	PKPdf	14 39 35.2	+4.6
DAVA	Damuels	149.86 349	⇓*i* PKIKP	PKiKP	14 39 35.9	-0.9
	comp=Z,32nm,0.8s					
LJU	Ljubljana	149.88 342	*e*PKPdf	PKPdf	14 39 30.1	-0.6
LJU			*i* PKPbc	PKPbc	14 39 35.5	-0.7
LJU			*e*PKPab	PKPab	14 39 43.3	-1.0
CADS	Cadrg	149.94 343	*e*PKPbc	PKPbc	14 39 34.8	-1.6
VISS	Visnje	150.00 341	*i* PKPbc	PKPbc	14 39 35.8	-0.7
SRS	Serrai	150.03 325	*e*P	PKPdf	14 39 34.9	+4.0
VOY	Vojsko	150.08 342	*e*	PKPdf	14 39 33.2	+2.2
VOY			*e*PKPbc	PKPbc	14 39 35.5	-1.2
VOY			*e*PKPab	PKPab	14 39 44.8	-0.4
BOJS	Bojanci	150.14 340	*e*PKPdf	PKPdf	14 39 30.6	-0.5
BOJS			*e*PKPbc	PKPbc	14 39 36.6	-0.3
JAVS	Javornik	150.16 342	*e*PKPbc	PKPbc	14 39 36.0	-0.9
JAVS			*e*PKPab	PKPab	14 39 44.3	-1.2
CEY	Cerknica	150.19 342	*e*PKPbc	PKPbc	14 39 36.3	-0.7
CEY			*e*PKPab	PKPab	14 39 44.8	-0.9
LOMF	Lomont	150.27 353	PKP	PKPdf	14 39 36.8	+5.5
OUR	Ouranopolis	150.34 324	*e*P	PKPdf	14 39 35.1	+3.6
STIP	Stip	150.36 328	*e*PKP	PKPdf	14 39 36.1	+4.7
PLE	Pljevlja	150.42 333	⇓*i* PKP	PKPdf	14 39 37.1	+5.6
VAY	Valandovo	150.43 327	*e*PKP	PKPdf	14 39 35.5	+4.0
SKO	Skopje	150.53 329	*e*PKP	PKPdf	14 39 37.5	+5.8
IVA	Berane	150.56 332	⇓*i* PKP	PKPdf	14 39 37.2	+5.5
LOR	Lormes	150.62 357	*e*PKIKP	PKPdf	14 39 30.6	-1.2
UPM	Unac-Piva	150.73 333	⇓*i* PKP	PKPdf	14 39 37.1	+5.1
PVY	Plav	150.75 331	⇓*i* PKP	PKPdf	14 39 37.5	+5.5
GRG	Griva	150.78 326	*e*P	PKPdf	14 39 36.4	+4.4
PAIG	Paliouri	150.79 323	*e*P	PKPdf	14 39 35.6	+3.5
SSF	Saint Saulge	150.85 357	*e*PKIKP	PKPdf	14 39 31.0	-1.2
NKY	Niksic	151.01 333	⇓*i* PKP	PKPdf	14 39 38.1	+5.7
CABF	La Chapelle	151.09 353	*e*PKIKP	PKPdf	14 39 31.7	-0.8
AVF	Avril sur Loir	151.12 357	*e*PKIKP	PKPdf	14 39 31.0	-1.6
BRY	Bratogost	151.13 333	⇓*i* PKP	PKPdf	14 39 38.2	+5.5
TTG	Podgorica	151.20 332	⇓*i* PKP	PKPdf	14 39 38.4	+5.7
SMF	Signal de Mont	151.24 357	*e*PKIKP	PKPdf	14 39 31.3	-1.5
	comp=Z,9.1nm,0.9s					
BIA	Bitola	151.29 328	*e*PKP	PKPdf	14 39 37.9	+5.1
MFF	Saint Martin d	151.33 2	*e*PKIKP	PKPdf	14 39 31.3	-1.6
	comp=Z,21nm,0.9s					
LIT	Litokhoron	151.34 325	*e*P	PKPdf	14 39 36.9	+4.0
BGF	Bois d'Agland	151.38 358	*e*PKIKP	PKPdf	14 39 31.8	-1.2
FNA	Florina	151.44 327	*e*P	PKPdf	14 39 38.0	+4.9
BUM	Brajici-Budva	151.46 332	⇓*i* PKP	PKPdf	14 39 38.9	+5.8
OHR	Ohrid	151.49 328	*e*PKP	PKPdf	14 39 38.6	+5.4
HCY	Herceg Novi	151.52 333	⇓*i* PKP	PKPdf	14 39 38.7	+5.5
ULC	Ulcinj	151.57 331	⇓*i* PKP	PKPdf	14 39 39.0	+5.8
TCF	Toulx Ste Croi	151.66 359	*e*PKIKP	PKPdf	14 39 31.8	-1.6
SANT	Santorini	151.90 316	PKPbc	PKPbc	14 39 39.2	-1.6
SANT			PKPab	PKPab	14 39 51.7	-1.1
PLDF	La Plantade	151.93 357	PKP	PKPdf	14 39 40.0	+6.2
LPL	La Plagne	152.09 352	*e*PKIKP	PKPdf	14 39 33.6	-0.4
LPG	La Plagne	152.10 352	*e*PKIKP	PKPdf	14 39 33.7	-0.4
AGG	Agios Georgios	152.17 323	*e*P	PKPdf	14 39 39.2	+5.0
PYM	Petit Puy Mans	152.18 358	PKP	PKPdf	14 39 41.0	+6.8
BNI	Bardonecchia	152.55 352	*e*PKPdf	PKPdf	14 39 34.7	-0.1
BNI			PKPbc	PKPbc	14 39 42.2	0.0
RJF	Les Rejaudoux	152.65 360	*e*PKIKP	PKPdf	14 39 33.4	-1.5
ORIF	Oris-en-Rattie	152.78 353	*e*PKIKP	PKPdf	14 39 34.0	-1.0
MBDF	Montbardon	152.86 352	*e*PKIKP	PKPdf	14 39 34.0	-1.2
VIVF	Saint-Julien-l	152.97 355	*e*PKIKP	PKPdf	14 39 34.2	-1.1
LFF	La Frestale	153.01 1	*e*PKIKP	PKPdf	14 39 33.9	-1.5
LKD	Levkas	153.33 325	*e*P	PKPdf	14 39 42.7	+6.9
AUTN	L'Aution	153.48 350	PKP	PKPdf	14 39 44.8	+8.8
SMRF	Simiane la Rot	153.75 353	*e*PKIKP	PKPdf	14 39 35.7	-0.7
	comp=Z,19nm,1.1s					
LASF	Ste Croix	153.80 356	*e*PKIKP	PKPdf	14 39 35.5	-1.0
MTLF	Montolieu	154.61 359	*e*PKIKP	PKPdf	14 39 37.3	-0.3
PCAB	Cabril	154.90 17	*e*PKPab	PKPab	14 40 05.6	-0.1
EPF	Esparros	154.91 2	*e*PKIKP	PKPdf	14 39 38.0	0.0
	comp=Z,14nm,0.9s					
TIP	Timpagrande	154.94 331	PKPdf	PKPdf	14 39 37.6	-0.5
ETSF	Etsaut	155.00 3	*e*PKIKP	PKPdf	14 39 37.4	-0.7
	comp=Z,18nm,1.0s					
PBRG	Braganca	155.15 15	*e*PKPab	PKPab	14 40 06.4	-0.3
PVRL	Vila Real	155.39 17	*e*PKPab	PKPab	14 40 07.8	0.0
PVIS	Viseu	155.86 18	*e*PKPab	PKPab	14 40 09.6	-0.2
MTE	Manteigas	156.25 17	*e*PKPab	PKPab	14 40 11.4	-0.1
PTOM	Tomar	156.71 20	*e*PKPab	PKPab	14 40 13.0	-0.5
PCBR	Castelo Branco	156.79 18	*e*PKPab	PKPab	14 40 13.3	-0.6
ESDC	Sonseca Array	157.78 11	PKPab	PKPab	14 40 17.5	-0.7
	comp=Z,2.9nm,0.7s,baz=344,slow=3.8,SNR=9.2					

KHET **Khetri** 11.67 153 *eP* **Pn** **14 25 04.0 -2.3**
KHET AMb AMB 14 25 12.5
comp=Z,5.4nm,0.4s
KHET *eS* **Sn** **14 27 03.1 -12**
NDI New Delhi 11.69 146 *ex* x 14 25 34.0
NDI *ex* x 14 27 18.0
JASL Jaisalmer 11.70 175 *eP* **Pn** **14 25 02.3 -4.5**
AYAN Aya Nagar 11.83 147 *eP* **Pn** **14 25 07.7 -0.9**
AYAN AMb AMB 14 25 15.6
comp=Z,8.8nm,0.4s
AYAN *ex* x 14 27 23.2
KUDL Kundal 11.86 150 *eP* **Pn** **14 25 09.2 +0.2**
KUDL AMb AMB 14 25 14.5
comp=Z,9.8nm,0.3s
KUDL *eS* **Sn** **14 27 07.5 -13**
SONA Sohna 12.01 147 *eP* **Pn** **14 25 10.1 -1.0**
SONA AMb AMB 14 25 17.6
comp=Z,8.4nm,0.5s
SONA *eS* **Sn** **14 27 13.2 -11**
MK31 Makanchi Array 12.30 44 ⇑Pn **Pn** **14 25 14.1 -1.0**
comp=Z,7.1nm,0.7s
MK31 ⇑Lg 14 28 58.7
comp=Z,1.3nm,1.2s
MK31 Makanchi Array 12.30 44 ⇑Pn **Pn** **14 25 14.1 -1.0**
comp=Z,7.1nm,0.7s
MK31 Lg 14 28 58.7
MKAR Makanchi Array 12.30 44 Pn **Pn** **14 25 13.8 -1.3**
comp=Z,0.3nm,0.3s,baz=224,slow=14,SNR=63
MKAR LR LR 14 30 16.3
comp=Z,298nm,18.3s,baz=268,slow=38
MKAR Makanchi Array 12.30 44 *i P* **Pn** **14 25 14.5 -0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 12.75 330 ⇑Pn **Pn** **14 25 19.7 -1.5**
comp=Z,7.2nm,0.5s,baz=138,slow=13,SNR=272
AB31 ⇑Sn **Sn** **14 27 36.0 -5.9**
comp=Z,32nm,1.0s,baz=151,slow=22,SNR=8.3
AB31 Akbulak array 12.75 330 ⇑P **Pn** **14 25 19.7 -1.5**
AB31 14 27 36.0
AB31 pmax pmax
comp=Z,7.0nm,0.4s
AB31 Akbulak array 12.75 330 ⇑Pn **Pn** **14 25 19.7 -1.5**
comp=Z,7.2nm,0.4s
AB31 Sn **Sn** **14 27 36.0 -5.9**
AJM Ajmer 12.79 160 *eP* **Pn** **14 25 17.7 -3.9**
AJM AMb AMB 14 25 22.2
comp=Z,7.4nm,0.4s
KURK Kurchatov 13.62 25 ⇓Pn **Pn** **14 25 29.3 -3.8**
comp=Z,3.9nm,1.6s
KURK ⇑Lg 14 29 26.0
comp=Z,55nm,1.6s
KURK Kurchatov 13.62 25 *eP* **Pn** **14 25 29.8 -3.3**
KURK Kurchatov 13.62 25 ⇓Pn **Pn** **14 25 29.3 -3.8**
KURK Lg 14 29 25.9
VOSK Vostochnaya 14.13 3 ⇑Pn **Pn** **14 25 37.7 -2.3**
comp=Z,9.9nm,1.1s
VOSK ⇑Sn **Sn** **14 28 11.2 -4.3**
comp=Z,15nm,1.1s
VOSK ⇑Lg 14 29 34.3
comp=Z,73nm,1.4s
VOSK Vostochnaya 14.13 3 ⇑Pn **Pn** **14 25 37.7 -2.3**
comp=Z,9.9nm,1.1s
VOSK Sn **Sn** **14 28 11.2 -4.3**
VOSK Lg 14 29 34.3
ZRNK Zerenda 14.34 358 ⇑Pn **Pn** **14 25 41.0 -1.9**
comp=Z,5.4nm,0.6s
ZRNK ⇑Sn **Sn** **14 28 15.6 -5.1**
comp=Z,9.6nm,1.0s
ZRNK ⇓Lg 14 29 53.9
comp=Z,63nm,1.2s
ZRNK Zerenda 14.34 358 *eP* **Pn** **14 25 40.7 -2.2**
ZRNK *e* 14 28 15.7
ZRNK pmax pmax
comp=Z,8.0nm,0.6s
ZRNK Zerenda 14.34 358 *e*Pn **Pn** **14 25 40.6 -2.2**
comp=Z,8.5nm,0.6s
ZRNK *e*Sn **Sn** **14 28 15.7 -5.0**
BVA0 Borovoye Array 14.41 2 ⇑Pn **Pn** **14 25 42.1 -1.7**
comp=Z,1.8nm,0.9s,baz=244,slow=38,SNR=38
BVA0 ⇑Lg 14 29 53.2
comp=Z,11nm,2.2s
BVA0 Borovoye Array 14.41 2 ⇑Pn **Pn** **14 25 42.1 -1.7**
comp=Z,1.8nm,0.9s
BVA0 Lg 14 29 53.2
BVAR Borovoye Array 14.41 2 Pn **Pn** **14 25 41.8 -2.0**
comp=Z,1.0nm,0.3s,baz=169,slow=14,SNR=33
BRVK Borovoye 14.44 1 *eP* **Pn** **14 25 42.3 -2.0**
BRVK pmax pmax
comp=Z,6.0nm,0.5s
BRVK Borovoye 14.44 1 *e*Pn **Pn** **14 25 42.3 -1.9**
comp=Z,6.2nm,0.5s
AKTK Aktyubinsk 14.45 329 ⇑Pn **Pn** **14 25 44.1 -0.3**
AKTK Sn **Sn** **14 28 19.5 -3.9**
AKTO Aktyubinsk 14.45 329 ⇑Pn **Pn** **14 25 44.1 -0.3**
comp=Z,4.1nm,0.9s
AKTO ⇑Sn **Sn** **14 28 19.5 -3.9**
comp=Z,3.5nm,0.9s
AKTO Aktyubinsk 14.45 329 Pn **Pn** **14 25 42.9 -1.5**
comp=Z,1.0nm,0.3s,baz=138,slow=14,SNR=30
AKTO Sn **Sn** **14 28 24.4 +1.1**
comp=Z,0.3nm,0.3s,baz=343,slow=19,SNR=5.1
AKTO LR LR 14 31 12.1
comp=Z,130nm,20.2s,baz=0.0,slow=36
WMQ Urumqi 14.46 63 *eP* **Pn** **14 25 42.0 -2.5**
WMQ XP sP 14 25 54.0 -10
WMQ S **Sn** **14 28 26.0 +2.5**
WMQ AMB AMB
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=N,724nm,5.0s
WMQ LR LR
comp=E,325nm,5.0s
WMQ LR LR
comp=Z,217nm,4.5s
KOLN Koldanda 15.84 129 *eP* **Pn** **14 25 54.9 -7.7**
comp=Z,29nm,0.6s
GKN Gorkha 16.31 126 *eP* **Pn** **14 26 02.5 -6.2**
comp=Z,104nm,0.8s
BHPL Bhopal 16.67 155 *eP* **Pn** **14 26 13.4 +0.2**
BHPL AMb AMB 14 26 15.1
comp=Z,28nm,0.6s
KKN Kakani 16.87 125 *eP* **Pn** **14 26 07.9 -7.9**
comp=Z,30nm,0.5s
DMN Daman 16.89 126 *eP* **Pn** **14 26 07.4 -8.6**
comp=Z,37nm,0.8s
PKI Pulchoki 17.11 125 *eP* **Pn** **14 26 10.6 -8.1**
comp=Z,44nm,0.7s
GUN Gumba 17.18 124 *eP* **Pn** **14 26 12.8 -6.8**
comp=Z,127nm,1.1s
JIRN Jiri 17.55 124 *eP* **Pn** **14 26 16.9 -7.3**
comp=Z,36nm,0.5s
BIDO Bidbid 18.02 217 P PKiKP 14 38 50.0 -5.2
SNR=6.5
NVS Novosibirsk 18.61 25 *eP* **Pn** **14 26 34.5 -2.7**
NVS *eS* **Sn** **14 29 58.7 -5.6**
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s
NVS smax
comp=N,26nm,2.0s
NVS smax
comp=E,13nm,2.0s
BSY Bisya 19.13 218 P PKiKP 14 38 50.9 -4.7
SNR=17
ARU Arti 19.31 341 *c i P* **Pn** **14 26 43.9 -1.7**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU MLR MLR
comp=Z,200nm,17.0s
ARU Arti 19.31 341 *e*Pn **Pn** **14 26 44.0 -1.6**
comp=Z,14nm,0.9s
GNI Garni 19.38 282 P **Pn** **14 26 45.1 -1.4**
comp=Z,0.5nm,0.3s,baz=83,slow=8.1,SNR=3.3
GNI Garni 19.38 282 *eP* **Pn** **14 26 47.1 +0.6**
GNI pmax pmax
comp=Z,24nm,0.9s
GNI Garni 19.38 282 *e*Pn **Pn** **14 26 47.1 +0.7**
comp=Z,24nm,0.9s
LSA Lhasa 19.78 110 *eP* **Pn** **14 26 47.8 -3.4**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 19.78 110 *e*Pn **Pn** **14 26 47.8 -3.4**
comp=Z,5.7nm,0.7s

ZEI Tsey 20.01 290 *i* P **P** **14 26 52.6 +0.6**
ZEI *i* *PP 14 27 02.0
BOK Bokaro 20.17 132 *eP* **P** **14 26 53.6 -0.2**
BOK AMb AMB 14 26 54.2
comp=Z,9.5nm,0.6s
GOF Gofitskoye 20.87 297 *eP* **P** **14 27 04.0 +2.7**
GOF pmax pmax
comp=Z,136nm,0.8s
KIV Kislovodsk 20.98 293 *eP* **P** **14 27 03.5 +1.0**
KIV *e* 14 27 25.7
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,100nm,14.0s,MS3.4
KIV Kislovodsk 20.98 293 P **P** **14 27 01.9 -0.6**
comp=Z,11nm,0.6s
HYB Hyderabad 22.48 158 *i* P **P** **14 27 19.0 +0.4**
HYB Hyderabad 22.48 158 *eP* **P** **14 27 19.0 +0.4**
KRAR Krasnoyarsk 23.23 34 ⇓*iP* **P** **14 27 25.4 -1.1**
KRAR pmax pmax
comp=Z,12nm,1.0s,mb4.3
KRAR MLR MLR
comp=Z,400nm,20.0s,MS3.9
GTA Gaotai 23.32 79 *eP* **P** **14 27 27.3 -0.2**
GTA AP 14 27 32.4
GTA XP sP 14 27 35.7 -5.5
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb3.9
GTA AMB AMB
comp=Z,71nm,4.9s
GTA LR LR
comp=N,327nm,15.6s,MS4.0
GTA LR LR
comp=E,211nm,12.5s,MS4.0
GTA LR LR
comp=Z,266nm,14.8s,MS3.8
VRHR Novokhopersk 23.36 311 *eP* **P** **14 27 32.9 +5.1**
VRHR pmax pmax
comp=Z,30nm,1.0s,mb4.7
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.9s
ANN Anapa 24.80 295 *eP* **P** **14 27 41.3 +0.3**
ANN *e* 14 28 14.1
ANN *e* 14 31 17.3
ANN *eS* **S** **14 32 01.1 -0.1**
ANN pmax pmax
comp=Z,43nm,0.9s,mb5.0
ANN MLR MLR
comp=Z,110nm,12.0s,MS3.6
VRSR Storozhevoye 24.84 310 *eP* **P** **14 27 41.5 +0.1**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
VRSR pmax pmax
comp=N,1.0nm,1.2s
VRSR pmax pmax
comp=E,1.0nm,0.9s
ZAK Zakamensk 26.42 53 *eP* **P** **14 27 56.1 +0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
OBN Obninsk 27.70 317 *eP* **P** **14 28 07.5 +0.3**
OBN *e* 14 28 49.3
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.4
BRTR Keskin Array B 27.91 284 P **P** **14 28 08.2 -0.9**
comp=Z,0.8nm,0.8s,mb3.4,baz=90,slow=5.8,SNR=4.5
BRTR Keskin Array B 27.91 284 *i* P **P** **14 28 13.0 +3.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 28.02 59 P **P** **14 28 09.0 -1.1**
comp=Z,0.9nm,0.8s,mb3.5,baz=264,slow=9.0,SNR=8.8
SONM LR LR 14 40 00.4
comp=Z,167nm,19.4s,MS3.6,baz=221,slow=38
ULN Ulaanbaatar 28.46 59 ⇑*eP* **P** **14 28 14.5 +0.5**
ULN Ulaanbaatar 28.46 59 *eP* **P** **14 28 13.0 -1.0**
comp=Z,1.3nm,0.8s,mb3.6
AKASG Malin Array Be 30.87 306 P **P** **14 28 35.4 0.0**
comp=Z,5.4nm,0.8s,mb4.4,baz=80,slow=7.5,SNR=16
AKASG Malin Array Be 30.87 306 *i* P **P** **14 28 35.4 0.0**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 33.54 329 *ep* **P** **14 28 59.3 +0.5**
BOD Bodaibo 34.37 41 *eP* **P** **14 29 04.4 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
FINES FINESS Array B 35.18 325 P **P** **14 29 13.1 +0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=110,slow=9.6,SNR=15
FINES LR LR 14 44 33.7
comp=Z,42nm,22.0s,MS3.1,baz=154,slow=38
FINES FINESS Array B 35.18 325 *i* P **P** **14 29 13.5 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 35.27 303 *eP* **P** **14 29 15.3 +1.5**
ARCES ARCESS Array B 38.81 337 P **P** **14 29 44.0 +0.2**
comp=Z,3.4nm,0.8s,mb4.1,baz=114,slow=7.1,SNR=18
NJ2 Nanjing 40.20 84 *eP* **P** **14 29 57.1 +1.7**
NJ2 AP pP 14 30 08.3 +2.8
NJ2 PP PP 14 31 35.6 +7.4
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
NJ2 AMB AMB
comp=Z,430nm,5.1s
NJ2 LR LR
comp=N,540nm,22.6s,MS4.5
NJ2 LR LR
comp=E,730nm,26.6s,MS4.5
NJ2 LR LR
comp=Z,780nm,25.1s,MS4.5
BRG Berggiesshubel 40.55 306 *eP* **P** **14 29 59.9 +1.6**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
BRG Berggiesshubel 40.55 306 *eP* **P** **14 29 59.9 +1.6**
comp=Z,3.1nm,0.9s,mb3.9
GERES GERESS Array B 40.92 303 P **P** **14 30 02.1 +0.8**
comp=Z,0.5nm,0.6s,mb3.3,baz=76,slow=5.5,SNR=3.8
KHC Kasperske Hory 40.97 304 *eP* **P** **14 30 03.1 +1.4**
NB2 NORSAR Subarra 42.10 322 P **P** **14 30 10.4 -0.6**
comp=Z,7.4nm,0.8s,mb4.4,baz=95,slow=8.6
NOA NORSAR Array B 42.10 322 P **P** **14 30 10.6 -0.4**
comp=Z,6.4nm,0.8s,mb4.3,baz=96,slow=8.2,SNR=27
NOA LR LR 14 48 07.5
comp=Z,49nm,19.4s,MS3.4,baz=350,slow=36
NOA NORSAR Array B 42.10 322 P **P** **14 30 10.6 -0.4**
NOA LR LR 14 48 07.5
YAK Yakutsk 42.84 37 ⇓*iP* **P** **14 30 15.8 -1.2**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
YAK MLR MLR
comp=Z,100nm,19.0s,MS3.7
YAK Yakutsk 42.84 37 *eP* **P** **14 30 15.6 -1.4**
comp=Z,13nm,0.7s,mb4.8
TIXI Tiksi 44.20 23 ⇓*iP* **P** **14 30 27.1 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TIXI MLR MLR
comp=Z,100nm,16.0s,MS3.8
BILL Bilibino 57.15 26 *eP* **P** **14 32 05.2 -0.4**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.9
SUMG Summit 58.74 340 *eP* **P** **14 32 17.1 +0.4**
comp=Z,15nm,1.0s,mb5.0
TORD Torodi Ar. Bea 64.81 267 P **P** **14 32 57.3 -0.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=41,slow=6.4,SNR=10
YKA Yellowknife Ar 79.17 2 P **P** **14 34 22.9 -0.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=352,slow=5.0,SNR=4.7
YKA Yellowknife Ar 79.17 2 *i* P **P** **14 34 24.2 +0.6**

BJI ***03*** *14:44:09.5, 1376N×12078E, h100km, mB4.2, mb4.3*
MOS ***03*** *14:44:10.2±1.0, 1374N×12073E, h114km, mb4.5/9, Error ellipse: s-maj=19.3km s-min=10.2km az=116.4*
ISCJB ***03*** *14:44:10.7±0.3, 1370N±002×12058E±004, h108km±3km, mb4.3/26, Error ellipse: s-maj=6.7km s-min=3.9km az=166.4*
NEIC ***03*** *14:44:10.7±0.3, 1366N×12070E, mb4.5/12, Error ellipse: s-maj=9.9km s-min=6.8km az=49.0*
MAN ***03*** *14:44:11.7, 1370N×12057E, h81km, mb3.6, ML4.8, MS2.7*
IDC ***03*** *14:44:11.1±1.1, 1373N×12081E, h106km±10km, mb3.5/8, mb1 3.7/8, mb1mx3.5/18, mbtmp3.9/8, Error ellipse:*
s-maj=61.7km s-min=15.3km az=68.0
ISC 03 14:44:11.8±0.3, 1370N±002×12061E±004, h102km±3km, n74, σ1§22/89, mb4.3/26, 7C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**276**	*eP*	**Pn**	**14 44 25.8**	**-1.1**
LUBP				*eS*	**Sn**	**14 44 36.1**	**-2.0**
PGP	**Puerto Galera**	**0.39**	**120**	⇑*iP*	**Pn**	**14 44 27.0**	**-0.1**
PGP				*i* S	**Sn**	**14 44 29.9**	**-8.6**
TGY	**Tagaytay City**	**0.51**	**39**	P	**Pn**	**14 44 28.2**	**+0.3**
	388nm,0.3s,baz=172,slow=0.7,SNR=14						
TGY				S	**Sn**	**14 44 40.6**	**+0.7**
	1μm,0.3s,baz=343,slow=19,SNR=169						
BOAC	**Boac**	**1.23**	**101**	*eP*	**Pn**	**14 44 34.4**	**-0.5**
BOAC				*eS*	**Sn**	**14 44 52.7**	**+0.4**
POLP	**Polilio Island**	**1.65**	**51**	*eP*	**Pn**	**14 44 40.7**	**+0.8**
BUSP	**Coron**	**1.73**	**193**	*eP*	**Pn**	**14 44 41.2**	**+0.1**
BUSP				*eS*	**Sn**	**14 45 02.9**	**-0.4**
GQP	**Guinayangan**	**1.80**	**83**	*eP*	**Pn**	**14 44 43.0**	**+1.1**
GQP				*i* S	**Sn**	**14 45 08.2**	**+3.4**
PCPH	**Palayan**	**1.91**	**14**	⇓*eP*	**Pn**	**14 44 41.1**	**-2.2**
PCPH				*i* S	**Sn**	**14 45 05.7**	**-1.6**
OTRP	**Odiongan**	**1.92**	**134**	*eP*	**Pn**	**14 44 43.8**	**+0.5**
OTRP				*eS*	**Sn**	**14 45 07.4**	**0.0**
AUQP	**San Andres**	**2.05**	**100**	*eP*	**Pn**	**14 44 48.8**	**+3.8**
SCZP	**Santa Cruz**	**2.17**	**342**	*eP*	**Pn**	**14 44 46.6**	**-0.1**
SCZP				*eS*	**Sn**	**14 45 11.8**	**-1.5**
BALP	**Baler**	**2.23**	**25**	*eP*	**Pn**	**14 44 48.1**	**+0.6**
BCPH	**Baguio City Da**	**2.67**	**359**	⇑*iP*	**Pn**	**14 44 52.8**	**-0.4**
ENPP	**El Nido**	**2.73**	**205**	*eP*	**Pn**	**14 44 54.5**	**+0.4**
ENPP				*eS*	**Sn**	**14 45 25.8**	**-0.8**
BOLP	**Bolinao**	**2.75**	**346**	*eP*	**Pn**	**14 44 54.4**	**+0.1**
BOLP				*eS*	**Sn**	**14 45 27.7**	**+0.8**
CUYO	**Cuyo Island**	**2.86**	**172**	*eP*	**Pn**	**14 44 56.1**	**+0.3**
CUYO				*eS*	**Sn**	**14 45 29.7**	**+0.2**
GUIM	**Jordan**	**3.62**	**147**	*eP*	**Pn**	**14 45 08.6**	**+2.7**
GUIM				*eS*	**Sn**	**14 45 51.3**	**+3.6**
ABRA	**Dolores**	**3.93**	**1**	*eP*	**Pn**	**14 45 10.2**	**+0.2**
ABRA				*eS*	**Sn**	**14 45 51.9**	**-3.2**
APYP	**Conner**	**4.18**	**8**	*eP*	**Pn**	**14 45 16.1**	**+2.7**
APYP				*eS*	**Sn**	**14 46 03.5**	**+2.2**
SSE	**Sheshan**	**17.32**	**2**	*eP*	**Pn**	**14 48 05.7**	**-1.4**
SSE				AMB	AMB		
	comp=Z,9.0nm,1.0s						
SSE				AMB	AMB		
	comp=Z,47nm,4.1s						
ENH	**Enshi**	**19.43**	**330**	*eP*	**P**	**14 48 30.7**	**+0.8**
	comp=Z,7.7nm,0.9s						
CD2	**Chengdu**	**23.11**	**321**	⇑*iP*	**P**	**14 49 09.6**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
GUMO	**Guam**	**23.58**	**87**	*eP*	**P**	**14 49 12.2**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,422nm,1.3s						
GUMO	**Guam**	**23.58**	**87**	*eP*	**P**	**14 49 12.2**	**-0.9**
	comp=Z,422nm,1.3s						
BJT	**Baijiatuau**	**26.51**	**352**	P	**P**	**14 49 38.9**	**-0.7**
LZH	**Lanzhou**	**26.90**	**329**	*eP*	**P**	**14 49 44.5**	**+1.4**
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.5						
GTA	**Gaotai**	**31.49**	**328**	*eP*	**P**	**14 50 24.9**	**+1.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**31.54**	**305**	P	**P**	**14 50 25.0**	**+0.8**
LSA	**Lhasa**	**31.54**	**305**	*eP*	**P**	**14 50 24.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
LSA	**Lhasa**	**31.54**	**305**	*eP*	**P**	**14 50 24.6**	**+0.4**
	comp=Z,13nm,1.1s,mb4.6						
MBWA	**Marble Bar**	**34.65**	**181**	P	**P**	**14 50 49.7**	**-1.6**
	comp=Z,3.3nm,0.9s,mb4.2						
JIRN	**Jiri**	**34.93**	**299**	*eP*	**P**	**14 50 54.9**	**+1.2**
	comp=Z,47nm,1.0s,mb5.3						
GUN	**Gumba**	**35.27**	**299**	*eP*	**P**	**14 50 57.7**	**+1.1**
	comp=Z,30nm,0.7s,mb5.2						
PKI	**Pulchoki**	**35.57**	**298**	*eP*	**P**	**14 50 59.8**	**+0.6**
KKN	**Kakani**	**35.74**	**299**	*eP*	**P**	**14 51 01.1**	**+0.4**
DMN	**Daman**	**35.84**	**298**	*eP*	**P**	**14 51 02.1**	**+0.6**
ULN	**Ulaanbaatar**	**35.88**	**344**	⇑*eP*	**P**	**14 51 01.8**	**-0.1**
ULN	**Ulaanbaatar**	**35.88**	**344**	P	**P**	**14 51 01.0**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.3						
SONM	**Songino Array**	**36.03**	**344**	P	**P**	**14 51 02.9**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.4,baz=159,slow=8.9,SNR=23						
WRA	**Warramunga Arr**	**36.06**	**158**	P	**P**	**14 51 01.5**	**-1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=332,slow=10,SNR=7.7						
WRA				pP	pP	14 51 25.2	-1.3
	comp=Z,0.9nm,0.7s,baz=335,slow=9.7,SNR=5.0						
GKN	**Gorkha**	**36.35**	**299**	*eP*	**P**	**14 51 05.5**	**-0.3**
KOLN	**Koldanda**	**37.17**	**298**	*eP*	**P**	**14 51 12.5**	**-0.3**
	comp=Z,5.1nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**39.35**	**161**	P	**P**	**14 51 30.4**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.3,baz=333,slow=7.7,SNR=10.0						
ASAR				pP	pP	14 51 54.8	+0.3
	comp=Z,0.7nm,0.7s,baz=333,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**45.98**	**324**	P	**P**	**14 52 25.0**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.1,baz=128,slow=8.8,SNR=35						
MKAR	**Makanchi Array**	**45.98**	**324**	⇑*eP*	**P**	**14 52 25.0**	**+0.4**
ULHL	**Ulahol**	**47.66**	**315**	P	**P**	**14 52 39.4**	**+1.7**
	SNR=5.3						
KZA	**Kyzart**	**48.27**	**315**	P	**P**	**14 52 44.3**	**+1.9**
	SNR=6.3						
YAK	**Yakutsk**	**48.70**	**6**	*eP*	**P**	**14 52 42.7**	**-3.0**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KBK	**Karagaybulak**	**48.70**	**315**	P	**P**	**14 52 47.3**	**+1.5**
	SNR=5.4						
UCH	**Uchtor**	**48.84**	**315**	P	**P**	**14 52 48.8**	**+2.0**
	SNR=8.7						
AAK	**Ala-Archa**	**49.00**	**315**	*d iP*	**P**	**14 52 48.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**49.00**	**315**	*eP*	**P**	**14 52 48.1**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2						
AML	**Almayashu**	**49.37**	**314**	P	**P**	**14 52 52.5**	**+1.6**
	SNR=7.3						
EKS2	**Erkin-Say**	**49.50**	**315**	P	**P**	**14 52 53.2**	**+1.3**
	SNR=5.5						
KURK	**Kurchatov**	**50.14**	**326**	⇓*iP*	**P**	**14 52 56.0**	**-0.7**
KURK	**Kurchatov**	**50.14**	**326**	*eP*	**P**	**14 52 56.5**	**-0.2**
	comp=Z,20nm,0.8s,mb5.1						
MA2	**Magadan**	**50.93**	**19**	*eP*	**P**	**14 53 00.5**	**-2.1**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MA2	**Magadan**	**50.93**	**19**	*eP*	**P**	**14 53 00.5**	**-2.1**
	comp=Z,4.6nm,0.9s,mb4.5						
BRVK	**Borovoye**	**55.79**	**326**	*eP*	**P**	**14 53 37.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
BRVK	**Borovoye**	**55.79**	**326**	*eP*	**P**	**14 53 37.9**	**-0.3**
	comp=Z,6.2nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**56.45**	**325**	*eP*	**P**	**14 53 42.2**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**56.45**	**325**	*eP*	**P**	**14 53 42.2**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.5						
TIXI	**Tiksi**	**58.14**	**3**	⇓*iP*	**P**	**14 53 51.2**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
BILL	**Bilibino**	**61.73**	**18**	⇓*iP*	**P**	**14 54 18.1**	**-1.2**
BILL				pmax	pmax		
	comp=Z,15nm,2.5s,mb4.6						
BILL	**Bilibino**	**61.73**	**18**	*eP*	**P**	**14 54 17.2**	**-2.1**
	comp=Z,3.3nm,0.6s,mb4.5						
ARU	**Arti**	**63.33**	**327**	*eP*	**P**	**14 54 28.4**	**-1.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ARU	**Arti**	**63.33**	**327**	*eP*	**P**	**14 54 28.4**	**-1.5**
	comp=Z,3.7nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**79.05**	**339**	P	**P**	**14 56 02.9**	**-1.8**
	comp=Z,5.5nm,1.1s,mb4.3,baz=72,slow=7.7,SNR=8.6						
BRTR	**Keskin Array B**	**79.08**	**308**	P	**P**	**14 56 04.5**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.6,baz=117,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**79.08**	**308**	⇑*eP*	**P**	**14 56 05.3**	**+0.5**
NOA	**NORSAR Array B**	**87.22**	**333**	P	**P**	**14 56 44.4**	**-2.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=67,slow=4.7,SNR=3.1						
YKA	**Yellowknife Ar**	**92.81**	**22**	P	**P**	**14 57 11.4**	**-1.4**
	comp=Z,0.2nm,0.7s,mb3.6,baz=307,slow=4.2,SNR=5.4						
YKA	**Yellowknife Ar**	**92.81**	**22**	⇑*eP*	**P**	**14 57 11.1**	**-1.7**
YKA	**Yellowknife Ar**	**92.81**	**22**	P	**P**	**14 57 11.4**	**-1.4**

IDC 03 14:57:53.5±1.6, 078N×12498E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=185.4km s-min=21.6km az=63.0, Minahassa

Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**156**	P	P	15 02 55.5	+0.5
	2.1nm,0.4s,baz=333,slow=11,SNR=36						
WB2	**Warramunga Arr**	**22.55**	**156**	*e*P	P	15 02 55.7	+0.7
ASPA	**Alice Springs**	**25.80**	**161**	*e*P	P	15 03 28.3	+2.1
ASAR	**Alice Springs**	**25.80**	**161**	P	P	15 03 27.6	+1.4
	0.6nm,0.4s,baz=348,slow=13,SNR=21						
STKA	**Stephens Creek**	**36.09**	**156**	P	P	15 04 55.4	-1.5
	0.4nm,0.3s,baz=338,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**59.02**	**327**	P	P	15 07 55.3	+0.2
	0.3nm,0.3s,baz=116,slow=7.8,SNR=21						

ISCJB ***03*** *14:59:33.1±0.5, 200N×007×1229E±0.1, h38km, mb4.1/10, Error ellipse: s-maj=19.4km s-min=7.8km az=137.2*
IDC ***03*** *14:59:35.6±0.9, 2.13N×12332E, h38km±8km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.9/5, MS3.4/1, Ms1 3.4/1, ms1mx3.0/23, Error ellipse: s-maj=125.4km s-min=14.8km az=66.0*
NEIC ***03*** *14:59:35.2±0.5, 188N×12276E, mb4.3/5, Error ellipse: s-maj=23.1km s-min=8.5km az=56.0*

ISC 03 14:59:30.2±5.6, 196N±008×1229E±01, h0km±37km, n17, σ0§52/18, mb4.2/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**5.80**	**357**	*e*P	**Pn**	**15 00 57.7**	**+0.3**
PAGZ	**Pagadian**	**5.87**	**5**	*e*P	**Pn**	**15 00 58.1**	**-0.3**
KKM	**Kota Kinabalu**	**7.78**	**302**	*e*Pn	**Pn**	**15 01 24.1**	**-0.5**
KKM				*e*Sn	**Sn**	**15 02 42.5**	**-11**
FITZ	**Fitzroy Crossi**	**20.12**	**172**	*e*P	**P**	**15 04 05.5**	**0.0**
	14nm,0.6s						
KULM	**Kulim**	**22.42**	**279**	P	**P**	**15 04 30.7**	**+0.4**
WRAB	**Tennant Creek**	**24.50**	**153**	*e*P	**P**	**15 04 50.9**	**-0.1**
	15nm,0.8s,mb4.8						
WRAB				*e*		15 05 01.8	
WRA	**Warramunga Arr**	**24.50**	**153**	P	**P**	**15 04 51.1**	**+0.1**
	8.8nm,0.7s,mb4.6,baz=334,slow=10.0,SNR=52						
WRA				pP		15 05 02.1	
	8.2nm,0.8s,baz=337,slow=9.9,SNR=11						
WB2	**Warramunga Arr**	**24.51**	**153**	*e*P	**P**	**15 04 51.5**	**+0.4**
WB2				*e*		15 05 02.9	
ASAR	**Alice Springs**	**27.64**	**158**	P	**P**	**15 05 20.1**	**+0.6**
	0.7nm,0.5s,mb3.7,baz=344,slow=13,SNR=6.6						
ASAR				PcP	PcP	15 08 36.8	-0.1
	0.9nm,0.6s,baz=342,slow=1.9,SNR=8.5						
ENH	**Enshi**	**30.89**	**337**	*e*P	**P**	**15 05 48.8**	**+0.5**
	4.0nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**38.05**	**154**	P	**P**	**15 06 49.8**	**-0.4**
	0.9nm,0.4s,mb3.9,baz=322,slow=6.9,SNR=6.9						
STKA	**Stephens Creek**	**38.05**	**154**	*e*P	**P**	**15 06 48.6**	**-1.7**
ULN	**Ulaanbaatar**	**47.73**	**346**	P	**P**	**15 08 08.6**	**-0.1**
	3.1nm,1.1s,mb4.3						
SONM	**Songino Array**	**47.87**	**345**	P	**P**	**15 08 10.0**	**+0.3**
	1.0nm,1.0s,mb3.9,baz=163,slow=7.6,SNR=5.9						
SONM				pP		15 08 20.8	
	1.1nm,0.9s,baz=163,slow=5.4,SNR=6.1						
MKAR	**Makanchi Array**	**56.89**	**328**	P	**P**	**15 09 17.4**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=124,slow=7.7,SNR=5.6						
MKAR				pP		15 09 28.3	
	0.4nm,0.5s,baz=130,slow=8.3,SNR=4.0						
MKAR				PcP	PcP	15 10 11.1	-1.2
	0.5nm,0.6s,baz=137,slow=3.5,SNR=4.8						
KURK	**Kurchatov**	**61.23**	**330**	*e*P	**P**	**15 09 46.3**	**-0.5**
	1.4nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**67.44**	**328**	P	**P**	**15 10 26.8**	**-0.8**
	1.4nm,0.8s,mb4.2						

IDC ***03*** *15:01:58.6±1.1, 1902N×148.11E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, Error ellipse: s-maj=42.6km s-min=22.2km az=100.0*
ISCJB ***03*** *15:02:01.5±0.8, 190N±0.1×1480E±02, h33km, mb3.7/9, Error ellipse: s-maj=32.4km s-min=15.3km az=175.5*
NEIC ***03*** *15:02:04.6±0.7, 1901N×14798E, h45km, mb4.3/3, Error ellipse: s-maj=28.6km s-min=13.6km az=88.0*

ISC 03 15:02:03.6±0.8, 190N±01×1480E±02, h35km, n11, σ0§76/11, mb3.7/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**38.91**	**183**	P	**P**	**15 09 25.1**	**-0.8**
	8.8nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**40.99**	**200**	P	**P**	**15 09 43.2**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=23,slow=8.4,SNR=5.0						
ULN	**Ulaanbaatar**	**43.91**	**320**	P	**P**	**15 10 05.5**	**-1.4**
	1.4nm,0.8s,mb3.7						
SONM	**Songino Array**	**44.29**	**320**	P	**P**	**15 10 10.7**	**+0.8**
	0.9nm,0.7s,mb3.6,baz=132,slow=8.3,SNR=8.4						
ASAR	**Alice Springs**	**44.62**	**199**	P	**P**	**15 10 13.2**	**+0.7**
	0.4nm,0.9s,mb3.3,baz=20,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**59.84**	**314**	P	**P**	**15 12 06.1**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=91,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**59.84**	**314**	P	**P**	**15 12 06.1**	**+0.5**
ILAR	**Eielson Array**	**62.38**	**26**	P	**P**	**15 12 22.1**	**-0.6**
	0.8nm,1.1s,mb3.8,baz=248,slow=5.7,SNR=7.1						
ZRNK	**Zerenda**	**68.47**	**320**	P	**P**	**15 13 01.9**	**-0.3**
	7.0nm,1.6s,mb4.4						
YKA	**Yellowknife Ar**	**76.66**	**28**	P	**P**	**15 13 51.8**	**+0.9**
	0.2nm,0.8s,mb3.1,baz=281,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**76.66**	**28**	P	**P**	**15 13 51.8**	**+0.9**

NAO ***03*** *15:11:45.9, 3089N×13397E, h33km, mb4.7*
IDC ***03*** *15:11:54.5±0.5, 3208N×12985E, h0km, mb4.2/19, mb1 4.4/21, mb1mx4.3/25, mbtmp4.2/21, ML3.7/2, MS4.2/16, Ms1 4.2/16, ms1mx4.0/33, Error ellipse: s-maj=15.4km s-min=11.4km az=114.0*
ISCJB ***03*** *15:11:55.7±0.4, 3207N±002×12986E±002, h16km±3km, mb4.5/55, MS4.4/24, Error ellipse: s-maj=3.5km s-min=3.4km az=75.7*
JMA ***03*** *15:11:55.6, 3208N×12988E, h12km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs293.00000°, δ61.00000°, λ0.00000°. NP2:φs203.00000°, δ90.00000°, λ151.00000°. Principal axes: T Plg20.0000°, Azm154.0000°; N Plg61.0000°, Azm23.0000°; P Plg20.0000°, Azm251.0000°;*
JMA Felt IV J1.
SZGRF ***03*** *15:11:56.2, 3098N×13141E, h33km, mb4.9, Kyushu, Japan*
BJI ***03*** *15:11:58.3, 3202N×12975E, h28km, mB4.9, mb4.6, ML4.5, Ms5.0, Msz4.6*
MOS ***03*** *15:11:58.1±1.7, 3202N×13001E, h33km, mb4.9/17, MS4.5/9, Error ellipse: s-maj=9.5km s-min=6.1km az=101.2*
NEIC ***03*** *15:11:59.8±0.7, 3210N×12985E, h35km±6km, mb4.7/23, MW4.8(NIED), Error ellipse: s-maj=6.4km s-min=4.9km az=166.0*
NEIC Recorded [4 JMA] in Kumamoto; [3 JMA] in Kagoshima and Saga; [2 JMA] in Fukuoka, Miyazaki, Nagasaki and Oita Prefectures.
NIED ***03*** *15:12:00, 32.10N×12990E, h5km, Mw4.8 Best double couple: M0:2.09000×10^16 NP1:φs292.00000°, δ86.00000°, λ-24.00000°. NP2:φs24.00000°, δ66.00000°, λ-176.00000°.*

ISC 03 15:11:55.6±0.4, 3207N±002×12989E±002, h4km±3km, h43km±5.7km: pP-P, n146, σ1§12/165, mb4.5/56, MS4.4/24, 11C-13D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.42**	**200**	⇑P	**Pg**	**15 12 04.0**	**+0.3**
JSJ				S	**Sg**	**15 12 10.0**	**+0.9**
JHD	**Hondo**	**0.45**	**28**	⇓P	**Pg**	**15 12 04.3**	**0.0**
JHD				S	**Sg**	**15 12 10.8**	**+0.7**
NGSJ	**Nagasakinomoza**	**0.57**	**352**	⇑P	**Pg**	**15 12 06.2**	**-0.3**
NGSJ				S	**Sg**	**15 12 14.1**	**+0.2**
JZO	**Okuchi**	**0.61**	**83**	⇓P	**Pg**	**15 12 07.6**	**+0.3**
JZO				S	**Sg**	**15 12 15.9**	**+0.7**
JSU	**Suzuyama**	**0.74**	**139**	⇑P	**Pg**	**15 12 09.8**	**-0.1**
JSU				S	**Sg**	**15 12 19.9**	**+0.4**
JIU2	**Izumi 2**	**0.92**	**59**	⇓P	**Pg**	**15 12 12.4**	**-0.9**
JIU2				S	**Sg**	**15 12 24.9**	**-0.3**
JUR	**Ureshino**	**1.02**	**3**	⇑P	**Pg**	**15 12 14.3**	**-0.9**
JTZ	**Takazaki**	**1.03**	**99**	P	**Pg**	**15 12 15.6**	**+0.1**
JTZ				S	**Sg**	**15 12 29.2**	**+0.3**
JTA	**Tamana**	**1.04**	**31**	⇑P	**Pg**	**15 12 14.8**	**-0.9**
JTA				S	**Sg**	**15 12 28.6**	**-0.6**
JFU	**Fukue jima 2**	**1.12**	**302**	⇓P	**Pg**	**15 12 16.4**	**-0.8**
JFU				S	**Sg**	**15 12 31.7**	**-0.1**
JTSR	**Tashiro 2**	**1.26**	**135**	⇑P	**Pg**	**15 12 18.2**	**-1.6**
JTSR				S	**Sg**	**15 12 36.7**	**+0.5**
JNU	**Nakatsue**	**1.34**	**38**	Pn	**Pn**	**15 12 20.4**	**-0.7**
	1μm,0.3s,baz=268,slow=8.5,SNR=678						
JNU				Lg		15 12 37.5	
	4μm,0.3s,baz=73,slow=14,SNR=44						
JTSN	**Tsuno**	**1.38**	**82**	⇓P	**Pn**	**15 12 20.8**	**-0.9**
JFI	**Itaya**	**1.42**	**17**	⇑P	**Pn**	**15 12 21.3**	**-0.8**
JKIT	**Kitakata**	**1.44**	**67**	⇓P	**Pn**	**15 12 21.8**	**-0.6**
JTN	**Tanegashima 3**	**1.69**	**146**	⇑P	**Pn**	**15 12 24.5**	**-1.4**
JTO	**Tosashimizu**	**2.59**	**72**	P	**Pn**	**15 12 37.5**	**-0.7**
JKU	**Kubokawa**	**2.95**	**64**	P	**Pn**	**15 12 43.2**	**0.0**
JHM	**Kurahashi**	**3.03**	**46**	P	**Pn**	**15 12 44.4**	**+0.1**
JHT	**Toyohira**	**3.34**	**39**	P	**Pn**	**15 12 49.6**	**+1.0**
JAI	**Aioi**	**4.21**	**65**	P	**Pn**	**15 13 00.4**	**-0.1**
JOW	**Kunigami**	**5.41**	**195**	LR	LR	15 15 23.9	
	comp=Z,2μm,18.6s,baz=92,slow=39						
KS15	**Wonju Array Si**	**5.61**	**343**	*e*Pn	**Pn**	**15 13 20.1**	**+0.4**
INCN	**Inchon**	**6.03**	**335**	*e*Pn	**Pn**	**15 13 25.1**	**-0.4**
	72nm,0.4s						
SSE	**Sheshan**	**7.49**	**265**	*e*P	**Pn**	**15 13 45.0**	**-0.5**
SSE				S	**Sn**	**15 15 08.3**	**-2.5**
SSE				Smax			
	comp=N,202nm,0.8s						
SSE				Smax			
	comp=E,128nm,1.4s						
SSE				LR	LR		
	comp=Z,2μm,13.2s						
MAJO	**Matsushiro**	**8.20**	**55**	*e*P	**Pn**	**15 13 56.5**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,47nm,1.0s						
MAJO	**Matsushiro**	**8.20**	**55**	*e*Pn	**Pn**	**15 13 56.5**	**+1.1**
	comp=Z,47nm,1.0s						
MAT	**Matsushiro**	**8.20**	**55**	P	**Pn**	**15 13 56.9**	**+1.6**
MAT				S	**Sn**	**15 15 31.6**	**+3.2**
MAT	**Matsushiro**	**8.20**	**55**	*e*P	**Pn**	**15 13 57.0**	**+1.7**
MAT				*e*S	**Sn**	**15 15 32.0**	**+3.6**
MJAR	**Matsushiro Arr**	**8.20**	**55**	Pn	**Pn**	**15 13 57.0**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=240,slow=14,SNR=26						
MJAR				LR	LR	15 16 57.5	
	comp=Z,2μm,21.1s,baz=245,slow=37						
JHJ	**Hachijo jima 2**	**8.42**	**80**	LR	LR	15 16 19.1	
	comp=Z,299nm,21.0s,baz=100,slow=31						
NJ2	**Nanjing**	**9.36**	**273**	*e*P	**Pn**	**15 14 11.3**	**0.0**
NJ2				AP		15 14 19.4	
NJ2				XP		15 14 22.6	
NJ2				S	**Sn**	**15 15 50.1**	**-6.9**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,210nm,10.4s						
NJ2				Smax			
	comp=N,300nm,1.1s						
NJ2				Smax			
	comp=E,300nm,1.1s						
NJ2				LR	LR		
	comp=N,16μm,14.5s						
NJ2				LR	LR		
	comp=E,4μm,17.0s						
NJ2				LR	LR		
	comp=Z,1μm,14.9s						
DL2	**Dalian**	**9.58**	**318**	P	**Pn**	**15 14 21.0**	**+6.7**
DL2				Smax			
	comp=N,180nm,0.9s						
DL2				Smax			
	comp=E,150nm,1.0s						
YHNB	**Yeheng**	**10.51**	**228**	*e*Pn	**Pn**	**15 14 37.9**	**+11**
TIA	**Tai'an**	**11.35**	**295**	*e*P	**Pn**	**15 14 39.7**	**+1.2**
CBIJ	**Chichi jima**	**11.79**	**112**	LR	LR	15 18 19.9	
	comp=E,413nm,20.8s,baz=330,slow=33						
MDJ	**Mudanjiang**	**12.53**	**359**	P	**Pn**	**15 14 54.9**	**+0.3**
MDJ				XP		15 15 06.1	
MDJ				PP		15 15 08.0	
MDJ				S	**Sn**	**15 17 13.3**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,145nm,4.3s						
MDJ				LR	LR		
	comp=N,702nm,27.4s						
MDJ				LR	LR		
	comp=E,1μm,21.0s						
MDJ				LR	LR		
	comp=Z,784nm,28.2s						
BJT	**Baijiatuau**	**13.63**	**309**	*e*P	**Pn**	**15 15 11.4**	**+1.7**
BJT				pmax	pmax		
	comp=Z,27nm,1.1s						
BJT	**Baijiatuau**	**13.63**	**309**	*e*P	**Pn**	**15 15 11.4**	**+1.7**
	comp=Z,27nm,1.1s						
ASAJ	**Asahikawa**	**15.62**	**36**	Pn	**Pn**	**15 15 35.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=158,slow=16,SNR=3.2						
ASAJ				LR	LR	15 20 59.5	
	comp=Z,272nm,20.2s,baz=66,slow=35						
HABR	**Khabarovsk**	**16.84**	**12**	*i*P	**Pn**	**15 15 58.5**	**+6.3**
HABR				*e*S	**Sn**	**15 18 50.0**	**-10**
HABR				MLR	MLR		
	comp=Z,870nm,10.7s						
HHC	**Hu-ho-hao-te**	**17.12**	**306**	⇓P	**Pn**	**15 15 59.3**	**+3.6**
HHC				AP	pP	15 16 09.1	+10
HHC				PP		15 16 13.9	
HHC				S	**Sn**	**15 19 08.3**	**+1.8**
HHC				AMB	AMB		
	comp=Z,11nm,0.8s						
HHC				AMB	AMB		
	comp=Z,254nm,2.9s						
HHC				LR	LR		
	comp=N,3μm,13.7s						
HHC				LR	LR		
	comp=E,2μm,14.7s						
HHC				LR	LR		
	comp=Z,2μm,13.7s						
KLR	**Kul'dur**	**17.20**	**4**	*e*P	**Pn**	**15 15 57.4**	**+0.7**
KLR				pmax	pmax		
	comp=E,83nm,2.2s						
KLR				pmax	pmax		
	comp=Z,370nm,2.2s						
ENH	**Enshi**	**17.55**	**270**	*e*P	**Pn**	**15 16 01.4**	**+0.3**
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**17.68**	**282**	P	**Pn**	**15 16 02.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**17.84**	**30**	*e*P	**Pn**	**15 16 06.0**	**+1.4**
YSS				S	**Sn**	**15 19 16.0**	**-7.8**
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**17.84**	**30**	P	**Pn**	**15 16 03.7**	**-1.0**
	comp=Z,110nm,1.4s						
BTO	**Baotou**	**18.10**	**304**	*e*P	**Pn**	**15 16 12.0**	**+4.1**
HIA	**Hailar**	**18.79**	**339**	*e*P	**Pn**	**15 16 16.4**	**+0.1**
HIA				pmax	pmax		
	comp=Z,32nm,1.2s						
HIA	**Hailar**	**18.79**	**339**	*e*P	**Pn**	**15 16 16.4**	**+0.1**
	comp=Z,32nm,1.2s						
GYA	**Guiyang**	**21.00**	**261**	⇓*i*P	**P**	**15 16 40.1**	**+0.1**
GYA				AP		15 16 51.0	
GYA				XP	sP	15 16 56.2	+14
GYA				PP		15 17 03.3	
GYA				S	**S**	**15 20 24.7**	**-10**
GYA				XS	sS	15 20 40.2	+3.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
GYA				AMB	AMB		
	comp=Z,120nm,3.6s						
GYA				LR	LR		
	comp=N,460nm,12.8s,MS4.3						
GYA				LR	LR		
	comp=E,570nm,11.6s,MS4.3						
GYA				LR	LR		
	comp=Z,490nm,12.6s,MS4.1						
LZH	**Lanzhou**	**21.92**	**288**	*e*P	**P**	**15 16 49.2**	**-0.6**
LZH				AP		15 16 57.5	
LZH				XP	sP	15 17 02.5	+11
LZH				PP		15 17 13.1	
LZH				*e*S	**S**	**15 20 43.5**	**-8.8**
LZH				XS	sS	15 20 57.6	+3.3
LZH				SS		15 21 21.3	
LZH				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,87nm,4.3s						
LZH				LR	LR		
	comp=E,905nm,10.5s						
LZH				LR	LR		
	comp=Z,1μm,12.3s,MS4.6						
QIZ	**Qiongzhong**	**22.21**	**239**	P	**P**	**15 16 54.2**	**+1.2**
QIZ				S	**S**	**15 20 55.7**	**-2.4**
QIZ				XS	sS	15 21 08.5	+8.4
QIZ				SS		15 21 24.5	
QIZ				AMB	AMB		
	comp=Z,25nm,1.6s,mb4.4						
QIZ				LR	LR		
	comp=N,2μm,12.3s,MS4.8						
QIZ				LR	LR		
	comp=E,852nm,11.4s,MS4.8						
QIZ				LR	LR		
	comp=Z,1μm,10.3s,MS4.6						
QIZ	**Qiongzhong**	**22.21**	**239**	*e*P	**P**	**15 16 53.8**	**+0.8**
	comp=Z,103nm,1.6s,mb5.0						
CD2	**Chengdu**	**22.30**	**274**	P	**P**	**15 16 54.4**	**+0.5**
CD2				AP		15 17 03.0	
CD2				XP	sP	15 17 07.5	+12
CD2				PP		15 17 23.4	
CD2				S	**S**	**15 20 56.1**	**-3.6**
CD2				XS	sS	15 21 10.3	+8.5
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,70nm,5.3s						
CD2				LR	LR		
	comp=N,4μm,11.4s						
CD2				LR	LR		
	comp=Z,1μm,9.2s						
GUMO	**Guam**	**22.95**	**140**	LR	LR	15 24 51.3	
	comp=Z,312nm,18.4s,MS3.8,baz=286,slow=34						
CIT	**Chita**	**23.24**	**334**	*e*P	**P**	**15 17 04.0**	**+0.2**
ULN	**Ulaanbaatar**	**23.43**	**319**	*e*P	**P**	**15 17 05.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,45nm,1.5s,mb4.7						
ULN	**Ulaanbaatar**	**23.43**	**319**	*e*P	**P**	**15 17 05.7**	**-0.2**
	comp=Z,45nm,1.5s,mb4.7						
SONM	**Songino Array**	**23.79**	**318**	P	**P**	**15 17 08.8**	**-0.5**
	comp=Z,5.4nm,1.0s,mb3.9,baz=134,slow=9.0,SNR=22						
SONM				LR	LR	15 26 47.3	
	comp=Z,1μm,19.4s,MS4.3,baz=320,slow=38						
KMI	**Kunming**	**24.78**	**261**	P	**P**	**15 17 17.6**	**-0.8**
KMI				AP		15 17 27.6	
KMI				XP	sP	15 17 33.8	+14
KMI				PP		15 17 58.3	
KMI				S	**S**	**15 21 36.1**	**-5.1**
KMI				XS	sS	15 21 55.1	+12
KMI				SS		15 22 32.9	
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
KMI				AMB	AMB		
	comp=Z,123nm,4.3s						
KMI				LR	LR		
	comp=N,2μm,13.5s,MS4.7						
KMI				LR	LR		
	comp=E,969nm,13.5s,MS4.7						
KMI				LR	LR		
	comp=Z,859nm,18.2s,MS4.3						
GTA	**Gaotai**	**25.40**	**295**	*e*P	**P**	**15 17 23.7**	**-0.4**
GTA				AP	pP	15 17 38.1	+13
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
GTA				AMB	AMB		
	comp=Z,100nm,4.2s						
GTA				LR	LR		
	comp=N,3μm,16.4s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,13.0s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,11.9s,MS4.6						
ZAK	**Zakamensk**	**26.89**	**321**	*e*P	**P**	**15 17 36.3**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.4						
IRK	**Irkutsk**	**27.45**	**325**	*e*P	**P**	**15 17 40.0**	**-2.5**
IRK				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.4						
BOD	**Bodaibo**	**27.95**	**342**	*e*P	**P**	**15 17 45.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
MOY	**Mondy**	**28.80**	**321**	*e*P	**P**	**15 17 57.9**	**+3.3**
YAK	**Yakutsk**	**29.98**	**360**	*e*P	**P**	**15 18 08.8**	**+3.8**
YAK				*e*		15 23 08.8	
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
YAK				pmax	pmax		
	comp=N,326nm,25.6s						
YAK				pmax	pmax		
	comp=Z,60nm,16.3s						
YAK				MLR	MLR		
	comp=Z,188nm,16.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,228nm,15.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,308nm,15.0s,MS4.2						
LSA	**Lhasa**	**33.21**	**276**	P	**P**	**15 18 34.1**	**+0.6**
LSA	**Lhasa**	**33.21**	**276**	*e*P	**P**	**15 18 34.3**	**+0.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**33.21**	**276**	*e*P	**P**	**15 18 34.3**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.3						
SEY	**Seymchan**	**34.03**	**18**	*e*P	**P**	**15 18 42.3**	**+1.6**
WMQ	**Urumqi**	**34.93**	**302**	P	**P**	**15 18 50.0**	**+1.6**
WMQ				AP	pP	15 19 02.0	+12
WMQ				PP	PP	15 20 09.0	+1.5
WMQ				S	**S**	**15 24 17.0**	**-3.3**
WMQ				XS	sS	15 24 37.0	+14
WMQ				SS	SS	15 26 32.0	-20
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,154nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,10.0s						
WMQ				LR	LR		
	comp=E,654nm,9.0s						
WMQ				LR	LR		
	comp=Z,788nm,8.5s						
KSM	**Kuching**	**35.59**	**215**	*e*P	**P**	**15 18 55.5**	**+1.3**
JIRN	**Jiri**	**37.96**	**275**	*e*P	**P**	**15 19 13.9**	**-0.4**
	comp=Z,12nm,0.7s,mb4.7						
GUN	**Gumba**	**38.15**	**275**	*e*P	**P**	**15 19 16.1**	**+0.3**
	comp=Z,26nm,0.6s,mb5.1						
PKI	**Pulchoki**	**38.65**	**275**	*e*P	**P**	**15 19 19.8**	**-0.3**
KKN	**Kakani**	**38.69**	**276**	*e*P	**P**	**15 19 20.2**	**-0.2**
	comp=Z,35nm,0.8s,mb5.1						
DMN	**Daman**	**38.89**	**275**	*e*P	**P**	**15 19 21.7**	**-0.4**
MKAR	**Makanchi Array**	**38.99**	**306**	P	**P**	**15 19 22.5**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=92,slow=9.8,SNR=9.0						
MKAR				LR	LR	15 34 41.2	
	comp=Z,314nm,21.1s,MS4.1,baz=97,slow=35						
MKAR	**Makanchi Array**	**38.99**	**306**	⇑*e*P	**P**	**15 19 26.2**	**+3.3**
GKN	**Gorkha**	**39.17**	**276**	*e*P	**P**	**15 19 23.9**	**-0.5**
TIXI	**Tiksi**	**39.64**	**359**	*e*P	**P**	**15 19 28.3**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,15nm,2.5s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
KOLN	**Koldanda**	**40.11**	**276**	*e*P	**P**	**15 19 32.1**	**-0.2**
	comp=Z,22nm,1.0s,mb4.8						
BILL	**Bilibino**	**41.70**	**20**	*e*P	**P**	**15 19 47.2**	**+1.8**
BILL				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.5						
BILL

KSH AMB AMB
comp=Z,110nm,6.5s
KSH LR LR
comp=N,800nm,13.3s
KSH LR LR
comp=E,540nm,9.2s
AAK Ala-Archa 44.57 300⇑ *eP* **P 15 20 11.4 +2.8**
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.5
AAK Ala-Archa 44.57 300 *eP* **P 15 20 07.4 -1.2**
comp=Z,7.2nm,1.3s,mb4.3
BVAR Borovoye Array 47.05 315 P **P 15 20 27.2 -1.0**
comp=Z,0.9nm,0.4s,mb4.0,baz=102,slow=9.1,SNR=9.1
BRVK Borovoye 47.11 315 *eP* **P 15 20 24.9 -3.8**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 47.11 315 *eP* **P 15 20 24.9 -3.8**
comp=Z,3.8nm,0.8s,mb4.4
ZRNK Zerenda 47.88 315 *eP* **P 15 20 33.7 -1.0**
ZRNK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZRNK Zerenda 47.88 315 *eP* **P 15 20 33.7 -1.0**
comp=Z,8.7nm,0.8s,mb4.8
FITZ Fitzroy Crossi 50.05 185 *eP* **P 15 20 51.0 -0.3**
comp=Z,7.1nm,0.6s,mb4.9
WRAB Tennant Creek 51.88 175 *eP* **P 15 21 04.9 -0.2**
WRAB pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WRAB Tennant Creek 51.88 175 *eP* **P 15 21 04.9 -0.2**
comp=Z,9.1nm,1.0s,mb4.7
WRA Warramunga Arr 51.89 175 P **P 15 21 04.4 -0.8**
comp=Z,2.8nm,0.7s,mb4.3,baz=354,slow=8.0,SNR=23
WB2 Warramunga Arr 51.89 175 *eP* **P 15 21 03.8 -1.4**
ARU Arti 53.82 319*d iP* **P 15 21 22.3 +2.9**
ARU pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ARU MLR MLR
comp=Z,800nm,22.0s,MS4.7
ARU Arti 53.82 319 *eP* **P 15 21 15.2 -4.2**
comp=Z,9.2nm,1.0s,mb4.7
CTA Charters Tower 54.18 161 P **P 15 21 22.2 +0.2**
comp=Z,7.9nm,1.0s,mb4.6,baz=342,slow=7.6,SNR=5.0
ASAR Alice Springs 55.55 176 P **P 15 21 32.3 +0.3**
comp=Z,4.2nm,0.9s,mb4.5,baz=354,slow=4.8,SNR=31
ASAR Alice Springs 55.55 176 P **P 15 21 32.3 +0.3**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASPA Alice Springs 55.55 176 *eP* **P 15 21 32.7 +0.7**
IMA2 Indian Mountai 55.69 29 *eP* **P 15 21 33.2 +0.2**
PMR Palmer 58.15 34 *eP* **P 15 21 47.5 -2.9**
PMR pmax pmax
comp=Z,34nm,1.5s,mb5.2
PMR Palmer 58.15 34 *eP* **P 15 21 47.5 -2.9**
comp=Z,34nm,1.5s,mb5.2
COLA College 58.22 30⇑ *iP* **P 15 21 57.7 +6.7**
COLA College 58.22 30 *eP* **P 15 21 51.4 +0.5**
comp=Z,24nm,1.5s,mb5.0
ILAR Eielson Array 58.65 30 P **P 15 21 53.9 -0.1**
comp=Z,1.8nm,0.7s,mb4.2,baz=274,slow=6.6,SNR=25
ILAR LR LR 15 47 12.6
comp=Z,206nm,18.1s,MS4.3,baz=153,slow=36
KLMR Klimovskoe 62.74 327 *eP* **P 15 22 24.6 +2.8**
KLMR pmax pmax
comp=Z,40nm,1.5s,mb5.3
INK Inuvik 62.98 24 P **P 15 22 22.8 -0.7**
comp=Z,1.7nm,0.7s,mb4.3,baz=306,slow=6.6,SNR=8.6
INK Inuvik 62.98 24 P **P 15 22 22.8 -0.7**
STKA Stephens Creek 64.56 169 P **P 15 22 32.7 -1.1**
comp=Z,3.7nm,0.7s,mb4.5,baz=326,slow=8.8,SNR=8.3
STKA LR LR 15 50 56.4
comp=Z,173nm,19.2s,MS4.3,baz=25,slow=36
STKA Stephens Creek 64.56 169 *eP* **P 15 22 32.4 -1.4**
ARCES ARCESS Array B 65.14 338 P **P 15 22 36.5 -1.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=63,slow=8.1,SNR=7.5
ARCES LR LR 15 56 08.0
comp=Z,481nm,18.8s,MS4.7,baz=45,slow=41
ARCES ARCESS Array B 65.14 338 P **P 15 22 36.5 -1.1**
ARCES LR LR 15 56 08.0
JOF Joensuu 65.68 330 *ep* **P 15 22 40.5 -0.6**
VRSR Storozhevoye 66.15 317 *eP* **P 15 22 47.0 +2.8**
VRSR pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,3.5s
OBN Obninsk 66.16 321 *eP* **P 15 22 49.3 +5.1**
OBN pmax pmax
comp=Z,28nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
KIV Kislovodsk 66.71 308*d iP* **P 15 22 51.7 +4.0**
KIV pmax pmax
comp=Z,19nm,1.7s,mb4.8
KIV MLR MLR
comp=Z,600nm,22.0s,MS4.8
KIV Kislovodsk 66.71 308 *eP* **P 15 22 46.1 -1.6**
comp=Z,40nm,1.9s,mb5.1
KAF Kangasniemi 68.12 330 *ep* **P 15 22 58.5 +1.8**
FINES FINESS Array B 68.53 330 P **P 15 22 58.1 -1.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=67,slow=6.2,SNR=19
SOC Sochi 68.83 309 *eP* **P 15 23 03.0 +1.9**
SOC *e* 15 23 25.3
SOC *e*PPP 15 27 10.1
SOC *e*S S 15 31 54.8 -11
SOC *e* 15 32 53.7
SOC *e*SSS 15 39 31.3
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC MLR MLR
comp=Z,523nm,17.0s,MS4.8
DAG Danmarks Havn 69.67 353⇓ *iP* **P 15 23 04.9 -1.4**
comp=Z,14nm,1.1s,mb4.8
DAG Danmarks Havn 69.67 353⇓ *iP* **P 15 23 04.9 -1.4**
DAG pmax pmax
comp=Z,14nm,1.1s,mb4.8
AKASG Malin Array Be 72.07 319 P **P 15 23 19.6 -1.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=6.4,SNR=3.0
YKA Yellowknife Ar 72.65 26 P **P 15 23 23.5 -0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=308,slow=5.7,SNR=23
BR131 Keskin Array S 74.63 307 *eP* **P 15 23 34.3 -1.7**
comp=Z,1.4nm,0.7s,mb4.0
BRTR Keskin Array B 74.63 307 P **P 15 23 35.5 -0.4**
comp=Z,2.4nm,1.1s,mb4.1,baz=104,slow=5.1,SNR=8.8
NB2 NORSAR Subarra 74.73 334 P **P 15 23 36.8 +0.2**
comp=Z,9.2nm,1.2s,mb4.6,baz=48,slow=5.9
NOA NORSAR Array B 74.73 334 P **P 15 23 34.6 -2.0**
comp=Z,4.0nm,1.0s,mb4.3,baz=49,slow=5.8,SNR=7.3
NOA LR LR 16 02 14.1
comp=Z,223nm,18.2s,MS4.5,baz=50,slow=40
OJC Ojcow 77.43 322 *eP* **P 15 23 54.7 +2.7**
MORC Moravsky Berou 78.87 322 *eP* **P 15 24 02.3 +2.3**
comp=Z,11nm,1.5s,mb4.6
CLL Collm 80.19 325 *eP* **P 15 24 10.0 +2.9**
comp=Z,13nm,1.3s,mb4.7
CLL LmV 15 59 00.0
comp=Z,200nm,20.3s
GERES GERESS Array B 81.42 323 P **P 15 24 15.0 +1.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=27,slow=2.2,SNR=4.4
GERES LR LR 16 01 23.5
comp=Z,349nm,19.0s,MS4.7,baz=245,slow=36
GRA1 Grafenberg Arr 82.11 325 *eP* **P 15 24 21.0 +3.7**
comp=Z,5.0nm,0.6s,mb4.6
GRF Grafenberg Arr 82.11 325 *eP* **P 15 24 21.0 +3.7**
comp=Z,5.0nm,0.6s,mb4.6
NVAR Mina Array Bea 85.45 47 P **P 15 24 35.0 +0.6**
comp=Z,1.0nm,0.6s,mb4.2,baz=287,slow=5.9,SNR=8.0
PDAR Pinedale Array 87.73 39 P **P 15 24 45.0 -0.6**
comp=Z,0.6nm,0.6s,mb4.0,baz=0.0,slow=0.0,SNR=6.2
ULM Lac du Bonnet 88.58 27 P **P 15 24 49.3 -0.3**
comp=Z,5.2nm,1.2s,mb4.7,baz=311,slow=9.9,SNR=2.6
ULM LR LR 16 07 05.0
comp=Z,102nm,18.1s,MS4.3,baz=333,slow=37
SCHQ Schefferville 92.26 10 LR LR 16 09 39.0
comp=Z,165nm,18.7s,MS4.5,baz=330,slow=38
ANMO Albuquerque 94.89 43 LR LR 16 06 49.5
comp=Z,74nm,19.6s,MS4.2,baz=231,slow=35

NAO ***03*** *15:59:51.1, 1626S×17363W, h480km, mb5.8*
SZGRF ***03*** *15:59:59.8, 1903S×17403W, h33km, Tonga Islands*
MOS ***03*** *16:00:06.0±0.9, 1618S×17383W, h33km, mb5.7/24, Error ellipse: s-maj=12.1km s-min=9.8km az=106.4*
CRAAG ***03*** *16:00:07.7, 1575S×17373W, Mb5.7*
CSEM ***03*** *16:00:08.5, 1566S×17356W, h33km, mb5.8*
ISCJB ***03*** *16:00:11.0±0.1, 1635S±003×17375W±004, h82km, mb5.3/102, Error ellipse: s-maj=5.7km s-min=3.3km az=75.7*
NEIC ***03*** *16:00:12.5±0.1, 1636S×17375W, mb5.5/45, MW5.5, Error ellipse: s-maj=5.0km s-min=2.6km az=124.0, Moment Tensor Solution. s17 Moment tensor: Scale 1017Nm; Mrr-1.93; Mθθ-0.02; Mφφ1.95; Mrθ-1.13; Mθφ-1.10; Mφr-0.84; Best double couple: M0=2.60000×1017 NP1: φs=4.00000°, δ57.00000°, λ-52.00000°. NP2:φs=129.00000°, δ49.00000°, λ-133.00000°. Principal axes: T 2.4600, Plg5.0000°, Azm68.0000°; N 0.3200, Plg31.0000°, Azm161.0000°; P -2.7800, Plg59.0000°, Azm330.0000°;*
BJI ***03*** *16:00:12.4, 1640S×17370W, h82km, mB5.6, mb5.2, Ms5.2, Msz4.9*
IDC ***03*** *16:00:12.9±0.5, 1631S×17375W, h85km±4km, mb5.0/29, mb1 5.0/30, mb1mx5.0/31, mbtmp5.3/30, MS4.5/23, Ms1 4.5/23, ms1mx4.5/24, Error ellipse: s-maj=12.3km s-min=8.2km az=127.0*
HRVD ***03*** *16:00:12.5±0.1, 1626S×17326W, h91km±1km, MW5.6/96, Centroid moment Tensor Solution. LP body waves: s83,c175;Mantle waves: s96,c204; Half duration: 1†5 Moment tensor: Scale 1017Nm; Mrr-1.09±.04; Mθθ-1.07±.04; Mφφ2.16±.04; Mrθ-1.40±.03; Mθφ-1.13±.04; Mφr-1.33±.03; Best double couple: M0=2.90400×1017 NP1:φs127.00000°, δ48.00000°, λ-156.00000°. NP2: φs=21.00000°, δ73.00000°, λ-44.00000°. Principal axes: T 2.7470, Plg15.0000°, Azm79.0000°; N 0.3140, Plg43.0000°, Azm184.0000°; P -3.0610, Plg43.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 16:00:12.8±0.1, 1638S±003×17373W±004, h84km, h84km±1.6km: pP-P, n594, σ0=96/294, mb5.3/102, 33C-48D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.10**	**38**	P		**Pn**	**16 00 53.0**	**-6.4**
	453nm,0.3s,baz=22,slow=3.0,SNR=138							
AFI				S		**Sn**	**16 01 21.9**	**-14**
	2μm,0.3s,baz=252,slow=24,SNR=7.9							
AFI	**Afiamalu**	**3.10**	**38**	*e*Pn		**Pn**	**16 00 53.1**	**-6.4**
AFI				*e*Sn		**Sn**	**16 01 21.7**	**-14**
RAO	**Raoul Island**	**13.38**	**196**	S		**Sn**	**16 05 37.3**	**-8.6**
	423nm,0.3s,baz=79,slow=21,SNR=8.1							
DZM	**Mont Dzumac**	**19.55**	**250**	P		**Pn**	**16 04 35.0**	**-0.8**
	3.3nm,0.3s,baz=85,slow=16,SNR=18							
DZM				LR		LR	16 09 38.3	
	comp=Z,2μm,21.1s,baz=68,slow=29							
WCZ	**Waipu Caves**	**22.19**	**206**	PN		**P**	**16 05 01.9**	**0.0**
WCZ	**Waipu Caves**	**22.19**	**206**	*e*P		**P**	**16 05 02.6**	**+0.6**
KUZ	**Kuaotunu**	**22.34**	**203**	⇑PN		**P**	**16 05 04.4**	**+0.8**
KUZ	**Kuaotunu**	**22.34**	**203**	*e*P		**P**	**16 05 04.4**	**+0.9**
MTAZ	**Motutapu**	**22.68**	**204**	P		**P**	**16 05 08.2**	**+1.0**
PUZ	**Puketiti**	**22.73**	**197**	PN		**P**	**16 05 07.3**	**-0.4**
PUZ				*e*SN		**S**	**16 09 06.7**	**-3.2**
PUZ	**Puketiti**	**22.73**	**197**	P		**P**	**16 05 07.3**	**-0.4**
KAAZ	**Kauri Point**	**22.80**	**205**	P		**P**	**16 05 10.3**	**+1.9**
OTAZ	**Otara**	**22.82**	**204**	PN		**P**	**16 05 09.5**	**+0.9**
OTAZ	**Otara**	**22.82**	**204**	P		**P**	**16 05 09.5**	**+0.9**
WTAZ	**Waiatarua**	**22.95**	**205**	*e*P		**P**	**16 05 10.2**	**+0.3**
PAE	**Paea**	**23.12**	**97**	*e*P		**P**	**16 05 09.4**	**-2.1**
	346nm,1.4s,mb5.5							
PPT	**Papeete**	**23.13**	**96**	*e*P		**P**	**16 05 09.7**	**-1.9**
	148nm,1.4s,mb5.1							
PPT	**Papeete**	**23.13**	**96**	P		**P**	**16 05 10.5**	**-1.0**
	53nm,0.9s,mb4.9,baz=257,slow=6.2,SNR=5.9							
PPT				LR		LR	16 11 52.3	
	comp=Z,966nm,20.6s,baz=273,slow=30							
MWZ	**Matawai**	**23.18**	**198**	PN		**P**	**16 05 11.0**	**-1.1**
MWZ	**Matawai**	**23.18**	**198**	*e*P		**P**	**16 05 11.8**	**-0.3**
URZ	**Urewera**	**23.24**	**199**	P		**P**	**16 05 11.6**	**-0.9**
	139nm,0.5s,mb5.6,baz=359,slow=3.6,SNR=78							
URZ				S		**S**	**16 09 20.0**	**+2.0**
	32nm,0.4s,baz=289,slow=24,SNR=11							
URZ				LR		LR	16 11 59.6	
	comp=Z,701nm,19.3s,baz=197,slow=30							
URZ	**Urewera**	**23.24**	**199**	PN		**P**	**16 05 10.4**	**-2.1**
URZ				*e*SN		**S**	**16 09 14.9**	**-3.2**
URZ	**Urewera**	**23.24**	**199**	*e*P		**P**	**16 05 11.1**	**-1.5**
TVO	**Taravao**	**23.44**	**97**	*e*P		**P**	**16 05 12.7**	**-1.7**
	631nm,1.5s,mb5.7							
TBI	**Tubuai**	**23.83**	**111**	*e*P		**P**	**16 05 17.1**	**-0.9**
	656nm,1.5s,mb5.7							
TBI				*e*LR		LR	16 10 43.7	
	11μm,50.8s							
HIZ	**Hauiti**	**24.22**	**202**	*e*PN		**P**	**16 05 22.7**	**+1.2**
HIZ	**Hauiti**	**24.22**	**202**	*e*P		**P**	**16 05 22.4**	**+0.9**
BKZ	**Black Stump Fm**	**24.26**	**199**	PN		**P**	**16 05 20.1**	**-1.8**
BKZ				*e*SN		**S**	**16 09 36.8**	**+2.2**
BKZ	**Black Stump Fm**	**24.26**	**199**	*e*P		**P**	**16 05 21.2**	**-0.7**
MEH	**Mehetia**	**24.57**	**97**	*e*P		**P**	**16 05 23.4**	**-1.3**
VRZ	**Vera Road**	**24.80**	**202**	PN		**P**	**16 05 26.0**	**-0.8**
VRZ	**Vera Road**	**24.80**	**202**	*e*P		**P**	**16 05 26.6**	**-0.2**
TSZ	**Takapari Road**	**25.24**	**199**	*e*PN		**P**	**16 05 30.0**	**-0.8**
TSZ				*e*SN		**S**	**16 09 54.6**	**+4.4**
TSZ	**Takapari Road**	**25.24**	**199**	*e*P		**P**	**16 05 30.1**	**-0.7**
MRZ	**Mangatainoka R**	**25.91**	**199**	PN		**P**	**16 05 34.9**	**-1.9**
MRZ	**Mangatainoka R**	**25.91**	**199**	*e*P		**P**	**16 05 35.6**	**-1.3**
SNZO	**South Karori**	**26.77**	**200**	*e*P		**P**	**16 05 42.9**	**-1.8**
	71nm,0.6s,mb5.4							
QRZ	**Quartz Range**	**27.11**	**203**	PN		**P**	**16 05 48.0**	**+0.4**
QRZ	**Quartz Range**	**27.11**	**203**	P		**P**	**16 05 47.8**	**+0.1**
NNZ	**Nelson**	**27.14**	**202**	PN		**P**	**16 05 45.6**	**-2.4**
NNZ	**Nelson**	**27.14**	**202**	*e*P		**P**	**16 05 45.6**	**-2.3**
BSWZ	**Blackbirch Sta**	**27.41**	**200**	PN		**P**	**16 05 52.9**	**+2.5**
BSWZ	**Blackbirch Sta**	**27.41**	**200**	P		**P**	**16 05 52.4**	**+2.1**
THZ	**Tophouse**	**27.79**	**202**	*e*PN		**P**	**16 05 51.2**	**-2.5**
THZ				*e*SN		**S**	**16 10 29.3**	**-1.1**
THZ	**Tophouse**	**27.79**	**202**	P		**P**	**16 05 53.3**	**-0.4**
KHZ	**Kahutara**	**28.15**	**200**	*e*PN		**P**	**16 05 56.0**	**-0.9**
DSZ	**Denniston Nort**	**28.18**	**203**	*e*PN		**P**	**16 05 55.9**	**-1.3**
DSZ	**Denniston Nort**	**28.18**	**203**	P		**P**	**16 05 56.1**	**-1.1**
LTZ	**Lake Taylor**	**28.91**	**202**	PN		**P**	**16 06 01.9**	**-1.8**
LTZ	**Lake Taylor**	**28.91**	**202**	P		**P**	**16 06 01.9**	**-1.8**
MQZ	**McQueen's Vall**	**29.59**	**200**	*e*PN		**P**	**16 06 09.4**	**-0.4**
RPZ	**Rata Peaks**	**30.16**	**202**	P		**P**	**16 06 13.4**	**-1.3**
	37nm,0.6s,mb5.2,baz=7.0,slow=2.8,SNR=29							
RPZ	**Rata Peaks**	**30.16**	**202**	*e*PN		**P**	**16 06 12.9**	**-1.8**
RPZ	**Rata Peaks**	**30.16**	**202**	*e*P		**P**	**16 06 14.2**	**-0.5**
FOZ	**Fox Glacier**	**30.54**	**204**	*e*PN		**P**	**16 06 15.6**	**-2.5**
FOZ	**Fox Glacier**	**30.54**	**204**	*e*P		**P**	**16 06 16.9**	**-1.2**
RKT	**Rikitea**	**37.01**	**107**	*e*P		**P**	**16 07 14.4**	**+0.3**
	66nm,1.1s,mb5.5							
CNB	**Canberra Magne**	**37.91**	**233**	⇓*iP*		**P**	**16 07 22.2**	**+0.5**
	57nm,0.8s,mb5.5							
CTA	**Charters Tower**	**38.12**	**258**	*e*P		**P**	**16 07 23.3**	**-0.2**
	6.2nm,0.6s,mb4.6							
CTA				*e*PCP		PcP	16 09 38.8	+2.0
CTA				*e*S		**S**	**16 13 06.9**	**-3.5**
CTA	**Charters Tower**	**38.12**	**258**	P		**P**	**16 07 20.9**	**-2.6**
	5.6nm,0.6s,mb4.6,baz=79,slow=12,SNR=11							
CTA				PcP		PcP	16 09 38.6	+1.7
	12nm,0.7s,baz=140,slow=0.2,SNR=4.1							
CTA				LR		LR	16 20 24.9	
	comp=Z,1μm,20.7s,baz=87,slow=32							
CTA	**Charters Tower**	**38.12**	**258**	P		**P**	**16 07 21.0**	**-2.5**
CTA							16 09 38.6	
CTAO	**Charters Tower**	**38.12**	**258**	*e*P		**P**	**16 07 22.1**	**-1.4**
CTAO				*e*			16 09 37.2	
CTAO				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**38.12**	**258**	*e*P		**P**	**16 07 22.1**	**-1.4**
	comp=Z,12nm,0.7s,mb4.8							
CTAO				*e*PcP		PcP	16 09 37.2	+0.3
PMG	**Port Moresby**	**38.70**	**275**	P		**P**	**16 07 29.0**	**+0.6**
	comp=Z,40nm,0.9s,mb5.3,baz=97,slow=5.6,SNR=8.9							
PMG				LR		LR	16 22 18.1	
	comp=Z,885nm,18.6s,baz=90,slow=34							
WAKE	**Wake Island**	**40.35**	**331**	P		**P**	**16 07 41.7**	**-0.4**
KIP	**Kipapa**	**40.61**	**23***c iP*			**P**	**16 07 43.5**	**-0.7**
KIP	**Kipapa**	**40.61**	**23**	P		**P**	**16 07 43.8**	**-0.4**
TOO	**Toolangi**	**41.60**	**231**	⇓*iP*		**P**	**16 07 52.6**	**+0.2**
	comp=Z,44nm,0.8s,mb5.2							
TAU	**Tasmania Unive**	**42.39**	**223**	*e*P		**P**	**16 07 58.8**	**+0.1**
	comp=Z,44nm,1.1s,mb5.1							
STKA	**Stephens Creek**	**43.28**	**241**	⇑*iP*		**P**	**16 08 04.5**	**-1.4**
	comp=Z,38nm,0.8s,mb5.2							
STKA				*e*PCP		PcP	16 09 53.6	+0.1
STKA				*e*SCP		ScP	16 13 40.2	+3.0
STKA				*e*S		**S**	**16 14 23.8**	**-3.2**
STKA				*e*SCS		ScS	16 18 01.0	+3.4
STKA	**Stephens Creek**	**43.28**	**241**	P		**P**	**16 08 04.6**	**-1.3**
	comp=Z,51nm,0.8s,mb5.3,baz=84,slow=8.6,SNR=51							
STKA				PcP		PcP	16 09 54.0	+0.4
	comp=Z,13nm,0.8s,baz=25,slow=4.3,SNR=3.1							
STKA				LR		LR	16 24 00.8	
	comp=Z,904nm,19.3s,baz=68,slow=33							
STKA	**Stephens Creek**	**43.28**	**241**	P		**P**	**16 08 04.6**	**-1.4**
STKA				pP		pP	16 08 23.8	-2.3
STKA				*e*ScP		ScP	16 13 39.7	+2.5
WB2	**Warramunga Arr**	**49.31**	**258**	*e*P		**P**	**16 08 53.2**	**0.0**
WB2				*e*PCP		PcP	16 10 16.3	+1.6
WB2				*e*PCS		PcS	16 14 11.2	-0.1
WB2				*e*S		**S**	**16 15 52.6**	**-0.6**
WB2				*e*SCS		ScS	16 18 40.4	+3.5
WRAB	**Tennant Creek**	**49.31**	**258**	P		**P**	**16 08 53.3**	**+0.1**
	comp=Z,154nm,1.5s,mb5.7,SNR=9.6							
WRAB	**Tennant Creek**	**49.31**	**258**	*e*P		**P**	**16 08 53.3**	**+0.1**
WRAB	**Tennant Creek**	**49.31**	**258**	P		**P**	**16 08 53.3**	**+0.1**
	comp=Z,62nm,1.1s,mb5.5							
WRAB				*e*PcP		PcP	16 10 16.1	+1.4
WRA	**Warramunga Arr**	**49.32**	**258**	P		**P**	**16 08 52.9**	**-0.4**
	comp=Z,17nm,0.8s,mb5.0,baz=92,slow=6.8,SNR=111							
WRA				pP		pP	16 09 13.3	-0.6
	comp=Z,6.3nm,0.8s,baz=96,slow=7.1,SNR=2.9							
WRA				PcP		PcP	16 10 16.3	+1.6
	comp=Z,29nm,0.7s,baz=90,slow=3.7,SNR=19							
WRA				ScP		ScP	16 14 04.3	+1.9
	comp=Z,0.6nm,0.8s,baz=101,slow=8.5,SNR=2.7							
WRA				S		**S**	**16 15 50.9**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=95,slow=14,SNR=3.3							
WRA	**Warramunga Arr**	**49.32**	**258**	P		**P**	**16 08 52.9**	**-0.4**
WRA							16 10 16.3	
WRA				S		**S**	**16 15 50.9**	**-2.4**
ASAR	**Alice Springs**	**49.51**	**253**	P		**P**	**16 08 55.1**	**+0.4**
	comp=Z,40nm,0.5s,mb5.6,baz=88,slow=7.8,SNR=462							
ASAR				pP		pP	16 09 14.6	-0.8
	comp=Z,47nm,0.7s,baz=84,slow=8.7,SNR=7.0							
ASAR				PcP		PcP	16 10 16.9	+1.4
	comp=Z,20nm,0.6s,baz=102,slow=4.0,SNR=7.2							
ASAR				ScP		ScP	16 14 04.8	+1.6
	comp=Z,1.3nm,1.0s,baz=101,slow=4.7,SNR=2.8							
ASAR				S		**S**	**16 15 51.2**	**-4.8**
	comp=Z,4.5nm,1.1s,baz=88,slow=17,SNR=7.3							
ASPA	**Alice Springs**	**49.51**	**253**	⇓*iP*		**P**	**16 08 55.0**	**+0.2**
ASPA				*e*PCP		PcP	16 10 17.1	+1.6
ASPA				*e*PCS		PcS	16 14 11.9	-0.3
ASPA				*e*S		**S**	**16 15 52.0**	**-4.1**
ASPA				*e*SCS		ScS	16 18 41.9	+3.6
FITZ	**Fitzroy Crossi**	**57.70**	**259**	*e*P		**P**	**16 09 55.5**	**+0.9**
	comp=Z,12nm,0.6s,mb5.1							
DRV	**Dumont d'Urvil**	**58.57**	**200**	S		**S**	**16 17 55.0**	**-3.1**
SBA	**Scott Base**	**62.25**	**185**	*e*P		**P**	**16 10 28.5**	**+2.8**
SBA				pmax		pmax		
	comp=Z,36nm,0.9s,mb5.4							
SBA	**Scott Base**	**62.25**	**185**	*e*P		**P**	**16 10 28.5**	**+2.8**
	comp=Z,36nm,0.9s,mb5.4							
SBA				pP		pP	16 10 49.0	+1.9
VNDA	**Vanda**	**62.37**	**186**	P		**P**	**16 10 27.6**	**+1.1**
	comp=Z,28nm,0.9s,mb5.3,baz=6.7,slow=6.1,SNR=47							
VNDA				pP		pP	16 10 49.0	+1.1
	comp=Z,28nm,0.8s,baz=3.7,slow=8.3,SNR=9.1							
VNDA				LR		LR	16 34 31.6	
	comp=Z,245nm,18.5s,baz=16,slow=33							
VNDA	**Vanda**	**62.37**	**186**	P		**P**	**16 10 28.8**	**+2.3**
VNDA				pmax		pmax		
	comp=Z,31nm,0.9s							
VNDA	**Vanda**	**62.37**	**186**	P		**P**	**16 10 28.8**	**+2.3**
	comp=Z,31nm,0.9s,mb5.3							
VNDA				pP		pP	16 10 50.1	+2.3
MBWA	**Marble Bar**	**62.79**	**254**	P		**P**	**16 10 30.0**	**+0.8**
KLBR	**Kellerberrin**	**63.50**	**243**	⇓*iP*		**P**	**16 10 34.5**	**+0.5**
	comp=Z,45nm,0.7s,mb5.4							
NWAO	**Narrogin (SRO)**	**63.87**	**241**	P		**P**	**16 10 37.4**	**+1.0**
	comp=Z,9.0nm,0.6s,mb4.8,baz=85,slow=4.9,SNR=19							
NWAO	**Narrogin (SRO)**	**63.87**	**241**	P		**P**	**16 10 37.2**	**+0.8**
MUN	**Mundaring**	**64.79**	**242**	*e*P		**P**	**16 10 43.2**	**+0.8**
CASY	**Casey**	**69.39**	**205**	*e*P		**P**	**16 11 12.4**	**+0.8**
	comp=Z,46nm,1.3s,mb5.2							
MJAR	**Matsushiro Arr**	**69.48**	**320**	P		**P**	**16 11 11.5**	**-0.6**
	comp=Z,6.3nm,0.7s,mb4.5,baz=153,slow=5.9,SNR=58							
MJAR				LR		LR	16 37 39.2	
	comp=Z,132nm,20.4s,baz=135,slow=32							
MJAR	**Matsushiro Arr**	**69.48**	**320**	P		**P**	**16 11 11.5**	**-0.6**
MJAR				LR		LR	16 37 39.2	
MAJO	**Matsushiro**	**69.48**	**320**	P		**P**	**16 11 11.6**	**-0.5**
MAJO				pmax		pmax		
	comp=Z,16nm,0.8s,mb4.9							
MAJO	**Matsushiro**	**69.48**	**320**	P		**P**	**16 11 11.6**	**-0.6**
	comp=Z,16nm,0.8s,mb4.9							
MAT	**Matsushiro**	**69.48**	**320**	P		**P**	**16 11 11.8**	**-0.3**
MAT				*e*S		S	16 20 11.0	-2.0
MAT	**Matsushiro**	**69.48**	**320**	*e*P		**P**	**16 11 12.0**	**-0.1**
MAT				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.7							
MAT	**Matsushiro**	**69.48**	**320**	*e*P		**P**	**16 11 12.0**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.7							
FX1	**Attu Island--F**	**69.90**	**352**	P		**P**	**16 11 14.2**	**-0.5**
	comp=Z,48nm,0.7s,mb5.5,baz=38,slow=1.9,SNR=6.4							
FX1	**Attu Island--F**	**69.90**	**352**	*e*P		**P**	**16 11 14.4**	**-0.3**
UNV	**Unalaska Valle**	**70.22**	**5**	*e*P		**P**	**16 11 15.1**	**-1.6**
	comp=Z,341nm,0.8s,mb6.2							
JNU	**Nakatsue**	**72.24**	**314**	P		**P**	**16 11 29.3**	**+0.5**
	comp=Z,34nm,0.8s,mb5.3,baz=68,slow=5.6,SNR=12							
SAO	**San Andreas Ge**	**72.27**	**42**	P		**P**	**16 11 29.3**	**+0.3**
	comp=Z,60nm,1.0s,mb5.4							
SDPT	**Sand Point**	**72.33**	**8**	*e*P		**P**	**16 11 27.6**	**-1.7**
	comp=Z,394nm,0.9s,mb6.2

comp=Z,54nm,0.8s,mb5.3,baz=197,slow=2.4,SNR=37
KDAK LR LR 16 37 52.8
comp=Z,519nm,20.0s,baz=136,slow=30
MOD Modoc 76.08 38 P **P 16 11 51.4 +0.2**
SHPR Sheep Range 76.27 45 P **P 16 11 52.7 +0.4**
KS15 Wonju Array Si 76.66 316 *e*P **P 16 11 55.6 +1.2**
KSM Kuching 76.96 275 *e*P **P 16 11 57.5 +1.3**
BMN Battle Mountai 77.10 41 P **P 16 11 57.1 +0.2**
comp=Z,74nm,1.3s,mb5.2
TUC Tucson 77.25 51 P **P 16 11 58.3 +0.5**
comp=Z,71nm,1.4s,mb5.2
WVOR Wild Horse Val 77.39 38 *e*P **P 16 11 58.3 -0.3**
comp=Z,87nm,1.1s,mb5.4
OCWA Octopus Mounta 77.68 32 P **P 16 12 01.1 +1.0**
GNW Green Mountain 78.25 32 P **P 16 12 03.1 -0.2**
LON Longmire 78.25 34 P **P 16 12 02.4 -0.9**
SSE Sheshan 78.30 307 *e*P **P 16 12 03.4 -0.1**
SSE PCP PcP 16 12 13.2 +0.6
SSE AP pP 16 12 23.5 -2.2
SSE XP sP 16 12 33.4 -1.4
SSE S S 16 21 51.3 -0.7
SSE SCS ScS 16 22 15.7 -0.7
SSE XS sS 16 22 28.3 -1.5
SSE SS SS 16 26 55.7 -0.2
SSE AMB AMB
comp=Z,16nm,1.0s,mb4.7
SSE AMB AMB
comp=Z,408nm,5.0s
SSE LR LR
comp=N,289nm,40.2s
SSE LR LR
comp=E,378nm,40.4s
SSE LR LR
comp=Z,685nm,36.9s
WUAZ Wupatki 78.39 48 P **P 16 12 04.9 +0.8**
comp=Z,72nm,1.3s,mb5.2
SVW2 Sparrevohn 78.57 9 *e*P **P 16 12 04.1 -1.0**
BBB Bella Bella 78.90 27 P **P 16 12 06.4 -0.5**
comp=Z,40nm,0.8s,mb5.3,baz=210,slow=1.3,SNR=5.4
BBB LR LR 16 38 04.1
comp=Z,390nm,21.7s,baz=277,slow=29
SLKM Skilak Lake 78.93 12 P **P 16 12 06.2 -0.8**
HABR Khabarovsk 79.00 328 *i* P **P 16 12 07.0 -0.4**
HABR *e*S S 16 21 56.6 -2.8
HABR pmax pmax
comp=Z,155nm,2.1s,mb5.5
HAWA Hanford 79.26 35 P **P 16 12 08.6 -0.3**
MVU Marysvale 79.32 45 P **P 16 12 14.0 +4.9**
comp=Z,64nm,1.1s,mb5.4
MSU Marysvale 79.34 45 P **P 16 12 10.3 +1.0**
FIB Fire Island 79.55 11 P **P 16 12 10.3 -0.1**
BMO Blue Mountains 79.60 37 P **P 16 12 10.2 -0.4**
comp=Z,56nm,1.1s,mb5.3
MDJ Mudanjiang 79.61 323 P **P 16 12 10.7 0.0**
MDJ PCP PcP 16 12 18.9 +0.6
MDJ AP pP 16 12 31.8 -1.1
MDJ XP sP 16 12 40.8 -1.2
MDJ PP PP 16 15 11.6 -0.8
MDJ S S 16 22 10.6 +4.7
MDJ SS SS 16 27 19.3 +3.7
MDJ AMB AMB
comp=Z,19nm,2.2s,mb4.5
MDJ AMB AMB
comp=Z,307nm,9.2s
MDJ LR LR
comp=N,457nm,33.4s
MDJ LR LR
comp=E,582nm,34.3s
MDJ LR LR
comp=Z,922nm,35.2s
DUG Dugway 79.79 43 P **P 16 12 11.6 -0.1**
GAMB Gambell 79.92 1 P **P 16 12 16.5 +4.1**
PMR Palmer 80.14 12 *e*P **P 16 12 12.4 -1.2**
comp=Z,86nm,0.8s,mb5.6
TTA Tatalina 80.27 8 *e*P **P 16 12 14.3 0.0**
TMUT Trail Mountain 80.39 44 P **P 16 12 16.1 +1.2**
DIV Divide 80.42 13 *e*P **P 16 12 04.1 -11**
MPU Maple Canyon 80.47 43 P **P 16 12 15.8 +0.4**
NJ2 Nanjing 80.50 307 *e*P **P 16 12 17.2 +1.7**
NJ2 AP pP 16 12 37.3 -0.5
NJ2 XP sP 16 12 46.1 -0.8
NJ2 PP PP 16 15 22.0 +2.2
NJ2 S S 16 22 12.0 -3.3
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,400nm,5.2s
NJ2 LR LR
comp=N,840nm,27.5s
NJ2 LR LR
comp=E,1μm,23.8s
NJ2 LR LR
comp=Z,350nm,23.2s
HLID Hailey 80.58 39 P **P 16 12 16.2 +0.2**
comp=Z,64nm,1.1s,mb5.4
SPUT South Promonto 80.61 42 P **P 16 12 16.6 +0.5**
HVU Hansel Valley 80.65 42 P **P 16 12 16.3 0.0**
SRU San Rafael 80.76 45 P **P 16 12 17.2 +0.3**
DAU Daniels Canyon 80.92 43 P **P 16 12 18.1 +0.4**
LAZ Ladron 80.93 50 *e*P **P 16 12 17.8 0.0**
LENM Lemitar 80.94 50 P **P 16 12 18.7 +0.8**
MA2 Magadan 81.00 343 *d i*P **P 16 12 17.4 -0.8**
MA2 pmax pmax
comp=Z,110nm,1.7s,mb5.4
MA2 Magadan 81.00 343 P **P 16 12 17.2 -0.9**
comp=Z,96nm,1.3s,mb5.5
MNTX Cornudas Mount 81.06 53 P **P 16 12 18.8 +0.3**
TCUT Toone Canyon 81.18 43 P **P 16 12 19.6 +0.4**
BNM Barren Site 81.19 51 P **P 16 12 19.9 +0.7**
LPM Los Pinos Moun 81.26 50 P **P 16 12 20.1 +0.6**
HWUT Hardware Ranch 81.33 42 P **P 16 12 19.6 -0.3**
TXAR Lajitas Array 81.42 56 P **P 16 12 20.9 +0.5**
comp=Z,7.1nm,0.8s,mb4.5,baz=217,slow=6.3,SNR=63
TXAR pP pP 16 12 44.0 +1.2
comp=Z,18nm,1.1s,baz=217,slow=6.3,SNR=8.2
TXAR sP sP 16 12 53.7 +1.9
comp=Z,6.7nm,1.1s,baz=243,slow=5.6,SNR=2.1
TXAR LR LR 16 40 44.9
comp=Z,318nm,19.4s,baz=0.0,slow=30
TXAR Lajitas Array 81.42 56 P **P 16 12 20.9 +0.5**
TXAR pP pP 16 12 44.0 +1.2
TXAR sP sP 16 12 53.7 +1.9
TXAR LR LR 16 40 44.9
CN2 Changchun 81.63 320 *e*P **P 16 12 21.8 +0.3**
CN2 *e*AP pP 16 12 43.5 -0.3
CN2 *e*S S 16 22 25.3 -1.7
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
ANMO Albuquerque 81.67 50 *d i*P **P 16 12 22.3 +0.6**
ANMO Albuquerque 81.67 50 P **P 16 12 22.3 +0.6**
comp=Z,102nm,1.6s,mb5.4
NEW Newport 81.69 34 P **P 16 12 20.9 -1.0**
comp=Z,18nm,1.0s,mb4.9,baz=229,slow=3.5,SNR=17
NEW LR LR 16 41 28.9
comp=Z,314nm,20.4s,baz=235,slow=30
NEW Newport 81.69 34 P **P 16 12 20.8 -1.0**
TNA Tin City 81.81 2 P **P 16 12 22.6 +0.1**
GDL2 Guadalupe Moun 82.06 53 P **P 16 12 24.4 +0.7**
GDL2 pP pP 16 12 48.0 +1.9
AHID Auburn Hatcher 82.22 41 P **P 16 12 24.4 -0.2**
comp=Z,79nm,1.3s,mb5.4
CLNB Carlsbad 82.46 53 *e*P **P 16 12 26.0 +0.1**
MENT Mentasta 82.48 13 *e*P **P 16 12 25.5 -0.4**
DLMT Dillon 82.65 39 *e*P **P 16 12 26.6 -0.2**
comp=Z,98nm,1.2s,mb5.5
MSO Missoula 82.65 37 P **P 16 12 25.8 -1.1**
comp=Z,57nm,1.4s,mb5.2
REDW Red Top Meadow 82.68 41 P **P 16 12 27.0 0.0**
BSMT Bassoo Peak 82.74 36 P **P 16 12 26.6 -0.7**
SNOW Snow King Moun 82.79 41 P **P 16 12 28.1 +0.5**
MOOW Moose Ponds 82.94 41 P **P 16 12 28.3 0.0**
LOHW Long Hollow 82.96 41 P **P 16 12 28.6 +0.1**
QIZ Qiongzhong 82.98 292 P **P 16 12 31.0 +2.5**
QIZ S S 16 22 50.7 +10
QIZ SS SS 16 28 11.6 +5.8
QIZ LR LR
comp=E,366nm,16.7s
QIZ LR LR
comp=Z,614nm,25.9s
LRM Limekiln Ridge 82.98 38 P **P 16 12 28.3 -0.3**
QLMT Earthquake Lak 83.08 39 P **P 16 12 29.8 +0.7**
BW06 Boulder Array 83.20 42 P **P 16 12 29.1 -0.6**
comp=Z,67nm,0.9s,mb5.5
PDAR Pinedale Array 83.20 42 P **P 16 12 29.1 -0.6**
comp=Z,44nm,0.8s,mb5.3,baz=212,slow=3.3,SNR=300
PDAR LR LR 16 44 54.6
comp=Z,340nm,18.5s,baz=256,slow=32
SMCO Snowmass 83.22 46 *e*P **P 16 12 30.1 +0.3**
comp=Z,91nm,1.1s,mb5.5
YFT Old Faithful 83.25 40 P **P 16 12 31.8 +1.9**
BOZ Bozeman (W) 83.38 39 P **P 16 12 30.4 -0.2**
comp=Z,84nm,1.1s,mb5.5
COLA College 83.38 11 *d i*P **P 16 12 29.2 -1.4**
COLA College 83.38 11 *e*P **P 16 12 29.3 -1.3**
comp=Z,182nm,1.0s,mb5.9
SEY Seymchan 83.38 345 *e*P **P 16 12 30.2 -0.4**
SEY 16 15 40.1
SEY PPP 16 17 39.9
SEY *e*S S 16 22 36.1 -8.7
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.2
SEY pmax pmax
comp=N,50nm,1.0s
SEY pmax pmax
comp=E,20nm,1.0s
SEY smax
comp=N,100nm,5.5s
SEY smax
comp=E,120nm,6.9s
SEY MLR MLR
comp=Z,240nm,20.0s
SEY MLR MLR
comp=N,130nm,21.0s
SEY MLR MLR
comp=Z,50nm,18.0s
SEY Seymchan 83.38 345 *e*P **P 16 12 29.8 -0.8**
ILAR Eielson Array 83.46 11 P **P 16 12 29.7 -1.3**
comp=Z,38nm,0.7s,mb5.4,baz=226,slow=5.2,SNR=324
ILAR LR LR 16 41 44.8
comp=Z,216nm,21.1s,baz=33,slow=30
LKWY Lake 83.57 40 P **P 16 12 33.2 +1.6**
IMA2 Indian Mountai 83.57 8 *e*P **P 16 12 31.3 -0.3**
SDCO Great Sand Dun 83.61 48 P **P 16 12 31.9 +0.1**
comp=Z,49nm,1.1s,mb5.2
HRY Holter Researc 83.81 38 P **P 16 12 32.6 -0.2**
RWWY Rawlins 84.22 44 P **P 16 12 34.6 -0.2**
ISCO Idaho Springs 84.44 46 P **P 16 12 36.1 +0.1**
ISCO pmax pmax
comp=Z,55nm,1.6s,mb5.1
ISCO Idaho Springs 84.44 46 P **P 16 12 36.1 +0.1**
comp=Z,55nm,1.6s,mb5.1
JCT Junction City 84.95 56 P **P 16 12 38.2 -0.4**
PHWY Pilot Hill 85.21 45 P **P 16 12 39.5 -0.4**
PHWY pP pP 16 13 01.2 -1.1
USHA Ushuaia 85.29 146 P **P 16 12 41.6 +1.4**
comp=Z,9.0nm,0.9s,mb4.7,baz=276,slow=9.7,SNR=4.5
BILL Bilibino 85.44 353 *d i*P **P 16 12 40.4 -0.6**
BILL pmax pmax
comp=Z,196nm,1.3s,mb5.9
BILL MLR MLR
comp=Z,300nm,19.0s
BILL Bilibino 85.44 353 *i* Pr 16 12 40.4
BJT Baijiatuau 85.91 314 *e*P **P 16 12 43.3 0.0**
BJT pmax pmax
comp=Z,85nm,1.5s
BJT Baijiatuau 85.91 314 *e*P **P 16 12 43.3 0.0**
comp=Z,85nm,1.5s,mb5.5
MAW Mawson 86.77 199 P **P 16 12 47.9 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=146,slow=6.3,SNR=8.7
MAW LR LR 16 48 25.0
comp=Z,375nm,19.8s,baz=329,slow=33
LAO LASA Array 87.16 40 P **P 16 12 49.5 +0.1**
ENH Enshi 87.18 303 *e*P **P 16 12 50.6 +1.0**
comp=Z,144nm,1.6s,mb5.7
WMOK Wichita Mounta 87.35 53 P **P 16 12 49.8 -0.5**
RSSD Black Hills 87.39 43 P **P 16 12 55.2 +4.6**
HIA Hailar 87.78 323 *e*P **P 16 12 52.2 -0.2**
HIA pmax pmax
comp=Z,60nm,1.5s
HIA Hailar 87.78 323 *e*P **P 16 12 52.2 -0.3**
comp=Z,60nm,1.5s,mb5.4
HKT Hockley 87.97 58 P **P 16 12 53.8 +0.5**
CBKS Cedar Bluff 88.18 49 P **P 16 12 53.8 -0.5**
comp=Z,32nm,1.0s,mb5.3
GYA Guiyang 88.22 298 ⇓ *i*P **P 16 12 56.6 +2.1**
GYA AP pP 16 13 22.4 +5.3
GYA XP sP 16 13 33.0 +6.9
GYA PP PP 16 16 29.0 +6.4
GYA SKS 16 23 14.9
GYA S 16 23 33.7
GYA AMB AMB
comp=Z,30nm,1.5s,mb5.1
GYA AMB AMB
comp=Z,550nm,4.2s
GYA LR LR
comp=N,940nm,18.7s
GYA LR LR
comp=E,870nm,18.2s
GYA LR LR
comp=Z,860nm,19.0s
PSI Prapat 88.24 273 P **P 16 12 55.4 +0.9**
comp=Z,19nm,0.8s,mb5.2,baz=165,slow=2.5,SNR=25
PSI Prapat 88.24 273 P **P 16 12 55.4 +0.8**
CLNS Chul'man 88.94 331 *e*P **P 16 12 57.0 -0.9**
CLNS pmax pmax
comp=Z,27nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.0s
XAN Xi'an 88.95 306 P **P 16 12 58.5 +0.6**
XAN AMB AMB
comp=Z,30nm,1.8s,mb5.0
PLCA Paso Flores 89.09 132 P **P 16 13 00.2 +1.6**
comp=Z,4.9nm,0.9s,mb4.5,baz=260,slow=4.8,SNR=7.8
PLCA pP pP 16 13 22.9 +1.7
comp=Z,3.6nm,0.7s,baz=239,slow=4.3,SNR=4.4
PLCA LR LR 16 44 22.1
comp=Z,294nm,20.0s,baz=226,slow=30
PLCA Paso Flores 89.09 132 P **P 16 13 00.2 +1.6**
PLCA pP pP 16 13 22.9 +1.7
PLCA pP pP 16 13 24.7 +3.5
PLCA LR LR 16 44 22.1
DGMT Dagmar 89.19 39 P **P 16 12 54.7 -4.3**
INK Inuvik 89.29 14 P **P 16 12 58.2 -1.3**
comp=Z,17nm,0.8s,mb5.1,baz=218,slow=5.4,SNR=73
INK LR LR 16 44 46.7
comp=Z,359nm,21.3s,baz=207,slow=30
INK Inuvik 89.29 14 P **P 16 12 58.2 -1.3**
INK LR LR 16 44 46.7
HHC Hu-ho-hao-te 89.46 313 ⇑ P **P 16 13 01.4 +1.1**
HHC AP pP 16 13 22.5 -0.5
HHC XP sP 16 13 30.9 -1.1
HHC PP PP 16 16 39.1 +6.6
HHC SKS 16 23 24.3
HHC S 16 23 48.3
HHC XS sS 16 24 23.0 +0.5
HHC AMB AMB
comp=Z,24nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,262nm,5.0s
HHC LR LR
comp=N,262nm,16.8s
HHC LR LR
comp=E,172nm,13.2s
HHC LR LR
comp=Z,210nm,12.5s
YAK Yakutsk 89.89 337 *d i*P **P 16 13 00.5 -1.8**
YAK pmax pmax
comp=Z,73nm,1.7s,mb5.5
YAK Yakutsk 89.89 337 P **P 16 13 00.4 -1.9**
BTO Baotou 90.46 312 *e*P **P 16 13 04.2 -0.8**
KSU1 Kansas State U 90.55 49 P **P 16 13 04.7 -0.8**
YKA Yellowknife Ar 91.12 23 P **P 16 13 06.9 -1.2**
comp=Z,13nm,1.0s,mb5.0,baz=235,slow=4.3,SNR=110
YKA PP PP 16 16 37.0 -8.6
comp=Z,0.6nm,0.9s,baz=239,slow=7.2,SNR=3.1
YKA PKKP PKKPbc 16 30 30.2 -0.3
comp=Z,0.3nm,0.5s,baz=40,slow=2.4,SNR=6.7
YKA LR LR 16 45 56.3
comp=Z,263nm,21.1s,baz=230,slow=30
YKA Yellowknife Ar 91.12 23 P **P 16 13 06.9 -1.2**
YKA PP PP 16 16 37.0 -8.6
YKA PKKP PKKPbc 16 30 30.2 -0.3
YKA LR LR 16 45 56.3
KMI Kunming 91.16 296 P **P 16 13 10.6 +2.3**
KMI AP pP 16 13 32.4 +1.5
KMI XP sP 16 13 41.2 +1.3
KMI PP PP 16 16 49.8 +3.8
KMI SKS 16 23 32.3
KMI S 16 24 00.3
KMI XS sS 16 24 37.7 -0.6
KMI SS SS 16 30 07.9 +2.5
KMI AMB AMB
comp=Z,28nm,1.7s,mb5.1
KMI AMB AMB
comp=Z,231nm,3.8s
KMI LR LR
comp=N,309nm,16.3s
KMI LR LR
comp=E,320nm,16.3s
KMI LR LR
comp=Z,732nm,35.4s
TEIG Tepich 91.42 69 P **P 16 13 11.4 +2.0**
SYO Syowa Base 91.58 191 ⇓ *e*P **P 16 13 10.3 +0.1**
JTS JuntasAbangare 91.69 80 P **P 16 13 12.1 +1.4**
comp=Z,286nm,1.1s,SNR=7.8
JTS JuntasAbangare 91.69 80 *d i*P **P 16 13 12.5 +1.8**
JTS JuntasAbangare 91.69 80 P **P 16 13 12.6 +1.9**
SNAA Sanae 91.95 177 P **P 16 13 12.5 +0.7**
comp=Z,3.7nm,1.0s,mb4.6,baz=350,slow=2.3,SNR=5.4
CD2 Chengdu 92.05 301 P **P 16 13 14.1 +1.7**
CD2 AP pP 16 13 37.6 +2.6
CD2 XP sP 16 13 44.6 +0.6
CD2 PP PP 16 17 00.7 +7.7
CD2 SKS 16 23 37.2
CD2 S 16 24 10.1
CD2 AMB AMB
comp=Z,10.0nm,1.5s,mb4.8
CD2 AMB AMB
comp=Z,180nm,6.9s
CD2 LR LR
comp=N,210nm,10.2s
CD2 LR LR
comp=Z,360nm,27.0s
UALR University of 92.34 55 P **P 16 13 14.3 +0.6**
CIT Chita 92.53 324 *e*P **P 16 13 15.0 +0.4**
FFC Flin Flon 93.09 33 P **P 16 13 15.8 -1.4**
comp=Z,66nm,1.2s,mb5.8,SNR=6.0
FFC Flin Flon 93.09 33 P **P 16 13 15.3 -1.9**
LZH Lanzhou 93.55 306 ⇓ *i*P **P 16 13 20.5 +1.2**
LZH AP pP 16 13 46.5 +4.6
LZH XP sP 16 13 56.4 +5.4
LZH PP PP 16 17 08.6 +3.8
LZH SKS 16 23 44.1
LZH S 16 24 17.5
LZH XS sS 16 25 02.6 +2.8
LZH SS SS 16 30 40.6 +1.0
LZH AMB AMB
comp=Z,51nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,93nm,7.2s
LZH LR LR
comp=E,327nm,15.5s
LZH LR LR
comp=Z,539nm,18.3s
CFAA Coronel Fontan 94.16 124 P **P 16 13 23.6 +1.5**
comp=Z,0.6nm,0.7s,baz=240,slow=4.2,SNR=13
BOD Bodaibo 94.61 329 *e*P **P 16 13 20.2 -3.9**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
FVM French Village 94.78 52 P **P 16 13 24.2 -0.7**
comp=Z,23nm,1.0s,mb5.6
ULM Lac du Bonnet 94.89 39 P **P 16 13 23.5 -1.9**
comp=Z,14nm,0.9s,mb5.4,baz=249,slow=3.9,SNR=23
ULM LR LR 16 48 42.7
comp=Z,417nm,20.4s,baz=56,slow=31
ULN Ulaanbaatar 94.95 318 *d i*P **P 16 13 25.4 -0.3**
ULN Ulaanbaatar 94.95 318 P **P 16 13 25.6 -0.1**
SONM Songino Array 95.36 318 P **P 16 13 26.4 -1.1**
comp=Z,2.0nm,0.8s,mb4.6,baz=116,slow=3.2,SNR=14
SONM PP PP 16 17 17.1 -1.7
comp=Z,0.9nm,0.8s,baz=113,slow=5.1,SNR=4.2
SONM PKKP PKKPbc 16 30 17.9 -1.7
comp=Z,0.8nm,1.2s,baz=271,slow=3.7,SNR=5.1
SONM LR LR 16 51 43.4
comp=Z,172nm,21.2s,baz=346,slow=32
SONM Songino Array 95.36 318 P **P 16 13 26.4 -1.2**
SONM 16 17 17.1
TIXI Tiksi 95.86 344 *d i*P **P 16 13 28.5 -1.3**
TIXI pmax pmax
comp=Z,25nm,1.3s,mb5.5
TIXI Tiksi 95.86 344 *i* Pr 16 13 28.6
LVC Limon Verde 96.87 116 P **P 16 13 37.4 +3.0**
comp=Z,4.3nm,0.3s,mb5.4
GTA Gaotai 97.54 309 *e*P **P 16 13 37.7 +0.2**
GTA AP pP 16 14 00.5 +0.3
GTA PP PP 16 17 37.8 +2.1
GTA SKS 16 24 07.4
GTA S 16 24 50.9
GTA SS SS 16 31 36.0 -0.2
GTA AMB AMB
comp=Z,6.0nm,2.3s,mb4.7
GTA AMB AMB
comp=Z,135nm,8.0s
GTA LR LR
comp=N,230nm,19.5s
GTA LR LR
comp=E,255nm,18.7s
GTA LR LR
comp=Z,317nm,25.2s
MVL Millersville 105.91 52 *e*PKPdf PKiKP 16 18 28.8 +2.0
SIV San Ignacio 106.19 112 PKKPbc PKKPbc 16 29 49.0 +0.5
comp=Z,1.9nm,0.7s,baz=92,slow=7.1,SNR=7.5
WMQ Urumqi 107.28 311 *e*PDIF Pdif 16 14 20.0 -0.8
WMQ PP PP 16 18 51.0 +2.3
WMQ SS SS 16 33 47.0 -3.6
WMQ PP PP
comp=Z,85nm,8.0s
WMQ LR LR
comp=N,126nm,16.0s
WMQ LR LR
comp=E,142nm,15.0s
WMQ LR LR
comp=Z,139nm,14.0s
MKAR Makanchi Array 111.28 314 Pdiff Pdif 16 14 39.1 +0.5
comp=Z,0.1nm,0.6s,baz=81,slow=5.5,SNR=2.5
MKAR PKiKP PKiKP 16 18 36.2 -0.6
comp=Z,2.5nm,0.6s,baz=218,slow=0.9,SNR=56
MKAR PKKPbc PKKPbc 16 29 33.2 +0.8
comp=Z,0.6nm,0.7s,baz=271,slow=4.9,SNR=8.0
MKAR PKKPab PKKPab 16 29 41.7 -0.7
comp=Z,1.2nm,0.7s,baz=261,slow=3.8,SNR=12
MKAR Makanchi Array 111.28 314 ⇑ *i*PKIKP PKiKP 16 18 36.2 -0.6
KURK Kurchatov 113.67 319 ⇑ *i*PKIKP PKiKP 16 18 39.4 -1.9
KURK Kurchatov 113.67 319 *e*PKPdf PKiKP 16 18 39.9 -1.5
KSH Kashi 115.80 306 *e*PKP PKPdf 16 18 49.0 +3.6
KSH *e*PKS 16 22 24.0
KSH *e*SKS SKSdf 16 25 49.0 -1.0
KSH PP PP
comp=Z,120nm,3.9s
KSH LR LR
comp=N,190nm,4.8s
KSH LR LR
comp=E,200nm,4.4s
AAK Ala-Archa 116.87 310 ⇑ *i*PKIKP PKPdf 16 18 46.1 -1.4
AAK Ala-Archa 116.87 310 PKPdf PKPdf 16 18 46.7 -0.8
BDFB Brasilia 117.69 118 PKP PKPdf 16 18 50.0 +0.9
comp=E,1.5nm,0.5s,baz=146,slow=2.0,SNR=3.2
SUMG Summit 118.21 14 *e*PKPdf PKPdf 16 18 49.5 -0.6
BVAR Borovoye Array 118.46 322 PKP PKPdf 16 18 50.1 -0.4
comp=E,4.7nm,0.7s,baz=90,slow=1.5,SNR=33
BRVK Borovoye 118.51 322 PKIKP PKPdf 16 18 50.1 -0.6
ZRNK Zerenda 119.29 322 PKIKP PKPdf 16 18 51.2 -1.0
SOKR Solikamsk 123.50 332 ⇑ *i*PKIKP PKPdf 16 19 00.0 -0.2
SOKR pmax pmax
comp=Z,30nm,0.8s
ARU Arti 124.00 328 ⇑ *i*PKIKP PKPdf 16 18 58.4 -2.8
ARU Arti 124.00 328 PKPdf PKPdf 16 19 00.7 -0.5
ARCES ARCESS Array B 125.53 352 PKP PKPdf 16 19 03.6 -0.5
comp=Z,22nm,0.7s,baz=358,slow=1.7,SNR=51
AREO ARCESS Array S 125.53 352 PKPdf PKPdf 16 19 03.8 -0.4
APA Apatity 125.92 348 ⇑ *i*PKIKP PKPdf 16 19 03.8 -1.1
APA pmax pmax
comp=Z,18nm,0.9s
KLMR Klimovskoe 129.60 340 *c i*PKIKP PKPdf 16 19 11.6 -0.3
KLMR pmax pmax
comp=Z,70nm,1.5s
JOF Joensuu 130.34 345 *ep* PKPdf 16 19 12.0 -1.3
BOSA Boshof 131.65 203 PKP PKPdf 16 19 17.0 +1.2
comp=Z,6.1nm,0.9s,baz=123,slow=4.2,SNR=4.3
KAF Kangasniemi 132.18 347 *ep* PKPdf 16 19 15.7 -1.1

FINES **FINESS Array B 132.83 347** PKhKP 16 19 05.8
comp=Z,2.6nm,0.9s,baz=295,slow=1.0,SNR=7.4
FINES PKP PKPdf 16 19 16.9 -1.1
comp=Z,11nm,0.8s,baz=90,slow=3.8,SNR=25
FINES FINESS Array B 132.83 347 ⇑*i*PKIKP PKPdf 16 19 16.8 -1.2
MOS Moscow 134.01 336 *e*PKIKP PKPdf 16 19 16.9 -3.3
MOS pmax pmax
comp=Z,50nm,1.2s
OBN Obninsk 134.88 336 *i* PKIKP PKPdf 16 19 20.7 -1.1
OBN pmax pmax
comp=Z,17nm,1.1s
OBN Obninsk 134.88 336 *e*PKP PKPdf 16 19 20.8 -1.0
OBN LR LR
comp=Z,100nm,20.0s
NB2 NORSAR Subarra135.26 357 PKPd 16 19 06.5
comp=Z,80nm,2.0s,baz=6.6,slow=1.8
NB2 NORSAR Subarra135.26 357 PKPd 16 19 06.5
baz=6.6,slow=1.8
NOA NORSAR Array B 135.26 357 PKhKP 16 19 09.2
comp=Z,1.0nm,0.6s,baz=12,slow=4.1,SNR=9.0
NOA PKP PKPdf 16 19 22.0 -0.6
comp=Z,5.5nm,0.8s,baz=13,slow=4.0,SNR=11
NOA PP PP 16 22 00.8 +1.6
comp=Z,2.8nm,0.9s,baz=2.0,slow=6.3,SNR=6.2
NOA NORSAR Array B 135.26 357 PKP 16 19 09.2
NOA PKP PKPdf 16 19 22.0 -0.6
NOA PP PP 16 22 00.8 +1.6
VSU Vasula 135.33 345 *i* PKIKP PKPdf 16 19 22.6 -0.1
VSU Vasula 135.33 345 *e*PKP PKPdf 16 19 22.7 0.0
VRSR Storozhevoye 136.45 330 *e*PKIKP PKPdf 16 19 23.2 -1.6
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=Z,2.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,1.7s
KONO Kongsberg 136.73 358 *i* PKIKP PKPdf 16 19 23.6 -1.7
KONO Kongsberg 136.73 358 *e*PKPdf PKPdf 16 19 24.6 -0.7
KIV Kislovodsk 138.74 319 *d*/PKIKP PKPdf 16 19 29.4 +0.4
KIV MLR MLR
comp=Z,100nm,24.0s
KIV Kislovodsk 138.74 319 *i* PKPr PKPdf 16 19 29.5 +0.5
SUW Suwalki 140.20 344 *e*PKP 16 19 25.0
SOC Sochi 140.77 321 *i* PKIKP PKPdf 16 19 36.2 +3.5
SOC *e* 16 22 33.6
SOC *e* 16 26 40.0
SOC pmax pmax
comp=Z,21nm,1.3s
AKASG **Malin Array Be 141.12 337** PKhKP 16 19 26.5
comp=Z,8.5nm,0.7s,baz=38,slow=4.1,SNR=51
AKASG **Malin Array Be 141.12 337** PKP 16 19 26.5
LSZ Lusaka 141.82 216 PKPdf PKPdf 16 19 29.4 -5.1
BSEG Bad Segeberg 142.39 356 *e*PKPbc PKPdf 16 19 31.6 -4.0
BSEG *e*PP PP 16 22 47.1 +3.8
RUE Ruedersdorf 143.50 352 *e*PKPbc PKPdf 16 19 35.6 -1.9
RUE Ruedersdorf 143.50 352 *e*PKPdf PKPdf 16 19 33.6 -3.9
IBBN Ibbenburen 144.14 358 *e*PKPbc PKPdf 16 19 37.2 -1.5
IBBN *e*PP PP 16 22 56.2 +2.4
KIS Kishinev 144.21 333 *e*PKIKP PKPdf 16 19 36.0 -2.8
KWP Kalwaria 144.25 342 *i* PKPd PKPdf 16 19 37.4 -1.5
MALT Malatya 144.32 314 ⇑PKIKP PKPdf 16 19 39.9 +0.9
MALT Malatya 144.32 314 PKPdf PKPdf 16 19 38.1 -0.9
CLZ Clausthal 144.47 356 *e*PKPbc PKPdf 16 19 37.9 -1.3
CLZ *e*PP PP 16 22 57.7 +1.9
WTSB Winterswijk 144.50 359⇓*e*PKiKP PKiKP 16 19 37.7 -5.2
comp=Z,113nm,0.9s
OJC Ojcow 144.52 345 *e*PKP PKPdf 16 19 37.9 -1.4
KSP Ksiaz 144.69 349 *i* PKPd PKPdf 16 19 39.0 -0.6
KSP Ksiaz 144.69 349 ⇓*i*PKP PKPdf 16 19 38.8 -0.8
CLL Collm 144.75 353 *e*PKPbc PKPdf 16 19 38.8 -0.9
CLL *e*PP PP 16 22 59.6 +2.2
CLL Collm 144.75 353 ⇓*i*PKPdf PKPdf 16 19 38.3 -1.4
comp=Z,99nm,0.8s
CLL *i* pPKPdf pPKPdf 16 20 05.2 +1.9
CLL *ex* x 16 20 21.0
CLL *e*PP PP 16 22 50.0 -7.4
CLL *e*SS SS 16 41 42.0 +3.1
CLL Collm 144.75 353 ⇓*i*PKIKP PKPdf 16 19 38.3 -1.4
CLL pmax pmax
comp=Z,99nm,0.8s
KMBO Kilima Mbogo 144.82 243 PKP PKPdf 16 19 41.4 +1.5
comp=Z,83nm,1.0s,baz=72,slow=4.8,SNR=94
KMBO Kilima Mbogo 144.82 243 PKPdf PKPdf 16 19 41.8 +1.9
STHS Stebnicka Huta 144.87 343 *i* PKP PKPdf 16 19 39.6 -0.3
STHS *e* 16 19 43.1
KOLS Kolonicke sedl 145.00 342 *i* PKP PKPdf 16 19 39.8 -0.4
BUG Bochum--Univer 145.02 359 *e*PKPbc PKPbc 16 19 39.5 -0.2
RAC Raciborz 145.03 347 *e*PKIKP PKPdf 16 19 40.7 +0.5
BRG Berggiesshubel 145.05 352 *e*PKPbc PKPbc 16 19 39.6 -0.2
BRG Berggiesshubel 145.05 352 *i* PKIKP PKPdf 16 19 39.7 -0.5
BRG pmax pmax
comp=Z,144nm,1.9s
BRG Berggiesshubel 145.05 352 *i* PKP PKPdf 16 19 39.7 -0.5
BRG *i* 16 20 07.6
UPC Upice 145.07 349 *e*PKP PKPdf 16 19 40.1 -0.2
NIE Niedzica 145.13 344 *e*PKP PKPdf 16 19 40.8 +0.4
BURAR **Bucovina Array 145.15 337** ⇓P PKPbc 16 19 40.9 +0.8
DPC Dobruska-Polom 145.16 349 *e*PKP PKPdf 16 19 40.9 +0.5
OKC Ostrava-Krasne 145.27 346 *e*PKP PKPdf 16 19 39.2 -1.4
CRVS Cervenica-Dubn 145.28 342 *e*PKP PKPdf 16 19 41.3 +0.7
PVCC Panska Ves 145.29 351 *e*PKP PKPdf 16 19 40.7 +0.1
GZT Gaziantep 145.38 313 *i* P PKPdf 16 19 42.8 +2.0
MORC Moravsky Berou 145.46 347 ⇓PKPdf PKPdf 16 19 41.7 +0.8
MORC Moravsky Berou 145.46 347 PKPdf PKPdf 16 19 41.0 +0.1
MOX Moxa 145.55 354 *e*PKPbc PKPbc 16 19 41.5 +0.1
MOX *e*PP PP 16 23 04.6 +2.4
MOX Moxa 145.55 354 *i* PKP PKPdf 16 19 41.7 +0.6
comp=Z,343nm,1.4s
MOX *e* 16 20 04.5
MOX Moxa 145.55 354 *i* PKIKP PKPdf 16 19 41.7 +0.6
MOX pmax pmax
comp=Z,343nm,1.4s
UCC Uccle 145.63 2 PKP PKPdf 16 19 41.7 +0.5
BEBN Eben Emael 145.67 1 PKP PKPdf 16 19 41.8 +0.5
WERD Werda 145.67 353 *e*PKPbc PKPbc 16 19 42.2 +0.4
HGN Heimansgroeve 145.70 0⇓*e*PKiKP PKiKP 16 19 41.9 -3.6
comp=Z,312nm,1.3s
BALT Daday 145.75 323 *i* P PKPdf 16 19 43.0 +1.6
PRA Prague 145.75 351 PKP PKPdf 16 19 43.0 +1.6
PRU Pruhonice 145.82 350 *e*PKP PKPdf 16 19 42.5 +0.9
MEM Membach 145.86 0 PKP PKPdf 16 19 42.4 +0.8
NKC Novy Kostel 145.87 353 *e*PKP PKPdf 16 19 42.9 +1.3
CFR Carcaliu 145.92 332 ⇓P PKPdf 16 19 42.5 +0.8
SNF Seneffe 145.92 2 PKP PKPdf 16 19 42.7 +1.0
KECS Kecovo 145.93 343 *i* PKP PKPdf 16 19 42.6 +0.9
VRI Vrincioaia 145.99 334 ⇑P PKPdf 16 19 43.5 +1.7
VRI Vrincioaia 145.99 334 P PKPdf 16 19 42.9 +1.0
VRAC Vranov 146.10 348 ⇓PKP2 PKPab 16 19 43.6 -0.2
VRAC Vranov 146.10 348 P PKPdf 16 19 43.5 +1.4
TNS Taunus Mts 146.20 357 *e*PKPbc PKPbc 16 19 43.9 +0.5
TREC Trest 146.33 349 *e*PKP PKPdf 16 19 44.1 +1.7
TIRR Tirgusor 146.34 331 ⇓P PKPdf 16 19 44.4 +2.0
TIRR Tirgusor 146.34 331 *e*PKPdf PKPdf 16 19 43.0 +0.5
DOU Dourbes 146.34 2 PKP PKPdf 16 19 41.2 -1.3
DOU PKPbc PKPbc 16 19 43.0 -0.8
DOU PKPab PKPab 16 19 44.1 -0.7
DOU PKiKP PKiKP 16 19 48.9 +2.1
ROTZ Rotzenmuhle 146.35 353 *e*PKPbc PKPbc 16 19 44.7 +0.9
ROTZ *e*PP PP 16 23 10.2 +3.3
VYHS Vyhne 146.36 345 *e*PKP PKPdf 16 19 44.3 +1.8
HARR Harsova 146.39 332 ⇓P PKPdf 16 19 45.0 +2.5
HARR Harsova 146.39 332 ⇓PKP2 PKPab 16 19 45.1 +0.2
GRA1 Grafenberg Arr 146.53 354 *e*PKPbc PKPbc 16 19 45.1 +0.8
GRA1 *e*PP PP 16 23 10.0 +2.0
GRF Grafenberg Arr 146.53 354 *e*PKPbc PKPbc 16 19 45.1 +0.8
GRF *e*PP PP 16 23 10.0 +2.0
GRFO Grafenberg 146.54 354 PKPdf PKPdf 16 19 45.0 +2.2
ABH Alteburg 146.57 358 PKP PKPdf 16 19 45.0 +2.2
PSZ Piszkesteto 146.61 343 *i* PKP/p PKPdf 16 19 45.0 +2.1
PSZ Piszkesteto 146.61 343 PKP2 PKPab 16 19 44.1 -1.7
PSZ Piszkesteto 146.61 343 PKPdf PKPdf 16 19 43.6 +0.7
MLR Muntele Rosu 146.62 335 PKP PKPdf 16 19 42.9 0.0
comp=Z,61nm,0.8s,baz=351,slow=6.4,SNR=63
MLR PKPbc PKPbc 16 19 44.8 +0.2
comp=Z,61nm,0.8s,baz=137,slow=1.6,SNR=65
MLR Muntele Rosu 146.62 335 ⇑P PKPdf 16 19 45.9 +3.0
MLR Muntele Rosu 146.62 335 P PKPdf 16 19 43.2 +0.3
SMOL Smolenice 146.68 346 *e*PKP PKPdf 16 19 45.8 +2.8
BR131 Keskin Array S 146.71 320 PKPdf PKPdf 16 19 43.8 +0.8
BRTR Keskin Array B 146.71 320 PKP PKPdf 16 19 43.3 +0.2
comp=Z,64nm,0.8s,baz=130,slow=2.1,SNR=178
BRTR PKPbc PKPbc 16 19 45.6 +0.8
comp=Z,64nm,0.8s,baz=114,slow=2.1,SNR=253
BRTR PKKP 16 28 49.6
comp=Z,5.4nm,0.5s,baz=270,slow=8.6,SNR=4.4
BRTR Keskin Array B 146.71 320 PKIKP PKPdf 16 19 43.3 +0.2
BRTR 16 19 45.7
DRGR 146.75 339 ⇑P PKPdf 16 19 45.6 +2.5
DRGR 146.75 339 P PKPdf 16 19 43.7 +0.6
RUP Ruppelstein 146.76 359 PKP PKPdf 16 19 44.9 +1.8
KHC Kasperske Hory 146.80 351 *e*PKP PKPdf 16 19 45.6 +2.4
KHC Kasperske Hory 146.80 351 *d*/PKIKP PKPdf 16 19 43.5 +0.3
TOD Tromm 146.80 357 PKP PKPdf 16 19 45.4 +2.2
WLF Walferdange 146.80 0 *e*PKPbc PKPbc 16 19 46.2 +1.1
WLF Walferdange 146.80 0 PKP PKPdf 16 19 45.8 +2.6
WLF Walferdange 146.80 0 *e*PKPdf PKPdf 16 19 45.5 +2.3
WET Wettzell 146.88 352 *e*PKPdf PKPdf 16 19 43.6 +0.2
WET *e*PKPbc PKPbc 16 19 45.9 +0.6
VOIR 147.03 335 ⇑P PKPdf 16 19 47.2 +3.6
ZST Bratislava 147.05 347 *e*PKP PKPdf 16 19 46.9 +3.3
GEC2 GERESS Array S 147.06 351 *e*PKPdf PKPdf 16 19 43.9 +0.3
GEC2 *e*PKPbc PKPbc 16 19 46.4 +0.6
GERES GERESS Array B 147.06 351 PKP PKPdf 16 19 43.2 -0.4
comp=Z,55nm,0.7s,baz=45,slow=1.4,SNR=345
GERES PKPbc PKPbc 16 19 46.0 +0.1
comp=Z,56nm,0.7s,baz=20,slow=2.8,SNR=351
KTD Kalmit 147.12 358 PKP PKPdf 16 19 46.3 +2.6
SRO Srobarova 147.12 345 *e*PKP PKPdf 16 19 48.9 +5.1
ROSF Rosenen 147.18 12 *e*PKIKP PKPdf 16 19 44.3 +0.4
MTUR Matau 147.20 335 PKP2 PKPab 16 19 46.7 -1.4
BUD Budapest 147.25 344⇓*e*PKP/p PKPdf 16 19 46.7 +2.7
LANF Langenberg 147.47 358 PKP PKPdf 16 19 47.5 +3.2
BUC1 Bucharest 147.50 333 PKP2 PKPab 16 19 47.3 -2.0
STU Stuttgart 147.61 356 *e*PKPdf PKPdf 16 19 45.5 +0.9
STU *e*PKPbc PKPbc 16 19 48.0 +0.6
STU Stuttgart 147.61 356 PKPab PKPab 16 19 47.9 -1.8
SOP Sopron 147.65 347 ⇓*i*PKP/p PKPdf 16 19 48.3 +3.7
STR Strasbourg 147.86 358 PKP PKPdf 16 19 49.1 +4.1
MOA Molln 147.94 350 ⇑*i*P PKPdf 16 19 45.4 +0.3
comp=Z,97nm,0.9s,SNR=56
MEZF Maizieres J'vi 147.95 2 *e*PKIKP PKPdf 16 19 45.6 +0.5
FUR Furstenfeldbru 148.04 354 *e*PKPbc PKPbc 16 19 49.2 +0.7
WLS Welschbruch 148.04 359 PKP PKPdf 16 19 49.1 +3.8
BFO Black Forest 148.09 357 *e*PKPdf PKPdf 16 19 45.8 +0.4
BFO *e*PKPbc PKPbc 16 19 49.3 +0.6
BFO *e*PP PP 16 23 19.7 +2.6
MEST Erdemli 148.14 315 *i* P PKPdf 16 19 49.2 +3.7
BZS Buzias 148.14 339 ⇓P PKPdf 16 19 48.9 +3.5
BZS Buzias 148.14 339 P PKPdf 16 19 45.8 +0.4
THEF They Montfort 148.24 0 PKP PKPdf 16 19 49.7 +4.1
ECH Echery 148.25 359 PKP PKPdf 16 19 49.3 +3.7
ARSA Arzberg 148.28 348 ⇑*i*P PKPdf 16 19 45.8 +0.1
comp=Z,60nm,0.9s,SNR=30
LIBD Limburg 148.30 358 PKP PKPdf 16 19 49.8 +4.1
SPAK Spaichingen 148.30 357 PKP PKPdf 16 19 49.5 +3.8
HAU Haudompre 148.47 360 *e*PKIKP PKPdf 16 19 47.2 +1.2
HAU *e*R
comp=Z,162nm,17.0s
HAU Haudompre 148.47 360 *e*PKPdf PKPdf 16 19 47.2 +1.2
HAU LR LR
comp=Z,160nm,17.0s
PKSM Moragy 148.52 343 PKIKP PKPdf 16 19 46.4 +0.3
BORA Eskisehir 148.52 323 *i* P PKPdf 16 19 48.4 +2.4
FELD Feldberg 148.56 358⇓*e*P PKPdf 16 19 50.4 +4.3
MOF Molkenrain 148.61 359 PKP PKPdf 16 19 50.4 +4.2
WATA Walderalm 148.82 353 ⇑*i*P PKPdf 16 19 46.7 +0.2
comp=Z,331nm,1.9s,SNR=15
KBA Koelnbreinsper 148.84 351 ⇑*i*P PKPdf 16 19 46.5 -0.1
comp=Z,50nm,0.7s,SNR=16
KBA Koelnbreinsper 148.84 351 ⇑P PKPdf 16 19 46.5 -0.1
MOTA Moosalm 148.87 354 ⇑*i*P PKPdf 16 19 46.9 +0.3
comp=Z,93nm,1.0s,SNR=31
MOTA Moosalm 148.87 354 ⇑*i*P PKPdf 16 19 46.9 +0.3
WTTA Wattenberg 148.89 353 ⇓*i*P PKPdf 16 19 46.8 +0.2
comp=Z,159nm,0.7s,SNR=50
WTTA Wattenberg 148.89 353 ⇓*i*P PKPdf 16 19 46.8 +0.2
KOGS Kog 148.89 347 *e*PKPbc PKPbc 16 19 50.6 -0.1
SQTA Sankt Quirin 148.98 353 ⇑*i*P PKPdf 16 19 47.3 +0.5
comp=Z,70nm,1.0s,SNR=24
SQTA Sankt Quirin 148.98 353 ⇑*i*P PKPdf 16 19 47.3 +0.5
BBS Basel-Blauen 148.99 358 PKP PKPdf 16 19 51.1 +4.3
DAVA Damuels 149.04 355 ⇑*i*P PKPdf 16 19 47.6 +0.7
comp=Z,166nm,0.8s,SNR=45
GROS Grobnik 149.04 348 *e*PKPbc PKPbc 16 19 50.8 -0.3
ULDT Uludag 149.09 325 *i* P PKPdf 16 19 52.2 +5.2
LOMF Lomont 149.12 359 PKP PKPdf 16 19 52.0 +5.0
LOR Lormes 149.14 3 *e*PKIKP PKPdf 16 19 47.4 +0.3
LOR *e*R
comp=Z,274nm,22.2s
LOR Lormes 149.14 3 *e*PKPdf PKPdf 16 19 47.4 +0.3
LOR LR LR
comp=Z,270nm,22.3s
OBKA Obir 149.18 349 ⇑*i*P PKPdf 16 19 47.3 +0.2
comp=Z,48nm,0.8s,SNR=20
OBKA Obir 149.18 349 ⇑*i*P PKPdf 16 19 47.3 +0.2
LRYF La Roche-sur-Y 149.20 11 PKP PKPdf 16 19 51.7 +4.5
BEO Belgrade 149.23 340 ⇑*i*PKP PKPdf 16 19 51.5 +4.3
LCHF La Chataignera 149.24 9 PKP PKPdf 16 19 52.2 +5.0
SSF Saint Saulge 149.32 4 *e*PKIKP PKPdf 16 19 47.8 +0.4
MFF Saint Martin d 149.40 9 *e*PKIKP PKPdf 16 19 47.7 +0.2
comp=Z,35nm,1.1s
DAVOX **Davos 149.54 355** PKP PKPdf 16 19 48.2 +0.5
comp=Z,63nm,1.0s,baz=182,slow=2.7,SNR=6.5
DAVOX PKPbc PKPbc 16 19 53.3 +1.0
comp=Z,141nm,0.7s,baz=308,slow=1.3,SNR=130
AVF Avril sur Loir 149.58 4 *e*PKIKP PKPdf 16 19 47.9 +0.1
LJU Ljubljana 149.63 349 *e*PKPdf PKPdf 16 19 48.0 +0.2
LJU *e*PKPbc PKPbc 16 19 52.9 +0.3
LJU *e* 16 20 14.2
SMF Signal de Mont 149.76 3 *e*PKIKP PKPdf 16 19 48.4 +0.4
VOY Vojsko 149.76 349 *e*PKPdf PKPdf 16 19 48.2 +0.1
VOY *e*PKPbc PKPbc 16 19 52.7 -0.2
VOY *e* 16 20 18.3
ZAPS Zavoj/Pirot 149.78 336⇓*i*PKP PKPdf 16 19 48.0 -0.1
BGF Bois d'Agland 149.78 5 *e*PKIKP PKPdf 16 19 48.5 +0.4
ISP Isparta 149.79 320 PKPdf PKPbc 16 19 53.3 +0.4
VISS Visnje 149.80 348 *e*PKPdf PKPdf 16 19 48.1 0.0
VISS *e*PKPbc PKPbc 16 19 53.2 +0.3
OLEF Ile d'Oleron 149.85 11 PKP PKPbc 16 19 53.4 +0.3
CABF La Chapelle 149.86 0 *e*PKIKP PKPdf 16 19 49.2 +1.0
CEY Cerknica 149.94 349 *e*PKPdf PKPdf 16 19 48.5 +0.2
CEY *e*PKPbc PKPbc 16 19 53.6 +0.3
TCF Toulx Ste Croi 149.99 6 *e*PKIKP PKPdf 16 19 48.7 +0.3
comp=Z,29nm,1.1s
BOJS Bojanci 150.00 347 *i* PKPdf PKPdf 16 19 48.9 +0.4
BOJS *e*PKPbc PKPbc 16 19 54.1 +0.6
DIVS Divcibare 150.03 340 ⇑*i*PKP PKPdf 16 19 54.0 +5.5
VTS Vitosha 150.13 334 ⇓P PKPbc 16 19 54.7 +1.0
OG01 Vacheresse 150.14 359 PKP PKPbc 16 19 55.0 +1.2
AGO Saint Agoulin 150.30 4 PKP PKPbc 16 19 54.5 +0.3
PLDF La Plantade 150.42 4 PKP PKPbc 16 19 55.2 +0.8
EMAZ Mazaricos 150.49 23 P PKPbc 16 19 54.8 +0.2
VERF Verneugheol 150.55 5 PKP PKPbc 16 19 55.2 +0.4
EIL Elat 150.57 302 *e*PKPdf PKPdf 16 19 49.2 -0.2
EIL *e*PKPbc PKPbc 16 19 54.2 -0.6
EIL PKPbc PKPbc 16 19 55.6 +0.8
PYM Petit Puy Mans 150.59 5 PKP PKPbc 16 19 55.7 +0.8
STS Santiago 150.71 23 P PKPbc 16 19 55.3 +0.1
RSL Roselend 150.78 359 PKP PKPbc 16 19 56.4 +1.1
DNZL Cakiroluk 150.78 321 *i* P PKPdf 16 19 56.6 +6.9
EPON Pontenova 150.81 20 P PKPbc 16 19 55.6 +0.3
COLF Collangettes 150.87 4 PKP PKPbc 16 19 56.1 +0.6
RJF Les Rejaudoux 150.89 7 *e*PKIKP PKPdf 16 19 50.2 +0.4
comp=Z,36nm,1.0s
RJF *e*R
comp=Z,298nm,23.0s
RJF Les Rejaudoux 150.89 7 *e*PKPdf PKPdf 16 19 50.2 +0.4
RJF LR LR
comp=Z,300nm,23.0s
PLE Pljevlja 150.91 340⇓*i*PKP PKPdf 16 19 56.3 +6.4
FRNF Fournols 150.92 5 PKP PKPbc 16 19 56.4 +0.8
LPL La Plagne 150.95 359 *e*PKIKP PKPdf 16 19 51.1 +1.2
NVLJ Novalja 150.98 347 *i* PKP PKPdf 16 19 50.2 +0.2
AYVA Ayvalik 151.02 326 *i* P PKPdf 16 19 56.2 +6.2
LBL Lubilhac 151.13 4 PKP PKPbc 16 19 57.2 +1.1
IVA Berane 151.15 339⇓*i*PKP PKPdf 16 19 56.6 +6.4
LFF La Frestale 151.15 8 *e*PKIKP PKPdf 16 19 50.6 +0.4
UPM Unac-Piva 151.18 341⇓*i*PKP PKPdf 16 19 56.2 +5.9
GDM Grand'Maison 151.27 0 PKP PKPbc 16 19 57.7 +1.3
GDM Grand'Maison 151.27 0 PKP PKPdf 16 19 57.8 +7.4
STIP Stip 151.29 335 *e*PKP PKPdf 16 19 56.6 +6.1
CAF Calviac 151.33 6 *e*PKIKP PKPdf 16 19 51.2 +0.7
comp=Z,33nm,1.3s
SKO Skopje 151.36 336 *e*PKP PKPdf 16 19 57.4 +6.8
PVY Plav 151.36 339⇓*i*PKP PKPdf 16 19 57.0 +6.5
BNI Bardonecchia 151.42 359 PKPdf PKPdf 16 19 52.1 +1.5
EARI Arriondas 151.44 18 P PKPbc 16 19 57.3 +0.5
VAY Valandovo 151.44 334 *e*PKP PKPdf 16 19 56.2 +5.5
NKY Niksic 151.50 340⇓*i*PKP PKPdf 16 19 57.3 +6.6
ORIF Oris-en-Rattie 151.55 1 *e*PKIKP PKPdf 16 19 51.6 +0.8
comp=Z,10nm,0.9s
ORIF *e*R
comp=Z,130nm,20.2s
BRY Bratogost 151.56 341⇓*i*PKP PKPdf 16 19 57.3 +6.4
VIVF Saint-Julien-l 151.58 2 *e*PKIKP PKPdf 16 19 51.7 +0.8
ERUA La Rua 151.64 21 P PKPbc 16 19 57.8 +0.5
OG22 Abries 151.64 359 PKP PKPbc 16 19 58.3 +1.0
MBDF Montbardon 151.74 359 *e*PKIKP PKPdf 16 19 51.9 +0.8
TTG Podgorica 151.75 339⇓*i*PKP PKPdf 16 19 57.8 +6.6
ELOB Lobios 151.77 23 P PKPbc 16 19 58.0 +0.5
STON Ston 151.85 342 *i* P PKPdf 16 19 57.0 +5.7
PCAB Cabril 151.92 23 *e*PKPbc PKPbc 16 19 58.8 +0.9
ELAN Lanestosa 151.99 15 P PKPbc 16 19 57.2 -0.8
HCY Herceg Novi 151.99 341⇓*i*PKP PKPdf 16 19 57.9 +6.4
BUM Brajici-Budva 151.99 340⇓*i*PKP PKPdf 16 19 58.3 +6.8
VLC Villacollemand 152.09 354 *e*PKPdf 16 19 46.6
VLC *e*PKPbc PKPbc 16 19 57.1 -1.2
ULC Ulcinj 152.17 339⇑*i*PKP PKPdf 16 19 58.4 +6.7
ECAL Calabor 152.18 21 P PKPbc 16 19 58.9 +0.4
BIA Bitola 152.21 335 *e*PKP PKPdf 16 19 58.0 +6.2
PBRG Braganca 152.30 21 *e*PKPbc PKPbc 16 19 59.0 +0.2
PBRG Braganca 152.30 21 *e*PKPab PKPab 16 20 08.3 -0.7
LASF Ste Croix 152.32 4 *e*PKIKP PKPdf 16 19 52.8 +0.8
comp=Z,62nm,1.3s
OHR Ohrid 152.34 336 *e*PKPdf PKPdf 16 19 58.4 +6.4
PVRL Vila Real 152.41 23 *e*PKPbc PKPbc 16 19 59.8 +0.8
PVRL Vila Real 152.41 23 *e*PKPab PKPab 16 20 09.7 +0.2
EALK Alkurruntz 152.44 12 P PKPbc 16 19 59.2 +0.1
AUTN L'Aution 152.46 358 PKP PKPbc 16 20 00.5 +1.4
SAOF Saorge 152.46 358 PKP PKPbc 16 19 59.5 +0.4
SMRF Simiane la Rot 152.49 1 *e*PKIKP PKPdf 16 19 53.3 +1.1
comp=Z,45nm,1.2s
ELIZ Elizondo 152.49 12 P PKPbc 16 19 59.9 +0.7
MVIF Mont Vial 152.56 359 PKP PKPbc 16 19 59.9 +0.5
SJPF Ste Jean 152.60 12 *e*PKIKP PKPdf 16 19 53.2 +0.8
comp=Z,34nm,1.2s
REVF Revere 152.72 358 PKP PKPbc 16 20 00.0 +0.3
LARF Larrau 152.72 12 PKP PKPbc 16 20 00.7 +1.0
ATE Arette 152.73 11 PKP PKPbc 16 20 00.1 +0.4
ECRI Cripan 152.80 14 P PKPbc 16 20 00.8 +0.9
PVIS Viseu 152.82 24 *e*PKPbc PKPbc 16 20 00.6 +0.7
PVIS Viseu 152.82 24 *e*PKPab PKPab 16 20 11.3 +0.1
MTLF Montolieu 152.91 7 *e*PKIKP PKPdf 16 19 53.5 +0.7
comp=Z,28nm,1.3s
ETSF Etsaut 152.94 11 *e*PKIKP PKPdf 16 19 53.9 +1.0
comp=Z,23nm,1.2s
EPF Esparros 152.96 10 *e*PKIKP PKPdf 16 19 53.5 +0.6
comp=Z,82nm,1.6s
MLS Moulis 153.15 8 PKP PKPbc 16 20 01.2 +0.5
RESF Ens 153.18 10 PKP PKPbc 16 20 02.1 +1.4
MTE Manteigas 153.23 24 *e*PKPbc PKPbc 16 20 01.4 +0.6
MTE Manteigas 153.23 24 *e*PKPab PKPab 16 20 12.8 -0.1
MTE Manteigas 153.23 24 PKPdf PKPdf 16 19 54.6 +1.3
APE Apeiranthos 153.26 324 ⇑PKIKP PKPbc 16 20 00.1 -0.8
EBIE Bielsa 153.26 10 P PKPbc 16 20 01.9 +1.0
LRDF Laroque-de-Fa 153.34 6 PKP PKPbc 16 20 01.5 +0.4
AQU L'Aquila 153.40 348 PKPbc PKPbc 16 20 01.7 +0.5
PTOM Tomar 153.54 26 *e*PKPbc PKPbc 16 20 02.2 +0.7
PTOM Tomar 153.54 26 *e*PKPab PKPab 16 20 14.3 +0.1
EGRA Graus 153.77 10 P PKPbc 16 20 03.4 +1.4
VALF Valcebollere 153.81 7 PKP PKPbc 16 20 02.9 +0.8
CORF Corte 154.05 355 PKP PKPdf 16 20 03.2 +8.7
ESAC San Caprasio 154.09 12 P PKPbc 16 20 03.5 +0.8
GUD Guadarrama 154.19 18 P PKPbc 16 20 03.8 +0.9
EMIR Miracle 154.23 8 P PKPbc 16 20 03.0 0.0
EVO Evora 154.62 27 *e*PKIKP PKPdf 16 19 55.9 +0.6
EVO *e*R
comp=Z,179nm,20.8s
ESDC Sonseca Array 155.14 19 PKP PKPdf 16 19 56.9 +0.9
comp=Z,0.3nm,0.3s,baz=342,slow=3.1,SNR=6.3
ESDC PKPbc PKPdf 16 20 05.4 +9.4
comp=Z,1.6nm,0.7s,baz=327,slow=3.0,SNR=6.9
ESDC PKPab PKPab 16 20 19.8 -1.2
comp=Z,2.1nm,0.6s,baz=316,slow=3.3,SNR=6.4
TIP Timpagrande 155.50 340 PKPdf PKPdf 16 19 57.4 +0.9
TIP *e*PKPbc PKPdf 16 20 06.1 +10
TIP PKPab PKPab 16 20 23.6 +1.0
EMIN Mina Concepcio 155.83 26 P PKPab 16 20 24.1 +0.1
EADA Adamuz 156.29 22 P PKPab 16 20 25.7 -0.3
VSL Villasalto 156.81 354 PKPab PKPab 16 20 28.3 +0.1
CMAH Djebel Manchou 159.81 357 P PKPab 16 20 41.1 -0.1
DFRA Djebel Bou Aff 159.91 1 P PKPab 16 20 42.5 +0.8
CKFL Kef-Lekhel 160.06 359 P PKPab 16 20 42.5 +0.2
ABSA Djebel Ababsia 160.16 357 P PKPab 16 20 43.0 +0.3
CASM Ain Smara 160.20 359 P PKPab 16 20 43.5 +0.6
SET Setif 160.25 2 P PKPab 16 20 45.0 +1.9
CTEI Djebel Teioual 160.40 360 P PKPab 16 20 44.5 +0.7
CKHR Kef el Ahmar 160.43 2 P PKPab 16 20 45.5 +1.6
LIC Lamto 165.02 131 *e*PKIKP PKPdf 16 20 07.0 0.0
comp=Z,44nm,1.1s
TORD Torodi Ar. Bea 174.53 125 PKP PKPdf 16 20 12.6 0.0
comp=Z,8.6nm,0.9s,baz=336,slow=1.2,SNR=37
TORD pPKP pPKPdf 16 20 37.5 +1.2
comp=Z,6.4nm,1.0s,baz=321,slow=1.0,SNR=6.2
TORD PKPab PKPab 16 21 46.2 +0.1
comp=Z,8.3nm,0.8s,baz=246,slow=4.4,SNR=15
TORD pPKPab pPKPab 16 22 09.6 +0.7
comp=Z,6.5nm,0.9s,baz=264,slow=4.5,SNR=5.0

IDC 03 16:09:17.3±2.7, 1865S×17465E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=135.6km s-min=28.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.53**	**240**	P	P	16 15 50.2	+0.4
	1.1nm,0.4s,baz=61,slow=10,SNR=5.0						
WB2	**Warramunga Arr**	**37.99**	**261**	*e*P	P	16 16 37.0	+0.1
WRA	**Warramunga Arr**	**38.01**	**261**	P	P	16 16 37.1	+0.1
	0.6nm,0.4s,baz=97,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**38.23**	**255**	P	P	16 16 39.3	+0.4
	5.8nm,0.5s,baz=90,slow=7.8,SNR=64						
ASPA	**Alice Springs**	**38.24**	**255**	*e*P	P	16 16 39.3	+0.3
ILAR	**Eielson Array**	**88.22**	**15**	P	P	16 22 09.5	-0.8
	0.6nm,0.8s,baz=231,slow=5.8,SNR=9.9						
ARCES	**ARCESS Array B**	**125.72**	**347**	PKP	PKPdf	16 28 20.5	-0.3
	3.2nm,1.0s,baz=78,slow=2.5,SNR=12						

*ISCJB **03** 16:18:56.3±0.4, 3378N±003×34.15E±004, h33km, Error ellipse: s-maj=6.2km s-min=3.5km az=104.7*
*CSEM **03** 16:18:56.6±0.1, 3379N×3408E, h30km, Mw3.1, Error ellipse: s-maj=3.4km s-min=1.8km az=47.0*
*GII **03** 16:18:57.7±0.3, 3379N×3415E, h25km±4km, ML2.3/8*
*NIC **03** 16:18:58.9±0.3, 3371N×3389E, h25km, ML3.2, MW3.1*
*GRAL **03** 16:18:59.3±3.6, 3556N×3530E, h0km±923km, MD3.3*

**ISC 03 16:18:57.2

FKH	**Fakeheh**	**1.93 76**	*e*Pn	**Pn**	**16 19 28.1**	**+0.6**
FKH			Sn	**Sn**	**16 19 49.9**	**-0.5**
AKMC	**Akamas**	**1.94 310**	P	**Pn**	**16 19 28.1**	**+0.4**
AMAZ	**Amatzia**	**2.34 164**	Pn	**Pn**	**16 19 33.4**	**+0.2**
AMAZ			Sn	**Sn**	**16 20 00.3**	**-0.5**
MKRJ	**Makawir**	**2.56 150**	Pn	**Pn**	**16 19 37.4**	**+1.1**
MZDA	**Masada**	**2.68 157**	Pn	**Pn**	**16 19 38.6**	**+0.8**
MZDA			Sn	**Sn**	**16 20 09.5**	**+0.4**
MZDA	**Masada**	**2.68 157**	Pn	**Pn**	**16 19 38.6**	**+0.8**
MZDA			Sn	**Sn**	**16 20 09.5**	**+0.4**
KZIT	**Kziot**	**2.88 176**	Pn	**Pn**	**16 19 40.6**	**-0.1**
COBT	**Iskenderun**	**3.22 32**	*i* P	**Pn**	**16 19 46.4**	**+1.1**
HRFI	**Mount Harif**	**3.82 168**	Pn	**Pn**	**16 19 53.8**	**+0.3**

IPEC ***03*** *16:30:42.6±0.3, 5153N×1629E, h0km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
MOS ***03*** *16:30:42.3±1.3, 5160N×1614E, h10km, mb4.0/1, Error ellipse: s-maj=11.6km s-min=5.6km az=86.9*
ISCJB ***03*** *16:30:42.4±0.3, 5140N±002×1612E±002, h0km, mb3.2/3, Error ellipse: s-maj=3.1km s-min=1.9km az=34.3*
BGR ***03*** *16:30:43.9±0.6, 5150N×1614E, h1km, ML3.0, Error ellipse: s-maj=8.9km s-min=5.6km az=163.0*
IDC ***03*** *16:30:43.8±0.6, 5145N×1601E, h0km, mb3.3/3, mb1 3.5/12, mb1mx3.4/25, mbtmp3.3/12, ML3.4/9, MS4.1/1, Ms1 4.1/1, ms1mx2.5/21, Error ellipse: s-maj=12.0km s-min=6.2km az=101.0*
NEIC ***03*** *16:30:43.1±0.4, 5153N×1623E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=5.2km s-min=4.4km az=55.0*
CSEM ***03*** *16:30:44.0±0.1, 5145N×1616E, h2km, ML3.7/7, Error ellipse: s-maj=2.5km s-min=1.7km az=27.0*
PRU ***03*** *16:30:45.5, 5137N×1606E, h0km*
WAR ***03*** *16:30:45, 5144N×1612E, ML3.0, Mining Induced*
VIE ***03*** *16:30:46.4±0.4, 5125N×1604E, h0km, mb2.8/4, ML3.1/4, Error ellipse: s-maj=2.8km s-min=1.9km az=27.0 69 km WNW of Breslau Suspected Mining induced.*

ISC 03 16:30:42.8±0.3, 5147N±002×1616E±002, h0km, n92, σ1§13/169, mb3.2/3, 6C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64 172**		*e*Pgd	**Pg**	**16 30 56.2**	**+1.1**
KSP				*e*Sg	**Sg**	**16 31 03.4**	**+0.1**
KSP				*e*L		16 31 09.5	
KSP	**Ksiaz**	**0.64 172**		*e*Pg	**Pg**	**16 30 56.2**	**+1.1**
KSP				*e*Sg	**Sg**	**16 31 03.4**	**+0.1**
KSP				*e*S	**Sg**	**16 31 09.4**	**+6.1**
KSP	**Ksiaz**	**0.64 172**		⇓*i*Pg	**Pg**	**16 30 56.2**	**+1.1**
KSP				*e*Sg	**Sg**	**16 31 03.4**	**+0.1**
KSP				*e*		16 31 09.4	
UPC	**Upice**	**0.97 186**		*e*PG	**Pg**	**16 31 02.2**	**+0.7**
DPC	**Dobruska-Polom**	**1.13 175**		*e*PG	**Pg**	**16 31 04.9**	**+0.4**
DPC				*e*SG	**Sg**	**16 31 18.6**	**-0.6**
	103nm,0.3s						
DPC	**Dobruska-Polom**	**1.13 175**		*e*P	**Pg**	**16 31 04.9**	**+0.4**
DPC				*e*		16 31 18.6	
DPC				smax			
	comp=N,103nm,0.3s						
PVCC	**Panska Ves**	**1.38 227**		*e*PG	**Pg**	**16 31 09.5**	**+0.2**
PVCC				*e*SG	**Sg**	**16 31 27.3**	**+0.1**
	comp=N,167nm,0.4s						
PVCC	**Panska Ves**	**1.38 227**		*e*P	**Pg**	**16 31 09.5**	**+0.2**
PVCC				*e*		16 31 27.3	
PVCC				smax			
	comp=N,167nm,0.4s						
BRG	**Berggiesshubel**	**1.52 248**		*e*Pg	**Pg**	**16 31 12.4**	**+0.5**
BRG				*e*Sg	**Sg**	**16 31 32.6**	**+0.9**
BRG	**Berggiesshubel**	**1.52 248**		Pg	**Pg**	**16 31 12.1**	**+0.1**
BRG				Sg	**Sg**	**16 31 32.6**	**+0.9**
BRG	**Berggiesshubel**	**1.52 248**		P	**Pn**	**16 31 10.8**	**-0.5**
BRG						16 31 32.3	
BRG				smax			
	comp=N,49nm,0.3s						
BRG	**Berggiesshubel**	**1.52 248**		Pn	**Pn**	**16 31 10.8**	**-0.5**
BRG				Pg	**Pg**	**16 31 12.2**	**+0.2**
BRG				Sg	**Sg**	**16 31 32.4**	**+0.7**
PRA	**Prague**	**1.78 219**		PN	**Pn**	**16 31 15.0**	**+0.1**
RUE	**Ruedersdorf**	**1.78 305**		*e*Pn	**Pn**	**16 31 14.8**	**-0.1**
RUE	**Ruedersdorf**	**1.78 305**		*e*Pg	**Pg**	**16 31 18.6**	**+1.6**
RUE	**Ruedersdorf**	**1.78 305**		*e*Pn	**Pn**	**16 31 14.8**	**-0.1**
RUE				*e*Pg	**Pg**	**16 31 18.6**	**+1.5**
RUE				*e*Sn	**Sn**	**16 31 37.8**	**-0.5**
PRU	**Pruhonice**	**1.81 215**		*e*PN	**Pn**	**16 31 15.2**	**0.0**
PRU				*e*PG	**Pg**	**16 31 17.0**	**-0.5**
PRU				*e*SG	**Sg**	**16 31 39.1**	**-1.9**
PRU	**Pruhonice**	**1.81 215**		*e*Pg	**Pg**	**16 31 17.0**	**-0.5**
PRU				*e*Sg	**Sg**	**16 31 39.1**	**-1.9**
FBE	**Freiberg**	**1.85 254**		*e*Pg	**Pg**	**16 31 18.2**	**-0.1**
FBE				*e*Sg	**Sg**	**16 31 41.7**	**-0.6**
RAC	**Raciborz**	**1.90 136**		*e*Pg	**Pg**	**16 31 20.2**	**+0.9**
RAC				*e*Sg	**Sg**	**16 31 43.4**	**-0.5**
MORC	**Moravsky Berou**	**1.91 152**		*e*Pn	**Pn**	**16 31 17.0**	**+0.3**
MORC				*e*Sn	**Sn**	**16 31 39.8**	**-1.7**
MORC				*e*Sg	**Sg**	**16 31 42.7**	**-1.6**
	comp=N,52nm,0.4s						
MORC	**Moravsky Berou**	**1.91 152**		*e*Pn	**Pn**	**16 31 16.8**	**+0.1**
MORC				*e*Sn	**Sn**	**16 31 39.8**	**-1.7**
CLL	**Collm**	**1.98 266**		*e*Pn	**Pn**	**16 31 17.5**	**-0.1**
CLL				*e*Pg	**Pg**	**16 31 21.0**	**+0.1**
CLL				*e*Sn	**Sn**	**16 31 35.0**	**-8.2**
CLL				*e*Sg	**Sg**	**16 31 47.4**	**+0.8**
CLL	**Collm**	**1.98 266**		*i* Pn	**Pn**	**16 31 17.4**	**-0.3**
CLL				*e*Pg	**Pg**	**16 31 21.0**	**+0.1**
CLL				*e*x	x	16 31 25.0	
CLL				*e*Sn	**Sn**	**16 31 35.0**	**-8.2**
CLL				*e*Sg	**Sg**	**16 31 48.0**	**+1.4**
	comp=Z,56nm,0.8s						
CLL	**Collm**	**1.98 266**		Pg	**Pg**	**16 31 21.0**	**+0.1**
CLL				Sg	**Sg**	**16 31 47.4**	**+0.8**
CLL				*e*S	**Sg**	**16 31 48.0**	**+1.4**
CLL	**Collm**	**1.98 266**		*i* Pn	**Pn**	**16 31 17.4**	**-0.3**
CLL				*e*Pg	**Pg**	**16 31 21.0**	**+0.1**
CLL				*e*Sn	**Sn**	**16 31 35.0**	**-8.2**
CLL				*e*Sg	**Sg**	**16 31 48.0**	**+1.4**
OKC	**Ostrava-Krasne**	**2.07 142**		*e*PG	**Pg**	**16 31 21.0**	**-1.5**
OKC				*e*SG	**Sg**	**16 31 47.0**	**-2.4**
	comp=Z,171nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07 142**		*e*P	**Pg**	**16 31 21.0**	**-1.5**
OKC				*e*		16 31 47.0	
OKC				smax			
	comp=N,171nm,0.5s						
VRAC	**Vranov**	**2.19 173**		Pn	**Pn**	**16 31 21.0**	**+0.6**
	comp=N,3.9nm,0.3s,baz=336,slow=12,SNR=20						
VRAC				Lg		16 31 54.0	
	comp=N,15nm,0.3s,baz=79,slow=23,SNR=8.6						
VRAC	**Vranov**	**2.19 173**		Pn	**Pn**	**16 31 21.0**	**+0.6**
VRAC				*e*Sg	**Sg**	**16 31 52.1**	**-1.0**
	comp=N,40nm,0.3s						
TREC	**Trest**	**2.22 191**		*e*PG	**Pg**	**16 31 24.8**	**-0.7**
KRUC	**Moravsky**	**2.42 176**		*e*Pn	**Pn**	**16 31 24.4**	**+0.8**
KRUC				*e*Sg	**Sg**	**16 32 00.1**	**-0.5**
	comp=N,24nm,0.3s						
TANN	**Tannenbergstha**	**2.57 247**		*e*Pn	**Pn**	**16 31 26.4**	**+0.7**
TANN				*e*Sg	**Sg**	**16 32 04.3**	**-1.0**
OJC	**Ojcow**	**2.63 117**		*e*Pn	**Pn**	**16 31 24.8**	**-1.7**
OJC				*e*Pg	**Pg**	**16 31 33.5**	**+0.3**
OJC				*e*Sn	**Sn**	**16 31 55.3**	**-3.8**
OJC				*i* Sg	**Sg**	**16 32 09.3**	**+2.1**
OJC	**Ojcow**	**2.63 117**		*e*Pg	**Pg**	**16 31 33.5**	**+0.3**
OJC				*e*Sn	**Sn**	**16 31 55.3**	**-3.8**
OJC				*i* Sg	**Sg**	**16 32 09.3**	**+2.1**
OJC	**Ojcow**	**2.63 117**		*e*P	**Pn**	**16 31 24.8**	**-1.7**
OJC				*e*		16 31 55.3	
WERD	**Werda**	**2.64 249**		*e*Pn	**Pn**	**16 31 27.3**	**+0.6**
WERD				*e*Sg	**Sg**	**16 32 08.6**	**+0.8**
NKC	**Novy Kostel**	**2.66 244**		*e*PN	**Pn**	**16 31 27.5**	**+0.5**
NKC				*e*PG	**Pg**	**16 31 32.9**	**-0.9**
NKC				*e*SG	**Sg**	**16 32 08.6**	**+0.3**
	comp=N,66nm,0.3s						
NKC	**Novy Kostel**	**2.66 244**		*e*Pg	**Pg**	**16 31 32.9**	**-0.9**
NKC				*e*Sg	**Sg**	**16 32 08.6**	**+0.3**
	comp=N,66nm,0.3s						
NKC	**Novy Kostel**	**2.66 244**		*e*P	**Pn**	**16 31 27.5**	**+0.5**
NKC				*e*		16 32 08.6	
NKC				smax			
	comp=N,66nm,0.3s						
WERN	**Wernitzgruen**	**2.67 245**		*e*Pn	**Pn**	**16 31 27.6**	**+0.5**
WERN				*e*Sg	**Sg**	**16 32 09.4**	**+0.6**
WERN	**Wernitzgruen**	**2.67 245**		Pn	**Pn**	**16 31 27.6**	**+0.5**
WERN				Sg	**Sg**	**16 32 09.4**	**+0.6**
KHC	**Kasperske Hory**	**2.87 216**		*e*PN	**Pn**	**16 31 30.3**	**+0.5**
KHC				*e*PG	**Pg**	**16 31 36.3**	**-1.6**
KHC				*e*SN	**Sn**	**16 32 01.5**	**-3.6**
KHC				*e*SG	**Sg**	**16 32 11.7**	**-3.4**
KHC	**Kasperske Hory**	**2.87 216**		*e*Pg	**Pg**	**16 31 36.3**	**-1.6**
KHC				*e*Sn	**Sn**	**16 32 01.5**	**-3.6**
KHC				*e*Sg	**Sg**	**16 32 11.7**	**-3.4**
MOX	**Moxa**	**2.98 256**		*e*Pn	**Pn**	**16 31 31.6**	**+0.2**
MOX				*i* Pg	**Pg**	**16 31 40.6**	**+0.5**
MOX				*e*Sg	**Sg**	**16 32 17.5**	**-1.3**
MOX	**Moxa**	**2.98 256**		*e*P	**Pn**	**16 31 32.5**	**+1.1**
MOX	**Moxa**	**2.98 256**		Pg	**Pg**	**16 31 40.6**	**+0.5**
MOX				Sg	**Sg**	**16 32 17.5**	**-1.3**
MOX	**Moxa**	**2.98 256**		*e*PN	**Pn**	**16 31 32.5**	**+1.1**
MOX				*i* PG	**Pg**	**16 31 40.6**	**+0.5**
MOX				*i* SG	**Sg**	**16 32 19.9**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.04 237**		*e*Pn	**Pn**	**16 31 33.3**	**+1.0**
ROTZ				*e*Sg	**Sg**	**16 32 21.0**	**+0.4**
GEC2	**GERESS Array S**	**3.07 212**		*e*Pn	**Pn**	**16 31 34.0**	**+1.5**
GEC2				*e*Sg	**Sg**	**16 32 21.7**	**+0.2**
GEC2	**GERESS Array S**	**3.07 212**		*e*Pn	**Pn**	**16 31 34.0**	**+1.4**
GEC2				*e*Sg	**Sg**	**16 32 21.7**	**+0.2**
GERES	**GERESS Array B**	**3.07 212**		Pn	**Pn**	**16 31 33.7**	**+1.1**
	comp=N,1.7nm,0.3s,baz=33,slow=13,SNR=38						
GERES				Sn	**Sn**	**16 32 07.3**	**-2.7**
	comp=N,3.8nm,0.3s,baz=52,slow=24,SNR=7.8						
GERES				Lg		16 32 19.0	
	comp=N,6.0nm,0.3s,baz=32,slow=28,SNR=4.9						
SMOL	**Smolenice**	**3.07 164**		*e*PG	**Pg**	**16 31 42.3**	**+0.5**
SMOL				*e*SG	**Sg**	**16 32 21.8**	**+0.2**
WET	**Wettzell**	**3.14 223**		*e*Pn	**Pn**	**16 31 34.2**	**+0.7**
ZST	**Bratislava**	**3.34 169**		*e*PG	**Pg**	**16 31 44.8**	**-2.0**
ZST				*e*SG	**Sg**	**16 32 26.9**	**-3.2**
NIE	**Niedzica**	**3.36 126**		*e*P	**Pg**	**16 31 48.5**	**+1.3**
NIE				*e*S	**Sg**	**16 32 34.4**	**+3.6**
VYHS	**Vyhne**	**3.45 149**		*e*PG	**Pg**	**16 31 48.4**	**-0.5**
VYHS				*e*SG	**Sg**	**16 32 33.9**	**+0.3**
GRA1	**Grafenberg Arr**	**3.62 242**		*e*Pn	**Pn**	**16 31 40.9**	**+0.8**
GRA1				*e*Sg	**Sg**	**16 32 37.9**	**-1.2**
GRF	**Grafenberg Arr**	**3.62 242**		*e*Pn	**Pn**	**16 31 40.9**	**+0.8**
GRF				*e*Sg	**Sg**	**16 32 37.9**	**-1.2**
BSD	**Bornholm Skovb**	**3.72 349**		*i* P	**Pn**	**16 31 40.9**	**-0.7**
BSD				*i*		16 31 41.6	
BSD				*i* S	**Sn**	**16 32 24.3**	**-1.8**
MOA	**Molln**	**3.83 199**		⇑Sg	**Sg**	**16 32 45.4**	**-0.5**
	comp=N,29nm,0.5s						
MOA	**Molln**	**3.83 199**		⇑*i*Pn	**Pn**	**16 31 44.0**	**+1.0**
	SNR=9.4						
MOA				⇑*i*Sg	**Sg**	**16 32 45.4**	**-0.5**
	comp=N,29nm,0.5s						
MOA	**Molln**	**3.83 199**		⇑*i*Pn	**Pn**	**16 31 44.0**	**+1.0**
MOA				Sg	**Sg**	**16 32 45.4**	**-0.5**
STHS	**Stebnicka Huta**	**3.85 120**		*e*PN	**Pn**	**16 31 46.3**	**+3.0**
STHS				*e*PG	**Pg**	**16 31 59.4**	**+2.8**
STHS				*e*SG	**Sg**	**16 32 52.5**	**+6.0**
STHS	**Stebnicka Huta**	**3.85 120**		*e*Pg	**Pg**	**16 31 59.4**	**+2.8**
KECS	**Kecovo**	**4.09 135**		*e*PG	**Pg**	**16 32 02.7**	**+1.4**
KECS				*e*		16 32 51.9	
ARSA	**Arzberg**	**4.25 186**		⇑Sg	**Sg**	**16 32 59.1**	**-0.2**
	comp=N,25nm,0.5s						
ARSA	**Arzberg**	**4.25 186**		⇓*i*Pn	**Pn**	**16 31 49.1**	**+0.3**
ARSA				⇑*i*Sg	**Sg**	**16 32 59.1**	**-0.2**
	comp=N,25nm,0.5s						
ARSA	**Arzberg**	**4.25 186**		⇓Pn	**Pn**	**16 31 49.1**	**+0.3**
ARSA				Sg	**Sg**	**16 32 59.1**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.27 125**		*e*PN	**Pn**	**16 31 51.0**	**+1.9**
CRVS				*e*		16 32 06.8	
CRVS	**Cervenica-Dubn**	**4.27 125**		*e*SG	**Sg**	**16 33 04.9**	**+4.9**
CRVS	**Cervenica-Dubn**	**4.27 125**		*e*Pn	**Pn**	**16 31 51.0**	**+1.9**
CRVS				*e*		16 32 06.8	
CRVS				*e*Sg	**Sg**	**16 33 04.9**	**+4.9**
GROS	**Grobnik**	**5.04 185**		*e*Pn	**Pn**	**16 32 01.1**	**+1.5**
GROS	**Grobnik**	**5.04 185**		*e*Pn	**Pn**	**16 32 01.1**	**+1.5**
PDKS	**Podkum**	**5.47 189**		*i* Pn	**Pn**	**16 32 07.6**	**+2.0**
CRES	**Cresnjev**	**5.67 185**		*e*Pn	**Pn**	**16 32 09.8**	**+1.5**
BOJS	**Bojanci**	**6.00 186**		*i* Pn	**Pn**	**16 32 14.6**	**+1.7**
DAVOX	**Davos**	**6.25 224**		Pn	**Pn**	**16 32 16.8**	**+0.5**
	comp=N,0.4nm,0.3s,baz=18,slow=6.4,SNR=2.8						
DAVOX				Lg		16 34 00.3	
	comp=N,0.6nm,0.3s,baz=32,slow=19,SNR=2.9						
AKASG	**Malin Array Be**	**8.27 90**		Pn	**Pn**	**16 32 42.1**	**-1.9**
	comp=N,1.4nm,0.3s,baz=277,slow=12,SNR=8.5						
AKASG	**Malin Array Be**	**8.27 90**		P	**Pn**	**16 32 42.1**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	**Hagfors**	**8.79 352**		Pn	**Pn**	**16 32 50.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=162,slow=14,SNR=8.4						
NOA	**NORSAR Array B**	**9.97 346**		Pn	**Pn**	**16 33 05.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=3.0						
NOA				Sn	**Sn**	**16 34 52.5**	**-7.5**
	comp=Z,0.1nm,0.3s,baz=40,slow=23,SNR=2.3						
NOA	**NORSAR Array B**	**9.97 346**		Sn	**Sn**	**16 34 52.5**	**-7.5**
NOA	**NORSAR Array B**	**9.97 346**		Pn	**Pn**	**16 33 05.4**	**-2.0**
NOA				Sn	**Sn**	**16 34 52.5**	**-7.5**
FINES	**FINESS Array B**	**11.38 25**		Pn	**Pn**	**16 33 24.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=208,slow=11,SNR=16						
FINES				Sn	**Sn**	**16 35 26.1**	**-8.4**
	comp=Z,0.4nm,0.3s,baz=209,slow=18,SNR=6.0						
FINES	**FINESS Array B**	**11.38 25**		P	**Pn**	**16 33 24.9**	**-1.8**
FINES						16 35 26.2	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA	**Eskdalemuir Ar**	**12.15 296**		Pn	**Pn**	**16 33 35.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=3.2						
ARCES	**ARCESS Array B**	**18.65 10**		Pn	**Pn**	**16 34 58.6**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**39.98 202**		P	**P**	**16 38 18.6**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.3,baz=360,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**42.20 69**		P	**P**	**16 38 36.9**	**-0.5**
	comp=Z,0.2nm,0.8s,mb2.9,baz=268,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**59.90 336**		P	**P**	**16 40 51.3**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.6,baz=29,slow=6.8,SNR=8.7						
YKA	**Yellowknife Ar**	**59.90 336**		P	**P**	**16 40 51.3**	**+0.8**

ISCJB ***03*** *16:56:33.6±0.6, 2667N±004×130.15E±004, h46km, mb3.4/4, Error ellipse: s-maj=5.2km s-min=4.9km az=22.1*
JMA ***03*** *16:56:33.3, 2665N×130.18E, h46km, M3.9*
IDC ***03*** *16:56:36.6±1.1, 2571N×12756E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=31.6km s-min=17.5km az=96.0*

ISC 03 16:56:34.2±0.6, 2666N±004×13017E±004, h46km, n16, σ0§80/27, mb3.4/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.27 131**		P	**Pn**	**16 56 54.7**	**-0.8**
JMZ				S	**Sn**	**16 57 10.2**	**-1.1**
JTK	**Tokunoshima**	**1.56 316**		P	**Pn**	**16 56 59.9**	**+0.4**
JTK				S	**Sn**	**16 57 18.1**	**-0.4**
JZK	**Kikaishima**	**1.65 354**		P	**Pn**	**16 57 00.9**	**+0.1**
JZK				*e*S	**Sn**	**16 57 21.3**	**+0.5**
JOW	**Kunigami**	**1.70 276**		P	**Pn**	**16 57 01.7**	**+0.3**
JOW				S	**Sn**	**16 57 21.8**	**-0.2**
JOW	**Kunigami**	**1.70 276**		Pn	**Pn**	**16 57 01.9**	**+0.4**
	652nm,0.3s,baz=104,slow=17,SNR=580						
JOW				Sn	**Sn**	**16 57 21.9**	**-0.1**
	224nm,0.3s,baz=115,slow=28,SNR=28						
JAM	**Amami Oshima**	**1.81 344**		P	**Pn**	**16 57 03.3**	**+0.4**
JAM				S	**Sn**	**16 57 24.1**	**-0.6**
JIH	**Iheya**	**2.00 281**		P	**Pn**	**16 57 05.9**	**+0.3**
JIH				*e*S	**Sn**	**16 57 29.4**	**0.0**
JJT2	**Tamagusuku 2**	**2.23 257**		P	**Pn**	**16 57 09.1**	**+0.4**
JJT2				*e*S	**Sn**	**16 57 35.1**	**0.0**
NAH1	**Naha**	**2.27 259**		P	**Pn**	**16 57 09.5**	**+0.3**
NAH1				S	**Sn**	**16 57 36.0**	**0.0**
JAGN	**Aguni-jima**	**2.62 269**		P	**Pn**	**16 57 14.4**	**+0.4**
JAGN				*e*S	**Sn**	**16 57 43.9**	**-0.7**
JKE	**Kume jima 2**	**3.05 264**		P	**Pn**	**16 57 19.2**	**-0.7**
JKE				*e*S	**Sn**	**16 57 54.3**	**-0.9**
JNN	**Nakanoshima**	**3.18 355**		*e*S	**Sn**	**16 57 57.2**	**-1.1**
SONM	**Songino Array**	**28.17 325**		P	**P**	**17 02 25.2**	**+3.0**
	0.3nm,0.6s,mb3.1,baz=133,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**42.55 311**		P	**P**	**17 04 25.6**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=93,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**46.50 175**		P	**P**	**17 04 59.6**	**+2.7**
	0.2nm,0.4s,mb3.4,baz=353,slow=8.5,SNR=7.7						
ASAR	**Alice Springs**	**50.16 176**		P	**P**	**17 05 29.6**	**+4.4**
	0.3nm,0.4s,mb3.7,baz=3.3,slow=15,SNR=9.4						

CSEM ***03*** *17:16:57.0±0.8, 3877N×2894W, h0km, ML1.9, Error ellipse: s-maj=7.0km s-min=4.0km az=86.0, After PDA*
PDA ***03*** *17:16:57.0±0.8, 3877N×2894W, h0km, MD2.9, ML1.9, Error ellipse: s-maj=7.0km s-min=4.0km az=86.0*

SVSA 03 17:16:57.0±0.8, 3877N×2894W, h0km, MD2.9, ML1.9, Error ellipse: s-maj=7.0km s-min=4.0km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22 148**		*e*S	Sg	17 17 04.4	+0.4
PTCA							
	83nm,0.2s						
PCED	**Cedros**	**0.24 126**		*e*S	Sg	17 17 05.0	+0.4
PCED							
	47nm,0.1s						
CALA	**Caldeira**	**0.27 135**		*e*P	Pg	17 17 02.1	0.0
PCND	**Candelaria**	**0.48 128**		*e*P	Pg	17 17 06.1	-0.1
PCND				*e*S	Sg	17 17 12.5	0.0
PCND							
	34nm,0.3s						
PICO	**Pico**	**0.49 123**		*e*P	Pg	17 17 05.5	-0.8
PICO				*e*S	Sg	17 17 12.6	0.0
ROSA	**Rosais**	**0.55 95**		*e*P	Pg	17 17 07.0	-0.6
ROSA				*e*S	Sg	17 17 14.1	-0.6
PBOI	**Pico dos Bois**	**0.56 127**		*e*S	Sg	17 17 14.9	0.0
PBOI							
	25nm,0.1s						

ISCJB ***03*** *17:54:58.7±1.2, 2465S±01×1799W±01, h513km±15km, mb4.3/11, Error ellipse: s-maj=21.5km s-min=16.6km az=113.4*
IDC ***03*** *17:54:58.3±1.9, 2435S×17977W, h510km±20km, mb3.7/6, mb1 3.7/7, mb1mx3.5/16, mbtmp4.5/7, Error ellipse: s-maj=21.7km s-min=17.2km az=13.0*
NEIC ***03*** *17:54:58.9±1.0, 2461S×17971W, h525km±11km, mb4.3/7, Error ellipse: s-maj=18.4km s-min=11.9km az=202.0*

ISC 03 17:54:59.7±1.2, 2465S±01×1799W±01, h509km±14km, n36, σ1§02/28, mb4.3/11, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.00 160**		P	**P**	**17 56 27.7**	**+0.7**
	203nm,0.3s,baz=196,slow=23,SNR=8.1						
RAO	**Raoul Island**	**5.00 160**		*e*Pn	**P**	**17 56 26.1**	**-0.9**
DZM	**Mont Dzumac**	**12.79 278**		P	**P**	**17 57 48.0**	**+1.6**
	0.6nm,0.3s,baz=59,slow=20,SNR=6.5						
URZ	**Urewera**	**13.89 190**		P	**P**	**17 57 56.1**	**-1.9**
	11nm,0.3s,baz=296,slow=3.0,SNR=40						
URZ				S	**S**	**18 00 28.4**	**+3.3**
	2.7nm,0.3s,baz=95,slow=20,SNR=10						
THZ	**Tophouse**	**18.17 197**		*e*PN	**P**	**17 58 40.8**	**-0.2**
RPZ	**Rata Peaks**	**20.50 199**		P	**P**	**17 59 01.6**	**-0.6**
	18nm,0.5s,baz=157,slow=0.6,SNR=21						
RPZ	**Rata Peaks**	**20.50 199**		*e*PN	**P**	**17 59 01.4**	**-0.8**
CTA	**Charters Tower**	**31.57 271**		⇓*i*P	**P**	**18 00 40.4**	**+0.6**
	14nm,0.3s,mb5.0						
CTA	**Charters Tower**	**31.57 271**		P	**P**	**18 00 40.5**	**+0.7**
	19nm,0.4s,mb5.0,baz=94,slow=11,SNR=123						
CTAO	**Charters Tower**	**31.57 271**		*e*P	**P**	**18 00 40.2**	**+0.3**
	14nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**34.56 249**		*e*P	**P**	**18 01 04.4**	**-0.8**
	3.3nm,1.4s,mb3.7						
STKA	**Stephens Creek**	**34.56 249**		P	**P**	**18 01 04.4**	**-0.8**
	1.5nm,0.5s,mb3.8,baz=81,slow=8.4,SNR=10						
STKA	**Stephens Creek**	**34.56 249**		*e*P	**P**	**18 01 04.2**	**-1.0**
ASAR	**Alice Springs**	**42.02 261**		P	**P**	**18 02 06.1**	**+0.3**
	2.2nm,0.5s,mb3.9,baz=94,slow=7.5,SNR=36						
ASAR				S	**S**	**18 07 50.3**	**+2.8**
	0.3nm,0.8s,baz=98,slow=14,SNR=4.1						
WB2	**Warramunga Arr**	**42.44 267**		⇓*i*P	**P**	**18 02 08.7**	**-0.5**
WRAB	**Tennant Creek**	**42.44 267**		*e*P	**P**	**18 02 08.6**	**-0.6**

AYVA				*i* S		**Sg**	**18 04 53.9**	**-1.3**
AKS	**Akhisar**	**1.04**	**58**	PG		**Pg**	**18 04 43.3**	**-0.4**
AKS				SG		**Sg**	**18 04 57.4**	**+0.1**
AYDN	**Tasoluk**	**1.16**	**125**	*i* P		**Pg**	**18 04 44.7**	**-1.2**
AYDN				*i* S		**Sg**	**18 05 01.9**	**+1.0**
MLSB	**Milas**	**1.35**	**140**	*e*PN		**Pn**	**18 04 48.2**	**-1.1**
BODT	**Bodrum**	**1.36**	**158**	*e*PN		**Pn**	**18 04 48.3**	**-1.1**
BDRM	**Kayabasi**	**1.40**	**154**	*i* P		**Pn**	**18 04 48.4**	**-1.6**
BDRM				*i* S		**Sb**	**18 05 08.8**	**+0.3**
BDRM	**Kayabasi**	**1.40**	**154**	*i* P		**Pn**	**18 04 48.3**	**-1.7**
BDRM				*i* S		**Sb**	**18 05 08.8**	**+0.2**
MANT	**Manisa**	**1.48**	**83**	*i* P		**Pn**	**18 04 51.9**	**+0.7**
MANT				*i* S		**Sn**	**18 05 10.5**	**-0.5**
APE	**Apeiranthos**	**1.55**	**216**	*e*PN		**Pn**	**18 04 52.5**	**+0.4**
APE	**Apeiranthos**	**1.55**	**216**	*e*PN		**Pn**	**18 04 48.6**	**-3.5**
BALB	**Balikesir**	**1.61**	**35**	*e*PN		**Pn**	**18 04 52.3**	**-0.6**
EDC	**Edincik**	**2.21**	**24**	*e*PN		**Pn**	**18 05 02.3**	**+1.1**
BNT	**Bandirma**	**2.24**	**25**	*e*PN		**Pn**	**18 05 02.3**	**+0.7**
MRMT	**Marmara Adasi**	**2.38**	**17**	*e*PN		**Pn**	**18 05 04.8**	**+1.3**
ORLT	**Orhaneli**	**2.43**	**44**	*e*PN		**Pn**	**18 05 03.6**	**-0.6**
MFT	**Murefte**	**2.50**	**11**	*e*PN		**Pn**	**18 05 07.2**	**+2.1**
YLV	**Yalova**	**3.06**	**42**	*e*PN		**Pn**	**18 05 13.0**	**+0.2**
EDRB	**Edirne**	**3.52**	**1**	*e*PN		**Pn**	**18 05 21.9**	**+2.8**

IDC 03 18:14:06.0±3.1, 1036N×9197E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, 1C, Error ellipse: s-maj=128.0km s-min=22.0km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.23**	**349**	P	P	18 21 19.5	+0.4
	0.6nm,0.7s,baz=167,slow=7.4,SNR=6.2						
SONM	**Songino Array**	**39.28**	**15**	P	P	18 21 35.8	-0.6
	0.7nm,0.7s,baz=202,slow=9.6,SNR=6.1						
WRA	**Warramunga Arr**	**51.44**	**126**	P	P	18 23 13.4	+0.6
	2.2nm,0.4s,baz=300,slow=10.0,SNR=99						
WB2	**Warramunga Arr**	**51.45**	**126**	⇑P	P	18 23 13.4	+0.5
ASAR	**Alice Springs**	**53.15**	**130**	P	P	18 23 26.4	+0.9
	3.2nm,0.7s,baz=302,slow=7.1,SNR=54						
STKA	**Stephens Creek**	**63.36**	**134**	P	P	18 24 36.9	-0.1
	0.7nm,0.3s,baz=314,slow=7.1,SNR=6.0						

*ISCJB **03** 18:49:60.0±2.4, 310S±02×1792W±06, h440km±41km, mb2.9/2, Error ellipse: s-maj=90.7km s-min=23.9km az=33.3*
*IDC **03** 18:50:04.1±8.8, 3098S×17997W, h406km±103km, mb2.5/2, mb1 2.9/3, mb1mx2.8/14, mbtmp3.5/3, Error ellipse: s-maj=99.6km s-min=43.2km az=6.0*
ISC 03 18:50:03.2±2.2, 310S±01×1798W±05, h405km±25km, n9, σ0§49/10, mb2.9/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.25**	**192**	*e*PN	**Pn**	**18 51 50.0**	**+0.2**
MWZ	**Matawai**	**7.66**	**196**	*e*PN	**Pn**	**18 51 54.8**	**+0.5**
MWZ				*e*SN	**S**	**18 53 24.8**	**-0.4**
URZ	**Urewera**	**7.69**	**198**	P	**P**	**18 51 55.0**	**+0.1**
	1.9nm,0.3s,baz=240,slow=1.7,SNR=16						
URZ				S	**S**	**18 53 26.5**	**+0.5**
	1.8nm,0.3s,baz=242,slow=22,SNR=18						
URZ	**Urewera**	**7.69**	**198**	*e*PN	**Pn**	**18 51 54.2**	**-0.5**
MRZ	**Mangatainoka R**	**10.36**	**200**	*e*PN	**Pn**	**18 52 24.9**	**-0.4**
TCW	**Tory Channel**	**11.27**	**203**	*e*SN	**S**	**18 54 39.6**	**+0.1**
ASAR	**Alice Springs**	**41.52**	**268**	P	**P**	**18 57 12.2**	**-0.8**
	1.0nm,1.1s,mb3.1,baz=90,slow=8.3,SNR=9.1						
WRA	**Warramunga Arr**	**42.57**	**274**	P	**P**	**18 57 22.0**	**+0.8**
	0.2nm,0.4s,mb2.8,baz=111,slow=8.1,SNR=7.6						
FINES	**FINESS Array B**	**145.13**	**338**	PKPbc	PKPbc	19 08 52.8	-0.9
	0.7nm,0.6s,baz=45,slow=2.7,SNR=6.1						

*ISCJB **03** 18:53:12.0±0.9, 3830N±003×2658E±005, h12km±4km, Error ellipse: s-maj=7.0km s-min=5.3km az=130.7*
*ISK **03** 18:53:12.6, 3828N×2669E, h23km, MD2.7*
*CSEM **03** 18:53:12.3±0.1, 3838N×2664E, h15km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.3km az=9.0*
*ATH **03** 18:53:12.6, 3832N×2653E, h35km±8km, MD3.1/3*
ISC 03 18:53:12.6±0.7, 3834N±004×2659E±005, h15km±3km, n14, σ0§96/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.02**	**13**	*i* P	**Pg**	**18 53 15.5**	**+0.3**
URLA				*i* S	**Sg**	**18 53 17.5**	**+0.5**
BLCB	**Balcova**	**0.36**	**83**	PG	**Pg**	**18 53 19.6**	**-0.3**
BLCB				SG	**Sg**	**18 53 24.3**	**-0.6**
IZM	**Izmir**	**0.53**	**84**	PG	**Pg**	**18 53 23.3**	**+0.2**
IZM				SG	**Sg**	**18 53 30.6**	**+0.4**
KDAG	**Bornova**	**0.54**	**83**	*i* P	**Pg**	**18 53 23.1**	**-0.1**
KDAG				*i* S	**Sg**	**18 53 29.4**	**-0.9**
SMG	**Samos**	**0.66**	**163**	*e*PN	**Pn**	**18 53 25.9**	**-1.6**
SMG				*e*SN	**Sg**	**18 53 36.1**	**+1.7**
PRK	**Paraskevi**	**0.94**	**345**	*e*PN	**Pn**	**18 53 30.5**	**-0.7**
PRK				*e*SN	**Sn**	**18 53 44.1**	**-0.2**
AYVA	**Ayvalik**	**0.97**	**5**	*i* P	**Pb**	**18 53 26.9**	**-4.1**
AYVA				*i* S	**Sb**	**18 53 44.6**	**+1.0**
AKS	**Akhisar**	**1.10**	**60**	PG	**Pg**	**18 53 32.5**	**-1.3**
AYDN	**Tasoluk**	**1.23**	**123**	*i* P	**Pn**	**18 53 34.9**	**-0.3**
AYDN				*i* S	**Sb**	**18 53 50.4**	**-0.7**
APE	**Apeiranthos**	**1.52**	**214**	*e*PN	**Pn**	**18 53 38.7**	**-0.6**
APE	**Apeiranthos**	**1.52**	**214**	*e*Pn	**Pn**	**18 53 38.8**	**-0.5**
MANT	**Manisa**	**1.55**	**84**	*i* P	**Pn**	**18 53 42.5**	**+2.9**
MANT				*i* S	**Sn**	**18 54 01.0**	**+1.4**
MANT	**Manisa**	**1.55**	**84**	*i* P	**Pn**	**18 53 42.5**	**+2.8**
MANT				*i* S	**Sn**	**18 54 01.0**	**+1.5**
BALB	**Balikesir**	**1.64**	**37**	*e*PN	**Pn**	**18 53 41.5**	**+0.6**

*ISCJB **03** 19:10:50.8±0.7, 3829N±003×2657E±005, h6km, Error ellipse: s-maj=5.9km s-min=4.5km az=141.0*
*ATH **03** 19:10:51.3, 3834N×2659E, h39km±5km, MD3.1/3*
*CSEM **03** 19:10:52.0±0.1, 3840N×2667E, h6km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.9km az=120.0*
*ISK **03** 19:10:53.2, 3831N×2678E, h25km, MD3.1*
ISC 03 19:10:52.0±0.6, 3835N±003×2660E±005, h14km±3km, n15, σ1§08/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.01**	**358**	*i* P	**Pg**	**19 10 54.5**	**+0.1**
URLA				*i* S	**Sg**	**19 10 56.3**	**+0.3**
BLCB	**Balcova**	**0.35**	**84**	PG	**Pg**	**19 10 59.1**	**0.0**
IZM	**Izmir**	**0.53**	**85**	PG	**Pg**	**19 11 01.7**	**-0.6**
IZM				SG	**Sg**	**19 11 09.6**	**+0.3**
KDAG	**Bornova**	**0.53**	**84**	*i* P	**Pg**	**19 11 01.9**	**-0.5**
KDAG				*i* S	**Sg**	**19 11 09.2**	**-0.2**
SMG	**Samos**	**0.67**	**163**	*e*PN	**Pn**	**19 11 04.9**	**-2.1**
SMG				*e*SN	**Sg**	**19 11 15.1**	**+1.3**
PRK	**Paraskevi**	**0.93**	**344**	*e*PN	**Pn**	**19 11 09.4**	**-1.2**
PRK				*e*SN	**Sn**	**19 11 22.5**	**-1.2**
AYVA	**Ayvalik**	**0.96**	**4**	*i* P	**Pb**	**19 11 09.7**	**-0.6**
AYVA				*i* S	**Sb**	**19 11 24.6**	**+1.7**
AKS	**Akhisar**	**1.09**	**61**	PG	**Pg**	**19 11 11.3**	**-1.7**
AYDN	**Tasoluk**	**1.23**	**124**	*i* P	**Pn**	**19 11 15.5**	**+0.8**
AYDN				*i* S	**Sb**	**19 11 29.5**	**-1.1**
BODT	**Bodrum**	**1.41**	**156**	*e*PN	**Pn**	**19 11 16.8**	**-0.3**
APE	**Apeiranthos**	**1.53**	**214**	*e*PN	**Pn**	**19 11 20.8**	**+1.9**
APE	**Apeiranthos**	**1.53**	**214**	*e*PN	**Pn**	**19 11 17.9**	**-1.0**
MANT	**Manisa**	**1.55**	**84**	*i* P	**Pn**	**19 11 21.2**	**+2.1**
MANT				*i* S	**Sn**	**19 11 39.2**	**+0.2**
BALB	**Balikesir**	**1.63**	**37**	*e*PN	**Pn**	**19 11 21.2**	**+1.0**
BNT	**Bandirma**	**2.25**	**27**	*e*PN	**Pn**	**19 11 30.1**	**+1.4**

*PDG **03** 19:11:45.9±0.2, 4185N×2038E, h3km±1km*
*NEIC **03** 19:11:45.9, 4185N×2038E, h3km, MD2.6(PDG), After PDG.*
*CSEM **03** 19:11:46.4±0.1, 4190N×2033E, h10km, ML2.2, Error ellipse: s-maj=3.3km s-min=1.6km az=41.0*
*TIR **03** 19:11:46.9, 4199N×2025E, h5km*
*SKO **03** 19:11:46.5, 4198N×2024E, h4km, M1.8, ML2.2*
*ISCJB **03** 19:11:47.4±0.3, 4190N±002×2034E±002, h10km, Error ellipse: s-maj=3.9km s-min=2.0km az=58.0*
ISC 03 19:11:48.3±0.3, 4189N±003×2034E±002, h10km, n28, σ1§37/55, 3C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.37**	**294**	*i* Pg	**Pg**	**19 11 52.1**	**-3.4**
PUK				*i* Sg	**Sg**	**19 12 01.5**	**+1.1**
QSH	**Qafa e Shtames**	**0.50**	**222**	*i* Pg	**Pg**	**19 11 57.2**	**-0.7**
QSH				*i* Sg	**Sg**	**19 12 06.2**	**+1.7**
BCI	**Bajram Curri**	**0.52**	**337**	*i* Pg	**Pg**	**19 11 53.1**	**-5.2**
BCI				*i* Sg	**Sg**	**19 12 05.4**	**+0.3**
SAMO	**Samokov**	**0.63**	**108**	*i* Pg	**Pg**	**19 11 59.2**	**-1.2**
SAMO				*i* Sg	**Sg**	**19 12 10.3**	**+1.7**
SAMO				*i*		19 12 10.4	
KOZJ	**Kozjak Brana**	**0.64**	**91**	*i* Pg	**Pg**	**19 11 59.6**	**-1.0**
KOZJ				*i* Sg	**Sg**	**19 12 10.3**	**+1.4**
BELI	**Belica**	**0.73**	**107**	*e*Pg	**Pg**	**19 11 58.7**	**-3.6**
BELI				*i* Sg	**Sg**	**19 12 11.9**	**+0.2**
BELI				*i*		19 12 12.2	
PVY	**Plav**	**0.75**	**339**	⇑*i*Pg	**Pg**	**19 12 00.5**	**-2.3**
PVY				*e*Sg	**Sg**	**19 12 13.0**	**+0.4**
ULC	**Ulcinj**	**0.82**	**275**	*e*Pg	**Pg**	**19 12 01.6**	**-2.4**
ULC				*e*Sg	**Sg**	**19 12 15.1**	**+0.3**
ULC	**Ulcinj**	**0.82**	**275**	*e*Pg	**Pg**	**19 12 01.6**	**-2.5**
SKO	**Skopje**	**0.82**	**84**	*e*Pg	**Pg**	**19 12 03.0**	**-1.1**
SKO				*e*Sg	**Sg**	**19 12 15.2**	**+0.4**
SKO				*e*Lg		19 12 16.6	
	comp=E,92nm,0.2s						
SKO				*e*Lg		19 12 17.0	
	comp=N,124nm,0.3s						
SKO	**Skopje**	**0.82**	**84**	*e*Pg	**Pg**	**19 12 03.0**	**-1.1**
SKO				*e*Sg	**Sg**	**19 12 15.2**	**+0.4**
OHR	**Ohrid**	**0.85**	**156**	*e*Pg	**Pg**	**19 12 03.0**	**-1.7**
OHR				*e*Sg	**Sg**	**19 12 16.6**	**+0.8**
OHR	**Ohrid**	**0.85**	**156**	*e*Pg	**Pg**	**19 12 02.9**	**-1.8**
OHR				*e*Sg	**Sg**	**19 12 16.6**	**+0.8**
TTG	**Podgorica**	**0.97**	**304**	⇑*i*Pg	**Pg**	**19 12 04.1**	**-2.7**
TTG				*e*Sg	**Sg**	**19 12 20.1**	**+0.7**
IVA	**Berane**	**1.03**	**341**	⇓*i*Pg	**Pg**	**19 12 05.9**	**-2.2**
IVA				*e*Sg	**Sg**	**19 12 22.9**	**+1.4**
BIA	**Bitola**	**1.14**	**140**	*e*Pg	**Pg**	**19 12 09.1**	**-1.2**
BIA				*e*Lg		19 12 26.2	
	comp=E,60nm,0.7s						
BIA				*e*Sg	**Sg**	**19 12 26.3**	**+1.2**
BIA				*e*Lg		19 12 26.5	
	comp=N,30nm,0.4s						
BIA	**Bitola**	**1.14**	**140**	*e*Pg	**Pg**	**19 12 09.0**	**-1.2**
BIA				*e*Sg	**Sg**	**19 12 26.2**	**+1.1**
BUM	**Brajici-Budva**	**1.15**	**291**	⇓*i*Pg	**Pg**	**19 12 07.5**	**-2.9**
BUM				*e*Sg	**Sg**	**19 12 26.4**	**+1.1**
NKY	**Niksic**	**1.36**	**313**	⇑*i*Pg	**Pg**	**19 12 11.8**	**-2.5**
NKY				*e*Sg	**Sg**	**19 12 33.9**	**+2.0**
STIP	**Stip**	**1.39**	**98**	*e*Pn	**Pn**	**19 12 13.3**	**-0.5**
STIP				*e*Sg	**Sg**	**19 12 33.3**	**+0.2**
STIP				*e*Lg		19 12 33.5	
	comp=N,9.8nm,0.4s						
STIP				*e*Lg		19 12 33.9	
	comp=E,7.8nm,0.8s						
STIP	**Stip**	**1.39**	**98**	*e*Pn	**Pn**	**19 12 13.2**	**-0.5**
STIP				*e*Sg	**Sg**	**19 12 33.2**	**+0.1**
HCY	**Herceg Novi**	**1.48**	**293**	⇓*i*Pg	**Pg**	**19 12 13.1**	**-3.5**
HCY				*e*Sg	**Sg**	**19 12 37.0**	**+1.2**
PLE	**Pljevlja**	**1.60**	**334**	*e*Pn	**Pn**	**19 12 16.3**	**-0.3**
PLE				*e*Sn	**Sn**	**19 12 41.1**	**+3.9**
BRY	**Bratogost**	**1.67**	**308**	*e*Pn	**Pn**	**19 12 17.9**	**+0.3**
BRY				*e*Sn	**Sn**	**19 12 43.5**	**+4.4**
UPM	**Unac-Piva**	**1.68**	**321**	*e*Pn	**Pn**	**19 12 18.5**	**+0.7**
UPM				*e*Sn	**Sn**	**19 12 43.3**	**+3.9**
VAY	**Valandovo**	**1.77**	**108**	*e*Pn	**Pn**	**19 12 19.2**	**+0.4**
VAY				*e*Sn	**Sn**	**19 12 43.0**	**+1.6**
VAY				*e*Lg		19 12 44.8	
	comp=N,13nm,0.5s						
VAY				*e*Lg		19 12 44.8	
	comp=E,21nm,0.7s						
VAY	**Valandovo**	**1.77**	**108**	*e*Pn	**Pn**	**19 12 19.2**	**+0.3**
VAY				*e*Sn	**Sn**	**19 12 42.9**	**+1.5**
STON	**Ston**	**2.19**	**297**	*i* Pn	**Pn**	**19 12 24.6**	**0.0**
STON				*i* Sn	**Sn**	**19 12 57.1**	**+5.3**

IDC 03 19:20:26.2±63.0, 1744S×17849W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=1158.0km s-min=164.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.79**	**241**	P	P	19 27 52.5	0.0
	0.5nm,0.3s,baz=84,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	19 28 41.1	+0.6
	0.3nm,0.3s,baz=94,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**44.85**	**254**	P	P	19 28 42.3	+0.2
	1.2nm,0.6s,baz=86,slow=9.0,SNR=18						

IDC 03 19:51:18.8±14.0, 722S×6828E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=452.6km s-min=34.6km az=66.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**55.20**	**12**	P	P	20 00 52.6	-0.7
	0.6nm,0.9s,baz=202,slow=6.5,SNR=3.9						
SONM	**Songino Array**	**64.30**	**27**	P	P	20 01 57.0	+1.1
	0.4nm,0.8s,baz=207,slow=7.5,SNR=3.8						
ASAR	**Alice Springs**	**64.83**	**113**	P	P	20 02 01.5	+2.0
	0.4nm,0.7s,baz=268,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**65.10**	**109**	P	P	20 02 00.7	-0.6
	1.3nm,0.8s,baz=282,slow=6.3,SNR=7.8						

*CSEM **03** 19:55:37.3±1.0, 3747N×1250W, h10km, ML2.2, Error ellipse: s-maj=18.2km s-min=14.2km az=86.0*
*INMG **03** 19:55:37.8±0.8, 3690N×1310W, h10km, ML2.2, Error ellipse: s-maj=11.2km s-min=6.2km az=101.0*
MDD 03 19:55:35.4±3.5, 3712N×1279W, h0km, mbLg2.6/9, Error ellipse: s-maj=29.4km s-min=21.5km az=106.0, PRXIMO SOLUCIN POBRE, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.26**	**81**	*e*Pn	Pn	19 56 26.5	-1.3
PTEO				*e*Sn	Sn	19 57 03.9	-3.4
PTEO							
	4.5nm,0.3s						
PTEO	**Sao Teotonio**	**3.26**	**81**	*e*P	Pn	19 56 26.5	-1.3
PTEO				*e*S	Sn	19 57 03.9	-3.4
	4.5nm,0.3s						
PLOU	**Loures**	**3.37**	**57**	*e*Sn	Sn	19 57 07.3	-2.6
PLOU							
	8.8nm,0.2s						
PLOU	**Loures**	**3.37**	**57**	*e*S	Sn	19 57 07.3	-2.6
	8.8nm,0.2s						
MOE	**Montemor**	**3.78**	**67**	*e*Sn	Sn	19 57 16.2	-3.8
PBEJ	**Beja**	**4.01**	**75**	*e*Sn	Sn	19 57 22.0	-3.7
EGRO	**El Granado**	**4.25**	**83**	P	Pn	19 56 40.2	-1.1
	0.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 57 28.0	-3.5
	2.1nm,0.1s,SNR=6.4						
EGRO	**El Granado**	**4.25**	**83**	P	Pn	19 56 40.2	-1.1
	0.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 57 28.0	-3.5
	1.6nm,0.3s,SNR=6.4						
PTOM	**Tomar**	**4.25**	**53**	*e*Sn	Sn	19 57 29.0	-2.6
PTOM							
	3.3nm,0.1s						
PTOM	**Tomar**	**4.25**	**53**	S	Sn	19 57 29.0	-2.6
	1.6nm,0.1s						
EBAD	**Badajoz**	**4.85**	**69**	P	Pn	19 56 47.6	-1.9
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 57 40.7	-5.6
	2.0nm,0.2s,SNR=7.4						
EBAD	**Badajoz**	**4.85**	**69**	P	Pn	19 56 47.6	-1.9
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 57 40.7	-5.6
	0.4nm,0.3s,SNR=7.4						
EMIN	**Mina Concepcio**	**4.91**	**81**	P	Pn	19 56 49.9	-0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	19 57 43.3	-4.6
	1.1nm,0.2s,SNR=7.0						
EMIN	**Mina Concepcio**	**4.91**	**81**	P	Pn	19 56 49.9	-0.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	19 57 43.3	-4.5
	0.3nm,0.2s,SNR=7.0						
PCBR	**Castelo Branco**	**4.97**	**55**	*e*Sn	Sn	19 57 45.6	-3.8
ESPR	**Espera**	**5.55**	**91**	P	Pn	19 56 58.0	-1.3
	0.6nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 57 58.9	-4.9
	3.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.55**	**91**	P	Pn	19 56 58.0	-1.2
	0.6nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 57 58.9	-4.8
	1.1nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.88**	**37**	*e*Sn	Sn	19 58 07.3	-4.5
ELOB	**Lobios**	**5.98**	**36**	S	Sn	19 58 07.8	-6.6
	1.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.98**	**36**	S	Sn	19 58 07.8	-6.6
	0.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.51**	**25**	S	Sn	19 58 18.8	-8.6
	2.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.51**	**25**	S	Sn	19 58 18.8	-8.6
	1.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.60**	**78**	S	Sn	19 58 24.6	-4.9
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.60**	**78**	S	Sn	19 58 24.8	-4.7
	0.5nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.71**	**42**	S	Sn	19 58 26.1	-6.1
	0.7nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.71**	**42**	S	Sn	19 58 26.1	-6.1
	0.7nm,0.4s,SNR=7.9						

IDC 03 20:17:43.1±2.3, 519S×12870E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=187.1km s-min=29.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.66**	**160**	Pn	Pn	20 21 27.2	+2.2
	0.2nm,0.3s,baz=342,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**19.04**	**165**	P	Pn	20 22 06.2	-1.2
	0.2nm,0.3s,baz=346,slow=11,SNR=23						
MKAR	**Makanchi Array**	**66.01**	**327**	P	P	20 28 31.6	+0.2
	0.1nm,0.4s,baz=124,slow=8.0,SNR=5.5						

*ISCJB **03** 20:26:57.1±2.5, 385N±02×738E±0.1, h33km, Error ellipse: s-maj=23.3km s-min=15.9km az=29.7*
*NNC **03** 20:26:57.7±3.6, 3877N×7350E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=37.9km s-min=22.7km az=163.0*
ISC 03 20:26:57.8±2.5, 384N±02×739E±02, h35km, n12, σ0§49/14, 2C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.77**	**358**	P	**Pn**	**20 27 54.1**	**+0.7**
	SNR=46						
KZA	**Kyzart**	**3.87**	**16**	P	**Pn**	**20 27 54.6**	**-0.1**
	SNR=20						
UCH	**Uchtor**	**3.90**	**7**	P	**Pn**	**20 27 55.5**	**+0.4**
	SNR=17						
ULHL	**Ulahol**	**4.29**	**24**	P	**Pn**	**20 27 59.7**	**-0.9**
	SNR=14						
AAK	**Ala-Archa**	**4.30**	**6**	P	**Pn**	**20 28 01.3**	**+0.6**
	SNR=6.4						
EKS2	**Erkin-Say**	**4.30**	**359**	P	**Pn**	**20 28 01.4**	**+0.7**
	SNR=7.6						
KBK	**Karagaybulak**	**4.38**	**11**	P	**Pn**	**20 28 01.9**	**+0.2**
	SNR=18						
CHMS	**Chumysh**	**4.69**	**8**	P	**Pn**	**20 28 06.0**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**4.75**	**16**	P	**Pn**	**20 28 06.2**	**-0.6**
	SNR=23						
TKM2	**Tokmak 2**	**4.75**	**16**	⇑Pn	**Pn**	**20 28 06.1**	**-0.7**
	6.8nm,0.5s						
TKM2				⇑Sn	**Sn**	**20 29 00.8**	**+0.1**
	3.7nm,0.8s						
USP	**Ospenovka**	**4.93**	**5**	P	**Pn**	**20 28 09.0**	**-0.4**
	SNR=6.7						
KK31	**Karatay Array**	**5.38**	**333**	Pn	**Pn**	**20 28 15.3**	**-0.2**
	0.5nm,0.2s,baz=151,slow=15,SNR=86						
KK31				⇓Sn	**Sn**	**20 29 15.8**	**-0.4**
	8.1nm,0.4s,baz=161,slow=25,SNR=26						

*CRAAG **03** 20:34:07.4, 1205N×9236E, Mb5.6*
*ISCJB **03** 20:34:09.7±0.1, 1182N±002×9240E±002, h24km, mb5.5/261, MS5.9/196, Error ellipse: s-maj=3.3km s-min=2.3km az=29.1*
*NEIC **03** 20:34:11.0±0.1, 1186N×9237E, h19km, mb5.6/180, ME6.0, MS6.0/146, MW6.0, Error ellipse: s-maj=3.8km s-min=2.8km az=19.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^{18}Nm; M_{rr}0.61; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-0.53; $M_{r\theta}$0.23; $M_{\theta\phi}$0.31; $M_{\phi r}$-1.14; Best double couple: $M_0$1.30000×10^{18} NP1:ϕ_s167.00000°, δ76.00000°, λ98.00000°. NP2:ϕ_s318.00000°, δ16.00000°, λ62.00000°. Principal axes: T 1.3200, Plg59.0000°, Azm87.0000°; N 0.0400, Plg8.0000°, Azm345.0000°; P -1.3600, Plg30.0000°, Azm250.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s355.00000°, δ13.00000°, λ90.00000°. NP2:ϕ_s175.00000°, δ77.00000°, λ90.00000°. Principal axes: T Plg58.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg32.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Port Blair.
*IDC **03** 20:34:10.1±3.3, 1178N×9245E, h18km±20km, mb5.2/39, mb1 5.3/40, mb1mx5.3/40, mbtmp5.3/40, ML4.2/1, MS5.8/25, Ms1 5.8/25, ms1mx5.7/36 Error ellipse: s-maj=13.2km s-min=8.8km az=41.0*
*BJI **03** 20:34:10.6, 1178N×9239E, h37km, mB6.3, mb5.5, Ms6.3, Msz6.0*
*MOS **03** 20:34:11.0±1.1, 1188N×9242E, h33km, mb5

CAL				ex	x	20 38 40.0	
CAL				ex	x	20 38 52.6	
MDRS	**Chennai**	**11.94**	**277**	*eP*	**Pn**	**20 36 59.0**	**-1.6**
MDRS				AMS	AMS	20 42 19.9	
	comp=Z,46μm,18.1s						
MDRS				ex	x	20 43 59.0	
VJD	**Vijayawada**	**12.31**	**293**	*eP*	**Pn**	**20 37 03.0**	**-2.6**
VJD				*eS*	**Sn**	**20 39 09.5**	**-12**
PALK	**Pallekele**	**12.41**	**250**	Pn	**Pn**	**20 37 02.4**	**-4.6**
	comp=Z,1μm,1.3s,SNR=22						
PALK	**Pallekele**	**12.41**	**250**	Pn	**Pn**	**20 37 02.7**	**-4.3**
BOK	**Bokaro**	**13.39**	**333**	*eP*	**Pn**	**20 37 18.4**	**-1.9**
BOK				*eS*	**Sn**	**20 39 37.1**	**-11**
BOK				AMS	AMS	20 44 00.1	
	comp=Z,38μm,19.2s						
SHL	**Shillong**	**13.64**	**358**	*eP*	**Pn**	**20 37 22.0**	**-1.8**
SHL				*eS*	**Sn**	**20 39 53.0**	**-1.5**
BLSP	**Bilaspur**	**14.17**	**317**	*eP*	**Pn**	**20 37 30.0**	**-0.9**
BLSP				*eS*	**Sn**	**20 40 10.0**	**+2.7**
HYB	**Hyderabad**	**14.50**	**294⇑**	*iP*	**Pn**	**20 37 30.0**	**-5.5**
HYB				*eS*	**Sn**	**20 40 34.0**	**+19**
HYB				LR	LR	20 45 00.0	
	comp=Z,104nm,16.0s						
HYB	**Hyderabad**	**14.50**	**294⇑**	*eP*	**Pn**	**20 37 30.0**	**-5.5**
HYB				*eS*	**Sn**	**20 40 16.0**	**+0.6**
KGM	**Kluang**	**14.58**	**131**	P	**Pn**	**20 37 37.6**	**+1.1**
TRD	**Trivandrum**	**15.57**	**259**	*eP*	**Pn**	**20 37 47.4**	**-2.3**
TRD				AMb	AMB	20 37 52.5	
	comp=Z,162nm,0.7s						
TRD				*eS*	**Sn**	**20 40 45.4**	**+3.9**
TRD				AMS	AMS	20 44 13.2	
	comp=Z,62μm,18.6s						
NGP	**Nagpur**	**15.79**	**308**	*eP*	**Pn**	**20 37 47.4**	**-5.1**
NGP				*ex*	x	20 38 06.9	
	comp=Z,368nm,1.3s						
NGP				*ex*	x	20 40 30.9	
KMI	**Kunming**	**16.42**	**35**	⇑P	**Pn**	**20 38 03.2**	**+2.6**
KMI				AP	pP	20 38 05.1	-4.9
KMI				PP		20 38 16.6	
KMI				S	**Sn**	**20 41 05.5**	**+3.5**
KMI				SS		20 41 25.4	
KMI				AMB	AMB		
	comp=Z,184nm,1.8s						
KMI				AMB	AMB		
	comp=Z,14μm,11.1s						
KMI				LR	LR		
	comp=N,61μm,16.1s						
KMI				LR	LR		
	comp=E,51μm,17.7s						
KMI	**Kunming**	**16.42**	**35**	⇑P	**Pn**	**20 38 03.2**	**+2.6**
	comp=E,180nm,1.8s						
KMI				pP	pP	20 38 05.1	-4.9
KMI				PP		20 38 16.6	
KMI				S	**Sn**	**20 41 05.5**	**+3.5**
KMI				SS		20 41 25.4	
LATR	**Latur**	**16.63**	**295**	*eP*	**Pn**	**20 38 00.0**	**-3.3**
ALBI	**Allahabad**	**16.72**	**325**	*eP*	**Pn**	**20 38 02.0**	**-2.4**
JIRN	**Jiri**	**16.77**	**341**	*eP*	**Pn**	**20 38 04.2**	**-0.8**
	comp=E,2μm,1.3s						
PKI	**Pulchoki**	**16.95**	**338**	*eP*	**Pn**	**20 38 04.2**	**-3.2**
	comp=E,868nm,1.1s						
PKI	**Pulchoki**	**16.95**	**338**	*eP*	**Pn**	**20 38 04.2**	**-3.2**
PKI				pmax	pmax		
	comp=Z,434nm,1.1s						
DMN	**Daman**	**17.10**	**337**	*eP*	**Pn**	**20 38 06.3**	**-2.9**
	comp=Z,1μm,1.0s						
GUN	**Gumba**	**17.10**	**340**	*eP*	**Pn**	**20 38 07.0**	**-2.2**
	comp=Z,559nm,0.8s						
AKL	**Akola**	**17.19**	**303**	*ex*	x	20 37 28.8	
	comp=Z,174nm,1.2s						
AKL				*ex*	x	20 40 12.5	
KKN	**Kakani**	**17.20**	**338**	*eP*	**Pn**	**20 38 07.6**	**-2.9**
MNGI	**Mangalore**	**17.22**	**275**	*eP*	**Pn**	**20 38 09.3**	**-1.4**
MNGI				*ex*	x	20 41 28.3	
VLK	**Valmikinagar**	**17.34**	**334**	*ex*	x	20 38 24.0	
VLK				*ex*	x	20 38 36.0	
GKN	**Gorkha**	**17.64**	**337**	*eP*	**Pn**	**20 38 12.6**	**-3.2**
	comp=Z,2μm,1.1s						
LSA	**Lhasa**	**17.79**	**356**	P	**Pn**	**20 38 18.2**	**+0.4**
LSA				AP	pP	20 38 26.2	+1.0
LSA				XP	sP	20 38 30.3	+1.9
LSA				S	**Sn**	**20 41 40.4**	**+5.1**
LSA				LR	LR		
	comp=N,18μm,23.1s						
LSA				LR	LR		
	comp=E,52μm,19.0s						
LSA				LR	LR		
	comp=Z,59μm,19.4s						
LSA	**Lhasa**	**17.79**	**356**	*eP*	**Pn**	**20 38 16.5**	**-1.3**
LSA				pmax	pmax		
	comp=Z,238nm,0.8s						
KOLN	**Koldanda**	**17.85**	**334**	*eP*	**Pn**	**20 38 14.9**	**-3.7**
	comp=Z,3μm,1.3s						
BHPL	**Bhopal**	**18.21**	**310**	*eP*	**Pn**	**20 38 23.1**	**+0.1**
BHPL				AMb	AMB	20 38 49.4	
	comp=Z,517nm,1.1s						
BHPL				*eS*	**Sn**	**20 41 47.7**	**+2.2**
BHPL				AMS	AMS	20 46 20.7	
	comp=Z,55μm,16.3s						
QIZ	**Qiongzhong**	**18.24**	**65**	P	**Pn**	**20 38 24.0**	**+0.7**
QIZ				AP	pP	20 38 33.6	+3.4
QIZ				S	**Sn**	**20 41 40.5**	**-5.7**
QIZ				XS	sS	20 41 55.1	-6.6
QIZ				PCP	PcP	20 42 57.3	+2.2
QIZ				LR	LR		
	comp=N,40μm,15.3s						
QIZ				LR	LR		
	comp=E,49μm,16.1s						
QIZ				LR	LR		
	comp=Z,74μm,16.1s						
QIZ	**Qiongzhong**	**18.24**	**65**	P	**Pn**	**20 38 24.0**	**+0.7**
QIZ				pP	pP	20 38 33.6	+3.4
QIZ				S	**Sn**	**20 41 40.5**	**-5.7**
QIZ				sS	sS	20 41 55.1	-6.6
QIZ				PcP	PcP	20 42 57.3	+2.2
KAD	**Karad**	**18.45**	**289**	*eP*	**Pn**	**20 38 25.1**	**-0.8**
KAD				AMb	AMB	20 38 53.1	
	comp=Z,707nm,1.3s						
KAD				AMS	AMS	20 46 08.9	
	comp=E,24μm,17.8s						
POO	**Poona**	**19.09**	**293**	*i* PP		20 38 50.0	
POO				*i* PPP		20 38 59.0	
POO				*i* S	**Sn**	**20 42 08.0**	**+1.2**
POO				*i* x	x	20 42 13.5	
POO				*ex*	x	20 42 26.5	
POO				*i* x	x	20 42 34.5	
POO				*i* SSS		20 42 47.5	
POO				*i* PCP	PcP	20 42 51.5	-5.0
POO				*i* x	x	20 43 16.0	
POO	**Poona**	**19.09**	**293**	*i* PCS	PcS	20 46 27.5	-6.0
POO	**Poona**	**19.09**	**293⇓**	*iP*	**Pn**	**20 38 32.0**	**-1.6**
	comp=E,6μm,1.1s						
GYA	**Guiyang**	**19.77**	**41⇑**	*iP*	**Pn**	**20 38 39.9**	**-1.8**
GYA				AP	pP	20 38 46.2	-0.8
GYA				XP	sP	20 38 51.6	+1.4
GYA				PP		20 38 58.9	
GYA				S	**Sn**	**20 42 20.8**	**-2.4**
GYA				AMB	AMB		
	comp=Z,250nm,1.1s						
GYA				AMB	AMB		
	comp=Z,11μm,12.6s						
GYA				LR	LR		
	comp=N,31μm,15.5s						
GYA				LR	LR		
	comp=E,43μm,16.8s						
GYA				LR	LR		
	comp=Z,46μm,17.7s						
GYA	**Guiyang**	**19.77**	**41⇑**	*iP*	**Pn**	**20 38 39.9**	**-1.8**
	comp=Z,250nm,1.1s						
GYA				pP	pP	20 38 46.2	-0.8
GYA				sP	sP	20 38 51.6	+1.4
GYA				PP		20 38 58.9	
GYA				S	**Sn**	**20 42 20.8**	**-2.4**
BOM	**Bombay**	**20.14**	**293**	*eP*	**P**	**20 38 43.8**	**-0.3**
BOM				*ex*	x	20 39 13.0	
	comp=Z,1μm,1.8s						
BOM				*ex*	x	20 42 12.8	
KSM	**Kuching**	**20.53**	**119**	*eP*	**P**	**20 38 47.2**	**-1.2**
LGTI	**Lohaghat**	**20.85**	**329**	*eP*	**P**	**20 38 53.5**	**+1.7**
LGTI				*ex*	x	20 42 37.5	
PTH	**Pithoragarh**	**20.95**	**329**	*eP*	**P**	**20 38 55.9**	**+3.0**
PTH				*ex*	x	20 42 36.0	
PTH				*ex*	x	20 42 36.4	
CD2	**Chengdu**	**21.67**	**27⇑**	*iP*	**P**	**20 39 00.4**	**-0.3**
CD2				PP		20 39 25.9	
CD2				S	**S**	**20 42 56.5**	**-2.8**
CD2				PCP	PcP	20 43 01.1	-0.2
CD2				SS		20 43 34.1	
CD2				AMB	AMB		
	comp=Z,510nm,0.9s,mb6.0						
CD2				AMB	AMB		
	comp=Z,8μm,12.0s						
CD2				LR	LR		
	comp=N,23μm,18.0s						
CD2				LR	LR		
	comp=Z,13μm,22.2s,MS5.3						
CD2	**Chengdu**	**21.67**	**27⇑**	*iP*	**P**	**20 39 00.4**	**-0.3**
	comp=Z,510nm,0.9s,mb6.0						
CD2				PP		20 39 25.9	
CD2				S	**S**	**20 42 56.5**	**-2.8**
CD2				PcP	PcP	20 43 01.1	-0.2
CD2				SS		20 43 34.1	
CD2				LR	LR		
	comp=Z,13μm,22.2s,MS5.3						
BHV	**Bhavnagar**	**21.73**	**300**	*eP*	**P**	**20 39 02.0**	**+0.7**
NDI	**New Delhi**	**21.94**	**322**	*eP*	**P**	**20 39 04.0**	**+0.4**
NDI				*eS*	**S**	**20 43 05.0**	**+0.4**
AJM	**Ajmer**	**22.17**	**314**	*i* P	**P**	**20 39 06.0**	**0.0**
AJM				*eP*		20 39 06.4	
AJM				AMb	AMB	20 39 34.6	
	comp=Z,628nm,1.6s,mb5.8						
AJM				*eS*	**S**	**20 43 10.6**	**+1.6**
AJM				AMS	AMS	20 48 44.7	
	comp=Z,33μm,16.5s,MS5.8						
DDI	**Dehra Dun**	**22.69**	**326**	*eP*	**P**	**20 39 10.3**	**-1.3**
DDI				*eS*	**S**	**20 43 18.3**	**-0.5**
HKC	**Hong Kong**	**23.22**	**61⇑**	*iP*	**P**	**20 39 18.0**	**+0.9**
HKC				*i* S	**S**	**20 43 24.0**	**-3.3**
SDNR	**Sundarnagar**	**24.19**	**326**	*eP*	**P**	**20 39 27.4**	**+1.1**
SDNR				*ex*	x	20 44 03.0	
KKM	**Kota Kinabalu**	**24.20**	**102**	P	**P**	**20 39 27.1**	**+0.6**
KKM	**Kota Kinabalu**	**24.20**	**102**	*eP*	**P**	**20 39 27.6**	**+1.2**
ENH	**Enshi**	**24.22**	**38**	P	**P**	**20 39 25.6**	**-1.0**
ENH	**Enshi**	**24.22**	**38**	*eP*	**P**	**20 39 25.2**	**-1.4**
	comp=Z,0.1nm,0.3s						
COCO	**West Island**	**24.29**	**169**	P	**P**	**20 39 29.0**	**+1.8**
	comp=Z,3μm,1.0s,mb6.6,SNR=8.7						
COCO	**West Island**	**24.29**	**169**	P	**P**	**20 39 29.9**	**+2.6**
COCO				LR	LR		
	comp=Z,5μm,19.0s,MS5.0						
BHK	**Bhakra**	**24.43**	**325**	*eP*	**P**	**20 39 36.3**	**+7.8**
BHK				*eS*	**S**	**20 43 55.9**	**+8.9**
BHJ	**Bhuj**	**24.44**	**301⇓**	*eP*	**P**	**20 39 29.4**	**+0.8**
BHJ				*eS*	**S**	**20 43 51.0**	**+3.9**
BHJ				*ex*	x	20 50 51.9	
	comp=Z,36μm,17.9s						
BHJ	**Bhuj**	**24.44**	**301**	*eP*	**P**	**20 39 29.4**	**+0.8**
BHJ				*eS*	**S**	**20 43 51.0**	**+3.9**
PONG	**Pong**	**25.10**	**325**	*ex*	x	20 39 45.0	
PONG				*ex*	x	20 44 20.0	
BATP	**Bataraza**	**25.16**	**95**	*eP*	**P**	**20 39 35.3**	**+0.1**
DLH	**Dalhousie**	**25.54**	**326**	*eP*	**P**	**20 39 40.0**	**+1.5**
THN	**Thein Dam**	**25.59**	**326**	*eP*	**P**	**20 39 38.3**	**-0.7**
THN				*ex*	x	20 44 35.8	
LZH	**Lanzhou**	**26.24**	**21**	⇑P	**P**	**20 39 46.0**	**+1.1**
LZH				AP	pP	20 39 55.1	+2.8
LZH				XP	sP	20 39 58.9	+3.5
LZH				PP		20 40 28.5	
LZH				S	**S**	**20 44 13.6**	**-2.1**
LZH				XS	sS	20 44 28.3	+0.3
LZH				SS		20 45 21.2	
LZH				SCP	ScP	20 46 48.9	-0.3
LZH				PCS	PcS	20 46 53.2	+1.1
LZH				SCS	ScS	20 50 37.5	-1.7
LZH				AMB	AMB		
	comp=Z,537nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,6μm,8.3s						
LZH				LR	LR		
	comp=N,47μm,15.3s						
LZH				LR	LR		
	comp=Z,51μm,18.6s,MS6.1						
LZH	**Lanzhou**	**26.24**	**21**	⇑P	**P**	**20 39 46.0**	**+1.1**
	comp=Z,540nm,1.2s,mb6.0						
LZH				pP	pP	20 39 55.1	+2.8
LZH				sP	sP	20 39 58.9	+3.5
LZH				PP		20 40 28.5	
LZH				S	**S**	**20 44 13.6**	**-2.1**
LZH				sS	sS	20 44 28.3	+0.3
LZH				SS		20 45 21.2	
LZH				ScP	ScP	20 46 48.9	-0.3
LZH				PcS	PcS	20 46 53.2	+1.1
LZH				ScS	ScS	20 50 37.5	-1.7
LZH				LR	LR		
	comp=Z,51μm,18.6s,MS6.1						
TSM	**Tawau**	**26.29**	**105**	P	**P**	**20 39 45.2**	**-0.1**
ENPP	**El Nido**	**26.47**	**89**	*eP*	**P**	**20 39 45.0**	**-2.1**
XAN	**Xi'an**	**26.73**	**32**	P	**P**	**20 39 47.8**	**-1.5**
XAN				AP	pP	20 39 57.6	+0.9
XAN				S	**S**	**20 44 20.4**	**-3.0**
XAN				AMB	AMB		
	comp=Z,57nm,1.7s,mb4.8						
XAN				AMB	AMB		
	comp=Z,5μm,12.5s						
XAN				LR	LR		
	comp=N,25μm,17.7s,MS6.1						
XAN				LR	LR		
	comp=E,38μm,16.4s,MS6.1						
XAN				LR	LR		
	comp=Z,31μm,17.7s,MS5.9						
XAN	**Xi'an**	**26.73**	**32**	P	**P**	**20 39 47.8**	**-1.5**
	comp=Z,57nm,1.7s,mb4.8						
XAN				pP	pP	20 39 57.6	+0.9
XAN				S	**S**	**20 44 20.4**	**-3.0**
XAN				LR	LR		
	comp=Z,31μm,17.7s,MS5.9						
SCZP	**Santa Cruz**	**26.97**	**79**	*eP*	**P**	**20 39 58.4**	**+6.8**
BUSP	**Coron**	**27.18**	**87**	*eP*	**P**	**20 39 52.9**	**-0.5**
LUBP	**Lubang**	**27.20**	**83**	*eP*	**P**	**20 39 48.8**	**-4.8**
WHN	**Wuhan**	**27.54**	**44**	P	**P**	**20 39 56.5**	**-0.2**
WHN				S	**S**	**20 44 36.0**	**-0.3**
WHN				LR	LR		
	comp=Z,139μm,15.0s,MS6.7						
DGAR	**Diego Garcia**	**27.58**	**227**	PFAKE		20 40 10.0	+13
DGAR				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
NIL	**Nilore**		**27.88**	**324**	P	**P**	**20 39 59.4**	**-0.2**
	comp=Z,102nm,0.6s,mb5.6,SNR=5.0						
NIL	**Nilore**		**27.88**	**324**	P	**P**	**20 39 60.0**	**+0.3**
TGY	**Tagaytay City**		**27.88**	**82**	P	**P**	**20 39 58.6**	**-1.0**
	comp=Z,122nm,0.4s,baz=259,slow=16,SNR=2.1						
TGY				LR	LR	20 50 54.7	
	comp=Z,104nm,18.4s,baz=81,slow=36						
ABRA	**Dolores**	**27.95**	**75**	*eP*	**P**	**20 39 53.5**	**-6.8**
QZH	**Quanzhou**	**27.97**	**59⇑**	*iP*	**P**	**20 40 00.8**	**+0.3**
QZH				S	**S**	**20 44 46.0**	**+2.9**
QZH				AMB	AMB		
	comp=Z,140nm,0.9s,mb5.6						
QZH				LR	LR		
	comp=N,42μm,15.9s,MS6.2						
QZH				LR	LR		
	comp=E,37μm,15.6s,MS6.2						
QZH				LR	LR		
	comp=Z,78μm,16.1s,MS6.4						
QZH	**Quanzhou**	**27.97**	**59⇑**	*iP*	**P**	**20 40 00.8**	**+0.3**
	comp=Z,140nm,0.9s,mb5.6						
QZH				S	**S**	**20 44 46.0**	**+2.9**
QZH				LR	LR		
	comp=Z,78μm,16.1s,MS6.4						
GTA	**Gaotai**	**28.21**	**12**	⇑P	**P**	**20 40 03.5**	**+0.8**
GTA				PP	PP	20 40 55.0	-12
GTA				S	**S**	**20 44 48.9**	**+2.0**
GTA				SS		20 46 11.8	
GTA				AMB	AMB		
	comp=Z,117nm,1.1s,mb5.4						
GTA				AMB	AMB		
	comp=Z,3μm,8.0s						
GTA				LR	LR		
	comp=N,15μm,19.1s,MS5.8						
GTA				LR	LR		
	comp=E,18μm,18.0s,MS5.8						
GTA				LR	LR		
	comp=Z,18μm,19.1s,MS5.7						
GTA	**Gaotai**	**28.21**	**12**	⇑P	**P**	**20 40 03.5**	**+0.8**
	comp=Z,120nm,1.1s,mb5.4						
GTA				PP	PP	20 40 55.0	-12
GTA				S	**S**	**20 44 48.9**	**+2.0**
GTA				SS		20 46 11.8	
GTA				LR	LR		
	comp=Z,18μm,19.1s,MS5.7						
APYP	**Conner**	**28.48**	**74**	*eP*	**P**	**20 40 02.9**	**-2.0**
BALP	**Baler**	**28.57**	**79**	*eP*	**P**	**20 40 10.0**	**+4.2**
POLP	**Polilio Island**	**28.87**	**81**	*eP*	**P**	**20 40 01.3**	**-7.2**
CAUP	**Cauayan**	**28.91**	**76**	*eP*	**P**	**20 40 08.4**	**-0.5**
OTRP	**Odiongan**	**28.95**	**86**	*eP*	**P**	**20 40 10.2**	**+1.0**
GUIM	**Jordan**	**29.62**	**89**	*eP*	**P**	**20 40 17.4**	**+2.3**
RCP	**Roxas**	**29.70**	**87**	*eP*	**P**	**20 40 18.0**	**+2.2**
YHNB	**Yeheng**	**30.23**	**61**	*eP*	**P**	**20 40 22.2**	**+1.7**
	comp=Z,25nm,1.0s,mb4.9						
NACB	**Ninganchiao**	**30.26**	**62**	*eP*	**P**	**20 40 23.5**	**+2.7**
	comp=Z,54nm,0.8s,mb5.3						
TATO	**Taipei**	**30.43**	**61**	*eP*	**P**	**20 40 24.5**	**+2.2**
TATO				LR	LR		
	comp=Z,20μm,19.0s,MS5.8						
PAGZ	**Pagadian**	**30.76**	**95**	*eP*	**P**	**20 40 25.8**	**+0.6**
TBP	**Tagbilaran**	**30.96**	**91**	*eP*	**P**	**20 40 21.5**	**-5.5**
KSH	**Kashi**	**31.16**	**335⇑**	*iP*	**P**	**20 40 30.6**	**+1.8**
KSH				AP	pP	20 40 35.1	-1.1
KSH				PP	PP	20 41 33.3	-6.0
KSH				PCP	PcP	20 43 25.0	+1.6
KSH				S	**S**	**20 45 35.0**	**+1.8**
KSH				SCP	ScP	20 47 07.0	+2.3
KSH				PCS	PcS	20 47 08.4	+0.8
KSH				SS	SS	20 47 21.1	-26
KSH				SCS	ScS	20 51 01.4	-0.5
KSH				AMB	AMB		
	comp=Z,1μm,7.3s						
KSH				LR	LR		
	comp=N,27μm,15.7s,MS6.2						
KSH				LR	LR		
	comp=E,26μm,15.6s,MS6.2						
KSH	**Kashi**	**31.16**	**335⇑**	*iP*	**P**	**20 40 30.6**	**+1.8**
KSH				pP	pP	20 40 35.1	-1.1
KSH				PP	PP	20 41 33.3	-6.0
KSH				PcP	PcP	20 43 25.0	+1.6
KSH				S	**S**	**20 45 35.0**	**+1.8**
KSH				ScP	ScP	20 47 07.0	+2.3
KSH				PcS	PcS	20 47 08.4	+0.8
KSH				SS	SS	20 47 21.1	-26
KSH				ScS	ScS	20 51 01.4	-0.5
TIY	**Taiyuan**	**31.37**	**31**	⇑P	**P**	**20 40 27.0**	**-3.6**
TIY				S	**S**	**20 45 35.0**	**-1.4**
TIY				LR	LR		
	comp=N,46μm,14.0s						
NJ2	**Nanjing**	**31.55**	**46**	*eP*	**P**	**20 40 33.1**	**+0.9**
NJ2				AP	pP	20 40 37.6	-2.0
NJ2				PP	PP	20 41 36.1	-7.5
NJ2				S	**S**	**20 45 40.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,3μm,10.3s						
NJ2				LR	LR		
	comp=N,74μm,18.3s,MS6.5						
NJ2				LR	LR		
	comp=E,60μm,16.0s,MS6.5						
NJ2				LR	LR		
	comp=Z,9μm,25.4s						
NJ2	**Nanjing**	**31.55**	**46**	*eP*	**P**	**20 40 33.1**	**+0.9**
	comp=Z,110nm,1.0s,mb5.6						
NJ2				pP	pP	20 40 37.6	-2.0
NJ2				PP	PP	20 41 36.1	-7.5
NJ2				S	**S**	**20 45 40.0**	**+0.7**
NJ2				LR	LR		
	comp=Z,9μm,25.4s,MS5.3						
OCLP	**Ormoc**	**31.56**	**88**	*eP*	**P**	**20 40 31.2**	**-1.0**
CGP	**Cagayan de Oro**	**31.94**	**93⇓**	*iP*	**P**	**20 40 36.3**	**+0.7**
WMQ	**Urumqi**	**32.11**	**354**	P	**P**	**20 40 38.0**	**+0.9**
WMQ				PP	PP	20 41 45.0	-4.8
WMQ				S	**S**	**20 45 48.0**	**+0.1**
WMQ				SCP	ScP	20 47 09.0	+1.2
WMQ				SS	SS	20 47 41.0	-25
WMQ				AMB	AMB		
	comp=Z,124nm,1.0s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,2μm,5.5s						
WMQ				LR	LR		
	comp=N,21μm,10.0s,MS6.5						
WMQ				LR	LR		
	comp=E,52μm,13.0s,MS6.5						
WMQ				LR	LR		
	comp=Z,19μm,11.0s,MS6.0						
WMQ	**Urumqi**	**32.11**	**354**	P	**P**	**20 40 38.0**	**+0.9**
	comp=Z,120nm,1.0s,mb5.7						
WMQ				PP	PP	20 41 45.0	-4.8
WMQ				S	**S**	**20 45 48.0**	**+0.1**
WMQ				ScP	ScP	20 47 09.0	+1.2
WMQ				SS	SS	20 47 41.0	-25
WMQ				LR	LR		
	comp=Z,18μm,11.0s,MS6.0						
BUKP	**Musuan**	**32.39**	**94**	*eP*	**P**	**20 40 40.9**	**+1.3**
BTO	**Baotou**	**32.56**	**25**	*eP*	**P**	**20 40 40.9**	**-0.2**
BTO				S	**S**	**20 45 45.4**	**-10**
BTO				LR	LR		
	comp=N,3μm,9.8s						
BTO				LR	LR		
	comp=E,11μm,14.9s						
SSE	**Sheshan**	**32.75**	**50**	⇑P	**P**	**20 40 43.7**	**+1.0**
SSE				PCP	PcP	20 43 31.5	+3.8
SSE				S	**S**	**20 46 00.3**	**+2.3**
SSE				AMB	AMB		
	comp=Z,73nm,3.3s						
SSE				AMB	AMB		
	comp=Z,3μm,10.0s						
SSE				LR	LR		
	comp=N,24μm,18.7s,MS6.0						
SSE				LR	LR		
	comp=E,13μm,18.7s,MS6.0						
SSE				LR	LR		
	comp=Z,26μm,14.0s,MS6.1						
BUTP	**Butuan**	**32.77**	**92**	*eP*	pP	20 40 57.6	+7.2
TIA	**Tai'an**	**32.93**	**38**	⇓P	**P**	**20 40 44.7**	**+0.4**
TIA				S	**S**	**20 46 00.0**	**-0.8**
TIA				XS	sS	20 46 16.5	+3.4
TIA				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.5						
TIA				AMB	AMB		
	comp=Z,2μm,6.0s						
TIA				LR	LR		
	comp=N,14μm,13.0s,MS6.2						
TIA				LR	LR		
	comp=E,27μm,14.0s,MS6.2						
TIA	**Tai'an**	**32.93**	**38**	⇓P	**P**	**20 40 44.7**	**+0.4**
	comp=E,58nm,1.0s,mb5.5						
TIA				S	**S**	**20 46 00.0**	**-0.8**
TIA				sS	sS	20 46 16.5	+3.4
DAV	**Davao City (W)**	**33.04**	**95**	*eP*	**P**	**20 40 46.0**	**+0.7**
DAV	**Davao City (W)**	**33.04**	**95**	*eP*	**P**	**20 40 46.5**	**+1.3**
	comp=E,285nm,1.1s,mb6.1						
DAV				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
ULHL	**Ulahol**	**33.40**	**338**	P	**P**	**20 40 50.5**	**+2.2**
	SNR=36						
HHC	**Hu-ho-hao-te**	**33.43**	**27⇑**	*eP*	**P**	**20 40 48.3**	**-0.3**
HHC				AP	pP	20 40 57.9	+1.8
HHC				XP	sP	20 41 01.5	+2.3
HHC				PP	PP	20 42 02.7	-1.7
HHC				PCP	PcP	20 43 26.6	-3.0
HHC				S	**S**	**20 46 10.8**	**+2.3**
HHC				XS	sS	20 46 26.4	+5.6
HHC				SCP	ScP	20 47 04.8	-7.6
HHC				PCS	PcS	20 47 09.6	-5.7
HHC				SCS	ScS	20 51 08.1	-5.3
HHC				AMB	AMB		
	comp=Z,2μm,3.7s						
HHC				LR	LR		
	comp=N,25μm,16.3s,MS6.3						
HHC				LR	LR		
	comp=E,35μm,15.7s,MS6.3						
HHC				LR	LR		
	comp=Z,30μm,17.2s,MS6.1						
HHC	**Hu-ho-hao-te**	**33.43**	**27⇑**	*eP*	**P**	**20 40 48.3**	**-0.3**
HHC				pP	pP	20 40 57

HHC LR LR
comp=Z,30μm,17.2s,MS6.1
WBK Wadi Bani Khal 33.60 293 P **P** **20 40 53.2 +3.0**
SNR=8.3
KZA Kyzart 33.63 337 P **P** **20 40 53.0 +2.6**
SNR=35
UCH Uchtor 34.04 336 P **P** **20 40 55.0 +1.1**
SNR=31
AAA Alma-Ata 34.05 340 *i* P **P** **20 40 54.3 +0.3**
AAA *i* S **S** **20 46 18.6 +0.6**
TKM2 Tokmak 2 34.22 338 P **P** **20 40 56.8 +1.3**
SNR=36
KBK Karagaybulak 34.24 337 P **P** **20 40 58.5 +2.8**
SNR=34
AML Almayashu 34.30 335 P **P** **20 40 57.6 +1.5**
SNR=88
AAK Ala-Archa 34.39 336 P **P** **20 40 59.8 +2.8**
SNR=36
AAK Ala-Archa 34.39 336 P **P** **20 40 57.8 +0.8**
comp=Z,228nm,1.0s,mb6.1,SNR=28
AAK Ala-Archa 34.39 336*c i* P **P** **20 40 56.3 -0.7**
AAK pmax pmax
comp=Z,36nm,1.0s,mb5.3
AAK MLR MLR
comp=Z,20μm,16.0s,MS5.9
AAK Ala-Archa 34.39 336⇑ *i* P **P** **20 40 56.3 -0.7**
comp=Z,36nm,1.0s,mb5.3
AAK LR LR
comp=Z,20μm,16.0s,MS5.9
FRU Bishkek 34.52 337 *e* P **P** **20 41 00.0 +1.9**
FRU *e* S **S** **20 46 30.0 +4.7**
FRU *e* 20 49 00.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,26μm,18.0s,MS6.0
FRU Bishkek 34.52 337 *e* P **P** **20 41 00.0 +1.9**
comp=Z,120nm,2.0s,mb5.5
FRU *e* S **S** **20 46 30.0 +4.7**
FRU *e* 20 49 00.0
FRU LR LR
comp=Z,26μm,18.0s,MS6.0
SMDO Samad 34.53 293 P **P** **20 41 00.3 +2.1**
SNR=10
CHMS Chumysh 34.60 337 P **P** **20 41 00.8 +1.9**
SNR=21
EKS2 Erkin-Say 34.70 336 P **P** **20 41 01.1 +1.4**
SNR=63
USP Ospenovka 34.93 337 P **P** **20 41 02.3 +0.7**
SNR=106
BJT Baijiatuau 35.03 33 *e* P **P** **20 41 02.9 +0.4**
BJT pmax pmax
comp=Z,115nm,0.8s
BJT Baijiatuau 35.03 33 *e* P **P** **20 41 02.9 +0.4**
comp=Z,115nm,0.8s,mb5.9
BSY Bisya 35.23 293 P **P** **20 41 06.6 +2.4**
SNR=21
HOQ Hoqain 35.31 294 P **P** **20 41 06.9 +1.9**
SNR=11
MK31 Makanchi Array 35.86 348 *i* P **P** **20 41 09.4 -0.2**
MKAR Makanchi Array 35.86 348 P **P** **20 41 09.1 -0.6**
comp=Z,68nm,0.8s,mb5.7,baz=161,slow=6.0,SNR=327
MKAR S **S** **20 46 44.4 -1.5**
comp=Z,8.8nm,1.2s,baz=135,slow=21,SNR=2.5
MKAR LR LR 20 59 12.5
comp=Z,15μm,20.4s,MS5.8,baz=162,slow=42
MKAR Makanchi Array 35.86 348⇑ *e* P **P** **20 41 09.1 -0.5**
ARQ Araqi 35.97 293 P **P** **20 41 12.8 +2.3**
SNR=11
KK31 Karatay Array 36.46 333 *i* P **P** **20 41 15.1 +0.3**
KKAR Karatay Array 36.46 333 *i* P **P** **20 41 15.0 +0.2**
KKAR pmax pmax
comp=Z,243nm,1.2s,mb6.0
KKAR Karatay Array 36.46 333 *i* P **P** **20 41 15.0 +0.2**
comp=Z,243nm,1.2s,mb6.0
ASHO Ashiyiah 36.68 295 P **P** **20 41 19.2 +2.5**
SNR=11
DL2 Dalian 37.41 39 P **P** **20 41 23.5 +0.7**
DL2 S **S** **20 47 12.0 +2.5**
DL2 AMB AMB
comp=Z,100nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,5μm,5.6s
DL2 LR LR
comp=N,16μm,16.2s,MS6.0
DL2 LR LR
comp=E,6μm,13.5s,MS6.0
DL2 LR LR
comp=Z,14μm,15.7s,MS5.9
DL2 Dalian 37.41 39 P **P** **20 41 23.5 +0.7**
comp=Z,100nm,0.9s,mb5.7
DL2 S **S** **20 47 12.0 +2.5**
DL2 LR LR
comp=Z,14μm,15.7s,MS5.9
SONM Songino Array 37.73 15 P **P** **20 41 25.7 +0.1**
comp=Z,44nm,0.8s,mb5.2,baz=202,slow=8.8,SNR=182
SONM S **S** **20 47 16.3 +1.9**
comp=Z,0.6nm,0.8s,baz=145,slow=49,SNR=2.0
SONM LR LR 20 59 39.7
comp=Z,28μm,20.3s,MS6.0,baz=196,slow=40
SONM Songino Array 37.73 15 P **P** **20 41 25.7 +0.1**
SONM S **S** **20 47 16.3 +1.9**
WHFO Wadi Hawf 37.78 284 P **P** **20 41 27.2 +1.2**
SNR=22
ULN Ulaanbaatar 37.93 16*c i* P **P** **20 41 26.9 -0.4**
ULN Ulaanbaatar 37.93 16 P **P** **20 41 27.0 -0.3**
ULN LR LR
comp=Z,29μm,20.0s,MS6.1
ZAK Zakamensk 39.44 11⇓ *e* P **P** **20 41 40.8 +0.9**
ZAK pmax pmax
comp=Z,215nm,1.8s,mb5.6
ZAK pmax pmax
comp=Z,135nm,1.8s,mb5.4
ZAK Zakamensk 39.44 11⇓ *e* P **P** **20 41 40.8 +0.9**
comp=Z,215nm,1.8s,mb5.6
INCN Inchon 39.85 44 P **P** **20 41 42.7 -0.6**
comp=Z,312nm,1.5s,mb5.8
INCN LR LR
comp=Z,35μm,19.0s,MS6.2
ABKT Ailbek 40.14 316 P **P** **20 41 46.8 +1.1**
comp=Z,372nm,0.9s,mb6.1,SNR=18
MSEY Mahe Island 40.24 248 *e* P **P** **20 41 48.4 +1.9**
comp=Z,188nm,1.5s,mb5.6
MSEY LR LR
comp=Z,10μm,19.0s,MS5.7
MOY Mondy 40.30 8 *e* P **P** **20 41 48.3 +1.2**
MOY pmax pmax
comp=Z,293nm,2.9s,mb5.5
MOY Mondy 40.30 8 *e* P **P** **20 41 48.3 +1.2**
comp=Z,293nm,2.9s,mb5.5
KURK Kurchatov 40.36 346 P **P** **20 41 47.5 -0.1**
comp=Z,466nm,1.1s,mb6.1,SNR=16
KURK Kurchatov 40.36 346*c i* P **P** **20 41 46.1 -1.5**
SNY Shenyang 40.38 37⇑⇑ P **P** **20 41 47.4 -0.4**
SNY AP pP 20 41 54.6 -0.7
SNY XP sP 20 41 59.4 +1.0
SNY S **S** **20 47 45.6 -8.8**
SNY SS SS 20 50 45.1 -8.6
SNY AMB AMB
comp=Z,150nm,1.8s,mb5.4
SNY AMB AMB
comp=Z,4μm,10.5s
SNY LR LR
comp=N,18μm,15.6s,MS6.1
SNY LR LR
comp=E,14μm,18.6s,MS6.1
SNY LR LR
comp=Z,24μm,16.8s,MS6.1
SNY Shenyang 40.38 37⇑⇑ P **P** **20 41 47.4 -0.4**
comp=Z,150nm,1.8s,mb5.4
SNY pP pP 20 41 54.6 -0.7
SNY sP sP 20 41 59.4 +1.0
SNY S **S** **20 47 45.6 -8.8**
SNY SS SS 20 50 45.1 -8.6
SNY LR LR
comp=Z,24μm,16.8s,MS6.1
KS15 Wonju Array Si 40.70 45 P **P** **20 41 50.2 -0.2**
TLY Talaya 40.75 11 P **P** **20 41 52.4 +1.6**
comp=Z,88nm,1.0s,mb5.3,SNR=6.0
TLY Talaya 40.75 11*c i* P **P** **20 41 51.6 +0.8**
JNU Nakatsue 41.04 53 P **P** **20 41 54.1 +0.9**
comp=Z,60nm,0.8s,mb5.3,baz=243,slow=7.3,SNR=20
JNU LR LR 21 01 02.5
comp=Z,13μm,19.4s,MS5.8,baz=39,slow=39
IRK Irkutsk 41.40 11 *e* P **P** **20 41 56.1 0.0**
IRK *e* 20 42 10.8
IRK *e* 20 43 49.0
IRK *e*S **S** **20 48 11.8 +2.3**
IRK pmax pmax
comp=Z,193nm,3.0s
IRK Irkutsk 41.40 11 *e* P **P** **20 41 56.1 0.0**
comp=Z,193nm,3.0s
IRK *e* 20 42 10.8
IRK *e* 20 43 49.0
IRK *e*S **S** **20 48 11.8 +2.3**
MBWA Marble Bar 42.39 141 P **P** **20 42 02.3 -1.9**
MBWA LR LR
comp=Z,13μm,20.0s,MS5.8
CN2 Changchun 42.69 36⇑ P **P** **20 42 06.7 0.0**
CN2 *e*PP PP 20 43 46.3 +0.5
CN2 *e*S **S** **20 48 29.7 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 LR LR
comp=N,14μm,19.0s,MS6.0
CN2 LR LR
comp=E,10μm,19.0s,MS6.0
CN2 LR LR
comp=Z,11μm,21.0s,MS5.7
CN2 Changchun 42.69 36⇑ P **P** **20 42 06.7 0.0**
comp=Z,10.0nm,0.9s,mb4.5
CN2 *e*PP PP 20 43 46.3 +0.5
CN2 *e*S **S** **20 48 29.7 +1.2**
CN2 LR LR
comp=Z,11μm,21.0s,MS5.7
NVS Novosibirsk 43.48 352 *e* P **P** **20 42 11.2 -1.9**
NVS *e* 20 43 59.4
NVS pmax pmax
comp=Z,160nm,1.9s,mb5.4
NVS pmax pmax
comp=N,121nm,1.6s
NVS pmax pmax
comp=E,82nm,1.6s
NVS pmax pmax
comp=Z,58nm,1.3s,mb5.2
NVS pmax pmax
comp=N,73nm,1.7s
NVS pmax pmax
comp=E,50nm,1.7s
NVS Novosibirsk 43.48 352 *e* P **P** **20 42 11.2 -1.9**
comp=E,160nm,1.9s,mb5.4
NVS *e* 20 43 59.4
HIA Hailar 43.62 26 *e* P **P** **20 42 13.7 -0.5**
HIA pmax pmax
comp=Z,58nm,0.8s
HIA Hailar 43.62 26 *e* P **P** **20 42 13.7 -0.5**
comp=Z,58nm,0.8s,mb5.4
KRAR Krasnoyarsk 44.05 0 *e* P **P** **20 42 17.4 -0.3**
KRAR pmax pmax
comp=Z,25nm,0.8s,mb5.0
KRAR Krasnoyarsk 44.05 0 *e* P **P** **20 42 17.4 -0.3**
comp=Z,25nm,0.8s,mb5.0
FITZ Fitzroy Crossi 44.29 132 *e* P **P** **20 42 17.0 -2.6**
comp=Z,134nm,0.7s,mb5.8
FITZ *e*S **S** **20 48 42.9 -9.1**
BVA0 Borovoye Array 44.69 341 P **P** **20 42 23.4 +0.6**
BVA0 pmax pmax
comp=Z,29nm,1.1s,mb5.0
BVA0 Borovoye Array 44.69 341 P **P** **20 42 23.4 +0.6**
comp=Z,29nm,1.1s,mb5.0
BVAR Borovoye Array 44.69 341 P **P** **20 42 23.4 +0.6**
comp=Z,32nm,0.9s,mb5.1,baz=143,slow=7.4,SNR=92
BVAR S **S** **20 48 55.2 -2.6**
comp=Z,1.6nm,0.7s,baz=179,slow=7.3,SNR=4.9
BVAR Borovoye Array 44.69 341 P **P** **20 42 23.4 +0.6**
BVAR S **S** **20 48 55.2 -2.6**
BRVK Borovoye 44.75 341 P **P** **20 42 24.9 +1.6**
comp=Z,218nm,1.1s,mb5.9,SNR=16
BRVK Borovoye 44.75 341 P **P** **20 42 23.1 -0.2**
UMR Umm Al-Rimmam 45.05 300 *e* P **P** **20 42 25.8 +0.2**
ZRNK Zerenda 45.08 340 P **P** **20 42 25.2 -0.6**
NAY Al-Naaiem 45.38 299 *e* P **P** **20 42 28.0 -0.3**
NAY AMb AMB 20 42 29.8
comp=Z,106nm,0.9s,mb5.7
MIB Mutribah 45.42 300 *e* P **P** **20 42 28.6 0.0**
MIB AMb AMB 20 42 39.3
comp=Z,87nm,0.8s,mb5.6
MDJ Mudanjiang 45.58 37 P **P** **20 42 30.0 +0.2**
MDJ XP sP 20 42 42.5 +2.0
MDJ PP PP 20 44 16.4 -0.3
MDJ SCP ScP 20 47 59.7 +0.5
MDJ PCS PcS 20 48 03.2 +1.1
MDJ S **S** **20 49 11.9 +1.3**
MDJ XS sS 20 49 25.5 +2.3
MDJ AMB AMB
comp=Z,55nm,2.7s,mb5.0
MDJ AMB AMB
comp=Z,2μm,7.2s
MDJ LR LR
comp=N,16μm,19.5s,MS6.1
MDJ LR LR
comp=E,10μm,18.4s,MS6.1
MDJ LR LR
comp=Z,28μm,17.8s,MS6.2
MDJ Mudanjiang 45.58 37 P **P** **20 42 30.0 +0.2**
MDJ sP sP 20 42 42.5 +2.0
MDJ PP PP 20 44 16.4 -0.3
MDJ ScP ScP 20 47 59.7 +0.5
MDJ PcS PcS 20 48 03.2 +1.1
MDJ S **S** **20 49 11.9 +1.3**
MDJ sS sS 20 49 25.5 +2.3
MDJ LR LR
comp=Z,28μm,17.8s,MS6.2
AB31 Akbulak array 45.94 331 P **P** **20 42 32.5 -0.2**
AB31 pmax pmax
comp=Z,75nm,1.1s,mb5.5
AB31 Akbulak array 45.94 331 P **P** **20 42 32.5 -0.2**
comp=Z,75nm,1.1s,mb5.5
VLA Vladivostok 46.19 40*d i* P **P** **20 42 33.3 -1.3**
VLA *i* *SP sP 20 42 42.6 -2.7
VLA *e* 20 44 24.3
VLA *e*S **S** **20 49 21.4 +2.0**
VLA MLR MLR
comp=Z,28μm,17.3s,MS6.3
VLA Vladivostok 46.19 40 *i* Pr 20 42 33.3
VLA *i* sP sP 20 42 42.6 -2.7
VLA *e* 20 44 24.3
VLA *e*S **S** **20 49 21.4 +2.0**
VLA LR LR
comp=Z,28μm,17.3s,MS6.3
MAJO Matsushiro 47.88 51 P **P** **20 42 48.2 +0.4**
MAJO pmax pmax
comp=Z,115nm,1.3s,mb5.8
MAJO MLR MLR
comp=Z,7μm,22.0s,MS5.6
MAJO Matsushiro 47.88 51 P **P** **20 42 48.2 +0.4**
comp=Z,118nm,1.3s,mb5.8
MAJO LR LR
comp=Z,8μm,22.0s,MS5.6
MAT Matsushiro 47.88 51 P **P** **20 42 48.0 +0.2**
MAT S **S** **20 49 48.0 +4.5**
MAT Matsushiro 47.88 51 *e* P **P** **20 42 48.0 +0.2**
MAT *e*S **S** **20 49 49.0 +5.5**
MAT pmax pmax
comp=Z,450nm,1.8s,mb6.2
MAT MLR MLR
comp=Z,7μm,20.0s,MS5.6
MAT Matsushiro 47.88 51 *e* P **P** **20 42 48.0 +0.2**
comp=Z,450nm,1.8s,mb6.2
MAT *e*S **S** **20 49 49.0 +5.5**
MAT LR LR
comp=Z,7μm,20.0s,MS5.6
MJAR Matsushiro Arr 47.88 51 P **P** **20 42 48.1 +0.3**
comp=Z,18nm,0.8s,mb5.1,baz=254,slow=6.6,SNR=28
MJAR PcP PcP 20 44 15.7 -0.4
comp=Z,18nm,0.7s,baz=245,slow=2.6,SNR=8.6
MJAR ScP ScP 20 48 08.6 -0.3
comp=Z,5.5nm,0.7s,baz=246,slow=3.9,SNR=6.9
MJAR LR LR 21 07 13.2
comp=Z,6μm,18.0s,MS5.6,baz=205,slow=41
MJAR Matsushiro Arr 47.88 51 P **P** **20 42 48.1 +0.3**
MJAR 20 44 15.7
MJAR Matsushiro Arr 47.88 51 P **P** **20 42 48.1 +0.3**
MJAR PcP PcP 20 44 15.7 -0.4
MJAR ScP ScP 20 48 08.6 -0.3
MJAR LR LR 21 07 13.2
JHJ Hachijo jima 2 48.13 56 LR LR 21 03 40.5
comp=Z,6μm,19.6s,MS5.6,baz=304,slow=37
BHD Baghdad 48.71 304 *ex* x 20 42 52.0
BHD *ex* x 20 49 52.0
BOD Bodaibo 48.73 15 *e*P **P** **20 42 53.9 -0.5**
BOD pmax pmax
comp=Z,151nm,1.3s,mb5.9
BOD Bodaibo 48.73 15 *e*P **P** **20 42 53.9 -0.5**
comp=Z,151nm,1.3s,mb5.9
MUN Mundaring 49.19 153 *e*P **P** **20 42 56.7 -1.2**
MUN *i* S **S** **20 49 59.5 -2.4**
KLR Kul'dur 49.42 33κ *i* P **P** **20 42 55.6 -4.1**
KLR *e*S **S** **20 49 55.0 -10**
KLR *e* 20 52 40.0
KLR *e*SS SS 20 53 31.0 -6.0
KLR pmax pmax
comp=Z,860nm,3.0s
KLR pmax pmax
comp=E,550μm,3.0s
KLR pmax pmax
comp=N,1μm,13.0s
KLR pmax pmax
comp=E,2μm,13.0s
KLR pmax pmax
comp=Z,6μm,13.0s
KLR MLR MLR
comp=Z,50μm,15.0s,MS6.6
KLR Kul'dur 49.42 33 *i* Pdr **P** **20 42 55.6 -4.1**
KLR *e*S **S** **20 49 55.0 -10**
KLR *e* 20 52 40.0
KLR *e*SS SS 20 53 31.0 -6.0
KLBR Kellerberrin 49.57 151 *e*P **P** **20 42 59.0 -1.8**
comp=Z,69nm,0.8s,mb5.7
MAK Makhachkala 49.64 317*c i* P **P** **20 43 00.0 -1.3**
MAK *e* 20 44 18.8
MAK *i* 20 44 54.9
MAK *e*PPP 20 45 47.8
MAK *i* S **S** **20 50 05.7 -2.6**
MAK *e* 20 52 45.6
MAK *e*SSS 20 54 58.5
MAK pmax pmax
comp=Z,195nm,1.6s,mb5.9
MAK Makhachkala 49.64 317⇑ *i* P **P** **20 43 00.0 -1.3**
comp=Z,195nm,1.6s,mb5.9
MAK *e* 20 44 18.8
MAK *i* 20 44 54.9
MAK *e*PPP 20 45 47.8
MAK *i* S **S** **20 50 05.7 -2.6**
MAK *e* 20 52 45.6
MAK *e*SSS 20 54 58.5
NWAO Narrogin (SRO) 50.45 153 P **P** **20 43 05.2 -2.3**
comp=Z,59nm,0.7s,mb5.7,baz=326,slow=7.1,SNR=34
NWAO ScP ScP 20 48 18.7 -1.1
comp=Z,12nm,1.1s,baz=315,slow=12,SNR=3.0
NWAO S **S** **20 50 12.8 -6.7**
comp=Z,2.9nm,0.8s,baz=332,slow=16,SNR=1.7
NWAO LR LR 21 02 59.2
comp=Z,11μm,19.4s,MS5.9,baz=325,slow=34
NWAO Narrogin (SRO) 50.45 153 P **P** **20 43 05.6 -1.9**
NWAO pmax pmax
comp=Z,46nm,0.7s
NWAO MLR MLR
comp=Z,9μm,20.0s
NWAO Narrogin (SRO) 50.45 153 P **P** **20 43 05.6 -1.8**
comp=Z,46nm,0.7s,mb5.6
NWAO LR LR
comp=Z,9μm,20.0s,MS5.8
GNI Garni 50.47 313 S **S** **20 50 21.8 +1.9**
comp=Z,0.9nm,0.6s,baz=332,slow=19,SNR=1.7
DGRG David-gareji 50.49 315 P **P** **20 43 14.5 +6.7**
DGRG S **S** **20 50 23.8 +3.6**
MSL Mosul 50.52 307 *ex* x 20 43 15.0
MSL *ex* x 20 50 17.0
MSL *ex* x 20 52 57.0
HABR Khabarovsk 50.83 36 *i* P **P** **20 43 10.8 +0.5**
HABR *i* 20 45 07.9
HABR *i* S **S** **20 50 25.3 +0.5**
HABR *i* 20 52 58.4
HABR *e*SS SS 20 54 01.4 +1.8
HABR pmax pmax
comp=Z,145nm,1.4s,mb5.7
MTA Mtatsminda 50.99 315 P **P** **20 43 12.3 +0.7**
MTA S **S** **20 50 28.8 +1.7**
TBLG Delisi 51.04 315 P **P** **20 43 13.0 +1.1**
GUMO Guam 51.12 82 LR LR 21 06 15.2
comp=Z,4μm,18.6s,MS5.5,baz=93,slow=38
GUMO Guam 51.12 82 PFAKE 20 43 20.0 +7.5
GUMO LR LR
comp=Z,4μm,19.0s,MS5.5
NRGR Nerungri 51.16 22 *e*P **P** **20 43 09.6 -3.3**
DUS Dusheti 51.20 315 P **P** **20 43 21.6 +8.4**
CLNS Chul'man 51.36 22 *e*P **P** **20 43 13.7 -0.6**
CLNS *e**PP pP 20 43 21.5 -0.6
CLNS *e* 20 44 21.9
CLNS *e*S **S** **20 50 27.8 -4.4**
CLNS *e* 20 52 52.0
CLNS *e*SS SS 20 54 02.9 -5.0
CLNS pmax pmax
comp=Z,102nm,0.8s,mb5.8
CLNS pmax pmax
comp=N,49nm,0.7s
CLNS pmax pmax
comp=E,40nm,0.7s
CLNS pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,43nm,0.8s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS smax
comp=E,3μm,13.9s
CLNS smax
comp=Z,451nm,11.6s
CLNS smax
comp=N,711nm,14.1s
CLNS MLR MLR
comp=Z,18μm,19.0s,MS6.1
CLNS MLR MLR
comp=N,2μm,15.0s,MS6.2
CLNS MLR MLR
comp=E,16μm,16.0s,MS6.2
CLNS Chul'man 51.36 22 *e*P **P** **20 43 13.7 -0.6**
CLNS *e*pP pP 20 43 21.5 -0.6
CLNS *e* 20 44 21.9
CLNS *e*S **S** **20 50 27.8 -4.4**
CLNS *e* 20 52 52.0
CLNS *e*SS SS 20 54 02.9 -5.0
ARU Arti 51.58 337 P **P** **20 43 16.3 +0.3**
comp=E,212nm,0.9s,mb6.1,SNR=14
ARU Arti 51.58 337*c i* P **P** **20 43 15.0 -1.0**
ARU pmax pmax
comp=Z,30nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,15μm,18.0s,MS6.1
ARU Arti 51.58 337⇑ *i* P **P** **20 43 15.0 -1.0**
comp=Z,30nm,1.0s,mb5.2
ARU LR LR
comp=Z,15μm,18.0s,MS6.1
AKH Akhalkalaki 51.80 314 P **P** **20 43 19.2 +1.5**
AKH S **S** **20 50 36.0 -2.2**
WRA Warramunga Arr 51.98 127 P **P** **20 43 17.0 -1.9**
comp=Z,67nm,0.6s,mb5.8,baz=305,slow=8.6,SNR=353
WRA S **S** **20 50 36.9 -3.8**
comp=Z,8.1nm,0.8s,baz=300,slow=15,SNR=7.1
WRA PKP2bc 21 14 07.1
comp=Z,3.0nm,1.2s,baz=145,slow=2.0,SNR=4.9
WRA Warramunga Arr 51.98 127 P **P** **20 43 17.0 -2.0**
WRA S **S** **20 50 36.9 -3.8**
WRA Warramunga Arr 51.98 127 P **P** **20 43 17.0 -1.9**
WRA S **S** **20 50 36.9 -3.8**
WRA ⇑ *e* 21 14 07.1
WRAB Tennant Creek 51.98 127 P **P** **20 43 17.0 -2.0**
comp=Z,1μm,0.5s
WRAB Tennant Creek 51.98 127 *e*P **P** **20 43 16.7 -2.3**
WRAB Tennant Creek 51.98 127 P **P** **20 43 17.1 -1.9**
WRAB LR LR
comp=Z,2μm,19.0s,MS5.2
WB2 Warramunga Arr 51.99 127⇑ *i* P **P** **20 43 17.1 -1.9**
WB2 *e*S **S** **20 50 36.4 -4.4**
ZEI Tsey 52.00 316 *i* P **P** **20 43 17.2 -1.9**
ZEI *i* *PP pP 20 43 24.3 -2.6
ZEI pmax pmax
comp=Z,30nm,1.2s,mb5.1
ZEI Tsey 52.00 316 *i* P **P** **20 43 17.2 -1.9**
ZEI *i* pP pP 20 43 24.3 -2.6
ONI Oni 52.24 315 P **P** **20 43 24.7 +3.8**
ONI S **S** **20 50 45.4 +1.1**
MARD Mardin 52.58 308 *i* P **P** **20 43 23.5 +0.1**
ARTV Artvin 52.84 313 *i* P **P** **20 43 26.7 +1.4**

FURI Furi 52.88 272 *i* P **P 20 43 28.7 +3.1**
FURI *i* S **S 20 50 59.6 +6.7**
KIV Kislovodsk 53.26 317 P **P 20 43 29.9 +1.5**
comp=Z,615nm,1.0s,mb6.5,SNR=25
KIV Kislovodsk 53.26 317*d* *i* P **P 20 43 28.8 +0.4**
KIV pmax pmax
comp=Z,126nm,1.0s,mb5.8
KIV Kislovodsk 53.26 317 *i* Pr 20 43 28.8
comp=Z,126nm,1.0s
GOF Gofitskoye 53.43 318⇓ *i* P **P 20 43 30.5 +0.8**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GOF Gofitskoye 53.43 318⇓ *i* P **P 20 43 30.5 +0.8**
comp=Z,20nm,1.0s,mb5.0
ASAJ Asahikawa 53.62 43 P **P 20 43 30.8 -0.3**
comp=Z,41nm,0.7s,mb5.5,baz=256,slow=8.5,SNR=13
ASAJ LR LR 21 05 48.9
comp=Z,6μm,21.6s,MS5.6,baz=253,slow=35
ASPA Alice Springs 53.78 131 *e*P **P 20 43 30.4 -1.9**
ASPA *e*S **S 20 50 59.4 -5.9**
ASAR Alice Springs 53.78 131 P **P 20 43 30.4 -1.9**
comp=Z,28nm,0.7s,mb5.3,baz=309,slow=7.0,SNR=28
ASAR S **S 20 51 04.3 -1.0**
comp=Z,5.4nm,0.8s,baz=334,slow=21,SNR=6.1
ASAR PKP2bc 21 14 08.4
comp=Z,1.6nm,1.1s,baz=132,slow=4.6,SNR=4.0
ASAR Alice Springs 53.78 131 P **P 20 43 30.4 -1.9**
ASAR S **S 20 51 04.3 -1.0**
ASAR ⇑*e* 21 14 08.4
OPO Ambohidratompo 53.89 236 P **P 20 43 33.5 +0.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=26,slow=6.2,SNR=4.9
MACK Trabzon 54.32 312 *i* P **P 20 43 38.2 +2.0**
KELT Kelkit 54.47 311 *i* P **P 20 43 32.3 -5.0**
SOKR Solikamsk 54.49 339*c* *i* P **P 20 43 36.9 -0.6**
SOKR S **S 20 51 13.6 -1.3**
SOKR pmax pmax
comp=Z,150nm,1.1s,mb5.8
SOKR MLR MLR
comp=Z,26μm,24.0s,MS6.2
SOKR Solikamsk 54.49 339⇑ *i* P **P 20 43 36.9 -0.6**
comp=Z,150nm,1.1s,mb5.8
SOKR S **S 20 51 13.6 -1.3**
SOKR LR LR
comp=Z,26μm,24.0s,MS6.2
ATAB Bozova 54.53 308 *i* P **P 20 43 37.9 +0.1**
MALT Malatya 54.63 309 ⇑P **P 20 43 39.1 +0.6**
MALT Malatya 54.63 309 *e*P **P 20 43 38.0 -0.5**
comp=Z,50nm,1.2s,mb5.4
YSS Yuzh-Sakhalin 54.78 40*j* *e*P **P 20 43 40.5 +1.0**
YSS *e* pP 20 43 47.0 -0.3
YSS *e* 20 45 48.0
YSS *e*PPP 20 46 52.0
YSS *e*S **S 20 51 23.0 +4.3**
YSS *e*PS 20 51 36.0
YSS *e* 20 53 16.0
YSS *e*SS SS 20 55 04.0 +2.0
YSS pmax pmax
comp=N,50nm,0.9s
YSS pmax pmax
comp=E,60nm,0.9s
YSS pmax pmax
comp=Z,130nm,0.9s,mb6.0
YSS pmax pmax
comp=E,80nm,0.9s
YSS pmax pmax
comp=Z,160nm,0.9s,mb6.0
YSS Yuzh-Sakhalin 54.78 40 *e*Pdu **P 20 43 40.5 +1.0**
comp=Z,130nm,0.9s,mb6.0
YSS *e* pP 20 43 47.0 -0.3
YSS *e* 20 45 48.0
YSS *e*PPP 20 46 52.0
YSS *e*S **S 20 51 23.0 +4.3**
YSS *e*PS 20 51 36.0
YSS *e* 20 53 16.0
YSS *e*SS SS 20 55 04.0 +2.0
SOC Sochi 55.15 315 *e*P **P 20 43 41.6 -0.6**
SOC *e**PP pP 20 43 48.2 -1.8
SOC *e**SP sP 20 43 57.8 +4.8
SOC *e* 20 45 49.6
SOC *i* S **S 20 51 21.3 -2.5**
SOC *e* 20 51 34.6
SOC *e**SS sS 20 51 36.8 +0.2
SOC *e* 20 53 22.8
SOC pmax pmax
comp=Z,41nm,1.1s,mb5.4
SOC pmax pmax
comp=Z,273nm,3.4s
SOC MLR MLR
comp=Z,6μm,20.0s,MS5.7
SOC Sochi 55.15 315 *e*P **P 20 43 41.6 -0.6**
comp=Z,41nm,1.1s,mb5.4
SOC *e*pP pP 20 43 48.2 -1.8
SOC *e*sP sP 20 43 57.8 +4.8
SOC *e* 20 45 49.6
SOC *i* S **S 20 51 21.3 -2.5**
SOC *e* 20 51 34.6
SOC *e*sS sS 20 51 36.8 +0.2
SOC *e* 20 53 22.8
SOC LR LR
comp=Z,6μm,20.0s,MS5.7
GRSN GIRESUNGRSN 55.41 312 *i* P **P 20 43 43.2 -0.9**
YUK Yuzh-Kuril'sk 55.81 44 *e*P **P 20 43 45.0 -2.0**
YUK *e* 20 44 44.0
YUK *e* 20 45 49.0
YUK S **S 20 51 37.0 +4.4**
YUK pmax pmax
comp=Z,4μm,5.0s
YUK pmax pmax
comp=Z,190nm,0.5s,mb6.4
YUK smax
comp=N,6.0nm,15.0s
YUK MLR MLR
comp=N,9μm,18.0s,MS6.0
YUK MLR MLR
comp=Z,12μm,18.0s,MS6.0
YUK MLR MLR
comp=E,9μm,20.0s,MS6.0
YUK Yuzh-Kuril'sk 55.81 44 *e*P **P 20 43 45.0 -2.0**
comp=E,190nm,0.5s,mb6.4
YUK *e* 20 44 44.0
YUK *e* 20 45 49.0
YUK S **S 20 51 37.0 +4.4**
YUK LR LR
comp=Z,12μm,18.0s,MS6.0
BHL Bhannes 55.97 303 *e*P **P 20 43 48.4 +0.3**
EIL Elat 56.03 298 P **P 20 43 48.9 +0.4**
KMBO Kilima Mbogo 56.28 261 P **P 20 43 50.7 +0.4**
comp=Z,12nm,1.0s,mb4.9,baz=46,slow=9.1,SNR=17
KMBO S **S 20 51 40.6 +1.8**
comp=Z,0.4nm,0.5s,baz=222,slow=22,SNR=2.2
KMBO LR LR 21 04 54.8
comp=Z,5μm,20.5s,MS5.6,baz=200,slow=33
KMBO Kilima Mbogo 56.28 261 *i* P **P 20 43 51.0 +0.7**
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 56.28 261 P **P 20 43 51.6 +1.3**
KMBO LR LR
comp=Z,4μm,20.0s,MS5.5
VRHR Novokhopersk 56.72 324 *e*P **P 20 43 53.6 +0.1**
VRHR *e*S **S 20 51 39.9 -4.7**
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=E,80nm,1.6s
VRHR smax
comp=N,4μm,6.4s
VRHR smax
comp=Z,710nm,6.7s
VRHR smax
comp=E,2μm,5.1s
VRHR MLR MLR
comp=Z,10μm,20.0s,MS5.9
VRHR MLR MLR
comp=N,4μm,17.0s,MS5.8
VRHR MLR MLR
comp=E,6μm,19.0s,MS5.8
YAK Yakutsk 56.81 20*c* *i* P **P 20 43 54.5 +0.4**
YAK *e**PP pP 20 44 00.6 -1.3
YAK *e* 20 46 03.3
YAK *i* S **S 20 51 45.4 -0.5**
YAK *e* 20 53 37.3
YAK *e*SS SS 20 55 36.3 +2.3
YAK pmax pmax
comp=Z,95nm,0.9s,mb5.8
YAK pmax pmax
comp=N,31nm,1.5s
YAK pmax pmax
comp=E,34nm,1.6s
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.1
YAK smax
comp=N,18nm,1.2s
YAK smax
comp=E,36nm,1.5s
YAK smax
comp=Z,10.0nm,1.5s
YAK MLR MLR
comp=N,5μm,19.0s,MS5.9
YAK MLR MLR
comp=Z,7μm,19.0s,MS5.8
YAK MLR MLR
comp=E,6μm,18.0s,MS5.9
YAK Yakutsk 56.81 20⇑ *i* P **P 20 43 54.5 +0.4**
comp=E,95nm,0.9s,mb5.8
YAK *e*pP pP 20 44 00.6 -1.3
YAK *e* 20 46 03.3
YAK *i* S **S 20 51 45.4 -0.5**
YAK *e* 20 53 37.3
YAK *e*SS SS 20 55 36.3 +2.3
YAK LR LR
comp=Z,7μm,19.0s,MS5.8
ANN Anapa 57.09 316 *e*P **P 20 43 50.0 -6.1**
ANN *i* S **S 20 51 43.2 -6.3**
ANN *i* 20 53 40.2
ANN pmax pmax
comp=Z,51nm,1.4s,mb5.4
ANN Anapa 57.09 316 *e*P **P 20 43 50.0 -6.1**
comp=Z,51nm,1.4s,mb5.4
ANN *i* S **S 20 51 43.2 -6.3**
ANN *i* 20 53 40.2
PECR Pechory 57.85 331 *e*P **P 20 44 00.0 -1.4**
PECR *e* 20 51 57.4
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,2μm,10.0s
PECR pmax pmax
comp=E,2μm,8.0s
PECR MLR MLR
comp=Z,3μm,16.0s,MS5.5
PECR Pechory 57.85 331 *e*P **P 20 44 00.0 -1.4**
PECR *e* 20 51 57.4
CDAG Cicekdag 58.00 309 *i* P **P 20 44 05.2 +2.7**
VORD Divnogorie 58.02 323 *e*P **P 20 44 02.6 0.0**
VORD pmax pmax
comp=Z,30nm,1.0s,mb5.3
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,40nm,0.8s
VRSR Storozhevoye 58.17 324*c* *i* P **P 20 44 03.0 -0.7**
VRSR *e**PP pP 20 44 13.2 +1.7
VRSR *e**SP sP 20 44 16.7 +2.2
VRSR *e* 20 44 55.6
VRSR *e* 20 46 11.3
VRSR *i* S **S 20 52 01.4 -2.3**
VRSR *e**SS sS 20 52 14.6 -2.0
VRSR *e* 20 53 46.5
VRSR *e*SS SS 20 55 53.6 -1.8
VRSR pmax pmax
comp=N,3.0nm,1.0s
VRSR pmax pmax
comp=E,8.0nm,1.0s
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
VRSR smax
comp=N,470nm,6.5s
VRSR smax
comp=Z,140nm,7.1s
VRSR smax
comp=E,390nm,6.4s
VRSR MLR MLR
comp=Z,2μm,20.0s,MS5.1
VRSR MLR MLR
comp=N,2μm,18.0s,MS5.2
VRSR MLR MLR
comp=E,870nm,18.0s,MS5.2
VRSR Storozhevoye 58.17 324⇑ *i* P **P 20 44 03.0 -0.7**
comp=E,7.0nm,1.0s,mb4.7
VRSR *e*pP pP 20 44 13.2 +1.7
VRSR *e*sP sP 20 44 16.7 +2.2
VRSR *e* 20 44 55.6
VRSR *e* 20 46 11.3
VRSR *i* S **S 20 52 01.4 -2.3**
VRSR *e*sS sS 20 52 14.6 -2.0
VRSR *e* 20 53 46.5
VRSR *e*SS SS 20 55 53.6 -1.8
VRSR LR LR
comp=Z,2μm,20.0s,MS5.1
VOR Voronezh 58.37 324 *e*P **P 20 44 05.0 -0.1**
VOR *e* pP 20 44 12.0 -0.9
VOR S **S 20 52 04.0 -2.2**
VOR pmax pmax
comp=N,70nm,1.5s
VOR pmax pmax
comp=Z,140nm,1.5s,mb5.8
VOR pmax pmax
comp=E,100nm,1.4s
VOR smax
comp=E,90nm,1.4s
VOR smax
comp=Z,50nm,2.0s
VOR smax
comp=N,60nm,1.5s
VOR Voronezh 58.37 324 *e*P **P 20 44 05.0 -0.1**
VOR *e* pP 20 44 12.0 -0.9
VOR S **S 20 52 04.0 -2.2**
PMG Port Moresby 58.37 109 P **P 20 44 04.5 -0.6**
comp=N,99nm,0.7s,mb6.0,baz=316,slow=3.0,SNR=30
PMG S **S 20 52 01.6 -4.8**
comp=N,9.0nm,0.9s,baz=78,slow=12,SNR=1.9
PMG Port Moresby 58.37 109 *e*P **P 20 44 05.2 +0.1**
PMG pmax pmax
comp=Z,107nm,0.7s
PMG MLR MLR
comp=Z,2μm,19.0s
PMG Port Moresby 58.37 109 *e*P **P 20 44 05.4 +0.3**
BR131 Keskin Array S 58.58 309 PFAKE 20 44 20.0 +13
BR131 LR LR
comp=Z,4μm,19.0s,MS5.5
BRTR Keskin Array B 58.58 309 P **P 20 44 05.0 -1.6**
comp=Z,15nm,0.9s,mb5.0,baz=125,slow=4.1,SNR=67
BRTR PKP2bc 21 13 52.4
comp=Z,1.1nm,1.0s,baz=225,slow=1.7,SNR=5.8
BRTR Keskin Array B 58.58 309 P **P 20 44 05.0 -1.6**
BRTR ⇑*e* 21 13 52.4
ERMK Ermenek 58.60 306 *i* P **P 20 44 09.2 +2.5**
SIM Simferopol' 59.40 315⇓ *e*P **P 20 44 12.1 -0.1**
SIM *e*S **S 20 52 18.1 -1.5**
SIM pmax pmax
comp=Z,560nm,9.0s
SIM Simferopol' 59.40 315⇓ *e*P **P 20 44 12.1 -0.1**
SIM *e*S **S 20 52 18.1 -1.5**
ESKT Eskisehir 60.66 309 *i* P **P 20 44 17.1 -3.8**
ISP Isparta 60.68 307 *e*P **P 20 44 18.9 -2.1**
ISP Isparta 60.68 307 *e*P **P 20 44 18.0 -3.0**
MOS Moscow 60.81 328 *e*P **P 20 44 20.4 -1.5**
MOS *e* 20 45 04.8
MOS *i* S **S 20 52 35.4 -2.4**
MOS *e* 20 54 06.8
MOS pmax pmax
comp=Z,122nm,1.4s,mb5.8
MOS pmax pmax
comp=Z,400nm,2.5s,mb6.1
MOS smax
comp=N,4μm,6.8s
MOS smax
comp=E,900nm,5.6s
MOS Moscow 60.81 328 *e*P **P 20 44 20.4 -1.5**
comp=E,122nm,1.4s,mb5.8
MOS *e* 20 45 04.8
MOS *i* S **S 20 52 35.4 -2.4**
MOS *e* 20 54 06.8
TKTP Tekketepe 60.85 307 *i* P **P 20 44 21.0 -1.2**
BORA Eskisehir 61.02 309 *i* P **P 20 44 22.3 -1.0**
OBN Obninsk 61.12 327 P **P 20 44 24.0 0.0**
comp=E,334nm,1.0s,mb6.4,SNR=6.2
OBN Obninsk 61.12 327*c* *i* P **P 20 44 23.9 -0.1**
OBN *e* 20 45 05.9
OBN *e* 20 46 38.6
OBN *i* S **S 20 52 39.1 -2.7**
OBN pmax pmax
comp=Z,142nm,1.6s,mb5.8
OBN MLR MLR
comp=Z,11μm,18.0s,MS6.1
OBN Obninsk 61.12 327⇑ *i* P **P 20 44 23.9 -0.1**
comp=Z,142nm,1.6s,mb5.8
OBN *e* 20 45 05.9
OBN *e* 20 46 38.6
OBN *i* S **S 20 52 39.1 -2.7**
OBN LR LR
comp=Z,11μm,18.0s,MS6.1
CTA Charters Tower 61.76 121⇑ *i* P **P 20 44 28.3 0.0**
comp=Z,41nm,0.9s,mb5.6
CTA *e*S **S 20 52 44.5 -5.3**
CTA Charters Tower 61.76 121 P **P 20 44 27.7 -0.7**
comp=Z,41nm,0.9s,mb5.5,baz=299,slow=7.2,SNR=28
CTA S **S 20 52 47.4 -2.4**
comp=Z,2.4nm,0.9s,baz=321,slow=18,SNR=3.8
CTA LR LR 21 14 20.6
comp=Z,7μm,21.4s,MS5.8,baz=291,slow=39
CTA Charters Tower 61.76 121 P **P 20 44 27.7 -0.6**
CTA S **S 20 52 47.4 -2.4**
CTA Charters Tower 61.76 121 P **P 20 44 27.7 -0.7**
CTA S **S 20 52 47.4 -2.4**
CTA LR LR 21 14 20.6
CTAO Charters Tower 61.76 121 P **P 20 44 28.4 +0.1**
CTAO MLR MLR
comp=Z,7μm,21.0s,MS5.8
KLMR Klimovskoe 62.15 334*c* *i* P **P 20 44 30.0 -0.9**
KLMR *e* 20 46 48.2
KLMR pmax pmax
comp=Z,180nm,1.5s,mb6.0
KLMR pmax pmax
comp=Z,930nm,9.7s
KLMR MLR MLR
comp=Z,8μm,17.0s,MS5.9
ARG Arkhangelos 62.38 305 *e*P **P 20 44 41.1 +8.6**
TIRR Tirgusor 63.27 314 ⇑P **P 20 44 38.7 +0.3**
TIRR Tirgusor 63.27 314 *e*P **P 20 44 37.8 -0.6**
comp=Z,58nm,1.0s,mb5.7
PSN Preselentsi 63.30 313 P **P 20 44 45.0 +6.4**
KIS Kishinev 63.46 317 *e*P **P 20 44 38.0 -1.7**
KIS *e* 20 45 10.0
KIS *e* 20 47 04.0
KIS *e*PPP 20 48 30.0
KIS *e*S **S 20 53 07.0 -4.2**
KIS *e*PS 20 53 22.0
KIS *e*SSS 21 00 11.0
KIS pmax pmax
comp=Z,2μm,8.0s
KIS pmax pmax
comp=Z,1μm,8.0s
KIS MLR MLR
comp=Z,5μm,19.0s,MS5.7
KIS MLR MLR
comp=N,7μm,20.0s,MS5.9
KIS MLR MLR
comp=E,2μm,19.0s,MS5.9
KIS MLR MLR
comp=Z,4μm,19.0s
KIS Kishinev 63.46 317 *e*P **P 20 44 38.0 -1.7**
KIS *e* 20 45 10.0
KIS *e* 20 47 04.0
KIS *e*PPP 20 48 30.0
KIS *e*S **S 20 53 07.0 -4.2**
KIS *e*PS 20 53 22.0
KIS *e*SSS 21 00 11.0
KIS LR LR
comp=Z,5μm,19.0s,MS5.7
CFR Carcaliu 63.59 315 ⇑P **P 20 44 41.1 +0.6**
HARR Harsova 63.65 314 ⇑P **P 20 44 41.0 +0.1**
TIXI Tiksi 63.70 12 *e*P **P 20 44 36.6 -4.6**
TIXI *e*S **S 20 53 03.2 -11**
TIXI *e*SS SS 20 57 19.3 -2.7
TIXI *e*SSS 21 00 14.0
TIXI pmax pmax
comp=Z,2μm,4.9s
TIXI pmax pmax
comp=Z,280nm,1.2s,mb6.2
TIXI pmax pmax
comp=N,61nm,1.1s
TIXI pmax pmax
comp=E,62nm,1.5s
TIXI pmax pmax
comp=Z,859nm,14.6s
TIXI pmax pmax
comp=N,302nm,14.2s
TIXI pmax pmax
comp=E,404nm,15.5s
TIXI smax
comp=N,5μm,17.6s
TIXI smax
comp=E,4μm,17.8s
TIXI MLR MLR
comp=N,5μm,17.0s,MS6.0
TIXI MLR MLR
comp=Z,9μm,17.0s,MS6.0
TIXI MLR MLR
comp=E,5μm,15.0s,MS6.0
TIXI Tiksi 63.70 12 *e*P **P 20 44 36.6 -4.6**
comp=E,280nm,1.2s,mb6.2
TIXI *e*S **S 20 53 03.2 -11**
TIXI *e*SS SS 20 57 19.3 -2.7
TIXI *e*SSS 21 00 14.0
TIXI LR LR
comp=Z,9μm,17.0s,MS6.0
ADE Adelaide 63.96 139⇑ *i* P **P 20 44 43.2 +0.2**
AKASG Malin Array Be 64.00 321 P **P 20 44 41.5 -1.7**
comp=Z,13nm,0.9s,mb5.0,baz=90,slow=4.9,SNR=64
AKASG S **S 20 53 13.7 -4.2**
comp=Z,0.2nm,0.2s,baz=198,slow=3.0,SNR=3.0
AKASG PKP2bc 21 13 41.3
comp=Z,0.3nm,0.4s,baz=274,slow=3.2,SNR=4.0
AKASG Malin Array Be 64.00 321 P **P 20 44 41.5 -1.7**
AKASG S **S 20 53 13.7 -4.2**
MA2 Magadan 64.08 29*c* *i* P **P 20 44 43.4 -0.3**
MA2 *e**PP pP 20 44 59.3 +7.7
MA2 *e* 20 45 17.9
MA2 *e* 20 46 59.8
MA2 *e*PPP 20 48 40.3
MA2 *i* S **S 20 53 12.7 -6.1**
MA2 *e*PS 20 53 29.1
MA2 *e*SS SS 20 57 22.4 -5.5
MA2 pmax pmax
comp=Z,60nm,1.0s,mb5.6
MA2 pmax pmax
comp=E,20nm,1.1s
MA2 MLR MLR
comp=Z,33μm,24.0s,MS6.4
MA2 Magadan 64.08 29⇑ *i* P **P 20 44 43.4 -0.3**
MA2 *e*pP pP 20 44 59.3 +7.7
MA2 *e* 20 45 17.9
MA2 *e* 20 46 59.8
MA2 *e*PPP 20 48 40.3
MA2 *i* S **S 20 53 12.7 -6.1**
MA2 *e*PS 20 53 29.1
MA2 *e*SS SS 20 57 22.4 -5.5
MA2 LR LR
comp=Z,33μm,24.0s,MS6.4
STKA Stephens Creek 64.08 134⇓ *i* P **P 20 44 40.9 -2.9**
comp=Z,51nm,0.9s,mb5.5
STKA Stephens Creek 64.08 134 P **P 20 44 41.0 -2.7**
comp=Z,45nm,0.8s,mb5.6,baz=318,slow=7.4,SNR=62
STKA S **S 20 53 13.6 -5.4**
comp=Z,2.4nm,1.0s,baz=202,slow=20,SNR=1.9
STKA LR LR 21 13 23.6
comp=Z,11μm,21.1s,MS6.0,baz=299,slow=37
STKA Stephens Creek 64.08 134 *e*P **P 20 44 40.7 -3.1**
PRK Paraskevi 64.14 308 *e*P **P 20 44 43.6 -0.6**
NPS Neapolis 64.35 303 *e*P **P 20 44 45.4 -0.1**
ALN Alexandroupoli 64.49 310 *e*P **P 20 44 44.4 -2.0**
APE Apeiranthos 64.53 305 *e*P **P 20 44 50.3 +3.6**
APE Apeiranthos 64.53 305⇓ P **P 20 44 48.3 +1.6**
SANT Santorini 64.54 305 P **P 20 44 48.9 +2.1**
comp=Z,56nm,0.8s,mb5.6
VRI Vrincioaia 64.68 315⇑ P **P 20 44 48.3 +0.6**
VRI Vrincioaia 64.68 315 P **P 20 44 47.8 +0.2**
RDO Rodhopi 64.90 310 *e*P **P 20 44 48.6 -0.5**
IDI Anoyia 64.94 303 P **P 20 44 48.5 -0.8**
comp=Z,9.8nm,0.6s,mb5.0,baz=149,slow=3.2,SNR=6.6
LIA Limnos Island 65.04 309 *e*P **P 20 44 49.4 -0.7**

MLR Muntele Rosu 65.16 315 P **P** **20 44 50.9 +0.1**
comp=Z,64nm,1.1s,mb5.6,baz=63,slow=2.3,SNR=68
MLR S S 20 53 28.6 -3.7
comp=Z,1.5nm,0.9s,baz=265,slow=23,SNR=2.1
MLR LR LR 21 18 33.8
comp=Z,8μm,19.7s,MS5.9,baz=321,slow=41
MLR Muntele Rosu 65.16 315 P **P** **20 44 51.0 +0.2**
VAM Vamos 65.51 304 *e*P **P** **20 44 53.0 -0.1**
MNK Minsk 65.73 325 *e*P **P** **20 44 52.0 -2.5**
MNK *e*S S 20 53 33.0 -6.2
MNK *e*SSS 21 00 40.0
MNK pmax pmax
comp=Z,390nm,1.0s,mb6.4
MNK MLR MLR
comp=E,15μm,20.0s,MS6.3
MNK MLR MLR
comp=N,10μm,18.0s,MS6.3
MNK MLR MLR
comp=Z,8μm,17.0s,MS6.0
MNK Minsk 65.73 325 *e*P **P** **20 44 52.0 -2.5**
comp=Z,390nm,1.0s,mb6.4
MNK *e*S S 20 53 33.0 -6.2
MNK *e*SSS 21 00 40.0
MNK LR LR
comp=Z,8μm,17.0s,MS6.0
MTUR Matau 65.74 314 ⇓P **P** **20 44 55.3 +0.7**
MTUR Matau 65.74 314 P **P** **20 44 54.3 -0.3**
VOIR 65.78 315 ⇓P **P** **20 44 56.6 +1.8**
PUL Pulkovo 65.92 331 *i* P **P** **20 44 56.4 +0.7**
PUL *i* 20 45 28.5
PUL *i* S S 20 53 35.0 -6.5
PUL *i* 20 54 45.2
PUL *i* SSS 21 00 44.7
PUL pmax pmax
comp=N,523nm,0.9s
PUL pmax pmax
comp=Z,143nm,0.9s,mb6.0
PUL pmax pmax
comp=E,469nm,1.0s
PUL pmax pmax
comp=Z,228nm,1.0s,mb6.2
PUL smax
comp=N,7μm,16.0s
PUL smax
comp=E,1μm,9.8s
PUL smax
comp=Z,757nm,9.8s
PUL smax
comp=Z,2μm,4.9s
PUL Pulkovo 65.92 331 *i* P **P** **20 44 56.4 +0.7**
comp=Z,143nm,0.9s,mb6.0
PUL *i* 20 45 28.5
PUL *i* S S 20 53 35.0 -6.5
PUL *i* 20 54 45.2
PUL *i* SSS 21 00 44.7
BURAR Bucovina Array 65.98 317 ⇓P **P** **20 44 58.0 +1.9**
BURAR Bucovina Array 65.98 317 P **P** **20 44 56.4 +0.3**
ATH Athens Observa 66.03 306 *e*P **P** **20 44 54.9 -1.6**
SEY Seymchan 66.06 26 *i* P **P** **20 44 56.0 -0.7**
SEY *e* 20 45 23.3
SEY 20 47 17.1
SEY PPP 20 49 01.3
SEY *e*S S 20 53 41.8 -1.5
SEY *e*PS 20 54 07.8
SEY *e* 20 54 44.9
SEY SS SS 20 58 04.9 +6.0
SEY pmax pmax
comp=E,30nm,1.0s
SEY pmax pmax
comp=Z,80nm,1.0s,mb5.7
SEY smax
comp=N,5μm,13.2s
SEY smax
comp=E,1μm,9.6s
SEY Seymchan 66.06 26 *i* P **P** **20 44 56.0 -0.7**
comp=E,0.1nm,1.0s
SEY *e* 20 45 23.3
SEY *e* 20 47 17.1
SEY PPP 20 49 01.3
SEY *e*S S 20 53 41.8 -1.5
SEY *e*PS 20 54 07.8
SEY *e* 20 54 44.9
SEY SS SS 20 58 04.9 +6.0
NVR Nevrokopi 66.18 310 *e*P **P** **20 44 56.8 -0.6**
PAIG Paliouri 66.20 308 *e*P **P** **20 44 56.7 -0.8**
MMB Musomiste 66.30 310 P **P** **20 44 57.0 -1.2**
PET Petropavlovsk 66.36 37*c* *i*P **P** **20 44 57.8 -0.7**
PET *e* 20 45 26.6
PET *e* 20 47 27.9
PET *e*S S 20 53 46.7 -0.2
PET *e*PS 20 54 10.4
PET *e*SS SS 20 58 06.3 +2.9
PET pmax pmax
comp=Z,3μm,16.5s
PET pmax pmax
comp=Z,3μm,18.0s
PET pmax pmax
comp=Z,56nm,1.4s,mb5.4
PET pmax pmax
comp=Z,58nm,1.2s,mb5.5
PET pmax pmax
comp=Z,1μm,14.4s
PET smax
comp=N,4μm,19.7s
PET MLR MLR
comp=Z,12μm,19.0s,MS6.1
PET MLR MLR
comp=Z,10μm,21.0s
PET Petropavlovsk 66.36 37⇑ *i*P **P** **20 44 57.8 -0.7**
comp=Z,56nm,1.4s,mb5.4
PET *e* 20 45 26.6
PET *e* 20 47 27.9
PET *e*S S 20 53 46.7 -0.2
PET *e*PS 20 54 10.4
PET *e*SS SS 20 58 06.3 +2.9
PET LR LR
comp=Z,12μm,19.0s,MS6.1
SRS Serrai 66.36 310 *e*P **P** **20 44 56.6 -1.9**
PLG Polygyros 66.41 309 *e*P **P** **20 44 58.1 -0.8**
NEO Neokhori 66.50 308 *e*P **P** **20 44 57.8 -1.7**
XOR Xorichti 66.53 308 *e*P **P** **20 44 58.5 -1.2**
JOF Joensuu 66.54 334 *e*p **P** **20 45 00.5 +0.8**
comp=Z,35nm,0.8s,mb5.4
VLI Velia 66.59 305 *e*P **P** **20 45 04.5 +4.5**
LKR Lokris 66.64 307 *e*P **P** **20 45 04.8 +4.5**
VTS Vitosha 66.78 311 P **P** **20 45 01.3 +0.1**
VTS Vitosha 66.78 311 ⇓P **P** **20 45 01.5 +0.3**
VTS Vitosha 66.78 311 P **P** **20 45 01.1 -0.1**
KKB Krupnik 66.81 311 *i* P **P** **20 44 59.7 -1.7**
LVV L'vov 67.10 319 *e*P **P** **20 45 01.2 -2.0**
LIT Litokhoron 67.12 309 *e*P **P** **20 45 00.9 -2.5**
VAY Valandovo 67.14 310 *e*P **P** **20 45 01.4 -2.2**
AGG Agios Georgios 67.18 307 *e*P **P** **20 44 55.0 -8.8**
LVZ Lovozero 67.25 340 P **P** **20 45 04.7 +0.5**
LVZ *i* S S 20 53 55.1 -2.6
LVZ *i* 20 54 56.3
LVZ pmax pmax
comp=Z,40nm,0.9s,mb5.5
LVZ pmax pmax
comp=N,14nm,1.1s
LVZ pmax pmax
comp=E,12nm,0.8s
LVZ pmax pmax
comp=Z,317nm,1.9s,mb6.0
LVZ pmax pmax
comp=E,249nm,2.8s
LVZ smax
comp=N,4μm,16.4s
LVZ smax
comp=Z,413nm,12.2s
LVZ smax
comp=E,2μm,16.1s
LVZ smax
comp=N,3μm,8.1s
LVZ smax
comp=Z,321nm,3.2s
LVZ smax
comp=E,2μm,5.3s
LVZ MLR MLR
comp=Z,15μm,21.0s,MS6.2
LVZ MLR MLR
comp=N,11μm,20.0s,MS6.3
LVZ MLR MLR
comp=E,13μm,19.0s,MS6.3
LVZ Lovozero 67.25 340 P **P** **20 45 04.7 +0.5**
LVZ *i* S S 20 53 55.1 -2.6
LVZ *i* 20 54 56.3
ZAPS Zavoj/Pirot 67.27 312⇓ *i*P **P** **20 45 03.2 -1.2**
VSU Vasula 67.32 329*c* *i*P **P** **20 45 03.0 -1.6**
ITM Ithomi 67.42 305 *e*P **P** **20 45 03.8 -1.5**
STIP Stip 67.46 310 *e*P **P** **20 45 03.4 -2.1**
APA Apatity 67.54 339⇑ *i*P **P** **20 45 06.8 +0.7**
APA *i* pP 20 45 13.3 -0.7
APA *i* S S 20 54 00.0 -1.1
APA *i* 20 54 53.0
APA pmax pmax
comp=Z,76nm,1.2s,mb5.6
APA pmax pmax
comp=Z,2μm,10.0s
APA MLR MLR
comp=Z,16μm,18.0s,MS6.3
APA Apatity 67.54 339⇑ *i*P **P** **20 45 06.8 +0.7**
comp=Z,76nm,1.2s,mb5.6
APA *i* pP 20 45 13.3 -0.7
APA *i* S S 20 54 00.0 -1.1
APA *i* 20 54 53.0
APA LR LR
comp=Z,16μm,18.0s,MS6.3
DRGR 67.56 316⇑ P **P** **20 45 07.3 +1.1**
DRGR 67.56 316 P **P** **20 45 06.3 +0.1**
EVR Evrytania 67.58 307 *e*P **P** **20 45 11.0 +4.7**
KZN Kozani 67.68 309 *e*P **P** **20 45 11.4 +4.4**
BOLS Boljevac 67.79 313⇓ *i*P **P** **20 45 07.3 -0.3**
RLS Riolos of Patr 67.81 306 *e*P **P** **20 45 05.6 -2.2**
KWP Kalwaria 67.92 319 *e*P **P** **20 45 08.6 +0.2**
KWP *e*pP pP 20 45 15.9 -0.5
KWP *e*S S 20 54 04.2 -1.4
KWP *e*sS sS 20 54 18.3 -0.4
KWP *e*SKS 20 55 05.2
KWP L 21 18 49.0
comp=Z,4.8nm,19.5s
KWP Kalwaria 67.92 319 *e*P **P** **20 45 08.6 +0.2**
KWP *e**PP pP 20 45 15.9 -0.5
KWP *e*S S 20 54 04.2 -1.4
KWP *e* 20 55 05.2
KWP MLR MLR
comp=Z,5μm,19.5s,MS5.7
KWP Kalwaria 67.92 319 *e*P **P** **20 45 08.6 +0.2**
KWP *e*pP pP 20 45 15.9 -0.5
KWP *e*S S 20 54 04.2 -1.4
KWP *e*SS sS 20 54 18.3 -0.4
KWP *e*SKS 20 55 05.2
SKO Skopje 68.04 311 *e*P **P** **20 45 07.0 -2.1**
UZH Uzhgorod 68.06 318 *i* P **P** **20 45 09.0 -0.3**
BIA Bitola 68.06 309 *e*P **P** **20 45 07.2 -2.1**
KOLS Kolonicke sedl 68.11 318 *e*P **P** **20 45 08.4 -1.2**
KOLS *e* 20 45 31.8
BZS Buzias 68.19 314⇑ P **P** **20 45 09.8 -0.4**
BZS Buzias 68.19 314 P **P** **20 45 10.3 +0.1**
SUW Suwalki 68.30 324 *e*P **P** **20 45 10.4 -0.4**
SUW *e*pP pP 20 45 17.8 -1.0
SUW *e*S S 20 54 07.6 -2.6
SUW *e*sS sS 20 54 21.3 -2.0
SUW *e*SKS 20 55 07.1
SUW *e*SS SS 20 58 42.9 +9.4
SUW L 21 21 05.1
comp=Z,12nm,20.5s
SUW Suwalki 68.30 324 *e*P **P** **20 45 10.4 -0.4**
SUW *e**PP pP 20 45 17.8 -1.0
SUW *e*S S 20 54 07.6 -2.6
SUW *e* 20 55 07.1
SUW MLR MLR
comp=Z,12μm,20.5s,MS6.1
SUW Suwalki 68.30 324 *e*P **P** **20 45 10.4 -0.4**
SUW *e*pP pP 20 45 17.8 -1.0
SUW *e*S S 20 54 07.6 -2.6
SUW *e*SS sS 20 54 21.3 -2.0
SUW *e*SKS 20 55 07.1
SUW *e*SS SS 20 58 42.9 +9.4
JAN Janina 68.36 308 *e*P **P** **20 45 16.3 +5.1**
FINES FINESS Array B 68.42 332 P **P** **20 45 11.2 -0.4**
comp=Z,40nm,0.9s,mb5.5,baz=104,slow=7.9,SNR=96
FINES S S 20 54 02.9 -8.7
comp=Z,1.5nm,0.9s,baz=186,slow=17,SNR=2.7
FINES LR LR 21 20 41.3
comp=Z,7μm,19.6s,MS5.9,baz=106,slow=41
FINES FINESS Array B 68.42 332 P **P** **20 45 11.2 -0.4**
FINES S S 20 54 02.9 -8.6
OHR Ohrid 68.47 310 *e*P **P** **20 45 09.8 -2.1**
KAF Kangasniemi 68.49 332 *e*p **P** **20 45 11.7 -0.3**
comp=Z,63nm,1.0s,mb5.6,baz=104,slow=5.9
KAF Kangasniemi 68.49 332 *e*P **P** **20 45 11.7 -0.3**
KAF pmax pmax
comp=Z,63nm,1.0s,mb5.6
VLS Valsamata 68.51 306 *e*P **P** **20 45 10.6 -1.5**
CRVS Cervenica-Dubn 68.64 318 *e* **P** **20 45 16.1 +3.2**
CRVS *e* 20 45 32.1
CRVS *e*S S 20 54 10.9 -3.3
STHS Stebnicka Huta 68.84 318 *e*P **P** **20 45 14.9 +0.7**
STHS *e* 20 45 32.0
LSZ Lusaka 69.06 249 P **P** **20 45 16.4 +0.8**
LSZ pmax pmax
comp=Z,25nm,1.0s,mb5.1
LSZ Lusaka 69.06 249 *e*P **P** **20 45 16.5 +0.9**
comp=Z,26nm,1.0s,mb5.1
LSZ LR LR
comp=Z,19μm,20.0s,MS6.3
KEK Kerkira 69.17 308 *e*P **P** **20 45 20.7 +4.4**
DIVS Divcibare 69.23 313⇑ *i*P **P** **20 45 15.4 -1.2**
KECS Kecovo 69.24 317 *e*P **P** **20 45 16.3 -0.4**
WAR Warsaw 69.32 321 *e*P **P** **20 45 20.8 +3.6**
WAR *e*S S 20 54 21.5 -0.8
WAR *e*sS sS 20 54 34.0 -1.4
WAR *e*SKS 20 55 17.3
WAR L 21 21 50.4
comp=Z,6.3nm,19.6s
WAR Warsaw 69.32 321 *e*P **P** **20 45 20.8 +3.6**
WAR *e*S S 20 54 21.5 -0.8
WAR *e* 20 55 17.3
WAR MLR MLR
comp=Z,6μm,19.6s,MS5.9
NIE Niedzica 69.44 318 *e*P **P** **20 45 18.4 +0.5**
PSZ Piszkesteto 69.58 317⇓ *e*P **P** **20 45 18.2 -0.6**
PSZ Piszkesteto 69.58 317 P **P** **20 45 18.7 -0.1**
OJC Ojcow 69.86 319 *i* Pc **P** **20 45 20.3**
OJC *i* S S 20 54 25.9 -2.7
OJC *e*SKSac SKSac 20 55 18.5 -1.3
OJC *e*SS SS 20 59 00.7 +3.2
OJC e 21 02 16.1
OJC L 21 22 18.5
comp=Z,24nm,21.6s
OJC Ojcow 69.86 319⇑ *i*P **P** **20 45 20.3 -0.2**
OJC *i* S S 20 54 25.9 -2.7
OJC *e*SKSac SKSac 20 55 18.5 -1.3
OJC *e*SS SS 20 59 00.7 +3.2
OJC LR LR
comp=Z,24μm,21.6s,MS6.4
TOO Toolangi 69.92 137 *e*P **P** **20 45 21.3 +0.4**
comp=Z,63nm,0.7s,mb5.7
PKSM Moragy 70.31 315 P **P** **20 45 22.6 -0.7**
PKSM Moragy 70.31 315⇑ *e*P **P** **20 45 22.5 -0.8**
VYHS Vyhne 70.33 317 *e*P **P** **20 45 23.2 -0.2**
VYHS *e*S S 20 54 31.9 -2.2
HNR Honiara 70.38 105 P **P** **20 45 22.8 -0.8**
comp=Z,108nm,0.7s,mb5.9,baz=100,slow=1.6,SNR=4.2
HNR Honiara 70.38 105 P **P** **20 45 22.8 -0.8**
HNR LR LR
comp=Z,2μm,20.0s,MS5.4
LCI Lecce 70.48 309 P **P** **20 45 23.4 -0.9**
comp=Z,696nm,2.8s,mb6.1
KEV Kevo 70.53 340 *e*p **P** **20 45 24.1 -0.5**
comp=Z,43nm,0.8s,mb5.4
KEV Kevo 70.53 340 *e*P **P** **20 45 24.1 -0.5**
KEV pmax pmax
comp=Z,43nm,0.8s,mb5.4
SRO Srobarova 70.63 317 *e*P **P** **20 45 24.9 -0.3**
RHK1 Bakonya 70.70 315⇑ *i*P **P** **20 45 24.5 -1.2**
ARMA Armidale 70.73 128 *e*P **P** **20 45 26.7 +0.8**
ARMA *e*S S 20 54 43.0 +4.2
STON Ston 70.84 311 *i* P **P** **20 45 24.1 -2.4**
RAC Raciborz 70.87 319 *e*P **P** **20 45 27.9 +1.2**
RAC *e*S S 20 54 39.9 -0.5
RAC MLR MLR
comp=N,9μm,22.7s,MS6.2
RAC MLR MLR
comp=E,9μm,19.0s,MS6.2
RAC MLR MLR
comp=Z,5μm,20.5s,MS5.8
RAC Raciborz 70.87 319 *e*P **P** **20 45 27.9 +1.2**
RAC *e*S S 20 54 39.9 -0.5
RAC LR LR
comp=Z,5μm,20.5s,MS5.8
OKC Ostrava-Krasne 70.88 319 *e*P **P** **20 45 25.4 -1.4**
OKC *e*S S 20 54 36.6 -4.0
OKC *e*SKS 20 55 28.0
OKC AMS AMS 21 23 40.0
comp=Z,6μm,17.2s
OKC Ostrava-Krasne 70.88 319 *e*P **P** **20 45 25.4 -1.4**
OKC *e*S S 20 54 36.6 -4.0
OKC *e* 20 55 28.0
ARCES ARCESS Array B 70.96 340 P **P** **20 45 26.9 -0.3**
comp=Z,32nm,0.8s,mb5.3,baz=90,slow=4.4,SNR=56
ARCES S S 20 54 40.0 -1.4
comp=Z,0.7nm,0.7s,baz=173,slow=38,SNR=3.6
ARCES LR LR 21 20 19.2
comp=Z,17μm,19.6s,MS6.3,baz=113,slow=39
ARCES ARCESS Array B 70.96 340 P **P** **20 45 26.9 -0.3**
ARCES S S 20 54 40.1 -1.4
ARE0 ARCESS Array S 70.96 340 P **P** **20 45 27.3 0.0**
MORC Moravsky Berou 71.27 319⇓ P **P** **20 45 29.0 -0.1**
MORC Moravsky Berou 71.27 319 P **P** **20 45 28.5 -0.6**
comp=Z,46nm,1.1s,mb5.3
CNB Canberra Magne 71.39 134 *e*P **P** **20 45 29.6 -0.2**
comp=Z,77nm,0.9s,mb5.6
WAKE Wake Island 71.45 74 PFAKE 20 45 40.0 +10
WAKE LR LR
comp=Z,4μm,22.0s,MS5.6
ZST Bratislava 71.47 317 *e*P **P** **20 45 29.8 -0.5**
ZST *e*S S 20 54 45.0 -2.3
TIP Timpagrande 71.52 307 P **P** **20 45 30.2 -0.4**
SOP Sopron 71.81 316⇑ *e*P **P** **20 45 32.2 -0.2**
VRAC Vranov 71.86 318 P **P** **20 45 32.9 +0.3**
comp=Z,2.9nm,0.4s,mb4.6,baz=120,slow=7.3,SNR=8.6
VRAC S S 20 54 47.9 -4.0
comp=Z,0.9nm,0.4s,baz=101,slow=1.4,SNR=2.3
VRAC LR LR 21 21 44.2
comp=Z,5μm,20.7s,MS5.8,baz=91,slow=40
VRAC Vranov 71.86 318 P **P** **20 45 33.1 +0.4**
SISC Sisak 71.86 314 *i* P **P** **20 45 32.2 -0.4**
KOGS Kog 71.98 315 *e*P **P** **20 45 33.3 0.0**
KOGS *e*PP PP 20 48 20.3 +7.0
KOGS *e* 20 49 30.3
KOGS *e* 20 50 28.6
KOGS *e*S S 20 54 49.4 -3.8
KOGS *e* 20 55 36.0
KOGS *e*SS SS 20 59 37.8 +7.7
DPC Dobruska-Polom 72.09 319 *e*P **P** **20 45 34.5 +0.5**
DPC *e*S S 20 54 52.7 -1.8
DPC *ex* x 20 55 39.7
DPC AMS AMS 21 28 00.0
comp=Z,5μm,15.9s
FGMS Monte Sant'Ang 72.12 310 P **P** **20 45 33.0 -1.2**
comp=Z,41nm,0.8s,mb5.4
KSP Ksiaz 72.13 320 *e*P **P** **20 45 34.9 +0.6**
KSP *e*pP pP 20 45 42.0 -0.3
KSP *e*PcP PcP 20 45 55.9 +3.3
KSP *e*S S 20 54 53.8 -1.2
KSP *e*sS sS 20 55 08.2 0.0
KSP *e*SKS 20 55 39.4
KSP *e*SS SS 20 59 40.5 +8.0
KSP L 21 26 35.7
comp=Z,12nm,18.0s
KSP Ksiaz 72.13 320 *e*P **P** **20 45 34.3 0.0**
KSP *e*pP pP 20 45 40.2 -2.1
KSP *e*S S 20 54 52.0 -3.0
KSP *e*SS SS 20 59 35.0 +2.5
KSP LR LR
comp=Z,14μm,18.0s,MS6.3
UPC Upice 72.30 319 *e*P **P** **20 45 35.6 +0.3**
SCLL Scilla 72.35 306 P **P** **20 45 36.1 +0.5**
MGR Morigerati 72.44 308 P **P** **20 45 35.4 -0.7**
comp=Z,77nm,1.5s,mb5.4
FG4 Candela 72.45 310 P **P** **20 45 36.3 +0.1**
comp=Z,273nm,1.5s,mb6.0
ARSA Arzberg 72.50 316⇓ *i*P **P** **20 45 36.7 +0.2**
comp=Z,722nm,4.0s,SNR=14
TREC Trest 72.58 318 *e*P **P** **20 45 36.8 -0.2**
TREC AMS AMS 21 21 30.0
comp=Z,6μm,20.0s
BOJS Bojanci 72.65 314 *e*P **P** **20 45 37.1 -0.3**
BOJS *e*PP PP 20 48 26.8 +7.7
BOJS *e*S S 20 54 56.0 -4.9
PERS Pernice 72.76 315 *e*P **P** **20 45 38.1 0.0**
NVLJ Novalja 72.92 313 *i* P **P** **20 45 37.4 -1.6**
BILL Bilibino 73.05 22*c* *i*P **P** **20 45 38.9 -0.8**
BILL pmax pmax
comp=Z,73nm,1.7s,mb5.3
BILL MLR MLR
comp=Z,13μm,16.0s,MS6.3
BILL Bilibino 73.05 22⇑ *i*P **P** **20 45 38.9 -0.8**
comp=Z,73nm,1.7s,mb5.3
BILL LR LR
comp=Z,13μm,16.0s,MS6.3
OBKA Obir 73.15 315⇑ *i*P **P** **20 45 40.6 +0.2**
comp=Z,793nm,3.8s,SNR=16
LJU Ljubljana 73.17 315 *e*P **P** **20 45 40.6 +0.1**
LJU *e*S S 20 55 02.7 -4.1
LJU *e* 20 55 46.2
LJU *e* 20 55 58.1
BSD Bornholm Skovb 73.21 324⇑ *i*P **P** **20 45 40.1 -0.6**
comp=Z,53nm,0.9s,mb5.5
BSD *i* pP 20 45 47.0 -1.7
BSD *i* S S 20 55 01.9 -5.4
BSD
comp=Z,6μm,18.0s
BSD Bornholm Skovb 73.21 324⇑ *i*P **P** **20 45 40.1 -0.6**
BSD *i* pP 20 45 47.0 -1.7
BSD *i* S S 20 55 01.9 -5.4
BSD pmax pmax
comp=Z,53nm,0.9s,mb5.5
BSD MLR MLR
comp=Z,6μm,18.0s,MS5.9
BSD Bornholm Skovb 73.21 324⇑ *i*P **P** **20 45 40.1 -0.6**
comp=Z,53nm,0.9s,mb5.5
BSD *i* pP 20 45 47.0 -1.7
BSD *i* S S 20 55 01.9 -5.4
PVCC Panska Ves 73.22 319 *e*P **P** **20 45 41.1 +0.4**
PVCC *e*S S 20 55 05.7 -1.7
PVCC AMS AMS 21 27 10.0
comp=Z,4μm,16.9s
PRU Pruhonice 73.22 319 *e*P **P** **20 45 41.5 +0.7**
PRU *e*S S 20 55 06.0 -1.4
PRU AMS AMS 21 22 20.0
comp=Z,4μm,18.8s
TRO Tromso 73.22 339 *e*P **P** **20 45 38.5 -2.2**
TRO AMb AMB 20 45 48.1
comp=Z,117nm,1.1s,mb5.7
TRO *e*S S 20 55 06.5 -0.9
TRO AMS AMS 21 21 21.2
comp=Z,14μm,18.0s,MS6.3
TRO Tromso 73.22 339 *e*P **P** **20 45 38.5 -2.2**
comp=Z,117nm,1.1s,mb5.7
TRO LR LR
comp=Z,14439μm,18.0s
CEY Cerknica 73.23 314 *e*P **P** **20 45 40.5 -0.3**
PRA Prague 73.29 319 P **P** **20 45 42.0 +0.8**
MOA Molln 73.36 317⇑ *i*P **P** **20 45 41.3 -0.3**
comp=Z,689nm,4.7s,SNR=11
VAE Valguarnera 73.40 306 S S 20 55 17.0 +7.5
comp=Z,2.6nm,0.3s,baz=77,slow=20,SNR=2.0
GORS Gorjuse 73.54 315 *e*P **P** **20 45 42.4 -0.2**
VOY Vojsko 73.61 315 *e*P **P** **20 45 42.3 -0.7**
VOY *e* 20 45 55.3
BRG Berggiesshubel 73.62 320 *e*P **P** **20 45 43.3 +0.2**
comp=Z,36nm,1.1s,mb5.2
BRG *e*S S 20 55 10.2 -1.8
BRG Berggiesshubel 73.62 320 *i* P **P** **20 45 43.9 +0.8**
BRG *i* 20 45 56.6
BRG S S 20 55 12.0 0.0
BRG SS SS 20 59 51.0 -4.2
BRG pmax pmax
comp=Z,37nm,1.1s,mb5.2
BRG pmax pmax
comp=Z,52nm,1.3s,mb5.3
BRG pmax pmax
comp=Z,76nm,1.3s,mb5.5
BRG MLR MLR
comp=N,4μm,20.0s,MS5.8
BRG MLR MLR
comp=E,4μm,22.4s,MS5.8

BRG MLR MLR
comp=Z,3µm,20.2s,MS5.6
BRG Berggiesshubel 73.62 320 *i* P **P 20 45 43.9 +0.8**
comp=Z,36nm,1.1s,mb5.2
BRG *i* 20 45 56.6
BRG *i* 20 46 10.6
BRG S S 20 55 12.0 0.0
BRG SS SS 20 59 51.0 -4.2
BRG LR LR
comp=Z,3µm,20.2s,MS5.6
GEC2 GERESS Array S 73.75 318 *e*P **P 20 45 43.9 0.0**
comp=Z,50nm,1.0s,mb5.4
GEC2 *e*S S 20 55 11.7 -1.7
GERES GERESS Array B 73.75 318 P **P 20 45 43.9 0.0**
comp=Z,27nm,0.9s,mb5.2,baz=90,slow=5.3,SNR=130
GERES S S 20 55 06.4 -6.9
comp=Z,0.1nm,0.3s,baz=180,slow=4.0,SNR=2.0
RUE Ruedersdorf 73.77 321 *e*P **P 20 45 44.6 +0.6**
comp=Z,82nm,1.0s,mb5.6
RUE *e*S S 20 55 10.6 -3.0
RUE Ruedersdorf 73.77 321 *e*P **P 20 45 44.5 +0.5**
comp=Z,204nm,1.1s,mb6.0
KHC Kasperske Hory 73.83 318 *e*P **P 20 45 44.9 +0.5**
KHC pP pP 20 45 53.3 +0.9
KHC x x 20 46 03.5
KHC *e*S S 20 55 12.3 -2.0
KHC AMS AMS 21 25 50.0
comp=Z,6µm,18.4s
KHC Kasperske Hory 73.83 318 *e*P **P 20 45 44.9 +0.5**
KHC *e* pP 20 45 53.3 +0.9
KHC *e* 20 46 03.5
KHC *e*S S 20 55 12.3 -2.0
KHC LR LR
comp=Z,6µm,18.4s,MS5.9
KWAJ Kwajalein Atol 73.85 84 PFAKE 20 46 00.0 +16
KWAJ LR LR
comp=Z,597nm,22.0s
PTCC Patocco-Chiusa 73.98 315 P **P 20 45 44.4 -0.8**
KBA Koelnbreinsper 73.98 316⇑ *i*P **P 20 45 44.8 -0.5**
comp=Z,530nm,4.7s,SNR=16
AQU L'Aquila 74.02 311 P **P 20 45 45.3 -0.1**
AQU L'Aquila 74.02 311 P **P 20 45 45.4 0.0**
PTQR Pietraquaria 74.03 310 P **P 20 45 44.9 -0.6**
TAU Tasmania Unive 74.04 141 P **P 20 45 45.4 -0.1**
comp=Z,46nm,0.8s,mb5.5
TAU LR LR
comp=Z,1µm,22.0s,MS5.2
GMNA Gemona 74.06 315 P **P 20 45 45.5 -0.2**
RGN Rugen 74.10 323 *e*S S 20 55 17.0 -0.4
CING Cingoli 74.14 312 P **P 20 45 45.9 -0.3**
BJO Bjornoya 74.18 344 *e*P **P 20 45 44.9 -1.5**
BJO *e*S S 20 55 17.8 -0.4
BJO AMS AMS 21 23 17.3
comp=Z,8µm,17.9s,MS6.1
HFS Hagfors 74.18 329 P **P 20 45 45.7 -0.7**
comp=Z,38nm,0.8s,mb5.4,baz=108,slow=4.7,SNR=44
HFS LR LR 21 21 42.8
comp=Z,5µm,21.2s,MS5.8,baz=95,slow=38
CLL Collm 74.22 320⇑ *i*P **P 20 45 46.4 -0.3**
comp=Z,31nm,1.1s,mb5.2
CLL *e*pP pP 20 45 53.8 -0.9
CLL *e*PP PP 20 48 26.2 -6.3
CLL *e*PPP 20 49 55.1
CLL *e*S S 20 55 15.9 -2.8
CLL *e*SKSac SKSac 20 55 47.4 -5.3
CLL *e*SS SS 20 59 56.5 -7.9
CLL *e*SSS 21 03 34.6
CLL *e*L 21 22 30.3
comp=Z,5µm,20.0s
CLL Collm 74.22 320 *i* P **P 20 45 46.4 -0.3**
comp=Z,51nm,1.1s,mb5.4
CLL *i* pP pP 20 45 53.6 -1.1
CLL *i* sP sP 20 45 59.4 +1.8
CLL *i* x x 20 46 13.3
CLL *e*PPP 20 50 00.0
CLL *e*S S 20 55 15.0 -3.7
comp=N,4µm,19.9s
CLL *e*S S 20 55 15.0 -3.7
comp=E,2µm,12.5s
CLL *e*SKSac SKSac 20 55 46.0 -6.7
CLL *e*SS SS 20 59 54.0 -10
CLL *e*SSS 21 03 36.0
CLL LmV 21 22 00.0
comp=Z,8µm,20.8s
CLL Collm 74.22 320 *i* P **P 20 45 46.4 -0.3**
CLL *e*S S 20 55 15.0 -3.7
CLL *e* 20 55 46.0
CLL pmax pmax
comp=Z,51nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,8µm,20.8s,MS6.0
CLL Collm 74.22 320 *i* P **P 20 45 46.4 -0.3**
comp=Z,51nm,1.1s,mb5.4
CLL *e*S S 20 55 15.0 -3.7
CLL *e*SKS 20 55 46.0
CLL LR LR
comp=Z,8µm,20.8s,MS6.0
WET Wettzell 74.29 318 *e*P **P 20 45 47.1 +0.1**
comp=Z,24nm,1.0s,mb5.1
WET *e*S S 20 55 19.3 -0.2
MOR8 Moi Rana 74.37 336 *e*P **P 20 45 47.3 -0.2**
MOR8 AMb AMB 20 45 55.4
comp=Z,104nm,1.5s,mb5.5
MOR8 Moi Rana 74.37 336 *e*P **P 20 45 45.9 -1.6**
comp=Z,104nm,1.5s,mb5.5
NKC Novy Kostel 74.57 319 *e*P **P 20 45 49.4 +0.7**
NKC *e*S S 20 55 22.2 -0.4
NKC AMS AMS 21 28 00.0
comp=Z,5µm,16.6s
NKC Novy Kostel 74.57 319 *e*P **P 20 45 49.4 +0.7**
NKC *e*S S 20 55 22.2 -0.4
PIEI Pieia 74.62 312 P **P 20 45 48.9 0.0**
COP Copenhagen 74.65 325⇑ *i*P **P 20 45 49.3 +0.2**
comp=Z,44nm,1.0s,mb5.3
COP *i* 20 46 10.2
COP *e* 20 48 49.8
COP *i* S S 20 55 22.4 -1.1
COP *i* 21 03 45.9
COP
comp=Z,3µm,21.0s
COP Copenhagen 74.65 325⇑ *i*P **P 20 45 49.3 +0.2**
COP *i* 20 46 10.2
COP *i* S S 20 55 22.4 -1.1
COP pmax pmax
comp=Z,44nm,1.0s,mb5.3
COP MLR MLR
comp=Z,3µm,21.0s,MS5.6
WERD Werda 74.66 319 *e*P **P 20 45 49.1 -0.1**
comp=Z,13nm,1.0s,mb4.8
LBTB Lobatse 74.70 240 P **P 20 45 50.5 +1.1**
LBTB LR LR
comp=Z,13µm,19.0s,MS6.2
ROTZ Rotzenmuhle 74.73 319 *e*P **P 20 45 50.2 +0.6**
comp=Z,66nm,1.1s,mb5.5
ROTZ *e*S S 20 55 25.2 +0.8
SEST Monte Rota 74.76 315 P **P 20 45 49.1 -0.7**
BADI Badiali 74.83 312 P **P 20 45 49.8 -0.4**
LOF Lofoten 74.92 338 *e*P **P 20 45 50.6 -0.1**
STOK Stokkvaagen 74.96 336 *e*P **P 20 45 50.0 -0.9**
FX1 Attu Island--F 75.06 38 P **P 20 45 52.3 +0.8**
comp=Z,72nm,0.6s,mb5.8,baz=203,slow=17,SNR=12
FX1 LR LR 21 22 00.5
comp=Z,186nm,18.5s,baz=285,slow=38
FX1 Attu Island--F 75.06 38 *e*P **P 20 45 52.2 +0.7**
MOX Moxa 75.10 319 *e*P **P 20 45 51.9 +0.2**
comp=Z,33nm,1.4s,mb5.1
MOX *e*S S 20 55 27.4 -1.1
MOX Moxa 75.10 319 *de*P **P 20 45 52.3 +0.6**
comp=Z,54nm,1.4s,mb5.3
MOX *e* pP 20 45 59.6 -0.2
MOX *e* 20 46 24.0
MOX
comp=Z,5µm,19.0s
MOX Moxa 75.10 319 *de*P **P 20 45 52.3 +0.6**
MOX *e* pP 20 45 59.6 -0.2
MOX pmax pmax
comp=Z,54nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,5µm,19.0s,MS5.8
MOX Moxa 75.10 319 *e*P **P 20 45 52.3 +0.6**
comp=Z,54nm,1.4s,mb5.3
MOX *e*pP pP 20 45 59.6 -0.2
MOX *e*PcP PcP 20 46 24.0 +19
MOX *e*S S 20 55 30.0 +1.5
MOX *e*SS SS 21 00 33.0 +15
MOX *e*LQ 21 04 54.0
MOX LR LR
comp=Z,5µm,19.0s,MS5.8
WTTA Wattenberg 75.14 316⇑ *i*P **P 20 45 51.0 -1.0**
comp=Z,492nm,3.5s,SNR=22
WTTA Wattenberg 75.14 316⇑ *i*P **P 20 45 51.0 -1.0**
comp=Z,492nm,3.5s
CTI Castel Tesino 75.17 315 P **P 20 45 51.9 -0.2**
comp=Z,119nm,1.0s,mb5.8
WATA Walderalm 75.18 316⇑ *i*P **P 20 45 51.3 -0.9**
comp=Z,27nm,1.1s,mb5.1,SNR=6.7
WATA Walderalm 75.18 316⇑ *i*P **P 20 45 51.3 -0.9**
comp=Z,27nm,1.1s,mb5.1
NSS Namsos 75.26 334 *e*P **P 20 45 50.9 -1.8**
NSS AMb AMB 20 45 59.9
comp=Z,124nm,0.9s,mb5.8
NSS *e*S S 20 55 24.4 -5.9
NSS *e*SS SS 21 00 19.7 -0.5
NSS AMS AMS 21 25 19.9
comp=Z,9µm,18.7s,MS6.1
NSS Namsos 75.26 334 *e*P **P 20 45 50.9 -1.8**
comp=Z,124nm,0.9s,mb5.8
FUR Furstenfeldbru 75.36 317 *e*P **P 20 45 53.3 0.0**
comp=Z,22nm,0.9s,mb5.1
GRA1 Grafenberg Arr 75.37 318 *e*P **P 20 45 53.7 +0.4**
comp=Z,67nm,1.0s,mb5.5
GRA1 *e*pP pP 20 46 01.3 0.0
GRA1 *e* 20 49 09.6
GRA1 *e*S S 20 55 30.8 -0.7
GRA1 LR LR
comp=Z,6µm,18.4s,MS5.9
GRF Grafenberg Arr 75.37 318 *e*P **P 20 45 53.7 +0.4**
comp=Z,67nm,1.0s,mb5.5
GRF *e*pP pP 20 46 01.3 0.0
GRF *e* 20 49 09.6
GRF *e*S S 20 55 30.8 -0.7
GRF *e*L 21 28 53.8
comp=Z,6µm,18.4s
SQTA Sankt Quirin 75.44 316⇓ *i*P **P 20 45 52.9 -0.8**
comp=Z,24nm,0.9s,mb5.1,SNR=18
NB2 NORSAR Subarra 75.45 330 P **P 20 45 52.7 -1.0**
comp=Z,12nm,0.6s,mb5.0,baz=90,slow=5.9
NOA NORSAR Array B 75.45 330 P **P 20 45 52.5 -1.2**
comp=Z,26nm,0.8s,mb5.2,baz=92,slow=5.8,SNR=71
NOA S S 20 55 28.1 -4.3
comp=Z,0.6nm,0.7s,baz=295,slow=14,SNR=2.3
NOA LR LR 21 25 04.5
comp=Z,5µm,19.1s,MS5.8,baz=75,slow=40
MOTA Moosalm 75.50 316⇑ *i*P **P 20 45 53.1 -0.9**
comp=Z,36nm,1.1s,mb5.2,SNR=17
NAO01 NORSAR Array S 75.60 330 P **P 20 45 54.0 -0.6**
comp=Z,31nm,0.8s,mb5.3
NAO01 LR LR
comp=Z,6µm,21.0s,MS5.9
FNVD Fontana Vidola 75.61 313 P **P 20 45 55.7 +1.0**
SMY Shemya 75.63 38 P **P 20 45 55.6 +0.8**
SMY LR LR
comp=Z,5µm,19.0s,MS5.8
OSL Oslo 75.66 329 *e*P **P 20 45 55.8 +0.8**
OSL AMb AMB 20 45 56.4
comp=Z,117nm,0.9s,mb5.8
OSL Oslo 75.66 329 *e*P **P 20 45 55.8 +0.8**
comp=Z,117nm,0.9s,mb5.8
GRFL Gerfalco 75.77 312 P **P 20 45 54.6 -1.0**
comp=Z,233nm,2.4s,mb5.7
BSEG Bad Segeberg 75.86 323 *e*P **P 20 45 56.6 +0.5**
comp=Z,61nm,1.0s,mb5.5
BSEG *e*S S 20 55 35.8 -1.1
CLZ Clausthal 75.86 321 *e*P **P 20 45 56.3 +0.2**
comp=Z,37nm,1.0s,mb5.3
CLZ *e*S S 20 55 34.4 -2.6
MABI Malga Bissina 75.96 315 P **P 20 45 56.7 0.0**
SAL Salo 75.97 314 P **P 20 45 57.1 +0.4**
comp=Z,1µm,1.9s,mb6.5
GSCL Gusciola 75.99 313 P **P 20 45 57.4 +0.6**
PII Pisa 76.07 312 P **P 20 45 56.2 -1.1**
comp=Z,44nm,1.0s,mb5.3
ERBM Eremo 76.11 313 P **P 20 45 58.4 +0.9**
VLC Villacollemand 76.14 313 P **P 20 45 59.2 +1.5**
comp=Z,44nm,0.9s,mb5.4
KONO Kongsberg 76.23 329 *e*P **P 20 45 58.1 -0.1**
KONO *e*S S 20 55 32.9 -8.0
KONO Kongsberg 76.23 329 P **P 20 45 58.6 +0.4**
KONO pmax pmax
comp=Z,60nm,1.2s,mb5.4
KONO Kongsberg 76.23 329 *e*P **P 20 45 58.1 -0.1**
comp=Z,5µm,1.8s
KONO LR LR
comp=Z,1079µm,17.5s
BOSA Boshof 76.30 237 P **P 20 45 59.6 +1.0**
comp=Z,25nm,0.9s,mb5.1,baz=77,slow=6.2,SNR=26
BOSA S S 20 55 34.5 -7.3
comp=Z,3.2nm,1.1s,baz=14,slow=9.3,SNR=1.8
BOSA LR LR 21 16 16.0
comp=Z,9µm,18.1s,MS6.1,baz=65,slow=33
BOSA Boshof 76.30 237 P **P 20 45 58.9 +0.3**
BOSA Boshof 76.30 237 PFAKE 20 46 10.0 +11
BOSA LR LR
comp=Z,8µm,20.0s,MS6.0
DAVA Damuels 76.34 316⇑ *i*P **P 20 45 58.9 0.0**
comp=Z,717nm,3.6s,SNR=25
DAVA Damuels 76.34 316⇑ *i*P **P 20 45 58.9 0.0**
comp=Z,717nm,3.6s
DAVOX Davos 76.36 315 P **P 20 45 58.9 -0.1**
comp=Z,25nm,1.0s,mb5.1,baz=110,slow=4.6,SNR=23
DAVOX S S 20 55 42.7 +0.2
comp=Z,2.1nm,0.8s,baz=326,slow=8.0,SNR=3.5
MUD Monsted U'grnd 76.48 325⇑ *i*P **P 20 46 00.6 +1.0**
comp=Z,78nm,1.1s,mb5.5
MUD *i* pP 20 46 07.3 -0.3
MUD *i* S S 20 55 43.1 -0.6
MUD *e* 20 56 49.7
MUD
comp=Z,4µm,18.0s
MUD Monsted U'grnd 76.48 325⇑ *i*P **P 20 46 00.6 +1.0**
MUD *i* pP 20 46 07.3 -0.3
MUD *i* S S 20 55 43.1 -0.6
MUD *e* 20 56 49.7
MUD pmax pmax
comp=Z,78nm,1.1s,mb5.5
MUD MLR MLR
comp=Z,4µm,18.0s,MS5.8
MUD Monsted U'grnd 76.48 325⇑ *i*P **P 20 46 00.6 +1.0**
comp=Z,78nm,1.1s,mb5.5
MUD *i* pP 20 46 07.3 -0.3
MUD *i* S S 20 55 43.1 -0.6
MUD *e* 20 56 49.7
DOMB Dombas 76.50 331 *e*P **P 20 45 59.4 -0.3**
DOMB AMb AMB 20 46 01.2
comp=Z,56nm,1.1s,mb5.4
DOMB Dombas 76.50 331 *e*P **P 20 45 59.4 -0.3**
comp=Z,56nm,1.1s,mb5.4
KBS Kingsbay 76.61 349 *e*P **P 20 46 01.3 +1.0**
KBS *e*S S 20 55 44.6 -0.5
KBS *e*SS SS 21 00 40.2 -0.3
KBS AMS AMS 21 26 15.1
comp=Z,4µm,19.2s,MS5.8
STU Stuttgart 76.73 318 *e*P **P 20 46 01.2 +0.2**
comp=Z,15nm,1.0s,mb4.9
STU *e*S S 20 55 44.9 -1.5
STU Stuttgart 76.73 318 P **P 20 46 01.6 +0.5**
TUE Stuetta 76.75 315 P **P 20 46 01.1 0.0**
TOD Tromm 76.94 318 *e*P **P 20 46 02.5 +0.3**
DGI Dorgali Grotta 76.98 309 P **P 20 46 02.4 0.0**
SPAK Spaichingen 77.03 317 *e*P **P 20 46 02.7 0.0**
TNS Taunus Mts 77.14 319 *e*P **P 20 46 03.4 +0.1**
comp=Z,19nm,1.1s,mb4.9
TNS *e*S S 20 55 49.4 -1.5
CORF Corte 77.17 311 *e*P **P 20 46 03.3 -0.2**
OSPF L'Ospedale 77.19 310 *e*P **P 20 46 02.6 -1.0**
MOL Molde 77.20 332 *e*P **P 20 46 03.7 0.0**
VSL Villasalto 77.22 308 P **P 20 46 02.9 -0.9**
PGF Pioggiola 77.26 311 *e*P **P 20 46 03.6 -0.4**
comp=Z,125nm,1.2s,mb5.4
PGF Pioggiola 77.26 311 *e*P **P 20 46 03.6 -0.4**
comp=Z,62nm,1.2s,mb5.4
HLG Helgoland 77.29 323 *e*S S 20 55 52.2 -0.4
BFO Black Forest 77.33 317 *e*P **P 20 46 03.7 -0.7**
comp=Z,16nm,1.1s,mb4.9
BFO *e*S S 20 55 51.1 -1.9
BFO Black Forest 77.33 317 P **P 20 46 04.3 -0.1**
comp=Z,121nm,1.0s,mb5.8,SNR=7.8
IBBN Ibbenburen 77.46 321 *e*P **P 20 46 05.6 +0.5**
comp=Z,48nm,1.0s,mb5.4
IBBN *e*S S 20 55 52.3 -2.1
FELD Feldberg 77.57 317 *e*P **P 20 46 05.5 -0.3**
LANF Langenberg 77.63 318 *e*P **P 20 46 06.2 +0.1**
FIN Finale Ligure 77.70 313 P **P 20 46 06.5 0.0**
ABH Alteburg 77.74 319 *e*P **P 20 46 06.5 -0.2**
BUG Bochum--Univer 77.81 320 *e*P **P 20 46 06.9 -0.2**
comp=Z,32nm,1.2s,mb5.1
BUG *e*S S 20 55 57.1 -1.1
LIBD Limburg 77.82 317 *e*P **P 20 46 07.6 +0.4**
BLS5 Blasjo 77.83 329 *e*P **P 20 46 08.6 +1.4**
BLS5 AMb AMB 20 46 16.9
comp=Z,36nm,1.1s,mb5.2
BLS5 Blasjo 77.83 329 *e*P **P 20 46 08.6 +1.4**
comp=Z,36nm,1.1s,mb5.2
BBS Basel-Blauen 77.94 316 *e*P **P 20 46 07.6 -0.2**
IMI Imperia 77.96 313 P **P 20 46 08.2 +0.3**
WLS Welschbruch 77.97 317 *e*P **P 20 46 07.6 -0.4**
CDF Champ du Feu 78.02 317 *e*P **P 20 46 07.9 -0.4**
comp=Z,118nm,1.2s,mb5.4
CDF Champ du Feu 78.02 317 *e*P **P 20 46 07.9 -0.4**
comp=Z,59nm,1.2s,mb5.4
RUP Ruppelstein 78.07 319 *e*P **P 20 46 08.6 +0.1**
WTSB Winterswijk 78.07 321⇑ *e*P **P 20 46 08.8 +0.3**
comp=Z,70nm,1.8s,mb5.3
ECH Echery 78.11 317 *e*P **P 20 46 08.3 -0.5**
MOF Molkenrain 78.16 317 *e*P **P 20 46 09.2 +0.2**
SAOF Saorge 78.19 313 *e*P **P 20 46 09.3 +0.1**
AUTN L'Aution 78.28 313 *e*P **P 20 46 10.0 +0.3**
SBF Sospel 78.29 313 *e*P **P 20 46 09.3 -0.4**
comp=Z,303nm,1.2s,mb5.8
SBF Sospel 78.29 313 *e*P **P 20 46 09.3 -0.4**
comp=Z,152nm,1.2s,mb5.8
BER Bergen 78.35 330 *e*P **P 20 46 08.1 -1.9**
BER *e*S S 20 56 02.9 -1.1
BER AMS AMS 21 26 59.2
comp=Z,7µm,19.5s,MS6.0
REVF Revere 78.35 312 *e*P **P 20 46 10.0 -0.1**
HINF Hinteralfeld 78.35 317 *e*P **P 20 46 09.2 -0.9**
comp=Z,91nm,1.2s,mb5.3
HINF Hinteralfeld 78.35 317 *e*P **P 20 46 09.2 -0.9**
comp=Z,45nm,1.2s,mb5.3
LOMF Lomont 78.41 316 *e*P **P 20 46 10.2 -0.2**
MVIF Mont Vial 78.49 313 *e*P **P 20 46 11.3 +0.5**
OG01 Vacheresse 78.50 315 *e*P **P 20 46 11.7 +0.3**
LPG La Plagne 78.62 314 *e*P **P 20 46 11.9 +0.3**
comp=Z,265nm,0.9s,mb5.8
LPG La Plagne 78.62 314 *e*P **P 20 46 11.9 +0.3**
comp=Z,132nm,0.9s,mb5.9
LPL La Plagne 78.64 314 *e*P **P 20 46 11.9 +0.2**
comp=Z,442nm,1.1s,mb6.0
LPL La Plagne 78.64 314 *e*P **P 20 46 11.9 +0.2**
comp=Z,221nm,1.1s,mb6.0
WLF Walferdange 78.66 319 *e*P **P 20 46 12.1 +0.3**
comp=Z,24nm,1.3s,mb5.0
WLF *e*S S 20 56 07.8 +0.5
WLF Walferdange 78.66 319 P **P 20 46 12.8 +1.1**
WLF AP pP 20 46 18.7 -1.1
WLF XP sP 20 46 26.2 +3.4
WLF Walferdange 78.66 319 P **P 20 46 12.9 +1.2**
MEM Membach 78.67 320 P **P 20 46 12.6 +0.7**
MEM AP pP 20 46 19.0 -0.9
HAU Haudompre 78.67 317 *e*P **P 20 46 12.5 +0.6**
comp=Z,174nm,1.1s,mb5.6
HAU *e*R
comp=Z,5µm,18.5s
HAU Haudompre 78.67 317 *e*P **P 20 46 12.5 +0.6**
comp=Z,87nm,1.1s,mb5.6
HAU LR LR
comp=Z,5µm,18.5s,MS5.9
SURF Saint Ours 78.68 313 *e*P **P 20 46 12.2 +0.3**
MBDF Montbardon 78.68 314 *e*P **P 20 46 11.2 -0.7**
comp=Z,94nm,0.8s,mb5.5
MBDF Montbardon 78.68 314 *e*P **P 20 46 11.2 -0.7**
comp=Z,47nm,0.8s,mb5.5
RSL Roselend 78.69 315 *e*P **P 20 46 12.3 +0.3**
HGN Heimansgroeve 78.70 320⇑ *e*P **P 20 46 10.7 -1.3**
comp=Z,37nm,2.4s,mb4.9
HGN *e*PP PP 20 49 09.6 -0.6
HGN *e*S S 20 56 07.3 -0.5
HGN *e*SS SS 21 01 01.3 -11
BNI Bardonecchia 78.72 314 P **P 20 46 11.6 -0.5**
BNI pmax pmax
comp=Z,44nm,1.0s,mb5.3
BNI Bardonecchia 78.72 314 P **P 20 46 11.6 -0.5**
comp=Z,44nm,1.0s,mb5.3
BEBN Eben Emael 78.86 320 P **P 20 46 11.3 -1.6**
BEBN AP pP 20 46 19.2 -1.7
BEBN XP sP 20 46 30.7 +6.8
FRF La Foret Royal 78.89 312 *e*P **P 20 46 12.8 -0.2**
comp=Z,243nm,1.2s,mb5.7
FRF La Foret Royal 78.89 312 *e*P **P 20 46 12.8 -0.2**
comp=Z,122nm,1.2s,mb5.7
THEF They Montfort 78.89 317 *e*P **P 20 46 13.0 -0.1**
CABF La Chapelle 78.98 316 *e*P **P 20 46 13.8 +0.3**
comp=Z,302nm,1.3s,mb5.8
CABF La Chapelle 78.98 316 *e*P **P 20 46 13.8 +0.3**
comp=Z,151nm,1.3s,mb5.8
LMR La Mourre 79.01 312 *e*P **P 20 46 13.5 -0.2**
comp=Z,172nm,1.1s,mb5.6
LMR La Mourre 79.01 312 *e*P **P 20 46 13.5 -0.2**
comp=Z,86nm,1.1s,mb5.6
ABSA Djebel Ababsia 79.04 305 P **P 20 46 14.5 +0.6**
CMAH Djebel Manchou 79.05 305 P **P 20 46 13.9 0.0**
CASY Casey 79.07 173⇓ *i*P **P 20 46 13.3 -0.7**
CASY Casey 79.07 173 *e*P **P 20 46 13.1 -0.9**
comp=Z,76nm,1.0s,mb5.6
CASY LR LR
comp=Z,11µm,21.0s,MS6.2
GDM Grand'Maison 79.10 314 *e*P **P 20 46 13.8 -0.4**
ORIF Oris-en-Rattie 79.30 314 *e*P **P 20 46 14.8 -0.5**
comp=Z,91nm,0.9s,mb5.4
ORIF *e*R
comp=Z,6µm,20.2s
ORIF Oris-en-Rattie 79.30 314 *e*P **P 20 46 14.8 -0.5**
comp=Z,45nm,0.9s,mb5.4
GRN Grenoble 79.36 314 *e*P **P 20 46 16.0 +0.4**
GIVF Givet 79.47 319 *e*P **P 20 46 16.1 -0.1**
comp=Z,139nm,1.4s,mb5.4
GIVF Givet 79.47 319 *e*P **P 20 46 16.1 -0.1**
comp=Z,69nm,1.4s,mb5.4
OG05 Jujurieux 79.47 315 *e*P **P 20 46 16.4 +0.2**
CAEH 'Ain El Ouahch 79.48 305 P **P 20 46 18.0 +1.7**
MEZF Maizieres J'vi 79.49 317 *e*P **P 20 46 16.2 -0.1**
comp=Z,160nm,1.3s,mb5.5
MEZF Maizieres J'vi 79.49 317 *e*P **P 20 46 16.2 -0.1**
comp=Z,160nm,1.3s,mb5.8
BERF Bertagne 79.61 312 *e*P **P 20 46 17.5 +0.5**
SMRF Simiane la Rot 79.61 313 *e*P **P 20 46 17.4 +0.4**
comp=Z,328nm,1.3s,mb5.8
SMRF Simiane la Rot 79.61 313 *e*P **P 20 46 17.4 +0.4**
comp=Z,328nm,1.3s,mb6.1
DOU Dourbes 79.62 319 P **P 20 46 17.1 +0.1**
comp=Z,12nm,1.3s,mb4.7
DOU AP pP 20 46 26.1 +1.0
CKFL Kef-Lekhel 79.63 305 P **P 20 46 18.0 +0.9**
UCC Uccle 79.69 320 P **P 20 46 16.9 -0.5**
UCC AP pP 20 46 25.0 -0.5
OCF Saint Nazaire 79.74 314 *e*P **P 20 46 18.3 +0.6**
OG26 St.-Nazaire-De 79.74 314 *e*P **P 20 46 18.3 +0.6**
SNF Seneffe 79.77 320 P **P 20 46 18.1 +0.2**
comp=Z,27nm,1.3s,mb5.0
SNF AP pP 20 46 24.9 -1.0
SNF XP sP 20 46 30.1 +1.2
CASM Ain Smara 79.83 305 P **P 20 46 19.5 +1.3**
TSUM Tsumeb 79.90 248 PFAKE 20 46 30.0 +11
TSUM LR LR
comp=Z,13µm,20.0s,MS6.3
CTEI Djebel Teioual 79.93 305 P **P 20 46 20.0 +1.3**
DZM Mont Dzumac 80.01 115 P **P 20 46 19.4 +0.2**
comp=Z,46nm,0.8s,mb5.5,baz=290,slow=4.1,SNR=20
DZM Mont Dzumac 80.01 115 *e*P **P 20 46 20.7 +1.5**
VIVF Saint-Julien-I 80.16 314 *e*P **P 20 46 19.9 0.0**
comp=Z,211nm,1.2s,mb5.7
VIVF Saint-Julien-I 80.16 314 *e*P **P 20 46 19.9 0.0**
comp=Z,106nm,1.2s,mb5.6
DFRA Djebel Bou Aff 80.29 305 P **P 20 46 21.3 +0.6**
CMER Merouana 80.39 304 P **P 20 46 20.0 -1.2**
LOR Lormes 80.42 316 *e*P **P 20 46 21.0 -0.4**
comp=Z,250nm,1.3s,mb5.7
LOR *e*R
comp=Z,5µm,18.8s
LOR Lormes 80.42 316 *e*P **P 20 46 21.0 -0.4**
comp=Z,125nm,1.3s,mb5.7
LOR LR LR
comp=Z,5µm,18.8s,MS5.9

SMF Signal de Mont 80.51 316 *e*P P **20 46 21.5 -0.4**
comp=Z,248nm,1.3s,mb5.7
SMF Signal de Mont 80.51 316 *e*P P **20 46 21.5 -0.4**
comp=Z,124nm,1.3s,mb5.7
CKHR Kef el Ahmar 80.65 305 P P **20 46 22.0 -0.6**
SSF Saint Saulge 80.69 316 *e*P P **20 46 22.5 -0.3**
comp=Z,149nm,1.2s,mb5.5
SSF Saint Saulge 80.69 316 *e*P P **20 46 22.5 -0.3**
comp=Z,75nm,1.2s,mb5.5
SET Setif 80.72 305 P P **20 46 24.0 +1.1**
PLDF La Plantade 80.75 315 *e*P P **20 46 23.6 +0.5**
COLF Collangettes 80.76 315 *e*P P **20 46 23.4 +0.2**
AVF Avril sur Loir 80.83 316 *e*P P **20 46 23.2 -0.3**
comp=Z,187nm,1.3s,mb5.6
AVF Avril sur Loir 80.83 316 *e*P P **20 46 23.2 -0.3**
comp=Z,94nm,1.3s,mb5.6
LASF Ste Croix 80.83 313 *e*P P **20 46 23.9 +0.3**
comp=Z,299nm,1.3s,mb5.8
AGO Saint Agoulin 81.08 315 *e*P P **20 46 25.3 +0.4**
BGF Bois d'Ágland 81.21 316 *e*P P **20 46 25.7 +0.1**
comp=Z,215nm,1.3s,mb5.6
BGF Bois d'Ágland 81.21 316 *e*P P **20 46 25.7 +0.1**
comp=Z,108nm,1.3s,mb5.6
SUR Sutherland 81.22 234 P P **20 46 27.3 +1.7**
comp=Z,449nm,0.8s,mb6.5,SNR=6.4
SUR Sutherland 81.22 234 P P **20 46 27.6 +2.0**
comp=Z,69nm,0.8s,mb5.6
SUR LR LR
comp=Z,5μm,20.0s,MS5.9
HYF Humbligny 81.25 316 *e*P P **20 46 26.2 +0.4**
ADK Adak 81.33 39 PFAKE 20 46 40.0 +14
ADK LR LR
comp=Z,4μm,19.0s,MS5.8
VERF Verneugheol 81.57 315 *e*P P **20 46 27.8 +0.3**
LRW Lerwick 81.60 330 *e*P P **20 46 26.9 -0.7**
LRW Lerwick 81.60 330 *e*P P **20 46 26.9 -0.7**
TCF Toulx Ste Croi 81.68 316 *e*P P **20 46 28.3 +0.2**
comp=Z,219nm,1.3s,mb5.6
TCF Toulx Ste Croi 81.68 316 *e*P P **20 46 28.3 +0.2**
comp=Z,109nm,1.3s,mb5.6
EJON La Jonquera 81.76 312 P P **20 46 28.5 0.0**
comp=Z,1.4nm,0.5s
CAF Calviac 81.98 314 *e*P P **20 46 30.0 +0.3**
comp=Z,162nm,1.3s,mb5.5
CAF Calviac 81.98 314 *e*P P **20 46 30.0 +0.3**
comp=Z,81nm,1.3s,mb5.5
GAMB Gambell 82.05 27 P P **20 46 29.2 -0.8**
MAW Mawson 82.08 191 *e*P P **20 46 30.4 +0.2**
comp=Z,29nm,0.9s,mb5.2
MAW Mawson 82.08 191 S S 20 56 46.5 +3.3
comp=Z,3.7nm,0.2s,baz=233,slow=18,SNR=7.1
MAW LR LR 21 18 25.6
comp=Z,6μm,19.8s,MS6.0,baz=24,slow=32
MAW Mawson 82.08 191 *e*P P **20 46 29.4 -0.8**
MTLF Montolieu 82.11 313 *e*P P **20 46 30.5 +0.1**
comp=Z,281nm,1.3s,mb5.7
MTLF Montolieu 82.11 313 *e*P P **20 46 30.5 +0.1**
comp=Z,140nm,1.3s,mb5.7
ETOS Mallorca 82.22 309 P P **20 46 31.5 +0.6**
comp=Z,45nm,1.1s,mb5.3
RJF Les Rejaudoux 82.31 315 *e*P P **20 46 31.8 +0.4**
comp=Z,141nm,1.1s,mb5.5
RJF *e*R
comp=Z,5μm,19.0s
RJF Les Rejaudoux 82.31 315 *e*P P **20 46 31.8 +0.4**
comp=Z,70nm,1.1s,mb5.5
RJF LR LR
comp=Z,5μm,19.0s,MS5.9
JMIC Jan Mayen 82.41 341 *e*P P **20 46 35.0 +3.0**
JMIC AMS AMS 21 26 16.3
comp=Z,7μm,18.8s,MS6.0
EMHD Djebel Mahouad 82.67 305 P P **20 46 34.7 +1.4**
EMIR Miracle 82.84 311 P P **20 46 34.4 +0.2**
comp=Z,67nm,0.9s,mb5.7
LDF La Druitiere 82.88 318 *e*P P **20 46 34.1 -0.2**
comp=Z,198nm,1.3s,mb5.7
LDF La Druitiere 82.88 318 *e*P P **20 46 34.1 -0.2**
comp=Z,99nm,1.3s,mb5.7
LFF La Frestale 82.91 314 *e*P P **20 46 35.0 +0.5**
comp=Z,91nm,1.1s,mb5.4
LFF La Frestale 82.91 314 *e*P P **20 46 35.0 +0.5**
comp=Z,46nm,1.0s,mb5.5
KBI1 Birley Grange 82.95 323⇑ *e*P P **20 46 34.7 0.0**
KBI1 Birley Grange 82.95 323⇑ *e*P P **20 46 34.7 0.0**
MME1 Meikle Cairn 83.01 327 *e*P P **20 46 33.9 -1.1**
MME1 Meikle Cairn 83.01 327 *e*P P **20 46 33.9 -1.1**
FLN La Foliniere 83.09 318 *e*P P **20 46 35.1 -0.3**
comp=Z,111nm,1.0s,mb5.5
FLN *e*R
comp=Z,5μm,18.5s
FLN La Foliniere 83.09 318 *e*P P **20 46 35.1 -0.3**
comp=Z,55nm,1.0s,mb5.5
FLN LR LR
comp=Z,5μm,18.5s,MS5.9
MCD Coleburn Disti 83.11 327 *e*P P **20 46 34.9 -0.6**
MCD Coleburn Disti 83.11 327 *e*P P **20 46 34.9 -0.6**
KWE Weaver Farm 83.18 323⇑ *e*P P **20 46 36.1 +0.2**
KWE Weaver Farm 83.18 323⇑ *e*P P **20 46 36.1 +0.2**
MFF Saint Martin d 83.24 316 *e*P P **20 46 36.0 -0.2**
comp=Z,110nm,0.9s,mb5.6
MFF Saint Martin d 83.24 316 *e*P P **20 46 36.0 -0.2**
comp=Z,55nm,0.9s,mb5.6
DAG Danmarks Havn 83.24 348⇓ *i*P P **20 46 33.9 -2.3**
comp=Z,15nm,0.9s,mb5.0
DAG Danmarks Havn 83.24 348⇓ *e*P P **20 46 33.9 -2.3**
DAG pmax pmax
comp=Z,15nm,0.9s,mb5.0
DAG Danmarks Havn 83.24 348⇓ *e*P P **20 46 33.9 -2.3**
comp=Z,15nm,0.9s,mb5.0
TNA Tin City 83.26 24 P P **20 46 36.2 -0.1**
TNA LR LR
comp=Z,4μm,19.0s,MS5.8
EPOB Poblet 83.27 311 P P **20 46 36.9 +0.5**
comp=Z,74nm,1.0s,mb5.7
EBL Broad Law 83.35 326⇑ *e*P P **20 46 36.3 -0.4**
EBL AMb AMB 20 46 46.8
comp=Z,42nm,1.5s,mb5.3
EBL Broad Law 83.35 326⇑ *e*P P **20 46 36.3 -0.4**
EBL AMb AMB 20 46 46.8
comp=Z,42nm,1.5s,mb5.3
EDI Edinburgh 83.40 326 *e*P P **20 46 36.6 -0.4**
EDI Edinburgh 83.40 326 *e*P P **20 46 36.6 -0.4**
GRR Gorron 83.40 318 *e*P P **20 46 37.0 0.0**
comp=Z,274nm,1.7s,mb5.7
GRR Gorron 83.40 318 *e*P P **20 46 37.0 0.0**
comp=Z,137nm,1.7s,mb5.7
EIBI Ibiza 83.46 308 P P **20 46 37.9 +0.5**
comp=Z,74nm,1.2s,mb5.6
EKA Eskdalemuir Ar 83.50 325 P P **20 46 37.5 -0.1**
comp=Z,19nm,0.8s,mb5.2,baz=96,slow=5.6,SNR=59
EKA PKKPbc PKKPbc 21 04 56.0 +0.3
comp=Z,1.1nm,0.9s,baz=243,slow=1.9,SNR=4.4
EPF Esparros 83.52 312 *e*P P **20 46 37.1 -0.5**
comp=Z,84nm,1.4s,mb5.4
EPF Esparros 83.52 312 *e*P P **20 46 37.1 -0.5**
comp=Z,42nm,1.4s,mb5.4
ESK Eskdalemuir 83.53 325 *e*P P **20 46 37.3 -0.4**
ESK Eskdalemuir 83.53 325 *e*P P **20 46 37.3 -0.4**
ESK Eskdalemuir 83.53 325 P P **20 46 38.7 +1.0**
comp=Z,201nm,0.8s,mb6.3,SNR=5.3
ESK Eskdalemuir 83.53 325 P P **20 46 37.6 0.0**
comp=Z,29nm,0.9s,mb5.4
ESK LR LR
comp=Z,1μm,22.0s,MS5.2
EAU Auchinoon 83.56 326⇑ *e*P P **20 46 37.4 -0.5**
EAU AMb AMB 20 46 48.8
comp=Z,98nm,1.6s,mb5.7
EAU Auchinoon 83.56 326⇑ *e*P P **20 46 37.4 -0.5**
EAU AMb AMB 20 46 48.8
comp=Z,98nm,1.6s,mb5.7
EGRA Graus 83.68 312 P P **20 46 39.6 +1.1**
comp=Z,27nm,0.8s,mb5.4
EBIE Bielsa 83.72 312 P P **20 46 39.4 +0.7**
comp=Z,32nm,1.1s,mb5.4
MDO Dochfour 83.72 327 *e*P P **20 46 38.2 -0.5**
MDO Dochfour 83.72 327 *e*P P **20 46 38.2 -0.5**
EBNR Beni Rached 83.79 306 P P **20 46 40.5 +1.5**
EBR Ebro Roquetas 83.80 310 *e*P P **20 46 40.0 +0.9**
HLM1 Long Mynd 83.89 322 *e*P P **20 46 40.0 +0.5**
HLM1 AMb AMB 20 46 49.8
comp=Z,68nm,1.4s,mb5.6
HLM1 Long Mynd 83.89 322 *e*P P **20 46 40.0 +0.5**
HLM1 AMb AMB 20 46 49.8
comp=Z,68nm,1.4s,mb5.6
ERTA Horta de San J 83.89 310 P P **20 46 40.0 +0.5**
comp=Z,65nm,1.1s,mb5.7
ECHA Ech Chlef 83.95 306 P P **20 46 41.5 +1.7**
HGH Gray Hill 84.02 321 *e*P P **20 46 40.2 0.0**
HGH AMb AMB 20 46 41.8
comp=Z,158nm,1.0s,mb6.1
HGH Gray Hill 84.02 321 *e*P P **20 46 40.2 0.0**
HGH AMb AMB 20 46 41.8
comp=Z,158nm,1.0s,mb6.1
SBD1 Bryn Du 84.04 323 *e*P P **20 46 40.5 +0.1**
SBD1 Bryn Du 84.04 323 *e*P P **20 46 40.5 +0.1**
SSP1 Stoney Pound 84.05 322 *e*P P **20 46 39.9 -0.5**
SSP1 Stoney Pound 84.05 322 *e*P P **20 46 39.9 -0.5**
MCH1 Michaelchurch 84.06 322 *e*P P **20 46 40.2 -0.2**
MCH1 Michaelchurch 84.06 322 *e*P P **20 46 40.2 -0.2**
ETRT Tiaret 84.14 305 P P **20 46 42.3 +1.5**
ETSF Etsaut 84.19 312 *e*P P **20 46 41.7 +0.6**
comp=Z,126nm,1.1s,mb5.6
ETSF Etsaut 84.19 312 *e*P P **20 46 41.7 +0.6**
comp=Z,63nm,1.1s,mb5.7
EANR 'Ain N'Sour 84.19 305 P P **20 46 41.5 +0.4**
ESAC San Caprasio 84.35 311 P P **20 46 42.3 +0.4**
comp=Z,93nm,0.9s,mb5.9
SGMF Saint Gilles 84.54 318 *e*P P **20 46 42.7 -0.1**
comp=Z,163nm,1.3s,mb5.7
SGMF Saint Gilles 84.54 318 *e*P P **20 46 42.7 -0.1**
comp=Z,82nm,1.3s,mb5.7
EMOS Mosqueruela 84.60 310 P P **20 46 44.4 +1.3**
comp=Z,136nm,1.1s,mb6.0
WIM Isle of Man 84.60 324 *e*P P **20 46 43.7 +0.5**
WIM AMb AMB 20 46 57.6
comp=Z,76nm,1.6s,mb5.6
WIM Isle of Man 84.60 324 *e*P P **20 46 43.7 +0.5**
WIM AMb AMB 20 46 57.6
comp=Z,76nm,1.6s,mb5.6
WLF1 Llynfaes 84.63 323 *e*P P **20 46 43.8 +0.5**
WLF1 AMb AMB 20 46 54.4
comp=Z,84nm,1.8s,mb5.6
WLF1 Llynfaes 84.63 323 *e*P P **20 46 43.8 +0.5**
WLF1 AMb AMB 20 46 54.4
comp=Z,84nm,1.8s,mb5.6
SJPF Ste Jean 84.63 313 *e*P P **20 46 43.8 +0.5**
comp=Z,201nm,1.3s,mb5.8
SJPF Ste Jean 84.63 313 *e*P P **20 46 43.8 +0.5**
comp=Z,100nm,1.3s,mb5.8
MIDW Midway 84.68 62 PFAKE 20 46 50.0 +6.5
MIDW LR LR
comp=Z,2μm,22.0s,MS5.4
WCB1 Church Bay 84.70 323 *e*P P **20 46 44.0 +0.3**
WCB1 AMb AMB 20 46 54.7
comp=Z,81nm,1.7s,mb5.6
WCB1 Church Bay 84.70 323 *e*P P **20 46 44.0 +0.3**
WCB1 AMb AMB 20 46 54.7
comp=Z,81nm,1.7s,mb5.6
YRE Yr Eifl 84.71 323 *e*P P **20 46 43.9 +0.2**
YRE AMb AMB 20 46 54.7
comp=Z,101nm,2.0s,mb5.6
YRE Yr Eifl 84.71 323 *e*P P **20 46 43.9 +0.2**
YRE AMb AMB 20 46 54.7
comp=Z,101nm,2.0s,mb5.6
YRC Rhoscolyn 84.74 323 *e*P P **20 46 44.3 +0.4**
YRC AMb AMB 20 46 55.0
comp=Z,84nm,1.5s,mb5.7
YRC Rhoscolyn 84.74 323 *e*P P **20 46 44.3 +0.4**
YRC AMb AMB 20 46 55.0
comp=Z,84nm,1.5s,mb5.7
EALK Alkurruntz 84.81 313 P P **20 46 44.9 +0.7**
comp=Z,15nm,0.9s,mb5.1
RRH Rhenigidale 84.83 328 *e*P P **20 46 44.1 -0.2**
RRH Rhenigidale 84.83 328 *e*P P **20 46 44.1 -0.2**
ELIZ Elizondo 84.84 313 P P **20 46 45.3 +0.9**
comp=Z,26nm,1.1s,mb5.3
ROSF Rostrenen 84.99 318 *e*P P **20 46 45.0 -0.1**
comp=Z,153nm,1.2s,mb5.7
ROSF Rostrenen 84.99 318 *e*P P **20 46 45.0 -0.1**
comp=Z,76nm,1.2s,mb5.7
QUIF Quistinic 85.00 318 *e*P P **20 46 44.7 -0.5**
comp=Z,220nm,1.7s,mb5.7
QUIF Quistinic 85.00 318 *e*P P **20 46 44.7 -0.5**
comp=Z,110nm,1.7s,mb5.7
ALE Alert 85.06 357 P P **20 46 44.0 -1.5**
comp=Z,73nm,1.5s,mb5.6,SNR=8.8
CSA1 St Austell 85.58 320 *e*P P **20 46 48.1 0.0**
CSA1 St Austell 85.58 320 *e*P P **20 46 48.1 0.0**
DRV Dumont d'Urvil 85.66 163 P P **20 46 51.0 +2.5**
ETOB Tobarra 85.75 308 P P **20 46 49.1 +0.2**
comp=Z,54nm,1.4s,mb5.6
DLF Lyons Farm 85.87 324 *e*P P **20 46 49.0 -0.5**
DLF Lyons Farm 85.87 324⇑ *i*P pP 20 46 56.9 -0.8
DLF Lyons Farm 85.87 324⇑ *i*P pP 20 46 56.9 -0.8
ELAN Lanestosa 86.19 313 P P **20 46 51.5 +0.4**
comp=Z,17nm,0.9s,mb5.3
DCN Croghan 86.30 324 *e*P P **20 46 51.4 -0.2**
DCN Croghan 86.30 324⇑ *i*P pP 20 46 59.1 -0.6
DCN Croghan 86.30 324⇑ *i*P pP 20 46 59.1 -0.6
EVIA Vianos 86.49 309 P P **20 46 54.4 +1.8**
comp=Z,24nm,0.9s,mb5.4
EHUE Huescar 86.73 308 P P **20 46 54.3 +0.6**
comp=Z,29nm,1.2s,mb5.4
SCO Scoresbysund 86.76 342 *i*P P **20 46 54.7 +0.8**
comp=Z,6.1nm,0.9s,mb4.8
SCO Scoresbysund 86.76 342 *i*P P **20 46 54.7 +0.8**
SCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
UNV Unalaska Valle 86.96 36 PFAKE 20 47 00.0 +5.1
UNV LR LR
comp=Z,14μm,20.0s,MS6.4
EQES Quesada 87.10 308 P P **20 46 56.0 +0.5**
EBER Berja 87.16 307 P P **20 46 55.9 0.0**
comp=Z,46nm,1.2s,mb5.6
GUD Guadarrama 87.29 311 P P **20 46 57.7 +1.3**
comp=Z,24nm,0.8s,mb5.5
ESDC Sonseca Array 87.37 310 P P **20 46 56.8 -0.1**
comp=Z,13nm,1.0s,mb5.1,baz=58,slow=4.6,SNR=21
ESDC S 20 57 26.3
comp=Z,0.4nm,0.5s,baz=277,slow=36,SNR=2.3
ESDC Sonseca Array 87.37 310 P P **20 46 56.9 +0.1**
comp=Z,14nm,0.9s,mb5.2
ESLA Sonseca Array 87.37 310 P P **20 46 57.8 +1.0**
ESLA LR LR
comp=Z,12μm,20.0s,MS6.3
EARI Arriondas 87.44 314 P P **20 46 57.0 -0.2**
comp=Z,80nm,2.0s,mb5.6
EALB Alboran 87.48 306 P P **20 46 56.5 -0.9**
comp=Z,40nm,0.9s,mb5.7
EBAN Banos Encina 87.57 308 P P **20 46 57.6 -0.2**
comp=Z,25nm,1.1s,mb5.4
ECOG Cogollos-Vega 87.60 307 P P **20 46 57.1 -0.9**
comp=Z,1.1nm,0.3s,mb4.6
EGUA Guajaras 87.70 307 P P **20 46 59.4 +1.0**
comp=Z,3.0nm,0.8s,mb4.6
TORD Torodi Ar. Bea 88.04 283 P P **20 47 00.7 +0.6**
comp=Z,17nm,1.0s,mb5.3,baz=79,slow=4.4,SNR=53
TORD PP PP 20 50 27.2 +0.5
comp=Z,8.5nm,1.1s,baz=81,slow=7.8,SNR=4.4
TORD S 20 57 30.9
comp=Z,0.2nm,0.7s,baz=82,slow=34,SNR=2.2
TORD PKKPbc PKKPbc 21 04 42.5 -2.4
comp=Z,2.6nm,0.7s,baz=301,slow=2.5,SNR=14
ELUQ Luque 88.08 308 P P **20 47 00.1 -0.2**
comp=Z,4.7nm,0.8s,mb4.8
ELOJ Sierra Loja 88.09 307 P P **20 46 59.7 -0.6**
comp=Z,0.6nm,0.3s
EADA Adamuz 88.18 308 P P **20 47 00.5 -0.2**
comp=Z,41nm,1.2s,mb5.5
IMA2 Indian Mountai 88.59 22 *e*P P **20 47 02.9 +0.3**
SYO Syowa Base 88.70 197⇓ *e*P P **20 47 02.6 -0.6**
SYO Syowa Base 88.70 197⇓ *e*pP pP 20 47 13.4 +2.1
SYO Syowa Base 88.70 197⇓ *e*sP sP 20 47 17.4 +3.2
EMIJ Mijas 88.71 307 P P **20 47 02.1 -1.2**
comp=Z,16nm,1.0s,mb5.3
ECAL Calabor 88.86 313 P P **20 47 04.1 +0.2**
comp=Z,51nm,1.8s,mb5.5
ERUA La Rua 89.04 313 P P **20 47 05.4 +0.7**
comp=Z,12nm,0.9s,mb5.2
BORG Borgarnes 89.12 337 PFAKE 20 47 10.0 +4.9
BORG LR LR
comp=Z,2μm,20.0s,MS5.5
EJIF Jimena Fronter 89.28 307 P P **20 47 06.4 +0.5**
comp=Z,42nm,1.2s,mb5.6
MDT Midelt 89.47 303 P P **20 47 08.1 +1.3**
comp=Z,6.2nm,0.9s,mb4.9,baz=77,slow=4.7,SNR=7.1
MDT S 20 57 41.6
comp=Z,2.5nm,1.1s,baz=354,slow=8.2,SNR=2.5
ESPR Espera 89.48 307 P P **20 47 06.8 0.0**
comp=Z,30nm,1.1s,mb5.5
PVRL Vila Real 89.75 312 *e*P P **20 47 09.6 +1.5**
ELOB Lobios 89.84 313 P P **20 47 09.2 +0.7**
comp=Z,39nm,1.1s,mb5.7
MTE Manteigas 89.85 311 *e*P P **20 47 10.2 +1.6**
MTE Manteigas 89.85 311 *e*PP PP 20 50 43.7 +2.5
MTE *e*S 20 57 38.5
MTE Manteigas 89.85 311 P P **20 47 10.2 +1.7**
comp=Z,31nm,1.0s,mb5.6
PCAB Cabril 89.86 313 *e*P P **20 47 10.3 +1.7**
EMIN Mina Concepcio 89.88 309 P P **20 47 09.2 +0.5**
comp=Z,36nm,1.1s,mb5.6
EBAD Badajoz 89.89 310 P P **20 47 08.7 -0.1**
comp=Z,39nm,1.1s,mb5.7
SUMG Summit 89.90 347 P P **20 47 08.3 -0.5**
comp=Z,34nm,1.1s,mb5.6
STS Santiago 89.91 314 P P **20 47 10.0 +1.2**
comp=Z,24nm,0.9s,mb5.5
PCBR Castelo Branco 89.95 311 *e*P P **20 47 10.7 +1.7**
SVW2 Sparrevohn 89.98 27 *e*P P **20 47 10.4 +1.2**
PVIS Viseu 90.03 312 *e*P P **20 47 11.5 +2.1**
PVIS *e*pP pP 20 47 18.7 +1.1
EMAZ Mazaricos 90.19 314 P P **20 47 11.0 +0.8**
comp=Z,94nm,1.1s,mb6.0
EZAM Zamans 90.21 313 P P **20 47 11.4 +1.2**
comp=Z,10nm,0.6s,mb5.3
CHGN Chignik 90.56 32 *e*P P **20 47 16.2 +4.4**
EGRO El Granado 90.57 308 P P **20 47 12.9 +1.0**
comp=Z,53nm,1.0s,mb5.8
EVO Evora 90.70 310⇑ *i*P P **20 47 14.0 +1.5**
comp=Z,42nm,1.0s,mb5.4
EVO *e*R
comp=Z,3μm,21.8s
PTOM Tomar 90.70 311 *e*P P **20 47 14.2 +1.7**
PTOM *e*pP pP 20 47 21.7 +1.0
PBEJ Beja 90.73 309 *e*P P **20 47 14.5 +1.8**
PBEJ *e*pP pP 20 47 22.6 +1.8
COLA College 91.30 22⇑ *i*P P **20 47 13.5 -1.8**
COLA College 91.30 22 *e*P P **20 47 15.5 +0.2**
comp=Z,32nm,1.0s,mb5.6
COLA LR LR
comp=Z,4μm,21.0s,MS5.8
ILAR Eielson Array 91.70 22 P P **20 47 15.7 -1.5**
comp=Z,14nm,0.7s,mb5.4,baz=296,slow=4.2,SNR=81
ILAR PP PP 20 50 50.1 -5.7
comp=Z,3.1nm,0.8s,baz=299,slow=6.0,SNR=5.5
ILAR S 20 57 50.5
comp=Z,0.4nm,0.9s,baz=194,slow=12,SNR=4.2
ILAR PKKP PKKPbc 21 04 32.0 -3.8
comp=Z,1.1nm,1.0s,baz=186,slow=3.0,SNR=4.3
ILAR LR LR 21 35 52.4
comp=Z,5μm,19.4s,MS6.0,baz=140,slow=40
SNZO South Karori 92.03 132 PFAKE 20 47 30.0 +11
SNZO LR LR
comp=Z,8μm,22.0s,MS6.1
FIB Fire Island 92.29 26 P P **20 47 21.7 +1.8**
FIB LR LR
comp=Z,3μm,20.0s,MS5.7
PMR Palmer 92.51 25 P P **20 47 20.9 0.0**
PMR pmax pmax
comp=Z,29nm,0.8s,mb5.8
PMR Palmer 92.51 25 *e*P P **20 47 21.0 +0.1**
comp=Z,48nm,1.0s,mb5.9
PMR LR LR
comp=Z,6μm,18.0s,MS6.1
SLKM Skilak Lake 92.59 26 *e*P P **20 47 20.0 -1.3**
SML Sawmill 92.72 25 *e*P P **20 47 22.0 +0.2**
KDAK Kodiak Island 92.82 29 P P **20 47 21.1 -1.2**
comp=Z,16nm,0.9s,mb5.5,baz=269,slow=2.3,SNR=8.0
KDAK S 20 57 48.8
comp=Z,7.1nm,1.1s,baz=290,slow=20,SNR=1.9
URZ Urewera 93.14 128 P P **20 47 23.6 -0.2**
comp=Z,24nm,0.8s,mb5.7,baz=324,slow=3.1,SNR=14
URZ LR LR 21 31 37.6
comp=Z,5μm,21.4s,MS5.9,baz=110,slow=37
RES Resolute Bay 93.51 2 P P **20 47 25.0 -0.5**
RES pmax pmax
comp=Z,13nm,0.9s,mb5.4
RES Resolute Bay 93.51 2 P P **20 47 25.0 -0.5**
comp=Z,13nm,0.9s,mb5.4
INK Inuvik 93.64 16 P P **20 47 24.6 -1.5**
comp=Z,5.6nm,0.9s,mb5.0,baz=318,slow=5.2,SNR=16
INK PKKP PKKPbc 21 04 31.1 +0.3
comp=Z,1.1nm,0.8s,baz=123,slow=5.4,SNR=4.1
INK Inuvik 93.64 16 P P **20 47 25.4 -0.7**
INK pmax pmax
comp=Z,22nm,1.0s
MENT Mentasta 93.90 22 *e*P P **20 47 28.0 +0.7**
DIV Divide 94.12 24 *e*P P **20 47 18.8 -10**
DIV LR LR
comp=Z,16μm,21.0s,MS6.5
DAWY Dawson 94.75 20 P P **20 47 31.2 0.0**
VNDA Vanda 97.15 168 P P **20 47 41.8 -0.3**
comp=Z,5.1nm,0.8s,mb5.0,baz=274,slow=8.0,SNR=15
VNDA LR LR 21 29 46.7
comp=Z,6μm,18.2s,MS6.1,baz=297,slow=34
VNDA Vanda 97.15 168 P P **20 47 42.4 +0.2**
VNDA LR LR
comp=Z,6μm,20.0s,MS6.1
SBA Scott Base 98.26 168 PFAKE 20 48 00.0 +13
SBA LR LR
comp=Z,5μm,19.0s,MS6.0
SIT Sitka 100.88 24 PFAKE 20 48 10.0 +11
SIT LR LR
comp=Z,10μm,22.0s,MS6.3
YKW3 Yellowknife Ar 102.89 12 *e*Pdif Pdif 20 48 06.0 -1.8
comp=Z,0.1nm,1.0s
YKA Yellowknife Ar 102.95 12 Pdiff Pdif 20 48 07.4 -0.6
comp=Z,1.0nm,0.8s,baz=328,slow=4.1,SNR=14
YKA PP PP 20 52 16.4 -5.9
comp=Z,1.4nm,0.9s,baz=330,slow=7.1,SNR=3.8
YKA PKKPbc PKKPbc 21 04 04.8 -0.2
comp=Z,0.5nm,0.8s,baz=152,slow=2.2,SNR=4.7
ASCN Ascension 107.93 265 PFAKE 20 52 50.0 +13
ASCN LR LR
comp=Z,799nm,21.0s,MS5.3
TRIS Tristan da Cun 108.76 235 PFAKE 20 52 50.0 +11
TRIS LR LR
comp=Z,5μm,19.0s,MS6.1
SCHQ Schefferville 111.29 347 PP PP 20 53 22.9 -0.6
comp=Z,3.7nm,0.9s,baz=34,slow=9.6,SNR=2.9
SCHQ PKKPbc PKKPbc 21 03 38.9 -0.1
comp=Z,2.3nm,0.8s,baz=187,slow=2.8,SNR=6.5
SCHQ Schefferville 111.29 347 PFAKE 20 52 50.0 +6.4
SCHQ LR LR
comp=Z,8μm,22.0s,MS6.2
OCWA Octopus Mounta 112.32 26 PFAKE 20 53 00.0 +14
OCWA LR LR
comp=Z,5μm,19.0s,MS6.1
COR Corvallis 115.16 27 PFAKE 20 53 00.0 +9.0
COR LR LR
comp=Z,3μm,20.0s,MS5.9
HAWA Hanford 115.31 24 PFAKE 20 53 00.0 +8.7
HAWA LR LR
comp=Z,3μm,20.0s,MS5.9
HUMO Hull Mountain 116.85 29 PFAKE 20 53 00.0 +5.8
HUMO LR LR
comp=Z,3μm,21.0s,MS5.9
MSO Missoula 116.99 20 *e*PKPdf PKPdf 20 52 55.0 +0.5
MSO LR LR
comp=Z,3μm,20.0s,MS6.0
CHMT Chamberlain Mo 117.14 19 *e*PKPdf PKPdf 20 53 03.1 +8.3
BMO Blue Mountains 117.47 23 PFAKE 20 53 10.0 +15
BMO LR LR
comp=Z,3μm,21.0s,MS5.9
YBH Yreka Blue Hor 117.64 29 PFAKE 20 53 10.0 +14
YBH LR LR
comp=Z,3μm,22.0s,MS5.8
ULM Lac du Bonnet 117.73 6 PP PP 20 54 08.3 -0.8
comp=Z,3.7nm,0.9s,baz=347,slow=4.9,SNR=1.8
ULM PKKPbc PKKPbc 21 03 18.3 +1.4
comp=Z,3.0nm,0.7s,baz=211,slow=7.1,SNR=4.1
DGMT Dagmar 118.16 12 PFAKE 20 53 10.0 +13
DGMT LR LR
comp=Z,5μm,19.0s,MS6.2
WDC Whiskeytown Da 118.61 30 PFAKE 20 53 10.0 +12
WDC LR LR
comp=Z,3μm,22.0s,MS5.9
MOD Modoc 118.62 27 *e*PKPdf PKPdf 20 52 59.6 +2.0
MOD LR LR
comp=Z,6μm,21.0s,MS6.2
DLMT Dillon 118.73 20 *e*PKPdf PKPdf 20 53 03.2 +5.3
BOZ Bozeman (W) 118.79 19 PKPdf PKPdf 20 52 59.5 +1.6
BOZ LR LR
comp=Z,4μm,19.0s,MS6.1
WVOR Wild Horse Val 118.92 26 *e*PKPdf PKPdf 20 53 00.1 +1.9
WVOR LR LR
comp=Z,3μm,21.0s,MS5.9
MCMT McKenzie Canyo 119.11 20 PKPdf PKPdf 20 52 59.5 +0.9

LAO	**LASA Array**	**119.37**	**15**	PKPdf	PKPdf	20 53 01.3 +2.2
LAO				LR	LR	
comp=Z,6μm,19.0s,MS6.2						
HOPS	**Hopland**	**119.55**	**31**	PFAKE		20 53 10.0 +11
HOPS				LR	LR	
comp=Z,3μm,20.0s,MS5.9						
QLMT	**Earthquake Lak**	**119.58**	**19**	*e*PKPdf	PKPdf	20 53 01.7 +2.3
HLID	**Hailey**	**119.66**	**22**	PKPdf	PKPdf	20 53 01.4 +1.8
PPT	**Papeete**	**119.99**	**104**	*e*PP	PP	20 54 18.4 -6.2
comp=Z,866nm,24.8s						
PPT	**Papeete**	**119.99**	**104**	*e*PS	PS	21 04 18.1 +3.7
comp=Z,2μm,30.5s						
PPT	**Papeete**	**119.99**	**104**	*e*SS	SS	21 11 03.0 +14
comp=Z,2μm,28.2s						
PPT				*e*LR	LR	21 29 59.9
comp=Z,6μm,25.8s						
YFT	**Old Faithful**	**120.11**	**19**	*e*PKPdf	PKPdf	20 53 04.2 +3.7
LKWY	**Lake**	**120.15**	**19**	PKPdf	PKPdf	20 52 57.2 -3.4
LKWY				LR	LR	
comp=Z,7μm,19.0s,MS6.3						
TBI	**Tubuai**	**120.31**	**110**	*e*PP	PP	20 54 22.2 -4.6
comp=Z,635nm,27.2s						
TBI	**Tubuai**	**120.31**	**110**	*e*PS	PS	21 04 20.2 +3.0
comp=Z,2μm,31.5s						
TBI	**Tubuai**	**120.31**	**110**	*e*SS	SS	21 11 25.8 +33
comp=Z,2μm,32.5s						
TBI				*e*LR	LR	21 30 10.3
comp=Z,3μm,26.5s						
EYMN	**Ely**	**120.36**	**3**	PKPdf	PKPdf	20 53 01.4 +0.5
EYMN				LR	LR	
comp=Z,87μm,20.0s						
FLWY	**Flagg Ranch**	**120.48**	**19**	PKPdf	PKPdf	20 53 04.1 +2.9
SNOW	**Snow King Moun**	**121.02**	**20**	*e*PKPdf	PKPdf	20 53 04.4 +2.2
REDW	**Red Top Meadow**	**121.08**	**20**	PKPdf	PKPdf	20 53 04.4 +2.1
AHID	**Auburn Hatcher**	**121.53**	**20**	PFAKE		20 53 10.0 +6.8
AHID				LR	LR	
comp=Z,4μm,19.0s,MS6.1						
CMB	**Columbia Colle**	**121.63**	**30**	PKPdf	PKPdf	20 53 05.2 +1.8
CMB				LR	LR	
comp=Z,2μm,19.0s,MS5.8						
WAKR	**Walker**	**121.72**	**29**	PKPdf	PKPdf	20 53 05.9 +2.3
HOPE	**Hope Point**	**121.73**	**212**	PFAKE		20 53 10.0 +6.4
HOPE				LR	LR	
comp=Z,983nm,20.0s,MS5.5						
BW06	**Boulder Array**	**122.03**	**19**	PKPdf	PKPdf	20 53 05.1 +0.9
BW06				LR	LR	
comp=Z,5μm,20.0s,MS6.1						
PDAR	**Pinedale Array**	**122.03**	**19**	PKP	PKPdf	20 53 04.3 +0.2
comp=Z,2.5nm,0.7s,baz=27,slow=0.9,SNR=19						
SAO	**San Andreas Ge**	**122.08**	**32**	PFAKE		20 53 10.0 +5.7
SAO				LR	LR	
comp=Z,3μm,19.0s,MS5.9						
RSSD	**Black Hills**	**122.31**	**14**	PFAKE		20 53 20.0 +15
RSSD				LR	LR	
comp=Z,2μm,20.0s,MS5.7						
NVAR	**Mina Array Bea**	**122.32**	**28**	PKP	PKPdf	20 53 05.3 +0.6
comp=Z,5.6nm,0.8s,baz=264,slow=4.5,SNR=33						
NVAR				PKKPbc	PKKPbc	21 03 01.9 +2.0
comp=Z,0.9nm,0.8s,baz=175,slow=4.6,SNR=6.0						
NVAR				PKKP	PKKPbc	21 03 36.4 +36
comp=Z,1.4nm,0.9s,baz=182,slow=4.6,SNR=5.0						
LBNH	**Lisbon**	**122.38**	**347**	PFAKE		20 53 20.0 +15
LBNH				LR	LR	
comp=Z,4μm,20.0s,MS6.1						
MNV	**Mina**	**122.38**	**28**	PKPdf	PKPdf	20 53 06.0 +1.1
MNV				LR	LR	
comp=Z,3μm,21.0s,MS6.0						
HWUT	**Hardware Ranch**	**122.39**	**21**	PKPdf	PKPdf	20 53 06.5 +1.6
HWUT				LR	LR	
comp=Z,5μm,19.0s,MS6.2						
TCUT	**Toone Canyon**	**122.88**	**21**	PKPdf	PKPdf	20 53 13.0 +7.2
TPH	**Tonopah**	**123.10**	**28**	PKPdf	PKPdf	20 53 07.2 +1.0
TPH				LR	LR	
comp=Z,2μm,21.0s,MS5.8						
NCB	**Newcomb**	**123.12**	**349**	PFAKE		20 53 20.0 +14
NCB				LR	LR	
comp=Z,5μm,21.0s,MS6.1						
DUG	**Dugway**	**123.17**	**23**	PKPdf	PKPdf	20 53 08.3 +1.9
DUG				LR	LR	
comp=Z,4μm,22.0s,MS6.0						
DAU	**Daniels Canyon**	**123.56**	**22**	PKIKP	PKPdf	20 53 11.4 +4.3
HRV	**Harvard--Oak R**	**123.94**	**346**	PFAKE		20 53 20.0 +12
HRV				LR	LR	
comp=Z,5μm,21.0s,MS6.1						
WES	**Weston**	**124.00**	**346**	PFAKE		20 53 20.0 +12
WES				LR	LR	
comp=Z,5μm,19.0s,MS6.2						
DAC	**Darwin (Calif)**	**124.38**	**29**	PKPdf	PKPdf	20 53 10.7 +2.0
DAC				LR	LR	
comp=Z,3μm,21.0s,MS5.9						
ISA	**Isabella**	**124.44**	**30**	PFAKE		20 53 20.0 +11
ISA				LR	LR	
comp=Z,2μm,22.0s,MS5.8						
TMUT	**Trail Mountain**	**124.55**	**22**	*e*PKPdf	PKPdf	20 53 11.3 +2.3
PMSA	**Palmer Station**	**124.69**	**192**	PFAKE		20 53 20.0 +11
PMSA				LR	LR	
comp=Z,8μm,21.0s,MS6.3						
MVU	**Marysvale**	**124.86**	**23**	PKPdf	PKPdf	20 53 17.1 +7.4
MVU				LR	LR	
comp=Z,3μm,22.0s,MS5.9						
MSU	**Marysvale**	**124.87**	**23**	PKIKP	PKPdf	20 53 13.9 +4.3
SHPR	**Sheep Range**	**125.33**	**27**	PKPdf	PKPdf	20 53 13.3 +2.8
GSC	**Goldstone**	**125.55**	**29**	PKIKP	PKPdf	20 53 13.2 +2.3
ERPA	**Erie**	**125.84**	**353**	PFAKE		20 53 20.0 +8.5
ERPA				LR	LR	
comp=Z,6μm,20.0s,MS6.3						
ISCO	**Idaho Springs**	**125.94**	**17**	PKPdf	PKPdf	20 53 13.0 +1.3
ISCO				LR	LR	
comp=Z,4μm,22.0s,MS6.0						
AAM	**Ann Arbor**	**125.99**	**356**	PFAKE		20 53 20.0 +8.2
AAM				LR	LR	
comp=Z,7μm,21.0s,MS6.3						
LDFC	**Landfair**	**126.53**	**28**	*e*PKPdf	PKPdf	20 53 14.2 +1.4
PFO	**Pinyon Flat Ob**	**127.08**	**30**	PKPdf	PKPdf	20 53 17.0 +3.2
PFO				LR	LR	
comp=Z,586nm,22.0s,MS5.2						
MVL	**Millersville**	**127.36**	**349**	PKPdf	PKPdf	20 53 15.7 +1.3
WUAZ	**Wupatki**	**127.78**	**25**	PKPdf	PKPdf	20 53 17.4 +2.2
WUAZ				LR	LR	
comp=Z,2μm,20.0s,MS5.8						
SDCO	**Great Sand Dun**	**127.88**	**18**	*e*PKPdf	PKPdf	20 53 16.0 +0.7
SDCO				LR	LR	
comp=Z,6μm,20.0s,MS6.2						
ACSO	**Alum Creek Sta**	**128.00**	**356**	PFAKE		20 53 30.0 +14
ACSO				LR	LR	
comp=Z,4μm,20.0s,MS6.1						
SDMD	**Soldier's Deli**	**128.02**	**349**	PKPdf	PKPdf	20 53 20.4 +4.8
MCWV	**Mont Chateau**	**128.25**	**352**	PFAKE		20 53 30.0 +14
MCWV				LR	LR	
comp=Z,7μm,21.0s,MS6.3						
GLA	**Glamis**	**128.33**	**29**	PKIKP	PKPdf	20 53 19.5 +3.3
CBKS	**Cedar Bluff**	**128.33**	**12**	PFAKE		20 53 30.0 +14
CBKS				LR	LR	
comp=Z,5μm,20.0s,MS6.2						
KSU1	**Kansas State U**	**128.61**	**9**	*e*PKPdf	PKPdf	20 53 18.1 +1.3
RCBR	**Riachuelo**	**128.64**	**272**	PFAKE		20 53 30.0 +13
RCBR				LR	LR	
comp=Z,3μm,20.0s,MS6.0						
CBN	**Corbin**	**129.29**	**350**	PFAKE		20 53 30.0 +12
CBN				LR	LR	
comp=Z,4μm,19.0s,MS6.2						
ANMO	**Albuquerque**	**130.13**	**20**	PKIKP	PKPdf	20 53 26.1 +6.4
ANMO	**Albuquerque**	**130.13**	**20**	*e*PKPdf	PKPdf	20 53 22.3 +2.7
ANMO				LR	LR	
comp=Z,4μm,22.0s,MS6.1						
WCI	**Wyandotte Cave**	**130.16**	**359**	PFAKE		20 53 30.0 +10
WCI				LR	LR	
comp=Z,5μm,20.0s,MS6.2						
FVM	**French Village**	**130.35**	**3**	*e*PKPpre		20 53 02.8
FVM				*e*SKP		20 56 51.4
LAZ	**Ladron**	**130.39**	**21**	*e*PKPdf	PKPdf	20 53 22.9 +2.7
LPM	**Los Pinos Moun**	**130.65**	**21**	PKPdf	PKPdf	20 53 22.6 +1.9
LENM	**Lemitar**	**130.66**	**21**	PKPdf	PKPdf	20 53 23.0 +2.4
BNM	**Barren Site**	**130.79**	**21**	*e*PKPdf	PKPdf	20 53 23.4 +2.5
TUC	**Tucson**	**130.79**	**26**	PKPdf	PKPdf	20 53 22.7 +1.8
TUC				LR	LR	
comp=Z,3μm,22.0s,MS6.0						
BBSR	**BB Station**	**130.87**	**334**	PFAKE		20 53 30.0 +8.9
BBSR				LR	LR	
comp=Z,2μm,21.0s,MS5.8						
WVT	**Waverly**	**132.27**	**0**	*e*PKPdf	PKPdf	20 53 29.8 +6.1
WVT				LR	LR	
comp=Z,7μm,20.0s,MS6.3						
WMOK	**Wichita Mounta**	**132.46**	**13**	PKIKP	PKPdf	20 53 30.5 +6.4
WMOK	**Wichita Mounta**	**132.46**	**13**	PKPdf	PKPdf	20 53 24.1 +0.1
WMOK				LR	LR	
comp=Z,5μm,21.0s,MS6.2						
GDL2	**Guadalupe Moun**	**133.34**	**20**	PKPdf	PKPdf	20 53 27.3 +1.5
PLAL	**Pickwick Lake**	**133.41**	**1**	*e*PKPdf	PKPdf	20 53 25.7 -0.1
PLAL				LR	LR	
comp=Z,7μm,20.0s,MS6.3						
MNTX	**Cornudas Mount**	**133.45**	**21**	PKPdf	PKPdf	20 53 27.6 +1.7
MNTX				LR	LR	
comp=Z,3μm,20.0s,MS6.0						
MIAR	**Mount Ida**	**133.50**	**7**	PKPdf	PKPdf	20 53 27.2 +1.2
MIAR				LR	LR	
comp=Z,5μm,19.0s,MS6.2						
RKT	**Rikitea**	**133.62**	**111**	*e*PS	PS	21 06 16.0 +2.4
comp=Z,1μm,31.5s						
EFI	**East Falkland**	**133.65**	**205**	PFAKE		20 53 40.0 +14
EFI				LR	LR	
comp=Z,886nm,20.0s,MS5.5						
OXF	**Oxford**	**133.85**	**2**	PFAKE		20 53 40.0 +13
OXF				LR	LR	
comp=Z,7μm,22.0s,MS6.3						
NHSC	**New Hope**	**134.73**	**351**	PFAKE		20 53 40.0 +12
NHSC				LR	LR	
comp=Z,8μm,21.0s,MS6.4						
LRAL	**Lakeview Retre**	**135.36**	**359**	*e*PKPdf	PKPdf	20 53 32.8 +3.2
LRAL				LR	LR	
comp=Z,4μm,20.0s,MS6.2						
CAM4	**Nova Friburgo**	**135.87**	**250**	(P)	PKPdf	20 53 33.7 +3.2
CAM4				*i*		20 53 40.2
CAM4				*i*		20 53 51.8
CAM4				*i*		20 54 07.6
NATX	**Nacogdoches**	**136.10**	**9**	PFAKE		20 53 40.0 +9.1
NATX				LR	LR	
comp=Z,3μm,20.0s,MS6.0						
TXAR	**Lajitas Array**	**136.21**	**20**	PKhKP		20 53 22.4
comp=Z,0.8nm,0.8s,baz=169,slow=0.9,SNR=6.5						
TXAR				PKP	PKPdf	20 53 32.1 +1.1
comp=Z,3.6nm,0.8s,baz=315,slow=1.8,SNR=10						
TXAR				PP	PP	20 56 08.2 -3.0
comp=Z,1.1nm,0.8s,baz=0.0,slow=6.3,SNR=2.8						
TXAR	**Lajitas Array**	**136.21**	**20**	PKP	PKPdf	20 53 22.4 -8.7
TXAR				PKP	PKPdf	20 53 32.1 +1.1
TXAR				PP	PP	20 56 08.2 -3.0
JCT	**Junction City**	**136.30**	**15**	*e*PKPdf	PKPdf	20 53 33.1 +1.8
JCT				LR	LR	
comp=Z,3μm,21.0s,MS6.0						
HKT	**Hockley**	**137.68**	**11**	PFAKE		20 53 40.0 +6.2
HKT				LR	LR	
comp=Z,1μm,19.0s,MS5.7						
DWPF	**Disney**	**139.82**	**352**	PFAKE		20 53 50.0 +12
DWPF				LR	LR	
comp=Z,1μm,22.0s,MS5.6						
BAO	**Brasilia Array**	**141.39**	**260**	PKPdf	PKPdf	20 53 42.0 +1.4
BDFB	**Brasilia**	**141.42**	**260**	PKhKP		20 53 35.8
comp=Z,2.5nm,0.7s,baz=148,slow=4.6,SNR=4.2						
BDFB				PKP	PKPdf	20 53 42.4 +1.8
comp=Z,17nm,0.8s,baz=167,slow=1.9,SNR=12						
HUMP	**Col San Antoni**	**143.27**	**324**	PKPdf	PKPdf	20 53 45.1 +1.2
CPD	**Cerro la Pandu**	**143.39**	**324**	PKIKP	PKPdf	20 53 41.5 -2.6
CPD	**Cerro la Pandu**	**143.39**	**324**	*e*PKPpre		20 53 41.6
SJG	**San Juan**	**143.47**	**324**	PFAKE		20 54 00.0 +16
SJG				LR	LR	
comp=Z,3μm,21.0s,MS6.0						
MPR	**Mayaguez**	**143.94**	**326**	PKPdf	PKPdf	20 53 47.5 +2.4
SFJM	**Santa Fe**	**144.44**	**25**	*e*P	PKPdf	20 53 45.5 -0.5
LPA	**La Plata**	**144.64**	**225**	*ce*PKP	PKPdf	20 53 44.0 -2.3
LPA				PKIKP	PKPdf	20 53 51.0 +4.7
LPA				*e*PP	PP	20 57 03.0 +0.1
LPA						
comp=Z,4μm,20.0s						
SOR	**Soroa**	**145.27**	**353**	*e*P	PKPbc	20 53 46.8 -0.4
TRQA	**Tornquist**	**145.31**	**217**	PKPdf	PKPdf	20 53 46.7 -0.8
TRQA				LR	LR	
comp=Z,3μm,19.0s,MS6.1						
MGV	**Manicaragua**	**145.43**	**348**	*e*P	PKPbc	20 53 50.2 +2.5
HLGC	**Holguin**	**145.54**	**341**	*e*P	PKPdf	20 53 45.1 -2.7
TBH	**Brigand Hill**	**145.55**	**309**	*e*P	pPKPab	20 53 58.3 +1.7
MASC	**Masc**	**145.56**	**337**	*e*P	PKPdf	20 53 49.3 +1.4
TRN	**Trinidad (W)**	**145.70**	**310**	*e*P	pPKPab	20 54 03.8 +6.6
SABC	**Sabc**	**145.72**	**339**	*e*P	PKPdf	20 53 49.5 +1.4
CCCC	**Cccc**	**145.76**	**344**	*e*P	PKPdf	20 53 40.8 -7.5
PINC	**Pinares de May**	**145.83**	**340**	*e*P	PKPdf	20 53 49.5 +1.2
MOIG	**Morelia**	**145.92**	**23**	⇑*i*P	PKPdf	20 53 50.1 +1.6
GTMO	**Guantanamo**	**145.98**	**339**	*e*P	PKPdf	20 53 50.8 +2.1
YAR	**Yar**	**146.12**	**341**	*e*P	PKPdf	20 53 53.3 +4.4
RCC	**Rio Carpintero**	**146.25**	**340**	*e*P	PKPdf	20 53 48.6 -0.5
YAIG	**Yautepec**	**147.44**	**21**	⇑*i*P	PKPdf	20 53 54.0 +3.0
PLCA	**Paso Flores**	**147.56**	**205**	PKPbc	PKPbc	20 53 54.3 +0.3
comp=Z,29nm,0.8s,baz=140,slow=3.3,SNR=31						
PLCA	**Paso Flores**	**147.56**	**205**	*e*PKPdf	PKPdf	20 53 53.9 +2.6
PLCA				LR	LR	
comp=Z,3μm,21.0s,MS6.0						
PLIG	**Platanillo**	**147.72**	**22**	*i* P	PKPdf	20 53 53.6 +2.1
CPUP	**Villa Florida**	**148.09**	**239**	PKPdf	PKPdf	20 53 53.3 +1.1
CPUP				LR	LR	
comp=Z,1μm,20.0s,MS5.6						
TEIG	**Tepich**	**148.11**	**1**	*e*PKPbc	PKPbc	20 53 56.8 +1.4
TEIG				LR	LR	
comp=Z,1μm,21.0s,MS5.6						
CAIG	**El Cayaco**	**148.66**	**24**	⇑*i*P	PKPdf	20 53 58.1 +5.0
ACX	**Acapulco**	**148.97**	**23**	*e*P	PKPdf	20 53 59.5 +5.9
TUIG	**Tuzandepetl**	**149.54**	**13**	*e*P	PKPdf	20 53 56.6 +2.1
OXX	**Oaxaca**	**149.86**	**18**	*e*P	PKPdf	20 54 00.0 +5.0
VHO	**Vista Hermosa**	**149.87**	**18**	⇑*i*P	PKPdf	20 54 01.3 +6.3
HUIG	**Huatulco**	**151.28**	**17**	*e*P	PKPdf	20 54 04.2 +7.0
CCIG	**Comitan**	**151.68**	**9**	*i* P	PKPdf	20 53 58.9 +1.1
SDV	**Santo Domingo**	**153.38**	**320**	PKPdf	PKPdf	20 54 01.6 +1.3
SDV				LR	LR	
comp=Z,1μm,19.0s,MS5.8						
FCH	**Farellones**	**153.41**	**214**	*e*P	PKPdf	20 54 00.8 +0.5
RPN	**Rapa Nui**	**154.55**	**130**	PFAKE		20 54 10.0 +8.0
RPN				LR	LR	
comp=Z,498nm,21.0s,MS5.3						
SAML	**Samuel**	**155.83**	**275**	PKPdf	PKPdf	20 54 05.1 +1.4
SAML				LR	LR	
comp=Z,7μm,19.0s,MS6.5						
JTS	**JuntasAbangare**	**157.84**	**353**	PFAKE		20 54 20.0 +14
JTS				LR	LR	
comp=Z,936nm,21.0s,MS5.6						
ROSC	**El Rosal**	**158.80**	**321**	PKP	PKPdf	20 54 08.0 +0.6
comp=Z,4.3nm,0.4s,baz=275,slow=22,SNR=5.9						
ROSC				PKPab	PKPab	20 54 45.8 +2.5
comp=Z,13nm,0.7s,baz=116,slow=20,SNR=8.8						
LVC	**Limon Verde**	**159.23**	**237**	*e*PKPdf	PKPdf	20 54 10.7 +2.7
LVC				LR	LR	
comp=Z,6μm,19.0s,MS6.5						
LPAZ	**La Paz**	**160.62**	**255**	PKP	PKPdf	20 54 10.8 +1.2
comp=Z,3.8nm,0.8s,baz=47,slow=3.9,SNR=16						
LPAZ	**La Paz**	**160.62**	**255**	PKPdf	PKPdf	20 54 11.8 +2.3
LPAZ				LR	LR	
comp=Z,3μm,19.0s						
ARE	**Arequipa**	**163.74**	**252**	P	PKPdf	20 54 15.0 +2.3
PAYG	**Puerto Ayora**	**168.57**	**14**	PFAKE		20 54 30.0 +14
PAYG				LR	LR	
comp=Z,4μm,21.0s						
NNA	**Nana**	**169.48**	**268**	PFAKE		20 54 30.0 +13
NNA				LR	LR	
comp=Z,595nm,21.0s						

BJI 03 20:46:39.7, 27.61°N × 120.04°E, h15km, ML3.6, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.96**	**206**		*e*P	Pn	20 47 27.6	+1.5
QZH					S	Sn	20 48 03.6	+2.3
QZH					Smax			
comp=N,170nm,0.4s								
QZH					Smax			
comp=E,250nm,0.8s								
NJ2	**Nanjing**	**4.54**	**347**		*e*P	Pn	20 47 49.2	+1.3
NJ2					S	Sn	20 48 40.9	+0.4
NJ2					SG	Sg	20 49 03.1	-2.5
NJ2					Smax			
comp=N,170nm,1.0s								
NJ2					Smax			
comp=E,150nm,0.9s								

*HLW **03** 20:52:07.7, 37.03°N × 25.67°E, h33km, Mb3.6*
*ATH **03** 20:52:10.8, 36.84°N × 25.45°E, h172km ± 2km*
*ISCJB **03** 20:52:11.3 ± 0.9, 36.69°N ± 0.06° × 25.44°E ± 0.08, h175km ± 9km, Error ellipse: s-maj=10.9km s-min=9.2km az=100.4*
*CSEM **03** 20:52:11.2 ± 0.2, 36.68°N × 25.43°E, h176km ± 2km, ML3.6, Error ellipse: s-maj=4.8km s-min=3.0km az=29.0*

ISC 03 20:52:12.2 ± 0.9, 36.70°N ± 0.06° × 25.44°E ± 0.08, h170km ± 9km, n21, σ1$08/28, 8C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.38**	**11**		*e*P	Pn	**20 52 34.4**	**-1.0**
NPS	**Neapolis**	**1.44**	**174**		*e*P	Pn	**20 52 43.0**	**+0.3**
NPS					*e*S	Sn	**20 53 07.1**	**+0.9**
VAM	**Vamos**	**1.64**	**218**		*e*P	Pn	**20 52 45.7**	**+1.1**
VAM					*e*S	Sn	**20 53 10.8**	**+1.1**
KARP	**Karpathos**	**1.80**	**129**		*e*P	Pn	**20 52 47.0**	**+0.6**
XRY	**Khrisi**	**1.83**	**174**		*e*P	Pn	**20 52 47.9**	**+1.2**
VLI	**Veliai**	**2.02**	**271**		*e*P	Pn	**20 52 48.3**	**-0.4**
VLI					*e*S	Sn	**20 53 15.2**	**-1.7**
ARG	**Arkhangelos**	**2.21**	**102**		*e*P	Pn	**20 52 51.0**	**0.0**
ITM	**Ithomi**	**2.86**	**281**		*e*P	Pn	**20 52 58.7**	**+0.1**
SLUM		**5.20**	**182**		⇑P	Pn	**20 53 28.2**	**-0.2**
SLUM					S	Sn	**20 54 27.0**	**-1.2**
HMAT	**Matruh**	**5.75**	**166**		⇓P	Pn	**20 53 35.3**	**-0.4**
HMAT					S	Sn	**20 54 39.0**	**-2.4**
HBRG	**Burj al 'Arab**	**7.12**	**148**		⇑P	Pn	**20 53 52.4**	**-1.4**
HBRG					S	Sn	**20 55 09.6**	**-4.2**
SWA1		**7.42**	**178**		⇑P	Pn	**20 53 58.9**	**+1.2**
SWA1					S	Sn	**20 55 20.1**	**-0.9**
SWA2		**7.43**	**180**		⇓P	Pn	**20 53 58.5**	**+0.6**
KOT	**Kottamia**	**8.61**	**140**		⇑P	Pn	**20 54 13.2**	**-0.3**
KOT	**Kottamia**	**8.61**	**140**		P	Pn	**20 54 13.1**	**-0.3**
GLL	**Jalalah**	**8.83**	**142**		⇑P	Pn	**20 54 16.5**	**+0.2**
AWBH		**8.85**	**160**		⇑P	Pn	**20 54 16.9**	**+0.4**
AMAG	**Maghara**	**8.85**	**131**		⇑P	Pn	**20 54 15.5**	**-1.1**
SUZ		**9.22**	**136**		⇓P	Pn	**20 54 20.8**	**-0.7**
HFRF	**Wahat Farafira**	**9.82**	**165**		P	Pn	**20 54 31.4**	**+2.0**
GTR	**Jabal at Tayr**	**11.98**	**157**		⇑P	Pn	**20 55 00.2**	**+2.7**

*NEIC **03** 20:58:08.0 ± 4.1, 39.59°N × 130.17°E, h118km ± 41km, mb4.2/2, Error ellipse: s-maj=54.2km s-min=17.0km az=58.0*
*ISCJB **03** 20:58:09.2 ± 2.3, 65.5°N ± 0.1° × 130.2°E ± 0.2, h150km ± 22km, mb4.2/8, Error ellipse: s-maj=39.1km s-min=10.0km az=136.1*
*IDC **03** 20:58:13.0 ± 3.3, 66.3°N × 129.88°E, h164km ± 29km, mb3.6/3, mb1 3.8/5, mb1mx3.6/13, mbtmp4.2/5, Error ellipse: s-maj=146.8km s-min=17.5km az=68.0*

ISC 03 20:58:14.9 ± 1.7, 68.1°N ± 0.07° × 129.8°E ± 0.1, h181km ± 16km, n18, σ1$05/24, mb4.2/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.93**	**199**		*e*P	Pn	**21 01 01.5**	**+2.2**
10nm,0.3s								
FITZ					*e*S	Sn	**21 03 10.3**	**-1.5**
WRAB	**Tennant Creek**	**13.77**	**162**		*e*P	Pn	**21 01 21.7**	**-0.9**
WRAB					*e*S	Sn	**21 03 47.8**	**-8.1**
WRA	**Warramunga Arr**	**13.78**	**162**		P	Pn	**21 01 21.9**	**-0.8**
1.4nm,0.3s,baz=334,slow=13,SNR=38								
WRA					S	Sn	**21 03 50.2**	**-5.8**
1.8nm,0.3s,baz=342,slow=22,SNR=11								
WB2	**Warramunga Arr**	**13.78**	**162**		*e*P	Pn	**21 01 21.9**	**-0.8**
WB2					*e*S	Sn	**21 03 48.4**	**-7.7**
ASAR	**Alice Springs**	**17.21**	**167**		P	Pn	**21 02 06.3**	**+1.7**
1.8nm,0.3s,baz=343,slow=10.0,SNR=75								
ASAR					S	S	**21 05 13.6**	**+0.4**
0.5nm,0.3s,baz=357,slow=27,SNR=5.0								
ASAR					ScP	ScP	21 09 56.8	+2.2
0.1nm,0.3s,baz=20,slow=1.5,SNR=4.5								
ASPA	**Alice Springs**	**17.21**	**167**		*e*P	Pn	**21 02 07.1**	**+2.5**
ASPA					*e*S	S	**21 05 12.5**	**-0.7**
STKA	**Stephens Creek**	**27.26**	**158**		*e*P	P	**21 03 42.8**	**+0.6**
1.6nm,0.7s,mb3.8								
STKA	**Stephens Creek**	**27.26**	**158**		P	P	**21 03 42.9**	**+0.7**
2.2nm,0.7s,mb3.9,baz=336,slow=8.5,SNR=11								
STKA	**Stephens Creek**	**27.26**	**158**		*e*P	P	**21 03 42.7**	**+0.5**
STKA					P		21 03 42.9	
JIRN	**Jiri**	**54.31**	**311**		*e*P	P	**21 07 22.8**	**+0.4**
GUN	**Gumba**	**54.68**	**311**		*e*P	P	**21 07 25.5**	**+0.4**
10nm,0.4s,mb4.9								
KKN	**Kakani**	**55.06**	**311**		*e*P	P	**21 07 28.0**	**+0.2**
6.2nm,0.6s,mb4.5								
DMN	**Daman**	**55.10**	**310**		*e*P	P	**21 07 28.5**	**+0.4**
GKN	**Gorkha**	**55.66**	**311**		*e*P	P	**21 07 32.3**	**+0.2**
8.4nm,0.5s,mb4.8								
KOLN	**Koldanda**	**56.33**	**310**		*e*P	P	**21 07 37.3**	**+0.5**
6.0nm,0.7s,mb4.5								
SONM	**Songino Array**	**58.20**	**342**		P	P	**21 07 48.6**	**-1.4**
0.3nm,0.5s,mb3.4,baz=166,slow=7.7,SNR=5.8								
MKAR	**Makanchi Array**	**67.96**	**327**		P	P	**21 08 53.8**	**-0.4**
2.3nm,0.5s,mb4.2,baz=120,slow=8.1,SNR=70								
ZRNK	**Zerenda**	**78.50**	**327**		*e*P	P	**21 09 54.5**	**-1.3**
0.6nm,0.6s,mb3.4								

*ISCJB **03** 21:13:46.2 ± 0.6, 673°N ± 0.06° × 729.8°W ± 0.08, h178km ± 6km, mb3.7/10, Error ellipse: s-maj=13.1km s-min=8.6km az=

az=144.2
*NEIC **03** 21:29:35.6, 5353N×162.81W, h43km, ML3.4(AEIC), After AEIC.*

ISC 03 21:29:34.0±4.0, 539N±01×1630W±01, h12km±26km, n11, σ0§74/14, mb3.6/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**2.08**	**43**	P	**Pn**	**21 30 10.1**	**+1.4**
SDPT				S	**Sn**	**21 30 34.9**	**+0.3**
UNV	**Unalaska Valle**	**2.09**	**271**	P	**Pn**	**21 30 09.3**	**+0.4**
UNV				S	**Sn**	**21 30 34.8**	**-0.1**
KDAK	**Kodiak Island**	**7.04**	**52**	Pn	**Pn**	**21 31 16.2**	**-0.7**
	0.3nm,0.3s,baz=245,slow=14,SNR=3.0						
KDAK				Sn	**Sn**	**21 32 32.0**	**-4.9**
	baz=122,slow=17,SNR=3.5						
ILAR	**Eielson Array**	**13.62**	**30**	Pn	**Pn**	**21 32 46.9**	**-0.1**
	0.1nm,0.3s,baz=216,slow=13,SNR=3.7						
INK	**Inuvik**	**20.00**	**32**	P	**Pn**	**21 34 06.5**	**-1.6**
	0.5nm,0.5s,baz=233,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**26.32**	**51**	P	**P**	**21 35 10.2**	**+0.6**
	0.2nm,0.5s,mb2.9,baz=268,slow=8.9,SNR=5.9						
YKA	**Yellowknife Ar**	**26.32**	**51**	P	**P**	**21 35 10.2**	**+0.6**
NVAR	**Mina Array Bea**	**33.94**	**99**	P	**P**	**21 36 17.4**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=297,slow=8.7,SNR=5.5						
NVAR	**Mina Array Bea**	**33.94**	**99**	P	**P**	**21 36 17.4**	**+0.3**
TXAR	**Lajitas Array**	**48.95**	**95**	P	**P**	**21 38 19.6**	**-0.5**
	1.0nm,0.5s,mb4.1,baz=302,slow=6.0,SNR=9.3						
MKAR	**Makanchi Array**	**65.48**	**317**	P	**P**	**21 40 16.8**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=29,slow=6.1,SNR=3.3						

*ISCJB **03** 21:35:45.2±4.2, 48S±02×1537E±0.3, h166km±32km, mb3.9/9, Error ellipse: s-maj=54.2km s-min=22.8km az=53.8*
*IDC **03** 21:35:45.1±5.7, 475S×15376E, h152km±44km, mb3.5/6, mb1 3.7/7, mb1mx3.6/15, mbtmp4.0/7, MS3.9/1, Ms1 3.9/1, ms1mx3.1/21, Error ellipse: s-maj=58.0km s-min=24.8km az=109.0*
*NEIC **03** 21:35:45.0±3.6, 472S×15376E, h150km±26km, mb4.4/1, Error ellipse: s-maj=54.8km s-min=18.7km az=113.0*

ISC 03 21:35:45.0±4.3, 47S±02×1538E±03, h150km±31km, n15, σ0§40/15, mb3.9/9, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**234**	P	**Pn**	**21 37 38.8**	**0.0**
	3.6nm,0.3s,baz=30,slow=10,SNR=9.7						
PMG				S	**Sn**	**21 39 08.3**	**-0.1**
	4.7nm,0.3s,baz=150,slow=19,SNR=8.6						
PMG	**Port Moresby**	**8.04**	**234**	P	**Pn**	**21 37 38.8**	**0.0**
PMG				S	**Sn**	**21 39 08.3**	**0.0**
CTA	**Charters Tower**	**16.93**	**205**	LR	LR	21 45 19.1	
	comp=Z,434nm,19.4s,baz=213,slow=34						
WRAB	**Tennant Creek**	**24.21**	**230**	*e*P	**P**	**21 40 47.9**	**+0.3**
	9.2nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**24.21**	**230**	*e*P	**P**	**21 40 47.8**	**+0.1**
WRA	**Warramunga Arr**	**24.22**	**230**	P	**P**	**21 40 48.1**	**+0.3**
	6.8nm,0.4s,mb4.5,baz=55,slow=10,SNR=105						
ASAR	**Alice Springs**	**26.86**	**224**	P	**P**	**21 41 11.9**	**+0.3**
	1.0nm,0.4s,mb3.8,baz=53,slow=8.9,SNR=16						
ASPA	**Alice Springs**	**26.86**	**224**	*e*P	**P**	**21 41 11.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.54**	**242**	⇑*i*P	**P**	**21 41 43.6**	**-0.6**
	6.0nm,0.8s,mb4.4						
KLBR	**Kellerberrin**	**43.06**	**227**	*e*P	**P**	**21 43 29.3**	**-0.6**
	6.8nm,0.6s,mb4.5						
SONM	**Songino Array**	**66.78**	**327**	P	**P**	**21 46 20.7**	**+0.5**
	0.3nm,0.5s,mb3.4,baz=137,slow=5.8,SNR=9.9						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**21 47 42.9**	**+0.4**
	0.4nm,0.4s,mb3.4,baz=93,slow=8.8,SNR=20						
ILAR	**Eielson Array**	**81.73**	**22**	P	**P**	**21 47 46.6**	**-0.1**
	0.3nm,0.6s,mb3.1,baz=246,slow=6.0,SNR=5.6						
BVAR	**Borovoye Array**	**89.76**	**323**	P	**P**	**21 48 25.6**	**-0.8**
	0.8nm,0.8s,mb3.7,baz=90,slow=5.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**151.19**	**289**	PKPbc	PKPbc	21 55 20.9	+0.4
	0.5nm,0.5s,baz=97,slow=1.5,SNR=19						

IDC 03 21:39:47.9±6.7, 342N×9671E, h43km±53km, mb3.2/4, mb1 3.4/5, mb1mx3.2/20, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=70.9km s-min=21.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.30**	**106**	P	Pn	21 40 23.3	+0.1
	30nm,0.3s,baz=319,slow=16,SNR=46						
PSI				S	Sn	21 40 51.9	+1.6
	16nm,0.3s,baz=296,slow=8.9,SNR=21						
WRA	**Warramunga Arr**	**43.65**	**124**	P	P	21 47 48.6	+0.5
	0.7nm,0.5s,baz=302,slow=9.2,SNR=8.9						
MKAR	**Makanchi Array**	**44.98**	**346**	P	P	21 47 59.0	+0.1
	0.2nm,0.5s,baz=145,slow=7.7,SNR=5.1						
SONM	**Songino Array**	**45.02**	**9**	P	P	21 47 59.1	-0.1
	0.3nm,0.6s,baz=194,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**45.14**	**129**	P	P	21 48 00.2	+0.2
	0.3nm,0.5s,baz=301,slow=7.8,SNR=3.1						

*UCR **03** 21:46:01.5, 1003N×8803W, h30km, MD4.8*
*CASC **03** 21:46:25.8±2.5, 995N×8621W, h13km±16km, MD4.0*
*IDC **03** 21:46:26.4±3.5, 1056N×8546W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.7/5, Error ellipse: s-maj=79.8km s-min=47.6km az=11.0*
*ISCJB **03** 21:46:27.6±2.1, 1004N±009×86.10W±009, h25km±14km, mb3.8/5, Error ellipse: s-maj=20.7km s-min=5.7km az=94.4*
*INET **03** 21:46:29.8, 1023N×8603W, h3km, MD4.3, ML3.4*

ISC 03 21:46:28.4±2.0, 1010N±008×8604W±009, h17km±10km, n34, σ1§08/35, mb3.8/5, 5C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.40**	**86**	⇑*e*P	**Pg**	**21 46 36.8**	**+0.2**
RIN3	**Volcan Rincon**	**0.94**	**43**	⇑*e*P	**Pb**	**21 46 45.8**	**-0.5**
CAO	**Cobano**	**1.00**	**113**	⇑*e*P	**Pb**	**21 46 44.6**	**-2.6**
SSNN	**San Juan del S**	**1.20**	**9**	*e*P	**Pn**	**21 46 49.5**	**-0.8**
VACR	**Volcan Arenal**	**1.39**	**74**	⇓*e*P	**Pn**	**21 46 53.8**	**+1.0**
MADN	**Villa Maderas**	**1.39**	**21**	*e*P	**Pn**	**21 46 52.9**	**0.0**
EPA	**Esparza**	**1.42**	**94**	⇑*e*P	**Pn**	**21 46 53.0**	**-0.4**
CONN	**Concepcion**	**1.51**	**15**	*e*P	**Pn**	**21 46 54.4**	**-0.2**
CGA2	**Cerro Gallo 2**	**1.55**	**93**	*e*P	**Pn**	**21 46 54.4**	**-0.7**
PRS1	**Puriscal**	**1.70**	**94**	*e*P	**Pn**	**21 46 56.7**	**-0.5**
POA2	**Poas 2**	**1.76**	**87**	*e*P	**Pn**	**21 46 59.0**	**+1.0**
VPS2	**Volcan Poas 2**	**1.78**	**87**	⇑*e*P	**Pn**	**21 46 59.2**	**+1.0**
APON	**Apoyo**	**1.81**	**359**	*e*P	**Pn**	**21 46 59.6**	**+1.0**
LAJ	**Bijaqual**	**1.90**	**97**	*e*P	**Pn**	**21 46 52.8**	**-7.1**
TICN	**Ticuantepe**	**1.93**	**354**	*e*P	**Pn**	**21 47 01.2**	**+0.9**
LCR2	**La Lucha 2**	**2.04**	**100**	⇓*e*P	**Pn**	**21 47 00.9**	**-0.8**
MGAN	**Managua**	**2.05**	**354**	*e*P	**Pn**	**21 47 01.0**	**-0.9**
OCM	**Ochomogo**	**2.06**	**95**	*e*P	**Pn**	**21 47 03.2**	**+1.1**
IRZ2	**Volcan Irazu 2**	**2.11**	**93**	*e*P	**Pn**	**21 47 03.2**	**+0.3**
COPN	**Copaltepe**	**2.14**	**345**	*e*P	**Pn**	**21 47 03.5**	**+0.3**
APYN	**Apoyeque**	**2.14**	**352**	*e*P	**Pn**	**21 47 03.2**	**-0.1**
PICA	**Picada**	**2.22**	**92**	*e*P	**Pn**	**21 47 06.5**	**+2.2**
URSC	**Urasca**	**2.24**	**97**	*e*P	**Pn**	**21 47 04.9**	**+0.3**
BUS	**Buena Vista**	**2.31**	**103**	⇓*e*P	**Pn**	**21 47 05.1**	**-0.5**
MIRN	**Miramar**	**2.42**	**344**	*e*P	**Pn**	**21 47 07.6**	**+0.6**
MIRN				*e*S	**Sn**	**21 47 37.1**	**+0.8**
LEON	**Leon**	**2.45**	**340**	*e*P	**Pn**	**21 47 06.7**	**-0.8**
LEON				*e*S	**Sn**	**21 47 36.0**	**-1.0**
LIO	**Limon**	**2.96**	**92**	*e*P	**Pn**	**21 47 12.4**	**-2.1**
CTCR	**Cotoan**	**3.45**	**110**	*e*P	**Pn**	**21 47 22.2**	**+1.0**
TXAR	**Lajitas Array**	**25.26**	**322**	P	**P**	**21 51 54.7**	**+1.1**
	1.3nm,0.6s,mb3.6,baz=142,slow=8.2,SNR=5.6						
PDAR	**Pinedale Array**	**38.49**	**332**	P	**P**	**21 53 48.4**	**-1.0**
	0.9nm,0.9s,mb3.5,baz=130,slow=12,SNR=4.7						
NVAR	**Mina Array Bea**	**40.38**	**320**	P	**P**	**21 54 07.3**	**+2.1**
	3.1nm,1.1s,mb4.0,baz=140,slow=7.0,SNR=13						
SCHQ	**Schefferville**	**47.15**	**15**	P	**P**	**21 54 56.2**	**-3.5**
	1.5nm,0.5s,mb4.2,baz=230,slow=8.6,SNR=10						
YKA	**Yellowknife Ar**	**56.23**	**345**	P	**P**	**21 56 05.3**	**-2.2**
	0.3nm,0.6s,mb3.5,baz=144,slow=6.9,SNR=9.1						
MKAR	**Makanchi Array**	**122.41**	**9**	PKP	PKPdf	22 05 22.5	0.0
	0.2nm,0.7s,baz=294,slow=3.8,SNR=4.1						

*MOS **03** 21:46:49.8±0.9, 1811N×14583E, h106km, mb5.0/4, Error ellipse: s-maj=20.2km s-min=9.8km az=90.7*
*ISCJB **03** 21:46:53.3±1.6, 1811N±006×14577E±008, h137km±15km, mb4.4/36, Error ellipse: s-maj=12.5km s-min=9.5km az=16.4*
*IDC **03** 21:46:53.7±0.7, 1809N×14590E, h128km±6km, mb4.2/19, mb1 4.3/21, mb1mx4.2/27, mbtmp4.5/21, MS3.5/1, Ms1 3.5/1, ms1mx2.9/34, Error ellipse: s-maj=17.5km s-min=8.6km az=94.0*
*NEIC **03** 21:46:53.4±0.3, 1804N×14579E, mb4.8/10, Error ellipse: s-maj=11.4km s-min=7.0km az=97.0*
*BJI **03** 21:46:53.4, 1800N×14580E, h127km, mB5.0, mb4.9*

ISC 03 21:46:55.2±1.4, 1809N±006×14579E±008, h140km±13km, h128km±1.4km; pP-P, n74, σ0§85/73, mb4.4/36, 3C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.56**	**191**	P	**Pn**	**21 48 01.8**	**-0.8**
	25nm,0.3s,baz=352,slow=3.5,SNR=56						
GUMO				S	**Sn**	**21 48 56.1**	**+1.1**
	21nm,0.3s,baz=325,slow=21,SNR=2.6						
GUMO				LR	LR	21 49 26.2	
	comp=Z,552nm,18.1s,baz=238,slow=33						
GUMO	**Guam**	**4.56**	**191**	*e*P	**Pn**	**21 47 55.0**	**-7.7**
GUMO				S	**Sn**	**21 48 56.1**	**+1.1**
MJAR	**Matsushiro Arr**	**19.56**	**341**	P	**P**	**21 51 10.9**	**-1.2**
	0.4nm,0.3s,baz=169,slow=12,SNR=20						
ASAJ	**Asahikawa**	**26.09**	**355**	P	**P**	**21 52 16.3**	**+0.5**
	17nm,0.9s,mb4.7,baz=177,slow=12,SNR=4.2						
PMG	**Port Moresby**	**27.35**	**177**	P	**P**	**21 52 26.5**	**-0.6**
	19nm,0.8s,mb4.8,baz=314,slow=23,SNR=3.1						
CTA	**Charters Tower**	**37.94**	**179**	*e*P	**P**	**21 53 58.1**	**-1.0**
	4.2nm,0.8s,mb4.1						
CTA	**Charters Tower**	**37.94**	**179**	P	**P**	**21 53 58.2**	**-0.9**
	3.6nm,0.5s,mb4.2,baz=19,slow=6.7,SNR=7.0						
WRAB	**Tennant Creek**	**39.42**	**197**	*e*P	**P**	**21 54 11.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**39.42**	**197**	*e*P	**P**	**21 54 11.6**	**+0.2**
	comp=Z,13nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**39.43**	**197**	⇑*i*P	**P**	**21 54 11.7**	**+0.2**
WRA	**Warramunga Arr**	**39.43**	**197**	P	**P**	**21 54 11.5**	**0.0**
	comp=Z,9.0nm,0.8s,mb4.4,baz=20,slow=9.3,SNR=36						
WRA				ScP	ScP	21 59 53.2	+0.9
	comp=Z,1.5nm,0.8s,baz=16,slow=3.9,SNR=9.8						
CD2	**Chengdu**	**40.09**	**297**	*e*P	**P**	**21 54 15.7**	**-1.3**
CD2				PP	PP	21 55 53.0	+1.0
CD2				S	**S**	**22 00 13.8**	**+1.1**
CD2				SS	SS	22 03 09.0	-6.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,4.8s						
CD2				LR	LR		
	comp=E,80nm,9.5s						
CD2				LR	LR		
	comp=Z,150nm,9.2s						
FITZ	**Fitzroy Crossi**	**41.06**	**210**	*e*P	**P**	**21 54 25.3**	**+0.4**
	comp=Z,22nm,0.7s,mb4.9						
MA2	**Magadan**	**41.59**	**4**	*c i*P	**P**	**21 54 30.2**	**+1.0**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
MA2				pmax	pmax		
	comp=N,10.0nm,0.9s						
ASAR	**Alice Springs**	**43.09**	**196**	P	**P**	**21 54 42.0**	**+0.6**
	comp=N,1.3nm,0.6s,mb3.7,baz=11,slow=6.6,SNR=13						
ASAR				ScP	ScP	22 00 07.8	+1.1
	comp=N,0.6nm,0.8s,baz=18,slow=3.6,SNR=4.5						
SONM	**Songino Array**	**43.67**	**322**	P	**P**	**21 54 45.9**	**-0.2**
	comp=N,1.3nm,0.6s,mb3.8,baz=135,slow=8.4,SNR=15						
STKA	**Stephens Creek**	**49.84**	**185**	⇑*i*P	**P**	**21 55 30.7**	**-3.3**
	comp=N,2.6nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**49.84**	**185**	P	**P**	**21 55 30.9**	**-3.1**
	comp=N,2.6nm,0.6s,mb4.0,baz=6.6,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**49.84**	**185**	*e*P	**P**	**21 55 30.9**	**-3.1**
LSA	**Lhasa**	**50.87**	**294**	P	**P**	**21 55 47.6**	**+5.9**
BILL	**Bilibino**	**51.60**	**10**	⇓*i*P	**P**	**21 55 47.7**	**+0.5**
BILL				*e*	pP	21 56 16.4	-3.0
BILL				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.0						
BILL	**Bilibino**	**51.60**	**10**	⇓*e*P	**P**	**21 55 47.3**	**+0.1**
	comp=Z,26nm,0.6s,mb5.0						
WMQ	**Urumqi**	**54.77**	**311**	*e*P	**P**	**21 56 11.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.9						
TNA	**Tin City**	**56.35**	**21**	*e*P	**P**	**21 56 22.0**	**+0.4**
	comp=Z,7.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**58.95**	**314**	P	**P**	**21 56 40.5**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.7,baz=89,slow=8.3,SNR=15						
KDAK	**Kodiak Island**	**59.82**	**33**	P	**P**	**21 56 45.7**	**-0.1**
	comp=Z,20nm,0.7s,mb5.1,baz=267,slow=3.4,SNR=15						
KDAK	**Kodiak Island**	**59.82**	**33**	P	**P**	**21 56 45.7**	**-0.1**
SLKM	**Skilak Lake**	**61.66**	**30**	*e*P	**P**	**21 56 57.2**	**-1.0**
IMA2	**Indian Mountai**	**61.79**	**24**	*e*P	**P**	**21 56 59.2**	**+0.2**
PMR	**Palmer**	**62.44**	**29**	*e*P	**P**	**21 57 02.5**	**-0.9**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
PMR	**Palmer**	**62.44**	**29**	*e*P	**P**	**21 57 02.5**	**-0.9**
	comp=Z,8.7nm,0.5s,mb4.8						
SML	**Sawmill**	**62.85**	**29**	*e*P	**P**	**21 57 05.9**	**-0.3**
COLA	**College**	**63.77**	**26**	*e*P	**P**	**21 57 11.3**	**-0.9**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
COLA	**College**	**63.77**	**26**	*e*P	**P**	**21 57 11.3**	**-0.9**
	comp=Z,9.6nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**64.15**	**26**	P	**P**	**21 57 13.1**	**-1.6**
	comp=Z,12nm,0.8s,mb4.8,baz=260,slow=5.0,SNR=86						
RPZ	**Rata Peaks**	**65.72**	**160**	P	**P**	**21 57 22.9**	**-1.9**
	comp=Z,7.9nm,0.7s,mb4.6,baz=124,slow=9.9,SNR=3.7						
BVA0	**Borovoye Array**	**67.00**	**321**	*i* P	**P**	**21 57 33.2**	**+0.2**
BVAR	**Borovoye Array**	**67.00**	**321**	P	**P**	**21 57 33.2**	**+0.3**
	comp=Z,4.9nm,0.6s,mb4.5,baz=93,slow=6.9,SNR=39						
BVAR				pP	pP	21 58 04.1	-2.6
	comp=Z,2.6nm,0.6s,baz=99,slow=7.8,SNR=3.0						
BRVK	**Borovoye**	**67.06**	**321**	*e*P	**P**	**21 57 33.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**67.06**	**321**	*e*P	**P**	**21 57 33.9**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.2						
KKAR	**Karatay Array**	**67.22**	**310**	P	**P**	**21 57 45.7**	**+11**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.3						
ZRNK	**Zerenda**	**67.83**	**320**	*e*P	**P**	**21 57 38.3**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ZRNK	**Zerenda**	**67.83**	**320**	*e*P	**P**	**21 57 38.3**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.0						
INK	**Inuvik**	**69.90**	**23**	P	**P**	**21 57 50.6**	**-0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=270,slow=6.5,SNR=44						
AB31	**Akbulak array**	**73.84**	**317**	P	**P**	**21 58 15.1**	**+0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
AKTK	**Aktyubinsk**	**74.88**	**319**	P	**P**	**21 58 20.8**	**+0.3**
AKTO	**Aktyubinsk**	**74.88**	**319**	P	**P**	**21 58 20.8**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=87,slow=9.1,SNR=4.5						
YKA	**Yellowknife Ar**	**78.48**	**28**	P	**P**	**21 58 40.0**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.3,baz=288,slow=5.4,SNR=82						
YKA				pP	pP	21 59 12.2	-3.2
	comp=Z,2.1nm,0.7s,baz=288,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**78.48**	**28**	P	**P**	**21 58 40.0**	**-0.7**
YKA				pP	pP	21 59 12.2	-3.2
KCPM	**Cahto Peak**	**79.15**	**52**	*e*P	**P**	**21 58 45.6**	**+1.2**
OHCM	**Honcut**	**80.81**	**52**	*e*P	**P**	**21 58 53.6**	**+3.0**
MOD	**Modoc**	**80.97**	**49**	*e*P	**P**	**21 58 55.0**	**+0.8**
	comp=Z,9.6nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**83.10**	**342**	P	**P**	**21 59 05.0**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.1,baz=72,slow=7.6,SNR=15						
ARCES	**ARCESS Array B**	**83.10**	**342**	P	**P**	**21 59 05.0**	**-0.3**
NVAR	**Mina Array Bea**	**83.44**	**52**	P	**P**	**21 59 07.8**	**+0.8**
	comp=Z,9.4nm,0.8s,mb4.6,baz=262,slow=7.4,SNR=65						
NVAR	**Mina Array Bea**	**83.44**	**52**	P	**P**	**21 59 07.8**	**+0.8**
MNV	**Mina**	**83.56**	**52**	*e*P	**P**	**21 59 08.4**	**+0.8**
MNV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
MNV	**Mina**	**83.56**	**52**	*e*P	**P**	**21 59 08.4**	**+0.8**
	comp=Z,12nm,0.9s,mb4.6						
JOF	**Joensuu**	**84.61**	**335**	*e*p	**P**	**21 59 12.3**	**-0.6**
HRY	**Holter Researc**	**85.20**	**42**	*e*P	**P**	**21 59 16.4**	**+0.6**
MCMT	**McKenzie Canyo**	**85.21**	**44**	*e*P	**P**	**21 59 16.3**	**+0.4**
BOZ	**Bozeman (W)**	**85.72**	**43**	*e*P	**P**	**21 59 18.4**	**0.0**
QLMT	**Earthquake Lak**	**86.15**	**44**	*e*P	**P**	**21 59 21.4**	**+0.8**
FLWY	**Flagg Ranch**	**86.91**	**45**	*e*P	**P**	**21 59 25.6**	**+1.3**
	comp=Z,15nm,0.6s,mb5.0						
KAF	**Kangasniemi**	**87.00**	**336**	*e*p	**P**	**21 59 21.9**	**-2.8**
AHID	**Auburn Hatcher**	**87.14**	**46**	*e*P	**P**	**21 59 25.9**	**+0.5**
	comp=Z,28nm,0.2s						
FINES	**FINESS Array B**	**87.47**	**335**	P	**P**	**21 59 25.7**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.2,baz=63,slow=5.0,SNR=34						
FINES				pP	pP	21 59 58.8	-3.6
	comp=Z,0.9nm,0.5s,baz=76,slow=5.1,SNR=2.0						
FINES	**FINESS Array B**	**87.47**	**335**	P	**P**	**21 59 25.7**	**-1.3**
FINES				pP	pP	21 59 58.8	-3.6
ULM	**Lac du Bonnet**	**93.05**	**34**	P	**P**	**21 59 52.0**	**-0.9**
	comp=Z,2.6nm,0.9s,mb4.4,baz=270,slow=1.0,SNR=4.0						
TXAR	**Lajitas Array**	**98.11**	**56**	P	**P**	**22 00 16.8**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.9,baz=292,slow=4.9,SNR=3.3						
SDV	**Santo Domingo**	**135.15**	**56**	PKP	PKPdf	22 05 59.5	+1.5
	comp=Z,2.9nm,0.6s,baz=224,slow=6.9,SNR=5.3						
LVC	**Limon Verde**	**147.20**	**104**	*e*PKPdf	PKPdf	22 06 21.9	+2.4
LPAZ	**La Paz**	**147.57**	**92**	PKPbc	PKPbc	22 06 22.4	-0.5
	comp=Z,3.4nm,0.7s,baz=253,slow=2.9,SNR=8.6						
LPAZ	**La Paz**	**147.57**	**92**	PKPbc	PKPbc	22 06 22.4	-0.5

BJI 03 21:55:28.3, 2762N×12001E, h17km, ML4.0, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.95**	**206**	*e*P	Pn	21 56 15.2	+0.8
QZH				S	Sn	21 56 51.8	+2.3
QZH				Smax			
	comp=N,380nm,0.5s						
QZH				Smax			
	comp=E,570nm,0.8s						
NJ2	**Nanjing**	**4.53**	**347**	*e*P	Pn	21 56 38.2	+2.1
NJ2				PG	Pg	21 56 52.1	-2.9
NJ2				S	Sn	21 57 25.5	-2.8
NJ2				SG	Sg	21 57 48.5	-5.2
NJ2				Smax			
	comp=N,360nm,0.7s						
NJ2				Smax			
	comp=E,360nm,0.8s						
WHN	**Wuhan**	**5.75**	**302**	P	Pn	21 56 53.5	+0.7
WHN				SG	Sg	21 58 29.2	-3.5
WHN				Smax			
	comp=N,118nm,1.0s						
WHN				Smax			
	comp=E,116nm,1.0s						

*IDC **03** 22:12:16.7±3.6, 1156N×9211E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.6/3, Error ellipse: s-maj=132.2km s-min=29.6km az=64.0*
*ISCJB **03** 22:12:18.5±0.8, 1116N±0.1×9206E±007, h33km, mb3.8/4, Error ellipse: s-maj=14.7km s-min=10.3km az=156.5*
*NEIC **03** 22:12:19.5±0.9, 1168N×9197E, h30km, mb3.8/2, Error ellipse: s-maj=18.7km s-min=15.4km az=46.0*

ISC 03 22:12:21.7±0.8, 116N±01×9210E±008, h35km, n7, σ1§23/8, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.54**	**126**	Pn	**Pn**	**22 14 49.5**	**-0.7**
PALK	**Pallekele**	**12.05**	**250**	Pn	**Pn**	**22 15 07.8**	**-3.0**
PALK				*e*Sn	**Sn**	**22 17 24.6**	**+0.7**
LSA	**Lhasa**	**18.00**	**357**	*e*Pn	**Pn**	**22 16 25.8**	**-3.2**
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**36.02**	**349**	P	**P**	**22 19 20.4**	**+1.0**
	1.0nm,0.7s,mb3.8,baz=166,slow=8.3,SNR=13						
SONM	**Songino Array**	**38.03**	**16**	P	**P**	**22 19 37.0**	**+0.5**
	0.6nm,0.7s,mb3.5,baz=210,slow=8.4,SNR=6.2						
WRA	**Warramunga Arr**	**52.09**	**127**	P	**P**	**22 21 28.6**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=304,slow=8.8,SNR=6.1						
WRAB	**Tennant Creek**	**52.09**	**127**	*e*P	**P**	**22 21 28.6**	**+0.5**
	2.2nm,0.6s,mb4.3						

*ISCJB **03** 22:15:39.9±0.5, 3334N±004×1439E±003, h10km, mb4.1/21, Error ellipse: s-maj=6.3km s-min=3.8km az=179.6*
*CSEM **03** 22:15:39.0±0.2, 3319N×1433E, h10km, mb4.4/7, Error ellipse: s-maj=4.3km s-min=2.5km az=175.0*
*ROM **03** 22:15:40.5±0.1, 3343N×1419E, h10km, Ml4.5/12, Error ellipse: s-maj=9.3km s-min=0.0km az=92.0*
*NEIC **03** 22:15:42.0±1.0, 3334N×1429E, h10km, mb4.1/27, ML4.5(ROM), Error ellipse:

CASM	Ain Smara	7.06	296	P	Pn	22 17 28.0	+2.3
SGO	Sicignano	7.21	6	Pn	Pn	22 17 28.1	+0.3
	8.0nm,0.6s						
VSL	Villasalto	7.29	328	Pn	Pn	22 17 26.8	-2.1
LKD	Levkas	7.38	42	*e*Pn	Pn	22 17 29.1	-1.0
LKD				*e*Sn	Sn	22 18 48.2	-5.6
RLS	Riolos of Patr	7.45	49	*e*PB	Pn	22 17 35.9	+4.9
LCI	Lecce	7.57	22	Pn	Pn	22 17 30.1	-2.6
DFRA	Djebel Bou Aff	7.62	297	P	Pn	22 17 34.0	+0.6
IGT	Igoumenitsa	7.81	36	*e*Pn	Pn	22 17 34.9	-1.1
IGT				*e*Sn	Sn	22 18 59.0	-5.5
SET	Setif	7.87	293	P	Pn	22 17 32.0	-4.8
DGI	Dorgali Grotta	7.89	333	Pn	Pn	22 17 35.2	-1.9
EVR	Evrytania	8.19	45	*e*PB	Pn	22 17 43.0	+1.8
MEV	Metsovon	8.46	39	*e*Pn	Pn	22 17 44.6	-0.4
	comp=Z,3.5nm,0.5s						
AGG	Agios Georgios	8.57	47	*e*Pn	Pn	22 17 46.4	-0.1
AGG				*e*Sn	Sn	22 19 18.7	-4.4
IDI	Anoyia	8.94	75	Pn	Pn	22 17 52.9	+1.4
	0.6nm,0.3s,baz=31,slow=14,SNR=5.3						
IDI				Sn	Sn	22 19 31.2	-1.0
	1.1nm,0.3s,baz=315,slow=24,SNR=3.1						
AQU	L'Aquila	8.99	356	*e*P	Pn	22 17 59.9	+7.7
AQU				pmax	pmax		
	comp=Z,23nm,1.1s						
AQU	L'Aquila	8.99	356	*e*P	Pn	22 17 59.9	+7.7
	comp=Z,23nm,1.1s						
OHR	Ohrid	9.28	32	*e*Pn	Pn	22 17 55.8	-0.3
OHR				*e*Sn	Sn	22 19 31.9	-8.7
FNA	Florina	9.29	35	*e*Pn	Pn	22 17 55.8	-0.4
	comp=Z,2.5nm,0.6s						
FNA				*e*Sn	Sn	22 19 34.5	-6.2
NEO	Neokhori	9.29	48	*e*Pn	Pn	22 17 58.1	+1.8
XOR	Xorichti	9.31	48	*e*Pn	Pn	22 17 57.0	+0.5
LIT	Litokhoron	9.37	42	*e*Pn	Pn	22 17 57.3	0.0
BIA	Bitola	9.44	34	*e*Pn	Pn	22 17 58.4	0.0
BIA				*e*Sn	Sn	22 19 37.5	-7.1
NRCA	Norcia	9.49	355	Pn	Pn	22 18 00.1	+1.1
AOS	Alonnisos	9.63	50	P	Pn	22 18 00.8	-0.2
AOS	Alonnisos	9.63	50	P	Pn	22 18 00.8	-0.2
GRG	Griva	9.93	38	P	Pn	22 18 04.5	-0.5
GRG				S	Sn	22 19 50.8	-5.7
PAIG	Paliouri	9.95	46	P	Pn	22 18 05.3	0.0
PAIG	Paliouri	9.95	46	P	Pn	22 18 05.3	0.0
PGF	Pioggiola	10.07	337	*e*P	Pn	22 18 07.1	+0.1
	comp=Z,23nm,0.7s						
PGF	Pioggiola	10.07	337	*e*P	Pn	22 18 07.1	+0.1
	comp=Z,11nm,0.7s						
PGF	Pioggiola	10.07	337	*e*P	Pn	22 18 07.1	+0.1
PGF				pmax	pmax		
	comp=Z,11nm,0.7s						
SOH	Sokhos	10.34	42	P	Pn	22 18 11.2	+0.5
SOH	Sokhos	10.34	42	P	Pn	22 18 11.2	+0.5
SRS	Serrai	10.68	41	P	Pn	22 18 14.7	-0.6
ETOS	Mallorca	11.24	308	P	Pn	22 18 19.7	-3.2
LMR	La Mourre	11.68	331	*e*P	Pn	22 18 28.4	-0.6
	comp=Z,6.7nm,0.6s						
LMR	La Mourre	11.68	331	*e*P	Pn	22 18 28.4	-0.6
LMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LMR	La Mourre	11.68	331	*e*P	Pn	22 18 28.4	-0.6
	comp=Z,3.3nm,0.6s						
SBF	Sospel	11.77	335	*e*P	Pn	22 18 27.1	-3.1
	comp=Z,19nm,0.7s						
SBF	Sospel	11.77	335	*e*P	Pn	22 18 27.1	-3.1
SBF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SBF	Sospel	11.77	335	*e*P	Pn	22 18 27.1	-3.1
	comp=Z,9.4nm,0.7s						
FRF	La Foret Royal	11.81	332	*e*P	Pn	22 18 27.8	-3.0
	comp=Z,31nm,1.2s						
FRF	La Foret Royal	11.81	332	*e*P	Pn	22 18 27.8	-3.0
FRF				pmax	pmax		
	comp=Z,15nm,1.3s						
FRF	La Foret Royal	11.81	332	*e*P	Pn	22 18 27.8	-3.0
	comp=Z,15nm,1.3s						
EIBI	Ibiza	11.90	302	P	Pn	22 18 31.6	-0.5
	comp=Z,2.7nm,0.5s,SNR=7.9						
EIBI	Ibiza	11.90	302	P	Pn	22 18 31.6	-0.5
	comp=Z,2.7nm,0.5s						
BERF	Bertagne	12.01	328	*e*P	Pn	22 18 34.1	+0.6
TAVF	Tavernes	12.10	330	*e*P	Pn	22 18 32.7	-2.0
MBDF	Montbardon	12.76	335	*e*P	Pn	22 18 45.5	+1.8
	comp=Z,13nm,0.8s						
MBDF	Montbardon	12.76	335	*e*P	Pn	22 18 45.5	+1.8
	comp=Z,6.6nm,0.8s						
MBDF	Montbardon	12.76	335	*e*P	Pn	22 18 45.5	+1.8
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNI	Bardonecchia	13.07	335	*e*P	Pn	22 18 51.7	+3.7
	comp=Z,7.0nm,1.0s						
BNI	Bardonecchia	13.07	335	*e*P	Pn	22 18 51.7	+3.7
BNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ORIF	Oris-en-Rattie	13.25	333	*e*P	Pn	22 18 50.8	+0.4
	comp=Z,9.3nm,0.7s						
ORIF	Oris-en-Rattie	13.25	333	*e*P	Pn	22 18 50.8	+0.4
	comp=Z,4.7nm,0.7s						
ORIF	Oris-en-Rattie	13.25	333	*e*P	Pn	22 18 50.8	+0.4
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPG	La Plagne	13.44	336	*e*P	Pn	22 18 57.1	+4.1
	comp=Z,21nm,0.9s						
LPG	La Plagne	13.44	336	*e*P	Pn	22 18 57.1	+4.1
	comp=Z,10nm,0.9s						
LPG	La Plagne	13.44	336	*e*P	Pn	22 18 57.1	+4.1
LPG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LASF	Ste Croix	13.44	326	*e*P	Pn	22 18 49.1	-3.9
BZS	Buzias	13.45	23	⇓P	Pn	22 18 56.6	+3.5
LPL	La Plagne	13.46	336	*e*P	Pn	22 18 56.8	+3.5
	comp=Z,34nm,1.2s						
LPL	La Plagne	13.46	336	*e*P	Pn	22 18 56.8	+3.5
	comp=Z,17nm,1.2s						
LPL	La Plagne	13.46	336	*e*P	Pn	22 18 56.8	+3.5
LPL				pmax	pmax		
	comp=Z,17nm,1.2s						
VIVF	Saint-Julien-l	13.68	330	*e*P	Pn	22 18 52.9	-3.5
KBA	Koelnbreinsper	13.71	357	⇑*i*Pn	Pn	22 18 57.0	+0.4
	comp=Z,11nm,1.1s						
KBA				⇓*i*Sn	Sn	22 21 33.7	+4.7
KBA	Koelnbreinsper	13.71	357	⇑P	Pn	22 18 57.0	+0.3
KBA				pmax	pmax		
	comp=Z,11nm,1.1s						
KBA	Koelnbreinsper	13.71	357	⇑P	Pn	22 18 57.0	+0.3
	comp=Z,11nm,1.1s						
DAVOX	Davos	13.81	347	Pn	Pn	22 19 00.6	+2.5
	comp=Z,0.3nm,0.3s,baz=173,slow=16,SNR=4.4						
ARSA	Arzberg	13.89	3	⇑*i*Pn	Pn	22 19 00.2	+1.0
	comp=Z,24nm,1.2s						
ARSA				⇑*i*Sn	Sn	22 21 37.1	+3.8
ARSA	Arzberg	13.89	3	⇑P	Pn	22 19 00.2	+1.0
	comp=Z,24nm,1.2s						
EGRA	Graus	14.14	313	P	Pn	22 18 58.5	-4.1
	comp=Z,0.6nm,0.4s						
DAVA	Damuels	14.30	348	⇑*i*Pn	Pn	22 19 05.3	+0.6
	comp=Z,18nm,1.2s						
DAVA	Damuels	14.30	348	⇑P	Pn	22 19 08.7	+3.9
	comp=Z,18nm,1.2s						
DAVA	Damuels	14.30	348	⇑P	Pn	22 19 08.7	+3.9
	comp=Z,18nm,1.2s						
MOA	Molln	14.46	360	⇑*i*Pn	Pn	22 19 06.1	-0.8
	comp=Z,12nm,0.9s						
MOA	Molln	14.46	360	⇑P	Pn	22 19 06.1	-0.8
	comp=Z,12nm,0.9s						
EBIE	Bielsa	14.52	314	P	Pn	22 19 05.7	-2.1
	comp=Z,1.0nm,0.6s						
VOIR		14.60	31	⇓P	pP	22 19 21.0	+2.8
CABF	La Chapelle	14.64	337	*e*P	Pn	22 19 10.3	+0.9
	comp=Z,23nm,1.0s						
CABF	La Chapelle	14.64	337	*e*P	Pn	22 19 10.3	+0.9
	comp=Z,12nm,1.0s						
CABF	La Chapelle	14.64	337	*e*P	Pn	22 19 10.3	+0.9
CABF				pmax	pmax		
	comp=Z,12nm,1.0s						
EQES	Quesada	14.83	292	P	Pn	22 19 12.2	+0.2
	comp=Z,0.3nm,0.7s,SNR=7.9						
EQES	Quesada	14.83	292	P	Pn	22 19 12.2	+0.2
	comp=Z,0.3nm,0.7s						
DRGR		14.84	23	⇓P	Pn	22 19 16.2	+4.1
BBS	Basel-Blauen	14.99	342	*e*P	Pn	22 19 20.3	+6.1
MLR	Muntele Rosu	15.04	33	Pn	Pn	22 19 18.5	+3.6
	comp=Z,0.2nm,0.3s,baz=255,slow=5.7,SNR=16						
MLR	Muntele Rosu	15.04	33	⇓P	Pn	22 19 23.2	+8.3
ETSF	Etsaut	15.07	313	*e*P	Pn	22 19 14.6	-0.6
	comp=Z,16nm,1.2s						
ETSF	Etsaut	15.07	313	*e*P	Pn	22 19 14.6	-0.6
	comp=Z,8.1nm,1.2s						
ETSF	Etsaut	15.07	313	*e*P	Pn	22 19 14.6	-0.6
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LOMF	Lomont	15.07	340	*e*P	Pn	22 19 18.4	+3.1
HARR	Harsova	15.44	39	⇓P	Pn	22 19 27.9	+7.7
MOF	Molkenrain	15.44	342	*e*P	Pn	22 19 25.0	+4.8
GEC2	GERESS Array S	15.46	358	*e*P	Pn	22 19 20.4	0.0
	comp=Z,12nm,1.2s						
GEC2	GERESS Array S	15.46	358	*e*P	Pn	22 19 20.4	0.0
GEC2				pmax	pmax		
	comp=Z,12nm,1.2s						
GERES	GERESS Array B	15.46	358	Pn	Pn	22 19 20.6	+0.2
	comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=18						
RJF	Les Rejaudoux	15.47	324	*e*P	Pn	22 19 20.4	-0.1
	comp=Z,6.5nm,0.7s						
RJF	Les Rejaudoux	15.47	324	*e*P	Pn	22 19 20.4	-0.1
	comp=Z,3.2nm,0.7s						
RJF	Les Rejaudoux	15.47	324	*e*P	Pn	22 19 20.4	-0.1
RJF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SMF	Signal de Mont	15.48	332	*e*P	Pn	22 19 21.4	+0.8
	comp=Z,24nm,0.9s						
SMF	Signal de Mont	15.48	332	*e*P	Pn	22 19 21.4	+0.8
	comp=Z,12nm,0.9s						
SMF	Signal de Mont	15.48	332	*e*P	Pn	22 19 21.4	+0.8
SMF				pmax	pmax		
	comp=Z,12nm,0.9s						
HINF	Hinteralfeld	15.49	341	*e*P	Pn	22 19 21.4	+0.6
	comp=Z,39nm,1.3s						
HINF	Hinteralfeld	15.49	341	*e*P	Pn	22 19 21.4	+0.6
	comp=Z,20nm,1.3s						
HINF	Hinteralfeld	15.49	341	*e*P	Pn	22 19 21.4	+0.6
HINF				pmax	pmax		
	comp=Z,20nm,1.3s						
TIRR	Tirgusor	15.55	41	⇓P	Pn	22 19 25.5	+4.0
BFO	Black Forest	15.60	345	*e*P	Pn	22 19 23.5	+1.2
	comp=Z,17nm,1.5s						
BFO	Black Forest	15.60	345	*e*P	Pn	22 19 23.5	+1.2
BFO				pmax	pmax		
	comp=Z,17nm,1.5s						
VRI	Vrincioaia	15.68	34	⇓P	Pn	22 19 27.3	+4.0
KHC	Kasperske Hory	15.75	358	*e*P	Pn	22 19 24.6	+0.4
ECH	Echery	15.77	342	*e*P	Pn	22 19 29.3	+4.8
KECS	Kecovo	15.78	15	*e*pP	pP	22 19 33.4	+2.1
WET	Wettzell	15.79	356	*e*P	Pn	22 19 26.8	+2.1
	comp=Z,11nm,1.3s						
WET	Wettzell	15.79	356	*e*P	Pn	22 19 26.8	+2.1
WET				pmax	pmax		
	comp=Z,11nm,1.3s						
AVF	Avril sur Loir	15.79	331	*e*P	Pn	22 19 26.3	+1.6
	comp=Z,56nm,1.4s						
AVF	Avril sur Loir	15.79	331	*e*P	Pn	22 19 26.3	+1.6
	comp=Z,28nm,1.4s						
AVF	Avril sur Loir	15.79	331	*e*P	Pn	22 19 26.3	+1.6
AVF				pmax	pmax		
	comp=Z,28nm,1.4s						
HAU	Haudompre	15.80	340	*e*P	Pn	22 19 26.3	+1.4
	comp=Z,60nm,1.2s						
HAU	Haudompre	15.80	340	*e*P	Pn	22 19 26.3	+1.4
	comp=Z,30nm,1.2s						
HAU	Haudompre	15.80	340	*e*P	Pn	22 19 26.3	+1.4
HAU				pmax	pmax		
	comp=Z,30nm,1.2s						
BGF	Bois d'Agland	15.81	330	*e*P	Pn	22 19 25.7	+0.7
STU	Stuttgart	15.85	347	*e*P	Pn	22 19 27.2	+1.7
	comp=Z,14nm,1.2s						
STU	Stuttgart	15.85	347	P	Pn	22 19 27.0	+1.5
	comp=Z,14nm,0.8s						
STU	Stuttgart	15.85	347	P	Pn	22 19 27.0	+1.5
STU				pmax	pmax		
	comp=Z,14nm,0.8s						
STU	Stuttgart	15.85	347	Pn	Pn	22 19 27.0	+1.5
	comp=Z,14nm,0.8s						
TCF	Toulx Ste Croi	15.88	328	*e*P	Pn	22 19 27.6	+1.8
	comp=Z,19nm,1.2s						
TCF	Toulx Ste Croi	15.88	328	*e*P	Pn	22 19 27.6	+1.8
	comp=Z,9.6nm,1.2s						
TCF	Toulx Ste Croi	15.88	328	*e*P	Pn	22 19 27.6	+1.8
TCF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CFR	Carcaliu	15.88	38	⇑P	Pn	22 19 31.7	+5.8
WLS	Welschbruch	15.91	343	*e*P	Pn	22 19 28.3	+2.1
TREC	Trest	15.93	3	*e*P	Pn	22 19 28.7	+2.2
CDF	Champ du Feu	15.93	343	*e*P	Pn	22 19 28.3	+1.8
	comp=Z,32nm,1.2s						
CDF	Champ du Feu	15.93	343	*e*P	Pn	22 19 28.3	+1.8
	comp=Z,16nm,1.2s						
CDF	Champ du Feu	15.93	343	*e*P	Pn	22 19 28.3	+1.8
CDF				pmax	pmax		
	comp=Z,16nm,1.2s						
SSF	Saint Saulge	15.95	332	*e*P	Pn	22 19 27.8	+1.0
	comp=Z,54nm,1.4s						
SSF	Saint Saulge	15.95	332	*e*P	Pn	22 19 27.8	+1.0
	comp=Z,27nm,1.4s						
SSF	Saint Saulge	15.95	332	*e*P	Pn	22 19 27.8	+1.0
SSF				pmax	pmax		
	comp=Z,27nm,1.4s						
ESDC	Sonseca Array	15.98	298	Pn	Pn	22 19 25.1	-2.1
	comp=Z,0.3nm,0.3s,baz=114,slow=13,SNR=3.2						
ESDC	Sonseca Array	15.98	298	P	Pn	22 19 24.1	-3.0
	comp=Z,1.1nm,0.7s						
LOR	Lormes	15.98	333	*e*P	Pn	22 19 27.6	+0.4
	comp=Z,11nm,0.9s						
LOR	Lormes	15.98	333	*e*P	Pn	22 19 27.6	+0.4
	comp=Z,5.3nm,0.9s						
LOR	Lormes	15.98	333	*e*P	Pn	22 19 27.6	+0.4
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VRAC	Vranov	16.00	5	Pn	Pn	22 19 29.1	+1.6
	comp=Z,0.2nm,0.3s,baz=184,slow=11,SNR=6.2						
EADA	Adamuz	16.07	293	P	Pn	22 19 27.6	-0.7
	comp=Z,0.7nm,0.8s,SNR=7.9						
EADA	Adamuz	16.07	293	P	Pn	22 19 27.6	-0.7
	comp=Z,0.7nm,0.8s						
LANF	Langenberg	16.33	345	*e*P	Pn	22 19 36.8	+5.1
CRVS	Cervenica-Dubn	16.40	17	*e*	sP	22 19 44.5	+5.0
BURAR	Bucovina Array	16.43	27	⇑P	Pn	22 19 36.2	+3.3
GUD	Guadarrama	16.43	301	P	Pn	22 19 31.5	-1.5
	comp=Z,0.7nm,1.1s,SNR=7.9						
GUD	Guadarrama	16.43	301	P	Pn	22 19 31.5	-1.5
GUD				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GRA1	Grafenberg Arr	16.46	353	*e*P	Pn	22 19 35.5	+2.2
	comp=Z,24nm,1.5s						
GRF	Grafenberg Arr	16.46	353	*e*P	Pn	22 19 35.5	+2.2
	comp=Z,24nm,1.5s						
GRF	Grafenberg Arr	16.46	353	*e*P	Pn	22 19 35.5	+2.2
GRF				pmax	pmax		
	comp=Z,24nm,1.5s						
GRF	Grafenberg Arr	16.46	353	*e*P	Pn	22 19 35.5	+2.2
GRF				pmax	pmax		
	comp=Z,24nm,1.5s						
MORC	Moravsky Berou	16.56	7	*e*P	Pn	22 19 37.3	+2.8
PRU	Pruhonice	16.60	0	*e*P	Pn	22 19 37.7	+2.6
NIE	Niedzica	16.63	14	*e*P	Pn	22 19 39.6	+4.1
KOLS	Kolonicke sedl	16.63	19	*e*P	Pn	22 19 40.2	+4.7
OKC	Ostrava-Krasne	16.69	9	*e*P	Pn	22 19 37.4	+1.2
TOD	Tromm	16.73	347	*e*P	Pn	22 19 38.8	+2.1
BR131	Keskin Array S	16.74	62	*e*Pn	Pn	22 19 38.0	+1.1
	comp=Z,2.2nm,0.7s						
BRTR	Keskin Array B	16.74	62	Pn	Pn	22 19 39.8	+2.9
	comp=Z,0.1nm,0.3s,baz=247,slow=13,SNR=15						
BRTR	Keskin Array B	16.74	62	*i*P	Pn	22 19 40.9	+4.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	Stebnicka Huta	16.83	16	*e*P	Pn	22 19 42.5	+4.5
NKC	Novy Kostel	16.90	356	*e*P	Pn	22 19 41.8	+2.9
DPC	Dobruska-Polom	17.02	4	*e*P	Pn	22 19 44.2	+3.8
WERD	Werda	17.12	356	*e*P	Pn	22 19 43.0	+1.3
	comp=Z,7.0nm,1.7s						
PVCC	Panska Ves	17.14	1	*e*P	Pn	22 19 38.0	-3.9
UPC	Upice	17.16	4	*e*P	Pn	22 19 42.0	-0.2
MOX	Moxa	17.37	354	*e*P	Pn	22 19 46.3	+1.5
	comp=Z,7.0nm,1.3s						
MOX	Moxa	17.37	354	*e*(P)	Pn	22 19 48.0	+3.2
	comp=Z,14nm,1.5s						
MOX	Moxa	17.37	354	*e*P	Pn	22 19 48.0	+3.2
MOX				pmax	pmax		
	comp=Z,14nm,1.5s						
TNS	Taunus Mts	17.38	347	*e*P	Pn	22 19 46.3	+1.4
	comp=Z,22nm,1.1s						
TNS	Taunus Mts	17.38	347	*e*P	Pn	22 19 46.3	+1.4
TNS				pmax	pmax		
	comp=Z,22nm,1.1s						
KWP	Kalwaria	17.39	18	*e*P	Pn	22 19 46.6	+1.6
	comp=Z,35nm,1.2s						
KWP	Kalwaria	17.39	18	*e*P	Pn	22 19 46.6	+1.6
KWP				pmax	pmax		
	comp=Z,35nm,1.2s						
KWP	Kalwaria	17.39	18	*e*Pn	Pn	22 19 46.6	+1.6
	comp=Z,35nm,1.2s						
BRG	Berggiesshubel	17.48	359	*e*P	Pn	22 19 48.5	+2.3
	comp=Z,7.0nm,1.3s						
BRG	Berggiesshubel	17.48	359	*e*P	Pn	22 19 48.5	+2.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRG	Berggiesshubel	17.48	359	*e*P	Pn	22 19 48.5	+2.3
	comp=Z,6.9nm,1.4s						
CLL	Collm	17.94	357	*e*P	Pn	22 19 53.5	+1.6
	comp=Z,9.0nm,1.1s						
CLL	Collm	17.94	357	*e*P	Pn	22 19 53.0	+1.1
	comp=Z,15nm,1.2s						
CLL	Collm	17.94	357	*e*P	Pn	22 19 53.0	+1.1
CLL				pmax	pmax		
	comp=Z,15nm,1.2s						
FLN	La Foliniere	18.94	329	*e*P	Pn	22 20 03.4	-0.7
	comp=Z,42nm,1.1s						
FLN	La Foliniere	18.94	329	*e*P	Pn	22 20 03.4	-0.7
	comp=Z,21nm,1.1s						
FLN	La Foliniere	18.94	329	*e*P	Pn	22 20 03.4	-0.7
FLN				pmax	pmax		
	comp=Z,21nm,1.1s						
WTSB	Winterswijk	19.36	346	*e*P	Pn	22 20 10.1	+0.9
	comp=Z,37nm,1.7s						
MALT	Malatya	20.12	69	*e*P	P	22 20 18.8	+2.5
	comp=Z,18nm,1.3s						
MALT	Malatya	20.12	69	*e*P	P	22 20 18.8	+2.5
MALT				pmax	pmax		
	comp=Z,18nm,1.3s						
MALT	Malatya	20.12	69	*e*P	P	22 20 18.8	+2.4
	comp=Z,18nm,1.3s						
AKASG	Malin Array Be	20.47	28	P	P	22 20 19.4	-0.7
	comp=Z,12nm,0.8s,baz=218,slow=11,SNR=24						
AKASG	Malin Array Be	20.47	28	*i* P	P	22 20 21.7	+1.6
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	20.47	28	*i* P	P	22 20 21.7	+1.6
AKASG				pmax	pmax		
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	20.47	28	P	P	22 20 19.4	-0.7
SUW	Suwalki	21.56	14	*e*P	P	22 20 31.8	-0.1
	comp=Z,84nm,1.1s,mb5.1						
SUW	Suwalki	21.56	14	*e*P	P	22 20 31.8	-0.1
SUW				pmax	pmax		
	comp=Z,84nm,1.1s,mb5.1						
SUW	Suwalki	21.56	14	*e*P	P	22 20 31.8	-0.2
	comp=Z,84nm,1.1s,mb5.1						
TORD	Torodi Ar. Bea	23.20	213	P	P	22 20 46.9	-2.5
	comp=Z,3.9nm,1.0s,mb3.8,baz=26,slow=10,SNR=13						
KIV	Kislovodsk	24.42	56	*e*P	P	22 21 07.0	+6.1
KIV				pmax	pmax		
	comp=Z,13nm,2.0s,mb4.0						
ZEI	Tsey	24.99	59	*i* P	P	22 21 11.1	+5.0
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
EKA	Eskdalemuir Ar	25.12	336	P	P	22 21 05.8	-1.6
	comp=Z,1.6nm,0.9s,mb3.5,baz=146,slow=12,SNR=5.4						
VSU	Vasula	26.44	15	*e*P	P	22 21 23.5	+4.2
OBN	Obninsk	26.72	29	*e*P	P	22 21 25.3	+3.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
HFS	Hagfors	26.77	359	P	P	22 21 20.2	-2.0
	comp=Z,5.0nm,1.0s,mb4.0,baz=169,slow=15,SNR=5.1						
NOA	NORSAR Array B	27.75	357	P	P	22 21 28.9	-2.1
	comp=Z,0.9nm,0.8s,mb3.5,baz=161,slow=9.8,SNR=3.3						
NOA	NORSAR Array B	27.75	357	P	P	22 21 28.9	-2.1
FINES	FINESS Array B	29.09	12	P	P	22 21 42.3	-0.7
	comp=Z,2.0nm,0.9s,mb3.9,baz=180,slow=9.5,SNR=4.7						
FINES	FINESS Array B	29.09	12	*i* P	P	22 21 43.7	+0.7
	comp=Z,2.0nm,0.9s,mb3.9						
FINES	FINESS Array B	29.09	12	*i* P	P	22 21 43.7	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKTK	Aktyubinsk	36.10	49	P	P	22 22 43.4	-0.9
AKTK	Aktyubinsk	36.10	49	P	P	22 22 43.4	-0.9
AKTO	Aktyubinsk	36.10	49	P	P	22 22 43.4	-0.9
	comp=Z,2.0nm,0.9s,mb4.0,baz=282,slow=7.5,SNR=4.6						
ARCES	ARCESS Array B	36.74	7	P	P	22 22 47.1	-2.7
	comp=Z,1.6nm,0.8s,mb3.9,baz=180,slow=7.3,SNR=5.5						
ARCES				PcP	PcP	22 25 08.6	-3.5
	comp=Z,2.5nm,1.0s,baz=180,slow=2.4,SNR=3.9						
ARCES	ARCESS Array B	36.74	7	PcP	PcP	22 25 08.6	-3.5
BRVK	Borovoye	44.00	46	*e*P	P	22 23 49.5	-0.3
	comp=Z,3.1nm,1.0s,mb4.0						
BRVK	Borovoye	44.00	46	*e*P	P	22 23 49.5	-0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
BRVK	Borovoye	44.00	46	*e*P	P	22 23 49.5	-0.4
	comp=Z,3.1nm,1.0s,mb4.0						
BVAR	Borovoye Array

FITZ eS Sn 22 55 45.2 -11
WRAB Tennant Creek 13.98 163 ⇓eP n Pn 22 54 00.4 +0.1
74nm,0.5s
WRAB eSn Sn 22 56 29.4 -5.9
WRA Warramunga Arr 13.98 163 P Pn 22 53 59.7 -0.6
4.6nm,0.3s,baz=345,slow=13,SNR=97
WRA S Sn 22 56 28.4 -7.0
6.1nm,0.3s,baz=342,slow=22,SNR=12
WB2 Warramunga Arr 13.99 163 ⇓iP Pn 22 53 59.8 -0.6
WB2 eS Sn 22 56 24.1 -11
ASAR Alice Springs 17.46 168 P Pn 22 54 45.6 +2.7
13nm,0.3s,baz=344,slow=9.1,SNR=391
ASAR S S 22 57 55.0 -0.3
2.3nm,0.3s,baz=350,slow=25,SNR=5.8
ASAR Alice Springs 17.46 168 P Pn 22 54 45.6 +2.7
ASAR S S 22 57 55.0 -0.3
ASPA Alice Springs 17.46 168 eP Pn 22 54 45.3 +2.3
ASPA eS S 22 57 53.3 -1.9
MBWA Marble Bar 17.73 214 ⇓iPn Pn 22 54 45.6 -0.6
26nm,0.8s
MBWA e 22 55 04.3
KKM Kota Kinabalu 18.66 312 eP P 22 54 55.4 +0.5
CTA Charters Tower 20.67 132 eP P 22 55 22.1 +5.5
5.5nm,0.8s
CTA Charters Tower 20.67 132 P P 22 55 21.2 +4.6
8.2nm,0.8s,baz=286,slow=12,SNR=7.6
CTAO Charters Tower 20.67 132 eP P 22 55 21.1 +4.5
8.8nm,0.9s
STKA Stephens Creek 27.43 158 eP P 22 56 20.9 +0.8
12nm,0.8s,mb4.6
STKA Stephens Creek 27.43 158 P P 22 56 21.4 +1.3
15nm,0.8s,mb4.7,baz=334,slow=8.8,SNR=27
KLBR Kellerberrin 27.54 203 eP P 22 56 21.9 +0.9
17nm,0.6s,mb5.0
KLBR eS sS 23 01 38.5 -10
MUN Mundaring 28.51 205 eP P 22 56 29.3 -0.3
MUN eS sS 23 02 05.6 +2.0
NWAO Narrogin (SRO) 28.92 203 P P 22 56 34.6 +1.4
4.7nm,0.3s,mb4.7,baz=38,slow=9.3,SNR=23
NWAO Narrogin (SRO) 28.92 203 eP P 22 56 34.1 +0.8
5.2nm,0.4s,mb4.6
MJAR Matsushiro Arr 43.46 9 P P 22 58 35.7 -0.8
7.2nm,0.8s,mb4.3,baz=188,slow=9.4,SNR=14
BJT Baijiatuau 48.03 346 eP P 22 59 11.7 -0.6
3.8nm,0.6s,mb4.2
PALK Pallekele 51.18 285 P P 22 59 35.6 -0.5
13nm,1.0s,mb4.5
LSA Lhasa 51.93 316 eP P 22 59 42.7 +1.0
1.2nm,0.5s,mb3.8
ULN Ulaanbaatar 57.82 342 eP P 23 00 24.2 +0.2
1.8nm,0.7s,mb4.0
SONM Songino Array 58.00 341 P P 23 00 25.4 +0.1
0.3nm,0.4s,mb3.4,baz=165,slow=6.7,SNR=5.9
SONM pP pP 23 01 03.9 +2.2
1.6nm,0.8s,baz=162,slow=6.9,SNR=3.7
MKAR Makanchi Array 67.88 327 P P 23 01 30.5 0.0
2.1nm,0.6s,mb4.0,baz=124,slow=8.0,SNR=35
MKAR pP pP 23 02 11.4 +3.4
1.8nm,0.7s,baz=117,slow=8.1,SNR=3.7
AAK Ala-Archa 70.24 320 P P 23 01 44.4 -0.7
1.6nm,0.8s,mb3.8
VNDA Vanda 72.94 173 P P 23 02 02.6 +1.4
2.6nm,0.8s,mb4.0,baz=327,slow=6.5,SNR=18
BVAR Borovoye Array 77.71 328 P P 23 02 27.7 -0.7
0.8nm,0.8s,mb3.4,baz=180,slow=3.0,SNR=6.1
BVAR pP pP 23 03 07.2 +0.4
1.0nm,0.8s,baz=135,slow=6.3,SNR=4.2
QSPA South Pole Qui 83.49 180 eP P 23 03 00.1 +1.0
3.9nm,0.5s,mb4.4
ONI Oni 91.91 312 P P 23 03 44.4 +4.8
ONI S 23 03 46.1
ILAR Eielson Array 92.82 25 P P 23 03 42.7 -1.1
0.4nm,0.7s,mb3.6,baz=263,slow=4.7,SNR=6.0
TORD Torodi Ar. Bea 128.85 282 PKP PKPdf 23 09 39.2 +1.4
0.3nm,0.5s,baz=76,slow=1.4,SNR=4.7
CPUP Villa Florida 146.59 168 ePKP PKPdf 23 10 14.3 +4.1
LPAZ La Paz 151.03 142 PKPbc PKPbc 23 10 27.2 +3.8
0.8nm,0.4s,baz=91,slow=2.8,SNR=4.7
LPAZ La Paz 151.03 142 PKPbc PKPbc 23 10 27.2 +3.8

*ISCJB **03** 22:56:27.6±7.6, 117N±0.1×924E±0.1, h5km±49km, mb4.0/17, Error ellipse: s-maj=18.0km s-min=17.3km az=111.2*
*IDC **03** 22:56:28.6±1.2, 1167N×9233E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/21, mbtmp3.9/11, Error ellipse: s-maj=42.4km s-min=25.1km az=52.0*
*BJI **03** 22:56:30.7, 1135N×9238E, h45km, mb4.2*
*NEIC **03** 22:56:33.0±0.5, 1170N×9239E, h30km, mb4.3/3, Error ellipse: s-maj=10.8km s-min=10.4km az=199.0*
ISC 03 22:56:32.6±5.4, 117N±01×924E±01, h24km±39km, h31km±1.7km: pP-P, n19, σ0§65/19, mb4.0/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.35**	**250**	P	**Pn**	**22 59 26.8**	**-0.1**
CD2	**Chengdu**	**21.79**	**27**	P	**P**	**23 01 22.6**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
ENH	**Enshi**	**24.33**	**38**	eP	**P**	**23 01 47.7**	**-0.7**
	comp=Z,9.1nm,0.7s,mb4.3						
LZH	**Lanzhou**	**26.37**	**21**	eP	**P**	**23 02 11.6**	**+4.7**
LZH				AP	pP	23 02 20.5	+6.6
LZH				XP	sP	23 02 24.8	+7.9
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.5						
GTA	**Gaotai**	**28.34**	**12**	eP	**P**	**23 02 26.2**	**+1.6**
GTA				AP	pP	23 02 35.3	+3.6
GTA				XP	sP	23 02 39.3	+4.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**35.98**	**348**	P	**P**	**23 03 31.6**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=162,slow=7.7,SNR=8.8						
SONM	**Songino Array**	**37.86**	**15**	P	**P**	**23 03 48.3**	**+0.9**
	comp=Z,1.2nm,0.6s,mb3.8,baz=207,slow=7.1,SNR=12						
KURK	**Kurchatov**	**40.48**	**347**	eP	**P**	**23 04 08.7**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.0						
KURK				epP	pP	23 04 16.3	-0.3
BVAR	**Borovoye Array**	**44.81**	**341**	P	**P**	**23 04 44.2**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.6,baz=146,slow=5.3,SNR=3.6						
AKTK	**Aktyubinsk**	**47.76**	**331**	P	**P**	**23 05 07.9**	**+0.1**
AKTO	**Aktyubinsk**	**47.76**	**331**	P	**P**	**23 05 07.9**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=141,slow=6.5,SNR=3.9						
WRA	**Warramunga Arr**	**51.91**	**127**	P	**P**	**23 05 39.6**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=301,slow=10.0,SNR=7.3						
WRAB	**Tennant Creek**	**51.92**	**127**	eP	**P**	**23 05 39.1**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**23 07 32.6**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=100,slow=12,SNR=6.0						
ARCES	**ARCESS Array B**	**71.08**	**340**	P	**P**	**23 07 48.8**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=79,slow=6.2,SNR=8.0						
GERES	**GERESS Array B**	**73.83**	**318**	P	**P**	**23 08 05.1**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=72,slow=4.2,SNR=7.4						
NOA	**NORSAR Array B**	**75.55**	**330**	P	**P**	**23 08 14.3**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.9,baz=94,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**88.05**	**283**	P	**P**	**23 09 22.2**	**+1.3**
	comp=Z,0.7nm,0.9s,mb3.9,baz=45,slow=2.1,SNR=3.9						
ILAR	**Eielson Array**	**91.83**	**22**	P	**P**	**23 09 37.8**	**-0.8**
	comp=Z,0.6nm,0.7s,mb4.0,baz=298,slow=4.5,SNR=8.0						

*ISCJB **03** 23:10:43.9±0.2, 3618N±002×2607E±003, h134km±4km, mb3.4/2, Error ellipse: s-maj=4.0km s-min=3.2km az=102.2*
*CSEM **03** 23:10:43.4±0.1, 3623N×2608E, h144km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=59.0*
*HLW **03** 23:10:44.5, 3621N×2633E, h33km, Mb4.1*
*ATH **03** 23:10:45.1, 3628N×2612E, h121km±2km*
*IDC **03** 23:10:45.7±0.9, 3623N×2607E, h120km±11km, mb3.2/2, mb1 3.2/5, mb1mx3.0/22, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/15, Error ellipse: s-maj=35.1km s-min=12.4km az=144.0*
*NEIC **03** 23:10:45.0, 3628N×2612E, h121km, After ATH.*
*THE **03** 23:10:49.8, 3627N×2563E, h28km*
ISC 03 23:10:45.0±0.2, 3618N±002×2607E±003, h128km±4km, n72, σ1§09/93, mb3.4/2, 9C-12D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.53**	**292**	⇓iPn	**Pn**	**23 11 04.3**	**+0.3**
SANT	**Santorini**	**0.53**	**292**	⇓iPn	**Pn**	**23 11 04.3**	**+0.3**
SANT				eSn	**Sn**	**23 11 17.0**	**-1.5**

2006 FEB

NPS	**Neapolis**	**0.98**	**202**	⇑iP	**Pn**	**23 11 08.8**	**+1.2**
NPS				eS	**Sn**	**23 11 25.3**	**+0.6**
APE	**Apeiranthos**	**0.99**	**334**	⇓iP	**Pn**	**23 11 07.5**	**-0.1**
APE				eS	**Sn**	**23 11 23.5**	**-1.3**
KARP	**Karpathos**	**1.08**	**125**	eP	**Pn**	**23 11 09.3**	**+0.8**
IDI	**Anoyia**	**1.31**	**228**	P	**Pn**	**23 11 12.0**	**+1.2**
	10nm,0.3s,baz=56,slow=11,SNR=263						
IDI				S	**Sn**	**23 11 30.8**	**+0.4**
	36nm,0.3s,baz=310,slow=18,SNR=24						
XRY	**Khrisi**	**1.33**	**193**	eP	**Pn**	**23 11 13.0**	**+1.9**
BDRM	**Kayabasi**	**1.42**	**51**	iP	**Pn**	**23 11 11.9**	**-0.1**
BDRM				iS	**Sn**	**23 11 27.1**	**-5.5**
SMG	**Samos**	**1.65**	**22**	⇓iP	**Pn**	**23 11 14.2**	**-0.4**
ARG	**Arkhangelos**	**1.66**	**88**	⇑iP	**Pn**	**23 11 15.2**	**+0.4**
ARG				eS	**Sn**	**23 11 36.3**	**-1.2**
VAM	**Vamos**	**1.70**	**244**	eP	**Pn**	**23 11 16.6**	**+1.3**
AYDN	**Tasoluk**	**2.07**	**44**	iP	**Pn**	**23 11 20.1**	**+0.4**
AYDN				iS	**Sn**	**23 11 45.2**	**-1.1**
URLA	**Izmir**	**2.22**	**11**	iP	**Pn**	**23 11 20.9**	**-0.6**
URLA				iS	**Sn**	**23 11 48.7**	**-0.9**
KDAG	**Bornova**	**2.42**	**23**	iP	**Pn**	**23 11 23.9**	**-0.2**
KDAG				iS	**Sn**	**23 11 55.3**	**+1.3**
KYTH	**Kithira**	**2.46**	**273**	eP	**Pn**	**23 11 25.5**	**+1.0**
VLI	**Veliai**	**2.58**	**283**	eP	**Pn**	**23 11 26.8**	**+0.7**
VLI				eS	**Sn**	**23 11 57.7**	**-0.1**
DNZL	**Cakiroluk**	**2.82**	**57**	iP	**Pn**	**23 11 29.9**	**+0.7**
DNZL				iS	**Sn**	**23 12 04.3**	**+1.1**
DNZL	**Cakiroluk**	**2.82**	**57**	iP	**Pn**	**23 11 29.9**	**+0.7**
DNZL				iS	**Sn**	**23 12 04.3**	**+1.0**
PRK	**Paraskevi**	**3.07**	**3**	eP	**Pn**	**23 11 32.0**	**-0.4**
AOS	**Alonnisos**	**3.46**	**330**	ePn	**Pn**	**23 11 37.8**	**+0.3**
LKR	**Lokris**	**3.48**	**316**	⇑iP	**Pn**	**23 11 38.5**	**+0.8**
ITM	**Ithomi**	**3.48**	**288**	eP	**Pn**	**23 11 39.0**	**+1.2**
ITM				eS	**Sn**	**23 12 19.2**	**+0.6**
XOR	**Xorichti**	**3.92**	**325**	ePn	**Pn**	**23 11 43.9**	**+0.3**
AGG	**Agios Georgios**	**4.11**	**315**	ePn	**Pn**	**23 11 47.5**	**+1.3**
AGG				eSn	**Sn**	**23 12 30.0**	**-3.6**
RLS	**Riolos of Patr**	**4.13**	**298**	eP	**Pn**	**23 11 48.3**	**+1.9**
PAIG	**Paliouri**	**4.19**	**334**	ePn	**Pn**	**23 11 47.9**	**+0.7**
ALN	**Alexandroupoli**	**4.71**	**360**	ePn	**Pn**	**23 11 57.6**	**+3.5**
SLUM		**4.73**	**189**	⇑P	**Pn**	**23 11 54.9**	**+0.5**
SLUM				S	**Sn**	**23 12 46.1**	**-2.2**
LIT	**Litokhoron**	**4.83**	**325**	ePn	**Pn**	**23 11 56.0**	**+0.3**
LKD	**Levkas**	**5.00**	**302**	ePn	**Pn**	**23 11 57.4**	**-0.6**
LKD				eSn	**Sn**	**23 12 51.6**	**-3.2**
HMAT	**Matruh**	**5.14**	**170**	⇓P	**Pn**	**23 11 59.5**	**-0.3**
MEV	**Metsovon**	**5.25**	**315**	ePn	**Pn**	**23 12 03.2**	**+1.8**
DABA	**Dabaa**	**5.47**	**160**	P	**Pn**	**23 12 03.8**	**-0.5**
GRG	**Griva**	**5.57**	**330**	ePn	**Pn**	**23 12 06.6**	**+0.9**
IGT	**Igoumenitsa**	**5.64**	**308**	ePn	**Pn**	**23 12 05.7**	**-0.9**
IGT				eSn	**Sn**	**23 13 06.3**	**-4.0**
HBRG	**Burj al 'Arab**	**6.41**	**150**	⇑P	**Pn**	**23 12 16.0**	**-1.0**
HBRG				S	**Sn**	**23 13 23.1**	**-5.8**
SWA1		**6.90**	**183**	⇓P	**Pn**	**23 12 23.9**	**+0.4**
SWA1				S	**Sn**	**23 13 37.2**	**-3.4**
SWA2		**6.93**	**184**	P	**Pn**	**23 12 24.5**	**+0.5**
BRTR	**Keskin Array B**	**6.95**	**57**	P	**Pn**	**23 12 24.8**	**+0.6**
	0.4nm,0.3s,baz=242,slow=17,SNR=15						
BRTR				S	**Sn**	**23 13 43.0**	**+1.2**
	0.1nm,0.3s,baz=220,slow=24,SNR=4.4						
HMYD	**Mayadein**	**7.50**	**147**	⇑P	**Pn**	**23 12 31.1**	**-0.6**
HNAT	**Natroun**	**7.56**	**148**	⇑P	**Pn**	**23 12 32.1**	**-0.3**
SQR		**7.61**	**144**	⇑P	**Pn**	**23 12 32.6**	**-0.6**
FYM	**Al Fayyum**	**7.70**	**146**	P	**Pn**	**23 12 34.0**	**-0.3**
AYT	**Al 'Ayyat**	**7.74**	**145**	⇓P	**Pn**	**23 12 34.7**	**-0.2**
KOT	**Kottamia**	**7.88**	**141**	P	**Pn**	**23 12 35.9**	**-0.9**
TIP	**Timpagrande**	**7.97**	**295**	ePn	**Pn**	**23 12 36.2**	**-1.8**
TIP	**Timpagrande**	**7.97**	**295**	ePn	**Pn**	**23 12 36.2**	**-1.8**
HSAF	**As Saff**	**8.00**	**143**	P	**Pn**	**23 12 38.1**	**-0.3**
HHAG	**Hagoal**	**8.00**	**139**	⇓P	**Pn**	**23 12 37.8**	**-0.7**
GLL	**Jalalah**	**8.11**	**143**	⇑P	**Pn**	**23 12 39.3**	**-0.6**
AMAG	**Maghara**	**8.12**	**131**	⇑P	**Pn**	**23 12 38.6**	**-1.5**
AWBH		**8.19**	**162**	P	**Pn**	**23 12 41.3**	**+0.3**
PE1	**Pezze di Greco**	**8.21**	**307**	ePn	**Pn**	**23 12 38.9**	**-2.3**
SUZ		**8.49**	**136**	⇓P	**Pn**	**23 12 44.7**	**-0.3**
SG1	**Sgolgore (BA)**	**8.71**	**305**	ePn	**Pn**	**23 12 45.5**	**-2.5**
BAI	**Bari**	**8.71**	**307**	ePn	**Pn**	**23 12 45.5**	**-2.5**
ZAF		**8.77**	**140**	P	**Pn**	**23 12 48.6**	**-0.2**
ZNM		**8.87**	**138**	⇓P	**Pn**	**23 12 49.8**	**-0.3**
CDT	**Castel del Mon**	**9.10**	**306**	ePn	**Pn**	**23 12 50.7**	**-2.4**
HNKL	**Nakhl**	**9.10**	**131**	P	**Pn**	**23 12 52.7**	**-0.5**
HFRF	**Wahat Farafira**	**9.20**	**167**	P	**Pn**	**23 12 55.7**	**+1.2**
VAE	**Valguarnera**	**9.44**	**281**	P	**Pn**	**23 12 58.5**	**+0.8**
	0.7nm,0.3s,baz=95,slow=12,SNR=3.8						
VAE				S	**Sn**	**23 14 39.6**	**-2.4**
	1.4nm,0.3s,baz=132,slow=6.5,SNR=3.7						
GRB	**Gharib**	**9.72**	**142**	⇓P	**Pn**	**23 13 01.6**	**+0.2**
TR2		**10.11**	**138**	⇓P	**Pn**	**23 13 06.7**	**0.0**
HKAT	**Jabal Katrina**	**10.15**	**137**	⇑P	**Pn**	**23 13 07.3**	**+0.1**
HDHB	**Dhahab**	**10.36**	**133**	⇑P	**Pn**	**23 13 09.7**	**-0.3**
HDK1	**Dakhla**	**10.98**	**164**	P	**Pn**	**23 13 20.3**	**+2.0**
STHS	**Stebnicka Huta**	**13.70**	**347**	e	**Pn**	**23 13 59.2**	**+5.4**
GERES	**GERESS Array B**	**15.58**	**328**	P	**Pn**	**23 14 18.1**	**+0.6**
	0.1nm,0.3s,baz=153,slow=12,SNR=11						
KHC	**Kasperske Hory**	**15.85**	**329**	eP	**Pn**	**23 14 19.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**31.71**	**230**	P	**P**	**23 16 58.9**	**+2.5**
	0.4nm,0.3s,mb3.6,baz=32,slow=8.9,SNR=24						
MKAR	**Makanchi Array**	**42.60**	**58**	P	**P**	**23 18 29.0**	**+0.8**
	0.2nm,0.3s,mb3.2,baz=266,slow=8.3,SNR=8.5						

*IDC **03** 23:15:43.7±4.9, 1564S×17279W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=217.2km s-min=22.5km az=135.0*
NEIC 03 23:15:48.7±4.0, 1557S×17278W, h35km, Error ellipse: s-maj=186.0km s-min=14.4km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.92**	**31**	Pn	Pn	23 16 18.0	-0.7
	135nm,0.3s,baz=67,slow=2.2,SNR=44						
AFI				Sn	Sn	23 16 35.6	-6.1
	260nm,0.3s,baz=65,slow=19,SNR=15						
STKA	**Stephens Creek**	**44.47**	**240**	P	P	23 23 56.0	-0.4
	2.4nm,0.9s,baz=105,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**44.47**	**240**	P	P	23 23 56.0	-0.4
WRA	**Warramunga Arr**	**50.39**	**257**	P	P	23 24 42.8	+0.4
	0.3nm,0.4s,baz=93,slow=6.7,SNR=14						
ASAR	**Alice Springs**	**50.62**	**252**	P	P	23 24 44.7	+0.5
	0.7nm,0.4s,baz=91,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**82.50**	**11**	P	P	23 28 08.4	+0.9
	0.4nm,0.6s,baz=222,slow=6.1,SNR=6.4						
BRTR	**Keskin Array B**	**146.66**	**321**	PKPbc	PKPbc	23 35 27.7	+1.1
	0.5nm,0.7s,baz=81,slow=2.3,SNR=4.1						

*ISCJB **03** 23:28:16.9±0.3, 120S±006×12073E±006, h25km, mb4.6/42, MS4.1/13, Error ellipse: s-maj=10.8km s-min=5.7km az=99.3*
*MOS **03** 23:28:17.8±1.2, 108S×12076E, h33km, mb4.8/10, Error ellipse: s-maj=17.3km s-min=8.6km az=119.3*
*NEIC **03** 23:28:18.5±0.4, 1.10S×12084E, mb4.7/11, Error ellipse: s-maj=13.8km s-min=8.1km az=45.0*
NEIC Felt [IV] at Poso and [III] at Palu.
*BJI **03** 23:28:18.5, 1.10S×12080E, h26km, mB5.1, mb4.8, Ms4.6, Msz4.3*
*IDC **03** 23:28:21.8±0.7, 1.15S×12073E, h55km±6km, mb4.3/16, mb1 4.4/16, mb1mx4.3/23, mbtmp4.6/16, MS4.0/8, Ms1 4.0/8, ms1mx3.6/23, Error ellipse: s-maj=22.1km s-min=11.0km az=57.0*
ISC 03 23:28:19.2±0.3, 121S±006×12076E±006, h27km, h27km±1.9km: pP-P, n96, σ1§29/95, mb4.6/42, MS4.1/13, 5C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**7.82**	**108**	P	**Pn**	**23 30 17.5**	**+6.3**
	162nm,0.8s						
KKM	**Kota Kinabalu**	**8.52**	**328**	ePn	**Pn**	**23 30 23.8**	**+3.1**
DAV	**Davao City (W)**	**9.53**	**30**	Pn	**Pn**	**23 30 28.8**	**-5.8**
KSM	**Kuching**	**10.79**	**284**	ePn	**Pn**	**23 30 52.3**	**+0.5**
JCJI	**Jatiwangi**	**13.52**	**247**	P	**Pn**	**23 31 39.9**	**+11**
	172nm,1.0s						
LEM	**Lembang**	**14.24**	**247**	P	**Pn**	**23 31 45.4**	**+6.4**
	132nm,1.1s						
KULM	**Kulim**	**21.10**	**288**	⇓eP	**P**	**23 33 01.0**	**-0.5**
PSI	**Prapat**	**22.19**	**280**	P	**P**	**23 33 14.2**	**+0.9**
	102nm,0.9s,mb5.3,baz=101,slow=6.8,SNR=78						
PSI				LR	LR	23 43 35.3	
	comp=Z,539nm,18.7s,MS4.0,baz=122,slow=41						
QIZ	**Qiongzhong**	**22.80**	**332**	eP	**P**	**23 33 22.6**	**+2.9**
WRAB	**Tennant Creek**	**22.87**	**145**	eP	**P**	**23 33 20.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,58nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**22.87**	**145**	eP	**P**	**23 33 20.6**	**+0.2**
	comp=Z,58nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**22.87**	**145**	P	**P**	**23 33 21.1**	**+0.7**
	comp=Z,26nm,0.9s,mb4.7,baz=293,slow=6.1,SNR=132						
WB2	**Warramunga Arr**	**22.88**	**145**	eP	**P**	**23 33 20.5**	**0.0**
ASPA	**Alice Springs**	**25.70**	**151**	eP	**P**	**23 33 47.2**	**+0.2**
ASAR	**Alice Springs**	**25.70**	**151**	P	**P**	**23 33 47.7**	**+0.7**
	comp=Z,7.7nm,0.8s,mb4.3,baz=345,slow=15,SNR=31						
ASAR				PcP	PcP	23 37 16.5	-0.3
	comp=Z,1.5nm,0.6s,baz=334,slow=2.3,SNR=8.4						
ASAR				ScP	ScP	23 40 50.4	-4.0
	comp=Z,1.1nm,1.0s,baz=315,slow=1.8,SNR=4.1						
PMG	**Port Moresby**	**27.49**	**108**	P	**P**	**23 34 04.6**	**+1.4**
	comp=Z,22nm,0.8s,mb4.7,baz=304,slow=7.3,SNR=3.6						
GUMO	**Guam**	**28.06**	**58**	LR	LR	23 42 54.7	
	comp=Z,160nm,19.9s,MS3.6,baz=284,slow=31						
CTA	**Charters Tower**	**31.20**	**129**	P	**P**	**23 34 37.0**	**+1.0**
	comp=Z,11nm,1.1s,mb4.6,baz=294,slow=11,SNR=6.2						
CTA				LR	LR	23 46 53.5	
	comp=Z,134nm,20.1s,MS3.6,baz=268,slow=36						
CTAO	**Charters Tower**	**31.20**	**129**	P	**P**	**23 34 30.1**	**-6.0**
	comp=Z,7.0nm,0.8s,mb4.5						
CTAO				epP	pP	23 34 37.5	-6.5
KMI	**Kunming**	**31.47**	**328**	P	**P**	**23 34 42.0**	**+3.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
ENH	**Enshi**	**33.10**	**342**	eP	**P**	**23 34 54.7**	**+1.9**
	comp=Z,23nm,1.1s,mb5.0						
NJ2	**Nanjing**	**33.13**	**357**	eP	**P**	**23 34 55.3**	**+2.3**
NJ2				AP	pP	23 35 03.6	+2.6
NJ2				XP	sP	23 35 05.9	+1.6
NJ2				PP	PP	23 36 09.0	+0.9
NJ2				S	**S**	**23 40 12.0**	**+1.3**
NJ2				XS	sS	23 40 27.0	+3.2
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,500nm,6.0s						
NJ2				LR	LR		
	comp=N,740nm,17.7s,MS4.5						
NJ2				LR	LR		
	comp=E,480nm,15.7s,MS4.5						
NJ2				LR	LR		
	comp=Z,520nm,16.0s,MS4.3						
CD2	**Chengdu**	**35.81**	**335**	P	**P**	**23 35 19.3**	**+3.1**
CD2				S	**S**	**23 40 58.7**	**+6.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,5.9s						
CD2				LR	LR		
	comp=N,150nm,19.2s						
CD2				LR	LR		
	comp=Z,180nm,19.2s,MS3.9						
STKA	**Stephens Creek**	**36.29**	**149**	eP	**P**	**23 35 18.8**	**-1.5**
	comp=Z,23nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**36.29**	**149**	P	**P**	**23 35 18.8**	**-1.5**
	comp=Z,31nm,0.8s,mb5.3,baz=320,slow=8.3,SNR=55						
STKA				LR	LR	23 51 39.1	
	comp=Z,277nm,18.8s,MS4.1,baz=269,slow=38						
STKA	**Stephens Creek**	**36.29**	**149**	P	**P**	**23 35 18.8**	**-1.5**
STKA				LR	LR	23 51 39.1	
XAN	**Xi'an**	**36.79**	**343**	P	**P**	**23 35 28.1**	**+3.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.3						
JHJ	**Hachijo jima 2**	**38.58**	**26**	LR	LR	23 50 35.3	
	comp=Z,186nm,20.9s,MS3.9,baz=113,slow=35						
SHL	**Shillong**	**38.58**	**316**	eP	**P**	**23 35 40.0**	**+0.3**
LZH	**Lanzhou**	**40.32**	**339**	eP	**P**	**23 35 57.0**	**+2.8**
LZH				AP	pP	23 36 03.1	+0.8
LZH				XP	sP	23 36 07.2	+1.7
LZH				ePP	PP	23 37 34.8	+7.6
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,52nm,6.5s						
LZH				LR	LR		
	comp=N,297nm,14.2s						
LZH				LR	LR		
	comp=Z,395nm,17.8s,MS4.3						
MJAR	**Matsushiro Arr**	**40.92**	**22**	P	**P**	**23 35 57.2**	**-1.9**
	comp=Z,5.2nm,0.9s,mb4.1,baz=196,slow=9.1,SNR=4.8						
MJAR				LR	LR	23 49 57.3	
	comp=Z,182nm,20.2s,MS3.9,baz=195,slow=32						
ARMA	**Armidale**	**41.24**	**138**	eP	**P**	**23 36 04.0**	**+2.2**
BJT	**Baijiatuau**	**41.25**	**355**	eP	**P**	**23 36 01.1**	**-0.8**
BJT				e		23 36 12.3	
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**41.25**	**355**	eP	**P**	**23 36 01.1**	**-0.7**
	comp=Z,5.0nm,0.4s,mb4.5						
BJT				e		23 36 12.3	
LSA	**Lhasa**	**41.76**	**320**	P	**P**	**23 36 07.4**	**+1.3**
LSA	**Lhasa**	**41.76**	**320**	P	**P**	**23 36 07.5**	**+1.4**
LSA				e*PP	pP	23 36 15.0	+0.8
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**41.76**	**320**	P	**P

SONM			pP	pP	23 37 28.3	+5.7
	comp=Z,2.8nm,0.8s,baz=163,slow=8.1,SNR=6.3					
ZAK	**Zakamensk**	**53.53 346**	*e*P	**P**	**23 37 26.0**	**-11**
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.3					
WMQ	**Urumqi**	**53.70 331**	P	**P**	**23 37 40.0**	**+1.3**
WMQ			XP	sP	23 37 51.0	+0.8
WMQ			PP	PP	23 39 43.0	+3.4
WMQ			SCP	ScP	23 42 39.0	-1.7
WMQ			S	**S**	**23 45 13.0**	**+2.0**
WMQ			SS	SS	23 48 54.0	+2.2
WMQ			AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,87nm,5.0s					
WMQ			LR	LR		
	comp=N,98nm,12.0s,MS4.3					
WMQ			LR	LR		
	comp=E,113nm,10.0s,MS4.3					
WMQ			LR	LR		
	comp=Z,115nm,10.0s,MS4.2					
MOY	**Mondy**	**55.28 345**	*e*P	**P**	**23 37 51.9**	**+1.8**
KSH	**Kashi**	**57.62 320**	*e*P	**P**	**23 38 10.0**	**+3.2**
KSH			*e*AP	pP	23 38 17.5	+2.4
KSH			*e*XP	sP	23 38 20.1	+1.8
KSH			*e*PCP	PcP	23 39 00.7	+0.9
KSH			*e*PP	PP	23 40 21.0	+6.4
KSH			*e*SCP	ScP	23 42 57.2	-0.7
KSH			*e*PCS	PcS	23 43 00.0	-1.0
KSH			*e*S	**S**	**23 46 08.2**	**+5.0**
KSH			*e*XS	sS	23 46 22.1	+5.1
KSH			*e*SCS	ScS	23 47 54.2	-0.2
KSH			AMB	AMB		
	comp=Z,160nm,5.7s					
KSH			LR	LR		
	comp=N,210nm,5.0s					
KSH			LR	LR		
	comp=E,240nm,4.6s					
MKAR	**Makanchi Array**	**58.50 330**	P	**P**	**23 38 12.2**	**-0.8**
	comp=E,4.2nm,0.7s,mb4.6,baz=127,slow=8.6,SNR=31					
BOD	**Bodaibo**	**59.10 356**	*e*P	**P**	**23 38 14.1**	**-3.0**
BOD			pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4					
TKM2	**Tokmak 2**	**59.77 323**	P	**P**	**23 38 22.0**	**+0.3**
	SNR=5.0					
KBK	**Karagaybulak**	**60.01 322**	P	**P**	**23 38 23.7**	**+0.3**
	SNR=6.5					
AAK	**Ala-Archa**	**60.27 322**	P	**P**	**23 38 25.0**	**-0.2**
	SNR=5.1					
AAK	**Ala-Archa**	**60.27 322**	P	**P**	**23 38 24.0**	**-1.2**
AAK			*e**PP	pP	23 38 30.5	-3.1
AAK			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7					
AAK	**Ala-Archa**	**60.27 322**	P	**P**	**23 38 24.0**	**-1.2**
	comp=Z,5.6nm,0.8s,mb4.7					
AAK			*e*pP	pP	23 38 30.5	-3.1
AML	**Almayashu**	**60.49 321**	P	**P**	**23 38 27.0**	**+0.3**
	SNR=12					
USP	**Ospenovka**	**60.62 323**	P	**P**	**23 38 27.4**	**-0.2**
	SNR=7.6					
EKS2	**Erkin-Say**	**60.73 322**	P	**P**	**23 38 28.7**	**+0.4**
	SNR=7.8					
KURK	**Kurchatov**	**62.93 331**	P	**P**	**23 38 41.1**	**-2.0**
KURK			*PP	pP	23 38 51.1	-0.4
YAK	**Yakutsk**	**63.44 51**	*e*P	**P**	**23 38 45.2**	**-1.3**
NVS	**Novosibirsk**	**63.80 337**	*e*P	pP	23 38 59.9	+2.6
NVS			pmax	pmax		
	comp=Z,18nm,2.0s,mb4.8					
NVS			pmax	pmax		
	comp=N,7.0nm,1.5s					
NVS			pmax	pmax		
	comp=E,12nm,2.0s					
MA2	**Magadan**	**65.00 16⇑**	*e*P	**P**	**23 38 57.1**	**+0.4**
SEY	**Seymchan**	**68.24 15⇑**	*e*P	**P**	**23 39 17.8**	**+0.4**
BVAR	**Borovoye Array**	**68.38 330**	P	**P**	**23 39 16.9**	**-1.4**
	comp=E,1.1nm,0.5s,mb4.1,baz=125,slow=9.6,SNR=14					
BVAR			pP	pP	23 39 32.5	+5.7
	comp=E,3.9nm,0.9s,baz=135,slow=8.4,SNR=8.8					
BRVK	**Borovoye**	**68.45 330**	P	**P**	**23 39 17.3**	**-1.4**
BRVK			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6					
BRVK	**Borovoye**	**68.45 330**	P	**P**	**23 39 17.3**	**-1.4**
	comp=Z,6.0nm,1.0s,mb4.6					
ZRNK	**Zerenda**	**69.04 329**	*e*P	**P**	**23 39 20.7**	**-1.7**
ZRNK			pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7					
ZRNK	**Zerenda**	**69.04 329**	*e*P	**P**	**23 39 20.7**	**-1.7**
	comp=Z,12nm,1.1s,mb4.7					
TIXI	**Tiksi**	**72.93 3⇑**	*e*P	**P**	**23 39 43.6**	**-2.4**
AKTK	**Aktyubinsk**	**73.94 324**	P	**P**	**23 39 50.3**	**-1.7**
AKTO	**Aktyubinsk**	**73.94 324**	P	**P**	**23 39 50.3**	**-1.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=63,slow=4.3,SNR=10					
BILL	**Biiibino**	**75.87 16**	*e*P	**P**	**23 40 02.1**	**-1.0**
BILL			pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3					
VNDA	**Vanda**	**79.37 172**	P	**P**	**23 40 21.9**	**-0.7**
	comp=Z,1.3nm,0.9s,mb3.9,baz=312,slow=9.0,SNR=5.8					
VNDA	**Vanda**	**79.37 172**	P	**P**	**23 40 21.9**	**-0.7**
GAMB	**Gambell**	**81.32 25**	P	**P**	**23 40 32.5**	**-0.6**
TNA	**Tin City**	**83.44 23**	P	**P**	**23 40 43.5**	**-0.7**
KMBO	**Kilima Mbogo**	**83.49 269**	LR	LR	00 11 25.2	
	comp=Z,133nm,21.7s,MS4.3,baz=94,slow=31					
BRTR	**Keskin Array B**	**88.55 310**	P	**P**	**23 41 07.4**	**-2.0**
	comp=Z,0.9nm,0.8s,mb4.1,baz=113,slow=5.1,SNR=7.0					
BRTR			pP	pP	23 41 23.4	+5.2
	comp=Z,1.2nm,0.8s,baz=127,slow=6.2,SNR=5.9					
BRTR	**Keskin Array B**	**88.55 310⇑**	*e*P	**P**	**23 41 07.4**	**-2.0**
ILAR	**Eielson Array**	**92.09 25**	P	**P**	**23 41 22.6**	**-3.3**
	comp=Z,0.2nm,0.5s,mb3.7,baz=262,slow=4.5,SNR=4.9					
ILAR			pP	pP	23 41 41.0	+6.3
	comp=Z,0.3nm,0.5s,baz=266,slow=3.8,SNR=3.0					
BOSA	**Boshof**	**94.26 241**	LR	LR	00 18 09.3	
	comp=Z,157nm,19.9s,MS4.5,baz=153,slow=32					
BDFB	**Brasilia**	**159.91 213**	PKP	PKPdf	23 48 16.1	+0.4
	comp=Z,1.7nm,0.8s,baz=170,slow=6.1,SNR=3.2					
BDFB			PKPab	PKPab	23 48 54.9	-0.1
	comp=Z,0.6nm,0.4s,baz=218,slow=6.7,SNR=3.3					
LPAZ	**La Paz**	**160.52 154**	PKP	PKPdf	23 48 17.5	+1.1
	comp=Z,1.4nm,1.0s,baz=352,slow=2.6,SNR=4.6					
LPAZ			PKPab	PKPab	23 49 00.1	+2.3
	comp=Z,2.5nm,0.8s,baz=202,slow=5.3,SNR=10					

MAN 03 23:50:00.6, 1098N×12433E, h25km, mb2.7, ML4.2, MS1.6, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.98**	**148**	*e*P		Pn	23 50 18.7	-0.2
BESP	**Borongan**	**1.25**	**60**	*e*P		Pn	23 50 22.3	-0.2
BESP				*e*S		Sn	23 50 31.1	-7.4
CNP	**Catarman**	**1.56**	**12**	*e*P		Pn	23 50 26.6	-0.1
CNP				*e*S		Sn	23 50 39.6	-6.5
PVCP	**Virac**	**2.61**	**356**	*e*P		Pn	23 50 42.2	+1.0
PVCP				*e*S		Sn	23 51 02.7	-9.4

IDC 03 23:56:41.6±5.6, 408S×13205E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=384.2km s-min=29.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.93**	**172**	Pn		Pn	00 00 27.1	+0.1
	0.0nm,0.3s,baz=353,slow=13,SNR=4.4							
ASAR	**Alice Springs**	**19.56**	**175**	P		Pn	00 01 11.2	-0.9
	0.1nm,0.3s,baz=349,slow=10,SNR=8.4							
MKAR	**Makanchi Array**	**66.95**	**325**	P		P	00 07 36.1	+0.2
	0.2nm,0.7s,baz=117,slow=8.7,SNR=2.4							

*IDC **04** 00:01:54.7±1.3, 1764N×14741E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.5/5, Error ellipse: s-maj=50.8km s-min=22.6km az=93.0*
*ISCJB **04** 00:01:57.7±1.2, 177N±0.1×1474E±03, h33km, mb3.7/6, Error ellipse: s-maj=47.9km s-min=17.2km az=4.1*
*NEIC **04** 00:01:60.0±0.9, 1763N×14739E, h35km, mb4.3/1, Error ellipse: s-maj=35.9km s-min=13.8km az=92.0*
ISC 04 00:01:60.0±1.2, 176N±01×1474E±03, h35km, n7, σ0§21/7, mb3.7/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**39.48**	**200**	*e*P		**P**	**00 09 27.2**	**+0.2**
	5.1nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**39.49**	**200**	*e*P		**P**	**00 09 26.7**	**-0.4**
WRA	**Warramunga Arr**	**39.50**	**200**	P		**P**	**00 09 27.0**	**-0.1**
	1.9nm,0.6s,mb4.0,baz=23,slow=9.3,SNR=23							
ASAR	**Alice Springs**	**43.13**	**198**	P		**P**	**00 09 57.2**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=19,slow=9.7,SNR=5.8							
SONM	**Songino Array**	**45.00**	**321**	P		**P**	**00 10 12.0**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=126,slow=6.8,SNR=5.0							
MKAR	**Makanchi Array**	**60.38**	**314**	P		**P**	**00 12 05.5**	**-0.1**
	0.2nm,0.5s,mb3.4,baz=89,slow=7.5,SNR=6.6							
ILAR	**Eielson Array**	**63.87**	**26**	P		**P**	**00 12 29.0**	**0.0**
	0.8nm,1.1s,mb3.6,baz=248,slow=6.6,SNR=4.9							

*NEIC **04** 00:24:25.4, 3240S×7173W, h15km, ML3.0(GUC), After GUC.*
GUC 04 00:24:25.4±0.7, 3240S×7173W, h15km±4km, MD3.7, ML3.0, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.62**	**173**	*i*P		Pg	00 24 37.1	-0.5
IHA				*i* S		Sg	00 24 45.7	-0.3
ROCH	**El Roble**	**0.83**	**133**	*i*P		Pb	00 24 40.6	-0.9
ROCH				*i* S		Sg	00 24 52.0	-0.4
JACH	**Jahuel**	**1.00**	**106**	*e*P		Pb	00 24 43.1	-1.3
JACH				*i* S		Sb	00 24 57.0	-0.3
LCCH	**Las Cruces**	**1.08**	**173**	*i*P		Pb	00 24 44.2	-1.5
LCCH				*i* S		Sb	00 24 58.3	-1.3
PEL	**Peldehue**	**1.15**	**130**	*i*P		Pn	00 24 45.6	-1.3
PEL				*i* S		Sb	00 25 01.2	-0.4
PEL				AMP			00 25 01.8	
	comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.15**	**130**	*i*P		Pn	00 24 45.6	-1.3
PEL				*i* S		Sb	00 25 01.2	-0.4
RCDM	**Rinconada Maip**	**1.33**	**145**	*i*P		Pn	00 24 48.3	-1.1
RCDM				*i* S		Sn	00 25 05.6	-1.3
RCDM				AMP			00 25 07.3	
	comp=E,608nm,0.2s							
RCDM	**Rinconada Maip**	**1.33**	**145**	*i*P		Pn	00 24 48.3	-1.1
RCDM				*i* S		Sn	00 25 05.6	-1.3
CMCH	**Combarbala**	**1.37**	**27**	*i*P		Pn	00 24 49.0	-1.0
CMCH				*i* S		Sn	00 25 07.2	-0.7
CMCH				AMP			00 25 12.0	
	comp=N,831nm,0.6s							
CMCH	**Combarbala**	**1.37**	**27**	*i*P		Pn	00 24 49.0	-1.0
CMCH				*i* S		Sn	00 25 07.2	-0.7
TACH	**Talagante**	**1.41**	**152**	*i*P		Pn	00 24 49.9	-0.7
TACH				*i* S		Sn	00 25 07.6	-1.3
ANTU	**Antumapu**	**1.48**	**142**	*i* P		Pn	00 24 50.5	-1.1
ANTU				*i* S		Sn	00 25 10.1	-0.5
ANTU				AMP			00 25 16.7	
	comp=E,220nm,0.5s							
ANTU	**Antumapu**	**1.48**	**142**	*i* P		Pn	00 24 50.5	-1.1
ANTU				*i* S		Sn	00 25 10.1	-0.5
FCH	**Farellones**	**1.52**	**128**	*i*P		Pn	00 24 51.2	-0.8
FCH				*i* S		Sn	00 25 11.1	-0.4
FCH				AMP			00 25 14.1	
	comp=E,183nm,0.3s							
LNV	**Longovilo**	**1.57**	**170**	*i*P		Pn	00 24 52.4	-0.3
PCH	**Pirque**	**1.58**	**140**	*i*P		Pn	00 24 52.8	-0.1
PCH				*i* S		Sn	00 25 13.7	+0.5
CHCH	**Chadas Angostu**	**1.77**	**150**	*i*P		Pn	00 24 55.5	0.0
CHCH				*i* S		Sn	00 25 18.2	+0.4
CACH	**El Canelo**	**1.95**	**151**	*i*P		Pn	00 24 59.0	+1.0
CACH				*i* S		Sn	00 25 25.3	+3.1
SFDO	**San Fernando**	**2.29**	**165**	*e*P		Pn	00 25 03.8	+1.2

IDC 04 00:37:58.3±4.2, 511S×13397E, h0km, mb3.1/2, mb1 3.2/4, mb1mx3.2/11, mbtmp3.1/4, Error ellipse: s-maj=264.2km s-min=29.4km az=80.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.74**	**179**	Pn		Pn	00 41 28.3	+0.3
	0.1nm,0.3s,baz=357,slow=13,SNR=7.0							
WRA				Sn		Sn	00 44 04.4	-7.7
	0.1nm,0.3s,baz=0.8,slow=22,SNR=4.7							
ASAR	**Alice Springs**	**18.45**	**180**	P		Pn	00 42 15.3	0.0
	baz=4.8,slow=11,SNR=3.5							
SONM	**Songino Array**	**58.03**	**338**	P		P	00 47 53.0	+0.1
	0.1nm,0.7s,baz=135,slow=8.2,SNR=2.8							
MKAR	**Makanchi Array**	**68.90**	**325**	P		P	00 49 05.1	+0.3
	0.4nm,0.9s,baz=119,slow=7.4,SNR=4.7							

*IDC **04** 01:02:47.4±2.5, 332N×9642E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.4/5, Error ellipse: s-maj=79.6km s-min=22.2km az=55.0*
*ISCJB **04** 01:02:52.8±0.9, 372N±009×9681E±008, h33km, mb3.7/7, Error ellipse: s-maj=14.2km s-min=9.4km az=64.1*
*NEIC **04** 01:02:56.4±1.3, 394N×9734E, h35km, mb4.3/3, Error ellipse: s-maj=33.3km s-min=15.8km az=61.0*
ISC 04 01:02:55.0±0.9, 368N±009×9682E±008, h35km, n10, σ1§13/13, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.28**	**113**	Pn		**Pn**	**01 03 29.7**	**-0.4**
	16nm,0.3s,baz=318,slow=15,SNR=78							
PSI				Sn		**Sn**	**01 03 57.4**	**+0.5**
	7.4nm,0.3s,baz=170,slow=12,SNR=18							
PSI	**Prapat**	**2.28**	**113**	Pn		**Pn**	**01 03 29.7**	**-0.4**
PSI				Sn		**Sn**	**01 03 57.4**	**+0.5**
KULM	**Kulim**	**4.14**	**67**	*e*Pn		**Pn**	**01 03 48.0**	**-7.6**
KULM				*e*Sn		**Sn**	**01 04 42.8**	**-0.1**
LSA	**Lhasa**	**26.43**	**349**	P		**P**	**01 08 29.4**	**+1.0**
	4.8nm,0.2s,mb4.7							
NWAO	**Narrogin (SRO)**	**41.23**	**154**	P		**P**	**01 10 37.8**	**+1.4**
	5.2nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**43.70**	**124**	P		**P**	**01 10 54.9**	**-1.6**
	0.6nm,0.5s,mb3.6,baz=302,slow=9.2,SNR=8.1							
SONM	**Songino Array**	**44.75**	**9**	P		**P**	**01 11 07.1**	**+2.2**
	0.3nm,0.6s,mb3.3,baz=200,slow=8.3,SNR=3.4							
MKAR	**Makanchi Array**	**44.76**	**346**	P		**P**	**01 11 03.6**	**-1.4**
	0.1nm,0.4s,mb3.0,baz=149,slow=8.7,SNR=2.7							
ULN	**Ulaanbaatar**	**44.89**	**10**	P		**P**	**01 11 05.0**	**-1.0**
	0.5nm,0.3s,mb3.8							
ASAR	**Alice Springs**	**45.21**	**129**	P		**P**	**01 11 08.2**	**-0.4**
	0.3nm,0.5s,mb3.4,baz=300,slow=7.5,SNR=5.1							

*IDC **04** 01:11:34.3±1.4, 5367N×16331W, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.6/24, mbtmp3.5/9, ML3.2/1, Error ellipse: s-maj=29.8km s-min=20.5km az=10.0*
*ISCJB **04** 01:11:40.8±1.2, 540N±0.1×1630W±0.1, h58km±13km, mb3.5/6, Error ellipse: s-maj=24.0km s-min=8.7km az=148.1*
*NEIC **04** 01:11:40.6, 5367N×16282W, h49km, mb3.8/1, ML3.3(AEIC), After AEIC.*
ISC 04 01:11:42.2±1.1, 540N±01×1630W±01, h52km±12km, n16, σ0§99/19, mb3.5/6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.97**	**47**	P		**Pn**	**01 12 13.7**	**+0.5**
UNV	**Unalaska Valle**	**2.08**	**266**	*e*Pn		**Pn**	**01 12 13.9**	**-0.7**
UNV				S		**Sn**	**01 12 39.7**	**+0.4**
KDAK	**Kodiak Island**	**6.95**	**53**	Pn		**Pn**	**01 13 21.2**	**-0.2**
	0.4nm,0.3s,baz=140,slow=2.6,SNR=6.3							
KDAK				Sn		**Sn**	**01 14 35.5**	**-3.7**
	0.2nm,0.3s,baz=125,slow=17,SNR=2.6							
KDAK	**Kodiak Island**	**6.95**	**53**	Pn		**Pn**	**01 13 21.2**	**-0.2**
KDAK				Sn		**Sn**	**01 14 35.5**	**-3.7**
ADK	**Adak**	**8.54**	**261**	P		**Pn**	**01 13 43.1**	**-0.1**
	14nm,0.6s							
ILAR	**Eielson Array**	**13.48**	**31**	Pn		**Pn**	**01 14 51.6**	**+0.9**
	baz=223,slow=12,SNR=2.3							
INK	**Inuvik**	**19.86**	**33**	P		**Pn**	**01 16 09.6**	**-1.2**
	0.9nm,0.8s,baz=207,slow=6.0,SNR=6.4							
BILL	**Bilibino**	**20.13**	**326**	P		**P**	**01 16 12.5**	**+0.7**
	1.9nm,0.4s							
YKA	**Yellowknife Ar**	**26.23**	**52**	P		**P**	**01 17 11.9**	**-0.2**
	0.4nm,0.6s,mb3.1,baz=268,slow=8.6,SNR=12							
YKA	**Yellowknife Ar**	**26.23**	**52**	P		**P**	**01 17 11.9**	**-0.2**
NVAR	**Mina Array Bea**	**33.99**	**99**	P		**P**	**01 18 20.4**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=300,slow=8.9,SNR=8.3							
PDAR	**Pinedale Array**	**36.38**	**86**	P		**P**	**01 18 43.9**	**+2.5**
	0.3nm,0.9s,mb3.2,baz=346,slow=3.7,SNR=2.6							
TXAR	**Lajitas Array**	**48.98**	**95**	P		**P**	**01 20 23.1**	**-0.4**
	1.1nm,0.5s,mb4.2,baz=297,slow=5.3,SNR=23							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**53.67**	**303**	P		**P**	**01 20 57.0**	**-1.5**
	0.3nm,0.8s,mb3.2,baz=56,slow=5.2,SNR=3.1							
MKAR	**Makanchi Array**	**65.34**	**317**	P		**P**	**01 22 19.9**	**+1.0**
	0.2nm,0.6s,mb3.3,baz=59,slow=7.1,SNR=3.8							
MKAR	**Makanchi Array**	**65.34**	**317**	P		**P**	**01 22 19.9**	**+1.0**

*ISCJB **04** 01:12:36.9±2.1, 244S±08×1797W±04, h350km, mb3.6/6, Error ellipse: s-maj=113.9km s-min=19.8km az=139.3*
*NEIC **04** 01:12:37.8±2.0, 2452S×17964W, h350km, mb4.0/1, Error ellipse: s-maj=115.0km s-min=20.2km az=161.0*
*IDC **04** 01:12:43.2±12.0, 2399S×17992W, h390km±126km, mb3.5/5, mb1 3.8/5, mb1mx3.4/14, mbtmp4.2/5, Error ellipse: s-maj=117.5km s-min=46.5km az=158.0*
ISC 04 01:12:38.5±2.1, 242S±08×1797W±04, h350km, n11, σ0§69/9, mb3.6/6, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.72**	**271**	P		**P**	**01 18 32.5**	**+1.6**
	6.9nm,0.5s,mb4.2,baz=91,slow=11,SNR=16							
CTA	**Charters Tower**	**31.72**	**271**	P		**P**	**01 18 32.5**	**+1.6**
ASAR	**Alice Springs**	**42.22**	**261**	P		**P**	**01 19 58.7**	**+0.3**
	1.7nm,0.5s,mb3.4,baz=97,slow=7.0,SNR=22							
ASPA	**Alice Springs**	**42.23**	**261**	*e*P		**P**	**01 19 58.3**	**-0.1**
WB2	**Warramunga Arr**	**42.62**	**266**	*i*P		**P**	**01 20 00.9**	**-0.6**
WRAB	**Tennant Creek**	**42.62**	**266**	*e*P		**P**	**01 20 00.9**	**-0.7**
	4.8nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**42.63**	**266**	P		**P**	**01 20 01.1**	**-0.5**
	2.8nm,0.3s,mb3.8,baz=96,slow=8.4,SNR=139							
TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	**01 25 01.1**	**+0.3**
	0.1nm,0.6s,mb2.9,baz=236,slow=3.3,SNR=3.6							
ILAR	**Eielson Array**	**92.30**	**13**	P		**P**	**01 25 09.2**	**-0.3**
	0.7nm,1.1s,mb3.5,baz=216,slow=7.8,SNR=4.7							
HFS	**Hagfors**	**142.92**	**349**	PKhKP			01 31 22.6	
	0.7nm,0.3s,baz=63,slow=3.3,SNR=7.3							
BRTR	**Keskin Array B**	**147.98**	**307**	PKPbc		PKPbc	01 31 42.6	-0.3
	0.4nm,0.6s,baz=91,slow=4.7,SNR=4.7							

*ISCJB **04** 01:20:03.0±0.7, 5142N±003×1609E±003, h0km, Error ellipse: s-maj=4.7km s-min=2.9km az=27.0*
*IPEC **04** 01:20:03.4±0.2, 5151N×1618E, h0km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=1.0km az=35.0*
*CSEM **04** 01:20:04.5±0.2, 5145N×1615E, h0km, ML2.8/5, Error ellipse: s-maj=3.9km s-min=2.1km az=30.0*
*PRU **04** 01:20:05.0, 5142N×1615E, h0km*
*VIE **04** 01:20:06.0±0.4, 5128N×1608E, h0km, mb1.9/2, ML2.5/3, Error ellipse: s-maj=3.0km s-min=2.7km az=57.0 68 km WNW of Breslau Suspected Mining induced.*
ISC 04 01:20:03.9±0.6, 5146N±003×1611E±004, h0km, n26, σ0§93/47, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg		**Pg**	**01 20 16.5**	**+0.6**
KSP				*e*Sg		**Sg**	**01 20 24.9**	**+0.8**
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg		**Pg**	**01 20 16.3**	**+0.4**
KSP				*e*Sg		**Sg**	**01 20 24.2**	**+0.1**
UPC	**Upice**	**0.96**	**184**	*e*PG		**Pg**	**01 20 22.4**	**+0.2**
UPC	**Upice**	**0.96**	**184**	*e*Pg		**Pg**	**01 20 23.1**	**+0.9**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG		**Pg**	**01 20 25.3**	**0.0**
DPC				*e*SG		**Sg**	**01 20 39.7**	**-0.1**
	18nm,0.5s							
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*Pg		**Pg**	**01 20 25.2**	**-0.1**
DPC				*e*Sg		**Sg**	**01 20 39.9**	**+0.1**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG		**Pg**	**01 20 30.1**	**+0.4**
PVCC				*e*SG		**Sg**	**01 20 47.9**	**+0.7**
	30nm,0.2s							
PVCC	**Panska Ves**	**1.35**	**227**	*e*Pg		**Pg**	**01 20 30.1**	**+0.4**
PVCC				*e*Sg		**Sg**	**01 20 47.8**	**+0.6**
BRG	**Berggiesshubel**	**1.48**	**248**	*e*Pn		**Pn**	**01 20 32.1**	**+0.3**
BRG				*e*Sg		**Sg**	**01 20 51.8**	**+0.2**
PRU	**Pruhonice**	**1.78**	**215**	*e*PN		**Pn**	**01 20 35.3**	**-0.5**
PRU				*e*PG		**Pg**	**01 20 37.2**	**-0.8**
PRU				*e*SG		**Sg**	**01 21 01.0**	**0.0**
	9.5nm,0.4s							
PRU	**Pruhonice**	**1.78**	**215**	*e*Pn		**Pn**	**01 20 35.8**	**0.0**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn		**Pn**	**01 20 37.4**	**-0.3**
MORC				*e*Sg		**Sg**	**01 21 03.8**	**-1.6**
	13nm,0.4s							
CLL	**Collm**	**1.95**	**267**	*e*Pg		**Pg**	**01 20 41.0**	**-0.3**
CLL				*ex*		x	01 20 45.0	
CLL				*e*Sg		**Sg**	**01 21 08.0**	**+1.4**
	comp=Z,10.0nm,0.4s							
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG		**Pg**	**01 20 42.1**	**-1.6**
VRAC	**Vranov**	**2.18**	**172**	*e*Pn		**Pn**	**01 20 41.7**	**+0.4**
VRAC				*e*Sg		**Sg**	**01 21 12.9**	**-0.9**
	comp=Z,9.3nm,0.4s							
TREC	**Trest**	**2.20**	**191**	*e*PG		**Pg**	**01 20 45.3**	**-0.8**
TREC	**Trest**	**2.20**	**191**	*e*Pn		**Pn**	**01 20 42.8**	**+1.1**
TREC				*e*Sg		**Sg**	**01 21 14.2**	**-0.5**
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn		**Pn**	**01 20 45.4**	**+0.9**
KRUC				*e*Sg		**Sg**	**01 21 20.7**	**-0.5**
	comp=Z,5.3nm,0.5s							
NKC	**Novy Kostel**	**2.63**	**244**	*e*SG		**Sg**	**01 21 28.8**	**+0.6**
	comp=Z,9.3nm,0

KNDC			⇓S	Sn	01 34 34.7	+5.4
EKS2	**Erkin-Say**	**2.01 310**	⇓P	Pn	01 34 06.0	+1.5
	2.5nm,0.2s,SNR=13					
EKS2			⇓S	Sn	01 34 33.2	+3.6
	14nm,0.5s					
USP	**Ospenovka**	**2.13 332**	P	Pn	01 34 07.8	+1.7
	9.1nm,0.2s,SNR=14					
USP			⇑S	Sn	01 34 36.7	+4.1
	18nm,0.2s					
KK31	**Karatay Array**	**4.33 295**	⇑Pn	Pn	01 34 46.5	+10
	0.3nm,0.5s,baz=110,slow=15,SNR=5.5					
KK31			⇑Sn	Sn	01 35 41.7	+15
	0.5nm,0.3s,baz=102,slow=29,SNR=7.2					

NAO ***04*** *01:47:50.2, 3370N×5468E, h33km, mb4.7*
MOS ***04*** *01:49:01.7±1.5, 4107N×4891E, h19km, mb4.7/29, MS3.9/21, Error ellipse: s-maj=5.4km s-min=3.3km az=44.8*
ISCJB ***04*** *01:49:04.3±0.2, 4115N±002×4890E±002, h33km, mb4.4/67, MS4.1/22, Error ellipse: s-maj=3.1km s-min=2.1km az=9.0*
CSEM ***04*** *01:49:04.2±0.1, 4115N×4889E, h41km, mb4.5/22, Ms3.7, Error ellipse: s-maj=2.0km s-min=1.7km az=14.0*
IDC ***04*** *01:49:05.6±2.1, 4102N×4874E, h35km±17km, mb3.9/21, mb1 4.1/27, mb1mx4.1/29, mbtmp4.2/27, ML4.5/4, MS4.1/18, Ms1 4.1/18, ms1mx3.9/30, Error ellipse: s-maj=13.9km s-min=8.3km az=141.0*
BJI ***04*** *01:49:06.8, 4120N×4880E, h41km, mB5.1, mb4.8, Ms4.7, Msz4.4*
NEIC ***04*** *01:49:06.8±0.3, 4120N×4880E, mb4.5/34, MS3.8/3, Error ellipse: s-maj=6.9km s-min=3.7km az=179.0*
NNC ***04*** *01:49:10.3±3.6, 4162N×4968E, h0km, mb4.8, Error ellipse: s-maj=65.2km s-min=26.0km az=121.0*
SZGRF ***04*** *01:49:17.0, 4140N×4884E, h33km, mb3.7, Eastern Caucasus*

ISC 04 01:49:06.3±0.2, 4117N±002×4889E±002, h35km, h35km±3.3km:pP-P, n382, σ1§42/441, mb4.4/67, MS4.1/22, 18C-16D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.72**	**308**	*e*Pg	**Pn**	**01 49 19.0**	**-1.0**
KSMR				*i* Sg	**Sn**	**01 49 30.0**	**+0.2**
AKT	**Akhty**	**0.93**	**290**	*i* Pg	**Pn**	**01 49 21.0**	**-1.8**
AKT				*i* Sg	**Sn**	**01 49 33.0**	**-1.9**
DRN	**Derbent**	**0.96**	**334**	*i* Pg	**Pn**	**01 49 26.0**	**+2.7**
	2μm,0.3s						
DRN				*e*Sg	**Sn**	**01 49 42.0**	**+6.3**
DRN	**Derbent**	**0.96**	**334**	*i* PG	**Pn**	**01 49 26.0**	**+2.7**
DRN				*e*S	**Sn**	**01 49 42.0**	**+6.3**
DRN				pmax	pmax		
	comp=Z,2μm,0.3s						
KMKR	**Kumukh**	**1.65**	**306**	*i* Pn	**Pn**	**01 49 35.0**	**+2.2**
KMKR				*e*Sg	**Sn**	**01 49 58.7**	**+5.9**
GNBR	**Gunib**	**1.89**	**311**	*e*Pn	**Pn**	**01 49 40.4**	**+4.4**
MAK	**Makhachkala**	**2.07**	**331**	*e*Pn	**Pn**	**01 49 43.1**	**+4.6**
	comp=Z,3μm,0.9s						
MAK				*i* Sg	**Sn**	**01 50 14.6**	**+12**
MAK	**Makhachkala**	**2.07**	**331**	*e*PN	**Pn**	**01 49 43.1**	**+4.6**
MAK				*i* S	**Sn**	**01 50 14.6**	**+12**
MAK				pmax	pmax		
	comp=Z,3μm,0.9s						
XNZR	**Khunzakh**	**2.14**	**311**	*e*Pn	**Pn**	**01 49 41.0**	**+1.6**
KRNR	**Karanay**	**2.22**	**319**	*e*Pn	**Pn**	**01 49 42.0**	**+1.4**
DBC	**Dubki**	**2.41**	**321**	*e*Pn	**Pn**	**01 49 44.2**	**+1.1**
DGRG	**David-gareji**	**2.67**	**277**	P	**Pn**	**01 49 51.9**	**+5.2**
DGRG				S	**Sn**	**01 50 31.7**	**+14**
DGRG	**David-gareji**	**2.67**	**277**	Pn	**Pn**	**01 49 48.2**	**+1.5**
MTA	**Mtatsminda**	**3.13**	**281**	P	**Pn**	**01 49 53.3**	**+0.3**
MTA				S	**Sn**	**01 50 42.8**	**+14**
MTA	**Mtatsminda**	**3.13**	**281**	P	**Pn**	**01 50 01.4**	**+8.3**
MTA				S	**Sn**	**01 50 40.2**	**+11**
TBLG	**Delisi**	**3.17**	**282**	P	**Pn**	**01 49 54.4**	**+0.7**
TBLG				S	**Sn**	**01 50 44.5**	**+14**
TBLG	**Delisi**	**3.17**	**282**	P	**Pn**	**01 50 01.2**	**+7.5**
TBLG	**Delisi**	**3.17**	**282**	*e*PN	**Pn**	**01 49 54.4**	**+0.7**
TBLG				*e*S	**Sn**	**01 50 44.5**	**+14**
DUS	**Dusheti**	**3.27**	**288**	P	**Pn**	**01 49 57.4**	**+2.3**
DUS	**Dusheti**	**3.27**	**288**	P	**Pn**	**01 50 03.4**	**+8.3**
GNI	**Garni**	**3.31**	**254**	Pn	**Pn**	**01 49 56.4**	**+0.7**
	comp=Z,32nm,0.3s,baz=335,slow=1.0,SNR=155						
GNI				Sn	**Sn**	**01 50 35.0**	**+1.2**
	comp=Z,42nm,0.3s,baz=231,slow=12,SNR=4.1						
GNI				LR	LR	01 51 28.9	
	comp=Z,3μm,18.4s,baz=40,slow=45						
GNI	**Garni**	**3.31**	**254**	PN	**Pn**	**01 49 56.4**	**+0.8**
GNI						01 50 35.0	
GNI				pmax	pmax		
	comp=Z,32nm,0.3s						
GNI				MLR	MLR		
	comp=Z,3μm,18.4s						
KZR	**Kazreti**	**3.38**	**275**	P	**Pn**	**01 50 04.5**	**+7.9**
KZR				S	**Sn**	**01 50 48.2**	**+13**
GOR	**Gori**	**3.68**	**284**	P	Px	01 50 21.4	
GOR				S	Sx	01 51 02.0	
ZEI	**Tsey**	**4.05**	**295**	*i* Pn	**Pn**	**01 50 07.1**	**+1.3**
	comp=Z,133nm,0.3s						
ZEI				*e*Sn	**Sn**	**01 50 51.2**	**-0.8**
	comp=Z,371nm,0.4s						
ZEI	**Tsey**	**4.05**	**295**	*i* PN	**Pn**	**01 50 07.1**	**+1.3**
ZEI				*e*		01 50 51.2	
ZEI				pmax	pmax		
	comp=Z,133nm,0.3s						
ZEI				smax			
	comp=N,371nm,0.4s						
AKH	**Akhalkalaki**	**4.08**	**275**	P	**Pn**	**01 50 18.2**	**+12**
AKH				S	**Sn**	**01 50 55.8**	**+3.3**
ONI	**Oni**	**4.30**	**291**	P	**Pn**	**01 50 20.1**	**+11**
ONI				S	Sn	01 51 21.7	+24
CLDR	**Caldiran**	**4.31**	**244**	P	**Pn**	**01 50 09.4**	**0.0**
KUBR	**Kubataba**	**4.83**	**305**	*i* PN	**Pn**	**01 50 16.6**	**+0.1**
KUBR				*i*		01 50 34.0	
KUBR				*i* S	**Sn**	**01 51 13.9**	**+2.7**
VANB	**Van**	**4.95**	**241**	*e*P	**Pn**	**01 50 18.8**	**+0.7**
TVAN	**Van**	**4.97**	**240**	*i* P	**Pn**	**01 50 19.3**	**+0.8**
ARTV	**Artvin**	**5.25**	**273**	*i* P	**Pn**	**01 50 26.2**	**+4.0**
HKR	**Hakkari**	**5.36**	**230**	*e*P	**Pn**	**01 50 25.4**	**+1.6**
KIV	**Kislovodsk**	**5.36**	**303**	*i* P	**Pn**	**01 50 24.3**	**+0.5**
	comp=N,9.0nm,1.1s						
KIV	**Kislovodsk**	**5.36**	**303**	*e*Pn	**Pn**	**01 50 24.7**	**+0.9**
	comp=N,247nm,0.7s						
KIV				*e*S	**Sn**	**01 51 31.1**	**+6.8**
	comp=N,1μm,16.0s						
KIV	**Kislovodsk**	**5.36**	**303**	*e*PcP	PcP	01 57 17.0	-17
KIV	**Kislovodsk**	**5.36**	**303**	*c* i P	**Pn**	**01 50 24.3**	**+0.5**
KIV				*e*S	**Sn**	**01 51 31.1**	**+6.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s						
KIV	**Kislovodsk**	**5.36**	**303**	*e*Pn	**Pn**	**01 50 24.7**	**+0.9**
	comp=Z,247nm,0.7s						
KIV				*e*PcP	PcP	01 57 17.0	-17
NAGR	**Nagutskaya**	**5.58**	**308**	*e*P	**Pn**	**01 50 26.6**	**-0.1**
GOF	**Gofitskoye**	**5.79**	**314**	*e*P	**Pn**	**01 50 30.9**	**+1.3**
GOF				*i* S	**Sn**	**01 51 36.8**	**+2.0**
	comp=Z,892nm,1.2s						
GOF	**Gofitskoye**	**5.79**	**314**	*e*P	**Pn**	**01 50 30.9**	**+1.3**
GOF				*i* S	**Sn**	**01 51 36.8**	**+2.0**
GOF				smax			
	comp=N,892nm,1.2s						
EZM	**Erzurum**	**5.87**	**260**	*e*P	**Pn**	**01 50 30.4**	**-0.4**
BTMT	**Batman**	**6.43**	**245**	*e*P	**Pn**	**01 50 41.1**	**+2.6**
MSL	**Mosul**	**6.65**	**225**	*ex*	x	01 50 42.0	
MSL				*ex*	x	01 52 30.0	
BEST	**Besiri**	**6.74**	**243**	*i* P	**Pn**	**01 50 45.7**	**+3.0**
GUMT	**Gumushane**	**7.17**	**267**	*e*P	**Pn**	**01 50 49.8**	**+1.1**
SOC	**Sochi**	**7.21**	**293**	*e*P	Px	01 51 04.6	
SOC				pmax	pmax		
	comp=Z,32nm,0.7s						
SOC				MLR	MLR		
	comp=Z,1μm,11.0s						
MARD	**Mardin**	**7.38**	**241**	*i* P	**Pn**	**01 50 51.5**	**+0.1**
KELT	**Kelkit**	**7.40**	**265**	*i* P	**Pn**	**01 50 53.6**	**+1.9**
DIY	**Diyarbakir**	**7.45**	**247**	*e*P	**Pn**	**01 50 52.4**	**0.0**
PTK	**Pertek**	**7.63**	**256**	*e*P	**Pn**	**01 50 54.7**	**-0.3**
VAN	**Vannovskaya**	**7.81**	**111**	*e*P	**Pn**	**01 50 56.3**	**-1.1**
MALT	**Malatya**	**8.55**	**254**	*e*P	**Pn**	**01 51 07.0**	**-0.5**
MALT	**Malatya**	**8.55**	**254**	*e*Pn	**Pn**	**01 51 08.8**	**+1.3**
	comp=Z,16nm,0.9s						
MALT	**Malatya**	**8.55**	**254**	P	**Pn**	**01 51 10.5**	**+3.0**
MALT	**Malatya**	**8.55**	**254**	⇓P	**Pn**	**01 51 10.5**	**+3.0**
MALT	**Malatya**	**8.55**	**254**	*e*Pn	**Pn**	**01 51 08.8**	**+1.3**
	comp=Z,16nm,0.9s						
URFA	**Urfa**	**8.65**	**248**	*e*P	**Pn**	**01 51 08.2**	**-0.6**
SVSK	**Karacayir**	**9.14**	**266**	*e*P	**Pn**	**01 51 16.4**	**+0.8**
ANN	**Anapa**	**9.15**	**297**	*e*P	**Pn**	**01 51 16.7**	**+1.0**
	comp=Z,15nm,1.4s						
ANN				*e*S	**Sn**	**01 53 01.1**	**+3.7**
	comp=Z,2μm,21.0s						
ANN	**Anapa**	**9.15**	**297**	*e*P	**Pn**	**01 51 16.7**	**+1.0**
ANN				*e*S	**Sn**	**01 53 01.1**	**+3.7**
ANN				pmax	pmax		
	comp=Z,15nm,1.4s						
ANN				MLR	MLR		
	comp=Z,2μm,21.0s						
GZT	**Gaziantep**	**9.57**	**250**	*i* P	**Pn**	**01 51 17.0**	**-4.5**
VRHR	**Novokhopersk**	**11.13**	**336**	*e*P	**Pn**	**01 51 45.0**	**+2.1**
	comp=Z,20nm,0.4s						
VRHR				*e*S	**Sn**	**01 53 48.6**	**+2.5**
	comp=Z,170nm,1.1s						
VRHR	**Novokhopersk**	**11.13**	**336**	*e*P	**Pn**	**01 51 45.0**	**+2.1**
VRHR				*e*S	**Sn**	**01 53 48.6**	**+2.5**
VRHR				pmax	pmax		
	comp=Z,20nm,0.4s						
VRHR				pmax	pmax		
	comp=N,20nm,0.5s						
VRHR				pmax	pmax		
	comp=E,20nm,0.5s						
VRHR				smax			
	comp=N,330nm,0.8s						
VRHR				smax			
	comp=E,410nm,0.8s						
VRHR				smax			
	comp=Z,170nm,1.1s						
AB31	**Akbulak array**	**11.22**	**40**	P	**Pn**	**01 51 43.6**	**-0.5**
	comp=Z,13nm,0.5s,baz=224,slow=13,SNR=216						
AB31				⇑S	**Sn**	**01 53 45.3**	**-3.1**
	comp=Z,32nm,0.5s,baz=222,slow=22,SNR=6.0						
AB31	**Akbulak array**	**11.22**	**40**	P	**Pn**	**01 51 43.7**	**-0.5**
	comp=Z,13nm,0.5s,SNR=216						
AB31				*e*S	**Sn**	**01 53 47.6**	**-0.7**
AB31	**Akbulak array**	**11.22**	**40**	*e*P	**Pn**	**01 51 43.6**	**-0.6**
AB31				*e*S	**Sn**	**01 53 47.6**	**-0.7**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AB31	**Akbulak array**	**11.22**	**40**	P	**Pn**	**01 51 43.6**	**-0.5**
	comp=Z,13nm,0.4s						
AB31				S	**Sn**	**01 53 45.3**	**-3.1**
AKTK	**Aktyubinsk**	**11.24**	**31**	P	**Pn**	**01 51 45.0**	**+0.7**
	comp=Z,3.0nm,0.3s						
AKTK				Sn	**Sn**	**01 53 46.5**	**-2.2**
AKTK	**Aktyubinsk**	**11.24**	**31**	Pn	**Pn**	**01 51 45.0**	**+0.7**
AKTK				Sn	**Sn**	**01 53 46.5**	**-2.1**
AKTK				LR	LR	01 57 06.5	
AKTO	**Aktyubinsk**	**11.24**	**31**	Pn	**Pn**	**01 51 45.0**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=206,slow=12,SNR=29						
AKTO				Sn	**Sn**	**01 53 46.5**	**-2.1**
	comp=Z,8.8nm,0.3s,baz=297,slow=24,SNR=12						
AKTO				LR	LR	01 57 06.5	
	comp=Z,326nm,18.3s,baz=0.0,slow=42						
AKTO	**Aktyubinsk**	**11.24**	**31**	P	**Pn**	**01 51 45.0**	**+0.7**
AKTO						01 53 46.6	
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,326nm,18.3s						
BR131	**Keskin Array S**	**11.71**	**268**	⇑*i*Pn	**Pn**	**01 51 52.7**	**+1.9**
	comp=Z,9.2nm,0.9s						
BR131	**Keskin Array S**	**11.71**	**268**	⇑*i*Pn	**Pn**	**01 51 52.7**	**+1.9**
	comp=Z,9.2nm,0.9s						
BRTR	**Keskin Array B**	**11.71**	**268**	Pn	**Pn**	**01 51 49.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=91,slow=11,SNR=54						
BRTR	**Keskin Array B**	**11.71**	**268**	*i* P	**Pn**	**01 51 53.0**	**+2.2**
	comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B**	**11.71**	**268**	*i* P	**Pn**	**01 51 53.0**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B**	**11.71**	**268**	Pn	**Pn**	**01 51 49.4**	**-1.5**
VRSR	**Storozhevoye**	**12.08**	**330**	*e*P	**Pn**	**01 51 55.8**	**-0.1**
	comp=Z,50nm,17.0s						
VRSR	**Storozhevoye**	**12.08**	**330**	*e*P	**Pn**	**01 51 55.8**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VRSR				pmax	pmax		
	comp=N,1.0nm,1.1s						
VRSR				MLR	MLR		
	comp=E,50nm,18.0s						
VRSR				MLR	MLR		
	comp=Z,90nm,18.0s						
VRSR				MLR	MLR		
	comp=N,50nm,17.0s						
VOR	**Voronezh**	**12.49**	**331**	P	**Pn**	**01 52 02.0**	**+0.5**
	comp=N,120nm,1.1s						
VOR				S	**Sn**	**01 54 23.0**	**+3.7**
VOR	**Voronezh**	**12.49**	**331**	P	**Pn**	**01 52 02.0**	**+0.5**
VOR				S	**Sn**	**01 54 23.0**	**+3.7**
VOR				pmax	pmax		
	comp=Z,60nm,1.0s						
VOR				pmax	pmax		
	comp=N,120nm,1.1s						
VOR				pmax	pmax		
	comp=E,50nm,1.2s						
VOR				smax			
	comp=E,300nm,1.2s						
VOR				smax			
	comp=N,300nm,1.1s						
VOR				smax			
	comp=Z,80nm,1.1s						
CSS	**Prodhromos**	**13.73**	**248**	*e*Pn	**Pn**	**01 52 25.2**	**+6.9**
	comp=Z,18nm,0.8s						
CSS	**Prodhromos**	**13.73**	**248**	*e*Pn	**Pn**	**01 52 25.2**	**+6.8**
	comp=Z,18nm,0.8s						
TIRR	**Tirgusor**	**15.38**	**289**	*e*Pn	**Pn**	**01 52 38.8**	**-1.8**
TIRR	**Tirgusor**	**15.38**	**289**	P	**Pn**	**01 52 39.4**	**-1.2**
TIRR	**Tirgusor**	**15.38**	**289**	⇑P	**Pn**	**01 52 39.4**	**-1.2**
TIRR	**Tirgusor**	**15.38**	**289**	*e*Pn	**Pn**	**01 52 38.8**	**-1.7**
KIS	**Kishinev**	**15.54**	**299**	*e*P	**Pn**	**01 52 49.0**	**+6.3**
KIS				*e*S	**S**	**01 55 41.0**	**-7.3**
CFR	**Carcaliu**	**15.66**	**292**	⇑P	**Pn**	**01 52 42.8**	**-1.4**
HARR	**Harsova**	**15.75**	**290**	⇑P	**Pn**	**01 52 46.1**	**+0.8**
EIL	**Elat**	**16.12**	**229**	*e*Pn	**Pn**	**01 52 51.9**	**+1.8**
	comp=Z,395nm,1.2s						
EIL	**Elat**	**16.12**	**229**	*e*Pn	**Pn**	**01 52 51.9**	**+1.7**
	comp=Z,395nm,1.2s						
KK31	**Karatay Array**	**16.15**	**76**	⇓P	**Pn**	**01 52 49.0**	**-1.5**
	comp=Z,30nm,0.6s,baz=273,slow=14,SNR=304						
KK31				⇓S	**S**	**01 55 41.8**	**-19**
	comp=Z,114nm,1.4s,baz=217,slow=124,SNR=7.3						
KK31	**Karatay Array**	**16.15**	**76**	⇓P	**Pn**	**01 52 49.0**	**-1.5**
KK31				S	**S**	**01 55 41.8**	**-19**
KK31				pmax	pmax		
	comp=Z,30nm,0.6s						
KK31	**Karatay Array**	**16.15**	**76**	⇓P	**Pn**	**01 52 49.0**	**-1.5**
	comp=Z,30nm,0.6s						
KK31				S	**S**	**01 55 41.8**	**-19**
KKAR	**Karatay Array**	**16.15**	**76**	*i* P	**Pn**	**01 52 48.9**	**-1.6**
KKAR				S	**S**	**01 55 44.1**	**-17**
KKAR				pmax	pmax		
	comp=Z,20nm,0.5s						
OBN	**Obninsk**	**16.16**	**334**	*e*P	**Pn**	**01 52 49.1**	**-1.6**
	comp=Z,500nm,14.0s						
OBN				*e*Sn	**Sn**	**01 55 48.7**	**-0.1**
OBN	**Obninsk**	**16.16**	**334**	⇓*e*P	**Pn**	**01 52 49.1**	**-1.6**
OBN				pmax	pmax		
	comp=Z,22nm,0.8s						
OBN				MLR	MLR		
	comp=Z,500nm,14.0s						
OBN	**Obninsk**	**16.16**	**334**	*e*Pn	**Pn**	**01 52 49.0**	**-1.7**
	comp=Z,46nm,0.6s						
OBN				*e*Sn	**Sn**	**01 55 48.7**	**-0.1**
MOS	**Moscow**	**16.35**	**337**	*e*P	**Pn**	**01 52 55.8**	**+2.7**
MOS				*e*S	**S**	**01 56 01.3**	**-3.6**
MOS				pmax	pmax		
	comp=Z,118nm,1.1s						
MOS				MLR	MLR		
	comp=Z,600nm,16.3s						
IAS	**Iasi**	**16.42**	**299**	P	**Pn**	**01 52 52.9**	**-1.1**
IAS	**Iasi**	**16.42**	**299**	P	**Pn**	**01 52 52.9**	**-1.1**
ARU	**Arti**	**16.52**	**19**	*e*Pn	**Pn**	**01 52 52.8**	**-2.5**
	comp=Z,35nm,0.6s						
ARU				*e*Sn	**Sn**	**01 55 43.8**	**-14**
ARU	**Arti**	**16.52**	**19**	*e*P	**Pn**	**01 52 52.8**	**-2.5**
ARU				pmax	pmax		
	comp=Z,35nm,0.6s						
ARU	**Arti**	**16.52**	**19**	*e*Pn	**Pn**	**01 52 52.8**	**-2.4**
	comp=Z,35nm,0.6s						
ARU				*e*Sn	**Sn**	**01 55 43.8**	**-14**
AKASG	**Malin Array Be**	**16.63**	**312**	Pn	**Pn**	**01 52 53.9**	**-2.7**
	comp=Z,1.8nm,0.3s,baz=116,slow=13,SNR=13						
AKASG	**Malin Array Be**	**16.63**	**312**	P	**Pn**	**01 52 53.9**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**16.63**	**312**	Pn	**Pn**	**01 52 53.9**	**-2.7**
VRI	**Vrincioaia**	**16.73**	**294**	⇑P	**Pn**	**01 53 05.6**	**+7.7**
MLR	**Muntele Rosu**	**17.23**	**292**	⇑P	**Pn**	**01 53 05.7**	**+1.6**
MLR	**Muntele Rosu**	**17.23**	**292**	P	**Pn**	**01 53 05.6**	**+1.5**
PRK	**Paraskevi**	**17.38**	**271**	*e*P	**Pn**	**01 53 08.2**	**+2.2**
ASHO	**Ashiyiah**	**17.49**	**158**	P	**Pn**	**01 53 05.7**	**-1.7**
	SNR=11						
PVL	**Pavlikeni**	**17.57**	**285**	P	**Pn**	**01 53 11.5**	**+3.2**
RDO	**Rodhopi**	**17.58**	**278**	*e*P	**Pn**	**01 53 08.7**	**+0.2**
ANR	**Andizhan**	**17.73**	**84**	*e*P	**Pn**	**01 53 08.2**	**-2.0**
MTUR	**Matau**	**17.82**	**291**	P	**Pn**	**01 53 13.7**	**+2.3**
MTUR	**Matau**	**17.82**	**291**	P	**Pn**	**01 53 14.1**	**+2.6**
VOIR		**17.85**	**292**	P	**Pn**	**01 53 13.3**	**+1.5**
ZRNK	**Zerenda**	**18.00**	**42**	⇓P	**Pn**	**01 53 12.8**	**-0.8**
	comp=Z,16nm,0.6s						
ZRNK				⇓S	**S**	**01 56 24.2**	**-14**
	comp=Z,47nm,0.9s						
ZRNK	**Zerenda**	**18.00**	**42**	P	**Pn**	**01 53 12.8**	**-0.8**
	comp=Z,16nm,0.6s						
ZRNK				*e*S	**S**	**01 56 27.4**	**-11**
ZRNK	**Zerenda**	**18.00**	**42**	*e*P	**Pn**	**01 53 12.5**	**-1.1**
ZRNK				*e*		01 56 27.4	
ZRNK				pmax	pmax		
	comp=Z,14nm,1.2s						
ZRNK	**Zerenda**	**18.00**	**42**	*e*P	**Pn**	**01 53 12.5**	**-1.2**
	comp=Z,14nm,1.2s						
ZRNK				*e*Sn	**Sn**	**01 56 27.4**	**-6.0**
BURAR	**Bucovina Array**	**18.07**	**299**	⇑P	**Pn**	**01 53 14.3**	**-0.1**
RZN	**Rozhen**	**18.13**	**280**	P	**Pn**	**01 53 17.0**	**+1.8**
AML	**Almayashu**	**18.55**	**79**	P	**Pn**	**01 53 23.2**	**+2.9**
	SNR=22						
APE	**Apeiranthos**	**18.57**	**265**	*e*P	**Pn**	**01 53 20.6**	**+0.1**
EKS2	**Erkin-Say**	**18.57**	**77**	P	**Pn**	**01 53 22.6**	**+2.1**
	SNR=52						
BRVK	**Borovoye**	**18.72**	**43**	*e*P	**Pn**	**01 53 21.4**	**-0.9**
	comp=Z,16nm,0.6s						
BRVK				*e*S	**S**	**01 56 46.3**	**-6.6**
BRVK	**Borovoye**	**18.72**	**43**	*e*P	**Pn**	**01 53 21.4**	**-0.9**
BRVK				*e*		01 56 46.3	
BRVK				pmax	pmax		
	comp=Z,16nm,0.6s						
BRVK	**Borovoye**	**18.72**	**43**	*e*P	**Pn**	**01 53 21.4**	**-0.9**
	comp=Z,16nm,0.6s						
BRVK				*e*Sn	**Sn**	**01 56 46.3**	**-4.3**
BVA0	**Borovoye Array**	**18.75**	**44**	P	**Pn**	**01 53 23.0**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=230,slow=12,SNR=121						
BVA0				⇓S	**S**	**01 56 42.2**	**-12**
	comp=Z,8.8nm,1.2s,baz=232,slow=23,SNR=12						
BVA0	**Borovoye Array**	**18.75**	**44**	*i* P	**Pn**	**01 53 23.0**	**+0.2**
	comp=Z,2.0nm,0.6s						
BVA0	**Borovoye Array**	**18.75**	**44**	*i* P	**Pn**	**01 53 23.0**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**18.75**	**44**	P	**Pn**	**01 53 21.9**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=234,slow=9.9,SNR=70						
BVAR				S	**S**	**01 56 45.2**	**-8.5**
	comp=Z,1.7nm,0.3s,baz=237,slow=25,SNR=8.3						
BVAR	**Borovoye Array**	**18.75**	**44**	P	**Pn**	**01 53 21.9**	**-0.9**
BVAR				S	**S**	**01 56 45.2**	**-8.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VOSK	**Vostochnaya**	**18.92**	**45**	⇓P	**Pn**	**01 53 23.5**	**-1.3**
	comp=Z,42nm,1.1s						
VOSK				⇓S	**S**	**01 56 45.4**	**-11**
	comp=Z,47nm,1.1s						
VOSK	**Vostochnaya**	**18.92**	**45**	⇓P	**Pn**	**01 53 23.5**	**-1.2**
VOSK				S	**S**	**01 56 45.4**	**-11**
VOSK				pmax	pmax		
	comp=Z,42nm,1.0s						
VOSK	**Vostochnaya**	**18.92**	**45**	⇓P	**Pn**	**01 53 23.4**	**-1.3**
	comp=Z,42nm,1.0s						
VOSK				S	**S**	**01 56 45.4**	**-11**
USP	**Ospenovka**	**19.06**	**75**	P	**Pn**	**01 53 30.1**	**+3.6**
	SNR=65						
SOKR	**Solikamsk**	**19.08**	**12**	⇑*i*P	**Pn**	**01 53 28.9**	**+2.2**
SOKR				S	**S**	**01 56 48.7**	**-11**
SOKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SOKR				MLR	MLR		
	comp=Z,300nm,24.0s						
AAK	**Ala-Archa**	**19.10**	**77**	P	**Pn**	**01 53 28.0**	**+1.1**
	SNR=24						
AAK	**Ala-Archa**	**19.10**	**77**	*e*P	**Pn**	**01 53 26.5**	**-0.4**
	comp=Z,44nm,0.7s						
AAK				*e*S	**S**	**01 56 54.9**	**-5.7**
AAK	**Ala-Archa**	**19.10**	**77**	*e*P	**Pn**	**01 53 26.6**	**-0.3**
AAK				*e*S	**S**	**01 56 54.9**	**-5.7**
AAK				pmax	pmax		
	comp=Z,44nm,0.7s						
AAK	**Ala-Archa**	**19.10**	**77**	*e*P	**Pn**	**01 53 26.6**	**-0.4**
	comp=Z,44nm,0.7s						
AAK				*e*S	**S**	**01 56 54.9**	**-5.7**
UCH	**Uchtor**	**19.15**	**78**	P	**Pn**	**01 53 29.2**	**+1.7**
	SNR=26						
VTS	**Vitosha**	**19.16**	**283**	P	**Pn**	**01 53 28.0**	**+0.3**
VTS	**Vitosha**	**19.16**	**283**	P	**Pn**	**01 53 27.8**	**+0.1**
VTS	**Vitosha**	**19.

SNR=38
SKO Skopje 20.53 281 *e*P **P 01 53 42.6 +1.1**
KLMR Klimovskoe 20.54 347*c i*P **P 01 53 40.4 -1.2**
KLMR *e*S **S 01 57 23.4 -6.0**
KLMR pmax pmax
comp=Z,100nm,1.2s
KLMR smax
comp=Z,100nm,1.4s
KLMR smax
comp=E,150nm,1.0s
VLI Velíai 20.64 266 *e*P **P 01 53 44.6 +1.9**
KSH Kashi 20.68 86 P **P 01 53 48.2 +5.1**
KSH AP 01 53 56.1
KSH XP sP 01 53 59.9 +3.0
KSH PP 01 54 10.1
KSH S **S 01 57 35.0 +2.8**
KSH XS sS 01 57 50.1 +3.0
KSH PCP PcP 01 57 52.0 -0.2
KSH AMB AMB
comp=Z,380nm,4.7s
KSH LR LR
comp=N,540nm,5.4s
KSH LR LR
comp=E,510nm,7.7s
BIA Bitola 20.75 279 *e*P **P 01 53 44.3 +0.4**
CRVS Cervenica-Dubn 20.79 301 *e*P **P 01 53 44.7 +0.4**
CRVS *e* 01 54 01.0
CRVS Cervenica-Dubn 20.79 301 *e*P **P 01 53 44.7 +0.4**
CRVS *e* 01 54 01.0
CRVS Cervenica-Dubn 20.79 301 *e*P **P 01 53 44.7 +0.4**
CRVS *e* 01 54 01.0
EVR Evrytania 20.83 273 *e*P **P 01 53 47.6 +2.9**
STHS Stebnicka Huta 21.04 302 *e*P **P 01 53 45.4 -1.6**
STHS *e*pP 01 53 56.2
STHS Stebnicka Huta 21.04 302 *e*P **P 01 53 45.4 -1.6**
STHS *e* 01 53 56.2
OHR Ohrid 21.13 279 *e*P **P 01 53 44.4 -3.5**
OHR Ohrid 21.13 279 *e*P **P 01 53 44.3 -3.6**
ITM Ithomi 21.25 268 *e*P **P 01 53 47.9 -1.3**
RLS Riolos of Patr 21.32 271 *e*P **P 01 53 50.6 +0.6**
KECS Kecovo 21.35 300 *e*P **P 01 53 49.4 -0.9**
KECS *e* 01 54 02.5
SUW Suwalki 21.44 316 *e*P **P 01 53 49.2 -2.1**
comp=E,189nm,1.0s,mb5.4
SUW *e*pP 01 54 00.9
SUW Suwalki 21.44 316 *e*P **P 01 53 49.2 -2.1**
SUW *e**PP 01 54 00.9
SUW pmax pmax
comp=Z,189nm,1.0s,mb5.4
SUW Suwalki 21.44 316 *e*P **P 01 53 49.2 -2.0**
comp=Z,189nm,1.0s,mb5.4
SUW *e*pP 01 54 00.9
NIE Niedzica 21.63 302 *e*P **P 01 53 55.3 +1.9**
PSZ Piszkesteto 21.66 298 *e*pP pP 01 54 01.6 -1.4
PSZ Piszkesteto 21.66 298 *e*P **P 01 53 53.4 -0.3**
comp=Z,52nm,1.1s,mb4.9
PSZ *e*pP 01 54 06.9
PSZ Piszkesteto 21.66 298 *e*P **P 01 53 53.4 -0.3**
PSZ pmax pmax
comp=Z,52nm,1.1s,mb4.9
PSZ Piszkesteto 21.66 298 *e*P **P 01 53 53.4 -0.3**
comp=Z,52nm,1.1s,mb4.9
PSZ *e*pP 01 54 06.9
PUL Pulkovo 21.92 334 *i*P **P 01 53 58.9 +2.5**
PUL pmax pmax
comp=Z,65nm,0.9s,mb5.1
PUL pmax pmax
comp=N,68nm,0.8s
PUL pmax pmax
comp=E,49nm,0.7s
PUL MLR MLR
comp=Z,459nm,19.0s,MS3.9
PUL MLR MLR
comp=N,391nm,21.0s
VLS Valsamata 21.95 271 *e*P **P 01 53 56.7 -0.1**
OJC Ojcow 22.13 304 *e*P **P 01 53 56.8 -1.9**
OJC *e*PP 01 54 18.2
KEK Kerkira 22.15 276 *e*P **P 01 53 58.7 -0.2**
VSU Vasula 22.28 328*c i*P **P 01 53 59.3 -0.9**
VYHS Vyhne 22.44 299 *e*P **P 01 54 02.4 +0.5**
VYHS *e*sP sP 01 54 19.4 +3.6
KURK Kurchatov 22.64 55 ⇓P **P 01 54 05.3 +1.2**
comp=N,48nm,1.3s,mb4.8
KURK ⇓S **S 01 58 11.4 +1.4**
comp=N,21nm,1.2s
KURK Kurchatov 22.64 55 *e*P **P 01 54 05.2 +1.1**
KURK pmax pmax
comp=Z,91nm,1.1s,mb5.1
KURK Kurchatov 22.64 55 *e*P **P 01 54 05.2 +1.1**
comp=Z,91nm,1.1s,mb5.1
SRO Srobarova 22.70 297 *e*P **P 01 54 03.8 -1.0**
SRO *e*pP 01 54 15.3
OKC Ostrava-Krasne 23.09 302 *e*P **P 01 54 07.7 -1.2**
SMOL Smolenice 23.37 299 *e*P **P 01 54 10.6 -1.2**
SMOL *e* 01 54 30.7
SMOL *e* 02 30 33.3
SMOL Smolenice 23.37 299 *e*P **P 01 54 10.6 -1.2**
SMOL *e* 01 54 30.7
MORC Moravsky Berou 23.47 302 *e*P **P 01 54 11.7 -1.0**
MORC *e*pP 01 54 21.6
MORC Moravsky Berou 23.47 302 *e*P **P 01 54 11.6 -1.1**
MORC *e**PP 01 54 21.6
MORC pmax pmax
comp=Z,16nm,1.2s,mb4.3
MORC Moravsky Berou 23.47 302 *e*P **P 01 54 11.6 -1.2**
comp=Z,16nm,1.2s,mb4.3
MORC *e*pP 01 54 21.6
WHFO Wadi Hawf 23.54 168 P **P 01 54 11.1 -2.3**
SNR=5.2
ZST Bratislava 23.55 298 *e*P **P 01 54 12.2 -1.3**
ZST *e* 01 54 38.8
VRAC Vranov 24.01 301 P **P 01 54 16.1 -1.6**
comp=Z,1.7nm,0.9s,mb3.5,baz=122,slow=7.6,SNR=5.3
VRAC Vranov 24.01 301 P **P 01 54 16.1 -1.6**
VRAC pmax pmax
comp=Z,2.0nm,0.9s
RBK Rabkut 24.02 167 P **P 01 54 16.5 -1.2**
SNR=9.2
JOF Joensuu 24.16 340 *e*p **P 01 54 19.7 +0.7**
DPC Dobruska-Polom 24.34 303 *e*P **P 01 54 20.3 -0.4**
KSP Ksiaz 24.45 304 *e*P **P 01 54 21.0 -0.6**
MK08 Makanchi Array 24.56 66 ⇑P **P 01 54 23.6 +1.0**
comp=Z,16nm,0.7s,mb4.7
MKAR Makanchi Array 24.56 65 P **P 01 54 24.0 +1.3**
comp=Z,8.2nm,0.5s,mb4.5,baz=261,slow=7.9,SNR=123
MKAR Makanchi Array 24.56 65 P **P 01 54 24.0 +1.3**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
TIP Timpagrande 24.56 276 *e*P **P 01 54 21.6 -1.1**
TIP *e*pP 01 54 38.0
TIP Timpagrande 24.56 276 *e*P **P 01 54 21.6 -1.1**
TIP *e*pP 01 54 38.0
UPC Upice 24.56 304 *e*P **P 01 54 22.3 -0.4**
FINES FINESS Array B 24.57 333 P **P 01 54 22.6 -0.2**
comp=Z,5.1nm,0.3s,mb4.5,baz=135,slow=9.7,SNR=110
FINES LR LR 02 05 54.6
comp=Z,314nm,19.4s,MS3.8,baz=178,slow=41
FINES FINESS Array B 24.57 333 P **P 01 54 22.5 -0.3**
FINES FINESS Array B 24.57 333 *i*P **P 01 54 22.6 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.3s
TREC Trest 24.73 301 *e*P **P 01 54 25.9 +1.7**
TREC AMS AMS 02 05 10.0
comp=Z,700nm,18.0s
KAF Kangasniemi 24.98 335 *e*p **P 01 54 27.5 +1.0**
PRU Pruhonice 25.42 302 *e*P **P 01 54 32.0 +1.5**
PRU AMS AMS 02 05 20.0
comp=Z,400nm,28.0s
AJM Ajmer 25.80 117 *i*P **P 01 54 35.0 +1.0**
GERES GERESS Array B 25.86 299 P **P 01 54 32.9 -1.6**
comp=Z,1.5nm,0.6s,mb3.7,baz=96,slow=9.3,SNR=11
GERES LR LR 02 06 33.1
comp=Z,242nm,21.7s,MS3.7,baz=98,slow=41
GERES GERESS Array B 25.86 299 P **P 01 54 32.9 -1.6**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,242nm,21.7s
BRG Berggiesshubel 25.92 304 *e*P **P 01 54 44.4 +9.4**
BRG *e* 01 55 22.1
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
BRG pmax pmax
comp=Z,13nm,1.6s,mb4.2
BRG MLR MLR
comp=N,187nm,18.7s,MS3.8
BRG MLR MLR
comp=E,189nm,18.0s,MS3.8
BRG MLR MLR
comp=Z,280nm,20.5s,MS3.8
BRG Berggiesshubel 25.92 304 *e*P **P 01 54 44.4 +9.4**
BRG *e* 01 55 22.1
BRG LR LR
comp=Z,280nm,20.5s,MS3.8
KHC Kasperske Hory 25.96 300 *e*P **P 01 54 35.2 -0.2**
KHC pP pP 01 54 45.0 -0.5
KHC Kasperske Hory 25.96 300 *e*P **P 01 54 35.2 -0.2**
KHC *e* pP 01 54 45.0 -0.5
BSD Bornholm Skovb 26.31 314 *i*P **P 01 54 36.4 -2.2**
BSD *i*S pP 01 54 54.9 +6.3
AQU L'Aquila 26.39 284 *e*P **P 01 54 39.5 +0.2**
comp=Z,22nm,0.8s,mb4.8
AQU L'Aquila 26.39 284 *e*P **P 01 54 39.5 +0.2**
AQU pmax pmax
comp=Z,22nm,0.8s,mb4.7
NVS Novosibirsk 26.43 47 *e*P **P 01 54 41.5 +1.9**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
NVS pmax pmax
comp=Z,24nm,1.0s,mb4.7
CLL Collm 26.57 305 *i*P **P 01 54 43.4 +2.5**
comp=Z,8.0nm,1.3s,mb4.1
CLL *e*pP pP 01 54 51.0 0.0
CLL *e*PPP 01 55 30.0
comp=Z,19nm,1.1s
CLL *e*S **S 01 59 18.0 +4.9**
CLL *e*SS 02 00 18.0
CLL Collm 26.57 305 *i*P **P 01 54 43.4 +2.5**
comp=Z,8.0nm,1.3s,mb4.1
CLL *e*S **S 01 59 18.0 +4.9**
CLL Collm 26.57 305 *i*P **P 01 54 43.4 +2.5**
CLL *e*S **S 01 59 18.0 +4.9**
CLL pmax pmax
comp=Z,8.0nm,1.3s,mb4.1
GRA1 Grafenberg Arr 27.54 301 *e*P **P 01 54 59.0 +9.4**
comp=Z,1.0nm,0.8s,mb3.5
GRF Grafenberg Arr 27.54 301 *e*P **P 01 54 59.0 +9.4**
comp=Z,1.0nm,0.8s,mb3.5
APA Apatity 27.78 347⇑*i*P **P 01 54 58.0 +6.2**
APA *i* pP 01 55 08.0 +6.1
APA pmax pmax
comp=Z,26nm,1.4s,mb4.7
APA MLR MLR
comp=Z,800nm,15.0s,MS4.4
LVZ Lovozero 27.89 349 *i*P **P 01 55 01.2 +8.5**
LVZ *i*SS 01 58 14.9
LVZ pmax pmax
comp=Z,47nm,1.4s,mb4.9
LVZ pmax pmax
comp=N,13nm,0.9s
LVZ pmax pmax
comp=E,7.0nm,1.0s
LVZ MLR MLR
comp=N,349nm,17.0s,MS4.1
LVZ MLR MLR
comp=Z,489nm,17.0s,MS4.2
LVZ MLR MLR
comp=E,216nm,18.0s,MS4.1
DAVOX Davos 28.42 295 P **P 01 54 55.8 -1.7**
comp=E,1.2nm,0.5s,mb3.8,baz=354,slow=10,SNR=3.7
DAVOX LR LR 02 08 51.6
comp=E,398nm,18.0s,MS4.1,baz=86,slow=42
WMQ Urumqi 28.56 72 *e*P **P 01 55 00.0 +1.3**
WMQ XP sP 01 55 12.0 -1.1
WMQ PP PP 01 55 53.0 -11
WMQ S **S 01 59 45.0 +0.6**
WMQ SS SS 02 01 13.0 -33
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,102nm,5.0s
WMQ LR LR
comp=N,430nm,13.0s,MS4.4
WMQ LR LR
comp=E,354nm,11.0s,MS4.4
WMQ LR LR
comp=Z,327nm,11.0s,MS4.2
HFS Hagfors 28.78 323 P **P 01 55 00.5 -0.2**
comp=Z,13nm,0.4s,mb5.0,baz=117,slow=9.9,SNR=77
HFS LR LR 02 07 48.7
comp=Z,338nm,21.8s,MS3.9,baz=346,slow=39
HFS Hagfors 28.78 323 P **P 01 55 00.5 -0.2**
HFS pmax pmax
comp=Z,13nm,0.4s
HFS MLR MLR
comp=Z,339nm,21.8s
PGF Pioggiola 29.56 286 *e*P **P 01 55 05.5 -2.1**
comp=Z,21nm,1.4s,mb4.4
PGF Pioggiola 29.56 286 *e*P **P 01 55 05.5 -2.1**
comp=Z,10nm,1.4s,mb4.4
PGF Pioggiola 29.56 286 *e*P **P 01 55 05.5 -2.1**
PGF pmax pmax
comp=Z,11nm,1.4s,mb4.4
CDF Champ du Feu 30.11 298 *e*P **P 01 55 10.5 -2.0**
NB2 NORSAR Subarra 30.27 324 P **P 01 55 13.1 -0.8**
comp=Z,6.6nm,0.5s,mb4.6,baz=114,slow=8.6
NOA NORSAR Array B 30.27 324 P **P 01 55 13.1 -0.8**
comp=Z,8.5nm,0.7s,mb4.6,baz=118,slow=8.3,SNR=38
NOA LR LR 02 08 44.2
comp=Z,395nm,18.5s,MS4.1,baz=120,slow=39
NOA NORSAR Array B 30.27 324 P **P 01 55 13.1 -0.8**
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA MLR MLR
comp=Z,395nm,18.5s
NAO01 NORSAR Array S 30.34 323 *e*P **P 01 55 13.9 -0.6**
comp=Z,9.7nm,0.6s,mb4.7
NAO01 *e*pP pP 01 55 24.6 0.0
NAO01 NORSAR Array S 30.34 323 *e*P **P 01 55 13.9 -0.6**
comp=Z,9.7nm,0.6s,mb4.7
NAO01 *e*pP pP 01 55 24.6 -0.1
SBF Sospel 30.45 289 *e*P **P 01 55 13.7 -1.8**
comp=Z,15nm,0.9s,mb4.4
SBF Sospel 30.45 289 *e*P **P 01 55 13.7 -1.8**
comp=Z,7.3nm,0.9s,mb4.4
SBF Sospel 30.45 289 *e*P **P 01 55 13.7 -1.8**
SBF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
LPG La Plagne 30.70 292 *e*P **P 01 55 16.6 -1.0**
comp=Z,1.4nm,0.5s,mb3.8
LPG La Plagne 30.70 292 *e*P **P 01 55 16.6 -1.0**
comp=Z,0.7nm,0.5s,mb3.8
LPG La Plagne 30.70 292 *e*P **P 01 55 16.6 -1.0**
LPG pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
LPL La Plagne 30.71 292 *e*P **P 01 55 16.5 -1.2**
comp=Z,2.8nm,0.5s,mb4.0
LPL La Plagne 30.71 292 *e*P **P 01 55 16.5 -1.2**
comp=Z,1.4nm,0.5s,mb4.0
LPL La Plagne 30.71 292 *e*P **P 01 55 16.5 -1.2**
LPL pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
MBDF Montbardon 30.79 291 *e*P **P 01 55 17.0 -1.4**
comp=Z,6.8nm,0.6s,mb4.3
MBDF Montbardon 30.79 291 *e*P **P 01 55 17.0 -1.4**
comp=Z,3.4nm,0.6s,mb4.3
MBDF Montbardon 30.79 291 *e*P **P 01 55 17.0 -1.4**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
KEV Kevo 30.84 345 *e*p **P 01 55 19.2 +0.3**
ARCES ARCESS Array B 30.96 344 P **P 01 55 20.5 +0.6**
comp=Z,1.6nm,0.6s,mb4.0,baz=136,slow=11,SNR=20
ARCES LR LR 02 09 54.4
comp=Z,474nm,18.1s,MS4.2,baz=270,slow=40
ARCES ARCESS Array B 30.96 344 P **P 01 55 20.5 +0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,474nm,18.2s
ARCES ARCESS Array B 30.96 344 P **P 01 55 20.5 +0.6**
ARCES LR LR 02 09 54.4
CABF La Chapelle 31.03 295 *e*P **P 01 55 19.1 -1.5**
comp=Z,13nm,1.0s,mb4.4
CABF La Chapelle 31.03 295 *e*P **P 01 55 19.1 -1.5**
comp=Z,6.6nm,1.0s,mb4.4
CABF La Chapelle 31.03 295 *e*P **P 01 55 19.1 -1.5**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
FRF La Foret Royal 31.07 289 *e*P **P 01 55 19.3 -1.6**
comp=Z,6.6nm,0.8s,mb4.2
FRF La Foret Royal 31.07 289 *e*P **P 01 55 19.3 -1.6**
comp=Z,3.3nm,0.8s,mb4.2
FRF La Foret Royal 31.07 289 *e*P **P 01 55 19.3 -1.6**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
KOLN Koldanda 31.36 104 *e*P **P 01 55 24.7 +1.2**
comp=Z,19nm,0.9s,mb4.9
ORIF Oris-en-Rattie 31.39 291 *e*P **P 01 55 22.4 -1.3**
comp=Z,4.1nm,0.8s,mb4.0
ORIF *e*R
comp=Z,259nm,22.0s
ORIF Oris-en-Rattie 31.39 291 *e*P **P 01 55 22.4 -1.3**
comp=Z,2.0nm,0.8s,mb4.0
ORIF Oris-en-Rattie 31.39 291 *e*P **P 01 55 22.4 -1.3**
ORIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
NSS Namsos 31.55 330 *e*P **P 01 55 23.7 -1.4**
NSS AMb AMB 01 55 29.5
comp=Z,50nm,2.0s,mb5.0
NSS Namsos 31.55 330 *e*P **P 01 55 23.7 -1.4**
comp=Z,50nm,2.0s,mb5.0,SNR=41
MOR8 Moi Rana 31.56 334 *e*P **P 01 55 25.4 +0.2**
MOR8 AMb AMB 01 55 28.0
comp=Z,13nm,1.6s,mb4.5
MOR8 Moi Rana 31.56 334 *e*P **P 01 55 25.4 +0.2**
comp=Z,13nm,1.6s,mb4.5,SNR=41
SMRF Simiane la Rot 31.76 290 *e*P **P 01 55 25.2 -1.8**
GKN Gorkha 32.00 103 *e*P **P 01 55 30.3 +1.2**
comp=Z,17nm,0.5s,mb5.2
STOK Stokkvaagen 32.13 334 *e*pP pP 01 55 40.3 -0.1
STOK Stokkvaagen 32.13 334 *e*pP pP 01 55 40.3 -0.1
SNR=139
STOK Stokkvaagen 32.13 334 *e*P pP 01 55 40.3 -0.1
VIVF Saint-Julien-l 32.24 292 *e*P **P 01 55 29.7 -1.6**
MOL Molde 32.47 325 *e*P **P 01 55 37.0 +3.7**
MOL AMb AMB 01 55 46.1
comp=Z,34nm,1.8s,mb4.9
MOL Molde 32.47 325 *e*P **P 01 55 37.0 +3.8**
comp=Z,34nm,1.8s,mb4.9,SNR=41
LOR Lormes 32.49 296 *e*P **P 01 55 31.5 -1.9**
LOR *e*R
comp=Z,191nm,20.5s
LOR Lormes 32.49 296 *e*P **P 01 55 31.5 -1.9**
LOR LR LR
comp=Z,190nm,20.5s,MS3.8
TRO Tromso 32.52 341 *e*P **P 01 55 32.8 -0.8**
DMN Daman 32.56 103 *e*P **P 01 55 35.3 +1.3**
comp=Z,55nm,1.2s,mb5.4
SMF Signal de Mont 32.57 295 *e*P **P 01 55 32.4 -1.7**
comp=Z,1.7nm,0.5s,mb4.0
SMF Signal de Mont 32.57 295 *e*P **P 01 55 32.4 -1.7**
comp=Z,0.9nm,0.5s,mb4.0
SMF Signal de Mont 32.57 295 *e*P **P 01 55 32.4 -1.7**
SMF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
PKI Pulchoki 32.80 103 *e*P **P 01 55 37.6 +1.4**
AVF Avril sur Loir 32.88 295 *e*P **P 01 55 35.2 -1.7**
comp=Z,2.5nm,0.6s,mb4.0
AVF Avril sur Loir 32.88 295 *e*P **P 01 55 35.2 -1.7**
comp=Z,1.2nm,0.6s,mb4.0
AVF Avril sur Loir 32.88 295 *e*P **P 01 55 35.2 -1.7**
AVF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
GUN Gumba 32.96 102 *e*P **P 01 55 38.9 +1.4**
comp=Z,43nm,0.8s,mb5.4
BGF Bois d'Agland 33.26 295 *e*P **P 01 55 38.1 -2.0**
JIRN Jiri 33.33 102 *e*P **P 01 55 42.5 +1.8**
comp=Z,36nm,0.7s,mb5.4
TCF Toulx Ste Croi 33.73 295 *e*P **P 01 55 41.7 -2.6**
comp=Z,33nm,1.4s,mb4.8
TCF Toulx Ste Croi 33.73 295 *e*P **P 01 55 41.7 -2.6**
comp=Z,17nm,1.4s,mb4.8
TCF Toulx Ste Croi 33.73 295 *e*P **P 01 55 41.7 -2.6**
TCF pmax pmax
comp=Z,17nm,1.4s,mb4.8
RJF Les Rejaudoux 34.37 293 *e*P **P 01 55 48.0 -1.8**
RJF *e*R
comp=Z,171nm,21.8s
RJF Les Rejaudoux 34.37 293 *e*P **P 01 55 48.0 -1.8**
RJF LR LR
comp=Z,170nm,21.8s,MS3.7
HYB Hyderabad 34.77 124 *i*P **P 01 55 52.0 -1.2**
HYB *e*S **S 02 01 22.0 +0.7**
HYB Hyderabad 34.77 124 *e*P **P 01 55 54.0 +0.8**
LFF La Frestale 34.98 293 *e*P **P 01 55 53.2 -1.9**
comp=Z,20nm,1.1s,mb4.6
LFF La Frestale 34.98 293 *e*P **P 01 55 53.2 -1.9**
comp=Z,10.0nm,1.1s,mb4.6
LFF La Frestale 34.98 293 *e*P **P 01 55 53.2 -1.9**
LFF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
EKA Eskdalemuir Ar 36.54 311 P **P 01 56 07.2 -1.2**
comp=Z,2.4nm,0.6s,mb4.2,baz=96,slow=8.4,SNR=20
EKA Eskdalemuir Ar 36.54 311 P **P 01 56 07.2 -1.2**
EKA Eskdalemuir Ar 36.54 311 P **P 01 56 07.3 -1.1**
EKA pmax pmax
comp=Z,2.0nm,0.6s
MOY Mondy 36.69 55 *e*P **P 01 56 18.6 +8.9**
ZAK Zakamensk 38.26 57 *e*P **P 01 56 27.0 +4.0**
ZAK pmax pmax
comp=Z,11nm,1.7s,mb4.3
GTA Gaotai 38.43 75 *e*P **P 01 56 27.1 +2.6**
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,127nm,5.7s
GTA LR LR
comp=N,361nm,19.1s,MS4.3
GTA LR LR
comp=E,314nm,17.2s,MS4.3
GTA LR LR
comp=Z,230nm,18.3s,MS4.0
SHL Shillong 38.72 100 *e*P **P 01 56 29.0 +2.2**
ESDC Sonseca Array 39.75 286 P **P 01 56 34.2 -1.3**
comp=Z,0.8nm,0.4s,mb3.8,baz=71,slow=8.1,SNR=8.0
SONM Songino Array 40.73 61 P **P 01 56 45.0 +1.4**
comp=Z,1.0nm,0.7s,mb3.6,baz=282,slow=7.8,SNR=8.6
SONM PcP PcP 01 58 44.5 0.0
comp=Z,1.2nm,1.0s,baz=280,slow=9.0,SNR=3.9
SONM LR LR 02 15 33.2
comp=Z,740nm,18.7s,MS4.6,baz=264,slow=39
SONM Songino Array 40.73 61 P **P 01 56 45.0 +1.4**
SONM 01 58 44.5
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,740nm,18.7s
ULN Ulaanbaatar 41.15 60 *e*P **P 01 56 49.1 +2.0**
comp=Z,4.2nm,0.6s,mb4.2
ULN Ulaanbaatar 41.15 60 *e*P **P 01 56 49.1 +2.0**
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ULN Ulaanbaatar 41.15 60 *e*P **P 01 56 49.1 +2.0**
comp=Z,4.3nm,0.6s,mb4.3
KMBO Kilima Mbogo 43.40 197 P **P 01 57 02.5 -2.8**
comp=Z,1.3nm,0.8s,mb3.7,baz=45,slow=18,SNR=2.6
KMBO LR LR 02 16 34.7
comp=Z,191nm,18.8s,MS4.0,baz=301,slow=38
KMBO Kilima Mbogo 43.40 197 P **P 01 57 02.5 -2.9**
KMBO Kilima Mbogo 43.40 197 P **P 01 57 02.6 -2.8**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
KMBO MLR MLR
comp=Z,191nm,18.8s
BOD Bodaibo 43.62 45 *e*P **P 01 57 07.1 0.0**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
CD2 Chengdu 44.88 85 *e*P **P 01 57 17.2 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,60nm,4.8s
KMI Kunming 47.11 92 P **P 01 57 36.0 +1.2**
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
KMI LR LR
comp=Z,179nm,17.9s,MS4.1
XAN Xi'an 47.27 78 P **P 01 57 37.1 +1.1**
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
GYA Guiyang 49.34 88 P **P 01 57 54.1 +2.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
TORD Torodi Ar. Bea 49.61 250 P **P 01 57 52.2 -1.8**

comp=Z,0.7nm,0.5s,mb4.0,baz=54,slow=6.4,SNR=24
SUMG Summit 50.52 337 *eP* **P 01 58 02.5 +1.5**
comp=Z,9.4nm,1.1s,mb4.6
SUMG Summit 50.52 337 *eP* **P 01 58 02.5 +1.5**
comp=Z,9.4nm,1.1s,mb4.6
LSZ Lusaka 59.34 203 P **P 01 59 03.4 -1.3**
comp=Z,1.6nm,0.7s,mb4.1,baz=27,slow=5.5,SNR=5.0
LSZ Lusaka 59.34 203 P **P 01 59 03.4 -1.3**
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SEY Seymchan 59.84 31 *eP* **P 01 59 08.7 +0.6**
BILL Bilibino 61.51 22 *eP* **P 01 59 17.7 -1.8**
BILL pmax pmax
comp=Z,11nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.5
FRB Frobisher Bay 64.37 334 P **P 01 59 38.2 -0.4**
comp=Z,7.8nm,0.8s,mb4.8,baz=48,slow=7.8,SNR=10
FRB Frobisher Bay 64.37 334 P **P 01 59 38.2 -0.3**
FRB pmax pmax
comp=Z,8.0nm,0.8s
FRB Frobisher Bay 64.37 334 P **P 01 59 38.2 -0.4**
SCHQ Schefferville 69.81 326 P **P 02 00 12.9 -0.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=31,slow=9.6,SNR=4.6
SCHQ LR LR 02 30 31.2
comp=Z,123nm,18.9s,MS4.2,baz=341,slow=36
INK Inuvik 70.84 1 P **P 02 00 18.6 -0.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=141,slow=1.2,SNR=3.7
INK LR LR 02 36 19.0
comp=Z,152nm,19.6s,MS4.3,baz=240,slow=40
INK Inuvik 70.84 1 P **P 02 00 18.6 -0.7**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK MLR MLR
comp=Z,152nm,19.6s
BOSA Boshof 72.80 202 P **P 02 00 30.4 -0.7**
comp=Z,3.8nm,0.6s,mb4.5,baz=356,slow=4.9,SNR=18
BOSA LR LR 02 34 05.0
comp=Z,132nm,18.2s,MS4.2,baz=213,slow=37
BOSA Boshof 72.80 202 P **P 02 00 30.4 -0.7**
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BOSA MLR MLR
comp=Z,132nm,18.3s,MS4.2
BOSA Boshof 72.80 202 P **P 02 00 30.4 -0.7**
BOSA LR LR 02 34 05.0
ILAR Eielson Array 73.68 7 P **P 02 00 36.5 +0.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=328,slow=4.0,SNR=10.0
ILAR Eielson Array 73.68 7 P **P 02 00 36.5 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 75.84 352 P **P 02 00 48.9 +0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=12,slow=6.3,SNR=30
YKA Yellowknife Ar 75.84 352 *i P* **P 02 00 48.9 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 83.87 338 P **P 02 01 31.1 -1.2**
comp=Z,0.6nm,0.4s,mb4.0,baz=350,slow=6.1,SNR=2.4
ULM LR LR 02 43 11.7
comp=Z,100nm,18.9s,MS4.2,baz=320,slow=39
ULM Lac du Bonnet 83.87 338 P **P 02 01 31.0 -1.3**
WRA Warramunga Arr 99.55 108 P **P 02 02 44.7 -1.0**
comp=Z,0.6nm,0.8s,mb4.0,baz=317,slow=4.1,SNR=6.3
WRA Warramunga Arr 99.55 108 P **P 02 02 44.7 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s

*NAO **04** 01:54:37.4, 3285N×5497E, h33km, mb4.1*
*CSEM **04** 01:55:53.3±0.2, 4083N×4885E, h15km, mb4.2/5, Error ellipse: s-maj=5.9km s-min=3.6km az=17.0*
*ISCJB **04** 01:55:55.7±0.6, 4118N±005×4918E±003, h10km, mb3.7/11, Error ellipse: s-maj=7.5km s-min=3.4km az=161.0*
*IDC **04** 01:55:56.0±1.2, 4106N×4859E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.8/24, mbtmp3.8/14, ML3.0/2, Error ellipse: s-maj=28.3km s-min=11.7km az=152.0*
*MOS **04** 01:55:58.7±2.9, 4097N×4862E, h16km, mb4.2/5, Error ellipse: s-maj=11.5km s-min=5.2km az=123.3*
*NNC **04** 01:56:06.4±4.9, 4122N×4927E, h138km±31km, mb3.3, Error ellipse: s-maj=57.4km s-min=41.7km az=123.0*

ISC 04 01:55:56.9±0.6,**4114N**±005×**4910E**±003,**h10**km,**n72,** σ1°**59**/90,**mb3.7**/11,**5C-1D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**0.87**	**302**	*eP*g	**Pg**	**01 56 12.0**	**-1.6**
KSMR				*i* Sg	**Sg**	01 56 23.0	-1.9
DRN	**Derbent**	**1.06**	**327**	*i* Pg	**Pg**	**01 56 18.0**	**+0.7**
4μm,0.3s							
DRN				*e*Sg	**Sg**	01 56 33.0	+1.9
DRN	**Derbent**	**1.06**	**327**	*i* PG	**Pg**	**01 56 18.0**	**+0.7**
DRN				*e*S	**Sg**	01 56 33.0	+1.9
DRN				pmax	pmax		
comp=Z,4μm,0.3s							
AKT	**Akhty**	**1.09**	**289**	*i* Pg	**Pg**	**01 56 14.0**	**-3.8**
AKT				*i* Sg	**Sg**	01 56 26.0	-6.0
KMKR	**Kumukh**	**1.80**	**304**	*i* Sg	**Sn**	**01 56 51.5**	**+0.6**
KMKR	**Kumukh**	**1.80**	**304**	⇓*i*PN	**Pn**	**01 56 28.0**	**0.0**
KMKR				*i* S	**Sn**	**01 56 51.5**	**+0.6**
KMKR				pmax	pmax		
comp=Z,405nm,0.4s							
GNBR	**Gunib**	**2.03**	**309**	*e*PN	**Pn**	**01 56 35.0**	**+3.9**
MAK	**Makhachkala**	**2.17**	**327**	⇑*i*PN	**Pn**	**01 56 38.5**	**+5.4**
MAK				*e*		01 56 44.0	
MAK				*i* S	**Sn**	**01 57 08.8**	**+8.7**
MAK				*e*		01 57 17.6	
MAK				pmax	pmax		
comp=Z,1μm,0.5s							
MAK				smax			
comp=N,6μm,0.6s							
MAK				smax			
comp=E,3μm,0.6s							
XNZR	**Khunzakh**	**2.27**	**309**	*e*PN	**Pn**	**01 56 38.0**	**+3.5**
KRNR	**Karanay**	**2.35**	**317**	*e*PN	**Pn**	**01 56 35.0**	**-0.5**
DBC	**Dubki**	**2.53**	**319**	*e*PN	**Pn**	**01 56 39.0**	**+1.0**
DGRG	**David-gareji**	**2.83**	**277**	P	**Pn**	**01 56 42.8**	**+0.6**
DGRG				S	**Sn**	**01 57 22.1**	**+5.9**
DGRG	**David-gareji**	**2.83**	**277**	P	**Pn**	**01 56 42.7**	**+0.6**
DGRG				S	**Sn**	**01 57 21.0**	**+4.7**
SAMG	**Sameba**	**3.27**	**281**	P	**Pn**	**01 56 52.9**	**+4.6**
SAMG				S	**Sn**	**01 57 35.6**	**+8.4**
MTA	**Mtatsminda**	**3.29**	**281**	P	**Pn**	**01 56 48.1**	**-0.4**
MTA				S	**Sg**	**01 57 37.5**	**-5.1**
MTA	**Mtatsminda**	**3.29**	**281**	P	**Pn**	**01 56 48.2**	**-0.2**
MTA				S	**Sn**	**01 57 31.4**	**+3.7**
TBLG	**Delisi**	**3.33**	**282**	P	**Pn**	**01 56 48.9**	**-0.2**
TBLG				S	**Sg**	**01 57 39.5**	**-4.5**
TBLG	**Delisi**	**3.33**	**282**	P	**Pn**	**01 56 48.9**	**-0.2**
TBLG				S	**Sn**	**01 57 31.8**	**+3.1**
TBLG	**Delisi**	**3.33**	**282**	*e*PN	**Pn**	**01 56 48.9**	**-0.2**
TBLG				*e*S	**Sg**	**01 57 39.5**	**-4.5**
DUS	**Dusheti**	**3.43**	**287**	P	**Pn**	**01 56 53.6**	**+3.1**
GNI	**Garni**	**3.46**	**255**	Pn	**Pn**	**01 56 49.6**	**-1.3**
comp=E,12nm,0.3s,baz=314,slow=2.3,SNR=28							
GNI				Sn	**Sn**	**01 57 35.7**	**+3.8**
comp=E,17nm,0.3s,baz=295,slow=20,SNR=3.8							
GNI	**Garni**	**3.46**	**255**	PN	**Pn**	**01 56 49.6**	**-1.3**
GNI						01 57 35.7	
GNI				pmax	pmax		
comp=Z,12nm,0.3s							
KZR	**Kazreti**	**3.54**	**275**	S	**Sn**	**01 57 41.9**	**+8.0**
GOR	**Gori**	**3.84**	**284**	P	**Pg**	**01 57 15.8**	**+5.3**
GOR				S	**Sg**	**01 57 59.2**	**-1.1**
GOR	**Gori**	**3.84**	**284**	P	**Pg**	**01 57 15.8**	**+5.3**
ZEI	**Tsey**	**4.21**	**294**	*e*PN	**Pn**	**01 56 56.9**	**-4.2**
ZEI				*e*		01 57 09.5	
ZEI				*e*		01 57 44.5	
AKH	**Akhalkalaki**	**4.24**	**275**	P	**Pn**	**01 57 02.3**	**+0.8**
AKH				S	**Sn**	**01 57 53.7**	**+2.7**
ONI	**Oni**	**4.46**	**291**	P	**Pn**	**01 57 06.4**	**+1.8**
ONI				S	**Sn**	**01 58 09.3**	**+13**
KUBR	**Kubataba**	**4.98**	**304**	*e*PN	**Pn**	**01 57 12.2**	**+0.5**
KUBR				pmax	pmax		
comp=Z,28nm,1.2s							
SHAR	**Shatzhatmas**	**5.42**	**301**	*e*PN	**Pn**	**01 57 16.4**	**-1.4**
KIV	**Kislovodsk**	**5.51**	**303**	⇑*e*PN	**Pn**	**01 57 17.3**	**-1.7**
KIV				*i* S	**Sn**	**01 58 19.8**	**-2.6**
KIV				pmax	pmax		
comp=Z,12nm,0.8s							
KIV				MLR	MLR		
comp=Z,200nm,15.0s							
NAGR	**Nagutskaya**	**5.72**	**307**	*e*P	**Pn**	**01 57 22.8**	**+1.0**
GOF	**Gofitskoye**	**5.92**	**313**	*e*P	**Pn**	**01 57 18.4**	**-6.2**
GOF				*e*S	**Sn**	**01 58 24.5**	**-8.0**
BHD	**Baghdad**	**8.71**	**207**	*ex*	x	01 53 41.0	
ANN	**Anapa**	**9.30**	**297**	*e*P	**Pn**	**01 58 08.1**	**-3.0**
comp=Z,51nm,1.9s							
ANN	**Anapa**	**9.30**	**297**	*e*P	**Pn**	**01 58 08.1**	**-3.0**
ANN				pmax	pmax		
comp=Z,51nm,1.9s							
AB31	**Akbulak array**	**11.14**	**40**	⇑P	**Pn**	**01 58 40.5**	**+4.3**
comp=Z,9.5nm,0.9s,baz=218,slow=12,SNR=16							
AB31				⇑S	**Sn**	**02 00 41.0**	**+0.2**
comp=Z,7.5nm,0.6s,baz=229,slow=22,SNR=4.4							
AKTK	**Aktyubinsk**	**11.18**	**31**	P	**Pn**	**01 58 39.7**	**+3.0**
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.18**	**31**	Pn	**Pn**	**01 58 39.7**	**+3.0**
comp=Z,0.5nm,0.3s,baz=180,slow=16,SNR=7.9							
AKTO				Sn	**Sn**	**02 00 40.4**	**-1.2**
comp=Z,1.3nm,0.3s,baz=288,slow=23,SNR=7.6							
BRTR	**Keskin Array B**	**11.87**	**268**	Pn	**Pn**	**01 58 42.6**	**-3.6**
comp=Z,0.0nm,0.3s,baz=37,slow=14,SNR=2.7							
KK31	**Karatay Array**	**16.00**	**76**	P	**Pn**	**01 59 42.7**	**+0.7**
comp=Z,0.4nm,0.2s,baz=264,slow=16,SNR=20							
KK31				S	**Sn**	**02 02 38.2**	**-1.2**
comp=Z,5.0nm,0.7s,baz=307,slow=26,SNR=4.0							
AKASG	**Malin Array Be**	**16.77**	**311**	Pn	**Pn**	**01 59 51.8**	**0.0**
comp=Z,1.2nm,0.3s,baz=101,slow=9.4,SNR=4.3							
AKASG	**Malin Array Be**	**16.77**	**311**	P	**Pn**	**01 59 51.8**	**0.0**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVA0	**Bovoye Array**	**18.66**	**43**	⇑P	**Pn**	**02 00 11.0**	**-4.2**
comp=Z,3.9nm,1.6s,baz=239,slow=11,SNR=8.3							
BVA0				S	**Sn**	**02 03 37.0**	**-6.9**
comp=Z,0.4nm,0.7s,baz=232,slow=24,SNR=7.2							
BVAR	**Borovoye Array**	**18.66**	**43**	P	**Pn**	**02 00 18.5**	**+3.2**
comp=Z,0.4nm,0.3s,baz=242,slow=21,SNR=4.3							
BVAR				S	**Sn**	**02 03 39.5**	**-4.4**
comp=Z,0.2nm,0.3s,baz=232,slow=24,SNR=4.6							
KOLS	**Kolonicke sedl**	**20.42**	**301**	*e*P	pP	02 00 45.0	+8.0
CRVS	**Cervenica-Dubn**	**20.94**	**301**	*e*P		02 00 56.1	
STHS	**Stebnicka Huta**	**21.19**	**302**	*e*P	pP	02 00 54.9	+10
DLH	**Dalhousie**	**23.08**	**103**	*ex*	x	02 00 12.0	
DLH				*ex*	x	02 02 17.0	
JOF	**Joensuu**	**24.23**	**340**	*ep*	**P**	**02 01 14.0**	**+0.2**
MKAR	**Makanchi Array**	**24.43**	**65**	P	**P**	**02 01 19.6**	**+4.0**
comp=Z,2.4nm,0.7s,mb3.8,baz=264,slow=7.8,SNR=3.4							
MKAR	**Makanchi Array**	**24.43**	**65**	P	**P**	**02 01 19.6**	**+4.0**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**24.66**	**333**	P	**P**	**02 01 17.2**	**-0.6**
comp=Z,1.4nm,0.3s,mb4.0,baz=144,slow=11,SNR=12							
FINES	**FINESS Array B**	**24.66**	**333**	*i* P	**P**	**02 01 17.2**	**-0.5**
comp=Z,1.0nm,0.3s,mb3.8							
FINES	**FINESS Array B**	**24.66**	**333**	*i* P	**P**	**02 01 17.2**	**-0.5**
FINES				pmax	pmax		
comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**25.07**	**335**	*ep*	**P**	**02 01 20.0**	**-1.4**
GERES	**GERESS Array B**	**26.01**	**299**	P	**P**	**02 01 26.9**	**-3.0**
comp=Z,0.3nm,0.5s,mb3.1,baz=90,slow=9.3,SNR=4.4							
HFS	**Hagfors**	**28.89**	**323**	P	**P**	**02 01 54.6**	**-1.3**
comp=Z,5.4nm,0.5s,mb4.5,baz=116,slow=9.2,SNR=12							
HFS	**Hagfors**	**28.89**	**323**	P	**P**	**02 01 54.6**	**-1.3**
HFS				pmax	pmax		
comp=Z,5.0nm,0.5s							
NB2	**NORSAR Subarra**	**30.39**	**324**	P	**P**	**02 02 07.5**	**-1.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=115,slow=8.6							
NOA	**NORSAR Array B**	**30.39**	**324**	P	**P**	**02 02 07.1**	**-2.0**
comp=Z,3.7nm,0.8s,mb4.2,baz=116,slow=8.2,SNR=5.8							
NOA	**NORSAR Array B**	**30.39**	**324**	P	**P**	**02 02 07.1**	**-2.0**
NOA				pmax	pmax		
comp=Z,4.0nm,0.8s							
ARCES	**ARCESS Array B**	**31.02**	**344**	P	**P**	**02 02 15.3**	**+0.6**
comp=Z,3.2nm,0.8s,mb4.2,baz=141,slow=12,SNR=3.7							
ARCES	**ARCESS Array B**	**31.02**	**344**	P	**P**	**02 02 15.3**	**+0.6**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**36.68**	**311**	P	**P**	**02 03 02.0**	**-1.8**
comp=Z,0.8nm,0.6s,mb3.7,baz=97,slow=9.3,SNR=4.9							
EKA	**Eskdalemuir Ar**	**36.68**	**311**	P	**P**	**02 03 02.0**	**-1.8**
EKA				pmax	pmax		
comp=Z,1.0nm,0.6s							
GTA	**Gaotai**	**38.28**	**75**	*e*P	**P**	**02 03 17.3**	**-0.1**
GTA				AP	pP	02 03 22.0	+1.5
GTA				XP	sP	02 03 24.8	+3.0
GTA				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.3							
SHL	**Shillong**	**38.56**	**100**	*ex*	x	02 01 05.0	
SONM	**Songino Array**	**40.60**	**61**	P	**P**	**02 03 40.2**	**+3.4**
comp=Z,0.4nm,0.8s,mb3.1,baz=284,slow=5.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**49.76**	**250**	P	**P**	**02 04 46.8**	**-2.7**
comp=Z,0.2nm,0.4s,mb3.5,baz=55,slow=6.6,SNR=6.3							
YKA	**Yellowknife Ar**	**75.88**	**352**	P	**P**	**02 07 45.4**	**+1.8**
comp=Z,0.1nm,0.6s,mb2.9,baz=21,slow=5.3,SNR=2.8							
YKA	**Yellowknife Ar**	**75.88**	**352**	*i* P	pP	02 07 53.9	+7.0

*IDC **04** 01:56:08.5±1.3, 2750N×9522E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/21, mbtmp4.1/9, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=51.1km s-min=19.3km az=46.0*
*BJI **04** 01:56:11.0, 2810N×9538E, h26km, mb4.6*
*ISCJB **04** 01:56:13.8±3.2, 28N±01×954E±02, h49km±26km, mb4.4/19, Error ellipse: s-maj=35.2km s-min=12.4km az=99.1*
*NEIC **04** 01:56:13.7±0.6, 2730N×9532E, mb4.7/5, Error ellipse: s-maj=18.2km s-min=6.7km az=221.0*

ISC 04 01:56:15.5±3.2,**28N**±02×**954E**±02,**h46**km±27km,**n24,** σ0°**77**/24,**mb4.4**/19,**1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.54**	**89**	Pn	**Pn**	**01 57 07.3**	**-0.6**
16nm,0.3s,baz=277,slow=11,SNR=15							
PSI				LR	LR	01 58 49.1	
comp=Z,451nm,20.0s,baz=267,slow=43							
KKM	**Kota Kinabalu**	**21.02**	**80**	*e*P	**P**	**02 00 55.6**	**+0.4**
KKM				*e*pP		02 01 05.0	
KKM				*e*sP	sP	02 01 12.3	+0.4
GYA	**Guiyang**	**25.92**	**24**	⇓*i*P	**P**	**02 01 44.2**	**+0.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
JIRN	**Jiri**	**26.26**	**341**	*e*P	**P**	**02 01 47.1**	**+0.8**
comp=Z,37nm,0.8s,mb5.0							
DMN	**Daman**	**26.58**	**339**	*e*P	**P**	**02 01 50.8**	**+1.6**
comp=Z,9.9nm,0.6s,mb4.5							
GUN	**Gumba**	**26.59**	**341**	*e*P	**P**	**02 01 49.0**	**-0.4**
comp=Z,37nm,0.7s,mb5.0							
KKN	**Kakani**	**26.68**	**340**	*e*P	**P**	**02 01 50.7**	**+0.5**
comp=Z,18nm,0.7s,mb4.7							
LSA	**Lhasa**	**27.08**	**352**	P	**P**	**02 01 54.8**	**+1.1**
LSA	**Lhasa**	**27.08**	**352**	*e*P	**P**	**02 01 54.7**	**+1.0**
comp=Z,12nm,0.9s,mb4.4							
LSA				pP	pP	02 02 04.7	-1.0
GKN	**Gorkha**	**27.10**	**339**	*e*P	**P**	**02 01 54.0**	**0.0**
KOLN	**Koldanda**	**27.29**	**337**	*e*P	**P**	**02 01 55.5**	**-0.1**
comp=Z,17nm,0.6s,mb4.7							
CD2	**Chengdu**	**29.08**	**15**	*e*P	**P**	**02 02 10.5**	**-1.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
BJT	**Baijiatuau**	**41.59**	**24**	*e*P	**P**	**02 03 59.0**	**+0.1**
comp=Z,8.7nm,0.8s,mb4.4							
BJT				*e*pP	pP	02 04 07.5	-3.7
WRA	**Warramunga Arr**	**44.41**	**122**	P	**P**	**02 04 22.2**	**+0.6**
comp=Z,1.8nm,0.9s,mb3.8,baz=301,slow=8.7,SNR=7.2							
WRAB	**Tennant Creek**	**44.41**	**122**	*e*P	**P**	**02 04 21.5**	**-0.2**
comp=Z,2.6nm,0.6s,mb4.1							
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**02 04 28.7**	**-0.1**
comp=Z,5.5nm,0.6s,mb4.6,baz=167,slow=8.2,SNR=44							
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**02 04 28.7**	**-0.1**
ASAR	**Alice Springs**	**45.79**	**127**	P	**P**	**02 04 33.0**	**+0.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=292,slow=7.8,SNR=5.1							
SONM	**Songino Array**	**45.89**	**10**	P	**P**	**02 04 32.9**	**-0.4**
comp=Z,4.7nm,0.8s,mb4.5,baz=188,slow=8.5,SNR=36							
SONM				PcP	PcP	02 06 10.4	+0.6
comp=Z,0.8nm,0.6s,baz=206,slow=3.2,SNR=5.3							
KURK	**Kurchatov**	**49.82**	**346**	*e*P	**P**	**02 05 03.2**	**-0.7**
comp=Z,12nm,1.3s,mb4.8							
BVAR	**Borovoye Array**	**54.18**	**342**	P	**P**	**02 05 35.1**	**-1.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=135,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**77.77**	**333**	P	**P**	**02 08 06.0**	**-1.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=114,slow=6.1,SNR=5.7							
ARCES	**ARCESS Array B**	**80.45**	**340**	P	**P**	**02 08 21.8**	**-0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=92,slow=7.0,SNR=8.4							
GERES	**GERESS Array B**	**82.44**	**319**	P	**P**	**02 08 33.5**	**+0.6**
comp=Z,0.2nm,0.4s,mb3.4,baz=108,slow=4.2,SNR=4.7							

*NEIC **04** 02:01:28.0, 3399S×7001W, h15km, ML2.9(GUC), After GUC.*

GUC 04 02:01:28.0±0.9,**3399S**×**7001W**,**h15**km±3km,**MD3.7, ML2.9,12C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.21**	**312**	⇑*i*P	Pg	02 01 32.7	-0.2
LMEL				*i* S	Sg	02 01 36.3	+0.1
LMEL				AMP		02 01 36.7	
comp=N,9μm,0.2s							
CICH	**Cipreses**	**0.47**	**226**	⇑*i*P	Pg	02 01 37.2	-0.2
CICH				*i* S	Sg	02 01 44.0	+0.2
CACH	**El Canelo**	**0.51**	**256**	⇓*i*P	Pg	02 01 37.8	-0.2
CACH				*i* S	Sg	02 01 45.0	+0.2
CHCH	**Chadas Angostu**	**0.54**	**276**	⇑*i*P	Pg	02 01 38.5	-0.1
CHCH				*i* S	Sg	02 01 46.0	+0.2
PCH	**Pirque**	**0.56**	**311**	⇓*i*P	Pg	02 01 39.0	0.0
PCH				*i* S	Sg	02 01 46.8	+0.4
ANTU	**Antumapu**	**0.67**	**309**	⇓*i*P	Pg	02 01 41.1	0.0
ANTU				*i* S	Sg	02 01 50.6	+0.7
ANTU				AMP		02 01 51.0	
comp=N,1μm,0.2s							
FCH	**Farellones**	**0.70**	**341**	⇑*i*P	Pg	02 01 41.4	-0.3
FCH				*i* S	Sg	02 01 51.6	+0.6
FCH				AMP		02 01 52.8	
comp=E,479nm,0.1s							
SAN	**Santiago**	**0.76**	**315**	⇑*i*P	Pg	02 01 42.6	-0.2
SAN				*i* S	Sg	02 01 53.4	+0.5
SAN				AMP		02 01 53.7	
comp=N,614nm,0.2s							
RCDM	**Rinconada Maip**	**0.83**	**307**	⇑*i*P	Pb	02 01 43.8	-0.3
RCDM				*i* S	Sg	02 01 55.5	+0.5
RCDM				AMP		02 01 56.1	
comp=E,985nm,0.2s							
RCDM	**Rinconada Maip**	**0.83**	**307**	⇑*i*P	Pb	02 01 43.8	-0.3
RCDM				*i* S	Sg	02 01 55.5	+0.5
TACH	**Talagante**	**0.84**	**293**	⇑*i*P	Pb	02 01 43.9	-0.4
TACH				*i* S	Sb	02 01 55.4	-0.1
PEL	**Peldehue**	**1.02**	**326**	⇑*i*P	Pb	02 01 46.8	-0.5
PEL				*i* S	Sb	02 02 01.2	+0.8
PEL				AMP		02 02 01.9	
comp=N,500nm,0.3s							
SFDO	**San Fernando**	**1.04**	**233**	⇑*i*P	Pb	02 01 47.3	-0.3
SFDO				*i* S	Sb	02 02 01.4	+0.4
LNV	**Longovilo**	**1.16**	**271**	⇓*i*P	Pn	02 01 49.2	-0.5
LNV				*i* S	Sb	02 02 05.0	+0.3
ROCH	**El Roble**	**1.32**	**320**	⇑*i*P	Pn	02 01 52.4	+0.6
ROCH				*i* S	Sb	02 02 10.3	+1.2
JACH	**Jahuel**	**1.39**	**339**	⇑*i*P	Pn	02 01 53.5	+0.6
JACH				*i* S	Sn	02 02 13.2	+2.2
LCCH	**Las Cruces**	**1.40**	**291**	⇓*i*P	Pn	02 01 53.3	+0.4
LCCH				*i* S	Sn	02 02 12.2	+1.2

*IDC **04** 02:01:55.9±1.5, 3310N×9540E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=56.0km s-min=19.6km az=48.0*
*ISCJB **04** 02:01:59.4±0.9, 34N±01×9561E±009, h33km, mb3.8/12, Error ellipse: s-maj=22.4km s-min=8.6km az=60.1*
*NEIC **04** 02:02:00.4±0.7, 335N×9550E, h30km, mb4.0/5, Error ellipse: s-maj=19.1km s-min=8.6km az=219.0*

ISC 04 02:02:01.7±0.9,**34N**±01×**956E**±01,**h35**km,**n14,** σ0°**92**/15, **mb3.8**/12,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.37**	**101**	Pn	**Pn**	**02 02 51.2**	**-0.6**
6.2nm,0.3s,baz=196,slow=11,SNR=12							
PSI				Sn	**Sn**	**02 03 28.6**	**-2.0**
0.8nm,0.3s,baz=313,slow=13,SNR=3.4							
KULM	**Kulim**	**5.36**	**70**	*e*Pn	**Pn**	**02 03 21.1**	**+2.0**
WRA	**Warramunga Arr**	**44.57**	**123**	P	**P**	**02 10 10.9**	**+0.7**
0.6nm,0.5s,mb3.7,baz=301,slow=9.1,SNR=8.7							
WRAB	**Tennant Creek**	**44.57**	**123**	P	**P**	**02 10 10.4**	**+0.2**
1.3nm,0.6s,mb3.9							
MKAR	**Makanchi Array**	**44.71**	**347**	P	**P**	**02 10 11.4**	**0.0**
1.9nm,0.6s,mb4.1,baz=165,slow=8.4,SNR=24							
SONM	**Songino Array**	**45.20**	**10**	P	**P**	**02 10 16.4**	**+1.1**
1.4nm,0.7s,mb3.9,baz=188,slow=8.6,SNR=13							
ULN	**Ulaanbaatar**	**45.35**	**11**	P	**P**	**02 10 16.1**	**-0.4**
0.6nm,0.3s,mb3.9							
ASAR	**Alice Springs**	**46.01**	**128**	P	**P**	**02 10 22.7**	**+1.1**
0.3nm,0.7s,mb3.3,baz=306,slow=8.0,SNR=3.3							
KURK	**Kurchatov**	**49.24**	**346**	*e*P	**P**	**02 10 47.1**	**+0.3**
1.6nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**53.64**	**341**	P	**P**	**02 11 19.4**	**-0.2**
0.6nm,0.6s,mb3.7,baz=149,slow=8.6,SNR=4.9							
BRVK	**Borovoye**	**53.70**	**341**	P	**P**	**02 11 19.5**	**-0.6**
0.6nm,0.4s,mb3.9							
ZRNK	**Zerenda**	**54.03**	**340**	P	**P**	**02 11 21.9**	**-0.5**
0.4nm,0.5s,mb3.6							
ARCES	**ARCESS Array B**	**79.91**	**340**	P	**P**	**02 14 05.9**	**-1.0**
2.6nm,0.9s,mb4.2,baz=98,slow=6.4,SNR=4.0							
GERES	**GERESS Array B**	**82

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.86**	**166**	Pn	Pn	02 45 17.7	-0.9
	0.2nm,0.3s,baz=352,slow=13,SNR=9.5						
WRA				Sn	Sn	02 47 41.1	-12
	0.7nm,0.3s,baz=350,slow=20,SNR=9.7						
ASAR	**Alice Springs**	**17.40**	**171**	P	Pn	02 46 06.4	+1.4
	0.2nm,0.3s,baz=349,slow=10,SNR=6.9						
ASAR				S	Sn	02 49 04.0	-15
	0.1nm,0.3s,baz=356,slow=28,SNR=4.3						
SONM	**Songino Array**	**58.17**	**341**	P	P	02 51 57.8	+1.3
	0.5nm,0.7s,baz=166,slow=5.9,SNR=3.3						
MKAR	**Makanchi Array**	**68.23**	**326**	P	P	02 53 02.9	-0.4
	1.2nm,0.4s,baz=126,slow=7.8,SNR=29						

IDC 04 02:57:04.4±1.6, 3516N×13663E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.1/21, mbtmp3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/12, Error ellipse: s-maj=42.9km s-min=30.4km az=119.0, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**1.88**	**42**	Pn	Pn	02 57 38.1	+0.3
	2.5nm,0.3s,baz=355,slow=13,SNR=14						
GUMO	**Guam**	**22.73**	**159**	LR	LR	03 10 32.6	
	comp=Z,85nm,18.2s,baz=282,slow=36						
MKAR	**Makanchi Array**	**41.86**	**303**	P	P	03 04 55.9	-0.3
	0.2nm,0.9s,baz=93,slow=6.5,SNR=2.2						
WRA	**Warramunga Arr**	**54.84**	**183**	P	P	03 06 36.4	+0.1
	0.2nm,0.3s,baz=3.6,slow=7.5,SNR=4.6						

*ISCJB **04** 02:57:31.9±0.5, 2204S×006×6850W±007, h131km±5km, mb3.9/8, Error ellipse: s-maj=11.1km s-min=9.3km az=39.7.*
*IDC **04** 02:57:31.8±0.6, 2196S×6840W, h114km±5km, mb3.8/7, mb1 3.9/9, mb1mx3.7/17, mbtmp4.1/9, Error ellipse: s-maj=19.8km s-min=13.0km az=105.0*
*NEIC **04** 02:57:32.1, 22.1S×6860W, h133km, mb4.1/6, MD4.2(GUC), After GUC.*
*GUC **04** 02:57:32.1±0.9, 22.1S×6860W, h133km±15km, MD4.2, ML4.4*
ISC 04 02:57:32.8±0.6, 2201S±006×6848W±007, h123km±5km, h119km±3.2km: pP-P, n32, σ1§30/38, mb4.0/8, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.73**	**213**	P	**Pn**	**02 57 51.9**	**-0.7**
	2μm,0.3s,baz=50,slow=8.0						
LVC				S	**Sn**	**02 58 07.6**	**0.0**
	740nm,0.3s,baz=244,slow=21,SNR=34						
LVC	**Limon Verde**	**0.73**	**213**	*e*Pn	**Pn**	**02 57 52.0**	**-0.6**
LVC				*e*Sn	**Sn**	**02 58 07.1**	**-0.5**
SPCH	**San Pedro de A**	**0.94**	**164**	⇑*i*P	**Pn**	**02 57 55.2**	**+0.8**
SPCH				*i* S	**Sn**	**02 58 12.6**	**+1.7**
SPCH				AMP		02 58 28.4	
	comp=E,4μm,0.7s						
SPCH	**San Pedro de A**	**0.94**	**164**	⇑*i*P	**Pn**	**02 57 55.2**	**+0.8**
SPCH				*i* S	**Sn**	**02 58 12.6**	**+1.7**
CEN1	**Los Morros**	**2.10**	**229**	*e*P	**Pn**	**02 58 09.6**	**+1.9**
CEN1				*i* S	**Sn**	**02 58 37.5**	**+3.1**
CEN1				AMP		02 58 47.7	
	comp=N,2μm,0.6s						
ANCH	**Antofagasta**	**2.44**	**227**	*e*P	**Pn**	**02 58 10.0**	**-2.0**
ANCH				*i* S	**Sn**	**02 58 39.9**	**-2.2**
ANCH				AMP		02 58 48.8	
	comp=N,2μm,0.7s						
ANCH	**Antofagasta**	**2.44**	**227**	*e*P	**Pn**	**02 58 10.0**	**-2.0**
ANCH				*i* S	**Sn**	**02 58 39.9**	**-2.2**
CPN1	**Cerro Paranal**	**3.15**	**214**	*e*P	**Pn**	**02 58 20.9**	**-0.2**
CPN1				*e*S	**Sn**	**02 58 57.8**	**-0.7**
CPN1				AMP		02 59 11.4	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	**5.70**	**3**	P	**Pn**	**02 58 54.3**	**-0.8**
	comp=E,5.7nm,0.3s,baz=178,slow=6.0,SNR=107						
LPAZ	**La Paz**	**5.70**	**3**	*e*Pn	**Pn**	**02 58 54.3**	**-0.9**
	comp=E,0.6nm,0.6s						
ARE	**Arequipa**	**6.21**	**332**	*e*P	**Pn**	**02 59 05.0**	**+3.0**
ARE				*e*S	**Sn**	**03 00 06.0**	**-5.6**
SIV	**San Ignacio**	**9.21**	**51**	P	**Pn**	**02 59 37.6**	**-5.0**
	comp=E,12nm,0.3s,baz=239,slow=12,SNR=348						
CFAA	**Coronel Fontan**	**9.56**	**179**	P	**Pn**	**02 59 44.6**	**-2.7**
	comp=E,0.2nm,0.3s,baz=358,slow=13,SNR=17						
CFAA				S	**Sn**	**03 01 25.8**	**-7.1**
	comp=E,0.2nm,0.3s,baz=238,slow=19,SNR=4.9						
CPUP	**Villa Florida**	**11.05**	**115**	*e*Pn	**Pn**	**03 00 07.9**	**+0.6**
	comp=E,7.3nm,0.4s						
SAML	**Samuel**	**13.94**	**22**	*e*P	**Pn**	**03 00 38.8**	**-6.2**
	comp=E,5.4nm,0.8s						
TRQA	**Tornquist**	**16.95**	**162**	*e*P	**Pn**	**03 01 21.6**	**-0.8**
	comp=E,6.5nm,0.6s						
PLCA	**Paso Flores**	**18.75**	**185**	P	**P**	**03 01 42.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=355,slow=9.2,SNR=11						
PLCA	**Paso Flores**	**18.75**	**185**	*e*P	**P**	**03 01 43.0**	**+0.9**
	comp=E,6.4nm,0.7s						
BDFB	**Brasilia**	**20.37**	**75**	P	**P**	**03 01 57.4**	**-2.2**
	comp=E,2.6nm,0.5s,baz=233,slow=10,SNR=8.5						
SNAA	**Sanae**	**61.67**	**161**	P	**P**	**03 07 38.3**	**+0.6**
	comp=E,1.4nm,0.6s,mb4.2,baz=293,slow=7.1,SNR=13						
QSPA	**South Pole Qui**	**68.19**	**180**	*e*P	**P**	**03 08 21.1**	**+1.3**
	comp=E,5.7nm,0.3s,mb4.9						
SDCO	**Great Sand Dun**	**68.88**	**329**	*e*P	**P**	**03 08 25.2**	**+1.1**
	comp=E,0.9nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**74.75**	**330**	P	**P**	**03 08 58.8**	**-0.4**
	comp=E,0.4nm,0.6s,mb3.3,baz=128,slow=7.7,SNR=4.1						
PDAR				pP	pP	03 09 26.9	-3.1
	comp=E,0.3nm,0.5s,baz=134,slow=6.3,SNR=2.4						
NVAR	**Mina Array Bea**	**76.14**	**322**	P	**P**	**03 09 08.2**	**+1.1**
	comp=E,0.7nm,0.8s,mb3.4,baz=156,slow=6.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**03 09 12.4**	**-0.4**
	comp=E,5.3nm,0.7s,mb4.4,baz=259,slow=5.6,SNR=110						
TORD				pP	pP	03 09 43.2	-0.5
	comp=E,1.6nm,0.8s,baz=246,slow=5.6,SNR=2.4						
BOSA	**Boshof**	**82.86**	**118**	P	**P**	**03 09 44.0**	**+0.5**
	comp=E,1.2nm,0.5s,mb4.0,baz=194,slow=3.9,SNR=6.5						
YKA	**Yellowknife Ar**	**91.79**	**340**	P	**P**	**03 10 26.1**	**-0.6**
	comp=E,1.4nm,0.8s,mb4.3,baz=134,slow=4.6,SNR=35						
YKA				pP	pP	03 10 57.5	-0.9
	comp=E,0.4nm,0.6s,baz=135,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**91.79**	**340**	P	**P**	**03 10 26.1**	**-0.6**
YKA				pP	pP	03 10 57.5	-0.9
ASAR	**Alice Springs**	**129.65**	**207**	PKP	PKPdf	03 16 27.1	-0.1
	comp=E,1.3nm,0.9s,baz=136,slow=2.3,SNR=10.0						
WRA	**Warramunga Arr**	**132.72**	**210**	PKP	PKPdf	03 16 34.3	+1.3
	comp=E,1.0nm,0.7s,baz=157,slow=1.7,SNR=17						
MKAR	**Makanchi Array**	**145.80**	**37**	PKPbc	PKPbc	03 16 57.5	0.0
	comp=E,0.8nm,0.7s,baz=321,slow=4.0,SNR=8.5						
MKAR				pPKPbc	pPKPbc	03 17 30.3	+0.1
	comp=E,0.9nm,1.0s,baz=0.0,slow=2.4,SNR=2.9						
SONM	**Songino Array**	**153.90**	**8**	PKP	PKPdf	03 17 09.7	+0.1
	comp=E,0.5nm,0.8s,baz=297,slow=3.1,SNR=4.4						
SONM				PKPbc	PKPbc	03 17 17.5	0.0
	comp=E,0.3nm,0.6s,baz=270,slow=1.7,SNR=3.2						

IDC 04 03:07:42.9±2.1, 266N×12753E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=144.4km s-min=26.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**164**	P	P	03 12 54.1	+0.3
	1.0nm,0.4s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.89**	**167**	P	P	03 13 25.1	-0.4
	0.2nm,0.4s,baz=353,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**58.88**	**325**	P	P	03 17 44.1	+0.6
	0.4nm,0.7s,baz=120,slow=8.4,SNR=4.4						

BJI 04 03:13:20.6, 2760N×12004E, h16km, ML4.3, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.95**	**206**	*e*P	Pn	03 14 07.7	+1.0
QZH				S	Sn	03 14 43.3	+1.5
QZH				Smax			
	comp=N,810nm,0.5s						
QZH				Smax			
	comp=E,1μm,1.0s						
SSE	**Sheshan**	**3.62**	**16**	PG	Pg	03 14 25.6	-4.4
SSE				SG	Sg	03 15 13.6	-3.4
SSE				Smax			
	comp=N,229nm,0.6s						
SSE				Smax			
	comp=E,370nm,0.6s						
NJ2	**Nanjing**	**4.55**	**347**	*e*P	Pn	03 14 31.1	+2.3
NJ2				S	Sn	03 15 23.6	+2.2
NJ2				SG	Sg	03 15 48.1	+1.3
NJ2				Smax			
	comp=N,1μm,0.9s						
NJ2				Smax			
	comp=E,520nm,0.7s						
WHN	**Wuhan**	**5.78**	**302**	PG	Pg	03 15 07.2	-4.0
WHN				SG	Sg	03 16 21.4	-4.7
WHN				Smax			
	comp=N,314nm,1.0s						
WHN				Smax			
	comp=E,227nm,0.9s						

IDC 04 03:21:41.9±3.6, 2397S×17154E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=133.1km s-min=64.6km az=175.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.55**	**247**	P	P	03 27 30.1	-0.3
	0.7nm,0.4s,baz=94,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	**34.37**	**263**	P	P	03 28 31.1	+0.6
	0.8nm,0.6s,baz=100,slow=7.1,SNR=14						
ASPA	**Alice Springs**	**34.37**	**263**	*e*P	P	03 28 30.5	0.0
WB2	**Warramunga Arr**	**34.66**	**269**	*e*P	P	03 28 32.8	-0.2
WRA	**Warramunga Arr**	**34.67**	**269**	P	P	03 28 33.4	+0.3
	0.4nm,0.4s,baz=102,slow=8.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**165.57**	**224**	PKP	PKPdf	03 41 49.0	+0.6
	0.2nm,0.6s,baz=163,slow=4.3,SNR=4.7						

*GCG **04** 03:34:55.2, 1357N×8987W, h102km, MD4.0, ML2.7*
*SSS **04** 03:35:19.3, 1270N×9042W, h35km, MD3.6*
CASC 04 03:34:53.5±1.4, 1312N×9032W, h18km±12km, MD4.0, ML2.7, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.98**	**43**	*e*P	Pb	03 35 42.7	+31
SBLS				*e*S	Sb	03 35 56.5	+32
RTR	**El Retiro**	**1.01**	**40**	*e*P	Pb	03 35 43.2	+31
RTR				*e*S	Sb	03 35 57.2	+32
SNJE	**San Jose**	**1.02**	**43**	*e*P	Pb	03 35 43.0	+30
SNJE				*e*S	Sb	03 35 58.0	+32
IXG	**Ixpaco**	**1.06**	**353**	*e*P	Pb	03 35 12.1	-1.2
IXG				*e*S	Sb	03 35 27.5	+0.8
LFRS	**El Faro**	**1.32**	**68**	*e*P	Pn	03 35 45.4	+28
LFRS				*e*S	Sn	03 36 03.5	+29
LBRS	**Las Brisas**	**1.39**	**63**	*e*P	Pn	03 35 47.1	+29
LBRS				*e*S	Sn	03 36 06.0	+30
SNVI	**San Vicente**	**1.52**	**71**	⇓*e*P	Pn	03 35 48.2	+28
SNVI				*e*S	Sn	03 36 08.3	+29
TP2	**Tecpan 2**	**1.79**	**338**	*e*P	Pn	03 35 23.6	+0.1
MRL	**Marmol**	**2.03**	**17**	*e*P	Pn	03 35 27.7	+0.9

IDC 04 03:54:59.0±3.0, 1623S×17419W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=188.0km s-min=32.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**46**	LR	LR	03 56 29.8	
	comp=Z,455nm,21.7s,baz=349,slow=28						
DZM	**Mont Dzumac**	**19.19**	**249**	LR	LR	04 05 25.7	
	comp=Z,128nm,20.6s,baz=212,slow=33						
PAE	**Paea**	**23.58**	**97**	*e*T		04 25 02.4	
	11nm,0.3s						
PPT	**Papeete**	**23.58**	**97**	*e*LR	LR	04 06 02.4	
	88nm,24.2s						
TVO	**Taravao**	**23.89**	**97**	*e*T		04 25 26.0	
	3.7nm,0.3s						
TBI	**Tubuai**	**24.30**	**111**	*e*LR	LR	04 06 22.3	
	57nm,29.1s						
TBI	**Tubuai**	**24.30**	**111**	*e*T		04 26 06.1	
	8.2nm,0.2s						
PMOR	**Pomariorio Ree**	**25.35**	**91**	*e*T		04 27 15.1	
	1.6nm,0.2s						
VAH	**Vaihoa**	**25.58**	**91**	*e*T		04 27 28.7	
	3.9nm,0.2s						
RKT	**Rikitea**	**37.47**	**107**	*e*T		04 42 33.4	
	2.7nm,0.3s						
ASAR	**Alice Springs**	**49.14**	**253**	P	P	04 03 48.9	+0.5
	1.1nm,0.9s,baz=81,slow=8.9,SNR=6.7						
NVAR	**Mina Array Bea**	**75.44**	**42**	P	P	04 06 46.6	+1.9
	0.8nm,0.9s,baz=228,slow=12,SNR=4.3						
PDAR	**Pinedale Array**	**83.38**	**42**	P	P	04 07 26.9	-1.0
	0.7nm,0.9s,baz=198,slow=4.7,SNR=4.5						
ILAR	**Eielson Array**	**83.40**	**11**	P	P	04 07 27.6	-0.5
	1.0nm,1.1s,baz=217,slow=4.0,SNR=4.2						

*IDC **04** 04:32:49.1±1.3, 100N×97.13E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=43.4km s-min=18.5km az=56.0*
*ISCJB **04** 04:32:54.9±3.8, 12N±02×974E±02, h50km±29km, mb4.1/16, Error ellipse: s-maj=41.1km s-min=11.3km az=104.9*
*BJI **04** 04:32:56.7, 098N×9751E, h76km, mB5.0, mb4.7*
*NEIC **04** 04:32:58.3±2.8, 122N×9749E, h62km±22km, mb4.1/6, Error ellipse: s-maj=31.3km s-min=8.0km az=53.0*
ISC 04 04:32:57.0±3.6, 12N±02×974E±02, h48km±29km, n28, σ0§95/28, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.22**	**43**	Pn	**Pn**	**04 33 30.6**	**-0.7**
	6.0nm,0.3s,baz=262,slow=8.5,SNR=15						
KULM	**Kulim**	**5.22**	**38**	*e*Pn	**Pn**	**04 34 12.4**	**-0.1**
JIRN	**Jiri**	**28.44**	**339**	*e*P	**P**	**04 38 48.1**	**+0.9**
	11nm,0.9s,mb4.5						
GUN	**Gumba**	**28.78**	**338**	*e*P	**P**	**04 38 50.9**	**+0.7**
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**04 38 52.4**	**+2.0**
KKN	**Kakani**	**28.90**	**337**	*e*P	**P**	**04 38 52.5**	**+1.2**
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**04 38 55.7**	**+0.5**
KOLN	**Koldanda**	**29.57**	**335**	*e*P	**P**	**04 38 57.8**	**+0.6**
	11nm,0.7s,mb4.7						
CD2	**Chengdu**	**30.18**	**11**	*e*P	**P**	**04 39 04.1**	**+1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ENH	**Enshi**	**31.13**	**21**	*e*P	**P**	**04 39 10.2**	**-0.8**
GTA	**Gaotai**	**38.12**	**3**	*e*P	**P**	**04 40 11.7**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**41.85**	**122**	P	**P**	**04 40 41.9**	**-0.4**
	comp=Z,1.2nm,0.5s,mb3.8,baz=301,slow=9.2,SNR=8.8						
WRAB	**Tennant Creek**	**41.86**	**122**	*e*P	**P**	**04 40 42.8**	**+0.5**
	comp=Z,2.1nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**41.86**	**122**	*e*P	**P**	**04 40 43.3**	**+0.9**
ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**04 40 54.0**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.5,baz=300,slow=7.7,SNR=7.9						
SONM	**Songino Array**	**47.13**	**8**	P	**P**	**04 41 24.6**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=191,slow=9.4,SNR=16						
ULN	**Ulaanbaatar**	**47.26**	**9**	*e*P	**P**	**04 41 25.8**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**04 41 25.8**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=160,slow=8.0,SNR=22						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**04 41 25.8**	**-0.1**
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**04 41 59.1**	**-1.4**
	comp=Z,1.7nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**53.19**	**132**	P	**P**	**04 42 09.4**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=131,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**53.19**	**132**	*e*P	**P**	**04 42 09.7**	**-0.5**
BRVK	**Borovoye**	**56.40**	**341**	*e*P	**P**	**04 42 32.2**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**56.74**	**340**	*e*P	**P**	**04 42 34.5**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.1						
AKTK	**Aktyubinsk**	**59.35**	**332**	P	**P**	**04 42 52.7**	**-1.4**
AKTO	**Aktyubinsk**	**59.35**	**332**	P	**P**	**04 42 52.7**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=125,slow=6.6,SNR=5.6						
ARCES	**ARCESS Array B**	**82.63**	**340**	P	**P**	**04 45 14.6**	**-0.6**
	comp=Z,3.8nm,1.1s,mb4.3,baz=104,slow=5.0,SNR=7.7						
ARCES	**ARCESS Array B**	**82.63**	**340**	P	**P**	**04 45 14.6**	**-0.6**

*MOS **04** 04:41:09.4±1.2, 4429N×1642E, h10km, mb3.6/1, Error ellipse: s-maj=6.6km s-min=4.5km az=118.2*
*PDG **04** 04:41:09.8±0.7, 4433N×1660E, h10km±1km*
*ISCJB **04** 04:41:10.7±0.2, 4440N±002×1649E±002, h10km, Error ellipse: s-maj=2.9km s-min=2.0km az=89.3*
*LDG **04** 04:41:10.3±0.3, 4429N×1671E, h10km, Ml3.1/4, Error ellipse: s-maj=8.3km s-min=3.9km az=117.0*
*PRU **04** 04:41:11.3, 4428N×1648E, h10km*
*NEIC **04** 04:41:11.3±0.2, 4428N×1648E, h10km, MD3.2(PDG), ML2.9(LJU), ML2.9(ZAG), Error ellipse: s-maj=4.2km s-min=3.0km az=212.0*
*CSEM **04** 04:41:13.9±0.1, 4441N×1655E, h40km, ML3.1/3, Error ellipse: s-maj=1.8km s-min=1.3km az=42.0*
*SZGRF **04** 04:41:13.0, 4445N×1673E, h10km, mb3.2, Northwestern Balkan Peninsula*
*IPEC **04** 04:41:14.1±0.5, 4446N×1658E, h17km±2km, ML2.2/1, Error ellipse: s-maj=2.9km s-min=2.1km az=163.0*
ISC 04 04:41:12.0±0.2, 4438N±002×1650E±002, h10km, n121, σ1§29/189, 21C-23D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISC	**Sisak**	**1.09**	**355**	*i* Pg	**Pg**	**04 41 33.6**	**+0.5**
SISC				*i* Sg	**Sg**	**04 41 50.8**	**+3.5**
SISC	**Sisak**	**1.09**	**355**	*i* Pg	**Pg**	**04 41 33.6**	**+0.5**
SISC				*i* Sg	**Sg**	**04 41 50.7**	**+3.4**
NVLJ	**Novalja**	**1.18**	**279**	*i* Pn	**Pn**	**04 41 32.7**	**-1.9**
NVLJ				*i* Sg	**Sg**	**04 41 51.9**	**+1.8**
NVLJ	**Novalja**	**1.18**	**279**	*i* Pn	**Pn**	**04 41 32.7**	**-1.9**
NVLJ				*i* Sg	**Sg**	**04 41 51.8**	**+1.7**
BOJS	**Bojanci**	**1.43**	**322**	*e*Pn	**Pn**	**04 41 37.4**	**-0.6**
BOJS				*e*Sn	**Sn**	**04 41 59.4**	**+2.5**
BOJS							
	comp=Z,201nm,0.5s						
CRES	**Cresnjev**	**1.62**	**333**	*i* Pn	**Pn**	**04 41 41.0**	**+0.4**
CRES							
	comp=Z,151nm,0.6s						
CRES	**Cresnjev**	**1.62**	**333**	*e*Pn	**Pn**	**04 41 41.0**	**+0.3**
STON	**Ston**	**1.74**	**150**	*i* Pn	**Pn**	**04 41 37.7**	**-4.6**
STON				*i* Sg	**Sg**	**04 42 02.7**	**-5.3**
STON	**Ston**	**1.74**	**150**	*i* Pn	**Pn**	**04 41 37.7**	**-4.6**
STON				*i* Sg	**Sg**	**04 42 02.6**	**-5.4**
KNDS	**Knezji Dol**	**1.89**	**308**	*e*Pn	**Pn**	**04 41 46.2**	**+1.8**
RHK3	**Tenkes**	**1.95**	**39**	⇓*i*P	**Pn**	**04 41 43.4**	**-1.8**
RHK3				*e*S	**Sn**	**04 42 09.5**	**-0.2**
	comp=Z,2.0nm,0.4s						
CEY	**Cerknica**	**2.00**	**313**	*e*Pn	**Pn**	**04 41 46.5**	**+0.6**
RHK1	**Bakonya**	**2.04**	**32**	⇑*e*P	**Pn**	**04 41 44.1**	**-2.3**
RHK1				*e*S	**Sn**	**04 42 09.6**	**-2.4**
	comp=Z,8.3nm,0.7s						
KOGS	**Kog**	**2.08**	**355**	*i* Pn	**Pn**	**04 41 46.6**	**-0.2**
BRY	**Bratogost**	**2.10**	**134**	⇓*i*Pn	**Pn**	**04 41 46.1**	**-1.0**
BRY				*e*Sn	**Sn**	**04 42 15.0**	**+1.7**
UPM	**Unac-Piva**	**2.10**	**123**	⇓*i*Pn	**Pn**	**04 41 46.0**	**-1.3**
UPM				*e*Sn	**Sn**	**04 42 15.1**	**+1.6**
LJU	**Ljubljana**	**2.17**	**321**	*e*Pn	**Pn**	**04 41 51.4**	**+3.2**
LJU				*e*Sn	**Sn**	**04 42 24.3**	**+9.2**
LJU	**Ljubljana**	**2.17**	**321**	*e*Pn	**Pn**	**04 41 48.8**	**+0.6**
LJU	**Ljubljana**	**2.17**	**321**	*e*P	**Pn**	**04 41 51.4**	**+3.2**
GROS	**Grobnik**	**2.20**	**342**	*i* Pn	**Pn**	**04 41 48.6**	**0.0**
PLE	**Pljevlja**	**2.34**	**116**	⇓*i*Pn	**Pn**	**04 41 49.8**	**-0.7**
PLE				*e*Sn	**Sn**	**04 42 20.5**	**+1.1**
TRI	**Trieste**	**2.35**	**305**	*e*Pn	**Pn**	**04 41 52.1**	**+1.4**
PKSM	**Moragy**	**2.37**	**39**	⇑*i*P	**Pn**	**04 41 50.7**	**-0.3**
PKSM				S	**Sn**	**04 42 26.5**	**+6.3**
PKSM	**Moragy**	**2.37**	**39**	*i* P	**Pn**	**04 41 50.7**	**-0.3**
PKSM				*e*S	**Sn**	**04 42 22.8**	**+2.6**
PKSM	**Moragy**	**2.37**	**39**	⇑*i*P	**Pn**	**04 41 50.7**	**-0.3**
PKSM				*i* S	**Sn**	**04 42 26.5**	**+6.3**
NKY	**Niksic**	**2.40**	**130**	⇓*i*Pn	**Pn**	**04 41 50.5**	**-0.8**
NKY				*e*Sn	**Sn**	**04 42 22.4**	**+1.6**
HCY	**Herceg Novi**	**2.42**	**142**	⇓*i*Pn	**Pn**	**04 41 49.9**	**-1.7**
HCY				*e*Sn	**Sn**	**04 42 22.6**	**+1.4**
VOY	**Vojsko**	**2.47**	**313**	*e*Pn	**Pn**	**04 41 54.1**	**+1.7**
VOY				*e*		04 41 58.7	
VOY				*e*		04 42 32.2	
DIVS	**Divcibare**	**2.52**	**95**	⇓*i*Pn	**Pn**	**04 41 55.3**	**+2.2**
DIVS				Sn	**Sn**	**04 42 27.3**	**+3.5**
OBKA	**Obir**	**2.53**	**328**	⇑Sn	**Sn**	**04 42 29.0**	**+4.9**
OBKA	**Obir**	**2.53**	**328**	⇑*e*Pn	**Pn**	**04 41 53.8**	**+0.6**
	SNR=16						
OBKA				⇑*i*Sn	**Sn**	**04 42 29.0**	**+4.9**
OBKA	**Obir**	**2.53**	**328**	*e*Pn	**Pn**	**04 41 53.4**	**+0.2**
OBKA	**Obir**	**2.53**	**328**	⇑*e*Pn	**Pn**	**04 41 53.8**	**+0.6**
OBKA				Sn	**Sn**	**04 42 29.0**	**+4.9**
CADS	**Cadrg**	**2.69**	**314**	*e*Pn	**Pn**	**04 41 55.6**	**+0.4**
BUM	**Brajici-Budva**	**2.72**	**139**	⇓*i*Pn	**Pn**	**04 41 54.5**	**-1.2**
BUM				*e*Sn	**Sn**	**04 42 30.3**	**+1.7**
TTG	**Podgorica**	**2.80**	**133**	⇓*i*Pn	**Pn**	**04 41 55.8**	**-1.1**
TTG				*e*Sn	**Sn**	**04 42 31.5**	**+0.8**
IVA	**Berane**	**2.89**	**120**	*e*Pn	**Pn**	**04 41 57.4**	**-0.7**
IVA				*e*Sn	**Sn**	**04 42 34.3**	**+1.4**
ARSA	**Arzberg**	**2.95**	**347**	⇑Sn	**Sn**

MOTA	**Moosalm**	**4.79**	**310**	⇓*i*Pn	**Pn**	**04 42 25.6**	**+1.4**
	SNR=6.9						
MOTA				⇓*i*Sn	**Sn**	**04 43 25.4**	**+5.5**
MOTA	**Moosalm**	**4.79**	**310**	⇓*i*Pn	**Pn**	**04 42 25.6**	**+1.3**
MOTA				Sn	**Sn**	**04 43 25.4**	**+5.5**
MOTA	**Moosalm**	**4.79**	**310**	⇓*i*Pn	**Pn**	**04 42 25.6**	**+1.4**
MOTA				Sn	**Sn**	**04 43 25.4**	**+5.5**
GEC2	**GERESS Array S**	**4.86**	**338**	*e*Pn	**Pn**	**04 42 26.2**	**+1.0**
GEC2				*e*Sn	**Sn**	**04 43 19.3**	**-2.3**
FUORN	**Ofenpass**	**4.92**	**299**	*e*Pn	**Pn**	**04 42 27.8**	**+1.8**
VRAC	**Vranov**	**4.93**	**1**	*e*Pn	**Pn**	**04 42 25.8**	**-0.3**
KECS	**Kecovo**	**4.94**	**32**	*e*PN	**Pn**	**04 42 27.2**	**+0.9**
KECS				*e*SN	**Sn**	**04 43 20.9**	**-2.6**
TREC	**Trest**	**4.96**	**352**	*e*PN	**Pn**	**04 42 28.1**	**+1.5**
DRGR		**4.98**	**59**	*i* P	**Pn**	**04 42 28.1**	**+1.3**
DRGR				*i* S	**Sn**	**04 43 23.6**	**-0.9**
DRGR		**4.98**	**59**	⇓*i*P	**Pn**	**04 42 28.1**	**+1.2**
DRGR				*i* S	**Sn**	**04 43 23.6**	**-0.9**
KHC	**Kasperske Hory**	**5.16**	**338**	*e*PN	**Pn**	**04 42 30.3**	**+1.0**
KHC				*e*SN	**Sn**	**04 43 28.9**	**+0.1**
KHC	**Kasperske Hory**	**5.16**	**338**	*e*Pn	**Pn**	**04 42 30.2**	**+0.9**
KHC				*e*S	**Sn**	**04 43 28.9**	**+0.1**
WET	**Wettzell**	**5.38**	**334**	*e*Pn	**Pn**	**04 42 32.8**	**+0.6**
WET				*e*Sn	**Sn**	**04 43 34.6**	**+0.4**
	comp=N,208nm,6.6s						
WET	**Wettzell**	**5.38**	**334**	*e*Pn	**Pn**	**04 42 32.6**	**+0.3**
WET	**Wettzell**	**5.38**	**334**	*e*Pn	**Pn**	**04 42 32.8**	**+0.6**
	comp=N,208nm,6.6s						
WET				*e*Sn	**Sn**	**04 43 34.6**	**+0.4**
MORC	**Moravsky Berou**	**5.45**	**7**	*e*P	**Pn**	**04 42 33.5**	**+0.3**
MORC	**Moravsky Berou**	**5.45**	**7**	*e*Pn	**Pn**	**04 42 33.5**	**+0.3**
	comp=N,5.8nm,0.6s						
PGF	**Pioggiola**	**5.76**	**254**	*e*Pn	**Pn**	**04 42 36.8**	**-0.7**
PRU	**Pruhonice**	**5.77**	**347**	*e*Pn	**Pn**	**04 42 38.2**	**+0.6**
PRU	**Pruhonice**	**5.77**	**347**	*e*P	**Pn**	**04 42 38.1**	**+0.5**
DPC	**Dobruska-Polom**	**5.97**	**359**	*e*PN	**Pn**	**04 42 41.5**	**+1.0**
STHS	**Stebnicka Huta**	**5.99**	**31**	*e*SN	**Sn**	**04 43 48.4**	**-1.0**
ROTZ	**Rotzenmuhle**	**6.13**	**333**	*e*Pn	**Pn**	**04 42 42.6**	**-0.1**
NKC	**Novy Kostel**	**6.47**	**336**	*e*PN	**Pn**	**04 42 48.4**	**+1.1**
WERN	**Wernitzgruen**	**6.54**	**336**	*e*Pn	**Pn**	**04 42 48.2**	**0.0**
SBF	**Sospel**	**6.55**	**269**	*e*Pn	**Pn**	**04 42 47.0**	**-1.3**
MBDF	**Montbardon**	**6.96**	**276**	*e*Pn	**Pn**	**04 42 51.3**	**-2.7**
MBDF				*e*Sn	**Sn**	**04 44 08.1**	**-5.1**
	comp=N,6.8nm,0.6s						
MBDF	**Montbardon**	**6.96**	**276**	*e*Sn	**Sn**	**04 44 08.1**	**-5.1**
	comp=N,3.4nm,0.6s						
LPG	**La Plagne**	**7.01**	**283**	*e*Pn	**Pn**	**04 42 54.0**	**-0.7**
LPL	**La Plagne**	**7.03**	**283**	*e*Pn	**Pn**	**04 42 54.5**	**-0.4**
LPL				*e*Sn	**Sn**	**04 44 10.7**	**-4.1**
	comp=N,3.2nm,0.5s						
LPL	**La Plagne**	**7.03**	**283**	*e*Pn	**Pn**	**04 42 54.5**	**-0.4**
LPL				*e*Sn	**Sn**	**04 44 10.7**	**-4.1**
	comp=N,1.6nm,0.5s						
MOX	**Moxa**	**7.08**	**334**	*e*Pn	**Pn**	**04 42 56.3**	**+0.6**
FRF	**La Foret Royal**	**7.16**	**267**	*e*Pn	**Pn**	**04 42 55.2**	**-1.5**
FRF				*e*Sn	**Sn**	**04 44 15.9**	**-2.2**
	comp=N,1.9nm,0.4s						
LMR	**La Mourre**	**7.30**	**265**	*e*Pn	**Pn**	**04 42 57.1**	**-1.6**
LMR				*e*Sn	**Sn**	**04 44 17.7**	**-3.9**
	comp=N,0.8nm,0.2s						
LMR	**La Mourre**	**7.30**	**265**	*e*Pn	**Pn**	**04 42 57.1**	**-1.6**
LMR				*e*Sn	**Sn**	**04 44 17.7**	**-3.9**
	comp=N,0.4nm,0.2s						
CDF	**Champ du Feu**	**7.54**	**306**	*e*Pn	**Pn**	**04 43 01.2**	**-0.8**
ORIF	**Oris-en-Rattie**	**7.59**	**278**	*e*Pn	**Pn**	**04 43 02.8**	**+0.1**
CABF	**La Chapelle**	**7.65**	**291**	*e*Pn	**Pn**	**04 43 03.2**	**-0.3**
SMRF	**Simiane la Rot**	**7.87**	**271**	*e*Pn	**Pn**	**04 43 04.7**	**-1.8**
VIVF	**Saint-Julien-l**	**8.45**	**277**	*e*Pn	**Pn**	**04 43 12.7**	**-1.8**
SMF	**Signal de Mont**	**9.17**	**289**	*e*Pn	**Pn**	**04 43 23.4**	**-1.0**
LOR	**Lormes**	**9.29**	**293**	*e*Pn	**Pn**	**04 43 24.8**	**-1.1**
SSF	**Saint Saulge**	**9.48**	**291**	*e*Pn	**Pn**	**04 43 28.4**	**-0.2**
SSF	**Saint Saulge**	**9.48**	**291**	*e*P	**Pn**	**04 43 28.1**	**-0.5**
AVF	**Avril sur Loir**	**9.53**	**289**	*e*Pn	**Pn**	**04 43 28.1**	**-1.2**
BGF	**Bois d'Algland**	**9.84**	**288**	*e*Pn	**Pn**	**04 43 32.8**	**-0.7**
TCF	**Toulx Ste Croi**	**10.24**	**286**	*e*Pn	**Pn**	**04 43 37.8**	**-1.3**

*NEIC **04** 04:58:46.8,3506S×7049W,h16km,ML2.7(GUC),After GUC.*

GUC 04 04:58:46.8±0.7,3506S×7049W,h16km±3km,MD3.5, ML2.7,9C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.62**	**316**	⇑*i*P	Pg	04 58 58.8	-0.2
SFDO				*i* S	Sg	04 59 07.4	+0.2
CICH	**Cipreses**	**0.74**	**5**	⇓*i*P	Pg	04 59 00.4	-0.9
CICH				*i* S	Sg	04 59 11.4	+0.3
CACH	**El Canelo**	**0.95**	**355**	⇑*i*P	Pb	04 59 04.0	-0.8
CACH				*i* S	Sb	04 59 17.8	+0.8
CHCH	**Chadas Angostu**	**1.13**	**353**	⇑*i*P	Pn	04 59 07.7	-0.3
CHCH				*i* S	Sb	04 59 23.6	+1.1
LNV	**Longovilo**	**1.34**	**325**	⇓*i*P	Pn	04 59 11.0	+0.2
LNV				*i* S	Sn	04 59 29.3	+1.1
PCH	**Pirque**	**1.44**	**359**	⇑*i*P	Pn	04 59 13.2	+1.1
PCH				*i* S	Sn	04 59 33.4	+2.7
TACH	**Talagante**	**1.45**	**345**	⇑*i*P	Pn	04 59 12.9	+0.6
TACH				*i* S	Sn	04 59 32.8	+1.8
ANTU	**Antumapu**	**1.49**	**355**	⇓*i*P	Pn	04 59 14.1	+1.2
ANTU				*i* S	Sn	04 59 34.4	+2.4
ANTU				AMP		04 59 36.6	
	comp=E,159nm,0.2s						
ANTU	**Antumapu**	**1.49**	**355**	⇓*i*P	Pn	04 59 14.1	+1.2
ANTU				*i* S	Sn	04 59 34.4	+2.4
RCDM	**Rinconada Maip**	**1.59**	**351**	*i* P	Pn	04 59 15.6	+1.3
RCDM				*i* S	Sn	04 59 36.9	+2.5
RCDM				AMP		04 59 38.2	
	comp=E,226nm,0.1s						
RCDM	**Rinconada Maip**	**1.59**	**351**	*i* P	Pn	04 59 15.6	+1.3
RCDM				*i* S	Sn	04 59 36.9	+2.5
FCH	**Farellones**	**1.74**	**6**	⇑*i*P	Pn	04 59 18.5	+2.3
FCH				*i* S	Sn	04 59 42.4	+4.3
FCH				AMP		04 59 45.0	
	comp=E,88nm,0.2s						
LCCH	**Las Cruces**	**1.82**	**330**	⇑*i*P	Pn	04 59 19.2	+1.8
LCCH				*i* S	Sn	04 59 43.1	+3.1
PEL	**Peldehue**	**1.92**	**355**	⇑*i*P	Pn	04 59 21.1	+2.3
PEL				*i* S	Sn	04 59 46.9	+4.3
PEL				AMP		04 59 54.7	
	comp=E,116nm,0.6s						
PEL	**Peldehue**	**1.92**	**355**	⇑*i*P	Pn	04 59 21.1	+2.3
PEL				*i* S	Sn	04 59 46.9	+4.3
ROCH	**El Roble**	**2.13**	**348**	*e*P	Pn	04 59 24.7	+3.0
ROCH				*i* S	Sn	04 59 54.3	+6.6

IDC 04 05:11:50.5±3.7,564S×13154E,h0km,mb4.3/1,mb1 4.4/3, mb1mx3.9/12,mbtmp4.2/3,ML4.2/2,Error ellipse: s-maj=257.6km s-min=30.0km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.48**	**169**	Pn	Pn	05 15 16.6	0.0
	1.2nm,0.3s,baz=350,slow=11,SNR=8.5						
WRA				Sn	Sn	05 17 43.4	-14
	2.0nm,0.3s,baz=344,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**18.07**	**173**	P	Pn	05 16 03.2	+0.2
	0.8nm,0.3s,baz=348,slow=10,SNR=40						
ASAR				S	Sn	05 19 09.8	-15
	0.5nm,0.3s,baz=355,slow=28,SNR=6.4						
MKAR	**Makanchi Array**	**67.94**	**326**	P	P	05 22 51.4	+0.2
	2.0nm,0.5s,baz=115,slow=8.0,SNR=50						

*SZGRF **04** 05:26:16.6,1789S×17678W,h33km,Fiji Islands region*
*NEIC **04** 05:27:16.1±2.3,1821S×17790W,h576km±26km,mb4.3/7, Error ellipse: s-maj=19.1km s-min=13.1km az=158.0*
*ISCJB **04** 05:27:17.5±3.0,183S±02×1780W±01,h610km±43km, mb4.1/18,Error ellipse: s-maj=34.5km s-min=15.2km az=129.8*
*IDC **04** 05:27:18.3±2.7,1825S×17800W,h600km±33km,mb3.4/9, mb1 3.7/9,mb1mx3.5/16,mbtmp4.3/9,Error ellipse: s-maj=29.7km s-min=13.8km az=150.0*

ISC 04 05:27:18.5±3.2,183S±02×1779W±01,h608km±42km,n62, σ0°78/27,mb4.1/18,1C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.39**	**191**	P	**P**	**05 31 14.5**	**-0.7**
	2.8nm,0.3s,baz=273,slow=13,SNR=5.8						
CNB	**Canberra Magne**	**33.63**	**233**	*e*P	**P**	**05 33 21.6**	**+11**
	22nm,1.1s,mb4.7						
CTA	**Charters Tower**	**33.91**	**261**	⇓*i*P	**P**	**05 33 13.1**	**+0.4**
	5.8nm,0.4s,mb4.6						
CTAO	**Charters Tower**	**33.91**	**261**	*e*P	**P**	**05 33 12.7**	**0.0**
	12nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**38.92**	**242**	⇓*i*P	**P**	**05 33 53.1**	**-0.6**
	6.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.92**	**242**	P	**P**	**05 33 53.2**	**-0.5**
	7.6nm,0.5s,mb4.5,baz=89,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**38.92**	**242**	P	**P**	**05 33 53.2**	**-0.5**
WB2	**Warramunga Arr**	**45.08**	**260**	⇑*i*P	**P**	**05 34 41.9**	**+0.1**
WRAB	**Tennant Creek**	**45.08**	**260**	*e*P	**P**	**05 34 41.7**	**-0.1**
	13nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**05 34 41.4**	**-0.5**
	7.5nm,0.6s,mb4.4,baz=94,slow=7.6,SNR=69						
WRA				PcP	PcP	05 36 09.6	+0.5
	0.3nm,0.3s,baz=90,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**05 34 41.4**	**-0.5**
WRA				PcP	PcP	05 36 09.6	+0.5
ASAR	**Alice Springs**	**45.21**	**255**	P	**P**	**05 34 43.3**	**+0.5**
	11nm,0.5s,mb4.7,baz=90,slow=7.9,SNR=171						
ASAR				PcP	PcP	05 36 10.4	+0.9
	1.7nm,0.4s,baz=104,slow=3.8,SNR=8.8						
ASAR				S	**S**	**05 40 38.6**	**-0.9**
	0.7nm,0.9s,baz=89,slow=16,SNR=6.2						
ASPA	**Alice Springs**	**45.21**	**255**	⇓*i*P	**P**	**05 34 43.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.49**	**261**	*e*P	**P**	**05 35 44.1**	**+0.7**
	2.2nm,0.3s,mb4.0						
MBWA	**Marble Bar**	**58.50**	**256**	*e*P	**P**	**05 36 17.6**	**-0.2**
	4.4nm,0.4s,mb3.9						
KLBR	**Kellerberrin**	**59.14**	**244**	*e*P	**P**	**05 36 22.4**	**+0.3**
	9.3nm,0.7s,mb4.0						
MJAR	**Matsushiro Art**	**68.53**	**323**	P	**P**	**05 37 20.3**	**-1.2**
	2.5nm,0.5s,mb3.9,baz=160,slow=6.0,SNR=6.6						
KSM	**Kuching**	**73.26**	**277**	*e*P	**P**	**05 37 50.3**	**+1.1**
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**05 38 24.5**	**+2.1**
	0.3nm,0.5s,mb2.9,baz=225,slow=8.9,SNR=3.5						
MCK	**McKinley**	**84.79**	**12**	P	**P**	**05 38 49.5**	**-0.4**
	1.1nm,0.5s,mb3.7						
ENH	**Enshi**	**84.92**	**304**	*e*P	**P**	**05 38 51.7**	**+1.1**
	5.8nm,0.6s,mb4.4						
COLA	**College**	**86.02**	**12**	*e*P	**P**	**05 38 54.6**	**-1.2**
	2.4nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**86.13**	**13**	P	**P**	**05 38 55.4**	**-0.9**
	1.0nm,0.4s,mb3.8,baz=220,slow=4.8,SNR=48						
BILL	**Bilibino**	**86.86**	**354**	*e*P	**P**	**05 38 59.5**	**-0.2**
	3.7nm,0.3s,mb4.6						
PDAR	**Pinedale Array**	**87.26**	**43**	P	**P**	**05 39 02.1**	**+0.5**
	0.4nm,0.6s,mb3.3,baz=236,slow=5.3,SNR=3.5						
YKA	**Yellowknife Ar**	**94.45**	**25**	P	**P**	**05 39 34.4**	**-0.3**
	0.3nm,0.6s,mb3.6,baz=243,slow=4.3,SNR=7.9						
TRD	**Trivandrum**	**106.99**	**274**	*e*P	PKiKP	05 44 34.3	-1.9
MKAR	**Makanchi Array**	**109.78**	**314**	PKiKP	PKiKP	05 44 40.6	-0.8
	0.2nm,0.5s,baz=200,slow=0.5,SNR=7.0						
ARCES	**ARCESS Array B**	**126.78**	**350**	PKP	PKPdf	05 45 13.1	-0.9
	0.4nm,0.3s,baz=94,slow=0.9,SNR=18						
FINES	**FINESS Array B**	**133.69**	**344**	PKhKP		05 45 18.9	
	0.5nm,0.6s,baz=45,slow=5.4,SNR=3.5						
FINES				PKP	PKPdf	05 45 25.9	-1.2
	0.3nm,0.3s,baz=90,slow=3.8,SNR=5.6						
AKASG	**Malin Array Be**	**141.14**	**333**	PKP	PKPdf	05 45 42.1	+1.4
	0.6nm,0.4s,baz=45,slow=2.8,SNR=4.1						
EKA	**Eskdalemuir Ar**	**142.79**	**5**	PKhKP		05 45 40.8	
	0.5nm,0.5s,baz=306,slow=2.8,SNR=5.4						
BSEG	**Bad Segeberg**	**143.86**	**352**	*e*PKPbc	PKPdf	05 45 45.2	-0.3
STHS	**Stebnicka Huta**	**145.34**	**338**	*e*PKP	PKPdf	05 45 49.5	+1.4
KOLS	**Kolonicke sedl**	**145.36**	**336**	*e*PKP	PKPdf	05 45 50.1	+2.0
BR131	**Keskin Array S**	**145.43**	**315**	*e*PKPdf	PKPdf	05 45 50.2	+2.0
BRTR	**Keskin Array B**	**145.43**	**315**	PKPbc	PKPbc	05 45 50.3	+0.6
	2.4nm,0.7s,baz=126,slow=4.3,SNR=16						
KSP	**Ksiaz**	**145.62**	**344**	*e*P	PKPdf	05 45 50.7	+2.2
CLZ	**Clausthal**	**145.89**	**351**	*e*PKPbc	PKPbc	05 45 51.7	+0.7
CLL	**Collm**	**145.94**	**348**	*e*PKPbc	PKPbc	05 45 51.5	+0.4
CLL	**Collm**	**145.94**	**348**	⇓*i*PKP	PKPdf	05 45 51.4	+2.3
	comp=Z,11nm,0.7s						
UPC	**Upice**	**146.00**	**344**	*e*PKP	PKPdf	05 45 51.8	+2.6
DPC	**Dobruska-Polom**	**146.06**	**344**	*e*P	PKPdf	05 45 52.2	+2.9
BRG	**Berggiesshubel**	**146.16**	**347**	*e*PKPbc	PKPbc	05 45 52.3	+0.6
BRG	**Berggiesshubel**	**146.16**	**347**	*i* P	PKPdf	05 45 52.2	+2.8
PVCC	**Panska Ves**	**146.34**	**346**	*e*PKP	PKPdf	05 45 52.9	+3.2
KECS	**Kecovo**	**146.40**	**338**	*e*PKP	PKPdf	05 45 53.2	+3.4
PRU	**Pruhonice**	**146.84**	**345**	*e*PKP	PKPdf	05 45 53.9	+3.3
WERD	**Werda**	**146.90**	**348**	*e*PKPbc	PKPbc	05 45 54.4	+0.7
VYHS	**Vyhne**	**146.96**	**340**	*e*PKP	PKPdf	05 45 54.2	+3.4
TREC	**Trest**	**147.24**	**344**	*e*PKP	PKPdf	05 45 55.0	+3.7
SMOL	**Smolenice**	**147.39**	**341**	*e*PKP	PKPdf	05 45 56.1	+4.6
ROTZ	**Rotzenmuhle**	**147.57**	**348**	*e*PKPbc	PKPbc	05 45 56.2	+0.8
TNS	**Taunus Mts**	**147.74**	**352**	*e*PKPbc	PKPbc	05 45 56.3	+0.4
GRA1	**Grafenberg Arr**	**147.83**	**349**	*e*PKPbc	PKPbc	05 45 57.0	+0.9
GRF	**Grafenberg Arr**	**147.83**	**349**	*e*PKPbc	PKPbc	05 45 57.0	+0.9
KHC	**Kasperske Hory**	**147.87**	**346**	*e*PKP	PKPdf	05 45 56.9	+4.6
EIL	**Elat**	**148.07**	**297**	*e*PKPbc	PKPbc	05 45 57.8	+1.1
GEC2	**GERESS Array S**	**148.11**	**346**	*e*PKPbc	PKPbc	05 45 57.7	+0.9
GERES	**GERESS Array B**	**148.11**	**346**	PKPbc	PKPbc	05 45 57.2	+0.4
	comp=Z,1.8nm,0.5s,baz=21,slow=3.0,SNR=24						
WLF	**Walferdange**	**148.53**	**355**	*e*PKPbc	PKPbc	05 45 58.9	+1.1
WLF	**Walferdange**	**148.53**	**355**	*e*PKPbc	PKPbc	05 45 58.3	+0.4

*NEIC **04** 05:52:45.4,2227S×6858W,h100km,MD3.7(GUC),After GUC.*

GUC 04 05:52:45.4±0.7,2227S×6858W,h100km,MD3.7,ML3.2, 1C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.46**	**221**	*e*Pn	Pn	05 53 02.1	+1.2
LVC				*e*Sn	Sn	05 53 13.8	+1.4
SPCH	**San Pedro de A**	**0.73**	**151**	⇓*i*P	Pn	05 53 04.1	+1.0
SPCH				*i* S	Sn	05 53 17.9	+1.6
SPCH				AMP		05 53 18.4	
	comp=N,344nm,0.4s						
SPCH	**San Pedro de A**	**0.73**	**151**	⇓*i*P	Pn	05 53 04.1	+1.0
SPCH				*i* S	Sn	05 53 17.9	+1.6
CEN1	**Los Morros**	**1.87**	**233**	*e*P	Pn	05 53 19.7	+3.5
CEN1				*i* S	Sn	05 53 46.0	+6.3
CEN1				AMP		05 53 52.2	
	comp=N,221nm,0.8s						
ANCH	**Antofagasta**	**2.20**	**230**	⇑*i*P	Pn	05 53 21.0	+0.5
ANCH				*i* S	Sn	05 53 48.4	+1.0
CPN1	**Cerro Paranal**	**2.88**	**215**	*e*P	Pn	05 53 32.1	+2.5
CPN1				*i* S	Sn	05 54 06.6	+3.0
CPN1				AMP		05 54 12.9	
	comp=E,146nm,0.5s						
LPAZ	**La Paz**	**5.96**	**4**	*e*Pn	Pn	05 54 15.4	+4.3

IDC 04 06:20:47.5±2.4,664S×13082E,h0km,mb3.5/1,mb1 3.8/3, mb1mx3.6/12,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=140.1km s-min=31.7km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.66**	**166**	Pn	Pn	06 24 02.1	-0.4
	0.3nm,0.3s,baz=349,slow=13,SNR=10						
WRA				Sn	Sn	06 26 23.9	-11
	1.1nm,0.3s,baz=334,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.19**	**170**	P	Pn	06 24 49.8	+0.7
	0.3nm,0.3s,baz=348,slow=9.6,SNR=23						
ASAR				S	Sn	06 27 47.8	-13
	0.2nm,0.3s,baz=336,slow=14,SNR=9.6						
MKAR	**Makanchi Array**	**68.37**	**326**	P	P	06 31 51.0	+0.2
	0.3nm,0.6s,baz=114,slow=7.3,SNR=6.8						

*ISCJB **04** 06:53:38.6±0.5,5594S±007×2811W±0.1,h100km,mb4.4/13, Error ellipse: s-maj=12.6km s-min=6.8km az=86.1*
*IDC **04** 06:53:41.6±0.7,5620S×2819W,h119km±5km,mb4.3/9, mb1 4.3/9,mb1mx4.1/15,mbtmp4.6/9,MS3.5/5,Ms1 3.5/5, ms1mx3.4/13,Error ellipse: s-maj=26.6km s-min=14.8km az=20.0*
*NEIC **04** 06:53:41.1±0.4,5589S×2792W,mb4.9/3,Error ellipse: s-maj=15.3km s-min=9.0km az=224.0*
*HRVD **04** 06:53:41.1±0.4,5610S×2763W,h121km±4km,MW5.0/70, Centroid moment Tensor Solution. LP body waves: s19,c19;Mantle waves: s70,c102; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.61±.19; Mθθ-0.76±.25; Mφφ0.14±.19; Mrθ-2.66±.12; Mφφ2.40±.18; Mφr0.11±.10; Best double couple: M0=3.63000×10^16 NP1:ϕs174.00000°,δ41.00000°,λ171.00000°. NP2: ϕs270.00000°,δ84.00000°,λ49.00000°. Principal axes: T 3.4030, Plg37.0000°, Azm145.0000°; N 0.4540, Plg41.0000°, Azm275.0000°; P -3.8570, Plg27.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 04 06:53:40.2±0.5,5596S±008×281W±01,h100km, (h109km±2.7km:pP-P),n33,σ1±08/24,mb4.4/13,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.11**	**286**	*e*Pn	**Pn**	**06 54 57.7**	**+3.3**
	231nm,0.9s						
HOPE				*e*Sn	**Sn**	**06 55 51.4**	**-0.8**
VNA3	**Neumayer Olymp**	**17.24**	**160**	⇑*i*P	**Pn**	**06 57 35.5**	**+0.8**
VNA3				*e*		06 57 38.3	
VNA3				*e*		06 57 43.2	
VNA3	**Neumayer Olymp**	**17.24**	**160**	⇑*i*P	**Pn**	**06 57 35.5**	**+0.8**
VNA3				*e*		06 57 38.3	
VNA2	**Neumayer--Watz**	**17.46**	**157**	⇑*i*P	**Pn**	**06 57 38.0**	**+0.6**
	baz=319,slow=12						
VNA2				*e*		06 57 41.0	
VNA2				*e*		06 57 44.1	
VNA2				*e*		06 57 48.1	
VNA2	**Neumayer--Watz**	**17.46**	**157**	⇑*i*P	**Pn**	**06 57 38.0**	**+0.6**
VNA2				*e*		06 57 41.0	
SNAA	**Sanae**	**19.03**	**156**	P	**P**	**06 57 54.7**	**+0.4**
	4.0nm,0.3s,baz=307,slow=9.9,SNR=264						
SNAA				S	**S**	**07 01 19.9**	**-5.0**
	0.0nm,0.3s,baz=336,slow=8.8,SNR=1.7						
SNAA				LR	LR	07 03 43.2	
	comp=Z,47nm,21.3s,baz=63,slow=32						
USHA	**Ushuaia**	**22.73**	**256**	LR	LR	07 05 17.5	
	comp=Z,161nm,21.3s,baz=85,slow=31						
PLCA	**Paso Flores**	**31.50**	**281**	LR	LR	07 11 40.4	
	comp=Z,86nm,18.8s,baz=306,slow=34						
CFAA	**Coronel Fontan**	**37.07**	**294**	P	**P**	**07 00 39.4**	**-1.1**
	0.3nm,0.9s,mb3.2,baz=134,slow=10,SNR=5.9						
CFAA				pP	pP	07 01 05.1	+1.7
	0.3nm,0.8s,baz=147,slow=6.8,SNR=3.3						
CFAA	**Coronel Fontan**	**37.07**	**294**	P	**P**	**07 00 39.4**	**-1.1**
CFAA				pP	pP	07 01 05.1	+1.7
BDFB	**Brasilia**	**43.04**	**331**	P	**P**	**07 01 30.1**	**+0.2**
	3.7nm,1.0s,mb4.1,baz=135,slow=8.4,SNR=4.5						
BDFB				LR	LR	07 16 14.0	
	comp=Z,110nm,20.0s,baz=153,slow=31						
LVC	**Limon Verde**	**44.83**	**301**	P	**P**	**07 01 45.4**	**+1.3**
	5.9nm,0.6s,mb4.5,baz=125,slow=5.6,SNR=9.6						
BOSA	**Boshof**	**46.43**	**77**	P	**P**	**07 01 57.1**	**+0.2**
	1.6nm,0.7s,mb3.9,baz=216,slow=9.9,SNR=4.5						
BOSA				LR	LR	07 17 18.9	
	comp=Z,99nm,18.5s,baz=211,slow=30						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**07 01 58.7**	**+0.2**
	33nm,0.8s,mb5.1,baz=189,slow=6.5,SNR=74						
LBTB	**Lobatse**	**49.46**	**74**	P	**P**	**07 02 20.4**	**+0.3**
	6.2nm,0.8s,mb4.6,baz=233,slow=7.2,SNR=9.9						
LBTB	**Lobatse**	**49.46**	**74**	P	**P**	**07 02 20.4**	**+0.2**
LPAZ	**La Paz**	**49.92**	**306**	P	**P**	**07 02 25.5**	**+1.8**
	3.3nm,0.7s,mb4.4,baz=154,slow=7.0,SNR=7.1						
LPAZ				pP	pP	07 02 51.0	+3.4
	4.7nm,0.7s,baz=178,slow=3.4,SNR=3.6						
SAML	**Samuel**	**54.39**	**316**	*e*P	**P**	**07 02 56.3**	**-0.4**
	4.1nm,0.9s,mb4.5						
LSZ	**Lusaka**	**58.81**	**70**	P	**P**	**07 03 27.1**	**-1.0**
	13nm,1.3s,mb4.8						
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**07 05 00.7**	**+0.4**
	15nm,0.8s,mb4.9,baz=198,slow=6.5,SNR=87						
TORD				pP	pP	07 05 27.3	+1.5
	3.0nm,0.9s,baz=198,sl

AYDN *i* S **Sb** **07 17 12.0 -0.4**
BODT Bodrum 1.44 152 PN **Pn** **07 16 56.8 -0.3**
BODT Bodrum 1.44 152 Pn **Pn** **07 16 56.9 -0.2**
BODT Bodrum 1.44 152 Pn **Pn** **07 16 56.9 -0.3**
APE Apeiranthos 1.47 211 PN **Pn** **07 16 57.4 -0.1**
APE Apeiranthos 1.47 211 *e*Pn **Pn** **07 16 57.4 -0.1**
MLSB Milas 1.47 135 *e*PN **Pn** **07 16 57.4 -0.1**
MLSB Milas 1.47 135 Pn **Pn** **07 16 57.4 -0.1**
EZN Ezine 1.49 356 *e*PN **Pn** **07 16 57.9 +0.2**
EZN Ezine 1.49 356 Pn **Pn** **07 16 58.0 +0.3**
EZN Ezine 1.49 356 Pn **Pn** **07 16 58.0 +0.3**
BDRM Kayabasi 1.49 148 *i* P **Pn** **07 16 59.4 +1.6**
BDRM *i* S **Sn** **07 17 16.7 -0.6**
BDRM Kayabasi 1.49 148 *i* P **Pn** **07 16 59.3 +1.5**
BDRM *i* S **Sn** **07 17 16.7 -0.6**
MANT Manisa 1.65 84 *i* P **Pn** **07 17 02.0 +2.0**
MANT *i* S **Sn** **07 17 23.3 +2.1**
BALB Balikesir 1.70 40 *e*PN **Pn** **07 17 01.0 +0.3**
BNT Bandirma 2.31 29 *e*PN **Pn** **07 17 09.2 +0.2**
DALT Dalyan (Mudla) 2.33 132 *e*PN **Pn** **07 17 09.3 -0.1**

IDC 04 07:24:44.9±2.2, 1397N×14554E, h98km±15km, mb3.0/3, mb1 3.2/3, mb1mx3.0/19, mbtmp3.3/3, Error ellipse: s-maj=52.5km s-min=30.2km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.75 240**		P	Pn	07 25 03.9	+1.3
	194nm,0.3s,baz=106,slow=3.0,SNR=113						
GUMO				S	Sn	07 25 16.9	+1.1
	411nm,0.3s,baz=0.2,slow=23,SNR=26						
WRA	**Warramunga Arr**	**35.45 198**		P	P	07 31 32.0	+0.3
	0.2nm,0.6s,baz=23,slow=9.5,SNR=5.9						
MKAR	**Makanchi Array**	**61.67 316**		P	P	07 34 52.6	+0.2
	0.1nm,0.4s,baz=80,slow=8.8,SNR=6.0						
YKA	**Yellowknife Ar**	**82.22 27**		P	P	07 36 54.5	-0.6
	0.1nm,0.4s,baz=282,slow=5.2,SNR=4.5						

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*ISCJB **04** 07:32:51.8±0.2, 4402N±002×729E±002, h13km±2km, Error ellipse: s-maj=2.8km s-min=2.6km az=12.4*
*ROM **04** 07:32:51.9±1.5, 4401N×726E, h10km, Md2.6/4, Ml1.8/1, Error ellipse: s-maj=21.7km s-min=4.8km az=130.0*
*CSEM **04** 07:32:52.0±0.1, 4405N×734E, h8km, ML2.6/9, Error ellipse: s-maj=2.9km s-min=2.3km az=65.0*
*NEIC **04** 07:32:52.5, 4398N×735E, h2km, MD2.6(ROM), ML2.6(STR), ML2.7(LDG), After LDG.*
*LDG **04** 07:32:52.5±0.2, 4398N×734E, h2km, Md3.0/2, Ml2.7/9, Error ellipse: s-maj=4.5km s-min=3.1km az=69.0*
*STR **04** 07:32:52.9±0.2, 4404N×732E, h2km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **04** 07:32:52.2, 4402N×726E, h8km, ML2.0*
ISC 04 07:32:52.2±0.3, 4402N±002×732E±002, h15km±2km, n53, σ0991/97, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.08 104**		Pg	**Pg**	**07 32 54.7**	**-0.6**
AUTN				Sg	**Sg**	**07 32 56.8**	**-0.5**
MVIF	**Mont Vial**	**0.17 225**		Pg	**Pg**	**07 32 55.9**	**-0.4**
MVIF				Sg	**Sg**	**07 32 59.1**	**0.0**
SBF	**Sospel**	**0.17 150**		*e*Pg	**Pg**	**07 32 56.0**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 32 57.8**	**-1.5**
	342nm,0.5s,SNR=1.0						
SBF	**Sospel**	**0.17 150**		*e*Pg	**Pg**	**07 32 56.0**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 32 57.8**	**-1.5**
	171nm,0.5s,SNR=1.0						
SAOF	**Saorge**	**0.17 99**		Pg	**Pg**	**07 32 56.2**	**-0.3**
SAOF				Sg	**Sg**	**07 32 59.9**	**+0.6**
ENR	**Entracque**	**0.22 19**		P	**Pg**	**07 32 56.9**	**-0.3**
STV	**Sta Anna Valdi**	**0.23 1**		P	**Pg**	**07 32 56.8**	**-0.5**
STV2	**Anna di Valdie**	**0.23 2**		P	**Pg**	**07 32 56.7**	**-0.6**
REVF	**Revere**	**0.28 172**		Pg	**Pg**	**07 32 58.6**	**+0.5**
REVF				Sg	**Sg**	**07 33 03.6**	**+1.5**
MONE	**Monesi**	**0.32 78**		P	**Pg**	**07 32 59.3**	**+0.4**
NEGI	**Negi**	**0.33 121**		P	**Pg**	**07 32 59.5**	**+0.5**
IMI	**Imperia**	**0.43 104**		Pg	**Pg**	**07 33 01.4**	**+0.6**
IMI				Sg	**Sg**	**07 33 08.1**	**+1.6**
	78nm,0.5s						
ROB	**Roburent**	**0.49 55**		P	**Pg**	**07 33 02.2**	**+0.3**
ROB				S	**Sg**	**07 33 08.9**	**+0.5**
DOI	**San Damiano**	**0.49 354**		Pg	**Pg**	**07 33 01.7**	**-0.3**
DOI				Sg	**Sg**	**07 33 08.3**	**-0.3**
	48nm,0.3s						
PZZ	**Prazzo**	**0.51 343**		P	**Pg**	**07 33 01.8**	**-0.6**
SURF	**Saint Ours**	**0.59 322**		Pg	**Pg**	**07 33 03.3**	**-0.5**
SURF				Sg	**Sg**	**07 33 11.0**	**-0.6**
FRF	**La Foret Royal**	**0.66 227**		*e*Pg	**Pg**	**07 33 04.6**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 33 13.6**	**-0.4**
	34nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.66 227**		*e*Pg	**Pg**	**07 33 04.6**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**07 33 13.6**	**-0.4**
	17nm,0.2s,SNR=1.0						
FIN	**Finale Ligure**	**0.67 73**		Pg	**Pg**	**07 33 05.9**	**+0.6**
	17nm,0.3s						
FIN				S	**Sg**	**07 33 14.9**	**+0.7**
MBDF	**Montbardon**	**0.81 331**		*e*Pg	**Pg**	**07 33 06.9**	**-1.1**
MBDF				*e*Sg	**Sg**	**07 33 17.9**	**-0.8**
	45nm,0.6s						
MBDF	**Montbardon**	**0.81 331**		*e*Pg	**Pg**	**07 33 06.9**	**-1.1**
MBDF				*e*Sg	**Sg**	**07 33 17.9**	**-0.8**
	22nm,0.6s						
LMR	**La Mourre**	**0.90 221**		*e*Pn	**Pn**	**07 33 09.4**	**-0.8**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**07 33 20.5**	**-0.9**
	62nm,0.3s,SNR=1.0						
LMR				*e*Sn	**Sn**	**07 33 23.4**	**+0.4**
	SNR=1.0						
LMR	**La Mourre**	**0.90 221**		*e*Pn	**Pn**	**07 33 09.4**	**-0.8**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**07 33 20.5**	**-0.9**
	31nm,0.3s,SNR=1.0						
LMR				*e*Sn	**Sn**	**07 33 23.4**	**+0.4**
	SNR=1.0						
LMR	**La Mourre**	**0.90 221**		*e*Pg	**Pg**	**07 33 08.4**	**-1.2**
LMR				*e*Pn	**Pn**	**07 33 09.4**	**-0.8**
LMR				*e*Sg	**Sg**	**07 33 20.5**	**-0.9**
LMR				*e*Sn	**Sn**	**07 33 23.4**	**+0.4**
RRL	**Cesana Torines**	**0.98 337**		P	**Pb**	**07 33 10.3**	**-0.6**
RRL				S	**Sb**	**07 33 22.4**	**-1.2**
STOF	**St-Etienne Org**	**1.02 270**		Pg	**Pg**	**07 33 14.7**	**+2.9**
STOF				Sg	**Sg**	**07 33 30.8**	**+5.7**
PCP	**Pian Castagno**	**1.03 59**		P	**Pb**	**07 33 11.8**	**+0.1**
FENE	**Fenestrelle**	**1.03 350**		P	**Pb**	**07 33 10.7**	**-1.0**
FENE				S	**Sb**	**07 33 23.6**	**-1.4**
BNI	**Bardonecchia**	**1.13 336**		*e*Pg	**Pg**	**07 33 13.5**	**-0.6**
BNI				*e*Sg	**Sg**	**07 33 30.1**	**+1.2**
BNI	**Bardonecchia**	**1.13 336**		*e*Pg	**Pg**	**07 33 13.5**	**-0.6**
BNI				*e*Sg	**Sg**	**07 33 30.1**	**+1.3**
RSP	**Reno Superiore**	**1.14 358**		P	**Pb**	**07 33 12.5**	**-1.0**
MONC	**Moncucco Torin**	**1.15 22**		Pg	**Pg**	**07 33 14.6**	**+0.3**
	18nm,0.5s						
SMRF	**Simiane la Rot**	**1.26 269**		*e*Pg	**Pg**	**07 33 16.9**	**+0.5**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**07 33 33.3**	**+1.5**
	72nm,0.5s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.26 269**		*e*Pg	**Pg**	**07 33 16.9**	**+0.5**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**07 33 33.3**	**+1.5**
	36nm,0.5s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.26 269**		*e*Pn	**Pn**	**07 33 15.9**	**+0.7**
SMRF				*e*Pg	**Pg**	**07 33 16.9**	**+0.5**
SMRF				*e*Sn	**Sn**	**07 33 33.3**	**+1.5**
ORIF	**Oris-en-Rattie**	**1.37 312**		*e*Pg	**Pg**	**07 33 17.2**	**-1.3**
ORIF				*e*Sg	**Sg**	**07 33 37.4**	**+1.0**
	26nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.37 312**		*e*Pg	**Pg**	**07 33 17.2**	**-1.3**
ORIF				*e*Sg	**Sg**	**07 33 37.4**	**+1.0**
	13nm,0.5s,SNR=1.0						
BERF	**Bertagne**	**1.37 240**		Pg	**Pg**	**07 33 18.7**	**+0.1**
BERF				Sg	**Sg**	**07 33 37.7**	**+1.2**
TRAV		**1.53 11**		P	**Pn**	**07 33 18.4**	**-0.5**
LPG	**La Plagne**	**1.54 345**		*e*Pn	**Pn**	**07 33 19.0**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 33 43.1**	**+1.4**
	44nm,0.8s						
LPG	**La Plagne**	**1.54 345**		*e*Pn	**Pn**	**07 33 19.0**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 33 43.1**	**+1.4**
	22nm,0.8s						
LPL	**La Plagne**	**1.56 345**		*e*Pn	**Pn**	**07 33 21.0**	**+1.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 33 43.9**	**+1.5**
	21nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**1.56 345**		*e*Pn	**Pn**	**07 33 21.0**	**+1.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 33 43.9**	**+1.5**
	11nm,0.6s,SNR=1.0						
PRAF	**Pradon**	**1.57 263**		Pg	**Pg**	**07 33 22.5**	**+0.2**
ORX	**Oropa**	**1.69 16**		P	**Pn**	**07 33 20.7**	**-0.4**
PGF	**Pioggiola**	**1.91 139**		*e*Pn	**Pn**	**07 33 23.7**	**-0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**07 33 46.1**	**-1.9**
	2.3nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.91 139**		*e*Pn	**Pn**	**07 33 23.7**	**-0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**07 33 46.1**	**-1.9**
	1.1nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.07 295**		*e*Pn	**Pn**	**07 33 28.0**	**+1.6**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**07 33 52.8**	**+0.9**
	9.5nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.07 295**		*e*Pn	**Pn**	**07 33 28.0**	**+1.6**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**07 33 52.8**	**+0.9**
	4.8nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.50 273**		*e*Pn	**Pn**	**07 33 33.5**	**+1.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**07 34 02.4**	**0.0**
	7.3nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.50 273**		*e*Pn	**Pn**	**07 33 33.5**	**+1.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**07 34 02.4**	**0.0**
	3.7nm,0.5s,SNR=1.0						
MTLF	**Montolieu**	**3.76 261**		*e*Sn	**Sn**	**07 34 32.6**	**-1.0**
	4.1nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**3.76 261**		*e*Sn	**Sn**	**07 34 32.6**	**-1.0**
	2.0nm,0.4s,SNR=1.0						

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*NAO **04** 07:40:29.2, 1847S×17858W, h33km, mb4.8*
*SZGRF **04** 07:40:37.4, 1806S×17732W, h33km, Fiji Islands region*
*CSEM **04** 07:40:38.7, 1805S×17824W, h33km, mb5.5*
*ISCJB **04** 07:41:33.3±0.8, 1819S±007×17884W±007, h539km±10km, mb4.4/46, Error ellipse: s-maj=12.6km s-min=7.1km az=99.5*
*BJI **04** 07:41:33.6, 1804S×178.11W, h566km, mB4.8, mb4.7*
*NEIC **04** 07:41:34.8±0.8, 1817S×17881W, h546km±9km, mb4.2/15, Error ellipse: s-maj=11.5km s-min=6.9km az=144.0*
*MOS **04** 07:41:35.0±1.4, 1782S×17904W, h540km, mb4.8/4, Error ellipse: s-maj=15.2km s-min=12.8km az=159.8*
*IDC **04** 07:41:38.2±1.6, 1830S×17886W, h590km±18km, mb4.0/19, mb1 4.1/20, mb1mx4.1/24, mbtmp4.9/20, Error ellipse: s-maj=11.8km s-min=8.9km az=136.0*
ISC 04 07:41:34.4±0.8, 1818S±007×17877W±007, h542km±10km, h548km±2.5km; pP-P, n201, σ1906/84, mb4.4/46, 16C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.95 59**		P	**P**	**07 43 31.9**	**+0.6**
	9.7nm,0.3s,baz=219,slow=18,SNR=3.5						
AFI				S	**S**	**07 45 05.0**	**-2.2**
	7.5nm,0.3s,baz=59,slow=20,SNR=3.7						
AFI	**Afiamalu**	**7.95 59**		P	**P**	**07 43 31.9**	**+0.6**
AFI				S	**S**	**07 45 05.0**	**-2.2**
DZM	**Mont Dzumac**	**14.42 252**		P	**P**	**07 44 38.7**	**+0.8**
	2.0nm,0.3s,baz=81,slow=16,SNR=19						
URZ	**Urewera**	**20.33 189**		P	**P**	**07 45 32.4**	**-1.4**
	18nm,0.3s,baz=5.0,slow=4.3,SNR=36						
URZ				S	**S**	**07 48 43.2**	**-4.6**
	6.4nm,0.8s,baz=228,slow=17,SNR=2.9						
SNZO	**South Karori**	**23.73 192**		*e*P	**P**	**07 46 03.6**	**-0.6**
	110nm,1.3s,mb5.3						
RPZ	**Rata Peaks**	**26.87 196**		P	**P**	**07 46 32.5**	**+0.5**
	8.4nm,0.5s,mb4.6,baz=10.0,slow=5.5,SNR=7.6						
CNB	**Canberra Magne**	**32.99 232**		*e*P	**P**	**07 47 36.4**	**+12**
	29nm,0.6s,mb5.0						
CTA	**Charters Tower**	**33.07 261**		⇓*i*P	**P**	**07 47 26.1**	**+0.7**
	32nm,1.0s,mb4.8						
CTA	**Charters Tower**	**33.07 261**		P	**P**	**07 47 26.2**	**+0.8**
	41nm,0.9s,mb5.0,baz=87,slow=11,SNR=33						
CTAO	**Charters Tower**	**33.07 261**		*e*P	**P**	**07 47 26.1**	**+0.7**
	63nm,1.0s,mb5.1						
PMG	**Port Moresby**	**34.17 280**		P	**P**	**07 47 36.1**	**+1.5**
	66nm,0.9s,mb5.2,baz=93,slow=7.5,SNR=12						
PMG	**Port Moresby**	**34.17 280**		P	**P**	**07 47 36.1**	**+1.5**
TOO	**Toolangi**	**36.74 231**		*e*P	**P**	**07 47 55.0**	**-0.9**
	28nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**38.20 241**		*e*P	**P**	**07 48 07.3**	**-0.6**
	16nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**38.20 241**		P	**P**	**07 48 07.0**	**-0.9**
	23nm,0.7s,mb4.8,baz=90,slow=9.5,SNR=48						
STKA				PcP	PcP	07 50 06.8	-1.4
	1.8nm,0.7s,baz=27,slow=9.3,SNR=3.0						
STKA	**Stephens Creek**	**38.20 241**	⇑	*e*P	**P**	**07 48 07.2**	**-0.7**
STKA				*e*PcP	PcP	07 50 07.0	-1.2
WB2	**Warramunga Arr**	**44.24 260**		*e*P	**P**	**07 48 55.5**	**-0.2**
WB2				*e*S	**S**	**07 54 44.1**	**-5.8**
WRAB	**Tennant Creek**	**44.24 260**		*d*⇓*i*P	**P**	**07 48 55.1**	**-0.6**
WRAB	**Tennant Creek**	**44.24 260**		*e*P	**P**	**07 48 55.4**	**-0.3**
	32nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**44.25 260**		P	**P**	**07 48 55.6**	**-0.2**
	18nm,0.7s,mb4.7,baz=92,slow=6.8,SNR=255						
WRA				PcP	PcP	07 50 27.9	-0.5
	4.6nm,0.8s,baz=92,slow=3.9,SNR=5.7						
WRA				S	**S**	**07 54 46.9**	**-3.1**
	0.6nm,0.6s,baz=96,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**44.39 255**		P	**P**	**07 48 57.5**	**+0.6**
	102nm,0.6s,mb5.5,baz=90,slow=8.2,SNR=1259						
ASAR				PcP	PcP	07 50 28.5	-0.4
	4.3nm,0.5s,baz=104,slow=4.0,SNR=4.9						
ASAR				S	**S**	**07 54 49.5**	**-2.6**
	5.0nm,0.9s,baz=89,slow=16,SNR=21						
ASPA	**Alice Springs**	**44.39 255**	⇑	*i*P	**P**	**07 48 57.4**	**+0.5**
ASPA				*e*S	**S**	**07 54 48.3**	**-3.8**
FITZ	**Fitzroy Crossi**	**52.65 261**		*e*P	**P**	**07 49 58.9**	**+0.7**
	15nm,0.5s,mb4.6						
MBWA	**Marble Bar**	**57.68 256**		*e*P	**P**	**07 50 33.2**	**0.0**
	23nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**58.40 244**	⇑	*i*P	**P**	**07 50 37.8**	**-0.3**
	22nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**58.78 242**		P	**P**	**07 50 40.7**	**0.0**
	baz=147,slow=6.3						
NWAO	**Narrogin (SRO)**	**58.78 242**		*e*P	**P**	**07 50 40.9**	**+0.2**
	5.0nm,0.6s,mb3.9						
MUN	**Mundaring**	**59.70 243**		*e*P	**P**	**07 50 47.3**	**+0.5**
VNDA	**Vanda**	**60.15 185**		P	**P**	**07 50 50.2**	**+0.5**
	2.5nm,0.7s,mb3.6,baz=355,slow=6.7,SNR=7.0						
VNDA	**Vanda**	**60.15 185**		*e*P	**P**	**07 50 51.2**	**+1.4**
	2.3nm,0.8s,mb3.6						
MJAR	**Matsushiro Arr**	**67.92 324**		P	**P**	**07 51 38.8**	**-0.3**
	11nm,0.9s,mb4.4,baz=161,slow=6.2,SNR=16						
MJAR				PcP	PcP	07 52 00.8	-0.1
	1.9nm,0.7s,baz=135,slow=5.9,SNR=2.8						
MAJO	**Matsushiro**	**67.92 324**		*e*P	**P**	**07 51 39.0**	**-0.1**
	6.3nm,0.6s,mb4.3						
ASAJ	**Asahikawa**	**71.35 332**		P	**P**	**07 52 00.2**	**+0.6**
	7.9nm,0.7s,mb4.3,baz=126,slow=32,SNR=4.5						
KSM	**Kuching**	**72.38 278**		*e*P	**P**	**07 52 06.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**73.50 334**		P	**P**	**07 52 10.0**	**-2.0**
SSE	**Sheshan**	**75.65 310**		P	**P**	**07 52 24.0**	**-0.1**
SSE				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.3						
SSE				AMB	AMB		
	comp=Z,213nm,3.9s						
NJ2	**Nanjing**	**77.84 310**		*e*P	**P**	**07 52 37.4**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,220nm,0.6s						
MDJ	**Mudanjiang**	**78.21 325**		P	**P**	**07 52 38.4**	**+0.4**
MDJ				AP	pP	07 54 36.1	+3.0
MDJ				XP	sP	07 55 31.5	+2.8
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,113nm,4.0s						
CMB	**Columbia Colle**	**78.27 43**		*e*P	**P**	**07 52 39.4**	**+1.1**
	comp=Z,5.0nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**79.85 44**		P	**P**	**07 52 48.2**	**+1.4**
	comp=Z,3.5nm,0.7s,mb3.8,baz=223,slow=9.0,SNR=25						
CN2	**Changchun**	**80.02 323**	⇑	P	**P**	**07 52 48.4**	**+0.8**
CN2				*e*AP	pP	07 54 45.1	+1.8
CN2				*e*S	S	08 02 08.0	+0.6
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
LDFC	**Landfair**	**80.29 48**		*e*P	**P**	**07 52 50.8**	**+1.7**
MA2	**Magadan**	**81.36 345**		P	**P**	**07 52 52.9**	**-1.7**
MA2	**Magadan**	**81.36 345**		P	**P**	**07 52 53.0**	**-1.6**
	comp=Z,4.7nm,0.7s,mb4.0						
PSI	**Prapat**	**83.57 275**		P	**P**	**07 53 05.5**	**-0.2**
	comp=Z,14nm,0.9s,mb4.5,baz=161,slow=2.3,SNR=9.5						
SEY	**Seymchan**	**83.96 347**		*e*P	**P**	**07 53 06.5**	**-1.1**
SEY				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
GYA	**Guiyang**	**84.87 300**	⇓	*i*P	**P**	**07 53 12.8**	**+0.7**
GYA				AP	pP	07 55 11.6	+2.0
GYA				PP	PP	07 56 40.5	+2.0
GYA				SKS		08 02 43.4	
GYA				S		08 02 55.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,70nm,3.8s						
MCK	**McKinley**	**84.88 13**		*e*P	**P**	**07 53 11.0**	**-1.1**
	comp=Z,3.0nm,0.6s,mb4.0						
HWUT	**Hardware Ranch**	**85.92 44**		*e*P	**P**	**07 53 17.6**	**+0.5**
	comp=Z,1.5nm,0.7s,mb3.7						
NEW	**Newport**	**85.93 36**		P	**P**	**07 53 16.5**	**-0.7**
	comp=Z,2.6nm,0.8s,mb3.9,baz=244,slow=4.9,SNR=5.5						
NEW	**Newport**	**85.93 36**		*e*P	**P**	**07 53 17.4**	**+0.2**
	comp=Z,2.0nm,0.7s,mb3.9						
COLA	**College**	**86.11 13**		*i*P	**P**	**07 53 16.7**	**-1.3**
COLA	**College**	**86.11 13**		*e*P	**P**	**07 53 16.3**	**-1.7**
	comp=Z,5.6nm,0.8s,mb4.2						
XAN	**Xi'an**	**86.15 308**		P	**P**	**07 53 19.0**	**+0.8**
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**86.22 13**		P	**P**	**07 53 16.4**	**-2.2**
	comp=Z,2.5nm,0.5s,mb4.1,baz=221,slow=5.0,SNR=75						
ILAR				PKiKP	PKiKP	07 58 20.6	-1.5
	comp=Z,0.3nm,0.7s,baz=256,slow=1.6,SNR=4.5						
TXAR	**Lajitas Array**	**86.43 58**		P	**P**	**07 53 21.5**	**+2.0**
	comp=Z,6.3nm,0.7s,mb4.4,baz=218,slow=6.0,SNR=82						
ANMO	**Albuquerque**	**86.53 52**		*i*P	**P**	**07 53 21.1**	**+1.1**
ANMO	**Albuquerque**	**86.53 52**		*e*P	**P**	**07 53 20.9**	**+0.9**
	comp=Z,2.8nm,0.9s,mb3.9						
BILL	**Bilibino**	**86.66 354**		*i*P	**P**	**07 53 20.3**	**-0.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
BILL	**Bilibino**	**86.66 354**		*e*P	**P**	**07 53 20.4**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.1						
MCMT	**McKenzie Canyo**	**86.66 41**		*e*P	**P**	**07 53 21.9**	**+1.2**
MCMT				*e*pP	pP	07 55 29.1	+10
HHC	**Hu-ho-hao-te**	**87.22 315**	⇓⇓	P	**P**	**07 53 24.1**	**+0.8**
HHC				AP	pP	07 55 23.8	+2.2
HHC				XP	sP	07 56 18.1	+1.7
HHC				PP	PP	07 57 00.4	+3.3
HHC				SKS		08 02 59.3	
HHC				S		08 03 17.5	
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
HHC				AMB	AMB		
	comp=Z,92nm,8.5s						
QLMT	**Earthquake Lak**	**87.55 41**		*e*P	**P**	**07 53 26.4**	**+1.6**
PDAR	**Pinedale Array**	**87.78 44**		P	**P**	**07 53 26.4**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.3,baz=217,slow=3.1,SNR=42						
SYO	**Syowa Base**	**88.82 193**	⇓	*e*P	**P**	**07 53 30.1**	**-0.6**
CD2	**Chengdu**	**88.93 303**		*e*P	**P**	**07 53 32.6**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,5.9s						
YAK	**Yakutsk**	**89.70 338**		*i*P	**P**	**07 53 33.1**	**-1.7**
YAK				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.8						
VNA3	**Neumayer Olymp**	**90.50 176**	⇑	*i*P	**P**	**07 53 38.0**	**-0.5**
VNA3				*e*		07 53 40.8	
LZH	**Lanzhou**	**90.78 308**		P	**P**	**07 53 41.0**	**+1.2**
LZH				AP	pP	07 55 43.1	+4.1
LZH				XP	sP	07 56 35.2	+1.7
LZH				*e*PP	PP	07 57 29.8	+4.7
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,49nm,7.3s						
VNA2	**Neumayer--Watz**	**90.93 177**	⇑	*i*P	**P**	**07 53 40.0**	**-0.5**
VNA2				*e*		07 53 43.0	
INK	**Inuvik**	**92.23 15**		P	**P**	**07 53 45.3**	**-1.2**
	comp=Z,5.6nm,0.9s,mb4.6,baz=195,slow=5.8,SNR=16						
ULN	**Ulaanbaatar**	**93.14 320**		*i*P	**P**	**07 53 49.9**	**-0.7**
ULN	**Ulaanbaatar**	**93.14 320**		*e*P	**P**	**07 53 50.4**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.3						
SONM	**Songino Array**	**93.53 319**		P	**P**	**07 53 51.5**	**-0.9**
	comp=Z,1.0nm,0.8s,mb4.0,baz=117,slow=3.7,SNR=7.5						
YKA	**Yellowknife Ar

CLL				pmax	pmax		
	comp=Z,67nm,0.7s						
CLL				MLR	MLR		
	comp=Z,3μm,20.1s						
UPC	**Upice**	**145.65**	**343**	*e*PKP	PKPdf	08 00 12.8	+1.7
DPC	**Dobruska-Polom**	**145.70**	**343**	*e*PKP	PKPdf	08 00 13.0	+1.8
BRG	**Berggiesshubel**	**145.84**	**346**	*e*PKPbc	PKPbc	08 00 13.2	0.0
BRG	**Berggiesshubel**	**145.84**	**346**	*i* PKIKP	PKPdf	08 00 13.1	+1.7
BRG				pmax	pmax		
	comp=Z,17nm,0.7s						
MLR	**Muntele Rosu**	**145.88**	**328**	⇑*i*P	PKPdf	08 00 11.1	-0.4
KECS	**Kecovo**	**145.96**	**337**	*e*PKP	PKPdf	08 00 13.3	+1.7
WTSB	**Winterswijk**	**146.00**	**354**	*e*PKiKP	PKiKP	08 00 12.7	-3.4
	comp=Z,47nm,1.1s						
PVCC	**Panska Ves**	**146.01**	**345**	*e*PKP	PKPdf	08 00 13.9	+2.2
DRGR		**146.42**	**333**	⇓*i*P	PKPdf	08 00 14.6	+2.2
BUG	**Bochum--Univer**	**146.47**	**353**	*e*PKPbc	PKPbc	08 00 14.5	-0.4
PRU	**Pruhonice**	**146.51**	**344**	*e*PKP	PKPdf	08 00 14.9	+2.3
VYHS	**Vyhne**	**146.54**	**339**	*e*PKP	PKPdf	08 00 15.1	+2.5
WERD	**Werda**	**146.61**	**347**	*e*PKPbc	PKPbc	08 00 15.4	+0.1
PSZ	**Piszkesteto**	**146.65**	**337**	*e*PKPbc	PKPbc	08 00 15.3	-0.1
NKC	**Novy Kostel**	**146.78**	**347**	*e*PKP	PKPdf	08 00 15.9	+2.9
TREC	**Trest**	**146.89**	**343**	*e*PKP	PKPdf	08 00 15.9	+2.7
CSS	**Prodhromos**	**146.97**	**307**	*e*PKPbc	PKPbc	08 00 15.9	-0.4
CSS				*e*PKPab	PKPab	08 00 19.3	-0.1
SMOL	**Smolenice**	**147.00**	**340**	*e*PKP	PKPdf	08 00 16.6	+3.2
EIL	**Elat**	**147.24**	**297**	*e*PKPbc	PKPbc	08 00 17.7	+0.7
EIL				*e*PKPab	PKPab	08 00 21.2	+0.6
ROTZ	**Rotzenmuhle**	**147.27**	**347**	*e*PKPbc	PKPbc	08 00 17.4	+0.3
HGN	**Heimansgroeve**	**147.27**	**354**	*e*PKiKP	PKiKP	08 00 15.6	-3.2
	comp=Z,15nm,0.7s						
ZST	**Bratislava**	**147.38**	**340**	*e*PKP	PKPdf	08 00 17.4	+3.4
MEM	**Membach**	**147.42**	**354**	PKPbc	PKPbc	08 00 17.1	-0.3
TNS	**Taunus Mts**	**147.51**	**351**	*e*PKPbc	PKPbc	08 00 17.7	0.0
KHC	**Kasperske Hory**	**147.55**	**345**	*e*PKP	PKPdf	08 00 17.7	+3.4
KHC				*ex*	x	08 00 21.9	
GRF	**Grafenberg Arr**	**147.55**	**348**	*e*PKPbc	PKPbc	08 00 18.1	+0.3
WET	**Wettzell**	**147.70**	**346**	*e*PKPbc	PKPbc	08 00 18.3	+0.1
GEC2	**GERESS Array S**	**147.78**	**344**	*e*PKPbc	PKPbc	08 00 18.5	+0.1
GERES	**GERESS Array B**	**147.78**	**344**	PKPbc	PKPbc	08 00 18.0	-0.3
	comp=Z,10nm,0.5s,baz=27,slow=3.0,SNR=52						
BZS	**Buzias**	**147.82**	**333**	⇓*i*P	PKPdf	08 00 18.0	+3.3
GIVF	**Givet**	**148.02**	**356**	*e*PKP1	PKPbc	08 00 18.7	-0.3
	comp=Z,58nm,0.7s						
WLF	**Walferdange**	**148.34**	**354**	*e*PKPbc	PKPbc	08 00 20.3	+0.5
WLF	**Walferdange**	**148.34**	**354**	PKPbc	PKPbc	08 00 20.3	+0.5
WLF	**Walferdange**	**148.34**	**354**	*e*PKPbc	PKPbc	08 00 19.9	+0.1
MOA	**Molln**	**148.54**	**343**	⇑*i*PKPbc	PKPbc	08 00 19.6	-0.7
	comp=Z,12nm,1.3s						
STU	**Stuttgart**	**148.81**	**350**	*e*PKPbc	PKPbc	08 00 21.0	+0.1
LANF	**Langenberg**	**148.81**	**352**	PKP	PKPbc	08 00 21.2	+0.2
FUR	**Furstenfeldbru**	**148.99**	**347**	*e*PKPbc	PKPbc	08 00 21.6	+0.2
BFO	**Black Forest**	**149.37**	**351**	*e*PKPbc	PKPbc	08 00 22.2	-0.1
WLS	**Welschbruch**	**149.43**	**352**	PKP	PKPbc	08 00 22.7	+0.3
CDF	**Champ du Feu**	**149.44**	**352**	*e*PKP1	PKPbc	08 00 22.3	-0.2
	comp=Z,35nm,0.9s						
FLN	**La Foliniere**	**149.46**	**2**	*e*PKP1	PKPbc	08 00 21.9	-0.6
	comp=Z,60nm,0.7s						
KBA	**Koelnbreinsper**	**149.50**	**344**	⇑*i*PKPbc	PKPbc	08 00 22.4	-0.2
	comp=Z,20nm,1.0s						
MEZF	**Maizieres J'vi**	**149.59**	**355**	*e*PKP1	PKPbc	08 00 22.7	-0.1
	comp=Z,38nm,0.9s						
LDF	**La Druitiere**	**149.64**	**2**	*e*PKP1	PKPbc	08 00 22.3	-0.6
	comp=Z,31nm,0.6s						
ECH	**Echery**	**149.65**	**352**	PKP	PKPbc	08 00 22.7	-0.3
ROSF	**Rostrenen**	**149.69**	**6**	*e*PKP1	PKPbc	08 00 22.3	-0.8
	comp=Z,7.7nm,0.5s						
WATA	**Walderalm**	**149.70**	**346**	⇑*i*PKPbc	PKPbc	08 00 22.4	-0.7
	comp=Z,17nm,1.1s						
WTTA	**Wattenberg**	**149.76**	**346**	⇑*i*PKPbc	PKPbc	08 00 22.8	-0.4
	comp=Z,32nm,0.7s						
THEF	**They Montfort**	**149.78**	**354**	PKP	PKPbc	08 00 23.4	+0.1
MOTA	**Moosalm**	**149.80**	**347**	⇓*i*PKPbc	PKPbc	08 00 22.9	-0.4
	comp=Z,16nm,1.0s						
GRR	**Gorron**	**149.82**	**3**	*e*PKP1	PKPbc	08 00 22.9	-0.5
	comp=Z,41nm,0.5s						
SGMF	**Saint Gilles**	**149.84**	**5**	*e*PKP1	PKPbc	08 00 22.7	-0.7
	comp=Z,38nm,0.8s						
SQTA	**Sankt Quirin**	**149.90**	**346**	⇑*i*PKPbc	PKPbc	08 00 23.1	-0.4
	comp=Z,14nm,0.9s						
HAU	**Haudompre**	**149.96**	**353**	*e*PKP1	PKPbc	08 00 23.3	-0.4
	comp=Z,44nm,0.9s						
MOF	**Molkenrain**	**150.01**	**352**	PKP	PKPbc	08 00 23.8	0.0
HINF	**Hinteralfeld**	**150.08**	**352**	*e*PKP1	PKPbc	08 00 23.4	-0.6
	comp=Z,20nm,0.8s						
LJU	**Ljubljana**	**150.10**	**341**	*e*PKPbc	PKPbc	08 00 23.6	-0.4
DAVA	**Damuels**	**150.11**	**348**	⇑*i*PKiKP	PKiKP	08 00 24.3	-0.3
	comp=Z,28nm,1.1s						
ROBS	**Robic**	**150.22**	**343**	*e*PKPbc	PKPbc	08 00 23.1	-1.2
BOJS	**Bojanci**	**150.36**	**340**	*e*PKPbc	PKPbc	08 00 24.4	-0.2
STIP	**Stip**	**150.50**	**327**	*e*PKP	PKPdf	08 00 22.8	+3.8
LOMF	**Lomont**	**150.54**	**352**	PKP	PKPdf	08 00 24.3	+5.3
VAY	**Valandovo**	**150.57**	**326**	*e*PKP	PKPdf	08 00 22.9	+3.8
SKO	**Skopje**	**150.68**	**328**	*e*PKP	PKPdf	08 00 23.0	+3.8
LOR	**Lormes**	**150.91**	**356**	*e*PKP1	PKPbc	08 00 25.7	-0.2
	comp=Z,30nm,0.7s						
HYF	**Humbligny**	**150.96**	**358**	*e*PKP1	PKPbc	08 00 26.2	+0.2
SSF	**Saint Saulge**	**151.13**	**357**	*e*PKP1	PKPbc	08 00 26.3	-0.1
	comp=Z,31nm,0.8s						
CABF	**La Chapelle**	**151.36**	**353**	*e*PKP1	PKPbc	08 00 27.3	+0.4
	comp=Z,47nm,1.1s						
AVF	**Avril sur Loir**	**151.41**	**357**	*e*PKP1	PKPbc	08 00 26.5	-0.5
	comp=Z,5.9nm,0.7s						
SMF	**Signal de Mont**	**151.53**	**356**	*e*PKP1	PKPbc	08 00 26.7	-0.6
MFF	**Saint Martin d**	**151.63**	**2**	*e*PKP1	PKPbc	08 00 27.0	-0.5
	comp=Z,33nm,0.8s						
OHR	**Ohrid**	**151.64**	**328**	*e*PKP	PKPdf	08 00 24.6	+3.9
BGF	**Bois d'Agland**	**151.67**	**358**	*e*PKP1	PKPbc	08 00 27.4	-0.2
	comp=Z,20nm,0.7s						
TCF	**Toulx Ste Croi**	**151.96**	**359**	*e*PKP1	PKPbc	08 00 27.7	-0.5
	comp=Z,19nm,0.9s						
LPL	**La Plagne**	**152.36**	**352**	*e*PKP1	PKPbc	08 00 29.7	+0.6
	comp=Z,5.9nm,0.6s						
LPG	**La Plagne**	**152.37**	**352**	*e*PKP1	PKPbc	08 00 29.7	+0.6
	comp=Z,17nm,1.0s						
RJF	**Les Rejaudoux**	**152.95**	**360**	*e*PKP1	PKPbc	08 00 29.9	-0.5
	comp=Z,11nm,0.7s						
ORIF	**Oris-en-Rattie**	**153.06**	**353**	*e*PKP1	PKPbc	08 00 30.5	-0.1
	comp=Z,8.5nm,0.8s						
MBDF	**Montbardon**	**153.12**	**351**	*e*PKP1	PKPbc	08 00 30.7	-0.1
	comp=Z,11nm,0.8s						
VIVF	**Saint-Julien-l**	**153.24**	**355**	*e*PKP1	PKPbc	08 00 31.1	+0.1
	comp=Z,6.5nm,0.7s						
CAF	**Calviac**	**153.32**	**359**	*e*PKP1	PKPbc	08 00 31.0	-0.2
	comp=Z,7.1nm,0.7s						
ESDC	**Sonseca Array**	**158.11**	**11**	PKPab	PKPab	08 01 05.4	-1.3
	comp=Z,0.9nm,0.7s,baz=329,slow=4.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**174.98**	**185**	PKP	PKPdf	08 00 41.3	-0.7
	comp=Z,1.6nm,0.8s,baz=352,slow=1.0,SNR=9.2						
TORD				PKPab	PKPab	08 02 21.2	0.0
	comp=Z,0.6nm,0.9s,baz=181,slow=2.9,SNR=4.4						

IDC ***04*** *08:02:39.7±1.9, 568S×1306E, h0km, mb3.9/2, mb1 4.3/4, mb1mx4.0/13, mbtmp4.1/4, ML4.4/2, Error ellipse: s-maj=126.1km s-min=27.9km az=73.0*
NEIC ***04*** *08:02:41.3±0.8, 553S×1312 1E, h20km, mb4.4/2, Error ellipse: s-maj=32.5km s-min=7.8km az=71.0*
ISCJB ***04*** *08:02:52.5±3.0, 610S±009×1309E±0.1, h150km±31km, mb4.1/4, Error ellipse: s-maj=23.9km s-min=13.2km az=145.1*

ISC 04 08:02:51.8±2.1, 614S±008×1309E±01, h119km±21km, n16, σ0°90/21, mb4.3/4, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.95**	**203**	*e*P	**Pn**	**08 05 53.4**	**+2.2**
	6.7nm,0.3s						
FITZ				*e*S	**Sn**	**08 08 12.9**	**-0.9**
WRAB	**Tennant Creek**	**14.12**	**167**	*e*Pn	**Pn**	**08 06 07.0**	**+0.6**
	6.9nm,0.4s						
WRAB				*e*Sn	**Sn**	**08 08 37.3**	**-4.8**
WRA	**Warramunga Arr**	**14.12**	**167**	Pn	**Pn**	**08 06 07.0**	**+0.6**
	1.7nm,0.3s,baz=349,slow=13,SNR=65						
WRA				Sn	**Sn**	**08 08 41.1**	**-1.1**
	1.0nm,0.3s,baz=350,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**14.13**	**167**	⇓*i*P	**Pn**	**08 06 06.8**	**+0.3**
WB2				*e*S	**Sn**	**08 08 41.5**	**-0.8**
ASAR	**Alice Springs**	**17.67**	**171**	P	**Pn**	**08 06 53.8**	**+3.5**
	1.4nm,0.3s,baz=359,slow=9.9,SNR=70						
ASAR				S	**S**	**08 10 07.1**	**+0.5**
	0.1nm,0.3s,baz=342,slow=23,SNR=4.2						
MBWA	**Marble Bar**	**18.43**	**215**	*e*P	**P**	**08 07 04.0**	**+6.2**
	26nm,1.7s						
JIRN	**Jiri**	**54.70**	**310**	*e*P	**P**	**08 12 07.5**	**-1.0**
	6.2nm,0.6s,mb4.8						
GUN	**Gumba**	**55.06**	**310**	*e*P	**P**	**08 12 11.5**	**+0.4**
PKI	**Pulchoki**	**55.25**	**310**	*e*P	**P**	**08 12 11.6**	**-0.8**
KKN	**Kakani**	**55.46**	**310**	*e*P	**P**	**08 12 14.3**	**+0.4**
DMN	**Daman**	**55.50**	**309**	*e*P	**P**	**08 12 14.3**	**+0.1**
	5.0nm,0.4s,mb4.9						
GKN	**Gorkha**	**56.06**	**310**	*e*P	**P**	**08 12 18.4**	**+0.2**
KOLN	**Koldanda**	**56.74**	**309**	*e*P	**P**	**08 12 23.7**	**+0.6**
	12nm,0.6s						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**08 12 30.0**	**-1.3**
	0.3nm,0.9s,mb3.3,baz=156,slow=6.8,SNR=4.6						
MKAR	**Makanchi Array**	**68.00**	**326**	P	**P**	**08 13 37.9**	**-0.1**
	1.3nm,0.4s,mb4.2,baz=113,slow=8.2,SNR=49						
MKAR	**Makanchi Array**	**68.00**	**326**	P	**P**	**08 13 37.9**	**-0.1**

CASC 04 08:04:28.5±3.1, 1413N×9087W, h20km±37km, MD3.7, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.40**	**83**	*e*P	Pb	08 04 26.2	-11
IXG				*e*S	Sb	08 04 43.7	+1.1
SBLS	**San Blas**	**1.24**	**103**	*e*P	Pn	08 04 58.4	+7.7
SBLS				*e*S	Sb	08 05 16.3	+9.5
MTO2	**Montecristo 2**	**1.48**	**79**	*e*P	Pn	08 05 08.0	+14
MTO2				*e*S	Sn	08 05 29.1	+16
BOQS	**Boqueron**	**1.59**	**104**	*e*P	Pn	08 05 01.1	+5.6
BOQS				*e*S	Sn	08 05 21.7	+6.3
LBRS	**Las Brisas**	**1.81**	**102**	⇓*e*P	Pn	08 05 03.4	+4.8
LBRS				*e*S	Sn	08 05 25.2	+4.3
LFRS	**El Faro**	**1.82**	**106**	*e*P	Pn	08 05 01.6	+2.9
LFRS				*e*S	Sn	08 05 25.5	+4.3

ISCJB ***04*** *08:33:03.8±1.4, 1677S±006×7045W±006, h21km±12km, mb4.1/8, Error ellipse: s-maj=10.6km s-min=8.1km az=88.8*
NEIC ***04*** *08:33:05.2±1.9, 1672S×7059W, h9km±14km, mb4.6/3, Error ellipse: s-maj=14.6km s-min=9.7km az=207.0*
IDC ***04*** *08:33:10.8±3.1, 1688S×7032W, h62km±30km, mb3.6/5, mb1 4.0/8, mb1mx3.8/19, mbtmp4.0/8, ML4.4/3, MS2.7/2, Ms1 2.8/2, ms1mx2.8/18, Error ellipse: s-maj=35.2km s-min=17.4km az=101.0*

ISC 04 08:33:06.0±2.7, 1680S±005×7057W±005, h18km±18km, n25, σ1°51/28, mb4.1/8, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.94**	**290**	⇑*i*P	**Pb**	**08 33 22.5**	**-1.3**
ARE				*i* S	**Sb**	**08 33 37.5**	**+1.6**
LPAZ	**La Paz**	**2.40**	**78**	P	**Pn**	**08 33 47.3**	**+3.0**
	48nm,0.3s,baz=255,slow=14,SNR=2541						
LPAZ				S	**Sn**	**08 34 17.2**	**+4.1**
	13nm,0.3s,baz=143,slow=19,SNR=2.9						
LPAZ				LR	LR	08 34 17.8	
	comp=Z,381nm,20.1s,baz=260,slow=31						
LPAZ	**La Paz**	**2.40**	**78**	*e*Pn	**Pn**	**08 33 47.3**	**+3.0**
LPAZ				*e*Sn	**Sn**	**08 34 16.5**	**+3.3**
LVC	**Limon Verde**	**5.99**	**165**	P	**Pn**	**08 34 34.2**	**+0.4**
	3.8nm,0.3s,baz=331,slow=10,SNR=27						
LVC				S	**Sn**	**08 35 41.9**	**-0.1**
	baz=70,slow=20,SNR=2.2						
LVC	**Limon Verde**	**5.99**	**165**	*e*Pn	**Pn**	**08 34 34.9**	**+1.2**
	89nm,0.9s						
LVC				*e*Sn	**Sn**	**08 35 39.6**	**-2.3**
CEN1	**Los Morros**	**6.57**	**177**	*e*P	**Pn**	**08 34 41.9**	**+0.3**
NNA	**Nana**	**7.73**	**307**	*e*Pn	**Pn**	**08 34 57.9**	**+0.3**
	15nm,0.8s						
SIV	**San Ignacio**	**9.15**	**86**	P	**Pn**	**08 35 15.7**	**-1.4**
	1.6nm,0.3s,baz=280,slow=11,SNR=52						
SIV				S	**Sn**	**08 36 59.9**	**+0.3**
	0.5nm,0.3s,baz=352,slow=22,SNR=1.6						
SAML	**Samuel**	**10.61**	**44**	*e*Pn	**Pn**	**08 35 35.5**	**-1.6**
	4.2nm,0.6s						
CFAA	**Coronel Fontan**	**14.89**	**172**	P	**Pn**	**08 36 32.1**	**-3.5**
	0.0nm,0.3s,baz=344,slow=14,SNR=4.2						
CFAA				LR	LR	08 42 27.0	
	comp=Z,15nm,19.3s,baz=333,slow=38						
CPUP	**Villa Florida**	**15.54**	**130**	*e*Pn	**Pn**	**08 36 47.2**	**+3.1**
	6.1nm,1.0s						
BDFB	**Brasilia**	**21.69**	**90**	P	**P**	**08 37 57.2**	**+1.4**
	1.1nm,0.6s,mb3.5,baz=178,slow=16,SNR=2.5						
PLCA	**Paso Flores**	**23.85**	**180**	P	**P**	**08 38 17.9**	**-0.3**
	6.0nm,0.9s,mb4.0,baz=2.8,slow=11,SNR=9.9						
BBSR	**BB Station**	**49.21**	**7**	*e*P	**P**	**08 41 51.0**	**-2.1**
	67nm,1.4s,mb5.5						
TXAR	**Lajitas Array**	**55.89**	**325**	P	**P**	**08 42 43.4**	**+0.8**
	0.4nm,0.7s,mb3.6,baz=151,slow=9.2,SNR=3.7						
TXAR	**Lajitas Array**	**55.89**	**325**	P	**P**	**08 42 43.4**	**+0.8**
SDCO	**Great Sand Dun**	**63.42**	**330**	P	**P**	**08 43 36.4**	**+2.0**
	5.7nm,1.3s,mb4.5						
ULM	**Lac du Bonnet**	**70.38**	**343**	P	**P**	**08 44 17.7**	**-1.1**
	1.3nm,0.5s,mb4.1,baz=153,slow=7.7,SNR=4.3						
ULM	**Lac du Bonnet**	**70.38**	**343**	P	**P**	**08 44 17.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.33**	**72**	P	**P**	**08 44 57.1**	**-2.4**
	1.7nm,0.9s,mb4.0,baz=255,slow=4.0,SNR=5.8						
YKA	**Yellowknife Ar**	**86.25**	**341**	P	**P**	**08 45 46.0**	**-0.5**
	0.5nm,0.7s,mb3.9,baz=134,slow=5.1,SNR=21						
YKA	**Yellowknife Ar**	**86.25**	**341**	P	**P**	**08 45 46.0**	**-0.5**
MJAR	**Matsushiro Arr**	**147.82**	**313**	PKPbc	PKPbc	08 52 50.5	+0.8
	1.5nm,0.6s,baz=76,slow=2.0,SNR=4.5						
SONM	**Songino Array**	**148.95**	**4**	PKPbc	PKPbc	08 52 53.0	+0.3
	1.5nm,0.7s,baz=318,slow=1.5,SNR=8.4						
BJT	**Baijiatuau**	**156.13**	**347**	*e*PKPdf	PKPdf	08 53 00.7	+1.4

IDC 04 08:41:59.4±7.7, 258S×13861E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/13, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=348.2km s-min=28.2km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.75**	**193**	P	Pn	08 46 07.1	-0.8
	0.1nm,0.3s,baz=14,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**21.45**	**192**	P	P	08 46 50.1	+0.9
	0.4nm,0.6s,baz=16,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**69.63**	**322**	P	P	08 53 11.2	+0.7
	0.3nm,0.6s,baz=117,slow=6.4,SNR=4.3						
BVAR	**Borovoye Array**	**79.15**	**325**	P	P	08 54 05.5	-0.5
	0.1nm,0.5s,baz=127,slow=7.2,SNR=3.5						

IDC 04 08:48:43.1±2.1, 157N×12627E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/15, mbtmp3.2/3, Error ellipse: s-maj=183.0km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.80**	**160**	P	P	08 53 45.8	-1.4
	0.3nm,0.4s,baz=338,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.16**	**164**	P	P	08 54 21.1	+2.1
	0.3nm,0.7s,baz=346,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**59.07**	**326**	P	P	08 58 45.1	+0.1
	0.1nm,0.3s,baz=122,slow=7.5,SNR=5.2						

BJI 04 08:52:47.4, 2757N×12003E, h19km, mB4.2, mb4.4, ML4.0, Ms3.7, Msz3.8, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.92**	**207**	*e*P	Pn	08 53 35.0	+2.2
QZH				S	Sn	08 54 10.2	+2.9
QZH				Smax			
	comp=N,1μm,0.4s						
QZH				Smax			
	comp=E,1μm,1.0s						
SSE	**Sheshan**	**3.66**	**16**	PG	Pg	08 53 53.7	-3.7
SSE				SG	Sg	08 54 39.4	-5.4
SSE				Smax			
	comp=N,207nm,0.7s						
SSE				Smax			
	comp=E,223nm,0.7s						
NJ2	**Nanjing**	**4.58**	**347**	*e*P	Pn	08 53 55.9	+0.3
NJ2				S	Sn	08 54 47.9	-0.4
NJ2				SG	Sg	08 55 12.5	-2.0
WHN	**Wuhan**	**5.79**	**302**	PG	Pn	08 54 34.0	+22
WHN				SG	Sn	08 55 49.3	+31
WHN				Smax			
	comp=N,137nm,1.0s						
WHN				Smax			
	comp=E,137nm,0.8s						
LZH	**Lanzhou**	**16.15**	**306**	*e*P	Pn	08 56 31.6	-1.7
LZH				AP	pP	08 56 38.5	-3.2
LZH				PP		08 56 44.5	
LZH				*e*S	Sn	08 59 29.0	-2.9
LZH				*e*SS		08 59 47.8	
LZH				AMB	AMB		
	comp=Z,17nm,1.0s						
LZH				AMB	AMB		
	comp=Z,48nm,4.6s						
LZH				LR	LR		
	comp=E,195nm,10.5s						
LZH				LR	LR		
	comp=Z,307nm,12.6s						

IDC 04 08:53:07.8±1.9, 704S×12850E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.3/3, ML3.2/2, MS4.0/1, Ms1 4.0/1, ms1mx2.8/15, Error ellipse: s-maj=114.4km s-min=31.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**157**	Pn	Pn	08 56 26.9	-0.7
	0.1nm,0.3s,baz=335,slow=14,SNR=6.1						
WRA				Sn	Sn	08 58 50.4	-14
	0.3nm,0.3s,baz=331,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**17.33**	**163**	P	Pn	08 57 12.0	+1.0
	0.1nm,0.3s,baz=337,slow=9.7,SNR=11						
ASAR				S	Sn	09 00 10.8	-14
	0.1nm,0.3s,baz=27,slow=11,SNR=2.8						
CBIJ	**Chichi jima**	**36.43**	**21**	LR	LR	09 13 25.7	
	comp=Z,259nm,20.5s,baz=151,slow=33						
MKAR	**Makanchi Array**	**67.45**	**328**	P	P	09 04 05.5	+0.2
	0.2nm,0.4s,baz=110,slow=8.3,SNR=8.7						

IDC 04 09:02:52.3±5.4, 1250S×16770E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=269.3km s-min=31.5km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.83**	**253**	P	P	09 09 27.4	-0.1
	0.2nm,0.4s,baz=85,slow=8.5,SNR=3.9						
ASAR	**Alice Springs**	**33.90**	**246**	P	P	09 09 37.7	+0.8
	0.5nm,0.7s,baz=73,slow=9.9,SNR=9.2						
ILAR	**Eielson Array**	**84.29**	**18**	P	P	09 15 25.8	-0.3
	0.4nm,0.6s,baz=226,slow=5.0,SNR=11						

ISCJB ***04*** *09:17:02.6±0.2, 1.10N±003×9051W±003, h10km, mb5.2/104, MS5.6/52, Error ellipse: s-maj=5.3km s-min=4.1km az=112.8*
IDC ***04*** *09:17:03.0±0.4, 1.18N×9065W, h0km, mb4.9/22, mb1 5.0/23, mb1mx5.0/24, mbtmp4.9/23, ML3.1/1, MS5.6/30, Ms1 5.6/30, ms1mx5.6/32, Error ellipse: s-maj=11.2km s-min=6.1km az=63.0*
BJI ***04*** *09:17:04.0, 1.10N×9050W, h10km, mB5.6, Ms5.9, Msz5.6*
NEIC ***04*** *09:17:04.1±0.2, 109N×9046W, h10km, mb5.4/76, MS5.4/18, MW5.9, Error ellipse: s-maj=8.6km s-min=4.7km az=57.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{\theta\theta}$4.16; $M_{\phi\phi}$-4.50; $M_{r\theta}$-1.10; $M_{\theta\phi}$-6.83; $M_{\phi r}$3.00; Best double couple: $M_0$8.70000×10^{17} NP1:ϕ_s344.00000°, δ88.00000°, λ22.00000°. NP2: ϕ_s253.00000°, δ68.00000°, λ178.00000°. Principal axes: T 8.6300, Plg17.0000°; Azm211.0000°; N 0.1200, Plg68.0000°, Azm350.0000°; P -8.7600, Plg13.0000°, Azm117.0000°;*
HRVD ***04*** *09:17:04.1±0.1, 107N×9072W, h12km, MW5.9/89, Centroid moment Tensor Solution. LP body waves: s88, c188; Mantle waves: s89, c201; Half duration: 2±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64±.08; $M_{\theta\theta}$3.39±.08; $M_{\phi\phi}$-2.75±.10; $M_{r\theta}$-1.23±.20; $M_{\theta\phi}$-7.44±.07; $M_{\phi r}$-0.48±.23; Best double couple: $M_0$8.16200×10^{17} NP1:ϕ_s349.00000°, δ81.00000°, λ-3.00000°. NP2: ϕ_s79.00000°, δ87.00000°, λ-171.00000°. Principal axes: T 8.4310, Plg5.0000°, Azm213.0000°; N -0.5360, Plg80.0000°, Azm95.0000°; P -7.8920, Plg9.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CSEM ***04*** *09:17:05.5, 099N×9061W, h30km, ML5.9*
MOS ***04*** *09:17:05.5±1.0, 126N×9040W, h23km, mb5.5/20, MS5.4/10, Error ellipse: s-maj=14.8km s-min=7

comp=Z,29µm,21.0s,MS5.9
HKT Hockley 29.13 351 *e*P **P 09 23 06.4 +0.7**
HKT pmax pmax
comp=Z,85nm,1.8s,mb5.2
HKT MLR MLR
comp=Z,5µm,21.0s,MS5.1
HKT Hockley 29.13 351 *e*P **P 09 23 06.3 +0.6**
comp=Z,84nm,1.8s,mb5.2
HKT LR LR
comp=Z,5µm,21.0s,MS5.1
SJG San Juan 29.33 53 P **P 09 23 06.1 -1.3**
comp=Z,7.7nm,0.3s,mb4.9,baz=356,slow=22,SNR=3.5
SJG S **S 09 28 04.4 +4.1**
comp=Z,4.7nm,0.4s,baz=306,slow=19,SNR=2.0
SJG LR LR 09 33 44.5
comp=Z,22µm,19.4s,MS5.8,baz=237,slow=34
SJG San Juan 29.33 53 *e*P **P 09 23 05.3 -2.2**
CPD Cerro la Pandu 29.48 54 *e*P **P 09 23 08.1 -0.8**
MTP Monte Pirata 29.80 54 P **P 09 23 12.3 +0.6**
JCT Junction City 30.52 344 *e*P **P 09 23 18.5 +0.5**
JCT pmax pmax
comp=Z,45nm,1.1s,mb5.2
JCT MLR MLR
comp=Z,6µm,21.0s,MS5.2
JCT Junction City 30.52 344 *e*P **P 09 23 18.5 +0.6**
comp=Z,45nm,1.1s,mb5.2
JCT LR LR
comp=Z,6µm,21.0s,MS5.2
TXAR Lajitas Array 30.74 337 P **P 09 23 19.8 -0.1**
comp=Z,3.6nm,0.7s,mb4.3,baz=158,slow=8.7,SNR=25
TXAR PcP PcP 09 26 21.7 +4.3
comp=Z,1.9nm,0.9s,baz=166,slow=5.2,SNR=3.8
TXAR SS SS 09 30 01.6 -32
comp=Z,0.4nm,0.9s,baz=39,slow=8.0,SNR=1.9
TXAR LR LR 09 34 39.4
comp=Z,10µm,19.1s,MS5.5,baz=255,slow=34
TXAR Lajitas Array 30.74 337 P **P 09 23 19.8 -0.1**
TXAR 09 26 21.7
TXAR SS SS 09 30 01.6 -32
NATX Nacogdoches 30.75 353 *e*P **P 09 23 19.9 -0.1**
LVC Limon Verde 31.63 139 P **P 09 23 29.6 +1.8**
comp=Z,33nm,0.2s,mb5.7,baz=156,slow=2.0,SNR=11
LVC S **S 09 28 43.8 +7.6**
comp=Z,0.7nm,0.3s,baz=213,slow=19,SNR=2.2
LVC LR LR 09 33 42.4
comp=Z,8µm,21.4s,MS5.4,baz=308,slow=32
LVC Limon Verde 31.63 139 P **P 09 23 29.6 +1.8**
LVC S **S 09 28 43.8 +7.6**
LVC LR LR 09 33 42.4
LRAL Lakeview Retre 31.95 6 *e*P **P 09 23 31.0 +0.5**
comp=Z,30nm,1.1s,mb5.0
LRAL LR LR
comp=Z,6µm,22.0s,MS5.2
OXF Oxford 33.26 2 *e*P **P 09 23 42.7 +0.6**
OXF pmax pmax
comp=Z,120nm,1.1s,mb5.7
OXF Oxford 33.26 2 *e*P **P 09 23 42.7 +0.6**
comp=Z,120nm,1.1s,mb5.7
MIAR Mount Ida 33.40 355 *e*P **P 09 23 43.8 +0.5**
MIAR pmax pmax
comp=Z,42nm,1.2s,mb5.2
MIAR MLR MLR
comp=Z,4µm,20.0s,MS5.1
MIAR Mount Ida 33.40 355 *e*P **P 09 23 43.8 +0.5**
comp=Z,42nm,1.2s,mb5.2
MIAR LR LR
comp=Z,4µm,20.0s,MS5.1
COW Cow Castle Cre 33.42 15 P **P 09 23 43.7 +0.2**
MNTX Cornudas Mount 33.51 337 *e*P **P 09 23 43.6 -0.6**
comp=Z,40nm,1.3s,mb5.2
UALR University of 33.55 357 *e*P **P 09 23 44.9 +0.3**
comp=Z,58nm,1.3s,mb5.3
GDL2 Guadalupe Moun 33.57 339 *e*P **P 09 23 45.5 +0.7**
GDL2 *e*PP PP 09 25 01.9 +1.1
SIV San Ignacio 33.70 121 P **P 09 23 46.1 +0.1**
comp=Z,37nm,1.0s,mb5.3,baz=300,slow=11,SNR=61
SIV PcP PcP 09 26 29.6 +4.1
comp=Z,11nm,1.0s,baz=241,slow=2.3,SNR=4.2
SIV S **S 09 29 17.0 +8.5**
comp=Z,3.0nm,1.1s,baz=118,slow=24,SNR=1.8
PLAL Pickwick Lake 33.79 4 *e*P **P 09 23 46.5 -0.2**
comp=Z,44nm,1.5s,mb5.2
PLAL *e*PP PP 09 25 05.0 +1.8
PLAL *e*PcP PcP 09 26 29.6 +3.8
JSC Jenkinsville 34.14 14 P **P 09 23 49.7 -0.1**
WMOK Wichita Mounta 34.34 348 *e*P **P 09 23 51.0 -0.5**
WMOK pmax pmax
comp=Z,76nm,1.3s,mb5.5
WMOK MLR MLR
comp=Z,4µm,19.0s,MS5.1
WMOK Wichita Mounta 34.34 348 *e*P **P 09 23 51.0 -0.5**
comp=Z,76nm,1.3s,mb5.5
WMOK LR LR
comp=Z,4µm,19.0s,MS5.1
WVT Waverly 34.95 4 *e*P **P 09 23 56.4 -0.4**
WVT pmax pmax
comp=Z,39nm,1.1s,mb5.2
WVT Waverly 34.95 4 *e*P **P 09 23 56.4 -0.3**
comp=Z,39nm,1.1s,mb5.2
PARMO Parma 35.40 1 P **P 09 24 00.8 +0.2**
TZTN Tazewell 35.87 10 *e*P **P 09 24 04.1 -0.5**
BNM Barren Site 36.16 337 *e*P **P 09 24 08.3 +1.1**
BNM *e*PcP PcP 09 26 28.8 -3.9
LPM Los Pinos Moun 36.31 337 *e*P **P 09 24 09.3 +0.9**
LENM Lemitar 36.31 337 *e*P **P 09 24 08.8 +0.4**
TUC Tucson 36.44 330 *e*P **P 09 24 09.9 +0.4**
TUC pmax pmax
comp=Z,183nm,1.9s,mb5.7
TUC MLR MLR
comp=Z,7µm,21.0s,MS5.4
TUC Tucson 36.44 330 *e*P **P 09 24 09.9 +0.4**
comp=Z,183nm,1.9s,mb5.7
TUC LR LR
comp=Z,7µm,21.0s,MS5.4
FVM French Village 36.71 0 *e*P **P 09 24 10.4 -1.4**
FVM pmax pmax
comp=Z,44nm,1.3s,mb5.1
FVM French Village 36.71 0 *e*P **P 09 24 10.4 -1.5**
comp=Z,44nm,1.3s,mb5.1
ANMO Albuquerque 36.80 338 *i*P **P 09 24 10.9 -1.8**
ANMO Albuquerque 36.80 338 *e*P **P 09 24 13.1 +0.5**
comp=Z,39nm,1.2s,mb5.1
ANMO LR LR
comp=Z,12µm,20.0s,MS5.7
WCI Wyandotte Cave 37.16 6 *e*P **P 09 24 15.7 0.0**
WCI *e* 09 26 36.4
WCI pmax pmax
comp=Z,52nm,1.0s,mb5.3
WCI Wyandotte Cave 37.16 6 *e*P **P 09 24 15.7 +0.1**
comp=Z,52nm,1.0s,mb5.3
WCI *e*PcP PcP 09 26 36.4 +0.8
BLO Bloomington 38.08 5 *e*P **P 09 24 23.3 -0.1**
comp=Z,78nm,1.0s,mb5.4
KSU1 Kansas State U 38.23 352 *e*P **P 09 24 25.2 +0.5**
CBKS Cedar Bluff 38.47 348 *e*P **P 09 24 27.4 +0.7**
CBKS pmax pmax
comp=Z,95nm,1.3s,mb5.4
CBKS Cedar Bluff 38.47 348 *e*P **P 09 24 27.4 +0.7**
comp=Z,95nm,1.3s,mb5.4
CFAA Coronel Fontan 38.80 149 P **P 09 24 30.3 +0.8**
comp=Z,1.5nm,0.9s,baz=312,slow=7.0,SNR=5.2
CFAA S **S 09 30 30.8 +4.3**
comp=Z,0.1nm,0.8s,baz=229,slow=14,SNR=2.3
CFAA SS SS 09 33 20.9 +3.4
comp=Z,0.1nm,0.8s,baz=231,slow=20,SNR=2.0
CFAA LR LR 09 37 24.3
comp=Z,1µm,19.6s,baz=315,slow=31
CFAA Coronel Fontan 38.80 149 P **P 09 24 30.3 +0.7**
CFAA S **S 09 30 30.8 +4.3**
CFAA SS SS 09 33 20.9 +3.4
CFAA LR LR 09 37 24.3
CBN Corbin 38.87 17 *e*P **P 09 24 29.9 -0.1**
comp=Z,65nm,1.1s,mb5.3
SDCO Great Sand Dun 38.98 341 *e*P **P 09 24 31.7 +0.6**
comp=Z,78nm,1.3s,mb5.3
WUAZ Wupatki 39.34 333 *e*P **P 09 24 35.0 +1.0**
comp=Z,267nm,1.4s,mb5.8
WUAZ LR LR
comp=Z,11µm,22.0s,MS5.6
ACSO Alum Creek Sta 39.56 9 *e*P **P 09 24 35.1 -0.8**
comp=Z,48nm,1.2s,mb5.1
BAR Barrett 39.89 325 *e*P **P 09 24 38.5 -0.1**
SDMD Soldier's Deli 40.14 17 *e*P **P 09 24 40.6 -0.1**
PFO Pinyon Flat Ob 40.45 326 P **P 09 24 44.1 +0.9**
comp=Z,100nm,1.6s,mb5.3,SNR=5.4
PFO Pinyon Flat Ob 40.45 326 *e*P **P 09 24 44.2 +1.0**
PFO pmax pmax
comp=Z,141nm,2.0s,mb5.3
PFO Pinyon Flat Ob 40.45 326 *e*P **P 09 24 44.2 +1.0**
comp=Z,141nm,2.0s,mb5.3
SMCO Snowmass 40.77 340 *e*P **P 09 24 46.9 +1.1**
comp=Z,84nm,1.7s,mb5.1
LDFC Landfair 40.82 329 *e*P **P 09 24 48.3 +1.9**
MVL Millersville 40.83 17 *e*P **P 09 24 45.6 -0.8**
ISCO Idaho Springs 40.90 342 *e*P **P 09 24 47.6 +0.7**
ISCO pmax pmax
comp=Z,54nm,0.9s,mb5.2
ISCO Idaho Springs 40.90 342 *e*P **P 09 24 47.6 +0.6**
comp=Z,54nm,0.9s,mb5.2
AAM Ann Arbor 41.49 8 *e*P **P 09 24 50.5 -1.3**
comp=Z,211nm,1.6s,mb5.5
MWC Mount Wilson 41.80 325 *e*P **P 09 24 55.8 +1.4**
ERPA Erie 41.93 12 *e*P **P 09 24 54.8 -0.7**
comp=Z,124nm,1.6s,mb5.3
CPUP Villa Florida 42.08 133 *e*P **P 09 24 56.9 +0.3**
CPUP pmax pmax
comp=Z,250nm,1.3s
CPUP MLR MLR
comp=Z,1µm,21.0s
CPUP Villa Florida 42.08 133 *e*P **P 09 24 56.9 +0.3**
comp=Z,250nm,1.3s,mb5.7
CPUP LR LR
comp=Z,1µm,21.0s,MS4.8
MVU Marysvale 42.20 334 *e*P **P 09 25 03.1 +5.5**
comp=Z,112nm,1.9s,mb5.2
PHWY Pilot Hill 42.23 343 *e*P **P 09 24 58.6 +0.7**
TMUT Trail Mountain 42.45 336 *e*P **P 09 25 00.3 +0.7**
DAC Darwin (Calif) 43.05 327 *e*P **P 09 25 05.4 +0.9**
comp=Z,130nm,1.8s,mb5.4
RWWY Rawlins 43.11 342 *e*P **P 09 25 06.2 +1.2**
comp=Z,132nm,1.5s,mb5.4
DUG Dugway 43.87 335 *e*P **P 09 25 11.5 +0.4**
comp=Z,126nm,1.7s,mb5.4
NOQ North Oquirrh 43.97 336 *e*P **P 09 25 12.8 +0.9**
comp=Z,334nm,2.0s,mb5.7
PTRM Twissleman Ran 44.06 325 P **P 09 25 12.2 -0.4**
TPH Tonopah 44.21 329 *e*P **P 09 25 14.8 +0.9**
comp=Z,46nm,1.2s,mb5.1
HWUT Hardware Ranch 44.56 337 *e*P **P 09 25 16.2 -0.5**
comp=Z,194nm,1.6s,mb5.7
HWUT *e*PcP PcP 09 27 03.6 +4.0
BW06 Boulder Array 44.85 340 *e*P **P 09 25 18.7 -0.3**
comp=Z,51nm,1.4s,mb5.2
PDAR Pinedale Array 44.85 340 P **P 09 25 17.5 -1.5**
comp=Z,7.5nm,1.0s,mb4.5,baz=135,slow=6.3,SNR=24
PDAR S **S 09 31 56.1 +0.1**
comp=Z,0.2nm,0.4s,baz=32,slow=45,SNR=2.7
PDAR LR LR 09 43 46.4
comp=Z,9µm,18.2s,MS5.7,baz=164,slow=36
MNV Mina 44.96 329 *e*P **P 09 25 20.6 +0.7**
comp=Z,73nm,1.1s,mb5.4
NVAR Mina Array Bea 45.03 329 P **P 09 25 21.2 +0.7**
comp=Z,23nm,0.8s,mb5.0,baz=164,slow=7.2,SNR=42
NVAR S **S 09 32 04.8 +6.1**
comp=Z,0.2nm,0.4s,baz=18,slow=42,SNR=1.6
NVAR LR LR 09 42 08.4
comp=Z,2µm,18.6s,MS5.1,baz=105,slow=34
NVAR Mina Array Bea 45.03 329 P **P 09 25 21.2 +0.7**
NVAR S **S 09 32 04.8 +6.1**
NVAR LR LR 09 42 08.4
LRV Little Rabbit 45.07 325 *e*P **P 09 25 22.2 +1.5**
BDFB Brasilia 45.20 113 P **P 09 25 22.4 +0.7**
comp=Z,41nm,1.1s,mb5.2,baz=283,slow=9.2,SNR=17
BDFB S **S 09 32 02.3 +1.3**
comp=Z,1.7nm,0.8s,baz=194,slow=8.7,SNR=2.5
BDFB SS SS 09 35 29.4 +5.6
comp=Z,0.6nm,0.3s,baz=162,slow=26,SNR=1.8
BDFB LR LR 09 45 07.6
comp=Z,8µm,19.1s,MS5.7,baz=153,slow=37
BDFB Brasilia 45.20 113 P **P 09 25 22.4 +0.7**
BDFB S **S 09 32 02.3 +1.3**
BDFB SS SS 09 35 29.4 +5.6
BDFB LR LR 09 45 07.6
BAO Brasilia Array 45.22 113 P **P 09 25 23.0 +1.1**
AHID Auburn Hatcher 45.39 339 *e*P **P 09 25 22.6 -0.7**
comp=Z,31nm,1.1s,mb5.0
PLCA Paso Flores 45.44 159 P **P 09 25 23.9 +0.2**
comp=Z,38nm,1.0s,mb5.2,baz=331,slow=9.0,SNR=27
PLCA S **S 09 32 05.8 +1.3**
comp=Z,0.7nm,0.6s,baz=356,slow=9.8,SNR=2.0
PLCA SS SS 09 35 32.9 +4.6
comp=Z,1.2nm,0.8s,baz=102,slow=22,SNR=2.3
PLCA Paso Flores 45.44 159 *e*P **P 09 25 23.4 -0.2**
comp=Z,82nm,1.2s,mb5.4
PLCA LR LR
comp=Z,3µm,20.0s,MS5.2
LONY Lake Ozonia 45.59 16 *e*P **P 09 25 23.8 -1.1**
REDW Red Top Meadow 45.82 339 *e*P **P 09 25 26.4 -0.2**
comp=Z,160nm,1.2s,mb5.8
CMB Columbia Colle 45.85 327 *e*P **P 09 25 27.2 +0.3**
comp=Z,29nm,1.1s,mb5.1
SNOW Snow King Moun 45.88 339 *e*P **P 09 25 27.0 -0.2**
comp=Z,154nm,1.1s,mb5.8
LOHW Long Hollow 45.95 340 *e*P **P 09 25 27.0 -0.8**
comp=Z,65nm,1.2s,mb5.4
FRNY Flat Rock 46.07 17 *e*P **P 09 25 32.4 +3.7**
MOOW Moose Ponds 46.12 340 *e*P **P 09 25 28.4 -0.6**
comp=Z,48nm,1.3s,mb5.3
FLWY Flagg Ranch 46.40 340 *e*P **P 09 25 30.9 -0.4**
comp=Z,49nm,1.1s,mb5.3
LKWY Lake 46.73 341 *e*P **P 09 25 34.4 +0.6**
comp=Z,46nm,1.1s,mb5.3
YFT Old Faithful 46.77 340 *e*P **P 09 25 35.4 +1.2**
TRQA Tornquist 47.04 149 *e*P **P 09 25 35.1 -1.2**
comp=Z,56nm,1.4s,mb5.3
TRQA *e*PcP PcP 09 27 10.8 +2.6
TRQA LR LR
comp=Z,9µm,19.0s,MS5.8
QLMT Earthquake Lak 47.31 340 *e*P **P 09 25 39.2 +0.8**
HLID Hailey 47.34 336 *e*P **P 09 25 38.6 0.0**
OHCM Honcut 47.38 327 *e*P **P 09 25 40.1 +1.2**
NSHM Saint Helena R 47.43 326 *e*P **P 09 25 39.6 +0.3**
LAO LASA Array 47.43 345 *e*P **P 09 25 39.6 +0.3**
comp=Z,43nm,1.0s,mb5.3
LAO LR LR
comp=Z,4µm,19.0s,MS5.4
GCMT Greycliff 47.58 342 *e*P **P 09 25 39.9 -0.6**
MCMT McKenzie Canyo 47.81 339 *e*P **P 09 25 42.3 0.0**
BOZ Bozeman (W) 48.09 340 *e*P **P 09 25 41.4 -3.0**
comp=Z,4.6nm,0.8s,mb4.6
DLMT Dillon 48.18 339 P **P 09 25 43.2 -1.9**
comp=Z,47nm,1.3s,mb5.4
WVOR Wild Horse Val 48.26 332 *e*P **P 09 25 45.6 -0.2**
comp=Z,140nm,1.7s,mb5.7
DGMT Dagmar 48.64 348 *e*P **P 09 25 48.9 +0.2**
comp=Z,66nm,1.2s,mb5.5
MOD Modoc 48.65 330 *e*P **P 09 25 49.4 +0.6**
comp=Z,119nm,1.4s,mb5.7
HRY Holter Researc 49.09 341 *e*P **P 09 25 51.2 -0.9**
ULM Lac du Bonnet 49.18 355 P **P 09 25 51.4 -1.4**
comp=Z,39nm,1.1s,mb5.4,baz=181,slow=7.4,SNR=18
ULM S **S 09 32 58.5 +0.7**
comp=Z,0.4nm,0.3s,baz=182,slow=22,SNR=1.8
ULM SS SS 09 36 30.4 +1.3
comp=Z,0.7nm,0.3s,baz=23,slow=16,SNR=2.8
ULM LR LR 09 47 14.5
comp=Z,4µm,21.9s,MS5.4,baz=174,slow=37
ULM Lac du Bonnet 49.18 355 P **P 09 25 51.4 -1.4**
ULM S **S 09 32 58.5 +0.7**
ULM SS SS 09 36 30.4 +1.3
ULM LR LR 09 47 14.4
RKT Rikitea 49.46 238 *e*S **S 09 32 59.7 -1.9**
comp=Z,2µm,28.8s
RKT *e*LR LR 09 40 15.5
comp=Z,16µm,29.5s,baz=64
CHMT Chamberlain Mo 49.75 340 *e*P **P 09 25 56.2 -1.0**
HAWA Hanford 51.75 335 *e*P **P 09 26 11.6 -0.7**
comp=Z,3.1nm,1.2s,mb4.1
CAM4 Nova Friburgo 52.24 120 *e*P **P 09 26 16.8 +0.8**
CAM4 *i* 09 26 18.6
CAM4 *i* 09 26 34.0
NEW Newport 52.29 338 *e*P **P 09 26 13.8 -2.4**
comp=Z,22nm,1.0s,mb5.0
FFC Flin Flon 54.27 352 P **P 09 26 30.6 -0.2**
comp=Z,159nm,1.2s,mb5.8,SNR=13
FFC Flin Flon 54.27 352 *e*P **P 09 26 29.2 -1.7**
comp=Z,37nm,1.1s,mb5.2
RCBR Riachuelo 55.00 98 *e*P **P 09 26 36.2 +0.1**
comp=Z,69nm,1.4s,mb5.5
SCHQ Schefferville 56.97 16 P **P 09 26 49.1 -1.1**
comp=Z,40nm,1.2s,mb5.3,baz=226,slow=6.7,SNR=9.2
SCHQ S **S 09 34 45.4 +1.5**
comp=Z,2.4nm,1.0s,baz=212,slow=18,SNR=1.8
SCHQ LR LR 09 50 07.6
comp=Z,7µm,20.9s,MS5.7,baz=209,slow=35
SCHQ Schefferville 56.97 16 *e*P **P 09 26 49.0 -1.2**
comp=Z,100nm,1.4s,mb5.7
USHA Ushuaia 58.64 165 P **P 09 27 01.3 -0.7**
comp=Z,33nm,1.0s,mb5.3,baz=299,slow=3.1,SNR=6.9
USHA S **S 09 35 10.1 +4.4**
comp=Z,4.0nm,0.8s,baz=12,slow=5.3,SNR=1.8
VAH Vaihoa 58.69 252 *e*P **P 09 27 04.1 +1.8**
comp=Z,76nm,1.4s,mb5.5
PMOR Pomariorio Ree 58.90 252 *e*P **P 09 27 05.4 +1.6**
comp=Z,133nm,1.5s,mb5.7
TVO Taravao 60.71 249 *e*P **P 09 27 18.4 +2.2**
comp=Z,67nm,1.1s,mb5.7
PPT Papeete 60.97 249 *e*P **P 09 27 20.1 +2.1**
comp=Z,66nm,1.4s,mb5.6
PPT Papeete 60.97 249 *e*S **S 09 35 36.0 +0.2**
comp=Z,6µm,26.0s
PPT *e*SS SS 09 39 33.2 -1.9
comp=Z,2µm,27.5s
PPT *e*LQ 09 42 37.2
comp=Z,19µm,31.0s
PPT *e*LR LR 09 45 18.6
comp=Z,14µm,26.0s,baz=72
PPT Papeete 60.97 249 S **S 09 35 44.2 +8.5**
comp=Z,8.4nm,0.6s,baz=53,slow=12,SNR=2.3
PPT LR LR 09 46 53.5
comp=Z,6µm,18.6s,MS5.8,baz=82,slow=29
PAE Paea 60.99 249 *e*P **P 09 27 20.0 +1.9**
comp=Z,180nm,1.3s,mb6.0
TBI Tubuai 62.16 243 *e*S **S 09 35 50.5 -0.3**
comp=Z,6µm,28.8s
TBI *e*SS SS 09 39 55.5 +1.8
comp=Z,852nm,29.0s
TBI *e*LQ 09 43 12.1
comp=Z,12µm,34.0s
TBI *e*LR LR 09 46 05.6
comp=Z,17µm,27.2s,baz=71
YKA Yellowknife Ar 63.85 348 P **P 09 27 35.0 -2.3**
comp=Z,13nm,0.7s,mb5.1,baz=146,slow=6.0,SNR=104
YKA PP PP 09 29 58.0 +0.3
comp=Z,7.0nm,1.3s,baz=149,slow=8.9,SNR=5.9
YKA S **S 09 36 12.2 +0.2**
comp=Z,0.2nm,0.9s,baz=278,slow=9.9,SNR=3.2
YKA LR LR 09 57 46.4
comp=Z,1µm,19.5s,MS5.2,baz=110,slow=38
YKA Yellowknife Ar 63.85 348 P **P 09 27 35.0 -2.2**
YKA 09 29 58.0
YKA S **S 09 36 12.2 +0.2**
YKA Yellowknife Ar 63.85 348 P **P 09 27 35.0 -2.3**
YKA PP PP 09 29 58.0 +0.3
YKA S **S 09 36 12.2 +0.2**
YKA LR LR 09 57 46.4
YKW3 Yellowknife Ar 63.91 348 *e*P **P 09 27 35.7 -1.9**
FRB Frobisher Bay 64.58 11 S **S 09 36 22.8 +1.8**
comp=Z,2.7nm,0.8s,baz=332,slow=19,SNR=2.2
FRB LR LR 09 55 14.2
comp=Z,12µm,21.8s,MS6.0,baz=122,slow=36
SFJD Kangerlussuaq 71.41 15 S S 09 37 45.1 +2.4
comp=Z,3.4nm,0.9s,baz=38,slow=6.8,SNR=1.7
SFJD LR LR 10 01 31.5
comp=Z,3µm,18.2s,MS5.7,baz=203,slow=37
SFJD Kangerlussuaq 71.41 15 *i*P **P 09 28 23.6 -1.4**
comp=Z,22nm,1.2s,mb5.0
SFJD *i*S S 09 37 44.7 +2.0
SFJD *i* 09 45 57.4
SFJD
comp=Z,5µm,24.0s
SFJD Kangerlussuaq 71.41 15 *i*P **P 09 28 23.6 -1.4**
SFJD *i*S S 09 37 44.7 +2.0
SFJD pmax pmax
comp=Z,22nm,1.2s,mb5.0
SFJD MLR MLR
comp=Z,5µm,24.0s,MS5.7
SML Sawmill 74.34 335 *e*P **P 09 28 41.9 -0.5**
SLKM Skilak Lake 74.55 334 *e*P **P 09 28 43.4 -0.2**
ILAR Eielson Array 75.25 338 P **P 09 28 46.5 -1.0**
comp=Z,8.0nm,0.8s,mb4.7,baz=143,slow=4.2,SNR=44
ILAR PP PP 09 31 38.6 +2.5
comp=Z,1.3nm,1.0s,baz=112,slow=7.7,SNR=3.8
ILAR S S 09 38 27.6 +1.4
comp=Z,0.4nm,0.9s,baz=214,slow=9.3,SNR=2.4
ILAR LR LR 10 02 42.5
comp=Z,4µm,18.0s,MS5.8,baz=137,slow=36
ILAR Eielson Array 75.25 338 P **P 09 28 46.6 -1.0**
ILAR 09 31 38.6
ILAR S S 09 38 27.6 +1.5
MCK McKinley 75.51 337 *e*P **P 09 28 48.5 -0.6**
MCK pmax pmax
comp=Z,20nm,1.4s,mb4.8
MCK McKinley 75.51 337 *e*P **P 09 28 48.5 -0.6**
comp=Z,20nm,1.4s,mb4.8
COLA College 75.65 338 *i*P **P 09 28 49.4 -0.5**
COLA College 75.65 338 P **P 09 28 50.6 +0.7**
comp=Z,16nm,1.3s,mb4.8
SUMG Summit 78.28 14 *e*P **P 09 29 03.9 -0.8**
comp=Z,61nm,1.0s,mb5.5
IMA2 Indian Mountai 78.37 338 *e*P **P 09 29 04.3 -0.9**
BORG Borgarnes 80.26 24 S S 09 39 23.9 +3.6
comp=Z,12nm,0.9s,baz=37,slow=11,SNR=2.0
BORG LR LR 10 02 10.3
comp=Z,4µm,20.1s,MS5.7,baz=239,slow=34
SCO Scoresbysund 81.93 18 *i*P **P 09 29 25.8 +1.4**
comp=Z,8.2nm,0.9s,mb4.7
SCO Scoresbysund 81.93 18 *e*P **P 09 29 25.8 +1.4**
SCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
EVO Evora 83.48 52 *e*P **P 09 29 29.6 -2.9**
comp=Z,85nm,1.3s,mb5.3
EVO *e*R
comp=Z,4µm,21.0s
PBEJ Beja 83.56 52 *e*P **P 09 29 35.7 +2.8**
PVIS Viseu 83.72 49 *e*P **P 09 29 36.0 +2.3**
comp=Z,39nm,1.2s,mb5.4
TNA Tin City 83.79 336 *e*P **P 09 29 33.9 -0.2**
comp=Z,27nm,1.4s,mb5.2
MTE Manteigas 83.96 50 *e*PP PP 09 32 50.7 +2.1
MTE *e*S S 09 40 02.2 +3.8
MTE Manteigas 83.96 50 P **P 09 29 36.1 +1.1**
comp=Z,34nm,1.1s,mb5.4
PCBR Castelo Branco 83.98 50 *e*P **P 09 29 36.7 +1.7**
comp=Z,31nm,1.4s,mb5.2
MDT Midelt 86.00 57 P **P 09 29 47.4 +2.2**
comp=Z,4.2nm,1.1s,mb4.6,baz=332,slow=4.3,SNR=3.0
MDT S 09 40 14.5
comp=Z,2.0nm,1.1s,baz=330,slow=21,SNR=1.7
MDT SS SS 09 46 09.4 +13
comp=Z,1.5nm,0.7s,baz=310,slow=2.7,SNR=2.6
JMIC Jan Mayen 86.37 19 S 09 40 15.3
comp=Z,24nm,0.3s,baz=187,slow=14,SNR=1.7
JMIC LR LR 10 06 57.5
comp=Z,1µm,19.2s,MS5.4,baz=266,slow=35
ESDC Sonseca Array 86.68 51 P **P 09 29 48.7 +0.2**
comp=Z,9.7nm,0.9s,mb5.0,baz=280,slow=4.5,SNR=15
ESDC S 09 40 17.8
comp=Z,0.8nm,0.6s,baz=296,slow=36,SNR=3.0
ESLA Sonseca Array 86.68 51 *e*P **P 09 29 48.1 -0.5**
comp=Z,11nm,1.3s,mb4.9
ROSF Rostrenen 87.38 42 *e*P **P 09 29 49.4 -2.5**
QUIF Quistinic 87.44 42 *e*P **P 09 29 49.7 -2.5**
ESK Eskdalemuir 87.59 35 *e*P **P 09 29 53.2 +0.2**
ESK pmax pmax
comp=Z,34nm,1.3s,mb5.4
ESK Eskdalemuir 87.59 35 *e*P **P 09 29 53.2 +0.2**
comp=Z,34nm,1.3s,mb5.4
EKA Eskdalemuir Ar 87.62 35 P **P 09 29 51.9 -1.2**
comp=Z,6.4nm,0.9s,mb4.8,baz=270,slow=5.0,SNR=11
SGMF Saint Gilles 87.85 42 *e*P **P 09 29 51.7 -2.5**
comp=Z,39nm,1.5s,mb5.5
SGMF Saint Gilles 87.85 42 *e*P **P 09 29 51.7 -2.5**
comp=Z,50nm,1.5s,mb5.5
GRR Gorron 88.99 42 *e*P **P 09 29 56.3 -3.3**
FLN La Foliniere 89.23 41 *e*P **P 09 29 58.0 -2.7**
comp=Z,7.2nm,0.8s,mb4.8
FLN *e*R
comp=Z,8µm,22.8s
FLN La Foliniere 89.23 41 *e*P **P 09 29 58.0 -2.7**
comp=Z,3.6nm,0.8s,mb4.8
FLN LR LR
comp=Z,8µm,22.8s,MS6.1
LDF La Druitiere 89.47 42 *e*P **P 09 29 59.2 -2.7**
MFF Saint Martin d 89.50 44 *e*P **P 09 29 59.1 -2.9**
LFF La Frestale 90.15 45 *e*P **P 09 30 02.4 -2.6**
CAF Calviac 91.09 45 *e*P **P 09 30 06.8 -2.6**
comp=Z,1.5nm,0.2s,mb4.6
QSPA South Pole Qui 91.13 180 *e*P **P 09 30 08.8 -0.8**

comp=Z,175nm,1.9s,mb6.1
TCF Toulx Ste Croi 91.13 44 *e*P **P 09 30 07.1 -2.5**
KBS Kingsbay 91.33 11 *e*PP PP 09 33 48.3 +0.5
KBS *i* 09 42 24.5
KBS *e*SS SS 09 47 13.0 -1.0
KBS AMS AMS 10 10 01.7
comp=Z,2μm,21.7s,MS5.5
AVF Avril sur Loir 91.89 43 *e*P **P 09 30 10.4 -2.7**
comp=Z,13nm,1.2s,mb4.8
AVF Avril sur Loir 91.89 43 *e*P **P 09 30 10.4 -2.7**
comp=Z,6.5nm,1.2s,mb4.8
TORD Torodi Ar. Bea 91.94 77 P **P 09 30 12.8 -0.6**
comp=Z,0.4nm,0.6s,baz=305,slow=35,SNR=4.9
TORD S 09 40 53.5
comp=Z,0.1nm,0.3s,baz=0.3,slow=34,SNR=2.8
TORD SS SS 09 47 26.4 +3.6
comp=Z,0.3nm,0.9s,baz=167,slow=26,SNR=2.2
BER Bergen 91.98 30 *e*SKSa SKSac 09 40 45.1 -0.9
BER AMS AMS 10 05 12.2
comp=Z,3μm,23.0s,MS5.6
SSF Saint Saulge 91.98 43 *e*P **P 09 30 10.7 -2.8**
comp=Z,1.7nm,0.4s,mb4.4
LOR Lormes 92.21 43 *e*P **P 09 30 11.9 -2.7**
LOR *e*R
comp=Z,5μm,19.2s
LOR Lormes 92.21 43 *e*P **P 09 30 11.9 -2.7**
LOR LR LR
comp=Z,5μm,19.3s,MS5.9
SMF Signal de Mont 92.24 43 *e*P **P 09 30 11.9 -2.8**
comp=Z,3.5nm,0.6s,mb4.5
SMF Signal de Mont 92.24 43 *e*P **P 09 30 11.9 -2.8**
comp=Z,1.8nm,0.6s,mb4.6
SMRF Simiane la Rot 93.67 46 *e*P **P 09 30 18.5 -2.8**
CABF La Chapelle 93.78 43 *e*P **P 09 30 19.3 -2.5**
ORIF Oris-en-Rattie 93.80 45 *e*P **P 09 30 19.2 -2.7**
ORIF *e*R
comp=Z,3μm,20.2s
BILL Bilibino 93.91 338 *i* P **P 09 30 21.4 -1.0**
BILL pmax pmax
comp=Z,30nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.6
BILL Bilibino 93.91 338 P **P 09 30 21.4 -1.0**
comp=Z,30nm,1.4s,mb5.5
BILL LR LR
comp=Z,3μm,20.0s,MS5.7
KONO Kongsberg 94.20 30 *e*SKSa SKSac 09 40 54.7 -3.5
KONO *i* SP 09 42 48.0 -0.8
KONO *e*SS SS 09 47 53.4 -1.7
LMR La Mourre 94.40 47 *e*P **P 09 30 21.8 -2.9**
comp=Z,10nm,0.8s,mb5.0
LMR La Mourre 94.40 47 *e*P **P 09 30 21.8 -2.9**
comp=Z,5.1nm,0.8s,mb5.0
FRF La Foret Royal 94.48 46 *e*P **P 09 30 21.9 -3.1**
NOA NORSAR Array B 94.74 29 P **P 09 30 21.5 -4.8**
comp=Z,1.2nm,0.8s,mb4.3,baz=135,slow=15,SNR=2.5
NOA LR LR 10 09 35.4
comp=Z,2μm,20.9s,MS5.7,baz=285,slow=33
NVL N'lazarevskaya 95.10 161⇑ *i*P **P 09 30 27.6 -0.3**
NVL *e**SP sP 09 30 33.6 -1.2
NVL *e*SSS 09 51 46.8
NVL pmax pmax
comp=Z,12nm,1.0s,mb5.3
TRO Tromso 95.68 19 *e*PP PP 09 34 14.5 -7.4
TRO *i* 09 43 12.6
TRO *e*SS SS 09 48 16.8 +0.6
TRO AMS AMS 10 08 36.5
comp=Z,2μm,21.8s,MS5.5
DAVOS Davos 96.29 43 P **P 09 30 35.3 +2.0**
PGF Pioggiola 96.31 47 *e*P **P 09 30 30.5 -2.9**
DAVOX Davos 96.35 43 P **P 09 30 35.3 +1.7**
comp=Z,2.0nm,0.8s,mb4.6,baz=294,slow=6.5,SNR=2.6
DAVOX LR LR 10 12 47.2
comp=Z,2μm,18.1s,MS5.7,baz=287,slow=35
VSL Villasalto 96.97 50 P **P 09 30 35.8 -0.6**
comp=Z,19nm,1.2s,mb5.4
NKC Novy Kostel 97.47 39 *e*SKS 09 41 21.0
NKC AMS AMS 10 09 00.0
comp=Z,7μm,21.2s
CLL Collm 97.61 38 *e*(Pdiff) 09 30 47.7
CLL *e*PP PP 09 34 35.4 -1.4
CLL *e*SKSac SKSac 09 41 21.7 +5.5
CLL *e*S 09 42 07.2
CLL *e*PS PS 09 43 31.4 +3.3
CLL *e*PPS 09 44 06.4
CLL *e*SS SS 09 48 50.2 +6.8
CLL *e*SSS 09 52 33.3
CLL *e*LR LR 10 02 34.2
CLL *e*L 10 11 28.7
comp=Z,2μm,20.0s
CLL Collm 97.61 38 *e*PP PP 09 34 35.0 -1.8
CLL LmH 09 08 00.0
comp=N,2μm,21.9s
CLL LmH 09 08 00.0
comp=E,2μm,21.4s
CLL LmV 09 11 00.0
comp=Z,3μm,20.1s
CLL *e*SKSac SKSac 09 41 22.0 +5.8
CLL *e*S 09 42 06.0
CLL *e*PS PS 09 43 28.0 -0.1
CLL *e*PPS 09 44 07.0
CLL *e*SS SS 09 48 42.0 -1.4
CLL *e*SSS 09 52 34.0
GERES GERESS Array B 98.53 40 P **P 09 30 44.3 +0.8**
comp=Z,0.5nm,0.9s,mb4.1,baz=288,slow=3.1,SNR=2.4
GERES S 09 41 25.2
comp=Z,0.1nm,0.3s,baz=6.3,slow=24,SNR=2.3
GERES PKKPbc PKKPbc 09 47 14.1 +1.4
comp=Z,1.2nm,0.9s,baz=207,slow=3.0,SNR=7.6
GERES SS SS 09 49 05.3 +8.9
comp=Z,0.2nm,0.4s,baz=190,slow=30,SNR=2.3
GERES LR LR 10 10 10.1
comp=Z,4μm,20.4s,MS5.9,baz=256,slow=32
GERES GERESS Array B 98.53 40 P **P 09 30 44.3 +0.9**
GERES S 09 41 25.2
GERES SS SS 09 49 05.3 +8.8
PRU Pruhonice 98.83 39 *e*SKS 09 41 27.2
PRU *e*SP SP 09 43 37.9 -1.5
PRU AMS AMS 10 09 40.0
comp=Z,7μm,20.6s
DPC Dobruska-Polom 99.87 38 *e*SKS 09 41 27.1
DPC *e*SP SP 09 43 48.8 -1.8
DPC AMS AMS 10 10 10.0
comp=Z,4μm,20.1s
OKC Ostrava-Krasne 101.14 39 *e*SP SP 09 43 58.0 -6.1
OKC AMS AMS 10 11 30.0
comp=Z,10μm,20.3s
DRV Dumont d'Urvil 105.69 199 SP SP 09 44 56.0 +3.9
DRV SS SS 09 50 35.0 -0.5
AKASG Malin Array Be 107.53 35 PKKPbc PKKPbc 09 46 46.1 0.0
comp=Z,0.5nm,0.6s,baz=95,slow=2.4,SNR=3.8
OBN Obninsk 109.34 29⇓ *e*P Pdif 09 31 26.4 -5.1
OBN *e* 09 36 00.0
OBN *i* SS SS 09 51 32.0 +7.1
OBN pmax pmax
comp=Z,2.0nm,0.8s
LBTB Lobatse 114.06 117 *e*PKPdf PKiKP 09 35 43.2 -0.8
BR131 Keskin Array S 114.92 45 *e*PKPdf PKiKP 09 35 46.2 +0.6
BRTR Keskin Array B 114.92 45 PKP PKiKP 09 35 46.0 +0.4
comp=Z,1.3nm,0.9s,baz=0.0,slow=1.4,SNR=2.2
BRTR PKKPbc PKKPbc 09 46 25.1 +3.3
comp=Z,1.2nm,1.0s,baz=117,slow=2.8,SNR=6.2
ANN Anapa 115.14 38 *i* PKIKP PKiKP 09 35 52.0 +6.0
ANN *i* SP SP 09 46 23.5 +0.1
ANN *e*SS SS 09 52 56.7 +15
ANN pmax pmax
comp=Z,57nm,1.4s
HABR Khabarovsk 116.83 328 *i* P Pdif 09 32 01.6 -3.2
SOC Sochi 117.17 39 *i* PKIKP PKPdf 09 35 53.8 +3.9
SOC *e* 09 37 00.1
SOC *e*PS PS 09 46 41.3 -2.6
STKA Stephens Creek 122.14 232 PKP PKPdf 09 36 01.3 +1.8
comp=Z,4.7nm,0.9s,baz=5.6,slow=2.6,SNR=8.3
STKA Stephens Creek 122.14 232 *e*PKPdf PKPdf 09 36 00.2 +0.7
GNI Garni 122.18 40 *i* PKIKP PKPdf 09 36 04.0 +4.4
GNI MLR MLR
comp=Z,2μm,20.0s
GNI Garni 122.18 40 *i* PKP PKPdf 09 36 04.1 +4.5
MDJ Mudanjiang 122.18 327 PKP PKPdf 09 35 58.7 -0.9
MDJ PP PP 09 37 33.8 -0.8
MDJ S Sdif 09 45 27.6 -1.4
MDJ SS SS 09 54 14.5 +1.4
MDJ PP PP
comp=Z,179nm,4.2s
MDJ LR LR
comp=N,726nm,24.3s,MS5.4
MDJ LR LR
comp=E,828nm,23.2s,MS5.4
MDJ LR LR
comp=Z,1μm,22.2s,MS5.5
ZRNK Zerenda 123.49 15 *e*PKIKP PKPdf 09 36 01.7 -0.4
BRVK Borovoye 123.71 14 *e*PKIKP PKPdf 09 36 01.9 -0.6
BRVK *i* 09 36 05.8
BVAR Borovoye Array 123.76 14 PKP PKPdf 09 36 02.7 +0.1
comp=Z,2.8nm,0.9s,baz=0.0,slow=0.0,SNR=11
BVAR PP PP 09 37 43.8 -1.5
comp=Z,2.6nm,1.0s,baz=315,slow=4.2,SNR=6.7
CN2 Changchun 124.93 329 *e*PKP PKPdf 09 36 00.1 -4.7
CN2 *e*XPKP 09 36 14.0
CN2 *e*PP PP 09 37 52.7 -0.4
CN2 PP PP
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.7
CN2 LR LR
comp=E,900nm,18.0s,MS5.7
CN2 LR LR
comp=Z,1μm,21.0s,MS5.5
ZAK Zakamensk 127.37 349 *e*PKIKP PKPdf 09 36 13.1 +3.6
ZAK pmax pmax
comp=Z,11nm,1.9s
ZAK pmax pmax
comp=Z,6.0nm,2.2s
ZAK pmax pmax
comp=Z,8.0nm,2.0s
KURK Kurchatov 127.57 9 *i* PKIKP PKPdf 09 36 09.0 -0.9
KURK Kurchatov 127.57 9 *e*PKPdf PKPdf 09 36 08.8 -1.0
KMBO Kilima Mbogo 127.82 91 PKP PKPdf 09 36 10.6 +0.2
comp=Z,0.7nm,0.4s,baz=64,slow=22,SNR=2.3
KMBO PP PP 09 38 15.6 +3.3
comp=Z,0.4nm,0.3s,baz=39,slow=22,SNR=3.5
KMBO Kilima Mbogo 127.82 91 *e*PKPdf PKPdf 09 36 11.2 +0.9
ULN Ulaanbaatar 128.88 345 *i* PKIKP PKPdf 09 36 15.5 +3.1
ULN Ulaanbaatar 128.88 345 *e*PKPdf PKPdf 09 36 13.1 +0.7
SONM Songino Array 129.08 345 PKP PKPdf 09 36 13.2 +0.4
comp=Z,3.6nm,1.0s,baz=16,slow=2.0,SNR=17
SONM PP PP 09 38 15.5 -5.1
comp=Z,2.2nm,1.1s,baz=18,slow=4.7,SNR=3.8
ASAR Alice Springs 131.44 239 PKP PKPdf 09 36 17.8 +0.6
comp=Z,8.4nm,1.1s,baz=122,slow=2.5,SNR=19
MKAR Makanchi Array 131.90 7 PKP PKPdf 09 36 17.1 -1.1
comp=Z,2.6nm,1.1s,baz=0.0,slow=3.6,SNR=9.0
MKAR PP PP 09 38 39.1 +0.2
comp=Z,1.8nm,0.9s,baz=0.0,slow=2.4,SNR=6.3
WRAB Tennant Creek 132.27 244 *i* PKIKP PKPdf 09 36 20.4 +1.6
WRAB Tennant Creek 132.27 244 *e*PKPdf PKPdf 09 36 20.0 +1.2
WRAB LR LR
comp=Z,694nm,19.0s,MS5.4
WRA Warramunga Arr 132.28 244 PKP PKPdf 09 36 19.5 +0.7
comp=Z,5.7nm,1.2s,baz=106,slow=1.5,SNR=8.2
HHC Hu-ho-hao-te 133.65 337 *e*PKP PKPdf 09 36 25.2 +3.8
HHC PP PP 09 38 58.4 +8.3
HHC PKS 09 39 59.5
HHC SKS SKSdf 09 43 34.1 +2.0
HHC SKKS SKKSac 09 45 48.4 +3.0
HHC SS SS 09 56 41.7 +6.1
HHC PP PP
comp=Z,106nm,7.2s
HHC LR LR
comp=N,758nm,20.4s,MS5.7
HHC LR LR
comp=E,1μm,21.4s,MS5.7
HHC LR LR
comp=Z,2μm,21.6s,MS5.7
FRU Bishkek 134.28 15 *e*PKIKP PKPdf 09 36 30.0 +7.4
FRU MLR MLR
comp=N,2μm,23.0s
FRU MLR MLR
comp=Z,3μm,23.0s,MS5.9
WMQ Urumqi 135.26 2 PKP PKPdf 09 36 26.6 +2.2
WMQ PP PP 09 39 07.0 +6.7
WMQ SKS SKSdf 09 43 36.0 +1.1
WMQ SKKS SKKSac 09 45 58.0 +2.9
WMQ SS SS 09 57 01.0 +6.1
WMQ PP PP
comp=Z,125nm,8.0s
WMQ LR LR
comp=N,4μm,18.0s,MS6.2
WMQ LR LR
comp=E,2μm,18.0s,MS6.2
WMQ LR LR
comp=Z,4μm,20.0s,MS6.2
SSE Sheshan 136.03 319 PKP PKPdf 09 36 26.0 +0.1
SSE PP PP 09 39 08.7 +3.6
SSE SS SS 09 57 05.3 +1.2
SSE PP PP
comp=Z,162nm,5.2s
SSE LR LR
comp=N,442nm,19.4s,MS5.3
SSE LR LR
comp=E,447nm,19.6s,MS5.3
SSE LR LR
comp=Z,1μm,20.6s,MS5.6
NJ2 Nanjing 136.85 322 *e*PKP PKPdf 09 36 29.2 +1.8
NJ2 PP PP 09 39 16.0 +5.7
NJ2 PKS 09 40 04.0
NJ2 PP PP
comp=Z,300nm,5.3s
NJ2 LR LR
comp=N,720nm,20.6s,MS5.6
NJ2 LR LR
comp=E,700nm,16.8s,MS5.6
NJ2 LR LR
comp=Z,360nm,18.9s,MS5.1
GTA Gaotai 138.59 348 *e*PKP PKPdf 09 36 32.6 +2.0
GTA PP PP 09 39 23.3 +2.2
GTA PKS 09 40 07.0
GTA SKS SKSdf 09 43 37.7 -2.9
GTA SS SS 09 57 31.1 -3.4
GTA PP PP
comp=Z,158nm,6.8s
GTA LR LR
comp=N,756nm,24.3s,MS5.5
GTA LR LR
comp=E,950nm,27.8s,MS5.5
GTA LR LR
comp=Z,1μm,23.9s,MS5.6
NWAO Narrogin (SRO) 138.95 217 PKP PKPdf 09 36 32.5 +1.2
comp=Z,13nm,1.1s,baz=87,slow=12,SNR=2.2
LZH Lanzhou 140.65 341 *e*PKP PKPdf 09 36 36.0 +1.7
LZH XPKP 09 36 40.5
LZH *e*PP PP 09 39 39.2 +5.4
LZH SKS SKSdf 09 43 41.7 -2.3
LZH SKKS SKKSac 09 46 26.8 -0.2
LZH *e*SS SS 09 57 58.2 -0.6
LZH PP PP
comp=Z,156nm,7.7s
LZH LR LR
comp=E,549nm,18.3s
LZH LR LR
comp=Z,998nm,20.1s,MS5.6
ENH Enshi 143.43 330 *e*PKPdf PKPdf 09 36 40.0 +0.7
THN Thein Dam 144.22 20 *e*P PKPdf 09 36 37.8 -2.9
MBWA Marble Bar 144.36 234 *e*PKPdf PKPdf 09 36 41.9 +1.0
CD2 Chengdu 145.38 338 PKP PKPdf 09 36 45.6 +2.9
CD2 PP PP
comp=Z,90nm,8.5s
CD2 LR LR
comp=N,730nm,19.8s
CD2 LR LR
comp=Z,970nm,24.0s,MS5.5
SDNR Sundarnagar 145.49 19 *e*P PKPdf 09 36 42.0 -0.9
MSEY Mahe Island 145.90 97 *e*PKPdf PKPdf 09 36 46.5 +2.9
GYA Guiyang 147.97 330⇓ *i*PKP PKPdf 09 36 51.1 +4.1
GYA PP PP 09 40 21.6 +4.0
GYA SKS SKSdf 09 43 57.4 +2.4
GYA PP PP
comp=Z,120nm,8.2s
GYA LR LR
comp=N,2μm,20.8s,MS6.0
GYA LR LR
comp=E,2μm,21.0s,MS6.0
GYA LR LR
comp=Z,2μm,21.4s,MS5.8
NDI New Delhi 148.16 21 *ex* x 09 36 51.0
LSA Lhasa 149.34 357 PKP PKPdf 09 36 51.4 +2.1
LSA Lhasa 149.34 357 *e*PKPab PKPab 09 36 59.2 +0.9
GKN Gorkha 150.70 9 *e*P PKPdf 09 36 55.5 +4.1
comp=Z,176nm,1.3s
KOLN Kolganda 150.76 11 *e*P PKPdf 09 36 55.0 +3.5
comp=Z,162nm,1.5s
KMI Kunming 150.93 335 PKP PKPdf 09 36 52.4 +0.6
KMI XPKP 09 36 56.5
KMI PKP2 PKPab 09 37 05.8 +1.0
KMI PKS 09 40 22.9
KMI PP PP 09 40 37.8 +3.0
KMI SKS SKSdf 09 43 56.0 -2.9
KMI SKKS SKKSac 09 47 25.1 -0.1
KMI SS SS 09 59 55.9 +0.1
KMI PP PP
comp=Z,162nm,8.3s
KMI LR LR
comp=N,980nm,25.2s,MS5.7
KMI LR LR
comp=E,1μm,21.1s,MS5.7
KMI LR LR
comp=Z,1μm,21.9s,MS5.7
GUN Gumba 150.96 7 *e*P PKPdf 09 36 56.7 +4.9
comp=Z,197nm,1.0s
KKN Kakani 151.00 8 *e*P PKPdf 09 36 55.5 +3.6
comp=Z,124nm,1.3s
DMN Daman 151.16 8 *e*P PKPdf 09 36 54.3 +2.2
comp=Z,67nm,1.1s
PKI Pulchoki 151.24 7 *e*P PKPdf 09 36 56.0 +3.8
comp=Z,76nm,1.0s
JIRN Jiri 151.24 6 *e*P PKPdf 09 36 55.5 +3.2
comp=Z,70nm,1.1s
SHL Shillong 153.39 355 *e*P PKPdf 09 36 56.0 +0.6

CASC 04 09:19:33.0±4.7, 1248N×8846W, h41km±999km, MD4.2, ML2.4, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**1.28**	**337**	*e*P	Pn	09 20 40.7	+46
LCBS				*e*S	Sn	09 20 55.8	+46
LBRS	**Las Brisas**	**1.38**	**336**	*e*P	Pn	09 20 42.5	+47
LBRS				*e*S	Sn	09 20 59.8	+47
CRIN	**San Cristobal**	**1.40**	**81**	*e*P	Pn	09 19 58.0	+2.1
LEON	**Leon**	**1.53**	**92**	*e*P	Pn	09 19 55.9	-1.9
TEL3	**Telica 3**	**1.58**	**86**	*e*P	Pn	09 20 00.6	+2.1
TEL3				*e*S	Sn	09 20 17.8	+0.1
TEL3				*i*		09 20 22.3	
MIRN	**Miramar**	**1.71**	**91**⇑	*e*P	Pn	09 19 59.0	-1.2

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*IDC **04** 09:22:33.0±1.3, 2421S×6721W, h146km±20km, mb3.7/1, mb1 4.0/5, mb1mx3.5/17, mbtmp4.4/5, Error ellipse: s-maj=28.5km s-min=14.3km az=85.0*
*ISCJB **04** 09:22:33.2±0.7, 2425S±005×674W±0.1, h180km±13km, mb3.6/1, Error ellipse: s-maj=16.4km s-min=8.0km az=33.3*
*NEIC **04** 09:22:34.8, 24.19S×6763W, h175km, MD3.9(GUC), After GUC.*
*GUC **04** 09:22:34.8±0.8, 24.19S×6763W, h175km±11km, MD3.9, ML3.9*

ISC 04 09:22:34.3±0.7, 2426S±005×674W±01, h172km±13km, n15, σ1§01/20, mb3.6/1, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.53**	**332**⇑	*i*P	**Pn**	**09 23 06.5**	**+0.7**
SPCH				*i* S	**Sn**	**09 23 30.7**	**+0.6**
SPCH				AMP		09 23 31.6	
comp=N,743nm,0.6s							
SPCH	**San Pedro de A**	**1.53**	**332**⇑	*i*P	**Pn**	**09 23 06.5**	**+0.7**
SPCH				*i* S	**Sn**	**09 23 30.7**	**+0.6**
LVC	**Limon Verde**	**2.14**	**320**	P	**Pn**	**09 23 12.6**	**+0.3**
comp=N,24nm,0.3s,baz=143,slow=5.8,SNR=486							
LVC				S	**Sn**	**09 23 40.1**	**-1.5**
comp=N,48nm,0.3s,baz=21,slow=21,SNR=43							
LVC	**Limon Verde**	**2.14**	**320**	*e*Pn	**Pn**	**09 23 12.6**	**+0.3**
CEN1	**Los Morros**	**2.69**	**286**⇓	*i*P	**Pn**	**09 23 20.2**	**+1.5**
CEN1				*i* S	**Sn**	**09 23 53.8**	**+0.5**
CEN1				AMP		09 23 56.3	
comp=E,111nm,0.7s							
CPN1	**Cerro Paranal**	**2.74**	**262**⇑	*i*P	**Pn**	**09 23 20.5**	**+1.1**
CPN1				*i* S	**Sn**	**09 23 54.5**	**+0.2**
CPN1				AMP		09 23 55.6	
comp=E,621nm,0.6s							
ANCH	**Antofagasta**	**2.79**	**281**⇑	*i*P	**Pn**	**09 23 19.3**	**-0.7**
ANCH				*i* S	**Sn**	**09 23 53.4**	**-2.1**
CRCH	**Chaqaral**	**3.56**	**234**	*i* S	**Sn**	**09 24 12.8**	**+0.2**
CRCH				AMP		09 24 13.6	
comp=E,408nm,0.5s							
CFAA	**Coronel Fontan**	**7.35**	**185**	P	**Pn**	**09 24 20.1**	**+1.2**
comp=E,0.2nm,0.3s,baz=0.2,slow=12,SNR=30							
CFAA				S	**Sn**	**09 25 40.0**	**-1.4**
comp=E,0.1nm,0.3s,baz=266,slow=22,SNR=10							
LPAZ	**La Paz**	**7.96**	**355**	P	**Pn**	**09 24 26.8**	**-0.2**
comp=E,4.0nm,0.3s,baz=153,slow=6.5,SNR=95							
SIV	**San Ignacio**	**10.16**	**37**	P	**Pn**	**09 24 52.0**	**-3.9**
comp=E,4.9nm,0.3s,baz=227,slow=12,SNR=152							
BDFB	**Brasilia**	**20.14**	**68**	P	**P**	**09 26 54.3**	**-0.8**
comp=E,1.2nm,0.3s,baz=246,slow=12,SNR=7.8							
TORD	**Torodi Ar. Bea**	**77.02**	**69**	P	**P**	**09 34 08.4**	**+0.3**
comp=E,1.5nm,0.8s,mb3.6,baz=252,slow=4.7,SNR=4.5							
KONO	**Kongsberg**	**104.35**	**31**	*e*	Pdif	09 36 15.3	-3.8
MKAR	**Makanchi Array**	**146.97**	**39**	PKPbc	PKPbc	09 41 57.5	+1.0
comp=E,0.4nm,0.5s,baz=299,slow=2.6,SNR=6.8							

IDC 04 09:51:31.9±3.1, 3039S×17739W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=67.4km s-min=25.9km az=99.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**338**	Pn	Pn	09 51 55.5	-0.7
196nm,0.3s,baz=60,slow=24,SNR=6.9							
URZ	**Urewera**	**9.08**	**209**	Pn	Pn	09 53 42.4	-1.7
0.1nm,0.3s,baz=189,slow=8.7,SNR=4.7							
URZ				Sn	Sn	09 55 24.0	-3.0
0.9nm,0.3s,baz=166,slow=24,SNR=8.5							
RPZ	**Rata Peaks**	**16.17**	**211**	Pn	Pn	09 55 20.5	0.0
0.1nm,0.3s,baz=288,slow=22,SNR=1.8							
ASAR	**Alice Springs**	**43.64**	**267**	P	P	09 59 38.6	+0.4
0.2nm,0.3s,baz=105,slow=7.7,SNR=7.5							
WRA	**Warramunga Arr**	**44.63**	**272**	P	P	09 59 46.6	+0.6
1.0nm,0.4s,baz=110,slow=8.1,SNR=23							
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	PKPbc	10 11 10.3	-1.1
0.8nm,0.6s,baz=63,slow=6.2,SNR=5.1							

IDC 04 09:53:29.3±1.2, 5894N×3076W, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.6/2, Error ellipse: s-maj=31.2km s-min=18.9km az=6.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.33**	**33**	Pn	Pn	09 55 19.6	+2.0
1.7nm,0.3s,baz=250,slow=7.9,SNR=5.1							
EKA	**Eskdalemuir Ar**	**15.36**	**92**	Pn	Pn	09 57 08.6	+1.4
0.1nm,0.3s,baz=286,slow=13,SNR=3.1							
FRB	**Frobisher Bay**	**18.54**	**301**	P	Pn	09 57 47.7	+0.2
0.1nm,0.3s,baz=100,slow=19,SNR=3.6							
SCHQ	**Schefferville**	**19.97**	**274**	P	Pn	09 58 03.4	-1.3
0.1nm,0.3s,baz=62,slow=12,SNR=5.3							
ARCES	**ARCESS Array B**	**25.62**	**43**	P	P	09 58 59.6	-0.7
5.1nm,1.0s,baz=280,slow=7.4,SNR=9.5							
FINES	**FINESS Array B**	**27.60**	**60**	P	P	09 59 17.0	-1.2
1.2nm,0.8s,baz=299,slow=20,SNR=3.3							
YKA	**Yellowknife Ar**	**38.45**	**312**	P	P	10 00 51.1	-1.6
0.8nm,0.8s,baz=57,slow=9.0,SNR=12							
ILAR	**Eielson Array**	**47.57**	**329**	P	P	10 02 06.6	-0.1
0.5nm,0.9s,baz=31,slow=5.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**51.72**	**138**	P	P	10 02 38.2	0.0
1.0nm,1.1s,baz=333,slow=6.3,SNR=4.3							
MKAR	**Makanchi Array**	**61.20**	**46**	P	P	10 03 45.4	-0.4
1.0nm,0.8s,baz=338,slow=6.5,SNR=9.6							
SONM	**Songino Array**	**67.93**	**30**	P	P	10 04 29.5	-0.4
0.3nm,0.8s,baz=333,slow=6.4,SNR=3.6							

IDC 04 10:06:45.9±5.1, 5899N×3105W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=131.9km s-min=30.9km az=5.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**15.51**	**92**	Pn	Pn	10 10 27.4	+1.5
	0.0nm,0.3s,baz=297,slow=9.5,SNR=3.5						
ARCES	**ARCESS Array B**	**25.68**	**43**	P	P	10 12 18.1	+0.6
	3.8nm,1.0s,baz=270,slow=9.0,SNR=6.1						
YKA	**Yellowknife Ar**	**38.31**	**312**	P	P	10 14 07.9	-0.3
	0.5nm,0.8s,baz=54,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**61.27**	**46**	P	P	10 17 02.0	-1.0
	0.9nm,0.8s,baz=333,slow=5.4,SNR=7.8						
SONM	**Songino Array**	**67.96**	**29**	P	P	10 17 45.6	-1.1
	0.8nm,1.1s,baz=315,slow=2.0,SNR=4.9						

MEX 04 10:27:00.2±0.6, 1927N×9625W, h16km±7km, MD3.8, 1C, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.48**	**340**	⇑*i*P	Pg	10 27 07.9	-1.8
LVIG				*i* S	Sg	10 27 14.5	-1.7
EVV	**El Vigia**	**1.17**	**134**	*i* P	Pn	10 27 18.0	-3.9
EVV				*i* S	Sb	10 27 32.0	-5.0
UTMO	**Huajuapan**	**2.06**	**226**	*i* P	Pn	10 27 31.5	-2.6
UTMO				*i* S	Sn	10 27 55.7	-3.7
TUIG	**Tuzandepetl**	**2.12**	**125**	*i* P	Pn	10 27 32.2	-2.8
TUIG				*i* S	Sn	10 27 56.7	-4.3
OXX	**Oaxaca**	**2.22**	**192**	*i* P	Pn	10 27 33.5	-2.9
OXX				*i* S	Sn	10 27 57.0	-6.5
VHO	**Vista Hermosa**	**2.23**	**192**	*i* P	Pn	10 27 33.6	-3.0
VHO				*i* S	Sn	10 27 58.9	-4.9
PPM	**Popocatepetl**	**2.26**	**265**	*e*P	Pn	10 27 35.0	-1.9
PPM				*e*P		10 27 38.0	
PPM				*i* S	Sn	10 27 59.6	-4.7
CCIG	**Comitan**	**4.92**	**127**	*e*P	Pn	10 28 10.6	-2.8
CCIG				*i* S	Sn	10 29 07.2	-2.7

*ISCJB **04** 10:35:56.2±0.8, 399N±01×158E±02, h273km±11km, mb3.2/4, Error ellipse: s-maj=25.4km s-min=21.5km az=49.0.*
*CSEM **04** 10:35:56.0±0.1, 3966N×1585E, h287km±1km, MD2.8/2, ML3.0/3, Error ellipse: s-maj=3.8km s-min=1.5km az=81.0, After ROM*
*ROM **04** 10:35:56.0±0.1, 3966N×1585E, h287km±1km, Md2.8/2, Ml3.1/4, Error ellipse: s-maj=3.8km s-min=1.5km az=81.0*
*IDC **04** 10:36:01.5±13.0, 4028N×1568E, h296km±60km, mb2.9/4, mb1 2.9/7, mb1mx2.7/22, mbtmp3.5/7, Error ellipse: s-maj=176.4km s-min=40.5km az=33.0*
ISC 04 10:35:56.8±0.8, 400N±01×157E±02, h268km±11km, n12, σ0974/15, mb3.2/4, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**1.11**	**134**	Pg	**Pn**	**10 36 35.3**	**+1.0**
TIP				Sg	**S**	**10 37 03.9**	**-0.1**
	55nm,0.6s						
SERS	**Sersale**	**1.18**	**141**	Pg	**Pn**	**10 36 35.5**	**+0.8**
SERS				Sg	**S**	**10 37 04.3**	**-0.4**
	62nm,0.4s						
PLAC	**Placanica**	**1.60**	**160**	Pg	**Pn**	**10 36 37.6**	**+0.1**
PLAC				Sg	**S**	**10 37 08.2**	**-1.6**
	39nm,0.3s						
SOI	**Samo**	**1.90**	**172**	Pg	**Pn**	**10 36 39.8**	**-0.1**
GIB	**Gibilmanna**	**2.37**	**215**	Pg	**Pn**	**10 36 44.8**	**+0.7**
	5μm,9.4s						
GERES	**GERESS Array B**	**9.01**	**351**	P	**Pn**	**10 38 03.4**	**+0.7**
	0.1nm,0.3s,baz=162,slow=13,SNR=5.7						
AKASG	**Malin Array Be**	**14.31**	**37**	P	**Pn**	**10 39 08.2**	**+0.3**
	0.5nm,0.3s,baz=230,slow=10,SNR=4.3						
HFS	**Hagfors**	**20.24**	**357**	P	**P**	**10 40 11.1**	**-0.9**
	0.3nm,0.3s,baz=180,slow=10,SNR=8.7						
NOA	**NORSAR Array B**	**21.30**	**354**	P	**P**	**10 40 22.2**	**-0.5**
	0.7nm,0.7s,mb3.1,baz=168,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**22.44**	**13**	P	**P**	**10 40 32.8**	**-0.3**
	1.0nm,0.7s,mb3.1,baz=188,slow=9.8,SNR=5.0						
ARCES	**ARCESS Array B**	**30.10**	**7**	P	**P**	**10 41 40.6**	**-0.9**
	2.1nm,0.9s,mb3.6,baz=191,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**47.55**	**59**	P	**P**	**10 44 06.5**	**+0.9**
	0.2nm,0.3s,mb2.9,baz=285,slow=6.8,SNR=4.8						

IDC 04 11:05:52.5±3.8, 419S×15215E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=134.8km s-min=33.6km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.36**	**226**	*e*P	P	11 11 04.1	+1.5
WRA	**Warramunga Arr**	**23.37**	**226**	P	P	11 11 02.2	-0.6
	0.6nm,0.8s,baz=46,slow=8.9,SNR=8.5						
ASAR	**Alice Springs**	**26.17**	**221**	P	P	11 11 29.8	+1.3
	0.3nm,0.6s,baz=57,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**79.44**	**319**	P	P	11 18 02.5	+1.9
	0.4nm,0.7s,baz=99,slow=7.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.50**	**289**	PKPbc	PKPbc	11 25 42.6	-1.0
	1.1nm,0.6s,baz=78,slow=2.3,SNR=11						

*ISCJB **04** 11:32:34.6±0.3, 5145N±002×16.11E±0.002, h0km, mb3.5/7, Error ellipse: s-maj=2.6km s-min=1.8km az=24.2*
*MOS **04** 11:32:35.0±1.1, 5160N×1618E, h10km, mb4.0/2, Error ellipse: s-maj=10.3km s-min=5.2km az=91.1*
*NEIC **04** 11:32:35.6, 5152N×1608E, h2km, ML3.1(CSEM), ML3.3(SZGRF), After CSEM.*
*IPEC **04** 11:32:36.3±0.2, 5151N×16.15E, h5km±1km, ML2.9/3, Error ellipse: s-maj=1.4km s-min=0.7km az=42.0*
*IDC **04** 11:32:36.8±0.5, 5150N×1605E, h0km, mb3.5/6, mb1 3.6/14, mb1mx3.6/27, mbtmp3.5/14, ML3.5/8, MS2.8/2, Ms1 2.8/2, ms1mx2.6/31, Error ellipse: s-maj=9.1km s-min=5.6km az=106.0*
*CSEM **04** 11:32:36.9±0.1, 5149N×1610E, h1km, mb3.7/2, ML3.7/12, Error ellipse: s-maj=1.9km s-min=1.3km az=10.0*
*BGR **04** 11:32:36.1±0.6, 5151N×1614E, h1km, ML3.3, Error ellipse: s-maj=7.8km s-min=4.4km az=161.0*
*LDG **04** 11:32:36.4±0.3, 5143N×1611E, h1km, Ml3.8/5, Error ellipse: s-maj=9.5km s-min=3.6km az=5.0, Suspected Mining induced.*
*PRU **04** 11:32:37.2, 5145N×1609E, h0km*
*WAR **04** 11:32:37.6, 5148N×1610E, ML3.1, Mining Induced*
*STR **04** 11:32:38.1±1.4, 5132N×1602E, h5km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*VIE **04** 11:32:39.7±0.9, 5122N×1608E, h0km, mb2.9/5, ML3.1/6, Error ellipse: s-maj=5.2km s-min=3.6km az=16.0 66 km WNW of Breslau Suspected Mining induced.*
*UPP **04** 11:33:20.0, 5475N×1513E, h0km, ML2.8, Mining explosion.*
ISC 04 11:32:35.9±0.2, 5149N±002×1611E±002, h0km, n137, σ1§03/230, mb3.5/7, 14C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*i* Pgd	**Pg**	**11 32 49.5**	**+1.1**
KSP				*e*Sg	**Sg**	**11 32 58.1**	**+1.2**
KSP				*e*L		11 33 02.0	
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg	**Pg**	**11 32 49.4**	**+1.0**
KSP				*e*Sg	**Sg**	**11 32 58.1**	**+1.2**
KSP				*e*S	**Sg**	**11 33 02.4**	**+5.5**
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*Pg	**Pg**	**11 32 49.5**	**+1.1**
KSP				*e*Sg	**Sg**	**11 32 58.1**	**+1.2**
KSP				*e*		11 33 02.4	
UPC	**Upice**	**0.98**	**184**	*e*PG	**Pg**	**11 32 55.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**11 32 58.2**	**+0.4**
DPC				*e*SG	**Sg**	**11 33 12.1**	**-0.6**
	146nm,0.5s						
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*Pg	**Pg**	**11 32 58.2**	**+0.4**
DPC				*e*S	**Sg**	**11 33 12.1**	**-0.6**
DPC				*e*Sg	**Sg**	**11 33 12.6**	**-0.1**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*P	**Pg**	**11 32 58.2**	**+0.4**
DPC				*e*		11 33 12.1	
DPC				smax			
	comp=N,146nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**11 33 02.3**	**+0.2**
PVCC				*e*SG	**Sg**	**11 33 21.0**	**+1.2**
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pn	**Pn**	**11 33 02.5**	**+0.3**
PVCC				*e*Sg	**Sg**	**11 33 20.4**	**+0.6**
BRG	**Berggiesshubel**	**1.50**	**247**	*e*Pn	**Pn**	**11 33 03.0**	**-1.0**
BRG				*e*Sg	**Sg**	**11 33 25.3**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**247**	*e*Pn	**Pn**	**11 33 03.9**	**-0.1**
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**11 33 04.9**	**+0.4**
BRG				*e*Sg	**Sg**	**11 33 24.2**	**+0.3**
BRG	**Berggiesshubel**	**1.50**	**247**	P	**Pg**	**11 33 04.9**	**+0.4**
BRG						11 33 25.0	
BRG				smax			
	comp=N,141nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**11 33 05.0**	**+0.4**
BRG				Sg	**Sg**	**11 33 25.0**	**+1.1**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**11 33 06.9**	**-0.6**
RUE				*e*Sg	**Sg**	**11 33 31.3**	**-0.8**
RUE	**Ruedersdorf**	**1.75**	**306**	*e*Pn	**Pn**	**11 33 06.9**	**-0.5**
RUE				*e*Sn	**Sn**	**11 33 33.6**	**+3.1**
PRA	**Prague**	**1.77**	**218**	PN	**Pn**	**11 33 07.0**	**-0.8**
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**11 33 07.9**	**-0.3**
PRU				*e*PG	**Pg**	**11 33 09.8**	**-0.6**
PRU				*e*SG	**Sg**	**11 33 33.5**	**-0.2**
	comp=N,148nm,0.9s						
PRU	**Pruhonice**	**1.80**	**214**	*e*Pg	**Pg**	**11 33 09.8**	**-0.6**
PRU				*e*Sg	**Sg**	**11 33 33.5**	**-0.2**
	comp=N,148nm,0.9s						
PRU	**Pruhonice**	**1.80**	**214**	*e*P	**Pn**	**11 33 07.9**	**-0.3**
PRU				*e*		11 33 33.5	
PRU				smax			
	comp=N,148nm,0.9s						
FBE	**Freiberg**	**1.82**	**253**	*e*Pn	**Pn**	**11 33 09.5**	**+1.1**
FBE				*e*Sg	**Sg**	**11 33 35.0**	**+0.5**
RAC	**Raciborz**	**1.93**	**136**	*e*Pg	**Pg**	**11 33 12.5**	**-0.4**
RAC				*e*Sg	**Sg**	**11 33 39.0**	**+1.1**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**11 33 10.0**	**-0.1**
MORC				*e*Sg	**Sg**	**11 33 37.1**	**-1.1**
	comp=N,82nm,0.5s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**11 33 10.0**	**-0.1**
MORC				*e*Sn	**Sn**	**11 33 37.5**	**+2.4**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**11 33 09.8**	**-0.4**
CLL				*e*Pg	**Pg**	**11 33 12.0**	**-1.3**
CLL				*e*Sg	**Sg**	**11 33 39.0**	**+0.4**
CLL	**Collm**	**1.95**	**266**	*i* Pn	**Pn**	**11 33 09.9**	**-0.4**
	comp=Z,18nm,0.4s						
CLL				*e*Pg	**Pg**	**11 33 12.0**	**-1.3**
CLL				*i* x	*x*	11 33 16.0	
CLL				*e*Sg	**Sg**	**11 33 40.0**	**+1.3**
	comp=Z,69nm,0.6s						
CLL	**Collm**	**1.95**	**266**	Pg	**Pg**	**11 33 12.0**	**-1.3**
CLL				Sg	**Sg**	**11 33 39.0**	**+0.3**
CLL	**Collm**	**1.95**	**266**	*i* P	**Pn**	**11 33 09.9**	**-0.4**
CLL				*e*		11 33 40.0	
CLL				pmax	pmax		
	comp=Z,18nm,0.4s						
CLL	**Collm**	**1.95**	**266**	*i* Pn	**Pn**	**11 33 09.9**	**-0.4**
CLL				*e*Pg	**Pg**	**11 33 12.0**	**-1.3**
CLL				*e*Sg	**Sg**	**11 33 40.0**	**+1.3**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PN	**Pn**	**11 33 09.9**	**-2.4**
OKC				*e*PG	**Pg**	**11 33 14.1**	**-2.0**
OKC				*e*SG	**Sg**	**11 33 40.2**	**-3.2**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*Pg	**Pg**	**11 33 14.1**	**-2.0**
OKC				*e*Sg	**Sg**	**11 33 40.2**	**-3.2**
VRAC	**Vranov**	**2.20**	**172**	Pn	**Pn**	**11 33 14.6**	**+0.9**
	comp=Z,8.0nm,0.3s,baz=358,slow=17,SNR=16						
VRAC				Lg		11 33 46.4	
	comp=Z,12nm,0.3s,baz=77,slow=20,SNR=12						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**11 33 14.2**	**+0.5**
VRAC				*e*Sg	**Sg**	**11 33 45.9**	**-0.8**
	comp=Z,52nm,0.5s						
TREC	**Trest**	**2.23**	**191**	*e*PN	**Pn**	**11 33 14.7**	**+0.6**
TREC				*e*PG	**Pg**	**11 33 18.1**	**-0.5**
TREC	**Trest**	**2.23**	**191**	*e*Pn	**Pn**	**11 33 14.6**	**+0.5**
TREC	**Trest**	**2.23**	**191**	*e*Pg	**Pg**	**11 33 18.1**	**-0.5**
TREC				*e*Sg	**Sg**	**11 33 46.6**	**-0.9**
KRUC	**Moravsky**	**2.43**	**176**	*e*Pn	**Pn**	**11 33 17.2**	**+0.3**
KRUC	**Moravsky**	**2.43**	**176**	*e*Pg	**Pg**	**11 33 21.3**	**-1.2**
KRUC				*e*Sg	**Sg**	**11 33 53.0**	**-1.1**
	comp=Z,53nm,0.7s						
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn	**Pn**	**11 33 18.8**	**+0.4**
TANN				*e*Sg	**Sg**	**11 33 56.6**	**-1.1**
WERD	**Werda**	**2.62**	**248**	*e*Pn	**Pn**	**11 33 19.8**	**+0.3**
WERD				*e*Sg	**Sg**	**11 33 59.2**	**-0.8**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**11 33 20.3**	**+0.6**
NKC				*e*SG	**Sg**	**11 34 02.0**	**+1.4**
	comp=Z,123nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*P	**Pn**	**11 33 20.3**	**+0.6**
NKC				*e*		11 34 02.0	
NKC				smax			
	comp=N,123nm,0.3s						
WERN	**Wernitzgruen**	**2.65**	**245**	*e*Pn	**Pn**	**11 33 20.3**	**+0.4**
WERN				*e*Sg	**Sg**	**11 34 01.8**	**+0.7**
OJC	**Ojcow**	**2.66**	**117**	*e*Pn	**Pn**	**11 33 20.2**	**+0.2**
OJC				*e*Pg	**Pg**	**11 33 27.1**	**+0.2**
OJC				*e*Sn	**Sn**	**11 33 48.4**	**-4.5**
OJC				*e*Sg	**Sg**	**11 34 02.2**	**+0.8**
OJC	**Ojcow**	**2.66**	**117**	*e*Pn	**Pn**	**11 33 20.1**	**+0.1**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**11 33 27.1**	**+0.2**
OJC				*e*Sn	**Sn**	**11 33 48.4**	**-4.5**
OJC				*e*Sg	**Sg**	**11 34 02.2**	**+0.8**
OJC	**Ojcow**	**2.66**	**117**	*e*P	**Pn**	**11 33 20.2**	**+0.2**
OJC				*e*		11 33 48.4	
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**11 33 22.8**	**0.0**
KHC				*e*PG	**Pg**	**11 33 29.1**	**-1.6**
KHC				*e*SG	**Sg**	**11 34 05.9**	**-2.0**
	comp=N,94nm,0.7s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pg	**Pg**	**11 33 29.1**	**-1.6**
KHC				*e*Sg	**Sg**	**11 34 05.9**	**-2.0**
	comp=N,94nm,0.7s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*P	**Pn**	**11 33 22.8**	**0.0**
KHC				*e*		11 34 05.9	
KHC				smax			
	comp=N,94nm,0.7s						
MANZ	**Manzenberg**	**2.95**	**241**	⇑*i*Pn	**Pn**	**11 33 25.0**	**+1.0**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**11 33 24.1**	**0.0**
MOX				*i* Pg	**Pg**	**11 33 31.9**	**-0.7**
MOX				*e*Sg	**Sg**	**11 34 10.5**	**-0.4**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**11 33 24.0**	**-0.1**
MOX	**Moxa**	**2.96**	**255**	Pg	**Pg**	**11 33 31.9**	**-0.7**
MOX				Sg	**Sg**	**11 34 10.5**	**-0.4**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**11 33 24.3**	**+0.2**
MOX				*i* PG	**Pg**	**11 33 31.9**	**-0.7**
MOX				*i* SG	**Sg**	**11 34 11.7**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn	**Pn**	**11 33 25.7**	**+0.7**
ROTZ				*e*Sg	**Sg**	**11 34 11.8**	**-1.2**
MZEK	**Zeckenberg-Ebn**	**3.05**	**242**	⇑*i*Pn	**Pn**	**11 33 25.8**	**+0.4**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**11 33 26.1**	**+0.6**
GEC2				*e*Sg	**Sg**	**11 34 14.2**	**-0.1**
GEC2	**GERESS Array S**	**3.06**	**211**	Pn	**Pn**	**11 33 26.1**	**+0.6**
GEC2				*e*Sg	**Sg**	**11 34 14.2**	**-0.1**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**11 33 26.1**	**+0.6**
GEC2				*e*Sg	**Sg**	**11 34 14.2**	**-0.1**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**11 33 26.0**	**+0.4**
	comp=N,4.5nm,0.3s,baz=29,slow=12,SNR=109						
GERES				Pg	**Pg**	**11 33 32.8**	**-1.8**
	comp=N,9.4nm,0.3s,baz=27,slow=17,SNR=44						
GERES				Sn	**Sn**	**11 34 04.3**	**+1.5**
	comp=N,4.7nm,0.3s,baz=39,slow=28,SNR=6.9						
GERES				Lg		11 34 13.3	
	comp=N,8.6nm,0.3s,baz=34,slow=26,SNR=8.4						
GERES				LR	LR	11 34 56.8	
	comp=N,208nm,19.2s,baz=315,slow=46						
GERES	**GERESS Array B**	**3.06**	**211**	Pg	**Pg**	**11 33 32.8**	**-1.8**
GERES	**GERESS Array B**	**3.06**	**211**	P	**Pn**	**11 33 26.0**	**+0.5**
GERES						11 34 04.3	
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,9.0nm,0.3s						
GERES				MLR	MLR		
	comp=Z,208nm,19.2s						
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**11 33 26.0**	**+0.4**
GERES				Pg	**Pg**	**11 33 32.8**	**-1.8**
GERES				Sn	**Sn**	**11 34 04.3**	**+1.5**
GERES				Lg		11 34 13.3	
GERES				LR	LR	11 34 56.8	
SMOL	**Smolenice**	**3.10**	**164**	*e*PG	**Pg**	**11 33 35.2**	**0.0**
SMOL				*e*SG	**Sg**	**11 34 17.1**	**+1.8**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**11 33 26.9**	**+0.5**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**11 33 26.7**	**+0.3**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**11 33 26.9**	**+0.5**
ZST	**Bratislava**	**3.36**	**169**	*e*PG	**Pg**	**11 33 38.4**	**-1.8**
ZST				*e*SG	**Sg**	**11 34 22.7**	**-1.0**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**11 33 40.6**	**-0.3**
NIE				*e*S	**Sg**	**11 34 25.0**	**+0.1**
VYHS	**Vyhne**	**3.47**	**149**	*e*PN	**Pn**	**11 33 31.6**	**+0.4**
VYHS				*e*PG	**Pg**	**11 33 42.2**	**-0.3**
VYHS	**Vyhne**	**3.47**	**149**	*e*Pg	**Pg**	**11 33 42.2**	**-0.3**
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	**Pn**	**11 33 33.6**	**+0.8**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**11 33 33.6**	**+0.8**
GRA1				*e*Sg	**Sg**	**11 34 31.9**	**+0.5**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**11 33 33.6**	**+0.8**
GRF				*e*Sg	**Sg**	**11 34 31.9**	**+0.5**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**11 33 33.8**	**-0.5**
BSD				*i*		11 33 38.9	
BSD				*e*S	**Sn**	**11 34 13.6**	**-5.1**
MOA	**Molln**	**3.83**	**199**	⇑⇑Sg	**Sg**	**11 34 38.9**	**-0.1**
	comp=Z,62nm,0.6s						
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**11 33 36.8**	**+0.7**
	SNR=16						
MOA				⇑*i*Sg	**Sg**	**11 34 38.9**	**-0.1**
	comp=Z,62nm,0.6s						
MOA	**Molln**	**3.83**	**199**	Pn	**Pn**	**11 33 36.8**	**+0.7**
	SNR=16						
MOA				Sg	**Sg**	**11 34 38.9**	**-0.1**
	comp=Z,62nm,0.6s						
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**11 33 36.8**	**+0.7**
MOA				Sg	**Sg**	**11 34 38.9**	**-0.1**
HROE	**Hohe Rhon--Fla**	**3.88**	**258**	⇓*i*Pn	**Pn**	**11 33 37.2**	**+0.5**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PN	**Pn**	**11 33 37.5**	**+0.7**
STHS				*e*PG	**Pg**	**11 33 50.6**	**+0.3**
STHS				*e*SG	**Sg**	**11 34 44.8**	**+4.2**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*Pg	**Pg**	**11 33 50.6**	**+0.3**
KECS	**Kecovo**	**4.12**	**135**	*e*PN	**Pn**	**11 33 40.1**	**0.0**
KECS				*e*PG	**Pg**	**11 33 53.7**	**-1.2**
KECS				*e*SG	**Sg**	**11 34 48.1**	**-0.3**
KECS	**Kecovo**	**4.12**	**135**	*e*Pn	**Pn**	**11 33 40.1**	**0.0**
KECS				*e*Pg	**Pg**	**11 33 53.7**	**-1.2**
KECS				*e*Sg	**Sg**	**11 34 48.1**	**-0.3**
KECS				*e*		11 58 44.3	
KECS				*e*		11 59 03.7	
ARSA	**Arzberg**	**4.26**	**185**	⇑Sg	**Sg**	**11 34 51.4**	**-1.2**
	comp=Z,73nm,0.8s						
ARSA	**Arzberg**	**4.26**	**185**	⇓*i*Pn	**Pn**	**11 33 42.5**	**+0.6**
ARSA				⇑*i*Sg	**Sg**	**11 34 51.4**	**-1.2**
	comp=Z,73nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*PN	**Pn**	**11 33 42.7**	**+0.1**
CRVS				*e*PG	**Pg**	**11 33 58.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*Pg	**Pg**	**11 33 58.9**	**+0.5**
KWP	**Kalwaria**	**4.60**	**111**	*e*Pn	**Pn**	**11 33 46.7**	**+0.1**
KWP	**Kalwaria**	**4.60**	**111**	*e*Pn	**Pn**	**11 33 46.7**	**0.0**
KOLS	**Kolonicke sedl**	**4.71**	**120**	*e*PN	**Pn**	**11 33 48.2**	**0.0**
KOLS				*e*PG	**Pg**	**11 34 07.6**	**+1.4**
KOLS	**Kolonicke sedl**	**4.71**	**120**	*e*Pg	**Pg**	**11 34 07.6**	**+1.4**
KBA	**Koelnbreinsper**	**4.77**	**203**	⇓Sg	**Sg**	**11 35 07.8**	**-1.2**
	comp=Z,16nm,0.5s						
KBA	**Koelnbreinsper**	**4.77**	**203**	⇑*i*Pn	**Pn**	**11 33 50.0**	**+1.0**
KBA				⇓*i*Sg	**Sg**	**11 35 07.8**	**-1.2**
	comp=Z,16nm,0.5s						
KBA	**Koelnbreinsper**	**4.77**	**203**	⇑Pn	**Pn**	**11 33 50.0**	**+1.0**
KBA				Sg	**Sg**	**11 35 07.8**	**-1.2**
BLEU	**Blekinge**	**4.83**	**358**	P	**Pn**	**11 33 49.4**	**-0.4**
PERS	**Pernice**	**4.90**	**188**	*i* Pn	**Pn**	**11 33 52.0**	**+1.3**
TOD	**Tromm**	**5.02**	**251**	P	**Pn**	**11 33 52.0**	**-0.5**
TOD				S	**Sn**	**11 34 53.5**	**+2.3**
GROS	**Grobnik**	**5.05**	**185**	*i* Pn	**Pn**	**11 33 54.3**	**+1.5**
MOTA	**Moosalm**	**5.28**	**220**	⇑⇑Sg	**Sg**	**11 35 25.0**	**-0.4**
	comp=Z,10nm,0.6s						
MOTA	**Moosalm**	**5.28**	**220**	⇑*i*Pn	**Pn**	**11 33 56.6**	**+0.6**
	SNR=7.8						
MOTA				⇑*i*Sg	**Sg**	**11 35 25.0**	**-0.4**
	comp=Z,10nm,0.6s						
MOTA	**Moosalm**	**5.28**	**220**	⇑*i*Pn	**Pn**	**11 33 56.5**	**+0.6**
	comp=Z,10nm,0.6s						
MOTA				Sg	**Sg**	**11 35 24.9**	**-0.4**
PDKS	**Podkum**	**5.48**	**188**	*e*Pn	**Pn**	**11 33 60.0**	**+1.2**
ABH	**Alteburg**	**5.67**	**257**	P	**Pn**	**11 34 02.0**	**+0.6**
ABH				S	**Sn**	**11 35 11.5**	**+4.2**
CRES	**Cresnjev**	**5.68**	**185**	*e*Pn	**Pn**	**11 34 02.9**	**+1.4**
LANF	**Langenberg**	**5.89**	**248**	P	**Pn**	**11 34 05.3**	**+0.9**
RUP	**Ruppelstein**	**6.03**	**256**	P	**Pn**	**11 34 05.4**	**-0.9**
DAVOX	**Davos**	**6.23**	**223**	Pn	**Pn**	**11 34 09.9**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=55,slow=11,SNR=3.5						
DAVOX				Lg		11 35 56.2	
	comp=Z,0.4nm,0.3s,baz=338,slow=23,SNR=3.7						
DAVOX				LR	LR	11 36 55.4	
	comp=Z

KNZ	Kokohu	2.22 172	PN	Pn	11 35 07.6	+0.2
BKZ	Black Stump Fm	2.43 195	PN	Pn	11 35 09.3	-0.3
NGZ	Ngauruhoe	2.71 209	PN	Pn	11 35 13.6	+1.0
TUVZ	Tukino	2.77 207	PN	Pn	11 35 13.5	+0.2
WNVZ	Wahianoa	2.84 208	PN	Pn	11 35 14.2	+0.1
MOVZ	Moawhango	2.86 205	PN	Pn	11 35 13.8	-0.5
PXZ	Pawanui	3.23 186	PN	Pn	11 35 17.8	-0.7
TSZ	Takapari Road	3.40 198	PN	Pn	11 35 19.7	-0.9
BFZ	Birch Farm	3.94 192	PN	Pn	11 35 25.6	-1.4
MRZ	Mangatainoka R	4.06 199	PN	Pn	11 35 26.8	-1.7
KIW	Kapiti Island	4.45 204	PN	Pn	11 35 31.3	-1.8
MTW	Mount Morrison	4.55 197	PN	Pn	11 35 32.1	-2.4
CAW	Cannon Point	4.62 201	PN	Pn	11 35 33.0	-2.3
SNZO	South Karori	4.92 203	PN	Pn	11 35 36.4	-2.6
TCW	Tory Channel	4.98 207	PN	Pn	11 35 37.4	-2.4
TUWZ	Tuamarina	5.29 208	PN	Pn	11 35 41.3	-2.4
QRZ	Quartz Range	5.46 221	PN	Pn	11 35 44.8	-1.1
THZ	Tophouse	6.00 213	PN	Pn	11 35 51.4	-1.3
KHZ	Kahutara	6.30 206	PN	Pn	11 35 54.0	-2.5

IDC 04 11:56:16.1±1.2, 378N×10214W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/16, mbtmp3.6/2, Error ellipse: s-maj=62.4km s-min=31.1km az=54.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	39.09	122	P	P	12 03 46.0	+1.1
	2.7nm,0.6s,baz=285,slow=13,SNR=11						
YKA	Yellowknife Ar	59.31	353	P	P	12 06 19.4	-0.3
	0.3nm,0.6s,baz=141,slow=6.0,SNR=17						
ASAR	Alice Springs	122.50	244	PKP	PKPdf	12 15 12.2	-1.2
	0.2nm,0.4s,baz=122,slow=3.8,SNR=4.1						
WRA	Warramunga Arr	122.73	249	PKP	PKPdf	12 15 16.2	+2.3
	0.9nm,0.6s,baz=110,slow=3.0,SNR=14						

*ISCJB **04** 11:58:09.9±0.2, 4571N±001×627E±002, h1km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=110.1*
*CSEM **04** 11:58:11.9±0.0, 4566N×638E, h12km, ML2.9/26, Error ellipse: s-maj=0.8km s-min=0.7km az=76.0*
*ZUR **04** 11:58:12.5, 4572N×639E, h14km±6km, ML2.1/8*
*NEIC **04** 11:58:12.0, 4566N×638E, h2km, ML2.1(ZUR), ML2.3(STR), ML2.8(LDG), ML2.9(CSEM), After LDG.*
*LDG **04** 11:58:12.0±0.0, 4566N×638E, h2km, Md2.9/1, Ml2.8/26, Error ellipse: s-maj=0.7km s-min=0.5km az=107.0*
*ROM **04** 11:58:12.2±0.4, 4570N×638E, h10km, Md2.3/5, Ml1.3/2, Error ellipse: s-maj=6.0km s-min=2.5km az=73.0*
*STR **04** 11:58:12.8±0.5, 4566N×635E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **04** 11:58:12.4, 4571N×642E, h0km, ML2.0*

ISC 04 11:58:11.3±0.2, 4568N±001×633E±002, h8km±2km, n95, σ0§92/204, 1C-7D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	La Plagne	0.33	119	*e*Pg	Pg	11 58 18.5	+0.7
	SNR=1.0						
LPL				*e*Sg	Sg	11 58 21.1	-1.1
	42nm,0.3s						
LPL	La Plagne	0.33	119	*e*Pg	Pg	11 58 18.5	+0.7
	SNR=1.0						
LPL				*e*Sg	Sg	11 58 21.1	-1.1
	21nm,0.3s						
LPG	La Plagne	0.35	121	*e*Pg	Pg	11 58 18.9	+0.7
	SNR=1.0						
LPG				*e*Sg	Sg	11 58 22.8	0.0
	38nm,0.2s,SNR=1.0						
LPG	La Plagne	0.35	121	*e*Pg	Pg	11 58 18.9	+0.7
	SNR=1.0						
LPG				*e*Sg	Sg	11 58 22.8	0.0
	19nm,0.2s,SNR=1.0						
GDM	Grand'Maison	0.50	197	Pg	Pg	11 58 21.7	+0.8
GDM				Sg	Sg	11 58 28.0	+0.5
MRGE	Morge	0.52	80⇓	*i*Pg	Pg	11 58 21.8	+0.4
	57nm,0.7s						
EMV	Vieux Emosson	0.56	46	*i* Sg	Sg	11 58 22.4	-6.9
	107nm,0.3s						
EMV	Vieux Emosson	0.56	46⇓	*i*Pg	Pg	11 58 29.1	+7.0
	107nm,0.3s						
EMV	Vieux Emosson	0.56	46⇓	*i*Pg	Pg	11 58 22.3	+0.2
EMV				Sg	Sg	11 58 29.5	+0.2
GRN	Grenoble	0.60	223	Pg	Pg	11 58 24.1	+1.3
GRN				Sg	Sg	11 58 33.3	+2.6
SALAN	Lac Salanfe	0.65	44⇓	*i*Pg	Pg	11 58 24.9	+1.1
	49nm,0.2s						
SALAN				*e*Sg	Sg	11 58 26.7	-5.6
BNI	Bardonecchia	0.67	158	Pg	Pg	11 58 25.5	+1.2
BNI				Sg	Sg	11 58 34.1	+1.0
	5.0nm,0.3s						
OG05	Jujurieux	0.71	301	Pg	Pg	11 58 26.4	+1.5
OG05				Sg	Sg	11 58 36.3	+2.2
GRYON	Gryon	0.79	44⇓	*i*Pg	Pg	11 58 26.7	+0.1
	85nm,0.2s						
AIGLE	Aigle	0.80	33⇓	*i*Pg	Pg	11 58 29.9	+3.3
	120nm,0.3s						
ORIF	Oris-en-Rattie	0.82	203	*e*Pn	Pn	11 58 29.2	+0.1
	SNR=1.0						
ORIF				*e*Sg	Sg	11 58 37.5	-0.3
ORIF				*e*Sn	Sn	11 58 41.0	-0.4
	40nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	0.82	203	*e*Pn	Pn	11 58 29.2	+0.1
	SNR=1.0						
ORIF				*e*Sg	Sg	11 58 37.5	-0.3
ORIF				*e*Sn	Sn	11 58 41.0	-0.4
	20nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	0.82	203	*e*Pg	Pg	11 58 27.2	+0.1
ORIF				*e*Pn	Pn	11 58 29.2	+0.1
ORIF				*e*Sg	Sg	11 58 37.5	-0.3
ORIF				*e*Sn	Sn	11 58 41.0	-0.4
RRL	Cesana Torines	0.82	157	P	Pg	11 58 28.5	+1.3
RRL				S	Sg	11 58 39.5	+1.6
FENE	Fenestrelle	0.83	141	P	Pg	11 58 28.1	+0.8
FENE				S	Sg	11 58 38.8	+0.7
RSP	Reno Superiore	0.84	128	P	Pg	11 58 28.3	+0.8
RSP				S	Sg	11 58 38.9	+0.4
DIX	Grande Dixence	0.86	62	Pg	Pg	11 58 27.8	0.0
CABF	La Chapelle	0.95	350	*e*Pg	Pg	11 58 30.3	+0.8
	SNR=1.0						
CABF				*e*Sg	Sg	11 58 43.0	+1.2
	74nm,0.4s,SNR=1.0						
CABF	La Chapelle	0.95	350	*e*Pg	Pg	11 58 30.3	+0.8
	SNR=1.0						
CABF				*e*Sg	Sg	11 58 43.0	+1.2
	37nm,0.4s,SNR=1.0						
SENIN	Lac Senin	0.96	44⇓	*i*Pg	Pg	11 58 33.4	+3.6
	245nm,0.4s						
MBDF	Montbardon	1.00	162	*e*Pn	Pn	11 58 31.2	-0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	11 58 44.7	-1.2
	20nm,0.4s,SNR=1.0						
MBDF	Montbardon	1.00	162	*e*Pn	Pn	11 58 31.2	-0.4
	SNR=1.0						
MBDF				*e*Sn	Sn	11 58 44.7	-1.2
	10nm,0.4s,SNR=1.0						
MBDF	Montbardon	1.00	162	*e*Pg	Pg	11 58 30.1	-0.5
MBDF				*e*Pn	Pn	11 58 31.2	-0.4
MBDF				*e*Sn	Sn	11 58 44.7	-1.2
TRAV		1.01	99	P	Pg	11 58 30.5	-0.2
TRAV				S	Sg	11 58 43.0	-0.9
LKBD	Leukerbad	1.15	52	*e*Pg	Pg	11 58 34.2	+0.8
	80nm,0.3s						
ORO	Oropa	1.16	92	Pg	Pg	11 58 33.4	-0.2
ORO				Sg	Sg	11 58 48.0	-0.7
	23nm,0.2s						
ORX	Oropa	1.16	92	P	Pb	11 58 33.1	-0.5
ORX				S	Sg	11 58 47.4	-1.3
TORNY	Torny	1.18	22⇑	*i*Pg	Pg	11 58 34.5	+0.5
	308nm,0.2s						
PZZ	Prazzo	1.30	155	P	Pn	11 58 36.3	+0.7
PZZ				S	Sb	11 58 52.2	-0.4
VIVF	Saint-Julien-I	1.43	235	*e*Pg	Pg	11 58 39.2	+0.5
VIVF				*e*Sn	Sn	11 58 56.1	-0.3
	SNR=1.0						
VIVF				*e*Sg	Sg	11 58 57.8	+0.6
	54nm,0.3s						
VIVF	Saint-Julien-I	1.43	235	*e*Pg	Pg	11 58 39.2	+0.5
VIVF				*e*Sn	Sn	11 58 56.1	-0.3
	SNR=1.0						
VIVF				*e*Sg	Sg	11 58 57.8	+0.6
	27nm,0.3s						
VIVF	Saint-Julien-I	1.43	235	*e*Pn	Pn	11 58 37.6	+0.2
VIVF				*e*Pg	Pg	11 58 39.2	+0.5
VIVF				*e*Sn	Sn	11 58 56.1	-0.3
VIVF				*e*Sg	Sg	11 58 57.8	+0.6
STV2	Anna di Valdie	1.60	153	P	Pn	11 58 40.6	+0.8
LOMF	Lomont	1.71	12	Pn	Pn	11 58 42.4	+1.1
SMRF	Simiane la Rot	1.78	198	*e*Pg	Pg	11 58 45.1	-0.4
SMRF				*e*Sg	Sg	11 59 07.7	-1.0
	9.6nm,0.6s,SNR=1.0						
SMRF	Simiane la Rot	1.78	198	*e*Pg	Pg	11 58 45.1	-0.4
SMRF				*e*Sg	Sg	11 59 07.7	-1.0
	4.8nm,0.6s,SNR=1.0						
SMRF	Simiane la Rot	1.78	198	*e*P	Pn	11 58 44.0	+1.7
SMRF				*e*Pg	Pg	11 58 45.1	-0.4
SMRF				*e*Sg	Sg	11 59 07.7	-1.0
SMF	Signal de Mont	1.98	300	*e*Pg	Pg	11 58 49.7	+0.5
	SNR=1.0						
SMF				*e*Sg	Sg	11 59 15.1	+0.2
	16nm,0.2s,SNR=1.0						
SMF	Signal de Mont	1.98	300	*e*Pg	Pg	11 58 49.7	+0.5
	SNR=1.0						
SMF				*e*Sg	Sg	11 59 15.1	+0.2
	8.2nm,0.2s,SNR=1.0						
SMF	Signal de Mont	1.98	300	*e*Pn	Pn	11 58 45.6	+0.6
SMF				*e*Pg	Pg	11 58 49.7	+0.5
SMF				*e*Sg	Sg	11 59 15.1	+0.2
SBF	Sospel	1.98	156	*e*Pg	Pg	11 58 48.2	-1.1
	SNR=1.0						
SBF				*e*Sg	Sg	11 59 13.3	-1.6
	18nm,0.5s						
SBF	Sospel	1.98	156	*e*Pg	Pg	11 58 48.2	-1.1
	SNR=1.0						
SBF				*e*Sg	Sg	11 59 13.3	-1.6
	9.1nm,0.5s						
FRF	La Foret Royal	2.13	174	*e*Pg	Pg	11 58 50.9	-1.2
FRF				*e*Sg	Sg	11 59 17.9	-1.9
	7.4nm,0.2s,SNR=1.0						
FRF	La Foret Royal	2.13	174	*e*Pg	Pg	11 58 50.9	-1.2
FRF				*e*Sg	Sg	11 59 17.9	-1.9
	3.7nm,0.2s,SNR=1.0						
FRF	La Foret Royal	2.13	174	*e*P	Pn	11 58 48.7	+1.6
FRF				*e*Pg	Pg	11 58 50.9	-1.2
FRF				*e*Sg	Sg	11 59 17.9	-1.9
HINF	Hinteralfeld	2.17	9	*e*Pg	Pg	11 58 52.6	-0.3
HINF				*e*Sg	Sg	11 59 20.0	-1.0
	12nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	2.17	9	*e*Pg	Pg	11 58 52.6	-0.3
HINF				*e*Sg	Sg	11 59 20.0	-1.0
	6.2nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	2.17	9	*e*Pn	Pn	11 58 47.1	-0.5
HINF				*e*Pg	Pg	11 58 52.6	-0.3
HINF				*e*Sg	Sg	11 59 20.0	-1.0
AGO	Saint Agoulin	2.26	281	Pn	Pn	11 58 50.8	+1.9
HAU	Haudompre	2.33	0	*e*Pg	Pg	11 58 55.5	-0.4
HAU				*e*Sn	Sn	11 59 17.5	-1.1
	SNR=1.0						
HAU				*e*Sg	Sg	11 59 25.8	-0.3
	16nm,0.2s,SNR=1.0						
HAU	Haudompre	2.33	0	*e*Pg	Pg	11 58 55.5	-0.4
HAU				*e*Sn	Sn	11 59 17.5	-1.1
	SNR=1.0						
HAU				*e*Sg	Sg	11 59 25.8	-0.3
	8.0nm,0.2s,SNR=1.0						
HAU	Haudompre	2.33	0	*e*Pn	Pn	11 58 49.8	0.0
HAU				*e*Pg	Pg	11 58 55.5	-0.4
HAU				*e*Sn	Sn	11 59 17.5	-1.1
HAU				*e*Sg	Sg	11 59 25.8	-0.3
LOR	Lormes	2.33	314	*e*Pg	Pg	11 58 56.2	+0.2
LOR				*e*Sg	Sg	11 59 25.0	-1.2
	10nm,0.2s,SNR=1.0						
LOR	Lormes	2.33	314	*e*Pg	Pg	11 58 56.2	+0.2
LOR				*e*Sg	Sg	11 59 25.0	-1.2
	5.1nm,0.2s,SNR=1.0						
LOR	Lormes	2.33	314	*e*Pn	Pn	11 58 50.3	+0.4
LOR				*e*Pg	Pg	11 58 56.2	+0.2
LOR				*e*Sg	Sg	11 59 25.0	-1.2
AVF	Avril sur Loir	2.34	299	*e*Pg	Pg	11 58 56.2	0.0
	SNR=1.0						
AVF				*e*Sg	Sg	11 59 26.3	-0.3
	22nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	2.34	299	*e*Pg	Pg	11 58 56.2	0.0
	SNR=1.0						
AVF				*e*Sg	Sg	11 59 26.3	-0.3
	11nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	2.34	299	*e*Pn	Pn	11 58 50.8	+0.8
AVF				*e*Pg	Pg	11 58 56.2	0.0
AVF				*e*Sg	Sg	11 59 26.3	-0.3
LMR	La Mourre	2.35	177	*e*Pg	Pg	11 58 55.0	-1.3
LMR				*e*Sg	Sg	11 59 24.9	-1.9
	4.9nm,0.2s,SNR=1.0						
LMR	La Mourre	2.35	177	*e*Pg	Pg	11 58 55.0	-1.3
LMR				*e*Sg	Sg	11 59 24.9	-1.9
	2.5nm,0.2s,SNR=1.0						
LMR	La Mourre	2.35	177	*e*P	Pn	11 58 51.7	+1.6
LMR				*e*Pg	Pg	11 58 55.0	-1.3
LMR				*e*Sg	Sg	11 59 24.9	-1.9
LASF	Ste Croix	2.38	228	*e*Pg	Pg	11 58 56.2	-0.6
LASF				*e*Sn	Sn	11 59 18.6	-1.2
	SNR=1.0						
LASF				*e*Sg	Sg	11 59 27.5	-0.1
	9.8nm,0.4s,SNR=1.0						
LASF	Ste Croix	2.38	228	*e*Pg	Pg	11 58 56.2	-0.6
LASF				*e*Sn	Sn	11 59 18.6	-1.2
	SNR=1.0						
LASF				*e*Sg	Sg	11 59 27.5	-0.1
	4.9nm,0.4s,SNR=1.0						
LASF	Ste Croix	2.38	228	*e*Pn	Pn	11 58 50.6	+0.1
LASF				*e*Pg	Pg	11 58 56.2	-0.6
LASF				*e*Sn	Sn	11 59 18.6	-1.2
LASF				*e*Sg	Sg	11 59 27.5	-0.1
SSF	Saint Saulge	2.39	306	*e*Pg	Pg	11 58 57.1	-0.1
SSF				*e*Sg	Sg	11 59 28.8	+0.6
	7.0nm,0.3s						
SSF	Saint Saulge	2.39	306	*e*Pg	Pg	11 58 57.1	-0.1
SSF				*e*Sg	Sg	11 59 28.8	+0.6
	3.5nm,0.3s						
BGF	Bois d'Agland	2.57	291	*e*Pg	Pg	11 59 00.6	0.0
BGF				*e*Sn	Sn	11 59 25.5	+0.8
	SNR=1.0						
BGF				*e*Sg	Sg	11 59 34.0	0.0
	28nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	2.57	291	*e*Pg	Pg	11 59 00.6	0.0
BGF				*e*Sg	Sg	11 59 34.0	0.0
	14nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	2.57	291	*e*Pn	Pn	11 58 54.2	+1.0
BGF				*e*Pg	Pg	11 59 00.6	0.0
BGF				*e*Sn	Sn	11 59 25.5	+0.8
BGF				*e*Sg	Sg	11 59 34.0	0.0
SFTF	Sexfontaines	2.68	341	*e*Pg	Pg	11 59 02.4	-0.2
SFTF				*e*Sg	Sg	11 59 36.2	-1.1
	12nm,0.4s						
SFTF	Sexfontaines	2.68	341	*e*Pg	Pg	11 59 02.4	-0.2
SFTF				*e*Sg	Sg	11 59 36.2	-1.1
	5.9nm,0.4s						
CDF	Champ du Feu	2.81	13	*e*Pg	Pg	11 59 04.4	-0.8
CDF				*e*Sg	Sg	11 59 40.5	-1.1
	5.7nm,0.3s						
CDF	Champ du Feu	2.81	13	*e*Pg	Pg	11 59 04.4	-0.8
CDF				*e*Sg	Sg	11 59 40.5	-1.1
	2.8nm,0.3s						
CDF	Champ du Feu	2.81	13	*e*Pn	Pn	11 58 55.8	-0.7
CDF				*e*Pg	Pg	11 59 04.4	-0.8
CDF				*e*Sg	Sg	11 59 40.5	-1.1
TCF	Toulx Ste Croi	2.93	283	*e*Pg	Pg	11 59 07.4	-0.1
	SNR=1.0						
TCF				*e*Sn	Sn	11 59 32.5	-1.0
	SNR=1.0						
TCF				*e*Sg	Sg	11 59 45.0	-0.5
	8.3nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	2.93	283	*e*Pg	Pg	11 59 07.4	-0.1
	SNR=1.0						
TCF				*e*Sn	Sn	11 59 32.5	-1.0
	SNR=1.0						
TCF				*e*Sg	Sg	11 59 45.0	-0.5
	4.2nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	2.96	343	*e*Pg	Pg	11 59 07.2	-0.7
MEZF				*e*Sg	Sg	11 59 45.7	-0.5
	8.8nm,0.4s						
MEZF	Maizieres J'vi	2.96	343	*e*Pg	Pg	11 59 07.2	-0.7
MEZF				*e*Sg	Sg	11 59 45.7	-0.5
	4.4nm,0.4s						
RFYF	Reffroy	3.01	349	*e*Sg	Sg	11 59 46.9	-1.0
	15nm,0.2s						
RFYF	Reffroy	3.01	349	*e*Sg	Sg	11 59 46.9	-1.0
	7.3nm,0.2s						
CAF	Calviac	3.10	257	*e*Pg	Pg	11 59 10.0	-0.7
CAF				*e*Sg	Sg	11 59 50.3	-0.6
	8.4nm,0.4s						
CAF	Calviac	3.10	257	*e*Pg	Pg	11 59 10.0	-0.7
CAF				*e*Sg	Sg	11 59 50.3	-0.6
	4.2nm,0.4s						
CAF	Calviac	3.10	257	*e*Pn	Pn	11 59 00.5	+0.1
CAF				*e*Pg	Pg	11 59 10.0	-0.7
CAF				*e*Sg	Sg	11 59 50.3	-0.6
RJF	Les Rejaudoux	3.40	265	*e*Pg	Pg	11 59 15.6	-0.9
RJF				*e*Sg	Sg	11 59 59.6	-1.0
	7.0nm,0.4s						
RJF	Les Rejaudoux	3.40	265	*e*Pg	Pg	11 59 15.6	-0.9
RJF				*e*Sg	Sg	11 59 59.6	-1.0
	3.5nm,0.4s						
RJF	Les Rejaudoux	3.40	265	*e*Pn	Pn	11 59 05.0	+0.4
RJF				*e*Pg	Pg	11 59 15.6	-0.9
RJF				*e*Sg	Sg	11 59 59.6	-1.0
MTLF	Montolieu	3.75	233	*e*Sg	Sg	12 00 10.4	-1.5
	2.9nm,0.3s						
MTLF	Montolieu	3.75	233	*e*Sg	Sg	12 00 10.4	-1.5
	1.5nm,0.3s						
LFF	La Frestale	4.01	261	*e*Sg	Sg	12 00 18.8	-1.3
	6.9nm,0.4s						
LFF	La Frestale	4.01	261	*e*Sg	Sg	12 00 18.8	-1.3
	3.5nm,0.4s						

*IDC **04** 12:01:26.3±1.2, 1117N×12585E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=139.1km s-min=20.1km az=70.0*
*ISCJB **04** 12:01:29.2±0.9, 1136N±006×12624E±007, h33km, mb3.6/5, Error ellipse: s-maj=9.3km s-min=8.6km az=154.7*
*MAN **04** 12:01:31.5, 1119N×12589E, h1km, mb3.9, ML4.9, MS1.9*

ISC 04 12:01:31.4±0.9, 1133N±006×12612E±007, h35km, n11, σ1§06/16, mb3.6/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.72	292	*e*P	Pn	12 01 43.0	-2.1
BESP				*e*S	Sn	12 01 54.8	-0.1
PLP	Palo	1.13	262	*e*P	Pn	12 01 49.2	-1.5
PLP				*i* S	Sn	12 02 04.6	-0.5
SCPH	Surigao	1.66	202	*e*P	Pn	12 01 58.2	+0.2
SCPH				*e*S	Sn	12 02 17.8	-0.3
LLP	Lapu-Lapu	2.34	245⇑	*e*P	Pn	12 02 08.6	+1.2
LLP				*e*S	Sn	12 02 42.1	+7.1
TBP	Tagbilaran	2.75	234	*e*P	Pn	12 02 14.3	+1.2
TBP				*e*S	Sn	12 02 49.9	+4.8
RCP	Roxas	3.32	274⇓	*e*P	Pn	12 02 23.3	+2.5
WRA	Warramunga Arr	32.11	165	P	P	12 07 54.1	-1.1
	0.1nm,0.4s,mb3.0,baz=343,slow=9.4,SNR=4.9						
WRA				PcP	PcP	12 10 44.6	+0.7
	0.6nm,1.1s,baz=340,slow=2.7,SNR=4.8						
ASAR	Alice Springs	35.60	168	P	P	12 08 25.6	0.0
	0.2nm,0.3s,mb3.5,baz=350,slow=7.4,SNR=6.2						
SONM	Songino Array	39.98	339	P	P	12 09 03.1	+0.5
	0.4nm,0.4s,mb3.5,baz=158,slow=10,SNR=7.2						
MKAR	Makanchi Array	51.10	322	P	P	12 10 30.9	+0.4
	1.0nm,0.5s,mb4.0,baz=116,slow=8.1,SNR=25						
ARCES	ARCESS Array B	83.16	340	P	P	12 13 53.7	-0.1
	2.1nm,0.9s,mb4.2,baz=82,slow=6.4,SNR=3.4						

MAN 04 12:06:13.6, 1125N×12586E, h18km, mb1.8, ML3.6, MS3.5, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.87	264	*i* P	Pb	12 06 29.9	-0.2
PLP				*i* S	Sb	12 06 43.7	+2.3
MSLP	Maasin	1.48	222⇑	*e*P	Pn	12 06 40.8	+1.4
SCPH	Surigao	1.50	194	*e*P	Pn	12 06 39.4	-0.2
SCPH				*e*S	Sn	12 06 58.2	-0.6
BOAC	Boac	4.49	300⇑	*e*P	Pn	12 07 22.2	+1.4

*MOS **04** 12:37:12.4±1.6, 7.16S×15547E, h33km, mb4.6/8, Error ellipse: s-maj=15.9km s-min=15.7km az=74.0*
*ISCJB **04** 12:37:19.9±1.5, 7.4S±0.1×15576E±007, h111km±15km, mb4.1/14, Error ellipse: s-maj=16.9km s-min=11.1km az=158.8*
*IDC **04** 12:37:21.4±2.7, 7.47S×15576E, h112km±30km, mb3.7/5, mb1 3.9/7, mb1mx3.7/15, mbtmp4.2/7, MS3.3/3, Ms1 3.3/3, ms1mx3.0/24, Error ellipse: s-maj=31.5km s-min=17.2km az=168.0*
*NEIC **04** 12:37:21.5±1.1, 7.48S×15576E, h115km±11km, mb4.3/9, Error ellipse: s-maj=13.7km s-min=10.3km az=162.0*

ISC 04 12:37:21.6±1.3, 74S±01×15577E±007, h114km±13km, n34, σ0§98/35, mb4.1/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.59	116	P	Pn	12 38 28.7	-0.1
	13nm,0.3s,baz=51,slow=0.6,SNR=3.8						
HNR				S	Sn	12 39 21.4	+0.2
	30nm,0.3s,baz=91,slow=12,SNR=5.7						
HNR				LR	LR	12 40 02.8	
	comp=Z,445nm,20.4s,baz=182,slow=35						
HNR	Honiara	4.59	116	P	Pn	12 38 28.7	-0.2
HNR				S	Sn	12 39 21.4	+0.3
PMG	Port Moresby	8.75	256	P	Pn	12 39 24.6	-0.6
	2.2nm,0.3s,baz=5.4,slow=8.3,SNR=8.1						
PMG				LR	LR	12 42 52.2	
	comp=Z,204nm,18.2s,baz=236,slow=38						
CTAO	Charters Tower	15.61	215	P	Pn	12 40 50.7	-4.6
WRAB	Tennant Creek	24.21	237	*e*P	P	12 42 27.6	+0.1
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.3						
WRAB	Tennant Creek	24.21	237	*e*P	P	12 42 27.6	0.0
	comp=Z,15nm,1.0s,mb4.3						
WB2	Warramunga Arr	24.21	237	*e*P	P	12 42 27.7	+0.1
WRA	Warramunga Arr	24.22	237	P	P	12 42 27.8	+0.1
	comp=Z,4.0nm,0.8s,mb3.8,baz=62,slow=9.8,SNR=46						
ASAR	Alice Springs	26.48	230	P	P	12 42 47.5	-0.5
	comp=Z,0.7nm,0.8s,mb3.2,baz=58,slow=10,SNR=6.5						
STKA	Stephens

comp=Z,1.0nm,0.6s,mb4.3
ZRNK Zerenda 93.92 323 *e*P **P 12 50 24.7 -1.6**
comp=Z,1.0nm,0.6s,mb4.3
YKA Yellowknife Ar 96.35 28 P **P 12 50 36.2 -1.2**
comp=Z,0.2nm,0.9s,mb3.5,baz=258,slow=5.4,SNR=3.2
YKA Yellowknife Ar 96.35 28 P **P 12 50 36.2 -1.2**
GERES GERESS Array B 127.81 329 PKP PKPdf 12 56 14.5 +0.8
comp=Z,0.5nm,0.8s,baz=315,slow=1.9,SNR=5.2

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*ISCJB **04** 12:38:30.9±0.7, 3237N±004×115.11W±005, h19km±4km, Error ellipse: s-maj=8.8km s-min=5.7km az=79.5*
*NEIC **04** 12:38:32.2, 3237N×115.13W, h7km, ML3.3(PAS), ML3.6(ECX), After ECX.*
*ECX **04** 12:38:32.2±0.6, 3237N×115.13W, h7km, MD3.5, ML3.6*
ISC 04 12:38:31.1±0.7, 3239N±004×11513W±006, h18km±3km, n27, σ0°54/36, 12C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALX	**Saltillo**	**0.03**	**355**	*e*P	**Sg**	**12 38 33.2**	**-1.0**
SALX				*e*S	**Sg**	**12 38 36.3**	**-0.1**
DELX	**Delta**	**0.06**	**235**	*e*P	**Pg**	**12 38 34.0**	**-0.4**
DELX				*e*S	**Sg**	**12 38 37.6**	**+1.0**
EMSC	**East Mesa**	**0.37**	**19**	⇓*i*P	**Pg**	**12 38 39.7**	**+0.9**
SGL	**Mount Signal**	**0.57**	**297**	⇑*e*P	**Pg**	**12 38 42.3**	**-0.1**
SGL	**Mount Signal**	**0.57**	**297**	⇑*i*P	**Pg**	**12 38 42.3**	**-0.1**
ERPC	**Ernies Place**	**0.57**	**308**	*e*P	**Pg**	**12 38 43.0**	**+0.5**
WESC	**Westside Schoo**	**0.63**	**306**	⇑*i*P	**Pg**	**12 38 43.7**	**+0.2**
COK	**Cook Ranch**	**0.68**	**312**	⇑*i*P	**Pb**	**12 38 44.5**	**0.0**
GLA	**Glamis**	**0.71**	**21**	⇓*i*P	**Pb**	**12 38 44.8**	**-0.1**
GLA				*i*S	**Sb**	**12 38 54.9**	**+0.6**
YUH	**Yuha Desert**	**0.72**	**291**	⇑*i*P	**Pb**	**12 38 44.9**	**-0.3**
YUH	**Yuha Desert**	**0.72**	**291**	⇑*i*P	**Pb**	**12 38 44.9**	**-0.2**
SWSC	**Sam W. Stewart**	**0.79**	**314**	*e*P	**Pb**	**12 38 45.6**	**-0.7**
RMX	**La Rumorosa**	**0.83**	**285**	*e*P	**Pb**	**12 38 46.6**	**-0.4**
RMX				*e*S	**Sb**	**12 38 58.1**	**+0.3**
RMX				⇓*e*		12 38 59.3	
	comp=E,683nm,0.4s						
RMX	**La Rumorosa**	**0.83**	**285**	*e*P	**Pb**	**12 38 46.6**	**-0.4**
RMX				*e*S	**Sb**	**12 38 58.1**	**+0.3**
RDX	**Rancho Dowling**	**0.83**	**237**	*e*P	**Pb**	**12 38 46.6**	**-0.4**
RDX				*e*S	**Sb**	**12 38 57.8**	**-0.1**
RDX				⇑*e*		12 38 58.7	
	comp=E,5μm,0.3s						
RDX				⇑*e*		12 39 01.6	
	comp=N,2μm,0.5s						
RDX	**Rancho Dowling**	**0.83**	**237**	*e*P	**Pb**	**12 38 46.6**	**-0.4**
RDX				*e*S	**Sb**	**12 38 57.8**	**-0.1**
CRR	**Carrizo Plain**	**0.86**	**305**	⇑*i*P	**Pb**	**12 38 47.1**	**-0.5**
DVTC	**Desert V Tower**	**0.86**	**288**	⇑*i*P	**Pb**	**12 38 47.4**	**-0.2**
DVTC				*e*S	**Sb**	**12 38 59.4**	**+0.6**
CBKC	**Canebrake**	**1.08**	**298**	⇑*i*P	**Pb**	**12 38 50.5**	**-0.7**
CBX	**Cerro Bola**	**1.30**	**267**	*e*P	**Pn**	**12 38 54.5**	**+0.1**
BAR	**Barrett**	**1.34**	**283**	P	**Pn**	**12 38 53.6**	**-1.2**
SPX	**San Pedro Mart**	**1.37**	**192**	*e*P	**Pn**	**12 38 55.4**	**0.0**
ENX	**Ensenada**	**1.40**	**249**	⇑*e*P	**Pn**	**12 38 55.9**	**+0.2**
ENX				*e*S	**Sn**	**12 39 14.7**	**+1.0**
CCX	**Cicese**	**1.40**	**249**	*e*P	**Pn**	**12 38 56.1**	**+0.3**
ECNX	**Esteban Cantu**	**1.45**	**240**	*e*P	**Pn**	**12 38 56.5**	**+0.2**
ECNX				*e*P		12 38 56.1	
PBX	**Punta Banda**	**1.50**	**245**	*i*P	**Pn**	**12 38 57.5**	**+0.3**
PBX	**Punta Banda**	**1.50**	**245**	*e*P	**Pn**	**12 38 57.5**	**+0.3**

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*NEIC **04** 12:38:42.1, 1873N×6446W, h10km, MD3.5(RSPR), After RSPR.*
RSPR 04 12:38:42.1, 1873N×6446W, h10km±31km, MD3.5/8, MD3.5/8, 6C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.35**	**204**	⇑*i*P	Pg	12 38 48.8	-0.2
TBVI				*e*S	Sg	12 38 54.7	+1.1
STVI	**Saint Thomas**	**0.61**	**232**	⇑*e*P	Pg	12 38 52.8	-1.0
STVI				*e*S	Sg	12 39 01.3	-0.5
CULB	**Culebra**	**0.93**	**243**	⇑*e*P	Pg	12 38 57.5	-2.4
CULB	**Culebra**	**0.93**	**243**	*e*S	Sg	12 39 10.0	-1.9
MTP	**Monte Pirata**	**1.22**	**239**	⇑*e*P	Pn	12 39 02.5	-2.7
MTP				*e*S	Sb	12 39 17.9	-3.1
CBYP	**Canovanas**	**1.40**	**251**	⇑*e*P	Pn	12 39 04.6	-3.0
CBYP				*e*S	Sn	12 39 21.7	-4.5
HUMP	**Col San Antoni**	**1.44**	**246**	⇓*e*P	Pn	12 39 05.6	-2.7
HUMP				*e*S	Sn	12 39 23.3	-3.9
CPD	**Cerro la Pandu**	**1.54**	**244**	⇑*e*P	Pn	12 39 07.5	-2.1
CPD				*e*S	Sn	12 39 26.0	-3.7
CELP	**Cerrillos**	**2.12**	**252**	⇓*e*P	Pn	12 39 15.5	-2.0
CELP				*e*S	Sn	12 39 40.9	-2.9
AOPR	**Arecibo Observ**	**2.21**	**260**	⇓*e*P	Pn	12 39 16.6	-2.1
AOPR				*e*S	Sn	12 39 41.8	-4.3

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*ISCJB **04** 12:38:55.9±0.9, 4245N±006×14461E±007, h39km±12km, mb3.1/2, Error ellipse: s-maj=11.9km s-min=5.3km az=104.0*
*JMA **04** 12:38:55.3, 4242N×14462E, h39km±1km, M3.4*
*IDC **04** 12:38:59.3±2.2, 4244N×14342E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=41.5km s-min=29.0km az=129.0*
ISC 04 12:38:56.5±1.1, 4247N±005×14459E±007, h33km±7km, n14, σ0°73/23, mb3.1/2, 1C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.53**	**8**	⇑P	**Pb**	**12 39 07.2**	**-0.4**
JAK				S	**Sb**	**12 39 16.2**	**+0.9**
JOB	**Onbets**	**0.71**	**308**	⇓P	**Pn**	**12 39 08.8**	**-0.4**
JOB				*e*S	**Sn**	**12 39 20.0**	**+0.1**
JCH	**Churui**	**0.92**	**279**	⇓P	**Pn**	**12 39 12.7**	**-0.4**
JCH				*e*S	**Sn**	**12 39 25.2**	**0.0**
JAR	**Ashorobuto**	**1.02**	**324**	⇓P	**Pn**	**12 39 14.0**	**-0.5**
JAR				*e*S	**Sn**	**12 39 26.5**	**-1.2**
JNK	**Nakash**	**1.12**	**5**	P	**Pn**	**12 39 15.1**	**-0.7**
JNK				*e*S	**Sn**	**12 39 29.6**	**-0.5**
JEM	**Erimo**	**1.16**	**247**	P	**Pn**	**12 39 16.5**	**+0.1**
JEM				*e*S	**Sn**	**12 39 32.2**	**+1.2**
NEM2	**Nemuro 2**	**1.23**	**43**	P	**Pn**	**12 39 16.7**	**-0.7**
NEM2				*e*S	**Sn**	**12 39 33.4**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.38**	**263**	P	**Pn**	**12 39 18.4**	**-1.0**
JNBK				*e*S	**Sn**	**12 39 36.6**	**+0.2**
JRA	**Rausu**	**1.52**	**15**	P	**Pn**	**12 39 21.1**	**-0.2**
JRA				*e*S	**Sn**	**12 39 40.6**	**+0.7**
ASAJ	**Asahikawa**	**2.20**	**319**	Pn	**Pn**	**12 39 31.9**	**+1.3**
	4.8nm,0.3s,baz=219,slow=12,SNR=54						
ASAJ				Sn	**Sn**	**12 40 02.4**	**+5.6**
	4.5nm,0.3s,baz=255,slow=30,SNR=5.8						
MJAR	**Matsushiro Arr**	**7.71**	**222**	Pn	**Pn**	**12 40 45.4**	**-0.9**
	0.7nm,0.3s,baz=28,slow=15,SNR=8.3						
SONM	**Songino Array**	**27.27**	**295**	P	**P**	**12 44 38.7**	**+1.1**
	0.5nm,0.8s,mb3.1,baz=76,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**43.52**	**298**	P	**P**	**12 46 57.6**	**+0.8**
	0.4nm,1.0s,mb3.1,baz=79,slow=8.3,SNR=3.7						
ILAR	**Eielson Array**	**43.62**	**35**	P	pP	12 47 09.1	+1.5
	0.3nm,0.8s,baz=273,slow=7.2,SNR=5.3						

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*STR **04** 13:13:57.1±0.1, 4313N×087W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 04 13:13:57.3±0.1, 4308N±085W, h5km, Md1.4/2, Error ellipse: s-maj=3.4km s-min=1.2km az=6.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.11**	**246**	Pg	Pg	13 13 59.7	+0.2
LARF				Sg	Sg	13 14 01.8	+0.7
ATE	**Arette**	**0.11**	**88**	Pg	Pg	13 13 59.8	+0.2
ATE				Sg	Sg	13 14 01.8	+0.6
SJPF	**Ste Jean**	**0.27**	**277**	*e*Pg	Pg	13 14 02.6	0.0
SJPF				*e*Sg	Sg	13 14 07.0	+0.8
	3.9nm,0.3s						
ETSF	**Etsaut**	**0.28**	**130**	*e*Pg	Pg	13 14 02.9	+0.1
ETSF				*e*Sg	Sg	13 14 07.1	+0.6
	3.1nm,0.3s						

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*ISCJB **04** 13:33:13.8±0.4, 6309N±004×143.17W±005, h10km, Error ellipse: s-maj=5.5km s-min=3.3km az=19.2*
*PGC **04** 13:33:16.8, 6312N×14334W, h10km, ML3.6/3, Eastern Alaska.*

*NEIC **04** 13:33:17.2, 6309N×14338W, h25km, ML3.2(AEIC), After AEIC.*
ISC 04 13:33:15.4±0.4, 6307N±003×14323W±005, h10km, n22, σ1°26/38, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.26**	**239**	*e*P	**Pg**	**13 33 18.7**	**-2.0**
PAX	**Paxson**	**1.03**	**265**	P	**Pg**	**13 33 32.2**	**-2.9**
DAWY	**Dawson**	**1.98**	**58**	Pn	**Pn**	**13 33 50.1**	**+1.1**
DAWY				Pg	**Pg**	**13 33 52.8**	**-0.7**
DAWY				Sg	**Sg**	**13 34 19.5**	**+0.2**
DAWY				Trac		13 34 21.1	
	comp=Z,265nm,0.2s						
DAWY	**Dawson**	**1.98**	**58**	P	**Pn**	**13 33 50.1**	**+1.0**
BMRM	**Bremner River**	**2.21**	**198**	P	**Pn**	**13 33 53.0**	**+0.9**
DIV	**Divide**	**2.29**	**213**	*e*Pn	**Pn**	**13 33 44.5**	**-8.8**
DIV				*e*Sn	**Sn**	**13 34 13.5**	**-8.0**
IL1	**Eielson Array**	**2.35**	**318**	P	**Pn**	**13 33 52.6**	**-1.5**
MCK	**McKinley**	**2.65**	**287**	*e*Pn	**Pn**	**13 33 58.5**	**+0.3**
MCK				*e*Sb	**Sb**	**13 34 34.4**	**-1.2**
SML	**Sawmill**	**2.69**	**244**	*e*Pn	**Pn**	**13 34 00.2**	**+1.4**
SML				*e*Sn	**Sn**	**13 34 31.6**	**+0.1**
COLA	**College**	**2.73**	**314**	*e*Pn	**Pn**	**13 33 57.0**	**-2.3**
COLA				*ep*Pn		13 34 04.2	
COLA				*e*Sb	**Sb**	**13 34 39.7**	**+2.0**
PMR	**Palmer**	**3.13**	**244**	*e*Pn	**Pn**	**13 33 58.8**	**-6.0**
PMR				*ep*Pn		13 34 08.5	
HYT	**Haines Junctio**	**3.52**	**127**	Pn	**Pn**	**13 34 11.3**	**+1.1**
HYT				Pg	**Pg**	**13 34 20.9**	**-2.1**
HYT				Sn	**Sn**	**13 34 53.2**	**+1.3**
HYT				Sg	**Sg**	**13 35 08.5**	**0.0**
HYT				Trac		13 35 15.0	
	comp=Z,50nm,0.3s						
FIB	**Fire Island**	**3.78**	**243**	*e*Pn	**Pn**	**13 34 13.7**	**-0.1**
FIB				*ep*Pn		13 34 19.4	
SLKM	**Skilak Lake**	**4.20**	**235**	*e*Pn	**Pn**	**13 34 21.3**	**+1.8**
SLKM				pPn		13 34 25.0	
SLKM				*e*S	**Sn**	**13 35 22.9**	**+14**
WHY	**Whitehorse**	**4.63**	**118**	Pn	**Pn**	**13 34 26.9**	**+1.4**
WHY				Pg	**Pg**	**13 34 40.5**	**-3.7**
WHY				Sn	**Sn**	**13 35 19.1**	**-0.2**
WHY				Sg	**Sg**	**13 35 43.1**	**-1.1**
WHY				Trac		13 35 52.4	
	comp=Z,43nm,0.6s						
PLBC	**Pleasant Camp**	**4.91**	**135**	Pn	**Pn**	**13 34 31.6**	**+2.3**
PLBC				Sg	**Sg**	**13 35 51.5**	**-1.6**
IM3	**Indian Mountai**	**5.40**	**307**	P	**Pn**	**13 34 35.3**	**-0.7**
IMA2	**Indian Mountai**	**5.42**	**308**	*e*Pn	**Pn**	**13 34 36.2**	**0.0**
TTA	**Tatalina**	**5.83**	**274**	*e*Pn	**Pn**	**13 34 42.5**	**+0.7**
	20nm,0.7s						
TT01	**Tatalina**	**5.83**	**274**	P	**Pn**	**13 34 42.8**	**+0.8**
INK	**Inuvik**	**6.60**	**33**	Pn	**Pn**	**13 34 52.5**	**-0.1**
INK				Sn	**Sn**	**13 35 60.0**	**-7.9**
INK				Sg	**Sg**	**13 36 38.4**	**-8.9**
INK				Trac		13 37 01.7	
	comp=Z,14nm,0.6s						
YKW3	**Yellowknife Ar**	**13.04**	**79**	P	**Pn**	**13 36 20.9**	**+0.1**
YKW3				Trac		13 39 38.8	
	comp=Z,1.0nm,0.6s						

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*NEIC **04** 13:40:51.7±0.9, 7448N×9399E, h30km, mb4.7/2, Error ellipse: s-maj=34.2km s-min=12.0km az=222.0*
*ISCJB **04** 13:41:05.4±2.3, 6914N±01×950E±02, h223km±25km, mb3.4/8, Error ellipse: s-maj=33.9km s-min=19.5km az=158.7*
*IDC **04** 13:41:05.3±3.2, 6874N×9487E, h207km±33km, mb3.2/8, mb1 3.4/9, mb1mx3.2/21, mbtmp3.8/9, Error ellipse: s-maj=39.3km s-min=19.1km az=58.0*
ISC 04 13:41:06.1±2.2, 6914N±01×949E±02, h214km±24km, n14, σ0°37/14, mb3.4/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.71**	**136**	P	**Pn**	**13 42 30.2**	**+0.4**
	2.7nm,0.3s,baz=289,slow=13,SNR=16						
KULM	**Kulim**	**5.92**	**106**	*e*P	**Pn**	**13 42 32.0**	**-0.5**
ENH	**Enshi**	**26.96**	**29**	P	**P**	**13 46 27.8**	**0.0**
MKAR	**Makanchi Array**	**41.19**	**347**	P	**P**	**13 48 29.8**	**+0.1**
	0.4nm,0.6s,mb3.0,baz=169,slow=7.9,SNR=7.8						
SONM	**Songino Array**	**41.93**	**12**	P	**P**	**13 48 36.2**	**+0.5**
	1.6nm,0.9s,mb3.5,baz=191,slow=8.7,SNR=12						
KURK	**Kurchatov**	**45.72**	**346**	P	**P**	**13 49 06.1**	**+0.3**
	1.2nm,0.8s,mb3.3						
WRA	**Warramunga Arr**	**47.08**	**125**	P	**P**	**13 49 16.6**	**+0.2**
	0.1nm,0.3s,baz=303,slow=10,SNR=8.7						
ZAL	**Zalesovo**	**47.59**	**352**	P	**P**	**13 49 19.6**	**-0.8**
	1.2nm,0.6s,mb3.4,baz=308,slow=8.5						
BRTR	**Keskin Array B**	**63.63**	**311**	P	**P**	**13 51 14.7**	**+0.4**
	1.1nm,0.8s,mb3.5,baz=137,slow=6.4,SNR=5.3						
SANT	**Santorini**	**69.41**	**306**	P	**P**	**13 51 50.6**	**-0.2**
	59nm,0.9s						
FINES	**FINESS Array B**	**73.91**	**332**	P	**P**	**13 52 17.3**	**-0.4**
	1.1nm,0.6s,mb3.6,baz=108,slow=6.0,SNR=10						
ARCES	**ARCESS Array B**	**76.42**	**340**	P	**P**	**13 52 32.3**	**+0.4**
	1.9nm,0.9s,mb3.7,baz=97,slow=7.3,SNR=2.9						
MAW	**Mawson**	**77.76**	**192**	P	**P**	**13 52 39.1**	**-0.3**
GERES	**GERESS Array B**	**79.05**	**318**	P	**P**	**13 52 46.4**	**0.0**
	0.3nm,0.5s,mb3.1,baz=90,slow=4.0,SNR=3.9						

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*NIED **04** 14:02:00, 4330N×14680E, h41km, Mw4.8 Best double couple: M0 1.67000×10^16 NP1:φ=193.00000°, δ=68.00000°, λ=72.00000°. NP2:φ=54.00000°, δ=28.00000°, λ=127.00000°.*
*SZGRF **04** 14:02:04.8, 4283N×146.13E, h33km, mb4.6, Off southeast coast of Hokkaido, Japan*
*ISCJB **04** 14:02:05.9±0.5, 4347N±003×14682E±003, h45km±4km, mb4.7/111, MS4.1/22, Error ellipse: s-maj=5.8km s-min=3.3km az=123.5*
*MOS **04** 14:02:05.1±0.9, 4337N×14683E, h46km, mb4.8/32, MS3.9/12, Error ellipse: s-maj=7.9km s-min=5.5km az=102.4*
MOS Felt (III) at Malokuril'skoye, (II) at Yuzhno-Kuril'sk.
*SKHL **04** 14:02:06.3±0.4, 4335N×14697E, h34km±1km, mb5.1/10, Ms4.4/5*
SKHL Felt (III) at Malokyrilskoe, (II) at Yushno-Kurilsk.
*BJI **04** 14:02:06.3, 4348N×14675E, h39km, mB4.9, mb4.7, Ms4.3, Msz4.2*
*JMA **04** 14:02:06.3±0.2, 4334N×14680E, h45km±2km, M4.7*
JMA Felt I J1.
*NEIC **04** 14:02:06.3±1.4, 4349N×14671E, h34km±10km, mb4.8/56, Error ellipse: s-maj=5.3km s-min=2.9km az=163.0*
NEIC Felt [III] at Malokuril'skoye and [II] at Yuzhno-Kuril'sk. Recorded [1 JMA] in eastern Hokkaido.
*IDC **04** 14:02:08.8±2.5, 4346N×14672E, h60km±23km, mb4.3/22, mb1 4.5/25, mb1mx4.5/27, mbtmp4.6/25, ML4.7/3, MS4.0/12, Ms1 4.0/12, ms1mx3.9/46, Error ellipse: s-maj=13.7km s-min=11.7km az=140.0*
*NAO **04** 14:02:21.9, 4684N×14878E, h33km, mb4.8*
ISC 04 14:02:07.1±0.5, 4346N±003×14681E±003, h43km±3km, h28km±3.5km: pP-P, n324, σ0°96/333, mb4.7/111, MS4.1/22, 12C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.78**	**263**	⇓P	**Pn**	**14 02 20.9**	**-0.8**
NEM2				*e*S	**Sn**	**14 02 31.8**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**0.90**	**310**	⇓*i*P	**Pn**	**14 02 23.0**	**-0.2**
YUK				AMB	AMB	14 02 25.5	
	11μm,0.3s						
YUK				AMB	AMB	14 02 25.5	
	8μm,0.3s						
YUK				AMB	AMB	14 02 25.5	
	21μm,0.3s						
YUK				AMB	AMB	14 02 28.0	
	32μm,1.0s						
YUK				AMB	AMB	14 02 28.0	
	26μm,1.0s						
YUK				AMB	AMB	14 02 28.0	
	25μm,1.0s						
YUK				*i*S	**Sn**	**14 02 35.0**	**0.0**
YUK				A		14 02 38.0	
	250μm,1.0s						
YUK				A		14 02 38.0	
	145μm,1.0s						
YUK				AMS	AMS	14 02 44.8	
	413μm,23.0s						
YUK	**Yuzh-Kuril'sk**	**0.90**	**310**	⇓*i*PN	**Pn**	**14 02 23.0**	**-0.2**
YUK				*i*S	**Sn**	**14 02 35.0**	**0.0**
YUK				pmax	pmax		
	comp=Z,21μm,0.3s						
YUK				pmax	pmax		
	comp=N,11μm,0.3s						
YUK				pmax	pmax		
	comp=E,8μm,0.2s						
YUK				pmax	pmax		
	comp=Z,25μm,0.8s						
YUK				pmax	pmax		
	comp=N,32μm,0.6s						
YUK				pmax	pmax		
	comp=E,26μm,1.0s						
YUK				smax			
	comp=N,250μm,1.0s						
YUK				smax			
	comp=E,145μm,0.6s						
JRA	**Rausu**	**1.31**	**292**	⇓P	**Pn**	**14 02 29.2**	**+0.2**
JRA				*e*S	**Sn**	**14 02 45.4**	**+0.1**
JNK	**Nakash**	**1.53**	**275**	⇓P	**Pn**	**14 02 31.6**	**-0.3**
JNK				*e*S	**Sn**	**14 02 50.4**	**-0.1**
JAK	**Akkeshi**	**1.61**	**254**	⇓P	**Pn**	**14 02 32.2**	**-0.9**
JAK				*e*S	**Sn**	**14 02 51.7**	**-0.9**
KUR	**Kuril'sk**	**1.93**	**23**	*i*P	**Pn**	**14 02 36.0**	**-1.4**
KUR				AMB	AMB	14 02 37.1	
	comp=E,180nm,0.3s						
KUR				AMB	AMB	14 02 37.1	
	comp=E,140nm,0.3s						
KUR				AMB	AMB	14 02 37.1	
	comp=E,540nm,0.3s						
KUR				*i*S	**Sn**	**14 02 58.8**	**-1.6**
KUR				A		14 03 04.5	
	comp=E,3μm,0.5s						
KUR				A		14 03 04.5	
	comp=E,2μm,0.5s						
KUR				A		14 03 07.0	
	comp=E,10μm,2.0s						
KUR				A		14 03 07.0	
	comp=E,3μm,2.0s						
KUR	**Kuril'sk**	**1.93**	**23**	⇑*i*PN	**Pn**	**14 02 36.0**	**-1.4**
KUR				*i*S	**Sn**	**14 02 58.8**	**-1.6**
KUR				pmax	pmax		
	comp=N,180nm,0.3s						
KUR				pmax	pmax		
	comp=E,140nm,0.3s						
KUR				pmax	pmax		
	comp=Z,540nm,0.3s						
KUR				smax			
	comp=N,3μm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR				smax			
	comp=N,10μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
JTKR	**Abashiri--Toko**	**2.17**	**285**	⇓P	**Pn**	**14 02 41.8**	**+1.2**
JAR	**Ashorobuto**	**2.22**	**267**	⇓P	**Pn**	**14 02 41.7**	**+0.3**
JAR				*e*S	**Sn**	**14 03 08.1**	**+0.4**
JOB	**Onbets**	**2.25**	**257**	⇓P	**Pn**	**14 02 41.5**	**-0.3**
JMP	**Maruseppu**	**2.56**	**284**	⇓P	**Pn**	**14 02 47.5**	**+1.4**
JCH	**Churui**	**2.67**	**253**	P	**Pn**	**14 02 47.2**	**-0.3**
JCH				*e*S	**Sn**	**14 03 18.6**	**0.0**
ASAJ	**Asahikawa**	**3.12**	**284**	P	**Pn**	**14 02 55.6**	**+1.9**
	comp=E,49nm,0.3s,baz=101,slow=13,SNR=169						
ASAJ				S	**Sn**	**14 03 38.7**	**+8.9**
	comp=E,66nm,0.3s,baz=334,slow=29,SNR=4.0						
ASAJ				LR	LR	14 04 25.9	
	comp=E,3μm,20.3s,baz=23,slow=45						
YSS	**Yuzh-Sakhalins**	**4.52**	**322**	⇓*i*P	**Pn**	**14 03 15.3**	**+2.3**
YSS				AMB	AMB	14 03 18.0	
	comp=E,50nm,0.6s						
YSS				AMB	AMB	14 03 18.0	
	comp=E,80nm,0.6s						
YSS				AMB	AMB	14 03 18.0	
	comp=E,90nm,0.6s						
YSS				*ep*P		14 03 26.3	
YSS				*es*P		14 03 31.0	
YSS				*i*S	**Sn**	**14 04 06.2**	**+2.0**
YSS				A		14 04 07.1	
	comp=E,130nm,0.9s						
YSS				A		14 04 07.1	
	comp=E,170nm,0.9s						
YSS				AMS	AMS	14 05 09.0	
	comp=E,2μm,18.0s						
YSS				AMS	AMS	14 05 09.0	
	comp=E,1μm,15.0s						
YSS				AMS	AMS	14 05 09.0	
	comp=E,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.52**	**322**	⇓*i*PN	**Pn**	**14 03 15.3**	**+2.3**
YSS				*e*		14 04 15.2	
YSS				pmax	pmax		
	comp=Z,90nm,0.5s						
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=E,80nm,0.5s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
TEY	**Ternei**	**7.50**	**286**	*e*P	**Pn**	**14 03 56.0**	**+2.2**
TYV	**Tymovskoe**	**7.93**	**341**	*e*P	**Pn**	**14 04 03.0**	**+3.3**
TYV				AMB	AMB	14 04 06.5	
	comp=E,20nm,1.2s						
TYV				AMB	AMB	14 04 06.5	
	comp=E,50nm,1.2s						
TYV				AMB	AMB	14 04 06.5	
	comp=E,110nm,1.2s						
TYV				A		14 05 27.2	
	comp=E,22nm,1.0s						
TYV				AMS	AMS	14 07 04.0	
	comp=E,1μm,18.0s						
TYV				AMS	AMS	14 07 04.0	
	comp=E,1μm,20.0s						
MJAR	**Matsushiro Arr**	**9.55**	**227**	P	**Pn**	**14 04 21.1**	**-0.8**
	comp=E,1.4nm,0.3s,baz=30,slow=14,SNR=18						
MJAR				S	**Sn**	**14 06 13.9**	**+6.0**
	comp=E,1.2nm,0.3s,baz=202,slow=13,SNR=3.4						
MJAR				LR	LR	14 08 39.7	
	comp=E,424nm,19.3s,baz=60,slow=41						
MJAR	**Matsushiro Arr**	**9.55**	**227**	PN	**Pn**	**14 04 21.1**	**-0.9**
MJAR				S	**Sn**	**14 06 13.9**	**+6.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,424nm,19.3s						
MAJO	**Matsushiro**	**9.55**	**227**	PN	**Pn**	**14 04 21.1**	**-0.9**
MAT	**Matsushiro**	**9.55**	**227**	P	**Pn**	**14 04 20.8**	**-1.2**
MAT				S	**Sn**	**14 06 06.7**	**-1.2**
MAT	**Matsushiro**	**9.55**	**227**	*e*PN	**Pn**	**14 04 21.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,14nm,0.5s						
MAT	**Matsushiro**	**9.55**	**227**	*e*P	**Pn**	**14 04 21.0**	**-1.0**
	comp=Z,14nm,0.5s						
MAT				*e*S	**Sn**	**14 06 07.0**	**-0.9**
HABR	**Khabarovsk**	**9.60**	**306**	*i*PN	**Pn**	**14 04 29.8**	**+7.2**
HABR				pmax	pmax		
	comp=Z,129nm,

OKH AMS AMS 14 08 49.8
comp=Z,3μm,17.0s
OKH AMS AMS 14 08 49.8
comp=Z,2μm,16.0s
PAU Pauzhetka 10.48 37 *e*P **Pn 14 04 33.6 -1.1**
VLA Vladivostok 10.88 273 *i* PN **Pn 14 04 43.3 +3.1**
VLA *e* 14 06 45.3
VLA pmax pmax
comp=Z,72nm,1.2s
VLA MLR MLR
comp=Z,1μm,18.6s
JHJ Hachijo jima 2 11.70 210 LR LR 14 09 44.9
comp=Z,335nm,20.3s,baz=111,slow=39
KLR Kul'dur 11.89 304 *e*P **Pn 14 04 55.5 +1.5**
KLR *e*P 14 04 55.9
KLR AMB AMB 14 04 57.0
comp=Z,57nm,1.6s
KLR AMB AMB 14 04 57.0
comp=Z,45nm,1.6s
KLR sP 14 05 10.2
KLR AMS AMS 14 10 07.5
comp=Z,800nm,14.0s
KLR AMS AMS 14 10 07.5
comp=Z,2μm,14.0s
KLR Kul'dur 11.89 304 *e*PN **Pn 14 04 55.9 +1.9**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,45nm,1.6s
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
PET Petropavlovsk 12.39 35 *e*PN **Pn 14 05 07.5 +6.7**
PET MLR MLR
comp=Z,600nm,17.0s
MDJ Mudanjiang 12.45 281 *e*Pn **Pn 14 05 03.9 +2.2**
comp=Z,15nm,0.8s
EKMR Ekimchan 13.31 321 *e*P **Pn 14 05 12.3 -1.0**
EKMR AMB AMB 14 05 20.1
comp=Z,80nm,0.6s
CN2 Changchun 15.47 279 *e*P **Pn 14 05 42.1 -0.2**
CN2 *e*AP pP 14 05 50.1 -6.3
CN2 *e*S **S 14 08 31.5 -15**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,900nm,16.0s
CN2 LR LR
comp=Z,1μm,17.0s
KS15 Wonju Array Si 15.60 254 Pn **Pn 14 05 42.0 -1.9**
YASR Yasnyy 15.87 315 *e*P **Pn 14 05 45.6 -1.8**
YASR AMB AMB 14 06 08.2
comp=Z,9.0nm,0.6s
JNU Nakatsue 16.19 236 LR LR 14 12 12.5
comp=Z,701nm,21.2s,baz=1.8,slow=37
MA2 Magadan 16.32 7 *c i*P **Pn 14 05 53.2 +0.1**
MA2 *e*S **S 14 08 50.7 -13**
MA2 pmax pmax
comp=Z,40nm,0.5s
MA2 MLR MLR
comp=Z,2μm,26.0s
MA2 Magadan 16.32 7 Pn **Pn 14 05 52.6 -0.5**
ZEA Zeya 16.47 315 *e*P **Pn 14 05 53.5 -1.5**
ZEA AMB AMB 14 05 57.8
comp=Z,21nm,1.2s
ZEA sP sP 14 06 07.5 -5.4
ZEA AMS AMS 14 12 44.0
comp=Z,500nm,16.0s
ZEA AMS AMS 14 12 44.0
comp=Z,800nm,16.0s
KROS Kirovskiy 16.97 317 *e*P **Pn 14 06 00.5 -0.8**
KROS AMB AMB 14 06 02.7
comp=Z,9.0nm,0.8s
SNY Shenyang 17.16 273 ⇑P **Pn 14 06 06.0 +2.3**
SNY AP pP 14 06 16.0 +0.9
SNY PP 14 06 19.7
SNY AMB AMB
comp=Z,10.0nm,0.8s
SNY AMB AMB
comp=Z,220nm,5.0s
SNY LR LR
comp=E,500nm,19.8s
SNY LR LR
comp=Z,460nm,21.6s
CLNS Chul'man 19.29 322 *e*P **Pn 14 06 30.2 +0.7**
CLNS pmax pmax
comp=Z,15nm,0.8s
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS MLR MLR
comp=Z,600nm,20.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,300nm,16.0s
SEY Seymchan 19.78 8 *e*P **Pn 14 06 31.1 -4.3**
SEY *e*S **S 14 10 04.4 -10**
SEY pmax pmax
comp=Z,20nm,1.1s
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=E,12nm,1.2s
SEY smax
comp=N,90nm,18.4s
SEY smax
comp=E,164nm,24.5s
SEY MLR MLR
comp=N,650nm,22.0s
SEY MLR MLR
comp=Z,1μm,22.0s
SEY MLR MLR
comp=E,146nm,20.0s
FX1 Attu Island--F 19.84 52 P **Pn 14 06 36.7 +0.6**
comp=E,18nm,0.3s,baz=310,slow=2.6,SNR=20
FX1 Attu Island--F 19.84 52 Pn **Pn 14 06 36.4 +0.3**
YAK Yakutsk 21.17 337 *i* P **P 14 06 46.9 -1.7**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
YAK MLR MLR
comp=Z,300nm,21.0s,MS3.7
BJT Baijiatuau 23.06 272 *e*P **P 14 07 06.8 -1.9**
BJT pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 23.06 272 *e*Pn **P 14 07 06.8 -2.0**
comp=Z,15nm,0.8s,mb4.5
SSE Sheshan 23.73 247 P **P 14 07 14.6 -0.6**
SSE AP 14 07 23.2
SSE XP sP 14 07 27.2 -4.6
SSE PCP PcP 14 10 56.6 -1.6
SSE S **S 14 11 29.3 +1.9**
SSE XS sS 14 11 43.9 -2.4
SSE AMB AMB
comp=Z,10.0nm,1.4s,mb4.0
SSE AMB AMB
comp=Z,164nm,4.4s
SSE LR LR
comp=N,92nm,23.0s,MS3.4
SSE LR LR
comp=E,111nm,23.4s,MS3.4
SSE LR LR
comp=Z,213nm,22.2s,MS3.6
TIA Tai'an 23.83 262 *e*P **P 14 07 15.4 -0.8**
TIA AMB AMB
comp=Z,43nm,0.8s,mb4.9
NJ2 Nanjing 24.75 252 *e*P **P 14 07 24.8 +0.3**
NJ2 AP 14 07 34.5
NJ2 XP sP 14 07 37.0 -4.1
NJ2 PP 14 08 01.9
NJ2 S **S 14 11 43.0 -0.8**
NJ2 XS sS 14 11 59.0 -3.9
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
NJ2 AMB AMB
comp=Z,120nm,10.0s
NJ2 LR LR
comp=N,750nm,20.4s,MS4.4
NJ2 LR LR
comp=E,1μm,20.1s,MS4.4
NJ2 LR LR
comp=Z,820nm,21.6s,MS4.2
BOD Bodaibo 24.97 317 *e*P **P 14 07 22.4 -4.1**
BOD pmax pmax
comp=Z,6.0nm,1.8s,mb3.8
HHC Hu-ho-hao-te 26.14 276 *e*P **P 14 07 39.6 +2.4**
HHC AP pP 14 07 43.9 -4.7
HHC PP 14 08 20.9
HHC PCP PcP 14 11 06.7 +3.1
HHC S **S 14 12 08.6 +2.7**
HHC SS 14 13 14.6
HHC AMB AMB
comp=Z,6.0nm,1.3s,mb4.0
HHC AMB AMB
comp=Z,174nm,5.0s
HHC LR LR
comp=N,243nm,15.0s,MS4.1
HHC LR LR
comp=E,327nm,15.0s,MS4.1
HHC LR LR
comp=Z,327nm,18.0s,MS3.9
BILL Bilibino 26.71 16 *i* P **P 14 07 41.3 -1.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
BILL MLR MLR
comp=Z,300nm,18.0s,MS3.9
BILL Bilibino 26.71 16 *e*P **P 14 07 38.4 -3.9**
comp=Z,3.0nm,0.5s,mb4.1
ULN Ulaanbaatar 27.91 293 *i* P **P 14 07 54.0 +0.9**
ULN Ulaanbaatar 27.91 293 P **P 14 07 53.9 +0.8**
comp=Z,19nm,1.0s,mb4.7
SONM Songino Array 28.36 293 P **P 14 07 57.3 +0.2**
comp=Z,13nm,0.9s,mb4.6,baz=87,slow=8.1,SNR=55
SONM LR LR 14 20 18.6
comp=Z,644nm,20.6s,MS4.2,baz=354,slow=38
SONM Songino Array 28.36 293 P **P 14 07 57.3 +0.3**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM MLR MLR
comp=Z,644nm,20.6s
SONM Songino Array 28.36 293 P **P 14 07 57.3 +0.2**
SONM LR LR 14 20 18.6
GUMO Guam 29.81 184 LR LR 14 18 34.4
comp=Z,164nm,19.3s,MS3.7,baz=91,slow=33
ZAK Zakamensk 30.17 299 *e*P **P 14 08 15.3 +2.2**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
XAN Xi'an 30.79 265 P **P 14 08 24.1 +5.6**
XAN AMB AMB
comp=Z,7.0nm,1.2s,mb4.4
ENH Enshi 32.36 259 *e*Pn **P 14 08 29.4 -3.0**
comp=Z,9.4nm,0.8s,mb4.7
TNA Tin City 33.23 33 P **P 14 08 39.8 -0.1**
comp=Z,15nm,1.0s,mb4.9
LZH Lanzhou 33.54 272 *e*P **P 14 08 43.5 +0.8**
LZH AP pP 14 08 52.6 -1.7
LZH XP sP 14 08 56.7 -2.6
LZH PP PP 14 09 55.6 -3.4
LZH *e*S **S 14 14 01.7 -0.1**
LZH XS sS 14 14 16.5 -4.6
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,96nm,5.6s
LZH LR LR
comp=E,865nm,13.0s
LZH LR LR
comp=Z,2μm,16.9s,MS4.8
GTA Gaotai 35.10 280 P **P 14 08 56.9 +0.7**
GTA AP pP 14 09 06.4 -1.4
GTA XP sP 14 09 10.5 -2.4
GTA PP PP 14 10 16.0 -0.3
GTA PCP PcP 14 11 29.3 +2.2
GTA S **S 14 14 27.6 +1.7**
GTA XS sS 14 14 42.9 -2.4
GTA SCP ScP 14 15 10.2 +1.0
GTA PCS PcS 14 15 15.1 +1.1
GTA SS SS 14 16 43.9 -16
GTA SCS ScS 14 19 12.7 -0.4
GTA AMB AMB
comp=Z,1.0nm,0.7s,mb3.9
GTA AMB AMB
comp=Z,78nm,5.4s
GTA LR LR
comp=N,169nm,13.0s,MS4.1
GTA LR LR
comp=E,222nm,17.2s,MS4.1
GTA LR LR
comp=Z,316nm,16.1s,MS4.2
KRAR Krasnoyarsk 36.11 310 *i* P **P 14 09 05.7 +0.8**
CD2 Chengdu 36.13 264 P **P 14 09 05.0 0.0**
CD2 AP pP 14 09 14.7 -2.0
CD2 PP PP 14 10 27.7 0.0
CD2 S **S 14 14 40.8 -0.9**
CD2 XS sS 14 14 56.8 -4.3
CD2 SS SS 14 17 04.2 -16
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,80nm,5.6s
CD2 LR LR
comp=E,120nm,11.0s
CD2 LR LR
comp=Z,150nm,10.6s,MS4.0
GYA Guiyang 36.61 256 P **P 14 09 11.4 +2.3**
GYA AP pP 14 09 18.9 -1.9
GYA XP sP 14 09 22.2 -3.7
GYA PP PP 14 10 37.1 +4.1
GYA PCP PcP 14 11 34.7 +3.1
GYA S **S 14 14 52.2 +3.2**
GYA SCP ScP 14 15 18.5 +3.7
GYA SCS ScS 14 19 23.7 +2.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,130nm,3.0s
GYA LR LR
comp=N,780nm,16.4s,MS4.7
GYA LR LR
comp=E,840nm,17.0s,MS4.7
GYA LR LR
comp=Z,820nm,16.5s,MS4.6
TTA Tatalina 37.81 39 P **P 14 09 19.0 -0.3**
IMA2 Indian Mountai 39.06 34 *e*P **P 14 09 29.6 -0.2**
QIZ Qiongzhong 39.42 244 P **P 14 09 32.7 -0.1**
QIZ LR LR
comp=N,126nm,24.4s
QIZ LR LR
comp=Z,158nm,23.8s,MS3.8
KDAK Kodiak Island 39.63 47 P **P 14 09 33.6 -1.0**
comp=Z,26nm,0.9s,mb5.0,baz=225,slow=4.6,SNR=8.4
KMI Kunming 40.21 258 P **P 14 09 40.2 +0.8**
KMI AP pP 14 09 50.1 -1.1
KMI PP PP 14 11 17.6 +5.2
KMI S **S 14 15 46.0 +2.6**
KMI SS SS 14 18 37.7 -4.9
KMI AMB AMB
comp=Z,9.0nm,1.5s,mb4.3
KMI LR LR
comp=Z,155nm,27.6s,MS3.7
SLKM Skilak Lake 40.59 43 *e*P **P 14 09 41.5 -1.0**
ZAL Zalesovo 40.99 307 P **P 14 09 44.5 -1.3**
comp=Z,1.1nm,0.3s,mb3.9,baz=63,slow=2.3,SNR=3.7
ZAL PcP PcP 14 11 44.7 -0.6
comp=Z,1.6nm,0.6s,baz=5.3,slow=5.5,SNR=4.1
ZAL Zalesovo 40.99 307 P **P 14 09 44.6 -1.2**
ZAL 14 11 44.7
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL pmax pmax
comp=Z,2.0nm,0.6s
MCK McKinley 41.01 38 P **P 14 09 46.0 0.0**
PMR Palmer 41.04 41 P **P 14 09 46.5 +0.3**
PMR pmax pmax
comp=Z,23nm,1.3s,mb4.7
PMR Palmer 41.04 41 P **P 14 09 46.5 +0.3**
comp=Z,23nm,1.3s,mb4.7
SML Sawmill 41.40 41 *e*P **P 14 09 48.7 -0.5**
COLA College 41.45 36 *i* P **P 14 09 49.2 -0.4**
COLA College 41.45 36 *e*P **P 14 09 49.8 +0.1**
comp=Z,46nm,1.0s,mb5.1
ILAR Eielson Array 41.87 36 P **P 14 09 52.5 -0.5**
comp=Z,6.2nm,0.5s,mb4.5,baz=254,slow=5.9,SNR=135
ILAR Eielson Array 41.87 36 P **P 14 09 52.5 -0.5**
ILAR pmax pmax
comp=Z,6.0nm,0.5s
DIV Divide 42.70 41 *e*P **P 14 09 50.7 -9.0**
comp=Z,107nm,1.2s,mb5.5
MKAR Makanchi Array 44.50 298 P **P 14 10 13.6 -0.7**
comp=Z,9.4nm,0.9s,mb4.6,baz=78,slow=9.7,SNR=64
MKAR LR LR 14 29 26.5
comp=Z,241nm,21.9s,MS4.1,baz=92,slow=37
MKAR Makanchi Array 44.50 298 *i* P **P 14 10 13.8 -0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 44.50 298 P **P 14 10 13.6 -0.7**
MKAR LR LR 14 29 26.5
DAWV Dawson 45.18 37 P **P 14 10 19.7 +0.1**
KURK Kurchatov 45.49 304 *i* P **P 14 10 23.8 +1.7**
KURK Kurchatov 45.49 304 P **P 14 10 20.9 -1.2**
LSA Lhasa 45.95 272 P **P 14 10 26.4 +0.6**
LSA Lhasa 45.95 272 *e*P **P 14 10 26.7 +0.9**
LSA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LSA Lhasa 45.95 272 *e*P **P 14 10 26.7 +0.9**
comp=Z,5.6nm,0.9s,mb4.5
INK Inuvik 46.78 30 P **P 14 10 31.8 -0.5**
comp=Z,21nm,0.4s,mb5.4,baz=284,slow=6.3,SNR=318
INK Inuvik 46.78 30 P **P 14 10 31.9 -0.4**
VOSK Vostochnaya 49.27 309 P **P 14 10 51.2 -0.3**
VOSK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVA0 Borovoye Array 49.50 309 *i* P **P 14 10 53.3 +0.1**
BRVK Borovoye 49.54 310 P **P 14 10 57.8 +4.2**
ULHL Ulahol 50.28 294 P **P 14 10 59.8 +0.6**
SNR=24
ZRNK Zerenda 50.30 310 P **P 14 10 59.0 -0.3**
TKM2 Tokmak 2 50.41 296 P **P 14 11 01.0 +0.9**
SNR=22
TKM2 Tokmak 2 50.41 296 P **P 14 11 00.7 +0.5**
TKM2 pmax pmax
comp=Z,11nm,0.7s,mb5.0
JIRN Jiri 50.70 273 *e*P **P 14 11 03.6 +1.2**
comp=Z,11nm,0.4s,mb5.2
GUN Gumba 50.78 273 *e*P **P 14 11 03.6 +0.6**
comp=Z,25nm,0.4s,mb5.5
KBK Karagaybulak 50.95 295 P **P 14 11 08.7 +4.4**
SNR=24
USP Ospenovka 50.97 296 P **P 14 11 08.4 +4.0**
SNR=21
KZA Kyzart 51.02 295 P **P 14 11 10.2 +5.4**
SNR=11
AAK Ala-Archa 51.26 296 *i* P **P 14 11 05.9 -0.7**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AAK Ala-Archa 51.26 296 P **P 14 11 04.9 -1.6**
KKN Kakani 51.29 274 *e*P **P 14 11 07.3 +0.5**
comp=Z,26nm,0.8s,mb5.2
PKI Pulchoki 51.32 273 *e*P **P 14 11 07.4 +0.4**
comp=Z,10nm,0.5s,mb5.0
DMN Daman 51.52 273 *e*P **P 14 11 09.4 +0.9**
comp=Z,19nm,0.7s,mb5.2
GKN Gorkha 51.63 274 *e*P **P 14 11 09.7 +0.3**
comp=Z,13nm,0.4s,mb5.2
EKS2 Erkin-Say 51.72 296 P **P 14 11 10.4 +0.4**
SNR=15
KSH Kashi 51.74 291 *e*P **P 14 11 14.0 +3.9**
KSH *e*AP pP 14 11 21.1 -1.1
KSH *e*XP sP 14 11 24.2 -3.0
KSH *e*PCP PcP 14 12 26.3 +3.3
KSH *e*PP PP 14 13 12.2 +4.2
KSH *e*SCP ScP 14 16 20.3 +4.0
KSH *e*PCS PcS 14 16 23.5 +2.5
KSH *e*S **S 14 18 33.6 +4.7**
KSH *e*XS sS 14 18 47.4 -1.6
KSH *e*SCS ScS 14 20 59.2 +2.5
KSH AMB AMB
comp=Z,90nm,3.4s
KSH LR LR
comp=N,160nm,4.8s
KSH LR LR
comp=E,200nm,4.8s
AML Almayashu 52.02 295 P **P 14 11 13.6 +1.4**
SNR=7.7
KOLN Koldanda 52.52 275 *e*P **P 14 11 16.6 +0.6**
comp=E,11nm,0.5s,mb5.0
PMG Port Moresby 52.61 180 LR LR 14 32 35.5
comp=E,225nm,18.1s,MS4.2,baz=269,slow=35
KKAR Karatay Array 53.63 298 *i* P **P 14 11 23.5 -0.6**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ARU Arti 54.39 317 *i* P **P 14 11 28.2 -1.5**
ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.2
RES Resolute Bay 55.32 17 P **P 14 11 34.7 -1.7**
RES pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
RES Resolute Bay 55.32 17 P **P 14 11 34.7 -1.7**
comp=Z,9.9nm,0.6s,mb5.0
YKW3 Yellowknife Ar 56.14 33 P **P 14 11 42.0 -0.3**
YKA Yellowknife Ar 56.18 34 P **P 14 11 42.3 -0.3**
comp=Z,7.5nm,0.6s,mb4.9,baz=300,slow=6.9,SNR=110
YKA Yellowknife Ar 56.18 34 *e*P **P 14 11 42.2 -0.4**
YKA Yellowknife Ar 56.18 34 P **P 14 11 42.3 -0.3**
AB31 Akbulak array 57.05 309 *e*P **P 14 11 48.1 -0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTK Aktyubinsk 57.54 311 P **P 14 11 52.2 0.0**
AKTO Aktyubinsk 57.54 311 P **P 14 11 52.2 0.0**
comp=Z,1.7nm,0.5s,mb4.4,baz=42,slow=14,SNR=2.9
AKTO Aktyubinsk 57.54 311 P **P 14 11 52.2 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KEV Kevo 58.90 339 *e*p **P 14 11 58.1 -3.6**
ARCES ARCESS Array B 59.43 340 P **P 14 12 05.1 -0.3**
comp=Z,2.2nm,0.6s,mb4.4,baz=58,slow=6.9,SNR=22
ARCES ARCESS Array B 59.43 340 P **P 14 12 05.1 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
TRO Tromso 60.95 342 *e*P **P 14 12 13.5 -2.3**
TRO AMb AMB 14 12 14.3
comp=Z,12nm,0.6s,mb5.2
TRO Tromso 60.95 342 *e*P **P 14 12 13.5 -2.3**
TRO *i* 14 35 01.4
EDM Edmonton 61.78 42 P **P 14 12 21.3 -0.1**
JOF Joensuu 62.23 332 *e*p **P 14 12 24.3 -0.1**
NEW Newport 62.71 48 LR LR 14 38 38.0
comp=Z,232nm,19.3s,MS4.4,baz=121,slow=35
NEW Newport 62.71 48 P **P 14 12 28.1 +0.5**
NEW pmax pmax
comp=Z,16nm,1.1s
NEW Newport 62.71 48 P **P 14 12 28.1 +0.5**
comp=Z,16nm,1.1s,mb5.1
WRAB Tennant Creek 64.11 193 *i* P **P 14 12 36.1 -0.7**
WRAB Tennant Creek 64.11 193 P **P 14 12 36.2 -0.6**
comp=Z,16nm,1.1s,mb5.0
WB2 Warramunga Arr 64.12 193 *e*P **P 14 12 35.3 -1.6**
WRA Warramunga Arr 64.12 193 P **P 14 12 36.6 -0.3**
comp=Z,3.5nm,0.7s,mb4.5,baz=9.0,slow=6.9,SNR=32
WRA Warramunga Arr 64.12 193 P **P 14 12 36.6 -0.3**
WRA pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 64.21 2 *e*P **P 14 12 36.6 -0.9**
comp=Z,34nm,0.9s,mb5.4
MOR8 Moi Rana 64.73 341 *e*P **P 14 12 38.2 -2.7**
MOR8 AMb AMB 14 12 39.2
comp=Z,28nm,0.5s,mb5.6
FINES FINESS Array B 65.02 333 P **P 14 12 41.0 -1.7**
comp=Z,4.5nm,0.6s,mb4.7,baz=34,slow=4.5,SNR=25
FINES FINESS Array B 65.02 333 *i* P **P 14 12 41.0 -1.8**
FINES pmax pmax
comp=Z,5.0nm,0.6s
MSO Missoula 65.30 48 P **P 14 12 45.0 +0.4**
comp=Z,16nm,1.2s,mb4.9
OBN Obninsk 65.40 324 *e*P **P 14 12 44.5 -0.8**
OBN *e* 14 15 10.5
OBN *i* S S 14 21 15.8 -11
OBN pmax pmax
comp=Z,31nm,1.8s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
CHMT Chamberlain Mo 65.62 48 P **P 14 12 46.2 -0.4**

FFC Flin Flon 66.08 36 P **P 14 12 49.7 +0.1**
FCC Fort Churchill 66.40 30 P **P 14 12 50.8 -0.9**
PAHR Pah Rah Range 66.49 57 P **P 14 12 58.8 +6.5**
HRY Holter Researc 66.51 47 P **P 14 12 52.0 -0.4**
NSS Namsos 66.67 340 *e*P **P 14 12 50.9 -2.5**
LRM Limekiln Ridge 66.73 48 P **P 14 12 54.0 +0.3**
VRSR Storozhevoye 66.78 319 *e*P **P 14 12 53.4 -0.7**
VRSR pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,1.2s
CMB Columbia Colle 66.89 59 P **P 14 12 55.8 +0.9**
comp=E,12nm,1.2s,mb4.8
HLID Hailey 67.05 51 P **P 14 12 56.6 +0.8**
BOZ Bozeman (W) 67.29 48 P **P 14 12 58.2 +0.9**
ASAR Alice Springs 67.84 193 P **P 14 13 00.8 0.0**
comp=E,2.4nm,0.7s,mb4.3,baz=7.6,slow=5.4,SNR=38
ASAR Alice Springs 67.84 193 P **P 14 13 00.9 +0.1**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASPA Alice Springs 67.84 193 *e*P **P 14 13 01.3 +0.5**
QLMT Earthquake Lak 67.92 49 *e*P **P 14 13 01.7 +0.4**
NVAR Mina Array Bea 67.94 58 P **P 14 13 02.5 +1.0**
comp=Z,3.9nm,0.6s,mb4.6,baz=290,slow=7.9,SNR=19
MNV Mina 68.03 58 P **P 14 13 02.9 +0.9**
MNV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MNV Mina 68.03 58 P **P 14 13 02.9 +0.9**
comp=Z,10nm,1.2s,mb4.7
GCMT Greycliff 68.25 47 *e*P **P 14 13 04.1 +0.7**
PTRM Twissleman Ran 68.47 61 P **P 14 13 04.7 -0.1**
YFT Old Faithful 68.48 49 P **P 14 13 06.8 +2.0**
LKWY Lake 68.65 48 P **P 14 13 08.0 +2.1**
comp=Z,12nm,1.2s,mb4.7
MOOW Moose Ponds 68.99 49 P **P 14 13 08.4 +0.4**
HVU Hansel Valley 69.11 52 P **P 14 13 09.6 +0.8**
LOHW Long Hollow 69.15 49 P **P 14 13 10.6 +1.5**
SNOW Snow King Moun 69.17 50 P **P 14 13 10.7 +1.6**
REDW Red Top Meadow 69.18 50 P **P 14 13 10.8 +1.6**
DGMT Dagmar 69.28 42 P **P 14 13 09.9 +0.2**
AHID Auburn Hatcher 69.43 50 P **P 14 13 11.0 +0.3**
comp=Z,9.8nm,1.1s,mb4.7
LAO LASA Array 69.46 45 P **P 14 13 11.4 +0.5**
DAC Darwin (Calif) 69.73 59 P **P 14 13 13.2 +0.6**
comp=Z,10nm,1.3s,mb4.6
KIV Kislovodsk 69.77 312 *de*P **P 14 13 12.8 0.0**
KIV *e* 14 15 43.9
KIV *e*S S 14 22 13.5 -5.4
KIV pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KIV MLR MLR
comp=Z,300nm,17.0s,MS4.6
KIV Kislovodsk 69.77 312 P **P 14 13 14.3 +1.5**
comp=Z,6.2nm,0.6s,mb4.7
NB2 NORSAR Subarra 69.78 339 P **P 14 13 11.9 -1.0**
comp=Z,7.9nm,0.7s,mb4.8,baz=30,slow=6.5
NOA NORSAR Array B 69.78 339 P **P 14 13 11.6 -1.3**
comp=Z,7.2nm,0.7s,mb4.7,baz=32,slow=6.3,SNR=26
NOA NORSAR Array B 69.78 339 P **P 14 13 11.6 -1.3**
NOA pmax pmax
comp=Z,7.0nm,0.7s
HWUT Hardware Ranch 69.92 51 P **P 14 13 14.9 +1.2**
comp=Z,9.4nm,1.1s,mb4.6
DUG Dugway 70.11 53 P **P 14 13 15.7 +0.8**
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
DUG Dugway 70.11 53 P **P 14 13 15.7 +0.7**
comp=Z,8.0nm,1.0s,mb4.6
BW06 Boulder Array 70.29 49 P **P 14 13 16.3 +0.3**
comp=Z,16nm,1.2s,mb4.8
PDAR Pinedale Array 70.29 49 P **P 14 13 16.2 +0.3**
comp=Z,4.4nm,0.8s,mb4.4,baz=297,slow=3.3,SNR=26
MPU Maple Canyon 70.92 53 P **P 14 13 20.7 +0.9**
SHPR Sheep Range 71.09 57 P **P 14 13 22.3 +1.4**
AKASG Malin Array Be 71.67 324 P **P 14 13 23.4 -1.0**
comp=Z,4.0nm,0.6s,mb4.5,baz=39,slow=6.1,SNR=20
AKASG Malin Array Be 71.67 324 *i* P **P 14 13 23.3 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
ULM Lac du Bonnet 71.88 37 P **P 14 13 24.5 -1.1**
comp=Z,3.6nm,0.8s,mb4.4,baz=311,slow=9.3,SNR=6.8
ULM Lac du Bonnet 71.88 37 P **P 14 13 24.5 -1.1**
LDFC Landfair 72.05 59 *e*P **P 14 13 26.6 -0.1**
SRU San Rafael 72.16 53 P **P 14 13 27.7 +0.4**
GLA Glamis 73.55 60 P **P 14 13 36.6 +1.1**
WUAZ Wupatki 74.05 56 P **P 14 13 39.5 +1.0**
ISCO Idaho Springs 74.48 50 P **P 14 13 42.4 +1.4**
comp=Z,14nm,1.3s,mb4.8
STKA Stephens Creek 75.12 185 P **P 14 13 43.0 -1.7**
comp=Z,1.6nm,0.7s,mb4.0,baz=8.3,slow=3.5,SNR=4.6
STKA Stephens Creek 75.12 185 P **P 14 13 43.0 -1.7**
OJC Ojcow 75.89 328 *e*P **P 14 13 49.0 -0.1**
KOLS Kolonicke sedl 75.94 326 *e*P **P 14 13 49.3 -0.1**
STHS Stebnicka Huta 75.97 327 *e*P **P 14 13 49.9 +0.4**
SDCO Great Sand Dun 75.97 51 P **P 14 13 50.3 +0.7**
BSEG Bad Segeberg 76.08 335 *e*P **P 14 13 50.0 -0.2**
comp=Z,6.0nm,0.8s,mb4.6
CRVS Cervenica-Dubn 76.29 326 *e*P **P 14 13 52.9 +1.5**
KSP Ksiaz 76.70 330 *e*P **P 14 13 53.2 -0.5**
OKC Ostrava-Krasne 76.83 329 *e*P **P 14 13 53.3 -1.1**
KECS Kecovo 77.02 327 *e*P **P 14 13 55.6 +0.1**
UPC Upice 77.07 330 *e*P **P 14 13 55.6 -0.2**
DPC Dobruska-Polom 77.09 330 *e*P **P 14 13 55.5 -0.4**
MORC Moravsky Berou 77.11 329 *e*P **P 14 13 55.2 -0.8**
comp=Z,7.9nm,1.1s,mb4.6
ANMO Albuquerque 77.37 54 *i* P **P 14 13 57.8 +0.4**
ANMO Albuquerque 77.37 54 P **P 14 13 58.5 +1.0**
CLL Collm 77.46 332 *e*P **P 14 13 57.1 -0.8**
comp=Z,8.0nm,0.9s,mb4.7
CLL Collm 77.46 332⇑*i*P **P 14 13 57.1 -0.8**
comp=Z,10.0nm,0.8s,mb4.8
CLL *e*P(2) 14 13 58.0
comp=Z,14nm,0.9s
CLL *es*P sP 14 14 11.0 -4.5
CLL Collm 77.46 332⇑*i*P **P 14 13 57.1 -0.8**
CLL *e**SP sP 14 14 11.0 -4.5
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRG Berggiesshubel 77.50 332 *e*P **P 14 13 57.6 -0.6**
comp=Z,3.0nm,1.0s,mb4.2
BRG Berggiesshubel 77.50 332 *e*P **P 14 13 57.5 -0.7**
BRG *e* 14 14 14.6
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 77.50 332 *e*P **P 14 13 57.5 -0.6**
comp=Z,2.4nm,0.9s,mb4.1
BRG *e* 14 14 14.6
BR131 Keskin Array S 77.56 313 P **P 14 13 59.6 +1.1**
BRTR Keskin Array B 77.56 313 P **P 14 13 58.5 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=100,slow=2.8,SNR=7.6
BRTR Keskin Array B 77.56 313⇑*e*P **P 14 13 58.5 0.0**
PVCC Panska Ves 77.57 331 *e*P **P 14 13 58.3 -0.3**
VYHS Vyhne 77.66 328 *e*P **P 14 13 59.0 -0.1**
CLZ Clausthal 77.87 334 *e*P **P 14 14 00.1 -0.1**
comp=Z,8.0nm,0.9s,mb4.7
SCHQ Schefferville 77.98 19 P **P 14 14 00.4 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=324,slow=5.4,SNR=19
PRU Pruhonice 78.03 331 *e*P **P 14 14 00.5 -0.6**
TREC Trest 78.27 330 *e*P **P 14 14 02.3 -0.2**
WERD Werda 78.42 332 *e*P **P 14 14 02.4 -0.9**
comp=Z,1.0nm,0.9s,mb3.8
MOX Moxa 78.49 333 *e*P **P 14 14 03.9 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
ROTZ Rotzenmuhle 79.03 332 *e*P **P 14 14 06.8 +0.1**
comp=Z,6.0nm,1.3s,mb4.4
KHC Kasperske Hory 79.09 331 *e*P **P 14 14 06.4 -0.6**
KHC Kasperske Hory 79.09 331c *i*P **P 14 14 06.7 -0.3**
RAO Raoul Island 79.26 149 LR LR 14 41 27.5
comp=Z,226nm,20.1s,MS4.5,baz=10.0,slow=30
GEC2 GERESS Array S 79.29 331 *e*P **P 14 14 07.5 -0.6**
comp=Z,4.0nm,1.3s,mb4.2
GERES GERESS Array B 79.29 331 P **P 14 14 07.4 -0.6**
comp=Z,0.7nm,0.5s,mb3.8,baz=38,slow=6.3,SNR=10
GERES GERESS Array B 79.29 331 P **P 14 14 07.4 -0.7**
GERES pmax pmax
comp=Z,1.0nm,0.5s
WET Wettzell 79.33 331 *e*P **P 14 14 08.2 -0.1**
comp=Z,5.0nm,1.2s,mb4.3
GRA1 Grafenberg Arr 79.43 332 *e*P **P 14 14 08.2 -0.6**
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 79.43 332 *e*P **P 14 14 08.2 -0.6**
comp=Z,11nm,1.0s,mb4.7
TNS Taunus Mts 79.88 334 *e*P **P 14 14 11.2 -0.1**
comp=Z,4.0nm,1.0s,mb4.3
MNTX Cornudas Mount 80.30 55 P **P 14 14 13.9 +0.4**
GDL2 Guadalupe Moun 80.55 54 P **P 14 14 15.9 +1.0**
NWAO Narrogin (SRO) 80.69 205 LR LR 14 48 12.3
comp=Z,63nm,18.8s,MS4.0,baz=176,slow=34
STU Stuttgart 80.90 333 *e*P **P 14 14 17.3 +0.6**
comp=Z,4.0nm,0.4s,mb4.7
DLF Lyons Farm 80.94 344⇑*i*P **P 14 14 16.4 -0.5**
DCN Croghan 81.03 345⇑*i*P **P 14 14 17.0 -0.5**
TXAR Lajitas Array 83.02 56 P **P 14 14 28.4 +0.5**
comp=Z,3.3nm,0.5s,mb4.6,baz=300,slow=3.5,SNR=37
TXAR Lajitas Array 83.02 56 P **P 14 14 28.4 +0.5**
TXAR pmax pmax
comp=Z,3.0nm,0.5s
FLN La Foliniere 83.77 339 *e*P **P 14 14 31.2 -0.5**
comp=Z,14nm,0.7s,mb4.9
FLN La Foliniere 83.77 339 *e*P **P 14 14 31.2 -0.5**
comp=Z,7.0nm,0.7s,mb4.9
LDF La Druitiere 83.83 339 *e*P **P 14 14 31.5 -0.5**
LOR Lormes 83.91 336 *e*P **P 14 14 31.8 -0.6**
comp=Z,11nm,0.9s,mb4.7
LOR Lormes 83.91 336 *e*P **P 14 14 31.8 -0.6**
comp=Z,5.7nm,0.9s,mb4.7
PPT Papeete 84.08 121 LR LR 14 46 03.8
comp=Z,82nm,20.9s,MS4.1,baz=300,slow=31
SSF Saint Saulge 84.20 336 *e*P **P 14 14 33.5 -0.4**
comp=Z,3.8nm,0.5s,mb4.5
SSF Saint Saulge 84.20 336 *e*P **P 14 14 33.5 -0.4**
comp=Z,1.9nm,0.5s,mb4.5
GRR Gorron 84.22 339 *e*P **P 14 14 33.5 -0.5**
comp=Z,26nm,0.7s,mb5.2
GRR Gorron 84.22 339 *e*P **P 14 14 33.5 -0.5**
comp=Z,13nm,0.7s,mb5.2
JCT Junction City 84.47 53 P **P 14 14 35.5 +0.2**
SMF Signal de Mont 84.47 335 *e*P **P 14 14 34.9 -0.4**
comp=Z,9.3nm,0.7s,mb4.7
SMF Signal de Mont 84.47 335 *e*P **P 14 14 34.9 -0.4**
comp=Z,4.7nm,0.7s,mb4.7
AVF Avril sur Loir 84.49 336 *e*P **P 14 14 34.9 -0.5**
comp=Z,8.0nm,0.7s,mb4.7
AVF Avril sur Loir 84.49 336 *e*P **P 14 14 34.9 -0.5**
comp=Z,4.0nm,0.7s,mb4.7
SIUC Southern Illin 84.56 41 P **P 14 14 35.4 -0.3**
LPG La Plagne 84.57 333 *e*P **P 14 14 35.9 +0.1**
comp=Z,7.4nm,0.8s,mb4.6
LPG La Plagne 84.57 333 *e*P **P 14 14 35.9 +0.1**
comp=Z,3.7nm,0.8s,mb4.6
SGMF Saint Gilles 84.77 340 *e*P **P 14 14 36.3 -0.5**
comp=Z,17nm,0.7s,mb5.0
SGMF Saint Gilles 84.77 340 *e*P **P 14 14 36.3 -0.5**
comp=Z,8.3nm,0.7s,mb5.0
BGF Bois d'Agland 84.85 336 *e*P **P 14 14 36.9 -0.3**
comp=Z,8.4nm,0.6s,mb4.7
BGF Bois d'Agland 84.85 336 *e*P **P 14 14 36.9 -0.3**
comp=Z,4.2nm,0.6s,mb4.8
ROSF Rostrenen 84.87 340 *e*P **P 14 14 36.5 -0.8**
comp=Z,43nm,0.9s,mb5.3
ROSF Rostrenen 84.87 340 *e*P **P 14 14 36.5 -0.8**
comp=Z,22nm,0.9s,mb5.3
QUIF Quistinic 85.24 340 *e*P **P 14 14 38.8 -0.3**
comp=Z,9.5nm,0.7s,mb4.7
QUIF Quistinic 85.24 340 *e*P **P 14 14 38.8 -0.3**
comp=Z,4.8nm,0.7s,mb4.7
MBDF Montbardon 85.25 333 *e*P **P 14 14 39.2 0.0**
comp=Z,5.0nm,0.6s,mb4.5
MBDF Montbardon 85.25 333 *e*P **P 14 14 39.2 0.0**
comp=Z,2.5nm,0.6s,mb4.5
TCF Toulx Ste Croi 85.28 336 *e*P **P 14 14 39.0 -0.4**
comp=Z,3.4nm,0.6s,mb4.4
TCF Toulx Ste Croi 85.28 336 *e*P **P 14 14 39.0 -0.4**
comp=Z,1.7nm,0.6s,mb4.3
ACSO Alum Creek Sta 85.35 36 P **P 14 14 39.7 0.0**
comp=Z,11nm,1.1s,mb4.9
ORIF Oris-en-Rattie 85.37 333 *e*P **P 14 14 39.5 -0.3**
MFF Saint Martin d 85.67 338 *e*P **P 14 14 41.1 -0.2**
comp=Z,9.9nm,0.7s,mb4.9
MFF Saint Martin d 85.67 338 *e*P **P 14 14 41.1 -0.2**
comp=Z,4.9nm,0.7s,mb4.8
FRF La Foret Royal 86.32 332 *e*P **P 14 14 43.5 -1.0**
comp=Z,22nm,1.2s,mb5.0
FRF La Foret Royal 86.32 332 *e*P **P 14 14 43.5 -1.0**
comp=Z,11nm,1.2s,mb5.0
RJF Les Rejaudoux 86.38 336 *e*P **P 14 14 44.4 -0.4**
comp=Z,10nm,0.7s,mb4.9
RJF Les Rejaudoux 86.38 336 *e*P **P 14 14 44.4 -0.4**
comp=Z,5.3nm,0.7s,mb4.9
PGF Pioggiola 86.38 330 *e*P **P 14 14 44.6 -0.2**
comp=Z,11nm,1.0s,mb4.8
PGF Pioggiola 86.38 330 *e*P **P 14 14 44.6 -0.2**
comp=Z,5.7nm,1.0s,mb4.8
CAF Calviac 86.56 336 *e*P **P 14 14 45.9 +0.2**
comp=Z,18nm,0.9s,mb5.0
CAF Calviac 86.56 336 *e*P **P 14 14 45.9 +0.2**
comp=Z,8.9nm,0.9s,mb5.0
LMR La Mourre 86.57 332 *e*P **P 14 14 45.2 -0.5**
comp=Z,15nm,0.8s,mb5.0
LMR La Mourre 86.57 332 *e*P **P 14 14 45.2 -0.5**
comp=Z,7.7nm,0.8s,mb5.0
LFF La Frestale 86.94 337 *e*P **P 14 14 47.8 +0.3**
comp=Z,8.1nm,0.5s,mb4.9
LFF La Frestale 86.94 337 *e*P **P 14 14 47.8 +0.3**
comp=Z,4.1nm,0.5s,mb4.9
MTLF Montolieu 87.95 335 *e*P **P 14 14 52.4 0.0**
EPF Esparros 88.80 336 *e*P **P 14 14 56.0 -0.4**
comp=Z,14nm,0.9s,mb5.0
EPF Esparros 88.80 336 *e*P **P 14 14 56.0 -0.4**
comp=Z,6.8nm,0.9s,mb5.0
ETSF Etsaut 89.18 337 *e*P **P 14 14 57.9 -0.3**
comp=Z,6.1nm,0.8s,mb4.7
ETSF Etsaut 89.18 337 *e*P **P 14 14 57.9 -0.3**
comp=Z,3.0nm,0.8s,mb4.7
TORD Torodi Ar. Bea 115.27 322 PKP PKPdf 14 20 43.0 -0.9
comp=Z,0.3nm,0.5s,baz=12,slow=2.7,SNR=5.2
LPAZ La Paz 139.84 59 PKP PKPdf 14 21 32.4 +1.9
comp=Z,1.0nm,0.7s,baz=12,slow=4.9,SNR=3.7
LPAZ La Paz 139.84 59 PKIKP PKPdf 14 21 32.4 +1.9
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
SNAA Sanae 148.10 198 PKPbc PKPbc 14 21 46.7 -1.4
comp=Z,3.1nm,1.1s,baz=19,slow=6.6,SNR=5.5
SNAA Sanae 148.10 198 PKP2 PKPbc 14 21 46.7 -1.4
SNAA pmax pmax
comp=Z,3.0nm,1.1s
BDFB Brasilia 149.52 29 PKPbc PKPbc 14 21 52.0 +0.3
comp=Z,5.1nm,0.6s,baz=294,slow=3.7,SNR=8.4
BDFB Brasilia 149.52 29 PKP2 PKPbc 14 21 52.0 +0.3
BDFB pmax pmax
comp=Z,5.0nm,0.6s
VNA2 Neumayer--Watz 149.64 196⇑*i*PKPdf PKPdf 14 21 50.0 +2.7
baz=76,slow=0.3
VNA2 *e* 14 22 04.7
VNA3 Neumayer Olymp 149.83 195⇑*i*PKPdf PKPbc 14 21 53.7 +1.3
VNA3 *e* 14 22 06.7
PLCA Paso Flores 152.29 97 PKPbc PKPbc 14 21 58.5 +0.3
comp=Z,1.6nm,0.6s,baz=257,slow=4.2,SNR=4.1
PLCA PKPab PKPab 14 22 07.3 -0.9
comp=Z,1.0nm,0.7s,baz=304,slow=3.6,SNR=2.3
PLCA Paso Flores 152.29 97 PKIKP PKPbc 14 21 58.5 +0.3
PLCA 14 22 07.3
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA pmax pmax
comp=Z,1.0nm,0.7s

*IDC **04** 14:18:42.6±0.8, 1802S×16822E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/14, mbtmp4. 1/9, ML3.9/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/25, Error ellipse: s-maj=31.3km s-min=19.8km az=133.0*
*LDG **04** 14:18:45.8±0.1, 1782S×16768E, h10km, Mb4.7/2, Error ellipse: s-maj=19.6km s-min=3.5km az=96.0*
*ISCJB **04** 14:18:47.1±1.1, 18.13S±006×16801E±0.10, h36km±10km, mb4.6/21, MS3.7/3, Error ellipse: s-maj=16.5km s-min=8.9km az=45.4*
*BJI **04** 14:18:49.4, 18.10S×16790E, h50km, mB4.5, mb4.8*
*NEIC **04** 14:18:50.5±0.5, 1808S×16792E, h50km, mb4.8/10, Error ellipse: s-maj=14.9km s-min=11.4km az=102.0*
ISC 04 14:18:48.1±1.3, 1813S±006×1681E±01, h33km±9km, n68, σ1§10/31, mb4.6/21, MS3.7/3, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.47**	**13**	⇑*i*P	**Pb**	**14 18 58.0**	**-0.2**

DZM Mont Dzumac 4.23 202 Pn **Pn 14 19 50.5 +0.2**
5.7nm,0.3s,baz=52,slow=17,SNR=61
DZM Sn **Sn 14 20 37.3 -1.3**
16nm,0.3s,baz=320,slow=23,SNR=9.5
RAO Raoul Island 16.89 134 LR LR 14 27 46.8
comp=Z,280nm,20.6s,baz=7.3,slow=32
CTA Charters Tower 20.76 261 P **P 14 23 27.9 +1.7**
3.8nm,0.9s,baz=89,slow=16,SNR=2.9
CTA LR LR 14 30 28.2
comp=Z,254nm,21.0s,MS3.6,baz=47,slow=34
CTAO Charters Tower 20.76 261 P **P 14 23 23.4 -2.7**
15nm,1.1s
URZ Urewera 21.54 160 P **P 14 23 38.2 +3.6**
10nm,0.7s,mb4.4,baz=323,slow=10,SNR=7.8
URZ LR LR 14 30 37.9
comp=Z,148nm,18.0s,MS3.4,baz=26,slow=33
SNZO South Karori 23.79 168 *e*P **P 14 24 00.0 +2.2**
246nm,17s,mb5.4
STKA Stephens Creek 27.58 235 *e*P **P 14 24 31.8 -0.4**
5.7nm,0.9s,mb4.2
STKA Stephens Creek 27.58 235 P **P 14 24 31.7 -0.5**
6.6nm,0.8s,mb4.3,baz=60,slow=7.5,SNR=12
STKA Stephens Creek 27.58 235 *e*P **P 14 24 31.7 -0.5**
WB2 Warramunga Arr 31.95 261 *e*P **P 14 25 10.6 -0.3**
WRA Warramunga Arr 31.97 261 P **P 14 25 11.0 0.0**
0.4nm,0.4s,mb3.6,baz=82,slow=6.1,SNR=15
WRA PcP PcP 14 28 01.2 +0.6
0.7nm,0.9s,baz=112,slow=2.2,SNR=4.5
ASAR Alice Springs 32.40 254 P **P 14 25 14.8 +0.1**
2.1nm,0.6s,mb4.1,baz=82,slow=8.3,SNR=41
ASPA Alice Springs 32.40 254 *e*P **P 14 25 15.0 +0.2**
ASPA *e* 14 25 26.4
FITZ Fitzroy Crossi 40.32 263 *e*P **P 14 26 23.0 +0.6**
9.2nm,0.6s,mb4.7
MBWA Marble Bar 45.55 258 P **P 14 27 05.2 +0.5**
39nm,1.5s,mb5.1
NWAO Narrogin (SRO) 47.80 242 *e*P **P 14 27 21.3 -1.0**
5.3nm,0.8s,mb4.6
VNDA Vanda 59.51 182 P **P 14 28 48.3 +0.3**
1.1nm,0.7s,mb4.0,baz=357,slow=5.8,SNR=2.4
VNDA LR LR 14 50 54.6
comp=Z,150nm,19.6s,MS4.1,baz=202,slow=32
MDJ Mudanjiang 71.65 332 *e*P **P 14 30 07.3 +0.9**
21nm,1.1s,mb5.0
QSPA South Pole Qui 71.92 180 *e*P **P 14 30 08.1 0.0**
8.2nm,0.9s,mb4.7
CN2 Changchun 72.97 329 ⇓P **P 14 30 15.3 +1.0**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 Chengdu 78.73 308 *e*P **P 14 30 47.7 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.9s
ULN Ulaanbaatar 85.35 324 *e*P **P 14 31 22.1 +0.1**
comp=Z,6.2nm,0.9s,mb4.7
YAK Yakutsk 85.50 343 P **P 14 31 20.7 -2.0**
comp=Z,12nm,0.9s,mb5.1
GTA Gaotai 85.60 314 *e*P **P 14 31 24.7 +1.5**
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.5
SONM Songino Array 85.70 323 P **P 14 31 24.5 +0.8**
comp=Z,4.7nm,1.0s,mb4.7,baz=143,slow=6.0,SNR=25
BILL Bilibino 85.93 359 *e*P **P 14 31 22.3 -2.6**
comp=Z,8.6nm,1.2s,mb4.9
CMB Columbia Colle 87.20 49 *e*P **P 14 31 30.4 -0.7**
comp=Z,4.0nm,1.0s,mb4.6
NVAR Mina Array Bea 88.86 49 P **P 14 31 38.9 0.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=235,slow=8.6,SNR=5.1
NVAR Mina Array Bea 88.86 49 P **P 14 31 38.9 0.0**
ILAR Eielson Array 89.49 18 P **P 14 31 39.1 -2.8**
comp=Z,0.5nm,0.7s,mb4.0,baz=241,slow=5.0,SNR=9.8
MKAR Makanchi Array 100.21 316 P Pdif 14 32 30.2 -0.6
comp=Z,0.2nm,0.6s,baz=80,slow=8.6,SNR=4.7
ARCES ARCESS Array B 123.73 345 PKP PKPdf 14 37 40.9 -1.5
comp=Z,0.6nm,0.3s,baz=71,slow=1.8,SNR=36
FINES FINESS Array B 129.16 338 PKP PKPdf 14 37 52.8 -0.1
comp=Z,0.9nm,0.9s,baz=90,slow=3.8,SNR=3.4
GERES GERESS Array B 143.02 332 PKP PKPdf 14 38 15.4 -3.0
comp=Z,0.9nm,0.9s,baz=27,slow=2.2,SNR=3.8
BAIF Baives 145.63 342 *e*PKP1 PKPbc 14 38 23.1 -0.2
CDF Champ du Feu 146.01 337 *e*PKP1 PKPbc 14 38 24.3 -0.2
comp=Z,15nm,0.8s
DAVOX Davos 146.27 333 PKPbc PKPbc 14 38 24.6 -0.7
comp=Z,3.6nm,0.5s,baz=26,slow=1.1,SNR=6.0
HINF Hinteralfeld 146.66 337 *e*PKP1 PKPbc 14 38 25.8 -0.6
HAU Haudompre 146.69 338 *e*PKP1 PKPbc 14 38 26.3 -0.2
MEZF Maizieres J'vi 146.72 339 *e*PKP1 PKPbc 14 38 26.7 +0.1
CABF La Chapelle 147.96 336 *e*PKP1 PKPbc 14 38 30.1 +0.1
comp=Z,17nm,0.8s
FLN La Foliniere 148.07 346 *e*PKP1 PKPbc 14 38 29.6 -0.7
comp=Z,41nm,1.1s
LDF La Druitiere 148.14 345 *e*PKP1 PKPbc 14 38 29.7 -0.8
LOR Lormes 148.19 339 *e*PKP1 PKPbc 14 38 30.3 -0.3
comp=Z,23nm,0.9s
SSF Saint Saulge 148.49 340 *e*PKP1 PKPbc 14 38 31.3 -0.1
comp=Z,27nm,0.9s
GRR Gorron 148.51 346 *e*PKP1 PKPbc 14 38 30.9 -0.6
LPL La Plagne 148.60 334 *e*PKP1 PKPbc 14 38 32.0 +0.3
comp=Z,15nm,0.9s
LPG La Plagne 148.61 334 *e*PKP1 PKPbc 14 38 32.2 +0.5
comp=Z,11nm,0.8s
SMF Signal de Mont 148.74 339 *e*PKP1 PKPbc 14 38 31.6 -0.4
comp=Z,12nm,1.0s
AVF Avril sur Loir 148.78 340 *e*PKP1 PKPbc 14 38 31.6 -0.5
SGMF Saint Gilles 149.00 348 *e*PKP1 PKPbc 14 38 32.0 -0.7
BGF Bois d'Agland 149.15 340 *e*PKP1 PKPbc 14 38 32.8 -0.3
comp=Z,17nm,0.7s
MBDF Montbardon 149.23 334 *e*PKP1 PKPbc 14 38 32.9 -0.4
ORIF Oris-en-Rattie 149.44 335 *e*PKP1 PKPbc 14 38 33.7 -0.1
comp=Z,23nm,1.0s
TCF Toulx Ste Croi 149.59 341 *e*PKP1 PKPbc 14 38 33.9 -0.3
comp=Z,16nm,0.8s
PGF Pioggiola 149.88 328 *e*PKP1 PKPbc 14 38 34.8 -0.1
comp=Z,38nm,0.9s
VIVF Saint-Julien-l 149.97 336 *e*PKP1 PKPbc 14 38 35.0 -0.1
comp=Z,15nm,0.9s
MFF Saint Martin d 150.00 344 *e*PKP1 PKPbc 14 38 34.7 -0.5
comp=Z,14nm,0.8s
FRF La Foret Royal 150.21 332 *e*PKP1 PKPbc 14 38 35.3 -0.4
comp=Z,22nm,0.9s
SMRF Simiane la Rot 150.34 334 *e*PKP1 PKPbc 14 38 36.2 +0.2
comp=Z,31nm,1.0s
LMR La Mourre 150.45 332 *e*PKP1 PKPbc 14 38 35.9 -0.4
comp=Z,32nm,1.0s
RJF Les Rejaudoux 150.69 341 *e*PKP1 PKPbc 14 38 36.5 -0.3
comp=Z,22nm,1.0s
CAF Calviac 150.85 339 *e*PKP1 PKPbc 14 38 37.1 -0.1
LASF Ste Croix 150.94 336 *e*PKP1 PKPbc 14 38 37.4 0.0
comp=Z,23nm,0.9s
LFF La Frestale 151.26 341 *e*PKP1 PKPbc 14 38 37.9 -0.3
MTLF Montolieu 152.18 338 *e*PKP1 PKPbc 14 38 40.4 +0.1
TORD Torodi Ar. Bea 166.03 251 PKP PKPdf 14 38 50.1 +0.5
comp=Z,0.8nm,1.1s,baz=132,slow=1.1,SNR=3.5

*NEIC **04** 14:18:55.6, 2521S×7029W, h52km, MD3.8(GUC), After GUC.*
GUC 04 14:18:55.6±0.7, 2521S×7029W, h52km±13km, MD3.8, ML3.1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.59**	**350**	*e*P	Pn	14 19 09.1	+1.1
CPN1				*i* S	Sn	14 19 18.9	+1.9
CPN1				AMP		14 19 20.3	
comp=E,1μm,0.5s							
CRCH	**Chaqaral**	**1.17**	**195**	*e*P	Pn	14 19 16.1	+0.4
CRCH				*i* S	Sn	14 19 31.4	+0.8
CRCH				AMP		14 19 32.4	
comp=E,1μm,0.3s							
CRCH	**Chaqaral**	**1.17**	**195**	*e*P	Pn	14 19 16.1	+0.4
CRCH				*i* S	Sn	14 19 31.4	+0.8
ANCH	**Antofagasta**	**1.52**	**356**	*i* P	Pn	14 19 20.8	+0.4
ANCH				*i* S	Sn	14 19 40.6	+1.5
CEN1	**Los Morros**	**1.81**	**3**	*e*P	Pn	14 19 22.6	-1.7
CEN1				AMP		14 19 54.9	
comp=E,181nm,0.5s							
CDCH	**Caldera**	**1.92**	**195**	*i* P	Pn	14 19 26.9	+1.0
CDCH				*i* S	Sn	14 19 50.6	+1.8
CDCH				AMP		14 19 54.0	
comp=E,214nm,0.2s							
CDCH	**Caldera**	**1.92**	**195**	*i* P	Pn	14 19 26.9	+1.0
CDCH				*i* S	Sn	14 19 50.6	+1.8
LVC	**Limon Verde**	**2.87**	**26**	*e*Pn	Pn	14 19 43.2	+4.3

ISCJB ***04*** *14:28:27.3±0.5, 5891N±010×30.93W±0.10, h10km, mb4.2/20, Error ellipse: s-maj=14.3km s-min=7.2km az=9.1*
IDC ***04*** *14:28:27.9±0.9, 5893N×3091W, h0km, mb3.9/15, mb1 4.0/19, mb1mx3.9/29, mbtmp3.9/19, ML3.0/3, MS3.6/1, Ms1 3.6/1, ms1mx3.5/15, Error ellipse: s-maj=26.2km s-min=12.3km az=3.0*
NEIC ***04*** *14:28:29.0±0.5, 5886N×3095W, h10km, mb4.5/7, Error ellipse: s-maj=13.3km s-min=6.1km az=184.0*
CSEM ***04*** *14:28:30.0±0.1, 5895N×3098W, h33km, mb4.6/6*
MOS ***04*** *14:28:30.1±0.9, 5889N×3097W, h31km, mb4.7/8, Error ellipse: s-maj=19.7km s-min=14.5km az=61.3*
ISC 04 14:28:28.7±0.5, 5890N±010×3096W±010, h10km, n51, σ0§87/50, mb4.2/20, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.43**	**34**	Pn	**Pn**	**14 30 18.0**	**+0.8**
	4.8nm,0.3s,baz=201,slow=8.6,SNR=10						
SUMG	**Summit**	**14.06**	**351**	*e*Pn	**Pn**	**14 31 49.2**	**+1.3**
	6.9nm,1.0s						
SUMG	**Summit**	**14.06**	**351**	*e*Pn	**Pn**	**14 31 49.2**	**+1.3**
	6.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**15.46**	**91**	Pn	**Pn**	**14 32 07.5**	**+0.7**
	0.1nm,0.3s,baz=297,slow=9.5,SNR=3.2						
FRB	**Frobisher Bay**	**18.47**	**301**	P	**Pn**	**14 32 44.3**	**-0.5**
	0.1nm,0.3s,baz=90,slow=16,SNR=3.5						
SCHQ	**Schefferville**	**19.86**	**274**	P	**Pn**	**14 33 01.0**	**-0.6**
	0.1nm,0.3s,baz=43,slow=5.9,SNR=4.1						
SCHQ	**Schefferville**	**19.86**	**274**	P	**Pn**	**14 33 01.0**	**-0.6**
KONO	**Kongsberg**	**20.52**	**70**	P	**P**	**14 33 00.7**	**-6.3**
KONO				pmax	pmax		
	comp=Z,16nm,1.0s						
KONO	**Kongsberg**	**20.52**	**70**	P	**P**	**14 33 00.7**	**-6.4**
	comp=Z,16nm,1.0s						
NOA	**NORSAR Array B**	**20.95**	**66**	P	**P**	**14 33 13.0**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=283,slow=10,SNR=2.6						
NOA	**NORSAR Array B**	**20.95**	**66**	P	**P**	**14 33 13.0**	**+1.3**
ARCES	**ARCESS Array B**	**25.72**	**43**	P	**P**	**14 33 58.8**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.2,baz=259,slow=6.2,SNR=7.7						
FINES	**FINESS Array B**	**27.72**	**60**	P	**P**	**14 34 17.3**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.1,baz=281,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**27.72**	**60**	P	**P**	**14 34 17.3**	**+0.1**
PSZ	**Piszkesteto**	**31.48**	**88**	P	**P**	**14 34 49.7**	**-0.8**
PSZ	**Piszkesteto**	**31.48**	**88**	P	**P**	**14 34 49.7**	**-0.8**
AKASG	**Malin Array Be**	**34.54**	**77**	P	**P**	**14 35 17.3**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=297,slow=8.7,SNR=6.0						
ULM	**Lac du Bonnet**	**37.19**	**286**	P	**P**	**14 35 39.4**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.1,baz=50,slow=5.4,SNR=2.5						
YKA	**Yellowknife Ar**	**38.40**	**312**	P	**P**	**14 35 49.8**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=57,slow=9.2,SNR=25						
INK	**Inuvik**	**41.28**	**327**	P	**P**	**14 36 14.1**	**-0.1**
	comp=Z,2.7nm,1.2s,mb3.8,baz=52,slow=9.9,SNR=3.8						
BRTR	**Keskin Array B**	**44.29**	**86**	P	**P**	**14 36 38.4**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.4,baz=346,slow=5.9,SNR=3.7						
ARU	**Arti**	**44.52**	**52**	*e*P	**P**	**14 36 40.0**	**-0.4**
	comp=Z,25nm,1.4s,mb4.8						
ARU	**Arti**	**44.52**	**52**	*e*P	**P**	**14 36 40.0**	**-0.4**
ARU				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
ARU	**Arti**	**44.52**	**52**	*e*P	**P**	**14 36 40.0**	**-0.4**
	comp=Z,25nm,1.4s,mb4.9						
KIV	**Kislovodsk**	**45.84**	**75**	P	**P**	**14 36 49.1**	**-1.8**
KIV	**Kislovodsk**	**45.84**	**75**	P	**P**	**14 36 49.1**	**-1.8**
ILAR	**Eielson Array**	**47.55**	**329**	P	**P**	**14 37 05.2**	**+0.8**
	comp=Z,0.1nm,0.8s,baz=34,slow=3.3,SNR=7.4						
MALT	**Malatya**	**47.82**	**84**	P	**P**	**14 37 07.6**	**+1.2**
	comp=Z,3.0nm,1.1s,mb4.2						
MALT	**Malatya**	**47.82**	**84**	P	**P**	**14 37 07.6**	**+1.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
MALT	**Malatya**	**47.82**	**84**	P	**P**	**14 37 07.5**	**+1.1**
	comp=Z,3.5nm,1.1s,mb4.3						
SJG	**San Juan**	**48.12**	**227**	LR	LR	14 52 09.9	
	comp=Z,77nm,21.4s,baz=59,slow=30						
AKTK	**Aktyubinsk**	**48.47**	**59**	P	**P**	**14 37 11.2**	**-0.3**
AKTK	**Aktyubinsk**	**48.47**	**59**	P	**P**	**14 37 11.2**	**-0.3**
AKTO	**Aktyubinsk**	**48.47**	**59**	P	**P**	**14 37 11.2**	**-0.3**
	comp=Z,7.3nm,0.6s,mb4.9,baz=322,slow=7.4,SNR=40						
PDAR	**Pinedale Array**	**49.17**	**287**	P	**P**	**14 37 17.4**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.8,baz=56,slow=3.3,SNR=3.1						
GNI	**Garni**	**49.67**	**77**	*e*P	**P**	**14 37 22.2**	**+1.5**
	comp=Z,7.0nm,0.8s,mb4.7						
GNI	**Garni**	**49.67**	**77**	*e*P	**P**	**14 37 22.2**	**+1.5**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMOK	**Wichita Mounta**	**49.74**	**272**	*e*P	**P**	**14 37 21.3**	**+0.1**
	comp=Z,12nm,1.5s,mb4.7						
WMOK	**Wichita Mounta**	**49.74**	**272**	*e*P	**P**	**14 37 21.3**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
WMOK	**Wichita Mounta**	**49.74**	**272**	*e*P	**P**	**14 37 21.3**	**+0.1**
	comp=Z,12nm,1.5s,mb4.7						
ZRNK	**Zerenda**	**51.24**	**50**	*e*P	**P**	**14 37 31.3**	**-1.2**
	comp=Z,6.0nm,1.4s,mb4.3						
ZRNK	**Zerenda**	**51.24**	**50**	*e*P	**P**	**14 37 31.3**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
TORD	**Torodi Ar. Bea**	**51.76**	**138**	P	**P**	**14 37 37.2**	**+0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=342,slow=7.0,SNR=8.0						
NVS	**Novosibirsk**	**54.96**	**40**	*e*P	**P**	**14 37 58.7**	**-1.3**
NVS				*i*		14 41 25.3	
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
NVAR	**Mina Array Bea**	**56.77**	**290**	P	**P**	**14 38 14.8**	**+1.8**
	comp=Z,0.3nm,0.4s,mb3.7,baz=51,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**61.30**	**46**	P	**P**	**14 38 43.9**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.2,baz=323,slow=6.1,SNR=19						
MKAR	**Makanchi Array**	**61.30**	**46**	P	**P**	**14 38 43.9**	**-0.4**
SONM	**Songino Array**	**68.02**	**29**	P	**P**	**14 39 27.8**	**-0.4**
	comp=Z,1.9nm,1.1s,mb4.0,baz=317,slow=3.3,SNR=9.3						
ULN	**Ulaanbaatar**	**68.16**	**29**	*e*P	**P**	**14 39 27.8**	**-1.3**
	comp=Z,6.0nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**68.16**	**29**	*e*P	**P**	**14 39 27.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**68.16**	**29**	*e*P	**P**	**14 39 27.8**	**-1.3**
	comp=Z,6.4nm,1.3s,mb4.5						

NAO ***04*** *14:29:46.7, 58.16N×3236W, h33km, mb4.8*
SZGRF ***04*** *14:29:51.9, 5935N×3213W, h33km, mb4.9, MS5.0, Reykjanes Ridge*
BJI ***04*** *14:29:52.5, 5950N×3123W, h3km, mB5.5, mb5.1, Ms5.2, Msz4.8*
IDC ***04*** *14:29:53.4±0.4, 5908N×3093W, h0km, mb4.4/31, mb1 4.6/36, mb1mx4.6/37, mbtmp4.4/36, ML3.4/4, MS5.0/19, Ms1 5.0/19, ms1mx4.9/23, Error ellipse: s-maj=12.9km s-min=8.5km az=5.0*
CSEM ***04*** *14:29:53.3±0.0, 5917N×3087W, h10km, mb5.0/94, Ms4.8, Mw5.3, Error ellipse: s-maj=2.5km s-min=1.1km az=13.0*
ISCJB ***04*** *14:29:53.8±0.1, 5916N±003×3089W±003, h10km, mb4.9/170, MS4.9/51, Error ellipse: s-maj=4.1km s-min=2.2km az=32.4*
NEIC ***04*** *14:29:55.5±0.1, 5913N×3089W, h10km, mb5.0/92, MS5.0/7, Error ellipse: s-maj=4.6km s-min=2.2km az=196.0*
HRVD ***04*** *14:29:55.5±0.2, 5915N×3074W, h12km, MW5.3/89, Centroid moment Tensor Solution. LP body waves: s58,c79; Mantle waves: s89,c176; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.98±.02; $M_{\theta\theta}$-0.00±.02; $M_{\phi\phi}$0.98±.02; $M_{r\theta}$0.20±.06; $M_{\theta\phi}$0.29±.02; $M_{\phi r}$-0.31±.05; Best double couple: $M_0$1.09200×10^{17} NP1:ϕ_s210.00000°, δ40.00000°, λ-66.00000°. NP2: ϕ_s1.00000°, δ54.00000°, λ-109.00000°. Principal axes: T 1.0970, Plg7.0000°, Azm104.0000°; N -0.0110, Plg15.0000°, Azm12.0000°; P -1.0860, Plg73.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***04*** *14:29:55.1±0.9, 5910N×3092W, h21km, mb5.2/65, MS4.9/27 Error ellipse: s-maj=6.2km s-min=5.4km az=21.4*
ISC 04 14:29:54.7±1.2, 5915N±003×3087W±003, h6km±7km, h14km±17km: pP-P, n604, σ1§05/609, mb4.9/170, MS4.9/51, 15C-21D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.19**	**35**	Pn	**Pn**	**14 31 43.0**	**+2.7**
	2μm,0.9s,SNR=23						
BORG	**Borgarnes**	**7.19**	**35**	Pn	**Pn**	**14 31 40.9**	**+0.6**
	24nm,0.3s,baz=204,slow=7.9,SNR=33						
BORG				Sn	**Sn**	**14 33 03.1**	**+0.8**
	5.2nm,0.3s,baz=77,slow=20,SNR=8.3						
BORG				LR	LR	14 33 44.1	
	comp=Z,9μm,18.0s,baz=216,slow=32						
SFJD	**Kangerlussuaq**	**11.87**	**320**	Pn	**Pn**	**14 32 45.0**	**+0.6**
	0.4nm,0.3s,baz=106,slow=11,SNR=6.9						
SFJD				LR	LR	14 36 39.5	
	comp=Z,14μm,18.2s,baz=104,slow=34						
SFJD	**Kangerlussuaq**	**11.87**	**320**	*i* P	**Pn**	**14 32 43.8**	**-0.6**
	47nm,1.1s						
SFJD				*e*S	**Sn**	**14 34 49.0**	**-8.1**
SFJD							
	comp=Z,9μm,18.0s						
SFJD	**Kangerlussuaq**	**11.87**	**320**	*i* P	**Pn**	**14 32 43.8**	**-0.6**
SFJD				pmax	pmax		
	comp=Z,47nm,1.1s						
SFJD				MLR	MLR		
	comp=Z,9μm,18.0s						
SFJD	**Kangerlussuaq**	**11.87**	**320**	*i* P	**Pn**	**14 32 43.8**	**-0.6**
	comp=Z,47nm,1.1s						
SFJD				*e*S	**Sn**	**14 34 49.0**	**-8.1**
SCO	**Scoresbysund**	**11.98**	**15**	*i* P	**Pn**	**14 32 44.6**	**-1.3**
SCO	**Scoresbysund**	**11.98**	**15**	*e*P	**Pn**	**14 32 44.6**	**-1.3**
SUMG	**Summit**	**13.82**	**350**	*e*Pn	**Pn**	**14 33 10.6**	**-0.5**
	comp=Z,70nm,1.3s						
DCN	**Croghan**	**14.30**	**104**	*e*P	**Pn**	**14 33 16.0**	**-1.6**
DLF	**Lyons Farm**	**14.70**	**103**	*e*P	**Pn**	**14 33 20.0**	**-3.0**
DSB	**Dublin**	**14.80**	**103**	P	**Pn**	**14 33 30.3**	**+5.8**
JMIC	**Jan Mayen**	**15.02**	**29**	*e*P	**Pn**	**14 33 32.4**	**+5.0**
JMIC	**Jan Mayen**	**15.02**	**29**	LR	LR	14 37 43.8	
	comp=Z,2μm,21.5s,baz=226,slow=31						
JMIC	**Jan Mayen**	**15.02**	**29**	*i* P	**Pn**	**14 33 32.4**	**+5.0**
EKA	**Eskdalemuir Ar**	**15.42**	**92**	Pn	**Pn**	**14 33 31.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=290,slow=12,SNR=13						
BER	**Bergen**	**18.13**	**71**	*e*P	**Pn**	**14 34 07.6**	**+0.5**
BER				AMS	AMS	14 40 22.5	
	comp=Z,2μm,20.7s						
BER	**Bergen**	**18.13**	**71**	*i* P	**Pn**	**14 34 08.2**	**+1.1**
DAG	**Danmarks Havn**	**18.21**	**9⇑**	*i*P	**Pn**	**14 34 12.0**	**+4.0**
	comp=Z,75nm,1.5s						
DAG	**Danmarks Havn**	**18.21**	**9⇑**	*i*P	**Pn**	**14 34 12.0**	**+4.0**
DAG				pmax	pmax		
	comp=Z,75nm,1.5s						
FRB	**Frobisher Bay**	**18.39**	**300**	P	**Pn**	**14 34 09.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=89,slow=12,SNR=10						
FRB				LR	LR	14 40 24.0	
	comp=Z,15μm,19.3s,baz=90,slow=34						
ROSF	**Rostrenen**	**19.43**	**112**	*e*P	**Pn**	**14 34 22.5**	**-0.2**
	comp=Z,394nm,1.8s						
ROSF	**Rostrenen**	**19.43**	**112**	*e*P	**Pn**	**14 34 22.5**	**-0.2**
	comp=Z,197nm,1.8s						
ROSF	**Rostrenen**	**19.43**	**112**	*e*P	**Pn**	**14 34 22.5**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,197nm,1.8s						
QUIF	**Quistinic**	**19.77**	**112**	*e*P	**Pn**	**14 34 26.9**	**0.0**
	comp=Z,104nm,1.4s						
QUIF	**Quistinic**	**19.77**	**112**	*e*P	**Pn**	**14 34 26.9**	**0.0**
	comp=Z,52nm,1.4s						
QUIF	**Quistinic**	**19.77**	**112**	*e*P	**Pn**	**14 34 26.9**	**0.0**
QUIF				pmax	pmax		
	comp=Z,52nm,1.4s						
SGMF	**Saint Gilles**	**19.83**	**111**	*e*P	**Pn**	**14 34 27.5**	**0.0**
	comp=Z,257nm,1.5s						
SGMF	**Saint Gilles**	**19.83**	**111**	*e*P	**Pn**	**14 34 27.5**	**0.0**
	comp=Z,128nm,1.5s						
SGMF	**Saint Gilles**	**19.83**	**111**	*e*P	**Pn**	**14 34 27.5**	**0.0**
SGMF				pmax	pmax		
	comp=Z,129nm,1.5s						
SCHQ	**Schefferville**	**19.90**	**273**	P	**Pn**	**14 34 25.5**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=70,slow=8.0,SNR=18						
SCHQ				LR	LR	14 40 54.5	
	comp=Z,4μm,18.6s,baz=57,slow=33						
SCHQ	**Schefferville**	**19.90**	**273**	*e*P	**Pn**	**14 34 25.3**	**-3.1**
	comp=Z,53nm,1.2s						
SCHQ	**Schefferville**	**19.90**	**273**	*e*P	**Pn**	**14 34 25.3**	**-3.1**
	comp=Z,53nm,1.2s						
KONO	**Kongsberg**	**20.39**	**71**	*i*	**P**	**14 34 33.9**	**+1.8**
KONO				*e*S	**S**	**14 38 20.4**	**-0.3**
FLN	**La Foliniere**	**20.49**	**107**	*e*P	**P**	**14 34 33.8**	**+0.6**
	comp=Z,311nm,1.3s						
FLN				*e*R			
	comp=Z,4μm,22.0s						
FLN	**La Foliniere**	**20.49**	**107**	*e*P	**P**	**14 34 33.8**	**+0.6**
FLN				pmax	pmax		
	comp=Z,156nm,1.3s						
FLN				MLR	MLR		
	comp=Z,4μm,22.0s,MS4.8						
FLN	**La Foliniere**	**20.49**	**107**	*e*P	**P**	**14 34 33.8**	**+0.6**
	comp=Z,156nm,1.3s						
FLN				LR	LR		
	comp=Z,4μm,22.0s,MS4.8						
GRR	**Gorron**	**20.56**	**108**	*e*P	**P**	**14 34 34.8**	**+0.8**
	comp=Z,930nm,1.9s						
GRR	**Gorron**	**20.56**	**108**	*e*P	**P**	**14 34 34.8**	**+0.8**
	comp=Z,465nm,1.9s						
GRR	**Gorron**	**20.56**	**108**	*e*P	**P**	**14 34 34.8**	**+0.8**
GRR				pmax	pmax		
	comp=Z,465nm,1.9s						
NSS	**Namsos**	**20.59**	**57**	*e*P	**P**	**14 34 34.9**	**+0.6**
NSS				AMS	AMS	14 41 08.1	
	comp=Z,2μm,20.4s,MS4.4						
NSS	**Namsos**	**20.59**	**57**	*i* P	**P**	**14 34 35.0**	**+0.7**
LDF	**La Druitiere**	**20.78**	**107**	*e*P	**P**	**14 34 36.9**	**+0.5**
	comp=Z,218nm,1.4s						
LDF	**La Druitiere**	**20.78**	**107**	*e*P	**P**	**14 34 36.9**	**+0.5**
	comp=Z,109nm,1.4s						
LDF	**La Druitiere**	**20.78**	**107**	*e*P	**P**	**14 34 36.9**	**+0.5**
LDF				pmax	pmax		
	comp=Z,109nm,1.4s						
NB2	**NORSAR Subarra**	**20.81**	**67**	P	**P**	**14 34 36.8**	**+0.1**
	comp=Z,96nm,1.7s,baz=282,slow=11						
NOA	**NORSAR Array B**	**20.81**	**67**	P	**P**	**14 34 37.1**	**+0.5**
	comp=Z,10nm,1.0s,baz=281,slow=11,SNR=8.7						
NOA				LR	LR	14 41 30.2	
	comp=Z,3μm,21.2s,MS4.6,baz=295,slow=33						
EMAZ	**Mazaricos**	**21.11**	**131**	P	**P**	**14 34 42.1**	**+2.2**
	comp=Z,634nm,2.5s,mb5.5,SNR=6.0						
EMAZ	**Mazaricos**	**21.11**	**131**	P	**P**	**14 34 42.1**	**+2.2**
	comp=Z,634nm,2.5s,mb5.5						
MUD	**Monsted U'grnd**	**21.28**	**80**	*i* P	**P**	**14 34 45.8**	**+4.0**
	comp=Z,82nm,1.2s,mb4.9						
MUD				*i*		14 38 49.6	
MUD							
	comp=Z,2μm,18.0s						
MUD	**Monsted U'grnd**	**21.28**	**80**	*i* P	**P**	**14 34 45.8**	**+4.0**
MUD				*i*		14 38 49.6	
MUD				pmax	pmax		
	comp=Z,82nm,1.2s,mb4.9						
MUD				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.6						
MUD	**Monsted U'grnd**	**21.28**	**80**	*i* P	**P**	**14 34 45.8**	**+4.0**
	comp=Z,82nm,1.2s,mb4.9						
MUD				*i*		14 38 49.6	
STS	**Santiago**	**21.33**	**130**	P	**P**	**14 34 44.3**	**+2.0**
	comp=Z,285nm,1.9s,mb5.3,SNR=7.0						
STS	**Santiago**	**21.33**	**130**	P	**P**	**14 34 44.3**	**+2.0**
STS				pmax	pmax		
	comp=Z,285nm,1.9s,mb5.3						
EPON	**Pontenova**	**21.52**	**127**	P	**P**	**14 34 47.2**	**+2.8**
	comp=Z,330nm,1.7s,mb5.5,SNR=5.8						
EPON	**Pontenova**	**21.52**	**127**	P	**P**	**14 34 47.2**	**+2.8**
	comp=Z,330nm,1.7s,mb5.5						
UCC	**Uccle**	**21.65**	**97**	P	**P**	**14 34 45.2**	**-0.6**
UCC				AP		14 34 48.6	
UCC				XP	sP	14 34 50.5	+2.1
UCC				PCP	PcP	14 38 48.1	+0.9
UCC				S	**S**	**14 38 51.1**	**+5.5**
SNF	**Seneffe**	**21.78**	**98**	P	**P**	**14 34 46.8**	**-0.4**
SNF				AP		14 34 49.9	
SNF				XP	sP	14 34 52.1	+2.4
SNF				E		14 34 55.6	
SNF				PNPN		14 35 05.0	
LCHF	**La Chataignera**	**21.82**	**112**	*e*P	**P**	**14 34 52.0**	**+4.5**
EZAM	**Zamans**	**21.89**	**131**	P	**P**	**14 34 50.2**	**+1.8**
	comp=Z,14nm,0.8s,mb4.5,SNR=5.8						
EZAM	**Zamans**	**21.89**	**131**	P	**P**	**14 34 50.2**	**+1.8**
EZAM				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
EZAM	**Zamans**	**21.89**	**131**	P	**P**	**14 34 50.1**	**+1.8**
	comp=Z,14nm,0.8s,mb4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAIF	**Baives**	**22.02**	**99**	*e*P	**P**	**14 34 49.5**	**-0.2**
	comp=Z,399nm,1.5s,mb5.3						
BAIF	**Baives**	**22.02**	**99**	*e*P	**P**	**14 34 49.5**	**-0.2**
	comp=Z,200nm,1.5s,mb5.3						
BAIF	**Baives**	**22.02**	**99**	*e*P	**P**	**14 34 49.5**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.3						
MFF	**Saint Martin d**	**22.15**	**111**	*e*P	**P**	**14 34 50.6**	**-0.5**
	comp=Z,207nm,1.6s,mb5.0						
MFF	**Saint Martin d**	**22.15**	**111**	*e*P	**P**	**14 34 50.6**	**-0.5**
	comp=Z,104nm,1.6s,mb5.0						
MFF	**Saint Martin d**	**22.15**	**111**	*e*P	**P**	**14 34 50.6**	**-0.5**
MFF				pmax	pmax		
	comp=Z,104nm,1.5s,mb5.0						
DOU	**Dourbes**	**22.19**	**98**	P	**P**	**14 34 51.2**	**-0.3**
DOU				AP		14 34 55.0	
DOU				XP	sP	14 34 58.9	+4.8
DOU				PNPN		14 35 10.9	
HFS	**Hagfors**	**22.23**	**68**	P	**P**	**14 34 52.0**	**0.0**
	comp=Z,17nm,1.0s,mb4.5,baz=264,slow=13,SNR=9.3						
HFS				LR	LR	14 42 32.7	
	comp=Z,3μm,19.6s,MS4.7,baz=281,slow=34						
WTSB	**Winterswijk**	**22.23**	**92⇑**	*e*P	**P**	**14 34 51.5**	**-0.4**
	comp=Z,113nm,1.6s,mb5.0						
ERUA	**La Rua**	**22.30**	**128**	P	**P**	**14 34 56.5**	**+3.8**
ERUA				pmax	pmax		
	comp=Z,163nm,2.0s,mb5.1						
ERUA	**La Rua**	**22.30**	**128**	P	**P**	**14 34 56.5**	**+3.7**
	comp=Z,163nm,2.0s,mb5.1						
GIVF	**Givet**	**22.30**	**98**	*e*P	**P**	**14 34 53.0**	**+0.3**
	comp=Z,393nm,1.6s,mb5.3						
GIVF	**Givet**	**22.30**	**98**	*e*P	**P**	**14 34 53.0**	**+0.3**
	comp=Z,196nm,1.6s,mb5.3						
GIVF	**Givet**	**22.30**	**98**	*e*P	**P**	**14 34 53.0**	**+0.3**
GIVF				pmax	pmax		
	comp=Z,197nm,1.6s,mb5.3						
BEBN	**Eben Emael**	**22.32**	**96**	P	**P**	**14 34 52.2**	**-0.7**
BEBN				AP		14 34 55.6	
BEBN				E		14 34 59.7	
BEBN				E		14 35 06.5	
EARI	**Arriondas**	**22.36**	**124**	⇓P	**P**	**14 34 55.9**	**+2.5**
	comp=Z,749nm,2.8s,mb5.6						
ELOB	**Lobios**	**22.38**	**131**	P	**P**	**14 34 54.9**	**+1.3**
	comp=Z,314nm,3.6s,SNR=4.9						
ELOB	**Lobios**	**22.38**	**131**	P	**P**	**14 34 54.9**	**+1.3**
	comp=Z,314nm,3.6s						
HGN	**Heimansgroeve**	**22.47**	**96⇑**	*e*P	**P**	**14 34 53.8**	**-0.7**
	comp=Z,90nm,1.9s,mb4.9						
HGN				*e*S	**S**	**14 38 51.4**	**-10**
MEM	**Membach**	**22.61**	**96**	P	**P**	**14 34 55.5**	**-0.5**
MEM				AP		14 34 58.3	
MEM				XP	sP	14 35 05.5	+6.9
MEM				PNPN		14 35 19.3	
BUG	**Bochum--Univer**	**22.77**	**93**	*e*P	**P**	**14 34 59.2**	**+1.5**
ECAL	**Calabor**	**22.85**	**128**	P	**P**	**14 35 00.5**	**+2.0**
	comp=Z,303nm,1.8s,mb5.4,SNR=18						
ECAL	**Calabor**	**22.85**	**128**	⇓P	**P**	**14 35 00.5**	**+2.0**
	comp=Z,303nm,1.8s,mb5.4						
PBRG	**Braganca**	**22.96**	**128**	*e*P	**P**	**14 35 01.9**	**+2.2**
BSEG	**Bad Segeberg**	**23.01**	**85**	*e*P	**P**	**14 35 00.1**	**-0.1**
	comp=Z,29nm,1.0s,mb4.7						
PVRL	**Vila Real**	**23.02**	**131**	*e*P	**P**	**14 35 01.5**	**+1.2**
ELAN	**Lanestosa**	**23.19**	**121**	⇓P	**P**	**14 35 06.0**	**+3.8**
	comp=Z,1μm,3.3s						
TRO	**Tromso**	**23.19**	**43**	*e*P	**P**	**14 35 00.8**	**-1.4**
TRO				AMb	AMB	14 35 10.3	
	comp=Z,87nm,2.0s,mb4.8						
TRO				*e*S	**S**	**14 39 16.8**	**+2.7**
TRO				AMS	AMS	14 42 49.8	
	comp=Z,2μm,18.4s,MS4.5						
TRO	**Tromso**	**23.19**	**43**	*e*P	**P**	**14 35 00.8**	**-1.3**
	comp=Z,87nm,2.0s,mb4.8,SNR=33						
TRO	**Tromso**	**23.19**	**43**	*i* P	**P**	**14 35 03.2**	**+1.1**
WLF	**Walferdange**	**23.25**	**98**	*e*P	**P**	**14 35 03.2**	**+0.4**
	comp=Z,517nm,2.9s,mb5.5						
WLF				*e*S	**S**	**14 39 20.3**	**+5.2**
WLF	**Walferdange**	**23.25**	**98**	P	**P**	**14 35 03.7**	**+0.9**
COP	**Copenhagen**	**23.26**	**80⇑**	*i*P	**P**	**14 35 03.5**	**+0.6**
	comp=Z,40nm,1.1s,mb4.8						
COP	**Copenhagen**	**23.26**	**80⇑**	*i*P	**P**	**14 35 03.5**	**+0.6**
COP				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.8						
PVIS	**Viseu**	**23.43**	**132**	*e*P	**P**	**14 35 05.8**	**+1.1**
	comp=Z,67nm,1.5s,mb4.8						
TCF	**Toulx Ste Croi**	**23.52**	**108**	*e*P	**P**	**14 35 03.5**	**-2.1**
SSF	**Saint Saulge**	**23.62**	**106**	*e*P	**P**	**14 35 05.8**	**-0.8**
	comp=Z,122nm,1.3s,mb4.9						
SSF	**Saint Saulge**	**23.62**	**106**	*e*P	**P**	**14 35 05.8**	**-0.8**
	comp=Z,61nm,1.3s,

SJPF pmax pmax
comp=Z,22nm,1.2s,mb4.5
PYM Petit Puy Mans 24.29 108 *eP* **P 14 35 12.8 +0.1**
PCBR Castelo Branco 24.35 132 *eP* **P 14 35 16.6 +3.4**
comp=Z,87nm,1.8s,mb4.9
HAU Haudompre 24.41 101 *eP* **P 14 35 13.5 -0.3**
HAU *eR*
comp=Z,11µm,18.8s
HAU Haudompre 24.41 101 *eP* **P 14 35 13.5 -0.3**
HAU LR LR
comp=Z,11µm,18.8s,MS5.3
CAF Calviac 24.43 111 *eP* **P 14 35 11.8 -2.2**
PLDF La Plantade 24.44 107 *eP* **P 14 35 13.7 -0.3**
LANF Langenberg 24.52 97 *eP* **P 14 35 19.4 +4.6**
CDF Champ du Feu 24.62 99 *eP* **P 14 35 15.5 -0.2**
comp=Z,116nm,1.6s,mb4.8
CDF Champ du Feu 24.62 99 *eP* **P 14 35 15.5 -0.2**
comp=Z,58nm,1.6s,mb4.8
CDF Champ du Feu 24.62 99 *eP* **P 14 35 15.5 -0.2**
CDF pmax pmax
comp=Z,58nm,1.6s,mb4.9
TOD Tromm 24.65 95 *eP* **P 14 35 17.7 +1.8**
WLS Welschbruch 24.66 99 *eP* **P 14 35 16.5 +0.5**
ECH Echery 24.68 99 *eP* **P 14 35 16.3 0.0**
ETSF Etsaut 24.74 118 *eP* **P 14 35 14.8 -2.0**
comp=Z,68nm,1.3s,mb4.7
ETSF Etsaut 24.74 118 *eP* **P 14 35 14.8 -2.0**
comp=Z,34nm,1.3s,mb4.7
ETSF Etsaut 24.74 118 *eP* **P 14 35 14.8 -2.0**
ETSF pmax pmax
comp=Z,34nm,1.3s,mb4.7
BSD Bornholm Skovb 24.78 79 *i* P **P 14 35 13.0 -4.2**
BSD *i* S PcP 14 38 55.1 +1.4
BSD
comp=Z,3µm,20.0s
BSD Bornholm Skovb 24.78 79 *i* P **P 14 35 13.0 -4.2**
BSD *i* S PcP 14 38 55.1 +1.4
BSD pmax pmax
comp=Z,38nm,1.1s,mb4.8
BSD MLR MLR
comp=Z,3µm,20.0s,MS4.8
BSD Bornholm Skovb 24.78 79 *i* P **P 14 35 13.0 -4.2**
comp=Z,38nm,1.1s,mb4.8
BSD *i* S PcP 14 38 55.1 +1.4
HINF Hinteralfeld 24.79 100 *eP* **P 14 35 16.7 -0.6**
comp=Z,21nm,1.0s,mb4.3
HINF Hinteralfeld 24.79 100 *eP* **P 14 35 16.7 -0.6**
comp=Z,11nm,1.0s,mb4.3
HINF Hinteralfeld 24.79 100 *eP* **P 14 35 16.7 -0.6**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.3
COLF Collangettes 24.80 108 *eP* **P 14 35 17.1 -0.2**
ALE Alert 24.87 351 P **P 14 35 17.0 -1.0**
comp=Z,71nm,0.8s,mb5.2,SNR=9.2
MOF Molkenrain 24.91 100 *eP* **P 14 35 18.2 -0.1**
LIBD Limburg 24.95 99 *eP* **P 14 35 18.7 0.0**
GUD Guadarrama 25.00 126 P **P 14 35 19.4 +0.3**
comp=Z,28nm,1.5s,mb4.6,SNR=6.2
GUD Guadarrama 25.00 126 P **P 14 35 19.4 +0.3**
GUD pmax pmax
comp=Z,28nm,1.5s,mb4.6
GUD Guadarrama 25.00 126 P **P 14 35 19.4 +0.3**
comp=Z,28nm,1.5s,mb4.6
VIEF Viey 25.02 117 *eP* **P 14 35 20.1 +0.8**
EPF Esparros 25.05 116 *eP* **P 14 35 17.7 -1.9**
comp=Z,69nm,1.4s,mb4.7
EPF Esparros 25.05 116 *eP* **P 14 35 17.7 -1.9**
comp=Z,35nm,1.4s,mb4.7
EPF Esparros 25.05 116 *eP* **P 14 35 17.7 -1.9**
EPF pmax pmax
comp=Z,35nm,1.4s,mb4.7
LOMF Lomont 25.09 101 *eP* **P 14 35 23.4 +3.5**
BFO Black Forest 25.21 98 *eP* **P 14 35 21.0 0.0**
comp=Z,25nm,1.9s,mb4.4
BFO Black Forest 25.21 98 *eP* **P 14 35 21.0 0.0**
BFO pmax pmax
comp=Z,25nm,1.9s,mb4.4
CABF La Chapelle 25.22 103 *eP* **P 14 35 20.6 -0.5**
comp=Z,38nm,1.0s,mb4.6
CABF La Chapelle 25.22 103 *eP* **P 14 35 20.6 -0.5**
comp=Z,19nm,1.0s,mb4.6
CABF La Chapelle 25.22 103 *eP* **P 14 35 20.6 -0.5**
CABF pmax pmax
comp=Z,19nm,1.0s,mb4.6
EBIE Bielsa 25.23 117 ⇓P **P 14 35 24.1 +2.9**
comp=Z,491nm,3.2s
EVO Evora 25.29 135 *eP* **P 14 35 16.8 -5.0**
comp=Z,117nm,1.5s,mb4.9
EVO *eR*
comp=Z,6µm,21.5s
BBS Basel-Blauen 25.36 100 *eP* **P 14 35 22.6 +0.2**
STU Stuttgart 25.37 96 *eP* **P 14 35 22.4 -0.1**
comp=Z,10.0nm,1.0s,mb4.3
STU *eS* **S 14 39 49.3 +0.1**
STU Stuttgart 25.37 96 *eP* **P 14 35 21.7 -0.8**
STU pmax pmax
comp=Z,17nm,0.9s,mb4.6
STU Stuttgart 25.37 96 *eP* **P 14 35 21.7 -0.8**
comp=Z,17nm,0.9s,mb4.6
MLS Moulis 25.46 115 *eP* **P 14 35 25.4 +2.1**
MOX Moxa 25.47 91 *eP* **P 14 35 23.3 -0.1**
comp=Z,45nm,1.9s,mb4.7
MOX Moxa 25.47 91 *eP* **P 14 35 23.2 -0.2**
comp=Z,120nm,2.5s,mb5.0
MOX *e* 14 35 59.6
MOX
comp=Z,6µm,15.0s
MOX Moxa 25.47 91 *eP* **P 14 35 23.2 -0.2**
MOX *e* 14 35 59.6
MOX pmax pmax
comp=Z,120nm,2.5s,mb5.0
MOX MLR MLR
comp=Z,6µm,15.0s,MS5.2
EBAD Badajoz 25.47 133 P **P 14 35 24.1 +0.7**
comp=Z,500nm,3.6s,SNR=18
EBAD Badajoz 25.47 133 ⇓P **P 14 35 24.1 +0.7**
comp=Z,500nm,3.6s
ARCES ARCESS Array B 25.50 43 P **P 14 35 23.4 -0.3**
comp=Z,56nm,1.0s,mb5.0,baz=272,slow=6.2,SNR=50
ARCES LR LR 14 43 46.0
comp=Z,1µm,18.2s,MS4.5,baz=265,slow=33
ARE0 ARCESS Array S 25.50 43 P **P 14 35 23.8 +0.1**
ARE0 ARCESS Array S 25.50 43 P **P 14 35 23.8 0.0**
RUE Ruedersdorf 25.55 85 *eP* **P 14 35 24.2 +0.1**
comp=Z,24nm,1.2s,mb4.6
RUE Ruedersdorf 25.55 85 P **P 14 35 23.8 -0.3**
comp=Z,35nm,1.1s,mb4.8
RUE Ruedersdorf 25.55 85 P **P 14 35 23.8 -0.3**
comp=Z,35nm,1.1s,mb4.8
MTLF Montolieu 25.69 113 *eP* **P 14 35 24.5 -1.0**
EGRA Graus 25.70 117 P **P 14 35 27.7 +2.2**
comp=Z,50nm,1.3s,mb4.9,SNR=4.9
EGRA Graus 25.70 117 P **P 14 35 27.7 +2.3**
comp=Z,50nm,1.3s,mb4.9
ESAC San Caprasio 25.71 119 P **P 14 35 28.9 +3.3**
comp=Z,248nm,2.3s,mb5.3
VIVF Saint-Julien-l 25.75 108 *eP* **P 14 35 25.2 -0.8**
comp=Z,69nm,1.4s,mb4.7
VIVF Saint-Julien-l 25.75 108 *eP* **P 14 35 25.2 -0.8**
comp=Z,34nm,1.4s,mb4.7
VIVF Saint-Julien-l 25.75 108 *eP* **P 14 35 25.2 -0.8**
VIVF pmax pmax
comp=Z,34nm,1.4s,mb4.7
PBEJ Beja 25.79 135 *eP* **P 14 35 27.2 +0.8**
CLL Collm 25.80 88⇑*iP* **P 14 35 25.8 -0.6**
comp=Z,38nm,1.6s,mb4.7
CLL *eP*Ip pP 14 35 27.0 -1.3
comp=N,300nm,10.8s
CLL *eP*Ip pP 14 35 27.0 -1.3
CLL *eS* **S 14 39 53.0 -3.1**
CLL LmV 14 46 00.0
comp=Z,4µm,18.4s
CLL Collm 25.80 88 *eP* **P 14 35 25.8 -0.6**
comp=Z,23nm,1.6s,mb4.5
CLL *eS* **S 14 39 53.0 -3.1**
CLL Collm 25.80 88⇑*iP* **P 14 35 25.8 -0.6**
CLL *eS* **S 14 39 53.0 -3.1**
CLL pmax pmax
comp=Z,38nm,1.6s,mb4.7
CLL MLR MLR
comp=Z,4µm,18.4s,MS5.0
GRA1 Grafenberg Arr 25.84 93 *eP* **P 14 35 27.0 +0.2**
comp=Z,62nm,1.6s,mb4.9
GRA1 *e* 14 38 55.3
GRA1 *eS* **S 14 40 01.4 +4.7**
GRA1 LR LR
comp=Z,5µm,21.7s,MS5.0
GRF Grafenberg Arr 25.84 93 *eP* **P 14 35 27.0 +0.2**
comp=Z,62nm,1.6s,mb4.9
GRF *e* 14 38 55.3
GRF *eS* **S 14 40 01.4 +4.7**
GRF *eL* 14 44 30.2
comp=Z,5µm,21.7s
GRF Grafenberg Arr 25.84 93 *eP* **P 14 35 27.0 +0.2**
GRF *e* 14 38 55.3
GRF *eS* **S 14 40 01.4 +4.7**
GRF pmax pmax
comp=Z,62nm,1.6s,mb4.9
GRF MLR MLR
comp=Z,5µm,21.7s,MS5.0
GRF Grafenberg Arr 25.84 93 *eP* **P 14 35 27.0 +0.2**
GRF *e* 14 38 55.3
GRF *eS* **S 14 40 01.4 +4.7**
GRF pmax pmax
comp=Z,62nm,1.6s,mb4.9
GRF MLR MLR
comp=Z,5µm,21.7s,MS5.0
ESDC Sonseca Array 25.89 127 P **P 14 35 27.4 +0.2**
comp=Z,10.0nm,1.1s,mb4.2,baz=328,slow=9.3,SNR=10
ESDC Sonseca Array 25.89 127 P **P 14 35 29.3 +2.1**
comp=Z,133nm,3.2s,SNR=5.3
ESDC Sonseca Array 25.89 127 P **P 14 35 29.3 +2.1**
comp=Z,133nm,3.2s
ESLA Sonseca Array 25.89 127 *eP* **P 14 35 25.4 -1.8**
comp=Z,22nm,1.4s,mb4.5
ESLA Sonseca Array 25.89 127 *eP* **P 14 35 25.4 -1.8**
comp=Z,22nm,1.4s,mb4.5
LASF Ste Croix 25.93 110 *eP* **P 14 35 26.7 -0.9**
comp=Z,92nm,1.5s,mb4.8
LASF Ste Croix 25.93 110 *eP* **P 14 35 26.7 -0.9**
comp=Z,46nm,1.5s,mb4.8
WERD Werda 25.94 90 *eP* **P 14 35 27.5 -0.2**
comp=Z,32nm,2.1s,mb4.5
KEV Kevo 26.00 42 *ep* **P 14 35 27.7 -0.6**
NKC Novy Kostel 26.14 91 *eP* **P 14 35 29.2 -0.3**
NKC AMS AMS 14 46 00.0
comp=Z,7µm,16.6s
NKC Novy Kostel 26.14 91 *eP* **P 14 35 29.2 -0.3**
comp=Z,7µm,16.6s
NKC Novy Kostel 26.14 91 *eP* **P 14 35 29.2 -0.3**
ROTZ Rotzenmuhle 26.30 92 *eP* **P 14 35 30.6 -0.3**
comp=Z,51nm,2.1s,mb4.7
LPL La Plagne 26.30 104 *eP* **P 14 35 30.5 -0.5**
ORIF Oris-en-Rattie 26.30 106 *eP* **P 14 35 30.8 -0.2**
comp=Z,31nm,1.0s,mb4.5
ORIF *eR*
comp=Z,3µm,23.0s
ORIF Oris-en-Rattie 26.30 106 *eP* **P 14 35 30.8 -0.2**
comp=Z,16nm,1.0s,mb4.5
ORIF Oris-en-Rattie 26.30 106 *eP* **P 14 35 30.8 -0.2**
ORIF pmax pmax
comp=Z,16nm,1.0s,mb4.5
LPG La Plagne 26.32 104 *eP* **P 14 35 30.9 -0.3**
EMIN Mina Concepcio 26.46 133 P **P 14 35 30.6 -1.8**
comp=Z,156nm,2.0s,mb5.2,SNR=7.0
EMIN Mina Concepcio 26.46 133 P **P 14 35 30.6 -1.8**
comp=Z,156nm,2.0s,mb5.2
BRG Berggiesshubel 26.54 88 *eP* **P 14 35 32.6 -0.5**
comp=Z,24nm,1.7s,mb4.5
BRG Berggiesshubel 26.54 88 *eP* **P 14 35 32.4 -0.7**
BRG *e* 14 38 56.7
BRG S **S 14 40 03.0 -4.7**
BRG pmax pmax
comp=Z,16nm,1.9s,mb4.2
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb3.9
BRG MLR MLR
comp=N,2µm,17.6s,MS4.8
BRG MLR MLR
comp=E,2µm,20.4s,MS4.8
BRG MLR MLR
comp=Z,2µm,22.1s,MS4.6
BRG Berggiesshubel 26.54 88 *eP* **P 14 35 32.4 -0.6**
comp=Z,16nm,1.9s,mb4.2
BRG *e* 14 38 56.7
BRG S **S 14 40 03.0 -4.7**
BRG LR LR
comp=Z,2µm,22.1s,MS4.6
BNI Bardonecchia 26.60 105 P **P 14 35 34.5 +0.8**
comp=Z,57nm,1.6s,mb4.8
BNI Bardonecchia 26.60 105 P **P 14 35 34.5 +0.8**
BNI pmax pmax
comp=Z,57nm,1.6s,mb4.8
FUR Furstenfeldbru 26.82 95 *eP* **P 14 35 36.1 +0.4**
SMRF Simiane la Rot 26.84 108 *eP* **P 14 35 35.1 -0.7**
MBDF Montbardon 26.88 106 *eP* **P 14 35 35.3 -0.9**
EADA Adamuz 26.93 130 P **P 14 35 37.6 +1.0**
comp=Z,9.3nm,1.0s,mb4.2,SNR=6.4
EADA Adamuz 26.93 130 P **P 14 35 37.6 +1.0**
comp=Z,9.3nm,1.0s,mb4.3
DAVOX Davos 27.02 99 P **P 14 35 38.2 +0.8**
comp=Z,3.6nm,0.9s,mb3.9,baz=308,slow=12,SNR=6.6
DAVOX LR LR 14 45 49.9
comp=Z,4µm,20.1s,MS5.0,baz=299,slow=35
DAVOX Davos 27.02 99 P **P 14 35 38.2 +0.8**
WET Wettzell 27.03 92 *eP* **P 14 35 37.0 -0.5**
comp=Z,29nm,1.9s,mb4.5
WET Wettzell 27.03 92 *eP* **P 14 35 37.0 -0.5**
WET pmax pmax
comp=Z,29nm,1.9s,mb4.5
PVCC Panska Ves 27.06 88 *eP* **P 14 35 37.3 -0.5**
PVCC AMS AMS 14 47 20.0
ECHE Chera 27.23 123 P **P 14 35 42.0 +2.7**
comp=Z,67nm,1.7s,mb4.9,SNR=5.2
ECHE Chera 27.23 123 P **P 14 35 42.0 +2.7**
ECHE pmax pmax
comp=Z,67nm,1.7s,mb4.9
ECHE Chera 27.23 123 P **P 14 35 42.0 +2.7**
comp=Z,67nm,1.7s,mb4.9
PRU Pruhonice 27.37 89 *eP* **P 14 35 39.5 -1.1**
comp=Z,6µm,15.0s
PRU Pruhonice 27.37 89 *eP* **P 14 35 39.5 -1.1**
PRU LR LR
comp=Z,6µm,15.0s,MS5.3
KHC Kasperske Hory 27.40 92 *eP* **P 14 35 40.6 -0.2**
KHC pP pP 14 35 49.0 +6.3
KHC *eS* **S 14 40 24.3 +3.0**
KHC AMS AMS 14 46 10.0
comp=Z,7µm,17.7s
KHC Kasperske Hory 27.40 92⇑*iP* **P 14 35 40.6 -0.2**
KHC Kasperske Hory 27.40 92 *eP* **P 14 35 40.6 -0.2**
KHC *e* 14 35 49.0
KHC *eS* **S 14 40 24.3 +3.0**
KHC LR LR
comp=Z,7µm,17.7s,MS5.3
FINES FINESS Array B 27.55 61 P **P 14 35 42.1 -0.1**
comp=Z,29nm,0.8s,mb4.9,baz=297,slow=8.5,SNR=40
ESPR Espera 27.56 133 P **P 14 35 42.6 +0.3**
comp=Z,153nm,1.9s,mb5.3,SNR=7.3
ESPR Espera 27.56 133 P **P 14 35 42.6 +0.3**
comp=Z,153nm,1.9s,mb5.3
ELUQ Luque 27.57 130 P **P 14 35 44.5 +2.1**
comp=Z,40nm,1.4s,mb4.9,SNR=7.4
ELUQ Luque 27.57 130 P **P 14 35 44.5 +2.1**
ELUQ pmax pmax
comp=Z,40nm,1.4s,mb4.9
ELUQ Luque 27.57 130 P **P 14 35 44.5 +2.1**
comp=Z,40nm,1.4s,mb4.9
RES Resolute Bay 27.61 329 P **P 14 35 42.7 -0.1**
RES Resolute Bay 27.61 329 P **P 14 35 42.7 -0.1**
GEC2 GERESS Array S 27.64 92 *eP* **P 14 35 43.1 +0.1**
comp=Z,51nm,2.2s,mb4.8
GEC2 GERESS Array S 27.64 92 *eP* **P 14 35 43.1 +0.1**
GEC2 pmax pmax
comp=Z,51nm,2.2s,mb4.8
GERES GERESS Array B 27.64 92 P **P 14 35 43.8 +0.8**
comp=Z,0.6nm,0.8s,baz=256,slow=5.5,SNR=4.8
GERES PcP PcP 14 38 59.5 -0.7
comp=Z,1.0nm,0.8s,baz=0.0,slow=4.0,SNR=4.7
GERES LR LR 14 46 54.8
comp=Z,4µm,18.0s,MS5.1,baz=293,slow=37
GERES GERESS Array B 27.64 92 PcP PcP 14 38 59.5 -0.8
GERES GERESS Array B 27.64 92 P **P 14 35 43.8 +0.8**
GERES 14 38 59.5
FRF La Foret Royal 27.67 108 *eP* **P 14 35 42.3 -1.0**
KSP Ksiaz 27.76 86 *eP* **P 14 35 44.0 -0.1**
KSP Ksiaz 27.76 86 *eP* **P 14 35 43.9 -0.2**
comp=Z,8µm,18.4s
KSP *eS* **S 14 40 27.0 0.0**
KSP Ksiaz 27.76 86⇓*eP* **P 14 35 43.9 -0.2**
KSP *eS* **S 14 40 27.0 0.0**
KSP LR LR
comp=Z,8µm,18.4s,MS5.3
LMR La Mourre 27.77 108 *eP* **P 14 35 43.1 -1.1**
UPC Upice 27.82 87 *eP* **P 14 35 44.4 -0.2**
EQES Quesada 27.85 128 P **P 14 35 45.2 +0.4**
comp=Z,278nm,2.7s,mb5.4,SNR=6.1
EQES Quesada 27.85 128 P **P 14 35 45.2 +0.3**
comp=Z,278nm,2.7s,mb5.4
DPC Dobruska-Polom 28.07 87 *eP* **P 14 35 46.0 -0.8**
DPC AMS AMS 14 47 00.0
comp=Z,4µm,17.4s
DPC Dobruska-Polom 28.07 87 *eP* **P 14 35 46.0 -0.8**
comp=Z,4µm,17.4s
EMIJ Mijas 28.24 132 P **P 14 35 49.7 +1.3**
comp=Z,288nm,3.1s
EMIJ Mijas 28.24 132 P **P 14 35 49.7 +1.4**
comp=Z,288nm,3.1s
TREC Trest 28.28 90 *eP* **P 14 35 48.9 +0.2**
TREC AMS AMS 14 47 30.0
comp=Z,10µm,15.3s
TREC Trest 28.28 90 *eP* **P 14 35 48.9 +0.2**
comp=Z,10µm,15.3s
APA Apatity 28.70 46 *eP* **P 14 35 52.6 +0.2**
comp=Z,65nm,1.0s,mb5.3
APA Apatity 28.70 46 *eP* **P 14 35 52.6 +0.2**
APA *e* 14 36 42.0
APA pmax pmax
comp=Z,65nm,1.0s,mb5.3
APA MLR MLR
comp=Z,2µm,16.0s,MS4.9
VRAC Vranov 28.84 89 P **P 14 35 53.4 -0.3**
comp=Z,3.9nm,0.9s,mb4.2,baz=350,slow=12,SNR=5.3
VRAC LR LR 14 47 54.7
comp=Z,3µm,18.4s,MS5.0,baz=2.8,slow=37
MORC Moravsky Berou 29.04 87 P **P 14 35 55.5 0.0**
MORC Moravsky Berou 29.04 87 P **P 14 35 55.5 0.0**
VSU Vasula 29.05 66 *iP* **P 14 35 54.9 -0.7**
JOF Joensuu 29.31 56 *ep* **P 14 35 58.2 +0.3**
OKC Ostrava-Krasne 29.32 87 *eP* **P 14 35 55.0 -2.9**
OKC AMS AMS 14 49 10.0
comp=Z,6µm,14.1s
OKC Ostrava-Krasne 29.32 87 *eP* **P 14 35 50.4 -7.5**
OKC *e* 14 35 55.0
OKC MLR MLR
comp=Z,6µm,14.1s,MS5.4
OKC Ostrava-Krasne 29.32 87 *eP* **P 14 35 50.4 -7.5**
OKC *e* 14 35 55.0
PGF Pioggiola 29.58 106 *eP* **P 14 35 59.7 -0.5**
comp=Z,29nm,1.1s,mb4.6
PGF Pioggiola 29.58 106 *eP* **P 14 35 59.7 -0.5**
PGF pmax pmax
comp=Z,14nm,1.1s,mb4.6
PGF Pioggiola 29.58 106 *eP* **P 14 35 59.7 -0.5**
comp=Z,14nm,1.1s,mb4.6
ZST Bratislava 29.80 90 *eP* **P 14 36 02.6 +0.4**
OJC Ojcow 29.93 85 *eP* **P 14 36 02.8 -0.6**
VYHS Vyhne 30.50 88 *eP* **P 14 36 10.3 +1.8**
STHS Stebnicka Huta 31.17 85 *eP* **P 14 36 14.8 +0.5**
PSZ Piszkesteto 31.42 88 P **P 14 36 15.8 -0.7**
comp=Z,11nm,1.0s,mb4.6
PSZ Piszkesteto 31.42 88 P **P 14 36 15.8 -0.7**
PSZ pmax pmax
comp=Z,11nm,1.0s,mb4.6
PSZ Piszkesteto 31.42 88 P **P 14 36 15.8 -0.7**
comp=Z,11nm,1.0s,mb4.6
FCC Fort Churchill 31.53 297 P **P 14 36 17.1 -0.4**
comp=Z,20nm,0.8s,mb5.0
FCC Fort Churchill 31.53 297 P **P 14 36 17.1 -0.4**
FCC pmax pmax
comp=Z,20nm,0.8s,mb5.0
MNK Minsk 31.54 72 *eP* **P 14 36 17.0 -0.6**
MDT Midelt 31.63 135 P **P 14 36 18.3 -0.1**
comp=Z,3.9nm,0.9s,mb4.2,baz=344,slow=14,SNR=2.9
KWP Kalwaria 31.78 83 *eP* **P 14 36 20.0 +0.3**
KOLS Kolonicke sedl 32.00 85 *eP* **P 14 36 21.4 -0.2**
DRGR 33.60 87 ⇓P **P 14 36 36.1 +0.4**
BZS Buzias 33.83 90 ⇓P **P 14 36 37.5 -0.1**
BURAR Bucovina Array 34.35 84 ⇓P **P 14 36 42.8 +0.6**
AKASG Malin Array Be 34.43 77 P **P 14 36 42.0 -0.9**
comp=Z,7.4nm,0.9s,mb4.6,baz=304,slow=8.7,SNR=28
AKASG PcP PcP 14 39 16.6 -1.7
comp=Z,4.5nm,0.9s,baz=292,slow=3.8,SNR=8.1
AKASG Malin Array Be 34.43 77 PcP PcP 14 39 16.6 -1.7
OBN Obninsk 35.41 66*ceP* **P 14 36 51.2 -0.1**
OBN *e* 14 38 06.5
OBN pmax pmax
comp=Z,100nm,2.6s,mb5.3
OBN MLR MLR
comp=Z,2µm,18.0s,MS4.9
VAE Valguarnera 36.12 106 LR LR 14 51 10.4
comp=Z,2µm,18.9s,MS4.9,baz=114,slow=35
MLR Muntele Rosu 36.14 86 P **P 14 36 59.0 +1.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=30,slow=10,SNR=3.6
MLR PcP PcP 14 39 21.3 -2.0
comp=Z,4.2nm,0.9s,baz=225,slow=1.4,SNR=3.9
MLR LR LR 14 52 21.2
comp=Z,1µm,18.0s,MS4.7,baz=312,slow=37
MLR Muntele Rosu 36.14 86 PcP PcP 14 39 21.3 -2.0
MLR Muntele Rosu 36.14 86 P **P 14 36 59.0 +1.4**
MLR 14 39 21.3
SKO Skopje 36.30 95 *eP* **P 14 36 56.2 -2.7**
OHR Ohrid 36.60 96 *eP* **P 14 36 58.5 -3.0**
KIS Kishinev 36.60 82 *eP* **P 14 37 02.0 +0.5**
KIS *eS* **S 14 42 46.0 +1.4**
KIS Kishinev 36.60 82 *eP* **P 14 37 02.0 +0.5**
KIS *e* 14 38 28.0
KIS *eS* **S 14 42 46.0 +1.4**
KIS MLR MLR
comp=Z,2µm,14.0s,MS5.0
KIS MLR MLR
comp=N,1µm,13.0s,MS4.9
KIS MLR MLR
comp=E,1µm,15.0s,MS4.9
KIS MLR MLR
comp=Z,1µm,15.0s
STIP Stip 36.88 94 *eP* **P 14 37 00.8 -3.0**
BIA Bitola 36.93 96 *eP* **P 14 37 01.3 -3.0**
ULM Lac du Bonnet 37.17 286 P **P 14 37 05.5 -0.9**
comp=Z,5.8nm,0.7s,mb4.5,baz=50,slow=8.0,SNR=11
ULM LR LR 14 51 01.8
comp=Z,3µm,19.9s,MS5.0,baz=33,slow=34
ULM Lac du Bonnet 37.17 286 P **P 14 37 05.4 -1.0**
VAY Valandovo 37.35 94 *eP* **P 14 37 04.8 -3.1**
FFC Flin Flon 37.36 295 P **P 14 37 08.6 +0.6**
comp=Z,92nm,0.9s,mb5.6,SNR=6.9
ACSO Alum Creek Sta 37.48 263 P **P 14 37 09.3 +0.4**
ACSO Alum Creek Sta 37.48 263 P **P 14 37 09.3 +0.4**
CFR Carcaliu 37.48 85 ⇓P **P 14 37 07.3 -1.7**
YKW3 Yellowknife Ar 38.24 312 *eP* **P 14 37 14.1 -1.3**
YKW3 Yellowknife Ar 38.24 312 *eP* **P 14 37 14.1 -1.2**
YKA Yellowknife Ar 38.27 312 P **P 14 37 14.8 -0.9**
comp=Z,12nm,0.9s,mb4.6,baz=55,slow=9.2,SNR=58
YKA PcP PcP 14 39 27.9 -1.9
comp=Z,2.4nm,0.8s,baz=48,slow=3.3,SNR=12
YKA LR LR 14 52 09.9
comp=Z,3µm,20.4s,MS5.1,baz=60,slow=35
YKA Yellowknife Ar 38.27 312 PcP PcP 14 39 27.9 -1.9
YKA Yellowknife Ar 38.27 312 P **P 14 37 14.8 -0.9**
YKA 14 39 27.9
VOR Voronezh 38.71 69 P **P 14 37 18.0 -1.3**
VOR pmax pmax
comp=Z,120nm,2.4s,mb5.2
VOR pmax pmax
comp=N,70nm,2.0s
VOR pmax pmax
comp=E,100nm,2.4s
VRSR Storozhevoye 39.03 70 *eP* **P 14 37 21.7 -0.4**
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=E,4.0nm,1.0s
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VRSR MLR MLR
comp=Z,290nm,18.0s,MS4.2
VRSR MLR MLR
comp=N,220nm,19.0s,MS4.1
VRSR MLR MLR
comp=E,170nm,21.0s,MS4.1
VRHR Novokhopersk 40.28 68 *eP* **P 14 37 32.8 +0.3**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax

comp=E,10.0nm,0.6s
WCI Wyandotte Cave 40.67 264 P **P 14 37 35.9 +0.2**
WCI Wyandotte Cave 40.67 264 P **P 14 37 35.9 +0.2**
SIM Simferopol' 40.70 81 P **P 14 37 37.9 +2.0**
SIM *e* 14 39 10.0
SIM *e*S **S 14 43 50.0 +3.6**
SIM pmax pmax
comp=Z,40nm,6.3s
SIM MLR MLR
comp=Z,2µm,13.0s,MS5.1
INK Inuvik 41.10 327 P **P 14 37 37.4 -1.8**
comp=Z,3.9nm,0.9s,mb4.0,baz=43,slow=12,SNR=12
INK PcP PcP 14 39 37.1 -1.6
comp=Z,2.6nm,0.9s,baz=45,slow=3.2,SNR=4.3
INK Inuvik 41.10 327 PcP PcP 14 39 37.2 -1.6
INK Inuvik 41.10 327 P **P 14 37 37.4 -1.8**
INK PcP PcP 14 39 37.1 -1.6
SOKR Solikamsk 41.55 50*c i*P **P 14 37 43.6 +0.6**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.1
USIN University of 41.58 265 P **P 14 37 43.7 +0.5**
comp=Z,15nm,0.5s,mb4.9
USIN University of 41.58 265 P **P 14 37 43.7 +0.6**
comp=Z,15nm,0.5s,mb4.9
APE Apeiranthos 42.06 96 *i*P **P 14 37 46.0 -1.1**
DGMT Dagmar 42.44 289 P **P 14 37 54.1 +3.9**
ANN Anapa 42.48 78 *e*P **P 14 37 48.5 -2.1**
ANN *e* 14 39 32.4
ANN *e* 14 39 42.7
ANN *e*PPP 14 39 58.9
ANN *e*S **S 14 44 09.7 -3.2**
ANN pmax pmax
comp=Z,382nm,8.1s
ANN MLR MLR
comp=Z,2µm,17.0s,MS5.2
FVM French Village 42.98 268 P **P 14 37 54.2 -0.4**
FVM French Village 42.98 268 P **P 14 37 54.2 -0.4**
IDI Anoyia 43.11 98 P **P 14 37 53.8 -1.8**
comp=Z,4.6nm,0.7s,mb4.3,baz=30,slow=14,SNR=2.6
IDI PcP PcP 14 39 45.5 +0.1
comp=Z,9.6nm,0.9s,baz=348,slow=9.3,SNR=4.7
IDI LR LR 14 56 23.2
comp=Z,753nm,20.8s,MS4.6,baz=311,slow=37
IDI Anoyia 43.11 98 PcP PcP 14 39 45.5 +0.1
EDM Edmonton 43.51 300 P **P 14 37 59.0 +0.1**
BR131 Keskin Array S 44.23 86 P **P 14 38 05.9 +1.3**
BR131 Keskin Array S 44.23 86 P **P 14 38 05.9 +1.2**
BRTR Keskin Array B 44.23 86 P **P 14 38 05.8 +1.2**
comp=Z,3.1nm,1.0s,mb4.0,baz=313,slow=5.5,SNR=13
BRTR PcP PcP 14 39 48.2 -1.0
comp=Z,1.4nm,0.8s,baz=180,slow=1.2,SNR=4.7
BRTR Keskin Array B 44.23 86 P **P 14 38 05.8 +1.2**
BRTR Keskin Array B 44.23 86 PcP PcP 14 39 48.2 -1.0
ARU Arti 44.33 53 P **P 14 38 05.8 +0.4**
comp=Z,281nm,1.0s,SNR=20
ARU Arti 44.33 53 P **P 14 38 05.3 -0.1**
ARU *e*S **S 14 44 39.6 -0.3**
ARU *e*ScS ScS 14 48 00.6 -3.8
ARU Arti 44.33 53⇓*i*P **P 14 38 05.2 -0.2**
ARU *e* 14 39 48.9
ARU *e*PPP 14 40 25.7
ARU *e*S **S 14 44 39.6 -0.3**
ARU *e*SS SS 14 48 00.6 +2.4
ARU pmax pmax
comp=Z,50nm,1.0s,mb5.2
ARU Arti 44.33 53 P **P 14 38 05.3 -0.1**
SOC Sochi 44.50 78 *e*P **P 14 38 05.9 -0.9**
SOC *e*PP pP 14 38 10.8 +2.0
SOC *e* 14 39 52.6
SOC *e*PPP 14 40 35.0
SOC *e*S **S 14 44 39.8 -2.7**
SOC pmax pmax
comp=Z,23nm,1.2s,mb4.9
SOC pmax pmax
comp=Z,157nm,3.2s
SOC MLR MLR
comp=Z,1µm,18.0s,MS4.9
LAO LASA Array 44.66 289 P **P 14 38 08.9 +0.8**
LAO LASA Array 44.66 289 P **P 14 38 08.9 +0.8**
GOF Gofitskoye 45.10 74 *e*P **P 14 38 11.6 0.0**
GOF pmax pmax
comp=Z,35nm,1.3s,mb5.0
OXF Oxford 45.14 264 P **P 14 38 11.2 -0.7**
OXF Oxford 45.14 264 P **P 14 38 11.2 -0.6**
KSU1 Kansas State U 45.33 274 P **P 14 38 13.4 0.0**
KSU1 Kansas State U 45.33 274 P **P 14 38 13.3 -0.1**
KIV Kislovodsk 45.73 75 P **P 14 38 17.2 +0.7**
comp=Z,90nm,1.4s,mb5.5,SNR=5.8
KIV Kislovodsk 45.73 75 P **P 14 38 17.3 +0.8**
comp=Z,17nm,1.1s,mb4.9
KIV Kislovodsk 45.73 75↑*e*P **P 14 38 16.4 -0.1**
KIV *e* 14 39 54.6
KIV *e*S **S 14 44 53.0 -7.1**
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,1µm,17.0s,MS4.9
KIV Kislovodsk 45.73 75 P **P 14 38 17.3 +0.8**
comp=Z,17nm,1.1s,mb4.9
DAWY Dawson 45.76 324 P **P 14 38 17.4 +0.6**
DAWY Dawson 45.76 324 P **P 14 38 17.4 +0.5**
GCMT Greycliff 46.98 290 *e*P **P 14 38 26.8 +0.4**
GCMT Greycliff 46.98 290 *e*P **P 14 38 26.8 +0.4**
MIAR Mount Ida 47.25 267 P **P 14 38 28.8 +0.3**
MIAR Mount Ida 47.25 267 P **P 14 38 28.8 +0.3**
HRY Holter Researc 47.35 292 P **P 14 38 33.1 +3.8**
ILAR Eielson Array 47.36 328 P **P 14 38 29.7 +0.3**
comp=Z,5.0nm,0.9s,mb4.5,baz=31,slow=6.7,SNR=32
ILAR PcP PcP 14 39 59.1 -1.0
comp=Z,3.0nm,1.0s,baz=2.2,slow=2.9,SNR=12
ILAR Eielson Array 47.36 328 PcP PcP 14 39 59.1 -1.0
COLA College 47.54 329 *e*P **P 14 38 31.0 +0.2**
comp=Z,17nm,1.1s,mb5.0
COLA College 47.54 329 *i*P **P 14 38 30.5 -0.3**
COLA College 47.54 329 *e*P **P 14 38 31.0 +0.2**
comp=Z,17nm,1.1s,mb5.0
MALT Malatya 47.75 84 P **P 14 38 33.5 +1.1**
MALT Malatya 47.75 84 P **P 14 38 33.5 +1.2**
IMA2 Indian Mountai 48.05 333 *e*P **P 14 38 34.4 -0.4**
IMA2 Indian Mountai 48.05 333 *e*P **P 14 38 34.4 -0.4**
PHWY Pilot Hill 48.19 283 P **P 14 38 35.8 0.0**
PHWY Pilot Hill 48.19 283 P **P 14 38 35.8 0.0**
LKWY Lake 48.23 290 P **P 14 38 39.3 +3.3**
LRM Limekiln Ridge 48.29 292 P **P 14 38 37.5 +0.9**
LRM Limekiln Ridge 48.29 292 P **P 14 38 37.5 +0.9**
AKTK Aktyubinsk 48.30 59 P **P 14 38 36.7 0.0**
AKTK Aktyubinsk 48.30 59 P **P 14 38 36.7 0.0**
AKTO Aktyubinsk 48.30 59 P **P 14 38 36.7 0.0**
comp=Z,57nm,0.8s,mb5.7,baz=323,slow=7.5,SNR=135
YFT Old Faithful 48.52 290 P **P 14 38 40.3 +1.9**
YFT Old Faithful 48.52 290 P **P 14 38 40.3 +1.9**
QLMT Earthquake Lak 48.53 290 P **P 14 38 39.4 +1.0**
QLMT Earthquake Lak 48.53 290 P **P 14 38 39.4 +0.9**
NEW Newport 48.70 297 P **P 14 38 39.6 -0.1**
comp=Z,3.3nm,0.9s,mb4.4,baz=47,slow=11,SNR=5.6
NEW Newport 48.70 297 P **P 14 38 39.6 -0.1**
NEW Newport 48.70 297 P **P 14 38 39.6 -0.1**
TIXI Tiksi 48.73 8 P **P 14 38 40.2 +0.3**
TIXI Tiksi 48.73 8*d i*P **P 14 38 40.2 +0.3**
TIXI pmax pmax
comp=Z,66nm,2.8s,mb5.2
TIXI Tiksi 48.73 8 P **P 14 38 40.2 +0.3**
MCK McKinley 48.74 329 P **P 14 38 40.6 +0.6**
comp=Z,52nm,2.0s,mb5.2
MCK McKinley 48.74 329 P **P 14 38 40.6 +0.5**
comp=Z,52nm,2.0s,mb5.2
MOOW Moose Ponds 48.99 289 P **P 14 38 42.2 +0.2**
MOOW Moose Ponds 48.99 289 P **P 14 38 42.2 +0.2**
LOHW Long Hollow 49.03 289 P **P 14 38 42.5 +0.2**
LOHW Long Hollow 49.03 289 P **P 14 38 42.5 +0.3**
BW06 Boulder Array 49.14 287 P **P 14 38 42.5 -0.6**
comp=Z,24nm,1.5s,mb5.0
BW06 Boulder Array 49.14 287 P **P 14 38 42.5 -0.6**
comp=Z,24nm,1.5s,mb5.0
PDAR Pinedale Array 49.14 287 P **P 14 38 42.1 -1.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=72,slow=4.7,SNR=16
PDAR PP PP 14 40 36.3 -0.5
comp=Z,1.7nm,0.9s,baz=39,slow=9.5,SNR=4.1
PDAR LR LR 14 58 34.8
comp=Z,3µm,18.6s,MS5.3,baz=13,slow=35
PDAR Pinedale Array 49.14 287 PP PP 14 40 36.3 -0.5
MCMT McKenzie Canyo 49.22 291 *e*P **P 14 38 44.2 +0.5**
MCMT McKenzie Canyo 49.22 291 *e*P **P 14 38 44.2 +0.5**
REDW Red Top Meadow 49.33 289 P **P 14 38 48.9 +4.3**

ISCO Idaho Springs 49.40 282 P **P 14 38 46.7 +1.6**
comp=Z,36nm,1.5s,mb5.2
ISCO Idaho Springs 49.40 282 P **P 14 38 46.7 +1.6**
comp=Z,36nm,1.5s,mb5.2
WMOK Wichita Mounta 49.78 272 P **P 14 38 47.5 -0.5**
comp=Z,22nm,1.3s,mb5.0
WMOK Wichita Mounta 49.78 272 P **P 14 38 47.5 -0.5**
comp=Z,22nm,1.3s,mb5.0
AHID Auburn Hatcher 49.90 288 P **P 14 38 49.3 +0.4**
AHID Auburn Hatcher 49.90 288 P **P 14 38 49.3 +0.4**
AB31 Akbulak array 50.01 59 *i*P **P 14 38 50.3 +0.5**
AB31 pmax pmax
comp=Z,33nm,0.8s,mb5.4
SDCO Great Sand Dun 50.90 280 P **P 14 38 58.3 +1.8**
comp=Z,80nm,2.3s,mb5.2
SDCO Great Sand Dun 50.90 280 P **P 14 38 58.3 +1.8**
comp=Z,80nm,2.3s,mb5.2
HLID Hailey 50.91 291 *e*P **P 14 38 56.7 +0.2**
comp=Z,15nm,1.5s,mb4.7
HLID Hailey 50.91 291 *e*P **P 14 38 56.7 +0.1**
comp=Z,15nm,1.5s,mb4.7
HWUT Hardware Ranch 51.00 288 P **P 14 38 56.7 -0.5**
comp=Z,17nm,1.2s,mb4.8
ZRNK Zerenda 51.04 50 P **P 14 38 57.7 +0.2**
ZRNK Zerenda 51.04 50 P **P 14 38 57.7 +0.1**
TCUT Toone Canyon 51.29 287 P **P 14 39 00.8 +1.4**
TCUT Toone Canyon 51.29 287 P **P 14 39 00.8 +1.3**
BMO Blue Mountains 51.31 295 P **P 14 38 59.3 -0.3**
BRVK Borovoye 51.46 49 P **P 14 39 01.1 +0.4**
comp=Z,131nm,1.3s,mb5.7,SNR=5.5
TNA Tin City 51.52 339 P **P 14 39 01.7 +0.6**
comp=Z,49nm,1.8s,mb5.1
TNA Tin City 51.52 339 P **P 14 39 01.7 +0.6**
comp=Z,49nm,1.8s,mb5.1
BVA0 Borovoye Array 51.53 49 *i*P **P 14 39 01.6 +0.4**
BVA0 pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
SPUT South Promonto 51.66 288 P **P 14 39 01.8 -0.4**
SPUT South Promonto 51.66 288 P **P 14 39 01.8 -0.3**
DAU Daniels Canyon 51.75 287 P **P 14 38 59.4 -3.5**
TORD Torodi Ar. Bea 51.91 138 P **P 14 39 01.9 -2.1**
comp=Z,7.5nm,0.9s,mb4.6,baz=342,slow=7.0,SNR=28
VOSK Vostochnaya 51.99 49 P **P 14 39 04.8 +0.2**
VOSK pmax pmax
comp=Z,64nm,1.4s,mb5.4
HKT Hockley 52.05 266 P **P 14 39 03.8 -1.3**
HKT Hockley 52.05 266 P **P 14 39 03.8 -1.3**
MPU Maple Canyon 52.24 286 P **P 14 39 06.9 +0.4**
MPU Maple Canyon 52.24 286 P **P 14 39 06.9 +0.4**
SRU San Rafael 52.38 285 P **P 14 39 08.6 +1.0**
SRU San Rafael 52.38 285 P **P 14 39 08.6 +1.0**
BILL Bilibino 52.50 352 *e*P **P 14 39 07.4 -1.1**
comp=Z,52nm,1.7s,mb5.2
BILL Bilibino 52.50 352*d i*P **P 14 39 08.2 -0.3**
BILL pmax pmax
comp=Z,54nm,2.9s,mb5.0
BILL MLR MLR
comp=Z,700nm,22.0s,MS4.7
BILL Bilibino 52.50 352 *e*P **P 14 39 07.4 -1.0**
comp=Z,52nm,1.7s,mb5.2
NLU North Lily Min 52.51 287 P **P 14 39 07.2 -1.3**
NLU North Lily Min 52.51 287 P **P 14 39 07.2 -1.2**
DUG Dugway 52.69 288 P **P 14 39 10.7 +0.9**
DUG Dugway 52.69 288 P **P 14 39 10.7 +0.9**
EIL Elat 52.72 94 P **P 14 39 10.9 +0.9**
EIL Elat 52.72 94 P **P 14 39 10.9 +0.8**
ANMO Albuquerque 53.56 278 P **P 14 39 17.0 +0.8**
comp=Z,3.0nm,0.9s,mb4.2,baz=58,slow=8.8,SNR=7.8
ANMO Albuquerque 53.56 278 *i*P **P 14 39 15.5 -0.7**
ANMO Albuquerque 53.56 278 P **P 14 39 17.0 +0.8**
MSU Marysvale 53.67 286 P **P 14 39 17.0 0.0**
MSU Marysvale 53.67 286 P **P 14 39 17.0 -0.1**
JCT Junction City 53.67 270 P **P 14 39 15.8 -1.3**
comp=Z,9.0nm,0.8s,mb4.8
JCT Junction City 53.67 270 P **P 14 39 15.8 -1.3**
comp=Z,9.0nm,0.8s,mb4.8
GAMB Gambell 53.83 340 P **P 14 39 18.2 0.0**
GAMB Gambell 53.83 340 P **P 14 39 18.2 -0.1**
LPM Los Pinos Moun 54.15 278 P **P 14 39 14.8 -5.7**
LAZ Ladron 54.33 279 *e*P **P 14 39 20.3 -1.6**
LAZ Ladron 54.33 279 *e*P **P 14 39 20.3 -1.6**
GDL2 Guadalupe Moun 54.65 275 P **P 14 39 21.1 -3.1**
MNTX Cornudas Mount 55.57 275 P **P 14 39 30.1 -0.8**
comp=Z,14nm,1.5s,mb4.8
MNTX Cornudas Mount 55.57 275 P **P 14 39 30.1 -0.7**
comp=Z,14nm,1.5s,mb4.8
WUAZ Wupatki 55.60 283 P **P 14 39 31.2 +0.1**
comp=Z,17nm,1.2s,mb5.0
WUAZ Wupatki 55.60 283 P **P 14 39 31.2 +0.2**
comp=Z,17nm,1.2s,mb5.0
ZAL Zalesovo 56.01 40 P **P 14 39 33.8 -0.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=154,slow=7.1,SNR=7.3
ZAL PcP PcP 14 40 31.8 -0.6
comp=Z,3.4nm,0.9s,baz=143,slow=3.6,SNR=9.6
ZAL Zalesovo 56.01 40 PcP PcP 14 40 31.8 -0.5
ZAL Zalesovo 56.01 40 P **P 14 39 33.8 -0.2**
ZAL PcP PcP 14 40 31.8 -0.6
KURK Kurchatov 56.48 46 P **P 14 39 37.9 +0.5**
comp=Z,156nm,1.1s,SNR=23
KURK Kurchatov 56.48 46 P **P 14 39 36.9 -0.5**
KURK pmax pmax
comp=Z,19nm,1.1s,mb5.0
TPH Tonopah 56.49 289 P **P 14 39 37.9 +0.5**
comp=Z,12nm,0.9s,mb4.9
TPH Tonopah 56.49 289 P **P 14 39 37.9 +0.5**
comp=Z,12nm,0.9s,mb4.9
TXAR Lajitas Array 56.58 272 P **P 14 39 37.7 -0.4**
comp=Z,1.5nm,0.9s,mb4.0,baz=51,slow=8.0,SNR=8.7
TXAR LR LR 15 03 14.5
comp=Z,2µm,18.7s,MS5.2,baz=35,slow=35
TXAR Lajitas Array 56.58 272 P **P 14 39 37.7 -0.4**
TXAR LR LR 15 03 14.5
MNV Mina 56.66 290 P **P 14 39 39.5 +0.8**
comp=Z,22nm,1.5s,mb5.0
MNV Mina 56.66 290 P **P 14 39 39.5 +0.9**
comp=Z,22nm,1.5s,mb5.0
NVAR Mina Array Bea 56.73 290 P **P 14 39 38.9 -0.3**
comp=Z,3.2nm,0.8s,mb4.4,baz=55,slow=4.7,SNR=12
NVAR Mina Array Bea 56.73 290 P **P 14 39 38.9 -0.3**
TUC Tucson 57.84 280 P **P 14 39 47.8 +0.8**
comp=Z,17nm,1.6s,mb4.8
TUC Tucson 57.84 280 P **P 14 39 47.8 +0.8**
comp=Z,17nm,1.6s,mb4.8
ABKT Ailbek 57.88 69 P **P 14 39 48.8 +1.6**
comp=Z,90nm,1.2s,mb5.7,SNR=5.6
DAC Darwin (Calif) 58.09 288 P **P 14 39 49.2 +0.5**
comp=Z,23nm,1.3s,mb5.0
DAC Darwin (Calif) 58.09 288 P **P 14 39 49.2 +0.4**
comp=Z,23nm,1.3s,mb5.0
SEY Seymchan 58.22 358⇓*i*P **P 14 39 49.5 -0.2**
YAK Yakutsk 58.23 11 *i*P **P 14 39 48.3 -1.4**
YAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
SDV Santo Domingo 58.47 228 P **P 14 39 51.4 0.0**
comp=Z,14nm,1.1s,mb4.9
SDV Santo Domingo 58.47 228 P **P 14 39 51.4 +0.1**
comp=Z,14nm,1.1s,mb4.9
GSC Goldstone 58.48 287 P **P 14 39 52.4 +0.9**
GSC Goldstone 58.48 287 P **P 14 39 52.4 +0.9**
ISA Isabella 59.01 288 P **P 14 39 55.8 +0.6**
comp=Z,24nm,1.4s,mb5.0
ISA Isabella 59.01 288 P **P 14 39 55.8 +0.6**
comp=Z,24nm,1.4s,mb5.0
GLA Glamis 59.29 284 P **P 14 39 57.4 +0.3**
GLA Glamis 59.29 284 P **P 14 39 57.4 +0.3**
KKAR Karatay Array 59.41 57 *i*P **P 14 39 58.3 +0.4**
KKAR pmax pmax
comp=Z,16nm,1.1s,mb5.0
SAO San Andreas Ge 59.57 291 P **P 14 39 59.6 +0.6**
comp=Z,20nm,1.2s,mb5.0
SAO San Andreas Ge 59.57 291 P **P 14 39 59.6 +0.5**
comp=Z,20nm,1.2s,mb5.0
BOD Bodaibo 60.11 21 *e*P **P 14 39 57.9 -4.9**
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.6
USP Ospenovka 60.96 54 P **P 14 40 09.2 +0.6**
SNR=9.2
MKAR Makanchi Array 61.09 46 P **P 14 40 08.9 -0.5**
comp=Z,14nm,0.9s,mb5.1,baz=331,slow=4.9,SNR=86
MKAR Makanchi Array 61.09 46 *i*P **P 14 40 09.0 -0.5**
MKAR pmax pmax
comp=Z,37nm,1.1s
EKS2 Erkin-Say 61.15 55 P **P 14 40 11.8 +2.0**
SNR=28
CHMS Chumysh 61.28 54 P **P 14 40 12.1 +1.3**

SNR=5.8
AAK Ala-Archa 61.48 54 P **P 14 40 13.5 +1.4**
SNR=9.9
AAK Ala-Archa 61.48 54 P **P 14 40 12.0 -0.1**
comp=Z,77nm,1.1s,mb5.8,SNR=12
AML Almayashu 61.55 55 P **P 14 40 14.2 +1.6**
SNR=22
MA2 Magadan 61.61 359 P **P 14 40 12.9 -0.1**
comp=Z,15nm,1.0s,mb5.1
MA2 *e*S **S 14 48 35.7 +0.2**
comp=Z,2µm,24.0s
MA2 Magadan 61.61 359*d i*P **P 14 40 13.0 0.0**
MA2 *e*PPP 14 44 02.9
MA2 *e*S **S 14 48 35.7 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MA2 pmax pmax
comp=N,10.0nm,1.2s
MA2 MLR MLR
comp=Z,2µm,24.0s,MS5.1
KBK Karagaybulak 61.65 54 P **P 14 40 15.0 +1.8**
SNR=5.6
TKM2 Tokmak 2 61.70 53 P **P 14 40 15.0 +1.5**
SNR=12
TKM2 Tokmak 2 61.70 53 P **P 14 40 14.9 +1.4**
TKM2 pmax pmax
comp=Z,52nm,1.6s,mb5.4
UCH Uchtor 61.82 54 P **P 14 40 16.7 +2.3**
SNR=14
KZA Kyzart 62.25 54 P **P 14 40 19.4 +2.1**
SNR=7.7
ULHL Ulahol 62.52 53 P **P 14 40 20.6 +1.5**
SNR=5.6
MOY Mondy 62.86 31 *e*P **P 14 40 21.4 +0.1**
MOY pmax pmax
comp=Z,65nm,2.8s,mb5.3
IRK Irkutsk 63.18 29 *e*P **P 14 40 21.1 -2.4**
IRK *e* 14 40 55.1
IRK pmax pmax
comp=Z,86nm,1.6s,mb5.6
ROSC El Rosal 63.59 230 P **P 14 40 26.9 +0.8**
comp=Z,9.0nm,0.4s,mb5.2,baz=102,slow=15,SNR=10
ZAK Zakamensk 64.63 31⇓*i*P **P 14 40 32.8 -0.2**
ZAK pmax pmax
comp=Z,31nm,1.6s,mb5.1
CIT Chita 65.50 23 *e*P **P 14 40 38.7 0.0**
CIT pmax pmax
comp=Z,53nm,2.2s,mb5.2
WMQ Urumqi 65.61 44 P **P 14 40 41.0 +1.6**
WMQ XP sP 14 40 48.0 +5.8
WMQ PCP PcP 14 41 12.0 +1.1
WMQ S S 14 49 25.0 -0.3
WMQ SCS ScS 14 50 32.0 -3.6
WMQ SS SS 14 53 40.0 +0.9
WMQ AMB AMB
comp=Z,34nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,465nm,6.0s
WMQ LR LR
comp=N,369nm,15.0s,MS5.0
WMQ LR LR
comp=E,452nm,12.0s,MS5.0
WMQ LR LR
comp=Z,495nm,13.0s,MS4.9
BANOM Banah 66.70 78 P **P 14 40 47.1 +0.7**
SNR=7.9
ASHO Ashiyiah 67.60 79 P **P 14 40 51.3 -0.9**
SNR=14
SONM Songino Array 67.78 30 P **P 14 40 53.2 -0.1**
comp=Z,9.4nm,1.1s,mb4.7,baz=328,slow=6.2,SNR=40
ULN Ulaanbaatar 67.92 29 P **P 14 40 54.3 +0.2**
ULN Ulaanbaatar 67.92 29*d i*P **P 14 40 54.4 +0.3**
ULN Ulaanbaatar 67.92 29 P **P 14 40 54.3 +0.2**
HIA Hailar 69.31 20 *e*P **P 14 41 03.2 +0.4**
comp=Z,56nm,1.9s,mb5.2
HIA Hailar 69.31 20 *e*P **P 14 41 03.2 +0.4**
HIA pmax pmax
comp=Z,56nm,1.9s
HIA Hailar 69.31 20 *e*P **P 14 41 03.2 +0.4**
comp=Z,56nm,1.9s,mb5.2
KLR Kul'dur 71.06 12 *e*P **P 14 41 09.2 -4.3**
WHFO Wadi Hawf 72.07 85 P **P 14 41 18.6 -1.0**
SNR=7.7
ABTO Aybut 72.30 86 P **P 14 41 20.8 -0.2**
SNR=9.0
SAML Samuel 72.67 214 P **P 14 41 20.8 -2.4**
comp=Z,29nm,1.9s,mb4.9
SAML Samuel 72.67 214 P **P 14 41 20.8 -2.3**
comp=Z,29nm,1.9s,mb4.9
GTA Gaotai 73.65 38 P **P 14 41 28.8 -0.2**
GTA AP pP 14 41 33.7 +2.7
GTA XP sP 14 41 36.3 +4.5
GTA PCP PcP 14 41 44.7 -0.1
GTA PP PP 14 44 16.0 +2.9
GTA S S 14 50 58.9 -1.0
GTA XS sS 14 51 07.7 +4.4
GTA SKS 14 51 31.8
GTA SCS ScS 14 51 35.2 -3.6
GTA SS SS 14 55 45.7 +2.8
GTA AMB AMB
comp=Z,31nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,251nm,5.0s
GTA LR LR
comp=N,498nm,17.6s,MS5.0
GTA LR LR
comp=E,396nm,15.7s,MS5.0
GTA LR LR
comp=Z,401nm,16.2s,MS4.8
YSS Yuzh-Sakhalins 74.13 5↑*e*P **P 14 41 33.0 +1.2**
YSS pmax pmax
comp=Z,90nm,1.6s,mb5.5
YSS MLR MLR
comp=Z,600nm,20.0s,MS4.9
MDJ Mudanjiang 75.35 14 P **P 14 41 37.1 -1.8**
MDJ AP pP 14 41 40.3 -0.7
MDJ XP sP 14 41 41.7 0.0
MDJ PP PP 14 44 24.7 -2.8
MDJ S S 14 51 16.1 -2.8
MDJ SS SS 14 56 05.6 -3.2
MDJ AMB AMB
comp=Z,11nm,1.6s,mb4.5
MDJ AMB AMB
comp=Z,151nm,6.5s
MDJ LR LR
comp=N,112nm,26.6s,MS4.1
MDJ LR LR
comp=E,74nm,25.3s,MS4.1
MDJ LR LR
comp=Z,165nm,24.0s,MS4.2
BTO Baotou 75.46 30 *e*P **P 14 41 39.5 0.0**
CN2 Changchun 75.56 17 *e*P **P 14 41 39.2 -0.9**
CN2 *e*XP sP 14 41 46.2 +3.3
CN2 *e*S S 14 51 17.3 -4.0
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,300nm,17.0s,MS4.9
CN2 LR LR
comp=E,400nm,17.0s,MS4.9
CN2 LR LR
comp=Z,600nm,19.0s,MS4.9
HHC Hu-ho-hao-te 75.62 29⇓P **P 14 41 40.6 +0.2**
HHC AP pP 14 41 44.8 +2.3
HHC XP sP 14 41 48.1 +4.9
HHC PCP PcP 14 41 54.7 +1.4
HHC PP PP 14 44 30.8 +1.0
HHC S S 14 51 18.5 -3.4
HHC XS sS 14 51 28.4 +3.1
HHC SKS 14 51 43.7
HHC SCS ScS 14 51 50.3 -4.3
HHC AMB AMB
comp=Z,26nm,1.5s,mb4.9
HHC AMB AMB
comp=Z,210nm,4.4s
HHC LR LR
comp=N,203nm,12.1s,MS4.8
HHC LR LR
comp=E,202nm,11.0s,MS4.8
HHC LR LR
comp=Z,112nm,12.1s,MS4.4
BAO Brasilia Array 75.81 197 P **P 14 41 41.0 -0.5**
BDFB Brasilia 75.82 197 P **P 14 41 40.8 -0.8**
comp=Z,10.0nm,0.9s,mb4.8,baz=35,slow=0.4,SNR=12

BJT Baijiatuau 77.48 25 *eP* **P 14 41 50.9 -0.1**
comp=Z,17nm,1.4s,mb4.8
BJT Baijiatuau 77.48 25 *eP* **P 14 41 50.9 -0.1**
BJT pmax pmax
comp=Z,17nm,1.4s
BJT Baijiatuau 77.48 25 *eP* **P 14 41 50.9 -0.1**
comp=Z,17nm,1.4s,mb4.8
LZH Lanzhou 77.95 36 ⇓P **P 14 41 53.0 -0.6**
LZH AP pP 14 41 56.2 +0.5
LZH XP sP 14 41 57.6 +1.2
LZH PP PP 14 44 49.8 +0.4
LZH *e*S S 14 51 43.2 -4.2
LZH XS sS 14 51 51.3 +0.5
LZH SKS 14 52 01.4
LZH *e*SS SS 14 56 47.0 -1.1
LZH AMB AMB
comp=Z,29nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,127nm,6.3s
LZH LR LR
comp=E,578nm,15.0s
LZH LR LR
comp=Z,753nm,18.3s,MS5.0
KOLN Koldanda 78.00 56 *eP* **P 14 41 53.5 -0.3**
comp=Z,67nm,1.4s,mb5.4
GKN Gorkha 78.23 55 *eP* **P 14 41 54.9 -0.2**
KKN Kakani 78.69 54 *eP* **P 14 41 57.6 0.0**
comp=Z,37nm,1.1s,mb5.2
DMN Daman 78.77 54 *eP* **P 14 41 58.5 +0.4**
comp=Z,111nm,1.5s,mb5.6
GUN Gumba 78.83 54 *eP* **P 14 41 59.2 +0.8**
comp=Z,55nm,1.2s,mb5.4
PKI Pulchoki 78.93 54 *eP* **P 14 41 59.3 +0.3**
comp=Z,105nm,1.7s,mb5.5
JIRN Jiri 79.18 54 *eP* **P 14 42 00.9 +0.5**
comp=Z,56nm,1.1s,mb5.4
LSA Lhasa 79.36 49 P **P 14 42 02.8 +1.5**
LSA Lhasa 79.36 49 *eP* **P 14 42 02.7 +1.4**
comp=Z,44nm,1.8s,mb5.1
LSA Lhasa 79.36 49 *eP* **P 14 42 02.7 +1.4**
LSA pmax pmax
comp=Z,45nm,1.8s,mb5.1
LSA Lhasa 79.36 49 *eP* **P 14 42 02.7 +1.4**
comp=Z,44nm,1.8s,mb5.1
KMBO Kilima Mbogo 79.90 110 P **P 14 42 03.1 -1.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=315,slow=10.0,SNR=3.0
LPAZ La Paz 81.08 216 P **P 14 42 09.4 -1.2**
comp=Z,1.3nm,0.9s,mb3.9,baz=39,slow=3.6,SNR=5.5
LPAZ La Paz 81.08 216 P **P 14 42 10.0 -0.6**
comp=Z,53nm,2.3s,mb5.1
LPAZ La Paz 81.08 216 P **P 14 42 10.0 -0.6**
LPAZ pmax pmax
comp=Z,53nm,2.3s
LPAZ La Paz 81.08 216 P **P 14 42 10.0 -0.6**
comp=Z,53nm,2.3s,mb5.1
XAN Xi'an 81.34 33 P **P 14 42 11.0 -1.0**
XAN AMB AMB
comp=Z,22nm,1.9s,mb4.8
POO Poona 81.58 68 *eP* **P 14 42 11.0 -2.3**
CD2 Chengdu 82.71 38 P **P 14 42 18.5 -0.7**
CD2 AP pP 14 42 23.3 +2.0
CD2 PP PP 14 45 32.7 +3.7
CD2 S S 14 52 33.4 -4.0
CD2 SS SS 14 57 57.9 -1.5
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,250nm,5.8s
CD2 LR LR
comp=E,200nm,16.8s
CD2 LR LR
comp=Z,250nm,24.0s
SHL Shillong 83.34 50 *eP* **P 14 42 12.5 -10**
MAJO Matsushiro 84.23 9 P **P 14 42 27.1 +0.1**
MAJO Matsushiro 84.23 9 P **P 14 42 27.1 +0.1**
MJAR Matsushiro Arr 84.24 9 P **P 14 42 27.2 +0.1**
comp=Z,3.2nm,0.9s,mb4.5,baz=8.0,slow=7.0,SNR=6.8
HYB Hyderabad 84.76 65 *i* P **P 14 42 29.0 -0.7**
HYB Hyderabad 84.76 65 *eP* **P 14 42 29.0 -0.7**
ENH Enshi 85.04 34 *eP* **P 14 42 30.6 -0.5**
comp=Z,81nm,1.6s,mb5.6
ENH Enshi 85.04 34 *eP* **P 14 42 30.6 -0.5**
comp=Z,81nm,1.6s,mb5.6
NJ2 Nanjing 85.72 25 *eP* **P 14 42 34.1 -0.4**
NJ2 AP pP 14 42 39.1 +2.5
NJ2 XP sP 14 42 41.2 +3.8
NJ2 S 14 53 09.0
NJ2 XS sS 14 53 16.0 +5.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,280nm,4.8s
NJ2 LR LR
comp=N,730nm,29.4s,MS5.1
NJ2 LR LR
comp=E,820nm,32.0s,MS5.1
NJ2 LR LR
comp=Z,860nm,37.7s
SSE Sheshan 87.14 24 P **P 14 42 40.4 -1.1**
SSE AP pP 14 42 43.8 +0.2
SSE PP PP 14 46 03.0 -2.0
SSE S 14 53 18.9
SSE XS sS 14 53 24.9 0.0
SSE SS SS 14 59 02.2 -2.5
SSE AMB AMB
comp=Z,19nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,231nm,4.4s
SSE LR LR
comp=N,116nm,19.1s,MS4.4
SSE LR LR
comp=E,92nm,19.4s,MS4.4
SSE LR LR
comp=Z,239nm,21.1s,MS4.6
KMI Kunming 87.73 41 P **P 14 42 44.1 -0.2**
KMI AP pP 14 42 47.7 +1.2
KMI XP sP 14 42 48.8 +1.6
KMI PP PP 14 46 10.2 +0.4
KMI SKS 14 53 09.6
KMI S 14 53 25.8
KMI XS sS 14 53 29.7 -0.8
KMI SS SS 14 59 12.6 -0.7
KMI AMB AMB
comp=Z,12nm,1.5s,mb4.9
KMI LR LR
comp=N,297nm,16.7s,MS4.9
KMI LR LR
comp=E,264nm,19.9s,MS4.9
KMI LR LR
comp=Z,327nm,26.7s
GYA Guiyang 87.77 37 ⇑*i*P **P 14 42 44.7 +0.2**
GYA AP pP 14 42 49.2 +2.6
GYA XP sP 14 42 51.8 +4.4
GYA PP PP 14 46 13.0 +2.9
GYA SKS 14 53 10.4
GYA S 14 53 25.2
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,290nm,4.2s
GYA LR LR
comp=N,570nm,18.7s,MS5.2
GYA LR LR
comp=E,640nm,19.0s,MS5.2
GYA LR LR
comp=Z,720nm,19.5s,MS5.1
CPUP Villa Florida 87.93 204 P **P 14 42 42.4 -2.9**
comp=Z,13nm,1.1s,mb5.1
CPUP Villa Florida 87.93 204 P **P 14 42 42.4 -2.9**
CPUP pmax pmax
comp=Z,13nm,1.1s
CPUP Villa Florida 87.93 204 P **P 14 42 42.4 -2.9**
comp=Z,13nm,1.1s,mb5.1
WRA Warramunga Arr 139.41 22 PKhKP 14 49 16.8
comp=Z,1.8nm,1.1s,baz=342,slow=2.6,SNR=4.0
WRA PKP PKPdf 14 49 21.7 -1.2
comp=Z,1.7nm,0.9s,baz=336,slow=2.3,SNR=7.8
WRA Warramunga Arr 139.41 22 PKIKP PKPdf 14 49 21.7 -1.1
WRA Warramunga Arr 139.41 22 ⇑*i*PKIKP PKPdf 14 49 21.8 -1.0
WRA Warramunga Arr 139.41 22 PKP PKPdf 14 49 21.7 -1.2
ASAR Alice Springs 142.94 24 PKhKP 14 49 23.8
comp=Z,3.0nm,0.9s,baz=355,slow=2.0,SNR=9.0
MUN Mundaring 145.01 54 ⇓*i*P PKPbc 14 49 30.7 -1.4
KLBR Kellerberrin 145.31 51 *eP* PKiKP 14 49 41.3 +4.1
comp=Z,72nm,1.0s

NWAO Narrogin (SRO) 146.26 53 PKPbc PKPbc 14 49 34.7 -1.4
comp=Z,15nm,0.9s,baz=338,slow=5.2,SNR=6.8
NWAO Narrogin (SRO) 146.26 53 PKIKP PKPdf 14 49 35.2 +0.3
NWAO Narrogin (SRO) 146.26 53 PKPdf PKPdf 14 49 35.2 +0.2
QSPA South Pole Qui 149.05 180 *e*PKPdf PKPdf 14 49 36.2 -3.3
QSPA *e*PKPbc PKPbc 14 49 41.0 -2.6
STKA Stephens Creek 152.26 14 PKPbc PKPbc 14 49 48.2 -3.0
comp=Z,8.9nm,1.0s,baz=94,slow=3.1,SNR=9.7
STKA PKPab PKPab 14 49 59.3 -1.8
comp=Z,4.8nm,0.9s,baz=0.0,slow=2.0,SNR=4.1
STKA Stephens Creek 152.26 14 PKPdf PKPdf 14 49 45.8 +1.2
VNDA Vanda 161.05 188 PKP PKPdf 14 49 52.4 -3.4
comp=Z,1.5nm,0.8s,baz=135,slow=1.4,SNR=2.9
VNDA PKPab PKPab 14 50 37.4 -1.4
comp=Z,4.2nm,0.9s,baz=127,slow=2.7,SNR=6.5
VNDA Vanda 161.05 188 PKP PKPdf 14 49 52.4 -3.4
VNDA PKPab PKPab 14 50 37.4 -1.4

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*ISCJB **04** 14:34:18.9±0.9, 593N±02×309W±0.1, h10km, mb3.8/13, Error ellipse: s-maj=23.2km s-min=10.8km az=178.9*
*NEIC **04** 14:34:22.5±0.8, 5970N×3079W, h10km, mb4.4/3, Error ellipse: s-maj=22.9km s-min=11.0km az=187.0*
*CSEM **04** 14:34:22.5, 5970N×3079W, h10km, mb4.5/2, After NEIC*
*IDC **04** 14:34:22.0±1.3, 5986N×3063W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/27, mbtmp3.8/12, ML3.4/1, Error ellipse: s-maj=35.9km s-min=17.5km az=12.0*
ISC 04 14:34:19.2±0.8, 592N±01×310W±01, h10km, n26, σ0.9 87/26, mb3.8/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.22**	**35**	Pn	**Pn**	**14 36 06.3**	**+1.6**
	4.0nm,0.3s,baz=198,slow=11,SNR=7.3						
BORG				Sn	**Sn**	**14 37 26.8**	**+0.1**
	0.3nm,0.3s,baz=79,slow=19,SNR=6.3						
EKA	**Eskdalemuir Ar**	**15.50**	**92**	Pn	**Pn**	**14 37 58.4**	**+0.7**
	0.1nm,0.3s,baz=273,slow=14,SNR=3.9						
SCHQ	**Schefferville**	**19.82**	**273**	*e*P	**Pn**	**14 38 51.8**	**+0.4**
	25nm,1.5s						
SCHQ	**Schefferville**	**19.82**	**273**	*e*P	**Pn**	**14 38 51.8**	**+0.3**
	25nm,1.5s						
ADH	**Angra Heroismo**	**20.67**	**172**	*i* LR	LR	14 39 42.5	
ARCES	**ARCESS Array B**	**25.54**	**43**	P	**P**	**14 39 47.6**	**-0.3**
	7.4nm,1.0s,mb4.2,baz=278,slow=8.6,SNR=6.4						
ESDC	**Sonseca Array**	**25.96**	**127**	P	**P**	**14 39 58.7**	**+6.9**
	0.1nm,0.3s,mb2.9,baz=328,slow=9.4,SNR=4.2						
KEV	**Kevo**	**26.04**	**42**	*e*P	**P**	**14 39 51.6**	**-0.9**
	29nm,1.2s,mb4.7						
KEV	**Kevo**	**26.04**	**42**	*e*P	**P**	**14 39 51.6**	**-0.9**
	29nm,1.2s,mb4.7						
FINES	**FINESS Array B**	**27.60**	**61**	P	**P**	**14 40 05.3**	**-1.3**
	2.7nm,1.0s,mb3.8,baz=297,slow=8.5,SNR=4.0						
YKA	**Yellowknife Ar**	**38.20**	**312**	P	**P**	**14 41 38.8**	**-0.2**
	0.9nm,0.9s,mb3.5,baz=54,slow=8.9,SNR=7.9						
YKA	**Yellowknife Ar**	**38.20**	**312**	P	**P**	**14 41 38.8**	**-0.2**
INK	**Inuvik**	**41.04**	**326**	P	**P**	**14 42 02.4**	**-0.3**
	1.7nm,1.1s,mb3.6,baz=21,slow=8.6,SNR=2.4						
INK	**Inuvik**	**41.04**	**326**	P	**P**	**14 42 02.3**	**-0.3**
ILAR	**Eielson Array**	**47.30**	**328**	P	**P**	**14 42 53.5**	**+0.7**
	0.6nm,0.9s,mb3.5,baz=30,slow=6.4,SNR=4.8						
COLA	**College**	**47.48**	**329**	P	**P**	**14 42 58.4**	**+4.2**
	2.2nm,1.0s,mb4.0						
COLA	**College**	**47.48**	**329**	P	**P**	**14 42 58.4**	**+4.2**
	2.2nm,1.0s,mb4.0						
AKTK	**Aktyubinsk**	**48.35**	**59**	P	**P**	**14 43 00.9**	**-0.1**
AKTK	**Aktyubinsk**	**48.35**	**59**	P	**P**	**14 43 00.9**	**0.0**
AKTO	**Aktyubinsk**	**48.35**	**59**	P	**P**	**14 43 00.9**	**0.0**
	2.7nm,0.5s,mb4.5,baz=337,slow=7.3,SNR=11						
PDAR	**Pinedale Array**	**49.06**	**287**	P	**P**	**14 43 11.2**	**+4.8**
	0.5nm,0.7s,mb3.7,baz=56,slow=3.3,SNR=3.4						
GNI	**Garni**	**49.64**	**77**	P	**P**	**14 43 12.3**	**+1.5**
GNI	**Garni**	**49.64**	**77**	P	**P**	**14 43 12.3**	**+1.5**
BVAR	**Borovoye Array**	**51.57**	**49**	P	**P**	**14 43 23.6**	**-1.8**
	1.0nm,0.8s,mb3.8,baz=288,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**61.13**	**46**	P	**P**	**14 44 33.2**	**-0.4**
	0.7nm,0.7s,mb3.9,baz=339,slow=5.1,SNR=7.9						
SONM	**Songino Array**	**67.80**	**30**	P	**P**	**14 45 17.4**	**+0.2**
	0.6nm,1.0s,mb3.6,baz=333,slow=3.2,SNR=3.6						

IDC 04 14:38:14.2±21.0, 527N×12726E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/18, mbtmp4.1/3, Error ellipse: s-maj=355.0km s-min=185.1km az=158.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.00**	**165**	P	P	14 43 49.1	+0.4
	2.4nm,0.5s,baz=344,slow=10.0,SNR=24						
WB2	**Warramunga Arr**	**26.00**	**165**	*e*P	P	14 43 49.6	+0.8
ASAR	**Alice Springs**	**29.48**	**168**	P	P	14 44 21.1	+1.2
	1.8nm,0.6s,baz=353,slow=7.4,SNR=59						
ASPA	**Alice Springs**	**29.48**	**168**	*e*P	P	14 44 20.9	+1.0
STKA	**Stephens Creek**	**39.38**	**161**	*e*P	P	14 45 44.7	-0.8
	3.3nm,1.4s						
STKA	**Stephens Creek**	**39.38**	**161**	P	P	14 45 44.8	-0.7
	2.2nm,0.7s,baz=330,slow=10.0,SNR=8.3						

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*NAO **04** 14:43:57.8±2.8, 6768N×3375E, ML2.1*
HEL 04 14:43:58.3±0.3, 6771N×3375E, h0km, ML2.2, ML2.1(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.31**	**251**	*i* P	Pg	14 44 03.5	-0.7
APA0				*i* S	Sg	14 44 07.7	-0.5
APA0				*e*RG		14 44 09.2	
APA0	**Apatity Array**	**0.31**	**251**	Pg	Pg	14 44 03.5	-0.7
	baz=79,slow=16						
APA0				Lg		14 44 07.7	
	baz=84,slow=37						
APA0				Rg		14 44 09.2	
	baz=84,slow=37						
KU4	**Liikasenvaara**	**2.12**	**232**	*e*P	Pn	14 44 35.4	+0.4
KU4				*e*S	Sn	14 45 02.0	0.0
SGF	**Sodankyl**	**2.78**	**268**	*e*P	Pn	14 44 43.6	-0.5
SGF				*e*S	Sn	14 45 18.2	-0.2
SGF				MSG		14 45 25.5	
	comp=Z,7.4nm,0.3s						
KEV	**Kevo**	**3.21**	**313**	*e*P	Pn	14 44 50.5	+0.6
KEV				*e*S	Sn	14 45 29.6	+0.8
KEV				MSG		14 45 37.1	
	comp=Z,13nm,0.3s						
ARA0	**ARCESS Array S**	**3.54**	**305**	*e*P	Pn	14 44 54.4	0.0
ARA0				*e*PG	Pg	14 45 02.7	-3.4
ARA0				*e*S	Sn	14 45 35.2	-1.7
ARA0				*e*SG		14 45 46.2	
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	Pn	14 44 54.4	0.0
	baz=122,slow=16						
ARA0				Pg	Pg	14 45 02.7	-3.4
	baz=116,slow=16						
ARA0				Sn	Sn	14 45 35.2	-1.7
	baz=124,slow=28						
ARA0				Lg		14 45 46.2	
	baz=120,slow=28						
OUL	**Oulu**	**4.11**	**234**	*e*PG	Pg	14 45 12.3	-4.8
OUL				*e*SG	Sg	14 46 05.2	-5.2
OUL				MSG		14 46 06.9	
	comp=Z,2.3nm,0.3s						
KJN	**Kajaani**	**4.40**	**217**	*e*P	Pn	14 45 05.7	-0.6
KJN				*e*S	Sn	14 45 56.2	-2.0
KJN				*e*SG	Sg	14 46 13.7	-5.9
FIA0	**FINESS Array S**	**7.10**	**211**	Pn	Pn	14 45 41.6	-1.7
	baz=11,slow=18						
FIA0				Sn	Sn	14 47 01.6	-3.0
	baz=17,slow=28						
FIA0				Lg		14 47 33.9	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.10**	**211**	*e*P	Pn	14 45 41.6	-1.7
FIA0				*e*S	Sn	14 47 01.6	-3.0
FIA0				*e*SG		14 47 33.9	
BJO	**Bjornoya**	**8.27**	**332**	AMS	AMS	14 42 32.5	
	comp=Z,2μm,19.4s						

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*ISCJB **04** 14:45:05.4±4.5, 184S±02×1683E±02, h57km±45km, mb4.0/6, Error ellipse: s-maj=49.2km s-min=28.2km az=97.7*
*IDC **04** 14:45:05.5±6.3, 1832S×16834E, h44km±62km, mb3.7/6, mb1 3.9/7, mb1mx3.8/15, mbtmp4.0/7, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=51.2km s-min=34.5km az=160.0*
ISC 04 14:45:05.9±4.2, 184S±03×1684E±02, h53km±43km, n11, σ0.9 67/11, mb4.0/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.15**	**206**	P	**Pn**	**14 46 06.8**	**+0.2**
	7.8nm,0.3s,baz=44,slow=20,SNR=28						
DZM				S	**Sn**	**14 46 53.8**	**0.0**
	12nm,0.3s,baz=142,slow=22,SNR=10						
DZM				LR	LR	14 47 41.2	
	comp=Z,158nm,21.3s,baz=125,slow=38						
CTA	**Charters Tower**	**21.01**	**262**	P	**P**	**14 49 44.9**	**-0.1**
	3.5nm,0.8s,mb3.8,baz=96,slow=13,SNR=2.8						
STKA	**Stephens Creek**	**27.69**	**236**	P	**P**	**14 50 49.2**	**+0.3**
	3.6nm,0.8s,mb4.1,baz=70,slow=10,SNR=5.1						
WB2	**Warramunga Arr**	**32.20**	**262**	*e*P	**P**	**14 51 28.0**	**-0.9**
WRA	**Warramunga Arr**	**32.21**	**262**	P	**P**	**14 51 28.2**	**-0.8**
	0.4nm,0.3s,mb3.7,baz=81,slow=6.1,SNR=16						
ASAR	**Alice Springs**	**32.61**	**255**	P	**P**	**14 51 32.5**	**+0.1**
	1.4nm,0.4s,mb4.3,baz=83,slow=8.5,SNR=47						
ASPA	**Alice Springs**	**32.61**	**255**	⇑*i*P	**P**	**14 51 32.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.58**	**263**	*e*P	**P**	**14 52 41.0**	**+0.8**
	8.9nm,0.7s,mb4.5						
SONM	**Songino Array**	**86.05**	**323**	P	**P**	**14 57 42.3**	**+1.4**
	0.2nm,0.3s,mb3.8,baz=151,slow=5.1,SNR=3.9						
ILAR	**Eielson Array**	**89.62**	**18**	P	**P**	**14 57 57.0**	**-0.9**
	0.5nm,1.0s,mb3.8,baz=223,slow=5.9,SNR=5.3						
ARCES	**ARCESS Array B**	**124.02**	**345**	PKP	PKPdf	15 03 58.4	+0.1
	3.6nm,1.0s,baz=45,slow=2.6,SNR=8.2						

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*ISK **04** 14:46:00.6, 3433N×3226E, h22km, MD3.9*
*CSEM **04** 14:46:02.8±0.1, 3438N×3207E, h40km, Mw3.7, Error ellipse: s-maj=1.5km s-min=1.1km az=85.0*
*NIC **04** 14:46:02.9±0.2, 3434N×3196E, h25km, mb4.1, ML3.8, MW3.7*
*ISCJB **04** 14:46:03.2±0.2, 3436N±001×32.15E±002, h41km±6km, mb3.5/8, Error ellipse: s-maj=3.0km s-min=2.3km az=147.5*
*GRAL **04** 14:46:03.3±2.1, 3439N×3199E, h50km±23km, MD4.0*
*NEIC **04** 14:46:05.6±1.0, 3430N×3220E, h47km±11km, Error ellipse: s-maj=13.3km s-min=10.9km az=208.0*
*IDC **04** 14:46:07.9±3.7, 3453N×3199E, h58km±33km, mb3.4/8, mb1 3.5/11, mb1mx3.4/22, mbtmp3.6/11, ML3.8/2, Error ellipse: s-maj=33.7km s-min=16.7km az=157.0*
*HLW **04** 14:46:08.6, 34.15N×3209E, h33km, Mb3.9*
*GII **04** 14:46:19.4±0.0, 3439N×3223E, h30km, mb4.0/1, ML3.6/6, Mw3.6/8*
ISC 04 14:46:04.9±0.2, 3439N±001×3218E±002, h35km±6km, n130, σ0.9 96/167, mb3.5/8, 2C-7D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.52**	**15**	*e*Pg	**Pn**	**14 46 14.2**	**-1.6**
AKMC	**Akamas**	**0.65**	**11**	*e*Pg	**Pn**	**14 46 16.3**	**-1.4**
SZAC	**Souni-Zanaja**	**0.69**	**57**	*e*Pg	**Pn**	**14 46 17.8**	**-0.4**
ALFC	**Alevga**	**0.84**	**24**	⇑P	**Pn**	**14 46 19.3**	**-1.0**
	53nm,0.3s						
ALFC				S	**Sn**	**14 46 32.2**	**+0.8**
ALFC	**Alevga**	**0.84**	**24**	*e*Pg	**Pn**	**14 46 19.3**	**-1.0**
ALFC				S	**Sn**	**14 46 32.2**	**+0.8**
CSS	**Prodhromos**	**1.11**	**58**	⇑P	**Pn**	**14 46 24.0**	**+0.1**
	33nm,0.2s						
CSS				S	**Sn**	**14 46 39.8**	**+1.8**
CSS	**Prodhromos**	**1.11**	**58**	*e*Pn	**Pn**	**14 46 22.7**	**-1.2**
CSS	**Prodhromos**	**1.11**	**58**	*e*Pg	**Pn**	**14 46 24.0**	**+0.1**
CSS				S	**Sn**	**14 46 39.8**	**+1.8**
CSS	**Prodhromos**	**1.11**	**58**	*e*Pn	**Pn**	**14 46 22.7**	**-1.2**
MAMC	**Mammari**	**1.16**	**47**	*e*Pg	**Pn**	**14 46 24.9**	**+0.3**
PHNC	**Paralimni**	**1.65**	**67**	P	**Pn**	**14 46 33.4**	**+2.1**
	30nm,0.4s						
PHNC				S	**Sn**	**14 46 53.2**	**+1.9**
PHNC	**Paralimni**	**1.65**	**67**	*e*Pg	**Pn**	**14 46 33.4**	**+2.1**
PHNC				S	**Sn**	**14 46 53.2**	**+1.9**
IKL	**Isikli**	**2.22**	**33**	PN	**Pn**	**14 46 37.2**	**-2.0**
IKL				SN	**Sn**	**14 47 04.1**	**-1.3**
ERMK	**Ermenek**	**2.33**	**15**	*i* P	**Pn**	**14 46 42.7**	**+1.9**
ERMK				*i* S	**Sn**	**14 47 10.2**	**+2.1**
MEST	**Erdemli**	**2.72**	**36**	*i* P	**Pn**	**14 46 47.6**	**+1.5**
MEST				*i* S	**Sn**	**14 47 18.3**	**+0.5**
MATL	**Matirih**	**2.77**	**108**	*e*P	**Pn**	**14 46 46.8**	**+0.1**
AKAS	**Kas**	**2.80**	**312**	*i* P	**Pn**	**14 46 47.0**	**-0.2**
AKAS				*i* S	**Sn**	**14 47 23.8**	**+4.1**
HNTI	**Hanita**	**2.81**	**117**	Pn	**Pn**	**14 46 47.0**	**-0.4**
HNTI				Sn	**Sn**	**14 47 20.3**	**+0.2**
BHL	**Bhannes**	**2.92**	**99**	*e*P	**Pn**	**14 46 47.5**	**-1.3**
BHL				*e*S	**Sn**	**14 47 21.0**	**-1.7**
OFRI	**'Ofer**	**2.93**	**126**	Pn	**Pn**	**14 46 48.6**	**-0.4**
ELL	**Elmali**	**3.00**	**322**	PN	**Pn**	**14 46 49.5**	**-0.4**
HWQ	**Hawqa**	**3.12**	**91**	*e*P	**Pn**	**14 46 51.3**	**-0.3**
HWQ				*e*S	**Sn**	**14 47 26.9**	**-0.7**
MERS	**Mersin**	**3.13**	**37**	PN	**Pn**	**14 46 50.2**	**-1.5**
KSDI	**Kefar Szold**	**3.13**	**111**	Pn	**Pn**	**14 46 51.6**	**-0.2**
KSDI				Sn	**Sn**	**14 47 28.3**	**+0.4**
BRBR	**Barbar**	**3.28**	**106**	⇑*i*P	**Pn**	**14 46 53.9**	**0.0**
MMLI	**Mount Malkishu**	**3.33**	**125**	Pn	**Pn**	**14 46 54.6**	**+0.1**
MMLI				Sn	**Sn**	**14 47 33.5**	**+0.6**
MMLI	**Mount Malkishu**	**3.33**	**125**	Pn	**Pn**	**14 46 54.6**	**0.0**
MMLI				Sn	**Sn**	**14 47 33.5**	**+0.6**
KRTS	**Karatas**	**3.40**	**49**	PN	**Pn**	**14 46 53.9**	**-1.6**
BIDA	**Albida**	**3.47**	**78**	⇓*i*P	**Pn**	**14 46 55.9**	**-0.5**
QASN	**Qassioun**	**3.51**	**103**	⇑*i*P	**Pn**	**14 46 57.5**	**+0.5**
QASN				⇑*i*S	**Sn**	**14 47 34.4**	**-2.8**
GOLH	**Golhisar**	**3.55**	**324**	*i* P	**Pn**	**14 46 59.8**	**+2.2**
GOLH				*i* S	**Sn**	**14 47 41.3**	**+3.0**
GOLH	**Golhisar**	**3.55**	**324**	*i* S	**Sn**	**14 47 41.3**	**+3.0**
KONT	**Konya--Tatoy**	**3.56**	**2**	PN	**Pn**	**14 46 56.8**	**-0.8**
MARH	**Ras Al Marh**	**3.58**	**95**	⇑*i*P	**Pn**	**14 46 58.4**	**+0.4**
TCHB	**Talchebab**	**3.60**	**117**	⇑*i*P	**Pn**	**14 46 59.4**	**+1.2**
TCHB				⇑*i*S	**Sn**	**14 47 37.7**	**-1.7**
WRDH	**Warideh**	**3.65**	**71**	⇑*i*P	**Pn**	**14 46 58.3**	**-0.6**
AMAZ	**Amatzia**	**3.66**	**140**	Pn	**Pn**	**14 46 59.1**	**+0.1**
AMAZ				Sn	**Sn**	**14 47 42.2**	**+1.3**
AMAZ	**Amatzia**	**3.66**	**140**	Pn	**Pn**	**14 46 59.1**	**+0.1**
AMAZ				Sn	**Sn**	**14 47 42.2**	**+1.3**
HTY	**Hatay**	**3.67**	**61**	PN	**Pn**	**14 46 57.5**	**-1.7**
KARA	**Karaisali**	**3.70**	**38**	PN	**Pn**	**14 46 58.2**	**-1.4**
ISP	**Isparta**	**3.71**	**339**	Pn	**Pn**	**14 47 03.0**	**+3.4**
DALT	**Dalyan (Mudla)**	**3.74**	**310**	*e*PN	**Pn**	**14 47 00.4**	**+0.3**
AMAG	**Maghara**	**3.83**	**167**	P	**Pn**	**14 47 01.3**	**-0.1**
KFRA	**Kufra**	**3.89**	**76**	⇓*i*P	**Pn**	**14 47 01.6**	**-0.6**
KZIT	**Kziot**	**3.94**	**151**	Pn	**Pn**	**14 47 03.2**	**+0.3**
KZIT				Sn	**Sn**	**14 47 48.2**	**+0.3**
TKTP	**Tekketepe**	**3.94**	**338**	*i* P	**Pn**	**14 47 04.1**	**+1.2**
TKTP				*i* S	**Sn**	**14 47 50.7**	**+2.8**
COBT	**Iskenderun**	**3.95**	**56**	*i* P	**Pn**	**14 47 03.5**	**+0.4**
COBT				*i* S	**Sn**	**14 47 47.5**	**-0.5**
COBT	**Iskenderun**	**3.95**	**56**	*i* P	**Pn**	**14 47 03.5**	**+0.5**
COBT				*i* S	**Sn**	**14 47 47.5**	**-0.6**
SVTA	**Shivta**	**4.01**	**148**	Pn	**Pn**	**14 47 04.2**	**+0.3**
MKRJ	**Makawir**	**4.05**	**133**	Pn	**Pn**	**14 47 05.5**	**+1.0**
MZDA	**Masada**	**4.07**	**138**	Pn	**Pn**	**14 47 05.3**	**+0.6**
SALA	**Sala**	**4.15**	**112**	⇓*i*P	**Pn**	**14 47 07.0**	**+1.2**
DNZL	**Cakiroluk**	**4.16**	**323**	*i* P	**Pn**	**14 47 08.0**	**+2.1**
DNZL				*i* S	**Sn**	**14 47 53.0**	**-0.3**
DNZL	**Cakiroluk**	**4.16**	**323**	*i* S	**Sn**	**14 47 53.0**	**-0.3**
KOZT	**Kozan**	**4.28**	**43**	*e*PN	**Pn**	**14 47 06.2**	**-1.3**
HBRG	**Burj al 'Arab**	**4.29**	**208**	⇓P	**Pn**	**14 47 06.2**	**-1.4**
HHAG	**Hagoal**	**4.42**	**181**	⇓P	**Pn**	**14 47 09.7**	**+0.2**
KOT	**Kottamia**	**4.46**	**184**	P	**Pn**	**14 47 09.6**	**-0.3**
KIZT	**Kizilcal**	**4.49**	**357**	*e*PN	**Pn**	**14 47 10.6**	**+0.1**
SUZ		**4.57**	**

FYM	Al Fayyum	4.78	192	P		Pn	14 47 14.1 -0.3
HSAF	As Saff	4.78	187	P		Pn	14 47 14.1 -0.4
GLL	Jalalah	4.81	185	P		Pn	14 47 14.4 -0.4
GLL	Jalalah	4.81	185	P		Pn	14 47 14.4 -0.5
HNAT	Natroun	4.92	196	P		Pn	14 47 17.2 +0.8
GAZ	Gaziantep	4.95	54	ePN		Pn	14 47 15.6 -1.1
HRFI	Mount Harif	4.97	150	Pn		Pn	14 47 17.1 +0.1
HRFI				Sn		Sn	14 48 13.4 +0.3
MANT	Manisa	5.03	326	i P		Pn	14 47 17.5 -0.4
MANT				i S		Sn	14 48 14.4 -0.3
ZNM		5.03	173	P		Pn	14 47 17.8 -0.1
ZAF		5.10	176	P		Pn	14 47 18.6 -0.2
KAMT	Kaman	5.12	13	ePN		Pn	14 47 19.3 +0.2
MBH	Mount Berech	5.13	152	Pn		Pn	14 47 19.5 +0.2
AQBJ	Aqaba	5.24	152	Pn		Pn	14 47 21.3 +0.5
EIL	Elat	5.26	153	Pn		Pn	14 47 21.0 0.0
EIL				Sn		Sn	14 48 21.2 +0.8
EIL	Elat	5.26	153	Pn		Pn	14 47 21.0 0.0
EIL				eSn		Sn	14 48 14.1 -6.3
EIL	Elat	5.26	153	ePn		Pn	14 47 21.1 +0.1
EIL	726nm,0.6s			eSn		Sn	14 48 14.1 -6.2
GZT	Gaziantep	5.28	54	i P		Pn	14 47 21.1 -0.2
GZT				i S		Sn	14 48 27.1 +6.2
HMAT	Matruh	5.40	234	P		Pn	14 47 23.2 +0.3
BR131	Keskin Array S	5.46	12	ePn		Pn	14 47 27.2 +3.5
BR131	2.2nm,0.5s Keskin Array S	5.46	12	ePn		Pn	14 47 27.2 +3.5
BRTR	2.3nm,0.5s Keskin Array B	5.46	12	P		Pn	14 47 26.3 +2.6
HBST	0.1nm,0.3s,baz=192,slow=15,SNR=2.3 Basata	5.59	156	P		Pn	14 47 26.1 +0.5
HRDS	Abu Rudays	5.74	170	P		Pn	14 47 27.5 -0.1
BLCB	Balcova	5.75	315	ePN		Pn	14 47 27.9 +0.1
HDHB	Dhahab	6.02	159	P		Pn	14 47 31.9 +0.5
APE	Apeiranthos	6.03	298	ePN		Pn	14 47 32.5 +0.8
HKAT	Jabal Katrina	6.05	165	P		Pn	14 47 32.0 +0.1
IDI	Anoyia	6.06	281	P		Pn	14 47 32.7 +0.6
IDI	1.1nm,0.3s,baz=90,slow=11,SNR=8.2			S		Sn	14 48 38.0 -2.1
GRB	2.8nm,0.3s,baz=356,slow=22,SNR=8.6 Gharib	6.12	175	P		Pn	14 47 32.3 -0.5
TR2		6.13	167	P		Pn	14 47 33.0 +0.1
MALT	Malatya	6.38	50	ePn		Pn	14 47 37.0 +0.5
MALT	4.7nm,0.6s Malatya	6.38	50	ePn		Pn	14 47 37.0 +0.6
TR1	4.7nm,0.6s	6.54	166	P		Pn	14 47 39.1 +0.5
AWBH		6.66	206	P		Pn	14 47 40.5 +0.2
SHRM		6.69	165	P		Pn	14 47 41.0 +0.4
HHRG	Al Ghardaqah	7.24	170	P		Pn	14 47 48.0 -0.3
SWA1		7.51	229	P		Pn	14 47 51.4 -0.5
SWA1				S		Sn	14 49 08.0 -7.7
SWA2		7.68	230	P		Pn	14 47 54.0 -0.3
HSFG		7.94	169	P		Pn	14 47 57.4 -0.4
HFRF	Wahat Farafira	7.94	206	P		Pn	14 47 56.5 -1.3
HFRF	Wahat Farafira	7.94	206	P		Pn	14 47 56.5 -1.4
HDK1	Dakhla	9.14	196	⇓P		Pn	14 48 14.4 +0.2
AKASG	Malin Array Be	16.45	353	P		Pn	14 49 54.2 +1.3
GERES	0.8nm,0.3s,baz=173,slow=9.9,SNR=9.7 GERESS Array B	19.91	322	P		Pn	14 50 33.4 -1.9
KHC	0.2nm,0.3s,baz=130,slow=10,SNR=14 Kasperske Hory	20.16	323	eP		P	14 50 36.5 +0.4
KHC				pP			14 50 44.5
KHC	Kasperske Hory	20.16	323	eP		P	14 50 36.5 +0.4
KHC				e			14 50 44.5
CLL	Collm	21.88	326	eP		P	14 50 49.0 -5.7
AKTK	Aktyubinsk	24.74	42	P		P	14 51 23.2 +0.2
AKTO	Aktyubinsk	24.74	42	P		P	14 51 23.2 +0.2
FINES	0.8nm,0.5s,mb3.5,baz=244,slow=8.5,SNR=4.8 FINESS Array B	27.36	354	P		P	14 51 45.1 -1.6
BVAR	1.3nm,0.6s,mb3.6,baz=164,slow=9.9,SNR=11 Borovoye Array	32.80	44	P		P	14 52 35.0 +0.2
TORD	0.4nm,0.6s,mb3.5,baz=225,slow=6.1,SNR=4.0 Torodi Ar. Bea	34.78	240	P		P	14 52 52.8 +0.8
ARCES	0.3nm,0.5s,mb3.5,baz=45,slow=7.4,SNR=4.6 ARCESS Array B	35.40	356	P		P	14 52 56.4 -0.9
ARCES	1.6nm,0.8s,mb4.0,baz=163,slow=12,SNR=3.1 ARCESS Array B	35.40	356	P		P	14 52 56.4 -0.9
MKAR	Makanchi Array	39.39	56	P		P	14 53 31.9 +0.8
SONM	0.4nm,0.6s,mb3.3,baz=264,slow=8.0,SNR=6.5 Songino Array	55.46	52	P		P	14 55 36.9 +0.9
YKA	1.0nm,0.7s,mb4.0,baz=286,slow=7.9,SNR=7.6 Yellowknife Ar	79.83	345	P		P	14 58 09.2 -0.5
	0.1nm,0.6s,mb2.9,baz=23,slow=5.7,SNR=4.6						

*IDC **04** 14:50:47.1±1.7, 4124N×4870E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, Error ellipse: s-maj=35.8km s-min=12.3km az=145.0*
*CSEM **04** 14:50:50.0, 4129N×4884E, h28km, mb3.9, Error ellipse: s-maj=16.6km s-min=13.3km az=273.0, After OBN*
*MOS **04** 14:50:50.0±2.0, 4129N×4884E, h28km, mb3.9/3, Error ellipse: s-maj=16.6km s-min=13.3km az=117.3*
*ISCJB **04** 14:50:51.3±1.5, 414N±0.1×490E±0.1, h47km±13km, mb3.4/4, Error ellipse: s-maj=20.8km s-min=9.6km az=118.1*

ISC 04 14:50:53.3±1.4, 414N±01×488E±01, h48km±11km, n20, σ0§63/29, mb3.5/4, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.58	292	i Pg	Pn	14 51 04.0	-1.4
KSMR	518nm,0.1s			eSg	Sn	14 51 15.0	+0.9
KSMR	Kasumkent	0.58	292	⇓i PG	Pn	14 51 04.0	-1.4
KSMR				eS	Sn	14 51 15.0	+0.9
KSMR	comp=Z,518nm,0.1s			pmax	pmax		
DRN	Derbent	0.75	329	i Pg	Pn	14 51 08.0	+0.4
DRN	comp=Z,173nm,0.2s			i Sg	Sn	14 51 23.0	+5.1
DRN	Derbent	0.75	329	⇓i PG	Pn	14 51 08.0	+0.4
DRN				i S	Sn	14 51 23.0	+5.1
DRN	comp=Z,173nm,0.2s			pmax	pmax		
AKT	Akhty	0.84	277	ePg	Pn	14 51 04.0	-4.9
AKT				Sg	Sn	14 51 16.0	-4.2
KMKR	Kumukh	1.50	300	i Pg	Pn	14 51 18.0	+0.2
KMKR	comp=Z,71nm,0.3s			eSg	Sn	14 51 41.0	+4.8
KMKR	Kumukh	1.50	300	i PG	Pn	14 51 18.0	+0.2
KMKR				eS	Sn	14 51 41.0	+4.8
KMKR	comp=Z,71nm,0.3s			pmax	pmax		
GNI	Garni	3.35	250	Pn	Pn	14 51 42.8	-0.3
GNI	comp=Z,1.2nm,0.3s,baz=339,slow=8.6,SNR=4.5 Garni	3.35	250	Pn	Pn	14 51 42.8	-0.4
GNI	comp=Z,1.0nm,0.3s Garni	3.35	250	PN	Pn	14 51 42.8	-0.4
GNI	comp=Z,1.0nm,0.3s			pmax	pmax		
AKTK	Aktyubinsk	11.07	32	P	Pn	14 53 29.1	+0.2
AKTK				S	Sn	14 55 30.7	-0.5
AKTO	Aktyubinsk	11.07	32	Pn	Pn	14 53 29.1	+0.2
AKTO	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=3.8			Sn	Sn	14 55 30.6	-0.5
BVAR	comp=Z,0.2nm,0.3s,baz=190,slow=19,SNR=4.7 Borovoye Array	18.62	44	P	Pn	14 55 08.2	+0.8
FINES	comp=Z,0.2nm,0.3s,baz=246,slow=7.9,SNR=5.1 FINESS Array B	24.35	333	P	P	14 56 07.1	+0.4
FINES	comp=Z,0.5nm,0.4s,mb3.3,baz=138,slow=9.6,SNR=8.9 FINESS Array B	24.35	333	P	P	14 56 07.1	+0.4
FINES				pmax	pmax		
MKAR	comp=Z,1.0nm,0.4s Makanchi Array	24.50	66	P	P	14 56 08.3	+0.3
HFS	comp=Z,0.3nm,0.5s,mb3.1,baz=264,slow=8.8,SNR=7.4 Hagfors	28.58	323	P	P	14 56 44.7	0.0
HFS	comp=Z,2.6nm,0.9s,mb4.0,baz=111,slow=10.0,SNR=10 Hagfors	28.58	323	P	P	14 56 44.7	0.0
HFS	comp=Z,3.0nm,0.9s			pmax	pmax		
NOA	NORSAR Array B	30.07	324	P	P	14 56 57.3	-0.7
NOA	comp=Z,0.8nm,0.8s,mb3.5,baz=109,slow=9.4,SNR=2.7 NORSAR Array B	30.07	324	P	P	14 56 57.3	-0.6
NOA	comp=Z,1.0nm,0.8s			pmax	pmax		

*IDC **04** 15:29:12.7±1.0, 1875N×1210E4, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=55.4km s-min=19.6km az=73.0*

*ISCJB **04** 15:29:16.4±1.6, 1896N±006×12068E±009, h22km±11km, mb3.5/6, Error ellipse: s-maj=14.2km s-min=9.7km az=131.3*
*MAN **04** 15:29:19.1, 1875N×12079E, h6km, mb3.5, ML4.7, MS1.8*

ISC 04 15:29:16.5±1.6, 1894N±005×12073E±009, h13km±10km, n16, σ1§26/20, mb3.5/6, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.62	190	⇓i P	Pg	15 29 28.3	-0.3
PIP				eS	Sg	15 29 36.3	-0.5
APYP	Conner	1.18	156	eP	Pn	15 29 37.7	-0.9
APYP				eS	Sb	15 29 53.9	+0.1
ABRA	Dolores	1.28	181	eP	Pn	15 29 38.1	-2.0
SGCP	Mt. Cagua	1.43	119	eP	Pn	15 29 42.9	+0.8
CVP	Callao Caves	1.61	140	⇑i P	Pn	15 29 45.0	+0.4
CVP				i S	Sn	15 30 05.5	+0.3
BCPH	Baguio City Da	2.55	183	⇑eP	Pn	15 29 57.1	-0.4
BCPH				i S	Sn	15 30 27.5	-0.9
BOLP	Bolinao	2.66	197	eP	Pn	15 30 01.8	+2.7
SCZP	Santa Cruz	3.24	194	eP	Pn	15 30 09.4	+2.4
BALP	Baler	3.28	166	eP	Pn	15 30 09.5	+1.9
PCPH	Palayan	3.38	174	⇓eP	Pn	15 30 09.5	+0.6
SONM	Songino Array	31.10	341	P	P	15 35 34.6	+0.2
	0.4nm,0.7s,mb3.3,baz=141,slow=9.2,SNR=3.5						
WRA	Warramunga Arr	40.88	160	P	P	15 36 53.5	-4.7
	0.3nm,0.5s,mb3.2,baz=347,slow=8.9,SNR=7.3						
MKAR	Makanchi Array	41.94	320	P	P	15 37 08.1	+1.2
	1.0nm,0.9s,mb3.5,baz=114,slow=9.3,SNR=8.3						
ASAR	Alice Springs	44.26	163	P	P	15 37 22.5	-3.1
	0.3nm,0.4s,mb3.4,baz=342,slow=6.6,SNR=13						
ILAR	Eielson Array	74.06	26	P	P	15 40 50.1	-1.9
	0.3nm,0.6s,mb3.4,baz=270,slow=5.5,SNR=7.2						
YKA	Yellowknife Ar	87.95	22	P	P	15 42 05.3	-0.7
	0.8nm,0.9s,mb4.0,baz=314,slow=4.8,SNR=14						

*NEIC **04** 15:32:18.0, 38.13N×2646E, h21km, MD3.4(ISK), MD3.5(ATH), After ATH.*
*ISK **04** 15:32:18.2, 3822N×2653E, h7km, MD3.4*
*ATH **04** 15:32:18.8, 38.13N×2646E, h21km, MD3.5/4*
*ISCJB **04** 15:32:19.2±0.8, 38.19N±003×2660E±004, h9km±5km, Error ellipse: s-maj=6.5km s-min=4.2km az=112.9*
*CSEM **04** 15:32:19.4±0.1, 3821N×2666E, h10km, MD3.4, Error ellipse: s-maj=2.7km s-min=1.6km az=75.0*

ISC 04 15:32:19.5±0.7, 3818N±002×2659E±004, h10km±4km, n30, σ0§87/44, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.18	2	i P	Pg	15 32 23.5	+0.2
URLA				i S	Sg	15 32 27.4	+1.5
BLCB	Balcova	0.41	60	PG	Pg	15 32 27.1	-0.5
SMG	Samos	0.51	157	⇑iPN	Pg	15 32 29.2	-0.2
SMG				eSN	Sg	15 32 36.8	+0.7
IZM	Izmir	0.57	67	PG	Pg	15 32 29.8	-0.8
IZM				SG	Sg	15 32 38.8	+0.6
KDAG	Bornova	0.58	67	i P	Pg	15 32 30.4	-0.3
KDAG				i S	Sg	15 32 38.5	+0.2
PRK	Paraskevi	1.09	347	ePN	Pn	15 32 40.4	-0.5
PRK				eSN	Sn	15 32 55.9	-0.2
AYVA	Ayvalik	1.13	4	i P	Pb	15 32 41.0	-0.2
AYVA				i S	Sb	15 32 59.0	+3.0
AYDN	Tasoluk	1.15	116	i P	Pb	15 32 40.9	-0.5
AYDN				i S	Sb	15 32 55.8	-0.5
AYDN	Tasoluk	1.15	116	i P	Pb	15 32 40.8	-0.6
AYDN				i S	Sb	15 32 55.8	-0.5
AKS	Akhisar	1.19	54	PN	Pn	15 32 41.3	-0.9
BODT	Bodrum	1.25	152	PN	Pn	15 32 43.6	+0.5
MLSB	Milas	1.29	133	PN	Pn	15 32 44.3	+0.7
BDRM	Kayabasi	1.30	148	i P	Pn	15 32 41.8	-2.0
BDRM				i S	Sb	15 33 01.3	+0.4
APE	Apeiranthos	1.39	217	PN	Pn	15 32 44.5	-0.5
APE	Apeiranthos	1.39	217	ePN	Pn	15 32 43.4	-1.6
MANT	Manisa	1.58	78	i P	Pn	15 32 48.6	+1.0
MANT				i S	Sn	15 33 08.9	+0.7
BALB	Balikesir	1.77	34	PN	Pn	15 32 50.0	-0.2
BTOK	Tokmak	1.94	35	i P	Pn	15 32 52.3	-0.3
BTOK				i S	Sg	15 33 22.3	+0.4
DNZL	Cakiroluk	2.00	103	i P	Pn	15 32 55.2	+1.8
DNZL				i S	Sg	15 33 24.7	+0.8
LIA	Limnos Island	2.04	328	ePN	Pn	15 32 54.0	+0.2
DALT	Dalyan (Mudla)	2.15	130	ePN	Pn	15 32 56.4	+0.9
EDC	Edincik	2.38	24	ePN	Pn	15 32 58.7	+0.1
BNT	Bandirma	2.41	25	ePN	Pn	15 32 58.5	-0.5
KCT	Karacabey	2.50	33	ePN	Pn	15 33 00.5	+0.3
MFT	Murefte	2.66	11	ePN	Pn	15 33 02.3	-0.1
ULDT	Uludag	2.79	45	i P	Pb	15 33 07.6	-1.8
ULDT				i S	Sg	15 33 48.1	-0.9
RDO	Rodhopi	3.07	345	ePN	Pn	15 33 08.5	+0.4
YLV	Yalova	3.22	41	ePN	Pn	15 33 11.1	+1.0
ESKT	Eskisehir	3.59	67	i P	Pg	15 33 26.1	-2.2
ESKT				i S	Sg	15 34 14.3	-0.5
EDRB	Edirne	3.67	2	ePN	Pn	15 33 16.2	-0.1

*IDC **04** 15:35:49.0±0.9, 3029S×17765W, h0km, mb4.5/6, mb1 4.7/8, mb1mx4.4/15, mbtmp4.4/8, ML3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx3.3/17, Error ellipse: s-maj=26.4km s-min=17.8km az=120.0*
*NEIC **04** 15:35:50.2±0.5, 3029S×17768W, h10km, mb5.1/6, Error ellipse: s-maj=19.3km s-min=6.7km az=105.0*
*ISCJB **04** 15:35:51.5±0.9, 3041S±005×1776W±02, h33km, mb4.8/10, Error ellipse: s-maj=21.8km s-min=4.9km az=24.1*
*NAO **04** 15:36:09.0, 2528S×17929W, h33km, mb4.4*

ISC 04 15:35:54.0±0.9, 3036S±005×1776W±02, h35km, n55, σ1§15/45, mb4.8/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.13	347	Pn	Pn	15 36 10.2	-3.0
RAO	1μm,0.3s,baz=97,slow=6.8,SNR=49			Sn	Sn	15 36 20.5	-7.0
RAO	4μm,0.3s,baz=107,slow=19,SNR=41 Raoul Island	1.13	347	Pn	Pn	15 36 10.2	-3.0
RAO				eSn	Sn	15 36 19.9	-7.7
RAO				Sn	Sn	15 36 20.6	-7.0
MXZ	Matakaoa Point	7.94	204	PN	Pn	15 37 46.4	-0.5
MXZ				SN	Sn	15 39 16.5	+1.0
MXZ	Matakaoa Point	7.94	204	P	Pn	15 37 46.4	-0.5
MXZ				S	Sn	15 39 16.5	+1.0
PUZ	Puketiti	8.42	203	PN	Pn	15 37 53.1	-0.3
MWZ	Matawai	8.91	205	PN	Pn	15 37 59.2	-1.0
MWZ				eSN	Sn	15 39 39.5	+0.3
MWZ	Matawai	8.91	205	eP	Pn	15 37 59.2	-1.0
MWZ				S	Sn	15 39 42.2	+2.9
URZ	Urewera	9.00	207	Pn	Pn	15 38 00.3	-1.2
URZ	0.7nm,0.3s,baz=226,slow=13,SNR=11			Sn	Sn	15 39 43.8	+2.2
URZ	3.9nm,0.3s,baz=208,slow=22,SNR=13 Urewera	9.00	207	PN	Pn	15 38 01.0	-0.5
URZ				SN	Sn	15 39 43.5	+1.9
URZ	Urewera	9.00	207	eP	Pn	15 38 01.0	-0.5
BKZ	Black Stump Fm	10.03	207	PN	Pn	15 38 13.5	-2.0
BKZ				SN	Sn	15 40 06.7	-0.1
MRZ	Mangatainoka R	11.67	206	SN	Sn	15 40 40.7	-6.3
NNZ	Nelson	13.06	211	SN	Sn	15 41 16.0	-4.9
THZ	Tophouse	13.71	211	SN	Sn	15 41 30.9	-5.9
RPZ	Rata Peaks	16.09	211	Pn	Pn	15 39 36.5	-0.9
RPZ	0.6nm,0.3s,baz=352,slow=17,SNR=4.4			Sn	Sn	15 42 26.0	-8.7
DZM	0.9nm,0.3s,baz=94,slow=19,SNR=5.6 Mont Dzumac	16.49	296	LR	LR	15 43 25.4	
CTA	comp=Z,170nm,21.9s,baz=30,slow=28 Charters Tower	34.11	279	eP	P	15 42 37.0	+1.7
CTA	14nm,0.9s,mb4.9 Charters Tower	34.11	279	P	P	15 42 37.0	+1.8
CTA	14nm,0.5s,mb5.2,baz=102,slow=10,SNR=67			LR	LR	15 55 24.5	
CTAO	comp=Z,237nm,18.1s,baz=36,slow=34 Charters Tower	34.11	279	eP	P	15 42 37.1	+1.8
STKA	24nm,0.8s,mb5.2 Stephens Creek	34.80	257	eP	P	15 42 41.7	+0.4
STKA	6.3nm,1.1s,mb4.5 Stephens Creek	34.80	257	P	P	15 42 41.8	+0.5
STKA	7.2nm,0.5s,mb4.8,baz=95,slow=8.7,SNR=31 Stephens Creek	34.80	257	eP	P	15 42 41.5	+0.2
ASAR	Alice Springs	43.43	267	P	P	15 43 53.0	-0.4
	3.5nm,0.5s,mb4.3,baz=105,slow=7.4,SNR=113						
ASPA	Alice Springs	43.43	267	eP	P	15 43 53.1	-0.3
WB2	Warramunga Arr	44.41	272	eP	P	15 44 00.8	-0.4
WRAB	Tennant Creek	44.41	272	P	P	15 44 02.0	+0.8
	113nm,1.0s,mb5.5,SNR=12						
WRA	Warramunga Arr	44.41	272	P	P	15 44 01.1	-0.2
	21nm,1.1s,mb4.8,baz=110,slow=8.0,SNR=117						
CASY	Casey	55.33	208	eP	P	15 45 23.7	-0.5
	15nm,1.0s,mb5.0						
MBWA	Marble Bar	56.55	263	eP	P	15 45 33.2	+0.3
	7.8nm,1.1s,mb4.7						
MIDW	Midway	58.24	0	P	P	15 45 45.4	+0.5
	79nm,0.4s						
QSPA	South Pole Qui	59.76	180	eP	P	15 45 59.5	+4.1
	22nm,0.9s,mb5.2						
VNA3	Neumayer Olymp	78.33	176	eP	pP	15 48 00.2	-1.3
VNA3				e		16 02 18.3	
VNA3				e		16 02 23.0	
VNA3				e		16 02 27.0	
VNA3				e		16 02 42.3	
VNA3				e		16 02 54.5	
MJAR	Matsushiro Arr	78.39	325	P	P	15 47 52.6	+1.7
	0.6nm,0.6s,baz=149,slow=4.6,SNR=5.0						
MAJO	Matsushiro	78.39	325	P	P	15 47 50.5	-0.4
	19nm,1.3s,mb4.9						
VNA2	Neumayer--Watz	78.77	177	e	pP	15 48 03.1	-0.8
	baz=199,slow=6.4						
VNA2	Neumayer--Watz	78.77	177	eP	pP	15 48 03.1	-0.8
VNA2				e		16 02 25.2	
VNA2				e		16 02 31.1	
VNA2				e		16 02 35.6	
VNA2				e		16 02 48.4	
VNA2				e		16 02 54.5	
VNA2				e		16 03 01.2	
KULM	Kulim	85.53	279	P	P	15 48 26.2	-2.2
NVAR	Mina Array Bea	87.99	43	P	P	15 48 42.3	+1.9
	0.7nm,0.8s,mb3.9,baz=226,slow=7.4,SNR=4.2						
ILAR	Eielson Array	97.81	13	PKiKP	PKiKP	15 53 57.1	-2.3
	0.8nm,1.2s,baz=170,slow=5.8,SNR=4.8						
MKAR	Makanchi Array	117.99	310	PKP	PKPdf	15 54 35.7	-1.3
	0.5nm,0.6s,baz=90,slow=1.4,SNR=8.1						
MKAR	Makanchi Array	117.99	310	PKP	PKPdf	15 54 35.7	-1.3
ZRNK	Zerenda	127.43	316	ePKPdf	PKPdf	15 54 53.8	-1.3
ARCES	ARCESS Array B	138.61	348	PKhKP		15 55 06.9	
	3.3nm,1.0s,baz=0.0,slow=0.9,SNR=7.6						
JOF	Joensuu	142.49	339	ep	PKPdf	15 55 18.1	-5.0
FINES	FINESS Array B	145.21	340	PKP	PKPdf	15 55 25.9	-2.0
	6.6nm,0.4s,baz=50,slow=4.4,SNR=122						
NB2	NORSAR Subarra	148.75	352	PKPa	PKPbc	15 55 36.8	-0.8
	comp=Z,6.7nm,0.9s,baz=16,slow=2.9						
NOA	NORSAR Array B	148.75	352	PKPbc	PKPbc	15 55 36.6	-1.0
	comp=Z,3.9nm,0.8s,baz=17,slow=2.8,SNR=7.8						
HFS	Hagfors	149.26	349	PKPbc	PKPbc	15 55 37.4	-1.5
	comp=Z,5.2nm,0.9s,baz=243,slow=3.3,SNR=6.9						
AKASG	Malin Array Be	151.46	323	PKPbc	PKPbc	15 55 43.4	-0.8
	comp=Z,4.5nm,0.5s,baz=50,slow=3.3,SNR=4.2						
BR131	Keskin Array S	152.86	299	ePKPdf	PKPbc	15 55 46.4	-0.9
BR131				e		15 55 51.8	
BRTR	Keskin Array B	152.86	299	PKPbc	PKPbc	15 55 47.0	-0.3
	comp=Z,1.9nm,0.9s,baz=90,slow=2.5,SNR=9.7						
EKA	Eskdalemuir Ar	154.72	7	PKPab	PKPab	15 56 08.1	+1.7
	comp=Z,0.7nm,0.5s,baz=335,slow=2.7,SNR=7.3						
KHC	Kasperske Hory	159.41	339	ePKPab	PKPab	15 56 26.5	0.0
GERES	GERESS Array B	159.62	338	PKPab	PKPab	15 56 26.6	-0.8
	comp=Z,0.3nm,0.7s,baz=68,slow=5.3,SNR=3.5						
TORD	Torodi Ar. Bea	162.86	178	PKPab	PKPab	15 56 44.1	+2.5
	comp=Z,1.2nm,0.7s,baz=182,slow=3.2,SNR=5.7						

*NEIC **04** 15:48:51.0, 38.15N×2033E, h15km, MD3.4(ATH), After ATH.*
*ATH **04** 15:48:51.1, 38.15N×2033E, h15km±5km, MD3.4/4*
*ISCJB **04** 15:48:53.6±1.2, 3828N±004×204E±0.1, h10km, Error ellipse: s-maj=12.9km s-min=4.9km az=140.1*
*CSEM **04** 15:48:53.6±0.5, 3822N×2039E, h2km, MD3.4, Error ellipse: s-maj=10.1km s-min=3.0km az=54.0*
*THE **04** 15:48:54.5, 3830N×2039E, h10km*

ISC 04 15:48:54.0±1.2, 3826N±005×205E±01, h10km, n14, σ0§92/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.14	127	ePB	Pg	15 48 56.3	-0.9
VLS				eSB	Sg	15 48 59.5	+0.1
LKD	Levkas	0.47	19	ePg	Pg	15 49 02.3	-1.0
LKD				eSg	Sg	15 49 10.1	+0.5
RLS	Riolos of Patr	0.83	104	ePN	Pg	15 49 08.7	-1.3
EVR	Evrytania	1.25	58	ePN	Pn	15 49 17.4	-0.2
IGT	Igoumenitsa	1.27	356	ePg	Pg	15 49 17.9	-0.6
IGT				eSg	Sg	15 49 35.2	+0.2
JAN	Janina	1.43	13	ePN	Pn	15 49 20.5	+0.5
KEK	Kerkira	1.54	341	ePN	Pn	15 49 21.0	-0.5
MEV	Metsovon	1.64	21	ePg	Pg	15 49 23.8	-1.7
MEV				eSg	Sg	15 49 46.0	-0.8
AGG	Agios Georgios	1.66	62	ePb	Pb	15 49 24.5	-0.2
XOR	Xorichti	2.41	62	ePn	Pn	15 49 35.1	+1.6
LIT	Litokhoron	2.43	40	ePn	Pn	15 49 34.9	+1.2
FNA	Florina	2.62	16	ePn	Pn	15 49 37.3	+0.9
AOS	Alonnisos	2.83	70	ePn	Pn	15 49 40.6	+1.3
GRG	Griva	3.09	29	ePn	Pn	15 49 43.7	+0.9

*ISCJB **04** 15:51:13.3±1.2, 3820N±005×2030E±008, h10km, Error ellipse: s-maj=10.1km s-min=5.6km az=116.4*
*NEIC **04** 15:51:13.0, 3824N×2040E, h14km, MD3.5(ATH), After ATH.*
*ATH **04** 15:51:13.3, 3824N×2040E, h14km, MD3.5/4*
*CSEM **04** 15:51:14.4±0.3, 3821N×2036E, h0km±1km, MD3.5, Error ellipse: s-maj=5.7km s-min=2.1km az=56.0*
*THE **04** 15:51:15.3, 3828N×2035E, h10km*

ISC 04 15:51:13.5±1.3, 3817N±005×2032E±008, h10km, n14, σ1§09/20, Greece

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

HATZ	**Hinemaiaia**	**0.84 201**	P	Pn	15 59 43.0	+0.3
MWZ	**Matawai**	**0.86 106**	PN	Pn	15 59 42.9	+0.1
MWZ			SN	Sn	15 59 59.6	-0.1
MWZ	**Matawai**	**0.86 106**	P	Pn	15 59 42.9	+0.1
MWZ			S	Sn	15 59 59.6	-0.1
RITZ	**Rihia Road**	**1.00 209**	PN	Pn	15 59 44.6	+0.6
RITZ	**Rihia Road**	**1.00 209**	P	Pn	15 59 44.7	+0.7
BKZ	**Black Stump Fm**	**1.06 179**	PN	Pn	15 59 44.7	+0.2
BKZ			SN	Sn	16 00 02.8	-0.1
BKZ	**Black Stump Fm**	**1.06 179**	P	Pn	15 59 44.7	+0.1
WTVZ	**West Tongariro**	**1.23 214**	PN	Pn	15 59 46.3	+0.1
WTVZ	**West Tongariro**	**1.23 214**	P	Pn	15 59 46.3	+0.1
OTVZ	**Oturere**	**1.24 211**	PN	Pn	15 59 46.8	+0.5
OTVZ			SN	Sn	16 00 05.8	-0.1
TWVZ	**Taurewa**	**1.27 220**	PN	Pn	15 59 46.1	-0.5
TWVZ	**Taurewa**	**1.27 220**	P	Pn	15 59 46.2	-0.3
NGZ	**Ngauruhoe**	**1.27 212**	PN	Pn	15 59 47.0	+0.4
NGZ	**Ngauruhoe**	**1.27 212**	P	Pn	15 59 47.1	+0.5
KNZ	**Kokohu**	**1.31 135**	PN	Pn	15 59 47.3	+0.3
KNZ			SN	Sn	16 00 06.5	-0.7
KNZ	**Kokohu**	**1.31 135**	P	Pn	15 59 47.4	+0.4
WPVZ	**Whakapapa**	**1.32 213**	PN	Pn	15 59 47.2	+0.1
WPVZ	**Whakapapa**	**1.32 213**	P	Pn	15 59 47.3	+0.2
TUVZ	**Tukino**	**1.33 209**	PN	Pn	15 59 47.6	+0.4
TUVZ			SN	Sn	16 00 08.2	+0.6
FWVZ	**Far West T-bar**	**1.36 212**	PN	Pn	15 59 47.8	+0.3
FWVZ			SN	Sn	16 00 08.6	+0.5
FWVZ	**Far West T-bar**	**1.36 212**	P	Pn	15 59 48.0	+0.5
TRVZ	**Turoa**	**1.40 211**	PN	Pn	15 59 48.4	+0.4
WNVZ	**Wahianoa**	**1.40 209**	PN	Pn	15 59 48.2	+0.2
WNVZ			SN	Sn	16 00 09.2	+0.2
WNVZ	**Wahianoa**	**1.40 209**	P	Pn	15 59 48.3	+0.3
PUZ	**Puketiti**	**1.40 89**	PN	Pn	15 59 47.7	-0.3
PUZ			SN	Sn	16 00 08.3	-0.7
PUZ	**Puketiti**	**1.40 89**	P	Pn	15 59 47.8	-0.2
MOVZ	**Moawhango**	**1.42 203**	PN	Pn	15 59 47.9	-0.3
MOVZ			SN	Sn	16 00 08.2	-1.1
PKVZ	**Pokaka**	**1.48 216**	PN	Pn	15 59 48.9	+0.1
KUZ	**Kuaotunu**	**1.48 336**	PN	Pn	15 59 48.4	-0.5
KUZ	**Kuaotunu**	**1.48 336**	P	Pn	15 59 48.4	-0.5
MTVZ	**Mangateitei**	**1.50 211**	PN	Pn	15 59 49.3	+0.2
MXZ	**Matakaoa Point**	**1.54 70**	PN	Pn	15 59 49.7	+0.2
MXZ			SN	Sn	16 00 11.4	-0.3
MXZ	**Matakaoa Point**	**1.54 70**	P	Pn	15 59 49.7	+0.2
OTAZ	**Otara**	**1.69 313**	PN	Pn	15 59 51.2	+0.1
OTAZ	**Otara**	**1.69 313**	P	Pn	15 59 51.2	+0.1
MTAZ	**Motutapu**	**1.81 316**	PN	Pn	15 59 52.6	0.0
MTAZ	**Motutapu**	**1.81 316**	P	Pn	15 59 52.6	0.0
KAAZ	**Kauri Point**	**1.90 312**	PN	Pn	15 59 53.5	-0.2
WTAZ	**Waiatarua**	**1.91 307**	PN	Pn	15 59 53.6	-0.2
WTAZ	**Waiatarua**	**1.91 307**	P	Pn	15 59 53.6	-0.2
PXZ	**Pawanui**	**1.95 171**	⇑PN	Pn	15 59 53.9	-0.3
PXZ			SN	Sn	16 00 18.8	-1.2
TSZ	**Takapari Road**	**1.99 191**	PN	Pn	15 59 53.9	-0.8
TSZ	**Takapari Road**	**1.99 191**	P	Pn	15 59 53.9	-0.8
WAZ	**Wanganui**	**2.02 215**	PN	Pn	15 59 54.7	-0.3
WAZ			SN	Sn	16 00 22.0	+0.4
WAZ	**Wanganui**	**2.02 215**	P	Pn	15 59 54.8	-0.2
BFZ	**Birch Farm**	**2.58 184**	PN	Pn	16 00 00.5	-1.4
BFZ	**Birch Farm**	**2.58 184**	P	Pn	16 00 00.5	-1.5
MRZ	**Mangatainoka R**	**2.65 195**	PN	Pn	16 00 00.9	-1.9
MRZ	**Mangatainoka R**	**2.65 195**	P	Pn	16 00 01.0	-1.8
KIW	**Kapiti Island**	**3.01 203**	PN	Pn	16 00 04.9	-2.5
KIW	**Kapiti Island**	**3.01 203**	P	Pn	16 00 04.9	-2.5
MTW	**Mount Morrison**	**3.14 194**	PN	Pn	16 00 06.5	-2.6
MTW	**Mount Morrison**	**3.14 194**	P	Pn	16 00 06.5	-2.6
CAW	**Cannon Point**	**3.19 200**	PN	Pn	16 00 07.1	-2.7
TRWZ	**Traveller**	**3.35 190**	PN	Pn	16 00 08.2	-2.5
PAWZ	**Paruwai Farm**	**3.37 194**	PN	Pn	16 00 09.2	-2.9
PAWZ	**Paruwai Farm**	**3.37 194**	P	Pn	16 00 09.3	-2.8
MRW	**Makara Radio**	**3.41 203**	PN	Pn	16 00 09.5	-3.1
MSWZ	**Moikau Station**	**3.44 196**	PN	Pn	16 00 09.9	-3.1
MSWZ	**Moikau Station**	**3.44 196**	P	Pn	16 00 10.0	-3.0
WEL	**Wellington**	**3.44 202**	PN	Pn	16 00 10.3	-2.7
WEL	**Wellington**	**3.44 202**	P	Pn	16 00 10.3	-2.7
SNZO	**South Karori**	**3.48 203**	PN	Pn	16 00 10.2	-3.4
SNZO	**South Karori**	**3.48 203**	P	Pn	16 00 10.3	-3.3
BHW	**Baring Head**	**3.53 200**	PN	Pn	16 00 10.7	-3.4
BHW	**Baring Head**	**3.53 200**	P	Pn	16 00 09.9	-4.2
TCW	**Tory Channel**	**3.54 208**	PN	Pn	16 00 11.1	-3.2
TCW	**Tory Channel**	**3.54 208**	P	Pn	16 00 11.1	-3.2
TUWZ	**Tuamarina**	**3.85 210**	PN	Pn	16 00 14.9	-3.5
THZ	**Tophouse**	**4.57 216**	PN	Pn	16 00 24.3	-3.6
THZ	**Tophouse**	**4.57 216**	*eP*	Pn	16 00 24.8	-3.1
KHZ	**Kahutara**	**4.86 207**	PN	Pn	16 00 27.7	-4.1
KHZ	**Kahutara**	**4.86 207**	*eP*	Pn	16 00 27.7	-4.1
LTZ	**Lake Taylor**	**5.67 213**	PN	Pn	16 00 38.2	-4.4
LTZ	**Lake Taylor**	**5.67 213**	*eP*	Pn	16 00 38.2	-4.4
MQZ	**McQueen's Vall**	**6.30 206**	PN	Pn	16 00 45.4	-5.7
MQZ	**McQueen's Vall**	**6.30 206**	*eP*	Pn	16 00 45.4	-5.7
ODZ	**Otahua Downs**	**8.20 210**	PN	Pn	16 01 11.3	-5.2
ODZ	**Otahua Downs**	**8.20 210**	*eP*	Pn	16 01 11.3	-5.2

*ISCJB **04** 16:18:56.4±1.3,4151N±006×7503E±006,h10km,Error ellipse: s-maj=9.4km s-min=5.7km az=149.2*
*KNET **04** 16:18:56.7±0.8,4153N×7496E,h19km±5km,ml1.5,Error ellipse: s-maj=6.4km s-min=3.4km az=164.0*
*NNC **04** 16:18:58.9±100.0,4427N×75.15E,h0km,mb2.1,mpv2.3, Error ellipse: s-maj=1617.7km s-min=917.0km az=59.0*

ISC 04 16:18:55.7±1.6,4147N±007×7501E±006,h9km±8km,n11, σ0°72/20,11C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.64**	**16**	⇓P	**Pg**	**16 19 08.3**	**+0.3**
KZA	4.3nm,0.2s,SNR=23			⇑S	**Sg**	**16 19 17.0**	**+0.8**
UCH	**Uchtor**	**0.84**	**334**	⇓P	**Pg**	**16 19 11.9**	**0.0**
UCH	9.2nm,0.1s,SNR=31			⇑S	**Sg**	**16 19 23.7**	**+0.7**
AML	**Almayashu**	**1.19**	**304**	⇑P	**Pb**	**16 19 17.7**	**-0.6**
AML	1.6nm,0.1s,SNR=8.2			⇓S	**Sb**	**16 19 32.8**	**-1.0**
KBK	**Karagaybulak**	**1.19**	**358**	⇓P	**Pb**	**16 19 18.3**	**-0.1**
KBK	3.6nm,0.1s,SNR=17			⇑S	**Sb**	**16 19 34.5**	**+0.7**
ULHL	**Ulahol**	**1.20**	**49**	⇑P	**Pb**	**16 19 18.2**	**-0.4**
ULHL	11nm,0.1s 2.9nm,0.1s,SNR=13			⇓S	**Sb**	**16 19 34.0**	**-0.3**
AAK	**Ala-Archa**	**1.23**	**342**	⇑P	**Pn**	**16 19 18.8**	**-0.2**
AAK	5.8nm,0.2s 3.2nm,0.2s,SNR=7.6			⇓S	**Sb**	**16 19 34.9**	**0.0**
EKS2	**Erkin-Say**	**1.50**	**323**	⇑P	**Pn**	**16 19 24.0**	**+1.1**
TKM2	**Tokmak 2**	**1.52**	**16**	⇑P	**Pg**	**16 19 24.4**	**-0.4**
TKM2	1.1nm,0.2s,SNR=6.4 2.6nm,0.2s,SNR=6.8			⇑S	**Sg**	**16 19 44.7**	**+0.3**
TKM2	**Tokmak 2**	**1.52**	**16**	⇓P	**Pg**	**16 19 24.7**	**-0.1**
TKM2	14nm,0.1s 1.0nm,0.3s			⇑S	**Sg**	**16 19 44.6**	**+0.1**
USP	**Ospenovka**	**1.84**	**348**	⇓P	**Pg**	**16 19 29.8**	**-1.1**
USP	8.2nm,0.6s 2.3nm,0.1s,SNR=14			⇑S	**Sg**	**16 19 53.6**	**-1.1**
KK31	**Karatay Array**	**3.72**	**298**	Pn	**Pb**	**16 20 02.9**	**+1.5**
KK31	4.6nm,0.2s baz=132,slow=16			⇓Lg		16 20 50.3	
	0.5nm,0.5s,baz=120,slow=28,SNR=5.7						

AUST 04 16:31:57.6,3756S×14818E,h2km,ML3.9,1C-1D,Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILA	**Mila**	**0.93**	**57**	⇓*i*P	Pg	16 32 15.1	-0.3
MILA				*e*S	Sg	16 32 26.5	-0.9
TOO	**Toolangi**	**2.14**	**269**	*e*P	Pn	16 32 35.2	+0.9
TOO	5μm,0.3s			*e*S	Sn	16 33 01.6	+0.2
CNB	**Canberra Magne**	**2.44**	**23**	*e*P	Pn	16 32 38.6	+0.2
CNB	354nm,0.3s			*e*S	Sn	16 33 09.9	+1.1
YNG	**Young**	**3.26**	**3**	*e*P	Pn	16 32 49.5	-0.2
YNG				*e*S	Sn	16 33 26.8	-2.3
RIV	**Riverview**	**4.44**	**34**	*e*P	Pn	16 33 18.2	+12
RIV	30nm,0.3s			*e*S	Sn	16 34 12.6	+14
MOO	**Moorlands**	**4.93**	**189**	*e*P	Pn	16 33 14.6	+1.9
ARPS	**Mount Arapiles**	**5.13**	**277**	*e*P	Pn	16 33 14.6	-0.8
CMSA	**Cobar Meteorol**	**6.35**	**340**	⇑*i*P	Pn	16 33 30.9	-1.3
STKA	**Stephens Creek**	**7.85**	**314**	*e*P	Pn	16 33 49.3	-3.4
STKA				*e*S	Sn	16 35 06.8	-15
	2.4nm,0.3s						

*IDC **04** 16:49:52.0±2.1,3210N×7002E,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.6/24,mbtmp3.6/10,ML3.3/1,Error ellipse: s-maj=45.5km s-min=23.7km az=156.0*
*MOS **04** 16:49:53.6±1.0,3200N×7010E,h33km,mb3.8/7,Error ellipse: s-maj=16.2km s-min=12.9km az=115.2*
*ISCJB **04** 16:49:54.6±0.5,3216N±004×7015E±005,h33km,mb3.6/9, Error ellipse: s-maj=7.5km s-min=3.9km az=98.4*
*BJI **04** 16:49:56.2,3211N×7020E,h32km,ML4.2*
*NEIC **04** 16:49:56.2±0.7,3200N×7015E,h45km,mb3.6/3,Error ellipse: s-maj=18.1km s-min=6.2km az=211.0*
*NNC **04** 16:50:04.3±6.7,3267N×7032E,h56km±51km,mb3.5, Error ellipse: s-maj=55.5km s-min=51.0km az=44.0*
*NAO **04** 16:50:08.5,3274N×6794E,h33km,mb3.0*

ISC 04 16:49:56.8±0.5,3212N±004×7014E±005,h35km,n66, σ1°26/80,mb3.6/9,2C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**0.38**	**171**	P	**Pn**	**16 50 05.7**	**-0.1**
SBDP	**Sheikh Budin**	**0.60**	**72**	P	**Pn**	**16 50 08.1**	**-0.7**
THW	**Thamme Wali**	**1.52**	**63**	⇑P	**Pn**	**16 50 22.7**	**+1.2**
SARP	**Sargodha**	**2.16**	**94**	P	**Pn**	**16 50 33.4**	**+3.0**
CEP	**Cherat**	**2.26**	**41**	P	**Pn**	**16 50 33.2**	**+1.5**
CEP				S	**Sn**	**16 51 03.0**	**+4.6**
CHCP	**Chirah Chowk**	**3.05**	**59**	P	**Pn**	**16 50 44.7**	**+2.2**
THN	**Thein Dam**	**4.74**	**85**	*e*P	**Pn**	**16 51 08.7**	**+2.9**
DLH	**Dalhousie**	**4.95**	**84**	*e*P	**Pn**	**16 51 12.0**	**+3.3**
DLH				*e*x	**Sn**	**16 52 10.0**	**+5.2**
BHK	**Bhakra**	**5.39**	**96**	*e*x	**Sn**	**16 52 25.0**	**+9.4**
SDNR	**Sundarnagar**	**5.85**	**94**	*e*P	**Pn**	**16 51 24.0**	**+3.0**
SDNR				*e*S	**Sn**	**16 52 30.0**	**+3.1**
KHET	**Khetri**	**6.35**	**128**	*e*P	**Pn**	**16 51 29.2**	**+1.3**
KHET				*i*x	x	16 51 56.2	
KHET				*e*S	**Sn**	**16 52 39.1**	**-0.1**
KHET				AML	AML	16 52 44.1	
	comp=E,15nm,0.1s						
KUDL	**Kundal**	**6.78**	**124**	*e*P	**Pn**	**16 51 35.1**	**+1.3**
KUDL				*e*S	**Sn**	**16 52 49.4**	**-0.3**
KUDL				AML	AML	16 52 53.3	
	comp=E,12nm,0.3s						
AJM	**Ajmer**	**6.86**	**144**	*i*x	x	16 51 59.0	
KLP	**Kalpa**	**6.93**	**93**	*e*P	**Pn**	**16 51 36.7**	**+0.8**
KLP				AML	AML	16 53 18.3	
	comp=E,118nm,1.0s						
KLP				AML	AML	16 53 18.8	
	comp=N,37nm,0.7s						
NDI	**New Delhi**	**7.01**	**117**	*e*x	**Pn**	**16 51 45.0**	**+8.1**
NDI				*e*x	x	16 54 40.0	
AYAN	**Aya Nagar**	**7.05**	**119**	*e*P	**Pn**	**16 51 39.6**	**+2.2**
SONA	**Sohna**	**7.14**	**121**	*e*P	**Pn**	**16 51 39.9**	**+1.2**
SONA				*e*S	**Sn**	**16 52 55.8**	**-2.9**
SONA				AML	AML	16 53 03.8	
	comp=N,12nm,0.6s						
SONA				AML	AML	16 53 04.0	
	comp=E,31nm,0.0s						
KALG	**Kalgarh**	**7.86**	**107**	*e*P	**Pn**	**16 51 51.1**	**+2.5**
KALG				*e*S	**Sn**	**16 53 12.1**	**-4.1**
KALG				AML	AML	16 53 14.7	
	comp=E,76nm,0.3s						
KSH	**Kashi**	**8.77**	**31**	*e*P	**Pn**	**16 52 06.0**	**+4.9**
KSH				S	**Sn**	**16 53 37.8**	**-1.0**
KSH				Smax			
	comp=N,50nm,0.6s						
KSH				Smax			
	comp=E,50nm,0.8s						
AML	**Almayashu**	**10.39**	**15**	P	**Pn**	**16 52 23.7**	**+0.4**
	SNR=16						
UCH	**Uchtor**	**10.68**	**18**	P	**Pn**	**16 52 27.5**	**+0.2**
	SNR=23						
EKS2	**Erkin-Say**	**10.92**	**14**	P	**Pn**	**16 52 30.9**	**+0.4**
	SNR=7.6						
KK31	**Karatay Array**	**10.97**	**1**	P	**Pn**	**16 52 30.2**	**-1.1**
	comp=E,1.3nm,0.4s,baz=196,slow=14,SNR=47						
KK31				⇓S	**Sn**	**16 54 27.0**	**-5.7**
	comp=E,1.7nm,0.6s,baz=192,slow=21,SNR=5.5						
AAK	**Ala-Archa**	**11.05**	**17**	P	**Pn**	**16 52 32.5**	**+0.2**
	SNR=17						
CHMS	**Chumysh**	**11.46**	**17**	P	**Pn**	**16 52 37.8**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**11.62**	**20**	⇓P	**Pn**	**16 52 40.4**	**+0.3**
	comp=E,4.7nm,0.9s						
KOLN	**Koldanda**	**12.45**	**107**	*e*Pn	**Pn**	**16 52 51.5**	**0.0**
KOLN				*e*Sn	**Sn**	**16 55 06.4**	**-2.5**
	comp=E,22nm,0.9s						
GKN	**Gorkha**	**13.21**	**104**	*e*Pn	**Pn**	**16 53 00.9**	**-1.0**
GKN				*e*Sn	**Sn**	**16 55 23.1**	**-4.4**
	comp=E,24nm,0.7s						
DMN	**Daman**	**13.74**	**105**	*e*Pn	**Pn**	**16 53 08.3**	**-0.8**
DMN				*e*Sn	**Sn**	**16 55 35.8**	**-4.7**
	comp=E,40nm,1.1s						
KKN	**Kakani**	**13.82**	**104**	*e*Pn	**Pn**	**16 53 08.5**	**-1.7**
KKN				*e*Sn	**Sn**	**16 55 36.4**	**-5.9**
	comp=E,18nm,0.8s						
PKI	**Pulchoki**	**14.01**	**105**	*e*Pn	**Pn**	**16 53 11.1**	**-1.6**
PKI				*e*Sn	**Sn**	**16 55 42.3**	**-4.6**
	comp=E,33nm,1.0s						
GUN	**Gumba**	**14.27**	**103**	*e*Pn	**Pn**	**16 53 14.9**	**-1.4**
GUN				*e*Sn	**Sn**	**16 55 48.6**	**-4.7**
	comp=E,39nm,1.0s						
JIRN	**Jiri**	**14.62**	**104**	*e*Pn	**Pn**	**16 53 19.6**	**-1.4**
JIRN				*e*Sn	**Sn**	**16 55 57.1**	**-4.6**
	comp=E,26nm,1.1s						
MK31	**Makanchi Array**	**17.37**	**29**	P	**Pn**	**16 53 55.4**	**-1.0**
	comp=E,3.2nm,0.9s,baz=215,slow=13,SNR=11						
MKAR	**Makanchi Array**	**17.37**	**29**	P	**Pn**	**16 53 55.5**	**-1.0**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=9.3						
LSA	**Lhasa**	**18.19**	**92**	P	**Pn**	**16 54 08.6**	**+2.1**
LSA	**Lhasa**	**18.19**	**92**	*e*P	**Pn**	**16 54 06.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LSA	**Lhasa**	**18.19**	**92**	*e*P	**Pn**	**16 54 06.9**	**+0.4**
	comp=Z,6.2nm,1.2s						
AB31	**Akbulak array**	**18.75**	**339**	P	**Pn**	**16 54 12.2**	**-1.2**
	comp=Z,3.3nm,1.3s,baz=145,slow=12,SNR=11						
AKTK	**Aktyubinsk**	**20.39**	**337**	P	**P**	**16 54 31.4**	**+0.7**
AKTO	**Aktyubinsk**	**20.39**	**337**	⇓P	**P**	**16 54 32.4**	**+1.8**
	comp=Z,2.5nm,1.5s						
AKTO	**Aktyubinsk**	**20.39**	**337**	P	**P**	**16 54 31.4**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=149,slow=11,SNR=7.6						
AKTO	**Aktyubinsk**	**20.39**	**337**	P	**P**	**16 54 31.4**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VOSK	**Vostochnaya**	**20.60**	**1**	⇑P	**P**	**16 54 31.7**	**-1.2**
	comp=Z,2.9nm,0.8s						
ZRNK	**Zerenda**	**20.84**	**358**	⇓P	**P**	**16 54 34.9**	**-0.5**
	comp=Z,4.0nm,1.2s						
ZRNK	**Zerenda**	**20.84**	**358**	*e*P	**P**	**16 54 34.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**20.84**	**358**	*e*P	**P**	**16 54 34.5**	**-0.9**
	comp=Z,1.9nm,0.6s						
BVA0	**Borovoye Array**	**20.90**	**0**	P	**P**	**16 54 36.5**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=181,slow=10,SNR=25						
BVAR	**Borovoye Array**	**20.90**	**0**	P	**P**	**16 54 35.3**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=187,slow=12,SNR=16						
BVAR	**Borovoye Array**	**20.90**	**0**	P	**P**	**16 54 35.3**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL	**Zalesovo**	**24.20**	**21**	P	**P**	**16 55 09.9**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.3,baz=258,slow=13,SNR=4.0						
ZAL	**Zalesovo**	**24.20**	**21**	P	**P**	**16 55 09.9**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MALT	**Malatya**	**26.55**	**292**	P	**P**	**16 55 28.0**	**-3.3**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
MALT	**Malatya**	**26.55**	**292**	P	**P**	**16 55 28.0**	**-3.3**
	comp=Z,1.1nm,0.7s,mb3.5						
SONM	**Songino Array**	**31.57**	**50**	P	**P**	**16 56 17.5**	**+1.6**
	comp=Z,0.3nm,0.8s,mb3.1,baz=225,slow=6.1,SNR=2.4						
AKASG	**Malin Array Be**	**35.30**	**314**	P	**P**	**16 56 48.2**	**-0.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=101,slow=7.1,SNR=4.7						
MORC	**Moravsky Berou**	**42.52**	**310**	*e*P	**P**	**16 57 48.8**	**-0.1**
GERES	**GERESS Array B**	**45.00**	**309**	P	**P**	**16 58 08.4**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=90,slow=5.3,SNR=6.9						
GERES	**GERESS Array B**	**45.00**	**309**	P	**P**	**16 58 08.4**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**47.52**	**326**	P	**P**	**16 58 27.9**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.3,baz=101,slow=8.6						
NOA	**NORSAR Array B**	**47.52**	**326**	P	**P**	**16 58 28.0**	**-0.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=100,slow=7.8,SNR=4.4						
NOA	**NORSAR Array B**	**47.52**	**326**	P	**P**	**16 58 28.0**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VSL	**Villasalto**	**49.01**	**297**	P	**P**	**16 58 33.2**	**-6.9**
	comp=Z,12nm,1.1s,mb4.8						
TORD	**Torodi Ar. Bea**	**64.95**	**270**	P	**P**	**17 00 33.0**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=56,slow=6.6,SNR=6.9						
YKA	**Yellowknife Ar**	**85.64**	**2**	P	**P**	**17 02 32.6**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.9,baz=348,slow=5.1,SNR=16						
POHA	**Pohakuloa**	**112.38**	**47**	P	Pdif	17 04 35.5	+2.2

*DHMR **04** 17:31:13.1±1.4,1258N×4171E,h7km±14km,ML3.6*
*ISCJB **04** 17:31:14.6±1.1,125N±02×416E±0.1,h10km,Error ellipse: s-maj=30.8km s-min=6.0km az=108.7*

ISC 04 17:31:14.9±1.1,125N±02×416E±01,h10km,n6,σ1°13/12, 2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.59**	**72**	⇓*i*P	**Pn**	**17 31 55.8**	**-1.1**
TRBA				*i*S	**Sn**	**17 32 28.9**	**+0.4**
TRBA				AML	AML	17 32 49.8	
	comp=N,623nm,0.6s						
UDYN	**Al 'Udayn**	**2.77**	**57**	*i*P	**Pn**	**17 31 58.3**	**-1.1**
UDYN				*i*S	**Sn**	**17 32 33.3**	**+0.3**
UDYN				AML	AML	17 33 03.7	
	comp=N,349nm,0.6s						
DHBB	**Dhamar BB**	**3.45**	**52**	*i*P	**Pn**	**17 32 08.4**	**-0.4**
DHBB				*i*S	**Sn**	**17 32 50.5**	**+0.8**
LBOS		**3.84**	**68**	⇓*i*P	**Pn**	**17 32 12.3**	**-1.8**
LBOS				*i*S	**Sn**	**17 32 59.5**	**+0.1**
BDHA	**Al Bayda'**	**4.17**	**68**	*i*S	**Sn**	**17 33 08.3**	**+0.9**
FURI	**Furi**	**4.54**	**219**	*e*PN	**Pn**	**17 32 26.7**	**+3.0**
FURI				*e*PG	**Pb**	**17 32 35.9**	**+1.3**
FURI				*e*S	**Sg**	**17 33 39.5**	**-1.1**

IDC 04 17:48:31.3±2.0,3254S×17807W,h45km±8km,mb3.7/2, mb1 4.0/3,mb1mx3.7/13,mbtmp4.0/3,ML3.7/1,Error ellipse: s-maj=48.3km s-min=21.7km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.93**	**213**	P	Pn	17 50 08.9	-1.3
	1.4nm,0.3s,baz=301,slow=10,SNR=6.5						
URZ				S	Sn	17 51 27.5	-0.1
	1.6nm,0.3s,baz=204,slow=20,SNR=7.4						
ASAR	**Alice Springs**	**42.98**	**269**	P	P	17 56 25.6	-0.4
	0.8nm,0.5s,baz=108,slow=7.3,SNR=13						
ASAR				pP	pP	17 56 39.6	+1.4
	1.9nm,0.6s,baz=107,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**44.16**	**274**	P		17 56 35.1	-0.4
	1.8nm,0.5s,baz=113,slow=8.0,SNR=49						
WRA				pP	pP	17 56 48.7	+0.9
	4.2nm,0.5s,baz=114,slow=7.9,SNR=19						
JOF	**Joensuu**	**144.37**	**337**	*e*p	PKPdf	18 08 00.8	-1.6
FINES	**FINESS Array B**	**147.12**	**339**	PKPbc	PKPbc	18 08 08.8	-0.5
	1.3nm,0.4s,baz=45,slow=4.4,SNR=33						
FINES				pPKPbc	pPKPbc	18 08 20.1	-2.9
	0.8nm,0.5s,baz=39,slow=4.7,SNR=3.0						

*KNET **04** 17:52:13.1±0.5,4227N×7549E,h18km±4km,ml1.4,Error ellipse: s-maj=4.1km s-min=2.9km az=169.0*
*ISCJB **04** 17:52:14.1±0.7,4229N±004×7550E±004,h2km±11km, Error ellipse: s-maj=6.1km s-min=5.3km az=44.8*
*NNC **04** 17:52:14.9±1.0,4231N×7565E,h0km,mb2.3,mpv2.2, Error ellipse: s-maj=15.5km s-min=6.2km az=98.0*

ISC 04 17:52:14.3±0.7,4227N±004×7548E±004,h11km±8km,n10, σ0°70/19,9C-9D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.26**	**221**	⇓P	**Pg**	**17 52 20.0**	**+0.4**
KZA	15nm,0.2s,SNR=45			⇑S	**Sg**	**17 52 23.8**	**+0.6**
KBK	**Karagaybulak**	**0.55**	**314**	⇓P	**Pg**	**17 52 25.3**	**+0.4**
KBK	10nm,0.1s,SNR=36			⇑S	**Sg**	**17 52 33.1**	**+0.9**
ULHL	**Ulahol**	**0.57**	**93**	⇓P	**Pg**	**17

DNZL	Cakiroluk	1.22	55	*i* P	Pn	18 16 55.7	+0.4
DNZL				*i* S	Sb	18 17 12.5	+1.3
DENT	Denizli	1.25	52	*e*PN	Pn	18 16 55.8	+0.1
GOLH	Golhisar	1.44	80	*i* P	Pn	18 17 03.0	+4.7
GOLH				*i* S	Sn	18 17 20.1	+3.0
IZM	Izmir	1.47	344	*e*PN	Pn	18 16 59.0	+0.3
BLCB	Balcova	1.51	337	*e*PN	Pn	18 16 59.4	+0.1
KARP	Karpathos	1.53	200	*e*PN	Pn	18 16 59.0	-0.5
ELL	Elmali	1.72	97	*e*PN	Pn	18 17 02.6	+0.5
APE	Apeiranthos	1.81	273	*e*PN	Pn	18 17 03.6	+0.2
KHL	Karahalli	1.92	45	*e*PN	Pn	18 17 05.9	+1.0

IDC 04 18:21:24.9±3.7, 1663S×6965W, h183km±17km, mb3.3/2, mb1 3.5/3, mb1mx3.1/18, mbtmp3.8/3, Error ellipse: s-maj=81.6km s-min=36.8km az=19.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.50	77	P	Pn	18 21 57.1	0.0
	10nm,0.3s,baz=264,slow=9.6,SNR=114						
LPAZ				S	Sn	18 22 23.4	+1.4
	9.7nm,0.3s,baz=164,slow=25,SNR=22						
SIV	San Ignacio	8.27	87	P	Pn	18 23 20.3	-1.3
	1.4nm,0.3s,baz=276,slow=11,SNR=27						
TORD	Torodi Ar. Bea	76.44	72	P	P	18 32 55.2	+1.0
	0.8nm,0.7s,baz=261,slow=4.5,SNR=7.4						
YKA	Yellowknife Ar	86.38	341	P	P	18 33 46.1	-0.3
	0.2nm,0.4s,baz=133,slow=5.0,SNR=8.8						

NNC 04 18:27:03.9±10.0, 3857N×7271E, h0km, mb3.6, mpv3.3, 1C-2D, Error ellipse: s-maj=103.4km s-min=69.5km az=177.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.83	341	Pn	Pn	18 28 19.5	+1.6
	1.4nm,0.4s,baz=150,slow=12,SNR=67						
KK31				⇓Sn	Sn	18 29 24.3	+10
	7.3nm,0.6s,baz=154,slow=25,SNR=3.0						
TKM2	Tokmak 2	4.87	26	⇓Pn	Pn	18 28 21.0	+2.6
	5.4nm,0.7s						
TKM2				⇑Lg		18 29 35.4	
	14nm,0.7s						
MK31	Makanchi Array	10.82	38	Pn	Pn	18 29 39.6	-0.5
	0.3nm,0.7s,baz=214,slow=14,SNR=4.1						

NAO ***04*** *18:31:08.3, 5800N×3329W, h33km, mb3.6*
SZGRF ***04*** *18:31:17.0, 5938N×3253W, h33km, mb4.7, MS4.5, Reykjanes Ridge*
MOS ***04*** *18:31:18.3±0.8, 5891N×3108W, h10km, mb4.7/41, MS4.4/21, Error ellipse: s-maj=9.7km s-min=7.3km az=29.6*
ISCJB ***04*** *18:31:18.6±0.3, 5899N±005×3103W±008, h10km, mb4.4/73, MS4.4/45, Error ellipse: s-maj=8.9km s-min=4.3km az=62.8*
IDC ***04*** *18:31:19.5±0.6, 5909N×3102W, h0km, mb4.0/18, mb1 4.2/22, mb1mx4.2/29, mbtmp4.1/22, ML3.3/3, MS4.4/26, Ms1 4.4/26, ms1mx4.4/28, Error ellipse: s-maj=18.0km s-min=11.9km az=5.0*
BJI ***04*** *18:31:19.0, 5890N×3100W, h10km, mB5.1, mb4.8, Ms4.8, Msz4.5*
NEIC ***04*** *18:31:20.0±0.3, 5890N×3103W, h10km, mb4.5/45, MS4.4/11, Error ellipse: s-maj=8.1km s-min=3.8km az=207.0*

ISC 04 18:31:18.6±2.1, 5895N±005×3106W±008, h1km±13km, n218, σ1$15/216, mb4.4/73, MS4.4/45, 6C-3D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	7.41	34	Pn	Pn	18 33 08.2	+0.4
	9.1nm,0.3s,baz=202,slow=6.4,SNR=23						
BORG				Sn	Sn	18 34 28.8	-3.8
	3.8nm,0.3s,baz=59,slow=19,SNR=10.0						
SFJD	Kangerlussuaq	11.96	321	LR	LR	18 38 05.5	
	comp=Z,4μm,18.4s,baz=102,slow=34						
SFJD	Kangerlussuaq	11.96	321	*i* P	Pn	18 34 12.2	+2.1
	14nm,1.2s						
SFJD				*e*S	Sn	18 36 05.2	-19
SFJD							
	comp=Z,3μm,18.0s						
SFJD	Kangerlussuaq	11.96	321	*i* P	Pn	18 34 12.2	+2.1
SFJD				pmax	pmax		
	comp=Z,14nm,1.2s						
SFJD				MLR	MLR		
	comp=Z,3μm,18.0s						
SFJD	Kangerlussuaq	11.96	321	*i* P	Pn	18 34 12.2	+2.1
	comp=Z,14nm,1.2s						
SFJD				*e*S	Sn	18 36 05.2	-19
SUMG	Summit	14.00	351	*e*Pn	Pn	18 34 38.0	0.0
	comp=Z,117nm,2.0s						
DCN	Croghan	14.35	103	*e*P	Pn	18 34 48.1	+5.3
DLF	Lyons Farm	14.75	102	*e*P	Pn	18 34 48.7	+0.4
DSB	Dublin	14.86	102	P	Pn	18 34 49.3	-0.4
	comp=Z,15nm,1.0s						
JMIC	Jan Mayen	15.24	29	LR	LR	18 39 09.3	
	comp=Z,730nm,20.9s,baz=30,slow=31						
EKA	Eskdalemuir Ar	15.51	91	Pn	Pn	18 34 59.9	+1.5
	comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=12						
FRB	Frobisher Bay	18.40	301	P	Pn	18 35 34.2	-0.7
	comp=Z,0.2nm,0.3s,baz=72,slow=15,SNR=5.5						
FRB				LR	LR	18 41 49.7	
	comp=Z,5μm,18.8s,baz=93,slow=34						
ROSF	Rostrenen	19.45	111	*e*P	Pn	18 35 47.1	-0.5
	comp=Z,66nm,1.2s						
ROSF	Rostrenen	19.45	111	*e*P	Pn	18 35 47.1	-0.5
ROSF				pmax	pmax		
	comp=Z,33nm,1.2s						
ROSF	Rostrenen	19.45	111	*e*P	Pn	18 35 47.1	-0.5
	comp=Z,33nm,1.2s						
QUIF	Quistinic	19.79	112	*e*P	Pn	18 35 51.1	-0.6
SCHQ	Schefferville	19.81	274	P	Pn	18 35 51.5	-0.5
	comp=Z,0.2nm,0.3s,baz=14,slow=7.8,SNR=7.3						
SCHQ				LR	LR	18 42 20.4	
	comp=Z,1μm,18.3s,baz=50,slow=33						
SCHQ	Schefferville	19.81	274	*e*P	Pn	18 35 48.4	-3.6
	comp=Z,7.0nm,0.8s						
SCHQ				LR	LR	18 42 20.4	
SGMF	Saint Gilles	19.85	110	*e*P	Pn	18 35 51.6	-0.8
	comp=Z,210nm,1.7s						
SGMF	Saint Gilles	19.85	110	*e*P	Pn	18 35 51.6	-0.8
SGMF				pmax	pmax		
	comp=Z,105nm,1.7s						
SGMF	Saint Gilles	19.85	110	*e*P	Pn	18 35 51.6	-0.8
	comp=Z,105nm,1.7s						
FLN	La Foliniere	20.53	106	*e*P	P	18 35 58.1	-0.2
	comp=Z,144nm,1.2s						
FLN				*e*R			
	comp=Z,1μm,21.0s						
FLN	La Foliniere	20.53	106	*e*P	P	18 35 58.1	-0.2
FLN				pmax	pmax		
	comp=Z,72nm,1.2s						
FLN				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.2						
FLN	La Foliniere	20.53	106	*e*P	P	18 35 58.1	-0.2
	comp=Z,72nm,1.2s						
FLN				LR	LR		
	comp=Z,1μm,21.0s,MS4.2						
GRR	Gorron	20.59	108	*e*P	P	18 35 59.2	+0.3
	comp=Z,132nm,1.4s						
GRR	Gorron	20.59	108	*e*P	P	18 35 59.2	+0.3
GRR				pmax	pmax		
	comp=Z,66nm,1.4s						
GRR	Gorron	20.59	108	*e*P	P	18 35 59.2	+0.3
	comp=Z,66nm,1.4s						
LDF	La Druitiere	20.82	106	*e*P	P	18 36 01.3	-0.1
	comp=Z,36nm,1.1s						
LDF	La Druitiere	20.82	106	*e*P	P	18 36 01.3	-0.1
LDF				pmax	pmax		
	comp=Z,18nm,1.1s						
LDF	La Druitiere	20.82	106	*e*P	P	18 36 01.3	-0.1
	comp=Z,18nm,1.1s						
NB2	NORSAR Subarra	20.98	66	P	P	18 36 03.7	+0.6
	comp=Z,1.9nm,0.7s,baz=282,slow=10						
NOA	NORSAR Array B	20.98	66	P	P	18 36 03.7	+0.6
	comp=Z,3.2nm,0.8s,baz=282,slow=10,SNR=6.6						
NOA				LR	LR	18 43 06.3	
	comp=Z,802nm,20.0s,MS4.1,baz=295,slow=34						
MUD	Monsted U'grnd	21.41	79	*i* P	P	18 36 06.4	-1.4
	comp=Z,13nm,0.8s,mb4.3						
MUD				*i* S	S	18 40 09.4	+3.3
MUD							
	comp=Z,820nm,20.0s						
MUD	Monsted U'grnd	21.41	79	*i* P	P	18 36 06.4	-1.4
MUD				*i* S	S	18 40 09.4	+3.3
MUD				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
MUD				MLR	MLR		
	comp=Z,830nm,20.0s,MS4.1						
MUD	Monsted U'grnd	21.41	79	*i* P	P	18 36 06.4	-1.4
	comp=Z,13nm,0.8s,mb4.3						
MUD				*i* S	S	18 40 09.4	+3.3
UCC	Uccle	21.72	96	P	P	18 36 10.9	-0.2
UCC				AP		18 36 15.2	
LCHF	La Chataignera	21.84	111	*e*P	P	18 36 19.9	+7.5
SNF	Seneffe	21.86	97	P	P	18 36 13.7	+1.1
SNF				AP		18 36 15.8	
BAIF	Baives	22.09	98	*e*P	P	18 36 15.3	+0.3
	comp=Z,90nm,0.9s,mb4.9						
BAIF	Baives	22.09	98	*e*P	P	18 36 15.3	+0.3
BAIF				pmax	pmax		
	comp=Z,45nm,0.9s,mb4.9						
BAIF	Baives	22.09	98	*e*P	P	18 36 15.3	+0.3
	comp=Z,45nm,0.9s,mb4.9						
MFF	Saint Martin d	22.18	110	*e*P	P	18 36 15.5	-0.5
	comp=Z,82nm,1.3s,mb4.7						
MFF	Saint Martin d	22.18	110	*e*P	P	18 36 15.5	-0.5
MFF				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.7						
MFF	Saint Martin d	22.18	110	*e*P	P	18 36 15.5	-0.5
	comp=Z,41nm,1.3s,mb4.7						
DOU	Dourbes	22.26	98	P	P	18 36 16.4	-0.5
WTSB	Winterswijk	22.32	92	⇑*e*P	P	18 36 18.6	+1.0
	comp=Z,55nm,2.3s,mb4.6						
GIVF	Givet	22.38	97	*e*P	P	18 36 17.5	-0.6
HFS	Hagfors	22.39	68	P	P	18 36 19.0	+0.7
	comp=Z,10nm,0.9s,mb4.2,baz=254,slow=11,SNR=8.0						
HFS				LR	LR	18 43 58.6	
	comp=Z,879nm,19.4s,MS4.2,baz=272,slow=34						
HGN	Heimansgroeve	22.55	95	⇑*e*P	P	18 36 20.6	+0.6
	comp=Z,27nm,1.7s,mb4.4						
HGN				*e*S	S	18 40 28.5	+0.2
MEM	Membach	22.68	95	P	P	18 36 22.1	+0.7
MEM				AP		18 36 24.6	
BSEG	Bad Segeberg	23.12	84	*e*P	P	18 36 26.3	+0.2
	comp=Z,19nm,1.0s,mb4.5						
WLF	Walferdange	23.32	97	*e*P	P	18 36 30.3	+2.1
	comp=Z,30nm,1.7s,mb4.5						
WLF	Walferdange	23.32	97	AP	pP	18 36 30.0	+1.4
COP	Copenhagen	23.40	79	*i* P	P	18 36 31.4	+2.5
	comp=Z,22nm,0.9s,mb4.6						
COP				*e*S	S	18 40 31.0	-12
COP							
	comp=Z,560nm,20.0s						
COP	Copenhagen	23.40	79	*i* P	P	18 36 31.4	+2.5
COP				*e*S	S	18 40 31.0	-12
COP				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6						
COP				MLR	MLR		
	comp=Z,560nm,20.0s,MS4.0						
MEZF	Maizieres J'vi	23.49	100	*e*P	P	18 36 28.1	-1.8
	comp=Z,54nm,0.9s,mb4.7						
MEZF	Maizieres J'vi	23.49	100	*e*P	P	18 36 28.1	-1.8
	comp=Z,54nm,0.9s,mb5.0						
TCF	Toulx Ste Croi	23.55	108	*e*P	P	18 36 29.3	-1.3
	comp=Z,36nm,1.2s,mb4.4						
TCF	Toulx Ste Croi	23.55	108	*e*P	P	18 36 29.3	-1.3
TCF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.3						
TCF	Toulx Ste Croi	23.55	108	*e*P	P	18 36 29.3	-1.3
	comp=Z,18nm,1.3s,mb4.3						
SSF	Saint Saulge	23.66	105	*e*P	P	18 36 30.1	-1.5
	comp=Z,34nm,1.0s,mb4.4						
SSF	Saint Saulge	23.66	105	*e*P	P	18 36 30.1	-1.5
SSF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
SSF	Saint Saulge	23.66	105	*e*P	P	18 36 30.1	-1.5
	comp=Z,17nm,1.0s,mb4.4						
BGF	Bois d'Agland	23.68	107	*e*P	P	18 36 30.1	-1.7
	comp=Z,29nm,0.9s,mb4.4						
BGF	Bois d'Agland	23.68	107	*e*P	P	18 36 30.1	-1.7
BGF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
BGF	Bois d'Agland	23.68	107	*e*P	P	18 36 30.1	-1.7
	comp=Z,14nm,0.9s,mb4.4						
LOR	Lormes	23.70	104	*e*P	P	18 36 30.4	-1.5
	comp=Z,30nm,1.1s,mb4.3						
LOR				*e*R			
	comp=Z,1μm,18.9s						
LOR	Lormes	23.70	104	*e*P	P	18 36 30.4	-1.5
LOR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
LOR				MLR	MLR		
	comp=Z,1μm,18.9s,MS4.3						
LOR	Lormes	23.70	104	*e*P	P	18 36 30.4	-1.5
	comp=Z,15nm,1.1s,mb4.3						
LOR				LR	LR		
	comp=Z,1μm,18.9s,MS4.3						
AVF	Avril sur Loir	23.77	106	*e*P	P	18 36 30.7	-1.9
	comp=Z,48nm,1.1s,mb4.5						
AVF	Avril sur Loir	23.77	106	*e*P	P	18 36 30.7	-1.9
AVF				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
AVF	Avril sur Loir	23.77	106	*e*P	P	18 36 30.7	-1.9
	comp=Z,24nm,1.1s,mb4.5						
RUP	Ruppelstein	23.77	96	*e*P	P	18 36 34.6	+2.0
LFF	La Frestale	23.81	112	*e*P	P	18 36 31.8	-1.1
	comp=Z,65nm,1.2s,mb4.6						
LFF	La Frestale	23.81	112	*e*P	P	18 36 31.8	-1.1
LFF				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.6						
LFF	La Frestale	23.81	112	*e*P	P	18 36 31.8	-1.1
	comp=Z,32nm,1.2s,mb4.6						
ABH	Altenburg	23.91	95	*e*P	P	18 36 37.0	+3.1
RJF	Les Rejaudoux	23.91	110	*e*P	P	18 36 32.6	-1.3
RJF				*e*R			
	comp=Z,1μm,20.8s						
RJF	Les Rejaudoux	23.91	110	*e*P	P	18 36 32.6	-1.3
RJF				LR	LR		
	comp=Z,1μm,20.8s,MS4.3						
SMF	Signal de Mont	24.11	105	*e*P	P	18 36 34.5	-1.2
	comp=Z,28nm,1.0s,mb4.3						
SMF	Signal de Mont	24.11	105	*e*P	P	18 36 34.5	-1.2
SMF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
SMF	Signal de Mont	24.11	105	*e*P	P	18 36 34.5	-1.2
	comp=Z,14nm,1.0s,mb4.4						
THEF	They Montfort	24.14	100	*e*P	P	18 36 41.2	+5.2
AGO	Saint Agoulin	24.17	107	*e*P	P	18 36 39.0	+2.7
TNS	Taunus Mts	24.17	94	*e*P	P	18 36 38.3	+2.0
	comp=Z,11nm,1.4s,mb4.1						
TNS	Taunus Mts	24.17	94	*e*P	P	18 36 38.3	+2.0
TNS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.1						
CLZ	Clausthal	24.24	89	*e*P	P	18 36 38.4	+1.5
	comp=Z,130nm,3.0s						
CLZ	Clausthal	24.24	89	*e*P	P	18 36 38.4	+1.5
CLZ				pmax	pmax		
	comp=Z,130nm,3.0s						
SJPF	Ste Jean	24.27	118	*e*P	P	18 36 36.5	-0.6
	comp=Z,44nm,1.2s,mb4.5						
SJPF	Ste Jean	24.27	118	*e*P	P	18 36 36.5	-0.6
SJPF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.4						
SJPF	Ste Jean	24.27	118	*e*P	P	18 36 36.5	-0.6
	comp=Z,22nm,1.3s,mb4.4						
CAF	Calviac	24.46	110	*e*P	P	18 36 37.7	-1.2
	comp=Z,22nm,1.2s,mb4.2						
CAF	Calviac	24.46	110	*e*P	P	18 36 37.7	-1.2
CAF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.2						
CAF	Calviac	24.46	110	*e*P	P	18 36 37.7	-1.2
	comp=Z,11nm,1.2s,mb4.2						
HAU	Haudompre	24.47	100	*e*P	P	18 36 37.7	-1.3
	comp=Z,22nm,1.0s,mb4.2						
HAU				*e*R			
	comp=Z,3μm,18.8s						
HAU	Haudompre	24.47	100	*e*P	P	18 36 37.7	-1.3
HAU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
HAU				MLR	MLR		
	comp=Z,3μm,18.8s,MS4.8						
HAU	Haudompre	24.47	100	*e*P	P	18 36 37.7	-1.3
	comp=Z,11nm,1.0s,mb4.2						
HAU				LR	LR		
	comp=Z,3μm,18.8s,MS4.8						
PLDF	La Plantade	24.48	107	*e*P	P	18 36 42.5	+3.5
CDF	Champ du Feu	24.68	98	*e*P	P	18 36 39.8	-1.1
	comp=Z,23nm,0.9s,mb4.4						
CDF	Champ du Feu	24.68	98	*e*P	P	18 36 39.8	-1.1
CDF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
CDF	Champ du Feu	24.68	98	*e*P	P	18 36 39.8	-1.1
	comp=Z,11nm,0.9s,mb4.4						
TOD	Tromm	24.73	95	*e*P	P	18 36 45.2	+3.9
ETSF	Etsaut	24.74	117	*e*P	P	18 36 40.9	-0.5
ECH	Echery	24.75	99	*e*P	P	18 36 41.9	+0.4
EPF	Esparros	25.05	116	*e*P	P	18 36 44.1	-0.2
	comp=Z,22nm,1.1s,mb4.3						
EPF	Esparros	25.05	116	*e*P	P	18 36 44.1	-0.2
EPF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
EPF	Esparros	25.05	116	*e*P	P	18 36 44.1	-0.2
	comp=Z,11nm,1.0s,mb4.3						
CABF	La Chapelle	25.27	103	*e*P	P	18 36 45.5	-0.8
	comp=Z,19nm,1.0s,mb4.3						
CABF	La Chapelle	25.27	103	*e*P	P	18 36 45.5	-0.8
CABF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
CABF	La Chapelle	25.27	103	*e*P	P	18 36 45.5	-0.8
	comp=Z,9.4nm,1.0s,mb4.3						
BFO	Black Forest	25.28	97	*e*P	P	18 36 46.9	+0.6
	comp=Z,4.0nm,1.2s,mb3.8						
BFO	Black Forest	25.28	97	*e*P	P	18 36 46.9	+0.6
BFO				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
BBS	Basel-Blauen	25.42	100	*e*P	P	18 36 55.7	+8.1
MOX	Moxa	25.57	90	*e*P	P	18 36 48.8	-0.2
	comp=Z,8.0nm,1.6s,mb4.0						
MOX	Moxa	25.57	90	*e*P	P	18 36 49.2	+0.2
MOX				*e*		18 37 04.3	
	comp=Z,16nm,1.1s						
MOX				*e*		18 37 29.0	
MOX							
	comp=Z,2μm,18.0s						
MOX	Moxa	25.57	90	*e*P	P	18 36 49.2	+0.2
MOX				*e*		18 37 29.0	
MOX				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.5						
MOX				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.6						
MOX	Moxa	25.57	90	*e*P	P	18 36 49.2	+0.2
	comp=Z,16nm,1.1s,mb4.5						
MOX				*e*		18 37 04.3	
MOX				*e*		18 37 29.0	
MOX				LR	LR		
	comp=Z,2μm,18.0s,MS4.6						
MTLF	Montolieu	25.71	113	*e*P	P	18 36 49.9	-0.3
ARCES	ARCESS Array B	25.71	43	P	P	18 36 49.5	-0.9
	comp=Z,5.3nm,0.6s,mb4.2,baz=262,slow=7.0,SNR=21						
ARCES				LR	LR	18 45 12.0	
	comp=Z,379nm,19.1s,MS3.9,baz=108,slow=32						
VIVF	Saint-Julien-l	25.79	107	*e*P	P	18 36 50.6	-0.4
ESDC	Sonseca Array	25.85	126	P	P	18 36 54.8	+3.3
	comp=Z,2.3nm,0.7s,mb3.8,baz=321,slow=10,SNR=5.8						
ESLA	Sonseca Array	25.85	126	P	P	18 36 58.9	+7.4
	comp=Z,4.1nm,1.2s,mb3.8						
CLL	Collm	25.91	88	*e*P	P	18 36 54.0	+2.0
	comp=Z,17nm,1.7s,mb4.3						
CLL				*e*S	S	18 41 29.0	+6.1
CLL	Collm	25.91	88	*e*P	P	18 36 54.0	+2.0
CLL				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.3						
CLL				MLR	MLR		
	comp=Z,1μm,18.5s,MS4.5						
CLL	Collm	25.91	88	*e*P	P	18 36 54.0	+2.0
	comp=Z,17nm,1.7s,mb4.3						
CLL				LR	LR		
	comp=Z,1μm,18.5s,MS4.5						
GRA1	Grafenberg Arr	25.93	92	*e*P	P	18 36 52.6	+0.4
	comp=Z,24nm,1.5s,mb4.5						
GRA1				LR	LR		
	comp=Z,2μm,21.6s,MS4.5						
GRF	Grafenberg Arr	25.93	92	*e*P	P	18 36 52.6	+0.4
	comp=Z,24nm,1.5s,mb4.5						
GRF				*e*L		18 45 56.2	
	comp=Z,1μm,21.6s						
GRF	Grafenberg Arr	25.93	92	*e*P	P	18 36 52.6	+0.4
GRF				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.5						
GRF				MLR	MLR		
	comp=Z,2μm,21.6s,MS4.5						
GRF	Grafenberg Arr	25.93	92	*e*P	P	18 36 52.6	+0.4
GRF				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.5						
GRF				MLR	MLR		
	comp=Z,2μm,21.6s,MS4.5						
WERD	Werda	26.04	90	*e*P	P	18 36 54.4	+1.1
	comp=Z,3.0nm,1.3s,mb3.7						
NKC	Novy Kostel	26.24	90	*e*P	P	18 36 57.2	+2.1
NKC				AMS	AMS	18 47 30.0	
	comp=Z,2μm,16.5s						
ORIF	Oris-en-Rattie	26.34	106	*e*P	P	18 36 55.6	-0.4
	comp=Z,28nm,1.0s,mb4.4						
ORIF				*e*R			
	comp=Z,908nm,22.8s						
ORIF	Oris-en-Rattie	26.34	106	*e*P	P	18 36 55.6	-0.4
ORIF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
ORIF	Oris-en-Rattie	26.34	106	*e*P	P	18 36 55.6	-0.4
	comp=Z,14nm,1.0s,mb4.4						
LPL	La Plagne	26.35	104	*e*P	P	18 36 55.8	-0.2
	comp=Z,20nm,1.1s,mb4.3						
LPL	La Plagne	26.35	104	*e*P	P	18 36 55.8	-0.2
LPL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
LPL	La Plagne	26.35	104	*e*P	P	18 36 55.8	-0.2
	comp=Z,9.9nm,1.0s,mb4.3						
LPG	La Plagne	26.37	104	*e*P	P	18 36 56.1	-0.1
BRG	Berggiesshubel	26.64	88	*e*P	P	18 37 01.7	+3.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.0						
BRG				MLR	MLR		
	comp=N,723nm,16.4s,MS4.4						
BRG				MLR	MLR		
	comp=E,535nm,19.5s,MS4.4						
BRG				MLR	MLR		
	comp=Z,701nm,19.2s,MS4.2						
BRG	Berggiesshubel	26.64	88	*e*P	P	18 37 01.7	+3.0
	comp=Z,6.8nm,1.5s,mb4.0						
BRG				LR	LR		
	comp=Z,700nm,19.2s,MS4.2						
DAVOX	Davos	27.09	99	LR	LR	18 47 05.7	
	comp=Z,1μm,20.3s,MS4.5,baz=314,slow=35						
PVCC	Panska Ves	27.16	88	*e*P	P	18 37 06.6	+3.2
PRU	Pruhonice	27.47	89	*e*P	P	18 37 06.4	+0.3
PRU				AMS	AMS	18 48 30.0	
	comp=Z,2μm,15.1s						
GERES	GERESS Array B	27.73	91	P	P	18 37 11.1	+2.6
	comp=Z,0.7nm,0.8s,mb3.3,baz=243,slow=3.0,SNR=3.6						
GERES				LR	LR	18 48 11.9	
	comp=Z,1μm,18.5s,MS4.5,baz=296,slow=36						
FINES	FINESS Array B	27.73	60	P	P	18 37 08.3	-0.2
	comp=Z,15nm,0.8s,mb4.7,baz=284,slow=7.9,SNR=15						
FINES				LR	LR	18 47 33.2

PGF	**Pioggiola**	**29.62**	**106**	*e*P	**P**	**18 37 25.4**	**+0.1**
PGF				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.7						
PGF	**Pioggiola**	**29.62**	**106**	*e*P	**P**	**18 37 25.4**	**+0.1**
	comp=Z,20nm,1.4s,mb4.7						
STHS	**Stebnicka Huta**	**31.28**	**84**	*e*P	**P**	**18 37 41.9**	**+1.9**
AQU	**L'Aquila**	**31.98**	**101**	P	**P**	**18 37 56.7**	**+11**
SADO	**Sadowa**	**32.13**	**265**	LR	LR	18 49 30.5	
	comp=Z,2μm,19.3s,MS4.8,baz=61,slow=34						
KLMR	**Klimovskoe**	**33.90**	**56**	*e*P	**P**	**18 37 57.8**	**-5.1**
KLMR				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
AKASG	**Malin Array Be**	**34.58**	**77**	P	**P**	**18 38 08.8**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=303,slow=8.8,SNR=9.0						
AKASG				PcP	PcP	18 40 42.4	-1.1
	comp=Z,1.1nm,0.9s,baz=288,slow=3.6,SNR=4.1						
OBN	**Obninsk**	**35.58**	**66**	⇓*i*P	**P**	**18 38 17.2**	**-0.3**
OBN				*e*		18 39 37.9	
OBN				*e*S	**S**	**18 43 57.7**	**+3.5**
OBN				*i* SS	SS	18 46 05.9	-23
OBN				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
OBN				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.4						
ULM	**Lac du Bonnet**	**37.13**	**286**	LR	LR	18 52 16.8	
	comp=Z,1μm,21.6s,MS4.6,baz=66,slow=34						
YKA	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**18 38 40.9**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.1,baz=56,slow=9.0,SNR=34						
YKA				PcP	PcP	18 40 54.0	-0.7
	comp=Z,0.5nm,0.7s,baz=48,slow=3.3,SNR=7.7						
YKA				LR	LR	18 53 25.4	
	comp=Z,1μm,21.0s,MS4.6,baz=55,slow=35						
YKA	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**18 38 40.9**	**0.0**
YKA						18 40 54.0	
YKA	**Yellowknife Ar**	**38.33**	**312**	P	**P**	**18 38 40.9**	**+0.1**
YKA				PcP	PcP	18 40 54.0	-0.7
YKA				LR	LR	18 53 25.4	
INK	**Inuvik**	**41.21**	**327**	P	**P**	**18 39 04.2**	**-0.7**
	comp=Z,2.2nm,0.8s,mb3.8,baz=19,slow=9.1,SNR=8.1						
INK				LR	LR	18 55 52.3	
	comp=Z,489nm,19.7s,MS4.4,baz=63,slow=36						
ANN	**Anapa**	**42.62**	**78**	*e*P	**P**	**18 39 16.1**	**-0.3**
ANN				*e*		18 41 15.4	
ANN				pmax	pmax		
	comp=Z,938nm,9.2s						
ANN				MLR	MLR		
	comp=Z,876nm,18.0s,MS4.7						
BR131	**Keskin Array S**	**44.34**	**86**	*e*P	**P**	**18 39 28.2**	**-2.0**
	comp=Z,1.0nm,0.8s,mb3.6						
BRTR	**Keskin Array B**	**44.34**	**86**	P	**P**	**18 39 31.2**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.6,baz=315,slow=5.2,SNR=8.3						
ARU	**Arti**	**44.52**	**52**	⇓*i*P	**P**	**18 39 31.3**	**-0.4**
ARU				*e*		18 41 10.1	
ARU				*e*PPP		18 41 49.4	
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
ARU	**Arti**	**44.52**	**52**	*e*P	**P**	**18 39 31.4**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8						
SOC	**Sochi**	**44.64**	**78**	*e*P	**P**	**18 39 37.0**	**+4.4**
SOC				*e*		18 41 16.6	
SOC				*e*SS	SS	18 49 20.2	-9.2
SOC				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
SOC				MLR	MLR		
	comp=Z,377nm,16.0s,MS4.4						
KIV	**Kislovodsk**	**45.87**	**75**	⇓*e*P	**P**	**18 39 50.1**	**+7.7**
KIV				*e*		18 41 29.5	
KIV				*i* S	**S**	**18 46 30.2**	**+2.8**
KIV				*e*SS	SS	18 49 42.6	-9.3
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.4						
KIV	**Kislovodsk**	**45.87**	**75**	P	**P**	**18 39 44.1**	**+1.7**
	comp=Z,7.0nm,1.0s,mb4.5						
ILAR	**Eielson Array**	**47.48**	**328**	P	**P**	**18 39 55.9**	**+0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=29,slow=6.5,SNR=9.3						
ILAR				LR	LR	18 58 48.6	
	comp=Z,365nm,19.1s,MS4.4,baz=15,slow=35						
MALT	**Malatya**	**47.87**	**83**	*e*P	**P**	**18 39 56.9**	**-1.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	**47.87**	**83**	*e*P	**P**	**18 39 56.9**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.5						
IMA2	**Indian Mountai**	**48.19**	**333**	*e*P	**P**	**18 40 00.9**	**+0.4**
TIXI	**Tiksi**	**48.94**	**8**	*i* P	**P**	**18 40 06.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**49.11**	**287**	P	**P**	**18 40 08.3**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.1,baz=53,slow=7.4,SNR=9.4						
PDAR				LR	LR	19 00 00.7	
	comp=Z,922nm,19.6s,MS4.8,baz=17,slow=35						
PDAR	**Pinedale Array**	**49.11**	**287**	P	**P**	**18 40 08.3**	**+0.8**
PDAR				LR	LR	19 00 00.7	
WMOK	**Wichita Mounta**	**49.69**	**272**	*e*P	**P**	**18 40 13.0**	**+1.0**
	comp=Z,5.3nm,1.0s,mb4.5						
HLID	**Hailey**	**50.89**	**291**	P	**P**	**18 40 20.6**	**-0.5**
	comp=Z,3.6nm,1.2s,mb4.2						
ZRNK	**Zerenda**	**51.24**	**50**	*e*P	**P**	**18 40 22.9**	**-0.9**
ZRNK				*e*		18 41 38.4	
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
ZRNK	**Zerenda**	**51.24**	**50**	*e*P	**P**	**18 40 22.9**	**-0.9**
	comp=Z,9.7nm,1.4s,mb4.5						
ZRNK				*e*PcP	PcP	18 41 38.4	-0.6
TORD	**Torodi Ar. Bea**	**51.83**	**138**	P	**P**	**18 40 27.8**	**-0.4**
	comp=Z,1.6nm,0.9s,mb3.9,baz=338,slow=8.1,SNR=7.5						
BILL	**Bilibino**	**52.69**	**352**	*i* P	**P**	**18 40 34.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
BILL	**Bilibino**	**52.69**	**352**	*e*P	**P**	**18 40 34.7**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.4						
NVS	**Novosibirsk**	**54.96**	**40**	⇑*i*P	**P**	**18 40 50.7**	**-0.4**
NVS				pmax	pmax		
	comp=Z,45nm,1.9s,mb5.2						
NVS				pmax	pmax		
	comp=N,8.0nm,1.8s						
ZAL	**Zalesovo**	**56.22**	**40**	P	**P**	**18 40 59.8**	**-0.4**
	comp=N,0.4nm,0.4s,mb3.9,baz=341,slow=13,SNR=3.7						
ZAL				LR	LR	19 07 30.4	
	comp=N,135nm,18.4s,MS4.1,baz=141,slow=39						
TXAR	**Lajitas Array**	**56.49**	**272**	P	**P**	**18 41 03.9**	**+1.7**
	comp=N,0.7nm,0.8s,mb3.7,baz=81,slow=5.2,SNR=4.2						
TXAR				LR	LR	19 04 40.1	
	comp=N,580nm,19.6s,MS4.7,baz=30,slow=35						
NVAR	**Mina Array Bea**	**56.71**	**290**	LR	LR	19 04 40.3	
	comp=N,211nm,18.3s,MS4.3,baz=330,slow=35						
YAK	**Yakutsk**	**58.44**	**11**	⇑*e*P	**P**	**18 41 16.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.8						
BOD	**Bodaibo**	**60.33**	**21**	*e*P	**P**	**18 41 24.6**	**-4.4**
MKAR	**Makanchi Array**	**61.30**	**46**	P	**P**	**18 41 34.4**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.3,baz=338,slow=5.7,SNR=22						
MKAR				LR	LR	19 08 18.1	
	comp=Z,163nm,18.1s,MS4.2,baz=1.6,slow=36						
MKAR	**Makanchi Array**	**61.30**	**46**	⇑*e*P	**P**	**18 41 35.0**	**-0.6**
WMQ	**Urumqi**	**65.83**	**44**	*e*P	**P**	**18 42 06.0**	**+0.5**
WMQ				XP	sP	18 42 13.0	+6.9
WMQ				SS	SS	18 55 06.0	-1.6
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,185nm,5.0s						
WMQ				LR	LR		
	comp=N,204nm,15.0s,MS4.7						
WMQ				LR	LR		
	comp=E,258nm,13.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,324nm,13.0s,MS4.7						
SONM	**Songino Array**	**68.00**	**29**	P	**P**	**18 42 19.0**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=330,slow=7.4,SNR=5.5						
SONM				LR	LR	19 13 14.4	
	comp=Z,164nm,19.7s,MS4.3,baz=298,slow=37						
ULN	**Ulaanbaatar**	**68.14**	**29**	*e*P	**P**	**18 42 19.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
ULN	**Ulaanbaatar**	**68.14**	**29**	*e*P	**P**	**18 42 19.8**	**-0.4**
	comp=Z,7.9nm,1.2s,mb4.6						
GTA	**Gaotai**	**73.86**	**38**	*e*P	**P**	**18 42 54.7**	**-0.3**
GTA				AP		18 42 59.2	
GTA				XP	sP	18 43 02.4	+6.8
GTA				PP	PP	18 45 42.1	+2.5
GTA				S	S	18 52 26.5	-1.1
GTA				XS	sS	18 52 34.2	+5.9
GTA				SCS	ScS	18 53 01.0	-4.8
GTA				SS	SS	18 57 15.6	+4.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,105nm,6.5s						
GTA				LR	LR		
	comp=N,161nm,12.6s,MS4.6						
GTA				LR	LR		
	comp=E,141nm,14.5s,MS4.6						
GTA				LR	LR		
	comp=Z,202nm,14.9s,MS4.5						
MDJ	**Mudanjiang**	**75.57**	**14**	P	**P**	**18 43 02.9**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,96nm,4.0s						
BDFB	**Brasilia**	**75.61**	**197**	P	**P**	**18 43 06.9**	**+1.8**
	comp=Z,2.8nm,0.8s,mb4.3,baz=28,slow=2.3,SNR=4.9						
BDFB				LR	LR	19 10 30.0	
	comp=Z,181nm,20.5s,MS4.4,baz=186,slow=31						
CN2	**Changchun**	**75.78**	**17**	*e*P	**P**	**18 43 05.0**	**-1.1**
CN2				*e*XP	sP	18 43 12.0	+5.3
CN2				*e*S	S	18 52 43.2	-5.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
HHC	**Hu-ho-hao-te**	**75.84**	**28**	*e*P	**P**	**18 43 05.1**	**-1.3**
HHC				AP		18 43 09.7	
HHC				XP	sP	18 43 13.3	+6.3
HHC				PCP	PcP	18 43 19.3	+0.3
HHC				PP	PP	18 45 57.6	+1.2
HHC				S	S	18 52 44.0	-5.6
HHC				SKS		18 53 07.9	
HHC				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,152nm,6.0s						
HHC				LR	LR		
	comp=N,152nm,13.2s,MS4.7						
HHC				LR	LR		
	comp=E,149nm,12.0s,MS4.7						
HHC				LR	LR		
	comp=Z,119nm,14.4s,MS4.3						
LZH	**Lanzhou**	**78.17**	**36**	*e*P	**P**	**18 43 19.0**	**-0.5**
LZH				AP		18 43 22.3	
LZH				*e*PP	PP	18 46 19.3	+3.4
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,48nm,6.7s						
LZH				LR	LR		
	comp=N,307nm,15.2s						
LZH				LR	LR		
	comp=Z,413nm,17.8s,MS4.8						
KMBO	**Kilima Mbogo**	**79.93**	**109**	LR	LR	19 17 32.4	
	comp=Z,202nm,20.2s,MS4.5,baz=95,slow=35						
LPAZ	**La Paz**	**80.86**	**216**	LR	LR	19 19 50.3	
	comp=Z,68nm,18.3s,MS4.0,baz=194,slow=36						
CD2	**Chengdu**	**82.93**	**38**	*e*P	**P**	**18 43 43.5**	**-1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
NJ2	**Nanjing**	**85.94**	**25**	*e*P	**P**	**18 44 02.9**	**+2.5**
NJ2				AP		18 44 07.5	
NJ2				XP	sP	18 44 10.1	+9.1
NJ2				PP	PP	18 47 24.6	+4.6
NJ2				S		18 54 34.0	
NJ2				XS	sS	18 54 44.0	+8.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,150nm,9.0s						
NJ2				LR	LR		
	comp=N,340nm,20.5s,MS5.0						
NJ2				LR	LR		
	comp=E,410nm,17.5s,MS5.0						
NJ2				LR	LR		
	comp=Z,430nm,22.5s,MS4.8						
SSE	**Sheshan**	**87.37**	**24**	P	**P**	**18 44 04.6**	**-2.7**
SSE				S		18 54 43.5	
SSE				AMB	AMB		
	comp=Z,68nm,1.1s						
SSE				AMB	AMB		
	comp=Z,141nm,6.0s						
SSE				LR	LR		
	comp=N,47nm,17.8s,MS4.0						
SSE				LR	LR		
	comp=E,29nm,18.2s,MS4.0						
SSE				LR	LR		
	comp=Z,80nm,15.0s,MS4.2						
BOSA	**Boshof**	**98.89**	**132**	LR	LR	19 26 50.6	
	comp=Z,239nm,21.3s,MS4.7,baz=345,slow=34						
ASAR	**Alice Springs**	**143.16**	**23**	PKP	PKPdf	18 50 52.9	-1.4
	comp=Z,0.8nm,0.8s,baz=350,slow=2.3,SNR=8.0						
QSPA	**South Pole Qui**	**148.85**	**180**	*e*P	PKPdf	18 51 03.9	-0.1

*ISCJB **04** 18:31:45.0±0.6, 4355N±004×10520W±007, h0^km, Error ellipse: s-maj=7.3km s-min=5.0km az=150.7*
*IDC **04** 18:31:44.3±2.9, 4325N×10533W, h0^km, mb2.5/1, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, ML3.9/1, Error ellipse: s-maj=58.5km s-min=9.8km az=155.0*
*NEIC **04** 18:31:46.2±0.5, 4355N×10521W, h0^km, ML3.1, Error ellipse: s-maj=7.0km s-min=6.0km az=51.0, Suspected Mining explosion.*
NEIC 85 km [55 miles] SSE of Gillette.

ISC 04 18:31:46.7±0.6, 4354N±004×10524W±007, h0^km, n23, σ1°03/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.24**	**184**	*e*Pn	**Pn**	**Pn**	**18 32 25.1**	**+0.1**
PHWY				*e*S	**Sn**	**Sn**	**18 32 55.0**	**+1.7**
RWWY	**Rawlins**	**2.35**	**219**	*e*Pn	**Pn**	**Pn**	**18 32 26.9**	**+0.4**
RWWY				*e*Sn	**Sn**	**Sn**	**18 32 54.8**	**-1.2**
LAO	**LASA Array**	**3.23**	**348**	*e*Pn	**Pn**	**Pn**	**18 32 40.5**	**+1.9**
PDAR	**Pinedale Array**	**3.25**	**258**	Pn	**Pn**	**Pn**	**18 32 38.6**	**-0.2**
	1.8nm,0.3s,baz=72,slow=14,SNR=73							
PDAR				Lg			18 33 21.6	
	4.7nm,0.3s,baz=64,slow=37,SNR=6.3							
ISCO	**Idaho Springs**	**3.74**	**184**	*e*Pn	**Pn**	**Pn**	**18 32 43.9**	**-1.7**
ISCO				*e*Sn	**Sn**	**Sn**	**18 33 30.4**	**0.0**
LKWY	**Lake**	**3.86**	**287**	*e*Pn	**Pn**	**Pn**	**18 32 49.4**	**+2.1**
LKWY				*e*Pb	**Pb**	**Pb**	**18 32 56.0**	**+0.5**
GCMT	**Greycliff**	**3.88**	**307**	*e*Pn	**Pn**	**Pn**	**18 32 46.7**	**-0.8**
LOHW	**Long Hollow**	**3.90**	**273**	*e*Pn	**Pn**	**Pn**	**18 32 48.8**	**+1.1**
FLWY	**Flagg Ranch**	**3.99**	**280**	*e*Pn	**Pn**	**Pn**	**18 32 49.4**	**+0.4**
FLWY				*e*Pb	**Pb**	**Pb**	**18 32 58.8**	**+1.0**
MOOW	**Moose Ponds**	**4.00**	**275**	*e*Pn	**Pn**	**Pn**	**18 32 49.3**	**+0.2**
SNOW	**Snow King Moun**	**4.01**	**271**	*e*Pn	**Pn**	**Pn**	**18 32 48.4**	**-0.9**
SNOW				*e*Pb	**Pb**	**Pb**	**18 32 55.9**	**-2.3**
REDW	**Red Top Meadow**	**4.09**	**269**	*e*Pn	**Pn**	**Pn**	**18 32 50.3**	**-0.1**
REDW				*e*Pb	**Pb**	**Pb**	**18 32 56.0**	**-3.5**
YFT	**Old Faithful**	**4.14**	**285**	*e*Pn	**Pn**	**Pn**	**18 32 51.1**	**0.0**
AHID	**Auburn Hatcher**	**4.35**	**262**	*e*Pn	**Pn**	**Pn**	**18 32 54.4**	**+0.4**
AHID				*e*Pb	**Pb**	**Pb**	**18 33 04.8**	**+0.7**
SMCO	**Snowmass**	**4.54**	**197**	Pn	**Pn**	**Pn**	**18 32 57.4**	**+0.7**
QLMT	**Earthquake Lak**	**4.63**	**288**	*e*Pn	**Pn**	**Pn**	**18 32 58.6**	**+0.7**
DGMT	**Dagmar**	**4.99**	**8**	*e*Pn	**Pn**	**Pn**	**18 33 02.9**	**+0.1**
HWUT	**Hardware Ranch**	**5.05**	**250**	*e*Pn	**Pn**	**Pn**	**18 33 02.4**	**-1.3**
	13nm,0.5s							
MCMT	**McKenzie Canyo**	**5.62**	**286**	*e*Pn	**Pn**	**Pn**	**18 33 11.1**	**-0.3**
CBKS	**Cedar Bluff**	**6.29**	**137**	*e*Pn	**Pn**	**Pn**	**18 33 20.9**	**+0.3**
	14nm,0.5s							
CHMT	**Chamberlain Mo**	**6.59**	**304**	*e*Pn	**Pn**	**Pn**	**18 33 23.5**	**-1.2**
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn	**Pn**	**Pn**	**18 34 00.1**	**-1.6**
	0.5nm,0.3s,baz=222,slow=13,SNR=5.1							
ULM				Lg			18 36 37.4	
	0.3nm,0.3s,baz=119,slow=16,SNR=3.0							
YKA	**Yellowknife Ar**	**19.77**	**347**	P	**Pn**	**Pn**	**18 36 19.7**	**0.0**
	0.2nm,0.4s,baz=160,slow=8.8,SNR=4.8							

IDC 04 18:31:57.1±1.3, 1204N×14305E, h0^km, mb3.4/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.5/5, ML3.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/17, Error ellipse: s-maj=79.3km s-min=19.2km az=120.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.35**	**49**	Pn	Pn	Pn	18 32 36.9	-0.1
	23nm,0.3s,baz=192,slow=13,SNR=11							
GUMO				Sn	Sn	Sn	18 33 08.0	+1.5
	38nm,0.3s,baz=42,slow=22,SNR=6.0							
WRA	**Warramunga Arr**	**32.92**	**195**	P	P	P	18 38 32.7	-0.4
	0.8nm,0.8s,baz=18,slow=9.8,SNR=7.3							
ASAR	**Alice Springs**	**36.60**	**194**	P	P	P	18 39 05.7	+0.8
	0.3nm,0.7s,baz=16,slow=12,SNR=6.9							
URZ	**Urewera**	**59.32**	**149**	LR	LR	LR	19 01 39.4	
	comp=Z,99nm,19.9s,baz=228,slow=30							
ILAR	**Eielson Array**	**70.72**	**25**	P	P	P	18 43 13.8	-1.1
	0.7nm,0.9s,baz=250,slow=7.2,SNR=4.2							
YKA	**Yellowknife Ar**	**85.04**	**27**	P	P	P	18 44 35.4	+0.8
	0.1nm,0.4s,baz=293,slow=4.7,SNR=2.6							

CASC 04 18:55:06.5±2.5, 1092N×8675W, h17^km±14^km, MD3.9, ML3.1, 6C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.95**	**68**	⇑*e*P		Pb	18 55 24.4	-0.1
APON	**Apoyo**	**1.19**	**34**	*e*P		Pn	18 55 28.0	-0.3
TICN	**Ticuantepe**	**1.21**	**24**	*e*P		Pn	18 55 28.3	-0.4
COPN	**Copaltepe**	**1.26**	**7**	⇓*e*P		Pn	18 55 28.5	-0.8
CONN	**Concepcion**	**1.27**	**60**	⇑*e*P		Pn	18 55 28.8	-0.7
MADN	**Villa Maderas**	**1.28**	**68**	⇑*e*P		Pn	18 55 29.2	-0.4
MGAN	**Managua**	**1.31**	**22**	⇑*e*P		Pn	18 55 29.4	-0.6
MGAN				*e*S		Sn	18 55 48.3	+1.2
MGAN				*i*			18 55 49.4	
	comp=E,327nm,0.5s							
WILN	**Americas 2**	**1.34**	**24**	*e*P		Pn	18 55 29.7	-0.8
WILN				*e*S		Sn	18 55 48.7	+0.8
RIN3	**Volcan Rincon**	**1.35**	**96**	⇑*e*P		Pn	18 55 30.0	-0.5
VCR	**Vista de Mar**	**1.35**	**126**	*e*P		Pn	18 55 32.5	+1.9
APYN	**Apoyeque**	**1.36**	**17**	*e*P		Pn	18 55 29.9	-0.8
LEON	**Leon**	**1.49**	**354**	*e*P		Pn	18 55 31.5	-1.0
MIRN	**Miramar**	**1.51**	**1**	*e*P		Pn	18 55 31.8	-0.9
CNGN	**Cerro Negro**	**1.57**	**2**	*e*P		Pn	18 55 32.6	-1.0
TEL3	**Telica 3**	**1.64**	**357**	⇑*e*P		Pn	18 55 33.5	-1.1
JTS	**JuntasAbangare**	**1.87**	**109**	*e*P		Pn	18 55 37.4	-0.4
VACR	**Volcan Arenal**	**2.08**	**102**	*e*P		Pn	18 55 42.3	+1.7
EPA	**Esparza**	**2.31**	**114**	*e*P		Pn	18 55 43.8	+0.1
PRS1	**Puriscal**	**2.57**	**111**	*e*P		Pn	18 55 47.3	-0.1
LCR2	**La Lucha 2**	**2.94**	**113**	*e*P		Pn	18 55 54.2	+1.7
BUS	**Buena Vista**	**3.24**	**115**	*e*P		Pn	18 55 57.8	+1.3

*ISCJB **04** 19:29:45.7±0.6, 4012N±003×1977E±005, h10^km, Error ellipse: s-maj=5.7km s-min=4.1km az=2.9*
*NEIC **04** 19:29:45.0, 4017N×1973E, h12^km, MD3.3(ATH), After ATH.*
*ATH **04** 19:29:45.0, 4017N×1973E, h12^km±1^km, MD3.3/4*
*SKO **04** 19:29:47.2, 4015N×1999E, h0^km*
*THE **04** 19:29:47.4, 4009N×1989E, h10^km, ML3.0*

ISC 04 19:29:46.6±0.6, 4012N±003×1978E±005, h10^km, n18, σ1°00/27, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.41**	**178**	*e*PB		**Pg**	**19 29 54.1**	**-0.5**
KEK				*e*SB		**Sg**	**19 30 00.8**	**+0.8**
IGT	**Igoumenitsa**	**0.73**	**144**	*e*Pg		**Pg**	**19 29 59.1**	**-1.5**
IGT				*e*Sg		**Sg**	**19 30 09.4**	**-0.8**
JAN	**Janina**	**0.95**	**119**	*e*PB		**Pg**	**19 30 03.8**	**-1.0**
MEV	**Metsovon**	**1.17**	**106**	*e*Pg		**Pg**	**19 30 07.5**	**-1.5**
	comp=Z,5.5nm,0.3s							
MEV				*e*Sg		**Sg**	**19 30 23.8**	**-0.3**
OHR	**Ohrid**	**1.26**	**38**	*e*Pn		**Pn**	**19 30 10.3**	**+0.2**
OHR				*e*Sn		**Sn**	**19 30 25.0**	**-2.1**
FNA	**Florina**	**1.39**	**61**	*e*Pg		**Pg**	**19 30 11.9**	**-1.3**
	comp=Z,4.5nm,0.3s							
FNA				*e*Sg		**Sg**	**19 30 31.8**	**+0.6**
BIA	**Bitola**	**1.48**	**52**	*e*Pn		**Pn**	**19 30 12.7**	**-0.6**
BIA				*e*Sn		**Sn**	**19 30 31.9**	**-0.7**
LKD	**Levkas**	**1.57**	**154**	*e*Pg		**Pg**	**19 30 15.3**	**-1.3**
EVR	**Evrytania**	**1.98**	**127**	*e*PN		**Pn**	**19 30 21.6**	**+1.5**
VLS	**Valsamata**	**2.04**	**162**	*e*PN		**Pn**	**19 30 22.4**	**+1.4**
LIT	**Litokhoron**	**2.08**	**90**	*e*Pn		**Pn**	**19 30 22.0**	**+0.5**
LIT				*e*Sn		**Sn**	**19 30 48.3**	**+0.9**
GRG	**Griva**	**2.17**	**67**	*e*Pn		**Pn**	**19 30 23.4**	**+0.8**
GRG				*e*Sn		**Sn**	**19 30 51.5**	**+1.9**
AGG	**Agios Georgios**	**2.26**	**118**	*e*Pn		**Pn**	**19 30 24.8**	**+0.8**
KNT	**Kendrikon**	**2.59**	**65**	*e*Pn		**Pn**	**19 30 29.0**	**+0.5**
XOR	**Xorichti**	**2.74**	**105**	*e*Pn		**Pn**	**19 30 31.2**	**+0.6**
PAIG	**Paliouri**	**3.00**	**92**	*e*Pn		**Pn**	**19 30 34.5**	**+0.3**
SRS	**Serrai**	**3.07**	**70**	*e*Pn		**Pn**	**19 30 36.0**	**+0.9**
STON	**Ston**	**3.16**	**331**	*i* Pn		**Pn**	**19 30 36.6**	**+0.3**
STON				*i* Sn		**Sn**	**19 31 13.5**	**-0.5**

*ISK **04** 19:36:29.4, 3771N×2739E, h5^km, MD3.3*
*ISCJB **04** 19:36:31.1±0.4, 3771N±002×2742E±004, h10^km, Error ellipse: s-maj=4.3km s-min=3.3km az=127.9*
*ATH **04** 19:36:36.3, 3783N×2693E, h10^km, MD3.3/3*

ISC 04 19:36:31.5±0.4, 3772N±002×2743E±004, h10^km, n27, σ1°25/35, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.36**	**

σ0°84/15, **mb3.2/3, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.81**	**4**	P	**Pn**	**20 14 31.8**	**-1.0**
UNV				S	**Sn**	**20 14 43.7**	**-0.1**
OKCE	**Okmok Cone E**	**1.01**	**293**	P	**Pn**	**20 14 35.9**	**+0.2**
AKUT	**Akutan**	**1.20**	**24**	P	**Pn**	**20 14 38.2**	**0.0**
AKUT				S	**Sn**	**20 14 53.2**	**-0.1**
AKA	**Akutan**	**1.20**	**24**	P	**Pn**	**20 14 38.6**	**+0.3**
NIKO	**Nikolski**	**1.36**	**268**	P	**Pn**	**20 14 40.7**	**+0.2**
NIKO				S	**Sn**	**20 14 56.8**	**-0.5**
ATKA	**Atka Island**	**4.70**	**263**	P	**Pn**	**20 15 30.4**	**+4.1**
TNA	**Tin City**	**12.57**	**357**	*e*Pn	**Pn**	**20 17 16.9**	**+2.8**
2.1nm,0.5s							
ILAR	**Eielson Array**	**15.46**	**33**	P	**Pn**	**20 17 56.6**	**+3.9**
0.1nm,0.3s,baz=231,slow=11,SNR=5.3							
INK	**Inuvik**	**21.86**	**33**	P	**P**	**20 19 05.6**	**-1.0**
1.3nm,0.5s,mb3.6,baz=223,slow=7.9,SNR=9.2							
YKA	**Yellowknife Ar**	**28.52**	**50**	P	**P**	**20 20 08.8**	**-0.2**
0.1nm,0.6s,mb2.8,baz=276,slow=6.2,SNR=3.1							
TXAR	**Lajitas Array**	**51.07**	**92**	P	**P**	**20 23 15.8**	**+0.3**
0.3nm,0.9s,mb3.2,baz=354,slow=8.2,SNR=2.6							
TXAR	**Lajitas Array**	**51.07**	**92**	P	**P**	**20 23 15.8**	**+0.3**

*MOS **04** 20:14:58.2±1.0, 5207N×15989E, h15km, mb4.4/1, Error ellipse: s-maj=32.7km s-min=10.8km az=94.1*

KRSC 04 20:14:57.9±1.5, 5214N×15989E, h11km±3km, ML4.1, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.90**	**290**	P	Pg	20 15 15.6	+0.4
RUS				S	Sg	20 15 28.2	+1.4
RUS	**Russkaya**	**0.90**	**290**	*i* P	Pg	20 15 15.6	+0.4
RUS				*e*S	Sg	20 15 27.7	+0.9
SPN	**Mys Shipunski**	**0.96**	**5**	P	Pg	20 15 17.4	+0.9
SPN				S	Sg	20 15 31.7	+2.7
SPN	**Mys Shipunski**	**0.96**	**5**	*e*P	Pg	20 15 17.3	+0.8
SPN				*e*S	Sg	20 15 31.6	+2.6
NLC	**Nalytchevo**	**1.08**	**342**	P	Pb	20 15 18.7	0.0
NLC				S	Sb	20 15 33.6	+0.8
NLC	**Nalytchevo**	**1.08**	**342**	*e*P	Pb	20 15 18.6	-0.1
NLC				*e*S	Sb	20 15 34.1	+1.3
PET	**Petropavlovsk**	**1.16**	**320**	P	Pb	20 15 20.0	0.0
PET				S	Sb	20 15 36.4	+1.3
PET	**Petropavlovsk**	**1.16**	**320**	*i* P	Pb	20 15 20.0	0.0
PET				*e*S	Sb	20 15 36.6	+1.5
PET	**Petropavlovsk**	**1.16**	**320**	||*i* PN	Pn	20 15 19.9	-0.2
PET				*e*S	Sb	20 15 37.3	+2.2
PET				pmax	pmax		
comp=Z,345nm,0.5s							
PET				pmax	pmax		
comp=N,192nm,0.5s							
PET				smax			
comp=N,752nm,0.8s							
PET				smax			
comp=E,730nm,0.7s							
GRL	**Gorelyy**	**1.19**	**291**	*i* P	Pb	20 15 21.1	+0.7
GRL				*e*S	Sb	20 15 37.8	+2.0
UGLR	**Uglovaya**	**1.25**	**329**	*i* P	Pn	20 15 21.6	+0.3
KRMR	**Karymshinskiy**	**1.28**	**303**	*i* P	Pn	20 15 20.6	-1.1
KRMR				*e*S	Sb	20 15 37.4	-1.0
SDLR	**Sedlovina**	**1.29**	**332**	*e*P	Pn	20 15 21.9	0.0
SDLR				*e*S	Sb	20 15 40.2	+1.3
SMAR	**Somma**	**1.31**	**330**	*e*P	Pn	20 15 22.0	-0.1
AVH	**Avacha**	**1.33**	**329**	*e*P	Pn	20 15 22.7	+0.3
KOK	**Koryaka**	**1.38**	**327**	*e*P	Pn	20 15 23.6	+0.5
KOK				*e*S	Sn	20 15 42.1	+0.7
APC	**Apacha**	**1.84**	**296**	*i* P	Pn	20 15 31.2	+1.7
APC				*e*S	Sn	20 15 55.1	+2.3
APC				Smax			
comp=E,700nm,0.7s							
KII	**Karymskiy**	**1.92**	**352**	P	Pn	20 15 33.6	+3.1
KII				S	Sn	20 15 59.8	+5.2
KII	**Karymskiy**	**1.92**	**352**	*e*P	Pn	20 15 32.2	+1.7
KII				*e*S	Sn	20 15 57.8	+3.2
MIPR	**Malaya Ipel'ka**	**1.93**	**275**	*i* P	Pn	20 15 32.6	+1.9
MIPR				*i* S	Sn	20 15 59.0	+4.1
GNL	**Ganaly**	**1.95**	**324**	*i* P	Pn	20 15 32.2	+1.2
GNL				*e*S	Sn	20 15 57.8	+2.3
PAU	**Pauzhetka**	**2.03**	**252**	*e*P	Pn	20 15 32.6	+0.6
PAU				*e*S	Sn	20 15 59.2	+1.9
PAU				Smax			
comp=E,520nm,0.8s							
MKZ	**Mys Kozlova**	**2.66**	**24**	P	Pn	20 15 40.7	0.0
MKZ				S	Sn	20 16 10.7	-2.2
MKZ	**Mys Kozlova**	**2.66**	**24**	*e*P	Pn	20 15 40.7	0.0
MKZ				*e*S	Sn	20 16 11.0	-1.9
SKR	**Severo-Kuril's**	**2.78**	**240**	*e*P	Pn	20 15 43.6	+1.3
SKR				*e*S	Sn	20 16 15.8	0.0
ALID	**Alaid**	**3.00**	**247**	*i* P	Pn	20 15 46.9	+1.6
TUMR	**Tumrok**	**3.15**	**3**	*e*P	Pn	20 15 49.7	+2.2
TUMR				*e*S	Sn	20 16 26.5	+1.4
KPT	**Kopyto**	**3.84**	**3**	P	Pn	20 15 58.8	+1.9
ESO	**Esso**	**3.86**	**350**	*e*P	Pn	20 15 59.0	+1.9
ESO				Smax			
comp=E,40nm,1.1s							
ZLN	**Zelenaya**	**3.92**	**8**	*e*P	Pn	20 16 01.6	+3.6
KOZ	**Kozyrevsk**	**3.93**	**360**	P	Pn	20 16 02.1	+4.0
CIRR	**Tsirk**	**4.01**	**7**	P	Pn	20 16 04.2	+4.9
SRDR	**Sredinnyy**	**4.19**	**359**	P	Pn	20 16 03.8	+2.1
KLY	**Klyuchi**	**4.21**	**6**	P	Pn	20 16 06.0	+4.1
KLY	**Klyuchi**	**4.21**	**6**	P	Pn	20 16 05.7	+3.8
KLY				*e*S	Sn	20 16 52.5	+1.5
KBTR	**Krutoberegovo**	**4.42**	**22**	P	Pn	20 16 07.8	+2.9
KBTR				S	Sn	20 16 59.6	+3.2
KBTR	**Krutoberegovo**	**4.42**	**22**	*e*P	Pn	20 16 06.1	+1.2
KBTR				*e*S	Sn	20 16 56.1	-0.3
KBG	**Krutoberegovo**	**4.44**	**21**	S	Sn	20 17 00.5	+3.6
KBG				Smax			
comp=E,220nm,1.0s							
BDR	**Baidarnaya**	**4.50**	**9**	P	Pn	20 16 08.6	+2.6
SRKR	**Sorokina**	**4.58**	**9**	P	Pn	20 16 09.7	+2.6
BKI	**Bering**	**4.74**	**47**	*e*P	Pn	20 16 09.4	+0.1
BKI				*e*S	Sn	20 16 58.2	-6.1
MKAR	**Makanchi Array**	**48.46**	**296**	P	P	20 23 35.7	-4.7
comp=E,0.3nm,0.5s,baz=52,slow=6.0,SNR=8.3							

*ISCJB **04** 20:30:02.7±0.4, 4726N±002×103W±004, h9km±4km, Error ellipse: s-maj=4.9km s-min=2.7km az=92.6*
*LDG **04** 20:30:05.8±0.1, 4728N×109W, h10km, Md2.6/1, Ml2.3/15, Error ellipse: s-maj=1.1km s-min=0.6km az=42.0*
*STR **04** 20:30:08.2±0.1, 4708N×136W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 20:30:04.7±0.4, 4728N±002×106W±003, h19km±4km, n23, σ0°80/39, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHF	**La Chataignera**	**0.65**	**160**	Pg	**Pg**	**20 30 19.4**	**+1.8**
LCHF				Sg	**Sg**	**20 30 27.6**	**+1.3**
MFF	**Saint Martin d**	**0.92**	**137**	*e*Pn	**Pn**	**20 30 23.0**	**+0.4**
SNR=1.0							
MFF	**Saint Martin d**	**0.92**	**137**	*e*Pg	**Pg**	**20 30 23.6**	**+0.9**
MFF				*e*Sg	**Sg**	**20 30 35.4**	**+0.5**
7.0nm,0.2s,SNR=1.0							
GRR	**Gorron**	**1.11**	**7**	*e*Pn	**Pn**	**20 30 25.8**	**+0.5**
SNR=1.0							
GRR	**Gorron**	**1.11**	**7**	*e*Pg	**Pg**	**20 30 27.3**	**+1.0**
GRR				*e*Sg	**Sg**	**20 30 41.6**	**+0.6**
5.2nm,0.1s,SNR=1.0							
CHIF	**Chize**	**1.23**	**159**	Pg	**Pg**	**20 30 30.0**	**+1.4**
CHIF				Sg	**Sg**	**20 30 46.0**	**+1.3**
SGMF	**Saint Gilles**	**1.40**	**314**	*e*Pg	**Pg**	**20 30 31.1**	**-0.7**
SGMF				*e*Sn	**Sn**	**20 30 46.9**	**-0.3**
SNR=1.0							
SGMF				*e*Sg	**Sg**	**20 30 49.7**	**-0.4**
6.4nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**1.46**	**25**	*e*Pg	**Pg**	**20 30 33.3**	**+0.5**
SNR=1.0							
LDF				*e*Sn	**Sn**	**20 30 48.9**	**+0.4**
SNR=1.0							
LDF				*e*Sg	**Sg**	**20 30 52.3**	**+0.5**
3.5nm,0.2s							
FLN	**La Foliniere**	**1.53**	**14**	*e*Pn	**Pn**	**20 30 31.6**	**+0.6**
FLN	**La Foliniere**	**1.53**	**14**	*e*Pg	**Pg**	**20 30 34.5**	**+0.3**
SNR=1.0							
FLN				*e*Sg	**Sg**	**20 30 54.6**	**+0.4**
7.8nm,0.3s,SNR=1.0							
QUIF	**Quistinic**	**1.56**	**295**	*e*Pn	**Pn**	**20 30 31.5**	**+0.1**
QUIF	**Quistinic**	**1.56**	**295**	*e*Pg	**Pg**	**20 30 34.6**	**-0.2**
SNR=1.0							
QUIF				*e*Sg	**Sg**	**20 30 54.2**	**-1.0**
4.4nm,0.2s,SNR=1.0							
ROSF	**Rostrenen**	**1.83**	**306**	*e*Pg	**Pg**	**20 30 39.6**	**-0.3**
ROSF				*e*Sg	**Sg**	**20 31 02.5**	**-1.2**
2.7nm,0.2s,SNR=1.0							
TCF	**Toulx Ste Croi**	**2.46**	**113**	*e*Pg	**Pg**	**20 30 51.8**	**0.0**
TCF				*e*Sg	**Sg**	**20 31 23.1**	**-0.6**
2.1nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**2.66**	**151**	*e*Sg	**Sg**	**20 31 29.2**	**-0.9**
5.5nm,0.3s,SNR=1.0							
RJF	**Les Rejaudoux**	**2.66**	**137**	*e*Sg	**Sg**	**20 31 28.7**	**-1.7**
3.6nm,0.2s,SNR=1.0							
BGF	**Bois d'Agland**	**2.77**	**104**	*e*Pn	**Pn**	**20 30 48.6**	**+0.5**
BGF	**Bois d'Agland**	**2.77**	**104**	*e*Pg	**Pg**	**20 30 57.5**	**-0.4**
SNR=1.0							
BGF				*e*Sg	**Sg**	**20 31 33.7**	**-0.1**
4.3nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**3.06**	**98**	*e*Pn	**Pn**	**20 30 52.6**	**+0.6**
AVF	**Avril sur Loir**	**3.06**	**98**	*e*Pg	**Pg**	**20 31 02.1**	**-1.2**
AVF				*e*Sg	**Sg**	**20 31 42.2**	**-0.7**
1.6nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**3.12**	**92**	*e*Pg	**Pg**	**20 31 03.8**	**-0.7**
CAF	**Calviac**	**3.21**	**136**	*e*Sn	**Sn**	**20 31 30.7**	**-1.0**
SNR=1.0							
CAF				*e*Sg	**Sg**	**20 31 46.8**	**-0.9**
2.9nm,0.3s							
LOR	**Lormes**	**3.35**	**88**	*e*Pg	**Pg**	**20 31 08.2**	**-0.7**
SNR=1.0							
LOR				*e*Sg	**Sg**	**20 31 51.5**	**-0.7**
0.9nm,0.3s							

IDC 04 20:48:37.5±1.4, 327S×14268E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=69.0km s-min=24.3km az=99.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.46**	**205**	*e*P	Pn	20 52 56.7	+2.0
WRA	**Warramunga Arr**	**18.46**	**206**	P	Pn	20 52 54.9	+0.1
0.2nm,0.3s,baz=26,slow=13,SNR=10							
ASAR	**Alice Springs**	**21.98**	**202**	P	P	20 53 34.6	+1.6
1.2nm,0.8s,baz=24,slow=8.7,SNR=10.0							
ASPA	**Alice Springs**	**21.98**	**202**	*e*P	P	20 53 39.3	+6.3
STKA	**Stephens Creek**	**28.48**	**182**	P	P	20 54 33.2	-1.0
1.7nm,0.8s,baz=339,slow=16,SNR=3.3							
MKAR	**Makanchi Array**	**72.67**	**321**	P	P	21 00 07.1	0.0
0.3nm,0.8s,baz=91,slow=6.8,SNR=4.8							
ILAR	**Eielson Array**	**84.72**	**24**	P	P	21 01 13.4	+0.1
0.5nm,0.7s,baz=225,slow=5.1,SNR=6.1							

*NIED **04** 21:20:00, 4190N×14230E, h50km, Mw3.8 Best double couple: M0=6.63000×10^14 NP1:φs=25.00000°, δ60.00000°, λ79.00000°. NP2:φs=225.00000°, δ31.00000°, λ108.00000°.*
*MOS **04** 21:20:27.9±1.1, 4190N×14232E, h76km, mb4.2/7, Error ellipse: s-maj=19.1km s-min=11.0km az=84.4*
*ISCJB **04** 21:20:27.9±0.3, 4195N±003×14231E±004, h71km±3km, mb4.0/18, Error ellipse: s-maj=6.0km s-min=3.8km az=99.2*
*NEIC **04** 21:20:28.2, 4195N×14233E, h69km, mb4.4/2, After JMA.*
*JMA **04** 21:20:28.2±0.2, 4195N×14233E, h69km±3km, M3.6 Broadband fault plane solution: P waves. NP1: φs=128.00000°, δ8.00000°, λ11.00000°. NP2:φs=28.00000°, δ88.00000°, λ98.00000°. Principal axes: T Plg46.0000°, Azm306.0000°; N Plg8.0000°, Azm208.0000°; P Plg43.0000°, Azm110.0000°;*
JMA Felt I J1.
*IDC **04** 21:20:29.1±2.1, 4196N×14226E, h68km±16km, mb3.5/12, mb1 3.7/14, mb1mx3.6/22, mbtmp3.8/14 Error ellipse: s-maj=20.3km s-min=14.2km az=120.0*
*NAO **04** 21:20:31.0, 4347N×14345E, h33km, mb3.8*

ISC 04 21:20:28.9±0.3, 4196N±003×14231E±004, h64km±3km, n52, σ0°63/68, mb4.1/18, 5C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.46**	**46**	||P	**Pn**	**21 20 40.0**	**-0.8**
JNBK				*e*S	**Sn**	**21 20 49.1**	**-0.4**
JEM	**Erimo**	**0.64**	**84**	||P	**Pn**	**21 20 42.6**	**0.0**
JEM				*e*S	**Sn**	**21 20 53.0**	**+0.3**
JBT2	**Biratori 2**	**0.82**	**3**	||P	**Pn**	**21 20 44.4**	**-0.4**
JBT2				*e*S	**Sn**	**21 20 56.7**	**+0.1**
JKB	**Kayabe**	**0.95**	**266**	||P	**Pn**	**21 20 46.3**	**-0.1**
JKB				*e*S	**Sn**	**21 20 59.2**	**-0.3**
JCH	**Churui**	**1.02**	**50**	||P	**Pn**	**21 20 47.2**	**-0.1**
JCH				*e*S	**Sn**	**21 21 01.2**	**+0.1**
JNB	**Noboribetsu**	**1.07**	**299**	||P	**Pn**	**21 20 47.3**	**-0.7**
JNB				*e*S	**Sn**	**21 21 01.4**	**-0.8**
JEW	**Eniwo**	**1.09**	**325**	||P	**Pn**	**21 20 48.2**	**0.0**
JEW				*e*S	**Sn**	**21 21 02.8**	**+0.3**
JOT	**Ohata**	**1.10**	**239**	||P	**Pn**	**21 20 48.3**	**-0.1**
JOT				*e*S	**Sn**	**21 21 03.0**	**+0.1**
JFR	**Furan**	**1.22**	**10**	||P	**Pn**	**21 20 49.5**	**-0.5**
JFR				*e*S	**Sn**	**21 21 05.4**	**-0.3**
JYM2	**Yakumo 2**	**1.45**	**277**	||P	**Pn**	**21 20 52.7**	**-0.3**
JOB	**Onbets**	**1.48**	**50**	||P	**Pn**	**21 20 53.9**	**+0.6**
JOB				*e*S	**Sn**	**21 21 12.4**	**+0.7**
JSR	**Shiriuchi**	**1.48**	**254**	P	**Pn**	**21 20 53.2**	**-0.1**
JSR				*e*S	**Sn**	**21 21 11.1**	**-0.6**
JTM	**Tenmabayashi**	**1.50**	**219**	P	**Pn**	**21 20 53.8**	**+0.3**
JANG	**Nango**	**1.69**	**201**	P	**Pn**	**21 20 56.6**	**+0.4**
JANG				*e*S	**Sn**	**21 21 17.2**	**+0.3**
JAR	**Ashorobuto**	**1.72**	**38**	P	**Pn**	**21 20 56.3**	**-0.3**
JHR	**Hokuryu**	**1.83**	**347**	||P	**Pn**	**21 20 58.6**	**+0.5**
JHR				*e*S	**Sn**	**21 21 21.4**	**+1.1**
ASAJ	**Asahikawa**	**2.17**	**6**	P	**Pn**	**21 21 03.4**	**+0.7**
18nm,0.3s,baz=217,slow=10,SNR=207							
ASAJ				S	**Sn**	**21 21 29.4**	**+0.9**
18nm,0.3s,baz=6.1,slow=26,SNR=15							
ASAJ	**Asahikawa**	**2.17**	**6**	P	**Pn**	**21 21 03.4**	**+0.8**
ASAJ				S	**Sn**	**21 21 29.4**	**+1.0**
ASAJ				pmax	pmax		
comp=Z,18nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.33**	**50**	*e*P	**Pn**	**21 21 18.7**	**+0.2**
YUK				*e*S	**Sn**	**21 21 55.5**	**-1.4**
YUK				pmax	pmax		
comp=Z,250nm,0.2s							
YUK				smax			
comp=N,420nm,0.4s							
YUK				smax			
comp=E,390nm,0.5s							
YSS	**Yuzh-Sakhalins**	**5.01**	**4**	*e*P	**Pn**	**21 21 44.8**	**+3.4**
YSS				*e*		21 22 34.5	
MJAR	**Matsushiro Arr**	**6.27**	**212**	P	**Pn**	**21 21 59.1**	**+0.4**
comp=E,0.2nm,0.3s,baz=19,slow=15,SNR=3.5							
SONM	**Songino Array**	**25.94**	**295**	P	**P**	**21 25 54.9**	**-0.2**
comp=E,1.3nm,0.6s,mb3.6,baz=79,slow=8.7,SNR=6.3							
SONM	**Songino Array**	**25.94**	**295**	P	**P**	**21 25 54.9**	**-0.2**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**39.28**	**308**	P	**P**	**21 27 50.4**	**-0.8**
comp=Z,1.1nm,0.5s,mb3.8,baz=15,slow=9.7,SNR=7.7							
ZAL	**Zalesovo**	**39.28**	**308**	P	**P**	**21 27 50.4**	**-0.9**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**39.28**	**308**	P	**P**	**21 27 50.4**	**-0.8**
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**21 28 15.5**	**-0.3**
comp=Z,1.5nm,0.7s,mb3.8,baz=83,slow=9.4,SNR=19							
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**21 28 15.5**	**-0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**21 28 15.5**	**-0.3**
ILAR	**Eielson Array**	**45.02**	**35**	P	**P**	**21 28 37.6**	**-0.3**
comp=Z,1.8nm,1.1s,mb3.8,baz=264,slow=5.3,SNR=5.8							
ILAR	**Eielson Array**	**45.02**	**35**	P	**P**	**21 28 37.6**	**-0.4**
ILAR				pmax	pmax		
comp=Z,2.0nm,1.1s							
JIRN	**Jiri**	**47.43**	**271**	*e*P	**P**	**21 28 57.2**	**+0.3**
comp=Z,10nm,0.9s,mb4.8							
GUN	**Gumba**	**47.53**	**272**	*e*P	**P**	**21 28 58.6**	**+0.9**
KKN	**Kakani**	**48.04**	**272**	*e*P	**P**	**21 29 02.3**	**+0.7**
comp=Z,4.1nm,0.6s,mb4.6							
PKI	**Pulchoki**	**48.06**	**272**	*e*P	**P**	**21 29 03.6**	**+1.8**
DMN	**Daman**	**48.27**	**272**	*e*P	**P**	**21 29 04.0**	**+0.6**
comp=Z,6.7nm,0.7s,mb4.8							
GKN	**Gorkha**	**48.41**	**273**	*e*P	**P**	**21 29 04.8**	**+0.4**
comp=Z,7.2nm,0.7s,mb4.8							
ZRNK	**Zerenda**	**48.70**	**310**	*e*P	**P**	**21 29 06.4**	**-0.3**
comp=Z,1.8nm,0.6s,mb4.3							
ZRNK				*ep*P	pP	21 29 20.4	-2.7
KOLN	**Koldanda**	**49.31**	**273**	*e*P	**P**	**21 29 11.7**	**+0.4**
comp=Z,3.0nm,0.6s,mb4.5							
YKA	**Yellowknife Ar**	**59.24**	**32**	P	**P**	**21 30 22.9**	**-0.6**
comp=Z,0.4nm,0.5s,mb3.7,baz=306,slow=6.3,SNR=11							
JOF	**Joensuu**	**61.97**	**331**	*ep*	**P**	**21 30 41.6**	**-0.5**
WRA	**Warramunga Arr**	**62.02**	**188**	P	**P**	**21 30 41.6**	**-0.9**
comp=Z,0.2nm,0.4s,mb3.6,baz=6.0,slow=6.8,SNR=4.5							
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**21 30 59.6**	**-1.1**
comp=Z,0.9nm,0.4s,mb4.1,baz=50,slow=7.3,SNR=28							
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**21 30 59.7**	**-1.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**69.92**	**337**	P	**P**	**21 31 31.9**	**-1.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**69.92**	**337**	P	**P**	**21 31 32.2**	**-0.9**
comp=Z,1.0nm,0.6s,mb3.9,baz=35,slow=6.1,SNR=4.5							
NOA	**NORSAR Array B**	**69.92**	**337**	P	**P**	**21 31 32.2**	**-0.9**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**70.85**	**322**	P	**P**	**21 31 38.0**	**-0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=44,slow=6.4,SNR=6.3							
AKASG	**Malin Array Be**	**70.85**	**322**	P	**P**	**21 31 38.0**	**-0.8**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
PDAR	**Pinedale Array**	**73.76**	**47**	P	**P**	**21 31 56.8**	**+0.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=195,slow=14,SNR=3.2							
BRTR	**Keskin Array B**	**76.12**	**311**	P	**P**	**21 32 10.1**	**+0.4**
comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=4.5,SNR=3.6							
TXAR	**Lajitas Array**	**86.59**	**53**	P	**P**	**21 33 05.1**	**0.0**
comp=Z,0.3nm,0.6s,mb3.7,baz=315,slow=1.8,SNR=3.7							

*ISCJB **04** 21:28:03.2±0.2, 4936N±001×682E±003, h0km, Error ellipse: s-maj=2.4km s-min=1.8km az=20.3*
*NEIC **04** 21:28:05.1, 4938N×689E, h1km, ML2.4(STR), ML2.8(LDG), After LDG.*
*LDG **04** 21:28:05.1±0.1, 4938N×689E, h1km, Md2.7/1, Ml2.8/14, Error ellipse: s-maj=2.8km s-min=1.9km az=99.0, Suspected Mining induced.*
*BGR **04** 21:28:05.1±0.4, 4936N×686E, h1km, ML1.9/3, Error ellipse: s-maj=6.7km s-min=4.4km az=36.0*
*BNS **04** 21:28:07.1±0.7, 4942N×682E, h1km, ML1.7*

ISC 04 21:28:04.4±0.2, 4936N±001×684E±003, h0km, n35, σ1°05/68, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**23**	Pg	**Pg**	**21 28 11.7**	**+0.3**
RUP				Sg	**Sg**	**21 28 17.5**	**+1.3**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**21 28 16.1**	**+1.4**
SNR=6.2							
WLF				*e*Sg	**Sg**	**21 28 22.0**	**+0.2**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**21 28 16.0**	**+1.2**
WLF				*e*Sg	**Sg**	**21 28 21.3**	**-0.5**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**21 28 17.2**	**-0.5**
ABH				Sg	**Sg**	**21 28 27.0**	**+0.3**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**21 28 18.4**	**-0.1**
BGG	**Burgeitz**	**0.91**	**21**	*e*Pg	**Pg**	**21 28 23.5**	**+1.8**
BGG				*e*Sg	**Sg**	**21 28 34.9**	**+1.5**
16nm,0.5s							
HILG	**Hillesheim**	**0.94**	**354**	*e*Sg	**Sg**	**21 28 36.1**	**+1.6**
31nm,0.4s							
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**21 28 24.5**	**-1.0**
SNR=1.0							
CDF				*e*Sg	**Sg**	**21 28 35.5**	**-0.8**
19nm,0.2s							
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	**Pg**	**21 28 23.5**	**+0.1**
CDF				*e*Pn	**Pn**	**21 28 24.5**	**-1.0**
CDF				*e*Sg	**Sg**	**21 28 35.5**	**-0.8**
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**21 28 24.7**	**+1.0**
WLS				Sg	**Sg**	**21 28 38.7**	**+2.0**
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**21 28 27.9**	**+1.3**
baz=43							
RFYF				*e*Sg	**Sg**	**21 28 43.3**	**+1.6**
26nm,0.3s							
ECH	**Echery**	**1.17**	**170**	Pn	**Pn**	**21 28 26.6**	**-1.3**
ECH				Pg	**Pg**	**21 28 27.7**	**+1.0**
ECH				Sg	**Sg**	**21 28 42.5**	**+0.7**
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**21 28 28.5**	**+0.5**
STB				*e*Sg	**Sg**	**21 28 45.2**	**+1.1**
16nm,0.7s							
THEF	**They Montfort**	**1.27**	**207**	Pn	**Pn**	**21 28 28.6**	**-0.7**
THEF				Sg	**Sg**	**21 28 46.6**	**+1.5**
TOD	**Tromm**	**1.30**	**78**	Pg	**Pg**	**21 28 28.6**	**-0.7**
TOD				Sg	**Sg**	**21 28 45.8**	**-0.4**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**21 28 30.2**	**+0.3**
KLL				*e*Sg	**Sg**	**21 28 47.0**	**-0.2**
6.8nm,0.9s

GOLH				*i* S	Sn	21 32 48.9	+7.3
ISP	**Isparta**	**1.64**	**358**	*e*PN	Pn	21 32 29.8	+0.3
DALT	**Dalyan (Mudla)**	**1.67**	**290**	*e*PN	Pn	21 32 31.0	+1.1
ERMK	**Ermenek**	**1.93**	**76**	*i* P	Pn	21 32 36.6	+3.2
ERMK				*i* S	Sn	21 33 06.5	+10
DNZL	**Cakiroluk**	**1.93**	**321**	*i* P	Pn	21 32 36.4	+2.9
DNZL				*i* S	Sn	21 33 05.7	+9.0
KONT	**Konya--Tatoy**	**2.25**	**39**	*e*PN	Pn	21 32 38.8	+1.0
KHL	**Karahalli**	**2.28**	**338**	*e*PN	Pn	21 32 39.4	+1.1
MLSB	**Milas**	**2.51**	**297**	*e*PN	Pn	21 32 42.8	+1.4
BODT	**Bodrum**	**2.77**	**289**	*e*PN	Pn	21 32 46.4	+1.3
KIZT	**Kizilcal**	**2.86**	**21**	*e*PN	Pn	21 32 47.6	+1.3
ALT	**Altintas**	**2.87**	**353**	*e*PN	Pn	21 32 48.1	+1.6
ESKT	**Eskisehir**	**3.32**	**3**	*e*PN	Pn	21 32 54.8	+2.2
IZM	**Izmir**	**3.44**	**311**	*e*PN	Pn	21 32 55.4	+1.1
AKS	**Akhisar**	**3.47**	**321**	*e*PN	Pn	21 32 55.9	+1.3
BLCB	**Balcova**	**3.57**	**309**	*e*PN	Pn	21 32 57.8	+1.8
KARA	**Karaisali**	**3.74**	**72**	*e*PN	Pn	21 33 00.0	+1.6
KRTS	**Karatas**	**3.88**	**83**	*e*PN	Pn	21 33 02.0	+1.7
KAMT	**Kaman**	**4.01**	**37**	*e*PN	Pn	21 33 03.1	+0.9
KOZT	**Kozan**	**4.39**	**72**	*e*PN	Pn	21 33 09.3	+2.0

NAO ***04*** *21:33:13.3, 4082N×2431E, h33km, mb3.5*
ISCJB ***04*** *21:33:21.5±0.3, 4182N±001×2290E±002, h1km±2km, mb3.5/3, Error ellipse: s-maj=2.2km s-min=2.0km az=28.5*
IDC ***04*** *21:33:22.3±1.0, 4180N×2275E, h0km, mb3.4/5, mb1 3.6/11, mb1mx3.5/25, mbtmp3.4/11, ML3.3/4, MS2.7/2, Ms1 2.7/2, ms1mx2.2/22, Error ellipse: s-maj=13.9km s-min=11.7km az=155.0*
SOF ***04*** *21:33:22.1, 4187N×2295E, h20km, MD3.8*
MOS ***04*** *21:33:23.0±1.2, 4177N×2274E, h23km, mb3.6/2, Error ellipse: s-maj=8.6km s-min=5.6km az=86.5*
LDG ***04*** *21:33:23.4±0.2, 4178N×2273E, h10km, Ml3.6/1, Error ellipse: s-maj=5.7km s-min=4.8km az=28.0*
SKO ***04*** *21:33:23.1, 4176N×2281E, h19km, M3.1, ML3.6*
ATH ***04*** *21:33:23.7, 4174N×2290E, h22km±2km, MD3.9/11*
PDG ***04*** *21:33:24.2±0.8, 4171N×2279E, h16km±1km*
NEIC ***04*** *21:33:24.8, 4170N×2289E, h6km, MD3.5(PDG), MD3.8(SOF), ML3.6(THE), After THE.*
THE ***04*** *21:33:24.8, 4170N×2289E, h5km, ML3.7*
BEO ***04*** *21:33:24.8±0.3, 4188N×2276E, h13km±1km*
PRU ***04*** *21:33:28.1, 4180N×2219E, h0km*

ISC 04 21:33:22.9±0.3, 4179N±001×2288E±002, h1km±2km, n164, σ1§16/217, mb3.5/3, 31C-25D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.17**	**63**	*i* Pg	**Pg**	**21 33 27.0**	**+0.9**
VAY	**Valandovo**	**0.53**	**207**	⇑*i* Pg	**Pg**	**21 33 33.1**	**+0.1**
VAY				*i* Sg	**Sg**	**21 33 40.3**	**+0.5**
VAY				*e*Lg		21 33 40.6	
	comp=E,5μm,0.3s						
VAY				*e*Lg		21 33 41.3	
	comp=N,6μm,0.4s						
STIP	**Stip**	**0.53**	**260**	*e*Pg	**Pg**	**21 33 33.1**	**+0.1**
STIP				*i* Sg	**Sg**	**21 33 40.4**	**+0.5**
STIP				*e*Lg		21 33 40.5	
	comp=E,5μm,0.7s						
STIP				*e*Lg		21 33 40.8	
	comp=N,4μm,0.5s						
KNT	**Kendrikon**	**0.63**	**179**	*e*Pg	**Pg**	**21 33 35.3**	**+0.4**
MMB	**Musomiste**	**0.66**	**108**	*i* Pg	**Pg**	**21 33 36.4**	**+0.8**
VTS	**Vitosha**	**0.83**	**17**	*i* Pg	**Pg**	**21 33 38.5**	**-0.4**
NVR	**Nevrokopi**	**0.86**	**121**	⇑*i*PN	**Pg**	**21 33 39.5**	**+0.2**
NVR				*e*SN	**Sg**	**21 33 51.4**	**+1.0**
SRS	**Serrai**	**0.86**	**141**	*e*Pg	**Pg**	**21 33 39.4**	**+0.1**
SRS				*e*Sg	**Sg**	**21 33 51.2**	**+0.8**
GRG	**Griva**	**0.91**	**204**	*e*Pg	**Pg**	**21 33 40.3**	**0.0**
GRG				*e*Sg	**Sg**	**21 33 52.2**	**0.0**
SOH	**Sokhos**	**1.03**	**160**	*e*Pg	**Pg**	**21 33 42.6**	**0.0**
SOH				*e*Sg	**Sg**	**21 33 56.3**	**+0.2**
SKO	**Skopje**	**1.09**	**280**	*e*Pg	**Pg**	**21 33 44.1**	**+0.3**
SKO				*e*Sg	**Sg**	**21 33 59.3**	**+1.3**
SKO				*e*Lg		21 33 59.4	
	comp=E,1μm,0.6s						
SKO				*e*Lg		21 33 59.4	
	comp=N,2μm,0.7s						
THE	**Thessaloniki**	**1.16**	**177**	*e*Pg	**Pg**	**21 33 44.4**	**-0.7**
	comp=N,16nm,0.9s						
THE				*e*Sg	**Sg**	**21 33 59.8**	**-0.4**
BELI	**Belica**	**1.21**	**265**	*i* Pn	**Pn**	**21 33 45.0**	**-2.0**
BELI				*i*		21 33 45.6	
BELI				*i* Sn	**Sn**	**21 34 04.5**	**+0.5**
BELI				*i* Sg	**Sg**	**21 34 04.9**	**+3.1**
PGB	**Panagyurishte**	**1.22**	**51**	*i* Pg	**Pg**	**21 33 45.5**	**-0.7**
KOZJ	**Kozjak Brana**	**1.27**	**274**	*i* Pg	**Pg**	**21 33 46.9**	**-0.2**
KOZJ				*i* Sg	**Sg**	**21 34 02.9**	**-0.6**
KOZJ				*i*		21 34 03.1	
SAMO	**Samokov**	**1.31**	**266**	*i* Pn	**Pn**	**21 33 47.1**	**-1.2**
SAMO				*i*		21 33 47.9	
SAMO				*i* Sn	**Sn**	**21 34 04.7**	**-1.7**
RZN	**Rozhen**	**1.38**	**94**	*i* Pg	**Pg**	**21 33 49.2**	**0.0**
PLD	**Plovdiv**	**1.39**	**76**	*i* Pg	**Pg**	**21 33 49.5**	**-0.1**
BIA	**Bitola**	**1.41**	**237**	⇓*i*Pg	**Pg**	**21 33 48.8**	**-1.0**
BIA				*e*Sg	**Sg**	**21 34 06.3**	**-1.7**
BIA				*e*Lg		21 34 06.5	
	comp=E,454nm,0.4s						
BIA				*e*Lg		21 34 06.7	
	comp=N,458nm,0.4s						
PLG	**Polygyros**	**1.48**	**163**	⇑*i*PN	**Pn**	**21 33 50.2**	**-0.4**
PLG				*e*SN	**Sn**	**21 34 09.4**	**-1.2**
ZAPS	**Zavoj/Pirot**	**1.52**	**353**	⇓*i*Pn	**Pn**	**21 33 49.8**	**-1.3**
ZAPS				Sn	**Sn**	**21 34 10.3**	**-1.3**
FNA	**Florina**	**1.52**	**229**	*e*Pg	**Pg**	**21 33 50.9**	**-1.1**
FNA				*e*Sg	**Sg**	**21 34 11.2**	**-0.5**
OUR	**Ouranopolis**	**1.68**	**150**	*e*Pg	**Pg**	**21 33 52.7**	**-2.3**
	comp=N,39nm,0.4s						
OUR				*e*Sg	**Sg**	**21 34 15.0**	**-1.7**
KZN	**Kozani**	**1.71**	**210**	*e*PN	**Pn**	**21 33 53.6**	**-0.2**
KZN				*e*SN	**Sn**	**21 34 15.9**	**-0.3**
OHR	**Ohrid**	**1.71**	**247**	⇓*i*Pn	**Pn**	**21 33 53.0**	**-0.9**
OHR				*e*Sg	**Sg**	**21 34 15.9**	**-1.9**
LIT	**Litokhoron**	**1.72**	**190**	*e*Pb	**Pb**	**21 33 52.9**	**-2.3**
	comp=N,4.5nm,0.4s						
PAIG	**Paliouri**	**1.96**	**162**	*e*Pb	**Pb**	**21 33 56.2**	**-3.1**
DIM	**Dimitrovgrad**	**1.99**	**82**	*i* Pg	**Pg**	**21 34 00.0**	**-1.1**
RDO	**Rodhopi**	**2.10**	**107**	*e*PN	**Pn**	**21 33 59.9**	**+0.8**
BOLS	**Boljevac**	**2.15**	**342**	⇓*i*Pn	**Pn**	**21 33 59.5**	**-0.4**
BOLS				Sn	**Sn**	**21 34 25.7**	**-1.4**
QSH	**Qafa e Shtames**	**2.25**	**264**	*i* Pn	**Pn**	**21 34 01.6**	**+0.4**
QSH				*i* Sn	**Sg**	**21 34 36.6**	**+1.5**
PVL	**Pavlikeni**	**2.30**	**51**	*i* Pg	**Pg**	**21 34 03.7**	**-3.3**
PVY	**Plav**	**2.31**	**291**	⇑*i*Pn	**Pn**	**21 34 02.4**	**+0.4**
PVY				*e*Sn	**Sn**	**21 34 31.9**	**+0.8**
MEV	**Metsovon**	**2.37**	**213**	*e*Pn	**Pn**	**21 34 02.5**	**-0.3**
	comp=N,8.0nm,0.7s						
LSK	**Leskovik**	**2.38**	**227**	*i* Pn	**Pn**	**21 34 03.9**	**+0.8**
XOR	**Xorichti**	**2.44**	**174**	*e*Pn	**Pn**	**21 34 03.1**	**-0.7**
	comp=N,8.0nm,0.3s						
IVA	**Berane**	**2.46**	**297**	⇓*i*Pn	**Pn**	**21 34 04.3**	**+0.1**
IVA				*e*Sn	**Sn**	**21 34 35.9**	**+1.0**
NEO	**Neokhori**	**2.50**	**174**	*e*PN	**Pn**	**21 34 04.1**	**-0.5**
ALN	**Alexandroupoli**	**2.54**	**110**	*e*Pn	**Pn**	**21 34 05.5**	**+0.2**
	comp=N,9.0nm,0.9s						
LIA	**Limnos Island**	**2.57**	**137**	*e*PN	**Pn**	**21 34 05.1**	**-0.6**
ZIMR		**2.61**	**44**	⇑P	**Pb**	**21 34 12.0**	**+1.5**
CRAR	**CRAIOVA**	**2.62**	**15**	P	**Pb**	**21 34 13.0**	**+2.4**
GRUS	**Gruza**	**2.63**	**323**	*e*Pn	**Pn**	**21 34 05.1**	**-1.4**
GRUS				*e*Sn	**Sn**	**21 34 37.6**	**-1.5**
JAN	**Janina**	**2.63**	**217**	*e*PN	**Pn**	**21 34 07.3**	**+0.8**
SZH	**Strazhica**	**2.69**	**56**	*i* Pg	**Pg**	**21 34 14.0**	**-0.5**
ULC	**Ulcinj**	**2.72**	**275**	⇓*i*Pn	**Pn**	**21 34 08.5**	**+0.8**
ULC				*e*Sn	**Sn**	**21 34 40.9**	**-0.3**
AOS	**Alonnisos**	**2.73**	**164**	*e*Pn	**Pn**	**21 34 06.8**	**-1.0**
TTG	**Podgorica**	**2.77**	**284**	⇓*i*Pn	**Pn**	**21 34 08.6**	**+0.2**
TTG				*e*Sn	**Sn**	**21 34 42.9**	**+0.4**
SVIS	**Svilajnac**	**2.78**	**335**	⇑*i*Pn	**Pn**	**21 34 08.4**	**-0.2**
SVIS				Sn	**Sn**	**21 34 41.5**	**-1.3**
AGG	**Agios Georgios**	**2.80**	**189**	*e*Pn	**Pn**	**21 34 08.3**	**-0.5**
JMB	**Yambol**	**2.83**	**75**	*i* P	**Pn**	**21 34 11.0**	**+1.7**
DJES	**Djerdap**	**2.85**	**355**	*e*Pn	**Pn**	**21 34 07.8**	**-1.7**
DJES				*e*Sn	**Sn**	**21 34 43.6**	**-0.9**
EDRB	**Edirne**	**2.88**	**88**	PN	**Pn**	**21 34 09.9**	**-0.1**
SRN	**Sarande**	**2.90**	**230**	*i* Pn	**Pn**	**21 34 12.3**	**+2.1**
SRN				*i* Sn	**Sn**	**21 34 48.1**	**+2.3**
IGT	**Igoumenitsa**	**2.98**	**222**	*e*Pn	**Pn**	**21 34 12.3**	**+1.0**
EVR	**Evrytania**	**2.99**	**196**	*e*PN	**Pn**	**21 34 12.0**	**+0.6**
PLE	**Pljevlja**	**3.00**	**302**	*e*Pn	**Pn**	**21 34 12.9**	**+1.3**
PLE				*e*Sn	**Sn**	**21 34 49.2**	**+1.0**
BUM	**Brajici-Budva**	**3.01**	**281**	*e*Pn	**Pn**	**21 34 12.9**	**+1.2**
BUM				*e*Sn	**Sn**	**21 34 48.9**	**+0.4**
NKY	**Niksic**	**3.06**	**291**	⇓*i*Pn	**Pn**	**21 34 12.7**	**+0.3**
NKY				*e*Sn	**Sn**	**21 34 50.0**	**+0.5**
KEK	**Kerkira**	**3.13**	**229**	*e*PN	**Pn**	**21 34 14.4**	**+1.0**
DIVS	**Divcibare**	**3.13**	**318**	⇓*i*Pn	**Pn**	**21 34 12.4**	**-1.0**
DIVS				Sn	**Sn**	**21 34 49.2**	**-2.2**
UPM	**Unac-Piva**	**3.26**	**297**	⇓*i*Pn	**Pn**	**21 34 16.0**	**+0.8**
UPM				*e*Sn	**Sn**	**21 34 54.2**	**-0.3**
EZN	**Ezine**	**3.27**	**126**	*e*PN	**Pn**	**21 34 17.1**	**+1.9**
HCY	**Herceg Novi**	**3.33**	**283**	⇓*i*Pn	**Pn**	**21 34 16.3**	**+0.2**
HCY				*e*Sn	**Sn**	**21 34 56.1**	**-0.1**
BRY	**Bratogost**	**3.40**	**290**	⇓*i*Pn	**Pn**	**21 34 18.1**	**+1.0**
BRY				*e*Sn	**Sn**	**21 34 58.5**	**+0.4**
BUC1	**Bucharest**	**3.44**	**41**	⇓P	**Pg**	**21 34 26.2**	**-2.6**
BUC1	**Bucharest**	**3.44**	**41**	P	**Pg**	**21 34 27.9**	**-0.9**
MFT	**Murefte**	**3.46**	**105**	*e*PN	**Pb**	**21 34 22.1**	**-2.9**
BEO	**Belgrade**	**3.51**	**330**	⇑*i*Pn	**Pn**	**21 34 18.3**	**-0.2**
BEO				Sn	**Sn**	**21 34 59.1**	**-1.6**
LKD	**Levkas**	**3.52**	**210**	*e*Pn	**Pn**	**21 34 18.8**	**0.0**
PRD	**Provadia**	**3.62**	**66**	*i* P	**Pg**	**21 34 30.0**	**-2.3**
PRK	**Paraskevi**	**3.62**	**133**	*e*PN	**Pn**	**21 34 20.4**	**+0.3**
MPAR	**Parnis Oros**	**3.69**	**170**	*e*PN	**Pn**	**21 34 21.0**	**-0.1**
MRMT	**Marmara Adasi**	**3.75**	**107**	*e*PN	**Pb**	**21 34 26.0**	**-3.9**
MTUR	**Matau**	**3.78**	**24**	⇓P	**Pg**	**21 34 36.1**	**+0.8**
BZS	**Buzias**	**3.93**	**347**	⇑P	**Pn**	**21 34 23.1**	**-1.3**
BZS	**Buzias**	**3.93**	**347**	P	**Pn**	**21 34 22.8**	**-1.5**
VOIR		**3.97**	**23**	⇑P	**Pn**	**21 34 25.2**	**+0.3**
STON	**Ston**	**3.99**	**287**	*i* Pn	**Pn**	**21 34 25.7**	**+0.5**
STON				*i* Sn	**Sn**	**21 35 12.0**	**-0.7**
NAIG	**Nisos Aigina**	**4.06**	**173**	*e*PN	**Pn**	**21 34 27.0**	**+0.9**
BNT	**Bandirma**	**4.07**	**109**	*e*PN	**Pb**	**21 34 30.5**	**-4.8**
CTT	**Catalca**	**4.22**	**97**	*e*PN	**Pb**	**21 34 33.1**	**-4.7**
ISR	**Istrita**	**4.26**	**37**	⇓P	**Pg**	**21 34 47.0**	**+2.5**
MLR	**Muntele Rosu**	**4.31**	**30**	**Pn**	**Pn**	**21 34 31.5**	**+1.9**
	comp=N,3.1nm,0.3s,baz=223,slow=8.8,SNR=38						
MLR				Sn	**Sn**	**21 35 21.0**	**+0.5**
	comp=N,4.8nm,0.3s,baz=254,slow=23,SNR=4.3						
MLR				Lg		21 35 43.8	
	comp=N,6.1nm,0.3s,baz=222,slow=7.1,SNR=8.5						
MLR	**Muntele Rosu**	**4.31**	**30**	⇑P	**Pn**	**21 34 33.0**	**+3.4**
MLR	**Muntele Rosu**	**4.31**	**30**	P	**Pn**	**21 34 32.8**	**+3.1**
BLCB	**Balcova**	**4.66**	**136**	*e*PN	**Pn**	**21 34 33.5**	**-0.9**
HARR	**Harsova**	**4.69**	**50**	⇓P	**Pn**	**21 34 35.3**	**+0.5**
AKS	**Akhisar**	**4.76**	**126**	*e*PN	**Pn**	**21 34 36.5**	**+0.8**
IZM	**Izmir**	**4.77**	**134**	*e*PN	**Pn**	**21 34 35.5**	**-0.5**
TIRR	**Tirgusor**	**4.84**	**55**	⇑P	**Pn**	**21 34 39.7**	**+2.8**
TIRR	**Tirgusor**	**4.84**	**55**	*e*Pn	**Pn**	**21 34 37.4**	**+0.5**
TIRR				*e*Sg	**Sg**	**21 35 52.5**	**-6.0**
ORLT	**Orhaneli**	**4.88**	**109**	*e*PN	**Pn**	**21 34 42.3**	**+4.9**
VRI	**Vrincioaia**	**4.93**	**33**	⇓P	**Pn**	**21 34 39.5**	**+1.4**
VRI	**Vrincioaia**	**4.93**	**33**	P	**Pn**	**21 34 39.5**	**+1.4**
DRGR		**5.00**	**359**	⇓P	**Pn**	**21 34 37.7**	**-1.4**
YLV	**Yalova**	**5.05**	**102**	*e*PN	**Pn**	**21 34 45.2**	**+5.5**
CFR	**Carcaliu**	**5.10**	**47**	⇓P	**Pn**	**21 34 42.8**	**+2.3**
APE	**Apeiranthos**	**5.14**	**156**	⇑P	**Pn**	**21 34 40.7**	**-0.3**
TIP	**Timpagrande**	**5.35**	**243**	*e*Pn	**Pn**	**21 34 44.5**	**+0.7**
PKSM	**Moragy**	**5.37**	**327**	P	**Pn**	**21 34 43.2**	**-1.0**
MLSB	**Milas**	**5.87**	**138**	*e*PN	**Pn**	**21 34 48.8**	**-2.2**
BURAR	**Bucovina Array**	**6.05**	**15**	⇓P	**Pn**	**21 34 52.8**	**-0.7**
ALT	**Altintas**	**6.15**	**114**	*e*PN	**Pn**	**21 34 57.3**	**+2.4**
ESKT	**Eskisehir**	**6.47**	**108**	*e*PN	**Pn**	**21 35 03.0**	**+3.8**
PSZ	**Piszkesteto**	**6.48**	**342**	*e*Pn	**Pn**	**21 35 02.8**	**+3.4**
	comp=N,11nm,0.6s						
PSZ				*e*Sn	**Sn**	**21 36 09.4**	**-4.6**
BOJS	**Bojanci**	**6.66**	**306**	*i* Pn	**Pn**	**21 35 03.4**	**+1.5**
KOGS	**Kog**	**6.67**	**317**	*e*Pn	**Pn**	**21 35 01.4**	**-0.6**
IDI	**Anoyia**	**6.68**	**166**	Pn	**Pn**	**21 35 05.1**	**+2.9**
	comp=N,0.8nm,0.3s,baz=360,slow=14,SNR=3.4						
SRO	**Srobarova**	**6.84**	**333**	*e*PN	**Pn**	**21 35 04.7**	**+0.4**
KECS	**Kecovo**	**6.90**	**347**	*e*PN	**Pn**	**21 35 04.0**	**-1.2**
KECS				*e*		21 36 22.0	
VISS	**Visnje**	**7.07**	**307**	*e*Pn	**Pn**	**21 35 08.6**	**+1.2**
AQU	**L'Aquila**	**7.08**	**278**	*e*Pn	**Pn**	**21 35 07.8**	**+0.2**
	comp=N,24nm,0.8s						
AQU				*e*Sn	**Sn**	**21 36 24.5**	**-4.2**
KOLS	**Kolonicke sedl**	**7.15**	**357**	*e*PN	**Pn**	**21 35 14.1**	**+5.5**
CRVS	**Cervenica-Dubn**	**7.18**	**352**	*e*PN	**Pn**	**21 35 13.7**	**+4.7**
VYHS	**Vyhne**	**7.29**	**338**	*e*	**Pn**	**21 35 09.6**	**-0.8**
PERS	**Pernice**	**7.39**	**314**	*e*Pn	**Pn**	**21 35 12.9**	**+1.1**
KIZT	**Kizilcal**	**7.46**	**110**	*e*P	**Pn**	**21 35 13.6**	**+0.7**
ARSA	**Arzberg**	**7.58**	**319**	⇑*i*Sn	**Sn**	**21 36 34.8**	**-6.2**
ARSA	**Arzberg**	**7.58**	**319**	⇑*i*Pn	**Pn**	**21 35 14.5**	**+0.1**
ARSA				⇑*i*Sn	**Sn**	**21 36 34.8**	**-6.2**
ARSA	**Arzberg**	**7.58**	**319**	⇑Pn	**Pn**	**21 35 14.5**	**+0.1**
ARSA				Sn	**Sn**	**21 36 34.8**	**-6.2**
ZST	**Bratislava**	**7.60**	**329**	*e*PN	**Pn**	**21 35 15.1**	**+0.3**
VOY	**Vojsko**	**7.75**	**306**	*e*Pn	**Pn**	**21 35 18.2**	**+1.4**
VOY				*e*		21 35 48.0	
VAE	**Valguarnera**	**7.83**	**239**	LR	LR	21 37 53.2	
	comp=N,85nm,21.6s,baz=263,slow=35						
ROBS	**Robic**	**8.09**	**307**	*e*Pn	**Pn**	**21 35 24.1**	**+2.6**
BRTR	**Keskin Array B**	**8.42**	**101**	Pn	**Pn**	**21 35 27.1**	**+1.1**
	comp=N,0.1nm,0.3s,baz=252,slow=9.1,SNR=3.0						
MOA	**Molln**	**8.61**	**318**	⇑Pn	**Pn**	**21 35 29.4**	**+0.8**
MOA	**Molln**	**8.61**	**318**	⇑Sn	**Sn**	**21 36 58.9**	**-7.5**
MOA	**Molln**	**8.61**	**318**	⇑*i*Pn	**Pn**	**21 35 29.9**	**+1.3**
MOA				⇑*i*Sn	**Sn**	**21 36 58.9**	**-7.5**
MOA	**Molln**	**8.61**	**318**	⇑Pn	**Pn**	**21 35 29.4**	**+0.8**
MOA				Sn	**Sn**	**21 36 58.9**	**-7.5**
KBA	**Koelnbreinsper**	**8.63**	**311**	⇑Sn	**Sn**	**21 36 59.0**	**-7.9**
KBA	**Koelnbreinsper**	**8.63**	**311**	⇑*i*Pn	**Pn**	**21 35 30.1**	**+1.2**
KBA				⇑*i*Sn	**Sn**	**21 36 59.0**	**-7.9**
VRAC	**Vranov**	**8.71**	**332**	Pn	**Pn**	**21 35 29.1**	**-0.9**
	baz=97,slow=8.1,SNR=2.4						
GERES	**GERESS Array B**	**9.56**	**321**	Pn	**Pn**	**21 35 41.7**	**0.0**
	comp=N,0.1nm,0.3s,baz=151,slow=12,SNR=6.4						
GERES				Sn	**Sn**	**21 37 27.8**	**-2.0**
	comp=N,1.0nm,0.3s,baz=131,slow=24,SNR=8.6						
WTTA	**Wattenberg**	**9.71**	**308**	⇓Sn	**Sn**	**21 37 27.9**	**-5.6**
WTTA	**Wattenberg**	**9.71**	**308**	⇑*i*Pn	**Pn**	**21 35 45.2**	**+1.5**
WTTA				⇓*i*Sn	**Sn**	**21 37 27.9**	**-5.6**
WTTA	**Wattenberg**	**9.71**	**308**	⇑Pn	**Pn**	**21 35 45.2**	**+1.5**
WTTA				Sn	**Sn**	**21 37 27.9**	**-5.6**
KHC	**Kasperske Hory**	**9.82**	**321**	*e*PN	**Pn**	**21 35 47.7**	**+2.5**
KHC				*ex*	x	21 37 30.3	
AKASG	**Malin Array Be**	**9.93**	**24**	Pn	**Pn**	**21 35 46.2**	**-0.5**
	comp=N,0.3nm,0.3s,baz=205,slow=13,SNR=3.3						
AKASG	**Malin Array Be**	**9.93**	**24**	Pn	**Pn**	**21 35 46.2**	**-0.5**
SQTA	**Sankt Quirin**	**9.95**	**307**	⇑Sn	**Sn**	**21 37 33.5**	**-5.7**
SQTA	**Sankt Quirin**	**9.95**	**307**	⇓*i*Pn	**Pn**	**21 35 48.5**	**+1.5**
SQTA				⇑*i*Sn	**Sn**	**21 37 36.6**	**-2.6**
SQTA	**Sankt Quirin**	**9.95**	**307**	⇓Pn	**Pn**	**21 35 48.5**	**+1.5**
SQTA				Sn	**Sn**	**21 37 33.5**	**-5.7**
MOTA	**Moosalm**	**10.07**	**307**	⇑Pn	**Pn**	**21 35 49.4**	**+0.8**
MOTA	**Moosalm**	**10.07**	**307**	⇓Sn	**Sn**	**21 37 35.9**	**-6.4**
MOTA	**Moosalm**	**10.07**	**307**	⇑*i*Pn	**Pn**	**21 35 50.5**	**+1.9**
MOTA				⇑*i*Sn	**Sn**	**21 37 37.2**	**-5.1**
PGF	**Pioggiola**	**10.34**	**279**	*e*Pn	**Pn**	**21 35 50.0**	**-2.3**
DAVOX	**Davos**	**10.57**	**303**	Pn	**Pn**	**21 35 55.5**	**+0.1**
	baz=144,slow=16						
DAVOX				LR	LR	21 39 20.2	
	comp=N,31nm,20.2s,baz=198,slow=34						
SBF	**Sospel**	**11.54**	**286**	*e*Pn	**Pn**	**21 36 04.1**	**-4.6**
FRF	**La Foret Royal**	**12.08**	**284**	*e*Pn	**Pn**	**21 36 11.4**	**-4.8**
MBDF	**Montbardon**	**12.11**	**289**	*e*Pn	**Pn**	**21 36 11.7**	**-4.8**
LPL	**La Plagne**	**12.28**	**293**	*e*P	**Pn**	**21 36 19.9**	**+1.1**
LPL				*e*Sn	**Sn**	**21 38 22.5**	**-14**
	comp=N,2.2nm,0.6s						
CDF	**Champ du Feu**	**12.85**	**306**	*e*Pn	**Pn**	**21 36 21.7**	**-5.0**
HINF	**Hinteralfeld**	**12.87**	**303**	*e*Pn	**Pn**	**21 36 22.5**	**-4.4**
HAU	**Haudompre**	**13.26**	**304**	*e*Pn	**Pn**	**21 36 27.4**	**-4.8**
ESDC	**Sonseca Array**	**20.43**	**273**	P	**P**	**21 37 59.1**	**-2.4**
	comp=N,0.6nm,0.5s,baz=73,slow=11,SNR=4.2						
NB2	**NORSAR Subarra**	**20.54**	**344**	P	**P**	**21 38 01.9**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=152,slow=11						
NOA	**NORSAR Array B**	**20.54**	**344**	P	**P**	**21 38 01.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=153,slow=10,SNR=4.5						
NOA	**NORSAR Array B**	**20.54**	**344**	P	**P**	**21 38 01.7**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**33.98**	**219**	P	**P**	**21 40 07.4**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=35,slow=6.8,SNR=15						
MKAR	**Makanchi Array**	**41.94**	**62**	P	**P**	**21 41 16.1**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.1,baz=281,slow=6.2,SNR=5.1						
MKAR				PcP	PcP	21 43 09.9	-0.7
	comp=Z,0.5nm,1.0s,baz=270,slow=2.4,SNR=3.5						
MKAR	**Makanchi Array**	**41.94**	**62**	P	**P**	**21 41 16.1**	**+1.0**
MKAR						21 43 09.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**70.61**	**341**	P	**P**	**21 44 38.1**	**-1.7**
	comp=Z,0.2nm,0.6s,mb3.4,baz=38,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**70.61**	**341**	P	**P**	**21 44 38.1**	**-1.8**

NEIC ***04*** *21:33:42.4, 3696S×17765E, h144km, MG3.8(WEL), After WEL.*

WEL 04 21:33:42.6±0.2, 3697S×17764E, h142km±1km, ML3.8/15, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**138**	PN	Pn	21 34 04.8	0.0
MXZ				SN	Sn	21 34 21.5	-0.2
MXZ	**Matakaoa Point**	**0.79**	**138**	P	Pn	21 34 04.8	0.0
MXZ				S	Sn	21 34 21.5	-0.3
PUZ	**Puketiti**	**1.20**	**156**	PN	Pn	21 34 08.4	0.0
PUZ				SN	Sn	21 34 28.1	0.0
PUZ	**Puketiti**	**1.20**	**156**	P	Pn	21 34 08.5	+0.1
PUZ				S	Sn	21 34 28.7	+0.6
MARZ	**Manawahe**	**1.27**	**217**	PN	Pn	21 34 09.4	+0.3
MARZ	**Manawahe**	**1.27**	**217**	P	Pn	21 34 09.5	+0.4
URZ	**Urewera**	**1.35**	**198**	PN	Pn	21 34 10.0	0.0
URZ				SN	Sn	21 34 31.1	+0.3
URZ	**Urewera**	**1.35**	**198**	*e*P	Pn	21 34 10.0	+0.1
MWZ	**Matawai**	**1.37**	**184**	PN	Pn	21 34 10.2	+0.2
MWZ				SN	Sn	21 34

MSAB	**Monastry St. A**	**0.71**	**9**	S		**Sg**		**22 50 29.4**	**-1.4**		
TIRR	**Tirgusor**	**1.20**	**26**	⇑	*i* P	**Pb**		**22 50 29.5**	**-1.0**		
TIRR				S		**Sb**		**22 50 47.4**	**+1.4**		
TIRR	**Tirgusor**	**1.20**	**26**	⇑	*i* P	**Pb**		**22 50 29.5**	**-1.0**		
TIRR				*i* S		**Sb**		**22 50 47.4**	**+1.5**		
JMB	**Yambol**	**1.22**	**221**	*i* Pg		**Pg**		**22 50 31.3**	**+0.1**		
AMRR		**1.25**	**349**	⇓	*i* P	**Pn**		**22 50 29.4**	**-1.8**		
AMRR		**1.25**	**349**	S		**Sb**		**22 50 46.4**	**-1.1**		
SZH	**Strazhica**	**1.28**	**265**	*i* Pg		**Pg**		**22 50 30.4**	**-1.9**		
HARR	**Harsova**	**1.31**	**8**	⇑	*i* P	**Pn**		**22 50 31.2**	**-0.9**		
HARR				S		**Sb**		**22 50 49.6**	**+0.2**		
HARR	**Harsova**	**1.31**	**8**	⇑	*i* P	**Pn**		**22 50 31.2**	**-1.0**		
HARR				*i* S		**Sb**		**22 50 49.6**	**+0.2**		
BUC1	**Bucharest**	**1.53**	**309**	⇑	*i* P	**Pn**		**22 50 34.8**	**-0.3**		
BUC1				S		**Sn**		**22 50 55.1**	**0.0**		
BUC1	**Bucharest**	**1.53**	**309**	⇑	*i* P	**Pn**		**22 50 34.8**	**-0.4**		
BUC1				*i* S		**Sn**		**22 50 55.1**	**0.0**		
SULR		**1.65**	**322**	⇑	*i* P	**Pn**		**22 50 36.6**	**-0.1**		
SULR		**1.65**	**322**	S		**Sn**		**22 50 59.3**	**+1.3**		
ZIMR		**1.70**	**280**	⇑	*i* P	**Pn**		**22 50 37.8**	**+0.3**		
ZIMR				S		**Sn**		**22 50 59.9**	**+0.6**		
ZIMR		**1.70**	**280**	⇑	*i* P	**Pn**		**22 50 37.8**	**+0.3**		
ZIMR				*i* S		**Sn**		**22 50 59.9**	**+0.6**		
PVL	**Pavlikeni**	**1.72**	**265**	*i* Pg		**Pg**		**22 50 40.3**	**-0.4**		
CFR	**Carcaliu**	**1.82**	**10**	⇓	*i* P	**Pn**		**22 50 40.2**	**+1.1**		
CFR				S		**Sn**		**22 51 02.9**	**+0.7**		
CFR	**Carcaliu**	**1.82**	**10**	⇓	*i* P	**Pn**		**22 50 40.2**	**+1.1**		
CFR				*i* S		**Sn**		**22 51 02.9**	**+0.7**		
ISR	**Istrita**	**1.91**	**335**	⇑	*i* P	**Pn**		**22 50 41.9**	**+1.5**		
ISR				*i* S		**Sn**		**22 51 08.0**	**+3.5**		
MLR	**Muntele Rosu**	**2.44**	**330**	⇑	*i* P	**Pn**		**22 50 49.4**	**+1.8**		
MLR				S		**Sg**		**22 51 24.5**	**-1.7**		
MLR	**Muntele Rosu**	**2.44**	**330**	⇑	*i* P	**Pn**		**22 50 49.4**	**+1.8**		
MLR				*i* S		**Sg**		**22 51 24.5**	**-1.7**		
VRI	**Vrincioaia**	**2.57**	**345**	⇓	*i* P	**Pn**		**22 50 51.1**	**+1.7**		
VRI				S		**Sg**		**22 51 30.9**	**+0.6**		
VRI	**Vrincioaia**	**2.57**	**345**	⇓	*i* P	**Pn**		**22 50 51.1**	**+1.7**		
VRI				*i* S		**Sg**		**22 51 30.9**	**+0.6**		
VOIR		**2.78**	**318**	⇓	*i* P	**Pn**		**22 50 52.2**	**-0.1**		
VOIR				S		**Sb**		**22 51 33.0**	**+1.3**		
VOIR		**2.78**	**318**	⇓	*i* P	**Pn**		**22 50 52.2**	**-0.1**		
VOIR				*i* S		**Sb**		**22 51 33.0**	**+1.3**		
VTS	**Vitosha**	**3.37**	**258**	⇑	*i* P	**Pb**		**22 51 05.7**	**-1.9**		
VTS				*i* S		**Sb**		**22 51 50.2**	**+1.5**		
VAY	**Valandovo**	**4.31**	**243**	*e*Pn		**Pn**		**22 51 14.8**	**+1.4**		
VAY				*e*Sg		**Sg**		**22 52 23.4**	**-2.8**		
STIP	**Stip**	**4.40**	**249**	*e*Pn		Px		22 51 18.1			
STIP				*e*Sg		Sx		22 52 23.8			
BURAR	**Bucovina Array**	**4.57**	**339**	⇓	*i* P	**Pn**		**22 51 17.9**	**+1.0**		
BURAR				S		**Sn**		**22 52 07.9**	**-2.1**		
BURAR	**Bucovina Array**	**4.57**	**339**	⇓	*i* P	**Pn**		**22 51 17.9**	**+1.1**		
BURAR				*i* S		**Sn**		**22 52 07.9**	**-2.1**		
BZS	**Buzias**	**4.87**	**299**	⇓	*i* P	**Pn**		**22 51 19.9**	**-1.2**		
BZS	**Buzias**	**4.87**	**299**	⇓	*i* P	**Pn**		**22 51 19.9**	**-1.2**		
DRGR		**4.89**	**316**	⇓	*i* P	**Pn**		**22 51 21.7**	**+0.4**		
ISP	**Isparta**	**5.94**	**158**	*e*Pn		**Pn**		**22 51 35.3**	**-0.4**		
	4.5nm,0.6s										

BJI ***04*** *23:01:37.9, 127N×12596E, h27km, mB5.3, mb4.9, Ms4.8, Msz4.6*
MOS ***04*** *23:01:39.4±1.1, 176N×12557E, h10km, mb5.5/29, MS4.5/9, Error ellipse: s-maj=10.6km s-min=6.1km az=107.6*
IDC ***04*** *23:01:41.3±2.4, 170N×12558E, h13km±14km, mb5.0/28, mb1 5.0/28, mb1mx4.9/32, mbtmp5.1/28, MS4.6/13, Ms1 4.5/13, ms1mx4.4/21, Error ellipse: s-maj=15.9km s-min=9.8km az=71.0*
NEIC ***04*** *23:01:41.1±0.2, 167N×12556E, h10km, mb5.2/12, MS4.6/2, Error ellipse: s-maj=8.3km s-min=6.1km az=63.0*
NEIC Felt at Palu and Poso, Indonesia.
HRVD ***04*** *23:01:41.1±0.2, 177N×12565E, h16km, MW5.3/60, Centroid moment Tensor Solution. LP body waves: s50,c84;Mantle waves: s60,c117; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.63±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-0.66±.02; $M_{r\theta}$0.07±.05; $M_{\theta\phi}$-0.47±.02; $M_{\phi r}$-0.61±.06; Best double couple: $M_0$1.00400×10^{17} NP1:ϕ_s54.00000°, δ34.00000°, λ135.00000°. NP2:ϕ_s183.00000°, δ66.00000°, λ64.00000°. Principal axes: T 0.9380, Plg60.0000°, Azm56.0000°; N 0.1300, Plg23.0000°, Azm194.0000°; P -1.0690, Plg18.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***04*** *23:01:44.6±0.7, 158N±003×12562E±004, h53km±5km, mb5.2/92, MS4.6/36 Error ellipse: s-maj=6.9km s-min=4.5km az=150.4*
NAO ***04*** *23:01:49.1, 178N×12264E, h33km, mb5.2*
ISC 04 23:01:47.6±0.6, 161N±003×12566E±004, h63km±4km, h22km±4.4km:pP-P, n251, σ1s22/220, mb5.2/92, 12C-16D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**5.39**	**354**	⇓ *e*P		**Pn**	**23 03 06.0** **+0.7**
KCP				*i* S		**Sn**	**23 04 10.0** **+4.0**
DAV	**Davao City (W)**	**5.42**	**359**	⇓ *e*P		**Pn**	**23 03 06.0** **+0.2**
PCI	**Palu**	**6.34**	**247**	P		**Pn**	**23 03 20.0** **+1.7**
	398nm,0.9s						
BIPH	**Bislig**	**6.56**	**6**	⇑ *e*P		**Pn**	**23 03 19.9** **-1.5**
BIPH				*i* S		**Sn**	**23 04 39.0** **+4.2**
IPIL	**Ipil**	**6.86**	**333**	*e*P		**Pn**	**23 03 24.9** **-0.6**
CGP	**Cagayan de Oro**	**6.86**	**352**	⇓ *e*P		**Pn**	**23 03 25.1** **-0.4**
BUTP	**Butuan**	**7.31**	**360**	*e*P		**Pn**	**23 03 32.0** **+0.4**
SCPH	**Surigao**	**8.12**	**359**	*e*P		**Pn**	**23 03 43.8** **+1.1**
TBP	**Tagbilaran**	**8.22**	**347**	*e*P		**Pn**	**23 03 41.2** **-2.9**
TSM	**Tawau**	**8.22**	**289**	P		**Pn**	**23 03 44.2** **+0.1**
LLP	**Lapu-Lapu**	**8.81**	**349**	⇓ *e*P		**Pn**	**23 03 52.4** **+0.3**
	220μm,1.0s						
CUYO	**Cuyo Island**	**10.27**	**334**	*e*P		**Pn**	**23 04 14.1** **+2.1**
RCP	**Roxas**	**10.30**	**344**	⇑ *i* P		**Pn**	**23 04 14.2** **+1.8**
KKM	**Kota Kinabalu**	**10.40**	**295**	P		**Pn**	**23 04 16.7** **+2.9**
ENPP	**El Nido**	**11.36**	**327**	*e*P		**Pn**	**23 04 27.1** **+0.1**
FITZ	**Fitzroy Crossi**	**19.59**	**180**	⇓ *i* P		**Pn**	**23 06 09.8** **-2.5**
	121nm,0.9s						
FITZ				*e*S		**S**	**23 09 42.5** **-5.7**
KGM	**Kluang**	**22.34**	**271**	P		**P**	**23 06 43.0** **+3.1**
GUMO	**Guam**	**22.42**	**57**	P		**P**	**23 06 39.1** **-1.8**
	112nm,0.5s,mb5.5,baz=196,slow=13,SNR=6.9						
GUMO	**Guam**	**22.42**	**57**	P		**P**	**23 06 39.1** **-1.8**
WRAB	**Tennant Creek**	**23.05**	**159**	P		**P**	**23 06 46.2** **-1.3**
	2um,0.8s,SNR=91						
WRA	**Warramunga Arr**	**23.05**	**159**	P		**P**	**23 06 46.1** **-1.5**
	254nm,0.9s,mb5.6,baz=334,slow=10,SNR=303						
WRA				S		**S**	**23 10 53.8** **+0.4**
	46nm,0.9s,baz=343,slow=20,SNR=9.1						
WRA				ScP	ScP		23 14 14.8 +7.7
	4.9nm,0.9s,baz=338,slow=3.1,SNR=5.0						
WRA				PKiKP	PKiKP		23 18 19.9 +0.8
	0.7nm,0.8s,baz=321,slow=1.2,SNR=4.6						
WRA	**Warramunga Arr**	**23.05**	**159**	P		**P**	**23 06 46.1** **-1.4**
WRA				S		**S**	**23 10 53.8** **+0.4**
WRA	**Warramunga Arr**	**23.05**	**159**	P		**P**	**23 06 46.1** **-1.5**
WRA				S		**S**	**23 10 53.8** **+0.4**
WRA				ScP	ScP		23 14 14.8 +7.7
WB2	**Warramunga Arr**	**23.06**	**159**	⇓ *i* P		**P**	**23 06 46.2** **-1.4**
WB2				*e*S		**S**	**23 10 55.6** **+2.1**
WB2				*e*SCS		ScS	23 17 57.6 +4.5
QIZ	**Qiongzhong**	**23.23**	**319**	⇑ P		**P**	**23 06 49.1** **-0.2**
QIZ				S		**S**	**23 10 55.0** **-1.3**
QIZ				AMB	AMB		
	comp=Z,714nm,6.0s						
QIZ				LR	LR		
	comp=N,2μm,21.5s						
QIZ				LR	LR		
	comp=E,1μm,22.2s						
QIZ				LR	LR		
	comp=Z,2μm,27.4s						
MBWA	**Marble Bar**	**23.36**	**194**	P		**P**	**23 06 50.8** **+0.3**
	comp=Z,72nm,0.9s,mb5.1						
PMG	**Port Moresby**	**24.05**	**117**	P		**P**	**23 06 57.4** **+0.7**
	comp=Z,30nm,0.8s,mb4.8,baz=297,slow=7.4,SNR=6.2						
IPM	**Ipoh**	**24.76**	**277**	P		**P**	**23 07 07.9** **+4.7**
JOW	**Kunigami**	**25.20**	**5**	P		**P**	**23 07 07.2** **+0.1**
	comp=Z,107nm,0.8s,mb5.5,baz=181,slow=9.2,SNR=23						
ASPA	**Alice Springs**	**26.38**	**163**	⇓ *i* P		**P**	**23 07 18.3** **+0.5**
ASPA				*e*S		**S**	**23 11 58.9** **+12**
ASPA				*e*SCS		ScS	23 18 10.6 +4.0
PSI	**Prapat**	**26.74**	**273**	P		**P**	**23 07 21.0** **-0.1**
	comp=Z,6.6nm,1.0s,baz=351,slow=16,SNR=5.2						
PSI				ScP	ScP		23 14 24.0 +6.5
	comp=Z,15nm,1.0s,baz=194,slow=7.1,SNR=7.0						
PSI	**Prapat**	**26.74**	**273**	P		**P**	**23 07 21.0** **-0.1**
PSI				ScP	ScP		23 14 24.0 +6.5
KKTK	**Khon Kaen**	**26.83**	**304**	P		**P**	**23 07 25.0** **+3.1**
NST	**Nakhon Sawan**	**28.79**	**300**	P		**P**	**23 07 41.5** **+2.1**
CTA	**Charters Tower**	**29.55**	**138**	*e*P		**P**	**23 07 47.1** **+1.0**
	comp=Z,27nm,1.0s,mb4.9						
CTA	**Charters Tower**	**29.55**	**138**	P		**P**	**23 07 46.1** **0.0**
	comp=Z,12nm,0.8s,mb4.7,baz=321,slow=10,SNR=11						
CTAO	**Charters Tower**	**29.55**	**138**	P		**P**	**23 07 47.5** **+1.4**
CTAO				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.2						
CTAO	**Charters Tower**	**29.55**	**138**	P		**P**	**23 07 47.5** **+1.4**
	comp=Z,62nm,1.1s,mb5.2						
SSE	**Sheshan**	**29.63**	**352**	P		**P**	**23 07 46.8** **0.0**
SSE				PCP	PcP		23 10 50.8 +0.8
SSE				S		**S**	**23 12 43.0** **+5.3**
SSE				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,193nm,4.9s						
SSE				LR	LR		
	comp=N,859nm,24.3s						
SSE				LR	LR		
	comp=E,355nm,24.3s						
CBIJ	**Chichi jima**	**29.89**	**31**	P		**P**	**23 07 48.4** **-0.7**
	comp=E,74nm,0.4s,mb5.7,baz=286,slow=18,SNR=2.8						
GYA	**Guiyang**	**30.72**	**325**	⇓ *i* P		**P**	**23 08 00.8** **+4.3**
GYA				PCP	PcP		23 10 55.3 +2.4
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,140nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,22.2s						
GYA				LR	LR		
	comp=E,1μm,20.4s						
GYA				LR	LR		
	comp=Z,940nm,18.6s						
JNU	**Nakatsue**	**31.72**	**8**	P		**P**	**23 08 05.0** **-0.3**
	comp=Z,52nm,0.9s,mb5.3,baz=191,slow=5.2,SNR=16						
KMI	**Kunming**	**32.18**	**318**	⇓ P		**P**	**23 08 11.5** **+2.2**
KMI				PP	PP		23 09 17.3 -5.6
KMI				S		**S**	**23 13 23.1** **+5.5**
KMI				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,337nm,5.8s						
KMI				LR	LR		
	comp=N,1μm,19.2s						
KMI				LR	LR		
	comp=E,907nm,19.2s						
KMI				LR	LR		
	comp=Z,1μm,23.2s						
NWAO	**Narrogin (SRO)**	**35.27**	**192**	P		**P**	**23 08 38.0** **+1.9**
	comp=Z,28nm,0.7s,mb5.3,baz=16,slow=8.0,SNR=28						
NWAO	**Narrogin (SRO)**	**35.27**	**192**	P		**P**	**23 08 39.1** **+3.0**
NWAO				pmax	pmax		
	comp=Z,48nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.27**	**192**	P		**P**	**23 08 39.1** **+3.0**
	comp=Z,48nm,1.0s,mb5.4						
TIA	**Tai'an**	**35.32**	**348**	*e*P		**P**	**23 08 37.8** **+1.2**
KS15	**Wonju Array Si**	**35.71**	**3**	P		**P**	**23 08 40.1** **+0.2**
CD2	**Chengdu**	**35.76**	**327**	P		**P**	**23 08 39.2** **-1.2**
CD2				PP	PP		23 10 00.4 -2.2
CD2				PCP	PcP		23 11 07.9 +0.9
CD2				S		**S**	**23 14 12.2** **-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,100nm,5.5s						
CD2				LR	LR		
	comp=N,710nm,20.4s						
CD2				LR	LR		
	comp=Z,840nm,21.0s						
XAN	**Xi'an**	**35.86**	**336**	P		**P**	**23 08 39.3** **-1.9**
XAN				AMB	AMB		
	comp=Z,17nm,1.9s,mb4.7						
STKA	**Stephens Creek**	**36.58**	**157**	*e*P		**P**	**23 08 46.1** **-1.2**
	comp=Z,99nm,0.9s,mb5.6						
STKA				*e*PP	PP		23 10 08.5 -3.0
STKA				*e*S		**S**	**23 14 25.7** **+0.3**
STKA	**Stephens Creek**	**36.58**	**157**	P		**P**	**23 08 46.3** **-1.0**
	comp=Z,84nm,0.8s,mb5.6,baz=329,slow=8.4,SNR=175						
MJAR	**Matsushiro Arr**	**36.64**	**17**	P		**P**	**23 08 46.7** **-1.2**
	comp=Z,20nm,0.8s,mb5.0,baz=183,slow=9.2,SNR=29						
MJAR				PcP	PcP		23 11 11.5 +1.8
	comp=Z,5.1nm,0.9s,baz=202,slow=4.5,SNR=4.3						
MJAR				LR	LR		23 24 26.8
	comp=Z,626nm,18.9s,baz=195,slow=37						
MJAR	**Matsushiro Arr**	**36.64**	**17**	P		**P**	**23 08 46.7** **-1.2**
MJAR							23 11 11.5
MAJO	**Matsushiro**	**36.64**	**17**	P		**P**	**23 08 46.8** **-1.1**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
MAJO	**Matsushiro**	**36.64**	**17**	P		**P**	**23 08 46.8** **-1.1**
	comp=Z,30nm,0.8s,mb5.2						
MAT	**Matsushiro**	**36.64**	**17**	P		**P**	**23 08 46.6** **-1.3**
MAT				S		**S**	**23 14 19.2** **-7.2**
MAT	**Matsushiro**	**36.64**	**17**	*e*P		**P**	**23 08 47.0** **-0.9**
MAT				pmax	pmax		
	comp=Z,92nm,1.5s,mb5.4						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s						
MAT	**Matsushiro**	**36.64**	**17**	*e*P		**P**	**23 08 47.0** **-0.9**
	comp=Z,92nm,1.5s,mb5.4						
MAT				*e*S		**S**	**23 14 19.0** **-7.4**
MAT				LR	LR		
	comp=Z,1μm,20.0s						
DL2	**Dalian**	**37.30**	**355**	P		**P**	**23 08 54.8** **+1.4**
DL2				S		**S**	**23 14 41.2** **+4.9**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
DL2				AMB	AMB		
	comp=Z,230nm,5.5s						
DL2				LR	LR		
	comp=N,280nm,17.8s						
DL2				LR	LR		
	comp=E,560nm,17.1s						
DL2				LR	LR		
	comp=Z,430nm,26.5s						
LZH	**Lanzhou**	**39.82**	**332**	⇑ P		**P**	**23 09 13.9** **-0.6**
LZH				PP	PP		23 10 49.8 +2.8
LZH				PCP	PcP		23 11 21.6 +2.1
LZH				SCP	ScP		23 15 09.0 +6.1
LZH				PCS	PcS		23 15 11.5 +1.8
LZH				*e*S		**S**	**23 15 18.3** **+4.0**
LZH				SCS	ScS		23 19 19.7 +3.8
LZH				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,276nm,5.4s						
LZH				LR	LR		
	comp=N,1μm,13.9s						
LZH				LR	LR		
	comp=Z,2μm,17.4s						
SNY	**Shenyang**	**40.08**	**358**	⇓ P		**P**	**23 09 17.4** **+0.7**
SNY				AP	pP		23 09 27.0 -5.5
SNY				XP	sP		23 09 31.3 -8.5
SNY				PP	PP		23 10 52.1 +2.3
SNY				S		**S**	**23 15 20.1** **+1.9**
SNY				XS	sS		23 15 35.8 -9.2
SNY				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.4						
SNY				AMB	AMB		
	comp=Z,380nm,3.9s						
SNY				LR	LR		
	comp=N,580nm,17.1s						
SNY				LR	LR		
	comp=Z,760nm,17.6s						
SHL	**Shillong**	**40.32**	**309**	*e*P		**P**	**23 09 18.8** **+0.1**
SHL				*e*P			23 09 19.0
SHL				*e*x	x		23 15 12.0
HHC	**Hu-ho-hao-te**	**41.09**	**344**	*e*P		**P**	**23 09 24.4** **-0.6**
HHC				PP	PP		23 11 02.2 +1.4
HHC				SCP	ScP		23 15 11.6 +3.7
HHC				S		**S**	**23 15 40.3** **+7.1**
HHC				SS	SS		23 18 40.2 +2.5
HHC				SCS	ScS		23 19 23.3 -0.2
HHC				AMB	AMB		
	comp=Z,9.0nm,2.1s						
HHC				AMB	AMB		
	comp=Z,124nm,4.3s						
HHC				LR	LR		
	comp=N,531nm,19.2s						
HHC				LR	LR		
	comp=E,408nm,24.0s						
HHC				LR	LR		
	comp=Z,594nm,30.0s						
VLA	**Vladivostok**	**41.70**	**7**	*e*P		**P**	**23 09 28.9** **-1.1**
VLA				*i*			23 09 35.5
VLA				pmax	pmax		
	comp=Z,109nm,2.2s,mb5.1						
CN2	**Changchun**	**42.01**	**360**	*e*P		**P**	**23 09 31.2** **-1.3**
CN2				*e*AP	pP		23 09 35.7 -13
CN2				*e*S		**S**	**23 15 49.4** **+2.6**
CN2				SS	SS		23 18 50.8 -5.0
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,23.0s						
CN2				LR	LR		
	comp=E,700nm,23.0s						
CN2				LR	LR		
	comp=Z,400nm,21.0s						
MDJ	**Mudanjiang**	**42.96**	**4**	P		**P**	**23 09 40.7** **+0.4**
MDJ				AP	pP		23 09 43.8 -12
MDJ				PCP	PcP		23 11 31.2 +1.4
MDJ				S		**S**	**23 16 04.7** **+3.8**
MDJ				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,362nm,5.6s						
MDJ				LR	LR		
	comp=N,346nm,17.6s						
MDJ				LR	LR		
	comp=E,245nm,17.6s						
MDJ				LR	LR		
	comp=Z,427nm,19.4s						
LSA	**Lhasa**	**43.08**	**314**	P		**P**	**23 09 43.4** **+2.2**
LSA				AP	pP		23 09 50.6 -6.6
LSA				XP	sP		23 09 55.2 -9.3
LSA				PP	PP		23 11 27.8 +5.6
LSA				SCP	ScP		23 15 13.0 -2.8
LSA				PCS	PcS		23 15 17.0 -5.7
LSA				S		**S**	**23 16 14.8** **+12**
LSA				SCS	ScS		23 19 36.9 +1.3
LSA				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
LSA				LR	LR		
	comp=N,430nm,30.8s						
LSA				LR	LR		
	comp=E,730nm,35.4s						
LSA				LR	LR		
	comp=Z,3μm,33.9s						
TOO	**Toolangi**	**43.10**	**157**	*e*P		**P**	**23 09 44.1** **+2.7**
	comp=Z,38nm,1.3s,mb5.0						
BOK	**Bokaro**	**44.36**	**303**	*e*P		**P**	**23 09 50.8** **-0.7**
BOK				AMb	AMB		23 09 55.7
	comp=Z,25nm,1.4s,mb4.8						
GTA	**Gaotai**	**44.39**	**331**	*e*P		**P**	**23 09 50.5** **-1.2**
GTA				AP	pP		23 09 58.2 -10
GTA				PP	PP		23 11 33.1 -3.1
GTA				S		**S**	**23 16 23.6** **+1.9**
GTA				SCS	ScS		23 19 47.5 +3.6
GTA				AMB	AMB		
	comp=Z,12nm,2.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,199nm,5.0s						
GTA				LR	LR		
	comp=N,480nm,20.3s						
GTA				LR	LR		
	comp=E,658nm,21.4s						
GTA				LR	LR		
	comp=Z,1μm,21.0s						
VIS	**Vishakhapatnam**	**44.54**	**294**	*e*P		**P**	**23 09 51.5** **-1.5**
VIS				AMb	AMB		23 09 57.3
	comp=Z,30nm,1.6s,mb4.9						
ASAJ	**Asahikawa**	**44.91**	**17**	P		**P**	**23 09 56.1** **+0.2**
	comp=Z,22nm,0.6s,mb5.2,baz=228,slow=14,SNR=26						
JIRN	**Jiri**	**45.78**	**308**	*e*P		**P**	**23 10 03.4** **+0.6**
	comp=Z,50nm,0.8s,mb5.5						
GUN	**Gumba**	**46.14**	**308**	*e*P		**P**	**23 10 06.2** **+0.5**
	comp=Z,197nm,1.2s,mb5.9						
DZM	**Mont Dzumac**	**46.24**	**123**	P		**P**	**23 10 07.6** **+1.1**
	comp=Z,20nm,0.9s,mb5.0,baz=37,slow=18,SNR=7.2						
DZM				LR	LR		23 27 23.4
	comp=Z,457nm,20.8s,baz=192,slow=33						
PKI	**Pulchoki**	**46.36**	**308**	*e*P		**P**	**23 10 07.5** **+0.1**
	comp=Z,99nm,1.5s,mb5.5						
KKN	**Kakani**	**46.56**	**308**	*e*P		**P**	**23 10 09.0** **+0.1**
	comp=Z,108nm,1.4s,mb5.6						
DMN	**Daman**	**46.62**	**307**	*e*P		**P**	**23 10 09.6** **+0.2**
	comp=Z,110nm,1.3s,mb5.6						
GKN	**Gorkha**	**47.16**	**308**	*e*P		**P**	**23 10 13.5** **-0.1**
	comp=Z,38nm,0.9s,mb5.3						
HABR	**Khabarovsk**	**47.38**	**8**	*i* P		**P**	**23 10 16.0** **+0.7**
HABR				*i* *PP	pP		23 10 23.7 -7.7
HABR				*e*S		**S**	**23 17 07.8** **+3.2**
HABR				pmax	pmax		
	comp=Z,95nm,0.9s,mb5.7						
YSS	**Yuzh-Sakhalins**	**47.55**	**16**	⇑ *i* P		**P**	**23 10 17.6** **+1.0**
YSS				*e*			23 10 25.0
YSS				*e*			23 20 26.0
YSS				pmax	pmax		
	comp=Z,270nm,1.8s,mb6.0						
KLR	**Kul'dur**	**47.72**	**5κ**	*i* P		**P**	**23 10 15.1** **-2.9**
KLR				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.6						
KOLN	**Koldanda**	**47.89**	**307**	*e*P		**P**	**23 10 19.5** **+0.3**
	comp=Z,74nm,0.8s,mb5.8						
ULN	**Ulaanbaatar**	**48.81**	**343**	P		**P**	**23 10 25.9** **-0.4**
HYB	**Hyderabad**	**48.86**	**292**	*i* P		**P**	**23 10 27.0** **+0.3**
	comp=Z,40nm,1.0s,mb5.4						
HYB	**Hyderabad**	**48.86**	**292**	*e*P		**P**	**23 10 27.0** **+0.3**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
HYB	**Hyderabad**	**48.86**	**292**	*e*P		**P**	**23 10 27.0** **+0.3**
	comp=Z,40nm,1.0s,mb5.4						
TRD	**Trivandrum**	**48.95**	**280**	*e*P		**P**	**23 10 26.4**

WMQ LR LR
comp=Z,685nm,12.0s
SMLA Simla 54.38 308 *ex* x 23 12 00.9
SMLA AMb AMB 23 12 05.9
comp=Z,130nm,1.4s,mb5.7
AJM Ajmer 54.83 302 *e*P **P** **23 11 11.1 -0.1**
CLNS Chul'man 55.06 359 ⇑*i*P **P** **23 11 13.1 +0.3**
CLNS pmax pmax
comp=Z,99nm,1.3s,mb5.7
CLNS pmax pmax
comp=N,55nm,1.2s
CLNS pmax pmax
comp=E,27nm,1.4s
DLH Dalhousie 55.87 309 *e*P **P** **23 11 19.0 +0.4**
BOD Bodaibo 56.80 353 *e*P **P** **23 11 22.5 -2.7**
BOD pmax pmax
comp=Z,31nm,1.6s,mb5.1
PET Petropavlovsk 58.08 23 *i*P **P** **23 11 35.4 +1.2**
PET pmax pmax
comp=Z,300nm,4.0s
PET MLR MLR
comp=Z,200nm,19.0s
MKAR Makanchi Array 58.70 326 P **P** **23 11 37.6 -1.0**
comp=Z,9.8nm,0.5s,mb5.1,baz=121,slow=7.8,SNR=204
MKAR ScP ScP 23 16 26.5 +3.7
comp=Z,2.1nm,0.8s,baz=117,slow=5.4,SNR=4.5
MKAR LR LR 23 37 50.8
comp=Z,967nm,19.0s,baz=125,slow=37
MKAR PKPPKP 23 41 01.8
comp=Z,1.0nm,1.1s,baz=297,slow=2.7,SNR=4.5
YAK Yakutsk 60.34 2*c i*P **P** **23 11 50.5 +0.6**
YAK *e**PP pP 23 11 59.5 -7.1
YAK *e* 23 12 32.3
YAK *e* 23 14 04.4
YAK *e*PPP 23 15 29.2
YAK *e*S **S** **23 20 02.2 +2.5**
YAK *e**SS sS 23 20 23.2 -4.8
YAK *e* 23 21 38.3
YAK *e*SS SS 23 24 03.3 +5.2
YAK pmax pmax
comp=Z,60nm,1.0s,mb5.6
YAK pmax pmax
comp=N,37nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK smax
comp=N,11nm,1.2s
YAK smax
comp=Z,3.0nm,1.3s
YAK smax
comp=E,6.0nm,1.9s
YAK Yakutsk 60.34 2 P **P** **23 11 49.8 -0.1**
RPZ Rata Peaks 60.68 144 P **P** **23 11 53.1 +1.0**
comp=E,32nm,1.0s,mb5.4,baz=327,slow=11,SNR=7.4
RPZ LR LR 23 38 30.8
comp=E,440nm,20.9s,baz=350,slow=36
MA2 Magadan 61.00 14*ce*P **P** **23 11 55.1 +0.7**
MA2 *e* 23 12 33.4
MA2 *e*S **S** **23 20 12.5 +4.4**
MA2 *e*PS 23 20 27.0
MA2 *e* 23 21 42.4
MA2 pmax pmax
comp=N,40nm,1.2s
MA2 pmax pmax
comp=Z,70nm,1.2s,mb5.7
MA2 pmax pmax
comp=E,20nm,1.3s
MA2 MLR MLR
comp=Z,400nm,22.0s
MA2 Magadan 61.00 14 P **P** **23 11 55.3 +0.9**
AAK Ala-Archa 61.22 319 P **P** **23 11 55.0 -0.8**
comp=Z,42nm,1.4s,mb5.4,SNR=5.2
FRU Bishkek 61.23 319 *e*P **P** **23 11 56.0 +0.1**
FRU *e* 23 12 38.5
FRU MLR MLR
comp=Z,1μm,24.0s
URZ Urewera 61.76 136 P **P** **23 12 00.1 +0.7**
comp=Z,20nm,1.0s,mb5.2,baz=276,slow=1.7,SNR=8.9
KURK Kurchatov 62.96 329 P **P** **23 12 06.2 -1.3**
comp=Z,220nm,0.5s,SNR=32
NVS Novosibirsk 63.28 334 *e*P **P** **23 12 06.5 -3.1**
NVS *i* 23 12 43.0
NVS *e*PS 23 20 43.3
NVS pmax pmax
comp=Z,20nm,1.8s,mb5.0
NVS pmax pmax
comp=N,12nm,1.7s
SEY Seymchan 64.32 13 *e*P **P** **23 12 17.7 +1.3**
SEY *e* 23 12 53.5
SEY 23 14 41.5
SEY PPP 23 16 08.7
SEY *e*S **S** **23 20 58.9 +9.2**
SEY *e* 23 22 03.5
SEY *e*SSS 23 27 52.5
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,67nm,1.2s,mb5.5
SEY pmax pmax
comp=E,8.0nm,0.6s
SEY smax
comp=N,190nm,22.1s
SEY smax
comp=E,202nm,18.7s
SEY MLR MLR
comp=N,170nm,20.0s
SEY MLR MLR
comp=Z,480nm,20.0s
SEY MLR MLR
comp=E,225nm,30.0s
SEY Seymchan 64.32 13 ⇑*i*P **P** **23 12 17.8 +1.4**
FX1 Attu Island--F 64.44 30 LR LR 23 42 15.7
comp=E,22nm,18.8s,baz=50,slow=38
FX1 Attu Island--F 64.44 30 P **P** **23 12 19.3 +2.1**
BVAR Borovoye Array 68.51 328 P **P** **23 12 41.2 -2.0**
comp=E,1.8nm,0.5s,mb4.3,baz=83,slow=4.9,SNR=24
BRVK Borovoye 68.59 328 P **P** **23 12 42.4 -1.3**
comp=E,102nm,0.7s,mb5.9,SNR=8.1
CASY Casey 68.61 187 *e*P **P** **23 12 45.8 +2.0**
ZRNK Zerenda 69.22 327 P **P** **23 12 46.2 -1.4**
TIXI Tiksi 69.96 1*c i*P **P** **23 12 51.0 -1.2**
TIXI pmax pmax
comp=Z,99nm,1.3s,mb5.6
TIXI MLR MLR
comp=Z,400nm,19.0s
BILL Bilibino 71.86 15 *i*P **P** **23 13 03.7 0.0**
BILL pmax pmax
comp=Z,46nm,2.2s,mb5.0
AKTK Aktyubinsk 74.65 322 P **P** **23 13 19.1 -1.0**
AKTO Aktyubinsk 74.65 322 P **P** **23 13 19.1 -1.0**
comp=Z,5.1nm,0.5s,mb4.7,baz=101,slow=8.0,SNR=16
ARU Arti 76.15 328⇓*i*P **P** **23 13 27.7 -1.0**
ARU *e* 23 16 18.8
ARU *e*PPP 23 18 04.6
ARU *e*S S 23 23 10.4 +2.7
ARU *e*SS SS 23 28 03.3 +1.2
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.8
ARU MLR MLR
comp=Z,300nm,20.0s
ARU MLR MLR
comp=N,100nm,21.0s
ARU MLR MLR
comp=E,200nm,19.0s
ARU Arti 76.15 328 P **P** **23 13 27.1 -1.6**
GAMB Gambell 76.75 24 P **P** **23 13 38.1 +6.0**
TNA Tin City 78.94 23 P **P** **23 13 45.9 +1.7**
comp=E,22nm,1.3s,mb4.9
SDPT Sand Point 79.53 34 P **P** **23 13 49.1 +1.6**
MAW Mawson 81.41 200 LR LR 23 45 20.5
comp=E,283nm,19.6s,baz=182,slow=32
VNDA Vanda 81.48 173 P **P** **23 13 58.2 +0.3**
comp=E,5.9nm,0.5s,mb4.8,baz=313,slow=7.3,SNR=48
VNDA LR LR 23 46 30.9
comp=E,212nm,21.6s,baz=344,slow=33
VNDA Vanda 81.48 173 P **P** **23 13 59.2 +1.3**
GNI Garni 82.02 310 P **P** **23 14 01.8 +1.0**
comp=E,1.6nm,0.6s,baz=230,slow=13,SNR=3.1
GNI Garni 82.02 310 P **P** **23 14 01.8 +1.0**

ZEI Tsey 82.85 313 *i*P **P** **23 14 04.5 -0.6**
ZEI *i* 23 17 17.3
ZEI pmax pmax
comp=Z,17nm,1.2s,mb5.0
TTA Tatalina 83.26 27 *e*P **P** **23 14 09.1 +1.9**
TTA pmax pmax
comp=Z,533nm,1.8s,mb6.3
TTA Tatalina 83.26 27 *e*P **P** **23 14 09.1 +1.9**
comp=Z,533nm,1.8s,mb6.3
GOF Gofitskoye 83.65 315 *e*P **P** **23 14 11.4 +2.2**
GOF pmax pmax
comp=Z,11nm,0.7s,mb5.1
KIV Kislovodsk 83.82 314⇓*e*P **P** **23 14 07.4 -2.7**
KIV pmax pmax
comp=Z,14nm,1.4s,mb4.9
KIV Kislovodsk 83.82 314 P **P** **23 14 13.3 +3.2**
KDAK Kodiak Island 84.24 32 P **P** **23 14 14.0 +1.8**
comp=Z,493nm,0.9s,SNR=9.8
KDAK Kodiak Island 84.24 32 P **P** **23 14 13.9 +1.7**
comp=Z,52nm,0.7s,mb5.8,baz=232,slow=1.6,SNR=16
IMA2 Indian Mountai 84.73 24 *e*P **P** **23 14 16.5 +1.8**
VRHR Novokhopersk 85.00 321 *e*P **P** **23 14 15.1 -0.9**
VRHR pmax pmax
comp=N,4.0nm,0.5s
VRHR pmax pmax
comp=E,7.0nm,0.5s
VRHR pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
PPT Papeete 85.49 108 *e*LR LR 23 41 32.4
comp=Z,599nm,31.5s
PPT Papeete 85.49 108 LR LR 23 46 32.8
comp=Z,187nm,21.2s,baz=284,slow=31
SLKM Skilak Lake 85.70 30 P **P** **23 14 20.6 +1.1**
TBI Tubuai 85.93 113 *e*P **P** **23 14 19.5 -1.2**
comp=Z,424nm,1.4s
TBI Tubuai 85.93 113 *e*LR LR 23 41 40.4
comp=Z,589nm,36.8s
PMR Palmer 86.30 29 P **P** **23 14 23.5 +1.0**
PMR pmax pmax
comp=Z,31nm,1.0s,mb5.5
PMR Palmer 86.30 29 P **P** **23 14 23.5 +1.0**
comp=Z,31nm,1.0s,mb5.5
MCK McKinley 86.52 26 P **P** **23 14 23.9 +0.3**
MCK pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
MCK McKinley 86.52 26 P **P** **23 14 23.9 +0.4**
comp=Z,8.1nm,0.7s,mb5.1
VRSR Storozhevoye 86.53 321 *e*P **P** **23 14 22.6 -1.0**
VRSR pmax pmax
comp=Z,2.0nm,1.5s
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.7s
VOR Voronezh 86.54 322 P **P** **23 14 23.0 -0.7**
VOR pmax pmax
comp=E,40nm,2.0s
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.5
SML Sawmill 86.69 28 *e*P **P** **23 14 25.3 +0.9**
KLMR Klimovskoe 86.71 331*c i*P **P** **23 14 23.4 -1.1**
KLMR pmax pmax
comp=Z,90nm,1.5s,mb5.8
MALT Malatya 86.83 308 P **P** **23 14 25.9 +0.8**
MALT pmax pmax
comp=Z,18nm,1.4s,mb5.1
MALT Malatya 86.83 308 P **P** **23 14 25.9 +0.8**
comp=Z,18nm,1.4s,mb5.1
PMOR Pomariorio Ree 86.98 105 *e*P **P** **23 14 24.6 -1.2**
comp=Z,57nm,1.3s,mb5.7
COLA College 87.05 25 *i*P **P** **23 14 25.5 -0.7**
VAH Vaihoa 87.25 105 *e*P **P** **23 14 25.8 -1.3**
comp=Z,62nm,1.2s,mb5.7
MOS Moscow 87.57 326 *e*P **P** **23 14 26.6 -2.0**
MOS pmax pmax
comp=Z,87nm,1.7s,mb5.7
ANN Anapa 87.61 315 *e*P **P** **23 14 33.8 +4.9**
ANN *e* 23 24 59.1
ANN *e* 23 25 10.1
ANN pmax pmax
comp=Z,89nm,1.0s,mb6.0
OBN Obninsk 88.17 325*de*P **P** **23 14 31.3 -0.2**
OBN *e* 23 17 56.3
OBN pmax pmax
comp=Z,71nm,1.3s,mb5.7
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 88.17 325 *i*Pr **P** **23 14 31.4 -0.1**
OBN LR LR
comp=Z,200nm,19.0s
KMBO Kilima Mbogo 88.44 269 P **P** **23 14 35.0 +2.2**
comp=Z,6.6nm,0.9s,mb4.9,baz=46,slow=6.3,SNR=13
KMBO LR LR 23 53 12.6
comp=Z,322nm,18.9s,baz=274,slow=35
KMBO Kilima Mbogo 88.44 269 *i*P **P** **23 14 35.0 +2.2**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 88.44 269 P **P** **23 14 34.9 +2.1**
MENT Mentasta 88.86 27 *e*P **P** **23 14 36.0 +1.3**
APA Apatity 89.39 337⇑*i*P **P** **23 14 36.0 -1.2**
APA pmax pmax
comp=Z,160nm,2.0s,mb6.0
BR131 Keskin Array S 90.54 310 P **P** **23 14 44.1 +1.5**
BRTR Keskin Array B 90.54 310 P **P** **23 14 41.8 -0.8**
comp=Z,1.2nm,0.7s,mb4.3,baz=134,slow=5.5,SNR=8.7
BRTR Keskin Array B 90.54 310 *i*P **P** **23 14 45.0 +2.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
JOF Joensuu 90.56 333 *ep* **P** **23 14 41.9 -0.8**
KEV Kevo 91.50 340 *ep* **P** **23 14 47.5 +0.4**
ARCES ARCESS Array B 92.05 340 P **P** **23 14 48.7 -0.9**
comp=Z,19nm,1.0s,mb5.4,baz=80,slow=6.0,SNR=21
ARCES LR LR 23 59 40.6
comp=Z,236nm,18.8s,baz=294,slow=38
ARCES ARCESS Array B 92.05 340 P **P** **23 14 48.7 -0.9**
ARCES LR LR 23 59 40.6
ARE0 ARCESS Array S 92.05 340 P **P** **23 14 48.9 -0.7**
INK Inuvik 92.51 21 P **P** **23 14 51.4 -0.3**
comp=Z,9.7nm,0.9s,mb5.2,baz=284,slow=6.4,SNR=24
INK Inuvik 92.51 21 P **P** **23 14 51.4 -0.3**
AKASG Malin Array Be 92.85 321 P **P** **23 14 52.1 -1.2**
comp=Z,5.2nm,0.8s,mb5.0,baz=73,slow=4.5,SNR=17
ISP Isparta 93.09 308 *i*P **P** **23 14 54.9 +0.5**
FINES FINESS Array B 93.18 332 P **P** **23 14 53.1 -1.7**
comp=Z,5.8nm,0.7s,mb5.1,baz=66,slow=4.9,SNR=40
FINES PKiKP PKiKP 23 19 42.0 +0.7
comp=Z,1.0nm,0.7s,baz=90,slow=4.2,SNR=3.1
FINES LR LR 00 02 12.7
comp=Z,185nm,18.6s,baz=129,slow=39
FINES FINESS Array B 93.18 332 *i*P **P** **23 14 53.5 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.7s
SUW Suwalki 96.02 325 *e*P **P** **23 15 07.3 -0.5**
KWP Kalwaria 97.15 320 *e*P **P** **23 15 13.8 +0.9**
KOLS Kolonicke sedl 97.56 320 *e*P **P** **23 15 15.1 +0.3**
LSZ Lusaka 97.63 255 P **P** **23 15 16.4 +1.3**
CRVS Cervenica-Dubn 98.09 320 *ep*P **P** **23 15 22.6 +5.4**
STHS Stebnicka Huta 98.13 320 *e*P **P** **23 15 17.5 +0.2**
KECS Kecovo 98.81 319 *e*P **P** **23 15 18.6 -1.8**
OJC Ojcow 98.86 321 *e*P **P** **23 15 20.5 -0.1**
RKT Rikitea 99.25 113 *e*LR LR 23 47 35.3
comp=Z,504nm,35.8s
HFS Hagfors 99.38 332 P **P** **23 15 21.1 -1.8**
comp=Z,3.7nm,0.7s,mb5.0,baz=108,slow=4.7,SNR=17
LBTB Lobatse 99.80 245 LR LR 23 54 31.6
comp=Z,287nm,19.3s,baz=101,slow=32
VYHS Vyhne 99.88 320 *e*P Pdif 23 15 24.9 -0.3
BOSA Boshof 99.91 241 LR LR 23 58 52.5
comp=Z,394nm,19.0s,baz=151,slow=34
NB2 NORSAR Subarra100.19 333 P Pdif 23 15 24.5 -2.0
comp=Z,1.5nm,0.6s,baz=70,slow=4.4
NOA NORSAR Array B 100.19 333 P Pdif 23 15 25.3 -1.3
comp=Z,2.1nm,0.6s,baz=70,slow=4.5,SNR=9.5
NOA NORSAR Array B 100.19 333 P Pdif 23 15 25.3 -1.3
MORC Moravsky Berou 100.38 321 Pdif Pdif 23 15 31.5 +4.1
KSP Ksiaz 100.87 322 *e*P Pdif 23 15 30.6 +1.0
DPC Dobruska-Polom 100.99 322 *e*PDIF Pdif 23 15 30.6 +0.5
DPC Dobruska-Polom 100.99 322 *i*P Pdif 23 15 30.6 +0.5
TREC Trest 101.80 321 *e*PDIF Pdif 23 15 33.9 +0.2
TREC Trest 101.80 321 *i*P Pdif 23 15 33.9 +0.2
YKA Yellowknife Ar 101.85 24 P Pdif 23 15 35.0 +1.1
comp=Z,1.9nm,0.7s,baz=300,slow=4.4,SNR=42
YKA PKiKP PKiKP 23 19 58.8 +2.1
comp=Z,0.6nm,0.9s,baz=304,slow=1.7,SNR=6.5
YKA PKKPbc PKKPbc 23 31 38.5 -0.3
comp=Z,0.3nm,0.5s,baz=121,slow=3.3,SNR=8.5
YKA Yellowknife Ar 101.85 24 *i*P Pdif 23 15 35.0 +1.1
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 101.85 24 P Pdif 23 15 35.0 +1.0
PVCC Panska Ves 102.01 322 *e*PDIF Pdif 23 15 34.7 +0.1
PVCC Panska Ves 102.01 322 *i*P Pdif 23 15 34.7 +0.1
BRG Berggiesshubel 102.28 323 *e*P Pdif 23 15 35.7 -0.1
BRG pmax pmax
comp=Z,8.0nm,1.6s
BRG MLR MLR
comp=N,146nm,15.4s
BRG MLR MLR
comp=E,136nm,28.3s
BRG MLR MLR
comp=Z,155nm,17.7s
BRG Berggiesshubel 102.28 323 *e*P Pdif 23 15 35.7 -0.1
comp=Z,7.9nm,1.6s
BRG LR LR
comp=Z,160nm,17.7s
CLL Collm 102.70 324 *e*PP PP 23 19 54.0 +2.2
CLL *e*PS PS 23 29 12.0 +12
CLL LmV 00 06 00.0
comp=Z,200nm,20.0s
GERES GERESS Array B 103.06 321 P Pdif 23 15 39.6 +0.3
comp=Z,0.7nm,0.8s,baz=90,slow=5.3,SNR=5.5
GERES PKiKP PKiKP 23 20 00.5 +1.6
comp=Z,0.3nm,0.5s,baz=90,slow=1.0,SNR=3.5
GRA1 Grafenberg Arr 104.32 322 *e*Pdif Pdif 23 15 45.8 +0.9
GRF Grafenberg Arr 104.32 322 *e*Pdiff Pdif 23 15 45.8 +0.9
HLID Hailey 110.08 42 PKPdf PKiKP 23 20 15.4 +3.5
PDAR Pinedale Array 113.64 41 PKiKP PKiKP 23 20 20.1 +1.4
comp=Z,0.7nm,0.9s,baz=225,slow=4.2,SNR=4.1
PDAR PKKPbc PKKPbc 23 31 02.5 +0.7
comp=Z,1.3nm,1.0s,baz=149,slow=5.3,SNR=3.7
FRB Frobisher Bay 113.95 7 PKiKP PKiKP 23 20 19.4 +0.1
comp=Z,3.9nm,0.9s,baz=46,slow=4.4,SNR=3.4
ULM Lac du Bonnet 117.32 29 PKP PKPdf 23 20 26.1 +0.4
comp=Z,1.8nm,0.7s,baz=4.1,slow=6.4,SNR=3.8
ISCO Idaho Springs 117.64 43 *e*PKPdf PKPdf 23 20 28.4 +2.1
MNTX Cornudas Mount 121.41 51 *e*PKPdf PKPdf 23 20 36.6 +3.0
MDT Midelt 121.94 311 PKP PKPdf 23 20 36.4 +1.7
comp=Z,2.6nm,1.0s,baz=360,slow=7.1,SNR=5.4
TORD Torodi Ar. Bea 122.53 287 PKP PKPdf 23 20 37.6 +1.8
comp=Z,9.0nm,0.8s,baz=58,slow=1.8,SNR=39
TORD PKKPbc PKKPbc 23 30 32.6 +2.7
comp=Z,1.0nm,0.6s,baz=255,slow=2.5,SNR=5.0
SCHQ Schefferville 122.81 9 PKP PKPdf 23 20 37.8 +1.5
comp=Z,3.1nm,0.5s,baz=321,slow=4.9,SNR=19
TXAR Lajitas Array 123.72 53 PKP PKPdf 23 20 40.8 +2.7
comp=Z,1.2nm,0.7s,baz=244,slow=2.0,SNR=13
TXAR PKKPbc PKKPbc 23 30 30.3 +5.1
comp=Z,0.2nm,0.6s,baz=124,slow=5.1,SNR=6.1
KSU1 Kansas State U 123.92 39 *e*PKPdf PKPdf 23 20 40.6 +2.2
WMOK Wichita Mounta 124.88 45 *e*PKPdf PKPdf 23 20 42.5 +2.2
WVT Waverly 131.18 36 *e*PKPdf PKPdf 23 20 54.6 +2.3
PLAL Pickwick Lake 131.81 38 *e*PKPdf PKPdf 23 20 55.0 +1.5
LRAL Lakeview Retre 133.77 39 *e*PKPdf PKPdf 23 20 59.9 +2.8
PLCA Paso Flores 138.38 161 PKhKP 23 21 00.3
comp=Z,3.1nm,0.8s,baz=270,slow=3.0,SNR=2.6
PLCA Paso Flores 138.38 161 *e*PKPdf PKPdf 23 21 06.8 +1.1
TRQA Tornquist 143.06 170 *e*PKPdf PKPdf 23 21 13.4 -0.7
FH Farellones 145.08 156⇓*i*P PKPbc 23 21 21.2 +3.9
CEN1 Los Morros 153.45 146⇑*i*P PKPbc 23 21 40.1 +1.5
LVC Limon Verde 154.78 147 *e*PKPdf PKPdf 23 21 38.0 +5.2
CPUP Villa Florida 155.26 174 PKPdf PKPdf 23 21 37.4 +3.8
CAM4 Nova Friburgo 156.42 208 (P) PKPab 23 22 07.1 +3.4
CAM4 *i* 23 22 10.5
CAM4 *i* 23 22 14.1
ROSC El Rosal 159.02 72 PKP PKPdf 23 21 41.1 +2.8
comp=Z,6.1nm,0.6s,baz=117,slow=22,SNR=6.3
LPAZ La Paz 160.07 138 PKP PKPdf 23 21 43.8 +4.2
comp=Z,6.0nm,1.0s,baz=345,slow=0.6,SNR=17
LPAZ La Paz 160.07 138 *e*PKPdf PKPdf 23 21 43.9 +4.4
LPAZ *e*PKPab PKPab 23 22 25.8 +6.2
SDV Santo Domingo 160.70 57 *e*PKPdf PKPdf 23 21 42.8 +2.6
SDV *e*PKPab PKPab 23 22 26.2 +3.9
SDV *e*SKPdf SKPdf 23 25 10.7 +3.9
BDFB Brasilia 164.73 204 PKP PKPdf 23 21 45.7 +1.6
comp=Z,4.4nm,1.0s,baz=203,slow=1.5,SNR=4.5
BDFB PKPab PKPab 23 22 43.3 +3.3
comp=Z,6.4nm,0.9s,baz=45,slow=2.2,SNR=6.7
SAML Samuel 168.57 130 *e*PKPdf PKPdf 23 21 50.0 +2.9
SAML *e*PKPab PKPab 23 23 00.6 +3.5

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*ISCJB **04** 23:10:51.5±0.4,4177N±002×2290E±003,h7km±3km,*
Error ellipse: s-maj=3.5km s-min=3.0km az=126.1
*SKO **04** 23:10:51.9,4179N×2288E,h18km,M2.0,ML2.5*
*BEO **04** 23:10:51.5±0.4,4171N×2277E,h10km±3km*
*SOF **04** 23:10:51.5,4182N×2293E,h20km,MD2.5*
*ATH **04** 23:10:52.5,4178N×2289E,h22km±3km,MD3.4/4*
*THE **04** 23:10:54.8,4168N×2290E,h11km,ML3.1*
*NEIC **04** 23:10:54.8,4168N×2290E,h11km,MD2.5(SOF),*
ML2.6(THE),After THE.

ISC 04 23:10:52.3±0.4,4177N±002×2291E±003,h8km±3km,n38,
σ1$00/54,5C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.16**	**53**	*i* Pg	**Pg**	**23 10 56.8**	**+1.1**
VAY	**Valandovo**	**0.52**	**210**	⇑*i*Pg	**Pg**	**23 11 02.6**	**+0.3**
VAY				*i* Sg	**Sg**	**23 11 09.9**	**+0.8**
VAY				*e*Lg		23 11 10.0	
	comp=N,326nm,0.2s						
VAY				*e*Lg		23 11 10.3	
	comp=E,703nm,0.5s						
STIP	**Stip**	**0.55**	**262**	*i* Pg	**Pg**	**23 11 02.5**	**-0.5**
STIP				⇑*i*Sg	**Sg**	**23 11 10.0**	**-0.1**
STIP				*e*Lg		23 11 10.1	
	comp=N,258nm,0.6s						
STIP				*e*Lg		23 11 10.1	
	comp=E,123nm,0.2s						
KNT	**Kendrikon**	**0.61**	**181**	*e*Pg	**Pg**	**23 11 04.9**	**+0.8**
KNT				*e*Sg	**Sg**	**23 11 12.6**	**+0.6**
MMB	**Musomiste**	**0.64**	**106**	*i* Pg	**Pg**	**23 11 05.8**	**+1.2**
NVR	**Nevrokopi**	**0.83**	**120**	⇑*i*PN	**Pn**	**23 11 09.0**	**-1.3**
NVR				*e*SN	**Sn**	**23 11 20.6**	**-2.1**
SRS	**Serrai**	**0.83**	**142**	*e*Pg	**Pg**	**23 11 08.7**	**+0.4**
SRS				*e*Sg	**Sg**	**23 11 20.7**	**+1.7**
VTS	**Vitosha**	**0.85**	**15**	*i* Pg	**Pg**	**23 11 08.3**	**-0.4**
GRG	**Griva**	**0.90**	**205**	*e*Pg	**Pg**	**23 11 09.6**	**0.0**
GRG				*e*Sg	**Sg**	**23 11 21.6**	**+0.3**
SOH	**Sokhos**	**1.00**	**160**	*e*Pg	**Pg**	**23 11 12.3**	**+0.6**
SKO	**Skopje**	**1.12**	**281**	*e*Pg	**Pg**	**23 11 13.7**	**-0.1**
SKO				*e*Sg	**Sg**	**23 11 28.3**	**0.0**
SKO				*e*Lg		23 11 30.1	
	comp=E,100nm,0.9s						
SKO				*e*Lg		23 11 30.6	
	comp=N,88nm,0.7s						
THE	**Thessaloniki**	**1.14**	**178**	*e*Pg	**Pg**	**23 11 13.9**	**-0.3**
	comp=N,3.5nm,0.4s						
THE				*e*Sg	**Sg**	**23 11 29.4**	**+0.5**
PGB	**Panagyurishte**	**1.22**	**50**	*i* Pg	**Pg**	**23 11 16.0**	**+0.3**
RZN	**Rozhen**	**1.35**	**93**	*i* Pg	**Pg**	**23 11 18.5**	**+0.2**
PLD	**Plovdiv**	**1.38**	**75**	*i* Pg	**Pg**	**23 11 19.5**	**+0.7**
BIA	**Bitola**	**1.41**	**238**	*e*Pg	**Pg**	**23 11 18.4**	**-1.0**
BIA				*e*Sg	**Sg**	**23 11 37.5**	**-0.2**
BIA				*e*Lg		23 11 37.5	
	comp=E,37nm,0.6s						
BIA				*e*Lg		23 11 37.8	
	comp=N,41nm,0.5s						
PLG	**Polygyros**	**1.45**	**164**	*e*PN	**Pn**	**23 11 19.5**	**+0.6**
PLG				*e*SN	**Sn**	**23 11 38.7**	**+0.6**
FNA	**Florina**	**1.52**	**230**	*e*Pg	**Pg**	**23 11 20.2**	**-1.3**
ZAPS	**Zavoj/Pirot**	**1.54**	**352**	⇑*i*Pn	**Pn**	**23 11 19.8**	**-0.3**
ZAPS				Sn	**Sn**	**23 11 40.4**	**+0.1**
OUR	**Ouranopolis**	**1.65**	**150**	*e*Pg	**Pg**	**23 11 21.9**	**-2.0**
	comp=N,6.0nm,0.2s						
LIT	**Litokhoron**	**1.70**	**191**	*e*Pg	**Pg**	**23 11 22.6**	**-2.3**
KDZ	**Kurdzhali**	**1.88**	**93**	*i* Pg	**Pg**	**23 11 28.6**	**-1.6**
PAIG	**Paliouri**	**1.93**	**162**	*e*Pb	**Pb**	**23 11 25.5**	**-2.3**
PAIG				*e*Sb	**Sb**	**23 11 49.9**	**-2.1**
RDO	**Rodhopi**	**2.07**	**107**	*e*PB	**Pb**	**23 11 28.2**	**-1.9**
BOLS	**Boljevac**	**2.17**	**342**	⇑*i*Pn	**Pn**	**23 11 28.8**	**0.0**
BOLS				Sn	**Sn**	**23 11 57.0**	**+1.1**
PVL	**Pavlikeni**	**2.30**	**50**	*i* Pg	**Pg**	**23 11 33.0**	**-3.4**
MEV	**Metsovon**	**2.36**	**213**	*e*Pn	**Pn**	**23 11 32.2**	**+0.8**
XOR	**Xorichti**	**2.41**	**175**	*e*Pn	**Pn**	**23 11 32.6**	**+0.5**
XOR				*e*Sn	**Sn**	**23 12 01.2**	**-0.6**
NEO	**Neokhori**	**2.47**	**174**	*e*PN	**Pn**	**23 11 33.3**	**+0.4**
ALN	**Alexandroupoli**	**2.52**	**109**	*e*Pn	**Pn**	**23 11 34.7**	**+1.2**
LIA	**Limnos Island**	**2.54**	**137**	*e*PN	**Pn**	**23 11 35.2**	**+1.3**

GRUS	Gruza	2.66	323	*e*Pn	Pn	23 11 34.7	-0.8
GRUS				*e*Sn	Sn	23 12 08.8	+0.8
SZH	Strazhica	2.69	55	*i* Pg	Pg	23 11 43.5	-0.4
AOS	Alonnisos	2.70	164	*e*Pn	Pn	23 11 36.2	+0.2
AGG	Agios Georgios	2.78	189	*e*Pn	Pn	23 11 37.8	+0.6
IGT	Igoumenitsa	2.97	222	*e*Pn	Pn	23 11 40.9	+1.1
DIVS	Divcibare	3.16	318	⇓*i*Pn	Pn	23 11 41.6	-0.8
DIVS				Sn	Sn	23 12 20.4	+0.1
PRK	Paraskevi	3.59	133	*e*PN	Pn	23 11 49.8	+1.5

ISCJB ***04*** *23:43:09.6±0.5, 5592S±008×28.1W±0.1, h125km, mb4.5/16, Error ellipse: s-maj=12.2km s-min=10.1km az=54.4*
IDC ***04*** *23:43:10.7±0.8, 5593S×28.11W, h120km±6km, mb4.2/8, mb1 4.3/9, mb1mx4.1/16, mbtmp4.6/9, Error ellipse: s-maj=16.9km s-min=13.9km az=19.0*
NEIC ***04*** *23:43:10.6±0.2, 5589S×28.11W, mb4.5/10, Error ellipse: s-maj=9.4km s-min=7.7km az=207.0*

ISC 04 23:43:11.4±0.5, 5596S±008×282W±01, h127km, h127km±2.8km; pP-P, n51, σ0°66/22, mb4.5/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.05	156	P	P	23 47 23.6	0.0
	1.0nm,0.3s,baz=314,slow=10.0,SNR=72						
PMSA	Palmer Station	19.55	229	*e*P	P	23 47 28.6	-0.5
	14nm,0.6s						
PMSA				*e*pP		23 47 48.8	
USHA	Ushuaia	22.68	256	P	P	23 48 01.7	-0.5
	4.2nm,0.7s,mb3.9,baz=68,slow=13,SNR=3.2						
TRQA	Tornquist	28.79	294	*e*P	P	23 48 57.2	0.0
	3.5nm,0.8s,mb4.0						
TRQA				*e*pP	pP	23 49 28.0	+3.4
QSPA	South Pole Qui	34.29	180	*e*P	P	23 49 46.3	+0.9
	29nm,0.6s,mb5.3						
CPUP	Villa Florida	36.35	312	*e*P	P	23 50 02.6	-0.3
	8.0nm,0.8s,mb4.7						
CPUP				*e*pP	pP	23 50 29.5	-1.5
CPUP				*e*PcP	PcP	23 52 23.5	-1.3
CFAA	Coronel Fontan	37.03	294	P	P	23 50 07.8	-0.9
	0.5nm,0.6s,mb3.6,baz=128,slow=7.8,SNR=6.9						
CFAA				pP	pP	23 50 36.8	0.0
	0.4nm,0.6s,baz=156,slow=3.5,SNR=2.5						
BDFB	Brasilia	43.02	331	P	P	23 50 59.5	+1.4
	1.4nm,0.5s,mb4.0,baz=157,slow=2.9,SNR=3.4						
LVC	Limon Verde	44.78	301	*e*P	P	23 51 11.5	-0.8
	6.0nm,0.8s,mb4.4						
BOSA	Boshof	46.48	77	P	P	23 51 25.1	-0.5
	6.1nm,0.8s,mb4.4,baz=213,slow=9.0,SNR=16						
VNDA	Vanda	46.64	183	P	P	23 51 27.3	+0.4
	13nm,0.7s,mb4.8,baz=187,slow=6.0,SNR=48						
VNDA	Vanda	46.64	183	*e*P	P	23 51 27.8	+0.9
	17nm,0.8s,mb4.8						
LBTB	Lobatse	49.50	74	P	P	23 51 48.8	-0.1
	9.3nm,0.7s,mb4.8,baz=224,slow=8.9,SNR=20						
LBTB	Lobatse	49.50	74	*e*P	P	23 51 48.6	-0.3
LBTB				pP	pP	23 52 17.6	-0.7
LPAZ	La Paz	49.88	306	P	P	23 51 53.5	+1.8
	1.6nm,0.4s,mb4.3,baz=284,slow=5.0,SNR=11						
LPAZ				pP	pP	23 52 20.4	-0.8
	2.7nm,0.7s,baz=122,slow=5.0,SNR=3.6						
LPAZ	La Paz	49.88	306	*e*P	P	23 51 52.8	+1.0
	3.2nm,0.8s,mb4.3						
LPAZ				*e*pP	pP	23 52 20.5	-0.6
LPAZ				*e*PcP	PcP	23 53 11.6	+1.3
LPAZ				ScP	ScP	23 56 49.7	-4.3
TSUM	Tsumeb	50.11	62	*e*P	P	23 51 53.0	-0.4
	3.7nm,0.8s,mb4.4						
SAML	Samuel	54.35	316	*e*P	P	23 52 24.6	-0.3
	7.2nm,1.3s,mb4.5						
SAML				pP	pP	23 52 53.7	-1.0
SAML				*e*sP	sP	23 53 02.4	-6.3
SAML				ScP	ScP	23 57 10.5	-2.9
LSZ	Lusaka	58.85	70	*e*P	P	23 52 56.5	-0.1
	32nm,1.4s,mb5.2						
LSZ				pP	pP	23 53 27.3	+0.4
LSZ				*e*PcP	PcP	23 53 46.0	+1.4
LSZ				ScP	ScP	23 57 51.6	+18
TORD	Torodi Ar. Bea	73.25	30	P	P	23 54 28.9	+0.3
	13nm,0.7s,mb4.9,baz=200,slow=6.4,SNR=94						
TORD				pP	pP	23 54 59.0	-1.0
	2.2nm,0.7s,baz=203,slow=6.6,SNR=2.7						
SDV	Santo Domingo	73.56	316	*e*P	P	23 54 30.9	+0.4
SDV				*e*PcP	PcP	23 54 42.4	-3.3
SDV				*e*pP	pP	23 55 03.1	+1.1
SDV				*e*sP	sP	23 55 15.0	-0.6
SDV				*e*PP	PP	23 57 16.4	+0.4
NWAO	Narrogin (SRO)	86.67	151	P	P	23 55 40.3	-0.4
	6.3nm,0.7s,mb4.6,baz=204,slow=11,SNR=3.4						
ULM	Lac du Bonnet	119.81	317	PKP	PKPdf	00 01 43.4	-3.1
	1.2nm,0.4s,baz=191,slow=4.1,SNR=3.6						
NOA	NORSAR Array B	120.71	21	PKP	PKPdf	00 01 46.4	-1.8
	0.8nm,0.6s,baz=208,slow=1.9,SNR=3.6						
NOA	NORSAR Array B	120.71	21	PKP	PKPdf	00 01 46.4	-1.8
LOHW	Long Hollow	120.97	303	*e*PKPdf	PKPdf	00 01 47.6	-1.2
LOHW				*e*pPKPdf	pPKPdf	00 02 11.2	-12
LOHW				PP	PP	00 03 13.8	-5.7
FRB	Frobisher Bay	123.37	340	PKP	PKPdf	00 01 50.6	-2.7
	4.4nm,0.7s,baz=102,slow=4.7,SNR=6.1						
FINES	FINESS Array B	124.56	28	PKP	PKPdf	00 01 53.6	-2.0
	4.9nm,0.6s,baz=151,slow=1.7,SNR=62						
KOLN	Koldanda	124.61	91	*e*P	PKPdf	00 01 54.5	-1.2
	11nm,0.8s						
KAF	Kangasniemi	125.17	28	*e*pkp	PKPdf	00 01 54.2	-2.6
DMN	Daman	125.33	92	*e*P	PKPdf	00 01 56.5	-0.6
GKN	Gorkha	125.37	91	*e*P	PKPdf	00 01 56.2	-1.0
PKI	Pulchoki	125.47	92	*e*P	PKPdf	00 01 56.6	-0.8
KKN	Kakani	125.57	92	*e*P	PKPdf	00 01 56.8	-0.7
	3.1nm,0.5s						
JIRN	Jiri	125.98	93	*e*P	PKPdf	00 01 57.4	-0.9
	6.3nm,0.3s						
GUN	Gumba	126.00	93	*e*P	PKPdf	00 01 57.6	-0.8
JOF	Joensuu	127.19	30	*e*pkp	PKPdf	00 01 59.0	-1.6
AKTK	Aktyubinsk	127.71	54	PKP	PKPdf	00 01 59.9	-1.8
AKTO	Aktyubinsk	127.71	54	PKP	PKPdf	00 01 59.9	-1.8
	3.6nm,0.9s,baz=182,slow=1.0,SNR=12						
HON	Honolulu	129.41	248	PKPdf	PKPdf	00 02 04.9	0.0
HON				pPKPdf	pPKPdf	00 02 40.6	+1.7
ARCES	ARCESS Array B	131.06	22	PKP	PKPdf	00 02 05.0	-3.0
	4.5nm,0.6s,baz=192,slow=1.9,SNR=35						
ARCES	ARCESS Array B	131.06	22	PKP	PKPdf	00 02 05.0	-3.0
KEV	Kevo	131.55	22	*e*pkp	PKPdf	00 02 06.5	-2.4
BVAR	Borovoye Array	135.19	58	PKP	PKPdf	00 02 14.7	-1.1
	2.8nm,0.7s,baz=209,slow=2.4,SNR=11						
YKA	Yellowknife Ar	135.74	318	PKP	PKPdf	00 02 13.6	-3.1
	1.5nm,0.6s,baz=126,slow=2.3,SNR=25						
MKAR	Makanchi Array	137.37	72	PKhKP		00 02 08.3	
	0.4nm,0.6s,baz=232,slow=3.4,SNR=7.2						
INK	Inuvik	145.39	321	PKPbc	PKPbc	00 02 32.4	-1.9
	8.1nm,0.6s,baz=93,slow=2.4,SNR=14						
ILAR	Eielson Array	149.65	312	PKPbc	PKPbc	00 02 43.2	-2.8
	16nm,0.9s,baz=126,slow=1.5,SNR=69						
ILAR				pPKPbc	pPKPbc	00 03 14.3	-5.6
	0.6nm,0.7s,baz=153,slow=2.0,SNR=0.7						
CBIJ	Chichi jima	150.33	162	PKPbc	PKPbc	00 02 48.5	+1.0
	158nm,0.4s,baz=49,slow=5.8,SNR=4.9						
SONM	Songino Array	151.26	87	PKP	PKPdf	00 02 42.1	-1.7
	0.7nm,0.7s,baz=207,slow=3.3,SNR=4.2						
SONM				PKPbc	PKPbc	00 02 48.8	-0.9
	17nm,0.5s,baz=225,slow=3.4,SNR=100						
IMA2	Indian Mountai	152.66	314	PKPdf	PKPdf	00 02 42.3	-3.5
IMA2				*e*PKPbc	PKPbc	00 02 51.4	-1.5

ISCJB ***04*** *23:46:52.7±0.3, 3606N±002×2706E±003, h10km, Error ellipse: s-maj=4.1km s-min=2.8km az=71.0*
ISK ***04*** *23:46:52.9, 3589N×2696E, h32km, MD3.5*
NEIC ***04*** *23:46:53.0, 36.17N×2704E, h26km, MD3.4(ATH), After ATH.*
ATH ***04*** *23:46:53.0, 36.17N×2704E, h26km, MD3.4/8*
HLW ***04*** *23:46:55.1, 36.12N×27.17E, h21km, Mb3.5*

ISC 04 23:46:53.3±0.7, 3609N±002×2703E±003, h4km±5km, n34, σ0°98/46, 4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.53	9	*e*PB	Pg	23 47 02.5	-0.9
KARP	Karpathos	0.55	168	*e*PN	Pg	23 47 05.5	+1.6
ARG	Arkhangelos	0.90	82	*e*PN	Pg	23 47 10.4	-0.1
ARG				*e*SN	Sg	23 47 22.6	+0.4
BDRM	Kayabasi	1.03	19	*i* P	Pg	23 47 12.3	-0.7
BDRM				*i* S	Sg	23 47 25.9	-0.5
SANT	Santorini	1.30	283	*e*Pn	Pn	23 47 17.2	-0.9
SANT				*e*Sn	Sn	23 47 36.6	+0.7
MLSB	Milas	1.35	26	PN	Pn	23 47 18.9	+0.1
MLSB				SN	Sn	23 47 37.7	+0.6
NPS	Neapolis	1.42	235	*e*PN	Pn	23 47 19.8	+0.1
NPS				*e*SN	Sn	23 47 38.5	-0.3
DALT	Dalyan (Mudla)	1.47	62	PN	Pn	23 47 19.6	-0.8
APE	Apeiranthos	1.55	310	PN	Pn	23 47 20.2	-1.4
APE	Apeiranthos	1.55	310	*e*PN	Pn	23 47 20.7	-0.9
SMG	Samos	1.62	355	*e*PN	Pn	23 47 20.8	-1.8
XRY	Khrisi	1.63	222	*e*PN	Pn	23 47 23.0	+0.4
AYDN	Tasoluk	1.71	23	*i* P	Pg	23 47 25.5	-0.6
AYDN				*i* S	Sg	23 47 48.9	+0.7
AKAS	Kas	2.09	85	*i* P	Pn	23 47 29.4	+0.3
AKAS				*i* S	Sn	23 47 54.3	-1.2
DNZL	Cakiroluk	2.27	45	*i* P	Pn	23 47 33.2	+1.6
DNZL				*i* S	Sg	23 48 05.7	-0.7
BLCB	Balcova	2.29	0	*e*PN	Pn	23 47 32.3	+0.5
IZM	Izmir	2.31	5	*e*PN	Pn	23 47 32.6	+0.5
GOLH	Golhisar	2.34	60	*i* P	Pn	23 47 33.0	+0.6
GOLH				*i* S	Sn	23 48 03.3	+1.8
VAM	Vamos	2.40	254	*e*PB	Pn	23 47 34.0	+0.8
ELL	Elmali	2.42	73	*e*PN	Pn	23 47 33.3	-0.2
GVD	Gavdhos	2.70	243	*e*Pn	Pn	23 47 34.3	-3.1
GVD				*e*S	Sn	23 48 12.4	+1.8
AKS	Akhisar	2.85	12	PG	Sg	23 48 26.9	+2.0
AKS				SG	Sx	23 48 34.2	
ISP	Isparta	3.29	57	*e*P	Pn	23 47 48.7	+3.1
VLI	Veliai	3.36	282	*e*PN	Pn	23 47 46.1	-0.3
BALB	Balikesir	3.61	11	PG	Px	23 48 25.6	
BALB				SG	Sn	23 48 31.6	-1.3
SLUM		4.83	199	P	Pn	23 48 06.7	+0.1
SLUM				S	Sn	23 48 59.2	-3.8
HMAT	Matruh	4.98	179	⇓P	Pn	23 48 08.7	-0.1
SWA1		6.90	190	⇓*e*P	Pn	23 48 35.4	+0.3
SWA1				S	Sn	23 49 48.6	-5.3
SWA2		6.95	191	⇓P	Pn	23 48 36.2	+0.4
AMAG	Maghara	7.50	135	⇓P	Pn	23 48 42.1	-1.3
AWBH		7.91	168	P	Pn	23 48 48.6	-0.4
SUZ		7.91	140	P	Pn	23 48 48.5	-0.5
HFRF	Wahat Farafira	8.98	173	P	Pn	23 49 03.6	-0.1
HKAT	Jabal Katrina	9.57	140	P	Pn	23 49 11.2	-0.6

IDC ***04*** *23:58:55.2±1.1, 1248N×12476E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, MS3.5/2, Ms1 3.6/2, ms1mx3.2/35, Error ellipse: s-maj=88.6km s-min=21.8km az=70.0*
ISCJB ***04*** *23:59:00.1±0.6, 1268N±004×12490E±007, h33km, mb3.9/7, Error ellipse: s-maj=9.2km s-min=5.6km az=7.3*
NEIC ***04*** *23:59:00.6±0.6, 1236N×12451E, h35km, mb4.2/2, Error ellipse: s-maj=34.5km s-min=11.9km az=73.0*
MAN ***04*** *23:59:02.7, 1255N×12468E, h23km, mb3.7, ML4.8, MS2.3*

ISC 04 23:59:00.7±1.3, 1266N±004×12491E±007, h28km±9km, n24, σ1°28/27, mb3.9/7, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataran	0.28	239	*e*P	Pb	23 59 07.2	-0.5
PVCP	Virac	1.19	322	*e*P	Pn	23 59 20.1	-1.4
PLP	Palo	1.48	177	*i* P	Pn	23 59 25.9	+0.5
PLP				*i* S	Sn	23 59 45.5	+1.6
OCLP	Ormoc	1.62	190	*e*P	Pn	23 59 28.9	+1.5
RCP	Roxas	2.38	243	⇑*e*P	Pn	23 59 38.0	+0.3
RCP				*e*S	Sn	00 00 06.3	+0.3
LLP	Lapu-Lapu	2.50	202	⇓*i*P	Pn	23 59 39.5	0.0
LLP				*i* S	Sn	00 00 08.6	-0.4
MSLP	Maasin	2.51	181	*e*P	Pn	23 59 41.3	+1.8
OTRP	Odiongan	2.83	264	*e*P	Pn	23 59 43.4	-0.7
GUIM	Jordan	3.04	229	*e*P	Pn	23 59 47.1	+0.3
TBP	Tagbilaran	3.12	199	*e*P	Pn	23 59 45.3	-2.7
POLP	Polilio Island	3.55	306	*e*P	Pn	23 59 56.2	+2.4
KS15	Wonju Array Si	24.83	6	P	P	00 04 22.6	+2.2
WRA	Warramunga Arr	33.70	164	P	P	00 05 37.1	-2.2
	0.6nm,0.6s,mb3.7,baz=343,slow=9.2,SNR=13						
WB2	Warramunga Ar	33.70	164	*e*P	P	00 05 37.7	-1.6
WB2				*e*S	tx	00 08 26.1	
ASPA	Alice Springs	37.15	166	*e*P	P	00 06 08.9	-0.1
ULN	Ulaanbaatar	38.14	340	*e*P	P	00 06 17.6	+0.3
	1.5nm,0.6s,mb3.9						
SONM	Songino Array	38.33	340	P	P	00 06 19.3	+0.3
	0.7nm,0.6s,mb3.5,baz=157,slow=8.6,SNR=4.6						
STKA	Stephens Creek	47.08	161	P	P	00 07 28.1	-1.9
	1.6nm,0.6s,mb4.1,baz=335,slow=11,SNR=4.8						
MKAR	Makanchi Array	49.33	322	P	P	00 07 46.2	-1.1
	0.4nm,0.7s,mb3.6,baz=116,slow=7.5,SNR=4.7						
MKAR	Makanchi Array	49.33	322	P	P	00 07 46.2	-1.1
ZRNK	Zerenda	59.71	325	*e*P	P	00 09 02.1	-0.5
ZRNK				*e*		00 11 03.8	
BILL	Bilibino	61.49	16	P	P	00 09 17.3	+2.4
	1.1nm,0.3s,mb4.5						
YKA	Yellowknife Ar	92.13	24	P	P	00 12 06.9	-0.5
	0.2nm,0.6s,mb3.6,baz=283,slow=3.8,SNR=5.0						
YKA	Yellowknife Ar	92.13	24	P	P	00 12 06.9	-0.5

WEL 05 00:28:51.7±0.4, 4511S×16737E, h117km±3km, ML3.5/8, 2C-1D, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.40	202	PN	Pn	00 29 08.1	-0.6
DCZ				SN	Sn	00 29 20.4	-1.0
MSZ	Milford Sound	0.59	42	⇑PN	Pn	00 29 10.1	+0.3
MSZ				SN	Sn	00 29 23.6	0.0
MLZ	Mavora Lakes	0.61	113	⇑PN	Pn	00 29 09.9	-0.2
MLZ				SN	Sn	00 29 23.6	-0.3
WHZ	Wether Hill Ro	0.88	153	PN	Pn	00 29 12.2	-0.1
WHZ				SN	Sn	00 29 27.4	-0.4
WKZ	Wanaka	1.20	77	PN	Pn	00 29 15.7	+0.1
WKZ				SN	Sn	00 29 33.3	-0.3
EAZ	Earnscleugh	1.38	96	⇓PN	Pn	00 29 17.4	-0.1
EAZ				SN	Sn	00 29 35.4	-1.7
JCZ	Jackson Bay	1.44	44	PN	Pn	00 29 17.8	-0.3
JCZ				SN	Sn	00 29 36.9	-1.4
LBZ	Lake Benmore	2.13	71	PN	Pn	00 29 25.2	-1.5
LBZ				SN	Sn	00 29 49.9	-3.5
FOZ	Fox Glacier	2.27	48	SN	Sn	00 29 55.8	-0.8
ODZ	Otahua Downs	2.32	90	PN	Pn	00 29 27.9	-1.2
ODZ				SN	Sn	00 29 54.0	-3.6
RPZ	Rata Peaks	2.99	63	PN	Pn	00 29 35.5	-2.2
WVZ	Waitaha Valley	3.17	51	*e*PN	Pn	00 29 37.6	-2.5

ISCJB ***05*** *00:29:46.3±0.6, 4041S±003×17661E±007, h62km±7km, mb3.9/2, Error ellipse: s-maj=10.2km s-min=4.2km az=47.8*
NEIC ***05*** *00:29:48.9, 4034S×17647E, h38km, ML4.4(WEL), After WEL.*
NEIC Felt in Hawke's Bay and Manawatu.
WEL ***05*** *00:29:49.2±0.1, 4033S×17638E, h33km, ML4.4/50, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, MM 4.*
WEL Felt between Hawke's Bay, Wairarapa and Wanganui, maximum reported intensity.
IDC ***05*** *00:29:50.5±4.4, 3991S×17631E, h48km±39km, mb3.9/2, mb1 4.0/2, mb1mx3.8/9, mbtmp4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/20, Error ellipse: s-maj=41.4km s-min=27.2km az=151.0*

ISC 05 00:29:47.0±0.7, 4041S±003×17657E±007, h32km±5km, n98, σ0°78/97, mb3.9/2, 11C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.37	222	⇑P*	Pb	00 29 58.7	+3.2
BFZ	Birch Farm	0.37	222	P	Pb	00 29 58.7	+3.2
PXZ	Pawanui	0.44	31	⇑P*	Pb	00 29 58.7	+2.1
TSZ	Takapari Road	0.58	307	⇑P*	Pb	00 29 57.2	-1.7
TSZ				*e*S*	Sb	00 30 03.3	-3.6
MRZ	Mangatainoka R	0.80	251	⇑P*	Pb	00 30 02.9	+0.5
MRZ	Mangatainoka R	0.80	251	P	Pn	00 30 03.0	+1.0
MTW	Mount Morrison	1.10	227	⇑P*	Pb	00 30 07.5	-0.1
MTW	Mount Morrison	1.10	227	P	Pn	00 30 07.5	+1.3
MOVZ	Moawhango	1.18	328	⇑PN	Pn	00 30 06.9	-0.4
TRWZ	Traveller	1.19	214	P*	Pb	00 30 09.3	+0.2
BKZ	Black Stump Fm	1.24	357	⇓PN	Pn	00 30 08.0	-0.2
PAWZ	Paruwai Farm	1.30	221	P*	Pb	00 30 10.2	-0.7
PAWZ	Paruwai Farm	1.30	221	P	Pn	00 30 10.4	+1.4
WNVZ	Wahianoa	1.31	325	⇑PN	Pn	00 30 09.2	0.0
WNVZ	Wahianoa	1.31	325	P	Pn	00 30 09.2	+0.1
MTVZ	Mangateitei	1.33	320	*e*PN	Pn	00 30 09.3	-0.1
CAW	Cannon Point	1.34	238	⇑P*	Pb	00 30 10.3	-1.1
CAW	Cannon Point	1.34	238	P	Pn	00 30 10.3	+0.9
KIW	Kapiti Island	1.34	250	⇑P*	Pb	00 30 10.3	-1.3
KIW	Kapiti Island	1.34	250	P	Pn	00 30 10.3	+0.8
TUVZ	Tukino	1.34	328	PN	Pn	00 30 09.7	+0.2
TRVZ	Turoa	1.36	324	PN	Pn	00 30 09.9	+0.1
DRZ	Dome Shelter	1.37	325	PN	Pn	00 30 10.3	+0.4
DRZ	Dome Shelter	1.37	325	P	Pn	00 30 10.6	+0.7
WAZ	Wanganui	1.38	298	⇑PN	Pn	00 30 10.5	+0.5
WAZ	Wanganui	1.38	298	P	Pn	00 30 10.6	+0.6
FWVZ	Far West T-bar	1.39	325	PN	Pn	00 30 10.3	+0.1
FWVZ	Far West T-bar	1.39	325	P	Pn	00 30 10.3	+0.1
MSWZ	Moikau Station	1.42	224	*e*PN	Pn	00 30 11.3	+0.8
MSWZ	Moikau Station	1.42	224	P	Pn	00 30 11.5	+0.9
OTVZ	Oturere	1.43	330	*e*PN	Pn	00 30 10.6	-0.1
WPVZ	Whakapapa	1.44	326	PN	Pn	00 30 10.7	-0.1
WPVZ	Whakapapa	1.44	326	P	Pn	00 30 11.2	+0.3
NGZ	Ngauruhoe	1.44	329	*e*PN	Pn	00 30 10.8	-0.1
NGZ	Ngauruhoe	1.44	329	P	Pn	00 30 10.9	0.0
PKVZ	Pokaka	1.46	320	PN	Pn	00 30 11.0	-0.2
KRVZ	Karewarewa	1.50	331	*e*PN	Pn	00 30 12.1	+0.5
WTVZ	West Tongariro	1.50	329	*e*PN	Pn	00 30 11.4	-0.2
WTVZ	West Tongariro	1.50	329	P	Pn	00 30 11.6	-0.1
RITZ	Rihia Road	1.53	339	P	Pn	00 30 12.6	+0.5
HATZ	Hinemaiaia	1.56	346	*e*PN	Pn	00 30 12.3	-0.3
HATZ	Hinemaiaia	1.56	346	P	Pn	00 30 12.4	-0.1
KATZ	Kakaramea	1.58	335	PN	Pn	00 30 12.9	+0.1
KATZ	Kakaramea	1.58	335	P	Pn	00 30 13.2	+0.4
TWVZ	Taurewa	1.60	327	P	Pn	00 30 13.4	+0.4
WEL	Wellington	1.62	237	P	Pn	00 30 14.0	+0.6
BHW	Baring Head	1.63	232	PN	Pn	00 30 13.9	+0.5
BHW	Baring Head	1.63	232	P	Pn	00 30 13.0	-0.5
KNZ	Kokohu	1.63	32	PN	Pn	00 30 13.6	+0.1
KNZ	Kokohu	1.63	32	P	Pn	00 30 13.6	+0.1
MRW	Makara Radio	1.64	239	*e*PN	Pn	00 30 13.9	+0.3
MRW	Makara Radio	1.64	239	P	Pn	00 30 14.1	+0.5
RATZ	Rangitukua	1.66	338	P	Pn	00 30 14.1	+0.2
SNZO	South Karori	1.68	237	*e*PN	Pn	00 30 14.5	+0.3
SNZO	South Karori	1.68	237	P	Pn	00 30 14.6	+0.5
WHTZ	Whakaora	1.80	345	P	Pn	00 30 16.2	+0.3
WATZ	Wairara	1.82	339	P	Pn	00 30 15.8	-0.3
VRZ	Vera Road	1.90	312	P	Pn	00 30 17.4	+0.3
TCW	Tory Channel	1.92	245	⇑PN	Pn	00 30 17.5	0.0
TCW	Tory Channel	1.92	245	P	Pn	00 30 17.5	+0.1
RAEZ	Rainy Point	2.02	303	*e*PN	Pn	00 30 19.3	+0.6
RAEZ	Rainy Point	2.02	303	P	Pn	00 30 19.7	+0.9
PATZ	Paeroa	2.04	353	*e*PN	Pn	00 30 18.8	-0.4
PATZ	Paeroa	2.04	353	P	Pn	00 30 19.0	-0.1
DUWZ	D'Urville Isla	2.05	258	*e*PN	Pn	00 30 19.4	+0.1
TAZ	Tarawera	2.17	359	PN	Pn	00 30 20.6	-0.4
TAZ	Tarawera	2.17	359	P	Pn	00 30 20.6	-0.4
URZ	Urewera	2.19	11	P	Pn	00 30 20.2	-1.0
	26nm,0.3s,baz=228,slow=5.7,SNR=187						
URZ				S	Sn	00 30 39.6	-7.5
	35nm,0.3s,baz=205,slow=12,SNR=19						
URZ	Urewera	2.19	11	PN	Pn	00 30 20.1	-1.1
URZ	Urewera	2.19	11	P	Pn	00 30 20.2	-1.0
MWZ	Matawai	2.20	20	⇓PN	Pn	00 30 20.8	-0.6
MWZ	Matawai	2.20	20	P	Pn	00 30 20.8	-0.5
NEZ	North Egmont	2.22	300	P	Pn	00 30 22.7	+1.1
UTU	Utuhina	2.25	352	P	Pn	00 30 21.7	-0.3
NRZ	Ngariki Road	2.29	297	P	Pn	00 30 23.6	+1.0
EDRZ	Edgecumbe	2.30	3	P	Pn	00 30 21.9	-0.9
HIZ	Hauiti	2.31	324	*e*P	Pn	00 30 22.9	0.0
PKE	Pukeiti	2.33	301	P	Pn	00 30 24.3	+1.2
NWEZ	Newall Road	2.37	298	P	Pn	00 30 24.7	+1.0
BSWZ	Blackbirch Sta	2.42	237	P	Pn	00 30 23.2	-1.1
NNZ	Nelson	2.55	251	P	Pn	00 30 26.2	0.0
PUZ	Puketiti	2.68	30	P	Pn	00 30 27.1	-0.8
KHZ	Kahutara	3.04	228	P	Pn	00 30 32.1	-0.7
THZ	Tophouse	3.08	243

CHOJ S **Sb** **00 45 22.5 +0.2**
JCN Nagara 0.87 250 P **Pb** **00 45 26.9 -0.5**
JYT Yasato 0.96 302 P **Pn** **00 45 27.3 -1.3**
BSO4 Boso 4 1.02 224 P **Pn** **00 45 28.7 -0.8**
JHO Hitachi 1.02 330 P **Pn** **00 45 29.2 -0.3**
BSO3 Boso 3 1.08 212 P **Pn** **00 45 29.4 -0.9**
BSO3 *e*S **Sn** **00 45 43.3 -1.2**
BSO1 Boso 1 1.09 190 P **Pn** **00 45 30.9 +0.5**
BSO1 *e*S **Sn** **00 45 46.2 +1.6**
JAG Ashikaga 1.58 297 P **Pn** **00 45 36.5 -0.7**
MJAR Matsushiro Arr 2.56 289 Pn **Pn** **00 45 50.4 -0.2**
4.2nm,0.3s,baz=91,slow=8.6,SNR=43
MJAR Sn **Sn** **00 46 21.5 +0.7**
2.6nm,0.3s,baz=240,slow=32,SNR=4.5
MJAR Matsushiro Arr 2.56 289 Pn **Pn** **00 45 50.4 -0.2**
MJAR Sn **Sn** **00 46 21.5 +0.7**
MAJO Matsushiro 2.56 289 *e*P **Pn** **00 45 50.6 0.0**
MAJO *e*Sn **Sn** **00 46 24.2 +3.3**
MAT Matsushiro 2.56 289 P **Pn** **00 45 50.9 +0.3**
MAT *e*S **Sn** **00 46 21.1 +0.2**
MAT Matsushiro 2.56 289 *e*P **Pn** **00 45 51.0 +0.4**
MAT S **Sn** **00 46 21.0 +0.1**
BJT Baijiatuau 20.20 290 P **P** **00 49 38.9 -4.7**
7.7nm,0.6s
MA2 Magadan 24.67 12 P **P** **00 50 30.0 +0.6**
1.9nm,0.3s,mb4.1
MKAR Makanchi Array 44.68 303 P **P** **00 53 21.0 -0.5**
0.3nm,0.7s,mb3.3,baz=85,slow=7.2,SNR=4.6
ZRNK Zerenda 52.17 313 P **P** **00 54 19.3 +0.2**
0.7nm,0.6s,mb3.8
WRA Warramunga Arr 55.74 188 P **P** **00 54 45.1 -0.2**
0.6nm,0.9s,mb3.6,baz=3.7,slow=7.4,SNR=4.8
MBWA Marble Bar 60.12 203 P **P** **00 55 16.7 +0.7**
13nm,1.2s,mb4.8
MBWA pP pP 00 55 28.7 +4.6

ISCJB ***05*** *00:49:52.2±1.8, 14.1N±03×914E±04, h33km, mb3.6/2, Error ellipse: s-maj=66.0km s-min=15.9km az=114.6*
NEIC ***05*** *00:49:54.7±1.8, 1422N×9148E, h35km, mb3.8/3, Error ellipse: s-maj=66.3km s-min=15.8km az=57.0*
IDC ***05*** *00:49:56.2±1.7, 15.18N×9359E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=96.7km s-min=28.7km az=50.0*
ISC 05 00:49:55.0±1.9, 142N±03×915E±04, h35km, n10, σ0°93/9, mb3.6/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**14.26**	**341**	*e*P	**Pn**	**00 53 13.0**	**-1.3**
PKI	**Pulchoki**	**14.44**	**338**	*e*P	**Pn**	**00 53 16.2**	**-0.6**
DMN	**Daman**	**14.59**	**337**	*e*P	**Pn**	**00 53 18.6**	**-0.2**
11nm,0.5s							
KKN	**Kakani**	**14.69**	**338**	*e*P	**Pn**	**00 53 19.6**	**-0.6**
GKN	**Gorkha**	**15.12**	**336**	*e*P	**Pn**	**00 53 26.2**	**+0.3**
8.5nm,0.3s							
KOLN	**Koldanda**	**15.35**	**333**	*e*P	**Pn**	**00 53 29.9**	**+1.0**
6.6nm,0.6s							
LSA	**Lhasa**	**15.43**	**359**	P	**Pn**	**00 53 30.1**	**+0.2**
2.1nm,0.4s							
MKAR	**Makanchi Array**	**33.38**	**349**	P	**P**	**00 56 32.1**	**+2.1**
0.5nm,0.8s,mb3.5,baz=166,slow=7.7,SNR=7.1							
WRA	**Warramunga Arr**	**54.14**	**128**	P	**P**	**00 59 16.1**	**-0.5**
0.8nm,0.8s,mb3.7,baz=311,slow=8.2,SNR=6.7							
BRTR	**Keskin Array B**	**56.38**	**308**	P	pP	00 59 47.0	+3.7
0.3nm,0.7s,baz=101,slow=6.3,SNR=3.9							

IDC ***05*** *00:50:08.8±1.0, 152N×12550E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=76.6km s-min=22.6km az=66.0*
ISCJB ***05*** *00:50:12.2±1.1, 16N±02×1254E±05, h33km, mb3.9/4, Error ellipse: s-maj=80.6km s-min=18.0km az=142.1*
ISC 05 00:50:14.3±1.1, 17N±02×1257E±05, h35km, n7, σ1°55/6, mb3.9/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**159**	P	**P**	**00 55 16.6**	**0.0**
1.7nm,0.4s,mb3.9,baz=334,slow=11,SNR=29							
WB2	**Warramunga Arr**	**23.07**	**159**	*e*P	**P**	**00 55 16.4**	**-0.2**
ASPA	**Alice Springs**	**26.39**	**163**	*e*P	**P**	**00 55 49.5**	**+2.2**
STKA	**Stephens Creek**	**36.59**	**157**	P	**P**	**00 57 15.1**	**-1.8**
2.6nm,0.4s,mb4.5,baz=332,slow=8.9,SNR=3.6							
MKAR	**Makanchi Array**	**58.70**	**326**	P	**P**	**01 00 08.1**	**-0.2**
0.4nm,0.5s,mb3.7,baz=120,slow=8.3,SNR=12							
MKAR				PcP	PcP	01 00 58.9	+0.9
0.9nm,0.8s,baz=121,slow=4.4,SNR=5.4							
ILAR	**Eielson Array**	**87.40**	**25**	P	**P**	**01 02 58.2**	**+0.3**
0.3nm,0.6s,mb3.7,baz=255,slow=5.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**122.58**	**287**	PKP	PKPdf	01 09 07.6	+1.6
0.6nm,0.7s,baz=16,slow=1.3,SNR=4.2							

SZGRF ***05*** *01:08:30.7, 1948S×17806W, h33km, Fiji Islands region*
MOS ***05*** *01:09:34.0±1.1, 1758S×17864W, h550km, mb4.4/4, Error ellipse: s-maj=19.1km s-min=13.1km az=151.6*
BJI ***05*** *01:09:34.5, 1780S×17850W, h554km, mB4.7, mb4.4*
ISCJB ***05*** *01:09:34.5±0.9, 1780S±007×17857W±007, h568km±11km, mb4.3/28, Error ellipse: s-maj=12.0km s-min=7.6km az=99.1*
NEIC ***05*** *01:09:34.5±0.8, 1784S×17851W, h555km±9km, mb4.1/5, Error ellipse: s-maj=15.7km s-min=8.7km az=143.0*
IDC ***05*** *01:09:34.7±1.1, 1778S×17851W, h560km±12km, mb3.9/13, mb1 4.2/15, mb1mx4.1/19, mbtmp4.8/15, Error ellipse: s-maj=13.2km s-min=9.7km az=140.0*
ISC 05 01:09:35.3±0.8, 1780S±007×17853W±007, h564km±9km, n154, σ1°07/62, mb4.3/28, 17C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**60**	P	**P**	**01 11 27.5**	**-1.6**
24nm,0.3s,baz=238,slow=2.7,SNR=8.6							
FUNA	**Funafuti**	**9.47**	**346**	P	**P**	**01 11 49.5**	**+1.5**
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**01 12 42.6**	**+0.7**
3.7nm,0.3s,baz=64,slow=18,SNR=23							
NOUC	**Port Laguerre**	**14.88**	**251**	*e*P	**P**	**01 12 41.2**	**-2.1**
URZ	**Urewera**	**20.74**	**190**	P	**P**	**01 13 36.0**	**-1.3**
6.7nm,0.3s,baz=70,slow=1.4,SNR=18							
URZ				S	**S**	**01 16 51.8**	**-1.0**
12nm,0.9s,baz=51,slow=13,SNR=5.2							
SNZO	**South Karori**	**24.14**	**193**	*e*P	**P**	**01 14 07.0**	**-0.6**
57nm,0.9s,mb5.2							
CTA	**Charters Tower**	**33.35**	**260**	⇓*i*P	**P**	**01 15 27.8**	**+0.5**
25nm,0.8s,mb4.8							
CTA	**Charters Tower**	**33.35**	**260**	P	**P**	**01 15 27.2**	**0.0**
25nm,0.6s,mb4.9,baz=89,slow=10,SNR=50							
CTAO	**Charters Tower**	**33.35**	**260**	P	**P**	**01 15 27.1**	**-0.2**
CNB	**Canberra Magne**	**33.40**	**232**	⇓*i*P	**P**	**01 15 29.4**	**+1.7**
37nm,0.6s,mb5.1							
PMG	**Port Moresby**	**34.32**	**279**	P	**P**	**01 15 37.0**	**+1.6**
114nm,0.8s,mb5.5,baz=86,slow=6.6,SNR=30							
TOO	**Toolangi**	**37.15**	**231**	⇓*i*P	**P**	**01 16 00.1**	**+1.3**
19nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**38.58**	**241**	⇓*i*P	**P**	**01 16 09.9**	**-0.5**
22nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**01 16 09.9**	**-0.5**
25nm,0.5s,mb5.0,baz=91,slow=9.5,SNR=73							
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**01 16 10.0**	**-0.4**
WB2	**Warramunga Arr**	**44.52**	**259**	*e*P	**P**	**01 16 57.0**	**-0.2**
WB2				*e*S	**S**	**01 22 41.6**	**-10**
WB2				*e*		01 25 11.0	
WRA	**Warramunga Arr**	**44.54**	**259**	P	**P**	**01 16 57.1**	**-0.2**
23nm,0.5s,mb5.0,baz=94,slow=6.8,SNR=788							
WRA				ScP	ScP	01 21 28.5	+1.8
2.0nm,0.7s,baz=86,slow=4.4,SNR=8.3							
WRA				S	**S**	**01 22 53.3**	**+1.2**
0.8nm,0.7s,baz=99,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**01 16 59.5**	**+0.8**
baz=88,slow=8.3							
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**01 16 59.5**	**+0.8**
ASPA	**Alice Springs**	**44.71**	**254**	*e*P	**P**	**01 16 59.2**	**+0.5**
ASPA				*e*S	**S**	**01 22 53.0**	**-1.6**
ASPA				*e*		01 25 54.3	
FITZ	**Fitzroy Crossi**	**52.93**	**260**	*e*P	**P**	**01 18 00.0**	**+0.6**
5.4nm,0.3s,mb4.4							
KLBR	**Kellerberrin**	**58.77**	**243**	⇓*i*P	**P**	**01 18 39.6**	**-0.1**
16nm,0.7s,mb4.4							
VNDA	**Vanda**	**60.55**	**185**	P	**P**	**01 18 52.7**	**+1.2**
3.2nm,0.8s,mb3.7,baz=335,slow=6.8,SNR=9.2							
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	**P**	**01 19 36.2**	**-0.9**
1.3nm,0.8s,mb3.5,baz=157,slow=5.6,SNR=4.1							
SSE	**Sheshan**	**75.58**	**310**	P	**P**	**01 20 23.3**	**+0.7**
SSE				AMB	AMB		
comp=Z,14nm,0.8s,mb4.4							
SSE				AMB	AMB		
comp=Z,121nm,5.3s							
NJ2 Nanjing 77.78 310 *e*P **P** **01 20 32.6 -2.0**							
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.2							
CMB Columbia Colle 77.84 43 P **P** **01 20 34.8 -0.2**							
CMB				pmax	pmax		
comp=Z,5.0nm,0.9s,mb3.8							
CMB Columbia Colle 77.84 43 P **P** **01 20 34.8 -0.2**							
comp=Z,4.6nm,0.9s,mb3.8							
MDJ Mudanjiang 78.03 325 P **P** **01 20 36.9 +0.9**							
MDJ				AMB	AMB		
comp=Z,8.0nm,2.0s,mb3.7							
MDJ				AMB	AMB		
comp=Z,121nm,5.1s							
DAC Darwin (Calif) 78.75 46 P **P** **01 20 40.1 +0.2**							
GLA Glamis 79.07 50 P **P** **01 20 42.9 +1.4**							
NVAR Mina Array Bea 79.42 44 P **P** **01 20 44.1 +0.7**							
comp=Z,4.4nm,0.7s,mb3.9,baz=230,slow=10,SNR=20							
MNV Mina 79.53 44 P **P** **01 20 44.6 +0.7**							
MNV				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.0							
MNV Mina 79.53 44 P **P** **01 20 44.5 +0.6**							
comp=Z,6.9nm,1.0s,mb3.9							
CN2 Changchun 79.86 322 *e*P **P** **01 20 44.8 -0.9**							
CN2				*e*S	S	01 30 00.2	-2.9
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.1							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
SLKM Skilak Lake 81.31 14 P **P** **01 20 54.7 +1.5**							
SLKM				*e*PcP	PcP	01 20 58.7	+1.2
TUC Tucson 81.72 52 P **P** **01 20 56.5 +1.2**							
TUC				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.0							
TUC Tucson 81.72 52 P **P** **01 20 56.5 +1.2**							
comp=Z,5.8nm,1.0s,mb4.0							
SEY Seymchan 83.64 347 ⇑*e*P **P** **01 21 03.8 -1.1**							
HLID Hailey 84.62 41 P **P** **01 21 10.2 +0.4**							
comp=Z,3.8nm,0.8s,mb4.0							
TMUT Trail Mountain 84.64 46 P **P** **01 21 09.9 +0.1**							
ILAR Eielson Array 85.80 13 P **P** **01 21 13.2 -2.2**							
comp=Z,1.6nm,0.4s,mb4.0,baz=223,slow=5.3,SNR=50							
TXAR Lajitas Array 86.03 58 P **P** **01 21 18.0 +1.5**							
comp=Z,6.2nm,0.7s,mb4.3,baz=217,slow=6.1,SNR=79							
ANMO Albuquerque 86.12 52 *i* P **P** **01 21 16.6 -0.3**							
REDW Red Top Meadow 86.79 43 P **P** **01 21 20.7 +0.6**							
SNOW Snow King Moun 86.90 42 P **P** **01 21 21.1 +0.5**							
LOHW Long Hollow 87.06 42 P **P** **01 21 21.1 -0.3**							
HHC Hu-ho-hao-te 87.11 314 *e*P **P** **01 21 21.3 -0.3**							
HHC				AP	pP	01 23 29.0	+5.1
HHC				PP	PP	01 24 58.9	+3.3
HHC				S		01 31 09.3	
HHC				SS	SS	01 37 15.0	+0.6
HHC				AMB	AMB		
comp=Z,7.0nm,1.4s,mb4.1							
HHC				AMB	AMB		
comp=Z,70nm,9.6s							
HHC				LR	LR		
comp=N,110nm,13.2s							
HHC				LR	LR		
comp=E,116nm,13.2s							
HHC				LR	LR		
comp=Z,120nm,14.4s							
PDAR Pinedale Array 87.35 43 P **P** **01 21 22.3 -0.4**							
comp=Z,3.1nm,0.5s,mb4.2,baz=214,slow=5.3,SNR=28							
SYO Syowa Base 89.24 193 ⇓*e*P **P** **01 21 30.3 -1.2**							
SYO Syowa Base 89.24 193 ⇓*e*pP pP 01 23 34.2 -0.3							
YAK Yakutsk 89.43 338 ⇑*e*P **P** **01 21 30.6 -1.8**							
LZH Lanzhou 90.73 308 *e*P **P** **01 21 38.0 -0.4**							
LZH				AP	pP	01 23 47.0	+5.4
LZH				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.7							
LZH				AMB	AMB		
comp=Z,40nm,4.0s							
VNA3 Neumayer Olymp 90.86 176 ⇑*i*P **P** **01 21 38.9 -0.1**							
VNA3				*e*		01 21 42.8	
VNA2 Neumayer--Watz 91.30 177 ⇑*i*P **P** **01 21 40.7 -0.3**							
VNA2				*e*		01 21 41.4	
VNA2				*e*		01 21 44.0	
VNA2				*e*		01 25 25.4	
VNA2				*e*		01 28 29.6	
VNA2				*e*		01 28 38.1	
PLCA Paso Flores 91.49 134 P **P** **01 21 43.6 +1.7**							
comp=Z,4.0nm,1.0s,mb4.3,baz=217,slow=5.9,SNR=3.3							
INK Inuvik 91.81 15 P **P** **01 21 41.6 -1.8**							
INK				pmax	pmax		
comp=Z,19nm,1.5s							
INK Inuvik 91.81 15 P **P** **01 21 41.6 -1.8**							
comp=Z,19nm,1.5s,mb4.9							
YKA Yellowknife Ar 94.28 25 P **P** **01 21 53.1 -1.6**							
comp=Z,1.1nm,0.8s,mb4.0,baz=247,slow=4.4,SNR=22							
MKAR Makanchi Array 108.97 314 PKiKP PKiKP 01 26 59.5 -1.5							
comp=Z,0.8nm,0.5s,baz=198,slow=0.4,SNR=31							
KSH Kashi 112.92 306 *e*PKP PKiKP 01 27 09.3 +0.8							
KSH				*e*XPKP		01 30 07.0	
KSH				PP	PP		
comp=Z,150nm,4.0s							
ZRNK Zerenda 117.52 321 PKIKP PKPdf 01 27 15.6 -1.8							
ARU Arti 122.69 326 *e*PKIKP PKPdf 01 27 25.8 -1.5							
ARCES ARCESS Array B 126.18 350 PKP PKPdf 01 27 32.1 -1.8							
comp=Z,1.6nm,0.6s,baz=71,slow=1.4,SNR=12							
BOSA Boshof 128.45 207 PKP PKPdf 01 27 39.8 +1.5							
comp=Z,3.2nm,1.0s,baz=126,slow=4.0,SNR=3.5							
JOF Joensuu 130.41 343 *e*pkp PKPdf 01 27 39.1 -2.9							
KAF Kangasniemi 132.43 344 *e*pkp PKPdf 01 27 39.3 -6.5							
FINES FINESS Array B 133.05 344 PKP PKPdf 01 27 45.6 -1.4							
comp=Z,0.5nm,0.5s,baz=45,slow=4.1,SNR=9.5							
FINES				SKPbc	SKPbc	01 30 21.3	-1.1
comp=Z,1.7nm,0.8s,baz=90,slow=1.9,SNR=6.1							
FINES FINESS Array B 133.05 344 ⇑*i*PKIKP PKPdf 01 27 46.5 -0.5							
OBN Obninsk 134.14 333 *i* PKIKP PKPdf 01 27 48.6 -0.4							
OBN				*e*		01 30 23.6	
OBN				pmax	pmax		
comp=Z,5.0nm,1.0s							
NOA NORSAR Array B 136.25 353 PKP PKPdf 01 27 53.1 +0.1							
comp=Z,0.5nm,0.5s,baz=14,slow=3.7,SNR=3.3							
BSEG Bad Segeberg 143.28 351 *e*PKPbc PKPdf 01 28 03.4 -2.2							
DCN Croghan 143.88 9 ⇑*i*P PKPdf 01 28 02.6 -4.1							
KWP Kalwaria 143.92 336 *e*PKIKP PKPdf 01 28 05.5 -1.3							
DLF Lyons Farm 144.03 8 ⇑*i*P PKPdf 01 28 03.2 -3.7							
RUE Ruedersdorf 144.06 347 *e*PKPbc PKPdf 01 28 05.8 -1.2							
OJC Ojcow 144.47 340 *e*PKP PKPdf 01 28 07.0 -0.7							
BR131 Keskin Array S 144.62 315 *e*PKPbc PKPdf 01 28 08.1 +0.1							
BRTR Keskin Array B 144.62 315 PKP PKPdf 01 28 08.2 +0.3							
comp=Z,3.4nm,0.7s,baz=135,slow=4.2,SNR=31							
BRTR				SKPbc	SKPbc	01 30 54.3	+0.1
comp=Z,1.0nm,0.9s,baz=117,slow=2.8,SNR=5.2							
BRTR Keskin Array B 144.62 315 ⇑*i*PKIKP PKPdf 01 28 08.0 0.0							
STHS Stebnicka Huta 144.64 338 *e*PKP PKPdf 01 28 08.1 +0.1							
KOLS Kolonicke sedl 144.65 336 *e*PKP PKPdf 01 28 08.2 +0.2							
KSP Ksiaz 144.97 344 *e*PKIKP PKPdf 01 28 08.4 -0.2							
NIE Niedzica 144.97 338 *e*PKP PKPdf 01 28 09.3 +0.7							
CRVS Cervenica-Dubn 144.99 337 *i* PKP PKPdf 01 28 09.7 +1.1							
IBBN Ibbenburen 145.21 353 *e*PKPbc PKPbc 01 28 09.0 -1.0							
CLZ Clausthal 145.31 350 *e*PKPbc PKPbc 01 28 09.8 -0.5							
CLL Collm 145.33 347 *e*PKPbc PKPbc 01 28 09.6 -0.8							
CLL Collm 145.33 347 ⇑*i*PKPbc PKPbc 01 28 09.5 -0.9							
comp=Z,15nm,0.6s							
CLL Collm 145.33 347 ⇑*i*PKIKP PKPdf 01 28 09.5 +0.3							
CLL				pmax	pmax		
comp=Z,15nm,0.6s							
UPC Upice 145.35 344 *e*PKP PKPdf 01 28 10.1 +0.9							
DPC Dobruska-Polom 145.41 343 *e*PKP PKPdf 01 28 10.5 +1.2							
BRG Berggiesshubel 145.53 346 *e*PKPbc PKPbc 01 28 10.2 -0.8							
BRG Berggiesshubel 145.53 346 *e*PKIKP PKPdf 01 28 10.1 +0.6							
BRG				pmax	pmax		
comp=Z,5.0nm,0.8s							
MORC Moravsky Berou 145.57 341 PKIKP PKPdf 01 28 10.5 +0.9							
KECS Kecovo 145.70 337 *i* P PKPdf 01 28 11.0 +1.2							
PVCC Panska Ves 145.70 345 *e*PKP PKPdf 01 28 11.0 +1.2							
BUG Bochum--Univer 146.12 353 *e*PKPbc PKPbc 01 28 11.5 -1.1							
PRU Pruhonice 146.21 345 ⇑*e*PKPB 01 28 12.3							
MOX Moxa 146.24 348 *e*PKPbc PKPbc 01 28 12.0 -1.0							
VYHS Vyhne 146.27 339 *e*PKP PKPdf 01 28 12.7 +1.9							
WERD Werda 146.29 347 *e*PKPbc PKPbc 01 28 12.5 -0.6							
NKC Novy Kostel 146.46 347 ⇑*e*PKPB 01 28 12.9							
TREC Trest 146.59 343 *e*PKP PKPdf 01 28 13.4 +2.1							
ROTZ Rotzenmuhle 146.95 347 *e*PKPbc PKPbc 01 28 14.5 -0.4							
MEM Membach 147.06 355 PKPbc PKPbc 01 28 14.1 -1.1							
ZST Bratislava 147.10 341 *e*PKP PKPdf 01 28 15.0 +2.9							
TNS Taunus Mts 147.17 352 *e*PKPbc PKPbc 01 28 14.9 -0.6							
GRF Grafenberg Arr 147.22 348 *e*PKPbc PKPbc 01 28 14.9 -0.7							
KHC Kasperske Hory 147.24 345 *e*PKPDF PKPdf 01 28 11.8 -0.6							
KHC				⇑*e*PKPB		01 28 15.3	
SNF Seneffe 147.29 357 PKPbc PKPbc 01 28 15.2 -0.5							
SNF				PKPab	PKPab	01 28 18.1 -1.4	
WET Wettzell 147.39 346 *e*PKPbc PKPbc 01 28 15.4 -0.6							
GEC2 GERESS Array S 147.47 345 *e*PKPbc PKPbc 01 28 15.7 -0.5							
GERES GERESS Array B 147.47 345 PKPbc PKPbc 01 28 15.7 -0.5							
comp=Z,5.2nm,0.5s,baz=21,slow=3.0,SNR=74							
GIVF Givet 147.66 356 *e*PKP1 PKPbc 01 28 16.1 -0.6							
comp=Z,26nm,0.7s							
DOU Dourbes 147.68 356 PKPbc PKPbc 01 28 16.2 -0.6							
BAIF Baives 147.74 357 *e*PKP1 PKPbc 01 28 16.3 -0.6							
comp=Z,24nm,0.8s							
WLF Walferdange 147.99 354 *e*PKPbc PKPbc 01 28 17.5 0.0							
WLF Walferdange 147.99 354 PKPbc PKPbc 01 28 17.5 0.0							
WLF				PKPab	PKPab	01 28 21.1 -1.3	
STU Stuttgart 148.47 350 *e*PKPbc PKPbc 01 28 18.4 -0.4							
FUR Furstenfeldbru 148.67 347 *e*PKPbc PKPbc 01 28 18.7 -0.5							
BFO Black Forest 149.03 351 *e*PKPbc PKPbc 01 28 19.4 -0.7							
FLN La Foliniere 149.07 3 *e*PKP1 PKPbc 01 28 19.3 -0.9							
comp=Z,40nm,0.9s							
CDF Champ du Feu 149.10 352 *e*PKP1 PKPbc 01 28 19.7 -0.6							
comp=Z,12nm,0.6s							
KBA Koelnbreinsper 149.20 344 ⇑*i*PKPbc PKPbc 01 28 19.4 -1.2							
comp=Z,5.2nm,0.4s							
MEZF Maizieres J'vi 149.24 355 *e*PKP1 PKPbc 01 28 20.2 -0.4							
comp=Z,7.7nm,0.5s							
LDF La Druitiere 149.25 2 *e*PKP1 PKPbc 01 28 19.5 -1.2							
comp=Z,13nm,0.6s							
WATA Walderalm 149.39 346 ⇓*i*PKPbc PKPbc 01 28 20.2 -0.8							
comp=Z,4.7nm,0.4s							
GRR Gorron 149.43 3 *e*PKP1 PKPbc 01 28 20.2 -0.9							
comp=Z,19nm,0.6s							
DOBS Dobrina 149.43 341 *i* PKPbc PKPbc 01 28 20.1 -1.0							
WTTA Wattenberg 149.44 346 ⇑*i*PKPbc PKPbc 01 28 20.6 -0.5							
comp=Z,12nm,0.5s							
SGMF Saint Gilles 149.44 5 *e*PKP1 PKPbc 01 28 20.0 -1.1							
comp=Z,35nm,0.9s							
SQTA Sankt Quirin 149.58 347 ⇓*i*PKPbc PKPbc 01 28 20.8 -0.6							
comp=Z,8.0nm,0.5s							
HAU Haudompre 149.61 354 *e*PKP1 PKPbc 01 28 21.7 +0.2							
comp=Z,12nm,0.6s							
CRES Cresnjev 149.72 340 *i* PKPbc PKPbc 01 28 21.1 -0.7							
HINF Hinteralfeld 149.74 353 *e*PKP1 PKPbc 01 28 20.9 -0.9							
comp=Z,12nm,0.8s							
DAVA Damuels 149.78 349 ⇑*i*PKPbc PKPbc 01 28 21.3 -0.6							
comp=Z,8.0nm,0.8s							
LJU Ljubljana 149.81 342 *i* PKPbc PKPbc 01 28 21.4 -0.6							
LOR Lormes 150.54 357 *e*PKP1 PKPbc 01 28 23.0 -0.7							
comp=Z,20nm,0.5s							
HYF Humbligny 150.59 358 *e*PKP1 PKPbc 01 28 23.5 -0.3							
SSF Saint Saulge 150.77 357 *e*PKP1 PKPbc 01 28 23.6 -0.6							
comp=Z,18nm,0.6s							
CABF La Chapelle 151.01 353 *e*PKP1 PKPbc 01 28 24.7 -0.1							
comp=Z,15nm,0.7s							
AVF Avril sur Loir 151.04 357 *e*PKP1 PKPbc 01 28 23.8 -1.0							
comp=Z,3.9nm,0.5s							
MFF Saint Martin d 151.24 2 *e*PKP1 PKPbc 01 28 24.4 -0.9							
comp=Z,14nm,0.7s							
BGF Bois d'Agland 151.30 358 *e*PKP1 PKPbc 01 28 24.7 -0.7							
comp=Z,11nm,0.5s							
TCF Toulx Ste Croi 151.58 359 *e*PKP1 PKPbc 01 28 25.2 -0.8							
comp=Z,8.6nm,0.8s							
LPL La Plagne 152.01 352 *e*PKP1 PKPbc 01 28 27.2 +0.2							
LPG La Plagne 152.03 352 *e*PKP1 PKPbc 01 28 27.1 +0.1							
comp=Z,8.9nm,0.9s							
RJF Les Rejaudoux 152.57 360 *e*PKP1 PKPbc 01 28 27.4 -0.8							
comp=Z,5.4nm,0.5s							
ORIF Oris-en-Rattie 152.71 353 *e*PKP1 PKPbc 01 28 27.6 -0.9							
MBDF Montbardon 152.78 352 *e*PKP1 PKPbc 01 28 28.2 -0.5							
comp=Z,11nm,0.7s							
VIVF Saint-Julien-l 152.89 355 *e*PKP1 PKPbc 01 28 28.5 -0.4							
CAF Calviac 152.95 359 *e*PKP1 PKPbc 01 28 28.4 -0.6							
TORD Torodi Ar. Bea 175.37 183 PKP PK

comp=Z,2.8nm,0.6s,mb4.4,baz=335,slow=10,SNR=7.7
PLCA LR LR 01 38 52.8
comp=Z,208nm,21.4s,MS3.8,baz=224,slow=33
PLCA Paso Flores 34.52 173 *e*P **P 01 26 51.1 +0.3**
PLCA pmax pmax
comp=Z,3.0nm,0.5s
PLCA Paso Flores 34.52 173 *e*P **P 01 26 51.1 +0.3**
comp=Z,2.8nm,0.5s,mb4.5
TXAR Lajitas Array 44.63 324 P **P 01 28 14.9 -0.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=148,slow=9.1,SNR=21
TXAR PcP PcP 01 29 57.1 -0.1
comp=Z,0.6nm,0.6s,baz=141,slow=5.8,SNR=5.0
TXAR LR LR 01 48 14.2
comp=Z,70nm,21.3s,MS3.5,baz=10.0,slow=38
TXAR Lajitas Array 44.63 324 P **P 01 28 14.9 -0.1**
TXAR 01 29 57.2
WMOK Wichita Mounta 46.40 333 *e*P **P 01 28 28.2 -0.7**
WMOK *e**PP pP 01 28 38.0 -1.4
WMOK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
WMOK Wichita Mounta 46.40 333 *e*P **P 01 28 28.2 -0.8**
comp=Z,5.7nm,1.1s,mb4.4
WMOK *e*pP pP 01 28 38.0 -1.4
ANMO Albuquerque 50.39 327 *e*P **P 01 28 59.5 -0.2**
ANMO *e**PP pP 01 29 11.1 +0.9
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 50.39 327 *e*P **P 01 28 59.5 -0.2**
comp=Z,5.7nm,0.9s,mb4.6
ANMO *e*pP pP 01 29 11.1 +0.8
FRNY Flat Rock 50.98 2 *e*P **P 01 29 04.7 +0.5**
FRNY *e*pP pP 01 29 14.4 -0.3
SDCO Great Sand Dun 52.01 330 *e*P **P 01 29 12.2 +0.3**
comp=Z,3.3nm,0.7s,mb4.4
SDCO *e*pP pP 01 29 22.1 -0.3
PDAR Pinedale Array 57.85 331 P **P 01 29 53.1 -0.9**
comp=Z,0.9nm,0.6s,mb4.0,baz=104,slow=6.1,SNR=6.4
PDAR PcP PcP 01 30 45.6 -0.7
comp=Z,1.2nm,0.6s,baz=124,slow=5.3,SNR=5.5
ULM Lac du Bonnet 59.07 345 P **P 01 30 00.5 -2.1**
comp=Z,6.7nm,0.6s,mb4.8,baz=162,slow=7.0,SNR=16
ULM pP pP 01 30 10.6 -2.7
comp=Z,5.2nm,0.6s,baz=160,slow=8.6,SNR=6.7
ULM PcP PcP 01 30 50.2 -0.9
comp=Z,1.7nm,0.7s,baz=152,slow=3.1,SNR=4.1
ULM Lac du Bonnet 59.07 345 P **P 01 30 00.5 -2.1**
ULM pP pP 01 30 10.6 -2.7
ULM PcP PcP 01 30 50.2 -0.9
NVAR Mina Array Bea 59.68 322 P **P 01 30 07.0 +0.2**
comp=Z,0.8nm,0.6s,mb4.0,baz=196,slow=6.4,SNR=6.2
NVAR PcP PcP 01 30 53.3 -0.2
comp=Z,1.5nm,0.7s,baz=160,slow=4.0,SNR=5.4
SCHQ Schefferville 61.39 6 P **P 01 30 17.5 -1.0**
comp=Z,2.2nm,0.7s,mb4.4,baz=225,slow=19,SNR=5.6
SCHQ pP pP 01 30 28.1 -1.1
comp=Z,3.3nm,0.7s,baz=189,slow=6.3,SNR=3.9
YKA Yellowknife Ar 74.88 342 P **P 01 31 41.8 -1.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=141,slow=6.0,SNR=82
YKA pP pP 01 31 51.9 -2.1
comp=Z,1.3nm,0.6s,baz=142,slow=5.9,SNR=10
YKA Yellowknife Ar 74.88 342 P **P 01 31 41.9 -1.2**
YKA pP pP 01 31 51.9 -2.1
TORD Torodi Ar. Bea 79.08 75 P **P 01 32 07.0 +0.3**
comp=Z,2.6nm,0.5s,mb4.4,baz=290,slow=6.2,SNR=45
TORD pP pP 01 32 16.3 -1.4
comp=Z,4.5nm,0.7s,baz=292,slow=4.9,SNR=14
ILAR Eielson Array 87.89 336 P **P 01 32 50.5 -1.4**
comp=Z,1.9nm,0.8s,mb4.3,baz=130,slow=3.0,SNR=17
ILAR pP pP 01 33 01.4 -1.6
comp=Z,1.1nm,0.8s,baz=134,slow=3.4,SNR=5.3
VNDA Vanda 90.53 191 P **P 01 33 03.9 -0.4**
comp=Z,1.7nm,0.8s,mb4.5,baz=348,slow=3.9,SNR=4.0
STKA Stephens Creek 128.06 221 PKP PKPdf 01 39 06.2 -2.0
comp=Z,1.9nm,0.6s,baz=318,slow=19,SNR=6.6
STKA pPKP pPKPdf 01 39 17.2 -2.5
comp=Z,0.4nm,0.5s,baz=48,slow=13,SNR=1.9
MKAR Makanchi Array 135.42 22 PKP PKPdf 01 39 21.8 -0.4
comp=Z,0.3nm,0.5s,baz=299,slow=1.6,SNR=6.5
MKAR pPKP pPKPdf 01 39 31.8 -1.9
comp=Z,0.4nm,0.7s,baz=355,slow=1.7,SNR=4.4
ZAK Zakamensk 136.11 1 *e*PKIKP PKPdf 01 39 23.0 -0.4
ZAK pmax pmax
comp=Z,6.0nm,1.5s
SONM Songino Array 138.64 358 PKhKP 01 39 19.4
comp=Z,0.9nm,0.7s,baz=149,slow=1.7,SNR=4.9
SONM PKP PKPdf 01 39 26.0 -2.1
comp=Z,1.3nm,0.8s,baz=328,slow=1.6,SNR=8.4
WB2 Warramunga Arr 140.67 228 *e*P PKPdf 01 39 31.8 0.0
WRA Warramunga Arr 140.68 228 PKhKP 01 39 22.5
comp=Z,0.3nm,0.4s,baz=132,slow=2.7,SNR=11
WRA PKP PKPdf 01 39 31.5 -0.3
comp=Z,3.1nm,0.6s,baz=123,slow=2.0,SNR=30
WRA pPKP pPKPdf 01 39 44.2 +0.8
comp=Z,0.8nm,0.7s,baz=122,slow=2.0,SNR=2.4
DDI Dehra Dun 145.58 43 *e*P PKPdf 01 39 41.5 +1.1
GTA Gaotai 146.82 7 *e*PKP PKPdf 01 39 44.1 +1.6
FITZ Fitzroy Crossi 147.96 220 *e*P PKPbc 01 39 47.8 +0.3
comp=Z,15nm,0.6s
KOLN Koldanda 150.91 41 *e*P PKPbc 01 39 55.5 +0.7
comp=Z,17nm,0.8s
GKN Gorkha 151.41 39 *e*P PKPbc 01 39 57.0 +1.0
comp=Z,31nm,0.8s
KKN Kakani 151.96 38 *e*P PKPbc 01 39 58.1 +0.8
comp=Z,18nm,0.8s
DMN Daman 151.98 39 *e*P PKPbc 01 39 58.6 +1.3
PKI Pulchoki 152.19 38 *e*P PKPbc 01 39 58.2 +0.4
GUN Gumba 152.24 37 *e*P PKPbc 01 39 59.7 +1.8
JIRN Jiri 152.60 37 *e*P PKPbc 01 39 59.8 +1.1
CD2 Chengdu 155.56 2 *e*PKP PKPdf 01 39 53.2 -2.7

ISCJB ***05*** *01:24:24.4±0.5, 4937N±002×685E±004, h0km, Error ellipse: s-maj=3.8km s-min=3.2km az=99.9*
BGR ***05*** *01:24:25.7±0.5, 4937N×687E, h1km, ML1.3, Error ellipse: s-maj=7.8km s-min=4.4km az=32.0*
LDG ***05*** *01:24:25.9±0.1, 4939N×690E, h1km, Md2.5/1, Ml2.4/9, Error ellipse: s-maj=2.2km s-min=1.9km az=69.0, Suspected Mining induced.*
ISC 05 01:24:25.6±0.5, 4937N±002×**686E**±004, **h0**km**, n13,**
σ**0°81/25, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**01 24 37.4**	**+1.3**
WLF				*e*Sg	**Sg**	**01 24 43.5**	**+0.2**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**01 24 44.8**	**+0.1**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**01 24 45.8**	**-1.1**
CDF				*e*Sg	**Sg**	**01 24 57.3**	**-0.4**
6.1nm,0.2s							
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**01 24 49.1**	**+0.9**
RFYF				*e*Sg	**Sg**	**01 25 04.5**	**+1.0**
8.7nm,0.2s							
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	**01 24 51.0**	**-0.2**
TNS				*e*Sg	**Sg**	**01 25 09.5**	**+1.0**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**01 24 53.6**	**+1.0**
HAU				*e*Sg	**Sg**	**01 25 10.9**	**0.0**
9.8nm,0.3s							
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**01 24 52.9**	**0.0**
BFO				*e*Sg	**Sg**	**01 25 11.8**	**+0.4**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**01 24 53.8**	**-0.1**
baz=52							
MEZF				*e*Sg	**Sg**	**01 25 14.2**	**+1.1**
3.8nm,0.3s,baz=53							
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**01 24 53.6**	**-1.0**
GIVF				*e*Sg	**Sg**	**01 25 14.4**	**+0.2**
4.1nm,0.3s							
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**01 24 55.4**	**0.0**
HINF				*e*Sg	**Sg**	**01 25 15.3**	**-0.3**
18nm,0.2s							
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pg	**Pg**	**01 24 57.4**	**-0.4**
SFTF				*e*Sg	**Sg**	**01 25 20.3**	**+0.8**
3.3nm,0.3s							
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**01 25 00.1**	**-1.1**
BAIF				*e*Sg	**Sg**	**01 25 24.7**	**-0.5**
0.8nm,0.2s							
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	**01 25 11.9**	**-1.2**
baz=48							
LOR				*e*Sn	**Sn**	**01 25 46.7**	**-2.0**

ISCJB ***05*** *01:35:01.4±1.1, 3495N±009×410W±006, h21km±12km, Error ellipse: s-maj=15.9km s-min=7.9km az=174.1*
CSEM ***05*** *01:35:01.3±0.2, 3500N×401W, h15km, MD2.7, Error ellipse: s-maj=5.6km s-min=3.1km az=29.0*
MDD ***05*** *01:35:02.9±1.0, 3504N×407W, h0km, mb3.1/7, Error ellipse: s-maj=12.8km s-min=4.2km az=35.0, PRXIMO SOLUCIN POBRE*
CNRM ***05*** *01:35:03.2, 3500N×401W, h15km, MD2.7*
ISC 05 01:35:02.1±1.1, 3494N±008×**405W**±005, **h19**km±5km**, n19,**
σ**0°93/36, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.25**	**84**	P	**Pg**	**01 35 08.0**	**+0.2**
TOU				S	**Sg**	**01 35 11.5**	**-0.3**
TOU	**Touzarine**	**0.25**	**84**	*i* P	**Pg**	**01 35 08.0**	**+0.2**
MPAL	**Palemas**	**0.30**	**18**	*i* P	**Pg**	**01 35 08.0**	**-0.8**
EMEL	**Melilla**	**0.97**	**68**	P	**Pb**	**01 35 20.9**	**+0.6**
18nm,0.1s,SNR=5.9							
EMEL				S	**Sb**	**01 35 33.1**	**+0.4**
45nm,0.3s,SNR=7.5							
EMLI	**Melilla**	**0.97**	**68**	P	**Pb**	**01 35 20.9**	**+0.5**
18nm,0.1s,SNR=5.9							
EMLI				S	**Sb**	**01 35 33.1**	**+0.2**
45nm,0.3s,SNR=7.5							
ZAI	**Zaio**	**1.07**	**88**	*e*P	**Pb**	**01 35 21.5**	**-0.6**
ZAI				*e*S	**Sb**	**01 35 34.0**	**-1.7**
EMIJ	**Mijas**	**1.73**	**340**	P	**Pn**	**01 35 30.5**	**-0.6**
1.0nm,0.3s,SNR=7.9							
EMIJ				S	**Sn**	**01 35 53.3**	**+0.7**
3.2nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.17**	**25**	P	**Pn**	**01 35 36.5**	**-0.8**
2.3nm,0.5s,SNR=7.9							
EBER				S	**Sn**	**01 36 03.2**	**-0.5**
4.2nm,0.3s,SNR=7.9							
EBER	**Berja**	**2.17**	**25**	P	**Pn**	**01 35 36.5**	**-0.7**
0.4nm,0.2s,SNR=7.9							
EBER				S	**Sn**	**01 36 03.2**	**-0.4**
SNR=7.9							
EQES	**Quesada**	**2.97**	**15**	P	**Pn**	**01 35 49.8**	**+1.7**
0.9nm,0.2s,SNR=8.8							
EQES				S	**Sn**	**01 36 23.8**	**+0.5**
1.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.97**	**15**	P	**Pn**	**01 35 49.8**	**+1.6**
0.6nm,0.1s,SNR=8.8							
EQES				S	**Sn**	**01 36 23.8**	**+0.5**
0.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.25**	**353**	P	**Pn**	**01 35 53.1**	**+1.0**
1.0nm,0.4s,SNR=7.9							
EADA				S	**Sn**	**01 36 30.9**	**+0.6**
1.0nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.25**	**353**	P	**Pn**	**01 35 53.1**	**+1.0**
0.3nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**01 36 30.9**	**+0.6**
SNR=7.9							
EMIN	**Mina Concepcio**	**3.53**	**324**	P	**Pn**	**01 35 56.3**	**+0.4**
1.0nm,0.3s,SNR=7.9							
EMIN				S	**Sn**	**01 36 35.7**	**-1.4**
0.8nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.53**	**324**	P	**Pn**	**01 35 56.3**	**+0.4**
SNR=7.9							
EMIN				S	**Sn**	**01 36 34.4**	**-2.7**
SNR=7.9							
EGRO	**El Granado**	**3.80**	**314**	P	**Pn**	**01 36 01.0**	**+1.5**
1.9nm,0.3s,SNR=4.0							
EGRO				S	**Sn**	**01 36 42.7**	**-1.0**
0.8nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.80**	**314**	P	**Pn**	**01 36 01.0**	**+1.5**
0.3nm,0.1s,SNR=4.0							
EGRO				S	**Sn**	**01 36 42.7**	**-1.0**
SNR=7.9							
EBAD	**Badajoz**	**4.49**	**329**	P	**Pn**	**01 36 09.8**	**+0.7**
0.3nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**01 36 59.2**	**-1.6**
0.7nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.49**	**329**	P	**Pn**	**01 36 09.8**	**+0.7**
0.2nm,0.2s,SNR=7.9							
EBAD				S	**Sn**	**01 36 59.2**	**-1.6**
0.2nm,0.1s,SNR=7.9							

SSNC ***05*** *01:52:43.6, 1967N×7708W, h3km, MD3.1, ML2.6*
ISCJB ***05*** *01:52:45.4±0.6, 1991N±004×7702W±005, h41km±11km, Error ellipse: s-maj=8.8km s-min=4.5km az=81.5*
JSN ***05*** *01:52:48.1±0.7, 1978N×7683W, h29km±80km, MD3.6*
ISC 05 01:52:46.1±0.6, 1991N±004×**7702W**±005, **h37**km±10km**,**
n18, σ**1°04/29, 4C-6D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.15**	**7**	↑*i*PG	**Pn**	**01 52 53.9**	**+1.2**
LMGC				*i* SG	**Sn**	**01 52 56.6**	**-0.6**
comp=N,5μm,0.1s							
LMGC				*i*			
comp=E,6μm,0.1s							
YAR	**Yar**	**0.77**	**54**	*e*P	**Pn**	**01 53 01.4**	**+1.0**
YAR				*e*S	**Sn**	**01 53 11.2**	**+0.4**
RCC	**Rio Carpintero**	**1.25**	**86**	↑*i*P	**Pn**	**01 53 07.0**	**0.0**
RCC				*i* S	**Sn**	**01 53 21.9**	**-0.8**
comp=N,1μm,0.1s							
RCC				*i*			
comp=E,1μm,0.1s							
HLGC	**Holguin**	**1.33**	**43**	*e*P	**Pn**	**01 53 07.6**	**-0.5**
HLGC				*e*S	**Sn**	**01 53 22.9**	**-1.6**
CCCC	**Cccc**	**1.46**	**332**	*e*	**Pn**	**01 53 00.0**	**-10**
comp=E,2μm,0.1s							
CCCC				*e*P		01 53 10.4	
baz=198							
CCCC				*e*S	**Sn**	**01 53 26.7**	**-1.0**
comp=N,2μm,0.1s							
BBJ	**Bamboo Saint A**	**1.54**	**189**	↓|*i*P	**Pn**	**01 53 11.2**	**+0.1**
MBJ	**Montego Bay**	**1.70**	**208**	*e*S	**Sn**	**01 53 34.3**	**+0.6**
CVJ	**Coleyville**	**1.75**	**196**	↑*e*P	**Pn**	**01 53 14.5**	**+0.6**
GTMO	**Guantanamo**	**1.78**	**84**	*e*P	**Pn**	**01 53 13.0**	**-1.3**
GTMO				*e*S	**Sn**	**01 53 35.3**	**-0.4**
SABC	**Sabc**	**1.78**	**75**	*e*P	**Pn**	**01 53 14.1**	**-0.3**
SABC				*e*S	**Sn**	**01 53 35.2**	**-0.6**
STH	**Stony Hill**	**1.84**	**174**	↓|*i*P	**Pn**	**01 53 14.7**	**-0.4**
STH				*e*S	**Sn**	**01 53 34.3**	**-2.8**
GWJ	**Greenwich**	**1.85**	**171**	↓|*i*P	**Pn**	**01 53 15.0**	**-0.3**
CMJ	**Castle Mountai**	**1.87**	**161**	↓|*e*P	**Pn**	**01 53 14.7**	**-0.9**
HOJ	**Hope**	**1.92**	**172**	↑*i*P	**Pn**	**01 53 16.2**	**0.0**
MOAC	**Moa**	**2.07**	**69**	*e*P	**Pn**	**01 53 20.7**	**+2.3**
MOAC				*e*S	**Sn**	**01 53 47.2**	**+4.2**
comp=N,1.9nm,0.2s							
MOAC				*e*			
comp=E,1.8nm,0.2s							
MCJ	**Malvern**	**2.08**	**198**	↓|*i*P	**Pn**	**01 53 19.7**	**+1.3**
PCJ	**Portland Cotta**	**2.17**	**183**	↓|*e*P	**Pn**	**01 53 20.0**	**+0.4**
PCJ				*e*S	**Sn**	**01 53 44.3**	**-0.9**
MASC	**Masc**	**2.64**	**84**	*e*P	**Pn**	**01 53 28.0**	**+1.9**
baz=104							
MASC				*e*S	**Sn**	**01 53 58.6**	**+1.7**
comp=N,1.8nm,0.2s							
MASC				*e*			
comp=E,0.5nm,0.1s							

ISCJB ***05*** *02:02:33.7±0.3, 5156N±002×778E±003, h0km, Error ellipse: s-maj=3.0km s-min=2.3km az=96.1*
BUG ***05*** *02:02:34.4, 5165N×779E, h1km, ML1.9*
NEIC ***05*** *02:02:35.4, 5169N×779E, h1km, ML2.6(LDG), After LDG.*
BGR ***05*** *02:02:35.8±0.3, 5161N×777E, h1km, ML2.2/6, Error ellipse: s-maj=4.4km s-min=3.3km az=139.0*
BNS ***05*** *02:02:35.4±0.7, 5169N×780E, h1km, ML2.2*
LDG ***05*** *02:02:35.4±0.1, 5169N×779E, h1km, Ml2.6/7, Error ellipse: s-maj=2.8km s-min=2.2km az=69.0, Suspected Mining induced.*
CSEM ***05*** *02:02:35.7±0.1, 5163N×781E, h1km, ML2.5/6, Error ellipse: s-maj=1.8km s-min=1.3km az=129.0*
ISC 05 02:02:35.1±0.3, 5161N±002×**776E**±003, **h0**km**, n36,**
σ**1°06/69, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.13**	**17**	Pg	**Pg**	**02 02 37.7**	**+0.1**
BAHL				Sg	**Sg**	**02 02 39.7**	**+0.3**
BUG	**Bochum--Univer**	**0.35**	**241**	*e*Pg	**Pg**	**02 02 42.6**	**+0.8**
BUG				Sg	**Sg**	**02 02 48.5**	**+2.1**
BUG	**Bochum--Univer**	**0.35**	**241**	*e*Pg	**Pg**	**02 02 42.6**	**+0.8**
BUG				*e*Sg	**Sg**	**02 02 48.3**	**+1.9**
HOBG	**Hohbusch**	**0.68**	**203**	*e*Pg	**Pg**	**02 02 50.1**	**+1.9**
HOBG				*e*Sg	**Sg**	**02 03 00.6**	**+3.5**
122nm,0.4s							
WTSB	**Winterswijk**	**0.69**	**301**	*e*Pg	**Pg**	**02 02 49.0**	**+0.6**
12nm,0.5s							
WTSB				*e*Sg	**Sg**	**02 02 58.1**	**+0.6**
IBBN	**Ibbenburen**	**0.70**	**360**	*e*Pg	**Pg**	**02 02 49.1**	**+0.6**
SNR=4.9							
IBBN				*e*Sg	**Sg**	**02 02 58.0**	**+0.5**
BNS	**Bensberg**	**0.74**	**210**	*e*Pg	**Pg**	**02 02 50.7**	**+1.3**
BNS				*e*Sg	**Sg**	**02 03 02.8**	**+3.7**
76nm,0.5s							
RODG	**Roetgen-Dahlhe**	**1.09**	**245**	*e*Pg	**Pg**	**02 02 56.5**	**+0.5**
RODG				*e*Sg	**Sg**	**02 03 12.7**	**+2.4**
230nm,0.4s							
STB	**Steinbach**	**1.17**	**210**	*e*Pg	**Pg**	**02 02 58.5**	**+0.9**
STB				*e*Sg	**Sg**	**02 03 14.7**	**+1.9**
34nm,0.4s							
KLL	**Kalltalsperre**	**1.33**	**224**	*e*Pg	**Pg**	**02 03 00.3**	**-0.2**
KLL				*e*Sg	**Sg**	**02 03 18.7**	**+0.9**
22nm,0.2s							
HGN	**Heimansgroeve**	**1.43**	**234**	*e*Pg	**Pg**	**02 03 01.7**	**-0.8**
3.2nm,0.1s							
HGN				*e*Sg	**Sg**	**02 03 20.8**	**-0.3**
BGG	**Burgeitz**	**1.43**	**191**	*e*Pg	**Pg**	**02 03 02.3**	**-0.2**
BGG				*e*Sg	**Sg**	**02 03 21.2**	**+0.1**
9.6nm,2.0s							
TNS	**Taunus Mts**	**1.46**	**162**	*e*Pg	**Pg**	**02 03 03.1**	**+0.1**
SNR=5.1							
TNS				*e*Sg	**Sg**	**02 03 22.8**	**+0.9**
CLZ	**Clausthal**	**1.64**	**81**	*e*Pn	**Pn**	**02 03 04.4**	**-0.8**
SNR=2.5							
CLZ				*e*Pg	**Pg**	**02 03 06.0**	**-0.6**
SNR=12							
CLZ				*e*Sg	**Sg**	**02 03 27.1**	**-0.7**
CLZ	**Clausthal**	**1.64**	**81**	*e*Pn	**Pn**	**02 03 04.4**	**-0.8**
CLZ				*e*Pg	**Pg**	**02 03 06.0**	**-0.6**
CLZ				*e*Sg	**Sg**	**02 03 27.1**	**-0.7**
WLF	**Walferdange**	**2.20**	**208**	*e*Pg	**Pg**	**02 03 16.6**	**-0.7**
SNR=2.1							
WLF				*e*Sg	**Sg**	**02 03 43.8**	**-2.0**
GIVF	**Givet**	**2.40**	**232**	*e*Pn	**Pn**	**02 03 14.8**	**-0.8**
GIVF				*e*Sn	**Sn**	**02 03 43.3**	**-2.3**
GIVF				*e*Sg	**Sg**	**02 03 51.7**	**-0.4**
18nm,0.4s							
GIVF	**Givet**	**2.40**	**232**	*e*Pn	**Pn**	**02 03 14.8**	**-0.8**
GIVF				*e*Sn	**Sn**	**02 03 43.3**	**-2.3**
GIVF				*e*Sg	**Sg**	**02 03 51.7**	**-0.4**
9.1nm,0.4s							
MOX	**Moxa**	**2.62**	**110**	*e*Pn	**Pn**	**02 03 19.3**	**+0.8**
SNR=2.0							
MOX				*e*Pg	**Pg**	**02 03 25.2**	**-0.1**
SNR=1.5							
MOX				*e*Sg	**Sg**	**02 03 59.0**	**-0.2**
BAIF	**Baives**	**2.74**	**237**	*e*Pn	**Pn**	**02 03 19.2**	**-1.0**
BAIF				*e*Sg	**Sg**	**02 04 03.3**	**+0.3**
7.1nm,0.4s							
BAIF	**Baives**	**2.74**	**237**	*e*Pn	**Pn**	**02 03 19.2**	**-1.0**
BAIF				*e*Sg	**Sg**	**02 04 03.3**	**+0.3**
3.5nm,0.4s							
CDF	**Champ du Feu**	**3.22**	**186**	*e*Pn	**Pn**	**02 03 26.2**	**-0.7**
CDF				*e*Sg	**Sg**	**02 04 18.5**	**0.0**
3.3nm,0.5s							
CDF	**Champ du Feu**	**3.22**	**186**	*e*Pn	**Pn**	**02 03 26.2**	**-0.7**
CDF				*e*Sg	**Sg**	**02 04 18.5**	**0.0**
1.6nm,0.5s							
CLL	**Collm**	**3.29**	**93**	*e*Sg	**Sg**	**02 04 22.0**	**+1.1**
MEZF	**Maizieres J'vi**	**3.57**	**210**	*e*Pn	**Pn**	**02 03 30.7**	**-1.0**
MEZF				*e*Sg	**Sg**	**02 04 30.2**	**+0.5**
2.5nm,0.4s							
MEZF	**Maizieres J'vi**	**3.57**	**210**	*e*Pn	**Pn**	**02 03 30.7**	**-1.0**
MEZF				*e*Sg	**Sg**	**02 04 30.2**	**+0.5**
1.2nm,0.4s							
HAU	**Haudompre**	**3.72**	**195**	*e*Sg	**Sg**	**02 04 34.7**	**0.0**
2.5nm,0.3s							
HAU	**Haudompre**	**3.72**	**195**	*e*Sg	**Sg**	**02 04 34.7**	**0.0**
1.2nm,0.3s							
SFTF	**Sexfontaines**	**3.84**	**208**	*e*Pg	**Pg**	**02 03 47.5**	**-1.1**
KHC	**Kasperske Hory**	**4.47**	**121**	*e*PG	**Pg**	**02 04 03.0**	**+2.1**
LOR	**Lormes**	**5.04**	**212**	*e*Pn	**Pn**	**02 03 50.7**	**-1.2**
LOR				*e*Sg	**Sg**	**02 05 15.9**	**-1.0**
1.2nm,0.3s							
LOR	**Lormes**	**5.04**	**212**	*e*Pn	**Pn**	**02 03 50.7**	**-1.2**
LOR				*e*Sg	**Sg**	**02 05 15.9**	**-1.0**
0.6nm,0.3s							
LDF	**La Druitiere**	**5.90**	**242**	*e*Pn	**Pn**	**02 04 02.3**	**-1.5**
FLN	**La Foliniere**	**6.01**	**245**	*e*Pn	**Pn**	**02 04 04.1**	**-1.2**
GRR	**Gorron**	**6.42**	**243**	*e*Pn	**Pn**	**02 04 09.6**	**-1.3**
GRR				*e*Sn	**Sn**	**02 05 19.7**	**-5.2**
MFF	**Saint Martin d**	**7.21**	**229**	*e*Pn	**Pn**	**02 04 20.4**	**-1.4**

STR ***05*** *02:04:34.9±0.3, 4590N×292E, h2km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 05 02:04:34.1±0.1, 4599N×297E, h20km**, Md1.5/2, Ml1.6/4,**
Error ellipse: s-maj=2.7km s-min=1.5km az=125.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.13**	**61**	Pg	Pb	02 04 39.1	+0.7
AGO				Sg	Sb	02 04 42.4	+1.1
PLDF	**La Plantade**	**0.46**	**92**	Pg	Pb	02 04 44.4	+1.0
PLDF				Sg	Sb	02 04 51.1	+1.3
BGF	**Bois d'Agland**	**0.57**	**352**	*e*Pg	Pb	02 04 45.6	+0.1
BGF				*e*Sg	Sb	02 04 53.1	-0.1
3.4nm,0.3s							
TCF	**Toulx Ste Croi**	**0.61**	**300**	*e*Pg	Pb	02 04 46.0	0.0
TCF				*e*Sg	Sb	02 04 53.4	-0.7
1.2nm,0.2s							
AVF	**Avril sur Loir**	**0.84**	**18**	*e*Pg	Pb	02 04 50.2	+0.1
AVF				*e*Sg	Sb	02 05 01.1	+0.1
1.4nm,0.2s							
SMF	**Signal de Mont**	**0.89**	**42**	*e*Pg	Pb	02 04 51.0	+0.1
SMF				*e*Sg	Sb	02 05 03.0	+0.6
1.8nm,0.3s							
SSF	**Saint Saulge**	**1.14**	**19**	*e*Pg	Pn	02 04 55.4	+0.6
SSF				*e*Sg	Sb	02 05 10.0	+0.7
0.9nm,0.2s							
CAF	**Calviac**	**1.24**	**211**	*e*Pg	Pn	02 04 57.4	+1.1
CAF				*e*Sg	Sb	02 05 13.2	+0.9
1.9nm,0.4s							
LOR	**Lormes**	**1.42**	**25**	*e*Sg	Sn	02 05 19.0	+2.2
0.9nm,0.2s							

JMA ***05*** *02:19:52.9±0.4, 3778N×13498E, h396km±4km, M3.2*
ISCJB ***05*** *02:19:53.2±0.4, 3778N±008×13497E±009, h388km±7km, mb3.3/10, Error ellipse: s-maj=14.3km s-min=8.3km az=101.5*
IDC ***05*** *02:19:53.7±1.5, 3777N×13476E, h366km±17km, mb2.9/7, mb1 3.2/9, mb1mx3.0/23, mbtmp3.6/9, Error ellipse: s-maj=19.6km s-min=14.3km az=91.0*
*NE

SONM	**Songino Array**	**23.08 305**	P	**P**	**02 24 28.2**	**+0.3**
	0.9nm,0.5s,mb3.3,baz=112,slow=9.2,SNR=7.3					
MKAR	**Makanchi Array**	**39.30 300**	P	**P**	**02 26 47.1**	**-1.0**
	0.3nm,0.6s,mb2.7,baz=93,slow=8.5,SNR=6.8					
ZRNK	**Zerenda**	**47.03 311**	*e*P	**P**	**02 27 48.3**	**-0.8**
	1.4nm,0.8s,mb3.2					
ILAR	**Eielson Array**	**51.59 32**	P	**P**	**02 28 24.1**	**+1.0**
	0.4nm,0.5s,mb3.0,baz=268,slow=5.7,SNR=6.0					
WRA	**Warramunga Arr**	**57.46 181**	P	**P**	**02 29 04.9**	**0.0**
	1.2nm,0.6s,mb3.4,baz=356,slow=7.6,SNR=16					
ASAR	**Alice Springs**	**61.17 181**	P	**P**	**02 29 30.4**	**+0.4**
	0.6nm,0.7s,mb3.1,baz=358,slow=6.8,SNR=7.0					
YKA	**Yellowknife Ar**	**65.64 29**	P	**P**	**02 29 59.9**	**+0.9**
	0.2nm,0.6s,mb3.0,baz=314,slow=6.0,SNR=12					
STKA	**Stephens Creek**	**69.62 174**	*e*P	**P**	**02 30 21.4**	**-2.1**
TXAR	**Lajitas Array**	**93.58 48**	P	**P**	**02 32 31.0**	**+2.9**
	0.3nm,0.6s,mb3.5,baz=312,slow=2.8,SNR=3.9					
TXAR	**Lajitas Array**	**93.58 48**	P	**P**	**02 32 31.0**	**+2.9**

*IDC **05** 02:24:46.3±1.6, 54.76N×112.07E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/23, mbtmp3.5/7, ML3.7/1, MS3.5/4, Ms1 3.6/4, ms1mx3.3/29, Error ellipse: s-maj=39.2km s-min=19.9km az=134.0*

*BJI **05** 02:24:46.1, 55.42N×111.72E, h16km, mB4.7, mb4.6, Ms4.5, Msz4.0*

*MOS **05** 02:24:47.6±0.7, 54.99N×111.66E, h17km, mb4.0/1, Error ellipse: s-maj=12.0km s-min=6.2km az=68.5*

MOS Felt (II) at Ulyunkhan.

*NEIC **05** 02:24:48.2±0.8, 55.03N×111.71E, h10km, mb3.9/1, Error ellipse: s-maj=19.8km s-min=11.0km az=119.0*

NEIC Felt [II] at Ulyunkhan.

*BYKL **05** 02:24:48.2±0.1, 55.02N×111.63E, h11km±3km, FELT I=III-IV MSK at Ulyunkhan*

ISC 05 02:24:47.5±0.2, 5499N±002×11169E±003, h10km, n74, σ1§55/139, mb3.5/6, MS3.5/5, 7C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**250**	⇓*i*Pg	**Pg**	**02 24 54.9**	**+0.9**
YLYR				Pmax		02 24 55.5	
	745nm,0.1s						
YLYR				*e*Sg	**Sg**	**02 24 59.2**	**+0.9**
YLYR				Smax		02 25 00.5	
	40μm,0.5s						
YLYR	**Ulyunkhan**	**0.32**	**250**	*e*PG	**Pg**	**02 24 54.9**	**+0.9**
YLYR				*e*		02 24 59.6	
YLYR				pmax	pmax		
	comp=Z,667nm,0.1s						
YLYR				smax			
	comp=N,31μm,0.2s						
KMO	**Kumora**	**0.94**	**343**	⇑*i*Pg	**Pg**	**02 25 04.3**	**-1.3**
KMO				Pmax		02 25 05.9	
	comp=N,586nm,0.4s						
KMO				*e*Sg	**Sg**	**02 25 16.2**	**-1.7**
KMO				Smax		02 25 19.7	
	comp=N,5μm,1.4s						
KMO				*e*Sb	**Sb**	**02 25 23.6**	**+5.2**
KMO	**Kumora**	**0.94**	**343**	*e*PG	**Pg**	**02 25 04.3**	**-1.3**
KMO				*e*		02 25 16.0	
KMO				pmax	pmax		
	comp=Z,603nm,0.4s						
KMO				smax			
	comp=N,5μm,1.4s						
YOA	**Uoyan**	**1.15**	**1**	*e*Pg	**Pg**	**02 25 08.5**	**-1.0**
YOA				Pmax		02 25 12.7	
	comp=N,1μm,0.3s						
YOA				*e*Sg	**Sg**	**02 25 23.9**	**-0.5**
YOA				*e*Sb	**Sb**	**02 25 27.4**	**+3.1**
YOA				max		02 25 34.1	
	comp=N,13μm,0.9s						
YOA	**Uoyan**	**1.15**	**1**	⇑*i*PG	**Pg**	**02 25 08.6**	**-0.9**
YOA				*e*		02 25 23.8	
YOA				pmax	pmax		
	comp=Z,1μm,0.5s						
YOA				smax			
	comp=N,120nm,0.5s						
UKT	**Uakit**	**1.22**	**65**	⇑*i*Pg	**Pg**	**02 25 10.1**	**-0.8**
UKT				*e*Pb	**Pb**	**02 25 11.8**	**+1.1**
UKT				max		02 25 13.1	
UKT				*e*Sg	**Sg**	**02 25 26.4**	**-0.4**
UKT				*e*		02 25 30.4	
UKT				max		02 25 31.8	
	comp=N,6μm,0.7s						
UKT	**Uakit**	**1.22**	**65**	*e*PG	**Pg**	**02 25 09.9**	**-1.0**
UKT				*e*		02 25 26.4	
UKT				pmax	pmax		
	comp=Z,300nm,0.2s						
UKT				smax			
	comp=N,3μm,0.3s						
NIZ	**Nizh Angarsk**	**1.46**	**304**	⇑*i*Pg	**Pn**	**02 25 13.8**	**-0.1**
NIZ				Pmax		02 25 15.0	
	comp=N,799nm,0.4s						
NIZ				*e*Sg	**Sg**	**02 25 32.9**	**-1.4**
NIZ				Smax		02 25 36.9	
	comp=N,2μm,0.5s						
NIZ	**Nizh Angarsk**	**1.46**	**304**	*e*PN	**Pn**	**02 25 13.8**	**-0.1**
NIZ				*e*		02 25 32.9	
NIZ				pmax	pmax		
	comp=Z,794nm,0.4s						
NIZ				smax			
	comp=N,2μm,0.5s						
SVKR	**Severomuysk**	**1.55**	**43**	*e*Pg	**Pg**	**02 25 16.8**	**-0.5**
SVKR				*e*Pb	**Pb**	**02 25 17.9**	**+1.6**
SVKR				max		02 25 18.6	
SVKR				*e*Sg	**Sg**	**02 25 38.4**	**+1.0**
SVKR				*e*Sb	**Sb**	**02 25 40.4**	**+4.4**
SVKR				max		02 25 41.6	
	comp=N,9μm,0.8s						
SVKR	**Severomuysk**	**1.55**	**43**	*e*PN	**Pg**	**02 25 16.8**	**-0.5**
SVKR				*e*		02 25 37.7	
SVKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SVKR				smax			
	comp=N,9μm,1.0s						
SYVR	**Suvo**	**1.66**	**217**	*e*Pg	**Pg**	**02 25 18.3**	**-1.1**
SYVR				*e*		02 25 23.2	
SYVR				max		02 25 25.0	
	comp=N,911nm,0.9s						
SYVR				*e*Sg	**Sg**	**02 25 40.7**	**-0.2**
SYVR				Smax		02 25 43.6	
	comp=N,7μm,0.8s						
SYVR	**Suvo**	**1.66**	**217**	*e*PN	**Pn**	**02 25 18.4**	**+1.7**
SYVR				*e*		02 25 41.4	
SYVR				pmax	pmax		
	comp=Z,742nm,0.7s						
SYVR				smax			
	comp=E,5μm,0.5s						
NLYR	**Nelyaty**	**2.72**	**55**	⇓*i*Pn	**Pn**	**02 25 32.3**	**+1.0**
NLYR				*e*Pg	**Pg**	**02 25 36.8**	**-2.9**
NLYR				Pmax		02 25 37.2	
	comp=E,57nm,0.2s						
NLYR				*e*Sg	**Sg**	**02 26 12.0**	**-3.0**
NLYR				Smax		02 26 14.5	
	comp=E,2μm,1.1s						
NLYR	**Nelyaty**	**2.72**	**55**	*e*PN	**Pn**	**02 25 32.0**	**+0.7**
NLYR				*e*		02 25 36.6	
NLYR				*e*		02 26 11.5	
NLYR				pmax	pmax		
	comp=Z,133nm,0.6s						
NLYR				smax			
	comp=N,1μm,1.0s						
OGRR	**Ongureny**	**2.75**	**242**	*e*Pn	**Pn**	**02 25 33.2**	**+1.5**
OGRR				*e*Pg	**Pg**	**02 25 37.1**	**-3.1**
OGRR				Pmax		02 25 44.7	
	comp=N,209nm,1.4s						
OGRR				*e*Sn	**Sn**	**02 26 06.2**	**+1.2**
OGRR				*e*		02 26 08.6	
OGRR				*e*Sg	**Sg**	**02 26 13.4**	**-2.5**
OGRR				Smax		02 26 15.5	
	comp=N,2μm,0.8s						
OGRR	**Ongureny**	**2.75**	**242**	*e*PN	**Pn**	**02 25 33.2**	**+1.5**
OGRR				*e*		02 25 38.0	
OGRR				*e*S	**Sn**	**02 26 06.3**	**+1.3**
OGRR				*e*		02 26 13.5	
OGRR				pmax	pmax		
	comp=Z,88nm,0.3s						
OGRR				smax			
	comp=N,2μm,0.3s						
KELR	**Kotokel**	**3.09**	**225**	*e*Pn	**Pn**	**02 25 37.5**	**+1.2**
KELR				*e*Pg	**Pg**	**02 25 43.7**	**-3.0**
KELR				*e*Sn	**Sn**	**02 26 14.5**	**+1.2**
KELR				*e*Sg	**Sg**	**02 26 24.6**	**-2.2**
BOD	**Bodaibo**	**3.11**	**23**	*e*Pn	**Pn**	**02 25 37.2**	**+0.5**
BOD				*e*		02 25 45.4	
BOD				max		02 25 46.9	
	comp=N,134nm,1.0s						
BOD				*e*Sn	**Sn**	**02 26 13.6**	**-0.3**
BOD				*e*Sg	**Sg**	**02 26 23.2**	**-4.4**
BOD				Smax		02 26 32.0	
	comp=N,679nm,1.8s						
BOD	**Bodaibo**	**3.11**	**23**	*e*PN	**Pn**	**02 25 36.3**	**-0.4**
BOD				*e*		02 25 42.5	
BOD				*e*S	**Sn**	**02 26 12.2**	**-1.7**
BOD				*e*		02 26 21.4	
BOD				pmax	pmax		
	comp=Z,131nm,0.8s						
BOD				smax			
	comp=E,679nm,1.5s						
CIT	**Chita**	**3.18**	**159**	*e*Pn	**Pn**	**02 25 38.7**	**+1.2**
CIT				*e*Pg	**Pg**	**02 25 46.1**	**-2.3**
CIT				Pmax		02 25 48.7	
	comp=E,210nm,1.5s						
CIT				*e*Sg	**Sg**	**02 26 27.9**	**-1.7**
CIT				Smax		02 26 34.4	
	comp=E,2μm,1.5s						
CIT	**Chita**	**3.18**	**159**	*e*PN	**Pn**	**02 25 38.8**	**+1.3**
CIT				*e*		02 25 45.7	
CIT				*e*		02 26 27.9	
CIT				pmax	pmax		
	comp=Z,209nm,1.5s						
CIT				smax			
	comp=N,2μm,1.5s						
ZRHB	**Zarechye**	**3.63**	**230**	*e*Pg	**Pg**	**02 25 53.2**	**-3.9**
ZRHB				*e*		02 26 08.5	
ZRHB				max		02 26 12.0	
	comp=N,415nm,0.7s						
ZRHB				*e*Sg	**Sg**	**02 26 41.2**	**-3.0**
ZRHB				Smax		02 26 54.4	
	comp=N,7μm,1.3s						
TRTB	**Turuntaevo**	**3.67**	**223**	⇓*i*Pn	**Pn**	**02 25 46.1**	**+1.8**
TRTB				*e*Pg	**Pg**	**02 25 54.4**	**-3.5**
TRTB				Pmax		02 26 01.8	
	comp=N,217nm,1.1s						
TRTB				*e*Sn	**Sn**	**02 26 28.0**	**+0.3**
TRTB				*e*Sg	**Sg**	**02 26 43.1**	**-2.4**
TRTB				*e*SgSg		02 26 48.1	
TRTB				max		02 26 49.7	
	comp=N,2μm,1.3s						
TRG	**Tyrgan**	**3.87**	**237**	*e*Pn	**Pn**	**02 25 48.7**	**+1.6**
TRG				*e*Pg	**Pg**	**02 25 57.1**	**-4.6**
TRG				Pmax		02 26 04.9	
	comp=N,85nm,1.2s						
TRG				*e*Sn	**Sn**	**02 26 32.6**	**0.0**
TRG				*e*Sg	**Sg**	**02 26 47.8**	**-4.0**
TRG				Smax		02 26 52.1	
	comp=N,2μm,1.6s						
TRG	**Tyrgan**	**3.87**	**237**	*e*PN	**Pn**	**02 25 48.6**	**+1.5**
TRG				*e*		02 25 58.0	
TRG				*e*S	**Sn**	**02 26 33.1**	**+0.5**
TRG				*e*		02 26 46.7	
TRG				pmax	pmax		
	comp=Z,83nm,0.6s						
TRG				smax			
	comp=N,2μm,1.0s						
CRS	**Chara**	**4.17**	**60**	*e*Pn	**Pn**	**02 25 52.4**	**+1.3**
CRS				*e*Pg	**Pg**	**02 26 03.1**	**-4.2**
CRS				Pmax		02 26 05.8	
	comp=N,81nm,1.2s						
CRS				*e*Sg	**Sg**	**02 26 57.7**	**-3.6**
CRS				Smax		02 27 01.9	
	comp=N,2μm,1.4s						
CRS	**Chara**	**4.17**	**60**	*e*PN	**Pn**	**02 25 52.7**	**+1.6**
CRS				*e*		02 26 04.0	
CRS				*e*		02 26 57.6	
CRS				pmax	pmax		
	comp=Z,82nm,1.1s						
CRS				smax			
	comp=E,2μm,1.4s						
KAB	**Kabansk**	**4.21**	**228**	*e*Pg	**Pg**	**02 26 04.1**	**-4.0**
KAB				Pmax		02 26 30.2	
	comp=E,490nm,1.1s						
KAB				*e*Sn	**Sn**	**02 26 43.3**	**+2.4**
KAB				*e*Sg	**Sg**	**02 26 59.6**	**-3.0**
KAB				Smax		02 27 17.8	
	comp=E,5μm,1.4s						
STDB	**Stepnoy Dvoret**	**4.25**	**230**	*e*	**Pn**	**02 26 06.4**	**+14**
STDB				max		02 26 14.8	
	comp=E,147nm,1.3s						
STDB				*e*Sn	**Sn**	**02 26 42.9**	**+1.0**
STDB				*e*Sg	**Sg**	**02 26 59.4**	**-4.5**
STDB				Smax		02 27 25.9	
	comp=E,4μm,1.3s						
HRMR	**Khuramsha**	**4.40**	**222**	*e*Pn	**Pn**	**02 25 56.1**	**+1.7**
HRMR				*e*Pg	**Pg**	**02 26 07.1**	**-4.8**
HRMR				Pmax		02 26 16.5	
	comp=E,259nm,0.9s						
HRMR				*e*		02 26 25.7	
HRMR				*e*Sn	**Sn**	**02 26 47.7**	**+2.0**
HRMR				*e*Sg	**Sg**	**02 27 05.2**	**-3.7**
HRMR				Smax		02 27 10.9	
	comp=E,5μm,0.5s						
BTMB	**Babushkin**	**4.81**	**229**	*e*Pg	**Pg**	**02 26 14.2**	**-5.5**
BTMB				Pmax		02 26 20.8	
	comp=E,48nm,1.1s						
BTMB				*e*		02 26 32.5	
BTMB				*e*Sg	**Sg**	**02 27 16.7**	**-5.4**
BTMB				Smax		02 27 22.2	
	comp=E,1μm,0.8s						
TUP	**Tupik**	**4.83**	**93**	⇓*i*Pn	**Pn**	**02 26 01.1**	**+0.9**
TUP				*e*Pg	**Pg**	**02 26 15.4**	**-4.6**
TUP				Pmax		02 26 17.6	
	comp=E,75nm,1.8s						
TUP				*e*Sn	**Sn**	**02 26 54.0**	**-2.2**
TUP				*e*Sg	**Sg**	**02 27 19.3**	**-3.3**
TUP				Smax		02 27 31.1	
	comp=E,1μm,1.5s						
TUP	**Tupik**	**4.83**	**93**	*e*PN	**Pn**	**02 26 01.3**	**+1.1**
TUP				*e*		02 26 15.5	
TUP				*e*		02 27 18.1	
TUP				pmax	pmax		
	comp=Z,59nm,0.4s						
TUP				smax			
	comp=N,1μm,1.4s						
KHNR	**Khani**	**5.04**	**64**	*e*Pn	**Pn**	**02 26 04.5**	**+1.3**
KHNR				*e*Sn	**Sn**	**02 27 02.8**	**+1.2**
KHNR				*e*Sg	**Sg**	**02 27 24.0**	**-5.5**
LSTR	**Listvyanka**	**5.16**	**235**	*e*Pn	**Pn**	**02 26 05.9**	**+1.2**
LSTR				*e*		02 26 22.0	
LSTR				max		02 26 23.9	
	comp=N,62nm,1.1s						
LSTR				*e*Sn	**Sn**	**02 27 04.3**	**0.0**
LSTR				*e*Sg	**Sg**	**02 27 27.0**	**-6.0**
LSTR				Smax		02 27 30.4	
	comp=N,875nm,1.4s						
LSTR	**Listvyanka**	**5.16**	**235**	⇑*i*PN	**Pn**	**02 26 05.9**	**+1.2**
LSTR				*e*		02 26 22.0	
LSTR				*e*S	**Sn**	**02 27 02.9**	**-1.4**
LSTR				*e*		02 27 25.5	
LSTR				pmax	pmax		
	comp=Z,61nm,1.0s						
LSTR				smax			
	comp=N,875nm,1.2s						
IRK	**Irkutsk**	**5.20**	**241**	*e*Sn	**Sn**	**02 27 05.8**	**+0.4**
IRK				*e*Sg	**Sg**	**02 27 27.1**	**-7.4**
IRK				Smax		02 27 34.9	
	comp=N,3μm,1.0s						
IRK	**Irkutsk**	**5.20**	**241**	*e*PN	**Pn**	**02 26 21.2**	**+16**
IRK				*e*		02 27 29.1	
IRK				pmax	pmax		
	comp=Z,154nm,0.1s						
IRK				smax			
	comp=N,3μm,1.3s						
KPC	**Khapcheranga**	**5.31**	**175**	*e*Pn	**Pn**	**02 26 07.8**	**+0.9**
KPC				*e*Pg	**Pg**	**02 26 23.8**	**-5.5**
KPC				Pmax		02 26 51.2	
	comp=N,59nm,1.0s						
KPC				*e*		02 27 26.3	
KPC				*e*Sg	**Sg**	**02 27 34.1**	**-4.0**
KPC				Smax		02 27 39.5	
	comp=N,2μm,1.2s						
KPC	**Khapcheranga**	**5.31**	**175**	*e*PN	**Pn**	**02 26 07.7**	**+0.8**
KPC				*e*		02 26 24.2	
KPC				*e*		02 27 34.0	
KPC				pmax	pmax		
	comp=Z,58nm,0.9s						
KPC				smax			
	comp=E,2μm,1.2s						
TLY	**Talaya**	**5.85**	**239**	*e*Pg	**Pg**	**02 26 32.3**	**-7.2**
TLY				Pmax		02 26 35.8	
	comp=E,36nm,1.4s						
TLY				*e*Sn	**Sn**	**02 27 19.9**	**-1.4**
TLY				*e*Sg	**Sg**	**02 27 47.4**	**-7.8**
TLY				*e*		02 27 56.4	
TLY				max		02 27 57.4	
	comp=E,561nm,1.4s						
TLY	**Talaya**	**5.85**	**239**	*e*PN	**Pn**	**02 26 15.0**	**+0.8**
TLY				*e*		02 26 32.0	
TLY				*e*S	**Sn**	**02 27 19.3**	**-2.0**
YKLR	**Yuktali**	**5.85**	**70**	*e*Sg	**Sg**	**02 27 50.3**	**-5.0**
YKLR				Smax		02 27 59.8	
	comp=E,1μm,1.3s						
ARS	**Arshan**	**6.33**	**245**	*e*Pn	**Pn**	**02 26 21.5**	**+0.6**
ARS				*e*Pg	**Pg**	**02 26 41.0**	**-7.7**
ARS				Pmax		02 26 54.7	
	comp=E,73nm,0.7s						
ARS				*e*Sn	**Sn**	**02 27 32.8**	**-0.4**
ARS				*e*Sg	**Sg**	**02 28 02.6**	**-8.1**
ARS				Smax		02 28 08.0	
	comp=E,2μm,0.8s						
ARS	**Arshan**	**6.33**	**245**	*e*PN	**Pg**	**02 26 41.0**	**-7.7**
ARS				*e*		02 28 01.8	
ARS				pmax	pmax		
	comp=Z,67nm,0.4s						
ARS				smax			
	comp=E,2μm,0.8s						
ZAK	**Zakamensk**	**6.88**	**231**	*e*	Pn	02 26 57.4	+29
ZAK				*e*Sg	**Sg**	**02 28 21.0**	**-7.5**
ZAK				Smax		02 28 33.5	
	comp=E,377nm,1.3s						
ZAK	**Zakamensk**	**6.88**	**231**	*e*PN	**Pn**	**02 26 30.3**	**+1.8**
ZAK				*e*		02 26 52.2	
ZAK				*e*		02 28 21.3	
ZAK				pmax	pmax		
	comp=Z,53nm,1.7s						
ZAK				smax			
	comp=E,373nm,1.3s						
MOY	**Mondy**	**7.22**	**247**	*e*Pn	**Pn**	**02 26 35.2**	**+2.2**
MOY				max		02 27 03.2	
	comp=E,46nm,1.5s						
MOY				*e*Sn	**Sn**	**02 27 54.7**	**-0.3**
MOY				*e*Sg	**Sg**	**02 28 30.3**	**-8.8**
MOY				Smax		02 28 43.3	
	comp=E,1μm,1.6s						
MOY	**Mondy**	**7.22**	**247**	*e*PN	**Pn**	**02 26 35.3**	**+2.3**
MOY				*e*		02 26 57.5	
MOY				*e*S	**Sn**	**02 27 52.6**	**-2.4**
MOY				*e*		02 28 30.3	
MOY				pmax	pmax		
	comp=Z,25nm,0.6s						
MOY				smax			
	comp=N,1μm,1.6s						
ORL	**Orlik**	**7.46**	**256**	⇑*i*Pn	**Pn**	**02 26 38.1**	**+1.8**
	comp=N,45nm,1.7s						
ORL				⇑*i*Pn	**Pn**	**02 26 38.1**	**+1.8**
	comp=N,88nm,1.7s						
ORL				⇓*i*Pn	**Pn**	**02 26 38.1**	**+1.8**
	comp=N,83nm,1.7s						
ORL				max		02 26 39.5	
	comp=N,12nm,1.1s						
ORL				*e*Sn	**Sn**	**02 27 59.5**	**-1.4**
ORL				*e*Sg	**Sg**	**02 28 37.9**	**-8.9**
ORL				Smax		02 28 46.0	
	comp=N,157nm,1.7s						
ORL	**Orlik**	**7.46**	**256**	*e*PN	**Pn**	**02 26 37.9**	**+1.6**
ORL				*e*S	Sn	02 28 39.5	+39
ORL				smax			
	comp=N,691nm,1.1s						
ULN	**Ulaanbaatar**	**7.70**	**204**	*e*PN	**Pn**	**02 26 41.4**	**+1.7**
ULN				pmax	pmax		
	comp=Z,14nm,0.6s						
ULN	**Ulaanbaatar**	**7.70**	**204**	*e*Pn	**Pn**	**02 26 41.4**	**+1.8**
	comp=Z,14nm,0.6s						
SONM	**Songino Array**	**7.89**	**207**	Pn	**Pn**	**02 26 43.2**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=21,slow=13,SNR=27						
SONM				Lg		02 28 52.5	
	comp=Z,4.3nm,0.3s,baz=22,slow=16,SNR=4.1						
KRAR	**Krasnoyarsk**	**10.72**	**283**	*i* P	**Pn**	**02 27 18.9**	**-2.2**
KRAR				pmax	pmax		
	comp=Z,49nm,0.9s						
NVS	**Novosibirsk**	**16.32**	**281**	*e*P	**Pn**	**02 28 36.8**	**+0.1**
NVS				*e*		02 31 32.4	
GTA	**Gaotai**	**17.51**	**212**	*e*P	**Pn**	**02 28 58.5**	**+6.8**
GTA				AP	pP	02 29 02.8	+7.1
GTA				XP	sP	02 29 06.2	+9.2
GTA				AMB	AMB		
	comp=Z,133nm,6.1s						
GTA				LR	LR		
	comp=N,425nm,9.9s						
GTA				LR	LR		
	comp=E,217nm,11.0s						
GTA				LR	LR		
	comp=Z,407nm,12.2s						
TIXI	**Tiksi**	**18.28**	**17**	*e*P	**Pn**	**02 28 56.6**	**-4.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,217nm,14.0s						
MKAR	**Makanchi Array**	**20.15**	**258**	P	**P**	**02 29 22.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=47,slow=7.5,SNR=14						
MKAR				Lg		02 35 25.3	
	comp=Z,2.7nm,1.1s,baz=59,slow=26,SNR=6.2						
MKAR				LR	LR	02 37 20.4	
	comp=Z,217nm,20.8s,MS3.5,baz=9.8,slow=37						
MKAR	**Makanchi Array**	**20.15**	**258**	*e*P	**P**	**02 29 22.4**	**+0.5**
ASAJ	**Asahikawa**	**22.62**	**106**	LR	LR	02 39 13.0	
	comp=Z,164nm,21.7s,MS3.4,baz=231,slow=39						
BVAR	**Borovoye Array**	**24.10**	**283**	P	**P**	**02 30 03.8**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.5,baz=45,slow=8.4,SNR=8.1						
ZRNK	**Zerenda**	**24.91**	**283**	*e*P	**P**	**02 30 10.9**	**+0.3**
ZRNK				*e*		02 30 16.6	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**24.91**	**283**	*e*P	**P**	**02 30 10.9**	**+0.3**
	comp=Z,2.8nm,0.9s,mb3.8						
ZRNK				*e*		02 30 16.6	
ARU	**Arti**	**29.35**	**295**	*e*P	**P**	**02 31 03.2**	**+13**
ARU				*e*		02 33 57.2	
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
ARU				MLR	MLR		
	comp=E,30nm,14.0s						
ARU				MLR	MLR		
	comp=E,100nm,16.0s						
ARCES	**ARCESS Array B**	**38.88**	**326**	LR	LR	02 53 11.7	
	comp=E,64nm,18.5s,MS3.5,baz=200,slow=44						
FINES	**FINESS Array B**	**42.45**	**315**	P	**P**	**02 32 46.3**	**+3.8**
	comp=E,1.1nm,0.9s,mb3.5,baz=45,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**42.45**	**315**	*e*P	**P**	**02 32 48.5**	**+6.0**
ILAR	**Eielson Array**	**46.41**	**35**	P	**P**	**02 33 14.8**	**+0.6**
	comp=E,0.9nm,0.9s,mb3.7,baz=304,slow=6.8,SNR=7.7						
AKASG	**Malin Array Be**	**47.25**	**301**	P	**P**	**02 33 24.6**	**+3.9**
	comp=E,0.3nm,0.5s,mb3.5,baz=48,slow=7.8,SNR=4.2						
NOA	**NORSAR Array B**	**48.48**	**320**	LR	LR	02 55 26.8	
	comp=E,38nm,19.6s,MS3.4,baz=290,slow=38						
YKA	**Yellowknife Ar**	**57.39**	**23**	P	**P**	**02 34 35.1**	**-1.0**
	comp=E,0.2nm,0.6s,mb3.3,baz=333,slow=6.8,SNR=3.7						

*ISCJB **05** 02:37:32.9±1.3, 36.25N±0.05×141.69E±0.08, h25km±8km, mb3.3/4, MS4.2/2, Error ellipse: s-maj=11.7km s-min=7.8km az=30.1*

*IDC **05** 02:37:32.4±2.1, 36.55N×141.61E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/22, mbtmp3.3/5, ML3.0/1, MS4.2/2, Ms1 4.2/2, ms1mx3.1/17, Error ellipse: s-maj=53.0km s-min=24.9km az=49.0*

*JMA **05** 02:37:32.4±0.2, 36.23N×141.73E, h63km±5km, M2.8*

ISC 05 02:37:32.3±1.4, 3624N±005×14172E±009, h15km±7km, n20, σ0§73/23, mb3.3/4, MS4.2/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.88**	**233**	P	**Pg**	**02 37 49.3**	**0.0**
CHOJ				*e*S	**Sg**	**02 38 01.2**	**+0.4**
JHO	**Hitachi**	**1.00**	**292**	P	**Pb**	**02 37 50.5**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.14**	**320**	P	**Pb**	**02 37 53.3**	**-0.3**
JFK	**Kawauchi**	**1.31**	**329**	P	**Pn**	**02 37 55.2**	**-0.9**
JFT	**Otama**	**1.69**	**320**	P	**Pn**	**02 38 01.4**	**+0.1**
BSO3

JMM	Marumori	1.79 336	P		Pn	02 38 02.2	-0.4
JAG	Ashikaga	1.84 277	P		Pn	02 38 02.8	-0.5
JFY	Yanaizu	1.99 307	P		Pn	02 38 05.8	+0.4
JKT	Katashina	2.06 286	P		Pn	02 38 07.0	+0.7
JRY	Ryogami san	2.29 265	P		Pn	02 38 09.0	-0.5
JRY			eS		Sn	02 38 37.0	-0.4
JOD2	Odawara 2	2.35 246	P		Pn	02 38 10.4	+0.1
MJAR	Matsushiro Arr	2.85 277	Pn		Pn	02 38 18.2	+1.0
2.7nm,0.3s,baz=105,slow=8.7,SNR=56							
MJAR			Sn		Sn	02 38 51.5	+0.3
1.0nm,0.3s,baz=139,slow=13,SNR=4.2							
MAT	Matsushiro	2.85 277	P		Pn	02 38 16.8	-0.4
MAT			S		Sn	02 38 51.8	+0.6
SONM	Songino Array	28.44 305	P		P	02 43 26.8	+0.4
0.3nm,0.6s,mb3.1,baz=93,slow=9.4,SNR=2.8							
MKAR	Makanchi Array	44.75 303	P		P	02 45 45.1	0.0
0.3nm,0.6s,mb3.3,baz=89,slow=8.9,SNR=4.6							
PMG	Port Moresby	45.69 172	LR		LR	03 03 42.0	
comp=Z,301nm,18.0s,MS4.3,baz=270,slow=34							
KDAK	Kodiak Island	47.53 41	LR		LR	03 04 37.4	
comp=Z,182nm,20.0s,MS4.0,baz=276,slow=34							
WRA	Warramunga Arr	56.31 188	P		P	02 47 17.8	+5.5
0.3nm,0.6s,mb3.5,baz=1.7,slow=7.7,SNR=6.7							
ASAR	Alice Springs	60.03 188	P		P	02 47 41.9	+3.5
0.3nm,0.9s,mb3.3,baz=20,slow=11,SNR=2.7							

MAN 05 02:39:37.6, 786N×12493E, h31km, mb2.6, ML4.1, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.13	82	eP	Pb	02 39 44.2	+0.9
BUKP				eS	Sb	02 39 50.0	+2.8
CGP	Cagayan de Oro	0.64	338	⇑iP	Pb	02 39 51.9	+1.6
CGP				i S	Sb	02 40 00.5	+1.6
PAGZ	Pagadian	1.54	270	eP	Pn	02 40 03.0	+0.1

IGQ 05 02:52:00.4, 038S×7859W, h14km±3km, Mb4.1, Ms3.9, 9C-3D, Error ellipse: s-maj=0.9km s-min=0.7km az=174.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGP	Refugio Guagua	0.20	359	⇑P	Pg	02 52 05.8	+0.8
TERV	Terraza Guagua	0.20	356	⇑P	Pg	02 52 06.0	+1.0
PINO	Pino	0.22	355	⇑P	Pg	02 52 06.2	+0.9
YANA	Yana	0.26	4	⇑P	Pg	02 52 06.6	+0.6
VC1	Cotopaxi 1	0.32	144	⇓P	Pg	02 52 07.7	+0.6
TAMB	Tambo	0.38	145	⇓P	Pg	02 52 08.8	+0.7
ANTI	Antisana	0.43	99	⇓P	Pg	02 52 09.4	+0.4
CAYR	Refugio Cayamb	0.70	56	⇑P	Pg	02 52 15.2	+1.0
CAYR				S	Sg	02 52 25.2	+1.8
ANGU	Angureal	0.72	54	⇑P	Pg	02 52 15.3	+0.9
CAYA	Cayambe	0.75	53	⇑P	Pg	02 52 15.8	+0.8
CAYA				S	Sg	02 52 26.8	+1.9
COTA	Cotacachi	0.75	20	⇑P	Pg	02 52 15.7	+0.6
LAV3	Lava3-Reventad	1.00	74	⇑P	Pb	02 52 20.3	+0.8
IGUA	Igualata	1.10	183	P	Pb	02 52 21.8	+0.5
MAG1	Magdalena	1.22	284	P	Pn	02 52 25.8	+2.7

*ISCJB **05** 02:52:32.8±2.4, 705S±005×13165E±009, h3km±15km, mb4.5/28, MS4.0/4, Error ellipse: s-maj=14.7km s-min=6.7km az=148.6*
*IDC **05** 02:52:35.3±0.7, 681S×13163E, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.5/13, mbtmp4.4/10, ML4.0/2, MS4.0/3, Ms1 4.0/3, ms1mx3.3/24, Error ellipse: s-maj=42.1km s-min=17.0km az=65.0*
*NEIC **05** 02:52:36.1±0.4, 693S×13159E, h10km, mb4.6/11, Error ellipse: s-maj=13.1km s-min=7.4km az=56.0*
*BJI **05** 02:52:37.5, 660S×13128E, h10km, mB4.9, mb4.7, Ms4.4, Msz4.0*
*MOS **05** 02:52:38.2±0.7, 673S×13181E, h34km, mb4.7/9, Error ellipse: s-maj=24.1km s-min=10.6km az=126.4*

ISC 05 02:52:39.1±2.4, 715S±004×13169E±008, h35km±17km, n68, σ1$22/67, mb4.5/28, MS4.0/4, 3C, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.37	208	eP	Pn	02 55 34.1	+1.4
16nm,0.4s							
FITZ				eS	Sn	02 57 46.4	-2.9
WRA	Warramunga Arr	12.97	169	Pn	Pn	02 55 40.1	-0.7
1.6nm,0.3s,baz=331,slow=15,SNR=73							
WRA				Sn	Sn	02 58 03.0	-0.9
4.5nm,0.3s,baz=353,slow=23,SNR=4.8							
WB2	Warramunga Arr	12.97	169	eP	Pn	02 55 40.4	-0.5
WB2				eS	Sn	02 58 01.2	-2.8
PMG	Port Moresby	15.47	99	Pn	Pn	02 56 14.6	-0.1
1.3nm,0.3s,baz=317,slow=16,SNR=3.9							
ASAR	Alice Springs	16.55	173	Pn	Pn	02 56 29.6	+1.1
1.6nm,0.3s,baz=350,slow=14,SNR=63							
ASAR				Sn	Sn	02 59 32.1	+0.9
1.6nm,0.3s,baz=353,slow=26,SNR=7.7							
ASPA	Alice Springs	16.56	173	eP	Pn	02 56 29.3	+0.8
ASPA				eS	Sn	02 59 28.4	-2.8
MBWA	Marble Bar	18.10	218	eP	Pn	02 56 48.3	+0.6
5.7nm,0.4s							
MBWA				eSn	Sn	02 59 54.0	-14
CTA	Charters Tower	19.10	134	eP	Pn	02 57 03.2	+3.4
6.9nm,0.6s							
CTA	Charters Tower	19.10	134	P	Pn	02 57 03.4	+3.5
0.6nm,0.3s,baz=323,slow=11,SNR=9.7							
CTAO	Charters Tower	19.10	134	eP	Pn	02 57 02.9	+3.1
CTAO				pmax	pmax		
comp=Z,9.0nm,0.8s							
CTAO	Charters Tower	19.10	134	eP	Pn	02 57 02.9	+3.0
comp=Z,9.3nm,0.8s							
KKM	Kota Kinabalu	20.25	310	eP	P	02 57 10.3	-1.1
STKA	Stephens Creek	26.28	161	eP	P	02 58 14.2	+3.0
comp=Z,9.2nm,0.8s,mb4.4							
STKA	Stephens Creek	26.28	161	P	P	02 58 14.0	+2.8
comp=Z,7.3nm,0.6s,mb4.4,baz=342,slow=9.7,SNR=17							
STKA	Stephens Creek	26.28	161	eP	P	02 58 13.5	+2.4
NWAO	Narrogin (SRO)	28.94	206	LR	LR	03 12 28.2	
comp=Z,198nm,19.0s,MS3.7,baz=210,slow=41							
PSI	Prapat	34.16	286	LR	LR	03 16 33.1	
comp=Z,175nm,18.3s,MS3.8,baz=270,slow=42							
WHN	Wuhan	41.00	337	⇑P	P	03 00 18.3	-0.4
GYA	Guiyang	41.30	325	⇑iP	P	03 00 20.4	-0.8
GYA				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
ENH	Enshi	42.88	331	eP	P	03 00 31.8	-2.2
comp=Z,7.1nm,0.7s,mb4.5							
MJAR	Matsushiro Arr	43.89	8	P	P	03 00 40.3	-1.9
comp=Z,2.6nm,0.6s,mb4.2,baz=183,slow=9.2,SNR=15							
MAJO	Matsushiro	43.89	8	eP	P	03 00 39.9	-2.3
MAJO				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.5							
MAJO	Matsushiro	43.89	8	eP	P	03 00 39.9	-2.4
comp=Z,5.9nm,0.6s,mb4.5							
XAN	Xi'an	46.30	334	P	P	03 00 59.4	-1.9
XAN				AMB	AMB		
comp=Z,9.0nm,1.2s,mb4.6							
CD2	Chengdu	46.34	326	eP	P	03 01 02.4	+0.7
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB	AMB		
comp=Z,50nm,4.8s							
HHC	Hu-ho-hao-te	51.23	340	⇑P	P	03 01 38.5	-0.7
HHC				AP	pP	03 01 43.3	-6.3
HHC				XP	sP	03 01 45.7	-8.0
HHC				PP	PP	03 03 37.2	+1.0
HHC				PCS	PcS	03 06 46.6	-5.2
HHC				S	S	03 08 56.1	+0.8
HHC				SCS	ScS	03 11 22.3	-4.6
HHC				AMB	AMB		
comp=Z,12nm,1.2s,mb4.7							
HHC				AMB	AMB		
comp=Z,122nm,7.2s							
HHC				LR	LR		
comp=N,129nm,12.0s,MS4.3							
HHC				LR	LR		
comp=E,173nm,15.6s,MS4.3							
HHC				LR	LR		
comp=Z,106nm,13.2s,MS4.0							
GTA	Gaotai	54.93	330	eP	P	03 02 06.0	-0.4
GTA				AP	pP	03 02 12.3	-4.6
GTA				XP	sP	03 02 16.6	-4.4
GTA				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.8							
JIRN	Jiri	55.95	310	eP	P	03 02 13.8	0.0
comp=Z,7.6nm,0.5s,mb5.0							
GUN	Gumba	56.32	310	eP	P	03 02 16.8	+0.4
PKI	Pulchoki	56.50	310	eP	P	03 02 17.4	-0.3
comp=Z,5.1nm,0.4s,mb4.9							
PKI	Pulchoki	56.50	310	eP	P	03 02 17.4	-0.3
PKI				pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.7							
KKN	Kakani	56.71	310	eP	P	03 02 19.1	-0.1
DMN	Daman	56.75	310	eP	P	03 02 19.6	+0.1
GKN	Gorkha	57.31	310	eP	P	03 02 23.2	-0.2
comp=Z,27nm,0.8s,mb5.3							
KOLN	Koldanda	57.99	309	eP	P	03 02 28.4	+0.2
comp=Z,12nm,0.8s,mb5.0							
ULN	Ulaanbaatar	58.94	341	eP	P	03 02 34.8	0.0
ULN				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.7							
ULN	Ulaanbaatar	58.94	341	eP	P	03 02 34.8	0.0
comp=Z,4.6nm,0.7s,mb4.6							
SONM	Songino Array	59.13	340	P	P	03 02 35.5	-0.6
comp=Z,1.5nm,0.4s,mb4.3,baz=161,slow=7.0,SNR=21							
ZAK	Zakamensk	62.37	340	eP	P	03 02 47.2	-11
ZAK				pmax	pmax		
comp=Z,8.0nm,1.9s,mb4.5							
WMQ	Urumqi	64.44	326	eP	P	03 03 12.5	+0.6
WMQ				AMB	AMB		
comp=Z,21nm,1.0s,mb5.1							
BOD	Bodaibo	66.33	350	eP	P	03 03 22.8	-1.3
BOD				pmax	pmax		
comp=Z,5.0nm,1.5s,mb4.3							
MKAR	Makanchi Array	69.28	326	P	P	03 03 42.7	0.0
comp=Z,9.3nm,0.8s,mb4.8,baz=117,slow=6.7,SNR=50							
KZA	Kyzart	70.98	319	P	P	03 03 55.3	+2.2
SNR=9.3							
TKM2	Tokmak 2	71.17	320	P	P	03 03 55.2	+0.9
TKM2				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
UCH	Uchtor	71.54	319	P	P	03 03 58.6	+2.1
SNR=7.1							
AAK	Ala-Archa	71.74	319	P	P	03 03 59.5	+1.8
SNR=5.1							
AML	Almayashu	72.03	318	P	P	03 04 01.2	+1.8
SNR=13							
USP	Ospenovka	72.04	320	P	P	03 04 00.3	+0.8
SNR=10							
VNDA	Vanda	72.10	173	P	P	03 04 03.7	+3.9
comp=Z,3.2nm,1.0s,mb4.2,baz=0.3,slow=4.8,SNR=4.1							
VNDA	Vanda	72.10	173	P	P	03 04 03.6	+3.8
VNDA				pmax	pmax		
comp=Z,5.0nm,0.9s							
VNDA	Vanda	72.10	173	P	P	03 04 03.6	+3.7
comp=Z,4.9nm,0.9s,mb4.4							
EKS2	Erkin-Say	72.22	319	P	P	03 04 01.9	+1.4
SNR=8.1							
ZAL	Zalesovo	72.47	333	P	P	03 04 01.0	-1.1
comp=Z,1.9nm,0.8s,mb4.1,baz=6.7,slow=4.0,SNR=15							
NVS	Novosibirsk	73.75	333	eP	P	03 04 08.2	-1.4
KKAR	Karatay Array	74.56	318	iP	P	03 04 14.6	+0.2
KKAR				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
PPT	Papeete	77.17	106	LR	LR	03 32 25.4	
comp=Z,195nm,19.7s,MS4.4,baz=258,slow=31							
BVA0	Borovoye Array	79.09	327	P	P	03 04 39.7	-0.2
BVA0				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.7							
ZRNK	Zerenda	79.80	327	eP	P	03 04 43.3	-0.5
ZRNK				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
ZRNK	Zerenda	79.80	327	eP	P	03 04 43.3	-0.5
comp=Z,9.5nm,1.0s,mb4.7							
AB31	Akbulak array	83.67	321	P	P	03 05 04.0	-0.2
AB31				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.3							
AKTK	Aktyubinsk	85.22	322	P	P	03 05 12.1	+0.1
AKTO	Aktyubinsk	85.22	322	P	P	03 05 12.1	+0.1
comp=Z,3.3nm,0.7s,mb4.6,baz=113,slow=6.0,SNR=16							
ILAR	Eielson Array	92.77	25	P	P	03 05 49.8	+1.9
comp=Z,0.6nm,0.9s,mb4.0,baz=253,slow=6.4,SNR=4.0							
ARCES	ARCESS Array B	102.30	340	P	Pdif	03 06 30.7	-0.2
comp=Z,0.6nm,0.7s,baz=76,slow=5.0,SNR=3.7							
ARCES	ARCESS Array B	102.30	340	P	Pdif	03 06 30.7	-0.2
TORD	Torodi Ar. Bea	130.48	281	PKP	PKPdf	03 11 48.6	+2.6
comp=Z,0.6nm,0.7s,baz=90,slow=1.7,SNR=4.6							
LPAZ	La Paz	149.55	140	PKPbc	PKPbc	03 12 30.8	+6.0
comp=Z,1.7nm,0.7s,baz=48,slow=4.3,SNR=3.6							
LPAZ	La Paz	149.55	140	ePKPbc	PKPbc	03 12 28.2	+3.4

*ISCJB **05** 02:55:38.4±0.9, 809N±0.1×23W±0.5, h10km, mb3.4/5, MS3.4/2, Error ellipse: s-maj=19.6km s-min=7.9km az=48.4*
*NAO **05** 02:55:38.6±6.7, 8124N×053W*
*IDC **05** 02:55:39.4±1.3, 8113N×192W, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML3.2/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=68.5km s-min=19.2km az=51.0*
*NEIC **05** 02:55:39.7±1.1, 8092N×306W, h10km, Error ellipse: s-maj=22.9km s-min=15.1km az=26.0*

ISC 05 02:55:40.0±0.9, 810N±01×20W±06, h10km, n18, σ1$22/21, mb3.4/5, MS3.4/2, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.21	124	Pn	Pn	02 56 29.5	-0.9
KBS				Pg	Pg	02 56 37.8	-3.6
KBS				Sn	Sn	02 57 07.7	-1.0
KBS	Kingsbay	3.21	124	ePn	Pn	02 56 29.4	-1.0
SPA0	Spitsbergen Ar	4.36	121	Pn	Pn	02 56 45.4	-0.8
baz=315,slow=8.6							
SPA0				Pg	Pg	02 56 53.9	-9.5
baz=344,slow=10							
SPA0				Sn	Sn	02 57 37.2	+0.2
baz=343,slow=28							
DAG	Danmarks Havn	5.31	226	iP	Pn	02 56 56.0	-3.3
DAG	Danmarks Havn	5.31	226	eP	Pn	02 56 56.0	-3.3
SUMG	Summit	11.54	243	ePn	Pn	02 58 16.7	-8.1
SUMG				eSn	Sn	03 00 17.0	-17
ARA0	ARCESS Array S	13.21	135	P	Pn	02 58 48.0	+0.4
baz=345,slow=12							
ARCES	ARCESS Array B	13.21	135	Pn	Pn	02 58 48.6	+1.0
0.2nm,0.3s,baz=353,slow=9.8,SNR=7.9							
ARCES				LR	LR	03 03 17.9	
comp=Z,74nm,19.7s,baz=359,slow=34							
NOA	NORSAR Array B	20.41	161	P	P	03 00 18.8	+1.6
0.9nm,0.7s,baz=348,slow=8.2,SNR=3.5							
FIA0	FINESS Array S	21.13	141	P	P	03 00 24.4	-0.5
baz=4.1,slow=11							
FINES	FINESS Array B	21.13	141	P	P	03 00 25.2	+0.3
0.9nm,0.7s,mb3.2,baz=22,slow=10,SNR=4.8							
YKA	Yellowknife Ar	32.16	306	LR	LR	03 16 05.4	
comp=Z,96nm,18.6s,MS3.5,baz=270,slow=38							
GERES	GERESS Array B	32.71	161	P	P	03 02 13.7	+1.1
0.5nm,0.7s,mb3.5,baz=27,slow=11,SNR=5.4							
ILAR	Eielson Array	33.16	333	P	P	03 02 15.7	-0.9
0.6nm,1.0s,mb3.5,baz=8.4,slow=5.7,SNR=4.1							
AKTO	Aktyubinsk	35.95	109	LR	LR	03 18 30.9	
comp=Z,58nm,19.0s,MS3.4,baz=0.0,slow=38							
BRTR	Keskin Array B	43.35	139	P	P	03 03 43.1	+0.8
0.6nm,0.8s,mb3.4,baz=334,slow=4.7,SNR=4.4							
TXAR	Lajitas Array	63.03	286	P	P	03 06 08.3	+1.1
0.2nm,0.6s,mb3.4,baz=58,slow=3.9,SNR=3.6							
TXAR	Lajitas Array	63.03	286	P	P	03 06 08.3	+1.1

*MAN **05** 03:09:03.7, 1242N×12656E, h12km, mb2.5, ML4.0, MS4.8*
*IDC **05** 03:09:04.4±1.0, 1224N×12630E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, Error ellipse: s-maj=62.4km s-min=18.0km az=73.0*
*ISCJB **05** 03:09:07.3±0.6, 1231N±005×12642E±007, h33km, mb4.1/11, Error ellipse: s-maj=10.0km s-min=7.6km az=9.1*
*NEIC **05** 03:09:09.5±0.5, 1223N×12635E, h35km, mb4.2/4, Error ellipse: s-maj=21.0km s-min=7.9km az=59.0*

ISC 05 03:09:09.8±0.6, 1226N±005×12634E±007, h35km, n25, σ0$92/27, mb4.1/11, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	1.66	279	eP	Pn	03 09 35.3	-1.1
PLP	Palo	1.72	231	iP	Pn	03 09 36.3	-1.0
PLP				i S	Sn	03 09 56.9	-1.2
PVCP	Virac	2.51	302	eP	Pn	03 09 46.6	-1.5
MSLP	Maasin	2.57	215	eP	Pn	03 09 51.0	+2.2
MSLP				eS	Sn	03 10 23.3	+4.5
SCPH	Surigao	2.60	199‖	eP	Pn	03 09 48.9	-0.4
RCP	Roxas	3.59	259‖	eP	Pn	03 10 03.6	+0.7
GUIM	Jordan	4.02	247	eP	Pn	03 10 10.6	+1.7
OTRP	Odiongan	4.22	272	eP	Pn	03 10 11.8	+0.2
APYP	Conner	7.43	319	eP	Pn	03 10 54.6	-1.1
WRA	Warramunga Arr	32.95	166	P	P	03 15 40.7	-0.4
0.5nm,0.7s,mb3.6,baz=344,slow=9.2,SNR=11							
ASAR	Alice Springs	36.46	168	P	P	03 16 11.9	+0.6
0.5nm,0.4s,mb3.8,baz=350,slow=10,SNR=10.0							
JIRN	Jiri	40.52	298	eP	P	03 16 46.8	+1.4
8.4nm,0.5s,mb4.6							
GUN	Gumba	40.85	299	eP	P	03 16 48.1	0.0
PKI	Pulchoki	41.17	298	eP	P	03 16 51.3	+0.5
KKN	Kakani	41.34	298	eP	P	03 16 52.8	+0.7
DMN	Daman	41.45	298	eP	P	03 16 53.5	+0.5
9.6nm,0.9s,mb4.5							
GKN	Gorkha	41.94	298	eP	P	03 16 57.4	+0.3
KOLN	Koldanda	42.78	298	eP	P	03 17 04.8	+0.9
8.3nm,0.7s,mb4.5							
NWAO	Narrogin (SRO)	45.77	191	P	P	03 17 27.6	-0.2
2.1nm,0.4s,mb4.4,baz=19,slow=8.7,SNR=6.9							
STKA	Stephens Creek	46.26	162	P	P	03 17 30.1	-1.6
1.5nm,0.9s,mb3.9,baz=353,slow=7.9,SNR=3.4							
MKAR	Makanchi Array	50.51	322	P	P	03 18 04.0	-0.5
0.8nm,0.7s,mb3.8,baz=110,slow=8.3,SNR=10							
ZAL	Zalesovo	52.93	331	P	P	03 18 22.6	+0.1
0.4nm,0.4s,mb3.8,baz=115,slow=21,SNR=2.1							
ZRNK	Zerenda	60.84	324	eP	P	03 19 18.4	-0.2
1.1nm,0.7s,mb4.1							
INK	Inuvik	82.42	22	P	P	03 21 28.3	-0.1
1.0nm,0.9s,mb3.8,baz=280,slow=3.7,SNR=3.8							
INK	Inuvik	82.42	22	P	P	03 21 28.3	-0.1

*ISCJB **05** 03:13:54.0±0.8, 722S±005×1315E±01, h33km, mb3.8/4, Error ellipse: s-maj=20.8km s-min=7.0km az=164.1*
*NEIC **05** 03:13:55.3±1.8, 700S×13230E, h35km, mb3.9/2, Error ellipse: s-maj=171.0km s-min=10.3km az=77.0*
*IDC **05** 03:13:58.7±11.0, 720S×13230E, h75km±136km, mb3.4/2, mb1 3.4/4, mb1mx3.4/12, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=133.8km s-min=62.2km az=88.0*

ISC 05 03:13:56.4±0.8, 720S±005×1316E±01, h35km, n10, σ1$04/15, mb3.8/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.32	208	eP	Pn	03 16 53.2	+4.0
3.4nm,0.6s							
FITZ				eS	Sn	03 19 05.0	-0.2
WRA	Warramunga Arr	12.94	169	P	Pn	03 16 57.8	+0.1
0.3nm,0.3s,baz=350,slow=14,SNR=7.9							
WRA				S	Sn	03 19 17.4	-3.0
0.6nm,0.3s,baz=353,slow=23,SNR=6.9							
WB2	Warramunga Arr	12.94	169	eP	Pn	03 16 58.0	+0.3
WB2				eS	Sn	03 19 20.5	+0.1
ASAR	Alice Springs	16.52	173	P	Pn	03 17 46.2	+0.9
0.1nm,0.3s,baz=339,slow=7.9,SNR=4.1							
ASAR				S	S	03 20 48.0	-10
0.2nm,0.3s,baz=351,slow=26,SNR=5.2							
ASPA	Alice Springs	16.52	173	eP	Pn	03 17 47.2	+1.9
ASPA				eS	S	03 20 44.8	-14
ULN	Ulaanbaatar	58.97	341	eP	P	03 23 51.4	-0.8
1.0nm,0.8s,mb3.9							
SONM	Songino Array	59.16	340	P	P	03 23 53.2	-0.4
0.4nm,0.6s,mb3.6,baz=155,slow=9.5,SNR=3.8							
MKAR	Makanchi Array	69.29	326	P	P	03 25 00.3	+0.4
1.3nm,0.8s,mb3.9,baz=125,slow=7.7,SNR=14							
MKAR	Makanchi Array	69.29	326	P	P	03 25 00.3	+0.4
ZRNK	Zerenda	79.81	327	eP	P	03 26 00.8	-0.3
0.9nm,0.7s,mb3.8							

*IDC **05** 03:24:31.2±0.5, 170N×12567E, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, MS3.7/4, Ms1 3.7/4, ms1mx3.2/29, Error ellipse: s-maj=33.0km s-min=12.2km az=81.0*
*ISCJB **05** 03:24:35.0±0.3, 167N±004×12583E±009, h33km, mb4.6/31, MS3.7/5, Error ellipse: s-maj=12.8km s-min=5.3km az=161.6*
*MOS **05** 03:24:34.6±1.0, 173N×12556E, h33km, mb4.9/8, Error ellipse: s-maj=26.0km s-min=10.4km az=95.2*
*NEIC **05** 03:24:39.9±2.2, 167N×12581E, h65km±22km, mb4.6/9, Error ellipse: s-maj=18.2km s-min=9.1km az=79.0*
*BJI **05** 03:24:39.8, 170N×12580E, h65km, mB5.0, mb4.8, Ms4.4, Msz4.0*

ISC 05 03:24:40.3±1.0, 166N±004×12579E±009, h68km±10km, n63, σ1$22/63, mb4.5/31, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	5.36	353	eP	Pn	03 25 59.0	+1.4
KCP				i S	Sn	03 26 59.5	+1.5
BUKP	Musuan	6.22	353	eP	Pn	03 26 08.8	-0.7
PAGZ	Pagadian	6.59	339	eP	Pn	03 26 12.2	-2.4
KKM	Kota Kinabalu	10.50	295	ePn	Pn	03 27 07.6	-0.3
KSM	Kuching	15.48	270	eP	Pn	03 28 16.7	+2.2
FITZ	Fitzroy Crossi	19.64	180	eP	Pn	03 29 01.7	-3.7
12nm,0.9s							
WRA	Warramunga Arr	23.05	159	P	P	03 29 38.4	-1.4
18nm,0.5s,mb4.6,baz=338,slow=10,SNR=161							
WB2	Warramunga Arr	23.06	159	eP	P	03 29 38.0	-1.9
WB2				eS	S	03 33 44.5	-0.8
MBWA	Marble Bar	23.44	194	eP	P	03 29 42.4	-1.1
9.5nm,0.6s,mb4.3							
JOW	Kunigami	25.14	5	P	P	03 29 59.5	+0.6
29nm,0.7s,mb4.8,baz=206,slow=7.4,SNR=5.0							
ASPA	Alice Springs	26.39	163	eP	P	03 30 10.1	-0.1
ASPA				eS	S	03 34 40.9	+2.4
ASAR	Alice Springs	26.39	163	P	P	03 30 10.2	0.0
5.9nm,0.5s,mb4.3,baz=343,slow=7.9,SNR=77							
ASAR				PcP	PcP	03 33 36.4	+2.1
1.7nm,0.6s,baz=356,slow=2.2,SNR=6.4							
PSI	Prapat	26.87	273	LR	LR	03 41 51.0	
comp=Z,129nm,19.7s,baz=300,slow=39							
CTAO	Charters Tower	29

HHC LR LR
comp=Z,107nm,18.0s
CN2 Changchun 41.96 360 *eP* **P 03 32 23.8 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.3
MDJ Mudanjiang 42.90 4 *eP* **P 03 32 32.7 +0.6**
comp=Z,14nm,0.8s,mb4.8
ASAJ Asahikawa 44.83 17 P **P 03 32 47.4 -0.2**
comp=Z,11nm,0.8s,mb4.6,baz=213,slow=16,SNR=6.8
SONM Songino Array 48.96 343 P **P 03 33 19.5 -0.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=231,slow=48,SNR=4.7
SONM PcP PcP 03 34 43.9 +1.0
comp=Z,1.1nm,0.7s,baz=166,slow=4.1,SNR=4.7
BOD Bodaibo 56.77 352 *eP* **P 03 34 16.1 -1.1**
BOD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MKAR Makanchi Array 58.73 326 P **P 03 34 29.4 -1.5**
comp=Z,1.2nm,0.4s,mb4.3,baz=120,slow=7.8,SNR=39
MKAR PcP PcP 03 35 20.2 +0.1
comp=Z,2.7nm,0.8s,baz=117,slow=5.4,SNR=6.1
MKAR LR LR 03 59 52.2
comp=Z,59nm,19.2s,baz=181,slow=36
MKAR Makanchi Array 58.73 326 P **P 03 34 29.5 -1.4**
MKAR 03 35 20.2
MKAR Makanchi Array 58.73 326 P **P 03 34 29.4 -1.5**
MKAR PcP PcP 03 35 20.2 +0.1
MKAR LR LR 03 59 52.2
YAK Yakutsk 60.29 2 *eP* **P 03 34 42.4 +0.7**
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK Yakutsk 60.29 2 *eP* **P 03 34 42.0 +0.3**
comp=N,31nm,0.8s,mb5.4
MA2 Magadan 60.92 14 *eP* **P 03 34 47.2 +1.2**
MA2 pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
MA2 Magadan 60.92 14 *eP* **P 03 34 47.2 +1.2**
comp=Z,7.7nm,0.5s,mb5.0
SEY Seymchan 64.24 13 *eP* **P 03 35 09.4 +1.3**
SEY pmax pmax
comp=Z,11μm,0.8s
BVAR Borovoye Array 68.54 328 P **P 03 35 34.5 -1.0**
comp=Z,0.6nm,0.5s,mb3.6,baz=124,slow=5.3,SNR=4.8
BVAR PcP PcP 03 35 59.4 -0.9
comp=Z,0.8nm,0.6s,baz=124,slow=5.3,SNR=3.8
ZRNK Zerenda 69.25 327 *eP* **P 03 35 38.0 -2.0**
ZRNK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ZRNK Zerenda 69.25 327 *eP* **P 03 35 38.0 -2.0**
comp=Z,2.1nm,0.5s,mb4.2
VNDA Vanda 81.51 173 P **P 03 36 50.8 +0.5**
comp=Z,1.6nm,0.5s,mb4.1,baz=312,slow=8.5,SNR=6.6
VNDA Vanda 81.51 173 P **P 03 36 51.8 +1.5**
VNDA pmax pmax
comp=Z,2.0nm,0.5s
VNDA Vanda 81.51 173 P **P 03 36 51.8 +1.5**
comp=Z,2.4nm,0.5s,mb4.3
TTA Tatalina 83.16 27 *eP* **P 03 37 00.4 +1.6**
TTA pmax pmax
comp=Z,15nm,1.0s,mb4.8
TTA Tatalina 83.16 27 *eP* **P 03 37 00.4 +1.6**
comp=Z,15nm,1.0s,mb4.8
IMA2 Indian Mountai 84.64 24 *eP* **P 03 37 08.3 +1.9**
MCK McKinley 86.42 26 *eP* **P 03 37 15.5 +0.3**
MCK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MCK McKinley 86.42 26 *eP* **P 03 37 15.5 +0.3**
comp=Z,2.2nm,0.6s,mb4.3
ILAR Eielson Array 87.36 25 P **P 03 37 19.6 -0.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=245,slow=4.7,SNR=23
ARCES ARCESS Array B 92.05 340 P **P 03 37 40.9 -0.9**
comp=Z,4.7nm,0.9s,mb4.7,baz=13,slow=12,SNR=4.5
INK Inuvik 92.42 21 P **P 03 37 43.0 -0.5**
comp=Z,2.8nm,0.9s,mb4.5,baz=281,slow=10,SNR=3.1
AKASG Malin Array Be 92.89 321 P **P 03 37 45.0 -0.7**
comp=Z,0.6nm,0.6s,mb4.1,baz=68,slow=5.0,SNR=2.8
FINES FINESS Array B 93.20 332 P **P 03 37 46.6 -0.5**
comp=Z,1.2nm,0.7s,mb4.4,baz=90,slow=1.9,SNR=4.9
TORD Torodi Ar. Bea 122.64 287 PKP PKPdf 03 43 29.3 +1.2
comp=Z,1.5nm,0.8s,baz=58,slow=2.0,SNR=12
LPAZ La Paz 160.02 137 PKP PKPdf 03 44 36.0 +4.4
comp=Z,1.1nm,1.0s,baz=270,slow=4.3,SNR=3.7

*BJI **05** 03:25:50.6, 44.40N×112.40W, h18km, mB5.1, mb4.8, Ms4.8, Msz4.5*
*ISCJB **05** 03:25:51.8±0.2, 44.77N±002×111.84W±003, h10km, mb4.4/33, MS4.0/8, Error ellipse: s-maj=3.6km s-min=2.3km az=108.4*
*IDC **05** 03:25:51.3±0.5, 44.21N×112.44W, h0km, mb4.1/12, mb1 4.3/16, mb1mx4.1/24, mbtmp4.1/16, ML4.8/4, MS3.8/14, Ms1 3.8/14, ms1mx3.5/38, Error ellipse: s-maj=17.7km s-min=5.5km az=42.0*
*NEIC **05** 03:25:52.0, 44.69N×111.87W, h14km, mb4.5/24, ML4.6(BUT), MW4.4(SLM), After BUT.*
NEIC Felt [III] at Cameron and Gallatin Gateway; [II] at Anaconda, Bozeman, Butte, Ennis and West Yellowstone. Also felt at Belgrade, Clancy, Dillon, Emigrant, Gardiner, Helena, Lima, Sheridan and Virginia City. Felt [IV] at Island Park, [III] at Ashton and Saint Anthony and [II] at Rexburg, Idaho. Also felt at Arco, Dubois, Felt, Salmon and Teton, Idaho and at Jackson and Wilson, Wyoming.
*MOS **05** 03:25:53.5±1.3, 44.59N×111.79W, h18km, mb4.6/7, Error ellipse: s-maj=10.2km s-min=6.5km az=121.2*

ISC 05 03:25:53.2±0.2, 4476N±002×11183W±003, h10km, n136, σ1§30/160, mb4.4/33, MS4.0/8, 9C-3D, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLMT	**Earthquake Lak**	**0.30**	**75**	*e*Pg	**Pg**	**03 25 59.4**	**+0.3**
MCMT	**McKenzie Canyo**	**0.73**	**276**	*e*Pg	**Pg**	**03 26 06.4**	**-0.9**
YFT	**Old Faithful**	**0.77**	**113**	*e*Pg	**Pg**	**03 26 07.9**	**-0.2**
DLMT	**Dillon**	**0.81**	**319**	⇑*i*Pn	**Pn**	**03 26 08.9**	**-1.8**
DLMT				*e*Sn	**Sn**	**03 26 18.7**	**-4.1**
BOZ	**Bozeman (W)**	**0.90**	**9**	⇑*e*Pg	**Pg**	**03 26 09.6**	**-1.0**
BOZ				*e*Sg	**Sg**	**03 26 21.4**	**-1.0**
LKWY	**Lake**	**1.04**	**100**	⇓*i*P	**Pg**	**03 26 13.8**	**+0.6**
FLWY	**Flagg Ranch**	**1.05**	**129**	⇓*e*Pn	**Pn**	**03 26 12.2**	**-1.8**
MOOW	**Moose Ponds**	**1.27**	**142**	*e*Pn	**Pn**	**03 26 15.0**	**-2.1**
MOOW				*e*Sg	**Sg**	**03 26 31.5**	**-2.7**
LOHW	**Long Hollow**	**1.45**	**142**	⇑*e*Pn	**Pn**	**03 26 18.1**	**-1.3**
LOHW				*e*S	**Sn**	**03 26 37.0**	**-1.4**
SNOW	**Snow King Moun**	**1.51**	**149**	⇑*e*Pn	**Pn**	**03 26 19.4**	**-0.9**
SNOW				*e*Sn	**Sn**	**03 26 39.2**	**-0.8**
REDW	**Red Top Meadow**	**1.56**	**153**	⇑*i*Pn	**Pn**	**03 26 20.2**	**-0.9**
REDW				*e*Sn	**Sn**	**03 26 41.4**	**+0.1**
GCMT	**Greycliff**	**1.85**	**55**	⇑*e*Pn	**Pn**	**03 26 26.2**	**+1.3**
HRY	**Holter Researc**	**1.96**	**0**	⇑*i*Pn	**Pn**	**03 26 26.8**	**+0.4**
AHID	**Auburn Hatcher**	**2.06**	**165**	⇑*e*Pn	**Pn**	**03 26 27.7**	**-0.2**
AHID				*e*Sn	**Sn**	**03 26 53.4**	**-0.2**
HLID	**Hailey**	**2.21**	**238**	*e*Pn	**Pn**	**03 26 28.9**	**-1.0**
HLID				*e*Sn	**Sn**	**03 26 57.8**	**+0.5**
CHMT	**Chamberlain Mo**	**2.38**	**336**	⇑*i*Pn	**Pn**	**03 26 32.6**	**+0.4**
MSO	**Missoula**	**2.54**	**325**	*e*Pn	**Pn**	**03 26 34.6**	**+0.1**
MSO				*e*Pg	**Pg**	**03 26 40.6**	**-1.4**
MSO				*e*Sg	**Sg**	**03 27 13.8**	**-1.2**
BW06	**Boulder Array**	**2.58**	**140**	*e*Pn	**Pn**	**03 26 35.6**	**+0.6**
BW06				*e*Sn	**Sn**	**03 27 06.6**	**+0.1**
BW06				*e*Sb	**Sb**	**03 27 11.5**	**+0.1**
BW06				*e*Sg	**Sg**	**03 27 14.3**	**-1.9**
PDAR	**Pinedale Array**	**2.58**	**140**	Pn	**Pn**	**03 26 36.0**	**+1.0**
	105nm,0.3s,baz=180,slow=25,SNR=483						
PDAR				Pg	**Pg**	**03 26 37.7**	**-5.0**
	114nm,0.3s,baz=332,slow=13,SNR=487						
PDAR				Lg		03 27 11.8	
	296nm,0.3s,baz=353,slow=25,SNR=21						
PDAR	**Pinedale Array**	**2.58**	**140**	Pn	**Pn**	**03 26 36.0**	**+1.0**
PDAR				Pg	**Pg**	**03 26 37.7**	**-5.0**
PDAR				Lg		03 27 11.8	
HWUT	**Hardware Ranch**	**3.15**	**176**	*e*Pn	**Pn**	**03 26 43.4**	**+0.5**
BMO	**Blue Mountains**	**3.90**	**273**	*e*Pn	**Pn**	**03 26 52.5**	**-0.6**
BMO				*e*Pg	**Pg**	**03 27 06.4**	**-1.5**
BMO				*e*Sg	**Sg**	**03 27 55.5**	**-2.9**
NOQ	**North Oquirrh**	**4.11**	**183**	*e*Pn	**Pn**	**03 26 57.2**	**+1.2**
LAO	**LASA Array**	**4.38**	**62**	*e*Pn	**Pn**	**03 27 00.5**	**+0.7**
LAO				*e*Pg	**Pg**	**03 27 12.9**	**-4.2**
LAO				*e*Sg	**Sg**	**03 28 10.0**	**-3.8**
RWWY	**Rawlins**	**4.56**	**131**	*e*Pn	**Pn**	**03 27 03.8**	**+1.5**
RWWY				*e*Sg	**Sg**	**03 28 09.8**	**-10**
DUG	**Dugway**	**4.62**	**189**	*e*P	**Pn**	**03 27 03.8**	**+0.8**
ELK	**Elko**	**4.73**	**213**	LR	LR	03 27 50.8	
	comp=Z,305nm,20.2s,baz=5.1,slow=30						
NEW	**Newport**	**5.06**	**316**	Pn	**Pn**	**03 27 09.5**	**+0.3**
	19nm,0.3s,baz=133,slow=11,SNR=280						
NEW				Pg	**Pg**	**03 27 27.0**	**-3.2**
	30nm,0.3s,baz=122,slow=15,SNR=13						
NEW				Sn	**Sn**	**03 28 11.9**	**+4.2**
	20nm,0.3s,baz=135,slow=6.7,SNR=4.2						
NEW				Lg		03 28 32.9	
	103nm,0.3s,baz=49,slow=23,SNR=16						
NEW	**Newport**	**5.06**	**316**	P	**Pn**	**03 27 09.5**	**+0.3**
NEW						03 28 11.9	
NEW	**Newport**	**5.06**	**316**	Pn	**Pn**	**03 27 09.5**	**+0.3**
NEW				Pg	**Pg**	**03 27 27.0**	**-3.2**
NEW				Sn	**Sn**	**03 28 11.9**	**+4.2**
NEW				Lg		03 28 32.9	
WVOR	**Wild Horse Val**	**5.46**	**247**	P	**Pn**	**03 27 14.9**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,328nm,0.8s						
WVOR	**Wild Horse Val**	**5.46**	**247**	Pn	**Pn**	**03 27 14.9**	**+0.3**
	comp=Z,328nm,0.8s						
TMUT	**Trail Mountain**	**5.47**	**175**	*e*Pn	**Pn**	**03 27 07.4**	**-7.4**
RSSD	**Black Hills**	**5.62**	**94**	*e*P	**Pn**	**03 27 17.4**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,149nm,0.5s						
RSSD	**Black Hills**	**5.62**	**94**	*e*Pn	**Pn**	**03 27 17.4**	**+0.6**
	comp=Z,149nm,0.5s						
RSSD				*e*Sg	**Sg**	**03 28 50.3**	**-3.3**
HAWA	**Hanford**	**5.65**	**290**	*e*Pn	**Pn**	**03 27 16.9**	**-0.3**
	comp=Z,10nm,0.6s						
PHWY	**Pilot Hill**	**5.81**	**124**	*e*Pn	**Pn**	**03 27 20.4**	**+1.0**
PHWY				*e*Pg	**Pg**	**03 27 41.6**	**-2.8**
PHWY				*e*S	Sx	03 28 47.0	
MVU	**Marysvale**	**6.25**	**183**	*e*P	**Pn**	**03 27 33.9**	**+8.4**
DGMT	**Dagmar**	**6.44**	**52**	*e*Pn	**Pn**	**03 27 28.9**	**+0.8**
	comp=Z,353nm,0.6s						
DGMT				*e*Pb	**Pb**	**03 27 46.6**	**+1.2**
DGMT				*e*S	Sx	03 29 06.7	
SMCO	**Snowmass**	**6.64**	**145**	*e*Pn	**Pn**	**03 27 32.7**	**+1.8**
	comp=Z,207nm,0.8s						
SMCO				*e*		03 27 51.8	
SMCO				*e*S	Sx	03 29 16.6	
ISCO	**Idaho Springs**	**6.77**	**135**	*e*P	**Pn**	**03 27 33.7**	**+1.2**
ISCO				pmax	pmax		
	comp=Z,70nm,0.8s						
ISCO	**Idaho Springs**	**6.77**	**135**	*e*Pn	**Pn**	**03 27 33.7**	**+1.2**
	comp=Z,70nm,0.8s						
ISCO				*e*S	Sn	03 29 13.9	+24
MOD	**Modoc**	**6.80**	**248**	Pn	**Pn**	**03 27 35.9**	**+2.8**
	comp=Z,142nm,1.0s						
TPH	**Tonopah**	**7.80**	**213**	*e*P	**Pn**	**03 27 53.8**	**+7.0**
TPH				pmax	pmax		
	comp=Z,115nm,0.8s						
TPH	**Tonopah**	**7.80**	**213**	*e*P	**Pn**	**03 27 53.8**	**+6.9**
	comp=Z,115nm,0.8s						
MNV	**Mina**	**7.89**	**219**	P	**Pn**	**03 27 47.4**	**-0.6**
MNV				pmax	pmax		
	comp=Z,70nm,0.9s						
MNV	**Mina**	**7.89**	**219**	Pn	**Pn**	**03 27 47.4**	**-0.6**
	comp=Z,70nm,0.9s						
NVAR	**Mina Array Bea**	**7.96**	**220**	Pg	**Pn**	**03 27 53.2**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=34,slow=13,SNR=17						
NVAR				Lg		03 29 40.3	
	baz=337,slow=36,SNR=2.4						
NVAR	**Mina Array Bea**	**7.96**	**220**	Pg	**Pn**	**03 27 53.2**	**+4.2**
NVAR				Lg		03 29 40.3	
SDCO	**Great Sand Dun**	**8.47**	**144**	*e*Pn	**Pn**	**03 27 56.7**	**+0.8**
	comp=Z,56nm,1.1s						
SDCO				*e*Pb	Pn	03 28 18.6	+23
YBH	**Yreka Blue Hor**	**8.50**	**253**	Pn	**Pn**	**03 27 51.8**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=74,slow=19,SNR=3.0						
YBH				Pg	**Pn**	**03 28 07.9**	**+12**
	comp=Z,0.3nm,0.3s,baz=60,slow=19,SNR=7.0						
WUAZ	**Wupatki**	**9.23**	**178**	*e*Pn	**Pn**	**03 28 08.3**	**+1.9**
	comp=Z,70nm,0.8s						
CMB	**Columbia Colle**	**9.29**	**227**	*e*P	**Pn**	**03 28 10.0**	**+2.8**
CMB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMB	**Columbia Colle**	**9.29**	**227**	*e*Pn	**Pn**	**03 28 10.0**	**+2.8**
	comp=Z,9.6nm,0.7s						
ANMO	**Albuquerque**	**10.62**	**155**	Pn	**Pn**	**03 28 25.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=336,slow=13,SNR=11						
ANMO				Pg	Pn	03 29 05.0	+39
	comp=Z,0.2nm,0.3s,baz=335,slow=17,SNR=2.6						
ANMO				Lg		03 31 24.6	
	comp=Z,0.4nm,0.3s,baz=73,slow=21,SNR=2.8						
ANMO				LR	LR	03 32 40.2	
	comp=Z,465nm,19.5s,baz=318,slow=40						
ANMO	**Albuquerque**	**10.62**	**155**	*e*Pn	**Pn**	**03 28 25.3**	**-0.1**
CBKS	**Cedar Bluff**	**10.80**	**119**	*e*P	**Pn**	**03 28 26.7**	**-1.2**
CBKS				pmax	pmax		
	comp=Z,41nm,1.0s						
CBKS	**Cedar Bluff**	**10.80**	**119**	*e*Pn	**Pn**	**03 28 26.7**	**-1.2**
	comp=Z,41nm,1.0s						
ULM	**Lac du Bonnet**	**12.10**	**57**	Pn	**Pn**	**03 28 44.5**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=250,slow=11,SNR=15						
ULM				Pg	Pn	03 29 34.0	+48
	comp=Z,2.5nm,0.3s,baz=252,slow=14,SNR=13						
ULM				LR	LR	03 33 08.4	
	comp=Z,109nm,21.2s,baz=262,slow=34						
ULM	**Lac du Bonnet**	**12.10**	**57**	Pn	**Pn**	**03 28 44.5**	**-1.2**
ULM				Pg	Pn	03 29 34.0	+48
ULM				LR	LR	03 33 08.4	
TUC	**Tucson**	**12.45**	**176**	*e*P	**Pn**	**03 28 44.8**	**-5.7**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TUC	**Tucson**	**12.45**	**176**	*e*Pn	**Pn**	**03 28 44.8**	**-5.7**
	comp=Z,4.6nm,0.8s						
TUC				*e*		03 28 59.9	
KSU1	**Kansas State U**	**12.66**	**111**	*e*Pn	**Pn**	**03 28 54.3**	**+1.0**
GDL2	**Guadalupe Moun**	**13.82**	**153**	*e*P	**Pn**	**03 29 17.9**	**+8.7**
MNTX	**Cornudas Mount**	**13.98**	**157**	*e*Pn	**Pn**	**03 29 13.4**	**+2.1**
	comp=Z,18nm,1.1s						
WMOK	**Wichita Mounta**	**14.16**	**130**	*e*P	**Pn**	**03 29 12.5**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,11nm,0.7s						
WMOK	**Wichita Mounta**	**14.16**	**130**	*e*Pn	**Pn**	**03 29 12.4**	**-1.3**
	comp=Z,11nm,0.7s						
TXAR	**Lajitas Array**	**16.70**	**154**	Pn	**Pn**	**03 29 46.9**	**-0.4**
	baz=348,slow=6.8,SNR=22						
TXAR				Lg		03 34 36.7	
	baz=336,slow=37,SNR=2.7						
TXAR				LR	LR	03 36 44.8	
	comp=Z,242nm,19.1s,baz=355,slow=40						
JCT	**Junction City**	**17.11**	**142**	*e*P	**Pn**	**03 29 52.3**	**-0.2**
JCT				pmax	pmax		
	comp=Z,26nm,1.2s						
JCT	**Junction City**	**17.11**	**142**	*e*P	**Pn**	**03 29 52.3**	**-0.2**
	comp=Z,26nm,1.2s						
MIAR	**Mount Ida**	**17.33**	**120**	*e*P	**Pn**	**03 29 54.3**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,27nm,0.9s						
MIAR	**Mount Ida**	**17.33**	**120**	*e*P	**Pn**	**03 29 54.3**	**-0.9**
	comp=Z,27nm,0.9s						
FVM	**French Village**	**17.41**	**105**	*e*P	**Pn**	**03 29 55.5**	**-0.7**
FVM				pmax	pmax		
	comp=Z,24nm,0.8s						
FVM	**French Village**	**17.41**	**105**	*e*P	**Pn**	**03 29 55.5**	**-0.7**
	comp=Z,24nm,0.8s						
YKA	**Yellowknife Ar**	**17.84**	**356**	Pn	**Pn**	**03 29 58.2**	**-3.4**
	baz=180,slow=12,SNR=66						
YKA				Lg		03 35 11.5	
	baz=172,slow=28,SNR=5.1						
YKA				LR	LR	03 37 17.9	
	comp=Z,410nm,19.1s,baz=195,slow=37						
YKA	**Yellowknife Ar**	**17.84**	**356**	Pn	**Pn**	**03 29 58.2**	**-3.4**
YKA				Lg		03 35 11.5	
YKA				LR	LR	03 37 17.9	
YKW3	**Yellowknife Ar**	**17.91**	**356**	*e*P	**Pn**	**03 29 59.2**	**-3.2**
UALR	**University of**	**17.95**	**117**	*e*P	**Pn**	**03 30 01.0**	**-1.9**
	comp=Z,22nm,1.1s						
HKT	**Hockley**	**19.45**	**134**	*e*P	**Pn**	**03 30 21.2**	**+0.2**
HKT				pmax	pmax		
	comp=Z,13nm,1.3s						
HKT	**Hockley**	**19.45**	**134**	*e*P	**Pn**	**03 30 21.2**	**+0.2**
	comp=Z,13nm,1.3s						
BLO	**Bloomington**	**19.59**	**98**	*e*P	**Pn**	**03 30 22.0**	**-0.8**
BLO				pmax	pmax		
	comp=Z,20nm,0.6s						
BLO	**Bloomington**	**19.59**	**98**	*e*P	**Pn**	**03 30 22.0**	**-0.8**
	comp=Z,20nm,0.6s						
OXF	**Oxford**	**20.01**	**113**	*e*P	**P**	**03 30 27.4**	**+1.4**
OXF				pmax	pmax		
	comp=Z,59nm,0.9s						
OXF	**Oxford**	**20.01**	**113**	*e*P	**P**	**03 30 27.4**	**+1.4**
	comp=Z,59nm,0.9s						
WVT	**Waverly**	**20.14**	**107**	*e*P	**P**	**03 30 27.8**	**+0.3**
WVT				pmax	pmax		
	comp=Z,13nm,0.8s						
WVT	**Waverly**	**20.14**	**107**	*e*P	**P**	**03 30 27.8**	**+0.3**
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**20.16**	**100**	*e*P	**P**	**03 30 26.8**	**-0.9**
WCI				pmax	pmax		
	comp=Z,23nm,0.7s						
WCI	**Wyandotte Cave**	**20.16**	**100**	*e*P	**P**	**03 30 26.8**	**-0.9**
	comp=Z,23nm,0.7s						
PLAL	**Pickwick Lake**	**20.62**	**110**	*e*P	**P**	**03 30 33.2**	**+0.5**
	comp=Z,43nm,0.7s						
ACSO	**Alum Creek Sta**	**21.69**	**92**	*e*P	**P**	**03 30 45.3**	**+1.1**
	comp=Z,46nm,0.9s,mb4.9						
LRAL	**Lakeview Retre**	**22.50**	**113**	*e*P	**P**	**03 30 53.3**	**+0.4**
	comp=Z,25nm,0.9s,mb4.7						
TZTN	**Tazewell**	**22.89**	**101**	*e*P	**P**	**03 30 57.8**	**+0.8**
MCWV	**Mont Chateau**	**24.14**	**91**	*e*P	**P**	**03 31 10.3**	**+1.0**
	comp=Z,64nm,1.0s,mb5.0						
BLA	**Blacksburg**	**24.77**	**97**	*e*P	**P**	**03 31 15.8**	**+0.8**
BLA				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						
BLA	**Blacksburg**	**24.77**	**97**	*e*P	**P**	**03 31 15.8**	**+0.7**
	comp=Z,2.5nm,1.1s,mb3.7						
INK	**Inuvik**	**26.16**	**342**	P	**P**	**03 31 30.9**	**+3.3**
	comp=Z,2.1nm,0.9s,mb3.6,baz=134,slow=9.5,SNR=6.1						
INK				LR	LR	03 42 56.1	
	comp=Z,401nm,18.4s,MS4.0,baz=248,slow=39						
ILAR	**Eielson Array**	**27.88**	**328**	P	**P**	**03 31 45.2**	**+2.1**
	comp=Z,3.4nm,0.9s,mb4.0,baz=131,slow=7.8,SNR=18						
ILAR				PcP	PcP	03 34 59.0	+0.2
	comp=Z,0.3nm,0.6s,baz=143,slow=2.6,SNR=5.2						
ILAR				LR	LR	03 42 50.8	
	comp=Z,160nm,20.8s,MS3.6,baz=5.5,slow=36						
ILAR	**Eielson Array**	**27.88**	**328**	P	**P**	**03 31 45.3**	**+2.2**
ILAR						03 34 59.0	
MCK	**McKinley**	**28.21**	**325**	*e*P	**P**	**03 31 46.4**	**+0.3**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
MCK	**McKinley**	**28.21**	**325**	*e*P	**P**	**03 31 46.4**	**+0.4**
	comp=Z,6.6nm,1.1s,mb4.2						
COLA	**College**	**28.29**	**328**	*e*P	**P**	**03 31 49.1**	**+2.3**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
COLA	**College**	**28.29**	**328**	*e*P	**P**	**03 31 49.1**	**+2.3**
	comp=Z,9.6nm,1.1s,mb4.3						
SCHQ	**Schefferville**	**30.25**	**54**	P	**P**	**03 32 04.7**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=279,slow=13,SNR=4.1						
TTA	**Tatalina**	**30.94**	**322**	*e*P	**P**	**03 32 12.2**	**+1.9**
TTA				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.0						
TTA	**Tatalina**	**30.94**	**322**	*e*P	**P**	**03 32 12.2**	**+1.9**
	comp=Z,29nm,1.2s,mb5.0						
SUMG	**Summit**	**43.07**	**25**	*e*P	**P**	**03 33 51.0**	**-2.2**
	comp=Z,13nm,1.1s,mb4.6						
BILL	**Bilibino**	**46.53**	**329**	P	**P**	**03 34 19.2**	**-1.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**46.53**	**329**	P	**P**	**03 34 19.2**	**-1.6**
	comp=Z,3.5nm,0.8s,mb4.3						
SDV	**Santo Domingo**	**50.40**	**122**	*e*P	**P**	**03 34 50.4**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**61.80**	**16**	P	**P**	**03 36 16.4**	**+4.3**
	comp=Z,1.1nm,0.6s,mb4.2,baz=342,slow=7.7,SNR=5.7						
ARCES				LR	LR	04 06 52.6	
	comp=Z,46nm,19.6s,MS3.6,baz=194,slow=39						
NOA	**NORSAR Array B**	**64.92**	**27**	P	**P**	**03 36 38.2**	**+5.4**
	comp=Z,0.9nm,0.8s,mb3.9,baz=281,slow=4.5,SNR=3.4						
NOA				LR	LR	04 04 04.4	
	comp=Z,44nm,19.5s,MS3.7,baz=285,slow=35						
FINES	**FINESS Array B**	**68.82**	**20**	P	**P**	**03 37 00.8**	**+3.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=333,slow=8.5,SNR=5.5						
SAML	**Samuel**	**69.11**	**127**	*e*P	**P**	**03 36 58.1**	**-1.4**
	comp=Z,5.4nm,1.0s,mb4.4						
LPAZ	**La Paz**	**72.60**	**136**	P	**P**	**03 37 20.6**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=0.5,slow=7.2,SNR=8.0						
LPAZ	**La Paz**	**72.60**	**136**	*e*P	**P**	**03 37 20.9**	**+0.2**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ	**La Paz**	**72.60**	**136**	*e*P	**P**	**03 37 20.9**	**+0.2**
	comp=Z,3.9nm,1.0s,mb4.3						
MDJ	**Mudanjiang**	**75.66**	**320**	P	**P**	**03 37 37.2**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,117nm,4.8s						
LVC	**Limon Verde**	**77.65**	**140**	*e*P	**P**	**03 37 50.6**	**+0.8**
	comp=Z,4.4nm,0.7s,mb4.5						
CN2	**Changchun**	**78.16**	**322**	*e*P	**P**	**03 37 50.4**	**-2.3**
CN2				*e*XP	sP	03 37 57.4	+0.2
CN2				*e*S	S	03 47 41.2	-6.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
AKASG	**Malin Array Be**	**79.10**	**24**	P	**P**	**03 38 02.9**	**+5.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=329,slow=5.2,SNR=5.4						
AFI	**Afiamalu**	**79.69**	**239**	LR	LR	04 06 10.2	
	comp=Z,529nm,21.7s,MS4.8,baz=318,slow=31						
ZAL	**Zalesovo**	**80.66**	**350**	P	**P**	**03 38 08.2**	**+1.9**
	comp=Z,1.2nm,0.3s,mb4.2,baz=52,slow=9.6,SNR=3.3						
ZAL				LR	LR	04 14 32.8	
	comp=Z,43nm,19.1s,MS3.8,baz=320,slow=36						
SONM	**Songino Array**	**81.87**	**335**	P	**P**	**

0.3nm,0.7s,baz=51,slow=10,SNR=2.4
ASAR Alice Springs 26.00 223 P P 03 41 47.0 -0.1
0.2nm,0.7s,baz=57,slow=9.7,SNR=5.1
ASAR pP pP 03 42 00.2 -0.5
0.6nm,0.9s,baz=49,slow=8.3,SNR=3.8
MKAR Makanchi Array 80.67 319 P P 03 48 27.4 +1.0
0.5nm,0.8s,baz=97,slow=6.9,SNR=7.8
MKAR pP pP 03 48 42.3 +0.4
0.3nm,0.6s,baz=112,slow=6.5,SNR=4.9
TORD Torodi Ar. Bea 150.55 288 PKPbc PKPbc 03 56 04.4 -0.6
0.3nm,0.7s,baz=38,slow=2.7,SNR=5.2

IDC 05 03:40:59.9±28.0, 2096S×17705W, h650km±313km, mb3.0/4, mb1 3.3/4, mb1mx2.9/15, mbtmp4.0/4, Error ellipse: s-maj=313.6km s-min=78.2km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.33**	**265**	*e*P	P	03 46 55.5	+0.2
	3.0nm,0.4s						
CTA	**Charters Tower**	**34.33**	**265**	P	P	03 46 55.9	+0.6
	4.0nm,0.5s,baz=92,slow=11,SNR=10						
ASAR	**Alice Springs**	**45.28**	**257**	P	P	03 48 21.6	-0.4
	0.4nm,0.3s,baz=98,slow=7.2,SNR=12						
WB2	**Warramunga Arr**	**45.41**	**262**	*e*P	P	03 48 24.0	+1.0
WRA	**Warramunga Arr**	**45.42**	**262**	P	P	03 48 24.2	+1.1
	1.4nm,0.4s,baz=97,slow=8.3,SNR=42						
YKA	**Yellowknife Ar**	**96.55**	**24**	P	P	03 53 21.1	-0.7
	0.1nm,0.8s,baz=256,slow=7.6,SNR=3.6						

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*ISCJB **05** 03:46:58.8±0.4, 4487N±002×1009E±004, h10km, Error ellipse: s-maj=4.1km s-min=3.2km az=127.6*
*LDG **05** 03:46:59.5±0.2, 4484N×1039E, h10km, Ml2.3/14, Error ellipse: s-maj=4.3km s-min=2.3km az=89.0*
*ROM **05** 03:47:00.5±0.3, 4481N×1018E, h10km, Md2.5/8, Ml2.0/1, Error ellipse: s-maj=9.3km s-min=3.1km az=107.0*
ISC 05 03:46:59.8±0.4, 4485N±002×1011E±004, h10km, n26, σ0§99/42, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.48**	**153**	Pg	**Pg**	**03 47 08.5**	**-0.7**
	17nm,0.3s						
GSCL	**Gusciola**	**0.60**	**146**	Pg	**Pg**	**03 47 10.7**	**-0.8**
GSCL				Sg	**Sg**	**03 47 20.3**	**+0.9**
	9.0nm,0.2s						
ZCCA	**Zocca**	**0.80**	**129**	Pg	**Pg**	**03 47 15.6**	**+0.5**
	18nm,0.4s						
SAL	**Salo**	**0.81**	**21**	Pg	**Pg**	**03 47 16.6**	**+1.2**
	47nm,0.4s						
MDI	**Monti di Nese**	**0.97**	**343**	Pg	**Pg**	**03 47 19.5**	**+1.1**
	31nm,0.4s						
PII	**Pisa**	**1.17**	**165**	Pg	**Pg**	**03 47 21.6**	**-0.6**
	9.0nm,0.2s						
MABI	**Malga Bissina**	**1.24**	**13**	Pg	**Pg**	**03 47 22.5**	**-1.0**
MABI				Sg	**Sg**	**03 47 40.6**	**+1.0**
VAI	**Varese**	**1.39**	**318**	Pg	**Pg**	**03 47 27.3**	**+0.9**
	5.0nm,0.3s						
SBF	**Sospel**	**2.16**	**244**	*e*Pn	**Pn**	**03 47 36.4**	**+0.6**
SBF				*e*Sn	**Sn**	**03 48 03.4**	**+0.8**
	6.4nm,0.3s						
MBDF	**Montbardon**	**2.38**	**268**	*e*Pn	**Pn**	**03 47 39.8**	**+1.0**
MBDF				*e*Sn	**Sn**	**03 48 09.2**	**+1.1**
	2.0nm,0.4s						
PGF	**Pioggiola**	**2.44**	**200**	*e*Pn	**Pn**	**03 47 38.6**	**-1.0**
PGF				*e*Sn	**Sn**	**03 48 07.5**	**-2.0**
	1.8nm,0.3s						
LPG	**La Plagne**	**2.46**	**286**	*e*Pn	**Pn**	**03 47 40.8**	**+0.9**
LPG				*e*Sn	**Sn**	**03 48 11.0**	**+0.9**
	2.2nm,0.4s						
LPL	**La Plagne**	**2.48**	**287**	*e*Pn	**Pn**	**03 47 41.3**	**+1.1**
LPL				*e*Sn	**Sn**	**03 48 10.2**	**-0.3**
	2.9nm,0.3s						
FRF	**La Foret Royal**	**2.81**	**244**	*e*Pn	**Pn**	**03 47 44.7**	**0.0**
FRF				*e*Sn	**Sn**	**03 48 18.8**	**+0.3**
	1.3nm,0.2s						
LMR	**La Mourre**	**3.00**	**241**	*e*Pn	**Pn**	**03 47 45.4**	**-2.0**
LMR				*e*Sn	**Sn**	**03 48 23.5**	**0.0**
	2.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.01**	**273**	*e*Pn	**Pn**	**03 47 48.2**	**+0.7**
ORIF				*e*Sn	**Sn**	**03 48 24.7**	**+1.2**
	2.2nm,0.5s						
CABF	**La Chapelle**	**3.32**	**303**	*e*Pn	**Pn**	**03 47 52.6**	**+0.8**
SMRF	**Simiane la Rot**	**3.37**	**257**	*e*Pn	**Pn**	**03 47 52.5**	**+0.1**
HINF	**Hinteralfeld**	**3.73**	**324**	*e*Pn	**Pn**	**03 47 56.7**	**-0.6**
HINF				*e*Sn	**Sn**	**03 48 40.0**	**-1.3**
	1.1nm,0.2s						
VIVF	**Saint-Julien-I**	**3.87**	**272**	*e*Pn	**Pn**	**03 47 59.4**	**+0.1**
CDF	**Champ du Feu**	**4.06**	**332**	*e*Pn	**Pn**	**03 48 01.2**	**-0.7**
CDF				*e*Sn	**Sn**	**03 48 47.2**	**-2.4**
	0.7nm,0.3s						
HAU	**Haudompre**	**4.09**	**322**	*e*Pn	**Pn**	**03 48 02.9**	**+0.6**
HAU				*e*Sn	**Sn**	**03 48 48.7**	**-1.5**
	2.9nm,0.3s						
SMF	**Signal de Mont**	**4.74**	**294**	*e*Pn	**Pn**	**03 48 12.2**	**+0.9**
SMF				*e*Sn	**Sn**	**03 49 05.7**	**-0.6**
	1.2nm,0.3s						
LOR	**Lormes**	**4.98**	**301**	*e*Pn	**Pn**	**03 48 14.8**	**+0.3**
LOR				*e*Sn	**Sn**	**03 49 10.1**	**-2.0**
	2.1nm,0.5s						
SSF	**Saint Saulge**	**5.11**	**298**	*e*Pn	**Pn**	**03 48 16.2**	**-0.1**
SSF				*e*Sn	**Sn**	**03 49 14.0**	**-1.4**
	1.2nm,0.3s						
BGF	**Bois d'Agland**	**5.37**	**291**	*e*Pn	**Pn**	**03 48 20.3**	**+0.4**

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*IDC **05** 04:01:24.8±2.2, 3815N×6988E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.5/24, mbtmp3.7/8, ML3.2/4, Error ellipse: s-maj=38.4km s-min=22.0km az=148.0*
*NAO **05** 04:01:24.8, 3723N×6940E, h33km, mb3.8*
*MOS **05** 04:01:29.8±2.2, 3864N×6991E, h33km, mb4.2/3, Error ellipse: s-maj=30.5km s-min=14.7km az=83.7*
*NNC **05** 04:01:30.1±5.1, 3869N×6939E, h16km±19km, mb3.8, mpv3.4, Error ellipse: s-maj=39.6km s-min=20.6km az=0.0*
*ISCJB **05** 04:01:32.1±2.2, 387N±01×694E±0.1, h37km±22km, mb3.7/4, Error ellipse: s-maj=21.1km s-min=13.6km az=38.9*
ISC 05 04:01:31.5±3.0, 386N±01×6941E±008, h19km±21km, n25, σ1§11/29, mb3.7/4, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.56**	**10**	Pn	**Pn**	**04 02 39.9**	**+0.5**
	0.8nm,0.3s,baz=198,slow=16,SNR=83						
KK31				Pg	**Pg**	**04 02 51.9**	**-6.9**
	3.3nm,0.4s,baz=178,slow=13,SNR=11						
KK31				⇓Lg		04 03 54.0	
	5.6nm,0.4s,baz=184,slow=30,SNR=4.8						
AML	**Almayashu**	**4.80**	**42**	P	**Pn**	**04 02 43.3**	**+0.6**
	SNR=9.0						
EKS2	**Erkin-Say**	**5.23**	**38**	P	**Pn**	**04 02 49.4**	**+0.8**
	SNR=9.4						
UCH	**Uchtor**	**5.31**	**46**	P	**Pn**	**04 02 49.5**	**-0.2**
	SNR=7.1						
AAK	**Ala-Archa**	**5.58**	**42**	P	**Pn**	**04 02 54.8**	**+1.5**
	SNR=7.5						
KZA	**Kyzart**	**5.65**	**50**	P	**Pn**	**04 02 54.0**	**-0.3**
	SNR=19						
FRU	**Bishkek**	**5.78**	**42**	*e*PN	**Pn**	**04 02 47.5**	**-8.6**
FRU				*e*		04 03 56.0	
FRU				*i*		04 04 35.0	
FRU				pmax	pmax		
	comp=Z,142μm,1.6s						
KBK	**Karagaybulak**	**5.83**	**44**	P	**Pn**	**04 02 58.9**	**+2.0**
	SNR=6.7						
USP	**Ospenovka**	**6.04**	**38**	P	**Pn**	**04 02 57.6**	**-2.0**
	SNR=6.5						
TKM2	**Tokmak 2**	**6.37**	**46**	P	**Pn**	**04 03 05.0**	**+0.8**
	SNR=8.7						
TKM2	**Tokmak 2**	**6.37**	**46**	⇓Pn	**Pn**	**04 03 02.5**	**-1.7**
	comp=Z,5.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**04 04 16.5**	**+0.1**
	comp=Z,9.8nm,0.8s						
MKAR	**Makanchi Array**	**12.50**	**45**	Pn	**Pn**	**04 04 24.7**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=231,slow=16,SNR=5.5						
AB31	**Akbulak array**	**12.62**	**330**	Pn	**Pn**	**04 04 29.3**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=138,slow=13,SNR=58						
AB31				⇓Sn	**Sn**	**04 06 50.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=156,slow=23,SNR=3.5						
AKTO	**Aktyubinsk**	**14.32**	**329**	⇑Pn	**Pn**	**04 04 54.2**	**+1.1**
	comp=Z,0.8nm,0.9s						

AKTO				⇑Sn	**Sn**	**04 07 26.0**	**-5.3**
AKTO	**Aktyubinsk**	**14.32**	**329**	Pn	**Pn**	**04 04 54.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=136,slow=15,SNR=8.2						
BVAR	**Borovoye Array**	**14.43**	**2**	Pn	**Pn**	**04 04 53.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=15,SNR=5.7						
ZAL	**Zalesovo**	**18.59**	**29**	P	**Pn**	**04 05 44.5**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=185,slow=6.9,SNR=3.2						
FINES	**FINESS Array B**	**35.03**	**325**	P	**P**	**04 08 23.1**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=112,slow=10,SNR=6.1						
FINES	**FINESS Array B**	**35.03**	**325**	P	**P**	**04 08 23.2**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.71**	**337**	P	**P**	**04 08 53.9**	**-0.2**
	comp=Z,2.8nm,1.0s,mb4.0,baz=111,slow=7.1,SNR=7.4						
ARCES	**ARCESS Array B**	**38.71**	**337**	P	**P**	**04 08 53.9**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**41.94**	**322**	P	**P**	**04 09 20.7**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.5,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**41.94**	**322**	P	**P**	**04 09 20.4**	**-0.4**
	comp=Z,1.4nm,0.7s,mb3.7,baz=96,slow=8.2,SNR=5.3						
NOA	**NORSAR Array B**	**41.94**	**322**	P	**P**	**04 09 20.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.54**	**267**	P	**P**	**04 12 07.2**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.5,baz=46,slow=6.5,SNR=6.4						

WEL 05 04:06:12.8±0.5, 3509S×17813E, h33km, ML3.7/4, Error ellipse: s-maj=6.4km s-min=3.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.48**	**177**	P*	Pb	04 06 51.1	-5.5
MXZ				*e*S*	Sb	04 07 19.6	-7.1
PUZ	**Puketiti**	**2.98**	**178**	PN	Pn	04 06 56.6	-1.2
PUZ				SN	Sn	04 07 29.8	-2.6
URZ	**Urewera**	**3.27**	**194**	P*	Pb	04 07 02.1	-8.1
URZ				S*	Sb	04 07 40.1	-10
MWZ	**Matawai**	**3.28**	**188**	P*	Pb	04 07 02.3	-8.0

IDC 05 04:09:29.8±60.0, 2029S×17929E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.2/3, 1D, Error ellipse: s-maj=1077.0km s-min=151.6km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.98**	**265**	⇓*i*P	P	04 15 55.6	+6.9
	8.1nm,0.4s						
STKA	**Stephens Creek**	**35.60**	**243**	*e*P	P	04 16 28.2	-0.8
	1.7nm,1.1s						
STKA	**Stephens Creek**	**35.60**	**243**	P	P	04 16 28.2	-0.8
	1.8nm,0.8s,baz=97,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**42.09**	**257**	P	P	04 17 24.1	+0.6
	2.1nm,0.4s,baz=87,slow=8.9,SNR=65						
WB2	**Warramunga Arr**	**42.10**	**262**	*e*P	P	04 17 24.1	+0.6
WRA	**Warramunga Arr**	**42.11**	**262**	P	P	04 17 24.3	+0.7
	2.3nm,0.6s,baz=96,slow=7.6,SNR=79						

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*ISCJB **05** 04:20:48.8±0.9, 70S±01×1298E±02, h33km, mb3.7/3, Error ellipse: s-maj=28.5km s-min=12.8km az=145.0*
*IDC **05** 04:20:54.3±5.5, 725S×12954E, h68km±52km, mb3.9/3, mb1 4.1/5, mb1mx3.9/14, mbtmp4.3/5, ML4.7/2, Error ellipse: s-maj=86.8km s-min=22.2km az=61.0*
*NEIC **05** 04:20:54.9±3.8, 721S×12961E, h74km±37km, mb3.8/2, Error ellipse: s-maj=41.3km s-min=19.4km az=53.0*
ISC 05 04:20:51.6±0.9, 694S±010×1300E±02, h35km, n12, σ1§23/11, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**200**	*e*P	**Pn**	**04 23 37.3**	**-0.9**
	19nm,0.4s						
FITZ				*e*S	Sx	04 25 40.5	
WRA	**Warramunga Arr**	**13.61**	**162**	P	**Pn**	**04 24 02.1**	**+0.1**
	4.7nm,0.3s,baz=324,slow=13,SNR=86						
WRA				S	Sx	04 26 22.0	
	3.9nm,0.3s,baz=346,slow=23,SNR=9.7						
WB2	**Warramunga Arr**	**13.61**	**162**	*e*P	**Pn**	**04 24 01.3**	**-0.8**
WB2				*e*S	Sx	04 26 23.4	
ASAR	**Alice Springs**	**17.06**	**168**	P	**Pn**	**04 24 47.8**	**+0.5**
	1.7nm,0.3s,baz=331,slow=8.4,SNR=85						
ASAR				S	Sx	04 27 47.1	
	1.1nm,0.3s,baz=351,slow=26,SNR=11						
MBWA	**Marble Bar**	**17.25**	**214**	P	**Pn**	**04 24 52.1**	**+2.5**
	2.5nm,0.4s						
CTA	**Charters Tower**	**20.52**	**131**	P	**P**	**04 25 28.6**	**+1.9**
	4.6nm,0.8s,baz=314,slow=12,SNR=3.8						
CTAO	**Charters Tower**	**20.52**	**131**	*e*P	**P**	**04 25 28.2**	**+1.5**
	4.1nm,0.6s						
STKA	**Stephens Creek**	**27.09**	**158**	P	**P**	**04 26 28.6**	**-2.3**
	1.2nm,0.3s,mb3.8,baz=337,slow=10,SNR=10						
STKA	**Stephens Creek**	**27.09**	**158**	*e*P	**P**	**04 26 28.6**	**-2.3**
SONM	**Songino Array**	**58.37**	**342**	P	**P**	**04 30 43.5**	**+0.2**
	0.2nm,0.8s,mb3.2,baz=146,slow=5.2,SNR=2.4						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**04 31 47.6**	**-0.5**
	1.1nm,0.5s,mb4.2,baz=116,slow=8.2,SNR=37						
LPAZ	**La Paz**	**150.80**	**142**	PKPbc	PKPbc	04 40 41.0	+0.8
	1.1nm,0.4s,baz=355,slow=2.1,SNR=13						

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*ISCJB **05** 04:28:07.0±0.8, 3156S±006×6688W±009, h128km±12km, mb4.2/1, Error ellipse: s-maj=13.5km s-min=8.6km az=47.7*
*NEIC **05** 04:28:07.7±0.6, 3158S×6684W, h126km±8km, mb4.3/3, Error ellipse: s-maj=11.0km s-min=6.8km az=98.0*
*GUC **05** 04:28:07.3±0.9, 3149S×6703W, h160km, ML4.5*
*IDC **05** 04:28:08.5±1.8, 3158S×6702W, h132km±21km, mb4.1/1, mb1 3.5/5, mb1mx3.3/17, mbtmp3.9/5, Error ellipse: s-maj=50.5km s-min=22.2km az=104.0*
ISC 05 04:28:08.0±0.7, 3156S±006×6685W±009, h119km±13km, n26, σ0§73/32, mb4.2/1, 8C-3D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.19**	**267**	P	**Pn**	**04 28 32.0**	**+0.2**
	26nm,0.3s,baz=89,slow=10.0,SNR=3048						
CFAA				S	**Sn**	**04 28 50.1**	**+0.2**
	11nm,0.3s,baz=260,slow=20,SNR=23						
JACH	**Jahuel**	**3.37**	**250**	⇑*i*P	**Pn**	**04 28 59.7**	**+0.5**
FCH	**Farellones**	**3.41**	**238**	⇑*i*P	**Pn**	**04 29 00.2**	**+0.6**
FCH				*i* S	**Sn**	**04 29 41.2**	**+1.7**
FCH				AMP		04 29 43.4	
	comp=N,216nm,0.8s						
CMCH	**Combarbala**	**3.57**	**275**	⇓*i*P	**Pn**	**04 29 01.7**	**-0.1**
CMCH				*i* S	**Sn**	**04 29 41.8**	**-1.6**
CMCH				AMP		04 29 44.9	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**3.57**	**275**	⇓*i*P	**Pn**	**04 29 01.7**	**-0.1**
CMCH				*i* S	**Sn**	**04 29 41.8**	**-1.6**
PEL	**Peldehue**	**3.61**	**243**	⇑*i*P	**Pn**	**04 29 02.4**	**+0.1**
PEL				*i* S	**Sn**	**04 29 44.4**	**0.0**
PEL				AMP		04 29 50.7	
	comp=E,421nm,0.3s						
PEL	**Peldehue**	**3.61**	**243**	⇑*i*P	**Pn**	**04 29 02.4**	**+0.1**
PEL				*i* S	**Sn**	**04 29 44.4**	**0.0**
PCH	**Pirque**	**3.72**	**235**	⇑*i*P	**Pn**	**04 29 04.2**	**+0.5**
ANTU	**Antumapu**	**3.77**	**237**	*i* S	**Sn**	**04 29 48.7**	**+0.4**
ANTU				AMP		04 29 53.5	
	comp=E,240nm,0.4s						
ROCH	**El Roble**	**3.80**	**247**	⇓*i*P	**Pn**	**04 29 04.7**	**-0.1**
RCDM	**Rinconada Maip**	**3.86**	**239**	⇑*i*P	**Pn**	**04 29 05.7**	**0.0**
RCDM				*i* S	**Sn**	**04 29 50.3**	**+0.1**
RCDM				AMP		04 29 53.1	
	comp=E,337nm,0.1s						
RCDM	**Rinconada Maip**	**3.86**	**239**	⇑*i*P	**Pn**	**04 29 05.7**	**0.0**
RCDM				*i* S	**Sn**	**04 29 50.3**	**+0.1**
CHCH	**Chadas Angostu**	**3.99**	**232**	*e*P	**Pn**	**04 29 07.6**	**+0.3**
TACH	**Talagante**	**4.04**	**238**	⇑*i*P	**Pn**	**04 29 07.5**	**-0.4**
TACH				*i* S	**Sn**	**04 29 53.5**	**-1.0**
TRQA	**Tornquist**	**7.62**	**150**	*e*Pn	**Pn**	**04 29 55.9**	**-0.4**
	comp=E,13nm,0.6s						
LVC	**Limon Verde**	**9.09**	**348**	P	**Pn**	**04 30 15.7**	**-0.6**
	comp=E,1.3nm,0.3s,baz=186,slow=9.2,SNR=16						
LVC				S	**Sn**	**04 31 51.4**	**-5.4**
	comp=E,0.7nm,0.3s,baz=352,slow=9.7,SNR=2.7						
LVC	**Limon Verde**	**9.09**	**348**	*e*P	**Pn**	**04 30 15.3**	**-1.0**
	comp=E,4.9nm,0.6s						
PLCA	**Paso Flores**	**9.63**	**197**	P	**Pn**	**04 30 22.1**	**-1.5**
	comp=E,0.1nm,0.3s,baz=336,slow=12,SNR=2.5						

LPAZ	**La Paz**	**15.24**	**355**	P	**Pn**	**04 31 37.9**	**+1.1**
	comp=E,0.3nm,0.3s,baz=146,slow=5.0,SNR=7.0						
LPAZ	**La Paz**	**15.24**	**355**	*e*P	**Pn**	**04 31 38.0**	**+1.1**
	comp=E,1.8nm,0.6s						
SIV	**San Ignacio**	**16.36**	**20**	P	**Pn**	**04 31 50.7**	**0.0**
	comp=E,0.2nm,0.3s,baz=219,slow=13,SNR=11						
TORD	**Torodi Ar. Bea**	**79.25**	**67**	P	**P**	**04 40 00.4**	**+0.3**
	comp=E,2.8nm,0.7s,mb4.2,baz=250,slow=4.4,SNR=33						
WRA	**Warramunga Arr**	**124.91**	**204**	PKP	PKPdf	04 46 52.4	-1.5
	comp=E,0.2nm,0.4s,baz=171,slow=1.7,SNR=10						
ZAL	**Zalesovo**	**149.79**	**34**	PKPbc	PKPbc	04 47 42.8	-1.2
	comp=E,2.1nm,0.3s,baz=83,slow=1.2,SNR=3.8						
MKAR	**Makanchi Array**	**151.87**	**48**	PKPbc	PKPbc	04 47 47.9	-0.9
	comp=E,0.7nm,0.6s,baz=276,slow=2.3,SNR=13						
MKAR	**Makanchi Array**	**151.87**	**48**	PKPbc	PKPbc	04 47 47.9	-0.9

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*ISCJB **05** 04:35:24.6±0.8, 522N±0.1×1575E±0.1, h141km±8km, mb3.5/7, Error ellipse: s-maj=22.8km s-min=8.8km az=134.5*
*IDC **05** 04:35:24.7±2.9, 5221N×15738E, h124km±28km, mb3.3/7, mb1 3.7/9, mb1mx3.4/23, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/29, Error ellipse: s-maj=32.0km s-min=11.9km az=150.0*
*MOS **05** 04:35:24.7±0.7, 5228N×15734E, h143km, mb4.2/2, Error ellipse: s-maj=38.0km s-min=16.3km az=49.3*
*NEIC **05** 04:35:25.2±0.8, 5223N×15731E, h130km±7km, mb4.2/2, Error ellipse: s-maj=19.4km s-min=7.3km az=146.0*
ISC 05 04:35:25.4±0.7, 522N±01×1575E±01, h135km±7km, n21, σ0§76/24, mb3.5/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**1.13**	**40**	*e*PN	**Pn**	**04 35 50.0**	**0.0**
PET				*e*S	**Sn**	**04 36 09.4**	**+0.6**
PET				pmax	pmax		
	comp=Z,82nm,0.5s						
PET				smax			
	comp=N,215nm,0.7s						
PET	**Petropavlovsk**	**1.13**	**40**	*e*Pn	**Pn**	**04 35 49.6**	**-0.5**
FX1	**Attu Island--F**	**9.60**	**79**	P	**Pn**	**04 37 41.0**	**+0.7**
	comp=N,2.6nm,0.3s,baz=88,slow=13,SNR=12						
FX1				S	**Sn**	**04 39 24.7**	**-1.8**
	comp=N,9.0nm,0.3s,baz=323,slow=22,SNR=8.0						
FX1	**Attu Island--F**	**9.60**	**79**	PN	**Pn**	**04 37 41.0**	**+0.7**
FX1				S	**Sn**	**04 39 24.7**	**-1.8**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**12.76**	**237**	P	**Pn**	**04 38 22.4**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=66,slow=13,SNR=11						
ASAJ	**Asahikawa**	**12.76**	**237**	PN	**Pn**	**04 38 22.5**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**20.72**	**229**	*e*P	**P**	**04 39 54.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	**Matsushiro**	**20.72**	**229**	*e*P	**P**	**04 39 54.6**	**-0.5**
	comp=Z,5.7nm,0.4s						
MJAR	**Matsushiro Arr**	**20.72**	**229**	P	**P**	**04 39 54.8**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=25,slow=10,SNR=14						
HIA	**Hailar**	**23.88**	**278**	*e*P	**P**	**04 40 25.5**	**-0.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**23.88**	**278**	*e*P	**P**	**04 40 25.5**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.2						
JNU	**Nakatsue**	**27.04**	**236**	P	**P**	**04 40 54.9**	**-0.1**
	comp=Z,15nm,0.4s,baz=234,slow=1.3,SNR=7.1						
ILAR	**Eielson Array**	**30.61**	**44**	P	**P**	**04 41 25.8**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.4,baz=267,slow=8.0,SNR=6.2						
YKA	**Yellowknife Ar**	**44.93**	**41**	P	**P**	**04 43 26.4**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.2,baz=295,slow=8.5,SNR=9.0						
YKA	**Yellowknife Ar**	**44.93**	**41**	P	**P**	**04 43 26.4**	**-0.2**
MKAR	**Makanchi Array**	**47.10**	**295**	P	**P**	**04 43 43.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=65,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**47.10**	**295**	P	**P**	**04 43 43.2**	**-0.5**
NVAR	**Mina Array Bea**	**57.58**	**68**	P	**P**	**04 45 01.9**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=289,slow=9.3,SNR=4.1						
PDAR	**Pinedale Array**	**59.38**	**59**	P	**P**	**04 45 14.5**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=326,slow=5.3,SNR=7.4						
TXAR	**Lajitas Array**	**72.48**	**65**	P	**P**	**04 46 38.0**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.6,baz=300,slow=5.1,SNR=15						
ASAR	**Alice Springs**	**78.27**	**202**	P	**P**	**04 47 10.7**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=17,slow=5.1,SNR=6.6						

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*ISCJB **05** 04:38:29.9±1.2, 4163N±007×7335E±008, h10km, Error ellipse: s-maj=11.1km s-min=7.9km az=141.4*
*NNC **05** 04:38:29.5±2.5, 4173N×7327E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=32.6km s-min=14.1km az=169.0*
*KNET **05** 04:38:29.6±0.5, 4165N×7348E, h14km±2km, ml1.7, Error ellipse: s-maj=3.0km s-min=2.4km az=72.0*
ISC 05 04:38:30.6±1.2, 4165N±007×7340E±008, h10km, n11, σ1§07/18, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.54**	**25**	⇓P	**Pg**	**04 38 39.8**	**-1.2**
	10nm,0.1s,SNR=52						
AML				⇑S	**Sg**	**04 38 48.0**	**0.0**
	40nm,0.1s						
UCH	**Uchtor**	**1.02**	**55**	⇑P	**Pg**	**04 38 48

JAG	**Ashikaga**	**3.50**	**17**	P	**Pn**	**04 44 50.0**	**-0.8**
JAG				*e*S	**S**	**04 45 37.2**	**-2.9**
JTO	**Tosashimizu**	**4.52**	**269**	P	**Pn**	**04 45 01.2**	**-0.6**
JHS	**Saijyo**	**4.61**	**296**	P	**Pn**	**04 45 02.3**	**-0.6**
WRA	**Warramunga Arr**	**52.85**	**185**	P	**P**	**04 52 33.3**	**-0.2**
	0.2nm,0.3s,mb2.9,baz=0.3,slow=7.7,SNR=6.8						
ILAR	**Eielson Array**	**54.24**	**31**	P	**P**	**04 52 43.7**	**+0.1**
	0.2nm,0.5s,mb2.7,baz=259,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**56.58**	**185**	P	**P**	**04 53 00.8**	**+0.7**
	0.2nm,0.6s,mb2.7,baz=10,slow=14,SNR=4.2						

*ISCJB **05** 04:49:06.6±5.4, 507S±009×14006E±009, h10km±33km, mb4.1/8, Error ellipse: s-maj=18.5km s-min=10.5km az=83.1*
*IDC **05** 04:49:07.3±0.9, 492S×13999E, h0km, mb4.1/6, mb1 4.2/9, mb1mx4.2/13, mbtmp4.1/9, ML3.8/3, Error ellipse: s-maj=34.0km s-min=19.4km az=69.0*
*NEIC **05** 04:49:11.2±0.6, 489S×14006E, h25km, mb4.3/3, Error ellipse: s-maj=18.1km s-min=11.1km az=61.0*

ISC 05 04:49:08.1±6.3, 50S±01×14001E±009, h7km±39km, n22, σ1°33/24, mb4.1/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.32**	**122**	Pn	**Pn**	**04 51 09.7**	**+0.4**
	2.4nm,0.3s,baz=313,slow=7.8,SNR=7.4						
PMG				Sn	**Sn**	**04 52 42.9**	**-0.7**
	2.2nm,0.3s,baz=65,slow=22,SNR=2.7						
PMG	**Port Moresby**	**8.32**	**122**	Pn	**Pn**	**04 51 09.7**	**+0.4**
PMG				Sn	**Sn**	**04 52 42.9**	**-0.7**
WB2	**Warramunga Arr**	**15.82**	**200**	*e*P	**Pn**	**04 52 49.1**	**-2.2**
WRA	**Warramunga Arr**	**15.82**	**200**	Pn	**Pn**	**04 52 49.3**	**-2.1**
	0.7nm,0.3s,baz=20,slow=13,SNR=20						
CTA	**Charters Tower**	**16.16**	**158**	*e*P	**Pn**	**04 53 01.5**	**+5.8**
	5.7nm,0.8s						
CTA	**Charters Tower**	**16.16**	**158**	Pn	**Pn**	**04 52 59.0**	**+3.3**
	0.2nm,0.3s,baz=344,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**16.16**	**158**	*e*P	**Pn**	**04 53 01.4**	**+5.7**
	9.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.13**	**226**	*e*P	**Pn**	**04 53 30.8**	**-1.9**
	9.4nm,0.6s						
ASAR	**Alice Springs**	**19.44**	**197**	P	**Pn**	**04 53 37.6**	**+1.2**
	1.2nm,0.3s,baz=25,slow=8.6,SNR=64						
ASPA	**Alice Springs**	**19.45**	**197**	*e*P	**Pn**	**04 53 37.6**	**+1.2**
MBWA	**Marble Bar**	**25.38**	**229**	*e*P	**P**	**04 54 38.0**	**+2.0**
	11nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**26.75**	**177**	*e*P	**P**	**04 54 49.2**	**+0.7**
	1.6nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**26.75**	**177**	P	**P**	**04 54 49.4**	**+0.9**
	1.9nm,0.7s,mb3.7,baz=358,slow=9.0,SNR=7.8						
STKA	**Stephens Creek**	**26.75**	**177**	*e*P	**P**	**04 54 50.4**	**+1.9**
PSI	**Prapat**	**41.77**	**280**	P	**P**	**04 56 57.2**	**-1.0**
	4.6nm,0.9s,mb4.1,baz=202,slow=19,SNR=2.9						
PSI	**Prapat**	**41.77**	**280**	P	**P**	**04 56 57.2**	**-1.0**
SONM	**Songino Array**	**60.35**	**335**	P	**P**	**04 59 19.0**	**+1.1**
	0.5nm,0.6s,mb3.7,baz=152,slow=6.5,SNR=5.1						
MKAR	**Makanchi Array**	**72.40**	**322**	P	**P**	**05 00 34.7**	**-0.3**
	1.1nm,0.7s,mb3.9,baz=117,slow=6.9,SNR=13						
MKAR	**Makanchi Array**	**72.40**	**322**	P	**P**	**05 00 34.7**	**-0.3**
BVAR	**Borovoye Array**	**81.94**	**325**	P	**P**	**05 01 29.3**	**+0.7**
	2.9nm,0.8s,mb4.2,baz=117,slow=6.6,SNR=14						
ZRNK	**Zerenda**	**82.71**	**325**	*e*P	**P**	**05 01 32.4**	**-0.2**
	3.7nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	**05 01 54.6**	**-1.5**
	0.9nm,0.7s,mb4.1,baz=258,slow=4.5,SNR=9.2						

*ISCJB **05** 05:23:11.8±0.7, 671N±0.10×729W±0.1, h172km±7km, mb3.4/6, Error ellipse: s-maj=21.5km s-min=9.4km az=81.4*
*IDC **05** 05:23:12.1±0.7, 666N×7290W, h162km±7km, mb3.2/6, mb1 3.5/8, mb1mx3.2/21, mbtmp3.7/8, Error ellipse: s-maj=23.3km s-min=7.6km az=132.0*
*NEIC **05** 05:23:13.3±0.7, 675N×7298W, h169km±7km, mb3.4/1, Error ellipse: s-maj=14.9km s-min=10.5km az=111.0*

ISC 05 05:23:13.0±0.7, 676N±009×730W±01, h165km±7km, n15, σ0°72/14, mb3.4/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**215**	P	**Pn**	**05 23 53.6**	**+1.0**
	32nm,0.3s,baz=72,slow=3.6,SNR=200						
ROSC				S	**Sn**	**05 24 22.1**	**-1.0**
	38nm,0.3s,baz=109,slow=14,SNR=14						
SDV	**Santo Domingo**	**3.15**	**48**	P	**Pn**	**05 24 03.7**	**+0.9**
	16nm,0.3s,baz=244,slow=3.4,SNR=246						
SDV				S	**Sn**	**05 24 41.0**	**-0.4**
	14nm,0.3s,baz=287,slow=21,SNR=28						
SDV	**Santo Domingo**	**3.15**	**48**	*e*Pn	**Pn**	**05 24 03.2**	**+0.5**
SDV				*e*Sn	**Sn**	**05 24 40.8**	**-0.6**
SAML	**Samuel**	**18.41**	**148**	*e*P	**P**	**05 27 16.2**	**+0.7**
	1.2nm,0.6s						
TXAR	**Lajitas Array**	**36.60**	**312**	P	**P**	**05 30 03.8**	**+0.6**
	0.2nm,0.7s,mb2.9,baz=127,slow=9.0,SNR=3.0						
SCHQ	**Schefferville**	**48.19**	**5**	P	**P**	**05 31 37.5**	**+0.8**
	2.2nm,0.5s,mb4.0,baz=217,slow=19,SNR=12						
SCHQ	**Schefferville**	**48.19**	**5**	P	**P**	**05 31 37.5**	**+0.8**
YKA	**Yellowknife Ar**	**63.37**	**340**	P	**P**	**05 33 24.3**	**-0.4**
	0.9nm,0.6s,mb3.8,baz=133,slow=6.6,SNR=55						
TORD	**Torodi Ar. Bea**	**73.62**	**78**	P	**P**	**05 34 27.5**	**-0.7**
	0.2nm,0.4s,mb3.2,baz=285,slow=6.6,SNR=7.5						
ILAR	**Eielson Array**	**77.08**	**335**	P	**P**	**05 34 47.5**	**-0.4**
	0.2nm,0.8s,mb2.8,baz=112,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**05 35 10.2**	**-0.7**
	1.0nm,0.9s,mb3.4,baz=267,slow=17,SNR=2.4						
MKAR	**Makanchi Array**	**122.34**	**20**	PKP	PKPdf	05 41 48.5	+0.1
	0.1nm,0.4s,baz=299,slow=2.7,SNR=6.4						
MKAR	**Makanchi Array**	**122.34**	**20**	PKP	PKPdf	05 41 48.5	+0.1
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc	05 42 42.3	+0.4
	0.8nm,0.5s,baz=117,slow=3.7,SNR=14						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	05 42 45.5	+0.6
	0.7nm,0.4s,baz=107,slow=2.8,SNR=17						
WRA				pPKPbc	pPKPbc	05 43 27.0	-0.9
	0.3nm,0.5s,baz=108,slow=2.8,SNR=5.1						

IDC 05 05:29:56.3±2.2, 672S×12881E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=147.5km s-min=31.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**158**	Pn	Pn	05 33 17.1	-1.6
	0.1nm,0.3s,baz=340,slow=13,SNR=6.1						
WRA				Sn	Sn	05 35 45.7	-11
	0.2nm,0.3s,baz=333,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**17.55**	**164**	P	Pn	05 34 03.9	+1.5
	0.1nm,0.3s,baz=345,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	05 40 53.3	+0.2
	0.2nm,0.4s,baz=120,slow=7.5,SNR=5.7						

*IDC **05** 05:32:34.6±10.0, 631N×12638E, h123km±93km, mb3.5/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=81.5km s-min=21.0km az=68.0*
*ISCJB **05** 05:32:36.1±2.3, 63N±02×1266E±05, h157km±15km, mb3.6/8, Error ellipse: s-maj=93.9km s-min=18.8km az=134.5*
*NEIC **05** 05:32:37.6±1.6, 630N×12642E, h153km±10km, mb3.8/1, Error ellipse: s-maj=66.8km s-min=13.4km az=68.0*

ISC 05 05:32:36.8±2.6, 64N±02×1267E±05, h147km±18km, n10, σ0°59/10, mb3.6/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.28**	**299**	*e*Pn	**Pn**	**05 33 03.9**	**+0.1**
WRA	**Warramunga Arr**	**27.27**	**164**	P	**P**	**05 38 07.7**	**+0.4**
	0.1nm,0.3s,mb2.9,baz=340,slow=9.8,SNR=2.7						
ASAR	**Alice Springs**	**30.74**	**167**	P	**P**	**05 38 37.5**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=341,slow=7.0,SNR=4.0						
ASAR				PcP	PcP	05 41 32.6	+0.6
	0.3nm,0.5s,baz=351,slow=2.3,SNR=4.1						
MKAR	**Makanchi Array**	**55.34**	**324**	P	**P**	**05 41 55.8**	**+0.6**
	0.3nm,0.5s,mb3.3,baz=120,slow=7.4,SNR=9.4						
MKAR	**Makanchi Array**	**55.34**	**324**	P	**P**	**05 41 55.8**	**+0.6**
ZAL	**Zalesovo**	**58.19**	**332**	P	**P**	**05 42 13.9**	**-1.4**
	0.8nm,0.6s,mb3.7,baz=234,slow=19,SNR=3.5						
ZRNK	**Zerenda**	**65.79**	**326**	*e*P	**P**	**05 43 06.0**	**-0.1**
	0.6nm,0.5s,mb3.7						
ARCES	**ARCESS Array B**	**87.91**	**340**	P	**P**	**05 45 10.2**	**+0.4**
	2.4nm,0.8s,mb4.1,baz=67,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**89.45**	**332**	P	**P**	**05 45 17.6**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=53,slow=6.9,SNR=6.6						
KMBO	**Kilima Mbogo**	**89.58**	**269**	P	**P**	**05 45 17.6**	**0.0**
	0.5nm,0.3s,mb3.9,baz=138,slow=12,SNR=2.2						

CASC 05 05:44:58.9±2.8, 1450N×8969W, h20km±787km, MD3.1, ML3.7, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.60**	**176**	*e*P	Pb	05 45 18.4	+7.7
SNJE	**San Jose**	**0.63**	**172**	*e*P	Pb	05 45 18.4	+7.1
SNJE				*e*S	Sb	05 45 27.3	+7.7
SBLS	**San Blas**	**0.66**	**174**	*e*P	Pb	05 45 18.0	+6.3
SBLS				*e*S	Sb	05 45 26.7	+6.3
IXG	**Ixpaco**	**0.81**	**246**	‖*e*P	Pb	05 45 13.2	-1.0
IXG				*e*S	Sb	05 45 25.1	+0.4
IXG				AML	AML	05 45 26.2	
	comp=E,2μm,0.4s						
LBRS	**Las Brisas**	**0.98**	**140**	*e*P	Pb	05 45 24.0	+6.8
LBRS				*e*S	Sb	05 45 37.8	+8.0
LFRS	**El Faro**	**1.06**	**145**	*e*P	Pb	05 45 23.2	+4.6
LCBS	**La Ceiba**	**1.09**	**140**	*e*P	Pn	05 45 24.1	+5.1
LCBS				*e*S	Sb	05 45 38.6	+5.8

*IDC **05** 05:45:57.8±6.3, 2972N×5232E, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.2/21, mbtmp3.5/3, Error ellipse: s-maj=126.9km s-min=47.8km az=113.0*
*ISCJB **05** 05:45:59.9±0.8, 2964N±009×519E±0.1, h10km, mb3.7/2, Error ellipse: s-maj=16.7km s-min=9.5km az=97.1*
*CSEM **05** 05:46:01.1, 2975N×5193E, h15km, ML3.2, After THR*
*THR **05** 05:46:01.1±0.3, 2975N×5193E, h15km, ML3.2*

ISC 05 05:46:01.7±0.8, 2965N±009×519E±01, h10km, n8, σ0°87/8, mb3.7/2, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.65**	**145**	*e*PG	**Pg**	**05 46 32.8**	**-0.6**
GHIR				AML	AML	05 47 10.9	
	comp=N,235nm,0.5s						
GHIR				AML	AML	05 47 13.4	
	comp=E,271nm,0.4s						
NASN	**Na'in**	**3.23**	**13**	*e*PN	**Pn**	**05 46 52.2**	**-0.2**
KRBR	**Kerman**	**4.22**	**84**	*e*PN	**Pn**	**05 47 07.1**	**+1.0**
KRBR				AML	AML	05 48 11.7	
	comp=N,31nm,0.5s						
KRBR				AML	AML	05 48 28.4	
	comp=E,41nm,0.7s						
ASAO	**Ashtian**	**5.14**	**342**	*e*PN	**Pn**	**05 47 18.8**	**+0.2**
ASAO				AML	AML	05 48 28.4	
	comp=N,12nm,0.6s						
ASAO				AML	AML	05 48 30.8	
	comp=E,14nm,0.7s						
SNGE	**Sanandaj**	**6.66**	**326**	*e*PN	**Pn**	**05 47 39.8**	**+0.2**
BRTR	**Keskin Array B**	**18.05**	**309**	P	**Pn**	**05 50 13.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=111,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**36.09**	**339**	P	**P**	**05 53 01.4**	**-2.1**
	comp=E,0.3nm,0.4s,mb3.6,baz=135,slow=8.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**49.17**	**262**	P	**P**	**05 54 50.5**	**+0.7**
	comp=E,0.5nm,0.5s,mb3.8,baz=51,slow=8.4,SNR=6.6						

*INMG **05** 05:53:45.6±1.4, 4262N×783W, h16km±7km, ML1.2, Error ellipse: s-maj=3.1km s-min=2.5km az=95.0*

MDD 05 05:53:46.5±0.5, 4257N×780W, h11km±1km, mbLg1.5/10, Error ellipse: s-maj=3.7km s-min=3.4km az=154.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.51**	**110**	Pg	Pg	05 53 55.7	-0.8
	1.4nm,0.1s,SNR=7.9						
ERUA				Lg		05 54 03.1	
	4.2nm,0.2s,SNR=5.0						
STS	**Santiago**	**0.64**	**300**	Pg	Pg	05 53 58.5	-0.4
	3.3nm,0.1s,SNR=12						
STS				Lg		05 54 04.4	
	8.8nm,0.2s,SNR=5.0						
ELOB	**Lobios**	**0.73**	**196**	Pg	Pg	05 54 00.6	+0.1
	0.2nm,0.0s,SNR=9.8						
ELOB				Lg		05 54 09.6	
	1.2nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**0.79**	**238**	Pg	Pg	05 53 60.0	-1.7
	1.0nm,0.1s,SNR=7.9						
EZAM				Lg		05 54 10.5	
	1.2nm,0.1s,SNR=5.0						
PCAB	**Cabril**	**0.88**	**191**	*e*P	Pg	05 54 02.9	-0.4
PCAB				*e*S	Sg	05 54 14.1	-0.6
PCAB							
	5.1nm,0.1s						
EPON	**Pontenova**	**0.89**	**32**	Pg	Pg	05 54 02.7	-1.0
	0.6nm,0.2s,SNR=7.1						
EPON				Lg		05 54 14.1	
	4.9nm,0.1s,SNR=13						
EMAZ	**Mazaricos**	**0.95**	**294**	Lg		05 54 14.1	
	8.3nm,0.5s,SNR=7.3						
ECAL	**Calabor**	**1.00**	**128**	Pg	Pg	05 54 04.8	-1.0
	0.7nm,0.1s,SNR=12						
ECAL				Lg		05 54 18.2	
	6.5nm,0.2s,SNR=9.9						
PBRG	**Braganca**	**1.09**	**134**	*e*P	Pb	05 54 06.7	-0.7
PBRG				*e*S	Sb	05 54 20.7	-0.9
PBRG							
	3.7nm,0.1s						
PVRL	**Vila Real**	**1.29**	**177**	*e*Pn	Pn	05 54 08.7	-1.7
PVRL				*e*Sg	Sg	05 54 27.6	-0.5
PVRL							
	3.8nm,0.1s						
PVIS	**Viseu**	**1.85**	**182**	*e*Sg	Sg	05 54 44.4	-1.6
EARI	**Arriondas**	**2.04**	**68**	Pg	Pg	05 54 23.7	-1.8
	0.2nm,0.2s,SNR=4.0						
EARI				Lg		05 54 50.4	
	0.7nm,0.2s,SNR=7.9						

*ISCJB **05** 06:06:08.6±2.7, 168N±004×12570E±008, h8km±16km, mb4.6/46, MS3.7/5, Error ellipse: s-maj=13.7km s-min=7.2km az=161.1*
*MOS **05** 06:06:12.9±1.3, 174N×12551E, h33km, mb4.8/13, Error ellipse: s-maj=17.1km s-min=8.0km az=107.6*
*IDC **05** 06:06:13.9±2.4, 165N×12574E, h32km±16km, mb4.3/19, mb1 4.4/19, mb1mx4.4/23, mbtmp4.5/19, MS3.7/4, Ms1 3.7/4, ms1mx3.2/28, Error ellipse: s-maj=22.6km s-min=9.6km az=78.0*
*NEIC **05** 06:06:13.3±0.3, 166N×12564E, mb4.7/13, Error ellipse: s-maj=12.3km s-min=7.5km az=82.0*
*BJI **05** 06:06:13.3, 170N×12560E, h26km, mB5.1, mb4.8, Ms4.3, Msz4.0*

ISC 05 06:06:17.0±1.1, 160N±004×12572E±008, h61km±10km, n95, σ1°26/86, mb4.6/46, 3C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**5.41**	**353**	‖*e*P	**Sn**	**06 08 38.0**	**+2.1**
BUKP	**Musuan**	**6.27**	**354**	*e*P	**Pn**	**06 07 47.7**	**+0.9**
BUKP				*e*S	**Sn**	**06 08 59.0**	**+1.9**
PAGZ	**Pagadian**	**6.63**	**340**	*e*P	**Pn**	**06 07 50.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**19.58**	**180**	*e*P	**Pn**	**06 10 39.5**	**-2.3**
	15nm,0.7s						
WRA	**Warramunga Arr**	**23.02**	**159**	P	**P**	**06 11 16.2**	**-0.7**
	38nm,1.1s,mb4.7,baz=340,slow=9.7,SNR=24						
WRA				PcP	PcP	06 15 07.3	+2.9
	1.9nm,0.7s,baz=335,slow=2.5,SNR=5.3						
WRA				S	**S**	**06 15 23.3**	**+0.6**
	3.7nm,0.8s,baz=330,slow=21,SNR=5.9						
WB2	**Warramunga Arr**	**23.02**	**159**	*e*P	**P**	**06 11 15.8**	**-1.1**
WB2				*e*S	**S**	**06 15 23.2**	**+0.4**
MBWA	**Marble Bar**	**23.37**	**194**	*e*P	**P**	**06 11 19.9**	**-0.3**
	10nm,0.6s,mb4.4						
MBWA				*e*pP		06 11 27.1	
JOW	**Kunigami**	**25.20**	**5**	P	**P**	**06 11 34.9**	**-2.0**
	26nm,0.8s,mb4.8,baz=186,slow=8.4,SNR=5.2						
ASAR	**Alice Springs**	**26.35**	**163**	P	**P**	**06 11 48.0**	**+0.8**
	9.7nm,0.5s,mb4.6,baz=345,slow=7.6,SNR=126						
ASAR				PcP	PcP	06 15 14.6	+2.9
	4.8nm,0.5s,baz=353,slow=2.4,SNR=16						
ASAR				S	**S**	**06 16 19.1**	**+3.1**
	1.1nm,0.8s,baz=350,slow=22,SNR=4.1						
PSI	**Prapat**	**26.80**	**273**	P	**P**	**06 11 50.3**	**-1.0**
	1.2nm,0.3s,mb3.9,baz=229,slow=20,SNR=2.3						
PSI				LR	LR	06 23 04.8	
	comp=Z,154nm,20.6s,baz=324,slow=38						
SSE	**Sheshan**	**29.64**	**352**	P	**P**	**06 12 13.3**	**-3.4**
SSE				SS	SS	06 18 44.2	-32
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,142nm,4.0s						
NJ2	**Nanjing**	**30.97**	**349**	*e*P	**P**	**06 12 26.9**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,130nm,4.0s						
NJ2				LR	LR		
	comp=N,270nm,16.0s						
NJ2				LR	LR		
	comp=E,400nm,21.7s						
NJ2				LR	LR		
	comp=Z,300nm,19.8s						
JNU	**Nakatsue**	**31.73**	**8**	P	**P**	**06 12 34.9**	**-0.1**
	comp=Z,9.3nm,0.8s,mb4.7,baz=142,slow=10.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**35.27**	**192**	P	**P**	**06 13 07.1**	**+1.3**
	comp=Z,8.6nm,0.9s,mb4.7,baz=34,slow=7.3,SNR=7.2						
NWAO	**Narrogin (SRO)**	**35.27**	**192**	P	**P**	**06 13 07.1**	**+1.3**
KS15	**Wonju Array Si**	**35.72**	**3**	*e*P	**P**	**06 13 10.8**	**+1.1**
CD2	**Chengdu**	**35.80**	**327**	*e*P	**P**	**06 13 10.7**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,5.9s						
STKA	**Stephens Creek**	**36.54**	**157**	*e*P	**P**	**06 13 15.7**	**-1.0**
	comp=Z,7.7nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.54**	**157**	P	**P**	**06 13 15.8**	**-0.9**
	comp=Z,12nm,0.7s,mb4.9,baz=335,slow=9.9,SNR=21						
STKA				LR	LR	06 28 54.7	
	comp=Z,134nm,19.3s,baz=25,slow=37						
STKA	**Stephens Creek**	**36.54**	**157**	P	**P**	**06 13 15.8**	**-0.9**
STKA				LR	LR	06 28 54.7	
MJAR	**Matsushiro Arr**	**36.64**	**17**	P	**P**	**06 13 16.1**	**-1.4**
	comp=Z,5.0nm,0.8s,mb4.4,baz=197,slow=8.5,SNR=8.9						
MJAR				LR	LR	06 26 53.7	
	comp=Z,101nm,20.1s,baz=205,slow=34						
MAJO	**Matsushiro**	**36.64**	**17**	P	**P**	**06 13 17.4**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**36.64**	**17**	P	**P**	**06 13 17.4**	**-0.1**
	comp=Z,10nm,0.9s,mb4.7						
SHL	**Shillong**	**40.37**	**309**	*e*P	**P**	**06 13 49.0**	**+0.2**
CN2	**Changchun**	**42.02**	**360**	*e*P	**P**	**06 14 00.6**	**-1.7**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
MDJ	**Mudanjiang**	**42.97**	**4**	P	**P**	**06 14 10.8**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,122nm,5.6s						
MDJ	**Mudanjiang**	**42.97**	**4**	*e*P	**P**	**06 14 10.2**	**+0.1**
	comp=Z,16nm,1.3s,mb4.6						
MDJ				*e*pP	pP	06 14 18.7	-6.8
LSA	**Lhasa**	**43.12**	**314**	*e*P	**P**	**06 14 10.4**	**-0.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
LSA	**Lhasa**	**43.12**	**314**	*e*P	**P**	**06 14 10.4**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.1						
ASAJ	**Asahikawa**	**44.91**	**17**	P	**P**	**06 14 24.9**	**-0.7**
	comp=Z,9.1nm,0.6s,mb4.8,baz=220,slow=12,SNR=15						
JIRN	**Jiri**	**45.84**	**308**	*e*P	**P**	**06 14 34.0**	**+1.1**
PKI	**Pulchoki**	**46.41**	**308**	*e*P	**P**	**06 14 39.1**	**+1.7**
KKN	**Kakani**	**46.61**	**308**	*e*P	**P**	**06 14 40.5**	**+1.5**
DMN	**Daman**	**46.67**	**307**	*e*P	**P**	**06 14 41.3**	**+1.8**
GKN	**Gorkha**	**47.22**	**308**	*e*P	**P**	**06 14 44.8**	**+1.1**
	comp=Z,17nm,1.0s,mb5.0						
HABR	**Khabarovsk**	**47.38**	**8**	*i* P	**P**	**06 14 35.8**	**-9.2**
HABR				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
KLR	**Kul'dur**	**47.73**	**5**	*e*P	**P**	**06 14 44.2**	**-3.5**
HIA	**Hailar**	**47.76**	**355**	*e*P	**P**	**06 14 47.1**	**-0.8**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HIA	**Hailar**	**47.76**	**355**	*e*P	**P**	**06 14 47.1**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.4						
KOLN	**Koldanda**	**47.94**	**307**	*e*P	**P**	**06 14 50.0**	**+0.7**
	comp=Z,28nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**48.84**	**343**	*i* P	**P**	**06 14 53.6**	**-2.6**
ULN	**Ulaanbaatar**	**48.84**	**343**	P	**P**	**06 14 54.1**	**-2.1**
	comp=Z,1.0nm,0.5s,mb4.1						
HYB	**Hyderabad**	**48.92**	**292**	*i* P	**P**	**06 15 02.0**	**+5.1**
HYB	**Hyderabad**	**48.92**	**292**	*e*P	**P**	**06 15 02.0**	**+5.1**
SONM	**Songino Array**	**49.00**	**343**	P	**P**	**06 14 56.8**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=167,slow=9.1,SNR=6.2						
SONM				ScP	ScP	06 20 15.0	+4.6
	comp=Z,0.3nm,0.7s,baz=171,slow=3.9,SNR=3.8						
BOD	**Bodaibo**	**56.82**	**353**	*e*P	**P**	**06 15 55.1**	**0.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
MK31	**Makanchi Array**	**58.74**	**326**	*i* P	**P**	**06 16 07.7**	**-0.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.8						
MKAR	**Makanchi Array**	**58.74**	**326**	P	**P**	**06 16 07.9**	**-0.6**
	comp=Z,3.0nm,0.4s,mb4.7,baz=121,slow=7.7,SNR=110						
MKAR				ScP	ScP	06 20 56.5	+3.7
	comp=Z,0.4nm,0.7s,baz=124,slow=5.1,SNR=4.4						
MKAR				LR	LR	06 40 07.5	
	comp=Z,54nm,20.8s,baz=348,slow=35						
YAK	**Yakutsk**	**60.35**

comp=Z,4.5nm,1.1s,mb4.7,baz=84,slow=4.2,SNR=14
AKASG **Malin Array Be 92.89 321** P **P 06 19 22.1 -1.1**
comp=Z,0.1nm,0.2s,mb3.8,baz=75,slow=4.1,SNR=4.8
AKASG **Malin Array Be 92.89 321** *i* P **P 06 19 24.1 +0.9**
KAF **Kangasniemi 93.00 332** *ep* **P 06 19 22.3 -1.4**
FINES **FINESS Array B 93.22 332** P **P 06 19 24.0 -0.7**
comp=Z,1.3nm,0.5s,mb4.6,baz=77,slow=5.6,SNR=20
FINES **FINESS Array B 93.22 332** *i* P **P 06 19 24.7 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NOA **NORSAR Array B 100.22 333** P Pdif 06 19 55.5 -0.9
comp=Z,1.1nm,0.9s,baz=79,slow=4.2,SNR=2.4
YKA **Yellowknife Ar 101.84 24** P Pdif 06 20 05.1 +1.5
comp=Z,0.7nm,0.7s,baz=300,slow=4.5,SNR=24
YKA **Yellowknife Ar 101.84 24** *i* P Pdif 06 20 05.0 +1.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA **Yellowknife Ar 101.84 24** P Pdif 06 20 05.1 +1.5
TORD **Torodi Ar. Bea 122.59 287** PKP PKPdf 06 25 07.8 +2.2
comp=Z,2.0nm,0.7s,baz=83,slow=1.7,SNR=20
SCHQ **Schefferville 122.81 9** PKP PKPdf 06 25 07.7 +1.7
comp=Z,2.8nm,0.6s,baz=279,slow=4.0,SNR=17
TXAR **Lajitas Array 123.69 53** PKP PKPdf 06 25 11.0 +3.3
comp=Z,0.6nm,0.7s,baz=221,slow=1.0,SNR=7.7
PLCA **Paso Flores 138.35 161** PKP PKPdf 06 25 37.6 +2.3
comp=Z,1.7nm,0.7s,baz=182,slow=22,SNR=4.0
LVC **Limon Verde 154.74 147** PKP PKPdf 06 26 04.4 +1.9
comp=Z,2.0nm,0.9s,baz=214,slow=10,SNR=2.5
LVC PKPbc PKPbc 06 26 14.6 +3.4
comp=Z,2.7nm,0.7s,baz=215,slow=3.6,SNR=4.0
LVC **Limon Verde 154.74 147** PKP PKPdf 06 26 04.4 +1.9
LVC PKPbc PKPbc 06 26 14.6 +3.4
LPAZ **La Paz 160.02 138** PKP PKPdf 06 26 12.6 +3.4
comp=Z,1.8nm,0.8s,baz=334,slow=1.8,SNR=8.7
SIV **San Ignacio 164.21 155** PKP PKPdf 06 26 16.5 +3.1
comp=Z,1.4nm,0.9s,baz=252,slow=2.9,SNR=6.4

IDC 05 06:12:31.8±0.8, 687N×7299W, h162km±16km, mb2.7/2, mb1 3.1/4, mb1mx2.9/21, mbtmp3.3/4, Error ellipse: s-maj=49.5km s-min=7.8km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.41**	**214**	P	Pn	06 13 14.4	+2.1
	6.4nm,0.3s,baz=94,slow=13,SNR=53						
ROSC				S	Sn	06 13 44.6	+1.0
	9.7nm,0.3s,baz=92,slow=20,SNR=9.2						
SDV	**Santo Domingo**	**3.08**	**49**	P	Pn	06 13 22.3	+1.8
	8.2nm,0.3s,baz=228,slow=3.4,SNR=123						
SDV				S	Sn	06 13 58.6	+0.3
	8.9nm,0.3s,baz=54,slow=15,SNR=21						
TXAR	**Lajitas Array**	**36.53**	**312**	P	P	06 19 21.6	0.0
	0.3nm,0.8s,baz=140,slow=7.0,SNR=2.8						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	P	06 22 43.0	0.0
	0.2nm,0.5s,baz=132,slow=6.8,SNR=8.7						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	06 32 04.5	+0.4
	0.2nm,0.4s,baz=104,slow=3.2,SNR=5.1						

*IDC **05** 06:13:31.6±0.7, 080N×9734E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML3.7/1, MS3.7/1, Ms1 3.6/1, ms1mx2.8/26, Error ellipse: s-maj=20.6km s-min=16.5km az=38.0*
*BJI **05** 06:13:32.9, 056N×9763E, h33km, mB5.4, mb4.8*
*ISCJB **05** 06:13:34.7±0.5, 077N±007×9736E±006, h33km, mb4.5/27, MS3.7/1, Error ellipse: s-maj=10.1km s-min=8.4km az=151.6*
*NEIC **05** 06:13:36.1±0.5, 080N×9740E, h30km, mb4.6/6, Error ellipse: s-maj=11.5km s-min=8.9km az=43.0*

ISC 05 06:13:37.2±0.6, 080N±007×9737E±006, h35km, (h23km±2.5km: pP-P), n46, σ0§94/46, mb4.5/27, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.52**	**38**	Pn	**Pn**	**06 14 14.2**	**-1.4**
	17nm,0.3s,baz=209,slow=6.4,SNR=52						
PSI				Sn	**Sn**	**06 14 46.5**	**+1.4**
	13nm,0.3s,baz=239,slow=8.9,SNR=6.4						
PSI	**Prapat**	**2.52**	**38**	Pn	**Pn**	**06 14 14.2**	**-1.4**
PSI				Sn	**Sn**	**06 14 46.5**	**+1.4**
IPM	**Ipoh**	**5.17**	**45**	P	**Pn**	**06 14 52.7**	**+0.7**
KGM	**Kluang**	**6.07**	**78**	P	**Pn**	**06 15 05.2**	**+0.9**
QIZ	**Qiongzhong**	**21.86**	**33**	*eP*	**P**	**06 18 25.5**	**-1.2**
	177nm,1.7s,mb5.2						
KMI	**Kunming**	**24.73**	**12**	P	**P**	**06 18 54.5**	**-0.7**
KMI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.5						
HYB	**Hyderabad**	**24.81**	**313**	*i* P	**P**	**06 18 55.0**	**-0.9**
HYB	**Hyderabad**	**24.81**	**313**	*eP*	**P**	**06 19 06.0**	**+10**
SHL	**Shillong**	**25.19**	**348**	*eP*	**P**	**06 18 59.0**	**-0.3**
JIRN	**Jiri**	**28.78**	**339**	*eP*	**P**	**06 19 32.6**	**+1.0**
	comp=Z,24nm,0.9s,mb4.9						
PKI	**Pulchoki**	**28.99**	**338**	*eP*	**P**	**06 19 34.9**	**+1.4**
GUN	**Gumba**	**29.12**	**339**	*eP*	**P**	**06 19 35.7**	**+1.1**
	comp=Z,12nm,0.2s,mb5.2						
DMN	**Daman**	**29.14**	**337**	*eP*	**P**	**06 19 38.6**	**+3.8**
KKN	**Kakani**	**29.24**	**338**	*eP*	**P**	**06 19 37.2**	**+1.6**
LSA	**Lhasa**	**29.35**	**349**	P	**P**	**06 19 37.8**	**+1.2**
LSA	**Lhasa**	**29.35**	**349**	P	**P**	**06 19 35.6**	**-1.1**
	comp=Z,5.1nm,0.6s,mb4.4						
GKN	**Gorkha**	**29.68**	**337**	*eP*	**P**	**06 19 40.1**	**+0.6**
KOLN	**Koldanda**	**29.89**	**335**	*eP*	**P**	**06 19 42.0**	**+0.5**
	comp=Z,13nm,0.7s,mb4.8						
CD2	**Chengdu**	**30.55**	**11**	*eP*	**P**	**06 19 48.1**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
XAN	**Xi'an**	**34.79**	**17**	P	**P**	**06 20 22.5**	**-1.9**
XAN				AP	pP	06 20 29.9	-4.6
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
LZH	**Lanzhou**	**35.62**	**9**	*eP*	**P**	**06 20 30.2**	**-1.3**
LZH				AP	pP	06 20 37.2	-4.5
LZH				XP	sP	06 20 42.1	-3.8
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
GTA	**Gaotai**	**38.49**	**3**	*eP*	**P**	**06 20 55.6**	**-0.3**
GTA				AP	pP	06 21 02.7	-3.4
GTA				XP	sP	06 21 07.3	-3.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
JOW	**Kunigami**	**39.39**	**46**	P	**P**	**06 21 03.6**	**+0.3**
	comp=Z,15nm,0.7s,mb4.8,baz=219,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**41.68**	**122**	P	**P**	**06 21 22.3**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.0,baz=300,slow=9.1,SNR=7.4						
BJT	**Baijiatuau**	**42.62**	**21**	*eP*	**P**	**06 21 30.4**	**+0.4**
	comp=Z,12nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**06 21 34.0**	**+0.8**
	comp=Z,1.7nm,0.6s,mb4.0,baz=298,slow=7.8,SNR=11						
SONM	**Songino Array**	**47.50**	**8**	P	**P**	**06 22 08.7**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=190,slow=9.9,SNR=23						
SONM				PcP	PcP	06 23 39.2	+0.6
	comp=Z,1.0nm,0.7s,baz=176,slow=3.6,SNR=4.3						
MKAR	**Makanchi Array**	**47.67**	**346**	P	**P**	**06 22 10.0**	**-0.1**
	comp=Z,8.5nm,0.5s,mb5.0,baz=160,slow=8.7,SNR=208						
CN2	**Changchun**	**49.58**	**27**	*eP*	**P**	**06 22 24.3**	**-0.5**
MJAR	**Matsushiro Arr**	**51.87**	**42**	P	**P**	**06 22 41.5**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=218,slow=5.8,SNR=4.7						
STKA	**Stephens Creek**	**52.96**	**132**	P	**P**	**06 22 49.4**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=296,slow=9.8,SNR=3.5						
STKA				LR	LR	06 44 42.2	
	comp=Z,70nm,18.8s,MS3.7,baz=26,slow=35						
STKA	**Stephens Creek**	**52.96**	**132**	*eP*	**P**	**06 22 50.0**	**0.0**
STKA				LR	LR	06 44 42.2	
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**	**06 22 56.7**	**-0.8**
	comp=Z,5.8nm,0.5s,mb4.8,baz=311,slow=6.3,SNR=32						
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**	**06 22 56.7**	**-0.8**
ZRNK	**Zerenda**	**57.09**	**340**	*eP*	**P**	**06 23 18.9**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.3						
KMBO	**Kilima Mbogo**	**60.15**	**268**	P	**P**	**06 23 43.0**	**+1.9**
	comp=Z,2.1nm,0.3s,mb4.7,baz=204,slow=20,SNR=2.2						
BRTR	**Keskin Array B**	**69.51**	**312**	P	**P**	**06 24 41.5**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=135,slow=6.1,SNR=4.2						
AKASG	**Malin Array Be**	**75.68**	**322**	P	**P**	**06 25 17.4**	**-1.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=92,slow=4.9,SNR=6.5						
AKASG	**Malin Array Be**	**75.68**	**322**	P	**P**	**06 25 17.4**	**-1.4**
FINES	**FINESS Array B**	**80.43**	**333**	P	**P**	**06 25 44.6**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=94,slow=5.3,SNR=11						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**06 25 58.2**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=104,slow=5.0,SNR=8.4						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**06 25 58.2**	**-0.4**
GERES	**GERESS Array B**	**85.23**	**319**	P	**P**	**06 26 10.8**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=117,slow=6.0,SNR=9.5						
NOA	**NORSAR Array B**	**87.44**	**331**	P	**P**	**06 26 20.3**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.3,baz=94,slow=4.7,SNR=3.9						
TXAR	**Lajitas Array**	**143.92**	**32**	PKP	PKPdf	06 33 07.8	-1.0
	comp=Z,0.3nm,0.6s,baz=216,slow=0.9,SNR=5.1						
CPUP	**Villa Florida**	**144.82**	**222**	*e*PKPbc	PKPdf	06 33 18.6	+8.3

IDC 05 06:13:41.1±1.1, 170N×12554E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=76.4km s-min=20.6km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.17**	**159**	P	P	06 18 48.2	-1.1
	2.5nm,0.3s,baz=336,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.49**	**163**	P	P	06 19 20.7	+0.6
	2.1nm,0.4s,baz=346,slow=12,SNR=27						
ASAR				PcP	PcP	06 22 46.5	+1.5
	0.7nm,0.6s,baz=349,slow=2.5,SNR=6.1						
STKA	**Stephens Creek**	**36.70**	**157**	P	P	06 20 50.1	+0.4
	2.5nm,0.6s,baz=356,slow=8.4,SNR=6.8						
MKAR	**Makanchi Array**	**58.56**	**327**	P	P	06 23 39.5	0.0
	0.4nm,0.4s,baz=121,slow=7.9,SNR=4.0						
ILAR	**Eielson Array**	**87.44**	**25**	P	P	06 26 30.0	-0.4
	0.4nm,0.6s,baz=253,slow=4.4,SNR=9.9						

*ISCJB **05** 06:17:27.2±0.6, 5931S±008×249W±02, h10km, mb4.1/10, MS3.6/3, Error ellipse: s-maj=14.4km s-min=10.0km az=112.4*
*IDC **05** 06:17:27.7±0.7, 5918S×25.12W, h0km, mb4.1/9, mb1 4.1/9, mb1mx4.1/16, mbtmp4.1/9, MS3.7/3, Ms1 3.6/3, ms1mx3.4/13, Error ellipse: s-maj=26.4km s-min=19.4km az=167.0*
*NEIC **05** 06:17:29.1±0.4, 5925S×2500W, h10km, mb4.6/1, Error ellipse: s-maj=13.2km s-min=8.2km az=57.0*

ISC 05 06:17:28.6±0.6, 5933S±008×250W±02, h10km, n26, σ1§06/18, mb4.1/10, MS3.6/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.31**	**155**	Pdiff	**Pn**	**06 20 35.7**	**-1.9**
VNA1				*e*		06 20 40.1	
VNA1	**Neumayer--Stat**	**13.31**	**155**	*eP*	**Pn**	**06 20 40.1**	**+2.5**
VNA3	**Neumayer Olymp**	**13.50**	**158**	Pdiff	**Pn**	**06 20 38.6**	**-1.6**
VNA3				*e*		06 20 41.4	
VNA3				*e*		06 20 44.8	
VNA3				*e*		06 20 49.2	
VNA3				*e*		06 22 55.8	
VNA3	**Neumayer Olymp**	**13.50**	**158**	*eP*	**Pn**	**06 20 41.4**	**+1.2**
VNA2	**Neumayer--Watz**	**13.70**	**155**	Pdiff	**Pn**	**06 20 42.0**	**-1.0**
	baz=320,slow=14						
VNA2				*e*		06 20 44.7	
VNA2				*e*		06 20 48.1	
VNA2				*e*		06 20 53.5	
VNA2				*e*		06 20 58.5	
VNA2				*e*		06 23 04.4	
VNA2	**Neumayer--Watz**	**13.70**	**155**	*eP*	**Pn**	**06 20 44.7**	**+1.7**
SNAA	**Sanae**	**15.27**	**153**	Pn	**Pn**	**06 21 02.8**	**-1.4**
	1.1nm,0.3s,baz=322,slow=14,SNR=55						
USHA	**Ushuaia**	**23.69**	**262**	P	**P**	**06 22 40.1**	**-0.5**
	9.7nm,0.7s,mb4.3,baz=97,slow=8.3,SNR=9.6						
USHA				LR	LR	06 29 48.5	
	comp=Z,226nm,21.2s,MS3.6,baz=64,slow=31						
USHA	**Ushuaia**	**23.69**	**262**	P	**P**	**06 22 40.1**	**-0.5**
USHA				LR	LR	06 29 48.5	
TRQA	**Tornquist**	**31.75**	**296**	*eP*	**P**	**06 23 53.3**	**+0.5**
	6.6nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**33.81**	**283**	P	**P**	**06 24 10.6**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=166,slow=11,SNR=6.4						
PLCA				LR	LR	06 36 26.8	
	comp=Z,65nm,19.5s,MS3.4,baz=12,slow=34						
VNDA	**Vanda**	**43.33**	**182**	P	**P**	**06 25 32.6**	**+1.8**
	1.5nm,0.9s,mb3.7,baz=202,slow=13,SNR=5.4						
BOSA	**Boshof**	**45.80**	**71**	P	**P**	**06 25 50.0**	**-0.5**
	2.5nm,0.9s,mb4.2,baz=231,slow=6.5,SNR=3.3						
BOSA				LR	LR	06 41 15.0	
	comp=Z,133nm,19.5s,MS3.9,baz=244,slow=31						
BDFB	**Brasilia**	**46.80**	**329**	P	**P**	**06 25 57.5**	**-0.8**
	0.8nm,0.4s,mb4.0,baz=173,slow=3.7,SNR=4.8						
LBTB	**Lobatse**	**48.99**	**68**	P	**P**	**06 26 14.9**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=214,slow=7.3,SNR=2.4						
TSUM	**Tsumeb**	**50.41**	**56**	P	**P**	**06 26 27.1**	**+1.0**
	1.4nm,0.8s,mb4.0,baz=267,slow=19,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.40**	**27**	P	**P**	**06 29 13.1**	**+0.5**
	3.5nm,0.6s,mb4.5,baz=199,slow=6.4,SNR=40						
ASAR	**Alice Springs**	**95.50**	**161**	P	**P**	**06 30 53.9**	**+0.1**
	0.2nm,0.6s,mb3.7,baz=186,slow=3.9,SNR=5.0						
NVAR	**Mina Array Bea**	**123.69**	**290**	PKP	PKPdf	06 36 27.4	+0.8
	0.4nm,0.6s,baz=153,slow=4.0,SNR=4.2						
FINES	**FINESS Array B**	**126.75**	**28**	PKP	PKPdf	06 36 31.5	-0.9
	0.7nm,0.7s,baz=225,slow=2.7,SNR=4.0						
MKAR	**Makanchi Array**	**136.77**	**73**	PKP	PKPdf	06 36 51.8	+0.4
	0.3nm,0.8s,baz=244,slow=0.6,SNR=2.7						
YKA	**Yellowknife Ar**	**139.36**	**315**	PKP	PKPdf	06 36 54.8	-1.3
	0.6nm,0.5s,baz=133,slow=2.0,SNR=30						
YKA	**Yellowknife Ar**	**139.36**	**315**	PKP	PKPdf	06 36 54.8	-1.3
INK	**Inuvik**	**149.05**	**317**	PKPbc	PKPbc	06 37 15.3	-1.6
	7.6nm,0.6s,baz=85,slow=2.5,SNR=74						
SONM	**Songino Array**	**149.64**	**90**	PKPbc	PKPbc	06 37 17.6	-0.8
	0.7nm,0.5s,baz=229,slow=3.2,SNR=8.6						
ILAR	**Eielson Array**	**153.10**	**306**	PKPbc	PKPbc	06 37 25.1	-1.4
	3.5nm,1.0s,baz=136,slow=5.2,SNR=23						
ILAR				PKPab	PKPab	06 37 34.3	-3.7
	1.8nm,0.8s,baz=135,slow=1.5,SNR=7.9						

*NAO **05** 06:37:17.6, 3499N×7279E, h33km, mb3.9*
*NEIC **05** 06:37:29.8±0.7, 3615N×7108E, h10km, mb4.4/1, Error ellipse: s-maj=18.8km s-min=6.7km az=44.0*
*IDC **05** 06:37:30.9±6.5, 3586N×7149E, h46km±53km, mb3.6/9, mb1 3.7/12, mb1mx3.5/25, mbtmp3.8/12, ML3.7/3, Error ellipse: s-maj=55.0km s-min=32.7km az=155.0*
*MOS **05** 06:37:30.7±1.0, 3602N×7097E, h33km, mb3.7/1, Error ellipse: s-maj=22.1km s-min=9.9km az=111.5*
*ISCJB **05** 06:37:35.3±0.8, 3615N±004×7135E±007, h87km±10km, mb3.7/8, Error ellipse: s-maj=9.9km s-min=4.6km az=120.3*
*NNC **05** 06:37:44.0±6.1, 3680N×7099E, h118km±74km, mb3.3, mpv4.4, Error ellipse: s-maj=48.0km s-min=29.2km az=19.0*
*TEH **05** 06:38:30.0, 3120N×6054E, h18km, Mn3.7*
*CSEM **05** 06:38:57.1, 3120N×6054E, h18km, ML3.7, After TEH*

ISC 05 06:37:37.2±0.6, 3616N±003×7138E±006, h92km±8km, n60, σ1§06/84, mb3.7/8, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.17**	**135**	*eP*	**Pn**	**06 38 56.1**	**+4.0**
THN				*eS*	**Sn**	**06 39 58.2**	**+7.8**
DLH	**Dalhousie**	**5.24**	**132**	*eP*	**Pn**	**06 38 58.0**	**+5.0**
DLH				*eS*	**Sn**	**06 39 57.0**	**+5.0**
AML	**Almayashu**	**6.23**	**16**	P	**Pn**	**06 39 06.8**	**+0.3**
	SNR=106						
UCH	**Uchtor**	**6.53**	**21**	P	**Pn**	**06 39 11.6**	**+1.0**
	SNR=8.5						
SDNR	**Sundarnagar**	**6.58**	**133**	*eP*	**Pn**	**06 39 15.8**	**+4.6**
SDNR				*eS*	**Sn**	**06 40 25.4**	**+0.7**
KZA	**Kyzart**	**6.63**	**26**	P	**Pn**	**06 39 13.0**	**+1.0**
	SNR=8.1						
EKS2	**Erkin-Say**	**6.75**	**15**	P	**Pn**	**06 39 13.9**	**+0.3**
	SNR=23						
AAK	**Ala-Archa**	**6.90**	**20**	P	**Pn**	**06 39 16.3**	**+0.7**
	SNR=24						
SMLA	**Simla**	**6.96**	**134**	*eP*	**Pn**	**06 39 15.5**	**-1.0**
SMLA				*eS*	**Sn**	**06 40 30.3**	**-3.8**
KK31	**Karatay Array**	**6.97**	**355**	⇑P	**Pn**	**06 39 15.4**	**-1.1**
	25nm,0.4s,baz=180,slow=13,SNR=758						
KK31				⇑S	**Sn**	**06 40 27.0**	**-7.3**
	10nm,0.4s,baz=181,slow=18,SNR=11						
KKAR	**Karatay Array**	**6.97**	**355**	*e*PN	**Pn**	**06 39 15.4**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KBK	**Karagaybulak**	**7.05**	**22**	P	**Pn**	**06 39 18.5**	**+0.8**
	SNR=7.0						
ULHL	**Ulahol**	**7.16**	**30**	P	**Pn**	**06 39 20.4**	**+1.3**
	SNR=6.4						
CHMS	**Chumysh**	**7.31**	**20**	P	**Pn**	**06 39 21.4**	**+0.2**
	SNR=8.1						
KLP	**Kalpa**	**7.34**	**127**	*eP*	**Pn**	**06 39 25.8**	**+4.2**
KLP				*e*S	**Sn**	**06 40 42.9**	**-0.6**
KLP				AML	AML	06 40 54.3	
	comp=N,173nm,0.7s						
KLP				AML	AML	06 40 54.6	
	comp=E,136nm,0.6s						
USP	**Ospenovka**	**7.50**	**18**	P	**Pn**	**06 39 23.1**	**-0.7**
	SNR=18						
TKM2	**Tokmak 2**	**7.50**	**24**	P	**Pn**	**06 39 24.5**	**+0.7**
	SNR=13						
TKM2	**Tokmak 2**	**7.50**	**24**	⇓P	**Pn**	**06 39 23.8**	**0.0**
	comp=E,7.4nm,0.5s						
TKM2				⇓S	**Sn**	**06 40 43.8**	**-3.4**
	comp=E,8.1nm,1.1s						
KHET	**Khetri**	**8.89**	**154**	*eP*	**Pn**	**06 39 45.3**	**+2.5**
KHET				*eS*	**Sn**	**06 41 18.3**	**-2.8**
KHET				AML	AML	06 41 22.2	
	comp=N,22nm,0.3s						
KHET				AML	AML	06 41 22.6	
	comp=E,17nm,0.1s						
NDI	**New Delhi**	**8.94**	**145**	*ex*	**Sn**	**06 41 21.0**	**-1.3**
KUDL	**Kundal**	**9.09**	**150**	*eP*	**Pn**	**06 39 49.6**	**+4.2**
KUDL				*eS*	**Sn**	**06 41 23.2**	**-2.7**
KUDL				AML	AML	06 41 27.1	
	comp=N,9.9nm,0.3s						
KUDL				AML	AML	06 41 27.1	
	comp=E,12nm,0.3s						
IMYA	**Miamay**	**9.11**	**274**	*e*Pn	**Pn**	**06 39 45.6**	**-0.1**
IEMG	**Emamqoli**	**10.29**	**281**	*e*Pn	**Pn**	**06 40 02.5**	**+0.8**
IEMG				*e*Lg		06 41 49.2	
KOLN	**Koldanda**	**13.32**	**125**	*e*Pn	**Pn**	**06 40 42.4**	**0.0**
KOLN				*e*Sn	**Sn**	**06 43 02.2**	**-6.6**
	comp=E,24nm,0.8s						
KOLN	**Koldanda**	**13.32**	**125**	*e*Pn	**Pn**	**06 40 42.4**	**0.0**
	comp=E,12nm,0.8s						
KOLN				*e*Sn	**Sn**	**06 43 02.2**	**-6.6**
MK31	**Makanchi Array**	**13.39**	**34**	⇓P	**Pn**	**06 40 42.1**	**-1.4**
	comp=E,0.8nm,0.7s,baz=219,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**06 40 42.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=228,slow=15,SNR=4.3						
GKN	**Gorkha**	**13.86**	**122**	*e*Pn	**Pn**	**06 40 49.5**	**0.0**
GKN				*e*Sn	**Sn**	**06 43 14.7**	**-7.3**
	comp=E,28nm,0.4s						
GKN	**Gorkha**	**13.86**	**122**	*e*Pn	**Pn**	**06 40 49.5**	**0.0**
	comp=E,14nm,0.4s						
GKN				*e*Sn	**Sn**	**06 43 14.7**	**-7.3**
DMN	**Daman**	**14.43**	**122**	*e*Pn	**Pn**	**06 40 57.2**	**+0.3**
DMN				*e*Sn	**Sn**	**06 43 29.1**	**-6.7**
	comp=E,49nm,0.9s						
DMN	**Daman**	**14.43**	**122**	*e*Pn	**Pn**	**06 40 57.2**	**+0.3**
	comp=E,24nm,0.9s						
DMN				*e*Sn	**Sn**	**06 43 29.1**	**-6.7**
KKN	**Kakani**	**14.44**	**121**	*e*Pn	**Pn**	**06 40 57.3**	**+0.3**
KKN				*e*Sn	**Sn**	**06 43 28.8**	**-7.1**
	comp=E,19nm,0.5s						
KKN	**Kakani**	**14.44**	**121**	*e*Pn	**Pn**	**06 40 57.3**	**+0.3**
	comp=E,9.4nm,0.5s						
KKN				*e*Sn	**Sn**	**06 43 28.8**	**-7.1**
PKI	**Pulchoki**	**14.66**	**122**	*e*Pn	**Pn**	**06 41 01.2**	**+1.3**
PKI				*e*Sn	**Sn**	**06 43 33.4**	**-8.0**
	comp=E,7.2nm,0.4s						
PKI	**Pulchoki**	**14.66**	**122**	*e*Pn	**Pn**	**06 41 01.2**	**+1.3**
	comp=E,3.6nm,0.4s						
PKI				*e*Sn	**Sn**	**06 43 33.4**	**-8.0**
GUN	**Gumba**	**14.78**	**120**	*e*Pn	**Pn**	**06 41 01.7**	**+0.3**
GUN				*e*Sn	**Sn**	**06 43 36.2**	**-8.1**
	comp=E,45nm,1.0s						
GUN	**Gumba**	**14.78**	**120**	*e*Pn	**Pn**	**06 41 01.7**	**+0.3**
	comp=E,22nm,1.0s						
GUN				*e*Sn	**Sn**	**06 43 36.2**	**-8.1**
JIRN	**Jiri**	**15.15**	**120**	*e*Pn	**Pn**	**06 41 06.9**	**+0.8**
JIRN				*e*Sn	**Sn**	**06 43 45.1**	**-8.1**
	comp=E,20nm,0.5s						
JIRN	**Jiri**	**15.15**	**120**	*e*Pn	**Pn**	**06 41 06.9**	**+0.8**
	comp=E,10nm,0.5s						
JIRN				*e*Sn	**Sn**	**06 43 45.1**	**-8.1**
KURK	**Kurchatov**	**15.46**	**17**	⇑P	**Pn**	**06 41 11.1**	**+1.2**
	comp=E,1.4nm,0.8s						
AB31	**Akbulak array**	**15.53**	**331**	⇑P	**Pn**	**06 41 07.2**	**-3.7**
	comp=E,1.3nm,0.3s,baz=137,slow=13,SNR=167						
AB31				⇑S	S	06 43 46.9	-25
	comp=E,1.3nm,0.4s,baz=154,slow=24,SNR=8.4						
AB31	**Akbulak array**	**15.53**	**331**	P	**Pn**	**06 41 07.1**	**-3.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVA0	**Borovoye Array**	**16.88**	**358**	P	**Pn**	**06 41 27.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=170,slow=11,SNR=11						
BVAR	**Borovoye Array**	**16.88**	**358**	P	**Pn**	**06 41 27.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=166,slow=12,SNR=12						
AKTK	**Aktyubinsk**	**17.23**	**330**	P	**Pn**

baz=328,slow=16
HSP Hornsund 3.15 130 *e*P **Pn 06 54 52.2 +0.4**
HSP *e*S **Sn 06 55 27.8 -1.7**
ARA0 ARCESS Array S 11.11 140 Pn **Pn 06 56 41.5 +0.5**
baz=351,slow=12
ARA0 Sn **Sn 06 58 40.8 -4.5**
baz=351,slow=22
ARCES ARCESS Array B 11.11 140 Pn **Pn 06 56 41.7 +0.7**
0.5nm,0.3s,baz=350,slow=12,SNR=24
ARCES ARCESS Array B 11.11 140 Pn **Pn 06 56 41.7 +0.7**
SUMG Summit 12.10 260 *e*Pn **Pn 06 56 48.6 -6.0**
APA0 Apatity Array 13.91 131 P **Pn 06 57 18.5 -0.8**
baz=322,slow=9.3
APA Apatity 14.00 131 P **Pn 06 57 18.5 -2.1**
APA Apatity 14.00 131 P **Pn 06 57 18.5 -2.0**
NOA NORSAR Array B 18.39 170 P **Pn 06 58 18.4 +1.1**
0.1nm,0.3s,baz=349,slow=10,SNR=3.2
FIA0 FINESS Array S 19.00 148 P **Pn 06 58 25.3 +0.6**
baz=351,slow=14
FINES FINESS Array B 19.00 148 P **Pn 06 58 26.2 +1.6**
0.1nm,0.3s,baz=0.0,slow=11,SNR=5.5
FINES FINESS Array B 19.00 148 P **Pn 06 58 26.2 +1.5**
HFS Hagfors 19.39 167 P **Pn 06 58 29.5 +0.1**
0.2nm,0.3s,baz=0.0,slow=8.9,SNR=6.9
FRB Frobisher Bay 25.36 276 P **P 06 59 29.5 +0.2**
2.5nm,0.7s,mb3.8,baz=12,slow=14,SNR=4.5
YKA Yellowknife Ar 34.20 314 P **P 07 00 47.8 0.0**
0.2nm,1.0s,mb3.0,baz=315,slow=11,SNR=3.0
MKAR Makanchi Array 42.13 91 P **P 07 01 56.3 +1.6**
0.3nm,0.6s,mb3.1,baz=344,slow=6.9,SNR=3.7
TXAR Lajitas Array 64.74 294 P **P 07 04 38.6 -2.0**
0.4nm,0.7s,mb3.6,baz=18,slow=5.7,SNR=4.9
TORD Torodi Ar. Bea 66.12 183 P **P 07 04 49.1 -0.5**
0.3nm,0.7s,mb3.5,baz=350,slow=6.5,SNR=2.7

IDC 05 07:37:14.2±3.9, 672N×7483W, h170km±107km, mb2.8/1, mb1 3.2/1, mb1mx2.7/19, mbtmp3.3/1, Error ellipse: s-maj=544.6km s-min=30.5km az=88.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.92**	**165**	P	Pn	07 37 51.1	+1.5
	6.6nm,0.3s,baz=264,slow=23,SNR=36						
ROSC				S	Sn	07 38 18.1	+1.2
	9.5nm,0.3s,baz=100,slow=18,SNR=12						
YKA	**Yellowknife Ar**	**62.78**	**340**	P	P	07 47 20.9	-0.5
	0.2nm,0.5s,baz=132,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**147.67**	**235**	PKPbc	PKPbc	07 56 39.1	+0.6
	0.2nm,0.4s,baz=108,slow=3.6,SNR=6.8						
WRA	**Warramunga Arr**	**148.80**	**242**	PKPbc	PKPbc	07 56 42.2	+0.8
	0.3nm,0.4s,baz=108,slow=2.8,SNR=10						

*ISCJB **05** 07:59:48.5±2.8, 165N±006×1256E±02, h6km±17km, mb4.3/20, Error ellipse: s-maj=26.6km s-min=8.6km az=159.9*
*MOS **05** 07:59:52.5±1.4, 166N×12534E, h33km, mb4.9/4, Error ellipse: s-maj=35.0km s-min=13.2km az=100.8*
*IDC **05** 07:59:55.0±3.3, 158N×12567E, h38km±26km, mb4.0/13, mb1 4.2/13, mb1mx4.0/20, mbtmp4.2/13, Error ellipse: s-maj=35.8km s-min=11.0km az=75.0*
*NEIC **05** 07:59:57.4±2.6, 164N×12578E, h61km±24km, mb4.6/4, Error ellipse: s-maj=23.3km s-min=11.0km az=72.0*

ISC 05 07:59:56.9±1.8, 162N±006×1258E±01, h57km±17km, n40, σ1§13/38, mb4.3/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.52**	**295**	*e*Pn	**Pn**	**08 02 26.1**	**+1.2**
KSM	**Kuching**	**15.48**	**270**	Pn	**Pn**	**08 03 33.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.59**	**180**	*e*P	**Pn**	**08 04 19.8**	**-2.3**
	5.8nm,0.8s						
WRA	**Warramunga Arr**	**23.00**	**159**	P	**P**	**08 04 56.3**	**-0.6**
	7.5nm,0.7s,mb4.2,baz=336,slow=10,SNR=46						
WRA				S	**S**	**08 09 03.6**	**+0.6**
	0.8nm,0.6s,baz=330,slow=21,SNR=3.9						
WB2	**Warramunga Arr**	**23.01**	**159**	*e*P	**P**	**08 04 56.3**	**-0.6**
WB2				*e*S	**S**	**08 09 03.6**	**+0.5**
MBWA	**Marble Bar**	**23.40**	**194**	*e*P	**P**	**08 05 00.3**	**-0.4**
ASPA	**Alice Springs**	**26.34**	**163**	*e*P	**P**	**08 05 28.2**	**+0.8**
ASAR	**Alice Springs**	**26.34**	**163**	P	**P**	**08 05 28.1**	**+0.7**
	2.7nm,0.5s,mb4.0,baz=346,slow=7.3,SNR=58						
ASAR				PcP	PcP	08 08 54.6	+2.5
	1.9nm,0.6s,baz=350,slow=2.3,SNR=11						
ASAR				S	**S**	**08 09 59.6**	**+3.2**
	0.4nm,0.9s,baz=336,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**36.52**	**157**	P	**P**	**08 06 55.8**	**-1.0**
	3.7nm,0.5s,mb4.5,baz=327,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**36.52**	**157**	*e*P	**P**	**08 06 56.0**	**-0.9**
MJAR	**Matsushiro Arr**	**36.60**	**17**	P	**P**	**08 06 57.0**	**-0.5**
	1.8nm,0.7s,mb4.0,baz=198,slow=8.1,SNR=4.9						
MDJ	**Mudanjiang**	**42.95**	**4**	P	**P**	**08 07 50.9**	**+0.7**
	7.5nm,0.9s,mb4.4						
ASAJ	**Asahikawa**	**44.87**	**17**	P	**P**	**08 08 06.9**	**+1.3**
	7.1nm,0.9s,mb4.5,baz=155,slow=11,SNR=6.1						
SONM	**Songino Array**	**49.01**	**343**	P	**P**	**08 08 36.8**	**-1.0**
	0.5nm,0.9s,mb3.5,baz=180,slow=5.8,SNR=3.8						
BOD	**Bodaibo**	**56.82**	**352**	*e*P	**P**	**08 09 34.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**58.77**	**326**	P	**P**	**08 09 47.5**	**-1.6**
	comp=Z,0.6nm,0.4s,mb4.0,baz=135,slow=8.2,SNR=4.7						
MA2	**Magadan**	**60.97**	**14**	*e*P	**P**	**08 10 03.0**	**-1.2**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
MA2	**Magadan**	**60.97**	**14**	*e*P	**P**	**08 10 03.0**	**-1.2**
	comp=Z,4.7nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**68.58**	**328**	P	**P**	**08 10 53.2**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=108,slow=4.6,SNR=3.5						
ZRNK	**Zerenda**	**69.29**	**327**	*e*P	**P**	**08 10 56.3**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**69.29**	**327**	*e*P	**P**	**08 10 56.3**	**-1.8**
	comp=Z,1.3nm,0.5s,mb4.1						
AKTK	**Aktyubinsk**	**74.73**	**322**	P	**P**	**08 11 30.9**	**+0.3**
AKTO	**Aktyubinsk**	**74.73**	**322**	P	**P**	**08 11 30.9**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=168,slow=6.7,SNR=4.1						
VNDA	**Vanda**	**81.46**	**173**	P	**P**	**08 12 09.1**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=337,slow=6.3,SNR=3.0						
VNDA	**Vanda**	**81.46**	**173**	P	**P**	**08 12 09.1**	**+1.2**
TTA	**Tatalina**	**83.20**	**27**	*e*P	**P**	**08 12 19.7**	**+2.8**
TTA				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.2						
TTA	**Tatalina**	**83.20**	**27**	*e*P	**P**	**08 12 19.7**	**+2.8**
	comp=Z,38nm,1.4s,mb5.2						
KDAK	**Kodiak Island**	**84.17**	**32**	P	**P**	**08 12 23.0**	**+1.1**
	comp=Z,20nm,0.8s,mb5.3,baz=284,slow=4.3,SNR=4.1						
IMA2	**Indian Mountai**	**84.68**	**24**	*e*P	**P**	**08 12 26.4**	**+1.9**
ILAR	**Eielson Array**	**87.40**	**25**	P	**P**	**08 12 38.0**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.2,baz=253,slow=4.4,SNR=24						
ARCES	**ARCESS Array B**	**92.10**	**340**	P	**P**	**08 12 58.5**	**-1.4**
	comp=Z,3.0nm,0.9s,mb4.6,baz=59,slow=5.3,SNR=4.3						
ARCES	**ARCESS Array B**	**92.10**	**340**	P	**P**	**08 12 58.5**	**-1.4**
INK	**Inuvik**	**92.46**	**21**	P	**P**	**08 13 01.4**	**-0.2**
	comp=Z,2.0nm,1.1s,mb4.4,baz=279,slow=3.5,SNR=4.9						
FINES	**FINESS Array B**	**93.24**	**332**	P	**P**	**08 13 04.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb4.2,baz=90,slow=3.8,SNR=5.7						
FINES	**FINESS Array B**	**93.24**	**332**	P	**P**	**08 13 04.7**	**-0.5**
YKA	**Yellowknife Ar**	**101.80**	**24**	P	Pdif	08 13 45.4	+1.6
	comp=Z,0.4nm,0.7s,baz=301,slow=4.4,SNR=12						
TORD	**Torodi Ar. Bea**	**122.66**	**287**	PKP	PKPdf	08 18 47.9	+1.8
	comp=Z,1.0nm,0.7s,baz=79,slow=2.3,SNR=6.6						
SCHQ	**Schefferville**	**122.79**	**9**	PKP	PKPdf	08 18 47.9	+1.5
	comp=Z,1.0nm,0.4s,baz=260,slow=11,SNR=8.3						
TXAR	**Lajitas Array**	**123.62**	**53**	PKP	PKPdf	08 18 51.0	+3.1
	comp=Z,0.2nm,0.7s,baz=270,slow=1.3,SNR=3.7						
LPAZ	**La Paz**	**159.98**	**138**	PKP	PKPdf	08 19 53.5	+4.0
	comp=Z,1.1nm,0.8s,baz=180,slow=5.4,SNR=5.0						

*ISCJB **05** 08:01:38.3±0.5, 6298N±003×15132W±009, h142km±6km, mb3.9/1, Error ellipse: s-maj=7.0km s-min=5.6km az=5.1*
*IDC **05** 08:01:38.3±1.7, 6281N×15107W, h136km±20km, mb3.6/1, mb1 3.3/5, mb1mx3.0/22, mbtmp3.7/5, Error ellipse: s-maj=44.6km s-min=10.3km az=113.0*
*NEIC **05** 08:01:39.5, 6296N×15133W, h140km, MG3.2(AEIC), After AEIC.*

ISC 05 08:01:39.1±0.5, 6297N±003×15134W±010, h140km±6km, n32, σ0§49/39, mb3.9/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.61**	**18**	P	**Pn**	**08 02 00.2**	**+0.3**
KTH				S	**Sn**	**08 02 15.3**	**-0.4**
MCK	**McKinley**	**1.33**	**54**	P	**Pn**	**08 02 06.5**	**+0.4**
MCK				S	**Sn**	**08 02 26.1**	**-0.5**
GHO	**Glory Hole Cre**	**1.65**	**136**	P	**Pn**	**08 02 09.9**	**+0.5**
PMR	**Palmer**	**1.73**	**142**	P	**Pn**	**08 02 10.4**	**0.0**
PMR				S	**Sn**	**08 02 33.9**	**-0.4**
SML	**Sawmill**	**1.82**	**128**	P	**Pn**	**08 02 11.6**	**+0.1**
FIB	**Fire Island**	**1.89**	**163**	P	**Pn**	**08 02 13.5**	**+1.2**
RC01	**Rabbit Creek A**	**2.03**	**157**	P	**Pn**	**08 02 13.8**	**-0.2**
RC01				S	**Sn**	**08 02 40.1**	**-0.6**
TTA	**Tatalina**	**2.14**	**271**	*e*P	**Pn**	**08 02 15.3**	**+0.1**
TT01	**Tatalina**	**2.14**	**270**	P	**Pn**	**08 02 15.3**	**0.0**
COLA	**College**	**2.46**	**37**	P	**Pn**	**08 02 19.2**	**+0.1**
SLKM	**Skilak Lake**	**2.53**	**167**	P	**Pn**	**08 02 20.4**	**+0.3**
ILAR	**Eielson Array**	**2.67**	**45**	P	**Pn**	**08 02 21.9**	**0.0**
	7.6nm,0.3s,baz=227,slow=13,SNR=628						
ILAR				S	**Sn**	**08 02 54.6**	**-0.2**
	3.6nm,0.3s,baz=225,slow=17,SNR=7.6						
IL1	**Eielson Array**	**2.67**	**45**	P	**Pn**	**08 02 21.9**	**0.0**
PAX	**Paxson**	**2.68**	**87**	P	**Pn**	**08 02 22.8**	**+0.8**
PAX				S	**Sn**	**08 02 54.9**	**-0.1**
SVW2	**Sparrevohn**	**2.74**	**229**	P	**Pn**	**08 02 22.6**	**-0.1**
SEW	**Seward**	**3.02**	**162**	P	**Pn**	**08 02 26.1**	**-0.1**
IM3	**Indian Mountai**	**3.20**	**342**	P	**Pn**	**08 02 28.6**	**+0.1**
DIV	**Divide**	**3.21**	**123**	*e*Pn	**Pn**	**08 02 18.1**	**-11**
IMA2	**Indian Mountai**	**3.27**	**343**	*e*P	**Pn**	**08 02 29.6**	**+0.1**
MENT	**Mentasta**	**3.48**	**87**	*e*P	**Pn**	**08 02 32.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.60**	**136**	P	**Pn**	**08 02 34.1**	**+0.3**
BMRM	**Bremner River**	**3.76**	**119**	P	**Pn**	**08 02 35.5**	**-0.4**
COLD	**Coldfoot**	**4.30**	**6**	P	**Pn**	**08 02 43.5**	**+0.4**
KDAK	**Kodiak Island**	**5.24**	**187**	P	**Pn**	**08 02 54.5**	**-1.0**
	1.7nm,0.3s,baz=18,slow=13,SNR=35						
KDAK				S	**Sn**	**08 03 50.4**	**-4.7**
	5.8nm,0.3s,baz=104,slow=24,SNR=30						
KDAK	**Kodiak Island**	**5.24**	**187**	P	**Pn**	**08 02 54.3**	**-1.2**
BM3	**Burnt Mountain**	**5.29**	**29**	P	**Pn**	**08 02 56.2**	**+0.1**
PCA	**Pinnacle**	**6.03**	**114**	P	**Pn**	**08 03 06.7**	**+0.6**
PNL	**Peninsula**	**6.63**	**115**	P	**Pn**	**08 03 14.2**	**+0.1**
INK	**Inuvik**	**9.08**	**46**	P	**Pn**	**08 03 45.5**	**-1.4**
	0.2nm,0.3s,baz=246,slow=13,SNR=15						
INK	**Inuvik**	**9.08**	**46**	P	**Pn**	**08 03 45.5**	**-1.4**
YKA	**Yellowknife Ar**	**16.70**	**75**	P	**Pn**	**08 05 24.4**	**-0.3**
	baz=282,slow=11,SNR=13						
AKASG	**Malin Array Be**	**66.67**	**360**	P	**P**	**08 12 14.6**	**-0.2**
	0.7nm,0.4s,mb3.9,baz=360,slow=6.3,SNR=5.1						

IDC 05 08:07:45.5±2.0, 1048S×12394E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=141.9km s-min=30.4km az=56.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.74**	**134**	Pn	Pn	08 11 01.4	-0.2
	0.2nm,0.3s,baz=314,slow=12,SNR=5.2						
WRA				Sn	Sn	08 13 28.6	-6.3
	0.3nm,0.3s,baz=295,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**16.19**	**145**	Pn	Pn	08 11 35.0	+0.6
	0.2nm,0.3s,baz=318,slow=12,SNR=12						
ASAR				Sn	Sn	08 14 25.3	-9.2
	0.1nm,0.3s,baz=311,slow=21,SNR=3.6						
SONM	**Songino Array**	**60.12**	**346**	P	P	08 17 54.6	-0.1
	0.1nm,0.4s,baz=162,slow=9.4,SNR=2.5						
MKAR	**Makanchi Array**	**68.06**	**331**	P	P	08 18 47.1	+0.3
	1.8nm,0.7s,baz=134,slow=7.7,SNR=21						

*NNC **05** 08:07:57.7±1.1, 4353N×7858E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=26.1km s-min=3.9km az=153.0*
*ISCJB **05** 08:08:02.1±1.2, 440N±0.1×780E±0.2, h10km, Error ellipse: s-maj=25.6km s-min=7.8km az=108.4*

ISC 05 08:08:02.7±1.4, 438N±02×782E±02, h10km, n12, σ1§33/12, 6C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.09**	**236**	⇑P	**Pb**	**08 08 20.5**	**-3.1**
	387nm,0.3s						
KNDC				⇓S	**Sg**	**08 08 37.5**	**-0.3**
	637nm,0.2s						
TKM2	**Tokmak 2**	**2.10**	**245**	P	**Pn**	**08 08 38.1**	**+0.2**
	SNR=32						
TKM2	**Tokmak 2**	**2.10**	**245**	⇑Pn	**Pn**	**08 08 37.7**	**-0.2**
	6.1nm,0.3s						
TKM2				⇑Lg		08 09 08.8	
	34nm,0.7s						
ULHL	**Ulahol**	**2.14**	**223**	P	**Pn**	**08 08 33.7**	**-4.7**
	SNR=17						
CHMS	**Chumysh**	**2.64**	**253**	P	**Sg**	**08 09 26.9**	**-0.7**
	SNR=7.0						
KBK	**Karagaybulak**	**2.65**	**245**	P	**Pn**	**08 08 47.1**	**+1.7**
	SNR=15						
USP	**Ospenovka**	**2.74**	**259**	P	**Pg**	**08 08 55.8**	**+0.6**
	SNR=6.1						
AAK	**Ala-Archa**	**2.96**	**247**	P	**Pn**	**08 08 53.6**	**+3.9**
	SNR=6.8						
UCH	**Uchtor**	**3.14**	**240**	P	**Pn**	**08 08 55.4**	**+3.2**
	SNR=7.6						
MK31	**Makanchi Array**	**4.13**	**43**	Pn	**Pn**	**08 09 05.1**	**-0.7**
	0.2nm,0.3s,baz=217,slow=11,SNR=18						
MK31				⇑Lg		08 10 11.1	
	1.3nm,0.4s,baz=213,slow=29,SNR=5.5						
KK31	**Karatay Array**	**5.64**	**265**	⇑Pg	**Pg**	**08 09 45.9**	**-4.7**
	0.9nm,0.6s,baz=84,slow=16,SNR=13						
KK31				⇓Lg		08 11 01.7	
	6.2nm,0.8s,baz=80,slow=30,SNR=6.4						
KURK	**Kurchatov**	**6.88**	**2**	⇑Lg		08 11 48.6	
	2.1nm,0.8s						

*NAO **05** 08:10:43.1, 3508N×2447E, h33km, mb3.6*
*ISCJB **05** 08:10:44.7±0.4, 3507N±003×2344E±005, h70km±5km, mb3.7/12, Error ellipse: s-maj=8.0km s-min=3.1km az=123.9*
*CSEM **05** 08:10:45.6±0.1, 3518N×2372E, h71km±2km, ML3.9, Error ellipse: s-maj=5.0km s-min=1.3km az=61.0*
*HLW **05** 08:10:46.3, 3525N×2380E, h33km, Mb3.8*
*ATH **05** 08:10:47.3, 3527N×2348E, h55km±7km, MD3.8/14, ML3.9*
*NEIC **05** 08:10:47.0, 3528N×2348E, h54km, mb3.6/2, MD3.8(ATH), After ATH.*
*IDC **05** 08:10:49.8±1.4, 3541N×2337E, h73km±13km, mb3.7/12, mb1 3.7/17, mb1mx3.6/29, mbtmp3.8/17, Error ellipse: s-maj=18.1km s-min=15.4km az=16.0*

ISC 05 08:10:46.2±0.4, 3509N±003×2340E±005, h63km±5km, n99, σ1§18/112, mb3.8/12, 19C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.62**	**114**	*e*P	**Pn**	**08 11 01.0**	**+1.3**
GVD				*e*Sn	**Sn**	**08 11 12.0**	**+2.5**
GVD	**Gavdhos**	**0.62**	**114**	*e*P	**Pn**	**08 11 01.0**	**+1.3**
GVD				*e*Sn	**Sn**	**08 11 12.0**	**+2.5**
VAM	**Vamos**	**0.73**	**64**	*e*P	**Pn**	**08 11 01.2**	**+0.2**
KYTH	**Kithira**	**1.23**	**346**	*e*P	**Pn**	**08 11 07.1**	**-0.2**
IDI	**Anoyia**	**1.24**	**80**	P	**Pn**	**08 11 09.4**	**+1.9**
	69nm,0.3s,baz=276,slow=15,SNR=143						
IDI				S	**Sn**	**08 11 28.2**	**+4.9**
	104nm,0.3s,baz=13,slow=20,SNR=15						
VLI	**Veliai**	**1.67**	**347**	*e*P	**Pn**	**08 11 13.7**	**+0.5**
VLI				*e*S	**Sn**	**08 11 31.6**	**-2.0**
NPS	**Neapolis**	**1.82**	**84**	*e*P	**Pn**	**08 11 17.5**	**+2.2**
NPS	**Neapolis**	**1.82**	**84**	*e*P	**Pn**	**08 11 17.8**	**+2.5**
XRY	**Khrisi**	**1.90**	**96**	*e*P	**Pn**	**08 11 18.0**	**+1.7**
SANT	**Santorini**	**2.11**	**52**	*e*Pn	**Pn**	**08 11 19.4**	**+0.2**
SANT	**Santorini**	**2.11**	**52**	*e*Pn	**Pn**	**08 11 19.4**	**+0.2**
ITM	**Ithomi**	**2.40**	**331**	*e*P	**Pn**	**08 11 24.7**	**+1.5**
APE	**Apeiranthos**	**2.62**	**41**	*e*P	**Pn**	**08 11 26.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.66**	**1**	*e*P	**Pn**	**08 11 26.5**	**-0.3**
KVR	**Kavouri**	**2.75**	**6**	*e*P	**Pn**	**08 11 27.5**	**-0.4**
ATH	**Athens Observa**	**2.89**	**5**	*e*P	**Pn**	**08 11 29.1**	**-0.7**
PTL	**Penteli**	**2.98**	**7**	*e*P	**Pn**	**08 11 31.0**	**0.0**
MPAR	**Parnis Oros**	**3.07**	**5**	*e*P	**Pn**	**08 11 32.5**	**+0.2**
KARP	**Karpathos**	**3.11**	**80**	*e*P	**Pn**	**08 11 34.2**	**+1.4**
RLS	**Riolos of Patr**	**3.35**	**333**	*e*P	**Pn**	**08 11 37.2**	**+1.1**
LKR	**Lokris**	**3.57**	**355**	*e*P	**Pn**	**08 11 39.0**	**-0.1**
SMG	**Samos**	**3.81**	**46**	*e*P	**Pn**	**08 11 42.3**	**-0.1**
SLUM		**3.90**	**157**	⇑P	**Pn**	**08 11 44.0**	**+0.4**
SLUM				S	**Sn**	**08 12 26.8**	**-1.2**
ARG	**Arkhangelos**	**4.01**	**72**	*e*P	**Pn**	**08 11 46.5**	**+1.4**
AGG	**Agios Georgios**	**4.02**	**348**	*e*P	**Pn**	**08 11 45.1**	**-0.1**
EVR	**Evrytania**	**4.03**	**342**	*e*P	**Pn**	**08 11 47.0**	**+1.6**
AOS	**Alonnisos**	**4.09**	**5**	*e*P	**Pn**	**08 11 45.5**	**-0.7**
NEO	**Neokhori**	**4.21**	**358**	*e*P	**Pn**	**08 11 48.2**	**+0.3**
LKD	**Levkas**	**4.23**	**329**	*e*P	**Pn**	**08 11 48.8**	**+0.6**
LKD	**Levkas**	**4.23**	**329**	P	**Pn**	**08 11 48.8**	**+0.6**
LKD				S	**Sn**	**08 12 30.7**	**-5.6**
XOR	**Xorichti**	**4.27**	**358**	*e*P	**Pn**	**08 11 48.6**	**-0.1**
PAIG	**Paliouri**	**4.83**	**3**	*e*P	**Pn**	**08 11 55.3**	**-1.1**
MEV	**Metsovon**	**5.00**	**340**	*e*P	**Pn**	**08 11 58.3**	**-0.3**
HMAT	**Matruh**	**5.05**	**141**	⇓P	**Pn**	**08 11 59.9**	**+0.6**
HMAT				S	**Sn**	**08 12 52.6**	**-3.7**
LIT	**Litokhoron**	**5.05**	**352**	*e*P	**Pn**	**08 11 58.6**	**-0.8**
IGT	**Igoumenitsa**	**5.06**	**332**	*e*P	**Pn**	**08 11 57.9**	**-1.7**
IGT	**Igoumenitsa**	**5.06**	**332**	P	**Pn**	**08 11 57.9**	**-1.7**
IGT				S	**Sn**	**08 12 50.2**	**-6.5**
AKAS	**Kas**	**5.18**	**75**	*i* P	**Pn**	**08 12 02.0**	**+0.9**
AKAS				*i* S	**Sn**	**08 12 57.9**	**-1.6**
AKAS	**Kas**	**5.18**	**75**	*i* S	**Sn**	**08 12 57.9**	**-1.6**
OUR	**Ouranopolis**	**5.26**	**5**	*e*P	**Pn**	**08 12 01.5**	**-0.7**
SOH	**Sokhos**	**5.72**	**360**	*e*P	**Pn**	**08 12 07.8**	**-0.8**
DABA	**Dabaa**	**5.77**	**133**	P	**Pn**	**08 12 08.8**	**-0.5**
FNA	**Florina**	**5.91**	**345**	*e*P	**Pn**	**08 12 10.0**	**-1.1**
GRG	**Griva**	**5.91**	**353**	*e*P	**Pn**	**08 12 09.5**	**-1.7**
SRS	**Serrai**	**6.02**	**1**	*e*P	**Pn**	**08 12 11.9**	**-0.8**
KNT	**Kendrikon**	**6.08**	**356**	*e*P	**Pn**	**08 12 12.4**	**-1.0**
SWA2		**6.08**	**163**	⇑P	**Pn**	**08 12 15.1**	**+1.6**
SWA1		**6.13**	**161**	⇓P	**Pn**	**08 12 15.7**	**+1.6**
SWA1				S	**Sn**	**08 13 20.6**	**-2.3**
HBRG	**Burj al 'Arab**	**7.04**	**128**	⇑P	**Pn**	**08 12 25.4**	**-1.3**
HNAT	**Natroun**	**8.18**	**130**	P	**Pn**	**08 12 42.0**	**-0.1**
HMYD	**Mayadein**	**8.18**	**128**	⇑P	**Pn**	**08 12 41.0**	**-1.2**
AWBH		**8.21**	**144**	⇑P	**Pn**	**08 12 43.0**	**+0.3**
AYT	**Al 'Ayyat**	**8.47**	**127**	⇑P	**Pn**	**08 12 46.1**	**-0.1**
KOT	**Kottamia**	**8.78**	**124**	⇑P	**Pn**	**08 12 50.0**	**-0.4**
KOT				S	**Sn**	**08 14 19.2**	**-8.6**
KOT	**Kottamia**	**8.78**	**124**	P	**Pn**	**08 12 50.0**	**-0.4**
HSAF	**As Saff**	**8.79**	**126**	⇑P	**Pn**	**08 12 49.7**	**-0.9**
GLL	**Jalalah**	**8.92**	**126**	⇑P	**Pn**	**08 12 51.2**	**-1.2**
STON	**Ston**	**8.95**	**332**	*i* Pn	**Pn**	**08 12 48.1**	**-4.6**
STON				*i* Sn	**Sn**	**08 14 19.7**	**-12**
HHAG	**Hagoal**	**8.95**	**122**	P	**Pn**	**08 12 52.5**	**-0.2**
HFRF	**Wahat Farafira**	**8.96**	**151**	⇑P	**Pn**	**08 12 53.6**	**+0.7**
HBNS	**Bani Suwayf**	**9.02**	**131**	⇑P	**Pn**	**08 12 53.0**	**-0.8**
AMAG	**Maghara**	**9.36**	**116**	⇓P	**Pn**	**08 12 56.3**	**-2.1**
BRTR	**Keskin Array B**	**9.37**	**57**	P	**Pn**	**08 13 00.3**	**+1.9**
	0.3nm,0.3s,baz=231,slow=16,SNR=9.3						
SUZ		**9.53**	**121**	⇑P	**Pn**	**08 12 59.8**	**-0.9**
ZAF		**9.67**	**124**	⇑P	**Pn**	**08 13 02.0**	**-0.6**
HNKL	**Nakhl**	**10.30**	**117**	⇑P	**Pn**	**08 13 10.0**	**-1.3**
HNKL				S	**Sn**	**08 14 54.7**	**-10**
MLR	**Muntele Rosu**	**10.57**	**10**	P	**Pn**	**08 13 15.0**	**+0.1**
	0.2nm,0.3s,baz=147,slow=18,SNR=2.6						
HDK1	**Dakhla**	**10.83**	**150**	⇑P	**Pn**	**08 13 19.8**	**+1.4**
TR2		**11.04**	**124**	⇑P	**Pn**	**08 13 19.9**	**-1.3**
HKAT	**Jabal Katrina**	**11.13**	**123**	⇑P	**Pn**	**08 13 22.0**	**-0.6**
HHRG	**Al Ghardaqah**	**11.71**	**129**	⇑P	**Pn**	**08 13 30.5**	**0.0**
HSFG		**12.40**	**130**	⇑P	**Pn**	**08 13 39.9**	**0.0**
HSFG		**12.40**	**130**	P	**Pn**	**08 13 39.8**	**-0.1**
VRAC	**Vranov**	**15.07**	**343**	P	**Pn**	**08 14 12.8**	**-2.5**
	0.2nm,0.3s,baz=230,slow=7.9,SNR=2.2						
OKC	**Ostrava-Krasne**	**15.23**	**347**	*e*P	**Pn**	**08 14 20.3**	**+2.8**
TREC	**Trest**	**15.34**	**340**	*e*P	**Pn**	**08 14 22.8**	**+3.9**
GERES	**GERESS Array B**	**15.50**	**335**	P	**Pn**	**08 14 19.0**	**-1.9**
	0.1nm,0.3s,baz=160,slow=14,SNR=6.1						
KHC

MKAR Makanchi Array 68.14 330 P **P** **08 26 38.2 +0.1**
comp=Z,14nm,0.7s,mb5.1,baz=135,slow=7.7,SNR=149
TORD Torodi Ar. Bea 123.67 279 PKP PKPdf 08 34 38.7 +3.2
comp=Z,0.6nm,0.6s,baz=41,slow=1.5,SNR=3.6

SZGRF ***05*** *08:16:55.7, 64.69N×143.12W, h33km, mb5.2, MS5.1, Central Alaska, United States*
BJI ***05*** *08:16:59.8, 66.17N×142.15W, h24km, mB5.2, mb5.0, Ms5.8, Msz5.4*
PGC ***05*** *08:16:59.9, 66.43N×142.34W, h10km, ML5.6/2, ML5.7/20(AEIC), 297km northwest of Dawson, Yt Eastern Alaska.*
IDC ***05*** *08:17:00.3±0.4, 66.39N×142.25W, h0km, mb4.7/30, mb1 4.8/34, mb1mx4.8/36, mbtmp4.7/34, ML5.0/4, MS4.9/21, Ms1 4.9/21, ms1mx4.8/27, Error ellipse: s-maj=9.2km s-min=6.8km az=140.0*
ISCJB ***05*** *08:17:01.0±0.1, 66.27N±.001×142.45W±.004, h18km, mb5.0/228, MS5.1/143, Error ellipse: s-maj=2.3km s-min=1.9km az=166.1*
NEIC ***05*** *08:17:01.4, 66.30N×142.69W, h9km, mb5.1/145, MS5.1/98, MW5.5, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.36; $M_{\theta\theta}$-2.55; $M_{\phi\phi}$2.19; $M_{r\theta}$-0.69; $M_{\theta\phi}$0.36; $M_{\phi r}$0.03; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s49.00000°, δ82.00000°, λ-9.00000°. NP2: ϕ_s140.00000°, δ81.00000°, λ-171.00000°. Principal axes: T 2.2200, Plg1.0000°, Azm94.0000°; N 0.5200, Plg77.0000°, Azm187.0000°; P -2.7400, Plg13.0000°, Azm4.0000°; After AEIC.*
NEIC Felt [III] at Fairbanks.
HRVD ***05*** *08:17:01.4±0.1, 66.46N×142.16W, h14km, MW5.4/96, Centroid moment Tensor Solution. LP body waves: s78,c147; Mantle waves: s96,c201; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$-1.32±.02; $M_{\phi\phi}$1.50±.02; $M_{r\theta}$0.03±.04; $M_{\theta\phi}$0.40±.02; $M_{\phi r}$0.52±.05; Best double couple: $M_0$1.53800×10^{17} NP1:ϕ_s54.00000°, δ78.00000°, λ10.00000°. NP2: ϕ_s322.00000°, δ81.00000°, λ167.00000°. Principal axes: T 1.6990, Plg15.0000°, Azm278.0000°; N -0.3150, Plg74.0000°, Azm106.0000°; P -1.3780, Plg2.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***05*** *08:17:03.5±0.9, 66.28N×142.37W, h38km, mb5.2/87, MS5.0/47 Error ellipse: s-maj=12.1km s-min=3.7km az=90.3*
BGS ***05*** *08:17:06.4±2.6, 66.55N×143.04W, h33km, mb5.1*
NAO ***05*** *08:17:27.0, 68.81N×136.94W, h33km, mb4.9*
ISC 05 08:17:02.7±0.1, 66.28N±.001×142.47W±.004, h19km, h19km±1.6km:pP-P, n649, σ1§19/645, mb5.0/228, MS5.1/143, 20C-9D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	**Fort Yukon**	**1.15**	**286**	P	**Pn**	**08 17 21.9**	**-1.8**
BM3	**Burnt Mountain**	**1.43**	**325**	P	**Pn**	**08 17 25.9**	**-1.7**
PRP	**Porcupine Dome**	**1.47**	**240**	P	**Pn**	**08 17 27.2**	**-0.9**
IL1	**Eielson Array**	**2.38**	**233**	P	**Pn**	**08 17 39.9**	**-0.8**
ILAR	**Eielson Array**	**2.38**	**233**	Pn	**Pn**	**08 17 39.9**	**-0.8**
	216nm,0.3s,baz=44,slow=14						
ILAR				Pg	**Pg**	**08 17 45.9**	**-2.6**
	472nm,0.3s,baz=45,slow=17,SNR=121						
ILAR				Lg		08 18 19.4	
	2μm,0.3s,baz=50,slow=32,SNR=12						
GLM	**Gilmore Dome**	**2.42**	**240**	P	**Pn**	**08 17 40.7**	**-0.5**
DAWY	**Dawson**	**2.57**	**148**	Pn	**Pn**	**08 17 40.9**	**-2.4**
DAWY				Sn	**Sn**	**08 18 13.4**	**-0.7**
DAWY				Sg	**Sg**	**08 18 22.9**	**-2.6**
DAWY				Trac		08 18 24.2	
	comp=Z,16μm,0.7s						
COLA	**College**	**2.64**	**240**	P	**Pn**	**08 17 43.6**	**-0.7**
COLA				Trac			
COLA	**College**	**2.64**	**240**	*i*P	**Pn**	**08 17 43.7**	**-0.6**
GSV	**Goldstream Val**	**2.65**	**242**	⇓*e*P	**Pn**	**08 17 43.3**	**-1.1**
GSV				*e*S	**Sn**	**08 18 24.8**	**+8.9**
MDM	**Murphy Dome**	**2.73**	**244**	P	**Pn**	**08 17 44.5**	**-1.0**
CCB	**Clear Creek Bu**	**2.76**	**236**	P	**Pn**	**08 17 44.9**	**-1.0**
DDM	**Donnelly Dome**	**2.88**	**212**	P	**Pn**	**08 17 48.0**	**+0.3**
WRH	**Wood River Hil**	**2.97**	**235**	P	**Pn**	**08 17 48.1**	**-0.7**
COLD	**Coldfoot**	**3.21**	**291**	P	**Pn**	**08 17 51.3**	**-0.9**
NEA	**Nenana**	**3.25**	**241**	P	**Pn**	**08 17 51.5**	**-1.1**
MENT	**Mentasta**	**3.40**	**190**	P	**Pn**	**08 17 54.0**	**-0.7**
PAX	**Paxson**	**3.56**	**203**	P	**Pn**	**08 17 57.0**	**+0.1**
PAX				S	**Sn**	**08 18 39.2**	**+0.7**
PAX				Trac			
PAX	**Paxson**	**3.56**	**203**	P	**Pn**	**08 17 57.0**	**+0.1**
PAX				S	**Sn**	**08 18 39.2**	**+0.7**
BWN	**Browne**	**3.62**	**238**	P	**Pn**	**08 17 56.1**	**-1.7**
MLY	**Manley**	**3.65**	**254**	P	**Pn**	**08 17 56.5**	**-1.6**
MCK	**McKinley**	**3.75**	**230**	P	**Pn**	**08 17 59.0**	**-0.5**
MCK				Trac			
DHY	**Denali Highway**	**3.84**	**216**	P	**Pn**	**08 18 01.4**	**+0.6**
RND	**Reindeer**	**3.97**	**226**	P	**Pn**	**08 18 02.5**	**0.0**
INK	**Inuvik**	**4.02**	**56**	Pn	**Pn**	**08 18 00.5**	**-2.8**
	74nm,0.3s,baz=234,slow=16,SNR=1084						
INK				Sn	**Sn**	**08 18 46.5**	**-3.3**
	198nm,0.3s,baz=148,slow=24,SNR=9.6						
INK				Lg		08 19 01.7	
	262nm,0.3s,baz=144,slow=19,SNR=6.9						
INK				LR	LR	08 19 50.8	
	comp=Z,8μm,18.5s,baz=242,slow=44						
INK	**Inuvik**	**4.02**	**56**	⇓Pn	**Pn**	**08 18 00.4**	**-2.9**
INK				Pg	**Pg**	**08 18 13.8**	**-6.0**
INK				Sn	**Sn**	**08 18 45.5**	**-4.3**
INK				Sg	**Sg**	**08 18 59.5**	**-12**
INK				Trac		08 19 19.4	
	comp=Z,5μm,0.6s						
INK	**Inuvik**	**4.02**	**56**	P	**Pn**	**08 18 00.5**	**-2.8**
INK						08 18 46.5	
INK	**Inuvik**	**4.02**	**56**	Pn	**Pn**	**08 18 00.5**	**-2.8**
INK				Sn	**Sn**	**08 18 46.5**	**-3.3**
INK				Lg		08 19 01.7	
INK				LR	LR	08 19 50.8	
KTH	**Kantishna Hill**	**4.52**	**237**	P	**Pn**	**08 18 09.2**	**-0.9**
KTH				Trac			
IMA2	**Indian Mountai**	**4.56**	**273**	*e*P	**Pn**	**08 18 08.9**	**-1.7**
IM3	**Indian Mountai**	**4.59**	**271**	P	**Pn**	**08 18 09.8**	**-1.3**
GLB	**Glaihina Butte**	**4.89**	**188**	P	**Pn**	**08 18 15.4**	**+0.2**
SCM	**Sheep Creek Mo**	**4.95**	**208**	P	**Pn**	**08 18 17.3**	**+1.4**
SML	**Sawmill**	**5.17**	**213**	P	**Pn**	**08 18 20.6**	**+1.5**
BALM	**Baldy**	**5.26**	**179**	P	**Pn**	**08 18 20.1**	**-0.2**
GHO	**Glory Hole Cre**	**5.34**	**215**	P	**Pn**	**08 18 22.9**	**+1.6**
CTGM	**Chitina Glacie**	**5.36**	**174**	P	**Pn**	**08 18 21.5**	**-0.1**
DIV	**Divide**	**5.37**	**197**	*e*Pn	**Pn**	**08 18 13.3**	**-8.5**
	42nm,0.7s						
DIV				*e*Sn	**Sn**	**08 19 21.5**	**-1.6**
BMRM	**Bremner River**	**5.42**	**191**	P	**Pn**	**08 18 23.1**	**+0.8**
BMRM				Trac			
PMR	**Palmer**	**5.54**	**215**	P	**Pn**	**08 18 25.6**	**+1.4**
PMR				Trac			
GLI	**Glacier Island**	**5.80**	**203**	P	**Pn**	**08 18 28.9**	**+1.3**
FID	**Port Fidalgo**	**5.83**	**200**	P	**Pn**	**08 18 30.1**	**+1.9**
HYT	**Haines Junctio**	**5.90**	**156**	Pn	**Pn**	**08 18 27.5**	**-1.7**
HYT				Sg	Sn	08 20 02.3	+26
HYT				Trac		08 20 09.9	
	comp=Z,6μm,1.0s						
SGAM	**Sherman Glacie**	**5.93**	**193**	P	**Pn**	**08 18 30.7**	**+1.3**
EYAK	**Cordova Ski Ar**	**5.94**	**196**	P	**Pn**	**08 18 31.2**	**+1.6**
RC01	**Rabbit Creek A**	**6.13**	**215**	P	**Pn**	**08 18 33.7**	**+1.5**
FIB	**Fire Island**	**6.16**	**217**	*e*P	**Pn**	**08 18 35.8**	**+3.1**
FIB				pmax	pmax		
	comp=Z,22nm,0.8s						
FIB	**Fire Island**	**6.16**	**217**	*e*Pn	**Pn**	**08 18 35.8**	**+3.2**
	comp=Z,22nm,0.8s						
HIN	**Hinchinbrook I**	**6.17**	**199**	P	**Pn**	**08 18 33.9**	**+1.0**
PCA	**Pinnacle**	**6.29**	**170**	P	**Pn**	**08 18 34.7**	**+0.3**
PCA				Trac			
WHY	**Whitehorse**	**6.58**	**145**	Pn	**Pn**	**08 18 35.4**	**-3.0**
WHY				Sg	Sn	08 20 26.3	+33
WHY				Trac		08 20 39.9	
	comp=Z,2μm,0.9s						
SPU	**Mount Spurr**	**6.65**	**224**	P	**Pn**	**08 18 40.9**	**+1.6**
TTA	**Tatalina**	**6.72**	**246**	*e*P	**Pn**	**08 18 38.9**	**-1.4**
TT01	**Tatalina**	**6.74**	**246**	P	**Pn**	**08 18 38.6**	**-1.9**
PNL	**Peninsula**	**6.78**	**167**	P	**Pn**	**08 18 41.5**	**+0.4**
PNL				Trac			
MID	**Middleton Isla**	**7.10**	**196**	*e*P	**Pn**	**08 18 54.1**	**+8.6**
RDT	**Redoubt**	**7.25**	**223**	P	**Pn**	**08 18 49.0**	**+1.4**
PLBC	**Pleasant Camp**	**7.39**	**155**	Pn	**Pn**	**08 18 48.4**	**-1.1**
PLBC				Sg	Sn	08 20 52.0	+39
SVW2	**Sparrevohn**	**7.80**	**234**	P	**Pn**	**08 18 55.0**	**-0.1**
BESE	**Bessie Mountai**	**8.49**	**152**	P	**Pn**	**08 19 05.5**	**+1.0**
KDAK	**Kodiak Island**	**9.74**	**214**	Pn	**Pn**	**08 19 23.0**	**+1.2**
	comp=Z,337nm,0.7s,SNR=6.5						
KDAK	**Kodiak Island**	**9.74**	**214**	Pn	**Pn**	**08 19 19.4**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=315,slow=13,SNR=9.1						
KDAK				Sn	**Sn**	**08 21 06.6**	**-4.0**
	comp=Z,1.9nm,0.3s,baz=129,slow=12,SNR=2.3						
SIT	**Sitka**	**9.85**	**157**	P	**Pn**	**08 19 23.4**	**+0.2**
TNA	**Tin City**	**10.40**	**278**	*e*Pn	**Pn**	**08 19 27.6**	**-3.1**
	comp=Z,19nm,0.6s						
FNBB	**Fort Nelson**	**11.58**	**121**	P	**Pn**	**08 19 44.6**	**-2.4**
FNBB				Trac		08 23 20.8	
	comp=Z,353nm,1.0s						
YKW3	**Yellowknife Ar**	**12.53**	**94**	P	**Pn**	**08 19 53.4**	**-6.6**
YKW3				P		08 19 53.5	
YKW3				Trac		08 23 47.0	
	comp=Z,297nm,0.7s						
YKW3				Trac		08 23 47.1	
	comp=Z,390nm,0.7s						
YKA	**Yellowknife Ar**	**12.57**	**94**	Pn	**Pn**	**08 19 54.8**	**-5.7**
	baz=299,slow=13,SNR=564						
YKA				Sn	**Sn**	**08 22 05.6**	**-14**
	baz=297,slow=24,SNR=6.6						
YKA				Lg		08 23 33.0	
	baz=299,slow=30,SNR=2.5						
YKA	**Yellowknife Ar**	**12.57**	**94**	Pn	**Pn**	**08 19 54.8**	**-5.7**
YKA				Sn	**Sn**	**08 22 05.6**	**-14**
YKA				Lg		08 23 33.0	
NDB	**Naden**	**13.22**	**155**	P	**Pn**	**08 20 07.9**	**-1.4**
NDB				Trac		08 24 29.3	
	comp=Z,70nm,0.9s						
RUBB	**Prince Rupert**	**13.39**	**148**	P	**Pn**	**08 20 11.7**	**0.0**
RUBB				Trac		08 24 07.9	
	comp=Z,400nm,1.0s						
VIB	**Van Inlet**	**13.96**	**155**	P	**Pn**	**08 20 22.2**	**+2.8**
VIB				Trac		08 24 29.4	
	comp=Z,18nm,0.8s						
BMBC	**Bull Mountain**	**14.11**	**127**	P	**Pn**	**08 20 20.5**	**-1.0**
BMBC				Trac		08 24 54.6	
	comp=Z,284nm,1.1s						
MOBC	**Moresby Island**	**14.13**	**153**	P	**Pn**	**08 20 22.8**	**+1.0**
MOBC				Trac		08 24 39.0	
	comp=Z,49nm,1.1s						
BNB	**Barry Inlet**	**14.75**	**154**	P	**Pn**	**08 20 38.3**	**+8.2**
BNB				Trac		08 24 58.5	
	comp=Z,1μm,1.0s						
FSB	**Fort Saint Jam**	**14.76**	**135**	P	**Pn**	**08 20 29.2**	**-1.2**
FSB				Trac		08 25 22.3	
	comp=Z,1μm,1.4s						
BBB	**Bella Bella**	**15.86**	**146**	Pn	**Pn**	**08 20 47.4**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=350,slow=11,SNR=7.4						
BBB				Lg		08 25 18.9	
	comp=Z,0.3nm,0.3s,baz=44,slow=8.5,SNR=3.3						
BBB	**Bella Bella**	**15.86**	**146**	P	**Pn**	**08 20 49.0**	**+4.1**
BBB				Trac		08 25 30.9	
	comp=Z,67nm,1.1s						
PHC	**Port Hardy**	**17.39**	**147**	P	**Pn**	**08 21 06.3**	**+2.0**
PHC				Trac		08 26 17.9	
	comp=Z,31nm,1.1s						
RES	**Resolute Bay**	**17.41**	**41**	P	**Pn**	**08 20 57.7**	**-6.9**
RES				S	**Sn**	**08 23 59.0**	**-19**
RES				Trac		08 24 36.8	
	comp=Z,101nm,0.9s						
MAYB	**Maynard**	**17.74**	**146**	P	**Pn**	**08 21 09.8**	**+1.3**
MAYB				Trac		08 27 24.4	
	comp=Z,352nm,1.8s						
NCRB	**Newcastle Ridg**	**17.99**	**144**	Trac		08 26 40.6	
	comp=Z,254nm,1.6s						
WOSB	**Woss**	**18.10**	**145**	P	**Pn**	**08 21 15.8**	**+2.8**
WOSB				Trac		08 26 27.8	
	comp=Z,273nm,1.6s						
CBB	**Campbell River**	**18.50**	**143**	P	**Pn**	**08 21 18.3**	**+0.4**
CBB				Trac		08 27 05.1	
	comp=Z,22nm,1.1s						
MNB	**Mounoet Dainar**	**18.54**	**128**	P	**Pn**	**08 21 17.1**	**-1.3**
NIKO	**Nikolski**	**18.65**	**237**	*e*P	**Pn**	**08 21 18.9**	**-0.8**
LLLB	**Lillooet**	**18.89**	**136**	P	**Pn**	**08 21 21.7**	**-0.8**
LLLB				Trac		08 27 18.7	
	comp=Z,31nm,1.1s						
BTB	**Buttle Lake**	**18.99**	**144**	P	**Pn**	**08 21 25.9**	**+2.1**
BTB				Trac		08 27 32.2	
	comp=Z,188nm,1.4s						
WSLR	**Whistler**	**19.04**	**139**	P	**Pn**	**08 21 26.0**	**+1.6**
WSLR				Trac		08 27 41.1	
	comp=Z,20nm,1.2s						
DOWB	**Downie Slide**	**19.09**	**129**	P	**Pn**	**08 21 23.4**	**-1.6**
DOWB				Trac		08 27 19.9	
	comp=Z,1μm,1.2s						
WPB	**Watts Point**	**19.39**	**140**	P	**Pn**	**08 21 26.5**	**-2.1**
WPB				Trac		08 27 25.0	
	comp=Z,295nm,1.6s						
EDM	**Edmonton**	**19.40**	**118**	P	**Pn**	**08 21 25.6**	**-3.1**
SLEB	**Sale Mountain**	**19.51**	**129**	P	**Pn**	**08 21 28.3**	**-1.7**
SLEB				Trac		08 27 43.3	
	comp=Z,63nm,1.1s						
BILL	**Bilibino**	**19.51**	**299**	⇑*i*P	**Pn**	**08 21 29.1**	**-1.0**
BILL				*i*S	**Sn**	**08 25 12.2**	**+3.7**
BILL				pmax	pmax		
	comp=Z,363nm,1.9s						
BILL				MLR	MLR		
	comp=Z,11μm,16.0s						
BILL	**Bilibino**	**19.51**	**299**	*e*P	**Pn**	**08 21 29.4**	**-0.7**
	comp=Z,282nm,1.4s						
NLLB	**Nanaimo Lost L**	**19.59**	**142**	P	**Pn**	**08 21 23.6**	**-7.4**
NLLB				Trac		08 27 31.5	
	comp=Z,25nm,1.0s						
BIB	**Bowen Island**	**19.60**	**140**	P	**Pn**	**08 21 29.6**	**-1.5**
BIB				Trac		08 27 49.9	
	comp=Z,858nm,2.2s						
MGB	**Mount Grey**	**19.63**	**143**	P	**Pn**	**08 21 33.4**	**+1.9**
HNB	**Haney**	**19.91**	**139**	P	**Pn**	**08 21 33.4**	**-1.4**
LZB	**Mount Lazard**	**20.20**	**142**	P	**P**	**08 21 40.4**	**+4.1**
SNB	**Saturna Island**	**20.21**	**141**	P	**P**	**08 21 38.3**	**+1.9**
PGC	**Sidney**	**20.26**	**141**	P	**P**	**08 21 37.0**	**+0.1**
VDB	**Vedder Mountai**	**20.26**	**139**	P	**P**	**08 21 37.2**	**+0.3**
PNT	**Penticton**	**20.69**	**134**	P	**P**	**08 21 42.2**	**+0.6**
PNT				Trac		08 28 30.7	
	comp=Z,22nm,1.0s						
OCWA	**Octopus Mounta**	**20.92**	**144**	PFAKE		08 22 00.0	+16
OCWA				LR	LR		
	comp=Z,19μm,19.0s,MS5.5						
NEW	**Newport**	**22.38**	**131**	P	**P**	**08 21 59.3**	**-0.4**
	comp=Z,20nm,0.9s,mb4.5,baz=345,slow=12,SNR=21						
NEW				Lg		08 28 43.8	
	comp=Z,5.2nm,0.9s,baz=86,slow=6.2,SNR=3.2						
NEW				LR	LR	08 31 37.4	
	comp=Z,3μm,19.8s,MS4.7,baz=330,slow=39						
NEW	**Newport**	**22.38**	**131**	*e*P	**P**	**08 21 59.1**	**-0.6**
NEW				pmax	pmax		
	comp=Z,51nm,1.1s						
NEW				MLR	MLR		
	comp=Z,8μm,19.0s						
NEW	**Newport**	**22.38**	**131**	*e*P	**P**	**08 21 59.1**	**-0.6**
	comp=Z,51nm,1.1s,mb4.9						
NEW				LR	LR		
	comp=Z,8μm,19.0s,MS5.2						
FFC	**Flin Flon**	**22.57**	**101**	P	**P**	**08 21 59.5**	**-2.3**
	comp=Z,628nm,0.7s,SNR=58						
WALA	**Waterton Lakes**	**22.70**	**125**	P	**P**	**08 22 02.3**	**-0.8**
WALA				Trac		08 29 24.0	
	comp=Z,78nm,2.5s						
FCC	**Fort Churchill**	**23.00**	**86**	⇓P	**P**	**08 22 03.3**	**-2.9**
FCC				S	**S**	**08 26 06.1**	**-10**
FCC				Trac		08 29 09.3	
	comp=Z,109nm,0.9s						
ALE	**Alert**	**23.70**	**19**	P	**P**	**08 22 10.0**	**-3.3**
	comp=Z,352nm,0.9s,mb5.8,SNR=34						
COR	**Corvallis**	**24.10**	**145**	PFAKE		08 22 30.0	+13
COR				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
MSO	**Missoula**	**24.64**	**128**	*e*P	**P**	**08 22 21.2**	**-0.8**
	comp=Z,140nm,0.7s,mb5.6						
MSO				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
CHMT	**Chamberlain Mo**	**24.79**	**127**	*e*P	**P**	**08 22 22.7**	**-0.6**
SMY	**Shemya**	**25.23**	**259**	PFAKE		08 22 40.0	+13
SMY				LR	LR		
	comp=Z,6μm,20.0s,MS5.1						
BMO	**Blue Mountains**	**25.41**	**135**	*e*P	**P**	**08 22 30.1**	**+1.2**
	comp=Z,15nm,0.8s,mb4.6						
BMO				LR	LR		
	comp=Z,9μm,19.0s,MS5.3						
HRY	**Holter Researc**	**25.43**	**125**	*e*P	**P**	**08 22 28.4**	**-0.7**
FX1	**Attu Island--F**	**25.48**	**260**	P	**P**	**08 22 31.8**	**+2.2**
	comp=Z,22nm,0.7s,baz=349,slow=11,SNR=5.0						
FX1				LR	LR	08 32 12.7	
	comp=Z,182nm,18.4s,baz=275,slow=36						
HUMO	**Hull Mountain**	**26.05**	**146**	*e*P	**P**	**08 22 37.9**	**+3.0**
	comp=Z,24nm,0.8s,mb4.8						
HUMO				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
DLMT	**Dillon**	**26.38**	**128**	*e*P	**P**	**08 22 37.4**	**-0.3**
	comp=Z,4.2nm,0.4s,mb4.3						
BOZ	**Bozeman (W)**	**26.43**	**126**	*e*P	**P**	**08 22 38.1**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
BOZ				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.1						
BOZ	**Bozeman (W)**	**26.43**	**126**	*e*P	**P**	**08 22 38.1**	**-0.2**
	comp=Z,6.3nm,0.4s,mb4.5						
BOZ				LR	LR		
	comp=Z,5μm,19.0s,MS5.1						
DGMT	**Dagmar**	**26.62**	**113**	*e*P	**P**	**08 22 38.6**	**-1.4**
	comp=Z,11nm,1.5s,mb4.2						
DGMT				LR	LR		
	comp=Z,14μm,19.0s,MS5.5						
MCMT	**McKenzie Canyo**	**26.77**	**129**	*e*P	**P**	**08 22 41.1**	**-0.1**
YBH	**Yreka Blue Hor**	**26.94**	**146**	P	**P**	**08 22 42.5**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=51,slow=14,SNR=3.0						
YBH				LR	LR	08 33 22.7	
	comp=Z,4μm,18.6s,MS5.0,baz=336,slow=36						
GCMT	**Greycliff**	**26.96**	**123**	P	**P**	**08 22 40.8**	**-2.2**
SEY	**Seymchan**	**27.00**	**294**	*e*P	**P**	**08 22 45.2**	**+1.8**
SEY						08 23 29.2	
SEY				*e*		08 26 02.4	
SEY				*e*S	**S**	**08 27 21.2**	**+1.3**
SEY				SS		08 28 27.7	
SEY				*e*SSS		08 28 57.7	
SEY				pmax	pmax		
	comp=Z,100nm,1.7s,mb5.1						
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=E,40nm,1.2s						
SEY				smax			
	comp=N,3μm,11.8s						
SEY				smax			
	comp=E,4μm,10.3s						
SEY				MLR	MLR		
	comp=Z,7μm,16.0s,MS5.3						
SEY				MLR	MLR		
	comp=N,1μm,14.0s,MS5.1						
SEY				MLR	MLR		
	comp=E,4μm,16.0s,MS5.1						
QLMT	**Earthquake Lak**	**27.23**	**127**	*e*P	**P**	**08 22 45.5**	**+0.1**
WVOR	**Wild Horse Val**	**27.28**	**139**	*e*P	**P**	**08 22 34.9**	**-11**
MOD	**Modoc**	**27.35**	**142**	*e*P	**P**	**08 22 47.2**	**+0.7**
	comp=E,26nm,0.7s,mb4.9						
MOD				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
LAO	**LASA Array**	**27.39**	**118**	*e*P	**P**	**08 22 46.0**	**-0.7**
	comp=Z,159nm,1.5s,mb5.3						
LAO				LR	LR		
	comp=Z,9μm,20.0s,MS5.4						
HLID	**Hailey**	**27.43**	**132**	PFAKE		08 23 00.0	+13
HLID				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
YFT	**Old Faithful**	**27.76**	**126**	*e*P	**P**	**08 22 51.5**	**+1.4**
LKWY	**Lake**	**27.80**	**126**	*e*P	**P**	**08 22 51.2**	**+0.7**
LKWY				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.9						
LKWY				MLR	MLR		
	comp=Z,14μm,20.0s,MS5.5						
LKWY	**Lake**	**27.80**	**126**	*e*P	**P**	**08 22 51.2**	**+0.7**
	comp=Z,29nm,1.0s,mb4.9						
LKWY				LR	LR		
	comp=Z,14μm,20.0s,MS5.5						
WDC	**Whiskeytown Da**	**28.08**	**147**	*e*P	**P**	**08 22 54.5**	**+1.5**
WDC				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.9						
WDC				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.0						
WDC	**Whiskeytown Da**	**28.08**	**147**	*e*P	**P**	**08 22 54.5**	**+1.5**
	comp=Z,29nm,1.0s,mb4.9						
WDC				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
FLWY	**Flagg Ranch**	**28.13**	**126**	*e*P	**P**	**08 22 53.6**	**+0.2**
	comp=Z,163nm,1.5s,mb5.4						
ULM	**Lac du Bonnet**	**28.40**	**101**	P	**P**	**08 22 56.2**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.3,baz=330,slow=9.7,SNR=10						
ULM				LR	LR	08 35 09.1	
	comp=Z,1μm,20.0s,MS4.5,baz=170,slow=38						
ULM	**Lac du Bonnet**	**28.40**	**101**	P	**P**	**08 22 55.0**	**-0.9**
ULM				S	S	08 28 13.1	+31
ULM				Trac		08 32 24.1	
	comp=Z,50nm,1.1s						
ULM	**Lac du Bonnet**	**28.40**	**101**	P	**P**	**08 22 56.2**	**+0.3**
ULM				LR	LR	08 35 09.1	
MOOW	**Moose Ponds**	**28.41**	**127**	*e*P	**P**	**08 22 57.1**	**+1.2**
	comp=Z,48nm,1.2s,mb5.0						
LOHW	**Long Hollow**	**28.58**	**127**	*e*P	**P**	**08 22 58.0**	**+0.5**
	comp=Z,72nm,1.0s,mb5.4						
SNOW	**Snow King Moun**	**28.66**	**127**	*e*P	**P**	**08 22 58.7**	**+0.5**
	comp=Z,88nm,1.1s,mb5.4						
REDW	**Red Top Meadow**	**28.72**	**127**	*e*P	**P**	**08 22 58.7**	**0.0**
	comp=Z,97nm,1.3s,mb5.4						
AHID	**Auburn Hatcher**	**29.18**	**128**	*e*P	**P**	**08 23 02.6**	**-0.2**
	comp=Z,26nm,1.1s,mb4.9						
AHID				LR	LR		
	comp=Z,15μm,19.0s,MS5.6						
HOPS	**Hopland**	**29.48**	**148**	PFAKE		08 23 20.0	+15
HOPS				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
TIXI	**Tiksi**	**29.50**	**320**	⇓*i*P	**P**	**08 23 05.0**	**-0.6**
TIXI				*e*S	**S**	**08 27 53.4**	**-5.7**
TIXI				pmax	pmax		

comp=Z,3μm,19.0s,MS4.9
NVAR Mina Array Bea 31.13 142 P **P** **08 23 21.4 +1.3**
comp=Z,22nm,0.6s,mb5.2,baz=325,slow=7.8,SNR=132
MNV Mina 31.17 141 *e*P **P** **08 23 21.3 +0.9**
MNV pmax pmax
comp=Z,30nm,1.1s,mb5.0
MNV MLR MLR
comp=Z,7μm,19.0s,MS5.3
MNV Mina 31.17 141 *e*P **P** **08 23 21.3 +1.0**
comp=Z,30nm,1.1s,mb5.0
MNV LR LR
comp=Z,7μm,19.0s,MS5.3
PET Petropavlovsk 31.23 274 PFAKE 08 23 30.0 +9.1
PET LR LR
comp=Z,2μm,20.0s,MS4.9
TPH Tonopah 31.74 140 *e*P **P** **08 23 26.4 +1.0**
TPH pmax pmax
comp=Z,31nm,0.7s,mb5.2
TPH MLR MLR
comp=Z,7μm,19.0s,MS5.4
TPH Tonopah 31.74 140 *e*P **P** **08 23 26.4 +0.9**
comp=Z,31nm,0.7s,mb5.2
TPH LR LR
comp=Z,7μm,19.0s,MS5.4
EYMN Ely 31.98 100 *e*P **P** **08 23 26.4 -1.0**
comp=Z,70nm,0.9s,mb5.5
EYMN LR LR
comp=Z,6μm,19.0s,MS5.3
SAO San Andreas Ge 31.98 147 PFAKE 08 23 40.0 +13
SAO LR LR
comp=Z,3μm,19.0s,MS5.0
PHWY Pilot Hill 32.36 122 *e*P **P** **08 23 30.2 -0.7**
SUMG Summit 32.60 33 *e*P **P** **08 23 32.0 -0.9**
comp=Z,23nm,0.8s,mb5.2
MVU Marysvale 32.73 133 P **P** **08 23 38.1 +4.0**
comp=Z,27nm,0.9s,mb5.2
MVU LR LR
comp=Z,821nm,20.0s,MS4.4
DAG Danmarks Havn 33.06 21⇓ *i*P **P** **08 23 36.0 -1.0**
comp=Z,16nm,0.8s,mb5.0
DAG Danmarks Havn 33.06 21⇓ *i*P **P** **08 23 36.0 -1.0**
DAG pmax pmax
comp=Z,16nm,0.8s,mb5.0
SFJD Kangerlussuaq 33.30 46 *i*P **P** **08 23 31.3 -7.8**
comp=Z,6.7nm,0.6s,mb4.8
SFJD *i*S **S** **08 28 58.5 -0.1**
SFJD
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 33.30 46 *i*P **P** **08 23 31.3 -7.8**
SFJD *i*S **S** **08 28 58.5 -0.1**
SFJD pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SFJD MLR MLR
comp=Z,1μm,18.0s,MS4.7
SFJD Kangerlussuaq 33.30 46 *e*P **P** **08 23 38.1 -1.0**
DAC Darwin (Calif) 33.35 142 *e*P **P** **08 23 41.0 +1.5**
DAC pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DAC MLR MLR
comp=Z,6μm,19.0s,MS5.3
DAC Darwin (Calif) 33.35 142 *e*P **P** **08 23 41.0 +1.5**
comp=Z,9.7nm,0.8s,mb4.8
DAC LR LR
comp=Z,6μm,19.0s,MS5.3
ISCO Idaho Springs 33.65 123 *e*P **P** **08 23 42.7 +0.6**
ISCO pmax pmax
comp=Z,32nm,1.0s,mb5.2
ISCO MLR MLR
comp=Z,6μm,19.0s,MS5.4
ISCO Idaho Springs 33.65 123 *e*P **P** **08 23 42.6 +0.5**
comp=Z,32nm,1.0s,mb5.2
ISCO LR LR
comp=Z,6μm,19.0s,MS5.4
ISA Isabella 33.72 143 *e*P **P** **08 23 43.4 +0.7**
ISA pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ISA MLR MLR
comp=Z,1μm,20.0s,MS4.6
ISA Isabella 33.72 143 *e*P **P** **08 23 43.4 +0.7**
comp=Z,7.0nm,1.3s,mb4.4
ISA LR LR
comp=Z,1μm,20.0s,MS4.6
KBS Kingsbay 34.24 9 *e*PP PP 08 25 01.2 -3.7
KBS *e* 08 29 38.7
KBS AMS AMS 08 38 46.1
comp=Z,826nm,20.0s,MS4.5
KBS Kingsbay 34.24 9 PFAKE 08 24 00.0 +13
KBS LR LR
comp=Z,2μm,21.0s,MS4.9
LDFC Landfair 35.12 139 *e*P **P** **08 23 55.7 +0.8**
MWC Mount Wilson 35.19 144 *e*P **P** **08 23 56.7 +1.2**
SDCO Great Sand Dun 35.54 125 *e*P **P** **08 23 58.5 +0.1**
comp=Z,13nm,0.7s,mb5.0
SDCO LR LR
comp=Z,9μm,19.0s,MS5.6
YAK Yakutsk 35.55 306⇑ *i*P **P** **08 23 58.1 -0.4**
YAK pmax pmax
comp=Z,65nm,2.5s,mb5.1
YAK MLR MLR
comp=Z,5μm,18.0s,MS5.3
YAK Yakutsk 35.55 306 PFAKE 08 24 10.0 +11
YAK LR LR
comp=Z,5μm,22.0s,MS5.2
WUAZ Wupatki 35.75 134 *e*P **P** **08 24 01.1 +0.8**
comp=Z,32nm,0.8s,mb5.3
WUAZ LR LR
comp=Z,5μm,20.0s,MS5.2
SCHQ Schefferville 36.49 70 P **P** **08 24 05.8 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=312,slow=8.9,SNR=26
SCHQ LR LR 08 38 14.8
comp=Z,2μm,19.1s,MS4.9,baz=319,slow=35
SCHQ Schefferville 36.49 70 *e*P **P** **08 24 05.8 -0.8**
comp=Z,18nm,0.7s,mb5.1
SCHQ LR LR
comp=Z,5μm,19.0s,MS5.3
CBKS Cedar Bluff 36.58 117 *e*P **P** **08 24 07.0 -0.4**
CBKS pmax pmax
comp=Z,95nm,1.0s,mb5.6
CBKS MLR MLR
comp=Z,7μm,19.0s,MS5.5
CBKS Cedar Bluff 36.58 117 *e*P **P** **08 24 07.0 -0.4**
comp=Z,95nm,1.0s,mb5.6
CBKS LR LR
comp=Z,7μm,19.0s,MS5.5
BAR Barrett 37.00 142 *e*P **P** **08 24 11.5 +0.5**
KSU1 Kansas State U 37.47 113 *e*P **P** **08 24 13.7 -1.3**
SCO Scoresbysund 37.60 28 *i*P **P** **08 24 16.0 -0.1**
comp=Z,8.1nm,0.8s,mb4.5
SCO Scoresbysund 37.60 28 *e*P **P** **08 24 16.0 -0.1**
SCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SCO Scoresbysund 37.60 28 *e*P **P** **08 24 16.0 -0.1**
comp=Z,8.1nm,0.8s,mb4.5
ANMO Albuquerque 37.78 128 *e*P **P** **08 24 18.2 +0.6**
ANMO pmax pmax
comp=Z,29nm,0.8s
ANMO MLR MLR
comp=Z,6μm,19.0s
ANMO Albuquerque 37.78 128 *e*P **P** **08 24 18.2 +0.6**
comp=Z,29nm,0.8s,mb5.1
ANMO LR LR
comp=Z,6μm,19.0s,MS5.4
LAZ Ladron 38.07 129 *e*P **P** **08 24 21.3 +1.2**
LPM Los Pinos Moun 38.31 129 *e*P **P** **08 24 22.8 +0.7**
LENM Lemitar 38.34 129 *e*P **P** **08 24 23.0 +0.7**
BNM Barren Site 38.46 129 *e*P **P** **08 24 23.8 +0.5**
TUC Tucson 38.92 135 *e*P **P** **08 24 28.3 +1.1**
TUC pmax pmax
comp=Z,17nm,1.1s,mb4.7
TUC MLR MLR
comp=Z,4μm,21.0s,MS5.2
TUC Tucson 38.92 135 *e*P **P** **08 24 28.3 +1.2**
comp=Z,17nm,1.1s,mb4.7
TUC LR LR
comp=Z,4μm,21.0s,MS5.2
JMIC Jan Mayen 39.47 22 *e*PP PP 08 25 59.9 -2.6
JMIC *e* 08 30 42.5
JMIC AMS AMS 08 42 49.9
comp=Z,1μm,19.0s,MS4.7
WMOK Wichita Mounta 40.56 119 *e*P **P** **08 24 40.3 -0.5**
WMOK pmax pmax
comp=Z,40nm,1.0s,mb5.0
WMOK MLR MLR
comp=Z,8μm,19.0s,MS5.6
WMOK Wichita Mounta 40.56 119 *e*P **P** **08 24 40.2 -0.6**
comp=Z,40nm,1.0s,mb5.0
WMOK LR LR
comp=Z,8μm,19.0s,MS5.6
GDL2 Guadalupe Moun 40.98 127 *e*P **P** **08 24 44.2 -0.1**
CLNS Chul'man 41.08 303 *e*P **P** **08 24 45.8 +0.7**
CLNS *e**PP pP 08 24 53.5 +2.4
CLNS *e*PPP 08 26 24.2
CLNS *e* 08 26 55.6
CLNS pmax pmax
comp=Z,41nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS MLR MLR
comp=Z,8μm,17.0s,MS5.7
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.5
CLNS MLR MLR
comp=E,4μm,13.0s,MS5.5
MNTX Cornudas Mount 41.12 129 *e*P **P** **08 24 45.7 +0.3**
comp=E,12nm,1.1s,mb4.5
MNTX LR LR
comp=Z,2μm,19.0s,MS5.1
BLO Bloomington 41.29 103 *e*P **P** **08 24 44.8 -2.0**
BLO pmax pmax
comp=Z,23nm,0.8s,mb4.9
BLO Bloomington 41.29 103 *e*P **P** **08 24 44.8 -2.0**
comp=Z,23nm,0.8s,mb4.8
ERPA Erie 41.40 94 PFAKE 08 25 00.0 +12
ERPA LR LR
comp=Z,2μm,21.0s,MS4.9
LONY Lake Ozonia 41.50 87 *e*P **P** **08 24 47.6 -1.0**
FRNY Flat Rock 41.73 86 *e*P **P** **08 24 50.1 -0.3**
ACSO Alum Creek Sta 41.79 98 *e*P **P** **08 24 49.9 -1.0**
comp=Z,32nm,0.9s,mb5.0
ACSO LR LR
comp=Z,672nm,20.0s,MS4.5
NCB Newcomb 42.19 87 *e*P **P** **08 24 53.7 -0.5**
comp=Z,20nm,0.8s,mb4.8
NCB LR LR
comp=Z,3μm,19.0s,MS5.1
WCI Wyandotte Cave 42.19 103 *e*P **P** **08 24 52.0 -2.2**
WCI pmax pmax
comp=Z,26nm,0.9s,mb4.9
WCI Wyandotte Cave 42.19 103 *e*P **P** **08 24 52.0 -2.2**
comp=Z,26nm,0.9s,mb4.9
PARMO Parma 42.20 108 *e*P **P** **08 24 54.9 +0.6**
YSS Yuzh-Sakhalins 42.35 281⇑ *i*P **P** **08 24 57.0 +1.5**
YSS *e**SP sP 08 25 08.0 +4.1
YSS *e* 08 25 10.0
YSS *e* 08 26 36.0
YSS *e*S **S** **08 31 16.0 +0.3**
YSS *e*SSS 08 34 46.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.0
YSS MLR MLR
comp=N,3μm,15.0s,MS5.4
YSS MLR MLR
comp=Z,2μm,15.0s,MS5.2
YSS MLR MLR
comp=E,2μm,14.0s,MS5.4
MIAR Mount Ida 42.63 113 *e*P **P** **08 24 56.4 -1.3**
MIAR pmax pmax
comp=Z,56nm,1.2s,mb5.2
MIAR MLR MLR
comp=Z,409nm,19.0s,MS4.3
MIAR Mount Ida 42.63 113 *e*P **P** **08 24 56.4 -1.4**
comp=Z,56nm,1.2s,mb5.2
MIAR LR LR
comp=Z,409nm,19.0s,MS4.3
UALR University of 42.88 112 *e*P **P** **08 24 58.4 -1.4**
comp=Z,9.7nm,0.8s,mb4.6
LBNH Lisbon 42.89 85 PFAKE 08 25 10.0 +10
LBNH LR LR
comp=Z,6μm,20.0s,MS5.5
HNH Hanover 43.19 85 *e*P **P** **08 25 02.5 +0.3**
comp=Z,3.1nm,0.8s,mb4.1
WVT Waverly 43.41 106 *e*P **P** **08 25 02.6 -1.5**
WVT pmax pmax
comp=Z,44nm,0.8s,mb5.2
WVT MLR MLR
comp=Z,2μm,19.0s,MS5.0
WVT Waverly 43.41 106 *e*P **P** **08 25 02.6 -1.5**
comp=Z,44nm,0.8s,mb5.2
WVT LR LR
comp=Z,2μm,19.0s,MS5.0
MCWV Mont Chateau 43.54 96 P **P** **08 25 03.9 -1.2**
comp=Z,46nm,0.8s,mb5.3
MCWV LR LR
comp=Z,3μm,20.0s,MS5.2
FFD Franklin Falls 43.64 85 *e*P **P** **08 25 06.4 +0.5**
BOD Bodaibo 43.79 311 *e*P **P** **08 25 05.9 -1.2**
BOD *e* pP 08 25 12.2 -1.0
BOD pmax pmax
comp=Z,20nm,1.2s,mb4.7
BOD pmax pmax
comp=Z,34nm,1.1s,mb5.0
TXAR Lajitas Array 43.86 128 P **P** **08 25 07.8 +0.1**
comp=Z,11nm,0.8s,mb4.6,baz=348,slow=6.6,SNR=72
TXAR LR LR 08 43 59.2
comp=Z,7μm,18.4s,MS5.6,baz=290,slow=37
KEV Kevo 44.04 5 *e*P **P** **08 25 06.3 -2.8**
KEV MLR MLR
comp=Z,1μm,20.0s,MS4.8
JCT Junction City 44.08 123 *e*P **P** **08 25 08.8 -0.7**
JCT pmax pmax
comp=Z,56nm,0.9s,mb5.3
JCT MLR MLR
comp=Z,5μm,20.0s,MS5.5
JCT Junction City 44.08 123 *e*P **P** **08 25 08.8 -0.6**
comp=Z,56nm,0.9s,mb5.3
JCT LR LR
comp=Z,5μm,20.0s,MS5.5
HABR Khabarovsk 44.12 289 *e*P **P** **08 25 09.7 -0.1**
HABR MLR MLR
comp=Z,1μm,13.4s,MS5.1
ARCES ARCESS Array B 44.20 6 P **P** **08 25 08.3 -2.1**
comp=Z,2.2nm,0.5s,mb4.1,baz=8.1,slow=8.6,SNR=18
ARCES LR LR 08 44 01.4
comp=Z,876nm,21.3s,MS4.7,baz=350,slow=37
ARE0 ARCESS Array S 44.20 6 P **P** **08 25 09.1 -1.4**
OXF Oxford 44.23 109 *e*P **P** **08 25 09.5 -1.2**
OXF pmax pmax
comp=Z,360nm,0.9s
OXF MLR MLR
comp=Z,2μm,20.0s,MS5.0
OXF Oxford 44.23 109 *e*P **P** **08 25 09.5 -1.1**
comp=Z,360nm,0.9s
OXF LR LR
comp=Z,2μm,20.0s,MS5.0
PLAL Pickwick Lake 44.33 107 *e*P **P** **08 25 10.1 -1.4**
comp=Z,36nm,0.9s,mb5.1
PLAL LR LR
comp=Z,6μm,19.0s,MS5.5
HRV Harvard--Oak R 44.48 86 PFAKE 08 25 20.0 +7.3
HRV LR LR
comp=Z,628nm,20.0s,MS4.5
WES Weston 44.68 86 PFAKE 08 25 30.0 +16
WES LR LR
comp=Z,4μm,21.0s,MS5.3
NATX Nacogdoches 44.73 116 PFAKE 08 25 30.0 +15
NATX LR LR
comp=Z,7μm,21.0s,MS5.5
TZTN Tazewell 44.73 102 P **P** **08 25 14.0 -0.7**
ASAJ Asahikawa 44.76 279 P **P** **08 25 13.8 -1.1**
comp=Z,7.9nm,0.9s,mb4.5,baz=34,slow=2.9,SNR=3.6
KLR Kul'dur 44.76 292 *e*P **P** **08 25 11.5 -3.4**
KLR *e*S **S** **08 31 50.5 -0.3**
KLR *e* 08 35 11.5
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,8μm,13.0s,MS5.8
BLA Blacksburg 45.41 98 *e*P **P** **08 25 19.5 -0.5**
BLA pmax pmax
comp=Z,6.0nm,1.6s,mb4.2
BLA MLR MLR
comp=Z,258nm,19.0s,MS4.2
BLA Blacksburg 45.41 98 *e*P **P** **08 25 19.5 -0.5**
comp=Z,6.5nm,1.6s,mb4.2
BLA LR LR
comp=Z,258nm,19.0s,MS4.2
CBN Corbin 45.78 94 *e*P **P** **08 25 22.3 -0.7**
comp=Z,52nm,0.9s,mb5.5
CBN LR LR
comp=Z,3μm,21.0s,MS5.2
HKT Hockley 45.94 119 *e*P **P** **08 25 24.0 -0.3**
HKT pmax pmax
comp=Z,28nm,1.5s,mb5.0
HKT MLR MLR
comp=Z,2μm,19.0s,MS5.0
HKT Hockley 45.94 119 *e*P **P** **08 25 24.0 -0.3**
comp=Z,28nm,1.5s,mb5.0
HKT LR LR
comp=Z,2μm,19.0s,MS5.0
LVZ Lovozero 46.09 2 *i*P **P** **08 25 24.1 -1.3**
LVZ *i*S **S** **08 32 12.7 +2.7**
LVZ *i*SS SS 08 35 31.4 -3.7
LVZ pmax pmax
comp=Z,25nm,1.2s,mb5.0
LVZ pmax pmax
comp=N,17nm,1.3s
LVZ pmax pmax
comp=E,11nm,1.5s
APA Apatity 46.40 2 *e*P **P** **08 25 27.2 -0.7**
APA *i*S **S** **08 32 18.0 +3.5**
APA pmax pmax
comp=Z,30nm,1.3s,mb5.1
APA MLR MLR
comp=Z,2μm,18.0s,MS5.0
LRAL Lakeview Retre 46.46 107 *e*P **P** **08 25 26.4 -2.0**
comp=Z,26nm,0.9s,mb5.2
LRAL LR LR
comp=Z,6μm,19.0s,MS5.6
STOK Stokkvaagen 46.52 13 *e*P **P** **08 25 28.1 -0.8**
MOR8 Moi Rana 46.81 13 *e*P **P** **08 25 29.6 -1.5**
JSC Jenkinsville 47.62 101 *e*P **P** **08 25 36.3 -1.1**
NSS Namsos 48.18 14 *e*P **P** **08 25 40.0 -1.8**
COW Cow Castle Cre 48.63 101 *e*P **P** **08 25 44.1 -1.1**
CIT Chita 48.81 307 *e*P **P** **08 25 47.0 +0.4**
CIT pmax pmax
comp=Z,45nm,2.0s,mb5.2
HIA Hailar 49.08 301 *e*P **P** **08 25 49.7 +1.1**
HIA pmax pmax
comp=Z,23nm,0.9s
HIA Hailar 49.08 301 *e*P **P** **08 25 49.7 +1.0**
comp=Z,23nm,0.9s,mb5.2
MDJ Mudanjiang 49.42 290 P **P** **08 25 50.7 -0.6**
MDJ PP PP 08 27 44.1 -1.3
MDJ S **S** **08 32 55.8 -1.6**
MDJ AMB AMB
comp=Z,11nm,2.5s,mb4.4
MDJ AMB AMB
comp=Z,149nm,4.0s
MDJ LR LR
comp=N,2μm,13.9s,MS5.4
MDJ LR LR
comp=E,2μm,16.2s,MS5.4
MDJ LR LR
comp=Z,3μm,15.8s,MS5.4
VLA Vladivostok 49.81 287⇑ *e*P **P** **08 25 54.0 -0.2**
VLA pmax pmax
comp=Z,27nm,1.3s,mb5.1
VLA MLR MLR
comp=Z,2μm,17.0s,MS5.1
JOF Joensuu 51.02 4 *e*p **P** **08 26 03.0 -0.4**
KRAR Krasnoyarsk 51.14 324 *e*P **P** **08 26 03.6 -0.7**
KRAR pmax pmax
comp=Z,28nm,0.6s,mb5.4
KRAR MLR MLR
comp=Z,1μm,18.0s,MS5.0
IRK Irkutsk 51.47 314 *e*P **P** **08 26 07.6 +0.8**
IRK pmax pmax
comp=Z,39nm,2.5s,mb4.9
NB2 NORSAR Subarra 51.51 16 P **P** **08 26 05.6 -1.5**
comp=Z,29nm,1.4s,mb5.0,baz=345,slow=7.9
NOA NORSAR Array B 51.51 16 P **P** **08 26 05.8 -1.2**
comp=Z,5.1nm,0.7s,mb4.6,baz=347,slow=7.8,SNR=14
NOA LR LR 08 48 10.9
comp=Z,572nm,22.0s,MS4.6,baz=335,slow=36
KAF Kangasniemi 51.65 7 *e*p **P** **08 26 07.2 -0.9**
CN2 Changchun 51.68 293 *e*P **P** **08 26 08.7 +0.4**
CN2 *e*AP pP 08 26 17.6 +3.2
CN2 *e*PP PP 08 28 06.3 +0.4
CN2 *e*S **S** **08 33 25.7 -3.0**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,13.0s,MS5.5
CN2 LR LR
comp=E,2μm,13.0s,MS5.5
CN2 LR LR
comp=Z,2μm,12.0s,MS5.3
FINES FINESS Array B 52.30 7 P **P** **08 26 11.9 -1.1**
comp=Z,4.6nm,0.4s,mb4.8,baz=4.3,slow=8.3,SNR=61
FINES FINESS Array B 52.30 7 *i*P **P** **08 26 11.8 -1.2**
FINES pmax pmax
comp=Z,5.0nm,0.4s
HFS Hagfors 52.66 15 P **P** **08 26 14.5 -1.1**
comp=Z,15nm,0.8s,mb5.0,baz=34,slow=5.2,SNR=24
KONO Kongsberg 52.68 17 *e* sS 08 33 57.2 +4.7
KONO *e* SS 08 37 19.7 -1.2
KONO Kongsberg 52.68 17 *e*P **P** **08 26 14.6 -1.2**
KONO Kongsberg 52.68 17 PFAKE 08 26 30.0 +14
KONO LR LR
comp=Z,1μm,22.0s,MS5.0
MCD Coleburn Disti 52.74 26 *e*P **P** **08 26 15.8 -0.4**
MCD Coleburn Disti 52.74 26 *e*P **P** **08 26 15.8 -0.4**
MOY Mondy 52.92 316 *e*P **P** **08 26 18.7 +1.1**
MOY pmax pmax
comp=Z,45nm,2.6s,mb4.9
MAJO Matsushiro 52.95 277 *e*P **P** **08 26 18.8 +1.0**
MAJO pmax pmax
comp=Z,81nm,1.6s,mb5.4
MAJO MLR MLR
comp=Z,2μm,20.0s,MS5.0
MAJO Matsushiro 52.95 277 *e*P **P** **08 26 18.8 +1.0**
comp=Z,81nm,1.6s,mb5.4
MAJO LR LR
comp=Z,2μm,20.0s,MS5.0
MAT Matsushiro 52.95 277 P **P** **08 26 17.2 -0.6**
MAT S **S** **08 33 47.0 +0.9**
MAT Matsushiro 52.95 277 *e*P **P** **08 26 17.0 -0.8**
MAT *e*S **S** **08 33 47.0 +0.9**
MAT pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MAT MLR MLR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 52.95 277 *e*P **P** **08 26 17.0 -0.8**
comp=Z,7.5nm,0.7s,mb4.7
MAT *e*S **S** **08 33 47.0 +0.9**
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
MJAR Matsushiro Arr 52.95 277 P **P** **08 26 19.1 +1.3**
comp=Z,6.6nm,0.8s,mb4.6,baz=25,slow=6.8,SNR=16
MJAR LR LR 08 49 51.0
comp=Z,1μm,20.3s,MS5.0,baz=20,slow=37
DWPF Disney 53.01 105 PFAKE 08 26 30.0 +12
DWPF LR LR
comp=Z,760nm,22.0s,MS4.7
KLMR Klimovskoe 53.17 359 *d*i*P* **P** **08 26 18.1 -1.3**
KLMR *e* 08 28 16.4
KLMR pmax pmax
comp=Z,100nm,1.4s,mb5.5
KLMR pmax pmax
comp=Z,80nm,7.4s
KLMR MLR MLR
comp=Z,2μm,19.0s,MS5.1
ZAK Zakamensk 53.41 313 *e*P **P** **08 26 21.7 +0.6**
ZAK pmax pmax
comp=Z,14nm,1.7s,mb4.6
NVS Novosibirsk 54.37 329⇑ *i*P **P** **08 26 26.0 -2.2**
NVS pmax pmax
comp=Z,40nm,1.8s,mb5.0
NVS pmax pmax
comp=N,29nm,1.6s
NVS pmax pmax
comp=E,14nm,1.6s
ULN Ulaanbaatar 54.49 309 *c*e*P* **P** **08 26 29.9 +0.8**
ULN Ulaanbaatar 54.49 309 *e*P **P** **08 26 28.8 -0.3**
comp=E,13nm,1.0s,mb4.8
ULN LR LR
comp=Z,3μm,19.0s,MS5.4
SONM Songino Array 54.73 310 P **P** **08 26 32.0 +1.2**
comp=Z,3.5nm,0.8s,mb4.4,baz=18,slow=6.4,SNR=19

EKA Eskdalemuir Ar 54.88 27 P **P** **08 26 31.0 -0.9**
comp=Z,24nm,0.7s,mb5.3,baz=334,slow=6.0,SNR=45
ZAL Zalesovo 54.89 328 P **P** **08 26 30.9 -1.0**
comp=Z,3.0nm,0.5s,mb4.6,baz=94,slow=8.3,SNR=16
ZAL LR LR 08 52 51.8
comp=Z,2μm,21.3s,MS5.1,baz=93,slow=39
ZAL Zalesovo 54.89 328 P **P** **08 26 30.9 -1.0**
ZAL LR LR 08 52 51.8
GAL1 Galloway 55.04 28 *e*P **P** **08 26 33.6 +0.6**
GAL1 Galloway 55.04 28 *e*P **P** **08 26 33.6 +0.6**
VSU Vasula 55.31 7 *i* P **P** **08 26 34.2 -0.8**
GMM Mts of Mourne 55.39 29 *e*P **P** **08 26 35.7 +0.1**
GMM Mts of Mourne 55.39 29 *e*P **P** **08 26 35.7 +0.1**
WIM Isle of Man 55.72 29 *e*P **P** **08 26 37.0 -1.0**
WIM Isle of Man 55.72 29 *e*P **P** **08 26 37.0 -1.0**
MUD Monsted U'grnd 55.74 19 *i* P **P** **08 26 40.0 +1.9**
MUD pmax pmax
comp=Z,24nm,0.9s,mb5.2
MUD Monsted U'grnd 55.74 19 *i* P **P** **08 26 40.0 +1.9**
comp=Z,24nm,0.9s,mb5.2
MUD *i* S SS 08 38 13.7 +4.5
BBSR BB Station 55.96 86 PFAKE 08 26 50.0 +10
BBSR LR LR
comp=Z,2μm,20.0s,MS5.1
DCN Croghan 55.96 31⇑ *i*P **P** **08 26 40.0 +0.4**
DLF Lyons Farm 56.16 30⇑ *i*P **P** **08 26 41.1 0.0**
WLF1 Llynfaes 56.59 29 *e*P **P** **08 26 45.0 +0.9**
WLF1 AMb AMB 08 26 55.8
comp=Z,36nm,2.0s,mb5.1
WLF1 Llynfaes 56.59 29 *e*P **P** **08 26 45.0 +0.9**
WLF1 AMb AMB 08 26 55.8
comp=Z,36nm,2.0s,mb5.1
ARU Arti 56.59 346 P **P** **08 26 44.6 +0.5**
comp=Z,169nm,0.8s,SNR=9.0
ARU Arti 56.59 346⇓ *i*P **P** **08 26 43.9 -0.2**
ARU *e* 08 27 41.5
ARU *e* 08 28 48.6
ARU *e*PPP 08 30 06.4
ARU *e*S **S** **08 34 35.6 +0.6**
ARU *e* 08 36 29.9
ARU *e*SS SS 08 38 26.9 +4.3
ARU *e*SSS 08 40 33.5
ARU pmax pmax
comp=Z,21nm,0.8s,mb5.2
ARU MLR MLR
comp=N,900nm,20.0s,MS4.9
ARU MLR MLR
comp=E,400nm,20.0s,MS4.9
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.0
ARU Arti 56.59 346 *e*P **P** **08 26 44.0 -0.1**
comp=Z,22nm,0.8s,mb5.2
ARU LR LR
comp=Z,357nm,22.0s,MS4.4
YRC Rhoscolyn 56.59 29 *e*P **P** **08 26 45.5 +1.3**
YRC AMb AMB 08 26 56.0
comp=Z,39nm,1.2s,mb5.3
YRC Rhoscolyn 56.59 29 *e*P **P** **08 26 45.5 +1.3**
YRC AMb AMB 08 26 56.0
comp=Z,39nm,1.2s,mb5.3
INCN Inchon 56.70 288 PFAKE 08 27 00.0 +15
INCN LR LR
comp=Z,2μm,21.0s,MS5.1
COP Copenhagen 56.89 17 *i* P P 08 27 22.1 +36
comp=Z,10.0nm,0.5s
COP *i* S **S** **08 34 41.6 +2.6**
SBD1 Bryn Du 57.17 28 *e*P **P** **08 26 48.3 +0.1**
SBD1 Bryn Du 57.17 28 *e*P **P** **08 26 48.3 +0.1**
DL2 Dalian 57.35 293 P **P** **08 26 54.9 +5.4**
DL2 S **S** **08 34 50.9 +5.9**
DL2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
DL2 AMB AMB
comp=Z,210nm,5.0s
DL2 LR LR
comp=N,1μm,16.8s,MS5.3
DL2 LR LR
comp=E,1μm,15.4s,MS5.3
DL2 LR LR
comp=Z,1μm,15.0s,MS5.1
TEIG Tepich 57.55 116 PFAKE 08 27 00.0 +9.1
TEIG LR LR
comp=Z,298nm,20.0s,MS4.4
HLM1 Long Mynd 57.61 28 *e*P **P** **08 26 50.6 -0.8**
HLM1 AMb AMB 08 26 56.4
comp=Z,57nm,1.1s,mb5.5
HLM1 Long Mynd 57.61 28 *e*P **P** **08 26 50.6 -0.8**
HLM1 AMb AMB 08 26 56.4
comp=Z,57nm,1.1s,mb5.5
PECR Pechory 57.63 356 *e*P **P** **08 26 53.0 +1.5**
SSP1 Stoney Pound 57.66 28 *e*P **P** **08 26 50.9 -0.8**
SSP1 Stoney Pound 57.66 28 *e*P **P** **08 26 50.9 -0.8**
BSD Bornholm Skovb 57.73 15 *i* P **P** **08 26 53.6 +1.4**
comp=Z,59nm,1.1s,mb5.5
BSD *i* 08 34 42.8
BSD
comp=Z,480nm,18.0s
BSD Bornholm Skovb 57.73 15 *i* P **P** **08 26 53.6 +1.4**
comp=Z,59nm,1.1s,mb5.5
BSD *i* 08 34 42.8
MCH1 Michaelchurch 58.09 28 *e*P **P** **08 26 53.6 -1.1**
MCH1 AMb AMB 08 26 56.9
comp=Z,56nm,0.7s,mb5.7
MCH1 Michaelchurch 58.09 28 *e*P **P** **08 26 53.6 -1.1**
MCH1 AMb AMB 08 26 56.9
comp=Z,56nm,0.7s,mb5.7
MOS Moscow 58.31 360 *e*P **P** **08 26 57.6 +1.4**
MOS *e* 08 27 43.0
MOS *e*S **S** **08 34 59.4 +1.8**
BSEG Bad Segeberg 58.35 19 *e*P **P** **08 26 56.5 0.0**
comp=Z,12nm,0.9s,mb4.9
BRVK Borovoye 58.42 337 P **P** **08 26 57.8 +0.8**
comp=Z,107nm,0.8s,mb5.9,SNR=10
BVA0 Borovoye Array 58.43 337 *i* P **P** **08 26 56.8 -0.3**
BVA0 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BVAR Borovoye Array 58.43 337 P **P** **08 26 57.3 +0.2**
comp=Z,2.2nm,0.4s,mb4.5,baz=23,slow=6.1,SNR=2.1
HGH Gray Hill 58.47 28 *e*P **P** **08 26 58.0 +0.7**
HGH AMb AMB 08 27 04.0
comp=Z,32nm,2.4s,mb4.9
HGH Gray Hill 58.47 28 *e*P **P** **08 26 58.0 +0.7**
HGH AMb AMB 08 27 04.0
comp=Z,32nm,2.4s,mb4.9
VOSK Vostochnaya 58.63 337 P **P** **08 26 58.0 -0.5**
VOSK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ZRNK Zerenda 58.72 338 *e*P **P** **08 26 58.9 -0.2**
ZRNK pmax pmax
comp=Z,25nm,0.9s,mb5.2
ZRNK Zerenda 58.72 338 *e*P **P** **08 26 58.9 -0.2**
comp=Z,24nm,0.9s,mb5.2
OBN Obninsk 58.93 1⇑ *i*P **P** **08 27 00.1 -0.5**
OBN *i* 08 27 08.1
OBN *e* 08 27 48.8
OBN *i* S **S** **08 35 08.6 +2.9**
OBN pmax pmax
comp=Z,70nm,2.5s,mb5.2
KURK Kurchatov 59.20 331 P **P** **08 27 02.1 -0.3**
comp=Z,111nm,1.2s,mb5.8,SNR=11
KURK Kurchatov 59.20 331 P **P** **08 27 01.8 -0.6**
KURK pmax pmax
comp=Z,30nm,1.3s,mb5.2
HHC Hu-ho-hao-te 59.24 302 ⇑P **P** **08 27 03.0 +0.3**
HHC XP sP 08 27 10.1 -1.2
HHC PCP PcP 08 27 49.6 -1.3
HHC PP PP 08 29 17.2 +3.6
HHC SCP ScP 08 31 48.2 -2.4
HHC PCS PcS 08 31 51.8 -1.1
HHC S **S** **08 35 09.6 -0.1**
HHC XS sS 08 35 20.0 0.0
HHC SCS ScS 08 36 49.1 -2.7
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,94nm,8.4s
HHC LR LR
comp=N,5μm,18.0s,MS5.8
HHC LR LR
comp=E,4μm,19.2s,MS5.8
HHC LR LR
comp=Z,7μm,18.0s,MS5.8
CSA1 St Austell 59.28 30 *e*P **P** **08 27 03.7 +0.7**
CSA1 St Austell 59.28 30 *e*P **P** **08 27 03.7 +0.7**
MNK Minsk 59.32 7 *e*P **P** **08 27 01.0 -2.3**

CCA1 Carnmenellis 59.37 30 *e*P **P** **08 27 04.2 +0.6**
CCA1 Carnmenellis 59.37 30 *e*P **P** **08 27 04.2 +0.6**
CRQ2 Rosemanowes 2 59.40 30 *e*P **P** **08 27 04.0 +0.1**
CRQ2 AMb AMB 08 27 08.6
comp=Z,71nm,1.0s,mb5.6
CRQ2 Rosemanowes 2 59.40 30 *e*P **P** **08 27 04.0 +0.1**
CRQ2 AMb AMB 08 27 08.6
comp=Z,71nm,1.0s,mb5.6
CMA1 Manaccan 59.49 30 *e*P **P** **08 27 05.2 +0.7**
CMA1 Manaccan 59.49 30 *e*P **P** **08 27 05.2 +0.7**
CGH1 Goonhilly 59.51 30 *e*P **P** **08 27 03.8 -0.8**
CGH1 Goonhilly 59.51 30 *e*P **P** **08 27 03.8 -0.8**
SUW Suwalki 59.54 10 *e*P **P** **08 27 03.0 -1.8**
IBBN Ibbenburen 59.59 21 *e*P **P** **08 27 05.5 +0.4**
comp=Z,36nm,1.3s,mb5.2
WTSB Winterswijk 59.78 21 *e*P **P** **08 27 07.5 +1.0**
comp=Z,20nm,1.2s,mb5.0
BTO Baotou 59.99 303 *e*P **P** **08 27 07.1 -0.8**
RUE Ruedersdorf 60.20 16 *e*P **P** **08 27 09.2 -0.1**
comp=Z,41nm,1.4s,mb5.3
RUE Ruedersdorf 60.20 16 *e*P **P** **08 27 08.5 -0.8**
comp=Z,46nm,1.1s,mb5.4
BUG Bochum-Univer 60.36 21 *e*P **P** **08 27 10.2 -0.3**
comp=Z,38nm,1.5s,mb5.2
CLZ Clausthal 60.40 19 *e*P **P** **08 27 10.9 +0.2**
comp=Z,24nm,1.0s,mb5.2
CLZ Clausthal 60.40 19 *e*P **P** **08 27 10.9 +0.2**
CLZ pmax pmax
comp=Z,24nm,1.0s,mb5.2
UCC Uccle 60.54 24 AP **P** **08 27 13.5 +1.9**
UCC XP Px 08 27 15.4
UCC E pP 08 27 18.4 +0.5
UCC PCP PcP 08 27 56.7 +0.6
BEBN Eben Emael 60.75 23 AP **P** **08 27 15.5 +2.4**
BEBN XP Px 08 27 17.5
SNF Seneffe 60.81 24 P **P** **08 27 13.1 -0.4**
SNF AP pP 08 27 14.7 -5.0
SNF XP sP 08 27 17.2 -4.8
HGN Heimansgroeve 60.82 22 *e*P **P** **08 27 15.5 +2.0**
comp=Z,25nm,0.6s,mb5.5
HGN *e*PP PP 08 29 08.1 -19
HGN *e*S **S** **08 35 33.4 +3.4**
HGN *e*SS SS 08 39 12.5 -17
MEM Membach 60.98 22 P **P** **08 27 14.5 -0.2**
MEM AP pP 08 27 16.5 -4.4
MEM XP sP 08 27 30.9 +7.6
BAIF Baives 61.23 24 *e*P **P** **08 27 16.0 -0.4**
comp=Z,46nm,0.9s,mb5.3
BAIF Baives 61.23 24 *e*P **P** **08 27 16.0 -0.4**
BAIF pmax pmax
comp=Z,23nm,0.9s,mb5.3
BAIF Baives 61.23 24 *e*P **P** **08 27 16.0 -0.4**
comp=Z,23nm,0.9s,mb5.3
DOU Dourbes 61.26 24 AP **P** **08 27 18.1 +1.5**
DOU XP Px 08 27 20.7
CLL Collm 61.26 17 *e*P **P** **08 27 15.5 -1.1**
comp=Z,10.0nm,0.9s,mb5.0
CLL *e*S **S** **08 35 37.2 +1.6**
CLL *e*SP 08 35 49.3
CLL *e*SS SS 08 39 45.7 +10
CLL *e*SSS 08 42 26.3
CLL *e*LR LR 08 46 31.2
CLL *e*L 08 54 14.8
comp=Z,492nm,22.0s
CLL Collm 61.26 17 *i* P **P** **08 27 15.5 -1.1**
comp=Z,18nm,0.9s,mb5.2
CLL *e*S **S** **08 35 38.0 +2.4**
CLL *e*SP 08 35 49.0
CLL *e*SS SS 08 39 42.0 +6.1
CLL *e*SSS 08 42 24.0
CLL L 08 55 00.0
comp=Z,800nm,21.2s
CLL Collm 61.26 17 *i* P **P** **08 27 15.5 -1.1**
CLL *e*S **S** **08 35 38.0 +2.4**
CLL pmax pmax
comp=Z,18nm,0.9s,mb5.2
CLL MLR MLR
comp=Z,800nm,21.2s,MS4.8
CLL Collm 61.26 17 *i* P **P** **08 27 15.5 -1.1**
comp=Z,18nm,0.9s,mb5.2
CLL *e*S **S** **08 35 38.0 +2.4**
CLL LR LR
comp=Z,800nm,21.2s,MS4.8
GIVF Givet 61.29 23 *e*P **P** **08 27 16.3 -0.4**
comp=Z,53nm,0.9s,mb5.4
GIVF Givet 61.29 23 *e*P **P** **08 27 16.3 -0.4**
GIVF pmax pmax
comp=Z,27nm,0.9s,mb5.4
GIVF Givet 61.29 23 *e*P **P** **08 27 16.3 -0.4**
comp=Z,27nm,0.9s,mb5.4
TIA Tai'an 61.40 295 *e*P **P** **08 27 17.9 +0.4**
ROSF Rostrenen 61.52 30 *e*P **P** **08 27 17.7 -0.6**
FLN La Foliniere 61.66 28 *e*P **P** **08 27 18.2 -1.0**
comp=Z,44nm,0.7s,mb5.4
FLN *e*R
comp=Z,2μm,21.8s
FLN La Foliniere 61.66 28 *e*P **P** **08 27 18.2 -1.0**
FLN pmax pmax
comp=Z,22nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,2μm,21.8s,MS5.3
FLN La Foliniere 61.66 28 *e*P **P** **08 27 18.2 -1.0**
comp=Z,22nm,0.7s,mb5.4
FLN LR LR
comp=Z,2μm,21.8s,MS5.3
MOX Moxa 61.74 18 *e*P **P** **08 27 19.5 -0.3**
MOX *e* pP 08 27 25.0 -1.0
comp=Z,36nm,1.1s
MOX
comp=Z,600nm,21.0s
MOX Moxa 61.74 18 *e*P **P** **08 27 19.5 -0.3**
comp=Z,36nm,1.1s,mb5.4
MOX *e* pP 08 27 25.0 -1.0
MOX LR LR
comp=Z,600nm,21.0s,MS4.7
SGMF Saint Gilles 61.74 29 *e*P **P** **08 27 19.1 -0.7**
comp=Z,62nm,1.0s,mb5.4
SGMF Saint Gilles 61.74 29 *e*P **P** **08 27 19.1 -0.7**
SGMF pmax pmax
comp=Z,31nm,1.0s,mb5.4
SGMF Saint Gilles 61.74 29 *e*P **P** **08 27 19.1 -0.7**
comp=Z,31nm,1.0s,mb5.4
BRG Berggiesshubel 61.80 17 *e*P **P** **08 27 19.7 -0.5**
comp=Z,14nm,1.1s,mb5.0
BRG Berggiesshubel 61.80 17 *e*P **P** **08 27 19.2 -1.0**
BRG *e* 08 35 41.0
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
BRG MLR MLR
comp=Z,490nm,15.9s,MS4.8
BRG Berggiesshubel 61.80 17 *e*P **P** **08 27 19.2 -1.0**
comp=Z,10nm,1.4s,mb4.8
BRG *i* pP 08 27 25.1 -1.3
BRG *e* 08 35 41.0
BRG LR LR
comp=Z,490nm,15.9s,MS4.8
LDF La Druitiere 61.89 27 *e*P **P** **08 27 19.8 -1.0**
comp=Z,42nm,0.7s,mb5.4
LDF La Druitiere 61.89 27 *e*P **P** **08 27 19.8 -1.0**
LDF pmax pmax
comp=Z,21nm,0.7s,mb5.4
LDF La Druitiere 61.89 27 *e*P **P** **08 27 19.8 -1.0**
comp=Z,21nm,0.7s,mb5.4
WLF Walferdange 61.92 23 *e*P **P** **08 27 20.3 -0.7**
comp=Z,19nm,1.3s,mb5.1
WLF Walferdange 61.92 23 P **P** **08 27 20.3 -0.7**
comp=Z,12nm,0.7s,mb5.1
WLF AP pP 08 27 23.4 -3.9
WLF XP sP 08 27 37.5 +7.9
WLF Walferdange 61.92 23 *e*P **P** **08 27 20.4 -0.6**
WLF pmax pmax
comp=Z,16nm,0.8s,mb5.2
WLF Walferdange 61.92 23 *e*P **P** **08 27 20.4 -0.6**
comp=Z,16nm,0.8s,mb5.2
GRR Gorron 61.95 28 *e*P **P** **08 27 20.3 -0.9**
comp=Z,54nm,0.8s,mb5.4
GRR Gorron 61.95 28 *e*P **P** **08 27 20.3 -0.9**
GRR pmax pmax
comp=Z,27nm,0.8s,mb5.4
GRR Gorron 61.95 28 *e*P **P** **08 27 20.3 -0.9**
comp=Z,27nm,0.8s,mb5.4
QUIF Quistinic 61.95 30 *e*P **P** **08 27 20.2 -1.0**
comp=Z,36nm,1.0s,mb5.2
QUIF Quistinic 61.95 30 *e*P **P** **08 27 20.2 -1.0**
QUIF pmax pmax
comp=Z,18nm,1.0s,mb5.2
QUIF Quistinic 61.95 30 *e*P **P** **08 27 20.2 -1.0**
comp=Z,18nm,1.0s,mb5.2
WERD Werda 62.02 18 *e*P **P** **08 27 21.6 -0.1**
KSP Ksiaz 62.09 15 *e*P **P** **08 27 22.2 +0.1**
KSP Ksiaz 62.09 15 *e*P **P** **08 27 22.0 -0.1**
KSP *e*pP pP 08 27 26.9 -1.5
KSP *e*S **S** **08 35 39.0 -7.1**
KSP LR LR
comp=Z,2μm,29.8s,MS5.0
MKAR Makanchi Array 62.16 327 P **P** **08 27 21.6 -1.0**
comp=Z,2.8nm,0.7s,mb4.5,baz=45,slow=6.9,SNR=6.9
MKAR Makanchi Array 62.16 327 *i* P **P** **08 27 24.6 +2.0**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
PVCC Panska Ves 62.21 16 *e*P **P** **08 27 22.6 -0.4**
NKC Novy Kostel 62.25 18 *e*P **P** **08 27 22.8 -0.4**
NKC pP pP 08 27 31.0 +1.5
NKC sP sP 08 27 36.5 +4.7
NKC AMS AMS 08 51 40.0
comp=Z,1μm,25.7s
NKC Novy Kostel 62.25 18 *e*P **P** **08 27 22.8 -0.4**
NKC *e* 08 27 31.0
NKC *e* 08 27 36.5
VOR Voronezh 62.32 359 P **P** **08 27 25.0 +1.3**
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.4
VOR pmax pmax
comp=Z,90nm,2.0s,mb5.5
TOD Tromm 62.38 21 *e*P **P** **08 27 26.3 +2.2**
UPC Upice 62.39 15 *e*P **P** **08 27 24.4 +0.2**
AKTK Aktyubinsk 62.57 345 P **P** **08 27 24.6 -0.8**
AKTO Aktyubinsk 62.57 345 P **P** **08 27 24.6 -0.8**
comp=Z,4.2nm,0.6s,mb4.8,baz=6.6,slow=7.5,SNR=21
AKTO Aktyubinsk 62.57 345 P **P** **08 27 24.7 -0.7**
AKTO pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
DPC Dobruska-Polom 62.58 15 *e*P **P** **08 27 25.3 -0.1**
GRF Grafenberg Arr 62.62 19 *e*P **P** **08 27 26.2 +0.5**
comp=Z,43nm,1.4s,mb5.4
GRF *e*L 08 57 21.6
comp=Z,1μm,19.2s
GRF Grafenberg Arr 62.62 19 *e*P **P** **08 27 26.2 +0.5**
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.4
GRF MLR MLR
comp=Z,1μm,19.2s,MS5.0
GRF Grafenberg Arr 62.62 19 *e*P **P** **08 27 26.2 +0.5**
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.4
GRF MLR MLR
comp=Z,1μm,19.2s,MS5.0
ROTZ Rotzenmuhle 62.67 18 *e*P **P** **08 27 26.0 -0.1**
comp=Z,22nm,1.2s,mb5.2
PRU Pruhonice 62.74 16 *e*P **P** **08 27 26.2 -0.3**
PRU AMS AMS 08 54 10.0
comp=Z,800nm,24.3s
VRSR Storozhevoye 62.83 359 *e*P **P** **08 27 26.5 -0.6**
VRSR *e**PP pP 08 27 36.6 +3.2
VRSR *e* 08 29 43.8
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,1.0nm,0.9s
VRSR MLR MLR
comp=Z,150nm,20.0s,MS4.2
VRSR MLR MLR
comp=N,130nm,17.0s
VRSR MLR MLR
comp=E,50nm,29.0s
MEZF Maizieres J'vi 62.88 24 *e*P **P** **08 27 27.2 -0.2**
comp=E,19nm,0.8s,mb5.0
MEZF Maizieres J'vi 62.88 24 *e*P **P** **08 27 27.2 -0.2**
comp=E,19nm,0.8s,mb5.3
OJC Ojcow 63.05 13 *e*P **P** **08 27 30.3 +1.8**
OJC *e*S **S** **08 36 02.8 +4.7**
OJC L 08 53 26.1
comp=E,4.8nm,22.1s
AKASG Malin Array Be 63.18 6 P **P** **08 27 28.5 -0.9**
comp=E,9.3nm,0.6s,mb5.1,baz=355,slow=6.8,SNR=41
STU Stuttgart 63.24 21 *e*P **P** **08 27 28.4 -1.5**
STU pmax pmax
comp=Z,14nm,0.8s,mb5.1
STU Stuttgart 63.24 21 *e*P **P** **08 27 28.4 -1.5**
comp=Z,14nm,0.8s,mb5.2
MORC Moravsky Berou 63.27 14 *e*P **P** **08 27 29.4 -0.6**
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
MORC Moravsky Berou 63.27 14 *e*P **P** **08 27 29.4 -0.6**
comp=Z,10nm,0.8s,mb5.0
OKC Ostrava-Krasne 63.27 14 *e*P **P** **08 27 32.4 +2.4**
OKC AMS AMS 08 54 20.0
comp=Z,500nm,17.4s
OKC Ostrava-Krasne 63.27 14 *e*P **P** **08 27 27.7 -2.3**
OKC *e* pP 08 27 32.4 -3.9
THEF They Montfort 63.29 23 *e*P **P** **08 27 32.5 +2.3**
CDF Champ du Feu 63.31 22 *e*P **P** **08 27 30.3 0.0**
comp=Z,30nm,0.9s,mb5.1
CDF Champ du Feu 63.31 22 *e*P **P** **08 27 30.3 0.0**
CDF pmax pmax
comp=Z,15nm,0.9s,mb5.1
CDF Champ du Feu 63.31 22 *e*P **P** **08 27 30.3 0.0**
comp=Z,15nm,0.9s,mb5.1
WLS Welschbruch 63.32 22 *e*P **P** **08 27 32.7 +2.3**
WET Wettzell 63.37 18 *e*P **P** **08 27 30.9 +0.2**
comp=Z,30nm,1.4s,mb5.2
KHC Kasperske Hory 63.47 17 *e*P **P** **08 27 31.6 +0.3**
KHC *e*pP pP 08 27 35.8 -1.8
KHC AMS AMS 08 52 10.0
comp=Z,900nm,16.8s
ECH Echery 63.49 22 *e*P **P** **08 27 32.0 +0.5**
AB31 Akbulak array 63.53 344 *i* P **P** **08 27 31.1 -0.6**
AB31 pmax pmax
comp=Z,21nm,1.0s,mb5.1
TREC Trest 63.53 16 *e*P **P** **08 27 32.0 +0.3**
BFO Black Forest 63.55 21 *e*P **P** **08 27 30.6 -1.3**
comp=Z,19nm,1.4s,mb4.9
HAU Haudompre 63.57 23 *e*P **P** **08 27 31.6 -0.4**
comp=Z,20nm,0.7s,mb4.9
HAU *e*R
comp=Z,986nm,18.0s
HAU Haudompre 63.57 23 *e*P **P** **08 27 31.6 -0.4**
comp=Z,9.8nm,0.7s,mb5.0
HAU LR LR
comp=Z,990nm,18.0s,MS5.0
VRAC Vranov 63.63 15 P **P** **08 27 31.7 -0.7**
comp=Z,28nm,1.2s,mb5.2,baz=352,slow=6.7,SNR=7.7
HYF Humbligny 63.66 26 *e*P **P** **08 27 32.5 -0.1**
WMQ Urumqi 63.68 322 P **P** **08 27 34.0 +1.3**
WMQ XP sP 08 27 41.0 -0.3
WMQ PP PP 08 29 55.0 +2.2
WMQ SCP 08 32 11.0
WMQ S **S** **08 36 04.0 -2.1**
WMQ SCS ScS 08 37 23.0 -2.2
WMQ SS SS 08 40 12.0 -1.8
WMQ AMB AMB
comp=Z,87nm,0.9s,mb5.8
WMQ AMB AMB
comp=Z,165nm,5.0s
WMQ LR LR
comp=N,1μm,10.0s,MS5.6
WMQ LR LR
comp=E,2μm,12.0s,MS5.6
WMQ LR LR
comp=Z,1μm,10.0s,MS5.4
GEC2 GERESS Array S 63.77 17 *e*P **P** **08 27 32.1 -1.2**
comp=Z,30nm,1.4s,mb5.1
GERES GERESS Array B 63.77 17 P **P** **08 27 33.0 -0.3**
comp=Z,2.3nm,0.8s,mb4.3,baz=11,slow=7.6,SNR=17
GERES LR LR 08 58 48.1
comp=Z,652nm,18.2s,MS4.8,baz=345,slow=39
MFF Saint Martin d 63.80 28 *e*P **P** **08 27 33.1 -0.4**
comp=Z,43nm,0.8s,mb5.2
MFF Saint Martin d 63.80 28 *e*P **P** **08 27 33.1 -0.4**
comp=Z,22nm,0.8s,mb5.2
HINF Hinteralfeld 63.83 23 *e*P **P** **08 27 33.2 -0.5**
MOF Molkenrain 63.84 22 *e*P **P** **08 27 35.9 +2.1**
LOR Lormes 63.88 25 *e*P **P** **08 27 31.4 -2.6**
comp=Z,25nm,0.8s,mb5.0
LOR *e*R
comp=Z,2μm,22.2s
LOR Lormes 63.88 25 *e*P **P** **08 27 31.4 -2.6**
comp=Z,12nm,0.8s,mb5.0
LOR LR LR

comp=Z,2µm,22.3s,MS5.2
STHS Stebnicka Huta 63.97 12 *e*P **P 08 27 35.0 +0.4**
SSF Saint Saulge 64.01 25 *e*P **P 08 27 34.6 -0.3**
comp=Z,51nm,0.8s,mb5.3
SSF Saint Saulge 64.01 25 *e*P **P 08 27 34.6 -0.3**
comp=Z,26nm,0.8s,mb5.3
FUR Furstenfeldbru 64.12 19 *e*P **P 08 27 35.9 +0.2**
comp=Z,31nm,1.3s,mb5.2
FUR Furstenfeldbru 64.12 19 *e*P **P 08 27 35.9 +0.2**
FUR pmax pmax
comp=Z,31nm,1.3s,mb5.2
AVF Avril sur Loir 64.25 25 *e*P **P 08 27 35.8 -0.7**
comp=Z,33nm,0.9s,mb5.0
AVF Avril sur Loir 64.25 25 *e*P **P 08 27 35.8 -0.7**
AVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 64.25 25 *e*P **P 08 27 35.8 -0.7**
comp=Z,16nm,0.9s,mb5.1
GTA Gaotai 64.38 310 P **P 08 27 37.9 +0.6**
GTA AP pP 08 27 42.1 -1.5
GTA XP sP 08 27 45.4 -0.5
GTA PCP PcP 08 28 09.0 -2.7
GTA PP PP 08 30 06.0 +7.1
GTA SCP 08 32 09.9
GTA PCS 08 32 11.7
GTA S **S 08 36 14.3 -0.4**
GTA XS sS 08 36 31.5 +6.5
GTA SCS ScS 08 37 29.3 -1.2
GTA AMB AMB
comp=Z,15nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,126nm,6.1s
GTA LR LR
comp=N,3µm,19.9s,MS5.5
GTA LR LR
comp=E,2µm,19.9s,MS5.5
GTA LR LR
comp=Z,4µm,19.9s,MS5.6
BGF Bois d'Agland 64.39 26 *e*P **P 08 27 36.8 -0.6**
comp=Z,68nm,0.7s,mb5.5
BGF Bois d'Agland 64.39 26 *e*P **P 08 27 36.8 -0.6**
BGF pmax pmax
comp=Z,34nm,0.7s,mb5.5
BGF Bois d'Agland 64.39 26 *e*P **P 08 27 36.8 -0.6**
comp=Z,34nm,0.7s,mb5.5
SSE Sheshan 64.43 289 P **P 08 27 35.4 -2.3**
SSE AP pP 08 27 41.9 -2.0
SSE PP PP 08 29 55.8 -3.6
SSE S **S 08 36 10.1 -5.3**
SSE AMB AMB
comp=Z,25nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,135nm,4.8s
SSE LR LR
comp=N,1µm,18.7s,MS5.4
SSE LR LR
comp=E,2µm,18.7s,MS5.4
SSE LR LR
comp=Z,2µm,14.6s,MS5.4
NJ2 Nanjing 64.46 292 *e*P **P 08 27 38.5 +0.6**
NJ2 AP pP 08 27 44.7 +0.6
NJ2 XP sP 08 27 47.5 +1.0
NJ2 PP PP 08 30 02.1 +2.4
NJ2 S **S 08 36 15.0 -0.7**
NJ2 XS sS 08 36 26.0 -0.1
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,230nm,4.2s
NJ2 LR LR
comp=N,3µm,17.6s,MS5.9
NJ2 LR LR
comp=E,5µm,16.6s,MS5.9
NJ2 LR LR
comp=Z,1µm,19.1s,MS5.2
SMF Signal de Mont 64.47 25 *e*P **P 08 27 37.1 -0.9**
comp=Z,22nm,1.0s,mb4.8
SMF Signal de Mont 64.47 25 *e*P **P 08 27 37.1 -0.9**
SMF pmax pmax
comp=Z,11nm,1.0s,mb4.8
SMF Signal de Mont 64.47 25 *e*P **P 08 27 37.1 -0.9**
comp=Z,11nm,1.0s,mb4.8
CRVS Cervenica-Dubn 64.49 12 *e*P **P 08 27 41.0 +2.9**
CRVS epP pP 08 27 45.4 +1.1
SMOL Smolenice 64.51 15 *e*P **P 08 27 38.3 +0.1**
KOLS Kolonicke sedl 64.53 11 *e*P **P 08 27 38.2 -0.1**
TCF Toulx Ste Croi 64.53 26 *e*P **P 08 27 37.8 -0.5**
comp=Z,42nm,0.9s,mb5.2
TCF Toulx Ste Croi 64.53 26 *e*P **P 08 27 37.8 -0.5**
TCF pmax pmax
comp=Z,21nm,0.9s,mb5.2
TCF Toulx Ste Croi 64.53 26 *e*P **P 08 27 37.8 -0.5**
comp=Z,21nm,0.9s,mb5.2
VYHS Vyhne 64.67 14 *e*P **P 08 27 39.2 0.0**
VYHS *e* 08 27 51.3
ZST Bratislava 64.79 15 *e*P **P 08 27 40.2 +0.2**
ZST *e* 08 27 53.7
KECS Kecovo 64.83 12 *e*P **P 08 27 42.1 +1.8**
CABF La Chapelle 64.88 23 *e*P **P 08 27 39.8 -0.8**
comp=Z,51nm,0.8s,mb5.3
CABF La Chapelle 64.88 23 *e*P **P 08 27 39.8 -0.8**
comp=Z,25nm,0.8s,mb5.3
VERF Verneugheol 65.10 26 *e*P **P 08 27 44.3 +2.2**
DAVOX Davos 65.29 21 P **P 08 27 43.1 -0.1**
comp=Z,7.4nm,0.8s,mb4.8,baz=338,slow=11,SNR=5.5
SRO Srobarova 65.29 14 *e*P **P 08 27 45.3 +2.0**
OG05 Jujurieux 65.33 24 *e*P **P 08 27 45.8 +2.3**
PSZ Piszkesteto 65.33 13 *e*P **P 08 27 43.5 -0.1**
comp=Z,33nm,1.1s,mb5.3
RJF Les Rejaudoux 65.36 27 *e*P **P 08 27 43.2 -0.5**
comp=Z,23nm,1.0s,mb4.9
RJF *e*R
comp=Z,2µm,22.0s
RJF Les Rejaudoux 65.36 27 *e*P **P 08 27 43.2 -0.5**
comp=Z,11nm,1.0s,mb4.9
RJF LR LR
comp=Z,2µm,22.0s,MS5.3
EMAZ Mazaricos 65.39 36 P **P 08 27 44.5 +0.6**
comp=Z,8.3nm,0.5s,mb5.0
EPON Pontenova 65.46 34 P **P 08 27 46.1 +1.7**
comp=Z,0.2nm,0.8s
JOW Kunigami 65.47 281 LR LR 08 59 33.3
comp=Z,804nm,18.9s,MS4.9,baz=215,slow=39
LFF La Frestale 65.56 28 *e*P **P 08 27 44.6 -0.4**
comp=Z,37nm,0.8s,mb5.2
LFF La Frestale 65.56 28 *e*P **P 08 27 44.6 -0.4**
comp=Z,19nm,0.8s,mb5.2
CAF Calviac 65.82 27 *e*P **P 08 27 46.0 -0.7**
comp=Z,24nm,0.8s,mb5.0
CAF Calviac 65.82 27 *e*P **P 08 27 46.0 -0.7**
CAF pmax pmax
comp=Z,12nm,0.8s,mb5.0
CAF Calviac 65.82 27 *e*P **P 08 27 46.0 -0.7**
comp=Z,12nm,0.8s,mb5.0
EARI Arriondas 65.92 33 P **P 08 27 48.1 +0.8**
comp=Z,3.3nm,0.7s,mb4.5
BURAR Bucovina Array 66.05 9 ⇓P **P 08 27 48.5 +0.3**
LPL La Plagne 66.05 23 *e*P **P 08 27 47.6 -0.6**
LPG La Plagne 66.07 23 *e*P **P 08 27 47.7 -0.6**
LZH Lanzhou 66.13 306 *e*P **P 08 27 49.7 +1.0**
LZH AP pP 08 27 53.5 -1.5
LZH PP PP 08 30 15.5 +1.2
LZH S S 08 36 34.5 -1.7
LZH SS SS 08 40 48.5 -3.5
LZH AMB AMB
comp=Z,50nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,150nm,4.3s
LZH LR LR
comp=E,5µm,15.4s
LZH LR LR
comp=Z,7µm,17.4s,MS6.0
EZAM Zamans 66.22 36 P **P 08 27 50.8 +1.6**
comp=Z,11nm,0.6s,mb5.0
XAN Xi'an 66.28 301 P **P 08 27 48.5 -1.1**
XAN S S 08 36 30.5 -7.5
XAN AMB AMB
comp=Z,8.0nm,1.5s,mb4.5
XAN LR LR
comp=N,1µm,16.5s,MS5.8
XAN LR LR
comp=E,5µm,18.3s,MS5.8
XAN LR LR
comp=Z,5µm,17.8s,MS5.8
GROS Grobnik 66.33 16 *e*P **P 08 27 49.6 -0.3**
ERUA La Rua 66.35 35 P **P 08 27 52.6 +2.5**
comp=Z,4.2nm,0.6s,mb4.7
VIVF Saint-Julien-l 66.35 25 *e*P **P 08 27 49.6 -0.5**
comp=Z,17nm,0.8s,mb4.8
VIVF Saint-Julien-l 66.35 25 *e*P **P 08 27 49.6 -0.5**
comp=Z,8.5nm,0.8s,mb4.8
ELAN Lanestosa 66.37 32 P **P 08 27 53.1 +2.9**
comp=Z,6.4nm,0.7s,mb4.8
BNI Bardonecchia 66.49 23 *e*P **P 08 27 48.5 -2.5**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BNI Bardonecchia 66.49 23 *e*P **P 08 27 48.5 -2.6**
comp=Z,10nm,0.9s,mb4.8
ORIF Oris-en-Rattie 66.49 24 *e*P **P 08 27 50.6 -0.4**
comp=Z,18nm,0.8s,mb4.8
ORIF *e*R
comp=Z,1µm,21.5s
ORIF Oris-en-Rattie 66.49 24 *e*P **P 08 27 50.6 -0.4**
comp=Z,8.9nm,0.8s,mb4.8
ELOB Lobios 66.63 36 P **P 08 27 53.3 +1.4**
comp=Z,4.0nm,0.8s,mb4.5
DRGR 66.69 11 ⇑P **P 08 27 54.4 +2.1**
EALK Alkurruntz 66.78 30 P **P 08 27 53.9 +1.0**
comp=Z,2.4nm,0.6s,mb4.4
MBDF Montbardon 66.83 23 *e*P **P 08 27 52.3 -0.8**
KIS Kishinev 66.86 6 *e*P **P 08 27 52.0 -1.4**
KIS *e* 08 28 29.0
KIS *e* 08 36 48.0
KIS *e* 08 37 20.0
KIS *e* 08 37 45.0
KIS MLR MLR
comp=Z,1µm,20.0s,MS5.0
KIS MLR MLR
comp=Z,900nm,20.0s
ECAL Calabor 66.87 34 P **P 08 27 55.0 +1.6**
comp=Z,4.3nm,0.8s,mb4.5
SJPF Ste Jean 66.94 30 *e*P **P 08 27 53.0 -0.8**
LASF Ste Croix 66.97 26 *e*P **P 08 27 53.2 -0.8**
PBRG Braganca 67.00 35 *e*P **P 08 27 55.7 +1.5**
TKM2 Tokmak 2 67.26 331 P **P 08 27 57.3 +1.4**
TKM2 pmax pmax
comp=Z,35nm,1.4s,mb5.2
PVRL Vila Real 67.28 35 *e*P **P 08 27 57.6 +1.6**
ETSF Etsaut 67.28 29 *e*P **P 08 27 55.4 -0.6**
comp=Z,13nm,0.7s,mb4.8
ETSF Etsaut 67.28 29 *e*P **P 08 27 55.4 -0.6**
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ETSF Etsaut 67.28 29 *e*P **P 08 27 55.4 -0.6**
comp=Z,6.7nm,0.7s,mb4.8
EPF Esparros 67.33 29 *e*P **P 08 27 55.1 -1.2**
SMRF Simiane la Rot 67.36 24 *e*P **P 08 27 55.3 -1.2**
MTLF Montolieu 67.38 27 *e*P **P 08 27 56.2 -0.5**
comp=Z,23nm,0.8s,mb4.9
MTLF Montolieu 67.38 27 *e*P **P 08 27 56.2 -0.5**
MTLF pmax pmax
comp=Z,11nm,0.8s,mb4.9
MTLF Montolieu 67.38 27 *e*P **P 08 27 56.2 -0.5**
comp=Z,11nm,0.8s,mb5.0
WHN Wuhan 67.49 295 ⇑P **P 08 27 57.5 +0.1**
WHN S S 08 36 59.0 +6.3
WHN AMB AMB
comp=Z,50nm,1.1s,mb5.5
WHN LR LR
comp=Z,2µm,20.0s,MS5.4
FRU Bishkek 67.54 331 *e*P **P 08 28 00.0 +2.3**
FRU *e* 08 28 20.0
FRU *e* 08 32 11.0
FRU MLR MLR
comp=Z,2µm,17.0s,MS5.3
RESF Ens 67.54 29 *e*P **P 08 28 00.4 +2.7**
MLS Moulis 67.54 28 *e*P **P 08 27 59.6 +1.9**
EBIE Bielsa 67.62 29 P **P 08 27 59.8 +1.6**
comp=Z,12nm,0.6s,mb5.1
BZS Buzias 67.77 12 ⇑P **P 08 27 57.4 -1.7**
SBF Sospel 67.77 23 *e*P **P 08 27 58.6 -0.5**
FRF La Foret Royal 67.94 24 *e*P **P 08 27 59.7 -0.5**
comp=Z,14nm,0.9s,mb4.7
FRF La Foret Royal 67.94 24 *e*P **P 08 27 59.7 -0.5**
FRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FRF La Foret Royal 67.94 24 *e*P **P 08 27 59.7 -0.5**
comp=Z,7.1nm,0.9s,mb4.7
KK31 Karatay Array 68.03 335 *i*P **P 08 28 00.3 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KKAR Karatay Array 68.03 335 *i*P **P 08 28 00.3 -0.5**
KKAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SJG San Juan 68.06 95 PFAKE 08 28 10.0 +9.0
SJG LR LR
comp=Z,1µm,19.0s,MS5.2
EGRA Graus 68.13 29 P **P 08 28 03.4 +2.0**
comp=Z,3.6nm,0.8s,mb4.5
LMR La Mourre 68.14 24 *e*P **P 08 28 00.1 -1.3**
comp=Z,46nm,1.1s,mb5.1
LMR La Mourre 68.14 24 *e*P **P 08 28 00.1 -1.3**
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.1
LMR La Mourre 68.14 24 *e*P **P 08 28 00.1 -1.3**
comp=Z,23nm,1.1s,mb5.1
MTE Manteigas 68.15 36 *e*P **P 08 28 02.9 +1.4**
comp=Z,34nm,1.4s,mb5.2
MTE Manteigas 68.15 36 *e*P **P 08 27 59.9 -1.6**
comp=Z,15nm,0.8s,mb5.1
VOIR 68.21 9 ⇑P **P 08 27 57.3 -4.6**
MLR Muntele Rosu 68.21 9 ⇑P **P 08 28 03.3 +1.4**
ESAC San Caprasio 68.43 30 P **P 08 28 05.9 +2.6**
comp=Z,10nm,0.6s,mb5.0
EMIR Miracle 68.63 28 P **P 08 28 06.8 +2.3**
comp=Z,4.3nm,0.5s,mb4.6
GUD Guadarrama 68.69 33 P **P 08 28 06.4 +1.5**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GUD Guadarrama 68.69 33 P **P 08 28 06.4 +1.5**
comp=Z,3.4nm,0.6s,mb4.5
GOF Gofitskoye 68.92 356 *e*P **P 08 28 06.0 -0.3**
GOF pmax pmax
comp=Z,38nm,1.0s,mb5.3
SIM Simferopol' 69.08 3 P **P 08 28 12.7 +5.4**
SIM *e*S S 08 37 16.0 +4.4
SIM MLR MLR
comp=Z,700nm,16.0s,MS5.0
EPOB Poblet 69.09 29 P **P 08 28 09.7 +2.3**
comp=Z,0.1nm,1.3s
ERTA Horta de San J 69.33 29 P **P 08 28 11.0 +2.1**
comp=Z,3.8nm,0.7s,mb4.4
ESDC Sonseca Array 69.66 33 P **P 08 28 09.9 -0.9**
comp=Z,11nm,0.7s,mb4.9,baz=342,slow=6.2,SNR=49
ESLA Sonseca Array 69.66 33 *e*P **P 08 28 12.8 +2.0**
comp=Z,4.8nm,1.0s,mb4.4
EMOS Mosqueruela 69.74 30 P **P 08 28 13.6 +2.2**
comp=Z,9.5nm,0.8s,mb4.8
TATO Taipei 69.80 286 PFAKE 08 28 20.0 +8.3
TATO LR LR
comp=Z,1µm,19.0s,MS5.2
EVO Evora 69.81 37 *e*P **P 08 28 12.8 +1.0**
comp=Z,42nm,1.0s,mb5.0
EVO *e*R
comp=Z,2µm,21.5s
EBAD Badajoz 69.84 36 P **P 08 28 13.4 +1.4**
comp=Z,8.2nm,0.7s,mb4.8
KIV Kislovodsk 70.03 356 *e*P **P 08 28 13.8 +0.6**
KIV *e* 08 28 35.1
KIV *e*SS SS 08 41 53.6 +1.4
KIV pmax pmax
comp=Z,37nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,447nm,15.0s,MS4.8
KIV Kislovodsk 70.03 356 *e*P **P 08 28 12.8 -0.4**
comp=Z,32nm,0.8s,mb5.3
KIV LR LR
comp=Z,752nm,20.0s,MS4.9
SOC Sochi 70.46 358 *e*P **P 08 28 15.0 -0.8**
SOC *e* 08 28 34.7
SOC *e*S S 08 37 26.6 -1.2
SOC *e* 08 38 19.5
SOC *e*SS SS 08 42 02.4 +3.5
SOC *e*SSS 08 45 08.9
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,884nm,18.0s,MS5.1
EMIN Mina Concepcio 70.86 36 P **P 08 28 20.0 +1.8**
comp=Z,4.5nm,0.7s,mb4.5
EGRO El Granado 70.89 37 P **P 08 28 19.1 +0.7**
comp=Z,6.6nm,0.6s,mb4.7
CD2 Chengdu 70.90 304 ⇑*i*P **P 08 28 18.6 +0.1**
CD2 AP pP 08 28 25.3 +0.5
CD2 PCP PcP 08 28 40.3 +1.3
CD2 PP PP 08 30 54.7 -0.9
CD2 S S 08 37 28.7 -4.2
CD2 SKS 08 38 15.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,2µm,16.8s
CD2 LR LR
comp=Z,2µm,15.6s,MS5.5
EADA Adamuz 70.96 34 P **P 08 28 21.1 +2.2**
comp=Z,2.1nm,0.6s,mb4.2
EBAN Banos Encina 71.14 33 P **P 08 28 22.4 +2.4**
EBAN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
EBAN Banos Encina 71.14 33 P **P 08 28 22.4 +2.5**
comp=Z,7.4nm,0.9s,mb4.6
ETOB Tobarra 71.17 31 P **P 08 28 23.4 +3.3**
comp=Z,3.4nm,0.8s,mb4.3
ZEI Tsey 71.18 355 *i*P **P 08 28 19.9 -0.3**
ZEI *i* *PP pP 08 28 27.9 +1.4
SKO Skopje 71.37 13 *e*P **P 08 28 21.7 +0.4**
EBEN Beniarda 71.39 30 P **P 08 28 25.0 +3.6**
comp=Z,5.2nm,0.7s,mb4.6
EQES Quesada 71.65 33 P **P 08 28 25.0 +2.0**
comp=Z,1.9nm,0.5s,mb4.3
STIP Stip 71.71 12 *e*P **P 08 28 21.8 -1.6**
ESPR Espera 71.91 35 P **P 08 28 26.5 +1.9**
comp=Z,4.0nm,1.0s,mb4.3
ECOG Cogollos-Vega 72.04 33 P **P 08 28 27.6 +2.2**
ECOG pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 72.04 33 P **P 08 28 27.6 +2.3**
comp=Z,4.2nm,0.6s,mb4.5
VAY Valandovo 72.11 12 *e*P **P 08 28 24.1 -1.7**
OHR Ohrid 72.17 13 *e*P **P 08 28 27.8 +1.7**
BIA Bitola 72.31 13 *e*P **P 08 28 28.6 +1.7**
EJIF Jimena Fronter 72.40 35 P **P 08 28 29.6 +2.1**
EJIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
EJIF Jimena Fronter 72.40 35 P **P 08 28 29.6 +2.1**
comp=Z,5.2nm,0.6s,mb4.6
EMIJ Mijas 72.45 35 P **P 08 28 30.9 +3.1**
comp=Z,7.2nm,0.6s,mb4.8
EBER Berja 72.56 33 P **P 08 28 29.9 +1.4**
comp=Z,3.4nm,0.5s,mb4.5
GNI Garni 73.76 354 P **P 08 28 36.3 +0.7**
comp=Z,1.6nm,0.3s,mb4.4,baz=28,slow=15,SNR=2.0
GYA Guiyang 73.97 299 ⇑*i*P **P 08 28 37.3 +0.5**
GYA AP pP 08 28 42.1 -1.1
GYA XP sP 08 28 44.8 -0.7
GYA S S 08 38 02.2 -5.9
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,190nm,4.2s
GYA LR LR
comp=N,1µm,24.9s,MS5.6
GYA LR LR
comp=E,4µm,24.6s,MS5.6
GYA LR LR
comp=Z,1µm,21.9s,MS5.2
BR131 Keskin Array S 74.29 3 *e*P **P 08 28 39.1 +0.4**
comp=Z,9.6nm,0.9s,mb4.7
BR131 LR LR
comp=Z,595nm,22.0s,MS4.8
BRTR Keskin Array B 74.29 3 P **P 08 28 39.2 +0.6**
comp=Z,5.8nm,1.0s,mb4.5,baz=1.0,slow=3.1,SNR=15
BRTR Keskin Array B 74.29 3 *i*P **P 08 28 42.4 +3.8**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
SDV Santo Domingo 74.63 103 P **P 08 28 40.8 +0.1**
comp=Z,8.3nm,0.8s,mb4.7
SDV LR LR
comp=Z,695nm,20.0s,MS5.0
MALT Malatya 75.74 359 *e*P **P 08 28 46.9 -0.1**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 75.74 359 *e*P **P 08 28 46.9 -0.1**
comp=Z,13nm,1.1s,mb4.8
LSA Lhasa 76.00 314 P **P 08 28 49.6 +1.1**
LSA AP pP 08 28 59.1 +4.2
LSA XP sP 08 29 02.8 +5.6
LSA S S 08 38 30.3 -0.3
LSA AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
LSA LR LR
comp=N,680nm,23.5s
LSA LR LR
comp=E,2µm,17.3s
LSA LR LR
comp=Z,1µm,18.6s,MS5.2
ISP Isparta 76.07 6 ⇑*e*P **P 08 28 48.0 -0.9**
ISP Isparta 76.07 6 *e*P **P 08 28 48.6 -0.3**
comp=Z,51nm,1.4s,mb5.3
MDT Midelt 76.08 36 P **P 08 28 49.6 +0.7**
comp=Z,12nm,0.8s,mb4.9,baz=342,slow=5.3,SNR=26
PAYG Puerto Ayora 76.27 126 PFAKE 08 29 00.0 +10
PAYG LR LR
comp=Z,909nm,21.0s,MS5.1
KMI Kunming 76.57 302 P **P 08 28 50.4 -1.3**
KMI AMB AMB
comp=Z,12nm,0.8s,mb4.9
ROSC El Rosal 76.88 108 P **P 08 28 54.2 +0.7**
comp=Z,4.2nm,0.5s,mb4.6,baz=307,slow=20,SNR=8.4
ROSC LR LR 09 05 29.0
comp=Z,306nm,19.3s,MS4.6,baz=263,slow=38
GUN Gumba 79.17 318 *e*P **P 08 29 06.8 +0.6**
comp=Z,48nm,0.9s,mb5.4
JIRN Jiri 79.33 317 *e*P **P 08 29 07.7 +0.6**
comp=Z,35nm,0.8s,mb5.4
GKN Gorkha 79.42 319 *e*P **P 08 29 07.5 -0.1**
comp=Z,83nm,1.3s,mb5.5
KKN Kakani 79.45 318 *e*P **P 08 29 08.0 +0.3**
PKI Pulchoki 79.62 318 *e*P **P 08 29 08.7 0.0**
QIZ Qiongzhong 79.63 294 *e*P **P 08 29 07.2 -1.5**
QIZ S S 08 39 12.8 +3.0
QIZ LR LR
comp=N,891nm,17.5s,MS5.5
QIZ LR LR
comp=E,2µm,18.5s,MS5.5
QIZ LR LR
comp=Z,2µm,16.3s,MS5.5
DMN Daman 79.67 318 *e*P **P 08 29 09.4 +0.5**
comp=Z,60nm,1.1s,mb5.4
KOLN Koldanda 79.92 320 *e*P **P 08 29 10.0 -0.3**
comp=Z,18nm,0.9s,mb5.0
CHTO Chiang Mai 83.70 303 PFAKE 08 29 40.0 +10
CHTO LR LR
comp=Z,106nm,21.0s,MS4.2
PPT Papeete 83.76 187 *e*SS SS 08 45 19.6 0.0
comp=Z,223nm,30.0s
PPT *e*LR LR 08 55 42.1
comp=Z,2µm,25.0s,baz=354
TBI Tubuai 89.50 186 *e*SS SS 08 46 48.4 +4.7
comp=Z,155nm,28.5s
TBI *e*LR LR 08 58 29.2
comp=Z,1µm,25.8s,baz=352
POO Poona 91.17 326 *ex* x 08 30 04.5
SAML Samuel 93.84 103 PFAKE 08 30 30.0 +11
SAML LR LR
comp=Z,715nm,22.0s,MS5.1
TORD Torodi Ar. Bea 96.48 35 P **P 08 30 30.5 -0.3**
comp=Z,0.2nm,0.3s,mb4.0,baz=256,slow=5.9,SNR=3.3
LPAZ La Paz 98.63 111 PFAKE 08 30 50.0 +10
LPAZ LR LR
comp=Z,669nm,21.0s,MS5.1
CTAO Charters Tower 100.96 245 PFAKE 08 31 00.0 +9.2
CTAO LR LR
comp=Z,375nm,21.0s,MS4.9
RCBR Riachuelo 101.95 77 PFAKE 08 31 10.0 +15
RCBR LR LR
comp=Z,638nm,20.0s,MS5.1
LVC Limon Verde 104.11 114 PFAKE 08 31 20.0 +15
LVC LR LR
comp=Z,613nm,19.0s,MS5.2
SNZO South Karori 112.20 214 PFAKE 08 35 50.0 +13
SNZO LR LR
comp=Z,508nm,19.0s,MS5.1
MBWA Marble Bar 112.30 268 PFAKE 08 35 50.0 +13
MBWA LR LR
comp=Z,320nm,21.0s,MS4.9

KMBO	Kilima Mbogo	114.98	0	PFAKE		08 35 50.0	+7.7
KMBO				LR	LR		
comp=Z,261nm,19.0s,MS4.9							
PLCA	Paso Flores	119.93	124	PFAKE		08 36 00.0	+8.2
PLCA				LR	LR		
comp=Z,492nm,20.0s,MS5.1							
TRQA	Tornquist	120.57	115	PFAKE		08 36 00.0	+7.0
TRQA				LR	LR		
comp=Z,784nm,21.0s,MS5.3							
NWAO	Narrogin (SRO)	123.75	264	PFAKE		08 36 10.0	+11
NWAO				LR	LR		
comp=Z,311nm,19.0s,MS5.0							
LSZ	Lusaka	128.66	12	PFAKE		08 36 20.0	+11
LSZ				LR	LR		
comp=Z,578nm,19.0s,MS5.3							
TSUM	Tsumeb	131.18	25	PFAKE		08 36 20.0	+6.7
TSUM				LR	LR		
comp=Z,594nm,22.0s,MS5.2							
LBTB	Lobatse	138.05	16	PFAKE		08 36 40.0	+14
LBTB				LR	LR		
comp=Z,909nm,21.0s,MS5.5							
VNDA	Vanda	147.46	200	PKPbc	PKPbc	08 36 43.5	-1.8
comp=Z,7.8nm,1.1s,baz=349,slow=4.2,SNR=6.7							
CASY	Casey	152.15	236	PFAKE		08 37 00.0	+10
CASY				LR	LR		
comp=Z,648nm,21.0s,MS5.4							
QSPA	South Pole Qui	156.11	180	PFAKE		08 37 10.0	+14
QSPA				LR	LR		
comp=Z,772nm,20.0s,MS5.5							
SYO	Syowa Base	177.15	195⇑	*e*PKPdf	PKPdf	08 37 12.7	+1.0

IDC 05 08:31:55.6±1.4,112N×12466E,h0km,mb3.9/4,mb1 4.1/4, mb1mx3.8/17,mbtmp4.0/4,Error ellipse: s-maj=186.1km s-min=21.4km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.98	156	P	P	08 37 02.3	+0.6
1.6nm,0.3s,baz=333,slow=11,SNR=24							
WB2	Warramunga Arr	22.98	156	*e*P	P	08 37 02.4	+0.6
ASAR	Alice Springs	26.22	161	P	P	08 37 33.5	+1.3
1.2nm,0.4s,baz=343,slow=11,SNR=28							
ASAR				PcP	PcP	08 41 00.0	+1.1
0.6nm,0.6s,baz=345,slow=2.2,SNR=7.7							
STKA	Stephens Creek	36.53	155	P	P	08 39 01.0	-1.8
2.5nm,0.7s,baz=348,slow=6.2,SNR=6.0							
MKAR	Makanchi Array	58.56	327	P	P	08 41 54.0	0.0
0.3nm,0.3s,baz=121,slow=8.0,SNR=18							

*ISCJB **05** 08:43:38.1±0.5,3842N±009×13373E±008,h470km±11km, mb3.0/4,Error ellipse: s-maj=13.9km s-min=8.9km az=135.0*
*IDC **05** 08:43:38.5±2.2,3796N×13343E,h477km±70km,mb2.5/4, mb1 2.6/5,mb1mx2.5/23,mbtmp3.3/5,Error ellipse: s-maj=167.5km s-min=25.9km az=2.0*
*NEIC **05** 08:43:38.7,3835N×13378E,h477km,MG3.4(JMA),After JMA.*
*JMA **05** 08:43:38.6±0.3,3835N×13378E,h477km,M3.5*
ISC 05 08:43:39.2±0.5,3840N±009×13380E±008,h471km±11km, n30,σ1§13/38,mb3.0/4,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	2.95	159	P	P	08 44 47.4	0.0
JWT	Wachi	3.36	157	P	P	08 44 51.1	+0.7
JHS	Saijyo	3.44	189	P	P	08 44 50.4	-0.6
JSD	Sado	3.53	94	P	P	08 44 52.4	+0.7
JNG	Nsakai	3.96	119	P	P	08 44 56.3	+1.1
MJAR	Matsushiro Arr	3.96	116	P	P	08 44 56.2	+1.0
0.6nm,0.3s,baz=295,slow=11,SNR=6.8							
MJAR	Matsushiro Arr	3.96	116	P	P	08 44 56.2	+1.0
JRY	Ryogami san	4.71	119	P	P	08 45 03.9	+2.1
KS15	Wonju Array Si	4.78	260	P	P	08 45 00.2	-2.2
JAG	Ashikaga	4.91	112	P	P	08 45 04.3	+0.7
JAG				S	S	08 46 12.1	-0.5
JHU	Hanno	5.06	118	P	P	08 45 06.3	+1.2
JHU				S	S	08 46 14.4	-0.8
JFT	Otama	5.24	98	P	P	08 45 08.4	+1.7
JOD2	Odawara 2	5.27	125	P	P	08 45 08.4	+1.4
JRG	Rokugo	5.42	77	P	P	08 45 10.0	+1.5
JRG				S	S	08 46 20.7	-0.8
JYT	Yasato	5.53	111	P	P	08 45 09.0	-0.6
JMM	Marumori	5.54	93	P	P	08 45 10.1	+0.5
JHO	Hitachi	5.67	106	P	P	08 45 10.6	-0.3
JHO				S	S	08 46 23.3	-2.5
JFK	Kawauchi	5.69	98	P	P	08 45 11.3	+0.2
JFK				S	S	08 46 24.1	-2.1
JMK	Ichinoseki	5.83	82	P	P	08 45 12.6	+0.1
BSO4	Boso 4	6.25	121	P	P	08 45 17.5	+0.8
BSO4				S	S	08 46 35.3	-1.2
JOT	Ohata	6.32	60	P	P	08 45 18.1	+0.7
BSO3	Boso 3	6.48	122	P	P	08 45 18.8	-0.2
BSO3				S	S	08 46 39.5	-1.2
BSO1	Boso 1	6.88	121	P	P	08 45 23.2	+0.1
JTKR	Abashiri--Toko	9.43	51	P	P	08 45 51.0	+0.8
JTKR				S	S	08 47 35.7	-2.2
ENH	Enshi	21.61	255	P	P	08 47 53.1	-0.8
SONM	Songino Array	22.02	304	P	P	08 47 56.8	-0.8
0.3nm,0.4s,mb3.2,baz=110,slow=11,SNR=4.4							
MKAR	Makanchi Array	38.24	300	P	P	08 50 16.4	-1.2
0.1nm,0.5s,mb2.5,baz=90,slow=9.7,SNR=4.5							
FINES	FINESS Array B	64.69	330	P	P	08 53 29.2	-0.6
0.3nm,0.4s,mb3.2,baz=45,slow=5.4,SNR=4.7							
YKA	Yellowknife Ar	65.57	28	P	P	08 53 37.2	+1.9
0.2nm,0.5s,mb3.0,baz=309,slow=5.6,SNR=6.9							
YKA	Yellowknife Ar	65.57	28	P	P	08 53 37.2	+1.9

IDC 05 09:09:08.5±1.2,248S×12433E,h0km,mb3.5/4,mb1 3.7/5, mb1mx3.6/17,mbtmp3.5/5,Error ellipse: s-maj=155.6km s-min=20.9km az=66.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.93	151	P	Pn	09 13 41.1	-2.3
0.2nm,0.3s,baz=329,slow=12,SNR=9.5							
ASAR	Alice Springs	23.02	157	P	P	09 14 16.1	+1.0
1.2nm,0.8s,baz=333,slow=8.5,SNR=17							
SONM	Songino Array	52.50	345	P	P	09 18 24.2	+0.9
0.4nm,0.7s,baz=169,slow=7.3,SNR=3.1							
MKAR	Makanchi Array	61.40	328	P	P	09 19 26.5	+0.1
0.2nm,0.4s,baz=118,slow=8.4,SNR=3.5							
ZAL	Zalesovo	65.10	335	P	P	09 19 50.0	-0.9
0.6nm,0.3s,baz=355,slow=9.7,SNR=3.4							

*PGC **05** 09:26:47.1,6644N×14366W,h5km,ML3.6/2,257km northeast of Fairbanks, Ak Eastern Alaska.*
*ISCJB **05** 09:26:51.5±0.5,6619N±004×14223W±009,h10km,Error ellipse: s-maj=5.7km s-min=5.1km az=77.4*
*NEIC **05** 09:26:54.4,6621N×14272W,h10km,ML3.3(AEIC),After AEIC.*
ISC 05 09:26:53.4±1.4,6623N±004×1425W±01,h12km±11km,n14, σ1§00/22,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	1.47	326	P	Pn	09 27 19.8	+0.1
IL1	Eielson Array	2.35	234	P	Pn	09 27 31.9	0.0
DAWY	Dawson	2.53	148	Pn	Pn	09 27 33.1	-1.2
DAWY				Pg	Pg	09 27 41.2	-0.6
DAWY				Sn	Sn	09 28 09.9	+4.9
DAWY				Sg	Sg	09 28 20.1	+5.4
DAWY				Trac		09 28 24.2	
comp=Z,133nm,0.6s							
COLD	Coldfoot	3.23	292	P	Pn	09 27 44.5	+0.5
MENT	Mentasta	3.35	190	P	Pn	09 27 46.3	+0.8
PAX	Paxson	3.52	203	P	Pn	09 27 49.1	+1.2
MCK	McKinley	3.72	231	P	Pn	09 27 51.1	+0.4
INK	Inuvik	4.05	55	Pn	Pn	09 27 52.7	-2.5
INK				Sn	Sn	09 28 43.0	+0.6
INK				Sg	Sg	09 29 03.6	+0.3
INK				Trac		09 29 07.5	
comp=Z,19nm,0.3s							
IM3	Indian Mountai	4.60	272	P	Pn	09 28 02.4	-0.3
DIV	Divide	5.33	198	*e*Pn	Pn	09 28 11.2	-1.5
HYT	Haines Junctio	5.86	156	Pn	Pn	09 28 20.6	+0.6
HYT				Sg	Sg	09 30 01.2	-0.2
HYT				Trac		09 30 15.1	
comp=Z,27nm,0.7s							
WHY	Whitehorse	6.54	145	Pn	Pn	09 28 28.4	-0.9
WHY				Sg	Sg	09 30 25.8	+2.6
WHY				Trac		09 30 53.3	
comp=Z,8.0nm,0.7s							
PLBC	Pleasant Camp	7.34	155	Sg	Sg	09 30 48.2	-0.8
YKW3	Yellowknife Ar	12.53	94	P	Pn	09 29 52.3	+0.9
YKW3				P		09 29 53.9	
YKW3				Sn	Sn	09 32 03.2	-7.6
YKW3				Trac		09 33 46.4	
comp=Z,7.0nm,1.1s							

*MOS **05** 09:29:20.3±0.8,520S×10386E,h33km,mb4.5/5,Error ellipse: s-maj=33.8km s-min=15.9km az=111.4*
*NEIC **05** 09:29:21.2±0.5,5425S×10376E,h30km,mb4.2/4,Error ellipse: s-maj=23.2km s-min=7.5km az=51.0*
*ISCJB **05** 09:29:22.8±0.6,54S±01×1038E±01,h59km,mb4.3/19, Error ellipse: s-maj=27.2km s-min=8.1km az=98.9*
*IDC **05** 09:29:24.6±0.9,5465S×10376E,h60km±6km,mb3.9/11, mb1 4.0/11,mb1mx3.9/17,mbtmp4.2/11,Error ellipse: s-maj=34.1km s-min=15.0km az=51.0*
ISC 05 09:29:25.3±5.7,54S±01×1037E±02,h66km±56km, h61km±2.2km:pP-P,n35,σ0§74/32,mb4.2/19,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	22.05	137	*e*P	P	09 34 13.4	-1.1
4.1nm,0.8s,mb3.8							
FITZ	Fitzroy Crossi	24.85	122	*e*P	P	09 34 42.1	+0.6
3.1nm,0.5s,mb4.0							
WRA	Warramunga Arr	33.09	119	P	P	09 35 55.0	+0.2
1.8nm,0.5s,mb4.2,baz=293,slow=9.8,SNR=14							
WB2	Warramunga Arr	33.10	119	*e*P	P	09 35 55.2	+0.3
ASPA	Alice Springs	34.26	125	*e*P	P	09 36 06.1	+1.2
ASAR	Alice Springs	34.26	125	P	P	09 36 05.4	+0.5
1.0nm,0.6s,mb3.8,baz=295,slow=7.5,SNR=21							
JIRN	Jiri	36.99	334	*e*P	P	09 36 28.8	+0.5
DMN	Daman	37.44	332	*e*P	P	09 36 32.6	+0.5
KKN	Kakani	37.51	333	*e*P	P	09 36 33.0	+0.3
GKN	Gorkha	37.99	332	*e*P	P	09 36 35.5	-1.2
KOLN	Koldanda	38.29	331	*e*P	P	09 36 40.2	+0.9
8.1nm,0.6s,mb4.7							
STKA	Stephens Creek	44.12	131	P	P	09 37 25.6	-1.4
1.5nm,0.4s,mb4.0,baz=302,slow=8.5,SNR=7.0							
STKA	Stephens Creek	44.12	131	*e*P	P	09 37 25.8	-1.3
MAJO	Matsushiro	52.76	35	*e*P	P	09 38 32.6	-0.9
MAJO				pmax	pmax		
comp=Z,12nm,1.1s,mb4.8							
MAJO	Matsushiro	52.76	35	*e*P	P	09 38 32.5	-0.9
comp=Z,12nm,1.1s,mb4.9							
MJAR	Matsushiro Arr	52.76	35	P	P	09 38 32.7	-0.8
comp=Z,2.3nm,0.8s,mb4.3,baz=223,slow=6.8,SNR=7.4							
MJAR	Matsushiro Arr	52.76	35	P	P	09 38 32.7	-0.8
SONM	Songino Array	53.08	2	P	P	09 38 36.8	+0.9
comp=Z,3.0nm,0.7s,mb4.4,baz=181,slow=9.1,SNR=36							
SONM				pP	pP	09 38 51.8	-1.0
comp=Z,2.2nm,0.5s,baz=184,slow=8.1,SNR=10							
ULN	Ulaanbaatar	53.14	3	*e*P	P	09 38 37.2	+0.9
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ULN	Ulaanbaatar	53.14	3	*e*P	P	09 38 37.2	+0.9
comp=Z,1.5nm,0.6s,mb4.2							
MKAR	Makanchi Array	55.35	342	P	P	09 38 52.3	0.0
comp=Z,1.5nm,0.6s,mb4.2,baz=152,slow=8.7,SNR=29							
MKAR				pP	pP	09 39 09.1	-0.4
comp=Z,4.0nm,0.6s,baz=150,slow=7.0,SNR=18							
ASAJ	Asahikawa	60.46	31	P	P	09 39 28.6	+0.4
comp=Z,5.1nm,0.7s,mb4.7,baz=178,slow=7.8,SNR=6.2							
ZAL	Zalesovo	61.24	347	P	P	09 39 33.4	-0.1
comp=Z,4.6nm,0.5s,mb4.8,baz=310,slow=4.6,SNR=28							
VOSK	Vostochnaya	64.22	339	P	P	09 39 52.2	-1.1
VOSK				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.8							
BVA0	Borovoye Array	64.68	338	*i* P	P	09 39 55.4	-0.8
ZRNK	Zerenda	65.14	338	P	P	09 39 58.2	-1.0
ZRNK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.0							
AB31	Akbulak array	66.41	330	P	P	09 40 07.2	-0.2
AB31				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.4							
ARU	Arti	71.82	336	*e*P	P	09 40 40.6	-0.3
BRTR	Keskin Array B	78.35	312	P	P	09 41 19.1	+0.7
comp=Z,0.5nm,0.7s,mb3.3,baz=114,slow=7.9,SNR=3.2							
BRTR				pP	pP	09 41 36.1	-0.4
comp=Z,2.2nm,0.8s,baz=130,slow=7.3,SNR=8.9							
AKASG	Malin Array Be	84.44	322	pP	pP	09 42 07.0	-1.8
comp=Z,1.0nm,0.6s,baz=89,slow=4.7,SNR=4.1							
JOF	Joensuu	86.89	334	*e*p	pP	09 42 21.6	+0.5
FINES	FINESS Array B	88.85	332	P	P	09 42 12.6	+0.5
comp=Z,1.8nm,1.0s,mb4.1,baz=342,slow=6.0,SNR=3.3							
FINES				pP	pP	09 42 28.4	-2.0
comp=Z,1.2nm,0.6s,baz=117,slow=4.3,SNR=2.8							
FINES	FINESS Array B	88.85	332	P	P	09 42 12.6	+0.5
FINES				pP	pP	09 42 28.4	-2.0
ARCES	ARCESS Array B	90.94	340	P	P	09 42 22.1	+0.3
comp=Z,2.4nm,0.8s,mb4.4,baz=92,slow=3.7,SNR=6.1							
TXAR	Lajitas Array	144.85	44	PKP	PKPdf	09 48 55.5	+0.8
comp=Z,1.5nm,0.6s,baz=275,slow=1.3,SNR=22							

*ISCJB **05** 09:58:33.5±0.7,3522N±009×748E±02,h10km,Error ellipse: s-maj=22.9km s-min=5.2km az=117.5*
*NNC **05** 09:58:42.5±10.0,3514N×7290E,h0km,mb3.2,mpv3.2, Error ellipse: s-maj=271.3km s-min=76.6km az=86.0*
ISC 05 09:58:35.5±0.8,3510N±009×746E±02,h10km,n15, σ0§96/22,2C-1D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.81	155	*ex*	Pg	09 59 29.0	-0.3
DLH				*ex*	Sn	10 00 02.0	+7.6
THN	Thein Dam	2.83	160	*e*P	Pn	09 59 20.5	-0.2
THN				*ex*	Sn	09 59 59.0	+4.1
SDNR	Sundarnagar	4.12	150	*e*P	Pn	09 59 38.0	-0.5
SDNR				*ex*	Sg	10 00 43.2	-4.7
KLP	Kalpa	4.72	138	*e*P	Pn	09 59 48.1	+1.4
KLP				*e*S	Sg	10 01 08.7	+1.7
KLP				AML	AML	10 01 11.1	
comp=N,61nm,0.5s							
KLP				AML	AML	10 01 11.6	
comp=E,69nm,0.5s							
DDI	Dehra Dun	5.61	147	*ex*	Sg	10 01 35.6	+0.2
KHET	Khetri	7.08	171	*e*P	Pn	10 00 09.9	-9.3
KHET				*e*S	Sn	10 01 51.5	+12
KUDL	Kundal	7.13	166	*e*P	Pn	10 00 11.6	-8.2
KUDL				*ex*	Sn	10 01 30.9	-10
KK31	Karatay Array	8.59	340	⇓P	Pn	10 00 42.1	+2.3
comp=E,0.7nm,0.6s,baz=154,slow=11,SNR=8.2							
KK31				⇑S	Sn	10 02 16.7	0.0
comp=E,0.4nm,0.4s,baz=173,slow=25,SNR=4.9							
KOLN	Koldanda	10.63	131	*e*P	Pn	10 01 08.4	+0.6
KKN	Kakani	11.70	126	*e*P	Pn	10 01 21.8	-0.7
comp=E,6.3nm,0.5s							
DMN	Daman	11.71	127	*e*P	Pn	10 01 21.6	-0.9
PKI	Pulchoki	11.93	126	*e*P	Pn	10 01 24.7	-0.9
GUN	Gumba	12.03	123	*e*P	Pn	10 01 26.2	-0.8
comp=E,5.9nm,0.4s							
JIRN	Jiri	12.40	124	*e*P	Pn	10 01 31.4	-0.6
comp=E,16nm,0.3s							
AB31	Akbulak array	17.77	327	⇑P	Pn	10 02 42.3	-0.5
comp=E,0.1nm,0.3s,baz=140,slow=14,SNR=6.3							

*IDC **05** 10:11:25.0±1.5,485N×9409E,h0km,mb4.0/8,mb1 4.1/9, mb1mx3.8/23,mbtmp4.0/9,ML4.0/1,Error ellipse: s-maj=65.8km s-min=16.8km az=52.0*
*ISCJB **05** 10:11:31.6±4.3,50N±02×944E±03,h59km±34km,mb4.1/9, Error ellipse: s-maj=61.3km s-min=15.3km az=105.0*
ISC 05 10:11:33.0±4.1,50N±02×944E±03,h53km±33km,n11, σ0§60/12,mb4.1/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.05	116	Pn	Pn	10 12 46.6	+0.5
5.4nm,0.3s,baz=304,slow=11,SNR=18							
PSI				Sn	Sn	10 13 42.6	-0.6
1.3nm,0.3s,baz=348,slow=16,SNR=3.7							
FITZ	Fitzroy Crossi	38.46	127	*e*P	P	10 18 49.1	-0.5
4.5nm,0.5s,mb4.5							
MKAR	Makanchi Array	42.91	348	P	P	10 19 27.2	+0.9
0.9nm,0.4s,mb3.9,baz=161,slow=8.7,SNR=20							
SONM	Songino Array	43.89	12	P	P	10 19 34.1	-0.1
0.7nm,0.5s,mb3.6,baz=202,slow=7.1,SNR=11							
WRA	Warramunga Arr	46.47	124	P	P	10 19 55.0	+0.4
7.2nm,0.6s,mb4.8,baz=302,slow=9.1,SNR=83							
WB2	Warramunga Arr	46.48	124	*e*P	P	10 19 55.1	+0.4
ASAR	Alice Springs	47.95	128	P	P	10 20 06.4	+0.2
1.7nm,0.5s,mb4.3,baz=299,slow=7.9,SNR=35							
ZAL	Zalesovo	49.39	353	P	P	10 20 17.5	+0.2
1.3nm,0.5s,mb4.2,baz=310,slow=7.6,SNR=6.3							
BVAR	Borovoye Array	51.75	342	P	P	10 20 35.1	+0.1
0.4nm,0.5s,mb3.6,baz=146,slow=9.9,SNR=4.7							
AKTO	Aktyubinsk	54.56	332	P	P	10 20 54.1	-1.5
0.5nm,0.5s,mb3.8,baz=144,slow=8.7,SNR=3.4							
FINES	FINESS Array B	75.33	333	P	P	10 23 10.4	-0.2
0.5nm,0.4s,mb3.8,baz=101,slow=5.4,SNR=16							

*IDC **05** 10:28:09.7±0.7,4174N×7707E,h0km,mb4.3/17, mb1 4.5/21,mb1mx4.4/28,mbtmp4.3/21,ML3.9/4,MS3.4/2, Ms1 3.4/2,ms1mx2.9/30,Error ellipse: s-maj=12.6km s-min=11.3km az=165.0*
*NAO **05** 10:28:10.5,4129N×7728E,h33km,mb4.5*
*MOS **05** 10:28:10.2±1.1,4182N×7702E,h10km,mb4.7/16,Error ellipse: s-maj=8.1km s-min=5.3km az=115.3*
MOS Felt (II) at Almaty.
*NNC **05** 10:28:10.9±1.7,4182N×7688E,h0km,mb4.5,mpv4.4, Error ellipse: s-maj=13.0km s-min=8.1km az=0.0*
*LDG **05** 10:28:10.2±0.4,4190N×7694E,h10km,Mb4.7/19,Ms3.4/1, Error ellipse: s-maj=29.2km s-min=4.3km az=178.0*
*ISCJB **05** 10:28:11.9±0.7,4184N±002×7704E±003,h21km±5km, mb4.5/43,MS3.6/6,Error ellipse: s-maj=4.4km s-min=3.2km az=100.2*
*NEIC **05** 10:28:12.7±0.2,4186N×7702E,mb4.5/17,Error ellipse: s-maj=6.4km s-min=4.1km az=52.0*
NEIC Felt [II] at Almaty, Kazakhstan.
*BJI **05** 10:28:13.3,4209N×77.12E,h14km,mB4.7,mb4.3,ML4.6, Ms4.2,Msz3.8*
*KNET **05** 10:28:14.0±0.7,4194N×7678E,h7km±3km,ml4.3,Error ellipse: s-maj=5.1km s-min=4.1km az=30.0*
*SZGRF **05** 10:28:18.3,4244N×7737E,h17km,mb4.6,Lake Issyk-Kul, Kyrgyzstan, region*
ISC 05 10:28:10.7±0.6,4188N±002×7705E±003,h0km±4km,n160, σ1§18/200,mb4.5/43,MS3.6/6,34C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.70	302	P	Pg	10 28 24.0	-0.2
768nm,0.1s,SNR=5533							
ULHL				⇓S	Sg	10 28 33.0	-0.3
5μm,0.2s							
KNDC	Almaty	1.34	358	⇑P	Pg	10 28 36.4	-0.1
KNDC				⇑S	Sg	10 28 54.5	+0.7
KZA	Kyzart	1.35	279	⇑P	Pg	10 28 35.8	-0.9
415nm,0.2s,SNR=926							
KZA				⇑S	Sg	10 28 53.7	-0.5
3μm,0.3s							
AAA	Alma-Ata	1.40	357	*i* PG	Pg	10 28 36.4	-1.1
AAA				*i* S	Sg	10 28 54.4	-1.2
AAA				pmax	pmax		
comp=Z,10.0nm,0.2s							
AAA				smax			
comp=E,11nm,0.2s							
TKM2	Tokmak 2	1.50	315	⇓P	Pn	10 28 38.5	-0.3
comp=E,328nm,0.1s,SNR=1009							
TKM2				⇓S	Sb	10 28 58.6	-0.3
comp=E,3μm,0.1s							
TKM2	Tokmak 2	1.50	315	⇓P	Pn	10 28 38.6	-0.2
comp=E,272nm,0.3s							
TKM2				⇑S	Sb	10 28 58.2	-0.7
comp=E,997nm,0.3s							
KBK	Karagaybulak	1.74	297	⇑P	Pn	10 28 43.1	+1.0
comp=E,500nm,0.2s,SNR=458							
KBK				⇓S	Sn	10 29 06.2	+1.2
comp=E,3μm,0.2s							
UCH	Uchtor	1.92	281	⇑P	Pn	10 28 46.0	+1.4
comp=E,894nm,0.6s,SNR=1055							
UCH				⇓S	Sn	10 29 11.3	+1.9
comp=E,667nm,0.2s							
CHMS	Chumysh	2.04	304	⇑P	Pn	10 28 47.9	+1.7
comp=E,453nm,0.4s,SNR=372							
CHMS				⇑S	Sn	10 29 14.4	+2.1
comp=E,1μm,0.2s							
FRU	Bishkek	2.04	299⇑	*i*PN	Pn	10 28 48.8	+2.5
FRU				*e*		10 29 15.0	
FRU				pmax	pmax		
comp=Z,1μm,1.6s							
FRU				smax			
comp=N,2μm,1.5s							
AAK	Ala-Archa	2.04	293	⇑P	Pn	10 28 47.9	+1.7
comp=N,414nm,0.2s,SNR=692							
AAK				⇓S	Sn	10 29 14.4	+2.0
comp=N,2μm,0.4s							
USP	Ospenovka	2.34	307	P	Pn	10 28 52.6	+2.2
comp=N,939nm,0.4s,SNR=475							
USP				⇑S	Sn	10 29 23.7	+4.0
comp=N,2μm,0.2s							
KSH	Kashi	2.49	199⇑	*i*P	Pn	10 28 57.6	+5.1
KSH				S	Sn	10 29 30.2	+6.6
KSH				Smax			
comp=N,3μm,0.8s							
KSH				Smax			
comp=E,3μm,0.8s							
AML	Almayashu	2.51	277	⇑P	Pn	10 28 55.9	+3.1
comp=E,627nm,0.5s,SNR=1552							
EKS2	Erkin-Say	2.55	289	⇑P	Pn	10 28 57.1	+3.8
comp=E,340nm,0.3s,SNR=2143							
KK31	Karatay Array	4.99	286	Pn	Pn	10 29 28.6	+1.9
comp=E,2.9nm,0.6s,baz=103,slow=12,SNR=287							
KK31				⇑Pg	Pg	10 29 41.8	-4.5
comp=E,52nm,0.6s,baz=106,slow=14,SNR=78							
KK31				⇑Lg		10 30 46.1	
comp=E,67nm,0.3s,baz=104,slow=28,SNR=6.2							
KK31	Karatay Array	4.99	286	PN	Pn	10 29 28.7	+1.9
KK31						10 29 41.8	
KKAR	Karatay Array	4.99	286	*e*PN	Pn	10 29 28.6	+1.8
MK31	Makanchi Array	6.19	36	Pn	Pn	10 29 45.0	+1.7
comp=E,14nm,0.6s,baz=213,slow=13,SNR=369							
MK31				⇑Pg	Pg	10 30 05.1	-4.3
comp=E,54nm,0.7s,baz=216,slow=15,SNR=10.0							
MK31				⇑Sn	Sn	10 31 08.3	+14
comp=E,54nm,0.6s,baz=213,slow=25,SNR=5.1							
MKAR	Makanchi Array	6.19	36	Pn	Pn	10 29 45.2	+1.9
comp=E,5.0nm,0.3s,baz=212,slow=14,SNR=333							
MKAR				Pg	Pg	10 30 01.8	-7.5
comp=E,8.8nm,0.3s,baz=222,slow=16,SNR=12							
MKAR				Lg		10 31

VOSK Vostochnaya 11.60 341 ⇑Pn Pn 10 30 59.8 +2.2
comp=Z,12nm,0.9s
VOSK Sn **Sn** 10 33 12.1 +4.3
VOSK Lg 10 34 16.1
BVA0 Borovoye Array 12.02 340 Pn Pn 10 31 02.1 -1.1
comp=Z,6.3nm,1.0s,baz=146,slow=15,SNR=71
BVA0 ⇑Sn **Sn** 10 33 17.5 -0.5
comp=Z,5.3nm,0.9s
BVA0 Borovoye Array 12.02 340 P Pn 10 31 02.1 -1.2
BVA0 10 33 17.5
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
BVA0 Borovoye Array 12.02 340 Pn Pn 10 31 02.1 -1.2
comp=Z,6.3nm,1.0s
BVA0 Sn **Sn** 10 33 17.5 -0.5
BVAR Borovoye Array 12.02 340 Pn Pn 10 31 02.1 -1.2
comp=Z,1.0nm,0.3s,baz=142,slow=14,SNR=18
BVAR Sn **Sn** 10 33 14.7 -3.4
comp=Z,1.8nm,0.3s,baz=152,slow=26,SNR=5.0
BVAR Lg 10 34 25.0
comp=Z,4.0nm,0.3s,baz=157,slow=31,SNR=6.9
BVAR Borovoye Array 12.02 340 P Pn 10 31 02.1 -1.2
BVAR 10 33 14.7
ZRNK Zerenda 12.34 337 ⇓Pn Pn 10 31 06.6 -0.9
comp=Z,8.1nm,0.8s
ZRNK ⇑Sn **Sn** 10 33 27.7 +2.0
comp=Z,112nm,0.9s
ZRNK ⇓Lg 10 34 38.9
comp=Z,161nm,1.1s
ZAL Zalesovo 13.13 21 Pn Pn 10 31 18.9 +0.5
comp=Z,1.2nm,0.3s,baz=260,slow=11,SNR=18
ZAL Sn **Sn** 10 33 41.3 -3.8
comp=Z,0.8nm,0.3s,baz=109,slow=20,SNR=3.3
ZAL Zalesovo 13.13 21 Pn Pn 10 31 18.9 +0.5
ZAL Sn **Sn** 10 33 41.3 -3.8
NDI New Delhi 13.16 179 eP Pn 10 31 19.0 +0.1
AYAN Aya Nagar 13.36 180 eP Pn 10 31 21.8 +0.2
AYAN eS **Sn** 10 33 37.1 -14
SONA Sohna 13.60 180 eP Pn 10 31 22.8 -1.9
SONA eS **Sn** 10 33 42.8 -14
NVS Novosibirsk 13.60 15 eP Pn 10 31 34.6 +10
NVS e 10 33 53.4
KUDL Kundal 13.71 182 eP Pn 10 31 25.4 -1.0
KUDL AMb AMB 10 31 32.9
comp=Z,25nm,1.4s
KUDL eS **Sn** 10 33 55.6 -3.6
KHET Khetri 13.81 185 eP Pn 10 31 26.9 -0.8
KHET AMb AMB 10 31 33.2
comp=Z,13nm,0.8s
KHET eS **Sn** 10 33 57.0 -4.7
AB31 Akbulak array 14.05 307 Pn Pn 10 31 29.4 -1.6
comp=Z,5.2nm,0.7s,baz=123,slow=13,SNR=64
AB31 ⇑Sn **Sn** 10 34 06.2 -1.4
comp=Z,91nm,1.4s
AB31 Akbulak array 14.05 307 i P Pn 10 31 29.3 -1.7
AB31 S **Sn** 10 34 17.5 +10
AB31 pmax pmax
comp=Z,4.0nm,0.7s
KOLN Koldanda 15.06 157 eP Pn 10 31 45.8 +1.1
comp=Z,12nm,0.6s
GKN Gorkha 15.16 153 eP Pn 10 31 48.0 +1.8
comp=Z,16nm,0.5s
KKN Kakani 15.58 152 eP Pn 10 31 51.3 -0.3
comp=Z,16nm,0.6s
KKN Kakani 15.58 152 eP Pn 10 31 51.3 -0.3
KKN pmax pmax
comp=Z,8.0nm,0.6s
AKTK Aktyubinsk 15.69 310 ⇓Pn Pn 10 31 50.8 -2.2
AKTK Sn **Sn** 10 34 47.8 +0.3
AKTO Aktyubinsk 15.69 310 ⇓Pn Pn 10 31 50.8 -2.2
comp=Z,1.9nm,0.8s
AKTO ⇓Sn **Sn** 10 34 47.8 +0.3
comp=Z,1.6nm,0.9s
AKTO Aktyubinsk 15.69 310 Pn Pn 10 31 51.0 -1.9
comp=Z,0.3nm,0.3s,baz=110,slow=13,SNR=35
AKTO Sn **Sn** 10 34 48.1 +0.7
comp=Z,0.2nm,0.3s,baz=72,slow=14,SNR=2.5
AKTO Lg 10 36 27.3
comp=Z,0.2nm,0.3s,baz=61,slow=20,SNR=3.9
AKTO LR LR 10 38 10.4
comp=Z,201nm,18.3s,baz=0.0,slow=38
AKTO Aktyubinsk 15.69 310 P Pn 10 31 51.0 -2.0
AKTO 10 34 48.1
AKTO MLR MLR
comp=Z,201nm,18.3s
DMN Daman 15.69 153 eP Pn 10 31 52.5 -0.5
comp=Z,11nm,0.7s
GUN Gumba 15.69 150 eP Pn 10 31 54.6 +1.6
comp=Z,71nm,1.1s
PKI Pulchoki 15.83 152 eP Pn 10 31 54.5 -0.3
comp=Z,21nm,0.7s
PKI Pulchoki 15.83 152 eP Pn 10 31 54.5 -0.3
PKI pmax pmax
comp=Z,11nm,0.7s
JIRN Jiri 16.03 149 eP Pn 10 31 56.8 -0.7
comp=Z,23nm,0.6s
GTA Gaotai 17.45 91 eP Pn 10 32 19.3 +3.9
GTA AP pP 10 32 24.2 +7.3
GTA XP sP 10 32 27.1 +10
GTA AMB AMB
comp=Z,5.0nm,1.1s
GTA AMB AMB
comp=Z,101nm,5.7s
GTA LR LR
comp=N,238nm,14.5s
GTA LR LR
comp=E,346nm,12.2s
GTA LR LR
comp=Z,230nm,12.6s
KRAR Krasnoyarsk 17.49 31⇑eP Pn 10 32 18.3 +2.3
KRAR pmax pmax
comp=Z,47nm,0.6s
ARU Arti 18.84 327 eP Pn 10 32 33.0 +0.5
ARU eS **Sn** 10 36 03.2 -0.6
MOY Mondy 19.02 51 eP Pn 10 32 36.4 +1.6
ZAK Zakamensk 19.99 56 eP Pn 10 32 40.7 -5.7
ZAK pmax pmax
comp=Z,8.0nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.7s
ZAK pmax pmax
comp=Z,13nm,1.9s
SHL Shillong 20.37 138 eP P 10 32 54.0 +5.2
SONM Songino Array 21.56 64 P P 10 33 02.3 +0.6
comp=Z,3.3nm,0.8s,mb3.8,baz=260,slow=10,SNR=16
LZH Lanzhou 21.57 97 eP P 10 33 06.8 +5.0
LZH AP 10 33 11.9
LZH XP sP 10 33 15.1 +13
LZH AMB AMB
comp=Z,24nm,1.5s,mb4.4
ULN Ulaanbaatar 22.01 64 eP P 10 33 07.6 +1.1
CD2 Chengdu 24.03 108 P P 10 33 29.6 +2.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
GNI Garni 24.36 277 P P 10 33 29.2 -1.1
comp=Z,8.0nm,0.6s,mb4.4,baz=79,slow=5.2,SNR=3.6
GNI LR LR 10 45 03.6
comp=Z,63nm,19.3s,MS3.1,baz=336,slow=42
KIV Kislovodsk 25.15 286⇑eP P 10 33 38.9 +1.5
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.4
SOC Sochi 27.33 286 eP P 10 33 54.7 -2.5
SOC ePPP 10 34 52.5
SOC eS **S** 10 38 32.8 -5.0
SOC pmax pmax
comp=Z,18nm,0.9s,mb4.8
SOC MLR MLR
comp=Z,138nm,20.0s,MS3.5
BOD Bodaibo 28.22 43 eP P 10 34 04.2 -0.9
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
BRTR Keskin Array B 32.67 281 P P 10 34 45.3 +0.8
comp=Z,4.3nm,0.9s,mb4.4,baz=92,slow=7.6,SNR=20
BRTR Keskin Array B 32.67 281 i P P 10 34 45.5 +1.0
BRTR pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 33.68 302 P P 10 34 52.5 -0.9
comp=Z,3.6nm,0.8s,mb4.4,baz=73,slow=8.9,SNR=11
AKASG Malin Array Be 33.68 302 i P P 10 34 53.0 -0.3
AKASG pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 33.91 324 ep P 10 34 55.6 +0.3
NJ2 Nanjing 34.52 93 eP P 10 35 02.2 +1.6
NJ2 AP 10 35 11.9
NJ2 XP sP 10 35 15.8 +15
NJ2 PP PP 10 36 19.1 +0.4
NJ2 S **S** **10 40 28.0 -2.2**
NJ2 XS sS 10 40 43.0 +13
NJ2 AMB AMB
comp=Z,110nm,4.1s
NJ2 LR LR
comp=N,370nm,15.1s,MS4.5
NJ2 LR LR
comp=E,480nm,15.6s,MS4.5
NJ2 LR LR
comp=Z,210nm,16.2s,MS4.0
ISP Isparta 35.61 279⇓eP P 10 35 10.8 +0.8
FINES FINESS Array B 35.98 321 P P 10 35 12.7 -0.5
comp=Z,2.2nm,0.6s,mb4.2,baz=104,slow=10.0,SNR=19
FINES FINESS Array B 35.98 321 i P P 10 35 13.0 -0.2
FINES pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 35.99 322 ep P 10 35 12.4 -0.8
SSE Sheshan 36.73 92 P P 10 35 18.6 -0.9
SSE AMB AMB
comp=Z,12nm,0.9s,mb4.6
SSE AMB AMB
comp=Z,85nm,5.3s
YAK Yakutsk 36.85 39⇓eP P 10 35 21.0 +0.4
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
YAK MLR MLR
comp=Z,100nm,15.0s,MS3.7
ARCES ARCESS Array B 38.20 334 P P 10 35 31.1 -1.0
comp=Z,3.9nm,0.7s,mb4.2,baz=97,slow=9.8,SNR=11
KLR Kul'dur 38.27 60 eP P 10 35 29.0 -3.7
TIXI Tiksi 39.01 23⇑eP P 10 35 40.5 +1.6
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
TIXI MLR MLR
comp=Z,100nm,17.0s,MS3.7
APE Apeiranthos 39.57 281 i P P 10 35 43.7 +0.2
HABR Khabarovsk 40.56 60 eP P 10 35 47.3 -4.5
HABR eS **S** 10 41 55.1 -6.9
NB2 NORSAR Subarra 43.13 319 P P 10 36 11.8 -1.0
comp=Z,4.8nm,0.6s,mb4.4,baz=86,slow=8.6
NOA NORSAR Array B 43.13 319 P P 10 36 12.2 -0.6
comp=Z,4.9nm,0.7s,mb4.3,baz=87,slow=8.0,SNR=13
CLL Collm 43.71 305⇑iP P 10 36 17.1 -0.3
comp=Z,9.0nm,1.3s,mb4.3
GERES GERESS Array B 43.90 302 P P 10 36 18.5 -0.5
comp=Z,1.2nm,0.8s,mb3.7,baz=68,slow=7.2,SNR=7.9
KHC Kasperske Hory 43.90 302 eP P 10 36 19.0 0.0
KHC Kasperske Hory 43.90 302⇓eP P 10 36 19.5 +0.5
GRA1 Grafenberg Arr 45.23 303 eP P 10 36 30.5 +0.9
comp=Z,9.0nm,1.2s,mb4.6
GRA1 epP 10 36 34.9
GRF Grafenberg Arr 45.23 303 eP P 10 36 30.5 +0.9
comp=Z,9.0nm,1.2s,mb4.6
GRF epP 10 36 34.9
GRF Grafenberg Arr 45.23 303 eP P 10 36 30.5 +0.9
GRF e*PP 10 36 34.9
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 45.23 303 eP P 10 36 30.5 +0.9
GRF e*PP 10 36 34.9
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MJAR Matsushiro Arr 46.82 75 P P 10 36 39.8 -2.3
comp=Z,0.6nm,0.4s,mb4.0,baz=216,slow=6.4,SNR=5.6
SEY Seymchan 47.33 37⇑eP P 10 36 46.5 +0.4
CDF Champ du Feu 48.09 303 eP P 10 36 51.7 -0.3
HINF Hinteralfeld 48.56 302 eP P 10 36 55.1 -0.6
comp=Z,8.8nm,0.9s,mb4.5
PGF Pioggiola 49.13 295 eP P 10 36 59.8 -0.2
comp=Z,41nm,1.0s,mb5.1
PGF Pioggiola 49.13 295 eP P 10 36 59.8 -0.2
PGF pmax pmax
comp=Z,20nm,1.0s,mb5.1
PGF Pioggiola 49.13 295 eP P 10 36 59.8 -0.2
comp=Z,20nm,1.0s,mb5.1
BAIF Baives 49.42 306 eP P 10 37 01.8 -0.5
MEZF Maizieres J'vi 49.45 304 eP P 10 37 02.1 -0.4
comp=Z,17nm,0.9s,mb4.8
LPG La Plagne 49.47 299 eP P 10 37 02.5 -0.1
LPL La Plagne 49.48 299 eP P 10 37 02.4 -0.3
CABF La Chapelle 49.48 301 eP P 10 37 01.8 -0.9
comp=Z,31nm,1.3s,mb4.9
CABF La Chapelle 49.48 301 eP P 10 37 01.8 -0.9
CABF pmax pmax
comp=Z,16nm,1.3s,mb4.9
CABF La Chapelle 49.48 301 eP P 10 37 01.8 -0.9
comp=Z,16nm,1.3s,mb4.9
SBF Sospel 49.65 297 eP P 10 37 03.6 -0.5
comp=Z,37nm,0.8s,mb5.0
SBF Sospel 49.65 297 eP P 10 37 03.6 -0.5
SBF pmax pmax
comp=Z,19nm,0.8s,mb5.1
SBF Sospel 49.65 297 eP P 10 37 03.6 -0.5
comp=Z,18nm,0.8s,mb5.1
MBDF Montbardon 49.75 298 eP P 10 37 04.6 -0.2
comp=Z,11nm,0.9s,mb4.5
ORIF Oris-en-Rattie 50.26 299 eP P 10 37 08.5 -0.2
FRF La Foret Royal 50.30 297 eP P 10 37 08.4 -0.6
LOR Lormes 50.65 303 eP P 10 37 11.1 -0.5
comp=Z,6.9nm,1.1s,mb4.2
LOR Lormes 50.65 303 eP P 10 37 11.1 -0.5
LOR pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
LOR Lormes 50.65 303 eP P 10 37 11.1 -0.5
comp=Z,3.5nm,1.1s,mb4.2
SMRF Simiane la Rot 50.84 298 eP P 10 37 12.1 -0.9
comp=Z,41nm,1.4s,mb4.9
SMRF Simiane la Rot 50.84 298 eP P 10 37 12.1 -0.9
comp=Z,41nm,1.4s,mb5.2
SMF Signal de Mont 50.90 302 eP P 10 37 13.1 -0.4
SSF Saint Saulge 50.95 302 eP P 10 37 13.3 -0.6
comp=Z,3.0nm,0.7s,mb4.1
VIVF Saint-Julien-l 51.07 299 eP P 10 37 14.2 -0.6
comp=Z,2.2nm,0.4s,mb4.1
AVF Avril sur Loir 51.15 302 eP P 10 37 14.5 -0.9
comp=Z,16nm,1.0s,mb4.6
BGF Bois d'Agland 51.56 302 eP P 10 37 18.5 0.0
TCF Toulx Ste Croi 52.08 302 eP P 10 37 21.8 -0.5
comp=Z,6.9nm,0.9s,mb4.3
CAF Calviac 52.73 300 eP P 10 37 26.9 -0.3
RJF Les Rejaudoux 52.92 301 eP P 10 37 28.1 -0.5
comp=Z,14nm,1.0s,mb4.5
RJF Les Rejaudoux 52.92 301 eP P 10 37 28.1 -0.5
RJF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RJF Les Rejaudoux 52.92 301 eP P 10 37 28.1 -0.5
comp=Z,6.8nm,1.0s,mb4.5
GRR Gorron 53.13 305 eP P 10 37 29.9 -0.2
SGMF Saint Gilles 54.21 306 eP P 10 37 37.5 -0.6
ROSF Rostrenen 54.61 306 eP P 10 37 40.6 -0.3
comp=Z,92nm,1.5s,mb5.3
ROSF Rostrenen 54.61 306 eP P 10 37 40.6 -0.3
ROSF pmax pmax
comp=Z,46nm,1.5s,mb5.3
ROSF Rostrenen 54.61 306 eP P 10 37 40.6 -0.3
comp=Z,46nm,1.5s,mb5.3
EPF Esparros 54.68 299 eP P 10 37 41.3 -0.2
QUIF Quistinic 54.73 306 eP P 10 37 41.1 -0.7
comp=Z,16nm,0.8s,mb4.8
QUIF Quistinic 54.73 306 eP P 10 37 41.1 -0.7
QUIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
QUIF Quistinic 54.73 306 eP P 10 37 41.1 -0.7
comp=Z,7.9nm,0.8s,mb4.8
INK Inuvik 67.77 12 P P 10 39 09.8 -0.5
comp=Z,3.2nm,0.5s,mb4.8,baz=356,slow=7.4,SNR=40
ILAR Eielson Array 68.26 19 P P 10 39 12.1 -1.3
comp=Z,2.2nm,0.8s,mb4.5,baz=320,slow=5.4,SNR=20
TORD Torodi Ar. Bea 70.47 270 P P 10 39 26.1 -0.9
comp=Z,10nm,0.8s,mb5.0,baz=44,slow=5.6,SNR=63
KDAK Kodiak Island 72.40 25 P P 10 39 38.2 -0.4
comp=Z,15nm,0.8s,mb5.1,baz=340,slow=5.5,SNR=5.3
YKA Yellowknife Ar 75.56 6 P P 10 39 55.8 -1.3
comp=Z,2.1nm,0.8s,mb4.3,baz=347,slow=6.0,SNR=53
YKA Yellowknife Ar 75.56 6 i P P 10 39 55.7 -1.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 75.56 6 P P 10 39 55.8 -1.3
WRA Warramunga Arr 81.13 127 P P 10 40 27.3 -0.7
comp=Z,7.0nm,0.9s,mb4.7,baz=325,slow=5.0,SNR=64
WRA Warramunga Arr 81.13 127 i P P 10 40 27.2 -0.7
WRA pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 81.14 127⇑iP P 10 40 27.3 -0.7
ASAR Alice Springs 83.75 129 P P 10 40 40.7 -0.9
comp=Z,1.9nm,0.9s,mb4.3,baz=326,slow=6.1,SNR=19
CTA Charters Tower 88.73 118 eP P 10 41 05.4 -0.7
comp=Z,5.3nm,0.8s,mb4.8
PDAR Pinedale Array 95.53 5 P P 10 41 36.9 -0.8
comp=Z,0.6nm,0.7s,mb4.3,baz=0.0,slow=3.0,SNR=4.6

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*ISCJB **05** 10:30:16.5±0.5, 4937N±002×686E±004, h0km, Error ellipse: s-maj=3.6km s-min=3.2km az=88.6*
*NEIC **05** 10:30:18.3, 4939N×690E, h1km, ML2.5(LDG), After LDG.*
*LDG **05** 10:30:18.3±0.2, 4939N×690E, h1km, Md2.5/1, Ml2.5/9, Error ellipse: s-maj=3.4km s-min=2.9km az=70.0, Suspected Mining induced.*
*BGR **05** 10:30:18.5±0.4, 4935N×686E, h1km, ML1.5/3, Error ellipse: s-maj=7.8km s-min=4.4km az=34.0*

ISC 05 10:30:17.7±0.5, 4938N±002×687E±004, h0km, n17, σ0.98 5/33, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**302**	*e*Pg	**Pg**	**10 30 29.7**	**+1.4**
	SNR=3.4						
WLF				*e*Sg	**Sg**	10 30 35.5	+0.1
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	10 30 38.0	-1.0
CDF				*e*Sg	**Sg**	10 30 49.5	-0.4
	7.1nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	10 30 37.2	+0.3
CDF				*e*Pn	**Pn**	10 30 38.0	-1.0
CDF				*e*Sg	**Sg**	10 30 49.5	-0.4
RFYF	**Reffroy**	**1.19**	**231**	*e*Pg	**Pg**	**10 30 41.8**	**+1.3**
	baz=62						
RFYF				*e*Sg	**Sg**	10 30 56.5	+0.7
	16nm,0.3s						
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	10 30 43.9	+0.7
	SNR=2.4						
TNS				*e*Sg	**Sg**	10 31 00.8	+0.5
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	10 30 42.4	-0.7
TNS				*e*Sg	**Sg**	10 31 01.2	+0.9
HAU	**Haudompre**	**1.42**	**194**	*e*Pg	**Pg**	10 30 45.9	+1.1
HAU				*e*Sg	**Sg**	10 31 03.4	+0.2
	11nm,0.3s						
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	10 30 45.0	0.0
	SNR=3.7						
BFO				*e*Sg	**Sg**	10 31 02.6	-0.8
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	10 30 45.0	0.0
BFO				*e*Sg	**Sg**	10 31 04.1	+0.7
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	10 30 46.6	+0.4
	baz=57						
MEZF				*e*Sg	**Sg**	10 31 06.5	+1.1
	7.0nm,0.4s						
GIVF	**Givet**	**1.52**	**299**	*e*Pg	**Pg**	10 30 46.0	-0.7
GIVF				*e*Sg	**Sg**	10 31 06.8	+0.4
	5.4nm,0.3s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	10 30 47.8	+0.2
HINF				*e*Sg	**Sg**	10 31 07.7	-0.2
	17nm,0.2s						
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Pg	**Pg**	10 30 49.6	-0.4
SFTF				*e*Sg	**Sg**	10 31 12.6	+0.7
	3.3nm,0.3s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	10 30 52.4	-1.0
BAIF				*e*Sg	**Sg**	10 31 16.6	-0.9
	2.4nm,0.4s						
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	10 31 04.0	-1.3
	baz=58						
LOR				*e*Sn	**Sn**	10 31 38.9	-2.1
SSF	**Saint Saulge**	**3.23**	**225**	*e*Pn	**Pn**	10 31 08.5	-1.1
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	10 31 27.7	+0.4
	SNR=4.4						

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*IDC **05** 10:37:31.8±2.0, 1934S×17549W, h0km, mb4.3/4, mb1 4.6/4, mb1mx4. 1/15, mbtmp4.3/4, Error ellipse: s-maj=72.4km s-min=30.2km az=146.0*
*ISCJB **05** 10:37:36.1±2.1, 192S±05×1756W±04, h33km, mb4.4/5, Error ellipse: s-maj=83.8km s-min=23.8km az=116.4*

ISC 05 10:37:38.3±2.1, 192S±05×1755W±04, h35km, n7, σ0.68 7/, mb4.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.96**	**262**	*e*P	**P**	**10 44 37.1**	**+1.6**
	5.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**47.09**	**255**	P	**P**	**10 46 06.3**	**-0.3**
	4.3nm,0.6s,mb4.6,baz=89,slow=8.5,SNR=78						
ASAR				PcP	PcP	10 47 35.9	-2.3
	0.6nm,0.8s,baz=113,slow=3.7,SNR=5.8						
WB2	**Warramunga Arr**	**47.09**	**260**	*e*P	**P**	**10 46 06.1**	**-0.6**
ASPA	**Alice Springs**	**47.09**	**255**	*e*P	**P**	**10 46 06.6**	**-0.1**
WRA	**Warramunga Arr**	**47.10**	**260**	P	**P**	**10 46 06.2**	**-0.5**
	2.7nm,0.3s,mb4.6,baz=94,slow=7.6,SNR=63						
MJAR	**Matsushiro Arr**	**70.62**	**322**	P	**P**	**10 48 49.8**	**-0.2**
	2.6nm,0.5s,mb4.4,baz=153,slow=5.9,SNR=15						
NVAR	**Mina Array Bea**	**78.52**	**42**	P	**P**	**10 49 36.1**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=223,slow=9.1,SNR=4.5						

IDC 05 11:12:07.6±2.1, 679S×12952E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=111.2km s-min=32.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**161**	Pn	Pn	11 15 25.4	-0.2
	0.3nm,0.3s,baz=339,slow=14,SNR=20						
WRA				Sn	Sn	11 17 46.5	-14
	0.5nm,0.3s,baz=333,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.30**	**166**	P	Pn	11 16 11.0	+0.6
	0.2nm,0.3s,baz=355,slow=11,SNR=11						
ASAR				S	Sn	11 19 09.3	-14
	0.1nm,0.3s,baz=346,slow=26,SNR=3.7						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	11 23 07.4	+0.2
	0.1nm,0.3s,baz=116,slow=7.7,SNR=4.9						

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*BJI **05** 11:14:57.0, 1856N×14546E, h211km, mB4.5, mb4.1*
*NEIC **05** 11:14:58.0±0.4, 1867N×14553E, h200km, mb4.5/5, Error ellipse: s-maj=14.6km s-min=7.5km az=82.0*
*IDC **05** 11:14:59.3±0.7, 1870N×14547E, h212km±6km, mb4.0/24, mb1 4.1/28, mb1mx4.0/34, mbtmp4.6/28, Error ellipse: s-maj=12.4km s-min=7.6km az=88.0*
*MOS **05** 11:14:59.3±1.0, 1873N×14548E, h232km, mb3.9/5, Error ellipse: s-maj=20.4km s-min=9.2km az=106.5*
*ISCJB **05** 11:15:00.7±0.7, 1877N±003×14538E±009, h238km±6km, mb4.2/33, Error ellipse: s-maj=13.9km s-min=5.1km az=172.5*

ISC 05 11:15:01.9±0.7, 1876N±003×14547E±009, h236km±7km, h213km±3.9km: pP-P, n84, σ0.98 9/, mb4.2/33, 4C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.17**	**187**	P	**Pn**	**11 16 20.5**	**+1.2**
	9.3nm,0.3s,baz=32,slow=2.3,SNR=8.0						
GUMO				S	**S**	11 17 19.5	-1.4
	21nm,0.3s,baz=198,slow=20,SNR=3.1						
JHHJ	**Haha-jima-NKT**	**8.41**	**339**	P	**Pn**	**11 16 59.2**	**-1.1**
JHHJ				S	**S**	11 18 29.8	-5.7
CBIJ	**Chichi jima**	**8.84**	**341**	P	**Pn**	**11 17 04.8**	**-0.9**
CBIJ				S	**S**	11 18 39.7	-5.9
CBIJ	**Chichi jima**	**8.84**	**341**	P	**Pn**	**11 17 03.7**	**-2.0**
	18nm,0.3s,baz=107,slow=19,SNR=4.2						
CBIJ				S	**S**	11 18 37.7	-7.9
	74nm,0.3s,baz=303,slow=23,SNR=9.8						
JHJ	**Hachijo jima 2**	**15.19**	**341**	P	**Pn**	**11 18 24.6**	**-0.2**
	7.3nm,0.3s,baz=39,slow=13,SNR=2.2						
BSO1	**Boso 1**	**16.33**	**347**	P	**P**	**11 18 41.6**	**+4.5**
JOD2	**Odawara 2**	**17.39**	**342**	P	**P**	**11 18 50.0**	**+1.3**
JIE	**Ise**	**17.42**	**335**	P	**P**	**11 18 49.7**	**+0.7**
JOW	**Kunigami**	**17.77**	**300**	P	**P**	**11 18 55.5**	**+2.8**
JOW	**Kunigami**	**17.77**	**300**	P	**P**	**11 18 53.6**	**+0.9**
	11nm,0.3s,baz=130,slow=12,SNR=32						
JNY	**Yasuok**	**17.86**	**339**	P	**P**	**11 18 55.2**	**+1.4**
JHU	**Hanno**	**17.89**	**343**	P	**P**	**11 18 54.6**	**+0.5**
JRY	**Ryogami san**	**18.15**	**343**	P	**P**	**11 18 57.7**	**+0.8**
JRY				S	**S**	11 22 11.9	-0.3
JAG	**Ashikaga**	**18.38**	**344**	P	**P**	**11 18 59.9**	**+0.5**
JAG				*e*S	**S**	11 22 16.5	-0.3
MJAR	**Matsushiro Arr**	**18.84**	**342**	P	**P**	**11 19 04.4**	**+0.1**
	1.4nm,0.3s,baz=163,slow=9.7,SNR=20						
MAJO	**Matsushiro**	**18.84**	**342**	*e*P	**P**	**11 19 04.4**	**+0.1**

MAJO pmax pmax
comp=Z,14nm,0.5s
MAJO Matsushiro 18.84 342 *eP* **P 11 19 04.4 +0.1**
comp=Z,14nm,0.5s
MAT Matsushiro 18.84 342 P **P 11 19 04.0 -0.3**
MAT Matsushiro 18.84 342 P **P 11 19 04.4 +0.1**
MAT Matsushiro 18.84 342 *eP* **P 11 19 04.0 -0.3**
MAT pmax pmax
comp=Z,12nm,0.5s
MAT Matsushiro 18.84 342 *eP* **P 11 19 04.0 -0.3**
comp=Z,12nm,0.5s
JMM Marumori 19.48 349 P **P 11 19 11.4 +0.3**
JMK Ichinoseki 20.46 350 P **P 11 19 21.8 +0.2**
JTM Tenmabayashi 22.28 351 P **P 11 19 40.0 +0.5**
KS15 Wonju Array Si 24.16 324 *eP* **P 11 19 57.2 +0.6**
ASAJ Asahikawa 25.40 355 P **P 11 20 09.4 +1.6**
comp=Z,11nm,0.6s,mb4.6,baz=217,slow=12,SNR=14
KLR Kul'dur 32.35 343 *eP* **P 11 21 07.0 -2.2**
CTA Charters Tower 38.61 179 *eP* **P 11 21 59.2 -3.1**
comp=Z,6.0nm,0.8s,mb4.2
CTA Charters Tower 38.61 179 P **P 11 22 01.9 -0.4**
comp=Z,7.5nm,0.8s,mb4.3,baz=337,slow=8.6,SNR=9.0
CTA Charters Tower 38.61 179 P **P 11 22 01.9 -0.4**
CTAO Charters Tower 38.61 179 *eP* **P 11 21 59.2 -3.1**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
CTAO Charters Tower 38.61 179 *eP* **P 11 21 59.2 -3.1**
comp=Z,3.8nm,0.6s,mb4.1
CD2 Chengdu 39.53 296 *eP* **P 11 22 09.0 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
WB2 Warramunga Arr 39.98 196⇑*iP* **P 11 22 14.3 +0.7**
WB2 *eS* **S 11 28 01.3 +0.4**
WRA Warramunga Arr 39.98 196 P **P 11 22 14.1 +0.6**
comp=Z,58nm,0.8s,mb5.1,baz=14,slow=8.8,SNR=158
WRA ScP ScP 11 27 40.6 +0.5
comp=Z,1.1nm,0.8s,baz=16,slow=4.0,SNR=5.4
FX1 Attu Island--F 40.30 26 P **P 11 22 17.2 +1.1**
comp=Z,30nm,0.6s,mb4.9,baz=275,slow=5.8,SNR=9.1
FX1 Attu Island--F 40.30 26 P **P 11 22 17.5 +1.3**
FITZ Fitzroy Crossi 41.49 209⇑*iP* **P 11 22 26.8 +0.9**
comp=Z,33nm,0.7s,mb4.9
SONM Songino Array 42.97 321 P **P 11 22 38.3 +0.5**
comp=Z,1.5nm,0.5s,mb3.7,baz=135,slow=9.4,SNR=30
SONM ScP ScP 11 27 51.1 -0.9
comp=Z,1.2nm,1.0s,baz=120,slow=3.4,SNR=5.1
ASAR Alice Springs 43.65 195 P **P 11 22 43.7 +0.5**
comp=Z,7.2nm,0.8s,mb4.1,baz=15,slow=6.3,SNR=72
ASAR ScP ScP 11 27 54.5 -0.3
comp=Z,0.7nm,0.8s,baz=32,slow=2.5,SNR=4.5
ASPA Alice Springs 43.65 195⇑*iP* **P 11 22 43.6 +0.4**
ASPA *eS* **S 11 28 56.3 +1.6**
DZM Mont Dzumac 45.47 152 P **P 11 22 58.2 +0.7**
comp=Z,29nm,0.8s,mb4.6,baz=24,slow=10,SNR=8.7
MBWA Marble Bar 47.00 214 *eP* **P 11 23 09.8 +0.4**
comp=Z,23nm,1.2s,mb4.4
PSI Prapat 48.21 257 P **P 11 23 20.1 +1.4**
comp=Z,4.7nm,0.5s,mb4.1,baz=93,slow=6.6,SNR=7.3
LSA Lhasa 50.33 293 P **P 11 23 37.2 +2.4**
STKA Stephens Creek 50.48 184⇑*iP* **P 11 23 33.3 -2.6**
comp=Z,3.6nm,0.7s,mb3.8
STKA Stephens Creek 50.48 184 P **P 11 23 33.3 -2.6**
comp=Z,6.0nm,0.9s,mb3.9,baz=345,slow=8.5,SNR=11
CNB Canberra Magne 53.90 176 *eP* **P 11 24 00.5 -0.5**
comp=Z,29nm,1.5s,mb4.6
KLBR Kellerberrin 56.69 208 *eP* **P 11 24 21.4 +0.6**
comp=Z,40nm,1.4s,mb4.8
ZAL Zalesovo 57.85 322 P **P 11 24 28.3 -0.6**
comp=Z,1.1nm,0.3s,mb4.0,baz=69,slow=10,SNR=4.5
NWAO Narrogin (SRO) 58.05 208 P **P 11 24 29.6 -0.7**
comp=Z,8.0nm,0.6s,mb4.5,baz=89,slow=8.7,SNR=7.7
MKAR Makanchi Array 58.27 314 P **P 11 24 31.8 -0.1**
comp=Z,1.3nm,0.5s,mb3.8,baz=85,slow=8.2,SNR=19
MKAR pP pP 11 25 19.5 -5.0
comp=Z,3.3nm,0.9s,baz=87,slow=7.7,SNR=2.4
MKAR Makanchi Array 58.27 314 P **P 11 24 31.8 -0.1**
MKAR pP pP 11 25 19.5 -5.0
ILAR Eielson Array 63.69 26 P **P 11 25 07.2 -0.9**
comp=Z,0.7nm,0.5s,mb3.6,baz=256,slow=5.3,SNR=10
ILAR pP pP 11 25 55.7 -6.1
comp=Z,1.2nm,0.8s,baz=251,slow=4.1,SNR=2.3
VOSK Vostochnaya 65.94 320 P **P 11 25 21.1 -1.6**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BVA0 Borovoye Array 66.30 320 *iP* **P 11 25 24.5 -0.5**
BVAR Borovoye Array 66.30 320 P **P 11 25 24.8 -0.1**
comp=Z,4.5nm,0.5s,mb4.4,baz=96,slow=7.4,SNR=43
RPZ Rata Peaks 66.44 160 P **P 11 25 24.3 -1.6**
comp=Z,10.0nm,0.7s,mb4.5,baz=297,slow=2.3,SNR=3.7
RPZ Rata Peaks 66.44 160 P **P 11 25 24.3 -1.6**
KKAR Karatay Array 66.57 310 *iP* **P 11 25 27.1 +0.4**
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ZRNK Zerenda 67.13 320 *eP* **P 11 25 29.6 -0.6**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
ZRNK Zerenda 67.13 320 *eP* **P 11 25 29.6 -0.7**
comp=Z,2.7nm,0.6s,mb4.0
INK Inuvik 69.41 23 P **P 11 25 44.4 +0.1**
comp=Z,2.4nm,0.7s,mb4.0,baz=283,slow=4.8,SNR=15
ARU Arti 72.90 325 *eP* **P 11 26 04.7 -0.5**
AB31 Akbulak array 73.15 317 *eP* **P 11 26 05.9 -0.8**
AKTK Aktyubinsk 74.18 318 P **P 11 26 12.2 -0.4**
AKTO Aktyubinsk 74.18 318 P **P 11 26 12.2 -0.4**
comp=Z,1.3nm,0.5s,mb3.8,baz=97,slow=9.9,SNR=7.5
AKTO Aktyubinsk 74.18 318 P **P 11 26 12.5 -0.2**
YKA Yellowknife Ar 78.04 28 P **P 11 26 34.5 +0.2**
comp=Z,1.6nm,0.6s,mb3.8,baz=288,slow=5.4,SNR=56
YKA pP pP 11 27 23.8 -6.3
comp=Z,1.2nm,0.7s,baz=289,slow=5.4,SNR=2.5
YKA Yellowknife Ar 78.04 28 P **P 11 26 34.5 +0.2**
YKA pP pP 11 27 23.8 -6.4
NEW Newport 81.02 42 P **P 11 26 50.7 +0.4**
comp=Z,2.1nm,0.7s,mb3.9,baz=292,slow=7.2,SNR=5.1
KEV Kevo 81.81 342 P **P 11 26 54.7 +0.2**
ARCES ARCESS Array B 82.38 342 P **P 11 26 56.6 -0.9**
comp=Z,3.7nm,1.1s,mb3.9,baz=85,slow=8.0,SNR=8.8
NVAR Mina Array Bea 83.27 52 P **P 11 27 03.7 +1.6**
comp=Z,4.5nm,0.6s,mb4.4,baz=264,slow=7.1,SNR=46
JOF Joensuu 83.88 335 *ep* **P 11 27 04.0 -1.1**
HRY Holter Researc 84.92 42 *eP* **P 11 27 11.7 +1.4**
KAF Kangasniemi 86.28 336 *ep* **P 11 27 15.4 -1.6**
FINES FINESS Array B 86.75 335 P **P 11 27 17.4 -1.9**
comp=Z,1.7nm,0.5s,mb4.0,baz=67,slow=4.9,SNR=24
FINES pP pP 11 28 11.4 -4.8
comp=Z,1.4nm,0.7s,baz=104,slow=7.9,SNR=3.0
PDAR Pinedale Array 87.94 45 P **P 11 27 25.1 +0.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=304,slow=5.3,SNR=4.5
FRB Frobisher Bay 93.61 14 P **P 11 27 50.7 -0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=280,slow=17,SNR=3.4
BRTR Keskin Array B 93.92 314 P **P 11 27 52.1 -0.6**
comp=Z,0.8nm,0.8s,mb3.8,baz=124,slow=4.5,SNR=4.5
TORD Torodi Ar. Bea 132.25 309 SKPbc SKPbc 11 36 51.2 -0.6
comp=Z,2.0nm,1.0s,baz=41,slow=2.0,SNR=7.6
PLCA Paso Flores 142.19 133 PKhKP 11 34 01.9
comp=Z,1.7nm,0.6s,baz=283,slow=6.2,SNR=9.2
PLCA PKP PKPdf 11 34 07.2 +1.3
comp=Z,0.9nm,0.6s,baz=242,slow=1.8,SNR=3.9
LPAZ La Paz 147.89 91 PKPbc PKPbc 11 34 21.5 +2.5
comp=Z,5.9nm,0.7s,baz=284,slow=2.3,SNR=15

*ISCJB **05** 11:55:02.3±0.4, 4667N±002×7.16E±004, h12km, Error ellipse: s-maj=3.9km s-min=2.4km az=172.4*
*ZUR **05** 11:55:03.1, 4663N×722E, h12km±1km, ML1.2/6*
*LDG **05** 11:55:03.0±0.0, 4663N×721E, h10km, Md1.9/1, Ml2.1/6, Error ellipse: s-maj=1.0km s-min=0.7km az=83.0*
*STR **05** 11:55:03.5±1.3, 4666N×7.14E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 05 11:55:02.6±0.4,**4664N**±002×**719E**±004,**h19**km±4km,**n25,**
σ0**48**/35,**6C-1D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORNY	**Torny** 178nm,0.1s	**0.21**	**310**	*i* Sg	**Pg**	**11 55 08.1**	**+0.4**
TORNY	**Torny** 178nm,0.1s	**0.21**	**310**	⇓*i*Pg	**Sg**	**11 55 11.8**	**+0.6**
SENIN	**Lac Senin** 54nm,0.3s	**0.29**	**165**	*i* Sg	**Pg**	**11 55 09.0**	**0.0**
SENIN	**Lac Senin** 54nm,0.3s	**0.29**	**165**	*e*Pg	**Sg**	**11 55 13.2**	**-0.2**
WIMIS	**Wimmis** 45nm,1.6s	**0.30**	**85**	*i* Sg	**Pg**	**11 55 09.1**	**-0.1**
WIMIS	**Wimmis** 45nm,1.6s	**0.30**	**85**⇑*iPg*		**Sg**	**11 55 13.5**	**-0.2**
AIGLE	**Aigle** 54nm,1.4s	**0.34**	**209**⇑*iPg*		**Pg**	**11 55 10.0**	**+0.1**
AIGLE	54nm,1.4s			*e*Sg	**Sg**	**11 55 14.9**	**0.0**
GRYON	**Gryon** 4.5nm,2.7s	**0.40**	**188**	*i* Sg	**Pg**	**11 55 10.9**	**0.0**
GRYON	**Gryon** 4.5nm,2.7s	**0.40**	**188**	*e*Pg	**Sg**	**11 55 16.7**	**+0.3**
SALAN	**Lac Salanfe**	**0.52**	**197**⇑*iPg*		**Pg**	**11 55 13.2**	**+0.1**
SALAN				*e*Sg	**Sg**	**11 55 19.9**	**-0.2**
BRANT	**Les Verrieres**	**0.57**	**301**⇑*iPg*		**Pg**	**11 55 14.9**	**+0.8**
EMV	**Vieux Emosson**	**0.61**	**199**⇑*iPg*		**Pg**	**11 55 14.9**	**+0.1**
LOMF	**Lomont**	**0.75**	**341**	Pg	**Pg**	**11 55 17.0**	**-0.4**
LOMF				Sg	**Sg**	**11 55 28.3**	**+0.9**
BOURR	**Bourrignon**	**0.75**	**2**	*e*P	**Pb**	**11 55 18.4**	**+1.3**
CABF	**La Chapelle**	**0.76**	**268**	*e*Pg	**Pg**	**11 55 17.9**	**+0.3**
CABF	**La Chapelle**	**0.76**	**268**	*e*Pn	**Pn**	**11 55 18.5**	**+0.1**
CABF				*e*Sg	**Sg**	**11 55 28.2**	**+0.5**
BALST	**Balsthal** 31nm,1.4s	**0.78**	**26**⇑*iPn*		**Pn**	**11 55 18.2**	**-0.4**
SULZ	**Sulz-Cheisache**	**1.09**	**35**	*e*Pn	**Pn**	**11 55 23.7**	**+0.8**
HINF	**Hinteralfeld**	**1.20**	**349**	*e*Pn	**Pn**	**11 55 24.2**	**-0.2**
HINF	**Hinteralfeld**	**1.20**	**349**	*e*Pg	**Pg**	**11 55 25.7**	**-0.1**
HINF				*e*Sg	**Sg**	**11 55 41.3**	**-0.2**
MOF	**Molkenrain** 4.5nm,0.2s	**1.21**	**358**	Pg	**Pg**	**11 55 25.7**	**-0.4**
MOF				Sg	**Sg**	**11 55 41.6**	**-0.3**
HAU	**Haudompre** 4.6nm,0.2s	**1.48**	**338**	*e*Pg	**Pg**	**11 55 31.2**	**0.0**
HAU				*e*Sg	**Sg**	**11 55 50.7**	**+0.2**
CDF	**Champ du Feu** 1.7nm,0.2s	**1.77**	**2**	*e*Pg	**Pg**	**11 55 36.3**	**-0.4**
CDF				*e*Sg	**Sg**	**11 55 59.4**	**-0.4**
SFTF	**Sexfontaines** 0.9nm,0.2s	**2.14**	**318**	*e*Pg	**Pg**	**11 55 43.0**	**-0.7**
SFTF				*e*Sg	**Sg**	**11 56 11.1**	**-0.4**
SMF	**Signal de Mont** 1.4nm,0.3s	**2.31**	**271**	*e*Pg	**Pg**	**11 55 46.1**	**-0.8**
SMF				*e*Sg	**Sg**	**11 56 15.9**	**-1.0**

MAN 05 12:04:10.6, 1865N×12081E, h15km, mb1.6, ML3.5, MS2.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.37**	**210**⇓*iP*		Pg	12 04 18.8	+0.6
PIP				*e*S	Sg	12 04 26.2	+2.9
APYP	**Conner**	**0.88**	**152**	*e*P	Pb	12 04 27.0	-0.6
APYP				*e*S	Sb	12 04 41.0	+1.8
ABRA	**Dolores**	**1.00**	**185**	*e*P	Pb	12 04 28.5	-1.2
SGCP	**Mt. Cagua**	**1.24**	**109**	*e*P	Pn	12 04 32.1	-1.3
CVP	**Callao Caves**	**1.34**	**134**	*e*P	Pn	12 04 34.0	-0.8
CVP				*e*S	Sn	12 04 53.0	+0.6
CAUP	**Cauayan**	**1.95**	**150**	*e*P	Pn	12 04 44.6	+1.4

*IDC **05** 12:04:20.4±0.9, 1806S×17292W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/19, mbtmp4.0/8, ML2.5/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/34, Error ellipse: s-maj=42.6km s-min=18.1km az=134.0*
*NEIC **05** 12:04:22.2±0.7, 1788S×17322W, h10km, mb4.7/1, Error ellipse: s-maj=21.2km s-min=13.8km az=120.0*
*ISCJB **05** 12:04:23.9±0.7, 180S±0.1×1730W±0.2, h33km, mb4.1/8, MS4.0/3, Error ellipse: s-maj=25.9km s-min=8.6km az=60.0*
ISC 05 12:04:23.5±6.3,**180S**±01×**1729W**±02,**h19**km±39km,**n25,**
σ0**31**/13,**mb4.1/8,MS4.0**/3,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 17nm,0.3s,baz=146,slow=7.4,SNR=3.2	**4.24**	**15**	Pn	**Pn**	**12 05 27.2**	**+0.1**
AFI	63nm,0.3s,baz=56,slow=18,SNR=11			Sn	**Sn**	**12 06 15.6**	**-0.4**
FUNA	**Funafuti**	**12.15**	**320**	*e*P	**Pn**	**12 07 09.5**	**-6.1**
URZ	**Urewera** 7.6nm,0.7s,mb4.2,baz=349,slow=6.4,SNR=5.0	**21.96**	**201**	P	**P**	**12 09 15.6**	**-0.6**
PPT	**Papeete** 191nm,24.2s	**22.25**	**92**	*e*LR	LR	12 14 07.3	
TBI	**Tubuai** 193nm,25.8s	**22.58**	**108**	*e*LR	LR	12 14 11.4	
RKT	**Rikitea** 117nm,32.2s	**35.83**	**105**	*e*LR	LR	12 20 19.4	
WB2	**Warramunga Arr**	**49.72**	**259**	*e*P	**P**	**12 13 14.6**	**+0.2**
WRA	**Warramunga Arr**	**49.73**	**259**	P	**P**	**12 13 14.2**	**-0.3**
ASAR	**Alice Springs** 4.1nm,0.8s,mb4.5,baz=87,slow=8.4,SNR=39	**49.77**	**254**	P	**P**	**12 13 14.8**	**-0.1**
ASAR	1.0nm,0.6s,baz=98,slow=5.5,SNR=4.2			PcP	PcP	12 14 36.0	+0.4
ASPA	**Alice Springs**	**49.78**	**254**	*e*P	**P**	**12 13 15.5**	**+0.6**
FX1	**Attu Island--F** comp=Z,12nm,18.2s,MS3.2,baz=347,slow=35	**71.62**	**351**	LR	LR	12 46 08.9	
NVAR	**Mina Array Bea** 0.5nm,0.7s,mb3.6,baz=229,slow=11,SNR=5.8	**75.98**	**41**	P	**P**	**12 16 09.3**	**0.0**
TXAR	**Lajitas Array** 0.5nm,0.8s,mb3.5,baz=220,slow=9.8,SNR=5.7	**81.70**	**56**	P	**P**	**12 16 41.1**	**+0.4**
NEW	**Newport** comp=Z,114nm,18.7s,MS4.3,baz=91,slow=33	**82.61**	**34**	LR	LR	12 50 03.2	
USHA	**Ushuaia** comp=Z,302nm,21.4s,MS4.6,baz=48,slow=28	**83.52**	**146**	LR	LR	12 43 34.6	
PDAR	**Pinedale Array** 0.9nm,0.8s,mb4.0,baz=342,slow=4.7,SNR=6.3	**83.91**	**41**	P	**P**	**12 16 52.4**	**+0.1**
COLA	**College** 3.9nm,0.9s,mb4.5	**84.84**	**10**	P	**P**	**12 16 57.0**	**0.0**
ILAR	**Eielson Array** 0.9nm,0.9s,mb3.9,baz=213,slow=5.4,SNR=8.6	**84.92**	**11**	P	**P**	**12 16 57.3**	**0.0**
KMBO	**Kilima Mbogo** 3.4nm,0.9s,baz=54,slow=23,SNR=6.6	**144.72**	**241**	PKP	PKPdf	12 23 58.9	-0.1
KMBO	**Kilima Mbogo**	**144.72**	**241**	PKP	PKPdf	12 23 58.9	-0.1
MALT	**Malatya**	**146.00**	**313**	*e*PKPbc	PKPbc	12 24 04.3	+2.3
BRG	**Berggiesshubel**	**146.76**	**352**	P	PKPdf	12 24 05.7	+3.2
BR131	**Keskin Array S**	**148.44**	**319**	*e*PKPbc	PKPbc	12 24 09.9	+1.0
BRTR	**Keskin Array B** 2.7nm,0.8s,baz=118,slow=3.0,SNR=16	**148.44**	**319**	PKPbc	PKPbc	12 24 10.2	+1.3
GERES	**GERESS Array B** 0.9nm,0.8s,baz=27,slow=3.0,SNR=7.2	**148.78**	**352**	PKPbc	PKPbc	12 24 10.5	+0.7

*ISCJB **05** 12:06:59.0±0.5, 6627N±004×14177W±009, h4km, Error ellipse: s-maj=5.5km s-min=5.2km az=120.7*
*NEIC **05** 12:07:03.0, 6620N×14253W, h4km, ML2.8(AEIC), After AEIC.*
*PGC **05** 12:07:04.3, 6621N×14173W, h5km, ML2.8/2, Eastern Alaska.*
ISC 05 12:07:00.8±0.5,**6628N**±004×**14195W**±009,**h4**km,**n13,**
σ1**11**/19,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.56**	**319**	P	**Pn**	**12 07 29.8**	**+0.7**
BM3				S	**Sn**	**12 07 49.0**	**-0.7**
DAWY	**Dawson**	**2.47**	**153**	Pn	**Pn**	**12 07 43.1**	**+1.4**
DAWY				Sg	**Sg**	**12 08 18.2**	**-2.0**
DAWY				Trac		12 08 26.1	
IL1	**Eielson Array** comp=Z,15nm,0.2s	**2.56**	**236**	P	**Pn**	**12 07 42.0**	**-0.9**
COLA	**College**	**2.83**	**243**	P	**Pn**	**12 07 46.6**	**-0.1**
COLD	**Coldfoot**	**3.41**	**290**	P	**Pn**	**12 07 54.8**	**+0.1**
MENT	**Mentasta**	**3.44**	**194**	P	**Pn**	**12 07 56.2**	**+1.1**
PAX	**Paxson**	**3.65**	**206**	P	**Pn**	**12 07 59.0**	**+1.0**
INK	**Inuvik**	**3.85**	**54**	Pn	**Pn**	**12 08 02.4**	**+1.7**
INK				Sn	**Sn**	**12 08 46.3**	**0.0**
INK				Sg	**Sg**	**12 09 03.6**	**-0.8**
INK				Trac		12 09 10.6	
MCK	**McKinley** comp=Z,15nm,0.6s	**3.92**	**232**	P	**Pn**	**12 08 00.7**	**-0.9**
IM3	**Indian Mountai**	**4.80**	**272**	P	**Pn**	**12 08 12.9**	**-0.9**
HYT	**Haines Junctio**	**5.82**	**158**	Pn	**Pn**	**12 08 29.7**	**+1.9**
HYT				Sg	**Sg**	**12 10 02.3**	**-5.4**
HYT				Trac		12 10 09.4	
WHY	**Whitehorse** comp=Z,8.0nm,0.5s	**6.46**	**147**	Sg	**Sg**	**12 10 22.1**	**-6.3**
YKW3	**Yellowknife Ar**	**12.32**	**95**	P	**Pn**	**12 09 56.0**	**-0.9**
YKW3				Sn	**Sn**	**12 12 06.3**	**-8.3**
YKW3				Trac		12 13 40.3	
	comp=Z,1.0nm,0.6s						

IDC 05 12:22:47.7±7.1,**1838N**×**10750W, h0**km,**mb3.5**/4,
mb1 3.8/5,**mb1mx3.6**/19,**mbtmp3.4**/5,**ML3.3**/1,**Error ellipse: s-maj=128.9km s-min=77.0km az=146.0,Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array** baz=200,slow=14,SNR=5.2	**11.46**	**17**	Pn	Pn	12 25 34.3	+1.8
NVAR	**Mina Array Bea** 2.2nm,1.2s,baz=145,slow=11,SNR=6.5	**22.09**	**337**	P	P	12 27 44.5	+0.1
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=168,slow=7.7,SNR=10	**44.35**	**355**	P	P	12 30 59.3	-0.4
INK	**Inuvik** 1.2nm,0.9s,baz=163,slow=14,SNR=4.7	**52.54**	**348**	P	P	12 32 02.3	-0.5
ILAR	**Eielson Array** 0.8nm,0.9s,baz=133,slow=4.3,SNR=6.6	**53.30**	**340**	P	P	12 32 08.3	-0.1

*NAO **05** 12:28:44.8, 2504S×17952W, h570km, mb5.3*
*ORF **05** 12:28:54.3, 2487S×17323E, h30km, mb5.9*
*MOS **05** 12:29:45.0±2.6, 2604S×17830E, h596km, mb5.1/13, Error ellipse: s-maj=14.9km s-min=11.0km az=103.2*
*SZGRF **05** 12:29:46.6, 2627S×17867E, h619km, South of Fiji Islands*
*ISCJB **05** 12:29:47.5±0.2, 2618S±002×17823E±005, h634km, mb4.9/68, Error ellipse: s-maj=5.3km s-min=3.1km az=3.3*
*BJI **05** 12:29:47.2, 2567S×17829E, h616km, mB5.2, mb4.9*
*IDC **05** 12:29:48.6±0.6, 2609S×17820E, h628km±5km, mb4.3/24, mb1 4.4/26, mb1mx4.4/27, mbtmp5.2/26, Error ellipse: s-maj=9.4km s-min=9.2km az=83.0*
*HRVD **05** 12:29:48.3±0.2, 2610S×17825E, h638km±2km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s73,c110; Half duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr-0.27±.04; Mθθ0.74±.06; Mφφ-0.46±.06; Mrθ-0.97±.05; Mθφ-0.19±.05; Mφr-1.19±.05; Best double couple: M0 1.64900×10^17 NP1:φs310.00000°, δ23.00000°, λ-9.00000°. NP2:φs47.00000°, δ87.00000°, λ-113.00000°. Principal axes: T 1.4720, Plg38.0000°, Azm158.0000°; N 0.3540, Plg23.0000°, Azm49.0000°; P -1.8250, Plg44.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **05** 12:29:48.3±0.1, 2614S×17828E, mb4.9/13 Error ellipse: s-maj=7.1km s-min=2.9km az=94.0*
ISC 05 12:29:49.0±0.2,**2621S**±003×**17833E**±004,**h638**km,
h638km±3.9km:**pP-P,n468,**σ1**14**/256,**mb4.9**/66,**26C-28D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 375nm,0.3s,baz=226,slow=0.6,SNR=43	**4.50**	**133**	P	**P**	**12 31 20.5**	**0.0**
OUZ	**Omahuta**	**9.86**	**203**	PN	**P**	**12 32 09.6**	**+2.6**
OUZ				SN	**S**	**12 34 06.7**	**+6.5**
OUZ	**Omahuta**	**9.86**	**203**	*e*P	**P**	**12 32 09.6**	**+2.6**
WCZ	**Waipu Caves** comp=Z,297nm,0.7s	**10.28**	**198**	*e*P	**P**	**12 32 13.8**	**+2.7**
WCZ	**Waipu Caves**	**10.28**	**198**	*e*P	**P**	**12 32 13.8**	**+2.7**
KUZ	**Kuaotunu** comp=Z,271nm,0.5s	**10.73**	**191**	⇓PN	**P**	**12 32 17.1**	**+1.6**
KUZ				SN	**S**	**12 34 20.4**	**+4.6**
KUZ	**Kuaotunu**	**10.73**	**191**	*e*P	**P**	**12 32 17.0**	**+1.5**
MTAZ	**Motutapu**	**10.94**	**195**	PN	**P**	**12 32 19.7**	**+2.3**
MTAZ	**Motutapu**	**10.94**	**195**	*e*P	**P**	**12 32 19.6**	**+2.1**
KAAZ	**Kauri Point**	**11.02**	**195**	PN	**P**	**12 32 19.7**	**+1.4**
KAAZ	**Kauri Point**	**11.02**	**195**	*e*P	**P**	**12 32 19.7**	**+1.4**
OTAZ	**Otara**	**11.09**	**194**	PN	**P**	**12 32 21.2**	**+2.2**
OTAZ	**Otara**	**11.09**	**194**	*e*P	**P**	**12 32 20.0**	**+1.0**
WTAZ	**Waiatarua**	**11.15**	**196**	PN	**P**	**12 32 21.7**	**+2.1**
WTAZ	**Waiatarua**	**11.15**	**196**	P	**P**	**12 32 21.7**	**+2.1**
DZM	**Mont Dzumac** comp=Z,19nm,0.3s,baz=99,slow=14,SNR=112	**11.61**	**288**	P	**P**	**12 32 24.8**	**+0.7**
DZM	baz=94,slow=23,SNR=6.6			S	**S**	**12 34 33.9**	**+2.6**
DZM	**Mont Dzumac**	**11.61**	**288**⇑*iP*		**P**	**12 32 24.7**	**+0.7**
DZM				*e*S	**S**	**12 34 33.6**	**+2.3**
PUZ	**Puketiti**	**11.83**	**180**	P	**P**	**12 32 24.1**	**-2.1**
URZ	**Urewera** comp=Z,13nm,0.3s,baz=16,slow=4.2,SNR=70	**12.06**	**185**	P	**P**	**12 32 27.0**	**-1.4**
URZ				S	**S**	**12 34 33.5**	**-5.4**
URZ	**Urewera** comp=Z,19nm,0.3s,baz=274,slow=24,SNR=14	**12.06**	**185**	PN	**P**	**12 32 26.7**	**-1.7**
URZ				SN	**S**	**12 34 31.4**	**-7.5**
URZ	**Urewera**	**12.06**	**185**	P	**P**	**12 32 26.8**	**-1.6**
MWZ	**Matawai**	**12.11**	**183**	PN	**P**	**12 32 26.4**	**-2.5**
MWZ				SN	**S**	**12 34 33.4**	**-6.3**
MWZ	**Matawai**	**12.11**	**183**	*e*P	**P**	**12 32 26.3**	**-2.6**
MWZ				S	**S**	**12 34 33.4**	**-6.3**
HIZ	**Hauiti**	**12.61**	**193**	PN	**P**	**12 32 34.6**	**+1.0**
HIZ				SN	**S**	**12 34 56.2**	**+8.1**
HIZ	**Hauiti**	**12.61**	**193**	P	**P**	**12 32 35.5**	**+1.9**
KNZ	**Kokohu**	**12.78**	**182**	PN	**P**	**12 32 29.9**	**-5.2**
BKZ	**Black Stump Fm**	**13.01**	**186**	PN	**P**	**12 32 34.8**	**-2.4**
BKZ				SN	**S**	**12 34 50.7**	**-4.0**
BKZ	**Black Stump Fm**	**13.01**	**186**	*e*P	**P**	**12 32 34.9**	**-2.3**
BKZ				S	**S**	**12 34 50.7**	**-4.0**
TWVZ	**Taurewa**	**13.05**	**190**	PN	**P**	**12 32 38.1**	**+0.5**
TWVZ	**Taurewa**	**13.05**	**190**	P	**P**	**12 32 38.2**	**+0.6**
WTVZ	**West Tongariro**	**13.07**	**189**	PN	**P**	**12 32 37.8**	**0.0**
WTVZ	**West Tongariro**	**13.07**	**189**	P	**P**	**12 32 38.1**	**+0.3**
OTVZ	**Oturere**	**13.11**	**189**	PN	**P**	**12 32 37.9**	**-0.3**
TUVZ	**Tukino**	**13.21**	**189**	PN	**P**	**12 32 38.6**	**-0.5**
TUVZ	**Tukino**	**13.21**	**189**	P	**P**	**12 32 38.8**	**-0.3**
FWVZ	**Far West T-bar**	**13.21**	**189**	PN	**P**	**12 32 39.1**	**0.0**
FWVZ	**Far West T-bar**	**13.21**	**189**	*e*P	**P**	**12 32 39.2**	**+0.1**
VRZ	**Vera Road**	**13.22**	**192**	PN	**P**	**12 32 41.5**	**+2.3**
VRZ	**Vera Road**	**13.22**	**192**	*e*P	**P**	**12 32 40.4**	**+1.2**
WNVZ	**Wahianoa**	**13.28**	**189**	PN	**P**	**12 32 39.0**	**-0.7**
WNVZ	**Wahianoa**	**13.28**	**189**	P	**P**	**12 32 39.3**	**-0.4**
PKVZ	**Pokaka**	**13.28**	**190**	PN	**P**	**12 32 39.6**	**-0.1**
MOVZ	**Moawhango**	**13.33**	**189**	PN	**P**	**12 32 38.9**	**-1.4**
MOVZ	**Moawhango**	**13.33**	**189**	*e*P	**P**	**12 32 39.2**	**-1.0**
PKE	**Pukeiti**	**13.45**	**195**	PN	**P**	**12 32 44.0**	**+2.8**
PKE	**Pukeiti**	**13.45**	**195**	P	**P**	**12 32 44.2**	**+2.9**
RAEZ	**Rainy Point**	**13.45**	**193**	PN	**P**	**12 32 44.6**	**+3.3**
RAEZ	**Rainy Point**	**13.45**	**193**	P	**P**	**12 32 45.

BHW Baring Head 15.42 190 P **P** **12 32 58.6 -0.8**
NNZ Nelson 15.52 194 PN **P** **12 33 00.4 +0.1**
NNZ Nelson 15.52 194 *e*P **P** **12 33 00.5 +0.2**
TUWZ Tuamarina 15.61 192 PN **P** **12 33 00.5 -0.6**
BSWZ Blackbirch Sta 15.89 192 PN **P** **12 33 03.5 -0.2**
BSWZ Blackbirch Sta 15.89 192 P **P** **12 33 02.8 -0.9**
THZ Tophouse 16.14 195 PN **P** **12 33 05.5 -0.5**
THZ Tophouse 16.14 195 *e*P **P** **12 33 06.2 +0.2**
DSZ Denniston Nort 16.40 198 PN **P** **12 33 08.8 +0.4**
DSZ Denniston Nort 16.40 198 *e*P **P** **12 33 09.1 +0.7**
KHZ Kahutara 16.64 192 PN **P** **12 33 09.6 -0.9**
KHZ Kahutara 16.64 192 *e*P **P** **12 33 10.0 -0.5**
LTZ Lake Taylor 17.26 195 PN **P** **12 33 15.3 -0.8**
LTZ Lake Taylor 17.26 195 *e*P **P** **12 33 15.5 -0.7**
CRLZ Canterbury Las 17.94 194 PN **P** **12 33 21.3 -1.0**
CRLZ Canterbury Las 17.94 194 *e*P **P** **12 33 21.5 -0.8**
MQZ McQueen's Vall 18.05 193 PN **P** **12 33 23.0 -0.4**
MQZ SN **S** **12 36 24.2 +7.0**
MQZ McQueen's Vall 18.05 193 *e*P **P** **12 33 23.3 -0.1**
RPZ Rata Peaks 18.44 197 P **P** **12 33 26.8 -0.1**
comp=Z,11nm,0.3s,baz=356,slow=2.0,SNR=50
RPZ S **S** **12 36 28.5 +5.3**
comp=Z,1.8nm,0.3s,baz=347,slow=9.8,SNR=3.4
RPZ ScP ScP 12 40 00.3 +0.4
comp=Z,1.2nm,0.3s,baz=356,slow=2.3,SNR=5.0
RPZ Rata Peaks 18.44 197 *e*P **P** **12 33 26.7 -0.2**
FOZ Fox Glacier 18.68 200 PN **P** **12 33 28.0 -1.1**
FOZ E 12 34 23.2
FOZ Fox Glacier 18.68 200 *e*P **P** **12 33 28.3 -0.8**
LBZ Lake Benmore 19.29 198 PN **P** **12 33 32.7 -1.9**
LBZ Lake Benmore 19.29 198 *e*P **P** **12 33 33.5 -1.1**
JCZ Jackson Bay 19.44 201 PN **P** **12 33 36.4 +0.5**
JCZ Jackson Bay 19.44 201 *e*P **P** **12 33 36.4 +0.5**
ODZ Otahua Downs 19.78 196 PN **P** **12 33 38.2 -0.8**
ODZ Otahua Downs 19.78 196 *e*P **P** **12 33 38.3 -0.7**
WKZ Wanaka 20.03 200 PN **P** **12 33 40.3 -1.0**
WKZ Wanaka 20.03 200 *e*P **P** **12 33 40.7 -0.6**
MSZ Milford Sound 20.24 202 PN **P** **12 33 43.8 +0.7**
MSZ Milford Sound 20.24 202 *e*P **P** **12 33 44.0 +0.9**
EAZ Earnscleugh 20.32 199 PN **P** **12 33 43.1 -0.6**
EAZ Earnscleugh 20.32 199 *e*P **P** **12 33 43.7 -0.1**
MLZ Mavora Lakes 20.76 201 PN **P** **12 33 48.2 +0.5**
MLZ Mavora Lakes 20.76 201 *e*P **P** **12 33 48.8 +1.0**
TUZ Tuapeka 20.89 197 PN **P** **12 33 49.0 0.0**
TUZ Tuapeka 20.89 197 *e*P **P** **12 33 49.3 +0.4**
DCZ Deep Cove 21.21 202 PN **P** **12 33 52.1 +0.4**
DCZ Deep Cove 21.21 202 *e*P **P** **12 33 52.1 +0.3**
WHZ Wether Hill Ro 21.32 200 PN **P** **12 33 53.0 +0.2**
WHZ Wether Hill Ro 21.32 200 *e*P **P** **12 33 53.1 +0.3**
HNR Honiara 24.12 310 P **P** **12 34 16.1 -1.5**
comp=Z,222nm,0.7s,mb5.7,baz=256,slow=2.8,SNR=4.6
CNB Canberra Magne 26.41 243 *e*P **P** **12 34 39.5 +1.8**
comp=Z,69nm,1.6s,mb4.9
CNB *e*S **S** **12 38 32.4 +3.8**
TBI Tubuai 29.35 91 *e*P **P** **12 35 04.4 +1.4**
comp=Z,183nm,0.7s,mb5.7
TOO Toolangi 29.95 240 *e*P **P** **12 35 09.7 +1.5**
comp=Z,20nm,1.3s,mb4.5
TOO *e*S **S** **12 39 24.9 +1.8**
CTA Charters Tower 30.06 275 *e*P **P** **12 35 10.1 +0.9**
comp=Z,157nm,0.4s,mb5.9
CTA *e*S **S** **12 39 25.4 +0.5**
CTA *e*SCP ScP 12 40 36.0 +3.4
CTA Charters Tower 30.06 275 P **P** **12 35 10.2 +1.0**
comp=Z,173nm,0.5s,mb5.9,baz=98,slow=11,SNR=460
CTA ScP ScP 12 40 35.8 +3.2
comp=Z,14nm,0.9s,baz=118,slow=2.2,SNR=6.1
CTAO Charters Tower 30.06 275⇓ *e*P **P** **12 35 10.2 +1.0**
CTAO pmax pmax
comp=Z,177nm,0.5s,mb5.8
CTAO Charters Tower 30.06 275⇓ *e*P **P** **12 35 10.2 +1.0**
comp=Z,178nm,0.5s,mb5.8
CTAO *e*ScP ScP 12 40 35.7 +3.1
MEH Mehetia 32.16 82 *e*P **P** **12 35 27.5 +0.5**
comp=Z,72nm,1.1s,mb5.1
STKA Stephens Creek 32.50 251 *e*P **P** **12 35 28.7 -1.1**
comp=Z,28nm,1.5s,mb4.6
STKA *e*PP PP 12 37 15.0 +2.9
STKA *e*S **S** **12 39 56.9 -5.0**
STKA *e*SCP ScP 12 40 39.8 -1.1
STKA *e*SCS ScS 12 44 40.6 -1.7
STKA Stephens Creek 32.50 251 P **P** **12 35 28.8 -1.0**
comp=Z,28nm,0.8s,mb4.8,baz=92,slow=8.8,SNR=59
STKA PcP PcP 12 37 55.1 -1.3
comp=Z,5.4nm,0.7s,baz=27,slow=3.1,SNR=3.0
STKA S **S** **12 39 57.0 -4.9**
comp=Z,5.1nm,0.8s,baz=229,slow=17,SNR=4.2
STKA ScP ScP 12 40 41.1 +0.2
comp=Z,7.2nm,0.8s,baz=32,slow=4.6,SNR=4.6
STKA Stephens Creek 32.50 251 *e*P **P** **12 35 28.6 -1.2**
STKA *e*S **S** **12 39 59.5 -2.4**
PMOR Pomariorio Ree 33.43 77 *e*P **P** **12 35 38.5 +0.9**
comp=Z,61nm,1.0s,mb5.1
PMOR *e*ScP ScP 12 40 46.9 +2.7
comp=Z,116nm,1.0s
VAH Vaihoa 33.57 78 *e*P **P** **12 35 39.3 +0.6**
comp=Z,79nm,1.0s,mb5.2
VAH *e*pP 12 37 16.3
comp=Z,37nm,1.0s
VAH *e*ScP ScP 12 40 46.1 +1.4
comp=Z,144nm,1.0s
ASAR Alice Springs 40.22 264 P **P** **12 36 33.1 +0.5**
comp=Z,85nm,0.4s,mb5.5,baz=92,slow=7.3,SNR=1214
ASAR PcP PcP 12 38 20.1 -0.1
comp=Z,11nm,0.9s,baz=110,slow=5.5,SNR=5.2
ASAR ScP ScP 12 41 11.4 +1.6
comp=Z,3.1nm,0.7s,baz=109,slow=3.2,SNR=5.1
ASAR S **S** **12 41 48.9 -7.0**
comp=Z,9.1nm,1.1s,baz=104,slow=14,SNR=12
ASAR Alice Springs 40.22 264 P **P** **12 36 33.2 +0.5**
ASAR pP 12 38 20.1 +1.0
ASPA Alice Springs 40.22 264 *e*P **P** **12 36 33.0 +0.3**
ASPA *e*S **S** **12 41 54.9 -1.0**
ASPA *e*S ScS 12 45 25.7 -0.6
WB2 Warramunga Arr 40.79 269⇓ *i*P **P** **12 36 37.2 0.0**
WB2 *e*SCP ScP 12 41 14.6 +2.5
WB2 *e*S **S** **12 42 01.3 -2.8**
WB2 *e*SCS ScS 12 45 30.1 +0.3
WRA Warramunga Arr 40.80 269 P **P** **12 36 37.1 -0.2**
comp=Z,96nm,0.4s,mb5.6,baz=104,slow=7.8,SNR=846
WRA PcP PcP 12 38 22.7 +0.6
comp=Z,12nm,0.8s,baz=110,slow=3.3,SNR=6.0
WRA ScP ScP 12 41 14.3 +2.2
comp=Z,8.0nm,0.8s,baz=107,slow=3.8,SNR=9.1
WRA S **S** **12 42 02.2 -2.1**
comp=Z,9.3nm,0.9s,baz=104,slow=12,SNR=12
WRA Warramunga Arr 40.80 269 P **P** **12 36 37.1 -0.2**
WRA pP 12 38 22.7 -1.5
WRA S **S** **12 42 02.2 -2.1**
FITZ Fitzroy Crossi 49.19 268 *e*P **P** **12 37 41.3 +0.3**
comp=Z,140nm,0.6s,mb5.5
FITZ *e*S **S** **12 44 00.9 -0.3**
GUMO Guam 51.23 317 P **P** **12 37 55.4 -0.4**
comp=Z,207nm,0.6s,mb5.6,baz=173,slow=11,SNR=9.3
VNDA Vanda 51.96 184 P **P** **12 38 02.1 +1.1**
comp=Z,13nm,0.5s,mb4.4,baz=0.1,slow=7.7,SNR=65
VNDA Vanda 51.96 184 *e*P **P** **12 38 02.1 +1.1**
VNDA pmax pmax
comp=Z,14nm,0.7s
VNDA Vanda 51.96 184 *e*P **P** **12 38 02.1 +1.1**
comp=Z,14nm,0.7s,mb4.3
KIP Kipapa 52.62 28⇓ *e*P **P** **12 37 59.8 -5.8**
KLBR Kellerberrin 52.72 249 *e*P **P** **12 38 06.1 -0.3**
comp=Z,76nm,0.8s,mb5.0
NWAO Narrogin (SRO) 52.92 247 P **P** **12 38 07.6 -0.2**
comp=Z,11nm,0.7s,mb4.2,baz=104,slow=9.5,SNR=14
NWAO Narrogin (SRO) 52.92 247 *e*P **P** **12 38 05.6 -2.2**
MBWA Marble Bar 53.52 262 *e*P **P** **12 38 11.7 -0.3**
comp=Z,69nm,0.9s,mb4.9
MBWA *e*PP PP 12 40 21.3 -1.2
MUN Mundaring 53.95 248 *e*P **P** **12 38 15.0 0.0**
CASY Casey 57.38 206 *e*P **P** **12 38 38.3 -0.2**
comp=Z,27nm,0.6s,mb4.6
RPN Rapa Nui 63.76 109 P **P** **12 39 22.7 +2.4**
comp=Z,66nm,0.9s,mb4.9,baz=273,slow=6.2,SNR=3.8
QSPA South Pole Qui 63.88 180 *e*P **P** **12 39 22.4 +1.4**
comp=Z,174nm,0.7s,mb5.4
TSM Tawau 65.85 288 P **P** **12 39 33.8 +0.4**
KKM Kota Kinabalu 68.17 289 P **P** **12 39 47.3 -0.2**
KSM Kuching 71.04 281 *e*P **P** **12 40 04.7 +0.2**
JOW Kunigami 71.45 314 P **P** **12 40 05.8 -1.0**
comp=Z,51nm,0.7s,mb5.1,baz=137,slow=5.1,SNR=10
MJAR Matsushiro Arr 72.97 327 P **P** **12 40 14.5 -1.1**
comp=Z,21nm,0.7s,mb4.7,baz=162,slow=6.1,SNR=73
MAJO Matsushiro 72.97 327 *e*P **P** **12 40 14.7 -0.9**
MAJO pmax pmax
comp=Z,28nm,0.7s,mb4.8
MAJO Matsushiro 72.97 327 *e*P **P** **12 40 14.7 -0.9**
comp=Z,28nm,0.7s,mb4.8
MAT Matsushiro 72.97 327 P **P** **12 40 14.5 -1.1**
MAT Matsushiro 72.97 327 *e*P **P** **12 40 15.0 -0.6**
MAT pmax pmax
comp=Z,45nm,1.0s,mb4.8
MAT Matsushiro 72.97 327 *e*P **P** **12 40 15.0 -0.6**
comp=Z,45nm,1.0s,mb4.8
JNU Nakatsue 74.28 320 P **P** **12 40 22.1 -0.9**
comp=Z,41nm,0.8s,mb5.0,baz=86,slow=6.9,SNR=20
MAW Mawson 75.06 201 P **P** **12 40 27.9 +0.6**
comp=Z,16nm,0.6s,mb4.8,baz=130,slow=13,SNR=18
MAW Mawson 75.06 201 *e*P **P** **12 40 27.6 +0.3**
PMSA Palmer Station 77.38 157 *e*P **P** **12 40 40.7 +0.7**
KGM Kluang 77.47 279 P **P** **12 40 41.4 +1.0**
FX1 Attu Island--F 78.89 357 P **P** **12 40 47.7 -0.2**
comp=Z,41nm,0.8s,mb5.0,baz=119,slow=23,SNR=6.2
SSE Sheshan 78.91 313 P **P** **12 40 47.7 -0.4**
SSE PP PP 12 43 57.9 -1.2
SSE S S 12 49 55.3 -0.6
SSE SCS ScS 12 50 11.4 -1.5
SSE AMB AMB
comp=Z,29nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,181nm,7.1s
KS15 Wonju Array Si 79.08 321 *e*P **P** **12 40 49.0 0.0**
KS15 PcP PcP 12 40 53.2 -1.5
YSS Yuzh-Sakhalins 79.60 336⇓ *i*P **P** **12 40 53.0 +1.3**
YSS pmax pmax
comp=Z,130nm,0.9s,mb5.4
QIZ Qiongzhong 80.25 297 P **P** **12 40 55.8 +0.7**
SYO Syowa Base 80.42 194⇑ *i*PcP PcP 12 41 01.3 +0.7
SYO Syowa Base 80.42 194⇑ *e*PP PP 12 44 12.9 +1.6
SYO Syowa Base 80.42 194 *e*SH S 12 50 07.0 -4.3
SYO Syowa Base 80.42 194⇓ *i*P **P** **12 40 55.2 -0.8**
SYO ⇑ *i*PcP PcP 12 41 01.3 +0.7
SYO ⇑ *e*PP PP 12 44 12.9 +1.6
SYO *e*S S 12 50 07.0 -4.3
IPM Ipoh 80.63 280 P **P** **12 40 57.6 +0.5**
PET Petropavlovsk 80.74 348 *e*P **P** **12 40 57.2 -0.4**
PET pmax pmax
comp=Z,45nm,0.8s,mb5.0
NJ2 Nanjing 81.06 312 *e*P **P** **12 40 59.6 +0.4**
NJ2 PP PP 12 44 19.7 +3.2
NJ2 S S 12 50 10.0 -7.7
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb4.7
NJ2 AMB AMB
comp=Z,90nm,4.9s
VLA Vladivostok 81.13 328 *e*P **P** **12 40 58.3 -1.3**
VLA pmax pmax
comp=Z,42nm,1.1s,mb4.8
USHA Ushuaia 81.19 147 P **P** **12 41 01.0 +1.1**
comp=Z,16nm,1.0s,mb4.4,baz=262,slow=5.2,SNR=5.4
VNA3 Neumayer Olymp 82.65 177⇑ *i*P **P** **12 41 07.0 -0.3**
VNA3 *e* 12 41 10.9
VNA3 ⇓ *i* pP 12 43 24.1 +3.6
NVL N'lazarevskaya 82.82 184 *e*P **P** **12 41 08.3 +0.2**
NVL *e* 12 43 12.7
NVL pmax pmax
comp=Z,25nm,0.8s,mb4.8
VNA2 Neumayer--Watz 83.05 178⇑ *i*P **P** **12 41 09.2 -0.1**
baz=193,slow=4.7
VNA2 *e* 12 41 11.8
VNA2 *e* 12 41 18.2
VNA2 *e* 12 41 48.7
VNA2 ⇓ *i* pP 12 43 26.7 +4.1
VNA2 Neumayer--Watz 83.05 178⇑ *i*P **P** **12 41 09.2 -0.1**
VNA2 *e* 12 41 18.2
VNA2 *e* 12 41 48.7
WHN Wuhan 83.23 309⇓ P **P** **12 41 10.0 -0.2**
WHN AMB AMB
comp=Z,48nm,1.0s,mb5.0
MDJ Mudanjiang 83.36 327 P **P** **12 41 10.8 0.0**
MDJ AP pP 12 43 24.4 +0.1
MDJ S S 12 50 33.7 -6.7
MDJ XS sS 12 54 30.9 -7.3
MDJ SS SS 12 56 23.3 -2.3
MDJ AMB AMB
comp=Z,58nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,69nm,4.8s
HABR Khabarovsk 83.84 333 *i* P **P** **12 41 14.2 +1.0**
HABR *e*S S 12 50 39.1 -6.0
HABR pmax pmax
comp=Z,130nm,1.6s,mb5.2
SNY Shenyang 84.51 322⇓ P **P** **12 41 15.7 -0.8**
SNY AMB AMB
comp=Z,20nm,1.3s,mb4.6
TIA Tai'an 84.75 315 P **P** **12 41 17.7 +0.1**
TIA AMB AMB
comp=Z,66nm,1.0s,mb5.2
CN2 Changchun 84.86 325 *e*P **P** **12 41 18.6 +0.4**
CN2 *e*S 12 50 53.6
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
KLR Kul'dur 85.81 331 *e*P **P** **12 41 20.2 -2.5**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s,mb5.3
ENH Enshi 86.55 306 *e*P **P** **12 41 26.4 +0.3**
comp=Z,60nm,0.9s,mb5.2
NST Nakhon Sawan 86.61 289⇑ P **P** **12 41 26.6 +0.2**
comp=Z,83nm,0.8s,mb5.4
GYA Guiyang 86.64 302⇓ *i*P **P** **12 41 26.5 -0.1**
GYA PP PP 12 45 05.2 +4.2
GYA SKS 12 50 50.3
GYA S 12 51 09.5
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.7
GYA AMB AMB
comp=Z,90nm,3.2s
YBH Yreka Blue Hor 86.83 40 P **P** **12 41 29.0 +1.6**
comp=Z,2.5nm,0.5s,mb4.1,baz=80,slow=0.3,SNR=13
NVAR Mina Array Bea 87.46 45 P **P** **12 41 31.6 +1.2**
comp=Z,1.7nm,0.5s,mb3.9,baz=228,slow=7.8,SNR=14
NVAR pP pP 12 43 46.4 +0.7
comp=Z,1.0nm,0.9s,baz=223,slow=13,SNR=2.2
BJT Baijiatuau 87.66 317 *e*P **P** **12 41 31.8 +0.5**
BJT pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuau 87.66 317 *e*P **P** **12 41 31.8 +0.4**
comp=Z,29nm,0.8s,mb5.0
PLCA Paso Flores 87.73 135 P **P** **12 41 33.7 +2.0**
comp=Z,19nm,1.1s,mb4.7,baz=217,slow=5.3,SNR=20
MA2 Magadan 88.44 346 *de*P **P** **12 41 33.8 -1.2**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
MA2 Magadan 88.44 346 *e*P **P** **12 41 33.9 -1.1**
comp=Z,22nm,0.9s,mb4.8
CHRT Chiangrai 88.88 293⇓ P **P** **12 41 39.5 +2.5**
comp=Z,234nm,1.1s,mb5.8
XAN Xi'an 88.99 309 P **P** **12 41 38.2 +0.7**
XAN AMB AMB
comp=Z,46nm,1.0s,mb5.2
KMI Kunming 89.01 299 P **P** **12 41 39.2 +1.6**
KMI AMB AMB
comp=Z,37nm,0.9s,mb5.1
TUC Tucson 89.12 53 *e*P **P** **12 41 39.4 +1.3**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
TUC Tucson 89.12 53 *e*P **P** **12 41 39.4 +1.2**
comp=Z,5.6nm,1.0s,mb4.2
HHC Hu-ho-hao-te 90.99 316 *e*P **P** **12 41 46.8 0.0**
HHC AP pP 12 44 05.0 +2.0
HHC XP sP 12 45 03.7 -2.3
HHC SKS 12 51 15.3
HHC S 12 51 56.1
HHC AMB AMB
comp=Z,18nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,107nm,8.4s
CD2 Chengdu 91.09 304⇑ *i*P **P** **12 41 46.0 -1.2**
CD2 AP pP 12 44 01.0 -2.5
CD2 XP sP 12 45 03.5 -2.9
CD2 PP PP 12 45 37.5 +1.7
CD2 SKS 12 51 18.0
CD2 S 12 51 48.9
CD2 SS SS 12 58 17.0 +0.4
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.1
CD2 AMB AMB
comp=Z,120nm,5.8s
TTA Tatalina 91.16 11 *e*P **P** **12 41 46.5 -1.0**
TTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TTA Tatalina 91.16 11 *e*P **P** **12 41 46.5 -1.1**
comp=Z,3.7nm,0.8s,mb4.3
SEY Seymchan 91.21 348 *e*P **P** **12 41 47.3 -0.5**
SEY *e*PP pP 12 43 57.9 -6.2
SEY 12 45 37.2
SEY PPP 12 47 44.7
SEY *e* 12 51 17.3
SEY *e*S 12 51 51.5
SEY *e*SP SP 12 53 10.4 +2.8
SEY SS SS 12 58 15.2 -3.0
SEY SSS 13 02 03.9
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,14nm,0.8s,mb4.8
SEY pmax pmax
comp=E,4.0nm,0.7s
SEY smax
comp=N,140nm,21.4s
SEY smax
comp=E,230nm,20.1s
TNA Tin City 92.09 6 *e*P **P** **12 41 51.1 -0.7**
comp=E,12nm,0.8s,mb4.9
TXAR Lajitas Array 92.93 59 P **P** **12 41 57.0 +1.3**
comp=E,1.9nm,0.8s,mb4.2,baz=216,slow=6.0,SNR=22
TXAR PKKPbc PKKPbc 12 59 03.6 +1.9
comp=E,0.3nm,0.7s,baz=97,slow=4.7,SNR=4.3
ANMO Albuquerque 93.56 53 P **P** **12 41 58.8 +0.3**
comp=E,0.9nm,0.8s,mb3.9,baz=193,slow=9.1,SNR=3.9
LZH Lanzhou 93.61 309 *e*P **P** **12 42 00.1 +1.3**
LZH SKS 12 51 32.5
LZH S 12 52 12.0
LZH SS SS 12 58 55.0 +3.0
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,160nm,4.1s
CFAA Coronel Fontan 94.34 128 P **P** **12 42 03.1 +1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=239,slow=4.5,SNR=23
CFAA pP pP 12 44 19.0 +0.3
comp=Z,0.4nm,0.8s,baz=240,slow=5.1,SNR=3.7
COLA College 94.51 14⇓ *e*P **P** **12 41 59.8 -3.0**
ILAR Eielson Array 94.63 14 P **P** **12 42 01.7 -1.7**
comp=Z,1.8nm,0.8s,mb4.3,baz=223,slow=5.6,SNR=12
ILAR pP pP 12 44 16.9 -3.1
comp=Z,1.0nm,0.9s,baz=235,slow=5.1,SNR=5.0
PDAR Pinedale Array 95.40 45 P **P** **12 42 07.8 +0.9**
comp=Z,0.7nm,0.6s,mb4.0,baz=270,slow=1.5,SNR=5.3
PDAR pP pP 12 44 23.9 +0.4
comp=Z,0.2nm,0.4s,baz=104,slow=24,SNR=3.0
YAK Yakutsk 96.18 339 *e*P **P** **12 42 08.9 -1.4**
YAK pmax pmax
comp=Z,11nm,0.9s,mb5.0
ULN Ulaanbaatar 97.50 320⇑ *e*P Pdif 12 42 16.1 -0.2
ULN *i* *PP pP 12 44 28.0 -5.2
ULN Ulaanbaatar 97.50 320 *e*Pdif Pdif 12 42 15.8 -0.4
comp=Z,2.5nm,0.7s
SONM Songino Array 97.87 320 P Pdif 12 42 17.1 -0.7
comp=Z,1.8nm,0.8s,baz=157,slow=3.1,SNR=12
SONM PP PP 12 46 19.6 -7.8
comp=Z,1.7nm,1.0s,baz=132,slow=4.9,SNR=3.5
SONM PKKPbc PKKPbc 12 58 48.7 -0.1
comp=Z,1.0nm,0.8s,baz=253,slow=3.5,SNR=8.9
GTA Gaotai 98.00 310 P Pdif 12 42 18.9 +0.4
GTA AMB AMB
comp=Z,11nm,1.4s,mb4.9
ZAK Zakamensk 100.90 321 *e*P Pdif 12 42 29.2 -2.2
ZAK pmax pmax
comp=Z,5.0nm,2.1s
LPAZ La Paz 102.84 115 Pdiff Pdif 12 42 44.7 +4.7
comp=Z,0.8nm,0.7s,baz=133,slow=6.4,SNR=4.4
LPAZ La Paz 102.84 115 Pdif Pdif 12 42 44.7 +4.7
YKA Yellowknife Ar 103.09 26 Pdiff Pdif 12 42 44.1 +3.0
comp=Z,0.2nm,0.7s,baz=248,slow=4.5,SNR=5.4
YKA PKiKP PKiKP 12 46 55.1 -1.4
comp=Z,0.3nm,0.5s,baz=241,slow=1.3,SNR=11
YKA PKKPbc PKKPbc 12 58 33.5 -0.5
comp=Z,0.1nm,0.5s,baz=39,slow=2.7,SNR=5.6
MK31 Makanchi Array 112.59 312 *i* PKIKP PKiKP 12 47 13.3 -1.1
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 112.59 312 Pdiff Pdif 12 43 24.6 +1.2
comp=Z,0.9nm,0.7s,baz=97,slow=6.2,SNR=13
MKAR PKiKP PKiKP 12 47 13.4 -1.0
comp=Z,1.4nm,0.5s,baz=70,slow=1.4,SNR=17
MKAR PP PP 12 48 13.1 -0.8
comp=Z,1.8nm,0.9s,baz=121,slow=7.1,SNR=5.9
MKAR SKP 12 49 51.1
comp=Z,1.8nm,0.8s,baz=90,slow=2.4,SNR=5.5
MKAR PKKPbc PKKPbc 12 58 04.7 -0.2
comp=Z,1.5nm,0.7s,baz=279,slow=4.0,SNR=17
MKAR PKKPab PKKPab 12 58 15.8 +0.3
comp=Z,1.3nm,0.7s,baz=286,slow=4.2,SNR=9.2
MKAR Makanchi Array 112.59 312 P Pdif 12 43 24.6 +1.3
MKAR 12 47 13.4
MKAR 12 48 13.1
MKAR 12 58 04.7
ZAL Zalesovo 112.77 320 PKiKP PKiKP 12 47 13.3 -1.3
comp=Z,1.1nm,0.7s,baz=331,slow=3.6,SNR=9.7
KSH Kashi 115.28 303 *e*PKP PKPdf 12 47 22.0 +2.5
KSH PP PP
comp=Z,110nm,4.2s
KURK Kurchatov 115.81 316 PKIKP PKPdf 12 47 19.2 -1.3
KURK pmax pmax
comp=Z,12nm,1.5s
TKM2 Tokmak 2 116.33 307 PKIKP PKPdf 12 47 20.7 -0.8
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
BDFB Brasilia 118.67 127 PKP PKPdf 12 47 26.0 0.0
comp=Z,1.8nm,0.5s,baz=258,slow=2.8,SNR=4.4
BDFB PKKPbc PKKPbc 12 57 45.6 +1.5
comp=Z,4.8nm,0.7s,baz=114,slow=5.9,SNR=4.2
BOSA Boshof 119.66 207 PKP PKPdf 12 47 29.1 +1.2
comp=Z,2.5nm,0.9s,baz=51,slow=19,SNR=2.7
KK31 Karatay Array 120.03 306 *i* PKIKP PKPdf 12 47 28.1 -0.5
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 120.03 306 *i* PKIKP PKPdf 12 47 28.1 -0.5
KKAR pmax pmax
comp=Z,3.0nm,0.7s
VOSK Vostochnaya 120.77 317 PKIKP PKPdf 12 47 28.7 -1.4
VOSK pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 121.15 318 *i* PKIKP PKPdf 12 47 29.8 -1.0
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 121.15 318 PKP PKPdf 12 47 29.9 -0.9
comp=Z,6.2nm,0.3s,baz=99,slow=1.2,SNR=66
ZRNK Zerenda 121.98 318 *e*PKPdf PKPdf 12 47 31.2 -1.2
ZRNK *e*SKPdf SKPdf 12 50 08.4 0.0
SCHQ Schefferville 125.22 40 PKP PKPdf 12 47 36.9 -1.7
comp=Z,2.6nm,0.9s,baz=253,slow=7.2,SNR=5.5
AB31 Akbulak array 127.71 313 PKIKP PKPdf 12 47 42.8 -0.6
AB31 pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 127.81 322 *i* PKIKP PKPdf 12 47 43.4 -0.1
ARU *e* 12 49 54.0
ARU Arti 127.81 322 *e*PKPdf PKPdf 12 47 42.5 -1.0
AKTK Aktyubinsk 128.88 315 PKP PKPdf 12 47 44.9 -0.7
AKTK SKPbc 12 50 09.3
AKTO Aktyubinsk 128.88 315 PKP PKPdf 12 47 44.9 -0.7
comp=Z,6.0nm,0.6s,baz=82,slow=2.5,SNR=26
AKTO SKPbc 12 50 09.3
comp=Z,4.0nm,0.8s,baz=84,slow=5.6,SNR=10
SFJD Kangerlussuaq 129.48 23 PKP PKPdf 12 47 46.1 -0.6
comp=Z,2.9nm,0.4s,baz=91,slow=5.4,SNR=4.1
SFJD SKPbc SKPbc 12 50 07.4 -2.9
comp=Z,8.8nm,0.6s,baz=250,slow=3.3,SNR=6.4
KEV Kevo 133.33 347 *e*pkp SKPbc 12 50 21.0 -2.8
KEV Kevo 133.33 347 *e*PKP PKPdf 12 47 47.0 -7.0
KEV *e*PKP SKPbc 12 50 21.0 -2.8
KMBO Kilima Mbogo 133.64 240 PKP PKPdf 12 47 54.8 +0.2
comp=Z,0.7nm,0.3s,baz=53,slow=23,SNR=3.9
KMBO SKPbc SKPbc 12 50 26.5 +1.7
comp=Z,11nm,0.9s,baz=93,slow=2.1,SNR=17
ARCES ARCESS Array B 133.81 347 PKhKP 12 47 39.3
comp=Z,4.0nm,1.0s,baz=14,slow=5.0,SNR=8.3
ARCES PKP PKPdf 12 47 54.0 -0.9

comp=Z,6.2nm,0.6s,baz=58,slow=1.5,SNR=16
ARCES SKPbc SKPbc 12 50 26.1 +0.7
comp=Z,28nm,0.8s,baz=45,slow=3.4,SNR=23
KLMR Klimovskoe 135.56 333 *i* PKIKP PKPdf 12 47 57.7 -0.4
KLMR pmax pmax
comp=Z,20nm,1.4s
JOF Joensuu 137.35 338 *e*pkp SKPbc 12 50 36.8 +0.7
JOF Joensuu 137.35 338 *e*PKP PKPdf 12 47 51.3 -10
JOF *e*PKP SKPbc 12 50 36.8 +0.7
KAF Kangasniemi 139.53 340 *e*pkp SKPbc 12 50 41.8 -0.3
KAF Kangasniemi 139.53 340 *e*PKP PKPdf 12 47 56.6 -8.8
KAF *e*PKP SKPbc 12 50 41.8 -0.3
OBN Obninsk 139.90 326 *e*PKHKP 12 47 58.1
OBN *e* 12 48 07.5
OBN pmax pmax
comp=Z,9.0nm,1.2s
FINES FINESS Array B 140.11 340 PKhKP 12 47 58.3
comp=Z,5.7nm,0.4s,baz=52,slow=4.9,SNR=108
FINES PKP PKPdf 12 48 07.5 +1.1
comp=Z,4.0nm,0.3s,baz=76,slow=3.3,SNR=15
FINES SKPbc SKPbc 12 50 44.1 +0.4
comp=Z,10nm,0.8s,baz=72,slow=6.0,SNR=12
FINES SKPab 12 50 56.0
comp=Z,5.5nm,0.9s,baz=68,slow=10,SNR=5.5
FINES FINESS Array B 140.11 340 *i* PKHKP 12 47 58.2
FINES pmax pmax
comp=Z,6.0nm,0.4s
KIV Kislovodsk 140.15 308 *i* PKIKP PKPdf 12 48 04.8 -1.7
KIV *e* 12 51 14.8
KIV pmax pmax
comp=Z,10.0nm,1.2s
ERZM Erzurum 141.79 302 *i* P PKPdf 12 48 07.7 -1.8
BNGL BINGOL 142.07 300 *i* P PKPdf 12 48 07.3 -2.6
VSU Vasula 142.10 336⇓*i*PKIKP PKPdf 12 48 10.6 +0.6
MARD Mardin 142.53 298 *i* P PKPdf 12 48 08.5 -2.2
KELT Kelkit 143.36 303 *i* P PKPdf 12 48 12.1 -0.1
DOMB Dombas 143.46 352 *e*P PKPdf 12 48 10.4 -2.0
DOMB AMb AMB 12 48 11.5
comp=Z,107nm,0.8s
ANN Anapa 143.59 311 *d i*PKIKP PKPdf 12 48 11.2 -1.4
ANN pmax pmax
comp=Z,208μm,0.7s
ELZG Elazig 143.81 300 *i* P PKPdf 12 48 13.8 +0.8
GRSN GIRESUNGRSN 143.96 304 *i* P PKPdf 12 48 12.3 -1.0
NB2 NORSAR Subarra144.09 349 PKPa PKPdf 12 48 11.9 -1.6
comp=Z,56nm,0.8s,baz=16,slow=3.2
NB2 NORSAR Subarra144.09 349 PKPa PKPdf 12 48 11.9 -1.6
baz=16,slow=3.2
NOA NORSAR Array B 144.09 349 PKP PKPdf 12 48 12.1 -1.4
comp=Z,43nm,0.8s,baz=25,slow=4.3,SNR=110
NOA SKPbc SKPbc 12 50 53.5 +0.1
comp=Z,5.5nm,0.8s,baz=12,slow=4.0,SNR=8.2
NOA NORSAR Array B 144.09 349 PKP PKPdf 12 48 12.1 -1.4
NOA SKPbc SKPbc 12 50 53.5 +0.1
MALT Malatya 144.27 300 P PKPdf 12 48 06.6 -7.2
MALT Malatya 144.27 300 *e*PKPbc PKPdf 12 48 14.6 +0.8
MALT *e*SKPbc SKPbc 12 50 55.4 +1.6
NAO01 NORSAR Array S 144.33 349 *e*PKPbc PKPdf 12 48 12.9 -1.0
NAO01 *e*pPKPdf pPKPdf 12 50 39.7 -0.3
NAO01 *e*SKPbc SKPbc 12 50 54.2 +0.3
MNK Minsk 144.38 330⇓*e*PKHKP 12 48 11.0
MNK pmax pmax
comp=Z,550nm,1.0s
HFS Hagfors 144.48 347 PKP PKPdf 12 48 13.1 -1.1
comp=Z,31nm,0.3s,baz=74,slow=3.3,SNR=437
HFS SKPbc SKPbc 12 50 53.6 -0.7
comp=Z,13nm,0.8s,baz=180,slow=1.5,SNR=8.6
ATAB Bozova 144.48 298 *i* P PKPdf 12 48 15.5 +1.3
GZT Gaziantep 145.07 298 *i* P PKPdf 12 48 17.2 +2.0
SVSK Karacayir 145.10 303 P PKPdf 12 48 15.7 +0.5
GAZ Gaziantep 145.37 298 P PKPdf 12 48 17.5 +1.8
KVT Kavak 145.56 305 *e*P PKPdf 12 48 17.1 +1.0
KONO Kongsberg 145.68 350 *e*PKIKP PKPdf 12 48 16.8 +0.6
KONO *e* 12 48 19.3
AKASG Malin Array Be 146.02 324 PKPbc PKPbc 12 48 17.9 -1.0
comp=Z,36nm,0.7s,baz=43,slow=3.6,SNR=107
AKASG SKPbc SKPbc 12 50 58.8 +1.0
comp=Z,12nm,0.8s,baz=47,slow=2.4,SNR=15
COBT Iskenderun 146.21 297 *i* P PKPdf 12 48 20.4 +3.3
BOYT Boyabat 146.31 306 *i* P PKPdf 12 48 20.4 +3.2
BLSS Blasjo 146.33 353 *e*P PKPdf 12 48 20.8 +3.5
BYBT Boyabat 146.40 306 P PKPdf 12 48 19.4 +2.0
KOZT Kozan 146.42 299 *e*P PKPdf 12 48 20.8 +3.3
CTKT Corum 146.60 305 *i* P PKPdf 12 48 21.2 +3.4
SUW Suwalki 146.69 333 *e*PKP PKPdf 12 48 20.4 +2.5
CORM Corum 146.82 304 P PKPdf 12 48 19.9 +1.7
BHL Bhannes 146.93 292 *e*P PKPdf 12 48 22.4 +4.1
TOS Tosya 147.06 306 *e*P PKPdf 12 48 22.4 +3.9
CDAG Cicekdag 147.15 303 *i* P PKPdf 12 48 22.1 +3.5
BALT Daday 147.38 307 *i* P PKPdf 12 48 23.1 +4.0
EIL Elat 147.55 285 *e*PKPbc PKPbc 12 48 23.7 +0.7
EIL *e*PKPab PKPab 12 48 28.4 +0.8
MERS Mersin 147.55 298 P PKPdf 12 48 23.2 +3.9
ELDT Eldivan 147.64 305 *i* P PKPdf 12 48 23.4 +4.0
BR131 Keskin Array S 147.67 304 *e*PKPbc PKPbc 12 48 23.0 -0.3
BR131 *e*PKPab PKPab 12 48 28.0 -0.1
BRTR Keskin Array B 147.67 304 PKPbc PKPbc 12 48 23.0 -0.3
comp=Z,14nm,0.8s,baz=108,slow=3.9,SNR=6.6
KAMT Kaman 147.70 303 P PKPdf 12 48 22.5 +3.0
SAFT Safranbolu 147.97 307 P PKPdf 12 48 23.7 +3.7
PHNC Paralimni 148.18 295 P PKPdf 12 48 25.0 +4.7
KIS Kishinev 148.23 319 *e*PKHKP 12 48 24.0
SGKT Sivrigoynuk 148.62 306 *i* P PKPdf 12 48 25.2 +4.1
BSD Bornholm Skovb 148.67 342 *i* P PKPdf 12 48 25.1 +4.0
comp=Z,30nm,0.6s
BSD *i* 12 48 30.6
CSS Prodhromos 148.76 295 P PKPdf 12 48 26.0 +4.7
MUD Monsted U'grnd 148.78 348⇓*i*P PKPdf 12 48 25.6 +4.3
comp=Z,29nm,0.7s
MUD *i* 12 48 32.5
MUD Monsted U'grnd 148.78 348⇓*i*PKHKP 12 48 25.6
MUD *i* 12 48 32.5
MUD pmax pmax
comp=Z,29nm,0.7s
COP Copenhagen 148.81 345 *i* P PKPdf 12 48 25.9 +4.5
comp=Z,21nm,0.5s
COP *i* 12 48 32.7
COP Copenhagen 148.81 345 *i* PKHKP 12 48 25.9
COP *i* 12 48 32.7
COP pmax pmax
comp=Z,21nm,0.5s
ERMK Ermenek 148.86 298 *i* P PKPdf 12 48 25.7 +4.3
WAR Warsaw 148.88 333 *e*PKP PKPdf 12 48 26.9 +5.4
KONT Konya--Tatoy 149.04 301 P PKPdf 12 48 26.0 +4.2
SZAC Souni-Zanaja 149.15 294 P PKPdf 12 48 27.2 +5.3
KIZT Kizilcal 149.20 303 P PKPdf 12 48 26.6 +4.7
MDU Mudurnu 149.26 306 P PKPdf 12 48 26.7 +4.6
ALFC Alevga 149.33 295 P PKPdf 12 48 26.7 +4.5
comp=Z,1.2nm,0.8s
HENT Hendek 149.38 307 *i* P PKPdf 12 48 27.3 +5.0
CFR Carcaliu 149.53 316⇓P PKPdf 12 48 28.1 +5.6
TIRR Tirgusor 149.69 315⇑P PKPdf 12 48 28.1 +5.4
ESKT Eskisehir 149.81 304 *i* P PKPdf 12 48 28.4 +5.5
HARR Harsova 149.88 315⇑P PKPdf 12 48 29.3 +6.3
BURAR Bucovina Array 149.95 322⇑P PKPdf 12 48 29.2 +6.1
KWP Kalwaria 149.97 328 *e*PKP PKPdf 12 48 29.2 +6.0
BORA Eskisehir 150.00 305 *i* P PKPdf 12 48 29.0 +5.8
VRI Vrincioaia 150.05 318⇑P PKPdf 12 48 28.8 +5.5
VRI Vrincioaia 150.05 318 P PKPdf 12 48 29.3 +6.0
ISP Isparta 150.50 301 *e*PKIKP PKPdf 12 48 28.5 +4.5
ISP *e* 12 48 38.7
TKTP Tekketepe 150.59 302 *i* P PKPbc 12 48 29.7 -0.6
KOLS Kolonicke sedl 150.65 327 *e*PKP PKPdf 12 48 24.4 +0.2
KOLS *e* 12 48 30.7
MLR Muntele Rosu 150.71 318 PKPbc PKPbc 12 48 30.6 0.0
comp=Z,4.3nm,0.3s,baz=318,slow=2.4,SNR=20
MLR PKPab PKPab 12 48 40.7 -0.1
comp=Z,10.0nm,0.8s,baz=245,slow=2.9,SNR=6.7
MLR Muntele Rosu 150.71 318 P PKPbc 12 48 30.5 -0.1
STHS Stebnicka Huta 150.82 329 *e*PKP PKPbc 12 48 31.5 +0.7
STHS *e* 12 48 41.8
ULDT Uludag 150.88 306 *i* P PKPdf 12 48 30.9 -0.1
EKA Eskdalemuir Ar 150.89 2 PKPbc PKPbc 12 48 30.1 -0.9
comp=Z,5.4nm,0.6s,baz=315,slow=1.2,SNR=4.0
EKA PKPab PKPab 12 48 40.8 -0.7
comp=Z,6.3nm,0.8s,baz=1.4,slow=3.3,SNR=8.8
OJC Ojcow 150.89 331 *i* PKPd PKPbc 12 48 31.0 0.0
BSEG Bad Segeberg 150.91 345 *e*PKPbc PKPbc 12 48 30.7 -0.4
BSEG *e*PKPab PKPab 12 48 41.1 -0.5
CRVS Cervenica-Dubn 151.07 328 *e*PKP PKPdf 12 48 32.1 +7.2
CRVS *e* 12 48 42.4
NIE Niedzica 151.25 329 *e*PKP PKPdf 12 48 32.5 +7.4
RUE Ruedersdorf 151.30 340 *e*PKPbc PKPbc 12 48 31.5 -0.4
RUE *e*PKPab PKPab 12 48 42.7 -0.5
AKAS Kas 151.55 298 *i* P PKPbc 12 48 32.2 -0.2
DNZL Cakiroluk 151.66 301 *i* P PKPbc 12 48 33.4 +0.7
RAC Raciborz 151.68 333 *e*PKIKP PKPbc 12 48 33.6 +0.8
DRGR 151.81 323⇓P PKPbc 12 48 33.0 -0.1
DRGR 151.81 323 P PKPbc 12 48 33.0 0.0
KSP Ksiaz 151.82 336 *e*PKP PKPbc 12 48 33.6 +0.5
KSP Ksiaz 151.82 336⇓*i*PKPdf PKPbc 12 48 33.5 +0.4
KSP *e*PKPab PKPab 12 48 45.3 -0.1
KECS Kecovo 151.83 328 *e*PKP PKPbc 12 48 34.2 +1.1
KECS *i* 12 48 45.5
OKC Ostrava-Krasne 151.88 332⇑*e*PKPB 12 48 32.0
OKC *e*PKPAB PKPab 12 48 43.3 -2.4
MORC Moravsky Berou 152.18 333 *e*PKIKP PKPdf 12 48 26.5 0.0
MORC *e* 12 48 33.8
MORC *e* 12 48 45.6
UPC Upice 152.20 335⇑*e*PKPB 12 48 34.0
UPC *e*PKPAB PKPab 12 48 47.2 +0.2
DPC Dobruska-Polom 152.21 335 *e*PKPDF PKPdf 12 48 25.6 -0.9
DPC ⇑*e*PKPB 12 48 34.2
DPC *e*PKPAB PKPab 12 48 47.5 +0.4
PSZ Piszkesteto 152.50 328 *e*PKIKP PKPbc 12 48 34.1 -0.5
PSZ *e* 12 48 47.9
CLL Collm 152.56 340 *e*PKPbc PKPbc 12 48 34.4 -0.3
CLL *e*PKPab PKPab 12 48 47.8 -0.7
CLL Collm 152.56 340⇓*i*PKPbc PKPbc 12 48 34.6 -0.1
comp=Z,36nm,0.8s
CLL *ex* x 12 48 40.0
CLL *i* PKPab PKPab 12 48 47.9 -0.6
comp=Z,40nm,0.8s
CLL *i* pPKPbc pPKPbc 12 51 00.5 +0.7
CLL *es*PKPbc 12 52 05.0
CLL Collm 152.56 340⇓*i*PKIKP PKPbc 12 48 34.6 -0.1
CLL *i* 12 48 47.9
CLL pmax pmax
comp=Z,36nm,0.8s
CLL pmax pmax
comp=Z,40nm,0.8s
CLL Collm 152.56 340⇓*i*PKP PKPbc 12 48 34.6 -0.1
CLL *i* PKP PKPab 12 48 47.9 -0.6
CLL *i* pPKP pPKPdf 12 51 00.5 +6.9
VYHS Vyhne 152.59 330 *e*PKP PKPbc 12 48 35.0 +0.2
VYHS *i* 12 48 48.9
BRG Berggiesshubel 152.63 338 *e*PKPbc PKPbc 12 48 34.7 -0.1
BRG *e*PKPab PKPab 12 48 48.3 -0.6
BRG Berggiesshubel 152.63 338 *i* PKIKP PKPdf 12 48 34.3 +7.1
BRG *i* 12 48 48.5
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.6s
BRG Berggiesshubel 152.63 338 *i* PKP PKPbc 12 48 34.3 -0.5
BRG *i* 12 48 48.5
BRG *ep*PKP pPKPdf 12 50 59.3 +5.6
PVCC Panska Ves 152.71 337⇑*e*PKPB 12 48 35.2
PVCC *e*PKPAB PKPab 12 48 49.2 0.0
CLZ Clausthal 152.82 344 *e*PKPbc PKPbc 12 48 35.1 -0.2
CLZ *e*PKPab PKPab 12 48 49.5 -0.2
VRAC Vranov 152.93 333 PKPbc PKPbc 12 48 35.4 -0.1
comp=Z,3.0nm,0.9s,baz=128,slow=7.0,SNR=4.2
VRAC PKPab PKPab 12 48 49.6 -0.5
comp=Z,11nm,0.8s,baz=41,slow=4.4,SNR=14
IBBN Ibbenburen 152.98 347 *e*PKPab PKPab 12 48 49.6 -0.8
BZS Buzias 153.13 322⇓P PKPbc 12 48 35.7 -0.2
BZS Buzias 153.13 322 P PKPbc 12 48 35.6 -0.3
PRU Pruhonice 153.17 336 *e*PKPDF PKPdf 12 48 25.7 -2.2
PRU ⇑*e*PKPB 12 48 35.9
PRU *e*PKPAB PKPab 12 48 51.0 -0.2
SMOL Smolenice 153.20 331 *e*PKP PKPbc 12 48 36.8 +0.7
SMOL *e* 12 48 51.9
TREC Trest 153.38 334⇑*e*PKPB PKPbc 12 48 36.6 +0.1
TREC *e*PKPAB PKPab 12 48 51.5 -0.6
SRO1 Iza 153.40 329 *e*PKP PKPab 12 48 52.4 +0.3
WTSB Winterswijk 153.49 348 *e*PKiKP PKiKP 12 48 35.9 -0.8
comp=Z,24nm,0.7s
WERD Werda 153.53 340 *e*PKPab PKPab 12 48 52.5 -0.2
MOX Moxa 153.56 341 *e*PKPab PKPab 12 48 52.2 -0.6
MOX Moxa 153.56 341 *e*P PKPab 12 48 52.5 -0.3
comp=Z,28nm,1.3s
MOX Moxa 153.56 341 *e*PKP2 PKPab 12 48 52.5 -0.3
MOX pmax pmax
comp=Z,28nm,1.3s
ZST Bratislava 153.58 331 *e*PKP PKPab 12 48 53.1 +0.2
NKC Novy Kostel 153.67 339⇑*e*PKPB PKPbc 12 48 36.8 -0.3
NKC *e*PKPAB PKPab 12 48 52.8 -0.5
BUG Bochum--Univer 153.90 347 *e*PKPab PKPab 12 48 53.4 -0.9
ROTZ Rotzenmuhle 154.15 339 *e*PKPab PKPab 12 48 55.3 -0.1
ROTZ *ep*PKPab pPKPab 12 51 10.4 -3.2
KHC Kasperske Hory 154.23 337 *e*PKPDF PKPdf 12 48 28.8 -0.6
KHC ⇑*e*PKPB 12 48 38.6
KHC *e*PKPAB PKPab 12 48 55.8 +0.1
GEC2 GERESS Array S 154.42 336 *e*PKPab PKPab 12 48 56.0 -0.5
GERES GERESS Array B 154.42 336 PKP PKPdf 12 48 28.8 -0.9
comp=Z,1.4nm,0.9s,baz=135,slow=1.9,SNR=7.2
GERES PKPbc PKPbc 12 48 38.8 +0.2
comp=Z,2.2nm,0.7s,baz=45,slow=1.9,SNR=18
GERES PKPab PKPab 12 48 55.7 -0.9
comp=Z,8.5nm,0.8s,baz=34,slow=4.8,SNR=30
WET Wettzell 154.46 337 *e*PKPab PKPab 12 48 56.9 +0.2
GRA1 Grafenberg Arr 154.52 340 *e*PKPab PKPab 12 48 57.0 0.0
GRF Grafenberg Arr 154.52 340 *e*PKPab PKPab 12 48 57.0 0.0
TNS Taunus Mts 154.79 345 *e*PKPab PKPab 12 48 57.8 -0.3
HGN Heimansgroeve 154.80 349 *e*PKiKP PKPab 12 48 56.7 -1.5
comp=Z,35nm,1.0s
BEBN Eben Emael 154.81 349 PKPab PKPab 12 48 57.5 -0.8
MEM Membach 154.94 348 PKPab PKPab 12 48 58.6 -0.2
VAY Valandovo 154.95 313⇑*i*P PKPab 12 48 58.1 -0.7
STIP Stip 155.01 314⇑*i*P PKPab 12 48 58.3 -0.8
TOD Tromm 155.28 344 PKP PKPab 12 49 00.0 -0.2
SNF Seneffe 155.31 351 PKPab PKPab 12 48 59.8 -0.6
ABH Alteburg 155.32 346 PKP PKPab 12 49 00.1 -0.3
SKO Skopje 155.34 315⇑*i*P PKPab 12 49 01.8 +1.2
IDI Anoyia 155.50 298 PKPab PKPab 12 49 01.2 0.0
comp=Z,9.2nm,0.5s,baz=172,slow=2.9,SNR=14
GIVF Givet 155.63 350 *e*PKP2 PKPab 12 49 00.5 -1.2
PERS Pernice 155.64 331 *e*PKPbc PKPab 12 49 01.5 -0.3
DOU Dourbes 155.67 350 PKPab PKPab 12 49 01.2 -0.8
BAIF Baives 155.76 351 *e*PKP2 PKPab 12 49 01.3 -1.0
comp=Z,20nm,1.0s
WLF Walferdange 155.81 348 *e*PKPab PKPab 12 49 02.5 0.0
WLF Walferdange 155.81 348 PKPab PKPab 12 49 02.1 -0.5
FUR Furstenfeldbru 155.85 338 *e*PKPab PKPab 12 49 02.6 -0.1
STU Stuttgart 155.94 342 *e*PKPab PKPab 12 49 02.5 -0.6
LANF Langenberg 156.10 344 PKP PKPab 12 49 03.5 -0.3
OHR Ohrid 156.21 314 *i* P PKPab 12 49 01.8 -2.5
LJU Ljubljana 156.36 331 *i* PKPbc PKPab 12 49 04.3 -0.6
BOJS Bojanci 156.45 329 *i* PKPbc PKPab 12 49 04.9 -0.4
BFO Black Forest 156.57 343 *e*PKPab PKPab 12 49 05.2 -0.6
WLS Welschbruch 156.74 345 PKP PKPab 12 49 06.3 -0.3
CDF Champ du Feu 156.76 345 *e*PKP2 PKPab 12 49 05.7 -0.9
comp=Z,45nm,1.0s
ECH Echery 156.97 345 PKP PKPab 12 49 07.1 -0.5
MEZF Maizieres J'vi 157.14 348 *e*PKP2 PKPab 12 49 07.5 -0.8
comp=Z,46nm,0.9s
THEF They Montfort 157.22 347 PKP PKPab 12 49 08.2 -0.4
MOF Molkenrain 157.32 344 PKP PKPab 12 49 08.8 -0.3
HAU Haudompre 157.35 346 *e*PKP2 PKPab 12 49 09.1 -0.1
comp=Z,50nm,0.9s
HINF Hinteralfeld 157.41 345 *e*PKP2 PKPab 12 49 08.5 -1.0
comp=Z,11nm,0.8s
FLN La Foliniere 157.47 358 *e*PKP2 PKPab 12 49 08.0 -1.7
comp=Z,34nm,0.9s
DAVOS Davos 157.49 339 PKP2 PKPab 12 49 10.3 +0.5
DAVOX Davos 157.52 339 PKPab PKPab 12 49 10.3 +0.3
comp=Z,13nm,0.8s,baz=54,slow=2.0,SNR=15
LDF La Druitiere 157.62 357 *e*PKP2 PKPab 12 49 08.7 -1.7
comp=Z,12nm,0.7s
GRR Gorron 157.85 359 *e*PKP2 PKPab 12 49 09.8 -1.6
comp=Z,20nm,0.8s
LOMF Lomont 157.86 345 PKP PKPab 12 49 11.5 +0.1
LOR Lormes 158.53 350 *e*PKP2 PKPab 12 49 13.3 -1.1
comp=Z,29nm,1.2s
HYF Humbligny 158.71 352 *e*PKP2 PKPab 12 49 14.5 -0.6
CABF La Chapelle 158.73 345 *e*PKP2 PKPab 12 49 14.3 -0.9
comp=Z,20nm,0.8s
SSF Saint Saulge 158.79 350 *e*PKP2 PKPab 12 49 14.6 -0.9
comp=Z,38nm,0.9s
AVF Avril sur Loir 159.08 350 *e*PKP2 PKPab 12 49 15.7 -1.1
comp=Z,62nm,1.1s
SMF Signal de Mont 159.14 349 *e*PKP2 PKPab 12 49 16.2 -0.8
comp=Z,91nm,0.9s
BGF Bois d'Agland 159.38 351 *e*PKP2 PKPab 12 49 17.2 -0.9
comp=Z,14nm,0.9s
LPL La Plagne 159.59 343 *e*PKP2 PKPab 12 49 19.2 +0.2
comp=Z,59nm,1.0s
LPG La Plagne 159.60 343 *e*PKP2 PKPab 12 49 19.5 +0.4
comp=Z,120nm,1.2s
MFF Saint Martin d 159.62 357 *e*PKP2 PKPab 12 49 17.8 -1.3
comp=Z,25nm,1.1s
TCF Toulx Ste Croi 159.73 352 *e*PKP2 PKPab 12 49 18.6 -1.0
comp=Z,31nm,1.0s
MBDF Montbardon 160.31 342 *e*PKP2 PKPab 12 49 22.3 +0.2
ORIF Oris-en-Rattie 160.37 344 *e*PKP2 PKPab 12 49 22.2 -0.2
comp=Z,61nm,0.8s
VIVF Saint-Julien-l 160.71 346 *e*PKP2 PKPab 12 49 23.5 -0.4
comp=Z,48nm,1.4s
RJF Les Rejaudoux 160.78 353 *e*PKP2 PKPab 12 49 23.1 -1.1
comp=Z,46nm,1.3s
SBF Sospel 160.90 340 *e*PKP2 PKPab 12 49 23.9 -0.8
comp=Z,44nm,0.8s
CAF Calviac 161.09 352 *e*PKP2 PKPab 12 49 25.0 -0.6
comp=Z,51nm,1.2s
LFF La Frestale 161.21 355 *e*PKP2 PKPab 12 49 25.0 -1.1
comp=Z,47nm,1.1s
SMRF Simiane la Rot 161.33 343 *e*PKP2 PKPab 12 49 26.6 0.0
comp=Z,74nm,1.3s
FRF La Foret Royal 161.41 341 *e*PKP2 PKPab 12 49 26.9 -0.1
PGF Pioggiola 161.50 334 *e*PKP2 PKPab 12 49 26.4 -1.0
LMR La Mourre 161.66 341 *e*PKP2 PKPab 12 49 27.3 -0.8
comp=Z,40nm,0.9s
MTLF Montolieu 162.62 350 *e*PKP2 PKPab 12 49 31.8 -0.5
SJPF Ste Jean 163.14 359 *e*PKP2 PKPab 12 49 33.8 -0.8
ETSF Etsaut 163.33 357 *e*PKP2 PKPab 12 49 34.5 -0.9
comp=Z,9.4nm,0.8s
ESDC Sonseca Array 166.44 8 PKPab PKPab 12 49 48.6 -0.5
comp=Z,2.3nm,0.8s,baz=352,slow=3.9,SNR=8.8
TORD Torodi Ar. Bea 166.62 194 PKP PKPdf 12 48 43.0 +0.4
comp=Z,3.0nm,1.1s,baz=17,slow=0.4,SNR=9.7
TORD PKPab PKPab 12 49 50.8 +0.8
comp=Z,9.2nm,0.8s,baz=163,slow=4.1,SNR=34
TORD PP PP 12 53 40.2 +0.8
comp=Z,2.4nm,0.8s,baz=180,slow=4.4,SNR=6.3
MDT Midelt 172.94 21 PKPab PKPab 12 50 19.3 +1.2
comp=Z,4.0nm,0.8s,baz=351,slow=5.5,SNR=8.3

MAN 05 12:32:41.3,1526N×11972E,h28km,mb2.0,ML3.7,MS1.5, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.54**	**20**	*e*P	Pb	12 32 53.0	+0.6
SCZP				*e*S	Sb	12 33 00.8	+1.0
BOLP	**Bolinao**	**1.13**	**9**	*e*P	Pn	12 33 01.0	-0.3
PCPH	**Palayan**	**1.36**	**77**⇓	*e*P	Pn	12 33 04.3	-0.1
PCPH				*i* S	Sn	12 33 21.6	+0.1
BCPH	**Baguio City Da**	**1.39**	**37**⇑	*e*P	Pn	12 33 05.2	+0.5
BCPH				*e*S	Sn	12 33 24.0	+1.8
BALP	**Baler**	**1.85**	**75**	*e*P	Pn	12 33 12.2	+1.0
CAUP	**Cauayan**	**2.62**	**50**	*e*P	Pn	12 33 24.7	+2.9
APYP	**Conner**	**2.97**	**29**	*e*P	Pn	12 33 31.3	+4.8
BUSP	**Coron**	**3.27**	**172**	*e*P	Pn	12 33 31.9	+1.1

ISCJB ***05*** *13:27:03.0±2.2,387N±0.1×729E±0.1,h100km, Error ellipse: s-maj=21.3km s-min=13.8km az=11.3*
NNC ***05*** *13:27:07.8±6.0,39.17N×7304E,h213km±75km,mb2.0, mpv3.0,Error ellipse: s-maj=71.3km s-min=27.5km az=8.0*
ISC 05 13:27:03.6±2.2,387N±02×729E±01,h100km,n11, σ0.978/14,3C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=33	**3.51**	**9**	P	**Pn**	**13 27 56.5**	**+0.4**
UCH	**Uchtor** SNR=18	**3.76**	**18**	P	**Pn**	**13 27 59.9**	**+0.4**
KZA	**Kyzart** SNR=12	**3.84**	**27**	P	**Pn**	**13 28 00.1**	**-0.5**
EKS2	**Erkin-Say** SNR=9.0	**4.04**	**9**	P	**Pn**	**13 28 04.1**	**+0.8**
AAK	**Ala-Archa** SNR=7.4	**4.14**	**16**	P	**Pn**	**13 28 05.3**	**+0.7**
ULHL	**Ulahol** SNR=19	**4.38**	**34**	P	**Pn**	**13 28 06.8**	**-1.0**
CHMS	**Chumysh** SNR=5.1	**4.54**	**17**	P	**Pn**	**13 28 10.4**	**+0.3**
TKM2	**Tokmak 2** 0.7nm,0.3s	**4.71**	**25**⇓	P	**Pn**	**13 28 12.1**	**-0.2**
TKM2			⇑	S	**Sn**	**13 29 05.1**	**-0.7**
USP	**Ospenovka** SNR=5.2	**4.75**	**14**	P	**Pn**	**13 28 13.4**	**+0.5**
KK31	**Karatay Array** 1.2nm,0.2s,baz=133,slow=11,SNR=112	**4.79**	**338**	P	**Pn**	**13 28 14.5**	**+1.0**
KK31	4.4nm,0.3s,baz=150,slow=21,SNR=12			S	**Sn**	**13 29 07.7**	**-0.1**
AB31	**Akbulak array** 0.5nm,0.7s,baz=135,slow=13,SNR=6.0	**14.10**	**323**	⇑P	**Pn**	**13 30 16.9**	**-1.9**
AB31	0.5nm,0.6s,baz=113,slow=38,SNR=4.8			⇑S	**Sn**	**13 32 45.3**	**-8.7**

IDC ***05*** *13:27:22.4±1.3,1035N×9427E,h0km,mb3.7/7,mb1 3.9/7, mb1mx3.7/20,mbtmp3.7/7,MS2.8/1,Ms1 2.8/1, ms1mx2.4/22,Error ellipse: s-maj=61.6km s-min=19.5km az=59.0*
ISCJB ***05*** *13:27:23.4±6.7,104N±02×945E±03,h17km±47km, mb3.8/8,Error ellipse: s-maj=58.2km s-min=14.5km az=106.0*
NEIC ***05*** *13:27:26.6±1.2,1037N×9432E,h30km,mb4.4/1,Error ellipse: s-maj=55.7km s-min=13.8km az=55.0*
ISC 05 13:27:27.4±6.5,105N±02×946E±03,h30km±46km,n13, σ19.47/10,mb3.8/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.90**	**130**	*e*P	**Pn**	**13 29 20.5**	**+0.3**
KULM				*e*S	**Sn**	**13 30 46.6**	**-1.9**
PSI	**Prapat** comp=Z,61nm,19.2s,baz=25,slow=34	**8.73**	**150**	LR	LR	13 32 24.5	
TRD	**Trivandrum**	**17.49**	**265**	*e*P	PKiKP	13 43 59.8	-0.9
TRD				AMb	AMB	13 44 01.6	
TRD	comp=Z,50nm,1.0s			*ex*	x	13 47 26.4	
MNGI	**Mangalore**	**19.51**	**279**	*ex*	x	13 44 02.9	
MNGI				*ex*	x	13 47 15.1	
AKL	**Akola**	**19.74**	**303**	*ex*	x	13 43 50.2	
AKL				AMb	AMB	13 44 02.9	
AKL	comp=Z,49nm,1.6s			*ex*	x	13 46 37.0	
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,mb3.2,baz=166,slow=7.7,SNR=4.9	**37.70**	**346**	P	**P**	**13 34 37.8**	**-2.3**
SONM	**Songino Array** comp=Z,0.8nm,0.8s,mb3.5,baz=189,slow=8.8,SNR=7.9	**38.57**	**13**	P	**P**	**13 34 49.2**	**+1.8**
ZRNK	**Zerenda** comp=Z,2.9nm,0.8s,mb4.3	**47.13**	**339**	*e*P	**P**	**13 35 54.6**	**-2.2**
ZRNK				*ep*P	pP	13 36 01.0	-4.8
WRA	**Warramunga Arr** comp=Z,1.4nm,0.7s,mb4.1,baz=304,slow=8.6,SNR=22	**49.43**	**128**	P	**P**	**13 36 15.9**	**+1.3**
ASAR	**Alice Springs** comp=Z,1.0nm,0.7s,mb3.9,baz=311,slow=6.6,SNR=24	**51.26**	**132**	P	**P**	**13 36 30.3**	**+1.9**
STKA	**Stephens Creek** comp=Z,1.5nm,0.8s,mb4.2,baz=211,slow=8.0,SNR=3.4	**61.58**	**135**	P	**P**	**13 37 41.4**	**-0.5**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,mb3.3,baz=72,slow=6.2,SNR=2.8	**76.22**	**318**	P	**P**	**13 39 12.9**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,mb3.9,baz=296,slow=3.8,SNR=4.5	**92.21**	**22**	P	**P**	**13 40 35.0**	**+0.8**

NAO ***05*** *13:40:03.8,426N×91.14E,h33km,mb4.8*
IDC ***05*** *13:40:27.8±0.4,1076N×9200E,h0km,mb4.7/28, mb1 4.8/29,mb1mx4.8/32,mbtmp4.7/29,ML3.2/1,MS4.0/13, Ms1 4.0/13,ms1mx3.8/26,Error ellipse: s-maj=18.3km s-min=8.9km az=45.0*
ISCJB ***05*** *13:40:31.5±0.2,1088N±004×91.79E±003,h29km, mb4.8/109,MS4.1/25,Error ellipse: s-maj=5.2km s-min=4.4km az=40.9*
MOS ***05*** *13:40:32.1±0.8,1092N×9186E,h33km,mb5.2/54, MS4.1/5,Error ellipse: s-maj=9.7km s-min=4.3km az=117.3*
NEIC ***05*** *13:40:33.1±0.2,1090N×9183E,mb4.9/45,Error ellipse: s-maj=6.2km s-min=4.2km az=49.0*

HRVD ***05*** *13:40:33.1±0.4, 1103N×9175E, h16km±1km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s20,c27;Mantle waves: s50,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.90±.16; $M_{\theta\theta}$-0.17±.09; $M_{\phi\phi}$2.07±.12; $M_{r\theta}$0.27±.31; $M_{\theta\phi}$0.23±.07; $M_{\phi r}$0.67±.25; Best double couple: $M_0$2.12600×10^{16} NP1:ϕ_s359.00000°, δ36.00000°, λ-100.00000°. NP2: ϕ_s192.00000°, δ55.00000°, λ-83.00000°. Principal axes: T 2.2120, Plg10.0000°, Azm277.0000°; N -0.1760, Plg6.0000°, Azm8.0000°; P -2.0390, Plg79.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***05*** *13:40:34.4, 1095N×9187E, h50km, mB5.0, mb5.0, Ms4.5, Msz4.2*

SZGRF ***05*** *13:40:34.4, 1074N×9147E, h31km, mb4.7, Andaman Islands, India, region*

ISC 05 13:40:34.0±0.2, 1092N±004×9177E±003, h31km, h31km±.8km: pP-P, n303, σ0 95/314, mb4.8/109, MS4.1/25, 14C-18D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.20**	**52**	*e*P		Px	13 41 06.2	
PBA				*e*S		Sx	13 41 24.5	
NNT	**Nongplab**	**7.97**	**77**	P		**Pn**	**13 42 29.2**	**+1.6**
NST	**Nakhon Sawan**	**9.41**	**59**	P		**Pn**	**13 42 44.2**	**-3.2**
KULM	**Kulim**	**10.42**	**122**	*e*Pn		**Pn**	**13 43 09.7**	**+8.5**
VIS	**Vishakhapatnam**	**10.61**	**311**	*e*P		**Pn**	**13 43 00.9**	**-3.0**
VIS				*e*S		**Sn**	**13 44 44.0**	**-18**
PSI	**Prapat**	**10.74**	**138**	Pn		**Pn**	**13 43 01.1**	**-4.6**
	0.2nm,0.3s,baz=298,slow=17,SNR=2.7							
CHRT	**Chiangrai**	**11.78**	**40**	⇑P		**Pn**	**13 43 20.0**	**+0.2**
KKTK	**Khon Kaen**	**12.01**	**62**	P		**Pn**	**13 43 27.2**	**+4.2**
AGT	**Agartala**	**12.90**	**358**	*i* x		**Pn**	**13 43 39.0**	**+3.9**
AGT				*i* x		x	13 44 07.0	
BOK	**Bokaro**	**13.97**	**337**	*i* P		**Pn**	**13 43 45.4**	**-4.4**
BOK				*e*P			13 43 45.8	
BOK				AMb		AMB	13 43 58.0	
	comp=Z,43nm,0.6s							
BOK				*e*S		**Sn**	**13 46 05.2**	**-19**
BOK				*i* x		x	13 46 11.4	
HYB	**Hyderabad**	**14.35**	**298**	*i* P		**Pn**	**13 44 01.0**	**+6.1**
HYB				*e*S		Sn	13 46 54.0	+21
HYB	**Hyderabad**	**14.35**	**298**	*e*P		**Pn**	**13 43 53.0**	**-1.9**
HYB				*e*S		**Sn**	**13 46 30.5**	**-2.4**
NGP	**Nagpur**	**15.89**	**311**	*e*P		**Pn**	**13 44 16.5**	**+1.1**
NGP				*e*x		x	13 44 30.3	
	comp=Z,58nm,1.3s							
NGP				*e*S		**Sn**	**13 46 57.8**	**-13**
LATR	**Latur**	**16.49**	**299**	*e*P		**Pn**	**13 44 19.0**	**-3.9**
ALBI	**Allahabad**	**17.14**	**328**	*e*P		**Pn**	**13 44 28.0**	**-3.2**
JIRN	**Jiri**	**17.46**	**343**	*e*P		**Pn**	**13 44 34.3**	**-0.8**
KMI	**Kunming**	**17.54**	**35**	P		**Pn**	**13 44 37.6**	**+1.5**
KMI				S		**Sn**	**13 47 48.3**	**-2.1**
KMI				AMB		AMB		
	comp=Z,29nm,1.1s							
KMI				AMB		AMB		
	comp=Z,170nm,4.2s							
KMI				LR		LR		
	comp=N,552nm,16.4s							
KMI				LR		LR		
	comp=E,557nm,15.8s							
KMI				LR		LR		
	comp=Z,528nm,17.7s							
PKI	**Pulchoki**	**17.61**	**341**	*e*P		**Pn**	**13 44 35.4**	**-1.6**
DMN	**Daman**	**17.74**	**340**	*e*P		**Pn**	**13 44 36.8**	**-1.8**
GUN	**Gumba**	**17.78**	**343**	*e*P		**Pn**	**13 44 39.2**	**+0.1**
KKN	**Kakani**	**17.85**	**341**	*e*P		**Pn**	**13 44 39.4**	**-0.6**
KAD	**Karad**	**18.19**	**292**	*e*P		**Pn**	**13 44 41.4**	**-2.8**
KAD				AMb		AMB	13 45 21.1	
	comp=Z,33nm,1.5s							
KAD				*e*x		Sn	13 47 40.5	-26
GKN	**Gorkha**	**18.26**	**339**	*e*P		**Pn**	**13 44 44.9**	**-0.1**
BHPL	**Bhopal**	**18.37**	**314**	*e*P		**Pn**	**13 44 45.0**	**-1.2**
BHPL				AMb		AMB	13 45 11.8	
	comp=Z,49nm,1.2s							
BHPL				*e*x		**Sn**	**13 47 59.1**	**-11**
KOLN	**Koldanda**	**18.43**	**337**	*e*P		**Pn**	**13 44 46.0**	**-1.1**
LSA	**Lhasa**	**18.69**	**358**	P		**Pn**	**13 44 50.2**	**0.0**
LSA				AP		pP	13 45 06.3	+8.4
LSA				AMB		AMB		
	comp=Z,60nm,1.2s							
LSA				LR		LR		
	comp=Z,550nm,16.3s							
POO	**Poona**	**18.90**	**296**	⇓*i*P		**Pn**	**13 44 51.0**	**-1.7**
POO				*e*x		x	13 45 13.6	
POO				*e*PPP			13 45 14.0	
POO				*i* x		x	13 48 05.0	
POO				*e*x		x	13 48 07.5	
POO				*e*x		**Sn**	**13 48 23.9**	**+0.6**
POO				*e*SS			13 48 26.5	
POO				*e*SSS			13 48 39.5	
POO				*i* x		x	13 48 54.0	
POO				*e*PCP		PcP	13 49 32.5	+15
QIZ	**Qiongzhong**	**19.21**	**63**	P		**Pn**	**13 44 59.2**	**+2.7**
QIZ				S		**Sn**	**13 48 21.9**	**-9.0**
QIZ				AMB		AMB		
	comp=Z,31nm,1.5s							
BOM	**Bombay**	**19.95**	**296**	*e*P		**Pn**	**13 45 01.5**	**-3.8**
BOM				*e*x		x	13 45 08.1	
	comp=Z,73nm,1.7s							
BOM				*e*x		x	13 48 23.2	
KSM	**Kuching**	**20.66**	**116**	*e*P		**P**	**13 45 11.4**	**+0.3**
GYA	**Guiyang**	**20.89**	**40**	⇓*i*P		**P**	**13 45 14.0**	**+0.4**
GYA				S		**S**	**13 48 51.1**	**-14**
GYA				AMB		AMB		
	comp=Z,70nm,0.8s							
GYA				AMB		AMB		
	comp=Z,110nm,2.8s							
GYA				LR		LR		
	comp=N,580nm,15.2s,MS4.3							
GYA				LR		LR		
	comp=E,740nm,15.0s,MS4.3							
GYA				LR		LR		
	comp=Z,840nm,15.8s,MS4.2							
LGTI	**Lohaghat**	**21.34**	**331**	*ex*		**P**	**13 45 22.0**	**+3.5**
NDI	**New Delhi**	**22.31**	**324**	*e*P		**P**	**13 45 27.0**	**-1.9**
NDI				*e*S		**S**	**13 49 27.5**	**-5.2**
AJM	**Ajmer**	**22.38**	**316**	*e*P		**P**	**13 45 29.0**	**-0.5**
AJM				AMb		AMB	13 45 34.8	
	comp=Z,37nm,1.6s,mb4.6							
CD2	**Chengdu**	**22.79**	**27**	P		**P**	**13 45 33.4**	**-0.5**
CD2				S		**S**	**13 49 30.6**	**-10**
CD2				AMB		AMB		
	comp=Z,70nm,1.0s,mb5.0							
CD2				AMB		AMB		
	comp=Z,110nm,5.7s							
CD2				LR		LR		
	comp=N,250nm,11.4s							
CD2				LR		LR		
	comp=Z,160nm,14.1s,MS3.6							
DDI	**Dehra Dun**	**23.14**	**329**	*e*P		**P**	**13 45 37.2**	**-0.4**
DDI				*e*S		**S**	**13 49 39.7**	**-7.1**
SDNR	**Sundarnagar**	**24.64**	**328**	*ex*		**P**	**13 45 53.4**	**+1.7**
LZH	**Lanzhou**	**27.34**	**22**	*e*P		**P**	**13 46 16.7**	**+0.6**
LZH				AP		pP	13 46 24.0	-1.1
LZH				XP		sP	13 46 30.4	+1.5
LZH				PP			13 47 04.5	
LZH				S		**S**	**13 50 53.5**	**-0.3**
LZH				SS			13 52 10.0	
LZH				AMB		AMB		
	comp=Z,58nm,1.5s,mb4.9							
LZH				AMB		AMB		
	comp=Z,130nm,4.0s							
LZH				LR		LR		
	comp=N,1μm,16.5s							
LZH				LR		LR		
	comp=Z,2μm,17.1s,MS4.7							
XAN	**Xi'an**	**27.85**	**32**	P		**P**	**13 46 19.2**	**-1.5**
XAN				AMB		AMB		
	comp=Z,26nm,0.9s,mb4.9							
WHN	**Wuhan**	**28.65**	**44**	⇓P		**P**	**13 46 27.5**	**-0.3**
GTA	**Gaotai**	**29.26**	**13**	P		**P**	**13 46 34.5**	**+1.3**
GTA				PCP		PcP	13 49 40.9	+1.3
GTA				S		**S**	**13 51 17.6**	**-6.5**
GTA				PCS		PcS	13 53 22.9	+0.4
GTA				AMB		AMB		
	comp=Z,49nm,1.2s,mb5.1							
GTA				AMB		AMB		
	comp=Z,174nm,6.9s							
GTA				LR		LR		
	comp=N,284nm,22.9s,MS4.0							
GTA				LR		LR		
	comp=E,331nm,24.8s,MS4.0							
GTA				LR		LR		
	comp=Z,111nm,13.8s							
NJ2	**Nanjing**	**32.65**	**46**	*e*P		**P**	**13 47 03.5**	**+0.4**
NJ2				PP		PP	13 48 17.7	+0.6
NJ2				S		**S**	**13 52 06.0**	**-11**
NJ2				AMB		AMB		
	comp=Z,40nm,0.9s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,130nm,9.3s							
NJ2				LR		LR		
	comp=N,620nm,16.8s							
NJ2				LR		LR		
	comp=E,610nm,23.8s							
NJ2				LR		LR		
	comp=Z,310nm,14.2s,MS4.2							
WMQ	**Urumqi**	**32.97**	**355**	P		**P**	**13 47 07.7**	**+1.8**
WMQ				S		**S**	**13 52 15.0**	**-7.0**
WMQ				SS		SS	13 54 25.0	-20
WMQ				AMB		AMB		
	comp=Z,38nm,1.0s,mb5.3							
WMQ				AMB		AMB		
	comp=Z,238nm,4.5s							
WMQ				LR		LR		
	comp=N,178nm,10.0s,MS4.5							
WMQ				LR		LR		
	comp=E,457nm,13.0s,MS4.5							
WMQ				LR		LR		
	comp=Z,198nm,10.0s,MS4.1							
BTO	**Baotou**	**33.67**	**25**	*e*P		**P**	**13 47 11.6**	**-0.4**
ULHL	**Ulahol**	**34.03**	**339**	P		**P**	**13 47 16.5**	**+1.4**
	SNR=7.3							
TIA	**Tai'an**	**34.05**	**38**	*e*P		**P**	**13 47 15.5**	**+0.2**
KZA	**Kyzart**	**34.24**	**338**	P		**P**	**13 47 18.8**	**+1.8**
	SNR=17							
HHC	**Hu-ho-hao-te**	**34.54**	**27**	*e*P		**P**	**13 47 19.9**	**+0.3**
HHC				PP		PP	13 48 37.1	-1.0
HHC				PCP		PcP	13 49 52.6	-1.3
HHC				S		**S**	**13 52 38.0**	**-8.4**
HHC				PCS		PcS	13 53 38.0	-2.4
HHC				SS		SS	13 54 51.1	-26
HHC				AMB		AMB		
	comp=Z,22nm,1.1s,mb5.0							
HHC				AMB		AMB		
	comp=Z,115nm,7.2s							
HHC				LR		LR		
	comp=N,255nm,18.0s,MS4.2							
HHC				LR		LR		
	comp=E,274nm,16.8s,MS4.2							
HHC				LR		LR		
	comp=Z,254nm,15.6s,MS4.1							
UCH	**Uchtor**	**34.65**	**337**	P		**P**	**13 47 22.5**	**+2.0**
	SNR=9.6							
TKM2	**Tokmak 2**	**34.85**	**339**	P		**P**	**13 47 25.1**	**+2.8**
	SNR=9.7							
TKM2	**Tokmak 2**	**34.85**	**339**	*i* P		**P**	**13 47 23.4**	**+1.1**
KBK	**Karagaybulak**	**34.85**	**338**	P		**P**	**13 47 24.4**	**+2.1**
	SNR=11							
AML	**Almayashu**	**34.88**	**336**	P		**P**	**13 47 24.6**	**+2.0**
	SNR=48							
AAK	**Ala-Archa**	**35.00**	**338**	P		**P**	**13 47 25.5**	**+2.0**
	SNR=18							
FRU	**Bishkek**	**35.13**	**338**	*e*P		**P**	**13 47 26.5**	**+1.9**
FRU				pmax		pmax		
	comp=Z,60nm,1.9s,mb5.2							
FRU				MLR		MLR		
	comp=Z,500nm,17.0s,MS4.3							
CHMS	**Chumysh**	**35.22**	**338**	P		**P**	**13 47 27.0**	**+1.6**
	SNR=11							
EKS2	**Erkin-Say**	**35.30**	**337**	P		**P**	**13 47 28.2**	**+2.1**
	SNR=27							
USP	**Ospenovka**	**35.55**	**338**	P		**P**	**13 47 29.6**	**+1.4**
	SNR=34							
MK31	**Makanchi Array**	**36.64**	**349**	*i* P		**P**	**13 47 37.7**	**+0.1**
MKAR	**Makanchi Array**	**36.64**	**349**	P		**P**	**13 47 38.0**	**+0.4**
	comp=Z,33nm,0.8s,mb5.2,baz=167,slow=8.4,SNR=314							
MKAR				PcP		PcP	13 49 58.8	-1.3
	comp=Z,4.0nm,0.8s,baz=202,slow=3.6,SNR=5.3							
MKAR				LR		LR	14 05 59.6	
	comp=Z,147nm,21.8s,MS3.7,baz=289,slow=42							
MKAR	**Makanchi Array**	**36.64**	**349**	P		**P**	**13 47 38.0**	**+0.4**
MKAR							13 49 58.8	
KK31	**Karatay Array**	**37.01**	**334**	*i* P		**P**	**13 47 41.5**	**+0.8**
KKAR	**Karatay Array**	**37.01**	**334**	P		**P**	**13 47 41.4**	**+0.7**
KKAR				pmax		pmax		
	comp=Z,21nm,0.9s,mb5.0							
SONM	**Songino Array**	**38.80**	**16**	P		**P**	**13 47 56.2**	**+0.4**
	comp=Z,21nm,0.9s,mb4.8,baz=204,slow=6.5,SNR=139							
SONM				PcP		PcP	13 50 06.9	+0.1
	comp=Z,4.2nm,0.8s,baz=192,slow=3.6,SNR=6.3							
SONM				LR		LR	14 07 17.2	
	comp=Z,201nm,19.2s,MS4.0,baz=133,slow=41							
SONM	**Songino Array**	**38.80**	**16**	P		**P**	**13 47 56.2**	**+0.4**
SONM							13 50 06.9	
ULN	**Ulaanbaatar**	**39.00**	**16**	*d i*P		**P**	**13 47 57.9**	**+0.4**
ULN	**Ulaanbaatar**	**39.00**	**16**	*e*P		**P**	**13 47 57.8**	**+0.3**
	comp=Z,20nm,1.2s,mb4.7							
ZAK	**Zakamensk**	**40.47**	**11**	*e*P		**P**	**13 48 03.6**	**-6.1**
ZAK				*e*			13 50 12.5	
ZAK				pmax		pmax		
	comp=Z,23nm,1.9s,mb4.6							
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.7s,mb4.2							
KURK	**Kurchatov**	**41.12**	**347**	⇑*e*P		**P**	**13 48 15.5**	**+0.4**
MOY	**Mondy**	**41.32**	**9**	*e*P		**P**	**13 48 17.4**	**+0.7**
SNY	**Shenyang**	**41.51**	**36**	⇓P		**P**	**13 48 18.2**	**-0.1**
SNY				AMB		AMB		
	comp=Z,30nm,0.9s,mb4.9							
KS15	**Wonju Array Si**	**41.80**	**45**	*e*P		**P**	**13 48 19.2**	**-1.4**
MBWA	**Marble Bar**	**42.08**	**139**	*e*P		**P**	**13 48 21.9**	**-1.1**
	comp=Z,12nm,1.1s,mb4.4							
JNU	**Nakatsue**	**42.10**	**52**	P		**P**	**13 48 22.6**	**-0.5**
	comp=Z,6.4nm,0.7s,mb4.4,baz=101,slow=4.8,SNR=7.3							
ZAL	**Zalesovo**	**43.26**	**354**	P		**P**	**13 48 32.0**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7,baz=300,slow=7.7,SNR=81							
CN2	**Changchun**	**43.81**	**35**	*e*P		**P**	**13 48 37.2**	**+0.2**
CN2				PCP		PcP	13 50 23.3	+0.2
CN2				*e*S		**S**	**13 54 56.5**	**-9.2**
CN2				AMB		AMB		
	comp=Z,70nm,0.8s,mb5.4							
CN2				LR		LR		
	comp=N,300nm,13.0s,MS4.5							
CN2				LR		LR		
	comp=E,300nm,13.0s,MS4.5							
CN2				LR		LR		
	comp=Z,200nm,13.0s,MS4.2							
FITZ	**Fitzroy Crossi**	**44.15**	**130**	⇓*i*P		**P**	**13 48 38.6**	**-1.1**
	comp=Z,35nm,0.9s,mb5.1							
FITZ				*e*		pP	13 48 48.2	-0.8
FITZ				*e*pP		PP	13 50 25.3	+2.4
NVS	**Novosibirsk**	**44.33**	**353**	⇓*i*P		**P**	**13 48 40.2**	**-0.9**
NVS				pmax		pmax		
	comp=N,25nm,1.4s							
NVS				pmax		pmax		
	comp=Z,32nm,1.4s,mb4.9							
NVS				pmax		pmax		
	comp=E,13nm,1.3s							
CIT	**Chita**	**44.63**	**19**	*e*P		**P**	**13 48 43.7**	**+0.1**
CIT				pmax		pmax		
	comp=Z,57nm,1.4s,mb5.2							
VOSK	**Vostochnaya**	**44.94**	**342**	P		**P**	**13 48 45.6**	**-0.4**
VOSK				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.7							
KRAR	**Krasnoyarsk**	**44.99**	**1**	*i* P		**P**	**13 48 46.1**	**-0.3**
BVA0	**Borovoye Array**	**45.38**	**342**	P		**P**	**13 48 49.3**	**-0.2**
BVA0				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.9							
ZRNK	**Zerenda**	**45.75**	**341**	*e*P		**P**	**13 48 52.4**	**0.0**
ZRNK				*e*			13 50 29.1	
ZRNK				*e*			13 50 39.0	
ZRNK				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**45.75**	**341**	*e*P		**P**	**13 48 52.4**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.8							
ZRNK				*e*pP		pP	13 49 13.7	+12
ZRNK				*e*PcP		PcP	13 50 29.1	-0.7
ZRNK				*e*PP		PP	13 50 39.0	-0.8
AB31	**Akbulak array**	**46.45**	**332**	⇑*e*P		**P**	**13 48 57.6**	**-0.4**
MDJ	**Mudanjiang**	**46.70**	**37**	P		**P**	**13 48 59.7**	**-0.2**
MDJ				PP		PP	13 50 51.2	+1.4
MDJ				S		**S**	**13 55 41.4**	**-6.0**
MDJ				SS		SS	13 59 03.5	-10
MDJ				AMB		AMB		
	comp=Z,16nm,1.5s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,149nm,4.8s							
MDJ				LR		LR		
	comp=N,201nm,15.0s,MS4.3							
MDJ				LR		LR		
	comp=E,177nm,15.0s,MS4.3							
MDJ				LR		LR		
	comp=Z,244nm,18.7s,MS4.2							
AKTK	**Aktyubinsk**	**48.17**	**332**	P		**P**	**13 49 10.9**	**-0.4**
AKTK				PcP		PcP	13 50 37.8	-0.5
AKTK				LR		LR	14 14 29.8	
AKTO	**Aktyubinsk**	**48.17**	**332**	P		**P**	**13 49 10.9**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.8,baz=124,slow=8.5,SNR=28							
AKTO				PcP		PcP	13 50 37.8	-0.5
	comp=Z,5.1nm,0.9s,baz=158,slow=7.4,SNR=4.4							
AKTO				LR		LR	14 14 29.8	
	comp=Z,107nm,18.3s,MS3.9,baz=333,slow=42							
AKTO	**Aktyubinsk**	**48.17**	**332**	P		**P**	**13 49 11.4**	**+0.1**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
MUN	**Mundaring**	**48.65**	**152**	*e*P		**P**	**13 49 15.6**	**+0.6**
MUN				*e*		pP	13 49 24.8	+0.4
MAJO	**Matsushiro**	**48.95**	**51**	*e*P		**P**	**13 49 17.4**	**+0.1**
MJAR	**Matsushiro Arr**	**48.95**	**51**	P		**P**	**13 49 16.5**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.4,baz=228,slow=6.8,SNR=8.9							
MJAR				PcP		PcP	13 50 39.7	-1.5
	comp=Z,6.3nm,0.9s,baz=248,slow=3.8,SNR=13							
MJAR				LR		LR	14 12 18.4	
	comp=Z,203nm,18.3s,MS4.2,baz=285,slow=39							
MJAR	**Matsushiro Arr**	**48.95**	**51**	P		**P**	**13 49 16.5**	**-0.8**
MJAR							13 50 39.7	
MJAR	**Matsushiro Arr**	**48.95**	**51**	P		**P**	**13 49 16.5**	**-0.9**
MJAR				PcP		PcP	13 50 39.7	-1.5
MJAR				LR		LR	14 12 18.4	
BOD	**Bodaibo**	**49.79**	**15**	⇓*i*P		**P**	**13 49 24.0**	**+0.3**
BOD				pmax		pmax		
	comp=Z,24nm,1.0s,mb5.2							
NWAO	**Narrogin (SRO)**	**49.91**	**152**	*e*P		**P**	**13 49 24.2**	**-0.5**
GNI	**Garni**	**50.65**	**314**	P		**P**	**13 49 31.5**	**+1.2**
	comp=Z,5.8nm,0.7s,mb4.6,baz=190,slow=10.0,SNR=4.3							
GNI				LR		LR	14 14 24.7	
	comp=Z,81nm,20.1s,MS3.7,baz=278,slow=40							
WRA	**Warramunga Arr**	**51.93**	**126**	P		**P**	**13 49 38.4**	**-1.4**
	comp=Z,4.1nm,0.3s,mb4.8,baz=300,slow=10.0,SNR=202							
WRA				PcP		PcP	13 50 51.8	-0.4
	comp=Z,6.4nm,0.8s,baz=317,slow=3.4,SNR=8.8							
WRA				S		**S**	**13 56 55.9**	**-4.7**
	comp=Z,1.1nm,1.0s,baz=295,slow=18,SNR=3.7							
WB2	**Warramunga Arr**	**51.94**	**126**	*e*P		**P**	**13 49 39.5**	**-0.4**
WB2				*e*		pP	13 49 48.6	-0.7
WB2				*e*PCP		PcP	13 50 52.9	+0.7
HABR	**Khabarovsk**	**51.95**	**35**	*i* P		**P**	**13 49 40.2**	**+0.2**
HABR				pmax		pmax		
	comp=Z,38nm,1.3s,mb5.2							
ARU	**Arti**	**52.19**	**337**	*d i*P		**P**	**13 49 41.9**	**+0.1**
ARU				pmax		pmax		
	comp=Z,27nm,1.4s,mb5.0							
ARU				MLR		MLR		
	comp=Z,200nm,17.0s,MS4.2							
ARU	**Arti**	**52.19**	**337**	*e*P		**P**	**13 49 41.8**	**0.0**
	comp=Z,11nm,0.9s,mb4.8							
ZEI	**Tsey**	**52.23**	**316**	*i* P		**P**	**13 49 42.5**	**+0.4**
ZEI				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
CLNS	**Chul'man**	**52.46**	**22**	*e*P		**P**	**13 49 43.7**	**0.0**
CLNS				pmax		pmax		
	comp=Z,33nm,0.7s,mb5.4							
CLNS				pmax		pmax		
	comp=N,16nm,0.9s							
CLNS				pmax		pmax		
	comp=E,23nm,1.0s							
CLNS				MLR		MLR		
	comp=N,100nm,13.0s,MS4.2							
CLNS				MLR		MLR		
	comp=Z,300nm,13.0s,MS4.5							
CLNS				MLR		MLR		
	comp=E,100nm,14.0s,MS4.2							
KIV	**Kislovodsk**	**53.51**	**317**	*e*P		**P**	**13 49 52.1**	**+0.6**
KIV				*e*S		**S**	**13 57 21.0**	**-1.2**
KIV				pmax		pmax		
	comp=Z,24nm,1.0s,mb5.1							
KIV				MLR		MLR		
	comp=Z,94nm,18.0s,MS3.9							
KIV	**Kislovodsk**	**53.51**	**317**	*e*P		**P**	**13 49 52.0**	**+0.6**
	comp=Z,50nm,1.3s,mb5.3							
ASPA	**Alice Springs**	**53.65**	**130**	*e*P		**P**	**13 49 52.5**	**0.0**
ASPA				*e*		pP	13 50 01.5	-0.5
ASPA				*e*			13 50 59.5	
ASAR	**Alice Springs**	**53.65**	**130**	P		**P**	**13 49 51.1**	**-1.5**
	comp=Z,18nm,0.7s,mb5.1,baz=305,slow=6.7,SNR=280							
ASAR				PcP		PcP	13 50 58.6	0.0
	comp=Z,8.1nm,0.8s,baz=308,slow=3.8,SNR=13							
ASAR				S		**S**	**13 57 18.4**	**-5.9**
	comp=Z,0.4nm,0.8s,baz=295,slow=13,SNR=5.1							
MALT	**Malatya**	**54.73**	**309**	*e*P		**P**	**13 50 01.1**	**+0.7**
MALT				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.8							
MALT	**Malatya**	**54.73**	**309**	*e*P		**P**	**13 50 01.1**	**+0.7**
	comp=Z,12nm,1.3s,mb4.8							
SOKR	**Solikamsk**	**55.13**	**339**	⇑*i*P		**P**	**13 50 04.1**	**+0.8**
SOKR				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.1							
YSS	**Yuzh-Sakhalins**	**55.89**	**40**	⇑*i*P		**P**	**13 50 10.0**	**+1.2**
YSS				pmax		pmax		
	comp=Z,40nm,1.0s,mb5.4							
ANN	**Anapa**	**57.33**	**317**	*e*P		**P**	**13 50 24.7**	**+5.7**
ANN				pmax		pmax		
	comp=Z,57nm,1.5s,mb5.4							
YAK	**Yakutsk**	**57.90**	**20**	*e*P		**P**	**13 50 22.2**	**-0.8**
YAK				*e*S		**S**	**13 58 34.3**	**+13**
YAK				pmax		pmax		
	comp=Z,25nm,0.9s,mb5.2							
YAK				pmax		pmax		
	comp=N,11nm,1.2s							
YAK				pmax		pmax		
	comp=E,10.0nm,1.3s							
YAK	**Yakutsk**	**57.90**	**20**	*e*P		**P**	**13 50 22.5**	**-0.5**
	comp=E,45nm,0.8s,mb5.5							
VRSR	**Storozhevoye**	**58.55**	**324**	*e*P		**P**	**13 50 27.4**	**-0.2**
VRSR				*e**PP		pP	13 50 36.6	-0.5
VRSR				*e*			13 51 17.8	
VRSR				*e*			13 52 36.9	
VRSR				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
VRSR				pmax		pmax		
	comp=N,1.0nm,1.3s							
VRSR				pmax		pmax	

comp=Z,5.6nm,0.8s,mb4.6,baz=91,slow=4.9,SNR=21
AKASG PcP PcP 13 51 40.9 -0.2
comp=Z,0.7nm,0.6s,baz=95,slow=4.2,SNR=4.8
TIXI Tiksi 64.74 12 *i* P **P 13 51 08.2 -1.1**
TIXI Tiksi 64.74 12 *i* Pr **P 13 51 08.2 -1.1**
VRI Vrincioaia 64.90 316 ⇓P **P 13 51 11.4 +1.1**
IDI Anoyia 64.93 304 P **P 13 51 10.3 -0.2**
comp=Z,5.7nm,0.9s,mb4.6,baz=96,slow=11,SNR=5.1
MA2 Magadan 65.19 29 *e*P **P 13 51 12.0 -0.2**
MA2 pmax pmax
comp=E,5.0nm,0.8s
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 Magadan 65.19 29 *e*P **P 13 51 11.9 -0.4**
comp=Z,23nm,0.9s,mb5.2
MLR Muntele Rosu 65.37 315 P **P 13 51 14.2 +0.8**
comp=Z,17nm,0.9s,mb5.1,baz=131,slow=2.3,SNR=22
MLR Muntele Rosu 65.37 315 ⇑P **P 13 51 14.4 +1.0**
VOIR 65.99 315 ⇑P **P 13 51 15.3 -2.1**
BURAR Bucovina Array 66.23 317 ⇓P **P 13 51 18.9 0.0**
JOF Joensuu 67.11 334 *e*p **P 13 51 25.0 +0.5**
comp=Z,24nm,0.9s,mb5.2
SEY Seymchan 67.18 26⇑*e*P **P 13 51 23.6 -1.3**
VSU Vasula 67.79 329 *i* P **P 13 51 28.6 -0.2**
DRGR 67.79 316 ⇓P **P 13 51 27.5 -1.4**
LSZ Lusaka 68.14 249 *e*P **P 13 51 32.4 +1.4**
APA Apatity 68.19 339⇑*i*P **P 13 51 30.5 -0.8**
APA *e* 14 01 07.0
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
KWP Kalwaria 68.21 319 *e*P **P 13 51 32.0 +0.5**
KOLS Kolonicke sedl 68.39 318 *e* **P 13 51 29.3 -3.3**
SUW Suwalki 68.68 324 *e*P **P 13 51 34.3 -0.1**
CRVS Cervenica-Dubn 68.91 318 *e*P **P 13 51 37.4 +1.6**
FINES FINESS Array B 68.94 332 P **P 13 51 35.9 -0.2**
comp=Z,10nm,0.8s,mb4.8,baz=104,slow=7.9,SNR=44
FINES LR LR 14 26 59.9
comp=Z,101nm,18.2s,MS4.1,baz=161,slow=40
KAF Kangasniemi 69.03 333 *e*p **P 13 51 35.8 -0.8**
comp=Z,17nm,1.0s,mb4.9,baz=106,slow=5.9
KAF Kangasniemi 69.03 333 *e*P **P 13 51 35.8 -0.8**
KAF pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 69.12 319 *e*P **P 13 51 36.5 -0.7**
STHS *e*pP pP 13 51 49.2 +2.3
KECS Kecovo 69.50 318 *e*P **P 13 51 39.4 -0.1**
KECS *e*pP pP 13 51 47.2 -2.0
NIE Niedzica 69.73 319 *e*P **P 13 51 41.2 +0.3**
OJC Ojcow 70.15 320 *e*P **P 13 51 43.1 -0.4**
VYHS Vyhne 70.59 318 *e*P **P 13 51 45.6 -0.6**
OKC Ostrava-Krasne 71.17 319 *e*P **P 13 51 48.6 -1.1**
OKC *e*pP pP 13 51 58.3 -1.2
MORC Moravsky Berou 71.56 319 *e*P **P 13 51 51.9 -0.1**
MORC pmax pmax
comp=Z,29nm,1.6s,mb5.0
MORC Moravsky Berou 71.56 319 *e*P **P 13 51 51.9 -0.2**
comp=Z,29nm,1.6s,mb5.0
ARCES ARCESS Array B 71.62 340 P **P 13 51 52.1 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=6.1,SNR=26
ARCES LR LR 14 26 50.5
comp=Z,148nm,21.5s,MS4.2,baz=138,slow=39
ZST Bratislava 71.72 317 *e*P **P 13 51 52.8 -0.2**
VRAC Vranov 72.14 318 P **P 13 51 55.5 0.0**
comp=Z,1.7nm,0.6s,mb4.1,baz=122,slow=5.2,SNR=3.8
DPC Dobruska-Polom 72.39 319 *e*P **P 13 51 57.8 +0.8**
DPC *e*pP pP 13 52 06.4 -0.4
KSP Ksiaz 72.44 320 *e*P **P 13 51 58.2 +0.9**
KSP Ksiaz 72.44 320 *e*P **P 13 51 57.7 +0.4**
UPC Upice 72.59 320 *e*P **P 13 51 59.1 +0.9**
UPC *e*pP pP 13 52 08.3 +0.3
TREC Trest 72.86 318 *e*P **P 13 51 59.5 -0.3**
PRU Pruhonice 73.51 319 *e*P **P 13 52 04.1 +0.5**
PRU *e*pP pP 13 52 12.7 -0.7
PVCC Panska Ves 73.52 320 *e*P **P 13 52 04.3 +0.6**
PVCC *e*pP pP 13 52 13.1 -0.4
LBTB Lobatse 73.69 240 *e*P **P 13 52 05.8 +1.1**
BRG Berggiesshubel 73.93 320 *e*P **P 13 52 06.5 +0.4**
comp=Z,14nm,1.6s,mb4.6
BRG Berggiesshubel 73.93 320 *e*P **P 13 52 06.4 +0.3**
BRG *e* pP 13 52 15.5 -0.4
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 73.93 320 *e*P **P 13 52 06.4 +0.3**
comp=Z,5.6nm,0.9s,mb4.5
BRG *e* pP 13 52 15.5 -0.4
GEC2 GERESS Array S 74.01 318 *e*P **P 13 52 06.9 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 74.01 318 *e*P **P 13 52 06.9 +0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 74.01 318 P **P 13 52 06.7 +0.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=49
GERES LR LR 14 26 25.0
comp=Z,91nm,21.8s,MS4.0,baz=273,slow=37
KHC Kasperske Hory 74.10 318 *e*P **P 13 52 07.4 +0.3**
KHC *e*pP pP 13 52 15.9 -1.0
RUE Ruedersdorf 74.10 322 *e*P **P 13 52 07.6 +0.5**
comp=Z,28nm,1.4s,mb5.0
CLL Collm 74.54 320 *e*P **P 13 52 09.6 -0.1**
comp=Z,6.0nm,1.0s,mb4.5
CLL Collm 74.54 320⇑*i*P **P 13 52 09.0 -0.7**
comp=Z,9.0nm,1.0s,mb4.7
CLL *e*pP pP 13 52 42.0 +23
CLL Collm 74.54 320⇑*i*P **P 13 52 09.0 -0.7**
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 74.56 318 *e*P **P 13 52 10.1 +0.3**
comp=Z,8.0nm,1.4s,mb4.5
WET Wettzell 74.56 318 *e*P **P 13 52 10.1 +0.3**
WET pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
HFS Hagfors 74.66 329 P **P 13 52 10.5 +0.1**
comp=Z,5.5nm,0.6s,mb4.6,baz=104,slow=6.1,SNR=11
NKC Novy Kostel 74.86 319 *e*P **P 13 52 12.3 +0.8**
NKC *e*pP pP 13 52 22.3 +1.0
WERD Werda 74.96 319 *e*P **P 13 52 12.4 +0.3**
comp=Z,3.0nm,0.9s,mb4.2
ROTZ Rotzenmuhle 75.01 319 *e*P **P 13 52 13.4 +1.0**
comp=Z,15nm,1.2s,mb4.8
BOSA Boshof 75.26 236 P **P 13 52 15.3 +1.4**
comp=Z,8.3nm,0.9s,mb4.7,baz=24,slow=7.1,SNR=8.0
BOSA LR LR 14 22 14.7
comp=Z,155nm,18.1s,MS4.3,baz=71,slow=33
BOSA Boshof 75.26 236 *e*P **P 13 52 12.2 -1.6**
BOSA LR LR 14 22 14.7
MOX Moxa 75.40 320 *e*P **P 13 52 15.0 +0.4**
comp=Z,5.0nm,1.1s,mb4.4
MOX Moxa 75.40 320 *e*(P) **P 13 52 15.0 +0.4**
MOX *e* pP 13 52 24.6 +0.1
GRA1 Grafenberg Arr 75.65 319 *e*P **P 13 52 16.7 +0.6**
comp=Z,33nm,1.6s,mb5.0
GRA1 *e*pP pP 13 52 25.7 -0.2
GRF Grafenberg Arr 75.65 319 *e*P **P 13 52 16.7 +0.6**
comp=Z,33nm,1.6s,mb5.0
GRF *e*pP pP 13 52 25.7 -0.2
GRF Grafenberg Arr 75.65 319 *e*P **P 13 52 16.7 +0.6**
GRF *e**PP pP 13 52 25.7 -0.2
GRF pmax pmax
comp=Z,33nm,1.6s,mb5.0
GRF Grafenberg Arr 75.65 319 *e*P **P 13 52 16.7 +0.6**
GRF *e**PP pP 13 52 25.7 -0.2
GRF pmax pmax
comp=Z,33nm,1.6s,mb5.0
NB2 NORSAR Subarra 75.94 330 P **P 13 52 17.1 -0.7**
comp=Z,9.4nm,0.8s,mb4.8,baz=97,slow=5.3
NOA NORSAR Array B 75.94 330 P **P 13 52 16.7 -1.1**
comp=Z,6.3nm,0.8s,mb4.6,baz=94,slow=5.6,SNR=17
NOA LR LR 14 30 14.3
comp=Z,79nm,20.5s,MS4.0,baz=205,slow=39
CLZ Clausthal 76.19 321 *e*P **P 13 52 19.5 +0.4**
comp=Z,6.0nm,0.8s,mb4.6
CLZ Clausthal 76.19 321 *e*P **P 13 52 19.5 +0.4**
CLZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BSEG Bad Segeberg 76.23 323 *e*P **P 13 52 19.8 +0.4**
comp=Z,16nm,1.1s,mb4.9
DAVOX Davos 76.59 316 P **P 13 52 21.6 +0.1**
comp=Z,4.7nm,0.7s,mb4.5,baz=99,slow=8.1,SNR=5.1
KBS Kingsbay 77.39 349⇓*e*P **P 13 52 26.5 +0.6**
TNS Taunus Mts 77.43 319 *e*P **P 13 52 26.7 +0.5**
comp=Z,5.0nm,1.1s,mb4.4
TNS Taunus Mts 77.43 319 *e*P **P 13 52 26.7 +0.5**
TNS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BFO Black Forest 77.58 317 *e*P **P 13 52 26.6 -0.4**
comp=Z,6.0nm,1.1s,mb4.4
BFO Black Forest 77.58 317 *e*P **P 13 52 26.6 -0.4**
BFO pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CDF Champ du Feu 78.28 317 *e*P **P 13 52 30.4 -0.5**
comp=Z,25nm,1.2s,mb4.7
CDF Champ du Feu 78.28 317 *e*P **P 13 52 30.4 -0.5**
CDF pmax pmax
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 78.28 317 *e*P **P 13 52 30.4 -0.5**
comp=Z,13nm,1.2s,mb4.7
HINF Hinteralfeld 78.60 317 *e*P **P 13 52 32.1 -0.5**
LPG La Plagne 78.83 314 *e*P **P 13 52 34.1 +0.2**
comp=Z,17nm,0.8s,mb4.7
LPG La Plagne 78.83 314 *e*P **P 13 52 34.1 +0.2**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 78.83 314 *e*P **P 13 52 34.1 +0.2**
comp=Z,8.6nm,0.8s,mb4.7
LPL La Plagne 78.84 314 *e*P **P 13 52 34.1 +0.1**
comp=Z,28nm,0.8s,mb5.0
LPL La Plagne 78.84 314 *e*P **P 13 52 34.1 +0.1**
LPL pmax pmax
comp=Z,14nm,0.8s,mb4.9
LPL La Plagne 78.84 314 *e*P **P 13 52 34.1 +0.1**
comp=Z,14nm,0.8s,mb5.0
HAU Haudompre 78.92 317 *e*P **P 13 52 34.9 +0.5**
comp=Z,32nm,1.0s,mb4.9
HAU Haudompre 78.92 317 *e*P **P 13 52 34.9 +0.5**
HAU pmax pmax
comp=Z,16nm,1.0s,mb4.9
HAU Haudompre 78.92 317 *e*P **P 13 52 34.9 +0.5**
comp=Z,16nm,1.0s,mb4.9
WLF Walferdange 78.94 319 *e*P **P 13 52 35.2 +0.7**
comp=Z,6.0nm,0.9s,mb4.5
CABF La Chapelle 79.20 316 *e*P **P 13 52 36.0 0.0**
comp=Z,22nm,1.0s,mb4.7
CABF La Chapelle 79.20 316 *e*P **P 13 52 36.0 0.0**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CABF La Chapelle 79.20 316 *e*P **P 13 52 36.0 0.0**
comp=Z,11nm,1.0s,mb4.7
ORIF Oris-en-Rattie 79.49 314 *e*P **P 13 52 37.6 +0.1**
comp=Z,21nm,1.1s,mb4.7
ORIF Oris-en-Rattie 79.49 314 *e*P **P 13 52 37.6 +0.1**
ORIF pmax pmax
comp=Z,11nm,1.1s,mb4.7
ORIF Oris-en-Rattie 79.49 314 *e*P **P 13 52 37.6 +0.1**
comp=Z,11nm,1.1s,mb4.7
MEZF Maizieres J'vi 79.75 318 *e*P **P 13 52 38.6 -0.3**
comp=Z,22nm,1.0s,mb4.7
MEZF Maizieres J'vi 79.75 318 *e*P **P 13 52 38.6 -0.3**
comp=Z,22nm,1.0s,mb5.0
BAIF Baives 80.16 319 *e*P **P 13 52 41.1 -0.1**
comp=Z,22nm,1.0s,mb4.8
BAIF Baives 80.16 319 *e*P **P 13 52 41.1 -0.1**
BAIF pmax pmax
comp=Z,11nm,1.0s,mb4.7
BAIF Baives 80.16 319 *e*P **P 13 52 41.1 -0.1**
comp=Z,11nm,1.0s,mb4.8
VIVF Saint-Julien-l 80.35 314 *e*P **P 13 52 42.0 -0.1**
comp=Z,59nm,1.1s,mb5.2
VIVF Saint-Julien-l 80.35 314 *e*P **P 13 52 42.0 -0.1**
VIVF pmax pmax
comp=Z,30nm,1.1s,mb5.1
VIVF Saint-Julien-l 80.35 314 *e*P **P 13 52 42.0 -0.1**
comp=Z,30nm,1.1s,mb5.1
LOR Lormes 80.67 316 *e*P **P 13 52 43.5 -0.4**
comp=Z,36nm,1.1s,mb4.9
LOR Lormes 80.67 316 *e*P **P 13 52 43.5 -0.4**
LOR pmax pmax
comp=Z,18nm,1.1s,mb4.9
LOR Lormes 80.67 316 *e*P **P 13 52 43.5 -0.4**
comp=Z,18nm,1.1s,mb4.9
SMF Signal de Mont 80.74 316 *e*P **P 13 52 43.9 -0.4**
comp=Z,17nm,0.7s,mb4.8
SMF Signal de Mont 80.74 316 *e*P **P 13 52 43.9 -0.4**
SMF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SMF Signal de Mont 80.74 316 *e*P **P 13 52 43.9 -0.4**
comp=Z,8.4nm,0.7s,mb4.8
SSF Saint Saulge 80.93 316 *e*P **P 13 52 44.9 -0.4**
comp=Z,15nm,1.0s,mb4.6
SSF Saint Saulge 80.93 316 *e*P **P 13 52 44.9 -0.4**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SSF Saint Saulge 80.93 316 *e*P **P 13 52 44.9 -0.4**
comp=Z,7.6nm,1.0s,mb4.6
LASF Ste Croix 81.01 313 *e*P **P 13 52 46.0 +0.3**
comp=Z,147nm,1.4s,mb5.4
AVF Avril sur Loir 81.06 316 *e*P **P 13 52 45.5 -0.5**
comp=Z,14nm,0.8s,mb4.6
AVF Avril sur Loir 81.06 316 *e*P **P 13 52 45.5 -0.5**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 81.06 316 *e*P **P 13 52 45.5 -0.5**
comp=Z,6.8nm,0.8s,mb4.6
BGF Bois d'Agland 81.43 316 *e*P **P 13 52 47.9 0.0**
comp=Z,32nm,1.0s,mb4.9
BGF Bois d'Agland 81.43 316 *e*P **P 13 52 47.9 0.0**
BGF pmax pmax
comp=Z,16nm,1.0s,mb4.9
BGF Bois d'Agland 81.43 316 *e*P **P 13 52 47.9 0.0**
comp=Z,16nm,1.0s,mb4.9
HYF Humbligny 81.49 316 *e*P **P 13 52 48.5 +0.3**
TCF Toulx Ste Croi 81.90 316 *e*P **P 13 52 50.4 0.0**
comp=Z,43nm,1.4s,mb4.9
TCF Toulx Ste Croi 81.90 316 *e*P **P 13 52 50.4 0.0**
TCF pmax pmax
comp=Z,21nm,1.4s,mb4.9
TCF Toulx Ste Croi 81.90 316 *e*P **P 13 52 50.4 0.0**
comp=Z,22nm,1.4s,mb4.9
CAF Calviac 82.18 314 *e*P **P 13 52 52.2 +0.3**
comp=Z,14nm,1.0s,mb4.6
CAF Calviac 82.18 314 *e*P **P 13 52 52.2 +0.3**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CAF Calviac 82.18 314 *e*P **P 13 52 52.2 +0.3**
comp=Z,7.2nm,1.0s,mb4.6
MTLF Montolieu 82.28 313 *e*P **P 13 52 52.6 +0.2**
comp=Z,32nm,0.9s,mb5.0
MTLF Montolieu 82.28 313 *e*P **P 13 52 52.6 +0.2**
MTLF pmax pmax
comp=Z,16nm,0.9s,mb5.0
MTLF Montolieu 82.28 313 *e*P **P 13 52 52.6 +0.2**
comp=Z,16nm,0.9s,mb5.0
RJF Les Rejaudoux 82.52 315 *e*P **P 13 52 54.0 +0.4**
comp=Z,27nm,1.0s,mb4.9
RJF Les Rejaudoux 82.52 315 *e*P **P 13 52 54.0 +0.4**
RJF pmax pmax
comp=Z,13nm,1.0s,mb4.9
RJF Les Rejaudoux 82.52 315 *e*P **P 13 52 54.0 +0.4**
comp=Z,13nm,1.0s,mb4.9
LDF La Druitiere 83.15 318 *e*P **P 13 52 56.6 -0.3**
comp=Z,18nm,0.9s,mb4.8
LDF La Druitiere 83.15 318 *e*P **P 13 52 56.6 -0.3**
LDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LDF La Druitiere 83.15 318 *e*P **P 13 52 56.6 -0.3**
comp=Z,9.1nm,0.9s,mb4.8
FLN La Foliniere 83.36 318 *e*P **P 13 52 57.6 -0.4**
comp=Z,20nm,0.9s,mb4.9
FLN La Foliniere 83.36 318 *e*P **P 13 52 57.6 -0.4**
FLN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FLN La Foliniere 83.36 318 *e*P **P 13 52 57.6 -0.4**
comp=Z,10.0nm,0.9s,mb4.8
MFF Saint Martin d 83.47 316 *e*P **P 13 52 58.4 -0.2**
comp=Z,26nm,0.8s,mb5.0
MFF Saint Martin d 83.47 316 *e*P **P 13 52 58.4 -0.2**
MFF pmax pmax
comp=Z,13nm,0.8s,mb5.0
MFF Saint Martin d 83.47 316 *e*P **P 13 52 58.4 -0.2**
comp=Z,13nm,0.8s,mb5.0
EKA Eskdalemuir Ar 83.90 325 P **P 13 53 00.7 -0.1**
comp=Z,5.0nm,0.9s,mb4.7,baz=90,slow=5.8,SNR=8.9
TNA Tin City 84.37 24 *e*P **P 13 53 03.0 -0.2**
SGMF Saint Gilles 84.81 318 *e*P **P 13 53 04.9 -0.5**
comp=Z,28nm,1.1s,mb5.0
SGMF Saint Gilles 84.81 318 *e*P **P 13 53 04.9 -0.5**
SGMF pmax pmax
comp=Z,14nm,1.1s,mb5.0
SGMF Saint Gilles 84.81 318 *e*P **P 13 53 04.9 -0.5**
comp=Z,14nm,1.1s,mb5.0
ROSF Rostrenen 85.26 318 *e*P **P 13 53 07.4 -0.3**
comp=Z,15nm,0.9s,mb4.8
ROSF Rostrenen 85.26 318 *e*P **P 13 53 07.4 -0.3**
ROSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ROSF Rostrenen 85.26 318 *e*P **P 13 53 07.4 -0.3**
comp=Z,7.4nm,0.9s,mb4.8
ESDC Sonseca Array 87.48 310 P **P 13 53 18.9 +0.4**
comp=Z,1.7nm,0.7s,mb4.4,baz=62,slow=4.2,SNR=9.2
SYO Syowa Base 87.63 197⇑*e*pP pP 13 53 53.7 +24
SYO Syowa Base 87.63 197⇓*e*P **P 13 53 20.0 +0.7**
SYO ⇑*e*pP pP 13 53 53.7 +24
TORD Torodi Ar. Bea 87.64 283 P **P 13 53 20.8 +1.5**
comp=Z,2.8nm,0.8s,mb4.5,baz=82,slow=4.7,SNR=18
TORD PP PP 13 56 46.6 +1.9
comp=Z,0.6nm,1.0s,baz=83,slow=12,SNR=2.5
MDT Midelt 89.45 303 P **P 13 53 29.9 +2.0**
comp=Z,2.4nm,0.8s,mb4.6,baz=74,slow=4.3,SNR=5.4
SUMG Summit 90.66 347 *e*P **P 13 53 34.0 +0.5**
comp=Z,18nm,1.0s,mb5.4
MCK McKinley 92.59 23 *e*P **P 13 53 40.5 -1.9**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
MCK McKinley 92.59 23 *e*P **P 13 53 40.5 -1.9**
comp=Z,5.1nm,1.1s,mb4.9
ILAR Eielson Array 92.80 21 P **P 13 53 42.4 -1.0**
comp=Z,3.1nm,0.7s,mb4.8,baz=299,slow=4.4,SNR=30
YKA Yellowknife Ar 103.99 12 Pdiff Pdif 13 54 32.3 -1.5
comp=Z,0.3nm,0.9s,baz=335,slow=3.5,SNR=5.0
YKA PP PP 13 58 40.2 -11
comp=Z,0.4nm,1.0s,baz=329,slow=7.4,SNR=4.3
YKA Yellowknife Ar 103.99 12 Pdif Pdif 13 54 32.3 -1.5
YKA PP PP 13 58 40.2 -11
PDAR Pinedale Array 123.11 19 PKP PKPdf 13 59 27.8 +0.4
comp=Z,1.7nm,0.7s,baz=0.0,slow=3.0,SNR=11
NVAR Mina Array Bea 123.43 28 PKP PKPdf 13 59 29.3 +1.3
comp=Z,3.4nm,0.8s,baz=266,slow=4.1,SNR=26
ANMO Albuquerque 131.22 20⇓*i*PKIKP PKPdf 13 59 45.4 +2.5
TXAR Lajitas Array 137.30 20 PKP PKPdf 13 59 53.2 -1.0
comp=Z,1.3nm,0.7s,baz=152,slow=0.9,SNR=11
BDFB Brasilia 140.63 259 PKP PKPdf 14 00 01.2 +0.9
comp=Z,3.3nm,0.8s,baz=97,slow=6.4,SNR=4.8
PLCA Paso Flores 146.46 205 PKPbc PKPbc 14 00 11.4 -0.5
comp=Z,3.3nm,0.8s,baz=92,slow=5.1,SNR=9.0
CPUP Villa Florida 147.07 238 *e*PKIKP PKPdf 14 00 11.5 -0.1
CPUP *e* 14 00 14.4
SDV Santo Domingo 153.66 318 *e*PKPab PKPab 14 00 43.3 +0.9
LPAZ La Paz 159.76 253 PKP PKPdf 14 00 30.4 +0.7
comp=Z,0.7nm,0.6s,baz=83,slow=1.0,SNR=4.1
LPAZ PKPab PKPab 14 01 09.7 +1.0
comp=Z,1.1nm,0.5s,baz=80,slow=6.1,SNR=5.3

NAO ***05*** *14:03:35.6,3337N×7624E,h33km,mb4.0*
IDC ***05*** *14:03:45.2±0.9,3416N×7372E,h0km,mb3.8/9, mb1 4.0/12,mb1mx3.8/23,mbtmp3.9/12,ML4.5/2,Error ellipse: s-maj=24.6km s-min=19.7km az=50.0*
NDI ***05*** *14:03:46.3±2.9,3426N×7335E,h9km±22km,ML3.4, mb3.8(NEIC)*
ISCJB ***05*** *14:03:48.4±0.9,3411N±005×7346E±010,h34km±10km, mb3.7/9,Error ellipse: s-maj=15.1km s-min=4.7km az=129.8*
MOS ***05*** *14:03:49.0±0.8,3423N×7370E,h36km,mb4.1/5,Error ellipse: s-maj=25.0km s-min=8.9km az=96.7*
NEIC ***05*** *14:03:49.4±1.3,3442N×7364E,h10km,mb3.8/2,Error ellipse: s-maj=25.4km s-min=13.4km az=206.0*
NNC ***05*** *14:03:59.6±4.2,3472N×7339E,h66km±35km,mb3.4, mpv3.9,Error ellipse: s-maj=32.9km s-min=30.8km az=100.0*

ISC 05 14:03:50.6±0.7,3408N±004×7340E±010,h41km±9km,n55, σ0:99/66,mb3.7/9,3C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.54**	**129**	*e*P	**Pn**	**14 04 30.1**	**+0.8**
THN				*e*S	**Sn**	**14 05 03.5**	**+4.5**
DLH	**Dalhousie**	**2.64**	**125**	*e*P	**Pn**	**14 04 32.0**	**+1.3**
DLH				*e*x	**Sn**	**14 05 08.0**	**+6.6**
PONG	**Pong**	**3.01**	**134**	*e*PB	**Pn**	**14 04 43.0**	**+7.2**
PONG				*e*SB	**Sn**	**14 05 23.0**	**+12**
BHK	**Bhakra**	**3.67**	**135**	*e*x	x	14 05 47.1	
SDNR	**Sundarnagar**	**3.96**	**129**	*e*P	**Pn**	**14 04 48.4**	**-0.3**
SDNR				*e*S	**Sn**	**14 05 35.0**	**+1.1**
KLP	**Kalpa**	**4.81**	**120**	*e*P	**Pn**	**14 05 00.1**	**-0.3**
KLP				*e*S	**Sn**	**14 05 55.1**	**+0.2**
KLP				AML	AML	14 06 35.1	
	comp=N,175nm,1.0s						
KLP				AML	AML	14 06 35.3	
	comp=E,174nm,0.5s						
DDI	**Dehra Dun**	**5.44**	**132**	*e*P	**Pn**	**14 05 08.7**	**-0.4**
DDI				*e*x	x	14 06 38.2	
NDI	**New Delhi**	**6.29**	**148**	*e*S	**Sn**	**14 06 30.0**	**-1.3**
AYAN	**Aya Nagar**	**6.42**	**149**	*e*P	**Pn**	**14 05 23.7**	**+1.1**
AYAN				*e*S	**Sn**	**14 06 33.4**	**-1.2**
KUDL	**Kundal**	**6.48**	**155**	*e*P	**Pn**	**14 05 22.2**	**-1.2**
KUDL				*e*S	**Sn**	**14 06 36.1**	**+0.1**
KUDL				AML	AML	14 06 59.3	
	comp=N,14nm,0.5s						
KUDL				AML	AML	14 07 00.5	
	comp=E,24nm,0.4s						
SONA	**Sohna**	**6.61**	**150**	*e*P	**Pn**	**14 05 25.5**	**+0.4**
SONA				*e*S	**Sn**	**14 06 38.2**	**-1.0**
SONA				AML	AML	14 06 41.6	
	comp=E,69nm,0.4s						
SONA				AML	AML	14 06 42.7	
	comp=N,25nm,0.3s						
AML	**Almayashu**	**8.05**	**2**	P	**Pn**	**14 05 45.4**	**+0.5**
	SNR=17						
KZA	**Kyzart**	**8.12**	**10**	P	**Pn**	**14 05 46.3**	**+0.3**
	SNR=13						
UCH	**Uchtor**	**8.19**	**6**	P	**Pn**	**14 05 47.4**	**+0.6**
	SNR=9.9						
EKS2	**Erkin-Say**	**8.58**	**2**	P	**Pn**	**14 05 52.5**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**9.00**	**10**	P	**Pn**	**14 05 58.0**	**+0.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**9.00**	**10**	⇑P	**Pn**	**14 05 57.4**	**-0.5**
	comp=N,2.5nm,0.5s						
TKM2				⇓S	**Sn**	**14 07 31.5**	**-6.4**
	comp=N,5.2nm,0.7s						
TKM2	**Tokmak 2**	**9.00**	**10**	P	**Pn**	**14 05 57.4**	**-0.5**
TKM2				S	**Sn**	**14 07 31.5**	**-6.4**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KK31	**Karatay Array**	**9.29**	**347**	P	**Pn**	**14 06 02.2**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=154,slow=11,SNR=144						
KK31				⇑S	**Sn**	**14 07 40.2**	**-5.0**
	comp=Z,1.3nm,0.4s,baz=170,slow=24,SNR=5.4						
KKAR	**Karatay Array**	**9.29**	**347**	P	**Pn**	**14 06 02.2**	**+0.3**
KKAR				S	**Sn**	**14 07 40.1**	**-5.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	**Makanchi Array**	**14.38**	**25**	P	**Pn**	**14 07 15.0**	**+3.5**
	comp=Z,0.4nm,0.5s,baz=204,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**14.38**	**25**	Pn	**Pn**	**14 07 07.6**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=3.6						
LSA	**Lhasa**	**15.70**	**101**	*e*P	**Pn**	**14 07 30.6**	**+1.8**
	comp=Z,7.0nm,0.7s						
AB31	**Akbulak array**	**18.15**	**331**	P	**Pn**	**14 07 59.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=143,slow=11,SNR=36						
AB31	**Akbulak array**	**18.15**	**331**	*e*P	**Pn**	**14 07 59.0**	**-0.4**
VOSK	**Vostochnaya**	**18.72**	**355**	⇓P	**Pn**	**14 08 05.2**	**-1.1**
	comp=Z,1.6nm,0.6s						
BVA0	**Borovoye Array**	**19.07**	**354**	P	**Pn**	**14 08 09.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=158,slow=9.0,SNR=44						
BVA0	**Borovoye Array**	**19.07**	**354**	*i* P	**Pn**	**14 08 09.4**	**-1.1**
BVAR	**Borovoye Array**	**19.07**	**354**	P	**Pn**	**14 08 09.1**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=155,slow=8.9,SNR=54						
BVAR	**Borovoye Array**	**19.07**	**354**	P	**Pn**	**14 08 09.1**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZRNK	**Zerenda**	**19.13**	**352**	⇓P	**Pn**	**14 08 10.3**	**-0.9**
	comp=Z,2.0nm,1.0s						
ZRNK	**Zerenda**	**19.13**	**352**	*e*P	**Pn**	**14 08 10.3**	**-0.9**
	comp=Z,1.5nm,0.4s						
AKTK	**Aktyubinsk**	**19.86**	**330**	P	**Pn**	**14 08 19.3**	**-0.5**
AKTO	**Aktyubinsk**	**19.86**	**330**	⇑P	**Pn**	**14 08 19.6**	**-0.3**
	comp=Z,0.7nm,0.7s						
AKTO	**Aktyubinsk**	**19.86**	**330**	P	**Pn**	**14 08 19.3**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=136,slow=10,SNR=17						
AKTO	**Aktyubinsk**	**19.86**	**330**	P	**Pn**	**14 08 19.6**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**21.43**	**19**	P	**P**	**14 08 31.8**	**-3.3**
	comp=Z,3.4nm,0.4s,mb4.0,baz=264,slow=5.5,SNR=21						
ZAL	**Zalesovo**	**21.43**	**19**	P	**P**	**14 08 31.8**	**-3.3**

ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL Zalesovo 21.43 19 P P 14 08 31.8 -3.3
SONM Songino Array 28.22 51 P P 14 09 38.2 -1.3
comp=Z,1.0nm,1.0s,mb3.4,baz=258,slow=9.3,SNR=8.3
SONM Songino Array 28.22 51 P P **14 09 38.2 -1.3**
SONM pmax pmax
comp=Z,1.0nm,1.0s
JOF Joensuu 38.94 331 *ep* **P 14 11 14.2 +1.8**
FINES FINESS Array B 40.58 327 P **P 14 11 26.5 +0.4**
comp=Z,0.4nm,0.4s,mb3.4,baz=132,slow=10,SNR=8.5
ARCES ARCESS Array B 44.13 338 P **P 14 11 55.2 +0.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=110,slow=8.1,SNR=12
ARCES ARCESS Array B 44.13 338 P **P 14 11 55.2 +0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 44.13 338 P **P 14 11 55.2 +0.3**
NB2 NORSAR Subarra 47.49 324 P **P 14 12 21.8 +0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=93,slow=7.9
NOA NORSAR Array B 47.49 324 P **P 14 12 22.2 +0.8**
comp=Z,2.0nm,0.7s,mb4.2,baz=96,slow=7.6,SNR=7.4
NOA NORSAR Array B 47.49 324 P **P 14 12 22.3 +0.8**
NOA pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 67.67 271 P **P 14 14 46.1 +2.7**
comp=Z,0.5nm,0.4s,mb3.9,baz=47,slow=5.9,SNR=16
WRA Warramunga Arr 79.04 123 P **P 14 15 50.6 +0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=323,slow=5.5,SNR=6.1
WRA Warramunga Arr 79.04 123 P **P 14 15 50.6 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.25 126 P **P 14 16 02.5 +0.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=304,slow=4.6,SNR=6.1
YKA Yellowknife Ar 83.55 4 P **P 14 16 14.1 -0.1**
comp=Z,0.1nm,0.4s,mb3.3,baz=344,slow=5.6,SNR=9.2
YKA Yellowknife Ar 83.55 4 P **P 14 16 14.1 -0.2**

IDC 05 14:10:56.0±3.8, 579S×12882E, h393km±46km, mb2.6/1, mb1 3.1/3, mb1mx2.8/14, mbtmp3.8/3, Error ellipse: s-maj=100.7km s-min=15.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.05**	**160**	P	P	14 14 09.7	+0.4
	0.6nm,0.3s,baz=339,slow=11,SNR=58						
WRA				S	S	14 16 48.4	-0.8
	0.2nm,0.3s,baz=336,slow=21,SNR=5.1						
WB2	**Warramunga Arr**	**15.06**	**160**	*eP*	P	14 14 09.6	+0.3
ASAR	**Alice Springs**	**18.43**	**165**	P	P	14 14 45.5	+0.2
	0.5nm,0.3s,baz=346,slow=12,SNR=59						
ASAR				S	S	14 17 56.0	+1.0
	0.1nm,0.3s,baz=345,slow=23,SNR=9.0						
ASPA	**Alice Springs**	**18.43**	**165**	*eP*	P	14 14 45.4	+0.1
ASPA				*eS*	S	14 17 56.4	+1.4
MKAR	**Makanchi Array**	**66.58**	**327**	P	P	14 21 05.4	+0.1
	0.1nm,0.4s,baz=112,slow=9.8,SNR=5.8						

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*ISCJB **05** 14:15:19.1±1.4, 1769S±005×719W±0.1, h54km±13km, mb4.0/9, MS3.5/4, Error ellipse: s-maj=19.6km s-min=8.3km az=158.7*
*NEIC **05** 14:15:19.9±1.2, 1766S×7194W, h50km±11km, mb4.1/3, Error ellipse: s-maj=15.8km s-min=7.4km az=83.0*
*IDC **05** 14:15:20.3±2.9, 1771S×7191W, h52km±27km, mb3.9/8, mb1 4.0/10, mb1mx3.9/18, mbtmp4.2/10, ML4.9/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/27, Error ellipse: s-maj=27.6km s-min=17.0km az=79.0*
ISC 05 14:15:20.2±1.3, 1768S±005×719W±01, h51km±13km, n32, σ0°90/27, mb4.0/9, MS3.5/4, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.28**	**20**	⇑*iP*	**Pn**	**14 15 41.6**	**-0.2**
ARE				*i* S	**Sn**	**14 16 02.9**	**+5.1**
LPAZ	**La Paz**	**3.90**	**70**	P	**Pn**	**14 16 22.0**	**+4.4**
	18nm,0.3s,baz=250,slow=12,SNR=56						
LPAZ				LR	LR	14 17 43.3	
	comp=Z,314nm,18.6s,baz=241,slow=37						
LPAZ	**La Paz**	**3.90**	**70**	⇑*e*Pn	**Pn**	**14 16 23.0**	**+5.4**
LPAZ				LR	LR	14 17 43.3	
LVC	**Limon Verde**	**5.68**	**150**	P	**Pn**	**14 16 41.5**	**-0.5**
	5.0nm,0.3s,baz=328,slow=9.4,SNR=43						
LVC				S	**Sn**	**14 17 45.8**	**0.0**
	16nm,0.3s,baz=98,slow=22,SNR=13						
LVC	**Limon Verde**	**5.68**	**150**	*e*Pn	**Pn**	**14 16 41.4**	**-0.6**
LVC				*e*Sn	**Sn**	**14 17 45.7**	**-0.1**
LVC				S	**Sn**	**14 17 45.8**	**0.0**
SIV	**San Ignacio**	**10.54**	**82**	P	**Pn**	**14 17 49.8**	**+1.3**
	3.6nm,0.3s,baz=285,slow=10,SNR=30						
SAML	**Samuel**	**12.16**	**46**	*e*Pn	**Pn**	**14 18 09.6**	**-1.0**
	32nm,1.4s						
CFAA	**Coronel Fontan**	**14.27**	**167**	P	**Pn**	**14 18 40.2**	**+0.9**
	0.0nm,0.3s,baz=339,slow=15,SNR=3.4						
CFAA				LR	LR	14 24 19.5	
	comp=Z,25nm,18.6s,baz=349,slow=38						
CPUP	**Villa Florida**	**16.05**	**125**	P	**Pn**	**14 19 01.4**	**-0.9**
	8.8nm,1.0s						
TRQA	**Tornquist**	**22.10**	**159**	*eP*	**P**	**14 20 11.6**	**+0.5**
ROSC	**El Rosal**	**22.51**	**354**	P	**P**	**14 20 16.1**	**+0.6**
	2.4nm,0.4s,mb4.0,baz=104,slow=20,SNR=4.1						
ROSC				LR	LR	14 29 48.6	
	comp=Z,257nm,18.4s,MS3.7,baz=17,slow=38						
ROSC	**El Rosal**	**22.51**	**354**	P	**P**	**14 20 16.8**	**+1.4**
ROSC				LR	LR	14 29 48.6	
PLCA	**Paso Flores**	**23.01**	**177**	P	**P**	**14 20 20.3**	**-0.4**
	3.1nm,0.9s,mb3.7,baz=342,slow=13,SNR=5.4						
PLCA				LR	LR	14 27 46.0	
	comp=Z,152nm,21.2s,MS3.4,baz=0.6,slow=32						
PLCA	**Paso Flores**	**23.01**	**177**	*eP*	**P**	**14 20 21.1**	**+0.4**
	5.8nm,0.9s,mb4.0						
PLCA				LR	LR	14 27 46.0	
BDFB	**Brasilia**	**23.01**	**88**	P	**P**	**14 20 19.8**	**-0.9**
	2.5nm,0.7s,mb3.8,baz=270,slow=8.7,SNR=4.1						
BDFB				LR	LR	14 30 24.5	
	comp=Z,127nm,19.7s,MS3.4,baz=181,slow=39						
SDV	**Santo Domingo**	**26.42**	**3**	P	**P**	**14 20 53.4**	**+1.3**
	6.9nm,0.9s,mb4.2,baz=251,slow=6.3,SNR=6.4						
SDV				LR	LR	14 32 06.1	
	comp=Z,133nm,19.9s,MS3.5,baz=217,slow=38						
SDV	**Santo Domingo**	**26.42**	**3**	*eP*	**P**	**14 20 53.4**	**+1.3**
	17nm,1.1s,mb4.5						
SDV				LR	LR	14 32 06.1	
TXAR	**Lajitas Array**	**55.87**	**326**	P	**P**	**14 24 50.4**	**-2.3**
	0.3nm,0.7s,mb3.4,baz=129,slow=8.0,SNR=4.2						
ANMO	**Albuquerque**	**61.76**	**328**	*eP*	**P**	**14 25 33.5**	**0.0**
NVAR	**Mina Array Bea**	**70.73**	**323**	P	**P**	**14 26 30.9**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=164,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**78.85**	**72**	P	**P**	**14 27 18.1**	**+0.3**
	3.6nm,0.8s,mb4.4,baz=248,slow=5.6,SNR=52						
ESDC	**Sonseca Array**	**85.18**	**46**	P	**P**	**14 27 51.7**	**+0.7**
	1.8nm,0.8s,mb4.3,baz=255,slow=5.2,SNR=8.2						
YKA	**Yellowknife Ar**	**86.66**	**342**	P	**P**	**14 27 57.6**	**-0.7**
	1.9nm,0.7s,mb4.4,baz=137,slow=4.9,SNR=56						
WRA	**Warramunga Arr**	**134.58**	**216**	PKP	PKPdf	14 34 34.1	+1.2
	0.4nm,0.9s,baz=142,slow=1.6,SNR=5.6						
ZAL	**Zalesovo**	**139.58**	**21**	PKP	PKPdf	14 34 42.5	+0.4
	0.6nm,0.4s,baz=318,slow=18,SNR=5.7						
ZAL	**Zalesovo**	**139.58**	**21**	PKP	PKPdf	14 34 42.5	+0.4
MKAR	**Makanchi Array**	**144.02**	**31**	PKP	PKPdf	14 34 48.9	-1.1
	0.6nm,0.7s,baz=315,slow=3.4,SNR=9.4						
MKAR	**Makanchi Array**	**144.02**	**31**	PKP	PKPdf	14 34 48.9	-1.1
MJAR	**Matsushiro Arr**	**147.44**	**311**	PKPbc	PKPbc	14 34 58.6	+0.2
	3.6nm,1.0s,baz=100,slow=1.4,SNR=7.2						
MAT	**Matsushiro**	**147.44**	**311**	P	PKPdf	14 34 59.2	+3.4
MAT	**Matsushiro**	**147.44**	**311**	*eP*	PKPdf	14 34 59.0	+3.2
SONM	**Songino Array**	**149.89**	**2**	PKPbc	PKPbc	14 35 05.5	+0.8
	1.6nm,0.8s,baz=318,slow=1.8,SNR=15						

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*CSEM **05** 14:24:54.1±0.4, 3857N×2859W, h16km±3km, ML1.6, Error ellipse: s-maj=2.6km s-min=1.5km az=39.0, After PDA*
*PDA **05** 14:24:54.1±0.4, 3857N×2859W, h16km±3km, MD2.9, ML1.6, Error ellipse: s-maj=2.6km s-min=1.5km az=39.0*
SVSA 05 14:24:54.1±0.4, 3857N×2859W, h16km±3km, MD2.9, ML1.6, Error ellipse: s-maj=2.6km s-min=1.5km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.06**	**219**	*eP*	Pg	14 24 56.6	-0.5
HOR				*eS*	Sg	14 24 58.6	-0.4
CALA	**Caldeira**	**0.09**	**278**	*eS*	Sg	14 24 59.3	-0.3
PCED	**Cedros**	**0.11**	**303**	*eP*	Pg	14 24 57.2	-0.4
PCED				*eS*	Sg	14 24 59.5	-0.4
PCED							
	43nm,0.2s						
PCED	**Cedros**	**0.11**	**303**	*eP*	Pg	14 24 57.2	-0.4
PCED				*eS*	Sg	14 24 59.5	-0.4
PCND	**Candelaria**	**0.14**	**136**	*eP*	Pg	14 24 58.6	+0.7
PCND				*eS*	Sg	14 25 01.2	+0.7
PCND							
	39nm,0.2s						
PICO	**Pico**	**0.14**	**118**	*i* P	Pg	14 24 57.7	-0.3
PICO				*eS*	Sg	14 25 00.2	-0.4
PICO	**Pico**	**0.14**	**118**	*eS*	Sg	14 25 00.2	-0.4
ROSA	**Rosais**	**0.31**	**61**	*eP*	Pg	14 24 59.8	-0.8
ROSA				*eS*	Sg	14 25 03.7	-1.3

IDC 05 15:01:55.2±15.0, 525S×14765E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=237.8km s-min=88.8km az=11.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.81**	**185**	LR	LR	15 10 46.3	
	comp=Z,32nm,21.9s,baz=49,slow=36						
WB2	**Warramunga Arr**	**19.51**	**220**	*eP*	Pn	15 06 24.5	-0.7
WRA	**Warramunga Arr**	**19.52**	**220**	P	Pn	15 06 23.7	-1.5
	0.5nm,0.3s,baz=46,slow=11,SNR=58						
ASAR	**Alice Springs**	**22.60**	**215**	P	P	15 06 57.9	+0.6
	2.6nm,0.5s,baz=28,slow=12,SNR=71						
ASPA	**Alice Springs**	**22.60**	**215**	*eP*	P	15 06 57.7	+0.4
FITZ	**Fitzroy Crossi**	**25.01**	**237**	*eP*	P	15 07 22.6	+1.8
	8.5nm,0.5s						
STKA	**Stephens Creek**	**27.09**	**191**	P	P	15 07 39.9	+0.4
	0.9nm,0.5s,baz=17,slow=10,SNR=6.2						

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*IDC **05** 15:02:25.0±1.3, 707S×15042E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/13, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=51.0km s-min=26.1km az=117.0*
*ISCJB **05** 15:02:29.1±1.5, 7.1S±03×150.1E±04, h33km, mb3.8/4, Error ellipse: s-maj=64.1km s-min=16.7km az=64.9*
*NEIC **05** 15:02:30.5±0.8, 7.13S×15031E, h35km, mb3.9/1, Error ellipse: s-maj=34.8km s-min=12.5km az=124.0*
ISC 05 15:02:30.5±1.5, 71S±03×1504E±04, h35km, n8, σ0°60/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**20.08**	**229**	*eP*	**P**	**15 07 00.1**	**-0.7**
	5.1nm,0.7s						
WRA	**Warramunga Arr**	**20.09**	**229**	P	**P**	**15 07 00.5**	**-0.4**
	1.3nm,0.4s,baz=49,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**22.80**	**222**	P	**P**	**15 07 31.1**	**+1.1**
	1.6nm,0.7s,mb3.6,baz=54,slow=8.9,SNR=6.9						
SONM	**Songino Array**	**67.04**	**329**	P	**P**	**15 13 20.0**	**0.0**
	0.9nm,0.8s,mb3.9,baz=132,slow=3.7,SNR=7.4						
MKAR	**Makanchi Array**	**80.50**	**320**	P	**P**	**15 14 39.3**	**+0.4**
	0.4nm,0.8s,mb3.4,baz=101,slow=6.2,SNR=5.5						
COLA	**College**	**84.91**	**22**	*eP*	**P**	**15 15 02.1**	**+0.3**
ILAR	**Eielson Array**	**85.23**	**22**	P	**P**	**15 15 02.8**	**-0.6**
	1.7nm,0.8s,mb4.2,baz=251,slow=5.3,SNR=11						
BDFB	**Brasilia**	**150.96**	**141**	PKPbc	PKPbc	15 22 20.8	+1.3
	1.9nm,0.5s,baz=83,slow=2.6,SNR=4.4						

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*PNSN **05** 15:25:29.3, 4796N×12240W, h33km, MD2.5, Fault plane solution: NP1:ϕ₀135.00000°, δ80.00000°, NP2: ϕ₀227.00000°, δ80.00000°, Principal axes: T Plg0.0000°, Azm1.0000°; P Plg14.0000°, Azm91.0000°;*
PGC 05 15:25:28.8, 4791N×12247W, h29km±5km, ML2.4/22, 36km northwest of Seattle, Wa Puget Sound, Washington., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGZ	**Gonzales**	**0.76**	**312**	P	Pb	15 25 42.3	-1.2
VGZ				S	Sb	15 25 52.2	-1.4
VGZ				Trac		15 25 53.4	
	comp=Z,132nm,0.1s						
SNB	**Saturna Island**	**0.98**	**332**	P	Pn	15 25 46.5	-0.1
SNB				S	Sn	15 25 59.2	-0.4
SNB				Trac		15 25 59.7	
	comp=Z,160nm,0.2s						
PGC	**Sidney**	**0.99**	**319**	P	Pn	15 25 46.1	-0.6
PGC				S	Sn	15 25 58.5	-1.2
PGC				Trac		15 25 59.4	
	comp=Z,116nm,0.1s						
VDB	**Vedder Mountai**	**1.14**	**12**	P	Pn	15 25 48.6	-0.2
VDB				S	Sn	15 26 02.7	-0.8
VDB				Trac		15 26 06.6	
	comp=Z,17nm,0.1s						
LZB	**Mount Lazard**	**1.15**	**308**	P	Pn	15 25 48.3	-0.5
LZB				S	Sn	15 26 02.9	-0.6
LZB				Trac		15 26 03.8	
	comp=Z,47nm,0.2s						
GOBB	**Galiano Island**	**1.25**	**327**	P	Pn	15 25 50.5	+0.2
GOBB				S	Sn	15 26 06.1	0.0
GOBB				Trac		15 26 07.4	
	comp=Z,58nm,0.1s						
HNB	**Haney**	**1.37**	**357**	P	Pn	15 25 51.8	-0.1
HNB				S	Sn	15 26 08.6	-0.4
HNB				Trac		15 26 10.6	
	comp=Z,73nm,0.2s						
BIB	**Bowen Island**	**1.60**	**340**	P	Pn	15 25 55.8	+0.7
BIB				S	Sn	15 26 15.7	+1.0
BIB				Trac		15 26 16.5	
	comp=Z,89nm,0.3s						
NLLB	**Nanaimo Lost L**	**1.66**	**323**	P	Pn	15 25 56.8	+0.8
NLLB				S	Sn	15 26 16.8	+0.6
NLLB				Trac		15 26 19.6	
	comp=Z,42nm,0.3s						
WPB	**Watts Point**	**1.81**	**345**	P	Pn	15 25 58.5	+0.5
WPB				S	Sn	15 26 21.0	+1.0
WPB				Trac		15 26 22.0	
	comp=Z,36nm,0.2s						
MGB	**Mount Grey**	**1.84**	**307**	P	Pn	15 25 59.1	+0.7
MGB				S	Sn	15 26 21.8	+1.1
MGB				Trac		15 26 23.5	
	comp=Z,68nm,0.3s						
SHB	**Sechelt**	**1.93**	**332**	P	Pn	15 26 00.8	+1.2
SHB				S	Sn	15 26 24.5	+1.7
SHB				Trac		15 26 26.5	
	comp=Z,49nm,0.2s						
ALB	**Alberni**	**2.08**	**312**	P	Pn	15 26 03.4	+1.8
ALB				Sg	Sn	15 26 28.4	+1.9
ALB				Trac		15 26 33.4	
	comp=Z,9.0nm,0.1s						
TXB	**Texada**	**2.21**	**325**	P	Pn	15 26 05.3	+1.8
TXB				Sg	Sn	15 26 32.9	+3.0
TXB				Trac		15 26 33.6	
	comp=Z,26nm,0.3s						
WSLR	**Whistler**	**2.24**	**352**	P	Pn	15 26 05.9	+2.0
WSLR				Sg	Sn	15 26 33.0	+2.6
WSLR				Trac		15 26 35.5	
	comp=Z,12nm,0.2s						
OZB	**Mount Ozzard**	**2.27**	**299**	P	Pn	15 26 06.3	+2.0
OZB				Sg	Sn	15 26 36.3	+4.9
OZB				Trac		15 26 40.0	
	comp=Z,16nm,0.2s						
PNT	**Penticton**	**2.36**	**52**	P	Pn	15 26 05.8	+0.4
PNT				Sg	Sn	15 26 39.1	+5.7
PNT				Trac		15 26 47.0	
	comp=Z,13nm,0.3s						
BTB	**Buttle Lake**	**2.56**	**309**	P	Pn	15 26 11.4	+3.2
BTB				Sg	Sn	15 26 43.3	+5.0
BTB				Trac		15 26 46.3	
	comp=Z,12nm,0.2s						
LLLB	**Lillooet**	**2.73**	**8**	P	Pn	15 26 11.6	+1.0
LLLB				Sg	Sn	15 26 49.3	+6.7
LLLB				Trac		15 26 56.2	
	comp=Z,4.0nm,0.3s						
CBB	**Campbell River**	**2.86**	**319**	P	Pn	15 26 16.6	+4.2
CBB				Sg	Sn	15 26 51.5	+5.8
CBB				Trac		15 26 56.9	
	comp=Z,4.0nm,0.2s						
NCRB	**Newcastle Ridg**	**3.43**	**318**	P	Pn	15 26 25.4	+5.2
NCRB				Sg	Sn	15 27 09.1	+9.1
NCRB				Trac		15 27 16.9	
	comp=Z,5.0nm,0.4s						
WOSB	**Woss**	**3.52**	**311**	P	Pn	15 26 27.2	+5.8
WOSB				Sg	Sn	15 27 11.9	+10
WOSB				Trac		15 27 15.6	
	comp=Z,3.0nm,0.3s						

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*NEIC **05** 15:28:22.1, 3798S×17618E, h171km, MG3.8(WEL), After WEL.*
WEL 05 15:28:21.8±0.2, 3797S×17621E, h173km±2km, ML3.7/16, 2C, Error ellipse: s-maj=3.1km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.77**	**113**	PN	Pn	15 28 47.0	-0.2
URZ				SN	Sn	15 29 06.5	-0.1
URZ	**Urewera**	**0.77**	**113**	P	Pn	15 28 47.1	0.0
MWZ	**Matawai**	**1.10**	**110**	PN	Pn	15 28 49.9	+0.3
MWZ				SN	Sn	15 29 10.9	0.0
MWZ	**Matawai**	**1.10**	**110**	P	Pn	15 28 50.0	+0.4
MWZ				S	Sn	15 29 11.5	+0.6
BKZ	**Black Stump Fm**	**1.22**	**170**	⇑PN	Pn	15 28 50.7	+0.2
BKZ				SN	Sn	15 29 12.8	+0.2
TWVZ	**Taurewa**	**1.26**	**209**	PN	Pn	15 28 51.3	+0.4
TUVZ	**Tukino**	**1.37**	**198**	PN	Pn	15 28 52.2	+0.3
TUVZ	**Tukino**	**1.37**	**198**	P	Pn	15 28 52.3	+0.4
FWVZ	**Far West T-bar**	**1.39**	**202**	PN	Pn	15 28 52.5	+0.4
WNVZ	**Wahianoa**	**1.44**	**199**	PN	Pn	15 28 52.4	-0.1
WNVZ	**Wahianoa**	**1.44**	**199**	P	Pn	15 28 52.9	+0.3
MOVZ	**Moawhango**	**1.48**	**194**	PN	Pn	15 28 52.6	-0.4
MOVZ	**Moawhango**	**1.48**	**194**	P	Pn	15 28 52.7	-0.3
PKVZ	**Pokaka**	**1.48**	**207**	PN	Pn	15 28 53.2	+0.2
MTVZ	**Mangateitei**	**1.53**	**202**	PN	Pn	15 28 53.7	+0.2
KNZ	**Kokohu**	**1.56**	**133**	PN	Pn	15 28 53.9	+0.2
KNZ	**Kokohu**	**1.56**	**133**	P	Pn	15 28 54.0	+0.3
PUZ	**Puketiti**	**1.62**	**94**	PN	Pn	15 28 53.9	-0.4
PUZ	**Puketiti**	**1.62**	**94**	*eP*	Pn	15 28 54.0	-0.3
VRZ	**Vera Road**	**1.62**	**224**	PN	Pn	15 28 54.7	+0.4
VRZ	**Vera Road**	**1.62**	**224**	*eP*	Pn	15 28 54.9	+0.5
MXZ	**Matakaoa Point**	**1.71**	**77**	PN	Pn	15 28 55.2	0.0
MXZ	**Matakaoa Point**	**1.71**	**77**	*eP*	Pn	15 28 55.2	0.0
WAZ	**Wanganui**	**2.02**	**208**	PN	Pn	15 28 58.0	-0.6
WAZ	**Wanganui**	**2.02**	**208**	*eP*	Pn	15 28 58.3	-0.3
TSZ	**Takapari Road**	**2.10**	**185**	PN	Pn	15 28 58.6	-0.8
TSZ	**Takapari Road**	**2.10**	**185**	P	Pn	15 28 58.7	-0.7
PXZ	**Pawanui**	**2.12**	**166**	PN	Pn	15 28 59.3	-0.4
BFZ	**Birch Farm**	**2.71**	**179**	PN	Pn	15 29 05.0	-1.5
BFZ	**Birch Farm**	**2.71**	**179**	*eP*	Pn	15 29 05.0	-1.5
MRZ	**Mangatainoka R**	**2.73**	**190**	⇑PN	Pn	15 29 05.0	-1.9
MRZ	**Mangatainoka R**	**2.73**	**190**	P	Pn	15 29 05.0	-1.8
KIW	**Kapiti Island**	**3.06**	**199**	PN	Pn	15 29 08.3	-2.5
KIW	**Kapiti Island**	**3.06**	**199**	P	Pn	15 29 08.4	-2.4
MTW	**Mount Morrison**	**3.23**	**190**	PN	Pn	15 29 09.9	-3.1
MTW	**Mount Morrison**	**3.23**	**190**	P	Pn	15 29 10.2	-2.8
CAW	**Cannon Point**	**3.26**	**195**	PN	Pn	15 29 10.6	-2.7
CAW	**Cannon Point**	**3.26**	**195**	P	Pn	15 29 10.8	-2.5
TRWZ	**Traveller**	**3.45**	**187**	PN	Pn	15 29 12.8	-2.9
MRW	**Makara Radio**	**3.46**	**199**	PN	Pn	15 29 12.8	-3.0
PAWZ	**Paruwai Farm**	**3.46**	**190**	PN	Pn	15 29 12.7	-3.1
MSWZ	**Moikau Station**	**3.52**	**192**	PN	Pn	15 29 13.5	-3.1
MSWZ	**Moikau Station**	**3.52**	**192**	P	Pn	15 29 13.6	-3.0
SNZO	**South Karori**	**3.53**	**199**	PN	Pn	15 29 13.5	-3.3
SNZO	**South Karori**	**3.53**	**199**	P	Pn	15 29 13.6	-3.1
TCW	**Tory Channel**	**3.57**	**204**	PN	Pn	15 29 14.0	-3.1
TUWZ	**Tuamarina**	**3.88**	**206**	*e*PN	Pn	15 29 17.5	-3.6
QRZ	**Quartz Range**	**4.04**	**224**	*e*PN	Pn	15 29 19.3	-3.8
THZ	**Tophouse**	**4.56**	**213**	PN	Pn	15 29 27.0	-2.9
KHZ	**Kahutara**	**4.89**	**204**	PN	Pn	15 29 30.3	-3.9
KHZ	**Kahutara**	**4.89**	**204**	*e*P	Pn	15 29 30.4	-3.8
DSZ	**Denniston Nort**	**5.07**	**221**	SN	Sn	15 30 29.2	-5.9
MQZ	**McQueen's Vall**	**6.34**	**204**	SN	Sn	15 30 55.1	-10
WVZ	**Waitaha Valley**	**6.59**	**218**	SN	Sn	15 31 01.2	-10
ODZ	**Otahua Downs**	**8.21**	**209**	SN	Sn	15 31 38.9	-11

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*ISCJB **05** 15:41:21.5±2.8, 239S±0.1×179.7E±02, h486km±33km, mb4.0/10, Error ellipse: s-maj=24.4km s-min=13.4km az=130.1*
*NEIC **05** 15:41:21.3±4.0, 2365S×17979E, h490km±41km, mb4.4/2, Error ellipse: s-maj=34.3km s-min=19.9km az=207.0*
*IDC **05** 15:41:23.3±3.2, 2369S×17972E, h508km±31km, mb3.3/6, mb1 3.5/6, mb1mx3.4/14, mbtmp4.2/6, Error ellipse: s-maj=23.9km s-min=20.5km az=31.0*
ISC 05 15:41:19.3±2.0, 2385S±009×1798E±02, h443km±21km, n33, σ1°00/24, mb3.9/10, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.55**	**189**	P	**P**	**15 44 27.4**	**+1.6**
	12nm,0.3s,baz=38,slow=2.7,SNR=58						
URZ	**Urewera**	**14.55**	**189**	PN	**P**	**15 44 27.0**	**+1.3**
URZ				SN	**S**	**15 46 58.0**	**-1.7**
BKZ	**Black Stump Fm**	**15.53**	**190**	PN	**P**	**15 44 36.3**	**+0.1**
BKZ				SN	**S**	**15 47 15.7**	**-3.1**
NNZ	**Nelson**	**18.14**	**196**	PN	**P**	**15 45 03.7**	**+0.1**
THZ	**Tophouse**	**18.77**	**196**	PN	**P**	**15 45 10.1**	**+0.3**
KHZ	**Kahutara**	**19.24**	**194**	PN	**P**	**15 45 14.3**	**+0.3**
KHZ				SN	**S**	**15 48 27.4**	**+1.7**
LTZ	**Lake Taylor**	**19.89**	**197**	PN	**P**	**15 45 19.9**	**-0.1**
RPZ	**Rata Peaks**	**21.09**	**198**	P	**P**	**15 45 32.5**	**+1.6**
	5.0nm,0.4s,mb4.3,baz=48,slow=6.8,SNR=12						
CTA	**Charters Tower**	**31.31**	**270**	⇑*iP*	**P**	**15 47 03.1**	**+1.7**
	3.9nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**34.58**	**248**	*eP*	**P**	**15 47 28.5**	**-0.8**
	1.8nm,0.8s,mb3.5						
STKA	**Stephens Creek**	**34.58**	**248**	P	**P**	**15 47 28.3**	**-1.1**
	1.8nm,0.5s,mb3.6,baz=73,slow=8.0,SNR=8.6	

BER ***05*** *16:03:14.9±6.1, 6708N×2107E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*

ISC 05 16:03:11.3±0.3, 6707N±002×2093E±006, h0km, n51, σ1ϑ10/69, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**291**	*i* P	**Pg**	**16 03 13.9**	**-0.2**
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**16 03 21.6**	**-0.7**
ERTU	**Ertsjaerv**	**0.72**	**135**	*i* P	**Pg**	**16 03 24.3**	**-0.7**
PAJU	**Pajala**	**0.86**	**92**	*i* P	**Pg**	**16 03 26.8**	**-1.0**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**16 03 27.6**	**-1.4**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P	**Pg**	**16 03 29.3**	**-1.0**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**16 03 30.1**	**-1.6**
NIKU	**Nikkaluokta**	**1.09**	**319**	*e*P	**Pg**	**16 03 30.8**	**-1.3**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**16 03 40.1**	**-0.6**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**16 03 44.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pn**	**16 03 47.2**	**+1.6**
KIF				*e*S	**Sn**	**16 04 13.7**	**+3.0**
SGF	**Sodankyl**	**2.21**	**78**	*e*P	**Pn**	**16 03 49.5**	**+0.4**
SGF				*e*S	**Sn**	**16 04 18.8**	**+1.6**
SGF				MSG		16 04 24.5	
	comp=Z,7.4nm,0.1s						
BURU	**Burvik**	**2.50**	**176**	*e*P	**Pn**	**16 03 53.8**	**+0.5**
TRO	**Tromso**	**2.68**	**345**	*e*S	**Sn**	**16 04 28.4**	**-0.4**
TRO				AML	AML	16 04 42.1	
	comp=Z,8.7nm,0.4s						
MOR8	**Moi Rana**	**2.74**	**254**	*e*P	**Pn**	**16 03 56.7**	**+0.2**
MOR8				*e*S	**Sn**	**16 04 30.8**	**+0.5**
MOR8				AML	AML	16 04 43.0	
	comp=Z,11nm,0.4s						
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pn**	**16 03 59.7**	**+1.8**
OUL				MSG		16 04 45.1	
	comp=Z,4.8nm,0.2s						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**16 03 59.9**	**-0.2**
	baz=210,slow=14						
ARA0				Sn	**Sn**	**16 04 37.6**	**+0.8**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**16 03 59.9**	**-0.2**
ARA0				*e*S	**Sn**	**16 04 37.6**	**+0.8**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**16 03 60.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=52						
ARCES				Sn	**Sn**	**16 04 38.0**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=210,slow=23,SNR=8.2						
ARCES				Lg		16 04 44.3	
	comp=Z,1.9nm,0.3s,baz=215,slow=28,SNR=9.1						
LOF	**Lofoten**	**3.02**	**294**	*e*P	**Pn**	**16 04 01.6**	**+1.2**
LOF				AML	AML	16 04 52.2	
	comp=Z,8.7nm,0.4s						
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**16 04 03.2**	**+0.4**
STOK	**Stokkvaagen**	**3.23**	**260**	*e*P	**Pn**	**16 04 04.8**	**+1.6**
BREU	**Bredtraesk**	**3.34**	**198**	*e*P	**Pn**	**16 04 04.8**	**+0.1**
KU4	**Liikasenvaara**	**3.51**	**98**	*e*P	**Pn**	**16 04 07.9**	**+0.8**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**16 04 06.3**	**-0.8**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**16 04 11.6**	**+0.4**
KJN	**Kajaani**	**4.11**	**134**	*e*P	**Pn**	**16 04 16.4**	**+1.1**
KJN				*e*S	**Sn**	**16 05 02.4**	**-1.7**
KJN				MSG		16 05 29.2	
	comp=Z,4.3nm,0.2s						
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**16 04 16.9**	**+1.6**
VAF				*e*S	**Sn**	**16 05 03.5**	**-0.6**
SOLU	**Sollefteaa**	**4.14**	**204**	*e*P	**Pn**	**16 04 16.6**	**+0.9**
APA0	**Apatity Array**	**4.70**	**78**	Pn	**Pn**	**16 04 22.2**	**-1.2**
	baz=268,slow=12						
APA0				Sn	**Sn**	**16 05 17.2**	**-1.4**
	baz=268,slow=28						
APA0				Lg		16 05 38.3	
	baz=266,slow=37						
APA0	**Apatity Array**	**4.70**	**78**	*e*P	**Pn**	**16 04 22.2**	**-1.2**
APA0				*e*S	**Sn**	**16 05 17.2**	**-1.4**
APA0				*e*SG	**Sg**	**16 05 38.3**	**-4.0**
SUF	**Sumiainen**	**4.90**	**151**	*e*P	**Pn**	**16 04 27.1**	**+0.9**
KEF	**Keuruu**	**5.20**	**159**	*e*P	**Pn**	**16 04 30.7**	**+0.4**
KEF				MSG		16 05 34.9	
	comp=Z,2.2nm,0.2s						
KAF	**Kangasniemi**	**5.49**	**153**	*e*P	**Pn**	**16 04 34.5**	**+0.3**
ARNU	**Arnoeviken**	**5.61**	**198**	*e*P	**Pn**	**16 04 35.5**	**-0.5**
JOF	**Joensuu**	**6.06**	**129**	*e*P	**Pn**	**16 04 43.8**	**+1.8**
JOF				*e*S	**Sn**	**16 05 49.1**	**-3.0**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**16 04 42.9**	**+0.6**
	baz=341,slow=14						
FIA0				Sn	**Sn**	**16 05 51.6**	**-0.9**
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	*e*P	**Pn**	**16 04 43.3**	**+1.0**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**16 04 42.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=11						
FINES				Sn	**Sn**	**16 05 50.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=340,slow=21,SNR=3.4						
FINES				Lg		16 06 21.9	
	comp=Z,0.3nm,0.3s,baz=344,slow=26,SNR=3.7						
RAF	**Rauma**	**6.08**	**176**	*e*P	**Pn**	**16 04 41.2**	**-1.2**
PVF	**Pernaja**	**6.90**	**159**	*e*P	**Pn**	**16 04 54.7**	**+1.0**
MEF	**Metsahovi**	**7.05**	**166**	*e*P	**Pn**	**16 04 55.7**	**0.0**
VJF	**Virojoki**	**7.18**	**153**	*e*P	**Pn**	**16 04 59.0**	**+1.5**
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**16 05 00.1**	**-0.3**
	baz=29,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	*e*P	**Pn**	**16 05 00.1**	**-0.3**
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**16 05 00.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=6.0,SNR=2.6						
NOA				Sn	**Sn**	**16 06 24.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=152,slow=18,SNR=2.8						
NOA				Lg		16 07 05.5	
	comp=Z,0.3nm,0.3s,baz=46,slow=21,SNR=2.6						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**16 05 03.5**	**-0.7**
	baz=22,slow=14						
HFS				Sn	**Sn**	**16 06 29.4**	**-2.4**
HFS	**Hagfors**	**7.67**	**208**	*e*P	**Pn**	**16 05 03.5**	**-0.7**
HFS				*e*S	**Sn**	**16 06 29.4**	**-2.4**
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**16 05 03.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=33,slow=13,SNR=6.3						
HFS				Sn	**Sn**	**16 06 29.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=53,slow=22,SNR=3.3						
HFS				Lg		16 07 14.0	
	comp=Z,0.2nm,0.3s,baz=9.5,slow=26,SNR=2.7						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**16 05 52.0**	**-1.2**
	baz=108,slow=14						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	*e*P	**Pn**	**16 05 52.0**	**-1.2**

NAO ***05*** *16:14:55.1, 5692N×15328W, h33km, mb4.8*

MOS ***05*** *16:15:12.3±0.9, 5953N×152.16W, h33km, mb5.1/77, MS4.4/11, Error ellipse: s-maj=9.9km s-min=4.1km az=91.4*

BJI ***05*** *16:15:12.6, 5958N×152.12W, h46km, mB5.2, mb5.0, Ms5.0, Msz4.5*

ISCJB ***05*** *16:15:15.6±0.1, 5953N±002×15204W±004, h62km, mb5.0/190, Error ellipse: s-maj=3.2km s-min=2.5km az=38.2*

IDC ***05*** *16:15:17.5±0.4, 5963N×15197W, h63km±2km, mb4.5/27, mb1 4.7/30, mb1mx4.7/32, mbtmp4.8/30, MS3.9/16, Ms1 3.9/16, ms1mx3.7/36, Error ellipse: s-maj=11.8km s-min=7.5km az=30.0*

HRVD ***05*** *16:15:17.8±0.2, 5933N×15183W, h71km±2km, MW5.0/77, Centroid moment Tensor Solution. LP body waves: s49,c74;Mantle waves: s77,c135; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.67±.14; Mθθ-3.59±.15; Mφφ4.25±.11; Mrθ1.84±.10; Mθφ1.18±.11; Mφr0.85±.08; Best double couple: Mo4.60200×1016 NP1:φs325.00000°, δ64.00000°, λ-171.00000°. NP2: φs231.00000°, δ82.00000°, λ-27.00000°. Principal axes: T 4.6690, Plg12.0000°, Azm281.0000°; N -0.1390, Plg62.0000°, Azm36.0000°; P -4.5350, Plg24.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *16:15:17.8, 5939N×15175W, h48km, mb5.0/127, MS4.3/6, ML5.2(AEIC), ML5.3(PMR), After AEIC.*

NEIC Felt [V] at Homer; [IV] at Anchor Point, Clam Gulch and Soldotna; [III] at Kasilof, Kenai, Seward and Sterling. Also felt at Anchorage, Chugiak and Eagle River.

SZGRF ***05*** *16:15:21.2, 6032N×15325W, h61km, mb4.8, Southern Alaska, United States*

ISC 05 16:15:17.2±0.1, 5956N±002×15204W±004, h64km, h64km±.5km: pP-P, n497, σ0ϑ96/500, mb5.0/190, 22C-23D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.32**	**43**	P	**Pn**	**16 15 39.7**	**+0.1**
SEW	**Seward**	**1.42**	**66**	P	**Pn**	**16 15 39.5**	**-1.3**
SEW				S	**Sn**	**16 15 55.6**	**-3.0**
KDAK	**Kodiak Island**	**1.80**	**189**	Pn	**Pn**	**16 15 43.8**	**-2.3**
	31μm,0.6s						
KDAK	**Kodiak Island**	**1.80**	**189**	P	**Pn**	**16 15 43.5**	**-2.5**
	636nm,0.3s,baz=36,slow=8.4						
KDAK				S	**Sn**	**16 16 02.4**	**-5.5**
	2μm,0.3s,baz=33,slow=12,SNR=35						
KDAK	**Kodiak Island**	**1.80**	**189**	P	**Pn**	**16 15 43.4**	**-2.7**
KDAK				S	**Sn**	**16 16 02.9**	**-5.0**
FIB	**Fire Island**	**1.86**	**29**	P	**Pn**	**16 15 48.5**	**+1.7**
RC01	**Rabbit Creek A**	**1.92**	**36**	P	**Pn**	**16 15 48.2**	**+0.6**
RC01				S	**Sn**	**16 16 10.9**	**+0.2**
SVW2	**Sparrevohn**	**2.34**	**313**	P	**Pn**	**16 15 55.5**	**+2.1**
PMR	**Palmer**	**2.50**	**34**	P	**Pn**	**16 15 55.8**	**+0.3**
PMR				S	**Sn**	**16 16 24.1**	**-0.7**
GHO	**Glory Hole Cre**	**2.70**	**33**	P	**Pn**	**16 15 58.9**	**+0.6**
SML	**Sawmill**	**2.90**	**37**	P	**Pn**	**16 16 01.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.31**	**70**	P	**Pn**	**16 16 04.4**	**-2.2**
TT01	**Tatalina**	**3.87**	**332**	P	**Pn**	**16 16 16.6**	**+2.3**
TTA	**Tatalina**	**3.89**	**332**	*e*P	**Pn**	**16 16 16.4**	**+1.9**
BMRM	**Bremner River**	**3.96**	**66**	P	**Pn**	**16 16 13.6**	**-1.9**
KTH	**Kantishna Hill**	**4.04**	**7**	P	**Pn**	**16 16 18.5**	**+1.8**
MCK	**McKinley**	**4.44**	**18**	P	**Pn**	**16 16 23.6**	**+1.5**
PAX	**Paxson**	**4.67**	**40**	P	**Pn**	**16 16 25.3**	**+0.2**
CHGN	**Chignik**	**4.71**	**229**	*e*P	**Pn**	**16 16 25.4**	**-0.4**
MENT	**Mentasta**	**5.25**	**46**	P	**Pn**	**16 16 33.0**	**-0.1**
COLA	**College**	**5.68**	**18**	*d i* P	**Pn**	**16 16 39.5**	**+0.5**
COLA	**College**	**5.68**	**18**	P	**Pn**	**16 16 39.3**	**+0.2**
ILAR	**Eielson Array**	**5.76**	**23**	P	**Pn**	**16 16 40.5**	**+0.4**
	62nm,0.3s,baz=202,slow=14,SNR=1664						
ILAR				S	**Sn**	**16 17 43.3**	**-1.5**
	31nm,0.3s,baz=203,slow=16,SNR=4.4						
ILAR				LR	LR	16 19 24.9	
	comp=Z,639nm,20.4s,baz=195,slow=44						
ILAR				ScP	ScP	16 27 05.0	-1.9
	baz=284,slow=2.5,SNR=4.7						
ILAR	**Eielson Array**	**5.76**	**23**	P	**Pn**	**16 16 40.5**	**+0.4**
ILAR				S	**Sn**	**16 17 43.3**	**-1.5**
IL1	**Eielson Array**	**5.76**	**23**	P	**Pn**	**16 16 40.5**	**+0.4**
PCA	**Pinnacle**	**5.97**	**80**	P	**Pn**	**16 16 41.6**	**-1.3**
SDPT	**Sand Point**	**6.21**	**231**	P	**Pn**	**16 16 45.7**	**-0.5**
YKU2	**Yakutat**	**6.29**	**85**	*e*P	**Pn**	**16 16 46.1**	**-1.3**
PNL	**Peninsula**	**6.42**	**84**	P	**Pn**	**16 16 47.2**	**-1.9**
IM3	**Indian Mountai**	**6.50**	**354**	P	**Pn**	**16 16 51.3**	**+1.1**
IMA2	**Indian Mountai**	**6.58**	**354**	*e*P	**Pn**	**16 16 52.8**	**+1.5**
COLD	**Coldfoot**	**7.74**	**5**	P	**Pn**	**16 17 08.9**	**+1.7**
BM3	**Burnt Mountain**	**8.55**	**20**	P	**Pn**	**16 17 18.4**	**0.0**
BESE	**Bessie Mountai**	**8.90**	**89**	P	**Pn**	**16 17 20.4**	**-2.7**
SIT	**Sitka**	**9.14**	**99**	P	**Pn**	**16 17 21.6**	**-4.8**
TNA	**Tin City**	**9.47**	**316**	P	**Pn**	**16 17 33.6**	**+2.8**
UNV	**Unalaska Valle**	**9.79**	**241**	P	**Pn**	**16 17 34.5**	**-0.7**
CRAG	**Craig**	**10.95**	**104**	*e*P	**Pn**	**16 17 46.0**	**-5.1**
	313nm,0.4s						
INK	**Inuvik**	**11.91**	**35**	P	**Pn**	**16 18 03.0**	**-1.1**
	1.8nm,0.3s,baz=247,slow=17,SNR=102						
INK				LR	LR	16 22 58.6	
	comp=Z,868nm,21.3s,baz=228,slow=39						
INK				ScP	ScP	16 27 13.1	-0.5
	0.0nm,0.3s,baz=207,slow=1.7,SNR=4.8						
INK	**Inuvik**	**11.91**	**35**	P	**Pn**	**16 18 03.0**	**-1.1**
INK				LR	LR	16 22 58.6	
INK				ScP	ScP	16 27 13.1	-0.5
BBB	**Bella Bella**	**15.26**	**108**	P	**Pn**	**16 18 45.0**	**-3.8**
	3.2nm,0.3s,baz=295,slow=13,SNR=51						
BBB				S	S	16 21 28.8	-21
	2.0nm,0.3s,baz=172,slow=20,SNR=7.7						
BBB				LR	LR	16 23 37.2	
	comp=Z,572nm,20.6s,baz=147,slow=33						
BBB	**Bella Bella**	**15.26**	**108**	P	**Pn**	**16 18 45.0**	**-3.8**
BBB				S	S	16 21 28.8	-21
BBB				LR	LR	16 23 37.2	
ADK	**Adak**	**15.79**	**252**	*e*P	**Pn**	**16 18 56.2**	**+0.6**
ADK				pmax	pmax		
	comp=Z,153nm,0.8s						
ADK	**Adak**	**15.79**	**252**	*e*P	**Pn**	**16 18 56.2**	**+0.6**
	comp=Z,153nm,0.8s						
YKA	**Yellowknife Ar**	**18.20**	**65**	P	**Pn**	**16 19 23.9**	**-1.4**
	baz=282,slow=12,SNR=252						
YKA				PcP	PcP	16 23 54.0	-1.2
	baz=271,slow=0.8,SNR=8.6						
YKA				LR	LR	16 26 38.2	
	comp=Z,428nm,21.2s,baz=270,slow=38						
YKA				ScP	ScP	16 27 23.4	-1.5
	baz=282,slow=1.7,SNR=6.7						
YKA	**Yellowknife Ar**	**18.20**	**65**	P	**Pn**	**16 19 23.9**	**-1.4**
YKA				PcP	PcP	16 23 54.0	-1.2
YKA				LR	LR	16 26 38.2	
YKA				ScP	ScP	16 27 23.4	-1.5
SMY	**Shemya**	**19.89**	**265**	*e*P	**Pn**	**16 19 42.9**	**-2.6**
SMY				pmax	pmax		
	comp=Z,841nm,1.6s						
SMY				MLR	MLR		
	comp=Z,800nm,17.0s						
SMY	**Shemya**	**19.89**	**265**	*e*P	**Pn**	**16 19 42.9**	**-2.6**
	comp=Z,840nm,1.6s						
SMY				LR	LR		
	comp=Z,800nm,17.0s						
FX1	**Attu Island--F**	**20.28**	**266**	P	**P**	**16 19 47.5**	**-0.1**
	comp=Z,519nm,0.8s,baz=20,slow=1.6,SNR=77						
FX1	**Attu Island--F**	**20.28**	**266**	*e*P	**P**	**16 19 47.9**	**+0.3**
NEW	**Newport**	**23.17**	**104**	P	**P**	**16 20 18.3**	**0.0**
	comp=Z,28nm,0.7s,mb4.8,baz=314,slow=8.2,SNR=60						
NEW				pP		16 20 32.7	
	comp=Z,51nm,0.9s,baz=325,slow=6.4,SNR=19						
NEW				LR	LR	16 28 27.4	
	comp=Z,622nm,18.2s,baz=328,slow=34						
NEW	**Newport**	**23.17**	**104**	*e*P	**P**	**16 20 18.2**	**-0.1**
NEW				*e**PP		16 20 32.3	
NEW				pmax	pmax		
	comp=Z,68nm,1.0s						
NEW	**Newport**	**23.17**	**104**	*e*P	**P**	**16 20 18.2**	**-0.1**
	comp=Z,68nm,1.0s,mb5.0						
NEW				*e*pP		16 20 32.3	
NEW				*e*sP	sP	16 20 41.0	+0.7
KEBM	**Edson Butte**	**23.81**	**122**	*e*P	**P**	**16 20 25.5**	**+1.3**
HUMO	**Hull Mountain**	**24.63**	**121**	*e*P	**P**	**16 20 32.6**	**+1.0**
	comp=Z,58nm,0.9s,mb5.1						
YBH	**Yreka Blue Hor**	**25.44**	**121**	P	**P**	**16 20 40.4**	**+1.4**
	comp=Z,27nm,0.7s,mb4.9,baz=333,slow=3.2,SNR=13						
YBH				pP	pP	16 20 55.0	+0.7
	comp=Z,24nm,0.8s,baz=298,slow=3.5,SNR=4.7						
YBH	**Yreka Blue Hor**	**25.44**	**121**	*e*P	**P**	**16 20 40.3**	**+1.3**
YBH				*e**PP	pP	16 20 55.5	+1.1
YBH				pmax	pmax		
	comp=Z,55nm,1.1s						
YBH	**Yreka Blue Hor**	**25.44**	**121**	*e*P	**P**	**16 20 40.3**	**+1.3**
	comp=Z,55nm,1.1s,mb5.0						
YBH				*e*pP	pP	16 20 55.5	+1.1
BMO	**Blue Mountains**	**25.50**	**110**	*e*P	**P**	**16 20 39.6**	**+0.1**
	comp=Z,25nm,1.0s,mb4.7						
BMO				*e*pP	pP	16 20 53.6	-1.3
MSO	**Missoula**	**25.73**	**103**	*e*P	**P**	**16 20 41.0**	**-0.6**
	comp=Z,68nm,1.4s,mb5.0						
SEY	**Seymchan**	**26.24**	**301**	*e*P	**P**	**16 20 46.1**	**-0.1**
SEY				*e**PP	pP	16 20 56.9	-4.7
SEY				*e*		16 21 36.4	
SEY				*e*		16 24 17.1	
SEY				*e*S	**S**	**16 25 14.6**	**+0.7**
SEY				*SS	sS	16 25 35.1	-5.2
SEY				SS		16 26 24.8	
SEY				*e*SSS		16 26 47.1	
SEY				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
SEY				pmax	pmax		
	comp=E,22nm,1.0s						
SEY				smax			
	comp=N,40nm,5.0s						
SEY				smax			
	comp=E,25nm,3.9s						
SEY				MLR	MLR		
	comp=E,100nm,17.0s						
SEY				MLR	MLR		
	comp=Z,260nm,17.0s						
SEY				MLR	MLR		
	comp=N,50nm,12.0s						
SEY	**Seymchan**	**26.24**	**301**	*i i* P	**P**	**16 20 45.0**	**-1.2**
MOD	**Modoc**	**26.37**	**118**	*e*P	**P**	**16 20 47.9**	**+0.5**
	comp=N,21nm,0.9s,mb4.7						
MOD				*e*pP	pP	16 21 03.2	+0.4
WDC	**Whiskeytown Da**	**26.46**	**123**	*e*P	**P**	**16 20 48.5**	**+0.3**
WDC				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.0						
WDC	**Whiskeytown Da**	**26.46**	**123**	*e*P	**P**	**16 20 48.5**	**+0.3**
	comp=Z,59nm,1.2s,mb5.0						
KIPM	**Iron Peak**	**26.70**	**125**	*e*P	**P**	**16 20 51.7**	**+1.3**
KIPM				*e*pP	pP	16 21 06.8	+1.0
WVOR	**Wild Horse Val**	**26.71**	**115**	*e*P	**P**	**16 20 50.9**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,98nm,1.8s,mb5.0						
WVOR	**Wild Horse Val**	**26.71**	**115**	*e*P	**P**	**16 20 50.9**	**+0.5**
	comp=Z,98nm,1.8s,mb5.0						
KCPM	**Cahto Peak**	**26.76**	**125**	*e*P	**P**	**16 20 52.1**	**+1.2**
KCPM				*e*pP	pP	16 21 07.2	+0.9
HRY	**Holter Researc**	**26.86**	**101**	*e*P	**P**	**16 20 51.5**	**-0.3**
HRY				*e*pP	pP	16 21 06.3	-1.0
DLMT	**Dillon**	**27.43**	**103**	*e*P	**P**	**16 20 56.8**	**-0.1**
	comp=Z,104nm,1.6s,mb5.1						
DLMT				*e*pP	pP	16 21 11.1	-1.3
PET	**Petropavlovsk**	**27.57**	**278**	*e*P	**P**	**16 20 59.2**	**+1.0**
PET				*e*S	**S**	**16 25 27.7**	**-7.3**
PET				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.1						
PET	**Petropavlovsk**	**27.57**	**278**	*e*P	**P**	**16 20 58.9**	**+0.7**
	comp=Z,179nm,1.5s,mb5.5						
BOZ	**Bozeman (W)**	**27.70**	**102**	*e*P	**P**	**16 20 59.4**	**0.0**
BOZ				*e**PP	pP	16 21 14.6	-0.2
BOZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
BOZ				MLR	MLR		
	comp=Z,805nm,21.0s						
BOZ	**Bozeman (W)**	**27.70**	**102**	*e*P	**P**	**16 20 59.4**	**+0.1**
	comp=Z,13nm,0.9s,mb4.6						
BOZ				*e*pP	pP	16 21 14.6	-0.2
BOZ				LR	LR		
	comp=Z,805nm,21.0s						
OHCM	**Honcut**	**27.94**	**123**	*e*P	**P**	**16 21 01.2**	**-0.3**
MA2	**Magadan**	**28.21**	**295**	*d i* P	**P**	**16 21 04.3**	**+0.5**
MA2				*e*		16 21 51.9	
MA2				*e*PPP		16 22 07.9	
MA2				*e*S	**S**	**16 25 43.6**	**-1.4**
MA2				*e*SSS		16 27 25.7	
MA2				pmax	pmax		
	comp=N,10.0nm,0.8s						
MA2				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.3						
MA2				pmax	pmax		
	comp=E,40nm,0.7s						
MA2				MLR	MLR		
	comp=Z,800nm,22.0s						
MA2	**Magadan**	**28.21**	**295**	*e*P	**P**	**16 21 04.4**	**+0.5**
	comp=Z,93nm,0.8s,mb5.5						
QLMT	**Earthquake Lak**	**28.38**	**103**	*e*P	**P**	**16 21 05.5**	**+0.1**
QLMT				*e*pP	pP	16 21 21.1	+0.2
GCMT	**Greycliff**	**28.58**	**100**	P	**P**	**16 21 06.6**	**-0.6**
YFT	**Old Faithful**	**28.95**	**103**	*e*P	**P**	**16 21 11.9**	**+1.5**
LKWY	**Lake**	**29.09**	**102**	*e*P	**P**	**16 21 13.2**	**+1.6**
LKWY				*e**PP	pP	16 21 28.6	+1.4
LKWY				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
LKWY	**Lake**	**29.09**	**102**	*e*P	**P**	**16 21 13.2**	**+1.6**
	comp=Z,20nm,0.8s,mb4.9						
LKWY				*e*pP	pP	16 21 28.6	+1.4
FLWY	**Flagg Ranch**	**29.29**	**103**	*e*P	**P**	**16 21 14.5**	**+1.1**
	comp=Z,108nm,1.2s,mb5.5						
FLWY				*e*pP	pP	16 21 30.0	+1.0
CMB	**Columbia Colle**	**29.50**	**123**	*e*P	**P**	**16 21 15.7**	**+0.4**
CMB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
CMB	**Columbia Colle**	**29.50**	**123**	*e*P	**P**	**16 21 15.7**	**+0.3**
	comp=Z,15nm,1.1s,mb4.7						
MOOW	**Moose Ponds**	**29.50**	**104**	*e*P	**P**	**16 21 15.6**	**+0.2**
	comp=Z,18nm,1.2s,mb4.7						
DGMT	**Dagmar**	**29.56**	**91**	P	**P**	**16 21 15.8**	**0.0**
	comp=Z,32nm,1.3s,mb4.9						
DGMT				*e*pP	pP	16 21 29.9	-1.4
LOHW	**Long Hollow**	**29.68**	**104**	*e*P	**P**	**16 21 17.2**	**+0.3**
	comp=Z,24nm,0.8s,mb5.0						
LOHW				*e*pP	pP	16 21 32.8	+0.4
LAO	**LASA Array**	**29.71**	**95**	*e*P	**P**	**16 21 17.1**	**0.0**
	comp=Z,14nm,0.8s,mb4.7						
LAO				*e*pP	pP	16 21 32.3	-0.4
SNOW	**Snow King Moun**	**29.71**	**104**	*e*P	**P**	**16 21 18.3**	**+1.1**
	comp=Z,24nm,0.7s,mb5.0						
REDW	**Red Top Meadow**	**29.74**	**104**	*e*P	**P**	**16 21 18.1**	**+0.7**
	comp=Z,53nm,1.3s,mb5.1						
NVAR	**Mina Array Bea**	**30.08**	**120**	P	**P**	**16 21 21.2**	**+0.8**
	comp=Z,7.8nm,0.6s,mb4.6,baz=306,slow=9.1,SNR=58						
NVAR				pP	pP	16 21 36.5	+0.6
	comp=Z,4.5nm,0.7s,baz=309,slow=11,SNR=7.5						
NVAR				PcP	PcP	16 24 20.9	+0.1
	comp=Z,3.6nm,0.6s,baz=271,slow=3.4,SNR=9.7						
NVAR				ScP	ScP	16 27 57.0	-0.4
	comp=Z,1.1nm,0.8s,baz=266,slow=6.6,SNR=4.6						
NVAR				LR	LR	16 32 42.7	
	comp=Z,256nm,19.2s,baz=345,slow=35						
NVAR	**Mina Array Bea**	**30.08**	**120**	P	**P**	**16 21 21.2**	**+0.8**
NVAR				pP	pP	16 21 36.5	+0.6
NVAR				PcP	PcP	16

comp=Z,61nm,0.9s,mb5.5
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax
comp=E,7.0nm,1.3s
YAK smax
comp=N,4.0nm,1.2s
YAK Yakutsk 36.12 308 *e*P **P 16 22 12.4 -0.7**
comp=N,117nm,0.8s,mb5.9
SDCO Great Sand Dun 36.65 105 *e*P **P 16 22 18.4 +0.8**
comp=N,31nm,0.8s,mb5.2
SDCO *e*pP pP 16 22 33.9 +0.6
FRB Frobisher Bay 37.20 47 P **P 16 22 21.5 -0.7**
comp=N,21nm,1.0s,mb4.9,baz=301,slow=10,SNR=13
FRB LR LR 16 36 56.8
comp=N,308nm,20.7s,baz=300,slow=35
ANMO Albuquerque 38.41 109 P **P 16 22 32.8 +0.4**
comp=N,4.4nm,0.7s,mb4.3,baz=326,slow=8.6,SNR=18
ANMO PcP PcP 16 24 44.9 +0.2
comp=N,7.6nm,0.9s,baz=317,slow=2.4,SNR=7.3
ANMO ScP ScP 16 28 26.6 -0.3
comp=N,1.9nm,0.9s,baz=334,slow=1.8,SNR=6.5
ANMO Albuquerque 38.41 109 *e*P **P 16 22 32.5 +0.1**
ANMO *e* 16 24 44.8
ANMO pmax pmax
comp=Z,4.0nm,0.7s
ANMO Albuquerque 38.41 109 *e*P **P 16 22 32.5 +0.1**
comp=Z,4.1nm,0.7s,mb4.3
ANMO *e*PcP PcP 16 24 44.8 +0.2
LAZ Ladron 38.53 110 *e*P **P 16 22 34.1 +0.7**
LAZ *e*pP pP 16 22 49.8 +0.4
TUC Tucson 38.56 116 *e*P **P 16 22 34.3 +0.6**
TUC pmax pmax
comp=Z,14nm,0.9s,mb4.7
TUC Tucson 38.56 116 *e*P **P 16 22 34.3 +0.6**
comp=Z,14nm,0.9s,mb4.7
LENM Lemitar 38.80 110 *e*P **P 16 22 36.3 +0.6**
LENM *e*pP pP 16 22 52.0 +0.4
LPM Los Pinos Moun 38.84 110 *e*P **P 16 22 36.5 +0.4**
YSS Yuzh-Sakhalins 39.35 281⇑ *i*P **P 16 22 43.0 +2.7**
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.1
KSU1 Kansas State U 40.05 95 *e*P **P 16 22 45.3 -0.8**
KSU1 *e*pP pP 16 23 00.9 -1.1
SUMG Summit 40.60 25 *e*P **P 16 22 50.6 -0.1**
comp=Z,23nm,0.6s,mb5.0
SUMG *e*pP pP 16 23 06.8 +0.2
DAG Danmarks Havn 40.80 15⇓ *i*P **P 16 22 51.9 -0.4**
comp=Z,23nm,0.5s,mb5.1
DAG Danmarks Havn 40.80 15⇓ *i*P **P 16 22 51.9 -0.4**
DAG pmax pmax
comp=Z,23nm,0.5s,mb5.1
CLNS Chul'man 41.17 304 *e*P **P 16 22 54.5 -0.8**
CLNS pmax pmax
comp=Z,39nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,27nm,1.0s
ASAJ Asahikawa 41.42 278 P **P 16 22 58.0 +0.6**
comp=E,42nm,0.6s,mb5.2,baz=26,slow=2.6,SNR=56
MNTX Cornudas Mount 41.59 111 *e*P **P 16 22 59.3 +0.6**
comp=E,16nm,0.8s,mb4.7
MNTX *e*pP pP 16 23 14.4 -0.4
MNTX *e*PcP PcP 16 24 53.5 -1.3
MNTX LR LR
comp=Z,181nm,19.0s
GDL2 Guadalupe Moun 41.66 109 *e*P **P 16 22 59.8 +0.4**
GDL2 *e*pP pP 16 23 15.5 +0.1
GDL2 *e*PcP PcP 16 24 54.7 -0.4
HABR Khabarovsk 42.10 288 *i* P **P 16 23 02.6 -0.3**
HABR *e*S **S 16 29 17.7 -0.1**
HABR pmax pmax
comp=Z,30nm,1.3s,mb4.8
WMOK Wichita Mounta 42.35 102 *e*P **P 16 23 04.5 -0.4**
WMOK *e**PP pP 16 23 20.4 -0.6
WMOK pmax pmax
comp=Z,53nm,0.9s,mb5.2
WMOK Wichita Mounta 42.35 102 *e*P **P 16 23 04.5 -0.5**
comp=Z,53nm,0.9s,mb5.2
WMOK *e*pP pP 16 23 20.4 -0.6
KLR Kul'dur 43.16 291 *e*P **P 16 23 08.3 -3.2**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,85nm,1.8s,mb5.2
SCHQ Schefferville 43.40 57 P **P 16 23 12.8 -0.6**
comp=Z,2.8nm,0.5s,mb4.2,baz=308,slow=8.3,SNR=17
SCHQ pP pP 16 23 28.9 -0.7
comp=Z,5.4nm,0.5s,baz=310,slow=9.6,SNR=5.8
SCHQ LR LR 16 41 57.0
comp=Z,103nm,19.5s,baz=244,slow=37
TXAR Lajitas Array 44.37 111 P **P 16 23 21.4 +0.2**
comp=Z,9.1nm,0.8s,mb4.5,baz=327,slow=5.9,SNR=90
TXAR pP pP 16 23 37.3 -0.1
comp=Z,7.8nm,0.9s,baz=338,slow=6.7,SNR=8.9
TXAR PcP PcP 16 25 03.6 -0.5
comp=Z,0.6nm,0.5s,baz=92,slow=1.6,SNR=4.3
TXAR LR LR 16 39 38.8
comp=Z,259nm,21.5s,baz=340,slow=33
TXAR Lajitas Array 44.37 111 P **P 16 23 21.5 +0.3**
TXAR *PP pP 16 23 37.3 -0.1
TXAR 16 25 03.7
SADO Sadowa 44.70 75 PcP PcP 16 25 04.0 -1.3
comp=Z,5.3nm,0.5s,baz=309,slow=3.2,SNR=3.7
BOD Bodaibo 44.91 311 *e*P **P 16 23 24.1 -1.4**
BOD *e* pP 16 23 39.5 -2.2
BOD pmax pmax
comp=Z,17nm,1.1s,mb4.8
BOD pmax pmax
comp=Z,21nm,0.8s,mb5.0
MIAR Mount Ida 45.12 97 *e*P **P 16 23 25.9 -1.3**
MIAR *e**PP pP 16 23 42.2 -1.2
MIAR *e* 16 25 05.5
MIAR pmax pmax
comp=Z,16nm,0.8s,mb4.9
MIAR Mount Ida 45.12 97 *e*P **P 16 23 25.9 -1.2**
comp=Z,16nm,0.8s,mb4.9
MIAR *e*pP pP 16 23 42.2 -1.1
MIAR *e*PcP PcP 16 25 05.5 -1.3
BLO Bloomington 45.13 87 *e*P **P 16 23 26.1 -1.2**
BLO pmax pmax
comp=Z,12nm,0.6s,mb4.9
BLO Bloomington 45.13 87 *e*P **P 16 23 26.1 -1.2**
comp=Z,12nm,0.6s,mb4.9
JCT Junction City 45.28 106 *e*P **P 16 23 28.2 -0.3**
JCT *e**PP pP 16 23 43.8 -0.9
JCT pmax pmax
comp=Z,106nm,0.7s,mb5.8
JCT Junction City 45.28 106 *e*P **P 16 23 28.2 -0.3**
comp=Z,106nm,0.7s,mb5.8
JCT *e*pP pP 16 23 43.8 -1.0
SCO Scoresbysund 45.54 21 *i* P **P 16 23 31.2 +0.7**
comp=Z,8.4nm,1.0s,mb4.6
SCO *i* S pP 16 23 48.3 +1.5
SCO Scoresbysund 45.54 21 *i* P **P 16 23 31.2 +0.7**
SCO *i* S pP 16 23 48.3 +1.5
SCO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WVT Waverly 46.80 90 *e*P **P 16 23 38.7 -1.7**
WVT pmax pmax
comp=Z,86nm,1.9s,mb5.4
WVT Waverly 46.80 90 *e*P **P 16 23 38.7 -1.6**
comp=Z,86nm,1.9s,mb5.4
OXF Oxford 47.26 93 *e*P **P 16 23 43.1 -0.9**
OXF pmax pmax
comp=Z,82nm,1.0s,mb5.6
OXF Oxford 47.26 93 *e*P **P 16 23 43.1 -0.8**
comp=Z,82nm,1.0s,mb5.6
FRNY Flat Rock 47.37 71 *e*P **P 16 23 43.0 -1.8**
VLA Vladivostok 47.48 285⇑ *e*P **P 16 23 45.3 -0.4**
MDJ Mudanjiang 47.49 288 P **P 16 23 45.7 -0.1**
MDJ AP pP 16 23 57.0 -5.1
MDJ XP sP 16 24 02.0 -7.4
MDJ PP PP 16 25 36.2 -1.4
MDJ S **S 16 30 34.0 -1.8**
MDJ XS sS 16 30 55.4 -8.0
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,81nm,4.9s
MDJ LR LR
comp=N,110nm,28.2s
MDJ LR LR
comp=E,140nm,29.2s
MDJ LR LR
comp=Z,189nm,31.3s
PLAL Pickwick Lake 47.56 92 *e*P **P 16 23 45.0 -1.4**
comp=Z,51nm,0.8s,mb5.6
PLAL *e*pP pP 16 24 01.5 -1.2
HKT Hockley 47.67 103 *e*P **P 16 23 47.5 +0.3**
HKT *e**PP pP 16 24 03.4 -0.1
HKT pmax pmax
comp=Z,42nm,1.3s,mb5.3
HKT Hockley 47.67 103 *e*P **P 16 23 47.5 +0.3**
comp=Z,42nm,1.3s,mb5.3
HKT *e*pP pP 16 24 03.4 -0.1
MCWV Mont Chateau 48.14 81 *e*P **P 16 23 49.6 -1.2**
comp=Z,14nm,0.7s,mb5.1
TZTN Tazewell 48.65 86 *e*P **P 16 23 54.0 -0.8**
CIT Chita 49.27 306 *e*P **P 16 24 00.6 +1.1**
CIT pmax pmax
comp=Z,55nm,1.9s,mb5.3
MAJO Matsushiro 49.30 275 *e*P **P 16 23 59.8 +0.1**
MAJO pmax pmax
comp=Z,56nm,0.8s,mb5.7
MAJO Matsushiro 49.30 275 *e*P **P 16 23 59.8 +0.1**
comp=Z,56nm,0.8s,mb5.6
MAT Matsushiro 49.30 275 P **P 16 23 59.6 -0.1**
MAT Matsushiro 49.30 275 *e*P **P 16 24 00.0 +0.3**
MJAR Matsushiro Arr 49.30 275 P **P 16 24 01.3 +1.6**
comp=Z,25nm,1.1s,mb5.2,baz=12,slow=7.2,SNR=40
MJAR LR LR 16 43 13.5
comp=Z,79nm,20.4s,baz=85,slow=34
LRAL Lakeview Retre 49.65 92 *e*P **P 16 24 00.3 -2.0**
comp=Z,12nm,0.7s,mb5.0
BLA Blacksburg 49.72 83 *e*P **P 16 24 02.0 -0.9**
BLA pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BLA Blacksburg 49.72 83 *e*P **P 16 24 02.0 -0.9**
comp=Z,1.3nm,0.6s,mb4.1
CN2 Changchun 50.09 291⇓ P **P 16 24 05.4 -0.3**
CN2 *e*AP pP 16 24 17.9 -4.2
CN2 *e*XP sP 16 24 23.2 -6.2
CN2 *e*S **S 16 31 12.7 +0.4**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
KEV Kevo 50.98 0 *e*p **P 16 24 10.8 -1.6**
comp=Z,5.3nm,0.3s,mb5.0
KEV Kevo 50.98 0 *e*P **P 16 24 10.8 -1.6**
KEV pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
ARCES ARCESS Array B 51.19 1 P **P 16 24 12.8 -1.2**
comp=Z,15nm,0.5s,mb5.2,baz=0.1,slow=7.2,SNR=122
ARCES pP pP 16 24 28.9 -1.6
comp=Z,11nm,0.6s,baz=0.0,slow=7.3,SNR=5.5
ARCES LR LR 16 49 57.3
comp=Z,50nm,19.7s,baz=192,slow=41
ARCES ARCESS Array B 51.19 1 P **P 16 24 12.8 -1.2**
ARCES *PP pP 16 24 28.9 -1.6
SNY Shenyang 52.48 290⇓ P **P 16 24 23.3 -0.3**
SNY AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
IRK Irkutsk 52.80 311 *e*P **P 16 24 26.2 +0.3**
IRK *e* pP 16 24 42.8 +0.3
IRK pmax pmax
comp=Z,322nm,1.8s,mb6.0
APA Apatity 53.12 357⇓ *i*P **P 16 24 34.0 +5.7**
APA pmax pmax
comp=Z,13nm,0.9s,mb4.9
KS15 Wonju Array Si 53.78 284 *e*P **P 16 24 33.1 0.0**
KRAR Krasnoyarsk 53.78 321 *de*P **P 16 24 32.7 -0.5**
KRAR pmax pmax
comp=Z,90nm,1.3s,mb5.5
MOY Mondy 54.49 313 *e*P **P 16 24 39.6 +1.3**
ZAK Zakamensk 54.66 311 *e*P **P 16 24 38.6 -0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.6
ULN Ulaanbaatar 55.15 306⇓ *i*P **P 16 24 43.8 +0.7**
ULN *i **PP pP 16 25 00.8 +1.0
ULN Ulaanbaatar 55.15 306 *e*P **P 16 24 43.4 +0.3**
comp=Z,9.9nm,0.6s,mb5.0
ULN LR LR
comp=Z,280nm,22.0s
SONM Songino Array 55.45 307 P **P 16 24 46.1 +0.9**
comp=Z,21nm,0.7s,mb5.3,baz=41,slow=6.9,SNR=183
SONM pP pP 16 25 00.9 -1.0
comp=Z,18nm,0.8s,baz=36,slow=7.6,SNR=11
SONM PcP PcP 16 25 45.7 +1.0
comp=Z,13nm,0.7s,baz=139,slow=1.7,SNR=13
SONM ScP ScP 16 29 37.7 -0.3
comp=Z,2.9nm,1.0s,baz=43,slow=2.8,SNR=6.8
SONM LR LR 16 49 56.2
comp=Z,279nm,21.7s,baz=65,slow=38
SONM Songino Array 55.45 307 P **P 16 24 46.1 +0.9**
SONM *PP pP 16 25 00.9 -1.0
SONM 16 25 45.7
NVS Novosibirsk 57.71 326⇓ *i*P **P 16 24 59.6 -1.7**
NVS *i **PP pP 16 25 17.1 -0.9
NVS *e* 16 27 18.0
NVS *e*S **S 16 32 52.8 -2.4**
NVS *e* 16 36 46.3
NVS pmax pmax
comp=Z,20nm,1.4s,mb5.0
NVS pmax pmax
comp=N,12nm,1.2s
NVS pmax pmax
comp=E,15nm,1.2s
NVS pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,9.0nm,1.6s
NVS smax
comp=N,10.0nm,2.8s
NVS smax
comp=E,26nm,2.5s
JOF Joensuu 57.82 358 *e*p **P 16 25 01.4 -0.7**
comp=E,20nm,0.6s,mb5.3
ZAL Zalesovo 58.04 324 P **P 16 25 03.2 -0.3**
comp=E,11nm,0.6s,mb5.1,baz=73,slow=7.5,SNR=43
ZAL pP pP 16 25 20.6 +0.2
comp=E,25nm,0.6s,baz=64,slow=12,SNR=18
ZAL LR LR 16 52 41.0
comp=E,109nm,19.9s,baz=179,slow=39
ZAL Zalesovo 58.04 324 P **P 16 25 03.2 -0.4**
ZAL *PP pP 16 25 20.6 +0.2
ZAL Zalesovo 58.04 324 P **P 16 25 03.2 -0.3**
ZAL pP pP 16 25 20.6 +0.2
ZAL LR LR 16 52 41.0
KAF Kangasniemi 58.65 1 *e*p **P 16 25 06.7 -1.1**
comp=E,20nm,0.4s,mb5.5,baz=356,slow=6.7
KAF Kangasniemi 58.65 1 *e*P **P 16 25 06.7 -1.1**
KAF pmax pmax
comp=Z,20nm,0.4s,mb5.5
HHC Hu-ho-hao-te 58.82 298⇑ *e*P **P 16 25 09.0 0.0**
HHC AP pP 16 25 20.7 -5.2
HHC XP sP 16 25 27.9 -5.1
HHC PCP PcP 16 25 55.5 -2.5
HHC PP PP 16 27 23.0 +3.4
HHC SCP ScP 16 29 50.4 -2.4
HHC PCS PcS 16 29 57.6 -2.2
HHC S **S 16 33 14.2 +4.5**
HHC XS sS 16 33 32.2 -5.9
HHC SCS ScS 16 34 52.5 -0.7
HHC AMB AMB
comp=Z,29nm,0.5s,mb5.6
HHC AMB AMB
comp=Z,141nm,4.4s
HHC LR LR
comp=N,178nm,15.6s
HHC LR LR
comp=E,159nm,10.8s
HHC LR LR
comp=Z,198nm,16.8s
NB2 NORSAR Subarra 59.04 9 P **P 16 25 09.7 -0.8**
comp=Z,9.5nm,0.8s,mb4.9,baz=350,slow=6.9
NOA NORSAR Array B 59.04 9 P **P 16 25 09.7 -0.8**
comp=Z,7.8nm,0.8s,mb4.8,baz=350,slow=6.9,SNR=22
NOA pP pP 16 25 26.1 -1.3
comp=Z,3.9nm,0.7s,baz=351,slow=6.9,SNR=4.8
FINES FINESS Array B 59.32 1 P **P 16 25 11.8 -0.7**
comp=Z,28nm,0.6s,mb5.5,baz=12,slow=7.5,SNR=164
FINES pP pP 16 25 27.7 -1.6
comp=Z,8.4nm,0.6s,baz=6.8,slow=6.2,SNR=4.1
KLMR Klimovskoe 59.59 353 *e*P **P 16 25 13.8 -0.5**
KLMR pmax pmax
comp=Z,70nm,1.3s,mb5.5
BTO Baotou 59.71 299 *e*P **P 16 25 13.9 -1.2**
PUL Pulkovo 61.00 359⇑ *e*P **P 16 25 24.1 +0.2**
ARU Arti 61.83 341 P **P 16 25 28.5 -1.0**
comp=Z,266nm,0.5s,SNR=12
ARU Arti 61.83 341 *e*P **P 16 25 28.1 -1.4**
ARU *e**PP pP 16 25 46.2 -0.3
ARU pmax pmax
comp=Z,30nm,0.6s,mb5.6
ARU Arti 61.83 341 *e*P **P 16 25 28.1 -1.5**
comp=Z,30nm,0.6s,mb5.6
ARU *e*pP pP 16 25 46.2 -0.3
SSE Sheshan 62.17 284 P **P 16 25 32.0 +0.2**
SSE S **S 16 33 51.6 -0.8**
SSE SCS ScS 16 35 17.0 -1.2
SSE SS SS 16 37 55.9 -0.3
SSE AMB AMB
comp=Z,18nm,1.0s,mb5.2
SSE AMB AMB
comp=Z,153nm,4.2s
SSE LR LR
comp=N,46nm,20.0s
SSE LR LR
comp=E,59nm,20.0s
SSE LR LR
comp=Z,79nm,20.0s
VSU Vasula 62.32 1*c* *i*P **P 16 25 32.4 -0.4**
VSU Vasula 62.32 1⇑ *i*P **P 16 25 32.5 -0.3**
KURK Kurchatov 62.67 326 P **P 16 25 34.0 -1.2**
comp=Z,85nm,0.5s,SNR=12
BRVK Borovoye 62.68 333 P **P 16 25 34.2 -1.1**
comp=Z,161nm,0.6s,SNR=19
BVA0 Borovoye Array 62.69 333 *i* P **P 16 25 34.2 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
BVAR Borovoye Array 62.69 333 P **P 16 25 34.1 -1.2**
comp=Z,19nm,0.7s,mb5.3,baz=33,slow=5.7,SNR=161
BVAR pP pP 16 25 51.9 -0.4
comp=Z,36nm,0.6s,baz=14,slow=6.1,SNR=20
VOSK Vostochnaya 62.83 332 P **P 16 25 34.6 -1.6**
VOSK pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ZRNK Zerenda 63.08 334 *e*P **P 16 25 36.6 -1.3**
ZRNK *e**PP pP 16 25 54.6 -0.3
ZRNK pmax pmax
comp=Z,48nm,0.8s,mb5.7
ZRNK Zerenda 63.08 334 *e*P **P 16 25 36.6 -1.3**
comp=Z,48nm,0.8s,mb5.7
ZRNK *e*pP pP 16 25 54.6 -0.3
DCN Croghan 63.94 23 *e*P **P 16 25 43.0 -0.5**
DLF Lyons Farm 64.12 22 *e*P **P 16 25 46.0 +1.2**
MOS Moscow 64.80 354 *e*P **P 16 25 47.6 -1.5**
MOS *e* pP 16 26 04.0 -2.2
GTA Gaotai 65.08 306 P **P 16 25 50.7 -0.3**
GTA AP pP 16 26 02.3 -5.8
GTA XP sP 16 26 08.6 -6.6
GTA PP PP 16 28 16.6 +1.8
GTA SCP 16 30 22.0
GTA PCS 16 30 27.1
GTA S S 16 34 27.6 -1.0
GTA XS sS 16 34 49.0 -8.5
GTA SCS ScS 16 35 38.7 -1.7
GTA SS SS 16 38 41.9 +0.2
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,82nm,6.5s
GTA LR LR
comp=N,240nm,14.1s
GTA LR LR
comp=E,122nm,15.7s
GTA LR LR
comp=Z,271nm,20.3s
MK31 Makanchi Array 65.08 322 *i* P **P 16 25 49.8 -1.2**
MKAR Makanchi Array 65.08 322 P **P 16 25 50.1 -0.9**
comp=Z,3.7nm,0.7s,mb4.5,baz=42,slow=6.5,SNR=45
MKAR pP pP 16 26 07.9 -0.2
comp=Z,11nm,0.7s,baz=45,slow=6.9,SNR=17
MKAR LR LR 16 59 01.0
comp=Z,100nm,18.5s,baz=12,slow=40
MKAR Makanchi Array 65.08 322 P **P 16 25 50.2 -0.8**
MKAR *PP pP 16 26 07.9 -0.2
OBN Obninsk 65.47 355*c* *i*P **P 16 25 52.5 -1.0**
OBN pmax pmax
comp=Z,58nm,1.0s,mb5.6
OBN Obninsk 65.47 355⇑ *i*P **P 16 25 52.6 -0.9**
XAN Xi'an 65.60 296 P **P 16 25 53.5 -0.9**
XAN AMB AMB
comp=Z,21nm,0.7s,mb5.3
WMQ Urumqi 65.92 317 P **P 16 25 57.6 +1.2**
WMQ AP pP 16 26 14.0 +0.5
WMQ PP PP 16 28 25.0 +2.9
WMQ S S 16 34 38.0 -0.8
WMQ SCS ScS 16 35 44.0 -2.8
WMQ SS SS 16 38 55.0 +0.3
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,132nm,5.0s
WMQ LR LR
comp=N,126nm,12.0s
WMQ LR LR
comp=E,119nm,12.0s
WMQ LR LR
comp=Z,135nm,10.0s
BSEG Bad Segeberg 65.97 11 *e*P **P 16 25 57.1 +0.3**
comp=Z,8.0nm,1.1s,mb4.7
LZH Lanzhou 66.17 301 *e*P **P 16 25 57.9 -0.1**
LZH AP pP 16 26 15.4 +0.3
LZH XP sP 16 26 20.6 -1.6
LZH PP PP 16 28 26.0 +1.8
LZH *e*S S 16 34 37.0 -4.8
LZH XS sS 16 35 07.3 -3.5
LZH AMB AMB
comp=Z,11nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,55nm,4.5s
LZH LR LR
comp=E,496nm,14.8s
LZH LR LR
comp=Z,605nm,16.4s
SUW Suwalki 66.72 3 *e*P **P 16 26 00.9 -0.6**
IBBN Ibbenburen 67.30 13 *e*P **P 16 26 05.7 +0.5**
comp=Z,5.0nm,0.7s,mb4.7
AKTK Aktyubinsk 67.68 340 P **P 16 26 06.5 -1.1**
AKTK pP pP 16 26 23.7 -1.1
AKTO Aktyubinsk 67.68 340 P **P 16 26 06.5 -1.1**
comp=Z,20nm,0.8s,mb5.2,baz=21,slow=6.2,SNR=93
AKTO pP pP 16 26 23.7 -1.1
comp=Z,10nm,0.5s,baz=31,slow=7.6,SNR=7.4
RUE Ruedersdorf 67.73 9 *e*P **P 16 26 08.4 +0.5**
comp=Z,13nm,0.8s,mb5.0
RUE *e*pP pP 16 26 25.1 0.0
RUE Ruedersdorf 67.73 9 *e*P **P 16 26 08.1 +0.1**
comp=Z,25nm,0.8s,mb5.3
CLZ Clausthal 68.05 12 *e*P **P 16 26 10.5 +0.6**
comp=Z,10.0nm,0.8s,mb4.9
CLZ Clausthal 68.05 12 *e*P **P 16 26 10.5 +0.6**
CLZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BUG Bochum--Univer 68.09 14 *e*P **P 16 26 10.1 -0.1**
comp=Z,7.0nm,0.7s,mb4.8
BUG *e*pP pP 16 26 26.8 -0.6
AB31 Akbulak array 68.46 338 *i* P **P 16 26 11.3 -1.2**
MEM Membach 68.75 15 P **P 16 26 14.0 -0.3**
MEM AP pP 16 26 21.7 -10
MEM XP sP 16 26 31.1 -7.5
CLL Collm 68.83 10 *e*P **P 16 26 14.7 -0.1**
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 68.83 10 *i* P **P 16 26 14.2 -0.6**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP pP 16 26 31.5 -0.5
CLL *e*(sP) sP 16 26 39.0 -0.1
CLL Collm 68.83 10 *i* P **P 16 26 14.2 -0.6**
CLL *i **PP pP 16 26 31.5 -0.5
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6

CLL Collm 68.83 10 *i* P **P 16 26 14.2 -0.6**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP pP 16 26 31.5 -0.5
BAIF Baives 69.05 16 *e*P **P 16 26 16.0 -0.1**
comp=Z,8.1nm,0.7s,mb4.4
BAIF Baives 69.05 16 *e*P **P 16 26 16.0 -0.1**
BAIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BAIF Baives 69.05 16 *e*P **P 16 26 16.0 -0.1**
comp=Z,4.1nm,0.7s,mb4.5
GIVF Givet 69.09 16 *e*P **P 16 26 16.2 -0.2**
comp=Z,26nm,0.8s,mb4.9
GIVF Givet 69.09 16 *e*P **P 16 26 16.2 -0.2**
GIVF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GIVF Givet 69.09 16 *e*P **P 16 26 16.2 -0.2**
comp=Z,13nm,0.8s,mb4.9
VRSR Storozhevoye 69.21 352 *c i*P **P 16 26 15.9 -1.3**
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.7s
BRG Berggiesshubel 69.34 9 *e*P **P 16 26 18.4 +0.4**
comp=Z,5.0nm,1.0s,mb4.4
BRG *e*pP pP 16 26 34.7 -0.5
BRG Berggiesshubel 69.34 9 *e*P **P 16 26 18.2 +0.2**
BRG *e* pP 16 26 35.1 -0.1
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRG MLR MLR
comp=Z,210nm,18.3s
BRG Berggiesshubel 69.34 9 *e*P **P 16 26 18.2 +0.2**
comp=Z,5.5nm,0.8s,mb4.5
BRG *e* pP 16 26 35.1 -0.1
BRG *e* 16 53 51.3
BRG LR LR
comp=Z,210nm,18.3s
MOX Moxa 69.36 11 *e*P **P 16 26 18.3 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
MOX *e*pP pP 16 26 35.2 -0.1
MOX Moxa 69.36 11 *e*P **P 16 26 18.2 +0.1**
comp=Z,21nm,0.8s,mb5.1
MOX *e* pP 16 26 35.1 -0.2
MOX Moxa 69.36 11 *e*P **P 16 26 18.2 +0.1**
MOX *e* pP 16 26 35.1 -0.2
MOX pmax pmax
comp=Z,21nm,0.8s,mb5.1
TNS Taunus Mts 69.43 13 *e*P **P 16 26 18.7 +0.2**
comp=Z,4.0nm,0.8s,mb4.4
TNS Taunus Mts 69.43 13 *e*P **P 16 26 18.7 +0.2**
TNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KSP Ksiaz 69.55 8 *e*P **P 16 26 19.7 +0.4**
KSP Ksiaz 69.55 8 *e*P **P 16 26 19.1 -0.2**
KSP *e*pP pP 16 26 36.3 -0.2
FLN La Foliniere 69.57 20 *e*P **P 16 26 18.9 -0.5**
comp=Z,44nm,1.3s,mb5.0
FLN *e*R
comp=Z,215nm,19.9s
FLN La Foliniere 69.57 20 *e*P **P 16 26 18.9 -0.5**
FLN pmax pmax
comp=Z,22nm,1.3s,mb4.9
FLN MLR MLR
comp=Z,210nm,19.9s
FLN La Foliniere 69.57 20 *e*P **P 16 26 18.9 -0.5**
comp=Z,22nm,1.3s,mb4.9
FLN LR LR
comp=Z,210nm,19.9s
WERD Werda 69.62 11 *e*P **P 16 26 19.6 -0.1**
comp=Z,2.0nm,0.9s,mb4.0
WERD *e*pP pP 16 26 36.7 -0.2
SGMF Saint Gilles 69.69 21 *e*P **P 16 26 20.0 -0.1**
comp=Z,39nm,1.2s,mb4.9
SGMF Saint Gilles 69.69 21 *e*P **P 16 26 20.0 -0.1**
SGMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
SGMF Saint Gilles 69.69 21 *e*P **P 16 26 20.0 -0.1**
comp=Z,20nm,1.2s,mb4.9
WLF Walferdange 69.70 15 *e*P **P 16 26 20.8 +0.6**
comp=Z,10.0nm,1.3s,mb4.6
WLF *e*pP pP 16 26 37.2 -0.2
WLF Walferdange 69.70 15 P **P 16 26 21.1 +0.9**
comp=Z,8.2nm,1.3s,mb4.5
WLF AP pP 16 26 30.3 -7.1
WLF XP sP 16 26 37.7 -6.8
comp=Z,12nm,1.8s
WLF Walferdange 69.70 15 P **P 16 26 19.6 -0.6**
WLF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WLF Walferdange 69.70 15 P **P 16 26 19.6 -0.6**
comp=Z,8.7nm,0.9s,mb4.7
PVCC Panska Ves 69.73 9 *e*P **P 16 26 20.9 +0.5**
PVCC *e*pP pP 16 26 37.9 +0.3
PVCC AMS AMS 17 14 50.0
PVCC Panska Ves 69.73 9 *e*P **P 16 26 20.9 +0.5**
PVCC *e*pP pP 16 26 37.9 +0.3
LDF La Druitiere 69.80 19 *e*P **P 16 26 20.3 -0.5**
comp=Z,11nm,0.7s,mb4.6
LDF La Druitiere 69.80 19 *e*P **P 16 26 20.3 -0.5**
LDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LDF La Druitiere 69.80 19 *e*P **P 16 26 20.3 -0.5**
comp=Z,5.3nm,0.7s,mb4.6
NKC Novy Kostel 69.84 11 *e*P **P 16 26 21.2 +0.1**
NKC *e*pP pP 16 26 38.1 -0.2
NKC AMS AMS 17 18 30.0
NKC Novy Kostel 69.84 11 *e*P **P 16 26 21.2 +0.1**
NKC *e*pP pP 16 26 38.1 -0.2
UPC Upice 69.86 8 *e*P **P 16 26 21.5 +0.3**
UPC *e*pP pP 16 26 38.6 +0.2
GRR Gorron 69.87 20 *e*P **P 16 26 21.0 -0.2**
comp=Z,22nm,1.1s,mb4.7
GRR Gorron 69.87 20 *e*P **P 16 26 21.0 -0.2**
GRR pmax pmax
comp=Z,11nm,1.1s,mb4.7
GRR Gorron 69.87 20 *e*P **P 16 26 21.0 -0.2**
comp=Z,11nm,1.1s,mb4.7
DPC Dobruska-Polom 70.04 8 *e*P **P 16 26 22.7 +0.4**
DPC *e*pP pP 16 26 40.0 +0.5
AKASG Malin Array Be 70.09 359 P **P 16 26 21.7 -0.9**
comp=Z,10nm,0.5s,mb5.0,baz=3.4,slow=6.3,SNR=91
AKASG pP pP 16 26 38.8 -1.1
comp=Z,12nm,0.6s,baz=1.6,slow=6.1,SNR=6.2
AKASG Malin Array Be 70.09 359 P **P 16 26 21.7 -0.9**
AKASG pP pP 16 26 38.8 -1.1
GRA1 Grafenberg Arr 70.26 11 *e*P **P 16 26 23.8 +0.2**
comp=Z,24nm,1.5s,mb4.9
GRF Grafenberg Arr 70.26 11 *e*P **P 16 26 23.8 +0.2**
comp=Z,24nm,1.5s,mb4.9
GRF Grafenberg Arr 70.26 11 *e*P **P 16 26 23.8 +0.2**
GRF pmax pmax
comp=Z,24nm,1.5s,mb4.9
GRF Grafenberg Arr 70.26 11 *e*P **P 16 26 23.8 +0.2**
GRF pmax pmax
comp=Z,24nm,1.5s,mb4.9
PRU Pruhonice 70.27 9 *e*P **P 16 26 24.0 +0.3**
PRU *e*pP pP 16 26 41.0 +0.1
PRU AMS AMS 17 18 50.0
comp=Z,400nm,21.7s
ROTZ Rotzenmuhle 70.28 11 *e*P **P 16 26 23.9 +0.2**
comp=Z,10.0nm,0.9s,mb4.8
OJC Ojcow 70.38 6 *e*P **P 16 26 24.2 -0.1**
CD2 Chengdu 70.58 298 P **P 16 26 24.8 -0.8**
CD2 AP pP 16 26 41.7 -1.1
CD2 PCP PcP 16 26 43.9 -2.4
CD2 PP PP 16 29 01.9 -0.6
CD2 S S 16 35 33.4 -0.9
CD2 SKS 16 36 18.0
CD2 SS SS 16 40 05.9 -0.8
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,40nm,5.4s
CD2 LR LR
comp=N,160nm,5.4s
CD2 LR LR
comp=Z,100nm,4.9s
TKM2 Tokmak 2 70.62 325 P **P 16 26 25.8 0.0**
SNR=11
TKM2 Tokmak 2 70.62 325 *i* P **P 16 26 24.5 -1.3**
USP Ospenovka 70.62 326 P **P 16 26 25.6 -0.2**
SNR=12
OKC Ostrava-Krasne 70.67 7 *e*P **P 16 26 24.4 -1.7**
OKC *e*pP pP 16 26 42.8 -0.6
OKC AMS AMS 17 18 30.0
comp=Z,500nm,24.6s
OKC Ostrava-Krasne 70.67 7 *e*P **P 16 26 24.4 -1.7**
OKC *e*pP pP 16 26 42.8 -0.6
MEZF Maizieres J'vi 70.69 16 *e*P **P 16 26 26.3 +0.1**
MORC Moravsky Berou 70.69 7 *e*P **P 16 26 26.1 -0.2**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MORC Moravsky Berou 70.69 7 *e*P **P 16 26 26.1 -0.1**
comp=Z,8.2nm,1.0s,mb4.6
CHMS Chumysh 70.79 326 P **P 16 26 27.1 +0.3**
SNR=9.7
WET Wettzell 70.96 10 *e*P **P 16 26 28.2 +0.3**
comp=Z,7.0nm,1.3s,mb4.4
WET *e*pP pP 16 26 44.0 -1.2
WET Wettzell 70.96 10 *e*P **P 16 26 28.2 +0.3**
WET *e**PP pP 16 26 44.0 -1.2
WET pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
FRU Bishkek 70.98 326 *e*P **P 16 26 28.5 +0.5**
FRU *e* pP 16 26 46.0 +0.7
FRU MLR MLR
comp=Z,600nm,20.0s
TREC Trest 71.03 9 *e*P **P 16 26 28.4 +0.1**
TREC *e*pP pP 16 26 46.4 +0.8
TREC AMS AMS 17 19 10.0
comp=Z,400nm,29.3s
KHC Kasperske Hory 71.04 10 *e*P **P 16 26 29.1 +0.8**
KHC *e*pP pP 16 26 46.1 +0.5
KHC AMS AMS 17 19 10.0
comp=Z,500nm,24.9s
ULHL Ulahol 71.04 324 P **P 16 26 28.7 +0.4**
SNR=7.1
KBK Karagaybulak 71.05 325 P **P 16 26 28.7 +0.3**
SNR=13
CDF Champ du Feu 71.07 14 *e*P **P 16 26 28.4 -0.1**
AAK Ala-Archa 71.20 326 P **P 16 26 29.5 +0.2**
SNR=11
AAK Ala-Archa 71.20 326 P **P 16 26 28.6 -0.7**
comp=Z,72nm,0.7s,mb5.7,SNR=11
STHS Stebnicka Huta 71.25 5 *i* P **P 16 26 30.2 +0.6**
STHS *e* pP 16 26 47.3 +0.4
BFO Black Forest 71.28 14 *e*P **P 16 26 31.1 +1.3**
comp=Z,6.0nm,1.3s,mb4.4
BFO Black Forest 71.28 14 *e*P **P 16 26 31.1 +1.3**
BFO pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
GEC2 GERESS Array S 71.33 10 *e*P **P 16 26 30.2 +0.1**
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 71.33 10 *e*P **P 16 26 30.2 +0.1**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 71.33 10 P **P 16 26 30.4 +0.3**
comp=Z,3.4nm,0.6s,mb4.5,baz=356,slow=4.1,SNR=43
GERES pP pP 16 26 46.8 -0.7
comp=Z,3.1nm,0.7s,baz=358,slow=4.7,SNR=7.1
HAU Haudompre 71.35 15 *e*P **P 16 26 31.1 +0.9**
comp=Z,11nm,0.6s,mb4.7
HAU *e*R
comp=Z,129nm,17.2s
HAU Haudompre 71.35 15 *e*P **P 16 26 31.1 +0.9**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
HAU MLR MLR
comp=Z,130nm,17.2s
HAU Haudompre 71.35 15 *e*P **P 16 26 31.1 +0.9**
comp=Z,5.4nm,0.6s,mb4.7
HAU LR LR
comp=Z,130nm,17.2s
EKS2 Erkin-Say 71.38 326 P **P 16 26 30.9 +0.5**
SNR=28
KZA Kyzart 71.49 325 P **P 16 26 31.4 +0.4**
SNR=6.8
HYF Humbligny 71.53 18 *e*P **P 16 26 31.5 +0.2**
HINF Hinteralfeld 71.60 15 *e*P **P 16 26 31.5 -0.2**
comp=Z,7.7nm,0.6s,mb4.5
HINF Hinteralfeld 71.60 15 *e*P **P 16 26 31.5 -0.2**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HINF Hinteralfeld 71.60 15 *e*P **P 16 26 31.5 -0.2**
comp=Z,3.8nm,0.6s,mb4.5
LOR Lormes 71.72 17 *e*P **P 16 26 32.1 -0.4**
comp=Z,16nm,0.7s,mb4.8
LOR *e*R
comp=Z,157nm,22.5s
LOR Lormes 71.72 17 *e*P **P 16 26 32.1 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LOR MLR MLR
comp=Z,160nm,22.5s
LOR Lormes 71.72 17 *e*P **P 16 26 32.1 -0.4**
comp=Z,7.8nm,0.7s,mb4.8
LOR LR LR
comp=Z,160nm,22.5s
MFF Saint Martin d 71.72 20 *e*P **P 16 26 32.4 -0.1**
comp=Z,13nm,0.8s,mb4.6
MFF Saint Martin d 71.72 20 *e*P **P 16 26 32.4 -0.1**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MFF Saint Martin d 71.72 20 *e*P **P 16 26 32.4 -0.1**
comp=Z,6.7nm,0.8s,mb4.6
KOLS Kolonicke sedl 71.77 4 *e*P **P 16 26 33.6 +0.8**
KOLS *e* pP 16 26 51.2 +1.1
CRVS Cervenica-Dubn 71.77 5 *e* **P 16 26 32.0 -0.8**
FUR Furstenfeldbru 71.77 12 *e*P **P 16 26 33.3 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
FUR *e*pP pP 16 26 50.4 +0.3
FUR Furstenfeldbru 71.77 12 *e*P **P 16 26 33.3 +0.5**
FUR *e**PP pP 16 26 50.4 +0.3
FUR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KK31 Karatay Array 71.87 329 *i* P **P 16 26 32.5 -0.8**
KKAR Karatay Array 71.87 329 *i* P **P 16 26 32.5 -0.8**
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
SSF Saint Saulge 71.87 17 *e*P **P 16 26 33.3 0.0**
comp=Z,22nm,0.8s,mb4.9
SSF Saint Saulge 71.87 17 *e*P **P 16 26 33.3 0.0**
SSF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SSF Saint Saulge 71.87 17 *e*P **P 16 26 33.3 0.0**
comp=Z,11nm,0.8s,mb4.8
AML Almayashu 71.89 326 P **P 16 26 34.3 +0.8**
SNR=16
VYHS Vyhne 72.05 6 *e*P **P 16 26 34.8 +0.4**
VYHS *e* pP 16 26 51.1 -0.7
AVF Avril sur Loir 72.11 18 *e*P **P 16 26 34.4 -0.4**
comp=Z,10nm,0.4s,mb4.8
AVF Avril sur Loir 72.11 18 *e*P **P 16 26 34.4 -0.4**
AVF pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
AVF Avril sur Loir 72.11 18 *e*P **P 16 26 34.4 -0.4**
comp=Z,5.1nm,0.4s,mb4.8
KECS Kecovo 72.15 5 *i* P **P 16 26 35.2 +0.2**
KECS *e* pP 16 26 52.2 -0.1
ZST Bratislava 72.24 8 *e*P **P 16 26 35.4 -0.2**
ZST *e* pP 16 26 51.7 -1.2
BGF Bois d'Agland 72.26 18 *e*P **P 16 26 35.4 -0.3**
comp=Z,20nm,0.7s,mb4.8
BGF Bois d'Agland 72.26 18 *e*P **P 16 26 35.4 -0.3**
BGF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BGF Bois d'Agland 72.26 18 *e*P **P 16 26 35.4 -0.3**
comp=Z,9.9nm,0.7s,mb4.8
SMF Signal de Mont 72.33 17 *e*P **P 16 26 35.6 -0.5**
TCF Toulx Ste Croi 72.42 18 *e*P **P 16 26 36.2 -0.4**
comp=Z,7.6nm,0.6s,mb4.5
TCF Toulx Ste Croi 72.42 18 *e*P **P 16 26 36.2 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 72.42 18 *e*P **P 16 26 36.2 -0.4**
comp=Z,3.8nm,0.6s,mb4.5
MOTA Moosalm 72.57 12 ⇓ *i*P **P 16 26 39.1 +1.6**
comp=Z,11nm,1.2s,mb4.7
MOTA Moosalm 72.57 12 ⇓P **P 16 26 39.1 +1.6**
MOTA pmax pmax
comp=Z,11nm,1.2s,mb4.7
MOTA Moosalm 72.57 12 ⇓P **P 16 26 39.1 +1.5**
comp=Z,11nm,1.2s,mb4.7
CABF La Chapelle 72.68 16 *e*P **P 16 26 38.3 +0.1**
comp=Z,24nm,0.9s,mb4.8
CABF La Chapelle 72.68 16 *e*P **P 16 26 38.3 +0.1**
CABF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CABF La Chapelle 72.68 16 *e*P **P 16 26 38.3 +0.1**
comp=Z,12nm,0.9s,mb4.8
PSZ Piszkesteto 72.68 6 *e*P **P 16 26 38.7 +0.5**
PSZ pmax pmax
comp=Z,18nm,0.9s,mb5.0
PSZ Piszkesteto 72.68 6 *e*P **P 16 26 38.7 +0.5**
comp=Z,18nm,0.9s,mb5.0
SQTA Sankt Quirin 72.70 12 *i* P **P 16 26 39.0 +0.7**
comp=Z,14nm,1.2s,mb4.8,SNR=8.7
SQTA Sankt Quirin 72.70 12 *i* P **P 16 26 39.0 +0.7**
SQTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
WTTA Wattenberg 72.70 12 ⇑ *i*P **P 16 26 39.5 +1.2**
comp=Z,13nm,0.6s,mb5.1,SNR=6.9
WTTA Wattenberg 72.70 12 ⇑ *i*P **P 16 26 39.5 +1.2**
WTTA pmax pmax
comp=Z,13nm,0.6s,mb5.0
WTTA Wattenberg 72.70 12 ⇑ *i*P **P 16 26 39.5 +1.2**
comp=Z,13nm,0.6s,mb5.0
DAVOX Davos 72.99 13 P **P 16 26 39.1 -0.9**
comp=Z,6.9nm,0.6s,mb4.8,baz=223,slow=0.9,SNR=17
DAVOX pP pP 16 26 57.8 +0.4
comp=Z,6.0nm,0.5s,baz=356,slow=9.3,SNR=4.4
GYA Guiyang 73.03 293 ⇑ *i*P **P 16 26 39.6 -0.6**
GYA AP pP 16 26 48.7 -8.9
GYA PP PP 16 29 22.2 -1.2
GYA S S 16 35 57.6 -4.8
GYA SKS 16 36 33.9
GYA SS SS 16 40 39.6 -4.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,110nm,3.8s
GYA LR LR
comp=N,1μm,18.9s
GYA LR LR
comp=E,1μm,19.0s
GYA LR LR
comp=Z,970nm,18.6s
KBA Koelnbreinsper 73.05 10 *i* P **P 16 26 41.2 +0.8**
comp=Z,26nm,0.8s,mb5.2,SNR=18
KBA Koelnbreinsper 73.05 10 *i* P **P 16 26 41.2 +0.8**
KBA pmax pmax
comp=Z,26nm,0.8s,mb5.2
KBA Koelnbreinsper 73.05 10 *i* P **P 16 26 41.2 +0.8**
comp=Z,26nm,0.8s,mb5.2
ARSA Arzberg 73.07 9 ⇓ *i*P **P 16 26 41.3 +0.8**
comp=Z,7.3nm,1.0s,mb4.5
ARSA Arzberg 73.07 9 ⇓P **P 16 26 41.2 +0.8**
comp=Z,7.3nm,1.0s,mb4.6
BURAR Bucovina Array 73.17 2 ⇓P **P 16 26 39.1 -1.9**
LFF La Frestale 73.48 20 *e*P **P 16 26 43.1 +0.2**
comp=Z,10nm,0.5s,mb4.7
LFF La Frestale 73.48 20 *e*P **P 16 26 43.1 +0.2**
LFF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LFF La Frestale 73.48 20 *e*P **P 16 26 43.1 +0.2**
comp=Z,5.2nm,0.5s,mb4.7
STS Santiago 73.57 27 P **P 16 26 45.8 +2.3**
STS pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
STS Santiago 73.57 27 P **P 16 26 45.8 +2.3**
comp=Z,3.1nm,0.6s,mb4.4
CAF Calviac 73.72 19 *e*P **P 16 26 44.8 +0.5**
comp=Z,5.6nm,0.7s,mb4.3
CAF Calviac 73.72 19 *e*P **P 16 26 44.8 +0.5**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CAF Calviac 73.72 19 *e*P **P 16 26 44.8 +0.5**
comp=Z,2.8nm,0.6s,mb4.4
OBKA Obir 73.72 10 ⇑ *i*P **P 16 26 44.8 +0.5**
comp=Z,26nm,0.6s,mb5.4,SNR=19
OBKA Obir 73.72 10 ⇑ *i*P **P 16 26 44.8 +0.5**
comp=Z,26nm,0.6s,mb5.3
KIS Kishinev 73.80 359 *e*P **P 16 26 42.0 -2.8**
KIS MLR MLR
comp=Z,300nm,17.0s
LPL La Plagne 73.84 15 *e*P **P 16 26 46.0 +1.0**
GROS Grobnik 73.85 9 *i* P **P 16 26 45.1 +0.1**
LPG La Plagne 73.86 15 *e*P **P 16 26 46.2 +1.0**
comp=Z,17nm,1.1s,mb4.6
LPG La Plagne 73.86 15 *e*P **P 16 26 46.2 +1.0**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LPG La Plagne 73.86 15 *e*P **P 16 26 46.2 +1.0**
comp=Z,8.6nm,1.1s,mb4.6
EARI Arriondas 73.92 25 P **P 16 26 47.1 +1.6**
comp=Z,141nm,1.9s,mb5.6
DRGR 73.92 4 ⇓P **P 16 26 45.1 -0.4**
CADS Cadrg 73.93 10 *i* P **P 16 26 45.9 +0.4**
VIVF Saint-Julien-l 74.20 17 *e*P **P 16 26 47.1 0.0**
comp=Z,43nm,1.2s,mb5.0
VIVF Saint-Julien-l 74.20 17 *e*P **P 16 26 47.1 0.0**
VIVF pmax pmax
comp=Z,22nm,1.2s,mb5.0
VIVF Saint-Julien-l 74.20 17 *e*P **P 16 26 47.1 0.0**
comp=Z,22nm,1.2s,mb5.0
EZAM Zamans 74.24 27 P **P 16 26 50.0 +2.7**
EZAM pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
EZAM Zamans 74.24 27 P **P 16 26 50.0 +2.6**
comp=Z,8.4nm,0.7s,mb4.8
ORIF Oris-en-Rattie 74.31 16 *e*P **P 16 26 47.9 +0.1**
comp=Z,7.2nm,0.7s,mb4.4
ORIF *e*R
comp=Z,119nm,21.2s
ORIF Oris-en-Rattie 74.31 16 *e*P **P 16 26 47.9 +0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ORIF Oris-en-Rattie 74.31 16 *e*P **P 16 26 47.9 +0.1**
comp=Z,3.6nm,0.7s,mb4.4
PMOR Pomariorio Ree 74.37 176 *e*P **P 16 26 48.3 +0.2**
comp=Z,103nm,1.4s,mb5.6
PMOR Pomariorio Ree 74.37 176 *e*P **P 16 26 48.3 +0.2**
comp=Z,103nm,1.4s,mb5.6
VAH Vaihoa 74.61 176 *e*P **P 16 26 48.6 -0.9**
comp=Z,99nm,0.9s,mb5.8
VAH Vaihoa 74.61 176 *e*P **P 16 26 48.6 -0.9**
comp=Z,99nm,0.9s,mb5.8
MBDF Montbardon 74.62 16 *e*P **P 16 26 50.5 +0.9**
comp=Z,21nm,0.7s,mb4.9
MBDF Montbardon 74.62 16 *e*P **P 16 26 50.5 +0.9**
MBDF pmax pmax
comp=Z,11nm,0.7s,mb4.9
MBDF Montbardon 74.62 16 *e*P **P 16 26 50.5 +0.9**
comp=Z,11nm,0.7s,mb4.9
LASF Ste Croix 74.84 18 *e*P **P 16 26 51.1 +0.3**
VRI Vrincioaia 74.93 1 ⇑P **P 16 26 49.2 -2.2**
GOF Gofitskoye 75.01 349 *e*P **P 16 26 51.1 -0.7**
GOF pmax pmax
comp=Z,132nm,1.0s,mb5.8
BZS Buzias 75.06 5 ⇓P **P 16 26 50.8 -1.3**
SMRF Simiane la Rot 75.19 17 *e*P **P 16 26 53.5 +0.7**
ETSF Etsaut 75.23 21 *e*P **P 16 26 53.5 +0.4**
comp=Z,18nm,0.8s,mb4.8
ETSF Etsaut 75.23 21 *e*P **P 16 26 53.5 +0.4**
ETSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ETSF Etsaut 75.23 21 *e*P **P 16 26 53.5 +0.4**
comp=Z,9.0nm,0.8s,mb4.8
EPF Esparros 75.27 21 *e*P **P 16 26 53.3 0.0**
MTLF Montolieu 75.29 19 *e*P **P 16 26 53.5 +0.1**
MLR Muntele Rosu 75.30 1 P **P 16 26 53.3 -0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=336,slow=8.3,SNR=7.7
MLR pP pP 16 27 10.3 -0.6
comp=Z,4.9nm,0.6s,baz=75,slow=3.1,SNR=4.9
MLR Muntele Rosu 75.30 1 ⇑P **P 16 26 54.1 +0.6**
VOIR 75.34 2 ⇓P **P 16 26 55.7 +2.0**
SBF Sospel 75.56 15 *e*P **P 16 26 55.7 +0.7**
comp=Z,70nm,1.0s,mb5.3
SBF Sospel 75.56 15 *e*P **P 16 26 55.7 +0.7**
SBF pmax pmax
comp=Z,35nm,1.0s,mb5.2
SBF Sospel 75.56 15 *e*P **P 16 26 55.7 +0.7**
comp=Z,35nm,1.0s,mb5.2
EBIE Bielsa 75.56 21 P **P 16 26 54.3 -0.7**
comp=Z,25nm,1.8s,mb4.8
CFR Carcaliu 75.63 360 ⇓P **P 16 26 54.8 -0.5**
SIM Simferopol' 75.73 355 P **P 16 27 01.7 +5.8**
SIM *e*S S 16 36 35.0 +2.3
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
FRF La Foret Royal 75.75 16 *e*P **P 16 26 56.0 0.0**
KMI Kunming 75.98 296 P **P 16 27 01.8 +4.4**
KMI AP pP 16 27 15.1 +0.3
KMI XP sP 16 27 20.1 -1.8
KMI S S 16 36 41.7 +6.3

KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=Z,90nm,23.1s						
HARR	**Harsova**	**76.11**	**0**	⇓P	**P**	**16 26 56.0**	**-2.1**
KIV	**Kislovodsk**	**76.14**	**349**	P	**P**	**16 26 58.9**	**+0.7**
	comp=Z,182nm,0.6s,SNR=5.3						
KIV	**Kislovodsk**	**76.14**	**349**	*c iP*	**P**	**16 26 58.1**	**-0.1**
KIV				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**76.14**	**349**	*eP*	**P**	**16 26 57.7**	**-0.5**
	comp=Z,34nm,1.1s,mb5.2						
ESAC	**San Caprasio**	**76.39**	**22**	P	**P**	**16 26 59.2**	**-0.4**
	comp=Z,66nm,1.3s,mb5.4						
GUD	**Guadarrama**	**76.69**	**25**	P	**P**	**16 27 02.9**	**+1.5**
GUD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GUD	**Guadarrama**	**76.69**	**25**	P	**P**	**16 27 02.9**	**+1.5**
	comp=Z,5.7nm,1.0s,mb4.5						
EPOB	**Poblet**	**77.03**	**20**	P	**P**	**16 27 04.9**	**+1.7**
	comp=Z,55nm,2.0s,mb5.1						
LSA	**Lhasa**	**77.03**	**307**	P	**P**	**16 27 05.0**	**+1.7**
PGF	**Pioggiola**	**77.06**	**14**	*eP*	**P**	**16 27 04.1**	**+0.7**
	comp=Z,42nm,0.9s,mb5.1						
PGF	**Pioggiola**	**77.06**	**14**	*eP*	**P**	**16 27 04.1**	**+0.7**
PGF				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
PGF	**Pioggiola**	**77.06**	**14**	*eP*	**P**	**16 27 04.1**	**+0.7**
	comp=Z,21nm,0.9s,mb5.1						
ZEI	**Tsey**	**77.19**	**348**	*i* P	**P**	**16 27 01.9**	**-2.3**
ZEI				*i* *PP	pP	16 27 20.8	-0.9
ZEI				*i*		16 29 54.2	
ZEI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
ESDC	**Sonseca Array**	**77.66**	**25**	P	**P**	**16 27 06.7**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=338,slow=5.4,SNR=12						
ESDC				pP	pP	16 27 24.4	+0.1
	comp=Z,2.6nm,0.6s,baz=341,slow=5.5,SNR=7.6						
ESDC	**Sonseca Array**	**77.66**	**25**	P	**P**	**16 27 07.5**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3						
EMOS	**Mosqueruela**	**77.70**	**22**	P	**P**	**16 27 07.8**	**+0.8**
	comp=Z,44nm,1.2s,mb5.3						
EBAD	**Badajoz**	**77.86**	**27**	P	**P**	**16 27 09.3**	**+1.4**
	comp=Z,15nm,1.0s,mb4.9						
SDV	**Santo Domingo**	**78.04**	**93**	*eP*	**P**	**16 27 08.1**	**-0.8**
	comp=Z,24nm,1.0s,mb5.1						
ECHE	**Chera**	**78.35**	**22**	P	**P**	**16 27 11.9**	**+1.3**
ECHE				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ECHE	**Chera**	**78.35**	**22**	P	**P**	**16 27 11.9**	**+1.3**
	comp=Z,1.9nm,0.6s,mb4.2						
EMIN	**Mina Concepcio**	**78.88**	**27**	P	**P**	**16 27 15.2**	**+1.6**
	comp=Z,71nm,2.1s,mb5.2						
EGRO	**El Granado**	**78.91**	**28**	P	**P**	**16 27 15.4**	**+1.7**
	comp=Z,45nm,1.4s,mb5.2						
VAY	**Valandovo**	**79.38**	**4**	*eP*	**P**	**16 27 07.8**	**-8.5**
ABKT	**Ailbek**	**79.71**	**336**	P	**P**	**16 27 18.6**	**+0.5**
	comp=Z,146nm,0.7s,mb6.0,SNR=10.0						
ESPR	**Espera**	**79.93**	**27**	P	**P**	**16 27 21.4**	**+2.1**
	comp=Z,99nm,2.5s,mb5.3						
SHL	**Shillong**	**80.38**	**305**	*eP*	**P**	**16 27 22.0**	**+0.3**
EBER	**Berja**	**80.56**	**25**	P	**P**	**16 27 25.1**	**+2.5**
	comp=Z,47nm,1.8s,mb5.1						
GUN	**Gumba**	**80.71**	**311**	*eP*	**P**	**16 27 24.2**	**+0.7**
	comp=Z,64nm,0.9s,mb5.6						
JIRN	**Jiri**	**80.82**	**310**	*eP*	**P**	**16 27 24.8**	**+0.8**
	comp=Z,76nm,0.6s,mb5.8						
BR131	**Keskin Array S**	**80.97**	**356**	*eP*	**P**	**16 27 24.4**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**80.97**	**356**	P	**P**	**16 27 24.6**	**-0.2**
	comp=Z,8.5nm,1.1s,mb4.6,baz=27,slow=2.8,SNR=20						
BRTR				pP	pP	16 27 41.6	-0.8
	comp=Z,2.8nm,0.6s,baz=9.4,slow=2.7,SNR=5.8						
BRTR				PKKPbc	PKKPbc	16 45 58.9	-2.8
	comp=Z,1.2nm,1.0s,baz=166,slow=5.1,SNR=3.8						
BRTR	**Keskin Array B**	**80.97**	**356**	P	**P**	**16 27 24.7**	**-0.1**
BRTR				*PP	pP	16 27 41.6	-0.8
KKN	**Kakani**	**81.05**	**311**	*eP*	**P**	**16 27 25.8**	**+0.5**
	comp=Z,23nm,0.5s,mb5.3						
KKN	**Kakani**	**81.05**	**311**	*eP*	**P**	**16 27 25.8**	**+0.5**
KKN				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
GKN	**Gorkha**	**81.11**	**312**	*eP*	**P**	**16 27 25.7**	**+0.1**
	comp=Z,67nm,0.8s,mb5.6						
PKI	**Pulchoki**	**81.20**	**311**	*eP*	**P**	**16 27 26.4**	**+0.4**
	comp=Z,44nm,0.9s,mb5.4						
PKI	**Pulchoki**	**81.20**	**311**	*eP*	**P**	**16 27 26.4**	**+0.4**
PKI				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
DMN	**Daman**	**81.28**	**311**	*eP*	**P**	**16 27 27.1**	**+0.6**
	comp=Z,33nm,0.6s,mb5.4						
DDI	**Dehra Dun**	**81.38**	**318**	*ex*	x	16 27 26.2	
KOLN	**Koldanda**	**81.71**	**312**	*eP*	**P**	**16 27 28.9**	**+0.2**
	comp=Z,65nm,0.9s,mb5.6						
MALT	**Malatya**	**82.10**	**352**	*eP*	**P**	**16 27 31.4**	**+0.6**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MALT	**Malatya**	**82.10**	**352**	*eP*	**P**	**16 27 31.4**	**+0.6**
	comp=Z,6.1nm,1.0s,mb4.5						
ISP	**Isparta**	**82.93**	**358**	⇑*iP*	**P**	**16 27 35.4**	**+0.3**
NDI	**New Delhi**	**83.17**	**318**	*eP*	**P**	**16 27 34.5**	**-1.9**
CTA	**Charters Tower**	**93.84**	**236**	*eP*	**P**	**16 28 27.3**	**-0.2**
	comp=Z,5.5nm,0.9s,mb5.0						
CTA	**Charters Tower**	**93.84**	**236**	P	**P**	**16 28 26.4**	**-1.1**
	comp=Z,8.2nm,1.0s,mb5.1,baz=8.3,slow=6.6,SNR=7.6						
CTA				pP	pP	16 28 44.3	-1.1
	comp=Z,4.9nm,0.8s,baz=90,slow=2.6,SNR=2.9						
CTA				LR	LR	17 03 45.2	
	comp=Z,60nm,20.1s,baz=222,slow=31						
CTA	**Charters Tower**	**93.84**	**236**	P	**P**	**16 28 26.4**	**-1.1**
CTA				*PP	pP	16 28 44.3	-1.1
CTA	**Charters Tower**	**93.84**	**236**	P	**P**	**16 28 26.4**	**-1.1**
CTA				pP	pP	16 28 44.3	-1.1
CTA				LR	LR	17 03 45.2	
WRA	**Warramunga Arr**	**99.02**	**246**	P	**P**	**16 28 49.2**	**-1.8**
	comp=Z,0.7nm,0.8s,mb4.2,baz=37,slow=5.8,SNR=4.7						
WRA				PKiKP	PKiKP	16 33 21.7	+0.5
	comp=Z,0.7nm,1.0s,baz=6.9,slow=1.7,SNR=5.1						
ASAR	**Alice Springs**	**102.43**	**245**	P	Pdif	16 29 07.5	+1.4
	comp=Z,0.3nm,0.6s,baz=35,slow=5.0,SNR=4.9						
ASAR				PKiKP	PKiKP	16 33 25.2	-2.1
	comp=Z,0.8nm,1.0s,baz=33,slow=1.9,SNR=5.1						
ASAR				PKKPbc	PKKPbc	16 45 03.4	-3.4
	comp=Z,0.2nm,0.7s,baz=201,slow=2.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**104.50**	**26**	PKKPbc	PKKPbc	16 44 58.0	-2.6
	comp=Z,1.1nm,0.8s,baz=160,slow=3.4,SNR=7.0						
PLCA	**Paso Flores**	**120.14**	**120**	PKP	PKPdf	16 33 57.9	-2.9
	comp=Z,2.3nm,0.8s,baz=243,slow=5.7,SNR=4.0						
LBTB	**Lobatse**	**145.44**	**4**	*e*PKIKP	PKPdf	16 34 48.0	+0.1
BOSA	**Boshof**	**149.01**	**5**	PKPbc	PKPbc	16 34 57.1	-0.8
	comp=Z,4.2nm,0.4s,baz=351,slow=1.7,SNR=24						
BOSA	**Boshof**	**149.01**	**5**	*e*PKPbc	PKPbc	16 34 57.1	-0.8
QSPA	**South Pole Qui**	**149.35**	**180**	*e*PKPbc	PKPbc	16 34 56.7	-2.1
VNA3	**Neumayer Olymp**	**160.88**	**143**	⇑*i*PKPdf	PKPab	16 35 49.8	-2.9
VNA3				*e*		16 36 02.3	
VNA3				*e*		16 36 23.2	
VNA1	**Neumayer--Stat**	**161.50**	**142**	⇑*i*PKPdf	PKPab	16 35 52.1	-3.4
VNA1				*e*		16 35 55.4	
VNA2	**Neumayer--Watz**	**161.68**	**143**	⇑*i*PKPdf	PKPab	16 35 53.2	-3.1
	baz=269,slow=6.6						
VNA2				*e*		16 35 56.3	
VNA2				*e*		16 36 04.9	
VNA2				*e*		16 36 08.0	
VNA2				*e*		16 36 28.3	
MAW	**Mawson**	**162.74**	**228**	PKPab	PKPab	16 35 59.8	-1.1
	comp=Z,6.5nm,0.5s,baz=100,slow=6.1,SNR=3.4						
SYO	**Syowa Base**	**169.28**	**203**	⇓*e*pPKPdf	pPKPdf	16 35 29.9	-5.9

IDC 05 16:20:18.0±6.9, 678×14840E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, ML4.0/1, 1C, Error ellipse: s-maj=108.6km s-min=74.2km az=175.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.90**	**225**	⇑*iP*	Pn	16 24 40.6	0.0
WRA	**Warramunga Arr**	**18.91**	**225**	P	Pn	16 24 40.8	+0.1
	0.5nm,0.3s,baz=51,slow=11,SNR=25						
ASAR	**Alice Springs**	**21.82**	**218**	P	P	16 25 11.6	-0.2
	0.9nm,0.5s,baz=49,slow=10,SNR=35						
STKA	**Stephens Creek**	**25.76**	**193**	P	P	16 25 50.9	+0.5
	1.2nm,0.6s,baz=333,slow=15,SNR=3.6						

BJI ***05*** *16:43:30.1, 6643N×142.10W, h6km, mB5.2, mb4.7, Ms5.3, Msz5.0*

ISCJB ***05*** *16:43:31.6±0.1, 6634N±002×14232W±004, h10km, mb4.8/131, MS4.7/45, Error ellipse: s-maj=2.6km s-min=2.2km az=162.7*

NEIC ***05*** *16:43:32.3, 6632N×14256W, h2km, mb4.9/74, MS4.6/10, ML5.2(AEIC), After AEIC.*

NEIC Felt at Fairbanks, Fort Wainwright and North Pole.

IDC ***05*** *16:43:32.0±0.5, 6638N×14240W, h0km, mb4.5/22, mb1 4.7/25, mb1mx4.6/29, mbtmp4.5/25, ML4.8/3, MS4.5/26, Ms1 4.5/26, ms1mx4.4/35, Error ellipse: s-maj=11.0km s-min=9.5km az=165.0*

PGC ***05*** *16:43:32.1, 6640N×14227W, h1km, ML5.4/2, ML5.3/15(AEIC), 292km northwest of Dawson, Yt Eastern Alaska.*

HRVD ***05*** *16:43:32.3±0.2, 6644N×14223W, h17km, MW5.1/93, Centroid moment Tensor Solution. LP body waves: s52,c81;Mantle waves: s93,c176; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.76±.16; Mθθ-4.45±.14; Mφφ6.22±.14; Mrθ-1.17±.35; Mθφ2.17±.12; Mφr2.36±.33; Best double couple: M06.37800×1016 NP1:φs55.00000°, δ63.00000°, λ-8.00000°. NP2: φs149.00000°, δ83.00000°, λ-152.00000°. Principal axes: T 7.1480, Plg14.0000°, Azm279.0000°; N -1.5290, Plg62.0000°, Azm163.0000°; P -5.6090, Plg25.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***05*** *16:43:32.0, 6587N×14404W, h33km, mb4.8, MS4.5, Northern Alaska, United States*

MOS ***05*** *16:43:34.9±0.8, 6633N×14234W, h33km, mb5.0/56, MS4.6/21, Error ellipse: s-maj=13.6km s-min=4.0km az=87.4*

NAO ***05*** *16:43:51.1, 6878N×14598W, h33km, mb4.7*

ISC 05 16:43:33.1±0.1, 6636N±002×14234W±004, h10km, (h20km±3.2km: pP-P), n357, σ0°93/378, mb4.8/131, MS4.7/45, 12C-9D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	**Fort Yukon**	**1.18**	**282**	P	**Pb**	**16 43 54.2**	**-1.4**
BM3	**Burnt Mountain**	**1.39**	**321**	P	**Pn**	**16 43 57.8**	**-0.8**
BM3				S	**Sn**	**16 44 19.0**	**+2.0**
PRP	**Porcupine Dome**	**1.55**	**239**	P	**Pn**	**16 43 59.6**	**-1.2**
IL1	**Eielson Array**	**2.47**	**232**	P	**Pn**	**16 44 12.0**	**-1.4**
ILAR	**Eielson Array**	**2.47**	**232**	Pn	**Pn**	**16 44 12.1**	**-1.3**
	87nm,0.3s,baz=43,slow=13,SNR=2000						
ILAR				Lg		16 44 49.5	
	1μm,0.3s,baz=49,slow=29,SNR=23						
DAWY	**Dawson**	**2.62**	**150**	Pn	**Pn**	**16 44 13.8**	**-1.5**
DAWY				Sn	**Sn**	**16 44 45.5**	**-1.7**
DAWY				Sg	**Sg**	**16 44 53.1**	**-4.0**
DAWY				Trac		16 44 59.5	
	comp=Z,13μm,0.8s						
COLA	**College**	**2.73**	**239**	P	**Pn**	**16 44 15.6**	**-1.3**
COLA				Trac			
COLA	**College**	**2.73**	**239**	*c iP*	**Pn**	**16 44 15.7**	**-1.2**
GSV	**Goldstream Val**	**2.73**	**241**	⇓*eP*	**Pn**	**16 44 15.4**	**-1.5**
GSV				*e*S	**Sn**	**16 44 57.3**	**+7.3**
MDM	**Murphy Dome**	**2.81**	**243**	P	**Pn**	**16 44 16.7**	**-1.4**
CCB	**Clear Creek Bu**	**2.85**	**235**	P	**Pn**	**16 44 17.2**	**-1.4**
WRH	**Wood River Hil**	**3.06**	**234**	P	**Pn**	**16 44 20.3**	**-1.2**
COLD	**Coldfoot**	**3.23**	**289**	P	**Pn**	**16 44 23.9**	**0.0**
NEA	**Nenana**	**3.33**	**241**	P	**Pn**	**16 44 23.7**	**-1.5**
MENT	**Mentasta**	**3.48**	**190**	P	**Pn**	**16 44 26.7**	**-0.6**
PAX	**Paxson**	**3.66**	**203**	P	**Pn**	**16 44 29.6**	**0.0**
PAX				S	**Sn**	**16 45 13.1**	**+0.3**
PAX				Trac			
PAX	**Paxson**	**3.66**	**203**	P	**Pn**	**16 44 29.6**	**-0.1**
PAX				S	**Sn**	**16 45 13.1**	**+0.3**
BWN	**Browne**	**3.71**	**237**	P	**Pn**	**16 44 28.4**	**-2.1**
MLY	**Manley**	**3.72**	**253**	P	**Pn**	**16 44 28.3**	**-2.2**
MCK	**McKinley**	**3.84**	**230**	P	**Pn**	**16 44 31.3**	**-0.9**
MCK				Trac			
DHY	**Denali Highway**	**3.94**	**216**	P	**Pn**	**16 44 33.9**	**+0.3**
INK	**Inuvik**	**3.94**	**56**	Pn	**Pn**	**16 44 32.9**	**-0.6**
	30nm,0.3s,baz=240,slow=16,SNR=491						
INK				Lg		16 45 31.9	
	163nm,0.3s,baz=335,slow=5.6,SNR=5.3						
INK	**Inuvik**	**3.94**	**56**	Pn	**Pn**	**16 44 33.0**	**-0.6**
INK				Sn	**Sn**	**16 45 17.2**	**-2.6**
INK				Sg	**Sg**	**16 45 32.4**	**-7.2**
INK				Trac		16 45 44.0	
	comp=Z,4μm,0.8s						
SDG	**Sourdough**	**4.09**	**201**	P	**Pn**	**16 44 35.8**	**+0.2**
IMA2	**Indian Mountai**	**4.60**	**272**	*eP*	**Pn**	**16 44 42.0**	**-0.7**
KTH	**Kantishna Hill**	**4.60**	**236**	P	**Pn**	**16 44 41.5**	**-1.2**
KTH				Trac			
IM3	**Indian Mountai**	**4.64**	**271**	P	**Pn**	**16 44 41.9**	**-1.4**
GLB	**Gilahina Butte**	**4.98**	**188**	P	**Pn**	**16 44 48.1**	**+0.3**
SCM	**Sheep Creek Mo**	**5.04**	**208**	P	**Pn**	**16 44 49.6**	**+0.9**
SML	**Sawmill**	**5.27**	**213**	P	**Pn**	**16 44 53.4**	**+1.6**
BALM	**Baldy**	**5.34**	**180**	P	**Pn**	**16 44 52.8**	**-0.1**
CTGM	**Chitina Glacie**	**5.43**	**175**	P	**Pn**	**16 44 54.3**	**+0.2**
GHO	**Glory Hole Cre**	**5.43**	**215**	P	**Pn**	**16 44 55.4**	**+1.3**
DIV	**Divide**	**5.46**	**198**	*eP*	**Pn**	**16 44 45.5**	**-9.1**
	1μm,0.6s						
BMRM	**Bremner River**	**5.50**	**192**	P	**Pn**	**16 44 55.5**	**+0.5**
BMRM				Trac			
PMR	**Palmer**	**5.64**	**215**	P	**Pn**	**16 44 58.1**	**+1.2**
PMR				Trac			
GLI	**Glacier Island**	**5.89**	**203**	P	**Pn**	**16 45 01.5**	**+1.1**
FID	**Port Fidalgo**	**5.92**	**200**	P	**Pn**	**16 45 02.9**	**+2.1**
HYT	**Haines Junctio**	**5.96**	**157**	Pn	**Pn**	**16 45 00.4**	**-0.9**
HYT				Sg	**Sg**	**16 46 37.6**	**-6.7**
HYT				Trac		16 46 40.9	
	comp=Z,4μm,1.1s						
EYAK	**Cordova Ski Ar**	**6.03**	**196**	P	**Pn**	**16 45 04.1**	**+1.9**
RC01	**Rabbit Creek A**	**6.22**	**215**	P	**Pn**	**16 45 06.6**	**+1.6**
FIB	**Fire Island**	**6.26**	**217**	*eP*	**Pn**	**16 45 08.7**	**+3.3**
FIB				pmax	pmax		
	comp=Z,450nm,0.8s						
FIB	**Fire Island**	**6.26**	**217**	*e*Pn	**Pn**	**16 45 08.7**	**+3.3**
	comp=Z,450nm,0.8s						
HIN	**Hinchinbrook I**	**6.27**	**199**	P	**Pn**	**16 45 06.8**	**+1.2**
PCA	**Pinnacle**	**6.35**	**171**	P	**Pn**	**16 45 08.1**	**+1.3**
PCA				Trac			
WHY	**Whitehorse**	**6.62**	**146**	Pn	**Pn**	**16 45 08.3**	**-2.0**
WHY				Sg	**Sg**	**16 47 00.0**	**-5.5**
WHY				Trac		16 47 12.4	
	comp=Z,822nm,0.8s						
SPU	**Mount Spurr**	**6.74**	**224**	P	**Pn**	**16 45 13.2**	**+1.1**
TTA	**Tatalina**	**6.80**	**246**	*eP*	**Pn**	**16 45 10.4**	**-2.4**
TT01	**Tatalina**	**6.81**	**246**	P	**Pn**	**16 45 11.0**	**-2.1**
PNL	**Peninsula**	**6.84**	**167**	P	**Pn**	**16 45 15.4**	**+1.9**
SLKM	**Skilak Lake**	**6.85**	**215**	*eP*	**Pn**	**16 45 13.6**	**+0.1**
PLBC	**Pleasant Camp**	**7.44**	**156**	P	**Pn**	**16 45 21.1**	**-0.5**
PLBC				Sg	**Sg**	**16 47 25.8**	**-6.1**
SVW2	**Sparrevohn**	**7.88**	**234**	*eP*	**Pn**	**16 45 27.6**	**-0.2**
BESE	**Bessie Mountai**	**8.53**	**153**	P	**Pn**	**16 45 37.1**	**+0.4**
KDAK	**Kodiak Island**	**9.84**	**214**	Pn	**Pn**	**16 45 55.3**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=338,slow=9.6,SNR=14						
KDAK				LR	LR	16 49 27.8	
	comp=Z,9μm,18.4s,baz=37,slow=36						
SIT	**Sitka**	**9.90**	**157**	P	**Pn**	**16 45 56.4**	**+1.0**
TNA	**Tin City**	**10.44**	**277**	*e*Pn	**Pn**	**16 46 03.4**	**+0.6**
	comp=Z,11nm,0.5s						
FNBB	**Fort Nelson**	**11.58**	**121**	P	**Pn**	**16 46 17.6**	**-0.8**
FNBB				Sg	Sn	16 49 30.7	+63
FNBB				Trac		16 50 12.9	
	comp=Z,170nm,1.0s						
YKW3	**Yellowknife Ar**	**12.49**	**95**	P	**Pn**	**16 46 26.1**	**-4.8**
YKW3				P		16 46 26.1	
YKW3				Sn	**Sn**	**16 48 37.2**	**-13**
YKW3				Sn	**Sn**	**16 48 37.3**	**-13**
YKW3				Trac		16 50 12.5	
	comp=Z,112nm,0.8s						
YKW3				Trac		16 50 18.9	
	comp=Z,938nm,1.5s						
YKA	**Yellowknife Ar**	**12.53**	**95**	Pn	**Pn**	**16 46 26.6**	**-4.7**
	baz=296,slow=13,SNR=197						
YKA				Sn	**Sn**	**16 48 39.6**	**-11**
	baz=296,slow=24,SNR=7.9						
YKA				LR	LR	16 51 33.0	
	comp=Z,2μm,18.1s,baz=290,slow=38						
NDB	**Naden**	**13.27**	**155**	P	**Pn**	**16 46 39.6**	**-1.9**
NDB				Trac		16 50 48.3	
	comp=Z,76nm,1.1s						
RUBB	**Prince Rupert**	**13.43**	**148**	P	**Pn**	**16 46 40.2**	**-3.5**
RUBB				Trac		16 50 42.9	
	comp=Z,505nm,1.3s						
MOBC	**Moresby Island**	**14.18**	**154**	P	**Pn**	**16 46 51.9**	**-2.0**
MOBC				Trac		16 51 08.1	
	comp=Z,60nm,1.4s						
BBB	**Bella Bella**	**15.90**	**146**	Pn	**Pn**	**16 47 21.5**	**+4.6**
	comp=Z,1.4nm,0.3s,baz=327,slow=9.0,SNR=8.5						
BBB	**Bella Bella**	**15.90**	**146**	P	**Pn**	**16 47 12.0**	**-4.9**
BBB				Trac		16 52 13.6	
	comp=Z,49nm,1.4s						
RES	**Resolute Bay**	**17.32**	**41**	P	**Pn**	**16 47 29.2**	**-5.7**
RES				S	**Sn**	**16 50 29.8**	**-18**
RES				Trac		16 53 30.2	
	comp=Z,50nm,0.9s						
PHC	**Port Hardy**	**17.43**	**147**	P	**Pn**	**16 47 38.9**	**+2.6**
PHC				Trac		16 52 52.2	
	comp=Z,34nm,1.1s						
MNB	**Mounoet Dainar**	**18.55**	**128**	P	**Pn**	**16 47 49.5**	**-0.6**
LLLB	**Lillooet**	**18.91**	**137**	P	**Pn**	**16 47 53.8**	**-0.6**
LLLB				Trac		16 53 47.3	
	comp=Z,24nm,1.4s						
BTB	**Buttle Lake**	**19.03**	**145**	P	**Pn**	**16 47 56.7**	**+0.9**
BTB				Trac		16 53 40.8	
	comp=Z,433nm,1.8s						
WSLR	**Whistler**	**19.07**	**139**	P	**Pn**	**16 47 58.4**	**+2.1**
WSLR				Trac		16 53 51.6	
	comp=Z,40nm,1.4s						
TXB	**Texada**	**19.07**	**142**	P	**Pn**	**16 47 58.3**	**+1.9**
TXB				Trac		16 53 42.8	
	comp=Z,763nm,1.8s						
DOWB	**Downie Slide**	**19.10**	**130**	P	**Pn**	**16 47 55.3**	**-1.4**
DOWB				Trac		16 54 01.5	
	comp=Z,8μm,2.3s						
SHB	**Sechelt**	**19.31**	**141**	P	**Pn**	**16 47 56.5**	**-2.8**
SHB				Trac		16 54 19.6	
	comp=Z,79nm,1.9s						
EDM	**Edmonton**	**19.39**	**119**	P	**Pn**	**16 47 58.6**	**-1.7**
WPB	**Watts Point**	**19.42**	**140**	P	**Pn**	**16 48 00.2**	**-0.3**
WPB				Trac		16 54 04.8	
	comp=Z,1μm,2.4s						
SLEB	**Sale Mountain**	**19.52**	**129**	P	**Pn**	**16 48 00.5**	**-1.3**
SLEB				Trac		16 54 18.6	
	comp=Z,55nm,1.2s						
NLLB	**Nanaimo Lost L**	**19.62**	**142**	P	**Pn**	**16 48 02.3**	**-0.6**
NLLB				Trac		16 54 01.9	
	comp=Z,26nm,1.4s						
SNB	**Saturna Island**	**20.24**	**141**	P	**P**	**16 48 08.0**	**-0.4**
PGC	**Sidney**	**20.29**	**142**	P	**P**	**16 48 08.8**	**-0.1**
VDB	**Vedder Mountai**	**20.29**	**139**	P	**P**	**16 48 09.1**	**+0.2**
VDB				Trac		16 54 57.9	
	comp=Z,374nm,2.0s						
PNT	**Penticton**	**20.71**	**134**	P	**P**	**16 48 14.2**	**+0.7**
PNT				Trac		16 55 02.2	
	comp=Z,18nm,0.9s						
NEW	**Newport**	**22.39**	**132**	P	**P**	**16 48 31.6**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.1,baz=350,slow=11,SNR=17						
NEW				LR	LR	16 57 54.2	
	comp=Z,1μm,19.3s,MS4.4,baz=330,slow=38						
WALA	**Waterton Lakes**	**22.70**	**126**	P	**P**	**16 48 34.5**	**-0.3**
WALA				Trac		16 55 55.4	
	comp=Z,86nm,2.0s						
FCC	**Fort Churchill**	**22.94**	**86**	P	**P**	**16 48 35.6**	**-1.8**
FCC				Sn	**S**	**16 52 38.3**	**-9.2**
FCC				Trac		16 55 37.3	
	comp=Z,57nm,0.9s						
MSO	**Missoula**	**24.65**	**128**	*eP*	**P**	**16 48 52.7**	**-1.1**
	comp=Z,63nm,1.6s,mb4.9						
BMO	**Blue Mountains**	**25.43**	**135**	*eP*	**P**	**16 49 02.2**	**+1.3**
	comp=Z,56nm,1.6s,mb4.8						
HRY	**Holter Researc**	**25.44**	**126**	*eP*	**P**	**16 49 00.5**	**-0.4**
FX1	**Attu Island--F**	**25.55**	**260**	LR	LR	16 58 35.9	
	comp=Z,46nm,18.8s,baz=261,slow=35						
DLMT	**Dillon**	**26.38**	**128**	*eP*	**P**	**16 49 08.8**	**-0.7**
	comp=Z,86nm,1.4s,mb5.1						
BOZ	**Bozeman (W)**	**26.44**	**126**	*eP*	**P**	**16 49 10.0**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
BOZ				MLR	MLR		
	comp=Z,808nm,19.0s,MS4.3						
BOZ	**Bozeman (W)**	**26.44**	**126**	*eP*	**P**	**16 49 10.0**	**-0.1**
	comp=Z,22nm,1.3s,mb4.5						
BOZ				LR	LR		
	comp=Z,808nm,19.0s,MS4.3						
DGMT	**Dagmar**	**26.61**	**113**	P	**P**	**16 49 11.3**	**-0.3**
	comp=Z,27nm,1.1s,mb4.7						
MCMT	**McKenzie Canyo**	**26.78**	**129**	*eP*	**P**	**16 49 12.7**	**-0.5**
SEY	**Seymchan**	**27.02**	**294**	*eP*	**P**	**16 49 17.2**	**+1.9**
SEY				*e*PPP		16 50 07.6	
SEY				*e*S	**S**	**16 53 53.8**	**+1.0**
SEY				*e*SS		16 55 07.2	
SEY				*e*SSS		16 55 29.1

TPH pmax pmax
comp=Z,18nm,0.8s,mb5.0
TPH Tonopah 31.77 140 *eP* **P 16 49 58.4 +0.9**
comp=Z,18nm,0.8s,mb5.0
EYMN Ely 31.94 100 *eP* **P 16 49 58.8 -0.1**
comp=Z,17nm,0.7s,mb5.0
SUMG Summit 32.50 33 *eP* **P 16 50 03.8 -0.1**
comp=Z,11nm,0.9s,mb4.8
DAG Danmarks Havn 32.97 21⇑ *iP* **P 16 50 07.6 -0.4**
comp=Z,19nm,0.8s,mb5.1
DAG Danmarks Havn 32.97 21⇑ *eP* **P 16 50 07.6 -0.4**
DAG pmax pmax
comp=Z,19nm,0.8s,mb5.1
DAG Danmarks Havn 32.97 21⇑ *eP* **P 16 50 07.6 -0.4**
comp=Z,19nm,0.8s,mb5.1
SFJD Kangerlussuaq 33.21 46 P **P 16 50 09.6 -0.5**
comp=Z,20nm,0.8s,mb5.1,baz=304,slow=9.4,SNR=11
SFJD Kangerlussuaq 33.21 46 *i* P **P 16 50 09.7 -0.4**
comp=Z,18nm,0.7s,mb5.1
SFJD
comp=Z,520nm,19.0s
SFJD Kangerlussuaq 33.21 46 *i* P **P 16 50 09.7 -0.4**
SFJD pmax pmax
comp=Z,18nm,0.7s,mb5.1
SFJD MLR MLR
comp=Z,520nm,19.0s,MS4.3
ISCO Idaho Springs 33.65 124 *eP* **P 16 50 14.0 +0.1**
ISCO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ISCO MLR MLR
comp=Z,2μm,20.0s,MS4.9
ISCO Idaho Springs 33.65 124 *eP* **P 16 50 14.0 +0.1**
comp=Z,9.8nm,0.9s,mb4.7
ISCO LR LR
comp=Z,2μm,20.0s,MS4.9
SMCO Snowmass 33.76 126 P **P 16 50 15.4 +0.6**
comp=Z,8.9nm,1.0s,mb4.7
MWC Mount Wilson 35.22 144 P **P 16 50 30.1 +2.6**
YAK Yakutsk 35.54 306⇑ *iP* **P 16 50 31.2 +0.9**
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
YAK MLR MLR
comp=Z,2μm,18.0s,MS4.8
YAK Yakutsk 35.54 306 *eP* **P 16 50 27.6 -2.7**
comp=Z,9.0nm,0.6s,mb4.9
SDCO Great Sand Dun 35.54 125 *eP* **P 16 50 30.6 +0.4**
comp=Z,12nm,1.0s,mb4.8
WUAZ Wupatki 35.77 134 *eP* **P 16 50 33.3 +1.1**
comp=Z,12nm,0.8s,mb4.9
SCHQ Schefferville 36.41 71 P **P 16 50 37.6 -0.1**
comp=Z,5.6nm,0.7s,mb4.6,baz=4.8,slow=8.5,SNR=9.0
SCHQ LR LR 17 05 24.2
comp=Z,532nm,18.3s,MS4.3,baz=131,slow=36
SCHQ Schefferville 36.41 71 *eP* **P 16 50 37.4 -0.4**
comp=Z,11nm,0.8s,mb4.8
CBKS Cedar Bluff 36.57 117 P **P 16 50 39.4 +0.3**
CBKS pmax pmax
comp=Z,28nm,0.8s,mb5.1
CBKS Cedar Bluff 36.57 117 P **P 16 50 39.4 +0.3**
comp=Z,28nm,0.8s,mb5.1
KSU1 Kansas State U 37.46 114 *eP* **P 16 50 45.8 -0.8**
ANMO Albuquerque 37.79 128 P **P 16 50 50.6 +1.2**
comp=Z,9.5nm,0.9s,mb4.5,baz=334,slow=8.3,SNR=20
ANMO LR LR 17 06 47.8
comp=Z,2μm,19.9s,MS4.8,baz=40,slow=37
ANMO Albuquerque 37.79 128⇓ *iP* **P 16 50 50.9 +1.5**
ANMO Albuquerque 37.79 128 *eP* **P 16 50 50.2 +0.8**
comp=Z,11nm,1.0s,mb4.5
BNM Barren Site 38.47 129 P **P 16 50 56.3 +1.1**
TUC Tucson 38.94 135 *eP* **P 16 50 59.3 +0.2**
TUC pmax pmax
comp=Z,33nm,1.8s,mb4.8
TUC Tucson 38.94 135 *eP* **P 16 50 59.3 +0.2**
comp=Z,33nm,1.8s,mb4.8
WMOK Wichita Mounta 40.56 119 *eP* **P 16 51 12.6 0.0**
WMOK pmax pmax
comp=Z,13nm,1.0s,mb4.5
WMOK Wichita Mounta 40.56 119 *eP* **P 16 51 12.6 +0.1**
comp=Z,13nm,1.0s,mb4.5
GDL2 Guadalupe Moun 40.99 127 *eP* **P 16 51 16.4 +0.3**
CLNS Chul'man 41.08 303 *eP* **P 16 51 27.1 +10**
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=N,400nm,14.0s,MS4.8
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.0
CLNS MLR MLR
comp=E,800nm,13.0s,MS4.8
ACSO Alum Creek Sta 41.75 98 *eP* **P 16 51 21.9 -0.5**
comp=E,8.1nm,0.7s,mb4.5
YSS Yuzh-Sakhalins 42.39 281 *eP* **P 16 51 28.5 +0.9**
YSS *e* 17 01 21.0
YSS pmax pmax
comp=Z,20nm,1.0s,mb4.7
YSS MLR MLR
comp=Z,600nm,15.0s,MS4.6
YSS MLR MLR
comp=N,1μm,14.0s
BORG Borgarnes 42.49 33 LR LR 17 11 20.0
comp=N,640nm,19.0s,MS4.5,baz=68,slow=39
MIAR Mount Ida 42.61 114 *eP* **P 16 51 28.7 -0.7**
MIAR pmax pmax
comp=Z,11nm,0.8s,mb4.6
MIAR Mount Ida 42.61 114 *eP* **P 16 51 28.7 -0.7**
comp=Z,11nm,0.8s,mb4.7
WVT Waverly 43.39 106 *eP* **P 16 51 35.0 -0.7**
WVT pmax pmax
comp=Z,14nm,0.6s,mb4.9
WVT Waverly 43.39 106 *eP* **P 16 51 35.0 -0.7**
comp=Z,14nm,0.6s,mb4.9
BOD Bodaibo 43.78 311⇓ *iP* **P 16 51 38.0 -0.8**
BOD pmax pmax
comp=Z,13nm,1.3s,mb4.5
TXAR Lajitas Array 43.87 128 P **P 16 51 40.1 +0.5**
comp=Z,3.6nm,0.7s,mb4.2,baz=350,slow=6.8,SNR=25
TXAR LR LR 17 10 32.4
comp=Z,2μm,19.2s,MS5.1,baz=325,slow=37
TXAR Lajitas Array 43.87 128 P **P 16 51 40.1 +0.5**
TXAR LR LR 17 10 32.4
KEV Kevo 43.96 5 *ep* **P 16 51 39.5 -0.8**
JCT Junction City 44.08 123 *eP* **P 16 51 41.0 -0.3**
JCT pmax pmax
comp=Z,22nm,0.7s,mb5.0
JCT Junction City 44.08 123 *eP* **P 16 51 41.0 -0.2**
comp=Z,22nm,0.7s,mb5.0
ARCES ARCESS Array B 44.12 6 P **P 16 51 40.9 -0.7**
comp=Z,2.6nm,0.6s,mb4.1,baz=344,slow=5.4,SNR=12
ARCES PcP PcP 16 53 26.2 -0.4
comp=Z,2.5nm,0.5s,baz=0.0,slow=3.6,SNR=6.4
ARCES LR LR 17 09 34.4
comp=Z,323nm,21.5s,MS4.2,baz=3.5,slow=35
ARCES ARCESS Array B 44.12 6 P **P 16 51 40.9 -0.7**
ARCES 16 53 26.2
ARCES ARCESS Array B 44.12 6 P **P 16 51 40.9 -0.7**
ARCES PcP PcP 16 53 26.2 -0.4
ARCES LR LR 17 09 34.4
OXF Oxford 44.21 109 *eP* **P 16 51 42.4 +0.1**
OXF pmax pmax
comp=Z,58nm,0.7s,mb5.4
OXF Oxford 44.21 109 *eP* **P 16 51 42.4 +0.1**
comp=Z,58nm,0.7s,mb5.4
PLAL Pickwick Lake 44.30 107 *eP* **P 16 51 42.1 -1.0**
comp=Z,9.4nm,0.8s,mb4.6
KLR Kul'dur 44.77 292 *eP* **P 16 51 47.1 +0.3**
KLR MLR MLR
comp=Z,6μm,12.0s,MS5.7
APA Apatity 46.32 2 *eP* **P 16 52 06.4 +7.3**
APA pmax pmax
comp=Z,43nm,1.4s,mb5.2
APA MLR MLR
comp=Z,700nm,16.0s,MS4.7
JSC Jenkinsville 47.58 101 *eP* **P 16 52 08.5 -0.4**
CIT Chita 48.80 307 *eP* **P 16 52 20.4 +2.1**
MDJ Mudanjiang 49.44 290 P **P 16 52 23.5 +0.2**
MDJ PP PP 16 54 16.7 -0.6
MDJ S **S 16 59 30.7 +0.3**
MDJ SCS ScS 17 02 17.0 +1.7
MDJ SS SS 17 03 01.0 -1.1
MDJ AMB AMB
comp=Z,5.0nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,89nm,4.8s
MDJ LR LR
comp=N,841nm,14.5s,MS4.9
MDJ LR LR
comp=E,418nm,14.5s,MS4.9
MDJ LR LR
comp=Z,1μm,14.5s,MS5.0
JOF Joensuu 50.94 4 *ep* **P 16 52 34.7 +0.1**
KRAR Krasnoyarsk 51.11 324⇓ *iP* **P 16 52 35.6 -0.3**
KRAR pmax pmax
comp=Z,21nm,1.0s,mb5.0
KRAR MLR MLR
comp=Z,400nm,17.0s,MS4.5
NB2 NORSAR Subarra 51.42 16 P **P 16 52 37.4 -0.8**
comp=Z,14nm,1.2s,mb4.8,baz=349,slow=7.9
NOA NORSAR Array B 51.42 16 P **P 16 52 38.0 -0.2**
comp=Z,5.2nm,0.9s,mb4.5,baz=346,slow=7.6,SNR=9.7
NOA LR LR 17 14 55.7
comp=Z,188nm,22.0s,MS4.1,baz=335,slow=37
IRK Irkutsk 51.45 314 *eP* **P 16 52 29.3 -9.1**
IRK pmax pmax
comp=Z,26nm,2.2s,mb4.8
KAF Kangasniemi 51.56 7 *ep* **P 16 52 39.2 -0.1**
CN2 Changchun 51.69 293 *eP* **P 16 52 40.9 +0.6**
CN2 *eS* **S 16 59 58.4 -3.3**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 LR LR
comp=N,1μm,13.0s,MS5.2
CN2 LR LR
comp=E,700nm,13.0s,MS5.2
CN2 LR LR
comp=Z,800nm,13.0s,MS4.9
FINES FINESS Array B 52.22 7 P **P 16 52 43.8 -0.4**
comp=Z,4.6nm,0.5s,mb4.7,baz=2.4,slow=8.4,SNR=105
MOY Mondy 52.90 316 *eP* **P 16 52 49.6 +0.4**
MOY pmax pmax
comp=Z,35nm,1.3s,mb5.1
MAT Matsushiro 52.99 277 P **P 16 52 50.4 +0.5**
MAT *eS* **S 17 00 17.6 -1.9**
MAT Matsushiro 52.99 277 *eP* **P 16 52 50.0 +0.1**
MAT S **S 17 00 18.0 -1.5**
MJAR Matsushiro Arr 52.99 277 P **P 16 52 50.0 +0.2**
comp=Z,3.1nm,0.9s,mb4.2,baz=21,slow=6.9,SNR=8.9
MJAR LR LR 17 18 43.3
comp=Z,315nm,18.1s,MS4.4,baz=45,slow=40
KLMR Klimovskoe 53.09 359 *d iP* **P 16 52 50.2 -0.4**
KLMR pmax pmax
comp=Z,40nm,1.0s,mb5.3
ZAK Zakamensk 53.39 313 *eP* **P 16 52 53.1 +0.3**
ZAK *e* 16 54 00.0
ZAK pmax pmax
comp=Z,8.0nm,2.2s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
NVS Novosibirsk 54.33 329 *i* P **P 16 52 58.0 -1.7**
NVS *i* 16 53 13.0
NVS *eS* **S 17 00 53.2 +16**
NVS pmax pmax
comp=Z,17nm,2.0s,mb4.6
NVS pmax pmax
comp=N,13nm,2.2s
NVS smax
comp=N,8.0nm,2.1s
NVS smax
comp=E,7.0nm,2.2s
ULN Ulaanbaatar 54.48 309⇓ *eP* **P 16 53 02.4 +1.6**
ULN Ulaanbaatar 54.48 309 *eP* **P 16 53 00.6 -0.2**
comp=E,4.6nm,1.0s,mb4.4
SONM Songino Array 54.72 310 P **P 16 53 03.7 +1.1**
comp=E,2.4nm,0.8s,mb4.3,baz=21,slow=5.1,SNR=24
SONM LR LR 17 20 26.3
comp=E,904nm,19.9s,MS4.8,baz=21,slow=40
ESK Eskdalemuir 54.80 27 *eP* **P 16 53 02.6 -0.5**
ESK pmax pmax
comp=Z,30nm,1.2s,mb5.2
ESK Eskdalemuir 54.80 27 *eP* **P 16 53 02.6 -0.6**
comp=Z,30nm,1.2s,mb5.2
ZAL Zalesovo 54.85 328 P **P 16 53 02.4 -1.1**
comp=Z,3.6nm,0.5s,mb4.6,baz=88,slow=7.1,SNR=13
ZAL LR LR 17 19 35.1
comp=Z,526nm,20.1s,MS4.6,baz=93,slow=40
VSU Vasula 55.23 7 *d iP* **P 16 53 05.5 -0.7**
MUD Monsted U'grnd 55.65 19 *i* P **P 16 53 10.4 +1.1**
comp=Z,16nm,0.8s,mb5.1
MUD Monsted U'grnd 55.65 19 *i* P **P 16 53 10.4 +1.1**
MUD pmax pmax
comp=Z,16nm,0.8s,mb5.1
ARU Arti 56.53 346 *eP* **P 16 53 15.9 +0.4**
ARU pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARU Arti 56.53 346 *eP* **P 16 53 15.8 +0.3**
comp=Z,14nm,0.8s,mb5.0
COP Copenhagen 56.80 17 *i P* **P 16 53 17.1 -0.4**
comp=Z,10nm,0.6s,mb5.0
COP Copenhagen 56.80 17 *eP* **P 16 53 17.1 -0.4**
COP pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
COP Copenhagen 56.80 17 *eP* **P 16 53 17.1 -0.4**
comp=Z,10nm,0.6s,mb5.0
DL2 Dalian 57.36 293 *eP* **P 16 53 25.0 +3.5**
DL2 S **S 17 01 25.7 +7.7**
DL2 LR LR
comp=N,350nm,16.8s,MS4.7
DL2 LR LR
comp=E,410nm,18.6s,MS4.7
DL2 LR LR
comp=Z,440nm,15.8s,MS4.7
BSD Bornholm Skovb 57.64 15 *i P* **P 16 53 04.4 -19**
comp=Z,16nm,1.0s,mb5.0
BSEG Bad Segeberg 58.26 19 *eP* **P 16 53 28.2 +0.5**
comp=Z,9.0nm,0.9s,mb4.8
BVA0 Borovoye Array 58.38 337 *i* P **P 16 53 28.7 +0.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
VOSK Vostochnaya 58.58 337 P **P 16 53 29.6 -0.4**
VOSK pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
ZRNK Zerenda 58.66 338 *eP* **P 16 53 30.4 -0.2**
ZRNK pmax pmax
comp=Z,13nm,0.9s,mb5.0
ZRNK Zerenda 58.66 338 *eP* **P 16 53 30.4 -0.2**
comp=Z,13nm,0.9s,mb5.0
OBN Obninsk 58.85 1⇑ *iP* **P 16 53 31.8 -0.1**
OBN pmax pmax
comp=Z,20nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.5
JNU Nakatsue 58.89 282 P **P 16 53 31.4 -0.8**
comp=Z,3.1nm,0.6s,mb4.5,baz=63,slow=4.5,SNR=2.3
SUW Suwalki 59.46 10 *eP* **P 16 53 36.0 -0.1**
IBBN Ibbenburen 59.50 21 *eP* **P 16 53 36.9 +0.5**
comp=Z,17nm,1.2s,mb5.0
RUE Ruedersdorf 60.11 17 *eP* **P 16 53 40.9 +0.3**
comp=Z,8.0nm,0.6s,mb4.9
CLZ Clausthal 60.31 19 *eP* **P 16 53 43.0 +1.0**
comp=Z,9.0nm,1.0s,mb4.8
CLZ Clausthal 60.31 19 *eP* **P 16 53 43.0 +1.0**
CLZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
HGN Heimansgroeve 60.73 23 *eP* **P 16 53 44.7 -0.1**
comp=Z,7.9nm,1.3s,mb4.7
MEM Membach 60.89 22 P **P 16 53 46.0 +0.1**
BAIF Baives 61.14 24 *eP* **P 16 53 47.6 0.0**
comp=Z,22nm,0.9s,mb5.0
BAIF Baives 61.14 24 *eP* **P 16 53 47.6 0.0**
BAIF pmax pmax
comp=Z,11nm,0.9s,mb5.0
BAIF Baives 61.14 24 *eP* **P 16 53 47.6 0.0**
comp=Z,11nm,0.9s,mb5.0
CLL Collm 61.17 17 *eP* **P 16 53 47.9 +0.1**
comp=Z,5.0nm,0.9s,mb4.6
CLL Collm 61.17 17 *i P* **P 16 53 47.9 +0.1**
comp=Z,8.0nm,0.9s,mb4.8
CLL *eS* **S 17 02 18.0 +11**
CLL L 17 22 00.0
comp=Z,200nm,20.2s
GIVF Givet 61.20 23 *eP* **P 16 53 47.8 -0.2**
ROSF Rostrenen 61.43 30 *eP* **P 16 53 49.5 -0.1**
FLN La Foliniere 61.56 28 *eP* **P 16 53 49.6 -0.9**
comp=Z,21nm,0.8s,mb5.0
FLN *eR*
comp=Z,728nm,21.0s
FLN La Foliniere 61.56 28 *eP* **P 16 53 49.6 -0.9**
FLN pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,730nm,21.0s,MS4.8
FLN La Foliniere 61.56 28 *eP* **P 16 53 49.6 -0.9**
comp=Z,10nm,0.8s,mb5.0
FLN LR LR
comp=Z,730nm,21.0s,MS4.8
TNS Taunus Mts 61.63 21 *eP* **P 16 53 51.3 +0.4**
comp=Z,6.0nm,1.2s,mb4.6
TNS Taunus Mts 61.63 21 *eP* **P 16 53 51.3 +0.4**
TNS pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
MOX Moxa 61.65 19 *eP* **P 16 53 51.2 +0.2**
comp=Z,8.0nm,1.1s,mb4.8
SGMF Saint Gilles 61.65 29 *eP* **P 16 53 50.1 -1.0**
comp=Z,9.4nm,0.6s,mb4.8
SGMF Saint Gilles 61.65 29 *eP* **P 16 53 50.1 -1.0**
SGMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
SGMF Saint Gilles 61.65 29 *eP* **P 16 53 50.1 -1.0**
comp=Z,4.7nm,0.6s,mb4.8
BRG Berggiesshubel 61.71 17 *eP* **P 16 53 51.6 +0.2**
comp=Z,4.0nm,1.1s,mb4.5
LDF La Druitiere 61.79 27 *eP* **P 16 53 51.4 -0.6**
comp=Z,18nm,0.8s,mb5.0
LDF La Druitiere 61.79 27 *eP* **P 16 53 51.4 -0.6**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LDF La Druitiere 61.79 27 *eP* **P 16 53 51.4 -0.6**
comp=Z,8.8nm,0.8s,mb4.9
WLF Walferdange 61.83 23 *eP* **P 16 53 52.5 +0.2**
comp=Z,9.0nm,1.0s,mb4.8
WLF Walferdange 61.83 23 P **P 16 53 52.7 +0.4**
WLF Walferdange 61.83 23 *eP* **P 16 53 52.7 +0.4**
WLF pmax pmax
comp=Z,13nm,0.9s,mb5.1
WLF Walferdange 61.83 23 *eP* **P 16 53 52.7 +0.4**
comp=Z,13nm,0.9s,mb5.0
GRR Gorron 61.85 28 *eP* **P 16 53 51.9 -0.5**
comp=Z,17nm,0.7s,mb5.0
GRR Gorron 61.85 28 *eP* **P 16 53 51.9 -0.5**
GRR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
GRR Gorron 61.85 28 *eP* **P 16 53 51.9 -0.5**
comp=Z,8.6nm,0.7s,mb5.0
QUIF Quistinic 61.85 30 *eP* **P 16 53 52.0 -0.4**
WERD Werda 61.93 18 *eP* **P 16 53 53.0 +0.1**
comp=Z,5.0nm,1.4s,mb4.5
KSP Ksiaz 62.00 15 *eP* **P 16 53 54.2 +0.8**
KSP Ksiaz 62.00 15 *eP* **P 16 53 53.7 +0.3**
MK31 Makanchi Array 62.12 327 *i P* **P 16 53 52.9 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MKAR Makanchi Array 62.12 327 P **P 16 53 53.1 -1.1**
comp=Z,0.7nm,0.5s,mb4.1,baz=36,slow=6.4,SNR=25
MKAR LR LR 17 23 06.8
comp=Z,393nm,18.4s,MS4.6,baz=16,slow=38
MKAR Makanchi Array 62.12 327 *i P* **P 16 53 53.0 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
PVCC Panska Ves 62.12 16 *eP* **P 16 53 54.9 +0.7**
PVCC AMS AMS 17 18 30.0
NKC Novy Kostel 62.16 18 *eP* **P 16 53 54.7 +0.2**
NKC AMS AMS 17 18 40.0
comp=Z,500nm,23.5s
UPC Upice 62.30 15 *eP* **P 16 53 55.7 +0.3**
DPC Dobruska-Polom 62.49 15 *eP* **P 16 53 57.3 +0.6**
DPC AMS AMS 17 15 50.0
AKTO Aktyubinsk 62.51 345 P **P 16 53 56.7 -0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
GRA1 Grafenberg Arr 62.53 19 *eP* **P 16 53 57.0 0.0**
comp=Z,44nm,1.8s,mb5.3
GRA1 LR LR
comp=Z,300nm,21.0s,MS4.4
GRF Grafenberg Arr 62.53 19 *eP* **P 16 53 57.0 0.0**
comp=Z,44nm,1.8s,mb5.3
GRF *eL* 17 23 43.6
comp=Z,319nm,21.0s
GRF Grafenberg Arr 62.53 19 *eP* **P 16 53 57.0 0.0**
GRF pmax pmax
comp=Z,44nm,1.8s,mb5.3
GRF MLR MLR
comp=Z,300nm,21.0s,MS4.4
GRF Grafenberg Arr 62.53 19 *eP* **P 16 53 57.0 0.0**
GRF pmax pmax
comp=Z,44nm,1.8s,mb5.3
GRF MLR MLR
comp=Z,300nm,21.0s,MS4.4
PRU Pruhonice 62.65 17 *eP* **P 16 53 58.4 +0.7**
VRSR Storozhevoye 62.75 359 *eP* **P 16 53 58.2 -0.3**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,0.9s
MEZF Maizieres J'vi 62.78 24 *eP* **P 16 53 58.4 -0.3**
OJC Ojcow 62.96 13 *eP* **P 16 53 59.4 -0.4**
AKASG Malin Array Be 63.10 6 P **P 16 54 00.2 -0.5**
comp=E,12nm,0.8s,mb5.0,baz=355,slow=6.6,SNR=51
MORC Moravsky Berou 63.18 14 *eP* **P 16 54 01.4 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MORC Moravsky Berou 63.18 14 *eP* **P 16 54 01.4 +0.1**
comp=Z,2.8nm,0.7s,mb4.5
OKC Ostrava-Krasne 63.18 14 *eP* **P 16 54 00.1 -1.2**
CDF Champ du Feu 63.22 22 *eP* **P 16 54 01.7 +0.1**
WET Wettzell 63.28 18 *eP* **P 16 54 02.4 +0.5**
comp=Z,12nm,1.5s,mb4.8
WET Wettzell 63.28 18 *eP* **P 16 54 02.4 +0.5**
WET pmax pmax
comp=Z,12nm,1.5s,mb4.8
KHC Kasperske Hory 63.38 17 *eP* **P 16 54 03.5 +0.9**
KHC AMS AMS 17 19 00.0
comp=Z,500nm,24.9s
KHC Kasperske Hory 63.38 17⇑ *iP* **P 16 54 03.2 +0.6**
TREC Trest 63.44 16 *eP* **P 16 54 03.5 +0.5**
TREC AMS AMS 17 21 10.0
comp=Z,400nm,20.8s
BFO Black Forest 63.46 21 *eP* **P 16 54 03.9 +0.8**
comp=Z,17nm,1.9s,mb4.8
BFO Black Forest 63.46 21 *eP* **P 16 54 03.9 +0.8**
BFO pmax pmax
comp=Z,17nm,1.9s,mb4.8
AB31 Akbulak array 63.47 344 *i P* **P 16 54 02.9 -0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
HAU Haudompre 63.47 23 *eP* **P 16 54 03.2 0.0**
HAU *eR*
comp=Z,371nm,19.5s
HAU Haudompre 63.47 23 *eP* **P 16 54 03.2 0.0**
HAU LR LR
comp=Z,370nm,19.5s,MS4.6
HYF Humbligny 63.57 26 *eP* **P 16 54 04.0 +0.1**
WMQ Urumqi 63.65 322 P **P 16 54 10.0 +5.6**
WMQ PP PP 16 56 31.0 +6.7
WMQ S **S 17 02 43.0 +4.5**
WMQ SS SS 17 06 51.0 +5.0
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,154nm,5.0s
WMQ LR LR
comp=N,433nm,10.0s,MS5.1
WMQ LR LR
comp=E,645nm,13.0s,MS5.1
WMQ LR LR
comp=Z,495nm,11.0s,MS5.0
GERES GERESS Array B 63.67 17 P **P 16 54 05.2 +0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=351,slow=5.4,SNR=17
GERES LR LR 17 24 18.7
comp=Z,252nm,19.0s,MS4.4,baz=346,slow=38
MFF Saint Martin d 63.70 28 *eP* **P 16 54 04.6 -0.1**
comp=Z,18nm,0.8s,mb4.8
MFF Saint Martin d 63.70 28 *eP* **P 16 54 04.6 -0.1**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 63.70 28 *eP* **P 16 54 04.6 -0.1**
comp=Z,8.9nm,0.8s,mb4.8
HINF Hinteralfeld 63.74 23 *eP* **P 16 54 04.9 -0.1**
LOR Lormes 63.78 25 *eP* **P 16 54 05.0 -0.3**
LOR *eR*
comp=Z,649nm,21.2s
LOR Lormes 63.78 25 *eP* **P 16 54 05.0 -0.3**
LOR LR LR
comp=Z,650nm,21.3s,MS4.8

STHS	Stebnicka Huta	63.88	12	eP	P	16 54 06.5	+0.6
STHS				e		16 54 15.9	
SSF	Saint Saulge	63.92	25	eP	P	16 54 06.2	0.0
	comp=Z,31nm,1.0s,mb5.0						
SSF	Saint Saulge	63.92	25	eP	P	16 54 06.2	0.0
SSF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
SSF	Saint Saulge	63.92	25	eP	P	16 54 06.2	0.0
	comp=Z,16nm,1.0s,mb5.0						
AVF	Avril sur Loir	64.16	25	eP	P	16 54 07.3	-0.4
BGF	Bois d'Agland	64.29	26	eP	P	16 54 08.2	-0.4
	comp=Z,56nm,1.2s,mb5.2						
BGF	Bois d'Agland	64.29	26	eP	P	16 54 08.2	-0.4
BGF				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
BGF	Bois d'Agland	64.29	26	eP	P	16 54 08.2	-0.4
	comp=Z,28nm,1.2s,mb5.2						
GTA	Gaotai	64.36	311	eP	P	16 54 10.1	+1.0
GTA				AP	pP	16 54 14.3	+2.0
GTA				XP	sP	16 54 17.0	+3.5
GTA				PP	PP	16 56 31.7	+1.1
GTA				SCP		16 58 47.3	
GTA				PCS		16 58 48.5	
GTA				S	S	17 02 48.0	+0.6
GTA				SCS	ScS	17 03 58.7	-4.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,120nm,4.6s						
GTA				LR	LR		
	comp=N,1μm,17.6s,MS5.2						
GTA				LR	LR		
	comp=E,571nm,16.1s,MS5.2						
GTA				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
SMF	Signal de Mont	64.38	25	eP	P	16 54 09.1	-0.1
CRVS	Cervenica-Dubn	64.41	12	eP	P	16 54 12.0	+2.6
CRVS				e		16 54 17.3	
TCF	Toulx Ste Croi	64.44	26	eP	P	16 54 09.1	-0.5
	comp=Z,13nm,0.8s,mb4.7						
TCF	Toulx Ste Croi	64.44	26	eP	P	16 54 09.1	-0.5
TCF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TCF	Toulx Ste Croi	64.44	26	eP	P	16 54 09.1	-0.5
	comp=Z,6.6nm,0.8s,mb4.7						
SSE	Sheshan	64.45	289	P	P	16 54 08.3	-1.4
SSE				AP	pP	16 54 14.7	+1.8
SSE				XP	sP	16 54 17.3	+3.2
SSE				PCP	PcP	16 54 43.4	-0.5
SSE				S	S	17 02 43.8	-4.7
SSE				XS	sS	17 02 54.9	+1.1
SSE				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,171nm,4.2s						
SSE				LR	LR		
	comp=N,297nm,21.7s,MS4.7						
SSE				LR	LR		
	comp=E,398nm,21.7s,MS4.7						
SSE				LR	LR		
	comp=Z,334nm,15.6s						
NJ2	Nanjing	64.48	292	eP	P	16 54 13.1	+3.3
NJ2				AP	pP	16 54 17.8	+4.7
NJ2				XP	sP	16 54 20.1	+5.8
NJ2				PP	PP	16 56 36.3	+4.7
NJ2				S	S	17 02 49.0	+0.2
NJ2				XS	sS	17 02 56.0	+1.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,320nm,9.2s						
NJ2				LR	LR		
	comp=N,640nm,11.4s,MS5.2						
NJ2				LR	LR		
	comp=E,760nm,12.9s,MS5.2						
NJ2				LR	LR		
	comp=Z,850nm,24.6s						
VYHS	Vyhne	64.58	14	eP	P	16 54 11.1	+0.6
KECS	Kecovo	64.74	13	eP	P	16 54 11.6	+0.1
KECS				e		16 54 18.5	
CABF	La Chapelle	64.79	24	eP	P	16 54 11.8	-0.1
	comp=Z,43nm,1.1s,mb5.1						
CABF	La Chapelle	64.79	24	eP	P	16 54 11.8	-0.1
CABF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
CABF	La Chapelle	64.79	24	eP	P	16 54 11.8	-0.1
	comp=Z,22nm,1.1s,mb5.1						
DAVOX	Davos	65.20	21	LR	LR	17 23 40.4	
	comp=Z,259nm,20.0s,MS4.4,baz=346,slow=37						
PSZ	Piszkesteto	65.25	13	eP	P	16 54 15.6	+0.8
PSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
PSZ	Piszkesteto	65.25	13	eP	P	16 54 15.6	+0.7
	comp=Z,7.2nm,0.9s,mb4.7						
CAF	Calviac	65.73	27	eP	P	16 54 17.6	-0.4
LPL	La Plagne	65.96	23	eP	P	16 54 19.3	-0.1
	comp=Z,4.9nm,0.7s,mb4.4						
LPL	La Plagne	65.96	23	eP	P	16 54 19.3	-0.1
LPL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
LPL	La Plagne	65.96	23	eP	P	16 54 19.3	-0.1
	comp=Z,2.5nm,0.7s,mb4.3						
BURAR	Bucovina Array	65.96	9	⇑P	P	16 54 19.6	+0.1
LPG	La Plagne	65.98	23	eP	P	16 54 19.6	0.0
	comp=Z,11nm,0.9s,mb4.6						
LPG	La Plagne	65.98	23	eP	P	16 54 19.6	0.0
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
LPG	La Plagne	65.98	23	eP	P	16 54 19.6	0.0
	comp=Z,5.4nm,0.9s,mb4.6						
OBKA	Obir	66.08	17	⇑iP	P	16 54 21.1	+0.9
	comp=Z,19nm,0.9s,mb5.1						
LZH	Lanzhou	66.13	306	eP	P	16 54 21.7	+1.2
LZH				AP	pP	16 54 26.6	+2.8
LZH				XP	sP	16 54 30.4	+5.4
LZH				PP	PP	16 56 48.0	+2.0
LZH				eS	S	17 03 02.0	-7.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,73nm,4.5s						
LZH				LR	LR		
	comp=E,2μm,16.3s						
LZH				LR	LR		
	comp=Z,3μm,17.8s,MS5.5						
BZS	Buzias	67.68	12	⇓P	P	16 54 30.4	0.0
MLR	Muntele Rosu	68.12	9	P	P	16 54 33.6	+0.3
	comp=Z,5.7nm,1.0s,mb4.6,baz=8.1,slow=7.1,SNR=5.5						
MLR				LR	LR	17 26 16.1	
	comp=Z,150nm,19.9s,MS4.2,baz=2.1,slow=38						
MLR	Muntele Rosu	68.12	9	⇓P	P	16 54 34.4	+1.2
GOF	Gofitskoye	68.84	356	eP	P	16 54 37.5	-0.2
GOF				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
ESDC	Sonseca Array	69.56	33	P	P	16 54 42.5	+0.3
	comp=Z,4.4nm,0.8s,mb4.5,baz=341,slow=6.4,SNR=20						
KIV	Kislovodsk	69.96	356	eP	P	16 54 45.3	+0.7
KIV				e		16 57 20.0	
KIV				eS	S	17 03 53.3	-1.5
KIV				eSS	SS	17 08 24.4	+0.6
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
SOC	Sochi	70.39	358	eP	P	16 54 48.5	+1.3
SOC				e*PP	pP	16 54 59.5	+9.0
SOC				e		16 55 12.9	
SOC				e		16 57 19.8	
SOC				eS	S	17 04 01.1	+1.3
SOC				eSS	SS	17 08 27.4	-3.0
SOC				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
SOC				MLR	MLR		
	comp=Z,309nm,19.0s,MS4.6						
CD2	Chengdu	70.90	304	P	P	16 54 51.3	+1.0
CD2				PP	PP	16 57 33.3	+5.9
CD2				S	S	17 04 03.6	-2.1
CD2				XS	sS	17 04 12.0	+0.9
CD2				SKS		17 04 48.1	
CD2				SS	SS	17 08 35.5	-2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,220nm,4.9s						
CD2				LR	LR		
	comp=N,440nm,16.8s						
CD2				LR	LR		
	comp=Z,400nm,11.7s						
ZEI	Tsey	71.10	355	iP	P	16 54 51.0	-0.6
ZEI				i*PP	pP	16 55 01.2	+6.3
ZEI				i		16 55 10.3	
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GYA	Guiyang	73.98	299	⇑iP	P	16 55 08.8	+0.1
GYA				AP	pP	16 55 13.4	+1.4
GYA				XP	sP	16 55 16.8	+3.6
GYA				SKS		17 05 14.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,460nm,18.6s,MS5.0						
GYA				LR	LR		
	comp=E,570nm,18.9s,MS5.0						
GYA				LR	LR		
	comp=Z,470nm,19.0s,MS4.8						
BR131	Keskin Array S	74.20	3	eP	P	16 55 11.3	+1.3
	comp=Z,3.8nm,0.8s,mb4.4						
BRTR	Keskin Array B	74.21	3	P	P	16 55 10.8	+0.8
	comp=Z,2.5nm,0.9s,mb4.2,baz=357,slow=4.4,SNR=11						
MALT	Malatya	75.66	359	eP	P	16 55 19.4	+1.0
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
MALT	Malatya	75.66	359	eP	P	16 55 19.4	+0.9
	comp=Z,5.2nm,1.1s,mb4.4						
LSA	Lhasa	75.98	314	P	P	16 55 20.1	-0.2
ISP	Isparta	75.98	6	⇑iP	P	16 55 19.6	-0.7
GUN	Gumba	79.15	318	eP	P	16 55 39.0	+1.0
	comp=Z,35nm,1.0s,mb5.3						
JIRN	Jiri	79.30	317	eP	P	16 55 39.1	+0.3
	comp=Z,26nm,0.8s,mb5.2						
GKN	Gorkha	79.39	319	eP	P	16 55 39.0	-0.3
KKN	Kakani	79.42	318	eP	P	16 55 40.4	+0.9
	comp=Z,7.1nm,0.6s,mb4.8						
KKN	Kakani	79.42	318	eP	P	16 55 40.4	+0.9
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
PKI	Pulchoki	79.60	318	eP	P	16 55 40.0	-0.4
DMN	Daman	79.64	318	eP	P	16 55 40.4	-0.3
	comp=Z,27nm,1.0s,mb5.1						
SHL	Shillong	79.64	312	eP	P	16 55 41.0	+0.3
KOLN	Koldanda	79.89	320	eP	P	16 55 41.4	-0.6
	comp=Z,3.7nm,0.6s,mb4.5						
EIL	Elat	84.26	2	eP	P	16 56 04.8	-0.1
	comp=Z,90nm,0.8s						
TBI	Tubuai	89.59	187	eLR	LR	16 52 30.5	
	comp=Z,188nm,26.2s						
RAO	Raoul Island	99.10	211	LR	LR	17 42 40.7	
	comp=Z,125nm,18.4s,MS4.5,baz=187,slow=36						
SUR	Sutherland	144.52	25	PKP	PKPdf	17 03 08.0	-1.8
	comp=Z,10nm,0.7s,baz=56,slow=0.3,SNR=6.7						
VNDA	Vanda	147.55	200	PKPbc	PKPbc	17 03 15.8	-1.7
	comp=Z,2.8nm,1.0s,baz=108,slow=3.2,SNR=3.6						
VNDA	Vanda	147.55	200	PKPbc	PKPbc	17 03 15.8	-1.7

IDC 05 16:43:36.1±3.6, 552S×15359E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.6/2, Error ellipse: s-maj=144.8km s-min=41.4km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	23.58	231	eP	P	16 48 48.4	-0.1
WRA	Warramunga Arr	23.59	231	P	P	16 48 47.9	-0.7
	2.4nm,0.8s,baz=53,slow=9.9,SNR=20						
ASAR	Alice Springs	26.18	224	P	P	16 49 13.1	+0.8
	0.4nm,0.5s,baz=59,slow=9.0,SNR=12						
FITZ	Fitzroy Crossi	30.03	243	eP	P	16 49 44.5	-2.1
	2.3nm,0.5s						
TORD	Torodi Ar. Bea	151.28	287	PKPbc	PKPbc	17 03 30.7	-0.9
	0.5nm,0.5s,baz=95,slow=2.3,SNR=4.9						
TORD				PKPab	PKPab	17 03 42.5	+3.0
	0.6nm,0.9s,baz=45,slow=2.0,SNR=3.8						

BJI 05 16:44:11.7, 3132N×11614E, h14km, ML3.8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	Wuhan	1.72	244	P	Pn	16 44 41.7	+0.5
WHN				PG	Pg	16 44 43.0	-1.8
WHN				SG	Sg	16 45 05.3	-1.8
WHN				Smax			
	comp=N,3μm,0.5s						
WHN				Smax			
	comp=E,3μm,0.5s						
NJ2	Nanjing	2.43	72	ePG	Pg	16 44 55.3	-2.9
NJ2				SG	Sg	16 45 27.1	-2.6
NJ2				Smax			
	comp=N,530nm,0.4s						
NJ2				Smax			
	comp=E,670nm,0.6s						
TIA	Tai'an	4.95	9	P	Pn	16 45 25.9	+0.3
TIA				PG	Pg	16 45 40.6	-5.8
TIA				SG	Sg	16 46 43.5	-7.0
TIA				Smax			
	comp=N,56nm,0.8s						
TIA				Smax			
	comp=E,65nm,0.7s						
XAN	Xi'an	6.66	296	P	Pn	16 45 49.6	+0.5
XAN				PG	Pg	16 46 12.8	-6.4
XAN				SG	Sg	16 47 42.6	-2.9
XAN				Smax			
	comp=N,55nm,0.7s						
XAN				Smax			
	comp=E,30nm,1.1s						

*IDC **05** 16:54:37.4±1.3, 2159S×17488W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.2/4, Error ellipse: s-maj=40.4km s-min=30.6km az=95.0*
*ISCJB **05** 16:54:39.5±3.0, 215S±02×1748W±05, h33km, mb4.2/4, Error ellipse: s-maj=64.0km s-min=30.7km az=178.2*

ISC 05 16:54:41.2±3.0, 216S±02×1747W±05, h35km, n9, σ0§42/6, mb4.2/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	25.06	205	P	P	17 00 02.2	0.0
	6.0nm,0.5s,mb4.3,baz=27,slow=6.8,SNR=3.3						
ASAR	Alice Springs	47.32	257	P	P	17 03 11.8	+0.4
	2.0nm,0.8s,mb4.1,baz=81,slow=7.2,SNR=22						
ASPA	Alice Springs	47.33	257	eP	P	17 03 11.7	+0.2
WB2	Warramunga Arr	47.54	262	eP	P	17 03 12.6	-0.5
WRA	Warramunga Arr	47.55	262	P	P	17 03 13.1	-0.1
	2.4nm,0.9s,mb4.2,baz=101,slow=8.4,SNR=16						
MJAR	Matsushiro Arr	72.96	322	P	P	17 06 07.1	0.0
	2.3nm,0.9s,mb4.1,baz=157,slow=5.9,SNR=6.7						
AKASG	Malin Array Be	145.44	333	PKPbc	PKPbc	17 14 14.9	-0.5
	1.1nm,0.6s,baz=38,slow=4.2,SNR=6.3						
BRTR	Keskin Array B	149.87	313	PKPbc	PKPbc	17 14 30.4	+2.8
	0.7nm,0.7s,baz=85,slow=5.0,SNR=3.0						
BRTR				PKPab	PKPab	17 14 35.2	+2.1
	0.9nm,0.9s,baz=45,slow=4.1,SNR=4.2						
TORD	Torodi Ar. Bea	170.91	157	PKPab	PKPab	17 16 06.6	+2.3
	0.4nm,0.7s,baz=207,slow=3.2,SNR=3.3						

*CSEM **05** 17:02:58.5±0.1, 4079N×15.17E, h30km, ML4.3/3, Error ellipse: s-maj=2.2km s-min=1.7km az=56.0*
*ISCJB **05** 17:02:59.4±0.3, 4082N±002×15.18E±003, h26km±2km, Error ellipse: s-maj=4.0km s-min=3.1km az=101.1*
*NEIC **05** 17:02:59.5, 4079N×1522E, h10km, ML3.2(ROM), After ROM.*
*ROM **05** 17:02:59.5±0.1, 4079N×1522E, h10km±1km, Md2.8/20, Ml3.2/18, Error ellipse: s-maj=2.0km s-min=1.8km az=167.0*

ISC 05 17:02:59.4±0.3, 4081N±002×1523E±002, h19km±2km, n77, σ1§08/113, 25C-13D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRV	Calabrutti - M	0.05	243	⇓iPg	Pg	17 03 02.1	-0.8
MCRV				Sg	Sg	17 03 04.0	-1.2
	80μm,0.2s						
SNAL	S. Angelo Dei	0.12	354	⇑iPg	Pg	17 03 03.1	-0.4
SNAL				Sg	Sg	17 03 06.2	0.0
	36μm,0.7s						
MRLC	Muro Lucano	0.20	104	Pg	Pg	17 03 04.5	-0.1
MRLC				Sg	Sg	17 03 08.8	+0.8
CAFE	Carife	0.22	2	⇑iPg	Pg	17 03 04.7	-0.1
CAFE				Sg	Sg	17 03 09.3	+0.8
	14μm,0.5s						
SGO	Sicignano	0.25	166	⇑iPg	Pg	17 03 05.0	-0.3
VULT	Monte Vulture	0.33	63	⇑iPg	Pg	17 03 06.6	0.0
VULT				Sg	Sg	17 03 12.3	+0.9
	4μm,0.3s						
SGTA	Sant Agata di	0.35	18	⇑iPg	Pg	17 03 06.8	0.0
	3μm,0.9s						
FG4	Candela	0.39	34	⇓iPg	Pg	17 03 07.3	-0.4
FG4				Sg	Sg	17 03 15.1	+1.9
FG5	Orsara di Pugl	0.48	4	⇑iPg	Pg	17 03 09.1	-0.1
	704nm,0.4s						
CMPR	Campora	0.49	173	⇑iPg	Pg	17 03 08.7	-0.7
CMPR				Sg	Sg	17 03 17.5	+1.4
	3μm,0.6s						
SLCN	Sala Consilina	0.52	143	Pg	Pg	17 03 10.0	+0.1
IPES	Pescosannita	0.52	325	Pg	Pg	17 03 09.6	-0.3
PSB1	Pescosannita	0.52	323	Pg	Pg	17 03 09.5	-0.5
PSB1				Sg	Sg	17 03 17.9	+0.8
	798nm,0.8s						
OVO	Vesuviano	0.63	272	Pg	Pg	17 03 12.8	+0.9
SACR	S. Croce Del S	0.71	327	Pg	Pg	17 03 13.5	+0.1
	456nm,0.8s						
MGR	Morigerati	0.71	159	Pg	Pg	17 03 12.3	-1.2
ISOR	Termini	0.71	252	Pg	Pg	17 03 12.3	-1.2
CDT	Castel del Mon	0.84	70	eSg	Sg	17 03 28.2	+1.2
SGG	Gregorio Mates	0.86	312	Pg	Pg	17 03 17.0	+0.7
BSSO	Busso	0.88	327	Pg	Pg	17 03 16.0	-0.6
	501nm,0.7s						
CIGN	Sant'Elia a Pi	0.88	344	Pg	Pg	17 03 16.8	+0.1
	1μm,1.8s						
RGNG	Rignano Grg	0.91	17	Pg	Pg	17 03 16.2	-1.0
CUC	Castrocucco	0.93	151	Pg	Pg	17 03 16.9	-0.6
	1μm,0.7s						
VAGA	Valle Agricola	0.97	309	Pg	Pg	17 03 18.3	+0.1
MOCO	Biccari - m.te	0.98	305	Pg	Pg	17 03 11.3	-7.3
	616nm,0.4s						
FG2	Serracapriola	1.00	357	Pg	Pg	17 03 17.8	-1.1
FG2				Sg	Sg	17 03 33.6	+1.5
	3μm,0.8s						
MS1	Monte Sant'Ang	1.05	31	ePg	Pg	17 03 19.2	-0.6
AMUR	Altamura	1.05	84	Pg	Pg	17 03 19.5	-0.3
AMUR				Sg	Sg	17 03 34.3	+0.7
	211nm,0.6s						
FGMS	Monte Sant'Ang	1.05	31	Pg	Pg	17 03 19.1	-0.8
FGMS				Sg	Sg	17 03 34.8	+1.0
	487nm,0.2s						
RFI	Roccamonfina	1.06	298	Pg	Pg	17 03 21.6	+1.6
	26nm,0.6s						
TRIV	Trivento	1.09	332	Pg	Pg	17 03 20.6	+0.1
SG1	Sgolgore (BA)	1.10	88	ePg	Pg	17 03 20.3	-0.5
SG1				eSg	Sg	17 03 36.0	+0.7
MIDA	Miranda	1.11	319	Pg	Pg	17 03 20.0	-1.0
	322nm,0.6s						
CII	Carovilli	1.15	323	Pg	Pg	17 03 22.2	+0.5
	139nm,0.3s						
BAI	Bari	1.29	76	ePg	Pg	17 03 22.4	-1.9
BAI				eSg	Sg	17 03 41.1	-0.1
NOCI	Noci	1.40	90	Pg	Pn	17 03 24.3	+0.4
BRT	Bari-Castellan	1.50	87	Pg	Pg	17 03 26.8	-1.6
	160nm,0.5s						
INTR	Introdacqua	1.56	321	Pg	Pg	17 03 25.6	-3.9
	531nm,0.9s						
PE1	Pezze di Greco	1.67	89	ePg	Pg	17 03 29.5	-2.0
PTQR	Pietraquaria	1.83	312	Pg	Pn	17 03 30.9	+1.0
	14nm,0.2s						
FAGN	Fagnano	1.91	320	Pg	Pg	17 03 34.8	-1.4
	214nm,0.6s						
SERS	Sersale	2.10	147	Pg	Pn	17 03 36.2	+2.7
	58nm,0.8s						
MSRU	Castanea	2.55	175	Pg	Pn	17 03 40.6	+0.9
	137nm,1.0s						
STON	Ston	2.77	41	iPn	Pn	17 03 42.4	-0.3
STON				iSn	Sn	17 04 15.5	-0.2
SNTG	Esanatoglia	2.98	326	Pg	Pn	17 03 48.8	+3.1
	17nm,0.5s						
ARV	Arcevia	3.18	328	Pg	Pn	17 03 51.0	+2.6
	192nm,1.9s						
FSSB	Fossombrone	3.41	329	Pg	Pn	17 03 53.9	+2.3
	20nm,0.3s						
NVLJ	Novalja	3.77	356	iPn	Pn	17 03 56.7	+0.2
NVLJ				iSn	Sn	17 04 39.6	-0.6
NVLJ	Novalja	3.77	356	iPn	Pn	17 03 56.6	+0.2
NVLJ				iSn	Sn	17 04 39.6	-0.6
VOY	Vojsko	5.31	350	e(Pn)	Pn	17 04 19.6	+1.9
VOY				e(Sn)	Sn	17 05 17.7	-0.7
VOY	Vojsko	5.31	350	Pn	Pn	17 04 19.6	+1.9
VOY				Sn	Sn	17 05 17.7	-0.7
RHK3	Tenkes	5.54	22	⇓ePn	Pn	17 04 20.9	+0.1
RHK1	Bakonya	5.68	20	⇑iPn	Pn	17 04 21.9	-0.8
OBKA	Obir	5.72	355	⇓iSn	Sn	17 05 25.0	-3.4
OBKA	Obir	5.72	355	⇑iPn	Pn	17 04 23.4	0.0
OBKA				⇓iSn	Sn	17 05 28.5	0.0
OBKA	Obir	5.72	355	⇑Pn	Pn	17 04 23.4	0.0
OBKA				Sn	Sn	17 05 25.0	-3.5
KBA	Koelnbreinsper	6.42	348	⇑Sn	Sn	17 05 42.6	-2.9
KBA	Koelnbreinsper	6.42	348	⇑iPn	Pn	17 04 33.7	+0.8
KBA				⇑iSn	Sn	17 05 44.4	-1.2
KBA	Koelnbreinsper	6.42	348	⇑Pn	Pn	17 04 33.7	+0.8
KBA				Sn	Sn	17 05 42.6	-2.9
ARSA	Arzberg	6.45	2	⇑iPn	Pn	17 04 33.3	0.0
ARSA				⇑iSn	Sn	17 05 42.7	-3.6
ARSA	Arzberg	6.45	2	⇑Pn	Pn	17 04 33.3	0.0
ARSA				Sn	Sn	17 05 42.7	-3.6
WTTA	Wattenberg	6.96	339	⇑Sn	Sn	17 05 56.5	-2.3
WTTA	Wattenberg	6.96	339	⇑iPn	Pn	17 04 41.3	+1.0
WTTA				⇑iSn	Sn	17 06 01.8	+3.0
WTTA	Wattenberg	6.96	339	⇑Pn	Pn	17 04 41.3	+1.0
WTTA				Sn	Sn	17 05 56.5	-2.3
SQTA	Sankt Quirin	7.04	337	⇑Sn	Sn	17 05 59.2	-1.7
SQTA	Sankt Quirin	7.04	337	⇓iPn	Pn	17 04 42.9	+1.5
SQTA				⇑iSn	Sn	17 06 02.4	+1.5
SQTA	Sankt Quirin	7.04	337	⇓Pn	Pn	17 04 42.9	+1.5
SQTA				Sn	Sn	17 05 59.2	-1.7
WATA	Walderalm	7.04	339	⇑Sn	Sn	17 05 59.3	-1.6
WATA	Walderalm	7.04	339	⇓iPn	Pn	17 04 42.9	+1.5
WATA				⇑iSn	Sn	17 06 02.9	+2.1
WATA	Walderalm	7.04	339	⇓Pn	Pn	17 04 42.9	+1.5
WATA				Sn	Sn	17 05 59.3	-1.6
MOA	Molln	7.08	355	⇓Sn	Sn	17 05 58.4	-3.4
MOA	Molln	7.08	355	⇓iPn	Pn	17 04 42.5	+0.5
MOA				⇓iSn	Sn	17 06 02.1	+0.3
MOA	Molln	7.08	355	⇓Pn	Pn	17 04 42.5	+0.5
MOA				Sn	Sn	17 05 58.4	-3.4
GEC2	GERESS Array S	8.11	353	ePn	Pn	17 04 55.7	-0.4
GEC2				eSn	Sn	17 06 23.1	-4.2
KHC	Kasperske Hory	8.41	353	ePN	Pn	17 04 59.3	-0.9
KHC				ex	x	17 05 08.8	
KHC				eSN	Sn	17 06 28.9	-5.6
KHC	Kasperske Hory	8.41	353	ePn	Pn	17 04 59.3	-0.9
KHC				e		17 05 08.8	
KHC				eSn	Sn	17 06 28.9	-5.6
WET	Wettzell	8.50	350	ePn	Pn	17 05 00.5	-1.0
WET				eSn	Sn	17 06 32.7	-4.2

*ISCJB **05** 17:10:14.1±0.5, 6628N±004×14205W±009, h10km, Error ellipse: s-maj=5.

INK	Inuvik	3.92	55	Pn	Pn	17 11 16.9	+1.5
INK				Sn	Sn	17 12 00.8	-0.6
INK				Sg	Sg	17 12 18.1	-2.9
INK				Trac		17 12 27.6	
	comp=Z,57nm,0.5s						
KTH	Kantishna Hill	4.63	238	P	Pn	17 11 25.1	-0.1
IMA2	Indian Mountai	4.68	273	*e*Pn	Pn	17 11 26.1	+0.2
IMA2				*e*Pg	Pg	17 11 40.4	-4.6
IMA2				*e*Sg	Sg	17 12 44.6	-1.0
IM3	Indian Mountai	4.72	272	P	Pn	17 11 25.9	-0.6
SML	Sawmill	5.25	214	Pn	Pn	17 11 33.3	-0.5
SML				*e*Sg	Sg	17 13 01.2	-2.5
DIV	Divide	5.42	199	*e*Pn	Pn	17 11 29.5	-6.6
PMR	Palmer	5.62	216	*e*Pn	Pn	17 11 41.7	+2.8
HYT	Haines Junctio	5.86	157	Pn	Pn	17 11 44.0	+1.9
HYT				Sg	Sg	17 13 20.0	-3.4
HYT				Trac		17 13 23.1	
	comp=Z,22nm,0.5s						
WHY	Whitehorse	6.51	147	Pn	Pn	17 11 52.5	+1.3
WHY				Sg	Sg	17 13 39.2	-5.2
WHY				Trac		17 13 55.1	
	comp=Z,17nm,0.9s						
TTA	Tatalina	6.84	247	*e*Pg	Pg	17 12 23.4	-2.7
YKW3	Yellowknife Ar	12.41	95	P	Pn	17 13 09.8	-2.1
YKW3				P		17 13 10.1	
YKW3				Sn	Sn	17 15 19.9	-10
YKW3				Sn	Sn	17 15 20.1	-10
YKW3				Trac		17 15 51.5	
	comp=Z,2.0nm,0.3s						
YKW3				Trac		17 15 51.5	
	comp=Z,2.0nm,0.3s						
RES	Resolute Bay	17.33	41	P	Pn	17 14 17.1	-0.1

WEL 05 17:21:08.3±0.5, 3836S×17597E, h165km±4km, ML3.5/13, 1C, Error ellipse: s-maj=4.9km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.91	84	PN	Pn	17 21 33.7	-0.1
URZ				SN	Sn	17 21 53.3	0.0
BKZ	Black Stump Fm	0.91	153	PN	Pn	17 21 34.2	+0.4
TUVZ	Tukino	0.94	195	PN	Pn	17 21 34.3	+0.3
WNVZ	Wahianoa	1.01	196	PN	Pn	17 21 34.9	+0.3
PKVZ	Pokaka	1.05	207	PN	Pn	17 21 34.9	0.0
MOVZ	Moawhango	1.06	189	⇑PN	Pn	17 21 34.9	-0.1
MWZ	Matawai	1.23	90	PN	Pn	17 21 36.7	+0.3
MWZ				SN	Sn	17 21 58.0	0.0
WAZ	Wanganui	1.59	208	PN	Pn	17 21 39.3	-0.7
TSZ	Takapari Road	1.70	180	PN	Pn	17 21 40.7	-0.4
PXZ	Pawanui	1.81	158	PN	Pn	17 21 42.3	0.0
MRZ	Mangatainoka R	2.32	187	PN	Pn	17 21 46.4	-1.7
BFZ	Birch Farm	2.33	175	PN	Pn	17 21 46.9	-1.3
KIW	Kapiti Island	2.63	198	PN	Pn	17 21 49.3	-2.4
MTW	Mount Morrison	2.82	187	PN	Pn	17 21 51.4	-2.7
CAW	Cannon Point	2.84	194	PN	Pn	17 21 51.6	-2.6
MRW	Makara Radio	3.03	198	PN	Pn	17 21 53.7	-3.0
MSWZ	Moikau Station	3.11	190	PN	Pn	17 21 54.5	-3.1
TCW	Tory Channel	3.14	204	PN	Pn	17 21 54.9	-3.1
TUWZ	Tuamarina	3.44	206	PN	Pn	17 21 58.3	-3.5
NNZ	Nelson	3.48	214	PN	Pn	17 21 58.7	-3.7
THZ	Tophouse	4.14	214	*e*PN	Pn	17 22 07.1	-3.6
KHZ	Kahutara	4.46	204	PN	Pn	17 22 11.2	-3.7

*NEIC **05** 17:21:13.0, 3920N×2072E, h44km, MD3.0(ATH), After ATH.*
*ATH **05** 17:21:13.6, 3920N×2072E, h44km±1km, MD3.0/4*
*ISCJB **05** 17:21:14.6±0.7, 3914N±004×2058E±005, h10km, Error ellipse: s-maj=6.5km s-min=4.6km az=109.5*
*CSEM **05** 17:21:14.4±0.2, 3910N×2042E, h12km, MD3.0, Error ellipse: s-maj=4.5km s-min=2.3km az=23.0*
*THE **05** 17:21:14.7, 3915N×2051E, h5km*

ISC 05 17:21:15.0±0.7, 3914N±004×2055E±005, h10km, n10, σ1§21/17, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.43	336	*e*Pg	Pg	17 21 22.6	-0.8
IGT				*e*Sg	Sg	17 21 28.9	-0.1
LKD	Levkas	0.44	170	*e*Pg	Pg	17 21 23.9	+0.3
JAN	Janina	0.56	24	*e*P	Pg	17 21 24.6	-1.4
JAN				S	Sg	17 21 32.3	-1.1
KEK	Kerkira	0.82	315	*e*P	Pg	17 21 30.4	-0.4
KEK				*e*S	Sg	17 21 43.0	+1.6
VLS	Valsamata	0.96	178	*e*P	Pg	17 21 33.0	-0.6
EVR	Evrytania	1.00	103	*e*P	Pg	17 21 30.7	-3.6
AGG	Agios Georgios	1.39	94	*e*Pg	Pg	17 21 40.8	-0.8
AGG				*e*Sg	Sg	17 22 01.9	+2.2
FNA	Florina	1.76	21	*e*Pb	Pb	17 21 46.8	-0.5
FNA				*e*Sb	Sb	17 22 10.5	+1.0
BIA	Bitola	1.97	17	*i* Pn	Pn	17 21 51.4	+3.1
BIA				*i* Sn	Sn	17 22 18.0	+4.9
BIA	Bitola	1.97	17	*i* Pn	Pn	17 21 51.4	+3.0
BIA				*i* Sn	Sn	17 22 17.9	+4.8

*CSEM **05** 17:24:31.7±0.1, 3207N×4982E, h16km, ML3.5/2, Error ellipse: s-maj=1.7km s-min=1.0km az=120.0*

KISR 05 17:24:29.7±0.8, 3210N×4996E, h33km, ML2.8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.99	271	*e*Pg	Pn	17 24 48.2	+1.0
	SNR=93						
SHGR				*e*Sg	Sn	17 25 00.4	+0.4
	230nm,0.6s,SNR=93						
ASAO	Ashtian	2.44	1	*e*Pn	Pn	17 25 13.6	+6.4
	SNR=52						
ASAO				*e*Sg	Sn	17 25 49.6	+14
	39nm,0.6s,SNR=91						
NASN	Na'in	2.50	73	*e*Pn	Pn	17 25 15.9	+7.8
	SNR=52						
MIB	Mutribah	3.22	225	*e*P	Pn	17 25 21.1	+3.3
MIB				AML	AML	17 25 59.0	
	comp=Z,26nm,0.5s						
MIB				*e*S	Sn	17 25 59.7	+4.7
MIB	Mutribah	3.22	225	*e*P	Pn	17 25 21.1	+3.2
MIB				*e*S	Sn	17 25 59.7	+4.7
KBD	Kabd	3.51	214	*e*P	Pn	17 25 25.9	+3.9
KBD				*e*S	Sn	17 26 07.7	+5.3
KBD				AML	AML	17 26 09.1	
	comp=Z,52nm,0.3s						
KBD	Kabd	3.51	214	*e*P	Pn	17 25 25.9	+3.9
KBD				*e*S	Sn	17 26 07.7	+5.3
NAY	Al-Naaiem	3.69	220	*e*P	Pn	17 25 28.0	+3.6
NAY				AML	AML	17 26 13.3	
	comp=Z,6.8nm,0.3s						
SNGE	Sanandaj	3.70	324	*e*Pn	Pn	17 25 29.7	+5.2
	SNR=52						
QRN	Al-Qurain	3.79	208	*e*P	Pn	17 25 28.8	+3.1
RDF	Al-Radifah	3.79	214	*e*P	Pn	17 25 29.4	+3.7
RDF				*e*S	Sn	17 26 13.8	+4.6
RDF				AML	AML	17 26 15.5	
	comp=Z,16nm,0.2s						
RDF	Al-Radifah	3.79	214	*e*P	Pn	17 25 29.4	+3.6
RDF				*e*S	Sn	17 26 13.8	+4.6
CHTH	Charan	3.92	14	*e*Pn	Pn	17 25 34.2	+6.7
	SNR=52						

*NIED **05** 17:43:00, 4140N×142.10E, h80km, Mw3.8 Best double couple: M0=4.82000×10^14 NP1:φs=112.00000°, δ83.00000°, λ-15.00000°. NP2:φs=204.00000°, δ75.00000°, λ-173.00000°.*
*JMA **05** 17:43:22.8, 4143N×142.14E, h35km±3km, M3.6*
*ISCJB **05** 17:43:23.1±0.6, 4142N±004×142.11E±006, h41km±10km, mb3.6/4, Error ellipse: s-maj=8.4km s-min=4.9km az=62.5*
*IDC **05** 17:43:25.8±2.3, 4143N×14226E, h49km±22km, mb3.3/3, mb1 3.5/5, mb1mx3.1/23, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=51.9km s-min=16.0km az=104.0*

ISC 05 17:43:22.1±0.8, 4141N±004×14213E±006, h20km±8km, n18, σ0§73/26, mb3.6/4, 3C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.82	268	⇓P	Pb	17 43 38.0	+0.4
JOT				S	Sb	17 43 49.0	+0.8
JKB				⇑P	Pb	17 43 39.6	-0.4
JKB				S	Sb	17 43 51.6	-0.5
JEM	Erimo	0.98	51	P	Pb	17 43 39.9	-0.5
JNBK	Urakawa-nobuka	0.99	28	P	Pb	17 43 39.7	-0.8
JTM	Tenmabayashi	1.02	233	⇓P	Pb	17 43 41.6	+0.6
JTM				S	Sb	17 43 55.0	+1.0
JANG	Nango	1.14	205	⇓P	Pn	17 43 42.3	-0.6
JANG				S	Sb	17 43 56.6	-0.8
JSR	Shiriuchi	1.29	276	P	Pn	17 43 45.3	+0.3
JNB	Noboribetsu	1.34	323	⇑P	Pn	17 43 44.8	-0.8
JNB				S	Sn	17 44 01.1	-1.7
JBT2	Biratori 2	1.38	7	P	Pn	17 43 46.1	-0.1
JCH	Churui	1.51	37	⇓P	Pn	17 43 48.4	+0.3
JCH				S	Sn	17 44 07.8	+0.6
JEW	Eniwo	1.52	341	⇑P	Pn	17 43 48.1	0.0
JEW				S	Sn	17 44 07.3	0.0
JFR	Furan	1.79	11	P	Pn	17 43 51.7	-0.1
ASAJ	Asahikawa	2.73	7	P	Pn	17 44 06.0	+1.3
	8.1nm,0.3s,baz=225,slow=12,SNR=111						
ASAJ				S	Sn	17 44 38.7	+1.6
	8.8nm,0.3s,baz=107,slow=19,SNR=9.2						
MJAR	Matsushiro Arr	5.74	213	P	Pn	17 44 50.7	+4.5
	0.4nm,0.3s,baz=31,slow=12,SNR=6.5						
ILAR	Eielson Array	45.54	35	P	P	17 51 40.0	-0.3
	0.7nm,0.7s,mb3.7,baz=260,slow=5.1,SNR=7.3						
BVAR	Borovoye Array	48.13	310	P	P	17 52 06.8	+6.1
	0.4nm,0.7s,mb3.6,baz=80,slow=8.8,SNR=2.9						
ASAR	Alice Springs	65.19	188	P	P	17 54 01.6	-0.3
	0.3nm,0.9s,mb3.3,baz=1.7,slow=6.9,SNR=6.4						
FINES	FINESS Array B	65.22	332	P	P	17 54 02.1	0.0
	0.8nm,0.8s,mb3.8,baz=60,slow=11,SNR=3.1						

*IDC **05** 17:49:17.3±1.0, 706N×9238E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML3.5/1, Error ellipse: s-maj=47.1km s-min=15.3km az=54.0*
*MOS **05** 17:49:19.5±1.1, 701N×9245E, h30km, mb4.4/6, Error ellipse: s-maj=23.7km s-min=10.4km az=114.1*
*ISCJB **05** 17:49:20.1±1.6, 700N±008×9245E±008, h33km±16km, mb4.1/18, Error ellipse: s-maj=17.4km s-min=8.8km az=95.0*
*NEIC **05** 17:49:22.6±0.8, 703N×9246E, h38km±9km, mb4.2/6, Error ellipse: s-maj=11.2km s-min=5.4km az=46.0*
*BJI **05** 17:49:22.5, 700N×9250E, h37km, mb4.4*

ISC 05 17:49:23.2±1.2, 704N±008×9246E±008, h40km±12km, n36, σ0§75/37, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.70	123	Pn	Pn	17 51 12.3	-0.4
	0.7nm,0.3s,baz=332,slow=9.1,SNR=8.4						
PSI	Prapat	7.70	123	Pn	Pn	17 51 12.3	-0.4
KULM	Kulim	8.33	102	P	Pn	17 51 21.1	-0.2
PALK	Pallekele	11.66	272	*e*P	Pn	17 52 06.8	-0.2
PALK				*e*S	Sn	17 54 04.5	-11
SHL	Shillong	18.43	358	*e*P	Pn	17 53 35.0	-0.5
JIRN	Jiri	21.35	345	*e*P	P	17 54 08.4	+1.5
	36nm,0.8s,mb4.8						
PKI	Pulchoki	21.48	343	*e*P	P	17 54 09.4	+1.1
DMN	Daman	21.61	342	*e*P	P	17 54 10.2	+0.5
GUN	Gumba	21.67	344	*e*P	P	17 54 10.9	+0.6
KKN	Kakani	21.73	343	*e*P	P	17 54 10.0	-0.9
GKN	Gorkha	22.12	341	*e*P	P	17 54 15.4	+0.2
KOLN	Koldanda	22.26	339	*e*P	P	17 54 16.3	-0.3
LSA	Lhasa	22.57	357	*e*P	P	17 54 20.8	+0.9
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
LSA	Lhasa	22.57	357	*e*P	P	17 54 20.8	+0.9
	comp=Z,4.8nm,0.7s,mb4.0						
ENH	Enshi	28.10	33	*e*P	P	17 55 10.6	-0.5
	comp=Z,2.6nm,0.5s,mb4.1						
GTA	Gaotai	32.90	11	*e*P	P	17 55 54.3	+0.8
GTA				AP	pP	17 56 02.8	-1.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MKAR	Makanchi Array	40.56	349	P	P	17 56 58.6	0.0
	comp=Z,1.5nm,0.5s,mb3.9,baz=167,slow=8.6,SNR=48						
SONM	Songino Array	42.35	14	P	P	17 57 13.3	0.0
	comp=Z,0.9nm,0.7s,mb3.5,baz=198,slow=8.6,SNR=12						
CN2	Changchun	46.62	33	*e*P	P	17 57 47.4	0.0
ZAL	Zalesovo	47.17	354	P	P	17 57 50.6	-1.1
	comp=Z,0.6nm,0.3s,mb4.0,baz=142,slow=23,SNR=2.6						
WRA	Warramunga Arr	49.16	124	P	P	17 58 07.9	+0.8
	comp=Z,3.1nm,0.9s,mb4.3,baz=304,slow=8.8,SNR=18						
WRAB	Tennant Creek	49.17	124	*e*P	P	17 58 06.4	-0.7
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	Tennant Creek	49.17	124	*e*P	P	17 58 06.4	-0.7
	comp=Z,4.4nm,0.6s,mb4.7						
WB2	Warramunga Arr	49.17	124	*e*P	P	17 58 07.7	+0.5
BVAR	Borovoye Array	49.25	343	P	P	17 58 07.2	-0.6
	comp=Z,1.4nm,0.8s,mb4.1,baz=144,slow=8.1,SNR=12						
BVAR				PcP	PcP	17 59 30.1	-0.1
	comp=Z,0.6nm,0.9s,baz=198,slow=4.7,SNR=3.6						
BRVK	Borovoye	49.31	343	*e*P	P	17 58 07.7	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BRVK	Borovoye	49.31	343	*e*P	P	17 58 07.7	-0.6
	comp=Z,2.3nm,1.1s,mb4.1						
ZRNK	Zerenda	49.61	342	*e*P	P	17 58 09.6	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	Zerenda	49.61	342	*e*P	P	17 58 09.6	-0.9
	comp=Z,1.2nm,0.7s,mb4.0						
ASAR	Alice Springs	50.69	128	P	P	17 58 19.8	+1.1
	comp=Z,0.7nm,0.5s,mb3.8,baz=303,slow=8.0,SNR=16						
ASAR				PcP	PcP	17 59 37.5	+1.9
	comp=Z,0.6nm,0.7s,baz=311,slow=3.9,SNR=4.1						
BOD	Bodaibo	53.35	14	*e*P	P	17 58 38.6	+0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
STKA	Stephens Creek	60.76	132	P	P	17 59 30.8	-0.1
	comp=Z,0.9nm,0.6s,mb4.1,baz=307,slow=5.6,SNR=3.3						
STKA	Stephens Creek	60.76	132	P	P	17 59 30.8	-0.1
BRTR	Keskin Array B	61.71	311	P	P	17 59 36.9	-0.4
	comp=Z,0.7nm,0.7s,mb3.9,baz=140,slow=9.6,SNR=4.1						
TIXI	Tiksi	68.37	12	*e*P	P	18 00 17.6	-3.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
GERES	GERESS Array B	77.33	318	P	P	18 01 14.2	+0.5
	comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=11						

*ISCJB **05** 18:03:20.1±0.5, 2386S±003×6784W±004, h99km±5km, mb4.9/56, Error ellipse: s-maj=6.6km s-min=5.5km az=155.5*
*MOS **05** 18:03:21.6±1.4, 2378S×6792W, h105km, mb5.0/14, Error ellipse: s-maj=16.8km s-min=8.5km az=111.7*
*NEIC **05** 18:03:23.0±0.5, 2381S×6787W, h110km±4km, mb5.0/42, Error ellipse: s-maj=8.6km s-min=5.3km az=73.0*
*BJI **05** 18:03:23.0, 2380S×6790W, h110km, mB5.2*
*GUC **05** 18:03:23.4±1.1, 2404S×6804W, h100km±17km, ML4.6*
*HRVD **05** 18:03:23.0±0.4, 2392S×68.17W, h146km±4km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s19,c20;Mantle waves: s60,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.66±.16; Mθθ0.75±.20; Mφφ1.92±.27; Mrθ0.25±.12; Mrφ-1.90±.17; Mθφ-1.50±.17; Best double couple: M0=3.37800×10^16 NP1:φs=127.00000°, δ35.00000°, λ-116.00000°. NP2: φs=338.00000°, δ59.00000°, λ-73.00000°. Principal axes: T 3.6190, Plg12.0000°, Azm56.0000°; N -0.4770, Plg14.0000°, Azm149.0000°; P -3.1360, Plg71.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **05** 18:03:24.0±1.0, 2373S×6776W, h119km±8km, mb4.6/18, mb1 4.7/20, mb1mx4.7/21, mbtmp5.0/20, MS3.6/2, Ms1 3.6/2, ms1mx3.1/21 Error ellipse: s-maj=14.2km s-min=10.9km az=62.0*

ISC 05 18:03:22.1±0.5, 2391S±003×6789W±004, h103km±4km, n198, σ1§04/153, mb4.9/56, 12C-19D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.03	344	⇓*i*P	Pn	18 03 46.5	+3.4
SPCH				*i* S	Sn	18 04 03.6	+4.6
SPCH				AMP		18 04 05.0	
	comp=N,23μm,0.5s						
SPCH	San Pedro de A	1.03	344	⇓*i*P	Pn	18 03 46.5	+3.4
SPCH				*i* S	Sn	18 04 03.6	+4.6
LVC	Limon Verde	1.60	324	P	Pn	18 03 52.3	+2.6
	comp=N,208nm,0.3s,baz=155,slow=6.7,SNR=1236						
LVC				S	Sn	18 04 13.3	+2.7
	comp=N,778nm,0.3s,baz=280,slow=23,SNR=9.9						
LVC	Limon Verde	1.60	324	⇓*i*Pn	Pn	18 03 52.1	+2.4
LVC				*e*Sn	Sn	18 04 13.7	+3.0
CEN1	Los Morros	2.18	283	⇓*i*P	Pn	18 03 59.0	+1.9
CEN1				*i* S	Sn	18 04 25.3	+1.4
CEN1				AMP		18 04 32.5	
	comp=N,3μm,0.5s						
ANCH	Antofagasta	2.32	275	⇑*i*P	Pn	18 03 58.0	-0.9
ANCH				*i* S	Sn	18 04 25.6	-1.5
ANCH				AMP		18 04 32.0	
	comp=N,6μm,0.6s						
ANCH	Antofagasta	2.32	275	⇑*i*P	Pn	18 03 58.0	-0.9
ANCH				*i* S	Sn	18 04 25.6	-1.5
CPN1	Cerro Paranal	2.41	252	⇑*i*P	Pn	18 04 00.9	+0.9
CPN1				*i* S	Sn	18 04 29.2	+0.1
CPN1				AMP		18 04 32.0	
	comp=E,3μm,0.5s						
CRCH	Chaqaral	3.47	225	⇓*i*P	Pn	18 04 14.2	+0.1
CRCH				*i* S	Sn	18 04 52.4	-2.0
CRCH				AMP		18 05 05.3	
	comp=E,2μm,0.3s						
CRCH	Chaqaral	3.47	225	⇓*i*P	Pn	18 04 14.2	+0.1
CRCH				*i* S	Sn	18 04 52.4	-2.0
CPCH	Copiapo	4.09	212	*e*P	Pn	18 04 22.5	-0.1
CPCH				*i* S	Sn	18 05 08.7	-0.7
CDCH	Caldera	4.12	220	*e*P	Pn	18 04 21.7	-1.3
CDCH				*i* S	Sn	18 05 07.0	-3.1
LPAZ	La Paz	7.58	358	P	Pn	18 05 11.6	+1.7
	comp=E,6.1nm,0.3s,baz=168,slow=9.6,SNR=59						
LPAZ				S	Sn	18 06 34.4	+0.2
	comp=E,0.7nm,0.3s,baz=346,slow=22,SNR=3.7						
LPAZ	La Paz	7.58	358	*e*P	Pn	18 05 11.6	+1.7
LPAZ				pmax	pmax		
	comp=Z,35nm,0.5s						
LPAZ	La Paz	7.58	358	*e*Pn	Pn	18 05 11.6	+1.7
	comp=Z,35nm,0.5s						
CFAA	Coronel Fontan	7.67	182	P	Pn	18 05 11.3	+0.2
	comp=Z,1.9nm,0.3s,baz=354,slow=13,SNR=125						
CFAA				S	Sn	18 06 32.1	-4.2
	comp=Z,1.7nm,0.3s,baz=260,slow=22,SNR=6.7						
ARE	Arequipa	8.14	335	P	Pn	18 05 08.0	-9.5
ARE				*e*S	Sn	18 06 42.0	-5.8
CPUP	Villa Florida	9.87	106	*e*P	Pn	18 05 40.9	0.0
CPUP				pmax	pmax		
	comp=Z,69nm,0.7s						
CPUP	Villa Florida	9.87	106	*e*Pn	Pn	18 05 40.9	0.0
	comp=Z,69nm,0.7s						
SIV	San Ignacio	10.15	40	P	Pn	18 05 43.0	-1.7
	comp=Z,79nm,0.3s,baz=224,slow=12,SNR=461						
SIV				S	Sn	18 07 28.7	-7.9
	comp=Z,2.1nm,0.3s,baz=236,slow=21,SNR=3.8						
TRQA	Tornquist	14.98	162	*e*P	Pn	18 06 52.3	+4.0
	comp=Z,83nm,1.3s						
SAML	Samuel	15.54	18	⇑*i*P	Pn	18 06 52.5	-2.9
	comp=Z,28nm,1.0s						
PLCA	Paso Flores	16.93	187	P	Pn	18 07 12.3	-0.2
	comp=Z,0.1nm,0.3s,baz=20,slow=15,SNR=4.0						
PLCA				PcP	PcP	18 11 53.8	+0.7
	comp=Z,0.2nm,0.3s,baz=349,slow=4.2,SNR=7.9						
PLCA	Paso Flores	16.93	187	*e*P	Pn	18 07 12.1	-0.4
PLCA				pmax	pmax		
	comp=Z,33nm,1.3s						
PLCA	Paso Flores	16.93	187	*e*P	Pn	18 07 12.1	-0.4
	comp=Z,33nm,1.3s						
PLCA				PcP	PcP	18 11 53.8	+0.7
BDFB	Brasilia	20.41	70	P	P	18 07 50.5	-0.4
	comp=Z,217nm,0.8s,baz=251,slow=11,SNR=277						
BAO	Brasilia Array	20.44	70	P	P	18 07 50.5	-0.6
CAM4	Nova Friburgo	23.33	91	(P)	P	18 08 18.6	-2.4
CAM4				*i*		18 08 20.5	
CAM4				*i*		18 08 23.6	
CAM3	Guarapari	25.50	88	*e*P	P	18 08 40.2	-0.5
CAM3				*i*		18 08 42.0	
CAM3				*i*		18 08 45.8	
CAM3				*i*		18 09 20.2	
ROSC	El Rosal	29.27	347	P	P	18 09 15.1	+0.7
	comp=Z,3.4nm,0.5s,mb4.3,baz=264,slow=16,SNR=3.7						
ROSC				LR	LR	18 21 46.9	
	comp=Z,60nm,19.3s,baz=199,slow=38						
SDV	Santo Domingo	32.70	355	LR	LR	18 24 49.6	
	comp=Z,173nm,20.8s,baz=214,slow=40						
SDV	Santo Domingo	32.70	355	*e*P	P	18 09 42.6	-2.0
	comp=Z,9.3nm,0.9s,mb4.6						
VNA3	Neumayer Olymp	57.50	161	⇓*i*P	P	18 13 01.7	+1.2
VNA3				⇑*i*		18 13 08.6	
VNA3				⇑*i*		18 13 53.8	
VNA2	Neumayer--Watz	58.08	160	⇓*i*P	P	18 13 05.6	+1.1
	baz=299,slow=8.3						
VNA2						18 13 14.3	
VNA2				⇑*i*		18 13 56.1	
JSC	Jenkinsville	59.25	347	*e*P	P	18 13 12.1	-0.5
LRAL	Lakeview Retre	59.48	341	*e*P	P	18 13 12.6	-1.6
	comp=Z,9.0nm,0.8s,mb4.8						
SNAA	Sanae	59.71	161	P	P	18 13 16.0	+0.3
	comp=Z,4.2nm,0.7s,mb4.6,baz=278,slow=6.5,SNR=13						
SNAA				PcP	PcP	18 14 01.5	-0.1
	comp=Z,1.4nm,0.5s,baz=291,slow=12,SNR=7.1						
HKT	Hockley	59.90	332	*e*P	P	18 13 16.1	-1.0
HKT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
HKT	Hockley	59.90	332	*e*P	P	18 13 16.1	-1.0
	comp=Z,8.5nm,0.9s,mb4.8						
JCT	Junction City	62.14	329	*e*P	P	18 13 31.0	-1.2
JCT				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.6						
JCT	Junction City	62.14	329	*e*P	P	18 13 31.0	-1.2
	comp=Z,52nm,0.8s,mb5.6						
WVT	Waverly	62.62	342	*e*P	P	18 13 33.5	-1.9
WVT				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.4						
WVT	Waverly	62.62	342	*e*P	P	18 13 33.5	-1.9
	comp=Z,35nm,0.7s,mb5.4						
MIAR	Mount Ida	63.04	336	*e*P	P	18 13 37.1	-1.1
MIAR				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
MIAR	Mount Ida	63.04	336	*e*P	P	18 13 37.1	-1.1
	comp=Z,32nm,1.2s,mb5.1						
TXAR	Lajitas Array	63.13	325	P

WUAZ **Wupatki** 72.02 324 *eP* P 18 14 35.7 +1.0
comp=Z,33nm,0.9s,mb5.2
ISCO **Idaho Springs** 72.50 330 *eP* P 18 14 38.2 +0.7
ISCO pmax pmax
comp=Z,19nm,1.2s,mb4.8
ISCO **Idaho Springs** 72.50 330 *eP* P 18 14 38.2 +0.6
comp=Z,19nm,1.2s,mb4.8
SMCO **Snowmass** 72.62 329 *eP* P 18 14 39.2 +1.0
comp=Z,25nm,0.8s,mb5.1
SYO **Syowa Base** 73.93 159⇓*i*PcP PcP 18 14 57.7 -3.1
SYO **Syowa Base** 73.93 159⇑*iP* P 18 14 46.1 +0.2
SYO *i* 18 14 57.7
EYMN **Ely** 74.60 344 *eP* P 18 14 48.2 -1.6
comp=Z,12nm,0.8s,mb4.7
VNDA **Vanda** 74.65 190 P P 18 14 51.8 +1.6
comp=Z,6.5nm,0.8s,mb4.4,baz=131,slow=2.6,SNR=9.8
TMUT **Trail Mountain** 74.78 327 *eP* P 18 14 51.4 +0.5
MWC **Mount Wilson** 74.92 319 *eP* P 18 14 52.2 +0.5
GSC **Goldstone** 74.92 320 *eP* P 18 14 52.6 +0.9
DAC **Darwin (Calif)** 76.06 321 *eP* P 18 14 58.9 +0.7
DAC pmax pmax
comp=Z,23nm,0.9s,mb4.9
DAC **Darwin (Calif)** 76.06 321 *eP* P 18 14 58.9 +0.6
comp=Z,23nm,0.9s,mb4.9
DUG **Dugway** 76.27 326 *eP* P 18 14 59.3 -0.1
DUG pmax pmax
comp=Z,18nm,1.0s,mb4.8
DUG **Dugway** 76.27 326 *eP* P 18 14 59.3 -0.1
comp=Z,18nm,1.0s,mb4.8
PDAR **Pinedale Array** 76.66 330 P P 18 15 01.4 -0.2
comp=Z,3.3nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=25
HWUT **Hardware Ranch** 76.71 328 *eP* P 18 15 02.1 +0.3
comp=Z,16nm,0.7s,mb4.8
TORD **Torodi Ar. Bea** 77.30 69 P P 18 15 05.4 +0.2
comp=Z,22nm,0.7s,mb5.0,baz=253,slow=5.3,SNR=136
AHID **Auburn Hatcher** 77.38 329⇓*eP* P 18 15 05.8 +0.2
comp=Z,34nm,1.0s,mb5.0
REDW **Red Top Meadow** 77.72 329 *eP* P 18 15 07.5 0.0
comp=Z,14nm,0.7s,mb4.8
SNOW **Snow King Moun** 77.75 330 *eP* P 18 15 08.3 +0.6
comp=Z,19nm,0.7s,mb4.9
LOHW **Long Hollow** 77.79 330⇓*eP* P 18 15 08.1 +0.2
comp=Z,14nm,0.7s,mb4.8
ULM **Lac du Bonnet** 77.89 342 P P 18 15 07.2 -1.2
comp=Z,25nm,0.6s,mb5.1,baz=154,slow=6.4,SNR=56
NVAR **Mina Array Bea** 77.96 322 P P 18 15 09.6 +0.7
comp=Z,4.5nm,0.9s,mb4.2,baz=183,slow=6.8,SNR=23
MOOW **Moose Ponds** 77.96 330 *eP* P 18 15 09.0 +0.1
comp=Z,7.3nm,0.9s,mb4.4
FLWY **Flagg Ranch** 78.20 330 *eP* P 18 15 10.9 +0.8
comp=Z,32nm,0.8s,mb5.1
SCHQ **Schefferville** 78.42 1 P P 18 15 10.4 -0.9
comp=Z,11nm,0.7s,mb4.7,baz=194,slow=3.7,SNR=30
LKWY **Lake** 78.44 330 *eP* P 18 15 13.2 +1.7
LKWY pmax pmax
comp=Z,17nm,1.0s,mb4.7
LKWY **Lake** 78.44 330 *eP* P 18 15 13.2 +1.7
comp=Z,17nm,1.0s,mb4.7
TSUM **Tsumeb** 78.46 106⇓*iP* P 18 15 13.3 +1.7
comp=Z,11nm,0.8s,mb4.6
YFT **Old Faithful** 78.55 330 *eP* P 18 15 14.0 +2.0
DGMT **Dagmar** 79.05 336 *eP* P 18 15 14.8 0.0
comp=Z,49nm,1.0s,mb5.3
QLMT **Earthquake Lak** 79.11 330 *eP* P 18 15 16.2 +1.0
MCMT **McKenzie Canyo** 79.76 329 *eP* P 18 15 19.7 +1.0
BOZ **Bozeman (W)** 79.83 330 *eP* P 18 15 18.9 -0.1
BOZ pmax pmax
comp=Z,15nm,1.3s,mb4.7
BOZ **Bozeman (W)** 79.83 330 *eP* P 18 15 18.9 -0.1
comp=Z,15nm,1.3s,mb4.7
DLMT **Dillon** 80.05 330 *eP* P 18 15 20.7 +0.4
comp=Z,37nm,1.4s,mb5.0
HRY **Holter Researc** 80.73 331 P P 18 15 23.2 -0.7
BOSA **Boshof** 81.50 117 P P 18 15 28.9 +1.0
comp=Z,5.8nm,0.8s,mb4.5,baz=254,slow=5.5,SNR=18
MAW **Mawson** 81.76 163 P P 18 15 29.9 +0.6
comp=Z,42nm,0.8s,mb5.3,baz=206,slow=5.7,SNR=13
BMO **Blue Mountains** 81.94 327 *eP* P 18 15 29.8 -0.5
BMO pmax pmax
comp=Z,25nm,1.3s,mb4.9
BMO **Blue Mountains** 81.94 327 *eP* P 18 15 29.8 -0.5
comp=Z,25nm,1.3s,mb4.9
YBH **Yreka Blue Hor** 82.68 322 P P 18 15 33.3 -0.8
comp=Z,4.2nm,0.7s,mb4.4,baz=135,slow=10.0,SNR=2.5
BSMT **Bassoo Peak** 82.92 330 P P 18 15 35.6 +0.3
LBTB **Lobatse** 83.17 114 *eP* P 18 15 37.7 +1.1
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LBTB **Lobatse** 83.17 114 *eP* P 18 15 37.7 +1.1
comp=Z,5.0nm,0.6s,mb4.5
FFC **Flin Flon** 83.60 341 P P 18 15 37.3 -1.6
comp=Z,68nm,1.1s,mb5.4,SNR=5.8
HUOR **Husband** 83.79 324 P P 18 15 40.6 +0.8
REDWA **Red Mountain** 84.02 327 P P 18 15 41.4 +0.4
PTOM **Tomar** 84.08 42 *eP* P 18 15 42.1 +0.8
PRW **Prosser** 84.08 327 P P 18 15 42.1 +0.8
RSW **Rattlesnake Hi** 84.16 327 P P 18 15 42.3 +0.6
GBL **Gable Mountain** 84.24 327 P P 18 15 42.4 +0.3
SNIWA **Snively Ranch** 84.25 327 P P 18 15 42.6 +0.4
NEW **Newport** 84.29 329 P P 18 15 40.6 -1.7
comp=Z,2.6nm,0.6s,mb4.3,baz=128,slow=6.8,SNR=8.5
VFP **Flag Point** 84.39 325 P P 18 15 43.5 +0.7
MDW **Midway** 84.40 327 P P 18 15 43.1 +0.2
OD2 **Odessa Site #2** 84.42 328 P P 18 15 42.9 -0.1
MXC **Moxie City** 84.64 327 P P 18 15 44.5 +0.4
PCBR **Castelo Branco** 84.79 42 *eP* P 18 15 45.5 +0.6
EPH **Ephrata** 84.83 328 P P 18 15 45.8 +0.8
EBG **Ellensburg** 85.01 327 P P 18 15 46.6 +0.6
MTE **Manteigas** 85.09 42 *eP* P 18 15 46.7 +0.3
comp=Z,24nm,1.4s,mb4.9
TBM **Table Mountain** 85.20 327 P P 18 15 47.4 +0.4
WTV **Waterville** 85.24 328 P P 18 15 48.0 +0.9
ETW **Entiat** 85.36 327 P P 18 15 47.9 +0.2
NLW **Nelson Butte** 85.69 328 P P 18 15 49.0 -0.4
GSM **Grass Mountain** 85.82 326 P P 18 15 49.4 -0.6
RPW **Rockport** 86.52 328 P P 18 15 52.6 -0.8
CMW **Cultus Mountai** 86.80 327 P P 18 15 54.2 -0.7
ESDC **Sonseca Array** 86.89 44 P P 18 15 55.4 +0.2
comp=Z,1.8nm,0.8s,mb4.1,baz=237,slow=5.6,SNR=6.0
YKA **Yellowknife Ar** 93.76 340 P P 18 16 26.2 -1.1
comp=Z,13nm,0.8s,mb5.3,baz=134,slow=4.6,SNR=244
OBN **Obninsk** 117.46 39 *i* PKIKP PKPdf 18 21 54.9 -0.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
KIV **Kislovodsk** 120.73 52*d i*PKIKP PKPdf 18 22 01.6 -0.3
CTA **Charters Tower** 125.06 220 *eP* PKPdf 18 22 11.0 +0.8
comp=Z,7.2nm,0.9s
CTA **Charters Tower** 125.06 220 PKP PKPdf 18 22 11.1 +0.9
comp=Z,7.6nm,0.8s,baz=247,slow=2.3,SNR=7.7
ASAR **Alice Springs** 128.19 206 PKP PKPdf 18 22 16.4 +0.2
comp=Z,12nm,0.7s,baz=134,slow=1.9,SNR=131
ASPA **Alice Springs** 128.19 206⇓*iP* PKPdf 18 22 16.3 +0.1
ARU **Arti** 129.58 35 *i* PKIKP PKPdf 18 22 19.1 +0.3
ARU *e* 18 29 14.4
AKTO **Aktyubinsk** 130.77 43 PKIKP PKPdf 18 22 21.2 +0.1
AKTO pmax pmax
comp=Z,1.0nm,1.0s
TIXI **Tiksi** 131.29 353⇑*i*PKIKP PKPdf 18 22 20.7 -1.4
WB2 **Warramunga Arr** 131.32 208⇓*iP* PKPdf 18 22 22.7 +0.6
WB2 *eS* SKPdf 18 25 47.4 -0.5
WRA **Warramunga Arr** 131.33 208 PKP PKPdf 18 22 22.7 +0.6
comp=Z,10nm,0.7s,baz=154,slow=1.7,SNR=91
AB31 **Akbulak array** 132.24 44 *i* PKIKP PKPdf 18 22 23.9 0.0
AB31 pmax pmax
comp=Z,5.0nm,0.8s
SEY **Seymchan** 132.67 336 *e*PKIKP PKPdf 18 22 24.6 -0.1
SEY pmax pmax
comp=Z,16nm,0.9s
FITZ **Fitzroy Crossi** 136.21 199 *eP* PKPdf 18 22 32.3 +1.0
comp=Z,9.2nm,0.6s
ZRNK **Zerenda** 136.48 37⇓*i*PKPdf PKPdf 18 22 32.0 +0.3
ZRNK *e*SKP 18 25 53.5
BVA0 **Borovoye Array** 137.20 36 *i* PKIKP PKPdf 18 22 32.5 -0.6
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
VOSK **Vostochnaya** 137.66 36 PKIKP PKPdf 18 22 34.3 +0.3
VOSK pmax pmax
comp=Z,3.0nm,1.4s
YAK **Yakutsk** 140.06 347⇓*i*PKIKP PKPdf 18 22 39.9 +1.5
NVS **Novosibirsk** 142.40 27 *e*PKHKP 18 22 37.4
NVS pmax pmax
comp=Z,9.0nm,1.3s
NVS pmax pmax
comp=E,4.0nm,1.5s
EKS2 **Erkin-Say** 143.29 50 P PKPdf 18 22 45.2 +1.1
SNR=8.5
ZAL **Zalesovo** 143.69 27 PKP PKPdf 18 22 41.7 -3.1
comp=E,11nm,0.8s,baz=168,slow=3.7,SNR=61
ZAL **Zalesovo** 143.69 27 PKP PKPdf 18 22 41.7 -3.1
UCH **Uchtor** 143.94 50 P PKPdf 18 22 45.0 -0.2
SNR=7.2
KBK **Karagaybulak** 144.11 49 P PKPdf 18 22 44.9 -0.7
SNR=7.1
TKM2 **Tokmak 2** 144.47 49 P PKPdf 18 22 45.7 -0.5
SNR=9.1
TKM2 **Tokmak 2** 144.47 49 PKIKP PKPdf 18 22 45.6 -0.6
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
KZA **Kyzart** 144.51 50 P PKPdf 18 22 46.6 +0.4
SNR=13
KRAR **Krasnoyarsk** 144.96 19*c i*PKIKP PKPdf 18 22 45.9 -1.1
ULHL **Ulahol** 145.15 50 P PKPbc 18 22 48.6 +1.4
SNR=17
KSH **Kashi** 145.81 54 *i* PKP PKPdf 18 22 49.9 +1.4
KSH *e*PKS 18 26 23.2
KSH *e*SKS SKSdf 18 29 42.1 -6.0
KSH PP PP
comp=Z,170nm,4.6s
KSH LR LR
comp=N,170nm,4.8s
KSH LR LR
comp=E,190nm,5.2s
BOD **Bodaibo** 146.09 358 *e*PKIKP PKPdf 18 22 48.3 -0.7
BOD pmax pmax
comp=Z,27nm,0.7s
YSS **Yuzh-Sakhalins** 146.41 321 *e*PKP2 PKPab 18 22 51.2 -0.8
YSS pmax pmax
comp=Z,50nm,0.9s
THN **Thein Dam** 146.94 67 *eP* PKPdf 18 22 50.5 +0.1
MK31 **Makanchi Array** 146.97 39 *i* PKIKP PKPdf 18 22 50.4 -0.1
MK31 pmax pmax
comp=Z,20nm,0.6s
MKAR **Makanchi Array** 146.97 39 PKPbc PKPbc 18 22 50.6 -2.0
comp=Z,29nm,0.7s,baz=342,slow=1.1,SNR=108
MKAR **Makanchi Array** 146.97 39⇑*i*PKIKP PKPdf 18 22 50.5 0.0
HYB **Hyderabad** 148.00 95 *i* PKP PKPdf 18 22 57.0 +4.8
HYB **Hyderabad** 148.00 95 *eP* PKPdf 18 22 56.0 +3.8
DDI **Dehra Dun** 149.10 71 *ex* x 18 21 53.8
HABR **Khabarovsk** 149.51 329 *i* PKP2 PKPab 18 23 04.0 -0.4
KLR **Kul'dur** 150.39 334 *e*PKIKP PKPdf 18 22 57.7 +1.7
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,32nm,1.0s
WMQ **Urumqi** 151.79 39 PKP PKPdf 18 22 58.0 -0.2
WMQ PP PP 18 26 46.0 +0.4
WMQ SKS SKSdf 18 29 54.0 -2.1
WMQ SKKS SKKSac 18 33 25.0 -1.5
WMQ SS SS 18 46 01.0 -2.5
WMQ PP PP
comp=Z,38nm,8.0s
WMQ LR LR
comp=N,48nm,18.0s
WMQ LR LR
comp=E,75nm,18.0s
WMQ LR LR
comp=Z,42nm,17.0s
CIT **Chita** 151.91 358 *e*PKIKP PKPdf 18 23 05.1 +6.8
CIT *e* 18 23 13.4
CIT pmax pmax
comp=Z,48nm,1.0s
ZAK **Zakamensk** 152.69 12 *e*PKIKP PKPdf 18 22 59.8 +0.3
ZAK pmax pmax
comp=Z,12nm,1.7s
MJAR **Matsushiro Arr** 154.26 305 PKPbc PKPbc 18 23 09.6 -0.4
comp=Z,3.8nm,0.8s,baz=95,slow=1.3,SNR=11
MJAR PKPab PKPab 18 23 24.7 +0.3
comp=Z,11nm,0.8s,baz=84,slow=2.6,SNR=17
MJAR **Matsushiro Arr** 154.26 305 PKPbc PKPbc 18 23 09.6 -0.4
MJAR PKPab PKPab 18 23 24.7 +0.3
MAT **Matsushiro** 154.26 305 PKP PKPdf 18 23 01.9 +0.2
MAT **Matsushiro** 154.26 305 *e*PKP PKPdf 18 23 10.0 +8.3
VLA **Vladivostok** 154.83 324 *i* PKIKP PKPdf 18 22 55.5 -7.0
PSI **Prapat** 155.45 147 PKPbc PKPdf 18 23 11.9 +8.5
comp=Z,3.0nm,0.7s,baz=318,slow=16,SNR=4.1
PSI PKPab PKPab 18 23 30.2 +0.8
comp=Z,4.6nm,0.8s,baz=211,slow=4.1,SNR=8.2
SONM **Songino Array** 155.69 9 PKP PKPdf 18 23 04.3 +0.6
comp=Z,3.6nm,0.8s,baz=313,slow=1.2,SNR=31
SONM PKPbc PKPdf 18 23 12.9 +9.2
comp=Z,2.2nm,0.6s,baz=306,slow=1.2,SNR=18
SONM PKPab PKPab 18 23 30.6 +0.2
comp=Z,5.0nm,0.8s,baz=322,slow=4.6,SNR=16
ULN **Ulaanbaatar** 155.75 8*d i*PKIKP PKPdf 18 23 04.0 +0.2
ULN *i* 18 23 31.6
ULN **Ulaanbaatar** 155.75 8 *e*PKPdf PKPdf 18 23 04.2 +0.4
ULN *e*PKPab PKPab 18 23 30.6 -0.1
GTA **Gaotai** 161.36 31 PKP PKPdf 18 23 11.6 +1.1
GTA APKP 18 23 38.3
GTA XPKP 18 23 48.8
GTA PKS 18 26 44.0
GTA PP PP 18 27 42.5 +4.0
GTA SKS SKSdf 18 30 04.4 -1.6
GTA SKKS SKKSac 18 34 17.5 +0.3
GTA SS SS 18 47 45.6 -0.5
GTA PP PP
comp=Z,82nm,5.7s
GTA LR LR
comp=N,83nm,5.3s
GTA LR LR
comp=E,121nm,8.4s
GTA LR LR
comp=Z,117nm,11.5s
HHC **Hu-ho-hao-te** 163.10 1 *e*PKP PKPdf 18 23 13.5 +1.3
HHC APKP 18 23 41.1
HHC XP 18 23 51.9
HHC PKS 18 26 45.7
HHC PP PP 18 27 51.6 +3.9
HHC SKS SKSdf 18 30 07.1 -0.3
HHC SKKS SKKSac 18 34 28.4 +2.3
HHC SS SS 18 48 01.8 -2.3
HHC PP PP
comp=Z,84nm,8.4s
HHC LR LR
comp=N,166nm,14.4s
HHC LR LR
comp=E,278nm,16.8s
HHC LR LR
comp=Z,150nm,15.6s
XAN **Xi'an** 169.53 15 PKP PKPdf 18 23 17.8 +0.6
CD2 **Chengdu** 169.82 45 *e*PKP PKPdf 18 23 19.3 +1.9
CD2 APKP 18 23 46.5
CD2 XPKP 18 23 56.8
CD2 SKKS SKKSac 18 35 00.9 +1.3
CD2 SS SS 18 49 11.0 -1.1
CD2 PP PP
comp=Z,70nm,9.6s
CD2 LR LR
comp=E,90nm,9.6s
CD2 LR LR
comp=Z,60nm,9.6s
NJ2 **Nanjing** 169.94 325 *e*PKP PKPdf 18 23 20.6 +3.1
NJ2 APKP 18 23 47.6
NJ2 XPKP 18 23 58.1
NJ2 PKP2 PKPab 18 24 37.5 +4.6
NJ2 PKS 18 26 52.0
NJ2 PP PP 18 28 28.0 +5.1
NJ2 SKS SKSdf 18 30 13.0 +1.5
NJ2 SKKS SKKSac 18 35 04.0 +3.8
NJ2 PP PP
comp=Z,190nm,4.6s
NJ2 LR LR
comp=N,300nm,25.2s
NJ2 LR LR
comp=E,350nm,25.1s
NJ2 LR LR
comp=Z,170nm,16.1s
GYA **Guiyang** 174.45 62 PKP PKPdf 18 23 20.2 +0.7
GYA APKP 18 23 47.2
GYA XPKP 18 23 57.5
GYA PKP2 PKPab 18 24 49.0 -3.9
GYA PKS 18 26 51.5
GYA PP PP
comp=Z,160nm,8.7s
GYA LR LR
comp=N,490nm,20.8s
GYA LR LR
comp=E,570nm,21.4s
GYA LR LR
comp=Z,560nm,21.8s

*IDC **05** 18:04:39.0±1.8, 0.90N×9729E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=52.7km s-min=21.3km az=61.0*
*NEIC **05** 18:04:43.5±0.8, 0.97N×9733E, h30km, mb3.9/3, Error ellipse: s-maj=16.8km s-min=10.5km az=66.0*
*ISCJB **05** 18:04:45.4±6.9, 1.1N±03×975E±04, h58km±50km, mb3.8/8, Error ellipse: s-maj=84.0km s-min=17.1km az=115.1*
ISC 05 18:04:46.3±6.9, 11N±03×975E±04, h46km±51km, n12, σ0§48/12, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	2.23	40	Pn	Pn	Pn	18 05 20.4	-0.3
	2.1nm,0.3s,baz=228,slow=5.2,SNR=11							
PSI	**Prapat**	2.23	40	Pn		Pn	18 05 20.4	-0.3
KULM	**Kulim**	5.23	37	*eP*	Pn	Pn	18 06 02.3	+0.3
LSA	**Lhasa**	29.08	349	*eP*	P	P	18 10 42.6	+0.3
	1.0nm,0.4s,mb3.9							
ENH	**Enshi**	31.18	20	*eP*	P	P	18 11 00.2	-0.7
	1.7nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	41.74	122	P	P	P	18 12 30.5	-0.2
	0.3nm,0.4s,mb3.3,baz=302,slow=9.1,SNR=6.0							
WRAB	**Tennant Creek**	41.74	122	*eP*	P	P	18 12 31.3	+0.5
ASAR	**Alice Springs**	43.10	127	P	P	P	18 12 41.6	-0.2
	0.2nm,0.4s,mb3.2,baz=297,slow=7.5,SNR=8.5							
SONM	**Songino Array**	47.20	8	P	P	P	18 13 15.2	+0.8
	0.5nm,0.4s,mb3.8,baz=190,slow=9.5,SNR=15							
MKAR	**Makanchi Array**	47.42	346	P	P	P	18 13 16.5	+0.4
	1.2nm,0.5s,mb4.1,baz=160,slow=8.2,SNR=20							
ZAL	**Zalesovo**	53.70	351	P	P	P	18 14 03.4	-0.1
	1.5nm,0.4s,mb4.3,baz=294,slow=4.4,SNR=7.4							
BRVK	**Borovoye**	56.51	341	*eP*	P	P	18 14 22.9	-0.8
	0.6nm,0.7s,mb3.7							

*ISCJB **05** 18:05:06.4±0.5, 6624N±004×14198W±009, h10km, Error ellipse: s-maj=5.3km s-min=5.0km az=93.2*
*NEIC **05** 18:05:09.8, 6631N×14252W, h10km, ML3.2(AEIC), After AEIC.*
*PGC **05** 18:05:10.6, 6623N×14208W, h5km, ML3.3/2, Eastern Alaska.*
ISC 05 18:05:08.2±0.5, 6626N±004×14213W±009, h10km, n13, σ1§18/21, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	1.52	321	P	Pn	Pn	18 05 34.9	-0.7
BM3				S	Sn	Sn	18 05 54.5	-0.8
IL1	**Eielson Array**	2.48	235	P	Pn	Pn	18 05 48.8	+0.1
DAWY	**Dawson**	2.48	151	Pn	Pn	Pn	18 05 50.5	+1.7
DAWY				Sg	Sg	Sg	18 06 26.5	-1.6
DAWY				Trac			18 06 31.1	
	comp=Z,64nm,0.5s							
COLA	**College**	2.75	242	*e*Pg		Pg	18 05 59.0	-2.0
COLA				*e*S		Sn	18 06 31.9	+6.2
COLD	**Coldfoot**	3.35	291	P	Pn	Pn	18 06 01.3	+0.7
PAX	**Paxson**	3.60	205	P	Pn	Pn	18 06 06.2	+2.2
PAX				S	Sn	Sn	18 06 45.9	-0.6
MCK	**McKinley**	3.84	232	P	Pn	Pn	18 06 07.8	+0.5
INK	**Inuvik**	3.92	54	Pn	Pn	Pn	18 06 09.3	+0.8
INK				Sn	Sn	Sn	18 06 55.2	+0.6
INK				Sg	Sg	Sg	18 07 13.2	-1.1
INK				Trac			18 07 22.4	
	comp=Z,44nm,0.7s							
IMA2	**Indian Mountai**	4.69	273	*eP*		Pn	18 06 19.4	+0.3
IM3	**Indian Mountai**	4.73	272	P		Pn	18 06 19.4	-0.1
HYT	**Haines Junctio**	5.83	157	Pn		Pn	18 06 37.3	+2.6
HYT				Sg		Sg	18 08 10.9	-4.4
HYT				Trac			18 08 19.3	
	comp=Z,25nm,0.7s							
WHY	**Whitehorse**	6.49	147	Sg		Sg	18 08 31.1	-5.3
YKW3	**Yellowknife Ar**	12.40	94	P		Pn	18 08 04.2	-0.6
YKW3				Sn		Sn	18 10 14.9	-8.0
YKW3				Trac			18 10 33.4	
	comp=Z,2.0nm,0.6s							

IDC 05 18:10:28.9±21.0, 155N×12848E, h158km±219km, mb3.0/4, mb1 3.2/4, mb1mx3.1/16, mbtmp3.4/4, Error ellipse: s-maj=125.1km s-min=38.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.12	165	P		P	18 15 11.1	-0.6
	0.6nm,0.6s,baz=345,slow=11,SNR=7.3							
ASAR	**Alice Springs**	25.62	168	P		P	18 15 45.0	+1.5
	0.5nm,0.7s,baz=348,slow=13,SNR=5.9							
STKA	**Stephens Creek**	35.50	161	P		P	18 17 09.8	-0.6
	1.2nm,0.7s,baz=329,slow=9.2,SNR=3.7							
MKAR	**Makanchi Array**	60.33	325	P		P	18 20 21.2	+0.2
	0.3nm,0.5s,baz=112,slow=7.2,SNR=5.4							

*ISCJB **05** 18:26:21.5±1.5, 3005S±005×1778W±0.1, h24km±10km, mb4.5/9, Error ellipse: s-maj=22.0km s-min=7.2km az=21.6*
*IDC **05** 18:26:23.7±4.7, 2993S×17772W, h31km±31km, mb4.0/5, mb1 4.3/7, mb1mx4.1/15, mbtmp4.2/7, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/17, Error ellipse: s-maj=30.7km s-min=16.0km az=105.0*
*NEIC **05** 18:26:23.3±1.7, 2995S×17778W, h30km±11km, mb4.9/3, Error ellipse: s-maj=20.1km s-min=10.2km az=110.0*
*NAO **05** 18:26:28.9, 2885S×17979E, h33km, mb3.9*
ISC 05 18:26:22.8±1.6, 2998S±005×1778W±01, h22km±11km, n35, σ0§88/28, mb4.5/9, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.74	350	Pn	Pn	Pn	18 26 37.3	-0.6
	888nm,0.3s,baz=84,slow=11,SNR=44							
RAO				Sn		Sn	18 26 47.1	-1.3
	4μm,0.3s,baz=259,slow=24,SNR=28							
RAO	**Raoul Island**	0.74	350	⇓*iP*		Pb	18 26 37.2	+0.3
RAO				*e*S		Sb	18 26 46.7	+0.1
URZ	**Urewera**	9.28	206	Pn	Pn	Pn	18 28 34.9	-0.4
	0.6nm,0.3s,baz=202,slow=8.5,SNR=4.6							
URZ				Sn		Sn	18 30 17.5	-1.4
	4.0nm,0.3s,baz=322,slow=24,SNR=14							
URZ	**Urewera**	9.28	206	Pn		Pn	18 28 34.9	-0.4
URZ				Sn		Sn	18 30 17.5	-1.4
TCW	**Tory Channel**	12.93	208	SN		Sn	18 31 39.7	-8.7
NNZ	**Nelson**	13.31	210	SN		Sn	18 31 48.8	-8.9
THZ	**Tophouse**	13.96	210	*e*PN		Pn	18 29 39.4	+0.1
MQZ	**McQueen's Vall**	15.68	207	SN		Sn	18 32 40.4	-15
DZM	**Mont Dzumac**	16.21	295	Pn		Pn	18 30 17.0	+7.9
	0.3nm,0.3s,baz=297,slow=21,SNR=2.7							
DZM				LR		LR	18 35 07.9	
	comp=Z,169nm,18.7s,baz=202,slow=32							
RPZ	**Rata Peaks**	16.34	210	Pn		Pn	18 30 09.9	-0.9
	1.0nm,0.3s,baz=205,slow=7.4,SNR=8.1							
RPZ				Sn		Sn	18 32 58.9	-13
	0.4nm,0.3s,baz=266,slow=21,SNR=2.2							
RPZ				LR		LR	18 35 09.6	
	comp=Z,112nm,20.6s,baz=197,slow=32							
CTA	**Charters Tower**	33.93	278	*eP*		P	18 33 07.2	+3.0
	6.7nm,0.4s,mb4.9							
STKA	**Stephens Creek**	34.77	256	*eP*		P	18 33 11.9	+0.4
	2.1nm,0.4s,mb4.4							
STKA	**Stephens Creek**	34.77	256	P		P	18 33 12.4	+1.0
	2.2nm,0.4s,mb4.5,baz=101,slow=12,SNR=28							
STKA	**Stephens Creek**	34.77	256	*eP*		P	18 33 11.7	+0.3
ASAR	**Alice Springs**	43.33	266	P		P	18 34 23.6	+0.5
	3.3nm,0.5s,mb4.3,baz=103,slow=7.4,SNR=101							
ASPA	**Alice Springs**	43.33	266	*eP*		P	18 34 23.5	+0.4
WB2	**Warramunga Arr**	44.27	272	*eP*		P	18 34 31.1	+0.5
WRAB	**Tennant Creek**	44.27	272	*eP*		P	18 34 30.6	-0.1
	7.4nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	44.28	272	P		P	18 34 31.2	+0.4
	5.7nm,0.7s,mb4.4,baz=109,slow=7.8,SNR=56							
QSPA	**South Pole Qui**	60.13	180	*eP*		P	18 36 30.1	+1.6
	6.3nm,0.6s,mb4.8							
MJAR	**Matsushiro Arr**	78.01	325	P		P	18 38 18.7	-0.7
	1.3nm,0.9s,mb3.9,baz=154,slow=5.7,SNR=4.3							
NVAR	**Mina Array Bea**	87.80	43	P		P	18 39 10.8	+0.7
	0.5nm,0.7s,mb3.9,baz=222,slow=12,SNR=3.1							
FLWY	**Flagg Ranch**	95.80	42	*eP*		P	18 39 46.4	-0.9
	14nm,0.8s,mb5.4							
MKAR	**Makanchi Array**	117.65	310	PKP		PKPdf	18 45 05.1	-2.0
	0.3nm,0.6s,baz=180,slow=1.2,SNR=4.6							
MKAR	**Makanchi Array**	117.65	310	PKP		PKPdf	18 45 05.1	-2.0
ARCES	**ARCESS Array B**	138.22	348	PKP		PKPdf	18 45 45.3	-0.8
	5.1nm,1.1s,baz=63,slow=2.7,SNR=4.8							

JOF	**Joensuu**	**142.10**	**339**	*e*pkp	PKPdf	18 45 45.9	-7.2
KAF	**Kangasniemi**	**144.22**	**341**	*e*pkp	PKPdf	18 45 52.2	-4.7
FINES	**FINESS Array B**	**144.82**	**340**	PKP	PKPdf	18 45 54.8	-3.1
	12nm,0.5s,baz=57,slow=3.9,SNR=139						
NB2	**NORSAR Subarra**	**148.37**	**352**	PKPa		18 46 06.3	
	comp=Z,2.0nm,0.8s,baz=19,slow=2.9						
NOA	**NORSAR Array B**	**148.37**	**352**	PKPbc	PKPbc	18 46 05.8	-1.6
	comp=Z,1.2nm,0.7s,baz=45,slow=2.4,SNR=5.7						
AKASG	**Malin Array Be**	**151.08**	**323**	PKPbc	PKPbc	18 46 12.4	-1.6
	comp=Z,1.2nm,0.4s,baz=45,slow=2.7,SNR=13						
AKASG				PKPab	PKPab	18 46 19.2	-2.5
	comp=Z,0.4nm,0.4s,baz=48,slow=2.9,SNR=4.9						
BRTR	**Keskin Array B**	**152.57**	**299**	PKPbc	PKPbc	18 46 16.5	-0.9
	comp=Z,0.8nm,0.5s,baz=163,slow=6.9,SNR=5.6						
GERES	**GERESS Array B**	**159.22**	**338**	PKPab	PKPab	18 46 56.2	-0.2
	comp=Z,0.3nm,0.6s,baz=18,slow=4.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**163.24**	**178**	PKPab	PKPab	18 47 14.9	+1.0
	comp=Z,0.4nm,0.7s,baz=165,slow=3.4,SNR=2.9						

MAN 05 18:31:59.5, 15.19N×122.24E, h18km, mb2.1, ML3.8, MS1.7, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.55**	**212**	*e*P	Pg	18 32 10.4	0.0
POLP				*e*S	Sg	18 32 19.1	+1.3
BALP	**Baler**	**0.84**	**311**	*e*P	Pb	18 32 15.2	-0.4
PCPH	**Palayan**	**1.16**	**289**	‖*e*P	Pn	18 32 19.9	-1.0
PCPH				*i* S	Sb	18 32 36.3	+0.5
GQP	**Guinayangan**	**1.29**	**171**	‖*i*P	Pn	18 32 22.2	-0.5
GQP				*i* S	Sn	18 32 40.3	+0.7
BOAC	**Boac**	**1.77**	**193**	*e*P	Pn	18 32 29.8	+0.7
PVCP	**Virac**	**2.44**	**130**	*e*P	Pn	18 32 38.1	-0.4
CVP	**Callao Caves**	**2.53**	**351**	*e*P	Pn	18 32 40.0	+0.3
APYP	**Conner**	**2.82**	**340**	*e*P	Pn	18 32 44.8	+1.1

KISR ***05*** *18:35:19.3±1.1, 32.16N×49.92E, h42km±999km, ML3.2*
THR ***05*** *18:35:20.8±0.4, 31.97N×49.87E, h18km±3km, ML3.1*
CSEM ***05*** *18:35:21.1±0.1, 32.03N×49.86E, h16km, ML3.1, Error ellipse: s-maj=3.2km s-min=1.8km az=133.0*
ISCJB ***05*** *18:35:22.6±0.6, 31.99N±004×49.97E±006, h33km, Error ellipse: s-maj=8.1km s-min=5.2km az=75.9*
OMAN ***05*** *18:35:44.2, 30.17N×50.27E, h30km, Error ellipse: s-maj=44.4km s-min=3.0km az=329.0*

ISC 05 18:35:24.5±0.6, 32.01N±005×49.94E±006, h35km, n22, σ1§25/34, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.97**	**276**	*e*PG	**Pn**	**18 35 38.1**	**-3.5**
SHGR				*e*SG	**Sn**	**18 35 50.8**	**-3.4**
SHGR				AML	AML	18 36 05.0	
	comp=E,595nm,0.6s						
SHGR				AML	AML	18 36 09.9	
	comp=N,746nm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.97**	**276**	*e*Pg	**Pn**	**18 35 38.1**	**-3.5**
	SNR=93						
SHGR				*e*Sg	**Sn**	**18 35 50.8**	**-3.3**
	SNR=93						
ASAO	**Ashtian**	**2.53**	**2**	*e*PN	**Pn**	**18 36 03.7**	**+0.7**
ASAO				*e*SG	**Sn**	**18 36 41.6**	**+9.0**
ASAO				AML	AML	18 36 49.6	
	comp=E,89nm,0.6s						
ASAO				AML	AML	18 36 51.4	
	comp=N,59nm,0.6s						
ASAO	**Ashtian**	**2.53**	**2**	*e*Pn	**Pn**	**18 36 03.7**	**+0.7**
	SNR=52						
ASAO				*e*Sg	**Sn**	**18 36 41.6**	**+9.0**
	SNR=91						
NASN	**Na'in**	**2.55**	**71**	*e*PN	**Pn**	**18 36 04.7**	**+1.4**
NASN				*e*SG	**Sn**	**18 36 43.0**	**+10**
UMR	**Umm Al-Rimmam**	**3.11**	**219**	*e*P	**Pn**	**18 36 10.0**	**-1.0**
UMR				*e*S	**Sn**	**18 36 48.1**	**+1.2**
MIB	**Mutribah**	**3.14**	**226**	*e*P	**Pn**	**18 36 10.5**	**-0.8**
MIB				*e*S	**Sn**	**18 36 48.3**	**+0.8**
MIB				AML	AML	18 36 59.0	
	comp=Z,48nm,0.4s						
MIB	**Mutribah**	**3.14**	**226**	*e*P	**Pn**	**18 36 10.5**	**-0.9**
MIB				*e*S	**Sn**	**18 36 48.3**	**+0.7**
KBD	**Kabd**	**3.43**	**215**	*e*P	**Pn**	**18 36 15.3**	**0.0**
KBD				*e*S	**Sn**	**18 36 56.8**	**+2.1**
KBD				AML	AML	18 36 57.4	
	comp=Z,111nm,0.4s						
KBD	**Kabd**	**3.43**	**215**	*e*P	**Pn**	**18 36 15.3**	**0.0**
KBD				*e*S	**Sn**	**18 36 56.8**	**+2.1**
NAY	**Al-Naaiem**	**3.60**	**221**	*e*P	**Pn**	**18 36 17.4**	**-0.4**
NAY				*e*S	**Sn**	**18 37 00.6**	**+1.5**
NAY				AML	AML	18 37 02.3	
	comp=Z,19nm,0.5s						
NAY	**Al-Naaiem**	**3.60**	**221**	*e*P	**Pn**	**18 36 17.4**	**-0.4**
NAY				*e*S	**Sn**	**18 37 00.6**	**+1.5**
QRN	**Al-Qurain**	**3.69**	**209**	*e*P	**Pn**	**18 36 18.1**	**-0.9**
QRN				AML	AML	18 37 03.7	
	comp=Z,41nm,0.3s						
RDF	**Al-Radifah**	**3.70**	**214**	*e*P	**Pn**	**18 36 18.6**	**-0.6**
RDF				AML	AML	18 37 06.0	
	comp=Z,32nm,0.3s						
RDF	**Al-Radifah**	**3.70**	**214**	*e*P	**Pn**	**18 36 18.5**	**-0.6**
SNGE	**Sanandaj**	**3.76**	**326**	*e*PN	**Pn**	**18 36 20.0**	**+0.1**
SNGE				AML	AML	18 37 35.0	
	comp=N,28nm,0.6s						
SNGE				AML	AML	18 37 36.4	
	comp=E,18nm,0.6s						
DAMV	**Damavand**	**3.99**	**25**	*e*PN	**Pn**	**18 36 24.2**	**+1.2**
BANOM	**Banah**	**8.23**	**136**	P	**Pn**	**18 37 21.9**	**+0.6**
	SNR=14						
ASHO	**Ashiyiah**	**9.07**	**142**	P	**Pn**	**18 37 31.3**	**-1.6**
	SNR=12						
BSY	**Bisya**	**11.26**	**143**	P	**Pn**	**18 38 01.3**	**-1.5**
	SNR=11						
WHFO	**Wadi Hawf**	**14.45**	**165**	P	**Pn**	**18 38 42.3**	**-4.1**
	SNR=15						
ABTO	**Aybut**	**14.91**	**167**	P	**Pn**	**18 38 48.1**	**-4.5**
	SNR=11						

JMA 05 18:42:00.9±0.7, 46.07N×150.94E, h30km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.59**	**236**	P	Pn	18 43 07.4	-0.8
NEM2				*e*S	Sn	18 43 56.8	-3.6
JRA	**Rausu**	**4.64**	**245**	P	Pn	18 43 11.5	+2.5
JNK	**Nakash**	**5.07**	**243**	P	Pn	18 43 16.0	+1.1
JTKR	**Abashiri--Toko**	**5.41**	**250**	P	Pn	18 43 21.5	+2.0
JAK	**Akkeshi**	**5.42**	**238**	P	Pn	18 43 18.6	-1.0
JAR	**Ashorobuto**	**5.81**	**244**	P	Pn	18 43 26.5	+1.4
JOB	**Onbets**	**5.99**	**241**	P	Pn	18 43 27.4	0.0
JKK2	**Kamakawa 2**	**6.21**	**252**	P	Pn	18 43 33.2	+2.7
JCH	**Churui**	**6.44**	**240**	P	Pn	18 43 33.0	-0.6
JCH				*e*S	Sn	18 44 42.5	-3.6
JNBK	**Urakawa-nobuka**	**7.00**	**240**	P	Pn	18 43 40.2	-1.1

MEX 05 19:05:57.9±1.0, 16.76N×101.16W, h21km±62km, MD3.7, 3C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.90**	**71**	⇑*i*P	Pb	19 06 11.5	-3.3
CAIG				*i* S	Sb	19 06 23.1	-3.4
ACX	**Acapulco**	**1.20**	**85**	*i* P	Pn	19 06 16.0	-3.4
ACX				*i* S	Sb	19 06 32.0	-2.9
MEIG	**Mezcala**	**1.88**	**52**	⇑*i*P	Pn	19 06 27.0	-1.7
MEIG				*i* S	Sn	19 06 47.4	-4.4
PLIG	**Platanillo**	**2.27**	**44**	⇑*i*P	Pn	19 06 32.9	-1.2
PLIG				*i* S	Sn	19 06 57.4	-4.1
YAIG	**Yautepec**	**2.89**	**43**	*e*P	Pn	19 06 41.5	-1.2
YAIG				*i* S	Sn	19 07 13.7	-3.1
PPM	**Popocatepetl**	**3.33**	**46**	*e*P	Pn	19 06 47.0	-1.8
PPM				*i* S	Sn	19 07 24.6	-3.1

ISCJB ***05*** *19:10:56.7±1.1, 449S±008×795W±0.1, h129km±9km, mb3.5/10, Error ellipse: s-maj=19.1km s-min=12.0km az=140.8*
NEIC ***05*** *19:10:57.5±1.8, 439S×792.8W, h120km±19km, mb3.7/3, Error ellipse: s-maj=20.4km s-min=14.5km az=80.0*
IGQ ***05*** *19:11:03.3, 371S×796.0W, h12km±25km, Mb4.3, Ms4.1, Error ellipse: s-maj=27.8km s-min=5.7km az=84.4*
IDC ***05*** *19:11:04.4±4.8, 404S×792.4W, h168km±44km, mb3.2/9, mb1 3.5/11, mb1mx3.4/20, mbtmp3.7/11, Error ellipse: s-maj=47.5km s-min=16.7km az=44.0*

ISC 05 19:10:58.3±1.0, 443S±008×796W±01, h123km±8km, n40, σ1§29/40, mb3.6/10, 1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**2.65**	**327**	P	**Pn**	**19 11 39.6**	**-0.5**
SALI				S	**Sn**	**19 12 05.0**	**-7.3**
IGUA	**Igualata**	**3.06**	**17**	P	**Pn**	**19 11 45.6**	**+0.1**
CUSU	**Cusua**	**3.16**	**20**	P	**Pn**	**19 11 47.8**	**+1.1**
ULBA	**Ulba**	**3.18**	**21**	P	**Pn**	**19 11 46.0**	**-1.0**
JUIV	**Juive**	**3.18**	**20**	P	**Pn**	**19 11 48.5**	**+1.4**
PISA	**Pisayambo**	**3.55**	**19**	P	**Pn**	**19 11 52.2**	**+0.3**
QIL1	**Quilotoa**	**3.62**	**10**	P	**Pn**	**19 11 53.4**	**+0.6**
QIL1				S	**Sn**	**19 12 32.0**	**-2.9**
CAMI	**Rancho Maria**	**3.88**	**16**	P	**Pn**	**19 11 56.4**	**+0.2**
TAMB	**Tambo**	**3.90**	**18**	P	**Pn**	**19 11 56.5**	**-0.1**
VC1	**Cotopaxi 1**	**3.94**	**17**	P	**Pn**	**19 11 57.7**	**+0.7**
ANTI	**Antisana**	**4.19**	**19**	P	**Pn**	**19 12 00.1**	**-0.4**
TERV	**Terraza Guagua**	**4.33**	**13**	P	**Pn**	**19 12 04.5**	**+2.1**
MAG1	**Magdalena**	**4.34**	**357**	P	**Pn**	**19 12 00.8**	**-1.6**
MAG1				S	**Sn**	**19 12 47.5**	**-4.6**
GGP	**Refugio Guagua**	**4.34**	**13**	‖P	**Pn**	**19 12 05.0**	**+2.5**
PINO	**Pino**	**4.35**	**13**	P	**Pn**	**19 12 04.2**	**+1.7**
YANA	**Yana**	**4.40**	**13**	P	**Pn**	**19 12 02.7**	**-0.5**
CAYR	**Refugio Cayamb**	**4.68**	**19**	P	**Pn**	**19 12 05.5**	**-1.6**
ANGU	**Angureal**	**4.71**	**19**	P	**Pn**	**19 12 05.6**	**-1.8**
COTA	**Cotacachi**	**4.89**	**14**	P	**Pn**	**19 12 10.9**	**+1.1**
NNA	**Nana**	**7.97**	**160**	*e*Pn	**Pn**	**19 12 49.7**	**-1.7**
NNA				*e*Sn	**Sn**	**19 14 14.2**	**-5.7**
SDV	**Santo Domingo**	**15.94**	**34**	P	**Pn**	**19 14 33.9**	**-1.7**
	0.7nm,0.3s,baz=298,slow=12,SNR=6.7						
SDV	**Santo Domingo**	**15.94**	**34**	*e*P	**Pn**	**19 14 33.9**	**-1.8**
	3.9nm,0.8s						
LPAZ	**La Paz**	**16.27**	**137**	P	**Pn**	**19 14 44.8**	**+5.1**
	0.2nm,0.3s,baz=350,slow=8.2,SNR=4.7						
SAML	**Samuel**	**16.87**	**106**	*e*P	**Pn**	**19 14 43.4**	**-3.5**
	3.0nm,0.7s						
SIV	**San Ignacio**	**21.49**	**124**	P	**P**	**19 15 39.4**	**+2.3**
	0.8nm,0.5s,mb3.3,baz=311,slow=16,SNR=6.1						
TXAR	**Lajitas Array**	**40.78**	**327**	P	**P**	**19 18 28.5**	**+1.1**
	0.3nm,0.5s,mb3.4,baz=135,slow=8.9,SNR=3.3						
ANMO	**Albuquerque**	**46.64**	**329**	*e*P	**P**	**19 19 15.7**	**+1.4**
	2.1nm,1.0s,mb3.8						
PDAR	**Pinedale Array**	**54.27**	**333**	P	**P**	**19 20 10.9**	**-0.8**
	0.4nm,0.8s,mb3.5,baz=69,slow=7.7,SNR=3.1						
NVAR	**Mina Array Bea**	**55.72**	**323**	P	**P**	**19 20 23.7**	**+1.7**
	0.7nm,0.8s,mb3.8,baz=135,slow=7.7,SNR=6.6						
ULM	**Lac du Bonnet**	**56.26**	**347**	P	**P**	**19 20 24.9**	**-1.0**
	1.4nm,0.4s,mb4.3,baz=144,slow=6.9,SNR=4.4						
ULM	**Lac du Bonnet**	**56.26**	**347**	P	**P**	**19 20 24.9**	**-1.0**
YKA	**Yellowknife Ar**	**71.88**	**344**	P	**P**	**19 22 06.9**	**-1.1**
	0.3nm,0.4s,mb3.5,baz=143,slow=6.1,SNR=14						
YKA	**Yellowknife Ar**	**71.88**	**344**	P	**P**	**19 22 06.9**	**-1.1**
INK	**Inuvik**	**81.56**	**342**	P	**P**	**19 23 01.2**	**-1.1**
	0.6nm,0.4s,mb3.8,baz=102,slow=4.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**82.51**	**76**	P	**P**	**19 23 07.4**	**+0.1**
	0.2nm,0.3s,mb3.4,baz=280,slow=5.7,SNR=14						
ILAR	**Eielson Array**	**84.53**	**337**	P	**P**	**19 23 17.3**	**-0.3**
	0.6nm,0.9s,mb3.5,baz=133,slow=4.7,SNR=4.5						
ZAL	**Zalesovo**	**129.02**	**12**	PKP	PKPdf	19 29 50.7	-0.9
	0.5nm,0.3s,baz=323,slow=20,SNR=3.7						
ZAL	**Zalesovo**	**129.02**	**12**	PKP	PKPdf	19 29 50.7	-0.9
MKAR	**Makanchi Array**	**134.97**	**18**	PKP	PKPdf	19 30 01.7	-1.2
	0.3nm,0.5s,baz=315,slow=3.4,SNR=5.4						
WRA	**Warramunga Arr**	**138.81**	**233**	PKP	PKPdf	19 30 13.2	+3.2
	0.3nm,0.5s,baz=114,slow=2.2,SNR=6.2						

NAO ***05*** *19:18:53.7, 43.20N×147.19E, h33km, mb4.0*
MOS ***05*** *19:19:05.9±0.8, 43.68N×146.47E, h126km, mb4.0/7, Error ellipse: s-maj=29.2km s-min=23.9km az=132.7*
ISCJB ***05*** *19:19:07.8±0.7, 43.70N±007×146.23E±009, h126km±4km, mb3.9/9, Error ellipse: s-maj=11.9km s-min=9.6km az=95.8*
NEIC ***05*** *19:19:09.1±1.0, 43.74N×146.10E, h119km±7km, mb3.9/4, Error ellipse: s-maj=25.9km s-min=11.3km az=124.0*
JMA ***05*** *19:19:09.9±0.2, 43.67N×146.19E, h113km±2km, M3.4*
IDC ***05*** *19:19:10.7±2.7, 43.65N×146.05E, h138km±19km, mb3.6/7, mb1 3.7/9, mb1mx3.4/22, mbtmp4.0/9, Error ellipse: s-maj=35.7km s-min=25.1km az=167.0*

ISC 05 19:19:08.7±0.7, 43.69N±007×146.25E±009, h121km±4km, n36, σ0§66/48, mb3.9/9, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.44**	**321**	‖*i*PN	**Pn**	**19 19 26.0**	**-0.4**
YUK				*i* S	**Sn**	**19 19 39.0**	**-0.7**
YUK				pmax	pmax		
	comp=N,240nm,0.2s						
YUK				pmax	pmax		
	comp=E,240nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,5μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**0.44**	**321**	‖*i*Pn	**Pn**	**19 19 26.0**	**-0.4**
YUK				*i* S	**Sn**	**19 19 39.0**	**-0.7**
NEM2	**Nemuro 2**	**0.49**	**229**	P	**Pn**	**19 19 26.9**	**+0.2**
NEM2				*e*S	**Sn**	**19 19 39.4**	**-0.8**
JRA	**Rausu**	**0.85**	**287**	P	**Pn**	**19 19 29.7**	**+0.3**
JRA				*e*S	**Sn**	**19 19 45.2**	**+0.2**
JNK	**Nakash**	**1.12**	**265**	P	**Pn**	**19 19 32.2**	**+0.3**
JAK	**Akkeshi**	**1.33**	**239**	P	**Pn**	**19 19 34.5**	**+0.3**
JAK				*e*S	**Sn**	**19 19 53.2**	**-0.4**
JTKR	**Abashiri--Toko**	**1.72**	**280**	P	**Pn**	**19 19 38.9**	**+0.2**
JTKR				*e*S	**Sn**	**19 20 00.9**	**-0.7**
JAR	**Ashorobuto**	**1.85**	**258**	P	**Pn**	**19 19 41.1**	**+0.8**
JOB	**Onbets**	**1.93**	**247**	P	**Pn**	**19 19 42.0**	**+0.7**
JOB				*e*S	**Sn**	**19 20 06.2**	**0.0**
JMP	**Maruseppu**	**2.11**	**280**	P	**Pn**	**19 19 44.0**	**+0.4**
JMP				*e*S	**Sn**	**19 20 10.1**	**-0.2**
JCH	**Churui**	**2.37**	**244**	P	**Pn**	**19 19 47.2**	**+0.4**
JCH				*e*S	**Sn**	**19 20 15.1**	**-1.0**
JKK2	**Kamakawa 2**	**2.54**	**275**	P	**Pn**	**19 19 49.7**	**+0.7**
ASAJ	**Asahikawa**	**2.67**	**280**	P	**Pn**	**19 19 51.7**	**+1.0**
ASAJ				*e*S	**Sn**	**19 20 23.1**	**+0.1**
ASAJ	**Asahikawa**	**2.67**	**280**	P	**Pn**	**19 19 51.8**	**+1.1**
	comp=E,12nm,0.3s,baz=88,slow=12,SNR=183						
ASAJ				S	**Sn**	**19 20 23.6**	**+0.5**
	comp=E,2.2nm,0.3s,baz=347,slow=27,SNR=3.7						
ASAJ	**Asahikawa**	**2.67**	**280**	PN	**Pn**	**19 19 51.8**	**+1.1**
ASAJ				S	**Sn**	**19 20 23.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
MAJO	**Matsushiro**	**9.43**	**223**	P	**Pn**	**19 21 21.9**	**+0.5**
MJAR	**Matsushiro Arr**	**9.43**	**223**	P	**Pn**	**19 21 20.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=31,slow=12,SNR=7.2						
ULN	**Ulaanbaatar**	**27.45**	**293**	*e*P	**P**	**19 24 43.4**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.0						
SONM	**Songino Array**	**27.89**	**293**	P	**P**	**19 24 47.4**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.0,baz=84,slow=8.5,SNR=32						
SONM	**Songino Array**	**27.89**	**293**	P	**P**	**19 24 47.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**41.92**	**36**	P	**P**	**19 26 48.9**	**+1.7**
	comp=Z,0.9nm,1.0s,mb3.5,baz=271,slow=9.2,SNR=7.0						
ILAR	**Eielson Array**	**41.92**	**36**	P	**P**	**19 26 48.9**	**+1.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**44.03**	**297**	P	**P**	**19 27 04.1**	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.9,baz=80,slow=8.5,SNR=38						
MKAR	**Makanchi Array**	**44.03**	**297**	P	**P**	**19 27 04.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**49.08**	**309**	*e*P	**P**	**19 27 43.4**	**-0.2**
	comp=Z,0.7nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**59.07**	**339**	P	**P**	**19 28 55.2**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.3,baz=34,slow=6.4,SNR=5.2						
ARCES	**ARCESS Array B**	**59.07**	**339**	P	**P**	**19 28 55.2**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.63**	**333**	P	**P**	**19 29 31.9**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.7,baz=31,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**64.63**	**333**	P	**P**	**19 29 31.9**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.63**	**333**	P	**P**	**19 29 31.9**	**-1.3**
NB2	**NORSAR Subarra**	**69.42**	**338**	P	**P**	**19 30 02.4**	**-1.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=33,slow=6.2						
NOA	**NORSAR Array B**	**69.42**	**338**	P	**P**	**19 30 02.8**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.0,baz=33,slow=6.2,SNR=5.5						
NOA	**NORSAR Array B**	**69.42**	**338**	P	**P**	**19 30 02.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.24**	**323**	P	**P**	**19 30 14.0**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.0,baz=41,slow=6.5,SNR=8.4						
AKASG	**Malin Array Be**	**71.24**	**323**	P	**P**	**19 30 14.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.24**	**323**	P	**P**	**19 30 14.0**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9						

MEX 05 19:19:36.3±1.1, 18.22N×102.35W, h16km±87km, MD4.1, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.04**	**125**	*i* P	Pb	19 19 52.6	-3.3
ZIIG				*i* S	Sb	19 20 03.9	-5.4
MOIG	**Morelia**	**1.82**	**37**	*i* P	Pn	19 20 04.1	-2.9
MOIG				*i* S	Sn	19 20 24.5	-5.2
CAIG	**El Cayaco**	**2.30**	**120**	*e*P	Pn	19 20 11.7	-1.9
CAIG				*i* S	Sn	19 20 37.3	-4.3
SFJM	**Santa Fe**	**2.35**	**344**	*i* P	Pn	19 20 10.0	-4.2
SFJM				*i* S	Sn	19 20 40.5	-2.2
MEIG	**Mezcala**	**2.62**	**96**	*e*P	Pn	19 20 15.9	-2.0
MEIG				*i* S	Sn	19 20 45.5	-3.7
PLIG	**Platanillo**	**2.71**	**86**	*e*P	Pn	19 20 17.1	-2.0
PLIG				*i* S	Sn	19 20 48.1	-3.5
PPM	**Popocatepetl**	**3.63**	**76**	*e*P	Pn	19 20 29.4	-2.4
PPM				*i* S	Sn	19 21 12.5	-1.8
ZAIG	**Zacatecas**	**4.53**	**358**	*e*P	Pn	19 20 42.1	-2.1
ZAIG				*i* S	Sn	19 21 33.7	-2.8

NAO ***05*** *20:31:53.5±3.2, 61.83N×44.6E, ML2.2*
ISCJB ***05*** *20:31:54.4±1.4, 61.88N±004×43E±02, h24km±6km, Error ellipse: s-maj=13.5km s-min=6.0km az=41.5*
BER ***05*** *20:31:56.5±4.5, 61.90N×45.2E, h10km, MD2.3, ML2.4, ML2.2(NAO)*

ISC 05 20:31:54.4±1.3, 61.90N±004×44E±01, h14km±4km, n17, σ1§16/32, 1C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**0.42**	**136**	*e*P	**Pg**	**20 32 03.4**	**+0.6**
FOO				*e*S	**Sg**	**20 32 09.4**	**+0.9**
FOO				AML	AML	20 32 09.8	
	comp=Z,288nm,0.2s						
SUE	**Sulen**	**0.86**	**169**	*e*	**Pg**	**20 32 10.1**	**-1.0**
SUE				⇑*i*P		20 32 10.3	
SUE				*e*S	**Sg**	**20 32 23.0**	**+0.5**
SUE				AML	AML	20 32 25.3	
	comp=Z,181nm,0.3s						
HYA	**Hoyanger**	**1.12**	**131**	*e*P	**Pb**	**20 32 16.1**	**+0.6**
HYA				*e*S	**Sb**	**20 32 32.2**	**+2.3**
HYA				AML	AML	20 32 34.1	
	comp=Z,199nm,0.2s						
ASK	**Askoy**	**1.47**	**165**	*e*Sg	**Sg**	**20 32 41.8**	**0.0**
RUND	**Rundenannen**	**1.56**	**163**	*e*P	**Pn**	**20 32 21.9**	**+0.1**
RUND				*e*S	**Sn**	**20 32 42.6**	**+0.8**
RUND				AML	AML	20 32 44.8	
	comp=Z,145nm,0.2s						
MOL	**Molde**	**1.60**	**64**	*e*P	**Pn**	**20 32 23.8**	**+1.5**
MOL				*e*Sg	**Sg**	**20 32 45.4**	**-0.7**
MOL				AML	AML	20 32 49.0	
	comp=Z,111nm,0.2s						
EGD	**Espegrend**	**1.68**	**166**	*e*	**Pn**	**20 32 24.9**	**+1.5**
DOMB	**Dombas**	**2.19**	**84**	*e*P	**Pn**	**20 32 32.1**	**+1.7**
DOMB				*e*Pg	**Pg**	**20 32 33.5**	**-2.9**
DOMB				*e*Sg	**Sg**	**20 33 03.6**	**-1.2**
DOMB				AML	AML	20 33 04.3	
	comp=Z,42nm,0.2s						
ODD1	**Odda**	**2.27**	**151**	*e*P	**Pn**	**20 32 30.9**	**-0.5**
ODD1				*e*S	**Sn**	**20 32 58.7**	**-0.5**
ODD1				*i*		20 33 03.7	
ODD1				AML	AML	20 33 04.6	
	comp=Z,58nm,0.3s						
BLS5	**Blasjo**	**2.68**	**157**	*e*P	**Pn**	**20 32 38.2**	**+1.1**
BLS5				*e*S	**Sn**	**20 33 09.6**	**+0.1**
BLS5				AML	AML	20 33 22.4	
	comp=Z,19nm,0.4s						
KMY	**Karmoy**	**2.73**	**171**	*e*P	**Pn**	**20 32 36.1**	**-1.8**
KMY				*e*S	**Sn**	**20 33 07.4**	**-3.3**
KMY				AML	AML	20 33 22.8	
	comp=Z,20nm,0.3s						
STAV	**Stavanger**	**3.04**

COPN	**Copaltepe**	**2.52 110**	*e*P	Pn	20 51 26.6	+1.1
COPN			*e*S	Sn	20 51 54.3	-0.6
	comp=Z,117nm,0.3s					
TP2	**Tecpan 2**	**2.61 312**	*e*S	Sn	20 52 01.1	+4.0
APYN	**Apoyeque**	**2.72 107**	*e*P	Pn	20 51 30.4	+2.1

*ISCJB **05** 20:56:44.5±0.6, 28.1S±0.1×634E±0.1, h10km, mb4.0/12, MS3.8/4, Error ellipse: s-maj=19.3km s-min=15.0km az=67.7*
*IDC **05** 20:56:44.0±1.5, 28.17S×6331E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS3.8/4, Ms1 3.8/4, ms1mx3.5/16, Error ellipse: s-maj=58.3km s-min=27.1km az=40.0*
*NEIC **05** 20:56:46.5±0.5, 2805S×6342E, h10km, mb4.3/4, Error ellipse: s-maj=14.7km s-min=11.9km az=47.0*

ISC 05 20:56:46.5±0.6, 280S±01×634E±01, h10km, n24, σ0°66/19, mb4.0/12, MS3.8/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**22.22**	**24**	P	**P**	**21 01 44.2**	**+1.1**
LSZ	**Lusaka**	**34.95**	**284**	*e*P	**P**	**21 03 39.3**	**+0.7**
	1.5nm,0.7s,mb4.0						
COCO	**West Island**	**34.99**	**70**	P	**P**	**21 03 39.5**	**+0.5**
KMBO	**Kilima Mbogo**	**36.61**	**312**	LR	LR	21 15 55.2	
	comp=Z,57nm,19.2s,MS3.4,baz=94,slow=31						
MAW	**Mawson**	**39.61**	**180**	LR	LR	21 16 16.3	
	comp=Z,196nm,18.1s,MS4.0,baz=251,slow=30						
NWAO	**Narrogin (SRO)**	**46.26**	**110**	P	**P**	**21 05 11.2**	**-0.8**
QSPA	**South Pole Qui**	**62.13**	**180**	*e*P	**P**	**21 07 08.6**	**+0.9**
	16nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**64.55**	**100**	P	**P**	**21 07 24.1**	**+0.4**
	2.3nm,0.9s,mb4.2,baz=249,slow=6.0,SNR=9.5						
WRAB	**Tennant Creek**	**64.56**	**100**	*e*P	**P**	**21 07 24.4**	**+0.6**
	3.1nm,0.7s,mb4.5						
VNDA	**Vanda**	**64.67**	**166**	LR	LR	21 35 12.4	
	comp=Z,70nm,19.1s,MS3.9,baz=74,slow=36						
STKA	**Stephens Creek**	**66.47**	**115**	P	**P**	**21 07 35.0**	**-1.2**
	0.9nm,0.6s,mb4.0,baz=232,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**66.47**	**115**	P	**P**	**21 07 35.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**72.37**	**296**	P	**P**	**21 08 12.3**	**-0.3**
	0.9nm,1.1s,mb3.6,baz=104,slow=5.9,SNR=3.5						
MKAR	**Makanchi Array**	**76.40**	**13**	P	**P**	**21 08 35.7**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=180,slow=4.9,SNR=8.2						
MKAR	**Makanchi Array**	**76.40**	**13**	P	**P**	**21 08 35.7**	**-0.4**
AKTK	**Aktyubinsk**	**78.25**	**356**	P	**P**	**21 08 45.7**	**-0.7**
AKTO	**Aktyubinsk**	**78.25**	**356**	P	**P**	**21 08 45.7**	**-0.7**
	0.7nm,0.6s,mb3.8,baz=239,slow=4.7,SNR=3.8						
BVAR	**Borovoye Array**	**80.93**	**4**	P	**P**	**21 09 00.7**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=153,slow=6.6,SNR=4.2						
ZAL	**Zalesovo**	**83.70**	**13**	P	**P**	**21 09 15.5**	**0.0**
	1.0nm,0.9s,mb3.9,baz=290,slow=7.4,SNR=6.9						
ZAL				LR	LR	21 43 15.3	
	comp=Z,68nm,18.0s,MS4.1,baz=271,slow=33						
ZAL	**Zalesovo**	**83.70**	**13**	P	**P**	**21 09 15.5**	**0.0**
ZAL				LR	LR	21 43 15.3	
SONM	**Songino Array**	**84.82**	**27**	P	**P**	**21 09 21.1**	**-0.1**
	0.3nm,0.7s,mb3.5,baz=252,slow=4.6,SNR=3.2						
ULN	**Ulaanbaatar**	**85.12**	**28**	P	**P**	**21 09 23.2**	**+0.5**
	0.5nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**145.50**	**358**	PKPbc	PKPbc	21 16 23.7	-1.2
	2.5nm,0.8s,baz=349,slow=3.6,SNR=44						
YKA	**Yellowknife Ar**	**145.50**	**358**	PKPbc	PKPbc	21 16 23.7	-1.2

*IDC **05** 21:06:57.2±1.3, 0.90N×12356E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=146.8km s-min=24.5km az=64.0*
*ISCJB **05** 21:07:00.3±0.8, 06N±05×123E±, h33km, mb3.8/6, Error ellipse: s-maj=168.7km s-min=14.0km az=126.5*
*NEIC **05** 21:07:02.2±0.7, 064N×123.11E, h35km, mb3.9/2, Error ellipse: s-maj=147.0km s-min=13.0km az=63.0*

ISC 05 21:07:02.4±0.8, 06N±05×123E±, h35km, n7, σ0°65/7, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.23**	**152**	*e*P	**P**	**21 12 06.9**	**+0.4**
	2.5nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**23.24**	**152**	P	**P**	**21 12 06.4**	**-0.2**
	1.2nm,0.4s,mb3.6,baz=333,slow=10,SNR=25						
WB2	**Warramunga Arr**	**23.24**	**152**	*e*P	**P**	**21 12 06.4**	**-0.2**
SONM	**Songino Array**	**49.20**	**345**	P	**P**	**21 15 47.6**	**+0.5**
	0.2nm,0.4s,mb3.5,baz=164,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**58.12**	**328**	P	**P**	**21 16 52.8**	**+0.4**
	0.4nm,0.4s,mb3.8,baz=126,slow=8.3,SNR=15						
ZAL	**Zalesovo**	**61.77**	**335**	P	**P**	**21 17 15.9**	**-1.5**
	0.4nm,0.3s,mb4.0,baz=133,slow=20,SNR=3.4						
ZRNK	**Zerenda**	**68.67**	**328**	*e*P	**P**	**21 18 02.6**	**+0.4**
	0.5nm,0.4s,mb3.8						

*ISCJB **05** 21:15:57.6±0.7, 3685N×006×1272E±005, h10km, Error ellipse: s-maj=8.9km s-min=3.8km az=53.7*
*NEIC **05** 21:15:58.7, 3684N×1284E, h10km, ML3.9(ROM), After ROM.*
*ROM **05** 21:15:58.7±0.5, 3684N×1284E, h10km, Md3.2/13, Ml3.9/8, Error ellipse: s-maj=7.2km s-min=2.8km az=134.0*
*CSEM **05** 21:15:59.8±0.2, 3685N×1274E, h50km±2km, MD3.2/13, Error ellipse: s-maj=5.4km s-min=2.2km az=40.0*
*LDG **05** 21:16:03.4±0.5, 3705N×1299E, h10km, Ml3.8/4, Error ellipse: s-maj=12.5km s-min=5.1km az=21.0*

ISC 05 21:16:00.4±1.2, 3691N±006×1284E±005, h15km±6km, n32, σ0°91/43, 3C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLTB	**Caltabellotta**	**0.73**	**24**	Pg	**Pg**	**21 16 13.4**	**-1.2**
FAVR	**Favara**	**0.75**	**62**	⇑*i*Pg	**Pg**	**21 16 16.5**	**+1.5**
MFNL	**Monte Finestre**	**0.88**	**4**	Pg	**Pg**	**21 16 16.5**	**-1.0**
MCT	**Mte Cammarata**	**0.95**	**41**	Pg	**Pg**	**21 16 19.9**	**+1.0**
ERC	**Erice**	**1.14**	**350**	⇑*i*Pg	**Pn**	**21 16 21.5**	**-0.4**
ERC				Sg	**Sn**	**21 16 37.6**	**+0.4**
LVI	**Isola Levanzo**	**1.14**	**340**	⇑*i*Pg	**Pn**	**21 16 21.2**	**-0.7**
RAFF	**Raffo Rosso**	**1.25**	**75**	Pg	**Pn**	**21 16 23.4**	**0.0**
RAFF				Sg	**Sn**	**21 16 41.4**	**+1.4**
CSLB	**Castelbuono**	**1.41**	**43**	Pg	**Pn**	**21 16 25.4**	**-0.1**
	134nm,0.4s						
GIB	**Gibilmanna**	**1.43**	**41**	Pg	**Pn**	**21 16 25.9**	**+0.1**
	800nm,0.7s						
HVZN	**Vizzini**	**1.52**	**79**	Pg	**Pn**	**21 16 26.2**	**-0.9**
	2μm,0.4s						
HMDC	**Modica**	**1.55**	**88**	Pg	**Pn**	**21 16 26.3**	**-1.2**
HMDC				Sg	**Sn**	**21 16 49.0**	**+1.6**
	909nm,0.6s						
PZI	**Palazzolo**	**1.69**	**84**	Pg	**Pn**	**21 16 28.6**	**-0.8**
PZI				Sg	**Sn**	**21 16 51.0**	**+0.2**
	152nm,0.1s						
WDD	**Wield Dalam**	**1.71**	**127**	Pg	**Pn**	**21 16 29.1**	**-0.6**
WDD				Sg	**Sn**	**21 16 51.6**	**+0.3**
MNO	**Monte Soro**	**1.79**	**55**	Pg	**Pn**	**21 16 32.2**	**+1.4**
SSY	**Sortino**	**1.80**	**82**	Pg	**Pn**	**21 16 30.4**	**-0.5**
	2μm,0.5s						
HAVL	**Avola**	**1.83**	**88**	Pg	**Pn**	**21 16 30.3**	**-1.0**
HAVL				Sg	**Sn**	**21 16 53.1**	**-1.1**
	751nm,0.3s						
AGST	**Augusta-Monte**	**1.94**	**79**	Pg	**Pn**	**21 16 32.6**	**-0.2**
	174nm,0.4s						
IFIL	**Filicudi I Eol**	**2.14**	**39**	Pg	**Pn**	**21 16 34.9**	**-0.7**
	820nm,0.5s						
VPL	**Vulcano Piano**	**2.24**	**49**	Pg	**Pn**	**21 16 36.8**	**-0.2**
	430nm,0.8s						
LLI	**Lipari**	**2.26**	**47**	Pg	**Pn**	**21 16 37.0**	**-0.3**
	1μm,0.9s						
SLNA	**Salina**	**2.28**	**43**	Pg	**Pn**	**21 16 37.6**	**+0.1**
	96nm,0.3s						
PGF	**Pioggiola**	**6.36**	**333**	*e*Pn	**Pn**	**21 17 35.2**	**+1.6**
PGF				*e*Sn	**Sn**	**21 18 43.3**	**-2.6**
	28nm,0.6s						
LMR	**La Mourre**	**8.04**	**325**	*e*Pn	**Pn**	**21 17 56.4**	**-0.3**
LMR				*e*Sn	**Sn**	**21 19 22.4**	**-4.9**
	1.9nm,0.3s						
SBF	**Sospel**	**8.07**	**331**	*e*Pn	**Pn**	**21 17 57.4**	**+0.3**
SBF				*e*Sn	**Sn**	**21 19 21.9**	**-6.2**
	23nm,0.6s						
FRF	**La Foret Royal**	**8.15**	**326**	*e*Pn	**Pn**	**21 17 58.2**	**0.0**
FRF				*e*Sn	**Sn**	**21 19 25.2**	**-4.9**
MBDF	**Montbardon**	**9.06**	**331**	*e*Pn	**Pn**	**21 18 11.9**	**+1.3**
MBDF				*e*Sn	**Sn**	**21 19 47.5**	**-4.8**
	12nm,0.7s						
ORIF	**Oris-en-Rattie**	**9.57**	**329**	*e*Pn	**Pn**	**21 18 18.8**	**+1.1**
LPL	**La Plagne**	**9.75**	**334**	*e*P	**Pn**	**21 18 26.3**	**+6.2**
LASF	**Ste Croix**	**9.90**	**319**	*e*Pn	**Pn**	**21 18 22.0**	**-0.1**
HINF	**Hinteralfeld**	**11.76**	**340**	*e*Pn	**Pn**	**21 18 47.6**	**0.0**
ETSF	**Etsaut**	**11.90**	**304**	*e*Pn	**Pn**	**21 18 50.8**	**+1.3**
CDF	**Champ du Feu**	**12.20**	**342**	*e*Pn	**Pn**	**21 18 53.7**	**+0.1**

*ISCJB **05** 21:31:39.9±0.4, 6630N±003×14185W±008, h10km, mb3.7/3, Error ellipse: s-maj=4.8km s-min=4.6km az=9.1*
*IDC **05** 21:31:42.6±1.1, 6637N×142.11W, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.6/23, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=22.4km s-min=10.4km az=155.0*
*NEIC **05** 21:31:43.7, 6628N×14253W, h8km, ML3.5(AEIC), After AEIC.*
*PGC **05** 21:31:43.3, 6624N×14209W, h5km, ML3.6/2, Eastern Alaska.*

ISC 05 21:31:41.8±0.4, 6628N±003×14200W±008, h10km, n22, σ1°36/35, mb3.7/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.54**	**319**	P	**Pn**	**21 32 08.2**	**-1.1**
BM3				S	**Sn**	**21 32 28.6**	**-0.7**
DAWY	**Dawson**	**2.48**	**152**	Pn	**Pn**	**21 32 23.5**	**+1.2**
DAWY				Sn	**Sn**	**21 32 53.6**	**+1.0**
DAWY				Sg	**Sg**	**21 33 00.2**	**-1.4**
DAWY				Trac		21 33 05.3	
	comp=Z,111nm,0.3s						
IL1	**Eielson Array**	**2.54**	**236**	P	**Pn**	**21 32 22.4**	**-0.7**
ILAR	**Eielson Array**	**2.54**	**236**	Pn	**Pn**	**21 32 22.4**	**-0.7**
	2.6nm,0.3s,baz=45,slow=14,SNR=62						
ILAR				Pg	**Pg**	**21 32 30.0**	**-0.4**
	17nm,0.3s,baz=45,slow=17,SNR=44						
ILAR				Lg		21 32 57.9	
	67nm,0.3s,baz=46,slow=30,SNR=24						
COLA	**College**	**2.81**	**243**	P	**Pn**	**21 32 26.8**	**0.0**
COLD	**Coldfoot**	**3.39**	**290**	P	**Pn**	**21 32 34.7**	**-0.1**
PAX	**Paxson**	**3.64**	**206**	P	**Pn**	**21 32 39.8**	**+1.5**
INK	**Inuvik**	**3.87**	**54**	Pn	**Pn**	**21 32 42.8**	**+1.5**
	2.0nm,0.3s,baz=241,slow=17,SNR=41						
INK				Sn	**Sn**	**21 33 28.1**	**+1.3**
	3.6nm,0.3s,baz=237,slow=21,SNR=4.2						
INK				Lg		21 33 44.5	
	14nm,0.3s,baz=146,slow=11,SNR=5.8						
INK	**Inuvik**	**3.87**	**54**	Pn	**Pn**	**21 32 42.7**	**+1.4**
INK				Sn	**Sn**	**21 33 27.9**	**+1.1**
INK				Sg	**Sg**	**21 33 45.4**	**-0.6**
INK				Trac		21 33 53.6	
	comp=Z,61nm,0.5s						
MCK	**McKinley**	**3.90**	**232**	P	**Pn**	**21 32 41.5**	**-0.3**
IMA2	**Indian Mountai**	**4.75**	**273**	*e*Pn	**Pn**	**21 32 53.8**	**+0.5**
IMA2				*e*Pg	**Pg**	**21 33 07.6**	**-5.1**
IM3	**Indian Mountai**	**4.78**	**272**	P	**Pn**	**21 32 53.2**	**-0.7**
BMRM	**Bremner River**	**5.46**	**193**	P	**Pn**	**21 33 05.7**	**+2.5**
HYT	**Haines Junctio**	**5.83**	**158**	Pn	**Pn**	**21 33 09.0**	**+0.7**
HYT				Sg	**Sg**	**21 34 43.6**	**-5.4**
HYT				Trac		21 34 57.6	
	comp=Z,37nm,0.5s						
WHY	**Whitehorse**	**6.48**	**147**	Pn	**Pn**	**21 33 18.4**	**+1.2**
WHY				Sg	**Sg**	**21 35 04.5**	**-5.2**
WHY				Trac		21 35 21.5	
	comp=Z,17nm,0.7s						
PLBC	**Pleasant Camp**	**7.32**	**157**	Sg	**Sg**	**21 35 33.8**	**-2.8**
YKW3	**Yellowknife Ar**	**12.35**	**95**	P	**Pn**	**21 34 35.8**	**-1.8**
YKW3				P		21 34 35.9	
YKW3				Sn	**Sn**	**21 36 45.1**	**-10**
YKW3				Sn	**Sn**	**21 36 46.5**	**-8.7**
YKW3				Trac		21 36 54.6	
	comp=Z,1.0nm,0.3s						
YKW3				Trac		21 37 22.0	
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**12.38**	**95**	Pn	**Pn**	**21 34 36.3**	**-1.8**
	baz=295,slow=13,SNR=16						
YKA				Sn	**Sn**	**21 36 48.1**	**-8.0**
	baz=24,slow=13,SNR=5.9						
RES	**Resolute Bay**	**17.29**	**41**	P	**Pn**	**21 35 40.3**	**-3.0**
PDAR	**Pinedale Array**	**29.53**	**127**	P	**P**	**21 37 48.9**	**+2.5**
	0.9nm,0.7s,mb3.6,baz=321,slow=5.8,SNR=6.3						
NVAR	**Mina Array Bea**	**31.02**	**142**	P	**P**	**21 38 03.2**	**+3.7**
	0.6nm,0.6s,mb3.6,baz=333,slow=8.7,SNR=6.1						
FINES	**FINESS Array B**	**52.28**	**7**	P	**P**	**21 40 55.2**	**+1.9**
	1.1nm,0.9s,mb3.8,baz=338,slow=10,SNR=4.9						

*ISCJB **05** 21:46:19.8±0.8, 2036S×005×688W±0.1, h106km±12km, mb3.4/1, Error ellipse: s-maj=22.5km s-min=8.2km az=7.7*
*IDC **05** 21:46:19.3±1.5, 2035S×6899W, h102km±14km, mb3.4/3, mb1 3.5/6, mb1mx3.3/18, mbtmp3.8/6, Error ellipse: s-maj=40.1km s-min=9.7km az=98.0*
*NEIC **05** 21:46:21.5±0.8, 2034S×6880W, h87km±18km, mb3.5/1, Error ellipse: s-maj=16.4km s-min=10.3km az=101.0*

ISC 05 21:46:21.1±0.8, 2038S±005×688W±01, h98km±13km, n9, σ0°90/13, mb3.4/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**182**	P	**Pn**	**21 46 57.3**	**+0.7**
	16nm,0.3s,baz=349,slow=9.6,SNR=103						
LVC				S	**Sn**	**21 47 22.7**	**-1.0**
	14nm,0.3s,baz=352,slow=13,SNR=3.3						
LPAZ	**La Paz**	**4.12**	**9**	P	**Pn**	**21 47 22.5**	**+0.7**
	1.0nm,0.3s,baz=192,slow=9.4,SNR=22						
LPAZ				S	**Sn**	**21 48 08.2**	**-0.7**
	0.5nm,0.3s,baz=250,slow=19,SNR=4.5						
LPAZ	**La Paz**	**4.12**	**9**	P	**Pn**	**21 47 22.5**	**+0.7**
LPAZ				S	**Sn**	**21 48 08.2**	**-0.7**
ARE	**Arequipa**	**4.64**	**327**	*e*P	**Pn**	**21 47 29.0**	**+0.1**
ARE				*e*S	**Sn**	**21 48 13.0**	**-8.6**
SIV	**San Ignacio**	**8.56**	**61**	P	**Pn**	**21 48 22.3**	**+0.1**
	1.2nm,0.3s,baz=260,slow=12,SNR=18						
BDFB	**Brasilia**	**20.34**	**80**	P	**P**	**21 50 50.3**	**+0.8**
	1.7nm,0.3s,baz=264,slow=8.5,SNR=7.0						
PLCA	**Paso Flores**	**20.35**	**184**	P	**P**	**21 50 49.1**	**-0.4**
	4.3nm,1.1s,baz=24,slow=12,SNR=5.0						
PLCA	**Paso Flores**	**20.35**	**184**	P	**P**	**21 50 51.8**	**+2.2**
	1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	**P**	**21 58 01.2**	**-1.4**
	0.3nm,0.3s,mb3.4,baz=241,slow=5.4,SNR=18						
TORD				pP	pP	21 58 28.0	+0.2
	0.3nm,0.5s,baz=259,slow=6.0,SNR=2.0						

GUC 05 21:55:06.1±0.8, 2342S×6868W, h102km±10km, MD3.5, ML2.9, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.68**	**41**	⇓*i*P	Pn	21 55 24.2	+0.8
SPCH				*i* S	Sn	21 55 38.5	+1.9
SPCH				AMP		21 55 40.6	
	comp=E,781nm,0.5s						
CEN1	**Los Morros**	**1.39**	**271**	⇓*i*P	Pn	21 55 34.9	+3.7
CEN1				*i* S	Sn	21 55 56.0	+5.9
CEN1				AMP		21 56 01.0	
	comp=E,131nm,0.4s						
ANCH	**Antofagasta**	**1.61**	**260**	⇓*i*P	Pn	21 55 34.4	+0.6
ANCH				*i* S	Sn	21 55 55.3	+0.6
CPN1	**Cerro Paranal**	**1.98**	**232**	*e*P	Pn	21 55 40.3	+1.8
CPN1				*i* S	Sn	21 56 05.6	+2.5

*NEIC **05** 22:06:42.8, 3799S×17627E, h159km, MG4.0(WEL), After WEL.*

WEL 05 22:06:43.2±0.3, 3801S×17628E, h155km±2km, ML3.9/16, Error ellipse: s-maj=3.1km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.70**	**111**	PN	Pn	22 07 06.2	0.0
URZ				SN	Sn	22 07 24.2	+0.5
URZ	**Urewera**	**0.70**	**111**	P	Pn	22 07 06.3	+0.1
MWZ	**Matawai**	**1.04**	**109**	PN	Pn	22 07 08.7	0.0
MWZ	**Matawai**	**1.04**	**109**	P	Pn	22 07 09.0	+0.3
BKZ	**Black Stump Fm**	**1.17**	**172**	PN	Pn	22 07 10.1	+0.3
BKZ				SN	Sn	22 07 30.1	-0.2
BKZ	**Black Stump Fm**	**1.17**	**172**	P	Pn	22 07 10.2	+0.3
TUVZ	**Tukino**	**1.35**	**201**	PN	Pn	22 07 12.2	+0.6
TUVZ				SN	Sn	22 07 34.1	+0.7
TUVZ	**Tukino**	**1.35**	**201**	P	Pn	22 07 12.3	+0.7
WNVZ	**Wahianoa**	**1.43**	**202**	PN	Pn	22 07 12.6	+0.3
WNVZ	**Wahianoa**	**1.43**	**202**	P	Pn	22 07 12.8	+0.5
MOVZ	**Moawhango**	**1.46**	**196**	PN	Pn	22 07 12.5	-0.1
MOVZ	**Moawhango**	**1.46**	**196**	P	Pn	22 07 12.6	-0.1
KNZ	**Kokohu**	**1.49**	**133**	PN	Pn	22 07 13.1	+0.1
KNZ	**Kokohu**	**1.49**	**133**	P	Pn	22 07 13.2	+0.2
MXZ	**Matakaoa Point**	**1.67**	**75**	PN	Pn	22 07 14.9	+0.1
MXZ	**Matakaoa Point**	**1.67**	**75**	*e*P	Pn	22 07 15.2	+0.4
WAZ	**Wanganui**	**2.02**	**210**	PN	Pn	22 07 18.7	-0.1
WAZ	**Wanganui**	**2.02**	**210**	P	Pn	22 07 18.8	0.0
TSZ	**Takapari Road**	**2.07**	**187**	PN	Pn	22 07 18.5	-0.8
PXZ	**Pawanui**	**2.08**	**168**	*e*PN	Pn	22 07 19.0	-0.4
BFZ	**Birch Farm**	**2.67**	**181**	PN	Pn	22 07 25.3	-1.3
BFZ	**Birch Farm**	**2.67**	**181**	*e*P	Pn	22 07 25.3	-1.3
MRZ	**Mangatainoka R**	**2.71**	**191**	PN	Pn	22 07 25.4	-1.7
MRZ	**Mangatainoka R**	**2.71**	**191**	P	Pn	22 07 25.4	-1.7
KIW	**Kapiti Island**	**3.04**	**200**	PN	Pn	22 07 28.7	-2.5
KIW	**Kapiti Island**	**3.04**	**200**	P	Pn	22 07 29.1	-2.1
MTW	**Mount Morrison**	**3.21**	**191**	PN	Pn	22 07 30.7	-2.6
MTW				SN	Sn	22 08 07.8	-4.4
MTW	**Mount Morrison**	**3.21**	**191**	P	Pn	22 07 30.7	-2.6
MTW				S	Sn	22 08 08.9	-3.3
CAW	**Cannon Point**	**3.24**	**196**	PN	Pn	22 07 31.3	-2.4
CAW	**Cannon Point**	**3.24**	**196**	P	Pn	22 07 31.3	-2.4
DUWZ	**D'Urville Isla**	**3.34**	**212**	PN	Pn	22 07 32.6	-2.3
TRWZ	**Traveller**	**3.42**	**187**	PN	Pn	22 07 33.4	-2.7
PAWZ	**Paruwai Farm**	**3.44**	**191**	PN	Pn	22 07 33.4	-2.8
PAWZ				SN	Sn	22 08 12.5	-4.9
PAWZ	**Paruwai Farm**	**3.44**	**191**	P	Pn	22 07 33.6	-2.6
MRW	**Makara Radio**	**3.44**	**200**	PN	Pn	22 07 33.6	-2.8
MRW	**Makara Radio**	**3.44**	**200**	P	Pn	22 07 33.7	-2.6
MSWZ	**Moikau Station**	**3.50**	**193**	PN	Pn	22 07 34.0	-3.0
MSWZ				SN	Sn	22 08 13.3	-5.5
MSWZ	**Moikau Station**	**3.50**	**193**	P	Pn	22 07 34.1	-2.9
SNZO	**South Karori**	**3.52**	**200**	PN	Pn	22 07 34.3	-3.0
SNZO	**South Karori**	**3.52**	**200**	P	Pn	22 07 34.4	-2.9
TCW	**Tory Channel**	**3.56**	**205**	PN	Pn	22 07 34.9	-2.9
TCW	**Tory Channel**	**3.56**	**205**	P	Pn	22 07 35.0	-2.8
TUWZ	**Tuamarina**	**3.87**	**207**	PN	Pn	22 07 38.5	-3.2
NNZ	**Nelson**	**3.91**	**214**	PN	Pn	22 07 39.1	-3.3
NNZ				SN	Sn	22 08 24.8	-3.6
NNZ	**Nelson**	**3.91**	**214**	*e*P	Pn	22 07 39.3	-3.1
QRZ	**Quartz Range**	**4.05**	**225**	PN	Pn	22 07 40.3	-3.8
QRZ	**Quartz Range**	**4.05**	**225**	*e*P	Pn	22 07 40.5	-3.6
BSWZ	**Blackbirch Sta**	**4.14**	**206**	*e*PN	Pn	22 07 42.2	-3.1
THZ	**Tophouse**	**4.56**	**214**	PN	Pn	22 07 47.0	-3.9
THZ	**Tophouse**	**4.56**	**214**	*e*P	Pn	22 07 47.1	-3.8
KHZ	**Kahutara**	**4.88**	**205**	PN	Pn	22 07 51.4	-3.6
KHZ	**Kahutara**	**4.88**	**205**	P	Pn	22 07 51.1	-3.9
LTZ	**Lake Taylor**	**5.67**	**211**	PN	Pn	22 08 00.4	-5.0
LTZ	**Lake Taylor**	**5.67**	**211**	*e*P	Pn	22 08 00.6	-4.9
MQZ	**McQueen's Vall**	**6.32**	**205**	PN	Pn	22 08 08.5	-5.7
MQZ				SN	Sn	22 09 15.1	-10
RPZ	**Rata Peaks**	**6.94**	**213**	PN	Pn	22 08 17.5	-4.9
JCZ	**Jackson Bay**	**8.31**	**221**	*e*PN	Pn	22 08 35.3	-5.3

*NAO **05** 22:18:06.5, 2988N×7391E, h33km, mb4.5*
*IDC **05** 22:18:31.9±0.6, 3454N×7360E, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.3/23, mbtmp4.2/19, ML4.7/2, Error ellipse: s-maj=15.9km s-min=11.8km az=76.0*
*LDG **05** 22:18:33.1±0.1, 3421N×7359E, h33km, Mb4.5/14, Ms3.2/1, Error ellipse: s-maj=6.1km s-min=2.5km az=28.0*
*MOS **05** 22:18:34.4±0.9, 3448N×7355E, h28km, mb4.8/14, Error ellipse: s-maj=9.2km s-min=4.8km az=105.8*
*ISCJB **05** 22:18:35.6±0.5, 3441N±003×7375E±004, h46km±5km, mb4.3/39, Error ellipse: s-maj=5.3km s-min=4.5km az=159.5*
*NEIC **05** 22:18:35.9±0.2, 3439N×7368E, mb4.4/21, Error ellipse: s-maj=6.7km s-min=3.8km az=33.0*
*BJI **05** 22:18:35.8, 3440N×7370E, h31km, mB4.6, mb4.4, ML4.1, Ms4.1, Msz3.7*
*NNC **05** 22:18:41.8±9.3, 3478N×7291E, h38km±107km, mb4.0, mpv4.5, Error ellipse: s-maj=61.6km s-min=49.7km az=53.0*

ISC 05 22:18:36.8±0.4, 3444N±003×7370E±004, h37km±5km, h32km±4.0km: pP-P, n165, σ1°24/195, mb4.3/39, 14C-12D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.86**	**205**	P	**Pn**	**22 18 51.2**	**-1.2**
CEP	**Cherat**	**1.61**	**248**	P	**Pn**	**22 19 02.8**	**+0.1**
THW	**Thamme Wali**	**2.32**	**225**	⇑P	**Pn**	**22 19 13.9**	**+1.4**
SARP	**Sargodha**	**2.66**	**199**	P	**Pn**	**22 19 18.5**	**+1.4**
SBDP	**Sheikh Budin**	**3.23**	**229**	P	**Pn**	**22 19 26.4**	**+1.4**
DRP	**Derazinda**	**3.98**	**228**	P	**Pn**	**22 19 36.7**	**+1.

comp=Z,49nm,0.5s
KKN *e*Sn **Sn** **22 23 30.9 -5.1**
PKI Pulchoki 12.15 121 *e*Pn **Pn** **22 21 25.8 -1.5**
PKI *e*Sn **Sn** **22 23 36.4 -5.0**
comp=Z,66nm,0.5s
PKI Pulchoki 12.15 121 *e*Pn **Pn** **22 21 25.8 -1.5**
comp=Z,33nm,0.5s
PKI *e*Sn **Sn** **22 23 36.4 -5.0**
GUN Gumba 12.29 119 *e*Pn **Pn** **22 21 28.4 -0.8**
GUN *e*Sn **Sn** **22 23 38.6 -6.2**
comp=Z,82nm,0.4s
GUN Gumba 12.29 119 *e*Pn **Pn** **22 21 28.4 -0.8**
comp=Z,41nm,0.4s
GUN *e*Sn **Sn** **22 23 38.6 -6.2**
JIRN Jiri 12.65 119 *e*Pn **Pn** **22 21 32.8 -1.4**
JIRN *e*Sn **Sn** **22 23 48.5 -5.3**
comp=Z,95nm,0.4s
JIRN Jiri 12.65 119 *e*Pn **Pn** **22 21 32.8 -1.4**
comp=Z,48nm,0.4s
JIRN *e*Sn **Sn** **22 23 48.5 -5.3**
MK31 Makanchi Array 13.94 25 ⇑P **Pn** **22 21 51.5 -0.3**
comp=Z,3.9nm,0.6s,baz=206,slow=12,SNR=73
MK31 Makanchi Array 13.94 25 ⇑P **Pn** **22 21 51.5 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 13.94 25 Pn **Pn** **22 21 51.5 -0.4**
comp=Z,0.1nm,0.3s,baz=207,slow=9.0,SNR=19
LSA Lhasa 15.52 103 P **Pn** **22 22 10.4 -2.5**
LSA Lhasa 15.52 103 *e*P **Pn** **22 22 11.0 -1.9**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 15.52 103 *e*Pn **Pn** **22 22 10.9 -2.0**
comp=Z,5.4nm,0.6s
LSA *e*Sn **Sn** **22 24 56.6 -7.1**
POO Poona 15.85 179 *e*P **Pn** **22 22 19.0 +1.9**
KURK Kurchatov 16.66 11 ⇓P **Pn** **22 22 26.6 -0.8**
comp=Z,8.0nm,1.2s
HYB Hyderabad 17.50 164 *i*P **Pn** **22 22 36.0 -1.9**
HYB *e*S **S** **22 26 14.0 +15**
HYB Hyderabad 17.50 164 *e*P **Pn** **22 22 43.0 +5.1**
HYB *e*S **S** **22 25 41.0 -18**
AB31 Akbulak array 17.96 330 ⇓P **Pn** **22 22 41.2 -2.4**
comp=Z,2.1nm,0.5s
AB31 ⇓S **S** **22 25 50.3 -18**
comp=Z,2.1nm,0.7s,baz=149,slow=23,SNR=4.4
AB31 Akbulak array 17.96 330 ⇓P **Pn** **22 22 41.2 -2.4**
AB31 S **S** **22 25 50.3 -18**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 Akbulak array 17.96 330 ⇓P **Pn** **22 22 41.2 -2.4**
comp=Z,2.1nm,0.4s
AB31 S **S** **22 25 50.3 -18**
VOSK Vostochnaya 18.38 355 ⇑P **Pn** **22 22 48.2 -0.5**
comp=Z,5.6nm,0.8s
VOSK Vostochnaya 18.38 355 ⇑P **Pn** **22 22 48.2 -0.5**
VOSK pmax pmax
comp=Z,6.0nm,0.8s
VOSK Vostochnaya 18.38 355 ⇑P **Pn** **22 22 48.2 -0.5**
comp=Z,5.6nm,0.8s
BVA0 Borovoye Array 18.73 354 ⇓P **Pn** **22 22 52.6 -0.3**
comp=Z,0.9nm,0.8s,baz=159,slow=10,SNR=64
BVA0 Borovoye Array 18.73 354 ⇓P **Pn** **22 22 52.6 -0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVA0 Borovoye Array 18.73 354 ⇓P **Pn** **22 22 52.6 -0.3**
comp=Z,0.9nm,0.8s
BVAR Borovoye Array 18.73 354 P **Pn** **22 22 50.3 -2.6**
comp=Z,2.1nm,0.3s,baz=158,slow=9.2,SNR=49
BVAR S **S** **22 26 19.2 -4.3**
comp=Z,0.2nm,0.3s,baz=166,slow=5.9,SNR=2.9
BRVK Borovoye 18.77 354 *e*P **Pn** **22 22 51.9 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 18.77 354 *e*P **Pn** **22 22 51.9 -1.5**
comp=Z,4.0nm,0.7s
BRVK *e* 22 23 01.1
ZRNK Zerenda 18.80 351 ⇑P **Pn** **22 22 52.5 -1.3**
comp=Z,4.4nm,0.8s
ZRNK Zerenda 18.80 351 *e*P **Pn** **22 22 52.0 -1.8**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s
ZRNK Zerenda 18.80 351 *e*P **Pn** **22 22 52.0 -1.9**
comp=Z,7.6nm,0.9s
AKTK Aktyubinsk 19.67 329 ⇑P **Pn** **22 23 02.8 -1.4**
AKTO Aktyubinsk 19.67 329 ⇑P **Pn** **22 23 02.8 -1.4**
comp=Z,3.7nm,0.7s
AKTO Aktyubinsk 19.67 329 P **Pn** **22 23 02.8 -1.4**
comp=Z,2.7nm,0.3s,baz=134,slow=10,SNR=57
AKTO S **S** **22 26 29.7 -13**
comp=Z,0.1nm,0.3s,baz=135,slow=22,SNR=2.0
AKTO Aktyubinsk 19.67 329 P **Pn** **22 23 02.8 -1.4**
AKTO S **S** **22 26 29.7 -13**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
ZAL Zalesovo 21.00 19 P **P** **22 23 16.1 -0.9**
comp=Z,9.0nm,0.5s,mb4.4,baz=261,slow=9.3,SNR=40
GTA Gaotai 21.42 69 P **P** **22 23 23.3 +1.8**
GTA AP 22 23 28.0
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
NVS Novosibirsk 21.46 15 *i*P **P** **22 23 20.5 -1.4**
NVS *e*S **S** **22 27 05.9 -12**
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=Z,11nm,1.3s,mb4.0
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS smax
comp=N,12nm,2.1s
GNI Garni 23.67 292 P **P** **22 23 47.0 +2.0**
comp=N,6.9nm,0.8s,mb4.1,baz=178,slow=20,SNR=4.3
GNI Garni 23.67 292 P **P** **22 23 47.0 +2.0**
ARU Arti 24.31 339 *e*P **P** **22 23 51.3 +0.5**
ARU *e*PP 22 24 01.4
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
ARU Arti 24.31 339 *e*P **P** **22 23 51.3 +0.5**
comp=Z,10nm,0.6s,mb4.4
ARU *e*pP 22 24 01.4
LZH Lanzhou 24.62 77 *e*P **P** **22 23 55.5 +1.9**
LZH AP 22 24 00.2
LZH XP sP 22 24 03.1 -5.4
LZH AMB AMB
comp=Z,22nm,1.4s,mb4.5
CD2 Chengdu 25.50 90 *e*P **P** **22 24 02.4 +0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
KIV Kislovodsk 25.72 301 *e*P **P** **22 24 04.2 +0.6**
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
KIV Kislovodsk 25.72 301 *e*P **P** **22 24 04.2 +0.6**
comp=Z,2.6nm,0.7s,mb3.9
ZAK Zakamensk 26.79 45 *e*P **P** **22 24 05.2 -8.1**
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb3.7
ZAK pmax pmax
comp=Z,4.0nm,1.9s,mb3.6
SONM Songino Array 27.79 51 P **P** **22 24 24.4 +2.1**
comp=Z,2.3nm,0.8s,mb3.8,baz=256,slow=9.5,SNR=21
ULN Ulaanbaatar 28.23 52 *e*P **P** **22 24 27.9 +1.8**
MALT Malatya 28.56 288 *e*P **P** **22 24 30.1 +1.0**
MALT pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MALT Malatya 28.56 288 *e*P **P** **22 24 30.1 +1.0**
comp=Z,0.5nm,0.5s,mb3.5
BRTR Keskin Array B 32.20 291 P **P** **22 25 02.5 +1.2**
comp=Z,0.8nm,0.6s,mb3.7,baz=98,slow=8.7,SNR=4.8
OBN Obninsk 32.93 320 *e*P **P** **22 25 07.5 -0.1**
comp=Z,6.8nm,0.4s,mb4.9
AKASG Malin Array Be 35.96 311 P **P** **22 25 33.0 -0.8**
comp=Z,2.2nm,0.5s,mb4.3,baz=84,slow=7.6,SNR=19
HIA Hailar 36.76 52 P **P** **22 25 42.8 +2.1**
JOF Joensuu 38.75 330 *e*p **P** **22 25 58.1 +0.6**
FINES FINESS Array B 40.41 327 P **P** **22 26 11.0 -0.4**
comp=Z,1.1nm,0.5s,mb3.8,baz=122,slow=11,SNR=14
GVD Gavdhos 40.48 285 *e*P **P** **22 26 11.8 -0.1**
GVD *e*pP pP 22 26 21.5 -1.1
KAF Kangasniemi 40.54 328 *e*p **P** **22 26 12.0 -0.4**
PSZ Piszkesteto 41.85 306 *e*P **P** **22 26 22.6 -0.6**
YHNB Yeheng 42.27 90 *e*P **P** **22 26 28.6 +2.0**
NACB Ninganchiao 42.66 91 *e*P **P** **22 26 29.3 -0.5**
ARCES ARCESS Array B 43.88 338 P **P** **22 26 39.3 -0.4**
comp=Z,2.4nm,0.5s,mb4.2,baz=115,slow=8.6,SNR=25
YAK Yakutsk 44.40 34 *e*P **P** **22 26 44.3 +0.5**
YAK *e*PP pP 22 26 52.4 -2.1
TIP Timpagrande 45.20 293 *e*P **P** **22 26 53.2 +3.1**
GERES GERESS Array B 45.92 307 P **P** **22 26 55.7 -0.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=108,slow=4.2,SNR=4.4
TIXI Tiksi 46.88 21 *e*P **P** **22 27 02.5 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 47.34 324 P **P** **22 27 05.9 -1.1**
comp=Z,4.2nm,0.6s,mb4.5,baz=98,slow=7.9
NOA NORSAR Array B 47.34 324 P **P** **22 27 05.8 -1.2**
comp=Z,5.2nm,0.6s,mb4.6,baz=96,slow=7.6,SNR=22
NOA NORSAR Array B 47.34 324 P **P** **22 27 05.8 -1.2**
STU Stuttgart 48.89 308 *e*P **P** **22 27 19.7 +0.8**
PGF Pioggiola 50.19 300 *e*P **P** **22 27 28.2 -0.6**
comp=Z,48nm,1.1s,mb5.2
PGF Pioggiola 50.19 300 *e*P **P** **22 27 28.2 -0.6**
PGF pmax pmax
comp=Z,24nm,1.1s,mb5.1
PGF Pioggiola 50.19 300 *e*P **P** **22 27 28.2 -0.6**
comp=Z,24nm,1.1s,mb5.1
CDF Champ du Feu 50.21 307 *e*P **P** **22 27 28.4 -0.6**
HINF Hinterzarfeld 50.59 307 *e*P **P** **22 27 30.9 -0.9**
WLF Walferdange 50.73 309 *e*P **P** **22 27 33.9 +1.0**
HAU Haudompre 50.89 307 *e*P **P** **22 27 33.6 -0.5**
SBF Sospel 51.00 302 *e*P **P** **22 27 33.7 -1.2**
comp=Z,34nm,0.8s,mb5.0
SBF Sospel 51.00 302 *e*P **P** **22 27 33.7 -1.2**
SBF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SBF Sospel 51.00 302 *e*P **P** **22 27 33.7 -1.2**
comp=Z,17nm,0.8s,mb5.0
LPG La Plagne 51.11 304 *e*P **P** **22 27 35.7 -0.1**
comp=Z,17nm,0.9s,mb4.7
LPG La Plagne 51.11 304 *e*P **P** **22 27 35.7 -0.1**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LPG La Plagne 51.11 304 *e*P **P** **22 27 35.7 -0.1**
comp=Z,8.7nm,0.9s,mb4.7
LPL La Plagne 51.12 304 *e*P **P** **22 27 35.7 -0.2**
comp=Z,16nm,1.0s,mb4.6
LPL La Plagne 51.12 304 *e*P **P** **22 27 35.7 -0.2**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LPL La Plagne 51.12 304 *e*P **P** **22 27 35.7 -0.2**
comp=Z,8.3nm,1.0s,mb4.6
MBDF Montbardon 51.27 303 *e*P **P** **22 27 36.5 -0.5**
CABF La Chapelle 51.33 305 *e*P **P** **22 27 37.2 -0.2**
FRF La Foret Royal 51.63 301 *e*P **P** **22 27 38.9 -0.7**
MJAR Matsushiro Arr 51.67 68 P **P** **22 27 40.8 +0.9**
comp=Z,1.8nm,0.8s,mb4.1,baz=297,slow=10.0,SNR=4.9
BAIF Baives 51.90 310 *e*P **P** **22 27 41.3 -0.4**
comp=Z,7.1nm,0.9s,mb4.3
BAIF Baives 51.90 310 *e*P **P** **22 27 41.3 -0.4**
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BAIF Baives 51.90 310 *e*P **P** **22 27 41.3 -0.4**
comp=Z,3.5nm,0.9s,mb4.3
SMRF Simiane la Rot 52.28 302 *e*P **P** **22 27 43.5 -1.0**
LOR Lormes 52.69 307 *e*P **P** **22 27 47.1 -0.4**
SMF Signal de Mont 52.84 306 *e*P **P** **22 27 47.8 -0.8**
comp=Z,20nm,0.9s,mb4.7
SMF Signal de Mont 52.84 306 *e*P **P** **22 27 47.8 -0.8**
SMF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SMF Signal de Mont 52.84 306 *e*P **P** **22 27 47.8 -0.8**
comp=Z,10nm,0.9s,mb4.8
SSF Saint Saulge 52.97 306 *e*P **P** **22 27 48.7 -0.9**
comp=Z,5.6nm,0.9s,mb4.2
SSF Saint Saulge 52.97 306 *e*P **P** **22 27 48.7 -0.9**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
SSF Saint Saulge 52.97 306 *e*P **P** **22 27 48.7 -0.9**
comp=Z,2.8nm,0.9s,mb4.2
AVF Avril sur Loir 53.13 306 *e*P **P** **22 27 49.8 -1.0**
comp=Z,11nm,0.8s,mb4.5
AVF Avril sur Loir 53.13 306 *e*P **P** **22 27 49.8 -1.0**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 53.13 306 *e*P **P** **22 27 49.8 -1.0**
comp=Z,5.7nm,0.8s,mb4.5
TCF Toulx Ste Croi 54.02 306 *e*P **P** **22 27 56.7 -0.6**
CAF Calviac 54.47 304 *e*P **P** **22 28 00.2 -0.4**
LDF La Druitiere 54.98 309 *e*P **P** **22 28 03.9 -0.4**
comp=Z,6.3nm,0.7s,mb4.5
LDF La Druitiere 54.98 309 *e*P **P** **22 28 03.9 -0.4**
LDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LDF La Druitiere 54.98 309 *e*P **P** **22 28 03.9 -0.4**
comp=Z,3.2nm,0.7s,mb4.5
FLN La Foliniere 55.17 309 *e*P **P** **22 28 05.0 -0.6**
ETSF Etsaut 56.87 302 *e*P **P** **22 28 17.6 -0.2**
comp=Z,8.4nm,0.6s,mb4.7
ETSF Etsaut 56.87 302 *e*P **P** **22 28 17.6 -0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETSF Etsaut 56.87 302 *e*P **P** **22 28 17.6 -0.2**
comp=Z,4.2nm,0.6s,mb4.7
ROSF Rostrenen 57.07 309 *e*P **P** **22 28 18.8 -0.4**
QUIF Quistinic 57.12 309 *e*P **P** **22 28 19.1 -0.5**
ESDC Sonseca Array 60.38 300 P **P** **22 28 42.1 -0.1**
comp=Z,0.6nm,0.6s,mb3.8,baz=54,slow=8.0,SNR=4.3
TORD Torodi Ar. Bea 67.92 271 P **P** **22 29 31.4 -0.3**
comp=Z,2.6nm,0.5s,mb4.5,baz=45,slow=5.8,SNR=52
IMA2 Indian Mountai 73.40 18 *e*P **P** **22 30 05.7 +0.7**
IMA2 *e* 22 30 10.7
COLA College 75.82 17 *e*P **P** **22 30 19.5 +0.4**
COLA *e* pP 22 30 31.8 +1.4
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 75.82 17 *e*P **P** **22 30 19.5 +0.5**
comp=Z,6.0nm,0.8s,mb4.6
COLA *e* pP 22 30 31.8 +1.3
ILAR Eielson Array 76.13 17 P **P** **22 30 20.7 -0.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=300,slow=5.0,SNR=30
BOSA Boshof 77.66 222 P **P** **22 30 29.5 +0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=133,slow=11,SNR=5.3
NWAO Narrogin (SRO) 78.50 144 *e*P **P** **22 30 34.8 +0.7**
NWAO *e* 22 30 42.5
WRA Warramunga Arr 79.02 123 P **P** **22 30 38.4 +1.4**
comp=Z,2.9nm,0.5s,mb4.5,baz=323,slow=5.3,SNR=64
WRAB Tennant Creek 79.03 123 *e*P **P** **22 30 38.6 +1.6**
WRAB *e* pP 22 30 46.6 -1.8
WRAB pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
WRAB Tennant Creek 79.03 123 *e*P **P** **22 30 38.6 +1.6**
comp=Z,5.8nm,0.4s,mb4.9
WRAB *e*PcP PcP 22 30 46.6 +1.1
WB2 Warramunga Arr 79.03 123 ⇑*i*P **P** **22 30 38.4 +1.4**
ASAR Alice Springs 81.26 126 P **P** **22 30 50.5 +1.4**
comp=Z,3.4nm,0.7s,mb4.4,baz=319,slow=5.5,SNR=36
YKA Yellowknife Ar 83.17 4 P **P** **22 30 59.3 +0.3**
comp=Z,2.4nm,0.5s,mb4.5,baz=347,slow=5.2,SNR=87
CTAO Charters Tower 87.67 116 *e*P **P** **22 31 22.9 +1.5**
CTAO *e*PP pP 22 31 32.1 -0.9
PLCA Paso Flores 151.12 247 PKPbc PKPbc 22 38 26.0 0.0
comp=Z,1.0nm,0.7s,baz=203,slow=23,SNR=3.2
PLCA Paso Flores 151.12 247 PKIKP PKPbc 22 38 26.0 +0.1
PLCA pmax pmax
comp=Z,1.0nm,0.7s

IDC 05 22:41:24.9±52.0, 1635S×17153W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/17, mbtmp4.5/3, Error ellipse: s-maj=1012.0km s-min=170.8km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.14**	**241**	*e*P	P	22 49 43.4	+0.2
1.8nm,0.5s							
STKA	**Stephens Creek**	**45.14**	**241**	P	P	22 49 43.4	+0.2
2.2nm,0.5s,baz=94,slow=9.3,SNR=12							
WB2	**Warramunga Arr**	**51.38**	**257**	*e*P	P	22 50 31.2	-0.1
WRA	**Warramunga Arr**	**51.39**	**257**	P	P	22 50 31.4	0.0
1.6nm,0.5s,baz=96,slow=6.9,SNR=47							
ASAR	**Alice Springs**	**51.54**	**253**	P	P	22 50 33.5	+0.9
14nm,0.6s,baz=88,slow=8.4,SNR=138							
ASPA	**Alice Springs**	**51.54**	**253**	*e*P	P	22 50 33.4	+0.8

*ISCJB **05** 22:47:43.1±0.5, 6628N±004×14201W±008, h10km, mb3.3/1, Error ellipse: s-maj=5.6km s-min=4.8km az=12.7*
*IDC **05** 22:47:43.9±2.0, 6668N×14264W, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.4/23, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=44.2km s-min=11.4km az=152.0*
*PGC **05** 22:47:45.7, 6630N×142.11W, h1km, ML3.3/2, Eastern Alaska.*
*NEIC **05** 22:47:48.2, 6631N×142.77W, h23km, ML3.4(AEIC), After AEIC.*

ISC 05 22:47:44.3±0.5, 6631N±003×14208W±008, h10km, n19, σ1§21/32, mb3.3/1, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.50**	**319**	P	**Pn**	**22 48 10.7**	**-0.5**
DAWY	**Dawson**	**2.52**	**152**	Pn	**Pn**	**22 48 26.6**	**+1.3**
DAWY				Sn	**Sn**	**22 48 57.4**	**+1.4**
DAWY				Sg	**Sg**	**22 49 04.0**	**-1.3**
DAWY				Trac		22 49 07.7	
comp=Z,52nm,0.3s							
IL1	**Eielson Array**	**2.53**	**235**	P	**Pn**	**22 48 24.9**	**-0.5**
ILAR	**Eielson Array**	**2.53**	**235**	Pn	**Pn**	**22 48 24.9**	**-0.5**
3.6nm,0.3s,baz=44,slow=14,SNR=66							
ILAR				Pg	**Pg**	**22 48 31.3**	**-1.4**
11nm,0.3s,baz=48,slow=17,SNR=58							
ILAR				Lg		22 49 00.4	
88nm,0.3s,baz=47,slow=30,SNR=36							
COLA	**College**	**2.80**	**242**	P	**Pn**	**22 48 28.7**	**-0.4**
COLD	**Coldfoot**	**3.35**	**290**	P	**Pn**	**22 48 37.0**	**+0.3**
MENT	**Mentasta**	**3.46**	**193**	P	**Pn**	**22 48 39.3**	**+1.1**
PAX	**Paxson**	**3.65**	**205**	P	**Pn**	**22 48 42.5**	**+1.7**
PAX				S	**Sn**	**22 49 24.0**	**-0.1**
INK	**Inuvik**	**3.88**	**55**	Pn	**Pn**	**22 48 45.1**	**+1.2**
1.1nm,0.3s,baz=234,slow=16,SNR=32							
INK				Sn	**Sn**	**22 49 29.9**	**+0.3**
3.2nm,0.3s,baz=279,slow=19,SNR=4.9							
INK				Lg		22 49 45.6	
6.3nm,0.3s,baz=131,slow=9.6,SNR=4.7							
INK	**Inuvik**	**3.88**	**55**	Pn	**Pn**	**22 48 45.7**	**+1.7**
INK				Sn	**Sn**	**22 49 30.8**	**+1.2**
INK				Sg	**Sg**	**22 49 46.7**	**-2.1**
INK				Trac		22 49 53.7	
comp=Z,46nm,0.6s							
MCK	**McKinley**	**3.89**	**232**	P	**Pn**	**22 48 44.0**	**-0.1**
IMA2	**Indian Mountai**	**4.71**	**272**	*e*Pn	**Pn**	**22 48 55.5**	**+0.1**
IMA2				*e*Sn	**Sn**	**22 49 54.4**	**+4.3**
IM3	**Indian Mountai**	**4.75**	**271**	P	**Pn**	**22 48 54.8**	**-1.1**
HYT	**Haines Junctio**	**5.87**	**158**	Pn	**Pn**	**22 49 13.2**	**+1.9**
HYT				Sg	**Sg**	**22 50 49.0**	**-3.8**
HYT				Trac		22 50 57.9	
comp=Z,20nm,0.6s							
WHY	**Whitehorse**	**6.52**	**147**	Pn	**Pn**	**22 49 21.0**	**+0.8**
WHY				Sg	**Sg**	**22 51 10.1**	**-3.4**
WHY				Trac		22 51 30.7	
comp=Z,9.0nm,0.7s							
YKW3	**Yellowknife Ar**	**12.38**	**95**	P	**Pn**	**22 50 39.9**	**-0.6**
YKW3				P		22 50 40.7	
YKW3				Sn	**Sn**	**22 52 49.2**	**-9.3**
YKW3				Trac		22 54 26.8	
comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**12.42**	**95**	Pn	**Pn**	**22 50 41.1**	**+0.1**
baz=300,slow=13,SNR=14							
YKA				Sn	**Sn**	**22 52 50.6**	**-8.9**
baz=298,slow=23,SNR=7.2							
YKA				Lg		22 54 20.1	
baz=304,slow=29,SNR=2.5							
YKA	**Yellowknife Ar**	**12.42**	**95**	Pn	**Pn**	**22 50 41.1**	**+0.1**
YKA				Sn	**Sn**	**22 52 50.6**	**-8.9**
YKA				Lg		22 54 20.1	
NVAR	**Mina Array Bea**	**31.06**	**142**	P	**P**	**22 54 07.2**	**+4.8**
0.3nm,0.6s,mb3.3,baz=324,slow=7.4,SNR=3.7							

*ISCJB **05** 22:51:15.9±2.2, 3447N±005×6954E±008, h25km±16km, mb3.8/10, MS3.0/1, Error ellipse: s-maj=12.9km s-min=6.2km az=120.3*
*IDC **05** 22:51:15.6±1.0, 3472N×6960E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.7/24, mbtmp3.6/12, ML3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/19, Error ellipse: s-maj=24.1km s-min=16.8km az=61.0*
*MOS **05** 22:51:18.2±1.3, 3461N×6976E, h33km, mb3.7/1, Error ellipse: s-maj=16.3km s-min=9.2km az=95.0*
*NEIC **05** 22:51:20.5±0.7, 3466N×6984E, h35km, mb3.7/4, Error ellipse: s-maj=16.1km s-min=6.3km az=48.0*
*NNC **05** 22:51:25.1±6.6, 3485N×6928E, h79km±59km, mb3.4, mpv4.0, Error ellipse: s-maj=47.8km s-min=40.5km az=4.0*

ISC 05 22:51:19.8±1.4, 3456N±007×697E±01, h39km±13km, n48, σ1§40/53, mb3.8/10, MS3.0/1, 5C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**8.19**	**21**	P	**Pn**	**22 53 19.5**	**+3.4**
SNR=13							
UCH	**Uchtor**	**8.54**	**25**	P	**Pn**	**22 53 24.5**	**+3.7**
SNR=7.4							
KK31	**Karatay Array**	**8.56**	**4**	P	**Pn**	**22 53 22.5**	**+1.4**
3.1nm,0.4s,baz=179,slow=13,SNR=72							
KK31				⇑S	**Sn**	**22 54 55.5**	**-0.9**
3.6nm,0.5s,baz=184,slow=21,SNR=3.2							
EKS2	**Erkin-Say**	**8.70**	**20**	P	**Pn**	**22 53 26.3**	**+3.3**
SNR=9.5							
AAK	**Ala-Archa**	**8.89**	**24**	P	**Pn**	**22 53 28.7**	**+3.0**
SNR=5.8							
CHMS	**Chumysh**	**9.30**	**24**	P	**Pn**	**22 53 36.2**	**+4.9**
SNR=8.6							
USP	**Ospenovka**	**9.47**	**22**	P	**Pn**	**22 53 37.4**	**+3.8**
SNR=7.6							
TKM2	**Tokmak 2**	**9.54**	**27**	⇑P	**Pn**	**22 53 38.5**	**+4.0**
4.6nm,0.9s							
TKM2				⇑S	**Sn**	**22 55 24.8**	**+4.5**
8.7nm,0.9s							
KOLN	**Koldanda**	**13.69**	**116**	*e*P	**Pn**	**22 54 31.9**	**+0.7**
7.9nm,0.7s							
KOLN				*e*S	**Sn**	**22 56 59.5**	**-2.4**
GKN	**Gorkha**	**14.34**	**113**	*e*P	**Pn**	**22 54 40.6**	**+0.4**
6.7nm,0.4s							
GKN				*e*S	**Sn**	**22 57 13.6**	**-4.3**
DMN	**Daman**	**14.90**	**114**	*e*P	**Pn**	**22 54 46.7**	**-0.9**
KKN	**Kakani**	**14.94**	**113**	*e*P	**Pn**	**22 54 46.7**	**-1.5**
9.8nm,0.6s							
KKN	**Kakani**	**14.94**	**113**	*e*P	**Pn**	**22 54 46.7**	**-1.5**
KKN				pmax	pmax		
comp=Z,5.0nm,0.6s							
PKI	**Pulchoki**	**15.15**	**113**	*e*P	**Pn**	**22 54 50.1**	**-0.8**
comp=Z,11nm,0.6s							
PKI	**Pulchoki**	**15.15**	**113**	*e*P	**Pn**	**22 54 50.1**	**-0.8**
PKI				pmax	pmax		
comp=Z,5.0nm,0.6s							
GUN	**Gumba**	**15.34**	**111**	*e*P	**Pn**	**22 54 54.2**	**+0.8**
MK31	**Makanchi Array**	**15.49**	**34**	P	**Pn**	**22 54 58.6**	**+3.2**
comp=Z,3.3nm,1.1s,baz=210,slow=7.5,SNR=17							
MKAR	**Makanchi Array**	**15.49**	**34**	Pn	**Pn**	**22 54 54.3**	**-1.0**
comp=Z,0.0nm,0.3s,baz=211,slow=8.4,SNR=3.4							
JIRN	**Jiri**	**15.70**	**111**	*e*P	**Pn**	**22 54 58.5**	**+0.4**
comp=Z,10nm,0.5s							
AB31	**Akbulak array**	**16.36**	**337**	P	**Pn**	**22 55 04.0**	**-2.5**
comp=Z,1.4nm,0.4s,baz=164,slow=10,SNR=54							
AB31				⇑S	Sx	22 57 57.3	
comp=Z,1.0nm,0.7s							
AKTK	**Aktyubinsk**	**18.02**	**335**	P	**Pn**	**22 55 25.8**	**-1.4**
AKTK				S	**S**	**22 58 43.8**	**-8.1**
AKTO	**Aktyubinsk**	**18.02**	**335**	⇑P	**Pn**	**22 55 24.6**	**-2.5**
comp=Z,0.5nm,0.8s							
AKTO	**Aktyubinsk**	**18.02**	**335**	P	**Pn**	**22 55 25.8**	**-1.4**
comp=Z,0.1nm,0.3s,baz=155,slow=17,SNR=3.8							
AKTO				S	**S**	**22 58 43.8**	**-8.1**
comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=3.1							
VOSK	**Vostochnaya**	**18.18**	**3**	⇓P	**Pn**	**22 55 27.2**	**-2.0**
comp=Z,3.3nm,1.2s							
ZRNK	**Zerenda**	**18.39**	**359**	⇓P	**Pn**	**22 55 31.6**	**-0.1**
comp=Z,1.9nm,0.8s							
ZRNK	**Zerenda**	**18.39**	**359**	*e*P	**Pn**	**22 55 32.7**	**+1.0**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.6s							
ZRNK	**Zerenda**	**18.39**	**359**	*e*P	**Pn**	**22 55 32.7**	**+1.0**
comp=Z,1.9nm,0.6s							
BVA0	**Borovoye Array**	**18.47**	**1**	⇓P	**Pn**	**22 55 31.8**	**-0.8**
comp=Z,1.3nm,1.8s,baz=157,slow=7.9,SNR=4.4							
BVAR	**Borovoye Array**	**18.47**	**1**	P	**Pn**	**22 55 31.8**	**-0.8**
comp=Z,0.2nm,0.3s,baz=166,slow=9.1,SNR=8.0							
BRVK	**Borovoye**	**18.50**	**1**	*e*P	**Pn**	**22 55 32.4**	**-0.6**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**18.50**	**1**	*e*P	**Pn**	**22 55 32.4**	**-0.6**
comp=Z,1.2nm,0.4s							
ZAL	**Zalesovo**	**22.10**	**24**	P	**P**	**22 56 10.3**	**-1.3**
comp=Z,1.5nm,0.3s,mb3.9,baz=260,slow=9.7,SNR=5.6							

ZAL LR LR 23 05 45.9
comp=Z,58nm,18.2s,MS3.0,baz=189,slow=40
ZAL Zalesovo 22.10 24 P **P 22 56 10.3 -1.3**
ZAL LR LR 23 05 45.9
ARU Arti 23.17 344 *eP* **P 22 56 23.6 +0.7**
SONM Songino Array 30.33 53 P **P 22 57 28.5 +0.9**
comp=Z,0.3nm,0.7s,mb3.1,baz=250,slow=9.8,SNR=4.4
FINES FINESS Array B 38.53 328 P **P 22 58 39.3 +0.8**
comp=Z,1.6nm,1.0s,mb3.7,baz=90,slow=9.7,SNR=2.7
HIA Hailar 39.30 52 *eP* **P 22 58 45.8 +0.9**
ARCES ARCESS Array B 42.55 339 P **P 22 59 11.8 +0.2**
comp=Z,2.8nm,0.8s,mb4.0,baz=124,slow=8.7,SNR=7.7
ARCES ARCESS Array B 42.55 339 P **P 22 59 11.8 +0.2**
NOA NORSAR Array B 45.31 324 P **P 22 59 33.5 -0.3**
comp=Z,0.5nm,0.6s,mb3.5,baz=100,slow=7.9,SNR=2.9
YAK Yakutsk 46.16 34 *eP* **P 22 59 38.7 -1.8**
comp=Z,12nm,0.4s,mb5.2
TORD Torodi Ar. Bea 64.61 269 P **P 23 01 54.1 +0.9**
comp=Z,0.4nm,0.6s,mb3.6,baz=52,slow=4.9,SNR=5.2
INK Inuvik 75.99 9 P **P 23 03 03.4 +0.6**
comp=Z,0.4nm,0.5s,mb3.6,baz=350,slow=3.6
YKA Yellowknife Ar 83.23 2 P **P 23 03 42.4 +0.4**
comp=Z,0.6nm,0.7s,mb3.8,baz=349,slow=5.3,SNR=20
YKA Yellowknife Ar 83.23 2 P **P 23 03 42.4 +0.4**
ASAR Alice Springs 84.04 124 P **P 23 03 47.5 +1.2**
comp=Z,0.5nm,0.8s,mb3.7,baz=288,slow=4.0,SNR=4.1
CTAO Charters Tower 90.71 114 P **P 23 04 21.6 +3.1**
PLCA Paso Flores 148.13 247 PKPbc PKPbc 23 11 03.4 +2.1
comp=Z,1.0nm,0.6s,baz=278,slow=15,SNR=3.1

*ISCJB **05** 22:54:20.8±0.3, 4563N±001×690E±003, h11km, Error ellipse: s-maj=2.9km s-min=2.0km az=32.9*
*ROM **05** 22:54:21.6±0.3, 4563N×696E, h11km±3km, Md1.8/4, Ml1.7/2, Error ellipse: s-maj=4.9km s-min=4.4km az=143.0*
*LDG **05** 22:54:21.7±0.1, 4560N×702E, h2km, Md2.3/2, Ml2.2/12, Error ellipse: s-maj=1.1km s-min=0.6km az=103.0*
*ZUR **05** 22:54:22.4, 4564N×696E, h11km±6km, ML1.5/6*
*STR **05** 22:54:22.7±0.9, 4558N×691E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 05 22:54:21.4±0.3, 4561N±001×696E±003, h13km±3km, n37, σ0§68/59, 4C-2D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.18**	**23**	Pg	**Pg**	**22 54 25.7**	**+0.2**
MRGE				Sg	**Sg**	**22 54 28.4**	**+0.1**
	321nm,0.1s						
LPG	**La Plagne**	**0.18**	**234**	*e*Pg	**Pg**	**22 54 26.3**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 54 28.3**	**-0.2**
	29nm,0.2s						
LPL	**La Plagne**	**0.19**	**241**	*e*Pg	**Pg**	**22 54 26.3**	**+0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 54 28.7**	**+0.2**
	39nm,0.3s						
RSL	**Roselend**	**0.25**	**289**	Pg	**Pg**	**22 54 27.2**	**+0.5**
RSL				Sg	**Sg**	**22 54 30.8**	**+0.5**
EMV	**Vieux Emosson**	**0.46**	**354**	⇑*i*Pg	**Pg**	**22 54 30.9**	**+0.4**
EMV				Sg	**Sg**	**22 54 36.6**	**0.0**
EMV	**Vieux Emosson**	**0.46**	**354**	⇑*i*Pg	**Pg**	**22 54 30.9**	**+0.4**
	80nm,0.9s						
EMV				*e*Sg	**Sg**	**22 54 36.5**	**-0.1**
	80nm,0.9s						
SALAN	**Lac Salanfe**	**0.54**	**1**	*i* Sg	**Pg**	**22 54 32.3**	**+0.4**
	27nm,0.2s						
SALAN	**Lac Salanfe**	**0.54**	**1**	⇑*i*Pg	**Sg**	**22 54 39.6**	**+0.5**
	27nm,0.2s						
DIX	**Grande Dixence**	**0.57**	**33**	⇓*i*Pg	**Pg**	**22 54 32.8**	**+0.3**
	76nm,0.3s						
DIX				*e*Sg	**Sg**	**22 54 40.6**	**+0.6**
	76nm,0.3s						
BNI	**Bardonecchia**	**0.59**	**200**	Pg	**Pg**	**22 54 33.6**	**+0.7**
BNI				Sg	**Sg**	**22 54 41.6**	**+0.9**
	107nm,2.3s						
GRYON	**Gryon**	**0.65**	**9**	⇓*i*Pg	**Pg**	**22 54 34.5**	**+0.4**
	8.9nm,0.1s						
ORO	**Oropa**	**0.71**	**88**	Pg	**Pg**	**22 54 36.0**	**+0.7**
ORO				Sg	**Sg**	**22 54 44.6**	**-0.1**
	10.0nm,0.2s						
AIGLE	**Aigle**	**0.73**	**359**	⇑*i*Pg	**Pg**	**22 54 36.0**	**+0.3**
	40nm,0.4s						
AIGLE				*e*Sg	**Sg**	**22 54 45.2**	**-0.1**
	40nm,0.4s						
OG22	**Abries**	**0.78**	**181**	Pg	**Pg**	**22 54 37.2**	**+0.6**
OG22				Sg	**Sg**	**22 54 47.3**	**+0.4**
MMK	**Mattmark**	**0.83**	**57**	*e*P	**Pg**	**22 54 37.3**	**-0.2**
	13nm,1.2s						
MBDF	**Montbardon**	**0.89**	**189**	*e*Pg	**Pg**	**22 54 38.4**	**-0.2**
	SNR=1.0						
MBDF	**Montbardon**	**0.89**	**189**	*e*Pn	**Pn**	**22 54 40.1**	**+0.5**
MBDF				*e*Sg	**Sg**	**22 54 49.0**	**-1.3**
	12nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.03**	**228**	*e*Pg	**Pg**	**22 54 41.4**	**+0.1**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.03**	**228**	*e*Pn	**Pn**	**22 54 42.0**	**+0.4**
ORIF				*e*Sg	**Sg**	**22 54 55.3**	**+0.6**
	5.4nm,0.3s,SNR=1.0						
OG05	**Jujurieux**	**1.14**	**293**	Pg	**Pg**	**22 54 44.3**	**+1.0**
CABF	**La Chapelle**	**1.18**	**329**	*e*Pg	**Pg**	**22 54 44.3**	**+0.3**
CABF	**La Chapelle**	**1.18**	**329**	*e*P	**Pn**	**22 54 45.4**	**+1.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 55 00.0**	**+0.7**
	2.5nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.78**	**169**	*e*Sg	**Sg**	**22 55 17.2**	**-1.3**
	13nm,0.4s						
VIVF	**Saint-Julien-l**	**1.78**	**246**	*e*Pg	**Pg**	**22 54 55.3**	**-0.3**
VIVF				*e*Sg	**Sg**	**22 55 19.0**	**+0.2**
	2.1nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**2.06**	**186**	*e*Pg	**Pg**	**22 54 59.8**	**-1.1**
FRF				*e*Sg	**Sg**	**22 55 26.2**	**-1.4**
	1.7nm,0.3s						
HINF	**Hinteralfeld**	**2.21**	**358**	*e*Pg	**Pg**	**22 55 02.7**	**-1.1**
HINF				*e*Sg	**Sg**	**22 55 31.7**	**-0.8**
	2.4nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.41**	**297**	*e*Pn	**Pn**	**22 55 00.7**	**+0.2**
SMF	**Signal de Mont**	**2.41**	**297**	*e*Pg	**Pg**	**22 55 07.1**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 55 38.7**	**-0.1**
	1.5nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**2.44**	**350**	*e*Pn	**Pn**	**22 55 00.9**	**0.0**
HAU	**Haudompre**	**2.44**	**350**	*e*Pg	**Pg**	**22 55 07.2**	**-0.9**
HAU				*e*Sg	**Sg**	**22 55 38.8**	**-0.9**
	2.8nm,0.3s						
LOR	**Lormes**	**2.71**	**309**	*e*Pg	**Pg**	**22 55 12.8**	**-0.6**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**22 55 47.8**	**-0.8**
	1.7nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.77**	**297**	*e*Pn	**Pn**	**22 55 06.0**	**+0.5**
AVF	**Avril sur Loir**	**2.77**	**297**	*e*Pg	**Pg**	**22 55 14.1**	**-0.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 55 50.1**	**-0.4**
	0.4nm,0.2s						
CDF	**Champ du Feu**	**2.81**	**4**	*e*Pn	**Pn**	**22 55 06.2**	**+0.1**
	SNR=1.0						
CDF	**Champ du Feu**	**2.81**	**4**	*e*Pg	**Pg**	**22 55 13.9**	**-1.5**
BGF	**Bois d'Agland**	**3.02**	**290**	*e*Pn	**Pn**	**22 55 09.2**	**+0.3**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.02**	**290**	*e*Pg	**Pg**	**22 55 18.4**	**-0.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 55 57.7**	**-0.7**
	2.5nm,0.3s						

*IDC **05** 22:58:02.6±0.6, 2637N×14159E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/24, mbtmp4.1/13, Error ellipse: s-maj=23.7km s-min=13.9km az=95.0*
*NEIC **05** 22:58:05.3±0.5, 2634N×14173E, h20km, mb4.2/5, Error ellipse: s-maj=21.5km s-min=7.9km az=79.0*
*MOS **05** 22:58:05.9±0.8, 2639N×14152E, h33km, mb4.4/5, Error ellipse: s-maj=27.5km s-min=12.2km az=105.1*
*ISCJB **05** 22:58:07.2±1.2, 2635N±006×1417E±01, h47km±13km, mb4.1/19, Error ellipse: s-maj=19.0km s-min=8.3km az=149.0*
*JMA **05** 22:58:09.6±0.1, 2643N×14201E, h56km, M4.4*
ISC 05 22:58:08.9±1.0, 2641N±006×1418E±01, h48km±10km, n37, σ0§88/43, mb4.1/19, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.41**	**58**	P	**Pn**	**22 58 18.9**	**0.0**
JHHJ				S	**Sn**	**22 58 25.4**	**-0.7**
CBIJ	**Chichi jima**	**0.77**	**27**	P	**Pn**	**22 58 23.3**	**-0.1**
CBIJ				*e*S	**Sn**	**22 58 34.0**	**0.0**
CBIJ	**Chichi jima**	**0.77**	**27**	Pn	**Pn**	**22 58 23.4**	**0.0**
	148nm,0.3s,baz=133,slow=4.8,SNR=58						
CBIJ				Sn	**Sn**	**22 58 33.8**	**-0.2**
	427nm,0.3s,baz=287,slow=19,SNR=38						
JOD2	**Odawara 2**	**9.12**	**346**	P	**Pn**	**23 00 22.6**	**+4.7**
JHU	**Hanno**	**9.65**	**348**	P	**Pn**	**23 00 28.0**	**+2.8**
JHU				*e*S	**Sn**	**23 02 16.0**	**+3.8**
JRY	**Ryogami san**	**9.89**	**346**	P	**Pn**	**23 00 31.5**	**+3.1**
JAG	**Ashikaga**	**10.18**	**349**	P	**Pn**	**23 00 33.6**	**+1.2**
JAG				*e*S	**Sn**	**23 02 24.1**	**-1.0**
JHO	**Hitachi**	**10.22**	**354**	P	**Pn**	**23 00 31.8**	**-1.1**
JHO				*e*S	**Sn**	**23 02 21.5**	**-4.6**
GUMO	**Guam**	**13.08**	**167**	*e*P	**Pn**	**23 01 06.6**	**-5.4**
ULN	**Ulaanbaatar**	**34.58**	**317**	*e*P	**P**	**23 04 52.9**	**-0.2**
	0.3nm,0.4s,mb3.6						
SONM	**Songino Array**	**34.97**	**317**	P	**P**	**23 04 56.8**	**+0.3**
	0.2nm,0.3s,mb3.5,baz=128,slow=8.5,SNR=9.6						
CTA	**Charters Tower**	**46.42**	**174**	P	**P**	**23 06 31.6**	**+0.8**
	2.1nm,0.6s,mb4.2,baz=344,slow=19,SNR=2.6						
WRAB	**Tennant Creek**	**46.63**	**190**	*e*P	**P**	**23 06 33.5**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
WRAB	**Tennant Creek**	**46.63**	**190**	*e*P	**P**	**23 06 33.5**	**+1.0**
	comp=Z,6.9nm,0.4s,mb4.9						
WB2	**Warramunga Arr**	**46.64**	**190**	⇑*i*P	**P**	**23 06 33.1**	**+0.6**
WRA	**Warramunga Arr**	**46.64**	**190**	P	**P**	**23 06 33.0**	**+0.5**
	comp=Z,5.0nm,0.5s,mb4.7,baz=12,slow=8.8,SNR=54						
ASAR	**Alice Springs**	**50.37**	**189**	P	**P**	**23 07 01.2**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=7.0,slow=6.4,SNR=13						
MKAR	**Makanchi Array**	**50.64**	**310**	P	**P**	**23 07 02.4**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=86,slow=10,SNR=16						
MBWA	**Marble Bar**	**51.90**	**206**	*e*P	**P**	**23 07 11.6**	**-1.1**
STKA	**Stephens Creek**	**57.96**	**180**	P	**P**	**23 07 54.7**	**-1.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=339,slow=19,SNR=5.0						
STKA	**Stephens Creek**	**57.96**	**180**	P	**P**	**23 07 54.7**	**-1.7**
BVAR	**Borovoye Array**	**58.31**	**318**	P	**P**	**23 07 58.1**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.2,baz=92,slow=7.2,SNR=30						
BRVK	**Borovoye**	**58.37**	**318**	*e*P	**P**	**23 07 58.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**58.37**	**318**	*e*P	**P**	**23 07 58.7**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**59.15**	**318**	*e*P	**P**	**23 08 04.0**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ZRNK	**Zerenda**	**59.15**	**318**	*e*P	**P**	**23 08 04.0**	**-0.7**
	comp=Z,1.0nm,0.3s,mb4.3						
NWAO	**Narrogin (SRO)**	**63.47**	**203**	P	**P**	**23 08 33.7**	**-0.2**
INK	**Inuvik**	**63.79**	**24**	P	**P**	**23 08 36.5**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.3,baz=288,slow=6.6,SNR=7.3						
YKA	**Yellowknife Ar**	**72.91**	**28**	P	**P**	**23 09 33.4**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=295,slow=6.3,SNR=16						
ARCES	**ARCESS Array B**	**74.07**	**341**	P	**P**	**23 09 40.7**	**+0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=70,slow=8.3,SNR=9.3						
ARCES	**ARCESS Array B**	**74.07**	**341**	P	**P**	**23 09 40.7**	**+0.8**
JOF	**Joensuu**	**75.54**	**334**	*e*p	**P**	**23 09 48.7**	**+0.3**
	comp=Z,0.5nm,0.3s,mb3.9						
KAF	**Kangasniemi**	**77.94**	**334**	*e*p	**P**	**23 10 01.5**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.2,baz=55,slow=5.2						
KAF	**Kangasniemi**	**77.94**	**334**	*e*P	**P**	**23 10 01.5**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**78.41**	**334**	P	**P**	**23 10 04.3**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.4,baz=70,slow=5.2,SNR=37						
NOA	**NORSAR Array B**	**84.11**	**338**	P	**P**	**23 10 34.6**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=44,slow=4.9,SNR=2.6						
FRB	**Frobisher Bay**	**87.02**	**13**	P	**P**	**23 10 49.8**	**+0.6**
	comp=Z,2.5nm,0.5s,mb4.7,baz=218,slow=19,SNR=8.6						

WEL 05 23:01:06.8±0.4, 3897S×17529E, h219km±3km, ML3.7/10, Error ellipse: s-maj=5.9km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.41**	**136**	SN	S	23 01 58.6	+0.1
MOVZ	**Moawhango**	**0.57**	**140**	SN	S	23 01 57.9	-1.5
WAZ	**Wanganui**	**0.81**	**196**	PN	Pn	23 01 37.8	+0.3
BKZ	**Black Stump Fm**	**0.96**	**102**	PN	Pn	23 01 38.2	0.0
BKZ				SN	S	23 02 02.1	-0.7
MRZ	**Mangatainoka R**	**1.70**	**172**	PN	Pn	23 01 44.3	+0.3
MRZ				SN	S	23 02 12.7	-0.3
KIW	**Kapiti Island**	**1.91**	**189**	PN	Pn	23 01 45.8	-0.1
DUWZ	**D'Urville Isla**	**2.11**	**209**	PN	Pn	23 01 47.2	-0.6
CAW	**Cannon Point**	**2.14**	**184**	PN	Pn	23 01 48.2	+0.1
MTW	**Mount Morrison**	**2.19**	**176**	PN	Pn	23 01 48.5	-0.1
MRW	**Makara Radio**	**2.30**	**191**	PN	Pn	23 01 49.5	-0.2
MRW				SN	S	23 02 22.3	-1.1
TCW	**Tory Channel**	**2.37**	**199**	PN	Pn	23 01 50.3	-0.2
PAWZ	**Paruwai Farm**	**2.41**	**177**	PN	Pn	23 01 50.8	-0.1
MSWZ	**Moikau Station**	**2.44**	**181**	PN	Pn	23 01 50.9	-0.3
MSWZ				SN	S	23 02 25.0	-1.1
TUWZ	**Tuamarina**	**2.66**	**202**	PN	Pn	23 01 53.1	-0.5
NNZ	**Nelson**	**2.68**	**212**	PN	Pn	23 01 52.5	-1.3
NNZ				SN	S	23 02 28.2	-2.5
QRZ	**Quartz Range**	**2.81**	**228**	PN	Pn	23 01 53.0	-2.4
BSWZ	**Blackbirch Sta**	**2.94**	**201**	PN	Pn	23 01 56.2	-0.5
KHZ	**Kahutara**	**3.69**	**201**	PN	Pn	23 02 04.6	-0.9
MGZ	**McQueen's Vall**	**5.13**	**202**	PN	Pn	23 02 20.6	-2.6
JCZ	**Jackson Bay**	**7.07**	**222**	PN	Pn	23 02 44.0	-4.0

*ATH **05** 23:05:42.2, 4131N×2010E, h31km±1km, MD3.2/3*
*TIR **05** 23:05:42.6, 4113N×2023E, h7km*
*ISCJB **05** 23:05:43.9±0.3, 4106N±002×2019E±003, h2km, Error ellipse: s-maj=3.5km s-min=2.2km az=111.0*
*PDG **05** 23:05:44.7±0.3, 4113N×2019E, h2km±1km*
*NEIC **05** 23:05:44.7, 4113N×2019E, h2km, MD2.9(PDG), After PDG.*
*CSEM **05** 23:05:47.5±0.2, 4110N×2043E, h30km, MD3.2, Error ellipse: s-maj=4.4km s-min=3.4km az=32.0*
ISC 05 23:05:44.6±0.3, 4105N±002×2019E±003, h2km, n28, σ1§46/53, 8C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.47**	**82**	⇓*i*Pg	**Pg**	**23 05 52.7**	**-0.8**
OHR				*i* Sg	**Sg**	**23 06 00.2**	**+0.7**
OHR	**Ohrid**	**0.47**	**82**	⇓*i*Pg	**Pg**	**23 05 52.6**	**-0.9**
OHR				*i* Sg	**Sg**	**23 06 00.1**	**+0.6**
QSH	**Qafa e Shtames**	**0.52**	**336**	*i* pg?	**Pg**	**23 05 52.0**	**-2.6**
QSH				*i* Sg	**Sg**	**23 05 59.0**	**-2.3**
KBN	**Korca**	**0.62**	**133**	*i* Pg	**Pg**	**23 05 56.0**	**-0.5**
KBN				*i* Sg	**Sg**	**23 06 06.9**	**+2.4**
BIA	**Bitola**	**0.86**	**91**	⇑*i*Pg	**Pg**	**23 05 59.4**	**-1.7**
BIA				*i* Sg	**Sg**	**23 06 12.8**	**+0.6**
BIA	**Bitola**	**0.86**	**91**	⇑*i*Pg	**Pg**	**23 05 59.3**	**-1.7**
BIA				*i* Sg	**Sg**	**23 06 12.8**	**+0.6**
LSK	**Leskovik**	**0.95**	**161**	*i* pg?	**Pg**	**23 06 01.1**	**-1.6**
LSK				*i* Sg	**Sg**	**23 06 18.2**	**+3.2**
SAMO	**Samokov**	**0.96**	**48**	*i* Pg	**Pg**	**23 06 01.0**	**-2.0**
SAMO				*i*		23 06 01.2	
SAMO				*i*		23 06 01.7	
SAMO				*i* Sg	**Sg**	**23 06 15.6**	**0.0**
SDA	**Shkodra**	**1.13**	**333**	*i* pg?	**Pg**	**23 06 16.7**	**+10**
SDA				*i* Sg	**Sg**	**23 06 23.0**	**+2.1**
ULC	**Ulcinj**	**1.16**	**323**	⇑*i*Pg	**Pg**	**23 06 04.8**	**-2.0**
ULC				*e*Sg	**Sg**	**23 06 22.5**	**+0.7**
SRN	**Sarande**	**1.17**	**187**	*i* Pg	**Pg**	**23 06 07.6**	**+0.5**
SRN				*i* Sg	**Sg**	**23 06 22.0**	**-0.3**
SKO	**Skopje**	**1.32**	**45**	*i* Pg	**Pg**	**23 06 09.9**	**+0.1**
SKO				*i* Sg	**Sg**	**23 06 26.7**	**-0.2**
KEK	**Kerkira**	**1.36**	**193**	*e*PN	**Pn**	**23 06 10.4**	**-0.3**
KEK				*e*SN	**Sn**	**23 06 31.0**	**+1.7**
KZN	**Kozani**	**1.41**	**121**	*e*PN	**Pn**	**23 06 10.6**	**-0.7**
KZN				*e*SN	**Sn**	**23 06 31.4**	**+0.9**
JAN	**Janina**	**1.48**	**160**	*e*PN	**Pn**	**23 06 12.2**	**0.0**
TTG	**Podgorica**	**1.55**	**334**	*e*Pg	**Pg**	**23 06 12.0**	**-2.3**
TTG				*e*Sg	**Sg**	**23 06 35.2**	**+0.9**
PVY	**Plav**	**1.56**	**354**	*e*Pg	**Pg**	**23 06 11.7**	**-2.7**
PVY				*e*Sg	**Sg**	**23 06 35.0**	**+0.5**
BUM	**Brajici-Budva**	**1.58**	**323**	⇑*i*Pg	**Pg**	**23 06 12.6**	**-2.3**
BUM				*e*Sg	**Sg**	**23 06 37.0**	**+1.6**
STIP	**Stip**	**1.64**	**66**	*i* Pn	**Pn**	**23 06 13.6**	**-0.8**
STIP				*i* Sn	**Sn**	**23 06 37.5**	**+1.5**
STIP	**Stip**	**1.64**	**66**	*i* Pn	**Pn**	**23 06 13.5**	**-0.9**
VAY	**Valandovo**	**1.82**	**81**	*e*Pn	**Pn**	**23 06 10.3**	**-6.6**
IVA	**Berane**	**1.84**	**353**	⇑*i*Pn	**Pn**	**23 06 16.7**	**-0.5**
IVA				*e*Sn	**Sn**	**23 06 43.4**	**+2.4**
HCY	**Herceg Novi**	**1.89**	**318**	*e*Pn	**Pn**	**23 06 17.3**	**-0.5**
HCY				*e*Sn	**Sn**	**23 06 44.3**	**+2.0**
NKY	**Niksic**	**1.98**	**334**	⇑*i*Pn	**Pn**	**23 06 18.6**	**-0.5**
NKY				*e*Sn	**Sn**	**23 06 46.8**	**+2.4**
BRY	**Bratogost**	**2.22**	**327**	⇑*i*Pn	**Pn**	**23 06 22.5**	**0.0**
BRY				*e*Sn	**Sn**	**23 06 52.8**	**+2.3**
UPM	**Unac-Piva**	**2.36**	**337**	*e*Pn	**Pn**	**23 06 23.9**	**-0.4**
UPM				*e*Sn	**Sn**	**23 06 55.7**	**+1.9**
PLE	**Pljevlja**	**2.36**	**346**	⇑*i*Pn	**Pn**	**23 06 24.3**	**0.0**
PLE				*e*Sn	**Sn**	**23 06 55.9**	**+2.1**
STON	**Ston**	**2.60**	**315**	*i* Pn	**Pn**	**23 06 25.2**	**-2.5**
STON				*i* Sn	**Sn**	**23 06 58.2**	**-1.6**

*ISCJB **05** 23:27:55.8±0.4, 4193N±002×2313E±004, h5km, Error ellipse: s-maj=4.6km s-min=3.0km az=48.3*
*CSEM **05** 23:27:55.3±0.1, 4201N×2316E, h5km, MD2.8, Error ellipse: s-maj=2.6km s-min=1.5km az=99.0*
*NEIC **05** 23:27:56.2, 4198N×2321E, h1km, MD2.8(SOF), After SOF.*
*SOF **05** 23:27:56.2, 4198N×2321E, h1km, MD2.8*
*THE **05** 23:27:57.7, 4186N×2316E, h3km, ML3.0*
ISC 05 23:27:56.6±0.5, 4193N±003×2313E±004, h8km±6km, n24, σ0§93/34, 3C-3D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.07**	**210**	*i* Pg	**Pg**	**23 27 59.9**	**+1.3**
MMB	**Musomiste**	**0.56**	**127**	*i* Pg	**Pg**	**23 28 07.5**	**+0.1**
VTS	**Vitosha**	**0.66**	**5**	*i* Pg	**Pg**	**23 28 09.0**	**-0.4**
VAY	**Valandovo**	**0.74**	**215**	*i* Pg	**Pg**	**23 28 10.8**	**0.0**
VAY				*i* Sg	**Sg**	**23 28 21.3**	**+0.9**
VAY				*e*Lg		23 28 21.4	
	comp=E,110nm,0.2s						
VAY	**Valandovo**	**0.74**	**215**	*i* Pg	**Pg**	**23 28 10.7**	**-0.1**
VAY				*i* Sg	**Sg**	**23 28 21.3**	**+0.8**
STIP	**Stip**	**0.74**	**252**	⇑*i*Pg	**Pg**	**23 28 10.6**	**-0.4**
STIP				*i* Sg	**Sg**	**23 28 20.9**	**+0.3**
STIP				*e*Lg		23 28 21.0	
	comp=E,41nm,0.3s						
STIP	**Stip**	**0.74**	**252**	⇑*i*Pg	**Pg**	**23 28 10.5**	**-0.4**
STIP				*i* Sg	**Sg**	**23 28 20.9**	**+0.3**
KNT	**Kendrikon**	**0.79**	**193**	*e*Pg	**Pg**	**23 28 11.8**	**+0.1**
	comp=E,25nm,0.2s						
KNT				*e*Sg	**Sg**	**23 28 22.0**	**0.0**
PGB	**Panagyurishte**	**0.99**	**51**	*i* Pg	**Pg**	**23 28 14.0**	**-1.5**
GRG	**Griva**	**1.12**	**210**	*e*Pg	**Pg**	**23 28 17.7**	**-0.4**
GRG				*e*Sg	**Sg**	**23 28 32.7**	**+0.2**
SOH	**Sokhos**	**1.12**	**171**	*e*Pg	**Pg**	**23 28 17.7**	**-0.4**
SOH				*e*Sg	**Sg**	**23 28 32.9**	**+0.3**
PLD	**Plovdiv**	**1.18**	**81**	*e*P	**Pb**	**23 28 19.8**	**+0.5**
RZN	**Rozhen**	**1.21**	**101**	*i* Pg	**Pg**	**23 28 19.5**	**-0.3**
THE	**Thessaloniki**	**1.30**	**186**	*e*Pg	**Pg**	**23 28 20.9**	**-0.7**
	comp=E,6.0nm,0.3s						
THE				*e*Sg	**Sg**	**23 28 38.9**	**+0.4**
ZAPS	**Zavoj/Pirot**	**1.42**	**345**	⇓*i*Pn	**Pn**	**23 28 22.5**	**-0.1**
ZAPS				Sn	**Sn**	**23 28 41.6**	**+0.1**
OUR	**Ouranopolis**	**1.72**	**158**	*e*Pb	**Pb**	**23 28 26.4**	**-2.0**
	comp=E,6.5nm,0.4s						
KDZ	**Kurdzhali**	**1.73**	**99**	*e*P	**Pn**	**23 28 28.2**	**+1.3**
FNA	**Florina**	**1.75**	**230**	*e*Pb	**Pb**	**23 28 27.6**	**-1.3**
FNA				*e*Sb	**Sb**	**23 28 51.4**	**+0.4**
DIM	**Dimitrovgrad**	**1.79**	**85**	*e*P	**Pn**	**23 28 30.5**	**+2.7**
PAIG	**Paliouri**	**2.04**	**168**	*e*Pb	**Pb**	**23 28 30.8**	**-3.1**
PVL	**Pavlikeni**	**2.07**	**51**	*e*P	**Pn**	**23 28 32.0**	**+0.4**
BZS	**Buzias**	**3.85**	**344**	⇓P	**Pn**	**23 28 55.2**	**-0.8**
MLR	**Muntele Rosu**	**4.10**	**29**	⇑P	**Pn**	**23 29 03.0**	**+3.5**
DRGR		**4.87**	**357**	⇓P	**Pg**	**23 29 30.4**	**+0.5**

*ISCJB **05** 23:30:07.9±0.6, 2314S±004×6684W±009, h202km±10km, mb3.6/4, Error ellipse: s-maj=13.3km s-min=6.9km az=17.2*
*IDC **05** 23:30:08.8±1.1, 2298S×6672W, h184km±11km, mb3.2/3, mb1 3.5/9, mb1mx3.4/19, mbtmp3.8/9, Error ellipse: s

0.1nm,0.3s,baz=351,slow=11,SNR=8.3
MKAR Makanchi Array 68.64 327 P P 23 53 09.7 0.0
0.1nm,0.3s,baz=117,slow=7.7,SNR=6.1

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*IDC **05** 23:44:29.0±8.6, 3791N×7322E, h140km±81km, mb3.5/2, mb1 3.2/6, mb1mx2.9/24, mbtmp3.5/6, Error ellipse: s-maj=64.7km s-min=52.8km az=141.0*
*ISCJB **05** 23:44:34.5±2.0, 385N±02×730E±0.1, h182km±17km, mb3.7/2, Error ellipse: s-maj=26.7km s-min=16.0km az=20.2*
*NNC **05** 23:44:38.9±6.7, 3888N×7293E, h238km±77km, mb2.2, mpv3.4, Error ellipse: s-maj=77.4km s-min=33.5km az=9.0*
ISC 05 23:44:35.6±2.1, 385N±02×730E±0.1, h176km±17km, n17, σ0§88/20, mb3.7/2, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.70**	**8**	P	**Pn**	**23 45 32.9**	**+0.2**
	SNR=42						
UCH	**Uchtor**	**3.93**	**17**	P	**Pn**	**23 45 36.0**	**+0.3**
	SNR=12						
KZA	**Kyzart**	**4.00**	**25**	P	**Pn**	**23 45 36.0**	**-0.5**
	SNR=13						
EKS2	**Erkin-Say**	**4.23**	**8**	P	**Pn**	**23 45 40.1**	**+0.6**
	SNR=22						
AAK	**Ala-Archa**	**4.32**	**15**	P	**Pn**	**23 45 41.6**	**+1.0**
	SNR=8.1						
ULHL	**Ulahol**	**4.52**	**32**	P	**Pn**	**23 45 42.4**	**-0.8**
	SNR=11						
CHMS	**Chumysh**	**4.72**	**16**	P	**Pn**	**23 45 46.6**	**+0.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.87**	**23**	⇑P	**Pn**	**23 45 47.5**	**-0.2**
	1.7nm,0.5s						
TKM2				⇑S	**Sn**	**23 46 44.5**	**+0.2**
	4.1nm,1.2s						
USP	**Ospenovka**	**4.93**	**13**	P	**Pn**	**23 45 48.6**	**+0.1**
	SNR=11						
KK31	**Karatay Array**	**5.00**	**339**	P	**Pn**	**23 45 49.5**	**+0.1**
	4.3nm,0.3s,baz=152,slow=11,SNR=210						
KK31				⇑S	**Sn**	**23 46 45.7**	**-1.6**
	4.9nm,0.4s,baz=171,slow=25,SNR=5.9						
MKAR	**Makanchi Array**	**10.77**	**36**	P	**Pn**	**23 47 04.5**	**-0.6**
	0.0nm,0.3s,baz=214,slow=13,SNR=4.3						
AB31	**Akbulak array**	**14.29**	**323**	⇓P	**Pn**	**23 47 49.6**	**-0.4**
	0.5nm,0.7s,baz=133,slow=14,SNR=6.5						
AB31				⇑S	**Sn**	**23 50 18.4**	**-11**
	1.1nm,0.8s,baz=130,slow=24,SNR=3.8						
BVAR	**Borovoye Array**	**14.67**	**354**	P	**Pn**	**23 47 55.0**	**+0.3**
	0.1nm,0.3s,baz=175,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**16.01**	**323**	P	**Pn**	**23 48 13.6**	**+2.5**
	0.1nm,0.3s,baz=94,slow=13,SNR=2.5						
ZAL	**Zalesovo**	**17.46**	**24**	P	**Pn**	**23 48 27.4**	**-1.0**
	0.3nm,0.3s,baz=265,slow=9.9,SNR=3.2						
ARCES	**ARCESS Array B**	**39.96**	**336**	P	**P**	**23 51 54.0**	**+1.3**
	6.5nm,1.1s,mb4.2,baz=110,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.34**	**269**	P	**P**	**23 55 10.2**	**-1.3**
	0.2nm,0.5s,mb3.2,baz=48,slow=5.5,SNR=4.6						

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*NAO **05** 23:58:12.5, 2144N×141.16E, h33km, mb4.4*
*MOS **05** 23:59:30.6±1.0, 2770N×13967E, h472km, mb3.8/10, Error ellipse: s-maj=18.3km s-min=8.8km az=116.9*
*NEIC **05** 23:59:34.0±0.8, 2774N×13976E, h495km±9km, mb4.0/14, Error ellipse: s-maj=9.8km s-min=7.4km az=87.0*
*IDC **05** 23:59:33.5±0.5, 2774N×13971E, h490km±6km, mb3.3/16, mb1 3.4/20, mb1mx3.4/27, mbtmp4.2/20, Error ellipse: s-maj=15.8km s-min=9.6km az=72.0*
*ISCJB **05** 23:59:33.3±0.4, 2775N±004×13986E±0.10, h507km±5km, mb3.8/39, Error ellipse: s-maj=13.4km s-min=6.0km az=156.8*
*JMA **05** 23:59:34.5±0.1, 2793N×14029E, h512km, M4.0*
ISC 05 23:59:34.3±0.4, 2783N±004×1400E±01, h508km±5km, n91, σ1§01/98, mb3.8/39, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.04**	**110**	P	**P**	**00 00 40.5**	**+0.2**
CBIJ				*e*S	**S**	**00 01 31.9**	**-2.1**
CBIJ	**Chichi jima**	**2.04**	**110**	P	**P**	**00 00 40.7**	**+0.4**
	149nm,0.3s,baz=277,slow=21,SNR=49						
CBIJ				S	**S**	**00 01 32.2**	**-1.8**
	79nm,0.3s,baz=286,slow=22,SNR=13						
JHHJ	**Haha-jima-NKT**	**2.25**	**121**	P	**P**	**00 00 41.9**	**+0.5**
JHHJ				S	**S**	**00 01 35.9**	**0.0**
JHJ2	**Mitsune**	**5.27**	**358**	P	**P**	**00 01 04.3**	**+0.2**
JHJ	**Hachijo jima 2**	**5.28**	**358**	P	**P**	**00 01 04.2**	**0.0**
	16nm,0.3s,baz=66,slow=18,SNR=5.4						
JHJ				S	**S**	**00 02 16.4**	**-1.3**
	13nm,0.3s,baz=238,slow=23,SNR=4.3						
BSO1	**Boso 1**	**6.86**	**7**	P	**P**	**00 01 20.5**	**+1.2**
BSO1				*e*S	**S**	**00 02 43.3**	**-1.9**
JIM2	**Oshima 3**	**6.89**	**356**	P	**P**	**00 01 19.9**	**+0.3**
BSO3	**Boso 3**	**6.97**	**3**	*e*S	**S**	**00 02 44.4**	**-2.9**
JIE	**Ise**	**7.14**	**337**	P	**P**	**00 01 23.6**	**+1.5**
JIE				*e*S	**S**	**00 02 50.9**	**+0.5**
BSO4	**Boso 4**	**7.15**	**2**	P	**P**	**00 01 25.3**	**+3.1**
BSO4				*e*S	**S**	**00 02 51.1**	**+0.5**
JKN2	**Miekihoku**	**7.16**	**334**	P	**P**	**00 01 23.9**	**+1.6**
HMMJ	**Hamamatsu 2**	**7.28**	**345**	P	**P**	**00 01 24.4**	**+0.9**
JOD2	**Odawara 2**	**7.46**	**354**	P	**P**	**00 01 27.4**	**+2.1**
JNY	**Yasuok**	**7.74**	**347**	P	**P**	**00 01 31.0**	**+2.9**
JAO	**Obara**	**7.79**	**343**	P	**P**	**00 01 30.9**	**+2.2**
JHU	**Hanno**	**8.03**	**356**	P	**P**	**00 01 30.6**	**-0.5**
JHU				S	**S**	**00 03 04.3**	**-2.7**
JRY	**Ryogami san**	**8.22**	**354**	P	**P**	**00 01 33.0**	**-0.1**
JRY				*e*S	**S**	**00 03 09.7**	**-1.0**
JAG	**Ashikaga**	**8.59**	**357**	P	**P**	**00 01 36.4**	**-0.5**
JAG				*e*S	**S**	**00 03 12.7**	**-4.9**
MJAR	**Matsushiro Arr**	**8.83**	**350**	P	**P**	**00 01 39.0**	**-0.4**
	2.7nm,0.3s,baz=170,slow=10.0,SNR=15						
MAT	**Matsushiro**	**8.83**	**350**	P	**P**	**00 01 39.0**	**-0.4**
MAT	**Matsushiro**	**8.83**	**350**	*e*P	**P**	**00 01 39.0**	**-0.4**
JNU	**Nakatsue**	**9.50**	**306**	P	**P**	**00 01 46.0**	**-0.4**
	0.3nm,0.3s,baz=183,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**16.39**	**7**	P	**P**	**00 03 00.1**	**+1.4**
	0.4nm,0.3s,baz=227,slow=11,SNR=4.2						
NACB	**Ninganchiao**	**16.97**	**262**	*e*P	**P**	**00 02 56.6**	**-8.1**
YHNB	**Yeheng**	**17.03**	**264**	*e*P	**P**	**00 02 55.4**	**-10**
ULN	**Ulaanbaatar**	**32.48**	**317**	*e*P	**P**	**00 05 18.9**	**-3.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ULN	**Ulaanbaatar**	**32.48**	**317**	*e*P	**P**	**00 05 18.9**	**-3.5**
	comp=Z,1.2nm,0.7s,mb3.4						
SONM	**Songino Array**	**32.87**	**317**	P	**P**	**00 05 25.4**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.1,baz=119,slow=7.9,SNR=9.4						
SONM				PcP	PcP	00 07 56.0	+0.6
	comp=Z,0.3nm,0.4s,baz=137,slow=3.6,SNR=7.6						
SONM				ScP	ScP	00 10 51.6	+0.5
	comp=Z,0.2nm,0.6s,baz=130,slow=3.4,SNR=4.3						
SONM	**Songino Array**	**32.87**	**317**	P	**P**	**00 05 25.4**	**-0.2**
SONM						00 07 56.0	
YAK	**Yakutsk**	**34.89**	**351**	⇑*i*P	**P**	**00 05 48.0**	**+5.3**
PSI	**Prapat**	**46.45**	**245**	P	**P**	**00 07 14.1**	**-0.7**
	comp=Z,0.8nm,0.3s,mb3.6,baz=4.5,slow=7.8,SNR=4.8						
JIRN	**Jiri**	**47.32**	**283**	*e*P	**P**	**00 07 22.2**	**+0.7**
	comp=Z,20nm,0.6s,mb4.8						
GUN	**Gumba**	**47.53**	**283**	*e*P	**P**	**00 07 23.5**	**+0.4**
	comp=Z,14nm,0.4s,mb4.6						
ZAL	**Zalesovo**	**47.70**	**319**	P	**P**	**00 07 23.4**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.4,baz=19,slow=6.9,SNR=7.0						
ZAL				PcP	PcP	00 08 43.1	-0.6
	comp=Z,0.8nm,0.5s,baz=131,slow=3.9,SNR=3.5						
WRAB	**Tennant Creek**	**47.79**	**187**	*e*P	**P**	**00 07 25.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
WRAB	**Tennant Creek**	**47.79**	**187**	*e*P	**P**	**00 07 25.0**	**-0.1**
	comp=Z,2.7nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**47.80**	**187**	*e*P	**P**	**00 07 24.9**	**-0.2**
WRA	**Warramunga Arr**	**47.80**	**187**	P	**P**	**00 07 24.9**	**-0.2**
	comp=Z,1.6nm,0.4s,mb3.7,baz=5.3,slow=7.8,SNR=38						
WRA				PcP	PcP	00 08 44.9	+0.8
	comp=Z,1.0nm,0.7s,baz=357,slow=3.7,SNR=6.9						
PKI	**Pulchoki**	**48.02**	**283**	*e*P	**P**	**00 07 26.4**	**-0.3**
KKN	**Kakani**	**48.08**	**283**	*e*P	**P**	**00 07 27.0**	**-0.1**
	comp=Z,8.4nm,0.6s,mb4.2						
KKN	**Kakani**	**48.08**	**283**	*e*P	**P**	**00 07 27.0**	**-0.1**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
DMN	**Daman**	**48.27**	**283**	*e*P	**P**	**00 07 28.5**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**00 07 30.4**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.5,baz=89,slow=10.0,SNR=26						
MKAR				PcP	PcP	00 08 47.0	+0.1
	comp=Z,0.9nm,0.8s,baz=86,slow=6.0,SNR=6.7						
MKAR				ScP	ScP	00 11 52.8	0.0
	comp=Z,0.2nm,0.5s,baz=70,slow=4.8,SNR=4.3						
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**00 07 30.4**	**-0.2**
MKAR						00 08 47.0	
MKAR	**Makanchi Array**	**48.54**	**309**	P	**P**	**00 07 30.4**	**-0.2**
MKAR				PcP	PcP	00 08 47.0	+0.1
MKAR				ScP	ScP	00 11 52.8	0.0
GKN	**Gorkha**	**48.58**	**284**	*e*P	**P**	**00 07 31.0**	**+0.1**
	comp=Z,5.3nm,0.5s,mb4.1						
KOLN	**Koldanda**	**49.53**	**284**	*e*P	**P**	**00 07 37.8**	**-0.1**
	comp=Z,13nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.11**	**314**	P	**P**	**00 07 48.3**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2μm,0.7s						
ASAR	**Alice Springs**	**51.53**	**187**	P	**P**	**00 07 52.8**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.1,baz=16,slow=14,SNR=9.1						
MBWA	**Marble Bar**	**52.50**	**204**	*e*P	**P**	**00 07 59.4**	**-0.1**
	comp=Z,6.6nm,1.0s,mb3.9						
ULHL	**Ulahol**	**53.03**	**304**	P	**P**	**00 08 03.9**	**+0.6**
	SNR=7.2						
TKM2	**Tokmak 2**	**53.43**	**304**	P	**P**	**00 08 07.1**	**+0.9**
	SNR=5.3						
TKM2	**Tokmak 2**	**53.43**	**304**	P	**P**	**00 08 07.0**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
KBK	**Karagaybulak**	**53.94**	**304**	P	**P**	**00 08 10.4**	**+0.7**
	SNR=5.2						
UCH	**Uchtor**	**54.30**	**304**	P	**P**	**00 08 13.5**	**+1.2**
	SNR=5.0						
AML	**Almayashu**	**54.92**	**304**	P	**P**	**00 08 18.1**	**+1.4**
	SNR=7.3						
VOSK	**Vostochnaya**	**55.87**	**317**	P	**P**	**00 08 22.6**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
BVA0	**Borovoye Array**	**56.21**	**317**	*i* P	**P**	**00 08 25.7**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
BVAR	**Borovoye Array**	**56.21**	**317**	P	**P**	**00 08 25.6**	**-0.1**
	comp=Z,10.0nm,0.5s,mb4.5,baz=88,slow=6.9,SNR=160						
BRVK	**Borovoye**	**56.27**	**317**	*e*P	**P**	**00 08 26.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb3.9						
BRVK	**Borovoye**	**56.27**	**317**	*e*P	**P**	**00 08 26.1**	**0.0**
	comp=Z,6.1nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**57.05**	**317**	P	**P**	**00 08 31.3**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
ZRNK	**Zerenda**	**57.05**	**317**	*e*P	**P**	**00 08 31.1**	**-0.3**
	comp=Z,5.2nm,0.8s,mb3.9						
KKAR	**Karatay Array**	**57.11**	**305**	*i* P	**P**	**00 08 31.9**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ARU	**Arti**	**62.67**	**322**	*e*P	**P**	**00 09 08.4**	**-0.5**
AB31	**Akbulak array**	**63.22**	**314**	*i* P	**P**	**00 09 11.9**	**-0.5**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
AKTK	**Aktyubinsk**	**64.18**	**315**	P	**P**	**00 09 18.0**	**-0.5**
AKTO	**Aktyubinsk**	**64.18**	**315**	P	**P**	**00 09 18.0**	**-0.5**
	comp=Z,2.6nm,0.7s,mb3.9,baz=77,slow=14,SNR=11						
NWAO	**Narrogin (SRO)**	**64.18**	**201**	*e*P	**P**	**00 09 17.0**	**-1.6**
NWAO				pmax	pmax		
	comp=Z,31nm,1.4s						
NWAO	**Narrogin (SRO)**	**64.18**	**201**	*e*P	**P**	**00 09 17.0**	**-1.6**
	comp=Z,30nm,1.4s,mb4.6						
KEV	**Kevo**	**71.66**	**340**	*e*p	**P**	**00 10 02.2**	**-2.0**
	comp=Z,0.3nm,0.4s,mb3.2						
ARCES	**ARCESS Array B**	**72.22**	**340**	P	**P**	**00 10 08.2**	**+0.7**
	comp=Z,1.6nm,0.5s,mb3.8,baz=68,slow=7.9,SNR=15						
YKA	**Yellowknife Ar**	**72.40**	**28**	P	**P**	**00 10 10.3**	**+1.8**
	comp=Z,0.5nm,0.6s,mb3.2,baz=297,slow=5.7,SNR=12						
JOF	**Joensuu**	**73.58**	**333**	*e*p	**P**	**00 10 15.8**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.4						
KAF	**Kangasniemi**	**75.98**	**334**	*e*p	**P**	**00 10 27.9**	**-0.9**
	comp=Z,0.7nm,0.4s,mb3.5,baz=54,slow=5.3						
KAF	**Kangasniemi**	**75.98**	**334**	*e*P	**P**	**00 10 27.9**	**-0.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**76.44**	**333**	P	**P**	**00 10 31.2**	**-0.1**
	comp=Z,2.8nm,0.4s,mb4.1,baz=66,slow=5.8,SNR=47						
FINES	**FINESS Array B**	**76.44**	**333**	P	**P**	**00 10 31.2**	**-0.2**
UMR	**Umm Al-Rimmam**	**78.66**	**297**	*e*P	**P**	**00 10 43.2**	**-0.1**
UMR				AMb	AMB	00 10 44.9	
	comp=Z,18nm,1.8s,mb4.3						
MIB	**Mutribah**	**78.85**	**298**	*e*P	**P**	**00 10 44.2**	**-0.1**
MIB				AMb	AMB	00 10 45.5	
	comp=Z,18nm,0.9s,mb4.6						
NAY	**Al-Naaiem**	**79.16**	**297**	*e*P	**P**	**00 10 45.9**	**-0.2**
NAY				AMb	AMB	00 10 48.7	
	comp=Z,8.6nm,1.2s,mb4.2						
AKASG	**Malin Array Be**	**80.90**	**323**	P	**P**	**00 10 54.6**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.4,baz=50,slow=4.9,SNR=5.6						
NVAR	**Mina Array Bea**	**81.56**	**51**	P	**P**	**00 11 02.2**	**+3.7**
	comp=Z,0.6nm,0.7s,mb3.2,baz=296,slow=5.0,SNR=5.7						
NVAR	**Mina Array Bea**	**81.56**	**51**	P	**P**	**00 11 02.2**	**+3.7**
NB2	**NORSAR Subarra**	**82.22**	**337**	P	**P**	**00 11 01.2**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.7,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**82.22**	**337**	P	**P**	**00 11 01.1**	**-0.8**
	comp=Z,2.5nm,0.7s,mb3.9,baz=45,slow=5.0,SNR=7.5						
BRTR	**Keskin Array B**	**84.10**	**312**	P	**P**	**00 11 10.5**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.3,baz=135,slow=3.5,SNR=4.2						
TXAR	**Lajitas Array**	**96.68**	**52**	P	**P**	**00 12 13.1**	**+3.4**
	comp=Z,0.3nm,0.6s,mb3.7,baz=350,slow=3.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.66**	**310**	PKP	PKPdf	00 17 32.4	+0.5
	comp=Z,0.6nm,0.6s,baz=357,slow=0.6,SNR=7.2						
LPAZ	**La Paz**	**151.56**	**72**	PKPbc	PKPbc	00 18 34.1	+3.4
	comp=Z,0.9nm,0.4s,baz=313,slow=3.7,SNR=10						
PLCA	**Paso Flores**	**151.79**	**125**	PKPbc	PKPbc	00 18 32.8	+1.6
	comp=Z,1.7nm,0.7s,baz=42,slow=2.6,SNR=4.3						

NNC 06 00:25:35.3±12.0, 3771N×7068E, h36km±375km, mb3.6, mpv3.9, 1C-3D, Error ellipse: s-maj=211.8km s-min=98.7km az=121.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.99**	**27**	P	Pn	00 26 42.4	-5.3
	SNR=24						
UCH	**Uchtor**	**5.39**	**32**	P	Pn	00 26 46.6	-6.5
	SNR=6.1						
KK31	**Karatay Array**	**5.39**	**359**	⇓P	Pn	00 26 53.2	+0.1
	6.6nm,0.5s,baz=178,slow=14,SNR=147						
KK31				⇓S	Sn	00 27 54.6	+0.6
	3.3nm,0.3s,baz=169,slow=23						
EKS2	**Erkin-Say**	**5.49**	**25**	P	Pn	00 26 49.8	-4.7
	SNR=8.0						
AAK	**Ala-Archa**	**5.72**	**30**	P	Pn	00 26 51.8	-5.9
	SNR=8.8						
USP	**Ospenovka**	**6.27**	**26**	P	Pn	00 26 58.6	-6.6
	SNR=5.9						
AB31	**Akbulak array**	**13.91**	**329**	⇓P	Pn	00 28 49.1	-0.7
	0.5nm,0.7s,baz=138,slow=14,SNR=9.6						
AKTO	**Aktyubinsk**	**15.61**	**329**	⇑P	Pn	00 29 12.6	+0.1
	1.3nm,2.2s						

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*SOF **06** 00:38:36.3, 4060N×2351E, h4km, MD2.5*
*ISCJB **06** 00:38:38.1±0.5, 4067N±003×2345E±004, h10km, Error ellipse: s-maj=4.7km s-min=4.0km az=146.6*
*CSEM **06** 00:38:38.5±0.1, 4070N×2348E, h10km, ML2.5, Error ellipse: s-maj=3.0km s-min=1.9km az=64.0*
*THE **06** 00:38:38.9, 4068N×2345E, h1km, ML2.5*
ISC 06 00:38:38.5±0.5, 4069N±003×2348E±004, h10km, n17, σ1§04/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.16**	**325**	*e*Pg	**Pg**	**00 38 42.2**	**+0.2**
SOH				*e*Sg	**Sg**	**00 38 44.9**	**+0.4**
SOH	**Sokhos**	**0.16**	**325**	*e*Pg	**Pg**	**00 38 42.2**	**+0.1**
SOH				*e*Sg	**Sg**	**00 38 44.8**	**+0.3**
THE	**Thessaloniki**	**0.39**	**262**	*e*Pg	**Pg**	**00 38 45.8**	**-0.4**
	comp=Z,12nm,0.1s						
THE				*e*Sg	**Sg**	**00 38 50.9**	**-0.5**
OUR	**Ouranopolis**	**0.52**	**132**	*e*Pg	**Pg**	**00 38 48.8**	**+0.2**
KNT	**Kendrikon**	**0.65**	**317**	*e*Pg	**Pg**	**00 38 50.6**	**-0.4**
	comp=Z,16nm,0.1s						
KNT				*e*Sg	**Sg**	**00 38 59.3**	**-0.2**
PAIG	**Paliouri**	**0.77**	**168**	*e*Pg	**Pg**	**00 38 52.6**	**-0.8**
PAIG				*e*Sg	**Sg**	**00 39 04.3**	**+0.8**
GRG	**Griva**	**0.86**	**289**	*e*Pg	**Pg**	**00 38 54.9**	**-0.1**
GRG				*e*Sg	**Sg**	**00 39 07.1**	**+0.9**
MMB	**Musomiste**	**0.92**	**12**	*i* Pg	**Pg**	**00 38 55.3**	**-0.9**
LIT	**Litokhoron**	**0.95**	**232**	*e*Pg	**Pg**	**00 38 56.4**	**-0.4**
LIT				*e*Sg	**Sg**	**00 39 10.1**	**+0.8**
KKB	**Krupnik**	**1.22**	**346**	*e*P	**Pn**	**00 39 01.3**	**-0.2**
KKB				*e*Pg	**Pg**	**00 39 01.8**	**0.0**
KKB	**Krupnik**	**1.22**	**346**	*e*Pg	**Pg**	**00 39 01.8**	**0.0**
RZN	**Rozhen**	**1.37**	**43**	*i* P	**Pn**	**00 39 05.0**	**+1.4**
FNA	**Florina**	**1.60**	**274**	*e*Pg	**Pg**	**00 39 07.4**	**-1.7**
KDZ	**Kurdzhali**	**1.75**	**56**	*e*P	**Pn**	**00 39 05.5**	**-3.4**
KDZ				*e*Pg	**Pg**	**00 39 10.0**	**-2.1**
VTS	**Vitosha**	**1.91**	**354**	*e*P	**Pn**	**00 39 13.0**	**+1.9**
PGB	**Panagyurishte**	**1.93**	**15**	*e*P	**Pn**	**00 39 13.6**	**+2.2**
DIM	**Dimitrovgrad**	**2.06**	**48**	*e*P	**Pn**	**00 39 18.0**	**+4.9**

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*IDC **06** 00:40:16.8±1.1, 670N×124.10E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=171.5km s-min=18.8km az=65.0*
*ISCJB **06** 00:40:21.3±0.9, 668N±006×12385E±006, h49km±11km, mb4.2/9, Error ellipse: s-maj=11.6km s-min=8.4km az=85.6*
*NEIC **06** 00:40:22.0±0.6, 657N×12378E, h35km, mb4.4/2, Error ellipse: s-maj=20.6km s-min=12.2km az=68.0*
NEIC Felt [II PIVS] at Cotabato and [I PIVS] at Zamboanga.
*MAN **06** 00:40:21.5, 676N×12386E, h81km, mb4.2, ML5.1, MS4.1*
MAN F COTABATO CITY - INTENSITY II ZAMBOANGA CITY - INTENSITY I.
ISC 06 00:40:22.4±0.9, 669N±006×12387E±006, h38km±11km, n27, σ0§80/33, mb4.2/9, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.65**	**35**	⇑*i*P	**Pn**	**00 40 26.1**	**-9.0**
CTBH				*i* S	**Sn**	**00 40 34.5**	**-10**
PAGZ	**Pagadian**	**1.25**	**337**	*e*P	**Pn**	**00 40 42.7**	**-0.7**
BUKP	**Musuan**	**1.67**	**45**	*e*P	**Pn**	**00 40 49.3**	**+0.1**
IPIL	**Ipil**	**1.69**	**310**	*e*P	**Pn**	**00 40 50.0**	**+0.6**
IPIL				*e*S	**Sn**	**00 41 10.3**	**+0.5**
DAV	**Davao City (W)**	**1.74**	**77**	*e*Pn	**Pn**	**00 40 52.1**	**+2.1**
DAV				*e*S	**Sn**	**00 41 15.2**	**+4.3**
CGP	**Cagayan de Oro**	**1.94**	**25**	⇑*i*P	**Pn**	**00 40 52.7**	**-0.1**
CGP				*i* S	**Sn**	**00 41 16.1**	**+0.2**
DCPH	**Dipolog City**	**1.95**	**345**	⇑*i*P	**Pn**	**00 40 52.8**	**-0.2**
DCPH				*e*S	**Sn**	**00 41 15.6**	**-0.7**
SNPH	**Sibulan**	**2.71**	**347**	*i* P	**Pn**	**00 41 03.0**	**-0.5**
TBP	**Tagbilaran**	**2.99**	**360**	*e*P	**Pn**	**00 41 05.9**	**-1.3**
TBP				*i* S	**Sn**	**00 41 37.5**	**-4.3**
GUIM	**Jordan**	**4.12**	**342**	*e*P	**Pn**	**00 41 23.1**	**+0.4**
CUYO	**Cuyo Island**	**5.01**	**326**	*e*P	**Pn**	**00 41 35.1**	**+0.1**
ENPP	**El Nido**	**6.28**	**316**	*e*P	**Pn**	**00 41 52.9**	**+0.4**
BUSP	**Coron**	**6.41**	**326**	*e*P	**Pn**	**00 41 54.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**24.69**	**176**	*e*P	**P**	**00 45 40.2**	**+0.4**
	3.5nm,0.5s,mb4.2						
MBWA	**Marble Bar**	**27.97**	**188**	*e*P	**P**	**00 46 10.2**	**+0.8**
	6.5nm,1.0s,mb4.2						
WRAB	**Tennant Creek**	**28.39**	**159**	*e*P	**P**	**00 46 13.1**	**-0.1**
	13nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**28.39**	**159**	P	**P**	**00 46 12.6**	**-0.6**
	6.8nm,0.8s,mb4.3,baz=337,slow=9.8,SNR=44						
WB2	**Warramunga Arr**	**28.40**	**159**	⇑*i*P	**P**	**00 46 12.6**	**-0.6**
STKA	**Stephens Creek**	**41.91**	**157**	⇑*i*P	**P**	**00 48 07.9**	**-1.3**
	20nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**41.91**	**157**	P	**P**	**00 48 08.3**	**-0.8**
	25nm,0.8s,mb4.9,baz=331,slow=8.0,SNR=36						
STKA	**Stephens Creek**	**41.91**	**157**	P	**P**	**00 48 08.3**	**-0.9**
ULN	**Ulaanbaatar**	**43.47**	**344**	P	**P**	**00 48 21.8**	**0.0**
SONM	**Songino Array**	**43.63**	**343**	P	**P**	**00 48 22.9**	**-0.2**
	1.0nm,1.0s,mb3.5,baz=153,slow=7.5,SNR=6.1						
MKAR	**Makanchi Array**	**53.52**	**325**	P	**P**	**00 49 39.6**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=116,slow=7.9,SNR=6.4						
**TAU

VIEF Lg 00 47 52.0
EPF Esparros 0.53 95 *e*Pg **Pg 00 47 51.2 +0.3**
EPF *e*Sg **Sg 00 47 58.4 +0.7**
4.5nm,0.3s
EPF Esparros 0.53 95 Pg **Pg 00 47 51.2 +0.3**
EPF Lg 00 47 58.4
2.2nm,0.3s
EBIE Bielsa 0.55 136 Pg **Pg 00 47 51.2 -0.1**
0.3nm,0.1s,SNR=9.5
EBIE Lg 00 47 58.3
1.0nm,0.1s,SNR=12
EBIE Bielsa 0.55 136 Pg **Pg 00 47 51.2 -0.1**
0.3nm,0.1s,SNR=9.5
SJPF Ste Jean 0.62 273 *e*Pg **Pg 00 47 52.9 +0.1**
SJPF *e*Sg **Sg 00 48 00.9 0.0**
2.9nm,0.3s
SJPF Ste Jean 0.62 273 Pg **Pg 00 47 52.9 +0.1**
SJPF Lg 00 48 00.9
1.4nm,0.3s
EALK Alkurruntz 0.84 280 Pg **Pg 00 47 57.8 +0.9**
0.3nm,0.2s,SNR=4.0
EALK Lg 00 48 07.9
4.8nm,0.4s,SNR=7.9
EALK Alkurruntz 0.84 280 Pg **Pg 00 47 58.2 +1.3**
0.3nm,0.2s,SNR=4.0
ELIZ Elizondo 0.85 276 Pg **Pg 00 47 57.8 +0.8**
0.2nm,0.2s,SNR=7.9
ELIZ Lg 00 48 09.5
1.0nm,0.1s,SNR=7.9
EGRA Graus 1.02 150 Pg **Pg 00 48 00.4 0.0**
0.1nm,0.1s,SNR=4.0
EGRA Lg 00 48 14.7
1.8nm,0.4s,SNR=7.9
ESAC San Caprasio 1.36 183 Pg **Pg 00 48 06.3 -0.6**
1.9nm,0.1s,SNR=4.0
ESAC Lg 00 48 24.9
8.1nm,0.2s,SNR=7.9
ESAC San Caprasio 1.36 183 Pg **Pg 00 48 06.3 -0.6**
1.9nm,0.1s,SNR=4.0
EMIR Miracle 1.83 129 Pg **Pg 00 48 16.4 +0.6**
0.7nm,0.2s,SNR=4.0
EMIR Lg 00 48 39.8
0.4nm,0.1s,SNR=4.0
EMIR Miracle 1.83 129 Pg **Pg 00 48 16.4 +0.6**
0.7nm,0.2s,SNR=4.0
MTLF Montolieu 1.91 81 *e*Sg **Sg 00 48 41.4 -0.8**
1.2nm,0.2s
MTLF Montolieu 1.91 81 Lg 00 48 41.4
0.6nm,0.2s
LFF La Frestale 2.02 23 *e*Pg **Pg 00 48 19.2 -0.3**
LFF *e*Sg **Sg 00 48 45.9 +0.1**
1.2nm,0.3s
LFF La Frestale 2.02 23 Pg **Pg 00 48 19.2 -0.3**
LFF Lg 00 48 45.9
0.6nm,0.3s
EPOB Poblet 2.04 148 Lg 00 48 46.2
1.3nm,0.3s,SNR=7.9
ERTA Horta de San J 2.19 166 Lg 00 48 50.3
2.9nm,0.5s,SNR=7.9
CAF Calviac 2.55 43 *e*Sg **Sg 00 49 02.1 -0.5**
0.5nm,0.2s
CAF Calviac 2.55 43 Lg 00 49 02.1
0.2nm,0.2s
RJF Les Rejaudoux 2.60 31 *e*Sg **Sg 00 49 03.9 -0.5**
0.6nm,0.2s
RJF Les Rejaudoux 2.60 31 Lg 00 49 03.9
0.3nm,0.2s

*ISCJB **06** 00:50:07.9±0.5, 1292N±006×4934W±006, h10km, mb4.3/24, MS3.8/6, Error ellipse: s-maj=10.1km s-min=7.3km az=84.5*
*IDC **06** 00:50:07.9±0.7, 1292N×4924W, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/28, mbtmp4.2/19, ML6.2/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=18.2km s-min=14.1km az=85.0*
*NEIC **06** 00:50:09.8±0.4, 1291N×4931W, h10km, mb4.5/9, Error ellipse: s-maj=9.8km s-min=6.7km az=52.0*
ISC 06 00:50:10.0±0.4, 1293N±006×4928W±006, h10km, n48, σ0=99/48, mb4.3/24, MS3.8/6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**11.40**	**279**	*e*P	**Pn**	**00 52 52.1**	**-0.8**
MVM				*e*S	x	00 53 03.8	
CRM	**Caravelle**	**11.45**	**280**	*e*P	**Pn**	**00 52 52.3**	**-1.2**
FDF	**Fort de France**	**11.67**	**280**	*e*P	**Pn**	**00 52 55.3**	**-1.2**
FDF				*e*S	x	00 53 09.1	
SVB	**Belmont**	**11.67**	**273**	*e*P	**Pn**	**00 52 55.9**	**-0.6**
SVB				*e*S	x	00 53 08.8	
DEG	**La Desirade**	**11.89**	**288**	*e*P	**Pn**	**00 52 57.3**	**-2.2**
DEG				*e*S	x	00 53 08.2	
BCG	**Bois Riant Cap**	**12.35**	**286**	*e*P	**Pn**	**00 53 05.7**	**-0.2**
LZG	**Guadaloupe-1**	**12.51**	**286**	*e*P	**Pn**	**00 53 07.8**	**-0.2**
MTP	**Monte Pirata**	**16.50**	**290**	*e*Pn	**Pn**	**00 54 06.1**	**+4.6**
MTP				*e*Sn	**Sn**	**00 56 45.3**	**-19**
SJG	**San Juan**	**17.05**	**290**	P	**Pn**	**00 54 09.2**	**+0.8**
1.5nm,0.3s,baz=41,slow=18,SNR=4.6							
SJG	**San Juan**	**17.05**	**290**	*e*Pn	**Pn**	**00 54 12.2**	**+3.7**
34nm,0.9s							
SDV	**Santo Domingo**	**21.35**	**261**	P	**P**	**00 54 57.4**	**+0.2**
2.7nm,0.6s,mb3.8,baz=22,slow=5.4,SNR=5.3							
SDV	**Santo Domingo**	**21.35**	**261**	*e*P	**P**	**00 54 56.5**	**-0.7**
7.7nm,0.8s,mb4.1							
RCBR	**Riachuelo**	**22.89**	**144**	*e*P	**P**	**00 55 13.8**	**+0.1**
14nm,1.0s,mb4.4							
SAML	**Samuel**	**25.75**	**213**	*e*P	**P**	**00 55 40.1**	**-0.7**
6.5nm,0.6s,mb4.3							
ROSC	**El Rosal**	**26.00**	**254**	P	**P**	**00 55 45.1**	**+2.2**
6.4nm,0.8s,mb4.2,baz=106,slow=20,SNR=9.0							
ROSC				LR	LR	01 04 35.4	
comp=Z,82nm,20.8s,MS3.2,baz=114,slow=33							
BDFB	**Brasilia**	**28.41**	**177**	P	**P**	**00 56 04.6**	**-0.1**
4.0nm,0.6s,mb4.2,baz=348,slow=9.0,SNR=8.1							
BDFB				LR	LR	01 08 08.0	
comp=Z,179nm,19.0s,MS3.7,baz=359,slow=38							
SIV	**San Ignacio**	**31.01**	**202**	P	**P**	**00 56 28.0**	**+0.3**
1.5nm,0.8s,mb3.9,baz=39,slow=13,SNR=9.9							
LPAZ	**La Paz**	**34.50**	**213**	P	**P**	**00 56 58.1**	**-0.1**
1.6nm,0.5s,mb4.2,baz=26,slow=9.5,SNR=9.0							
LPAZ	**La Paz**	**34.50**	**213**	*e*P	**P**	**00 56 58.1**	**0.0**
2.3nm,0.7s,mb4.2							
JTS	**JuntasAbangare**	**35.02**	**270**	*e*P	**P**	**00 57 03.6**	**+0.9**
NNA	**Nana**	**36.89**	**229**	P	**P**	**00 57 20.1**	**+1.4**
TEIG	**Tepich**	**38.00**	**286**	*e*P	**P**	**00 57 30.5**	**+2.4**
22nm,1.6s,mb4.6							
CPUP	**Villa Florida**	**39.80**	**191**	*e*P	**P**	**00 57 42.3**	**-0.9**
44nm,0.7s,mb5.3							
LVC	**Limon Verde**	**40.22**	**209**	*e*P	**P**	**00 57 48.1**	**+1.4**
LVC				*e*pP	pP	00 58 03.3	+13
ASCN	**Ascension**	**40.41**	**119**	*e*P	**P**	**00 57 47.4**	**-0.9**
SADO	**Sadowa**	**40.68**	**327**	LR	LR	01 10 48.9	
comp=Z,137nm,21.9s,MS3.8,baz=10.0,slow=30							
PAYG	**Puerto Ayora**	**42.85**	**255**	*e*P	**P**	**00 58 09.2**	**+0.9**
SCHQ	**Schefferville**	**44.01**	**345**	P	**P**	**00 58 17.3**	**-0.4**
2.7nm,0.9s,mb4.0,baz=182,slow=8.4,SNR=3.7							
SCHQ				LR	LR	01 13 42.3	
comp=Z,117nm,20.8s,MS3.8,baz=117,slow=32							
SCHQ	**Schefferville**	**44.01**	**345**	P	**P**	**00 58 17.3**	**-0.4**
SCHQ				LR	LR	01 13 42.3	
CFAA	**Coronel Fontan**	**47.87**	**202**	P	**P**	**00 58 47.3**	**-0.8**
0.3nm,0.4s,mb3.7,baz=3.6,slow=19,SNR=7.0							
TORD	**Torodi Ar. Bea**	**49.59**	**84**	P	**P**	**00 59 00.6**	**-0.7**
8.6nm,0.8s,mb4.8,baz=282,slow=7.7,SNR=51							
JCT	**Junction City**	**49.66**	**299**	*e*P	**P**	**00 59 02.2**	**+0.4**
4.0nm,0.5s,mb4.7							
TRQA	**Tornquist**	**52.10**	**193**	*e*P	**P**	**00 59 19.4**	**-0.7**
TXAR	**Lajitas Array**	**52.84**	**297**	P	**P**	**00 59 26.2**	**+0.5**
1.1nm,0.5s,mb4.0,baz=122,slow=7.7,SNR=23							
TXAR	**Lajitas Array**	**52.84**	**297**	P	**P**	**00 59 26.2**	**+0.5**
ULM	**Lac du Bonnet**	**53.09**	**324**	P	**P**	**00 59 26.8**	**-0.7**
6.1nm,0.8s,mb4.6,baz=96,slow=7.8,SNR=11							
ANMO	**Albuquerque**	**55.88**	**304**	P	**P**	**00 59 48.9**	**+1.0**
1.0nm,0.5s,mb4.2,baz=108,slow=5.1,SNR=6.7							
BNM	**Barren Site**	**55.91**	**303**	*e*P	**P**	**00 59 49.7**	**+1.7**
BNM				*e*pP	pP	01 00 06.9	+16
PLCA	**Paso Flores**	**56.91**	**199**	P	**P**	**00 59 54.3**	**-0.9**
2.7nm,0.9s,mb4.3,baz=356,slow=7.7,SNR=3.8							
PLCA	**Paso Flores**	**56.91**	**199**	*e*P	**P**	**00 59 55.0**	**-0.2**
PDAR	**Pinedale Array**	**59.58**	**312**	P	**P**	**01 00 13.8**	**-0.1**
0.9nm,0.7s,mb3.9,baz=112,slow=8.0,SNR=5.9							
HWUT	**Hardware Ranch**	**60.85**	**311**	*e*P	**P**	**01 00 23.1**	**+0.6**
8.8nm,1.1s,mb4.8							
NVAR	**Mina Array Bea**	**65.69**	**306**	P	**P**	**01 00 55.8**	**+1.2**
0.9nm,0.7s,mb3.9,baz=101,slow=4.7,SNR=7.6							
NEW	**Newport**	**65.73**	**317**	P	**P**	**01 00 54.4**	**-0.5**
2.3nm,0.8s,mb4.3,baz=116,slow=6.2,SNR=5.0							
YKA	**Yellowknife Ar**	**67.30**	**333**	P	**P**	**01 01 03.4**	**-1.5**
2.0nm,0.8s,mb4.2,baz=106,slow=7.4,SNR=32							
YKA				LR	LR	01 30 04.1	
comp=Z,120nm,19.0s,MS4.1,baz=215,slow=36							
YKA	**Yellowknife Ar**	**67.30**	**333**	P	**P**	**01 01 03.4**	**-1.5**
YKA				LR	LR	01 30 04.1	
FINES	**FINESS Array B**	**71.73**	**29**	P	**P**	**01 01 33.5**	**+1.1**
1.0nm,0.7s,mb3.9,baz=225,slow=2.7,SNR=3.9							
FINES				LR	LR	01 29 47.7	
comp=Z,88nm,18.4s,MS4.1,baz=359,slow=33							
INK	**Inuvik**	**75.95**	**338**	P	**P**	**01 01 56.5**	**-0.5**
6.3nm,0.9s,mb4.5,baz=83,slow=6.4,SNR=19							

*IDC **06** 00:51:52.5±4.0, 696S×12729E, h396km±48km, mb3.6/8, mb1 3.6/10, mb1mx3.6/18, mbtmp4.3/10, Error ellipse: s-maj=28.6km s-min=15.7km az=44.0*
*ISCJB **06** 00:51:53.6±1.9, 699S±009×1273E±01, h428km±24km, mb4.1/19, Error ellipse: s-maj=21.6km s-min=7.4km az=108.3*
*NEIC **06** 00:51:53.9±1.4, 689S×12738E, h410km±20km, mb4.0/5, Error ellipse: s-maj=18.4km s-min=8.8km az=224.0*
ISC 06 00:51:55.4±1.4, 700S±009×1274E±01, h433km±19km, n32, σ0=85/35, mb4.1/19, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.17**	**189**	*e*P	**P**	**00 54 26.0**	**+0.7**
3.0nm,0.5s							
WRAB	**Tennant Creek**	**14.52**	**153**	*e*P	**P**	**00 55 02.2**	**+0.5**
5.4nm,0.3s							
WRAB				*e*S	**S**	**00 57 34.7**	**-0.9**
WRA	**Warramunga Arr**	**14.52**	**153**	P	**P**	**00 55 02.0**	**+0.3**
1.5nm,0.3s,baz=335,slow=12,SNR=62							
WRA				S	**S**	**00 57 33.6**	**-2.1**
1.4nm,0.3s,baz=325,slow=19,SNR=16							
WB2	**Warramunga Arr**	**14.53**	**153**	⇓*i*P	**P**	**00 55 02.0**	**+0.2**
WB2				*e*S	**S**	**00 57 34.2**	**-1.6**
MBWA	**Marble Bar**	**15.91**	**207**	*e*P	**P**	**00 55 17.5**	**+0.9**
KKM	**Kota Kinabalu**	**17.10**	**319**	*e*P	**P**	**00 55 27.4**	**-1.7**
ASPA	**Alice Springs**	**17.71**	**160**	*e*P	**P**	**00 55 36.6**	**+1.1**
ASPA				*e*S	**S**	**00 58 38.3**	**+0.8**
PMG	**Port Moresby**	**19.70**	**98**	P	**P**	**00 55 55.1**	**+0.2**
1.8nm,0.3s,baz=256,slow=4.2,SNR=5.4							
CTA	**Charters Tower**	**22.44**	**127**	P	**P**	**00 56 22.0**	**+2.2**
3.1nm,0.5s,mb4.0,baz=319,slow=12,SNR=5.3							
STKA	**Stephens Creek**	**28.07**	**154**	⇓*i*P	**P**	**00 57 09.5**	**-0.4**
4.0nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**28.07**	**154**	P	**P**	**00 57 09.5**	**-0.4**
5.1nm,0.4s,mb4.2,baz=333,slow=8.6,SNR=24							
PSI	**Prapat**	**30.05**	**288**	P	**P**	**00 57 26.1**	**-1.1**
5.5nm,0.7s,mb4.0,baz=120,slow=8.1,SNR=10							
ENH	**Enshi**	**40.85**	**336**	P	**P**	**00 58 56.9**	**-0.8**
3.1nm,0.4s,mb4.0							
LSA	**Lhasa**	**50.45**	**318**	*e*P	**P**	**01 00 13.0**	**+1.5**
4.0nm,0.6s,mb3.9							
JIRN	**Jiri**	**52.66**	**313**	*e*P	**P**	**01 00 27.5**	**-0.1**
9.8nm,0.4s,mb4.4							
GUN	**Gumba**	**53.03**	**313**	*e*P	**P**	**01 00 30.4**	**+0.1**
24nm,0.4s,mb4.8							
PKI	**Pulchoki**	**53.19**	**312**	*e*P	**P**	**01 00 31.1**	**-0.3**
13nm,0.4s,mb4.5							
KKN	**Kakani**	**53.41**	**312**	*e*P	**P**	**01 00 32.8**	**-0.2**
11nm,0.4s,mb4.4							
DMN	**Daman**	**53.43**	**312**	*e*P	**P**	**01 00 33.2**	**0.0**
16nm,0.6s,mb4.4							
GKN	**Gorkha**	**54.00**	**312**	*e*P	**P**	**01 00 37.1**	**-0.1**
35nm,0.4s,mb5.0							
KOLN	**Koldanda**	**54.64**	**311**	*e*P	**P**	**01 00 41.9**	**+0.2**
24nm,0.5s,mb4.7							
SONM	**Songino Array**	**57.66**	**343**	P	**P**	**01 01 02.8**	**+0.1**
1.5nm,0.8s,mb3.4,baz=163,slow=8.4,SNR=14							
MKAR	**Makanchi Array**	**66.83**	**328**	P	**P**	**01 02 03.0**	**+0.3**
1.7nm,0.5s,mb3.9,baz=120,slow=8.0,SNR=62							
MKAR	**Makanchi Array**	**66.83**	**328**	P	**P**	**01 02 03.0**	**+0.3**
ZAL	**Zalesovo**	**70.46**	**335**	P	**P**	**01 02 23.9**	**-0.9**
2.1nm,0.4s,mb4.0,baz=330,slow=5.5,SNR=14							
ZAL	**Zalesovo**	**70.46**	**335**	P	**P**	**01 02 23.9**	**-0.9**
BVAR	**Borovoye Array**	**76.70**	**329**	P	**P**	**01 03 00.6**	**+0.1**
0.8nm,0.5s,mb3.6,baz=124,slow=7.8,SNR=8.5							
BRVK	**Borovoye**	**76.78**	**329**	*e*P	**P**	**01 03 00.8**	**-0.2**
0.9nm,0.6s,mb3.6							
ZRNK	**Zerenda**	**77.39**	**328**	*e*P	**P**	**01 03 04.2**	**-0.1**
5.1nm,1.1s,mb4.1							
AKTK	**Aktyubinsk**	**82.50**	**323**	P	**P**	**01 03 31.9**	**+0.6**
AKTO	**Aktyubinsk**	**82.50**	**323**	P	**P**	**01 03 31.9**	**+0.6**
1.7nm,0.8s,mb3.8,baz=116,slow=6.3,SNR=8.3							
TORD	**Torodi Ar. Bea**	**126.28**	**281**	PKP	PKPdf	01 10 09.7	+2.0
0.3nm,0.5s,baz=91,slow=1.5,SNR=9.0							

*ATH **06** 00:55:14.9, 3686N×2643E, h10km, MD3.1/3*
*ISCJB **06** 00:55:16.3±1.5, 365N±01×267E±01, h140km±13km, Error ellipse: s-maj=20.9km s-min=9.8km az=116.5*
*HLW **06** 00:55:16.6, 3649N×2669E, h33km, Mb3.7*
*CSEM **06** 00:55:21.6±0.8, 3606N×2682E, h92km±8km, ML3.7, Error ellipse: s-maj=22.0km s-min=4.1km az=155.0*
ISC 06 00:55:17.2±1.6, 365N±01×267E±01, h136km±14km, n25, σ0=64/28, 3C-9D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.82**	**50**	*i* P	**Pn**	**00 55 39.0**	**-0.1**
BDRM				*i* S	**Sn**	**00 55 55.6**	**-0.1**
KARP	**Karpathos**	**1.07**	**158**	*e*PB	**Pn**	**00 55 42.0**	**+0.8**
ARG	**Arkhangelos**	**1.22**	**105**	*e*PB	**Pn**	**00 55 43.5**	**+0.8**
NPS	**Neapolis**	**1.53**	**214**	*e*PN	**Pn**	**00 55 46.8**	**+0.8**
DNZL	**Cakiroluk**	**2.23**	**58**	*i* P	**Pn**	**00 55 54.2**	**0.0**
DNZL				*i* S	**Sn**	**00 56 21.8**	**-0.9**
AKAS	**Kas**	**2.39**	**96**	*i* P	**Pn**	**00 55 57.2**	**+0.9**
AKAS				*i* S	**Sn**	**00 56 25.6**	**-0.7**
SLUM		**5.17**	**194**	⇓P	**Pn**	**00 56 32.0**	**-0.7**
SLUM				S	Sx	00 57 25.4	
HMAT	**Matruh**	**5.44**	**176**	⇑P	**Pn**	**00 56 35.3**	**-0.9**
HMAT				S	Sx	00 57 32.7	
DABA	**Dabaa**	**5.67**	**166**	⇓P	**Pn**	**00 56 37.6**	**-1.7**
SWA1		**7.30**	**187**	⇑P	**Pn**	**00 57 00.8**	**-0.4**
SWA1				S	Sx	00 58 17.1	
SWA2		**7.34**	**188**	⇑P	**Pn**	**00 57 01.4**	**-0.4**
HNAT	**Natroun**	**7.64**	**153**	⇓P	**Pn**	**00 57 05.7**	**0.0**
KOT	**Kottamia**	**7.88**	**145**	P	**Pn**	**00 57 09.4**	**+0.4**
KOT	**Kottamia**	**7.88**	**145**	P	**Pn**	**00 57 09.4**	**+0.4**
HHAG	**Hagoal**	**7.99**	**144**	⇓P	**Pn**	**00 57 10.4**	**0.0**
HSAF	**As Saff**	**8.03**	**148**	⇓P	**Pn**	**00 57 10.9**	**0.0**
GLL	**Jalalah**	**8.13**	**147**	⇓P	**Pn**	**00 57 12.4**	**+0.1**
SUZ		**8.44**	**141**	P	**Pn**	**00 57 16.4**	**-0.1**
ZAF		**8.76**	**144**	⇓P	**Pn**	**00 57 21.4**	**+0.6**
ZNM		**8.84**	**142**	⇓P	**Pn**	**00 57 21.7**	**-0.1**
HNKL	**Nakhl**	**8.99**	**135**	⇓P	**Pn**	**00 57 23.8**	**-0.1**
TR2		**10.08**	**142**	P	**Pn**	**00 57 39.0**	**+0.7**
TR2		**10.08**	**142**	P	**Pn**	**00 57 39.0**	**+0.6**
TR1		**10.50**	**142**	P	**Pn**	**00 57 45.0**	**+1.0**
TR1		**10.50**	**142**	P	**Pn**	**00 57 45.0**	**+1.0**

*PGC **06** 01:03:35.8, 4957N×12766W, h10km, MLSn4.3/2, Mw4.6, West of Vancouver Island, British Columbia, near the margin.*
*ISCJB **06** 01:03:35.8±0.8, 4970N±002×12744W±003, h13km±5km, mb4.4/33, MS4.2/3, Error ellipse: s-maj=4.6km s-min=2.6km az=91.5*
*NEIC **06** 01:03:36.0, 4957N×12765W, h10km, mb4.6/27, MW4.6(PGC), After PGC.*
*BJI **06** 01:03:37.4, 5047N×12771W, h10km, mB4.8, mb4.7, Ms4.9, Msz4.6*
*IDC **06** 01:03:38.2±2.2, 4975N×12733W, h17km±13km, mb4.0/11, mb1 4.2/19, mb1mx4.1/27, mbtmp4.2/19, ML3.8/7, MS3.6/5, Ms1 3.6/5, ms1mx3.3/32, Error ellipse: s-maj=19.1km s-min=6.2km az=61.0*
*NAO **06** 01:03:57.4, 5265N×12869W, h33km, mb4.2*
ISC 06 01:03:38.6±0.6, 4975N±002×12740W±003, h21km±4km, n188, σ1=22/217, mb4.4/33, MS4.2/3, 2C-3D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.22**	**55**	⇓Pn	**Pb**	**01 03 45.5**	**+1.4**
EDB				Sn	**Sb**	**01 03 51.9**	**+4.2**
EDB				Trac		01 03 52.4	
comp=Z,2μm,0.1s							
BPBC	**Brooks Peninsu**	**0.47**	**329**	⇑Pn	**Pb**	**01 03 48.0**	**-0.2**
BPBC				Sn	**Sb**	**01 03 55.3**	**+0.6**
comp=Z,7μm,0.3s							
BPBC				Trac		01 03 56.9	
comp=Z,7μm,0.3s							
MAYB	**Maynard**	**0.67**	**12**	⇓Pn	**Pn**	**01 03 52.4**	**-0.4**
MAYB				Sn	**Sn**	**01 04 04.0**	**+1.4**
comp=Z,2μm,0.3s							
MAYB				Trac		01 04 05.2	
comp=Z,2μm,0.3s							
WOSB	**Woss**	**0.67**	**52**	Pn	**Pn**	**01 03 52.6**	**-0.2**
WOSB				Sn	**Sn**	**01 04 04.5**	**+1.8**
comp=Z,1μm,0.2s							
WOSB				Trac		01 04 04.9	
comp=Z,1μm,0.2s							
ETB	**Estevan Point**	**0.67**	**124**	⇑Pn	**Pn**	**01 03 49.9**	**-2.9**
ETB				Trac		01 04 00.0	
comp=Z,909nm,0.2s							
PHC	**Port Hardy**	**0.96**	**359**	⇓Pn	**Pn**	**01 03 56.1**	**-0.6**
PHC				Sn	**Sn**	**01 04 09.5**	**-0.2**
PHC				Trac		01 04 12.0	
comp=Z,1μm,0.3s							
HOLB	**Holberg**	**1.01**	**332**	⇑Pn	**Pn**	**01 03 55.5**	**-2.0**
HOLB				Sn	**Sn**	**01 04 08.8**	**-2.2**
comp=Z,5μm,0.2s							
HOLB				Trac		01 04 09.5	
comp=Z,5μm,0.2s							
NCRB	**Newcastle Ridg**	**1.08**	**52**	⇑Pn	**Pn**	**01 03 58.9**	**+0.5**
NCRB				Sn	**Sn**	**01 04 15.6**	**+2.7**
comp=Z,540nm,0.2s							
NCRB				Trac		01 04 16.1	
comp=Z,540nm,0.2s							
BTB	**Buttle Lake**	**1.25**	**102**	⇑Pn	**Pn**	**01 03 59.1**	**-1.7**
BTB				Sn	**Sn**	**01 04 15.8**	**-1.3**
comp=Z,2μm,0.5s							
BTB				Trac		01 04 16.4	
comp=Z,2μm,0.5s							
CBB	**Campbell River**	**1.34**	**77**	⇑Pn	**Pn**	**01 04 01.8**	**-0.3**
CBB				Sn	**Sn**	**01 04 20.5**	**+1.2**
CBB				Trac		01 04 22.5	
comp=Z,259nm,0.2s							
OZB	**Mount Ozzard**	**1.47**	**122**	⇑Pn	**Pn**	**01 04 00.8**	**-3.1**
OZB				Sn	**Sn**	**01 04 17.0**	**-5.5**
OZB				Trac		01 04 18.8	
comp=Z,619nm,0.1s							
ALB	**Alberni**	**1.74**	**105**	Pn	**Pn**	**01 04 05.6**	**-1.9**
ALB				Trac		01 04 30.6	
comp=Z,202nm,0.3s							
MGB	**Mount Grey**	**1.92**	**112**	⇑Pn	**Pn**	**01 04 07.5**	**-2.5**
MGB				Sn	**Sn**	**01 04 30.1**	**-3.4**
MGB				Trac		01 04 36.7	
comp=Z,141nm,0.2s							
TXB	**Texada**	**1.92**	**90**	⇑Pn	**Pn**	**01 04 09.0**	**-1.0**
TXB				Sn	**Sn**	**01 04 33.6**	**0.0**
comp=Z,186nm,0.2s							
TXB				Trac		01 04 35.6	
comp=Z,186nm,0.2s							
PFB	**Port Renfrew**	**2.27**	**120**	Pn	**Pn**	**01 04 12.1**	**-2.8**
PFB				Sn	**Sn**	**01 04 37.5**	**-4.6**
PFB				Trac		01 04 42.7	
comp=Z,37nm,0.2s							
NLLB	**Nanaimo Lost L**	**2.28**	**102**	Pn	**Pn**	**01 04 13.5**	**-1.5**
NLLB				Sn	**Sn**	**01 04 40.5**	**-1.9**
NLLB				Trac		01 04 42.9	
comp=Z,60nm,0.1s							
SHB	**Sechelt**	**2.29**	**93**	Pn	**Pn**	**01 04 14.2**	**-0.9**
SHB				Sn	**Sn**	**01 04 42.7**	**0.0**
SHB				Trac		01 04 48.0	
comp=Z,520nm,0.3s							
BBB	**Bella Bella**	**2.48**	**350**	Pn	**Pn**	**01 04 16.9**	**-0.8**
33nm,0.3s,baz=149,slow=3.0,SNR=762							
BBB				Sn	**Sn**	**01 04 46.2**	**-1.1**
98nm,0.3s,baz=181,slow=17,SNR=7.1							
BBB				Lg		01 04 56.9	
100nm,0.3s,baz=65,slow=18,SNR=12							
BBB				LR	LR	01 05 17.7	
comp=Z,249nm,20.6s,baz=94,slow=40							
BBB	**Bella Bella**	**2.48**	**350**	Pn	**Pn**	**01 04 17.2**	**-0.5**
BBB				Sn	**Sn**	**01 04 46.9**	**-0.4**
BBB				Trac		01 04 48.6	
comp=Z,252nm,0.2s							
BBB	**Bella Bella**	**2.48**	**350**	Pn	**Pn**	**01 04 16.9**	**-0.8**
BBB				Sn	**Sn**	**01 04 46.2**	**-1.1**
BBB				Lg		01 04 56.9	
BBB				LR	LR	01 05 17.7	
LZB	**Mount Lazard**	**2.61**	**115**	Pn	**Pn**	**01 04 17.0**	**-2.5**
LZB				Trac		01 04 53.3	
comp=Z,26nm,0.3s							
OTR	**Olympics--Tyee**	**2.62**	**129**	P	**Pn**	**01 04 17.1**	**-2.5**
GOBB	**Galiano Island**	**2.66**	**106**	Pn	**Pn**	**01 04 20.1**	**-0.2**
GOBB				Trac		01 04 56.5	
comp=Z,42nm,0.2s							
BIB	**Bowen Island**	**2.68**	**96**	Pn	**Pn**	**01 04 20.4**	**-0.1**
BIB				Trac		01 04 55.4	
comp=Z,53nm,0.2s							
WPB	**Watts Point**	**2.72**	**90**	Pn	**Pn**	**01 04 20.8**	**-0.2**
PGC	**Sidney**	**2.81**	**112**	Pn	**Pn**	**01 04 21.0**	**-1.3**
PGC				Sn	**Sn**	**01 04 52.9**	**-2.6**
PGC				Trac		01 04 58.7	
comp=Z,46nm,0.3s							
WSLR	**Whistler**	**2.92**	**81**	Pn	**Pn**	**01 04 24.4**	**+0.7**
WSLR				Sn	**Sn**	**01 04 58.8**	**+0.8**
WSLR				Trac		01 05 09.9	
comp=Z,99nm,0.5s							
OCWA	**Octopus Mounta**	**2.92**	**132**	*e*Pn	**Pn**	**01 04 21.1**	**-2.7**
STW	**Striped Peak**	**2.93**	**122**	P	**Pn**	**01 04 22.4**	**-1.5**
SNB	**Saturna Island**	**2.93**	**108**	Pn	**Pn**	**01 04 23.0**	**-0.9**
SNB				Sn	**Sn**	**01 04 58.4**	**-0.2**
SNB				Trac		01 05 03.0	
comp=Z,51nm,0.2s							
VGZ	**Gonzales**	**2.99**	**115**	Pn

FSB	**Fort Saint Jam**	**5.10 21**	Pn	**Pn**	**01 04 55.6**	**+2.0**
FSB			Sg	Sn	01 06 19.4	+28
FSB			Trac		01 06 37.5	
	comp=Z,151nm,0.9s					
TBM	**Table Mountain**	**5.21 117**	P	**Pn**	**01 04 55.2**	**0.0**
ASR	**Mount Adams--S**	**5.31 131**	P	**Pn**	**01 04 56.7**	**+0.1**
EBG	**Ellensburg**	**5.37 119**	P	**Pn**	**01 04 57.3**	**-0.1**
NDB	**Naden**	**5.43 323**	Pn	**Pn**	**01 04 56.0**	**-2.3**
NDB			Sn	**Sn**	**01 05 54.5**	**-5.7**
	comp=Z,38nm,0.4s					
NDB			Trac		01 06 00.2	
	comp=Z,38nm,0.4s					
EPH	**Ephrata**	**5.71 112**	P	**Pn**	**01 05 01.4**	**-0.6**
MPOR	**Mary's Peak**	**5.87 152**	P	**Pn**	**01 05 04.0**	**-0.2**
COR	**Corvallis**	**5.87 150**	*e*Pn	**Pn**	**01 05 03.8**	**-0.6**
	58nm,0.5s					
COR			*e*Sn	**Sn**	**01 06 00.8**	**-10**
DOWB	**Downie Slide**	**5.92 69**	Pn	**Pn**	**01 05 06.1**	**+1.1**
DOWB			Sg	Sn	01 06 49.4	+37
DOWB			Trac		01 06 56.3	
	comp=Z,440nm,0.8s					
SSOR	**Sweet Springs**	**5.94 144**	P	**Pn**	**01 05 05.5**	**+0.3**
GBB	**Gable Butte**	**6.07 118**	P	**Pn**	**01 05 06.5**	**-0.6**
SLEB	**Sale Mountain**	**6.08 73**	Pn	**Pn**	**01 05 09.0**	**+1.8**
SLEB			Sg	Sn	01 06 43.0	+27
SLEB			Trac		01 07 16.9	
	comp=Z,46nm,1.1s					
MNB	**Mounoet Dainar**	**6.20 63**	Pn	**Pn**	**01 05 10.5**	**+1.8**
MNB			Sg	Sn	01 06 53.5	+34
OD2	**Odessa Site #2**	**6.23 109**	P	**Pn**	**01 05 08.2**	**-1.0**
HAWA	**Hanford**	**6.25 120**	*e*Pn	**Pn**	**01 05 08.7**	**-0.8**
	1.4nm,0.8s					
BROR	**Big Rock Looko**	**6.44 147**	P	**Pn**	**01 05 12.5**	**+0.4**
CRAG	**Craig**	**6.70 331**	*e*P	**Pn**	**01 05 16.7**	**+1.0**
HBO	**Huckleberry Mo**	**6.86 148**	P	**Pn**	**01 05 18.4**	**+0.5**
NEW	**Newport**	**6.92 99**	Pn	**Pn**	**01 05 18.8**	**0.0**
	0.8nm,0.3s,baz=289,slow=12,SNR=18					
NEW			Lg		01 07 11.2	
	0.2nm,0.3s,baz=46,slow=19,SNR=4.3					
NEW	**Newport**	**6.92 99**	*e*Pn	**Pn**	**01 05 18.2**	**-0.5**
	7.8nm,0.6s					
BMBC	**Bull Mountain**	**7.06 25**	Pn	**Pn**	**01 05 23.6**	**+3.0**
BMBC			Sg	Sn	01 07 23.9	+44
BMBC			Trac		01 07 44.9	
	comp=Z,49nm,0.8s					
BBOR	**Butler Butte**	**7.60 153**	P	**Pn**	**01 05 29.7**	**+1.7**
HUMO	**Hull Mountain**	**7.78 155**	*e*Pn	**Pn**	**01 05 31.8**	**+1.3**
	84nm,0.6s					
BUOR	**Burton Butte**	**8.29 152**	P	**Pn**	**01 05 39.0**	**+1.6**
BMO	**Blue Mountains**	**8.43 122**	*e*Pn	**Pn**	**01 05 38.5**	**-0.9**
	3.7nm,0.6s					
YBH	**Yreka Blue Hor**	**8.66 156**	Pn	**Pn**	**01 05 45.0**	**+2.4**
	3.6nm,0.3s,baz=345,slow=10,SNR=138					
YBH			LR	LR	01 09 00.2	
	comp=Z,181nm,21.5s,baz=332,slow=37					
YBH	**Yreka Blue Hor**	**8.66 156**	*e*Pn	**Pn**	**01 05 41.6**	**-1.0**
	110nm,1.0s					
WALA	**Waterton Lakes**	**8.82 89**	Pn	**Pn**	**01 05 47.0**	**+2.1**
WALA			Sg	Sn	01 08 12.6	+49
WALA			Trac		01 08 35.9	
	comp=Z,19nm,1.2s					
KHMM	**Horse Mountain**	**9.24 162**	*e*Pn	**Pn**	**01 05 52.2**	**+1.7**
MOD	**Modoc**	**9.28 145**	*e*Pn	**Pn**	**01 05 52.9**	**+1.8**
	30nm,0.7s					
MSO	**Missoula**	**9.43 103**	*e*Pn	**Pn**	**01 05 53.5**	**+0.3**
	2.7nm,0.8s					
FNBB	**Fort Nelson**	**9.51 14**	Pn	**Pn**	**01 06 01.6**	**+7.4**
FNBB			Sg	Sn	01 08 38.5	+58
FNBB			Trac		01 08 54.0	
	comp=Z,10.0nm,0.8s					
WVOR	**Wild Horse Val**	**9.51 137**	*e*Pn	**Pn**	**01 05 56.0**	**+1.8**
	35nm,0.9s					
WDC	**Whiskeytown Da**	**9.79 158**	*e*Pn	**Pn**	**01 06 00.3**	**+2.2**
	37nm,0.8s					
DLMT	**Dillon**	**10.92 108**	*e*Pn	**Pn**	**01 06 12.5**	**-1.0**
	6.0nm,0.8s					
MCMT	**McKenzie Canyo**	**11.04 111**	*e*Pn	**Pn**	**01 06 14.6**	**-0.5**
OHCM	**Honcut**	**11.23 156**	*e*Pn	**Pn**	**01 06 18.0**	**+0.2**
WHY	**Whitehorse**	**11.73 342**	Pn	**Pn**	**01 06 29.3**	**+4.7**
QLMT	**Earthquake Lak**	**11.90 108**	Pn	**Pn**	**01 06 32.9**	**+5.9**
ELK	**Elko**	**12.41 132**	Pn	**Pn**	**01 06 36.6**	**+2.7**
	0.1nm,0.3s,baz=148,slow=1.3,SNR=25					
ELK			LR	LR	01 11 54.6	
	comp=Z,306nm,20.4s,baz=45,slow=40					
LKWY	**Lake**	**12.67 108**	*e*Pn	**Pn**	**01 06 44.3**	**+6.8**
	19nm,0.9s					
FLWY	**Flagg Ranch**	**12.73 110**	*e*Pn	**Pn**	**01 06 39.8**	**+1.4**
	21nm,1.3s					
MOOW	**Moose Ponds**	**12.89 111**	*e*Pn	**Pn**	**01 06 42.4**	**+1.9**
	4.2nm,0.7s					
REDW	**Red Top Meadow**	**13.04 113**	*e*Pn	**Pn**	**01 06 50.7**	**+8.1**
	13nm,1.2s					
NVAR	**Mina Array Bea**	**13.06 147**	Pn	**Pn**	**01 06 44.9**	**+2.1**
	0.3nm,0.3s,baz=308,slow=13,SNR=65					
MNV	**Mina**	**13.11 146**	*e*Pn	**Pn**	**01 06 45.2**	**+1.8**
	28nm,1.1s					
HWUT	**Hardware Ranch**	**13.72 120**	*e*Pn	**Pn**	**01 06 54.1**	**+2.3**
	15nm,1.1s					
TPH	**Tonopah**	**13.77 144**	*e*Pn	**Pn**	**01 06 53.7**	**+1.2**
	29nm,1.3s					
DUG	**Dugway**	**14.04 127**	*e*Pn	**Pn**	**01 06 57.6**	**+1.4**
	8.7nm,1.0s					
PDAR	**Pinedale Array**	**14.16 113**	Pn	**Pn**	**01 06 59.6**	**+1.8**
	0.1nm,0.3s,baz=310,slow=12,SNR=28					
YKA	**Yellowknife Ar**	**14.59 24**	Pn	**Pn**	**01 07 02.4**	**-1.2**
	baz=211,slow=13,SNR=12					
YKA	**Yellowknife Ar**	**14.59 24**	Pn	**Pn**	**01 07 02.4**	**-1.2**
YKW3	**Yellowknife Ar**	**14.64 24**	Pn	**Pn**	**01 07 02.7**	**-1.7**
YKW3			Trac		01 11 41.0	
	comp=Z,12nm,1.1s					
ISA	**Isabella**	**15.51 152**	*e*Pn	**Pn**	**01 07 19.3**	**+3.3**
	77nm,2.2s					
TMUT	**Trail Mountain**	**15.54 126**	*e*Pn	**Pn**	**01 07 17.6**	**+1.3**
MVU	**Marysvale**	**15.63 130**	*e*Pn	**Pn**	**01 07 16.8**	**-0.7**
	11nm,0.9s					
DAWY	**Dawson**	**15.73 340**	Pn	**Pn**	**01 07 25.5**	**+6.7**
RWWY	**Rawlins**	**16.20 112**	*e*Pn	**Pn**	**01 07 24.4**	**-0.5**
	50nm,1.0s					
PHWY	**Pilot Hill**	**17.49 111**	*e*Pn	**Pn**	**01 07 39.2**	**-1.9**
SMCO	**Snowmass**	**17.95 118**	*e*Pn	**Pn**	**01 07 46.6**	**-0.2**
	31nm,0.9s					
ILAR	**Eielson Array**	**18.25 333**	P	**Pn**	**01 07 51.9**	**+1.5**
	0.0nm,0.3s,baz=146,slow=10,SNR=20					
ILAR			PcP	PcP	01 12 21.8	-0.6
	0.0nm,0.3s,baz=175,slow=1.2,SNR=8.4					
ISCO	**Idaho Springs**	**18.33 115**	*e*Pn	**Pn**	**01 07 51.7**	**+0.3**
	10.0nm,1.1s					
WUAZ	**Wupatki**	**18.42 135**	*e*P	**Pn**	**01 07 53.0**	**+0.5**
	21nm,1.3s					
BAR	**Barrett**	**18.83 151**	*e*P	**Pn**	**01 07 56.1**	**-1.4**
INK	**Inuvik**	**18.86 353**	P	**Pn**	**01 07 58.8**	**+1.0**
	0.1nm,0.3s,baz=169,slow=10,SNR=14					
INK	**Inuvik**	**18.86 353**	Pn	**Pn**	**01 07 59.0**	**+1.1**
ULM	**Lac du Bonnet**	**20.20 76**	P	**P**	**01 08 12.7**	**+0.8**
	9.2nm,0.6s,baz=282,slow=11,SNR=19					
ULM	**Lac du Bonnet**	**20.20 76**	Pn	**P**	**01 08 10.7**	**-1.2**
IMA2	**Indian Mountai**	**21.23 330**	*e*P	**P**	**01 08 25.1**	**+2.0**
FCC	**Fort Churchill**	**21.24 52**	⇑Pn	**P**	**01 08 24.1**	**+1.0**
ANMO	**Albuquerque**	**21.30 126**	P	**P**	**01 08 24.6**	**+0.8**
	4.3nm,0.9s,mb3.8,baz=324,slow=9.4,SNR=16					
ANMO	**Albuquerque**	**21.30 126**	*e*P	**P**	**01 08 23.4**	**-0.4**
	10nm,1.1s,mb4.1					
TUC	**Tucson**	**21.38 138**	*e*P	**P**	**01 08 24.3**	**-0.3**
	9.0nm,1.1s,mb4.0					
LPM	**Los Pinos Moun**	**21.71 127**	*e*P	**P**	**01 08 29.2**	**+1.0**
BNM	**Barren Site**	**21.84 128**	*e*P	**P**	**01 08 30.4**	**+0.9**
KSU1	**Kansas State U**	**24.27 104**	*e*P	**P**	**01 08 55.2**	**+1.1**
TXAR	**Lajitas Array**	**27.20 130**	P	**P**	**01 09 21.2**	**+0.5**
	2.6nm,0.8s,mb3.8,baz=328,slow=8.6,SNR=20					
RES	**Resolute Bay**	**28.46 17**	Pn	**P**	**01 09 32.3**	**+0.3**
OXF	**Oxford**	**31.63 104**	*e*P	**P**	**01 10 00.6**	**+0.5**
	51nm,1.1s,mb5.3					
SADO	**Sadowa**	**32.67 80**	PcP	PcP	01 12 53.8	-0.9
	25nm,1.1s,baz=297,slow=2.9,SNR=3.1					
SADO			LR	LR	01 23 49.2	
	comp=Z,200nm,19.4s,MS3.8,baz=5.0,slow=37					
SUMG	**Summit**	**43.17 26**	*e*P	**P**	**01 11 39.1**	**+1.4**
	11nm,1.0s,mb4.5					
MDJ	**Mudanjiang**	**64.63 310**	P	**P**	**01 14 14.9**	**+0.3**
MDJ			AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3					
MDJ			AMB	AMB		
	comp=Z,43nm,4.3s					
NB2	**NORSAR Subarra**	**64.66 21**	P	**P**	**01 14 15.3**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.3,baz=334,slow=6.9					
NOA	**NORSAR Array B**	**64.66 21**	P	**P**	**01 14 14.8**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=319,slow=5.4,SNR=4.1					
FINES	**FINESS Array B**	**67.13 13**	P	**P**	**01 14 30.2**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=0.0,slow=3.8,SNR=13					
CN2	**Changchun**	**67.27 311**	*e*P	**P**	**01 14 33.4**	**+1.9**
ROSF	**Rostrenen**	**71.09 36**	*e*P	**P**	**01 14 55.8**	**+0.6**
FLN	**La Foliniere**	**71.77 34**	*e*P	**P**	**01 14 59.8**	**+0.5**
	comp=Z,9.8nm,0.7s,mb4.5					
FLN	**La Foliniere**	**71.77 34**	*e*P	**P**	**01 14 59.8**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.5					
GRR	**Gorn**	**71.94 34**	*e*P	**P**	**01 15 00.6**	**+0.2**
	comp=Z,10nm,0.7s,mb4.5					
GRR	**Gorron**	**71.94 34**	*e*P	**P**	**01 15 00.6**	**+0.2**
	comp=Z,5.2nm,0.7s,mb4.6					
LDF	**La Druitiere**	**72.04 34**	*e*P	**P**	**01 15 01.3**	**+0.4**
	comp=Z,24nm,1.1s,mb4.7					
LDF	**La Druitiere**	**72.04 34**	*e*P	**P**	**01 15 01.3**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7					
BAIF	**Baives**	**72.28 30**	*e*P	**P**	**01 15 02.9**	**+0.5**
	comp=Z,18nm,1.2s,mb4.6					
BAIF	**Baives**	**72.28 30**	*e*P	**P**	**01 15 02.9**	**+0.5**
	comp=Z,9.1nm,1.2s,mb4.6					
SONM	**Songino Array**	**72.29 325**	P	**P**	**01 15 02.1**	**-0.3**
	comp=Z,0.8nm,0.9s,mb3.6,baz=58,slow=3.3,SNR=6.2					
JNU	**Nakatsue**	**72.34 300**	LR	LR	01 48 03.9	
	comp=Z,149nm,18.2s,MS4.3,baz=236,slow=37					
ZAL	**Zalesovo**	**73.19 341**	P	**P**	**01 15 06.6**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=80,slow=4.4,SNR=5.0					
ZAL	**Zalesovo**	**73.19 341**	P	**P**	**01 15 06.6**	**-1.2**
MFF	**Saint Martin d**	**73.71 35**	*e*P	**P**	**01 15 11.0**	**+0.2**
	comp=Z,13nm,1.0s,mb4.5					
MFF	**Saint Martin d**	**73.71 35**	*e*P	**P**	**01 15 11.0**	**+0.2**
	comp=Z,6.6nm,1.0s,mb4.5					
MEZF	**Maizieres J'vi**	**73.91 31**	*e*P	**P**	**01 15 12.2**	**+0.2**
LOR	**Lormes**	**74.57 32**	*e*P	**P**	**01 15 16.9**	**+1.0**
	comp=Z,5.9nm,0.8s,mb4.3					
LOR	**Lormes**	**74.57 32**	*e*P	**P**	**01 15 16.9**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.3					
SSF	**Saint Saulge**	**74.63 32**	*e*P	**P**	**01 15 16.4**	**+0.2**
	comp=Z,8.1nm,1.0s,mb4.3					
SSF	**Saint Saulge**	**74.63 32**	*e*P	**P**	**01 15 16.4**	**+0.2**
	comp=Z,4.1nm,1.0s,mb4.3					
CDF	**Champ du Feu**	**74.71 29**	*e*P	**P**	**01 15 17.6**	**+0.9**
	comp=Z,12nm,1.0s,mb4.5					
CDF	**Champ du Feu**	**74.71 29**	*e*P	**P**	**01 15 17.6**	**+0.9**
	comp=Z,5.8nm,1.0s,mb4.5					
HAU	**Haudompre**	**74.77 30**	*e*P	**P**	**01 15 17.5**	**+0.5**
AVF	**Avril sur Loir**	**74.81 33**	*e*P	**P**	**01 15 17.1**	**-0.1**
	comp=Z,16nm,1.2s,mb4.5					
AVF	**Avril sur Loir**	**74.81 33**	*e*P	**P**	**01 15 17.1**	**-0.1**
	comp=Z,8.2nm,1.2s,mb4.5					
BGF	**Bois d'Agland**	**74.83 33**	*e*P	**P**	**01 15 17.8**	**+0.4**
	comp=Z,8.8nm,0.9s,mb4.4					
BGF	**Bois d'Agland**	**74.83 33**	*e*P	**P**	**01 15 17.8**	**+0.4**
	comp=Z,4.4nm,0.9s,mb4.4					
TCF	**Toulx Ste Croi**	**74.83 34**	*e*P	**P**	**01 15 17.7**	**+0.3**
	comp=Z,8.9nm,0.9s,mb4.4					
TCF	**Toulx Ste Croi**	**74.83 34**	*e*P	**P**	**01 15 17.7**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.4					
RJF	**Les Rejaudoux**	**75.42 35**	*e*P	**P**	**01 15 21.2**	**+0.4**
	comp=Z,27nm,1.2s,mb4.8					
RJF	**Les Rejaudoux**	**75.42 35**	*e*P	**P**	**01 15 21.2**	**+0.4**
	comp=Z,14nm,1.2s,mb4.8					
CABF	**La Chapelle**	**75.90 31**	*e*P	**P**	**01 15 24.2**	**+0.7**
	comp=Z,15nm,1.1s,mb4.5					
CABF	**La Chapelle**	**75.90 31**	*e*P	**P**	**01 15 24.2**	**+0.7**
	comp=Z,7.6nm,1.1s,mb4.5					
HHC	**Hu-ho-hao-te**	**75.99 318**	*e*P	**P**	**01 15 22.6**	**-1.4**
HHC			AP	pP	01 15 27.6	-3.3
HHC			XP	sP	01 15 30.0	-3.4
HHC			PCP	PcP	01 15 34.7	-1.6
HHC			PP	PP	01 18 11.8	-2.8
HHC			S	S	01 25 05.4	-0.5
HHC			XS	sS	01 25 12.6	-4.6
HHC			SKS		01 25 25.8	
HHC			SCS	ScS	01 25 34.1	-3.3
HHC			SS	SS	01 29 56.7	-1.9
HHC			AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6					
HHC			AMB	AMB		
	comp=Z,47nm,6.0s					
HHC			LR	LR		
	comp=N,125nm,13.2s,MS4.7					
HHC			LR	LR		
	comp=E,187nm,10.8s,MS4.7					
HHC			LR	LR		
	comp=Z,83nm,13.2s,MS4.2					
GERES	**GERESS Array B**	**76.24 25**	P	**P**	**01 15 26.1**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=346,slow=5.5,SNR=8.5					
ETSF	**Etsaut**	**76.68 37**	*e*P	**P**	**01 15 28.5**	**+0.6**
	comp=Z,8.1nm,0.8s,mb4.4					
ETSF	**Etsaut**	**76.68 37**	*e*P	**P**	**01 15 28.5**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.4					
ZRNK	**Zerenda**	**76.74 350**	*e*P	**P**	**01 15 27.7**	**-0.5**
	comp=Z,4.1nm,1.1s,mb4.3					
EPF	**Esparros**	**76.92 37**	*e*P	**P**	**01 15 29.6**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.3					
EPF	**Esparros**	**76.92 37**	*e*P	**P**	**01 15 29.6**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.4					
AKASG	**Malin Array Be**	**77.95 15**	P	**P**	**01 15 34.6**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.4,baz=344,slow=5.3,SNR=14					
ESDC	**Sonseca Array**	**77.99 41**	P	**P**	**01 15 35.9**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.0,baz=314,slow=5.0,SNR=12					
SBF	**Sospel**	**78.77 32**	*e*P	**P**	**01 15 40.1**	**+0.5**
LMR	**La Mourre**	**78.92 32**	*e*P	**P**	**01 15 40.6**	**+0.2**
	comp=Z,57nm,1.3s,mb5.0					
LMR	**La Mourre**	**78.92 32**	*e*P	**P**	**01 15 40.6**	**+0.2**
	comp=Z,28nm,1.3s,mb5.0					
MKAR	**Makanchi Array**	**80.45 340**	P	**P**	**01 15 48.2**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=23,slow=3.8,SNR=11					
MKAR	**Makanchi Array**	**80.45 340**	P	**P**	**01 15 48.2**	**-0.6**
PGF	**Pioggiola**	**80.46 31**	*e*P	**P**	**01 15 49.3**	**+0.5**
WMQ	**Urumqi**	**81.90 335**	*e*P	**P**	**01 15 57.0**	**+0.6**
CD2	**Chengdu**	**87.75 318**	*e*P	**P**	**01 16 24.4**	**-1.5**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2					
CD2			AMB	AMB		
	comp=Z,80nm,4.9s					
BOSA	**Boshof**	**150.36 55**	PKPbc	PKPbc	01 23 27.6	-0.6
	comp=Z,2.2nm,0.9s,baz=343,slow=11,SNR=4.3					

*IDC **06** 01:34:22.7±0.8, 667N×12673E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.2/8, Error ellipse: s-maj=58.4km s-min=17.4km az=76.0*
*MOS **06** 01:34:26.6±1.0, 655N×12644E, h33km, mb4.7/4, Error ellipse: s-maj=65.9km s-min=15.5km az=109.8*
*NEIC **06** 01:34:29.5±2.4, 664N×12680E, h49km±21km, mb4.3/5, Error ellipse: s-maj=32.0km s-min=8.7km az=75.0*
*ISCJB **06** 01:34:31.8±0.9, 649N±005×12642E±009, h80km±8km, mb4.2/14, Error ellipse: s-maj=14.7km s-min=9.0km az=164.6*
*MAN **06** 01:34:35.3, 661N×12544E, h144km, mb3.1, ML4.4, MS2.0*
ISC 06 01:34:33.1±0.9, 652N±006×12641E±009, h75km±8km, n33, σ1§10/38, mb4.2/14, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.99**	**303**	*i*P		**Pn**	**01 34 51.2**	**-0.4**
DAV	**Davao City (W)**	**0.99**	**303**	*e*Pg		**Pn**	**01 34 51.4**	**-0.2**
DAV				*e*Sg		**Sn**	**01 35 04.7**	**-0.8**
KCP	**Kidapawan**	**1.40**	**290**	⇑*e*P		**Pn**	**01 34 57.4**	**+0.6**
KCP				*i* S		**Sn**	**01 35 14.6**	**-0.2**
BIPH	**Bislig**	**1.65**	**358**	⇑*e*P		**Pn**	**01 34 59.3**	**-0.8**
BIPH				*i* S		**Sn**	**01 35 20.5**	**-0.1**
BUKP	**Musuan**	**1.90**	**315**	*e*P		**Pn**	**01 35 02.9**	**-0.5**
BUKP				*e*S		**Sn**	**01 35 24.6**	**-2.0**
BUTP	**Butuan**	**2.55**	**342**	*e*P		**Pn**	**01 35 14.7**	**+2.4**
CGP	**Cagayan de Oro**	**2.57**	**319**	⇑*i*P		**Pn**	**01 35 06.9**	**-5.5**
CGP				*i* S		**Sn**	**01 35 45.0**	**+2.4**
PAGZ	**Pagadian**	**3.28**	**294**	*e*P		**Pn**	**01 35 15.4**	**-6.7**
SCPH	**Surigao**	**3.36**	**344**	‖*e*P		**Pn**	**01 35 25.7**	**+2.5**
YHNB	**Yeheng**	**18.68**	**346**	P		**Pn**	**01 38 42.4**	**-4.0**
FITZ	**Fitzroy Crossi**	**24.48**	**182**	*e*P		**P**	**01 39 46.3**	**+1.2**
	6.2nm,0.5s,mb4.2							
WRAB	**Tennant Creek**	**27.43**	**164**	*e*P		**P**	**01 40 11.7**	**0.0**
WRAB				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.3							
WRAB	**Tennant Creek**	**27.43**	**164**	*e*P		**P**	**01 40 11.7**	**0.0**
	comp=Z,9.9nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**27.43**	**164**	P		**P**	**01 40 11.5**	**-0.3**
	comp=Z,1.9nm,0.8s,mb3.7,baz=345,slow=10,SNR=6.2							
WB2	**Warramunga Arr**	**27.43**	**164**	*e*P		**P**	**01 40 12.3**	**+0.5**
MBWA	**Marble Bar**	**28.28**	**193**	*e*P		**P**	**01 40 19.3**	**0.0**
	comp=Z,6.1nm,0.9s,mb4.1							
NWAO	**Narrogin (SRO)**	**40.19**	**192**	P		**P**	**01 42 02.5**	**+0.5**
	comp=Z,7.3nm,0.5s,mb4.8,baz=36,slow=11,SNR=9.9							
STKA	**Stephens Creek**	**40.84**	**160**	*e*P		**P**	**01 42 05.9**	**-1.5**
	comp=Z,5.8nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**40.84**	**160**	P		**P**	**01 42 06.0**	**-1.4**
	comp=Z,8.4nm,0.8s,mb4.6,baz=346,slow=5.4,SNR=10							
STKA	**Stephens Creek**	**40.84**	**160**	P		**P**	**01 42 06.0**	**-1.4**
ULN	**Ulaanbaatar**	**44.38**	**341**	*e*P		**P**	**01 42 36.8**	**+0.7**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.4s,mb4.2							
ULN	**Ulaanbaatar**	**44.38**	**341**	*e*P		**P**	**01 42 36.8**	**+0.7**
	comp=Z,6.9nm,1.4s,mb4.2							
SONM	**Songino Array**	**44.57**	**341**	P		**P**	**01 42 36.9**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.5,baz=169,slow=6.8,SNR=5.3							
SONM				PcP		PcP	01 44 20.1	+0.7
	comp=Z,0.6nm,0.8s,baz=153,slow=5.0,SNR=5.8							
MKAR	**Makanchi Array**	**55.10**	**324**	P		**P**	**01 43 56.8**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.6,baz=117,slow=7.4,SNR=44							
BRVK	**Borovoye**	**64.90**	**326**	*e*P		**P**	**01 45 05.7**	**+1.2**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.8							
BRVK	**Borovoye**	**64.90**	**326**	*e*P		**P**	**01 45 05.7**	**+1.2**
	comp=Z,1.4nm,0.6s,mb4.0							
ZRNK	**Zerenda**	**65.56**	**326**	*e*P		**P**	**01 45 09.7**	**+0.9**
ZRNK				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**65.56**	**326**	*e*P		**P**	**01 45 09.7**	**+0.9**
	comp=Z,10.0nm,1.0s,mb4.6							
ARU	**Arti**	**72.42**	**327**	*e*P		**P**	**01 45 51.8**	**+0.5**
ILAR	**Eielson Array**	**82.73**	**26**	P		**P**	**01 46 46.6**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=208,slow=5.9,SNR=4.5							
ARCES	**ARCESS Array B**	**87.73**	**340**	P		**P**	**01 47 12.9**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=7.9							
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**	**01 47 19.9**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=63,slow=4.3,SNR=7.2							
FINES	**FINESS Array B**	**89.24**	**332**	P		**P**	**01 47 19.9**	**-0.8**

CASC 06 01:43:01.6±1.1, 1230N×8792W, h34km±11km, MD3.7, ML3.3, 3C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.94**	**64**	⇑*e*P		Pn	01 43 19.2	+0.9
CRIN				*e*S		Sn	01 43 31.1	+0.6
LEON	**Leon**	**1.01**	**83**	‖*e*P		Pn	01 43 18.8	-0.4
LEON				*e*S		Sn	01 43 32.9	+0.7
TEL3	**Telica 3**	**1.08**	**75**	‖*e*P		Pn	01 43 20.1	-0.2
VSM	**San Miguel**	**1.18**	**343**	*e*P		Pn	01 43 25.6	+4.0
VSM				*e*S		Sn	01 43 42.0	+5.6
BLLM	**Bellamira**	**1.18**	**345**	*e*P		Pn	01 43 24.9	+3.2
BLLM				*e*S		Sn	01 43 41.2	+4.6
MIRN	**Miramar**	**1.19**	**83**	‖*e*P		Pn	01 43 21.4	-0.3
MIRN				*e*S		Sn	01 43 37.2	+0.6
COPN	**Copaltepe**	**1.30**	**95**	⇑*e*P		Pn	01 43 22.8	-0.5
COPN				*e*S		Sn	01 43 40.1	+0.7
APYN	**Apoyeque**	**1.53**	**92**	‖*e*P		Pn	01 43 26.7	+0.3
XAVN	**Gruta Xavier**	**1.56**	**95**	*e*P		Pn	01 43 27.4	+0.5
SNVI	**San Vicente**	**1.59**	**326**	*e*P		Pn	01 43 31.0	+3.7
SNVI				*e*S		Sn	01 43 51.0	+4.4
MGAN	**Managua**	**1.64**	**95**	⇑*e*P		Pn	01 43 27.7	-0.2
MGAN				*e*S		Sn	01 43 48.

BIPH Bislig 2.51 335⇑ *i*P Pn 02 18 29.8 -2.6
BIPH *i* S **Sn 02 18 55.5 -6.2**
CGP Cagayan de Oro 3.73 313⇑ *i*P Pn 02 18 49.3 +0.2
CGP *i* S **Sn 02 19 32.1 +0.4**
SCPH Surigao 4.31 333⇓ *e*P Pn 02 18 56.7 -0.4
FITZ Fitzroy Crossi 23.92 184 *e*P P 02 23 03.3 +0.3
9.4nm,1.2s,mb4.1
SSE Sheshan 25.74 348 P **P 02 23 20.0 +0.5**
SSE AMB AMB
comp=Z,25nm,1.0s,mb4.7
SSE AMB AMB
comp=Z,294nm,3.8s
WRAB Tennant Creek 26.56 165 *e*P P 02 23 26.3 -0.6
WRAB *e* pP 02 23 41.1 +0.8
WRAB pmax pmax
comp=Z,28nm,1.1s,mb4.7
WRAB Tennant Creek 26.56 165 *e*P P 02 23 26.3 -0.6
comp=Z,28nm,1.1s,mb4.7
WRAB *e* pP 02 23 41.1 +0.8
WRA Warramunga Arr 26.56 165 P **P 02 23 26.6 -0.4**
comp=Z,2.2nm,0.3s,mb4.2,baz=348,slow=9.8,SNR=37
WRA ScP ScP 02 30 28.4 +2.7
comp=Z,0.8nm,0.8s,baz=342,slow=3.4,SNR=6.6
WB2 Warramunga Arr 26.57 165 *e*P P 02 23 26.3 -0.7
WB2 *e* pP 02 23 40.6 +0.2
NJ2 Nanjing 27.23 344 *e*P P 02 23 33.2 +0.3
NJ2 AP pP 02 23 42.6 -3.7
NJ2 XP sP 02 23 46.6 -6.0
NJ2 PP 02 24 21.0
NJ2 S **S 02 28 08.0 -0.1**
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.2
NJ2 AMB AMB
comp=Z,50nm,5.2s
NJ2 LR LR
comp=N,330nm,16.0s,MS4.2
NJ2 LR LR
comp=E,350nm,16.2s,MS4.2
JNU Nakatsue 27.27 6 P **P 02 23 34.6 +1.3**
comp=E,15nm,0.9s,mb4.5,baz=222,slow=5.7,SNR=3.6
CTAO Charters Tower 31.77 145 P **P 02 24 13.3 +0.2**
CTAO *PP pP 02 24 28.3 +1.6
CTAO pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CTAO Charters Tower 31.77 145 P **P 02 24 13.3 +0.2**
comp=Z,6.3nm,1.0s,mb4.4
CTAO pP pP 02 24 28.3 +1.6
MJAR Matsushiro Arr 32.05 16 P **P 02 24 16.6 +1.0**
comp=Z,1.2nm,0.4s,mb4.0,baz=181,slow=9.8,SNR=5.5
MJAR LR LR 02 35 49.2
comp=Z,115nm,19.2s,MS3.6,baz=200,slow=34
CD2 Chengdu 33.37 321 *e*P P 02 24 27.3 +0.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
VLA Vladivostok 37.27 5 *i*P P 02 25 02.7 +2.0
SHL Shillong 39.22 304 *e*P P 02 25 18.0 +1.0
STKA Stephens Creek 39.92 161⇓ *i*P P 02 25 21.1 -1.8
comp=Z,11nm,0.7s,mb4.7
STKA *i* pP 02 25 35.3 -1.4
STKA Stephens Creek 39.92 161 P **P 02 25 21.2 -1.6**
comp=Z,10nm,0.5s,mb4.9,baz=342,slow=7.1,SNR=49
STKA LR LR 02 41 12.2
comp=Z,61nm,19.1s,MS3.5,baz=206,slow=35
LSA Lhasa 41.59 309 P **P 02 25 36.6 0.0**
LSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
LSA Lhasa 41.59 309 P **P 02 25 36.6 -0.1**
comp=Z,2.5nm,0.4s,mb4.2
GTA Gaotai 41.64 327 *e*P P 02 25 37.1 +0.1
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.0
HABR Khabarovsk 42.91 7 *e*P P 02 25 45.4 -2.0
ARMA Armidale 42.91 149 *e*P P 02 25 49.7 +2.3
ARMA *i* pP 02 26 03.7 +2.4
KLR Kul'dur 43.33 4 *e*P P 02 25 48.9 -1.8
HIA Hailar 43.70 353 P **P 02 25 52.7 -1.0**
HIA pmax pmax
comp=Z,5.0nm,0.3s
HIA Hailar 43.70 353 P **P 02 25 52.7 -1.1**
comp=Z,4.8nm,0.3s,mb4.7
JIRN Jiri 44.73 304 *e*P P 02 26 02.0 +0.1
comp=Z,40nm,0.9s,mb5.2
GUN Gumba 45.07 304 *e*P P 02 26 04.7 0.0
comp=Z,42nm,0.8s,mb5.3
ULN Ulaanbaatar 45.30 341 *c i*P P 02 26 06.3 -0.2
ULN Ulaanbaatar 45.30 341 *e*P P 02 26 05.9 -0.6
comp=Z,3.2nm,0.9s,mb4.2
PKI Pulchoki 45.34 303 *e*P P 02 26 06.4 -0.4
comp=Z,20nm,0.9s,mb5.0
PKI Pulchoki 45.34 303 *e*P P 02 26 06.4 -0.4
PKI pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SONM Songino Array 45.49 340 P **P 02 26 07.7 -0.3**
comp=Z,0.7nm,0.6s,mb3.7,baz=156,slow=7.7,SNR=6.2
KKN Kakani 45.52 304 *e*P P 02 26 07.8 -0.5
comp=Z,25nm,0.9s,mb5.2
KKN Kakani 45.52 304 *e*P P 02 26 07.8 -0.5
KKN pmax pmax
comp=Z,12nm,0.9s,mb4.8
DMN Daman 45.61 303 *e*P P 02 26 08.9 0.0
comp=Z,34nm,1.0s,mb5.2
GKN Gorkha 46.13 304 *e*P P 02 26 12.5 -0.6
KOLN Koldanda 46.92 303 *e*P P 02 26 19.1 -0.1
comp=Z,37nm,0.8s,mb5.4
BOD Bodaibo 52.84 351 *e*P P 02 27 03.4 -0.7
PET Petropavlovsk 53.46 23 P **P 02 27 06.2 -2.5**
PET pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
PET Petropavlovsk 53.46 23 P **P 02 27 06.2 -2.5**
comp=Z,7.3nm,0.4s,mb5.0
YAK Yakutsk 56.03 1⇑ *e*P P 02 27 27.6 +0.3
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
MKAR Makanchi Array 56.21 324 P **P 02 27 28.6 0.0**
comp=Z,5.0nm,0.9s,mb4.5,baz=126,slow=8.0,SNR=43
MKAR ScP ScP 02 32 21.6 +1.2
comp=Z,0.6nm,0.9s,baz=169,slow=6.2,SNR=4.1
MA2 Magadan 56.44 14⇑ *e*P P 02 27 34.0 +3.8
MA2 pmax pmax
comp=Z,22nm,2.5s,mb4.7
KRAR Krasnoyarsk 57.01 338 *i*P P 02 27 34.5 +0.3
ULHL Ulahol 57.91 317 P **P 02 27 41.6 +0.9**
SNR=5.3
KZA Kyzart 58.52 316 P **P 02 27 46.2 +1.3**
SNR=6.3
TKM2 Tokmak 2 58.62 317 P **P 02 27 46.4 +0.8**
SNR=6.5
TKM2 Tokmak 2 58.62 317 *i*P P 02 27 46.1 +0.5
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZAL Zalesovo 59.00 332 P **P 02 27 47.0 -1.2**
comp=Z,1.9nm,0.3s,mb4.6,baz=13,slow=9.4,SNR=12
ZAL Zalesovo 59.00 332 *i*P P 02 27 47.5 -0.7
ZAL pmax pmax
comp=Z,2.0nm,0.3s
UCH Uchtor 59.09 316 P **P 02 27 50.2 +1.4**
SNR=6.9
AAK Ala-Archa 59.25 317 *e*P P 02 27 49.1 -0.9
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 59.25 317 *e*P P 02 27 49.1 -0.9
comp=Z,1.8nm,0.6s,mb4.3
USP Ospenovka 59.49 317 P **P 02 27 51.7 +0.1**
SNR=9.7
AML Almayashu 59.62 316 P **P 02 27 53.0 +0.6**
SNR=7.6
EKS2 Erkin-Say 59.76 317 P **P 02 27 54.2 +0.8**
SNR=10
SEY Seymchan 59.77 13⇑ *i*P P 02 27 56.6 +3.1
NVS Novosibirsk 60.28 332 *e*P P 02 27 55.6 -1.4
KURK Kurchatov 60.32 327⇑ *e*P P 02 27 57.1 -0.2
KK31 Karatay Array 62.16 316 *i*P P 02 28 09.5 -0.2
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
KKAR Karatay Array 62.16 316 *i*P P 02 28 09.5 -0.2
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
VOSK Vostochnaya 65.46 326 P **P 02 28 30.7 -0.7**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TIXI Tiksi 65.67 0⇑ *i*P P 02 28 34.9 +2.1
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BVA0 Borovoye Array 65.91 326 P **P 02 28 33.9 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
BVAR Borovoye Array 65.91 326 P **P 02 28 33.8 -0.5**
comp=Z,4.6nm,0.7s,mb4.6,baz=126,slow=9.1,SNR=32
BRVK Borovoye 65.98 326 *e*P P 02 28 34.3 -0.5
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 65.98 326 *e*P P 02 28 34.3 -0.5
comp=Z,5.2nm,0.8s,mb4.6
ZRNK Zerenda 66.65 326 *e*P P 02 28 38.9 -0.2
ZRNK pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ZRNK Zerenda 66.65 326 *e*P P 02 28 38.9 -0.1
comp=Z,10nm,0.6s,mb5.0
AB31 Akbulak array 70.94 320 *i*P P 02 29 05.6 -0.1
AB31 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AKTK Aktyubinsk 72.42 321 P **P 02 29 14.9 +0.3**
AKTO Aktyubinsk 72.42 321 P **P 02 29 14.9 +0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=95,slow=7.0,SNR=16
ARU Arti 73.50 327⇑ *i*P P 02 29 20.2 -0.8
ARU *e* pP 02 29 34.6 -1.4
ARU *e* 02 32 03.4
ARU *e*S S 02 38 48.5 +1.8
ARU *e*SS SS 02 43 32.5 +2.5
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ARU Arti 73.50 327 *e*P P 02 29 20.4 -0.6
comp=Z,5.3nm,0.8s,mb4.5
MCK McKinley 81.91 27 *e*P P 02 30 08.5 +0.7
MCK *e*PP pP 02 30 23.3 +0.3
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MCK McKinley 81.91 27 *e*P P 02 30 08.4 +0.6
comp=Z,2.3nm,0.7s,mb4.2
MCK *e*pP pP 02 30 23.3 +0.3
KIV Kislovodsk 82.17 313 *e*P P 02 30 10.2 +1.0
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ILAR Eielson Array 82.84 26 P **P 02 30 12.8 +0.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=237,slow=5.0,SNR=7.2
OBN Obninsk 85.71 325⇑ *e*P P 02 30 29.5 +2.3
OBN *e* pP 02 30 40.7 -1.8
OBN pmax pmax
comp=Z,18nm,1.6s,mb5.0
INK Inuvik 87.89 22 P **P 02 30 36.9 -0.9**
comp=Z,0.9nm,0.8s,mb4.0,baz=272,slow=5.3,SNR=3.0
ARCES ARCESS Array B 88.67 340 P **P 02 30 40.0 -1.5**
comp=Z,4.1nm,0.8s,mb4.8,baz=72,slow=7.7,SNR=5.7
ARCES ARCESS Array B 88.67 340 P **P 02 30 40.0 -1.5**
FINES FINESS Array B 90.27 332 P **P 02 30 49.2 +0.2**
comp=Z,1.2nm,0.8s,mb4.3,baz=56,slow=6.9,SNR=4.5
FINES FINESS Array B 90.27 332 *i*P P 02 30 51.0 +2.0
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 90.27 332 P **P 02 30 49.2 +0.2**
YKA Yellowknife Ar 97.24 24 P **P 02 31 21.2 +0.2**
comp=Z,0.2nm,0.7s,mb3.6,baz=296,slow=4.5,SNR=5.0
TORD Torodi Ar. Bea 122.89 290 PKP PKPdf 02 36 45.3 +1.1
comp=Z,0.7nm,0.7s,baz=67,slow=1.6,SNR=6.9

*ISCJB **06** 02:47:41.7±0.6, 6625N±004×1419W±0.1, h7km, Error ellipse: s-maj=6.6km s-min=5.6km az=104.4*
*NEIC **06** 02:47:44.0, 6627N×14236W, h7km, ML2.9(AEIC), After AEIC.*
*PGC **06** 02:47:45.4, 6626N×14189W, h1km, ML2.7/2, Eastern Alaska.*
ISC 06 02:47:43.1±0.5, 6631N±004×14201W±009, h7km, n12, σ1§25/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.51**	**318**	P	**Pn**	**02 48 10.2**	**-0.4**
BM3				S	**Sn**	**02 48 30.7**	**+0.3**
DAWY	**Dawson**	**2.51**	**153**	Pn	**Pn**	**02 48 25.7**	**+1.4**
DAWY				Sn	**Sn**	**02 48 56.8**	**+1.6**
DAWY				Sg	**Sg**	**02 49 01.2**	**-2.7**
DAWY				Trac		02 49 09.4	
comp=Z,13nm,0.1s							
IL1	**Eielson Array**	**2.55**	**235**	P	**Pn**	**02 48 23.9**	**-0.9**
COLA	**College**	**2.82**	**242**	P	**Pn**	**02 48 27.7**	**-0.9**
COLD	**Coldfoot**	**3.37**	**290**	P	**Pn**	**02 48 36.9**	**+0.8**
MENT	**Mentasta**	**3.47**	**193**	P	**Pn**	**02 48 38.1**	**+0.7**
PAX	**Paxson**	**3.67**	**205**	P	**Pn**	**02 48 41.1**	**+0.9**
INK	**Inuvik**	**3.85**	**55**	Pn	**Pn**	**02 48 44.6**	**+1.9**
INK				Sn	**Sn**	**02 49 29.1**	**+1.0**
INK				Sg	**Sg**	**02 49 45.0**	**-1.8**
INK				Trac		02 49 54.7	
comp=Z,11nm,0.4s							
MCK	**McKinley**	**3.92**	**232**	P	**Pn**	**02 48 43.0**	**-0.5**
IM3	**Indian Mountai**	**4.78**	**271**	P	**Pn**	**02 48 54.4**	**-1.1**
HYT	**Haines Junctio**	**5.87**	**158**	Pn	**Pn**	**02 49 14.0**	**+3.6**
HYT				Sg	**Sg**	**02 50 45.3**	**-6.1**
HYT				Trac		02 50 51.5	
comp=Z,11nm,0.6s							
YKW3	**Yellowknife Ar**	**12.35**	**95**	Pn	**Pn**	**02 50 38.1**	**-1.2**
YKW3				Sn	**Sn**	**02 52 47.6**	**-10**
YKW3				Trac		02 53 04.6	
comp=Z,1.0nm,0.4s							

*MDD **06** 02:50:23.1±1.0, 3590N×1030W, h0km, mbLg3.0/21, Error ellipse: s-maj=11.5km s-min=7.3km az=82.0, PRXIMO*
*ISCJB **06** 02:50:25.6±0.8, 3611N±004×1001W±005, h10km, Error ellipse: s-maj=6.9km s-min=4.7km az=98.8*
*IGIL **06** 02:50:25.0, 3600N×1040W, h2km, ML3.0*
*NEIC **06** 02:50:25.7, 3597N×1039W, h22km, MN2.9(MDD), After MDD.*
*CSEM **06** 02:50:26.2±0.2, 3569N×992W, h40km, ML3.8/4, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0*
*CNRM **06** 02:50:27.0, 3573N×1023W, h30km, MD3.4*
*INMG **06** 02:50:27.4±0.9, 3602N×1024W, h10km, ML2.6, Error ellipse: s-maj=4.6km s-min=2.8km az=63.0*
ISC 06 02:50:27.7±0.8, 3616N±004×1002W±005, h10km, n61, σ1§15/119, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**2.46**	**55**	P	**Pn**	**02 51 08.7**	**+0.9**
1.3nm,0.0s,SNR=7.9							
EGRO				S	**Sn**	**02 51 39.9**	**+2.0**
31nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.46**	**55**	P	**Pn**	**02 51 08.7**	**+0.9**
1.3nm,0.0s,SNR=7.9							
EGRO				S	**Sn**	**02 51 39.9**	**+2.1**
31nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**2.54**	**42**	*e*Pn	**Pn**	**02 51 09.8**	**+0.9**
PBEJ				*e*Sn	**Sn**	**02 51 42.0**	**+2.1**
PBEJ							
20nm,0.1s							
PBEJ	**Beja**	**2.54**	**42**	*e*Pn	**Pn**	**02 51 09.8**	**+0.9**
PBEJ				*e*Sn	**Sn**	**02 51 42.0**	**+2.1**
20nm,0.1s							
LIS	**Lisbon**	**2.65**	**15**	*e*P	**Pn**	**02 51 11.1**	**+0.7**
LIS				*e*S	**Sn**	**02 51 43.0**	**+0.4**
LIS				*e*S	**Sn**	**02 51 43.0**	**+0.5**
LIS				AML	AML	02 51 44.7	
comp=E,75nm,0.6s							
LIS	**Lisbon**	**2.65**	**15**	*e*P	**Pn**	**02 51 11.1**	**+0.7**
LIS				*e*S	**Sn**	**02 51 43.0**	**+0.4**
LIS	**Lisbon**	**2.65**	**15**	P	**Pn**	**02 51 11.1**	**+0.7**
LIS				S	**Sn**	**02 51 43.0**	**+0.4**
MOE	**Montemor**	**2.71**	**29**	*e*Pn	**Pn**	**02 51 12.4**	**+1.1**
MOE				*e*Sn	**Sn**	**02 51 45.8**	**+1.7**
PLOU	**Loures**	**2.81**	**14**	*e*Pn	**Pn**	**02 51 12.4**	**-0.3**
PLOU				*e*Sn	**Sn**	**02 51 47.0**	**+0.4**
PLOU							
comp=E,26nm,0.1s							
EMIN	**Mina Concepcio**	**3.13**	**58**	P	**Pn**	**02 51 17.6**	**+0.6**
comp=E,0.8nm,0.1s,SNR=22							
EMIN				S	**Sn**	**02 51 55.7**	**+1.3**
comp=E,9.1nm,0.2s,SNR=11							
EMIN	**Mina Concepcio**	**3.13**	**58**	P	**Pn**	**02 51 17.6**	**+0.6**
comp=E,0.8nm,0.1s,SNR=22							
EMIN				S	**Sn**	**02 51 55.4**	**+1.0**
comp=E,9.1nm,0.2s,SNR=11							
EMIN	**Mina Concepcio**	**3.13**	**58**	P	**Pn**	**02 51 17.6**	**+0.7**
EMIN				S	**Sn**	**02 51 55.4**	**+1.1**
ALMR	**Almeirim**	**3.21**	**20**	*e*P	**Pn**	**02 51 19.0**	**+0.9**
ALMR				*e*S	**Sn**	**02 51 55.5**	**-0.8**
ALMR				*e*S	**Sn**	**02 51 55.6**	**-0.8**
ALMR				AML	AML	02 52 00.6	
comp=E,33nm,0.2s							
ALMR	**Almeirim**	**3.21**	**20**	*e*P	**Pn**	**02 51 19.0**	**+0.9**
ALMR				*e*S	**Sn**	**02 51 55.5**	**-0.8**
ALMR	**Almeirim**	**3.21**	**20**	P	**Pn**	**02 51 19.0**	**+0.9**
ALMR				S	**Sn**	**02 51 55.5**	**-0.8**
ESPR	**Espera**	**3.43**	**77**	P	**Pn**	**02 51 21.4**	**+0.2**
comp=E,11nm,0.1s,SNR=75							
ESPR				S	**Sn**	**02 52 02.4**	**+0.6**
comp=E,34nm,0.2s,SNR=5.2							
ESPR	**Espera**	**3.43**	**77**	P	**Pn**	**02 51 21.4**	**+0.2**
comp=E,11nm,0.1s,SNR=75							
ESPR				S	**Sn**	**02 52 02.4**	**+0.6**
comp=E,34nm,0.2s,SNR=5.2							
ESPR	**Espera**	**3.43**	**77**	P	**Pn**	**02 51 21.5**	**+0.3**
ESPR				S	**Sn**	**02 52 02.4**	**+0.6**
EBAD	**Badajoz**	**3.53**	**42**	⇑P	**Pn**	**02 51 23.1**	**+0.6**
comp=E,0.7nm,0.1s,SNR=18							
EBAD				S	**Sn**	**02 52 06.0**	**+1.7**
comp=E,7.9nm,0.1s,SNR=5.6							
EBAD	**Badajoz**	**3.53**	**42**	P	**Pn**	**02 51 23.1**	**+0.6**
comp=E,0.7nm,0.1s,SNR=18							
PTOM	**Tomar**	**3.68**	**20**	*e*Pn	**Pn**	**02 51 24.7**	**+0.1**
PTOM				*e*Sn	**Sn**	**02 52 08.0**	**-0.1**
PTOM							
comp=E,16nm,0.1s							
PTOM	**Tomar**	**3.68**	**20**	*e*Pn	**Pn**	**02 51 24.7**	**+0.1**
PTOM				*e*Sn	**Sn**	**02 52 08.0**	**-0.1**
comp=E,16nm,0.1s							
EJIF	**Jimena Fronter**	**3.69**	**84**	P	**Pn**	**02 51 25.4**	**+0.7**
comp=E,1.7nm,0.2s,SNR=20							
EJIF				S	**Sn**	**02 52 08.8**	**+0.6**
comp=E,0.3nm,0.1s							
EJIF	**Jimena Fronter**	**3.69**	**84**	P	**Pn**	**02 51 25.6**	**+0.9**
EJIF				S	**Sn**	**02 52 09.4**	**+1.1**
PCBR	**Castelo Branco**	**4.19**	**28**	*e*Pn	**Pn**	**02 51 32.0**	**+0.4**
PCBR				*e*Sn	**Sn**	**02 52 20.1**	**-0.5**
PCBR							
comp=E,4.7nm,0.1s							
PCBR	**Castelo Branco**	**4.19**	**28**	*e*Pn	**Pn**	**02 51 32.0**	**+0.4**
PCBR				*e*Sn	**Sn**	**02 52 20.1**	**-0.5**
comp=E,4.7nm,0.1s							
EMIJ	**Mijas**	**4.25**	**83**	P	**Pn**	**02 51 32.4**	**-0.1**
comp=E,0.8nm,0.1s,SNR=5.8							
EMIJ				S	**Sn**	**02 52 21.9**	**-0.3**
comp=E,1.6nm,0.2s							
EMIJ	**Mijas**	**4.25**	**83**	P	**Pn**	**02 51 32.4**	**-0.1**
EMIJ				S	**Sn**	**02 52 22.3**	**+0.1**
MTE	**Manteigas**	**4.66**	**24**	*e*Pn	**Pn**	**02 51 38.3**	**+0.2**
MTE				*e*Sn	**Sn**	**02 52 31.1**	**-1.2**
MTE							
comp=E,7.7nm,0.5s							
MTE	**Manteigas**	**4.66**	**24**	*e*Pn	**Pn**	**02 51 38.3**	**+0.2**
MTE				*e*Sn	**Sn**	**02 52 31.1**	**-1.2**
comp=E,7.7nm,0.5s							
CIA	**Chichaoua**	**4.70**	**167**	*i*P	**Pn**	**02 51 30.0**	**-8.6**
CIA				*i*S	**Sn**	**02 52 17.0**	**-16**
EADA	**Adamuz**	**4.79**	**64**	⇑P	**Pn**	**02 51 40.4**	**+0.6**
comp=E,5.1nm,0.1s,SNR=18							
EADA				S	**Sn**	**02 52 34.6**	**-0.8**
comp=E,3.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.79**	**64**	P	**Pn**	**02 51 40.4**	**+0.6**
comp=E,5.1nm,0.1s,SNR=18							
EADA				S	**Sn**	**02 52 34.6**	**-0.8**
comp=E,3.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.79**	**64**	⇑P	**Pn**	**02 51 40.5**	**+0.6**
EADA				S	**Sn**	**02 52 34.6**	**-0.8**
MIF	**Mishlifen**	**4.80**	**123**	*i*P	**Pn**	**02 51 36.5**	**-3.5**
MIF				*e*S	**Sn**	**02 52 26.0**	**-10**
ELUQ	**Luque**	**4.82**	**71**	P	**Pn**	**02 51 40.4**	**+0.1**
comp=E,1.7nm,0.3s,SNR=7.9							
ELUQ				S	**Sn**	**02 52 35.5**	**-0.7**
comp=E,2.1nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**4.85**	**19**	*e*Sn	**Sn**	**02 52 36.3**	**-0.5**
TZC	**Tazercounte**	**4.96**	**143**	*i*P	**Pn**	**02 51 36.0**	**-6.1**
TZC				*i*S	**Sn**	**02 52 26.0**	**-13**
CZD	**Col de Zad**	**5.15**	**126**	*i*P	**Pn**	**02 51 40.0**	**-4.9**
CZD				*i*S	**Sn**	**02 52 35.0**	**-9.4**
OUK	**Oukaimeden**	**5.25**	**159**	*i*P	**Pn**	**02 51 38.0**	**-8.2**
OUK				*i*S	**Sn**	**02 52 32.0**	**-15**
ECOG	**Cogollos-Vega**	**5.30**	**76**	P	**Pn**	**02 51 47.7**	**+0.8**
comp=E,2.5nm,0.4s,SNR=7.9							
ECOG				S	**Sn**	**02 52 46.9**	**-1.2**
comp=E,0.3nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**5.37**	**66**	P	**Pn**	**02 51 47.7**	**-0.1**
comp=E,4.5nm,0.2s,SNR=17							
EBAN				S	**Sn**	**02 52 47.2**	**-2.4**
comp=E,8.0nm,0.1s							
EQUE	**Quentar**	**5.39**	**77**	P	**Pn**	**02 51 48.1**	**-0.1**
comp=E,0.7nm,0.2s,SNR=7.9							
EQUE				S	**Sn**	**02 52 50.2**	**0.0**
comp=E,1.0nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**5.42**	**19**	*e*Pn	**Pn**	**02 51 48.2**	**-0.3**
PVRL				*e*Sn	**Sn**	**02 52 48.2**	**-2.7**
PVRL							
comp=E,8.5nm,0.1s							
PCAB	**Cabril**	**5.76**	**15**	*e*Pn	**Pn**	**02 51 52.7**	**-0.5**
PCAB				*e*Sn	**Sn**	**02 52 57.0**	**-2.3**
PCAB							
comp=E,3.5nm,0.1s							
EQES	**Quesada**	**5.80**	**71**	P	**Pn**	**02 51 53.8**	**0.0**
comp=E,0.5nm,0.1s,SNR=10							
EQES				S	**Sn**	**02 52 59.9**	**-0.4**
comp=E,0.5nm,0.0s							
EQES	**Quesada**	**5.80**	**71**	P	**Pn**	**02 51 53.8**	**0.0**
comp=E,0.5nm,0.1s,SNR=10							
EQES				S	**Sn**	**02 52 59.9**	**-0.4**
comp=E,0.5nm,0.0s							
ELOB	**Lobios**	**5.90**	**14**	P	**Pn**	**02 51 54.4**	**-0.7**
comp=E,0.4nm,0.1s,SNR=7.9							
ELOB				S	**Sn**	**02 52 59.2**	**-3.7**
comp=E,1.1nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**5.94**	**52**	P	**Pn**	**02 51 56.6**	**+0.9**
comp=E,2.1nm,0.1s,baz=233,slow=13,SNR=21							
ESDC				S	**Sn**	**02 53 03.7**	**0.0**
comp=E,3.3nm,0.1s,baz=238,slow=23,SNR=42							
ESDC	**Sonseca Array**	**5.94**	**52**	P	**Pn**	**02 51 56.6**	**+1.0**
comp=E,2.1nm,0.1s,SNR=21							
PBRG	**Braganca**	**6.19**	**23**	*e*Pn	**Pn**	**02 51 59.0**	**-0.1**
PBRG				*e*Sn	**Sn**	**02 53 07.4**	**-2.5**
PBRG							
comp=E,2.7nm,0.2s							
ECAL	**Calabor**	**6.32**	**23**	P	**Pn**	**02 52 00.6**	**-0.2**
comp=E,0.2nm,0.0s,SNR=7.9							
ECAL				S	**Sn**	**02 53 11.5**	**-1.5**
comp=E,4.8nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.32**	**23**	P	**Pn**	**02 52 00.9**	**0.0**
ECAL				S	**Sn**	**02 53 10.8**	**-2.2**
GUD	**Guadarrama**	**6.42**	**44**	P	**Pn**	**02 52 03.3**	**+1.0**
comp=E,0.4nm,0.1s,SNR=7.2							
GUD				S	**Sn**	**02 53 15.3**	**-0.4**
comp=E,2.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.42**	**44**	P	**Pn**	**02 52 03.4**	**+1.1**
GUD				S	**Sn**	**02 53 15.3**	**-0.4**
EMAZ	**Mazaricos**	**6.83**	**6**	P	**Pn**	**02 52 06.4**	**-1.5**
comp=E,2.2nm,0.1s,SNR=7.9							
EMAZ				S	**Sn**	**02 53 20.5**	**-5.3**
comp=E,1.0nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**7.19**	**67**	P	**Pn**	**02 52 12.4**	**-0.4**
comp=E,0.5nm,0.1s,SNR=16							
ETOB				S	**Sn**	**02 53 32.0**	**-2.5**
comp=E,0.7nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**7.19**	**67**	P	**Pn**	**02 52 12.4**	**-0.4**
comp=E,0.5nm,0.1s,SNR=16							
EMOS	**Mosqueruela**	**8.60**	**58**	P	**Pn**	**02 52 33.2**	**+1.0**
comp=E,0.2nm,0.3s,SNR=7.9							
EMOS				S	**Sn**	**02 54 06.5**	**-2.9**
comp=E,1.6nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**8.60**	**58**	P	**Pn**	**02 52 33.3**	**+1.1**
EMOS	**Mosqueruela**	**8.60**	**58**	P	**Pn**	**02 52 33.3**	**+1.1**
EMOS				S	**Sn**	**02 54 06.5**	**-2.9**

*NAO **06** 03:03:48.0, 6005N×15005E, h33km, mb4.2*
*IDC **06** 03:03:60.0±2.0, 5955N×15006E, h12km±11km, mb4.7/14, mb1 4.9/15, mb1mx4.8/17, mbtmp4.8/15, ML4.6/2, MS5.2/17, Ms1 5.1/17, ms1mx4.9/22, Error ellipse: s-maj=21.0km s-min=13.5km az=88.0*
*BJI **06** 03:04:01.0, 6275N×15046E, h44km, mB5.4, mb5.1, Ms5.4, Msz5.1*
*ISCJB **06** 03:04:02.0±0.3, 6125N±004×15002E±006, h33km, mb5.0/59, MS5.2/36, Error ellipse: s-maj=8.4km s-min=4.7km az=31.3*
*NEIC **06** 03:04:03.8±0.2, 6055N×15001E, mb5.0/15, MS5.7/3, MW5.6, Error ellipse: s-maj=9.1km s-min=6.1km

Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}2.89; $M_{\theta\theta}$-2.37; $M_{\phi\phi}$-0.52; $M_{r\theta}$0.98; $M_{\phi\phi}$1.68; $M_{\phi r}$-0.21; Best double couple: $M_0$3.30000×10^{17} NP1: ϕ_s114.00000°,δ54.00000°,λ82.00000°. NP2: ϕ_s308.00000°,δ37.00000°,λ101.00000°. Principal axes: T 3.0700, Plg79.0000°, Azm351.0000°; N 0.4400, Plg7.0000°, Azm119.0000°; P -3.5100, Plg9.0000°, Azm210.0000°;

MOS **06** *03:04:03.4±0.9,595S×149.65E,h33km,mb5.2/17, MS5.5/8 Error ellipse: s-maj=12.1km s-min=7.5km az=92.9*

HRVD **06** *03:04:03.8±0.1,639S×149.96E,h44km,MW5.6/100, Centroid moment Tensor Solution. LP body waves: s100,c191;Mantle waves: s99,c201; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}3.04±.05; $M_{\theta\theta}$-3.47±.04; $M_{\phi\phi}$0.42±.04; $M_{r\theta}$0.92±.04; $M_{\theta\phi}$0.07±.04; $M_{\phi r}$0.07±.05; Best double couple: $M_0$3.38400×10^{17} NP1:ϕ_s273.00000°,δ37.00000°,λ93.00000°. NP2: ϕ_s89.00000°,δ53.00000°,λ88.00000°. Principal axes: T 3.1700, Plg82.0000°, Azm348.0000°; N 0.4260, Plg2.0000°, Azm91.0000°; P -3.5990, Plg8.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 03:04:04.0±0.4,616S±004×15010E±006,h35km, h35km±.8km:pP-P,n243,σ1§38/144,mb5.0/59,MS5.2/36, 9C-9D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**222**	Pn			**Pn**	**03 05 09.3**	**+1.8**
	222nm,0.3s,baz=46,slow=5.8,SNR=765								
PMG				Sn			**Sn**	**03 05 56.9**	**+0.1**
	896nm,0.3s,baz=136,slow=22,SNR=10								
PMG				LR			LR	03 07 01.1	
	comp=Z,38μm,21.9s,baz=16,slow=40								
PMG	**Port Moresby**	**4.34**	**222**	P			**Pn**	**03 05 09.3**	**+1.8**
PMG								03 05 56.9	
CTA	**Charters Tower**	**14.34**	**195**	⇓*i*	*P*		**Pn**	**03 07 26.1**	**+1.7**
	34nm,0.9s								
CTA				*es*	P		pP	03 07 33.5	-6.6
CTA				*e*				03 10 27.1	
CTA	**Charters Tower**	**14.34**	**195**	Pn			**Pn**	**03 07 26.2**	**+1.8**
	2.0nm,0.3s,baz=20,slow=14,SNR=45								
CTA				Sn			**Sn**	**03 10 15.2**	**+13**
	0.3nm,0.3s,baz=221,slow=11,SNR=2.7								
CTA				LR			LR	03 13 09.2	
	comp=Z,6μm,18.1s,baz=5.0,slow=38								
CTA	**Charters Tower**	**14.34**	**195**	P			**Pn**	**03 07 26.2**	**+1.8**
CTA								03 10 15.3	
CTA	**Charters Tower**	**14.34**	**195**	Pn			**Pn**	**03 07 26.2**	**+1.8**
CTA				Sn			**Sn**	**03 10 15.2**	**+13**
CTA				LR			LR	03 13 09.2	
CTAO	**Charters Tower**	**14.34**	**195**	P			**Pn**	**03 07 26.1**	**+1.7**
GUMO	**Guam**	**20.29**	**345**	P			**P**	**03 08 38.9**	**+2.3**
	179nm,0.9s,baz=156,slow=12,SNR=3.7								
GUMO				LR			LR	03 15 37.1	
	comp=Z,4μm,19.7s,MS4.8,baz=330,slow=35								
GUMO	**Guam**	**20.29**	**345**	P			**P**	**03 08 38.9**	**+2.3**
GUMO				LR			LR	03 15 37.1	
WRAB	**Tennant Creek**	**20.53**	**227**	P			**P**	**03 08 39.0**	**-0.2**
	1μm,0.9s								
WRAB	**Tennant Creek**	**20.53**	**227**	P			**P**	**03 08 39.6**	**+0.4**
WB2	**Warramunga Arr**	**20.54**	**227**	⇓*i*	*P*		**P**	**03 08 39.6**	**+0.4**
WB2				*es*	S		**S**	**03 12 23.6**	**-3.4**
WB2				*e*	SCS		ScS	03 20 08.0	+1.6
WRA	**Warramunga Arr**	**20.55**	**227**	P			**P**	**03 08 39.8**	**+0.5**
	96nm,0.7s,baz=51,slow=11,SNR=123								
WRA				S			**S**	**03 12 23.9**	**-3.3**
	15nm,1.0s,baz=52,slow=19,SNR=5.2								
ASPA	**Alice Springs**	**23.36**	**220**	*e*	*P*		**P**	**03 09 09.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.65**	**241**	*e*	*P*		**P**	**03 09 38.6**	**-0.7**
	100nm,0.5s,mb5.6								
FITZ				*es*	P		sP	03 09 49.8	-3.9
FITZ				*es*	S		**S**	**03 14 09.8**	**-2.2**
STKA	**Stephens Creek**	**26.79**	**196**	*e*	*P*		**P**	**03 09 38.4**	**-2.2**
	48nm,0.8s,mb5.1								
STKA	**Stephens Creek**	**26.79**	**196**	P			**P**	**03 09 41.2**	**+0.6**
	41nm,0.7s,mb5.1,baz=0.8,slow=9.3,SNR=34								
STKA				S			**S**	**03 14 08.3**	**-5.9**
	6.7nm,0.9s,baz=263,slow=16,SNR=1.7								
STKA				LR			LR	03 21 11.8	
	comp=Z,7μm,18.2s,MS5.2,baz=8.3,slow=38								
STKA	**Stephens Creek**	**26.79**	**196**	P			**P**	**03 09 39.0**	**-1.6**
CNB	**Canberra Magne**	**29.02**	**181**	*e*	*P*		**P**	**03 10 02.4**	**+1.9**
	57nm,1.5s,mb5.1								
CNB				*e*			pP	03 10 12.4	+1.7
MBWA	**Marble Bar**	**32.96**	**240**	P			**P**	**03 10 34.7**	**-0.6**
MBWA				*ep*	P		pP	03 10 43.9	-1.6
TAU	**Tasmania Unive**	**36.68**	**183**	P			pP	03 11 19.1	+1.5
TAU	**Tasmania Unive**	**36.68**	**183**	pP			pP	03 11 19.1	+1.5
JOW	**Kunigami**	**39.02**	**328**	P			**P**	**03 11 27.9**	**+0.9**
	28nm,0.5s,mb5.3,baz=138,slow=2.2,SNR=4.3								
JOW				LR			LR	03 24 07.5	
	comp=Z,4μm,21.2s,MS5.2,baz=115,slow=31								
KLBR	**Kellerberrin**	**39.43**	**226**	*e*	*P*		**P**	**03 11 29.9**	**-0.5**
	61nm,1.0s,mb5.3								
KLBR				*e*			pP	03 11 39.8	-1.0
NWAO	**Narrogin (SRO)**	**40.53**	**225**	P			**P**	**03 11 38.3**	**-1.3**
	16nm,0.8s,mb4.7,baz=56,slow=10.0,SNR=5.5								
NWAO				PP			PP	03 13 14.0	+0.7
	35nm,0.9s,baz=69,slow=12,SNR=4.0								
NWAO				LR			LR	03 29 45.2	
	comp=Z,6μm,18.4s,MS5.5,baz=208,slow=38								
NWAO	**Narrogin (SRO)**	**40.53**	**225**	P			**P**	**03 11 38.7**	**-0.9**
NWAO				*e**PP			pP	03 11 48.7	-1.2
NWAO				pmax			pmax		
	comp=Z,25nm,1.0s								
NWAO	**Narrogin (SRO)**	**40.53**	**225**	P			**P**	**03 11 38.7**	**-0.9**
	comp=Z,25nm,1.0s,mb4.8								
NWAO				*ep*	P		pP	03 11 48.7	-1.3
NACB	**Ninganchiao**	**41.00**	**318**	*e*	*P*		**P**	**03 11 43.8**	**+0.3**
YHNB	**Yeheng**	**41.49**	**319**	*e*	*P*		**P**	**03 11 49.1**	**+1.6**
RPZ	**Rata Peaks**	**41.70**	**157**	P			**P**	**03 11 48.9**	**-0.3**
	comp=Z,7.3nm,0.7s,mb4.4,baz=63,slow=4.5,SNR=5.1								
RPZ				LR			LR	03 27 05.3	
	comp=Z,3μm,20.8s,MS5.2,baz=330,slow=33								
QZH	**Quanzhou**	**43.54**	**316**	⇑*i*	*P*		**P**	**03 12 03.5**	**-0.7**
QZH				LR			LR		
	comp=N,11μm,29.0s,MS5.7								
QZH				LR			LR		
	comp=E,4μm,24.0s,MS5.7								
QZH				LR			LR		
	comp=Z,7μm,30.0s								
MJAR	**Matsushiro Arr**	**43.91**	**346**	P			**P**	**03 12 05.3**	**-1.9**
	comp=Z,5.4nm,0.5s,mb4.5,baz=164,slow=6.3,SNR=17								
MJAR				LR			LR	03 30 31.1	
	comp=Z,2μm,18.4s,MS5.1,baz=165,slow=36								
MAJO	**Matsushiro**	**43.91**	**346**	P			**P**	**03 12 07.1**	**-0.1**
MAJO				*e**PP			pP	03 12 17.2	-0.4
MAJO				pmax			pmax		
	comp=Z,13nm,0.4s,mb5.0								
MAJO	**Matsushiro**	**43.91**	**346**	P			**P**	**03 12 07.1**	**-0.1**
	comp=Z,13nm,0.4s,mb5.0								
MAJO				*ep*	P		pP	03 12 17.1	-0.4
MAT	**Matsushiro**	**43.91**	**346**	P			**P**	**03 12 05.7**	**-1.5**
MAT				S			**S**	**03 18 38.0**	**+1.8**
MAT	**Matsushiro**	**43.91**	**346**	P			**P**	**03 12 06.0**	**-1.2**
MAT				*es*	S		**S**	**03 18 39.0**	**+2.8**
MAT				pmax			pmax		
	comp=Z,164nm,1.8s,mb5.5								
MAT				MLR			MLR		
	comp=Z,3μm,22.0s,MS5.2								
MAT	**Matsushiro**	**43.91**	**346**	P			**P**	**03 12 06.0**	**-1.2**
	comp=Z,164nm,1.8s,mb5.5								
MAT				*es*	S		**S**	**03 18 39.0**	**+2.8**
MAT				LR			LR		
	comp=Z,3μm,22.0s,MS5.2								
SSE	**Sheshan**	**46.22**	**325**	P			**P**	**03 12 26.8**	**+1.3**
SSE				AP			pP	03 12 35.8	-0.2
SSE				XP			sP	03 12 39.6	-0.6
SSE				S			**S**	**03 19 11.0**	**+1.5**
SSE				XS			sS	03 19 26.6	-0.2
SSE				AMB			AMB		
	comp=Z,27nm,1.0s,mb5.1								
SSE				AMB			AMB		
	comp=Z,461nm,3.9s								
SSE				LR			LR		
	comp=N,2μm,22.1s,MS5.2								
SSE				LR			LR		
	comp=E,2μm,22.1s,MS5.2								
SSE				LR			LR		
	comp=Z,4μm,23.0s,MS5.3								
QIZ	**Qiongzhong**	**46.89**	**303**	P			**P**	**03 12 29.6**	**-1.2**
QIZ				S			**S**	**03 19 15.3**	**-3.9**
QIZ				AMB			AMB		
	comp=Z,19nm,1.5s,mb4.8								
QIZ				AMB			AMB		
	comp=Z,603nm,5.4s								
QIZ				LR			LR		
	comp=N,855nm,20.7s,MS4.9								
QIZ				LR			LR		
	comp=E,956nm,19.9s,MS4.9								
QIZ				LR			LR		
	comp=Z,1μm,19.0s,MS4.9								
QIZ	**Qiongzhong**	**46.89**	**303**	*e*P			**P**	**03 12 31.9**	**+1.1**
KS15	**Wonju Array Si**	**48.07**	**336**	P			**P**	**03 12 41.1**	**+1.2**
KS15				*ep*P			pP	03 12 50.5	+0.1
NJ2	**Nanjing**	**48.27**	**324**	*e*P			**P**	**03 12 43.2**	**+1.7**
NJ2				AP			pP	03 12 53.1	+1.1
NJ2				XP			sP	03 12 57.0	+0.8
NJ2				PP			PP	03 14 35.0	+1.0
NJ2				S			**S**	**03 19 38.0**	**-0.7**
NJ2				AMB			AMB		
	comp=Z,20nm,0.5s,mb5.4								
NJ2				AMB			AMB		
	comp=Z,120nm,5.6s								
NJ2				LR			LR		
	comp=N,6μm,29.6s								
NJ2				LR			LR		
	comp=E,19μm,21.6s								
NJ2				LR			LR		
	comp=Z,3μm,29.0s,MS5.1								
WHN	**Wuhan**	**50.03**	**319**	P			**P**	**03 12 56.3**	**+1.4**
WHN				LR			LR		
	comp=Z,6μm,18.0s,MS5.7								
VLA	**Vladivostok**	**51.75**	**343**	*d*i*P*			**P**	**03 13 07.9**	**0.0**
VLA				*i*			pP	03 13 18.5	0.0
VLA				pmax			pmax		
	comp=Z,144nm,2.5s,mb5.5								
PSI	**Prapat**	**51.87**	**278**	P			**P**	**03 13 08.7**	**-0.1**
	comp=Z,4.7nm,0.3s,mb4.8,baz=83,slow=16,SNR=8.9								
DL2	**Dalian**	**52.02**	**332**	P			**P**	**03 13 10.5**	**+0.6**
DL2				S			**S**	**03 20 33.2**	**+2.2**
DL2				XS			sS	03 20 49.3	+0.8
DL2				AMB			AMB		
	comp=Z,20nm,1.0s,mb5.0								
DL2				AMB			AMB		
	comp=Z,190nm,2.6s,mb5.6								
DL2				LR			LR		
	comp=N,510nm,17.7s,MS4.9								
DL2				LR			LR		
	comp=E,800nm,18.0s,MS4.9								
DL2				LR			LR		
	comp=Z,1μm,19.8s,MS5.0								
TIA	**Tai'an**	**52.27**	**326**	*e*P			**P**	**03 13 10.7**	**-1.0**
COCO	**West Island**	**52.85**	**259**	P			**P**	**03 13 17.4**	**+1.4**
GYA	**Guiyang**	**53.12**	**310**	⇓*i*	*P*		**P**	**03 13 21.4**	**+3.4**
GYA				AP			pP	03 13 31.8	+3.1
GYA				XP			sP	03 13 34.6	+1.7
GYA				PCP			PcP	03 14 28.9	+2.9
GYA				PP			PP	03 15 23.7	+5.6
GYA				SCP			ScP	03 18 21.2	+0.5
GYA				S			**S**	**03 20 48.4**	**+2.4**
GYA				SS			SS	03 24 30.8	+5.2
GYA				AMB			AMB		
	comp=Z,30nm,0.8s,mb5.3								
GYA				LR			LR		
	comp=N,1μm,17.9s,MS5.0								
GYA				LR			LR		
	comp=E,920nm,19.5s,MS5.0								
GYA				LR			LR		
	comp=Z,1μm,19.8s,MS5.0								
ENH	**Enshi**	**53.16**	**315**	P			**P**	**03 13 18.7**	**+0.4**
ENH				pP			pP	03 13 31.1	+2.2
SNY	**Shenyang**	**53.55**	**335**	⇓P			**P**	**03 13 21.2**	**0.0**
SNY				S			**S**	**03 20 52.2**	**+0.4**
SNY				LR			LR		
	comp=N,980nm,24.0s								
SNY				LR			LR		
	comp=Z,2μm,26.7s,MS4.9								
MDJ	**Mudanjiang**	**53.80**	**342**	P			**P**	**03 13 22.6**	**-0.4**
MDJ				AP			pP	03 13 31.7	-2.0
MDJ				PCP			PcP	03 14 25.2	-3.3
MDJ				PP			PP	03 15 31.2	+7.0
MDJ				SCP			ScP	03 18 18.9	-4.8
MDJ				PCS			PcS	03 18 24.2	-3.6
MDJ				S			**S**	**03 21 00.3**	**+5.1**
MDJ				SCS			ScS	03 23 09.0	-0.6
MDJ				AMB			AMB		
	comp=Z,33nm,1.0s,mb5.2								
MDJ				AMB			AMB		
	comp=Z,471nm,9.2s								
MDJ				LR			LR		
	comp=N,1μm,29.0s,MS4.9								
MDJ				LR			LR		
	comp=E,881nm,27.2s,MS4.9								
MDJ				LR			LR		
	comp=Z,2μm,27.2s,MS5.0								
MDJ	**Mudanjiang**	**53.80**	**342**	P			**P**	**03 13 22.9**	**-0.2**
	comp=Z,35nm,1.0s,mb5.2								
NST	**Nakhon Sawan**	**54.02**	**294**	P			**P**	**03 13 19.5**	**-5.1**
CN2	**Changchun**	**54.49**	**338**	*e*P			**P**	**03 13 31.5**	**+3.5**
CN2				*e*AP			pP	03 13 41.6	+2.9
CN2				*e*XP			sP	03 13 45.6	+2.7
CN2				*es*	S		**S**	**03 21 07.2**	**+2.7**
CN2				AMB			AMB		
	comp=Z,10.0nm,0.5s,mb5.0								
CN2				AMB			AMB		
	comp=Z,200nm,5.0s								
CN2				LR			LR		
	comp=N,800nm,19.0s,MS5.0								
CN2				LR			LR		
	comp=E,1μm,19.0s,MS5.0								
CN2				LR			LR		
	comp=Z,2μm,22.0s,MS5.0								
KMI	**Kunming**	**55.55**	**306**	P			**P**	**03 13 39.9**	**+4.2**
KMI				AP			pP	03 13 51.5	+5.1
KMI				XP			sP	03 13 55.8	+5.2
KMI				PP			PP	03 15 45.8	+5.9
KMI				S			**S**	**03 21 20.4**	**+1.6**
KMI				XS			sS	03 21 39.4	+3.0
KMI				SS			SS	03 25 05.6	+1.6
KMI				AMB			AMB		
	comp=Z,21nm,0.9s,mb5.2								
KMI				AMB			AMB		
	comp=Z,166nm,6.1s								
KMI				LR			LR		
	comp=N,549nm,21.7s,MS4.8								
KMI				LR			LR		
	comp=E,586nm,20.9s,MS4.8								
KMI				LR			LR		
	comp=Z,1μm,27.4s								
BJT	**Baijiatuau**	**55.57**	**329**	P			sP	03 13 53.5	+2.8
BJT	**Baijiatuau**	**55.57**	**329**	pP			sP	03 13 53.5	+2.8
XAN	**Xi'an**	**55.80**	**319**	P			**P**	**03 13 39.8**	**+2.3**
XAN				AMB			AMB		
	comp=Z,16nm,1.2s,mb4.9								
CHRT	**Chiangrai**	**55.83**	**299**	⇓P			**P**	**03 13 39.0**	**+1.3**
	comp=Z,179nm,0.7s								
KLR	**Kul'dur**	**57.44**	**346**	*e*P			**P**	**03 13 45.8**	**-3.3**
KLR				*e*	P		pP	03 13 56.6	-3.2
KLR				*es*	S		**S**	**03 21 51.5**	**+7.8**
KLR				pmax			pmax		
	comp=E,110nm,2.6s								
KLR				pmax			pmax		
	comp=Z,240nm,2.6s,mb5.8								
KLR				MLR			MLR		
	comp=N,500nm,15.0s,MS5.1								
KLR				MLR			MLR		
	comp=E,900nm,15.0s,MS5.1								
KLR				MLR			MLR		
	comp=Z,2μm,15.0s,MS5.2								
CD2	**Chengdu**	**57.62**	**313**	⇑*i*	*P*		**P**	**03 13 52.2**	**+1.8**
CD2				AP			pP	03 14 03.2	+2.1
CD2				XP			sP	03 14 06.1	+0.8
CD2				PP			PP	03 16 01.7	+3.4
CD2				S			**S**	**03 21 46.7**	**+0.6**
CD2				XS			sS	03 22 03.4	-0.3
CD2				SS			SS	03 25 38.6	+2.2
CD2				AMB			AMB		
	comp=Z,20nm,0.8s,mb5.2								
CD2				AMB			AMB		
	comp=Z,240nm,11.8s								
CD2				LR			LR		
	comp=N,660nm,20.4s								
CD2				LR			LR		
	comp=Z,730nm,24.0s,MS4.7								
HHC	**Hu-ho-hao-te**	**58.63**	**326**	⇓P			**P**	**03 13 57.8**	**+0.4**
HHC				AP			pP	03 14 07.9	-0.3
HHC				XP			sP	03 14 12.7	+0.4
HHC				PCP			PcP	03 14 48.7	+1.4
HHC				PP			PP	03 16 10.2	+2.9
HHC				SCP			ScP	03 18 43.6	-1.3
HHC				S			**S**	**03 22 05.0**	**+5.8**
HHC				XS			sS	03 22 17.0	+0.1
HHC				SCS			ScS	03 23 42.1	-2.4
HHC				SS			SS	03 25 55.2	+2.9
HHC				AMB			AMB		
	comp=Z,15nm,1.2s,mb4.9								
HHC				AMB			AMB		
	comp=Z,250nm,7.2s								
HHC				LR			LR		
	comp=N,1μm,19.2s,MS5.2								
HHC				LR			LR		
	comp=E,1μm,20.4s,MS5.2								
HHC				LR			LR		
	comp=Z,2μm,20.4s,MS5.3								
BTO	**Baotou**	**59.32**	**325**	*e*P			**P**	**03 14 02.6**	**+0.3**
PET	**Petropavlovsk**	**59.40**	**6**	*e*P			**P**	**03 14 00.4**	**-2.4**
PET				*es*	S		**S**	**03 22 07.0**	**-2.3**
PET				pmax			pmax		
	comp=Z,500nm,8.0s								
PET				pmax			pmax		
	comp=Z,400nm,16.4s								
PPT	**Papeete**	**59.90**	**107**	*e*S			**S**	**03 22 18.7**	**+3.0**
	comp=Z,1μm,25.5s								
PPT				*e*LQ				03 29 20.6	
	comp=Z,4μm,33.5s								
PPT				*e*LR			LR	03 32 26.9	
	comp=Z,478nm,22.2s								
LZH	**Lanzhou**	**60.37**	**318**	*e*P			**P**	**03 14 13.2**	**+3.8**
LZH				AP			pP	03 14 22.2	+2.0
LZH				XP			sP	03 14 26.0	+1.6
LZH				PP			PP	03 16 28.0	+5.3
LZH				*es*	S		**S**	**03 22 19.0**	**-2.7**
LZH				SS			SS	03 26 21.0	+1.4
LZH				AMB			AMB		
	comp=Z,37nm,1.0s,mb5.4								
LZH				AMB			AMB		
	comp=Z,360nm,7.8s								
LZH				LR			LR		
	comp=E,3μm,16.2s								
LZH				LR			LR		
	comp=Z,4μm,18.3s,MS5.6								
TBI	**Tubuai**	**60.48**	**113**	*e*S			**S**	**03 22 26.5**	**+3.4**
	comp=Z,1μm,28.8s								
TBI				*e*SS			SS	03 26 33.9	+13
	comp=Z,447nm,28.5s								
TBI				*e*LQ				03 29 55.2	
	comp=Z,2μm,37.0s								
TBI				*e*LR			LR	03 32 34.6	
	comp=Z,2μm,35.0s								
HIA	**Hailar**	**61.21**	**338**	P			**P**	**03 14 15.3**	**+0.1**
HIA				pmax			pmax		
	comp=Z,10.0nm,0.5s								
HIA	**Hailar**	**61.21**	**338**	P			**P**	**03 14 15.3**	**+0.1**
	comp=Z,10nm,0.5s,mb5.2								
PMOR	**Pomariorio Ree**	**61.42**	**104**	*e*P			**P**	**03 14 21.4**	**+4.8**
	comp=Z,78nm,1.0s,mb5.8								
SHL	**Shillong**	**64.70**	**302**	*e*P			**P**	**03 14 38.0**	**-0.4**
GTA	**Gaotai**	**64.86**	**319**	*e*P			**P**	**03 14 39.5**	**+0.1**
GTA				AP			pP	03 14 49.9	-0.4
GTA				XP			sP	03 14 54.1	-0.3
GTA				PP			PP	03 17 03.8	+1.6
GTA				SCP				03 19 11.1	
GTA				PCS				03 19 14.9	
GTA				S			**S**	**03 23 17.2**	**-0.9**
GTA				SCS			ScS	03 24 28.3	-3.1
GTA				SS			SS	03 27 31.1	+1.3
GTA				AMB			AMB		
	comp=Z,3.0nm,1.2s,mb4.2								
GTA				AMB			AMB		
	comp=Z,278nm,8.8s								
GTA				LR			LR		
	comp=N,744nm,22.8s,MS5.0								
GTA				LR			LR		
	comp=E,675nm,22.8s,MS5.0								
GTA				LR			LR		
	comp=Z,1μm,23.2s,MS5.0								
MA2	**Magadan**	**65.53**	**0**	P			**P**	**03 14 44.0**	**+0.3**
MA2				pmax			pmax		
	comp=Z,13nm,0.9s,mb5.0								
MA2	**Magadan**	**65.53**	**0**	P			**P**	**03 14 44.0**	**+0.3**
	comp=Z,12nm,0.9s,mb4.9								
ULN	**Ulaanbaatar**	**65.76**	**330**	P			**P**	**03 14 46.5**	**+1.3**
CIT	**Chita**	**65.80**	**336**	*e*P			**P**	**03 14 46.8**	**+1.3**
CIT				*e*			pP	03 14 56.8	+0.4
CIT				pmax			pmax		
	comp=Z,45nm,3.3s								
SONM	**Songino Array**	**66.07**	**329**	P			**P**	**03 14 46.1**	**-1.1**
	comp=Z,4.9nm,0.4s,mb4.9,baz=142,slow=4.8,SNR=46								
SONM				LR			LR	03 42 59.5	
	comp=Z,1μm,20.5s,MS5.1,baz=144,slow=36								
SONM				PKP2bc				03 43 27.1	
	comp=Z,1.8nm,1.0s,baz=303,slow=1.9,SNR=8.0								
SONM	**Songino Array**	**66.07**	**329**	P			**P**	**03 14 46.1**	**-1.1**
SONM				LR			LR	03 42 59.5	
SONM				⇑*e*				03 43 27.1	
CLNS	**Chul'man**	**66.08**	**345**	*e*P			**P**	**03 14 42.3**	**-5.0**
CLNS				pmax			pmax		
	comp=N,16nm,0.9s								
CLNS				pmax			pmax		
	comp=Z,29nm,0.9s,mb5.3								
CLNS				pmax			pmax		
	comp=E,5.0nm,0.7s								
CLNS				pmax			pmax		
	comp=N,233nm,10.6s								
CLNS				pmax			pmax		
	comp=Z,222nm,8.8s								
CLNS				pmax			pmax		
	comp=E,250nm,10.9s								
LSA	**Lhasa**	**66.81**	**306**	P			**P**	**03 14 52.3**	**+0.3**
LSA	**Lhasa**	**66.81**	**306**	P			**P**	**03 14 52.6**	**+0.6**
LSA				pmax			pmax		
	comp=Z,7.0nm,0.6s,mb4.9								
LSA	**Lhasa**	**66.81**	**306**	P			**P**	**03 14 52.6**	**+0.6**
	comp=Z,6.9nm,0.6s,mb4.9								
SEY	**Seymchan**	**68.92**	**1**	*e*P			**P**	**03 15 07.6**	**+2.4**
SEY				*e*				03 15 29.4	
SEY								03 17 40.5	
SEY				*e*PPP				03 19 14.9	
SEY								03 25 05.7	
SEY				SS			SS	03 28 38.2	+5.5
SEY				pmax			pmax		
	comp=Z,10.0nm,1.1s,mb4.7								
SEY				MLR			MLR		
	comp=N,760nm,18.0s,MS5.0								
SEY				MLR			MLR		
	comp=E,270nm,18.0s,MS5.0								
SEY				MLR			MLR		
	comp=Z,1μm,18.0s,MS5.2								
ZAK	**Zakamensk**	**69.28**	**330**	*e*P			**P**	**03 15 05.4**	**-2.1**

comp=Z,22nm,0.5s,mb5.4
KOLN Koldanda 72.42 302 *e*P **P 03 15 25.1 -1.5**
comp=Z,17nm,0.6s,mb5.1
RKT Rikitea 73.77 112 *e*S S 03 25 05.6 +2.5
comp=Z,332nm,25.0s
RKT *e*SS SS 03 29 50.5 +3.4
comp=Z,301nm,32.8s
RKT *e*LQ 03 35 15.0
comp=Z,1µm,40.8s
RKT *e*LR LR 03 38 40.4
comp=Z,1µm,32.5s
TRD Trivandrum 74.36 281 *e*P **P 03 15 46.3 +8.3**
HYB Hyderabad 74.40 290 *i* P **P 03 15 36.0 -2.2**
HYB Hyderabad 74.40 290 *e*P **P 03 15 34.0 -4.2**
BILL Bilibino 74.90 6 *e*P **P 03 15 42.1 +1.0**
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.8
WMQ Urumqi 74.94 318 P **P 03 15 43.0 +1.7**
WMQ AP pP 03 15 53.0 +0.7
WMQ PP PP 03 18 33.0 +3.8
WMQ S S 03 25 17.0 +0.8
WMQ SCS ScS 03 25 49.0 -1.7
WMQ SS SS 03 30 08.0 +3.1
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,183nm,6.0s
WMQ LR LR
comp=N,654nm,15.0s,MS5.2
WMQ LR LR
comp=E,647nm,15.0s,MS5.2
WMQ LR LR
comp=Z,897nm,15.0s,MS5.2
TIXI Tiksi 78.90 353 *e*P **P 03 16 00.8 -2.8**
TIXI *e*S S 03 25 54.7 -4.7
TIXI pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
MKAR Makanchi Array 79.59 320 P **P 03 16 06.9 -0.5**
comp=Z,2.5nm,0.4s,mb4.5,baz=97,slow=8.7,SNR=34
MKAR PKKPbc PKKPbc 03 35 07.8 +13
comp=Z,2.3nm,0.8s,baz=297,slow=2.7,SNR=15
MKAR PKPPKP 03 43 13.2
comp=Z,0.7nm,0.9s,baz=288,slow=3.8,SNR=6.1
MKAR LR LR 03 51 59.0
comp=Z,1µm,19.4s,MS5.2,baz=101,slow=36
THN Thein Dam 80.24 304 *e*P **P 03 16 07.1 -3.8**
ZAL Zalesovo 80.81 327 P **P 03 16 11.7 -2.3**
comp=Z,2.6nm,0.5s,mb4.5,baz=17,slow=5.9,SNR=12
ZAL PKKPbc PKKPbc 03 35 03.6 +11
comp=Z,2.7nm,0.2s,baz=179,slow=4.3,SNR=6.5
ZAL PKPPKP 03 43 11.8
comp=Z,1.2nm,0.4s,baz=217,slow=1.6,SNR=6.3
ZAL LR LR 03 52 55.5
comp=Z,1µm,19.0s,MS5.3,baz=353,slow=36
ZAL Zalesovo 80.81 327 P **P 03 16 11.7 -2.3**
ZAL PKKPbc PKKPbc 03 35 03.6 +11
ZAL P'P' 03 43 11.8
ZAL LR LR 03 52 55.5
KSH Kashi 81.78 311 *e*P **P 03 16 20.0 +0.9**
KSH *e*AP pP 03 16 30.0 -0.3
KSH *e*XP sP 03 16 34.0 -0.3
KSH *e*PP PP 03 19 28.3 +1.9
KSH *e*S S 03 26 26.7 -3.0
KSH *e*SKS 03 26 32.2
KSH *e*SS SS 03 31 49.4 +1.5
KSH AMB AMB
comp=Z,50nm,2.6s,mb5.0
KSH LR LR
comp=N,200nm,5.8s
KSH LR LR
comp=E,190nm,4.2s
NVS Novosibirsk 82.00 328 *e*P pP 03 16 29.8 -1.6
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,24nm,1.8s
NVS pmax pmax
comp=Z,20nm,1.8s,mb4.8
TKM2 Tokmak 2 82.94 314 P **P 03 16 24.5 -0.7**
TKM2 pmax pmax
comp=Z,31nm,2.0s,mb5.0
MCK McKinley 83.15 23 P **P 03 16 26.5 +0.2**
MCK pmax pmax
comp=Z,27nm,1.6s,mb5.0
MCK McKinley 83.15 23 P **P 03 16 26.5 +0.3**
comp=Z,27nm,1.6s,mb5.0
KURK Kurchatov 83.19 323 P **P 03 16 25.4 -1.1**
comp=Z,44nm,0.8s,mb5.5,SNR=7.8
KURK Kurchatov 83.19 323 P **P 03 16 25.0 -1.5**
KURK pmax pmax
comp=Z,19nm,1.4s,mb4.9
ILAR Eielson Array 84.43 23 P **P 03 16 29.7 -3.1**
comp=Z,3.4nm,0.6s,mb4.7,baz=249,slow=5.5,SNR=22
ILAR PKKPbc PKKPbc 03 34 54.1 +10
comp=Z,0.5nm,0.8s,baz=73,slow=0.5,SNR=5.2
ILAR LR LR 03 50 21.7
comp=Z,677nm,20.2s,MS5.0,baz=78,slow=33
KKAR Karatay Array 86.61 314 *i* P **P 03 16 42.0 -1.6**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
VOSK Vostochnaya 88.30 323 P **P 03 16 48.2 -3.6**
VOSK pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
BVA0 Borovoye Array 88.72 324 *i* P **P 03 16 51.4 -2.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.3
BVAR Borovoye Array 88.72 324 P **P 03 16 51.3 -2.4**
comp=Z,1.9nm,0.6s,mb4.6,baz=119,slow=6.5,SNR=14
MWC Mount Wilson 94.95 56 P **P 03 17 26.7 +4.1**
NVAR Mina Array Bea 95.04 52 P **P 03 17 22.4 -0.6**
comp=Z,0.9nm,0.7s,mb4.3,baz=256,slow=6.1,SNR=6.6
YKA Yellowknife Ar 97.88 28 P **P 03 17 34.8 -1.1**
comp=Z,0.2nm,0.5s,mb3.9,baz=271,slow=5.2,SNR=9.1
YKA PKiKP PKiKP 03 22 08.8 -0.6
comp=Z,0.2nm,0.5s,baz=268,slow=1.4,SNR=8.3
YKA PKKP PKKPbc 03 34 08.3 -1.6
comp=Z,0.4nm,0.8s,baz=99,slow=3.7,SNR=7.5
YKA LR LR 03 57 49.4
comp=Z,2µm,21.8s,MS5.5,baz=265,slow=33
YKA Yellowknife Ar 97.88 28 P **P 03 17 34.8 -1.1**
PDAR Pinedale Array 101.75 48 P Pdif 03 17 54.3 +1.1
comp=Z,0.3nm,0.5s,baz=333,slow=4.0,SNR=3.0
PDAR PKKPbc PKKPbc 03 33 59.5 +0.5
comp=Z,0.3nm,0.4s,baz=135,slow=4.2,SNR=3.7
SDCO Great Sand Dun 105.13 53 PKKPab PKKPab 03 34 18.4 +12
TXAR Lajitas Array 107.14 61 PKiKP PKiKP 03 22 27.7 +1.4
comp=Z,0.2nm,0.5s,baz=58,slow=3.6,SNR=6.1
TXAR PKKPbc PKKPbc 03 33 44.1 +1.4
comp=Z,0.7nm,0.9s,baz=101,slow=6.4,SNR=5.2
TXAR PKKP PKKPbc 03 33 55.0 +12
comp=Z,1.3nm,0.9s,baz=118,slow=5.0,SNR=8.6
TXAR Lajitas Array 107.14 61 PKPdf PKiKP 03 22 27.7 +1.4
TXAR PKKPbc PKKPbc 03 33 44.1 +1.4
TXAR PKKP PKKPbc 03 33 55.0 +12
ARCES ARCESS Array B 107.35 342 PKiKP PKiKP 03 22 26.1 -0.5
comp=Z,10nm,1.2s,baz=0.0,slow=0.0,SNR=9.4
ARCES PKKPbc PKKPbc 03 33 41.6 -0.4
comp=Z,1.2nm,0.6s,baz=246,slow=1.8,SNR=12
ARCES PKKP PKKPbc 03 33 52.0 +10
comp=Z,2.6nm,0.8s,baz=270,slow=1.2,SNR=5.6
JCT Junction City 110.42 60 PKKPab PKKPab 03 33 44.1 +0.9
FINES FINESS Array B 111.15 335 Pdiff Pdif 03 18 34.2 -0.7
comp=Z,0.8nm,0.7s,baz=90,slow=3.8,SNR=4.3
FINES PKiKP PKiKP 03 22 33.8 0.0
comp=Z,1.5nm,0.9s,baz=117,slow=3.1,SNR=3.3
KMBO Kilima Mbogo 112.57 266 PKiKP PKiKP 03 22 37.6 +1.2
comp=Z,1.9nm,0.9s,baz=101,slow=5.2,SNR=4.7
SUMG Summit 113.44 3 PKKPab PKKPab 03 33 32.3 +2.5
AKASG Malin Array Be 114.00 323 PKiKP PKiKP 03 22 37.7 -1.5
comp=Z,1.6nm,0.6s,baz=64,slow=2.5,SNR=6.2
AKASG PKKPbc PKKPbc 03 33 21.4 +1.0
comp=Z,0.7nm,0.5s,baz=261,slow=4.0,SNR=5.9
AKASG PKKPab PKKPab 03 33 32.3 +5.0
comp=Z,2.5nm,0.8s,baz=262,slow=4.1,SNR=9.4
AKASG Malin Array Be 114.00 323 PKPdf PKiKP 03 22 37.7 -1.5
AKASG PKKPbc PKKPbc 03 33 21.4 +1.0
AKASG PKKPab PKKPab 03 33 32.3 +5.0
BRTR Keskin Array B 114.17 311 PKP PKiKP 03 22 38.9 -0.6
comp=Z,1.1nm,0.8s,baz=146,slow=6.0,SNR=4.7
BRTR PKKPab PKKPab 03 33 34.0 +7.4
comp=Z,1.3nm,0.8s,baz=214,slow=4.5,SNR=4.7
BOSA Boshof 116.66 234 PKP PKPdf 03 22 45.3 +1.0
comp=Z,2.0nm,0.5s,baz=172,slow=4.2,SNR=9.7
HFS Hagfors 116.91 337 PKP PKPdf 03 22 43.2 -1.6
comp=Z,1.9nm,0.9s,baz=56,slow=5.3,SNR=4.2
NB2 NORSAR Subarra117.24 339 PKKP PKKPbc 03 33 21.7 +13
comp=Z,1.1nm,0.9s,baz=227,slow=1.9
NOA NORSAR Array B117.24 339 PKP PKPdf 03 22 44.7 -0.7
comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=3.1
BURAR Bucovina Array 117.59 321 ⇓P PKPdf 03 22 47.7 +1.6
BURAR Bucovina Array 117.59 321 ⇓P PKPdf 03 22 47.7 +1.6
LBTB Lobatse 117.78 238 PKP PKPdf 03 22 47.3 +0.9
comp=Z,2.1nm,0.4s,baz=150,slow=3.8,SNR=13
MLR Muntele Rosu 117.93 319 PKP PKPdf 03 22 46.3 -0.5
comp=Z,3.4nm,0.8s,baz=126,slow=6.1,SNR=4.4
LSZ Lusaka 118.64 249 PKP PKPdf 03 22 49.2 +1.1
comp=Z,6.8nm,0.5s,baz=124,slow=2.1,SNR=38
LSZ Lusaka 118.64 249 PKPdf PKPdf 03 22 49.1 +1.0
KOLS Kolonicke sedl 118.83 324 *e*PKP PKPdf 03 22 46.8 -1.7
STHS Stebnicka Huta 119.21 324 *e*PKP PKPdf 03 22 45.1 -4.1
DRGR 119.49 321 ⇑P PKPdf 03 22 49.4 -0.3
DRGR 119.49 321 ⇑P PKPdf 03 22 49.4 -0.3
BLO Bloomington 119.49 48 *e*PKIKP PKPdf 03 22 50.1 +0.4
BLO *e* 03 23 00.8
OJC Ojcow 119.65 326 *e*PKP PKPdf 03 22 50.3 +0.2
WCI Wyandotte Cave 119.94 49 PKIKP PKPdf 03 22 50.9 +0.3
KECS Kecovo 120.09 324 *e*PKP PKPdf 03 22 48.7 -2.2
PLCA Paso Flores 120.27 145 PKP PKPdf 03 22 52.8 +1.6
comp=Z,2.7nm,0.7s,baz=254,slow=1.4,SNR=7.3
PLCA Paso Flores 120.27 145 PKPdf PKPdf 03 22 52.8 +1.6
LRAL Lakeview Retre 120.77 55 PKPdf PKPdf 03 22 52.8 +0.6
MORC Moravsky Berou 121.14 326 PKIKP PKPdf 03 22 52.6 -0.3
DPC Dobruska-Polom 121.50 327 *e*PKPdf PKPdf 03 22 53.9 +0.3
DPC *ex* x 03 23 13.4
ACSO Alum Creek Sta 121.73 46 *e*PKPdf PKPdf 03 22 53.1 -1.0
ZST Bratislava 122.20 325 *e*PKP PKPdf 03 22 54.7 -0.2
PVCC Panska Ves 122.34 328 *e*PKPdf PKPdf 03 22 54.0 -1.2
PVCC *ex* x 03 23 14.2
BRG Berggiesshubel 122.47 329 *e*PKP PKPdf 03 22 55.9 +0.4
comp=Z,4.8nm,1.0s
BRG PP PP 03 24 37.0 +4.9
BRG *e* 03 34 30.0
BRG SS SS 03 41 43.0 +33
BRG
comp=N,699nm,24.0s
BRG
comp=E,432nm,25.6s
BRG
comp=Z,940nm,26.4s
BRG Berggiesshubel 122.47 329 *e*PKIKP PKPdf 03 22 55.9 +0.4
BRG 03 24 37.0
BRG *e* 03 34 30.0
BRG MLR MLR
comp=Z,940nm,26.4s,MS5.3
BRG Berggiesshubel 122.47 329 *e*PKP PKPdf 03 22 55.9 +0.4
BRG PP PP 03 24 37.0 +4.9
BRG *e* 03 34 30.0
BRG SS SS 03 41 43.0 +33
BRG LR LR
comp=Z,940nm,26.4s,MS5.3
TREC Trest 122.53 326 *e*PKPdf PKPdf 03 22 54.3 -1.3
PRU Pruhonice 122.66 328 *e*PKPdf PKPdf 03 22 55.2 -0.6
PRU *ex* x 03 23 14.9
CLL Collm 122.69 329 *e*PKPdf PKPdf 03 22 55.0 -0.9
CLL *e*PP PP 03 24 36.0 +2.4
CLL *e*PPP 03 27 06.0
CLL *e*PS PS 03 34 26.0 -3.1
CLL *e*PPS 03 35 52.0
CLL *ex* x 03 36 51.0
CLL *e*SKKSdf SKKSdf 03 40 31.0 -4.1
CLL *e*SS SS 03 41 52.0 +39
CLL *e*SSS 03 46 18.0
CLL *ex* x 03 54 00.0
CLL Collm 122.69 329 *i* (P) 03 23 15.5
comp=Z,7.0nm,0.8s
CLL Collm 122.69 329 *e*PKP PKPdf 03 22 55.0 -0.9
CLL *i* 03 23 15.7
CLL LR LR
comp=Z,3µm,19.8s,MS6.0
SCHQ Schefferville 123.15 25 PKP PKPdf 03 22 56.5 -0.3
comp=Z,2.4nm,1.0s,baz=292,slow=5.4,SNR=3.7
SCHQ PKKPbc PKKPbc 03 32 59.0 +12
comp=Z,6.5nm,0.8s,baz=176,slow=5.3,SNR=6.0
NKC Novy Kostel 123.61 329 *e*PKPdf PKPdf 03 22 57.0 -0.7
NKC *ex* x 03 23 17.3
KHC Kasperske Hory 123.66 327 *e*PKPdf PKPdf 03 22 56.7 -1.0
KHC *ex* x 03 23 17.2
GERES GERESS Array B 123.75 327 PKP PKPdf 03 22 57.3 -0.7
comp=Z,2.3nm,0.5s,baz=71,slow=1.6,SNR=35
GERES PKKPab PKKPab 03 32 45.7 +0.8
comp=Z,0.6nm,0.7s,baz=214,slow=4.8,SNR=4.9
GERES PKKPbc PKKPbc 03 32 57.6 +13
comp=Z,1.2nm,0.9s,baz=225,slow=5.7,SNR=6.7
GRA1 Grafenberg Arr 124.57 329 *e*PKP PKPdf 03 22 58.8 -0.7
GRF Grafenberg Arr 124.57 329 *e*PKP PKPdf 03 22 58.8 -0.7
JSC Jenkinsville 125.02 52 *e*PKIKP PKPdf 03 23 01.6 +1.2
JSC *e* 03 23 10.8
WTTA Wattenberg 125.80 326 ⇑*i*PKiKP PKiKP 03 23 02.0 -0.3
comp=Z,17nm,1.2s
WTTA Wattenberg 125.80 326 ⇑P PKPdf 03 23 02.0 +0.1
MOTA Moosalm 126.04 327 ⇑*i*PKiKP PKiKP 03 23 02.1 -0.6
comp=Z,13nm,1.3s
SQTA Sankt Quirin 126.06 326 ⇑*i*PKPdf PKPdf 03 23 01.4 -0.9
comp=Z,8.6nm,1.2s
SQTA Sankt Quirin 126.06 326 ⇑P PKPdf 03 23 01.4 -0.9
EKA Eskdalemuir Ar 126.50 341 PKP PKPdf 03 23 02.4 -0.8
comp=Z,1.1nm,0.5s,baz=7.3,slow=2.0,SNR=9.3
EKA SKP 03 26 37.9
comp=Z,1.7nm,0.8s,baz=0.0,slow=2.1,SNR=4.1
TSUM Tsumeb 126.88 241 PKP PKPdf 03 23 04.8 +0.9
comp=Z,7.7nm,1.0s,baz=101,slow=4.7,SNR=12
TSUM Tsumeb 126.88 241 PKPdf PKPdf 03 23 04.9 +0.9
TSUM pPKPdf pPKPdf 03 23 15.4 0.0
DAVOX Davos 127.05 327 PKP PKPdf 03 23 03.7 -0.6
comp=Z,3.5nm,0.5s,baz=333,slow=2.3,SNR=11
CDF Champ du Feu 127.39 330 *e*PKIKP PKPdf 03 23 04.7 -0.2
comp=Z,5.8nm,0.7s
GIVF Givet 127.43 332 *e*PKIKP PKPdf 03 23 04.5 -0.5
CFAA Coronel Fontan 127.58 138 PKP PKPdf 03 23 05.5 +0.2
comp=Z,1.8nm,0.9s,baz=265,slow=2.2,SNR=21
CFAA SKP 03 26 47.3
comp=Z,0.3nm,0.7s,baz=197,slow=2.3,SNR=3.7
BAIF Baives 127.74 333 *e*PKIKP PKPdf 03 23 05.4 -0.2
HINF Hinteralfeld 128.00 329 *e*PKIKP PKPdf 03 23 05.1 -0.9
comp=Z,48nm,1.4s
HAU Haudompre 128.13 330 *e*PKIKP PKPdf 03 23 06.3 0.0
HAU *e*R
comp=Z,2µm,22.2s
HAU Haudompre 128.13 330 *e*PKPdf PKPdf 03 23 06.3 0.0
HAU LR LR
comp=Z,2µm,22.3s,MS5.7
MEZF Maizieres J'vi 128.43 331 *e*PKIKP PKPdf 03 23 06.6 -0.3
CABF La Chapelle 129.18 328 *e*PKIKP PKPdf 03 23 08.3 0.0
comp=Z,26nm,1.1s
LPG La Plagne 129.55 327 *e*PKIKP PKPdf 03 23 09.6 +0.6
comp=Z,5.2nm,0.6s
LOR Lormes 129.86 330 *e*PKIKP PKPdf 03 23 09.6 0.0
LOR *e*R
comp=Z,2µm,22.2s
LOR Lormes 129.86 330 *e*PKPdf PKPdf 03 23 09.6 0.0
LOR LR LR
comp=Z,2µm,22.3s,MS5.8
NNA Nana 129.96 111 PKPdf PKPdf 03 23 11.6 +1.8
NNA pPKPdf pPKPdf 03 23 22.0 +0.6
MBDF Montbardon 130.03 326 *e*PKIKP PKPdf 03 23 10.3 +0.4
PGF Pioggiola 130.06 323 *e*PKIKP PKPdf 03 23 09.9 -0.1
SSF Saint Saulge 130.18 330 *e*PKIKP PKPdf 03 23 10.4 +0.2
comp=Z,13nm,1.0s
SBF Sospel 130.19 325 *e*PKIKP PKPdf 03 23 10.2 0.0
comp=Z,156nm,1.5s
SMF Signal de Mont 130.30 330 *e*PKIKP PKPdf 03 23 10.5 +0.1
AVF Avril sur Loir 130.45 330 *e*PKIKP PKPdf 03 23 10.7 0.0
LDF La Druitiere 130.74 334 *e*PKIKP PKPdf 03 23 11.5 +0.2
FLN La Foliniere 130.76 335 *e*PKIKP PKPdf 03 23 11.2 -0.1
FLN *e*R
comp=Z,2µm,21.5s
FLN La Foliniere 130.76 335 *e*PKPdf PKPdf 03 23 11.2 -0.1
FLN LR LR
comp=Z,2µm,21.5s,MS5.8
BGF Bois d'Agland 130.86 330 *e*PKIKP PKPdf 03 23 11.6 +0.1
VIVF Saint-Julien-l 131.09 328 *e*PKIKP PKPdf 03 23 12.1 +0.2
GRR Gorron 131.21 335 *e*PKIKP PKPdf 03 23 12.0 -0.2
TCF Toulx Ste Croi 131.36 331 *e*PKIKP PKPdf 03 23 12.9 +0.5
comp=Z,31nm,1.3s
SGMF Saint Gilles 132.03 336 *e*PKIKP PKPdf 03 23 14.2 +0.5
comp=Z,6.1nm,0.6s
MFF Saint Martin d 132.25 332 *e*P PKPdf 03 23 14.2 +0.1
comp=Z,52nm,1.5s
LVC Limon Verde 132.32 128 PKP PKPdf 03 23 16.6 +2.3
comp=Z,3.8nm,0.6s,baz=284,slow=0.8,SNR=6.9
LVC SKPbc SKPbc 03 26 41.9 +3.7
comp=Z,7.6nm,1.1s,baz=246,slow=0.8,SNR=6.3
LVC Limon Verde 132.32 128 PKPdf PKPdf 03 23 16.6 +2.4
LVC pPKPdf pPKPdf 03 23 28.7 +2.9
LFF La Frestale 133.04 330 *e*PKIKP PKPdf 03 23 15.5 -0.1
EPF Esparros 134.61 329 *e*PKIKP PKPdf 03 23 18.5 -0.1
comp=Z,50nm,1.5s
ETSF Etsaut 135.17 329 *e*PKIKP PKPdf 03 23 19.9 +0.3
comp=Z,40nm,1.3s
ROSC El Rosal 135.77 89 PKhKP 03 23 17.0
comp=Z,3.9nm,0.5s,baz=96,slow=19,SNR=7.7
ROSC PKP PKPdf 03 23 23.1 +2.4
comp=Z,11nm,0.6s,baz=287,slow=14,SNR=12
ROSC El Rosal 135.77 89 PKP PKPdf 03 23 23.1 +2.4
LPAZ La Paz 136.09 121 PKP PKPdf 03 23 23.7 +2.4
comp=Z,4.3nm,0.7s,baz=222,slow=0.6,SNR=4.7
LPAZ SKPbc SKPbc 03 26 54.1 +3.7
comp=Z,7.3nm,1.2s,baz=229,slow=1.6,SNR=5.7
LPAZ La Paz 136.09 121 *e*PKPdf PKPdf 03 23 23.8 +2.5
LPAZ epPKPdf pPKPdf 03 23 35.3 +2.4
CPUP Villa Florida 138.16 142 PKIKP PKPdf 03 23 27.8 +2.7
SDV Santo Domingo 139.55 84 PKhKP 03 23 20.8
comp=Z,6.2nm,0.6s,baz=288,slow=5.5,SNR=16
SDV PKP PKPdf 03 23 29.0 +1.3
comp=Z,55nm,1.1s,baz=310,slow=7.1,SNR=28
SDV SKPbc SKPbc 03 27 04.2 +3.8
comp=Z,5.8nm,0.8s,baz=12,slow=18,SNR=5.6
SDV Santo Domingo 139.55 84 PKPpre 03 23 23.5
SDV PKPdf PKPdf 03 23 28.6 +0.9
SDV PKP PKPdf 03 23 29.0 +1.3
SDV pPKPdf pPKPdf 03 23 40.2 +1.0
SDV SKPbc SKPbc 03 27 04.2 +3.8
SIV San Ignacio 142.10 126 PKhKP 03 23 28.0
comp=Z,6.0nm,0.7s,baz=244,slow=4.1,SNR=31
SIV SKPbc SKPbc 03 27 09.2 +2.1
comp=Z,3.5nm,1.0s,baz=219,slow=5.7,SNR=5.0
SJG San Juan 142.71 68 PKP PKPdf 03 23 33.8 +0.5
comp=Z,27nm,0.9s,baz=355,slow=5.6,SNR=5.3
SJG San Juan 142.71 68 PKPdf PKPdf 03 23 34.1 +0.8
HUMP Col San Antoni 142.98 68 PKPdf PKPdf 03 23 33.2 -0.7
MDT Midelt 144.54 322 PKP PKPdf 03 23 36.3 -0.3
comp=Z,2.8nm,0.5s,baz=301,slow=1.7,SNR=28
LZG Guadaloupe-1 147.24 70 *e*P PKPdf 03 23 44.2 +3.0
SCG Saint Claude 147.36 70 *e*P PKPdf 03 23 45.4 +4.0
DOG Dongo Capester 147.42 70 *e*P PKPdf 03 23 45.1 +3.7
TBG Guadaloupe-3 147.43 70 *e*P PKPdf 03 23 45.2 +3.7
BBL Barber's Block 147.67 71 *e*P PKPdf 03 23 45.8 +3.9
DEG La Desirade 147.87 69 *e*P PKPdf 03 23 45.6 +3.4
TORD Torodi Ar. Bea 148.11 285 PKP PKPdf 03 23 41.6 -1.0
comp=Z,23nm,0.7s,baz=62,slow=1.4,SNR=197
TORD PKPbc PKPbc 03 23 45.4 -0.5
comp=Z,24nm,0.7s,baz=89,slow=2.3,SNR=233
CAM4 Nova Friburgo 149.07 157 *e*P PKPdf 03 23 43.0 -1.2
CAM4 *i* 03 23 45.6
CAM4 *i* 03 24 01.9
CAM4 *i* 03 24 11.6
CAM3 Guarapari 151.32 159 (P) 03 23 37.0
CAM3 *i* 03 23 55.8
CAM3 *i* 03 24 07.2
CAM3 *i* 03 24 15.1
CAM3 *i* 03 24 36.2
BDFB Brasilia 151.88 141 PKP PKPdf 03 23 50.5 +1.9
comp=Z,11nm,0.9s,baz=166,slow=3.0,SNR=13
BDFB PKPbc PKPbc 03 23 56.5 +1.5
comp=Z,23nm,0.5s,baz=282,slow=1.0,SNR=64
BDFB PKPab PKPab 03 24 06.3 +2.2
comp=Z,108nm,0.8s,baz=204,slow=2.1,SNR=30
BAO Brasilia Array 151.90 141 PKPdf PKPdf 03 23 51.0 +2.4

*IDC **06** 03:08:46.2±0.7, 0.15S×1195E, h0km, mb4.4/10, mb1 4.4/10, mb1mx4.2/22, mbtmp4.4/10, Error ellipse: s-maj=58.6km s-min=16.8km az=59.0*
*ISCJB **06** 03:08:49.6±0.6, 02S±02×1196E±03, h33km, mb4.4/10, Error ellipse: s-maj=45.2km s-min=8.5km az=121.6*
*NEIC **06** 03:08:50.9±0.5, 020S×1195E, h30km, mb4.4/1, Error ellipse: s-maj=40.6km s-min=10.6km az=60.0*
ISC 06 03:08:53.1±2.1, 02S±02×1196E±03, h47km±19km, n18, σ0970/16, mb4.4/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.05**	**332**	*e*Pn	**Pn**	**03 10 33.5**	**-0.2**
KKM				*e*Sn	**Sn**	**03 11 52.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**32.61**	**184**	P	**P**	**03 15 20.9**	**+0.6**
21nm,1.0s,mb5.0,baz=354,slow=10,SNR=3.7							
NWAO	**Narrogin (SRO)**	**32.61**	**184**	P	**P**	**03 15 20.8**	**+0.5**
3.0nm,0.5s,mb4.5							
CTA	**Charters Tower**	**32.76**	**129**	P	**P**	**03 15 21.6**	**0.0**
5.1nm,0.9s,mb4.4,baz=284,slow=8.3,SNR=2.4							
STKA	**Stephens Creek**	**37.77**	**149**	*e*P	**P**	**03 16 03.7**	**-0.9**
10nm,1.1s,mb4.5							
STKA	**Stephens Creek**	**37.77**	**149**	P	**P**	**03 16 02.6**	**-2.0**
11nm,0.9s,mb4.6,baz=316,slow=8.1,SNR=4.7							
STKA	**Stephens Creek**	**37.77**	**149**	*e*P	**P**	**03 16 04.1**	**-0.5**
MKAR	**Makanchi Array**	**57.03**	**330**	P	**P**	**03 18 34.8**	**+0.5**
1.5nm,0.6s,mb4.2,baz=127,slow=9.6,SNR=5.6							
MKAR				PcP	PcP	03 19 28.6	-0.3
2.7nm,0.7s,baz=133,slow=4.9,SNR=3.7							
RPZ	**Rata Peaks**	**63.01**	**140**	P	**P**	**03 19 16.1**	**+0.9**
30nm,1.0s,mb5.4,baz=323,slow=5.1,SNR=8.6							
BVAR	**Borovoye Array**	**66.92**	**330**	P	**P**	**03 19 40.1**	**-0.5**
2.0nm,0.8s,mb4.2,baz=117,slow=9.7,SNR=3.9							
AKTK	**Aktyubinsk**	**72.42**	**324**	P	**P**	**03 20 14.9**	**+0.4**
AKTO	**Aktyubinsk**	**72.42**	**324**	P	**P**	**03 20 14.9**	**+0.4**
1.0nm,0.5s,mb4.0,baz=120,slow=8.6,SNR=4.4							
BRTR	**Keskin Array B**	**86.98**	**310**	P	**P**	**03 21 32.5**	**-0.8**
1.0nm,1.0s,mb4.0,baz=111,slow=2.0,SNR=5.6							
AKASG	**Malin Array Be**	**90.37**	**321**	P	**P**	**03 21 48.0**	**-1.3**
0.3nm,0.4s,mb3.9,baz=74,slow=4.3,SNR=4.7							
FINES	**FINESS Array B**	**91.85**	**331**	P	**P**	**03 21 57.0**	**+0.7**
0.8nm,0.7s,mb4.1,baz=90,slow=11,SNR=2.2							
YKA	**Yellowknife Ar**	**105.97**	**23**	PKiKP	PKiKP	03 27 10.0	-1.9
0.1nm,0.4s,baz=305,slow=1.5,SNR=4.7							
YKA	**Yellowknife Ar**	**105.97**	**23**	PKPdf	PKiKP	03 27 10.0	-1.9
CFAA	**Coronel Fontan**	**147.51**	**168**	PKPbc	PKPbc	03 28 32.8	+0.7
0.9nm,0.6s,baz=204,slow=3.0,SNR=13							

MEX 06 03:16:32.6±0.7, 1616N×9759W, h16km±999km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**294**	*i* P	Pg	03 16 42.2	-1.6
PNIG				*i* S	Sg	03 16 48.8	-2.7
VHO	**Vista Hermosa**	**1.23**	**42**	*i* P	Pn	03 16 51.6	-3.4
VHO				*i* S	Sb	03 17 06.1	-4.8
OXX	**Oaxaca**	**1.24**	**42**	*i* P	Pn	03 16 52.0	-3.2
OXX				*i* S	Sb	03 17 07.5	-3.8
HUIG	**Huatulco**	**1.48**	**105**	*i* P	Pn	03 16 55.6	-2.9
HUIG				*i* S	Sn	03 17 11.9	-5.5
MEIG	**Mezcala**	**2.62**	**312**	*e*P	Pn	03 17 11.5	-2.7
MEIG				*i* S	Sn	03 17 43.1	-2.6
PLIG	**Platanillo**	**2.88**	**321**	*e*P	Pn	03 17 16.1	-1.7
PLIG				*i* S	Sn	03 17 49.2	-2.8

JMA 06 03:39:26.5±0.1, 4150N×14259E, h37km, M1.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.67**	**39**	P	Pn	03 39 39.1	-0.3
JEM				*e*S	Sn	03 39 48.2	-0.5
JNBK	**Urakawa-nobuka**	**0.79**	**9**	P	Pn	03 39 41.1	0.0
JOT	**Ohata**	**1.17**	**265**	P	Pn	03 39 46.8	+0.5
JOT				*e*S	Sn	03 40 01.4	+0.4
JKB	**Kayabe**	**1.23**	**289**	P	Pn	03 39 47.1	-0.1
JKB				*e*S	Sn	03 40 01.7	-0.8
JCH	**Churui**	**1.25**	**27**	P	Pn	03 39 48.3	+0.8
JTM	**Tenmabayashi**	**1.35**	**239**	P	Pn	03 39 50.1	+1.2
JTM				*e*S	Sn	03 40 06.7	+1.1
JNB	**Noboribetsu**	**1.51**	**310**	P	Pn	03 39 51.2	+0.2

*NAO **06** 03:39:35.1, 4071N×14265E, h33km, mb4.0*
*MOS **06** 03:39:43.9±0.9, 4245N×14235E, h33km, mb4.5/10, Error ellipse: s-maj=16.0km s-min=10.8km az=96.3*
*BJI **06** 03:39:45.3, 4240N×14240E, h50km, mb4.1, Ms4.3, Ms2.4.1*
*ISCJB **06** 03:39:46.8±0.3, 4206N±003×14245E±004, h73km±2km, mb4.0/27, Error ellipse: s-maj=6.3km s-min=3.9km*

az=105.9

*JMA **06** 03:39:47.2±0.1, 42.05N×142.48E, h68km±2km, M4.0*
Broadband fault plane solution: P waves. NP1: ϕ_s130.00000°, δ10.00000°, λ27.00000°. NP2: ϕ_s13.00000°, δ85.00000°, λ99.00000°. Principal axes: T Plg49.0000°, Azm293.0000°; N Plg9.0000°, Azm193.0000°; P Plg40.0000°, Azm95.0000°;

JMA Felt II J1.

*NEIC **06** 03:39:47.3±0.6, 42.39N×142.37E, h50km, mb4.3/5 Error ellipse: s-maj=15.0km s-min=9.1km az=121.0*

NEIC Recorded [2 JMA] in south-central Hokkaido.

*IDC **06** 03:39:50.2±2.3, 42.15N×142.35E, h84km±15km, mb3.6/18, mb1 3.7/19, mb1mx3.7/27, mbtmp3.9/19, Error ellipse: s-maj=21.1km s-min=14.3km az=149.0*

ISC 06 03:39:47.6±0.3, 4206N±003×14246E±004, h68km±2km, n65, σ0§85/80, mb4.0/27, 4C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.32**	**44**	⇑P	**Pn**	**03 39 57.8**	**-0.8**
JNBK				*e*S	**Sn**	03 40 05.9	-0.8
JEM	**Erimo**	**0.53**	**94**	⇑P	**Pn**	**03 40 00.2**	**-0.3**
JEM				*e*S	**Sn**	03 40 09.4	-0.5
JBT2	**Biratori 2**	**0.73**	**355**	⇓P	**Pn**	**03 40 02.2**	**-0.4**
JBT2				*e*S	**Sn**	03 40 13.4	-0.3
JCH	**Churui**	**0.87**	**50**	⇑P	**Pn**	**03 40 04.0**	**-0.4**
JCH				*e*S	**Sn**	03 40 16.7	-0.1
JKB	**Kayabe**	**1.07**	**262**	⇓P	**Pn**	**03 40 06.7**	**-0.2**
JKB				*e*S	**Sn**	03 40 21.2	-0.1
JEW	**Eniwo**	**1.08**	**317**	⇓P	**Pn**	**03 40 07.0**	**0.0**
JEW				*e*S	**Sn**	03 40 22.3	+0.9
JFR	**Furan**	**1.11**	**5**	⇓P	**Pn**	**03 40 06.9**	**-0.5**
JFR				*e*S	**Sn**	03 40 22.1	-0.1
JNB	**Noboribetsu**	**1.13**	**292**	⇓P	**Pn**	**03 40 06.8**	**-0.8**
JNB				*e*S	**Sn**	03 40 22.0	-0.6
JOT	**Ohata**	**1.25**	**238**	⇓P	**Pn**	**03 40 09.0**	**-0.2**
JOT				*e*S	**Sn**	03 40 24.8	-0.5
JOB	**Onbets**	**1.33**	**50**	⇑P	**Pn**	**03 40 10.7**	**+0.5**
JOB				*e*S	**Sn**	03 40 28.4	+1.3
JAB	**Ashibetsu**	**1.46**	**353**	P	**Pn**	**03 40 12.3**	**+0.4**
JAB				*e*S	**Sn**	03 40 31.2	+1.0
JYM2	**Yakumo 2**	**1.55**	**273**	⇓P	**Pn**	**03 40 13.0**	**-0.2**
JYM2				*e*S	**Sn**	03 40 32.1	-0.4
JAR	**Ashorobuto**	**1.57**	**38**	⇓P	**Pn**	**03 40 13.4**	**-0.1**
JSR	**Shiriuchi**	**1.61**	**252**	P	**Pn**	**03 40 14.2**	**+0.2**
JSR				*e*S	**Sn**	03 40 34.5	+0.6
JTM	**Tenmabayashi**	**1.64**	**220**	P	**Pn**	**03 40 14.6**	**+0.2**
JTM				*e*S	**Sn**	03 40 35.0	+0.4
ASAJ	**Asahikawa**	**2.06**	**3**	P	**Pn**	**03 40 20.8**	**+0.8**
	51nm,0.3s,baz=210,slow=10,SNR=138						
ASAJ				S	**Sn**	03 40 46.6	+1.9
	32nm,0.3s,baz=52,slow=19,SNR=12						
MAJO	**Matsushiro**	**6.41**	**212**	*e*PN	**Pn**	**03 41 22.6**	**+3.2**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**6.41**	**212**	*e*Pn	**Pn**	**03 41 22.6**	**+3.1**
	comp=Z,8.7nm,0.7s						
MJAR	**Matsushiro Arr**	**6.42**	**212**	P	**Pn**	**03 41 22.6**	**+3.2**
	comp=Z,0.9nm,0.3s,baz=29,slow=12,SNR=5.3						
HHC	**Hu-ho-hao-te**	**23.13**	**277**	*e*P	**P**	**03 44 43.7**	**-4.2**
HHC				AP		03 44 54.8	
HHC				XP	sP	03 45 00.2	-11
HHC				PP		03 45 14.6	
HHC				S	**S**	**03 48 47.7**	**-6.2**
HHC				XS	sS	03 49 07.4	-13
HHC				SS		03 49 36.2	
HHC				SCS	ScS	03 55 48.4	-4.0
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.0						
HHC				LR	LR		
	comp=N,280nm,11.7s						
HHC				LR	LR		
	comp=E,304nm,11.7s						
HHC				LR	LR		
	comp=Z,237nm,17.1s						
ULN	**Ulaanbaatar**	**25.56**	**295**	*e*P	**P**	**03 45 09.5**	**-0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
ULN	**Ulaanbaatar**	**25.56**	**295**	*e*P	**P**	**03 45 09.5**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.5						
SONM	**Songino Array**	**26.00**	**295**	P	**P**	**03 45 14.4**	**+0.3**
	comp=Z,1.0nm,0.4s,mb3.6,baz=77,slow=8.8,SNR=15						
BILL	**Bilibino**	**29.00**	**18**	*e*P	**P**	**03 45 37.8**	**-3.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**29.00**	**18**	*e*P	**P**	**03 45 37.8**	**-3.1**
	comp=Z,5.7nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**39.31**	**308**	P	**P**	**03 47 09.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.0,baz=4.3,slow=9.6,SNR=9.2						
WMQ	**Urumqi**	**39.51**	**292**	*e*P	**P**	**03 47 13.0**	**+1.4**
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**03 47 34.4**	**-0.3**
	comp=Z,2.8nm,0.9s,mb4.0,baz=81,slow=9.6,SNR=21						
KURK	**Kurchatov**	**43.62**	**304**	*e*P	**P**	**03 47 44.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**43.62**	**304**	*e*P	**P**	**03 47 44.8**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**44.87**	**35**	P	**P**	**03 47 55.0**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.4,baz=259,slow=5.6,SNR=5.6						
JIRN	**Jiri**	**47.54**	**271**	*e*P	**P**	**03 48 17.7**	**+1.5**
	comp=Z,5.6nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**47.91**	**309**	P	**P**	**03 48 19.2**	**+0.2**
	comp=Z,4.0nm,0.4s,mb4.7,baz=77,slow=8.9,SNR=49						
BVAR				PcP	PcP	03 49 47.2	+0.7
	comp=Z,1.1nm,0.7s,baz=90,slow=3.0,SNR=3.9						
BRVK	**Borovoye**	**47.96**	**309**	*e*P	**P**	**03 48 19.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
BRVK	**Borovoye**	**47.96**	**309**	*e*P	**P**	**03 48 19.4**	**0.0**
	comp=Z,2.0nm,0.4s,mb4.3						
KKN	**Kakani**	**48.15**	**272**	*e*P	**P**	**03 48 21.7**	**+0.8**
	comp=Z,9.5nm,0.7s,mb4.7						
DMN	**Daman**	**48.38**	**272**	*e*P	**P**	**03 48 23.6**	**+1.0**
AAK	**Ala-Archa**	**48.96**	**295**	*e*P	**P**	**03 48 25.9**	**-1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
AAK	**Ala-Archa**	**48.96**	**295**	*e*P	**P**	**03 48 25.9**	**-1.2**
	comp=Z,2.1nm,0.4s,mb4.4						
KOLN	**Koldanda**	**49.41**	**273**	*e*P	**P**	**03 48 31.1**	**+0.6**
	comp=Z,3.3nm,0.3s,mb4.8						
INK	**Inuvik**	**49.58**	**29**	P	**P**	**03 48 31.4**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=274,slow=3.3,SNR=11						
INK	**Inuvik**	**49.58**	**29**	P	**P**	**03 48 31.4**	**-0.4**
AKTK	**Aktyubinsk**	**56.00**	**310**	P	**P**	**03 49 17.4**	**-1.8**
AKTO	**Aktyubinsk**	**56.00**	**310**	P	**P**	**03 49 17.4**	**-1.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=67,slow=12,SNR=5.8						
AKTO	**Aktyubinsk**	**56.00**	**310**	P	**P**	**03 49 17.4**	**-1.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	**P**	**03 49 40.7**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=305,slow=6.7,SNR=7.5						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	**P**	**03 49 40.7**	**-0.2**
FINES	**FINESS Array B**	**64.77**	**332**	P	**P**	**03 50 18.2**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.1,baz=39,slow=8.2,SNR=10.0						
FINES	**FINESS Array B**	**64.77**	**332**	P	**P**	**03 50 18.3**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**69.86**	**335**	P	**P**	**03 50 50.7**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=45,slow=8.4,SNR=12						
HFS	**Hagfors**	**69.86**	**335**	P	**P**	**03 50 50.7**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**69.88**	**337**	P	**P**	**03 50 50.2**	**-1.0**
	comp=Z,1.3nm,0.7s,mb3.9,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**69.88**	**337**	P	**P**	**03 50 50.6**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=39,slow=6.1,SNR=5.9						
NOA	**NORSAR Array B**	**69.88**	**337**	P	**P**	**03 50 50.6**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**70.84**	**322**	P	**P**	**03 50 56.5**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=44,slow=6.6,SNR=11						
AKASG	**Malin Array Be**	**70.84**	**322**	P	**P**	**03 50 56.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FRB	**Frobisher Bay**	**71.71**	**14**	P	**P**	**03 51 01.4**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.0,baz=37,slow=5.1,SNR=3.6						
FRB	**Frobisher Bay**	**71.71**	**14**	P	**P**	**03 51 01.4**	**-0.9**
FRB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**73.61**	**47**	P	**P**	**03 51 14.4**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.4,baz=217,slow=7.4,SNR=3.7						
BRTR	**Keskin Array B**	**76.14**	**311**	P	**P**	**03 51 28.4**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.4,baz=14,slow=5.9,SNR=3.9						
BRTR	**Keskin Array B**	**76.14**	**311**	P	**P**	**03 51 28.4**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.87**	**328**	P	**P**	**03 51 43.5**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=53,slow=6.7,SNR=4.4						
DAVOX	**Davos**	**82.04**	**329**	P	**P**	**03 52 01.3**	**+0.9**
	comp=Z,1.1nm,0.5s,mb4.0,baz=0.0,slow=3.0,SNR=4.4						
TXAR	**Lajitas Array**	**86.44**	**53**	P	**P**	**03 52 24.4**	**+1.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=295,slow=3.9,SNR=5.2						
SIV	**San Ignacio**	**147.08**	**45**	PKPbc	PKPbc	03 59 23.5	+0.8
	comp=Z,1.2nm,0.6s,baz=258,slow=3.3,SNR=9.6						

*NEIC **06** 03:41:17.6, 12.56N×60.41W, h33km, MD3.4(TRN), MD3.5(FDF), After TRN.*

TRN 06 03:41:17.9, 12.54N×60.44W, h33km, MD3.4, Md3.4(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRCU	**Cariacou**	**0.99**	**266**	*e*P	Pn	03 41 37.4	+1.9
GRCU				*e*S	Sn	03 41 51.1	+2.8
FCV	**Fort Charlotte**	**1.00**	**308**	*e*P	Pn	03 41 36.9	+1.3
FCV				*e*S	Sn	03 41 50.7	+2.2
SVB	**Belmont**	**1.07**	**313**	*e*S	Sn	03 41 51.5	+1.1
SVB	**Belmont**	**1.07**	**313**	*e*P	Pn	03 41 37.9	+1.2
GRIC	**Isle de Caille**	**1.15**	**257**	*e*P	Pn	03 41 39.5	+1.8
GRIC				*e*S	Sn	03 41 56.0	+3.8
GRSS	**Sisters**	**1.17**	**258**	*e*P	Pn	03 41 39.4	+1.4
GRSS				*e*S	Sn	03 41 55.2	+2.4
GRHS	**Sauteurs**	**1.22**	**255**	*e*P	Pn	03 41 39.8	+1.2
GRHS				*e*S	Sn	03 41 56.2	+2.3
GRW	**Mount Saint Ca**	**1.25**	**253**	*e*P	Pn	03 41 39.3	+0.2
GRW				*e*S	Sn	03 41 56.0	+1.2
MVM	**Montagne Vaucl**	**2.05**	**348**	*e*P	Pn	03 41 50.9	+0.8
CRM	**Caravelle**	**2.25**	**348**	*e*P	Pn	03 41 53.5	+0.7
CRM				*e*S	Sn	03 42 19.7	+0.3
FDF	**Fort de France**	**2.29**	**343**	*e*P	Pn	03 41 55.0	+1.6
FDF				*e*S	Sn	03 42 22.3	+1.9

*IDC **06** 03:58:40.9±0.9, 549S×142.15E, h0km, mb4.0/5, mb1 4.1/7, mb1mx4.1/11, mbtmp4.0/7, ML3.5/2, MS4.2/11, Ms1 4.2/11, ms1mx3.8/31, Error ellipse: s-maj=39.5km s-min=21.8km az=63.0*

*ISCJB **06** 03:58:42.0±3.4, 564S±005×142.11E±007, h18km±25km, mb4.3/14, MS4.4/4, Error ellipse: s-maj=11.4km s-min=8.3km az=4.5*

*MOS **06** 03:58:43.5±0.5, 566S×142.12E, h32km, mb4.7/4, Error ellipse: s-maj=22.8km s-min=13.9km az=107.7*

*NEIC **06** 03:58:46.6±0.6, 572S×142.06E, h35km, mb4.6/6, Error ellipse: s-maj=19.4km s-min=10.5km az=73.0*

*BJI **06** 03:58:46.5, 570S×142.10E, h30km, mb4.8*

ISC 06 03:58:43.6±3.5, 566S±005×14207E±006, h12km±22km, h23km±5.1km: pP-P, n32, σ1§17/31, mb4.3/14, MS4.4/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**127**	Pn	**Pn**	**04 00 15.8**	**-0.1**
	1.6nm,0.3s,baz=23,slow=7.7,SNR=3.7						
PMG				Sn	**Sn**	**04 01 27.9**	**+0.5**
	0.8nm,0.3s,baz=17,slow=19,SNR=3.6						
PMG	**Port Moresby**	**6.27**	**127**	Pn	**Pn**	**04 00 15.8**	**-0.1**
PMG				Sn	**Sn**	**04 01 27.9**	**+0.5**
CTAO	**Charters Tower**	**14.91**	**165**	Pn	**Pn**	**04 02 13.5**	**-0.6**
CTAO				*ep*P	pP	04 02 23.1	0.0
WRAB	**Tennant Creek**	**16.05**	**207**	*e*P	**Pn**	**04 02 29.1**	**0.0**
WRAB				*e*		04 05 27.9	
WRAB				pmax	pmax		
	comp=Z,59nm,1.2s						
WRAB	**Tennant Creek**	**16.05**	**207**	*e*Pn	**Pn**	**04 02 29.1**	**0.0**
	comp=Z,59nm,1.2s						
WRAB				*e*Sn	**Sn**	**04 05 27.9**	**+0.8**
WRA	**Warramunga Arr**	**16.07**	**207**	Pn	**Pn**	**04 02 28.6**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=25						
WRA				Sn	**Sn**	**04 05 25.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=26,slow=23,SNR=4.8						
WRA				Lg		04 07 23.9	
	comp=Z,0.3nm,0.3s,baz=27,slow=25,SNR=5.3						
WRA	**Warramunga Arr**	**16.07**	**207**	P	**Pn**	**04 02 28.6**	**-0.7**
WRA						04 05 25.8	
FITZ	**Fitzroy Crossi**	**20.26**	**231**	*e*P	**P**	**04 03 21.0**	**+2.2**
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**26.09**	**181**	P	**P**	**04 04 17.6**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.8,baz=336,slow=10.0,SNR=2.5						
STKA				LR	LR	04 16 02.0	
	comp=Z,1μm,19.0s,MS4.5,baz=1.2,slow=40						
STKA	**Stephens Creek**	**26.09**	**181**	*e*P	**P**	**04 04 18.0**	**+0.9**
STKA				LR	LR	04 16 02.0	
NWAO	**Narrogin (SRO)**	**35.65**	**217**	LR	LR	04 21 16.6	
	comp=Z,718nm,20.1s,MS4.4,baz=120,slow=38						
JHJ	**Hachijo jima 2**	**38.62**	**357**	LR	LR	04 18 43.8	
	comp=Z,516nm,19.8s,MS4.3,baz=238,slow=31						
RPZ	**Rata Peaks**	**45.68**	**151**	LR	LR	04 25 38.3	
	comp=Z,300nm,18.9s,MS4.3,baz=89,slow=35						
CD2	**Chengdu**	**51.61**	**317**	*e*P	**P**	**04 07 51.3**	**+1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**54.84**	**322**	*e*P	**P**	**04 08 13.5**	**-0.2**
LZH				AP	pP	04 08 25.1	+7.7
LZH				XP	sP	04 08 28.2	+9.4
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
GTA	**Gaotai**	**59.42**	**323**	*e*P	**P**	**04 08 52.4**	**+6.3**
GTA				AP	pP	04 08 57.7	+7.9
GTA				XP	sP	04 09 01.2	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**60.16**	**309**	*e*P	**P**	**04 08 52.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**60.16**	**309**	*e*P	**P**	**04 08 52.1**	**+0.9**
	comp=Z,2.7nm,0.4s,mb4.6						
ULN	**Ulaanbaatar**	**61.55**	**334**	*e*P	**P**	**04 08 59.6**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**61.55**	**334**	*e*P	**P**	**04 08 59.6**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.4						
SONM	**Songino Array**	**61.82**	**334**	P	**P**	**04 09 01.6**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.7,baz=146,slow=6.4,SNR=3.4						
MKAR	**Makanchi Array**	**74.16**	**322**	P	**P**	**04 10 19.3**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=107,slow=6.9,SNR=4.2						
ZAL	**Zalesovo**	**76.17**	**329**	P	**P**	**04 10 33.3**	**+1.8**
	comp=Z,0.9nm,0.3s,mb4.1,baz=12,slow=16,SNR=5.6						
AAK	**Ala-Archa**	**77.64**	**316**	P	**P**	**04 10 38.8**	**-1.1**
AAK				*PP	pP	04 10 45.3	+1.6
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
AAK	**Ala-Archa**	**77.64**	**316**	P	**P**	**04 10 38.8**	**-1.1**
	comp=Z,9.0nm,1.7s,mb4.4						
AAK				pP	pP	04 10 45.3	+1.6
KURK	**Kurchatov**	**78.04**	**324**	*e*P	**P**	**04 10 40.9**	**-1.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
KURK	**Kurchatov**	**78.04**	**324**	P	**P**	**04 10 40.9**	**-1.3**
	comp=Z,10.0nm,1.4s,mb4.5						
BVAR	**Borovoye Array**	**83.64**	**325**	P	**P**	**04 11 10.9**	**-1.0**
	comp=Z,2.5nm,0.9s,mb4.3,baz=153,slow=3.3,SNR=11						
BRVK	**Borovoye**	**83.71**	**325**	*e*P	**P**	**04 11 14.9**	**+2.5**
	comp=Z,6.3nm,1.3s,mb4.6						
ILAR	**Eielson Array**	**87.13**	**24**	P	**P**	**04 11 25.9**	**-3.5**
	comp=Z,2.2nm,0.8s,mb4.5,baz=262,slow=4.6,SNR=14						
SDV	**Santo Domingo**	**147.41**	**82**	PKPbc	PKPbc	04 18 28.4	+1.1
	comp=Z,2.5nm,0.8s,baz=253,slow=6.5,SNR=4.2						
SIV	**San Ignacio**	**148.57**	**134**	PKPbc	PKPbc	04 18 31.6	+1.1
	comp=Z,1.1nm,0.8s,baz=204,slow=2.9,SNR=3.7						

*ISCJB **06** 03:58:57.8±0.5, 2438S±003×67.13W±006, h176km±6km, mb4.0/15, Error ellipse: s-maj=8.6km s-min=5.1km az=16.4*

*IDC **06** 03:58:58.7±1.1, 2432S×6696W, h162km±12km, mb3.8/11, mb1 3.9/17, mb1mx3.8/23, mbtmp4.3/17, Error ellipse: s-maj=18.2km s-min=12.7km az=76.0*

*NEIC **06** 03:58:58.8±0.5, 2434S×67.11W, h169km±6km, mb4.8/6, Error ellipse: s-maj=9.4km s-min=6.7km az=94.0*

*GUC **06** 03:59:00.3±1.1, 2431S×6749W, h201km±14km, ML4.9*

ISC 06 03:58:58.9±0.5, 2440S±003×6714W±006, h170km±6km, n46, σ1§26/63, mb4.0/15, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.77**	**327**	*e*P	**Pn**	**03 59 35.4**	**+2.6**
SPCH				*i* S	**Sn**	**04 00 02.5**	**+3.6**
SPCH				AMP		04 00 04.1	
	comp=N,2μm,0.6s						
SPCH	**San Pedro de A**	**1.77**	**327**	*e*P	**Pn**	**03 59 35.4**	**+2.6**
SPCH				*i* S	**Sn**	**04 00 02.5**	**+3.6**
LVC	**Limon Verde**	**2.41**	**317**	P	**Pn**	**03 59 41.9**	**+2.0**
	comp=N,49nm,0.3s,baz=138,slow=8.3,SNR=256						
LVC				S	**Sn**	**04 00 12.8**	**+1.2**
	comp=N,161nm,0.3s,baz=33,slow=23,SNR=90						
LVC	**Limon Verde**	**2.41**	**317**	⇓*i*Pn	**Pn**	**03 59 41.8**	**+1.9**
LVC				S	**Sn**	**04 00 12.8**	**+1.2**
LVC				*e*		04 00 13.8	
CEN1	**Los Morros**	**2.98**	**289**	⇓*i*P	**Pn**	**03 59 49.1**	**+2.4**
CEN1				*i* S	**Sn**	**04 00 24.8**	**+0.9**
CEN1				AMP		04 00 26.8	
	comp=N,2μm,0.4s						
CPN1	**Cerro Paranal**	**2.98**	**265**	⇑*i*P	**Pn**	**03 59 48.2**	**+1.4**
CPN1				*i* S	**Sn**	**04 00 24.2**	**+0.2**
ANCH	**Antofagasta**	**3.07**	**283**	⇑*i*P	**Pn**	**03 59 47.7**	**-0.2**
ANCH				*i* S	**Sn**	**04 00 23.2**	**-2.8**
ANCH				AMP		04 00 27.5	
	comp=N,3μm,0.4s						
ANCH	**Antofagasta**	**3.07**	**283**	⇑*i*P	**Pn**	**03 59 47.7**	**-0.2**
ANCH				*i* S	**Sn**	**04 00 23.2**	**-2.8**
CRCH	**Chaqaral**	**3.70**	**238**	⇓*i*P	**Pn**	**03 59 56.5**	**+0.7**
CRCH				*i* S	**Sn**	**04 00 39.2**	**-0.9**
CRCH				AMP		04 00 41.9	
	comp=N,2μm,0.4s						
CRCH	**Chaqaral**	**3.70**	**238**	⇓*i*P	**Pn**	**03 59 56.5**	**+0.7**
CRCH				*i* S	**Sn**	**04 00 39.2**	**-0.9**
CPCH	**Copiapo**	**4.13**	**224**	*e*P	**Pn**	**04 00 01.1**	**-0.2**
CPCH				*i* S	**Sn**	**04 00 49.2**	**-0.8**
CDCH	**Caldera**	**4.26**	**231**	⇑*i*P	**Pn**	**04 00 02.3**	**-0.7**
CDCH				*i* S	**Sn**	**04 00 50.5**	**-2.6**
CFAA	**Coronel Fontan**	**7.25**	**187**	P	**Pn**	**04 00 42.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=15,slow=12,SNR=61						
CFAA				S	**Sn**	**04 02 00.5**	**-3.1**
	comp=N,1.4nm,0.3s,baz=286,slow=22,SNR=11						
LPAZ	**La Paz**	**8.12**	**353**	P	**Pn**	**04 00 54.3**	**+0.6**
	comp=N,5.1nm,0.3s,baz=151,slow=6.0,SNR=135						
LPAZ				S	**Sn**	**04 02 22.9**	**-1.6**
	comp=N,1.0nm,0.3s,baz=332,slow=19,SNR=8.0						
LPAZ	**La Paz**	**8.12**	**353**	*e*Pn	**Pn**	**04 00 54.1**	**+0.4**
LPAZ				S	**Sn**	**04 02 22.9**	**-1.6**
LPAZ				*e*Sn	**Sn**	**04 02 24.5**	**+0.1**
ARE	**Arequipa**	**8.88**	**332**	*e*P	**Pn**	**04 01 02.0**	**-1.8**
ARE				*e*S	**Sn**	**04 02 38.0**	**-4.8**
CPUP	**Villa Florida**	**9.08**	**104**	*e*Pn	**Pn**	**04 01 05.6**	**-0.8**
	comp=N,63nm,0.5s						
SIV	**San Ignacio**	**10.12**	**35**	P	**Pn**	**04 01 17.9**	**-2.1**
	comp=N,4.6nm,0.3s,baz=217,slow=14,SNR=126						
SIV				S	**Sn**	**04 02 56.4**	**-16**
	comp=N,0.2nm,0.3s,baz=244,slow=15,SNR=4.7						
TRQA	**Tornquist**	**14.31**	**163**	*e*Pn	**Pn**	**04 02 13.7**	**-0.1**
	comp=N,37nm,0.6s						
SAML	**Samuel**	**15.82**	**14**	*e*Pn	**Pn**	**04 02 30.8**	**-1.5**
	comp=N,14nm,0.7s						
SAML				*e*S	**S**	**04 05 20.1**	**-8.1**
PLCA	**Paso Flores**	**16.54**	**189**	P	**Pn**	**04 02 42.3**	**+1.3**
	comp=N,0.4nm,0.3s,baz=4.8,slow=14,SNR=9.3						
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**04 03 17.3**	**-0.5**
	comp=N,3.2nm,0.3s,baz=245,slow=11,SNR=58						
BAO	**Brasilia Array**	**19.97**	**68**	P	**P**	**04 03 18.0**	**0.0**
EFI	**East Falkland**	**28.11**	**168**	*e*P	**P**	**04 04 36.0**	**+1.3**
SDV	**Santo Domingo**	**33.25**	**354**	*e*P	**P**	**04 05 18.9**	**-1.0**
	comp=N,5.3nm,0.3s,mb4.8						
RCBR	**Riachuelo**	**35.21**	**63**	*e*P	**P**	**04 05 36.3**	**-0.4**
VNA3	**Neumayer Olymp**	**56.82**	**161**	⇓*i*	**P**	**04 08 27.0**	**+1.6**
VNA2	**Neumayer--Watz**	**57.39**	**160**	⇓*i*	**P**	**04 08 30.5**	**+1.1**
	baz=285,slow=6.8						
SNAA	**Sanae**	**59.02**	**161**	P	**P**	**04 08 41.5**	**+0.8**
	comp=N,1.9nm,0.7s,mb4.0,baz=300,slow=8.8,SNR=11						
TXAR	**Lajitas Array**	**63.92**	**325**	P	**P**	**04 09 15.5**	**+1.9**
	comp=N,0.6nm,1.1s,mb3.4,baz=97,slow=7.3,SNR=3.0				

LSNR	Lesken	0.67 20	*e*Pg	Pb	04 08 16.2	-0.7
LSNR			*e*Sg	Sb	04 08 26.9	+1.2
ARNR	Ardon	0.79 47	*e*Pg	Pb	04 08 18.1	-0.9
ARNR			*e*Sg	Sb	04 08 30.4	+1.2
GOR	Gori	0.80 146	P	Pb	04 08 35.3	+16
GOR			S	Sb	04 08 46.9	+17
GOR	Gori	0.80 146	*i* PG	Pb	04 08 25.0	+5.8
VLKR	Vladikavkaz	0.95 65	*e*Pg	Pb	04 08 20.9	-0.9
VLKR			*e*Sg	Sb	04 08 35.1	+1.1
CHVG	Ch'k'valeri	1.04 274	P	Pn	04 08 21.2	-2.0
CHVG			S	Sb	04 08 35.8	-0.8
SNJR	Sundja	1.05 66	*i* Pg	Pn	04 08 23.6	+0.4
DUS	Dusheti	1.05 122	P	Pn	04 08 21.4	-1.8
DUS			S	Sb	04 08 36.5	-0.3
KUBR	Kubataba	1.15 357	PG	Pn	04 08 26.2	+1.6
KUBR			S	Sn	04 08 45.5	+5.9
AKH	Akhalkalaki	1.24 180	P	Pn	04 08 23.0	-2.8
AKH			S	Sn	04 08 39.1	-2.6
SHAR	Shatzhatmas	1.25 331	*i* Pg	Pn	04 08 26.1	+0.2
TBLG	Delisi	1.30 135	P	Pn	04 08 24.8	-1.9
TBLG			S	Sn	04 08 43.5	+0.2
TBLG	Delisi	1.30 135	*e*PG	Pn	04 08 24.8	-1.8
TBLG			*e*S	Sn	04 08 42.0	-1.3
MTA	Mtatsminda	1.36 134	P	Pn	04 08 25.6	-1.8
MTA			S	Sn	04 08 43.6	-1.0
MTA	Mtatsminda	1.36 134	*e*PG	Pn	04 08 25.6	-1.8
SAMG	Sameba	1.37 134	P	Pn	04 08 25.6	-1.9
SAMG			S	Sn	04 08 43.3	-1.6
PYA	Pyatigorsk	1.42 347	PG	Pn	04 08 29.1	+0.8
PYA			S	Sn	04 08 50.2	+4.0
KIV0	Kislovodsk Arr	1.43 336	PG	Pn	04 08 29.7	+1.3
KIV0			S	Sn	04 08 51.5	+5.0
KIV	Kislovodsk	1.43 336	PG	Pn	04 08 29.8	+1.3
KIV			S	Sn	04 08 51.9	+5.4
KIV	Kislovodsk	1.43 336	Pb	Pb	04 08 29.8	-0.2
KZR	Kazreti	1.44 151	P	Pn	04 08 25.6	-2.9
KZR			S	Sn	04 08 44.0	-2.7
STE	Stepanavan	1.78 158	*i* PN	Pn	04 08 31.0	-2.2
DGRG	David-gareji	1.84 130	P	Pn	04 08 35.0	+0.9
DGRG	David-gareji	1.84 130	*e*PN	Pn	04 08 35.0	+0.9
KAMZ	Kamo	1.85 169	*i* Pn	Pn	04 08 35.0	+0.7
ARTV	Artvin	1.88 219	*i* P	Pn	04 08 33.7	-0.9
ARTV			*i* S	Sn	04 08 57.0	-0.5
LEN	Leninakan	1.90 172	*i* Pn	Pn	04 08 35.6	+0.7
KARS	Kars	2.06 189	*i* PN	Pn	04 08 36.8	-0.3
KARS			*i* SN	Sn	04 09 04.7	+2.7
KARS	Kars	2.06 189	Pn	Pn	04 08 36.1	-1.0
GOF	Gofitskoye	2.43 352	*i* Pg	Pn	04 08 48.8	+6.6
GOF	Gofitskoye	2.43 352	⇑*i* PN	Pn	04 08 43.3	+1.1
GOF			*i*		04 08 48.8	
GOF			*i* S	Sn	04 09 17.6	+6.4
GOF			*i*		04 09 22.9	
GOF			pmax	pmax		
	comp=Z,4μm,0.7s					
GOF			smax			
	comp=N,11μm,1.1s					
GOF			smax			
	comp=E,50μm,1.1s					
DBC	Dubki	2.48 80	Pn	Pn	04 08 40.5	-2.3
KAPZ	Kaputan	2.50 158	*i* PN	Pn	04 08 42.5	-0.6
VNNZ	Vanand	2.56 174	*i* PN	Pn	04 08 42.6	-1.3
PAAR	P'arak'ar	2.58 164	*i* Pn	Pn	04 08 45.0	+0.7
VRNZ	Vardanashen	2.65 168	*i* Pn	Pn	04 08 48.2	+3.0
BUJR	Buynaksk	2.67 85	PN	Pn	04 08 49.0	+3.6
GNI	Garni	2.67 159	Pn	Pn	04 08 45.8	+0.3
	comp=E,102nm,0.3s,baz=316,slow=5.1,SNR=154					
GNI			Pg	Pn	04 08 48.8	+3.4
	comp=E,430nm,0.3s,baz=292,slow=5.7,SNR=171					
GNI			LR	LR	04 09 21.7	
	comp=E,2μm,19.7s,baz=155,slow=32					
GNI			Lg		04 09 22.9	
	comp=E,704nm,0.3s,baz=23,slow=16,SNR=6.5					
GNI	Garni	2.67 159	Pg	Pn	04 08 48.8	+3.3
GNI	Garni	2.67 159	Pn	Pn	04 08 45.8	+0.3
GNI			Pg	Pn	04 08 48.8	+3.4
GNI			LR	LR	04 09 21.7	
GNI			Lg		04 09 22.9	
SOC	Sochi	2.92 290	PN	Pn	04 08 48.7	-0.2
SOC			S	Sn	04 09 27.8	+4.5
VRD	Vardenis	2.94 145	*i* Pn	Pn	04 08 52.0	+2.8
MAK	Makhachkala	2.96 83	*i* Pn	Pn	04 08 50.0	+0.5
	comp=E,1μm,1.0s					
MAK	Makhachkala	2.96 83	⇓*i* PN	Pn	04 08 50.0	+0.5
MAK			*i*		04 08 55.0	
MAK			*i*		04 09 01.7	
MAK			*i* S	Sn	04 09 29.0	+4.7
MAK			pmax	pmax		
	comp=Z,1μm,1.0s					
MAK			pmax	pmax		
	comp=Z,5μm,1.0s					
MAK			pmax	pmax		
	comp=Z,10μm,1.7s					
MAK			smax			
	comp=N,17μm,0.6s					
MAK			MLR	MLR		
	comp=Z,37μm,6.0s					
ERZM	Erzurum	3.18 211	*i* P	Pn	04 08 52.6	+0.1
EZM	Erzurum	3.18 211	*i* PN	Pn	04 08 52.2	-0.3
EZM	Erzurum	3.18 211	Pn	Pn	04 08 51.3	-1.2
CLDR	Caldiran	3.52 175	PN	Pn	04 08 58.9	+1.8
GUMT	Gumushane	3.73 235	PN	Pn	04 08 58.2	-1.8
GUMT	Gumushane	3.73 235	Pn	Pn	04 08 58.1	-1.9
GRS	Goris	3.79 145	*i* PN	Pn	04 09 03.0	+2.2
KGUR	Krasnodar	4.01 308	*e*PN	Pn	04 09 06.0	+2.1
VANB	Van	4.05 181	PN	Pn	04 09 06.5	+2.0
VANB	Van	4.05 181	Pn	Pn	04 09 05.7	+1.2
BNGL	BINGOL	4.10 207	*i* P	Pn	04 09 05.1	-0.1
BNGL			*i* S	Sb	04 10 06.8	+2.2
GRSN	GIRESUNGRSN	4.27 248	*i* P	Pn	04 09 04.4	-3.1
GRSN			*i* S	Sn	04 09 51.2	-5.4
GRSN	GIRESUNGRSN	4.27 248	*i* P	Pn	04 09 04.4	-3.1
GRSN			*i* S	Sn	04 09 51.2	-5.4
BTMT	Batman	4.71 200	PN	Pn	04 09 14.7	+1.2
PTK	Pertek	4.88 221	PN	Pn	04 09 15.3	-0.6
ANN	Anapa	4.89 298	*d* PN	Pn	04 09 18.2	+2.2
ANN			*i* S	Sn	04 10 15.9	+4.0
ANN			pmax	pmax		
	comp=Z,90nm,0.6s					
ANN			MLR	MLR		
	comp=E,11μm,12.0s					
ANN			MLR	MLR		
	comp=Z,9μm,12.0s					
HKR	Hakkari	5.07 178	PN	Pn	04 09 20.3	+1.8
DIY	Diyarbakir	5.37 209	PN	Pn	04 09 22.2	-0.4
DIY	Diyarbakir	5.37 209	Pn	Pn	04 09 22.3	-0.3
ELZG	Elazig	5.39 221	*i* P	Pn	04 09 22.5	-0.3
ELZG			*i* S	Sn	04 10 55.3	+31
CUKT	Cukurca	5.40 179	PN	Pn	04 09 24.5	+1.5
SVSK	Karacayir	5.61 243	PN	Pn	04 09 25.0	-0.8
TOKT	Tokat	5.72 248	PN	Pn	04 09 27.0	-0.4
MARD	Mardin	5.72 202	*i* P	Pn	04 09 27.0	-0.5
MARD			*i* S	Sn	04 10 41.0	+8.6
KVT	Kavak	5.78 257	PN	Pn	04 09 27.4	-0.8
MYA	Malataya	5.80 224	*e*PN	Pn	04 09 28.2	-0.3
MALT	Malatya	5.81 223	P	Pn	04 09 28.7	+0.1
MALT	Malatya	5.81 223	Pn	Pn	04 09 28.1	-0.4
URFA	Urfa	6.32 216	*e*PN	Pn	04 09 35.5	-0.1
FEO	Feodosiya	6.32 295	P	Pn	04 09 37.4	+1.7
MSL	Mosul	6.36 183	*ex*	x	04 09 39.0	
MSL			*ex*	x	04 09 49.0	
MSL			*ex*	x	04 10 00.0	
MSL			*ex*	x	04 10 36.0	
MSL			*ex*	x	04 10 53.0	
BOYT	Boyabat	6.52 262	*i* P	Pn	04 09 37.5	-0.9
BOYT			*i* S	Sn	04 10 45.1	-6.9
BYBT	Boyabat	6.61 263	*e*PN	Pn	04 09 38.4	-1.2
BYBT	Boyabat	6.61 263	Pn	Pn	04 09 38.5	-1.1
CTKT	Corum	6.83 256	*i* P	Pn	04 09 42.0	-0.6
CTKT			*i* S	Sn	04 10 50.9	-8.8
ALU	Alushta	6.90 290	*e*P	Pn	04 09 43.7	+0.1
ALU			S	Sn	04 11 00.3	-1.1
GZT	Gaziantep	6.98 223	*i* P	Pn	04 09 45.8	+1.1
GZT			*i* S	Sb	04 11 27.8	+0.5
YAL	Yalta	7.03 288	P	Pn	04 09 44.4	-1.0
YAL			*e*S	Sn	04 11 02.6	-2.0
BZK	Bozkurt	7.07 268	*e*PN	Pn	04 09 45.5	-0.5
CORM	Corum	7.11 253	*e*PN	Pn	04 09 45.2	-1.3
SIM	Simferopol'	7.17 292	P	Pn	04 09 47.2	-0.1
	comp=Z,110nm,0.2s					
SIM			*e*S	Sn	04 11 08.5	+0.6
	comp=Z,3μm,17.7s					
SIM	Simferopol'	7.17 292	P	Pn	04 09 47.2	-0.1
SIM			*e*S	Sn	04 11 08.5	+0.6
SIM			pmax	pmax		
	comp=Z,110nm,0.2s					
SIM			MLR	MLR		
	comp=Z,3μm,17.7s					
TOS	Tosya	7.26 260	*e*PN	Pn	04 09 47.6	-0.9
GAZ	Gaziantep	7.30 224	*e*PN	Pn	04 09 48.4	-0.7
SEV	Sevastopol'	7.38 288	*e*P	Pn	04 09 49.7	-0.5
SEV			*e*S	Sn	04 11 09.3	-4.0
CDAG	Cicekdag	7.52 249	*i* P	Pn	04 09 52.0	-0.2
BALT	Daday	7.61 265	*i* P	Pn	04 09 53.3	0.0
BALT			*i* S	Sn	04 11 11.8	-6.9
CANT	Cankiri	7.68 258	*e*PN	Pn	04 09 53.8	-0.5
KOZT	Kozan	7.83 231	*e*PN	Pn	04 09 55.4	-0.9
ELDT	Eldivan	7.85 257	*i* P	Pn	04 09 56.2	-0.5
ELDT			*i* S	Sn	04 11 26.5	+1.7
BR131	Keskin Array S	7.99 252	Pn	Pn	04 09 58.5	0.0
	comp=Z,30nm,0.4s					
BR131	Keskin Array S	7.99 252	Pn	Pn	04 09 58.5	-0.1
	comp=Z,30nm,0.4s					
BRTR	Keskin Array B	7.99 252	Pn	Pn	04 09 58.2	-0.3
	comp=Z,8.3nm,0.3s,baz=46,slow=12,SNR=168					
BRTR			Sn	Sn	04 11 27.1	-1.1
	comp=Z,4.6nm,0.3s,baz=316,slow=15,SNR=6.7					
KAMT	Kaman	8.09 249	*e*PN	Pn	04 09 59.2	-0.8
CEYT	Ceyhan	8.20 229	*e*PN	Pn	04 10 00.1	-1.4
LOD	Lodumlu	8.54 255	*e*PN	Pn	04 10 04.4	-1.7
VRHR	Novokhopersk	8.54 352	*e*P	Pn	04 10 05.6	-0.6
	comp=Z,10μm,15.0s					
VRHR	Novokhopersk	8.54 352	*e*P	Pn	04 10 05.6	-0.6
VRHR			pmax	pmax		
	comp=N,170nm,1.1s					
VRHR			pmax	pmax		
	comp=Z,50nm,0.5s					
VRHR			pmax	pmax		
	comp=E,30nm,0.9s					
VRHR			MLR	MLR		
	comp=Z,10μm,12.0s					
VRHR			MLR	MLR		
	comp=N,10μm,15.0s					
VRHR			MLR	MLR		
	comp=E,970nm,8.0s					
VORD	Divnogorie	8.80 342	*e*P	Pn	04 10 10.0	+0.3
	comp=E,270nm,1.2s					
VORD	Divnogorie	8.80 342	*e*P	Pn	04 10 10.0	+0.3
VORD			pmax	pmax		
	comp=Z,70nm,1.0s					
VORD			pmax	pmax		
	comp=N,270nm,1.2s					
VORD			pmax	pmax		
	comp=E,120nm,1.1s					
SGKT	Sivrigoynuk	8.82 260	*i* P	Pn	04 10 10.4	+0.4
VRSR	Storozhevoye	9.06 343	*i* P	Pn	04 10 12.7	-0.5
	comp=E,50nm,1.1s					
VRSR	Storozhevoye	9.06 343	*c* P	Pn	04 10 12.7	-0.5
VRSR			pmax	pmax		
	comp=Z,20nm,1.4s					
VRSR			pmax	pmax		
	comp=N,50nm,1.1s					
VRSR			pmax	pmax		
	comp=E,10.0nm,0.9s					
VRSR			MLR	MLR		
	comp=N,890nm,15.0s					
VRSR			MLR	MLR		
	comp=Z,1μm,15.0s					
VRSR			MLR	MLR		
	comp=E,380nm,16.0s					
BHD	Baghdad	9.39 175	*i* x	x	04 10 18.0	
BHD			*i* x	x	04 10 37.0	
BHD			*ex*	x	04 11 02.0	
BHD			*ex*	x	04 12 02.0	
BHD			*ex*	x	04 12 37.0	
BHD			*ex*	x	04 13 07.0	
VOR	Voronezh	9.54 344	*e*P	Pn	04 10 20.0	+0.2
VOR			pmax	pmax		
	comp=N,480nm,1.4s					
VOR			pmax	pmax		
	comp=Z,200nm,1.4s					
VOR			pmax	pmax		
	comp=E,220nm,1.5s					
KIZT	Kizilcal	9.59 251	*e*PN	Pn	04 10 18.7	-1.7
HENT	Hendek	9.60 263	*i* P	Pn	04 10 23.7	+3.1
KONT	Konya--Tatoy	9.72 245	*e*PN	Pn	04 10 20.3	-2.0
ERMK	Ermenek	10.13 237	*i* P	Pn	04 10 30.1	+2.2
ERMK			*i* S	Sn	04 12 51.4	+31
HWQ	Hawqa	10.24 218	*e*Pn	Pn	04 10 30.8	+1.4
BHL	Bhannes	10.68 218	*e*Pn	Pn	04 10 37.1	+1.6
IZI	Iznik	10.77 262	*e*PN	Pn	04 10 34.3	-2.4
ISK	Istanbul-Kandi	10.89 267	*e*PN	Pn	04 10 36.5	-1.8
ISP	Isparta	11.03 249	*e*PN	Pn	04 10 37.7	-2.5
ISP	Isparta	11.03 249	*e*P	Pn	04 10 42.9	+2.7
ISP	Isparta	11.03 249	Pn	Pn	04 10 41.9	+1.7
CSS	Prodhromos	11.03 229	*e*Pn	Pn	04 10 42.3	+2.0
	comp=E,70nm,1.0s					
CSS	Prodhromos	11.03 229	*e*Pn	Pn	04 10 42.3	+2.0
	comp=E,70nm,1.0s					
TKTP	Tekketepe	11.06 250	*i* P	Pn	04 10 42.3	+1.7
ULDT	Uludag	11.08 262	*i* P	Pn	04 10 41.7	+0.8
TIRR	Tirgusor	11.10 284	⇓P	Pn	04 10 38.2	-3.0
TIRR	Tirgusor	11.10 284	⇓P	Pn	04 10 38.2	-3.0
PSN	Preselentsi	11.24 280	*i* P	Pn	04 10 40.3	-2.8
KSDI	Kefar Szold	11.28 216	P	Pn	04 10 45.1	+1.4
KIS	Kishinev	11.29 298	*e*P	Pn	04 10 44.0	+0.2
KIS			*i* S	Sn	04 12 48.0	-1.3
	comp=E,3μm,14.0s					
KIS	Kishinev	11.29 298	*e*P	Pn	04 10 44.0	+0.2
KIS			*i* S	Sn	04 12 48.0	-1.3
KIS			MLR	MLR		
	comp=E,5μm,14.0s					
KIS			MLR	MLR		
	comp=Z,5μm,14.0s					
KIS			MLR	MLR		
	comp=Z,3μm,14.0s					
CFR	Carcaliu	11.37 288	⇑P	Pn	04 10 43.4	-1.4
CFR	Carcaliu	11.37 288	⇑P	Pn	04 10 43.4	-1.4
HARR	Harsova	11.46 286	⇑P	Pn	04 10 44.0	-2.1
PRD	Provadia	11.82 278	*i* P	Pn	04 10 47.5	-3.5
VAN	Vannovskaya	12.10 108	P	Pn	04 10 52.9	-2.0
ABKT	Ailbek	12.12 108	Pn	Pn	04 10 52.9	-2.2
	comp=Z,703nm,0.5s,SNR=17					
EDRB	Edirne	12.45 272	*e*PN	Pn	04 10 57.3	-2.3
VRI	Vrincioaia	12.45 291	⇓P	Pn	04 11 07.3	+7.7
VRI	Vrincioaia	12.45 291	⇓P	Pn	04 11 07.3	+7.7
AKTK	Aktyubinsk	12.65 47	Pn	Pn	04 10 59.5	-2.9
AKTK			Sn	Sn	04 13 15.2	-7.3
AKTK	Aktyubinsk	12.65 47	Pn	Pn	04 10 59.5	-2.9
AKTK			Sn	Sn	04 13 15.2	-7.3
AKTK			LR	LR	04 17 39.3	
AKTO	Aktyubinsk	12.65 47	Pn	Pn	04 10 59.5	-2.9
	comp=Z,8.6nm,0.3s,baz=241,slow=13,SNR=141					
AKTO			Sn	Sn	04 13 15.2	-7.3
	comp=Z,1.6nm,0.3s,baz=186,slow=19,SNR=1.8					
AKTO			LR	LR	04 17 39.3	
	comp=Z,6μm,18.9s,baz=0.0,slow=46					
AKASG	Malin Array Be	12.67 314	Pn	Pn	04 11 00.6	-2.1
	comp=Z,3.1nm,0.3s,baz=122,slow=9.4,SNR=22					
AKASG			Sn	Sn	04 13 18.7	-4.3
	baz=124,slow=25,SNR=3.6					
AKASG			Lg		04 14 47.0	
	baz=118,slow=26,SNR=3.6					
AKASG	Malin Array Be	12.67 314	P	Pn	04 11 00.6	-2.0
AKASG			Sn	Sn	04 13 18.7	-4.2
AKASG	Malin Array Be	12.67 314	Pn	Pn	04 11 00.6	-2.1
AKASG			Sn	Sn	04 13 18.7	-4.3
AKASG			Lg		04 14 47.0	
KIEV	Kiev	12.67 314	P	Pn	04 11 02.0	-0.7
BUC1	Bucharest	12.80 284	⇓P	Pn	04 11 03.4	-1.0
BUC1	Bucharest	12.80 284	⇓P	Pn	04 11 03.4	-1.0
SZH	Strazhica	12.89 279	*e*P	Pn	04 11 01.5	-4.1
MLR	Muntele Rosu	12.94 289	Pn	Pn	04 11 06.3	0.0
	comp=Z,1.4nm,0.3s,baz=263,slow=3.1,SNR=16					
MLR			Sn	Sn	04 13 29.9	+0.4
	comp=Z,3.3nm,0.3s,baz=166,slow=19,SNR=4.8					
MLR	Muntele Rosu	12.94 289	⇑P	Pn	04 11 05.7	-0.6
MLR	Muntele Rosu	12.94 289	P	Pn	04 11 06.3	0.0
MLR					04 13 29.9	
MLR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MLR	Muntele Rosu	12.94 289	⇑P	Pn	04 11 05.7	-0.6
AB31	Akbulak array	13.20 54	*e*P	Pn	04 11 07.9	-2.0
AB31					04 13 29.2	
AB31			pmax	pmax		
	comp=Z,124nm,0.7s					
OBN	Obninsk	13.27 342	*i* P	Pn	04 11 11.2	+0.3
	comp=Z,228nm,1.3s					
OBN	Obninsk	13.27 342	*d* P	Pn	04 11 11.2	+0.3
OBN			*i* S	Sn	04 13 36.4	-1.2
OBN			pmax	pmax		
	comp=Z,228nm,1.3s					
OBN			MLR	MLR		
	comp=Z,7μm,17.0s					
OBN	Obninsk	13.27 342	Pn	Pn	04 11 11.2	+0.3
ZIMR		13.28 281	⇑P	Pn	04 11 12.1	+1.1
ZIMR		13.28 281	⇑P	Pn	04 11 12.1	+1.1
DIM	Dimitrovgrad	13.31 273	*e*P	Pn	04 11 10.5	-0.8
PVL	Pavlikeni	13.33 279	*e*P	Pn	04 11 09.8	-1.8
MTUR	Matau	13.53 287	P	Pn	04 11 16.3	+1.9
MTUR	Matau	13.53 287	P	Pn	04 11 16.3	+1.8
VOIR		13.56 288	⇑P	Pn	04 11 15.0	+0.2
MOS	Moscow	13.64 346	*e*P	Pn	04 11 14.7	-1.2
MOS			*e*S	Sn	04 13 46.4	-0.3
	comp=Z,5μm,13.0s					
MOS	Moscow	13.64 346	*e*P	Pn	04 11 14.7	-1.2
MOS			*e*S	Sn	04 13 46.4	-0.3
MOS			MLR	MLR		
	comp=Z,8μm,14.0s					
MOS			MLR	MLR		
	comp=N,5μm,13.0s					
MOS			MLR	MLR		
	comp=E,1μm,11.0s					
PECR	Pechory	13.69 1	*i* P	Pn	04 11 15.4	-1.1
	comp=E,1μm,4.6s					
PECR	Pechory	13.69 1	⇓*i* P	Pn	04 11 15.4	-1.1
PECR			pmax	pmax		
	comp=Z,1600μm,1.4s					
PECR			pmax	pmax		
	comp=Z,1μm,4.6s					
PECR			MLR	MLR		
	comp=N,6μm,15.0s					
PECR			MLR	MLR		
	comp=Z,10μm,15.0s					
BURAR	Bucovina Array	13.82 297	⇑P	Pn	04 11 16.2	-2.1
BURAR	Bucovina Array	13.82 297	⇑P	Pn	04 11 16.2	-2.2
PLD	Plovdiv	13.91 274	*e*P	Pn	04 11 19.2	-0.4
RZN	Rozhen	13.97 272	*i* P	Pn	04 11 22.0	+1.6
EIL	Elat	14.67 211	Pn	Pn	04 11 29.8	-0.1
EIL	Elat	14.67 211	Pn	Pn	04 11 29.8	-0.1
APE	Apeiranthos	14.88 254	*i* P	Pn	04 11 29.9	-2.8
VTS	Vitosha	14.94 277	⇓P	Pn	04 11 38.1	+4.5
VTS	Vitosha	14.94 277	⇓P	Pn	04 11 38.1	+4.5
LVV	L'vov	15.23 305	*e*P	Pn	04 11 35.0	-2.5
	comp=Z,2μm,9.0s					
LVV	L'vov	15.23 305	*e*P	Pn	04 11 35.0	-2.5
LVV			*e*S	Sn	04 14 27.0	+1.5
LVV			MLR	MLR		
	comp=Z,2μm,9.0s					
ZAPS	Zavoj/Pirot	15.30 280	⇓*i* P	Pn	04 11 36.8	-1.5
DJES	Djerdap	15.31 285	*e*P	Pn	04 11 43.8	+5.3
DRGR		15.34 293	⇑P	Pn	04 11 40.7	+1.9
DRGR		15.34 293	⇑P	Pn	04 11 40.7	+1.9
VAY	Valandovo	15.62 272	⇑*i* P	Pn	04 11 46.0	+3.5
MNK	Minsk	15.71 324	*e*P	Pn	04 11 38.0	-5.6
MNK			MLR	MLR		
	comp=Z,27μm,12.0s					
BOLS	Boljevac	15.74 282	⇑*i* P	Pn	04 11 42.9	-1.2
BOLS	Boljevac	15.74 282	P	Pn	04 11 42.8	-1.3
STIP	Stip	15.83 274	⇓*i* P	Pn	04 11 50.7	+5.4
UZH	Uzhgorod	15.97 299	*e*P	Pn	04 11 44.0	-3.0
	comp=Z,10μm,15.0s					
UZH			*e*S	Sn	04 14 41.5	-1.8
UZH	Uzhgorod	15.97 299	*e*P	Pn	04 11 44.0	-3.0
UZH			*e*S	Sn	04 14 41.5	-1.8
UZH			MLR	MLR		
	comp=Z,10μm,15.0s					
BZS	Buzias	15.98 288	⇑P	Pn	04 11 49.2	+2.0
BZS	Buzias	15.98 288	⇑P	Pn	04 11 49.2	+2.0
KWP	Kalwaria	15.98 303	*e*P	Pn	04 11 48.0	+0.8
KWP			*e*pP	pP	04 11 51.6	-5.4
KWP			*e*S	Sn	04 15 01.7	+18
KWP			*e*PcP	PcP	04 16 42.9	-0.8
KOLS	Kolonicke sedl	16.06 300	*e*P	Pn	04 11 52.4	+4.2
KOLS			*e*		04 17 02.0	
KOLS	Kolonicke sedl	16.06 300	*e*P	Pn	04 11 45.9	-2.3
KOLS			*e*		04 11 52.4	
KOLS			*e*		04 17 02.0	
IDI	Anoyia	16.21 249	Pn	Pn	04 11 52.4	+2.2
	comp=Z,1.9nm,0.3s,baz=40,slow=9.7,SNR=13					
IDI			LR	LR	04 19 06.0	
	comp=Z,2μm,18.4s,baz=48,slow=41					
SVIS	Svilajnac	16.25 283	⇓*i* P	Pn	04 11 52.7	+2.1
SKO	Skopje	16.33 275	*e*P	Pn	04 11 55.6	+3.9
CRVS	Cervenica-Dubn	16.57 300	*e*PN	Pn	04 11 54.8	+0.1
CRVS			*es*P	sP	04 12 05.5	-1.0
BIA	Bitola	16.60 272	*i* P	Pn	04 11 59.5	+4.4
GRUS	Gruza	16.64 282	*e*P	Pn	04 11 59.2	+3.7
STHS	Stebnicka Huta	16.84 301	*e*PN	Pn	04 11 55.8	-2.2
STHS			*e*		04 17 12.8	
ARU	Arti	16.85 30	Pn	Pn	04 11 54.0	-4.2
	comp=Z,704nm,0.6s,SNR=16					
ARU	Arti	16.85 30	*d* P	Pn	04 11 54.7	-3.5
ARU			pmax	pmax		
	comp=Z,120nm,1.7s					
ARU	Arti	16.85 30	Pn	Pn	04 11 54.8	-3.4
	comp=Z,66nm,0.7s					
OHR	Ohrid	16.97 272	⇓*i* P	Pn	04 12 03.9	+4.2
KECS	Kecovo	17.11 298	*e*PN	Pn	04 11 59.4	-2.1
DIVS	Divcibare	17.14 283	⇑*i* P	Pn	04 12 02.5	+0.6
PSZ	Piszkesteto	17.40 296	⇑*e*P	Pn	04 12 04.6	-0.5
PSZ	Piszkesteto	17.40 296	P	Pn	04 12 04.2	-0.9
PSZ	Piszkesteto	17.40 296	Pn	Pn	04 12 04.0	-1.1
NIE	Niedzica	17.42 301	*e*P	Pn	04 12 05.2	-0.2
QSH	Qafa e Shtames	17.54 274	*i* p	Pn	04 12 10.0	+3.1
SUW	Suwalki	17.58 317	*e*P	Pn	04 12 04.2	-3.2
SUW			*e*pP	pP	04 12 08.4	-6.3
SUW			*e*S	Sn	04 15 30.1	+7.6
SUW			L		04 19 27.3	
	comp=Z,2.6nm,19.0s					
SUW	Suwalki	17.58 317	*e*P	Pn	04 12 04.2	-3.2
SUW			*e*pP	pP	04 12 08.4	-6.3
SUW			*e*S	Sn	04 15 30.1	+7.6
WAR	Warsaw	17.91 310	*e*P	Pn	04 12 12.2	+0.8
WAR			*e*pP	pP	04 12 13.9	-4.4
WAR			*e*S	Sn	04 15 38.8	+8.4
WAR			L		04 19 17.3	
	comp=Z,7.5nm,14.9s					
WAR	Warsaw	17.91 310	*e*P	Pn	04 12 12.2	+

PUL pmax pmax
comp=N,403nm,1.1s
PUL pmax pmax
comp=E,316nm,1.1s
PUL pmax pmax
comp=Z,354nm,0.9s
PUL pmax pmax
comp=N,746nm,1.1s
PUL pmax pmax
comp=E,510nm,1.2s
PUL MLR MLR
comp=N,6µm,14.0s
PUL MLR MLR
comp=Z,7µm,14.0s
PUL MLR MLR
comp=E,3µm,15.0s
VSU Vasula 18.99 332 *i* P **Pn 04 12 24.6 +0.1**
VSU Vasula 18.99 332 *d i* P **Pn 04 12 24.6 +0.1**
JAVC Velka Javorina 19.01 298 P **Pn 04 12 25.3 +0.5**
TAS Tashkent 19.20 85 *e* P **Pn 04 12 26.5 -0.6**
comp=E,5µm,6.0s
TAS *e* S **Sn 04 16 00.0 -1.6**
TAS Tashkent 19.20 85 *e* P **Pn 04 12 26.5 -0.6**
TAS *e* S **Sn 04 16 00.0 -1.6**
TAS pmax pmax
comp=Z,5µm,6.0s
MORC Moravsky Berou 19.26 301 P **Pn 04 12 27.3 -0.5**
MORC Moravsky Berou 19.26 301 P **Pn 04 12 26.3 -1.5**
comp=Z,97nm,1.5s
ZST Bratislava 19.29 296 *e* P **Pn 04 12 28.0 -0.2**
ZST *e* S **Sn 04 16 08.1 +4.3**
ZST *e* 04 19 21.7
ZST Bratislava 19.29 296 *e* P **Pn 04 12 28.0 -0.2**
ZST *e* S **Sn 04 16 08.1 +4.3**
SOP Sopron 19.60 294⇑ *e* P **Pn 04 12 32.5 +0.6**
SISC Sisak 19.66 288 *i* P **Pn 04 12 36.8 +4.2**
KOGS Kog 19.75 290 *e* P **Pn 04 12 33.3 -0.3**
KOGS *e* 04 12 38.2
KOGS *e* 04 12 43.4
KK31 Karatay Array 19.78 79 *i* P **Pn 04 12 32.3 -1.7**
KK31 pmax pmax
comp=Z,104nm,0.7s
KKAR Karatay Array 19.78 79 *i* P **Pn 04 12 32.3 -1.7**
KKAR pmax pmax
comp=Z,73nm,0.7s
VRAC Vranov 19.78 299 P **Pn 04 12 32.5 -1.5**
comp=Z,0.2nm,0.3s,baz=108,slow=9.1,SNR=4.2
VRAC Vranov 19.78 299 *e* P **Pn 04 12 32.4 -1.6**
VRAC Vranov 19.78 299⇑ P **Pn 04 12 38.9 +4.9**
KRUC Moravsky 19.87 298 P **Pn 04 12 34.5 -0.6**
DPC Dobruska-Polom 20.15 302 *e* P **P 04 12 36.7 +0.3**
DPC *e* S **S 04 16 24.5 +3.0**
DPC AMS AMS 04 22 50.0
comp=Z,3µm,9.6s
DPC Dobruska-Polom 20.15 302 *e* P **P 04 12 36.7 +0.3**
DPC *e* S **S 04 16 24.5 +3.0**
ARSA Arzberg 20.27 293⇑ *i* P **P 04 12 39.6 +1.8**
comp=Z,47nm,1.2s,SNR=9.8
KSP Ksiaz 20.27 303 *e* P **P 04 12 38.1 +0.3**
KSP *e* pP 04 12 40.6
KSP *e* S **S 04 16 30.9 +6.9**
KSP *e* PcP PcP 04 16 47.0 -3.9
KSP L 04 22 24.2
comp=Z,3.5nm,17.1s
KSP Ksiaz 20.27 303⇑ *e* P **P 04 12 37.7 -0.1**
KSP *e* 04 12 39.6
KSP *e* S **S 04 16 26.5 +2.5**
CRES Cresnjev 20.30 289 P **P 04 12 39.1 +1.1**
UPC Upice 20.38 302 *e* P **P 04 12 39.1 +0.2**
ORI Oriolo Calabro 20.44 272 P **P 04 12 40.7 +1.1**
BOJS Bojanci 20.45 288 *e* P **P 04 12 40.2 +0.5**
BOJS *e* 04 12 45.3
TIP Timpagrande 20.47 269 *e* P **P 04 12 40.9 +0.9**
TREC Trest 20.50 299 *e* P **P 04 12 40.4 +0.2**
TREC AMS AMS 04 23 20.0
comp=Z,2µm,11.8s
PERS Pernice 20.53 291 *e* P **P 04 12 41.0 +0.4**
PERS *e* 04 12 45.4
BRVK Borovoye 20.65 50 Pn **P 04 12 42.0 +0.1**
comp=Z,1µm,1.0s
BRVK Borovoye 20.65 50⇑ *i* P **P 04 12 42.0 +0.1**
BRVK pmax pmax
comp=Z,196nm,1.0s
BRVK Borovoye 20.65 50⇑ *i* P **P 04 12 42.0 +0.2**
comp=Z,196nm,1.0s
RGNG Rignano Grg 20.68 277 P **P 04 12 37.9 -4.3**
RGNG P 04 12 43.4
BVA0 Borovoye Array 20.70 51 *i* P **P 04 12 42.5 +0.1**
BVA0 pmax pmax
comp=Z,38nm,1.1s
BVAR Borovoye Array 20.70 51 P **P 04 12 42.7 +0.3**
comp=Z,158nm,1.0s,baz=243,slow=6.6,SNR=218
BVAR S **S 04 16 22.5 -10**
comp=Z,22nm,0.8s,baz=243,slow=23,SNR=5.1
ASHO Ashiyiah 20.70 146 P **P 04 12 44.7 +2.3**
SNR=44
FG4 Candela 20.85 275 P **P 04 12 45.4 +1.4**
OBKA Obir 20.92 291⇑ *i* P **P 04 12 45.6 +0.8**
comp=Z,106nm,1.6s,SNR=11
CUC Castrocucco 20.93 272 P **P 04 12 45.0 +0.2**
LJU Ljubljana 20.94 289 *e* P **P 04 12 49.5 +4.5**
LJU Ljubljana 20.94 289 P **P 04 12 47.5 +2.5**
VOSK Vostochnaya 20.94 52 P **P 04 12 45.0 0.0**
VOSK pmax pmax
comp=Z,49nm,1.0s
SLCN Sala Consilina 20.95 273 P **P 04 12 46.5 +1.4**
FG5 Orsara di Pugl 21.00 276 P **P 04 12 47.3 +1.6**
MGR Morigerati 21.08 273 P **P 04 12 47.4 +0.9**
SGO Sicignano 21.15 274 P **P 04 12 48.4 +1.2**
MOA Molln 21.16 294⇑ *i* Pn **P 04 12 48.4 +1.0**
comp=Z,23nm,1.2s,mb4.4
MOA Molln 21.16 294⇑ P **P 04 12 48.4 +1.0**
comp=Z,23nm,1.2s,mb4.4
PRU Pruhonice 21.21 300 *e* P **P 04 12 47.9 0.0**
PRU AMS AMS 04 23 20.0
comp=Z,2µm,10.5s
PVCC Panska Ves 21.28 302 *e* P **P 04 12 49.2 +0.5**
PRA Prague 21.29 300 P **P 04 12 50.0 +1.2**
VOY Vojsko 21.38 289 *e* P **P 04 12 49.5 -0.3**
VOY *e* 04 12 55.2
VOY *e* 04 13 11.9
TRI Trieste 21.49 288 P **P 04 12 53.3 +2.4**
FINES FINESS Array B 21.52 337 P **P 04 12 50.1 -1.2**
comp=Z,12nm,0.6s,mb4.5,baz=144,slow=10,SNR=36
FINES S **S 04 16 52.1 +3.4**
comp=Z,2.9nm,0.6s,baz=135,slow=24,SNR=2.6
FINES LR LR 04 21 08.8
comp=Z,954nm,20.3s,MS4.2,baz=312,slow=36
FINES FINESS Array B 21.52 337 P **P 04 12 50.1 -1.2**
FINES S **S 04 16 52.1 +3.4**
JOF Joensuu 21.52 345 *ep* P **P 04 12 51.9 +0.6**
comp=Z,4.2nm,0.4s,mb4.2
GEC2 GERESS Array S 21.61 297 *e* P **P 04 12 52.8 +0.6**
comp=Z,177nm,1.5s,mb5.3
GEC2 GERESS Array S 21.61 297 *e* P **P 04 12 52.8 +0.6**
GEC2 pmax pmax
comp=Z,177nm,1.5s,mb5.3
GERES GERESS Array B 21.61 297 P **P 04 12 52.7 +0.6**
comp=Z,18nm,0.8s,mb4.6,baz=106,slow=9.7,SNR=85
GERES S **S 04 16 58.7 +8.3**
comp=Z,1.1nm,0.7s,baz=90,slow=4.9,SNR=2.8
CII Carovilli 21.61 277 P **P 04 12 54.0 +1.8**
SGG Gregorio Mates 21.63 277 P **P 04 12 53.5 +1.1**
ROBS Robic 21.65 290 *e* P **P 04 12 54.8 +2.2**
ROBS *e* 04 12 59.0
MTTG Motta San Giov 21.66 267 P **P 04 12 53.2 +0.5**
MIDA Miranda 21.66 277 P **P 04 12 54.8 +2.0**
KHC Kasperske Hory 21.72 298 *e* P **P 04 12 53.6 +0.2**
KHC pP 04 13 03.0
KHC *e* S **S 04 16 56.5 +4.0**
KHC AMS AMS 04 22 40.0
comp=Z,2µm,12.8s
KHC Kasperske Hory 21.72 298 *e* P **P 04 12 53.6 +0.2**
KHC *e* 04 13 03.0
KHC *e* S **S 04 16 56.5 +4.0**
KHC LR LR
comp=Z,2µm,12.8s,MS4.8
BRG Berggiesshubel 21.74 302 *e* P **P 04 12 53.6 0.0**
comp=Z,82nm,1.6s,mb4.9
BRG *i* 04 13 39.6
comp=Z,21nm,1.1s
BRG *e* 04 19 41.0
comp=Z,19nm,1.5s
BRG
comp=N,980nm,12.9s
BRG
comp=E,1µm,11.5s
BRG
comp=Z,2µm,10.1s
BRG Berggiesshubel 21.74 302 *e* P **P 04 12 53.9 +0.3**
comp=Z,70nm,1.4s,mb4.9
BRG Berggiesshubel 21.74 302 *e* P **P 04 12 53.6 0.0**
comp=Z,82nm,1.6s,mb4.9
BRG *i* 04 13 39.6
BRG *e* 04 19 41.0
BRG LR LR
comp=Z,2µm,10.1s,MS4.8
COLI Coloredo 21.74 290⇓ *e* P **P 04 12 54.0 +0.4**
PTCC Patocco-Chiusa 21.75 290 P **P 04 12 55.4 +1.7**
KBA Koelnbreinsper 21.75 292 *i* P **P 04 12 54.6 +0.8**
comp=Z,110nm,1.0s,mb5.2,SNR=35
KBA Koelnbreinsper 21.75 292 *i* P **P 04 12 54.6 +0.8**
KBA pmax pmax
comp=Z,110nm,1.0s,mb5.2
BAD Bernadia 21.83 290⇓ *e* P **P 04 12 55.0 +0.4**
KAF Kangasniemi 22.00 338 *ep* **P 04 12 56.5 +0.1**
comp=Z,5.0nm,0.3s,mb4.4
KAF Kangasniemi 22.00 338 *e* P **P 04 12 56.5 +0.1**
KAF pmax pmax
comp=Z,5.0nm,0.3s,mb4.4
MPRI Monte Prat 22.01 290⇓ *e* P **P 04 12 58.0 +1.5**
ARQ Araqi 22.09 147 P **P 04 12 58.6 +1.3**
SNR=60
CING Cingoli 22.12 282 P **P 04 12 58.6 +1.0**
AQU L'Aquila 22.14 280 P **P 04 13 00.8 +2.9**
FVI Forni Avoltri 22.14 291 P **P 04 12 59.0 +1.1**
WET Wettzell 22.18 298 *e* P **P 04 12 58.8 +0.5**
comp=Z,32nm,1.3s,mb4.6
WET Wettzell 22.18 298 *e* P **P 04 12 58.8 +0.5**
WET pmax pmax
comp=Z,32nm,1.3s,mb4.6
RUE Ruedersdorf 22.19 307 *e* P **P 04 12 58.0 -0.4**
comp=Z,342nm,1.8s,mb5.5
RUE Ruedersdorf 22.19 307⇑ *i* P **P 04 12 57.9 -0.5**
comp=Z,287nm,1.2s,mb5.6
HOQ Hoqain 22.20 145 P **P 04 12 59.7 +1.1**
SNR=46
PTQR Pietraquaria 22.21 279 P **P 04 13 00.5 +1.9**
EKS2 Erkin-Say 22.22 80 P **P 04 12 59.2 +0.5**
SNR=63
AML Almayashu 22.26 81 P **P 04 13 00.1 +0.9**
SNR=51
ARV Arcevia 22.28 283 P **P 04 13 00.4 +1.0**
SNTG Esanatoglia 22.32 282 P **P 04 13 00.8 +1.0**
FSSB Fossombrone 22.37 283 P **P 04 13 02.1 +1.8**
BSD Bornholm Skovb 22.37 314 *i* P **P 04 13 00.5 +0.2**
comp=Z,57nm,1.0s,mb5.0
BSD *e* S **S 04 17 03.6 -1.6**
BSD
comp=Z,1µm,19.0s
BSD Bornholm Skovb 22.37 314 *i* P **P 04 13 00.5 +0.2**
comp=Z,57nm,1.0s,mb5.0
BSD *e* S **S 04 17 03.6 -1.6**
CLL Collm 22.40 303⇑ *i* P **P 04 13 00.9 +0.2**
comp=Z,140nm,1.0s,mb5.3
CLL *e* pP 04 13 05.0
CLL *e* sP sP 04 13 09.0 -1.3
CLL *e* x x 04 13 13.0
CLL *e* S **S 04 17 10.0 +4.2**
CLL Collm 22.40 303 *e* P **P 04 13 01.1 +0.4**
comp=Z,159nm,1.4s,mb5.3
CLL Collm 22.40 303⇑ *i* P **P 04 13 00.9 +0.2**
CLL *e* S **S 04 17 10.0 +4.2**
CLL pmax pmax
comp=Z,140nm,1.0s,mb5.3
BERN Bernov 22.54 300⇑ P **P 04 13 17.5 +15**
NKC Novy Kostel 22.58 300 *e* P **P 04 13 03.0 +0.5**
NKC AMS AMS 04 22 50.0
comp=Z,2µm,11.8s
BIDO Bidbid 22.61 143 P **P 04 13 04.0 +1.1**
SNR=14
MURB Monte Urbino 22.62 282 P **P 04 13 06.1 +3.1**
USP Ospenovka 22.64 78 P **P 04 13 02.0 -1.1**
SNR=32
ROTZ Rotzenmuhle 22.68 299 *e* P **P 04 13 03.8 +0.2**
comp=Z,29nm,1.2s,mb4.6
MTCE Montecelio 22.69 279 P **P 04 13 03.7 0.0**
MTCE P 04 13 07.3
WERD Werda 22.70 301 *e* P **P 04 13 03.8 0.0**
comp=Z,30nm,1.3s,mb4.6
AAK Ala-Archa 22.74 79 P **P 04 13 04.9 +0.7**
SNR=65
AAK Ala-Archa 22.74 79 P **P 04 13 03.4 -0.9**
comp=Z,691nm,1.3s,mb5.9,SNR=84
AAK Ala-Archa 22.74 79 *c i* P **P 04 13 03.5 -0.8**
AAK pmax pmax
comp=Z,176nm,1.6s,mb5.2
AAK MLR MLR
comp=Z,3µm,17.0s,MS4.8
AAK Ala-Archa 22.74 79⇑ *i* P **P 04 13 03.6 -0.7**
comp=Z,377nm,1.5s,mb5.6
VAE Valguarnera 22.79 267 P **P 04 13 05.5 +0.7**
comp=Z,27nm,0.8s,mb4.7,baz=56,slow=8.2,SNR=5.2
FRU Bishkek 22.79 79⇑ *i* P **P 04 13 05.0 +0.2**
FRU *e* S **S 04 17 18.0 +5.3**
FRU pmax pmax
comp=Z,295nm,1.5s,mb5.5
FRU smax
comp=E,2µm,11.0s
UCH Uchtor 22.83 80 P **P 04 13 05.9 +0.7**
SNR=21
BRES Bressanone 22.86 291 P **P 04 13 07.0 +1.5**
CHMS Chumysh 22.86 78 P **P 04 13 05.8 +0.2**
SNR=15
WTTA Wattenberg 22.92 293⇓ *i* P **P 04 13 06.0 -0.2**
comp=E,219nm,1.0s,mb5.5,SNR=26
WTTA Wattenberg 22.92 293⇓ *i* P **P 04 13 06.0 -0.2**
WTTA pmax pmax
comp=Z,219nm,1.0s,mb5.5
CTI Castel Tesino 22.95 289 P **P 04 13 06.7 +0.3**
WATA Walderalm 22.96 293⇑ *i* P **P 04 13 05.6 -1.0**
comp=Z,201nm,1.4s,mb5.4,SNR=23
WATA Walderalm 22.96 293 P **P 04 13 07.2 +0.6**
SMDO Samad 22.98 144 P **P 04 13 06.4 -0.4**
SNR=71
RGN Rugen 23.04 312 *e* P **P 04 13 08.4 +1.0**
comp=Z,417nm,1.3s,mb5.7
KBK Karagaybulak 23.07 79 P **P 04 13 08.3 +0.6**
SNR=132
MOX Moxa 23.16 301 *e* P **P 04 13 09.9 +1.2**
comp=Z,22nm,1.3s,mb4.4
MOX Moxa 23.16 301 *e* P **P 04 13 10.3 +1.6**
MOX *e* 04 13 35.5
comp=Z,83nm,1.6s
MOX Moxa 23.16 301 *e* P **P 04 13 10.3 +1.6**
MOX *e* 04 13 35.5
MOX pmax pmax
comp=Z,83nm,1.6s,mb4.9
MOX Moxa 23.16 301 *e* P **P 04 13 10.3 +1.6**
comp=Z,83nm,1.6s,mb4.9
MOX *e* 04 13 35.5
FUR Furstenfeldbru 23.18 295 *e* P **P 04 13 09.8 +0.9**
comp=Z,132nm,1.8s,mb5.1
FUR Furstenfeldbru 23.18 295 *e* P **P 04 13 09.8 +0.9**
FUR pmax pmax
comp=Z,132nm,1.8s,mb5.1
SQTA Sankt Quirin 23.21 293⇑ *i* P **P 04 13 08.4 -0.8**
comp=Z,111nm,1.0s,mb5.3,SNR=45
SQTA Sankt Quirin 23.21 293⇑ *i* P **P 04 13 08.4 -0.8**
SQTA pmax pmax
comp=Z,111nm,1.0s,mb5.2
APPI Appiano 23.22 291 P **P 04 13 08.3 -1.0**
MOTA Moosalm 23.28 293⇑ *i* P **P 04 13 08.8 -1.2**
comp=Z,141nm,1.2s,mb5.3,SNR=54
MOTA Moosalm 23.28 293⇑ *i* P **P 04 13 08.8 -1.2**
MOTA pmax pmax
comp=Z,141nm,1.2s,mb5.3
GRA1 Grafenberg Arr 23.30 299 *e* P **P 04 13 10.0 -0.2**
comp=Z,68nm,1.2s,mb5.0
GRA1 LR LR
comp=Z,1µm,19.4s,MS4.4
GRF Grafenberg Arr 23.30 299 *e* P **P 04 13 10.0 -0.2**
comp=Z,68nm,1.2s,mb5.0
GRF *e* L 04 23 08.6
comp=Z,1µm,19.4s
GRF Grafenberg Arr 23.30 299 *e* P **P 04 13 10.0 -0.2**
GRF pmax pmax
comp=Z,68nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,1µm,19.4s,MS4.4
GRF Grafenberg Arr 23.30 299 *e* P **P 04 13 10.0 -0.2**
GRF pmax pmax
comp=Z,68nm,1.2s,mb5.0
GRF MLR MLR
comp=Z,1µm,19.4s,MS4.4
KZA Kyzart 23.40 81 P **P 04 13 12.0 +0.8**
SNR=112
CSNT Castellina Chi 23.47 283 P **P 04 13 12.1 +0.1**
TKM2 Tokmak 2 23.49 78 P **P 04 13 12.2 +0.1**
SNR=108
TKM2 Tokmak 2 23.49 78 *i* P **P 04 13 11.6 -0.5**
TKM2 pmax pmax
comp=Z,232nm,1.6s,mb5.4
MABI Malga Bissina 23.73 290 P **P 04 13 14.1 -0.2**
GRFL Gerfalco 23.75 282 P **P 04 13 15.0 +0.5**
SAL Salo 23.76 289 P **P 04 13 15.7 +1.1**
BRMO Bormio 23.81 291 P **P 04 13 15.1 +0.1**
COP Copenhagen 23.90 314 *i* P **P 04 13 16.9 +1.0**
comp=Z,48nm,0.7s,mb5.0
COP *i* 04 17 49.0
COP
comp=Z,670nm,17.0s
COP Copenhagen 23.90 314 *i* P **P 04 13 16.9 +1.0**
COP pmax pmax
comp=Z,48nm,0.7s,mb5.0
COP MLR MLR
comp=Z,680nm,17.0s,MS4.2
HDH Heidenheim 23.90 296 P **P 04 13 15.9 0.0**
UBR Uberruh 23.96 294 P **P 04 13 17.1 +0.7**
ERBM Eremo 23.96 286 P **P 04 13 18.6 +2.2**
MAIM 23.98 284 P **P 04 13 16.4 -0.2**
PII Pisa 23.98 284 P **P 04 13 17.5 +0.9**
SARO Sassorosso 24.00 285 P **P 04 13 16.7 -0.1**
VLC Villacollemand 24.02 285 P **P 04 13 18.6 +1.6**
ULHL Ulahol 24.09 80 P **P 04 13 19.1 +1.6**
SNR=47
VALM 24.09 285 P **P 04 13 17.5 -0.1**
CLZ Clausthal 24.11 304 *e* P **P 04 13 18.8 +1.0**
comp=Z,40nm,1.2s,mb4.7
CLZ Clausthal 24.11 304 *e* P **P 04 13 18.8 +1.0**
CLZ pmax pmax
comp=Z,40nm,1.2s,mb4.7
DAVA Damuels 24.12 293 *i* P **P 04 13 17.2 -0.6**
comp=Z,137nm,1.0s,mb5.3,SNR=36
DAVOX Davos 24.13 291 P **P 04 13 17.9 -0.1**
comp=Z,37nm,0.7s,mb4.9,baz=125,slow=13
DAVOX PcP PcP 04 16 58.6 -0.1
comp=Z,7.9nm,0.9s,baz=48,slow=14,SNR=3.7
GRAM 24.20 286 P **P 04 13 18.4 -0.2**
BACM 24.23 285 P **P 04 13 18.7 -0.1**
SIND Sindeldorf 24.33 298 P **P 04 13 21.1 +1.3**
CODM 24.37 286 P **P 04 13 19.6 -0.5**
AAA Alma-Ata 24.40 77 *i* P **P 04 13 21.4 +1.0**
AAA *i* S **S 04 17 38.3 -0.5**
AAA pmax pmax
comp=Z,2µm,7.4s
AAA smax
comp=E,2µm,12.0s
AAA MLR MLR
comp=Z,7µm,13.3s,MS5.3
VDL Val di Lei 24.43 291⇑ P **P 04 13 20.9 +0.2**
TUE Stuetta 24.52 291 P **P 04 13 20.9 -0.6**
BSEG Bad Segeberg 24.56 309 *e* P **P 04 13 22.5 +0.6**
comp=Z,36nm,0.9s,mb4.9
STU Stuttgart 24.58 296 *e* P **P 04 13 21.9 -0.1**
comp=Z,45nm,1.0s,mb5.0
SC2M Scurtabr 24.59 286 P **P 04 13 21.9 -0.3**
KSH Kashi 24.59 86⇑ *i* P **P 04 13 24.1 +1.9**
KSH AP 04 13 33.3
KSH XP sP 04 13 36.2 +4.1
KSH PP 04 14 03.1
KSH PCP PcP 04 17 01.1 +1.5
KSH S **S 04 17 40.7 -1.3**
KSH XS sS 04 17 57.1 +3.6
KSH SS 04 18 45.3
KSH SCP ScP 04 20 37.1 +0.2
KSH PCS PcS 04 20 40.5 +0.9
KSH SCS ScS 04 24 24.1 -0.6
KSH AMB AMB
comp=Z,930nm,2.8s,mb5.8
KSH LR LR
comp=N,3µm,11.6s,MS5.2
KSH LR LR
comp=E,4µm,15.2s,MS5.2
GUT Gutenstein 24.62 295 P **P 04 13 23.7 +1.2**
LLS Linth-Limmern 24.73 292⇑ P **P 04 13 22.9 -0.5**
SISB Singen-Sch Ber 24.73 294 P **P 04 13 25.0 +1.6**
WILA Wila 24.77 293⇑ P **P 04 13 23.3 -0.5**
LBG Lerchenberg 24.84 296 P **P 04 13 24.6 +0.2**
SPAK Spaichingen 24.84 295 *e* P **P 04 13 23.9 -0.6**
TOD Tromm 24.87 298 *e* P **P 04 13 24.4 -0.3**
VAI Varese 24.96 289 P **P 04 13 25.0 -0.6**
MUO Muotathal 24.98 292⇑ P **P 04 13 25.2 -0.5**
GENL Genova Univers 24.99 286 P **P 04 13 24.9 -0.9**
ZUR Zurich 25.00 293⇓ P **P 04 13 25.8 -0.1**
SLE Schleitheim 25.05 294⇑ P **P 04 13 25.6 -0.7**
TNS Taunus Mts 25.13 300 *e* P **P 04 13 27.6 +0.5**
comp=Z,51nm,2.0s,mb4.7
TNS Taunus Mts 25.13 300 *e* P **P 04 13 27.6 +0.5**
TNS pmax pmax
comp=Z,51nm,2.0s,mb4.7
BFO Black Forest 25.15 295 *e* P **P 04 13 26.6 -0.6**
comp=Z,36nm,1.6s,mb4.7
BFO Black Forest 25.15 295 P **P 04 13 27.5 +0.3**
comp=Z,148nm,0.8s,mb5.6,SNR=11
BFO Black Forest 25.15 295 *e* P **P 04 13 26.6 -0.6**
BFO pmax pmax
comp=Z,36nm,1.6s,mb4.7
HFS Hagfors 25.20 324 P **P 04 13 27.6 -0.1**
comp=Z,55nm,0.9s,mb5.1,baz=129,slow=9.5,SNR=31
HFS LR LR 04 24 08.8
comp=Z,3µm,18.4s,MS4.9,baz=120,slow=38
HFA0 Hagfors New Ar 25.21 324 P **P 04 13 26.6 -1.2**
KURK Kurchatov 25.22 59 P **P 04 13 27.0 -0.8**
comp=Z,771nm,1.3s,mb6.1,SNR=21
KURK Kurchatov 25.22 59⇑ *e* P **P 04 13 27.7 -0.1**
KURK *e** PP pP 04 13 34.1 -0.7
KURK pmax pmax
comp=Z,247nm,1.3s,mb5.6
KURK Kurchatov 25.22 59⇑ *e* P **P 04 13 27.7 -0.2**
comp=Z,247nm,1.3s,mb5.6
KURK *e* pP pP 04 13 34.1 -0.8
CORF Corte 25.24 281 *e* P **P 04 13 28.9 +0.9**
PCP Pian Castagno 25.27 286 P **P 04 13 27.5 -0.9**
PGF Pioggiola 25.30 282 *e* P **P 04 13 28.2 -0.4**
comp=Z,114nm,0.8s,mb5.2
PGF Pioggiola 25.30 282 *e* P **P 04 13 28.2 -0.4**
PGF pmax pmax
comp=Z,57nm,0.8s,mb5.2
PGF Pioggiola 25.30 282 *e* P **P 04 13 28.2 -0.4**
comp=Z,57nm,0.8s,mb5.2
SULZ Sulz-Cheisache 25.31 293⇑ P **P 04 13 27.9 -0.8**
KTD Kalmit 25.32 298 *e* P **P 04 13 29.1 +0.3**
FELD Feldberg 25.37 294 *e* P **P 04 13 28.2 -1.1**
KIZ Kirchzarten 25.43 294 P **P 04 13 29.6 -0.2**
MCGN Macugnaga 25.50 290 P **P 04 13 29.1 -1.3**
LANF Langenberg 25.50 297 *e* P **P 04 13 30.3 -0.1**
MMK Mattmark 25.50 290⇑ P **P 04 13 29.8 -0.7**
ORX Oropa 25.53 289 P **P 04 13 29.1 -1.6**
FIN Finale Ligure 25.56 286 P **P 04 13 30.1 -0.9**
FIN Finale Ligure 25.56 286 P **P 04 13 30.7 -0.3**
APA Apatity 25.56 351⇓ *i* P **P 04 13 34.0 +3.0**
APA *i* pP 04 13 42.2 +4.2
APA pmax pmax
comp=Z,2µm,9.0s
APA MLR MLR
comp=Z,5µm,16.0s,MS5.2
ABH Alteburg 25.69 299 *e* P **P 04 13 32.5 +0.3**
LKBD Leukerbad 25.71 291⇑ P **P 04 13 31.9 -0.4**
TRAV 25.71 289 P **P 04 13 30.5 -1.8**
BBS Basel-Blauen 25.72 293 *e* P **P 04 13 31.1 -1.3**
LVZ Lovozero 25.75 352 *i* P **P 04 13 35.3 +2.6**
LVZ pmax pmax
comp=Z,32nm,1.2s,mb4.7
LVZ pmax pmax
comp=N,30nm,1.4s
LVZ pmax pmax
comp=E,1.0nm,0.9s
LVZ MLR MLR
comp=Z,3µm,13.0s,MS5.0
LVZ MLR MLR
comp=N,2µm,14.0s,MS4.9
LVZ MLR MLR
comp=E,923nm,11.0s,MS4.9

IBBN **Ibbenburen 25.78 304** *e*P P 04 13 34.1 +1.2
comp=Z,63nm,1.4s,mb5.0
IBBN **Ibbenburen 25.78 304** P P 04 13 34.0 +1.1
ROB **Roburent 25.79 286** P P 04 13 31.7 -1.3
WLS **Welschbruch 25.80 295** *e*P P 04 13 32.1 -1.0
IMI **Imperia 25.84 285** P P 04 13 32.3 -1.2
IMI **Imperia 25.84 285** P P 04 13 34.2 +0.7
CDF **Champ du Feu 25.85 295** *e*P P 04 13 32.7 -0.9
comp=Z,26nm,1.0s,mb4.4
CDF **Champ du Feu 25.85 295** *e*P P 04 13 32.7 -0.9
CDF pmax pmax
comp=Z,13nm,1.0s,mb4.4
CDF **Champ du Feu 25.85 295** *e*P P 04 13 32.7 -0.9
comp=Z,13nm,1.0s,mb4.4
MUD **Monsted U'grnd 25.88 314** *i*P P 04 13 34.8 +0.9
MUD *e* 04 13 54.1
MUD
comp=Z,1µm,19.0s
MUD **Monsted U'grnd 25.88 314** *i*P P 04 13 34.8 +0.9
MUD *e* 04 13 54.1
DIX **Grande Dixence 25.89 290** ⇑P P 04 13 33.9 0.0
MONE **Monesi 25.90 285** P P 04 13 34.0 -0.1
ECH **Echery 25.93 295** *e*P P 04 13 33.7 -0.6
BUG **Bochum--Univer 25.98 302** *e*P P 04 13 35.8 +1.0
comp=Z,31nm,1.1s,mb4.8
BUG **Bochum--Univer 25.98 302** P P 04 13 35.7 +0.9
NEGI **Negi 25.98 285** P P 04 13 33.7 -1.1
RUP **Ruppelstein 26.00 298** *e*P P 04 13 35.1 +0.1
SAOF **Saorge 26.06 285** *e*P P 04 13 35.9 +0.4
RSP **Reno Superiore 26.10 288** P P 04 13 33.7 -2.1
ENR **Entracque 26.12 286** P P 04 13 34.5 -1.5
HINF **Hinteralfeld 26.15 294** *e*P P 04 13 35.3 -1.0
AUTN **L'Aution 26.15 285** *e*P P 04 13 40.6 +4.3
SBF **Sospel 26.17 285** *e*P P 04 13 36.7 +0.2
comp=Z,174nm,0.9s,mb5.3
SBF **Sospel 26.17 285** *e*P P 04 13 36.7 +0.2
SBF pmax pmax
comp=Z,87nm,0.9s,mb5.3
SBF **Sospel 26.17 285** *e*P P 04 13 36.7 +0.2
comp=Z,87nm,0.9s,mb5.3
STV2 **Anna di Valdie 26.18 286** P P 04 13 35.3 -1.3
STV **Sta Anna Valdi 26.18 286** P P 04 13 34.9 -1.7
EMV **Vieux Emosson 26.24 290** ⇓P P 04 13 37.2 +0.1
FENE **Fenestrelle 26.25 288** P P 04 13 35.2 -2.0
PZZ **Prazzo 26.30 287** P P 04 13 36.5 -1.2
WTSB **Winterswijk 26.32 304**⇑*e*P P 04 13 39.0 +1.1
comp=Z,105nm,1.3s,mb5.2
LPG **La Plagne 26.41 289** *e*P P 04 13 38.5 -0.1
comp=Z,246nm,1.2s,mb5.3
LPG **La Plagne 26.41 289** *e*P P 04 13 38.5 -0.1
LPG pmax pmax
comp=Z,123nm,1.2s,mb5.3
LPG **La Plagne 26.41 289** *e*P P 04 13 38.5 -0.1
comp=Z,123nm,1.2s,mb5.3
LPL **La Plagne 26.42 289** *e*P P 04 13 38.5 -0.2
comp=Z,239nm,1.0s,mb5.4
LPL **La Plagne 26.42 289** *e*P P 04 13 38.5 -0.2
LPL pmax pmax
comp=Z,120nm,1.0s,mb5.4
LPL **La Plagne 26.42 289** *e*P P 04 13 38.5 -0.2
comp=Z,120nm,1.0s,mb5.4
RRL **Cesana Torines 26.46 288** P P 04 13 37.6 -1.5
HAU **Haudompre 26.48 295** *e*P P 04 13 39.4 +0.1
comp=Z,89nm,1.0s,mb5.0
HAU **Haudompre 26.48 295** *e*P P 04 13 39.4 +0.1
HAU pmax pmax
comp=Z,45nm,1.0s,mb5.0
HAU **Haudompre 26.48 295** *e*P P 04 13 39.4 +0.1
comp=Z,44nm,1.0s,mb5.0
MBDF **Montbardon 26.50 287** *e*P P 04 13 39.7 +0.2
comp=Z,250nm,0.9s,mb5.5
MBDF **Montbardon 26.50 287** *e*P P 04 13 39.7 +0.2
MBDF pmax pmax
comp=Z,125nm,0.9s,mb5.4
MBDF **Montbardon 26.50 287** *e*P P 04 13 39.7 +0.2
comp=Z,125nm,0.9s,mb5.4
BNI **Bardonecchia 26.52 288** P P 04 13 40.4 +0.8
BNI pmax pmax
comp=Z,36nm,0.8s,mb5.0
BNI **Bardonecchia 26.52 288** P P 04 13 40.4 +0.7
comp=Z,36nm,0.8s,mb5.0
WLF **Walferdange 26.59 298** *e*P P 04 13 41.2 +0.9
comp=Z,22nm,1.0s,mb4.6
WLF **Walferdange 26.59 298** ⇓P P 04 13 41.1 +0.8
WLF AP pP 04 13 50.9 +3.6
WLF XP sP 04 13 52.7 +2.4
WLF **Walferdange 26.59 298** P P 04 13 43.8 +3.5
comp=Z,16nm,0.9s,mb4.5
NB2 **NORSAR Subarra 26.71 325** P P 04 13 40.8 -0.6
comp=Z,34nm,1.1s,mb4.8,baz=116,slow=9.3
NOA **NORSAR Array B 26.71 325** P P 04 13 40.3 -1.1
comp=Z,9.7nm,0.9s,mb4.3,baz=125,slow=9.6,SNR=22
NOA LR LR 04 24 56.4
comp=Z,3µm,18.4s,MS4.9,baz=115,slow=38
MEM **Membach 26.71 300** ⇑P P 04 13 42.9 +1.5
MEM AP pP 04 13 49.0 +0.6
THEF **They Montfort 26.71 295** *e*P P 04 13 40.6 -0.8
CABF **La Chapelle 26.75 291** *e*P P 04 13 41.2 -0.5
comp=Z,138nm,0.8s,mb5.2
CABF **La Chapelle 26.75 291** *e*P P 04 13 41.2 -0.5
CABF pmax pmax
comp=Z,69nm,0.8s,mb5.2
CABF **La Chapelle 26.75 291** *e*P P 04 13 41.2 -0.5
comp=Z,69nm,0.8s,mb5.2
NAO01 **NORSAR Array S 26.76 324** *e*P P 04 13 44.1 +2.3
comp=Z,42nm,0.9s,mb5.0
HGN **Heimansgroeve 26.77 301**⇑*e*P P 04 13 42.9 +1.0
comp=Z,57nm,1.5s,mb4.9
HGN *e*S S 04 17 55.7 -21
FRF **La Foret Royal 26.79 285** *e*P P 04 13 42.0 0.0
comp=Z,91nm,0.8s,mb5.0
FRF **La Foret Royal 26.79 285** *e*P P 04 13 42.0 0.0
FRF pmax pmax
comp=Z,46nm,0.8s,mb5.1
FRF **La Foret Royal 26.79 285** *e*P P 04 13 42.0 0.0
comp=Z,46nm,0.8s,mb5.1
KONO **Kongsberg 26.81 321**⇑*i*P P 04 13 43.6 +1.3
KONO **Kongsberg 26.81 321** P P 04 13 45.8 +3.5
comp=Z,29nm,0.8s,mb4.9
LMR **La Mourre 26.93 284** *e*P P 04 13 43.1 -0.2
comp=Z,52nm,1.0s,mb4.7
LMR **La Mourre 26.93 284** *e*P P 04 13 43.1 -0.2
LMR pmax pmax
comp=Z,26nm,1.0s,mb4.7
LMR **La Mourre 26.93 284** *e*P P 04 13 43.1 -0.2
comp=Z,26nm,1.0s,mb4.7
BEBN **Eben Emael 26.93 301** ⇓P P 04 13 48.7 +5.3
BEBN AP pP 04 13 55.6 +5.2
ORIF **Oris-en-Rattie 27.10 288** *e*P P 04 13 44.9 0.0
comp=Z,42nm,0.7s,mb4.8
ORIF **Oris-en-Rattie 27.10 288** *e*P P 04 13 44.9 0.0
ORIF pmax pmax
comp=Z,21nm,0.7s,mb4.8
ORIF **Oris-en-Rattie 27.10 288** *e*P P 04 13 44.9 0.0
comp=Z,21nm,0.7s,mb4.8
OG05 **Jujurieux 27.24 290** *e*P P 04 13 46.0 -0.2
JASL **Jaisalmer 27.27 116** *e*P P 04 13 47.2 +0.8
JASL AMb AMB 04 14 00.2
MEZF **Maizieres J'vi 27.33 296** *e*P P 04 13 46.5 -0.4
comp=Z,31nm,0.8s,mb4.6
MEZF **Maizieres J'vi 27.33 296** *e*P P 04 13 46.5 -0.4
comp=Z,31nm,0.8s,mb4.9
THN **Thein Dam 27.36 101** *e*P P 04 13 47.8 +0.6
GIVF **Givet 27.46 299** *e*P P 04 13 47.4 -0.7
SMRF **Simiane la Rot 27.47 286** *e*P P 04 13 48.3 +0.1
comp=Z,96nm,0.9s,mb5.0
SMRF **Simiane la Rot 27.47 286** *e*P P 04 13 48.3 +0.1
comp=Z,96nm,0.9s,mb5.3
DOU **Dourbes 27.60 299** ⇑P P 04 13 50.6 +1.2
DOU AP pP 04 13 56.6 +0.1
DOU XP sP 04 14 00.6 +1.2
MKAR **Makanchi Array 27.68 68** P P 04 13 50.6 +0.5
comp=Z,27nm,0.8s,mb5.0,baz=273,slow=8.5,SNR=83
MKAR LR LR 04 26 55.2
comp=Z,3µm,18.0s,MS4.9,baz=176,slow=41
SNF **Seneffe 27.81 300** ⇓P P 04 13 52.3 +1.1
BAIF **Baives 27.85 299** *e*P P 04 13 51.3 -0.3
comp=Z,52nm,0.9s,mb4.9
BAIF **Baives 27.85 299** *e*P P 04 13 51.3 -0.3
BAIF pmax pmax
comp=Z,26nm,0.9s,mb4.9
BAIF **Baives 27.85 299** *e*P P 04 13 51.3 -0.3
comp=Z,26nm,0.9s,mb4.9
VIVF **Saint-Julien-l 27.95 288** *e*P P 04 13 52.2 -0.3
comp=Z,53nm,1.0s,mb4.8
VIVF **Saint-Julien-l 27.95 288** *e*P P 04 13 52.2 -0.3
VIVF pmax pmax
comp=Z,27nm,1.0s,mb4.8
VIVF **Saint-Julien-l 27.95 288** *e*P P 04 13 52.2 -0.3
comp=Z,27nm,1.0s,mb4.8
LOR **Lormes 28.21 293** *e*P P 04 13 53.9 -0.9
comp=Z,23nm,0.7s,mb4.6
LOR **Lormes 28.21 293** *e*P P 04 13 53.9 -0.9
LOR pmax pmax
comp=Z,11nm,0.7s,mb4.6
LOR **Lormes 28.21 293** *e*P P 04 13 53.9 -0.9
comp=Z,11nm,0.7s,mb4.6
SMF **Signal de Mont 28.29 292** *e*P P 04 13 54.8 -0.7
comp=Z,188nm,1.4s,mb5.2
SMF **Signal de Mont 28.29 292** *e*P P 04 13 54.8 -0.7
SMF pmax pmax
comp=Z,94nm,1.4s,mb5.2
SMF **Signal de Mont 28.29 292** *e*P P 04 13 54.8 -0.7
comp=Z,94nm,1.4s,mb5.2
KEV **Kevo 28.47 348** *e*p P 04 14 07.5 +10
comp=Z,0.5nm,0.4s
KEV **Kevo 28.47 348** P P 04 13 55.9 -1.2
KEV pmax pmax
comp=Z,52nm,1.2s,mb5.0
KEV **Kevo 28.47 348** P P 04 13 55.9 -1.2
comp=Z,52nm,1.2s,mb5.0
SSF **Saint Saulge 28.47 293** *e*P P 04 13 56.3 -0.8
comp=Z,71nm,1.1s,mb4.9
SSF **Saint Saulge 28.47 293** *e*P P 04 13 56.3 -0.8
SSF pmax pmax
comp=Z,35nm,1.1s,mb4.9
SSF **Saint Saulge 28.47 293** *e*P P 04 13 56.3 -0.8
comp=Z,36nm,1.1s,mb4.9
NVS **Novosibirsk 28.50 51**⇑*i*P P 04 13 57.2 -0.2
NVS *e*PPP 04 14 54.3
NVS *e*S S 04 18 46.8 +3.1
NVS pmax pmax
comp=N,64nm,1.6s
NVS pmax pmax
comp=E,60nm,1.6s
NVS pmax pmax
comp=Z,115nm,1.6s,mb5.3
NVS smax
comp=N,76nm,2.0s
NVS smax
comp=E,30nm,1.9s
ARCES **ARCESS Array B 28.51 347** P P 04 13 57.6 +0.1
comp=E,2.1nm,0.8s,baz=107,slow=9.4,SNR=8.8
ARCES LR LR 04 25 54.3
comp=E,4µm,18.1s,MS5.1,baz=270,slow=38
PLDF **La Plantade 28.52 291** *e*P P 04 13 57.3 -0.3
COLF **Collangettes 28.54 290** *e*P P 04 13 56.6 -1.1
AVF **Avril sur Loir 28.60 292** *e*P P 04 13 57.7 -0.6
comp=E,164nm,0.9s,mb5.5
AVF **Avril sur Loir 28.60 292** *e*P P 04 13 57.7 -0.6
AVF pmax pmax
comp=Z,82nm,0.9s,mb5.5
AVF **Avril sur Loir 28.60 292** *e*P P 04 13 57.7 -0.6
comp=Z,82nm,0.9s,mb5.5
LASF **Ste Croix 28.67 287** *e*P P 04 13 58.7 -0.2
comp=Z,224nm,1.8s,mb5.3
AGO **Saint Agoulin 28.85 291** *e*P P 04 14 00.9 +0.4
BGF **Bois d'Agland 28.98 292** *e*P P 04 14 01.0 -0.6
comp=Z,63nm,1.1s,mb5.0
BGF **Bois d'Agland 28.98 292** *e*P P 04 14 01.0 -0.6
BGF pmax pmax
comp=Z,32nm,1.1s,mb5.0
BGF **Bois d'Agland 28.98 292** *e*P P 04 14 01.0 -0.6
comp=Z,32nm,1.1s,mb5.0
HYF **Humbligny 29.04 293** *e*P P 04 14 02.1 -0.1
ZAL **Zalesovo 29.29 53** P P 04 14 03.0 -1.4
comp=Z,3.6nm,0.4s,mb4.4,baz=209,slow=8.4,SNR=15
ZAL LR LR 04 29 14.9
comp=Z,982nm,18.1s,MS4.5,baz=101,slow=44
ZAL **Zalesovo 29.29 53** *i*P P 04 14 03.7 -0.7
ZAL pmax pmax
comp=Z,4.0nm,0.4s
TCF **Toulx Ste Croi 29.45 291** *e*P P 04 14 05.6 -0.2
comp=Z,124nm,1.1s,mb5.2
TCF **Toulx Ste Croi 29.45 291** *e*P P 04 14 05.6 -0.2
TCF pmax pmax
comp=Z,62nm,1.1s,mb5.2
TCF **Toulx Ste Croi 29.45 291** *e*P P 04 14 05.6 -0.2
comp=Z,62nm,1.1s,mb5.2
CAF **Calviac 29.77 289** *e*P P 04 14 08.7 0.0
comp=Z,19nm,0.8s,mb4.5
CAF **Calviac 29.77 289** *e*P P 04 14 08.7 0.0
CAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
CAF **Calviac 29.77 289** *e*P P 04 14 08.7 0.0
comp=Z,9.6nm,0.8s,mb4.6
KHET **Khetri 29.89 109** *e*P P 04 14 09.2 -0.5
KHET AMb AMB 04 14 21.6
comp=Z,18nm,1.5s,mb4.6
MTLF **Montolieu 29.98 286** *e*P P 04 14 10.2 -0.4
AJM **Ajmer 30.08 112** *e*P P 04 14 11.6 +0.1
AJM AMb AMB 04 14 21.1
comp=Z,44nm,0.9s,mb5.2
RJF **Les Rejaudoux 30.08 290** *e*P P 04 14 11.4 0.0
comp=Z,101nm,1.2s,mb5.1
RJF **Les Rejaudoux 30.08 290** *e*P P 04 14 11.4 0.0
RJF pmax pmax
comp=Z,50nm,1.2s,mb5.1
RJF **Les Rejaudoux 30.08 290** *e*P P 04 14 11.4 0.0
comp=Z,50nm,1.2s,mb5.1
KUDL **Kundal 30.32 108** *e*P P 04 14 13.2 -0.4
KUDL AMb AMB 04 14 25.1
comp=Z,66nm,0.9s,mb5.3
NDI **New Delhi 30.51 106** *e*P P 04 14 14.5 -0.7
AYAN **Aya Nagar 30.57 107** *e*P P 04 14 15.8 +0.1
AYAN AMb AMB 04 14 27.4
comp=Z,66nm,0.6s,mb5.7
SONA **Sohna 30.68 107** *e*P P 04 14 16.0 -0.7
SONA AMb AMB 04 14 29.2
comp=Z,46nm,1.0s,mb5.3
LFF **La Frestale 30.69 289** *e*P P 04 14 16.9 +0.1
comp=Z,52nm,0.9s,mb5.1
LFF **La Frestale 30.69 289** *e*P P 04 14 16.9 +0.1
LFF pmax pmax
comp=Z,26nm,0.9s,mb5.1
LFF **La Frestale 30.69 289** *e*P P 04 14 16.9 +0.1
comp=Z,26nm,0.9s,mb5.1
LDF **La Druitiere 30.75 296** *e*P P 04 14 16.8 -0.5
MLS **Moulis 30.87 285** *e*P P 04 14 18.0 -0.4
FLN **La Foliniere 30.97 297** *e*P P 04 14 18.7 -0.6
ATD **Arta Tunnel 31.01 181** P P 04 14 17.2 -2.4
comp=Z,4.1nm,0.3s,mb4.7,baz=349,slow=18,SNR=3.0
ATD **Arta Tunnel 31.01 181** P P 04 14 17.2 -2.4
MFF **Saint Martin d 31.02 293** *e*P P 04 14 19.4 -0.3
comp=Z,44nm,1.0s,mb4.9
MFF **Saint Martin d 31.02 293** *e*P P 04 14 19.4 -0.3
MFF pmax pmax
comp=Z,22nm,1.0s,mb4.9
MFF **Saint Martin d 31.02 293** *e*P P 04 14 19.4 -0.3
comp=Z,22nm,1.0s,mb4.9
KALG **Kalgarh 31.14 103** *e*x x 04 14 14.4
KALG AMb AMB 04 14 25.0
comp=Z,43nm,0.2s,mb5.8
GRR **Gorron 31.26 296** *e*P P 04 14 21.0 -0.8
comp=Z,88nm,1.0s,mb5.2
GRR **Gorron 31.26 296** *e*P P 04 14 21.0 -0.8
GRR pmax pmax
comp=Z,44nm,1.0s,mb5.2
GRR **Gorron 31.26 296** *e*P P 04 14 21.0 -0.8
comp=Z,44nm,1.0s,mb5.2
EPF **Esparros 31.39 286** *e*P P 04 14 22.8 -0.2
LCHF **La Chataignera 31.41 293** *e*P P 04 14 27.1 +4.0
RESF **Ens 31.45 285** *e*P P 04 14 23.7 +0.2
EBIE **Bielsa 31.62 285** P P 04 14 25.0 0.0
comp=Z,0.8nm,0.5s,SNR=7.9
EBIE **Bielsa 31.62 285** P P 04 14 25.0 0.0
comp=Z,0.8nm,0.5s
EGRA **Graus 31.63 284** P P 04 14 24.9 -0.2
comp=Z,0.9nm,0.4s,mb4.0,SNR=7.9
EBR **Ebro Roquetas 31.89 282** *e*P P 04 14 27.0 -0.4
WMQ **Urumqi 31.94 73**⇑*i*P P 04 14 29.0 +1.2
WMQ XP sP 04 14 40.0 +2.3
WMQ PP PP 04 15 34.0 -6.0
WMQ PCP PcP 04 17 19.0 +1.3
WMQ S S 04 19 37.0 -0.6
WMQ SCP ScP 04 20 59.0 -0.7
WMQ AMB AMB
comp=Z,54nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,315nm,5.0s
WMQ LR LR
comp=N,3µm,10.0s,MS5.5
WMQ LR LR
comp=E,4µm,10.0s,MS5.5
ERTA **Horta de San J 31.97 282** P P 04 14 31.8 +3.7
comp=E,0.7nm,0.5s,SNR=7.9
ERTA **Horta de San J 31.97 282** P P 04 14 31.8 +3.8
comp=E,0.7nm,0.5s
ETSF **Etsaut 32.06 286** *e*P P 04 14 28.6 -0.3
comp=E,45nm,1.0s,mb4.9
ETSF **Etsaut 32.06 286** *e*P P 04 14 28.6 -0.3
ETSF pmax pmax
comp=Z,22nm,1.0s,mb4.9
ETSF **Etsaut 32.06 286** *e*P P 04 14 28.6 -0.3
comp=Z,22nm,1.0s,mb5.0
SGMF **Saint Gilles 32.40 296** *e*P P 04 14 31.3 -0.6
comp=Z,98nm,1.2s,mb5.2
SGMF **Saint Gilles 32.40 296** *e*P P 04 14 31.3 -0.6
SGMF pmax pmax
comp=Z,49nm,1.2s,mb5.2
SGMF **Saint Gilles 32.40 296** *e*P P 04 14 31.3 -0.6
comp=Z,49nm,1.2s,mb5.2
SJPF **Ste Jean 32.48 286** *e*P P 04 14 32.2 -0.4
EKA **Eskdalemuir Ar 32.51 309** P P 04 14 32.0 -0.7
comp=Z,5.6nm,0.6s,mb4.7,baz=102,slow=8.6,SNR=18
EKA PcP PcP 04 17 18.4 -0.9
comp=Z,4.6nm,1.0s,baz=133,slow=1.7,SNR=4.4
EMOS **Mosqueruela 32.73 281** P P 04 14 39.9 +5.1
comp=Z,0.9nm,0.5s,mb4.0,SNR=7.9
EMOS **Mosqueruela 32.73 281** P P 04 14 39.9 +5.1
comp=Z,0.9nm,0.5s,mb4.0
QUIF **Quistinic 32.85 296** *e*P P 04 14 35.1 -0.7
comp=Z,69nm,1.1s,mb5.2
QUIF **Quistinic 32.85 296** *e*P P 04 14 35.1 -0.7
QUIF pmax pmax
comp=Z,34nm,1.1s,mb5.2
QUIF **Quistinic 32.85 296** *e*P P 04 14 35.1 -0.7
comp=Z,34nm,1.1s,mb5.2
ROSF **Rostrenen 32.86 296** *e*P P 04 14 35.4 -0.5
comp=Z,67nm,1.1s,mb5.2
ROSF **Rostrenen 32.86 296** *e*P P 04 14 35.4 -0.5
ROSF pmax pmax
comp=Z,33nm,1.1s,mb5.2
ROSF **Rostrenen 32.86 296** *e*P P 04 14 35.4 -0.5
comp=Z,33nm,1.1s,mb5.2
EBEN **Beniarda 33.12 278** P P 04 14 37.4 -0.7
comp=Z,2.3nm,0.5s,mb4.3,SNR=7.9
EBEN **Beniarda 33.12 278** P P 04 14 37.4 -0.8
comp=Z,2.3nm,0.5s,mb4.4
EANR **'Ain N'Sour 33.21 273** P P 04 14 38.0 -1.0
ETRT **Tiaret 33.30 272** P P 04 14 41.0 +1.2
KRAR **Krasnoyarsk 34.07 50** *e*P P 04 14 46.2 -0.2
KRAR pmax pmax
comp=Z,14nm,0.4s,mb5.2
ETOB **Tobarra 34.10 279** P P 04 14 46.5 -0.2
comp=Z,1.5nm,0.6s,mb4.1
BHPL **Bhopal 34.11 114** *e*P P 04 14 48.4 +1.7
BHPL AMb AMB 04 14 56.6
comp=Z,44nm,1.6s,mb5.2
POO **Poona 35.19 124** *e*x x 04 15 13.8
POO AMb AMB 04 15 29.6
comp=Z,38nm,1.4s,mb5.1
POO **Poona 35.19 124** *e*x x 04 14 56.0
ENIJ **Nijar 35.23 276** P P 04 15 01.3 +4.9
comp=Z,2.2nm,0.4s,mb4.4,SNR=7.9
EARI **Arriondas 35.24 288** P P 04 14 53.8 -2.7
comp=Z,3.0nm,0.5s,mb4.5
GUD **Guadarrama 35.30 283** P P 04 14 56.5 -0.5
comp=Z,1.5nm,0.5s,mb4.2,SNR=5.0
GUD **Guadarrama 35.30 283** P P 04 14 56.5 -0.5
GUD pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GUD **Guadarrama 35.30 283** P P 04 14 56.5 -0.5
comp=Z,1.5nm,0.5s,mb4.2
ESDC **Sonseca Array 35.49 282** P P 04 14 57.3 -1.4
comp=Z,4.5nm,0.8s,mb4.4,baz=66,slow=8.6,SNR=17
ESDC **Sonseca Array 35.49 282** P P 04 14 57.9 -0.8
comp=Z,8.9nm,0.9s,mb4.7,SNR=7.9
ESDC **Sonseca Array 35.49 282** P P 04 14 57.9 -0.8
comp=Z,8.9nm,0.9s,mb4.7
ESLA **Sonseca Array 35.49 282** P P 04 14 58.1 -0.6
ESLA LR LR
comp=Z,6µm,22.0s,MS5.3
EQES **Quesada 35.53 278** P P 04 14 58.0 -1.0
comp=Z,72nm,1.1s,mb5.5,SNR=9.9
EQES **Quesada 35.53 278** P P 04 14 58.0 -1.1
comp=Z,72nm,1.1s,mb5.5
KOLN **Koldanda 35.62 101** *e*P P 04 15 00.7 +0.9
comp=Z,101nm,1.1s,mb5.7
EBER **Berja 35.76 277** P P 04 15 01.8 +0.8
comp=Z,160nm,1.4s,mb5.8,SNR=7.9
EBER **Berja 35.76 277** P P 04 15 01.8 +0.8
comp=Z,160nm,1.4s,mb5.8
EBAN **Banos Encina 35.91 279** P P 04 15 01.4 -0.9
comp=Z,17nm,0.9s,mb5.0,SNR=7.9
EBAN **Banos Encina 35.91 279** P P 04 15 01.4 -0.9
EBAN pmax pmax
comp=Z,17nm,0.9s,mb5.0
EBAN **Banos Encina 35.91 279** P P 04 15 01.4 -1.0
comp=Z,17nm,0.9s,mb5.0
ECOG **Cogollos-Vega 36.10 278** P P 04 15 06.0 +2.1
comp=Z,4.7nm,0.6s,mb4.6,SNR=7.9
ECOG **Cogollos-Vega 36.10 278** P P 04 15 06.0 +2.1
ECOG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GKN **Gorkha 36.24 100** *e*P P 04 15 05.8 +0.7
comp=Z,292nm,1.3s,mb6.0
KAD **Karad 36.32 125** *e*P P 04 15 05.3 -0.5
KAD AMb AMB 04 15 11.3
comp=Z,31nm,1.6s,mb5.0
EADA **Adamuz 36.49 280** P P 04 15 07.0 -0.2
comp=Z,135nm,1.9s,mb5.5,SNR=7.9
EADA **Adamuz 36.49 280** P P 04 15 07.0 -0.3
comp=Z,135nm,1.9s,mb5.5
ELUQ **Luque 36.50 278** P P 04 15 11.5 +4.1
comp=Z,10nm,0.9s,mb4.7
EPON **Pontenova 36.59 289** P P 04 15 06.9 -1.2
comp=Z,612nm,4.1s,SNR=7.9
EPON **Pontenova 36.59 289** P P 04 15 06.9 -1.2
comp=Z,612nm,4.1s
PBRG **Braganca 36.77 286** *e*pP pP 04 15 15.1 -1.6
PBRG **Braganca 36.77 286** *e*pP pP 04 15 15.1 -1.6
PBRG **Braganca 36.77 286** *e*P P 04 15 09.2 -0.4
DMN **Daman 36.80 100** *e*P P 04 15 10.9 +1.0
comp=Z,196nm,1.1s,mb5.9
KKN **Kakani 36.82 100** *e*P P 04 15 10.8 +0.7
comp=Z,142nm,0.9s,mb5.8
KKN **Kakani 36.82 100** *e*P P 04 15 10.8 +0.7
KKN pmax pmax
comp=Z,71nm,0.9s,mb5.5
PKI **Pulchoki 37.04 100** *e*P P 04 15 12.7 +0.8
comp=Z,184nm,1.1s,mb5.8
PKI **Pulchoki 37.04 100** *e*P P 04 15 12.7 +0.8
PKI pmax pmax
comp=Z,92nm,1.1s,mb5.5
GUN **Gumba 37.19 99** *e*P P 04 15 14.3 +1.1
comp=Z,239nm,1.1s,mb6.0
EMIJ **Mijas 37.27 277** P P 04 15 17.5 +3.6
comp=Z,0.3nm,0.6s
JIRN **Jiri 37.56 99** *e*P P 04 15 17.5 +1.2
comp=Z,88nm,0.5s,mb5.7
MTE **Manteigas 37.81 284** *e*P P 04 15 18.2 -0.3
MTE **Manteigas 37.81 284** *e*PP PP 04 16 41.8 -3.1
MTE **Manteigas 37.81 284** *e*PP PP 04 16 41.8 -3.1
ESPR **Espera 37.94 278** P P 04 15 19.6 0.0
comp=Z,98nm,1.9s,mb5.2
PVIS **Viseu 37.95 285** *e*P P 04 15 19.6 0.0
PCBR **Castelo Branco 37.96 283** *e*P P 04 15 19.5 -0.2
comp=Z,25nm,1.8s,mb4.6
PCBR *e*pP pP 04 15 25.0 -1.9
EBAD **Badajoz 38.03 282** P P 04 15 17.8 -2.6
comp=Z,28nm,1.0s,mb5.0
EMIN **Mina Concepcio 38.17 280** P P 04 15 24.3 +2.8
comp=Z,40nm,1.7s,mb4.9
MDT **Midelt 38.84 272** P P 04 15 26.8 -0.3
comp=Z,9.9nm,1.0s,mb4.5,baz=48,slow=9.9,SNR=7.7
PBEJ **Beja 38.93 281** *e*pP pP 04 15 31.9 -3.1
PBEJ **Beja 38.93 281** *e*pP pP 04 15 31.9 -3.1
PBEJ **Beja 38.93 281** *e*P P 04 15 27.5 -0.4
HYB **Hyderabad 38.98 119** *i*P P 04 15 28.0 -0.2
HYB *e*S S 04 21 28.0 +2.4
HYB **Hyderabad 38.98 119** *e*P P 04 15 28.0 -0.2
HYB *e*S S 04 21 28.0 +2.4
MOY **Mondy 39.19 56** *e*P P 04 15 31.5 +1.5
MOY *e* 04 17 02.3
MOY pmax pmax
comp=Z,54nm,1.7s,mb5.0

BOK	**Bokaro**	**39.65**	**105**	*e*P	**P**	**04 15 34.1**	**+0.2**
BOK				AMb	AMB	04 15 45.0	
comp=Z,87nm,1.2s,mb5.3							
LSA	**Lhasa**	**40.08**	**93**	*e*P	**P**	**04 15 39.1**	**+1.7**
LSA				*e**PP	pP	04 15 44.3	-0.3
LSA				pmax	pmax		
comp=Z,28nm,0.8s,mb5.0							
LSA	**Lhasa**	**40.08**	**93**	*e*P	**P**	**04 15 39.0**	**+1.6**
comp=Z,28nm,0.8s,mb5.0							
LSA				*e*pP	pP	04 15 44.3	-0.3
ZAK	**Zakamensk**	**40.86**	**58**⇑	*e*P	**P**	**04 15 44.9**	**+1.0**
ZAK				*e*		04 17 23.6	
ZAK				pmax	pmax		
comp=Z,31nm,1.6s,mb4.7							
ZAK				pmax	pmax		
comp=Z,22nm,1.8s,mb4.5							
VIS	**Vishakhapatnam**	**41.91**	**114**	*e*P	**P**	**04 15 54.0**	**+1.5**
VIS				AMb	AMB	04 16 01.3	
comp=Z,24nm,1.0s,mb4.8							
GTA	**Gaotai**	**41.94**	**75**	P	**P**	**04 15 53.8**	**+1.0**
GTA				AP	pP	04 16 01.2	+1.2
GTA				XP	sP	04 16 04.7	+1.9
GTA				PP	PP	04 17 35.7	+5.8
GTA				SCP	ScP	04 21 36.3	-0.5
GTA				PCS	PcS	04 21 39.5	-0.1
GTA				S	**S**	**04 22 12.8**	**+3.0**
GTA				SS	SS	04 25 15.4	-1.5
GTA				SCS	ScS	04 25 52.1	-1.9
GTA				AMB	AMB		
comp=Z,25nm,1.2s,mb4.7							
GTA				AMB	AMB		
comp=Z,285nm,9.9s							
GTA				LR	LR		
comp=N,2μm,14.4s,MS5.2							
GTA				LR	LR		
comp=E,2μm,15.6s,MS5.2							
GTA				LR	LR		
comp=Z,2μm,14.4s,MS5.0							
CAL	**Calcutta**	**42.18**	**104**	*e*P	**P**	**04 16 01.6**	**+6.9**
CAL				*e*S	**S**	**04 22 29.2**	**+16**
CAL				AMP		04 23 04.5	
comp=Z,254nm,16.8s							
DAG	**Danmarks Havn**	**42.59**	**342**⇑	*i*P	**P**	**04 15 58.0**	**0.0**
comp=Z,9.0nm,1.0s,mb4.5							
DAG	**Danmarks Havn**	**42.59**	**342**⇑	*i*P	**P**	**04 15 58.0**	**0.0**
DAG				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
AGT	**Agartala**	**43.46**	**100**	*e*P	**P**	**04 16 05.0**	**-0.1**
SONM	**Songino Array**	**43.51**	**61**	P	**P**	**04 16 05.7**	**+0.2**
comp=Z,3.7nm,0.8s,mb4.2,baz=283,slow=9.3,SNR=18							
SONM				PcP	PcP	04 17 53.3	+0.1
comp=Z,3.9nm,1.0s,baz=268,slow=4.3,SNR=3.5							
SONM				LR	LR	04 35 11.2	
comp=Z,1μm,20.4s,MS4.9,baz=108,slow=38							
SONM	**Songino Array**	**43.51**	**61**	P	**P**	**04 16 05.7**	**+0.2**
SONM						04 17 53.3	
ULN	**Ulaanbaatar**	**43.92**	**60**	*e*P	**P**	**04 16 09.5**	**+0.7**
ULN				pmax	pmax		
comp=Z,23nm,0.9s,mb4.9							
ULN				MLR	MLR		
comp=Z,1μm,21.0s,MS4.8							
ULN	**Ulaanbaatar**	**43.92**	**60**	*e*P	**P**	**04 16 09.4**	**+0.6**
comp=Z,22nm,0.9s,mb4.9							
ULN				LR	LR		
comp=Z,1μm,21.0s,MS4.8							
KMBO	**Kilima Mbogo**	**43.94**	**189**	P	**P**	**04 16 09.5**	**+0.5**
comp=Z,19nm,1.2s,mb4.7,baz=7.6,slow=9.3,SNR=16							
KMBO				LR	LR	04 33 20.0	
comp=Z,865nm,20.0s,MS4.7,baz=94,slow=35							
KMBO	**Kilima Mbogo**	**43.94**	**189**	*e*P	**P**	**04 16 10.8**	**+1.8**
KMBO				pmax	pmax		
comp=Z,23nm,1.3s							
KMBO	**Kilima Mbogo**	**43.94**	**189**	*e*P	**P**	**04 16 10.8**	**+1.8**
comp=Z,23nm,1.3s,mb4.8							
BOD	**Bodaibo**	**45.41**	**45**⇓	*i*P	**P**	**04 16 19.8**	**-0.9**
BOD				*e*	pP	04 16 24.5	-3.4
BOD				pmax	pmax		
comp=Z,21nm,1.0s,mb4.9							
LZH	**Lanzhou**	**46.25**	**77**	⇑P	**P**	**04 16 28.8**	**+1.5**
LZH				AP	pP	04 16 36.7	+2.1
LZH				XP	sP	04 16 39.7	+2.3
LZH				PP	PP	04 18 17.2	+1.2
LZH				*e*S	**S**	**04 23 10.0**	**-2.6**
LZH				AMB	AMB		
comp=Z,68nm,1.4s,mb5.4							
LZH				AMB	AMB		
comp=Z,330nm,4.9s							
LZH				LR	LR		
comp=N,3μm,13.1s							
LZH				LR	LR		
comp=Z,3μm,16.0s,MS5.4							
TORD	**Torodi Ar. Bea**	**46.51**	**244**	P	**P**	**04 16 27.6**	**-1.7**
comp=Z,43nm,0.8s,mb5.4,baz=37,slow=6.2,SNR=70							
CIT	**Chita**	**46.66**	**53**	*e*P	**P**	**04 16 29.8**	**-0.8**
CIT				*e*		04 18 02.2	
CIT				pmax	pmax		
comp=Z,33nm,2.4s,mb4.8							
SUMG	**Summit**	**47.56**	**336**	P	**P**	**04 16 38.5**	**+0.9**
comp=Z,7.3nm,0.6s,mb4.9							
BTO	**Baotou**	**48.59**	**69**	*e*P	**P**	**04 16 46.4**	**+0.9**
CD2	**Chengdu**	**48.73**	**83**⇑	*i*P	**P**	**04 16 47.5**	**+0.9**
CD2				AP	pP	04 16 55.0	+1.1
CD2				XP	sP	04 16 58.3	+1.6
CD2				PP	PP	04 18 40.2	+0.5
CD2				S	**S**	**04 23 46.8**	**-1.1**
CD2				SS	SS	04 27 12.1	-6.2
CD2				AMB	AMB		
comp=Z,20nm,1.3s,mb5.0							
CD2				AMB	AMB		
comp=Z,220nm,8.4s							
CD2				LR	LR		
comp=N,530nm,19.2s							
CD2				LR	LR		
comp=Z,720nm,13.2s							
TIXI	**Tiksi**	**48.76**	**25**	*e*P	**P**	**04 16 45.2**	**-1.7**
TIXI				*e*		04 18 36.9	
TIXI				*e*S	**S**	**04 23 42.9**	**-5.5**
TIXI				pmax	pmax		
comp=Z,31nm,1.2s,mb5.2							
HHC	**Hu-ho-hao-te**	**49.54**	**68**	*e*P	**P**	**04 16 53.5**	**+0.7**
HHC				AP	pP	04 17 00.7	+0.6
HHC				XP	sP	04 17 04.3	+1.3
HHC				SCP	ScP	04 22 08.8	+0.5
HHC				PCS	PcS	04 22 12.4	+1.3
HHC				S	**S**	**04 24 00.3**	**+1.0**
HHC				SCS	ScS	04 26 40.9	-2.2
HHC				SS	SS	04 27 25.3	-6.1
HHC				AMB	AMB		
comp=Z,35nm,1.2s,mb5.3							
HHC				AMB	AMB		
comp=Z,267nm,7.2s							
HHC				LR	LR		
comp=N,3μm,18.6s,MS5.4							
HHC				LR	LR		
comp=E,2μm,17.1s,MS5.4							
HHC				LR	LR		
comp=Z,685nm,11.3s							
XAN	**Xi'an**	**50.88**	**77**	P	**P**	**04 17 03.6**	**+0.6**
XAN				S	**S**	**04 24 21.6**	**+3.7**
XAN				AMB	AMB		
comp=Z,26nm,1.2s,mb5.0							
XAN				AMB	AMB		
comp=Z,312nm,13.7s							
XAN				LR	LR		
comp=N,761nm,15.7s,MS5.2							
XAN				LR	LR		
comp=E,2μm,13.4s,MS5.2							
XAN				LR	LR		
comp=Z,2μm,14.5s,MS5.3							
KMI	**Kunming**	**51.17**	**90**	P	**P**	**04 17 05.6**	**+0.5**
KMI				AP	pP	04 17 12.6	+0.2
KMI				PCP	PcP	04 18 20.3	-0.1
KMI				PP	PP	04 19 03.5	+1.6
KMI				SCP	ScP	04 22 14.4	-0.9
KMI				PCS	PcS	04 22 17.0	-1.0
KMI				S	**S**	**04 24 22.9**	**+1.0**
KMI				SCS	ScS	04 26 51.6	-2.6
KMI				SS	SS	04 27 54.6	-2.6
KMI				AMB	AMB		
comp=Z,19nm,1.5s,mb4.8							
KMI				AMB	AMB		
comp=Z,315nm,6.0s							
KMI				LR	LR		
comp=N,565nm,13.4s,MS4.9							
KMI				LR	LR		
comp=E,556nm,14.4s,MS4.9							
KMI				LR	LR		
comp=Z,851nm,13.7s,MS4.9							
HIA	**Hailar**	**51.32**	**55**	*e*P	**P**	**04 17 06.6**	**+0.3**
HIA				*e**PP	pP	04 17 12.5	-1.1
HIA				pmax	pmax		
comp=Z,32nm,1.4s							
HIA	**Hailar**	**51.32**	**55**	*e*P	**P**	**04 17 06.6**	**+0.4**
comp=Z,32nm,1.4s,mb5.0							
HIA				*e*pP	pP	04 17 12.5	-1.1
CLNS	**Chul'man**	**51.34**	**44**	*e*P	**P**	**04 17 07.8**	**+1.4**
CLNS				*e**PP	pP	04 17 14.7	+0.9
CLNS				*e*		04 18 20.0	
CLNS				*e*		04 19 05.5	
CLNS				*e*PPP		04 20 06.5	
CLNS				*e*S	**S**	**04 24 33.3**	**+9.0**
CLNS				*e*		04 26 50.2	
CLNS				pmax	pmax		
comp=Z,22nm,1.0s,mb5.0							
CLNS				pmax	pmax		
comp=N,14nm,1.1s							
CLNS				pmax	pmax		
comp=E,11nm,1.4s							
CLNS				pmax	pmax		
comp=Z,14nm,1.1s,mb4.8							
CLNS				pmax	pmax		
comp=N,14nm,1.0s							
CLNS				pmax	pmax		
comp=E,12nm,1.5s							
CLNS				smax			
comp=E,234nm,13.6s							
CLNS				smax			
comp=Z,108nm,14.5s							
CLNS				smax			
comp=N,70nm,10.6s							
CLNS				MLR	MLR		
comp=E,2μm,16.0s,MS5.2							
CLNS				MLR	MLR		
comp=Z,2μm,16.0s,MS5.3							
CLNS				MLR	MLR		
comp=N,500nm,14.0s,MS5.2							
YAK	**Yakutsk**	**51.80**	**37**	*ce*P	**P**	**04 17 09.2**	**-0.6**
YAK				pmax	pmax		
comp=Z,99nm,1.3s,mb5.6							
YAK				MLR	MLR		
comp=Z,3μm,17.0s,MS5.4							
CHRT	**Chiangrai**	**52.16**	**98**	⇑P	**P**	**04 17 12.5**	**0.0**
comp=Z,184nm,1.0s,mb6.0							
BJT	**Baijiatuau**	**53.05**	**67**	*e*P	**P**	**04 17 19.5**	**+0.4**
BJT				pmax	pmax		
comp=Z,44nm,1.3s							
BJT	**Baijiatuau**	**53.05**	**67**	*e*P	**P**	**04 17 19.5**	**+0.4**
comp=Z,44nm,1.3s,mb5.2							
ENH	**Enshi**	**53.25**	**80**⇑	*e*P	**P**	**04 17 21.1**	**+0.5**
comp=Z,61nm,1.2s,mb5.4							
GYA	**Guiyang**	**53.29**	**86**⇑	*i*P	**P**	**04 17 21.0**	**+0.1**
GYA				AP	pP	04 17 27.8	-0.5
GYA				PCP	PcP	04 18 28.8	+0.4
GYA				PP	PP	04 19 22.3	+1.1
GYA				SCP	ScP	04 22 23.9	-0.6
GYA				S	**S**	**04 24 48.1**	**-2.9**
GYA				SS	SS	04 28 28.2	-2.7
GYA				AMB	AMB		
comp=Z,30nm,1.0s,mb5.2							
GYA				AMB	AMB		
comp=Z,300nm,3.9s							
GYA				LR	LR		
comp=N,1μm,19.8s,MS5.0							
GYA				LR	LR		
comp=E,870nm,18.8s,MS5.0							
GYA				LR	LR		
comp=Z,990nm,19.0s,MS4.9							
NST	**Nakhon Sawan**	**55.10**	**101**	P	**P**	**04 17 25.0**	**-9.1**
TIA	**Tai'an**	**55.58**	**70**	P	**P**	**04 17 38.0**	**+0.5**
WHN	**Wuhan**	**56.62**	**77**	⇓P	**P**	**04 17 46.0**	**+1.0**
WHN				S	**S**	**04 25 45.0**	**+9.3**
WHN				LR	LR		
comp=Z,2μm,15.6s,MS5.3							
SNY	**Shenyang**	**57.08**	**61**	⇑P	**P**	**04 17 46.7**	**-1.5**
SNY				LR	LR		
comp=N,1μm,19.2s,MS5.4							
SNY				LR	LR		
comp=E,2μm,16.8s,MS5.4							
SNY				LR	LR		
comp=Z,3μm,15.9s,MS5.5							
DL2	**Dalian**	**57.27**	**65**	P	**P**	**04 17 49.9**	**+0.3**
DL2				S	**S**	**04 25 45.1**	**+0.8**
DL2				AMB	AMB		
comp=Z,20nm,0.9s,mb5.2							
DL2				AMB	AMB		
comp=Z,200nm,4.8s							
DL2				LR	LR		
comp=N,670nm,15.1s,MS5.1							
DL2				LR	LR		
comp=E,830nm,14.1s,MS5.1							
DL2				LR	LR		
comp=Z,1μm,15.4s,MS5.1							
CN2	**Changchun**	**57.29**	**58**	*e*P	**P**	**04 17 50.0**	**+0.3**
CN2				*e*AP	pP	04 17 56.1	-1.0
CN2				*e*S	**S**	**04 25 42.2**	**-2.3**
CN2				AMB	AMB		
comp=Z,20nm,1.0s,mb5.1							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,2μm,15.0s,MS5.5							
CN2				LR	LR		
comp=E,2μm,15.0s,MS5.5							
CN2				LR	LR		
comp=Z,3μm,14.0s,MS5.6							
KLR	**Kul'dur**	**58.36**	**50**	*e*P	**P**	**04 17 54.8**	**-2.5**
NJ2	**Nanjing**	**59.01**	**73**	*e*P	**P**	**04 18 02.5**	**+0.8**
NJ2				AP	pP	04 18 10.1	+0.9
NJ2				XP	sP	04 18 13.4	+1.4
NJ2				PP	PP	04 20 15.1	+2.9
NJ2				S	**S**	**04 26 05.0**	**-1.9**
NJ2				AMB	AMB		
comp=Z,40nm,0.9s,mb5.5							
NJ2				AMB	AMB		
comp=Z,150nm,3.8s							
NJ2				LR	LR		
comp=N,3μm,18.2s							
NJ2				LR	LR		
comp=E,2μm,28.3s							
NJ2				LR	LR		
comp=Z,1μm,14.2s,MS5.1							
LSZ	**Lusaka**	**59.34**	**197**	P	**P**	**04 18 03.7**	**-0.3**
comp=Z,16nm,1.1s,mb5.0,baz=18,slow=7.0,SNR=15							
LSZ	**Lusaka**	**59.34**	**197**	*e*P	**P**	**04 18 03.3**	**-0.7**
LSZ				pmax	pmax		
comp=Z,32nm,1.3s,mb5.2							
LSZ	**Lusaka**	**59.34**	**197**	*e*P	**P**	**04 18 03.2**	**-0.8**
comp=Z,32nm,1.4s,mb5.2							
MDJ	**Mudanjiang**	**59.44**	**56**	P	**P**	**04 18 03.8**	**-0.9**
MDJ				PCP	PcP	04 18 47.3	-5.0
MDJ				PP	PP	04 20 18.0	+2.0
MDJ				SCP	ScP	04 22 47.0	-4.6
MDJ				PCS	PcS	04 22 50.7	-3.6
MDJ				S	**S**	**04 26 12.2**	**-0.3**
MDJ				SCS	ScS	04 27 53.2	-0.3
MDJ				AMB	AMB		
comp=Z,8.0nm,1.2s,mb4.6							
MDJ				AMB	AMB		
comp=Z,206nm,8.4s							
MDJ				LR	LR		
comp=N,1μm,15.0s,MS5.2							
MDJ				LR	LR		
comp=E,636nm,15.8s,MS5.2							
MDJ				LR	LR		
comp=Z,2μm,12.7s,MS5.4							
QIZ	**Qiongzhong**	**60.08**	**91**	⇓P	**P**	**04 18 09.7**	**+0.6**
QIZ				S	**S**	**04 26 19.6**	**-1.1**
QIZ				AMB	AMB		
comp=Z,35nm,1.8s,mb5.1							
QIZ				AMB	AMB		
comp=Z,269nm,5.0s							
QIZ				LR	LR		
comp=N,512nm,19.4s,MS4.8							
QIZ				LR	LR		
comp=E,481nm,17.9s,MS4.8							
QIZ				LR	LR		
comp=Z,613nm,17.9s,MS4.8							
SEY	**Seymchan**	**60.59**	**30**	*e*P	**P**	**04 18 13.7**	**+1.1**
SEY						04 18 56.2	
SEY				*e*		04 20 31.8	
SEY				PPP		04 22 01.6	
SEY				*e*S	**S**	**04 26 34.4**	**+7.1**
SEY				*e*		04 27 55.1	
SEY				pmax	pmax		
comp=E,30nm,0.9s							
SEY				pmax	pmax		
comp=Z,500nm,0.9s							
SEY				pmax	pmax		
comp=N,30nm,1.0s							
SEY				MLR	MLR		
comp=Z,2μm,22.0s,MS5.3							
SEY				MLR	MLR		
comp=N,1μm,16.0s							
SEY				MLR	MLR		
comp=E,1μm,24.0s							
OPO	**Ambohidratompo**	**61.01**	**176**	P	**P**	**04 18 16.0**	**+0.5**
comp=E,8.6nm,1.0s,mb4.8,baz=11,slow=4.8,SNR=7.7							
SSE	**Sheshan**	**61.19**	**73**	P	**P**	**04 18 16.6**	**-0.1**
SSE				AP	pP	04 18 23.1	-1.1
SSE				S	**S**	**04 26 32.2**	**-2.8**
SSE				AMB	AMB		
comp=Z,43nm,1.2s,mb5.5							
SSE				AMB	AMB		
comp=Z,427nm,4.2s							
SSE				LR	LR		
comp=N,597nm,25.5s,MS4.7							
SSE				LR	LR		
comp=E,408nm,25.6s,MS4.7							
SSE				LR	LR		
comp=Z,446nm,17.6s							
FRB	**Frobisher Bay**	**61.22**	**332**	P	**P**	**04 18 15.7**	**-1.2**
comp=Z,10nm,0.9s,mb5.0,baz=53,slow=5.9,SNR=9.8							
BILL	**Bilibino**	**61.62**	**21**	*e*P	**P**	**04 18 19.7**	**+0.1**
BILL				*e**PP	pP	04 18 27.5	+0.4
BILL				pmax	pmax		
comp=Z,15nm,0.8s,mb5.2							
BILL	**Bilibino**	**61.62**	**21**	*e*P	**P**	**04 18 19.7**	**+0.1**
comp=Z,16nm,0.8s,mb5.2							
BILL				*e*pP	pP	04 18 27.5	+0.5
VLA	**Vladivostok**	**61.65**	**56**⇓	*e*P	**P**	**04 18 20.0**	**+0.2**
VLA				pmax	pmax		
comp=Z,22nm,0.6s,mb5.5							
VLA				MLR	MLR		
comp=Z,1μm,16.0s,MS5.1							
MA2	**Magadan**	**61.99**	**33**	*e*P	**P**	**04 18 22.4**	**+0.3**
MA2				pmax	pmax		
comp=Z,24nm,0.9s,mb5.3							
MA2	**Magadan**	**61.99**	**33**	*e*P	**P**	**04 18 22.4**	**+0.3**
comp=Z,24nm,0.9s,mb5.3							
KS15	**Wonju Array Si**	**62.22**	**64**	*e*P	**P**	**04 18 23.6**	**-0.1**
QZH	**Quanzhou**	**62.91**	**80**	*e*P	**P**	**04 18 29.0**	**+0.8**
QZH				*e*S	**S**	**04 26 54.0**	**-2.6**
QZH				LR	LR		
comp=N,1μm,12.3s,MS5.5							
QZH				LR	LR		
comp=E,2μm,12.6s,MS5.5							
QZH				LR	LR		
comp=Z,2μm,14.2s,MS5.5							
PSI	**Prapat**	**63.20**	**113**	P	**P**	**04 18 28.6**	**-1.5**
comp=Z,10.0nm,0.8s,mb5.0,baz=308,slow=8.9,SNR=8.6							
TATO	**Taipei**	**64.99**	**78**	P	**P**	**04 18 43.0**	**+1.1**
comp=Z,137nm,1.2s,mb5.9							
YHNB	**Yeheng**	**65.09**	**79**	*e*P	**P**	**04 18 44.0**	**+1.5**
YHNB				*e*pP	pP	04 18 49.9	-0.2
YHNB				*e*sP	sP	04 18 52.0	-0.9
TSUM	**Tsumeb**	**66.02**	**207**	P	**P**	**04 18 47.3**	**-1.3**
comp=Z,12nm,0.8s,mb5.0,baz=346,slow=7.5,SNR=17							
TSUM	**Tsumeb**	**66.02**	**207**	*e*P	**P**	**04 18 50.7**	**+2.2**
comp=Z,12nm,0.9s,mb4.9							
SCHQ	**Schefferville**	**66.28**	**324**	P	**P**	**04 18 49.1**	**-1.2**
comp=Z,5.1nm,0.7s,mb4.6,baz=58,slow=7.6,SNR=10							
SCHQ	**Schefferville**	**66.28**	**324**	*e*P	**P**	**04 18 49.6**	**-0.6**
comp=Z,6.9nm,0.7s,mb4.8							
JNU	**Nakatsue**	**66.71**	**66**	P	**P**	**04 18 52.7**	**-0.3**
comp=Z,30nm,1.0s,mb5.3,baz=98,slow=11,SNR=4.5							
JNU				LR	LR	04 51 41.0	
comp=Z,1μm,18.1s,MS5.2,baz=314,slow=39							
ASAJ	**Asahikawa**	**67.40**	**50**	P	**P**	**04 18 57.0**	**-0.3**
comp=Z,8.8nm,0.7s,mb4.9,baz=280,slow=18,SNR=5.9							
ASAJ				LR	LR	04 51 41.6	
comp=Z,2μm,18.0s,MS5.3,baz=341,slow=39							
ASAJ	**Asahikawa**	**67.40**	**50**	P	**P**	**04 18 57.1**	**-0.3**
ASAJ				pmax	pmax		
comp=Z,9.0nm,0.7s							
ASAJ				MLR	MLR		
comp=Z,2μm,18.0s							
JOW	**Kunigami**	**68.71**	**73**	LR	LR	04 52 37.8	
comp=Z,993nm,20.4s,MS5.0,baz=102,slow=39							
LBTB	**Lobatse**	**69.32**	**197**	P	**P**	**04 19 09.0**	**-0.4**
comp=Z,43nm,0.9s,mb5.4,baz=343,slow=3.1,SNR=19							
LBTB	**Lobatse**	**69.32**	**197**	*e*P	**P**	**04 19 08.8**	**-0.6**
LBTB				pmax	pmax		
comp=Z,49nm,0.9s,mb5.4							
LBTB	**Lobatse**	**69.32**	**197**	*e*P	**P**	**04 19 08.8**	**-0.7**
comp=Z,49nm,0.9s,mb5.4							
INK	**Inuvik**	**69.34**	**359**	P	**P**	**04 19 08.4**	**-1.1**
comp=Z,6.4nm,1.1s,mb4.5,baz=8.4,slow=9.0,SNR=7.9							
INK				LR	LR	04 52 38.3	
comp=Z,792nm,21.0s,MS4.9,baz=9.0,slow=39							
MAT	**Matsushiro**	**69.43**	**59**	P	**P**	**04 19 08.4**	**-1.6**
MAT	**Matsushiro**	**69.43**	**59**	*e*P	**P**	**04 19 08.0**	**-2.0**
MJAR	**Matsushiro Arr**	**69.43**	**59**	P	**P**	**04 19 09.6**	**-0.5**
comp=Z,11nm,1.1s,mb4.7,baz=308,slow=7.2,SNR=14							
MJAR				LR	LR	04 51 01.8	
comp=Z,618nm,19.7s,MS4.8,baz=335,slow=37							
PET	**Petropavlovsk**	**69.60**	**36**	*e*P	**P**	**04 19 11.6**	**+0.5**
PET				*e*S	S	04 28 18.4	+0.5
PET				*e*SS	SS	04 32 52.2	+6.3
PET				pmax	pmax		
comp=Z,400nm,13.5s							
PET				MLR	MLR		
comp=Z,1μm,16.0s,MS5.2							
IMA2	**Indian Mountai**	**70.80**	**7**	*e*P	**P**	**04 19 18.3**	**-0.2**
COLA	**College**	**72.45**	**5**⇓	*i*P	**P**	**04 19 28.9**	**+0.5**
COLA	**College**	**72.45**	**5**	P	**P**	**04 19 28.8**	**+0.4**
comp=Z,9.7nm,0.3s,mb5.2							
ILAR	**Eielson Array**	**72.61**	**5**	P	**P**	**04 19 28.6**	**-0.8**
comp=Z,1.8nm,1.0s,baz=321,slow=2.4,SNR=9.3							
ILAR				PP	PP	04 22 07.4	-3.5
comp=Z,2.4nm,1.0s,baz=347,slow=7.5,SNR=5.7							
ILAR				LR	LR	04 52 33.1	
comp=Z,595nm,19.0s,baz=219,slow=37							
ILAR	**Eielson Array**	**72.61**	**5**	P	**P**	**04 19 28.6**	**-0.8**
ILAR						04 22 07.4	
BOSA	**Boshof**	**72.88**	**197**	P	**P**	**04 19 30.2**	**-0.7**
comp=Z,37nm,0.9s,mb5.3,baz=14,slow=6.1,SNR=25							
BOSA				LR	LR	04 55 48.8	
comp=Z,402nm,18.0s,MS4.7,baz=116,slow=39							
BOSA	**Boshof**	**72.88**	**197**	*e*P	**P**	**04 19 30.3**	**-0.6**
BOSA				pmax	pmax		
comp=Z,57nm,1.0s,mb5.5							
BOSA	**Boshof**	**72.88**	**197**	*e*P	**P**	**04 19 30.3**	**-0.6**
comp=Z,57nm,1.0s,mb5.5							
YKA	**Yellowknife Ar**	**73.74**	**350**	P	**P**	**04 19 35.2**	**-0.8**
comp=Z,2.0nm,0.6s,mb4.2,baz=14,slow=6.3,SNR=61							
YKA				LR	LR	04 57 01.2	
comp=Z,650nm,18.4s,MS5.0,baz=10.0,slow=40							
YKA	**Yellowknife Ar**	**73.74**	**350**	P	**P**	**04 19 35.2**	**-0.8**
YKA				LR	LR	04 57 01.2	
MENT	**Mentasta**	**74.60**	**3**	*e*P	**P**	**04 19 41.3**	**+0.2**
SVW2	**Sparrevohn**	**75.45**	**9**	*e*P	**P**	**04 19 46.4**	**+0.5**
SUR	**Sutherland**	**77.52**	**200**	P	**P**	**04 19 56.8**	**-0.8**
comp=Z,15nm,1.1s,mb4.8,baz=128,slow=19,SNR=2.4							
ULM	**Lac du Bonnet**	**80.90**	**335**	P	**P**	**04 20 16.0**	**-0.1**
comp=Z,4.4nm,0.8s,mb4.4,baz=42,slow=5.8,SNR=9.1							
ULM				LR	LR	04 56 41.5	
comp=Z,528nm,19.8s,MS4.9,baz=215,slow=36							
ULM	**Lac du Bonnet**	**80.90**	**335**	P	**P**	**04 20 16.0**	**-0.2**
ULM				LR	LR	04 56 41.5	
LAO	**LASA Array**	**87.08**	**340**	*e*P	**P**	**04 20 48.6**	**+1.0**
comp=Z,31nm,0.9s,mb5.5							
LAO				*e*PcP	PcP	04 20 51.1	+1.3
LAO				*e*pP	pP	04 20 54.4	-1.0
NEW	**Newport**	**87.87**	**347**	P	**P**	**04 20 52.4**	**+1.0**
comp=Z,21nm,0.9s,mb5.4,baz=2.1,slow=5.2,SNR=37						

RSSD				pP	pP	04 21 03.5	-0.3
BOZ	**Bozeman (W)**	**89.34**	**343**	*e*P	**P**	**04 20 59.2**	**+0.8**
BOZ				*e**PP	pP	04 21 06.9	+0.8
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
BOZ	**Bozeman (W)**	**89.34**	**343**	*e*P	**P**	**04 20 59.1**	**+0.8**
	comp=Z,10.0nm,1.0s,mb5.1						
BOZ				*e*pP	pP	04 21 06.9	+0.8
DLMT	**Dillon**	**89.82**	**343**	*e*P	**P**	**04 21 00.9**	**+0.2**
	comp=Z,19nm,1.2s,mb5.3						
DLMT				*e*pP	pP	04 21 08.8	+0.5
YFT	**Old Faithful**	**90.30**	**342**	*e*P	**P**	**04 21 05.0**	**+2.2**
FLWY	**Flagg Ranch**	**90.61**	**342**	*e*P	**P**	**04 21 06.1**	**+1.7**
	comp=Z,20nm,1.1s,mb5.4						
KSU1	**Kansas State U**	**90.94**	**330**	*e*P	**P**	**04 21 05.6**	**-0.2**
LOHW	**Long Hollow**	**91.04**	**342**	*e*P	**P**	**04 21 07.4**	**+1.1**
	comp=Z,12nm,1.2s,mb5.1						
LOHW				*e*pP	pP	04 21 14.4	+0.4
SNOW	**Snow King Moun**	**91.21**	**342**	*e*P	**P**	**04 21 08.5**	**+1.4**
	comp=Z,14nm,1.1s,mb5.2						
SNOW				*e*pP	pP	04 21 14.4	-0.4
REDW	**Red Top Meadow**	**91.33**	**342**	*e*P	**P**	**04 21 08.9**	**+1.2**
	comp=Z,25nm,1.3s,mb5.4						
REDW				*e*pP	pP	04 21 16.3	+0.9
PDAR	**Pinedale Array**	**91.58**	**341**	P	**P**	**04 21 08.6**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.4,baz=0.0,slow=4.4,SNR=8.0						
PDAR				LR	LR	05 03 50.2	
	comp=Z,605nm,18.4s,MS5.1,baz=246,slow=36						
PHWY	**Pilot Hill**	**91.86**	**337**	*e*P	**P**	**04 21 10.9**	**+0.8**
PHWY				*e*pP	pP	04 21 18.4	+0.6
ISCO	**Idaho Springs**	**93.29**	**337**	*e*P	**P**	**04 21 17.4**	**+0.7**
ISCO				*e**PP	pP	04 21 24.0	-0.5
ISCO				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2						
ISCO	**Idaho Springs**	**93.29**	**337**	*e*P	**P**	**04 21 17.4**	**+0.7**
	comp=Z,14nm,1.4s,mb5.2						
ISCO				*e*pP	pP	04 21 24.0	-0.5
MOD	**Modoc**	**94.57**	**348**	*e*P	**P**	**04 21 23.7**	**+1.1**
	comp=Z,11nm,1.1s,mb5.2						
MOD				*e*pP	pP	04 21 31.1	+0.7
ELK	**Elko**	**94.79**	**344**	P	**P**	**04 21 25.4**	**+1.8**
	comp=Z,2.4nm,0.8s,mb4.7,baz=1.6,slow=22,SNR=9.4						
NVAR	**Mina Array Bea**	**97.62**	**346**	P	**P**	**04 21 36.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=48,slow=6.5,SNR=4.8						
ANMO	**Albuquerque**	**98.03**	**335**	⇓*i*P	**P**	**04 21 39.1**	**+0.8**
TXAR	**Lajitas Array**	**102.26**	**331**	P	Pdif	04 21 56.5	-0.6
	comp=Z,0.3nm,0.8s,baz=68,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**103.83**	**104**	PP	PP	04 26 25.8	+4.7
	comp=Z,1.0nm,0.9s,baz=319,slow=7.9,SNR=4.6						
LVC	**Limon Verde**	**121.20**	**267**	PKP	PKPdf	04 26 55.1	+0.3
	comp=Z,2.2nm,0.6s,baz=252,slow=5.4,SNR=5.2						
PLCA	**Paso Flores**	**131.86**	**249**	PKP	PKPdf	04 27 14.2	-1.0
	comp=Z,4.3nm,0.9s,baz=8.0,slow=3.5,SNR=8.6						
USHA	**Ushuaia**	**135.24**	**230**	PKP	PKPdf	04 27 19.4	-2.1
	comp=Z,4.9nm,0.8s,baz=100,slow=2.9,SNR=4.0						
AFI	**Afiamalu**	**138.25**	**57**	PKP	PKPdf	04 27 25.3	-1.8
	comp=Z,19nm,0.3s,baz=168,slow=20,SNR=3.1						
URZ	**Urewera**	**144.77**	**99**	PKP	PKPdf	04 27 35.2	-3.6
	comp=Z,29nm,0.9s,baz=358,slow=2.7,SNR=8.2						

ISC 06 04:22:03.7±0.7, 4256N±005×4346E±005, h10km, n10, σ0§91/18, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**331**	P	**Pg**	**04 22 05.5**	**0.0**
ONI				S	**Sg**	**04 22 07.2**	**+0.5**
CHVG	**Ch'k'valeri**	**1.03**	**279**	P	**Pg**	**04 22 23.1**	**-0.5**
CHVG				S	**Sg**	**04 22 36.5**	**-0.5**
DUS	**Dusheti**	**1.03**	**117**	P	**Pg**	**04 22 23.1**	**-0.4**
DUS				S	**Sg**	**04 22 37.9**	**+0.9**
AKH	**Akhalkalaki**	**1.15**	**179**	P	**Pb**	**04 22 24.7**	**-1.0**
AKH				S	**Sb**	**04 22 40.8**	**+0.1**
TBLG	**Delisi**	**1.26**	**131**	P	**Pn**	**04 22 26.8**	**-0.5**
TBLG				S	**Sb**	**04 22 44.2**	**+0.4**
MTA	**Mtatsminda**	**1.31**	**131**	P	**Pn**	**04 22 28.0**	**-0.1**
MTA				S	**Sb**	**04 22 45.3**	**-0.1**
KZR	**Kazreti**	**1.38**	**149**	P	**Pn**	**04 22 27.1**	**-1.9**
KZR				S	**Sb**	**04 22 46.1**	**-1.0**
ARTV	**Artvin**	**1.79**	**220**	*i* P	**Pn**	**04 22 35.4**	**+0.7**
ARTV				*i* S	**Sn**	**04 22 59.0**	**+1.6**
DGRG	**David-gareji**	**1.80**	**127**	P	**Pn**	**04 22 37.0**	**+2.2**
ERZM	**Erzurum**	**3.09**	**212**	*i* P	**Pn**	**04 22 57.6**	**+5.0**

*ISCJB **06** 04:33:23.9±0.5, 1979N±003×7649W±003, h48km±21km, Error ellipse: s-maj=6.5km s-min=4.3km az=104.6*
*JSN **06** 04:33:24.2±1.1, 1989N×7647W, h30km±161km, MD4.5*
*SSNC **06** 04:33:26.4, 1976N×7642W, h10km, MD3.3, ML2.7*

ISC 06 04:33:24.1±0.7, 1982N±004×7649W±004, h52km±17km, n18, σ0§90/31, 2C-9D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.55**	**297**	⇓*i*PG	**Pn**	**04 33 37.2**	**+1.2**
LMGC				*i* SG	**Sn**	**04 33 44.9**	**+0.3**
	comp=N,6μm,0.2s						
LMGC				*e*			
	comp=E,4μm,0.1s						
RCC	**Rio Carpintero**	**0.77**	**77**	⇑*i*P	**Pn**	**04 33 39.1**	**+0.3**
RCC				*i* S	**Sn**	**04 33 49.3**	**-0.1**
	comp=N,2μm,0.4s						
RCC				*e*			
	comp=E,2μm,0.1s						
HLGC	**Holguin**	**1.14**	**20**	*i* P	**Pn**	**04 33 44.2**	**+0.5**
HLGC				*i* S	**Sn**	**04 33 57.9**	**-0.4**
	comp=N,72nm,0.2s						
HLGC				*e*			
	comp=E,74nm,0.2s						
GTMO	**Guantanamo**	**1.29**	**78**	*i* P	**Pn**	**04 33 45.1**	**-0.7**
GTMO				*i* S	**Sn**	**04 34 00.3**	**-1.7**
	comp=N,84nm,0.2s						
GTMO				*e*			
	comp=E,99nm,0.2s						
SABC	**Sabc**	**1.34**	**65**	*i* P	**Pn**	**04 33 45.4**	**-1.1**
SABC				*i* S	**Sn**	**04 34 02.9**	**-0.3**
	comp=N,66nm,0.5s						
SABC				*e*			
	comp=E,68nm,0.8s						
BBJ	**Bamboo Saint A**	**1.61**	**207**	⇓*i*P	**Pn**	**04 33 50.0**	**-0.1**
MOAC	**Moa**	**1.66**	**59**	*e*P	**Pn**	**04 33 54.3**	**+3.5**
MOAC				*e*S	**Sn**	**04 34 14.6**	**+3.6**
	comp=N,23nm,0.7s						
MOAC				*e*			
	comp=E,24nm,0.5s						
CMJ	**Castle Mountai**	**1.68**	**176**	⇑*e*P	**Pn**	**04 33 50.6**	**-0.4**
GWJ	**Greenwich**	**1.75**	**188**	⇓*i*P	**Pn**	**04 33 51.8**	**-0.3**
STH	**Stony Hill**	**1.76**	**190**	⇓*i*P	**Pn**	**04 33 51.9**	**-0.3**
STH				*e*S	**Sn**	**04 34 12.9**	**-0.4**
HOJ	**Hope**	**1.82**	**188**	⇓*i*P	**Pn**	**04 33 52.9**	**-0.1**
CCCC	**Cccc**	**1.82**	**319**	*i* P	**Pn**	**04 33 53.0**	**-0.1**
CCCC				*e*		04 34 00.0	
	comp=E,3μm,0.1s						
CCCC				*e*S	**Sn**	**04 34 14.0**	**-1.0**
	comp=N,3μm,0.1s						
CVJ	**Coleyville**	**1.87**	**212**	⇓*i*P	**Pn**	**04 33 53.8**	**+0.1**
MBJ	**Montego Bay**	**1.92**	**223**	⇓*e*P	**Pn**	**04 33 54.6**	**+0.3**
MBJ				*e*S	**Sn**	**04 34 15.9**	**-1.4**
MASC	**Masc**	**2.15**	**80**	*i* P	**Pn**	**04 33 59.6**	**+2.1**
MASC				*i* S	**Sn**	**04 34 26.5**	**+3.5**
	comp=N,6.6nm,0.2s						
MASC				*e*			
	comp=E,7.5nm,0.2s						
PCJ	**Portland Cotta**	**2.16**	**197**	⇓*i*P	**Pn**	**04 33 58.2**	**+0.5**
PCJ				*i* S	**Sn**	**04 34 24.0**	**+0.7**
MCJ	**Malvern**	**2.20**	**211**	⇓*i*P	**Pn**	**04 33 58.9**	**+0.7**
MCJ				*e*S	**Sn**	**04 34 24.1**	**-0.1**
MGV	**Manicaragua**	**3.98**	**306**	*e*P	**Pn**	**04 34 27.5**	**+4.9**
MGV				*e*S	**Sn**	**04 35 19.4**	**+11**
	comp=N,2.5nm,1.0s						
MGV				*e*			
	comp=E,1.5nm,0.6s						

*IDC **06** 04:48:04.1±1.0, 4246N×4331E, h0km, mb3.2/5, mb1 3.5/8, mb1mx3.4/22, mbtmp3.4/8, ML3.7/1, Error ellipse: s-maj=17.1km s-min=9.4km az=82.0*
*CSEM **06** 04:48:05.9±0.1, 4254N×4345E, h20km, mb3.7, Error ellipse: s-maj=1.6km s-min=1.4km az=134.0*
*TIF **06** 04:48:05.2, 4251N×4343E, h12km±1km*
*ISCJB **06** 04:48:05.4±0.4, 4257N±002×4345E±003, h10km±4km, mb3.2/5, Error ellipse: s-maj=3.7km s-min=2.7km az=74.5*
*NEIC **06** 04:48:06.7±1.7, 4264N×4342E, h15km±14km, mb3.7/1, MD4.2(ISK), Error ellipse: s-maj=8.6km s-min=7.8km az=106.0*
*MOS **06** 04:48:07.4±1.6, 4257N×4363E, h18km, mb3.7/2, Error ellipse: s-maj=8.8km s-min=5.8km az=88.3*
*NNC **06** 04:48:11.7±3.5, 4207N×4505E, h0km, mb3.5, Error ellipse: s-maj=88.6km s-min=36.6km az=132.0*
*ISK **06** 04:48:11.1, 4248N×4286E, h21km, ML3.4*

ISC 06 04:48:05.9±0.3, 4253N±001×4346E±002, h4km±3km, n68, σ1§12/111, mb3.2/5, 3C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**349**	P	**Pg**	**04 48 08.1**	**+1.0**
ONI				S	**Sg**	**04 48 09.6**	**+1.6**
DIGR	**Digorskoe uzhe**	**0.38**	**13**	*i* Pg	**Pg**	**04 48 13.2**	**-0.1**
DIGR				*i* Sg	**Sg**	**04 48 19.0**	**+0.7**
ZEI	**Tsey**	**0.40**	**53**	*e*Pg	**Pg**	**04 48 13.5**	**-0.2**
	3μm,0.3s						
ZEI				*e*Sg	**Sg**	**04 48 19.7**	**+0.8**
	5μm,0.3s						
ZEI	**Tsey**	**0.40**	**53**	*e*PG	**Pg**	**04 48 13.5**	**-0.2**
ZEI				*e*		04 48 19.7	
ZEI				pmax	pmax		
	comp=Z,3μm,0.3s						
ZEI				smax			
	comp=N,5μm,0.3s						
LACR	**Lac**	**0.68**	**64**	*i* Pg	**Pg**	**04 48 18.6**	**-0.4**
LACR				*i* Sg	**Sg**	**04 48 28.2**	**+0.3**
ARNR	**Ardon**	**0.89**	**42**	*i* Pg	**Pg**	**04 48 23.2**	**+0.1**
ARNR				*i* Sg	**Sg**	**04 48 35.4**	**+0.8**
DUS	**Dusheti**	**1.02**	**115**	P	**Pg**	**04 48 25.5**	**+0.1**
DUS				S	**Sg**	**04 48 39.7**	**+1.1**
VLKR	**Vladikavkaz**	**1.03**	**59**	*i* Pg	**Pg**	**04 48 25.5**	**-0.3**
VLKR				*i* Sg	**Sg**	**04 48 39.6**	**+0.5**
CHVG	**Ch'k'valeri**	**1.04**	**281**	P	**Pg**	**04 48 25.2**	**-0.6**
CHVG				S	**Sg**	**04 48 39.2**	**-0.1**
KMSR	**Komsomolskaya**	**1.04**	**36**	*i* Pg	**Pg**	**04 48 25.7**	**-0.2**
KMSR				*i* Sg	**Sg**	**04 48 40.3**	**+0.9**
AKH	**Akhalkalaki**	**1.12**	**179**	P	**Pg**	**04 48 26.9**	**-0.4**
AKH				S	**Sg**	**04 48 42.5**	**+0.6**
SNJR	**Sundja**	**1.13**	**61**	*i* Pg	**Pg**	**04 48 27.0**	**-0.6**
SNJR				*i* Sg	**Sg**	**04 48 42.7**	**+0.4**
TBLG	**Delisi**	**1.24**	**130**	P	**Pg**	**04 48 29.1**	**-0.6**
TBLG				S	**Sg**	**04 48 47.0**	**+1.3**
TBLG	**Delisi**	**1.24**	**130**	*e*Pg	**Pg**	**04 48 29.1**	**-0.6**
TBLG				*e*Sg	**Sg**	**04 48 46.2**	**+0.5**
TBLG	**Delisi**	**1.24**	**130**	P	**Pg**	**04 48 29.1**	**-0.6**
TBLG				S	**Sg**	**04 48 46.2**	**+0.4**
KUBR	**Kubataba**	**1.27**	**358**	PG	**Pg**	**04 48 30.8**	**+0.5**
KUBR				S	**Sg**	**04 48 49.2**	**+2.4**
MTA	**Mtatsminda**	**1.29**	**130**	P	**Pg**	**04 48 30.3**	**-0.4**
MTA				S	**Sg**	**04 48 48.7**	**+1.2**
MTA	**Mtatsminda**	**1.29**	**130**	Pg	**Pg**	**04 48 30.4**	**-0.3**
MTA				S	**Sg**	**04 48 47.9**	**+0.4**
MTA	**Mtatsminda**	**1.29**	**130**	P	**Pg**	**04 48 30.4**	**-0.4**
MTA				S	**Sg**	**04 48 47.9**	**+0.5**
SAMG	**Sameba**	**1.30**	**129**	P	**Pg**	**04 48 29.9**	**-1.1**
SAMG				S	**Sg**	**04 48 47.2**	**-0.6**
KZR	**Kazreti**	**1.35**	**148**	P	**Pn**	**04 48 29.6**	**-1.9**
KZR				S	**Sg**	**04 48 48.0**	**-1.3**
TRKR	**Terskaya**	**1.51**	**37**	*e*Pg	**Pg**	**04 48 34.6**	**-0.4**
TRKR				*i* Sg	**Sg**	**04 48 55.3**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.53**	**339**	Pg	**Pg**	**04 48 34.4**	**-1.0**
KIV0				Sg	**Sg**	**04 48 54.6**	**-0.7**
PYA	**Pyatigorsk**	**1.53**	**349**	Pg	**Pg**	**04 48 34.1**	**-1.3**
PYA				Sg	**Sg**	**04 48 54.1**	**-1.1**
KIV	**Kislovodsk**	**1.54**	**339**	*e*Pg	**Pg**	**04 48 34.4**	**-1.0**
KIV				*e*Sg	**Sg**	**04 48 55.2**	**-0.1**
KIV	**Kislovodsk**	**1.54**	**339**	*d i*PG	**Pg**	**04 48 34.0**	**-1.4**
KIV				*i* S	**Sn**	**04 48 55.3**	**+0.7**
KIV	**Kislovodsk**	**1.54**	**339**	*e*Pg	**Pg**	**04 48 34.4**	**-1.0**
KIV				*e*Sg	**Sg**	**04 48 55.2**	**-0.1**
ARTV	**Artvin**	**1.77**	**221**	*i* P	**Pn**	**04 48 38.0**	**+0.7**
ARTV				*i* S	**Sn**	**04 49 00.8**	**+0.6**
DGRG	**David-gareji**	**1.78**	**126**	P	**Pn**	**04 48 39.3**	**+1.7**
DGRG				S	**Sn**	**04 49 05.8**	**+5.2**
KARS	**Kars**	**1.93**	**188**	PN	**Pn**	**04 48 42.3**	**+2.7**
KARS				SN	**Sn**	**04 49 05.7**	**+1.3**
KARS	**Kars**	**1.93**	**188**	Pn	**Pn**	**04 48 42.3**	**+2.7**
KARS				Sg	**Sg**	**04 49 05.3**	**-2.7**
GOF	**Gofitskoye**	**2.55**	**353**	⇓*i*PN	**Pn**	**04 48 53.4**	**+5.3**
GOF				*i* S	**Sn**	**04 49 27.3**	**+7.8**
GOF				pmax	pmax		
	comp=Z,60nm,0.6s						
GOF				smax			
	comp=N,270nm,0.6s						
GOF				smax			
	comp=E,400nm,0.6s						
GNI	**Garni**	**2.56**	**158**	Pn	**Pn**	**04 48 49.6**	**+1.3**
	comp=E,7.1nm,0.3s,baz=301,slow=5.8,SNR=28						
GNI				Pg	**Pg**	**04 48 52.1**	**-3.0**
	comp=E,16nm,0.3s,baz=304,slow=5.6,SNR=54						
GNI				Lg		04 49 27.4	
	comp=E,19nm,0.3s,baz=59,slow=22,SNR=7.8						
GNI	**Garni**	**2.56**	**158**	Pg	**Pg**	**04 48 52.1**	**-3.0**
GNI	**Garni**	**2.56**	**158**	Pn	**Pn**	**04 48 49.6**	**+1.3**
GNI				Pg	**Pg**	**04 48 52.1**	**-3.0**
GNI				Lg		04 49 27.4	
SOC	**Sochi**	**2.94**	**292**	*e*PN	**Pn**	**04 48 59.8**	**+6.3**
SOC				*e*		04 49 37.3	
SOC				pmax	pmax		
	comp=Z,48nm,0.7s						
SOC				smax			
	comp=N,106nm,0.9s						
SOC				MLR	MLR		
	comp=Z,120nm,10.0s						
MAK	**Makhachkala**	**3.01**	**80**	*e*PN	**Pn**	**04 48 53.8**	**-0.6**
MAK				*e*		04 49 31.2	
ERZM	**Erzurum**	**3.06**	**212**	*i* P	**Pn**	**04 48 57.1**	**+2.0**
ERZM				*i* S	**Sn**	**04 49 43.4**	**+11**
EZM	**Erzurum**	**3.06**	**212**	PN	**Pn**	**04 48 56.6**	**+1.5**
MACK	**Trabzon**	**3.19**	**241**	*i* P	**Pn**	**04 48 57.6**	**+0.7**
MACK				*i* S	**Sn**	**04 49 34.6**	**-0.7**
CLDR	**Caldiran**	**3.40**	**174**	*e*PN	**Pn**	**04 49 05.4**	**+5.7**
GUMT	**Gumushane**	**3.64**	**237**	PN	**Pn**	**04 49 02.2**	**-0.8**
KELT	**Kelkit**	**3.96**	**235**	*i* P	**Pn**	**04 49 08.5**	**+1.0**
KELT				*i* S	**Sn**	**04 49 54.6**	**+0.2**
GRSN	**GIRESUNGRSN**	**4.21**	**249**	*i* P	**Pn**	**04 49 09.6**	**-1.2**
GRSN				*i* S	**Sn**	**04 49 56.3**	**-4.2**
PTK	**Pertek**	**4.77**	**222**	*e*PN	**Pn**	**04 49 19.5**	**+0.9**
ANN	**Anapa**	**4.93**	**299**	*e*PN	**Pn**	**04 49 26.4**	**+5.6**
ANN				*e*S	**Sn**	**04 50 28.1**	**+10**
ANN				pmax	pmax		
	comp=Z,60nm,1.0s						
SVSK	**Karacayir**	**5.53**	**244**	*e*PN	**Pn**	**04 49 29.5**	**+0.5**
MALT	**Malatya**	**5.70**	**224**	*e*PN	**Pn**	**04 49 32.2**	**+0.8**
BOYT	**Boyabat**	**6.48**	**263**	*i* P	**Pn**	**04 49 43.8**	**+1.7**
BRTR	**Keskin Array B**	**7.93**	**253**	Pn	**Pn**	**04 50 01.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=44,slow=10,SNR=12						
BRTR	**Keskin Array B**	**7.93**	**253**	*i* P	**Pn**	**04 50 03.5**	**+1.5**
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**7.93**	**253**	*i* P	**Pn**	**04 50 03.5**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTK	**Aktyubinsk**	**12.76**	**47**	Pn	**Pn**	**04 51 05.9**	**-2.2**
AKTK				Sn	**Sn**	**04 53 24.0**	**-6.6**
AKTO	**Aktyubinsk**	**12.76**	**47**	⇑P	**Pn**	**04 51 06.4**	**-1.6**
	comp=Z,0.6nm,0.8s						
AKTO				⇓S	**Sn**	**04 53 26.3**	**-4.2**
	comp=Z,0.8nm,0.8s						
AKTO	**Aktyubinsk**	**12.76**	**47**	Pn	**Pn**	**04 51 05.9**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=230,slow=11,SNR=9.8						
AKTO				Sn	**Sn**	**04 53 24.0**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=174,slow=18,SNR=2.7						
AB31	**Akbulak array**	**13.29**	**54**	P	**Pn**	**04 51 13.2**	**-2.2**
	comp=Z,2.2nm,0.6s,baz=244,slow=11,SNR=36						
AB31				⇓S	**Sn**	**04 53 35.4**	**-8.2**
	comp=Z,3.2nm,0.9s,baz=240,slow=22,SNR=8.0						
BRVK	**Borovoye**	**20.75**	**50**	*e*Pn	**P**	**04 52 47.5**	**-0.1**
	comp=Z,2.8nm,0.8s						
BRVK	**Borovoye**	**20.75**	**50**	*e*Pn	**P**	**04 52 47.5**	**-0.1**
	comp=Z,2.8nm,0.8s						
BRVK				*e*S	**S**	**04 56 29.9**	**-10**
BVA0	**Borovoye Array**	**20.80**	**50**	⇑P	**P**	**04 52 49.0**	**+0.8**
	comp=Z,1.2nm,1.5s,baz=254,slow=9.5,SNR=16						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**04 52 47.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=243,slow=8.3,SNR=14						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**04 52 49.0**	**+0.8**
	comp=Z,1.2nm,1.5s,SNR=16						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**04 52 47.8**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOSK	**Vostochnaya**	**21.04**	**52**	⇑P	**P**	**04 52 49.7**	**-1.1**
	comp=Z,3.2nm,1.3s,mb3.5						
FINES	**FINESS Array B**	**21.63**	**337**	P	**P**	**04 52 55.2**	**-1.9**
	comp=Z,0.6nm,0.7s,mb3.1,baz=172,slow=9.8,SNR=4.1						
GERES	**GERESS Array B**	**21.64**	**297**	P	**P**	**04 52 54.8**	**-2.4**
	comp=Z,0.4nm,0.7s,mb3.0,baz=113,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**27.75**	**68**	P	**P**	**04 53 55.7**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.3,baz=270,slow=9.4,SNR=13						
MKAR	**Makanchi Array**	**27.75**	**68**	P	**P**	**04 53 55.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**73.85**	**350**	P	**P**	**04 59 40.2**	**-1.6**
	comp=Z,0.1nm,0.7s,mb2.9,baz=5.1,slow=5.4,SNR=4.1						

*IDC **06** 05:46:52.7±0.8, 4251N×4343E, h0km, mb3.4/6, mb1 3.6/10, mb1mx3.4/24, mbtmp3.5/10, ML3.4/3, Error ellipse: s-maj=14.2km s-min=8.6km az=75.0*
*TIF **06** 05:46:53.4, 4254N×4345E, h13km±1km*
*CSEM **06** 05:46:53.4±0.1, 4258N×4347E, h20km, mb3.8, Error ellipse: s-maj=1.1km s-min=1.0km az=126.0*
*ISCJB **06** 05:46:54.0±0.3, 4261N±002×4343E±003, h20km±3km, mb3.3/6, Error ellipse: s-maj=3.6km s-min=2.8km az=60.5*
*MOS **06** 05:46:54.0±1.5, 4261N×4355E, h10km, mb3.8/3, Error ellipse: s-maj=8.4km s-min=5.1km az=84.2*
*NEIC **06** 05:46:56.2±0.4, 4264N×4345E, h25km, mb3.8/1, MD4.3(ISK), ML3.5(TIF), Error ellipse: s-maj=7.5km s-min=7.0km az=47.0*
*NNC **06** 05:47:02.2±5.9, 4284N×4411E, h27km±60km, mb3.5, Error ellipse: s-maj=114.5km s-min=34.6km az=138.0*

ISC 06 05:46:54.1±0.3, 4260N±002×4349E±002, h11km±2km, n82, σ1§10/129, mb3.3/5, 4C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**239**	P	**Pg**	**05 46 56.0**	**-0.2**
ONI				S	**Sg**	**05 46 57.5**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.31**	**12**	*e*Pg	**Pg**	**05 47 00.7**	**+0.4**
DIGR				*i* Sg	**Sg**	**05 47 05.8**	**+1.4**
ZEI	**Tsey**	**0.34**	**60**	*i* Pg	**Pg**	**05 47 01.7**	**+0.8**
ZEI				*i* Sg	**Sg**	**05 47 07.4**	**+1.8**
LACR	**Lac**	**0.63**	**69**	*i* Pg	**Pg**	**05 47 06.5**	**+0.1**
LACR				*e*Sg	**Sg**	**05 47 15.8**	**+1.1**
LSNR	**Lesken**	**0.71**	**19**	*e*Pg	**Pg**	**05 47 07.8**	**-0.1**
LSNR				*e*Sg	**Sg**	**05 47 18.2**	**+0.9**
ARNR	**Ardon**	**0.83**	**44**	*e*Pg	**Pg**	**05 47 09.7**	**-0.3**
ARNR				*e*Sg	**Sg**	**05 47 21.5**	**+0.7**
KMSR	**Komsomolskaya**	**0.97**	**37**	*e*Pg	**Pg**	**05 47 12.2**	**-0.5**
KMSR				*e*Sg	**Sg**	**05 47 25.6**	**+0.2**
VLKR	**Vladikavkaz**	**0.98**	**62**	*e*Pg	**Pg**	**05 47 12.2**	**-0.7**
VLKR				*e*Sg	**Sg**	**05 47 25.9**	**+0.2**
DUS	**Dusheti**	**1.03**	**119**	P	**Pb**	**05 47 13.6**	**-0.3**
DUS				S	**Sg**	**05 47 28.1**	**+0.8**
SNJR	**Sundja**	**1.08**	**64**	*e*Pg	**Pg**	**05 47 13.8**	**-1.0**
SNJR				*e*Sg	**Sg**	**05 47 28.7**	**-0.1**
AKH	**Akhalkalaki**	**1.19**	**180**	P	**Pn**	**05 47 15.4**	**-1.2**
AKH				S	**Sb**	**05 47 31.6**	**-0.3**
KUBR	**Kubataba**	**1.20**	**357**	*i* Pg	**Pg**	**05 47 18.0**	**+0.8**
	246nm,0.6s						
KUBR				*i* Sg	**Sg**	**05 47 34.7**	**+1.9**
KUBR	**Kubataba**	**1.20**	**357**	*d i*PG	**Pg**	**05 47 18.0**	**+0.8**
KUBR				*i* S	**Sg**	**05 47 34.7**	**+1.9**
KUBR				pmax	pmax		
	comp=Z,246nm,0.6s						
KUBR				smax			
	comp=Z,435nm,0.8s						
TBLG	**Delisi**	**1.27**	**133**	P	**Pn**	**05 47 17.5**	**-0.2**
TBLG	**Delisi**	**1.27**	**133**	*e*Pg	**Pn**	**05 47 17.5**	**-0.2**
TBLG				*e*Sg	**Sg**	**05 47 34.5**	**-0.4**
TBLG	**Delisi**	**1.27**	**133**	P	**Pn**	**05 47 17.5**	**-0.2**
TBLG				S	**Sb**	**05 47 34.5**	**+0.2**
PRTR	**Priterechnaya**	**1.29**	**26**	*e*Pg	**Pg**	**05 47 17.2**	**-1.6**
PRTR				*e*Sg	**Sg**	**05 47 34.6**	**-1.0**
SHAR	**Shatzhatmas**	**1.29**	**332**	*e*Pg	**Pg**	**05 47 20.2**	**+1.3**
MTA	**Mtatsminda**	**1.32**	**133**	P	**Pn**	**05 47 18.4**	**0.0**
MTA				S	**Sb**	**05 47 36.5**	**+0.6**
MTA	**Mtatsminda**	**1.32**	**133**	P	**Pn**	**05 47 18.4**	**0.0**
MTA

BR131				Sn	Sn	05 50 20.9	+1.0
BRTR	**Keskin Array B**	**7.97**	**252**	Pn	**Pn**	**05 48 49.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=188,slow=8.2,SNR=13						
BRTR				Sn	Sn	05 50 20.2	+0.3
	comp=Z,0.1nm,0.3s,baz=65,slow=40,SNR=3.7						
BRTR	**Keskin Array B**	**7.97**	**252**	Pn	**Pn**	**05 48 49.7**	**-0.1**
BRTR				Sn	Sn	05 50 20.2	+0.3
AKTK	**Aktyubinsk**	**12.69**	**47**	Pn	**Pn**	**05 49 53.3**	**-1.1**
AKTK				Sn	Sn	05 52 10.2	-5.5
AKTO	**Aktyubinsk**	**12.69**	**47**	⇑P	**Pn**	**05 49 53.8**	**-0.7**
	comp=Z,1.6nm,1.6s						
AKTO				⇓S	Sn	05 52 08.9	-6.8
	comp=Z,0.9nm,1.4s						
AKTO	**Aktyubinsk**	**12.69**	**47**	Pn	**Pn**	**05 49 53.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=238,slow=13,SNR=9.0						
AKTO				Sn	Sn	05 52 10.2	-5.5
	comp=Z,0.1nm,0.3s,baz=6.0,slow=19,SNR=2.2						
AKASG	**Malin Array Be**	**12.70**	**315**	Pn	**Pn**	**05 49 53.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=130,slow=9.8,SNR=2.6						
AB31	**Akbulak array**	**13.23**	**54**	P	**Pn**	**05 50 01.1**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=245,slow=11,SNR=53						
AB31				⇑S	Sn	05 52 23.3	-5.6
	comp=Z,1.9nm,0.6s,baz=245,slow=23,SNR=4.5						
AB31	**Akbulak array**	**13.23**	**54**	P	**Pn**	**05 50 01.0**	**-0.8**
	comp=Z,1.3nm,0.4s,SNR=53						
ARU	**Arti**	**16.89**	**30**	*i* P	**Pn**	**05 50 48.4**	**-2.0**
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**16.89**	**30**	⇓*i* P	**Pn**	**05 50 48.4**	**-2.0**
ARU				*e*S	Sn	05 53 54.2	-3.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**20.69**	**50**	*e*P	**P**	**05 51 34.5**	**+0.4**
	comp=Z,3.6nm,0.8s						
BRVK	**Borovoye**	**20.69**	**50**	*e*P	**P**	**05 51 34.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**20.69**	**50**	*e*P	**P**	**05 51 34.5**	**+0.4**
	comp=Z,3.6nm,0.8s						
BVA0	**Borovoye Array**	**20.74**	**51**	P	**P**	**05 51 35.4**	**+0.8**
	comp=Z,1.1nm,1.4s,baz=246,slow=9.6,SNR=17						
BVAR	**Borovoye Array**	**20.74**	**51**	P	**P**	**05 51 35.5**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=233,slow=7.4,SNR=16						
BVAR	**Borovoye Array**	**20.74**	**51**	P	**P**	**05 51 35.4**	**+0.8**
	comp=Z,1.1nm,1.4s,SNR=17						
VOSK	**Vostochnaya**	**20.98**	**52**	⇑P	**P**	**05 51 37.0**	**-0.3**
	comp=Z,3.4nm,0.9s						
FINES	**FINESS Array B**	**21.57**	**337**	P	**P**	**05 51 43.5**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.2,baz=135,slow=20,SNR=3.2						
FINES	**FINESS Array B**	**21.57**	**337**	*i* P	**P**	**05 51 48.5**	**+4.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**21.57**	**337**	P	**P**	**05 51 43.5**	**-0.1**
GERES	**GERESS Array B**	**21.63**	**297**	P	**P**	**05 51 44.3**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.1,baz=162,slow=6.2,SNR=3.7						
HFS	**Hagfors**	**25.24**	**324**	P	**P**	**05 52 18.8**	**-1.1**
	comp=Z,2.5nm,0.9s,mb3.7,baz=122,slow=19,SNR=3.3						
MKAR	**Makanchi Array**	**27.70**	**68**	P	**P**	**05 52 43.4**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=265,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**27.70**	**68**	P	**P**	**05 52 43.3**	**+1.1**
MKAR	**Makanchi Array**	**27.70**	**68**	*i* P	**P**	**05 52 43.5**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**73.79**	**350**	P	**P**	**05 58 27.9**	**-0.5**
	comp=Z,0.1nm,0.6s,mb2.9,baz=13,slow=5.9,SNR=3.8						

*IDC **06** 05:51:28.9±0.4,5627N×16439E,h0km,mb4.7/33, mb1 4.9/35,mb1mx4.9/37,mbtmp4.8/35,ML4.6/2,MS5.1/21, Ms1 5.1/21,ms1mx5.0/32,Error ellipse: s-maj=11.0km s-min=8.4km az=18.0*

*SZGRF **06** 05:51:29.2,55.14N×16547E,h33km,mb5.0, Komandorsky Islands, Russia, region*

*MOS **06** 05:51:29.1±1.0,56.18N×16421E,h12km,mb5.2/68, MS5.3/28,Error ellipse: s-maj=6.7km s-min=4.2km az=93.7*

MOS Felt (III) at Ust'-Kamchatsk.

*KRSC **06** 05:51:30.0±1.5,5623N×16435E,h20km±3km,ML5.2*

*NAO **06** 05:51:31.6,5587N×16366E,h33km,mb4.9*

*ISCJB **06** 05:51:31.2±0.1,56.16N±002×16423E±003,h25km, mb5.0/161,MS5.3/64,Error ellipse: s-maj=3.2km s-min=1.8km az=137.7*

*HRVD **06** 05:51:33.1±0.1,5623N×16454E,h22km,MW5.8/108, Centroid moment Tensor Solution. LP body waves: s95,c205;Mantle waves: s108,c240; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21±.06; $M_{\theta\theta}$-3.55±.06; $M_{\phi\phi}$3.76±.06; $M_{r\theta}$-0.09±.11; $M_{\theta\phi}$-3.61±.06; $M_{\phi r}$0.68±.10; Best double couple: $M_0$5.18000×10^{17} NP1:ϕ_s292.00000°,δ84.00000°,λ177.00000°. NP2: ϕ_s23.00000°,δ87.00000°,λ6.00000°. Principal axes: T 5.3210, Plg7.0000°, Azm248.0000°; N -0.2860, Plg83.0000°, Azm51.0000°; P -5.0380, Plg2.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 05:51:33.0,56.19N×16339E,h11km,mB5.2,mb4.8,Ms5.9, Msz5.5*

*NEIC **06** 05:51:33.1±0.2,56.19N×16420E,mb5.2/87,MS5.3/11, MW5.7,Error ellipse: s-maj=5.1km s-min=2.9km az=180.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}1.09; $M_{\theta\theta}$-3.52; $M_{\phi\phi}$2.43; $M_{r\theta}$-1.74; $M_{\theta\phi}$-2.13; $M_{\phi r}$-0.45; Best double couple: $M_0$3.90000×10^{17} NP1: ϕ_s118.00000°,δ81.00000°,λ-165.00000°. NP2: ϕ_s26.00000°,δ75.00000°,λ-10.00000°. Principal axes: T 3.1200, Plg4.0000°, Azm251.0000°; N 1.6400, Plg73.0000°, Azm149.0000°; P -4.7600, Plg17.0000°, Azm342.0000°;*

NEIC Felt [III] at Ust'-Kamchatsk.

ISC 06 05:51:33.2±0.1,5622N±002×16418E±003,h27km, h27km±.7km:pP-P,n493,σ1s09/516,mb5.0/161,MS5.3/64, 17C-8D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.76**	**270**	P	**Pb**	**05 51 45.1**	**-2.7**
KBTR	**Krutoberegovo**	**0.76**	**270**	*i* P	**Pb**	**05 51 45.0**	**-2.8**
KBG	**Krutoberegovo**	**0.83**	**273**	*i* P	**Pb**	**05 51 46.4**	**-2.5**
BKI	**Bering**	**1.43**	**134**	*i* P	**Pn**	**05 51 53.5**	**-3.9**
BKI				*i* S	**Sn**	**05 52 10.3**	**-5.0**
BKI				Smax			
	219μm,1.0s						
SMKR	**Semkarok**	**1.55**	**285**	*e*P	**Pn**	**05 51 59.3**	**+0.3**
BDR	**Baidarnaya**	**1.69**	**283**	*i* P	**Pn**	**05 52 01.2**	**+0.3**
BDR				*i* S	**Sn**	**05 52 23.8**	**+2.1**
SRKR	**Sorokina**	**1.73**	**286**	*e*P	**Pn**	**05 52 01.2**	**-0.3**
ZLN	**Zelenaya**	**1.90**	**265**	*e*P	**Pn**	**05 52 04.5**	**+0.7**
CIRR	**Tsirk**	**1.92**	**268**	*e*P	**Pn**	**05 52 04.1**	**0.0**
LGNR	**Loginova**	**1.96**	**268**	*e*P	**Pn**	**05 52 03.4**	**-1.2**
KLY	**Klyuchi**	**1.97**	**274**	P	**Pn**	**05 52 03.2**	**-1.6**
KLY				S	**Sn**	**05 52 26.7**	**-1.9**
KLY	**Klyuchi**	**1.97**	**274**	*i* P	**Pn**	**05 52 03.3**	**-1.5**
KLY				*e*S	**Sn**	**05 52 27.2**	**-1.4**
KRSR	**Krestovskiy**	**2.02**	**272**	*e*P	**Pn**	**05 52 04.7**	**-0.7**
MKZ	**Mys Kozlova**	**2.17**	**221**	P	**Pn**	**05 52 06.1**	**-1.5**
MKZ				S	**Sn**	**05 52 30.9**	**-2.7**
MKZ	**Mys Kozlova**	**2.17**	**221**	*i* P	**Pn**	**05 52 06.1**	**-1.5**
MKZ				*i* S	**Sn**	**05 52 31.2**	**-2.4**
KPT	**Kopyto**	**2.23**	**265**	*i* P	**Pn**	**05 52 09.6**	**+1.2**
KOZR	**Kozyr**	**2.40**	**268**	PN	**Pn**	**05 52 12.4**	**+1.7**
KOZR				S	**Sn**	**05 52 42.2**	**+2.9**
KOZ	**Kozyrevsk**	**2.42**	**268**	P	**Pn**	**05 52 12.4**	**+1.5**
KOZ				S	**Sn**	**05 52 42.2**	**+2.6**
KOZ	**Kozyrevsk**	**2.42**	**268**	*i* P	**Pn**	**05 52 12.3**	**+1.4**
KOZ				*i* S	**Sn**	**05 52 43.7**	**+4.1**
TUMR	**Tumrok**	**2.47**	**249**	*e*P	**Pn**	**05 52 12.4**	**+0.8**
TUMR				*i* S	**Sn**	**05 52 44.9**	**+4.1**
SRDR	**Sredinnyy**	**2.49**	**274**	*e*P	**Pn**	**05 52 13.0**	**+1.1**
ESO	**Esso**	**3.09**	**267**	*i* P	**Pn**	**05 52 19.2**	**-0.9**
ESO				*e*S	**Sn**	**05 52 56.5**	**+0.4**
ESO				Smax			
	2μm,1.0s						
OSSR	**Ossora**	**3.10**	**349**	*i* P	**Pn**	**05 52 15.5**	**-4.8**
SPN	**Mys Shipunski**	**3.95**	**219**	P	**Pn**	**05 52 30.0**	**-2.0**
SPN				S	**Sn**	**05 53 12.9**	**-4.5**
SPN	**Mys Shipunski**	**3.95**	**219**	*e*P	**Pn**	**05 52 30.4**	**-1.6**
SPN				*e*S	**Sn**	**05 53 14.3**	**-3.1**
NLC	**Nalytchevo**	**4.15**	**225**	P	**Pn**	**05 52 34.3**	**-0.4**
NLC				S	**Sn**	**05 53 21.1**	**-1.1**
NLC	**Nalytchevo**	**4.15**	**225**	*e*P	**Pn**	**05 52 34.2**	**-0.5**
NLC				*i* S	**Sn**	**05 53 21.2**	**-1.0**
SMAR	**Somma**	**4.30**	**229**	*e*P	**Pn**	**05 52 36.8**	**0.0**
SMAR				*e*S	**Sn**	**05 53 24.6**	**-1.4**
AVH	**Avacha**	**4.32**	**229**	*e*P	**Pn**	**05 52 37.5**	**+0.4**
UGLR	**Uglovaya**	**4.33**	**228**	*e*P	**Pn**	**05 52 37.4**	**+0.2**
UGLR				*e*S	**Sn**	**05 53 28.0**	**+1.3**
KOK	**Koryaka**	**4.35**	**230**	*e*P	**Pn**	**05 52 38.2**	**+0.8**
KOK				*e*S	**Sn**	**05 53 30.0**	**+2.8**
GNL	**Ganaly**	**4.40**	**238**	*e*P	**Pn**	**05 52 39.1**	**+1.0**
PET	**Petropavlovsk**	**4.53**	**227**	P	**Pn**	**05 52 41.0**	**+1.0**
PET				S	**Sn**	**05 53 31.3**	**-0.5**
PET	**Petropavlovsk**	**4.53**	**227**	*e*P	**Pn**	**05 52 40.1**	**+0.1**
PET				*e*S	**Sn**	**05 53 31.1**	**-0.7**
PET	**Petropavlovsk**	**4.53**	**227**	*ce*PN	**Pn**	**05 52 38.5**	**-1.5**
PET				pmax	pmax		
	comp=N,2μm,6.5s						
PET				pmax	pmax		
	comp=Z,4μm,4.5s						
PET				pmax	pmax		
	comp=E,3μm,4.5s						
PET				pmax	pmax		
	comp=Z,820nm,0.5s						
PET				pmax	pmax		
	comp=Z,3μm,17.4s						
PET				MLR	MLR		
	comp=Z,33μm,16.0s						
PET				MLR	MLR		
	comp=Z,20μm,13.0s						
PET	**Petropavlovsk**	**4.53**	**227**	Pn	**Pn**	**05 52 39.9**	**-0.1**
KRMR	**Karymshinskiy**	**4.89**	**229**	*e*P	**Pn**	**05 52 44.5**	**-0.4**
KRMR				*e*S	**Sn**	**05 53 39.2**	**-1.4**
RUS	**Russkaya**	**5.04**	**224**	P	**Pn**	**05 52 46.8**	**-0.1**
RUS				S	**Sn**	**05 53 41.5**	**-2.7**
RUS	**Russkaya**	**5.04**	**224**	*e*P	**Pn**	**05 52 46.8**	**-0.1**
RUS				*e*S	**Sn**	**05 53 42.9**	**-1.3**
GRL	**Gorelyy**	**5.12**	**227**	*e*P	**Pn**	**05 52 49.6**	**+1.5**
APC	**Apacha**	**5.25**	**234**	*i* P	**Pn**	**05 52 51.3**	**+1.5**
MIPR	**Malaya Ipel'ka**	**5.88**	**231**	*e*P	**Pn**	**05 52 59.8**	**+1.4**
FX1	**Attu Island--F**	**6.20**	**119**	Pn	**Pn**	**05 52 59.3**	**-3.6**
	comp=Z,65nm,0.3s,baz=330,slow=5.8,SNR=78						
FX1				Sn	**Sn**	**05 54 06.5**	**-6.4**
	comp=Z,141nm,0.3s,baz=120,slow=19,SNR=19						
FX1				LR	LR	05 55 08.3	
	comp=Z,703nm,18.8s,baz=315,slow=36						
FX1	**Attu Island--F**	**6.20**	**119**	PN	**Pn**	**05 52 59.3**	**-3.6**
FX1				pmax	pmax		
	comp=Z,65nm,0.3s						
FX1				MLR	MLR		
	comp=Z,703nm,18.8s						
FX1	**Attu Island--F**	**6.20**	**119**	Pn	**Pn**	**05 53 00.5**	**-2.4**
FX1				Sn	**Sn**	**05 54 06.4**	**-6.5**
KAMR	**Kamenskoye**	**6.34**	**9**	*e*P	**Pn**	**05 53 04.2**	**-0.7**
KAMR				*i* S	**Sn**	**05 54 14.0**	**-2.4**
KAMR				Smax			
	comp=Z,1μm,1.1s						
PAU	**Pauzhetka**	**6.45**	**226**	*e*P	**Pn**	**05 53 07.0**	**+0.6**
PAU				Smax			
	comp=Z,480nm,0.8s						
SMY	**Shemya**	**6.75**	**117**	*e*PN	**Pn**	**05 53 08.9**	**-1.6**
MA2	**Magadan**	**7.90**	**301**	⇑*e*PN	**Pn**	**05 53 27.8**	**+1.6**
MA2				pmax	pmax		
	comp=Z,14nm,1.0s						
MA2	**Magadan**	**7.90**	**301**	Pn	**Pn**	**05 53 28.5**	**+2.3**
SEY	**Seymchan**	**9.00**	**323**	*e*PN	**Pn**	**05 53 42.6**	**+1.3**
SEY				pmax	pmax		
	comp=N,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,30nm,1.1s						
SEY				pmax	pmax		
	comp=E,13nm,1.2s						
BILL	**Bilibino**	**11.91**	**4**	*e*PN	**Pn**	**05 54 21.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,46nm,0.6s						
BILL	**Bilibino**	**11.91**	**4**	*e*Pn	**Pn**	**05 54 21.7**	**+0.6**
	comp=Z,46nm,0.6s						
ADK	**Adak**	**12.04**	**103**	PN	**Pn**	**05 54 20.2**	**-2.7**
OKH	**Okha**	**12.51**	**267**	*e*PN	**Pn**	**05 54 24.0**	**-5.4**
OKH				*e*S	**Sn**	**05 56 54.0**	**+6.2**
OKH				pmax	pmax		
	comp=Z,5μm,6.0s						
OKH				smax			
	comp=N,3μm,15.0s						
OKH				MLR	MLR		
	comp=Z,14μm,13.0s						
GAMB	**Gambell**	**14.17**	**48**	Pn	**Pn**	**05 54 49.5**	**-2.5**
UGL	**Uglegorsk**	**15.16**	**251**	*c i*P	**Pn**	**05 55 06.0**	**+0.6**
UGL				S	**Sn**	**05 58 00.0**	**+7.6**
UGL				pmax	pmax		
	comp=N,1μm,5.0s						
UGL				pmax	pmax		
	comp=E,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,110nm,0.8s						
UGL				smax			
	comp=N,3μm,12.0s						
UGL				smax			
	comp=E,1μm,6.0s						
UGL				smax			
	comp=Z,4μm,15.0s						
UGL				MLR	MLR		
	comp=N,16μm,15.0s						
UGL				MLR	MLR		
	comp=Z,14μm,15.0s						
UGL				MLR	MLR		
	comp=E,20μm,13.0s						
NIKO	**Nikolski**	**15.92**	**90**	Pn	**Pn**	**05 55 16.6**	**+1.4**
TNA	**Tin City**	**16.34**	**44**	Pn	**Pn**	**05 55 22.7**	**+2.1**
UNV	**Unalaska Valle**	**16.91**	**86**	Pn	**Pn**	**05 55 27.4**	**-0.5**
AKUT	**Akutan**	**17.22**	**84**	*e*P	**Pn**	**05 55 32.2**	**+0.5**
	comp=E,381nm,1.4s						
ASAJ	**Asahikawa**	**18.28**	**238**	P	**Pn**	**05 55 44.0**	**-0.8**
	comp=E,2.9nm,0.3s,baz=26,slow=6.6,SNR=46						
ASAJ				LR	LR	06 03 45.1	
	comp=E,14μm,18.5s,baz=45,slow=40						
ASAJ	**Asahikawa**	**18.28**	**238**	P	**Pn**	**05 55 44.1**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,14μm,18.5s						
YAK	**Yakutsk**	**18.47**	**303**	*e*P	**Pn**	**05 55 46.4**	**-0.7**
YAK				*e*S	**Sn**	**05 59 13.4**	**+0.8**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,18nm,1.4s						
YAK				smax			
	comp=N,22nm,1.6s						
YAK				smax			
	comp=Z,7.0nm,1.2s						
YAK				smax			
	comp=E,18nm,1.3s						
YAK				MLR	MLR		
	comp=E,3μm,18.0s						
YAK				MLR	MLR		
	comp=Z,4μm,18.0s						
YAK				MLR	MLR		
	comp=N,7μm,13.0s						
YAK	**Yakutsk**	**18.47**	**303**	Pn	**Pn**	**05 55 52.3**	**+5.2**
	comp=N,49nm,0.8s						
HABR	**Khabarovsk**	**19.30**	**259**	*i* P	**Pn**	**05 55 58.0**	**+0.9**
HABR				*i* S	**Sn**	**05 59 33.3**	**+0.7**
HABR				MLR	MLR		
	comp=Z,9μm,19.2s						
ERM	**Erimo**	**19.67**	**233**	P	**Pn**	**05 56 00.0**	**-1.5**
	comp=Z,651nm,0.5s,SNR=7.1						
SDPT	**Sand Point**	**19.77**	**78**	*e*P	**Pn**	**05 55 59.8**	**-2.9**
	comp=Z,155nm,0.8s						
CHGN	**Chignik**	**20.61**	**74**	*e*P	**P**	**05 56 10.2**	**-0.1**
KLR	**Kul'dur**	**20.70**	**264**	*e*P	**P**	**05 56 09.8**	**-1.4**
KLR				*e*S	**S**	**05 59 57.0**	**-4.1**
KLR				pmax	pmax		
	comp=E,42nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s						
KLR				MLR	MLR		
	comp=Z,54μm,13.0s,MS6.1						
TTA	**Tatalina**	**20.96**	**55**	*e*P	**P**	**05 56 14.6**	**+0.6**
TTA				pmax	pmax		
	comp=Z,1μm,1.5s						
TTA	**Tatalina**	**20.96**	**55**	*e*P	**P**	**05 56 14.6**	**+0.7**
	comp=Z,1μm,1.5s						
SVW2	**Sparrevohn**	**21.23**	**60**	*e*P	**P**	**05 56 17.7**	**+0.8**
TIXI	**Tiksi**	**21.39**	**330**	*e*P	**P**	**05 56 16.8**	**-1.9**
TIXI				*e*		05 56 39.0	
TIXI				*e*S	**S**	**06 00 11.0**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,41nm,0.7s,mb4.9						
TIXI				pmax	pmax		
	comp=N,189nm,10.3s						
TIXI				pmax	pmax		
	comp=E,278nm,11.0s						
TIXI				pmax	pmax		
	comp=Z,625nm,12.0s						
TIXI				smax			
	comp=N,2μm,16.7s						
TIXI				smax			
	comp=E,4μm,15.3s						
TIXI				MLR	MLR		
	comp=Z,6μm,13.0s,MS5.2						
TIXI	**Tiksi**	**21.39**	**330**	P	**P**	**05 56 18.7**	**0.0**
CLNS	**Chul'man**	**21.48**	**288**	*e*P	**P**	**05 56 21.2**	**+1.6**
CLNS				*e*PP		05 56 29.2	
CLNS				*e*S	**S**	**06 00 09.1**	**-7.3**
CLNS				pmax	pmax		
	comp=E,59nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,53nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,31nm,0.8s						
CLNS				smax			
	comp=N,1μm,13.2s						
CLNS				smax			
	comp=Z,524nm,11.3s						
CLNS				smax			
	comp=E,1μm,13.0s						
CLNS				MLR	MLR		
	comp=E,5μm,13.0s,MS5.1						
CLNS				MLR	MLR		
	comp=Z,7μm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,1μm,11.0s,MS5.1						
IMA2	**Indian Mountai**	**22.14**	**47**	*e*P	**P**	**05 56 27.1**	**+0.5**
KDAK	**Kodiak Island**	**23.31**	**68**	P	**P**	**05 56 37.0**	**-2.0**
	comp=N,1μm,1.2s,SNR=8.5						
KDAK	**Kodiak Island**	**23.31**	**68**	P	**P**	**05 56 35.6**	**-3.4**
	comp=N,29nm,0.7s,mb4.8,baz=267,slow=10.0,SNR=12						
SLKM	**Skilak Lake**	**23.91**	**61**	P	**P**	**05 56 48.7**	**+4.0**
MCK	**McKinley**	**24.12**	**53**	P	**P**	**05 56 47.3**	**+0.6**
PMR	**Palmer**	**24.26**	**58**	*e*P	**P**	**05 56 48.1**	**+0.2**
PMR				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.0						
PMR	**Palmer**	**24.26**	**58**	*e*P	**P**	**05 56 48.1**	**+0.2**
	comp=Z,64nm,1.0s,mb5.0						
PMR				*e*sP	sP	05 56 59.6	+0.5
VLA	**Vladivostok**	**24.40**	**251**	⇓*e*P	**P**	**05 56 48.9**	**-0.3**
VLA				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.8						
COLA	**College**	**24.54**	**50**	*e*P	**P**	**05 56 50.5**	**+0.1**
COLA				*PP		05 56 57.1	
COLA				pmax	pmax		
	comp=Z,214nm,1.0s,mb5.6						
COLA	**College**	**24.54**	**50**	*e*P	**P**	**05 56 50.5**	**+0.1**
	comp=Z,214nm,1.0s,mb5.6						
COLA				pP		05 56 57.1	
COLA				*e*sP	sP	05 57 00.8	-0.8
SML	**Sawmill**	**24.61**	**57**	*e*P	**P**	**05 56 50.0**	**-1.1**
SML				*e**PP		05 56 56.7	
SML	**Sawmill**	**24.61**	**57**	*e*P	**P**	**05 56 50.0**	**-1.0**
SML				*e*pP		05 56 56.7	
SML				*e*sP	sP	05 57 00.2	-2.1
MDJ	**Mudanjiang**	**24.63**	**257**	P	**P**	**05 56 50.6**	**-0.7**
MDJ				AP		05 56 56.0	
MDJ				XP	sP	05 56 59.4	-3.1
MDJ				PCP	PcP	06 00 28.1	-0.3
MDJ				S	**S**	**06 01 10.8**	**-0.2**
MDJ				SCP	ScP	06 04 05.4	+0.1
MDJ				PCS	PcS	06 04 09.1	+0.7
MDJ				SCS	ScS	06 07 54.3	+1.1
MDJ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,230nm,14.2s						
MDJ				LR	LR		
	comp=N,11μm,16.1s,MS5.6						
MDJ				LR	LR		
	comp=E,11μm,17.6s,MS5.6						
MDJ				LR	LR		
	comp=Z,5μm,18.6s,MS5.1						
MDJ	**Mudanjiang**	**24.63**	**257**	*e*P	**P**	**05 56 49.1**	**-2.2**
	comp=Z,19nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**24.95**	**50**	P	**P**	**05 56 52.4**	**-1.8**
	comp=Z,8.4nm,0.8s,mb4.3,baz=267,slow=8.8,SNR=51						
ILAR				LR	LR	06 07 24.3	
	comp=Z,4μm,18.5s,MS4.9,baz=112,slow=38						
MAJO	**Matsushiro**	**26.34**	**233**	P	**P**	**05 57 06.8**	**0.0**
MAT	**Matsushiro**	**26.34**	**233**	P	**P**	**05 57 06.5**	**-0.3**
MAT				S	**S**	**06 01 37.0**	**-1.2**
MAT	**Matsushiro**	**26.34**	**233**	*e*P	**P**	**05 57 07.0**	**+0.2**
MAT				*e*S	**S**	**06 01 37.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.1						
MAT				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.2						
MAT	**Matsushiro**	**26.34**	**233**	*e*P	**P**	**05 57 07.0**	**+0.2**
	comp=Z,55nm,0.8s,mb5.1						
MAT				*e*S	**S**	**06 01 37.0**	**-1.2**
MAT				LR	LR		
	comp=Z,7μm,20.0s,MS5.2						
MJAR	**Matsushiro Arr**	**26.34**	**233**	P	**P**	**05 57 06.9**	**+0.1**
	comp=Z,32nm,0.6s,mb5.0,baz=30,slow=7.3,SNR=51						
MJAR				LR	LR	06 08 11.9	
	comp=Z,6μm,20.8s,MS5.1,baz=45,slow=38						
BOD	**Bodaibo**	**26.86**	**295**	*e*P	**P**	**05 57 10.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
CN2	**Changchun**	**27.43**	**260**	*e*P	**P**	**05 57 15.0**	**-1.6**
CN2				*e*AP	pP	05 57 24.1	-0.4
CN2				*e*XP	sP	05 57 27.6	-0.2
CN2				*e*S	**S**	**06 01 51.6**	**-3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,10μm,20.0s,MS5.5						
CN2				LR	LR		
	comp=E,8μm,20.0s,MS5.5						
CN2				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
JHJ	**Hachijo jima 2**	**28.60**	**226**	LR	LR	06 09 34.4	
	comp=Z,2μm,20.1s,MS4.7,baz=58,slow=38						
CIT	**Chita**	**29.42

MOY	**Mondy**	**36.31**	**290**	*e*P	**P**	**05 58 35.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**37.09**	**268**	⇓P	**P**	**05 58 41.1**	**0.0**
HHC				AP	pP	05 58 48.9	-0.3
HHC				XP	sP	05 58 52.5	0.0
HHC				PP	PP	06 00 09.2	+3.4
HHC				PCP	PcP	06 01 02.0	+0.8
HHC				S	**S**	**06 04 27.0**	**+1.5**
HHC				XS	sS	06 04 37.8	-1.0
HHC				SCP	ScP	06 04 46.2	-0.2
HHC				PCS	PcS	06 04 49.8	+0.3
HHC				SCS	ScS	06 08 50.7	-3.2
HHC				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,228nm,8.4s						
HHC				LR	LR		
	comp=N,15μm,16.8s,MS6.0						
HHC				LR	LR		
	comp=E,14μm,16.8s,MS6.0						
HHC				LR	LR		
	comp=Z,7μm,18.0s,MS5.5						
KRAR	**Krasnoyarsk**	**38.11**	**300**	*i* P	**P**	**05 58 49.6**	**-0.2**
BTO	**Baotou**	**38.12**	**269**	*e*P	**P**	**05 58 49.4**	**-0.4**
BTO				S	**S**	**06 04 37.9**	**-3.2**
BTO				LR	LR		
	comp=N,2μm,16.9s,MS5.5						
BTO				LR	LR		
	comp=E,5μm,15.7s,MS5.5						
SSE	**Sheshan**	**39.04**	**248**	P	**P**	**05 58 53.8**	**-3.7**
SSE				AP	pP	05 59 07.0	+1.4
SSE				S	**S**	**06 04 48.9**	**-6.1**
SSE				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.0						
SSE				AMB	AMB		
	comp=Z,424nm,4.1s						
SSE				LR	LR		
	comp=N,3μm,22.9s,MS5.2						
SSE				LR	LR		
	comp=E,3μm,22.9s,MS5.2						
SSE				LR	LR		
	comp=Z,2μm,20.5s,MS5.0						
JOW	**Kunigami**	**39.04**	**236**	P	**P**	**05 58 58.6**	**+1.0**
	comp=Z,26nm,0.5s,mb5.3,baz=30,slow=9.1,SNR=8.5						
YKA	**Yellowknife Ar**	**39.27**	**46**	P	**P**	**05 58 57.8**	**-1.6**
	comp=Z,5.6nm,0.6s,mb4.5,baz=300,slow=8.2,SNR=86						
YKA	**Yellowknife Ar**	**39.27**	**46**	*i* P	**P**	**05 58 57.7**	**-1.7**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YKA	**Yellowknife Ar**	**39.27**	**46**	P	**P**	**05 58 57.8**	**-1.6**
NJ2	**Nanjing**	**39.51**	**252**	*e*P	**P**	**05 59 02.4**	**+1.0**
NJ2				AP	pP	05 59 09.8	+0.3
NJ2				XP	sP	05 59 13.2	+0.4
NJ2				PP	PP	06 00 37.4	+5.1
NJ2				S	**S**	**06 05 02.0**	**-0.1**
NJ2				XS	sS	06 05 15.0	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,210nm,5.7s						
NJ2				LR	LR		
	comp=N,15μm,25.4s,MS5.8						
NJ2				LR	LR		
	comp=E,10μm,23.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,4μm,18.4s,MS5.3						
OCWA	**Octopus Mounta**	**43.05**	**70**	pP	pP	05 59 35.9	-2.7
WHN	**Wuhan**	**43.09**	**255**	*e*P	**P**	**05 59 31.2**	**+0.3**
WHN				S	**S**	**06 05 59.4**	**+4.2**
WHN				LR	LR		
	comp=Z,11μm,16.2s,MS5.8						
ZAL	**Zalesovo**	**43.13**	**302**	LR	LR	06 20 10.2	
	comp=Z,3μm,19.3s,MS5.1,baz=58,slow=40						
NVS	**Novosibirsk**	**43.33**	**304**	*i* P	**P**	**05 59 33.9**	**+1.1**
NVS				*e*		06 01 43.9	
NVS				pmax	pmax		
	comp=N,21nm,1.9s						
NVS				pmax	pmax		
	comp=Z,38nm,1.9s,mb4.8						
NVS				pmax	pmax		
	comp=E,35nm,2.0s						
CMW	**Cultus Mountai**	**43.69**	**68**	P	**P**	**05 59 37.4**	**+1.7**
JCW	**Jim Creek**	**43.94**	**68**	P	**P**	**05 59 37.9**	**+0.2**
RPW	**Rockport**	**43.99**	**67**	P	**P**	**05 59 37.9**	**-0.2**
KBS	**Kingsbay**	**44.10**	**353**	*e*P	**P**	**05 59 39.1**	**+0.2**
KBS				*e*S	**S**	**06 06 11.8**	**+1.9**
KBS				AMS	AMS	06 17 31.7	
	comp=Z,690nm,18.4s,MS4.6						
KBS	**Kingsbay**	**44.10**	**353**	*e*P	**P**	**05 59 40.6**	**+1.6**
KBS				LR	LR		
	comp=Z,690μm,18.4s						
KIP	**Kipapa**	**44.57**	**126**	*e*P	**P**	**05 59 43.1**	**+0.4**
KIP	**Kipapa**	**44.57**	**126**	pP	pP	05 59 56.1	+5.2
GTA	**Gaotai**	**44.63**	**276**	P	**P**	**05 59 42.4**	**-0.8**
GTA				AP	pP	05 59 49.9	-1.5
GTA				XP	sP	05 59 53.2	-1.5
GTA				PP	PP	06 01 25.9	-1.7
GTA				PCP	PcP	06 01 28.5	+2.8
GTA				SCP	ScP	06 05 17.1	+1.1
GTA				PCS	PcS	06 05 19.8	+0.7
GTA				S	**S**	**06 06 12.6**	**-5.1**
GTA				XS	sS	06 06 24.8	-6.3
GTA				SS	SS	06 09 21.6	-16
GTA				SCS	ScS	06 09 36.9	-2.2
GTA				AMB	AMB		
	comp=Z,277nm,5.7s						
GTA				LR	LR		
	comp=N,13μm,20.9s,MS6.0						
GTA				LR	LR		
	comp=E,12μm,22.1s,MS6.0						
GTA				LR	LR		
	comp=Z,6μm,22.9s,MS5.5						
LZH	**Lanzhou**	**44.74**	**270**	*e*P	**P**	**05 59 47.0**	**+2.9**
LZH				AP	pP	05 59 54.0	+1.7
LZH				XP	sP	05 59 57.0	+1.4
LZH				PP	PP	06 01 32.2	+3.4
LZH				S	**S**	**06 06 20.2**	**+0.9**
LZH				XS	sS	06 06 35.0	+2.3
LZH				SS	SS	06 09 29.0	-11
LZH				AMB	AMB		
	comp=Z,109nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,496nm,5.0s						
LZH				LR	LR		
	comp=N,8μm,15.9s						
LZH				LR	LR		
	comp=Z,10μm,16.3s,MS5.8						
LON	**Longmire**	**44.92**	**69**	P	pP	05 59 52.1	-1.7
LON	**Longmire**	**44.92**	**69**	pP	pP	05 59 52.0	-1.7
QZH	**Quanzhou**	**45.35**	**246**	*e*P	**P**	**05 59 49.0**	**0.0**
QZH				S	**S**	**06 06 28.7**	**+0.6**
QZH				LR	LR		
	comp=N,4μm,12.9s,MS5.6						
QZH				LR	LR		
	comp=E,3μm,12.8s,MS5.6						
QZH				LR	LR		
	comp=Z,5μm,15.3s,MS5.5						
EPH	**Ephrata**	**45.68**	**67**	P	**P**	**05 59 51.0**	**-0.6**
ENH	**Enshi**	**45.95**	**259**	*e*P	**P**	**05 59 53.2**	**-0.5**
	comp=Z,17nm,0.8s,mb5.0						
HAWA	**Hanford**	**46.35**	**68**	P	**P**	**05 59 57.7**	**+0.8**
HUMO	**Hull Mountain**	**47.08**	**74**	P	**P**	**06 00 03.1**	**+0.5**
DAG	**Danmarks Havn**	**47.27**	**1**	*i* P	**P**	**06 00 02.0**	**-2.0**
DAG	**Danmarks Havn**	**47.27**	**1**	*e*P	**P**	**06 00 02.0**	**-2.0**
KTRM	**Thompson Ridge**	**47.33**	**75**	P	**P**	**06 00 04.7**	**+0.2**
BJO	**Bjornoya**	**47.48**	**348**	AMS	AMS	06 18 14.9	
	comp=Z,1μm,23.1s,MS4.8						
BSMT	**Bassoo Peak**	**47.80**	**64**	P	**P**	**06 00 07.9**	**-0.2**
YBH	**Yreka Blue Hor**	**47.81**	**75**	P	**P**	**06 00 09.1**	**+0.8**
YBH				pmax	pmax		
	comp=Z,21nm,1.0s						
YBH	**Yreka Blue Hor**	**47.81**	**75**	P	**P**	**06 00 09.1**	**+0.8**
	comp=Z,21nm,1.0s,mb5.1						
KHMM	**Horse Mountain**	**47.86**	**77**	P	**P**	**06 00 11.1**	**+2.5**
KURK	**Kurchatov**	**48.11**	**302**	P	**P**	**06 00 10.6**	**0.0**
	comp=Z,83nm,0.9s,mb5.8,SNR=5.6						
KURK	**Kurchatov**	**48.11**	**302**	*e*P	**P**	**06 00 09.6**	**-1.0**
KURK				*e**PP	pP	06 00 17.5	-1.3
KURK				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.4						
KURK	**Kurchatov**	**48.11**	**302**	*e*P	**P**	**06 00 09.6**	**-1.0**
	comp=Z,41nm,1.0s,mb5.4						
KURK				*e*pP	pP	06 00 17.5	-1.3
WMQ	**Urumqi**	**48.18**	**289**	P	**P**	**06 00 13.4**	**+2.3**
WMQ				XP	sP	06 00 24.4	+1.8
WMQ				PP	PP	06 02 05.4	+1.9
WMQ				SCP	ScP	06 05 31.4	+0.5
WMQ				S	**S**	**06 07 11.4**	**+2.8**
WMQ				SS	SS	06 10 35.4	-2.5
WMQ				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,324nm,5.0s						
WMQ				LR	LR		
	comp=N,25μm,15.0s,MS6.4						
WMQ				LR	LR		
	comp=E,15μm,13.0s,MS6.4						
WMQ				LR	LR		
	comp=Z,7μm,12.0s,MS5.8						
BMO	**Blue Mountains**	**48.54**	**68**	P	**P**	**06 00 13.7**	**-0.1**
	comp=Z,16nm,1.1s,mb5.0						
CD2	**Chengdu**	**48.63**	**265**	*e*P	**P**	**06 00 14.4**	**-0.2**
CD2				AP	pP	06 00 21.9	-0.9
CD2				XP	sP	06 00 25.2	-0.9
CD2				PP	PP	06 02 06.6	-1.0
CD2				S	**S**	**06 07 12.4**	**-2.5**
CD2				SS	SS	06 10 37.2	-7.9
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
CD2				AMB	AMB		
	comp=Z,190nm,9.6s						
CD2				LR	LR		
	comp=E,5μm,18.0s						
CD2				LR	LR		
	comp=Z,3μm,15.6s,MS5.4						
WDC	**Whiskeytown Da**	**48.71**	**76**	P	**P**	**06 00 16.7**	**+1.5**
KIPM	**Iron Peak**	**48.74**	**78**	*e*P	**P**	**06 00 15.9**	**+0.5**
KIPM				pP	pP	06 00 22.6	-1.1
KIPM				*es*P	sP	06 00 26.6	-0.3
KIPM				*e*		06 02 23.3	
MSO	**Missoula**	**48.91**	**64**	P	**P**	**06 00 16.4**	**-0.4**
MK31	**Makanchi Array**	**48.95**	**296**	*i* P	**P**	**06 00 16.6**	**-0.4**
MK31				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**48.95**	**296**	P	**P**	**06 00 16.1**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.5,baz=49,slow=7.1,SNR=59						
MKAR				LR	LR	06 21 59.8	
	comp=Z,2μm,19.4s,MS5.2,baz=40,slow=37						
MKAR	**Makanchi Array**	**48.95**	**296**	*i* P	**P**	**06 00 16.6**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,17nm,1.1s						
MOD	**Modoc**	**48.99**	**73**	P	**P**	**06 00 17.3**	**-0.1**
	comp=Z,9.3nm,0.6s,mb5.0						
FFC	**Flin Flon**	**49.16**	**50**	*e*P	**P**	**06 00 17.1**	**-1.6**
FFC				*e**PP	pP	06 00 25.3	-1.6
FFC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
FFC	**Flin Flon**	**49.16**	**50**	*e*P	**P**	**06 00 17.1**	**-1.6**
	comp=Z,13nm,1.0s,mb4.9						
FFC				*e*pP	pP	06 00 25.3	-1.6
FFC				*es*P	sP	06 00 28.5	-1.7
WVOR	**Wild Horse Val**	**49.51**	**72**	*e*P	**P**	**06 00 20.6**	**-0.7**
WVOR				*e**PP	pP	06 00 28.1	-1.5
WVOR				*e*		06 01 48.1	
WVOR				*e*		06 02 21.1	
WVOR				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
WVOR	**Wild Horse Val**	**49.51**	**72**	*e*P	**P**	**06 00 20.6**	**-0.7**
	comp=Z,45nm,1.1s,mb5.4						
WVOR				*e*pP	pP	06 00 28.1	-1.4
WVOR				*es*P	sP	06 00 32.1	-0.7
WVOR				*e*PcP	PcP	06 01 48.1	+5.2
WVOR				*e*		06 02 21.1	
HRY	**Holter Researc**	**50.05**	**63**	P	**P**	**06 00 25.8**	**+0.3**
NSHM	**Saint Helena R**	**50.13**	**78**	*e*P	**P**	**06 00 26.1**	**0.0**
NSHM				*es*P	sP	06 00 37.3	-0.3
OHCM	**Honcut**	**50.16**	**77**	P	**P**	**06 00 27.0**	**+0.7**
VOSK	**Vostochnaya**	**50.26**	**308**	P	**P**	**06 00 25.6**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BVA0	**Borovoye Array**	**50.31**	**308**	*i* P	**P**	**06 00 25.8**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.31**	**308**	P	**P**	**06 00 26.6**	**-0.8**
	comp=Z,23nm,0.7s,mb5.3,baz=58,slow=8.3,SNR=60						
BRVK	**Borovoye**	**50.33**	**309**	P	**P**	**06 00 26.7**	**-0.8**
	comp=Z,285nm,0.6s,SNR=26						
BRVK	**Borovoye**	**50.33**	**309**	*e*P	**P**	**06 00 26.7**	**-0.8**
BRVK				*e**PP	pP	06 00 34.1	-1.7
BRVK				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3						
BRVK	**Borovoye**	**50.33**	**309**	*e*P	**P**	**06 00 26.7**	**-0.8**
	comp=Z,21nm,0.7s,mb5.3						
BRVK				*e*pP	pP	06 00 34.1	-1.7
BRVK				*es*P	sP	06 00 36.5	-2.6
LRM	**Limekiln Ridge**	**50.36**	**64**	P	**P**	**06 00 28.0**	**+0.2**
SUMG	**Summit**	**50.54**	**9**	*e*P	**P**	**06 00 29.4**	**+0.2**
	comp=Z,52nm,1.0s,mb5.4						
SUMG				*e*		06 00 40.2	
KEV	**Kevo**	**50.59**	**342**	*e*p	**P**	**06 00 29.3**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.0						
KEV	**Kevo**	**50.59**	**342**	*e*P	**P**	**06 00 29.3**	**-0.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
DLMT	**Dillon**	**50.60**	**65**	*e*P	**P**	**06 00 30.4**	**+0.8**
	comp=Z,69nm,1.2s,mb5.5						
LVZ	**Lovozero**	**50.72**	**338**	*i* P	**P**	**06 00 35.9**	**+5.4**
LVZ				*i* S	**S**	**06 07 38.4**	**-5.7**
LVZ				MLR	MLR		
	comp=Z,3μm,24.0s,MS5.3						
LVZ				MLR	MLR		
	comp=N,4μm,23.0s,MS5.4						
LVZ				MLR	MLR		
	comp=E,3μm,23.0s,MS5.4						
MCMT	**McKenzie Canyo**	**50.85**	**66**	*e*P	**P**	**06 00 30.7**	**-0.8**
BOZ	**Bozeman (W)**	**50.89**	**64**	P	**P**	**06 00 31.8**	**0.0**
HLID	**Hailey**	**50.93**	**68**	P	**P**	**06 00 31.4**	**-0.7**
SOKR	**Solikamsk**	**51.03**	**321**	⇑*i* P	**P**	**06 00 32.9**	**+0.1**
SOKR				S	**S**	**06 07 48.8**	**+0.4**
SOKR				SS	SS	06 11 23.1	-0.4
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,4μm,23.0s,MS5.4						
ARCES	**ARCESS Array B**	**51.03**	**343**	P	**P**	**06 00 32.3**	**-0.6**
	comp=Z,5.9nm,0.8s,mb4.6,baz=18,slow=12,SNR=8.3						
ARCES				LR	LR	06 26 39.2	
	comp=Z,2μm,18.5s,MS5.1,baz=263,slow=41						
ARCES	**ARCESS Array B**	**51.03**	**343**	P	**P**	**06 00 32.3**	**-0.6**
ARCES				LR	LR	06 26 39.1	
APA	**Apatity**	**51.25**	**338**⇑	*e*P	pP	06 00 44.0	+1.2
APA				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.5						
APA				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.5						
QLMT	**Earthquake Lak**	**51.56**	**65**	P	**P**	**06 00 37.3**	**+0.5**
CMB	**Columbia Colle**	**51.70**	**77**	P	**P**	**06 00 38.4**	**+0.6**
CMB				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.3						
CMB	**Columbia Colle**	**51.70**	**77**	P	**P**	**06 00 41.5**	**+3.7**
WAKR	**Walker**	**51.87**	**76**	P	**P**	**06 00 39.3**	**+0.2**
TRO	**Tromso**	**51.96**	**345**	AMS	AMS	06 21 55.1	
	comp=Z,714nm,20.8s,MS4.7						
SAO	**San Andreas Ge**	**52.04**	**79**	P	pP	06 00 47.3	-1.4
SAO	**San Andreas Ge**	**52.04**	**79**	pP	pP	06 00 47.3	-1.3
YFT	**Old Faithful**	**52.13**	**65**	P	**P**	**06 00 42.8**	**+1.8**
LKWY	**Lake**	**52.27**	**64**	P	**P**	**06 00 43.7**	**+1.6**
LKWY				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
LKWY	**Lake**	**52.27**	**64**	P	**P**	**06 00 43.7**	**+1.6**
	comp=Z,11nm,0.8s,mb4.8						
FLWY	**Flagg Ranch**	**52.46**	**65**	*e*P	**P**	**06 00 43.8**	**+0.3**
	comp=Z,79nm,1.0s,mb5.6						
DGMT	**Dagmar**	**52.52**	**57**	P	**P**	**06 00 44.1**	**+0.2**
LRV	**Little Rabbit**	**52.52**	**79**	*e*P	**P**	**06 00 45.4**	**+1.5**
NVAR	**Mina Array Bea**	**52.54**	**75**	P	**P**	**06 00 44.0**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=294,slow=7.6,SNR=36						
NVAR				LR	LR	06 20 49.6	
	comp=Z,525nm,20.8s,MS4.6,baz=340,slow=34						
MNV	**Mina**	**52.62**	**75**	*e*P	**P**	**06 00 44.2**	**-0.4**
MNV				*e**PP	pP	06 00 51.3	-1.7
MNV				pmax	pmax		
	comp=Z,181nm,1.8s,mb5.7						
MNV	**Mina**	**52.62**	**75**	*e*P	**P**	**06 00 44.2**	**-0.4**
	comp=Z,181nm,1.8s,mb5.7						
MNV				*e*pP	pP	06 00 51.3	-1.6
MNV				*es*P	sP	06 00 55.9	-0.2
MOOW	**Moose Ponds**	**52.68**	**65**	P	**P**	**06 00 44.8**	**-0.3**
ARU	**Arti**	**52.69**	**318**⇑	*i* P	**P**	**06 00 44.4**	**-0.8**
ARU				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
ARU				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.5						
ARU	**Arti**	**52.69**	**318**	P	**P**	**06 00 44.6**	**-0.6**
	comp=Z,21nm,0.8s,mb5.1						
LAO	**LASA Array**	**52.82**	**60**	*e*P	**P**	**06 00 45.6**	**-0.6**
	comp=Z,105nm,1.2s,mb5.6						
LAO				*e*pP	pP	06 00 53.0	-1.5
LAO				*es*P	sP	06 00 57.2	-0.5
LOHW	**Long Hollow**	**52.85**	**65**	P	**P**	**06 00 46.1**	**-0.2**
SNOW	**Snow King Moun**	**52.88**	**65**	P	**P**	**06 00 47.6**	**+1.0**
REDW	**Red Top Meadow**	**52.90**	**66**	P	**P**	**06 00 47.3**	**+0.6**
HVU	**Hansel Valley**	**53.05**	**68**	P	**P**	**06 00 49.3**	**+1.5**
AHID	**Auburn Hatcher**	**53.20**	**66**	*e*P	**P**	**06 00 47.5**	**-1.5**
	comp=Z,17nm,0.9s,mb5.0						
TPH	**Tonopah**	**53.38**	**75**	P	**P**	**06 00 51.4**	**+1.1**
TPH				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.5						
TPH	**Tonopah**	**53.38**	**75**	P	**P**	**06 00 51.3**	**+1.0**
	comp=Z,26nm,0.9s,mb5.2						
SPUT	**South Promonto**	**53.56**	**68**	P	**P**	**06 00 53.3**	**+1.7**
KMI	**Kunming**	**53.68**	**261**	P	**P**	**06 00 55.4**	**+2.9**
KMI				AP	pP	06 01 02.9	+2.1
KMI				XP	sP	06 01 05.9	+1.9
KMI				PCP	PcP	06 02 02.6	+4.1
KMI				PP	PP	06 02 57.3	+3.9
KMI				SCP	ScP	06 05 57.1	+2.6
KMI				PCS	PcS	06 06 00.0	+2.3
KMI				S	**S**	**06 08 24.5**	**-0.2**
KMI				XS	sS	06 08 37.1	-1.3
KMI				SCS	ScS	06 10 40.0	-0.1
KMI				SS	SS	06 12 03.9	-1.5
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,275nm,4.6s						
KMI				LR	LR		
	comp=N,7μm,19.5s,MS5.8						
KMI				LR	LR		
	comp=E,6μm,20.5s,MS5.8						
KMI				LR	LR		
	comp=Z,4μm,19.8s,MS5.5						
HWUT	**Hardware Ranch**	**53.80**	**68**	P	**P**	**06 00 53.1**	**-0.2**
	comp=Z,8.3nm,0.8s,mb4.7						
BW06	**Boulder Array**	**53.99**	**65**	*e*P	**P**	**06 00 54.1**	**-0.6**
	comp=Z,40nm,0.9s,mb5.3						
BW06				*e*		06 01 05.5	
PDAR	**Pinedale Array**	**53.99**	**65**	P	**P**	**06 00 54.0**	**-0.7**
	comp=Z,11nm,0.8s,mb4.8,baz=326,slow=5.3,SNR=44						
PDAR				LR	LR	06 25 11.0	
	comp=Z,2μm,19.3s,MS5.2,baz=210,slow=38						
DUG	**Dugway**	**54.18**	**70**	*e*P	**P**	**06 00 56.2**	**+0.1**
DUG				*PP	pP	06 01 04.6	+0.2
DUG				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
DUG	**Dugway**	**54.18**	**70**	*e*P	**P**	**06 00 56.2**	**+0.1**
	comp=Z,22nm,0.9s,mb5.1						
DUG				pP	pP	06 01 04.6	+0.2
DUG				*es*P	sP	06 01 07.3	-0.4
NOQ	**North Oquirrh**	**54.20**	**69**	pP	pP	06 01 05.7	+1.1
TCUT	**Toone Canyon**	**54.23**	**68**	P	**P**	**06 01 00.2**	**+3.7**
SFJD	**Kangerlussuaq**	**54.38**	**16**	*i* P	**P**	**06 01 02.8**	**+5.2**
SFJD				*e*S	**S**	**06 08 28.0**	**-6.2**
SFJD							
	comp=Z,2μm,20.0s						
SFJD	**Kangerlussuaq**	**54.38**	**16**	*e*P	**P**	**06 01 02.8**	**+5.2**
SFJD				*e*S	**S**	**06 08 28.0**	**-6.2**
SFJD				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
ISA	**Isabella**	**54.47**	**77**	P	**P**	**06 00 58.9**	**+0.6**
ISA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
ISA	**Isabella**	**54.47**	**77**	P	**P**	**06 00 58.9**	**+0.7**
	comp=Z,13nm,1.1s,mb4.8						
DAC	**Darwin (Calif)**	**54.50**	**76**	P	**P**	**06 00 59.0**	**+0.6**
DAC				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
DAC	**Darwin (Calif)**	**54.50**	**76**	P	**P**	**06 00 59.0**	**+0.5**
	comp=Z,9.9nm,0.9s,mb4.7						
NLU	**North Lily Min**	**54.74**	**69**	P	**P**	**06 00 59.5**	**-0.7**
QIZ	**Qiongzhong**	**54.77**	**250**	*e*P	**P**	**06 01 02.8**	**+2.4**
QIZ				S	**S**	**06 08 42.9**	**+3.6**
QIZ				AMB	AMB		
	comp=Z,23nm,1.6s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,339nm,8.3s						
QIZ				LR	LR		
	comp=N,3μm,23.4s,MS5.4						
QIZ				LR	LR		
	comp=E,3μm,21.1s,MS5.4						
QIZ				LR	LR		
	comp=Z,4μm,14.8s						
DAU	**Daniels Canyon**	**54.83**	**68**	P	**P**	**06 01 04.2**	**+3.4**
MPU	**Maple Canyon**	**54.92**	**69**	P	**P**	**06 01 03.7**	**+2.1**
ULM	**Lac du Bonnet**	**54.97**	**51**	P	**P**	**06 01 00.1**	**-1.8**
	comp=Z,14nm,0.9s,mb5.0,baz=314,slow=8.2,SNR=20						
KLMR	**Klimovskoe**	**55.41**	**331**	*e*P	**P**	**06 01 04.7**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.4						
KLMR				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.4						
FRU	**Bishkek**	**55.60**	**297**	*e*P	**P**	**06 01 08.5**	**+2.1**
FRU				pmax	pmax		
	comp=Z,140nm,2.2s,mb5.6						
SHPR	**Sheep Range**	**55.64**	**74**	P	**P**	**06 01 08.1**	**+1.4**
GSC	**Goldstone**	**55.65**	**77**	P	**P**	**06 01 07.3**	**+0.5**
TMUT	**Trail Mountain**	**55.67**	**69**	P	**P**	**06 01 07.7**	**+0.7**
JOF	**Joensuu**	**55.70**	**336**	*e*p	**P**	**06 01 07.8**	**+0.7**
	comp=Z,4.4nm,0.5s,mb4.7						
MVU	**Marysvale**	**55.73**	**71**	P	**P**	**06 01 08.9**	**+1.5**
	comp=Z,33nm,1.1s,mb5.3						
RSSD	**Black Hills**	**55.74**	**61**	*e*P	**P**	**06 01 06.7**	**-0.7**
RSSD				*PP	pP	06 01 14.8	-1.0
RSSD				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.4						
RSSD	**Black Hills**	**55.74**	**61**	*e*P	**P**	**06 01 06.7**	**-0.8**
	comp=Z,35nm,0.9s,mb5.4						
RSSD				pP	pP	06 01 14.8	-1.0
RSSD				*es*P	sP	06 01 18.2	-0.8
MSU	**Marysvale**	**55.75**	**71**	P	**P**	**06 01 09.0**	**+1.6**
MWC	**Mount Wilson**	**55.77**	**78**	P	**P**	**06 01 09.3**	**+1.7**
AAK	**Ala-Archa**	**55.81**	**297**	P	**P**	**06 01 07.5**	**-0.4**
	comp=

comp=Z,2.0nm,0.5s,mb4.4
BAR Barrett 57.70 79 pP pP 06 01 29.4 -0.3
NSS Namsos 57.71 346 AMS AMS 06 27 24.0
comp=Z,979nm,21.5s,MS4.9
PECR Pechory 57.82 325 *e*P **P** **06 01 28.0 +5.8**
SMCO Snowmass 57.95 66 *e*P **P** **06 01 23.1 0.0**
comp=Z,43nm,1.1s,mb5.4
SMCO *e*pP pP 06 01 31.7 +0.2
SMCO *e*sP sP 06 01 35.0 +0.3
FINES FINESS Array B 58.16 338 P **P** **06 01 23.0 -1.6**
comp=Z,3.8nm,0.7s,mb4.5,baz=27,slow=8.5,SNR=13
FINES LR LR 06 28 12.7
comp=Z,2µm,20.7s,MS5.2,baz=228,slow=38
FINES FINESS Array B 58.16 338 *i* P **P** **06 01 25.0 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.7s
ISCO Idaho Springs 58.18 65 *e*P **P** **06 01 25.3 +0.6**
ISCO pmax pmax
comp=Z,106nm,1.4s,mb5.7
ISCO Idaho Springs 58.18 65 *e*P **P** **06 01 25.3 +0.6**
comp=Z,106nm,1.4s,mb5.7
WUAZ Wupatki 58.41 72 *e*P **P** **06 01 28.4 +2.1**
comp=Z,38nm,1.2s,mb5.3
WUAZ pP pP 06 01 35.2 +0.5
WUAZ *e*sP sP 06 01 38.8 +0.9
EYMN Ely 58.60 50 *e*P **P** **06 01 26.8 -0.8**
comp=Z,35nm,0.9s,mb5.4
SHL Shillong 59.38 271 *e*P **P** **06 01 33.5 +0.5**
CHRT Chiangrai 59.51 260 ⇓P **P** **06 01 34.0 +0.1**
SDCO Great Sand Dun 59.79 67 *e*P **P** **06 01 35.3 -0.6**
comp=Z,22nm,1.2s,mb5.1
SDCO *e*pP pP 06 01 44.4 +0.1
SDCO *e*sP sP 06 01 47.4 -0.1
MOS Moscow 60.28 328 *e*P **P** **06 01 45.4 +6.2**
MOS pmax pmax
comp=Z,33nm,1.1s,mb5.3
VSU Vasula 60.71 336⇑ *e*P **P** **06 01 40.9 -1.2**
GUN Gumba 60.89 277 *e*P **P** **06 01 43.6 +0.2**
comp=Z,80nm,0.6s,mb6.0
JIRN Jiri 60.92 277 *e*P **P** **06 01 42.6 -1.0**
comp=Z,78nm,1.1s,mb5.8
OBN Obninsk 61.12 329⇑ *e*P **P** **06 01 43.6 -1.4**
OBN *e* 06 02 25.9
OBN *e* 06 05 30.6
OBN *i* S **S** **06 10 03.6 +1.1**
OBN *e*SS SS 06 14 06.9 +4.4
OBN pmax pmax
comp=Z,12nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,2µm,17.0s,MS5.2
NB2 NORSAR Subarra 61.16 345 P **P** **06 01 43.9 -1.3**
comp=Z,7.4nm,0.5s,mb5.1,baz=17,slow=6.9
NOA NORSAR Array B 61.16 345 P **P** **06 01 43.8 -1.4**
comp=Z,9.1nm,0.6s,mb5.1,baz=18,slow=6.8,SNR=37
NOA LR LR 06 32 52.4
comp=Z,956nm,18.9s,MS5.0,baz=355,slow=41
TUC Tucson 61.17 74 *e*P **P** **06 01 46.3 +1.0**
TUC *PP pP 06 01 52.1 -1.7
TUC pmax pmax
comp=Z,61nm,2.0s,mb5.4
TUC Tucson 61.17 74 *e*P **P** **06 01 46.3 +1.0**
comp=Z,61nm,2.0s,mb5.4
TUC pP pP 06 01 52.1 -1.6
TUC *e*sP sP 06 01 56.9 -0.1
KKN Kakani 61.32 278 *e*P **P** **06 01 45.6 -0.7**
comp=Z,55nm,0.6s,mb5.8
KKN Kakani 61.32 278 *e*P **P** **06 01 45.6 -0.7**
KKN pmax pmax
comp=Z,27nm,0.6s,mb5.5
PKI Pulchoki 61.42 277 *e*P **P** **06 01 46.3 -0.7**
comp=Z,111nm,1.0s,mb5.9
PKI Pulchoki 61.42 277 *e*P **P** **06 01 46.3 -0.7**
PKI pmax pmax
comp=Z,55nm,1.0s,mb5.6
ANMO Albuquerque 61.44 69 *e*P **P** **06 01 47.3 +0.2**
ANMO *e**PP pP 06 01 53.9 -1.6
ANMO pmax pmax
comp=Z,25nm,1.3s
ANMO Albuquerque 61.44 69 *e*P **P** **06 01 47.3 +0.2**
comp=Z,25nm,1.3s,mb5.2
ANMO *e*pP pP 06 01 53.9 -1.7
ANMO *e*sP sP 06 01 57.6 -1.1
LAZ Ladron 61.50 70 *e*P **P** **06 01 47.5 0.0**
LAZ *e*pP pP 06 01 55.0 -1.0
LAZ *e*pP pP 06 01 59.5 +3.6
GKN Gorkha 61.51 278 *e*P **P** **06 01 46.8 -0.8**
comp=Z,132nm,1.1s,mb6.0
DMN Daman 61.56 278 *e*P **P** **06 01 47.4 -0.5**
comp=Z,66nm,0.9s,mb5.8
HFS Hagfors 61.66 344 P **P** **06 01 47.3 -1.3**
comp=Z,9.6nm,0.6s,mb5.1,baz=27,slow=3.3,SNR=36
SCHQ Schefferville 61.76 31 P **P** **06 01 47.8 -1.5**
comp=Z,7.3nm,0.7s,mb4.9,baz=346,slow=7.7,SNR=16
SCHQ LR LR 06 32 59.6
comp=Z,2µm,18.8s,MS5.2,baz=130,slow=40
LENM Lemitar 61.77 70 *e*P **P** **06 01 50.3 +1.0**
LENM *e* 06 02 01.5
LPM Los Pinos Moun 61.84 70 *e*P **P** **06 01 48.3 -1.5**
LPM pP pP 06 01 56.5 -1.8
LPM pP pP 06 01 56.9 -1.3
LPM sP sP 06 01 59.5 -1.9
CBKS Cedar Bluff 61.87 62 *e*P **P** **06 01 49.3 -0.7**
CBKS pmax pmax
comp=Z,37nm,1.1s,mb5.4
CBKS Cedar Bluff 61.87 62 *e*P **P** **06 01 49.3 -0.7**
comp=Z,37nm,1.1s,mb5.4
KOLN Koldanda 62.26 279 *e*P **P** **06 01 52.0 -0.6**
comp=Z,72nm,0.9s,mb5.8
BER Bergen 62.54 348 *e*S **S** **06 10 25.9 +5.4**
BER AMS AMS 06 33 20.6
comp=Z,1000nm,18.9s,MS5.0
KKM Kota Kinabalu 62.69 236 P **P** **06 01 56.9 +1.4**
KONO Kongsberg 62.73 346 *e*P **P** **06 01 55.7 0.0**
KONO Kongsberg 62.73 346 *e*P **P** **06 01 54.6 -1.1**
KONO LR LR
comp=Z,144µm,19.6s
NST Nakhon Sawan 62.73 257 P **P** **06 01 45.5 -10**
KSU1 Kansas State U 63.17 59 *e*P **P** **06 01 56.0 -2.6**
VRSR Storozhevoye 63.69 325 *e*P **P** **06 02 01.3 -0.8**
VRSR *e* 06 02 35.8
VRSR *e*S **S** **06 10 28.2 -6.5**
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.9s
VRSR smax
comp=N,40nm,4.2s
VRSR smax
comp=E,20nm,4.2s
VRSR smax
comp=Z,10.0nm,3.7s
VRSR MLR MLR
comp=Z,420nm,20.0s,MS4.6
VRSR MLR MLR
comp=N,230nm,17.0s,MS4.5
VRSR MLR MLR
comp=E,140nm,15.0s,MS4.5
CAL Calcutta 63.75 272 *e*x x 06 02 06.4
CAL *e*x x 06 03 37.7
MNK Minsk 64.03 333 *e*P **P** **06 02 10.0 +5.6**
BOK Bokaro 64.12 274 *e*P **P** **06 02 04.5 -0.4**
BOK AMb AMB 06 02 19.9
comp=Z,43nm,1.6s,mb5.2
MNTX Cornudas Mount 64.53 71 *e*P **P** **06 02 07.5 -0.1**
comp=Z,25nm,1.1s,mb5.2
MNTX *e*pP pP 06 02 14.5 -1.6
MNTX *e*sP sP 06 02 17.9 -1.4
MNTX *e*PP PP 06 04 37.9 +8.2
GDL2 Guadalupe Moun 64.67 70 P **P** **06 02 08.6 0.0**
SONA Sohna 65.45 284 *e*P **P** **06 02 13.7 +0.1**
HNR Honiara 65.50 185 LR LR 06 31 56.2
comp=Z,2µm,18.4s,MS5.3,baz=0.3,slow=37
WMOK Wichita Mounta 65.54 64 *e*P **P** **06 02 13.3 -0.9**
WMOK pmax pmax
comp=Z,29nm,1.0s,mb5.3
WMOK Wichita Mounta 65.54 64 *e*P **P** **06 02 13.2 -0.9**
comp=Z,29nm,1.0s,mb5.3
KUDL Kundal 65.86 285 *e*P **P** **06 02 15.9 -0.3**
KUDL AMb AMB 06 02 27.5
comp=Z,41nm,1.3s,mb5.3
KHET Khetri 66.28 285 *e*P **P** **06 02 19.5 +0.5**
KHET AMb AMB 06 02 31.1
comp=Z,19nm,1.6s,mb4.9

PMG Port Moresby 66.89 198 LR LR 06 29 05.5
comp=Z,1µm,18.8s,MS5.1,baz=232,slow=34
AKASG Malin Array Be 67.10 331 P **P** **06 02 22.9 -1.3**
comp=Z,5.9nm,0.7s,mb4.8,baz=27,slow=6.1,SNR=17
AKASG Malin Array Be 67.10 331 *i* P **P** **06 02 23.7 -0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
TXAR Lajitas Array 67.30 71 P **P** **06 02 24.9 -0.5**
comp=Z,9.5nm,0.7s,mb5.0,baz=302,slow=4.4,SNR=72
TXAR LR LR 06 35 17.2
comp=Z,1µm,18.2s,MS5.2,baz=280,slow=39
GOF Gofitskoye 67.65 319 *e*P **P** **06 02 35.6 +7.9**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.6
AJM Ajmer 68.17 285 *e*P **P** **06 02 29.7 -1.2**
AJM AMb AMB 06 02 54.1
comp=Z,39nm,1.2s,mb5.3
MIAR Mount Ida 68.26 60 *e*P **P** **06 02 31.2 -0.3**
MIAR pmax pmax
comp=Z,53nm,1.3s,mb5.4
MIAR Mount Ida 68.26 60 *e*P **P** **06 02 31.2 -0.3**
comp=Z,53nm,1.3s,mb5.4
EKA Eskdalemuir Ar 68.33 352 P **P** **06 02 30.9 -1.0**
comp=Z,6.6nm,0.7s,mb4.8,baz=18,slow=5.6,SNR=26
PARMO Parma 68.36 56 *e*P **P** **06 02 31.3 -0.8**
JCT Junction City 68.40 67 *e*P **P** **06 02 31.2 -1.2**
JCT *e**PP pP 06 02 39.7 -1.2
JCT pmax pmax
comp=Z,31nm,1.0s,mb5.3
JCT Junction City 68.40 67 *e*P **P** **06 02 31.2 -1.2**
comp=Z,31nm,1.0s,mb5.3
JCT *e*pP pP 06 02 39.7 -1.3
JCT *e*sP sP 06 02 42.8 -1.3
KIV Kislovodsk 68.72 319 *e*P **P** **06 02 29.2 -5.2**
KIV *e*S S 06 11 27.7 -8.2
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KSM Kuching 69.49 240 *e*P **P** **06 02 40.1 +1.0**
WVT Waverly 69.68 55 *e*P **P** **06 02 39.6 -0.7**
WVT *e**PP pP 06 02 48.0 -0.9
WVT *e* 06 05 17.5
WVT pmax pmax
comp=Z,18nm,1.0s,mb5.0
WVT Waverly 69.68 55 *e*P **P** **06 02 39.6 -0.8**
comp=Z,18nm,1.0s,mb5.0
WVT *e*pP pP 06 02 48.0 -0.9
WVT *e*sP sP 06 02 51.0 -1.0
WVT *e*PP PP 06 05 17.5 +2.9
KWP Kalwaria 69.76 334 *e*P **P** **06 02 40.4 -0.4**
KWP *e**PP pP 06 02 49.2 -0.2
KWP pmax pmax
comp=Z,62nm,1.1s,mb5.5
KWP Kalwaria 69.76 334 *e*P **P** **06 02 40.4 -0.4**
comp=Z,62nm,1.1s,mb5.5
KWP *e*pP pP 06 02 49.2 -0.2
KWP *e*sP sP 06 02 52.7 +0.1
ANN Anapa 69.85 323 *e*P **P** **06 02 39.7 -1.7**
ANN *e* pP 06 02 49.6 -0.3
ANN *e*S S 06 11 43.3 -5.9
ANN pmax pmax
comp=Z,33nm,1.1s,mb5.2
ANN MLR MLR
comp=N,5µm,21.0s,MS5.8
ANN MLR MLR
comp=E,4µm,21.0s,MS5.8
ANN MLR MLR
comp=Z,3µm,21.0s,MS5.5
OJC Ojcow 69.89 337 *e*P **P** **06 02 40.6 -1.0**
OJC *e*PP PP 06 05 09.6 -6.7
OJC *e*S S 06 11 53.8 +4.1
OJC *e*SS SS 06 16 21.7 +3.0
OJC L 06 37 03.5
comp=Z,11nm,18.0s
NGP Nagpur 70.02 278 *e*P **P** **06 02 41.6 -0.8**
NGP AMb AMB 06 02 44.0
comp=Z,28nm,1.3s,mb5.0
KSP Ksiaz 70.04 339 *e*P **P** **06 02 42.5 0.0**
KSP *e*S S 06 11 49.0 -2.5
KSP *e*SS SS 06 16 24.0 +2.9
KSP MLR MLR
comp=Z,5µm,21.0s,MS5.7
SOC Sochi 70.12 320 *e*P **P** **06 02 47.4 +4.4**
SOC *e* 06 05 25.9
SOC *e*S S 06 11 53.7 +1.3
SOC *e**SS sS 06 12 15.4 +8.9
SOC *e*SSS 06 19 29.6
SOC MLR MLR
comp=Z,3µm,18.0s,MS5.6
CLL Collm 70.22 341 *e*P **P** **06 02 45.3 +1.7**
comp=Z,7.0nm,1.3s,mb4.4
CLL *e*pP pP 06 02 51.1 -1.1
CLL *e*sP sP 06 02 55.3 -0.1
CLL *e*S S 06 11 56.5 +2.9
CLL *e*SS SS 06 16 36.4 +13
CLL *e*SSS 06 19 54.6
CLL *e*LR LR 06 25 09.0
CLL *e*L 06 36 23.2
comp=Z,895nm,20.0s
CLL Collm 70.22 341 ⇓ *i*P **P** **06 02 45.4 +1.8**
comp=Z,12nm,1.0s,mb4.8
CLL *e*sP sP 06 02 55.0 -0.4
CLL *e*S S 06 11 55.0 +1.4
CLL *e*SS SS 06 16 36.0 +12
CLL *e*SSS 06 19 54.0
CLL *e*PKPPKPdf 06 30 46.0
CLL L 06 36 00.0
comp=Z,1µm,20.7s
CLL Collm 70.22 341 ⇓ *i*P **P** **06 02 45.4 +1.8**
CLL *e*S S 06 11 55.0 +1.4
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL MLR MLR
comp=Z,1µm,20.7s,MS5.2
CLL Collm 70.22 341 ⇓ *i*P **P** **06 02 45.4 +1.8**
comp=Z,12nm,1.0s,mb4.8
CLL *e*S S 06 11 55.0 +1.4
CLL LR LR
comp=Z,1µm,20.7s,MS5.2
OXF Oxford 70.28 57 *e*P **P** **06 02 42.9 -1.1**
OXF *e**PP pP 06 02 51.8 -0.8
OXF *e* 06 05 20.4
OXF pmax pmax
comp=Z,49nm,1.0s,mb5.4
OXF Oxford 70.28 57 *e*P **P** **06 02 42.9 -1.2**
comp=Z,49nm,1.0s,mb5.4
OXF *e*pP pP 06 02 51.8 -0.8
OXF *e*PP PP 06 05 20.4 +0.7
STHS Stebnicka Huta 70.31 335 *e*P **P** **06 02 45.2 +1.0**
VIS Vishakhapatnam 70.39 273 *e*P **P** **06 02 45.2 +0.5**
VIS AMb AMB 06 02 57.0
comp=Z,35nm,1.4s,mb5.1
UPC Upice 70.41 339 *e*P **P** **06 02 45.8 +1.0**
BRG Berggiesshubel 70.46 341 *e*P **P** **06 02 47.6 +2.5**
comp=Z,1.7nm,0.9s,mb4.0
BRG S S 06 12 01.0 +4.6
BRG SS SS 06 16 30.0 +2.4
BRG
comp=N,1µm,17.9s
BRG
comp=E,920nm,13.8s
BRG
comp=Z,2µm,15.3s
BRG Berggiesshubel 70.46 341 *e*P **P** **06 02 47.6 +2.5**
BRG S S 06 12 01.0 +4.6
BRG SS SS 06 16 30.0 +2.4
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG MLR MLR
comp=Z,2µm,15.3s,MS5.4
DPC Dobruska-Polom 70.50 339 *e*P **P** **06 02 45.2 -0.2**
DPC *e*pP pP 06 02 53.5 -0.4
DPC AMS AMS 06 34 30.0
comp=Z,2µm,21.5s
PLAL Pickwick Lake 70.51 56 *e*P **P** **06 02 43.6 -1.9**
comp=Z,27nm,0.8s,mb5.2
KOLS Kolonicke sedl 70.52 334 *e*P **P** **06 02 45.6 +0.1**
KOLS *e*sP sP 06 02 57.4 +0.2
KIS Kishinev 70.58 329 *e*P sP 06 03 00.0 +2.4
KIS *e*S S 06 11 54.0 -3.7
KIS MLR MLR
comp=N,3µm,15.0s,MS5.8
KIS MLR MLR
comp=Z,3µm,15.0s,MS5.6
KIS MLR MLR

comp=E,2µm,14.0s,MS5.8
DCN Croghan 70.58 355 *e*P **P** **06 02 43.9 -1.9**
DLF Lyons Farm 70.58 354 *e*P **P** **06 02 43.5 -2.4**
OKC Ostrava-Krasne 70.61 337 *e*P **P** **06 02 47.4 +1.4**
OKC AMS AMS 06 38 40.0
comp=E,2µm,15.3s
DSB Dublin 70.63 354 *e*P **P** **06 02 46.4 +0.2**
comp=E,26nm,0.9s,mb5.2
DSB *e*pP pP 06 02 53.4 -1.3
DSB *e*sP sP 06 02 57.2 -0.6
MORC Moravsky Berou 70.79 338 *e*P **P** **06 02 47.1 0.0**
MORC *e**PP pP 06 02 55.4 -0.3
MORC pmax pmax
comp=Z,18nm,1.1s,mb4.9
MORC Moravsky Berou 70.79 338 *e*P **P** **06 02 47.1 0.0**
comp=Z,18nm,1.1s,mb4.9
MORC *e*pP pP 06 02 55.4 -0.4
MOX Moxa 71.10 342 *e*(P) **P** **06 02 50.1 +1.1**
MOX
comp=Z,1µm,21.0s
PRU Pruhonice 71.20 340 *e*P **P** **06 02 49.7 +0.1**
PRU *e*pP pP 06 02 57.6 -0.6
PRU AMS AMS 06 41 30.0
comp=Z,2µm,14.0s
NKC Novy Kostel 71.35 341 *e*P **P** **06 02 49.8 -0.7**
NKC *e*pP pP 06 02 57.7 -1.4
NKC AMS AMS 06 38 40.0
comp=Z,2µm,15.0s
NKC Novy Kostel 71.35 341 *e*P **P** **06 02 49.8 -0.7**
NKC *e* pP 06 02 57.7 -1.4
KECS Kecovo 71.36 335 *e*P **P** **06 02 49.8 -0.8**
VRAC Vranov 71.44 338 P **P** **06 02 51.9 +0.8**
comp=Z,5.6nm,0.7s,mb4.6,baz=25,slow=6.9,SNR=4.8
VYHS Vyhne 71.72 337 *e*P **P** **06 02 52.9 +0.1**
BEBN Eben Emael 71.88 346 ⇑P **P** **06 02 55.4 +1.7**
MEM Membach 72.01 346 ⇑P **P** **06 02 51.4 -3.1**
MEM AP pP 06 03 02.4 -0.7
MEM XP sP 06 03 05.8 -0.5
GRA1 Grafenberg Arr 72.09 342 *e*P **P** **06 02 55.9 +0.9**
comp=Z,14nm,1.0s,mb4.8
GRA1 pPP 06 05 46.7
GRF Grafenberg Arr 72.09 342 *e*P **P** **06 02 55.9 +0.9**
comp=Z,14nm,1.0s,mb4.8
GRF *e*(pPP) 06 05 46.7
GRF Grafenberg Arr 72.09 342 *e*P **P** **06 02 55.9 +0.9**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRF Grafenberg Arr 72.09 342 *e*P **P** **06 02 55.9 +0.9**
GRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
KHC Kasperske Hory 72.20 340 *e*P **P** **06 02 54.9 -0.7**
KHC *e*pP pP 06 03 02.7 -1.5
KHC AMS AMS 06 38 00.0
comp=Z,2µm,16.1s
SNF Seneffe 72.34 347 ⇑P **P** **06 02 57.0 +0.6**
ZST Bratislava 72.38 338 *e*P **P** **06 02 57.8 +1.1**
GERES GERESS Array B 72.45 340 P **P** **06 02 57.0 -0.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=36,slow=5.0,SNR=19
GERES LR LR 06 38 35.0
comp=Z,2µm,19.1s,MS5.3,baz=180,slow=39
LRAL Lakeview Retre 72.62 56 *e*P **P** **06 02 56.9 -1.3**
comp=Z,9.9nm,0.5s,mb5.0
AFI Afiamalu 72.70 156 LR LR 06 26 34.7
comp=Z,931nm,21.1s,MS5.0,baz=340,slow=29
DOU Dourbes 72.71 346 ⇑P **P** **06 02 56.2 -2.5**
DOU AP pP 06 03 05.3 -1.9
DOU XP sP 06 03 09.9 -0.5
MLR Muntele Rosu 72.76 331 P **P** **06 02 59.7 +0.8**
comp=Z,6.1nm,0.7s,mb4.6,baz=168,slow=6.0,SNR=7.3
BAIF Baives 72.79 347 *e*P **P** **06 02 59.4 +0.2**
WLF Walferdange 72.92 345 ⇑P **P** **06 03 13.1 +13**
WLF AP pP 06 03 20.2 +12
WLF XP sP 06 03 23.8 +12
MOA Molln 73.30 339⇑ *i*P **P** **06 02 54.4 -7.8**
comp=Z,12nm,1.3s,mb4.7
HYB Hyderabad 73.30 276 *i* P **P** **06 03 02.0 -0.2**
HYB *e*S S 06 12 30.0 +1.0
HYB Hyderabad 73.30 276 *e*P **P** **06 03 02.0 -0.2**
CDF Champ du Feu 73.97 344 *e*P **P** **06 03 06.4 +0.3**
comp=Z,25nm,1.1s,mb4.8
CDF Champ du Feu 73.97 344 *e*P **P** **06 03 06.4 +0.3**
CDF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CDF Champ du Feu 73.97 344 *e*P **P** **06 03 06.4 +0.3**
comp=Z,13nm,1.1s,mb4.8
PSI Prapat 74.11 251 P **P** **06 03 07.9 +1.0**
comp=Z,2.4nm,0.5s,mb4.4,baz=342,slow=8.6,SNR=5.6
MEZF Maizieres J'vi 74.21 346 *e*P **P** **06 03 07.9 +0.4**
KBA Koelnbreinsper 74.21 340⇑ *i*P **P** **06 03 09.4 +1.9**
comp=Z,38nm,1.6s,mb5.1
KBA Koelnbreinsper 74.21 340⇑P **P** **06 03 09.4 +1.9**
KBA pmax pmax
comp=Z,38nm,1.6s,mb5.1
HAU Haudompre 74.51 345 *e*P **P** **06 03 09.6 +0.4**
HAU *e*R
comp=Z,2µm,19.2s
HAU Haudompre 74.51 345 *e*P **P** **06 03 09.6 +0.4**
HAU LR LR
comp=Z,2µm,19.3s,MS5.3
FLN La Foliniere 74.61 350 *e*P **P** **06 03 09.5 -0.3**
comp=Z,35nm,1.0s,mb4.9
FLN *e*R
comp=Z,1µm,20.8s
FLN La Foliniere 74.61 350 *e*P **P** **06 03 09.5 -0.3**
FLN pmax pmax
comp=Z,17nm,1.0s,mb4.9
FLN MLR MLR
comp=Z,1µm,20.8s,MS5.3
FLN La Foliniere 74.61 350 *e*P **P** **06 03 09.5 -0.3**
comp=Z,17nm,1.0s,mb4.9
FLN LR LR
comp=Z,1µm,20.8s,MS5.3
HINF Hinteralfeld 74.62 344 *e*P **P** **06 03 10.1 +0.2**
LDF La Druitiere 74.74 349 *e*P **P** **06 03 10.4 -0.2**
comp=Z,12nm,0.8s,mb4.6
LDF La Druitiere 74.74 349 *e*P **P** **06 03 10.4 -0.2**
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LDF La Druitiere 74.74 349 *e*P **P** **06 03 10.4 -0.2**
comp=Z,5.8nm,0.8s,mb4.6
POO Poona 75.00 281 *e*x x 06 03 34.2
POO AMb AMB 06 03 46.9
comp=Z,46nm,0.9s,mb5.4
POO Poona 75.00 281 ⇓ *i*P **P** **06 03 11.5 -0.6**
GRR Gorron 75.02 350 *e*P **P** **06 03 12.2 0.0**
comp=Z,19nm,0.7s,mb4.8
GRR Gorron 75.02 350 *e*P **P** **06 03 12.2 0.0**
GRR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
GRR Gorron 75.02 350 *e*P **P** **06 03 12.2 0.0**
comp=Z,9.3nm,0.7s,mb4.8
DAVOX Davos 75.14 342 P **P** **06 03 13.3 +0.4**
comp=Z,4.6nm,0.7s,mb4.5,baz=332,slow=4.3,SNR=8.4
MSL Mosul 75.19 314 *e*x x 06 03 17.0
MSL *e*x x 06 13 02.5
MALT Malatya 75.21 319 *e*P **P** **06 03 13.7 +0.4**
MALT *e**PP pP 06 03 22.0 +0.1
MALT pmax pmax
comp=Z,20nm,1.4s,mb4.8
MALT Malatya 75.21 319 *e*P **P** **06 03 13.7 +0.4**
comp=Z,20nm,1.4s,mb4.8
MALT *e*pP pP 06 03 22.0 +0.1
ROSF Rostrenen 75.29 351 *e*P **P** **06 03 13.6 -0.2**
comp=Z,6.2nm,0.6s,mb4.4
ROSF Rostrenen 75.29 351 *e*P **P** **06 03 13.6 -0.2**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ROSF Rostrenen 75.29 351 *e*P **P** **06 03 13.6 -0.2**
comp=Z,3.1nm,0.6s,mb4.4
SGMF Saint Gilles 75.31 351 *e*P **P** **06 03 14.0 +0.1**
comp=Z,13nm,0.8s,mb4.6
SGMF Saint Gilles 75.31 351 *e*P **P** **06 03 14.0 +0.1**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SGMF Saint Gilles 75.31 351 *e*P **P** **06 03 14.0 +0.1**
comp=Z,6.4nm,0.8s,mb4.6
LOR Lormes 75.58 346 *e*P **P** **06 03 15.7 +0.3**
comp=Z,27nm,1.3s,mb4.7
LOR *e*R
comp=Z,2µm,18.5s
LOR Lormes 75.58 346 *e*P **P** **06 03 15.7 +0.3**
LOR pmax pmax
comp=Z,14nm,1.3s,mb4.7
LOR MLR MLR
comp=Z,2µm,18.5s,MS5.4

LOR Lormes 75.58 346 *eP* **P 06 03 15.7 +0.3**
comp=Z,14nm,1.3s,mb4.7
LOR LR LR
comp=Z,2μm,18.5s,MS5.4
BR131 Keskin Array S 75.65 323 *eP* **P 06 03 16.3 +0.5**
comp=Z,3.8nm,0.8s,mb4.4
BR131 *e*pP pP 06 03 24.1 -0.3
BRTR Keskin Array B 75.65 323 P **P 06 03 15.6 -0.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=39,slow=3.1,SNR=11
BRTR Keskin Array B 75.65 323 *i* P **P 06 03 17.2 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
QUIF Quistinic 75.70 351 *eP* **P 06 03 16.4 +0.3**
KAD Karad 75.80 280 *eP* **P 06 03 15.7 -1.0**
KAD AMb AMB 06 03 28.6
comp=Z,58nm,1.3s,mb5.3
SSF Saint Saulge 75.83 347 *eP* **P 06 03 16.6 -0.2**
CABF La Chapelle 75.91 345 *eP* **P 06 03 17.5 +0.2**
comp=Z,11nm,0.9s,mb4.5
CABF La Chapelle 75.91 345 *eP* **P 06 03 17.5 +0.2**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CABF La Chapelle 75.91 345 *eP* **P 06 03 17.5 +0.2**
comp=Z,5.6nm,0.9s,mb4.5
AVF Avril sur Loir 76.11 347 *eP* **P 06 03 18.8 +0.4**
comp=Z,5.2nm,0.8s,mb4.2
AVF Avril sur Loir 76.11 347 *eP* **P 06 03 18.8 +0.4**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AVF Avril sur Loir 76.11 347 *eP* **P 06 03 18.8 +0.4**
comp=Z,2.6nm,0.8s,mb4.2
SMF Signal de Mont 76.19 346 *eP* **P 06 03 18.8 -0.1**
BGF Bois d'Agland 76.41 347 *eP* **P 06 03 20.4 +0.3**
MFF Saint Martin d 76.71 349 *eP* **P 06 03 22.1 +0.3**
TCF Toulx Ste Croi 76.75 347 *eP* **P 06 03 22.2 +0.1**
LPL La Plagne 76.88 344 *eP* **P 06 03 23.3 +0.5**
comp=Z,29nm,0.9s,mb4.9
LPL La Plagne 76.88 344 *eP* **P 06 03 23.3 +0.5**
LPL pmax pmax
comp=Z,15nm,0.9s,mb4.9
LPL La Plagne 76.88 344 *eP* **P 06 03 23.3 +0.5**
comp=Z,15nm,0.9s,mb4.9
LPG La Plagne 76.89 344 *eP* **P 06 03 24.4 +1.5**
comp=Z,43nm,1.1s,mb5.0
LPG La Plagne 76.89 344 *eP* **P 06 03 24.4 +1.5**
LPG pmax pmax
comp=Z,21nm,1.1s,mb5.0
LPG La Plagne 76.89 344 *eP* **P 06 03 24.4 +1.5**
comp=Z,21nm,1.1s,mb5.0
BHD Baghdad 77.28 312 *ex* x 06 03 24.0
BHD *ex* x 06 13 16.0
CTA Charters Tower 77.50 197 *eP* **P 06 03 26.5 +0.2**
comp=Z,8.8nm,0.8s,mb4.7
CTA Charters Tower 77.50 197 P **P 06 03 27.0 +0.7**
comp=Z,12nm,0.9s,mb4.8,baz=356,slow=7.9,SNR=3.6
CTAO Charters Tower 77.50 197 *eP* **P 06 03 27.0 +0.7**
CTAO pmax pmax
comp=Z,23nm,1.1s,mb5.0
CTAO Charters Tower 77.50 197 *eP* **P 06 03 27.0 +0.7**
comp=Z,23nm,1.1s,mb5.0
ORIF Oris-en-Rattie 77.59 344 *eP* **P 06 03 27.2 +0.4**
comp=Z,10.0nm,0.8s,mb4.5
ORIF *e*R
comp=Z,1μm,21.5s
ORIF Oris-en-Rattie 77.59 344 *eP* **P 06 03 27.2 +0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 77.59 344 *eP* **P 06 03 27.2 +0.4**
comp=Z,5.0nm,0.8s,mb4.5
MBDF Montbardon 77.64 344 *eP* **P 06 03 27.8 +0.7**
comp=Z,37nm,1.4s,mb4.8
MBDF Montbardon 77.64 344 *eP* **P 06 03 27.8 +0.7**
MBDF pmax pmax
comp=Z,18nm,1.4s,mb4.8
MBDF Montbardon 77.64 344 *eP* **P 06 03 27.8 +0.7**
comp=Z,18nm,1.4s,mb4.8
RJF Les Rejaudoux 77.80 348 *eP* **P 06 03 28.4 +0.4**
RJF *e*R
comp=Z,2μm,22.0s
RJF Les Rejaudoux 77.80 348 *eP* **P 06 03 28.4 +0.4**
RJF LR LR
comp=Z,2μm,22.0s,MS5.4
VIVF Saint-Julien-l 77.83 345 *eP* **P 06 03 28.3 +0.2**
SMRF Simiane la Rot 78.56 344 *eP* **P 06 03 32.4 +0.2**
FRF La Foret Royal 78.80 344 *eP* **P 06 03 33.5 0.0**
comp=Z,14nm,0.7s,mb4.7
FRF La Foret Royal 78.80 344 *eP* **P 06 03 33.5 0.0**
FRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
FRF La Foret Royal 78.80 344 *eP* **P 06 03 33.5 0.0**
comp=Z,6.8nm,0.7s,mb4.7
LMR La Mourre 79.04 344 *eP* **P 06 03 35.1 +0.3**
PGF Pioggiola 79.39 342 *eP* **P 06 03 37.1 +0.4**
comp=Z,76nm,1.3s,mb5.2
PGF Pioggiola 79.39 342 *eP* **P 06 03 37.1 +0.4**
PGF pmax pmax
comp=Z,38nm,1.3s,mb5.2
PGF Pioggiola 79.39 342 *eP* **P 06 03 37.1 +0.4**
comp=Z,38nm,1.3s,mb5.2
WRAB Tennant Creek 79.93 208⇑ *eP* **P 06 03 38.3 -1.3**
WRAB Tennant Creek 79.93 208 *eP* **P 06 03 38.2 -1.4**
comp=Z,32nm,1.0s,mb5.2
WB2 Warramunga Arr 79.94 208 *eP* **P 06 03 40.3 +0.6**
WRA Warramunga Arr 79.94 208 P **P 06 03 40.7 +1.0**
comp=Z,7.2nm,0.9s,mb4.6,baz=23,slow=5.8,SNR=15
WRA Warramunga Arr 79.94 208 *i* P **P 06 03 43.7 +4.0**
WRA pmax pmax
comp=Z,7.0nm,0.9s
ETSF Etsaut 80.42 349 *eP* **P 06 03 41.9 -0.4**
comp=Z,17nm,1.0s,mb4.6
ETSF Etsaut 80.42 349 *eP* **P 06 03 41.9 -0.4**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ETSF Etsaut 80.42 349 *eP* **P 06 03 41.9 -0.4**
comp=Z,8.4nm,1.0s,mb4.6
FITZ Fitzroy Crossi 80.83 217 *eP* **P 06 03 45.7 +1.2**
comp=Z,13nm,1.0s,mb4.8
EBR Ebro Roquetas 82.35 348 *e*Ts sP 06 04 05.0 +0.7
PPT Papeete 83.12 136 *e*S S 06 14 13.1 -1.5
PPT *e*SS SS 06 19 40.4 +1.6
comp=Z,457nm,29.2s
PPT *e*LQ 06 25 44.9
comp=Z,4μm,28.8s
PPT *e*LR LR 06 29 03.0
comp=Z,4μm,24.5s,baz=340
PPT Papeete 83.12 136 LR LR 06 31 27.6
comp=Z,2μm,21.9s,MS5.3,baz=333,slow=29
ASPA Alice Springs 83.61 208 *eP* **P 06 04 02.5 +3.5**
ESDC Sonseca Array 83.95 351 P **P 06 04 00.9 +0.2**
comp=Z,2.4nm,0.6s,mb4.5,baz=1.9,slow=5.5,SNR=10
MGV Manicaragua 85.15 57 *eP* **P 06 04 07.2 +0.4**
EVO Evora 85.39 354 *eP* **P 06 04 07.7 -0.3**
comp=Z,13nm,0.7s,mb4.8
EVO *e*R
comp=Z,1μm,19.8s
MBWA Marble Bar 85.72 221 *eP* **P 06 04 09.7 0.0**
comp=Z,16nm,0.9s,mb5.2
MBWA *e*PcP PcP 06 04 13.5 +1.0
TBI Tubuai 88.42 138 *e*SKSac SKSac 06 14 47.4 -2.5
comp=Z,527nm,30.8s
TBI *e*SS SS 06 20 54.2 -2.5
comp=Z,359nm,28.5s
TBI *e*LQ 06 27 25.1
comp=Z,2μm,36.5s
TBI *e*LR LR 06 31 32.2
comp=Z,2μm,32.0s,baz=338
STKA Stephens Creek 89.83 199 P **P 06 04 30.7 +1.3**
comp=Z,7.5nm,0.9s,mb5.0,baz=345,slow=8.2,SNR=6.8
STKA LR LR 06 39 47.3
comp=Z,836nm,20.2s,MS5.2,baz=8.7,slow=32
MDT Midelt 90.81 351 P **P 06 04 34.6 +0.7**
comp=Z,1.7nm,0.7s,mb4.5,baz=11,slow=3.7,SNR=7.4
RKT Rikitea 94.20 126 *e*LQ 06 29 49.0
comp=Z,2μm,39.2s
RKT Rikitea 94.20 126 *e*PS PS 06 17 12.1 -4.9
comp=Z,263nm,33.2s
RKT Rikitea 94.20 126 *e*SKSac SKSac 06 15 21.7 -1.1
comp=Z,290nm,30.0s
RKT *e*SS SS 06 22 24.4 +4.4
comp=Z,287nm,27.8s
RKT *e*LR LR 06 34 23.3
comp=Z,2μm,33.8s,baz=328
SJG San Juan 94.75 47 LR LR 06 51 06.8
comp=Z,1μm,20.8s,MS5.3,baz=166,slow=38
TORD Torodi Ar. Bea 109.36 342 PP PP 06 10 27.1 -3.4
comp=Z,0.7nm,0.8s,baz=14,slow=6.6,SNR=3.1

PLCA Paso Flores 141.65 90 PKP PKPdf 06 11 02.5 +0.6
comp=Z,2.9nm,0.9s,baz=236,slow=3.9,SNR=4.4
SUR Sutherland 145.22 298 PKPbc PKPbc 06 11 08.9 +0.9
comp=Z,8.9nm,0.9s,baz=0.0,slow=3.0,SNR=3.1
USHA Ushuaia 150.78 110 PKPbc PKPbc 06 11 20.8 -2.1
comp=Z,6.1nm,1.0s,baz=0.0,slow=9.1,SNR=2.6

*IDC **06** 06:03:34.5±0.9, 785S×12770E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.3/16, mbtmp4.3/8, ML4.4/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/26, Error ellipse: s-maj=46.3km s-min=18.5km az=58.0*
*ISCJB **06** 06:03:37.3±0.7, 801S±006×12758E±009, h35km, mb4.1/7, MS3.9/1, Error ellipse: s-maj=13.0km s-min=8.4km az=17.4*
*NEIC **06** 06:03:40.0±5.6, 780S×12787E, h35km±41km, mb4.1/2, Error ellipse: s-maj=20.5km s-min=15.9km az=208.0*
ISC 06 06:03:39.5±0.7, 796S±006×12762E±009, h35km, n19, σ0°94/23, mb4.1/7, MS3.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.26**	**191**	*e*P	**Pn**	**06 06 09.8**	**+5.6**
FITZ	36nm,0.3s			*e*S	**Sn**	**06 07 58.4**	**+0.4**
WRAB	**Tennant Creek**	**13.57**	**152**	*e*Pn	**Pn**	**06 06 49.4**	**-0.1**
WRAB	18nm,0.5s			*e*Sn	**Sn**	**06 09 08.5**	**-10**
WRA	**Warramunga Arr**	**13.57**	**152**	Pn	**Pn**	**06 06 49.1**	**-0.4**
WRA	4.0nm,0.3s,baz=323,slow=14,SNR=18			Sn	**Sn**	**06 09 10.1**	**-8.8**
WB2	**Warramunga Arr**	**13.57**	**152**	*e*P	**Pn**	**06 06 49.1**	**-0.4**
WB2	12nm,0.3s,baz=331,slow=22,SNR=13			*e*S	**Sn**	**06 09 09.3**	**-10**
MBWA	**Marble Bar**	**15.17**	**209**	*e*P	**Pn**	**06 07 17.0**	**+5.9**
MBWA				*e*S	**Sn**	**06 09 56.2**	**-1.7**
ASPA	**Alice Springs**	**16.73**	**160**	*e*P	**Pn**	**06 07 32.2**	**+1.0**
ASPA				*e*S	**Sn**	**06 10 28.0**	**-7.9**
PMG	**Port Moresby**	**19.37**	**96**	P	**Pn**	**06 08 01.6**	**-1.8**
	1.2nm,0.3s,baz=247,slow=10,SNR=5.5						
CTA	**Charters Tower**	**21.70**	**126**	*e*P	**P**	**06 08 27.9**	**+0.6**
	2.8nm,0.6s,mb3.9						
CTA	**Charters Tower**	**21.70**	**126**	P	**P**	**06 08 27.8**	**+0.4**
	3.4nm,0.7s,mb3.9,baz=297,slow=11,SNR=4.0						
CTAO	**Charters Tower**	**21.70**	**126**	*e*P	**P**	**06 08 28.0**	**+0.7**
	2.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.12**	**153**	*e*P	**P**	**06 09 18.7**	**-0.4**
	2.8nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.12**	**153**	P	**P**	**06 09 18.8**	**-0.3**
	2.9nm,0.6s,mb4.0,baz=334,slow=8.5,SNR=8.6						
PSI	**Prapat**	**30.56**	**289**	LR	LR	06 23 28.0	
	comp=Z,308nm,21.8s,MS3.9,baz=12,slow=39						
RPZ	**Rata Peaks**	**51.95**	**141**	P	**P**	**06 12 45.8**	**+0.8**
	19nm,0.8s,mb5.0,baz=331,slow=3.6,SNR=6.9						
SONM	**Songino Array**	**58.64**	**343**	P	**P**	**06 13 33.7**	**+0.5**
	0.6nm,0.8s,mb3.7,baz=167,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**67.77**	**328**	P	**P**	**06 14 33.4**	**-0.3**
	0.5nm,0.6s,mb3.7,baz=116,slow=7.5,SNR=11						
VNDA	**Vanda**	**71.79**	**173**	P	**P**	**06 15 00.1**	**+1.7**
	2.2nm,0.4s,mb4.4,baz=317,slow=9.1,SNR=24						
KURK	**Kurchatov**	**72.13**	**330**	*e*P	**P**	**06 14 60.0**	**-0.5**
	1.8nm,0.8s,mb4.0						
LPAZ	**La Paz**	**151.30**	**147**	PKPbc	PKPbc	06 23 31.1	+1.8
	1.1nm,0.3s,baz=67,slow=2.7,SNR=12						

*NEIC **06** 06:09:11.2, 3854S×17622E, h128km, MG3.8(WEL), After WEL.*
WEL 06 06:09:11.7±0.3, 3856S×17622E, h124km±2km, ML3.6/14, 7C, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.64**	**161**	PN	Pn	06 09 31.4	+0.4
BKZ				SN	Sn	06 09 45.9	+0.4
BKZ	**Black Stump Fm**	**0.64**	**161**	P	Pn	06 09 31.4	+0.4
BKZ				S	Sn	06 09 46.0	+0.4
WTVZ	**West Tongariro**	**0.74**	**221**	PN	Pn	06 09 31.8	0.0
OTVZ	**Oturere**	**0.74**	**215**	PN	Pn	06 09 32.3	+0.5
URZ	**Urewera**	**0.76**	**67**	PN	Pn	06 09 31.6	-0.3
URZ				SN	Sn	06 09 47.3	+0.1
URZ	**Urewera**	**0.76**	**67**	P	Pn	06 09 31.6	-0.3
TWVZ	**Taurewa**	**0.80**	**230**	PN	Pn	06 09 32.1	-0.1
TWVZ	**Taurewa**	**0.80**	**230**	P	Pn	06 09 32.1	-0.1
TUVZ	**Tukino**	**0.83**	**212**	PN	Pn	06 09 32.9	+0.4
TUVZ	**Tukino**	**0.83**	**212**	P	Pn	06 09 32.9	+0.4
FWVZ	**Far West T-bar**	**0.87**	**217**	PN	Pn	06 09 33.0	+0.2
FWVZ				SN	Sn	06 09 49.0	+0.2
TRVZ	**Turoa**	**0.90**	**215**	PN	Pn	06 09 33.5	+0.3
WNVZ	**Wahianoa**	**0.91**	**212**	PN	Pn	06 09 33.4	+0.2
WNVZ	**Wahianoa**	**0.91**	**212**	P	Pn	06 09 33.4	+0.2
MOVZ	**Moawhango**	**0.92**	**203**	PN	Pn	06 09 33.1	-0.2
MOVZ				SN	Sn	06 09 48.9	-0.7
PKVZ	**Pokaka**	**1.00**	**223**	PN	Pn	06 09 34.0	0.0
MWZ	**Matawai**	**1.05**	**78**	PN	Pn	06 09 34.7	+0.2
MWZ				*e*SN	Sn	06 09 51.6	-0.2
MWZ	**Matawai**	**1.05**	**78**	*e*P	Pn	06 09 34.7	+0.1
MWZ				S	Sn	06 09 51.6	-0.3
TSZ	**Takapari Road**	**1.51**	**188**	⇑PN	Pn	06 09 39.1	-0.4
TSZ				SN	Sn	06 09 59.4	-1.2
WAZ	**Wanganui**	**1.53**	**218**	⇑PN	Pn	06 09 39.4	-0.3
WAZ	**Wanganui**	**1.53**	**218**	P	Pn	06 09 39.4	-0.3
PXZ	**Pawanui**	**1.55**	**161**	⇑PN	Pn	06 09 40.0	0.0
PXZ				SN	Sn	06 10 01.0	-0.4
BFZ	**Birch Farm**	**2.12**	**179**	⇑PN	Pn	06 09 45.7	-1.1
BFZ	**Birch Farm**	**2.12**	**179**	P	Pn	06 09 45.7	-1.1
MRZ	**Mangatainoka R**	**2.16**	**193**	⇑PN	Pn	06 09 45.9	-1.4
MRZ				SN	Sn	06 10 11.9	-2.7
MRZ	**Mangatainoka R**	**2.16**	**193**	P	Pn	06 09 45.8	-1.5
KIW	**Kapiti Island**	**2.51**	**203**	⇑PN	Pn	06 09 49.6	-2.2
KIW	**Kapiti Island**	**2.51**	**203**	P	Pn	06 09 49.6	-2.2
MTW	**Mount Morrison**	**2.65**	**192**	⇑PN	Pn	06 09 51.3	-2.3
MTW	**Mount Morrison**	**2.65**	**192**	P	Pn	06 09 51.3	-2.3
CAW	**Cannon Point**	**2.69**	**199**	PN	Pn	06 09 51.8	-2.3
CAW	**Cannon Point**	**2.69**	**199**	P	Pn	06 09 51.9	-2.2
DUWZ	**D'Urville Isla**	**2.86**	**218**	PN	Pn	06 09 53.5	-2.7
PAWZ	**Paruwai Farm**	**2.88**	**192**	P	Pn	06 09 54.1	-2.5
MRW	**Makara Radio**	**2.91**	**203**	P	Pn	06 09 54.2	-2.7
WEL	**Wellington**	**2.94**	**202**	P	Pn	06 09 54.9	-2.4
MSWZ	**Moikau Station**	**2.95**	**194**	P	Pn	06 09 54.7	-2.7
SNZO	**South Karori**	**2.98**	**202**	P	Pn	06 09 55.0	-2.9
TCW	**Tory Channel**	**3.04**	**209**	P	Pn	06 09 55.7	-2.9
NNZ	**Nelson**	**3.44**	**219**	*e*P	Pn	06 10 01.0	-2.8
QRZ	**Quartz Range**	**3.64**	**230**	*e*P	Pn	06 10 03.3	-3.2
THZ	**Tophouse**	**4.08**	**217**	*e*P	Pn	06 10 09.4	-3.0
KHZ	**Kahutara**	**4.36**	**207**	*e*P	Pn	06 10 12.2	-3.9
MQZ	**McQueen's Vall**	**5.80**	**207**	*e*P	Pn	06 10 29.7	-5.8

IDC 06 06:11:16.7±3.1, 2482S×17986E, h392km±38km, mb3.4/4, mb1 3.8/6, mb1mx3.6/15, mbtmp4.4/6, Error ellipse: s-maj=43.1km s-min=23.2km az=173.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.84**	**156**	P	Pn	06 12 36.2	-0.4
	153nm,0.3s,baz=225,slow=20,SNR=3.4						
URZ	**Urewera**	**13.60**	**189**	P	P	06 14 15.3	+1.1
	2.5nm,0.3s,baz=6.3,slow=3.9,SNR=11						
URZ				S	S	06 16 40.1	-0.9
	0.7nm,0.3s,baz=60,slow=22,SNR=7.8						
CTA	**Charters Tower**	**31.36**	**272**	P	P	06 17 04.0	+1.2
	4.1nm,0.5s,baz=92,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**42.22**	**267**	P	P	06 18 32.4	-0.7
	2.1nm,0.6s,baz=102,slow=8.1,SNR=6.0						
NVAR	**Mina Array Bea**	**85.50**	**44**	P	P	06 23 12.2	+0.6
	0.5nm,0.8s,baz=220,slow=8.4,SNR=4.2						
TXAR	**Lajitas Array**	**91.03**	**58**	P	P	06 23 37.7	+0.2
	0.2nm,0.6s,baz=217,slow=6.3,SNR=4.6						

*IDC **06** 06:18:22.8±2.6, 4165N×145.14E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=57.5km s-min=25.9km az=176.0*
*ISCJB **06** 06:18:23.3±2.4, 4163N±007×14527E±009, h15km±16km, mb3.8/9, Error ellipse: s-maj=11.7km s-min=10.6km az=72.8*
*JMA **06** 06:18:23.0±0.3, 4154N×14533E, h39km±1km, M3.7*
ISC 06 06:18:23.5±2.1, 4170N±007×14524E±009, h7km±11km, n15, σ0°64/20, mb3.8/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**1.35**	**343**	P	**Pn**	**06 18 48.5**	**-0.4**
JAK				*e*S	**Sg**	**06 19 07.4**	**+0.3**
JEM	**Erimo**	**1.59**	**282**	P	**Pn**	**06 18 51.4**	**-0.6**
JOB	**Onbets**	**1.59**	**320**	P	**Pn**	**06 18 51.9**	**-0.2**
JOB				*e*S	**Sn**	**06 19 13.0**	**+0.1**
JCH	**Churui**	**1.67**	**304**	P	**Pn**	**06 18 52.5**	**-0.7**
JCH				*e*S	**Sn**	**06 19 14.1**	**-0.7**
NEM2	**Nemuro 2**	**1.70**	**12**	P	**Pn**	**06 18 53.3**	**-0.3**
NEM2				*e*S	**Sn**	**06 19 14.5**	**-1.2**
ASAJ	**Asahikawa**	**3.10**	**322**	Pn	**Pn**	**06 19 13.3**	**+0.5**
	3.8nm,0.3s,baz=152,slow=17,SNR=7.5						
ASAJ				Sn	**Sn**	**06 19 51.5**	**+1.4**
	5.0nm,0.3s,baz=158,slow=18,SNR=4.1						
SONM	**Songino Array**	**28.03**	**296**	P	**P**	**06 24 15.6**	**+0.3**
	1.1nm,0.6s,mb3.6,baz=82,slow=9.2,SNR=7.3						
ZAL	**Zalesovo**	**41.16**	**309**	P	**P**	**06 26 08.1**	**-0.4**
	0.8nm,0.4s,mb3.7,baz=30,slow=17,SNR=3.0						
ILAR	**Eielson Array**	**43.97**	**35**	P	**P**	**06 26 31.9**	**+0.5**
	0.4nm,0.8s,mb3.2,baz=283,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**44.31**	**299**	P	**P**	**06 26 33.5**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=80,slow=10,SNR=9.6						
INK	**Inuvik**	**48.88**	**29**	P	**P**	**06 27 10.5**	**+0.6**
	0.4nm,0.4s,mb3.8,baz=282,slow=5.7,SNR=12						
BVAR	**Borovoye Array**	**49.73**	**310**	P	**P**	**06 27 17.0**	**+0.6**
	0.5nm,0.4s,mb3.9,baz=79,slow=9.3,SNR=6.5						
JOF	**Joensuu**	**63.24**	**332**	*e*p	**P**	**06 28 52.9**	**+0.3**
	0.6nm,0.3s,mb4.2						
KAF	**Kangasniemi**	**65.51**	**333**	*e*p	**P**	**06 29 08.3**	**+0.8**
	0.5nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**66.05**	**333**	P	**P**	**06 29 10.6**	**-0.4**
	1.9nm,0.5s,mb4.4,baz=55,slow=7.7,SNR=21						

JMA 06 06:26:01.8±0.8, 3944N×14787E, h48km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.24**	**338**	P	Pn	06 27 04.5	+0.7
NEM2				*e*S	Sn	06 27 52.2	+0.3
JAK	**Akkeshi**	**4.28**	**327**	P	Pn	06 27 06.6	+2.2
JCH	**Churui**	**4.66**	**314**	P	Pn	06 27 13.0	+3.5
JCH				*e*S	Sn	06 28 06.0	+3.7
JTH	**Tanohata**	**4.66**	**278**	P	Pn	06 27 11.5	+1.9
MIYJ	**Miyakonagasawa**	**4.68**	**274**	P	Pn	06 27 11.9	+2.0
MIYJ				*e*S	Sn	06 28 04.5	+1.6
JMK	**Ichinoseki**	**5.19**	**267**	P	Pn	06 27 18.6	+1.7
JOT	**Ohata**	**5.56**	**293**	*e*S	Sn	06 28 26.5	+2.1

*TIF **06** 06:29:23.8, 4255N×4347E, h12km±1km*
*MOS **06** 06:29:25.5±2.7, 4258N×4371E, h15km, mb3.9/1, Error ellipse: s-maj=9.7km s-min=5.5km az=87.4*
*ISCJB **06** 06:29:25.5±0.4, 4259N±002×4351E±003, h22km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=170.5*
*CSEM **06** 06:29:27.9±0.1, 4266N×4377E, h43km±1km, mb3.9, Error ellipse: s-maj=2.8km s-min=2.1km az=103.0*
*NEIC **06** 06:29:29.8, 4269N×4286E, h35km, MD3.5(ISK), After ISK.*
*NNC **06** 06:29:31.9±3.9, 4297N×4386E, h28km±39km, mb3.4, Error ellipse: s-maj=41.1km s-min=21.7km az=138.0*
ISC 06 06:29:24.1±0.4, 4257N±002×4347E±003, h7km±3km, n46, σ0°84/73, mb3.6/1, 4C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.34**	**14**	*i* PG	**Pg**	**06 29 30.8**	**+0.1**
ZEI	**Tsey**	**0.37**	**58**	*i* PG	**Pg**	**06 29 31.7**	**+0.3**
ZEI				*i* S	**Sg**	**06 29 37.4**	**+1.2**
LACR	**Lac**	**0.66**	**67**	*i* Pg	**Pg**	**06 29 36.6**	**-0.2**
LACR				*i* Sg	**Sg**	**06 29 45.9**	**+0.5**
LSNR	**Lesken**	**0.74**	**20**	*e*Pg	**Pg**	**06 29 38.6**	**+0.1**
LSNR				*e*Sg	**Sg**	**06 29 48.6**	**+0.5**
ARNR	**Ardon**	**0.85**	**44**	*i* Pg	**Pg**	**06 29 40.6**	**0.0**
ARNR				*i* Sg	**Sg**	**06 29 51.8**	**+0.1**
KMSR	**Komsomolskaya**	**1.00**	**37**	*i* Pg	**Pg**	**06 29 43.1**	**-0.2**
KMSR				*i* Sg	**Sg**	**06 29 56.8**	**+0.5**
VLKR	**Vladikavkaz**	**1.00**	**62**	*e*Pg	**Pg**	**06 29 44.1**	**+0.7**
DUS	**Dusheti**	**1.03**	**117**	P	**Pg**	**06 29 44.5**	**+0.6**
DUS				S	**Sg**	**06 29 59.2**	**+1.8**
CHVG	**Ch'k'valeri**	**1.03**	**279**	S	**Pg**	**06 29 44.1**	**+0.1**
CHVG	**Ch'k'valeri**	**1.03**	**279**	P	**Sg**	**06 29 57.5**	**+0.1**
SNJR	**Sundja**	**1.10**	**63**	*e*PG	**Pg**	**06 29 44.6**	**-0.7**
SNJR				*e*S	**Sg**	**06 29 59.9**	**+0.3**
BTKR	**Batakoyurt**	**1.12**	**44**	*i* PG	**Pg**	**06 29 44.8**	**-0.8**
BTKR				*e*S	**Sg**	**06 30 00.4**	**+0.2**
AKH	**Akhalkalaki**	**1.16**	**179**	P	**Pg**	**06 29 45.7**	**-0.7**
AKH				S	**Sg**	**06 30 02.0**	**+0.5**
KUBR	**Kubataba**	**1.23**	**358**	PG	**Pg**	**06 29 48.2**	**+0.5**
KUBR				S	**Sg**	**06 30 06.7**	**+3.1**
TBLG	**Delisi**	**1.26**	**131**	P	**Pn**	**06 29 47.9**	**-0.3**
TBLG				S	**Sb**	**06 30 05.1**	**+0.4**
TBLG	**Delisi**	**1.26**	**131**	*e*Pg	**Pg**	**06 29 47.9**	**-0.5**
TBLG				*e*Sg	**Sg**	**06 30 05.1**	**+0.3**
MTA	**Mtatsminda**	**1.32**	**131**	P	**Pn**	**06 29 48.8**	**-0.1**
MTA				S	**Sb**	**06 30 06.7**	**+0.4**
MTA	**Mtatsminda**	**1.32**	**131**	Pg	**Pg**	**06 29 48.8**	**-0.6**
PRTR	**Priterechnaya**	**1.32**	**26**	*i* PG	**Pg**	**06 29 48.5**	**-0.9**
PRTR				*i* S	**Sb**	**06 30 06.4**	**+0.1**
SAMG	**Sameba**	**1.33**	**131**	P	**Pn**	**06 29 48.3**	**-0.8**
SAMG				S	**Sb**	**06 30 06.2**	**-0.3**
KZR	**Kazreti**	**1.38**	**149**	P	**Pn**	**06 29 48.2**	**-1.6**
KZR				S	**Sb**	**06 30 06.7**	**-1.4**
TRKR	**Terskaya**	**1.47**	**38**	*e*Pg	**Pg**	**06 29 50.5**	**-1.9**
PYA	**Pyatigorsk**	**1.49**	**348**	Pg	**Pg**	**06 29 51.9**	**-0.8**
PYA				Sg	**Sg**	**06 30 11.9**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.49**	**338**	Pg	**Pg**	**06 29 51.8**	**-1.0**
KIV	**Kislovodsk**	**1.50**	**338**	*i* Pg	**Pg**	**06 29 51.8**	**-1.0**
	116nm,0.6s						
KIV	**Kislovodsk**	**1.50**	**338**	*e*Pn	**Pn**	**06 29 52.1**	**+0.7**
KIV				*e*Sn	**Sn**	**06 30 11.9**	**+0.8**
KIV	**Kislovodsk**	**1.50**	**338**	*d i* PG	**Pg**	**06 29 51.8**	**-1.0**
KIV				pmax	pmax		
	comp=Z,116nm,0.6s						
KIV	**Kislovodsk**	**1.50**	**338**	*e*Pn	**Pn**	**06 29 52.1**	**+0.8**
KIV				*e*Sn	**Sn**	**06 30 11.8**	**+0.7**
ARTV	**Artvin**	**1.80**	**220**	*i* P	**Pn**	**06 29 56.2**	**+0.6**
ARTV				*i* S	**Sn**	**06 30 19.8**	**+1.0**
**DG

comp=Z,1.1nm,0.6s,SNR=16
BVA0 Borovoye Array 20.76 50 ⇑P **P 06 34 05.3 -0.2**
comp=Z,0.7nm,1.1s,baz=230,slow=7.4,SNR=6.8
BVAR Borovoye Array 20.76 50 P **P 06 34 05.3 -0.2**
comp=Z,0.7nm,1.1s,SNR=6.8
VOSK Vostochnaya 21.01 52 ⇓P **P 06 34 07.9 -0.3**
comp=Z,9.0nm,2.6s,mb3.6

IDC 06 06:33:52.9±1.6, 019S×12302E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=148.7km s-min=27.1km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**151**	P	P	06 38 54.7	+0.2
	1.6nm,0.9s,baz=330,slow=10,SNR=4.3						
SONM	**Songino Array**	**49.97**	**345**	P	P	06 42 49.2	+0.6
	0.2nm,0.5s,baz=166,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**58.78**	**328**	P	P	06 43 52.5	-0.2
	0.3nm,0.6s,baz=121,slow=8.1,SNR=5.1						

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*ISCJB **06** 06:51:48.7±0.6, 2270S±009×6892W±009, h118km±5km, mb3.5/2, Error ellipse: s-maj=17.8km s-min=8.5km az=95.5*
*IDC **06** 06:51:49.4±1.1, 2265S×6869W, h101km±10km, mb3.4/3, mb1 3.4/5, mb1mx3.2/16, mbtmp3.6/5, Error ellipse: s-maj=42.2km s-min=29.6km az=160.0*
*NEIC **06** 06:51:49.9, 2277S×6894W, h105km, MD3.9(GUC), After GUC.*
*GUC **06** 06:51:49.9±1.1, 2277S×6894W, h105km±11km, MD3.9, ML3.8*
ISC 06 06:51:49.7±0.6, 2270S±009×6892W±009, h114km±5km, n15, σ0:80/24, mb3.5/2, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.09**	**8**	P	**Pn**	**06 52 05.3**	**0.0**
	306nm,0.3s,baz=68,slow=1.8,SNR=4163						
LVC				S	**Sn**	**06 52 16.3**	**-0.7**
	703nm,0.3s,baz=315,slow=19,SNR=260						
LVC	**Limon Verde**	**0.09**	**8**	*e*Pg	**Pn**	**06 52 05.5**	**+0.2**
LVC				*e*S	**Sn**	**06 52 16.1**	**-0.8**
SPCH	**San Pedro de A**	**0.70**	**107**	⇓*i*P	**Pn**	**06 52 08.8**	**+0.4**
SPCH				*i* S	**Sn**	**06 52 22.9**	**+0.4**
SPCH				AMP		06 52 23.3	
	comp=E,5μm,0.3s						
SPCH	**San Pedro de A**	**0.70**	**107**	⇓*i*P	**Pn**	**06 52 08.8**	**+0.4**
SPCH				*i* S	**Sn**	**06 52 22.9**	**+0.4**
CEN1	**Los Morros**	**1.36**	**239**	⇓*i*P	**Pn**	**06 52 18.6**	**+3.6**
CEN1				*i* S	**Sn**	**06 52 39.6**	**+5.3**
CEN1				AMP		06 52 41.3	
	comp=N,722nm,0.3s						
ANCH	**Antofagasta**	**1.68**	**234**	⇑*i*P	**Pn**	**06 52 18.0**	**-0.9**
ANCH				*i* S	**Sn**	**06 52 40.5**	**-0.6**
ANCH				AMP		06 52 42.5	
	comp=E,2μm,0.1s						
ANCH	**Antofagasta**	**1.68**	**234**	⇑*i*P	**Pn**	**06 52 18.0**	**-0.9**
ANCH				*i* S	**Sn**	**06 52 40.5**	**-0.6**
CPN1	**Cerro Paranal**	**2.35**	**215**	⇓*i*P	**Pn**	**06 52 28.3**	**+1.1**
CPN1				*i* S	**Sn**	**06 52 56.5**	**+0.4**
CPN1				AMP		06 52 59.7	
	comp=E,586nm,0.5s						
CRCH	**Chaqaral**	**3.94**	**203**	*e*P	**Pn**	**06 52 47.8**	**-0.5**
LPAZ	**La Paz**	**6.42**	**7**	P	**Pn**	**06 53 22.5**	**+0.8**
	comp=E,0.1nm,0.3s,baz=159,slow=8.6,SNR=3.6						
LPAZ	**La Paz**	**6.42**	**7**	P	**Pn**	**06 53 22.5**	**+0.7**
SIV	**San Ignacio**	**9.97**	**49**	P	**Pn**	**06 54 05.5**	**-4.4**
	comp=E,0.5nm,0.3s,baz=245,slow=13,SNR=17						
SIV				S	**Sn**	**06 55 48.1**	**-12**
	comp=E,0.1nm,0.3s,baz=121,slow=19,SNR=3.9						
BDFB	**Brasilia**	**20.95**	**74**	P	**P**	**06 56 22.2**	**-1.2**
	comp=E,3.0nm,0.5s,baz=248,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**77.77**	**70**	P	**P**	**07 03 34.5**	**+0.2**
	comp=E,0.4nm,0.4s,mb3.5,baz=237,slow=6.0,SNR=8.3						
YKA	**Yellowknife Ar**	**92.31**	**341**	P	**P**	**07 04 47.2**	**+0.1**
	comp=E,0.2nm,0.7s,mb3.5,baz=141,slow=4.5,SNR=7.2						

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*ISCJB **06** 06:58:09.9±0.4, 4257N±002×4344E±003, h2km±4km, Error ellipse: s-maj=3.3km s-min=3.1km az=94.6*
*TIF **06** 06:58:09.8, 4251N×4344E, h13km±1km*
*CSEM **06** 06:58:10.5±0.1, 4253N×4343E, h2km, mb4.1, Error ellipse: s-maj=1.4km s-min=1.1km az=92.0*
*NEIC **06** 06:58:10.6, 4288N×4337E, h34km, MD3.8(ISK), After ISK.*
*MOS **06** 06:58:13.3±1.1, 4262N×4367E, h28km, mb4.1/1, Error ellipse: s-maj=13.3km s-min=7.0km az=90.9*
ISC 06 06:58:10.9±0.3, 4256N±002×4347E±003, h9km±3km, n40, σ0:93/66, 2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**322**	P	**Pg**	**06 58 12.9**	**+0.4**
ONI				S	**Sg**	**06 58 14.4**	**+0.8**
DIGR	**Digorskoe uzhe**	**0.35**	**14**	*i* Pg	**Pg**	**06 58 17.7**	**-0.1**
DIGR				*i* Sg	**Sg**	**06 58 23.3**	**+0.9**
ZEI	**Tsey**	**0.38**	**57**	*i* Pg	**Pg**	**06 58 18.5**	**+0.2**
ZEI				*i* Sg	**Sg**	**06 58 24.4**	**+1.0**
LACR	**Lac**	**0.66**	**66**	*i* Pg	**Pg**	**06 58 23.3**	**-0.4**
LACR				*i* Sg	**Sg**	**06 58 32.9**	**+0.5**
LSNR	**Lesken**	**0.76**	**20**	*e*Pg	**Pg**	**06 58 25.5**	**0.0**
LSNR				*e*Sg	**Sg**	**06 58 36.0**	**+0.7**
ARNR	**Ardon**	**0.86**	**43**	*i* Pg	**Pg**	**06 58 27.8**	**+0.2**
ARNR				*i* Sg	**Sg**	**06 58 39.8**	**+1.0**
KMSR	**Komsomolskaya**	**1.01**	**36**	*e*Pg	**Pg**	**06 58 29.9**	**-0.4**
KMSR				*e*Sg	**Sg**	**06 58 44.1**	**+0.6**
DUS	**Dusheti**	**1.03**	**117**	P	**Pg**	**06 58 29.8**	**-0.8**
DUS				S	**Sg**	**06 58 45.0**	**+1.0**
CHVG	**Ch'k'valeri**	**1.03**	**279**	P	**Pg**	**06 58 29.8**	**-1.0**
CHVG				S	**Sg**	**06 58 44.5**	**+0.3**
SNJR	**Sundja**	**1.11**	**62**	*e*Pg	**Pg**	**06 58 31.3**	**-1.0**
SNJR				*e*Sg	**Sg**	**06 58 46.8**	**+0.1**
BTKR	**Batakoyurt**	**1.13**	**44**	*e*Pg	**Pg**	**06 58 31.7**	**-0.9**
BTKR				*i* Sg	**Sg**	**06 58 47.8**	**+0.5**
AKH	**Akhalkalaki**	**1.15**	**179**	P	**Pb**	**06 58 31.8**	**-1.2**
AKH				S	**Sg**	**06 58 47.8**	**-0.2**
KUBR	**Kubataba**	**1.24**	**358**	*i* Pg	**Pg**	**06 58 35.0**	**+0.3**
	86nm,0.5s						
KUBR				*i* Sg	**Sg**	**06 58 50.9**	**+0.1**
KUBR	**Kubataba**	**1.24**	**358**	*d i*PG	**Pg**	**06 58 35.0**	**+0.3**
KUBR				*i* S	**Sg**	**06 58 50.9**	**+0.1**
KUBR				pmax	pmax		
	comp=Z,86nm,0.5s						
KUBR				smax			
	comp=Z,109nm,0.6s						
TBLG	**Delisi**	**1.26**	**131**	P	**Pn**	**06 58 33.9**	**-0.8**
TBLG				S	**Sb**	**06 58 51.3**	**+0.2**
TBLG	**Delisi**	**1.26**	**131**	*e*Pg	**Pg**	**06 58 33.9**	**-1.2**
TBLG				*e*Sg	**Sg**	**06 58 51.3**	**-0.1**
MTA	**Mtatsminda**	**1.31**	**131**	P	**Pn**	**06 58 35.0**	**-0.5**
MTA				S	**Sb**	**06 58 53.0**	**+0.3**
SHAR	**Shatzhatmas**	**1.32**	**334**	*i* Pg	**Pg**	**06 58 35.7**	**-0.5**
SAMG	**Sameba**	**1.32**	**130**	P	**Pn**	**06 58 34.6**	**-1.0**
SAMG				S	**Sb**	**06 58 53.0**	**0.0**
KZR	**Kazreti**	**1.37**	**149**	P	**Pn**	**06 58 34.7**	**-1.7**
KZR				S	**Sb**	**06 58 52.2**	**-2.3**
TRKR	**Terskaya**	**1.48**	**38**	*e*Pg	**Pg**	**06 58 39.6**	**+0.2**
PYA	**Pyatigorsk**	**1.50**	**349**	Pg	**Pg**	**06 58 38.8**	**-0.9**
PYA				Sg	**Sg**	**06 58 58.9**	**-0.3**
KIV0	**Kislovodsk Arr**	**1.50**	**338**	Pg	**Pg**	**06 58 38.9**	**-0.9**
KIV0				Sg	**Sg**	**06 58 59.5**	**+0.2**
KIV	**Kislovodsk**	**1.51**	**338**	*i* Pg	**Pg**	**06 58 38.8**	**-1.0**
	comp=Z,37nm,0.4s						
KIV	**Kislovodsk**	**1.51**	**338**	*d i*PG	**Pg**	**06 58 38.8**	**-1.0**
KIV				pmax	pmax		
	comp=Z,37nm,0.4s						
ARTV	**Artvin**	**1.79**	**220**	*i* P	**Pn**	**06 58 42.6**	**+0.6**
ARTV				*i* S	**Sn**	**06 59 06.2**	**+1.3**
DGRG	**David-gareji**	**1.80**	**127**	Pn	**Pn**	**06 58 43.2**	**+1.0**
KARS	**Kars**	**1.97**	**188**	PN	**Pn**	**06 58 46.7**	**+2.2**
KARS				SN	**Sn**	**06 59 14.8**	**+5.5**
KARS	**Kars**	**1.97**	**188**	Pn	**Pn**	**06 58 46.7**	**+2.3**
KARS				Sg	**Sg**	**06 59 13.7**	**-0.4**
GOF	**Gofitskoye**	**2.52**	**353**	*e*PN	**Pg**	**06 58 58.1**	**-1.0**
GOF				*i* S	**Sg**	**06 59 31.3**	**-0.5**
GOF				pmax	pmax		
	comp=Z,40nm,0.6s						
GOF				smax			
	comp=N,130nm,0.6s						
GOF				smax			
	comp=E,180nm,0.6s						
SOC	**Sochi**	**2.93**	**292**	*e*PN	**Pg**	**06 59 06.4**	**-0.7**
SOC				*e*		06 59 45.9	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SOC				smax			
	comp=N,102nm,0.7s						
SOC				MLR	MLR		
	comp=Z,471nm,18.0s						
ERZM	**Erzurum**	**3.09**	**212**	*i* P	**Pn**	**06 59 01.9**	**+1.9**
ERZM				*i* S	**Sg**	**06 59 53.5**	**+3.2**
EZM	**Erzurum**	**3.09**	**212**	*e*PN	**Pn**	**06 59 02.3**	**+2.4**
EZM	**Erzurum**	**3.09**	**212**	Pn	**Pn**	**06 59 02.4**	**+2.4**
CLDR	**Caldiran**	**3.43**	**174**	*e*PN	**Pn**	**06 59 07.9**	**+3.3**
CLDR	**Caldiran**	**3.43**	**174**	Pn	**Pn**	**06 59 08.0**	**+3.3**
GUMT	**Gumushane**	**3.66**	**236**	*e*PN	**Pn**	**06 59 07.4**	**-0.3**
GUMT	**Gumushane**	**3.66**	**236**	Pn	**Pn**	**06 59 08.2**	**+0.5**
GUMT	**Gumushane**	**3.66**	**236**	Pn	**Pn**	**06 59 08.2**	**+0.5**
BRTR	**Keskin Array B**	**7.94**	**252**	*i* P	**Pn**	**07 00 00.7**	**-5.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.1s						

IDC 06 07:04:02.9±6.8, 1079N×9169E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, MS4.5/3, Ms1 4.5/3, ms1mx3.8/27, Error ellipse: s-maj=148.3km s-min=63.7km az=143.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.76**	**349**	P	P	07 11 12.2	+0.1
	2.1nm,0.8s,baz=168,slow=8.4,SNR=24						
SONM	**Songino Array**	**38.95**	**16**	P	P	07 11 30.6	+0.1
	0.4nm,0.5s,baz=207,slow=6.6,SNR=5.2						
ZAL	**Zalesovo**	**43.39**	**354**	P	P	07 12 07.0	-0.1
	1.2nm,0.5s,baz=268,slow=7.7,SNR=4.9						
BVAR	**Borovoye Array**	**45.48**	**342**	P	P	07 12 23.6	-0.2
	0.3nm,0.5s,baz=157,slow=11,SNR=3.1						
ASAJ	**Asahikawa**	**54.89**	**43**	LR	LR	07 37 58.4	
	comp=Z,543nm,21.8s,baz=272,slow=37						
PMG	**Port Moresby**	**58.71**	**108**	LR	LR	07 44 16.6	
	comp=Z,466nm,19.1s,baz=251,slow=41						
HNR	**Honiara**	**70.80**	**104**	LR	LR	07 47 20.1	
	comp=Z,321nm,20.9s,baz=180,slow=37						
ARCES	**ARCESS Array B**	**71.72**	**340**	P	P	07 15 26.6	-0.2
	3.3nm,0.9s,baz=83,slow=7.3,SNR=4.3						
GERES	**GERESS Array B**	**74.06**	**318**	P	P	07 15 41.0	+0.4
	0.4nm,0.6s,baz=108,slow=3.1,SNR=4.4						

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*SZGRF **06** 07:04:54.4, 200N×9890E, h30km, mb5.2, Northern Sumatera, Indonesia*
*BJI **06** 07:04:59.8, 229N×9655E, h21km, mB5.4, mb5.1, Ms5.3, Msz5.1*
*NAO **06** 07:04:59.3, 021N×9433E, h33km, mb5.2*
*ISCJB **06** 07:05:00.3±0.3, 222N±004×9646E±003, h27km, mb5.1/84, MS5.1/122, Error ellipse: s-maj=5.9km s-min=4.7km az=32.8*
*IDC **06** 07:05:01.3±0.9, 225N×9647E, h26km±3km, mb4.4/21, mb1 4.5/22, mb1mx4.5/25, mbtmp4.6/22, ML4.3/1, MS4.7/13, Ms1 4.7/13, ms1mx4.5/24, Error ellipse: s-maj=16.3km s-min=13.7km az=39.0*
*MOS **06** 07:05:01.3±0.9, 228N×9644E, h33km, mb5.4/34, MS4.9/16, Error ellipse: s-maj=10.3km s-min=5.9km az=105.4*
*HRVD **06** 07:05:02.3±0.4, 158N×9625E, h45km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s39,c59;Mantle waves: s66,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.42±.38; $M_{\theta\theta}$-3.54±.25; $M_{\phi\phi}$0.12±.30; $M_{r\theta}$2.54±.19; $M_{\theta\phi}$4.54±.20; $M_{\phi r}$-1.74±.26; Best double couple: $M_0$5.88200×10^{16} NP1:φ303.00000°, δ29.00000°, λ88.00000°. NP2: φ125.00000°, δ61.00000°, λ91.00000°. Principal axes: T 4.2900, Plg74.0000°, Azm38.0000°; N 3.1870, Plg1.0000°, Azm304.0000°; P -7.4740, Plg16.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 07:05:02.3±0.2, 222N×9645E, mb5.2/32, MS5.1/90 Error ellipse: s-maj=6.6km s-min=5.3km az=202.0*
ISC 06 07:05:02.8±0.3, 225N±004×9647E±003, h29km, h29km±.6km: pP-P, n298, σ1:06/218, mb5.1/84, MS5.1/122, 9C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**77**	Pn	**Pn**	**07 05 42.6**	**+0.9**
	65nm,0.3s,baz=272,slow=8.8,SNR=192						
IPM	**Ipoh**	**5.06**	**64**	P	**Pn**	**07 06 18.1**	**+1.4**
KULM	**Kulim**	**5.15**	**54**	*e*Pn	**Pn**	**07 06 18.9**	**+1.0**
SNG	**Songkhla**	**6.41**	**40**	P	**Pn**	**07 06 36.0**	**+0.8**
	602nm,0.9s						
KGM	**Kluang**	**6.84**	**92**	P	**Pn**	**07 06 42.6**	**+1.4**
NST	**Nakhon Sawan**	**13.82**	**15**	P	**Pn**	**07 08 07.0**	**-10**
KSM	**Kuching**	**13.85**	**93**	*e*Pn	**Pn**	**07 08 18.9**	**+1.8**
PALK	**Pallekele**	**16.49**	**288**	*e*Pn	**Pn**	**07 08 46.9**	**-5.1**
	52nm,1.0s						
PALK				*e*Sn	**Sn**	**07 11 37.9**	**-16**
CHRT	**Chiangrai**	**17.81**	**10**	⇓P	**Pn**	**07 09 08.0**	**-0.5**
	132nm,0.8s						
KKM	**Kota Kinabalu**	**20.05**	**79**	P	**P**	**07 09 34.4**	**+0.8**
KKM	**Kota Kinabalu**	**20.05**	**79**	*e*P	**P**	**07 09 34.5**	**+1.0**
KKM				*e*pP		07 09 42.4	
QIZ	**Qiongzhong**	**21.20**	**37**	P	**P**	**07 09 45.7**	**-0.4**
QIZ				PP		07 10 09.8	
QIZ				S	**S**	**07 13 40.1**	**-0.2**
QIZ				XS	sS	07 13 49.3	-3.4
QIZ				SS		07 14 12.7	
QIZ				AMB	AMB		
	comp=Z,44nm,1.4s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,560nm,4.7s						
QIZ				LR	LR		
	comp=N,7μm,13.5s,MS5.4						
QIZ				LR	LR		
	comp=E,8μm,13.2s,MS5.4						
QIZ				LR	LR		
	comp=Z,14μm,13.1s,MS5.5						
QIZ	**Qiongzhong**	**21.20**	**37**	*e*P	**P**	**07 09 45.3**	**-0.8**
	comp=Z,58nm,1.3s,mb4.8						
QIZ				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
TSM	**Tawau**	**21.46**	**84**	P	**P**	**07 09 48.6**	**-0.2**
HYB	**Hyderabad**	**23.18**	**312**	*i* P	**P**	**07 10 09.0**	**+1.9**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**07 14 19.0**	**+2.2**
HYB	**Hyderabad**	**23.18**	**312**	*e*P	**P**	**07 10 09.0**	**+1.9**
HYB				*e*S	**S**	**07 14 20.0**	**+3.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**23.18**	**312**	*e*P	**P**	**07 10 09.0**	**+1.9**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**07 14 20.0**	**+3.2**
KMI	**Kunming**	**23.53**	**14**	P	**P**	**07 10 11.2**	**+0.5**
KMI				AP		07 10 19.0	
KMI				XP	sP	07 10 22.4	+0.1
KMI				PP		07 10 43.9	
KMI				S	**S**	**07 14 22.6**	**0.0**
KMI				XS	sS	07 14 35.8	-0.4
KMI				AMB	AMB		
	comp=Z,64nm,2.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,1μm,4.5s						
KMI				LR	LR		
	comp=N,4μm,14.3s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,14.5s,MS5.0						
KMI				LR	LR		
	comp=Z,4μm,15.0s,MS5.0						
PCI	**Palu**	**23.57**	**97**	P	**P**	**07 10 12.0**	**+1.0**
	comp=Z,163nm,1.6s,mb5.2						
DGAR	**Diego Garcia**	**25.82**	**248**	PFAKE		07 10 40.0	+8.5
DGAR				LR	LR		
	comp=Z,771nm,19.0s,MS4.2						
GYA	**Guiyang**	**25.99**	**21**	⇑*i*P	**P**	**07 10 32.2**	**-0.8**
GYA				AP	pP	07 10 39.4	-2.0
GYA				XP	sP	07 10 42.8	-2.1
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,290nm,3.6s						
GYA				LR	LR		
	comp=N,4μm,13.5s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,13.2s,MS5.2						
GYA				LR	LR		
	comp=Z,4μm,13.5s,MS5.1						
JIRN	**Jiri**	**27.12**	**340**	*e*P	**P**	**07 10 44.4**	**+1.2**
	comp=Z,349nm,1.2s,mb5.8						
PKI	**Pulchoki**	**27.32**	**338**	*e*P	**P**	**07 10 45.8**	**+0.8**
	comp=Z,297nm,1.5s,mb5.6						
PKI	**Pulchoki**	**27.32**	**338**	*e*P	**P**	**07 10 45.8**	**+0.8**
PKI				pmax	pmax		
	comp=Z,149nm,1.5s,mb5.3						
POO	**Poona**	**27.45**	**308**	*ex*	x	07 10 57.0	
GUN	**Gumba**	**27.46**	**339**	*e*P	**P**	**07 10 47.9**	**+1.6**
DMN	**Daman**	**27.47**	**338**	*e*P	**P**	**07 10 47.2**	**+0.8**
	comp=Z,88nm,1.2s,mb5.2						
KKN	**Kakani**	**27.56**	**338**	*e*P	**P**	**07 10 47.8**	**+0.6**
	comp=Z,175nm,1.2s,mb5.5						
KKN	**Kakani**	**27.56**	**338**	*e*P	**P**	**07 10 47.8**	**+0.6**
KKN				pmax	pmax		
	comp=Z,87nm,1.2s,mb5.3						
LSA	**Lhasa**	**27.77**	**350**	P	**P**	**07 10 49.7**	**+0.6**
LSA				LR	LR		
	comp=N,780nm,24.5s,MS4.5						
LSA				LR	LR		
	comp=E,1μm,26.2s,MS4.5						
LSA				LR	LR		
	comp=Z,2μm,25.1s,MS4.6						
LSA	**Lhasa**	**27.77**	**350**	*e*P	**P**	**07 10 50.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,163nm,1.4s,mb5.5						
LSA				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.7						
LSA	**Lhasa**	**27.77**	**350**	*e*P	**P**	**07 10 50.1**	**+1.0**
	comp=Z,163nm,1.4s,mb5.5						
LSA				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
GKN	**Gorkha**	**28.00**	**337**	*e*P	**P**	**07 10 51.8**	**+0.7**
	comp=Z,148nm,1.2s,mb5.5						
KOLN	**Koldanda**	**28.21**	**335**	*e*P	**P**	**07 10 53.8**	**+0.8**
	comp=Z,457nm,1.8s,mb5.8						
BOM	**Bombay**	**28.47**	**307**	*e*P	**P**	**07 10 57.5**	**+2.2**
BOM				*ex*	x	07 11 01.1	
	comp=Z,147nm,2.0s						
BOM				*e*S	**S**	**07 15 44.5**	**+3.5**
CD2	**Chengdu**	**29.33**	**13**	P	**P**	**07 11 02.3**	**-0.7**
CD2				AP	pP	07 11 09.6	-1.7
CD2				XP	sP	07 11 12.9	-1.9
CD2				PP	PP	07 11 58.4	-11
CD2				S	**S**	**07 15 54.1**	**-0.4**
CD2				XS	sS	07 16 06.3	-2.0
CD2				SS	SS	07 17 26.3	-33
CD2				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.0						
CD2				AMB	AMB		
	comp=Z,170nm,11.2s						
CD2				LR	LR		
	comp=N,2μm,13.2s						
CD2				LR	LR		
	comp=Z,2μm,14.4s,MS5.0						
DAV	**Davao City (W)**	**29.39**	**80**	PFAKE		07 11 20.0	+16
DAV				LR	LR		
	comp=Z,607nm,19.0s,MS4.2						
SCPH	**Surigao**	**29.79**	**74**	⇑*e*P	**P**	**07 11 04.2**	**-2.9**
ENH	**Enshi**	**30.48**	**23**	*e*P	**P**	**07 11 12.5**	**-0.6**
	comp=Z,20nm,0.5s,mb5.1						
ENH				LR	LR		
	comp=Z,778nm,20.0s,MS4.3						
QZH	**Quanzhou**	**31.05**	**42**	*e*P	**P**	**07 11 21.4**	**+3.2**
QZH				*e*S	**S**	**07 16 26.3**	**+4.8**
QZH				LR	LR		
	comp=N,8μm,16.7s,MS5.5						
QZH				LR	LR		
	comp=E,5μm,14.7s,MS5.5						
QZH				LR	LR		
	comp=Z,8μm,15.2s,MS5.5						
LGTI	**Lohaghat**	**31.14**	**332**	*e*P	**P**	**07 11 20.0**	**+1.0**
MBWA	**Marble Bar**	**32.55**	**137**	*e*P	**P**	**07 11 31.5**	**+0.2**
	comp=Z,8.9nm,0.5s,mb5.0						
MBWA				*e*pP	pP	07 11 40.5	+0.8
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
NACB	**Ninganchiao**	**32.63**	**46**	*e*P	**P**	**07 11 33.3**	**+1.2**
YHNB	**Yeheng**	**32.78**	**45**	*e*P	**P**	**07 11 35.2**	**+1.8**
WHN	**Wuhan**	**32.84**	**29**	P	**P**	**07 11 33.5**	**-0.4**
WHN				AP	pP	07 11 42.8	+0.5
WHN				LR	LR		
	comp=Z,5μm,14.4s,MS5.3						
DDI	**Dehra Dun**	**32.93**	**330**	*e*P	**P**	**07 11 34.1**	**-0.6**
TATO	**Taipei**	**33.05**	**45**	PFAKE		07 11 50.0	+14
TATO				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
XAN	**Xi'an**	**33.70**	**19**	P	**P**	**07 11 40.3**	**-1.1**
XAN				AP	pP	07 11 49.3	-0.5
XAN				S	**S**	**07 17 02.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,84nm,1.3s,mb5.5						
XAN				LR	LR		
	comp=N,2μm,13.1s,MS5.2						
XAN				LR	LR		
	comp=E,2μm,14.0s,MS5.2						
XAN				LR	LR		
	comp=Z,4μm,13.4s,MS5.3						
LZH	**Lanzhou**	**34.36**	**11**	⇑P	**P**	**07 11 46.9**	**-0.2**
LZH				AP	pP	07 11 56.0	+0.5
LZH				XP	sP	07 12 00.5	+1.5
LZH				PP	PP	07 13 03.0	-2.1
LZH				*e*S	**S**	**07 17 17.0**	**+4.1**
LZH				XS	sS	07 17 31.0	+4.2
LZH				AMB	AMB		
	comp=Z,167nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,520nm,5.0s						
LZH				LR	LR		
	comp=E,3μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,17.0s,MS5.2						
FITZ	**Fitzroy Crossi**	**35.13**	**126**	⇓*i*P	**P**	**07 11 53.1**	**-0.6**
	comp=Z,24nm,0.6s,mb5.3						
THN	**Thein Dam**	**35.81**	**329**	*e*P	**P**	**07 12 00.4**	**+0.8**
NJ2	**Nanjing**	**36.37**	**33**	*e*P	**P**	**07 12 04.9**	**+0.5**
NJ2				AP	pP	07 12 12.2	-0.7
NJ2				XP	sP	07 12 15.6	-0.8
NJ2				PP	PP	07 13 28.7	+1.3
NJ2				S	**S**	**07 17 43.0**	**-0.9**
NJ2				XS	sS	07 17 55.0	-2.8
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,310nm,5.1s						
NJ2				LR	LR		
	comp=N,4μm,15.1s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,19.6s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,14.5s						
SSE	**Sheshan**	**36.99**	**37**	P	**P**	**07 12 10.5

GTA AMB AMB
comp=Z,406nm,6.9s
GTA LR LR
comp=N,2μm,17.2s,MS5.1
GTA LR LR
comp=E,1μm,14.1s,MS5.1
GTA LR LR
comp=Z,2μm,16.8s,MS5.0
TIA Tai'an 38.82 27 *e*P **P 07 12 23.5 -1.6**
BTO Baotou 40.10 16 *e*P **P 07 12 35.6 -0.2**
NWAO Narrogin (SRO) 40.11 152 P **P 07 12 36.9 +1.0**
comp=Z,9.0nm,0.9s,mb4.5,baz=323,slow=8.0,SNR=2.9
NWAO Narrogin (SRO) 40.11 152 P **P 07 12 36.9 +1.0**
NWAO LR LR
comp=Z,1μm,20.0s,MS4.8
HHC Hu-ho-hao-te 40.78 18⇑ *e*P **P 07 12 42.5 +1.1**
HHC AP pP 07 12 50.1 +0.2
HHC XP sP 07 12 53.7 +0.3
HHC PP PP 07 14 20.0 +4.4
HHC SCP ScP 07 18 30.6 +0.8
HHC PCS PcS 07 18 34.2 +1.2
HHC S **S 07 18 49.7 -0.6**
HHC XS sS 07 19 04.2 -0.2
HHC SS SS 07 21 46.0 -5.7
HHC SCS ScS 07 22 43.5 -1.1
HHC AMB AMB
comp=Z,60nm,1.3s,mb5.1
HHC LR LR
comp=N,3μm,13.7s,MS5.4
HHC LR LR
comp=E,2μm,12.2s,MS5.4
HHC LR LR
comp=Z,3μm,14.2s,MS5.2
KSH Kashi 41.52 336 *e*P **P 07 12 48.4 +0.9**
KSH *e*AP pP 07 12 55.0 -1.1
KSH *e*XP sP 07 12 58.1 -1.4
KSH *e*PP PP 07 14 27.2 +3.5
KSH *e*PCP PcP 07 14 46.1 +1.4
KSH *e*SCP ScP 07 18 33.1 +0.4
KSH *e*PCS PcS 07 18 36.0 0.0
KSH *e*S **S 07 19 01.4 0.0**
KSH *e*XS sS 07 19 13.1 -2.4
KSH *e*SS SS 07 22 00.0 -6.5
KSH *e*SCS ScS 07 22 48.2 -0.9
KSH AMB AMB
comp=Z,200nm,3.5s
KSH LR LR
comp=N,440nm,7.8s
KSH LR LR
comp=E,380nm,10.3s
MSEY Mahe Island 41.53 260 PFAKE 07 13 00.0 +12
MSEY LR LR
comp=Z,223nm,21.0s,MS4.0
BJT Baijiatuau 41.63 23 *e*P **P 07 12 49.0 +0.6**
BJT pmax pmax
comp=Z,38nm,0.6s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 41.63 23 *e*P **P 07 12 49.0 +0.5**
comp=Z,38nm,0.6s,mb5.2
BJT LR LR
comp=Z,1μm,20.0s,MS4.8
WMQ Urumqi 42.13 351⇓ *i*P **P 07 12 53.0 +0.5**
WMQ XP sP 07 13 04.0 -0.5
WMQ PP PP 07 14 34.0 +3.8
WMQ SCP ScP 07 18 36.0 +0.9
WMQ S **S 07 19 11.0 +0.7**
WMQ SS SS 07 22 13.0 -5.4
WMQ AMB AMB
comp=Z,45nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,243nm,5.0s
WMQ LR LR
comp=N,1μm,14.0s,MS5.0
WMQ LR LR
comp=E,1μm,15.0s,MS5.0
WMQ LR LR
comp=Z,1μm,14.0s,MS5.0
DL2 Dalian 43.11 29 ⇑P **P 07 13 00.1 -0.3**
DL2 XP sP 07 13 09.1 -3.4
DL2 S **S 07 19 26.8 +2.0**
DL2 XS sS 07 19 34.9 -4.0
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.9
DL2 AMB AMB
comp=Z,340nm,3.6s
DL2 LR LR
comp=N,690nm,12.8s,MS5.0
DL2 LR LR
comp=E,970nm,12.7s,MS5.0
DL2 LR LR
comp=Z,670nm,15.9s,MS4.6
WRA Warramunga Arr 43.20 122 P **P 07 13 00.7 -0.5**
comp=Z,22nm,1.2s,mb4.8,baz=300,slow=9.2,SNR=30
WRAB Tennant Creek 43.21 122 P **P 07 13 01.0 -0.2**
comp=Z,193nm,1.8s,mb5.5,SNR=5.7
WRAB Tennant Creek 43.21 122 *e*P **P 07 13 00.8 -0.4**
WRAB *e**PP pP 07 13 09.7 -0.1
WRAB pmax pmax
comp=Z,221nm,1.7s,mb5.6
WRAB MLR MLR
comp=Z,285nm,20.0s,MS4.2
WRAB Tennant Creek 43.21 122 *e*P **P 07 13 00.8 -0.4**
comp=Z,221nm,1.7s,mb5.6
WRAB *e*pP pP 07 13 09.7 -0.2
WRAB LR LR
comp=Z,285nm,20.0s,MS4.2
WB2 Warramunga Arr 43.21 122 *e*P **P 07 13 00.9 -0.4**
ULHL Ulaho! 43.76 338 P **P 07 13 07.0 +1.3**
SNR=19
KZA Kyzart 43.99 337 P **P 07 13 08.9 +1.4**
SNR=14
UCH Uchtor 44.41 337 P **P 07 13 12.2 +1.3**
SNR=16
TKM2 Tokmak 2 44.58 338 P **P 07 13 12.9 +0.6**
SNR=26
AML Almayashu 44.66 336 P **P 07 13 14.3 +1.4**
SNR=30
INCN Inchon 44.69 35 PFAKE 07 13 30.0 +17
INCN LR LR
comp=Z,3μm,20.0s,MS5.2
AAK Ala-Archa 44.76 337 P **P 07 13 14.9 +1.2**
SNR=12
AAK Ala-Archa 44.76 337 P **P 07 13 13.6 -0.1**
comp=Z,83nm,1.6s,mb5.3,SNR=10
AAK Ala-Archa 44.76 337 *e*P **P 07 13 13.6 -0.1**
AAK *e**PP pP 07 13 21.4 -0.9
AAK pmax pmax
comp=Z,32nm,1.4s,mb5.0
AAK MLR MLR
comp=Z,424nm,22.0s,MS4.3
AAK Ala-Archa 44.76 337 *e*P **P 07 13 13.6 -0.1**
comp=Z,32nm,1.4s,mb5.0
AAK *e*pP pP 07 13 21.4 -0.9
AAK LR LR
comp=Z,424nm,22.0s,MS4.3
FRU Bishkek 44.88 337 *e*P **P 07 13 16.0 +1.3**
FRU pmax pmax
comp=Z,117nm,2.0s,mb5.4
CHMS Chumysh 44.97 337 P **P 07 13 16.4 +1.0**
SNR=8.3
EKS2 Erkin-Say 45.07 336 P **P 07 13 17.4 +1.2**
SNR=13
USP Ospenovka 45.29 337 P **P 07 13 18.6 +0.7**
SNR=30
KS15 Wonju Array Si 45.38 36 *e*P **P 07 13 18.9 +0.2**
KS15 *e*pP pP 07 13 26.8 -0.4
MKAR Makanchi Array 46.06 346 P **P 07 13 23.9 -0.1**
comp=Z,20nm,0.5s,mb5.3,baz=161,slow=8.7,SNR=258
MKAR LR LR 07 36 00.3
comp=Z,493nm,21.9s,MS4.4,baz=162,slow=40
MKAR Makanchi Array 46.06 346⇑ *e*P **P 07 13 23.8 -0.2**
MK31 Makanchi Array 46.06 346 *i*P **P 07 13 23.7 -0.3**
SONM Songino Array 46.22 9 P **P 07 13 25.3 +0.1**
comp=Z,12nm,0.7s,mb4.9,baz=190,slow=9.0,SNR=47
SONM pP pP 07 13 34.0 +0.1
comp=Z,18nm,0.9s,baz=189,slow=9.0,SNR=16
SONM PcP PcP 07 15 00.5 -0.1
comp=Z,3.7nm,0.8s,baz=209,slow=2.7,SNR=2.7
SONM LR LR 07 35 06.7
comp=Z,3μm,18.9s,MS5.2,baz=17,slow=39
SONM Songino Array 46.22 9 P **P 07 13 25.3 +0.1**
SONM *PP pP 07 13 34.0 +0.1
SONM 07 15 00.5
SONM Songino Array 46.22 9 P **P 07 13 25.3 +0.1**
SONM pP pP 07 13 34.0 +0.1
SONM PcP PcP 07 15 00.5 -0.1
SONM LR LR 07 35 06.7
SNY Shenyang 46.32 28 ⇓P **P 07 13 25.8 -0.2**
SNY S **S 07 20 00.2 -11**
SNY LR LR
comp=N,1μm,14.7s,MS5.2
SNY LR LR
comp=E,2μm,13.2s,MS5.2
SNY LR LR
comp=Z,2μm,14.4s,MS5.3
ULN Ulaanbaatar 46.35 10 *e*P **P 07 13 25.9 -0.4**
ULN *e**PP pP 07 13 35.2 +0.3
ULN pmax pmax
comp=Z,41nm,1.3s,mb5.2
ULN Ulaanbaatar 46.35 10 *e*P **P 07 13 25.9 -0.4**
comp=Z,41nm,1.3s,mb5.2
ULN *e*pP pP 07 13 35.2 +0.3
KK31 Karatay Array 46.80 334 *i*P **P 07 13 29.2 -0.6**
KK31 pmax pmax
comp=Z,23nm,0.9s,mb5.1
KK31 Karatay Array 46.80 334 *i*P **P 07 13 29.3 -0.5**
KKAR Karatay Array 46.80 334 *i*P **P 07 13 29.2 -0.6**
KKAR pmax pmax
comp=Z,21nm,0.9s,mb5.1
ZAK Zakamensk 48.31 6 *e*P **P 07 13 41.2 -0.3**
ZAK pmax pmax
comp=Z,47nm,1.9s,mb5.2
CN2 Changchun 48.72 28 *e*P **P 07 13 44.0 -0.6**
CN2 *e*AP pP 07 13 51.5 -1.8
CN2 *e*XP sP 07 13 54.8 -1.9
CN2 *e*S **S 07 20 44.6 -0.8**
CN2 SS SS 07 24 10.6 -5.2
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,14.0s,MS5.3
MOY Mondy 49.39 4 *e*P **P 07 13 50.2 +0.4**
MOY pmax pmax
comp=Z,70nm,3.1s
IRK Irkutsk 50.25 6 *e*P **P 07 13 55.0 -1.4**
IRK pmax pmax
comp=Z,89nm,2.2s,mb5.4
KURK Kurchatov 50.60 345 P **P 07 13 59.8 +0.8**
comp=Z,218nm,1.6s,mb5.8,SNR=25
KURK Kurchatov 50.60 345 *c*P **P 07 13 58.7 -0.3**
KURK Kurchatov 50.60 345 *e*P **P 07 13 58.8 -0.2**
comp=Z,62nm,1.2s,mb5.4
KURK LR LR
comp=Z,364nm,22.0s,MS4.3
HIA Hailar 50.90 19 *e*P **P 07 14 01.0 -0.2**
HIA *e**PP pP 07 14 09.1 -0.8
HIA pmax pmax
comp=Z,48nm,1.3s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA Hailar 50.90 19 *e*P **P 07 14 01.0 -0.2**
comp=Z,48nm,1.3s,mb5.3
HIA *e*pP pP 07 14 09.1 -0.8
HIA LR LR
comp=Z,1μm,19.0s,MS4.9
MDJ Mudanjiang 51.32 30 P **P 07 14 04.4 0.0**
MDJ AP pP 07 14 10.8 -2.3
MDJ XP sP 07 14 14.3 -2.3
MDJ PCP PcP 07 15 19.0 -0.1
MDJ PP PP 07 16 04.4 +2.9
MDJ SCP ScP 07 19 14.6 +1.1
MDJ PCS PcS 07 19 17.6 +0.8
MDJ S **S 07 21 23.8 +2.1**
MDJ SCS ScS 07 23 53.5 +0.7
MDJ SS SS 07 24 58.7 +1.2
MDJ AMB AMB
comp=Z,21nm,1.7s,mb4.8
MDJ AMB AMB
comp=Z,255nm,5.4s
MDJ LR LR
comp=N,1μm,15.9s,MS5.1
MDJ LR LR
comp=E,1μm,17.7s,MS5.1
MDJ LR LR
comp=Z,1μm,13.3s,MS5.2
MDJ Mudanjiang 51.32 30 P **P 07 14 05.2 +0.7**
MDJ LR LR
comp=Z,879nm,20.0s,MS4.8
MAJO Matsushiro 51.42 43 *e*P **P 07 14 05.7 +0.5**
MAJO *e**PP pP 07 14 13.7 -0.2
MAJO MLR MLR
comp=Z,948nm,19.0s,MS4.8
MJAR Matsushiro Arr 51.42 43 P **P 07 14 04.8 -0.4**
comp=Z,5.5nm,0.9s,mb4.5,baz=220,slow=7.1,SNR=11
MJAR pP pP 07 14 13.4 -0.4
comp=Z,9.1nm,1.0s,baz=228,slow=7.7,SNR=6.7
VLA Vladivostok 51.48 33 *i*P **P 07 14 05.9 +0.3**
VLA pmax pmax
comp=Z,102nm,1.6s,mb5.5
VLA MLR MLR
comp=Z,2μm,16.0s,MS5.1
VLA Vladivostok 51.48 33 *i*P **P 07 14 04.9 -0.7**
CIT Chita 51.62 13 *e*P **P 07 14 06.7 0.0**
CIT *e* pP 07 14 16.0 +0.6
CIT pmax pmax
comp=Z,132nm,2.2s,mb5.5
ZAL Zalesovo 52.41 351 P **P 07 14 11.8 -0.8**
comp=Z,24nm,0.4s,mb5.4,baz=303,slow=5.3,SNR=105
ZAL LR LR 07 41 53.6
comp=Z,1μm,20.4s,MS4.9,baz=294,slow=42
ZAL Zalesovo 52.41 351 P **P 07 14 11.8 -0.8**
ZAL LR LR 07 41 53.6
OPO Ambohidratompo 52.70 245 P **P 07 14 15.4 +0.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=61,slow=5.1,SNR=3.7
NVS Novosibirsk 53.53 351 *i*P **P 07 14 20.3 -0.5**
NVS pmax pmax
comp=N,77nm,1.4s
NVS pmax pmax
comp=E,41nm,1.4s
NVS pmax pmax
comp=Z,83nm,1.4s,mb5.5
CTA Charters Tower 53.62 117 *e*P **P 07 14 22.0 +0.6**
comp=Z,15nm,1.2s,mb4.8
CTAO Charters Tower 53.62 117 *e*P **P 07 14 21.9 +0.5**
CTAO *e**PP pP 07 14 30.4 +0.2
CTAO pmax pmax
comp=Z,29nm,1.1s,mb5.1
CTAO MLR MLR
comp=Z,991nm,21.0s,MS4.8
CTAO Charters Tower 53.62 117 *e*P **P 07 14 21.9 +0.4**
comp=Z,29nm,1.1s,mb5.1
CTAO *e*pP pP 07 14 30.4 +0.2
CTAO LR LR
comp=Z,991nm,21.0s,MS4.8
KRAR Krasnoyarsk 53.68 357 *i*P **P 07 14 21.8 -0.1**
KRAR pmax pmax
comp=Z,132nm,1.2s,mb5.7
VOSK Vostochnaya 54.58 341 P **P 07 14 26.5 -2.0**
VOSK pmax pmax
comp=Z,34nm,1.2s,mb5.2
STKA Stephens Creek 54.59 132 *e*P **P 07 14 26.5 -2.0**
comp=Z,9.1nm,0.8s,mb4.9
STKA Stephens Creek 54.59 132 P **P 07 14 26.6 -2.0**
comp=Z,16nm,1.1s,mb5.0,baz=295,slow=8.4,SNR=11
STKA LR LR 07 40 20.3
comp=Z,1μm,21.6s,MS4.9,baz=294,slow=39
STKA Stephens Creek 54.59 132 *e*P **P 07 14 26.2 -2.4**
BVA0 Borovoye Array 55.03 341 *i*P **P 07 14 30.0 -1.7**
BVA0 pmax pmax
comp=Z,19nm,1.8s,mb4.8
BVAR Borovoye Array 55.03 341 P **P 07 14 30.5 -1.2**
comp=Z,11nm,0.8s,mb4.9,baz=149,slow=8.6,SNR=48
BRVK Borovoye 55.09 341 P **P 07 14 30.9 -1.3**
comp=Z,95nm,0.9s,mb5.8,SNR=10.0
BRVK Borovoye 55.09 341 *e*P **P 07 14 31.1 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BRVK MLR MLR
comp=Z,158nm,20.0s,MS4.1
BRVK Borovoye 55.09 341 *e*P **P 07 14 31.1 -1.1**
comp=Z,9.4nm,0.9s,mb4.8
BRVK LR LR
comp=Z,158nm,20.0s,MS4.1
KLR Kul'dur 55.66 27 *e*P **P 07 14 33.7 -2.5**
KLR *e* pP 07 14 41.7 -3.3
KLR *e*S **S 07 22 18.5 -2.0**
KLR pmax pmax
comp=E,63nm,2.0s
KLR pmax pmax
comp=Z,140nm,2.0s,mb5.7
AB31 Akbulak array 56.26 332 *i*P **P 07 14 39.5 -1.0**
HABR Khabarovsk 56.71 30 *i*P **P 07 14 43.3 -0.4**
HABR MLR MLR
comp=Z,2μm,16.5s,MS5.3
BOD Bodaibo 57.12 11 *e*P **P 07 14 40.9 -5.8**
BOD pmax pmax
comp=Z,24nm,1.5s,mb5.0
AKTK Aktyubinsk 57.97 332 P **P 07 14 51.7 -1.0**
AKTO Aktyubinsk 57.97 332 P **P 07 14 51.7 -1.0**
comp=Z,4.8nm,0.8s,mb4.6,baz=127,slow=7.0,SNR=12
AKTO Aktyubinsk 57.97 332 *i*P **P 07 14 50.8 -1.9**
AKTO pmax pmax
comp=Z,14nm,1.9s,mb4.7
ASAJ Asahikawa 58.27 38 P **P 07 14 52.5 -2.2**
comp=Z,4.7nm,0.3s,mb4.9,baz=225,slow=6.1,SNR=6.8
CLNS Chul'man 58.97 18 *e*P **P 07 14 54.8 -4.8**
CLNS pmax pmax
comp=Z,25nm,1.6s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=N,800nm,15.0s,MS5.3
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.3
KMBO Kilima Mbogo 59.30 267 P **P 07 15 01.9 0.0**
comp=E,3.1nm,1.0s,mb4.3,baz=40,slow=22,SNR=5.5
KMBO Kilima Mbogo 59.30 267 *i*P **P 07 15 01.2 -0.7**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 59.30 267 P **P 07 15 01.9 0.0**
KMBO LR LR
comp=Z,700nm,20.0s,MS4.8
ARU Arti 61.94 337 *e*P **P 07 15 19.3 -0.7**
comp=Z,26nm,1.0s,mb5.3
ARU LR LR
comp=Z,260nm,21.0s,MS4.4
KIV Kislovodsk 63.05 319 *i*P **P 07 15 27.4 +0.1**
KIV MLR MLR
comp=Z,316nm,22.0s,MS4.4
GOF Gofitskoye 63.30 320 *e*P **P 07 15 35.0 +6.0**
MALT Malatya 63.89 312 *e*P **P 07 15 33.8 +0.9**
MALT *e**PP pP 07 15 40.8 -1.0
MALT pmax pmax
comp=Z,39nm,1.8s,mb5.1
MALT Malatya 63.89 312 *e*P **P 07 15 33.8 +0.9**
comp=Z,39nm,1.8s,mb5.1
MALT *e*pP pP 07 15 40.8 -1.0
EIL Elat 64.29 302 P **P 07 15 38.2 +2.8**
YAK Yakutsk 64.63 17 *e*P **P 07 15 36.9 -0.8**
YAK *e**PP pP 07 15 44.5 -2.1
YAK pmax pmax
comp=Z,173nm,1.4s,mb5.9
YAK MLR MLR
comp=Z,2μm,22.0s,MS5.2
YAK Yakutsk 64.63 17 *e*P **P 07 15 36.9 -0.8**
comp=Z,173nm,1.4s,mb5.9
YAK *e*pP pP 07 15 44.5 -2.1
YAK LR LR
comp=Z,2μm,22.0s,MS5.2
SOKR Solikamsk 64.85 339 *c*P **P 07 15 38.6 -0.6**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,810nm,23.0s,MS4.8
ANN Anapa 66.84 318 *e*P **P 07 15 49.8 -2.2**
ANN *e*S S 07 24 39.4 -3.3
ANN pmax pmax
comp=Z,28nm,0.8s,mb5.3
ANN MLR MLR
comp=N,384nm,22.0s,MS5.0
ANN MLR MLR
comp=E,910nm,22.0s,MS5.0
ANN MLR MLR
comp=Z,388nm,22.0s,MS4.6
BR131 Keskin Array S 67.88 312 P **P 07 15 58.3 -0.2**
BR131 LR LR
comp=Z,279nm,19.0s,MS4.5
BRTR Keskin Array B 67.88 312 P **P 07 15 57.9 -0.6**
comp=Z,1.2nm,0.9s,baz=125,slow=8.0,SNR=3.8
CASY Casey 69.11 174 PFAKE 07 16 20.0 +14
CASY LR LR
comp=Z,1μm,19.0s,MS5.1
LSZ Lusaka 69.72 253 *e*P **P 07 16 11.5 +1.5**
LSZ *e**PP pP 07 16 18.0 -1.0
LSZ MLR MLR
comp=Z,966nm,21.0s,MS5.0
MA2 Magadan 70.71 26 *e*P **P 07 16 15.4 -0.7**
MA2 *e**PP pP 07 16 24.8 -0.3
MA2 pmax pmax
comp=Z,77nm,1.5s,mb5.4
MA2 MLR MLR
comp=Z,1μm,20.0s,MS5.1
MA2 Magadan 70.71 26 *e*P **P 07 16 15.4 -0.6**
comp=Z,77nm,1.5s,mb5.4
MA2 *e*pP pP 07 16 24.8 -0.3
MA2 LR LR
comp=Z,1μm,20.0s,MS5.1
MOS Moscow 71.07 329 *e*P **P 07 16 16.0 -2.2**
MOS *e* 07 16 32.7
MOS *e*S S 07 25 29.8 -2.9
MOS MLR MLR
comp=Z,1μm,20.0s,MS5.2
OBN Obninsk 71.35 328 *d*P **P 07 16 19.5 -0.5**
OBN *i* pP 07 16 28.6 -0.4
OBN *i* 07 16 35.9
OBN pmax pmax
comp=Z,35nm,1.1s,mb5.2
OBN Obninsk 71.35 328 *e*P **P 07 16 19.8 -0.1**
comp=Z,5.8nm,0.4s,mb4.9
OBN LR LR
comp=Z,146nm,22.0s,MS4.2
PET Petropavlovsk 71.78 34 PFAKE 07 16 30.0 +7.5
PET LR LR
comp=Z,661nm,20.0s,MS4.9
TIXI Tiksi 72.29 10 *i*P **P 07 16 23.9 -1.7**
TIXI MLR MLR
comp=Z,777nm,19.0s,MS5.0
KLMR Klimovskoe 72.50 335 *e*P **P 07 16 25.7 -1.1**
KLMR pmax pmax
comp=Z,70nm,1.6s,mb5.3
SEY Seymchan 73.09 23 *i*P **P 07 16 29.9 -0.4**
MAW Mawson 73.56 193 PFAKE 07 16 40.0 +6.9
MAW LR LR
comp=Z,1μm,20.0s,MS5.2
LBTB Lobatse 73.70 243 P pP 07 16 43.2 +0.2
LBTB MLR MLR
comp=Z,1μm,20.0s,MS5.2
LBTB Lobatse 73.70 243 pP pP 07 16 43.1 +0.2
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
AKASG Malin Array Be 73.99 322 P **P 07 16 34.9 -0.8**
comp=Z,0.8nm,0.5s,baz=92,slow=5.1,SNR=12
AKASG pP pP 07 16 42.9 -1.8
comp=Z,6.9nm,0.7s,baz=92,slow=5.3,SNR=12
BOSA Boshof 74.67 240 P **P 07 16 39.8 +0.2**
comp=Z,2.7nm,0.8s,mb4.2,baz=142,slow=8.4,SNR=4.3
BOSA LR LR 07 46 31.5
comp=Z,707nm,19.3s,MS5.0,baz=55,slow=33
BOSA Boshof 74.67 240 P **P 07 16 39.8 +0.2**
BOSA LR LR 07 46 31.5
MNK Minsk 75.88 326 *e*P **P 07 16 43.0 -3.6**
JOF Joensuu 76.89 335 *ep* **P 07 16 53.2 +0.9**
comp=Z,1.0nm,0.4s,mb4.1
KWP Kalwaria 77.81 320 *e*P pP 07 17 06.3 -0.2
KWP Kalwaria 77.81 320 *e*P **P 07 16 53.7 -3.7**
comp=Z,117nm,1.8s,mb5.5
KWP *e*pP pP 07 17 06.2 -0.3
APA Apatity 77.90 340⇑ *e*P **P 07 16 57.3 -0.6**
APA *i* pP 07 17 04.0 -3.0
APA *e*S S 07 26 53.0 +3.8
APA pmax pmax
comp=Z,45nm,1.5s,mb5.2
KOLS Kolonicke sedl 77.95 320 *e*P pP 07 17 07.5 +0.2
SUW Suwalki 78.41 325 *e*P **P 07 17 01.1 +0.4**
STHS Stebnicka Huta 78.71 320 *e*P pP 07 17 11.2 -0.3
FINES FINESS Array B 78.74 333 P **P 07 17 01.4 -1.1**

comp=Z,2.4nm,0.7s,mb4.2,baz=100,slow=6.2,SNR=10
FINES LR LR 07 56 58.0
comp=Z,680nm,21.2s,MS5.0,baz=129,slow=40
FINES FINESS Array B 78.74 333 *i* P **P 07 17 03.5 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 78.83 333 *ep* **P 07 17 02.2 -0.8**
comp=Z,3.0nm,0.6s,mb4.4
KAF Kangasniemi 78.83 333 *eP* **P 07 17 02.2 -0.8**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KECS Kecovo 79.05 319 *eP* pP 07 17 11.7 -1.7
SUR Sutherland 79.13 237 PFAKE 07 17 20.0 +15
SUR LR LR
comp=Z,387nm,19.0s,MS4.8
NIE Niedzica 79.31 320 *eP* pP 07 17 14.6 -0.2
PSZ Piszkesteto 79.35 318 *eP* **P 07 17 05.9 0.0**
PSZ *e**PP pP 07 17 14.5 -0.5
OJC Ojcow 79.76 321 *eP* pP 07 17 16.2 -1.1
VYHS Vyhne 80.13 319 *eP* pP 07 17 17.6 -1.7
TSUM Tsumeb 80.26 250 *eP* **P 07 17 11.2 +0.3**
TSUM *ep*P pP 07 17 19.3 -0.7
TSUM LR LR
comp=Z,752nm,19.0s,MS5.1
SRO Srobarova 80.39 318 *e* **P 07 17 16.1 +4.6**
BILL Bilibino 80.45 21 *eP* **P 07 17 10.8 -1.1**
BILL *e**PP pP 07 17 19.9 -1.1
BILL pmax pmax
comp=Z,33nm,1.5s,mb5.0
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.5
BILL Bilibino 80.45 21 *eP* **P 07 17 10.8 -1.1**
comp=Z,33nm,1.5s,mb5.0
BILL *ep*P pP 07 17 19.9 -1.1
BILL LR LR
comp=Z,2μm,19.0s,MS5.5
OKC Ostrava-Krasne 80.76 320 *eP* **P 07 17 12.3 -1.2**
OKC *ep*P pP 07 17 20.4 -2.2
KEV Kevo 80.88 341 *ep* **P 07 17 16.8 +2.6**
comp=Z,0.6nm,0.4s
KEV Kevo 80.88 341 *eP* **P 07 17 16.8 +2.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KEV Kevo 80.88 341 PFAKE 07 17 30.0 +16
KEV LR LR
comp=Z,790nm,20.0s,MS5.1
ZST Bratislava 81.24 318 *eP* pP 07 17 24.7 -0.5
ARCES ARCESS Array B 81.31 340 P **P 07 17 16.6 +0.1**
comp=Z,21nm,1.1s,mb5.0,baz=90,slow=4.9,SNR=24
ARCES LR LR 07 59 28.9
comp=Z,509nm,19.7s,MS4.9,baz=9.7,slow=40
ARE0 ARCESS Array S 81.31 340 *eP* **P 07 17 16.7 +0.3**
ARE0 *ep*P pP 07 17 23.6 -2.0
DPC Dobruska-Polom 81.99 320 *eP* **P 07 17 20.4 +0.4**
DPC *ep*P pP 07 17 29.0 -0.2
KSP Ksiaz 82.06 321 *eP* pP 07 17 30.0 +0.5
UPC Upice 82.20 321 *eP* **P 07 17 17.3 -3.8**
UPC *ep*P pP 07 17 29.9 -0.4
BOJS Bojanci 82.25 315 *eP* pP 07 17 29.9 -0.6
VISS Visnje 82.56 316 *eP* pP 07 17 31.1 -1.0
SNZO South Karori 82.65 132 PFAKE 07 17 30.0 +6.5
SNZO LR LR
comp=Z,1μm,19.0s,MS5.3
FUNA Funafuti 83.14 99 PFAKE 07 17 40.0 +14
FUNA LR LR
comp=Z,6μm,19.0s,MS6.0
ROBS Robic 83.51 316 *eP* pP 07 17 39.0 +1.8
BRG Berggiesshubel 83.55 321 *eP* pP 07 17 36.1 -1.2
comp=Z,16nm,1.7s
BRG
comp=N,175nm,29.8s
BRG
comp=E,150nm,13.9s
BRG
comp=Z,223nm,16.2s
BRG Berggiesshubel 83.55 321 *eP* pP 07 17 36.1 -1.2
BRG pmax pmax
comp=Z,16nm,1.7s,mb4.9
BRG MLR MLR
comp=N,175nm,29.8s
BRG MLR MLR
comp=E,150nm,13.9s
BRG MLR MLR
comp=Z,223nm,16.2s
GERES GERESS Array B 83.55 319 P **P 07 17 28.6 +0.5**
comp=Z,2.2nm,1.0s,mb4.2,baz=90,slow=5.3,SNR=11
GERES pP pP 07 17 36.6 -0.7
comp=Z,2.2nm,0.7s,baz=108,slow=4.2,SNR=9.7
GERES LR LR 08 01 01.4
comp=Z,214nm,20.2s,MS4.5,baz=286,slow=40
GERES GERESS Array B 83.55 319 P **P 07 17 28.6 +0.4**
GERES *PP pP 07 17 36.6 -0.7
KHC Kasperske Hory 83.65 319 *eP* **P 07 17 26.3 -2.4**
KHC *ep*P pP 07 17 35.9 -1.9
CLL Collm 84.17 321 *ep*P pP 07 17 39.0 -1.5
comp=Z,16nm,1.7s
CLL *ex* x 07 17 46.0
GRA1 Grafenberg Arr 85.22 319 *eP* **P 07 17 36.7 +0.1**
comp=Z,30nm,1.7s,mb5.2
GRA1 *ep*P pP 07 17 45.3 -0.5
GRF Grafenberg Arr 85.22 319 *eP* **P 07 17 36.7 +0.1**
comp=Z,30nm,1.7s,mb5.2
GRF *ep*P pP 07 17 45.3 -0.5
comp=Z,30nm,1.7s
GRF Grafenberg Arr 85.22 319 *eP* **P 07 17 36.7 +0.1**
GRF *e**PP pP 07 17 45.3 -0.5
GRF pmax pmax
comp=Z,30nm,1.7s,mb5.2
GRF Grafenberg Arr 85.22 319 *eP* **P 07 17 36.7 +0.1**
GRF *e**PP pP 07 17 45.3 -0.5
GRF pmax pmax
comp=Z,30nm,1.7s,mb5.2
NB2 NORSAR Subarra 85.75 331 P **P 07 17 38.2 -1.0**
comp=Z,32nm,1.7s,mb5.3,baz=96,slow=5.1
NOA NORSAR Array B 85.75 331 P **P 07 17 38.4 -0.9**
comp=Z,2.7nm,1.1s,mb4.4,baz=93,slow=4.7,SNR=3.1
NOA pP pP 07 17 46.6 -1.8
comp=Z,2.2nm,0.8s,baz=95,slow=4.9,SNR=4.7
NOA LR LR 08 00 14.4
comp=Z,421nm,21.6s,MS4.8,baz=85,slow=39
NOA NORSAR Array B 85.75 331 P **P 07 17 38.4 -0.8**
NOA *PP pP 07 17 46.6 -1.8
KONO Kongsberg 86.49 329 PFAKE 07 17 50.0 +7.1
KONO LR LR
comp=Z,646nm,19.0s,MS5.0
KBS Kingsbay 86.75 349 PFAKE 07 17 50.0 +5.8
KBS LR LR
comp=Z,878nm,21.0s,MS5.1
VNDA Vanda 86.99 169 PFAKE 07 18 00.0 +15
VNDA LR LR
comp=Z,858nm,19.0s,MS5.2
LPG La Plagne 88.22 315 *eP* **P 07 17 57.5 +6.3**
comp=Z,11nm,0.9s,mb4.8
LPG La Plagne 88.22 315 *eP* **P 07 17 57.5 +6.3**
comp=Z,5.6nm,0.9s,mb4.8
TNA Tin City 90.30 24 PFAKE 07 18 10.0 +9.0
TNA LR LR
comp=Z,448nm,20.0s,MS4.9
QSPA South Pole Qui 92.18 180 PFAKE 07 18 20.0 +10
QSPA LR LR
comp=Z,1μm,19.0s,MS5.3
TORD Torodi Ar. Bea 94.15 283 P **P 07 18 18.7 0.0**
comp=Z,1.2nm,1.1s,mb4.2,baz=88,slow=2.6,SNR=4.0
IMA2 Indian Mountai 95.90 23 *eP* **P 07 18 26.9 +0.1**
IMA2 *ep*P pP 07 18 36.3 +0.3
ESLA Sonseca Array 96.60 310 PFAKE 07 18 40.0 +10
ESLA LR LR
comp=Z,2μm,22.0s,MS5.6
ILAR Eielson Array 99.03 23 P **P 07 18 38.4 -2.5**
comp=Z,0.6nm,1.0s,mb4.1,baz=210,slow=3.8,SNR=4.8
FIB Fire Island 99.09 27 PFAKE 07 18 50.0 +8.8
FIB LR LR
comp=Z,3μm,19.0s,MS5.9
YKA Yellowknife Ar 111.28 15 PP PP 07 24 07.1 -6.6
comp=Z,0.6nm,1.1s,baz=319,slow=6.5,SNR=4.9
YKA PKKPbc PKKPbc 07 34 37.3 +8.0
comp=Z,0.5nm,0.9s,baz=151,slow=3.4,SNR=5.8
PMSA Palmer Station 116.03 189 PFAKE 07 23 50.0 +7.0
PMSA LR LR
comp=Z,817nm,19.0s,MS5.4
OCWA Octopus Mounta 118.88 30 PFAKE 07 24 00.0 +12
OCWA LR LR
comp=Z,1μm,19.0s,MS5.6
FFC Flin Flon 121.21 12 PFAKE 07 24 00.0 +7.1
FFC LR LR
comp=Z,236nm,19.0s,MS4.8
SCHQ Schefferville 121.47 349 PFAKE 07 24 00.0 +6.6
SCHQ LR LR
comp=Z,891nm,20.0s,MS5.4
BMO Blue Mountains 124.29 29 PP PP 07 25 44.5 +0.3
BMO LR LR
comp=Z,753nm,19.0s,MS5.4
WDC Whiskeytown Da 124.48 36 PFAKE 07 24 10.0 +11
WDC LR LR
comp=Z,423nm,19.0s,MS5.1
MOD Modoc 124.86 33 PFAKE 07 24 10.0 +10
MOD LR LR
comp=Z,385nm,19.0s,MS5.1
WVOR Wild Horse Val 125.38 31 PFAKE 07 24 10.0 +9.1
WVOR LR LR
comp=Z,493nm,22.0s,MS5.1
BOZ Bozeman (W) 126.20 24 PFAKE 07 24 10.0 +7.5
BOZ LR LR
comp=Z,804nm,20.0s,MS5.4
DGMT Dagmar 126.38 17 PFAKE 07 24 10.0 +7.2
DGMT LR LR
comp=Z,529nm,21.0s,MS5.2
LKWY Lake 127.58 24 PFAKE 07 24 20.0 +15
LKWY LR LR
comp=Z,684nm,20.0s,MS5.3
NVAR Mina Array Bea 128.35 35 PKP PKPdf 07 24 08.3 +1.7
comp=Z,0.7nm,0.9s,baz=270,slow=5.6,SNR=7.0
NVAR Mina Array Bea 128.35 35 PKP PKPdf 07 24 08.3 +1.7
REDW Red Top Meadow 128.38 25 PKPdf PKPdf 07 24 08.2 +1.6
REDW PP PP 07 26 14.2 +2.9
MNV Mina 128.44 35 PFAKE 07 24 20.0 +13
MNV LR LR
comp=Z,415nm,20.0s,MS5.1
AHID Auburn Hatcher 128.75 26 PFAKE 07 24 20.0 +13
AHID LR LR
comp=Z,563nm,19.0s,MS5.3
BW06 Boulder Array 129.41 25 PFAKE 07 24 20.0 +11
BW06 LR LR
comp=Z,451nm,20.0s,MS5.2
PDAR Pinedale Array 129.41 25 PKP PKPdf 07 24 09.3 +0.7
comp=Z,0.9nm,0.9s,baz=45,slow=2.1,SNR=4.7
HWUT Hardware Ranch 129.47 27 *e*PKPdf PKPdf 07 24 10.1 +1.3
HWUT *ep*PKPdf pPKPdf 07 24 19.2 +1.0
HWUT PP PP 07 26 18.0 -0.4
HWUT LR LR
comp=Z,525nm,20.0s,MS5.2
EYMN Ely 129.53 7 PFAKE 07 24 20.0 +11
EYMN LR LR
comp=Z,493nm,20.0s,MS5.2
DUG Dugway 129.98 29 PKIKP PKPdf 07 24 11.6 +1.9
DUG 07 26 17.9
DUG MLR MLR
comp=Z,372nm,21.0s,MS5.1
DAC Darwin (Calif) 130.24 36 PFAKE 07 24 20.0 +10
DAC LR LR
comp=Z,159nm,20.0s,MS4.7
RSSD Black Hills 130.32 19 PFAKE 07 24 20.0 +10
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
GSC Goldstone 131.37 37 *e*SKPbc SKPbc 07 27 35.6 +0.2
SHPR Sheep Range 131.49 34 SKPbc SKPbc 07 27 37.5 +1.8
MVU Marysvale 131.58 30 SKPbc SKPbc 07 27 43.4 +7.3
MVU LR LR
comp=Z,735nm,19.0s,MS5.4
MSU Marysvale 131.59 30 SKPbc SKPbc 07 27 38.3 +2.2
RCBR Riachuelo 132.37 264 PFAKE 07 24 30.0 +16
RCBR LR LR
comp=Z,458nm,19.0s,MS5.2
BAR Barrett 133.21 39 SKPbc SKPbc 07 27 42.4 +0.6
ISCO Idaho Springs 133.51 24 PFAKE 07 24 30.0 +14
ISCO LR LR
comp=Z,621nm,20.0s,MS5.3
WES Weston 134.22 347 PFAKE 07 24 30.0 +12
WES LR LR
comp=Z,2μm,21.0s,MS5.8
WUAZ Wupatki 134.29 32 SKPbc SKPbc 07 27 46.9 +1.6
WUAZ LR LR
comp=Z,420nm,19.0s,MS5.2
SDCO Great Sand Dun 135.30 25 PFAKE 07 24 30.0 +10
SDCO LR LR
comp=Z,650nm,19.0s,MS5.4
CBKS Cedar Bluff 136.50 18 PFAKE 07 24 30.0 +8.1
CBKS LR LR
comp=Z,464nm,20.0s,MS5.2
TUC Tucson 137.01 35 SKPbc SKPbc 07 27 55.4 +1.6
TUC LR LR
comp=Z,271nm,22.0s,MS4.9
ANMO Albuquerque 137.20 28 SKPbc SKPbc 07 27 56.2 +1.8
comp=Z,5.1nm,1.1s,baz=279,slow=3.7,SNR=6.9
ANMO Albuquerque 137.20 28 *i* PKIKP PKPdf 07 24 20.3 -2.9
ANMO Albuquerque 137.20 28 PFAKE 07 24 40.0 +17
ANMO LR LR
comp=Z,593nm,19.0s,MS5.3
ACSO Alum Creek Sta 137.72 359 PFAKE 07 24 40.0 +16
ACSO LR LR
comp=Z,322nm,21.0s,MS5.0
CBN Corbin 139.35 353 PFAKE 07 24 40.0 +13
CBN LR LR
comp=Z,952nm,20.0s,MS5.5
WCI Wyandotte Cave 139.65 3 PFAKE 07 24 40.0 +12
WCI LR LR
comp=Z,635nm,20.0s,MS5.4
PLCA Paso Flores 139.93 195 PKP PKPdf 07 24 30.0 +1.7
comp=Z,4.3nm,1.2s,baz=47,slow=20,SNR=2.9
PLCA Paso Flores 139.93 195 PKP PKPdf 07 24 30.0 +1.7
PLCA LR LR
comp=Z,553nm,21.0s,MS5.3
MNTX Cornudas Mount 140.37 30 SKPbc SKPbc 07 28 05.9 +2.6
MNTX LR LR
comp=Z,339nm,19.0s,MS5.1
WMOK Wichita Mounta 140.52 20 PFAKE 07 24 40.0 +11
WMOK LR LR
comp=Z,473nm,21.0s,MS5.2
WVT Waverly 141.61 6 PFAKE 07 24 40.0 +8.7
WVT LR LR
comp=Z,406nm,20.0s,MS5.2
MIAR Mount Ida 142.21 14 PFAKE 07 24 40.0 +7.7
MIAR LR LR
comp=Z,529nm,19.0s,MS5.3
PLAL Pickwick Lake 142.72 6 PFAKE 07 24 50.0 +17
PLAL LR LR
comp=Z,606nm,20.0s,MS5.4
OXF Oxford 143.02 8 PFAKE 07 24 50.0 +16
OXF LR LR
comp=Z,666nm,20.0s,MS5.4
TXAR Lajitas Array 143.15 30 PKP PKPdf 07 24 32.1 -1.9
comp=Z,1.4nm,0.9s,baz=0.0,slow=0.0,SNR=6.1
TXAR SKPbc SKPbc 07 28 11.9 +1.6
comp=Z,4.9nm,1.1s,baz=270,slow=1.3,SNR=10.0
JCT Junction City 143.94 24 *e*PKPdf PKPdf 07 24 34.3 -1.1
JCT *e*SKPbc SKPbc 07 28 13.0 +0.9
JCT LR LR
comp=Z,372nm,21.0s,MS5.1
NATX Nacogdoches 144.57 16 PFAKE 07 24 50.0 +14
NATX LR LR
comp=Z,512nm,22.0s,MS5.2
LRAL Lakeview Retre 144.76 5 *e*PKPdf PKPdf 07 24 35.7 -1.1
LRAL *ep*PKPdf pPKPdf 07 24 44.9 -1.4
LRAL LR LR
comp=Z,606nm,21.0s,MS5.3
CPUP Villa Florida 145.27 224 *e*PKIKP PKPdf 07 24 37.8 +0.1
CPUP *e* 07 24 48.0
HKT Hockley 145.89 19 *e*PKPdf PKPdf 07 24 38.1 -0.7
HKT *ep*PKPdf pPKPdf 07 24 48.9 +0.6
HKT LR LR
comp=Z,597nm,19.0s,MS5.4
DWPF Disney 149.75 356 PFAKE 07 25 00.0 +15
DWPF LR LR
comp=Z,525nm,19.0s,MS5.3
SJG San Juan 153.50 320 PFAKE 07 25 00.0 +9.2
SJG LR LR
comp=Z,397nm,20.0s,MS5.2
LVC Limon Verde 155.28 214 PFAKE 07 25 10.0 +17
LVC LR LR
comp=Z,374nm,19.0s,MS5.2
TEIG Tepich 157.19 12 PFAKE 07 25 10.0 +14
TEIG LR LR
comp=Z,68nm,21.0s,MS4.5
LPAZ La Paz 159.40 226 PKP PKPdf 07 25 01.2 +2.7
comp=Z,0.5nm,0.5s,baz=143,slow=5.1,SNR=2.2
LPAZ La Paz 159.40 226 PKP PKPdf 07 25 01.2 +2.7
LPAZ LR LR
comp=Z,275nm,19.0s,MS5.1
SDV Santo Domingo 163.05 311 PFAKE 07 25 10.0 +7.7
SDV LR LR
comp=Z,250nm,20.0s
JTS JuntasAbangare 167.47 6 PFAKE 07 25 20.0 +14
JTS LR LR
comp=Z,113nm,19.0s
NNA Nana 168.27 214 PFAKE 07 25 20.0 +13
NNA LR LR
comp=Z,82nm,20.0s

IDC 06 07:07:18.4±1.7, 4997N×17952W, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=44.1km s-min=11.8km az=17.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**5.43**	**305**	Pn	Pn	07 08 39.2	-1.2
	4.6nm,0.3s,baz=257,slow=19,SNR=11						
FX1				Sn	Sn	07 09 39.7	-3.9
	11nm,0.3s,baz=81,slow=22,SNR=16						
ILAR	**Eielson Array**	**22.64**	**37**	P	P	07 12 19.3	-1.5
	0.6nm,0.7s,baz=242,slow=8.7,SNR=9.0						
INK	**Inuvik**	**28.88**	**34**	P	P	07 13 17.9	-0.8
	0.5nm,0.5s,baz=262,slow=12,SNR=5.6						
YKA	**Yellowknife Ar**	**36.54**	**45**	P	P	07 14 26.3	+0.7
	1.5nm,0.8s,baz=282,slow=7.2,SNR=22						
NVAR	**Mina Array Bea**	**44.20**	**81**	P	P	07 15 29.2	+0.1
	0.5nm,0.8s,baz=283,slow=7.2,SNR=4.5						
PDAR	**Pinedale Array**	**47.19**	**71**	P	P	07 15 52.8	0.0
	0.5nm,0.7s,baz=225,slow=2.1,SNR=3.6						
TXAR	**Lajitas Array**	**59.34**	**80**	P	P	07 17 22.0	-0.1
	0.4nm,0.6s,baz=302,slow=5.5,SNR=6.0						
TXAR				PcP	PcP	07 18 10.3	+0.1
	0.4nm,0.7s,baz=298,slow=3.8,SNR=3.9						
MKAR	**Makanchi Array**	**60.55**	**309**	P	P	07 17 29.0	-1.5
	1.5nm,1.1s,baz=55,slow=5.8,SNR=3.5						
BVAR	**Borovoye Array**	**61.67**	**320**	P	P	07 17 37.4	-0.7
	1.1nm,0.7s,baz=56,slow=5.2,SNR=2.8						

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*TIF **06** 07:14:41.9, 4255N×43.49E, h13km±2km*
*ISCJB **06** 07:14:42.4±0.4, 4259N±002×43.49E±003, h11km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=112.4*
*CSEM **06** 07:14:44.5, 4266N×4370E, h21km, mb3.7, Error ellipse: s-maj=15.8km s-min=8.6km az=11.0, After OBN*
*MOS **06** 07:14:44.5±1.3, 4266N×4370E, h21km, mb3.7/1, Error ellipse: s-maj=15.8km s-min=8.6km az=91.1*

ISC 06 07:14:42.6±0.4, 4257N±002×4348E±003, h13km±4km, n23, σ0°73/39, 2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**304**	P	**Pg**	**07 14 44.7**	**-0.2**
ONI				S	**Sg**	**07 14 46.3**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.34**	**13**	*e*Pg	**Pg**	**07 14 49.7**	**+0.2**
ZEI	**Tsey**	**0.37**	**56**	*i* Pg	**Pg**	**07 14 50.5**	**+0.4**
ZEI				*i* Sg	**Sg**	**07 14 56.6**	**+1.5**
LACR	**Lac**	**0.66**	**66**	*i* Pg	**Pg**	**07 14 55.1**	**-0.3**
LACR				*i* Sg	**Sg**	**07 15 04.7**	**+0.7**
GOR	**Gori**	**0.74**	**141**	P	Px	07 15 16.3	
GOR				S	Sx	07 15 24.8	
LSNR	**Lesken**	**0.75**	**19**	*e*Pg	**Pg**	**07 14 56.8**	**-0.4**
LSNR				*e*Sg	**Sg**	**07 15 07.4**	**+0.4**
ARNR	**Ardon**	**0.86**	**43**	*e*Pg	**Pg**	**07 14 58.6**	**-0.6**
ARNR				*e*Sg	**Sg**	**07 15 10.6**	**+0.2**
KMSR	**Komsomolskaya**	**1.00**	**36**	*i* Pg	**Pg**	**07 15 00.8**	**-1.2**
KMSR				*e*Sg	**Sg**	**07 15 14.5**	**-0.5**
VLKR	**Vladikavkaz**	**1.00**	**61**	*e*Pg	**Pg**	**07 15 01.0**	**-1.0**
VLKR				*e*Sg	**Sg**	**07 15 14.6**	**-0.5**
DUS	**Dusheti**	**1.02**	**117**	P	**Pb**	**07 15 02.0**	**-0.3**
DUS				S	**Sb**	**07 15 15.5**	**-0.1**
CHVG	**Ch'k'valeri**	**1.04**	**279**	P	**Pb**	**07 15 03.4**	**+0.8**
CHVG				S	**Sb**	**07 15 16.7**	**+0.6**
AKH	**Akhalkalaki**	**1.16**	**179**	P	**Pb**	**07 15 03.7**	**-0.8**
AKH				S	**Sb**	**07 15 19.7**	**+0.3**
KUBR	**Kubataba**	**1.23**	**358**	*i* Pg	**Pg**	**07 15 07.1**	**+0.7**
	15nm,0.4s						
KUBR				*i* Sg	**Sg**	**07 15 22.8**	**+0.3**
	63nm,1.0s						
KUBR	**Kubataba**	**1.23**	**358**	*d i* PG	**Pg**	**07 15 07.1**	**+0.7**
KUBR				*i* S	**Sg**	**07 15 22.8**	**+0.3**
KUBR				pmax	pmax		
	comp=Z,15nm,0.4s						
KUBR				smax			
	comp=Z,63nm,1.0s						
TBLG	**Delisi**	**1.25**	**131**	P	**Pn**	**07 15 06.2**	**+0.3**
TBLG	**Delisi**	**1.25**	**131**	*e*Pg	**Pg**	**07 15 06.2**	**-0.6**
TBLG				*e*Sg	**Sg**	**07 15 24.6**	**+1.5**
MTA	**Mtatsminda**	**1.31**	**131**	P	**Pn**	**07 15 06.3**	**-0.3**
SHAR	**Shatzhatmas**	**1.32**	**334**	*e*Pg	**Pg**	**07 15 06.9**	**-1.1**
KZR	**Kazreti**	**1.37**	**149**	P	**Pn**	**07 15 06.7**	**-0.8**
KZR				S	**Sn**	**07 15 24.8**	**-0.8**
KIV0	**Kislovodsk Arr**	**1.50**	**338**	Pg	**Pg**	**07 15 11.6**	**+0.1**
KIV0				Sg	**Sg**	**07 15 31.3**	**+0.3**
KIV	**Kislovodsk**	**1.50**	**338**	*e*Pg	**Pg**	**07 15 11.6**	**+0.1**
	comp=Z,8.0nm,0.5s						
KIV				*i* Sg	**Sg**	**07 15 30.9**	**-0.2**
	comp=Z,63nm,0.9s						
KIV	**Kislovodsk**	**1.50**	**338**	*de*PG	**Pg**	**07 15 11.6**	**+0.1**
KIV				*i* S	**Sg**	**07 15 30.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KIV				smax			
	comp=Z,63nm,0.9s						
DGRG	**David-gareji**	**1.80**	**128**	P	**Pn**	**07 15 15.9**	**+2.5**

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*INMG **06** 07:15:20.3±0.9, 4212N×678W, h10km, ML1.4, Error ellipse: s-maj=3.7km s-min=1.6km az=77.0*

MDD 06 07:15:20.8±0.2, 4211N×683W, h0km, mbLg1.6/9, 1D, Error ellipse: s-maj=5.5km s-min=1.4km az=60.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAL	**Calabor**	**0.19**	**158**	⇓Pg	Pg	07 15 24.2	-0.1
	29nm,0.3s,SNR=18						
ECAL				Lg		07 15 27.3	
	71nm,0.1s,SNR=4.7						
PBRG	**Braganca**	**0.32**	**168**	*e*Pg	Pg	07 15 26.2	-0.6
PBRG				*e*Sg	Sg	07 15 30.7	-0.2
PBRG							
	16nm,0.1s						
ERUA	**La Rua**	**0.36**	**320**	Pg	Pg	07 15 27.4	-0.4
	4.7nm,0.1s,SNR=18						
ERUA				Lg		07 15 32.7	
	6.0nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**0.95**	**255**	Pg	Pg	07 15 38.5	-0.5
	0.1nm,0.1s,SNR=7.9						
ELOB				Lg		07 15 51.7	
	3.4nm,0.1s,SNR=8.6						
PCAB	**Cabril**	**0.98**	**246**	*e*S	Sg	07 15 52.2	-0.1
PCAB							
	6.5nm,0.1s						
PCAB	**Cabril**	**0.98**	**246**	Lg		07 15 52.2	
	3.2nm,0.1s						
PVRL	**Vila Real**	**1.07**	**219**	*e*P	Pg	07 15 40.3	-1.0
PVRL				*e*S	Sg	07 15 55.0	-0.1
PVRL							
	9.4nm,0.1s						
EPON	**Pontenova**	**1.23**	**349**	Pg	Pg	07 15 42.7	-1.7
	0.1nm,0.1s,SNR=7.9						
EPON				Lg		07 15 57.3	
	2.6nm,0.2s,SNR=7.7						
PVIS	**Viseu**	**1.61**	**210**	*e*S	Sn	07 16 10.5	-1.4
PVIS							
	5.2nm,0.1s						
PVIS	**Viseu**	**1.61**	**210**	Lg		07 16 10.5	
	2.6nm,0.1s						
MTE	**Manteigas**	**1.80**	**198**	*e*Sg	Sg	07 16 17.5	-1.0
MTE							
	2.9nm,0.3s						
MTE	**Manteigas**	**1.80**	**198**	Lg		07 16 17.5	
	1.4nm,0.3s						

MEX 06 07:28:01.9±0.7, 1619N×9757W, h6km±7km, MD3.8, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**291**	⇑*i* P	Pg	07 28 12.2	-0.6
PNIG				*i* S	Sg	07 28 20.7	+0.4
VHO	**Vista Hermosa**	**1.19**	**42**	*i* P	Pg	07 28 21.3	-3.5

VHO				*i* S	Sg	07 28 36.7	-3.5
OXX	**Oaxaca**	**1.20**	**42**	*i* P	Pg	07 28 21.5	-3.5
OXX				*i* S	Sg	07 28 37.0	-3.6
HUIG	**Huatulco**	**1.47**	**106**	*i* P	Pn	07 28 26.1	-2.8
HUIG				*i* S	Sn	07 28 43.2	-5.2
UTMO	**Huajuapan**	**1.65**	**352**	*e*P	Pn	07 28 28.6	-2.6
UTMO				*i* S	Sn	07 28 47.9	-4.8
MEIG	**Mezcala**	**2.61**	**312**	*e*P	Pn	07 28 39.8	-4.7
MEIG				*i* S	Sn	07 29 13.6	-2.8
CAIG	**El Cayaco**	**2.72**	**289**	*e*P	Pn	07 28 42.5	-3.6
CAIG				*i* S	Sn	07 29 16.0	-3.2
PLIG	**Platanillo**	**2.86**	**320**	*e*P	Pn	07 28 43.1	-4.9
PLIG				*i* S	Sn	07 29 18.1	-4.6
PPM	**Popocatepetl**	**3.03**	**341**	*i* P	Pn	07 28 51.6	+1.3
PPM				*i* S	Sn	07 29 25.2	-1.7

IDC 06 07:30:39.2±1.5, 027S×12291E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=147.0km s-min=26.0km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**151**	P	P	07 35 40.7	+0.2
	2.2nm,0.7s,baz=331,slow=10,SNR=14						
SONM	**Songino Array**	**50.02**	**346**	P	P	07 39 36.5	+1.1
	0.3nm,0.5s,baz=162,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**58.80**	**328**	P	P	07 40 38.6	-0.6
	0.3nm,0.3s,baz=129,slow=8.4,SNR=8.1						

*IDC **06** 07:38:31.8±2.8, 654S×14773E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=88.8km s-min=27.4km az=96.0*
*ISCJB **06** 07:38:35.8±2.3, 65S±01×1475E±03, h33km, mb3.6/2, Error ellipse: s-maj=44.4km s-min=14.4km az=168.3*

ISC 06 07:38:37.8±2.4, 65S±01×1475E±03, h35km, n7, σ1§23/7, mb3.6/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.89**	**187**	Pn	**Pn**	**07 39 19.5**	**-1.8**
	3.7nm,0.3s,baz=5.2,slow=11,SNR=6.8						
PMG				Sn	**Sn**	**07 39 56.6**	**+1.8**
	9.0nm,0.3s,baz=3.2,slow=10,SNR=6.0						
WB2	**Warramunga Arr**	**18.46**	**222**	*e*P	**Pn**	**07 42 50.6**	**-0.2**
WRA	**Warramunga Arr**	**18.47**	**223**	P	**Pn**	**07 42 50.9**	**0.0**
	0.2nm,0.3s,baz=49,slow=11,SNR=7.5						
ASPA	**Alice Springs**	**21.48**	**216**	*e*P	**P**	**07 43 21.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**24.22**	**240**	*e*P	**P**	**07 43 51.9**	**+0.8**
	4.3nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**07 50 34.7**	**+1.1**
	0.1nm,0.5s,mb3.0,baz=101,slow=7.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**145.69**	**284**	PKPbc	PKPbc	07 58 13.0	+0.2
	0.5nm,0.7s,baz=69,slow=3.2,SNR=4.9						

JMA 06 07:45:36.1±0.2, 4335N×14679E, h43km±3km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.76**	**271**	P	Pn	07 45 50.5	0.0
NEM2				*e*S	Sn	07 46 01.3	+0.5
JRA	**Rausu**	**1.35**	**296**	P	Pn	07 45 58.9	+0.5
JRA				*e*S	Sn	07 46 15.7	+0.6
JNK	**Nakash**	**1.53**	**280**	P	Pn	07 46 01.1	+0.2
JNK				*e*S	Sn	07 46 20.0	+0.5
JAK	**Akkeshi**	**1.57**	**258**	P	Pn	07 46 02.1	+0.6
JAK				*e*S	Sn	07 46 21.1	+0.5
JTKR	**Abashiri--Toko**	**2.18**	**288**	P	Pn	07 46 11.4	+1.5
JAR	**Ashorobuto**	**2.21**	**270**	P	Pn	07 46 11.6	+1.4
JAR				*e*S	Sn	07 46 37.4	+1.2
JOB	**Onbets**	**2.21**	**259**	P	Pn	07 46 11.7	+1.5
JOB				*e*S	Sn	07 46 37.4	+1.1
JCH	**Churui**	**2.62**	**255**	P	Pn	07 46 17.2	+1.3
JCH				*e*S	Sn	07 46 47.4	+0.9

*ISCJB **06** 08:43:33.3±0.4, 6629N±003×142.15W±008, h10km, mb4.3/10, Error ellipse: s-maj=4.7km s-min=4.5km az=132.7*
*IDC **06** 08:43:34.2±1.0, 6639N×1424.2W, h0km, mb3.9/3, mb1 4.3/6, mb1mx3.8/23, mbtmp4.0/6, ML4.0/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/29, Error ellipse: s-maj=19.6km s-min=9.7km az=150.0*
*PGC **06** 08:43:35.8, 6628N×142.10W, h1km, ML4.2/2, Mw4.2, Eastern Alaska.*
*BJI **06** 08:43:35.7, 6630N×1428.0W, h14km, mB4.8, mb4.7, Ms4.6, Msz4.4*
*NEIC **06** 08:43:37.8, 6631N×1427.7W, h24km, ML4.0(AEIC), MW4.2(PGC), After AEIC.*

ISC 06 08:43:34.4±0.3, 6634N±003×14213W±007, h10km, n40, σ1§45/59, mb4.3/10, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.46**	**319**	P	**Pn**	**08 44 00.2**	**-0.5**
IL1	**Eielson Array**	**2.53**	**234**	P	**Pn**	**08 44 14.4**	**-1.1**
ILAR	**Eielson Array**	**2.53**	**234**	Pn	**Pn**	**08 44 14.6**	**-0.9**
	11nm,0.3s,baz=45,slow=13,SNR=354						
ILAR				Sn	**Sn**	**08 44 44.9**	**-1.4**
	50nm,0.3s,baz=37,slow=14,SNR=8.6						
ILAR				Lg		08 44 51.2	
	320nm,0.3s,baz=48,slow=30,SNR=38						
DAWY	**Dawson**	**2.56**	**152**	Pn	**Pn**	**08 44 16.1**	**+0.3**
DAWY				Pg	**Pg**	**08 44 21.0**	**-2.4**
DAWY				Sn	**Sn**	**08 44 47.5**	**+0.4**
DAWY				Sg	**Sg**	**08 44 54.1**	**-2.4**
DAWY				Trac		08 45 01.4	
	comp=Z,734nm,0.8s						
COLA	**College**	**2.79**	**241**	P	**Pn**	**08 44 18.0**	**-1.1**
COLD	**Coldfoot**	**3.32**	**289**	P	**Pn**	**08 44 26.6**	**+0.2**
MENT	**Mentasta**	**3.48**	**192**	P	**Pn**	**08 44 28.8**	**+0.3**
PAX	**Paxson**	**3.67**	**205**	P	**Pn**	**08 44 31.8**	**+0.5**
PAX				S	**Sn**	**08 45 13.2**	**-1.4**
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**08 44 35.2**	**+1.2**
	3.9nm,0.3s,baz=239,slow=17,SNR=75						
INK				Sn	**Sn**	**08 45 21.0**	**+1.5**
	18nm,0.3s,baz=230,slow=17,SNR=4.1						
INK				Lg		08 45 36.6	
	38nm,0.3s,baz=330,slow=28,SNR=6.9						
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**08 44 35.3**	**+1.4**
INK				Pg	**Pg**	**08 44 46.7**	**-1.9**
INK				Sn	**Sn**	**08 45 21.1**	**+1.6**
INK				Sg	**Sg**	**08 45 36.4**	**-2.4**
INK				Trac		08 45 43.7	
	comp=Z,280nm,0.8s						
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**08 44 35.2**	**+1.2**
INK				Sn	**Sn**	**08 45 21.0**	**+1.5**
INK				Lg		08 45 36.6	
MCK	**McKinley**	**3.90**	**231**	P	**Pn**	**08 44 33.7**	**-0.5**
IMA2	**Indian Mountai**	**4.69**	**272**	*e*P	**Pn**	**08 44 44.8**	**-0.4**
IM04	**Indian Mountai**	**4.75**	**271**	P	**Pn**	**08 44 44.4**	**-1.6**
SML	**Sawmill**	**5.30**	**214**	P	**Pn**	**08 44 55.1**	**+1.6**
BMRM	**Bremner River**	**5.50**	**193**	P	**Pn**	**08 44 57.2**	**+0.9**
PMR	**Palmer**	**5.67**	**216**	P	**Pn**	**08 44 60.0**	**+1.3**
HYT	**Haines Junctio**	**5.91**	**157**	Pn	**Pn**	**08 45 02.8**	**+0.9**
HYT				Sg	**Sg**	**08 46 38.0**	**-6.0**
HYT				Trac		08 46 52.4	
	comp=Z,106nm,0.7s						
EYAK	**Cordova Ski Ar**	**6.03**	**197**	P	**Pn**	**08 45 06.1**	**+2.5**
RC01	**Rabbit Creek A**	**6.26**	**216**	P	**Pn**	**08 45 08.5**	**+1.8**
WHY	**Whitehorse**	**6.55**	**147**	Pn	**Pn**	**08 45 11.2**	**+0.4**
WHY				Sg	**Sg**	**08 46 58.2**	**-6.5**
WHY				Trac		08 47 11.7	
	comp=Z,25nm,0.6s						
TTA	**Tatalina**	**6.87**	**247**	*e*P	**Pn**	**08 45 14.3**	**-0.8**
PLBC	**Pleasant Camp**	**7.39**	**157**	Pn	**Pn**	**08 45 23.1**	**+0.9**
PLBC				Sg	**Sg**	**08 47 24.6**	**-6.8**
SVW2	**Sparrevohn**	**7.95**	**235**	*e*P	**Pn**	**08 45 30.4**	**+0.5**
FNBB	**Fort Nelson**	**11.49**	**121**	Pn	**Pn**	**08 46 20.3**	**+1.8**
FNBB				Sg	Sn	08 49 35.1	+68
FNBB				Trac		08 49 54.1	
	comp=Z,8.0nm,0.8s						
YKW3	**Yellowknife Ar**	**12.40**	**95**	Pn	**Pn**	**08 46 28.5**	**-2.4**
YKW3				Pn	**Pn**	**08 46 29.5**	**-1.4**
YKW3				Sn	**Sn**	**08 48 39.0**	**-10**
YKW3				Sn	**Sn**	**08 48 39.0**	**-10**
YKW3				Sg		08 50 02.5	
YKW3				Trac		08 50 16.2	
	comp=Z,13nm,0.8s						
YKW3				Trac		08 50 16.4	
	comp=Z,11nm,0.7s						
YKA	**Yellowknife Ar**	**12.44**	**95**	Pn	**Pn**	**08 46 28.8**	**-2.6**
	baz=299,slow=14,SNR=48						
YKA				Sn	**Sn**	**08 48 39.5**	**-11**
	baz=296,slow=24,SNR=6.6						
YKA				Lg		08 50 10.1	
	baz=309,slow=28,SNR=2.8						
RES	**Resolute Bay**	**17.28**	**41**	Pn	**Pn**	**08 47 35.5**	**-0.1**
RES				Sn	**Sn**	**08 50 34.7**	**-13**
PDAR	**Pinedale Array**	**29.60**	**127**	P	**P**	**08 49 42.3**	**+2.7**
	1.3nm,0.8s,mb3.7,baz=349,slow=7.6,SNR=7.9						
NVAR	**Mina Array Bea**	**31.09**	**142**	P	**P**	**08 49 55.9**	**+3.1**
	1.5nm,0.7s,mb4.0,baz=338,slow=7.4,SNR=16						
ANMO	**Albuquerque**	**37.71**	**128**	P	**P**	**08 50 54.9**	**+4.9**
	0.7nm,0.6s,mb3.6,baz=334,slow=6.7,SNR=5.4						
MDJ	**Mudanjiang**	**49.53**	**290**	P	**P**	**08 52 23.0**	**-2.2**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,54nm,5.4s						
CN2	**Changchun**	**51.78**	**293**	*e*P	**P**	**08 52 43.1**	**+0.9**
FINES	**FINESS Array B**	**52.23**	**7**	P	**P**	**08 52 46.2**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=0.0,slow=9.7,SNR=9.4						
FINES	**FINESS Array B**	**52.23**	**7**	P	**P**	**08 52 46.2**	**+0.7**
WMQ	**Urumqi**	**63.72**	**322**	*e*P	**P**	**08 54 12.0**	**+5.9**
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
GTA	**Gaotai**	**64.44**	**311**	*e*P	**P**	**08 54 15.0**	**+4.1**
GTA				AP	pP	08 54 19.1	+5.0
GTA				XP	sP	08 54 22.7	+7.4
GTA				PP	PP	08 56 40.7	+8.2
GTA				SCP		08 58 48.4	
GTA				PCS		08 58 50.3	
GTA				S	**S**	**09 02 56.1**	**+6.5**
GTA				XS	sS	09 03 02.4	+7.5
GTA				SCS	ScS	09 04 05.5	+0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,88nm,5.0s						
GTA				LR	LR		
	comp=N,76nm,8.8s						
GTA				LR	LR		
	comp=E,206nm,13.8s						
GTA				LR	LR		
	comp=Z,98nm,7.6s						
NJ2	**Nanjing**	**64.57**	**292**	*e*P	**P**	**08 54 15.1**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
LZH	**Lanzhou**	**66.21**	**306**	*e*P	**P**	**08 54 25.9**	**+3.6**
LZH				AP	pP	08 54 29.1	+3.5
LZH				XP	sP	08 54 31.0	+4.2
LZH				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
CD2	**Chengdu**	**70.98**	**304**	*e*P	**P**	**08 54 55.7**	**+3.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,4.3s						

IDC 06 08:53:24.5±5.3, 5743S×14891E, h0km, mb4.0/2, mb1 4.2/2, mb1mx4.0/8, mbtmp4.0/2, MS4.8/1, Ms1 4.8/1, ms1mx3.4/16, Error ellipse: s-maj=295.6km s-min=45.2km az=88.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.04**	**346**	P	P	08 58 59.0	-0.4
	4.8nm,1.0s,baz=150,slow=8.1,SNR=3.0						
RAO	**Raoul Island**	**36.43**	**54**	LR	LR	09 12 06.7	
	comp=Z,1μm,19.1s,baz=167,slow=31						
WRA	**Warramunga Arr**	**38.95**	**338**	P	P	09 00 52.1	-0.1
	1.7nm,0.9s,baz=166,slow=7.5,SNR=6.8						
AKASG	**Malin Array Be**	**145.03**	**285**	PKPbc	PKPbc	09 13 00.5	-2.6
	0.2nm,0.2s,baz=110,slow=0.5,SNR=4.2						
FINES	**FINESS Array B**	**151.47**	**302**	PKPbc	PKPbc	09 13 19.4	-0.9
	1.2nm,0.7s,baz=135,slow=5.9,SNR=4.4						
GERES	**GERESS Array B**	**152.25**	**271**	PKPbc	PKPbc	09 13 20.6	-1.5
	0.6nm,0.7s,baz=56,slow=3.5,SNR=4.3						

*ISCJB **06** 09:19:18.7±0.6, 6630N±004×14180W±0.10, h10km, Error ellipse: s-maj=6.3km s-min=5.1km az=85.4*
*NEIC **06** 09:19:22.5, 6629N×14257W, h8km, ML3.1(AEIC), After AEIC.*
*PGC **06** 09:19:22.8, 6628N×1420.1W, h5km, ML3.2/2, Eastern Alaska.*

ISC 06 09:19:20.8±0.5, 6629N±003×14195W±009, h10km, n11, σ1§28/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.55**	**319**	P	**Pn**	**09 19 47.6**	**-0.8**
DAWY	**Dawson**	**2.48**	**153**	Pn	**Pn**	**09 20 02.9**	**+1.7**
DAWY				Pg	**Pg**	**09 20 07.2**	**-1.1**
DAWY				Sn	**Sn**	**09 20 33.3**	**+1.8**
DAWY				Sg	**Sg**	**09 20 40.4**	**0.0**
DAWY				Trac		09 20 46.6	
	comp=Z,47nm,0.3s						
COLA	**College**	**2.83**	**243**	P	**Pn**	**09 20 05.5**	**-0.5**
COLD	**Coldfoot**	**3.40**	**290**	P	**Pn**	**09 20 13.8**	**-0.1**
PAX	**Paxson**	**3.66**	**206**	P	**Pn**	**09 20 19.0**	**+1.6**
PAX				S	**Sn**	**09 21 00.8**	**+0.2**
INK	**Inuvik**	**3.85**	**54**	Pn	**Pn**	**09 20 22.6**	**+2.6**
INK				Pg	**Pg**	**09 20 34.8**	**+0.3**
INK				Sn	**Sn**	**09 21 06.4**	**+1.1**
INK				Sg	**Sg**	**09 21 22.8**	**-1.5**
INK				Trac		09 21 33.1	
	comp=Z,29nm,0.7s						
MCK	**McKinley**	**3.92**	**232**	P	**Pn**	**09 20 20.8**	**-0.2**
IM04	**Indian Mountai**	**4.82**	**272**	P	**Pn**	**09 20 32.4**	**-0.9**
HYT	**Haines Junctio**	**5.83**	**158**	Sg	**Sg**	**09 22 24.1**	**-3.8**
HYT				Trac		09 22 38.0	
	comp=Z,8.0nm,0.6s						
WHY	**Whitehorse**	**6.47**	**147**	Sg	**Sg**	**09 22 45.2**	**-3.3**
YKW3	**Yellowknife Ar**	**12.33**	**95**	Pn	**Pn**	**09 22 15.6**	**-0.7**
YKW3				Sn	**Sn**	**09 24 23.9**	**-10**
YKW3				Trac		09 25 01.7	
	comp=Z,1.0nm,0.6s						

IDC 06 09:20:32.9±1.2, 1400S×17162W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.8/4, MS3.9/1, Ms1 3.9/1, ms1mx3.0/26, Error ellipse: s-maj=28.2km s-min=11.7km az=32.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.18**	**300**	Pn	Pg	09 20 42.9	+6.5
	744nm,0.3s,baz=139,slow=11,SNR=71						
AFI				Sn	Sg	09 20 50.1	+11
	2μm,0.3s,baz=132,slow=22,SNR=65						
URZ	**Urewera**	**26.15**	**200**	P	P	09 26 09.0	+0.2
	5.5nm,0.6s,baz=14,slow=4.2,SNR=5.0						
GUMO	**Guam**	**51.07**	**301**	LR	LR	09 46 33.3	
	comp=Z,127nm,19.6s,baz=69,slow=31						
WRA	**Warramunga Arr**	**51.85**	**256**	P	P	09 29 43.3	+0.5
	0.5nm,0.6s,baz=90,slow=6.9,SNR=9.9						
NVAR	**Mina Array Bea**	**72.14**	**41**	P	P	09 32 00.1	+0.8
	0.3nm,0.7s,baz=229,slow=9.6,SNR=3.1						
ILAR	**Eielson Array**	**80.75**	**10**	P	P	09 32 48.0	-0.1
	0.8nm,1.0s,baz=220,slow=7.0,SNR=3.4						

*NEIC **06** 09:43:21.0, 4288N×4340E, h10km, mb4.5/26, ML4.4(ISK), After ISK.*
*IDC **06** 09:43:23.2±0.6, 4252N×4337E, h0km, mb4.0/13, mb1 4.2/18, mb1mx4.1/27, mbtmp4.1/18, ML4.4/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/36, Error ellipse: s-maj=11.9km s-min=7.8km az=54.0*
*TIF **06** 09:43:23.9, 4257N×4345E, h15km*
*ISCJB **06** 09:43:24.7±0.4, 4262N±002×4342E±002, h15km±2km, mb4.3/49, MS4.1/18, Error ellipse: s-maj=2.7km s-min=2.2km az=72.6*
*BJI **06** 09:43:24.0, 4290N×4340E, h9km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*CSEM **06** 09:43:24.0±0.1, 4251N×4339E, h15km, mb4.3/11, Error ellipse: s-maj=1.5km s-min=1.2km az=141.0*
*MOS **06** 09:43:24.4±1.3, 4255N×4350E, h15km, mb4.7/15, MS3.8/8, Error ellipse: s-maj=5.5km s-min=4.0km az=99.1*
*NNC **06** 09:43:30.6±4.4, 4278N×4435E, h2km±35km, mb4.2, Error ellipse: s-maj=48.9km s-min=23.0km az=122.0*
*SZGRF **06** 09:43:30.2, 4278N×4354E, h33km, mb4.2, Western Caucasus*
*TEH **06** 09:43:32.1, 4260N×4382E, h18km, Mn3.9*
*NAO **06** 09:43:59.6, 4577N×4238E, h33km, mb4.0*

ISC 06 09:43:25.1±0.3, 4257N±001×4344E±002, h9km±2km, h27km±1.0km: pP-P, n229, σ1§30/279, mb4.3/49, MS4.1/18, 18C-11D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**23**	P	**Pg**	**09 43 26.7**	**0.0**
ONI				S	**Sg**	**09 43 28.3**	**+0.5**
ZEI	**Tsey**	**0.40**	**59**	*i* Pg	**Pg**	**09 43 32.9**	**+0.1**
ZEI				*i* Sg	**Sg**	**09 43 38.8**	**+0.7**
LACR	**Lac**	**0.68**	**67**	*i* Pg	**Pg**	**09 43 37.7**	**-0.6**
LACR				*i* Sg	**Sg**	**09 43 47.2**	**0.0**
LSNR	**Lesken**	**0.76**	**21**	*i* Pg	**Pg**	**09 43 40.2**	**+0.4**
LSNR				*i* Sg	**Sg**	**09 43 51.5**	**+1.8**
GOR	**Gori**	**0.76**	**139**	P	Px	09 43 58.8	
GOR				S	Sx	09 44 10.2	
ARNR	**Ardon**	**0.88**	**44**	*i* Pg	**Pg**	**09 43 41.9**	**-0.1**
ARNR				*i* Sg	**Sg**	**09 43 54.4**	**+1.0**
CHVG	**Ch'k'valeri**	**1.01**	**279**	P	**Pg**	**09 43 43.9**	**-0.7**
CHVG				S	**Sg**	**09 43 58.0**	**+0.3**
KMSR	**Komsomolskaya**	**1.02**	**38**	*e*Pg	**Pg**	**09 43 44.8**	**+0.1**
KMSR				*e*Sg	**Sg**	**09 43 59.2**	**+1.2**
VLKR	**Vladikavkaz**	**1.03**	**62**	*e*Pg	**Pg**	**09 43 44.2**	**-0.7**
VLKR				*e*Sg	**Sg**	**09 43 58.6**	**+0.3**
DUS	**Dusheti**	**1.05**	**116**	P	**Pg**	**09 43 44.4**	**-0.9**
DUS				S	**Sg**	**09 43 59.1**	**+0.2**
BTKR	**Batakoyurt**	**1.14**	**45**	*e*Pg	**Pg**	**09 43 46.8**	**-0.3**
BTKR				*e*Sg	**Sg**	**09 44 02.9**	**+1.0**
AKH	**Akhalkalaki**	**1.16**	**178**	P	**Pb**	**09 43 46.0**	**-1.2**
AKH				S	**Sb**	**09 44 02.2**	**-0.1**
KUBR	**Kubataba**	**1.23**	**359**	PG	**Pg**	**09 43 49.1**	**+0.3**
KUBR				S	**Sb**	**09 44 07.7**	**+3.1**
TBLG	**Delisi**	**1.27**	**130**	P	**Pn**	**09 43 48.0**	**-1.1**
TBLG				S	**Sb**	**09 44 06.0**	**+0.3**
TBLG	**Delisi**	**1.27**	**130**	*e*Pg	**Pg**	**09 43 48.0**	**-1.6**
TBLG				*e*Sg	**Sg**	**09 44 06.0**	**-0.1**
MTA	**Mtatsminda**	**1.33**	**130**	P	**Pn**	**09 43 48.9**	**-0.9**
MTA				S	**Sb**	**09 44 07.6**	**+0.2**
SAMG	**Sameba**	**1.34**	**130**	P	**Pn**	**09 43 49.1**	**-0.9**
SAMG				S	**Sb**	**09 44 07.8**	**+0.2**
KZR	**Kazreti**	**1.39**	**148**	P	**Pn**	**09 43 48.9**	**-1.7**
KZR				S	**Sb**	**09 44 07.5**	**-1.5**
KIV0	**Kislovodsk Arr**	**1.49**	**339**	Pg	**Pg**	**09 43 52.7**	**-1.1**
KIV0				Sg	**Sg**	**09 44 13.3**	**+0.1**
PYA	**Pyatigorsk**	**1.49**	**349**	Pg	**Pg**	**09 43 52.1**	**-1.7**
PYA				Sg	**Sg**	**09 44 12.1**	**-1.1**
KIV	**Kislovodsk**	**1.50**	**339**	*e*Pn	**Pn**	**09 43 52.7**	**+0.6**
KIV				*i* Sg	**Sg**	**09 44 12.6**	**-0.6**
KIV	**Kislovodsk**	**1.50**	**339**	*d i*PG	**Pg**	**09 43 52.5**	**-1.3**
KIV				*i* S	**Sg**	**09 44 12.6**	**-0.6**
KIV	**Kislovodsk**	**1.50**	**339**	*e*Pn	**Pn**	**09 43 52.7**	**+0.6**
KIV				*e*Sn	**Sn**	**09 44 13.1**	**+1.3**
ARTV	**Artvin**	**1.78**	**220**	*i* P	**Pn**	**09 43 56.7**	**+0.6**
ARTV				*i* S	**Sn**	**09 44 20.8**	**+2.0**
DGRG	**David-gareji**	**1.82**	**127**	P	**Pn**	**09 43 58.5**	**+1.9**
DGRG				S	**Sn**	**09 44 22.3**	**+2.6**
DGRG	**David-gareji**	**1.82**	**127**	PN	**Pn**	**09 43 48.0**	**-8.6**
NAGR	**Nagutskaya**	**1.95**	**346**	*i* PN	**Pn**	**09 43 49.0**	**-9.3**
KARS	**Kars**	**1.97**	**188**	*i* PN	**Pn**	**09 43 59.8**	**+1.2**
KARS				*i* SN	**Sn**	**09 44 29.1**	**+5.7**
KARS	**Kars**	**1.97**	**188**	Pn	**Pn**	**09 43 59.8**	**+1.2**
KARS				Sg	**Sg**	**09 44 27.8**	**-0.6**
GOF	**Gofitskoye**	**2.51**	**353⇑**	*i* PN	**Pn**	**09 44 06.7**	**+0.6**
GOF				*i* S	**Sn**	**09 44 41.9**	**+5.1**
GOF				pmax	pmax		
	comp=Z,860nm,1.0s						
GOF				smax			
	comp=N,3μm,1.2s						
GOF				smax			
	comp=E,4μm,1.2s						
GNI	**Garni**	**2.60**	**157**	Pn	**Pn**	**09 44 09.0**	**+1.6**
	comp=E,39nm,0.3s,baz=305,slow=5.0,SNR=42						
GNI				Pg	**Pg**	**09 44 11.9**	**-3.2**
	comp=E,46nm,0.3s,baz=312,slow=5.3,SNR=56						
GNI				Lg		09 44 48.0	
	comp=E,38nm,0.3s,baz=245,slow=18,SNR=4.4						
GNI	**Garni**	**2.60**	**157**	Pg	**Pg**	**09 44 11.9**	**-3.1**
GNI	**Garni**	**2.60**	**157**	Pn	**Pn**	**09 44 09.0**	**+1.6**
GNI				Pg	**Pg**	**09 44 11.9**	**-3.1**
GNI				Lg		09 44 48.0	
SOC	**Sochi**	**2.91**	**292**	*e*PN	**Pn**	**09 44 14.5**	**+2.9**
SOC				*e*		09 44 53.6	
SOC				pmax	pmax		
	comp=Z,76nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,13.0s						
MAK	**Makhachkala**	**3.02**	**81**	*e*PN	**Pn**	**09 44 13.0**	**-0.1**
MAK				*i* S	**Sn**	**09 44 56.0**	**+6.7**
MAK				pmax	pmax		
	comp=Z,840nm,1.5s						
MAK				smax			
	comp=N,2μm,1.2s						
ERZM	**Erzurum**	**3.08**	**211**	*i* P	**Pn**	**09 44 15.6**	**+1.7**
EZM	**Erzurum**	**3.08**	**211**	*i* PN	**Pn**	**09 44 15.4**	**+1.4**
EZM	**Erzurum**	**3.08**	**211**	Pn	**Pn**	**09 44 15.5**	**+1.5**
MACK	**Trabzon**	**3.19**	**241**	*e*P	**Pn**	**09 44 13.9**	**-1.5**
CLDR	**Caldiran**	**3.44**	**174**	PN	**Pn**	**09 44 20.4**	**+1.6**
CLDR	**Caldiran**	**3.44**	**174**	Pn	**Pn**	**09 44 20.4**	**+1.7**
GUMT	**Gumushane**	**3.64**	**236**	PN	**Pn**	**09 44 20.8**	**-0.8**
GUMT	**Gumushane**	**3.64**	**236**	Pn	**Pn**	**09 44 21.0**	**-0.7**
VANB	**Van**	**3.97**	**181**	PN	**Pn**	**09 44 27.6**	**+1.5**
KELT	**Kelkit**	**3.97**	**234**	*e*P	**Pn**	**09 44 24.6**	**-1.5**
BNGL	**BINGOL**	**4.01**	**206**	*i* P	**Pn**	**09 44 28.3**	**+1.6**
GRSN	**GIRESUNGRSN**	**4.20**	**249**	*i* P	**Pn**	**09

VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,1.1s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,3.0nm,1.3s
VRSR smax
comp=E,4.0nm,0.7s
VRSR MLR MLR
comp=Z,100nm,15.0s
VRSR MLR MLR
comp=N,60nm,14.0s
IAFJ Afjeh 9.27 134 *e*Pn **Pn 09 45 43.8 +4.8**
BHD Baghdad 9.31 175 *ex* x 09 45 42.0
BHD *ex* x 09 47 48.0
VOR Voronezh 9.61 344 P **Pn 09 45 47.0 +3.4**
comp=N,100nm,1.2s
VOR Voronezh 9.61 344 P **Pn 09 45 47.0 +3.4**
VOR *e*S **Sn 09 47 30.5 -1.2**
VOR pmax pmax
comp=Z,70nm,1.4s
VOR pmax pmax
comp=N,100nm,1.2s
VOR smax
comp=N,160nm,1.4s
VOR smax
comp=E,170nm,1.4s
CSS Prodhromos 10.94 229 *e*Pn **Pn 09 46 04.9 +3.1**
comp=E,14nm,0.8s
TIRR Tirgusor 11.08 285 *e*Pn **Pn 09 46 01.7 -2.0**
TIRR *e*Sn **Sn 09 47 57.3 -10**
AKASG Malin Array Be 12.70 315 Pn **Pn 09 46 23.0 -2.9**
comp=E,0.3nm,0.3s,baz=122,slow=13,SNR=3.4
AKTK Aktyubinsk 12.74 47 ⇓P **Pn 09 46 24.4 -2.0**
AKTK S **Sn 09 48 40.5 -7.9**
AKTO Aktyubinsk 12.74 47 ⇓P **Pn 09 46 24.4 -2.0**
comp=E,2.6nm,0.9s
AKTO ⇓S **Sn 09 48 40.5 -7.9**
comp=E,4.0nm,1.4s
AKTO Aktyubinsk 12.74 47 Pn **Pn 09 46 23.9 -2.5**
comp=E,1.6nm,0.3s,baz=242,slow=11,SNR=27
AKTO LR LR 09 53 04.4
comp=E,614nm,19.4s,baz=0.0,slow=45
AKTO Aktyubinsk 12.74 47 P **Pn 09 46 24.4 -2.0**
comp=E,2.6nm,0.9s
AKTO S **Sn 09 48 40.5 -7.9**
comp=E,4.0nm,1.4s
AKTO Aktyubinsk 12.74 47 *i* P **Pn 09 46 22.9 -3.5**
AKTO pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 12.93 289 Pn **Pn 09 46 30.7 +1.7**
comp=Z,0.5nm,0.3s,baz=162,slow=2.0,SNR=5.2
MLR Sn **Sn 09 48 49.2 -3.7**
comp=Z,0.4nm,0.3s,baz=139,slow=18,SNR=2.7
AB31 Akbulak array 13.28 54 ⇑P **Pn 09 46 31.0 -2.8**
comp=Z,13nm,0.7s,baz=242,slow=11,SNR=90
AB31 ⇓S **Sn 09 48 53.7 -7.9**
comp=Z,17nm,0.8s,baz=241,slow=22
AB31 Akbulak array 13.28 54 ⇑P **Pn 09 46 31.0 -2.8**
AB31 S **Sn 09 48 53.7 -7.9**
AB31 pmax pmax
comp=Z,13nm,0.6s
AB31 Akbulak array 13.28 54 ⇑P **Pn 09 46 31.0 -2.8**
comp=Z,13nm,0.6s
AB31 S **Sn 09 48 53.7 -7.9**
OBN Obninsk 13.34 343 *e*P **Pn 09 46 35.2 +0.6**
comp=Z,10.0nm,0.8s
OBN Obninsk 13.34 343 *e*P **Pn 09 46 35.2 +0.6**
OBN *e* 09 48 56.4
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,600nm,14.0s
MOS Moscow 13.72 346 *e*P **Pn 09 46 41.9 +2.2**
MOS *e*S **Sn 09 49 16.7 +4.5**
MOS MLR MLR
comp=Z,700nm,12.0s
KWP Kalwaria 15.99 303 *e*P **Pn 09 47 14.5 +4.2**
KOLS Kolonicke sedl 16.06 301 *e*P **Pn 09 47 12.5 +1.3**
CRVS Cervenica-Dubn 16.57 300 *e* **Pn 09 47 22.0 +4.3**
STHS Stebnicka Huta 16.84 302 *es*P sP 09 47 23.7 -3.3
ARU Arti 16.94 30 ⇓*i*P **Pn 09 47 19.5 -2.9**
ARU *e*S **Sn 09 50 24.9 -5.8**
ARU pmax pmax
comp=Z,22nm,1.5s
ARU MLR MLR
comp=E,400nm,17.0s
ARU MLR MLR
comp=Z,400nm,17.0s
ARU MLR MLR
comp=N,200nm,20.0s
ARU Arti 16.94 30 *e*P **Pn 09 47 19.0 -3.4**
comp=N,11nm,0.4s
KECS Kecovo 17.11 298 *ep*P pP 09 47 24.5 -4.2
PSZ Piszkesteto 17.40 296 *e*P **Pn 09 47 30.4 +2.3**
comp=N,8.8nm,1.0s
SUW Suwalki 17.62 318 *e*P **Pn 09 47 29.1 -1.7**
OJC Ojcow 17.96 303 *e*P **Pn 09 47 38.1 +3.0**
KLMR Klimovskoe 18.47 354 *e*P **Pn 09 47 36.0 -5.3**
KLMR pmax pmax
comp=Z,30nm,1.4s
OKC Ostrava-Krasne 18.90 301 *e*P **Pn 09 47 46.6 +0.1**
OKC *ex* x 09 47 53.2
SOKR Solikamsk 18.91 21 ⇓*i*P **Pn 09 47 43.5 -3.2**
SOKR pmax pmax
comp=Z,30nm,1.0s
VSU Vasula 19.04 332 *e*P **Pn 09 47 48.9 +0.7**
MORC Moravsky Berou 19.27 301 *e*P **Pn 09 47 50.6 -0.3**
MORC Moravsky Berou 19.27 301 *e*P **Pn 09 47 50.1 -0.8**
comp=Z,3.3nm,0.9s
ZST Bratislava 19.29 296 *e* **Pn 09 47 58.0 +6.8**
KK31 Karatay Array 19.83 79 P **Pn 09 47 55.2 -2.5**
comp=Z,11nm,0.9s,baz=283,slow=14,SNR=45
KK31 Karatay Array 19.83 79 P **Pn 09 47 55.2 -2.5**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 19.83 79 P **Pn 09 47 55.2 -2.5**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 20.16 302 *e*P **P 09 48 00.6 +0.9**
DPC *ep*P 09 48 03.8
DPC Dobruska-Polom 20.16 302 *e*P **P 09 48 00.6 +0.9**
KSP Ksiaz 20.29 303 *e*P **P 09 48 03.6 +2.6**
UPC Upice 20.39 302 *e*P **P 09 48 07.9 +5.8**
BRVK Borovoye 20.74 50 *e*P **P 09 48 06.0 +0.1**
comp=Z,29nm,1.1s
BVA0 Borovoye Array 20.79 50 ⇑P **P 09 48 05.3 -1.2**
comp=Z,4.7nm,1.2s,baz=244,slow=7.5,SNR=99
BVA0 Borovoye Array 20.79 50 *i* P **P 09 48 05.2 -1.3**
comp=Z,5.0nm,1.2s
BVA0 Borovoye Array 20.79 50 *i* P **P 09 48 05.2 -1.3**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 20.79 50 P **P 09 48 06.4 -0.1**
comp=Z,18nm,0.9s,baz=239,slow=8.6,SNR=62
BVAR Borovoye Array 20.79 50 P **P 09 48 06.4 -0.1**
BVAR pmax pmax
comp=Z,18nm,0.9s
VOSK Vostochnaya 21.03 52 ⇓P **P 09 48 08.1 -1.0**
comp=Z,35nm,1.7s,mb4.4
VOSK Vostochnaya 21.03 52 P **P 09 48 08.1 -1.0**
comp=Z,35nm,1.7s,mb4.4
VOSK Vostochnaya 21.03 52 ⇓P **P 09 48 08.1 -1.0**
VOSK pmax pmax
comp=Z,35nm,1.7s,mb4.4
VOSK Vostochnaya 21.03 52 ⇓P **P 09 48 08.1 -1.0**
comp=Z,35nm,1.7s,mb4.4
PVCC Panska Ves 21.29 302 *e*P **P 09 48 12.2 +0.3**
FINES FINESS Array B 21.59 337 P **P 09 48 14.3 -0.8**
comp=Z,3.8nm,0.7s,mb3.9,baz=153,slow=13,SNR=10
FINES LR LR 09 57 56.4
comp=Z,61nm,20.5s,baz=169,slow=40
FINES FINESS Array B 21.59 337 P **P 09 48 14.3 -0.8**
FINES LR LR 09 57 56.4
JOF Joensuu 21.60 345 *ep* **P 09 48 18.3 +3.1**
comp=Z,0.9nm,0.4s,mb3.5
JOF Joensuu 21.60 345 *e*P **P 09 48 18.3 +3.1**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
GERES GERESS Array B 21.61 297 P **P 09 48 16.0 +0.6**
comp=Z,2.4nm,0.7s,mb3.7,baz=100,slow=8.1,SNR=10
ANR Andizhan 21.64 85 *e*P **P 09 48 14.5 -1.2**
KHC Kasperske Hory 21.72 298 *e*P **P 09 48 10.3 -6.2**
KHC *ex* x 09 48 19.2

KHC Kasperske Hory 21.72 298 *e*P **P 09 48 10.3 -6.2**
KBA Koelnbreinsper 21.75 292 ⇑*i*P **P 09 48 19.1 +2.3**
comp=Z,20nm,1.0s,mb4.5
KBA Koelnbreinsper 21.75 292 ⇑P **P 09 48 19.1 +2.3**
comp=Z,20nm,1.0s,mb4.5
BRG Berggiesshubel 21.75 303 *e*P **P 09 48 20.8 +4.0**
comp=Z,5.6nm,1.2s,mb3.9
BRG Berggiesshubel 21.75 303 *e*P **P 09 48 20.8 +4.0**
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb3.9
KAF Kangasniemi 22.07 338 *ep* **P 09 48 22.6 +2.4**
comp=Z,1.4nm,0.4s,mb3.7
KAF Kangasniemi 22.07 338 *e*P **P 09 48 22.6 +2.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
RUE Ruedersdorf 22.20 307 *e*P **P 09 48 22.5 +0.8**
comp=Z,34nm,0.9s,mb4.8
EKS2 Erkin-Say 22.27 79 P **P 09 48 22.9 +0.5**
SNR=11
AML Almayashu 22.31 81 P **P 09 48 24.6 +1.8**
SNR=9.7
CLL Collm 22.41 303 ⇑*i*P **P 09 48 23.9 0.0**
comp=Z,23nm,1.1s,mb4.5
CLL *i* x x 09 48 27.9
CLL *i* (pP) 09 48 33.7
CLL *e*S **S 09 52 35.0 +4.6**
CLL L 10 00 00.0
comp=Z,100nm,19.1s
CLL Collm 22.41 303 *i* P **P 09 48 23.9 0.0**
comp=Z,23nm,1.1s,mb4.5
CLL *i* sP sP 09 48 33.7 +6.0
CLL *e*S **S 09 52 35.0 +4.6**
AAK Ala-Archa 22.80 79 P **P 09 48 28.9 +0.8**
SNR=9.5
AAK Ala-Archa 22.80 79 *e*P **P 09 48 27.5 -0.5**
AAK pmax pmax
comp=Z,18nm,1.0s,mb4.5
AAK Ala-Archa 22.80 79 *e*P **P 09 48 27.5 -0.5**
comp=Z,18nm,1.0s,mb4.5
FRU Bishkek 22.85 79 *e*P **P 09 48 29.5 +0.9**
FRU pmax pmax
comp=Z,50nm,1.8s,mb4.6
WTTA Wattenberg 22.91 293 ⇑*i*P **P 09 48 29.8 +0.6**
comp=Z,23nm,0.9s,mb4.6
WTTA Wattenberg 22.91 293 P **P 09 48 29.8 +0.6**
comp=Z,23nm,0.9s,mb4.6
WTTA Wattenberg 22.91 293 ⇑P **P 09 48 29.8 +0.6**
comp=Z,23nm,0.9s,mb4.6
KBK Karagaybulak 23.12 79 P **P 09 48 32.3 +0.8**
SNR=18
SQTA Sankt Quirin 23.21 293 ⇑*i*P **P 09 48 32.1 -0.2**
comp=Z,25nm,1.3s,mb4.5
SQTA Sankt Quirin 23.21 293 ⇑P **P 09 48 32.1 -0.2**
comp=Z,25nm,1.3s,mb4.5
MOTA Moosalm 23.28 293 ⇑*i*P **P 09 48 32.7 -0.4**
comp=Z,18nm,1.0s,mb4.4
MOTA Moosalm 23.28 293 ⇑P **P 09 48 32.7 -0.4**
comp=Z,18nm,1.0s,mb4.4
GRA1 Grafenberg Arr 23.31 299 *e*P **P 09 48 34.6 +1.2**
comp=Z,8.0nm,1.0s,mb4.1
GRF Grafenberg Arr 23.31 299 *e*P **P 09 48 34.6 +1.2**
comp=Z,8.0nm,1.0s,mb4.1
KZA Kyzart 23.46 80 P **P 09 48 36.2 +1.2**
SNR=8.3
TKM2 Tokmak 2 23.55 78 P **P 09 48 36.1 +0.2**
SNR=15
DAVA Damuels 24.11 293 ⇑*i*P **P 09 48 40.6 -0.5**
comp=Z,29nm,1.2s,mb4.6
DAVOX Davos 24.12 292 P **P 09 48 40.6 -0.6**
comp=Z,8.4nm,0.7s,mb4.3,baz=104,slow=8.5,SNR=7.4
DAVOX LR LR 09 59 18.7
comp=Z,124nm,20.6s,MS3.4,baz=261,slow=40
ULHL Ulahol 24.14 80 P **P 09 48 42.7 +1.4**
SNR=9.3
KSH Kashi 24.64 86 *e*P **P 09 48 49.0 +3.1**
KSH *e*AP 09 48 53.2
KSH *e*XP sP 09 48 56.2 +6.4
KSH *e*PP 09 49 25.3
KSH *e*PCP PcP 09 52 26.2 +2.9
KSH *e*S **S 09 53 08.0 +0.6**
KSH *e*XS sS 09 53 15.2 +3.3
KSH *e*SS 09 54 05.0
KSH AMB AMB
comp=Z,230nm,4.2s
KSH LR LR
comp=N,320nm,6.7s
KSH LR LR
comp=E,230nm,5.5s
HFS Hagfors 25.24 324 P **P 09 48 51.0 -0.4**
comp=E,19nm,0.8s,mb4.7,baz=120,slow=12,SNR=13
HFS LR LR 09 59 23.1
comp=E,288nm,18.4s,MS3.8,baz=256,slow=38
HFS Hagfors 25.24 324 P **P 09 48 51.0 -0.4**
HFS pmax pmax
comp=Z,19nm,0.8s
HFS MLR MLR
comp=Z,288nm,18.4s
PGF Pioggiola 25.27 282 *e*P **P 09 48 50.8 -0.8**
comp=Z,80nm,1.4s,mb4.8
PGF Pioggiola 25.27 282 *e*P **P 09 48 50.8 -0.8**
comp=Z,40nm,1.4s,mb4.8
KURK Kurchatov 25.30 59 ⇑P **P 09 48 52.2 +0.3**
comp=Z,8.5nm,1.2s,mb4.2
KURK Kurchatov 25.30 59 ⇑*e*P **P 09 48 52.7 +0.8**
APA Apatity 25.64 351 ⇑*e*P Px 09 49 10.0
APA *i* Px 09 49 14.0
SBF Sospel 26.15 285 *e*P **P 09 48 58.6 -1.0**
LPG La Plagne 26.40 289 *e*P **P 09 49 01.1 -0.7**
comp=Z,16nm,0.8s,mb4.3
LPG La Plagne 26.40 289 *e*P **P 09 49 01.1 -0.7**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
LPG La Plagne 26.40 289 *e*P **P 09 49 01.1 -0.7**
comp=Z,7.8nm,0.8s,mb4.3
LPL La Plagne 26.41 289 *e*P **P 09 49 01.1 -0.8**
comp=Z,28nm,1.0s,mb4.5
LPL La Plagne 26.41 289 *e*P **P 09 49 01.1 -0.8**
LPL pmax pmax
comp=Z,14nm,1.0s,mb4.5
LPL La Plagne 26.41 289 *e*P **P 09 49 01.1 -0.8**
comp=Z,14nm,1.0s,mb4.4
MBDF Montbardon 26.48 287 *e*P **P 09 49 02.0 -0.6**
comp=Z,41nm,0.9s,mb4.7
MBDF Montbardon 26.48 287 *e*P **P 09 49 02.0 -0.6**
MBDF pmax pmax
comp=Z,21nm,0.9s,mb4.7
MBDF Montbardon 26.48 287 *e*P **P 09 49 02.0 -0.6**
comp=Z,21nm,0.9s,mb4.7
MEM Membach 26.72 301 ⇓P **P 09 49 07.1 +2.3**
CABF La Chapelle 26.74 292 *e*P **P 09 49 04.2 -0.7**
comp=Z,11nm,0.8s,mb4.1
CABF La Chapelle 26.74 292 *e*P **P 09 49 04.2 -0.7**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
CABF La Chapelle 26.74 292 *e*P **P 09 49 04.2 -0.7**
comp=Z,5.3nm,0.8s,mb4.1
NB2 NORSAR Subarra 26.76 325 P **P 09 49 07.7 +2.6**
comp=Z,4.0nm,0.8s,mb4.0,baz=116,slow=10
NOA NORSAR Array B 26.76 325 P **P 09 49 04.9 -0.2**
comp=Z,2.3nm,0.8s,mb3.8,baz=123,slow=9.7,SNR=5.0
NOA LR LR 10 00 19.3
comp=Z,218nm,18.5s,MS3.7,baz=115,slow=38
NOA NORSAR Array B 26.76 325 P **P 09 49 04.9 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,218nm,18.5s
ORIF Oris-en-Rattie 27.08 288 *e*P **P 09 49 07.3 -0.7**
comp=Z,23nm,1.1s,mb4.3
ORIF Oris-en-Rattie 27.08 288 *e*P **P 09 49 07.3 -0.7**
comp=Z,12nm,1.0s,mb4.4
MK31 Makanchi Array 27.75 68 *i* P **P 09 49 13.9 -0.1**
MK31 pmax pmax
comp=Z,12nm,1.1s,mb4.4
MKAR Makanchi Array 27.75 68 P **P 09 49 13.7 -0.3**
comp=Z,8.9nm,1.1s,mb4.3,baz=272,slow=8.3,SNR=14
MKAR LR LR 10 02 21.3
comp=Z,484nm,18.9s,MS4.1,baz=297,slow=41
MKAR Makanchi Array 27.75 68 *i* P **P 09 49 13.9 -0.1**
MKAR pmax pmax
comp=Z,13nm,1.1s
LOR Lormes 28.20 293 *e*P **P 09 49 17.0 -1.1**
SSF Saint Saulge 28.46 293 *e*P **P 09 49 19.3 -1.1**
comp=Z,11nm,0.9s,mb4.2
SSF Saint Saulge 28.46 293 *e*P **P 09 49 19.3 -1.1**
comp=Z,5.5nm,0.9s,mb4.2
AVF Avril sur Loir 28.60 292 *e*P **P 09 49 20.7 -0.8**

comp=Z,17nm,0.9s,mb4.5
AVF Avril sur Loir 28.60 292 *e*P **P 09 49 20.7 -0.8**
comp=Z,8.6nm,0.9s,mb4.5
ZAL Zalesovo 29.38 53 P **P 09 49 29.0 +0.5**
comp=Z,0.6nm,0.5s,mb3.6,baz=200,slow=7.2,SNR=3.3
ZAL LR LR 10 03 03.7
comp=Z,135nm,20.4s,MS3.6,baz=215,slow=40
ZAL Zalesovo 29.38 53 P **P 09 49 29.0 +0.5**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL MLR MLR
comp=Z,135nm,20.4s
TCF Toulx Ste Croi 29.44 292 *e*P **P 09 49 28.0 -1.0**
LDF La Druitiere 30.75 297 *e*P **P 09 49 39.6 -1.0**
FLN La Foliniere 30.97 297 *e*P **P 09 49 41.8 -0.8**
GRR Gorron 31.26 296 *e*P **P 09 49 44.0 -1.1**
WMQ Urumqi 32.00 72 P **P 09 49 52.0 +0.3**
WMQ PP PP 09 50 59.0 -4.9
WMQ S **S 09 54 59.0 -4.3**
WMQ SS SS 09 56 54.0 -26
WMQ AMB AMB
comp=Z,24nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,154nm,5.0s
WMQ LR LR
comp=N,375nm,13.0s,MS4.5
WMQ LR LR
comp=E,365nm,10.0s,MS4.5
WMQ LR LR
comp=Z,446nm,10.0s,MS4.5
EKA Eskdalemuir Ar 32.53 309 P **P 09 49 54.5 -1.8**
comp=Z,2.5nm,0.9s,mb4.1,baz=99,slow=9.3,SNR=4.1
KRAR Krasnoyarsk 34.16 49 *e*P **P 09 50 09.4 -1.1**
KRAR pmax pmax
comp=Z,30nm,0.5s
KRAR MLR MLR
comp=Z,500nm,23.0s,MS4.2
ESDC Sonseca Array 35.47 282 P **P 09 50 20.1 -1.7**
comp=Z,0.3nm,0.4s,mb3.6,baz=53,slow=9.9,SNR=3.6
TLY Talaya 40.89 56 *i* P **P 09 51 07.2 -0.3**
GTA Gaotai 42.00 75 *e*P **P 09 51 17.4 +0.8**
GTA AP pP 09 51 24.5 +5.0
GTA XP sP 09 51 28.1 +7.5
GTA PP PP 09 53 00.2 +6.4
GTA PCP PcP 09 53 11.5 -0.2
GTA SCP ScP 09 56 59.5 -2.8
GTA PCS PcS 09 57 02.9 -0.4
GTA S **S 09 57 36.0 +0.5**
GTA XS sS 09 57 48.0 +7.8
GTA SS SS 10 00 38.8 -3.6
GTA AMB AMB
comp=Z,4.0nm,1.6s,mb3.8
GTA AMB AMB
comp=Z,40nm,5.0s
GTA LR LR
comp=N,217nm,17.6s,MS4.2
GTA LR LR
comp=E,188nm,17.6s,MS4.2
GTA LR LR
comp=Z,227nm,20.2s,MS4.0
ULN Ulaanbaatar 44.00 60 *e*P **P 09 51 32.9 +0.1**
comp=Z,2.8nm,1.0s,mb4.0
BOD Bodaibo 45.50 45 *e*P **P 09 51 43.5 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
LZH Lanzhou 46.31 77 *e*P **P 09 51 53.5 +2.4**
LZH AP pP 09 52 02.1 +8.1
LZH XP sP 09 52 06.2 +11
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,80nm,5.3s
TORD Torodi Ar. Bea 46.43 244 P **P 09 51 50.9 -1.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=42,slow=7.1,SNR=12
CD2 Chengdu 48.78 83 P **P 09 52 10.5 +0.1**
CD2 PP PP 09 54 03.2 -0.3
CD2 S **S 09 59 09.8 -3.6**
CD2 SS SS 10 02 35.1 -8.7
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,60nm,4.5s
CD2 LR LR
comp=E,60nm,15.6s
CD2 LR LR
comp=Z,70nm,16.8s,MS3.7
HHC Hu-ho-hao-te 49.61 68 *e*P **P 09 52 18.2 +1.5**
HHC PCP PcP 09 53 39.6 +1.4
HHC PP PP 09 54 13.2 +2.1
HHC SCP ScP 09 57 28.6 -5.2
HHC PCS PcS 09 57 35.8 +0.9
HHC S **S 09 59 23.7 -1.4**
HHC SCS ScS 10 02 03.1 -5.6
HHC SS SS 10 02 52.3 -4.9
HHC AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,122nm,7.2s
HHC LR LR
comp=N,280nm,16.8s,MS4.5
HHC LR LR
comp=E,221nm,15.6s,MS4.5
HHC LR LR
comp=Z,269nm,15.6s,MS4.3
KMI Kunming 51.21 90 P **P 09 52 32.2 +3.4**
KMI LR LR
comp=Z,75nm,20.6s,MS3.7
YAK Yakutsk 51.89 37 *e*P **P 09 52 32.1 -1.8**
YAK pmax pmax
comp=Z,15nm,1.3s,mb4.8
YAK MLR MLR
comp=Z,400nm,17.0s,MS4.5
CN2 Changchun 57.37 58 *e*P **P 09 53 14.0 +0.3**
CN2 *e*AP pP 09 53 21.6 +5.0
CN2 *e*S **S 10 01 06.1 -4.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.8
CN2 LR LR
comp=E,500nm,13.0s,MS4.8
CN2 LR LR
comp=Z,400nm,14.0s,MS4.7
NJ2 Nanjing 59.08 73 *e*P **P 09 53 27.8 +2.2**
NJ2 AP pP 09 53 35.4 +6.9
NJ2 XP sP 09 53 38.7 +9.0
NJ2 S **S 10 01 31.0 -1.6**
NJ2 XS sS 10 01 43.0 +5.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,310nm,5.1s
NJ2 LR LR
comp=Z,2μm,24.5s,MS5.2
MDJ Mudanjiang 59.53 56 P **P 09 53 27.9 -0.8**
MDJ AMB AMB
comp=Z,5.0nm,2.7s,mb4.1
MDJ AMB AMB
comp=Z,55nm,4.1s
SSE Sheshan 61.26 73 P **P 09 53 38.6 -2.0**
SSE AMB AMB
comp=Z,34nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,311nm,3.8s
SSE LR LR
comp=N,41nm,21.7s,MS3.7
SSE LR LR
comp=E,42nm,21.6s,MS3.7
SSE LR LR
comp=Z,56nm,18.2s,MS3.8
BILL Bilibino 61.72 21 *e*P **P 09 53 42.2 -1.5**
BILL pmax pmax
comp=Z,8.0nm,2.5s,mb4.4
BILL MLR MLR
comp=Z,200nm,24.0s,MS4.2
JOW Kunigami 68.78 73 LR LR 10 28 57.4
comp=Z,100nm,18.6s,MS4.1,baz=251,slow=40
BOSA Boshof 72.78 197 P **P 09 54 52.6 -1.2**
comp=Z,4.7nm,0.8s,mb4.4,baz=52,slow=16,SNR=4.8
BOSA LR LR 10 27 45.8
comp=Z,111nm,18.5s,MS4.2,baz=251,slow=37
BOSA Boshof 72.78 197 P **P 09 54 52.6 -1.2**
BOSA LR LR 10 27 45.8

YKA	**Yellowknife Ar**	**73.81**	**350**	P	**P**	**09 54 58.1**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=6.2,SNR=17						
YKA	**Yellowknife Ar**	**73.81**	**350**	*i* P	**P**	**09 54 58.0**	**-1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MAN 06 09:56:17.1, 1837N×12051E, h103km, mb2.0, ML3.8, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.12**	**112**	⇓*i*P	Pn	09 56 31.4	0.0
PIP				*e*S	Sn	09 56 43.6	+1.6
APYP	**Conner**	**0.86**	**126**	*e*P	Pn	09 56 38.4	+2.1
CVP	**Callao Caves**	**1.42**	**118**	*e*P	Pn	09 56 43.0	+0.6
CVP				*e*S	Sn	09 57 02.0	+0.3

*NEIC **06** 10:02:52.7, 4131S×17258E, h215km, MG3.8(WEL), After WEL.*

WEL 06 10:02:52.9±0.3, 4128S×17253E, h213km±2km, ML3.6/17, 11C-1D, Error ellipse: s-maj=2.4km s-min=2.4km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.45**	**0**	⇑PN	Pn	10 03 21.2	-0.1
QRZ				SN	S	10 03 42.6	-0.8
QRZ	**Quartz Range**	**0.45**	**0**	⇓P	Pn	10 03 21.2	-0.1
QRZ				S	S	10 03 42.6	-0.8
THZ	**Tophouse**	**0.56**	**150**	⇑PN	Pn	10 03 21.9	+0.2
THZ				SN	S	10 03 43.8	-0.3
THZ	**Tophouse**	**0.56**	**150**	⇑P	Pn	10 03 21.9	+0.2
THZ				S	S	10 03 43.8	-0.3
NNZ	**Nelson**	**0.64**	**85**	⇑PN	Pn	10 03 21.8	-0.2
NNZ				SN	S	10 03 43.9	-0.9
NNZ	**Nelson**	**0.64**	**85**	⇑P	Pn	10 03 21.8	-0.2
NNZ				S	S	10 03 43.9	-0.8
DSZ	**Denniston Nort**	**0.72**	**229**	⇑PN	Pn	10 03 22.0	-0.3
DSZ				SN	S	10 03 43.9	-1.5
DSZ	**Denniston Nort**	**0.72**	**229**	⇑P	Pn	10 03 22.0	-0.4
DSZ				S	S	10 03 43.9	-1.4
TUWZ	**Tuamarina**	**1.08**	**99**	⇑PN	Pn	10 03 24.5	0.0
BSWZ	**Blackbirch Sta**	**1.10**	**114**	PN	Pn	10 03 24.7	+0.1
BSWZ	**Blackbirch Sta**	**1.10**	**114**	P	Pn	10 03 23.7	-1.0
DUWZ	**D'Urville Isla**	**1.16**	**66**	PN	Pn	10 03 24.9	-0.2
TCW	**Tory Channel**	**1.32**	**88**	PN	Pn	10 03 26.2	-0.1
TCW				SN	S	10 03 51.1	-1.1
CMWZ	**Cape Campbell**	**1.35**	**111**	PN	Pn	10 03 26.8	+0.4
CMWZ	**Cape Campbell**	**1.35**	**111**	P	Pn	10 03 25.8	-0.7
KHZ	**Kahutara**	**1.37**	**147**	PN	Pn	10 03 26.5	-0.1
LTZ	**Lake Taylor**	**1.52**	**187**	PN	Pn	10 03 27.7	-0.2
LTZ	**Lake Taylor**	**1.52**	**187**	*e*P	Pn	10 03 27.7	-0.2
MRW	**Makara Radio**	**1.64**	**89**	PN	Pn	10 03 28.6	-0.3
MRW	**Makara Radio**	**1.64**	**89**	P	Pn	10 03 28.6	-0.3
SNZO	**South Karori**	**1.64**	**92**	PN	Pn	10 03 28.6	-0.4
SNZO	**South Karori**	**1.64**	**92**	P	Pn	10 03 28.6	-0.3
WEL	**Wellington**	**1.69**	**91**	PN	Pn	10 03 29.1	-0.3
WEL	**Wellington**	**1.69**	**91**	P	Pn	10 03 29.1	-0.3
BHW	**Baring Head**	**1.77**	**95**	PN	Pn	10 03 29.7	-0.4
BHW	**Baring Head**	**1.77**	**95**	P	Pn	10 03 28.7	-1.4
KIW	**Kapiti Island**	**1.85**	**78**	⇑PN	Pn	10 03 30.5	-0.4
KIW	**Kapiti Island**	**1.85**	**78**	*e*P	Pn	10 03 30.5	-0.4
CAW	**Cannon Point**	**1.92**	**86**	PN	Pn	10 03 31.2	-0.4
CAW	**Cannon Point**	**1.92**	**86**	P	Pn	10 03 31.2	-0.4
MSWZ	**Moikau Station**	**2.05**	**95**	PN	Pn	10 03 32.5	-0.4
MSWZ	**Moikau Station**	**2.05**	**95**	P	Pn	10 03 32.5	-0.4
PAWZ	**Paruwai Farm**	**2.19**	**94**	PN	Pn	10 03 33.8	-0.4
PAWZ	**Paruwai Farm**	**2.19**	**94**	P	Pn	10 03 33.9	-0.3
WVZ	**Waitaha Valley**	**2.24**	**216**	PN	Pn	10 03 33.7	-1.0
WVZ				SN	S	10 04 04.1	-3.4
WVZ	**Waitaha Valley**	**2.24**	**216**	*e*P	Pn	10 03 33.8	-1.0
MTW	**Mount Morrison**	**2.25**	**88**	⇑PN	Pn	10 03 34.5	-0.4
MTW	**Mount Morrison**	**2.25**	**88**	P	Pn	10 03 34.5	-0.4
MRZ	**Mangatainoka R**	**2.39**	**76**	⇑PN	Pn	10 03 35.6	-0.8
MRZ	**Mangatainoka R**	**2.39**	**76**	P	Pn	10 03 35.6	-0.8
WAZ	**Wanganui**	**2.41**	**52**	PN	Pn	10 03 36.1	-0.6
WAZ	**Wanganui**	**2.41**	**52**	*e*P	Pn	10 03 36.0	-0.6
MQZ	**McQueen's Vall**	**2.43**	**178**	PN	Pn	10 03 35.8	-1.0
MQZ	**McQueen's Vall**	**2.43**	**178**	*e*P	Pn	10 03 35.8	-1.0
RPZ	**Rata Peaks**	**2.67**	**204**	PN	Pn	10 03 38.5	-0.9
RPZ	**Rata Peaks**	**2.67**	**204**	*e*P	Pn	10 03 38.0	-1.4
BFZ	**Birch Farm**	**2.88**	**79**	PN	Pn	10 03 41.3	-0.5
BFZ	**Birch Farm**	**2.88**	**79**	P	Pn	10 03 41.3	-0.5
TSZ	**Takapari Road**	**2.88**	**66**	*e*P	Pn	10 03 40.8	-1.0
WNVZ	**Wahianoa**	**3.05**	**51**	P	Pn	10 03 42.9	-0.9
FOZ	**Fox Glacier**	**3.10**	**222**	*e*P	Pn	10 03 41.6	-2.8
LBZ	**Lake Benmore**	**3.55**	**208**	P	Pn	10 03 47.8	-1.9
BKZ	**Black Stump Fm**	**3.69**	**56**	*e*P	Pn	10 03 49.3	-2.1
JCZ	**Jackson Bay**	**3.94**	**224**	*e*P	Pn	10 03 52.3	-2.1
ODZ	**Otahua Downs**	**4.01**	**199**	*e*P	Pn	10 03 53.9	-1.3
WKZ	**Wanaka**	**4.38**	**215**	*e*P	Pn	10 03 57.1	-2.7
EAZ	**Earnscleugh**	**4.60**	**210**	*e*P	Pn	10 03 59.6	-2.9
MWZ	**Matawai**	**4.84**	**54**	*e*P	Pn	10 04 04.1	-1.5

*CSEM **06** 10:08:12.9±0.1, 3869N×2051E, h2km, MD3.6, Error ellipse: s-maj=6.0km s-min=2.4km az=83.0*
*NEIC **06** 10:08:13.0, 3866N×2053E, h21km, MD3.6(ATH), After ATH.*
*ATH **06** 10:08:13.7, 3868N×2059E, h14km±3km, MD3.6/7*
*ISCJB **06** 10:08:14.4±0.6, 3866N±003×2052E±008, h14km, Error ellipse: s-maj=9.5km s-min=3.9km az=166.3*

ISC 06 10:08:14.6±0.6, 3865N±003×2051E±009, h14km, n24, σ1§15/31, 2C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.47**	**173**	⇓*i*PG	**Pg**	**10 08 23.5**	**-0.5**
VLS				*e*SB	**Sg**	**10 08 31.6**	**+1.3**
VLS	**Valsamata**	**0.47**	**173**	⇓*i*Pb	**Pb**	**10 08 23.2**	**-1.5**
VLS				*e*Sb	**Sg**	**10 08 31.6**	**+1.3**
IGT	**Igoumenitsa**	**0.90**	**351**	*e*P	**Pb**	**10 08 30.0**	**-2.0**
RLS	**Riolos of Patr**	**0.95**	**128**	⇑*i*PB	**Pb**	**10 08 31.3**	**-1.6**
JAN	**Janina**	**1.04**	**14**	⇑*i*Pn	**Pb**	**10 08 33.1**	**-1.4**
JAN				*e*Sn	**Sn**	**10 08 48.8**	**-0.4**
EVR	**Evrytania**	**1.05**	**75**	*e*PG	**Pb**	**10 08 31.9**	**-2.6**
KEK	**Kerkira**	**1.20**	**333**	⇓*i*PB	**Pb**	**10 08 36.3**	**-0.9**
MEV	**Metsovon**	**1.27**	**26**	*e*P	**Pn**	**10 08 37.7**	**-0.2**
AGG	**Agios Georgios**	**1.47**	**75**	*e*P	**Pn**	**10 08 39.9**	**-0.8**
LSK	**Leskovik**	**1.50**	**3**	*i* Pn	**Pn**	**10 08 42.9**	**+1.7**
LSK				*i* Sn	**Sn**	**10 09 08.7**	**+8.1**
ITM	**Ithomi**	**1.84**	**142**	*e*PN	**Pn**	**10 08 47.0**	**+1.2**
ITM	**Ithomi**	**1.84**	**142**	*e*Pn	**Pn**	**10 08 48.0**	**+2.2**
KZN	**Kozani**	**1.92**	**30**	*e*PN	**Pn**	**10 08 47.5**	**+0.6**
KZN	**Kozani**	**1.92**	**30**	*e*Pn	**Pn**	**10 08 44.5**	**-2.4**
LKR	**Lokris**	**1.95**	**89**	*e*Pn	**Pn**	**10 08 49.0**	**+1.8**
LIT	**Litokhoron**	**2.11**	**46**	*e*P	**Pn**	**10 08 50.6**	**+1.1**
BIA	**Bitola**	**2.45**	**14**	*i* Pn	**Pn**	**10 08 55.0**	**+0.8**
BIA				*i* Sn	**Sn**	**10 09 25.2**	**+1.3**
OHR	**Ohrid**	**2.47**	**5**	*i* Pn	**Pn**	**10 08 54.9**	**+0.4**
OHR				*i* Sn	**Sn**	**10 09 24.8**	**+0.3**
GRG	**Griva**	**2.73**	**32**	*e*P	**Pn**	**10 08 58.0**	**0.0**
QSH	**Qafa e Shtames**	**2.91**	**351**	*i* Pn	**Pn**	**10 09 00.8**	**+0.3**
QSH				*i* Sn	**Sn**	**10 09 35.8**	**+0.5**
VAY	**Valandovo**	**3.10**	**30**	*e*Pn	**Pb**	**10 09 08.4**	**-1.2**
KNT	**Kendrikon**	**3.11**	**35**	*e*P	**Pn**	**10 09 03.5**	**+0.2**
OUR	**Ouranopolis**	**3.17**	**57**	*e*P	**Pn**	**10 09 04.9**	**+0.8**
STIP	**Stip**	**3.30**	**22**	⇓*i*Pn	**Pn**	**10 09 06.3**	**+0.4**

*JMA **06** 10:12:21.3±0.3, 4407N×148.16E, h0km, M4.1*
*ISCJB **06** 10:12:23.0±1.2, 44.1N±0.1×148.1E±02, h150km±11km, mb3.4/4, Error ellipse: s-maj=26.8km s-min=11.4km az=98.9*
*IDC **06** 10:12:26.2±4.0, 4467N×14784E, h135km±38km, mb3.1/4, mb1 3.4/4, mb1mx3.1/20, mbtmp3.5/4, Error ellipse: s-maj=44.1km s-min=26.5km az=120.0*

ISC 06 10:12:23.6±1.3, 441N±01×1482E±02, h142km±13km, n17, σ0§96/27, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.88**	**249**	P	**Pn**	**10 12 55.7**	**-1.1**
NEM2				*e*S	**Sn**	**10 13 20.3**	**-1.9**
JRA	**Rausu**	**2.19**	**268**	P	**Pn**	**10 12 59.7**	**-0.7**
JRA				*e*S	**Sn**	**10 13 28.2**	**-0.5**
JNK	**Nakash**	**2.53**	**260**	P	**Pn**	**10 13 04.4**	**-0.2**
JNK				*e*S	**Sn**	**10 13 36.7**	**+0.5**
JAK	**Akkeshi**	**2.73**	**248**	P	**Pn**	**10 13 07.0**	**-0.2**
JAK				*e*S	**Sn**	**10 13 41.3**	**+0.5**
JTKR	**Abashiri--Toko**	**3.06**	**270**	P	**Pn**	**10 13 11.3**	**-0.1**
JAR	**Ashorobuto**	**3.27**	**258**	P	**Pn**	**10 13 15.2**	**+1.2**
JAR				*e*S	**Sn**	**10 13 55.0**	**+1.9**
JCH	**Churui**	**3.78**	**249**	P	**Pn**	**10 13 21.6**	**+0.9**
JCH				*e*S	**Sn**	**10 14 06.0**	**+1.0**
ASAJ	**Asahikawa**	**4.00**	**273**	P	**Pn**	**10 13 23.4**	**-0.2**
	0.6nm,0.3s,baz=274,slow=31,SNR=3.9						
JFR	**Furan**	**4.13**	**259**	*e*S	**Sn**	**10 14 17.4**	**+4.1**
JNBK	**Urakawa-nobuka**	**4.33**	**247**	P	**Pn**	**10 13 28.7**	**+0.7**
JNBK				*e*S	**Sn**	**10 14 16.8**	**-1.2**
JKB	**Kayabe**	**5.66**	**250**	P	**Pn**	**10 13 46.8**	**+1.2**
JKB				*e*S	**Sn**	**10 14 49.3**	**-0.3**
JOT	**Ohata**	**5.88**	**245**	P	**Pn**	**10 13 49.6**	**+1.1**
JOT				*e*S	**Sn**	**10 14 53.8**	**-1.1**
JANG	**Nango**	**6.15**	**235**	P	**Pn**	**10 13 53.0**	**+0.8**
JANG				*e*S	**Sn**	**10 15 00.3**	**-1.2**
ILAR	**Eielson Array**	**40.80**	**36**	P	**P**	**10 19 50.6**	**-0.4**
	0.7nm,1.1s,mb3.2,baz=263,slow=7.4,SNR=4.3						
YKA	**Yellowknife Ar**	**55.13**	**34**	P	**P**	**10 21 41.5**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=302,slow=6.8,SNR=8.2						
FINES	**FINESS Array B**	**64.92**	**333**	P	**P**	**10 22 46.5**	**-1.3**
	0.5nm,0.5s,mb3.6,baz=45,slow=8.1,SNR=7.2						
WRA	**Warramunga Arr**	**64.94**	**194**	P	**P**	**10 22 54.8**	**+6.8**
	0.4nm,0.7s,mb3.4,baz=9.7,slow=6.7,SNR=2.1						

IDC 06 10:17:46.1±1.9, 1719S×17801W, h0km, mb4.2/3, mb1 4.5/3, mb1mx4.0/14, mbtmp4.2/3, Error ellipse: s-maj=159.2km s-min=33.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.31**	**240**	*e*P	P	10 25 16.9	+0.1
	4.0nm,0.9s						
STKA	**Stephens Creek**	**39.31**	**240**	P	P	10 25 16.8	0.0
	2.4nm,0.3s,baz=85,slow=10,SNR=7.5						
WB2	**Warramunga Arr**	**45.13**	**259**	*e*P	P	10 26 04.9	+0.6
WRA	**Warramunga Arr**	**45.14**	**259**	P	P	10 26 04.9	+0.5
	1.8nm,0.3s,baz=94,slow=7.4,SNR=115						
ASPA	**Alice Springs**	**45.36**	**254**	*e*P	P	10 26 06.6	+0.5
TXAR	**Lajitas Array**	**85.29**	**58**	P	P	10 30 25.4	+0.6
	0.4nm,0.7s,baz=225,slow=3.8,SNR=3.5						

IDC 06 10:19:34.7±4.6, 1798S×7210W, h77km±37km, mb3.4/2, mb1 3.6/5, mb1mx3.4/19, mbtmp3.8/5, ML3.9/3, MS2.8/1, Ms1 3.0/1, ms1mx2.2/15, Error ellipse: s-maj=50.9km s-min=23.9km az=87.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.15**	**67**	P	Pn	10 20 35.8	+0.2
	1.5nm,0.3s,baz=249,slow=11,SNR=22						
LPAZ				LR	LR	10 22 23.4	
	comp=Z,123nm,18.8s,baz=156,slow=41						
LVC	**Limon Verde**	**5.49**	**148**	P	Pn	10 20 54.3	+0.3
	1.1nm,0.3s,baz=314,slow=11,SNR=14						
LVC				S	Sn	10 21 56.9	+1.1
	3.9nm,0.3s,baz=104,slow=20,SNR=10						
SIV	**San Ignacio**	**10.73**	**81**	P	Pn	10 22 06.2	+0.8
	0.9nm,0.3s,baz=274,slow=12,SNR=30						
TORD	**Torodi Ar. Bea**	**79.08**	**72**	P	P	10 31 31.2	+0.7
	0.6nm,0.6s,baz=251,slow=5.2,SNR=8.4						
YKA	**Yellowknife Ar**	**86.90**	**342**	P	P	10 32 10.5	-0.4
	0.4nm,0.7s,baz=137,slow=4.7,SNR=16						

*NEIC **06** 10:29:15.6, 4322N×192W, h10km, ML2.5(STR), ML2.7(LDG), After STR.*
*LDG **06** 10:29:15.1±0.3, 4319N×195W, h12km, Md2.3/2, Ml2.7/2, Error ellipse: s-maj=7.6km s-min=4.0km az=8.0*
*STR **06** 10:29:15.6±1.3, 4322N×192W, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **06** 10:29:16.2±0.3, 4319N×190W, h10km, ML2.5, Error ellipse: s-maj=6.8km s-min=4.0km az=9.0*

MDD 06 10:29:16.8±0.4, 4321N×190W, h16km±5km, mbLg1.7/13, 1C, Error ellipse: s-maj=3.2km s-min=2.8km az=137.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELIZ	**Elizondo**	**0.28**	**98**	⇑Pg	Pg	10 29 22.6	-0.2
	2.4nm,0.2s,SNR=18						
ELIZ				Lg		10 29 26.8	
	24nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.29**	**87**	Pg	Pg	10 29 22.7	-0.3
	2.6nm,0.2s,SNR=18						
EALK				Lg		10 29 27.4	
	23nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.36**	**135**	Pg	Pg	10 29 24.5	+0.1
	3.4nm,0.2s,SNR=7.9						
IUSE				Lg		10 29 29.6	
	12nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.47**	**84**	Pg	Pg	10 29 25.1	-1.1
OSSF				Sg	Sg	10 29 31.4	-1.2
OSSF	**Osses**	**0.47**	**84**	Pg	Pg	10 29 25.1	-1.1
OSSF				Lg		10 29 31.4	
EARA	**Aranguren**	**0.49**	**151**	Pg	Pg	10 29 25.1	-1.5
	9.2nm,0.3s,SNR=7.9						
EARA				Lg		10 29 32.2	
	108nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.50**	**100**	*e*Pg	Pg	10 29 25.7	-1.1
SJPF				*e*Sg	Sg	10 29 32.4	-1.2
	16nm,0.2s						
SJPF	**Ste Jean**	**0.50**	**100**	Pg	Pg	10 29 25.7	-1.1
SJPF				Lg		10 29 32.4	
	7.9nm,0.2s						
IUNC	**Unciti**	**0.54**	**147**	Pg	Pg	10 29 26.8	-0.7
	1.9nm,0.1s,SNR=7.9						
IUNC				Lg		10 29 35.1	
	14nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.56**	**135**	Pg	Pg	10 29 27.1	-0.8
	1.4nm,0.2s,SNR=7.9						
IPRE				Lg		10 29 35.5	
	4.5nm,0.3s,SNR=7.9						
LARF	**Larrau**	**0.69**	**104**	Pg	Pg	10 29 28.9	-1.4
LARF				Sg	Sg	10 29 38.4	-1.1
LARF	**Larrau**	**0.69**	**104**	Pg	Pg	10 29 28.9	-1.4
LARF				Lg		10 29 38.0	
ECRI	**Cripan**	**0.74**	**217**	Pg	Pg	10 29 30.6	-0.7
	2.4nm,0.2s,SNR=7.9						
ECRI				Lg		10 29 40.3	
	11nm,0.2s,SNR=7.9						
ATE	**Arette**	**0.89**	**97**	Pg	Pg	10 29 33.2	-0.8
ATE				Sg	Sg	10 29 46.5	+0.8
ATE	**Arette**	**0.89**	**97**	Pg	Pg	10 29 33.2	-0.8
ATE				Lg		10 29 44.8	
ETSF	**Etsaut**	**1.03**	**107**	*e*Pg	Pg	10 29 35.0	-1.8
ETSF				*e*Sg	Sg	10 29 49.5	-0.7
	12nm,0.2s						
ETSF	**Etsaut**	**1.03**	**107**	Pg	Pg	10 29 35.0	-1.8
ETSF				Lg		10 29 49.5	
	5.8nm,0.2s						
ELAN	**Lanestosa**	**1.12**	**272**	Pg	Pg	10 29 36.5	-2.0
	0.4nm,0.2s,SNR=7.9						
ELAN				Lg		10 29 50.9	
	1.2nm,0.2s,SNR=7.9						
VIEF	**Viey**	**1.45**	**102**	Lg		10 30 01.2	
EBIE	**Bielsa**	**1.59**	**108**	Pg	Pg	10 29 45.5	-1.9
	0.5nm,0.1s,SNR=18						
EBIE				Sn	Sn	10 30 06.6	+2.2
	2.7nm,0.1s,SNR=9.5						
EPF	**Esparros**	**1.65**	**95**	*e*Pg	Pg	10 29 46.6	-1.9
EPF				*e*Sg	Sg	10 30 08.1	-1.9
	11nm,0.3s						
EPF	**Esparros**	**1.65**	**95**	Pg	Pg	10 29 46.6	-1.9
EPF				Lg		10 30 08.1	
	5.4nm,0.3s						
ESAC	**San Caprasio**	**1.82**	**144**	Pg	Pg	10 29 49.5	-2.3
	5.2nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	10 30 08.9	-1.3
	5.9nm,0.2s,SNR=7.9						
ESAC				Lg		10 30 11.8	
	9.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.79**	**143**	Lg		10 30 41.3	
	1.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.88**	**129**	Pn	Pn	10 30 00.4	-1.7
	0.7nm,0.3s,SNR=7.9						
EPOB				Pg	Pg	10 30 08.4	-3.7
	0.5nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	10 30 35.4	-1.0
	0.6nm,0.3s,SNR=7.9						
EPOB				Lg		10 30 43.2	
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.03**	**159**	Lg		10 30 48.2	
	1.5nm,0.3s,SNR=7.9						

MEX 06 10:31:24.1±0.6, 1793N×10051W, h57km±36km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.84**	**90**	*i* P	Pn	10 31 38.8	-1.1
MEIG				*i* S	Sn	10 31 50.0	-1.6
CAIG	**El Cayaco**	**0.91**	**165**	*i* P	Pn	10 31 39.2	-1.6
CAIG				*i* S	Sn	10 31 51.4	-1.7
PLIG	**Platanillo**	**1.06**	**64**	*i* P	Pn	10 31 41.4	-1.4
PLIG				*i* S	Sn	10 31 53.3	-3.3
ACX	**Acapulco**	**1.20**	**152**	*i* P	Pn	10 31 43.2	-1.4
ACX				*i* S	Sn	10 31 57.2	-2.7
PPM	**Popocatepetl**	**2.11**	**57**	*e*P	Pn	10 31 56.9	-0.1
PPM				*i* S	Sn	10 32 23.3	+1.2

*ISCJB **06** 10:34:22.6±0.4, 6630N±003×14197W±009, h10km, mb3.6/3, Error ellipse: s-maj=5.3km s-min=4.6km az=94.9*
*IDC **06** 10:34:24.4±1.1, 6638N×14236W, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.7/23, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=23.5km s-min=9.4km az=152.0*
*NEIC **06** 10:34:26.4, 6631N×14274W, h11km, ML3.8(AEIC), After AEIC.*
*PGC **06** 10:34:27.2, 6629N×14184W, h5km, ML4.0/2, Eastern Alaska.*

ISC 06 10:34:24.0±0.4, 6634N±003×14202W±008, h10km, n25, σ1§43/41, mb3.6/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**1.49**	**318**	P	**Pn**	**10 34 50.3**	**-0.5**
BM3				S	**Sn**	**10 35 10.4**	**+0.1**
DAWY	**Dawson**	**2.54**	**153**	Pn	**Pn**	**10 35 06.5**	**+1.3**
DAWY				Pg	**Pg**	**10 35 12.2**	**-0.5**
DAWY				Sn	**Sn**	**10 35 38.1**	**+1.9**
DAWY				Sg	**Sg**	**10 35 44.0**	**-1.7**
DAWY				Trac		10 35 50.6	
	comp=Z,329nm,0.7s						
IL1	**Eielson Array**	**2.57**	**234**	P	**Pn**	**10 35 04.6**	**-1.0**
ILAR	**Eielson Array**	**2.57**	**234**	Pn	**Pn**	**10 35 04.5**	**-1.1**
	7.9nm,0.3s,baz=45,slow=13,SNR=324						
ILAR				Pg	**Pg**	**10 35 09.8**	**-3.4**
	26nm,0.3s,baz=41,slow=18,SNR=78						
ILAR				Lg		10 35 40.7	
	89nm,0.3s,baz=48,slow=31,SNR=20						
COLA	**College**	**2.84**	**241**	P	**Pn**	**10 35 08.2**	**-1.1**
COLD	**Coldfoot**	**3.36**	**289**	P	**Pn**	**10 35 16.4**	**-0.1**
MENT	**Mentasta**	**3.50**	**193**	P	**Pn**	**10 35 19.3**	**+1.0**
PAX	**Paxson**	**3.70**	**205**	P	**Pn**	**10 35 22.1**	**+1.0**
INK	**Inuvik**	**3.83**	**55**	Pn	**Pn**	**10 35 25.8**	**+2.8**
	2.7nm,0.3s,baz=240,slow=14,SNR=136						
INK				Sn	**Sn**	**10 36 09.8**	**+1.6**
	19nm,0.3s,baz=121,slow=20,SNR=6.5						
INK				Lg		10 36 27.9	
	24nm,0.3s,baz=146,slow=32,SNR=9.8						
INK	**Inuvik**	**3.83**	**55**	Pn	**Pn**	**10 35 25.2**	**+2.2**
INK				Pg	**Pg**	**10 35 35.9**	**-1.5**
INK				Sn	**Sn**	**10 36 09.7**	**+1.5**
INK				Sg	**Sg**	**10 36 25.0**	**-2.1**
INK				Trac		10 36 36.1	
	comp=Z,186nm,0.7s						
MCK	**McKinley**	**3.93**	**231**	P	**Pn**	**10 35 23.8**	**-0.6**
IMA2	**Indian Mountai**	**4.74**	**272**	*e*P	**Pn**	**10 35 35.7**	**+0.3**
IM05	**Indian Mountai**	**4.77**	**271**	P	**Pn**	**10 35 34.5**	**-1.4**
BMRM	**Bremner River**	**5.52**	**193**	P	**Pn**	**10 35 48.3**	**+2.2**
PMR	**Palmer**	**5.70**	**217**	*e*P	**Pn**	**10 35 50.5**	**+1.8**
HYT	**Haines Junctio**	**5.89**	**158**	Pn	**Pn**	**10 35 52.8**	**+1.5**
HYT				Sg	**Sg**	**10 37 27.4**	**-5.7**
HYT				Trac		10 37 42.2	
	comp=Z,53nm,0.7s						
WHY	**Whitehorse**	**6.53**	**147**	Pn	**Pn**	**10 36 01.3**	**+1.2**
WHY				Sg	**Sg**	**10 37 49.0**	**-4.7**
WHY				Trac		10 38 12.8	
	comp=Z,21nm,0.7s						
PLBC	**Pleasant Camp**	**7.38**	**157**	Sg	**Sg**	**10 38 17.0**	**-3.7**
YKW3	**Yellowknife Ar**	**12.36**	**95**	Pn	**Pn**	**10 37 18.7**	**-1.2**
YKW3				Pn	**Pn**	**10 37 19.5**	**-0.4**
YKW3				Sn	**Sn**	**10 39 26.9**	**-11**
YKW3				Sn	**Sn**	**10 39 29.5**	**-8.2**
YKW3				Trac		10 40 04.5	
	comp=Z,6.0nm,0.5s						
YKW3				Trac		10 40 04.5	
	comp=Z,9.0nm,0.6s						
YKA	**Yellowknife Ar**	**12.40**	**95**	Pn	**Pn**	**10 37 18.8**	**-1.6**
	baz=297,slow=13,SN

MTUR	**Matau**	**1.38**	**248**	P	**Pn**	**10 47 40.7**	**+0.5**
IAS	**Iasi**	**1.50**	**18**	*i* S	**Sn**	**10 48 02.7**	**-0.1**
BUC1	**Bucharest**	**1.54**	**203**	⇑*i*P	**Pn**	**10 47 42.1**	**+0.2**
BUC1				*i* S	**Sn**	**10 48 02.2**	**-1.4**
BUC1	**Bucharest**	**1.54**	**203**	⇑*i*P	**Pn**	**10 47 42.1**	**+0.2**
BUC1				*i* S	**Sn**	**10 48 02.2**	**-1.4**
TIRR	**Tirgusor**	**1.71**	**140**	⇓*i*P	**Pn**	**10 47 44.5**	**+0.7**
TIRR				*i* S	**Sn**	**10 48 06.0**	**-1.0**
TIRR	**Tirgusor**	**1.71**	**140**	⇓*i*P	**Pn**	**10 47 44.5**	**+0.7**
TIRR				*i* S	**Sn**	**10 48 06.0**	**-1.0**
KIS	**Kishinev**	**1.82**	**47**	*i* S	**Sn**	**10 48 09.0**	**-0.5**
	500nm,0.8s						
BURAR	**Bucovina Array**	**2.17**	**329**	⇑*i*P	**Pn**	**10 47 51.0**	**+1.6**
BURAR	**Bucovina Array**	**2.17**	**329**	⇑*i*P	**Pn**	**10 47 51.0**	**+1.6**
ZAPS	**Zavoj/Pirot**	**3.92**	**232**	⇓*i*Pn	**Pn**	**10 48 10.6**	**-1.5**

GUC 06 11:07:11.8±1.0,2188S×7073W,h26km±8km,MD4.1, ML3.3,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.58**	**162**	*e*P	Pn	11 07 42.1	+4.1
CEN1				*i* S	Sn	11 08 04.2	+6.7
CEN1				AMP		11 08 13.4	
	comp=E,171nm,0.9s						
ANCH	**Antofagasta**	**1.81**	**171**	*e*P	Pn	11 07 41.8	+0.5
ANCH				*i* S	Sn	11 08 05.9	+2.5
SPCH	**San Pedro de A**	**2.55**	**114**	*e*P	Pn	11 07 53.8	+2.4
SPCH				*i* S	Sn	11 08 24.7	+3.1
SPCH				AMP		11 08 38.5	
	comp=E,585nm,0.5s						
CPN1	**Cerro Paranal**	**2.75**	**174**	*e*P	Pn	11 07 56.1	+2.0
CPN1				*i* S	Sn	11 08 29.9	+3.4
CPN1				AMP		11 08 52.0	
	comp=E,136nm,0.5s						

*NAO **06** 11:16:46.8,3327N×7521E,h33km,mb4.2*
*IDC **06** 11:17:27.0±6.1,3603N×7098E,h99km±53km,mb3.6/9, mb1 3.8/12,mb1mx3.6/22,mbtmp4.0/12,Error ellipse: s-maj=30.6km s-min=20.9km az=12.0*
*MOS **06** 11:17:28.6±1.4,36.16N×7093E,h121km,mb4.0/2,Error ellipse: s-maj=18.4km s-min=9.1km az=96.5*
*BJI **06** 11:17:29.6,3629N×7083E,h144km,mb4.3*
*NEIC **06** 11:17:30.1±1.7,3621N×7102E,h116km±18km,mb4.3/12, Error ellipse: s-maj=20.1km s-min=6.0km az=61.0*
*ISCJB **06** 11:17:32.2±0.4,3631N±002×7125E±005,h166km±6km, mb3.8/11,Error ellipse: s-maj=6.6km s-min=3.1km az=136.4*
*NNC **06** 11:17:38.5±5.1,3685N×7075E,h159km±60km,mb3.3, mpv4.4,Error ellipse: s-maj=44.1km s-min=28.6km az=19.0*

ISC 06 11:17:32.5±0.4,3630N±002×7115E±005,h148km±6km, n81,σ1°21/116,mb3.8/11,7C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.55**	**166**	⇓P	**Pn**	**11 18 16.2**	**+2.1**
CHCP	**Chirah Chowk**	**3.15**	**146**	⇓P	**Pn**	**11 18 24.2**	**+2.4**
THW	**Thamme Wali**	**3.53**	**172**	⇑P	**Pn**	**11 18 28.2**	**+1.6**
SBDP	**Sheikh Budin**	**4.00**	**184**	⇑P	**Pn**	**11 18 33.7**	**+1.0**
SARP	**Sargodha**	**4.55**	**163**	P	**Pn**	**11 18 40.8**	**+0.9**
DRP	**Derazinda**	**4.61**	**190**	⇓P	**Pn**	**11 18 41.9**	**+1.2**
DRP				S	**Sn**	**11 19 32.0**	**-1.9**
KSH	**Kashi**	**4.98**	**48**	P	**Pn**	**11 18 49.1**	**+3.4**
KSH				S	**Sn**	**11 19 43.6**	**+0.9**
KSH				Smax			
	comp=N,130nm,0.4s						
KSH				Smax			
	comp=E,110nm,0.5s						
THN	**Thein Dam**	**5.40**	**134**	*e*P	**Pn**	**11 18 51.7**	**+0.6**
THN				*e*S	**Sn**	**11 19 52.1**	**-0.4**
DLH	**Dalhousie**	**5.47**	**132**	*e*P	**Pn**	**11 18 54.0**	**+1.9**
DLH				*ex*	x	11 19 59.0	
PONG	**Pong**	**5.88**	**136**	*e*P	**Pn**	**11 18 59.0**	**+1.4**
PONG				*e*S	**Sn**	**11 20 05.0**	**+0.8**
AML	**Almayashu**	**6.15**	**18**	P	**Pn**	**11 19 00.7**	**-0.5**
	SNR=131						
UCH	**Uchtor**	**6.47**	**23**	P	**Pn**	**11 19 05.0**	**-0.4**
	SNR=21						
EKS2	**Erkin-Say**	**6.67**	**17**	P	**Pn**	**11 19 07.7**	**-0.4**
	SNR=14						
SDNR	**Sundarnagar**	**6.80**	**133**	*e*P	**Pn**	**11 19 10.6**	**+0.7**
SDNR				*e*S	**Sn**	**11 20 25.8**	**-0.4**
KK31	**Karatay Array**	**6.81**	**356**	⇑P	**Pn**	**11 19 08.4**	**-1.6**
	comp=E,20nm,0.4s,baz=182,slow=13,SNR=325						
KK31				⇑S	**Sn**	**11 20 20.4**	**-6.0**
	comp=E,29nm,0.6s,baz=187,slow=29						
AAK	**Ala-Archa**	**6.83**	**21**	P	**Pn**	**11 19 10.3**	**0.0**
	SNR=15						
AAK	**Ala-Archa**	**6.83**	**21**	*e*PN	**Pn**	**11 19 08.9**	**-1.4**
AAK				pmax	pmax		
	comp=Z,17nm,0.8s						
AAK	**Ala-Archa**	**6.83**	**21**	*e*Pn	**Pn**	**11 19 08.9**	**-1.4**
	comp=Z,17nm,0.8s						
AAK				*e*Sn	**Sn**	**11 20 28.1**	**+1.2**
KBK	**Karagaybulak**	**6.99**	**24**	P	**Pn**	**11 19 15.3**	**+2.9**
	SNR=12						
SMLA	**Simla**	**7.19**	**134**	*e*P	**Pn**	**11 19 15.0**	**-0.1**
SMLA				*e*S	**Sn**	**11 20 35.0**	**-0.5**
CHMS	**Chumysh**	**7.24**	**21**	P	**Pn**	**11 19 14.4**	**-1.4**
	SNR=5.9						
USP	**Ospenovka**	**7.42**	**19**	P	**Pn**	**11 19 17.8**	**-0.4**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.45**	**26**	P	**Pn**	**11 19 20.4**	**+1.9**
	SNR=18						
TKM2	**Tokmak 2**	**7.45**	**26**	⇓P	**Pn**	**11 19 20.2**	**+1.7**
	comp=Z,14nm,0.8s						
TKM2				⇑S	**Sn**	**11 20 39.9**	**-1.8**
	comp=Z,38nm,1.6s						
KLP	**Kalpa**	**7.58**	**127**	*e*P	**Pn**	**11 19 21.6**	**+1.3**
KLP				*e*S	**Sn**	**11 20 43.0**	**-1.7**
KLP				AML	AML	11 20 47.9	
	comp=N,223nm,0.6s						
KLP				AML	AML	11 20 49.6	
	comp=E,235nm,0.4s						
DDI	**Dehra Dun**	**8.30**	**134**	*ex*	x	11 19 30.6	
KHET	**Khetri**	**9.10**	**153**	*e*P	**Pn**	**11 19 39.6**	**-0.9**
KHET				*e*S	**Sn**	**11 21 16.1**	**-5.3**
KHET				*e*S	**Sn**	**11 21 18.7**	**-2.8**
NDI	**New Delhi**	**9.16**	**144**	*e*P	**Pn**	**11 19 41.0**	**-0.3**
NDI				*e*P		11 19 41.2	
NDI				*e*S	**Sn**	**11 21 18.0**	**-4.9**
AYAN	**Aya Nagar**	**9.29**	**145**	*e*P	**Pn**	**11 19 41.4**	**-1.6**
KUDL	**Kundal**	**9.30**	**149**	*e*P	**Pn**	**11 19 43.3**	**0.0**
KUDL				*e*S	**Sn**	**11 21 20.5**	**-5.8**
KUDL				*e*S	**Sn**	**11 21 23.8**	**-2.5**
KUDL				*e*S	**Sn**	**11 21 23.9**	**-2.4**
SONA	**Sohna**	**9.46**	**146**	*e*P	**Pn**	**11 19 45.3**	**-0.1**
SONA				*e*S	**Sn**	**11 21 26.3**	**-3.9**
LGTI	**Lohaghat**	**10.25**	**129**	*e*P	**Pn**	**11 19 55.0**	**-0.8**
LGTI				*e*S	**Sn**	**11 21 46.3**	**-2.9**
AGRA	**Agra**	**10.73**	**146**	*e*S	**Sn**	**11 21 55.6**	**-5.1**
MKAR	**Makanchi Array**	**13.38**	**35**	P	**Pn**	**11 20 38.0**	**+1.4**
	comp=E,0.2nm,0.3s,baz=224,slow=12,SNR=8.9						
MKAR	**Makanchi Array**	**13.38**	**35**	P	**Pn**	**11 20 38.0**	**+1.4**
KOLN	**Koldanda**	**13.55**	**125**	*e*Pn	**Pn**	**11 20 38.4**	**-0.3**
KOLN				*e*Sn	**Sn**	**11 23 01.5**	**-7.1**
	comp=E,16nm,0.5s						
KOLN	**Koldanda**	**13.55**	**125**	*e*Pn	**Pn**	**11 20 38.4**	**-0.3**
	comp=E,8.1nm,0.5s						
KOLN				*e*Sn	**Sn**	**11 23 01.5**	**-7.1**
GKN	**Gorkha**	**14.09**	**122**	*e*Pn	**Pn**	**11 20 45.1**	**-0.5**
GKN				*e*Sn	**Sn**	**11 23 13.0**	**-8.7**
	comp=E,28nm,0.3s						
GKN	**Gorkha**	**14.09**	**122**	*e*Pn	**Pn**	**11 20 45.1**	**-0.5**
	comp=E,14nm,0.3s						
GKN				*e*Sn	**Sn**	**11 23 13.0**	**-8.7**
BHPL	**Bhopal**	**14.10**	**156**	*e*P	**Pn**	**11 20 46.2**	**+0.4**
DMN	**Daman**	**14.66**	**122**	*e*Pn	**Pn**	**11 20 53.2**	**+0.4**
DMN				*e*Sn	**Sn**	**11 23 28.8**	**-6.6**
	comp=E,47nm,0.9s						
DMN	**Daman**	**14.66**	**122**	*e*Pn	**Pn**	**11 20 53.2**	**+0.4**
	comp=E,24nm,0.9s						
DMN				*e*Sn	**Sn**	**11 23 28.8**	**-6.6**
KKN	**Kakani**	**14.67**	**121**	*e*Pn	**Pn**	**11 20 52.6**	**-0.2**
KKN				*e*Sn	**Sn**	**11 23 27.9**	**-7.7**
	comp=E,26nm,0.6s						
KKN	**Kakani**	**14.67**	**121**	*e*P	**Pn**	**11 20 52.6**	**-0.2**
KKN				*e*		11 23 27.9	
KKN				pmax	pmax		
	comp=Z,13nm,0.6s						
KKN	**Kakani**	**14.67**	**121**	*e*Pn	**Pn**	**11 20 52.6**	**-0.2**
	comp=Z,13nm,0.6s						
KKN				*e*Sn	**Sn**	**11 23 27.9**	**-7.7**
PKI	**Pulchoki**	**14.90**	**122**	*e*Pn	**Pn**	**11 20 55.0**	**-0.7**
PKI				*e*Sn	**Sn**	**11 23 34.2**	**-6.8**
	comp=Z,18nm,0.5s						
PKI	**Pulchoki**	**14.90**	**122**	*e*P	**Pn**	**11 20 55.0**	**-0.7**
PKI				*e*		11 23 34.2	
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PKI	**Pulchoki**	**14.90**	**122**	*e*Pn	**Pn**	**11 20 55.0**	**-0.7**
	comp=Z,8.9nm,0.5s						
PKI				*e*Sn	**Sn**	**11 23 34.2**	**-6.8**
GUN	**Gumba**	**15.01**	**120**	*e*Pn	**Pn**	**11 20 57.0**	**-0.1**
GUN				*e*Sn	**Sn**	**11 23 36.5**	**-7.3**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**15.01**	**120**	*e*Pn	**Pn**	**11 20 57.0**	**-0.1**
	comp=Z,9.8nm,0.5s						
GUN				*e*Sn	**Sn**	**11 23 36.5**	**-7.3**
AB31	**Akbulak array**	**15.32**	**331**	P	**Pn**	**11 20 59.2**	**-1.7**
	comp=Z,3.1nm,0.4s,baz=145,slow=11,SNR=183						
AB31				S	**S**	**11 23 40.0**	**-16**
	comp=Z,12nm,0.8s,baz=151,slow=23,SNR=15						
KURK	**Kurchatov**	**15.38**	**18**	*e*P	**Pn**	**11 21 03.6**	**+1.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**15.38**	**18**	*e*P	**Pn**	**11 21 03.5**	**+1.9**
	comp=Z,3.6nm,0.9s						
JIRN	**Jiri**	**15.38**	**120**	*e*Pn	**Pn**	**11 21 01.6**	**-0.1**
JIRN				*e*Sn	**Sn**	**11 23 42.2**	**-10**
	comp=Z,41nm,0.6s						
JIRN	**Jiri**	**15.38**	**120**	*e*Pn	**Pn**	**11 21 01.6**	**-0.1**
	comp=Z,20nm,0.6s						
JIRN				*e*Sn	**Sn**	**11 23 42.2**	**-10**
AKL	**Akola**	**16.37**	**160**	*ex*	x	11 20 19.8	
VOSK	**Vostochnaya**	**16.42**	**360**	⇑P	**Pn**	**11 21 13.0**	**-1.4**
	comp=Z,3.4nm,0.9s						
BVA0	**Borovoye Array**	**16.73**	**358**	⇑P	**Pn**	**11 21 16.8**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=196,slow=8.7,SNR=19						
BVAR	**Borovoye Array**	**16.73**	**358**	P	**Pn**	**11 21 17.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=180,slow=13,SNR=19						
BVAR				S	**S**	**11 24 15.7**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=3.4						
BRVK	**Borovoye**	**16.77**	**358**	*e*P	**Pn**	**11 21 17.8**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**16.77**	**358**	*e*P	**Pn**	**11 21 17.8**	**-0.8**
	comp=Z,2.8nm,0.8s						
AKTK	**Aktyubinsk**	**17.01**	**330**	P	**Pn**	**11 21 20.9**	**-0.6**
AKTK				S	**S**	**11 24 19.1**	**-12**
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**Pn**	**11 21 20.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=147,slow=10,SNR=37						
AKTO				S	**S**	**11 24 19.1**	**-12**
	comp=Z,0.3nm,0.3s,baz=165,slow=21,SNR=5.6						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**Pn**	**11 21 21.0**	**-0.6**
AKTO				S	**S**	**11 24 19.2**	**-11**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**18.01**	**106**	*e*P	**Pn**	**11 21 39.1**	**+5.7**
	comp=Z,4.2nm,0.4s						
ZAL	**Zalesovo**	**20.03**	**24**	P	**Pn**	**11 21 53.8**	**0.0**
	comp=Z,3.2nm,0.6s,baz=252,slow=9.3,SNR=13						
ARU	**Arti**	**21.86**	**341**	*e*P	**P**	**11 22 15.9**	**+2.6**
ARU				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.0						
ARU	**Arti**	**21.86**	**341**	*e*P	**P**	**11 22 15.9**	**+2.6**
	comp=Z,11nm,1.6s,mb4.0						
GTA	**Gaotai**	**22.80**	**73**	*e*P	**P**	**11 22 26.2**	**+3.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.0						
CD2	**Chengdu**	**27.60**	**92**	*e*P	**P**	**11 23 07.6**	**+1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**33.17**	**309**	P	**P**	**11 23 55.0**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.7,baz=80,slow=7.4,SNR=7.1						
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**11 24 34.0**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.5,baz=125,slow=7.4,SNR=6.0						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**11 25 04.8**	**+0.8**
	comp=Z,1.7nm,0.6s,mb3.9,baz=112,slow=6.5,SNR=9.3						
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**11 25 29.9**	**-0.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**11 25 30.1**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.2,baz=96,slow=7.8,SNR=11						
MAJO	**Matsushiro**	**52.91**	**68**	*e*P	**P**	**11 26 43.4**	**+10**
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**11 28 00.6**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=46,slow=5.9,SNR=22						
ILAR	**Eielson Array**	**74.94**	**16**	P	**P**	**11 28 58.5**	**+1.2**
	comp=Z,0.6nm,1.1s,mb3.1,baz=255,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**81.44**	**3**	P	**P**	**11 29 33.8**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.5,baz=351,slow=5.4,SNR=35						
YKA	**Yellowknife Ar**	**81.44**	**3**	P	**P**	**11 29 33.8**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**11 29 35.4**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.7,baz=325,slow=4.9,SNR=28						

*NAO **06** 11:25:59.4,3420N×14077E,h33km,mb4.4*
*NIED **06** 11:26:00,36.10N×140.40E,h59km,Mw4.3 Best double couple: M0:3.04000×10^15 NP1:φ0=12.00000°,δ68.00000°, λ88.00000°. NP2:φ0=198.00000°,δ22.00000°,λ96.00000°.*
*MOS **06** 11:26:09.2±0.8,3617N×14021E,h33km,mb4.7/20,Error ellipse: s-maj=15.1km s-min=7.8km az=117.7*
*ISCJB **06** 11:26:11.4±0.4,3600N±003×14045E±005,h68km±3km, mb4.4/51,Error ellipse: s-maj=7.3km s-min=5.4km az=17.7*
*BJI **06** 11:26:11.2,3590N×13999E,h50km,mB4.6,mb4.5*
*JMA **06** 11:26:12.8±0.1,3602N×14039E,h55km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φ0=174.00000°,δ27.00000°,λ65.00000°. NP2:φ0=22.00000°, δ66.00000°,λ102.00000°. Principal axes: T Plg67.0000°, Azm315.0000°; N Plg11.0000°, Azm197.0000°; P Plg20.0000°, Azm103.0000°;*
JMA Felt II J1.
*NEIC **06** 11:26:14.3±1.0,3600N×14030E,h75km±7km,mb4.6/26, MW4.3(NIED) Error ellipse: s-maj=9.8km s-min=7.5km az=121.0*
NEIC Recorded [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Chiba, Kanagawa, Gumma, Saitama, Shizuoka and Tokyo Prefectures.
*IDC **06** 11:26:15.0±1.3,3591N×14030E,h86km±12km,mb4.0/18, mb1 4.2/21,mb1mx4.1/26,mbtmp4.4/21,Error ellipse: s-maj=16.6km s-min=7.5km az=61.0*

ISC 06 11:26:12.4±0.4,3603N±003×14047E±005,h61km±3km, n115,σ0°90/122,mb4.5/51,4C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**312**	⇓P	**Pn**	**11 26 22.2**	**-0.4**
JYT				S	**Sn**	**11 26 29.4**	**-0.6**
JHO	**Hitachi**	**0.59**	**8**	⇑P	**Pn**	**11 26 25.6**	**+0.2**
JHO				S	**Sn**	**11 26 34.8**	**-0.1**
JAG	**Ashikaga**	**0.91**	**296**	⇓P	**Pn**	**11 26 29.2**	**-0.1**
BSO3	**Boso 3**	**1.23**	**178**	P	**Pn**	**11 26 33.6**	**+0.2**
JKT	**Katashina**	**1.23**	**307**	⇓P	**Pn**	**11 26 33.9**	**+0.4**
JRY	**Ryogami san**	**1.27**	**270**	⇓P	**Pn**	**11 26 33.9**	**-0.1**
JOD2	**Odawara 2**	**1.36**	**236**	⇓P	**Pn**	**11 26 35.0**	**-0.2**
JFK	**Kawauchi**	**1.37**	**14**	⇑P	**Pn**	**11 26 35.8**	**+0.4**
BSO1	**Boso 1**	**1.44**	**163**	P	**Pn**	**11 26 36.0**	**-0.2**
MJAR	**Matsushiro Arr**	**1.90**	**286**	P	**Pn**	**11 26 42.9**	**+0.5**
	342nm,0.3s,baz=90,slow=9.2,SNR=2717						
MJAR				S	**Sn**	**11 27 06.8**	**+1.6**
	57nm,0.3s,baz=144,slow=11,SNR=11						
MAT	**Matsushiro**	**1.90**	**286**	P	**Pn**	**11 26 42.3**	**-0.1**
MAT	**Matsushiro**	**1.90**	**286**	*e*P	**Pn**	**11 26 42.0**	**-0.4**
MAT				*e*S	**Sn**	**11 27 09.0**	**+3.7**
JHJ	**Hachijo jima 2**	**2.96**	**191**	P	**Pn**	**11 26 56.6**	**-0.2**
	105nm,0.3s,baz=316,slow=0.7,SNR=46						
JHJ				S	**Sn**	**11 27 31.2**	**0.0**
	232nm,0.3s,baz=68,slow=22,SNR=11						
ASAJ	**Asahikawa**	**8.24**	**11**	P	**Pn**	**11 28 08.7**	**-0.5**
	2.8nm,0.3s,baz=215,slow=11,SNR=12						
ASAJ				S	**Sn**	**11 29 39.2**	**-1.6**
	0.6nm,0.3s,baz=234,slow=33,SNR=2.5						
ASAJ	**Asahikawa**	**8.24**	**11**	P	**Pn**	**11 28 08.7**	**-0.5**
ASAJ				S	**Sn**	**11 29 39.2**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JNU	**Nakatsue**	**8.42**	**253**	P	**Pn**	**11 28 13.6**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=63,slow=16,SNR=8.5						
CBIJ	**Chichi jima**	**9.03**	**170**	P	**Pn**	**11 28 16.0**	**-3.9**
	comp=Z,20nm,0.3s,baz=271,slow=16,SNR=7.4						
CBIJ				S	**Sn**	**11 29 49.4**	**-11**
	comp=Z,9.3nm,0.3s,baz=285,slow=22,SNR=4.5						
KS15	**Wonju Array Si**	**10.20**	**282**	*e*Pn	**Pn**	**11 28 39.5**	**+3.6**
MDJ	**Mudanjiang**	**11.93**	**319**	*e*Pn	**Pn**	**11 29 05.4**	**+5.9**
	comp=Z,8.1nm,0.8s						
JOW	**Kunigami**	**13.86**	**232**	P	**Pn**	**11 29 26.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=129,slow=28,SNR=2.2						
BJT	**Baijiatuau**	**19.54**	**289**	*e*P	**Pn**	**11 30 33.2**	**-3.4**
BJT				pmax	pmax		
	comp=Z,22nm,1.0s						
BJT	**Baijiatuau**	**19.54**	**289**	*e*P	**Pn**	**11 30 33.2**	**-3.4**
	comp=Z,22nm,1.0s						
YHNB	**Yeheng**	**19.95**	**241**	*e*P	**Pn**	**11 30 37.4**	**-4.2**
WHN	**Wuhan**	**22.48**	**263**	⇓P	**P**	**11 31 05.8**	**-0.6**
MA2	**Magadan**	**24.50**	**13**	*e*P	**P**	**11 31 27.6**	**+1.8**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
MA2	**Magadan**	**24.50**	**13**	*e*P	**P**	**11 31 27.6**	**+1.8**
	comp=Z,6.4nm,0.6s,mb4.2						
XAN	**Xi'an**	**25.85**	**275**	P	**P**	**11 31 36.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
ENH	**Enshi**	**26.50**	**266**	*e*P	**P**	**11 31 42.2**	**-1.8**
	comp=Z,29nm,0.6s,mb5.0						
YAK	**Yakutsk**	**26.89**	**349**	*e*P	**P**	**11 31 46.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
YAK	**Yakutsk**	**26.89**	**349**	*e*P	**P**	**11 31 46.8**	**-0.7**
	comp=Z,12nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**27.31**	**306**	*e*P	**P**	**11 31 51.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**27.31**	**306**	*e*P	**P**	**11 31 51.1**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**27.73**	**306**	P	**P**	**11 31 53.5**	**-1.5**
	comp=Z,3.7nm,0.5s,mb4.2,baz=100,slow=8.5,SNR=12						
BOD	**Bodaibo**	**27.99**	**329**	*e*P	**P**	**11 31 57.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
GYA	**Guiyang**	**30.31**	**261**	⇑*i*P	**P**	**11 32 16.2**	**-1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2	**Chengdu**	**30.92**	**271**	*e*P	**P**	**11 32 22.1**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**32.14**	**288**	*e*P	**P**	**11 32 33.5**	**-0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**41.55**	**276**	*e*P	**P**	**11 33 55.7**	**+1.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**41.55**	**276**	*e*P	**P**	**11 33 55.7**	**+1.8**
	comp=Z,8.2nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**42.05**	**313**	P	**P**	**11 33 56.4**	**-1.5**
	comp=Z,3.0nm,0.5s,mb4.2,baz=26,slow=6.9,SNR=13						
ZAL	**Zalesovo**	**42.05**	**313**	P	**P**	**11 33 56.4**	**-1.5**
NVS	**Novosibirsk**	**42.99**	**314**	*e*P	**P**	**11 34 04.6**	**-1.0**
MKAR	**Makanchi Array**	**44.01**	**303**	P	**P**	**11 34 13.9**	**+0.1**
	comp=Z,3.1nm,0.5s,mb4.3,baz=82,slow=10.0,SNR=75						
KURK	**Kurchatov**	**45.96**	**309**	*e*P	**P**	**11 34 28.9**	**-0.3**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
KURK	**Kurchatov**	**45.96**	**309**	*e*P	**P**	**11 34 28.9**	**-0.4**
	comp=Z,19nm,0.8s,mb5.1						
JIRN	**Jiri**	**46.35**	**276**	*e*P	**P**	**11 34 33.0**	**+0.7**
	comp=Z,14nm,0.5s,mb5.2						
GUN	**Gumba**	**46.50**	**276**	*e*P	**P**	**11 34 34.8**	**+1.3**
	comp=Z,10nm,0.4s,mb5.1						
PKI	**Pulchoki**	**47.02**	**276**	*e*P	**P**	**11 34 38.3**	**+0.8**
	comp=Z,8.9nm,0.6s,mb4.9						
PKI	**Pulchoki**	**47.02**	**276**	*e*P	**P**	**11 34 38.3**	**+0.8**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KKN	**Kakani**	**47.03**	**276**	*e*P	**P**	**11 34 37.0**	**-0.7**
	comp=Z,12nm,0.6s,mb5.0						
KKN	**Kakani**	**47.03**	**276**	*e*P	**P**	**11 34 37.0**	**-0.7**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
DMN	**Daman**	**47.25**	**276**	*e*P	**P**	**11 34 39.5**	**+0.2**
GKN	**Gorkha**	**47.46**	**277**	*e*P	**P**	**11 34 41.0**	**0.0**
	comp=Z,35nm,0.8s,mb5.4						
KOLN	**Koldanda**	**48.39**	**277**	*e*P	**P**	**11 34 48.9**	**+0.7**
	comp=Z,12nm,0.7s,mb5.1						
AAK	**Ala-Archa**	**50.

CDF Champ du Feu 86.16 331 *eP* **P 11 38 47.1 +0.2**
comp=Z,9.2nm,0.8s,mb4.8
CDF Champ du Feu 86.16 331 *eP* **P 11 38 47.1 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CDF Champ du Feu 86.16 331 *eP* **P 11 38 47.1 +0.2**
comp=Z,4.6nm,0.8s,mb4.8
HAU Haudompre 86.85 331 *eP* **P 11 38 51.1 +0.8**
comp=Z,7.4nm,0.8s,mb4.7
HAU Haudompre 86.85 331 *eP* **P 11 38 51.1 +0.8**
HAU pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
HAU Haudompre 86.85 331 *eP* **P 11 38 51.1 +0.8**
comp=Z,3.7nm,0.8s,mb4.7
LOR Lormes 88.42 332 *eP* **P 11 38 56.7 -1.0**
comp=Z,8.1nm,0.9s,mb4.7
LOR Lormes 88.42 332 *eP* **P 11 38 56.7 -1.0**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
LOR Lormes 88.42 332 *eP* **P 11 38 56.7 -1.0**
comp=Z,4.1nm,0.9s,mb4.7
SSF Saint Saulge 88.72 332 *eP* **P 11 38 59.1 -0.1**
comp=Z,2.6nm,0.5s,mb4.5
SSF Saint Saulge 88.72 332 *eP* **P 11 38 59.1 -0.1**
SSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
SSF Saint Saulge 88.72 332 *eP* **P 11 38 59.1 -0.1**
comp=Z,1.3nm,0.5s,mb4.5
LPG La Plagne 89.72 329 *eP* **P 11 38 59.8 +0.6**
AVF Avril sur Loir 89.00 332 *eP* **P 11 39 01.1 +0.6**
comp=Z,8.0nm,0.8s,mb4.8
AVF Avril sur Loir 89.00 332 *eP* **P 11 39 01.1 +0.6**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
AVF Avril sur Loir 89.00 332 *eP* **P 11 39 01.1 +0.6**
comp=Z,4.0nm,0.8s,mb4.8
MBDF Montbardon 89.34 329 *eP* **P 11 39 03.0 +0.9**
ORIF Oris-en-Rattie 89.55 330 *eP* **P 11 39 03.2 +0.1**
MFF Saint Martin d 90.45 334 *eP* **P 11 39 07.4 +0.1**
comp=Z,4.7nm,0.7s,mb4.6
MFF Saint Martin d 90.45 334 *eP* **P 11 39 07.4 +0.1**
MFF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
MFF Saint Martin d 90.45 334 *eP* **P 11 39 07.4 +0.1**
comp=Z,2.3nm,0.7s,mb4.6
TXAR Lajitas Array 91.34 52 P **P 11 39 13.7 +2.3**
comp=Z,0.9nm,0.6s,mb4.3,baz=303,slow=2.8,SNR=8.1
LPAZ La Paz 147.86 60 PKPbc PKPbc 11 45 52.5 +2.0
comp=Z,0.9nm,0.6s,baz=16,slow=9.7,SNR=4.8

IDC ***06*** *11:34:53.9±0.6, 1468S×17745W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.7/19, mbtmp4.5/15, MS4.6/26, Ms1 4.6/26, ms1mx4.4/34, Error ellipse: s-maj=26.5km s-min=15.3km az=139.0*
BJI ***06*** *11:34:55.5, 1419S×17723W, h6km, mB5.5, mb5.1, Ms5.3, Msz4.9*
NEIC ***06*** *11:34:56.0±0.3, 1472S×17741W, h10km, mb5.3/30, MS5.1/4, Error ellipse: s-maj=16.2km s-min=8.6km az=150.0*
HRVD ***06*** *11:34:56.0±0.2, 1467S×17715W, h12km, MW5.3/101, Centroid moment Tensor Solution. LP body waves: s76,c137;Mantle waves: s101,c188; Half duration: 1s1 Moment tensor: Scale 1017Nm; Mrr1.05±.02; Mθθ-0.49±.02; Mφφ-0.56±.02; Mrθ0.12±.05; Mrφ0.52±.01; Mθφ-0.01±.05; Best double couple: M0 1.05500×1017 NP1:φs321.00000°, δ43.00000°, λ96.00000°. NP2: φs133.00000°, δ48.00000°, λ84.00000°. Principal axes: T 1.0600, Plg85.0000°, Azm347.0000°; N -0.0120, Plg4.0000°, Azm136.0000°; P -1.0510, Plg3.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***06*** *11:34:57.9±0.3, 1478S±008×17747W±006, h33km, mb5.0/60, MS4.7/38 Error ellipse: s-maj=12.8km s-min=7.1km az=128.6*
MOS ***06*** *11:34:59.2±1.3, 1445S×17760W, h33km, mb5.3/16, MS4.8/4, Error ellipse: s-maj=14.6km s-min=11.0km az=64.9*
SZGRF ***06*** *11:35:02.5, 1436S×17776E, h33km, Fiji Islands region*
ISC 06 11:34:59.9±0.3, 1476S±008×17744W±006, h35km, (h10km±2.3km:pP-P), n241, σ0s95/110, mb5.0/60, MS4.7/38, 23C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.55**	**82**	Pn	**Pn**	**11 36 14.5**	**-5.6**
	26nm,0.3s,baz=264,slow=1.3,SNR=6.6						
AFI				Sn	**Sn**	**11 37 14.4**	**-8.2**
	baz=78,slow=20,SNR=1.9						
AFI				LR	LR	11 37 43.9	
	comp=Z,5μm,20.9s,baz=278,slow=31						
AFI	**Afiamalu**	**5.55**	**82**	*e*P	**Pn**	**11 36 15.1**	**-4.9**
AFI				pmax	pmax		
	comp=Z,133nm,0.6s						
AFI	**Afiamalu**	**5.55**	**82**	*e*Pn	**Pn**	**11 36 15.1**	**-4.9**
	comp=Z,133nm,0.6s						
RAO	**Raoul Island**	**14.43**	**182**	LR	LR	11 41 57.8	
	comp=Z,756nm,19.7s,baz=76,slow=29						
DZM	**Mont Dzumac**	**16.93**	**242**	Pn	**Pn**	**11 38 58.3**	**+4.3**
	comp=Z,0.3nm,0.3s,baz=68,slow=13,SNR=8.9						
DZM	**Mont Dzumac**	**16.93**	**242**	*e*P	**Pn**	**11 38 59.8**	**+5.8**
HNR	**Honiara**	**22.73**	**281**	LR	LR	11 47 36.4	
	comp=Z,1μm,19.0s,MS4.4,baz=177,slow=34						
URZ	**Urewera**	**23.90**	**191**	P	**P**	**11 40 09.3**	**-1.1**
	comp=Z,21nm,0.9s,mb4.5,baz=26,slow=4.3,SNR=7.3						
URZ				LR	LR	11 48 24.3	
	comp=Z,3μm,19.2s,MS4.8,baz=290,slow=34						
PPT	**Papeete**	**26.89**	**100**	*e*S	**S**	**11 45 02.0**	**-10**
	comp=Z,390nm,24.2s						
PPT				*e*LQ		11 45 53.7	
	comp=Z,3μm,27.2s						
PPT				*e*LR	LR	11 47 04.6	
	comp=Z,3μm,27.0s,baz=268						
TBI	**Tubuai**	**27.75**	**112**	*e*S	**S**	**11 45 16.4**	**-9.0**
	comp=Z,372nm,26.0s						
TBI				*e*LQ		11 46 18.5	
	comp=Z,2μm,28.8s						
TBI				*e*LR	LR	11 47 34.4	
	comp=Z,3μm,28.5s,baz=283						
CTA	**Charters Tower**	**35.00**	**256**	P	**P**	**11 41 49.3**	**+0.4**
	comp=Z,2.4nm,0.7s,mb4.3,baz=85,slow=16,SNR=4.4						
PMG	**Port Moresby**	**35.00**	**275**	P	**P**	**11 41 49.5**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0,baz=44,slow=4.0,SNR=5.9						
PMG				LR	LR	11 52 10.2	
	comp=Z,570nm,19.3s,MS4.3,baz=269,slow=30						
TAOE	**Nuku Hiva Isla**	**36.93**	**85**	*e*LR	LR	11 51 35.9	
	comp=Z,9μm,27.6s						
RKT	**Rikitea**	**40.90**	**108**	*e*S	**S**	**11 48 39.2**	**-8.6**
	comp=Z,285nm,29.5s						
RKT				*e*LR	LR	11 53 36.6	
	comp=Z,2μm,27.8s,baz=280						
STKA	**Stephens Creek**	**41.02**	**238**	*e*P	**P**	**11 42 38.4**	**-1.2**
	comp=Z,11nm,1.6s,mb4.2						
STKA	**Stephens Creek**	**41.02**	**238**	P	**P**	**11 42 38.2**	**-1.4**
	comp=Z,10nm,1.0s,mb4.4,baz=90,slow=7.6,SNR=4.9						
STKA				PcP	PcP	11 44 39.2	0.0
	comp=Z,2.9nm,0.6s,baz=26,slow=11,SNR=3.0						
STKA				LR	LR	11 58 05.6	
	comp=Z,3μm,19.7s,MS5.1,baz=64,slow=34						
STKA	**Stephens Creek**	**41.02**	**238**	*e*P	**P**	**11 42 38.3**	**-1.3**
WB2	**Warramunga Arr**	**46.19**	**256**	*e*P	**P**	**11 43 20.3**	**-0.9**
WRAB	**Tennant Creek**	**46.19**	**256**	*i*P	**P**	**11 43 20.5**	**-0.7**
WRA	**Warramunga Arr**	**46.20**	**256**	P	**P**	**11 43 20.4**	**-1.0**
	comp=Z,4.7nm,0.9s,mb4.4,baz=89,slow=8.1,SNR=28						
WRA				PcP	PcP	11 44 56.9	+0.2
	comp=Z,3.3nm,1.0s,baz=82,slow=3.9,SNR=8.0						
ASPA	**Alice Springs**	**46.61**	**251**	*e*P	**P**	**11 43 24.2**	**-0.4**
GUMO	**Guam**	**46.74**	**305**	LR	LR	11 59 48.4	
	comp=Z,161nm,18.9s,MS4.0,baz=104,slow=32						
DRV	**Dumont d'Urvil**	**58.93**	**198**	S	**S**	**11 53 09.0**	**+10**
MBWA	**Marble Bar**	**59.79**	**254**	*e*P	**P**	**11 45 01.5**	**0.0**
	comp=Z,32nm,1.4s,mb5.2						
VNDA	**Vanda**	**63.64**	**185**	P	**P**	**11 45 28.1**	**+0.6**
	comp=Z,4.3nm,1.1s,mb4.4,baz=355,slow=9.6,SNR=3.9						
VNDA				LR	LR	12 10 51.3	
	comp=Z,234nm,18.9s,MS4.4,baz=28,slow=34						
MJAR	**Matsushiro Arr**	**65.98**	**322**	P	**P**	**11 45 41.3**	**-1.4**
	comp=Z,3.8nm,1.0s,mb4.4,baz=168,slow=6.3,SNR=6.8						
MJAR				LR	LR	12 09 44.6	
	comp=Z,94nm,19.6s,MS4.0,baz=205,slow=32						
JOW	**Kunigami**	**66.99**	**308**	LR	LR	12 09 25.6	
	comp=Z,123nm,20.6s,MS4.1,baz=347,slow=31						
FX1	**Attu Island--F**	**67.85**	**354**	LR	LR	12 14 07.9	
	comp=Z,17nm,18.1s,MS3.3,baz=275,slow=35						
ASAJ	**Asahikawa**	**69.00**	**330**	LR	LR	12 12 49.5	
	comp=Z,261nm,18.8s,MS4.5,baz=146,slow=33						
SSE	**Sheshan**	**74.49**	**309**	P	**P**	**11 46 35.7**	**+1.0**
SSE				AP	pP	11 46 39.0	-6.6
SSE				XP	sP	11 46 40.3	-9.4
SSE				S	S	11 56 11.5	+4.2
SSE				XS	sS	11 56 17.0	-8.3
SSE				SCS	ScS	11 56 46.7	+3.5
SSE				SS	SS	12 00 59.1	+4.9
SSE				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,441nm,3.8s						
SSE				LR	LR		
	comp=N,62nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=E,92nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=Z,151nm,20.0s,MS4.3						
CMB	**Columbia Colle**	**74.92**	**43**	*e*P	**P**	**11 46 36.9**	**-0.3**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CMB	**Columbia Colle**	**74.92**	**43**	*e*P	**P**	**11 46 36.9**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**75.28**	**180**	*e*P	**P**	**11 46 38.8**	**-0.5**
	comp=Z,24nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**75.51**	**39**	LR	LR	12 10 45.5	
	comp=Z,920nm,21.9s,MS5.0,baz=321,slow=28						
YBH	**Yreka Blue Hor**	**75.51**	**39**	*e*P	**P**	**11 46 40.7**	**+0.1**
YBH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YBH	**Yreka Blue Hor**	**75.51**	**39**	*e*P	**P**	**11 46 40.7**	**+0.1**
	comp=Z,9.2nm,0.9s,mb4.7						
HABR	**Khabarovsk**	**75.77**	**330**	*e*P	**P**	**11 46 40.6**	**-1.5**
MDJ	**Mudanjiang**	**76.18**	**324**	P	**P**	**11 46 44.9**	**+0.5**
MDJ				AP	pP	11 46 48.4	-7.0
MDJ				XP	sP	11 46 50.3	-9.1
MDJ				PCP	PcP	11 46 53.1	-3.3
MDJ				PP	PP	11 49 37.3	+1.6
MDJ				S	S	11 56 34.3	+8.3
MDJ				AMB	AMB		
	comp=Z,14nm,2.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,257nm,5.3s						
MDJ				LR	LR		
	comp=N,77nm,28.0s,MS4.2						
MDJ				LR	LR		
	comp=E,135nm,30.8s,MS4.2						
MDJ				LR	LR		
	comp=Z,198nm,25.2s						
NVAR	**Mina Array Bea**	**76.52**	**44**	P	**P**	**11 46 46.0**	**-0.3**
	comp=Z,6.2nm,0.9s,mb4.5,baz=229,slow=9.6,SNR=35						
NVAR				LR	LR	12 11 41.9	
	comp=Z,247nm,20.0s,MS4.5,baz=280,slow=29						
NVAR	**Mina Array Bea**	**76.52**	**44**	P	**P**	**11 46 46.0**	**-0.3**
NVAR				LR	LR	12 11 41.9	
MNV	**Mina**	**76.62**	**44**	*e*P	**P**	**11 46 46.9**	**-0.1**
MNV				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.1						
MNV	**Mina**	**76.62**	**44**	*e*P	**P**	**11 46 46.9**	**-0.1**
	comp=Z,37nm,1.5s,mb5.1						
NJ2	**Nanjing**	**76.69**	**309**	*e*P	**P**	**11 46 47.8**	**+0.4**
NJ2				AP	pP	11 46 52.5	-5.8
NJ2				XP	sP	11 46 54.8	-7.5
NJ2				PP	PP	11 49 42.1	+2.1
NJ2				S	S	11 56 33.0	+1.3
NJ2				XS	sS	11 56 41.0	-8.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,210nm,4.1s						
NJ2				LR	LR		
	comp=N,940nm,13.6s,MS5.4						
NJ2				LR	LR		
	comp=E,880nm,14.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,150nm,14.7s,MS4.4						
TPH	**Tonopah**	**77.07**	**45**	*e*P	**P**	**11 46 49.4**	**-0.1**
MOD	**Modoc**	**77.09**	**40**	*e*P	**P**	**11 46 49.5**	**-0.1**
	comp=Z,22nm,1.4s,mb4.9						
CN2	**Changchun**	**78.13**	**322**	*e*P	**P**	**11 46 56.7**	**+1.3**
CN2				AP	pP	11 47 01.4	-5.0
CN2				*e*S	S	11 56 50.7	+3.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
MA2	**Magadan**	**78.43**	**344**	*i*P	**P**	**11 46 56.1**	**-1.0**
MA2				pmax	pmax		
	comp=Z,22nm,2.4s,mb4.7						
MA2	**Magadan**	**78.43**	**344**	*e*P	**P**	**11 46 55.6**	**-1.4**
	comp=Z,36nm,1.8s,mb5.0						
TUC	**Tucson**	**79.05**	**52**	*e*P	**P**	**11 47 01.3**	**+0.8**
TUC				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
TUC	**Tucson**	**79.05**	**52**	*e*P	**P**	**11 47 01.3**	**+0.8**
	comp=Z,25nm,1.5s,mb4.9						
BBB	**Bella Bella**	**79.12**	**28**	LR	LR	12 14 52.5	
	comp=Z,628nm,18.9s,MS5.0,baz=39,slow=30						
WHN	**Wuhan**	**79.53**	**305**	P	**P**	**11 47 04.7**	**+1.6**
ELK	**Elko**	**79.73**	**43**	LR	LR	12 14 40.7	
	comp=Z,645nm,19.4s,MS5.0,baz=225,slow=30						
TNA	**Tin City**	**80.40**	**4**	*e*P	**P**	**11 47 07.2**	**-0.6**
	comp=Z,7.7nm,0.8s,mb4.7						
SEY	**Seymchan**	**80.94**	**347**	*i*P	**P**	**11 47 09.5**	**-1.2**
MCK	**McKinley**	**81.28**	**12**	*e*P	**P**	**11 47 11.0**	**-1.5**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MCK	**McKinley**	**81.28**	**12**	*e*P	**P**	**11 47 11.0**	**-1.5**
	comp=Z,5.2nm,0.8s,mb4.5						
TMUT	**Trail Mountain**	**81.78**	**46**	*e*P	**P**	**11 47 16.0**	**+0.9**
NEW	**Newport**	**82.43**	**36**	P	**P**	**11 47 17.1**	**-1.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=78,slow=1.3,SNR=5.3						
NEW				LR	LR	12 16 42.3	
	comp=Z,510nm,18.2s,MS4.9,baz=246,slow=30						
NEW	**Newport**	**82.43**	**36**	*e*P	**P**	**11 47 16.9**	**-1.6**
NEW				pmax	pmax		
	comp=Z,16nm,1.7s						
NEW	**Newport**	**82.43**	**36**	*e*P	**P**	**11 47 16.9**	**-1.7**
	comp=Z,16nm,1.7s,mb4.7						
COLA	**College**	**82.52**	**12**	*i*P	**P**	**11 47 17.4**	**-1.6**
COLA	**College**	**82.52**	**12**	*e*P	**P**	**11 47 17.3**	**-1.7**
	comp=Z,13nm,0.8s,mb5.0						
IMA2	**Indian Mountai**	**82.53**	**10**	*e*P	**P**	**11 47 18.4**	**-0.6**
HWUT	**Hardware Ranch**	**82.58**	**44**	*e*P	**P**	**11 47 19.2**	**-0.2**
	comp=Z,49nm,1.9s,mb5.2						
ILAR	**Eielson Array**	**82.63**	**13**	P	**P**	**11 47 17.8**	**-1.8**
	comp=Z,6.2nm,0.8s,mb4.7,baz=230,slow=6.3,SNR=34						
ILAR				PP	PP	11 50 17.6	-12
	comp=Z,0.8nm,1.1s,baz=194,slow=11,SNR=3.1						
ILAR				LR	LR	12 19 32.1	
	comp=Z,217nm,19.4s,MS4.5,baz=186,slow=32						
LAZ	**Ladron**	**82.69**	**52**	*e*P	**P**	**11 47 20.8**	**+0.9**
LENM	**Lemitar**	**82.72**	**52**	*e*P	**P**	**11 47 20.8**	**+0.7**
MNTX	**Cornudas Mount**	**83.01**	**55**	*e*P	**P**	**11 47 21.7**	**+0.2**
	comp=Z,97nm,1.9s,mb5.5						
LPM	**Los Pinos Moun**	**83.04**	**52**	*e*P	**P**	**11 47 22.0**	**+0.3**
MCMT	**McKenzie Canyo**	**83.25**	**40**	*e*P	**P**	**11 47 23.0**	**+0.3**
BILL	**Bilibino**	**83.41**	**354**	*i*P	**P**	**11 47 22.1**	**-1.5**
BILL				pmax	pmax		
	comp=Z,25nm,2.1s,mb4.9						
BILL	**Bilibino**	**83.41**	**354**	*e*P	**P**	**11 47 21.8**	**-1.8**
	comp=Z,157nm,2.5s,mb5.6						
AHID	**Auburn Hatcher**	**83.42**	**43**	*e*P	**P**	**11 47 23.6**	**0.0**
	comp=Z,72nm,1.8s,mb5.4						
ANMO	**Albuquerque**	**83.42**	**51**	LR	LR	12 17 50.1	
	comp=Z,921nm,18.8s,MS5.2,baz=278,slow=31						
ANMO	**Albuquerque**	**83.42**	**51**	*e*P	**P**	**11 47 24.1**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,29nm,1.5s						
ANMO	**Albuquerque**	**83.42**	**51**	*e*P	**P**	**11 47 24.1**	**+0.4**
	comp=Z,29nm,1.5s,mb5.1						
ANMO				*e*PcP	PcP	11 47 28.1	+0.1
TXAR	**Lajitas Array**	**83.53**	**58**	P	**P**	**11 47 24.9**	**+0.7**
	comp=Z,9.9nm,1.0s,mb4.9,baz=225,slow=5.3,SNR=49						
TXAR				LR	LR	12 17 58.8	
	comp=Z,906nm,18.5s,MS5.2,baz=200,slow=31						
TXAR	**Lajitas Array**	**83.53**	**58**	P	**P**	**11 47 24.9**	**+0.7**
TXAR				LR	LR	12 17 58.8	
DLMT	**Dillon**	**83.66**	**40**	*e*P	**P**	**11 47 25.0**	**+0.1**
	comp=Z,89nm,1.9s,mb5.6						
REDW	**Red Top Meadow**	**83.85**	**42**	*e*P	**P**	**11 47 26.1**	**+0.2**
	comp=Z,80nm,1.8s,mb5.5						
SNOW	**Snow King Moun**	**83.96**	**42**	*e*P	**P**	**11 47 27.0**	**+0.6**
	comp=Z,100nm,1.8s,mb5.6						
GDL2	**Guadalupe Moun**	**84.00**	**55**	*e*P	**P**	**11 47 27.1**	**+0.5**
LOHW	**Long Hollow**	**84.12**	**42**	*e*P	**P**	**11 47 27.5**	**+0.2**
	comp=Z,338nm,2.7s,mb6.0						
QLMT	**Earthquake Lak**	**84.14**	**41**	*e*P	**P**	**11 47 28.4**	**+1.1**
FLWY	**Flagg Ranch**	**84.27**	**42**	*e*P	**P**	**11 47 28.3**	**+0.3**
	comp=Z,42nm,1.4s,mb5.4						
GYA	**Guiyang**	**84.31**	**299⇑**	*i*P	**P**	**11 47 29.8**	**+1.6**
GYA				AP	pP	11 47 34.6	-4.7
GYA				XP	sP	11 47 36.8	-6.5
GYA				PP	PP	11 50 46.5	+3.4
GYA				S	S	11 57 54.0	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,3.4s						
GYA				LR	LR		
	comp=N,870nm,19.4s,MS5.3						
GYA				LR	LR		
	comp=E,970nm,20.6s,MS5.3						
GYA				LR	LR		
	comp=Z,760nm,20.4s,MS5.1						
BOZ	**Bozeman (W)**	**84.39**	**40**	*e*P	**P**	**11 47 28.6**	**0.0**
BOZ				pmax	pmax		
	comp=Z,47nm,1.8s,mb5.3						
BOZ	**Bozeman (W)**	**84.39**	**40**	*e*P	**P**	**11 47 28.6**	**0.0**
	comp=Z,47nm,1.8s,mb5.3						
PDAR	**Pinedale Array**	**84.44**	**43**	P	**P**	**11 47 28.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.7,baz=243,slow=3.3,SNR=34						
PDAR				LR	LR	12 17 30.3	
	comp=Z,484nm,19.7s,MS4.9,baz=289,slow=30						
LKWY	**Lake**	**84.68**	**41**	*e*P	**P**	**11 47 31.9**	**+1.8**
LKWY				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.5						
LKWY	**Lake**	**84.68**	**41**	*e*P	**P**	**11 47 31.9**	**+1.8**
	comp=Z,60nm,1.6s,mb5.5						
SMCO	**Snowmass**	**84.71**	**47**	*e*P	**P**	**11 47 30.7**	**+0.5**
	comp=Z,4.5nm,0.7s,mb4.7						
HRY	**Holter Researc**	**84.77**	**39**	*e*P	**P**	**11 47 30.1**	**-0.4**
XAN	**Xi'an**	**85.11**	**307**	P	**P**	**11 47 33.2**	**+0.9**
XAN				AMB	AMB		
	comp=Z,15nm,2.5s,mb4.7						
SDCO	**Great Sand Dun**	**85.21**	**49**	*e*P	**P**	**11 47 32.6**	**-0.2**
	comp=Z,14nm,1.4s,mb4.9						
SDCO				*e*PcP	PcP	11 47 35.9	0.0
RWWY	**Rawlins**	**85.56**	**45**	*e*P	**P**	**11 47 33.3**	**-1.2**
	comp=Z,92nm,1.6s,mb5.8						
GCMT	**Greycliff**	**85.69**	**41**	*e*P	**P**	**11 47 35.7**	**+0.6**
HHC	**Hu-ho-hao-te**	**85.76**	**314⇑**	*e*P	**P**	**11 47 35.8**	**+0.3**
HHC				AP	pP	11 47 40.9	-5.6
HHC				XP	sP	11 47 43.3	-7.2
HHC				SKS		11 58 00.7	
HHC				S		11 58 13.9	
HHC				XS	sS	11 58 21.1	-2.9
HHC				AMB	AMB		
	comp=Z,26nm,2.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,230nm,6.0s						
HHC				LR	LR		
	comp=N,141nm,15.6s,MS4.7						
HHC				LR	LR		
	comp=E,178nm,15.6s,MS4.7						
HHC				LR	LR		
	comp=Z,109nm,14.4s,MS4.4						
BTO	**Baotou**	**86.74**	**313**	*e*P	**P**	**11 47 41.1**	**+0.8**
YAK	**Yakutsk**	**87.02**	**338**	*i*P	**P**	**11 47 39.4**	**-2.3**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,23.0s,MS4.2						
JCT	**Junction City**	**87.07**	**58**	*e*P	**P**	**11 47 41.9**	**0.0**
JCT				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.2						
JCT	**Junction City**	**87.07**	**58**	*e*P	**P**	**11 47 41.9**	**0.0**
	comp=Z,24nm,1.5s,mb5.2						
MAW	**Mawson**	**87.12**	**199**	LR	LR	12 22 30.3	
	comp=Z,621nm,21.2s,MS5.0,baz=95,slow=33						
KMI	**Kunming**	**87.25**	**297**	P	**P**	**11 47 44.9**	**+2.1**
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb5.1						
CD2	**Chengdu**	**88.16**	**302**	P	**P**	**11 47 49.0**	**+1.8**
CD2				PP	PP	11 51 19.2	+4.9
CD2				SKS		11 58 15.1	
CD2				S		11 58 32.0	
CD2				SS	SS	12 04 25.2	+7.2
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.2						
CD2				AMB	AMB		
	comp=Z,160nm,4.3s						
CD2				LR	LR		
	comp=E,80nm,15.6s						
CD2				LR	LR		
	comp=Z,100nm,16.8s,MS4.3						
LAO	**LASA Array**	**88.23**	**41**	*e*P	**P**	**11 47 48.1**	**+0.7**
	comp=Z,466nm,2.5s,mb6.3						
INK	**Inuvik**	**88.62**	**15**	P	**P**	**11 47 48.0**	**-1.3**
	comp=Z,1.6nm,0.9s,mb4.3,baz=240,slow=5.9,SNR=3.7						
INK				LR	LR	12 20 53.6	
	comp=Z,360nm,19.6s,MS4.8,baz=188,slow=31						
INK	**Inuvik**	**88.62**	**15**	P	**P**	**11 47 48.0**	**-1.3**
INK				LR	LR	12 20 53.6	
RSSD	**Black Hills**	**88.66**	**44**	*e*P	**P**	**11 47 49.0**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
RSSD	**Black Hills**	**88.66**	**44**	*e*P	**P**	**11 47 49.0**	**-0.5**
	comp=Z,10nm,0.9s,mb5.2						
CIT	**Chita**	**89.14**	**325**	*e*P	**P**	**11 47 52.4**	**+0.7**
CIT				pmax	pmax		
	comp=Z,80nm,2.6s,mb5.6						
LZH	**Lanzhou**	**89.72**	**307**	*e*P	**P**	**11 47 56.6**	**+2.1**
LZH				AP	pP	11 48 00.5	-5.1
LZH				XP	sP	11 48 03.5	-6.1
LZH				PP	PP	11 51 32.0	+5.2
LZH				SKS		11 58 24.0	
LZH				AMB	AMB		
	comp=Z,66nm,1.3s,mb5.8						
LZH				AMB	AMB		
	comp=Z,230nm,4.5s						
LZH				LR	LR		
	comp=N,670nm,18.4s						
LZH				LR	LR		
	comp=Z,850nm,20.0s,MS5.2						
DGMT	**Dagmar**	**90.19**	**40**	*e*P	**P**	**11 47 56.8**	**+0.2**
	comp=Z,92nm,1.8s,mb5.8						
YKA	**Yellowknife Ar**	**91.10**	**24**	P	**P**	**11 47 59.8**	**-1.0**
	comp=Z,0.7nm,0.7s,

MKAR	Makanchi Array	107.61 315	Pdif	Pdif	11 49 15.2	-0.1
MKAR			PKPdf	PKiKP	11 53 22.5	-0.6
MKAR			PKKPbc	PKKPbc	12 04 36.9	-0.3
BVAR	Borovoye Array	114.98 322	PKP	PKiKP	11 53 35.6	-1.5
	comp=Z,0.9nm,0.8s,baz=0.0,slow=1.5,SNR=6.0					
ARU	Arti	120.73 328	*i* PKIKP	PKPdf	11 53 47.5	-0.7
ARU			*e*		11 55 15.3	
ARU			*e*		12 00 41.8	
ARU			*e*SS	SS	12 11 40.4	-4.0
ARCES	ARCESS Array B	123.39 351	PKP	PKPdf	11 53 51.3	-1.9
	comp=Z,6.7nm,0.8s,baz=90,slow=3.6,SNR=11					
FINES	FINESS Array B	130.41 345	PKP	PKPdf	11 54 06.4	-0.3
	comp=Z,2.5nm,0.9s,baz=90,slow=5.7,SNR=6.5					
VOR	Voronezh	132.93 330	PKIKP	PKPdf	11 54 10.0	-1.4
VOR			pmax	pmax		
	comp=Z,150nm,2.5s					
CLL	Collm	142.59 349	*i* PKPdf	PKPdf	11 54 29.1	-0.1
	comp=Z,11nm,1.2s					
DPC	Dobruska-Polom	142.79 345	*e*PKP	PKPdf	11 54 25.0	-4.5
BRG	Berggiesshubel	142.82 348	*e*PKPdf	PKPdf	11 54 30.4	+0.8
BRG	Berggiesshubel	142.82 348	*e*PKP	PKPdf	11 54 30.6	+1.0
	comp=Z,2.6nm,0.9s					
BRG						
	comp=N,254nm,39.9s					
BRG						
	comp=E,70nm,25.9s					
BRG						
	comp=Z,228nm,30.4s					
BR131	Keskin Array S	143.15 318	*e*PKPdf	PKPdf	11 54 27.2	-3.0
BRTR	Keskin Array B	143.15 318	PKP	PKPdf	11 54 27.6	-2.6
	comp=Z,3.6nm,0.8s,baz=52,slow=2.0,SNR=12					
KECS	Kecovo	143.27 340	*e*PKP	PKPdf	11 54 28.4	-2.0
MOX	Moxa	143.47 350	*e*PKPdf	PKPdf	11 54 30.9	+0.2
PRU	Pruhonice	143.54 347	*e*PKP	PKPdf	11 54 28.6	-2.2
NKC	Novy Kostel	143.72 349	*e*PKP	PKPdf	11 54 31.5	+0.3
VYHS	Vyhne	143.78 342	*e*PKP	PKPdf	11 54 30.1	-1.2
BEBN	Eben Emael	143.97 357	⇑PKPdf	PKPdf	11 54 29.0	-2.6
BEBN			aPKPdf		11 54 34.1	
ROTZ	Rotzenmuhle	144.21 349	*e*PKPdf	PKPdf	11 54 31.2	-0.8
TNS	Taunus Mts	144.31 354	*e*PKPdf	PKPdf	11 54 31.1	-1.1
GRA1	Grafenberg Arr	144.45 350	*e*PKPdf	PKPdf	11 54 30.9	-1.5
GRF	Grafenberg Arr	144.45 350	*e*PKPdf	PKPdf	11 54 30.9	-1.5
KHC	Kasperske Hory	144.55 348	*e*PKP	PKPdf	11 54 31.5	-1.1
BHL	Bhannes	144.56 308	*e*P	PKPdf	11 54 32.5	-0.1
ZST	Bratislava	144.56 343	*e*PKP	PKPdf	11 54 29.1	-3.5
WET	Wettzell	144.68 348	*e*PKPdf	PKPdf	11 54 30.0	-2.8
GIVF	Givet	144.71 357	*e*PKP1	PKPdf	11 54 31.0	-1.9
DOU	Dourbes	144.72 358	⇑PKPdf	PKPdf	11 54 31.4	-1.6
DOU			aPKPdf		11 54 34.7	
BAIF	Baives	144.77 358	*e*PKP1	PKPdf	11 54 31.5	-1.5
GEC2	GERESS Array S	144.80 347	*e*PKPdf	PKPdf	11 54 31.4	-1.6
GERES	GERESS Array B	144.80 347	PKP	PKPdf	11 54 32.2	-0.8
	comp=Z,2.1nm,0.8s,baz=0.0,slow=2.7,SNR=13					
TOD	Tromm	144.88 353	PKIKP	PKPdf	11 54 33.3	+0.1
RUP	Ruppelstein	144.96 355	PKIKP	PKPdf	11 54 32.2	-1.1
WLF	Walferdange	145.07 356	*e*PKPdf	PKPdf	11 54 33.7	+0.2
WLF	Walferdange	145.07 356	⇑PKP	PKPdf	11 54 33.8	+0.3
WLF	Walferdange	145.07 356	*e*PKPdf	PKPdf	11 54 33.8	+0.2
LANF	Langenberg	145.60 354	PKP	PKPdf	11 54 34.1	-0.3
MOA	Molln	145.61 346	⇑*i*P	PKPdf	11 54 35.0	+0.6
	comp=Z,423nm,3.1s,SNR=9.7					
MOA	Molln	145.61 346	⇑*i*P	PKPdf	11 54 35.0	+0.6
DJES	Djerdap	145.74 334	*e*P	PKPdf	11 54 34.7	+0.1
ARSA	Arzberg	145.85 344	⇑*i*PKPab	PKPab	11 54 35.6	-0.3
	comp=Z,366nm,3.1s					
ARSA	Arzberg	145.85 344	⇑P	PKPdf	11 54 35.6	+0.7
FUR	Furstenfeldbru	145.92 350	*e*PKPdf	PKPdf	11 54 36.0	+1.0
FLN	La Foliniere	146.00 4	*e*PKP1	PKPbc	11 54 35.0	-0.9
	comp=Z,88nm,1.1s					
FLN			*e*R			
	comp=Z,308nm,21.5s					
FLN	La Foliniere	146.00 4	*e*PKP	PKPdf	11 54 35.0	-0.1
FLN			LR	LR		
	comp=Z,310nm,21.5s,MS5.0					
ROSF	Rostrenen	146.18 7	*e*PKP1	PKPbc	11 54 35.7	-0.7
BFO	Black Forest	146.19 353	*e*PKPdf	PKPdf	11 54 36.6	+1.2
LDF	La Druitiere	146.19 3	*e*PKP1	PKPbc	11 54 35.7	-0.8
WLS	Welschbruch	146.21 354	PKP	PKPdf	11 54 36.7	+1.2
CDF	Champ du Feu	146.22 354	*e*PKP1	PKPbc	11 54 36.4	-0.2
MEZF	Maizieres J'vi	146.29 357	*e*PKP1	PKPbc	11 54 36.8	0.0
SGMF	Saint Gilles	146.34 6	*e*PKP1	PKPbc	11 54 36.3	-0.6
	comp=Z,121nm,1.4s					
GRR	Gorron	146.35 4	*e*PKP1	PKPbc	11 54 36.0	-1.0
	comp=Z,75nm,1.3s					
ECH	Echery	146.43 354	PKP	PKPdf	11 54 36.7	+0.9
THEF	They Montfort	146.51 356	PKP	PKPdf	11 54 33.9	-2.1
PERS	Pernice	146.53 344	*e*PKPbc	PKPbc	11 54 37.9	+0.4
KBA	Koelnbreinsper	146.55 347	⇑*i*PKPab	PKPab	11 54 37.3	-1.3
	comp=Z,393nm,3.8s					
SVIS	Svilajnac	146.55 335	⇑*i*P	PKPdf	11 54 37.4	+1.4
QUIF	Quistinic	146.60 7	*e*PKP1	PKPbc	11 54 36.5	-1.2
	comp=Z,64nm,1.3s					
BOLS	Boljevac	146.63 334	⇑*i*P	PKPdf	11 54 37.3	+1.2
EIL	Elat	146.69 302	*e*PKPab	PKPab	11 54 38.5	-0.6
HAU	Haudompre	146.70 355	*e*PKP1	PKPbc	11 54 37.7	-0.3
HAU			*e*R			
	comp=Z,272nm,18.2s					
HAU	Haudompre	146.70 355	*e*PKP	PKPdf	11 54 37.7	+1.4
HAU			LR	LR		
	comp=Z,270nm,18.3s,MS5.1					
WTTA	Wattenberg	146.72 349	⇑*i*P	PKPdf	11 54 37.0	+0.7
	comp=Z,576nm,2.9s,SNR=8.1					
MOTA	Moosalm	146.74 349	⇑*i*P	PKPdf	11 54 38.3	+1.9
	comp=Z,172nm,2.1s,SNR=8.1					
ZAPS	Zavoj/Pirot	146.77 333	⇑*i*P	PKPdf	11 54 38.5	+2.1
MOF	Molkenrain	146.79 354	PKP	PKPdf	11 54 37.1	+0.7
SQTA	Sankt Quirin	146.84 349	⇑*i*PKPab	PKPab	11 54 38.5	-1.3
	comp=Z,156nm,2.2s					
SQTA	Sankt Quirin	146.84 349	⇑P	PKPdf	11 54 38.5	+1.9
HINF	Hinteralfeld	146.85 355	*e*PKP1	PKPbc	11 54 38.1	-0.3
DAVA	Damuels	147.00 351	⇑*i*P	PKPdf	11 54 39.1	+2.3
	comp=Z,593nm,4.0s,SNR=6.3					
GRUS	Gruza	147.09 336	*e*P	PKPdf	11 54 39.5	+2.6
DIVS	Divcibare	147.20 337	⇑*i*P	PKPdf	11 54 39.0	+1.9
ROBS	Robic	147.29 346	*e*PKPbc	PKPbc	11 54 39.2	-0.5
LOMF	Lomont	147.31 355	PKP	PKPdf	11 54 38.9	+1.6
BOJS	Bojanci	147.53 343	*e*PKPbc	PKPbc	11 54 40.8	+0.5
LOR	Lormes	147.57 358	*e*PKP1	PKPbc	11 54 40.4	0.0
	comp=Z,22nm,0.9s					
LOR			*e*R			
	comp=Z,214nm,18.0s					
LOR	Lormes	147.57 358	*e*PKP	PKPdf	11 54 40.4	+2.6
LOR			LR	LR		
	comp=Z,210nm,18.0s,MS5.0					
SSF	Saint Saulge	147.79 359	*e*PKP1	PKPbc	11 54 41.0	0.0
	comp=Z,70nm,1.4s					
AVF	Avril sur Loir	148.06 359	*e*PKP1	PKPbc	11 54 41.2	-0.5
	comp=Z,43nm,1.3s					
LCHF	La Chataignera	148.07 4	PKP	PKPdf	11 54 41.7	+3.1
CABF	La Chapelle	148.11 355	*e*PKP1	PKPbc	11 54 41.7	-0.2
	comp=Z,258nm,1.7s					
MFF	Saint Martin d	148.18 4	*e*PKP1	PKPbc	11 54 41.4	-0.6
	comp=Z,196nm,1.9s					
SMF	Signal de Mont	148.19 358	*e*PKP1	PKPbc	11 54 41.7	-0.4
BGF	Bois d'Agland	148.30 360	*e*PKP1	PKPbc	11 54 42.1	-0.3
	comp=Z,21nm,0.8s					
SKO	Skopje	148.35 333	⇑*i*P	PKPdf	11 54 43.4	+4.4
TCF	Toulx Ste Croi	148.57 0	*e*PKP1	PKPbc	11 54 42.5	-0.6
AGO	Saint Agoulin	148.80 359	PKP	PKPdf	11 54 44.3	+4.5
PLDF	La Plantade	148.88 359	PKP	PKPdf	11 54 44.5	+4.6
PYM	Petit Puy Mans	149.11 359	PKP	PKPdf	11 54 45.4	+5.1
LPL	La Plagne	149.14 354	*e*PKP1	PKPbc	11 54 44.8	+0.3
LPG	La Plagne	149.16 354	*e*PKP1	PKPbc	11 54 44.9	+0.3
OHR	Ohrid	149.33 332	⇑P	PKPdf	11 54 42.9	+2.3
GRN	Grenoble	149.50 356	PKP	PKPdf	11 54 46.2	+5.3
RJF	Les Rejaudoux	149.54 1	*e*PKP1	PKPbc	11 54 45.4	-0.1
	comp=Z,160nm,1.8s					
RJF			*e*R			
	comp=Z,449nm,21.2s					
RJF	Les Rejaudoux	149.54 1	*e*PKP	PKPdf	11 54 45.4	+4.4
RJF			LR	LR		
	comp=Z,450nm,21.3s,MS5.2					
BNI	Bardonecchia	149.61 354	*e*PKPbc	PKPbc	11 54 45.5	-0.2
ORIF	Oris-en-Rattie	149.81 355	*e*PKP1	PKPbc	11 54 46.0	-0.2
ORIF			*e*R			
	comp=Z,260nm,22.5s					
LFF	La Frestale	149.88 3	*e*PKP1	PKPbc	11 54 46.4	+0.1
MBDF	Montbardon	149.92 354	*e*PKP1	PKPbc	11 54 47.0	+0.6
	comp=Z,59nm,1.3s					
CAF	Calviac	149.93 1	*e*PKP1	PKPbc	11 54 46.7	+0.2
	comp=Z,49nm,1.3s					
VIVF	Saint-Julien-l	149.95 357	*e*PKP1	PKPbc	11 54 46.4	-0.1
SURF	Saint Ours	150.16 354	PKP	PKPdf	11 54 47.8	+5.9
SAOF	Saorge	150.56 353	PKP	PKPdf	11 54 47.4	+4.8
AUTN	L'Aution	150.57 353	PKP	PKPdf	11 54 48.2	+5.6
SBF	Sospel	150.70 353	*e*PKP1	PKPbc	11 54 47.8	-0.5
FRF	La Foret Royal	151.09 354	*e*PKP1	PKPbc	11 54 49.0	-0.2
LMR	La Mourre	151.32 354	*e*PKP1	PKPbc	11 54 49.5	-0.3
MTLF	Montolieu	151.52 1	*e*PKP1	PKPbc	11 54 50.1	-0.1
	comp=Z,27nm,1.2s					
SJPF	Ste Jean	151.56 6	*e*PKP1	PKPbc	11 54 50.5	+0.2
	comp=Z,51nm,1.4s					
PGF	Pioggiola	151.76 350	*e*PKP1	PKPbc	11 54 50.5	-0.3
	comp=Z,174nm,1.4s					
EPF	Esparros	151.76 3	*e*PKP1	PKPbc	11 54 51.1	+0.3
ETSF	Etsaut	151.83 5	*e*PKP1	PKPbc	11 54 51.2	+0.3
	comp=Z,35nm,1.1s					
CORF	Corte	151.98 350	PKP	PKPdf	11 54 52.2	+7.5
ESDC	Sonseca Array	154.53 12	PKPbc	PKPbc	11 54 56.9	0.0
	comp=Z,0.2nm,0.3s,baz=337,slow=4.8,SNR=4.2					
ESDC			PKPab	PKPab	11 55 11.3	-0.1
	comp=Z,0.3nm,0.3s,baz=351,slow=5.3,SNR=4.7					
TORD	Torodi Ar. Bea	178.19 152	PKP	PKPdf	11 55 06.2	-0.4
	comp=Z,2.9nm,1.1s,baz=203,slow=0.5,SNR=12					

MOS ***06*** *12:05:17.7±1.2,41.90N×42.69E,h29km,mb3.6/1,Error ellipse: s-maj=99.9km s-min=12.7km az=57.7*
TIF ***06*** *12:05:29.4,42.52N×43.41E,h5km±4km*
ISCJB ***06*** *12:05:30.1±0.6,42.60N±0.05×43.46E±0.06,h10km±4km, Error ellipse: s-maj=7.8km s-min=6.8km az=30.4*

ISC 06 12:05:29.8±0.6,4256N±005×4344E±006,h13km±5km,n12, σ0.99/17,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.02	22	P	Pg	12 05 31.7	-0.4
ONI				S	Sg	12 05 33.4	-0.4
DIGR	Digorskoe uzhe	0.35	17	*i* Pg	Pg	12 05 36.9	-0.1
ZEI	Tsey	0.40	58	*i* Pg	Pg	12 05 38.1	+0.3
LACR	Lac	0.69	67	*i* Pg	Pg	12 05 43.0	-0.2
LSNR	Lesken	0.77	21	*e*Pg	Pg	12 05 45.1	+0.4
ARNR	Ardon	0.88	44	*e*Pn	Pn	12 05 46.8	-1.1
CHVG	Ch'k'valeri	1.01	279	P	Pg	12 05 49.9	+0.6
CHVG				S	Sg	12 06 03.4	+0.8
KMSR	Komsomolskaya	1.02	37	*e*Pn	Pn	12 05 49.2	-0.6
BTKR	Batakoyurt	1.15	45	*e*Pn	Pn	12 05 51.2	-0.3
AKH	Akhalkalaki	1.15	178	P	Pb	12 05 50.8	-0.7
AKH				S	Sb	12 06 03.4	-2.9
TBLG	Delisi	1.27	130	P	Pn	12 05 53.3	0.0
TBLG				S	Sb	12 06 12.2	+2.3
MTA	Mtatsminda	1.33	130	P	Pn	12 05 55.3	+1.3
MTA				S	Sb	12 06 15.6	+4.1

MOS ***06*** *12:10:40.6±0.9,42.05N×42.73E,h18km,mb3.6/1,Error ellipse: s-maj=72.4km s-min=9.8km az=52.6*
TIF ***06*** *12:10:51.5,42.59N×43.49E,h13km±1km*
ISCJB ***06*** *12:10:52.6±0.5,42.62N±0.03×43.48E±0.05,h10km±4km, Error ellipse: s-maj=6.1km s-min=5.8km az=179.0*

ISC 06 12:10:52.5±0.5,4260N±004×4347E±005,h13km±4km,n15, σ0.74/21,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.02	218	P	Pg	12 10 54.4	-0.3
ONI				S	Sg	12 10 56.0	-0.3
DIGR	Digorskoe uzhe	0.31	15	*i* PG	Pg	12 10 59.3	+0.4
ZEI	Tsey	0.36	61	*i* PG	Pg	12 11 00.1	+0.4
LACR	Lac	0.65	69	*i* PG	Pg	12 11 05.0	-0.1
LSNR	Lesken	0.72	20	*e*PG	Pg	12 11 06.9	+0.4
ARNR	Ardon	0.84	45	*e*PG	Pg	12 11 09.0	+0.3
KMSR	Komsomolskaya	0.98	38	*e*PN	Pn	12 11 11.5	-0.5
VLKR	Vladikavkaz	0.99	63	*e*PN	Pn	12 11 11.7	-0.5
CHVG	Ch'k'valeri	1.03	277	P	Pb	12 11 12.8	+0.6
CHVG				S	Sb	12 11 26.0	+0.4
SNJR	Sundja	1.09	64	*e*PN	Pn	12 11 12.6	-0.9
BTKR	Batakoyurt	1.10	45	*e*PN	Pn	12 11 13.3	-0.4
AKH	Akhalkalaki	1.19	179	P	Pn	12 11 13.4	-1.4
AKH				S	Sb	12 11 30.3	+0.1
TBLG	Delisi	1.28	132	P	Pn	12 11 15.9	-0.2
TBLG				S	Sb	12 11 33.4	+0.5
MTA	Mtatsminda	1.34	132	P	Pn	12 11 16.1	-0.8
MTA				S	Sb	12 11 34.9	+0.5
DGRG	David-gareji	1.82	128	P	Pn	12 11 26.2	+2.7
DGRG				S	Sn	12 11 50.5	+4.0

HLW ***06*** *12:11:11.5,31.05N×35.03E,h5km,Mb2.5*
ISCJB ***06*** *12:11:12.5±0.5,30.88N±0.03×35.04E±0.05,h0km,Error ellipse: s-maj=6.6km s-min=4.6km az=32.2*
CSEM ***06*** *12:11:12.5±0.1,30.86N×35.01E,h1km,ML2.3,Error ellipse: s-maj=3.7km s-min=2.4km az=107.0,Mining explosion.*
GII ***06*** *12:11:12.1±1.1,30.89N×35.01E,h0km,ML2.3/4*

ISC 06 12:11:13.0±0.5,3088N±003×3504E±005,h0km,n16, σ0.86/19,3C-2D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	Zfri	0.35	160	Pg	Pg	12 11 20.4	+0.8
RMNI	Mount Ramon	0.37	220	Pg	Pg	12 11 20.4	+0.3
MZDA	Masada	0.51	33	Pg	Pg	12 11 23.0	+0.2
PRNI	Paran	0.53	183	Pg	Pg	12 11 23.8	+0.7
KZIT	Kziot	0.55	273	Pg	Pg	12 11 23.5	0.0
KZIT				Sg	Sg	12 11 32.1	+1.4
DSI	Dead Sea	0.75	23	Pg	Pg	12 11 28.4	+1.2
KMTI	Karmit	0.82	199	Pg	Pg	12 11 28.3	-0.4
HRFI	Mount Harif	0.84	180	Pg	Pg	12 11 29.6	+0.5
EIL	Elat	1.21	184	Pg	Pg	12 11 35.8	-0.4
HNKL	Nakhl	1.32	224	⇑P	Pg	12 11 37.3	-0.9
HNKL				S	Sg	12 11 56.5	+1.2
SLTI	Sal'it	1.35	0	Pn	Pn	12 11 38.1	-1.0
SLTI				Sn	Sn	12 11 58.1	+0.3
AMAG	Maghara	1.59	262	⇑*e*P	Pn	12 11 40.4	-1.9
HBST	Basata	1.68	189	⇑P	Pn	12 11 43.8	+0.2
SUZ		2.17	242	⇓*e*P	Pn	12 11 49.0	-1.3
HDHB	Dhahab	2.18	190	P	Pn	12 11 50.0	-0.5
TR2		2.74	205	⇓*e*P	Pn	12 11 57.6	-0.6

MAN 06 12:19:32.4,1397N×12036E,h117km,mb2.1,ML3.8, MS6.6,4C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	206	*e*P	Pn	12 19 49.8	+0.9
PAZ	Puerto Azul	0.40	50	⇓*e*P	Sn	12 20 04.7	+2.5
TGY	Tagaytay City	0.57	76	⇓*e*P	Pn	12 19 53.9	+3.4
TGY				*e*S	Sn	12 20 06.8	+2.7
PGP	Puerto Galera	0.74	129	⇑*i*P	Pn	12 19 52.5	+0.7
NBP	Mount Natib	0.77	4	⇑*e*P	Pn	12 19 53.2	+1.2
LBPH	Los Banos	0.81	77	⇑*e*P	Pn	12 19 47.2	-5.3
NZB	Bigte	1.14	39	⇑*e*P	Pn	12 19 55.8	+0.1
BUSP	Coron	1.96	185	*e*P	Pn	12 20 06.0	+0.9
BOLP	Bolinao	2.44	350	*e*P	Pn	12 20 12.4	+1.1

MOS ***06*** *12:30:26.6±1.7,42.59N×43.22E,h32km,mb3.8/1,Error ellipse: s-maj=25.9km s-min=11.5km az=135.9*
CSEM ***06*** *12:30:27.7±0.2,42.53N×43.43E,h2km,mb3.8,Error ellipse: s-maj=3.9km s-min=2.1km az=119.0*
TIF ***06*** *12:30:27.5,42.52N×43.42E,h10km±2km*
ISCJB ***06*** *12:30:28.1±0.5,42.56N±0.03×43.48E±0.03,h7km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=125.4*

ISC 06 12:30:28.4±0.4,4253N±002×4347E±003,h2km±5km,n21, σ0.91/39,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	346	P	Pg	12 30 30.1	+0.7
ONI				S	Sg	12 30 31.9	+1.9
DIGR	Digorskoe uzhe	0.38	13	*i* Pg	Pg	12 30 35.1	-0.5
DIGR				*e*Sg	Sg	12 30 40.7	+0.3
ZEI	Tsey	0.40	53	*i* Pg	Pg	12 30 35.8	-0.2
LACR	Lac	0.68	64	*i* Pg	Pg	12 30 40.6	-0.8
LACR				*e*Sg	Sg	12 30 50.1	-0.1
LSNR	Lesken	0.78	19	*e*Pg	Pg	12 30 43.0	-0.4
LSNR				*e*Sg	Sg	12 30 54.3	+0.8
ARNR	Ardon	0.89	42	*e*Pg	Pg	12 30 44.7	-0.7
ARNR				*e*Sg	Sg	12 30 57.4	+0.5
DUS	Dusheti	1.02	115	P	Pg	12 30 47.7	-0.2
DUS				S	Sg	12 31 03.1	+2.0
VLKR	Vladikavkaz	1.03	60	*e*Pg	Pg	12 30 47.2	-0.9
VLKR				*e*Sg	Sg	12 31 01.7	+0.3
KMSR	Komsomolskaya	1.03	36	*e*Pg	Pg	12 30 47.3	-0.9
KMSR				*e*Sg	Sg	12 31 02.1	+0.5
CHVG	Ch'k'valeri	1.04	281	P	Pg	12 30 48.1	-0.1
CHVG				S	Sg	12 31 01.3	-0.4
AKH	Akhalkalaki	1.12	179	P	Pg	12 30 49.1	-0.8
AKH				S	Sg	12 31 04.2	-0.3
SNJR	Sundja	1.12	61	*e*Pg	Pg	12 30 49.0	-1.0
SNJR				*e*Sg	Sg	12 31 04.2	-0.3
BTKR	Batakoyurt	1.15	43	*e*Pg	Pg	12 30 49.2	-1.3
BTKR				*e*Sg	Sg	12 31 05.5	+0.1
TBLG	Delisi	1.24	130	P	Pg	12 30 51.4	-0.8
TBLG				S	Sg	12 31 08.7	+0.4
TBLG	Delisi	1.24	130	P	Pg	12 30 51.0	-1.2
TBLG				S	Sg	12 31 09.1	+0.9
TBLG	Delisi	1.24	130	*e*Pg	Pg	12 30 51.4	-0.8
MTA	Mtatsminda	1.30	130	S	Sg	12 31 08.8	-1.3
MTA	Mtatsminda	1.30	130	P	Pg	12 30 52.2	-1.0
MTA				S	Sg	12 31 10.7	+0.7
ARTV	Artvin	1.77	221	*i* P	Pn	12 30 59.7	-0.3
ARTV				*i* S	Sn	12 31 22.5	-0.7
DGRG	David-gareji	1.79	127	P	Pn	12 31 01.7	+1.4
DGRG				S	Sn	12 31 28.0	+4.5
DIGO	Kars	2.12	182	*i* P	Pn	12 31 07.2	+2.4
DIGO				*i* S	Sn	12 31 33.2	+1.4

ISCJB ***06*** *12:36:37.8±0.4,29.29N±004×139.19E±008,h418km±4km, mb3.6/23,Error ellipse: s-maj=12.0km s-min=5.9km az=145.9*
IDC ***06*** *12:36:37.8±0.7,29.31N×139.23E,h403km±8km,mb3.2/11, mb1 3.4/14,mb1mx3.3/25,mbtmp4.0/14,Error ellipse: s-maj=17.2km s-min=9.9km az=67.0*
MOS ***06*** *12:36:37.1±0.7,29.29N×139.04E,h412km,mb3.8/8,Error ellipse: s-maj=22.5km s-min=9.8km az=102.4*
NEIC ***06*** *12:36:38.7±0.7,29.33N×139.11E,h409km±6km,mb3.8/13, Error ellipse: s-maj=8.9km s-min=7.3km az=145.0*
JMA ***06*** *12:36:38.5±0.2,29.48N×139.91E,h445km±3km,M3.7*

ISC 06 12:36:38.7±0.4,2932N±004×13925E±008,h412km±4km, n72,σ1.10/83,mb3.6/23,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.41	130	P	P	12 37 46.5	+0.3
CBIJ				S	S	12 38 40.1	-0.8
CBIJ	Chichi jima	3.41	130	P	P	12 37 44.9	-1.3
	20nm,0.3s,baz=291,slow=18,SNR=14						
CBIJ				S	S	12 38 38.9	-2.0
	71nm,0.3s,baz=281,slow=21,SNR=30						
JHHJ	Haha-jima-NKT	3.72	135	P	P	12 37 49.2	+0.2
JHHJ				S	S	12 38 44.9	-1.1
JHJ2	Mitsune	3.81	7	P	P	12 37 50.8	+1.0
JHJ2				*e*S	S	12 38 47.2	-0.2
JHJ	Hachijo jima 2	3.82	7	P	P	12 37 50.1	+0.4
	16nm,0.3s,baz=257,slow=23,SNR=19						
JHJ				S	S	12 38 46.0	-1.6
	14nm,0.3s,baz=230,slow=23,SNR=7.6						
JMY	Miyakejima3	4.74	3	P	P	12 37 59.8	+1.1
JMY				S	S	12 39 03.8	+0.1
JIM2	Oshima 3	5.38	2	P	P	12 38 06.3	+1.1
JIE	Ise	5.50	337	P	P	12 38 09.7	+3.3
BSO1	Boso 1	5.52	15	P	P	12 38 06.5	-0.1
JKN2	Miekihoku	5.52	333	P	P	12 38 09.9	+3.2
BSO3	Boso 3	5.57	11	P	P	12 38 07.5	+0.3
BSO3				*e*S	S	12 39 16.0	-3.2
HMMJ	Hamamatsu 2	5.67	347	P	P	12 38 10.0	+1.8
BSO4	Boso 4	5.73	9	S	S	12 39 21.2	-1.1
SHZ3	Shizuoka 3	5.80	351	P	P	12 38 11.2	+1.6
TSUJ	Tsu 2	5.89	337	P	P	12 38 13.7	+3.2
JOD2	Odawara 2	5.93	359	P	P	12 38 11.2	+0.2
JNY	Yasuok	6.14	349	P	P	12 38 14.8	+1.6
JAO	Obara	6.17	345	P	P	12 38 15.6	+2.1
JYN	Shimob	6.19	355	P	P	12 38 15.3	+1.5
JEG	Eigenji	6.29	338	P	P	12 38 18.0	+3.2
JHU	Hanno	6.51	0	P	P	12 38 16.6	-0.7
JHU				*e*S	S	12 39 33.6	-4.2
JNT	Takato	6.61	352	P	P	12 38 19.5	+1.2
JRY	Ryogami san	6.69	358	P	P	12 38 19.3	+0.1
JRY				S	S	12 39 39.2	-2.1
JYT	Yasato	6.94	6	P	P	12 38 21.1	-0.8
JYT				*e*S	S	12 39 40.2	-6.1
JAG	Ashikaga	7.09	1	P	P	12 38 22.3	-1.3
MJAR	Matsushiro Arr	7.26	353	P	P	12 38

NVAR Mina Array Bea 81.16 51 P **P** **12 48 11.4 +1.7**
comp=Z,0.5nm,0.6s,mb3.5,baz=285,slow=6.0,SNR=8.4
DUG Dugway 83.85 47 P **P** **12 48 24.9 +1.5**
DUG pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
DUG Dugway 83.85 47 P **P** **12 48 24.9 +1.5**
comp=Z,0.8nm,0.7s,mb3.6
HWUT Hardware Ranch 83.85 45 *e*P **P** **12 48 25.0 +1.5**
comp=Z,1.1nm,0.6s,mb3.8
FLN La Foliniere 94.34 335 *e*P **P** **12 49 12.1 -0.6**
comp=Z,5.1nm,0.4s,mb4.6
FLN La Foliniere 94.34 335 *e*P **P** **12 49 12.1 -0.6**
comp=Z,2.5nm,0.4s,mb4.6
LPAZ La Paz 151.70 69 PKPbc PKPbc 12 55 47.0 +1.7
comp=Z,0.8nm,0.7s,baz=342,slow=3.2,SNR=3.5

NIED ***06*** *12:40:00, 36.20N×141.70E, h20km, Mw3.8 Best double couple: M0=5.43000×10^14 NP1:φ=25.00000°, δ=66.00000°, λ=107.00000°. NP2:φ=168.00000°, δ=30.00000°, λ=57.00000°.*
IDC ***06*** *12:40:07.0±1.6, 36.26N×141.81E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.7/24, mbtmp3.7/9, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/33, Error ellipse: s-maj=32.7km s-min=20.9km az=150.0*
ISCJB ***06*** *12:40:08.7±0.7, 36.20N±0.04×141.91E±0.07, h33km, mb3.6/6, Error ellipse: s-maj=8.8km s-min=5.3km az=52.3*
JMA ***06*** *12:40:09.9±0.2, 36.22N×141.69E, h54km±4km, M3.6*
ISC 06 12:40:11.3±0.8, 3621N±0.04×14168E±0.10, h35km, n20, σ0=80/25, mb3.6/6, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.84**	**233**	⇓P	**Pn**	**12 40 25.9**	**-0.7**
CHOJ				S	**Sn**	**12 40 37.8**	**+0.1**
JHO	**Hitachi**	**0.98**	**294**	⇓P	**Pn**	**12 40 27.5**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.14**	**322**	P	**Pn**	**12 40 29.6**	**-1.1**
JYT	**Yasato**	**1.20**	**271**	⇓P	**Pn**	**12 40 30.8**	**-0.8**
JFK	**Kawauchi**	**1.32**	**331**	P	**Pn**	**12 40 32.2**	**-1.1**
BSO1	**Boso 1**	**1.66**	**201**	P	**Pn**	**12 40 37.7**	**-0.1**
JFT	**Otama**	**1.69**	**321**	⇓P	**Pn**	**12 40 38.8**	**+0.5**
BSO3	**Boso 3**	**1.70**	**215**	P	**Pn**	**12 40 38.7**	**+0.3**
JMM	**Marumori**	**1.80**	**337**	P	**Pn**	**12 40 39.3**	**-0.5**
JAG	**Ashikaga**	**1.81**	**277**	P	**Pn**	**12 40 39.9**	**-0.1**
MJAR	**Matsushiro Arr**	**2.82**	**278**	Pn	**Pn**	**12 40 54.9**	**+1.0**
	9.6nm,0.3s,baz=114,slow=8.1,SNR=49						
MJAR				Sn	**Sn**	**12 41 32.2**	**+5.5**
	6.5nm,0.3s,baz=113,slow=9.5,SNR=6.2						
MAT	**Matsushiro**	**2.83**	**278**	P	**Pn**	**12 40 55.0**	**+1.1**
MAT				S	**Sn**	**12 41 31.8**	**+5.1**
JHJ	**Hachijo jima 2**	**3.46**	**207**	Pn	**Pn**	**12 41 02.9**	**+0.3**
	12nm,0.3s,baz=84,slow=22,SNR=10						
JHJ				Sn	**Sn**	**12 41 41.5**	**-0.8**
	21nm,0.3s,baz=63,slow=23,SNR=5.1						
ASAJ	**Asahikawa**	**7.93**	**5**	Pn	**Pn**	**12 42 02.6**	**-1.3**
	0.9nm,0.3s,baz=148,slow=4.9,SNR=9.5						
ASAJ				Sn	**Sn**	**12 43 32.7**	**+0.3**
	0.2nm,0.3s,baz=147,slow=31,SNR=2.6						
ASAJ				LR	LR	12 45 51.5	
	comp=Z,71nm,18.3s,baz=74,slow=44						
SONM	**Songino Array**	**28.43**	**305**	P	**P**	**12 46 03.7**	**+1.1**
	1.3nm,0.7s,mb3.6,baz=103,slow=9.5,SNR=5.7						
ZAL	**Zalesovo**	**42.64**	**313**	P	**P**	**12 48 05.0**	**+0.7**
	1.2nm,0.6s,mb3.8,baz=50,slow=5.2,SNR=6.8						
MKAR	**Makanchi Array**	**44.74**	**303**	P	**P**	**12 48 22.4**	**+1.3**
	0.7nm,0.6s,mb3.7,baz=86,slow=9.8,SNR=11						
ILAR	**Eielson Array**	**50.08**	**32**	P	**P**	**12 49 03.3**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=273,slow=5.7,SNR=6.8						
BVAR	**Borovoye Array**	**51.29**	**313**	P	**P**	**12 49 12.6**	**+0.8**
	0.8nm,0.8s,mb3.7,baz=74,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**64.41**	**30**	P	**P**	**12 50 43.4**	**-0.4**
	0.1nm,0.6s,mb3.0,baz=301,slow=6.2,SNR=5.1						

MOS ***06*** *12:40:38.6±0.9, 2.19N×96.18E, h33km, mb5.0/28, Error ellipse: s-maj=18.8km s-min=7.5km az=105.0*
SZGRF ***06*** *12:40:39.4, 141N×9573E, h30km, mb4.8, Off west coast of northern Sumatera, Indonesia*
ISCJB ***06*** *12:40:40.1±0.3, 243N±004×9601E±004, h29km, mb4.8/72, MS4.0/18, Error ellipse: s-maj=5.7km s-min=4.9km az=42.8*
BJI ***06*** *12:40:40.1, 245N×96.16E, h26km, mB5.0, mb4.9, Ms4.6, Msz4.3*
NEIC ***06*** *12:40:41.9±0.3, 238N×9598E, h30km, mb4.9/29, Error ellipse: s-maj=8.6km s-min=6.0km az=210.0*
IDC ***06*** *12:40:41.6±0.5, 245N×9595E, h27km±3km, mb4.4/23, mb1 4.5/24, mb1mx4.4/29, mbtmp4.6/24, ML3.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/27, Error ellipse: s-maj=15.7km s-min=12.3km az=45.0*
HRVD ***06*** *12:40:41.9±0.8, 259N×9588E, h29km±1km, MW4.8/34, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s34,c47; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.60±.21; Mθθ-0.02±.11; Mφφ1.61±.15; Mrθ0.85±.18; Mφφ-0.48±.11; Mφr-0.26±.20; Best double couple: M0=1.89000×10^16 NP1:φ=185.00000°, δ41.00000°, λ-56.00000°. NP2:φ=323.00000°, δ57.00000°, λ-116.00000°. Principal axes: T 1.8120, Plg9.0000°, Azm71.0000°; N 0.1460, Plg21.0000°, Azm338.0000°; P -1.9680, Plg67.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***06*** *12:40:50.3, 445N×9621E, h33km, mb4.7*
ISC 06 12:40:42.6±0.3, 247N±004×9601E±003, h30km, h30km±.5km: pP-P, n158, σ=1.07/162, mb4.8/72, MS4.0/18, 10C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.93**	**83**	Pn	**Pn**	**12 41 28.2**	**+1.1**
	13nm,0.3s,baz=274,slow=5.3,SNR=78						
PSI	**Prapat**	**2.93**	**83**	Pn	**Pn**	**12 41 28.2**	**+1.1**
BSI	**Banda Aceh**	**3.09**	**347**	P	**Pn**	**12 41 27.2**	**-2.1**
	160nm,0.8s						
PPI	**Padang Panjang**	**5.26**	**123**	P	**Pn**	**12 41 59.7**	**+0.6**
	114nm,1.2s						
IPM	**Ipoh**	**5.39**	**68**	P	**Pn**	**12 42 02.8**	**+1.9**
KULM	**Kulim**	**5.41**	**59**	⇑*i*Pn	**Pn**	**12 42 02.1**	**+1.0**
KULM				*ep*Pn		12 42 08.9	
KULM				*e*Sn	**Sn**	**12 43 00.4**	**-2.0**
SNG	**Songkhla**	**6.55**	**44**	P	**Pn**	**12 42 17.0**	**+0.1**
	360nm,1.0s						
KGM	**Kluang**	**7.32**	**93**	P	**Pn**	**12 42 29.1**	**+1.7**
KKTK	**Khon Kaen**	**15.33**	**26**	P	**Pn**	**12 44 22.0**	**+5.3**
	741nm,0.6s						
CHRT	**Chiangrai**	**17.68**	**12**	⇑P	**Pn**	**12 44 45.0**	**-1.6**
KKM	**Kota Kinabalu**	**20.45**	**79**	P	**P**	**12 45 19.1**	**+1.5**
KKM	**Kota Kinabalu**	**20.45**	**79**	*e*P	**P**	**12 45 18.2**	**+0.6**
KKM				*ep*Pn		12 45 27.4	
QIZ	**Qiongzhong**	**21.31**	**38**	*e*P	**P**	**12 45 26.6**	**-0.2**
QIZ				AP		12 45 32.0	
QIZ				XP	sP	12 45 35.9	-3.0
QIZ				S	**S**	**12 49 17.8**	**-4.1**
QIZ				XS	sS	12 49 29.6	-5.4
QIZ				SS		12 49 53.5	
QIZ				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.4						
QIZ				LR	LR		
	comp=E,773nm,16.3s						
QIZ				LR	LR		
	comp=Z,627nm,17.8s,MS4.0						
TSM	**Tawau**	**21.90**	**85**	P	**P**	**12 45 34.5**	**+1.4**
HYB	**Hyderabad**	**22.69**	**312**	*i*P	**P**	**12 45 41.0**	**-0.5**
HYB				*e*S	**S**	**12 49 48.0**	**-0.2**
HYB	**Hyderabad**	**22.69**	**312**	*e*P	**P**	**12 45 44.0**	**+2.5**
KMI	**Kunming**	**23.44**	**15**	P	**P**	**12 45 50.5**	**+1.1**
KMI				AP		12 45 58.9	
KMI				XP	sP	12 46 02.5	+0.9
KMI				PP		12 46 24.2	
KMI				S	**S**	**12 50 01.6**	**+1.2**
KMI				XS	sS	12 50 15.9	+1.0
KMI				AMB	AMB		
	comp=Z,41nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,145nm,4.8s						
KMI				LR	LR		
	comp=N,771nm,16.7s,MS4.3						
KMI				LR	LR		
	comp=E,203nm,13.2s,MS4.3						
KMI				LR	LR		
	comp=Z,852nm,16.2s,MS4.3						
GYA	**Guiyang**	**25.95**	**22**	⇑*i*P	**P**	**12 46 12.3**	**0.0**
GYA				AP	pP	12 46 21.4	+0.3
GYA				XP	sP	12 46 25.6	+0.8
GYA				PP		12 46 53.7	
GYA				S	**S**	**12 50 38.5**	**-2.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,2.8s,mb4.9						
GYA				LR	LR		
	comp=N,890nm,16.2s,MS4.5						
GYA				LR	LR		
	comp=E,340nm,12.9s,MS4.5						
GYA				LR	LR		
	comp=Z,750nm,17.0s,MS4.3						
JIRN	**Jiri**	**26.75**	**340**	*e*P	**P**	**12 46 21.3**	**+1.8**
	comp=Z,75nm,0.7s,mb5.3						
PKI	**Pulchoki**	**26.95**	**339**	*e*P	**P**	**12 46 22.5**	**+1.2**
	comp=Z,19nm,0.5s,mb4.8						
PKI	**Pulchoki**	**26.95**	**339**	*ep*P	**P**	**12 46 22.5**	**+1.2**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
DMN	**Daman**	**27.09**	**338**	*e*P	**P**	**12 46 23.8**	**+1.2**
	comp=Z,49nm,0.9s,mb5.0						
GUN	**Gumba**	**27.09**	**340**	*e*P	**P**	**12 46 24.1**	**+1.5**
	comp=Z,72nm,0.6s,mb5.3						
KKN	**Kakani**	**27.19**	**339**	*e*P	**P**	**12 46 24.7**	**+1.2**
	comp=Z,85nm,0.9s,mb5.3						
KKN	**Kakani**	**27.19**	**339**	*ep*P	**P**	**12 46 24.7**	**+1.2**
KKN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.47**	**351**	P	**P**	**12 46 28.0**	**+2.0**
GKN	**Gorkha**	**27.62**	**338**	*e*P	**P**	**12 46 28.4**	**+1.1**
	comp=Z,96nm,0.9s,mb5.5						
KOLN	**Koldanda**	**27.82**	**336**	*e*P	**P**	**12 46 30.1**	**+1.0**
	comp=Z,42nm,0.7s,mb5.2						
CD2	**Chengdu**	**29.22**	**14**	⇑*i*P	**P**	**12 46 40.9**	**-0.7**
CD2				AP	pP	12 46 50.4	0.0
CD2				XP	sP	12 46 53.4	-0.8
CD2				PP	PP	12 47 36.7	-11
CD2				S	**S**	**12 51 31.2**	**-1.0**
CD2				XS	sS	12 51 47.0	+0.1
CD2				SS	SS	12 53 04.1	-33
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,8.5s						
CD2				LR	LR		
	comp=Z,240nm,14.4s,MS4.0						
WHN	**Wuhan**	**32.88**	**30**	P	**P**	**12 47 14.3**	**+0.5**
MBWA	**Marble Bar**	**33.02**	**136**	*e*P	**P**	**12 47 14.8**	**-0.3**
	comp=Z,30nm,1.5s,mb5.0						
MBWA				*ep*P	pP	12 47 23.3	-0.7
XAN	**Xi'an**	**33.64**	**20**	P	**P**	**12 47 19.7**	**-0.8**
XAN				AP	pP	12 47 26.1	-3.3
XAN				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.6						
XAN				LR	LR		
	comp=N,229nm,18.2s,MS4.0						
XAN				LR	LR		
	comp=E,114nm,14.0s,MS4.0						
XAN				LR	LR		
	comp=Z,496nm,16.5s,MS4.3						
LZH	**Lanzhou**	**34.23**	**11**	*e*P	**P**	**12 47 25.5**	**0.0**
LZH				AP	pP	12 47 33.6	-0.9
LZH				XP	sP	12 47 38.0	-0.2
LZH				PP	PP	12 48 41.5	-1.8
LZH				PCP	PcP	12 50 02.0	+0.3
LZH				*e*S	**S**	**12 52 49.5**	**-0.8**
LZH				XS	sS	12 53 04.0	-1.1
LZH				SS	SS	12 55 03.0	-16
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.6s						
LZH				LR	LR		
	comp=N,590nm,14.6s						
LZH				LR	LR		
	comp=Z,880nm,16.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**35.63**	**126**	*e*P	**P**	**12 47 36.8**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.5						
FITZ				*e*	pP	12 47 45.6	-1.0
NJ2	**Nanjing**	**36.44**	**34**	*e*P	**P**	**12 47 44.9**	**+0.3**
NJ2				AP	pP	12 47 54.6	+1.1
NJ2				XP	sP	12 47 58.6	+1.4
NJ2				PP	PP	12 49 09.9	+2.1
NJ2				S	**S**	**12 53 25.0**	**+0.7**
NJ2				XS	sS	12 53 40.0	+0.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,360nm,4.6s						
NJ2				LR	LR		
	comp=N,460nm,17.0s						
NJ2				LR	LR		
	comp=E,2μm,26.8s						
NJ2				LR	LR		
	comp=Z,830nm,22.2s						
GTA	**Gaotai**	**36.93**	**5**	P	**P**	**12 47 48.6**	**-0.2**
GTA				AP	pP	12 47 57.8	+0.1
GTA				XP	sP	12 48 02.4	+1.0
GTA				PP	PP	12 49 15.3	+2.1
GTA				S	**S**	**12 53 31.6**	**-0.2**
GTA				XS	sS	12 53 46.0	-0.6
GTA				SCP	ScP	12 53 53.8	-0.5
GTA				PCS	PcS	12 53 58.1	+0.3
GTA				SS	SS	12 55 59.9	-14
GTA				SCS	ScS	12 57 59.5	-2.1
GTA				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,152nm,5.7s						
GTA				LR	LR		
	comp=N,169nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=E,127nm,12.5s,MS4.1						
GTA				LR	LR		
	comp=Z,207nm,15.2s,MS4.0						
SSE	**Sheshan**	**37.10**	**37**	P	**P**	**12 47 49.0**	**-1.1**
SSE				AP	pP	12 47 57.9	-1.2
SSE				XP	sP	12 48 01.7	-1.1
SSE				S	**S**	**12 53 32.1**	**-2.2**
SSE				PCS	PcS	12 53 58.4	0.0
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,335nm,3.8s						
SSE				LR	LR		
	comp=N,159nm,20.6s,MS3.9						
SSE				LR	LR		
	comp=E,116nm,20.7s,MS3.9						
SSE				LR	LR		
	comp=Z,210nm,21.2s,MS3.9						
BTO	**Baotou**	**40.02**	**17**	*e*P	**P**	**12 48 13.7**	**-1.0**
HHC	**Hu-ho-hao-te**	**40.71**	**18**	⇑P	**P**	**12 48 21.5**	**+1.1**
HHC				AP	pP	12 48 31.5	+2.1
HHC				XP	sP	12 48 35.1	+2.0
HHC				PP	PP	12 49 59.0	+4.5
HHC				PCP	PcP	12 50 24.2	+2.7
HHC				SCP	ScP	12 54 10.8	+2.0
HHC				PCS	PcS	12 54 14.4	+2.1
HHC				S	**S**	**12 54 28.8**	**+0.1**
HHC				XS	sS	12 54 43.1	-0.5
HHC				SS	SS	12 57 23.8	-6.0
HHC				SCS	ScS	12 58 21.3	-2.2
HHC				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,120nm,4.1s						
HHC				LR	LR		
	comp=N,325nm,14.4s,MS4.5						
HHC				LR	LR		
	comp=E,288nm,13.2s,MS4.5						
HHC				LR	LR		
	comp=Z,231nm,16.8s,MS4.1						
KSH	**Kashi**	**41.14**	**336**	*e*P	**P**	**12 48 26.5**	**+2.6**
KSH				*e*AP	pP	12 48 36.3	+3.3
KSH				*e*XP	sP	12 48 40.4	+3.8
KSH				*e*PCP	PcP	12 50 24.3	+1.4
KSH				*e*SCP	ScP	12 54 11.0	+0.5
KSH				*e*PCS	PcS	12 54 14.0	0.0
KSH				*e*S	**S**	**12 54 38.0**	**+2.9**
KSH				*e*XS	sS	12 54 54.3	+4.3
KSH				*e*SS	SS	12 57 38.1	-0.2
KSH				*e*SCS	ScS	12 58 25.2	-0.9
KSH				AMB	AMB		
	comp=Z,170nm,5.8s						
KSH				LR	LR		
	comp=N,240nm,4.8s						
KSH				LR	LR		
	comp=E,160nm,3.9s						
WMQ	**Urumqi**	**41.84**	**351**	P	**P**	**12 48 30.0**	**+0.4**
WMQ				AP	pP	12 48 40.0	+1.3
WMQ				XP	sP	12 48 44.0	+1.6
WMQ				PP	PP	12 50 10.0	+3.3
WMQ				S	**S**	**12 54 46.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,154nm,5.0s						
WMQ				LR	LR		
	comp=N,97nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=E,165nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,89nm,11.0s,MS3.9						
WRA	**Warramunga Arr**	**43.71**	**122**	P	**P**	**12 48 44.8**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.2,baz=299,slow=9.4,SNR=17						
WRA				PcP	PcP	12 50 30.9	-0.5
	comp=Z,1.2nm,0.8s,baz=303,slow=3.8,SNR=3.2						
WRA				pPcP		12 50 40.2	
	comp=Z,3.9nm,0.8s,baz=308,slow=2.8,SNR=7.2						
WRA	**Warramunga Arr**	**43.71**	**122**	P	**P**	**12 48 44.8**	**0.0**
WRA						12 50 30.9	
WRAB	**Tennant Creek**	**43.72**	**122**	*e*P	**P**	**12 48 44.8**	**-0.1**
WRAB				*e**PP	pP	12 48 52.9	-1.1
WRAB				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**43.72**	**122**	*e*P	**P**	**12 48 44.8**	**-0.1**
	comp=Z,42nm,1.1s,mb5.1						
WRAB				*ep*P	pP	12 48 52.9	-1.0
WB2	**Warramunga Arr**	**43.72**	**122**	*e*P	**P**	**12 48 44.4**	**-0.5**
UCH	**Uchtor**	**44.02**	**337**	P	**P**	**12 48 49.0**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**44.21**	**338**	P	**P**	**12 48 50.0**	**+1.1**
	SNR=5.3						
KBK	**Karagaybulak**	**44.22**	**338**	P	**P**	**12 48 51.1**	**+2.1**
	SNR=8.4						
AML	**Almayashu**	**44.27**	**336**	P	**P**	**12 48 51.0**	**+1.7**
	SNR=14						
AAK	**Ala-Archa**	**44.38**	**337**	*c i*P	**P**	**12 48 50.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,18nm,2.7s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
AAK	**Ala-Archa**	**44.38**	**337**	*e*P	**P**	**12 48 51.0**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.3						
EKS2	**Erkin-Say**	**44.68**	**337**	P	**P**	**12 48 54.2**	**+1.5**
	SNR=12						
USP	**Ospenovka**	**44.91**	**338**	P	**P**	**12 48 56.3**	**+1.9**
	SNR=5.1						
ASPA	**Alice Springs**	**45.10**	**127**	*e*P	**P**	**12 48 56.0**	**+0.1**
ASPA				*e*	pP	12 49 04.4	-0.7
MKAR	**Makanchi Array**	**45.74**	**347**	P	**P**	**12 49 01.4**	**+0.3**
	comp=Z,16nm,0.8s,mb5.0,baz=162,slow=7.5,SNR=101						
MKAR				LR	LR	13 10 57.5	
	comp=Z,103nm,21.6s,MS3.7,baz=181,slow=40						
MKAR	**Makanchi Array**	**45.74**	**347**	⇑*e*P	**P**	**12 49 01.3**	**+0.3**
SONM	**Songino Array**	**46.08**	**10**	P	**P**	**12 49 04.1**	**+0.4**
	comp=Z,19nm,0.9s,mb5.0,baz=190,slow=7.9,SNR=60						
SONM				pP	pP	12 49 12.1	-0.7
	comp=Z,6.1nm,0.5s,baz=192,slow=9.3,SNR=8.1						
SONM				PcP	PcP	12 50 39.2	-0.4
	comp=Z,2.7nm,0.6s,baz=190,slow=4.3,SNR=5.3						
SONM				pPcP		12 50 48.8	
	comp=Z,7.4nm,0.6s,baz=193,slow=3.4,SNR=9.2						
ULN	**Ulaanbaatar**	**46.22**	**10**	*e*P	**P**	**12 49 04.6**	**-0.2**
ULN				*e**PP	pP	12 49 13.0	-0.9
ULN				*e*		12 50 39.5	
ULN				*e*		12 50 49.1	
ULN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**46.22**	**10**	*e*P	**P**	**12 49 04.6**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8						
ULN				*ep*P	pP	12 49 13.0	-1.0
ULN				*e*PcP	PcP	12 50 39.5	-0.6
ULN				*e*PP	PP	12 50 49.0	-4.4
ZAK	**Zakamensk**	**48.14**	**6**	*e*P	**P**	**12 49 19.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.3						
CN2	**Changchun**	**48.74**	**28**	*e*P	**P**	**12 49 27.4**	**+3.0**
CN2				*e*XP	sP	12 49 41.3	+4.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=Z,200nm,14.0s,MS4.3						
GUMO	**Guam**	**49.52**	**74**	LR	LR	13 09 40.1	
	comp=Z,72nm,18.4s,MS3.7,baz=98,slow=35						
KURK	**Kurchatov**	**50.27**	**346**	*e*P	**P**	**12 49 36.5**	**+0.4**
KURK				*e**PP	pP	12 49 43.9	-1.4
KURK				pmax	pmax		
	comp=Z,8.0nm,2.3s,mb4.3						
KURK	**Kurchatov**	**50.27**	**346**	*e*P	**P**	**12 49 36.5**	**+0.4**
	comp=Z,7.8nm,2.3s,mb4.3						
KURK				*ep*P	pP	12 49 43.9	-1.4
MDJ	**Mudanjiang**	**51.36**	**30**	P	**P**	**12 49 44.9**	**+0.6**
MDJ				AP	pP	12 49 53.8	+0.3
MDJ				XP	sP	12 49 56.4	-0.8
MDJ				PCP	PcP	12 50 57.9	-0.8
MDJ				PP	PP	12 51 44.2	+2.7
MDJ				SCP	ScP	12 54 50.4	-2.6
MDJ				PCS	PcS	12 54 56.4	-0.1
MDJ				S	**S**	**12 56 55.6**	**-6.1**
MDJ				SCS	ScS	12 59 31.5	-0.9
MDJ				SS	SS	13 00 38.0	+0.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,76nm,4.7s						
MDJ				LR	LR		
	comp=N,70nm,21.6s,MS4.0						
MDJ				LR	LR		
	comp=E,124nm,19.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,100nm,23.9s,MS3.8						
CIT	**Chita**	**51.52**	**14**	*e*P	**P**	**12 49 46.2**	**+0.8**
CIT				*e*	pP	12 49 54.1	-0.6
CIT				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
MJAR	**Matsushiro Arr**	**51.58**	**44**	pPcP		12 51 08.9	
	comp=Z,2.7nm,0.9s,baz=252,slow=3.3,SNR=7.3						
MJAR				LR	LR	13 12 35.7	
	comp=Z,171nm,20.4s,MS4.1,baz=230,slow=37						
ZAL	**Zalesovo**	**52.12**	**352**	P	**P**	**12 49 49.2**	**-0.8**
	comp=Z,3.6nm,0.6s,mb4.5,baz=307,slow=7.3,SNR=19						
OPO	**Ambohidratompo**	**52.38**	**244**	P	**P**	**12 49 52.5**	**+0.6**
	comp=Z,5.1nm,0.9s,mb4.5,baz=56,slow=6.4,SNR=6.8						
NVS	**Novosibirsk**	**53.24**	**351**	*i*P	**P**	**12 49 57.1**	**-1.1**
KRAR	**Krasnoyarsk**	**53.44**	**358**	*i*P	**P**	**12 49 59.8**	**+0.1**
ATD	**Arta Tunnel**	**53.45**	**282**	LR	LR	13 07 56.7	
	comp=Z,84nm,19.4s,MS3.8,baz=74,slow=31						
CTA	**Charters Tower**	**54.13**	**117**	*e*P	**P**	**12 50 05.3**	**+0.6**
	comp=Z,4.8nm,1.6s,mb4.2						
CTA				*i*	pP	12 50 13.5	-0.5
CTA	**Charters Tower**	**54.13**	**117**	P	**P**	**12 50 05.6**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=277,slow=8.6,SNR=4.2						
CTA				pP	pP	12 50 13.2	-0.9

STKA LR LR 13 14 17.6
KLR Kul'dur 55.67 28 *e*P **P 12 50 13.6 -2.3**
HABR Khabarovsk 56.75 30 *e*P **P 12 50 23.0 -0.6**
HABR *e*S **S 12 58 13.4 -1.0**
HABR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BOD Bodaibo 57.00 11 *e*P **P 12 50 25.1 -0.2**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AKTK Aktyubinsk 57.56 332 P **P 12 50 28.1 -1.2**
AKTO Aktyubinsk 57.56 332 P **P 12 50 28.1 -1.2**
comp=Z,4.6nm,0.7s,mb4.6,baz=171,slow=5.2,SNR=5.6
KMBO Kilima Mbogo 58.85 267 P **P 12 50 38.1 -0.2**
comp=Z,5.3nm,1.0s,mb4.5,baz=53,slow=9.7,SNR=9.1
KMBO Kilima Mbogo 58.85 267 *e*P **P 12 50 39.6 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 58.85 267 *e*P **P 12 50 39.6 +1.3**
comp=Z,3.9nm,1.0s,mb4.4
ARU Arti 61.56 337⇑ *i*P **P 12 50 56.2 -0.7**
ARU *e* 12 51 34.5
ARU *e* 12 53 09.4
ARU *e*S **S 12 59 17.0 +0.3**
ARU *e*SS SS 13 03 15.6 -2.5
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
ARU Arti 61.56 337 *e*P **P 12 50 55.7 -1.2**
comp=Z,13nm,1.1s,mb5.0
ARU *e*pP pP 12 51 04.5 -1.9
KIV Kislovodsk 62.58 319 *i*P **P 12 51 03.6 -0.1**
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.2
KIV Kislovodsk 62.58 319 *e*P **P 12 51 01.9 -1.8**
comp=Z,15nm,0.9s,mb5.1
MALT Malatya 63.40 312 *e*P **P 12 51 09.0 -0.2**
EIL Elat 63.78 302 *e*P **P 12 51 12.0 +0.3**
comp=Z,226nm,1.1s,mb6.1
YAK Yakutsk 64.55 17 *e*P **P 12 51 14.3 -2.4**
YAK *e**PP pP 12 51 23.8 -2.4
YAK pmax pmax
comp=Z,16nm,0.6s,mb5.2
YAK Yakutsk 64.55 17 *e*P **P 12 51 14.2 -2.5**
comp=Z,16nm,0.6s,mb5.2
YAK *e*pP pP 12 51 23.8 -2.4
ANN Anapa 66.37 318 *e*P **P 12 51 21.7 -6.8**
ANN pmax pmax
comp=Z,92nm,1.1s,mb5.7
BRTR Keskin Array B 67.39 312 P **P 12 51 33.4 -1.6**
comp=Z,3.1nm,0.8s,mb4.4,baz=133,slow=6.8,SNR=12
LSZ Lusaka 69.34 253 P **P 12 51 46.9 -0.4**
comp=Z,2.4nm,0.7s,mb4.3,baz=89,slow=7.0,SNR=3.9
LSZ Lusaka 69.34 253 *e*P **P 12 51 47.0 -0.2**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LSZ Lusaka 69.34 253 *e*P **P 12 51 47.0 -0.2**
comp=Z,4.6nm,1.0s,mb4.4
MOS Moscow 70.64 329 *e*P **P 12 51 53.9 -1.3**
MA2 Magadan 70.72 26 *e*P **P 12 51 55.0 -0.6**
MA2 *e**PP pP 12 52 04.0 -1.2
MA2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MA2 Magadan 70.72 26 *e*P **P 12 51 55.0 -0.7**
comp=Z,5.0nm,0.7s,mb4.5
MA2 *e*pP pP 12 52 04.0 -1.2
OBN Obninsk 70.92 328⇑ *i*P **P 12 51 56.3 -0.6**
OBN pmax pmax
comp=Z,39nm,1.6s,mb5.1
TIXI Tiksi 72.16 10 *i*P **P 12 52 03.6 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
SEY Seymchan 73.07 23 *i*P **P 12 52 09.7 -0.1**
AKASG Malin Array Be 73.54 322 P **P 12 52 10.7 -1.8**
comp=Z,4.6nm,0.7s,mb4.5,baz=91,slow=4.8,SNR=17
AKASG pP pP 12 52 19.8 -2.3
comp=Z,2.1nm,0.6s,baz=91,slow=4.6,SNR=3.8
AKASG Malin Array Be 73.54 322 P **P 12 52 10.7 -1.8**
AKASG pP pP 12 52 19.8 -2.3
MLR Muntele Rosu 74.34 317 P **P 12 52 17.6 +0.4**
comp=Z,7.6nm,0.9s,mb4.6,baz=107,slow=6.4,SNR=4.1
BOSA Boshof 74.39 240 P **P 12 52 17.0 -0.5**
comp=Z,4.6nm,0.7s,mb4.5,baz=88,slow=5.7,SNR=8.5
BOSA Boshof 74.39 240 P **P 12 52 17.0 -0.5**
JOF Joensuu 76.50 335 *e*p **P 12 52 29.1 -0.5**
comp=Z,2.1nm,0.7s,mb4.2
VSU Vasula 77.16 330 *i*P **P 12 52 32.7 -0.6**
KWP Kalwaria 77.34 320 *e*P **P 12 52 34.7 +0.3**
APA Apatity 77.53 340⇑ *e*P **P 12 52 39.0 +3.6**
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SUW Suwalki 77.96 325 *e*P **P 12 52 36.8 -1.0**
FINES FINESS Array B 78.33 333 P **P 12 52 39.2 -0.7**
comp=Z,4.7nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=16
FINES pP pP 12 52 47.6 -1.9
comp=Z,3.6nm,0.7s,baz=104,slow=7.9,SNR=7.0
KAF Kangasniemi 78.42 333 *e*p **P 12 52 38.7 -1.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=104,slow=5.2
KAF Kangasniemi 78.42 333 *e*P **P 12 52 38.7 -1.7**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
OJC Ojcow 79.30 321 *e*P **P 12 52 44.5 -0.7**
TSUM Tsumeb 79.90 250 P **P 12 52 49.5 +1.1**
comp=Z,8.4nm,0.9s,mb4.7,baz=86,slow=4.9,SNR=13
ARCES ARCESS Array B 80.95 340 P **P 12 52 53.9 -0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=96,slow=5.5,SNR=12
BRG Berggiesshubel 83.08 321 *e*P pP 12 53 14.3 -0.7
comp=Z,4.7nm,1.1s
BRG Berggiesshubel 83.08 321 *e*P pP 12 53 14.3 -0.7
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
GEC2 GERESS Array S 83.08 319 *e*P **P 12 53 05.4 +0.1**
comp=Z,16nm,1.1s,mb5.0
GEC2 GERESS Array S 83.08 319 *e*P **P 12 53 05.4 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.1s,mb5.0
GERES GERESS Array B 83.08 319 P **P 12 53 04.9 -0.4**
comp=Z,6.1nm,0.9s,mb4.7,baz=90,slow=5.3,SNR=32
GERES pP pP 12 53 13.9 -1.1
comp=Z,4.1nm,0.8s,baz=108,slow=4.2,SNR=10
KHC Kasperske Hory 83.19 319 *e*P **P 12 53 05.0 -0.8**
KHC Kasperske Hory 83.19 319 *i*P **P 12 53 06.0 +0.2**
WET Wettzell 83.65 319 *e*P **P 12 53 08.1 -0.1**
comp=Z,9.0nm,1.5s,mb4.7
WET Wettzell 83.65 319 *e*P **P 12 53 08.1 -0.1**
WET pmax pmax
comp=Z,9.0nm,1.5s,mb4.7
CLL Collm 83.71 321 *e*P **P 12 53 08.0 -0.5**
HFS Hagfors 84.04 330 P **P 12 53 09.3 -0.9**
comp=Z,7.2nm,1.1s,mb4.7,baz=90,slow=7.2,SNR=3.7
ROTZ Rotzenmuhle 84.12 320 *e*P **P 12 53 11.0 +0.4**
comp=Z,7.0nm,1.0s,mb4.8
GRA1 Grafenberg Arr 84.75 319 *e*P **P 12 53 13.8 0.0**
comp=Z,16nm,1.0s,mb5.1
GRA1 *e*pP pP 12 53 22.7 -0.8
GRF Grafenberg Arr 84.75 319 *e*P **P 12 53 13.8 0.0**
comp=Z,16nm,1.0s,mb5.1
GRF *e*pP pP 12 53 22.7 -0.8
GRF Grafenberg Arr 84.75 319 *e*P **P 12 53 13.8 0.0**
GRF *e**PP pP 12 53 22.7 -0.8
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.1
GRF Grafenberg Arr 84.75 319 *e*P **P 12 53 13.8 0.0**
GRF *e**PP pP 12 53 22.7 -0.8
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.1
NB2 NORSAR Subarra 85.33 331 P **P 12 53 15.5 -1.2**
comp=Z,8.1nm,1.1s,mb4.8,baz=92,slow=5.3
NOA NORSAR Array B 85.33 331 P **P 12 53 15.0 -1.7**
comp=Z,2.7nm,0.9s,mb4.4,baz=98,slow=6.3,SNR=3.6
NOA pP pP 12 53 24.3 -2.1
comp=Z,3.7nm,0.9s,baz=94,slow=5.4,SNR=5.0
CLZ Clausthal 85.37 322 *e*P **P 12 53 17.0 +0.1**
comp=Z,4.0nm,1.1s,mb4.5
CLZ Clausthal 85.37 322 *e*P **P 12 53 17.0 +0.1**
CLZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
DAVOX Davos 85.56 317 P **P 12 53 16.9 -1.0**
comp=Z,6.3nm,0.6s,mb5.0,baz=148,slow=6.4,SNR=8.4
TNS Taunus Mts 86.56 320 *e*P **P 12 53 22.8 0.0**
comp=Z,6.0nm,1.0s,mb4.8
TNS Taunus Mts 86.56 320 *e*P **P 12 53 22.8 0.0**
TNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
LPG La Plagne 87.74 315 *e*P **P 12 53 28.5 0.0**
comp=Z,19nm,1.0s,mb5.0
LPG La Plagne 87.74 315 *e*P **P 12 53 28.5 0.0**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LPG La Plagne 87.74 315 *e*P **P 12 53 28.5 0.0**
comp=Z,9.7nm,1.0s,mb5.0
TORD Torodi Ar. Bea 93.65 283 P **P 12 53 55.8 -0.3**
comp=Z,2.7nm,0.9s,mb4.7,baz=96,slow=5.7,SNR=9.1
TORD pP pP 12 54 05.5 -0.3
comp=Z,1.3nm,0.8s,baz=90,slow=4.9,SNR=4.3
YKA Yellowknife Ar 111.18 15 PP PP 12 59 50.3 -2.3
comp=Z,0.6nm,1.0s,baz=339,slow=6.5,SNR=4.9
YKA PKKPbc PKKPbc 13 10 08.4 -0.8
comp=Z,0.3nm,1.0s,baz=153,slow=3.1,SNR=5.6
ULM Lac du Bonnet 126.50 9 PKP PKPdf 12 59 41.8 -0.8
comp=Z,0.6nm,0.3s,baz=215,slow=9.1,SNR=3.2
ULM pPKP pPKPdf 12 59 51.0 -1.7
comp=Z,7.8nm,0.9s,baz=333,slow=1.2,SNR=7.9
NVAR Mina Array Bea 128.44 34 PKP PKPdf 12 59 48.4 +2.1
comp=Z,0.2nm,0.5s,baz=257,slow=2.5,SNR=5.3
NVAR pPKP pPKPdf 12 59 57.3 +0.9
comp=Z,2.4nm,0.8s,baz=262,slow=1.9,SNR=14
PDAR Pinedale Array 129.40 24 PKP PKPdf 12 59 48.2 +0.1
comp=Z,0.5nm,0.8s,baz=27,slow=4.0,SNR=3.3
PDAR pPKP pPKPdf 12 59 57.0 -1.1
comp=Z,1.1nm,0.6s,baz=0.0,slow=0.0,SNR=7.9
TXAR Lajitas Array 143.19 29 PKP PKPdf 13 00 12.2 -1.4
comp=Z,0.4nm,0.6s,baz=27,slow=2.0,SNR=3.0
LPAZ La Paz 159.21 228 PKPab PKPab 13 01 16.6 +1.7
comp=Z,2.4nm,0.7s,baz=121,slow=6.0,SNR=7.5

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*ISK **06** 12:43:38.0,34.16N×2767E,h22km,MD3.9,ML4.1*
*ISCJB **06** 12:43:49.5±0.2,3508N±002×2772E±003,h10km, mb3.9/15,Error ellipse: s-maj=3.3km s-min=2.8km az=131.3*
*CSEM **06** 12:43:50.7±0.1,35.10N×2794E,h10km,MD3.8,Error ellipse: s-maj=1.6km s-min=1.2km az=71.0*
*MOS **06** 12:43:50.7±1.0,3499N×2778E,h33km,mb4.3/11,Error ellipse: s-maj=9.9km s-min=5.8km az=113.8*
*NIC **06** 12:43:52.0±0.3,3586N×2764E,h25km,mb4.3,ML3.9*
*NEIC **06** 12:43:52.0,35.17N×2772E,h26km,mb4.2/8,MD3.8(ATH), After ATH.*
*ATH **06** 12:43:53.4,3526N×2771E,h28km±3km,MD3.8/12*
*HLW **06** 12:43:54.3,35.17N×2794E,h33km,Mb3.5*
*IDC **06** 12:43:57.6±2.4,3539N×2757E,h58km±21km,mb3.7/10, mb1 3.7/14,mb1mx3.6/24,mbtmp3.9/14,ML3.1/1,Error ellipse: s-maj=29.1km s-min=13.7km az=149.0*
*NAO **06** 12:44:25.9,39.10N×2805E,h33km,mb3.3*

ISC 06 12:43:51.5±0.2,3513N±002×2773E±003,h10km,n131, σ1§28/141,mb3.9/15,5C-9D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**312**	⇓*i*PN	**Pg**	**12 44 04.2**	**+0.7**
ARG	**Arkhangelos**	**1.13**	**17**⇑	*i*Pn	**Pn**	**12 44 13.3**	**-0.1**
ARG				*e*Sn	**Sn**	**12 44 30.6**	**+1.7**
NISR	**Nisiros**	**1.55**	**342**	*e*PB	**Pb**	**12 44 17.9**	**-2.4**
XRY	**Khrisi**	**1.69**	**262**	*e*PN	**Pn**	**12 44 23.5**	**+2.5**
NPS	**Neapolis**	**1.73**	**275**	⇓*i*PN	**Pn**	**12 44 23.3**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.79**	**24**	PN	**Pn**	**12 44 21.4**	**-1.1**
DALT				SN	**Sn**	**12 44 53.9**	**+8.6**
KSL	**Kastellorizon**	**1.82**	**56**	*e*PN	**Pn**	**12 44 24.0**	**+1.1**
AKAS	**Kas**	**1.88**	**54**	*i*P	**Pn**	**12 44 23.7**	**0.0**
BDRM	**Kayabasi**	**1.94**	**353**	*i*P	**Pn**	**12 44 25.8**	**+1.3**
BODT	**Bodrum**	**1.95**	**350**	PN	**Pn**	**12 44 24.5**	**-0.2**
MLSB	**Milas**	**2.16**	**1**	PN	**Pn**	**12 44 28.4**	**+0.9**
SANT	**Santorini**	**2.22**	**304**	*e*Pn	**Pn**	**12 44 30.4**	**+2.1**
SANT	**Santorini**	**2.22**	**304**	*e*Pn	**Pn**	**12 44 30.4**	**+2.0**
IDI	**Anoyia**	**2.33**	**275**	P	**Pn**	**12 44 32.0**	**+2.2**
	12nm,0.3s,baz=102,slow=14,SNR=45						
ELL	**Elmali**	**2.40**	**47**	PN	**Pn**	**12 44 28.8**	**-2.0**
AYDN	**Tasoluk**	**2.53**	**3**	*i*P	**Pn**	**12 44 32.8**	**+0.3**
GOLH	**Golhisar**	**2.57**	**35**	*i*P	**Pn**	**12 44 35.1**	**+1.9**
APE	**Apeiranthos**	**2.62**	**318**	PN	**Pn**	**12 44 31.4**	**-2.5**
APE	**Apeiranthos**	**2.62**	**318**	*e*P	**Pn**	**12 44 35.1**	**+1.2**
APE	**Apeiranthos**	**2.62**	**318**	*e*Pn	**Pn**	**12 44 35.7**	**+1.8**
SMG	**Samos**	**2.67**	**345**	*e*PN	**Pn**	**12 44 35.2**	**+0.7**
DNZL	**Cakiroluk**	**2.77**	**22**	*i*P	**Pn**	**12 44 35.9**	**0.0**
DENT	**Denizli**	**2.82**	**22**	PN	**Pn**	**12 44 36.0**	**-0.6**
GVD	**Gavdhos**	**3.00**	**265**	*e*PN	**Pn**	**12 44 41.0**	**+1.9**
BLCB	**Balcova**	**3.29**	**351**	PN	**Pn**	**12 44 43.1**	**0.0**
ISP	**Isparta**	**3.51**	**39**	*e*PN	**Pn**	**12 44 45.3**	**-0.9**
ISP	**Isparta**	**3.51**	**39**	*e*P	**Pn**	**12 44 45.5**	**-0.7**
ISP	**Isparta**	**3.51**	**39**	*e*P	**Pn**	**12 44 47.1**	**+0.9**
TKTP	**Tekketepe**	**3.58**	**35**	*i*P	**Pn**	**12 44 48.0**	**+1.0**
AKMC	**Akamas**	**3.78**	**90**	P	**Pn**	**12 44 49.8**	**0.0**
KYTH	**Kithira**	**3.98**	**288**	*e*PN	**Pn**	**12 44 55.5**	**+2.9**
ALFC	**Alevga**	**3.99**	**88**	⇓P	**Pn**	**12 44 51.8**	**-1.0**
ALFC				S	**Sn**	**12 45 39.9**	**+0.3**
HMAT	**Matruh**	**4.06**	**188**^	*e*P	**Pn**	**12 44 55.7**	**+2.0**
HMAT				S	**Sn**	**12 45 39.2**	**-2.0**
HMAT	**Matruh**	**4.06**	**188**	P	**Pn**	**12 44 55.7**	**+2.0**
HMAT				S	**Sn**	**12 45 39.2**	**-2.1**
VLI	**Veliai**	**4.20**	**294**	*e*PN	**Pn**	**12 44 57.6**	**+2.1**
SLUM		**4.20**	**211**	⇓*e*P	**Pn**	**12 44 57.6**	**+2.1**
SLUM				S	**Sn**	**12 45 43.4**	**-1.2**
SZAC	**Souni-Zanaja**	**4.25**	**94**	P	**Pn**	**12 44 56.8**	**+0.5**
SZAC				S	**Sn**	**12 45 47.2**	**+1.2**
PRK	**Paraskevi**	**4.27**	**345**	*e*PN	**Pn**	**12 44 59.0**	**+2.5**
CSS	**Prodhromos**	**4.60**	**91**	P	**Pn**	**12 45 00.9**	**-0.2**
CSS				S	**Sn**	**12 45 54.8**	**+0.2**
KONT	**Konya--Tatoy**	**4.67**	**52**	*e*PN	**Pn**	**12 44 59.2**	**-2.8**
HBRG	**Burj al 'Arab**	**4.88**	**158**	⇓*e*P	**Pn**	**12 45 04.8**	**-0.1**
HBRG	**Burj al 'Arab**	**4.88**	**158**	P	**Pn**	**12 45 04.8**	**-0.2**
IKL	**Isikli**	**4.97**	**75**	*e*PN	**Pn**	**12 44 59.2**	**-7.0**
KIZT	**Kizilcal**	**5.00**	**40**	*e*PN	**Pn**	**12 45 05.2**	**-1.4**
MERS	**Mersin**	**5.78**	**71**	*e*PN	**Pn**	**12 45 12.2**	**-5.0**
HNAT	**Natroun**	**6.00**	**155**	P	**Pn**	**12 45 20.8**	**+0.4**
SWA1		**6.10**	**197**⇑	*e*P	**Pn**	**12 45 23.6**	**+1.9**
SWA1				S	**Sn**	**12 46 29.6**	**-1.9**
FYM	**Al Fayyum**	**6.11**	**152**	P	**Pn**	**12 45 21.8**	**0.0**
SWA2		**6.18**	**199**	⇓*e*P	**Pn**	**12 45 24.6**	**+1.8**
KOT	**Kottamia**	**6.24**	**145**	P	**Pn**	**12 45 23.4**	**-0.2**
KARA	**Karaisali**	**6.30**	**68**	*e*PN	**Pn**	**12 45 18.3**	**-6.1**
HSAF	**As Saff**	**6.38**	**148**	⇓*e*P	**Pn**	**12 45 25.4**	**-0.2**
GLL	**Jalalah**	**6.48**	**148**	⇓*e*P	**Pn**	**12 45 27.0**	**+0.1**
BRTR	**Keskin Array B**	**6.57**	**44**	P	**Pn**	**12 45 28.4**	**+0.3**
	0.4nm,0.3s,baz=214,slow=15,SNR=14						
BRTR				S	**Sn**	**12 46 44.1**	**+1.0**
	0.3nm,0.3s,baz=214,slow=26,SNR=3.8						
BR131	**Keskin Array S**	**6.57**	**44**	*e*P	**Pn**	**12 45 28.9**	**+0.8**
	4.7nm,0.7s						
BR131	**Keskin Array S**	**6.57**	**44**	*e*P	**Pn**	**12 45 28.9**	**+0.8**
	4.7nm,0.7s						
KOZT	**Kozan**	**6.95**	**68**	*e*PN	**Pn**	**12 45 27.1**	**-6.2**
ZAF		**7.12**	**144**⇑	*e*P	**Pn**	**12 45 35.6**	**-0.1**
HNKL	**Nakhl**	**7.40**	**133**	⇓P	**Pn**	**12 45 39.6**	**+0.1**
HBST	**Basata**	**8.37**	**133**	P	**Pn**	**12 45 52.9**	**0.0**
HBST	**Basata**	**8.37**	**133**	P	**Pn**	**12 45 52.8**	**0.0**
HKAT	**Jabal Katrina**	**8.47**	**139**	P	**Pn**	**12 45 54.1**	**-0.2**
HDHB	**Dhahab**	**8.67**	**136**	P	**Pn**	**12 45 57.4**	**+0.4**
ZAPS	**Zavoj/Pirot**	**9.06**	**336**	*i*P	**Pn**	**12 46 04.1**	**+1.7**
MALT	**Malatya**	**9.16**	**67**	*e*P	**Pn**	**12 46 02.7**	**-1.0**
	2.2nm,0.5s						
MALT	**Malatya**	**9.16**	**67**	*e*P	**Pn**	**12 46 02.7**	**-1.0**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MALT	**Malatya**	**9.16**	**67**	*e*P	**Pn**	**12 46 02.6**	**-1.0**
	comp=Z,2.2nm,0.5s						
HHRG	**Al Ghardaqah**	**9.34**	**146**	P	**Pn**	**12 46 06.4**	**+0.2**
MLR	**Muntele Rosu**	**10.44**	**353**	P	**Pn**	**12 46 23.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=8.1,SNR=3.0						
KIV	**Kislovodsk**	**14.50**	**48**	*e*P	**Pn**	**12 47 17.0**	**+0.2**
	comp=Z,4.0nm,1.3s						
KIV	**Kislovodsk**	**14.50**	**48**	*e*P	**Pn**	**12 47 17.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GOF	**Gofitskoye**	**15.32**	**45**	*e*P	**Pn**	**12 47 34.0**	**+6.2**
AKASG	**Malin Array Be**	**15.60**	**4**	P	**Pn**	**12 47 31.6**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=190,slow=11,SNR=5.2						
AKASG	**Malin Array Be**	**15.60**	**4**	*i*P	**Pn**	**12 47 35.2**	**+3.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OJC	**Ojcow**	**16.15**	**341**	*e*P	**Pn**	**12 47 41.5**	**+3.0**
GERES	**GERESS Array B**	**17.18**	**327**	P	**Pn**	**12 47 51.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=6.7						
KHC	**Kasperske Hory**	**17.44**	**328**	*e*P	**Pn**	**12 47 54.5**	**-0.4**
KHC	**Kasperske Hory**	**17.44**	**328**	⇓*i*P	**Pn**	**12 47 52.7**	**-2.2**
SBF	**Sospel**	**17.89**	**305**	*e*P	**Pn**	**12 47 57.7**	**-2.7**
MBDF	**Montbardon**	**18.66**	**307**	*e*P	**Pn**	**12 48 09.1**	**-0.8**
LPG	**La Plagne**	**19.00**	**309**	*e*P	**Pn**	**12 48 13.0**	**-0.9**
LPL	**La Plagne**	**19.02**	**309**	*e*P	**Pn**	**12 48 13.0**	**-1.2**
CLL	**Collm**	**19.34**	**331**	P	**Pn**	**12 48 18.0**	**-0.1**
CABF	**La Chapelle**	**19.91**	**312**	*e*P	**Pn**	**12 48 23.8**	**-1.1**
	comp=Z,13nm,0.7s						
CABF	**La Chapelle**	**19.91**	**312**	*e*P	**Pn**	**12 48 23.8**	**-1.1**
CABF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CABF	**La Chapelle**	**19.91**	**312**	*e*P	**Pn**	**12 48 23.8**	**-1.1**
	comp=Z,6.6nm,0.7s						
HINF	**Hinteralfeld**	**20.05**	**316**	*e*P	**P**	**12 48 25.2**	**+0.5**
	comp=Z,2.6nm,0.4s						
HINF	**Hinteralfeld**	**20.05**	**316**	*e*P	**P**	**12 48 25.2**	**+0.5**
HINF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HINF	**Hinteralfeld**	**20.05**	**316**	*e*P	**P**	**12 48 25.2**	**+0.5**
	comp=Z,1.3nm,0.4s						
CDF	**Champ du Feu**	**20.13**	**317**	*e*P	**P**	**12 48 25.5**	**-0.1**
	comp=Z,9.0nm,0.8s						
CDF	**Champ du Feu**	**20.13**	**317**	*e*P	**P**	**12 48 25.5**	**-0.1**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CDF	**Champ du Feu**	**20.13**	**317**	*e*P	**P**	**12 48 25.5**	**-0.1**
	comp=Z,4.5nm,0.8s						
OBN	**Obninsk**	**20.90**	**14**	*e*P	**P**	**12 48 33.6**	**-0.4**
	comp=Z,43nm,2.3s						
OBN	**Obninsk**	**20.90**	**14**	*e*P	**P**	**12 48 33.6**	**-0.4**
OBN				pmax	pmax		
	comp=Z,43nm,2.3s						
SMF	**Signal de Mont**	**21.32**	**310**	*e*P	**P**	**12 48 37.3**	**-1.2**
AVF	**Avril sur Loir**	**21.69**	**310**	*e*P	**P**	**12 48 41.7**	**-0.7**
SSF	**Saint Saulge**	**21.70**	**311**	*e*P	**P**	**12 48 42.1**	**-0.5**
	comp=Z,21nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**21.70**	**311**	*e*P	**P**	**12 48 42.1**	**-0.5**
SSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**21.70**	**311**	*e*P	**P**	**12 48 42.1**	**-0.5**
	comp=Z,10nm,0.9s,mb4.3						
GIVF	**Givet**	**22.41**	**319**	*e*P	**P**	**12 48 49.5**	**-0.6**
LDF	**La Druitiere**	**24.56**	**312**	*e*P	**P**	**12 49 10.8**	**-0.6**
	comp=Z,7.6nm,0.6s,mb4.1						
LDF	**La Druitiere**	**24.56**	**312**	*e*P	**P**	**12 49 10.8**	**-0.6**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
LDF	**La Druitiere**	**24.56**	**312**	*e*P	**P**	**12 49 10.8**	**-0.6**
	comp=Z,3.8nm,0.6s,mb4.1						
GRR	**Gorron**	**24.93**	**311**	*e*P	**P**	**12 49 13.2**	**-1.6**
	comp=Z,11nm,0.6s,mb4.2						
GRR	**Gorron**	**24.93**	**311**	*e*P	**P**	**12 49 13.2**	**-1.6**
GRR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
GRR	**Gorron**	**24.93**	**311**	*e*P	**P**	**12 49 13.2**	**-1.6**
	comp=Z,5.7nm,0.6s,mb4.3						
ESDC	**Sonseca Array**	**25.50**	**290**	P	**P**	**12 49 19.5**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.6,baz=85,slow=9.6,SNR=5.0						
QUIF	**Quistinic**	**26.23**	**309**	*e*P	**P**	**12 49 24.8**	**-1.8**
	comp=Z,21nm,0.9s,mb4.3						
QUIF	**Quistinic**	**26.23**	**309**	*e*P	**P**	**12 49 24.8**	**-1.8**
QUIF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
QUIF	**Quistinic**	**26.23**	**309**	*e*P	**P**	**12 49 24.8**	**-1.8**
	comp=Z,10nm,0.9s,mb4.4						
FINES	**FINESS Array B**	**26.35**	**358**	P	**P**	**12 49 25.3**	**-2.4**
	comp=Z,0.9nm,0.5s,mb3.5,baz=163,slow=11,SNR=6.0						
FINES	**FINESS Array B**	**26.35**	**358**	*i*P	**P**	**12 49 25.2**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ROSF	**Rostrenen**	**26.43**	**309**	*e*P	**P**	**12 49 26.9**	**-1.5**
	comp=Z,8.7nm,0.7s,mb4.1						
ROSF	**Rostrenen**	**26.43**	**309**	*e*P	**P**	**12 49 26.9**	**-1.5**
ROSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
ROSF	**Rostrenen**	**26.43**	**309**	*e*P	**P**	**12 49 26.9**	**-1.5**
	comp=Z,4.3nm,0.7s,mb4.1						
HFS	**Hagfors**	**26.62**	**344**	P	**P**	**12 49 26.6**	**-3.6**
	comp=Z,1.8nm,0.4s,mb4.0,baz=153,slow=9.9,SNR=6.7						
AKTK	**Aktyubinsk**	**26.75**	**46**	P	**P**	**12 49 31.6**	**+0.4**
AKTO	**Aktyubinsk**	**26.75**	**46**	P	**P**	**12 49 31.6**	**+0.4**
	comp=Z,2.6nm,0.6s,mb3.9,baz=253,slow=4.2,SNR=11						
AKTO	**Aktyubinsk**	**26.75**	**46**	P	**P**	**12 49 31.6**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
NB2	**NORSAR Subarra**	**28.00**	**343**	P	**P**	**12 49 39.6**	**-2.9**
	comp=Z,0.6nm,0.6s,mb3.4,baz=147,slow=10						
NOA	**NORSAR Array B**	**28.00**	**343**	P	**P**	**12 49 39.8**	**-2.7**
	comp=Z,0.5nm,0.5s,mb3.4,baz=155,slow=8.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**32.12**	**234**	P	**P**	**12 50 19.8**	**+0.8**
	comp=Z,1.9nm,0.5s,mb4.2,baz=32,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**34.48**	**359**	P	**P**	**12 50 38.0**	**-1.6**
	comp=Z,2.9nm,0.8s,mb4.2,baz=180,slow=9.1,SNR=6.7						
ARCES	**ARCESS Array B**	**34.48**	**359**	P	**P**	**12 50 38.0**	**-1.6**
MKAR	**Makanchi Array**	**42.03**	**57**	P	**P**	**12 51 43.1**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=281,slow=6.1,SNR=3.9						
SCHQ	**Schefferville**	**64.56**	**320**	P	**P**	**12 54 26.5**	**-2.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=66,slow=6.6,SNR=8.7						
SCHQ	**Schefferville**	**64.56**	**320**	P	**P**	**12 54 26.5**	**-2.3**
YKA	**Yellowknife Ar**	**78.10**	**343**	P	**P**	**12 55 47.9**	**-2.7**
	comp=Z,0.2nm,0.5s,mb3.3,baz=29,slow=5.3,SNR=6.0						
YKA	**Yellowknife Ar**	**78.10**	**343**	P	**P**	**12 55 47.9**	**-2.8**

*ISCJB **06** 13:06:28.0±0.7, 1645S×007×72.18W×009, h101km±6km, mb4.3/8, Error ellipse: s-maj=15.7km s-min=7.9km az=112.3*
*NEIC **06** 13:06:28.2±0.8, 1635S×72.19W, h90km±7km, mb4.5/1, Error ellipse: s-maj=14.8km s-min=9.7km az=61.0*
NEIC Felt [III] at Arequipa and Camana.
*IDC **06** 13:06:29.9±2.9, 1648S×7230W, h106km±25km, mb4.2/8, mb1 4.3/11, mb1mx4.0/21, mbtmp4.5/11, MS2.8/2, Ms1 2.8/2, ms1mx2.7/22, Error ellipse: s-maj=24.1km s-min=15.8km az=103.0*

ISC 06 13:06:28.6±0.8, 1642S±007×722W±01, h92km±7km, n26, σ1º06/27, mb4.3/8, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.71**	**94**	⇑*i*P	**Pn**	**13 06 45.6**	**+0.2**
ARE				*i* S	**Sn**	**13 06 59.1**	**+1.2**
LPAZ	**La Paz**	**3.93**	**89**	P	**Pn**	**13 07 30.8**	**+4.0**
26nm,0.3s,baz=275,slow=11,SNR=548							
LPAZ				S	**Sn**	**13 08 18.1**	**+6.2**
baz=303,slow=11,SNR=1.7							
LPAZ	**La Paz**	**3.93**	**89**	*e*Pn	**Pn**	**13 07 31.2**	**+4.4**
NNA	**Nana**	**6.28**	**314**	*e*Pn	**Pn**	**13 07 57.7**	**-0.9**
128nm,0.6s							
NNA				*e*Sn	**Sn**	**13 09 13.2**	**+4.3**
LVC	**Limon Verde**	**6.91**	**154**	P	**Pn**	**13 08 07.4**	**+0.2**
46nm,0.3s,baz=342,slow=9.2,SNR=721							
LVC				S	**Sn**	**13 09 23.0**	**-1.4**
18nm,0.3s,baz=146,slow=17,SNR=11							
LVC	**Limon Verde**	**6.91**	**154**	*e*Pn	**Pn**	**13 08 07.3**	**+0.1**
116nm,0.5s							
LVC				*e*Sn	**Sn**	**13 09 23.5**	**-0.8**
SIV	**San Ignacio**	**10.72**	**89**	P	**Pn**	**13 08 57.1**	**-2.0**
3.5nm,0.3s,baz=275,slow=12,SNR=54							
CFAA	**Coronel Fontan**	**15.55**	**167**	P	**Pn**	**13 10 03.6**	**+1.1**
0.2nm,0.3s,baz=340,slow=12,SNR=34							
CFAA				LR	LR	13 15 43.5	
comp=Z,13nm,20.1s,baz=131,slow=36							
CPUP	**Villa Florida**	**17.01**	**128**	*e*Pn	**Pn**	**13 10 18.3**	**-2.3**
BDFB	**Brasilia**	**23.28**	**92**	P	**P**	**13 11 28.0**	**-0.1**
12nm,0.6s,mb4.4,baz=260,slow=11,SNR=14							
PLCA	**Paso Flores**	**24.27**	**177**	P	**P**	**13 11 38.2**	**+1.1**
15nm,0.9s,mb4.3,baz=351,slow=12,SNR=26							
PLCA	**Paso Flores**	**24.27**	**177**	*e*P	**P**	**13 11 38.1**	**+1.0**
16nm,0.9s,mb4.4							
SDV	**Santo Domingo**	**25.19**	**4**	P	**P**	**13 11 46.2**	**+0.8**
2.1nm,0.3s,mb4.0,baz=320,slow=4.7,SNR=3.8							
ULM	**Lac du Bonnet**	**69.57**	**344**	P	**P**	**13 17 26.5**	**-1.1**
1.2nm,0.4s,mb4.1,baz=172,slow=7.1,SNR=3.8							
ULM	**Lac du Bonnet**	**69.57**	**344**	P	**P**	**13 17 26.5**	**-1.1**
SCHQ	**Schefferville**	**71.11**	**3**	P	**P**	**13 17 36.6**	**-0.4**
2.1nm,0.7s,mb4.1,baz=225,slow=10.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**78.73**	**73**	P	**P**	**13 18 21.2**	**+0.3**
41nm,1.2s,mb5.2,baz=265,slow=5.1,SNR=117							
ESDC	**Sonseca Array**	**84.51**	**46**	P	**P**	**13 18 52.4**	**+1.1**
3.9nm,0.7s,mb4.5,baz=256,slow=4.9,SNR=17							
ESLA	**Sonseca Array**	**84.51**	**46**	*e*P	**P**	**13 18 51.0**	**-0.3**
TSUM	**Tsumeb**	**84.56**	**108**	*e*P	**P**	**13 18 53.1**	**+1.6**
YKA	**Yellowknife Ar**	**85.39**	**342**	P	**P**	**13 18 55.2**	**-0.4**
0.7nm,0.6s,mb3.8,baz=137,slow=5.1,SNR=26							
YKA	**Yellowknife Ar**	**85.39**	**342**	P	**P**	**13 18 55.2**	**-0.4**
WRA	**Warramunga Arr**	**135.43**	**217**	PKP	PKPdf	13 25 38.4	+0.7
0.3nm,0.7s,baz=165,slow=3.4,SNR=9.7							
ZAL	**Zalesovo**	**138.50**	**20**	PKP	PKPdf	13 25 42.5	-0.9
0.9nm,0.7s,baz=302,slow=8.4,SNR=5.0							
MKAR	**Makanchi Array**	**143.07**	**29**	PKP	PKPdf	13 25 49.0	-2.7
0.8nm,0.7s,baz=320,slow=3.1,SNR=12							
SONM	**Songino Array**	**148.65**	**2**	PKPbc	PKPbc	13 26 06.0	+1.1
2.3nm,0.9s,baz=313,slow=2.2,SNR=9.5							

*IDC **06** 13:08:29.0±8.5, 1506N×10025W, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/18, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=142.2km s-min=128.7km az=176.0*
*ISCJB **06** 13:08:46.6±1.6, 1698N±009×101.16W±005, h15km±14km, mb3.5/3, Error ellipse: s-maj=16.3km s-min=5.3km az=49.6*
*MEX **06** 13:08:48.1±0.8, 1686N×10123W, h20km±27km, MD4.3*

ISC 06 13:08:47.3±1.2, 1699N±007×10113W±004, h11km±5km, n17, σ1º09/27, mb3.5/3, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.69**	**332**	⇑*i*P	**Pg**	**13 09 00.4**	**-0.2**
ZIIG				*e*S	**Sg**	**13 09 10.2**	**+0.6**
CAIG	**El Cayaco**	**0.83**	**86**	*i* P	**Pg**	**13 09 02.6**	**-0.7**
CAIG				*i* S	**Sg**	**13 09 14.6**	**+0.5**
ACX	**Acapulco**	**1.17**	**96**	*i* P	**Pb**	**13 09 08.0**	**-1.5**
ACX				*i* S	**Sb**	**13 09 21.0**	**-3.7**
MEIG	**Mezcala**	**1.71**	**57**	*i* P	**Pn**	**13 09 16.3**	**-0.8**
MEIG				*i* S	**Sn**	**13 09 38.4**	**-0.6**
PLIG	**Platanillo**	**2.08**	**48**	*i* P	**Pn**	**13 09 22.6**	**+0.4**
PLIG				*i* S	**Sn**	**13 09 48.5**	**+0.3**
MOIG	**Morelia**	**2.67**	**359**	*i* P	**Pn**	**13 09 30.3**	**0.0**
MOIG				*i* S	**Sn**	**13 10 00.3**	**-2.3**
YAIG	**Yautepec**	**2.70**	**46**	*i* P	**Pn**	**13 09 30.3**	**-0.4**
YAIG				*i* S	**Sn**	**13 10 04.3**	**+0.8**
UNM	**Universidad Na**	**2.97**	**38**	*e*P	**Pn**	**13 09 35.0**	**+0.6**
UNM				*i* P		13 09 40.2	
PPM	**Popocatepetl**	**3.15**	**49**	*i* P	**Pn**	**13 09 36.9**	**+0.1**
PPM				*i* S	**Sn**	**13 10 17.3**	**+2.9**
UTMO	**Huajuapan**	**3.28**	**75**	*i* S	**Sn**	**13 10 22.2**	**+4.5**
TPIG	**Tehuac#an**	**3.86**	**68**	*i* P	**Pn**	**13 09 46.8**	**+0.2**
TPIG				*i* S	**Sn**	**13 10 31.4**	**-0.6**
SFJM	**Santa Fe**	**3.92**	**333**	*i* P	**Pn**	**13 09 47.0**	**-0.4**
SFJM				*i* S	**Sn**	**13 10 32.0**	**-1.3**
OXX	**Oaxaca**	**4.22**	**88**	*e*P	**Pn**	**13 09 52.0**	**+0.5**
OXX				*i* S	**Sn**	**13 10 45.0**	**+4.2**
TXAR	**Lajitas Array**	**12.50**	**350**	Pn	Px	13 11 58.3	
baz=174,slow=18,SNR=4.1							
NVAR	**Mina Array Bea**	**26.12**	**328**	P	**P**	**13 14 23.5**	**+2.2**
1.6nm,0.8s,mb3.6,baz=153,slow=10,SNR=11							
PDAR	**Pinedale Array**	**26.68**	**346**	P	**P**	**13 14 28.6**	**+2.3**
0.7nm,0.9s,mb3.2,baz=127,slow=4.5,SNR=3.9							
YKA	**Yellowknife Ar**	**46.42**	**351**	P	**P**	**13 17 13.2**	**-0.8**
1.1nm,0.8s,mb3.9,baz=160,slow=7.2,SNR=20							

*TIF **06** 13:23:32.8, 4253N×4342E, h12km±3km*
*ISCJB **06** 13:23:33.2±0.3, 4262N±002×4343E±003, h12km, Error ellipse: s-maj=2.9km s-min=2.4km az=158.3*
*CSEM **06** 13:23:33.5±0.1, 4256N×4341E, h2km, mb4.2, Error ellipse: s-maj=1.9km s-min=1.6km az=105.0*
*MOS **06** 13:23:36.5±1.9, 4269N×4372E, h19km, mb4.2/1, Error ellipse: s-maj=11.6km s-min=7.2km az=91.4*

ISC 06 13:23:33.5±0.3, 4257N±002×4342E±003, h8km±4km, n31, σ0º90/55, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**61**	P	**Pg**	**13 23 35.5**	**+0.5**
ONI				S	**Sg**	**13 23 37.1**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.35**	**19**	*i* Pg	**Pg**	**13 23 40.5**	**+0.2**
ZEI	**Tsey**	**0.40**	**60**	*e*Pg	**Pg**	**13 23 41.1**	**-0.3**
ZEI				*e*Sg	**Sg**	**13 23 47.1**	**+0.4**
LACR	**Lac**	**0.69**	**68**	*i* Pg	**Pg**	**13 23 46.3**	**-0.5**
LACR				*e*Sg	**Sg**	**13 23 55.7**	**-0.1**
ARNR	**Ardon**	**0.88**	**45**	*e*Pg	**Pg**	**13 23 50.4**	**-0.1**
ARNR				*e*Sg	**Sg**	**13 24 02.5**	**+0.6**
CHVG	**Ch'k'valeri**	**1.00**	**279**	P	**Pg**	**13 23 52.7**	**0.0**
CHVG				S	**Sg**	**13 24 06.6**	**+1.0**
KMSR	**Komsomolskaya**	**1.02**	**38**	*e*Pg	**Pg**	**13 23 53.4**	**+0.2**
KMSR				*e*Sg	**Sg**	**13 24 07.2**	**+0.7**
VLKR	**Vladikavkaz**	**1.04**	**62**	*e*Pg	**Pg**	**13 23 52.9**	**-0.5**
VLKR				*e*Sg	**Sg**	**13 24 07.0**	**+0.1**
DUS	**Dusheti**	**1.06**	**116**	P	**Pg**	**13 23 53.4**	**-0.5**
DUS				S	**Sg**	**13 24 09.5**	**+1.8**
SNJR	**Sundja**	**1.14**	**63**	*e*Pg	**Pg**	**13 23 54.3**	**-1.0**
SNJR				*e*Sg	**Sg**	**13 24 10.2**	**+0.1**
BTKR	**Batakoyurt**	**1.15**	**45**	*e*Pg	**Pg**	**13 23 55.0**	**-0.5**
BTKR				*e*Sg	**Sg**	**13 24 11.0**	**+0.6**
AKH	**Akhalkalaki**	**1.16**	**177**	P	**Pb**	**13 23 54.7**	**-1.0**
AKH				S	**Sb**	**13 24 10.7**	**-0.1**
KUBR	**Kubataba**	**1.23**	**360**	*i* Pg	**Pg**	**13 23 56.6**	**-0.5**
113nm,0.5s							
KUBR				*i* Sg	**Sg**	**13 24 13.3**	**+0.2**
KUBR	**Kubataba**	**1.23**	**360**	*d* PG	**Pg**	**13 23 56.6**	**-0.5**
KUBR				*i* S	**Sg**	**13 24 13.3**	**+0.2**
KUBR				pmax	pmax		
comp=Z,113nm,0.5s							
KUBR				smax			
comp=Z,195nm,0.7s							
TBLG	**Delisi**	**1.29**	**130**	P	**Pn**	**13 23 57.4**	**-0.3**
TBLG				S	**Sb**	**13 24 14.8**	**+0.2**
TBLG	**Delisi**	**1.29**	**130**	*e*Pg	**Pg**	**13 23 57.4**	**-0.8**
TBLG				*e*Sg	**Sg**	**13 24 14.8**	**-0.1**
SHAR	**Shatzhatmas**	**1.30**	**335**	*e*Pg	**Pg**	**13 23 57.9**	**-0.5**
MTA	**Mtatsminda**	**1.34**	**130**	P	**Pn**	**13 23 58.3**	**-0.2**
MTA				S	**Sb**	**13 24 16.8**	**+0.6**
SAMG	**Sameba**	**1.35**	**130**	P	**Pn**	**13 23 57.9**	**-0.6**
SAMG				S	**Sb**	**13 24 15.3**	**-1.2**
KZR	**Kazreti**	**1.40**	**148**	P	**Pn**	**13 23 57.7**	**-1.5**
KZR				S	**Sb**	**13 24 15.8**	**-2.0**
KIV0	**Kislovodsk Arr**	**1.48**	**339**	Pg	**Pg**	**13 24 01.5**	**-0.5**
KIV	**Kislovodsk**	**1.49**	**339**	*i* Pg	**Pg**	**13 24 01.5**	**-0.5**
comp=Z,126nm,1.1s							
KIV	**Kislovodsk**	**1.49**	**339**	*c* iPG	**Pg**	**13 24 01.5**	**-0.5**
KIV				pmax	pmax		
comp=Z,126nm,1.1s							
PYA	**Pyatigorsk**	**1.49**	**350**	Pg	**Pg**	**13 24 02.1**	**+0.1**
PYA				Sg	**Sg**	**13 24 21.8**	**+0.5**
ARTV	**Artvin**	**1.78**	**219**	*i* P	**Pn**	**13 24 05.3**	**+0.9**
ARTV				*i* S	**Sn**	**13 24 29.4**	**+2.2**
DGRG	**David-gareji**	**1.83**	**127**	P	**Pn**	**13 24 07.2**	**+2.0**
DGRG				S	**Sn**	**13 24 31.3**	**+2.7**
DIGO	**Kars**	**2.15**	**181**	*i* P	**Pn**	**13 24 11.5**	**+1.9**
DIGO				*i* S	**Sg**	**13 24 42.0**	**-0.7**
GOF	**Gofitskoye**	**2.50**	**354**	*e*Pn	**Pg**	**13 24 19.8**	**-1.7**
comp=Z,50nm,1.0s							
GOF	**Gofitskoye**	**2.50**	**354**	*e*PN	**Pg**	**13 24 19.8**	**-1.7**
GOF				*i* S	**Sg**	**13 24 53.7**	**-0.2**
GOF				pmax	pmax		
comp=Z,50nm,1.0s							
GOF				smax			
comp=N,110nm,0.6s							
GOF				smax			
comp=E,260nm,0.6s							
SOC	**Sochi**	**2.90**	**292**	*e*Pn	**Pg**	**13 24 28.4**	**-0.6**
comp=E,22nm,0.7s							
SOC				*e*Sn	**Sg**	**13 25 01.9**	**-4.7**
comp=E,64nm,0.7s							
SOC	**Sochi**	**2.90**	**292**	*e*PN	**Pg**	**13 24 28.4**	**-0.6**
SOC				*e*		13 25 01.9	
SOC				pmax	pmax		
comp=Z,22nm,0.7s							
SOC				smax			
comp=N,64nm,0.7s							

*ISCJB **06** 13:27:58.9±0.4, 5152N±002×1606E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.3km az=31.9*
*MOS **06** 13:28:00.9±1.3, 5160N×1600E, h10km, mb3.9/1, Error ellipse: s-maj=13.7km s-min=6.4km az=86.3*
*IPEC **06** 13:28:00.3±0.2, 5160N×1611E, h0km, ML2.3/3, Error ellipse: s-maj=1.4km s-min=0.8km az=27.0*
*NEIC **06** 13:28:00.9±0.5, 5157N×1604E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=5.7km s-min=4.8km az=194.0*
*PRU **06** 13:28:02.8, 5148N×1599E, h0km*
*WAR **06** 13:28:02, 5154N×1601E, ML2.7, Mining Induced*
*IDC **06** 13:28:02.7±1.1, 5145N×1586E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.0/4, ML2.9/4, Error ellipse: s-maj=17.2km s-min=9.4km az=122.0*
*CSEM **06** 13:28:03.2±0.1, 5147N×1604E, h1km, ML3.2/5, Error ellipse: s-maj=2.2km s-min=1.4km az=177.0*
*VIE **06** 13:28:04.5±0.5, 5131N×1609E, h0km, mb2.4/3, ML2.9/3, Error ellipse: s-maj=3.9km s-min=3.3km az=79.0 68 km WNW of Breslau Suspected Mining induced.*

ISC 06 13:28:00.7±0.4, 5155N±002×1602E±003, h0km, n50, σ0º98/85, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**166**	*e*Pg	**Pg**	**13 28 15.2**	**+0.6**
KSP				*e*Sg	**Sg**	**13 28 25.0**	**+0.9**
KSP	**Ksiaz**	**0.73**	**166**	*i* Pgd	**Pg**	**13 28 15.2**	**+0.6**
KSP				e		13 28 17.7	
KSP				*e*Sg	**Sg**	**13 28 25.1**	**+1.0**
KSP				e		13 28 28.7	
KSP	**Ksiaz**	**0.73**	**166**	*e*Pg	**Pg**	**13 28 15.2**	**+0.6**
KSP				*e*Sg	**Sg**	**13 28 24.2**	**+0.1**
KSP				*e*S	**Sg**	**13 28 28.7**	**+4.6**
KSP	**Ksiaz**	**0.73**	**166**	⇓*i*Pg	**Pg**	**13 28 15.2**	**+0.6**
KSP				*e*		13 28 17.7	
KSP				*e*Sg	**Sg**	**13 28 25.1**	**+1.0**
KSP				*e*		13 28 28.7	
UPC	**Upice**	**1.04**	**180**	*e*PG	**Pg**	**13 28 21.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.22**	**171**	*e*PG	**Pg**	**13 28 24.0**	**0.0**
DPC				*e*SG	**Sg**	**13 28 38.7**	**-1.0**
44nm,0.4s							
DPC	**Dobruska-Polom**	**1.22**	**171**	*e*P	**Pg**	**13 28 24.0**	**0.0**
DPC				*e*		13 28 38.7	
DPC				smax			
comp=N,44nm,0.4s							
PVCC	**Panska Ves**	**1.37**	**222**	*e*PG	**Pg**	**13 28 27.4**	**+0.5**
PVCC				*e*SG	**Sg**	**13 28 45.6**	**+0.9**
BRG	**Berggiesshubel**	**1.47**	**243**	*e*Pn	**Pn**	**13 28 28.9**	**+0.5**
BRG				Sg	**Sg**	**13 28 48.9**	**+1.0**
BRG	**Berggiesshubel**	**1.47**	**243**	P	**Pn**	**13 28 28.9**	**+0.5**
BRG						13 28 48.9	
BRG				smax			
comp=N,63nm,0.5s							
RUE	**Ruedersdorf**	**1.67**	**305**	*e*P	**Pn**	**13 28 30.3**	**-0.8**
RUE				*e*S	**Sn**	**13 28 52.4**	**-0.8**
PRU	**Pruhonice**	**1.82**	**211**	*e*Pn	**Pn**	**13 28 34.2**	**+1.0**
PRU				*e*Sg	**Sg**	**13 28 59.3**	**+0.1**
CLL	**Collm**	**1.90**	**264**	*e*Pg	**Pg**	**13 28 37.0**	**-0.1**
CLL				*e*Sg	**Sg**	**13 29 02.0**	**+0.2**
comp=Z,39nm,0.5s							
MORC	**Moravsky Berou**	**2.02**	**151**	*e*Pn	**Pn**	**13 28 35.8**	**-0.2**
MORC	**Moravsky Berou**	**2.02**	**151**	*e*Pg	**Pg**	**13 28 39.8**	**+0.4**
MORC				*e*Sg	**Sg**	**13 29 04.1**	**-1.6**
comp=Z,19nm,0.3s							
MORC	**Moravsky Berou**	**2.02**	**151**	*e*Pn	**Pn**	**13 28 35.8**	**-0.2**
MORC				*e*Pg	**Pg**	**13 28 39.8**	**+0.4**
MORC				*e*Sg	**Sg**	**13 29 05.1**	**-0.6**
OKC	**Ostrava-Krasne**	**2.19**	**141**	*e*PG	**Pn**	**13 28 40.2**	**+2.0**
OKC				*e*SG	**Sg**	**13 29 07.7**	**-3.2**
comp=Z,35nm,0.5s							
OKC	**Ostrava-Krasne**	**2.19**	**141**	*e*P	**Pn**	**13 28 40.2**	**+2.0**
OKC				*e*		13 29 07.7	
OKC				smax			
comp=N,35nm,0.5s							
VRAC	**Vranov**	**2.27**	**170**	Pn	**Pn**	**13 28 40.1**	**+0.7**
comp=N,1.6nm,0.3s,baz=351,slow=16,SNR=8.1							
VRAC				Lg		13 29 14.0	
comp=N,3.7nm,0.3s,baz=80,slow=21,SNR=8.4							
VRAC	**Vranov**	**2.27**	**170**	*e*Pn	**Pn**	**13 28 40.0**	**+0.6**
VRAC				*e*Sg	**Sg**	**13 29 13.0**	**-0.7**
comp=N,15nm,0.4s							
KRUC	**Moravsky**	**2.50**	**174**	*e*Pn	**Pn**	**13 28 43.0**	**+0.4**
KRUC	**Moravsky**	**2.50**	**174**	*e*Pg	**Pg**	**13 28 47.2**	**-1.4**
KRUC				*e*Sg	**Sg**	**13 29 19.9**	**-1.2**
comp=N,9.6nm,0.3s							
NKC	**Novy Kostel**	**2.62**	**241**	*e*PN	**Pn**	**13 28 44.6**	**+0.5**
NKC				*e*SG	**Sg**	**13 29 24.5**	**-0.2**
comp=N,60nm,0.7s							
NKC	**Novy Kostel**	**2.62**	**241**	*e*Pn	**Pn**	**13 28 44.5**	**+0.4**
NKC				*e*Sg	**Sg**	**13 29 24.5**	**-0.2**
NKC	**Novy Kostel**	**2.62**	**241**	*e*P	**Pn**	**13 28 44.6**	**+0.5**
NKC				*e*		13 29 24.5	
NKC				smax			
comp=N,60nm,0.7s							
OJC	**Ojcow**	**2.74**	**118**	*e*Pg	**Pg**	**13 28 54.1**	**+0.9**
OJC				*e*Sg	**Sg**	**13 29 28.9**	**+0.2**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**13 28 47.7**	**-0.1**
KHC				*e*PG	**Pg**	**13 28 54.4**	**-1.5**
KHC				*e*SN	**Sn**	**13 29 21.5**	**-1.6**
KHC				*e*SG	**Sg**	**13 29 32.5**	**-0.7**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*Pg	**Pg**	**13 28 54.4**	**-1.5**
KHC				*e*Sn	**Sn**	**13 29 21.5**	**-1.6**
KHC				*e*Sg	**Sg**	**13 29 32.5**	**-0.7**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*P	**Pn**	**13 28 47.7**	**-0.1**
KHC				*e*		13 29 21.5	
MOX	**Moxa**	**2.92**	**254**	*e*Pn	**Pn**	**13 28 48.6**	**+0.3**
MOX	**Moxa**	**2.92**	**254**	*i* Pg	**Pg**	**13 28 57.0**	**+0.4**
MOX				*i* Sg	**Sg**	**13 29 35.2**	**+0.8**
MOX	**Moxa**	**2.92**	**254**	*i* PG	**Pg**	**13 28 57.0**	**+0.4**
MOX				*i* SG	**Sg**	**13 29 35.2**	**+0.8**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	**13 28 52.1**	**+1.5**
GERES	**GERESS Array B**	**3.09**	**210**	Pn	**Pn**	**13 28 48.9**	**-1.7**
comp=N,0.6nm,0.3s,baz=32,slow=13,SNR=14							
GERES				Pg	**Pg**	**13 28 57.4**	**-2.4**
comp=N,1.8nm,0.3s,baz=30,slow=16,SNR=21							
GERES				Lg		13 29 37.4	
comp=N,3.0nm,0.3s,baz=32,slow=25,SNR=10							
GERES	**GERESS Array B**	**3.09**	**210**	Pg	**Pg**	**13 28 57.4**	**-2.5**
WET	**Wettzell**	**3.14**	**221**	*e*Pn	**Pn**	**13 28 52.0**	**+0.7**
WET	**Wettzell**	**3.14**	**221**	*e*Pn	**Pn**	**13 28 52.3**	**+1.0**
NIE	**Niedzica**	**3.48**	**126**	*e*P	**Pg**	**13 29 06.6**	**-0.7**
NIE				*e*S	**Sg**	**13 29 51.5**	**-0.8**
BSD	**Bornholm Skovb**	**3.63**	**350**	*i* P	**Pn**	**13 28 57.1**	**-1.0**
BSD				*i* S	**Sn**	**13 29 37.3**	**-4.4**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	**13 29 02.2**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**13 30 05.4**	**+0.3**
comp=N,14nm,0.5s							
MOA	**Molln**	**3.87**	**198**	Pn	**Pn**	**13 29 02.2**	**+0.8**
MOA				Sg	**Sg**	**13 30 05.4**	**+0.3**
comp=N,14nm,0.5s							
MOA	**Molln**	**3.87**	**198**	⇑Pn	**Pn**	**13 29 02.2**	**+0.8**
MOA				Sg	**Sg**	**13 30 05.4**	**+0.3**
STHS	**Stebnicka Huta**	**3.96**	**121**	*e*PG	**Pg**	**13 29 16.4**	**-0.2**
STHS				*e*SG	**Sg**	**13 30 09.7**	**+1.7**
KECS	**Kecovo**	**4.21**	**135**	*e*PG	**Pg**	**13 29 22.0**	**+0.7**
KECS				*e*SG	**Sg**	**13 30 18.2**	**+2.3**
CRVS	**Cervenica-Dubn**	**4.39**	**125**	*e*SG	**Sg**	**13 30 22.6**	**+1.0**
KOLS	**Kolonicke sedl**	**4.79**	**121**	*e*	**Sg**	**13 30 33.1**	**-1.6**
AKASG	**Malin Array Be**	**8.36**	**91**	Pn	**Pn**	**13 30 03.0**	**0.0**
comp=N,0.7nm,0.3s,baz=278,slow=13,SNR=4.0							
AKASG	**Malin Array Be**	**8.36**	**91**	P	**Pn**	**13 30 03.0**	**0.0**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**8.36**	**91**	Pn	**Pn**	**13 30 03.0**	**0.0**
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**13 30 43.2**	**-0.9**
comp=Z,0.1nm,0.3s,baz=209,slow=10.0,SNR=2.9							

*IDC **06** 14:31:00.4±1.7, 277S×14165E, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=61.8km s-min=34.7km az=103.0*
*ISCJB **06** 14:31:04.1±1.0, 28S±01×1414E±03, h33km, mb3.9/5, Error ellipse: s-maj=42.6km s-min=12.7km az=19.7*
*NEIC **06** 14:31:05.1±0.9, 281S×14157E, h30km, mb4.0/1, Error ellipse: s-maj=45.5km s-min=14.7km az=96.0*

ISC 06 14:31:05.8±1.0, 28S±01×1415E±03, h35km, n11, σ0º79/10, mb3.9/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.38**	**202**	*e*P	**Pn**	**14 35 18.2**	**+0.4**
12nm,1.0s							
WB2	**Warramunga Arr**	**18.39**	**202**	*e*P	**Pn**	**14 35 17.3**	**-0.6**
WRA	**Warramunga Arr**	**18.39**	**202**	P	**Pn**	**14 35 17.6**	**-0.4**
0.4nm,0.3s,baz=20,slow=12,SNR=22							
FITZ	**Fitzroy Crossi**	**21.73**	**225**	*e*P	**P**	**14 35 53.2**	**-0.8**
3.5nm,0.7s,mb3.9							
ASPA	**Alice Springs**	**21.98**	**199**	*e*P	**P**	**14 35 57.4**	**+0.7**
MKAR	**Makanchi Array**	**71.60**	**322**	P	**P**	**14 42 24.8**	**+1.2**
1.6nm,0.8s,mb4.0,baz=110,slow=7.9,SNR=14							
ZAL	**Zalesovo**	**73.46**	**329**	P	**P**	**14 42 33.8**	**-0.8**
0.4nm,0.3s,mb3.8,baz=140,slow=16,SNR=4.7							
VNDA	**Vanda**	**75.43**	**176**	*e*P	**P**	**14 42 46.8**	**+0.7**
BVAR	**Borovoye Array**	**81.01**	**325**	P	**P**	**14 43 17.6**	**+0.7**
0.9nm,0.5s,mb4.0,baz=104,slow=6.1,SNR=8.2							
ILAR	**Eielson Array**	**84.79**	**24**	P	**P**	**14 43 35.4**	**-1.1**
1.1nm,0.8s,mb4.1,baz=257,slow=4.6,SNR=12							
TORD	**Torodi Ar. Bea**	**138.96**	**287**	PKP	PKPdf	14 50 32.0	+3.4
0.2nm,0.5s,baz=62,slow=2.0,SNR=4.2							

MOS 06 14:48:35.9±0.9, 4247N×4333E, h17km, mb3.6/1, Error ellipse: s-maj=74.8km s-min=19.4km az=58.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.46**	**23**	*i* Pg	Pg	14 48 45.9	+0.6
DIGR				*i* Sg	Sg	14 48 51.1	-0.5
ZEI	**Tsey**	**0.51**	**54**	*i* Pg	Pg	14 48 46.7	+0.5
ZEI				*i* Sg	Sg	14 48 52.6	-0.5
LACR	**Lac**	**0.79**	**63**	*i* Pg	Pg	14 48 51.8	+0.4
LACR				*i* Sg	Sg	14 49 01.2	-0.7
LSNR	**Lesken**	**0.88**	**24**	*e*Pg	Pg	14 48 53.2	+0.3
L

IDC 06 16:19:23.6±1.8, 197N×12605E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=172.2km s-min=21.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**23.24**	**160**	P	P	16 24 32.3	-0.1
	1.6nm,0.4s,baz=338,slow=10,SNR=35						
WB2	**Warrumunga Arr**	**23.25**	**160**	*e*P	P	16 24 33.0	+0.5
ASPA	**Alice Springs**	**26.60**	**164**	*e*P	P	16 25 04.4	+0.9
ASAR	**Alice Springs**	**26.60**	**164**	P	P	16 25 04.8	+1.3
	0.5nm,0.5s,baz=337,slow=7.9,SNR=44						
STKA	**Stephens Creek**	**36.75**	**158**	P	P	16 26 31.6	-1.1
	3.2nm,0.9s,baz=334,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**58.62**	**326**	P	P	16 29 22.6	+0.3
	0.2nm,0.4s,baz=122,slow=7.8,SNR=15						

*ISCJB **06** 16:22:05.6±2.8, 59S±02×1290E±04, h294km±28km, mb3.7/1, Error ellipse: s-maj=63.1km s-min=16.6km az=132.5*

*IDC **06** 16:22:14.2±4.2, 597S×12933E, h386km±49km, mb3.2/1, mb1 3.5/3, mb1mx3.1/14, mbtmp4.2/3, Error ellipse: s-maj=99.7km s-min=13.2km az=71.0*

ISC 06 16:22:13.3±2.7, 62S±02×1287E±04, h362km±33km, n6, σ0§92/8, mb3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.20**	**194**	*e*P	P	16 24 56.1	-0.4
	3.0nm,0.3s						
WRA	**Warrumunga Arr**	**14.73**	**159**	P	P	16 25 23.9	-0.4
	1.1nm,0.3s,baz=340,slow=11,SNR=20						
WRA				S	S	16 28 01.4	-1.2
	0.2nm,0.3s,baz=338,slow=20,SNR=5.0						
WB2	**Warrumunga Arr**	**14.73**	**159**	*e*P	P	16 25 24.4	+0.1
ASPA	**Alice Springs**	**18.08**	**164**	*e*P	P	16 26 01.0	+0.6
ASAR	**Alice Springs**	**18.08**	**164**	P	P	16 26 01.1	+0.7
	1.3nm,0.3s,baz=345,slow=12,SNR=25						
ASAR				S	S	16 29 09.4	+0.9
	0.3nm,0.3s,baz=345,slow=21,SNR=28						
MKAR	**Makanchi Array**	**66.84**	**327**	P	P	16 32 27.0	-0.2
	0.6nm,0.4s,mb3.7,baz=116,slow=8.0,SNR=22						

*IDC **06** 16:28:42.3±0.5, 504S×13407E, h0km, mb4.8/11, mb1 4.9/13, mb1mx4.8/17, mbtmp4.9/13, ML5.0/3, MS4.2/13, Ms1 4.2/13, ms1mx4.0/23, Error ellipse: s-maj=20.6km s-min=9.5km az=59.0*

*ISCJB **06** 16:28:42.1±1.5, 516S±004×13408E±006, h15km±11km, mb5.1/64, MS4.2/27, Error ellipse: s-maj=9.6km s-min=7.1km az=154.3*

*BJI **06** 16:28:45.0, 522S×13421E, h37km, mB5.2, mb5.0, Ms4.8, Msz4.3*

*MOS **06** 16:28:45.6±1.0, 512S×13400E, h33km, mb5.2/21, MS4.4/4, Error ellipse: s-maj=13.2km s-min=6.9km az=112.2*

*HRVD **06** 16:28:47.5±0.3, 504S×13394E, h24km±1km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s48,c54;Mantle waves: s62,c102; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.14±.21; Mθθ-0.16±.12; Mφφ4.29±.15; Mrθ0.65±.31; Mrφ-0.56±.11; Mθφ1.18±.31; Best double couple: M0 4.46200×10^16 NP1:φs342.00000°, δ39.00000°, λ-107.00000°. NP2: φs183.00000°, δ53.00000°, λ-77.00000°. Principal axes: T 4.5000, Plg7.0000°, Azm264.0000°; N -0.0850, Plg10.0000°, Azm355.0000°; P -4.4240, Plg77.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 16:28:47.5±0.2, 510S×13404E, h35km, mb5.1/20, MS4.4/4 Error ellipse: s-maj=8.6km s-min=5.8km az=51.0*

ISC 06 16:28:46.0±1.5, 516S±004×13412E±005, h23km±11km, h26km±1.0km: pP-P, n187, σ1§05/160, mb5.1/64, MS4.2/27, 8C-5D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**13.61**	**109**	Pn	Pn	16 31 58.1	+0.6
	4.7nm,0.3s,baz=301,slow=9.5,SNR=24						
PMG				Sn	Sn	16 34 19.9	-8.0
	2.3nm,0.3s,baz=158,slow=19,SNR=2.3						
PMG				Lg		16 36 03.7	
	1.0nm,0.3s,baz=180,slow=19,SNR=2.9						
PMG	**Port Moresby**	**13.61**	**109**	Pn	Pn	16 31 58.1	+0.6
PMG				Sn	Sn	16 34 19.9	-8.0
PMG				Lg		16 36 03.7	
WRAB	**Tennant Creek**	**14.68**	**179**	Pn	Pn	16 32 10.0	-2.2
	577nm,0.3s						
WRAB	**Tennant Creek**	**14.68**	**179**	*i* P	Pn	16 32 11.3	-0.9
WRAB	**Tennant Creek**	**14.68**	**179**	*e*Pn	Pn	16 32 09.5	-2.8
WRAB				*e*S	Sn	16 34 49.8	-4.4
WB2	**Warrumunga Arr**	**14.69**	**179**	*e*P	Pn	16 32 10.2	-2.2
WB2				*e*		16 32 21.0	
WRA	**Warrumunga Arr**	**14.69**	**179**	Pn	Pn	16 32 10.2	-2.2
	10.0nm,0.3s,baz=1.4,slow=12,SNR=127						
WRA				Sn	Sn	16 34 46.3	-8.1
	22nm,0.3s,baz=356,slow=22,SNR=7.2						
WRA				Lg		16 36 33.0	
	baz=358,slow=27,SNR=3.9						
WRA	**Warrumunga Arr**	**14.69**	**179**	Pn	Pn	16 32 10.2	-2.2
WRA				Sn	Sn	16 34 46.3	-8.2
WRA				Lg		16 36 33.0	
ASAR	**Alice Springs**	**18.40**	**181**	P	Pn	16 32 58.8	-0.6
	11nm,0.3s,baz=5.4,slow=12,SNR=209						
ASAR				S	Sn	16 36 15.2	-9.1
	5.3nm,0.3s,baz=1.2,slow=28,SNR=6.0						
ASAR				Lg		16 38 30.1	
	baz=19,slow=30,SNR=3.0						
ASAR	**Alice Springs**	**18.40**	**181**	P	Pn	16 32 58.9	-0.6
ASAR				S	Sn	16 36 15.3	-9.0
ASPA	**Alice Springs**	**18.40**	**181**	*e*P	Pn	16 32 58.6	-0.9
ASPA				*e*S	Sn	16 36 14.6	-10
CTA	**Charters Tower**	**18.96**	**143**	⇑*i*P	Pn	16 33 08.8	+2.5
	80nm,0.6s						
CTA	**Charters Tower**	**18.96**	**143**	P	Pn	16 33 08.5	+2.2
	13nm,0.3s,baz=320,slow=12,SNR=139						
CTA				S	Sn	16 36 42.8	+4.9
	0.9nm,0.3s,baz=252,slow=20,SNR=2.9						
CTA				Lg		16 38 45.6	
	1.5nm,0.3s,baz=57,slow=22,SNR=3.7						
CTA				LR	LR	16 40 22.6	
	comp=Z,254nm,21.8s,baz=323,slow=37						
CTA	**Charters Tower**	**18.96**	**143**	P	Pn	16 33 08.5	+2.2
CTA				S	Sn	16 36 42.8	+4.8
CTA	**Charters Tower**	**18.96**	**143**	P	Pn	16 33 08.5	+2.2
CTA				S	Sn	16 36 42.8	+4.9
CTA				Lg		16 38 45.6	
CTA				LR	LR	16 40 22.6	
CTAO	**Charters Tower**	**18.96**	**143**	*e*P	Pn	16 33 08.2	+1.9
CTAO				*e*S	Sn	16 36 40.0	+2.0
CTAO				pmax	pmax		
	comp=Z,87nm,0.6s						
CTAO	**Charters Tower**	**18.96**	**143**	*e*P	Pn	16 33 08.2	+1.9
	comp=Z,87nm,0.6s						
CTAO				*e*S	Sn	16 36 40.0	+2.1
KKM	**Kota Kinabalu**	**21.06**	**302**	*e*P	P	16 33 27.7	-0.7
MBWA	**Marble Bar**	**21.16**	**220**	*e*P	P	16 33 30.6	+1.1
	comp=Z,64nm,0.8s,mb5.0						
GUMO	**Guam**	**21.47**	**30**	LR	LR	16 42 01.6	
	comp=Z,225nm,18.4s,MS3.6,baz=235,slow=37						
BJII	**Banjamegara**	**24.36**	**264**	P	P	16 34 08.7	+6.6
	comp=Z,54nm,1.7s,mb4.7						
KSM	**Kuching**	**24.68**	**285**	*e*P	P	16 34 06.0	+0.9
HNR	**Honiara**	**25.96**	**101**	P	P	16 34 18.3	+1.6
	comp=Z,106nm,0.8s,mb5.4,baz=269,slow=7.8,SNR=2.2						
HNR	**Honiara**	**25.96**	**101**	P	P	16 34 18.3	+1.6
STKA	**Stephens Creek**	**27.48**	**166**	*e*P	P	16 34 29.5	-1.0
	comp=Z,19nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**27.48**	**166**	P	P	16 34 29.9	-0.5
	comp=Z,12nm,0.4s,mb4.8,baz=330,slow=8.4,SNR=22						
STKA				LR	LR	16 47 03.2	
	comp=Z,622nm,18.8s,MS4.2,baz=359,slow=40						
STKA	**Stephens Creek**	**27.48**	**166**	*e*P	P	16 34 29.4	-1.1
KLBR	**Kellerberrin**	**30.44**	**208**	*e*P	P	16 34 58.0	+1.2
	comp=Z,29nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**31.80**	**208**	P	P	16 35 10.3	+1.6
	comp=Z,10nm,0.8s,mb4.7,baz=66,slow=8.9,SNR=12						
NWAO				LR	LR	16 49 39.2	
	comp=Z,1μm,18.4s,MS4.6,baz=26,slow=39						
NWAO	**Narrogin (SRO)**	**31.80**	**208**	*e*P	P	16 35 10.2	+1.5
NWAO				pmax	pmax		
	comp=Z,13nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,984nm,20.0s						
NWAO	**Narrogin (SRO)**	**31.80**	**208**	*e*P	P	16 35 10.2	+1.5
	comp=Z,13nm,1.1s,mb4.7						
NWAO				LR	LR		
	comp=Z,984nm,20.0s,MS4.5						
JOW	**Kunigami**	**32.30**	**350**	LR	LR	16 46 52.8	
	comp=Z,578nm,19.7s,MS4.3,baz=23,slow=34						
QIZ	**Qiongzhong**	**33.90**	**316**	*e*P	P	16 35 27.0	-0.1
QIZ				S	S	16 40 53.5	+3.2
QIZ				AMB	AMB		
	comp=Z,14nm,1.9s,mb4.6						
QIZ				LR	LR		
	comp=Z,234nm,15.6s,MS4.0						
KULM	**Kulim**	**35.00**	**287**	P	P	16 35 37.4	+0.8
DZM	**Mont Dzumac**	**35.50**	**121**	P	P	16 35 41.5	+0.6
	comp=Z,7.6nm,0.6s,mb4.8,baz=297,slow=12,SNR=8.8						
PSI	**Prapat**	**36.04**	**282**	P	P	16 35 44.6	-0.8
	comp=Z,10nm,0.6s,mb4.9,baz=92,slow=3.5,SNR=12						
KKTK	**Khon Kaen**	**37.61**	**305**	P	P	16 36 02.0	+3.1
	comp=Z,494nm,0.8s						
SSE	**Sheshan**	**38.11**	**342**	P	P	16 36 03.5	+0.4
SSE				S	S	16 41 51.4	-3.3
SSE				PCS	PcS	16 42 04.2	-2.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,267nm,3.8s						
SSE				LR	LR		
	comp=N,26nm,28.8s,MS3.7						
SSE				LR	LR		
	comp=E,153nm,28.8s,MS3.7						
SSE				LR	LR		
	comp=Z,108nm,19.8s						
NST	**Nakhon Sawan**	**39.51**	**302**	P	P	16 36 07.5	-7.3
NJ2	**Nanjing**	**39.76**	**340**	*e*P	P	16 36 18.9	+2.0
NJ2				AP	pP	16 36 26.3	+2.4
NJ2				XP	sP	16 36 29.7	+3.0
NJ2				PP	PP	16 37 55.0	+6.6
NJ2				S	S	16 42 20.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,410nm,4.8s						
NJ2				LR	LR		
	comp=N,370nm,13.8s,MS4.5						
NJ2				LR	LR		
	comp=E,240nm,13.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,430nm,26.9s						
WHN	**Wuhan**	**40.23**	**333**	⇑P	P	16 36 21.9	+1.1
GYA	**Guiyang**	**41.17**	**321**	⇑*i*P	P	16 36 28.8	+0.2
GYA				AP	pP	16 36 36.2	+0.6
GYA				XP	sP	16 36 39.5	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,3.8s						
GYA				LR	LR		
	comp=N,870nm,16.8s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,17.2s,MS4.9						
GYA				LR	LR		
	comp=Z,970nm,16.9s,MS4.7						
MJAR	**Matsushiro Arr**	**41.66**	**5**	P	P	16 36 29.5	-3.1
	comp=Z,3.6nm,0.8s,mb4.1,baz=184,slow=8.9,SNR=9.8						
MJAR				LR	LR	16 51 25.7	
	comp=Z,455nm,20.2s,MS4.3,baz=165,slow=33						
MAT	**Matsushiro**	**41.66**	**5**	P	P	16 36 31.1	-1.5
MAT	**Matsushiro**	**41.66**	**5**	*e*P	P	16 36 31.0	-1.6
CHRT	**Chiangrai**	**41.94**	**307**	⇑P	P	16 36 35.0	+0.1
	comp=Z,158nm,0.8s,mb5.7						
KS15	**Wonju Array Si**	**42.78**	**353**	*e*P	P	16 36 42.1	+0.4
KMI	**Kunming**	**42.85**	**316**	P	P	16 36 42.9	+0.6
KMI				AP	pP	16 36 51.1	+1.7
KMI				XP	sP	16 36 54.6	+2.4
KMI				PP	PP	16 38 24.7	+2.8
KMI				S	S	16 43 04.2	-1.3
KMI				XS	sS	16 43 18.1	+1.1
KMI				SS	SS	16 46 08.3	-8.7
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
KMI				AMB	AMB		
	comp=Z,106nm,3.8s						
KMI				LR	LR		
	comp=Z,116nm,23.9s,MS3.7						
INCN	**Inchon**	**42.99**	**351**	*e*P	P	16 36 44.2	+0.7
XAN	**Xi'an**	**45.69**	**330**	P	P	16 37 04.2	-0.8
XAN				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
CD2	**Chengdu**	**46.13**	**323**	P	P	16 37 08.1	-0.4
CD2				AP	pP	16 37 15.6	0.0
CD2				XP	sP	16 37 18.9	+0.5
CD2				PP	PP	16 38 56.6	-0.3
CD2				S	S	16 43 52.2	-0.9
CD2				SS	SS	16 47 09.7	-8.6
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CD2				AMB	AMB		
	comp=Z,50nm,7.0s						
CD2				LR	LR		
	comp=E,90nm,14.4s						
CD2				LR	LR		
	comp=Z,100nm,15.6s,MS3.9						
SNY	**Shenyang**	**47.74**	**349**	⇓P	P	16 37 21.2	+0.1
SNY				LR	LR		
	comp=N,360nm,17.7s						
SNY				LR	LR		
	comp=Z,350nm,22.8s						
VLA	**Vladivostok**	**48.10**	**358**	*e*P	P	16 37 23.3	-0.6
VLA				*e*	pP	16 37 31.6	+0.7
VLA				pmax	pmax		
	comp=Z,58nm,1.9s,mb5.3						
VLA				pmax	pmax		
	comp=Z,63nm,1.7s,mb5.4						
CN2	**Changchun**	**49.36**	**352**	*e*P	P	16 37 33.1	-0.5
CN2				*e*XP	sP	16 37 43.9	+0.4
CN2				*e*S	S	16 44 38.4	-0.5
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.3						
ASAJ	**Asahikawa**	**49.64**	**8**	P	P	16 37 35.5	-0.3
	comp=Z,6.2nm,0.7s,mb4.7,baz=200,slow=6.6,SNR=8.8						
ASAJ				LR	LR	16 57 00.3	
	comp=Z,200nm,18.8s,MS4.1,baz=169,slow=34						
MDJ	**Mudanjiang**	**49.72**	**356**	P	P	16 37 35.7	-0.6
MDJ				AP	pP	16 37 41.9	-1.5
MDJ				PCP	PcP	16 38 58.7	+1.5
MDJ				SCP	ScP	16 42 50.7	-0.6
MDJ				PCS	PcS	16 42 54.7	+0.8
MDJ				S	S	16 44 48.3	+4.4
MDJ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,152nm,4.9s						
MDJ				LR	LR		
	comp=N,98nm,19.9s,MS3.9						
MDJ				LR	LR		
	comp=E,61nm,19.1s,MS3.9						
MDJ				LR	LR		
	comp=Z,122nm,19.9s,MS3.9						
LZH	**Lanzhou**	**49.88**	**328**	*e*P	P	16 37 38.5	+1.0
LZH				AP	pP	16 37 44.5	-0.2
LZH				PP	PP	16 39 34.5	+2.1
LZH				*e*S	S	16 44 47.0	+0.8
LZH				SS	SS	16 48 14.0	-5.0
LZH				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,230nm,4.6s						
LZH				LR	LR		
	comp=E,770nm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS5.0						
HHC	**Hu-ho-hao-te**	**50.24**	**338**	⇓P	P	16 37 40.6	+0.3
HHC				AP	pP	16 37 48.5	+1.1
HHC				XP	sP	16 37 53.3	+3.1
HHC				PCP	PcP	16 39 04.0	+4.9
HHC				PP	PP	16 39 36.4	+0.8
HHC				PCS	PcS	16 42 56.6	+0.4
HHC				S	S	16 44 43.3	-7.9
HHC				SCS	ScS	16 47 26.3	-3.7
HHC				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,200nm,4.8s						
HHC				LR	LR		
	comp=N,144nm,16.8s,MS4.2						
HHC				LR	LR		
	comp=E,161nm,18.0s,MS4.2						
HHC				LR	LR		
	comp=Z,166nm,18.0s,MS4.1						
HABR	**Khabarovsk**	**53.41**	**1**	*i* P	P	16 38 04.1	+0.2
HABR				*e*S	S	16 45 30.3	-4.6
HABR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
LSA	**Lhasa**	**53.84**	**313**	P	P	16 38 08.4	+1.4
KLR	**Kul'dur**	**54.21**	**358**	*e*P	P	16 38 07.2	-2.5
KLR				*e*		16 38 18.3	
KLR				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1						
GTA	**Gaotai**	**54.49**	**328**	P	P	16 38 12.6	+0.8
GTA				AP	pP	16 38 20.1	+1.2
GTA				XP	sP	16 38 23.4	+1.7
GTA				PCP	PcP	16 39 14.8	-0.2
GTA				PP	PP	16 40 16.0	+2.0
GTA				SCP	ScP	16 43 10.7	-1.2
GTA				PCS	PcS	16 43 12.8	-1.8
GTA				S	S	16 45 49.5	+0.2
GTA				XS	sS	16 46 01.7	+0.5
GTA				SCS	ScS	16 47 56.9	-2.7
GTA				SS	SS	16 49 31.5	-0.4
GTA				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,106nm,4.6s						
GTA				LR	LR		
	comp=N,128nm,7.2s						
GTA				LR	LR		
	comp=E,112nm,8.0s						
GTA				LR	LR		
	comp=Z,138nm,8.4s						
JIRN	**Jiri**	**56.58**	**308**	*e*P	P	16 38 26.9	+0.1
	comp=Z,33nm,0.7s,mb5.5						
GUN	**Gumba**	**56.94**	**308**	*e*P	P	16 38 29.6	+0.2
	comp=Z,69nm,0.7s,mb5.8						
PKI	**Pulchoki**	**57.16**	**307**	*e*P	P	16 38 30.6	-0.3
	comp=Z,26nm,0.8s,mb5.3						
PKI	**Pulchoki**	**57.16**	**307**	*e*P	P	16 38 30.6	-0.3
PKI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KKN	**Kakani**	**57.36**	**308**	*e*P	P	16 38 32.0	-0.3
	comp=Z,46nm,0.8s,mb5.6						
KKN	**Kakani**	**57.36**	**308**	*e*P	P	16 38 32.0	-0.3
KKN				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
DMN	**Daman**	**57.42**	**307**	*e*P	P	16 38 32.8	+0.1
	comp=Z,58nm,0.9s,mb5.6						
ULN	**Ulaanbaatar**	**57.92**	**339**	*i* P	P	16 38 37.0	+0.8
ULN	**Ulaanbaatar**	**57.92**	**339**	*e*P	P	16 38 36.1	-0.2
	comp=Z,27nm,1.5s,mb5.0						
ULN				LR	LR		
	comp=Z,167nm,20.0s,MS4.2						
GKN	**Gorkha**	**57.96**	**308**	*e*P	P	16 38 36.5	-0.1
	comp=Z,66nm,0.7s,mb5.8						
SONM	**Songino Array**	**58.13**	**338**	P	P	16 38 37.9	+0.1
	comp=Z,3.5nm,0.7s,mb4.5,baz=155,slow=7.5,SNR=14						
SONM				LR	LR	17 03 19.3	
	comp=Z,126nm,19.6s,MS4.0,baz=214,slow=36						
KOLN	**Koldanda**	**58.68**	**307**	*e*P	P	16 38 42.0	+0.4
	comp=Z,53nm,0.8s,mb5.6						
HYB	**Hyderabad**	**59.26**	**294**	*i* P	P	16 38 45.0	-0.6
HYB				*e*S	S	16 46 51.0	-1.4
HYB	**Hyderabad**	**59.26**	**294**	*e*P	P	16 38 45.0	-0.6
CIT	**Chita**	**59.60**	**345**	*e*P	P	16 38 48.6	+0.6
CIT				*e*		16 39 00.8	
CIT				*e*		16 39 35.4	
CIT				*e*		16 41 00.0	
CIT				pmax	pmax		
	comp=Z,46nm,2.8s,mb5.0						
ZAK	**Zakamensk**	**61.39**	**338**	*e*P	P	16 38 58.6	-1.6
ZAK				pmax	pmax		
	comp=Z,19nm,1.7s,mb5.0						
CLNS	**Chul'man**	**62.25**	**354**	*e*P	P	16 39 04.2	-1.7
CLNS				pmax	pmax		
	comp=N,11nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.5						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
IRK	**Irkutsk**	**62.57**	**340**	*e*P	P	16 39 08.4	+0.3
IRK				pmax	pmax		
	comp=Z,40nm,4.1s						
MOY	**Mondy**	**63.28**	**338**	*e*P	P	16 39 13.0	+0.2
POO	**Poona**	**63.87**	**293**	*ex*	x	16 39 36.0	
DDI	**Dehra Dun**	**64.16**	**307**	*ex*	x	16 39 16.2	
WMQ	**Urumqi**	**64.19**	**324**	P	P	16 39 20.0	+1.1
WMQ				XP	sP	16 39 31.0	+2.1
WMQ				PP	PP	16 41 43.0	+2.9
WMQ				S	S	16 47 54.0	-0.8
WMQ				SCS	ScS	16 49 08.0	-3.5
WMQ				SS	SS	16 52 04.0	-0.2
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,215nm,6.0s						
WMQ				LR	LR		
	comp=N,102nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,245nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,85nm,15.0s,MS4.0						
BOD	**Bodaibo**	**64.85**	**348**	⇓*i*P	P	16 39 23.1	0.0
BOD				*e*		16 39 35.2	
BOD				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
BOD				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
MA2	**Magadan**	**65.88**	**9**	*i* P	P	16 39 29.6	-0.2
MA2				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
MA2	**Magadan**	**65.88**	**9**	P	P	16 39 29.4	-0.4
	comp=Z,18nm,1.3s,mb4.9						
THN	**Thein Dam**	**66.82**	**308**	*e*P	P	16 39 34.3	-1.5
YAK	**Yakutsk**	**67.09**	**358**	*d*iP	P	16 39 37.4	-0.1
YAK				pmax	pmax		
	comp=Z,77nm,0.6s,mb5.9						
YAK	**Yakutsk**	**67.09**	**358**	*e*P	P	16 39 37.2	-0.3
YAK				LR	LR		
	comp=Z,197nm,20.0s,MS4.3						
MK31	**Makanchi Array**	**69.02**	**325**	*i* P	P	16 39 49.9	+0.2
MK31				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**69.02**	**325**	P	P	16 39 49.7	0.0
	comp=Z,14nm,0.6s,mb5.1,baz=115,slow=7.6,SNR=215						
MKAR				LR	LR	17 10 17.8	
	comp=Z,82nm,20.6s,MS4.0,baz=28,slow=36						
MKAR	**Makanchi Array**	**69.02**	**325**	⇑*e*P	P	16 39 48.7	-1.0
MKAR	**Makanchi Array**	**69.02**	**325**	P	P	16 39 49.7	0.0
MKAR				LR	LR	17 10 17.8	
SEY	**Seymchan**	**69.32**	**9**	*e*P	P	16 39 51.7	+0.2
SEY				*e*		16 42 33.6	
SEY				*e*S	S	16 49 01.7	+4.9
SEY				*e*SS	SS	16 53 26.9	+3.2
SEY				pmax	pmax		
	comp=E,4.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
SEY				smax			
	comp=N,90nm,16.2s						
SEY				smax			
	comp=E,70nm,16.2s						
SEY				MLR	MLR		
	comp=Z,110nm,18.0s,MS4.1						
SEY				MLR	MLR		
	comp=N,110nm,21.0s,MS4.2						
SEY				MLR	MLR		
	comp=E,100nm,23.0s,MS4.2	

TKM2	Tokmak 2	71.25 319	P	P	16 40 04.3	+1.0
	SNR=8.0					
KBK	Karagaybulak	71.56 318	P	P	16 40 06.4	+1.1
	SNR=6.8					
UCH	Uchtor	71.67 318	P	P	16 40 08.0	+2.1
	SNR=7.7					
ZAL	Zalesovo	71.83 332	P	P	16 40 05.2	-1.6
	comp=Z,2.7nm,0.7s,mb4.3,baz=0.7,slow=5.7,SNR=19					
ZAL	Zalesovo	71.83 332	*i* P	P	16 40 05.5	-1.3
ZAL			pmax	pmax		
	comp=Z,3.0nm,0.7s					
ZAL	Zalesovo	71.83 332	P	P	16 40 05.2	-1.6
AAK	Ala-Archa	71.86 318	P	P	16 40 08.1	+1.1
	SNR=5.2					
AAK	Ala-Archa	71.86 318	P	P	16 40 07.7	+0.7
	comp=Z,47nm,1.1s,mb5.3,SNR=5.3					
AAK	Ala-Archa	71.86 318	*i* P	P	16 40 07.0	0.0
AAK			pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7					
AAK			pmax	pmax		
	comp=Z,100nm,17.0s					
AAK	Ala-Archa	71.86 318	*e*P	P	16 40 06.4	-0.6
	comp=Z,11nm,0.9s,mb4.8					
USP	Ospenovka	72.12 319	P	P	16 40 09.2	+0.6
	SNR=19					
AML	Almayashu	72.18 317	P	P	16 40 10.4	+1.4
	SNR=16					
EKS2	Erkin-Say	72.35 318	P	P	16 40 11.0	+1.1
	SNR=10					
NVS	Novosibirsk	73.11 332	*i* P	P	16 40 12.5	-1.9
KURK	Kurchatov	73.16 327	P	P	16 40 14.8	0.0
	comp=Z,60nm,1.0s,mb5.5,SNR=5.2					
KURK	Kurchatov	73.16 327	*e*P	P	16 40 14.2	-0.6
VNDA	Vanda	73.80 174	LR	LR	17 11 48.8	
	comp=Z,344nm,18.9s,MS4.7,baz=356,slow=35					
VNDA	Vanda	73.80 174	P	P	16 40 19.5	+1.0
VNDA			MLR	MLR		
	comp=Z,375nm,21.0s					
KK31	Karatay Array	74.72 317	*i* P	P	16 40 23.7	-0.2
KK31			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8					
BILL	Bilibino	76.44 12	*e*P	P	16 40 32.6	-1.2
BILL			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4					
BILL	Bilibino	76.44 12	*e*P	P	16 40 32.6	-1.2
	comp=Z,3.2nm,0.6s,mb4.4					
TIXI	Tiksi	76.74 358	*e*P	P	16 40 31.8	-3.6
TIXI			*e*		16 40 43.6	
TIXI			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7					
TIXI			MLR	MLR		
	comp=Z,119nm,12.0s,MS4.4					
TIXI	Tiksi	76.74 358	P	P	16 40 34.0	-1.5
UNV	Unalaska Valle	76.79 32	*e*P	P	16 40 35.9	+0.2
	comp=Z,66nm,0.6s,mb5.7					
MAW	Mawson	78.16 202	LR	LR	17 12 30.4	
	comp=Z,466nm,18.9s,MS4.8,baz=206,slow=34					
BRVK	Borovoye	78.82 326	P	P	16 40 46.5	-0.5
	comp=Z,77nm,0.7s,mb5.7,SNR=5.6					
BRVK	Borovoye	78.82 326	*e*P	P	16 40 46.8	-0.2
BRVK			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8					
BRVK	Borovoye	78.82 326	*e*P	P	16 40 46.8	-0.2
	comp=Z,11nm,0.8s,mb4.8					
GAMB	Gambell	79.69 21	P	P	16 40 52.8	+1.0
ABKT	Ailbek	82.19 309	P	P	16 41 06.9	+1.8
	comp=Z,120nm,0.7s,mb5.9,SNR=6.5					
QSPA	South Pole Qui	84.80 180	*e*P	P	16 41 18.9	+0.3
	comp=Z,45nm,1.1s,mb5.5					
AKTO	Aktyubinsk	85.16 321	*i* P	P	16 41 19.7	-0.6
AKTO			pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.5					
TTA	Tatalina	85.56 26	*e*P	P	16 41 22.8	+0.5
TTA			pmax	pmax		
	comp=Z,11nm,0.5s,mb5.3					
TTA	Tatalina	85.56 26	*e*P	P	16 41 22.8	+0.5
	comp=Z,11nm,0.5s,mb5.3					
MCK	McKinley	88.85 26	*e*P	P	16 41 37.9	-0.3
MCK			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8					
MCK	McKinley	88.85 26	*e*P	P	16 41 37.9	-0.3
	comp=Z,3.1nm,0.6s,mb4.8					
RDF	Al-Radifah	89.47 299	*e*P	P	16 41 40.6	-0.6
RDF			AMb	AMB	16 41 55.4	
	comp=Z,46nm,0.8s,mb5.8					
COLA	College	89.58 25	P	P	16 41 42.7	+1.1
COLA			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8					
COLA	College	89.58 25	P	P	16 41 42.7	+1.1
	comp=Z,3.0nm,0.6s,mb4.8					
MIB	Mutribah	89.74 300	*e*P	P	16 41 42.4	0.0
MIB			AMb	AMB	16 41 44.1	
	comp=Z,30nm,0.8s,mb5.7					
NAY	Al-Naaiem	89.77 299	*e*P	P	16 41 42.2	-0.3
NAY			AMb	AMB	16 41 56.7	
	comp=Z,27nm,0.8s,mb5.7					
ILAR	Eielson Array	89.96 25	P	P	16 41 41.5	-2.0
	comp=Z,2.8nm,0.7s,mb4.7,baz=272,slow=4.3,SNR=30					
ILAR			PKKPbc	PKKPbc	16 59 14.9	+0.3
	comp=Z,0.3nm,0.6s,baz=15,slow=1.0,SNR=5.0					
DBC	Dubki	91.50 313	P	P	16 41 46.0	-4.6
DBC			*i* S		16 41 59.0	
KMBO	Kilima Mbogo	96.73 268	LR	LR	17 26 08.2	
	comp=Z,73nm,18.0s,MS4.2,baz=90,slow=36					
SNAA	Sanae	98.37 193	LR	LR	17 26 24.3	
	comp=Z,130nm,19.1s,MS4.4,baz=50,slow=35					
APA	Apatity	98.83 338⇓	*e*P	P	16 42 23.0	-1.1
ARCES	ARCESS Array B	101.27 340	P	Pdif	16 42 33.5	-1.4
	comp=Z,3.3nm,0.6s,baz=82,slow=5.2,SNR=13					
ARCES	ARCESS Array B	101.27 340	P	Pdif	16 42 33.5	-1.4
YKA	Yellowknife Ar	104.30 27	Pdiff	Pdif	16 42 46.5	-1.9
	comp=Z,0.3nm,0.7s,baz=289,slow=4.7,SNR=7.7					
YKA			PKiKP	PKiKP	16 47 04.7	-0.2
	comp=Z,0.3nm,0.7s,baz=288,slow=1.6,SNR=3.3					
YKA			PKKP	PKKPbc	16 58 47.6	+12
	comp=Z,0.2nm,0.5s,baz=105,slow=2.8,SNR=3.9					
YKA	Yellowknife Ar	104.30 27	Pdif	Pdif	16 42 46.5	-1.9
NVAR	Mina Array Bea	106.95 52	PKKP	PKKPbc	16 58 46.5	+19
	comp=Z,0.4nm,0.8s,baz=18,slow=4.1,SNR=4.3					
PDAR	Pinedale Array	112.69 46	PKiKP	PKiKP	16 47 21.5	+0.9
	comp=Z,0.4nm,0.6s,baz=190,slow=11,SNR=3.6					
PDAR			PKKPbc	PKKPbc	16 58 10.5	+1.8
	comp=Z,0.6nm,0.6s,baz=104,slow=6.1,SNR=4.9					
GERES	GERESS Array B	113.59 322	PKiKP	PKiKP	16 47 22.1	-0.2
	comp=Z,0.7nm,0.5s,baz=63,slow=3.0,SNR=8.3					
BEBN	Eben Emael	117.52 326	⇑PKPdf	PKPdf	16 47 33.5	+3.6
BEBN			E		10 33 49.3	
WLF	Walferdange	117.78 325	⇑PKPdf	PKPdf	16 47 23.6	-6.8
HINF	Hinteralfeld	118.19 323	*e*PKP1	PKPdf	16 47 29.9	-1.3
	comp=Z,6.7nm,0.7s					
HAU	Haudompre	118.42 323	*e*PKP1	PKPdf	16 47 30.5	-1.1
DOU	Dourbes	118.46 326	⇑PKPdf	PKPdf	16 47 30.5	-1.2
ULM	Lac du Bonnet	118.66 34	PKP	PKPdf	16 47 31.9	-0.2
	comp=Z,0.9nm,0.4s,baz=39,slow=4.3,SNR=2.7					
CABF	La Chapelle	119.19 322	*e*PKP1	PKPdf	16 47 31.9	-1.2
	comp=Z,10nm,0.8s					
LPG	La Plagne	119.25 320	*e*PKP1	PKPdf	16 47 32.6	-0.6
	comp=Z,3.2nm,0.6s					
LPL	La Plagne	119.26 320	*e*PKP1	PKPdf	16 47 32.4	-0.8
	comp=Z,4.3nm,0.7s					
SBF	Sospel	119.48 318	*e*PKP1	PKPdf	16 47 32.1	-1.5
	comp=Z,53nm,1.0s					
MBDF	Montbardon	119.56 319	*e*PKP1	PKPdf	16 47 33.1	-0.7
ORIF	Oris-en-Rattie	120.06 320	*e*PKP1	PKPdf	16 47 33.9	-0.9
LOR	Lormes	120.25 323	*e*PKP1	PKPdf	16 47 33.6	-1.5
TXAR	Lajitas Array	120.48 59	PKP	PKPdf	16 47 36.9	+1.4
	comp=Z,0.6nm,0.6s,baz=254,slow=0.9,SNR=4.1					
TXAR	Lajitas Array	120.48 59	PKP	PKPdf	16 47 36.9	+1.4
SSF	Saint Saulge	120.56 323	*e*PKP1	PKPdf	16 47 34.3	-1.4
	comp=Z,10nm,0.9s					
AVF	Avril sur Loir	120.78 323	*e*PKP1	PKPdf	16 47 35.2	-1.0
	comp=Z,3.8nm,0.7s					
TCF	Toulx Ste Croi	121.72 323	*e*PKP1	PKPdf	16 47 36.5	-1.4
	comp=Z,18nm,1.1s					
MFF	Saint Martin d	122.96 324	*e*PKP1	PKPdf	16 47 38.9	-1.4
	comp=Z,11nm,0.7s					
SGMF	Saint Gilles	123.42 327	*e*PKP1	PKPdf	16 47 39.7	-1.5
JCT	Junction City	123.47 57	PKIKP	PKPdf	16 47 43.0	+1.7
QUIF	Quistinic	123.94 327	*e*PKP1	PKPdf	16 47 41.0	-1.2
SCHQ	Schefferville	127.67 15	PKP	PKPdf	16 47 48.5	-0.9
	comp=Z,3.4nm,0.7s,baz=315,slow=1.4,SNR=4.2					
PLCA	Paso Flores	129.03 156	PKP	PKPdf	16 47 53.7	+1.8
	comp=Z,1.8nm,0.5s,baz=327,slow=3.0,SNR=9.3					
PLCA	Paso Flores	129.03 156	*e*PKPdf	PKPdf	16 47 53.7	+1.8
TORD	Torodi Ar. Bea	132.43 283	PKhKP		16 47 49.9	
	comp=Z,0.4nm,0.7s,baz=62,slow=2.3,SNR=3.0					
TORD			PKP	PKPdf	16 47 57.7	-0.7
	comp=Z,1.1nm,0.8s,baz=112,slow=3.8,SNR=4.3					
TORD			PP	PP	16 50 25.1	+3.5
	comp=Z,0.6nm,0.8s,baz=62,slow=3.0,SNR=3.6					
CFAA	Coronel Fontan	137.68 151	PKhKP		16 48 01.4	
	comp=Z,0.2nm,0.4s,baz=68,slow=19,SNR=2.6					
LVC	Limon Verde	144.37 142	PKP	PKPdf	16 48 21.6	+1.4
	comp=Z,6.6nm,0.6s,baz=256,slow=3.4,SNR=15					
LVC	Limon Verde	144.37 142	*e*PKPdf	PKPdf	16 48 21.8	+1.6
NNA	Nana	144.81 119	*e*PKPdf	PKPdf	16 48 22.8	+1.9
CPUP	Villa Florida	146.79 161	*e*PKPdf	PKPdf	16 48 26.4	+2.1
CPUP			*e*PKPbc	PKPbc	16 48 28.0	+1.9
LPAZ	La Paz	149.36 134	PKPbc	PKPbc	16 48 36.5	+3.5
	comp=Z,6.7nm,0.9s,baz=200,slow=1.7,SNR=19					
LPAZ	La Paz	149.36 134	*e*PKHKP		16 48 31.7	
LPAZ					16 48 36.5	
LPAZ	La Paz	149.36 134	*e*PKPdf	PKPdf	16 48 31.7	+3.1
LPAZ			*e*PKPbc	PKPbc	16 48 36.3	+3.3
LPAZ			PKPbc	PKPbc	16 48 36.5	+3.5
ROSC	El Rosal	151.66 89	PKPbc	PKPbc	16 48 41.7	+3.2
	comp=Z,46nm,0.6s,baz=92,slow=2.8,SNR=20					
SIV	San Ignacio	154.16 145	PKP	PKPdf	16 48 37.4	+1.6
	comp=Z,1.0nm,0.6s,baz=284,slow=4.2,SNR=4.8					
SIV			PKPbc	PKPbc	16 48 45.7	+1.8
	comp=Z,1.7nm,0.6s,baz=221,slow=2.3,SNR=8.9					
SDV	Santo Domingo	155.16 80	PKPbc	PKPdf	16 48 47.8	+11
	comp=Z,9.7nm,0.8s,baz=271,slow=2.9,SNR=14					
SDV	Santo Domingo	155.16 80	*e*PKPbc	PKPdf	16 48 48.3	+11

*NEIC **06** 16:48:49.8, 45.76S×167.08E, h103km, MG4.3(WEL), After WEL.*

WEL 06 16:48:49.4±0.4, 45.77S×167.05E, h105km±2km, ML4.4/9, 4C-2D, Error ellipse: s-maj=5.0km s-min=2.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	0.64	102	⇑PN	Pn	16 49 06.5	-0.3
WHZ				SN	Sn	16 49 19.2	-0.6
WHZ	Wether Hill Ro	0.64	102	⇑P	Pn	16 49 06.5	-0.3
WHZ				S	Sn	16 49 19.2	-0.6
MLZ	Mavora Lakes	0.89	62	⇑PN	Pn	16 49 08.8	-0.3
MLZ				SN	Sn	16 49 23.5	-0.4
MLZ	Mavora Lakes	0.89	62	⇑P	Pn	16 49 08.8	-0.3
MSZ	Milford Sound	1.26	30	PN	Pn	16 49 12.9	-0.2
MSZ				SN	Sn	16 49 30.0	-1.0
MSZ	Milford Sound	1.26	30	P	Pn	16 49 12.9	-0.2
MSZ				S	Sn	16 49 30.0	-1.0
EAZ	Earnscleugh	1.68	72	PN	Pn	16 49 18.1	0.0
EAZ				SN	Sn	16 49 38.8	-1.1
EAZ	Earnscleugh	1.68	72	P	Pn	16 49 18.1	0.0
TUZ	Tuapeka	1.81	97	⇓PN	Pn	16 49 19.6	-0.2
TUZ	Tuapeka	1.81	97	⇓P	Pn	16 49 19.6	-0.2
JCZ	Jackson Bay	2.08	36	PN	Pn	16 49 23.1	-0.2
JCZ	Jackson Bay	2.08	36	P	Pn	16 49 23.1	-0.2
LBZ	Lake Benmore	2.62	59	PN	Pn	16 49 29.0	-1.2
LBZ	Lake Benmore	2.62	59	P	Pn	16 49 28.9	-1.3
LBZ				S	Sn	16 49 58.6	-2.9
ODZ	Otahua Downs	2.63	75	PN	Pn	16 49 29.1	-1.3
ODZ	Otahua Downs	2.63	75	*e*P	Pn	16 49 29.1	-1.3
FOZ	Fox Glacier	2.90	41	*e*P	Pn	16 49 34.2	+0.3
RPZ	Rata Peaks	3.52	56	P	Pn	16 49 40.2	-1.9
WVZ	Waitaha Valley	3.77	46	*e*PN	Pn	16 49 43.9	-1.7
WVZ	Waitaha Valley	3.77	46	*e*P	Pn	16 49 43.8	-1.8
MQZ	McQueen's Vall	4.49	65	*e*P	Pn	16 49 53.4	-1.9
LTZ	Lake Taylor	4.79	53	*e*P	Pn	16 49 57.2	-2.1
DSZ	Denniston Nort	5.29	42	*e*P	Pn	16 50 04.4	-1.7
KHZ	Kahutara	5.75	57	*e*P	Pn	16 50 10.4	-1.9
THZ	Tophouse	5.83	49	*e*P	Pn	16 50 11.2	-2.2
NNZ	Nelson	6.47	48	*e*P	Pn	16 50 21.7	-0.4

*NEIC **06** 16:51:03.2, 1763N×68.17W, h44km, MD3.6(RSPR), After RSPR.*

RSPR 06 16:51:03.2, 1763N×68.17W, h44km±19km, MD3.5/4, MD3.5/4, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.52	62	⇑*e*P	Pn	16 51 26.5	-1.4
AOPR				*e*S	Sn	16 51 45.8	-0.7
CELP	Cerrillos	1.57	73	⇑*e*P	Pn	16 51 27.9	-0.7
CELP				*e*S	Sn	16 51 46.4	-1.4
CBYP	Canovanas	2.29	73	⇑*e*P	Pn	16 51 38.0	-0.4
CBYP				*e*S	Sn	16 52 04.8	-0.5
MTP	Monte Pirata	2.53	79	⇑*e*P	Pn	16 51 41.1	-0.5
MTP				*e*S	Sn	16 52 10.7	-0.5

*IDC **06** 16:51:39.9±1.8, 1.10N×97.07E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=51.6km s-min=21.6km az=59.0*

*ISCJB **06** 16:51:43.1±1.3, 12N±01×972E±02, h33km, mb3.5/5, Error ellipse: s-maj=24.8km s-min=18.2km az=151.8*

*NEIC **06** 16:51:44.5±1.0, 1.15N×97.16E, h30km, Error ellipse: s-maj=18.9km s-min=13.8km az=74.0*

ISC 06 16:51:45.8±1.3, 12N±01×972E±02, h35km, n8, σ0°25/8, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.33	47	Pn	Pn	16 52 21.4	-0.1
	3.1nm,0.3s,baz=145,slow=16,SNR=9.1						
KULM	Kulim	5.31	40	*e*P	Pn	16 53 02.5	0.0
WRA	Warramunga Arr	42.03 122	P	P	16 59 34.0	+0.2
	0.4nm,0.5s,mb3.3,baz=300,slow=9.0,SNR=8.9						
ASAR	Alice Springs	43.39 127	P	P	16 59 44.6	-0.2
	0.6nm,0.9s,mb3.3,baz=298,slow=7.6,SNR=8.6						
SONM	Songino Array	47.12 8	P	P	17 00 14.8	+0.4
	0.3nm,0.5s,mb3.5,baz=216,slow=12,SNR=3.2						
MKAR	Makanchi Array	47.23 346	P	P	17 00 15.3	+0.1
	0.5nm,0.5s,mb3.7,baz=158,slow=9.1,SNR=21						
MKAR	Makanchi Array	47.23 346	P	P	17 00 15.3	+0.1
ZAL	Zalesovo	53.54 351	P	P	17 01 02.5	-0.4
	0.8nm,0.6s,mb3.9,baz=296,slow=8.1,SNR=5.5						

*ISCJB **06** 17:20:11.0±0.6, 38.13S±004×176.02E±007, h206km±4km, mb5.1/1, Error ellipse: s-maj=9.1km s-min=6.4km az=25.7*

*NEIC **06** 17:20:12.8, 38.05S×176.02E, h192km, MG4.9(WEL), After WEL.*

*BJI **06** 17:20:12.8, 38.00S×176.00E, h192km, mB5.0, mb4.9*

*WEL **06** 17:20:12.8±0.4, 38.05S×176.02E, h192km±3km, ML4.9/22, Error ellipse: s-maj=2.2km s-min=1.5km az=90.0*

ISC 06 17:20:11.6±0.6, 3814S±004×17601E±007, h203km±4km, n96, σ1°904/101, mb5.1/1, 6C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	Utuhina	0.15	106	PN	Pn	17 20 38.4	+0.2
UTU	Utuhina	0.15	106	P	Pn	17 20 38.4	+0.2
PATZ	Paeroa	0.31	142	PN	Pn	17 20 38.8	+0.3
LIRZ	Lichensteins R	0.32	66	PN	Pn	17 20 38.3	-0.1
LIRZ	Lichensteins R	0.32	66	P	Pn	17 20 38.3	-0.2
TAZ	Tarawera	0.40	104	PN	Pn	17 20 39.4	+0.7
TAZ	Tarawera	0.40	104	P	Pn	17 20 39.4	+0.7
TGRZ	Tauranga	0.45	26	PN	Pn	17 20 37.7	-1.1
TGRZ				SN	Sn	17 20 59.1	-0.9
TGRZ	Tauranga	0.45	26	P	Pn	17 20 37.7	-1.2
WHTZ	Whakaora	0.53	185	*e*PN	Pn	17 20 40.1	+0.9
MARZ	Manawahe	0.55	74	PN	Pn	17 20 39.2	0.0
MARZ	Manawahe	0.55	74	P	Pn	17 20 39.2	0.0
TOZ	Tahuroa Road	0.57	315	PN	Pn	17 20 39.1	-0.2
TOZ				SN	Sn	17 20 59.5	-1.3
TOZ	Tahuroa Road	0.57	315	P	Pn	17 20 39.1	-0.2
EDRZ	Edgecumbe	0.57	87	PN	Pn	17 20 39.1	-0.2
EDRZ	Edgecumbe	0.57	87	P	Pn	17 20 39.1	-0.2
WATZ	Wairara	0.61	201	*e*PN	Pn	17 20 40.1	+0.6
WATZ	Wairara	0.61	201	*e*P	Pn	17 20 40.1	+0.6
RATZ	Rangitukua	0.76	194	PN	Pn	17 20 40.8	+0.6
RATZ	Rangitukua	0.76	194	P	Pn	17 20 40.8	+0.6
HATZ	Hinemaiaia	0.76	175	PN	Pn	17 20 40.6	+0.4
HATZ	Hinemaiaia	0.76	175	P	Pn	17 20 40.6	+0.4
MYRZ	Mayor Island	0.87	12	PN	Pn	17 20 40.4	-0.4
KATZ	Kakaramea	0.87	196	PN	Pn	17 20 41.7	+0.8
KATZ	Kakaramea	0.87	196	P	Pn	17 20 41.7	+0.9
URZ	Urewera	0.88	98	PN	Pn	17 20 40.3	-0.5
URZ				SN	Sn	17 21 01.5	-2.1
URZ	Urewera	0.88	98	P	Pn	17 20 40.3	-0.5
HIZ	Hauiti	0.98	247	⇓PN	Pn	17 20 41.7	+0.2
HIZ	Hauiti	0.98	247	⇑P	Pn	17 20 41.7	+0.2
KRVZ	Karewarewa	1.00	197	PN	Pn	17 20 42.4	+0.7
WTVZ	West Tongariro	1.03	198	PN	Pn	17 20 42.6	+0.8
WTVZ	West Tongariro	1.03	198	P	Pn	17 20 42.7	+0.8
TWVZ	Taurewa	1.04	205	PN	Pn	17 20 42.7	+0.8
TWVZ	Taurewa	1.04	205	P	Pn	17 20 42.7	+0.8
OTVZ	Oturere	1.06	195	PN	Pn	17 20 43.0	+0.9
NGZ	Ngauruhoe	1.09	197	PN	Pn	17 20 43.0	+0.7
NGZ	Ngauruhoe	1.09	197	P	Pn	17 20 43.2	+1.0
BKZ	Black Stump Fm	1.10	160	⇓PN	Pn	17 20 43.0	+0.7
BKZ				SN	Sn	17 21 04.7	-1.5
BKZ	Black Stump Fm	1.10	160	P	Pn	17 20 43.0	+0.7
WIZ	White Island	1.11	57	PN	Pn	17 20 42.2	-0.2
WIZ	White Island	1.11	57	P	Pn	17 20 42.2	-0.2
WPVZ	Whakapapa	1.13	199	PN	Pn	17 20 43.1	+0.6
WPVZ	Whakapapa	1.13	199	P	Pn	17 20 43.4	+0.9
TUVZ	Tukino	1.17	194	PN	Pn	17 20 43.7	+0.9
TUVZ	Tukino	1.17	194	P	Pn	17 20 43.9	+1.1
FWVZ	Far West T-bar	1.17	198	PN	Pn	17 20 43.6	+0.7
FWVZ	Far West T-bar	1.17	198	P	Pn	17 20 43.9	+1.0
DRZ	Dome Shelter	1.19	197	P	Pn	17 20 45.3	+2.3
MWZ	Matawai	1.21	100	PN	Pn	17 20 43.4	+0.3
MWZ	Matawai	1.21	100	P	Pn	17 20 43.6	+0.5
WNVZ	Wahianoa	1.23	195	P	Pn	17 20 44.2	+0.9
PKVZ	Pokaka	1.27	204	PN	Pn	17 20 44.2	+0.7
PKVZ				SN	Sn	17 21 08.6	+0.2
MOVZ	Moawhango	1.29	189	P	Pn	17 20 44.2	+0.5
VRZ	Vera Road	1.39	224	PN	Pn	17 20 45.5	+0.9
VRZ	Vera Road	1.39	224	P	Pn	17 20 45.6	+1.0
KUZ	Kuaotunu	1.41	350	PN	Pn	17 20 43.9	-0.8
KUZ	Kuaotunu	1.41	350	P	Pn	17 20 44.0	-0.7
OTAZ	Otara	1.47	324	PN	Pn	17 20 44.7	-0.5
OTAZ	Otara	1.47	324	P	Pn	17 20 44.7	-0.5
KNZ	Kokohu	1.57	125	PN	Pn	17 20 47.2	+1.0
KNZ	Kokohu	1.57	125	P	Pn	17 20 47.2	+1.0
MTAZ	Motutapu	1.61	327	PN	Pn	17 20 45.8	-0.6
MTAZ	Motutapu	1.61	327	P	Pn	17 20 46.0	-0.5
WTAZ	Waiatarua	1.66	316	P	Pn	17 20 46.7	-0.2
KAAZ	Kauri Point	1.67	321	P	Pn	17 20 46.6	-0.5
RAEZ	Rainy Point	1.71	227	PN	Pn	17 20 48.8	+1.3
RAEZ	Rainy Point	1.71	227	P	Pn	17 20 48.8	+1.4
PUZ	Puketiti	1.77	89	PN	Pn	17 20 48.3	+0.2
PUZ	Puketiti	1.77	89	P	Pn	17 20 48.3	+0.3
WAZ	Wanganui	1.80	206	P	Pn	17 20 48.9	+0.6
NEZ	North Egmont	1.88	232	P	Pn	17 20 50.7	+1.6
MXZ	Matakaoa Point	1.91	73	P	Pn	17 20 49.7	+0.4
PKE	Pukeiti	1.91	236	P	Pn	17 20 50.5	+1.2
TSZ	Takapari Road	1.92	181	P	Pn	17 20 50.1	+0.6
NRZ	Ngariki Road	2.02	233	P	Pn	17 20 51.5	+1.0
NWEZ	Newall Road	2.03	235	P	Pn	17 20 51.8	+1.2
MRZ	Mangatainoka R	2.54	187	⇑P	Pn	17 20 55.8	-0.3
BFZ	Birch Farm	2.55	176	P	Pn	17 20 56.3	+0.1
WCZ	Waipu Caves	2.56	328	*e*P	Pn	17 20 55.5	-0.9
KIW	Kapiti Island	2.85	197	⇑P	Pn	17 20 58.8	-0.8
MTW	Mount Morrison	3.04	187	⇑P	Pn	17 21 01.0	-0.9
CAW	Cannon Point	3.06	193	P	Pn	17 21 01.1	-0.9
MRW	Makara Radio	3.25	198	P	Pn	17 21 03.2	-1.1
PAWZ	Paruwai Farm	3.27	188	P	Pn	17 21 03.6	-1.0
WEL	Wellington	3.29	197	P	Pn	17 21 03.7	-1.1
SNZO	South Karori	3.33	197	*e*Pn	Pn	17 21 03.8	-1.4
MSWZ	Moikau Station	3.33	190	P	Pn	17 21 04.1	-1.1
BHW	Baring Head	3.38	195	P	Pn	17 21 03.6	-2.3
DSZ	Denniston Nort	4.84	221	*e*P	Pn	17 21 21.2	-2.8
LTZ	Lake Taylor	5.45	210	*e*P	Pn	17 21 29.4	-2.3
CRLZ	Canterbury Las	6.01	204	*e*P	Pn	17 21 36.3	-2.7
MQZ	McQueen's Vall	6.12	203	*e*P	Pn	17 21 37.3	-3.1
RPZ	Rata Peaks	6.72	212	P	Pn	17 21 46.0	-2.1
VNA3	Neumayer Olymp	70.85	178	⇑*i*	P	17 31 08.0	+1.8
VNA2	Neumayer-Watz	71.22	179	⇑*i*	P	17 31 09.2	+0.8
	baz=170,slow=5.5						
CD2	Chengdu	96.19	305	*e*P	P	17 33 21.1	+4.7
CD2				AP	pP	17 34 08.5	+1.9
CD2				XP	sP	17 34 28.5	+0.7
CD2				SKS		17 43 38.1	
CD2				S		17 44 21.0

FITZ Fitzroy Crossi 10.20 164 *e*P Pn 17 59 07.4 -2.4
8.1nm,0.3s
FITZ *e*S **S** 18 00 59.0 -5.2
MBWA Marble Bar 13.12 192 *e*P Pn 17 59 46.1 -0.2
MBWA S **S** 18 02 03.9 -8.2
WRA Warramunga Arr 16.21 137 P P 18 00 22.6 +0.2
0.9nm,0.3s,baz=318,slow=13,SNR=51
WRA S **S** 18 03 17.5 -2.4
1.1nm,0.3s,baz=314,slow=23,SNR=7.9
WRAB Tennant Creek 16.21 137 *e*P P 18 00 22.9 +0.6
14nm,1.1s
WB2 Warramunga Arr 16.22 137 *e*P P 18 00 23.1 +0.7
WB2 *e*S **S** 18 03 18.5 -1.6
ASPA Alice Springs 18.73 146 *e*P P 18 00 51.9 +2.2
ASPA *e*S **S** 18 04 12.4 +2.5
ASAR Alice Springs 18.73 146 P P 18 00 51.9 +2.2
1.3nm,0.3s,baz=324,slow=11,SNR=87
ASAR S **S** 18 04 12.4 +2.5
baz=331,slow=24,SNR=5.7
STKA Stephens Creek 29.37 146 P P 18 02 28.9 -0.6
0.8nm,0.4s,mb3.7,baz=327,slow=8.9,SNR=3.0
JIRN Jiri 50.20 317 *e*P P 18 05 20.7 +0.5
8.9nm,0.7s,mb4.2
GUN Gumba 50.57 317 *e*P P 18 05 23.4 +0.4
11nm,0.6s,mb4.5
PKI Pulchoki 50.68 316 *e*P P 18 05 23.6 -0.2
5.0nm,0.3s,mb4.4
KKN Kakani 50.90 316 *e*P P 18 05 25.6 +0.2
7.5nm,0.8s,mb4.2
DMN Daman 50.91 316 *e*P P 18 05 25.5 0.0
GKN Gorkha 51.48 316 *e*P P 18 05 29.5 -0.2
KOLN Koldanda 52.06 315 *e*P P 18 05 33.8 -0.2
10.0nm,0.9s,mb4.2
SONM Songino Array 57.68 347 P P 18 06 14.7 +0.5
0.2nm,0.4s,mb3.1,baz=160,slow=6.5,SNR=4.0
MKAR Makanchi Array 65.52 331 P P 18 07 06.6 +0.2
1.2nm,0.5s,mb3.8,baz=138,slow=8.4,SNR=28
MKAR Makanchi Array 65.52 331 P P 18 07 06.6 +0.2
ZAL Zalesovo 69.70 337 P P 18 07 31.0 -1.5
0.6nm,0.5s,mb3.5,baz=334,slow=12,SNR=5.7
ZAL Zalesovo 69.70 337 P P 18 07 31.0 -1.5
KURK Kurchatov 69.99 332 *e*P P 18 07 33.9 -0.4
3.3nm,0.9s,mb4.0
BVAR Borovoye Array 75.40 330 P P 18 08 05.9 -0.1
0.5nm,0.6s,mb3.3,baz=133,slow=9.3,SNR=4.8
AKTK Aktyubinsk 80.72 324 P P 18 08 35.0 -0.1
AKTO Aktyubinsk 80.72 324 P P 18 08 35.0 -0.1
0.4nm,0.4s,mb3.4,baz=63,slow=9.0,SNR=4.1

*IDC **06** 18:05:50.3±16.0, 3593N×7147E, h187km±136km, mb3.5/4, mb1 3.4/6, mb1mx3.0/22, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=146.1km s-min=53.6km az=115.0*
*ISCJB **06** 18:05:56.7±1.3, 3648N±007×712E±02, h227km±20km, mb3.6/4, Error ellipse: s-maj=29.4km s-min=8.9km az=151.3*
*NNC **06** 18:06:01.4±5.3, 3672N×7109E, h192km±67km, mb2.4, mpv3.5, Error ellipse: s-maj=50.2km s-min=26.6km az=8.0*
ISC 06 18:05:58.6±1.3, 3649N±007×714E±02, h236km±22km, n12, σ1°14/14, mb3.6/4, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.39**	**138**	*e*P	**Pn**	**18 07 19.4**	**+0.7**
THN				*e*S	**S**	**18 08 22.0**	**-0.5**
KK31	**Karatay Array**	**6.64**	**354**	⇑P	**Pn**	**18 07 34.0**	**-0.5**
	1.2nm,0.3s,baz=178,slow=13,SNR=67						
KK31				⇑S	**S**	**18 08 46.9**	**-4.3**
	6.9nm,0.4s,baz=176,slow=22,SNR=15						
TKM2	**Tokmak 2**	**7.18**	**25**	⇑P	**Pn**	**18 07 42.3**	**+0.9**
	3.2nm,0.9s						
TKM2				⇓S	**S**	**18 09 03.0**	**-0.7**
	4.8nm,0.9s						
AB31	**Akbulak array**	**15.25**	**330**	⇑P	**Pn**	**18 09 24.6**	**+2.3**
	0.3nm,0.3s,baz=144,slow=11,SNR=9.3						
BVAR	**Borovoye Array**	**16.55**	**358**	P	**P**	**18 09 37.0**	**+0.8**
	0.1nm,0.3s,baz=165,slow=9.0,SNR=4.5						
AKTO	**Aktyubinsk**	**16.95**	**329**	⇑P	**P**	**18 09 41.3**	**+0.7**
	0.4nm,1.0s						
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**P**	**18 09 40.6**	**-0.1**
	0.4nm,0.3s,baz=135,slow=10,SNR=5.9						
ZAL	**Zalesovo**	**19.77**	**24**	LR	LR	18 18 20.4	
	comp=Z,70nm,18.9s,baz=85,slow=37						
FINES	**FINESS Array B**	**37.68**	**326**	P	**P**	**18 12 51.4**	**+0.1**
	1.6nm,0.9s,mb3.5,baz=121,slow=11,SNR=5.0						
ARCES	**ARCESS Array B**	**41.28**	**337**	P	**P**	**18 13 21.4**	**+0.4**
	15nm,1.3s,mb4.2,baz=122,slow=8.3,SNR=5.8						
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**18 13 46.5**	**-0.9**
	1.0nm,0.8s,mb3.2,baz=86,slow=7.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P	**P**	**18 16 17.5**	**-2.7**
	0.5nm,0.5s,mb3.4,baz=47,slow=5.9,SNR=7.7						

*MOS **06** 18:06:34.2±0.7, 4206N×4283E, h18km, mb3.5/1, Error ellipse: s-maj=99.9km s-min=14.5km az=57.4*
*ISCJB **06** 18:06:45.8±0.5, 4261N±004×4349E±005, h9km±4km, Error ellipse: s-maj=6.3km s-min=5.6km az=58.8*
*TIF **06** 18:06:45.3, 4255N×4345E, h10km±1km*
ISC 06 18:06:45.7±0.5, 4259N±004×4347E±005, h12km±4km, n15, σ0°84/22, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**237**	P	**Pg**	**18 06 47.5**	**-0.3**
ONI				S	**Sg**	**18 06 48.9**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.32**	**14**	*i* Pg	**Pg**	**18 06 52.3**	**+0.2**
ZEI	**Tsey**	**0.36**	**60**	*i* Pg	**Pg**	**18 06 53.3**	**+0.4**
LACR	**Lac**	**0.65**	**69**	*i* Pg	**Pg**	**18 06 58.2**	**-0.1**
LSNR	**Lesken**	**0.73**	**20**	*i* Pg	**Pg**	**18 06 59.7**	**-0.1**
ARNR	**Ardon**	**0.84**	**44**	*e*Pg	**Pg**	**18 07 01.5**	**-0.5**
KMSR	**Komsomolskaya**	**0.98**	**37**	*e*Pn	**Pn**	**18 07 04.0**	**-1.3**
CHVG	**Ch'k'valeri**	**1.03**	**277**	P	**Pb**	**18 07 06.3**	**+0.8**
CHVG				S	**Sg**	**18 07 19.4**	**+0.4**
DUS	**Dusheti**	**1.04**	**118**	P	**Pb**	**18 07 05.8**	**+0.1**
DUS				S	**Sg**	**18 07 19.9**	**+0.7**
AKH	**Akhalkalaki**	**1.18**	**179**	P	**Pb**	**18 07 07.0**	**-1.1**
AKH				S	**Sb**	**18 07 23.3**	**-0.1**
TBLG	**Delisi**	**1.27**	**132**	S	**Sb**	**18 07 26.4**	**+0.4**
MTA	**Mtatsminda**	**1.33**	**132**	S	**Sb**	**18 07 26.9**	**-0.7**
SAMG	**Sameba**	**1.34**	**131**	P	**Pn**	**18 07 10.7**	**+0.4**
SAMG				S	**Sb**	**18 07 28.3**	**+0.4**
KZR	**Kazreti**	**1.40**	**150**	P	**Pn**	**18 07 02.1**	**-8.9**
KZR				S	**Sn**	**18 07 26.3**	**-3.1**
DGRG	**David-gareji**	**1.82**	**128**	P	**Pn**	**18 07 19.5**	**+2.7**
DGRG				S	**Sn**	**18 07 46.2**	**+6.4**

*NEIC **06** 18:39:54.2, 3263S×7165W, h28km±4km, ML3.4(GUC), After GUC.*
GUC 06 18:39:54.2±0.8, 3263S×7165W, h28km±4km, MD3.7, ML3.4, 15C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.20**	**63**	⇓*i*P	Pb	18 40 00.7	+0.6
PACH				*i* S	Sb	18 40 04.7	+0.5
IHA	**Instituto Hidr**	**0.40**	**179**	⇑*i*P	Pb	18 40 02.6	-0.3
IHA				*i* S	Sb	18 40 08.8	-0.1
ROCH	**El Roble**	**0.64**	**123**	⇑*i*P	Pb	18 40 06.7	-0.1
ROCH				*i* S	Sb	18 40 16.0	+0.6
LCCH	**Las Cruces**	**0.85**	**176**	⇑*i*P	Pn	18 40 09.4	-0.9
LCCH				*i* S	Sb	18 40 21.3	0.0
JACH	**Jahuel**	**0.89**	**94**	⇑*i*P	Pn	18 40 10.3	-0.5
JACH				*i* S	Sb	18 40 22.6	0.0
PEL	**Peldehue**	**0.96**	**123**	⇑*i*P	Pn	18 40 11.8	0.0
PEL				*i* S	Sn	18 40 24.8	+0.3
PEL				AMP		18 40 25.9	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**0.96**	**123**	⇑*i*P	Pn	18 40 11.8	0.0
PEL				*i* S	Sn	18 40 24.8	+0.3
ILCH	**Illapel**	**1.07**	**23**	*i* P	Pn	18 40 13.5	+0.2
ILCH				*i* S	Sn	18 40 28.0	+0.8
RCDM	**Rinconada Maip**	**1.11**	**141**	*i* P	Pn	18 40 14.0	+0.1
RCDM				*i* S	Sn	18 40 28.6	+0.3
RCDM				AMP		18 40 30.2	
	comp=E,1μm,0.1s						
RCDM	**Rinconada Maip**	**1.11**	**141**	*i* P	Pn	18 40 14.0	+0.1
RCDM				*i* S	Sn	18 40 28.6	+0.3
SAN	**Santiago**	**1.17**	**135**	*i* P	Pn	18 40 14.6	-0.1
SAN				*i* S	Sn	18 40 30.6	+1.0
SAN				AMP		18 40 31.4	
	comp=N,1μm,0.2s						
SAN	**Santiago**	**1.17**	**135**	*i* P	Pn	18 40 14.6	-0.1
SAN				*i* S	Sn	18 40 30.6	+1.0
TACH	**Talagante**	**1.19**	**150**	⇑*i*P	Pn	18 40 15.2	+0.3
TACH				*i* S	Sn	18 40 30.1	0.0
FSR	**Penalolen**	**1.27**	**132**	*i* S	Sn	18 40 33.3	+1.2
FSR				AMP		18 40 34.0	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**1.27**	**138**	⇑*i*P	Pn	18 40 16.6	+0.5
ANTU				*i* S	Sn	18 40 33.5	+1.3
ANTU				AMP		18 40 34.0	
	comp=E,773nm,0.6s						
ANTU	**Antumapu**	**1.27**	**138**	⇑*i*P	Pn	18 40 16.6	+0.5
ANTU				*i* S	Sn	18 40 33.5	+1.3
FCH	**Farellones**	**1.34**	**122**	⇓*i*P	Pn	18 40 17.4	+0.4
FCH				*i* S	Sn	18 40 35.1	+1.2
FCH				AMP		18 40 36.2	
	comp=E,711nm,0.3s						
LNV	**Longovilo**	**1.34**	**172**	*e*P	Pn	18 40 17.0	0.0
LNV				*i* S	Sn	18 40 34.9	+1.0
PCH	**Pirque**	**1.38**	**136**	⇓*i*P	Pn	18 40 17.8	+0.3
PCH				*i* S	Sn	18 40 36.2	+1.5
CHCH	**Chadas Angostu**	**1.55**	**148**	*e*P	Pn	18 40 21.1	+1.2
CHCH				*i* S	Sn	18 40 40.8	+1.8
CMCH	**Combarbala**	**1.55**	**21**	⇑*i*P	Pn	18 40 20.3	+0.4
CMCH				*i* S	Sn	18 40 40.9	+1.8
CMCH				AMP		18 40 45.1	
	comp=N,3μm,0.4s						
CMCH	**Combarbala**	**1.55**	**21**	⇑*i*P	Pn	18 40 20.3	+0.4
CMCH				*i* S	Sn	18 40 40.9	+1.8
LMEL	**Las Melosas**	**1.72**	**136**	⇑*i*P	Pn	18 40 23.5	+1.3
LMEL				*i* S	Sn	18 40 45.9	+2.7
LMEL				AMP		18 40 52.9	
	comp=N,544nm,0.2s						
LMEL	**Las Melosas**	**1.72**	**136**	⇑*i*P	Pn	18 40 23.5	+1.3
LMEL				*i* S	Sn	18 40 45.9	+2.7
CACH	**El Canelo**	**1.73**	**150**	⇑*i*P	Pn	18 40 24.1	+1.8
CICH	**Cipreses**	**1.98**	**149**	⇑*i*P	Pn	18 40 27.4	+1.6

*LDG **06** 18:49:41.4±0.3, 2024S×16967E, h10km, Mb4.6/1, Error ellipse: s-maj=48.4km s-min=32.9km az=42.0*
*NEIC **06** 18:49:47.0±0.4, 2095S×16997E, mb4.8/7, Error ellipse: s-maj=13.5km s-min=10.1km az=167.0*
*IDC **06** 18:49:48.8±2.8, 2103S×16982E, h82km±22km, mb4.4/8, mb1 4.5/10, mb1mx4.4/17, mbtmp4.7/10, MS3.7/7, Ms1 3.7/7, ms1mx3.4/25, Error ellipse: s-maj=30.9km s-min=19.3km az=163.0*
*ISCJB **06** 18:49:49.1±2.0, 2121S±01×16979E±0.10, h96km±16km, mb4.6/16, Error ellipse: s-maj=19.0km s-min=14.5km az=40.4*
ISC 06 18:49:49.7±2.0, 2115S±01×16987E±009, h88km±16km, n69, σ0°85/34, mb4.6/16, 5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.34**	**252**	P	**Pn**	**18 50 40.1**	**+0.4**
	90nm,0.3s,baz=59,slow=2.9,SNR=1395						
DZM				S	**Sn**	**18 51 15.9**	**-2.4**
	150nm,0.3s,baz=178,slow=22,SNR=9.4						
DZM	**Mont Dzumac**	**3.34**	**252**	*e*P	**Pn**	**18 50 40.2**	**+0.5**
DZM				*e*S	**Sn**	**18 51 17.2**	**-1.2**
RAO	**Raoul Island**	**13.73**	**129**	LR	LR	18 56 44.1	
	comp=Z,187nm,20.8s,baz=114,slow=30						
HNR	**Honiara**	**15.01**	**319**	LR	LR	18 58 35.1	
	comp=Z,100nm,18.3s,baz=181,slow=35						
URZ	**Urewera**	**18.24**	**162**	P	**Pn**	**18 53 57.0**	**+0.2**
	0.5nm,0.3s,baz=337,slow=12,SNR=5.6						
ARMA	**Armidale**	**18.86**	**237**	*e*P	**Pn**	**18 54 06.7**	**+2.4**
AFI	**Afiamalu**	**18.89**	**71**	LR	LR	19 00 01.0	
	comp=Z,193nm,18.4s,baz=238,slow=32						
CTA	**Charters Tower**	**22.13**	**268**	*e*P	**P**	**18 54 39.3**	**+1.3**
	10nm,0.9s,mb4.2						
CTA	**Charters Tower**	**22.13**	**268**	P	**P**	**18 54 39.1**	**+1.2**
	12nm,0.8s,mb4.3,baz=102,slow=13,SNR=14						
CTA				LR	LR	19 02 23.0	
	comp=Z,146nm,20.4s,baz=54,slow=34						
CTAO	**Charters Tower**	**22.13**	**268**	*e*P	**P**	**18 54 39.3**	**+1.3**
	22nm,1.0s,mb4.5						
CTAO				*e*pP		18 54 55.2	
PMG	**Port Moresby**	**24.75**	**295**	P	**P**	**18 55 03.3**	**+0.3**
	24nm,0.8s,mb4.7,baz=109,slow=8.3,SNR=9.6						
STKA	**Stephens Creek**	**27.43**	**241**	⇑*i*P	**P**	**18 55 26.5**	**-0.6**
	10.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**27.43**	**241**	P	**P**	**18 55 26.6**	**-0.4**
	12nm,0.8s,mb4.5,baz=66,slow=10.0,SNR=13						
STKA				LR	LR	19 06 12.6	
	comp=Z,140nm,20.8s,baz=29,slow=36						
STKA	**Stephens Creek**	**27.43**	**241**	*e*P	**P**	**18 55 26.5**	**-0.6**
STKA				LR	LR	19 06 12.6	
WB2	**Warramunga Arr**	**33.24**	**266**	*e*P	**P**	**18 56 17.9**	**-0.5**
WRAB	**Tennant Creek**	**33.25**	**266**	*e*P	**P**	**18 56 17.6**	**-0.9**
	32nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**33.26**	**266**	P	**P**	**18 56 18.1**	**-0.4**
	9.1nm,0.8s,mb4.6,baz=94,slow=9.5,SNR=37						
WRA				S	**S**	**19 01 36.6**	**+4.4**
	0.4nm,0.9s,baz=100,slow=14,SNR=5.0						
WRA				ScP	ScP	19 02 35.4	0.0
	1.3nm,0.9s,baz=89,slow=3.3,SNR=6.6						
ASAR	**Alice Springs**	**33.31**	**259**	P	**P**	**18 56 19.4**	**+0.5**
	41nm,0.8s,mb5.3,baz=93,slow=9.3,SNR=610						
ASPA	**Alice Springs**	**33.31**	**259**	⇑*i*P	**P**	**18 56 19.3**	**+0.3**
TBI	**Tubuai**	**37.64**	**101**	*e*LR	LR	19 06 57.6	
	29nm,30.2s						
PPT	**Papeete**	**38.36**	**92**	*e*LR	LR	19 07 15.8	
	352nm,29.8s						
PPT	**Papeete**	**38.36**	**92**	LR	LR	19 08 16.3	
	comp=Z,6.0nm,19.7s,baz=257,slow=29						
FITZ	**Fitzroy Crossi**	**41.68**	**266**	⇑*i*P	**P**	**18 57 30.2**	**+0.6**
	24nm,0.8s,mb5.0						
FITZ				*e*	pP	18 57 48.8	-1.5
MBWA	**Marble Bar**	**46.61**	**260**	*e*P	**P**	**18 58 09.6**	**+0.6**
MBWA				*e*pP	pP	18 58 26.6	-3.4
KLBR	**Kellerberrin**	**47.49**	**246**	*e*P	**P**	**18 58 15.7**	**-0.1**
	33nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.93**	**244**	*e*P	**P**	**18 58 19.4**	**+0.3**
	24nm,1.0s,mb5.0						
RKT	**Rikitea**	**50.89**	**103**	*e*LR	LR	19 13 04.6	
	85nm,36.5s						
QSPA	**South Pole Qui**	**68.99**	**180**	*e*P	**P**	**19 00 45.6**	**0.0**
	14nm,1.0s,mb4.7						
ENH	**Enshi**	**77.29**	**310**	*e*P	**P**	**19 01 34.7**	**+0.2**
	9.2nm,1.2s,mb4.4						
BJT	**Baijiatuan**	**78.72**	**321**	P	**P**	**19 01 42.3**	**-0.1**
VNA3	**Neumayer Olymp**	**87.93**	**180**	⇑*i*	**P**	**19 02 28.6**	**-1.1**
YBH	**Yreka Blue Hor**	**88.20**	**44**	LR	LR	19 31 42.0	
	comp=Z,94nm,20.7s,baz=124,slow=28						
VNA2	**Neumayer--Watz**	**88.23**	**181**	⇑*i*	**P**	**19 02 30.5**	**-0.6**
	baz=184,slow=3.4						
SONM	**Songino Array**	**89.03**	**323**	P	**P**	**19 02 34.3**	**-0.6**
	1.7nm,0.9s,mb4.1,baz=128,slow=5.0,SNR=8.0						
NVAR	**Mina Array Bea**	**89.57**	**48**	P	**P**	**19 02 37.9**	**+0.6**
	2.1nm,0.6s,mb4.4,baz=229,slow=8.6,SNR=16						
NVAR	**Mina Array Bea**	**89.57**	**48**	P	**P**	**19 02 37.9**	**+0.6**
MNV	**Mina**	**89.67**	**48**	*e*P	**P**	**19 02 38.3**	**+0.4**
	7.1nm,1.0s,mb4.8						
WVOR	**Wild Horse Val**	**91.19**	**45**	*e*P	**P**	**19 02 45.4**	**+0.5**
	2.6nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**91.80**	**17**	P	**P**	**19 02 45.2**	**-2.5**
	0.6nm,0.5s,mb4.1,baz=239,slow=5.2,SNR=10						
ELK	**Elko**	**92.72**	**47**	LR	LR	19 37 31.1	
	comp=Z,133nm,20.6s,baz=45,slow=31						
YKA	**Yellowknife Ar**	**102.02**	**27**	P	Pdif	19 03 33.3	-0.6
	0.3nm,0.7s,baz=250,slow=5.2,SNR=4.8						
YKA	**Yellowknife Ar**	**102.02**	**27**	P	Pdif	19 03 33.3	-0.6
ARCES	**ARCESS Array B**	**126.98**	**345**	PKP	PKPdf	19 08 41.0	-2.4
	1.6nm,0.7s,baz=0.0,slow=0.0,SNR=6.6						
AKASG	**Malin Array Be**	**137.31**	**324**	SKPbc	SKPbc	19 12 26.2	-2.1
	1.6nm,0.9s,baz=56,slow=3.4,SNR=5.1						
BRG	**Berggiesshubel**	**144.77**	**333**	*e*P	PKPdf	19 09 14.9	-1.3
	8.2nm,1.4s						
CLL	**Collm**	**144.82**	**335**	*e*P	PKPdf	19 09 14.0	-2.4
KHC	**Kasperske Hory**	**146.22**	**332**	*e*PKP	PKPdf	19 09 20.0	+1.3
GERES	**GERESS Array B**	**146.38**	**331**	PKPbc	PKPbc	19 09 19.6	-0.8
	3.1nm,0.6s,baz=22,slow=2.8,SNR=20						
GRA1	**Grafenberg Arr**	**146.79**	**334**	*e*PKP	PKPdf	19 09 22.0	+2.3
GRF	**Grafenberg Arr**	**146.79**	**334**	*e*PKP	PKPdf	19 09 22.0	+2.3
CDF	**Champ du Feu**	**149.35**	**337**	*e*PKP1	PKPbc	19 09 28.4	0.0
	12nm,1.1s						
HINF	**Hinteralfeld**	**150.00**	**337**	*e*PKP1	PKPbc	19 09 30.0	0.0
HAU	**Haudompre**	**150.03**	**338**	*e*PKP1	PKPbc	19 09 31.1	+1.1
	9.8nm,0.7s						
MEZF	**Maizieres J'vi**	**150.04**	**340**	*e*PKP1	PKPbc	19 09 30.5	+0.4
CABF	**La Chapelle**	**151.30**	**336**	*e*PKP1	PKPbc	19 09 33.7	+0.7
	8.2nm,0.6s						
FLN	**La Foliniere**	**151.31**	**347**	*e*PKP1	PKPbc	19 09 32.8	-0.2
	27nm,1.1s						
LDF	**La Druitiere**	**151.39**	**346**	*e*PKP1	PKPbc	19 09 32.9	-0.3
	27nm,1.3s						
LOR	**Lormes**	**151.51**	**340**	*e*PKP1	PKPbc	19 09 33.6	+0.1
GRR	**Gorron**	**151.75**	**347**	*e*PKP1	PKPbc	19 09 34.0	0.0
	12nm,0.8s						
SSF	**Saint Saulge**	**151.81**	**340**	*e*PKP1	PKPbc	19 09 34.4	+0.2
	16nm,1.1s						
LPL	**La Plagne**	**151.96**	**334**	*e*PKP1	PKPbc	19 09 35.1	+0.6
LPG	**La Plagne**	**151.96**	**334**	*e*PKP1	PKPbc	19 09 35.3	+0.8
	8.2nm,0.7s						
SGMF	**Saint Gilles**	**152.20**	**349**	*e*PKP1	PKPbc	19 09 34.7	-0.4
	13nm,0.9s						
ROSF	**Rostrenen**	**152.24**	**350**	*e*PKP1	PKPbc	19 09 34.2	-1.0
	55nm,1.5s						
BGF	**Bois d'Agland**	**152.46**	**340**	*e*PKP1	PKPbc	19 09 35.7	0.0
	12nm,0.9s						
ORIF	**Oris-en-Rattie**	**152.79**	**335**	*e*PKP1	PKPbc	19 09 36.6	+0.2
TCF	**Toulx Ste Croi**	**152.90**	**341**	*e*PKP1	PKPbc	19 09 36.6	0.0
PGF	**Pioggiola**	**153.23**	**327**	*e*PKP1	PKPbc	19 09 37.6	+0.2
	15nm,0.7s						
MFF	**Saint Martin d**	**153.26**	**345**	*e*PKP1	PKPbc	19 09 37.3	-0.1
	12nm,1.1s						

*SZGRF **06** 18:50:43.2, 959S×3104E, h30km, mb5.0, Lake Tanganyika region*
*NEIC **06** 18:50:44.4±0.3, 988S×2856E, h10km, mb4.9/52, Error ellipse: s-maj=11.1km s-min=6.9km az=103.0*
*BJI **06** 18:50:44.4, 990S×2860E, h12km, mB5.0, mb4.9*
*IDC **06** 18:50:46.3±0.5, 992S×2866E, h26km±2km, mb4.1/13, mb1 4.2/18, mb1mx4.1/25, mbtmp4.2/18, ML4.2/5, MS3.9/10, Ms1 3.9/10, ms1mx3.6/23, Error ellipse: s-maj=15.0km s-min=12.3km az=61.0*
*MOS **06** 18:50:46.1±1.4, 989S×2861E, h33km, mb4.9/6, Error ellipse: s-maj=22.9km s-min=8.9km az=75.8*
*ISCJB **06** 18:50:47.6±0.3, 1034S±004×2914E±007, h26km, mb4.8/68, MS3.9/5, Error ellipse: s-maj=9.9km s-min=5.3km az=179.0*
ISC 06 18:50:50.4±0.3, 1034S±004×2915E±007, h27km, h27km±.4km: pP-P, n143, σ0°82/138, mb4.8/68, MS3.9/5, 2D, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**5.00**	**191**	Pn	**Pn**	**18 52 05.4**	**+1.9**
	4.4nm,0.3s,baz=2.2,slow=11,SNR=36						
LSZ				Sn	**Sn**	**18 53 09.9**	**+9.5**
	41nm,0.3s,baz=96,slow=18,SNR=7.1						
LSZ				Lg		18 53 34.3	
	57nm,0.3s,baz=290,slow=24,SNR=7.8						
LSZ				LR	LR	18 54 32.8	
	comp=Z,1μm,19.4s,baz=0.6,slow=42						
LSZ	**Lusaka**	**5.00**	**191**	*e*P	**Pn**	**18 52 06.9**	**+3.4**
LSZ				pmax	pmax		
	comp=Z,91nm,0.4s						
LSZ	**Lusaka**	**5.00**	**191**	*e*P	**Pn**	**18 52 06.9**	**+3.3**
	comp=Z,91nm,0.4s						
KMBO	**Kilima Mbogo**	**12.19**	**42**	Pn	**Pn**	**18 53 36.8**	**-5.4**
	comp=Z,0.8nm,0.3s,baz=222,slow=18,SNR=14						
KMBO				Sn	**Sn**	**18 55 46.4**	**-11**
	comp=Z,3.8nm,0.3s,baz=240,slow=19,SNR=4.2						
KMBO				Lg		18 57 02.4	
	comp=Z,2.0nm,0.3s,baz=174,slow=18,SNR=4.3						
KMBO				LR	LR	18 58 49.6	
	comp=Z,338nm,21.6s,baz=271,slow=40						
KMBO	**Kilima Mbogo**	**12.19**	**42**	*e*P	**Pn**	**18 53 38.4**	**-3.7**
KMBO				*e*		18 55 49.6	
KMBO				pmax	pmax		
	comp=Z,13nm,0.7s						
KMBO	**Kilima Mbogo**	**12.19**	**42**	*e*P	**Pn**	**18 53 38.4**	**-3.7**
	comp=Z,13nm,0.7s						
KMBO				*e*Sn	**Sn**	**18 55 49.6**	**-7.5**
TSUM	**Tsumeb**	**14.23**	**230**	Pn	**Pn**	**18 54 01.9**	**-8.1**
	comp=Z,4.2nm,0.3s,baz=41,slow=14,SNR=23						
TSUM				Sn	Sn	18 56 26.5	-20
	comp=Z,5.0nm,0.3s,baz=263,slow=12,SNR=4.0						
TSUM				Lg		18 58 04.6	
	comp=Z,4.0nm,0.3s,baz=320,slow=23,SNR=2.1						
TSUM				LR	LR	19 00 03.5	
	comp=Z,795nm,19.9s,baz=33,slow=39						
TSUM	**Tsumeb**	**14.23**	**230**	*e*P	**Pn**	**18 54 02.4**	**-7.7**
	comp=Z,44nm,0.8s						
LBTB	**Lobatse**	**14.98**	**193**	Pn	**Pn**	**18 54 18.9**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=28,slow=14,SNR=19						
LBTB				Sn	**Sn**	**18 57 05.3**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=284,slow=17,SNR=2.4						
LBTB				Lg		18 58 43.8	
	comp=Z,0.7nm,0.3s,baz=305,slow=17,SNR=5.4						
LBTB				LR	LR	19 00 29.2	
	comp=Z,733nm,18.9s,baz=25,slow=38						
LBTB	**Lobatse**	**14.98**	**193**	*e*P	**Pn**	**18 54 19.1**	**-1.1**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LBTB	**Lobatse**	**14.98**

EGRA Graus 58.59 335 P **P 19 00 44.9 +0.2**
comp=Z,6.9nm,0.6s,mb4.9

EGRO El Granado 58.70 326 P **P 19 00 45.0 -0.5**
comp=Z,7.2nm,0.7s,mb4.8

LASF Ste Croix 58.83 339 *eP* **P 19 00 46.8 +0.4**
comp=Z,30nm,1.1s,mb5.0

ORIF Oris-en-Rattie 58.89 341 *eP* **P 19 00 47.1 +0.3**
comp=Z,62nm,1.6s,mb5.1

ORIF Oris-en-Rattie 58.89 341 *eP* **P 19 00 47.1 +0.3**
comp=Z,31nm,1.6s,mb5.1

EBIE Bielsa 59.07 335 P **P 19 00 48.5 +0.5**
comp=Z,7.2nm,0.7s,mb4.8

LPG La Plagne 59.13 342 *eP* **P 19 00 48.6 +0.1**
comp=Z,34nm,1.1s,mb5.0

LPG La Plagne 59.13 342 *eP* **P 19 00 48.6 +0.1**
comp=Z,17nm,1.1s,mb5.0

LPL La Plagne 59.15 342 *eP* **P 19 00 48.6 0.0**
comp=Z,17nm,0.9s,mb4.6

LPL La Plagne 59.15 342 *eP* **P 19 00 48.6 0.0**
comp=Z,8.3nm,0.9s,mb4.8

VIVF Saint-Julien-I 59.23 340 *eP* **P 19 00 50.4 +1.2**
comp=Z,8.4nm,0.7s,mb4.6

VIVF Saint-Julien-I 59.23 340 *eP* **P 19 00 50.4 +1.2**
comp=Z,4.2nm,0.7s,mb4.6

EPF Esparros 59.27 336 *eP* **P 19 00 49.9 +0.5**
comp=Z,19nm,0.8s,mb4.9

EPF Esparros 59.27 336 *eP* **P 19 00 49.9 +0.5**
comp=Z,9.6nm,0.8s,mb4.9

GUD Guadarrama 59.33 331 P **P 19 00 49.7 -0.2**
comp=Z,5.0nm,0.6s,mb4.7

EBAD Badajoz 59.34 328 P **P 19 00 49.3 -0.6**
comp=Z,3.5nm,0.7s,mb4.5

ETSF Etsaut 59.53 335 *eP* **P 19 00 51.1 -0.1**
comp=Z,33nm,1.1s,mb5.0

ETSF Etsaut 59.53 335 *eP* **P 19 00 51.1 -0.1**
comp=Z,17nm,1.1s,mb5.0

DAVA Damuels 59.88 345 ⇓*iP* **P 19 00 46.3 -7.4**
comp=Z,9.1nm,0.8s,mb4.8

DAVA Damuels 59.88 345 ⇓P **P 19 00 46.2 -7.4**
comp=Z,9.1nm,0.8s,mb4.9

SJPF Ste Jean 59.99 335 *eP* **P 19 00 54.5 +0.1**
comp=Z,32nm,1.0s,mb5.0

SJPF Ste Jean 59.99 335 *eP* **P 19 00 54.5 +0.1**
comp=Z,16nm,1.0s,mb5.0

ELIZ Elizondo 60.16 335 P **P 19 00 56.5 +1.0**
comp=Z,4.3nm,0.6s,mb4.7

CAF Calviac 60.21 338 *eP* **P 19 00 56.2 +0.3**
comp=Z,12nm,0.9s,mb4.7

CAF Calviac 60.21 338 *eP* **P 19 00 56.2 +0.3**
comp=Z,6.3nm,0.9s,mb4.7

CABF La Chapelle 60.33 342 *eP* **P 19 00 57.1 +0.4**
comp=Z,40nm,1.1s,mb5.1

CABF La Chapelle 60.33 342 *eP* **P 19 00 57.1 +0.4**
comp=Z,20nm,1.1s,mb5.1

GERES GERESS Array B 60.48 348 P **P 19 00 50.2 -7.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=162,slow=8.4,SNR=9.7

GERES pP pP 19 00 59.0 -7.3
comp=Z,2.3nm,0.8s,baz=169,slow=6.8,SNR=10.0

LFF La Frestale 60.72 337 *eP* **P 19 00 59.5 +0.1**
comp=Z,36nm,0.8s,mb5.3

LFF La Frestale 60.72 337 *eP* **P 19 00 59.5 +0.1**
comp=Z,18nm,0.8s,mb5.2

RJF Les Rejaudoux 60.73 338 *eP* **P 19 00 59.7 +0.2**
comp=Z,29nm,1.1s,mb5.1

RJF Les Rejaudoux 60.73 338 *eP* **P 19 00 59.7 +0.2**
comp=Z,15nm,1.1s,mb5.0

KHC Kasperske Hory 60.78 348 *eP* **P 19 00 53.0 -6.8**
KHC x x 19 01 00.0

KHC Kasperske Hory 60.78 348 *eP* **P 19 00 53.0 -6.8**
KHC *e* pP 19 01 00.0 -8.3

AKASG Malin Array Be 60.78 0 P **P 19 00 52.2 -7.6**
comp=Z,4.4nm,0.7s,mb4.7,baz=186,slow=6.7,SNR=27

AKASG pP pP 19 01 00.6 -7.7
comp=Z,10nm,0.7s,baz=183,slow=6.7,SNR=28

AKASG Malin Array Be 60.78 0 P **P 19 00 52.2 -7.6**

AKASG pP pP 19 01 00.6 -7.7

SMF Signal de Mont 61.08 340 *eP* **P 19 01 01.8 0.0**
comp=Z,15nm,0.8s,mb4.9

SMF Signal de Mont 61.08 340 *eP* **P 19 01 01.8 0.0**
comp=Z,7.5nm,0.8s,mb4.9

HINF Hinteralfeld 61.19 343 *eP* **P 19 01 02.7 +0.1**
comp=Z,8.2nm,0.8s,mb4.6

HINF Hinteralfeld 61.19 343 *eP* **P 19 01 02.7 +0.1**
comp=Z,4.1nm,0.8s,mb4.6

TCF Toulx Ste Croi 61.33 339 *eP* **P 19 01 04.1 +0.6**
comp=Z,33nm,1.1s,mb5.1

TCF Toulx Ste Croi 61.33 339 *eP* **P 19 01 04.1 +0.6**
comp=Z,17nm,1.1s,mb5.1

BGF Bois d'Agland 61.34 340 *eP* **P 19 01 03.9 +0.3**

AVF Avril sur Loir 61.37 340 *eP* **P 19 01 03.9 +0.1**
comp=Z,31nm,1.2s,mb5.0

AVF Avril sur Loir 61.37 340 *eP* **P 19 01 03.9 +0.1**
comp=Z,16nm,1.2s,mb5.0

HAU Haudompre 61.51 343 *eP* **P 19 01 06.2 +1.5**
comp=Z,8.6nm,0.8s,mb4.6

HAU Haudompre 61.51 343 *eP* **P 19 01 06.2 +1.5**
comp=Z,4.3nm,0.8s,mb4.6

SSF Saint Saulge 61.55 340 *eP* **P 19 01 04.8 -0.2**
comp=Z,6.9nm,0.7s,mb4.6

SSF Saint Saulge 61.55 340 *eP* **P 19 01 04.8 -0.2**
comp=Z,3.5nm,0.7s,mb4.6

CDF Champ du Feu 61.61 344 *eP* **P 19 01 05.5 +0.1**
comp=Z,12nm,0.8s,mb4.8

CDF Champ du Feu 61.61 344 *eP* **P 19 01 05.5 +0.1**
comp=Z,6.1nm,0.8s,mb4.8

LOR Lormes 61.62 341 *eP* **P 19 01 05.3 -0.2**
comp=Z,11nm,0.8s,mb4.8

LOR Lormes 61.62 341 *eP* **P 19 01 05.3 -0.2**
comp=Z,5.7nm,0.8s,mb4.8

GRA1 Grafenberg Arr 61.81 347 *eP* **P 19 00 59.5 -7.3**
comp=Z,13nm,1.3s,mb4.9

GRA1 *e*pP pP 19 01 07.7 -7.6

GRF Grafenberg Arr 61.81 347 *eP* **P 19 00 59.5 -7.3**
comp=Z,13nm,1.3s,mb4.9

GRF *e*pP pP 19 01 07.7 -7.6

GRF Grafenberg Arr 61.81 347 *eP* **P 19 00 59.5 -7.3**

GRF *e**PP pP 19 01 07.7 -7.6
GRF pmax pmax
comp=Z,13nm,1.3s,mb4.9

GRF Grafenberg Arr 61.81 347 *eP* **P 19 00 59.5 -7.3**

GRF *e**PP pP 19 01 07.7 -7.6
GRF pmax pmax
comp=Z,13nm,1.3s,mb4.9

MEZF Maizieres J'vi 62.34 342 *eP* **P 19 01 11.1 +0.8**

MFF Saint Martin d 62.45 338 *eP* **P 19 01 11.2 +0.1**
comp=Z,27nm,0.9s,mb5.1

MFF Saint Martin d 62.45 338 *eP* **P 19 01 11.2 +0.1**
comp=Z,14nm,0.9s,mb5.1

BAIF Baives 63.98 342 *eP* **P 19 01 21.5 +0.3**
comp=Z,17nm,1.0s,mb4.7

BAIF Baives 63.98 342 *eP* **P 19 01 21.5 +0.3**
comp=Z,8.4nm,1.0s,mb4.7

LDF La Druitiere 64.12 339 *eP* **P 19 01 21.8 -0.3**
comp=Z,7.6nm,0.7s,mb4.5

LDF La Druitiere 64.12 339 *eP* **P 19 01 21.8 -0.3**
comp=Z,3.8nm,0.7s,mb4.5

FLN La Foliniere 64.39 339 *eP* **P 19 01 23.5 -0.4**

QUIF Quistinic 64.69 337 *eP* **P 19 01 25.9 0.0**
comp=Z,15nm,0.8s,mb4.8

QUIF Quistinic 64.69 337 *eP* **P 19 01 25.9 0.0**
comp=Z,7.7nm,0.8s,mb4.8

SGMF Saint Gilles 64.73 337 *eP* **P 19 01 25.8 -0.3**
comp=Z,12nm,0.9s,mb4.6

SGMF Saint Gilles 64.73 337 *eP* **P 19 01 25.8 -0.3**
comp=Z,5.8nm,0.9s,mb4.6

KOLN Koldanda 64.89 53 *eP* **P 19 01 26.4 -0.8**
comp=Z,38nm,1.1s,mb5.3

OBN Obninsk 65.50 5 *eP* **P 19 01 24.8 -6.3**
OBN *e* pP 19 01 33.0 -6.7
OBN pmax pmax
comp=Z,17nm,1.4s,mb4.9

GKN Gorkha 65.81 53 *eP* **P 19 01 32.3 -0.8**
comp=Z,52nm,1.2s,mb5.4

DMN Daman 66.00 54 *eP* **P 19 01 33.9 -0.4**
comp=Z,23nm,1.0s,mb5.2

KKN Kakani 66.22 53 *eP* **P 19 01 35.1 -0.7**
comp=Z,16nm,0.7s,mb5.2

KKN Kakani 66.22 53 *eP* **P 19 01 35.1 -0.7**
KKN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9

PKI Pulchoki 66.23 54 *eP* **P 19 01 34.9 -0.9**
comp=Z,10.0nm,0.8s,mb4.9

PKI Pulchoki 66.23 54 *eP* **P 19 01 34.9 -0.9**
PKI pmax pmax
comp=Z,5.0nm,0.8s,mb4.6

GUN Gumba 66.75 54 *eP* **P 19 01 38.9 -0.2**
comp=Z,33nm,0.7s,mb5.5

JIRN Jiri 66.89 54 *eP* **P 19 01 39.6 -0.4**
comp=Z,26nm,0.7s,mb5.4

ARU Arti 70.86 17 *eP* **P 19 01 59.9 -4.8**

FINES FINESS Array B 71.59 358 P **P 19 02 03.0 -6.1**
comp=Z,4.4nm,1.2s,mb4.3,baz=144,slow=12,SNR=3.4

FINES pP pP 19 02 10.8 -7.0
comp=Z,3.4nm,0.7s,baz=153,slow=4.3,SNR=5.0

LSA Lhasa 71.69 54 P **P 19 02 11.3 +1.5**

LSA Lhasa 71.69 54 *eP* **P 19 02 10.4 +0.6**

LSA *e* pP 19 02 18.5 +0.1
LSA pmax pmax
comp=Z,12nm,1.1s,mb4.7

LSA Lhasa 71.69 54 *eP* **P 19 02 10.4 +0.6**
comp=Z,12nm,1.1s,mb4.8

LSA *e* pP 19 02 18.5 +0.1

BVAR Borovoye Array 72.25 25 P **P 19 02 08.5 -4.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=225,slow=6.1,SNR=2.5

KAF Kangasniemi 72.26 359 *ep* **P 19 02 13.7 +0.6**
comp=Z,4.6nm,0.6s,mb4.6,baz=175,slow=5.8

KAF Kangasniemi 72.26 359 *eP* **P 19 02 13.7 +0.6**

KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6

MKAR Makanchi Array 73.98 35 P **P 19 02 20.4 -2.9**
comp=Z,2.1nm,0.8s,mb4.1,baz=235,slow=5.3,SNR=26

MKAR pP pP 19 02 28.7 -3.3
comp=Z,3.3nm,0.8s,baz=238,slow=5.4,SNR=18

MKAR LR LR 19 35 09.3
comp=Z,80nm,21.4s,MS4.0,baz=111,slow=36

MKAR Makanchi Array 73.98 35 P **P 19 02 20.4 -2.9**

MKAR *PP pP 19 02 28.7 -3.3

MKAR Makanchi Array 73.98 35 P **P 19 02 20.4 -2.9**

MKAR pP pP 19 02 28.7 -3.3
MKAR LR LR 19 35 09.3

BDFB Brasilia 75.03 257 P **P 19 02 25.0 -4.4**
comp=Z,1.2nm,0.4s,mb4.2,baz=48,slow=4.4,SNR=2.4

BDFB pP pP 19 02 32.8 -5.3
comp=Z,5.6nm,0.7s,baz=86,slow=6.1,SNR=5.0

NVS Novosibirsk 79.14 28 *iP* **P 19 02 49.1 -3.4**

ZAL Zalesovo 79.37 30 P **P 19 02 48.9 -4.8**
comp=Z,0.5nm,0.3s,mb3.9,baz=173,slow=6.2,SNR=3.6

ARCES ARCESS Array B 79.72 359 P **P 19 02 49.4 -6.3**
comp=Z,6.7nm,0.9s,mb4.6,baz=153,slow=2.7,SNR=6.3

GTA Gaotai 81.97 48 P **P 19 03 07.9 +0.2**

GTA AP pP 19 03 16.1 -0.4
GTA XP sP 19 03 19.6 -0.1

CD2 Chengdu 82.33 57 *eP* **P 19 03 11.0 +1.4**

CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8

CD2 AMB AMB
comp=Z,60nm,9.2s

NWAO Narrogin (SRO) 82.87 122 LR LR 19 35 59.2
comp=Z,95nm,18.4s,MS4.2,baz=59,slow=32

LZH Lanzhou 83.92 52 *eP* **P 19 03 18.6 +0.8**

LZH AP pP 19 03 26.6 0.0
LZH XP sP 19 03 30.0 +0.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.3

LZH AMB AMB
comp=Z,120nm,4.2s

ENH Enshi 86.93 59 P **P 19 03 33.0 +0.2**
comp=Z,148nm,1.2s

LPAZ La Paz 94.02 253 LR LR 19 47 17.8
comp=Z,59nm,19.1s,MS4.1,baz=203,slow=36

YKA Yellowknife Ar 121.76 341 PKP PKPdf 19 09 36.3 -5.4
comp=Z,0.5nm,0.7s,baz=44,slow=2.2,SNR=9.5

YKA pPKP pPKPdf 19 09 44.8 -6.1
comp=Z,0.6nm,0.5s,baz=33,slow=1.7,SNR=10.0

YKA Yellowknife Ar 121.76 341 PKP PKPdf 19 09 36.4 -5.4

YKA pPKP pPKPdf 19 09 44.8 -6.1

ILAR Eielson Array 125.58 358 PKP PKPdf 19 09 44.0 -5.1
comp=Z,0.7nm,0.8s,baz=330,slow=3.4,SNR=4.5

ILAR pPKP pPKPdf 19 09 52.5 -5.7
comp=Z,0.6nm,0.7s,baz=334,slow=2.7,SNR=3.9

TXAR Lajitas Array 132.14 300 PKP PKPdf 19 09 58.3 -3.3
comp=Z,2.9nm,1.2s,baz=90,slow=1.3,SNR=7.3

TXAR pPKP pPKPdf 19 10 07.2 -3.5
comp=Z,1.9nm,0.9s,baz=122,slow=2.7,SNR=6.8

ANMO Albuquerque 132.79 308 PKP PKPdf 19 09 59.4 -3.3
comp=Z,0.8nm,0.5s,baz=82,slow=7.9,SNR=3.1

ANMO Albuquerque 132.79 308 PKP PKPdf 19 09 59.4 -3.3

NVAR Mina Array Bea 139.63 319 PKP PKPdf 19 10 12.3 -3.1
comp=Z,1.2nm,0.9s,baz=227,slow=0.2,SNR=6.1

GUC 06 19:05:58.0±0.9, 2261S×6859W, h105km±9km, ML3.6, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.46**	**129**	⇓*iP*	Pn	19 06 15.0	+1.0
SPCH				*i* S	Sn	19 06 27.8	+1.7
SPCH				AMP		19 06 28.9	
	comp=N,2μm,0.4s						
CEN1	**Los Morros**	**1.68**	**242**	*i* P	Pn	19 06 30.2	+3.6
CEN1				*i* S	Sn	19 06 54.0	+5.5
CEN1				AMP		19 06 59.2	
	comp=N,335nm,0.6s						
ANCH	**Antofagasta**	**1.99**	**237**	⇑*iP*	Pn	19 06 30.1	-0.5
ANCH				*i* S	Sn	19 06 55.9	+0.5
ANCH				AMP		19 07 00.7	
	comp=E,713nm,0.4s						
CPN1	**Cerro Paranal**	**2.60**	**219**	*eP*	Pn	19 06 40.1	+1.5
CPN1				*i* S	Sn	19 07 12.7	+2.8
CPN1				AMP		19 07 19.4	
	comp=E,538nm,0.3s						

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*IDC **06** 19:06:23.7±2.5, 43.18N×105.14W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=53.5km s-min=8.2km az=156.0*
*ISCJB **06** 19:06:26.2±0.5, 4375N±004×105.16W±006, h0km, mb4.6/1, Error ellipse: s-maj=7.0km s-min=5.2km az=49.5*
*NEIC **06** 19:06:27.6±0.6, 4369N×105.10W, h0km, ML3.2, Error ellipse: s-maj=9.1km s-min=6.3km az=141.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] WSW of Newcastle.

ISC 06 19:06:27.6±0.5, 4375N±004×10514W±007, h0km, n29, σ1§18/32, mb4.6/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.88**	**65**	*eP*	**Pg**	**19 06 43.8**	**-0.7**
RSSD				*e*		19 06 46.3	
PHWY	**Pilot Hill**	**2.46**	**186**	*eP*	**Pn**	**19 07 08.8**	**-0.2**
PHWY				*eS*	**Sn**	**19 07 40.6**	**+0.9**
RWWY	**Rawlins**	**2.56**	**217**	*eP*	**Pn**	**19 07 10.8**	**+0.4**
RWWY				*eS*	**Sn**	**19 07 43.0**	**+0.8**
LAO	**LASA Array**	**3.04**	**346**	*ePn*	**Pn**	**19 07 17.9**	**+1.0**
BW06	**Boulder Array**	**3.37**	**255**	*ePn*	**Pn**	**19 07 20.3**	**-1.2**
PDAR	**Pinedale Array**	**3.37**	**255**	Pn	**Pn**	**19 07 20.7**	**-0.8**
	1.5nm,0.3s,baz=65,slow=14,SNR=40						
PDAR				Pg	**Pb**	**19 07 25.3**	**-3.0**
	6.5nm,0.3s,baz=72,slow=17,SNR=53						
PDAR				Lg		19 08 05.9	
	13nm,0.3s,baz=2.3,slow=37,SNR=15						
GCMT	**Greycliff**	**3.81**	**304**	*ePn*	**Pn**	**19 07 28.0**	**+0.4**
LKWY	**Lake**	**3.87**	**284**	*ePn*	**Pn**	**19 07 30.9**	**+2.5**
ISCO	**Idaho Springs**	**3.96**	**185**	*ePn*	**Pn**	**19 07 30.0**	**+0.3**
LOHW	**Long Hollow**	**3.97**	**270**	*ePn*	**Pn**	**19 07 29.1**	**-0.6**
FLWY	**Flagg Ranch**	**4.03**	**277**	*ePn*	**Pn**	**19 07 30.7**	**+0.2**
MOOW	**Moose Ponds**	**4.06**	**272**	*ePn*	**Pn**	**19 07 31.2**	**+0.3**
SNOW	**Snow King Moun**	**4.09**	**268**	*eP*	**Pb**	**19 07 38.1**	**-2.4**
YFT	**Old Faithful**	**4.16**	**282**	*ePn*	**Pn**	**19 07 35.8**	**+3.4**
REDW	**Red Top Meadow**	**4.17**	**267**	*ePn*	**Pn**	**19 07 32.5**	**0.0**
AHID	**Auburn Hatcher**	**4.46**	**259**	*ePn*	**Pn**	**19 07 36.0**	**-0.5**
QLMT	**Earthquake Lak**	**4.64**	**286**	*ePn*	**Pn**	**19 07 41.6**	**+2.6**
DGMT	**Dagmar**	**4.77**	**8**	*ePn*	**Pn**	**19 07 42.8**	**+2.1**
SMCO	**Snowmass**	**4.77**	**197**	*eP*	**Pn**	**19 07 48.4**	**+7.7**
BOZ	**Bozeman (W)**	**5.00**	**295**	*eP*	**Pn**	**19 07 43.0**	**-0.8**
	4.5nm,0.4s						
HWUT	**Hardware Ranch**	**5.20**	**248**	*ePn*	**Pn**	**19 07 45.5**	**-1.1**
	7.5nm,0.4s						
HRY	**Holter Researc**	**5.58**	**304**	*ePn*	**Pn**	**19 07 55.7**	**+3.9**
TMUT	**Trail Mountain**	**6.37**	**228**	*ePn*	**Pn**	**19 08 02.2**	**-0.4**
CHMT	**Chamberlain Mo**	**6.53**	**302**	*ePn*	**Pn**	**19 08 05.0**	**+0.1**
DUG	**Dugway**	**6.73**	**241**	*ePn*	**Pn**	**19 08 06.8**	**-0.9**
	1.5nm,0.4s						
MVU	**Marysvale**	**7.48**	**228**	*ePg*	**Pg**	**19 08 52.6**	**+1.7**
	2.4nm,0.5s						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**19 08 39.1**	**-0.6**
	1.4nm,0.3s,baz=232,slow=12,SNR=9.7						
ULM				Lg		19 11 18.6	
	0.3nm,0.3s,baz=114,slow=18,SNR=3.8						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**19 10 58.4**	**+0.1**
	0.3nm,0.4s,baz=154,slow=8.6,SNR=5.8						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 16 43.8**	**-1.6**
	5.5nm,1.0s,mb4.6,baz=315,slow=5.1,SNR=4.3						

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*NEIC **06** 19:06:50.7±0.5, 1401N×11789E, h10km, mb4.1/2, Error ellipse: s-maj=21.8km s-min=11.2km az=52.0*
*ISCJB **06** 19:06:53.2±3.7, 140N±0.1×1179E±02, h40km±34km, mb3.7/11, Error ellipse: s-maj=30.0km s-min=15.4km az=123.8*
*IDC **06** 19:06:55.0±6.4, 1400N×11800E, h38km±56km, mb3.5/8, mb1 3.7/8, mb1mx3.5/21, mbtmp3.7/8, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.0/32, Error ellipse: s-maj=50.6km s-min=17.5km az=64.0*

ISC 06 19:06:56.1±3.8, 141N±01×1180E±02, h50km±36km, n17, σ0§83/16, mb3.7/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.83**	**89**	Pn	**Pn**	**19 07 38.2**	**-0.7**
	29nm,0.3s,baz=281,slow=23,SNR=4.8						
TGY				Sn	**Sn**	**19 08 12.2**	**+0.5**
	108nm,0.3s,baz=280,slow=23,SNR=4.5						
WRAB	**Tennant Creek**	**37.41**	**154**	P	**P**	**19 14 05.8**	**+1.6**
	5.4nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**37.41**	**154**	P	**P**	**19 14 03.7**	**-0.5**
	0.2nm,0.5s,mb3.2,baz=335,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**40.59**	**157**	P	**P**	**19 14 31.1**	**+0.3**
	0.4nm,0.7s,mb3.2,baz=329,slow=7.0,SNR=9.1						
ASAR				PcP	PcP	19 16 33.2	+1.1
	0.4nm,0.5s,baz=335,slow=2.4,SNR=7.4						
TRD	**Trivandrum**	**40.60**	**267**	*eP*	pP	19 14 48.3	+4.2
MKAR	**Makanchi Array**	**44.22**	**325**	P	**P**	**19 15 00.9**	**+0.7**
	0.2nm,0.6s,mb3.1,baz=125,slow=8.8,SNR=5.8						
MKAR				PcP	PcP	19 16 44.9	+0.7
	0.5nm,0.8s,baz=146,slow=4.4,SNR=5.0						
MKAR	**Makanchi Array**	**44.22**	**325**	P	**P**	**19 15 00.9**	**+0.7**
MKAR				PcP	PcP	19 16 44.9	+0.7
STKA	**Stephens Creek**	**50.96**	**154**	P	**P**	**19 15 51.5**	**-1.1**
	1.5nm,0.6s,mb4.1,baz=312,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**50.96**	**154**	P	**P**	**19 15 51.5**	**-1.1**
AKTK	**Aktyubinsk**	**60.27**	**320**	P	**P**	**19 17 00.1**	**+0.7**
AKTO	**Aktyubinsk**	**60.27**	**320**	P	**P**	**19 17 00.1**	**+0.7**
	1.1nm,0.5s,mb4.2,baz=123,slow=7.0,SNR=6.6						
JOF	**Joensuu**	**76.10**	**332**	*ep*	**P**	**19 18 38.7**	**+0.2**
	0.7nm,0.4s,mb3.9						
KEV	**Kevo**	**77.27**	**339**	*ep*	pP	19 19 03.8	+4.4
	5.7nm,0.8s						
KAF	**Kangasniemi**	**78.50**	**331**	*ep*	**P**	**19 18 50.1**	**-1.8**
	0.4nm,0.3s,mb3.8						
FINES	**FINESS Array B**	**78.70**	**331**	P	**P**	**19 18 52.5**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=72,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**85.74**	**332**	P	**P**	**19 19 29.5**	**-0.3**
	0.9nm,0.7s,mb4.1,baz=66,slow=5.3,SNR=3.1						
YKA	**Yellowknife Ar**	**93.42**	**22**	P	**P**	**19 20 06.3**	**+0.2**
	0.1nm,0.6s,mb3.5,baz=315,slow=4.4,SNR=5.7						

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*MOS **06** 19:15:10.2±0.5, 4245N×4329E, h18km, mb3.5/1, Error ellipse: s-maj=53.7km s-min=12.7km az=55.2*
*TIF **06** 19:15:13.8, 4254N×4344E, h10km±1km*
*ISCJB **06** 19:15:14.3±0.5, 4261N±003×4350E±004, h9km±3km, Error ellipse: s-maj=5.4km s-min=4.0km az=65.3*

ISC 06 19:15:14.3±0.5, 4260N±003×4350E±004, h10km±5km, n12, σ0§81/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**243**	P	**Pg**	**19 15 16.2**	**-0.1**
ONI				S	**Sg**	**19 15 17.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.31**	**12**	*i* PG	**Pg**	**19 15 20.7**	**+0.2**
DIGR				*i* S	**Sg**	**19 15 25.8**	**+1.1**
ZEI	**Tsey**	**0.34**	**60**	*i* PG	**Pg**	**19 15 21.6**	**+0.4**
ZEI				*i* S	**Sg**	**19 15 27.0**	**+1.2**
LACR	**Lac**	**0.63**	**69**	*i* PG	**Pg**	**19 15 26.4**	**-0.2**
LACR				*i* S	**Sg**	**19 15 35.3**	**+0.4**
LSNR	**Lesken**	**0.72**	**19**	*e*PG	**Pg**	**19 15 27.9**	**-0.3**
LSNR				*e*S	**Sg**	**19 15 37.9**	**+0.3**
ARNR	**Ardon**	**0.83**	**44**	*e*PG	**Pg**	**19 15 29.5**	**-0.8**
ARNR				*e*S	**Sg**	**19 15 40.9**	**-0.2**
KMSR	**Komsomolskaya**	**0.97**	**37**	*e*PG	**Pg**	**19 15 31.9**	**-1.1**
KMSR				*e*S	**Sg**	**19 15 44.9**	**-0.7**
VLKR	**Vladikavkaz**	**0.98**	**62**	*e*PG	**Pg**	**19 15 32.0**	**-1.2**
VLKR				*e*S	**Sg**	**19 15 45.2**	**-0.7**
CHVG	**Ch'k'valeri**	**1.05**	**277**	P	**Pg**	**19 15 35.9**	**+1.4**
CHVG				S	**Sg**	**19 15 48.1**	**-0.1**
AKH	**Akhalkalaki**	**1.19**	**180**	P	**Pb**	**19 15 35.0**	**-1.9**
AKH				S	**Sb**	**19 15 51.7**	**-0.6**
TBLG	**Delisi**	**1.27**	**133**	P	**Pn**	**19 15 38.2**	**+0.2**
TBLG				S	**Sb**	**19 15 55.1**	**+0.6**
MTA	**Mtatsminda**	**1.32**	**133**	P	**Pn**	**19 15 39.1**	**+0.3**
MTA				S	**Sb**	**19 15 57.7**	**+1.6**

IDC 06 19:21:37.0±2.2, 065N×12682E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/16, mbtmp3.0/3, Error ellipse: s-maj=175.2km s-min=27.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**161**	P	P	19 26 29.9	-0.2
	0.2nm,0.3s,baz=339,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**25.13**	**165**	P	P	19 27 04.5	+0.8
	0.1nm,0.3s,baz=345,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	19 31 46.4	+0.1
	0.1nm,0.5s,baz=117,slow=8.2,SNR=4.1						

IDC 06 19:39:18.5±4.8, 806S×7611E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=159.9km s-min=42.5km az=59.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**54.88**	**5**	P	P	19 48 50.0	-0.6
	0.7nm,1.1s,baz=202,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**57.47**	**108**	P	P	19 49 09.6	+0.4
	0.3nm,0.7s,baz=278,slow=7.6,SNR=4.0						
SONM	**Songino Array**	**61.75**	**23**	P	P	19 49 39.5	+0.8
	0.6nm,0.7s,baz=211,slow=8.4,SNR=2.8						
NVAR	**Mina Array Bea**	**147.08**	**21**	PKPbc	PKPbc	19 59 03.6	+0.3
	0.6nm,0.7s,baz=305,slow=1.9,SNR=5.2						

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*NNC **06** 19:47:47.0±9.9, 3784N×7196E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=103.8km s-min=62.3km az=39.0*
*ISCJB **06** 19:47:48.9±5.1, 378N±03×722E±03, h33km, Error ellipse: s-maj=54.7km s-min=17.6km az=78.9*

ISC 06 19:47:49.9±5.1, 377N±03×721E±03, h35km, n11, σ0§55/12, 2C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.58**	**15**	P	**Pn**	**19 48 57.5**	**+0.9**
	SNR=101						
UCH	**Uchtor**	**4.87**	**21**	P	**Pn**	**19 49 01.2**	**+0.5**
	SNR=18						
KZA	**Kyzart**	**4.98**	**28**	P	**Pn**	**19 49 01.8**	**-0.3**
	SNR=9.6						
EKS2	**Erkin-Say**	**5.11**	**14**	P	**Pn**	**19 49 04.3**	**+0.4**
	SNR=36						
AAK	**Ala-Archa**	**5.24**	**19**	P	**Pn**	**19 49 05.8**	**+0.1**
	SNR=19						
KBK	**Karagaybulak**	**5.39**	**23**	P	**Pn**	**19 49 08.4**	**+0.6**
	SNR=9.6						
ULHL	**Ulahol**	**5.52**	**34**	P	**Pn**	**19 49

*NNC **06** 19:51:45.5±14.0, 3665N×7095E, h83km±302km, mb3.6, mpv4.0, Error ellipse: s-maj=191.9km s-min=100.9km az=64.0*
*IDC **06** 19:51:46.2±21.0, 3679N×7148E, h98km±127km, mb3.6/3, mb1 3.4/7, mb1mx3.2/23, mbtmp3.7/7, ML3.0/3, Error ellipse: s-maj=203.0km s-min=51.8km az=177.0*
*MOS **06** 19:51:48.8±1.4, 3691N×7141E, h137km, mb3.8/3, Error ellipse: s-maj=36.6km s-min=14.8km az=88.4*
*NEIC **06** 19:51:55.1±5.0, 3739N×7141E, h143km±36km, mb4.4/1, Error ellipse: s-maj=50.6km s-min=17.1km az=201.0*
ISC 06 19:51:43.7±0.6, 3649N±004×712E±01, h92km±14km, n29, σ1°00/32, mb3.9/4, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.73**	**167**	⇓P	**Pn**	**19 52 25.5**	**-0.1**
CEP				S	**Sn**	**19 52 59.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.31**	**148**	P	**Pn**	**19 52 33.1**	**-0.3**
THW	**Thamme Wali**	**3.72**	**172**	P	**Pn**	**19 52 38.1**	**-0.8**
DRP	**Derazinda**	**4.80**	**190**	P	**Pn**	**19 52 53.8**	**+0.2**
THN	**Thein Dam**	**5.52**	**136**	*e*P	**Pn**	**19 53 01.4**	**-2.0**
THN				*e*S	**Sn**	**19 54 00.6**	**-4.9**
AML	**Almayashu** SNR=21	**5.96**	**18**	P	**Pn**	**19 53 10.4**	**+1.0**
KZA	**Kyzart** SNR=5.4	**6.42**	**28**	P	**Pn**	**19 53 16.5**	**+0.9**
EKS2	**Erkin-Say** SNR=19	**6.49**	**17**	P	**Pn**	**19 53 17.6**	**+1.1**
KK31	**Karatay Array** 9.8nm,0.4s,baz=181,slow=13,SNR=286	**6.62**	**356**	P	**Pn**	**19 53 18.9**	**+0.5**
KK31				⇑S	**Sn**	**19 54 30.6**	**-1.8**
AAK	**Ala-Archa** SNR=7.6	**6.65**	**22**	P	**Pn**	**19 53 20.0**	**+1.3**
AAK	**Ala-Archa**	**6.65**	**22**	*e*P	**Pn**	**19 53 18.8**	**0.0**
CHMS	**Chumysh** SNR=6.2	**7.06**	**22**	P	**Pn**	**19 53 24.9**	**+0.5**
TKM2	**Tokmak 2** SNR=6.6	**7.27**	**27**	P	**Pn**	**19 53 28.1**	**+0.9**
TKM2	**Tokmak 2** 3.1nm,0.6s	**7.27**	**27**	⇓P	**Pn**	**19 53 27.5**	**+0.3**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=232,slow=14,SNR=4.3	**13.22**	**35**	P	**Pn**	**19 54 45.6**	**-2.1**
AB31	**Akbulak array** 0.5nm,0.3s,baz=141,slow=13,SNR=45	**15.16**	**331**	P	**Pn**	**19 55 10.9**	**-1.8**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=180,slow=13,SNR=4.4	**16.54**	**358**	P	**Pn**	**19 55 29.5**	**-0.5**
AKTK	**Aktyubinsk**	**16.86**	**330**	P	**Pn**	**19 55 33.7**	**-0.2**
AKTO	**Aktyubinsk**	**16.86**	**330**	⇓P	**Pn**	**19 55 34.3**	**+0.4**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=130,slow=16,SNR=7.2	**16.86**	**330**	P	**Pn**	**19 55 33.7**	**-0.2**
ZAL	**Zalesovo** 0.6nm,0.3s,baz=243,slow=5.7,SNR=5.9	**19.85**	**24**	P	**Pn**	**19 56 04.1**	**-5.6**
ZAL	**Zalesovo**	**19.85**	**24**	P	**Pn**	**19 56 04.1**	**-5.6**
ZAL				pmax	pmax		
ENH	**Enshi** comp=Z,3.2nm,0.5s,mb4.3	**32.44**	**90**	*e*P	**P**	**19 58 10.7**	**+5.7**
FINES	**FINESS Array B** comp=Z,0.8nm,0.5s,mb3.8,baz=127,slow=9.5,SNR=4.1	**37.57**	**326**	P	**P**	**19 58 49.6**	**+0.6**
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**19 58 49.6**	**+0.6**
FINES				pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,2.1nm,0.8s,mb4.0,baz=98,slow=8.6,SNR=4.5	**41.21**	**338**	P	**P**	**19 59 20.1**	**+0.8**
ARCES	**ARCESS Array B**	**41.21**	**338**	P	**P**	**19 59 20.1**	**+0.8**
ARCES				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.9nm,0.8s,mb3.5,baz=97,slow=7.8,SNR=2.6	**44.47**	**323**	P	**P**	**19 59 46.2**	**+0.6**
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**19 59 46.2**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **06** 19:58:16.0±1.5, 2877N×5848E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=42.7km s-min=30.6km az=132.0*
*THR **06** 19:58:18.6±0.4, 2930N×5843E, h14km±11km, ML4.1*
*NEIC **06** 19:58:18.6, 2930N×5843E, h14km, mb3.9/3, ML4.1(THR), MN3.7(TEH), After THR.*
*MOS **06** 19:58:19.8±1.2, 2888N×5815E, h33km, mb4.0/2, Error ellipse: s-maj=32.6km s-min=23.8km az=59.1*
*CSEM **06** 19:58:19.5±0.1, 2915N×5834E, h18km, mb3.9/3, Error ellipse: s-maj=3.2km s-min=1.6km az=15.0*
*ISCJB **06** 19:58:22.4±0.6, 2919N±004×5827E±004, h44km±9km, mb3.6/9, Error ellipse: s-maj=7.1km s-min=5.2km az=21.3*
*TEH **06** 19:58:23.8, 2916N×5842E, h29km, Mn3.6*
ISC 06 19:58:23.8±0.5, 2917N±004×5833E±004, h40km±8km, n44, σ0°99/56, mb3.6/9, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.59**	**301**	*e*PG	**Pn**	**19 58 48.3**	**-1.1**
KRBR				*e*SG	**Sn**	**19 59 10.0**	**+1.2**
KRBR				AML	AML	19 59 11.2	
	comp=N,3μm,0.4s						
KRBR				AML	AML	19 59 12.1	
	comp=E,4μm,0.3s						
KRBR	**Kerman** SNR=90	**1.59**	**301**	*e*Pg	**Pn**	**19 58 48.3**	**-1.1**
KRBR				*e*Sg	**Sn**	**19 59 10.0**	**+1.3**
KRBR	**Kerman**	**1.59**	**301**	*e*Pg	**Pn**	**19 58 48.3**	**-1.1**
KRBR				*e*Sg	**Sn**	**19 59 10.0**	**+1.2**
ZHSF	**Zahedan**	**2.18**	**78**	*e*PG	**Pn**	**19 58 56.4**	**-1.1**
ZHSF				*e*SG	**Sn**	**19 59 23.8**	**+0.5**
BNDS	**Bandar-Abbas**	**2.59**	**228**	*e*PN	**Pn**	**19 59 04.3**	**+1.1**
BNDS				AML	AML	19 59 48.0	
	comp=E,343nm,0.5s						
BNDS				AML	AML	19 59 53.8	
	comp=N,805nm,0.2s						
IBAF	**Bafgh**	**3.40**	**316**	*e*Pn	**Pn**	**19 59 15.0**	**+0.8**
IBAF				*e*Sn	**Sn**	**19 59 53.6**	**+0.3**
BANOM	**Banah** SNR=22	**3.70**	**210**	⇓P	**Pn**	**19 59 19.8**	**+1.4**
IMEH	**Mehriz**	**3.91**	**305**	*e*Pn	**Pn**	**19 59 20.2**	**-1.0**
ICHK	**Chekchek**	**4.56**	**313**	*e*Pn	**Pn**	**19 59 31.0**	**+0.7**
ICHK				*e*Sn	**Sn**	**20 00 21.3**	**-0.7**
IPAR	**Pars**	**4.65**	**280**	*e*Pn	**Pn**	**19 59 30.6**	**-0.9**
IPAR				*e*Sn	**Sn**	**20 00 23.8**	**-0.4**
GHIR	**Ghir-Karzin**	**4.77**	**261**	*e*PN	**Pn**	**19 59 34.0**	**+0.9**
ISAD	**Sadrabad**	**4.85**	**305**	*e*Pn	**Pn**	**19 59 34.9**	**+0.7**
ISAD				*e*Sn	**Sn**	**20 00 28.4**	**-0.7**
IMOK	**Mook**	**4.92**	**270**	*e*Pn	**Pn**	**19 59 35.8**	**+0.7**
IMOK				*e*Sn	**Sn**	**20 00 29.6**	**-1.1**
BIDO	**Bidbid** SNR=8.1	**5.63**	**182**	⇓P	**Pn**	**19 59 42.2**	**-2.6**
ARQ	**Araqi** SNR=7.7	**6.03**	**196**	⇓P	**Pn**	**19 59 52.1**	**+1.7**
SMDO	**Samad** SNR=7.3	**6.09**	**182**	⇑P	**Pn**	**19 59 49.6**	**-1.6**
IZEF	**Zefreh**	**6.35**	**307**	*e*Pn	**Pn**	**19 59 55.9**	**+1.1**
IMOG	**Moghan**	**6.97**	**7**	*e*Pn	**Pn**	**20 00 00.5**	**-2.9**
IKLH	**Kalahroud**	**7.11**	**307**	*e*Pn	**Pn**	**20 00 05.7**	**+0.5**
IKLH				*e*Sn	**Sn**	**20 01 21.3**	**-3.4**
IPIR	**Pirpir**	**7.29**	**301**	*e*Pn	**Pn**	**20 00 08.2**	**+0.5**
IMYA	**Miamay**	**7.31**	**11**	*e*Pn	**Pn**	**20 00 07.6**	**-0.3**
IFIR	**Firoozkooh**	**7.99**	**325**	*e*Pn	**Pn**	**20 00 17.8**	**+0.5**
IFIR				*e*Sn	**Sn**	**20 01 41.2**	**-5.2**
IEMG	**Emamqoli**	**8.22**	**2**	*e*Pn	**Pn**	**20 00 20.1**	**-0.4**
IEMG				*e*Sn	**Sn**	**20 01 46.5**	**-5.6**
QRN	**Al-Qurain**	**9.13**	**270**	*e*P	**Pn**	**20 00 32.3**	**-0.7**
UMR	**Umm Al-Rimmam**	**9.27**	**275**	*e*P	**Pn**	**20 00 35.2**	**+0.4**
UMR				AML	AML	20 02 05.0	
	comp=Z,12nm,0.1s						
KBD	**Kabd**	**9.30**	**273**	*e*P	**Pn**	**20 00 35.0**	**-0.3**
RDF	**Al-Radifah**	**9.44**	**271**	*e*P	**Pn**	**20 00 37.0**	**-0.1**
RDF				AML	AML	20 02 29.9	
	comp=Z,15nm,0.4s						
NAY	**Al-Naaiem**	**9.69**	**273**	*e*P	**Pn**	**20 00 40.6**	**0.0**
NAY				AML	AML	20 02 30.2	
	comp=Z,4.5nm,0.6s						
AKTK	**Aktyubinsk**	**21.24**	**359**	P	**P**	**20 03 07.5**	**+1.2**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.6s,mb3.4,baz=188,slow=7.0,SNR=4.5	**21.24**	**359**	P	**P**	**20 03 07.5**	**+1.2**
GKN	**Gorkha**	**23.12**	**86**	*e*P	**P**	**20 03 26.7**	**+0.5**
KKN	**Kakani** comp=Z,5.6nm,0.7s,mb4.1	**23.71**	**87**	*e*P	**P**	**20 03 31.5**	**-0.5**
KKN	**Kakani**	**23.71**	**87**	*e*P	**P**	**20 03 31.5**	**-0.5**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
PKI	**Pulchoki** comp=Z,4.8nm,0.7s,mb4.0	**23.86**	**87**	*e*P	**P**	**20 03 33.5**	**+0.1**
PKI	**Pulchoki**	**23.86**	**87**	*e*P	**P**	**20 03 33.5**	**+0.1**
PKI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
GUN	**Gumba**	**24.22**	**86**	*e*P	**P**	**20 03 36.6**	**0.0**
JIRN	**Jiri** comp=Z,6.6nm,0.7s,mb4.3	**24.53**	**87**	*e*P	**P**	**20 03 39.5**	**+0.1**
BVAR	**Borovoye Array** comp=Z,1.1nm,0.6s,mb3.6,baz=193,slow=8.1,SNR=9.7	**25.44**	**17**	P	**P**	**20 03 47.8**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,mb2.9,baz=225,slow=10,SNR=4.2	**25.66**	**40**	P	**P**	**20 03 49.9**	**+0.3**
MKAR	**Makanchi Array**	**25.66**	**40**	P	**P**	**20 03 49.9**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,mb3.8,baz=57,slow=7.4,SNR=4.1	**54.68**	**266**	P	**P**	**20 07 47.7**	**-1.0**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.6s,mb3.5,baz=307,slow=4.2,SNR=3.6	**88.02**	**114**	P	**P**	**20 11 06.8**	**-2.9**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,mb3.3,baz=1.4,slow=4.5,SNR=6.1	**88.49**	**357**	P	**P**	**20 11 12.6**	**+0.8**
YKA	**Yellowknife Ar**	**88.49**	**357**	P	**P**	**20 11 12.6**	**+0.7**

IDC 06 20:35:12.3±1.1, 2003N×16088E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/21, mbtmp4.1/10, Error ellipse: s-maj=34.2km s-min=23.3km az=151.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=37,slow=8.4,SNR=5.2	**47.47**	**215**	P	P	20 43 48.7	-0.2
KDAK	**Kodiak Island** 16nm,1.0s,baz=297,slow=9.0,SNR=3.3	**50.66**	**30**	P	P	20 44 13.6	+0.3
SONM	**Songino Array** 1.3nm,0.7s,baz=112,slow=7.0,SNR=15	**51.72**	**316**	P	P	20 44 22.2	+1.0
ILAR	**Eielson Array** 1.4nm,0.6s,baz=248,slow=7.1,SNR=11	**56.33**	**24**	P	P	20 44 53.5	-1.4
INK	**Inuvik** 2.1nm,0.5s,baz=276,slow=5.6,SNR=17	**62.59**	**22**	P	P	20 45 37.9	-0.3
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=86,slow=6.5,SNR=13	**67.97**	**313**	P	P	20 46 13.1	0.0
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=275,slow=6.1,SNR=14	**69.93**	**29**	P	P	20 46 24.3	-1.0
NVAR	**Mina Array Bea** 2.1nm,0.6s,baz=262,slow=8.9,SNR=25	**70.82**	**55**	P	P	20 46 32.4	+1.6
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=281,slow=3.8,SNR=6.5	**84.96**	**61**	P	P	20 47 50.2	+0.9
ARCES	**ARCESS Array B** 4.2nm,0.9s,baz=53,slow=6.1,SNR=5.5	**85.22**	**346**	P	P	20 47 50.8	0.0

*ISCJB **06** 20:43:40.3±0.3, 4936N±001×684E±003, h0km, Error ellipse: s-maj=3.0km s-min=2.1km az=4.0*
*CSEM **06** 20:43:41.8±0.1, 4938N×688E, h1km, ML2.2/2, Error ellipse: s-maj=1.3km s-min=1.0km az=87.0*
*NEIC **06** 20:43:41.9, 4938N×689E, h1km, ML1.7(SZGRF), ML2.2(STR), ML2.5(LDG), After LDG.*
*LDG **06** 20:43:41.9±0.1, 4938N×689E, h1km, Md2.6/1, Ml2.5/9, Error ellipse: s-maj=1.9km s-min=1.3km az=83.0, Suspected Mining induced.*
*BGR **06** 20:43:42.0±0.4, 4937N×688E, h1km, ML1.7/3, Error ellipse: s-maj=7.8km s-min=4.4km az=32.0*
*BNS **06** 20:43:45.1±1.1, 4948N×688E, h1km, ML1.2*
ISC 06 20:43:41.4±0.3, 4937N±001×685E±003, h0km, n26, σ0°79/49, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**22**	Pg	**Pg**	**20 43 48.5**	**+0.1**
RUP				Sg	**Sg**	**20 43 53.1**	**0.0**
WLF	**Walferdange** SNR=2.8	**0.55**	**304**	*e*Pg	**Pg**	**20 43 53.3**	**+1.4**
WLF				*e*Sg	**Sg**	**20 43 58.9**	**-0.1**
WLF	**Walferdange**	**0.55**	**304**	*e*P	**Pg**	**20 43 53.0**	**+1.1**
BGG	**Burgeitz** 7.5nm,0.4s	**0.90**	**20**	*e*Pg	**Pg**	**20 44 00.3**	**+1.6**
BGG				*e*Sg	**Sg**	**20 44 10.6**	**+0.3**
CDF	**Champ du Feu** 7.9nm,0.2s	**0.99**	**164**	*e*Pn	**Pn**	**20 44 01.3**	**-1.3**
CDF				*e*Sg	**Sg**	**20 44 13.1**	**-0.3**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**20 44 01.3**	**-1.3**
CDF				*e*Sg	**Sg**	**20 44 13.1**	**-0.3**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**20 44 00.4**	**-0.1**
CDF				*e*Pn	**Pn**	**20 44 01.3**	**-1.3**
CDF				*e*Sg	**Sg**	**20 44 13.1**	**-0.3**
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**20 44 01.3**	**+0.5**
WLS				Sg	**Sg**	**20 44 15.6**	**+1.8**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**20 44 04.0**	**+0.2**
ECH				Sg	**Sg**	**20 44 19.3**	**+0.3**
RFYF	**Reffroy** 18nm,0.3s	**1.17**	**231**	*e*Pg	**Pg**	**20 44 04.3**	**+0.4**
RFYF				*e*Sg	**Sg**	**20 44 19.7**	**+0.7**
STB	**Steinbach** 8.7nm,0.7s	**1.23**	**360**	*e*Pg	**Pg**	**20 44 06.0**	**+1.0**
STB				*e*Sg	**Sg**	**20 44 21.5**	**+0.5**
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**20 44 06.6**	**+0.7**
THEF				Sg	**Sg**	**20 44 22.8**	**+0.4**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**20 44 06.8**	**-0.1**
TNS	**Taunus Mts** SNR=2.2	**1.34**	**50**	*e*Pg	**Pg**	**20 44 06.7**	**-0.5**
TNS				*e*Sg	**Sg**	**20 44 23.7**	**-0.9**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**20 44 06.7**	**-0.5**
TNS				*e*Sg	**Sg**	**20 44 23.7**	**-0.9**
HAU	**Haudompre** 11nm,0.3s	**1.40**	**194**	*e*Pg	**Pg**	**20 44 09.0**	**+0.7**
HAU				*e*Sg	**Sg**	**20 44 26.7**	**+0.2**
BFO	**Black Forest** SNR=2.4	**1.42**	**136**	*e*Pg	**Pg**	**20 44 08.9**	**+0.2**
BFO				*e*Sg	**Sg**	**20 44 26.1**	**-1.0**
MEZF	**Maizieres J'vi** baz=59	**1.47**	**235**	*e*Pg	**Pg**	**20 44 09.9**	**+0.3**
MEZF				*e*Sg	**Sg**	**20 44 29.2**	**+0.5**
GIVF	**Givet** 3.9nm,0.3s	**1.51**	**300**	*e*Pg	**Pg**	**20 44 10.2**	**-0.2**
GIVF				*e*Sg	**Sg**	**20 44 29.5**	**-0.5**
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**20 44 10.7**	**0.0**
MOF				Sg	**Sg**	**20 44 31.0**	**+0.5**
HINF	**Hinteralfeld** 25nm,0.2s	**1.55**	**180**	*e*Pg	**Pg**	**20 44 11.0**	**-0.2**
HINF				*e*Sg	**Sg**	**20 44 30.8**	**-0.4**
SFTF	**Sexfontaines** baz=42	**1.67**	**227**	*e*Pg	**Pg**	**20 44 12.5**	**-1.0**
SFTF				*e*Sg	**Sg**	**20 44 35.8**	**+0.7**
BAIF	**Baives** 3.4nm,0.3s	**1.85**	**293**	*e*Pg	**Pg**	**20 44 16.6**	**-0.4**
BAIF				*e*Sg	**Sg**	**20 44 40.4**	**-0.6**
LOR	**Lormes** baz=44	**2.90**	**225**	*e*Pn	**Pn**	**20 44 27.2**	**-1.6**
LOR				*e*Sn	**Sn**	**20 45 02.1**	**-2.3**
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**20 44 31.7**	**-1.5**
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**20 44 50.8**	**-0.4**

MAN 06 20:49:36.2, 1729N×12039E, h6km, mb3.3, ML4.5, MS1.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.47**	**41**	*e*P	Pg	20 49 45.9	+0.6
ABRA				*e*S	Sg	20 49 51.6	+0.1
BCPH	**Baguio City Da**	**0.93**	**168**	⇓*i*P	Pg	20 49 53.6	-0.4
BCPH				*e*S	Sg	20 50 05.9	-0.1
APYP	**Conner**	**0.99**	**55**	*e*P	Pg	20 49 54.7	-0.6
APYP				*e*S	Sg	20 50 09.0	+0.8
BOLP	**Bolinao**	**1.01**	**207**	*e*P	Pg	20 49 55.3	-0.3
CVP	**Callao Caves**	**1.43**	**73**	*e*P	Pn	20 50 02.0	-0.7
SCZP	**Santa Cruz**	**1.57**	**197**	*e*P	Pn	20 50 04.5	-0.2
PCPH	**Palayan**	**1.85**	**158**	⇑*e*P	Pn	20 50 08.6	+0.2
BALP	**Baler**	**1.92**	**143**	*e*P	Pn	20 50 08.7	-0.7
LUBP	**Lubang**	**3.54**	**182**	*e*P	Pn	20 50 35.4	+3.7

*IDC **06** 20:53:09.5±0.9, 3127N×9040E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.2/23, mbtmp4.1/15, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=28.2km s-min=19.4km az=45.0*
*LDG **06** 20:53:10.2±0.2, 3152N×9014E, h10km, Mb4.7/15, Ms3.2/1, Error ellipse: s-maj=8.8km s-min=2.8km az=130.0*
*ISCJB **06** 20:53:13.9±0.7, 3132N±004×9039E±003, h45km±8km, mb4.3/32, MS3.4/2, Error ellipse: s-maj=6.6km s-min=4.9km az=166.1*
*MOS **06** 20:53:13.0±0.8, 3134N×9036E, h33km, mb4.7/12, Error ellipse: s-maj=10.3km s-min=6.4km az=114.4*
*BJI **06** 20:53:14.9, 3136N×9065E, h51km, mB4.8, mb4.5, ML3.6, Ms4.1, Ms2.9*
*NEIC **06** 20:53:15.7±0.7, 3131N×9041E, h45km±7km, mb4.5/19, Error ellipse: s-maj=7.4km s-min=6.5km az=165.0*
*NAO **06** 20:53:22.3, 3272N×9057E, h33km, mb4.4*
ISC 06 20:53:16.1±0.5, 3129N±004×9039E±004, h46km±6km, n133, σ1°02/145, mb4.3/32, MS3.4/2, 3C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**1.72**	**157**	P	**Pn**	**20 53 42.8**	**-0.7**
LSA				S	**Sn**	**20 54 04.5**	**+0.2**
LSA				Smax			
	comp=E,1μm,0.8s						
LSA	**Lhasa**	**1.72**	**157**	*e*P	**Pn**	**20 53 42.3**	**-1.2**
JIRN	**Jiri**	**5.15**	**226**	*e*Pn	**Pn**	**20 54 31.0**	**+0.5**
JIRN				*e*Sn	**Sn**	**20 55 35.1**	**+6.5**
	comp=E,256nm,0.9s						
JIRN	**Jiri** comp=E,128nm,0.9s	**5.15**	**226**	*e*Pn	**Pn**	**20 54 31.0**	**+0.5**
JIRN				*e*Sn	**Sn**	**20 55 35.1**	**+6.5**
GUN	**Gumba**	**5.17**	**230**	*e*Pn	**Pn**	**20 54 32.3**	**+1.4**
GUN				*e*Sn	**Sn**	**20 55 35.8**	**+6.5**
KKN	**Kakani**	**5.65**	**233**	*e*Pn	**Pn**	**20 54 38.0**	**+0.5**
KKN				*e*Sn	**Sn**	**20 55 47.3**	**+6.2**
PKI	**Pulchoki**	**5.71**	**231**	*e*Pn	**Pn**	**20 54 39.1**	**+0.8**
PKI				*e*Sn	**Sn**	**20 55 48.4**	**+5.9**
	comp=E,184nm,0.6s						
PKI	**Pulchoki**	**5.71**	**231**	*e*P	**Pn**	**20 54 39.1**	**+0.8**
PKI				*e*		20 55 48.4	
PKI				pmax	pmax		
	comp=Z,92nm,0.6s						
PKI	**Pulchoki** comp=Z,92nm,0.6s	**5.71**	**231**	*e*Pn	**Pn**	**20 54 39.1**	**+0.8**
PKI				*e*Sn	**Sn**	**20 55 48.4**	**+5.9**
SHL	**Shillong**	**5.86**	**167**	*e*P	**Pn**	**20 54 41.0**	**+0.7**
SHL				*e*P		20 54 43.8	
SHL				*e*S	**Sn**	**20 55 50.3**	**+4.3**
SHL				AML	AML	20 55 54.8	
	comp=N,734nm,0.5s						
SHL				AML	AML	20 55 55.1	
	comp=E,896nm,0.3s						
DMN	**Daman**	**5.89**	**233**	*e*Pn	**Pn**	**20 54 41.5**	**+0.8**
GKN	**Gorkha**	**5.98**	**238**	*e*Pn	**Pn**	**20 54 42.3**	**+0.3**
GKN				*e*Sn	**Sn**	**20 55 52.5**	**+3.3**
	comp=E,137nm,0.6s						
GKN	**Gorkha** comp=E,68nm,0.6s	**5.98**	**238**	*e*Pn	**Pn**	**20 54 42.3**	**+0.3**
GKN				*e*Sn	**Sn**	**20 55 52.5**	**+3.3**
KOLN	**Koldanda**	**6.88**	**241**	*e*Pn	**Pn**	**20 54 53.9**	**-0.3**
AGT	**Agartala**	**7.42**	**174**	*ex*	x	20 55 14.0	
BOK	**Bokaro**	**8.47**	**209**	*i* P	**Pn**	**20 55 14.5**	**-1.6**
BOK				*e*P		20 55 15.4	
BOK				*e*S	**Sn**	**20 56 50.3**	**0.0**
BOK				*i* S	**Sn**	**20 56 50.5**	**+0.2**
ALBI	**Allahabad**	**9.62**	**234**	*e*P	**Pn**	**20 55 29.0**	**-2.9**
KLP	**Kalpa**	**10.37**	**274**	*e*P	**Pn**	**20 55 34.8**	**-7.3**
GTA	**Gaotai**	**11.17**	**41**	*e*P	**Pn**	**20 55 51.9**	**-1.1**
GTA				AP		20 55 59.6	
GTA				XP		20 56 03.4	
GTA				S	**Sn**	**20 57 47.7**	**-8.7**
GTA				AMB	AMB		
	comp=Z,11nm,1.2s						
GTA				AMB	AMB		
	comp=Z,109nm,6.1s						
GTA				LR	LR		
	comp=N,560nm,16.0s						
GTA				LR	LR		
	comp=E,419nm,15.6s						
GTA				LR	LR		
	comp=Z,467nm,11.1s						
CD2	**Chengdu**	**11.47**	**88**	*e*P	**Pn**	**20 55 54.7**	**-2.4**
BLSP	**Bilaspur**	**11.73**	**221**	*e*P	**Pn**	**20 55 58.5**	**-2.2**
BLSP				*e*S	**Sn**	**20 58 05.6**	**-4.6**
SONA	**Sohna**	**11.95**	**259**	*e*P	**Pn**	**20 56 00.0**	**-3.7**
LZH	**Lanzhou**	**12.18**	**63**	*e*P	**Pn**	**20 56 07.5**	**+0.6**
LZH				AP		20 56 10.4	
LZH				PP		20 56 17.6	
LZH				*e*S	**Sn**	**20 58 22.4**	**+1.2**
LZH				XS		20 58 30.0	
LZH				AMB	AMB		
	comp=Z,23nm,1.0s						
LZH				AMB	AMB		
	comp=Z,120nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,7.8s						
LZH				LR	LR		
	comp=Z,1μm,8.6s						
KUDL	**Kundal** comp=Z,8.1nm,0.1s	**12.48**	**259**	AMb	AMB	20 55 48.6	
KMI	**Kunming**	**12.50**	**116**	P	**Pn**	**20 56 10.0**	**-1.3**
KMI				S	**Sn**	**20 58 31.8**	**+2.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
KMI				LR	LR		
	comp=N,251nm,7.8s						
KMI				LR	LR		
	comp=E,194nm,7.7s						
KMI				LR	LR		
	comp=Z,272nm,10.4s						
BHPL	**Bhopal**	**14.03**	**238**	*e*P	**Pn**	**20 56 28.9**	**-3.3**
BHPL				*ex*	x	20 59 05.0	
AJM	**Ajmer**	**14.60**	**255**	*e*P	**Pn**	**20 56 37.1**	**-2.6**
KZA	**Kyzart** SNR=14	**16.20**	**316**	P	**Pn**	**20 57 05.6**	**+5.2**
ENH	**Enshi** comp=Z,16nm,0.8s	**16.45**	**89**	*e*P	**Pn**	**20 56 57.6**	**-6.0**
TKM2	**Tokmak 2** SNR=12	**16.52**	**319**	P	**Pn**	**20 57 09.3**	**+4.9**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=18	**16.69**	**340**	Pn	**Pn**	**20 57 03.1**	**-3.5**
KBK	**Karagaybulak** SNR=12	**16.73**	**317**	P	**Pn**	**20 57 11.2**	**+4.2**
UCH	**Uchtor** SNR=8.4	**16.73**	**315**	P	**Pn**	**20 57 12.0**	**+4.9**
AAK	**Ala-Archa** SNR=6.7	**16.98**	**316**	P	**Pn**	**20 57 13.6**	**+3.4**
AAK	**Ala-Archa**	**16.98**	**316**	*e*P	**Pn**	**20 57 10.5**	**+0.3**
AAK		

BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
BRVK Borovoye 26.19 332 *eP* **P 20 58 46.3 +0.1**
comp=Z,2.1nm,0.9s,mb3.7
AKTK Aktyubinsk 30.71 318 P **P 20 59 27.0 +0.5**
AKTO Aktyubinsk 30.71 318 P **P 20 59 27.0 +0.5**
comp=Z,0.5nm,0.5s,mb3.6,baz=114,slow=13,SNR=3.8
AKTO Aktyubinsk 30.71 318 P **P 20 59 27.0 +0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
MJAR Matsushiro Arr 39.71 69 LR LR 21 19 26.5
comp=Z,58nm,21.4s,MS3.4,baz=225,slow=40
TIXI Tiksi 45.37 16 *eP* **P 21 01 24.5 -5.2**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
AKASG Malin Array Be 48.59 312 P **P 21 01 54.9 0.0**
comp=Z,7.3nm,0.7s,mb4.8,baz=81,slow=6.8,SNR=30
JOF Joensuu 48.63 328 *ep* **P 21 01 55.4 +0.2**
comp=Z,3.1nm,0.6s,mb4.5
FINES FINESS Array B 50.83 326 P **P 21 02 12.1 +0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=100,slow=7.9,SNR=12
FINES FINESS Array B 50.83 326 P **P 21 02 12.1 +0.2**
MLR Muntele Rosu 51.16 305 ⇓P **P 21 02 16.6 +2.2**
MLR Muntele Rosu 51.16 305 ⇓P **P 21 02 16.6 +2.2**
BURAR Bucovina Array 51.40 308 ⇑P **P 21 02 16.9 +0.7**
BURAR Bucovina Array 51.40 308 ⇑P **P 21 02 16.9 +0.7**
ARCES ARCESS Array B 52.29 336 P **P 21 02 23.1 +0.3**
comp=Z,4.2nm,0.9s,mb4.4,baz=100,slow=7.4,SNR=5.0
DRGR 53.20 307 ⇓P **P 21 02 30.4 +0.8**
STHS Stebnicka Huta 53.81 311 *eP* **P 21 02 34.3 +0.3**
OKC Ostrava-Krasne 55.74 312 *eP* **P 21 02 47.1 -0.8**
DPC Dobruska-Polom 56.81 313 *eP* **P 21 02 56.2 +0.6**
UPC Upice 56.97 313 *eP* **P 21 02 57.5 +0.8**
PRU Pruhonice 58.00 312 *eP* **P 21 03 08.2 +4.2**
NB2 NORSAR Subarra 58.01 326 P **P 21 03 03.6 -0.4**
comp=Z,3.1nm,0.6s,mb4.5,baz=81,slow=7.4
NOA NORSAR Array B 58.01 326 P **P 21 03 03.4 -0.6**
comp=Z,4.3nm,0.7s,mb4.6,baz=83,slow=7.2,SNR=13
GERES GERESS Array B 58.78 311 P **P 21 03 09.7 +0.3**
comp=Z,3.5nm,0.6s,mb4.6,baz=75,slow=5.5,SNR=23
GERES GERESS Array B 58.78 311 P **P 21 03 09.7 +0.3**
GERES pmax pmax
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 58.80 312 *eP* **P 21 03 10.0 +0.5**
CDF Champ du Feu 63.01 312 *eP* **P 21 03 37.7 -0.4**
comp=Z,14nm,1.2s,mb4.7
CDF Champ du Feu 63.01 312 *eP* **P 21 03 37.7 -0.4**
CDF pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
CDF Champ du Feu 63.01 312 *eP* **P 21 03 37.7 -0.4**
comp=Z,7.1nm,1.2s,mb4.7
PGF Pioggiola 63.71 305 *eP* **P 21 03 42.5 -0.2**
comp=Z,35nm,1.0s,mb5.1
PGF Pioggiola 63.71 305 *eP* **P 21 03 42.5 -0.2**
PGF pmax pmax
comp=Z,17nm,1.0s,mb5.0
PGF Pioggiola 63.71 305 *eP* **P 21 03 42.5 -0.2**
comp=Z,17nm,1.0s,mb5.0
LPG La Plagne 64.27 309 *eP* **P 21 03 46.7 +0.3**
comp=Z,13nm,0.9s,mb4.7
LPG La Plagne 64.27 309 *eP* **P 21 03 46.7 +0.3**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LPG La Plagne 64.27 309 *eP* **P 21 03 46.7 +0.3**
comp=Z,6.4nm,0.9s,mb4.7
LPL La Plagne 64.27 309 *eP* **P 21 03 46.6 +0.1**
comp=Z,7.2nm,0.6s,mb4.6
LPL La Plagne 64.27 309 *eP* **P 21 03 46.6 +0.1**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LPL La Plagne 64.27 309 *eP* **P 21 03 46.6 +0.1**
comp=Z,3.6nm,0.6s,mb4.6
CABF La Chapelle 64.34 310 *eP* **P 21 03 46.5 -0.4**
comp=Z,45nm,1.4s,mb5.0
CABF La Chapelle 64.34 310 *eP* **P 21 03 46.5 -0.4**
CABF pmax pmax
comp=Z,22nm,1.4s,mb5.0
CABF La Chapelle 64.34 310 *eP* **P 21 03 46.5 -0.4**
comp=Z,22nm,1.4s,mb5.0
MBDF Montbardon 64.51 308 *eP* **P 21 03 47.7 -0.3**
comp=Z,5.5nm,0.6s,mb4.5
MBDF Montbardon 64.51 308 *eP* **P 21 03 47.7 -0.3**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MBDF Montbardon 64.51 308 *eP* **P 21 03 47.7 -0.3**
comp=Z,2.8nm,0.6s,mb4.5
ORIF Oris-en-Rattie 65.04 309 *eP* **P 21 03 51.3 -0.2**
LOR Lormes 65.56 312 *eP* **P 21 03 54.1 -0.7**
SMF Signal de Mont 65.78 311 *eP* **P 21 03 55.6 -0.7**
SSF Saint Saulge 65.85 312 *eP* **P 21 03 55.9 -0.8**
comp=Z,31nm,1.4s,mb4.8
SSF Saint Saulge 65.85 312 *eP* **P 21 03 55.9 -0.8**
SSF pmax pmax
comp=Z,16nm,1.4s,mb4.9
SSF Saint Saulge 65.85 312 *eP* **P 21 03 55.9 -0.8**
comp=Z,16nm,1.4s,mb4.8
AVF Avril sur Loir 66.05 311 *eP* **P 21 03 57.2 -0.8**
comp=Z,7.3nm,1.0s,mb4.4
AVF Avril sur Loir 66.05 311 *eP* **P 21 03 57.2 -0.8**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
AVF Avril sur Loir 66.05 311 *eP* **P 21 03 57.2 -0.8**
comp=Z,3.7nm,1.0s,mb4.4
WRAB Tennant Creek 66.14 134 *eP* **P 21 03 59.6 +1.1**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WRAB Tennant Creek 66.14 134 *eP* **P 21 03 59.6 +1.1**
comp=Z,8.4nm,0.9s,mb4.8
WRA Warramunga Arr 66.14 134 P **P 21 03 58.8 +0.3**
comp=Z,3.5nm,0.8s,mb4.4,baz=328,slow=6.4,SNR=34
WB2 Warramunga Arr 66.14 134 *eP* **P 21 03 59.3 +0.7**
BGF Bois d'Agland 66.46 311 *eP* **P 21 04 00.0 -0.6**
TCF Toulx Ste Croi 66.97 311 *eP* **P 21 04 03.7 -0.1**
comp=Z,12nm,0.8s,mb4.7
TCF Toulx Ste Croi 66.97 311 *eP* **P 21 04 03.7 -0.1**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 66.97 311 *eP* **P 21 04 03.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
LDF La Druitiere 67.57 314 *eP* **P 21 04 06.9 -0.8**
comp=Z,2.5nm,0.5s,mb4.2
LDF La Druitiere 67.57 314 *eP* **P 21 04 06.9 -0.8**
LDF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
LDF La Druitiere 67.57 314 *eP* **P 21 04 06.9 -0.8**
comp=Z,1.3nm,0.5s,mb4.2
FLN La Foliniere 67.73 314 *eP* **P 21 04 08.0 -0.7**
SGMF Saint Gilles 69.20 314 *eP* **P 21 04 17.5 -0.3**
ROSF Rostrenen 69.60 315 *eP* **P 21 04 19.9 -0.4**
comp=Z,7.5nm,0.8s,mb4.4
ROSF Rostrenen 69.60 315 *eP* **P 21 04 19.9 -0.4**
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ROSF Rostrenen 69.60 315 *eP* **P 21 04 19.9 -0.4**
comp=Z,3.8nm,0.8s,mb4.4
ETSF Etsaut 70.11 309 *eP* **P 21 04 23.0 -0.5**
SUMG Summit 70.66 346 P **P 21 04 24.7 -2.1**
comp=Z,7.8nm,1.0s,mb4.6
ILAR Eielson Array 74.42 22 P **P 21 04 49.2 +0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=297,slow=5.1,SNR=7.8
INK Inuvik 75.49 15 P **P 21 04 55.3 -0.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=323,slow=6.4,SNR=3.2
TORD Torodi Ar. Bea 82.19 281 P **P 21 05 32.5 +0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=46,slow=4.8,SNR=27
YKA Yellowknife Ar 84.40 11 P **P 21 05 43.2 -0.3**
comp=Z,0.7nm,0.7s,mb3.9,baz=330,slow=5.0,SNR=13
YKA Yellowknife Ar 84.40 11 P **P 21 05 43.2 -0.3**

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*ISCJB **06** 21:11:11.5±2.2,30.10N±009×665E±0.1,h34km±19km, mb3.8/9,MS3.0/5, Error ellipse: s-maj=16.7km s-min=12.4km az=90.2*
*NEIC **06** 21:11:12.0±0.8,30.35N×6669E,h10km,mb4.0/7, Error ellipse: s-maj=14.1km s-min=8.8km az=218.0*
*IDC **06** 21:11:11.0±1.8,30.46N×6631E,h0km,mb3.7/7,mb1 3.9/7, mb1mx3.7/22,mbtmp3.8/7,MS3.1/5,Ms1 3.2/5, ms1mx2.9/26, Error ellipse: s-maj=62.5km s-min=22.5km az=124.0*
*BJI **06** 21:11:12.1,3043N×6634E,h34km,mb4.5,Ms4.1*
*MOS **06** 21:11:13.7±1.7,3039N×6669E,h33km,mb3.9/3, Error ellipse: s-maj=30.6km s-min=14.8km az=73.5*
ISC 06 21:11:10.5±3.0,**3008N**±009×**6641E**±007,**h14**km±21km, **n36**,σ1°**06**/35,**mb3.8**/9,**MS3.0**/5,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**3.66**	**62**	P	**Pn**	**21 12 10.5**	**+4.0**
SBDP	**Sheikh Budin**	**4.37**	**58**	P	**Pn**	**21 12 17.7**	**+1.4**
THW	**Thamme Wali**	**5.30**	**58**	P	**Pn**	**21 12 29.2**	**+0.1**
CEP	**Cherat**	**5.98**	**50**	P	**Pn**	**21 12 39.4**	**+0.9**
CEP				S	**Sn**	**21 13 47.0**	**+0.3**
CHCP	**Chirah Chowk**	**6.83**	**57**	P	**Pn**	**21 12 50.1**	**-0.1**
THN	**Thein Dam**	**8.30**	**71**	*eP*	**Pn**	**21 13 12.0**	**+1.6**
THN				*eS*	**Sn**	**21 14 43.6**	**-0.3**
KSH	**Kashi**	**12.25**	**37**	*eP*	**Pn**	**21 14 06.1**	**+1.6**
KSH				*eAP*		21 14 16.1	
KSH				*eXP*		21 14 20.6	
AAK	**Ala-Archa**	**14.11**	**25**	*eP*	**Pn**	**21 14 25.7**	**-4.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**14.11**	**25**	*eP*	**Pn**	**21 14 25.7**	**-4.1**
	comp=Z,2.9nm,0.6s						
KOLN	**Koldanda**	**15.23**	**94**	*eP*	**Pn**	**21 14 44.4**	**-0.6**
	comp=Z,7.7nm,0.5s						
KOLN				*eS*	**Sn**	**21 17 25.6**	**-7.8**
GKN	**Gorkha**	**16.08**	**93**	*eP*	**Pn**	**21 14 55.5**	**-0.5**
	comp=Z,11nm,0.6s						
DMN	**Daman**	**16.57**	**94**	*eP*	**Pn**	**21 15 01.6**	**-0.7**
KKN	**Kakani**	**16.68**	**93**	*eP*	**Pn**	**21 15 02.9**	**-0.8**
	comp=Z,12nm,0.6s						
KKN	**Kakani**	**16.68**	**93**	*eP*	**Pn**	**21 15 02.9**	**-0.8**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GUN	**Gumba**	**17.17**	**92**	*eP*	**Pn**	**21 15 09.2**	**-0.7**
	comp=Z,52nm,0.9s						
JIRN	**Jiri**	**17.49**	**93**	*eP*	**Pn**	**21 15 13.8**	**-0.1**
	comp=Z,28nm,0.7s						
GNI	**Garni**	**20.33**	**305**	LR	LR	21 23 46.8	
	comp=Z,36nm,18.5s,MS2.8,baz=138,slow=38						
MKAR	**Makanchi Array**	**20.74**	**32**	P	**P**	**21 15 49.8**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=209,slow=10,SNR=40						
AKTK	**Aktyubinsk**	**21.29**	**345**	P	**P**	**21 15 55.4**	**-1.1**
AKTK				LR	LR	21 23 49.6	
AKTO	**Aktyubinsk**	**21.29**	**345**	P	**P**	**21 15 55.4**	**-1.1**
	comp=Z,1.3nm,0.6s,mb3.5,baz=192,slow=5.7,SNR=6.5						
AKTO				LR	LR	21 23 49.6	
	comp=Z,47nm,18.8s,MS2.9,baz=0.0,slow=36						
AKTO	**Aktyubinsk**	**21.29**	**345**	P	**P**	**21 15 55.4**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
AKTO				MLR	MLR		
	comp=Z,47nm,18.8s,MS2.9						
LSA	**Lhasa**	**21.45**	**85**	P	**P**	**21 16 02.3**	**+4.1**
LSA	**Lhasa**	**21.45**	**85**	*eP*	**P**	**21 16 01.9**	**+3.7**
KURK	**Kurchatov**	**22.55**	**21**	*eP*	**P**	**21 16 10.8**	**+0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
KURK	**Kurchatov**	**22.55**	**21**	*eP*	**P**	**21 16 10.8**	**+0.8**
	comp=Z,3.8nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**23.11**	**6**	P	**P**	**21 16 14.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb3.7,baz=183,slow=10.0,SNR=21						
BRVK	**Borovoye**	**23.13**	**6**	*eP*	**P**	**21 16 14.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
BRVK	**Borovoye**	**23.13**	**6**	*eP*	**P**	**21 16 14.8**	**-1.4**
	comp=Z,5.2nm,1.0s,mb3.9						
ZAL	**Zalesovo**	**27.31**	**24**	LR	LR	21 29 21.7	
	comp=Z,83nm,21.4s,MS3.3,baz=96,slow=40						
ATD	**Arta Tunnel**	**28.63**	**235**	LR	LR	21 27 48.7	
	comp=Z,39nm,20.6s,MS3.0,baz=11,slow=35						
CD2	**Chengdu**	**32.10**	**79**	*eP*	**P**	**21 17 36.2**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**41.67**	**227**	P	**P**	**21 19 03.9**	**+5.5**
	comp=Z,0.4nm,0.4s,mb3.5,baz=45,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**47.43**	**327**	LR	LR	21 42 28.0	
	comp=Z,23nm,20.9s,MS3.1,baz=5.0,slow=40						
TORD	**Torodi Ar. Bea**	**61.75**	**269**	P	**P**	**21 21 30.1**	**+1.7**
	comp=Z,0.8nm,0.8s,mb3.9,baz=46,slow=6.7,SNR=4.7						
ILAR	**Eielson Array**	**81.95**	**14**	P	**P**	**21 23 30.5**	**+0.8**
	comp=Z,0.9nm,0.9s,mb3.7,baz=309,slow=3.4,SNR=6.5						
YKA	**Yellowknife Ar**	**87.75**	**0**	P	**P**	**21 24 00.0**	**+1.2**
	comp=Z,0.7nm,0.7s,mb4.0,baz=350,slow=5.1,SNR=20						

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*IDC **06** 21:14:03.4±2.6,2687N×5579E,h0km,mb3.7/7,mb1 3.8/7, mb1mx3.6/21,mbtmp3.7/7, Error ellipse: s-maj=59.0km s-min=25.5km az=152.0*
*ISCJB **06** 21:14:05.9±0.8,2688N±004×5575E±005,h26km±7km, mb3.6/7, Error ellipse: s-maj=7.5km s-min=6.2km az=141.1*
*CSEM **06** 21:14:06.1±0.1,2691N×5584E,h30km,mb3.2, Error ellipse: s-maj=2.9km s-min=2.7km az=156.0*
*THR **06** 21:14:07.9±0.4,2693N×5595E,h12km±2km,ML3.1*
*KISR **06** 21:14:07.2±0.4,2671N×5547E,h34km,ML3.1*
*OMAN **06** 21:14:07.4±0.3,2694N×5622E,h30km, Error ellipse: s-maj=429.5km s-min=7.7km az=266.0*
*NEIC **06** 21:14:07.9,2693N×5595E,h12km,ML3.1(THR), MN3.2(TEH), After THR.*
ISC 06 21:14:06.0±1.1,**2687N**±004×**5582E**±005,**h14**km±8km,**n23**, σ1°**08**/31,**mb3.6**/7,**2C-2D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.61**	**31**	*eP*G	**Pg**	**21 14 18.0**	**0.0**
BNDS				*eS*G	**Sg**	**21 14 25.6**	**-0.5**
BNDS				AML	AML	21 14 35.7	
	comp=N,1μm,0.3s						
BNDS				AML	AML	21 14 37.4	
	comp=E,2μm,0.3s						
BNDS	**Bandar-Abbas**	**0.61**	**31**	*eP*g	**Pg**	**21 14 18.0**	**0.0**
	SNR=98						
BNDS				*eS*g	**Sg**	**21 14 25.6**	**-0.5**
	comp=E,2μm,0.3s,SNR=98						
BNDS	**Bandar-Abbas**	**0.61**	**31**	*eP*g	**Pg**	**21 14 18.0**	**0.0**
BNDS				*eS*g	**Sg**	**21 14 25.0**	**-1.1**
BANOM	**Banah**	**1.04**	**155**	⇑P	**Pb**	**21 14 24.4**	**-1.4**
	SNR=430						
BANOM				⇑S	**Sb**	**21 14 39.3**	**+0.1**
ASHO	**Ashiyiah**	**2.19**	**174**	⇓P	**Pn**	**21 14 42.7**	**+0.8**
	SNR=33						
GHIR	**Ghir-Karzin**	**2.88**	**300**	*eP*N	**Pb**	**21 14 56.8**	**-0.3**
GHIR				AML	AML	21 15 59.4	
	comp=E,58nm,0.6s						
GHIR				AML	AML	21 16 02.5	
	comp=N,44nm,0.6s						
GHIR	**Ghir-Karzin**	**2.88**	**300**	*eP*n	**Pb**	**21 14 56.0**	**-1.1**
KRBR	**Kerman**	**3.21**	**15**	*eP*N	**Pn**	**21 14 59.4**	**+3.5**
KRBR				SN	**Sn**	**21 15 36.8**	**+2.8**
KRBR				AML	AML	21 15 50.1	
	comp=E,78nm,0.4s						
KRBR				AML	AML	21 15 55.9	
	comp=N,60nm,0.4s						
KRBR	**Kerman**	**3.21**	**15**	*eP*n	**Pn**	**21 14 59.0**	**+3.1**
KRBR				Sn	**Sn**	**21 15 36.0**	**+2.1**
ARQ	**Araqi**	**3.58**	**170**	⇓P	**Pn**	**21 15 01.3**	**+0.3**
	SNR=10						
RDF	**Al-Radifah**	**7.60**	**288**	*eP*	**Pn**	**21 15 57.5**	**+1.3**
RDF				AML	AML	21 17 22.9	
	comp=Z,2.0nm,0.2s						
UMR	**Umm Al-Rimmam**	**7.63**	**292**	*eP*	**Pn**	**21 15 58.1**	**+1.5**
NAY	**Al-Naaiem**	**7.94**	**289**	*eP*	**Pn**	**21 16 02.5**	**+1.6**
NAY				*eS*	**Sn**	**21 17 28.7**	**-1.8**
MIB	**Mutribah**	**8.02**	**293**	*eP*	**Pn**	**21 16 03.7**	**+1.6**
MIB				*eS*	**Sn**	**21 17 31.4**	**-1.1**
MIB				AML	AML	21 17 35.4	
	comp=Z,3.1nm,0.2s						
BRTR	**Keskin Array B**	**22.46**	**310**	P	**P**	**21 19 03.9**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.1,baz=122,slow=12,SNR=2.8						
AKTK	**Aktyubinsk**	**23.59**	**4**	P	**P**	**21 19 16.1**	**-0.3**
AKTK	**Aktyubinsk**	**23.59**	**4**	P	**P**	**21 19 16.1**	**-0.3**
AKTO	**Aktyubinsk**	**23.59**	**4**	P	**P**	**21 19 16.1**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.5,baz=173,slow=8.1,SNR=5.3						
BVAR	**Borovoye Array**	**28.30**	**19**	P	**P**	**21 19 58.8**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=196,slow=5.7,SNR=6.6						
MKAR	**Makanchi Array**	**28.83**	**39**	P	**P**	**21 20 03.7**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=220,slow=9.3,SNR=5.6						
ZAL	**Zalesovo**	**34.45**	**30**	P	**P**	**21 20 52.1**	**-1.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=205,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**39.92**	**338**	P	**P**	**21 21 38.5**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.7,baz=143,slow=9.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**52.30**	**266**	P	**P**	**21 23 16.9**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=67,slow=7.2,SNR=7.4						

IDC 06 21:27:28.9±2.4,**2258N**×**14240E**,**h270**km±32km,**mb3.2**/3, **mb1 3.4**/4,**mb1mx3.0**/19,**mbtmp3.9**/4,**Error ellipse: s-maj=102.0km s-min=20.1km az=82.0**,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.50**	**358**	P	Pn	21 28 39.2	-0.1
	15nm,0.3s,baz=279,slow=22,SNR=9.9						
CBIJ				S	S	21 29 31.4	-4.2
	5.3nm,0.3s,baz=279,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**42.99**	**191**	P	P	21 35 01.9	+0.1
	1.1nm,0.6s,baz=9.5,slow=8.1,SNR=30						
MKAR	**Makanchi Array**	**53.57**	**312**	P	P	21 36 22.6	+0.3
	0.2nm,0.5s,baz=88,slow=8.6,SNR=4.9						
FINES	**FINESS Array B**	**82.08**	**334**	P	P	21 39 18.8	-0.4
	3.7nm,1.2s,baz=64,slow=5.7,SNR=7.2						

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*IDC **06** 21:51:59.7±2.3,34.11N×7369E,h0km,mb3.8/6,mb1 3.8/9, mb1mx3.6/23,mbtmp3.8/9,ML4.2/2, Error ellipse: s-maj=46.4km s-min=26.4km az=148.0*
*NEIC **06** 21:52:00.3±2.1,3399N×7366E,h10km,mb3.5/3, Error ellipse: s-maj=32.7km s-min=16.8km az=166.0*
*MOS **06** 21:52:01.7±1.2,3402N×7361E,h33km,mb4.2/1, Error ellipse: s-maj=32.0km s-min=11.7km az=91.6*
*NDI **06** 21:52:02.5±3.3,3412N×7324E,h10km,MD3.7,ML3.7, mb3.5(NEIC)*
*ISCJB **06** 21:52:02.2±0.3,3437N±003×7363E±005,h10km,mb3.7/7, Error ellipse: s-maj=6.6km s-min=4.0km az=131.8*
*NNC **06** 21:52:09.0±10.0,3433N×7337E,h47km±95km,mb3.3, mpv3.6, Error ellipse: s-maj=102.8km s-min=83.6km az=109.0*
ISC 06 21:52:03.6±0.3,**3434N**±003×**7362E**±005,**h10**km,**n41**, σ1°**37**/45,**mb3.7**/7,**1C-5D**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.74**	**203**	⇓P	**Pg**	**21 52 16.4**	**-1.5**
CEP	**Cherat**	**1.51**	**251**	P	**Pn**	**21 52 33.1**	**+2.5**
CEP				S	**Sn**	**21 52 54.0**	**+3.7**
THW	**Thamme Wali**	**2.20**	**226**	P	**Pn**	**21 52 41.4**	**+1.3**
SARP	**Sargodha**	**2.54**	**198**	P	**Pn**	**21 52 43.7**	**-1.1**
THN	**Thein Dam**	**2.59**	**137**	*eP*	**Pn**	**21 52 46.1**	**+0.6**
THN				*eS*	**Sn**	**21 53 17.9**	**+0.9**
DLH	**Dalhousie**	**2.66**	**132**	*eP*	**Pn**	**21 52 49.0**	**+2.5**
DLH				*eS*	**Sn**	**21 53 20.0**	**+1.2**
PONG	**Pong**	**3.08**	**140**	*eP*	**Pn**	**21 52 53.0**	**+0.7**
PONG				*ex*	x	21 53 32.0	
SBDP	**Sheikh Budin**	**3.11**	**230**	P	**Pn**	**21 52 53.5**	**+0.8**
BHK	**Bhakra**	**3.75**	**140**	*ex*	x	21 53 56.8	
DRP	**Derazinda**	**3.86**	**229**	P	**Pn**	**21 53 04.4**	**+1.4**
SDNR	**Sundarnagar**	**4.00**	**134**	*eP*	**Pn**	**21 53 03.2**	**-1.6**
SDNR				*ex*	x	21 53 59.6	
SMLA	**Simla**	**4.38**	**136**	*ex*	x	21 53 07.0	
SMLA				*ex*	x	21 54 12.0	
KLP	**Kalpa**	**4.80**	**124**	*eP*	**Pn**	**21 53 17.1**	**+1.3**
KLP				*eS*	**Sn**	**21 54 10.1**	**-1.4**
KLP				AML	AML	21 54 30.9	
	comp=E,199nm,0.3s						
KLP				AML	AML	21 54 31.1	
	comp=N,106nm,0.8s						
DDI	**Dehra Dun**	**5.49**	**136**	*ex*	x	21 53 36.8	
NDI	**New Delhi**	**6.42**	**150**	*ex*	x	21 53 47.0	
NDI				*ex*	x	21 55 16.0	
KUDL	**Kundal**	**6.65**	**158**	*eP*	**Pn**	**21 53 37.5**	**-3.8**
KUDL				*eS*	**Sn**	**21 54 48.8**	**-8.3**
SONA	**Sohna**	**6.76**	**153**	*eP*	**Pn**	**21 53 41.2**	**-1.6**
SONA				*eS*	**Sn**	**21 54 53.3**	**-6.5**
TKM2	**Tokmak 2**	**8.71**	**10**	⇓P	**Pn**	**21 54 12.9**	**+3.4**
	comp=N,3.5nm,1.2s						
TKM2				⇓S	**Sn**	**21 55 52.8**	**+5.1**
	comp=N,2.8nm,0.7s						
KK31	**Karatay Array**	**9.08**	**345**	⇓P	**Pn**	**21 54 16.8**	**+2.2**
	comp=N,1.3nm,0.3s,baz=156,slow=12,SNR=215						
KK31				⇑S	**Sn**	**21 55 56.3**	**-0.6**
	comp=N,2.7nm,0.6s,baz=144,slow=22,SNR=8.8						
MKAR	**Makanchi Array**	**14.07**	**25**	Pn	**Pn**	**21 55 24.5**	**+1.7**
	comp=N,0.0nm,0.3s,baz=196,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**14.07**	**25**	Pn	**Pn**	**21 55 24.5**	**+1.7**
KURK	**Kurchatov**	**16.77**	**11**	P	**Pn**	**21 56 00.1**	**+1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**16.77**	**11**	P	**Pn**	**21 56 00.1**	**+1.7**
	comp=Z,0.8nm,0.7s						
AB31	**Akbulak array**	**18.01**	**330**	P	**Pn**	**21 56 13.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=359,slow=27,SNR=18						
BVA0	**Borovoye Array**	**18.82**	**354**	P	**Pn**	**21 56 23.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=156,slow=9.8,SNR=18						
BVAR	**Borovoye Array**	**18.82**	**354**	P	**Pn**	**21 56 23.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=153,slow=9.2,SNR=20						
BRVK	**Borovoye**	**18.86**	**354**	*eP*	**Pn**	**21 56 23.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**18.86**	**354**	*eP*	**Pn**	**21 56 23.9**	**-0.5**
	comp=Z,1.5nm,0.6s						
AKTK	**Aktyubinsk**	**19.72**	**329**	P	**Pn**	**21 56 33.5**	**-1.2**
AKTO	**Aktyubinsk**	**19.72**	**329**	⇓P	**Pn**	**21 56 34.0**	**-0.7**
	comp=Z,0.3nm,0.5s						
AKTO	**Aktyubinsk**	**19.72**	**329**	P	**Pn**	**21 56 33.5**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=130,slow=9.8,SNR=9.9						
AKTO	**Aktyubinsk**	**19.72**	**329**	P	**Pn**	**21 56 33.5**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**21.12**	**19**	P	**P**	**21 56 46.7**	**-1.7**
	comp=Z,1.3nm,0.4s,mb3.6,baz=277,slow=9.5,SNR=6.6						
ZAL	**Zalesovo**	**21.12**	**19**	P	**P**	**21 56 46.7**	**-1.7**
ARU	**Arti**	**24.38**	**340**	*eP*	**P**	**21 57 22.1**	**+0.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
ARU	**Arti**	**24.38**	**340**	*eP*	**P**	**21 57 22.1**	**+0.2**
	comp=Z,2.3nm,0.5s,mb3.9						
SONM	**Songino Array**	**27.91**	**51**	P	**P**	**21 57 52.7**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.1,baz=240,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**43.95**	**338**	P	**P**	**22 00 10.3**	**-0.4**
	comp=Z,5.0nm,1.1s,mb4.2,baz=106,slow=8.8,SNR=4.2						
HFS	**Hagfors**	**46.

RZN	Rozhen	2.42 297	*i* P	Pn	22 06 40.0	0.0
MMB	Musomiste	3.08 290	*i* P	Pn	22 06 55.0	+6.0

*IDC **06** 22:22:59.3±3.6, 332S×135.85E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=157.3km s-min=31.1km az=80.0*
*NEIC **06** 22:23:04.5±1.6, 335S×135.92E, h35km, mb3.7/2, Error ellipse: s-maj=44.9km s-min=20.5km az=76.0*
*ISCJB **06** 22:23:06.3±1.7, 38S±01×136.0E±03, h33km, mb3.1/1, Error ellipse: s-maj=38.9km s-min=15.5km az=16.9*

ISC 06 22:23:08.5±1.8, 38S±01×136.0E±03, h35km, n9, σ0.77/13, mb3.1/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.14**	**186**	*e*Pn	**Pn**	**22 26 55.5**	**+3.0**
	8.9nm,0.8s						
WRAB				*e*Sn	**Sn**	**22 29 49.8**	**-0.6**
WB2	**Warramunga Arr**	**16.15**	**186**	*e*P	**Pn**	**22 26 52.4**	**-0.3**
WB2				*e*S	**S**	**22 29 50.2**	**-13**
WRA	**Warramunga Arr**	**16.15**	**186**	Pn	**Pn**	**22 26 52.1**	**-0.6**
	0.2nm,0.3s,baz=4.1,slow=13,SNR=13						
WRA				Sn	**Sn**	**22 29 51.0**	**+0.4**
	0.3nm,0.3s,baz=4.8,slow=23,SNR=6.9						
FITZ	**Fitzroy Crossi**	**17.48**	**215**	*e*P	**Pn**	**22 27 15.8**	**+6.5**
	3.3nm,0.6s						
CTAO	**Charters Tower**	**19.06**	**149**	P	**Pn**	**22 27 28.5**	**-0.1**
	2.0nm,0.7s						
ASAR	**Alice Springs**	**19.88**	**186**	P	**Pn**	**22 27 37.8**	**-0.6**
	2.2nm,0.6s,baz=13,slow=11,SNR=24						
ASAR				S	**S**	**22 31 18.6**	**+0.2**
	0.6nm,0.7s,baz=4.8,slow=28,SNR=3.6						
ASPA	**Alice Springs**	**19.88**	**186**	*e*P	**Pn**	**22 27 39.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**33.90**	**209**	P	**P**	**22 29 47.6**	**-0.2**
MKAR	**Makanchi Array**	**69.00**	**324**	P	**P**	**22 34 03.9**	**-6.4**
	0.1nm,0.4s,mb3.1,baz=110,slow=9.1,SNR=4.3						

*IDC **06** 22:39:38.1±0.7, 078S×122.97E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, MS3.8/5, Ms1 3.8/5, ms1mx3.4/27, Error ellipse: s-maj=32.7km s-min=14.0km az=57.0*
*MOS **06** 22:39:41.3±1.0, 073S×123.04E, h33km, mb4.8/3, Error ellipse: s-maj=28.0km s-min=11.4km az=128.0*
*ISCJB **06** 22:39:47.4±2.3, 082S±008×123.1E±0.1, h92km±23km, mb4.3/24, Error ellipse: s-maj=20.3km s-min=7.6km az=109.8*
*NEIC **06** 22:39:48.8±1.5, 084S×123.03E, h91km±15km, mb4.6/11, Error ellipse: s-maj=15.5km s-min=6.0km az=54.0*
*BJI **06** 22:39:48.7, 080S×123.00E, h90km, mb4.4*

ISC 06 22:39:48.8±1.8, 083S±008×123.09E±010, h86km±18km, n42, σ1.07/41, mb4.3/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.26**	**269**	P	**Pn**	**22 40 31.5**	**-6.2**
	358nm,1.2s						
KKM	**Kota Kinabalu**	**9.68**	**315**	*e*Pn	**Pn**	**22 42 04.6**	**-0.6**
LEM	**Lembang**	**16.55**	**249**	P	**Pn**	**22 43 37.5**	**+2.0**
	46nm,1.2s						
FITZ	**Fitzroy Crossi**	**17.35**	**172**	*e*P	**Pn**	**22 43 44.2**	**-1.1**
	5.5nm,0.6s						
MBWA	**Marble Bar**	**20.47**	**189**	*e*P	**P**	**22 44 20.8**	**+1.2**
	21nm,1.3s						
WRAB	**Tennant Creek**	**21.95**	**151**	*e*P	**P**	**22 44 34.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**21.95**	**151**	*e*P	**P**	**22 44 34.8**	**-0.6**
	comp=Z,30nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**21.96**	**151**	P	**P**	**22 44 34.5**	**-0.9**
	comp=Z,14nm,1.1s,mb4.2,baz=329,slow=11,SNR=45						
WRA				ScP	ScP	22 52 10.9	+10
	comp=Z,0.9nm,1.0s,baz=336,slow=2.5,SNR=3.6						
WB2	**Warramunga Arr**	**21.96**	**151**	*e*P	**P**	**22 44 34.5**	**-1.0**
PSI	**Prapat**	**24.43**	**279**	P	**P**	**22 44 58.4**	**-0.9**
	comp=Z,6.3nm,0.7s,mb4.0,baz=216,slow=2.3,SNR=7.0						
PSI				LR	LR	22 56 42.3	
	comp=Z,171nm,18.4s,baz=109,slow=42						
PSI	**Prapat**	**24.43**	**279**	P	**P**	**22 44 58.4**	**-0.9**
PSI				LR	LR	22 56 42.3	
ASPA	**Alice Springs**	**25.01**	**156**	*e*P	**P**	**22 45 07.2**	**+2.6**
ASAR	**Alice Springs**	**25.01**	**156**	P	**P**	**22 45 05.0**	**+0.4**
	comp=Z,5.9nm,0.9s,mb4.0,baz=329,slow=7.0,SNR=34						
ASAR				PcP	PcP	22 48 41.1	+3.7
	comp=Z,1.1nm,0.8s,baz=351,slow=2.2,SNR=5.0						
PMG	**Port Moresby**	**25.42**	**110**	P	**P**	**22 45 09.4**	**+1.1**
	comp=Z,8.0nm,0.7s,mb4.3,baz=193,slow=3.1,SNR=4.8						
CTA	**Charters Tower**	**29.66**	**132**	*e*P	**P**	**22 45 47.8**	**+1.6**
	comp=Z,4.9nm,1.0s,mb4.1						
CTA	**Charters Tower**	**29.66**	**132**	P	**P**	**22 45 47.2**	**+1.0**
	comp=Z,6.6nm,0.9s,mb4.2,baz=321,slow=7.5,SNR=5.6						
CTA				LR	LR	22 58 22.8	
	comp=Z,129nm,21.3s,baz=162,slow=38						
CTA	**Charters Tower**	**29.66**	**132**	P	**P**	**22 45 47.2**	**+1.0**
CTA				LR	LR	22 58 22.8	
ENH	**Enshi**	**33.53**	**338**	*e*P	**P**	**22 46 21.2**	**+0.9**
	comp=Z,12nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**35.49**	**152**	P	**P**	**22 46 35.7**	**-1.4**
	comp=Z,4.9nm,0.8s,mb4.4,baz=332,slow=11,SNR=3.7						
CD2	**Chengdu**	**36.52**	**331**	*e*P	**P**	**22 46 46.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**39.74**	**19**	P	**P**	**22 47 12.7**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.0,baz=196,slow=8.7,SNR=5.0						
SHL	**Shillong**	**39.98**	**313**	*e*P	**P**	**22 47 15.0**	**+0.1**
LZH	**Lanzhou**	**40.87**	**336**	*e*P	**P**	**22 47 25.1**	**+2.9**
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.8						
LSA	**Lhasa**	**43.02**	**318**	P	**P**	**22 47 40.3**	**+0.6**
LSA	**Lhasa**	**43.02**	**318**	*e*P	**P**	**22 47 40.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**43.02**	**318**	*e*P	**P**	**22 47 40.5**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.3						
JIRN	**Jiri**	**45.36**	**312**	*e*P	**P**	**22 47 58.3**	**-0.2**
	comp=Z,19nm,0.9s,mb4.8						
GTA	**Gaotai**	**45.37**	**335**	*e*P	**P**	**22 48 00.3**	**+1.8**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.8						
GUN	**Gumba**	**45.73**	**312**	*e*P	**P**	**22 48 00.3**	**-1.1**
	comp=Z,29nm,0.8s,mb5.1						
PKI	**Pulchoki**	**45.90**	**311**	*e*P	**P**	**22 48 02.8**	**+0.1**
KKN	**Kakani**	**46.12**	**311**	*e*P	**P**	**22 48 03.6**	**-0.8**
	comp=Z,12nm,1.0s,mb4.6						
KKN	**Kakani**	**46.12**	**311**	*e*P	**P**	**22 48 03.6**	**-0.8**
KKN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
DMN	**Daman**	**46.15**	**311**	*e*P	**P**	**22 48 05.2**	**+0.5**
	comp=Z,18nm,0.9s,mb4.8						
GKN	**Gorkha**	**46.71**	**311**	*e*P	**P**	**22 48 08.1**	**-1.0**
	comp=Z,14nm,0.8s,mb4.7						
KOLN	**Koldanda**	**47.38**	**310**	*e*P	**P**	**22 48 14.8**	**+0.5**
	comp=Z,18nm,0.9s,mb4.8						
SONM	**Songino Array**	**50.60**	**345**	P	**P**	**22 48 39.0**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=160,slow=8.7,SNR=16						
SONM				LR	LR	23 10 56.4	
	comp=Z,83nm,18.0s,baz=84,slow=37						
MKAR	**Makanchi Array**	**59.36**	**329**	P	**P**	**22 49 41.5**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=130,slow=6.9,SNR=14						
MKAR				ScP	ScP	22 54 33.6	+12
	comp=Z,0.3nm,0.7s,baz=125,slow=4.6,SNR=3.8						
ZAL	**Zalesovo**	**63.10**	**336**	P	**P**	**22 50 06.0**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=319,slow=9.0,SNR=4.2						
KURK	**Kurchatov**	**63.73**	**330**	*i* P	**P**	**22 50 11.0**	**-0.4**
KURK	**Kurchatov**	**63.73**	**330**	*e*P	**P**	**22 50 10.9**	**-0.5**
	comp=Z,5.5nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**69.23**	**329**	P	**P**	**22 50 44.5**	**-1.9**
	comp=Z,0.2nm,0.4s,mb3.3,baz=117,slow=9.9,SNR=4.7						
KMBO	**Kilima Mbogo**	**85.83**	**269**	LR	LR	23 27 46.6	
	comp=Z,55nm,18.3s,baz=87,slow=34						

*ISCJB **06** 22:41:38.5±1.1, 385S±04×48.1E±02, h10km, mb3.8/9, MS4.0/8, Error ellipse: s-maj=57.3km s-min=15.5km az=50.1*
*IDC **06** 22:41:38.4±1.4, 384.7S×48.08E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, MS4.0/8, Ms1 4.0/8, ms1mx3.8/19, Error ellipse: s-maj=73.5km s-min=20.4km az=24.0*
*NEIC **06** 22:41:41.3±1.0, 380.8S×48.46E, h10km, mb4.1/3, Error ellipse: s-maj=52.6km s-min=14.9km az=202.0*

ISC 06 22:41:40.6±1.1, 383S±04×482E±02, h10km, n19, σ0.55/11, mb3.8/9, MS4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**21.38**	**290**	P	**P**	**22 46 27.9**	**-0.3**
	5.1nm,1.1s,mb3.8,baz=117,slow=4.5,SNR=2.1						
BOSA				LR	LR	22 53 02.4	
	comp=Z,377nm,19.8s,MS3.8,baz=212,slow=32						
BOSA	**Boshof**	**21.38**	**290**	*e*P	**P**	**22 46 32.4**	**+4.2**
	13nm,1.3s,mb4.1						
BOSA				LR	LR	22 53 02.4	
LBTB	**Lobatse**	**23.26**	**298**	P	**P**	**22 46 47.2**	**-1.1**
	3.1nm,0.8s,mb3.8,baz=172,slow=7.9,SNR=4.1						
LBTB				LR	LR	22 54 18.7	
	comp=Z,360nm,19.1s,MS3.8,baz=163,slow=33						
LBTB	**Lobatse**	**23.26**	**298**	*e*P	**P**	**22 46 49.2**	**+0.9**
	1.5nm,0.6s,mb3.6						
LBTB				LR	LR	22 54 18.7	
LSZ	**Lusaka**	**28.91**	**317**	P	**P**	**22 47 39.1**	**-0.6**
	1.0nm,0.7s,mb3.6,baz=159,slow=13,SNR=3.0						
LSZ				LR	LR	22 57 47.8	
	comp=Z,343nm,19.5s,MS4.0,baz=345,slow=33						
MAW	**Mawson**	**30.51**	**169**	LR	LR	22 57 02.3	
	comp=Z,411nm,18.3s,MS4.1,baz=290,slow=30						
KMBO	**Kilima Mbogo**	**38.31**	**342**	LR	LR	23 03 31.3	
	comp=Z,70nm,18.2s,MS3.5,baz=90,slow=34						
VNDA	**Vanda**	**57.77**	**166**	LR	LR	23 13 46.1	
	comp=Z,186nm,18.9s,MS4.2,baz=274,slow=34						
TORD	**Torodi Ar. Bea**	**67.14**	**310**	P	**P**	**22 52 35.4**	**+0.9**
	1.0nm,1.0s,mb3.8,baz=131,slow=4.4,SNR=5.2						
ASAR	**Alice Springs**	**72.54**	**107**	P	**P**	**22 53 07.7**	**0.0**
	0.2nm,0.3s,mb3.5,baz=205,slow=38,SNR=2.9						
STKA	**Stephens Creek**	**73.48**	**118**	LR	LR	23 17 29.8	
	comp=Z,189nm,20.8s,MS4.4,baz=204,slow=29						
WRA	**Warramunga Arr**	**75.00**	**104**	P	**P**	**22 53 22.0**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=231,slow=5.0,SNR=8.0						
WRAB	**Tennant Creek**	**75.01**	**104**	*e*P	**P**	**22 53 22.2**	**-0.1**
	1.7nm,0.6s,mb4.2						
PLCA	**Paso Flores**	**83.49**	**222**	LR	LR	23 22 59.9	
	comp=Z,48nm,20.1s,MS3.9,baz=268,slow=30						
MKAR	**Makanchi Array**	**90.02**	**23**	P	**P**	**22 54 40.3**	**-0.1**
	0.3nm,0.8s,mb3.7,baz=214,slow=5.4,SNR=3.7						
BVAR	**Borovoye Array**	**92.94**	**13**	P	**P**	**22 54 54.3**	**+0.3**
	0.3nm,0.6s,mb3.9,baz=198,slow=4.6,SNR=3.8						
ILAR	**Eielson Array**	**152.01**	**14**	PKPbc	PKPbc	23 01 34.2	-1.8
	0.6nm,0.6s,baz=314,slow=3.1,SNR=8.1						
YKA	**Yellowknife Ar**	**153.56**	**342**	PKPab	PKPab	23 01 51.2	-0.6
	0.4nm,0.7s,baz=32,slow=4.7,SNR=9.2						
YKA	**Yellowknife Ar**	**153.56**	**342**	PKPab	PKPab	23 01 51.2	-0.7

*ISCJB **06** 23:09:15.0±2.5, 300.7S±009×177.5W±04, h33km, mb4.4/5, Error ellipse: s-maj=48.9km s-min=10.8km az=165.3*
*NEIC **06** 23:09:15.7±0.8, 298.8S×177.25W, h35km, mb4.6/2, Error ellipse: s-maj=21.6km s-min=17.9km az=223.0*
*IDC **06** 23:09:16.1±6.6, 299.2S×177.39W, h34km±46km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.3/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, Error ellipse: s-maj=37.7km s-min=31.1km az=118.0*

ISC 06 23:09:13.6±6.8, 300S±02×177.3W±05, h18km±47km, n17, σ0.97/10, mb4.4/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**323**	Pn	**Pn**	**23 09 30.9**	**-0.2**
	1μm,0.3s,baz=98,slow=5.9,SNR=32						
RAO				Sn	**Sn**	**23 09 43.2**	**-0.3**
	903nm,0.3s,baz=219,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**16.57**	**295**	LR	LR	23 17 01.6	
	comp=Z,57nm,19.1s,baz=211,slow=28						
RAR	**Rarotonga**	**18.05**	**65**	LR	LR	23 18 09.2	
	comp=Z,169nm,21.6s,baz=211,slow=30						
TAU	**Tasmania Unive**	**31.02**	**236**	P	**P**	**23 15 27.0**	**-3.1**
CTAO	**Charters Tower**	**34.32**	**278**	*e*P	**P**	**23 16 01.2**	**+2.2**
	3.0nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**35.16**	**256**	P	**P**	**23 16 06.2**	**-0.1**
	1.6nm,0.3s,mb4.4,baz=106,slow=8.3,SNR=7.9						
ASAR	**Alice Springs**	**43.73**	**266**	P	**P**	**23 17 18.1**	**+0.3**
	1.2nm,0.4s,mb4.0,baz=104,slow=7.3,SNR=25						
WB2	**Warramunga Arr**	**44.67**	**271**	*e*P	**P**	**23 17 24.7**	**-0.5**
WRAB	**Tennant Creek**	**44.67**	**271**	*e*P	**P**	**23 17 26.0**	**+0.7**
	4.2nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**23 17 24.8**	**-0.5**
	3.2nm,0.3s,mb4.6,baz=110,slow=7.9,SNR=35						
MAW	**Mawson**	**72.92**	**200**	P	**P**	**23 20 41.7**	**0.0**
MKAR	**Makanchi Array**	**117.95**	**310**	PKP	PKPdf	23 27 58.2	-0.9
	0.3nm,0.9s,baz=90,slow=4.3,SNR=2.6						
JOF	**Joensuu**	**142.23**	**339**	*ep*	PKPdf	23 28 35.2	-10
	0.3nm,0.3s						
FINES	**FINESS Array B**	**144.94**	**341**	PKP	PKPdf	23 28 48.0	-1.5
	2.2nm,0.5s,baz=66,slow=3.9,SNR=24						
HFS	**Hagfors**	**148.93**	**349**	PKPbc	PKPbc	23 28 59.3	-0.9
	3.8nm,0.9s,baz=346,slow=5.9,SNR=4.2						
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc	PKPbc	23 29 04.8	-1.2
	0.3nm,0.3s,baz=57,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**163.24**	**177**	PKPab	PKPab	23 30 06.4	+1.0
	0.4nm,0.9s,baz=186,slow=2.4,SNR=8.3						

*ISCJB **06** 23:11:47.6±0.7, 353.0N±004×27.15E±0.10, h33km±6km, Error ellipse: s-maj=13.8km s-min=4.9km az=32.2*
*CSEM **06** 23:11:48.1±0.1, 353.5N×27.13E, h34km±1km, MD3.2, Error ellipse: s-maj=7.5km s-min=2.4km az=98.0*
*NEIC **06** 23:11:49.0, 356.0N×27.16E, h29km, MD3.2(ATH), After ATH.*
*ATH **06** 23:11:49.9, 356.0N×27.16E, h29km±1km, MD3.2/5*
*HLW **06** 23:11:51.3, 352.6N×27.34E, h33km, Mb2.8*

ISC 06 23:11:48.8±0.7, 353.4N±004×272.2E±009, h29km±6km, n17, σ1.07/24, 5C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.21**	**347**	↑*i*PB	**Pb**	**23 11 54.7**	**-0.3**
KARP				*e*SB	**Sb**	**23 11 59.0**	**-0.1**
ARG	**Arkhangelos**	**1.14**	**40**	↑*i*PN	**Pn**	**23 12 09.1**	**+0.2**
ARG				*e*SN	**Sn**	**23 12 23.4**	**-0.2**
NISR	**Nisiros**	**1.27**	**357**	*e*PN	**Pn**	**23 12 09.5**	**-1.1**
NPS	**Neapolis**	**1.32**	**267**	*e*PN	**Pn**	**23 12 13.7**	**+2.5**
BDRM	**Kayabasi**	**1.73**	**6**	*i* P	**Pn**	**23 12 18.0**	**+1.1**
BDRM				*i* S	**Sn**	**23 12 36.0**	**-2.1**
APE	**Apeiranthos**	**2.20**	**322**	*e*PN	**Pn**	**23 12 23.4**	**0.0**
AYDN	**Tasoluk**	**2.38**	**13**	*i* P	**Pn**	**23 12 25.8**	**0.0**
AYDN				*i* S	**Sn**	**23 12 54.4**	**+0.4**
SMG	**Samos**	**2.38**	**353**	*e*PN	**Pn**	**23 12 24.6**	**-1.3**
GOLH	**Golhisar**	**2.68**	**44**	*i* P	**Pn**	**23 12 30.6**	**+0.7**
GOLH				*i* S	**Sn**	**23 13 08.2**	**+6.8**
DNZL	**Cakiroluk**	**2.77**	**32**	*i* P	**Pn**	**23 12 31.4**	**+0.2**
DNZL				*i* S	**Sn**	**23 13 06.8**	**+3.2**
SLUM		**4.19**	**204**	⇓P	**Pn**	**23 12 51.7**	**+1.0**
SLUM				S	**Sn**	**23 13 36.6**	**-2.1**
HMAT	**Matruh**	**4.24**	**181**	⇓*e*P	**Pn**	**23 12 52.1**	**+0.7**
DABA	**Dabaa**	**4.41**	**168**	⇑P	**Pn**	**23 12 53.5**	**-0.3**
SWA1		**6.19**	**192**	⇑*e*P	**Pn**	**23 13 18.7**	**+0.4**
SWA2		**6.26**	**194**	⇑*e*P	**Pn**	**23 13 19.6**	**+0.5**
SWA2		**6.26**	**194**	P	**Pn**	**23 13 19.6**	**+0.4**
AMAG	**Maghara**	**6.87**	**131**	⇓P	**Pn**	**23 13 26.3**	**-1.3**

*OMAN **06** 23:31:46.8, 298.7N×59.46E, h30km, Error ellipse: s-maj=980.2km s-min=59.5km az=23.0*
*BJI **06** 23:31:53.5, 283.5N×58.32E, h28km, mb4.7*
*THR **06** 23:31:55.3±0.4, 293.5N×58.44E, h14km±10km, ML4.2*
*IDC **06** 23:31:56.1±1.0, 292.3N×58.12E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, MS3.3/4, Ms1 3.3/4, ms1mx3.0/30, Error ellipse: s-maj=23.1km s-min=17.5km az=146.0*
*ISCJB **06** 23:31:57.0±1.2, 291.8N±003×58.32E±003, h21km±10km, mb4.1/28, MS3.1/3, Error ellipse: s-maj=5.6km s-min=4.6km az=3.2*
*NEIC **06** 23:31:57.2±0.5, 291.6N×58.40E, h10km, mb4.1/13, ML4.4(TEH), Error ellipse: s-maj=8.7km s-min=5.3km az=6.0*
*CSEM **06** 23:31:57.5±0.1, 292.0N×58.28E, h25km, mb4.2/11, Error ellipse: s-maj=2.8km s-min=2.1km az=3.0*
*TEH **06** 23:31:57.4, 290.1N×58.60E, h18km, Mn4.4*
*MOS **06** 23:31:59.1±0.9, 292.3N×58.30E, h33km, mb4.3/8, Error ellipse: s-maj=10.3km s-min=7.8km az=95.9*

ISC 06 23:31:59.6±1.3, 291.7N±003×58.37E±003, h27km±10km, n145, σ1.08/148, mb4.1/28, MS3.1/3, 7C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.62**	**301**	*e*PG	**Pn**	**23 32 24.6**	**-1.7**
KRBR				*e*SG	**Sn**	**23 32 46.4**	**0.0**
KRBR				AML	AML	23 32 50.5	
	comp=N,6μm,0.8s						
KRBR	**Kerman**	**1.62**	**301**	*e*Pg	**Pn**	**23 32 24.6**	**-1.8**
	SNR=90						
KRBR				*e*Sg	**Sn**	**23 32 46.3**	**-0.1**
	SNR=90						
ZHSF	**Zahedan**	**2.15**	**78**	*e*PG	**Pn**	**23 32 32.8**	**-0.8**
ZHSF				AML	AML	23 33 03.8	
	comp=N,1μm,0.4s						
ZHSF				AML	AML	23 33 09.4	
	comp=E,1μm,0.4s						
BNDS	**Bandar-Abbas**	**2.62**	**228**	*e*PN	**Pn**	**23 32 41.6**	**+1.5**
BNDS				AML	AML	23 33 25.7	
	comp=E,1μm,0.8s						
BNDS				AML	AML	23 33 31.6	
	comp=N,1μm,0.6s						
IBAF	**Bafgh**	**3.42**	**316**	*e*Pn	**Pn**	**23 32 50.5**	**-0.6**
BANOM	**Banah**	**3.72**	**210**	⇑P	**Pn**	**23 32 57.4**	**+2.2**
	SNR=88						
IMEH	**Mehriz**	**3.93**	**305**	*e*Pn	**Pn**	**23 32 58.6**	**+0.4**
ICHK	**Chekchek**	**4.59**	**313**	*e*Pn	**Pn**	**23 33 06.3**	**-0.9**
ICHK	**Chekchek**	**4.59**	**313**	Pn	**Pn**	**23 33 06.2**	**-1.0**
IPAR	**Pars**	**4.69**	**280**	*e*Pn	**Pn**	**23 33 09.8**	**+1.3**
GHIR	**Ghir-Karzin**	**4.81**	**261**	*e*PN	**Pn**	**23 33 10.8**	**+0.6**
GHIR				AML	AML	23 34 22.9	
	comp=E,236nm,0.6s						
GHIR				AML	AML	23 34 23.3	
	comp=N,138nm,0.4s						
ISAD	**Sadrabad**	**4.88**	**305**	*e*Pn	**Pn**	**23 33 12.6**	**+1.4**
ASHO	**Ashiyiah**	**4.92**	**205**	⇑P	**Pn**	**23 33 13.5**	**+1.7**
	SNR=36						
IMOK	**Mook**	**4.95**	**270**	*e*Pn	**Pn**	**23 33 11.8**	**-0.4**
IMOK	**Mook**	**4.95**	**270**	Pn	**Pn**	**23 33 11.7**	**-0.5**
SHI	**Shiraz**	**5.13**	**277**	*e*Pn	**Pn**	**23 33 15.6**	**+0.9**
BIDO	**Bidbid**	**5.63**	**182**	⇑P	**Pn**	**23 33 19.2**	**-2.2**
	SNR=43						
HOQ	**Hoqain**	**5.64**	**190**	⇑P	**Pn**	**23 33 19.7**	**-2.0**
	SNR=9.3						
ARQ	**Araqi**	**6.04**	**196**	⇑P	**Pn**	**23 33 28.0**	**+0.8**
	SNR=14						
ARQ				⇑P		23 33 28.4	
SMDO	**Samad**	**6.09**	**183**	⇑P	**Pn**	**23 33 26.7**	**-1.1**
	SNR=28						
IGAR	**Garneh**	**6.14**	**302**	*e*Pn	**Pn**	**23 33 33.0**	**+4.5**
IZEF	**Zefreh**	**6.38**	**307**	*e*Pn	**Pn**	**23 33 33.4**	**+1.6**
IZEF	**Zefreh**	**6.38**	**307**	Pn	**Pn**	**23 33 33.3**	**+1.5**
IKLH	**Kalahroud**	**7.14**	**307**	*e*Pn	**Pn**	**23 33 45.3**	**+3.1**
IKLH	**Kalahroud**	**7.14**	**307**	Pn	**Pn**	**23 33 45.2**	**+3.0**
MHI	**Mashhad**	**7.18**	**7**	*e*Pn	**Pn**	**23 33 43.9**	**+1.1**
MHI	**Mashhad**	**7.18**	**7**	Pn	**Pn**	**23 33 43.8**	**+1.0**
IMYA	**Miamay**	**7.30**	**11**	*e*Pn	**Pn**	**23 33 43.7**	**-0.8**
IMYA	**Miamay**	**7.30**	**11**	Pn	**Pn**	**23 33 43.6**	**-0.9**
IPIR	**Pirpir**	**7.32**	**300**	*e*Pn	**Pn**	**23 33 46.0**	**+1.3**
IANJ	**Anjiloo**	**7.33**	**330**	*e*Pn	**Pn**	**23 33 45.6**	**+0.8**
IANJ	**Anjiloo**	**7.33**	**330**	Pn	**Pn**	**23 33 45.5**	**+0.7**
IKRD	**Kardeh**	**7.58**	**1**	*e*Pn	**Pn**	**23 33 48.5**	**+0.2**
ILAS	**Lasjerd**	**7.71**	**325**	*e*Pn	**Pn**	**23 33 51.0**	**+1.0**
ISFR	**Esferayen**	**7.86**	**358**	*e*Pn	**Pn**	**23 33 48.5**	**-3.6**
ISHM	**Shahmirzad**	**7.89**	**328**	*e*Pn	**Pn**	**23 33 53.5**	**+1.0**
IFIR	**Firoozkooh**	**8.01**	**325**	*e*Pn	**Pn**	**23 33 53.3**	**-0.9**
IFIR	**Firoozkooh**	**8.01**	**325**	Pn	**Pn**	**23 33 53.2**	**-1.0**
IKIA	**Kiasar**	**8.05**	**332**	*e*Pn	**Pn**	**23 33 55.5**	**+0.7**
IKIA	**Kiasar**	**8.05**	**332**	Pn	**Pn**	**23 33 55.4**	**+0.6**
IGLO	**Galoogah**	**8.22**	**331**	*e*Pn	**Pn**	**23 33 55.9**	**-1.1**
IGLO	**Galoogah**	**8.22**	**331**	Pn	**Pn**	**23 33 55.8**	**-1.2**
IEMG	**Emamqoli**	**8.22**	**2**	*e*Pn	**Pn**	**23 33 57.3**	**+0.2**
IEMG	**Emamqoli**	**8.22**	**2**	Pn	**Pn**	**23 33 57.2**	**+0.1**
IAFJ	**Afjeh**	**8.72**	**322**	*e*Pn	**Pn**	**23 34 04.1**	**+0.2**
IPRN	**Paran-Amol**	**8.74**	**325**	*e*Pn	**Pn**	**23 34 02.3**	**-1.9**
QRN	**Al-Qurain**	**9.17**	**270**	*e*P	**Pn**	**23 34 08.9**	**-1.1**
UMR	**Umm Al-Rimmam**	**9.30**	**275**	*e*P	**Pn**	**23 34

KURK	**Kurchatov**	**26.38**	**30**	*e*P	**P**	**23 37 34.2**	**+0.6**
KURK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.7							
KURK	**Kurchatov**	**26.38**	**30**	*e*P	**P**	**23 37 34.1**	**+0.6**
comp=Z,1.8nm,0.8s,mb3.6							
ARU	**Arti**	**27.25**	**0**	*e*P	**P**	**23 37 41.9**	**+0.5**
ARU	**Arti**	**27.25**	**0**	*e*P	**P**	**23 37 41.9**	**+0.5**
GVD	**Gavdhos**	**29.52**	**290**	*e*P	**P**	**23 38 01.4**	**-0.3**
GVD	**Gavdhos**	**29.52**	**290**	*e*P	**P**	**23 38 01.4**	**-0.2**
AKASG	**Malin Array Be**	**30.69**	**323**	P	**P**	**23 38 11.6**	**-0.4**
comp=Z,2.9nm,0.7s,mb4.2,baz=128,slow=8.6,SNR=7.9							
AKASG	**Malin Array Be**	**30.69**	**323**	P	**P**	**23 38 11.6**	**-0.4**
NVS	**Novosibirsk**	**31.29**	**28**	*e*P	**P**	**23 38 18.5**	**+1.2**
ZAL	**Zalesovo**	**31.34**	**30**	P	**P**	**23 38 18.8**	**+1.0**
comp=Z,1.5nm,0.8s,mb3.9,baz=233,slow=8.5,SNR=9.8							
KWP	**Kalwaria**	**33.86**	**317**	*e*P	**P**	**23 38 39.7**	**-0.1**
comp=Z,7.0nm,0.7s,mb4.7							
KWP	**Kalwaria**	**33.86**	**317**	*e*P	**P**	**23 38 39.7**	**-0.1**
KWP				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.7							
PSZ	**Piszkesteto**	**34.98**	**313**	*e*P	**P**	**23 38 50.2**	**+0.7**
PSZ	**Piszkesteto**	**34.98**	**313**	*e*P	**P**	**23 38 50.2**	**+0.7**
KMBO	**Kilima Mbogo**	**36.27**	**218**	P	**P**	**23 39 00.9**	**+0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=39,slow=12,SNR=4.9							
KMBO				LR	LR	23 53 25.2	
comp=Z,46nm,20.2s,MS3.2,baz=90,slow=36							
KMBO	**Kilima Mbogo**	**36.27**	**218**	P	**P**	**23 39 00.9**	**+0.3**
MORC	**Moravsky Berou**	**37.04**	**315**	*e*P	**P**	**23 39 06.4**	**-0.7**
comp=Z,1.0nm,0.7s,mb3.8							
MORC	**Moravsky Berou**	**37.04**	**315**	*e*P	**P**	**23 39 06.4**	**-0.7**
MORC				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.8							
MORC	**Moravsky Berou**	**37.04**	**315**	*e*P	**P**	**23 39 06.4**	**-0.7**
comp=Z,1.4nm,0.7s,mb3.9							
JOF	**Joensuu**	**38.04**	**340**	*e*p	**P**	**23 39 23.9**	**+8.3**
comp=Z,0.5nm,0.3s,mb3.7							
JOF	**Joensuu**	**38.04**	**340**	*e*P	**P**	**23 39 23.9**	**+8.3**
JOF				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.0							
FINES	**FINESS Array B**	**38.70**	**336**	P	**P**	**23 39 20.1**	**-1.0**
comp=Z,1.4nm,0.7s,mb3.8,baz=149,slow=8.1,SNR=6.6							
CD2	**Chengdu**	**39.13**	**76**	*e*P	**P**	**23 39 22.8**	**-1.9**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
GERES	**GERESS Array B**	**39.20**	**313**	P	**P**	**23 39 24.0**	**-1.4**
comp=Z,1.5nm,0.7s,mb3.8,baz=121,slow=7.8,SNR=7.2							
CLL	**Collm**	**40.26**	**316**	*e*P	**P**	**23 39 35.0**	**+0.9**
SONM	**Songino Array**	**41.20**	**50**	P	**P**	**23 39 43.9**	**+2.0**
comp=Z,0.9nm,0.9s,mb3.4,baz=253,slow=8.7,SNR=6.6							
ULN	**Ulaanbaatar**	**41.65**	**50**	*e*P	**P**	**23 39 44.2**	**-1.3**
comp=Z,1.0nm,0.4s,mb3.8							
ULN	**Ulaanbaatar**	**41.65**	**50**	*e*P	**P**	**23 39 44.2**	**-1.3**
ULN				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.8							
ULN	**Ulaanbaatar**	**41.65**	**50**	*e*P	**P**	**23 39 44.2**	**-1.4**
comp=Z,0.7nm,0.4s,mb3.6							
STU	**Stuttgart**	**42.11**	**312**	*e*P	**P**	**23 39 49.2**	**-0.1**
STU	**Stuttgart**	**42.11**	**312**	*e*P	**P**	**23 39 49.2**	**-0.2**
NOA	**NORSAR Array B**	**44.52**	**329**	P	**P**	**23 40 08.3**	**-0.5**
comp=Z,1.1nm,0.7s,mb3.8,baz=114,slow=7.8,SNR=3.4							
NOA	**NORSAR Array B**	**44.52**	**329**	P	**P**	**23 40 08.3**	**-0.5**
ARCES	**ARCESS Array B**	**44.58**	**344**	P	**P**	**23 40 09.3**	**0.0**
comp=Z,1.8nm,0.8s,mb4.0,baz=135,slow=8.6,SNR=4.4							
ARCES	**ARCESS Array B**	**44.58**	**344**	P	**P**	**23 40 09.3**	**0.0**
ARE0	**ARCESS Array S**	**44.58**	**344**	*e*P	**P**	**23 40 09.9**	**+0.6**
ARE0	**ARCESS Array S**	**44.58**	**344**	*e*P	**P**	**23 40 09.9**	**+0.6**
NAO01	**NORSAR Array S**	**44.59**	**329**	*e*P	**P**	**23 40 08.9**	**-0.4**
NAO01	**NORSAR Array S**	**44.59**	**329**	*e*P	**P**	**23 40 08.9**	**-0.5**
KONO	**Kongsberg**	**44.73**	**327**	P	**P**	**23 40 10.7**	**+0.2**
KONO	**Kongsberg**	**44.73**	**327**	P	**P**	**23 40 10.7**	**+0.2**
BOD	**Bodaibo**	**47.64**	**37**	*e*P	**P**	**23 40 33.8**	**+0.4**
comp=Z,6.0nm,1.4s,mb4.4							
BOD	**Bodaibo**	**47.64**	**37**	*e*P	**P**	**23 40 33.8**	**+0.4**
BOD				pmax	pmax		
comp=Z,6.0nm,1.4s,mb4.4							
ESK	**Eskdalemuir**	**50.52**	**319**	*e*P	**P**	**23 40 53.7**	**-1.7**
ESK	**Eskdalemuir**	**50.52**	**319**	*e*P	**P**	**23 40 53.7**	**-1.8**
ESLA	**Sonseca Array**	**51.56**	**299**	P	**P**	**23 41 03.6**	**+0.4**
ESLA	**Sonseca Array**	**51.56**	**299**	P	**P**	**23 41 03.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**54.72**	**266**	P	**P**	**23 41 24.5**	**-2.0**
comp=Z,1.7nm,0.5s,mb4.3,baz=63,slow=6.9,SNR=21							
YAK	**Yakutsk**	**55.97**	**33**	*e*P	**P**	**23 41 35.7**	**+0.2**
YAK	**Yakutsk**	**55.97**	**33**	*e*P	**P**	**23 41 35.7**	**+0.2**
SUMG	**Summit**	**64.47**	**341**	*e*P	**P**	**23 42 33.9**	**+0.2**
SUMG	**Summit**	**64.47**	**341**	*e*P	**P**	**23 42 33.9**	**+0.2**
YKA	**Yellowknife Ar**	**88.49**	**357**	P	**P**	**23 44 50.2**	**+0.7**
comp=Z,0.6nm,0.7s,mb3.9,baz=359,slow=4.8,SNR=15							
ASAR	**Alice Springs**	**89.61**	**117**	P	**P**	**23 44 58.2**	**+3.4**
comp=Z,0.1nm,0.4s,mb3.5,baz=315,slow=8.8,SNR=4.1							

JMA 06 23:46:17.6±0.4, 4401N×14807E, h0km, M4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.81**	**250**	P	Pn	23 46 50.2	+0.2
NEM2				*e*S	Sn	23 47 14.1	+0.5
JRA	**Rausu**	**2.13**	**269**	P	Pn	23 46 54.9	+0.5
JRA				*e*S	Sn	23 47 22.4	+0.9
JNK	**Nakash**	**2.46**	**261**	P	Pn	23 46 59.7	+0.7
JNK				*e*S	Sn	23 47 30.5	+0.7
JAK	**Akkeshi**	**2.66**	**249**	P	Pn	23 47 02.4	+0.8
JTKR	**Abashiri--Toko**	**3.00**	**271**	P	Pn	23 47 07.0	+0.6
JAR	**Ashorobuto**	**3.20**	**259**	P	Pn	23 47 10.8	+1.6
JAR				*e*S	Sn	23 47 50.4	+2.4
JCH	**Churui**	**3.71**	**250**	P	Pn	23 47 17.5	+1.4
JCH				*e*S	Sn	23 48 02.0	+1.5
JKK2	**Kamakawa 2**	**3.85**	**270**	P	Pn	23 47 20.6	+2.6
JNBK	**Urakawa-nobuka**	**4.26**	**248**	P	Pn	23 47 25.3	+1.6
JKB	**Kayabe**	**5.58**	**250**	P	Pn	23 47 43.6	+1.7
JKB				*e*S	Sn	23 48 47.2	+0.5
JOT	**Ohata**	**5.80**	**246**	P	Pn	23 47 46.2	+1.3
JOT				*e*S	Sn	23 48 52.1	0.0

NAO ***06*** *23:55:01.5, 133S×9606E, h33km, mb5.3*
BJI ***06*** *23:55:08.5, 155N×97.19E, h28km, mB5.5, mb5.5, Ms5.4, Msz5.2*
ISCJB ***06*** *23:55:09.2±0.2, 161N±003×97.19E±003, h27km, mb5.4/147, MS5.1/44, Error ellipse: s-maj=4.8km s-min=3.8km az=26.7*
NEIC ***06*** *23:55:10.9±0.2, 161N×97.10E, mb5.4/70, MS4.8/7, MW5.2, Error ellipse: s-maj=5.8km s-min=4.2km az=25.0, Moment Tensor Solution. s12 Moment tensor: Scale 1016Nm; Mrr6.25; Mθθ-3.28; Mφφ-2.97; Mrθ5.47; Mθφ2.83; Mφr-2.59; Best double couple: M0 8.60000×1016 NP1:φs121.00000°, δ68.00000°, λ81.00000°. NP2:φs323.00000°, δ24.00000°, λ110.00000°. Principal axes: T 8.8600, Plg66.0000°, Azm16.0000°; N -0.5600, Plg8.0000°, Azm125.0000°; P -8.3000, Plg22.0000°, Azm218.0000°;*
MOS ***06*** *23:55:10.4±0.8, 173N×9720E, h33km, mb5.7/71, MS4.7/9 Error ellipse: s-maj=8.2km s-min=4.6km az=120.2*
HRVD ***06*** *23:55:10.9±0.3, 142N×9687E, h25km, MW5.2/65, Centroid moment Tensor Solution. LP body waves: s62, c108; Mantle waves: s65, c105; Half duration: 1!0 Moment tensor: Scale 1016Nm; Mrr3.90±.19; Mθθ-1.64±.14; Mφφ-2.26±.17; Mrθ5.68±.31; Mθφ3.45±.12; Mφr-3.99±.37; Best double couple: M0 8.38800×1016 NP1:φs336.00000°, δ19.00000°, λ119.00000°. NP2: φs126.00000°, δ74.00000°, λ81.00000°. Principal axes: T 7.7500, Plg60.0000°, Azm23.0000°; N 1.2770, Plg9.0000°, Azm128.0000°; P -9.0270, Plg28.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***06*** *23:55:11.5±2.9, 157N×97.11E, h33km±20km, mb5.0/22, mb1 5.0/23, mb1mx5.0/26, mbtmp5.2/23, ML3.8/1, MS4.8/20, Ms1 4.8/20, ms1mx4.6/30 Error ellipse: s-maj=17.1km s-min=11.2km az=41.0*
SZGRF ***06*** *23:55:19.9, 250N×9550E, h26km, mb5.2, MS4.8, Off west coast of northern Sumatera, Indonesia*

ISC 06 23:55:11.4±0.2, 160N±003×9717E±003, h29km, h29km±.5km: pP-P, n429, σ0:92/412, mb5.4/147, MS5.1/44, 83C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.12**	**56**	Pn	**Pn**	**23 55 45.7**	**+0.8**
30nm,0.3s,baz=240,slow=4.6,SNR=328							
PSI				LR	LR	23 56 08.7	
comp=Z,9μm,20.4s,baz=279,slow=27							
BSI	**Banda Aceh**	**4.30**	**334**	P	**Pn**	**23 56 11.3**	**-3.5**
252nm,1.1s							
IPM	**Ipoh**	**4.80**	**53**	P	**Pn**	**23 56 23.8**	**+2.1**
IPM	**Ipoh**	**4.80**	**53**	P	**Pn**	**23 56 23.7**	**+2.1**
KULM	**Kulim**	**5.05**	**43**	*e*Pn	**Pn**	**23 56 26.3**	**+1.2**
KULM				*e*Sn	**Sn**	**23 57 28.2**	**+5.7**
KGM	**Kluang**	**6.16**	**86**	P	**Pn**	**23 56 42.6**	**+2.2**
NNT	**Nongplab**	**11.21**	**13**	P	**Pn**	**23 57 50.5**	**+0.9**
KSM	**Kuching**	**13.13**	**90**	*e*Pn	**Pn**	**23 58 19.5**	**+3.5**
LEM	**Lembang**	**13.37**	**129**	P	**Pn**	**23 58 27.9**	**+8.7**
53nm,1.1s							
NST	**Nakhon Sawan**	**14.29**	**12**	P	**Pn**	**23 58 26.7**	**-4.9**
43nm,1.1s							
BJI	**Banjamegara**	**15.34**	**125**	P	**Pn**	**23 58 49.4**	**+3.7**
32nm,1.6s							
KKTK	**Khon Kaen**	**15.67**	**21**	P	**Pn**	**23 58 53.0**	**+3.0**
1μm,0.6s							
PALK	**Pallekele**	**17.35**	**289**	Pn	**Pn**	**23 59 12.8**	**+1.5**
CHRT	**Chiangrai**	**18.34**	**8**	⇑P	**Pn**	**23 59 22.0**	**-1.5**
387nm,1.0s							
KKM	**Kota Kinabalu**	**19.50**	**76**	P	**Pn**	**23 59 37.1**	**-0.4**
TSM	**Tawau**	**20.85**	**82**	P	**P**	**23 59 50.9**	**+0.2**
VIS	**Vishakhapatnam**	**21.01**	**321**	*i* P	**P**	**23 59 47.9**	**-4.7**
VIS				*i* x	x	00 03 31.5	
QIZ	**Qiongzhong**	**21.31**	**35**	⇓P	**P**	**23 59 55.8**	**0.0**
QIZ				AMB	AMB		
comp=Z,105nm,0.9s,mb5.2							
QIZ				LR	LR		
comp=N,3μm,12.9s,MS5.1							
QIZ				LR	LR		
comp=E,4μm,14.7s,MS5.1							
QIZ				LR	LR		
comp=Z,3μm,14.5s,MS4.8							
CAL	**Calcutta**	**22.52**	**338**	*ex*	x	00 00 28.2	
CAL				*ex*	x	00 04 23.8	
KMI	**Kunming**	**24.00**	**12**	P	**P**	**00 00 23.9**	**+0.4**
KMI				AP		00 00 33.0	
KMI				XP	sP	00 00 37.4	+1.9
KMI				PP		00 00 59.3	
KMI				S	**S**	**00 04 42.2**	**+3.7**
KMI				AMB	AMB		
comp=Z,130nm,1.2s,mb5.2							
KMI				AMB	AMB		
comp=Z,947nm,4.1s							
KMI				LR	LR		
comp=N,7μm,16.4s,MS5.3							
KMI				LR	LR		
comp=E,4μm,13.1s,MS5.3							
KMI				LR	LR		
comp=Z,7μm,15.6s,MS5.3							
HYB	**Hyderabad**	**24.12**	**312**	⇑*e*P	**P**	**00 00 25.0**	**+0.4**
HYB				*e*S	**S**	**00 04 40.0**	**-0.6**
HYB				pmax	pmax		
comp=Z,80nm,1.0s,mb5.1							
HYB	**Hyderabad**	**24.12**	**312**	⇑*e*P	**P**	**00 00 25.0**	**+0.4**
comp=Z,80nm,1.0s,mb5.1							
HYB				*e*S	**S**	**00 04 40.0**	**-0.6**
BOK	**Bokaro**	**24.62**	**335**	*e*S	**S**	**00 04 50.4**	**+1.7**
MNGI	**Mangalore**	**24.83**	**298**	*e*P	**P**	**00 00 34.7**	**+3.6**
MNGI				*e*S	**S**	**00 04 56.1**	**+4.1**
BLSP	**Bilaspur**	**25.11**	**325**	⇑*i*P	**P**	**00 00 34.1**	**+0.5**
BLSP				AMb	AMB	00 00 36.4	
comp=Z,121nm,1.3s,mb5.3							
BLSP				*e*S	**S**	**00 04 55.6**	**-0.8**
DGAR	**Diego Garcia**	**26.23**	**250**	P	**P**	**00 00 45.7**	**+1.9**
NGP	**Nagpur**	**26.26**	**319**	*e*P	**P**	**00 00 45.1**	**+1.1**
NGP				*ex*	x	00 00 46.3	
comp=Z,60nm,1.0s							
NGP				*e*S	**S**	**00 05 15.2**	**+0.5**
TGY	**Tagaytay City**	**26.58**	**61**	P	**P**	**00 00 48.2**	**+1.3**
comp=Z,128nm,0.3s,baz=89,slow=15,SNR=4.8							
JBP	**Jabalpur**	**27.16**	**323**	*e*P	**P**	**00 00 53.4**	**+1.2**
JBP				*e*S	**S**	**00 05 29.7**	**+0.9**
AKL	**Akola**	**27.34**	**315**	*i* x	x	00 00 25.0	
AKL				*i* x	x	00 04 50.2	
KAD	**Karad**	**27.46**	**306**	*e*P	**P**	**00 00 56.7**	**+1.8**
ALBI	**Allahabad**	**27.84**	**329**	*e*P	**P**	**00 01 01.0**	**+2.8**
JIRN	**Jiri**	**27.96**	**339**	*e*P	**P**	**00 01 00.4**	**+1.0**
comp=Z,323nm,1.0s,mb5.9							
PKI	**Pulchoki**	**28.18**	**337**	*e*P	**P**	**00 01 01.7**	**+0.5**
comp=Z,358nm,1.6s,mb5.8							
PKI	**Pulchoki**	**28.18**	**337**	*e*P	**P**	**00 01 01.7**	**+0.5**
PKI				pmax	pmax		
comp=Z,179nm,1.6s,mb5.5							
GUN	**Gumba**	**28.30**	**339**	*e*P	**P**	**00 01 03.4**	**+1.0**
comp=Z,621nm,1.2s,mb6.1							
DMN	**Daman**	**28.33**	**337**	*e*P	**P**	**00 01 03.3**	**+0.7**
comp=Z,119nm,1.0s,mb5.5							
POO	**Poona**	**28.39**	**308**	*ex*	x	00 01 23.0	
KKN	**Kakani**	**28.42**	**337**	*e*P	**P**	**00 01 04.0**	**+0.6**
comp=Z,247nm,1.0s,mb5.8							
KKN	**Kakani**	**28.42**	**337**	*e*P	**P**	**00 01 04.0**	**+0.6**
KKN				pmax	pmax		
comp=Z,124nm,1.0s,mb5.5							
BHPL	**Bhopal**	**28.80**	**320**	*e*P	**P**	**00 01 07.7**	**+0.9**
BHPL				AMb	AMB	00 01 08.6	
comp=Z,30nm,0.8s,mb5.1							
GKN	**Gorkha**	**28.86**	**337**	*e*P	**P**	**00 01 08.1**	**+0.8**
comp=Z,257nm,1.0s,mb5.9							
KOLN	**Koldanda**	**29.09**	**335**	*e*P	**P**	**00 01 10.3**	**+1.0**
comp=Z,136nm,0.8s,mb5.8							
BOM	**Bombay**	**29.41**	**307**	*e*P	**P**	**00 01 14.1**	**+1.8**
BOM				*ex*	x	00 01 31.5	
comp=Z,215nm,3.4s							
BOM				*ex*	x	00 04 16.9	
CD2	**Chengdu**	**29.81**	**11**	⇑*i*P	**P**	**00 01 14.9**	**-0.9**
CD2				AP	pP	00 01 24.5	+0.2
CD2				XP	sP	00 01 28.5	+0.7
CD2				PP	PP	00 02 12.4	-11
CD2				S	**S**	**00 06 08.0**	**-2.6**
CD2				SS	SS	00 07 44.2	-34
CD2				AMB	AMB		
comp=Z,60nm,0.7s,mb5.4							
CD2				AMB	AMB		
comp=Z,180nm,4.9s							
CD2				LR	LR		
comp=E,3μm,15.6s							
CD2				LR	LR		
comp=Z,2μm,16.8s,MS4.9							
QZH	**Quanzhou**	**31.09**	**40**	P	**P**	**00 01 30.4**	**+3.4**
QZH				*e*S	**S**	**00 06 32.0**	**+1.5**
QZH				LR	LR		
comp=N,7μm,13.0s,MS5.5							
QZH				LR	LR		
comp=E,5μm,15.5s,MS5.5							
QZH				LR	LR		
comp=Z,10μm,15.6s,MS5.6							
MBWA	**Marble Bar**	**31.61**	**137**	P	**P**	**00 01 33.1**	**+1.5**
comp=Z,36nm,1.0s,mb5.2							
AJM	**Ajmer**	**32.87**	**321**	*e*P	**P**	**00 01 43.2**	**+0.5**
AJM				AMb	AMB	00 01 45.0	
comp=Z,50nm,0.7s,mb5.5							
NDI	**New Delhi**	**32.98**	**327**	*e*P	**P**	**00 01 43.5**	**-0.2**
WHN	**Wuhan**	**33.08**	**28**	⇑P	**P**	**00 01 44.7**	**+0.2**
WHN				AP	pP	00 01 52.8	-0.2
WHN				LR	LR		
comp=Z,10μm,15.4s,MS5.6							
XAN	**Xi'an**	**34.09**	**18**	P	**P**	**00 01 52.4**	**-0.9**
XAN				AP	pP	00 02 01.5	-0.4
XAN				AMB	AMB		
comp=Z,209nm,1.0s,mb6.0							
XAN				LR	LR		
comp=N,4μm,15.2s,MS5.3							
XAN				LR	LR		
comp=E,3μm,14.0s,MS5.3							
XAN				LR	LR		
comp=Z,7μm,15.2s,MS5.5							
XAN	**Xi'an**	**34.09**	**18**	P	**P**	**00 01 52.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**34.19**	**126**	*e*P	**P**	**00 01 53.4**	**-0.7**
comp=Z,31nm,0.8s,mb5.3							
LZH	**Lanzhou**	**34.87**	**9**	*e*P	**P**	**00 02 00.1**	**+0.1**
LZH				AP	pP	00 02 08.0	-0.6
LZH				XP	sP	00 02 12.5	+0.3
LZH				PP	PP	00 03 18.7	-0.6
LZH				PCP	PcP	00 04 33.5	+0.9
LZH				S	**S**	**00 07 25.1**	**-4.2**
LZH				XS	sS	00 07 40.1	-3.3
LZH				SS	SS	00 09 41.0	-20
LZH				AMB	AMB		
comp=Z,86nm,1.5s,mb5.5							
LZH				AMB	AMB		
comp=Z,360nm,5.0s							
LZH				LR	LR		
comp=E,6μm,16.6s							
LZH				LR	LR		
comp=Z,8μm,18.5s,MS5.5							
BHK	**Bhakra**	**35.55**	**329**	*ex*	x	00 02 23.1	
NJ2	**Nanjing**	**36.54**	**32**	*e*P	**P**	**00 02 14.3**	**-0.1**
NJ2				AP	pP	00 02 24.0	+1.0
NJ2				XP	sP	00 02 28.0	+1.5
NJ2				PP	PP	00 03 38.3	+0.5
NJ2				S	**S**	**00 07 51.0**	**-3.9**
NJ2				XS	sS	00 08 07.0	-2.1
NJ2				AMB	AMB		
comp=Z,150nm,1.0s,mb5.8							
NJ2				AMB	AMB		
comp=Z,250nm,7.1s							
NJ2				LR	LR		
comp=N,6μm,13.4s,MS5.7							
NJ2				LR	LR		
comp=E,7μm,15.5s,MS5.7							
NJ2				LR	LR		
comp=Z,8μm,26.6s							
SSE	**Sheshan**	**37.11**	**35**	P	**P**	**00 02 19.3**	**+0.1**
SSE				AP	pP	00 02 28.1	+0.3
SSE				XP	sP	00 02 32.0	+0.7
SSE				PP	PP	00 03 43.5	-0.5
SSE				S	**S**	**00 08 02.7**	**-0.8**
SSE				XS	sS	00 08 17.5	-0.2
SSE				PCS	PcS	00 08 28.7	+1.2
SSE				AMB	AMB		
comp=Z,34nm,0.9s,mb5.2							
SSE				AMB	AMB		
comp=Z,328nm,3.8s							
SSE				LR	LR		
comp=N,2μm,19.6s,MS4.9							
SSE				LR	LR		
comp=E,518nm,19.5s,MS4.9							
SSE				LR	LR		
comp=Z,2μm,16.5s,MS4.9							
GTA	**Gaotai**	**37.71**	**3**	P	**P**	**00 02 24.2**	**-0.1**
GTA				AP	pP	00 02 33.4	+0.5
GTA				XP	sP	00 02 37.5	+1.0
GTA				PP	PP	00 03 53.5	+2.9
GTA				PCP	PcP	00 04 41.5	+0.4
GTA				S	**S**	**00 08 12.2**	**-0.5**
GTA				SCP	ScP	00 08 26.1	-0.3
GTA				PCS	PcS	00 08 28.8	-0.9
GTA				SS	SS	00 10 46.1	-13
GTA				SCS	ScS	00 12 32.9	-2.2
GTA				AMB	AMB		
comp=Z,90nm,1.2s,mb5.4							
GTA				AMB	AMB		
comp=Z,535nm,7.3s							
GTA				LR	LR		
comp=N,2μm,14.5s,MS5.1							
GTA				LR	LR		
comp=E,2μm,15.7s,MS5.1							
GTA				LR	LR		
comp=Z,2μm,13.8s,MS5.1							
TIA	**Tai'an**	**39.09**	**26**	P	**P**	**00 02 35.0**	**-0.9**
TIA				AMB	AMB		
comp=Z,42nm,1.0s,mb5.1							
NWAO	**Narrogin (SRO)**	**39.22**	**153**	P	**P**	**00 02 40.1**	**+3.1**
comp=Z,7.6nm,1.0s,mb4.4,baz=310,slow=12,SNR=2.7							
NWAO				LR	LR	00 18 25.6	
comp=Z,2μm,20.6s,MS4.9,baz=335,slow=36							
BTO	**Baotou**	**40.54**	**15**	*e*P	**P**	**00 02 48.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**41.19**	**17**	⇑*e*P	**P**	**00 02 53.6**	**+0.3**
HHC				AP	pP	00 03 03.7	+1.7
HHC				XP	sP	00 03 07.3	+1.8
HHC				PP	PP	00 04 33.6	+5.0
HHC				PCP	PcP	00 04 50.4	-1.7
HHC				SCP	ScP	00 08 38.2	-1.6
HHC				S	**S**	**00 09 09.3**	**+4.4**
HHC				XS	sS	00 09 22.5	+3.3
HHC				SS	SS	00 12 09.1	+0.8
HHC				SCS	ScS	00 12 51.1	-4.4
HHC				AMB	AMB		
comp=Z,71nm,1.2s,mb5.2							
HHC				AMB	AMB		
comp=Z,294nm,7.2s							
HHC				LR	LR		
comp=N,5μm,15.6s,MS5.5							
HHC				LR	LR		
comp=E,2μm,16.8s,MS5.5							
HHC				LR	LR		
comp=Z,4μm,14.9s,MS5.4							
WRA	**Warramunga Arr**	**42.27**	**122**	P	**P**	**00 03 02.0**	**-0.2**
comp=Z,24nm,0.8s,mb4.9,baz=301,slow=9.1,SNR=111							
WRA				PcP	PcP	00 04 56.4	+0.8
comp=Z,5.6nm,0.8s,baz=306,slow=2.9,SNR=5.0							
WRA				ScP	ScP	00 08 44.3	+0.1
comp=Z,1.5nm,1.0s,baz=318,slow=3.3,SNR=4.1							
WRA				S	**S**	**00 09 18.5**	**-2.5**
comp=Z,4.6nm,1.2s,baz=294,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**42.27**	**122**	P	**P**	**00 03 02.0**	**-0.2**
WRA						00 04 56.4	
WRA				S	**S**	**00 09 18.5**	**-2.4**
WRAB	**Tennant Creek**	**42.28**	**122**	P	**P**	**00 03 02.0**	**-0.2**
comp=Z,244nm,0.8s,mb5.9,SNR=17							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**00 03 02.1**	**-0.1**
WRAB				*e**PP	pP	00 03 11.1	+0.2
WRAB				pmax	pmax		
comp=Z,40nm,0.8s,mb5.1							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**00 03 02.1**	**-0.1**
comp=Z,40nm,0.8s,mb5.1							
WRAB				*e*pP	pP	00 03 11.1	+0.1
WB2	**Warramunga Arr**	**42.28**	**122**	⇑*i*P	**P**	**00 03 02.0**	**-0.3**
KSH	**Kashi**	**42.40**	**335**	⇑*i*P	**P**	**00 03 03.5**	**+0.3**
KSH				*e*AP	pP	00 03 12.1	+0.2
KSH				*e*XP	sP	00 03 15.0	-0.4
KSH				*e*PP	PP	00 04 46.1	+4.5
KSH				*e*PCP	PcP	00 04 58.0	+1.9
KSH				*e*SCP	ScP	00 08 46.3	+1.7
KSH				*e*PCS	PcS	00 08 49.0	+1.0
KSH				*e*S	**S**	**00 09 21.1**	**-1.7**
KSH				*e*XS	sS	00 09

SNR=20
HOQ Hoqain 44.35 303 ⇑P **P 00 03 20.7 +1.8**
SNR=7.8
JNU Nakatsue 44.53 42 P **P 00 03 21.1 +0.8**
comp=Z,103nm,0.9s,mb5.7,baz=193,slow=4.3,SNR=24
ULHL Ulahol 44.62 338 P **P 00 03 21.9 +0.8**
SNR=48
KZA Kyzart 44.85 337 P **P 00 03 24.2 +1.3**
SNR=35
AAA Alma-Ata 45.25 339 *i* P **P 00 03 26.9 +0.8**
AAA *i* S **S 00 10 06.3 +1.9**
AAA pmax pmax
comp=Z,950nm,2.7s,mb6.2
AAA smax
comp=E,947nm,12.3s
UCH Uchtor 45.27 336 P **P 00 03 27.6 +1.3**
SNR=103
TKM2 Tokmak 2 45.44 338 P **P 00 03 28.6 +1.0**
SNR=62
KBK Karagaybulak 45.46 337 P **P 00 03 29.2 +1.4**
SNR=108
KS15 Wonju Array Si 45.51 35 P **P 00 03 28.4 +0.3**
KS15 *e*pP pP 00 03 38.7 +1.8
AML Almayashu 45.53 335 P **P 00 03 29.7 +1.4**
SNR=87
AAK Ala-Archa 45.62 337 P **P 00 03 30.2 +1.1**
SNR=21
AAK Ala-Archa 45.62 337 P **P 00 03 29.0 -0.1**
comp=E,258nm,1.1s,mb6.1,SNR=25
AAK Ala-Archa 45.62 337 P **P 00 03 29.2 +0.1**
AAK *e*pP pP 00 03 39.6 +1.8
AAK *e*PcP PcP 00 05 07.4 +0.4
AAK *e*PP PP 00 05 16.6 +0.5
FRU Bishkek 45.74 337 ⇑*i*P **P 00 03 30.5 +0.5**
FRU *i* pP 00 03 38.5 -0.3
FRU pmax pmax
comp=Z,250nm,2.2s,mb5.8
CHMS Chumysh 45.83 337 P **P 00 03 31.1 +0.4**
SNR=28
EKS2 Erkin-Say 45.94 336 P **P 00 03 32.8 +1.3**
SNR=97
USP Ospenovka 46.15 337 P **P 00 03 34.0 +0.7**
SNR=275
SONM Songino Array 46.74 9 P **P 00 03 38.3 +0.5**
comp=Z,93nm,0.8s,mb5.8,baz=189,slow=7.6,SNR=744
SONM PcP PcP 00 05 10.8 -0.1
comp=Z,9.6nm,0.8s,baz=180,slow=5.8,SNR=3.7
SONM LR LR 00 25 55.3
comp=Z,3μm,19.0s,MS5.2,baz=2.0,slow=39
SONM Songino Array 46.74 9 P **P 00 03 38.3 +0.4**
SONM 00 05 10.8
MKAR Makanchi Array 46.85 346 P **P 00 03 38.9 +0.2**
comp=Z,165nm,0.8s,mb6.0,baz=159,slow=7.4,SNR=932
MKAR LR LR 00 26 58.2
comp=Z,973nm,20.9s,MS4.7,baz=164,slow=41
ULN Ulaanbaatar 46.87 9 P **P 00 03 39.0 +0.1**
ULN *e**PP pP 00 03 47.4 -0.3
ULN pmax pmax
comp=Z,53nm,0.8s,mb5.5
ULN Ulaanbaatar 46.87 9 P **P 00 03 39.0 +0.1**
comp=Z,53nm,0.8s,mb5.5
ULN *e*pP pP 00 03 47.4 -0.2
ZAK Zakamensk 48.88 5 ⇓*i*P **P 00 03 54.2 -0.2**
ZAK *e* 00 05 50.1
ZAK pmax pmax
comp=Z,93nm,1.9s,mb5.5
ZAK pmax pmax
comp=Z,24nm,1.6s,mb5.0
CN2 Changchun 48.96 27 *e*P **P 00 03 54.6 -0.5**
CN2 *e*XP sP 00 04 08.0 +0.6
CN2 PCP PcP 00 05 18.5 -0.4
CN2 *e*PP PP 00 05 48.1 -0.5
CN2 *e*S **S 00 10 55.9 -1.4**
CN2 *e*SS SS 00 14 22.2 -6.1
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.4
CN2 LR LR
comp=E,2μm,16.0s,MS5.4
CN2 LR LR
comp=Z,2μm,16.0s,MS5.2
MOY Mondy 49.99 3 *e*P **P 00 04 03.2 +0.3**
MOY pmax pmax
comp=Z,90nm,4.0s
TLY Talaya 50.20 5 P **P 00 04 05.3 +0.8**
comp=Z,125nm,0.8s,mb6.0,SNR=8.2
IRK Irkutsk 50.82 6 *e*P **P 00 04 09.1 -0.1**
IRK pmax pmax
comp=Z,113nm,2.0s,mb5.5
ABKT Ailbek 50.89 320 P **P 00 04 09.0 -0.7**
comp=Z,185nm,0.7s,mb6.1,SNR=17
PMG Port Moresby 50.98 103 P **P 00 04 10.7 +0.3**
comp=Z,37nm,0.7s,mb5.4,baz=311,slow=4.6,SNR=19
HIA Hailar 51.27 19*c* *i*P **P 00 04 12.3 -0.3**
KURK Kurchatov 51.40 345 P **P 00 04 13.2 -0.3**
comp=Z,430nm,1.3s,mb6.2,SNR=56
KURK Kurchatov 51.40 345 P **P 00 04 13.7 +0.1**
KURK *e*pP pP 00 04 22.2 -0.2
MAJO Matsushiro 51.42 43 P **P 00 04 12.9 -0.8**
MAJO pmax pmax
comp=Z,33nm,0.9s,mb5.3
MAJO Matsushiro 51.42 43 P **P 00 04 12.9 -0.7**
comp=Z,33nm,0.9s,mb5.3
MAT Matsushiro 51.42 43 P **P 00 04 13.0 -0.7**
MAT S **S 00 11 39.8 +8.3**
MAT Matsushiro 51.42 43 *e*P **P 00 04 13.0 -0.7**
MAT *e*S **S 00 11 41.0 +9.5**
MAT pmax pmax
comp=Z,17nm,0.9s,mb5.0
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 51.42 43 *e*P **P 00 04 13.0 -0.7**
comp=Z,17nm,0.9s,mb5.0
MAT *e*S **S 00 11 41.0 +9.5**
MAT LR LR
comp=Z,1μm,20.0s,MS4.9
MJAR Matsushiro Arr 51.42 43 P **P 00 04 13.4 -0.3**
comp=Z,28nm,1.0s,mb5.2,baz=216,slow=6.1,SNR=40
MJAR LR LR 00 29 57.7
comp=Z,854nm,18.0s,MS4.8,baz=240,slow=40
MDJ Mudanjiang 51.53 29 P **P 00 04 14.6 +0.1**
MDJ AP pP 00 04 23.7 +0.3
MDJ XP sP 00 04 27.0 +0.1
MDJ SCP ScP 00 09 16.0 -6.9
MDJ PCS PcS 00 09 22.4 -3.9
MDJ S **S 00 11 38.2 +5.1**
MDJ SCS ScS 00 14 01.3 -1.5
MDJ AMB AMB
comp=Z,61nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,449nm,4.9s
MDJ LR LR
comp=N,802nm,15.0s,MS5.3
MDJ LR LR
comp=E,2μm,15.5s,MS5.3
MDJ LR LR
comp=Z,3μm,16.0s,MS5.4
VLA Vladivostok 51.65 32 *i* P **P 00 04 15.0 -0.4**
VLA pmax pmax
comp=Z,222nm,1.3s,mb5.9
CIT Chita 52.09 13 *e*P **P 00 04 19.6 +0.9**
CIT pmax pmax
comp=Z,218nm,1.4s,mb5.9
CTA Charters Tower 52.71 117 ⇑*i*P **P 00 04 24.2 +0.9**
comp=Z,25nm,0.9s,mb5.2
CTA Charters Tower 52.71 117 P **P 00 04 23.6 +0.3**
comp=Z,33nm,0.9s,mb5.2,baz=292,slow=8.4,SNR=30
CTA LR LR 00 31 07.9
comp=Z,1μm,19.1s,MS5.0,baz=282,slow=41
CTAO Charters Tower 52.71 117 P **P 00 04 23.9 +0.6**
CTAO pmax pmax
comp=Z,42nm,1.0s,mb5.3
CTAO Charters Tower 52.71 117 P **P 00 04 23.9 +0.6**
comp=Z,42nm,1.0s,mb5.3
ZAL Zalesovo 53.15 351 P **P 00 04 26.1 -0.4**
comp=Z,53nm,0.9s,mb5.5,baz=295,slow=6.7,SNR=268
STKA Stephens Creek 53.65 132 ⇑*i*P **P 00 04 29.0 -1.2**
comp=Z,32nm,0.9s,mb5.3
STKA Stephens Creek 53.65 132 P **P 00 04 29.3 -0.9**
comp=Z,42nm,0.9s,mb5.4,baz=313,slow=7.6,SNR=47
STKA LR LR 00 29 32.1
comp=Z,1μm,21.0s,MS4.9,baz=310,slow=38
STKA Stephens Creek 53.65 132 P **P 00 04 29.3 -0.9**
STKA LR LR 00 29 32.0
QRN Al-Qurain 54.11 305 *e*P **P 00 04 33.5 -0.1**
QRN AMb AMB 00 04 46.0
comp=Z,128nm,1.1s,mb5.8
NVS Novosibirsk 54.28 350 *i* P **P 00 04 33.6 -1.2**
NVS *i* S **S 00 12 07.6 -2.9**
NVS pmax pmax
comp=N,84nm,1.2s
NVS pmax pmax
comp=E,40nm,1.2s
NVS pmax pmax
comp=Z,87nm,1.2s,mb5.6
NVS smax
comp=N,12nm,1.6s
NVS smax
comp=E,58nm,2.4s
KRAR Krasnoyarsk 54.35 357 *i* P **P 00 04 35.2 -0.1**
KRAR pmax pmax
comp=Z,205nm,1.2s,mb5.9
KBD Kabd 54.45 305 *e*P **P 00 04 36.1 +0.1**
RDF Al-Radifah 54.48 305 *e*P **P 00 04 36.1 -0.1**
RDF AMb AMB 00 04 37.5
comp=Z,69nm,0.8s,mb5.6
UMR Umm Al-Rimmam 54.56 306 *e*P **P 00 04 36.8 -0.1**
UMR AMb AMB 00 04 38.2
comp=Z,57nm,0.8s,mb5.7
NAY Al-Naaiem 54.84 305 *e*P **P 00 04 38.7 -0.2**
NAY AMb AMB 00 04 39.9
comp=Z,36nm,0.7s,mb5.5
MIB Mutribah 54.96 306 *e*P **P 00 04 39.8 +0.1**
MIB AMb AMB 00 04 41.2
comp=Z,123nm,0.8s,mb6.0
KLR Kul'dur 55.91 27κ *i*P **P 00 04 44.2 -2.4**
KLR *e* pP 00 04 52.8 -2.7
KLR *e*S **S 00 12 30.5 -1.9**
KLR pmax pmax
comp=E,68nm,1.2s
KLR pmax pmax
comp=Z,160nm,1.2s,mb5.9
KLR MLR MLR
comp=Z,10μm,13.0s,MS6.1
BRVK Borovoye 55.93 341 P **P 00 04 45.2 -1.5**
comp=Z,263nm,0.8s,mb6.3,SNR=39
BRVK Borovoye 55.93 341 P **P 00 04 45.8 -0.9**
BRVK *e*pP pP 00 04 53.4 -2.2
HABR Khabarovsk 56.92 29 *i* P **P 00 04 53.5 -0.3**
HABR *e*S **S 00 12 45.1 -0.7**
HABR pmax pmax
comp=Z,109nm,0.8s,mb5.9
BOD Bodaibo 57.62 11 ⇓*i*P **P 00 04 58.4 -0.3**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ASAJ Asahikawa 58.36 37 P **P 00 05 04.5 +0.6**
comp=Z,20nm,0.7s,mb5.2,baz=236,slow=9.0,SNR=12
BHD Baghdad 58.56 309 *ex* x 00 05 02.0
CLNS Chul'man 59.37 17 *e*P **P 00 05 10.0 -0.9**
CLNS pmax pmax
comp=Z,56nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,40nm,0.9s
CLNS pmax pmax
comp=E,22nm,0.7s
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=N,700nm,15.0s,MS5.6
CLNS MLR MLR
comp=E,3μm,15.0s,MS5.6
KMBO Kilima Mbogo 59.97 268 P **P 00 05 17.1 +2.0**
comp=E,1.2nm,0.8s,baz=77,slow=12,SNR=4.8
KMBO LR LR 00 26 48.4
comp=E,662nm,19.8s,MS4.8,baz=277,slow=32
KMBO Kilima Mbogo 59.97 268⇑*e*P **P 00 05 17.5 +2.4**
KMBO Kilima Mbogo 59.97 268 P **P 00 05 17.8 +2.8**
YSS Yuzh-Sakhalins 60.04 34α *i*P **P 00 05 16.8 +1.3**
YSS *i* *PP pP 00 05 26.8 +2.3
YSS S **S 00 13 29.0 +2.7**
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.1
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS MLR MLR
comp=Z,1μm,15.0s,MS5.2
YSS MLR MLR
comp=N,500nm,14.0s,MS5.3
YSS MLR MLR
comp=E,1μm,14.0s,MS5.3
YUK Yuzh-Kuril'sk 60.32 39 P **P 00 05 18.0 +0.6**
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=E,4μm,15.0s
YUK MLR MLR
comp=Z,4μm,15.0s,MS5.6
MSL Mosul 60.65 311 *ex* x 00 05 36.0
ARMA Armidale 60.79 126 *e*P **P 00 05 23.3 +2.6**
DGRG David-gareji 61.12 318 P **P 00 05 23.3 +0.5**
SAMG Sameba 61.60 318 P **P 00 05 25.4 -0.8**
MTA Mtatsminda 61.62 318 P **P 00 05 25.9 -0.3**
TBLG Delisi 61.67 318 P **P 00 05 26.7 +0.1**
KZR Kazreti 61.73 317 P **P 00 05 26.5 -0.5**
DUS Dusheti 61.85 318 P **P 00 05 27.7 -0.1**
AKH Akhalkalaki 62.38 317 P **P 00 05 32.0 +0.7**
ZEI Tsey 62.68 318 *i* P **P 00 05 32.0 -1.4**
ZEI *i* *PP pP 00 05 41.3 -1.1
ZEI pmax pmax
comp=Z,25nm,1.0s,mb5.3
ARU Arti 62.80 337 P **P 00 05 33.2 -1.0**
comp=Z,175nm,0.9s,mb6.2,SNR=15
ARU Arti 62.80 337 *e*P **P 00 05 32.8 -1.4**
ARU *e**PP pP 00 05 42.9 -0.4
ARU pmax pmax
comp=Z,41nm,1.0s,mb5.5
ARU Arti 62.80 337 *e*P **P 00 05 32.8 -1.4**
comp=Z,41nm,1.0s,mb5.5
ARU *e*pP pP 00 05 42.9 -0.3
KIV Kislovodsk 63.99 319 P **P 00 05 41.6 -0.4**
comp=Z,264nm,0.9s,mb6.3,SNR=8.0
KIV Kislovodsk 63.99 319*c* *i*P **P 00 05 41.6 -0.4**
KIV *e* 00 08 00.0
KIV *e*S **S 00 14 10.6 -5.6**
KIV *e*SS SS 00 18 29.9 +4.9
KIV pmax pmax
comp=Z,63nm,1.2s,mb5.5
KIV pmax pmax
comp=Z,350nm,4.8s
KIV Kislovodsk 63.99 319 P **P 00 05 42.0 -0.1**
comp=Z,49nm,1.0s,mb5.5
KIV *e*pP pP 00 05 50.2 -0.9
GOF Gofitskoye 64.24 320 *e*P **P 00 05 42.4 -1.3**
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.4
MALT Malatya 64.84 312 P **P 00 05 48.3 +0.7**
MALT *e**PP pP 00 05 57.1 +0.4
YAK Yakutsk 65.05 16 P **P 00 05 48.3 -0.6**
YAK *e**PP pP 00 05 56.6 -1.4
YAK pmax pmax
comp=Z,217nm,0.8s,mb6.2
YAK Yakutsk 65.05 16 P **P 00 05 48.3 -0.7**
comp=Z,218nm,0.8s,mb6.2
YAK *e*pP pP 00 05 56.6 -1.4
EIL Elat 65.22 302 P **P 00 05 50.8 +0.7**
EIL *e*pP pP 00 05 59.5 +0.4
SOKR Solikamsk 65.70 339*c* *i*P **P 00 05 52.5 -0.7**
SOKR pmax pmax
comp=Z,50nm,0.8s,mb5.6
SOKR MLR MLR
comp=Z,1μm,30.0s,MS4.9
CSS Prodhromos 67.80 307 P **P 00 06 06.4 -0.2**
BR131 Keskin Array S 68.82 312 P **P 00 06 12.1 -0.8**
BR131 *e*pP pP 00 06 21.0 -1.1
BRTR Keskin Array B 68.82 312 P **P 00 06 12.0 -1.0**
comp=Z,14nm,0.8s,mb5.0,baz=131,slow=7.2,SNR=64
VRSR Storozhevoye 69.21 325 *e*P **P 00 06 13.5 -1.9**
VRSR *e**PP pP 00 06 22.3 -2.2
VRSR *e*S S 00 15 13.4 -6.1
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,0.9s
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VRSR smax
comp=N,50nm,3.8s
VRSR smax
comp=Z,10.0nm,3.2s
VRSR smax
comp=E,20nm,3.5s
VOR Voronezh 69.42 326 *e*P **P 00 06 16.0 -0.7**
VOR *e**PP pP 00 06 24.0 -1.8
VOR pmax pmax
comp=Z,90nm,1.8s,mb5.4
SIM Simferopol' 70.05 318 *e*P **P 00 06 20.8 +0.3**
SIM *e*S S 00 15 30.0 +0.7
SIM pmax pmax
comp=Z,32nm,0.9s,mb5.2
LSZ Lusaka 70.20 253 *e*P **P 00 06 22.2 +0.7**
LSZ pmax pmax
comp=Z,41nm,1.5s,mb5.1
LSZ Lusaka 70.20 253 *e*P **P 00 06 22.2 +0.7**
comp=Z,41nm,1.5s,mb5.1
MA2 Magadan 70.99 26 P **P 00 06 26.1 -0.2**
MA2 pmax pmax
comp=Z,28nm,0.8s,mb5.2
MA2 Magadan 70.99 26 P **P 00 06 26.1 -0.1**
comp=Z,28nm,0.8s,mb5.2
PET Petropavlovsk 71.92 34 *e*P **P 00 06 31.8 -0.1**
PET *e*S S 00 15 49.1 -1.9
PET *e*PS 00 16 21.1
PET pmax pmax
comp=Z,63nm,0.6s,mb5.7
PET pmax pmax
comp=Z,200nm,17.0s
PET Petropavlovsk 71.92 34 P **P 00 06 31.6 -0.3**
MOS Moscow 71.97 329α *i*P **P 00 06 31.2 -1.0**
MOS *e* pP 00 06 38.8 -2.6
MOS *e* 00 06 50.3
MOS *e* 00 09 13.0
MOS *e*S S 00 15 46.3 -5.4
MOS pmax pmax
comp=Z,92nm,1.0s,mb5.7
MOS pmax pmax
comp=Z,300nm,1.8s,mb5.9
OBN Obninsk 72.26 328 P **P 00 06 33.2 -0.8**
comp=Z,263nm,1.0s,mb6.1,SNR=6.1
OBN Obninsk 72.26 328*c* *i*P **P 00 06 32.8 -1.2**
OBN *i* pP 00 06 42.9 -0.2
OBN *e* 00 06 50.7
OBN *e* 00 09 13.1
OBN *e*S S 00 15 55.1 +0.1
OBN *e*SS SS 00 20 31.8 -1.2
OBN pmax pmax
comp=Z,44nm,0.9s,mb5.4
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.7
OBN Obninsk 72.26 328 P **P 00 06 33.2 -0.7**
comp=Z,52nm,1.0s,mb5.4
OBN *e*pP pP 00 06 42.6 -0.5
TIXI Tiksi 72.80 10 ⇓*i*P **P 00 06 33.2 -3.9**
TIXI *e*S S 00 16 01.8 +0.7
TIXI pmax pmax
comp=Z,45nm,0.9s,mb5.4
TIXI MLR MLR
comp=Z,1μm,14.0s,MS5.4
TIXI Tiksi 72.80 10 P **P 00 06 35.6 -1.6**
KLMR Klimovskoe 73.38 334 *e*P **P 00 06 36.4 -4.2**
KLMR pmax pmax
comp=Z,90nm,1.6s,mb5.5
KLMR pmax pmax
comp=Z,90nm,6.7s
KLMR MLR MLR
comp=Z,450nm,22.0s,MS4.7
SEY Seymchan 73.41 23 *e*P **P 00 06 40.3 -0.4**
SEY *e* 00 06 56.7
SEY *e*PPP 00 11 02.6
SEY *e*S S 00 16 05.9 -2.1
SEY *e*SSS 00 24 03.9
SEY pmax pmax
comp=Z,60nm,1.3s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,50nm,1.6s
SEY smax
comp=N,400nm,19.4s
SEY smax
comp=E,210nm,23.2s
SEY MLR MLR
comp=N,650nm,17.0s,MS5.4
SEY MLR MLR
comp=Z,2μm,17.0s,MS5.6
SEY MLR MLR
comp=E,2μm,18.0s,MS5.4
TIRR Tirgusor 73.82 316 ⇑P **P 00 06 40.9 -2.2**
TIRR Tirgusor 73.82 316 ⇑P **P 00 06 40.9 -2.2**
LBTB Lobatse 74.04 244 *e*P **P 00 06 45.2 +0.8**
LBTB pmax pmax
comp=Z,67nm,1.4s,mb5.4
LBTB Lobatse 74.04 244 *e*P **P 00 06 45.2 +0.7**
comp=Z,67nm,1.4s,mb5.4
KIS Kishinev 74.18 319 *e*P **P 00 06 44.0 -1.3**
KIS *e* 00 07 05.0
CFR Carcaliu 74.18 317 ⇓P **P 00 06 44.0 -1.3**
CFR Carcaliu 74.18 317 ⇓P **P 00 06 44.0 -1.2**
HARR Harsova 74.21 316 ⇓P **P 00 06 44.2 -1.2**
HARR Harsova 74.21 316 ⇓P **P 00 06 44.1 -1.3**
AKASG Malin Array Be 74.92 322 P **P 00 06 48.1 -1.4**
comp=Z,13nm,0.6s,mb5.0,baz=92,slow=4.9,SNR=57
BOSA Boshof 74.95 240 P **P 00 06 50.3 +0.6**
comp=Z,2.3nm,0.8s,baz=139,slow=7.6,SNR=3.7
BOSA LR LR 00 38 12.0
comp=Z,775nm,18.4s,MS5.0,baz=52,slow=34
BOSA Boshof 74.95 240 *e*P **P 00 06 50.1 +0.4**
BOSA *e**PP pP 00 06 58.9 -0.1
BOSA pmax pmax
comp=Z,49nm,1.2s,mb5.3
BOSA Boshof 74.95 240 *e*P **P 00 06 50.1 +0.4**
comp=Z,49nm,1.2s,mb5.3
BOSA *e*pP pP 00 06 58.9 0.0
VRI Vrincioaia 75.31 317 ⇓P **P 00 06 51.7 -0.1**
VRI Vrincioaia 75.31 317 ⇓P **P 00 06 51.7 -0.1**
MLR Muntele Rosu 75.76 317 ⇑P **P 00 06 54.1 -0.3**
MLR Muntele Rosu 75.76 317 ⇑P **P 00 06 54.1 -0.2**
VOIR 76.36 316 ⇑P **P 00 06 57.3 -0.5**
VOIR 76.36 316 ⇑P **P 00 06 57.3 -0.5**
BURAR Bucovina Array 76.71 319 ⇑P **P 00 07 00.1 +0.3**
BURAR Bucovina Array 76.71 319 ⇑P **P 00 07 00.1 +0.4**
MNK Minsk 76.80 326 *e*P **P 00 06 57.0 -3.3**
PUL Pulkovo 77.13 331 *e*P **P 00 07 01.0 -1.1**
PUL *e*S S 00 16 51.0 +1.7
PUL pmax pmax
comp=Z,64nm,0.4s,mb5.9
PUL pmax pmax
comp=N,28nm,0.3s
PUL pmax pmax
comp=E,46nm,0.4s
JOF Joensuu 77.77 335 *ep* **P 00 07 00.9 -4.8**
DRGR 78.22 317 ⇓P **P 00 07 08.1 -0.1**
DRGR 78.22 317 ⇓P **P 00 07 08.2 -0.1**
LVZ Lovozero 78.45 340 *e*P **P 00 07 08.4 -1.1**
LVZ *e*S S 00 16 58.6 -4.9
LVZ pmax pmax
comp=E,9.0nm,0.8s
LVZ pmax pmax
comp=Z,37nm,0.8s,mb5.4
LVZ smax
comp=Z,737nm,3.1s
LVZ smax
comp=N,401nm,3.0s
LVZ smax
comp=E,307nm,3.5s
APA Apatity 78.74 339 ⇑*i*P **P 00 07 10.6 -0.5**
APA *e* 00 17 18.0
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
KWP Kalwaria 78.74 320 *e*P **P 00 07 11.1 0.0**
KWP *e* pP 00 07 20.4 0.0
KWP L 00 47 10.0
comp=Z,0.2nm,27.8s
KWP Kalwaria 78.74 320 *e*P **P 00 07 11.1 0.0**
KWP *e* pP 00 07 20.4 0.0
BZS Buzias 78.77 316 ⇓P **P 00 07 11.0 -0.2**
BZS Buzias 78.77 316 ⇓P **P 00 07 11.0 -0.2**
SUW Suwalki 79.33 325 *e*P **P 00 07 13.3 -1.0**
SUW *e* pP 00 07 22.7 -0.9
SUW L 00 48 16.8
comp=Z,0.4nm,21.8s
SUW Suwalki 79.33 325 *e*P **P 00 07 13.3 -1.0**
SUW *e*PcP PcP 00 07 22.3 -0.1

SUW e pP 00 07 22.7 -0.9
RPZ Rata Peaks 79.51 135 P **P 00 07 15.4 +0.1**
comp=Z,21nm,0.8s,mb5.1,baz=337,slow=2.4,SNR=4.8
FINES FINESS Array B 79.63 332 P **P 00 07 15.1 -0.9**
comp=Z,16nm,0.8s,mb5.0,baz=104,slow=7.9,SNR=44
FINES LR LR 00 45 57.7
comp=Z,237nm,19.2s,MS4.5,baz=130,slow=38
KAF Kangasniemi 79.71 333 ep **P 00 07 12.5 -3.9**
baz=105,slow=5.1
NIE Niedzica 80.25 320 eP **P 00 07 19.4 +0.1**
FX1 Attu Island--F 80.29 37 P **P 00 07 19.8 +0.3**
comp=Z,27nm,0.9s,mb5.2,baz=6.9,slow=8.0,SNR=4.1
PSZ Piszkesteto 80.29 318⇑ iP **P 00 07 19.3 -0.2**
PSZ Piszkesteto 80.29 318 epP pP 00 07 28.7 -0.1
TSUM Tsumeb 80.69 250 ePcP PcP 00 07 30.6 +2.2
comp=Z,38nm,1.0s
TSUM epP pP 00 07 32.7 +1.7
OJC Ojcow 80.70 321 eP **P 00 07 21.5 -0.2**
BILL Bilibino 80.80 21 eP **P 00 07 21.1 -1.2**
BILL e pP 00 07 28.0 -3.6
BILL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BILL Bilibino 80.80 21 eP **P 00 07 21.1 -1.2**
comp=Z,9.3nm,0.8s,mb4.8
BILL ePcP PcP 00 07 28.0 -0.9
PKSM Moragy 80.91 316 P **P 00 07 22.4 -0.4**
OKC Ostrava-Krasne 81.70 320 eP **P 00 07 24.9 -2.1**
OKC epP pP 00 07 32.4 -3.9
RAC Raciborz 81.70 320 eP **P 00 07 27.0 0.0**
KEV Kevo 81.72 341 ep **P 00 07 24.6 -2.5**
comp=Z,20nm,0.8s,mb5.1
KEV Kevo 81.72 341 eP **P 00 07 24.6 -2.5**
KEV pmax pmax
comp=Z,20nm,0.8s,mb5.1
MORC Moravsky Berou 82.08 320 P **P 00 07 29.1 +0.1**
ARCES ARCESS Array B 82.15 340 P **P 00 07 28.8 -0.6**
comp=Z,29nm,0.9s,mb5.2,baz=104,slow=5.0,SNR=32
ARCES LR LR 00 48 17.1
comp=Z,596nm,21.0s,MS4.9,baz=322,slow=39
KOGS Kog 82.58 316 eP **P 00 07 31.3 -0.3**
DPC Dobruska-Polom 82.93 320 eP **P 00 07 33.2 -0.2**
DPC epP pP 00 07 41.1 -1.7
KSP Ksiaz 83.00 321 eP **P 00 07 33.8 0.0**
KSP e pP 00 07 42.9 -0.2
KSP L 00 51 39.8
comp=Z,0.6nm,20.6s
KSP Ksiaz 83.00 321⇑ eP **P 00 07 33.7 -0.1**
KSP epP pP 00 07 42.6 -0.5
KSP eS S 00 17 51.0 0.0
URZ Urewera 83.09 129 P **P 00 07 33.9 -0.3**
comp=Z,14nm,1.0s,mb5.0,baz=156,slow=9.7,SNR=3.9
URZ LR LR 00 44 19.0
comp=Z,835nm,20.3s,MS5.1,baz=259,slow=36
DOBS Dobrina 83.09 316 eP **P 00 07 34.2 -0.1**
GROS Grobnik 83.10 316 eP **P 00 07 34.2 -0.1**
UPC Upice 83.14 321 eP **P 00 07 34.5 0.0**
UPC epP pP 00 07 41.0 -2.9
ARSA Arzberg 83.15 317⇑ iP **P 00 07 34.6 0.0**
comp=Z,16nm,0.9s,mb5.0
ARSA Arzberg 83.15 317⇑ P **P 00 07 34.6 0.0**
comp=Z,16nm,0.9s,mb5.1
PERS Pernice 83.38 317 eP **P 00 07 35.7 -0.1**
PERS epP pP 00 07 44.6 -0.5
LJU Ljubljana 83.74 316 eP **P 00 07 37.7 +0.1**
LJU epP pP 00 07 45.2 -1.8
PRU Pruhonice 84.03 320 eP **P 00 07 38.8 -0.3**
PRU epP pP 00 07 46.0 -2.5
PRU AMS AMS 00 52 00.0
comp=Z,400nm,22.7s
MOA Molln 84.05 318⇑ iP **P 00 07 39.2 0.0**
comp=Z,7.5nm,0.8s,mb4.8
PVCC Panska Ves 84.06 320 eP **P 00 07 39.1 -0.2**
PVCC epP pP 00 07 46.4 -2.2
AQU L'Aquila 84.31 312 P **P 00 07 41.6 +1.0**
AQU pmax pmax
comp=Z,15nm,0.9s,mb5.1
BRG Berggiesshubel 84.48 321 eP **P 00 07 41.1 -0.3**
comp=Z,11nm,1.0s,mb4.9
BRG i pP 00 07 50.1 -0.6
comp=Z,38nm,1.8s
BRG Berggiesshubel 84.48 321 eP **P 00 07 41.2 -0.2**
BRG i pP 00 07 50.1 -0.6
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.9
GEC2 GERESS Array S 84.50 319 eP **P 00 07 40.4 -1.1**
GEC2 pmax pmax
comp=Z,49nm,1.2s,mb5.5
GEC2 GERESS Array S 84.50 319 eP **P 00 07 40.4 -1.1**
comp=Z,49nm,1.2s,mb5.5
GERES GERESS Array B 84.50 319 P **P 00 07 41.4 -0.1**
comp=Z,11nm,0.9s,mb5.0,baz=104,slow=5.5,SNR=43
KHC Kasperske Hory 84.59 319 eP **P 00 07 41.2 -0.8**
KHC epP pP 00 07 48.2 -3.1
KBA Koelnbreinsper 84.62 317⇑ iP **P 00 07 40.4 -1.8**
comp=Z,7.4nm,1.2s,mb4.7
KBA Koelnbreinsper 84.62 317⇑ P **P 00 07 40.4 -1.7**
KBA pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
RUE Ruedersdorf 84.70 322 P **P 00 07 42.5 -0.1**
comp=Z,30nm,0.8s,mb5.5
RUE epP pP 00 07 51.2 -0.7
WET Wettzell 85.05 319 eP **P 00 07 44.0 -0.3**
WET pmax pmax
comp=Z,16nm,1.1s,mb5.1
WET Wettzell 85.05 319 eP **P 00 07 44.0 -0.3**
comp=Z,16nm,1.1s,mb5.1
CLL Collm 85.10 321 eP **P 00 07 44.0 -0.5**
comp=Z,10.0nm,0.9s,mb5.0
CLL epP pP 00 07 53.0 -0.9
comp=Z,22nm,1.1s
CLL LmV 00 52 00.0
comp=Z,200nm,21.8s
CLL Collm 85.10 321 eP **P 00 07 44.0 -0.5**
comp=Z,10.0nm,0.9s,mb5.0
CLL epP pP 00 07 53.0 -0.9
NKC Novy Kostel 85.39 320 eP **P 00 07 46.1 +0.1**
NKC epP pP 00 07 54.9 -0.4
NKC AMS AMS 00 52 50.0
comp=Z,400nm,17.8s
NKC Novy Kostel 85.39 320 eP **P 00 07 46.1 +0.1**
NKC epP pP 00 07 54.9 -0.4
WTTA Wattenberg 85.80 317⇑ iP **P 00 07 47.1 -0.8**
comp=Z,15nm,0.8s,mb5.2
WTTA Wattenberg 85.80 317⇑ P **P 00 07 47.1 -0.9**
WTTA pmax pmax
comp=Z,15nm,0.8s,mb5.3
WATA Walderalm 85.84 317⇑ iP **P 00 07 47.1 -1.1**
comp=Z,6.4nm,1.0s,mb4.8
WATA Walderalm 85.84 317⇑ P **P 00 07 47.1 -1.1**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
MOX Moxa 85.94 320 e(P) **P 00 07 48.6 -0.1**
MOX e pP 00 07 57.7 -0.4
comp=Z,28nm,1.5s
MOX Moxa 85.94 320 P **P 00 07 48.6 -0.1**
MOX e pP 00 07 57.7 -0.4
MOX pmax pmax
comp=Z,28nm,1.5s,mb5.3
MOX Moxa 85.94 320 P **P 00 07 48.6 -0.1**
comp=Z,28nm,1.5s,mb5.3
MOX e pP 00 07 57.7 -0.4
FUR Furstenfeldbru 86.07 318 eP **P 00 07 48.2 -1.1**
FUR pmax pmax
comp=Z,16nm,1.2s,mb5.1
FUR Furstenfeldbru 86.07 318 eP **P 00 07 48.2 -1.1**
comp=Z,16nm,1.2s,mb5.1
SQTA Sankt Quirin 86.08 317⇑ iP **P 00 07 48.7 -0.7**
comp=Z,6.2nm,0.9s,mb4.9
SQTA Sankt Quirin 86.08 317⇑ P **P 00 07 48.7 -0.7**
SQTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SQTA Sankt Quirin 86.08 317⇑ P **P 00 07 48.7 -0.8**
comp=Z,6.2nm,0.9s,mb4.8
MOTA Moosalm 86.16 317⇑ iP **P 00 07 48.1 -1.7**
comp=Z,12nm,1.0s,mb5.0
MOTA Moosalm 86.16 317⇑ P **P 00 07 48.1 -1.7**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb5.1
MOTA Moosalm 86.16 317⇑ P **P 00 07 48.1 -1.7**
comp=Z,12nm,1.0s,mb5.1
GRA1 Grafenberg Arr 86.16 320 eP **P 00 07 49.8 0.0**
comp=Z,41nm,1.1s,mb5.6
GRA1 epP pP 00 07 57.3 -1.8
GRA1 LR LR
comp=Z,400nm,19.5s,MS4.8
GRF Grafenberg Arr 86.16 320 eP **P 00 07 49.8 0.0**
GRF e*PP pP 00 07 57.3 -1.8
GRF pmax pmax
comp=Z,41nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,400nm,19.5s,MS4.8
GRF Grafenberg Arr 86.16 320 eP **P 00 07 49.8 0.0**
GRF e*PP pP 00 07 57.3 -1.8
GRF pmax pmax
comp=Z,41nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,400nm,19.5s,MS4.8
GRF Grafenberg Arr 86.16 320 eP **P 00 07 49.8 0.0**
comp=Z,41nm,1.1s,mb5.6
GRF epP pP 00 07 57.3 -1.8
GRF LR LR
comp=Z,400nm,19.5s,MS4.8
NB2 NORSAR Subarra 86.64 331 P **P 00 07 50.9 -1.3**
comp=Z,19nm,0.9s,mb5.3,baz=95,slow=4.8
NOA NORSAR Array B 86.64 331 P **P 00 07 51.3 -0.9**
comp=Z,12nm,0.9s,mb5.2,baz=94,slow=5.0,SNR=23
NOA LR LR 00 54 09.8
comp=Z,254nm,19.6s,MS4.6,baz=250,slow=41
CLZ Clausthal 86.77 322 eP **P 00 07 52.5 -0.3**
CLZ pmax pmax
comp=Z,24nm,1.3s,mb5.3
CLZ Clausthal 86.77 322 eP **P 00 07 52.5 -0.3**
comp=Z,24nm,1.3s,mb5.3
BSEG Bad Segeberg 86.86 324 eP **P 00 07 52.8 -0.4**
DAVA Damuels 86.99 317⇑ iP **P 00 07 53.8 -0.1**
comp=Z,18nm,1.0s,mb5.2
PGF Pioggiola 87.58 312 eP **P 00 07 56.5 -0.2**
comp=Z,72nm,1.3s,mb5.5
PGF Pioggiola 87.58 312 eP **P 00 07 56.5 -0.2**
PGF pmax pmax
comp=Z,36nm,1.3s,mb5.4
PGF Pioggiola 87.58 312 eP **P 00 07 56.5 -0.2**
comp=Z,36nm,1.3s,mb5.4
TNS Taunus Mts 87.96 320 eP **P 00 07 58.3 -0.2**
TNS pmax pmax
comp=Z,18nm,1.3s,mb5.1
TNS Taunus Mts 87.96 320 eP **P 00 07 58.3 -0.2**
comp=Z,18nm,1.3s,mb5.1
BFO Black Forest 88.04 318 eP **P 00 07 58.0 -0.9**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
BFO Black Forest 88.04 318 eP **P 00 07 58.0 -0.9**
comp=Z,9.0nm,1.1s,mb4.9
SBF Sospel 88.71 314 eP **P 00 08 01.5 -0.6**
comp=Z,60nm,1.1s,mb5.5
SBF Sospel 88.71 314 eP **P 00 08 01.5 -0.6**
SBF pmax pmax
comp=Z,30nm,1.1s,mb5.5
SBF Sospel 88.71 314 eP **P 00 08 01.5 -0.6**
comp=Z,30nm,1.1s,mb5.5
LPG La Plagne 89.16 315 eP **P 00 08 04.0 -0.2**
comp=Z,46nm,1.2s,mb5.4
LPG La Plagne 89.16 315 eP **P 00 08 04.0 -0.2**
LPG pmax pmax
comp=Z,23nm,1.2s,mb5.4
LPG La Plagne 89.16 315 eP **P 00 08 04.0 -0.2**
comp=Z,23nm,1.2s,mb5.4
MBDF Montbardon 89.17 315 eP **P 00 08 05.0 +0.8**
comp=Z,25nm,1.2s,mb5.1
MBDF Montbardon 89.17 315 eP **P 00 08 05.0 +0.8**
MBDF pmax pmax
comp=Z,12nm,1.2s,mb5.1
MBDF Montbardon 89.17 315 eP **P 00 08 05.0 +0.8**
comp=Z,12nm,1.2s,mb5.1
LPL La Plagne 89.18 315⇑ iP **P 00 08 04.1 -0.2**
comp=Z,46nm,1.1s,mb5.4
LPL La Plagne 89.18 315⇑ iP **P 00 08 04.1 -0.2**
LPL pmax pmax
comp=Z,23nm,1.1s,mb5.4
LPL La Plagne 89.18 315⇑ iP **P 00 08 04.1 -0.2**
comp=Z,23nm,1.1s,mb5.4
BNI Bardonecchia 89.23 315 P **P 00 08 07.4 +2.9**
BNI e*PP pP 00 08 13.6 -0.3
FRF La Foret Royal 89.29 313⇑ iP **P 00 08 04.6 -0.2**
HAU Haudompre 89.37 318⇑ iP **P 00 08 05.5 +0.3**
comp=Z,51nm,1.2s,mb5.4
HAU eR
comp=Z,354nm,21.5s
HAU Haudompre 89.37 318⇑ iP **P 00 08 05.5 +0.3**
HAU pmax pmax
comp=Z,25nm,1.2s,mb5.4
HAU MLR MLR
comp=Z,350nm,21.5s,MS4.8
HAU Haudompre 89.37 318⇑ iP **P 00 08 05.5 +0.3**
comp=Z,25nm,1.2s,mb5.4
HAU LR LR
comp=Z,350nm,21.5s,MS4.8
WLF Walferdange 89.45 319 P **P 00 08 06.5 +0.9**
WLF pmax pmax
comp=Z,26nm,1.1s,mb5.5
CABF La Chapelle 89.59 316⇑ iP **P 00 08 06.2 0.0**
comp=Z,81nm,1.2s,mb5.6
CABF La Chapelle 89.59 316⇑ iP **P 00 08 06.2 0.0**
CABF pmax pmax
comp=Z,40nm,1.2s,mb5.6
CABF La Chapelle 89.59 316⇑ iP **P 00 08 06.2 0.0**
comp=Z,40nm,1.2s,mb5.6
ORIF Oris-en-Rattie 89.80 315 eP **P 00 08 07.2 0.0**
comp=Z,35nm,1.1s,mb5.3
ORIF eR
comp=Z,344nm,22.5s
ORIF Oris-en-Rattie 89.80 315 eP **P 00 08 07.2 0.0**
ORIF pmax pmax
comp=Z,18nm,1.1s,mb5.3
ORIF Oris-en-Rattie 89.80 315 eP **P 00 08 07.2 0.0**
comp=Z,18nm,1.1s,mb5.3
NVL N'lazarevskaya 89.96 199 eP **P 00 08 19.0 +11**
NVL e*PP pP 00 08 28.8 +12
NVL e*SP sP 00 08 33.2 +13
NVL e 00 11 40.5
NVL eSP SS 00 25 04.7 +7.9
NVL pmax pmax
comp=Z,56nm,1.0s,mb5.8
SMRF Simiane la Rot 90.05 314 eP **P 00 08 08.7 +0.3**
MEZF Maizieres J'vi 90.22 318⇑ iP **P 00 08 08.8 -0.3**
comp=Z,34nm,1.1s,mb5.3
MEZF Maizieres J'vi 90.22 318⇑ iP **P 00 08 08.8 -0.3**
comp=Z,34nm,1.1s,mb5.6
GIVF Givet 90.29 320⇑ iP **P 00 08 09.2 -0.3**
VIVF Saint-Julien-I 90.66 315 eP **P 00 08 11.1 -0.1**
BAIF Baives 90.69 320⇑ iP **P 00 08 11.3 0.0**
comp=Z,99nm,1.2s,mb5.7
BAIF Baives 90.69 320⇑ iP **P 00 08 11.3 0.0**
BAIF pmax pmax
comp=Z,50nm,1.2s,mb5.7
BAIF Baives 90.69 320⇑ iP **P 00 08 11.3 0.0**
comp=Z,50nm,1.2s,mb5.7
LOR Lormes 91.09 317⇑ iP **P 00 08 12.9 -0.3**
comp=Z,103nm,1.3s,mb5.7
LOR eR
comp=Z,270nm,19.2s
LOR Lormes 91.09 317⇑ iP **P 00 08 12.9 -0.3**
LOR pmax pmax
comp=Z,51nm,1.3s,mb5.7
LOR MLR MLR
comp=Z,270nm,19.3s,MS4.7
LOR Lormes 91.09 317⇑ iP **P 00 08 12.9 -0.3**
comp=Z,51nm,1.3s,mb5.7
LOR LR LR
comp=Z,270nm,19.3s,MS4.7
SMF Signal de Mont 91.14 317⇑ iP **P 00 08 13.0 -0.4**
comp=Z,64nm,1.1s,mb5.5
SMF Signal de Mont 91.14 317⇑ iP **P 00 08 13.0 -0.4**
SMF pmax pmax
comp=Z,32nm,1.1s,mb5.6
SMF Signal de Mont 91.14 317⇑ iP **P 00 08 13.0 -0.4**
comp=Z,32nm,1.1s,mb5.6
SSF Saint Saulge 91.34 317⇑ iP **P 00 08 14.2 -0.2**
comp=Z,54nm,1.4s,mb5.4
SSF Saint Saulge 91.34 317⇑ iP **P 00 08 14.2 -0.2**
SSF pmax pmax
comp=Z,27nm,1.4s,mb5.4
SSF Saint Saulge 91.34 317⇑ iP **P 00 08 14.2 -0.2**
comp=Z,27nm,1.4s,mb5.4
AVF Avril sur Loir 91.47 317⇑ iP **P 00 08 14.6 -0.3**
comp=Z,64nm,1.2s,mb5.5
AVF Avril sur Loir 91.47 317⇑ iP **P 00 08 14.6 -0.3**
AVF pmax pmax
comp=Z,32nm,1.2s,mb5.5
AVF Avril sur Loir 91.47 317⇑ iP **P 00 08 14.6 -0.3**
comp=Z,32nm,1.2s,mb5.5
QSPA South Pole Qui 91.54 180 eP **P 00 08 14.5 -0.8**
comp=Z,7.5nm,1.0s,mb5.0
QSPA epP pP 00 08 23.5 -1.2
BGF Bois d'Agland 91.83 316⇑ iP **P 00 08 16.7 +0.1**
comp=Z,87nm,1.1s,mb5.7
BGF Bois d'Agland 91.83 316⇑ iP **P 00 08 16.7 +0.1**
BGF pmax pmax
comp=Z,43nm,1.1s,mb5.7
BGF Bois d'Agland 91.83 316⇑ iP **P 00 08 16.7 +0.1**
comp=Z,43nm,1.1s,mb5.7
HYF Humbligny 91.92 317 eP **P 00 08 17.2 +0.2**
TCF Toulx Ste Croi 92.29 316 eP **P 00 08 18.7 0.0**
comp=Z,72nm,1.8s,mb5.4
TCF Toulx Ste Croi 92.29 316 eP **P 00 08 18.7 0.0**
TCF pmax pmax
comp=Z,36nm,1.8s,mb5.4
TCF Toulx Ste Croi 92.29 316 eP **P 00 08 18.7 0.0**
comp=Z,36nm,1.8s,mb5.4
CAF Calviac 92.50 315 eP **P 00 08 19.9 +0.2**
comp=Z,69nm,1.4s,mb5.6
CAF Calviac 92.50 315 eP **P 00 08 19.9 +0.2**
CAF pmax pmax
comp=Z,34nm,1.4s,mb5.6
CAF Calviac 92.50 315 eP **P 00 08 19.9 +0.2**
comp=Z,34nm,1.4s,mb5.6
MTLF Montolieu 92.52 313 eP **P 00 08 19.9 +0.1**
comp=Z,48nm,1.2s,mb5.5
MTLF Montolieu 92.52 313 eP **P 00 08 19.9 +0.1**
MTLF pmax pmax
comp=Z,24nm,1.2s,mb5.5
MTLF Montolieu 92.52 313 eP **P 00 08 19.9 +0.1**
comp=Z,24nm,1.2s,mb5.5
RJF Les Rejaudoux 92.86 315 eP **P 00 08 21.5 +0.1**
RJF eR
comp=Z,252nm,19.5s
RJF Les Rejaudoux 92.86 315 eP **P 00 08 21.5 +0.1**
RJF LR LR
comp=Z,250nm,19.5s,MS4.7
LFF La Frestale 93.44 315 eP **P 00 08 24.3 +0.3**
comp=Z,69nm,1.3s,mb5.6
LFF La Frestale 93.44 315 eP **P 00 08 24.3 +0.3**
LFF pmax pmax
comp=Z,34nm,1.3s,mb5.6
LFF La Frestale 93.44 315 eP **P 00 08 24.3 +0.3**
comp=Z,34nm,1.3s,mb5.6
LDF La Druitiere 93.64 319 eP **P 00 08 24.7 -0.3**
comp=Z,40nm,1.3s,mb5.4
LDF La Druitiere 93.64 319 eP **P 00 08 24.7 -0.3**
LDF pmax pmax
comp=Z,20nm,1.3s,mb5.4
LDF La Druitiere 93.64 319 eP **P 00 08 24.7 -0.3**
comp=Z,20nm,1.3s,mb5.4
FLN La Foliniere 93.86 319 eP **P 00 08 25.7 -0.3**
FLN eR
comp=Z,226nm,19.2s
FLN La Foliniere 93.86 319 eP **P 00 08 25.7 -0.3**
FLN LR LR
comp=Z,230nm,19.3s,MS4.7
MFF Saint Martin d 93.88 317 eP **P 00 08 25.8 -0.3**
comp=Z,39nm,1.3s,mb5.4
MFF Saint Martin d 93.88 317 eP **P 00 08 25.8 -0.3**
MFF pmax pmax
comp=Z,20nm,1.3s,mb5.4
MFF Saint Martin d 93.88 317 eP **P 00 08 25.8 -0.3**
comp=Z,20nm,1.3s,mb5.4
EPF Esparros 93.92 313 eP **P 00 08 25.8 -0.4**
GRR Gorron 94.15 319 eP **P 00 08 27.0 -0.3**
comp=Z,43nm,1.5s,mb5.4
GRR Gorron 94.15 319 eP **P 00 08 27.0 -0.3**
GRR pmax pmax
comp=Z,22nm,1.5s,mb5.4
GRR Gorron 94.15 319 eP **P 00 08 27.0 -0.3**
comp=Z,22nm,1.5s,mb5.4
ETSF Etsaut 94.59 313 eP **P 00 08 28.5 -0.8**
comp=Z,24nm,1.1s,mb5.2
ETSF Etsaut 94.59 313 eP **P 00 08 28.5 -0.8**
ETSF pmax pmax
comp=Z,12nm,1.1s,mb5.2
ETSF Etsaut 94.59 313 eP **P 00 08 28.5 -0.8**
comp=Z,12nm,1.1s,mb5.2
TORD Torodi Ar. Bea 94.97 283 P **P 00 08 31.8 +0.7**
comp=Z,1.4nm,0.8s,mb4.4,baz=82,slow=4.3,SNR=9.3
TORD PP PP 00 12 26.9 +6.6
comp=Z,1.5nm,1.0s,baz=87,slow=6.2,SNR=5.1
SJPF Ste Jean 95.05 313 eP **P 00 08 30.6 -0.8**
comp=Z,35nm,1.3s,mb5.3
SJPF Ste Jean 95.05 313 eP **P 00 08 30.6 -0.8**
SJPF pmax pmax
comp=Z,18nm,1.3s,mb5.3
SJPF Ste Jean 95.05 313 eP **P 00 08 30.6 -0.8**
comp=Z,18nm,1.3s,mb5.3
IMA2 Indian Mountai 96.22 23 eP **P 00 08 37.0 +0.2**
IMA2 epP pP 00 08 44.3 -1.9
ILAR Eielson Array 99.34 23 P PP 00 12 44.0 -10
comp=Z,1.5nm,0.9s,baz=300,slow=5.4,SNR=5.3
ILAR PKKPbc PKKPbc 00 25 22.6 +8.4
comp=Z,1.0nm,0.8s,baz=141,slow=1.6,SNR=12
ILAR LR LR 01 00 43.3
comp=Z,519nm,20.9s,MS5.0,baz=176,slow=40
YKA Yellowknife Ar 111.72 15 PKiKP PKiKP 00 13 42.8 -0.4
comp=Z,0.5nm,0.9s,baz=325,slow=2.4,SNR=5.4
YKA PP PP 00 14 17.9 -7.5
comp=Z,1.1nm,0.8s,baz=328,slow=7.8,SNR=5.8
YKA PKKPbc PKKPbc 00 24 44.3 +7.9
comp=Z,0.7nm,0.8s,baz=145,slow=3.3,SNR=12
YKA Yellowknife Ar 111.72 15 PKPdf PKiKP 00 13 42.8 -0.4
YKA PP PP 00 14 17.9 -7.5
YKA PKKPbc PKKPbc 00 24 44.3 +7.9
SCHQ Schefferville 122.23 349 PKP PKPdf 00 14 02.2 -1.2
comp=Z,1.1nm,0.6s,baz=31,slow=5.9,SNR=3.2
SCHQ Schefferville 122.23 349 PKP PKPdf 00 14 02.2 -1.2
MSO Missoula 124.58 26 PKPdf PKPdf 00 14 07.8 -0.1
MOD Modoc 125.02 34 PKPdf PKPdf 00 14 09.9 +1.1
DGMT Dagmar 126.79 18 PP PP 00 16 09.2 -0.1
HLID Hailey 126.87 28 PKPdf PKPdf 00 14 13.5 +1.2
HLID PP PP 00 16 10.9 +1.0
ULM Lac du Bonnet 127.15 10 PKP PKPdf 00 14 12.4 -0.4
comp=Z,4.3nm,0.8s,baz=323,slow=3.9,SNR=10
LAO LASA Array 127.70 20 PKPdf PKPdf 00 14 14.6 +0.7
MOOW Moose Ponds 128.39 26 PP PP 00 16 21.5 +1.6
NVAR Mina Array Bea 128.48 36 PKP PKPdf 00 14 16.5 +1.1
comp=Z,2.2nm,0.8s,baz=265,slow=2.6,SNR=13
LOHW Long Hollow 128.56 26 PP PP 00 16 30.9 +10
REDW Red Top Meadow 128.65 26 PP PP 00 16 31.4 +10
BW06 Boulder Array 129.69 25 PP PP 00 16 29.5 +1.1
PDAR Pinedale Array 129.69 25 PKP PKPdf 00 14 18.6 +0.9
comp=Z,1.4nm,0.7s,baz=225,slow=2.1,SNR=5.8
PDAR PP PP 00 16 23.9 -4.5
comp=Z,1.0nm,0.9s,baz=11,slow=4.6,SNR=3.0
DUG Dugway 130.20 30 PKIKP PKPdf 00 14 20.8 +2.2
GSC Goldstone 131.46 38 SKPbc SKPbc 00 17 45.6 +1.5
TMUT Trail Mountain 131.68 30 ePKPdf PKPdf 00 14 21.9 +0.4
MVU Marysvale 131.78 31 PKPdf PKPdf 00 14 30.1 +8.5
MSU Marysvale 131.79 31 PKPdf PKPdf 00 14 24.4 +2.7
MSU SKPbc SKPbc 00 17 47.1 +1.8
ISCO Idaho Springs 133.82 24 PP PP 00 16 55.7 +0.8
ANMO Albuquerque 137.43 29 PKPdf PKPdf 00 14 35.8 +3.6
ANMO SKPbc SKPbc 00 18 05.3 +1.8
PLCA Paso Flores 139.49 194 PKP PKPdf 00 14 36.0 0.0
comp=Z,1.7nm,0.8s,baz=161,slow=5.6,SNR=4.0
PLCA Paso Flores 139.49 194 PKP PKPdf 00 14 36.0 0.0
PLCA PKPdf PKiKP 00 14 46.5 +8.2
MNTX Cornudas Mount 140.57 31 PKPdf PKPdf 00 14 46.5 +8.5
MIAR Mount Ida 142.66 15 PKPdf PKPdf 00 14 37.7 -4.0
BAO Brasilia Array 142.93 246 P PKPdf 00 14 44.0 +1.9
BDFB Brasilia 142.95 246 PKP PKPdf 00 14 40.6 -1.5
comp=Z,3.7nm,0.7s,baz=132,slow=2.3,SNR=5.6
TXAR Lajitas Array 143.34 31 PKP PKPdf 00 14 40.7 -2.2
comp=Z,2.9nm,0.8s,baz=249,slow=1.5,SNR=20
TXAR PP PP 00 17 52.1 -1.8
comp=Z,0.8nm,0.9s,baz=310,slow=7.0,SNR=3.1
OXF Oxford 143.55 9 PKPdf PKPdf 00 14 51.0 +7.7
JCT Junction City 144.23 26 PKIKP PKPdf 00 14 43.3 -1.1
COW Cow Castle Cre 145.15 357 ePKP PKPdf 00 14 46.2 +0.2
CPUP Villa Florida 145.28 223 PKIKP PKPdf 00 14 46.6 +0.4
LRAL Lakeview Retre 145.33 6 epPKP PKPdf 00 14 43.0 -3.4
NHSC New Hope 145.39 356 PKPdf PKPdf 00 14 47.0 +0.5
HKT Hockley 146.26 21 PKP2 PKPab 00 14 48.7 -1.1
SAML Samuel 159.13 249 ePKPdf PKPdf 00 15 07.8 +1.1
SAML epPKPdf pPKPdf 00 15 15.9 -0.5
LPAZ La Paz 159.44 224 PKP PKPdf 00 15 08.9 +1.9
comp=Z,1.5nm,0.8s,baz=32,slow=4.8,SNR=7.3
LPAZ La Paz 159.44 224 ePKPdf PKPdf 00 15 08.9 +1.9
LPAZ epPKPdf pPKPdf 00 15 17.1 +0.4

*IDC **07** 00:06:32.5±1.1, 5825×13188E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4. 1/12, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=76.2km s-min=28.7km az=69.0*
*ISCJB **07** 00:06:34.9±0.6, 6055±007×1317E±02, h33km, mb4.3/11, Error ellipse: s-maj=26.9km s-min=5.1km az=143.6*
*NEIC **07** 00:06:38.4±0.5, 6.17S×13132E, h35km, mb4.3/8, Error ellipse: s-maj=25.8km s-min=7.1km az=61.0*

ISC 07 00:06:37.3±0.6, 603S±007×1317E±02, h35km, n29, σ0°97/31, mb4.3/11, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.05**	**170**	*e*Pn	**Pn**	**00 09 53.9**	**+0.1**
WRAB				*e*Sn	**Sn**	**00 12 27.7**	**-0.8**
WRA	**Warramunga Arr**	**14.06**	**170**	Pn	**Pn**	**00 09 53.0**	**-0.9**
	0.8nm,0.3s,baz=345,slow=14,SNR=11						
WRA				Sn	**Sn**	**00 12 29.8**	**+1.2**
	0.4nm,0.3s,baz=357,slow=23,SNR=5.1						
WB2	**Warramunga Arr**	**14.06**	**170**	*e*P	**Pn**	**00 09 52.9**	**-1.1**
WB2				*e*S	**Sn**	**00 12 25.8**	**-2.9**
ASAR	**Alice Springs**	**17.66**	**173**	P	**Pn**	**00 10 41.2**	**+0.7**
	0.8nm,0.3s,baz=355,slow=8.1,SNR=11						
ASAR				S	**S**	**00 13 53.8**	**-8.8**
	0.1nm,0.3s,baz=0.0,slow=27,SNR=4.0						
ASPA	**Alice Springs**	**17.66**	**173**	*e*P	**Pn**	**00 10 42.1**	**+1.6**
MBWA	**Marble Bar**	**19.02**	**217**	*e*P	**Pn**	**00 11 00.2**	**+3.2**
	12nm,0.9s						
KKM	**Kota Kinabalu**	**19.60**	**307**	*e*P	**Pn**	**00 11 03.4**	**-0.6**
CTA	**Charters Tower**	**19.85**	**136**	*e*P	**Pn**	**00 11 08.1**	**+1.1**
	4.2nm,0.9s						
CTA	**Charters Tower**	**19.85**	**136**	P	**Pn**	**00 11 09.3**	**+2.3**
	0.3nm,0.3s,baz=296,slow=11,SNR=4.0						
CTA	**Charters Tower**	**19.85**	**136**	P	**Pn**	**00 11 09.3**	**+2.3**
CTAO	**Charters Tower**	**19.85**	**136**	*e*P	**Pn**	**00 11 09.7**	**+2.7**
	4.5nm,0.8s						
LSA	**Lhasa**	**52.72**	**315**	*e*P	**P**	**00 15 48.1**	**-0.4**
	1.5nm,0.4s,mb4.3						
JIRN	**Jiri**	**55.28**	**310**	*e*P	**P**	**00 16 07.2**	**0.0**
GUN	**Gumba**	**55.64**	**310**	*e*P	**P**	**00 16 09.7**	**-0.1**
PKI	**Pulchoki**	**55.84**	**309**	*e*P	**P**	**00 16 11.1**	**-0.1**
KKN	**Kakani**	**56.04**	**309**	*e*P	**P**	**00 16 12.9**	**+0.3**
DMN	**Daman**	**56.09**	**309**	*e*P	**P**	**00 16 13.7**	**+0.7**
	6.8nm,0.7s,mb4.8						
GKN	**Gorkha**	**56.64**	**309**	*e*P	**P**	**00 16 17.0**	**+0.1**
	16nm,0.9s,mb5.0						
KOLN	**Koldanda**	**57.34**	**308**	*e*P	**P**	**00 16 22.1**	**+0.3**
	8.3nm,0.8s,mb4.8						
SONM	**Songino Array**	**58.10**	**340**	P	**P**	**00 16 27.5**	**+0.3**
	0.6nm,0.7s,mb3.8,baz=154,slow=6.3,SNR=5.3						
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**00 17 36.0**	**+0.7**
	3.6nm,0.8s,mb4.5,baz=116,slow=6.9,SNR=31						
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**00 17 36.0**	**+0.7**
ZAL	**Zalesovo**	**71.50**	**333**	P	**P**	**00 17 53.5**	**-0.9**
	0.9nm,0.6s,mb3.9,baz=349,slow=4.8,SNR=5.5						
KURK	**Kurchatov**	**72.61**	**328**	*e*P	**P**	**00 18 01.2**	**+0.1**
	1.7nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**78.18**	**327**	P	**P**	**00 18 32.9**	**-0.2**
	2.0nm,0.7s,mb4.2,baz=126,slow=11,SNR=11						
BRVK	**Borovoye**	**78.25**	**327**	*e*P	**P**	**00 18 33.6**	**+0.1**
	1.5nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**91.74**	**25**	P	**P**	**00 19 39.4**	**-1.9**
	0.2nm,0.6s,mb3.6,baz=253,slow=4.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**130.31**	**282**	PKP	PKPdf	00 25 44.9	+1.0
	0.4nm,0.7s,baz=63,slow=2.5,SNR=4.1						
LPAZ	**La Paz**	**150.36**	**139**	PKPbc	PKPbc	00 26 29.3	+4.4
	1.3nm,0.8s,baz=77,slow=3.3,SNR=4.8						

MEX 07 00:35:46.8±1.0, 1762N×10103W, h25km±27km, MD3.8, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**269**	*i* P	Pb	00 35 54.0	-1.7
ZIIG				*i* S	Sb	00 36 00.1	-1.6
CAIG	**El Cayaco**	**0.92**	**128**	⇑*i*P	Pb	00 36 00.6	-3.4
CAIG				*i* S	Sb	00 36 13.7	-2.2
ACX	**Acapulco**	**1.29**	**125**	*i* P	Pn	00 36 06.5	-2.8
ACX				*i* S	Sn	00 36 24.0	-1.7
MEIG	**Mezcala**	**1.37**	**77**	*i* P	Pn	00 36 07.6	-2.7
MEIG				*i* S	Sn	00 36 23.6	-4.1
PLIG	**Platanillo**	**1.64**	**62**	*i* P	Pn	00 36 12.0	-2.0
PLIG				*i* S	Sn	00 36 30.3	-4.0
MOIG	**Morelia**	**2.06**	**356**	*i* P	Pn	00 36 18.4	-1.3
MOIG				*i* S	Sn	00 36 43.2	-1.4
YAIG	**Yautepec**	**2.24**	**56**	*e*P	Pn	00 36 20.7	-1.4
YAIG				*i* S	Sn	00 36 46.6	-2.4
PPM	**Popocatepetl**	**2.70**	**57**	*i* P	Pn	00 36 26.5	-2.0
PPM				*i* S	Sn	00 36 58.1	-2.2
UTMO	**Huajuapan**	**3.08**	**86**	*e*P	Pn	00 36 32.3	-1.5
UTMO				*i* S	Sn	00 37 06.7	-3.0

IDC 07 00:40:53.3±4.3, 1799S×7209W, h84km±36km, mb3.4/3, mb1 3.7/6, mb1mx3.5/19, mbtmp3.8/6, Error ellipse: s-maj=47.5km s-min=20.5km az=94.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.15**	**66**	P	Pn	00 41 55.8	+1.4
	4.9nm,0.3s,baz=264,slow=7.7,SNR=50						
LVC	**Limon Verde**	**5.48**	**148**	P	Pn	00 42 12.2	-0.2
	3.9nm,0.3s,baz=334,slow=7.5,SNR=28						
LVC				S	Sn	00 43 15.4	+1.4
	8.4nm,0.3s,baz=98,slow=19,SNR=21						
SIV	**San Ignacio**	**10.73**	**81**	P	Pn	00 43 23.4	-0.5
	1.5nm,0.3s,baz=272,slow=11,SNR=24						
SIV				S	Sn	00 45 27.4	+5.2
	0.0nm,0.3s,baz=188,slow=18,SNR=2.9						
PLCA	**Paso Flores**	**22.70**	**177**	P	P	00 45 48.1	+0.2
	1.7nm,0.8s,baz=346,slow=8.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**79.08**	**72**	P	P	00 52 49.0	+0.7
	0.5nm,0.8s,baz=250,slow=6.7,SNR=7.3						
YKA	**Yellowknife Ar**	**86.92**	**342**	P	P	00 53 28.4	-0.3
	0.5nm,0.7s,baz=138,slow=4.8,SNR=14						

*NEIC **07** 00:54:30.1, 3808S×176.17E, h158km, MG4.0(WEL), After WEL.*

WEL 07 00:54:29.9±0.4, 3806S×17618E, h159km±3km, ML3.8/15, 2C-1D, Error ellipse: s-maj=3.7km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.76**	**106**	PN	Pn	00 54 53.6	-0.1
URZ				SN	Sn	00 55 12.0	0.0
URZ	**Urewera**	**0.76**	**106**	P	Pn	00 54 53.6	-0.1
BKZ	**Black Stump Fm**	**1.14**	**168**	⇑PN	Pn	00 54 56.8	+0.2
BKZ				SN	Sn	00 55 17.0	0.0
BKZ	**Black Stump Fm**	**1.14**	**168**	⇓P	Pn	00 54 56.8	+0.2
BKZ				S	Sn	00 55 17.0	-0.1
TWVZ	**Taurewa**	**1.17**	**210**	PN	Pn	00 54 57.2	+0.3
TWVZ	**Taurewa**	**1.17**	**210**	P	Pn	00 54 57.2	+0.3
WPVZ	**Whakapapa**	**1.25**	**203**	PN	Pn	00 54 58.0	+0.4
WPVZ	**Whakapapa**	**1.25**	**203**	P	Pn	00 54 58.0	+0.4
TUVZ	**Tukino**	**1.28**	**199**	*e*PN	Pn	00 54 58.0	+0.1
TUVZ	**Tukino**	**1.28**	**199**	*e*P	Pn	00 54 58.0	+0.1
FWVZ	**Far West T-bar**	**1.29**	**202**	*e*PN	Pn	00 54 58.8	+0.8
FWVZ	**Far West T-bar**	**1.29**	**202**	*e*P	Pn	00 54 58.8	+0.8
WNVZ	**Wahianoa**	**1.35**	**199**	PN	Pn	00 54 58.7	+0.2
WNVZ	**Wahianoa**	**1.35**	**199**	P	Pn	00 54 58.7	+0.1
MOVZ	**Moawhango**	**1.39**	**194**	PN	Pn	00 54 58.6	-0.3
MOVZ	**Moawhango**	**1.39**	**194**	P	Pn	00 54 58.6	-0.4
PKVZ	**Pokaka**	**1.39**	**208**	PN	Pn	00 54 59.1	+0.1
KNZ	**Kokohu**	**1.52**	**130**	PN	Pn	00 55 00.6	+0.3
KNZ	**Kokohu**	**1.52**	**130**	*e*P	Pn	00 55 00.6	+0.3
PUZ	**Puketiti**	**1.64**	**91**	PN	Pn	00 55 01.2	-0.4
PUZ				SN	Sn	00 55 25.6	-0.3
MXZ	**Matakaoa Point**	**1.76**	**74**	*e*PN	Pn	00 55 02.8	0.0
MXZ	**Matakaoa Point**	**1.76**	**74**	*e*P	Pn	00 55 02.8	0.0
WAZ	**Wanganui**	**1.93**	**208**	PN	Pn	00 55 04.3	-0.4
WAZ				SN	Sn	00 55 32.3	+0.7
WAZ	**Wanganui**	**1.93**	**208**	P	Pn	00 55 04.3	-0.5
TSZ	**Takapari Road**	**2.01**	**185**	PN	Pn	00 55 04.8	-0.8
TSZ	**Takapari Road**	**2.01**	**185**	*e*P	Pn	00 55 04.8	-0.8
PXZ	**Pawanui**	**2.04**	**165**	⇑PN	Pn	00 55 05.6	-0.4
BFZ	**Birch Farm**	**2.62**	**179**	PN	Pn	00 55 11.3	-1.6
MRZ	**Mangatainoka R**	**2.64**	**190**	SN	Sn	00 55 44.9	-1.6
MRZ	**Mangatainoka R**	**2.64**	**190**	P	Pn	00 55 11.2	-1.9
MRZ				S	Sn	00 55 44.9	-1.7
KIW	**Kapiti Island**	**2.97**	**199**	P	Pn	00 55 14.7	-2.4
MTW	**Mount Morrison**	**3.14**	**189**	P	Pn	00 55 16.5	-2.8
CAW	**Cannon Point**	**3.17**	**195**	P	Pn	00 55 17.0	-2.6
MRW	**Makara Radio**	**3.37**	**199**	P	Pn	00 55 19.0	-3.2
PAWZ	**Paruwai Farm**	**3.37**	**190**	P	Pn	00 55 19.2	-3.0
MSWZ	**Moikau Station**	**3.43**	**192**	P	Pn	00 55 19.9	-3.1
SNZO	**South Karori**	**3.44**	**199**	P	Pn	00 55 19.9	-3.2
TCW	**Tory Channel**	**3.48**	**204**	P	Pn	00 55 20.4	-3.2
BHW	**Baring Head**	**3.50**	**196**	P	Pn	00 55 19.6	-4.2
QRZ	**Quartz Range**	**3.95**	**224**	*e*P	Pn	00 55 25.9	-3.8
THZ	**Tophouse**	**4.48**	**213**	*e*P	Pn	00 55 33.7	-2.8
KHZ	**Kahutara**	**4.80**	**204**	*e*P	Pn	00 55 36.5	-4.2

GUC 07 01:03:49.3±0.4, 2391S×6736W, h240km, MD3.3, ML3.6, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.93**	**312**	*e*P	Pn	01 04 32.4	+2.1
LVC				*i* S	S	01 05 04.9	+2.5
LVC				AMP		01 05 09.7	
	comp=E,39nm,0.2s						
CEN1	**Los Morros**	**2.66**	**281**	⇓*i*P	Pn	01 04 41.9	+4.5
CEN1				*i* S	S	01 05 20.8	+5.4
ANCH	**Antofagasta**	**2.80**	**274**	⇓*i*P	Pn	01 04 40.5	+1.6
ANCH				*i* S	S	01 05 19.9	+1.7
ANCH				AMP		01 05 24.7	
	comp=E,263nm,0.0s						
CPN1	**Cerro Paranal**	**2.87**	**255**	*e*P	Pn	01 04 42.5	+2.8
CPN1				*i* S	S	01 05 22.9	+3.5
CPN1				AMP		01 05 25.3	
	comp=E,129nm,0.7s						

*IDC **07** 01:04:50.6±1.9, 624S×12938E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=113.4km s-min=30.1km az=68.0*
*ISCJB **07** 01:04:52.3±1.6, 60S±02×1301E±03, h33km, mb4.0/1, Error ellipse: s-maj=45.3km s-min=17.8km az=144.2*

ISC 07 01:04:54.5±1.6, 60S±01×1302E±03, h35km, n5, σ0°18/5, mb4.0/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.83**	**200**	*e*P	**Pn**	**01 07 54.4**	**0.0**
	4.5nm,1.2s						
FITZ				*e*S	Sx	01 10 04.4	
WRA	**Warramunga Arr**	**14.42**	**164**	Pn	**Pn**	**01 08 16.2**	**+0.1**
	0.3nm,0.3s,baz=340,slow=13,SNR=11						
WRA				Sn	Sx	01 10 46.6	
	1.0nm,0.3s,baz=335,slow=23,SNR=13						
WB2	**Warramunga Arr**	**14.42**	**164**	*e*P	**Pn**	**01 08 15.9**	**-0.2**
WB2				*e*S	Sx	01 10 44.6	
ASAR	**Alice Springs**	**17.91**	**169**	P	**Pn**	**01 09 01.0**	**+0.1**
	0.4nm,0.3s,baz=350,slow=12,SNR=15						
ASAR				S	Sx	01 12 11.3	
	0.2nm,0.3s,baz=344,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**67.52**	**326**	P	**P**	**01 15 47.1**	**0.0**
	0.7nm,0.5s,mb4.0,baz=122,slow=6.9,SNR=20						

*THE **07** 01:07:34.5, 3861N×2504E, h6km, ML3.6*
*CSEM **07** 01:07:37.9±0.1, 3879N×2493E, h52km±3km, ML3.5, Error ellipse: s-maj=2.4km s-min=1.5km az=109.0*
*NEIC **07** 01:07:37.0, 3880N×2493E, h45km, MD3.6(ATH), After ATH.*
*ATH **07** 01:07:37.8, 3880N×2492E, h46km, MD3.6/17, ML3.5*
*ISCJB **07** 01:07:37.1±0.7, 3880N±003×2494E±005, h20km±7km, mb3.4/3, Error ellipse: s-maj=6.6km s-min=4.7km az=53.4*
*IDC **07** 01:07:38.5±1.6, 3892N×2521E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/21, mbtmp3.4/4, Error ellipse: s-maj=49.0km s-min=27.8km az=141.0*

ISC 07 01:07:36.2±0.8, 3878N±003×2492E±005, h4km±6km, n45, σ0°82/48, mb3.4/3, 9C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**1.10**	**229**	*e*P	**Pg**	**01 07 57.9**	**+0.5**
MPAR	**Parnis Oros**	**1.12**	**236**	*e*P	**Pg**	**01 07 58.5**	**+0.8**
LIA	**Limnos Island**	**1.14**	**10**	*e*P	**Pg**	**01 07 57.8**	**-0.2**
LIA				*e*S	**Sg**	**01 08 12.8**	**+0.1**
PRK	**Paraskevi**	**1.15**	**66**	*e*P	**Pg**	**01 07 58.7**	**+0.4**
ATH	**Athens Observa**	**1.24**	**230**	⇑*i*P	**Pg**	**01 08 00.0**	**0.0**
KVR	**Kavouri**	**1.31**	**224**	*e*P	**Pn**	**01 08 00.5**	**-0.9**
NEO	**Neokhori**	**1.42**	**292**	*e*P	**Pn**	**01 08 02.2**	**-0.6**
PAIG	**Paliouri**	**1.50**	**320**	*e*Pb	**Pb**	**01 08 03.2**	**-1.3**
PAIG				*e*Sb	**Sb**	**01 08 26.8**	**+2.9**
LKR	**Lokris**	**1.51**	**266**	⇑*i*P	**Pn**	**01 08 03.8**	**-0.2**
NAIG	**Nisos Aigina**	**1.52**	**228**	*e*P	**Pn**	**01 08 03.5**	**-0.7**
OUR	**Ouranopolis**	**1.71**	**335**	*e*Pb	**Pb**	**01 08 06.4**	**-1.8**
	comp=Z,11nm,0.2s						
APE	**Apeiranthos**	**1.78**	**164**	*e*P	**Pn**	**01 08 07.4**	**-0.3**
SMG	**Samos**	**1.85**	**125**	⇑*i*P	**Pn**	**01 08 09.0**	**+0.3**
PLG	**Polygyros**	**1.96**	**325**	*e*P	**Pn**	**01 08 10.1**	**-0.1**
AGG	**Agios Georgios**	**2.04**	**278**	*e*Pn	**Pn**	**01 08 10.8**	**-0.4**
AGG				*e*Sn	**Sn**	**01 08 37.6**	**+0.5**
ALN	**Alexandroupoli**	**2.29**	**22**	*e*Pn	**Pn**	**01 08 13.7**	**-1.1**
LIT	**Litokhoron**	**2.30**	**306**	*e*Pn	**Pn**	**01 08 14.5**	**-0.4**
	comp=Z,3.2nm,0.6s						
SOH	**Sokhos**	**2.37**	**330**	*e*Pn	**Pn**	**01 08 15.9**	**0.0**
THE	**Thessaloniki**	**2.39**	**321**	*e*Pn	**Pn**	**01 08 16.0**	**-0.1**
RDO	**Rodhopi**	**2.41**	**11**	*e*P	**Pn**	**01 08 15.2**	**-1.2**
VLI	**Velia**	**2.59**	**218**	⇓*i*P	**Pn**	**01 08 18.5**	**-0.4**
NVR	**Nevrokopi**	**2.69**	**343**	*e*P	**Pn**	**01 08 20.0**	**-0.3**
ITM	**Ithomi**	**2.85**	**237**	*e*P	**Pn**	**01 08 23.7**	**+1.1**
KZN	**Kozani**	**2.87**	**303**	*e*P	**Pn**	**01 08 24.0**	**+1.2**
RZN	**Rozhen**	**2.91**	**357**	*i* P	**Pn**	**01 08 23.0**	**-0.3**
KYTH	**Kithira**	**2.91**	**212**	*e*P	**Pn**	**01 08 23.5**	**+0.2**
GRG	**Griva**	**2.91**	**319**	*e*Pn	**Pn**	**01 08 23.7**	**+0.4**
	comp=Z,1.6nm,0.4s						
MMB	**Musomiste**	**2.95**	**342**	*i* P	**Pn**	**01 08 23.0**	**-0.9**
KKB	**Krupnik**	**3.39**	**336**	*i* P	**Pn**	**01 08 29.5**	**-0.4**
IGT	**Igoumenitsa**	**3.64**	**283**	*e*Pn	**Pn**	**01 08 33.2**	**-0.2**
PGB	**Panagyurishte**	**3.81**	**352**	*i* P	**Pn**	**01 08 35.0**	**-0.7**
VTS	**Vitosha**	**4.02**	**342**	*i* P	**Pn**	**01 08 39.0**	**+0.4**
MLR	**Muntele Rosu**	**6.75**	**6**	⇑P	**Pn**	**01 09 17.4**	**+1.3**
MLR	**Muntele Rosu**	**6.75**	**6**	⇑P	**Pn**	**01 09 17.4**	**+1.3**
BRTR	**Keskin Array B**	**6.83**	**79**	Pn	**Pn**	**01 09 17.1**	**-0.2**
	baz=261,slow=13,SNR=2.1						
BRTR	**Keskin Array B**	**6.83**	**79**	Pn	**Pn**	**01 09 17.0**	**-0.2**
VRI	**Vrincioaia**	**7.21**	**10**	⇑P	**Pn**	**01 09 24.1**	**+1.7**
VRI	**Vrincioaia**	**7.21**	**10**	⇑P	**Pn**	**01 09 24.1**	**+1.8**
BZS	**Buzias**	**7.26**	**341**	⇓P	**Pn**	**01 09 22.7**	**-0.4**
BZS	**Buzias**	**7.26**	**341**	⇓P	**Pn**	**01 09 22.7**	**-0.3**
BURAR	**Bucovina Array**	**8.83**	**1**	⇑P	**Pn**	**01 09 46.2**	**+1.5**
BURAR	**Bucovina Array**	**8.83**	**1**	⇑P	**Pn**	**01 09 46.1**	**+1.5**
FINES	**FINESS Array B**	**22.70**	**1**	P	**P**	**01 12 39.9**	**+1.0**
	1.4nm,0.9s,mb3.4,baz=169,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**32.79**	**225**	P	**P**	**01 14 15.8**	**+5.3**
	0.3nm,0.6s,mb3.4,baz=34,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**42.03**	**60**	P	**P**	**01 15 29.2**	**+0.4**
	0.7nm,0.6s,mb3.5,baz=282,slow=6.7,SNR=12						

IDC 07 01:09:29.9±10.0, 430S×14284E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=373.5km s-min=33.5km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.62**	**207**	P	Pn	01 13 35.1	-1.7
	baz=30,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**21.10**	**203**	P	P	01 14 17.1	+1.2
	1.2nm,0.7s,baz=29,slow=14,SNR=8.1						
MKAR	**Makanchi Array**	**73.57**	**321**	P	P	01 21 05.1	+0.3
	0.4nm,0.7s,baz=103,slow=5.5,SNR=4.9						

*MOS **07** 01:18:50.6±0.8, 1386N×12081E, h129km, mb4.3/5, Error ellipse: s-maj=15.1km s-min=9.0km az=109.5*
*BJI **07** 01:18:50.8, 1423N×12091E, h100km, mB4.9, mb4.5*
*NEIC **07** 01:18:51.4±0.6, 1389N×12081E, h120km±5km, mb4.4/12, Error ellipse: s-maj=7.9km s-min=5.8km az=69.0*
*ISCJB **07** 01:18:51.2±0.3, 1392N±004×12082E±006, h132km±3km, mb4.1/30, Error ellipse: s-maj=10.4km s-min=6.3km az=154.2*
*IDC **07** 01:18:52.1±0.6, 1385N×12073E, h124km±4km, mb3.7/14, mb1 3.9/14, mb1mx3.7/23, mbtmp4.1/14, Error ellipse: s-maj=24.1km s-min=13.4km az=71.0*
*MAN **07** 01:18:52.1, 1390N×12047E, h102km, mb3.3, ML4.5, MS2.5*

ISC 07 01:18:52.3±0.3, 1394N±004×12082E±006, h126km±3km, h115km±7.4km: pP-P, n70, σ0°95/75, mb4.2/30, 4C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.20**	**35**	P	**Pn**	**01 19 09.8**	**+0.2**
	842nm,0.3s,baz=333,slow=0.8,SNR=34						
TGY				S	**Sn**	**01 19 24.6**	**+1.9**
	3μm,0.3s,baz=17,slow=19,SNR=40						
TGY	**Tagaytay City**	**0.20**	**35**	⇑*e*P	**Pn**	**01 19 10.0**	**+0.4**
TGY				*i* S	**Sn**	**01 19 23.4**	**+0.7**
PAZ	**Puerto Azul**	**0.32**	**334**	⇑*e*P	**Pn**	**01 19 08.8**	**-1.2**
LBPH	**Los Banos**	**0.41**	**58**	⇓*e*P	**Pn**	**01 19 11.5**	**+1.1**
PGP	**Puerto Galera**	**0.45**	**164**	⇑*i*P	**Pn**	**01 19 10.3**	**-0.3**
PGP				*i* S	**Sn**	**01 19 12.8**	**-12**
QVPH	**Quezon City--P**	**0.74**	**18**	⇓*e*P	**Pn**	**01 19 12.9**	**+0.3**
NBP	**Mount Natib**	**0.89**	**334**	⇑*e*P	**Pn**	**01 19 11.9**	**-1.9**
NZB	**Bigte**	**0.96**	**16**	⇓*e*P	**Pn**	**01 19 14.3**	**-0.1**
GQP	**Guinayangan**	**1.58**	**91**	⇓*i*P	**Pn**	**01 19 25.1**	**+4.1**
PCPH	**Palayan**	**1.63**	**9**	⇓*e*P	**Pn**	**01 19 21.2**	**-0.5**
PCPH				*i* S	**Sn**	**01 19 44.5**	**+4.1**
OTRP	**Odiongan**	**1.96**	**143**	*e*P	**Pn**	**01 19 27.8**	**+2.3**
BOLP	**Bolinao**	**2.58**	**340**	*e*P	**Pn**	**01 19 32.8**	**-0.5**
CUYO	**Cuyo Island**	**3.08**	**176**	*e*P	**Pn**	**01 19 39.3**	**-0.5**
NACB	**Ninganchiao**	**10.21**	**4**	*e*Pn	**Pn**	**01 21 14.8**	**-0.6**
YHNB	**Yeheng**	**10.69**	**3**	*e*Pn	**Pn**	**01 21 21.1**	**-0.6**
TATO	**Taipei**	**11.00**	**3**	*e*Pn	**Pn**	**01 21 25.0**	**-0.9**
QIZ	**Qiongzhong**	**11.68**	**297**	*e*Pn	**Pn**	**01 21 33.4**	**-1.5**
ENH	**Enshi**	**19.33**	**329**	*e*Pn	**Pn**	**01 23 08.6**	**-1.4**
CD2	**Chengdu**	**23.05**	**320**	*e*P	**P**	**01 23 47.2**	**+0.6**
CD2				AP		01 24 08.7	
CD2				XP	sP	01 24 21.2	-5.4
CD2				S	**S**	**01 27 47.3**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CD2				AMB	AMB		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=E,80nm,9.5s						
CD2				LR	LR		
	comp=Z,60nm,9.6s						
GUMO	**Guam**	**23.36**	**88**	*e*P	**P**	**01 23 49.4**	**0.0**
GUMO				pmax	pmax		
	comp=Z,32nm,0.6s,mb4.8						
GUMO	**Guam**	**23.36**	**88**	*e*P	**P**	**01 23 49.4**	**+0.1**
	comp=Z,32nm,0.6s,mb4.8						
INCN	**Inchon**	**24.01**	**11**	*e*P	**P**	**01 23 54.3**	**-1.0**
PSI	**Prapat**	**24.30**	**245**	P	**P**	**01 23 57.7**	**-0.2**
	comp=Z,2.4nm,0.5s,mb3.8,baz=29,slow=10,SNR=5.3						
MAJO	**Matsushiro**	**27.36**	**32**	*e*P	**P**	**01 24 25.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**28.00**	**345**	*e*P	**P**	**01 24 28.3**	**-2.9**
HHC				AP	pP	01 24 49.3	-9.1
HHC				PP	PP	01 25 22.9	-14
HHC				S	**S**	**01 29 04.7**	**-1.5**
HHC				XS	sS	01 29 43.0	-11
HHC				SS	SS	01 30 33.4	-36
HHC				SCP	ScP	01 31 12.9	+0.7
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.1						
HHC				AMB	AMB		
	comp=Z,127nm,9.6s						
HHC				LR	LR		
	comp=N,170nm,10.8s						
HHC				LR	LR		
	comp=E,189nm,12.0s						
HHC				LR	LR		
	comp=Z,125nm,16.8s						
GTA	**Gaotai**	**31.40**	**328**	*e*P	**P**	**01 25 02.6**	**+1.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
MDJ	**Mudanjiang**	**31.48**	**12**	*e*P	**P**	**01 25 02.1**	**+0.2**
LSA	**Lhasa**	**31.57**	**305**	P	**P**	**01 25 05.3**	**+2.6**
MBWA	**Marble Bar**	**34.90**	**182**	*e*P	**P**	**01 25 31.5**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.3						
JIRN	**Jiri**	**35.00**	**298**	*e*P	**P**	**01 25 33.5**	**+1.0**
	comp=Z,9.3nm,0.5s,mb4.9						
HIA	**Hailar**	**35.24**	**359**	*e*P	**P**	**01 25 34.7**	**+0.2**
GUN	**Gumba**

INK	**Inuvik**	**82.83**	**21**	P	**P**	**01 31 03.3**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=311,slow=7.4,SNR=14						
NOA	**NORSAR Array B**	**87.10**	**333**	P	**P**	**01 31 23.1**	**-0.8**
	comp=Z,1.4nm,0.9s,mb3.9,baz=61,slow=5.6,SNR=2.8						
YKA	**Yellowknife Ar**	**92.51**	**22**	P	**P**	**01 31 50.0**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.9,baz=309,slow=4.5,SNR=17						
YKA	**Yellowknife Ar**	**92.51**	**22**	P	**P**	**01 31 50.0**	**+0.9**
TXAR	**Lajitas Array**	**119.22**	**45**	PKP	PKPdf	01 37 28.1	+1.8
	comp=Z,0.2nm,0.9s,baz=118,slow=1.1,SNR=4.1						

*NAO **07** 01:29:17.3, 37.37N×74.39E, h33km, mb3.9*
*MOS **07** 01:29:35.4±1.0, 37.04N×72.11E, h161km, mb3.8/1, Error ellipse: s-maj=29.9km s-min=11.1km az=91.4*
*NEIC **07** 01:29:38.8±3.1, 37.23N×72.43E, h174km±25km, mb3.7/3, Error ellipse: s-maj=31.6km s-min=13.8km az=215.0*
*IDC **07** 01:29:40.9±5.4, 37.28N×72.46E, h196km±49km, mb3.3/6, mb1 3.6/9, mb1mx3.3/22, mbtmp4.0/9, MS3.6/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=31.1km s-min=19.8km az=24.0*
*ISCJB **07** 01:29:43.2±0.6, 37.48N±0.04×72.5E±0.1, h224km±8km, mb3.4/7, Error ellipse: s-maj=14.1km s-min=5.5km az=147.7*
*NNC **07** 01:29:50.6±2.8, 38.08N×72.24E, h232km±25km, mb2.5, mpv3.8, Error ellipse: s-maj=31.2km s-min=15.6km az=17.0*

ISC 07 01:29:43.7±0.6, 38.48N±0.04×72.4E±0.1, h217km±8km, n41, σ0°82/48, mb3.4/7, 9C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.75**	**12**	P	**Pn**	**01 30 55.5**	**+0.2**
	SNR=49						
UCH	**Uchtor**	**5.01**	**18**	P	**Pn**	**01 30 58.8**	**+0.2**
	SNR=11						
KZA	**Kyzart**	**5.08**	**25**	P	**Pn**	**01 30 59.3**	**-0.2**
	SNR=7.9						
EKS2	**Erkin-Say**	**5.28**	**11**	P	**Pn**	**01 31 02.0**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**5.39**	**17**	P	**Pn**	**01 31 03.9**	**+0.5**
	SNR=13						
AAK	**Ala-Archa**	**5.39**	**17**	*e*Pn	**Pn**	**01 30 59.9**	**-3.5**
KBK	**Karagaybulak**	**5.52**	**20**	P	**Pn**	**01 31 05.9**	**+0.8**
	SNR=6.5						
ULHL	**Ulahol**	**5.60**	**31**	P	**Pn**	**01 31 06.1**	**+0.1**
	SNR=9.2						
THN	**Thein Dam**	**5.72**	**151**	*e*P	**Pn**	**01 31 07.3**	**-0.3**
THN				*e*S	**S**	**01 32 12.6**	**-1.6**
DLH	**Dalhousie**	**5.73**	**148**	*e*P	**Pn**	**01 31 08.0**	**+0.3**
DLH				*e*S	**S**	**01 32 15.0**	**+0.6**
CHMS	**Chumysh**	**5.79**	**17**	P	**Pn**	**01 31 08.6**	**+0.1**
	SNR=5.3						
KK31	**Karatay Array**	**5.80**	**346**	⇑P	**Pn**	**01 31 08.3**	**-0.3**
	2.6nm,0.2s,baz=155,slow=9.9,SNR=46						
KK31				⇑S	**S**	**01 32 11.0**	**-5.1**
	9.4nm,0.3s,baz=165,slow=17,SNR=20						
TKM2	**Tokmak 2**	**5.96**	**23**	P	**Pn**	**01 31 10.9**	**+0.3**
	SNR=6.5						
TKM2	**Tokmak 2**	**5.96**	**23**	⇑P	**Pn**	**01 31 10.8**	**+0.3**
	11nm,0.6s						
TKM2				⇑S	**S**	**01 32 16.9**	**-2.7**
	5.6nm,0.6s						
MK31	**Makanchi Array**	**11.84**	**35**	⇓P	**Pn**	**01 32 26.0**	**0.0**
	0.2nm,0.4s,baz=216,slow=10,SNR=27						
MKAR	**Makanchi Array**	**11.84**	**35**	P	**Pn**	**01 32 25.3**	**-0.7**
	0.1nm,0.3s,baz=212,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**11.84**	**35**	*i* P	**Pn**	**01 32 26.1**	**+0.1**
KURK	**Kurchatov**	**13.96**	**17**	⇑P	**Pn**	**01 32 53.9**	**+1.5**
	1.7nm,0.9s						
KURK	**Kurchatov**	**13.96**	**17**	⇑*i*P	**Pn**	**01 32 53.2**	**+0.9**
KURK	**Kurchatov**	**13.96**	**17**	*e*Pn	**Pn**	**01 32 54.5**	**+2.1**
	2.9nm,0.8s						
AB31	**Akbulak array**	**14.83**	**326**	⇑P	**Pn**	**01 33 02.3**	**-0.7**
	0.7nm,0.4s,baz=130,slow=13,SNR=29						
AB31				⇑S	**S**	**01 35 38.0**	**-9.4**
	0.7nm,0.5s,baz=140,slow=24,SNR=4.9						
VOSK	**Vostochnaya**	**15.28**	**357**	⇑P	**Pn**	**01 33 07.3**	**-1.1**
	4.0nm,2.0s						
BVA0	**Borovoye Array**	**15.61**	**355**	⇓P	**Pn**	**01 33 13.1**	**+0.7**
	0.3nm,0.4s,baz=162,slow=10,SNR=31						
BVAR	**Borovoye Array**	**15.61**	**355**	P	**Pn**	**01 33 13.0**	**+0.6**
	1.2nm,0.3s,baz=160,slow=9.8,SNR=35						
BRVK	**Borovoye**	**15.65**	**355**	*e*P	**Pn**	**01 33 13.6**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**15.65**	**355**	*e*P	**Pn**	**01 33 13.6**	**+0.7**
	comp=Z,1.4nm,0.3s						
AKTK	**Aktyubinsk**	**16.54**	**326**	P	**P**	**01 33 23.6**	**+1.2**
AKTK				S	**S**	**01 36 22.7**	**-1.4**
AKTO	**Aktyubinsk**	**16.54**	**326**	P	**P**	**01 33 23.6**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=125,slow=10,SNR=19						
AKTO				S	**S**	**01 36 22.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=14,SNR=3.3						
AKTO	**Aktyubinsk**	**16.54**	**326**	P	**P**	**01 33 23.6**	**+1.2**
AKTO				S	**S**	**01 36 22.7**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**18.55**	**24**	P	**P**	**01 33 44.3**	**+0.1**
	comp=Z,4.4nm,0.3s,baz=252,slow=7.6,SNR=39						
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**01 36 35.1**	**+0.1**
	comp=Z,0.7nm,0.3s,mb3.6,baz=118,slow=9.0,SNR=14						
FINES	**FINESS Array B**	**37.31**	**325**	*e*P	**P**	**01 36 35.5**	**+0.5**
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**01 37 03.5**	**+0.7**
	comp=Z,1.0nm,0.4s,mb3.6,baz=115,slow=8.1,SNR=22						
NB2	**NORSAR Subarra**	**44.28**	**322**	P	**P**	**01 37 31.8**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.4,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.28**	**322**	P	**P**	**01 37 32.0**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.5,baz=95,slow=7.6,SNR=4.7						
ASAJ	**Asahikawa**	**52.08**	**59**	LR	LR	02 04 15.7	
	comp=Z,57nm,18.3s,baz=235,slow=40						
TORD	**Torodi Ar. Bea**	**66.86**	**269**	P	**P**	**01 40 12.3**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.1,baz=46,slow=5.0,SNR=11						
YKA	**Yellowknife Ar**	**80.21**	**3**	P	**P**	**01 41 30.0**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=350,slow=5.6,SNR=9.1						
WRA	**Warramunga Arr**	**81.56**	**123**	P	**P**	**01 41 36.3**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.2,baz=324,slow=4.9,SNR=9.5						
WRAB	**Tennant Creek**	**81.56**	**123**	*e*P	**P**	**01 41 37.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
WRAB	**Tennant Creek**	**81.56**	**123**	*e*P	**P**	**01 41 37.1**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.6						

*NEIC **07** 01:51:17.0, 32.68S×71.64W, h42km, MD3.6(GUC), After GUC.*

GUC 07 01:51:17.0±0.8, 32.68S×71.64W, h42km±3km, MD3.6, ML2.6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**51**	*e*P	Pn	01 51 24.4	-0.3
IHA	**Instituto Hidr**	**0.35**	**180**	*e*P	Pn	01 51 25.6	-0.4
ROCH	**El Roble**	**0.61**	**119**	*i* P	Pn	01 51 29.8	+0.5
LCCH	**Las Cruces**	**0.80**	**176**	*e*P	Pn	01 51 32.4	+0.6
JACH	**Jahuel**	**0.89**	**90**	*i* P	Pn	01 51 33.6	+0.6
PEL	**Peldehue**	**0.93**	**120**	*e*P	Pn	01 51 34.5	+0.9
PEL				*i* S	Sn	01 51 47.8	+2.0
PEL				AMP		01 51 48.7	
	comp=E,308nm,0.3s						
PEL	**Peldehue**	**0.93**	**120**	*e*P	Pn	01 51 34.5	+0.9
PEL				*i* S	Sn	01 51 47.8	+2.0
RCDM	**Rinconada Maip**	**1.07**	**139**	⇓*i*P	Pn	01 51 36.7	+1.2
RCDM				*i* S	Sn	01 51 50.9	+1.7
RCDM				AMP		01 51 53.3	
	comp=E,219nm,0.2s						
RCDM	**Rinconada Maip**	**1.07**	**139**	⇓*i*P	Pn	01 51 36.7	+1.2
RCDM				*i* S	Sn	01 51 50.9	+1.7
TACH	**Talagante**	**1.14**	**149**	*e*P	Pn	01 51 37.3	+0.9
FCH	**Farellones**	**1.31**	**120**	*e*P	Pn	01 51 40.6	+1.8
FCH				*i* S	Sn	01 51 57.9	+2.8
FCH				AMP		01 51 58.8	
	comp=E,126nm,0.1s						
PCH	**Pirque**	**1.33**	**135**	*e*P	Pn	01 51 40.2	+1.1
CMCH	**Combarbala**	**1.60**	**20**	*e*P	Pn	01 51 44.1	+1.4
CMCH				*i* S	Sn	01 52 04.2	+2.1
CMCH				AMP		01 52 06.9	
	comp=E,200nm,0.7s						
CMCH	**Combarbala**	**1.60**	**20**	*e*P	Pn	01 51 44.1	+1.4
CMCH				*i* S	Sn	01 52 04.2	+2.1

*ISCJB **07** 01:53:02.7±0.4, 42.58N±0.02×43.48E±0.003, h7km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=118.3*
*TIF **07** 01:53:02.2, 42.56N×43.48E, h12km±1km*
*MOS **07** 01:53:04.5±1.4, 42.62N×43.66E, h19km, mb3.5/1, Error ellipse: s-maj=16.1km s-min=7.7km az=85.5*
*CSEM **07** 01:53:04.5, 42.62N×43.66E, h19km, mb3.5, After OBN*

ISC 07 01:53:03.0±0.4, 42.56N±0.02×43.47E±0.003, h9km±4km, n23, σ0°83/44, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**330**	P	**Pg**	**01 53 04.6**	**-0.1**
ONI				S	**Sg**	**01 53 06.3**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.35**	**13**	*i* Pg	**Pg**	**01 53 09.7**	**-0.3**
DIGR				*i* Sg	**Sg**	**01 53 15.2**	**+0.5**
ZEI	**Tsey**	**0.38**	**56**	*i* Pg	**Pg**	**01 53 10.5**	**0.0**
ZEI				*e*Sg	**Sg**	**01 53 16.3**	**+0.7**
LACR	**Lac**	**0.67**	**66**	*i* Pg	**Pg**	**01 53 15.3**	**-0.6**
LACR				*i* Sg	**Sg**	**01 53 24.6**	**0.0**
GOR	**Gori**	**0.74**	**140**	P	Px	01 53 36.0	
GOR				S	Sx	01 53 47.4	
LSNR	**Lesken**	**0.76**	**19**	*e*Pg	**Pg**	**01 53 17.2**	**-0.5**
LSNR				*i* Sg	**Sg**	**01 53 28.0**	**+0.4**
ARNR	**Ardon**	**0.87**	**43**	*e*Pg	**Pg**	**01 53 19.3**	**-0.4**
ARNR				*e*Sg	**Sg**	**01 53 31.2**	**+0.1**
KMSR	**Komsomolskaya**	**1.01**	**36**	*e*Pg	**Pg**	**01 53 22.7**	**+0.2**
KMSR				*e*Sg	**Sg**	**01 53 35.8**	**+0.1**
DUS	**Dusheti**	**1.03**	**117**	P	**Pg**	**01 53 22.5**	**-0.2**
DUS				S	**Sg**	**01 53 37.2**	**+1.2**
CHVG	**Ch'k'valeri**	**1.03**	**279**	P	**Pg**	**01 53 24.2**	**+1.3**
CHVG				S	**Sg**	**01 53 36.5**	**+0.1**
SNJR	**Sundja**	**1.11**	**62**	*e*Pg	**Pg**	**01 53 23.4**	**-1.0**
SNJR				*e*Sg	**Sg**	**01 53 38.3**	**-0.6**
AKH	**Akhalkalaki**	**1.15**	**179**	P	**Pb**	**01 53 24.0**	**-0.9**
AKH				S	**Sg**	**01 53 39.9**	**0.0**
KUBR	**Kubataba**	**1.24**	**358**	Pg	**Pg**	**01 53 27.8**	**+0.9**
KUBR				Sg	**Sg**	**01 53 45.9**	**+2.8**
TBLG	**Delisi**	**1.25**	**131**	P	**Pn**	**01 53 26.2**	**-0.5**
TBLG				S	**Sb**	**01 53 43.7**	**+0.6**
TBLG	**Delisi**	**1.25**	**131**	*e*Pg	**Pg**	**01 53 26.2**	**-0.9**
TBLG				*e*Sg	**Sg**	**01 53 43.7**	**+0.4**
MTA	**Mtatsminda**	**1.31**	**131**	P	**Pn**	**01 53 27.5**	**+0.1**
MTA				S	**Sb**	**01 53 44.9**	**+0.3**
MTA	**Mtatsminda**	**1.31**	**131**	P	**Pn**	**01 53 27.5**	**+0.1**
MTA				S	**Sb**	**01 53 44.9**	**+0.3**
PRTR	**Priterechnaya**	**1.33**	**26**	*e*Pg	**Pg**	**01 53 27.9**	**-0.7**
PRTR				*e*Sg	**Sg**	**01 53 44.9**	**-1.1**
KZR	**Kazreti**	**1.37**	**149**	P	**Pn**	**01 53 26.9**	**-1.3**
KZR				S	**Sb**	**01 53 45.4**	**-0.9**
PYA	**Pyatigorsk**	**1.51**	**349**	Pg	**Pg**	**01 53 31.0**	**-0.9**
PYA				Sg	**Sg**	**01 53 51.4**	**-0.1**
KIV0	**Kislovodsk Arr**	**1.51**	**338**	Pg	**Pg**	**01 53 31.1**	**-0.9**
KIV0				Sg	**Sg**	**01 53 51.6**	**+0.1**
KIV	**Kislovodsk**	**1.51**	**338**	Pg	**Pg**	**01 53 31.3**	**-0.7**
KIV				Sg	**Sg**	**01 53 52.1**	**+0.5**
DGRG	**David-gareji**	**1.80**	**127**	P	**Pn**	**01 53 36.3**	**+2.1**
DGRG				S	**Sn**	**01 54 00.0**	**+2.9**

*IDC **07** 02:21:59.4±1.5, 34.N×124.90E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=188.3km s-min=22.6km az=63.0*
*ISCJB **07** 02:22:00.1±1.2, 25.N±0.02×127.1E±0.03, h33km, mb3.5/6, Error ellipse: s-maj=47.9km s-min=20.0km az=125.7*
*NEIC **07** 02:22:01.5±0.9, 2.40N×127.15E, h30km, mb3.3/2, Error ellipse: s-maj=35.2km s-min=15.4km az=61.0*

ISC 07 02:22:02.5±1.3, 24.N±0.02×127.2E±0.03, h35km, n7, σ0°29/7, mb3.5/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.13**	**121**	P	**P**	**02 27 05.5**	**0.0**
	0.1nm,0.5s,mb2.5						
WRAB	**Tennant Creek**	**23.30**	**163**	*e*P	**P**	**02 27 07.3**	**0.0**
	5.0nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**23.31**	**163**	P	**P**	**02 27 06.8**	**-0.6**
	1.7nm,0.5s,mb3.7,baz=334,slow=11,SNR=28						
WB2	**Warramunga Arr**	**23.31**	**163**	*e*P	**P**	**02 27 07.9**	**+0.5**
ASAR	**Alice Springs**	**26.74**	**166**	P	**P**	**02 27 38.8**	**+0.1**
	0.7nm,0.5s,mb3.5,baz=341,slow=7.9,SNR=10						
ASAR				PcP	PcP	02 31 02.7	+1.4
	0.4nm,0.6s,baz=350,slow=1.9,SNR=5.6						
STKA	**Stephens Creek**	**36.76**	**159**	P	**P**	**02 29 06.4**	**-0.1**
	0.7nm,0.4s,mb3.9,baz=347,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**58.87**	**326**	P	**P**	**02 31 57.7**	**0.0**
	0.2nm,0.3s,mb3.6,baz=124,slow=7.1,SNR=9.9						

*IDC **07** 02:34:28.2±9.6, 2.42N×128.03E, h62km±92km, mb3.1/4, mb1 3.2/4, mb1mx3.2/16, mbtmp3.3/4, Error ellipse: s-maj=120.5km s-min=22.9km az=70.0*

NEIC 07 02:34:24.5±1.6, 2.65N×128.51E, h30km, Error ellipse: s-maj=198.0km s-min=14.0km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.16**	**166**	*e*P	P	02 39 29.4	+0.9
	3.2nm,0.5s						
WRAB				*e*pP	pP	02 39 35.3	-1.4
WRA	**Warramunga Arr**	**23.17**	**166**	P	P	02 39 27.9	-0.7
	0.4nm,0.4s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.68**	**169**	P	P	02 40 01.5	+0.7
	0.3nm,0.6s,baz=350,slow=8.4,SNR=3.4						
ASAR				pP	pP	02 40 21.3	+12
	0.7nm,0.8s,baz=350,slow=9.6,SNR=5.0						
ASAR				PcP	PcP	02 43 23.4	-0.6
	0.3nm,0.5s,baz=355,slow=2.2,SNR=4.1						
SONM	**Songino Array**	**48.90**	**340**	P	P	02 43 07.9	+0.3
	0.2nm,0.4s,baz=143,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**59.45**	**325**	P	P	02 44 24.6	+0.1
	0.2nm,0.4s,baz=114,slow=7.8,SNR=12						

*TIR **07** 02:43:03.4, 41.77N×19.82E, h30km*
*ISCJB **07** 02:43:05.9±0.5, 41.77N±0.03×19.79E±0.04, h20km, Error ellipse: s-maj=4.9km s-min=3.5km az=73.9*
*CSEM **07** 02:43:05.1±0.2, 41.81N×19.81E, h20km, ML2.6, Error ellipse: s-maj=5.1km s-min=3.1km az=35.0*
*NEIC **07** 02:43:06.6, 41.88N×19.77E, h14km, ML2.6(PDG), After PDG.*
*PDG **07** 02:43:06.6±0.2, 41.88N×19.77E, h14km*

ISC 07 02:43:05.7±0.5, 41.81N±0.03×19.78E±0.03, h19km±3km, n25, σ1°01/44, 5C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.24**	**20**	*i* Pg	**Pg**	**02 43 11.5**	**+0.1**
PUK				*i* Sg	**Sg**	**02 43 16.8**	**+1.6**
QSH	**Qafa e Shtames**	**0.31**	**162**	*i* Pg	**Pg**	**02 43 10.8**	**-1.6**
QSH				*i* Sg	**Sg**	**02 43 17.8**	**+0.8**
SDA	**Shkodra**	**0.32**	**319**	*i* Pg	**Pg**	**02 43 12.5**	**-0.1**
SDA				*i* Sg	**Sg**	**02 43 18.2**	**+1.0**
ULC	**Ulcinj**	**0.42**	**291**	⇓*i*Pg	**Pg**	**02 43 14.1**	**-0.3**
ULC				*e*Sg	**Sg**	**02 43 20.9**	**+0.6**
KKS	**Kukesi**	**0.54**	**61**	*i* Pg	**Pg**	**02 43 15.7**	**-0.8**
KKS				*i* Sg	**Sg**	**02 43 23.0**	**-0.8**
TTG	**Podgorica**	**0.73**	**328**	⇓*i*Pg	**Pg**	**02 43 19.1**	**-0.9**
TTG				*e*Sg	**Sg**	**02 43 30.1**	**+0.5**
PVY	**Plav**	**0.79**	**10**	⇑*i*Pg	**Pg**	**02 43 19.9**	**-1.3**
PVY				*e*Sg	**Sg**	**02 43 31.8**	**0.0**
BUM	**Brajici-Budva**	**0.82**	**307**	⇓*i*Pg	**Pg**	**02 43 21.1**	**-0.6**
BUM				*e*Sg	**Sg**	**02 43 33.4**	**+0.9**
OHR	**Ohrid**	**1.04**	**132**	*e*Pn	**Pn**	**02 43 31.4**	**+6.2**
IVA	**Berane**	**1.06**	**5**	⇓*i*Pg	**Pg**	**02 43 24.9**	**-1.4**
IVA				*e*Sg	**Sg**	**02 43 40.7**	**+0.5**
HCY	**Herceg Novi**	**1.14**	**304**	⇑*i*Pg	**Pg**	**02 43 26.8**	**-1.0**
HCY				*e*Sg	**Sg**	**02 43 43.9**	**+1.1**
NKY	**Niksic**	**1.15**	**330**	⇓*i*Pg	**Pg**	**02 43 27.0**	**-1.0**
NKY				*e*Sg	**Sg**	**02 43 44.2**	**+1.0**
SKO	**Skopje**	**1.25**	**82**	*e*Pn	**Pn**	**02 43 30.2**	**+2.1**
BIA	**Bitola**	**1.41**	**124**	⇑*i*Pn	**Pn**	**02 43 31.9**	**+1.6**
BIA				*i* Sn	**Sn**	**02 43 52.4**	**+4.1**
BIA	**Bitola**	**1.41**	**124**	⇑*i*Pn	**Pn**	**02 43 31.8**	**+1.5**
BIA				*i* Sn	**Sn**	**02 43 52.4**	**+4.1**
BRY	**Bratogost**	**1.42**	**320**	⇑*i*Pg	**Pg**	**02 43 32.0**	**-1.1**
BRY				*e*Sg	**Sg**	**02 43 52.7**	**+1.1**
UPM	**Unac-Piva**	**1.53**	**335**	⇓*i*Pg	**Pg**	**02 43 34.2**	**-1.0**
UPM				*e*Sg	**Sg**	**02 43 55.4**	**+0.2**
PLE	**Pljevlja**	**1.54**	**349**	⇓*i*Pg	**Pg**	**02 43 34.2**	**-1.2**
PLE				*e*Sg	**Sg**	**02 43 55.5**	**0.0**
STIP	**Stip**	**1.81**	**93**	*e*Pn	**Pn**	**02 43 36.4**	**+0.6**
STON	**Ston**	**1.87**	**305**	*i* Pn	**Pn**	**02 43 36.2**	**-0.5**
STON				*i* Sn	**Sn**	**02 44 00.1**	**+0.4**
GRUS	**Gruza**	**2.19**	**18**	*e*Pn	**Pn**	**02 43 45.8**	**+4.8**
DIVS	**Divcibare**	**2.29**	**4**	*e*Pn	**Pn**	**02 43 43.2**	**+0.8**
DIVS	**Divcibare**	**2.29**	**4**	Pn	**Pn**	**02 43 43.2**	**+0.8**
NVLJ	**Novalja**	**4.52**	**309**	*i* Pn	**Pn**	**02 44 12.9**	**-0.2**
NVLJ				*i* Sn	**Sn**	**02 45 02.7**	**-2.5**
NVLJ	**Novalja**	**4.52**	**309**	*i* Pn	**Pn**	**02 44 12.8**	**-0.3**
NVLJ				*i* Sn	**Sn**	**02 45 02.6**	**-2.5**

*NNC **07** 02:44:12.5±10.0, 40.86N×76.49E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=79.0km s-min=68.1km az=135.0*
*ISCJB **07** 02:44:20.9±10.0, 41.5N±0.07×76.1E±0.5, h10km, Error ellipse: s-maj=107.5km s-min=20.8km az=123.4*

ISC 07 02:44:22.2±5.9, 41.5N±0.04×76.0E±0.3, h10km, n9, σ1°40/10, 5C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.78**	**16**	P	**Pg**	**02 44 36.5**	**-0.8**
	SNR=55						
KZA	**Kyzart**	**0.79**	**318**	P	**Pg**	**02 44 37.7**	**+0.4**
	SNR=44						
UCH	**Uchtor**	**1.30**	**305**	P	**Pn**	**02 44 46.0**	**-0.4**
	SNR=11						
KBK	**Karagaybulak**	**1.38**	**327**	P	**Pn**	**02 44 49.5**	**+2.0**
	SNR=16						
TKM2	**Tokmak 2**	**1.45**	**350**	P	**Pn**	**02 44 47.6**	**-0.8**
	SNR=7.2						
TKM2	**Tokmak 2**	**1.45**	**350**	⇑Pn	**Pn**	**02 44 47.4**	**-1.0**
	9.0nm,0.5s						
TKM2				⇑Lg		02 45 23.7	
	16nm,0.6s						
AAK	**Ala-Archa**	**1.57**	**317**	P	**Pn**	**02 44 52.2**	**+2.1**
	SNR=13						
AML	**Almayashu**	**1.81**	**291**	P	**Pn**	**02 44 49.0**	**-4.4**
	SNR=13						
KK31	**Karatay Array**	**4.35**	**294**	⇑Pn	**Pn**	**02 45 36.3**	**+8.1**
	1.5nm,0.6s,baz=131,slow=15,SNR=4.3						
KK31				⇑Pg	**Pg**	**02 45 43.3**	**-2.1**
	1.6nm,0.7s,baz=118,slow=16,SNR=7.9						
KK31				⇑Lg		02 46 47.1	
	1.7nm,0.6s,baz=118,slow=30,SNR=5.0						

*CSEM **07** 03:00:57.7±0.8, 39.23N×28.55W, h10km, MD2.9, Error ellipse: s-maj=9.3km s-min=7.0km az=89.0, After PDA*
*PDA **07** 03:00:57.7±0.8, 39.23N×28.55W, h10km, MD2.9, Error ellipse: s-maj=9.3km s-min=7.0km az=89.0*

SVSA 07 03:00:57.7±0.8, 39.23N×28.55W, h10km, MD2.9, Error ellipse: s-maj=9.3km s-min=7.0km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**0.56**	**154**	*e*P	Pg	03 01 07.2	-1.5
ROSA				*e*S	Sg	03 01 14.2	-1.9
CALA	**Caldeira**	**0.66**	**190**	*e*P	Pg	03 01 08.4	-2.0
CALA				*e*S	Sg	03 01 16.8	-2.2
PICO	**Pico**	**0.73**	**172**	*e*P	Pg	03 01 09.3	-2.6
PICO				*i* S	Sg	03 01 17.8	-3.7

*ISCJB **07** 03:07:55.1±0.7, 39.06N±0.02×26.45E±0.04, h9km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=138.0*
*ATH **07** 03:07:55.1, 39.09N×26.52E, h23km±3km, MD3.6/5*
*CSEM **07** 03:07:55.0±0.1, 39.06N×26.53E, h10km, MD3.6, Error ellipse: s-maj=2.5km s-min=1.7km az=70.0*
*NEIC **07** 03:07:56.0, 39.07N×26.42E, h31km, MD3.6(ATH), ML3.3(ISK), After ISK.*
*ISK **07** 03:07:56.3, 39.06N×26.43E, h30km, MD3.3*

ISC 07 03:07:56.0±0.5, 39.06N±0.02×26.51E±0.04, h9km±3km, n44, σ0°88/57, 3C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.26**	**315**	⇓*i*PB	**Pg**	**03 08 01.3**	**0.0**
PRK				*e*SB	**Sg**	**03 08 05.8**	**+0.9**
AYVA	**Ayvalik**	**0.28**	**29**	*i* P	**Pg**	**03 08 01.7**	**0.0**
AYVA				*i* S	**Sg**	**03 08 06.8**	**+1.2**
URLA	**Izmir**	**0.70**	**175**	*i* P	**Pg**	**03 08 08.1**	**-1.6**
URLA				*i* S	**Sg**	**03 08 19.1**	**+0.4**
URLA	**Izmir**	**0.70**	**175**	*i* P	**Pg**	**03 08 08.1**	**-1.5**
URLA				*i* S	**Sg**	**03 08 19.1**	**+0.3**
EZN	**Ezine**	**0.78**	**349**	*i* PG	**Pg**	**03 08 10.6**	**-0.4**
KDAG	**Bornova**	**0.88**	**138**	*i* P	**Pg**	**03 08 12.5**	**-0.5**
KDAG				*i* S	**Sg**	**03 08 24.2**	**-0.3**
IZM	**Izmir**	**0.89**	**138**	*i* PG	**Pg**	**03 08 13.6**	**+0.5**
IZM				*i* SG	**Sg**	**03 08 26.0**	**+1.4**
AKS	**

2.2nm,0.5s,mb4.1,baz=105,slow=8.0,SNR=69
WRA Warramunga Arr 43.47 163 P **P 04 04 34.4 -1.5**
0.4nm,0.4s,mb3.4,baz=346,slow=8.7,SNR=18
KURK Kurchatov 44.12 321 *e*P **P 04 04 41.5 +0.4**
2.9nm,0.4s,mb4.3
ASAR Alice Springs 46.91 165 P **P 04 05 03.5 +0.5**
0.4nm,0.4s,mb3.4,baz=354,slow=13,SNR=8.1
BVAR Borovoye Array 49.71 322 P **P 04 05 25.2 +0.7**
2.2nm,0.5s,mb4.0,baz=102,slow=7.8,SNR=20
BRVK Borovoye 49.78 322 *e*P **P 04 05 25.5 +0.5**
2.3nm,0.6s,mb4.0
ZRNK Zerenda 50.49 321 *e*P **P 04 05 30.7 +0.5**
2.5nm,0.7s,mb4.0
DGAR Diego Garcia 56.51 244 P **P 04 06 13.9 -0.2**
15nm,0.4s,mb5.2
ARCES ARCESS Array B 71.75 338 P **P 04 07 52.3 -1.2**
3.7nm,1.0s,mb4.1,baz=90,slow=2.4,SNR=6.1
FINES FINESS Array B 73.59 330 P **P 04 08 04.0 -0.4**
2.0nm,0.8s,mb3.9,baz=34,slow=6.9,SNR=5.4
AKASG Malin Array Be 74.86 319 P **P 04 08 10.6 -1.1**
1.4nm,0.5s,mb3.8,baz=61,slow=5.6,SNR=4.8
BRTR Keskin Array B 74.92 307 P **P 04 08 12.9 +1.0**
1.0nm,0.9s,mb3.4,baz=153,slow=2.3,SNR=4.1
NOA NORSAR Array B 80.40 332 P **P 04 08 41.9 -0.5**
0.6nm,0.7s,mb3.4,baz=59,slow=5.2,SNR=2.5
YKA Yellowknife Ar 84.74 23 P **P 04 09 04.3 -0.4**
0.6nm,0.6s,mb3.5,baz=306,slow=4.9,SNR=24

*ISCJB **07** 04:01:55.5±0.4,5144N×002×16.12E±002,h0km, Error ellipse: s-maj=3.5km s-min=2.1km az=30.1*
*IPEC **07** 04:01:55.6±0.3,5159N×1620E,h0km,ML2.4/3, Error ellipse: s-maj=1.9km s-min=1.5km az=43.0*
*MOS **07** 04:01:56.4±1.0,5156N×1616E,h14km,mb3.9/1, Error ellipse: s-maj=12.7km s-min=6.5km az=84.2*
*NEIC **07** 04:01:56.8±0.6,5155N×1611E,h5km,ML2.9(SZGRF), Error ellipse: s-maj=7.7km s-min=5.8km az=216.0*
*CSEM **07** 04:01:57.3±0.2,5150N×1608E,h2km,ML3.5/8, Error ellipse: s-maj=3.3km s-min=2.1km az=24.0*
*WAR **07** 04:01:57.6,5152N×1611E,ML2.8, Mining Induced*
*PRU **07** 04:01:58.0,5147N×1606E,h0km, Felt In Harrachov*
*VIE **07** 04:02:00.8±0.6,5120N×1616E,h0km,mb2.4/3,ML2.9/5, Error ellipse: s-maj=3.4km s-min=3.1km az=179.0 60 km WNW of Breslau Suspected Mining induced.*

ISC 07 04:01:56.7±0.4,**5150N**±002×**1608E**±002,**h0**km,**n53,** σ**1§00**/104,**8C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*Pg	**Pg**	**04 02 10.2**	**+0.6**
KSP				*i* Sg	**Sg**	**04 02 19.4**	**+1.2**
UPC	**Upice**	**0.99**	**182**	*e*PG	**Pg**	**04 02 16.2**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**04 02 19.0**	**0.0**
DPC				*e*SG	**Sg**	**04 02 34.1**	**+0.1**
	70nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pg	**Pg**	**04 02 19.0**	**0.0**
DPC				*e*Sg	**Sg**	**04 02 34.4**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*P	**Pg**	**04 02 19.0**	**0.0**
DPC				*e*		04 02 34.1	
DPC				smax			
	comp=N,70nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**04 02 23.2**	**+0.4**
PVCC				*e*SG	**Sg**	**04 02 41.7**	**+1.3**
	comp=N,213nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*P	**Pg**	**04 02 23.2**	**+0.4**
PVCC				*e*		04 02 41.7	
PVCC				smax			
	comp=N,213nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**04 02 25.1**	**+0.4**
BRG				PG	**Pg**	**04 02 25.6**	**+0.5**
BRG				SG	**Sg**	**04 02 45.5**	**+1.1**
	comp=N,84nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**246**	Pg	**Pg**	**04 02 25.6**	**+0.5**
BRG				S	**Sg**	**04 02 45.5**	**+1.1**
	comp=N,84nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**246**	P	**Pn**	**04 02 25.0**	**+0.4**
BRG						04 02 45.5	
BRG				smax			
	comp=N,84nm,0.5s						
RUE	**Ruedersdorf**	**1.73**	**306**	*e*Pn	**Pn**	**04 02 26.5**	**-1.5**
RUE	**Ruedersdorf**	**1.73**	**306**	*e*Pn	**Pn**	**04 02 26.5**	**-1.5**
RUE				*e*Sn	**Sn**	**04 02 51.0**	**+0.2**
PRU	**Pruhonice**	**1.80**	**213**	*e*PN	**Pn**	**04 02 28.9**	**-0.1**
PRU				*e*PG	**Pg**	**04 02 30.5**	**-0.7**
PRU				*e*SG	**Sg**	**04 02 54.4**	**-0.1**
	comp=N,76nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	*e*Pg	**Pg**	**04 02 30.5**	**-0.7**
PRU				*e*Sg	**Sg**	**04 02 54.4**	**-0.1**
	comp=N,76nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	*e*P	**Pn**	**04 02 28.9**	**-0.1**
PRU				*e*		04 02 54.4	
PRU				smax			
	comp=N,76nm,0.3s						
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**04 02 29.9**	**-1.0**
	comp=Z,7.0nm,0.4s						
CLL				*i* Pg	**Pg**	**04 02 33.3**	**-0.6**
CLL				*ex*	x	04 02 36.0	
CLL				*e*Sg	**Sg**	**04 02 59.0**	**+0.1**
	comp=Z,46nm,0.7s						
CLL	**Collm**	**1.94**	**266**	*i* Pg	**Pg**	**04 02 33.3**	**-0.6**
CLL				*e*S	**Sg**	**04 02 59.0**	**+0.1**
CLL	**Collm**	**1.94**	**266**	*i* P	**Pn**	**04 02 29.9**	**-1.0**
CLL				*e*		04 02 59.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**04 02 29.9**	**-1.0**
CLL				*i* Pg	**Pg**	**04 02 33.3**	**-0.6**
CLL				*e*Sg	**Sg**	**04 02 59.0**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**04 02 30.6**	**-0.6**
MORC				*e*Sg	**Sg**	**04 02 58.4**	**-1.3**
	comp=Z,39nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**04 02 30.6**	**-0.6**
MORC				*e*Sn	**Sn**	**04 02 57.6**	**+1.1**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PN	**Pn**	**04 02 30.9**	**-2.5**
OKC				*e*PG	**Pg**	**04 02 34.8**	**-2.6**
OKC				*e*SG	**Sg**	**04 03 02.4**	**-2.5**
	comp=Z,36nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*Pg	**Pg**	**04 02 34.8**	**-2.6**
OKC				*e*Sg	**Sg**	**04 03 02.4**	**-2.5**
	comp=Z,36nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*P	**Pn**	**04 02 30.9**	**-2.5**
OKC				*e*		04 03 02.4	
OKC				smax			
	comp=N,36nm,0.5s						
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**04 02 35.0**	**+0.3**
VRAC				*e*Sg	**Sg**	**04 03 07.4**	**-0.6**
	comp=N,21nm,0.2s						
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**04 02 38.1**	**+0.2**
KRUC				*e*Sg	**Sg**	**04 03 14.7**	**-0.7**
	comp=N,13nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**04 02 40.6**	**+0.2**
NKC				*e*SG	**Sg**	**04 03 21.6**	**+0.5**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**04 02 47.6**	**-0.6**
OJC				*e*Sg	**Sg**	**04 03 22.5**	**-0.4**
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Pn	**Pn**	**04 02 44.2**	**+1.0**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**04 02 43.3**	**-0.3**
KHC				*e*PG	**Pg**	**04 02 49.6**	**-2.0**
KHC				*e*SN	**Sn**	**04 03 18.1**	**-0.6**
KHC				*e*SG	**Sg**	**04 03 27.6**	**-1.0**
	comp=N,21nm,0.5s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	**Pg**	**04 02 49.6**	**-2.0**
KHC				*e*Sn	**Sn**	**04 03 18.1**	**-0.6**
KHC				*e*Sg	**Sg**	**04 03 27.6**	**-1.0**
	comp=N,21nm,0.5s						
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**04 02 46.3**	**+1.6**
MOX				*i* PG	**Pg**	**04 02 52.9**	**-0.2**
MOX				*i* SG	**Sg**	**04 03 32.0**	**+0.7**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**04 02 47.4**	**+1.0**
GEC2				*e*Sg	**Sg**	**04 03 33.9**	**-1.3**
SMOL	**Smolenice**	**3.11**	**163**	*e*PG	**Pg**	**04 02 58.3**	**+1.9**
SMOL				*e*SG	**Sg**	**04 03 37.8**	**+1.1**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**04 02 47.5**	**+0.3**
WET				*e*Sg	**Sg**	**04 03 35.7**	**-1.4**
ZST	**Bratislava**	**3.37**	**168**	*e*PG	**Pg**	**04 03 02.4**	**+1.1**
ZST				*e*SG	**Sg**	**04 03 45.3**	**+0.3**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**04 03 00.9**	**-1.3**
NIE				*e*S	**Sg**	**04 03 46.1**	**-0.3**
VYHS	**Vyhne**	**3.49**	**148**	*e*SG	**Sg**	**04 03 47.8**	**-1.2**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**04 02 53.1**	**-1.9**
BSD				*i*		04 03 30.6	
BSD				*e*S	**Sn**	**04 03 33.7**	**-5.5**
MOA	**Molln**	**3.84**	**199**	⇓⇓Sg	**Sg**	**04 04 00.1**	**+0.1**
	comp=N,22nm,0.5s						
MOA	**Molln**	**3.84**	**199**	⇑⇑*i*Pn	**Pn**	**04 02 57.5**	**+0.5**
MOA				⇓⇓*i*Sg	**Sg**	**04 04 00.1**	**+0.1**
	comp=N,22nm,0.5s						
MOA	**Molln**	**3.84**	**199**	Pn	**Pn**	**04 02 57.5**	**+0.5**
MOA				Sg	**Sg**	**04 04 00.1**	**+0.1**
	comp=N,22nm,0.5s						
MOA	**Molln**	**3.84**	**199**	⇑⇑Pn	**Pn**	**04 02 57.5**	**+0.5**
MOA				Sg	**Sg**	**04 04 00.1**	**+0.1**
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PN	**Pn**	**04 02 59.3**	**+1.4**
STHS				*e*PG	**Pg**	**04 03 11.8**	**+0.2**
STHS				*e*SG	**Sg**	**04 04 04.0**	**+1.9**
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*Pg	**Pg**	**04 03 11.8**	**+0.2**
STHS				*e*Sg	**Sg**	**04 04 04.0**	**+1.9**
KECS	**Kecovo**	**4.14**	**135**	*e*PN	**Pn**	**04 03 00.7**	**-0.6**
KECS				*e*PG	**Pg**	**04 03 16.5**	**+0.3**
KECS				*e*SG	**Sg**	**04 04 11.2**	**+1.3**
ARSA	**Arzberg**	**4.27**	**185**	⇑⇑Sg	**Sg**	**04 04 12.0**	**-1.8**
	comp=N,14nm,0.6s						
ARSA	**Arzberg**	**4.27**	**185**	⇑⇑*i*Pn	**Pn**	**04 03 03.4**	**+0.4**
ARSA				⇑⇑*i*Sg	**Sg**	**04 04 12.0**	**-1.8**
	comp=N,14nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PN	**Pn**	**04 03 04.8**	**+1.1**
CRVS				*e*PG	**Pg**	**04 03 19.7**	**+0.1**
CRVS				*e*SG	**Sg**	**04 04 15.5**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*Pg	**Pg**	**04 03 19.7**	**+0.1**
CRVS				*e*Sg	**Sg**	**04 04 15.5**	**-0.2**
KOLS	**Kolonicke sedl**	**4.73**	**120**	*e*	**Pg**	**04 03 28.6**	**+1.1**
KBA	**Koelnbreinsper**	**4.77**	**203**	⇑⇑Sg	**Sg**	**04 04 30.2**	**+0.2**
	comp=N,7.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.77**	**203**	⇑⇑*i*Pn	**Pn**	**04 03 10.8**	**+1.0**
KBA				⇑⇑*i*Sg	**Sg**	**04 04 30.2**	**+0.2**
	comp=N,7.5nm,0.4s						

OTT 07 04:07:21.2±0.0,**4629N**×**7530W,h18**km,**MN3.1**/37,**1C-2D, Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.50**	**309**	⇑PG	Pg	04 07 30.7	-0.6
GRQ				SG	Sg	04 07 37.2	-0.8
GRQ				Trac		04 07 37.8	
	comp=Z,92nm,0.0s						
TRQ	**Mont Tremblant**	**0.52**	**98**	⇓PG	Pg	04 07 31.2	-0.5
TRQ				SG	Sg	04 07 38.1	-0.6
TRQ				Trac		04 07 38.5	
	comp=Z,208nm,0.1s						
GAC	**Glen Almond**	**0.60**	**192**	⇓PG	Pg	04 07 32.5	-0.7
GAC				PG	Pg	04 07 32.5	-0.7
GAC				SG	Sg	04 07 40.4	-0.9
GAC				Trac		04 07 40.5	
	comp=Z,74nm,0.2s						
GAC				Trac		04 07 40.7	
	comp=Z,65nm,0.1s						
GAC				SG	Sg	04 07 40.9	-0.4
ALFO	**Alfred**	**0.72**	**156**	PG	Pg	04 07 34.7	-0.8
ALFO				SG	Sg	04 07 44.2	-0.9
ALFO				Trac		04 07 50.6	
	comp=Z,23nm,0.0s						
MRHQ	**Morin Heights**	**0.86**	**118**	PG	Pg	04 07 36.7	-1.3
MRHQ				SG	Sg	04 07 48.0	-1.4
MRHQ				Trac		04 07 48.3	
	comp=Z,148nm,0.1s						
OTT	**Ottawa**	**0.94**	**198**	PG	Pg	04 07 38.5	-1.2
OTT				PG	Pg	04 07 38.5	-1.1
OTT				SG	Sg	04 07 50.6	-1.4
OTT				SG	Sg	04 07 50.8	-1.3
OTT				Trac		04 07 55.8	
	comp=Z,143nm,0.2s						
OTT				Trac		04 07 55.8	
	comp=Z,103nm,0.1s						
WBO	**Williamsburg**	**1.29**	**179**	PG	Pg	04 07 44.4	-1.8
WBO				SG	Sg	04 08 01.1	-2.1
WBO				Trac		04 08 04.9	
	comp=Z,57nm,0.1s						
MNT	**Montreal**	**1.41**	**123**	PN	Pn	04 07 46.0	0.0
MNT				SN	Sn	04 08 04.4	+0.2
MNT				Trac		04 08 07.6	
	comp=Z,21nm,0.1s						
CRLO	**Chalk River**	**1.47**	**261**	PN	Pn	04 07 47.1	+0.3
CRLO				SN	Sn	04 08 05.9	+0.3
CRLO				Trac		04 08 07.1	
	comp=Z,70nm,0.1s						
PEMO	**Pembroke**	**1.49**	**246**	PN	Pn	04 07 47.5	+0.4
PEMO				SN	Sn	04 08 06.4	+0.3
PEMO				Trac		04 08 07.8	
	comp=Z,111nm,0.1s						
MPPO	**Murphy's Point**	**1.67**	**204**	PN	Pn	04 07 50.1	+0.5
MPPO				SN	Sn	04 08 10.9	+0.4
MPPO				Trac		04 08 14.8	
	comp=Z,37nm,0.1s						
PTN	**Potsdam (NY)**	**1.74**	**173**	PN	Pn	04 07 51.0	+0.4
PTN				SN	Sn	04 08 12.2	0.0
PTN				SG	Sg	04 08 15.5	-1.8
PLVO	**Plevna**	**1.77**	**225**	PN	Pn	04 07 51.2	+0.3
PLVO				SN	Sn	04 08 13.5	+0.5
PLVO				Trac		04 08 17.4	
	comp=Z,27nm,0.1s						
DPQ	**Saint Jean**	**1.79**	**77**	PN	Pn	04 07 51.1	0.0
DPQ				SN	Sn	04 08 13.2	-0.2
DPQ				Trac		04 08 18.2	
	comp=Z,47nm,0.1s						
ALGO	**Algonquin Park**	**1.94**	**261**	PN	Pn	04 07 53.5	+0.2
ALGO				SN	Sn	04 08 17.0	-0.3
ALGO				Trac		04 08 22.4	
	comp=Z,271nm,0.1s						
KGNO	**Kingston**	**2.23**	**203**	PN	Pn	04 07 58.0	+0.7
KGNO				PG	Pg	04 08 00.6	-3.5
KGNO				SN	Sn	04 08 24.6	+0.2
KGNO				Trac		04 08 32.0	
	comp=Z,25nm,0.1s						
BANO	**Bancroft**	**2.24**	**236**	PN	Pn	04 07 57.7	+0.3
BANO				SN	Sn	04 08 26.6	+1.9
BANO				Trac		04 08 32.2	
	comp=Z,34nm,0.1s						
VLDQ	**Val d'Or**	**2.34**	**322**	PN	Pn	04 08 01.4	+2.6
VLDQ				SN	Sn	04 08 31.0	+4.0
VLDQ				Trac		04 08 45.4	
	comp=Z,14nm,0.2s						
MOQ	**Mont Orford**	**2.34**	**114**	PN	Pn	04 07 59.8	+0.9
MOQ				SN	Sn	04 08 26.9	-0.3
MOQ				Trac		04 08 33.9	
	comp=Z,15nm,0.1s						
DELO	**Deloro Mine**	**2.41**	**223**	PN	Pn	04 08 00.7	+0.9
DELO				SN	Sn	04 08 30.7	+1.8
MIV	**Mineville/With**	**2.54**	**150**	PN	Pn	04 08 01.7	+0.1
MIV				SN	Sn	04 08 32.3	+0.1
EEO	**Eldee**	**2.63**	**279**	PN	Pn	04 08 03.3	+0.5
EEO				SG	Sg	04 08 40.8	-5.0
EEO				Trac		04 08 43.7	
	comp=Z,37nm,0.2s						
PECO	**Prince Edward**	**2.65**	**208**	PN	Pn	04 08 03.7	+0.7
PECO				SN	Sn	04 08 34.1	-0.6
PECO				Trac		04 08 41.0	
	comp=Z,52nm,0.2s						
QCQ	**Quebec**	**2.82**	**79**	SN	Sn	04 08 39.9	+1.0
QCQ				Trac		04 08 49.2	
	comp=Z,25nm,0.2s						
BUKO	**Buck Lake**	**2.99**	**255**	PN	Pn	04 08 07.5	-0.2
BUKO				SN	Sn	04 08 42.0	-1.1
SADO	**Sadowa**	**3.10**	**242**	PN	Pn	04 08 08.9	-0.4
SADO				SN	Sn	04 08 44.3	-1.5
SADO				Trac		04 09 00.1	
	comp=Z,38nm,0.2s						
LINO	**Lindsay**	**3.13**	**233**	PN	Pn	04 08 09.7	+0.1
LINO				Trac		04 08 59.1	
	comp=Z,25nm,0.1s						
LBNH	**Lisbon**	**3.14**	**130**	PN	Pn	04 08 10.2	+0.4
LBNH				SN	Sn	04 08 46.0	-0.9
LBNH				Trac		04 09 06.1	
	comp=Z,4.6nm,0.1s						
HSMO	**Haileybury Sch**	**3.19**	**291**	PN	Pn	04 08 10.6	+0.1
HSMO				SN	Sn	04 08 46.6	-1.3
HSMO				Trac		04 08 56.1	
	comp=Z,15nm,0.1s						
WLVO	**Wesleyville**	**3.23**	**224**	PN	Pn	04 08 13.5	+2.5
DAQ	**Lac Daran**	**3.23**	**57**	PN	Pn	04 08 10.8	-0.3
DAQ				SN	Sn	04 08 47.7	-1.5
DAQ				Trac		04 09 02.2	
	comp=Z,21nm,0.2s						
PKRO	**Pickering**	**3.54**	**230**	PN	Pn	04 08 16.5	+1.2
PKRO				Trac		04 09 18.6	
	comp=Z,71nm,0.2s						
A54	**Misere**	**3.55**	**69**	PN	Pn	04 08 15.5	+0.1
A54				SN	Sn	04 08 55.2	-1.7
A54				Trac		04 09 13.0	
	comp=N,31nm,0.2s						
LMQ	**La Malbaie**	**3.63**	**68**	PN	Pn	04 08 16.1	-0.5
LMQ				SN	Sn	04 08 57.1	-1.8
LMQ				Trac		04 09 19.0	
	comp=N,19nm,0.1s						
A11	**Saint Roch-des**	**3.63**	**73**	PN	Pn	04 08 15.9	-0.6
A11				SN	Sn	04 08 56.9	-2.1
A11				Trac		04 09 14.9	
	comp=Z,8.5nm,0.2s						
KILO	**Kirkland Lake**	**3.73**	**308**	PN	Pn	04 08 17.8	-0.1
KILO				SN	Sn	04 09 00.1	-1.2
KILO				Trac		04 09 18.9	
	comp=Z,5.1nm,0.1s						
A61	**Sainte Mathild**	**3.83**	**67**	PN	Pn	04 08 18.9	-0.4
A61				SN	Sn	04 09 02.8	-1.0
A61				Trac		04 09 21.2	
	comp=Z,13nm,0.2s						
MEDO	**Medina**	**3.85**	**217**	PN	Pn	04 08 19.5	-0.1
MEDO				SN	Sn	04 09 03.0	-1.3
MEDO				Trac		04 09 23.1	
	comp=Z,12nm,0.2s						
A64	**Saint Simeon**	**4.00**	**66**	PN	Pn	04 08 21.1	-0.5
A64				SN	Sn	04 09 07.0	-1.1
A64				Trac		04 09 28.3	
	comp=Z,26nm,0.3s						
A21	**Saint Andre**	**4.09**	**68**	PN	Pn	04 08 22.4	-0.5
A21				SN	Sn	04 09 10.4	+0.2
A21				Trac		04 09 29.5	
	comp=Z,41nm,0.4s						
EFO	**Effingham**	**4.29**	**223**	PN	Pn	04 08 26.8	+1.2
EFO				SN	Sn	04 09 15.5	+0.3
EFO				Trac		04 09 39.5	
	comp=Z,8.1nm,0.1s						
CNQ	**Baie Comeau**	**5.72**	**56**	PN	Pn	04 08 44.8	-0.5
CNQ				SN	Sn	04 09 46.4	-4.1
CNQ				Trac		04 10 21.9	
	comp=Z,6.6nm,0.2s						
KAPO	**Kapuskasing**	**5.79**	**306**	PN	Pn	04 08 45.4	-0.8
KAPO				SN	Sn	04 09 48.3	-3.8
KAPO				Trac		04 10 01.5	
	comp=Z,1.3nm,0.1s						
GGN	**Saint George**	**6.04**	**98**	PN	Pn	04 08 53.0	+3.3
GGN				Trac		04 10 32.4	
	comp=Z,1.9nm,0.2s						
MNQ	**Manicouagan**	**6.07**	**43**	PN	Pn	04 08 49.5	-0.6
MNQ				SN	Sn	04 09 56.3	-2.7
MNQ				Trac		04 10 44.8	
	comp=Z,5.6nm,0.2s						
GSQ	**Grosses Roches**	**6.12**	**62**	PN	Pn	04 08 50.5	-0.3
GSQ				Trac		04 10 36.1	
	comp=Z,3.4nm,0.3s						
ICQ	**Pointe Anglais**	**6.29**	**56**	PN	Pn	04 08 52.6	-0.5
ICQ				SN	Sn	04 09 59.5	-4.9
ICQ				Trac		04 10 40.9	
	comp=Z,3.2nm,0.3s						
SMQ	**Clarke City**	**6.96**	**52**	PN	Pn	04 09 00.9	-1.4
SMQ				SN	Sn	04 10 15.4	-5.5
SMQ				Trac		04 11 07.0	
	comp=Z,2.5nm,0.2s						
LMN	**Caledonia Moun**	**7.31**	**90**	PN	Pn	04 09 05.8	-1.4
LMN				SN	Sn	04 10 25.6	-4.0
LMN				Trac		04 11 19.3	
	comp=Z,0.4nm,0.2s						
LG4Q	**La Grande 4**	**7.38**	**6**	PN	Pn	04 09 05.7	-2.3
LG4Q				SN	Sn	04 10 25.0	-6.4
LG4Q				Trac		04 11 14.6	
	comp=Z,6.3nm,0.4s						
VIMO	**Victor Mine**	**8.53**	**323**	PN	Pn	04 09 19.4	-4.4
SCHQ	**Schefferville**	**10.10**	**29**	PN	Pn	04 09 43.4	-1.9
SCHQ				SN	Sn	04 11 30.4	-7.7
SCHQ				Trac		04 12 44.0	
	comp=Z,0.6nm,0.2s						
SILO	**Sutton Inlier**	**10.23**	**327**	PN	Pn	04 09 44.5	-2.6
SILO				Trac		04 11 53.4	
	comp=Z,0.4nm,0.2s						

MEX 07 04:29:05.0±1.0,**1710N**×**10017W,h41**km±14km,**MD3.5,1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.10**	**241**	⇑*i*P	Pn	04 29 10.1	-1.6
CAIG				*i* S	Sn	04 29 14.7	-1.6
ACX	**Acapulco**	**0.34**	**133**	*i* P	Pn	04 29 12.0	-1.7
ACX				*i* S	Sn	04 29 18.5	-1.3
MEIG	**Mezcala**	**0.98**	**33**	*i* P	Pn	04 29 20.1	-2.2
MEIG				*i* S	Sn	04 29 32.1	-2.8
PLIG	**Platanillo**	**1.44**	**26**	*i* P	Pn	04 29 28.1	-0.5
PLIG				*i* S	Sn	04 29 44.4	-1.8

*LDG **07** 04:31:25.9±0.2,4310N×068W,h16km±2km,Md1.8/2, Error ellipse: s-maj=5.7km s-min=2.1km az=12.0*
*STR **07** 04:31:25.6±0.3,4318N×062W,h5km±1km,Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **07** 04:31:26.0±0.1,4312N×066W,h15km,ML2.2, Error ellipse: s-maj=5.7km s-min=1.6km az=14.0*

MDD 07 04:31:26.5±0.3,**4315N**×**065W,h0**km,**mbLg1.1**/8,**Error ellipse: s-maj=3.0km s-min=1.4km az=16.0,PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.08**	**210**	Pg	Pg	04 31 28.8	+0.8
ATE				Sg	Sg	04 31 30.8	+1.8
ATE	**Arette**	**0.08**	**210**	Pg	Pg	04 31 28.8	+0.8
ATE				Lg		04 31 30.9	
REYF	**Montagne du Re**	**0.20**	**114**	Pg	Pg	04 31 30.6	+0.2
REYF				Lg		04 31 33.5	
ORDF	**Ordiarp**	**0.22**	**286**	Sg	Sg	04 31 34.3	+0.8
ORDF	**Ordiarp**	**0.22**	**286**	Pg	Pg	04 31 30.9	+0.3
ORDF				Lg		04 31 34.9	
ETSF	**Etsaut**	**0.26**	**166**	*e*Pg	Pg	04 31 31.2	-0.3
ETSF				*e*Sg	Sg	04 31 34.4	-0.5
	28nm,0.2s						
ETSF	**Etsaut**	**0.26**	**166**	Pg	Pg	04 31 31.2	-0.3
ETSF				Lg		04 31 34.4	
	14nm,0.2s						
ETSF	**Etsaut**	**0.26**	**166**	*e*Sg	Sg	04 31 34.4	-0.5
**L

ESAC	**San Caprasio**	**1.44 175**	Pg	Pg	04 31 53.0	-1.0
	2.9nm,0.3s,SNR=7.9					
ESAC			Lg		04 32 12.9	
	7.4nm,0.4s,SNR=7.9					

*IDC **07** 04:34:55.4±1.2,2473N×12736E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/21,mbtmp3.6/5,ML3.0/1,Error ellipse: s-maj=43.2km s-min=24.7km az=84.0*
*ISCJB **07** 04:34:57.7±0.8,2475N±005×12742E±006,h33km, mb3.5/4,Error ellipse: s-maj=8.8km s-min=5.2km az=90.7*
*JMA **07** 04:34:57.8±0.4,2474N×12742E,h47km,M3.0*

ISC 07 04:34:59.5±0.9,**2478N**±005×**12737E**±006,**h35**km,**n14**, σ1§**17**/19,**mb3.5**/4,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAH1	**Naha**	**1.44**	**12**	*e*S	**Sn**	**04 35 40.3**	**-0.6**
JKE	**Kume jima 2**	**1.62**	**341**	P	**Pn**	**04 35 25.7**	**+0.1**
JKE				*e*S	**Sn**	**04 35 45.4**	**+0.1**
JAGN	**Aguni-jima**	**1.80**	**356**	*e*S	**Sn**	**04 35 51.1**	**+1.4**
JMJ	**Miyako jima 2**	**1.88**	**271**	*e*S	**Sn**	**04 35 52.2**	**+0.5**
JOW	**Kunigami**	**2.20**	**22**	P	**Pn**	**04 35 33.2**	**-0.3**
JOW				*e*S	**Sn**	**04 35 59.7**	**+0.2**
JOW	**Kunigami**	**2.20**	**22**	Pn	**Pn**	**04 35 33.1**	**-0.4**
	6.7nm,0.3s,baz=294,slow=29,SNR=7.3						
JOW				Sn	**Sn**	**04 35 58.2**	**-1.3**
	16nm,0.3s,baz=124,slow=25,SNR=6.6						
JIH	**Iheya**	**2.31**	**13**	*e*S	**Sn**	**04 36 01.3**	**-0.9**
JTJ	**Tarama**	**2.43**	**267**	P	**Pn**	**04 35 36.4**	**-0.3**
JTJ				*e*S	**Sn**	**04 36 04.3**	**-0.8**
JIJ	**Ishigaki jima**	**2.96**	**263**	*e*S	**Sn**	**04 36 15.7**	**-2.7**
JMZ	**Minamidaito 2**	**3.64**	**73**	P	**Pn**	**04 35 50.2**	**-3.1**
JMZ				*e*S	**Sn**	**04 36 30.1**	**-4.9**
MKAR	**Makanchi Array**	**41.93**	**313**	P	**P**	**04 42 47.6**	**+0.9**
	0.3nm,0.5s,mb3.1,baz=98,slow=9.4,SNR=7.0						
WRA	**Warramunga Arr**	**44.97**	**171**	P	**P**	**04 43 11.8**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=352,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**73.73**	**331**	P	**P**	**04 46 31.5**	**+1.5**
	3.7nm,1.1s,mb4.2,baz=101,slow=7.1,SNR=3.1						
YKA	**Yellowknife Ar**	**80.16**	**25**	P	**P**	**04 47 07.9**	**+1.8**
	0.1nm,0.6s,mb2.9,baz=301,slow=5.4,SNR=3.0						

IDC 07 04:48:53.4±1.9,**131N**×**12581E**,**h0**km,**mb3.6**/3,**mb1 3.9**/3, **mb1mx3.6**/17,**mbtmp3.7**/3,**Error ellipse: s-maj=180.1km s-min=23.9km az=65.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.72**	**159**	P	P	04 53 56.3	-0.4
	1.9nm,0.6s,baz=337,slow=11,SNR=25						
WB2	**Warramunga Arr**	**22.72**	**159**	*e*P	P	04 53 55.3	-1.4
ASAR	**Alice Springs**	**26.04**	**163**	P	P	04 54 29.2	+0.9
	0.8nm,0.3s,baz=343,slow=11,SNR=22						
ASPA	**Alice Springs**	**26.04**	**163**	*e*P	P	04 54 31.2	+2.9
MKAR	**Makanchi Array**	**59.03**	**327**	P	P	04 58 55.1	+0.1
	0.1nm,0.3s,baz=126,slow=7.6,SNR=8.8						

*ISCJB **07** 04:49:33.0±0.5,1961S±007×4091E±007,h10km, mb4.6/21,MS3.8/3,Error ellipse: s-maj=10.6km s-min=9.0km az=81.5*
*IDC **07** 04:49:33.8±0.7,1957S×4103E,h0km,mb4.3/11, mb1 4.4/13,mb1mx4.2/24,mbtmp4.3/13,ML4.4/2,MS3.6/8, Ms1 3.5/8,ms1mx3.3/29,Error ellipse: s-maj=23.7km s-min=18.5km az=172.0*
*NEIC **07** 04:49:37.8±0.4,1967S×4101E,mb4.3/6,Error ellipse: s-maj=14.5km s-min=10.0km az=155.0*
*BJI **07** 04:49:42.8,1970S×4100E,h27km,mB4.7,mb4.8*

ISC 07 04:49:35.2±0.5,**1952S**±007×**4072E**±007,**h10**km,**n50**, σ1§**06**/41,**mb4.5**/21,**MS3.8**/3,**Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**6.19**	**82**	Pn	**Pn**	**04 51 02.5**	**-4.1**
	34nm,0.3s,baz=252,slow=13,SNR=168						
OPO				Sn	**Sn**	**04 52 05.7**	**-12**
	96nm,0.3s,baz=150,slow=21,SNR=15						
OPO				LR	LR	04 53 30.3	
	comp=Z,334nm,18.9s,baz=193,slow=40						
LSZ	**Lusaka**	**12.68**	**287**	Pn	**Pn**	**04 52 34.5**	**-1.0**
	5.9nm,0.3s,baz=120,slow=15,SNR=59						
LSZ				Sn	**Sn**	**04 54 51.9**	**-4.8**
	3.3nm,0.3s,baz=45,slow=17,SNR=3.5						
LSZ				LR	LR	04 57 55.9	
	comp=Z,316nm,19.4s,baz=138,slow=39						
LSZ	**Lusaka**	**12.68**	**287**	*e*Pn	**Pn**	**04 52 34.1**	**-1.4**
	13nm,0.6s						
LSZ				*e*Sn	**Sn**	**04 54 51.1**	**-5.6**
LSZ				PcP	PcP	04 58 08.1	-4.7
LBTB	**Lobatse**	**15.02**	**246**	Pn	**Pn**	**04 53 06.1**	**-1.4**
	1.3nm,0.3s,baz=77,slow=13,SNR=19						
LBTB				Sn	**Sn**	**04 55 45.2**	**-8.6**
	1.7nm,0.3s,baz=356,slow=17,SNR=5.4						
LBTB				LR	LR	04 58 38.6	
	comp=Z,170nm,19.1s,baz=88,slow=36						
LBTB	**Lobatse**	**15.02**	**246**	*e*Pn	**Pn**	**04 53 06.1**	**-1.4**
	7.9nm,0.5s						
BOSA	**Boshof**	**16.76**	**234**	Pn	**Pn**	**04 53 28.1**	**-1.8**
	0.3nm,0.3s,baz=77,slow=11,SNR=5.5						
BOSA				Sn	**Sn**	**04 56 21.8**	**-14**
	0.4nm,0.3s,baz=97,slow=18,SNR=2.5						
BOSA				LR	LR	05 00 13.2	
	comp=Z,114nm,19.2s,baz=80,slow=38						
BOSA	**Boshof**	**16.76**	**234**	*e*Pn	**Pn**	**04 53 30.8**	**+0.9**
	3.5nm,0.6s						
KMBO	**Kilima Mbogo**	**18.59**	**349**	P	**Pn**	**04 53 54.0**	**+1.4**
	0.3nm,0.3s,baz=180,slow=15,SNR=6.2						
KMBO				S	**Sn**	**04 57 18.6**	**-1.9**
	0.2nm,0.3s,baz=219,slow=23,SNR=2.2						
KMBO				LR	LR	05 00 21.3	
	comp=Z,41nm,19.9s,baz=93,slow=35						
KMBO	**Kilima Mbogo**	**18.59**	**349**	*e*Pn	**Pn**	**04 53 55.5**	**+2.8**
	3.9nm,1.0s						
KMBO				*e*Sn	**Sn**	**04 57 19.5**	**-1.0**
TSUM	**Tsumeb**	**21.83**	**267**	P	**P**	**04 54 31.7**	**+4.1**
	28nm,0.6s,mb4.9,baz=90,slow=8.2,SNR=140						
TSUM				LR	LR	05 03 24.0	
	comp=Z,159nm,18.2s,MS3.5,baz=227,slow=38						
TSUM	**Tsumeb**	**21.83**	**267**	*e*P	**P**	**04 54 31.0**	**+3.4**
	29nm,0.6s,mb4.9						
TSUM				*e*pP		04 54 39.6	
SUR	**Sutherland**	**21.96**	**230**	P	**P**	**04 54 30.8**	**+1.8**
	24nm,0.9s,mb4.7,baz=67,slow=8.5,SNR=11						
SUR	**Sutherland**	**21.96**	**230**	*e*P	**P**	**04 54 30.3**	**+1.3**
	28nm,0.9s,mb4.7						
SUR				*e*pP		04 54 36.3	
TORD	**Torodi Ar. Bea**	**50.30**	**307**	P	**P**	**04 58 33.8**	**+1.9**
	2.1nm,0.7s,mb4.3,baz=127,slow=6.7,SNR=21						
KOLN	**Koldanda**	**62.71**	**43**	*e*P	**P**	**05 00 00.3**	**+0.1**
	13nm,1.1s,mb5.0						
GKN	**Gorkha**	**63.54**	**43**	*e*P	**P**	**05 00 05.8**	**+0.1**
	33nm,1.0s,mb5.3						
PKI	**Pulchoki**	**63.75**	**44**	*e*P	**P**	**05 00 07.0**	**-0.1**
	9.1nm,0.7s,mb4.9						
KKN	**Kakani**	**63.81**	**44**	*e*P	**P**	**05 00 07.2**	**-0.3**
	8.3nm,0.8s,mb4.8						
GUN	**Gumba**	**64.28**	**44**	*e*P	**P**	**05 00 11.2**	**+0.6**
	43nm,1.2s,mb5.4						
JIRN	**Jiri**	**64.32**	**45**	*e*P	**P**	**05 00 11.2**	**+0.3**
	10nm,1.0s,mb4.8						
MDT	**Midelt**	**67.71**	**320**	LR	LR	05 30 42.7	
	comp=Z,90nm,18.1s,MS4.0,baz=304,slow=36						
AKTK	**Aktyubinsk**	**71.30**	**12**	P	**P**	**05 00 54.1**	**-0.8**
AKTO	**Aktyubinsk**	**71.30**	**12**	P	**P**	**05 00 54.1**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=196,slow=5.4,SNR=5.4						
ESDC	**Sonseca Array**	**72.16**	**325**	P	**P**	**05 01 02.2**	**+2.2**
	0.5nm,0.7s,mb3.6,baz=142,slow=4.5,SNR=4.3						
GERES	**GERESS Array B**	**72.19**	**342**	P	**P**	**05 01 00.8**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=162,slow=4.2,SNR=4.5						
MKAR	**Makanchi Array**	**75.91**	**28**	P	**P**	**05 01 22.0**	**0.0**
	3.6nm,0.7s,mb4.4,baz=219,slow=6.6,SNR=48						
WMQ	**Urumqi**	**76.31**	**33**	*e*P	**P**	**05 01 31.0**	**+6.8**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
BVAR	**Borovoye Array**	**76.68**	**18**	P	**P**	**05 01 26.6**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=205,slow=5.9,SNR=10						
CD2	**Chengdu**	**78.59**	**51**	*e*P	**P**	**05 01 44.4**	**+7.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
ZAL	**Zalesovo**	**82.37**	**25**	P	**P**	**05 01 56.8**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=251,slow=5.2,SNR=18						
BDFB	**Brasilia**	**83.74**	**256**	LR	LR	05 35 36.9	
	comp=Z,70nm,20.7s,MS4.0,baz=136,slow=33						
ASAR	**Alice Springs**	**85.15**	**113**	P	**P**	**05 02 11.1**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5,baz=256,slow=4.4,SNR=22						
ASAR	**Alice Springs**	**85.15**	**113**	P	**P**	**05 02 11.1**	**-0.5**
WRA	**Warramunga Arr**	**86.76**	**110**	P	**P**	**05 02 18.9**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.2,baz=251,slow=3.4,SNR=19						
WRAB	**Tennant Creek**	**86.77**	**110**	*e*P	**P**	**05 02 19.1**	**-0.5**
	comp=Z,2.7nm,0.7s,mb4.6						
WRAB				*e*pP	pP	05 02 29.0	+6.2
HHC	**Hu-ho-hao-te**	**88.95**	**46**	*e*P	**P**	**05 02 35.8**	**+5.8**
HHC				AP	pP	05 02 43.7	+10
HHC				XP	sP	05 02 47.0	+13
HHC				PP	PP	05 06 09.3	+10
HHC				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.7						
INK	**Inuvik**	**131.09**	**357**	PKP	PKPdf	05 08 46.9	-0.3
	comp=Z,0.6nm,0.6s,baz=301,slow=5.7,SNR=6.3						
YKA	**Yellowknife Ar**	**133.80**	**344**	PKP	PKPdf	05 08 52.1	-0.1
	comp=Z,0.3nm,0.5s,baz=35,slow=1.6,SNR=11						
MSO	**Missoula**	**145.77**	**329**	PKPdf	PKPdf	05 09 15.7	+1.7
BW06	**Boulder Array**	**145.88**	**319**	PKPdf	PKPdf	05 09 15.6	+1.5
BW06				*e*pPKPdf	pPKPdf	05 09 24.2	+6.6
PDAR	**Pinedale Array**	**145.88**	**319**	PKPbc	PKPbc	05 09 15.8	+1.0
	comp=Z,2.6nm,0.8s,baz=85,slow=5.4,SNR=24						
SMCO	**Snowmass**	**145.96**	**312**	*e*P	PKPdf	05 09 17.8	+3.5
SMCO				*e*pPKPdf	pPKPdf	05 09 26.0	+8.3
TXAR	**Lajitas Array**	**146.25**	**294**	PKPbc	PKPbc	05 09 17.3	+1.5
	comp=Z,2.8nm,0.8s,baz=102,slow=4.0,SNR=30						
MCMT	**McKenzie Canyo**	**146.55**	**325**	*e*PKPdf	PKPdf	05 09 19.5	+4.2
MCMT				*e*pPKPdf	pPKPdf	05 09 27.9	+9.2
ANMO	**Albuquerque**	**147.20**	**305**	PKPbc	PKPbc	05 09 20.9	+2.4
	comp=Z,1.9nm,1.0s,baz=260,slow=2.1,SNR=4.7						
LPM	**Los Pinos Moun**	**147.54**	**304**	PKPdf	PKPdf	05 09 19.5	+2.5
BNM	**Barren Site**	**147.58**	**303**	PKPdf	PKPdf	05 09 21.8	+4.8
BMO	**Blue Mountains**	**148.83**	**329**	*e*PKPdf	PKPdf	05 09 23.7	+4.7
BMO				*e*pPKPdf	pPKPdf	05 09 32.5	+10
WUAZ	**Wupatki**	**150.70**	**309**	*e*PKPdf	PKPdf	05 09 30.1	+8.1
NVAR	**Mina Array Bea**	**153.81**	**320**	PKP	PKPdf	05 09 26.0	-0.7
	comp=Z,0.5nm,0.8s,baz=104,slow=2.8,SNR=3.8						
NVAR				PKPbc	PKPbc	05 09 36.7	+2.2
	comp=Z,0.7nm,0.8s,baz=114,slow=0.9,SNR=4.9						

IDC 07 04:59:57.2±3.7,**3052S**×**13835E**,**h0**km,**mb1 2.9**/3, **mb1mx2.9**/12,**mbtmp2.7**/3,**ML2.4**/3,**Error ellipse: s-maj=79.4km s-min=15.4km az=42.0**,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.09**	**117**	Pn	Pn	05 00 47.5	+0.2
	0.1nm,0.3s,baz=303,slow=14,SNR=3.0						
STKA				Pg	Pg	05 00 54.4	-2.1
	0.7nm,0.3s,baz=296,slow=14,SNR=10						
STKA				Sn	Sn	05 01 25.3	+0.3
	0.7nm,0.3s,baz=335,slow=18,SNR=3.7						
STKA				Lg		05 01 34.7	
	0.9nm,0.3s,baz=14,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**7.89**	**329**	Pn	Pn	05 01 53.5	+0.3
	0.1nm,0.3s,baz=149,slow=12,SNR=3.7						
ASAR				Sn	Sn	05 03 24.3	+1.1
	0.1nm,0.3s,baz=152,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**11.14**	**340**	Pn	Pn	05 02 37.7	0.0
	0.1nm,0.3s,baz=162,slow=12,SNR=5.6						
WRA				Sn	Sn	05 04 43.5	+0.5
	0.0nm,0.3s,baz=162,slow=24,SNR=3.2						

*ISCJB **07** 05:04:24.3±0.4,6717N±002×2065E±006,h0km,Error ellipse: s-maj=3.7km s-min=3.2km az=65.6*
*IDC **07** 05:04:25.7±1.0,6713N×2085E,h0km,mb1 3.0/4, mb1mx2.9/22,mbtmp3.0/4,ML2.5/4,Error ellipse: s-maj=15.3km s-min=7.5km az=116.0*
*HEL **07** 05:04:25.8±0.1,6717N×2065E,h0km,ML2.0,ML2.0(UPP), ML2.1(BER),Explosion*
*NAO **07** 05:04:26.2±1.2,6719N×2097E,ML2.1*
*BER **07** 05:04:27.0±4.9,6714N×2081E,h0km,ML2.1, ML2.1(NAO),Suspected explosion*

ISC 07 05:04:25.3±0.3,**6716N**±002×**2069E**±006,**h0**km,**n32**, σ1§**11**/54,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**232**	*i* P	**Pg**	**05 04 26.6**	**0.0**
DUNU				*i* S	**Sg**	**05 04 27.8**	**+0.5**
KUA	**Kurravaara**	**0.81**	**350**	*i* P	**Pg**	**05 04 40.1**	**-0.8**
ERTU	**Ertsjaerv**	**0.85**	**135**	*i* P	**Pg**	**05 04 40.9**	**-0.7**
SALU	**Saltoluokta**	**0.88**	**286**	*i* P	**Pg**	**05 04 41.1**	**-1.1**
NIKU	**Nikkaluokta**	**0.95**	**319**	*e*P	**Pg**	**05 04 42.2**	**-1.4**
PAJU	**Pajala**	**0.96**	**97**	*e*P	**Pg**	**05 04 43.1**	**-0.6**
SJUU	**Sjulsmark**	**1.70**	**167**	*e*P	**Pn**	**05 04 56.0**	**-0.2**
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*P	**Pn**	**05 04 59.5**	**+1.1**
KIF				*e*S	**Sn**	**05 05 23.2**	**+0.7**
KIF				MSG		05 05 28.5	
	comp=Z,10.0nm,0.3s						
LILU	**Lilltraesk**	**1.91**	**191**	*e*P	**Pn**	**05 04 59.3**	**+0.1**
KTK1	**Kautokeino**	**2.09**	**26**	*e*P	**Pn**	**05 05 03.3**	**+1.7**
KTK1				*e*SG	**Sg**	**05 05 31.9**	**-0.7**
KTK1				AML	AML	05 05 32.8	
	comp=Z,54nm,0.6s						
SGF	**Sodankyl**	**2.28**	**80**	*e*P	**Pn**	**05 05 05.3**	**+1.1**
SGF				*e*S	**Sn**	**05 05 33.7**	**+0.7**
SGF				MSG		05 05 39.4	
	comp=Z,5.0nm,0.2s						
TRO	**Tromso**	**2.57**	**346**	*e*S	**Sn**	**05 05 41.6**	**+1.5**
TRO				AML	AML	05 05 46.4	
	comp=Z,11nm,0.5s						
BURU	**Burvik**	**2.60**	**173**	*e*P	**Pn**	**05 05 09.5**	**+0.8**
MOR8	**Moi Rana**	**2.68**	**251**	*e*SG	**Sg**	**05 05 43.4**	**-8.0**
LOF	**Lofoten**	**2.90**	**293**	*e*	**Sg**	**05 05 59.3**	**+0.7**
LOF				AML	AML	05 06 10.4	
	comp=Z,13nm,0.6s						
LOF	**Lofoten**	**2.90**	**293**	*e*Sg	**Sg**	**05 05 59.3**	**+0.7**
LOF				AML	AML	05 06 10.4	
	comp=Z,13nm,0.6s						
OUL	**Oulu**	**2.97**	**132**	*e*P	**Pn**	**05 05 16.8**	**+3.1**
OUL				*e*S	**Sn**	**05 05 52.5**	**+2.4**
OUL				MSG		05 06 07.3	
	comp=Z,5.3nm,0.3s						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**05 05 13.4**	**-0.4**
	baz=209,slow=16						
ARA0				Sn	**Sn**	**05 05 49.2**	**-1.1**
	baz=218,slow=28						
ARA0				Lg		05 05 55.3	
	baz=221,slow=37						
ARA0	**ARCESS Array S**	**2.98**	**35**	*e*P	**Pn**	**05 05 13.4**	**-0.4**
ARA0				*e*S	**Sn**	**05 05 49.2**	**-1.1**
ARA0				*e*SB	**Sb**	**05 05 55.3**	**-1.0**
ARCES	**ARCESS Array B**	**2.98**	**35**	Pn	**Pn**	**05 05 13.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=214,slow=13,SNR=32						
ARCES				Sn	**Sn**	**05 05 52.0**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=216,slow=23,SNR=5.8						
KEV	**Kevo**	**3.50**	**39**	*e*P	**Pn**	**05 05 21.0**	**+0.1**
KEV				*e*S	**Sn**	**05 06 01.9**	**-1.1**
KEV				MSG		05 06 20.4	
	comp=Z,3.4nm,0.3s						
KU4	**Liikasenvaara**	**3.61**	**99**	*e*P	**Pn**	**05 05 23.2**	**+0.6**
KU4				*e*S	**Sn**	**05 06 06.1**	**+0.2**
KU4				MSG		05 06 23.7	
	comp=Z,5.4nm,0.3s						
APA0	**Apatity Array**	**4.77**	**79**	Pn	**Pn**	**05 05 37.0**	**-1.5**
	baz=255,slow=11						
APA0				Sn	**Sn**	**05 06 32.5**	**-1.9**
	baz=267,slow=28						
APA0				Lg		05 06 48.8	
	baz=290,slow=37						
APA0	**Apatity Array**	**4.77**	**79**	*e*P	**Pn**	**05 05 37.0**	**-1.5**
APA0				*e*S	**Sn**	**05 06 32.5**	**-1.9**
APA0				*e*SB	**Sb**	**05 06 48.8**	**+1.0**
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**05 05 58.7**	**+0.7**
	baz=341,slow=16						
FIA0				Sn	**Sn**	**05 07 07.2**	**-2.3**
	baz=345,slow=28						
FIA0				Lg		05 07 36.1	
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.20**	**155**	*e*P	**Pn**	**05 05 58.7**	**+0.7**
FIA0				*e*S	**Sn**	**05 07 07.2**	**-2.3**
FIA0				*e*SG	**Sg**	**05 07 36.1**	**-8.3**
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**05 05 58.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=4.7						
FINES				Sn	**Sn**	**05 07 07.2**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=343,slow=19,SNR=7.6						
FINES				Lg		05 07 39.3	
	comp=Z,0.7nm,0.3s,baz=342,slow=28,SNR=6.4						
NB2	**NORSAR Subarra**	**7.41**	**218**	*e*P	**Pn**	**05 06 15.1**	**+0.4**
NB2				*e*S	**Sn**	**05 07 34.0**	**-5.3**
NB2				*e*SG	**Sg**	**05 08 16.2**	**-6.9**
NOA	**NORSAR Array B**	**7.41**	**218**	Pn	**Pn**	**05 06 14.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=10,SNR=2.4						
NOA				Sn	**Sn**	**05 07 34.3**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=200,slow=8.0,SNR=2.7						
NOA				Lg		05 08 17.2	
	comp=Z,0.5nm,0.3s,baz=352,slow=10,SNR=3.2						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**05 06 18.1**	**-0.7**
	baz=13,slow=12						
HFS	**Hagfors**	**7.70**	**207**	*e*P	**Pn**	**05 06 18.1**	**-0.7**
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**05 06 17.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.2						
HFS				Sn	**Sn**	**05 07 43.0**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=25,slow=21,SNR=7.2						
HFS				Lg		05 08 28.4	
	comp=Z,0.3nm,0.3s,baz=25,slow=27,SNR=3.7						

MOS 07 05:17:45.5±0.6,**4210N**×**4293E**,**h20**km,**mb3.5**/1,**Error ellipse: s-maj=66.3km s-min=9.7km az=58.0**,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.93**	**31**	*e*PG	Pb	05 18 02.4	-0.6
ZEI	**Tsey**	**0.98**	**47**	*i* PG	Pb	05 18 03.1	-0.7
LACR	**Lac**	**1.25**	**54**	*i* PG	Pn	05 18 07.8	+0.1
LSNR	**Lesken**	**1.34**	**29**	*e*PG	Pn	05 18 09.6	+0.5
ARNR	**Ardon**	**1.48**	**42**	*e*PG	Pn	05 18 11.3	+0.4
KMSR	**Komsomolskaya**	**1.62**	**38**	*e*PG	Pn	05 18 13.8	+0.9
SNJR	**Sundja**	**1.69**	**55**	*e*PN	Pn	05 18 15.2	+1.3
PRTR	**Priterechnaya**	**1.93**	**31**	*e*PN	Pn	05 18 18.8	+1.7
TRKR	**Terskaya**	**2.09**	**39**	*e*PN	Pn	05 18 21.0	+1.6

*ISCJB **07** 05:26:23.0±0.5,6631N±004×14193W±0.10,h11km,Error ellipse: s-maj=5.9km s-min=5.1km az=101.7*
*NEIC **07** 05:26:25.3,6631N×14232W,h11km,ML2.8(AEIC),After AEIC.*
*PGC **07** 05:26:26.5,6627N×14205W,h5km,ML2.7/2,Eastern Alaska.*

ISC 07 05:26:24.6±0.5,**6632N**±004×**14209W**±009,**h11**km,**n14**, σ1§**04**/20,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.48**	**319**	P	**Pn**	**05 26 50.7**	**-0.5**
BM3				S	**Sn**	**05 27 10.8**	**+0.3**
IL1	**Eielson Array**	**2.53**	**234**	P	**Pn**	**05 27 04.8**	**-0.8**
DAWY	**Dawson**	**2.54**	**152**	Pn	**Pn**	**05 27 06.5**	**+0.8**
DAWY				Sn	**Sn**	**05 27 37.6**	**+1.0**
DAWY				Sg	**Sg**	**05 27 44.4**	**-1.8**
DAWY				Trac		05 27 49.2	
	comp=Z,14nm,0.2s						
COLA	**College**	**2.80**	**241**	P	**Pn**	**05 27 08.7**	**-0.6**
DOT	**Dot Lake**	**2.81**	**198**	P	**Pn**	**05 27 11.0**	**+1.5**
COLD	**Coldfoot**	**3.34**	**289**	P	**Pn**	**05 27 17.1**	**+4.0**
MENT	**Mentasta**	**3.47**	**192**	P	**Pn**	**05 27 18.9**	**+0.4**
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**05 27 26.0**	**+2.0**
INK				Sn	**Sn**	**05 28 10.4**	**+0.9**
INK				Sg	**Sg**	**05 28 27.3**	**-1.7**
INK				Trac		05 28 40.2	
	comp=Z,13nm,0.8s						
MCK	**McKinley**	**3.90**	**231**	P	**Pn**	**05 27 23.8**	**-0.5**
IM3	**Indian Mountai**	**4.74**	**271**	P	**Pn**	**05 27 35.0**	**-1.0**
HYT	**Haines Junctio**	**5.89**	**158**	Pn	**Pn**	**05 27 52.5**	**+0.8**
HYT				Sg	**Sg**	**05 29 28.5**	**-5.1**
HYT				Trac		05 29 35.4	
	comp=Z,6.0nm,0.6s						
WHY	**Whitehorse**	**6.53**	**147**	Trac		05 30 10.8	
	comp=Z,2.0nm,0.5s						
WHY	**Whitehorse**	**6.53**	**147**	Sg	**Sg**	**05 29 47.4**	**-7.0**
YKW3	**Yellowknife Ar**	**12.39**	**95**	P	**Pn**	**05 29 19.8**	**-1.1**
YKW3				Sn	**Sn**	**05 31 29.8**	**-9.1**
YKW3				Trac		05 33 09.7	
	comp=Z,1.0nm,0.4s						

MOS 07 06:13:27.8±0.7,**4238N**×**4319E**,**h16**km,**mb3.5**/1,**Error ellipse: s-maj=55.6km s-min=10.8km az=54.9**,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.60**	**29**	*i* PG	Pg	06 13 39.6	0.0
DIGR				*i* S	Sg	06 13 45.1	-2.5
ZEI	**Tsey**	**0.66**

comp=Z,224nm,21.1s,baz=326,slow=33
WRA Warramunga Arr 41.90 122 P P 07 07 42.8 +0.4
0.2nm,0.5s,baz=302,slow=9.0,SNR=5.0
SONM Songino Array 47.44 8 P P 07 08 26.4 -0.2
0.4nm,0.5s,baz=192,slow=9.6,SNR=4.1
SONM PcP PcP 07 09 57.0 -0.1
0.1nm,0.4s,baz=187,slow=4.6,SNR=4.4
MKAR Makanchi Array 47.53 346 P P 07 08 27.9 +0.6
1.0nm,0.7s,baz=159,slow=7.8,SNR=17
BVAR Borovoye Array 56.53 341 P P 07 09 33.9 -0.4
0.6nm,0.5s,baz=149,slow=8.4,SNR=5.7

*ISCJB **07** 07:03:16.3±2.7, 663S±009×1535E±01, h36km±22km, mb4.6/35, MS4.3/4, Error ellipse: s-maj=19.5km s-min=13.4km az=42.9*
*MOS **07** 07:03:18.1±1.2, 621S×15297E, h33km, mb4.7/4, Error ellipse: s-maj=25.1km s-min=16.9km az=90.4*
*IDC **07** 07:03:19.2±5.4, 666S×15351E, h48km±46km, mb4.0/9, mb1 4.2/10, mb1mx4.1/16, mbtmp4.3/10, ML3.8/1, MS3.6/4, Ms1 3.7/4, ms1mx3.1/29, Error ellipse: s-maj=39.9km s-min=23.0km az=95.0*
*BJI **07** 07:03:23.2, 660S×15320E, h87km, mB5.4, mb4.7, Ms4.9, Msz4.4*
*NEIC **07** 07:03:24.7±3.3, 663S×15323E, h87km±27km, mb4.5/12, Error ellipse: s-maj=31.4km s-min=15.8km az=88.0*

ISC 07 07:03:18.1±2.6, 669S±009×1536E±01, h40km±21km, n58, σ1§09/59, mb4.6/35, MS4.3/4, 9C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.96**	**247**	P		**Pn**	**07 04 57.7**	**+0.1**
	10nm,0.3s,baz=56,slow=9.9,SNR=32							
PMG				S		**Sn**	**07 06 15.8**	**+0.3**
	4.6nm,0.3s,baz=145,slow=21,SNR=4.6							
PMG				LR		LR	07 07 37.2	
	comp=Z,140nm,21.8s,baz=197,slow=38							
CTA	**Charters Tower**	**15.13**	**208**	P		**Pn**	**07 06 54.0**	**+5.1**
	0.3nm,0.3s,baz=36,slow=12,SNR=8.5							
CTA				LR		LR	07 11 57.1	
	comp=Z,178nm,18.9s,baz=42,slow=34							
CTAO	**Charters Tower**	**15.13**	**208**	*e*Pn		**Pn**	**07 06 54.1**	**+5.2**
	3.8nm,0.6s							
WRAB	**Tennant Creek**	**22.89**	**233**	*e*P		**P**	**07 08 17.4**	**-0.8**
WRAB	**Tennant Creek**	**22.89**	**233**	*e*P		**P**	**07 08 17.3**	**-0.9**
	5.4nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**22.90**	**233**	*e*P		**P**	**07 08 17.5**	**-0.8**
WRA	**Warramunga Arr**	**22.91**	**233**	P		**P**	**07 08 17.1**	**-1.3**
	4.3nm,0.8s,mb3.9,baz=58,slow=9.8,SNR=24							
WRA				PcP		PcP	07 12 08.8	+1.0
	0.8nm,0.7s,baz=63,slow=2.4,SNR=5.3							
WRA	**Warramunga Arr**	**22.91**	**233**	⇑*e*P		**P**	**07 08 17.3**	**-1.1**
ASAR	**Alice Springs**	**25.39**	**226**	P		**P**	**07 08 41.0**	**-0.6**
	4.5nm,0.8s,mb4.1,baz=60,slow=8.8,SNR=52							
ASPA	**Alice Springs**	**25.39**	**226**	*e*P		**P**	**07 08 41.3**	**-0.4**
STKA	**Stephens Creek**	**27.47**	**203**	P		**P**	**07 09 01.7**	**+1.3**
	2.6nm,0.7s,mb3.9,baz=0.8,slow=11,SNR=5.7							
STKA				LR		LR	07 19 12.6	
	comp=Z,148nm,18.1s,MS3.6,baz=23,slow=35							
STKA	**Stephens Creek**	**27.47**	**203**	P		**P**	**07 09 01.7**	**+1.3**
STKA				LR		LR	07 19 12.6	
FITZ	**Fitzroy Crossi**	**29.56**	**245**	*e*P		**P**	**07 09 17.9**	**-1.1**
	4.4nm,0.6s,mb4.4							
SSE	**Sheshan**	**48.73**	**322**	P		**P**	**07 11 56.3**	**-2.4**
SSE				AMB		AMB		
	comp=Z,18nm,0.9s,mb5.1							
SSE				AMB		AMB		
	comp=Z,274nm,3.8s							
NJ2	**Nanjing**	**50.83**	**321**	*e*P		**P**	**07 12 13.1**	**-1.5**
NJ2				PP		PP	07 14 12.0	+1.0
NJ2				S		**S**	**07 19 21.0**	**-6.8**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,240nm,4.9s							
NJ2				LR		LR		
	comp=N,850nm,18.0s,MS4.9							
NJ2				LR		LR		
	comp=E,550nm,19.6s,MS4.9							
NJ2				LR		LR		
	comp=Z,420nm,14.8s,MS4.6							
ENH	**Enshi**	**56.05**	**313**	*e*P		**P**	**07 12 52.7**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.7							
HABR	**Khabarovsk**	**57.30**	**345**	*i*P		**P**	**07 12 57.9**	**-3.9**
HABR				*e*S		**S**	**07 20 52.8**	**-2.4**
KLR	**Kul'dur**	**58.88**	**343**	*e*P		**P**	**07 13 10.8**	**-2.0**
CD2	**Chengdu**	**60.59**	**311**	*e*P		**P**	**07 13 27.5**	**+2.9**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.0							
CD2				AMB		AMB		
	comp=Z,90nm,4.9s							
HHC	**Hu-ho-hao-te**	**61.06**	**324**	*e*P		**P**	**07 13 29.0**	**+1.2**
HHC				PCP		PcP	07 14 11.1	+0.5
HHC				PP		PP	07 15 45.8	+3.3
HHC				S		**S**	**07 21 32.2**	**-12**
HHC				SCS		ScS	07 23 03.3	-12
HHC				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.9							
HHC				AMB		AMB		
	comp=Z,126nm,7.2s							
HHC				LR		LR		
	comp=N,125nm,18.0s,MS4.7							
HHC				LR		LR		
	comp=E,424nm,18.0s,MS4.7							
HHC				LR		LR		
	comp=Z,96nm,12.0s							
HIA	**Hailar**	**63.08**	**336**	⇓*i*P		**P**	**07 13 41.5**	**+0.1**
HIA	**Hailar**	**63.08**	**336**	*e*P		**P**	**07 13 41.5**	**+0.2**
	comp=Z,9.3nm,1.0s,mb4.9							
MA2	**Magadan**	**66.09**	**358**	⇓*e*P		**P**	**07 14 00.8**	**-0.2**
MA2				pmax		pmax		
	comp=Z,16nm,2.9s,mb4.5							
GTA	**Gaotai**	**67.60**	**317**	*e*P		**P**	**07 14 11.7**	**+1.1**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.4s,mb4.3							
SHL	**Shillong**	**67.98**	**301**	*e*P		**P**	**07 14 14.0**	**+1.0**
ULN	**Ulaanbaatar**	**68.03**	**328**	⇑*e*P		**P**	**07 14 13.5**	**+0.2**
ULN	**Ulaanbaatar**	**68.03**	**328**	*e*P		**P**	**07 14 14.4**	**+1.1**
	comp=Z,4.2nm,1.0s,mb4.4							
SONM	**Songino Array**	**68.36**	**328**	P		**P**	**07 14 16.2**	**+0.9**
	comp=Z,2.8nm,0.8s,mb4.3,baz=142,slow=5.0,SNR=19							
YAK	**Yakutsk**	**70.98**	**348**	⇑*e*P		**P**	**07 14 31.8**	**+0.3**
YAK				pmax		pmax		
	comp=Z,21nm,0.8s,mb5.1							
BOD	**Bodaibo**	**71.84**	**339**	*e*P		**P**	**07 14 34.1**	**-2.6**
JIRN	**Jiri**	**73.47**	**301**	*e*P		**P**	**07 14 47.6**	**+1.2**
	comp=Z,9.6nm,0.7s,mb4.8							
GUN	**Gumba**	**73.81**	**301**	*e*P		**P**	**07 14 49.8**	**+1.4**
	comp=Z,27nm,0.8s,mb5.3							
PKI	**Pulchoki**	**74.11**	**301**	*e*P		**P**	**07 14 51.1**	**+1.0**
	comp=Z,25nm,1.1s,mb5.0							
KKN	**Kakani**	**74.28**	**301**	*e*P		**P**	**07 14 52.1**	**+1.0**
	comp=Z,13nm,0.8s,mb4.9							
DMN	**Daman**	**74.38**	**301**	*e*P		**P**	**07 14 52.5**	**+0.8**
	comp=Z,34nm,0.9s,mb5.3							
GKN	**Gorkha**	**74.89**	**301**	*e*P		**P**	**07 14 55.5**	**+0.8**
	comp=Z,33nm,0.9s,mb5.2							
BILL	**Bilibino**	**75.08**	**5**	*e*P		**P**	**07 14 55.8**	**0.0**
BILL				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
BILL	**Bilibino**	**75.08**	**5**	*e*P		**P**	**07 14 55.5**	**-0.2**
	comp=Z,6.2nm,0.8s,mb4.6							
KOLN	**Koldanda**	**75.71**	**301**	*e*P		**P**	**07 15 00.0**	**+0.6**
	comp=Z,25nm,0.8s,mb5.2							
WMQ	**Urumqi**	**77.69**	**317**	*e*P		**P**	**07 15 11.0**	**+0.5**
WMQ				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
TIXI	**Tiksi**	**79.86**	**352**	⇑*e*P		**P**	**07 15 23.1**	**+0.6**
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.6s,mb4.3							
MKAR	**Makanchi Array**	**82.29**	**319**	P		**P**	**07 15 35.8**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=102,slow=5.9,SNR=22							
MKAR	**Makanchi Array**	**82.29**	**319**	⇑*e*P		**P**	**07 15 35.7**	**+0.3**
ZAL	**Zalesovo**	**83.18**	**326**	P		**P**	**07 15 38.8**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=22,slow=3.0,SNR=5.4							
ZAL	**Zalesovo**	**83.18**	**326**	⇑*e*P		**P**	**07 15 38.7**	**-1.3**
COLA	**College**	**83.28**	**22**	*e*P		**P**	**07 15 40.8**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.5							
QSPA	**South Pole Qui**	**83.29**	**180**	*e*P		**P**	**07 15 40.7**	**+0.1**
	comp=Z,5.9nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**83.58**	**22**	P		**P**	**07 15 40.8**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.3,baz=247,slow=5.3,SNR=11							
ILAR				LR		LR	07 55 03.4	
	comp=Z,135nm,18.5s,MS4.3,baz=178,slow=37							
KURK	**Kurchatov**	**85.76**	**322**	⇑*i*P		**P**	**07 15 51.9**	**-1.2**
KURK	**Kurchatov**	**85.76**	**322**	*e*P		**P**	**07 15 52.7**	**-0.4**
	comp=Z,4.7nm,1.2s,mb4.6							
AAK	**Ala-Archa**	**86.56**	**313**	⇑*i*P		**P**	**07 15 56.6**	**-0.4**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.7s,mb4.5							
AAK	**Ala-Archa**	**86.56**	**313**	*e*P		**P**	**07 15 56.6**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**91.24**	**323**	P		**P**	**07 16 17.6**	**-1.5**
	comp=Z,0.4nm,0.5s,mb4.0,baz=90,slow=3.0,SNR=5.0							
SYO	**Syowa Base**	**92.18**	**199**	⇓*e*PcP		PcP	07 16 26.8	+2.6
YKA	**Yellowknife Ar**	**96.69**	**28**	P		**P**	**07 16 45.5**	**+1.4**
	comp=Z,0.1nm,0.3s,mb3.7,baz=282,slow=4.0,SNR=6.9							
YKA	**Yellowknife Ar**	**96.69**	**28**	⇑*e*P		**P**	**07 16 45.5**	**+1.4**
BDFB	**Brasilia**	**149.14**	**136**	PKPbc		PKPbc	07 23 03.7	+1.7
	comp=Z,2.8nm,0.7s,baz=205,slow=6.1,SNR=5.0							
TORD	**Torodi Ar. Bea**	**151.65**	**285**	PKPbc		PKPbc	07 23 08.6	+0.6
	comp=Z,5.1nm,0.7s,baz=65,slow=2.4,SNR=34							

*CSEM **07** 07:09:15.6, 3834N×2173E, h19km, MD3.5/3, After ATH*
*NEIC **07** 07:09:15.0, 3834N×2173E, h19km, MD3.5(ATH), After ATH.*

ATH 07 07:09:15.6, 3834N×2173E, h19km±2km, MD3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.35**	**216**	*e*PB		Pg	07 09 22.7	-0.4
RLS				*e*SB		Sg	07 09 28.6	+0.5
EVR	**Evrytania**	**0.58**	**6**	*e*PN		Pn	07 09 27.1	-1.7
VLS	**Valsamata**	**0.91**	**260**	*e*PN		Pn	07 09 33.3	-0.1
VLI	**Veliai**	**1.88**	**149**	*e*PN		Pn	07 09 49.0	+2.3

IDC 07 07:10:45.7±1.0, 934S×15942E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/14, mbtmp3.5/5, MS3.8/2, Ms1 3.8/2, ms1mx3.1/17, Error ellipse: s-maj=32.9km s-min=8.6km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.53**	**100**	Pg		Pg	07 10 56.6	+0.7
	1μm,0.3s,baz=250,slow=2.6,SNR=131							
HNR				Lg			07 11 02.7	
	3μm,0.3s,baz=271,slow=4.1,SNR=52							
PMG	**Port Moresby**	**12.10**	**269**	LR		LR	07 18 00.7	
	comp=Z,85nm,18.2s,baz=110,slow=36							
WRA	**Warramunga Arr**	**26.41**	**244**	P		P	07 16 25.0	+1.0
	3.1nm,1.3s,baz=72,slow=9.3,SNR=5.0							
ASAR	**Alice Springs**	**28.24**	**237**	P		P	07 16 39.9	-0.5
	0.1nm,0.4s,baz=64,slow=10,SNR=2.7							
SONM	**Songino Array**	**73.69**	**326**	P		P	07 22 22.1	+0.8
	0.3nm,0.4s,baz=117,slow=2.6,SNR=4.2							
KDAK	**Kodiak Island**	**77.43**	**24**	LR		LR	07 54 34.3	
	comp=Z,218nm,19.9s,baz=96,slow=34							
ILAR	**Eielson Array**	**83.98**	**20**	P		P	07 23 16.8	-1.1
	0.2nm,0.5s,baz=247,slow=5.1,SNR=4.7							
MKAR	**Makanchi Array**	**88.05**	**318**	P		P	07 23 38.1	+0.1
	0.3nm,0.6s,baz=92,slow=6.4,SNR=4.7							

IDC 07 07:14:55.1±1.4, 195N×12760E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, Error ellipse: s-maj=126.2km s-min=21.2km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**163**	P		P	07 19 59.3	+0.7
	0.9nm,0.4s,baz=344,slow=11,SNR=14							
WB2	**Warramunga Arr**	**22.74**	**163**	*e*P		P	07 19 59.2	+0.5
ASAR	**Alice Springs**	**26.19**	**167**	P		P	07 20 31.1	-0.2
	0.3nm,0.4s,baz=344,slow=7.3,SNR=7.2							
SONM	**Songino Array**	**49.25**	**341**	P		P	07 23 46.2	+0.9
	0.2nm,0.5s,baz=117,slow=3.2,SNR=2.5							
MKAR	**Makanchi Array**	**59.50**	**325**	P		P	07 24 59.6	-0.4
	0.1nm,0.4s,baz=111,slow=7.7,SNR=4.8							

*IDC **07** 07:52:50.0±0.9, 1519S×7544W, h0km, mb3.7/4, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML3.8/2, MS3.3/2, Ms1 3.2/2, ms1mx2.8/21, Error ellipse: s-maj=35.7km s-min=19.0km az=54.0*
*ISCJB **07** 07:52:55.0±3.6, 153S±01×752W±02, h51km±34km, mb3.6/4, MS3.3/1, Error ellipse: s-maj=31.6km s-min=16.8km az=161.5*

ISC 07 07:52:55.9±3.2, 153S±01×753W±02, h40km±31km, n12, σ0§89/9, mb3.6/4, MS3.3/1, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.99**	**99**	Pn		**Pn**	**07 54 36.6**	**+1.0**
	0.5nm,0.3s,baz=256,slow=12,SNR=24							
LVC	**Limon Verde**	**9.50**	**141**	Pn		**Pn**	**07 55 10.9**	**+0.8**
	6.9nm,0.3s,baz=310,slow=10,SNR=89							
LVC				Sn		**Sn**	**07 56 54.6**	**-0.9**
	0.4nm,0.3s,baz=239,slow=24,SNR=2.6							
LVC				Lg			07 57 56.3	
	0.8nm,0.3s,baz=124,slow=17,SNR=6.3							
LVC				LR		LR	07 58 11.6	
	comp=Z,104nm,18.9s,baz=329,slow=33							
SIV	**San Ignacio**	**13.73**	**95**	Pn		**Pn**	**07 56 06.7**	**-1.2**
	0.4nm,0.3s,baz=276,slow=13,SNR=11							
CFAA	**Coronel Fontan**	**17.52**	**160**	P		**Pn**	**07 56 57.2**	**+0.3**
	0.0nm,0.3s,baz=334,slow=14,SNR=3.9							
PLCA	**Paso Flores**	**25.73**	**172**	P		**P**	**07 58 22.5**	**+0.1**
	1.1nm,0.9s,mb3.4,baz=326,slow=14,SNR=3.4							
BDFB	**Brasilia**	**26.30**	**95**	LR		LR	08 10 31.0	
	comp=Z,80nm,18.3s,MS3.3,baz=147,slow=40							
TXAR	**Lajitas Array**	**52.10**	**328**	P		**P**	**08 02 01.6**	**-0.2**
	0.2nm,0.6s,mb3.2,baz=151,slow=8.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**81.23**	**74**	P		**P**	**08 05 09.0**	**+1.4**
	2.4nm,0.7s,mb4.3,baz=255,slow=5.3,SNR=17							
YKA	**Yellowknife Ar**	**83.38**	**343**	P		**P**	**08 05 17.7**	**-1.1**
	0.3nm,0.8s,mb3.4,baz=134,slow=4.5,SNR=8.5							
ASAR	**Alice Springs**	**131.93**	**217**	PKP		PKPdf	08 12 05.5	+0.6
	0.2nm,0.5s,baz=138,slow=1.6,SNR=5.7							
WRA	**Warramunga Arr**	**134.48**	**221**	PKP		PKPdf	08 12 10.6	+0.9
	0.3nm,0.5s,baz=147,slow=1.9,SNR=5.4							
SONM	**Songino Array**	**147.48**	**358**	PKPbc		PKPbc	08 12 36.0	+0.5
	0.4nm,0.4s,baz=324,slow=2.0,SNR=4.5							

IDC 07 07:54:52.4±2.2, 637S×12903E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.6/14, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=151.5km s-min=30.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**160**	Pn		Pn	07 58 17.4	-0.6
	0.2nm,0.3s,baz=342,slow=13,SNR=6.5							
WRA				Sn		Sn	08 00 47.6	-11
	0.3nm,0.3s,baz=330,slow=23,SNR=6.7							
ASAR	**Alice Springs**	**17.82**	**165**	P		Pn	07 59 02.5	+0.8
	0.2nm,0.3s,baz=348,slow=10,SNR=21							
MKAR	**Makanchi Array**	**67.18**	**327**	P		P	08 05 48.3	+0.2
	0.4nm,0.5s,baz=115,slow=8.1,SNR=7.5							

BJI 07 08:26:09.9, 4011N×10499E, h12km, ML3.5, Ms3.4, Msz3.6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**4.12**	**193**	PG		Pg	08 27 23.9	-4.9
LZH				Smax				
	comp=N,105nm,0.7s							
LZH				Smax				
	comp=E,99nm,0.7s							
LZH				LR		LR		
	comp=N,456nm,8.5s							
LZH				LR		LR		
	comp=Z,653nm,9.6s							
HHC	**Hu-ho-hao-te**	**5.07**	**80**	*e*PG		Pg	08 27 43.9	-3.0
HHC				SG		Sg	08 28 48.5	-4.1
HHC				Smax				
	comp=N,55nm,0.5s							
HHC				Smax				
	comp=E,63nm,0.4s							

*NEIC **07** 08:26:32.1, 4266N×4315E, h5km, mb3.5/2, MD3.7(ISK), After ISK.*
*TIF **07** 08:26:32.8, 4257N×4352E, h13km±1km*
*ISCJB **07** 08:26:33.4±0.3, 4264N±002×4355E±002, h11km±3km, mb3.3/2, Error ellipse: s-maj=3.0km s-min=2.8km az=171.8*
*IDC **07** 08:26:34.7±1.3, 4262N×4357E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/22, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=23.0km s-min=13.5km az=99.0*
*CSEM **07** 08:26:34.6±0.1, 4266N×4360E, h22km±1km, mb4.3, Error ellipse: s-maj=2.8km s-min=2.4km az=4.0*
*MOS **07** 08:26:35.3±1.3, 4265N×4362E, h30km, mb4.3/1, Error ellipse: s-maj=9.8km s-min=5.9km az=77.8*
*NNC **07** 08:26:48.5±8.5, 4065N×4760E, h48km±64km, mb3.3, Error ellipse: s-maj=94.3km s-min=57.7km az=82.0*

ISC 07 08:26:33.8±0.1, 4260N±002×4355E±002, h3km±3km, n60, σ1§26/97, mb3.3/2, 4C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**256**	P		**Sg**	**08 26 35.6**	**+0.2**
ONI				S		**Sg**	**08 26 37.1**	**+0.8**
DIGR	**Digorskoe uzhe**	**0.30**	**5**	*i*Pg		**Pg**	**08 26 40.4**	**+0.8**
DIGR				*i*Sg		**Sg**	**08 26 45.5**	**+2.0**
ZEI	**Tsey**	**0.31**	**56**	*i*Pg		**Pg**	**08 26 40.9**	**+1.1**
ZEI				*i*Sg		**Sg**	**08 26 46.5**	**+2.7**
LACR	**Lac**	**0.60**	**67**	*i*Pg		**Pg**	**08 26 45.7**	**+0.5**
LACR				*i*Sg		**Sg**	**08 26 54.7**	**+1.7**
LSNR	**Lesken**	**0.70**	**16**	*e*Pg		**Pg**	**08 26 47.2**	**-0.1**
LSNR				*i*Sg		**Sg**	**08 26 57.3**	**+0.9**
GOR	**Gori**	**0.74**	**146**	P		Px	08 27 06.8	
GOR				S		Sx	08 27 18.3	
ARNR	**Ardon**	**0.80**	**42**	*i*Pg		**Pg**	**08 26 48.8**	**-0.3**
ARNR				*i*Sg		**Sg**	**08 27 00.3**	**+0.9**
VLKR	**Vladikavkaz**	**0.94**	**61**	*e*Pg		**Pg**	**08 26 51.3**	**-0.6**
VLKR				*e*Sg		**Sg**	**08 27 04.5**	**+0.4**
KMSR	**Komsomolskaya**	**0.95**	**35**	*e*Pg		**Pg**	**08 26 51.1**	**-0.8**
KMSR				*e*Sg		**Sg**	**08 27 04.3**	**+0.1**
DUS	**Dusheti**	**0.99**	**120**	P		**Pg**	**08 26 52.6**	**-0.3**
DUS				S		**Sg**	**08 27 07.4**	**+1.7**
SNJR	**Sundja**	**1.04**	**63**	*i*Pg		**Pg**	**08 26 52.9**	**-0.8**
SNJR				*e*Sg		**Sg**	**08 27 07.2**	**-0.1**
BTKR	**Batakoyurt**	**1.06**	**43**	*e*Pg		**Pg**	**08 26 53.0**	**-1.2**
BTKR				*e*Sg		**Sg**	**08 27 07.8**	**-0.1**
CHVG	**Ch'k'valeri**	**1.09**	**277**	P		**Pg**	**08 26 54.1**	**-0.5**
CHVG				S		**Sg**	**08 27 08.2**	**-0.5**
AKH	**Akhalkalaki**	**1.19**	**182**	P		**Pg**	**08 26 55.1**	**-1.5**
AKH				S		**Sg**	**08 27 11.3**	**-0.7**
KUBR	**Kubataba**	**1.21**	**355**	PG		**Pg**	**08 26 58.0**	**+1.1**
KUBR				S		**Sg**	**08 27 17.0**	**+4.5**
TBLG	**Delisi**	**1.24**	**134**	P		**Pg**	**08 26 55.5**	**-2.0**
TBLG				S		**Sg**	**08 27 14.3**	**+0.7**
TBLG	**Delisi**	**1.24**	**134**	*e*Sg		**Sg**	**08 27 14.3**	**+0.7**
TBLG	**Delisi**	**1.24**	**134**	*e*PG		**Pg**	**08 26 55.6**	**-1.9**
TBLG				*e*S		**Sg**	**08 27 14.3**	**+0.7**
PRTR	**Priterechnaya**	**1.27**	**25**	*e*Pg		**Pg**	**08 26 56.1**	**-2.0**
PRTR				*e*Sg		**Sg**	**08 27 13.2**	**-1.4**
MTA	**Mtatsminda**	**1.29**	**134**	P		**Pg**	**08 26 57.4**	**-1.1**
MTA				S		**Sg**	**08 27 14.8**	**-0.6**
SHAR	**Shatzhatmas**	**1.31**	**331**	*i*Pg		**Pg**	**08 26 59.1**	**+0.2**
TRKR	**Terskaya**	**1.42**	**37**	*e*Pg		**Pg**	**08 26 58.4**	**-2.6**
TRKR				*e*Sg		**Sg**	**08 27 17.2**	**-2.2**
PYA	**Pyatigorsk**	**1.48**	**346**	Pg		**Pg**	**08 27 01.8**	**-0.3**
PYA				Sg		**Sg**	**08 27 22.2**	**+0.9**
KIV0	**Kislovodsk Arr**	**1.49**	**336**	Pg		**Pg**	**08 27 02.0**	**-0.4**
KIV0				Sg		**Sg**	**08 27 22.5**	**+0.8**
KIV	**Kislovodsk**	**1.50**	**335**	Pg		**Pg**	**08 27 02.0**	**-0.4**
KIV				*e*Sn		**Sn**	**08 27 18.7**	**-2.7**
KIV				Sg		**Sg**	**08 27 22.5**	**+0.7**
KIV	**Kislovodsk**	**1.50**	**335**	*e*Pn		**Pn**	**08 27 01.9**	**+0.5**
KIV				*e*Sn		**Sn**	**08 27 18.7**	**-2.7**
DGRG	**David-gareji**	**1.78**	**130**	P		**Pn**	**08 27 06.7**	**+1.4**
DGRG				S		**Sn**	**08 27 30.5**	**+2.1**
DGRG	**David-gareji**	**1.78**	**130**	P		**Pn**	**08 27 06.9**	**+1.6**
DGRG				S		**Sn**	**08 27 32.7**	**+4.3**
ARTV	**Artvin**	**1.86**	**221**	*i*P		**Pn**	**08 27 06.0**	**-0.4**
ARTV				*i*S		**Sn**	**08 27 30.1**	**-0.3**
KARS	**Kars**	**2.01**	**190**	PG		**Pn**	**08 27 06.9**	**-1.7**
KARS				SG		**Sg**	**08 27 37.8**	**-0.7**
KARS	**Kars**	**2.01**	**190**	Pn		**Pn**	**08 27 08.9**	**+0.3**
KARS				Sg		**Sg**	**08 27 35.9**	**-2.6**
DIGO	**Kars**	**2.19**	**183**	*i*P		**Pn**	**08 27 12.6**	**+1.6**
DIGO				*i*S		**Sn**	**08 27 41.6**	**+3.2**
GOF	**Gofitskoye**	**2.49**	**352**	*e*PN		**Pg**	**08 27 24.3**	**+2.9**
GOF				*i*S		**Sg**	**08 27 53.1**	**-0.6**
GOF				pmax		pmax		
	comp=Z,40nm,0.6s							
GOF				smax				
	comp=N,120nm,0.6s							
GOF				smax				
	comp=E,500nm,0.6s							
GNI	**Garni**	**2.61**	**159**	Pn		**Pn**	**08 27 20.8**	**+4.1**
	comp=E,11nm,0.3s,baz=329,slow=2.9,SNR=14							
GNI				Sn		**Sn**	**08 27 55.6**	**+6.7**
	comp=E,12nm,0.3s,baz=111,slow=19,SNR=6.9							
MAK	**Makhachkala**	**2.94**	**82**	*i*PN		**Pn**	**08 27 22.7**	**+1.5**
SOC	**Sochi**	**2.97**	**291**	*e*Pn	

WALA	**Waterton Lakes**	**1.31 359**	P	**Pn**	**08 39 11.1**	**+2.0**
WALA			S	**Sb**	**08 39 29.0**	**+2.7**
WALA			Trac		08 39 36.4	
	comp=Z,20nm,0.1s					
WALA			Trac		08 39 36.4	
	comp=Z,20nm,0.1s					
HRY	**Holter Researc**	**1.74 126**	⇑ *i*P	**Pn**	**08 39 14.5**	**-0.6**
DLMT	**Dillon**	**2.55 159**	*e*Pn	**Pn**	**08 39 26.6**	**+0.5**
DLMT			*e*Pg	**Pg**	**08 39 31.8**	**-1.8**
DLMT			*e*Sg	**Sg**	**08 40 02.6**	**-4.1**
BOZ	**Bozeman (W)**	**2.62 143**	*e*Pn	**Pn**	**08 39 28.0**	**+1.0**
MCMT	**McKenzie Canyo**	**3.01 166**	*e*Pn	**Pn**	**08 39 33.2**	**+0.7**
MCMT			*e*Sn	**Sn**	**08 40 09.0**	**+0.4**
QLMT	**Earthquake Lak**	**3.38 149**	*e*Pn	**Pn**	**08 39 36.9**	**-0.7**
QLMT			*e*Sg	**Sg**	**08 40 27.4**	**-5.9**
BMO	**Blue Mountains**	**3.75 221**	*e*Pn	**Pn**	**08 39 44.8**	**+2.2**
HAWA	**Hanford**	**4.09 253**	*e*Pn	**Pn**	**08 39 50.5**	**+3.2**
HAWA			*e*S	**Sg**	**08 40 55.4**	**-0.8**
PNT	**Penticton**	**4.12 294**	Pn	**Pn**	**08 39 50.4**	**+2.6**
PNT			Pg	**Pg**	**08 40 03.4**	**-0.3**
PNT			Sn	**Sn**	**08 40 38.3**	**+2.4**
PNT			Sg	**Sg**	**08 40 58.0**	**+1.0**
PNT			Trac		08 41 00.1	
	comp=Z,33nm,0.7s					
FLWY	**Flagg Ranch**	**4.29 148**	*e*Pn	**Pn**	**08 39 52.9**	**+2.8**
FLWY			*e*S	Sx	08 40 56.5	
SLEB	**Sale Mountain**	**4.40 323**	Pn	**Pn**	**08 39 54.5**	**+2.9**
SLEB			Pg	**Pg**	**08 40 07.7**	**-1.4**
SLEB			Sg	**Sg**	**08 41 05.0**	**-1.1**
SLEB			Trac		08 41 15.9	
	comp=Z,18nm,0.6s					
LOHW	**Long Hollow**	**4.73 150**	*e*Pn	**Pn**	**08 39 59.9**	**+3.7**
LOHW			*e*		08 41 11.0	
DOWB	**Downie Slide**	**4.82 323**	Pn	**Pn**	**08 40 00.6**	**+3.2**
DOWB			Pg	**Pg**	**08 40 16.5**	**-0.7**
DOWB			Sg	**Sg**	**08 41 20.5**	**+0.8**
DOWB			Trac		08 41 22.0	
	comp=Z,53nm,0.5s					
MNB	**Mounoet Dainar**	**5.31 329**	Pn	**Pn**	**08 40 06.5**	**+2.4**
MNB			Pg	**Pg**	**08 40 24.7**	**-1.8**
MNB			Sg	**Sg**	**08 41 34.4**	**-1.0**
LAO	**LASA Array**	**5.33 99**	*e*Pn	**Pn**	**08 40 05.1**	**+0.8**
	15nm,0.6s					
EDM	**Edmonton**	**5.49 3**	Pn	**Pn**	**08 40 10.3**	**+3.8**
EDM			Pg	**Pg**	**08 40 23.8**	**-6.1**
EDM			Sg	**Sg**	**08 41 36.5**	**-4.4**
EDM			Trac		08 41 38.7	
	comp=Z,5.0nm,0.2s					
EDM			Trac		08 41 38.7	
	comp=Z,5.0nm,0.2s					
LLLB	**Lilloet**	**5.97 302**	Sg	**Sg**	**08 41 53.9**	**-2.6**
WSLR	**Whistler**	**6.41 295**	Sg	**Sg**	**08 42 09.3**	**-1.3**
DGMT	**Dagmar**	**6.53 80**	*e*Pn	**Pn**	**08 40 19.0**	**-1.8**
	9.0nm,0.4s					
DGMT			*e*Pg	**Pg**	**08 40 40.2**	**-10**
DGMT			*e*Sg	**Sg**	**08 42 03.3**	**-11**
YKW3	**Yellowknife Ar**	**14.85 359**	Pn	**Pn**	**08 42 13.2**	**-1.5**
YKW3			Trac		08 45 05.4	
YKW3			Trac		08 45 05.4	

IDC 07 08:43:59.8±56.0, 1654S×17206W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/17, mbtmp4.4/3, Error ellipse: s-maj=1085.0km s-min=172.8km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.60**	**241**	P	P	08 52 14.1	+0.4
	3.1nm,0.6s,baz=92,slow=10.0,SNR=9.6						
WB2	**Warramunga Arr**	**50.84**	**258**	*e*P	P	08 53 01.6	-0.5
WRA	**Warramunga Arr**	**50.85**	**258**	P	P	08 53 02.4	+0.2
	1.0nm,0.5s,baz=96,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**51.00**	**253**	P	P	08 53 03.8	+0.5
	7.9nm,0.5s,baz=89,slow=8.2,SNR=214						
ASPA	**Alice Springs**	**51.00**	**253**	*e*P	P	08 53 03.8	+0.5
FITZ	**Fitzroy Crossi**	**59.24**	**259**	*e*P	P	08 54 05.2	+2.3
	2.8nm,0.9s						

*IDC **07** 08:55:50.0±0.4, 5871S×2568W, h0km, mb4.9/21, mb1 4.9/22, mb1mx4.9/24, mbtmp4.9/22, ML5.2/1, MS4.5/18, Ms1 4.5/18, ms1mx4.4/25, Error ellipse: s-maj=15.8km s-min=12.0km az=17.0*

*NAO **07** 08:55:52.3, 5907S×2527W, h33km, mb5.0*

*ISCJB **07** 08:55:54.7±1.9, 5874S±006×256W±0.1, h44km±18km, mb4.9/29, MS4.7/20, Error ellipse: s-maj=11.6km s-min=7.3km az=77.8*

*MOS **07** 08:55:59.7±1.4, 5877S×2580W, h81km, mb5.0/7, Error ellipse: s-maj=25.1km s-min=13.5km az=111.4*

*BJI **07** 08:56:00.1, 5848S×2630W, h94km, mB5.3*

*NEIC **07** 08:56:01.5±0.2, 5869S×2570W, mb5.0/17, Error ellipse: s-maj=7.8km s-min=5.5km az=207.0*

*HRVD **07** 08:56:01.5±0.2, 5906S×2509W, h52km, MW5.2/79, Centroid moment Tensor Solution. LP body waves: s75,c114; Mantle waves: s79,c130; Half duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.79±.03; Mθθ0.15±.03; Mφφ-0.93±.02; Mrθ-0.12±.02; Mθφ-0.01±.02; Mφr0.18±.02; Best double couple: M0 0.88900×10^17^ NP1:φs191.00000°, δ40.00000°, λ106.00000°. NP2:φs350.00000°, δ52.00000°, λ77.00000°. Principal axes: T 0.8260, Plg78.0000°, Azm209.0000°; N 0.1290, Plg10.0000°, Azm359.0000°; P -0.9530, Plg6.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 08:55:56.5±1.4, 5880S±006×257W±01, h46km±14km, h64km±14.7km: pP-P, n168, σ0s90/70, mb4.9/28, MS4.7/20, 5C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.49**	**302**	Pn	**Pn**	**08 57 49.6**	**+6.5**
	3μm,1.4s,SNR=12						
VNA1	**Neumayer--Stat**	**13.94**	**156**	*e*Pn	**Pn**	**08 59 11.3**	**0.0**
VNA1				*e*		08 59 15.0	
VNA1				*e*		08 59 20.7	
VNA1				*e*		09 01 42.5	
VNA3	**Neumayer Olymp**	**14.12**	**159**	*e*Pn	**Pn**	**08 59 12.7**	**-1.1**
VNA3				*e*		08 59 21.1	
VNA3				*e*		08 59 59.0	
VNA3				*e*		09 00 23.9	
VNA3				*e*		09 01 36.3	
VNA3				*e*		09 01 40.1	
VNA3				*e*		09 01 43.5	
VNA3				*e*		09 01 48.8	
VNA3				*e*		09 13 28.4	
VNA3				*e*		09 13 51.0	
VNA2	**Neumayer--Watz**	**14.34**	**155**	*e*Pn	**Pn**	**08 59 16.1**	**-0.6**
	baz=317,slow=14						
VNA2				*e*		08 59 20.8	
VNA2				*e*		08 59 23.4	
VNA2				*e*		08 59 37.4	
VNA2				*e*		08 59 59.8	
VNA2				*e*		09 00 08.5	
VNA2				*e*		09 00 24.8	
VNA2				*e*		09 01 40.0	
VNA2				*e*		09 01 43.7	
VNA2				*e*		09 01 46.8	
VNA2				*e*		09 01 53.7	
VNA2				*e*		09 02 01.6	
VNA2				*e*		09 13 40.7	
VNA2				*e*		09 13 53.2	
SNAA	**Sanae**	**15.90**	**153**	Pn	**Pn**	**08 59 36.4**	**-0.6**
	8.8nm,0.3s,baz=330,slow=13,SNR=136						
SNAA				Sn	**Sn**	**09 02 21.4**	**-11**
	1.8nm,0.3s,baz=348,slow=22,SNR=6.3						
SNAA				LR	LR	09 04 20.4	
	comp=Z,781nm,21.5s,baz=323,slow=32						
PMSA	**Palmer Station**	**18.86**	**235**	*e*P	**Pn**	**09 00 15.8**	**+2.2**
	78nm,0.9s						
NVL	**N'lazarevskaya**	**19.54**	**143**	*e*P	**Pn**	**09 00 21.8**	**+0.1**
NVL				*e*S	**S**	**09 03 44.8**	**-13**
NVL				pmax	pmax		
	comp=Z,17nm,0.6s						
NVL				MLR	MLR		
	comp=Z,449nm,15.6s						
EFI	**East Falkland**	**19.64**	**277**	Pn	**Pn**	**09 00 23.6**	**+0.7**
	comp=Z,591nm,0.7s,SNR=15						
EFI	**East Falkland**	**19.64**	**277**	*e*P	**Pn**	**09 00 23.4**	**+0.5**
EFI				pmax	pmax		
	comp=Z,145nm,1.0s						
EFI	**East Falkland**	**19.64**	**277**	*e*P	**Pn**	**09 00 23.4**	**+0.5**
	comp=Z,146nm,1.0s						
USHA	**Ushuaia**	**23.43**	**261**	P	**P**	**09 01 02.1**	**+0.6**
	comp=Z,56nm,0.6s,mb5.1,baz=102,slow=7.7,SNR=40						
USHA				LR	LR	09 08 13.0	
	comp=Z,2μm,20.0s,MS4.5,baz=65,slow=32						
SYO	**Syowa Base**	**28.96**	**137**	⇓ *e*P	**P**	**09 01 51.6**	**+0.1**
TRQA	**Tornquist**	**31.21**	**296**	*e*P	**P**	**09 02 11.8**	**+0.5**
	comp=Z,37nm,1.0s,mb5.2						
TRQA				*e*pP	pP	09 02 31.4	+7.9
TRQA				*e*sP	sP	09 02 42.0	+13
QSPA	**South Pole Qui**	**31.44**	**180**	*e*P	**P**	**09 02 14.6**	**+1.2**
	comp=Z,31nm,0.6s,mb5.3						
QSPA				pP	pP	09 02 35.9	+10
PLCA	**Paso Flores**	**33.35**	**283**	P	**P**	**09 02 30.2**	**+0.1**
	comp=Z,12nm,0.8s,mb4.9,baz=152,slow=6.8,SNR=33						
PLCA				LR	LR	09 16 47.7	
	comp=Z,536nm,18.3s,MS4.3,baz=137,slow=38						
PLCA	**Paso Flores**	**33.35**	**283**	*e*P	**P**	**09 02 29.9**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,21nm,0.8s						
PLCA	**Paso Flores**	**33.35**	**283**	*e*P	**P**	**09 02 29.9**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1						
MAW	**Mawson**	**37.47**	**141**	P	**P**	**09 03 05.4**	**-0.1**
	comp=Z,18nm,0.7s,mb5.0,baz=268,slow=7.7,SNR=3.6						
MAW				LR	LR	09 16 48.4	
	comp=Z,844nm,18.3s,MS4.6,baz=249,slow=34						
MAW	**Mawson**	**37.47**	**141**	*e*P	**P**	**09 03 06.0**	**+0.5**
CAM4	**Nova Friburgo**	**38.37**	**334**	⇑ *i*P	**P**	**09 03 14.4**	**+1.3**
CAM4				*i*		09 03 20.6	
CAM4				*i*	pP	09 03 23.7	-1.8
CAM4				*i*	pP	09 03 25.4	-0.1
CAM4				*i*	pP	09 03 27.1	+1.7
FCH	**Farellones**	**39.00**	**291**	*e*P	**P**	**09 03 19.5**	**+1.1**
CPUP	**Villa Florida**	**39.25**	**312**	*e*P	**P**	**09 03 18.9**	**-1.6**
CPUP				pmax	pmax		
	comp=Z,19nm,0.6s						
CPUP	**Villa Florida**	**39.25**	**312**	*e*P	**P**	**09 03 18.9**	**-1.5**
	comp=Z,19nm,0.6s,mb5.0						
PEL	**Peldehue**	**39.34**	**291**	*e*P	**P**	**09 03 21.4**	**+0.2**
CFAA	**Coronel Fontan**	**39.43**	**295**	P	**P**	**09 03 21.9**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.3,baz=154,slow=8.4,SNR=48						
CFAA				LR	LR	09 19 00.0	
	comp=Z,143nm,20.3s,MS3.8,baz=142,slow=35						
CAM3	**Guarapari**	**39.52**	**338**	⇑ *i*P	**P**	**09 03 16.0**	**-6.7**
CAM3				*i*		09 03 20.2	
CAM3				*i*		09 03 23.1	
CAM3				*i*	pP	09 03 30.9	-4.2
SUR	**Sutherland**	**40.68**	**70**	P	**P**	**09 03 33.3**	**+1.0**
	comp=Z,10nm,0.9s,mb4.5,baz=244,slow=8.6,SNR=3.7						
CMCH	**Combarbala**	**41.10**	**292**	*e*P	**P**	**09 03 35.4**	**-0.4**
VNDA	**Vanda**	**43.86**	**182**	P	**P**	**09 03 59.5**	**+1.3**
	comp=Z,18nm,0.6s,mb5.0,baz=190,slow=6.9,SNR=72						
VNDA				LR	LR	09 20 56.6	
	comp=Z,349nm,19.4s,MS4.3,baz=175,slow=34						
VNDA	**Vanda**	**43.86**	**182**	*e*P	**P**	**09 03 59.2**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,15nm,0.6s						
VNDA	**Vanda**	**43.86**	**182**	*e*P	**P**	**09 03 59.2**	**+1.1**
	comp=Z,15nm,0.6s,mb4.9						
BOSA	**Boshof**	**45.95**	**72**	P	**P**	**09 04 14.8**	**0.0**
	comp=Z,11nm,0.8s,mb4.9,baz=218,slow=7.4,SNR=18						
BOSA				LR	LR	09 19 13.4	
	comp=Z,560nm,21.9s,MS4.5,baz=218,slow=31						
BOSA	**Boshof**	**45.95**	**72**	*e*P	**P**	**09 04 15.0**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
BOSA	**Boshof**	**45.95**	**72**	*e*P	**P**	**09 04 15.0**	**+0.2**
	comp=Z,15nm,0.8s,mb5.0						
BAO	**Brasilia Array**	**46.16**	**330**	P	**P**	**09 04 14.5**	**-1.9**
BDFB	**Brasilia**	**46.16**	**329**	P	**P**	**09 04 15.4**	**-1.0**
	comp=Z,9.6nm,0.6s,mb4.9,baz=158,slow=3.9,SNR=18						
BDFB				LR	LR	09 21 09.2	
	comp=Z,322nm,18.4s,MS4.3,baz=164,slow=33						
LVC	**Limon Verde**	**47.40**	**301**	P	**P**	**09 04 26.3**	**+0.2**
	comp=Z,5.2nm,0.5s,mb4.8,baz=129,slow=6.8,SNR=7.6						
LVC	**Limon Verde**	**47.40**	**301**	*e*P	**P**	**09 04 26.2**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.6						
LBTB	**Lobatse**	**49.12**	**69**	P	**P**	**09 04 39.2**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.8,baz=211,slow=9.1,SNR=11						
LBTB				LR	LR	09 21 07.0	
	comp=Z,1μm,21.6s,MS4.8,baz=224,slow=31						
LBTB	**Lobatse**	**49.12**	**69**	*e*P	**P**	**09 04 39.6**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
LBTB	**Lobatse**	**49.12**	**69**	*e*P	**P**	**09 04 39.6**	**+0.2**
	comp=Z,22nm,1.0s,mb5.1						
SIV	**San Ignacio**	**50.07**	**313**	P	**P**	**09 04 45.3**	**-1.3**
	comp=Z,4.0nm,0.5s,mb4.7,baz=163,slow=8.2,SNR=45						
TSUM	**Tsumeb**	**50.40**	**57**	*e*P	**P**	**09 04 49.7**	**+0.6**
	comp=Z,16nm,1.0s,mb5.0						
CASY	**Casey**	**51.04**	**159**	*e*P	**P**	**09 04 54.6**	**+0.7**
LPAZ	**La Paz**	**52.64**	**305**	P	**P**	**09 05 06.0**	**+0.2**
	comp=Z,4.4nm,0.5s,mb4.7,baz=150,slow=8.0,SNR=30						
LPAZ	**La Paz**	**52.64**	**305**	*e*P	**P**	**09 05 05.7**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LPAZ	**La Paz**	**52.64**	**305**	*e*P	**P**	**09 05 05.7**	**-0.2**
	comp=Z,8.8nm,0.6s,mb4.9						
RCBR	**Riachuelo**	**53.43**	**347**	*e*P	**P**	**09 05 12.1**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.7						
ARE	**Arequipa**	**53.94**	**302**	*e*P	**P**	**09 05 15.0**	**-0.4**
SAML	**Samuel**	**57.32**	**314**	*e*P	**P**	**09 05 38.0**	**-1.6**
	comp=Z,9.5nm,0.6s,mb5.0						
LSZ	**Lusaka**	**58.68**	**66**	P	**P**	**09 05 49.5**	**+0.3**
	comp=Z,14nm,0.8s,mb5.0,baz=190,slow=6.9,SNR=5.1						
LSZ				LR	LR	09 27 18.5	
	comp=Z,859nm,20.2s,MS4.9,baz=166,slow=32						
LSZ	**Lusaka**	**58.68**	**66**	*e*P	**P**	**09 05 49.3**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
LSZ	**Lusaka**	**58.68**	**66**	*e*P	**P**	**09 05 49.3**	**+0.1**
	comp=Z,12nm,0.8s,mb5.0						
OPO	**Ambohidratompo**	**65.43**	**85**	P	**P**	**09 06 35.1**	**+0.7**
	comp=Z,4.1nm,0.8s,mb4.5,baz=193,slow=6.3,SNR=2.7						
ROSC	**El Rosal**	**74.28**	**309**	P	**P**	**09 07 29.7**	**+0.9**
	comp=Z,3.3nm,0.4s,mb4.6,baz=58,slow=20,SNR=4.5						
ROSC				LR	LR	09 40 00.5	
	comp=Z,294nm,21.6s,MS4.5,baz=176,slow=36						
TORD	**Torodi Ar. Bea**	**75.08**	**28**	P	**P**	**09 07 34.0**	**+0.5**
	comp=Z,19nm,0.5s,mb5.3,baz=195,slow=6.2,SNR=142						
KMBO	**Kilima Mbogo**	**75.31**	**67**	P	**P**	**09 07 35.4**	**+0.6**
	comp=Z,4.4nm,1.1s,mb4.3,baz=241,slow=5.5,SNR=6.2						
KMBO				LR	LR	09 37 53.5	
	comp=Z,602nm,18.6s,MS4.9,baz=97,slow=34						
KMBO	**Kilima Mbogo**	**75.31**	**67**	*e*P	**P**	**09 07 38.7**	**+3.9**
	comp=Z,3.7nm,1.0s,mb4.3						
KMBO				LR	LR	09 37 53.5	
SDV	**Santo Domingo**	**76.53**	**314**	*e*P	**P**	**09 07 42.0**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.7						
RPZ	**Rata Peaks**	**76.91**	**192**	P	**P**	**09 07 43.9**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0,baz=98,slow=14,SNR=6.8						
THZ	**Tophouse**	**78.62**	**194**	PN	**P**	**09 07 53.1**	**-0.2**
NNZ	**Nelson**	**79.09**	**195**	P*	**P**	**09 07 52.9**	**-3.1**
URZ	**Urewera**	**81.45**	**198**	P	**P**	**09 08 08.5**	**-0.1**
	comp=Z,14nm,0.6s,mb5.0,baz=354,slow=3.2,SNR=12						
URZ				LR	LR	09 38 18.7	
	comp=Z,394nm,21.2s,MS4.7,baz=202,slow=31						
STKA	**Stephens Creek**	**89.05**	**169**	*e*P	**P**	**09 08 44.6**	**-1.9**
	comp=Z,7.1nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**89.05**	**169**	P	**P**	**09 08 44.6**	**-1.9**
	comp=Z,7.9nm,0.6s,mb5.2,baz=172,slow=5.2,SNR=24						
STKA				LR	LR	09 46 53.1	
	comp=Z,385nm,19.2s,MS4.8,baz=204,slow=34						
STKA	**Stephens Creek**	**89.05**	**169**	*e*P	**P**	**09 08 44.5**	**-2.1**
ASPA	**Alice Springs**	**96.11**	**161**	*e*P	**P**	**09 09 18.8**	**-0.4**
ASAR	**Alice Springs**	**96.12**	**161**	P	**P**	**09 09 18.5**	**-0.7**
	comp=Z,5.2nm,0.6s,mb5.2,baz=183,slow=4.1,SNR=152						
ASAR				PKKP	PKKPbc	09 26 05.0	-1.0
	comp=Z,2.4nm,0.6s,baz=13,slow=2.2,SNR=32						
WRA	**Warramunga Arr**	**99.83**	**161**	P	Pdif	09 09 35.1	-0.8
	comp=Z,0.7nm,0.5s,baz=194,slow=4.3,SNR=16						
WRA				PKKP	PKKPbc	09 25 54.5	-1.1
	comp=Z,1.5nm,0.6s,baz=355,slow=2.9,SNR=17						
WB2	**Warramunga Arr**	**99.84**	**161**	*e*P	Pdif	09 09 34.8	-1.1
TXAR	**Lajitas Array**	**108.76**	**296**	PKiKP	PKiKP	09 14 20.1	-0.3
	comp=Z,0.7nm,0.9s,baz=143,slow=4.5,SNR=5.3						
TXAR				PKKP	PKKPbc	09 25 43.1	+14
	comp=Z,0.3nm,0.7s,baz=270,slow=2.7,SNR=3.8						
SOC	**Sochi**	**115.40**	**47**	*i* PKIKP	PKPdf	09 14 34.9	+1.8
SOC				*e*		09 15 46.7	
SOC				*e*		09 21 14.3	
SOC				*e*PS	PS	09 25 09.8	-5.3
SOC				pmax	pmax		
	comp=Z,93nm,1.7s						
ANN	**Anapa**	**115.59**	**45**	*i* PKIKP	PKPdf	09 14 40.3	+6.9
ANN				*e*		09 15 02.4	
ANN				pmax	pmax		
	comp=Z,64nm,1.1s						
SDCO	**Great Sand Dun**	**116.59**	**299**	*e*PKPdf	PKPdf	09 14 35.1	-0.3
KIV	**Kislovodsk**	**116.87**	**49**	*i* PKIKP	PKPdf	09 14 30.2	-5.7
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**117.94**	**36**	PKP	PKPdf	09 14 35.8	-2.2
	comp=Z,2.5nm,0.6s,baz=236,slow=1.5,SNR=9.4						
AKASG				PP	PP	09 15 55.2	+2.8
	comp=Z,0.7nm,0.6s,baz=209,slow=6.9,SNR=4.3						
AKASG	**Malin Array Be**	**117.94**	**36**	PKP	PKPdf	09 14 35.8	-2.2
AKASG				PP	PP	09 15 55.2	+2.8
SCHQ	**Schefferville**	**118.01**	**334**	PKP	PKPdf	09 14 36.5	-1.6
	comp=Z,6.1nm,0.7s,baz=64,slow=2.6,SNR=16						
PHWY	**Pilot Hill**	**119.46**	**302**	PKPdf	PKPdf	09 14 39.0	-1.8
SRU	**San Rafael**	**120.00**	**297**	PKIKP	PKPdf	09 14 41.5	-0.4
SHPR	**Sheep Range**	**120.13**	**291**	PKPdf	PKPdf	09 14 42.8	+0.6
MVU	**Marysvale**	**120.31**	**295**	PKPdf	PKPdf	09 14 48.5	+6.0
RWWY	**Rawlins**	**120.55**	**301**	PKPdf	PKPdf	09 14 40.8	-2.1
RSSD	**Black Hills**	**121.11**	**305**	*e*PKIKP	PKPdf	09 14 42.6	-1.5
DUG	**Dugway**	**121.94**	**296**	*e*PKIKP	PKPdf	09 14 45.7	+0.1
TCUT	**Toone Canyon**	**122.01**	**297**	PKPdf	PKPdf	09 14 46.1	+0.3
BW06	**Boulder Array**	**122.47**	**300**	PKPdf	PKPdf	09 14 45.6	-1.0
PDAR	**Pinedale Array**	**122.47**	**300**	PKP	PKPdf	09 14 44.7	-2.0
	comp=Z,1.1nm,0.5s,baz=153,slow=6.6,SNR=14						
HWUT	**Hardware Ranch**	**122.47**	**298**	*e*PKPdf	PKPdf	09 14 46.0	-0.7
HFS	**Hagfors**	**122.53**	**22**	PKKPbc	PKKPbc	09 24 39.4	-1.5
	comp=Z,4.5nm,0.9s,baz=72,slow=4.7,SNR=12						
ULM	**Lac du Bonnet**	**122.78**	**314**	PKP	PKPdf	09 14 44.9	-2.3
	comp=Z,8.7nm,0.6s,baz=148,slow=2.3,SNR=26						
ULM	**Lac du Bonnet**	**122.78**	**314**	PKP	PKPdf	09 14 44.9	-2.3
NB2	**NORSAR Subarra**	**122.90**	**20**	PKPd	PKPdf	09 14 45.4	-2.1
	comp=Z,9.0nm,1.4s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**122.90**	**20**	PKPd	PKPdf	09 14 45.4	-2.1
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**122.90**	**20**	PKP	PKPdf	09 14 45.7	-1.8
	comp=Z,4.0nm,1.0s,baz=200,slow=1.8,SNR=5.2						
NOA	**NORSAR Array B**	**122.90**	**20**	PKP	PKPdf	09 14 45.7	-1.8
MNV	**Mina**	**123.11**	**290**	PKIKP	PKPdf	09 14 48.7	+0.8
NVAR	**Mina Array Bea**	**123.18**	**290**	PKP	PKPdf	09 14 48.4	+0.4
	comp=Z,1.5nm,0.5s,baz=134,slow=3.6,SNR=22						
ELK	**Elko**	**123.51**	**294**	PKP	PKPdf	09 14 48.0	-0.6
	comp=Z,2.2nm,0.8s,baz=163,slow=4.6,SNR=9.3						
LOHW	**Long Hollow**	**123.60**	**300**	*e*PKPdf	PKPdf	09 14 48.1	-0.7
MOOW	**Moose Ponds**	**123.77**	**300**	PKPdf	PKPdf	09 14 48.4	-0.8
FLWY	**Flagg Ranch**	**124.01**	**300**	*e*PKPdf	PKPdf	09 14 49.3	-0.3
OBN	**Obninsk**	**124.02**	**38**	*e*PKIKP	PKPdf	09 14 46.1	-3.5
OBN				*e*		09 15 04.3	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LAO	**LASA Array**	**124.08**	**305**	*e*PKPdf	PKPdf	09 14 48.8	-1.0
DGMT	**Dagmar**	**124.63**	**308**	*e*PKPdf	PKPdf	09 14 49.2	-1.6
MCMT	**McKenzie Canyo**	**125.56**	**299**	*e*PKPdf	PKPdf	09 14 50.6	-2.0
LRM	**Limekiln Ridge**	**126.15**	**300**	PKPdf	PKPdf	09 14 54.3	+0.6
FINES	**FINESS Array B**	**126.44**	**28**	PKP	PKPdf	09 14 52.2	-2.1
	comp=Z,5.2nm,0.5s,baz=146,slow=2.1,SNR=38						
FRB	**Frobisher Bay**	**126.51**	**338**	PKP	PKPdf	09 14 52.8	-1.7
	comp=Z,27nm,0.8s,baz=167,slow=4.1,SNR=30						
HRY	**Holter Researc**	**126.55**	**301**	*e*PKPdf	PKPdf	09 14 54.5	0.0
MOD	**Modoc**	**126.83**	**292**	*e*PKPdf	PKPdf	09 14 54.9	-0.1
KAF	**Kangasniemi**	**127.07**	**28**	*e*p	PKPdf	09 14 50.3	-5.2
	comp=Z,5.2nm,0.6s						
KAF	**Kangasniemi**	**127.07**	**28**	*e*PKIKP	PKPdf	09 14 50.3	-5.2
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHMT	**Chamberlain Mo**	**127.34**	**301**	*e*PKPdf	PKPdf	09 14 54.9	-1.1
MSO	**Missoula**	**127.58**	**300**	*e*PKPdf	PKPdf	09 14 55.7	-0.8
BMO	**Blue Mountains**	**127.64**	**296**	*e*PKIKP	PKPdf	09 14 55.4	-1.2
AKTK	**Aktyubinsk**	**128.30**	**54**	PKP	PKPdf	09 14 56.5	-1.4
AKTO	**Aktyubinsk**	**128.30**	**54**	PKP	PKPdf	09 14 56.5	-1.3
	comp=Z,5.3nm,0.6s,baz=194,slow=1

NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=E,1.0nm,0.7s
ZAL Zalesovo 142.77 66 PKhKP 09 15 18.7
comp=E,3.5nm,0.4s,baz=263,slow=2.4,SNR=8.7
NJ2 Nanjing 144.19 123 *e*PKP PKPdf 09 15 26.3 -0.9
NJ2 APKP 09 15 51.0
NJ2 XPKP 09 16 02.2
NJ2 PP PP 09 18 47.0 +5.0
NJ2 PP PP
comp=Z,250nm,6.7s
NJ2 LR LR
comp=N,810nm,30.2s
NJ2 LR LR
comp=E,690nm,17.4s
NJ2 LR LR
comp=Z,440nm,33.4s,MS5.0
TIA Tai'an 146.88 116 *e*PKP PKPdf 09 15 32.7 +0.9
HHC Hu-ho-hao-te 147.81 105 ⇑PKP PKPdf 09 15 35.4 +2.1
HHC APKP 09 16 01.7
HHC PP PP 09 19 09.9 +6.5
HHC PP PP
comp=Z,59nm,8.4s
HHC LR LR
comp=N,216nm,13.2s,MS5.3
HHC LR LR
comp=E,322nm,15.6s,MS5.3
HHC LR LR
comp=Z,111nm,15.6s,MS4.8
BJT Baijiatuau 149.45 111 *e*PKP2 PKPab 09 15 40.0 -5.4
MOY Mondy 149.50 80 *e*PKP2 PKPab 09 15 40.0 -5.6
MOY pmax pmax
comp=Z,82nm,2.4s
ZAK Zakamensk 149.93 84 *e*PKHKP 09 15 35.4
ZAK pmax pmax
comp=Z,73nm,1.8s
ZAK pmax pmax
comp=Z,14nm,1.9s
SONM Songino Array 149.99 90 PKP PKPdf 09 15 35.5 -1.3
comp=Z,12nm,0.7s,baz=200,slow=2.1,SNR=20
SONM PKPbc PKPbc 09 15 40.7 -1.1
comp=Z,12nm,0.7s,baz=231,slow=2.4,SNR=51
ULN Ulaanbaatar 150.35 91 ⇑*i*PKIKP PKPdf 09 15 41.1 +3.7
ULN Ulaanbaatar 150.35 91 *e*PKPbc PKPbc 09 15 41.0 -1.6
IRK Irkutsk 151.50 81 *e*PKIKP PKPdf 09 15 38.0 -1.2
IRK *e* 09 16 03.4
IRK pmax pmax
comp=Z,58nm,2.2s
ILAR Eielson Array 152.50 307 PKPbc PKPbc 09 15 45.3 -2.3
comp=Z,12nm,0.7s,baz=142,slow=4.2,SNR=23
KDAK Kodiak Island 152.68 291 PKPbc PKPbc 09 15 47.0 -1.1
comp=Z,14nm,0.6s,baz=208,slow=5.8,SNR=15
MJAR Matsushiro Arr 155.36 148 PKPab PKPab 09 16 10.0 -0.2
comp=Z,2.9nm,0.7s,baz=223,slow=52,SNR=6.7
CN2 Changchun 156.78 118 *e*PKP PKPdf 09 15 44.1 -2.5
CN2 PKP2 PKPab 09 16 16.4 +0.1
BOD Bodaibo 159.01 75 *e*PKIKP PKPdf 09 15 43.3 -6.0
BOD *e* 09 16 22.9
BOD pmax pmax
comp=Z,4.0nm,2.0s
BOD pmax pmax
comp=Z,7.0nm,1.1s
MDJ Mudanjiang 159.28 122 PKP PKPdf 09 15 50.1 +0.5
MDJ APKP 09 16 13.3
MDJ XPKP 09 16 22.4
KLR Kul'dur 163.72 116 *e*PKIKP PKPdf 09 15 52.4 -1.9
BILL Bilibino 169.32 335 *e*PKIKP PKPdf 09 15 51.8 -6.8
BILL pmax pmax
comp=Z,3.0nm,0.9s

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*ISCJB **07** 09:09:25.1±0.3, 6631N±003×142.19W±008, h10km, mb3.9/10, MS4.0/1, Error ellipse: s-maj=4.6km s-min=4.5km az=4.1*
*IDC **07** 09:09:26.5±0.7, 6628N×14227W, h0km, mb3.9/8, mb1 4.2/11, mb1mx4.0/25, mbtmp4.0/11, ML4.0/3, MS3.6/2, Ms1 3.5/2, ms1mx2.7/38, Error ellipse: s-maj=17.0km s-min=8.2km az=148.0*
*PGC **07** 09:09:26.8, 6626N×14202W, h1km, ML4.2/2, Mw4.3, Eastern Alaska.*
*BJI **07** 09:09:27.8, 6630N×14260W, h26km, mB4.9, mb4.7, Ms4.6, Msz4.3*
*NEIC **07** 09:09:28.9, 6629N×14256W, h26km, mb3.8/2, ML4.2(AEIC), MW4.3(PGC), After AEIC.*

ISC 07 09:09:26.5±0.3,**6634N**±003×**14222W**±008,**h10**km,**n47**, σ1⇑**27**/61,**mb3.9**/10,**MS4.0**/1,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.44**	**320**	P	**Pn**	**09 09 52.2**	**-0.4**
BM3				S	**Sn**	**09 10 11.9**	**+0.3**
IL1	**Eielson Array**	**2.50**	**233**	P	**Pn**	**09 10 06.2**	**-0.9**
ILAR	**Eielson Array**	**2.50**	**233**	Pn	**Pn**	**09 10 06.2**	**-0.9**
	11nm,0.3s,baz=46,slow=13,SNR=649						
ILAR				Pg	**Pg**	**09 10 10.9**	**-3.4**
	43nm,0.3s,baz=55,slow=15,SNR=103						
ILAR				Lg		09 10 42.0	
	252nm,0.3s,baz=48,slow=30,SNR=36						
DAWY	**Dawson**	**2.57**	**151**	Pn	**Pn**	**09 10 07.3**	**-0.9**
DAWY				Sn	**Sn**	**09 10 39.9**	**+0.4**
DAWY				Sg	**Sg**	**09 10 43.5**	**-5.6**
DAWY				Trac		09 10 49.1	
	comp=Z,500nm,0.5s						
COLA	**College**	**2.76**	**240**	P	**Pn**	**09 10 09.8**	**-0.9**
DOT	**Dot Lake**	**2.81**	**197**	P	**Pn**	**09 10 10.8**	**-0.6**
COLD	**Coldfoot**	**3.29**	**289**	P	**Pn**	**09 10 18.4**	**+0.4**
MENT	**Mentasta**	**3.47**	**191**	P	**Pn**	**09 10 20.1**	**-0.5**
PAX	**Paxson**	**3.66**	**204**	P	**Pn**	**09 10 23.2**	**+0.2**
MCK	**McKinley**	**3.87**	**231**	P	**Pn**	**09 10 25.3**	**-0.6**
INK	**Inuvik**	**3.91**	**56**	Pn	**Pn**	**09 10 26.7**	**+0.2**
	9.3nm,0.3s,baz=231,slow=16,SNR=348						
INK				Sn	**Sn**	**09 11 11.1**	**-1.3**
	14nm,0.3s,baz=217,slow=22,SNR=5.3						
INK				Lg		09 11 30.2	
	33nm,0.3s,baz=174,slow=16,SNR=6.0						
INK	**Inuvik**	**3.91**	**56**	Pn	**Pn**	**09 10 26.6**	**+0.1**
INK				Sn	**Sn**	**09 11 12.1**	**-0.3**
INK				Trac		09 11 34.9	
	comp=Z,420nm,0.8s						
INK	**Inuvik**	**3.91**	**56**	Pn	**Pn**	**09 10 26.7**	**+0.2**
INK				Sn	**Sn**	**09 11 11.1**	**-1.3**
INK				Lg		09 11 30.2	
KTH	**Kantishna Hill**	**4.64**	**237**	P	**Pn**	**09 10 35.4**	**-1.2**
IMA2	**Indian Mountai**	**4.66**	**272**	*e*P	**Pn**	**09 10 37.6**	**+0.8**
IM3	**Indian Mountai**	**4.70**	**271**	P	**Pn**	**09 10 36.0**	**-1.4**
SML	**Sawmill**	**5.28**	**213**	P	**Pn**	**09 10 46.4**	**+1.0**
DIV	**Divide**	**5.46**	**198**	P	**Pn**	**09 10 48.5**	**+0.7**
BMRM	**Bremner River**	**5.49**	**192**	P	**Pn**	**09 10 48.8**	**+0.5**
PMR	**Palmer**	**5.65**	**216**	*e*P	**Pn**	**09 10 51.5**	**+1.0**
HYT	**Haines Junctio**	**5.92**	**157**	Pn	**Pn**	**09 10 54.0**	**-0.1**
HYT				Sg	**Sg**	**09 12 27.1**	**-9.3**
HYT				Trac		09 12 41.1	
	comp=Z,126nm,0.6s						
EYAK	**Cordova Ski Ar**	**6.02**	**197**	P	**Pn**	**09 10 57.0**	**+1.5**
FIB	**Fire Island**	**6.27**	**218**	*e*P	**Pn**	**09 11 03.8**	**+4.8**
	36nm,0.6s						
WHY	**Whitehorse**	**6.57**	**147**	Pn	**Pn**	**09 11 01.9**	**-1.2**
WHY				Sg	**Sg**	**09 12 51.8**	**-5.6**
WHY				Trac		09 13 13.4	
	comp=Z,73nm,0.9s						
TTA	**Tatalina**	**6.84**	**246**	*e*P	**Pn**	**09 11 07.5**	**+0.7**
TT01	**Tatalina**	**6.85**	**246**	P	**Pn**	**09 11 05.6**	**-1.4**
SLKM	**Skilak Lake**	**6.86**	**215**	*e*Pn	**Pn**	**09 11 09.4**	**+2.4**
SVW2	**Sparrevohn**	**7.91**	**235**	*e*P	**Pn**	**09 11 25.1**	**+3.6**
KDAK	**Kodiak Island**	**9.85**	**214**	Pn	**Pn**	**09 11 47.5**	**-0.6**
	0.3nm,0.3s,baz=249,slow=7.6,SNR=3.2						
FNBB	**Fort Nelson**	**11.53**	**121**	Pn	**Pn**	**09 12 11.5**	**+0.4**
FNBB				Trac		09 15 49.4	
	comp=Z,10.0nm,0.9s						
YKW3	**Yellowknife Ar**	**12.44**	**95**	Pn	**Pn**	**09 12 19.5**	**-4.0**
YKW3				Pn	**Pn**	**09 12 19.6**	**-3.9**
YKW3				Sn	**Sn**	**09 14 31.2**	**-11**
YKW3				Trac		09 14 55.8	
	comp=Z,5.0nm,0.4s						
YKA	**Yellowknife Ar**	**12.47**	**95**	Pn	**Pn**	**09 12 20.1**	**-3.9**
	baz=291,slow=13,SNR=84						
YKA				Sn	**Sn**	**09 14 34.3**	**-8.7**
	baz=297,slow=21,SNR=6.2						
YKA				Lg		09 15 59.1	
	baz=309,slow=28,SNR=2.2						
YKA				LR	LR	09 17 27.4	
	comp=Z,112nm,18.7s,baz=225,slow=38						
YKA	**Yellowknife Ar**	**12.47**	**95**	Pn	**Pn**	**09 12 20.1**	**-3.9**
YKA				Sn	**Sn**	**09 14 34.3**	**-8.7**
YKA				Lg		09 15 59.1	
YKA				LR	LR	09 17 27.4	
BMBC	**Bull Mountain**	**14.06**	**128**	Sn	**Sn**	**09 15 10.0**	**-12**
BMBC				Trac		09 15 16.1	
	comp=Z,9.0nm,0.6s						
RES	**Resolute Bay**	**17.30**	**41**	Pn	**Pn**	**09 13 24.5**	**-3.6**
RES				Sn	**Sn**	**09 16 29.7**	**-11**
RES				Trac		09 16 49.8	
	comp=Z,6.0nm,0.7s						
BILL	**Bilibino**	**19.57**	**298**	P	**Pn**	**09 13 55.4**	**-0.4**
	4.1nm,0.9s						
FFC	**Flin Flon**	**22.48**	**102**	*e*P	**P**	**09 14 25.3**	**-0.6**
	3.6nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**29.63**	**127**	P	**P**	**09 15 32.9**	**+0.9**
	1.2nm,0.7s,mb3.7,baz=329,slow=8.6,SNR=4.5						
NVAR	**Mina Array Bea**	**31.11**	**142**	P	**P**	**09 15 47.7**	**+2.6**
	1.7nm,0.7s,mb4.0,baz=321,slow=8.3,SNR=7.5						
TXAR	**Lajitas Array**	**43.82**	**128**	P	**P**	**09 17 33.5**	**+1.0**
	0.2nm,0.5s,mb3.1,baz=339,slow=5.6,SNR=4.2						
MDJ	**Mudanjiang**	**49.50**	**290**	P	**P**	**09 18 14.8**	**-2.3**
MDJ				AMB	AMB		
	comp=Z,12nm,3.4s						
MDJ				AMB	AMB		
	comp=Z,166nm,3.9s						
NOA	**NORSAR Array B**	**51.43**	**16**	P	**P**	**09 18 34.3**	**+2.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=349,slow=7.6,SNR=2.9						
FINES	**FINESS Array B**	**52.23**	**7**	P	**P**	**09 18 37.7**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=5.5,slow=8.9,SNR=5.2						
HFS	**Hagfors**	**52.58**	**15**	P	**P**	**09 18 41.8**	**+1.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=27,slow=6.6,SNR=5.0						
EKA	**Eskdalemuir Ar**	**54.79**	**27**	P	**P**	**09 18 59.0**	**+2.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=326,slow=6.0,SNR=4.3						
AKASG	**Malin Array Be**	**63.11**	**6**	P	**P**	**09 19 55.5**	**+1.3**
	comp=Z,0.3nm,0.3s,mb3.9,baz=5.8,slow=6.8,SNR=5.7						
WMQ	**Urumqi**	**63.70**	**322**	*e*P	**P**	**09 19 59.0**	**+0.9**
WMQ				PP	PP	09 22 21.0	+2.9
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,102nm,6.0s						
WMQ				LR	LR		
	comp=N,87nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=E,65nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,56nm,14.0s,MS3.9						

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*MOS **07** 09:10:23.3±0.9, 1187S×16644E, h33km, mb5.4/8, Error ellipse: s-maj=14.3km s-min=11.0km az=4.8*
*ISCJB **07** 09:10:25.4±2.0, 1188S±006×16634E±008, h47km±16km, mb5.1/43, MS4.2/19, Error ellipse: s-maj=13.2km s-min=8.8km az=142.2*
*NEIC **07** 09:10:27.6±0.2, 1184S×16642E, mb5.4/13, Error ellipse: s-maj=7.0km s-min=6.2km az=95.0*
*HRVD **07** 09:10:27.6±0.4, 1202S×16620E, h50km±1km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s56,c74;Mantle waves: s57,c83; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}5.92±.26; $M_{\theta\theta}$-0.72±.18; $M_{\phi\phi}$-5.19±.17; $M_{r\theta}$-0.20±.16; $M_{\theta\phi}$0.81±.18; $M_{\phi r}$0.74±.18; Best double couple: $M_0$5.67800×10^16^ NP1:ϕs171.00000°, δ41.00000°, λ91.00000°. NP2: ϕs349.00000°, δ49.00000°, λ89.00000°. Principal axes: T 5.9730, Plg86.0000°, Azm252.0000°; N -0.5810, Plg1.0000°, Azm350.0000°; P -5.3830, Plg4.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 09:10:28.5±3.0, 1186S×16637E, h65km±26km, mb4.4/17, mb1 4.6/20, mb1mx4.5/24, mbtmp4.8/20, ML4.2/3, MS4.3/15, Ms1 4.3/15, ms1mx4.1/31 Error ellipse: s-maj=18.4km s-min=14.1km az=81.0*
*BJI **07** 09:10:31.4, 11.15S×166.14E, h67km, mB5.3, mb5.2, Ms5.4, Msz4.9*

ISC 07 09:10:27.5±1.5,**1189S**±005×**16642E**±008,**h51**km±13km, **h54**km±5.6km:**pP-P**,**n96**,σ0⇑**92**/**79**,**mb5.1**/44,**MS4.2**/19, **3C-6D**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**6.01**	**163**	⇓*i*P	**Pn**	**09 11 59.0**	**+5.1**
HNR	**Honiara**	**6.82**	**290**	P	**Pn**	**09 12 04.7**	**-0.1**
	42nm,0.3s,baz=100,slow=0.7,SNR=9.9						
HNR				S	**Sn**	**09 13 17.0**	**-4.0**
	22nm,0.3s,baz=90,slow=20,SNR=3.1						
HNR	**Honiara**	**6.82**	**290**	*e*P	**Pn**	**09 12 05.0**	**+0.2**
HNR				*e*		09 13 17.6	
HNR				pmax	pmax		
	comp=Z,395nm,0.8s						
HNR	**Honiara**	**6.82**	**290**	*e*Pn	**Pn**	**09 12 05.0**	**+0.1**
	comp=Z,395nm,0.8s						
HNR				*e*Sn	**Sn**	**09 13 17.6**	**-3.4**
DZM	**Mont Dzumac**	**10.13**	**180**	P	**Pn**	**09 12 51.7**	**+1.5**
	comp=Z,2.0nm,0.3s,baz=8.5,slow=23,SNR=19						
DZM				S	**Sn**	**09 14 40.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=344,slow=20,SNR=2.0						
DZM				LR	LR	09 16 24.9	
	comp=Z,2μm,21.7s,baz=124,slow=35						
PMG	**Port Moresby**	**19.09**	**276**	P	**Pn**	**09 14 46.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=95,slow=7.1,SNR=13						
PMG				LR	LR	09 21 13.7	
	comp=Z,2μm,21.3s,baz=118,slow=34						
CTA	**Charters Tower**	**21.02**	**245**	*e*P	**P**	**09 15 08.0**	**+1.3**
	comp=Z,31nm,0.9s,mb4.6						
CTA	**Charters Tower**	**21.02**	**245**	P	**P**	**09 15 07.6**	**+0.8**
	comp=Z,41nm,0.9s,mb4.8,baz=67,slow=11,SNR=34						
CTA				LR	LR	09 22 16.7	
	comp=Z,1μm,20.2s,MS4.2,baz=66,slow=34						
CTA	**Charters Tower**	**21.02**	**245**	P	**P**	**09 15 07.6**	**+0.8**
CTA				LR	LR	09 22 16.7	
CTAO	**Charters Tower**	**21.02**	**245**	*e*P	**P**	**09 15 07.9**	**+1.2**
CTAO				*e**PP		09 15 20.2	
CTAO				pmax	pmax		
	comp=Z,52nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**21.02**	**245**	*e*P	**P**	**09 15 07.9**	**+1.2**
	comp=Z,52nm,1.0s,mb4.8						
CTAO				*e*pP		09 15 20.2	
AFI	**Afiamalu**	**21.34**	**98**	LR	LR	09 21 53.0	
	comp=Z,683nm,21.2s,MS4.0,baz=265,slow=32						
RIV	**Riverview**	**25.91**	**210**	*e*P	**P**	**09 15 56.4**	**+1.7**
URZ	**Urewera**	**27.95**	**162**	P	**P**	**09 16 13.5**	**+0.6**
	comp=Z,8.4nm,0.6s,mb4.5,baz=331,slow=2.5,SNR=8.2						
URZ				LR	LR	09 25 30.4	
	comp=Z,704nm,21.6s,MS4.2,baz=27,slow=32						
CNB	**Canberra Magne**	**27.99**	**211**	*e*P	**P**	**09 16 14.4**	**+1.1**
	comp=Z,38nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**30.31**	**225**	⇓*i*P	**P**	**09 16 32.7**	**-1.2**
	comp=Z,12nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**30.31**	**225**	P	**P**	**09 16 32.6**	**-1.2**
	comp=Z,16nm,0.7s,mb4.9,baz=36,slow=8.1,SNR=32						
STKA				LR	LR	09 28 11.0	
	comp=Z,939nm,19.5s,MS4.4,baz=37,slow=35						
STKA	**Stephens Creek**	**30.31**	**225**	*e*P	**P**	**09 16 32.8**	**-1.1**
TOO	**Toolangi**	**31.71**	**213**	*e*P	**P**	**09 16 47.4**	**+1.1**
	comp=Z,42nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**31.82**	**251**	*e*P	**P**	**09 16 46.6**	**-0.6**
WB2				*e*PCP	PcP	09 19 37.4	+0.2
WB2				*e*PCS	PcS	09 23 21.2	-0.6
WRAB	**Tennant Creek**	**31.82**	**251**	P	**P**	**09 16 46.9**	**-0.3**
	comp=Z,186nm,0.6s,mb6.1,SNR=12						
WRAB	**Tennant Creek**	**31.82**	**251**	*e*P	**P**	**09 16 46.6**	**-0.6**
WRAB				*e*		09 19 37.9	
WRAB				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.4						
WRAB	**Tennant Creek**	**31.82**	**251**	*e*P	**P**	**09 16 46.6**	**-0.6**
	comp=Z,79nm,1.3s,mb5.4						
WRAB				*e*PcP	PcP	09 19 37.9	+0.7
WRA	**Warramunga Arr**	**31.83**	**251**	P	**P**	**09 16 46.9**	**-0.4**
	comp=Z,20nm,0.7s,mb5.1,baz=84,slow=9.1,SNR=114						
WRA				PcP	PcP	09 19 37.3	+0.1
	comp=Z,6.4nm,0.9s,baz=77,slow=3.1,SNR=11						
RPZ	**Rata Peaks**	**31.97**	**174**	P	**P**	**09 16 48.3**	**-0.2**
	comp=Z,19nm,0.6s,mb5.1,baz=348,slow=4.8,SNR=11						
RPZ				LR	LR	09 28 01.9	
	comp=Z,686nm,21.1s,MS4.3,baz=3.3,slow=33						
ASAR	**Alice Springs**	**33.02**	**245**	P	**P**	**09 16 56.9**	**-0.8**
	comp=Z,30nm,0.7s,mb5.3,baz=70,slow=9.5,SNR=354						
ASAR				PcP	PcP	09 19 40.2	-0.3
	comp=Z,10nm,1.0s,baz=76,slow=2.4,SNR=14						
ASPA	**Alice Springs**	**33.03**	**245**	*e*P	**P**	**09 16 57.1**	**-0.7**
ASPA				*e*PCP	PcP	09 19 40.0	-0.5
ASPA				*e*PCS	PcS	09 23 23.7	-2.3
GUMO	**Guam**	**33.13**	**319**	LR	LR	09 30 01.2	
	comp=Z,227nm,19.3s,MS3.9,baz=250,slow=36						
RAR	**Rarotonga**	**33.64**	**110**	LR	LR	09 28 23.3	
	comp=Z,388nm,18.5s,MS4.2,baz=334,slow=32						
FITZ	**Fitzroy Crossi**	**39.81**	**256**	⇑*i*P	**P**	**09 17 55.4**	**-0.2**
	comp=Z,44nm,0.9s,mb5.2						
FITZ				*e*PCP	PcP	09 20 02.2	+1.3
PPT	**Papeete**	**42.86**	**103**	*e*LR	LR	09 30 29.0	
	comp=Z,1μm,27.5s						
PPT	**Papeete**	**42.86**	**103**	LR	LR	09 31 12.6	
	comp=Z,213nm,20.0s,MS4.0,baz=60,slow=29						
TBI	**Tubuai**	**43.41**	**111**	*e*LR	LR	09 30 45.9	
	comp=Z,950nm,29.2s						
MBWA	**Marble Bar**	**45.56**	**252**	*e*P	**P**	**09 18 41.4**	**-0.8**
	comp=Z,46nm,1.2s,mb5.3						
MBWA				*e*pP	pP	09 18 57.5	+1.6
MBWA				*e*PcP	PcP	09 20 20.0	-0.1
KLBR	**Kellerberrin**	**48.83**	**238**	*e*P	**P**	**09 19 07.7**	**+0.1**
	comp=Z,40nm,0.7s,mb5.5						
JOW	**Kunigami**	**53.42**	**317**	LR	LR	09 37 32.7	
	comp=Z,296nm,21.9s,MS4.3,baz=24,slow=30						
MJAR	**Matsushiro Arr**	**55.02**	**332**	P	**P**	**09 19 52.5**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=158,slow=7.2,SNR=5.5						
MJAR	**Matsushiro Arr**	**55.02**	**332**	P	**P**	**09 19 52.5**	**-1.2**
RKT	**Rikitea**	**56.68**	**110**	*e*LR	LR	09 36 51.2	
	comp=Z,856nm,27.8s						
ASAJ	**Asahikawa**	**59.80**	**340**	P	**P**	**09 20 26.8**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.8,baz=204,slow=12,SNR=4.1						
ASAJ				LR	LR	09 43 16.3	
	comp=Z,268nm,19.5s,MS4.4,baz=187,slow=33						
NJ2	**Nanjing**	**63.08**	**315**	*e*P	**P**	**09 20 50.4**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.7						
FX1	**Attu Island--F**	**64.76**	**5**	LR	LR	09 46 43.4	
	comp=Z,11nm,19.9s,MS3.0,baz=20,slow=34						
PET	**Petropavlovsk**	**64.99**	**355**	*e*P	pP	09 21 14.6	-1.8
PET				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
VNDA	**Vanda**	**65.67**	**181**	P	**P**	**09 21 06.1**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.6,baz=329,slow=10,SNR=13						
VNDA				LR	LR	09 45 52.9	
	comp=Z,134nm,18.0s,MS4.2,baz=347,slow=32						
CN2	**Changchun**	**66.80**	**329**	*e*P	**P**	**09 21 13.5**	**-0.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
KLR	**Kul'dur**	**68.09**	**336**	*e*P	**P**	**09 21 22.3**	**+0.5**
PSI	**Prapat**	**68.64**	**278**	LR	LR	09 51 07.5	
	comp=Z,316nm,21.8s,MS4.5,baz=192,slow=36						
ENH	**Enshi**	**68.94**	**309**	*e*P	**P**	**09 21 27.1**	**0.0**
	comp=Z,79nm,1.0s,mb5.6						
GYA	**Guiyang**	**69.44**	**304**	⇑*i*P	**P**	**09 21 30.4**	**+0.2**
GYA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
XAN	**Xi'an**	**71.17**	**312**	P	**P**	**09 21 41.1**	**+0.3**
XAN				AMB	AMB		
	comp=Z,43nm,1.1s,mb5.3						
KMI	**Kunming**	**72.12**	**301**	P	**P**	**09 21 48.7**	**+2.2**
KMI				AMB	AMB		
	comp=Z,62nm,1.1s,mb5.5						
KMI				AMB	AMB		
	comp=Z,165nm,3.1s						
KMI				LR	LR		
	comp=Z,158nm,26.1s,MS4.2						
MA2	**Magadan**	**72.33**	**352**	*e*P	**P**	**09 21 48.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**72.90**	**320**	⇑P	**P**	**09 21 51.9**	**+0.8**
HHC				AP	pP	09 22 05.9	+0.2
HHC				PCP	PcP	09 22 08.3	+0.4
HHC				PP	PP	09 24 37.0	+3.2
HHC				S	S	09 31 16.2	+2.6
HHC				SKS		09 31 49.7	
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,184nm,4.8s						
HHC				LR	LR		
	comp=N,251nm,16.8s,MS4.8						
HHC				LR	LR		
	comp=E,351nm,18.0s,MS4.8						
HHC				LR	LR		
	comp=Z,355nm,21.6s,MS4.6						
HIA	**Hailar**	**73.42**	**330**	*e*P	**P**	**09 21 54.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
HIA	**Hailar**	**73.42**	**330**	*e*P	**P**	**09 21 54.0**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						
CD2	**Chengdu**	**73.64**	**307**	*e*P	**P**	**09 21 56.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.3						
CD2				AMB	AMB		
	comp=Z,150nm,5.6s						
LZH	**Lanzhou**	**75.81**	**312**	*e*P	**P**	**09 22 10.0**	**+2.0**
LZH				AMB	AMB		
	comp=Z,89nm,1.0s,mb5.7						
LZH				AMB	AMB		
	comp=Z,340nm,4.0s						
LZH				LR	LR		
	comp=E,530nm,16.7s						
LZH				LR	LR		
	comp=Z,710nm,18.0s,MS5.0						
QSPA	**South Pole Qui**	**78.12**	**180**	*e*P	**P**	**09 22 21.0**	**0.0**
	comp=Z,30nm,1.0s,mb5.2						
CIT	**Chita**	**78.22**	**330**	*e*P	**P**	**09 22 21.6**	**+0.1**
CIT				*e*	pP	09 22 32.4	-3.8
CIT				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
SONM	**Songino Array**	**79.73**	**324**	P	**P**	**09 22 30.2**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.3,baz=125,slow=4.3,SNR=12						
SHL	**Shillong**	**81.50**	**298**	*e*P	**P**	**09 22 41.0**	**+1.7**
ZAK	**Zakamensk**	**82.77**	**325**	*e*P	**P**	**09 22 44.0**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.6						
YBH	**Yreka Blue Hor**	**84.00**	**45**	P	**P**	**09 22 52.6**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=271,slow=2.7,SNR=4.4						
ILAR	**Eielson Array**	**84.09**	**18**	P	**P**	**09 22 51.5**	**-1.2**
	comp=Z,3.7nm,0.5s,mb4.8,baz=227,slow=6.1,SNR=62						
NVAR	**Mina Array Bea**	**86.06**	**50**	P	**P**	**09 23 02.7**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=225,slow=6.6,SNR=11						
NVAR				LR	LR	09 52 03.3	
	comp=Z,159nm,21.9s,MS4.4,baz=265,slow=29						
JIRN	**Jiri**	**86.97**	**299**	*e*P	**P**	**09 23 08.0**	**+0.9**
WVOR	**Wild Horse Val**	**87.09**	**46**	P	**P**	**09 23 07.7**	**0.0**
WVOR				pmax	pmax		
	comp=Z,12nm,1.2s

HYB	**Hyderabad**	**91.50 287**	*i* P	**P**	**09 23 27.0**	**-1.4**
HYB	**Hyderabad**	**91.50 287**	*e*P	**P**	**09 23 28.5**	**+0.1**
MKAR	**Makanchi Array**	**94.58 317**	P	**P**	**09 23 42.2**	**-0.4**
	comp=Z,9.5nm,0.6s,mb5.4,baz=92,slow=6.4,SNR=96					
MKAR	**Makanchi Array**	**94.58 317**	P	**P**	**09 23 42.2**	**-0.4**
ZAL	**Zalesovo**	**94.63 324**	P	**P**	**09 23 40.5**	**-2.3**
	comp=Z,1.3nm,0.5s,mb4.7,baz=348,slow=4.2,SNR=7.5					
YKA	**Yellowknife Ar**	**95.41 27**	P	**P**	**09 23 45.2**	**-1.1**
	comp=Z,0.7nm,0.4s,mb4.4,baz=258,slow=5.0,SNR=21					
YKA	**Yellowknife Ar**	**95.41 27**	P	**P**	**09 23 45.2**	**-1.1**
VNA3	**Neumayer Olymp**	**97.03 181** ⇓*i*		**P**	**09 23 52.8**	**-0.9**
VNA2	**Neumayer--Watz**	**97.28 182** ⇓*i*		**P**	**09 23 54.3**	**-0.5**
	baz=177,slow=4.0					
BVAR	**Borovoye Array**	**103.02 322**	P	Pdif	09 24 18.5	-1.9
	comp=Z,0.9nm,0.7s,baz=117,slow=3.3,SNR=4.3					
ARCES	**ARCESS Array B 117.31 346**		PKP	PKPdf	09 29 05.4	-1.7
	comp=Z,3.1nm,0.7s,baz=69,slow=1.9,SNR=13					
FINES	**FINESS Array B 122.79 339**		PKP	PKPdf	09 29 16.1	-1.6
	comp=Z,3.0nm,0.9s,baz=0.0,slow=1.9,SNR=6.4					
BOSA	**Boshof**	**124.95 222**	PKP	PKPdf	09 29 22.1	+0.4
	comp=Z,1.5nm,0.6s,baz=118,slow=3.7,SNR=4.4					
NOA	**NORSAR Array B 127.68 345**		PKP	PKPdf	09 29 24.3	-2.7
	comp=Z,0.8nm,0.6s,baz=35,slow=2.1,SNR=2.9					
GERES	**GERESS Array B 136.75 334**		PKP	PKPdf	09 29 43.0	-1.0
	comp=Z,0.6nm,0.7s,baz=315,slow=5.7,SNR=3.6					
TORD	**Torodi Ar. Bea**	**165.04 276**	PKP	PKPdf	09 30 25.5	-0.3
	comp=Z,1.8nm,0.9s,baz=31,slow=1.0,SNR=9.5					
TORD			PKPab	PKPab	09 31 23.4	+0.7
	comp=Z,4.8nm,0.9s,baz=86,slow=5.3,SNR=16					
TORD			PP	PP	09 35 14.4	+5.2
	comp=Z,2.7nm,1.1s,baz=80,slow=3.6,SNR=6.6					

*ISCJB **07** 09:12:13.0±1.4,2885S×003×7199W±02,h40km±11km, mb4.0/5, Error ellipse: s-maj=26.0km s-min=5.0km az=10.2*
*NEIC **07** 09:12:13.1,2884S×7197W,h47km,MD4.6(GUC), After GUC.*
*GUC **07** 09:12:13.1±0.8,2884S×7197W,h47km±999km,MD4.6, ML4.7*
*BJI **07** 09:12:13.1,2880S×7200W,h47km,mB5.2*
*IDC **07** 09:12:15.8±0.9,2896S×7132W,h29km±4km,mb3.9/5, mb1 4.0/8,mb1mx3.8/18,mbtmp4.0/8,ML3.8/3, Error ellipse: s-maj=28.7km s-min=24.3km az=56.0*

ISC 07 09:12:13.2±2.3,2883S±003×720W±02,h29km±19km, h32km±.4km:pP-P,n29,σ0°82/32,mb4.0/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**2.02**	**30**	*e*P	**Pn**	**09 12 45.1**	**-0.1**
CDCH				*i* S	**Sn**	**09 13 13.2**	**+3.7**
CPCH	**Copiapo**	**2.04**	**44**	*e*P	**Pn**	**09 12 46.1**	**+0.5**
CPCH				*i* S	**Sn**	**09 13 10.6**	**+0.5**
CPCH				AMP		09 13 13.9	
	comp=E,14μm,0.1s						
CPCH	**Copiapo**	**2.04**	**44**	*e*P	**Pn**	**09 12 46.1**	**+0.5**
CPCH				*i* S	**Sn**	**09 13 10.6**	**+0.5**
CMCH	**Combarbala**	**2.48**	**161**	*e*P	**Pn**	**09 12 51.8**	**+0.1**
CMCH				*i* S	**Sn**	**09 13 20.7**	**-0.2**
CMCH				AMP		09 13 36.2	
	comp=N,11μm,0.9s						
CMCH	**Combarbala**	**2.48**	**161**	*e*P	**Pn**	**09 12 51.8**	**+0.1**
CMCH				*i* S	**Sn**	**09 13 20.7**	**-0.2**
CRCH	**Chaqaral**	**2.75**	**26**	*e*P	**Pn**	**09 12 55.4**	**+0.1**
CRCH				*i* S	**Sn**	**09 13 26.8**	**-0.7**
CRCH				AMP		09 13 48.6	
	comp=E,1μm,0.3s						
CRCH	**Chaqaral**	**2.75**	**26**	*e*P	**Pn**	**09 12 55.4**	**+0.1**
CRCH				S	**Sn**	**09 13 26.8**	**-0.7**
ILCH	**Illapel**	**2.88**	**166**	*i* S	**Sn**	**09 13 30.0**	**-0.8**
ILCH				AMP		09 13 44.4	
	comp=Z,957nm,0.7s						
CFAA	**Coronel Fontan**	**4.25**	**132**	**Pn**	**Pn**	**09 13 15.9**	**0.0**
	comp=Z,1.1nm,0.3s,baz=314,slow=12,SNR=58						
CFAA				Lg		09 14 03.9	
	comp=Z,2.1nm,0.3s,baz=74,slow=20,SNR=3.5						
PEL	**Peldehue**	**4.44**	**166**	*e*P	**Pn**	**09 13 18.3**	**-0.3**
FCH	**Farellones**	**4.71**	**163**	*e*P	**Pn**	**09 13 24.9**	**+2.6**
FCH				*i* S	**Sn**	**09 14 16.2**	**+0.3**
CEN1	**Los Morros**	**5.64**	**17**	*e*P	**Pn**	**09 13 31.3**	**-3.8**
LVC	**Limon Verde**	**6.77**	**25**	Pn	**Pn**	**09 13 50.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=220,slow=9.5,SNR=11						
LVC				Lg		09 15 27.4	
	comp=Z,4.3nm,0.3s,baz=334,slow=22,SNR=4.7						
LVC	**Limon Verde**	**6.77**	**25**	*e*Pn	**Pn**	**09 13 49.9**	**-0.7**
SPCH	**San Pedro de A**	**6.80**	**31**	*e*P	**Pn**	**09 13 55.5**	**+4.5**
TRQA	**Tornquist**	**12.41**	**140**	*e*Pn	**Pn**	**09 15 07.1**	**-0.8**
	comp=Z,5.7nm,0.6s						
LPAZ	**La Paz**	**12.97**	**17**	Pn	**Pn**	**09 15 19.2**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=204,slow=6.5,SNR=6.3						
LPAZ	**La Paz**	**12.97**	**17**	P	**Pn**	**09 15 14.4**	**-1.1**
	comp=Z,2.6nm,0.6s						
SIV	**San Ignacio**	**16.25**	**40**	**Pn**	**Pn**	**09 15 59.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=221,slow=13,SNR=16						
BDFB	**Brasilia**	**25.70**	**64**	P	**P**	**09 17 39.7**	**-1.0**
	comp=Z,3.3nm,0.8s,mb3.9,baz=235,slow=11,SNR=4.5						
TXAR	**Lajitas Array**	**65.29**	**330**	P	**P**	**09 22 58.0**	**+5.6**
	comp=Z,0.3nm,0.6s,mb3.5,baz=158,slow=9.7,SNR=6.8						
TXAR				pP	pP	09 23 07.1	+5.6
	comp=Z,0.4nm,0.8s,baz=155,slow=6.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.41**	**71**	P	**P**	**09 24 33.0**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=270,slow=5.3,SNR=19						
TORD				pP	pP	09 24 42.6	+0.7
	comp=Z,2.0nm,1.0s,baz=264,slow=5.0,SNR=5.5						
BOSA	**Boshof**	**82.44**	**118**	P	**P**	**09 24 33.0**	**+0.2**
	comp=Z,2.1nm,1.0s,mb4.0,baz=252,slow=3.2,SNR=4.2						
BOSA				pP	pP	09 24 42.7	+0.7
	comp=Z,2.4nm,0.8s,baz=198,slow=3.2,SNR=2.3						
LBTB	**Lobatse**	**84.43**	**115**	P	**P**	**09 24 43.5**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.4,baz=198,slow=3.5,SNR=4.7						
WRA	**Warramunga Arr**	**125.27**	**211**	PKP	PKPdf	09 31 14.2	+3.1
	comp=Z,0.7nm,0.6s,baz=154,slow=1.7,SNR=16						
WRA				pPKP	pPKPdf	09 31 23.7	+3.0
	comp=Z,0.5nm,0.6s,baz=159,slow=1.7,SNR=4.6						
ZAL	**Zalesovo**	**149.72**	**28**	PKPbc	PKPbc	09 32 01.9	+1.8
	comp=Z,2.9nm,1.0s,baz=228,slow=2.1,SNR=5.6						
MKAR	**Makanchi Array**	**153.07**	**41**	PKPbc	PKPbc	09 32 09.6	+1.6
	comp=Z,1.0nm,0.7s,baz=322,slow=2.4,SNR=14						
MKAR				pPKPbc	pPKPbc	09 32 19.1	+1.6
	comp=Z,0.8nm,0.7s,baz=330,slow=2.1,SNR=5.8						
WMQ	**Urumqi**	**157.89**	**42**	*e*PKP	PKPdf	09 32 06.0	-1.1
HHC	**Hu-ho-hao-te**	**167.66**	**347**	*e*PKP	PKPdf	09 32 10.7	-5.9

*NIED **07** 09:16:00,32.10N×12990E,h11km,Mw3.9 Best double couple: M0:6.81000×10^14 NP1:φs228.00000°,δ84.00000°, λ-168.00000°. NP2:φs136.00000°,δ78.00000°, λ-6.00000°.*

JMA 07 09:16:31.5,3208N×12988E,h12km±1km,M3.9,6C-2D Broadband fault plane solution: P waves. NP1: φs320.00000°,δ60.00000°,λ-12.00000°. **NP2:** φs56.00000°,δ79.00000°,λ-149.00000°. **Principal axes:** T Plg13.0000°, Azm185.0000°; N Plg58.0000°, Azm74.0000°; P Plg29.0000°, Azm282.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.42**	**199**	⇑P	Pg	09 16 39.7	-0.2
JSJ				S	Sg	09 16 45.5	-0.1
JHD	**Hondo**	**0.44**	**29**	⇑P	Pg	09 16 40.4	+0.2
JHD				S	Sg	09 16 46.9	+0.8
NGSJ	**Nagasakinomoza**	**0.56**	**353**	⇑P	Pg	09 16 42.2	-0.1
NGSJ				S	Sg	09 16 50.1	+0.4
JZO	**Okuchi**	**0.61**	**84**	⇓P	Pg	09 16 43.5	+0.1
JZO				S	Sg	09 16 51.5	0.0
JSU	**Suzuyama**	**0.75**	**139**	⇑P	Pg	09 16 45.7	-0.4
JSU				S	Sg	09 16 55.5	-0.5
JIU2	**Izumi 2**	**0.92**	**59**	⇑P	Pg	09 16 48.5	-0.7
JIU2				S	Sg	09 17 00.5	-0.7
JTA	**Tamana**	**1.04**	**32**	⇑P	Pb	09 16 50.6	-0.8
JTA				S	Sb	09 17 04.6	-0.4
JTZ	**Takazaki**	**1.04**	**100**	⇓P	Pb	09 16 51.2	-0.3
JTZ				S	Sb	09 17 04.9	-0.2

CASC 07 09:18:23.6±2.3,1273N×8820W,h35km±16km,MD3.5, ML3.0,8C-7D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.65**	**34**	⇓*e*P	Pn	09 18 51.9	+16
CNCH				*e*S	Sn	09 19 03.6	+18
VSM	**San Miguel**	**0.70**	**354**	⇑*e*P	Pn	09 18 53.0	+16
VSM				*e*S	Sn	09 19 04.0	+18
BLLM	**Bellamira**	**0.71**	**357**	⇓*e*P	Pn	09 18 52.6	+16
BLLM				*e*S	Sn	09 19 03.5	+17
SNVI	**San Vicente**	**1.07**	**325**	*e*P	Pn	09 18 57.8	+16
SNVI				*e*S	Sn	09 19 12.3	+17
CRIN	**San Cristobal**	**1.13**	**91**	⇑*e*P	Pn	09 18 43.8	+0.9
CRIN				*e*S	Sn	09 18 58.2	+1.1
LCBS	**La Ceiba**	**1.19**	**321**	⇓*e*P	Pn	09 18 59.1	+15
LCBS				*e*S	Sn	09 19 13.9	+15
LFRS	**El Faro**	**1.22**	**317**	⇑*e*P	Pn	09 18 59.7	+16
LFRS				*e*S	Sn	09 19 15.3	+16
LBRS	**Las Brisas**	**1.29**	**321**	*e*P	Pn	09 19 00.9	+16
LBRS				*e*S	Sn	09 19 18.3	+17
LEON	**Leon**	**1.32**	**104**	⇑*e*P	Pn	09 18 45.7	+0.2
LEON				*e*S	Sn	09 19 01.1	-0.7
TEL3	**Telica 3**	**1.34**	**97**	⇑*e*P	Pn	09 18 46.0	+0.2
TEL3				*e*S	Sn	09 19 02.5	+0.2
LFU	**La Fuente**	**1.34**	**319**	⇓*e*P	Pn	09 19 01.8	+16
LFU				*e*S	Sn	09 19 21.0	+18
BOQS	**Boqueron**	**1.45**	**314**	⇑*e*P	Pn	09 19 03.2	+16
BOQS				*e*S	Sn	09 19 21.6	+17
MIRN	**Miramar**	**1.48**	**101**	⇑*e*P	Pn	09 18 48.4	+0.6
MIRN				*e*S	Sn	09 19 06.0	0.0
COPN	**Copaltepe**	**1.67**	**109**	⇑*e*P	Pn	09 18 50.5	+0.2
COPN				*e*S	Sn	09 19 10.1	-0.3
SBLS	**San Blas**	**1.77**	**309**	⇓*e*P	Pn	09 19 07.5	+16
SBLS				*e*S	Sn	09 19 30.1	+17
APYN	**Apoyeque**	**1.88**	**105**	⇓*e*P	Pn	09 18 53.8	+0.7
APYN				*e*S	Sn	09 19 17.1	+1.5
XAVN	**Gruta Xavier**	**1.92**	**107**	*e*P	Pn	09 18 54.3	+0.5
XAVN				*e*S	Sn	09 19 17.3	+0.5
MGAN	**Managua**	**2.00**	**107**	*e*P	Pn	09 18 55.0	+0.2
MGAN				*e*S	Sn	09 19 18.6	0.0
	comp=N,140nm,0.4s						
TICN	**Ticuantepe**	**2.05**	**110**	⇓*e*P	Pn	09 18 56.7	+1.1
IXG	**Ixpaco**	**2.62**	**304**	*e*P	Pn	09 19 03.4	0.0
IXG				*e*S	Sn	09 19 34.1	+0.2

IDC 07 09:18:38.9±6.5,021N×9821E,h0km,mb4.3/6,mb1 4.3/7, mb1mx3.9/21,mbtmp4.2/7,ML3.6/1,Error ellipse: s-maj=172.4km s-min=51.5km az=129.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**15**	Pn	Pn	09 19 21.8	-1.4
	11nm,0.3s,baz=326,slow=5.1,SNR=25						
WRA	**Warramunga Arr**	**40.65**	**122**	PcP	PcP	09 28 25.2	+2.5
	0.3nm,0.4s,baz=313,slow=2.7,SNR=4.9						
SONM	**Songino Array**	**47.97**	**7**	P	P	09 27 19.6	+0.3
	1.3nm,0.8s,baz=191,slow=8.2,SNR=8.8						
MKAR	**Makanchi Array**	**48.45**	**345**	P	P	09 27 23.6	+0.6
	2.2nm,0.5s,baz=157,slow=8.7,SNR=32						
ZAL	**Zalesovo**	**54.69**	**350**	P	P	09 28 09.2	-0.5
	1.9nm,0.4s,baz=291,slow=2.6,SNR=6.5						
BVAR	**Borovoye Array**	**57.51**	**340**	P	P	09 28 29.5	-0.5
	1.0nm,0.6s,baz=138,slow=7.7,SNR=6.0						
FINES	**FINESS Array B**	**81.34**	**332**	P	P	09 30 57.0	-0.3
	3.6nm,1.1s,baz=104,slow=5.7,SNR=3.8						
HFS	**Hagfors**	**87.08**	**330**	P	P	09 31 26.6	+0.1
	5.4nm,1.0s,baz=135,slow=8.4,SNR=4.5						

*TIF **07** 09:18:55.9,4255N×4350E,h14km±1km*
*ISCJB **07** 09:18:56.5±0.3,4259N±001×4351E±002,h14km, Error ellipse: s-maj=2.6km s-min=2.1km az=45.0*
*CSEM **07** 09:18:56.6±0.1,4254N×4350E,h2km,mb4.1, Error ellipse: s-maj=2.3km s-min=1.9km az=86.0*
*MOS **07** 09:18:57.4±1.1,4259N×4362E,h16km,mb4.1/1, Error ellipse: s-maj=11.3km s-min=6.0km az=77.2*
*NEIC **07** 09:19:00.8,4253N×4254E,h35km,MD3.4(ISK), After ISK.*

ISC 07 09:18:56.6±0.3,4255N±002×4350E±003,h8km±3km,n35, σ0°65/58,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**310**	P	**Pg**	**09 18 58.8**	**+0.6**
ONI				S	**Sg**	**09 19 00.7**	**+1.2**
DIGR	**Digorskoe uzhe**	**0.36**	**9**	*i* Pg	**Pg**	**09 19 03.2**	**-0.4**
DIGR				*i* Sg	**Sg**	**09 19 08.8**	**+0.5**
ZEI	**Tsey**	**0.37**	**53**	*i* Pg	**Pg**	**09 19 03.6**	**-0.2**
ZEI				*e*Sg	**Sg**	**09 19 09.3**	**+0.7**
LACR	**Lac**	**0.65**	**64**	*i* Pg	**Pg**	**09 19 08.6**	**-0.5**
LACR				*i* Sg	**Sg**	**09 19 17.9**	**+0.3**
GOR	**Gori**	**0.72**	**141**	P	Px	09 19 29.2	
GOR				S	Sx	09 19 41.1	
LSNR	**Lesken**	**0.76**	**18**	*i* Pg	**Pg**	**09 19 11.0**	**-0.3**
LSNR				*i* Sg	**Sg**	**09 19 22.0**	**+0.8**
ARNR	**Ardon**	**0.86**	**41**	*i* Pg	**Pg**	**09 19 12.6**	**-0.5**
ARNR				*e*Sg	**Sg**	**09 19 24.9**	**+0.6**
VLKR	**Vladikavkaz**	**1.00**	**60**	*e*Pg	**Pg**	**09 19 15.1**	**-0.7**
VLKR				*e*Sg	**Sg**	**09 19 29.2**	**+0.4**
DUS	**Dusheti**	**1.00**	**117**	P	**Pg**	**09 19 15.8**	**0.0**
DUS				S	**Sg**	**09 19 30.1**	**+1.3**
KMSR	**Komsomolskaya**	**1.01**	**35**	*e*Pg	**Pg**	**09 19 15.3**	**-0.7**
KMSR				*e*Sg	**Sg**	**09 19 29.6**	**+0.6**
CHVG	**Ch'k'valeri**	**1.06**	**280**	P	**Pg**	**09 19 16.9**	**0.0**
CHVG				S	**Sg**	**09 19 30.6**	**-0.2**
SNJR	**Sundja**	**1.09**	**61**	*e*Pg	**Pg**	**09 19 16.7**	**-0.9**
SNJR				*i* Sg	**Sg**	**09 19 32.1**	**+0.2**
BTKR	**Batakoyurt**	**1.12**	**42**	*e*Pg	**Pg**	**09 19 17.3**	**-0.9**
BTKR				*e*Sg	**Sg**	**09 19 33.1**	**+0.3**
AKH	**Akhalkalaki**	**1.14**	**180**	P	**Pg**	**09 19 17.6**	**-0.9**
AKH				S	**Sg**	**09 19 33.3**	**+0.1**
TBLG	**Delisi**	**1.23**	**131**	P	Px	09 19 00.0	
TBLG				S	Sx	09 19 00.0	
TBLG	**Delisi**	**1.23**	**131**	*e*Pg	**Pg**	**09 19 19.6**	**-0.6**
TBLG				*e*Sg	**Sg**	**09 19 36.2**	**0.0**
KUBR	**Kubataba**	**1.25**	**357**	*i* Pg	**Pg**	**09 19 21.2**	**+0.5**
SAMG	**Sameba**	**1.29**	**131**	P	**Pn**	**09 19 20.8**	**-0.2**
SAMG				S	**Sb**	**09 19 38.4**	**+0.4**
PRTR	**Priterechnaya**	**1.33**	**25**	*e*Pg	**Pn**	**09 19 20.7**	**-0.8**
PRTR				*i* Sg	**Sg**	**09 19 39.4**	**-0.1**
TRKR	**Terskaya**	**1.48**	**37**	*e*Pg	**Pn**	**09 19 23.0**	**-0.6**
TRKR				*e*Sg	**Sg**	**09 19 43.7**	**-0.5**
PYA	**Pyatigorsk**	**1.52**	**348**	Pg	**Pg**	**09 19 24.8**	**-1.0**
PYA				Sg	**Sg**	**09 19 45.2**	**-0.3**
KIV0	**Kislovodsk Arr**	**1.53**	**338**	Pg	**Pg**	**09 19 25.5**	**-0.4**
KIV0				Sg	**Sg**	**09 19 45.5**	**-0.2**
KIV	**Kislovodsk**	**1.53**	**337**	Pg	**Pg**	**09 19 25.2**	**-0.7**
KIV				Sg	**Sg**	**09 19 45.8**	**+0.1**
KIV	**Kislovodsk**	**1.53**	**337**	*e*Pn	**Pn**	**09 19 25.1**	**+0.9**
KIV				*e*Sn	**Sn**	**09 19 46.0**	**+1.7**
DGRG	**David-gareji**	**1.77**	**128**	P	**Pb**	**09 19 29.6**	**+0.2**
ARTV	**Artvin**	**1.80**	**221**	*i* P	**Pn**	**09 19 28.7**	**+0.8**
ARTV				*i* S	**Sn**	**09 19 52.4**	**+1.4**
KARS	**Kars**	**1.96**	**189**	Pn	**Pb**	**09 19 32.3**	**-0.3**
KARS				Sg	**Sn**	**09 19 55.3**	**+0.4**
DIGO	**Kars**	**2.13**	**183**	*i* P	**Pb**	**09 19 35.7**	**+0.2**
DIGO				*i* S	**Sb**	**09 20 02.5**	**+0.4**
SOC	**Sochi**	**2.96**	**292**	*e*Pn	**Pn**	**09 19 43.8**	**-0.1**
	28nm,1.0s						
SOC	**Sochi**	**2.96**	**292**	*e*PN	**Pn**	**09 19 43.8**	**-0.1**
SOC				*e*		09 20 20.3	
SOC				pmax	pmax		
	comp=Z,28nm,1.0s						
SOC				smax			
	comp=N,56nm,0.9s						
SOC				MLR	MLR		
	comp=Z,31nm,5.0s						
MAK	**Makhachkala**	**2.98**	**81**	*e*Pn	**Pn**	**09 19 43.9**	**-0.2**
ERZM	**Erzurum**	**3.09**	**212**	*i* P	**Pb**	**09 19 50.8**	**-1.1**
ERZM				*i* S	**Sg**	**09 20 36.1**	**+0.2**
EZM	**Erzurum**	**3.09**	**212**	Pn	**Pn**	**09 19 44.4**	**-1.4**
GUMT	**Gumushane**	**3.67**	**237**	Pn	**Pn**	**09 19 48.7**	**-5.0**
GUMT	**Gumushane**	**3.67**	**237**	Pn	**Pn**	**09 19 48.7**	**-4.9**
GUMT				Sg	Sx	09 20 23.7	

*ISCJB **07** 09:27:40.1±0.5,6627N±003×14201W±009,h6km, Error ellipse: s-maj=5.3km s-min=4.9km az=148.5*
*NEIC **07** 09:27:41.7,6629N×142.14W,h6km,ML3.1(AEIC), After AEIC.*
*PGC **07** 09:27:44.8,6624N×14172W,h5km,ML2.9/2, Eastern Alaska.*

ISC 07 09:27:41.6±0.5,6629N±004×14210W±009,h6km,n15, σ0°93/24,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.51**	**320**	P	**Pn**	**09 28 08.4**	**-0.7**
BM3				S	**Sn**	**09 28 28.6**	**-0.4**
DAWY	**Dawson**	**2.50**	**152**	Pn	**Pn**	**09 28 23.4**	**+0.7**
DAWY				Sn	**Sn**	**09 28 53.3**	**-0.3**
DAWY				Sg	**Sg**	**09 28 59.0**	**-3.0**
DAWY				Trac		09 29 04.5	
	comp=Z,29nm,0.1s						
IL1	**Eielson Array**	**2.50**	**235**	P	**Pn**	**09 28 22.4**	**-0.4**
DOT	**Dot Lake**	**2.78**	**198**	P	**Pn**	**09 28 27.1**	**+0.7**
COLA	**College**	**2.78**	**242**	P	**Pn**	**09 28 26.2**	**-0.3**
COLD	**Coldfoot**	**3.35**	**290**	P	**Pn**	**09 28 34.9**	**+0.6**
PAX	**Paxson**	**3.63**	**205**	P	**Pn**	**09 28 39.4**	**+1.2**
PAX				S	**Sn**	**09 29 21.2**	**-0.1**
MCK	**McKinley**	**3.87**	**232**	P	**Pn**	**09 28 41.3**	**-0.2**
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**09 28 43.3**	**+1.4**
INK				Pg	**Pg**	**09 28 55.6**	**-0.6**
INK				Sn	**Sn**	**09 29 28.3**	**+0.4**
INK				Trac		09 29 50.0	
	comp=Z,13nm,0.3s						
KTH	**Kantishna Hill**	**4.65**	**238**	P	**Pn**	**09 28 51.5**	**-0.7**
IM3	**Indian Mountai**	**4.74**	**272**	P	**Pn**	**09 28 52.7**	**-0.8**
BMRM	**Bremner River**	**5.45**	**193**	P	**Pn**	**09 29 04.5**	**+1.2**
HYT	**Haines Junctio**	**5.85**	**157**	Pn	**Pn**	**09 29 09.8**	**+1.0**
HYT				Sg	**Sg**	**09 30 44.0**	**-5.4**
HYT				Trac		09 30 48.5	
	comp=Z,7.0nm,0.4s						
WHY	**Whitehorse**	**6.50**	**147**	Pn	**Pn**	**09 29 18.4**	**+0.7**
WHY				Sg	**Sg**	**09 31 04.3**	**-6.0**
WHY				Trac		09 31 29.0	
	comp=Z,5.0nm,0.7s						
YKW3	**Yellowknife Ar**	**12.39**	**95**	Pn	**Pn**	**09 30 36.6**	**-1.7**
YKW3				Sn	**Sn**	**09 32 44.0**	**-13**
YKW3				Trac		09 33 04.6	
	comp=Z,1.0nm,0.3s						

*ISCJB **07** 09:31:20.6±0.5,6624N±004×14187W±009,h10km, mb3.1/1,MS3.2/1, Error ellipse: s-maj=5.6km s-min=5.1km az=104.1*
*IDC **07** 09:31:22.4±1.5,6633N×142.18W,h0km,mb3.3/1, mb1 3.8/4,mb1mx3.4/23,mbtmp3.4/4,ML3.4/3,MS3.3/1, Ms1 3.3/1,ms1mx2.7/21, Error ellipse: s-maj=31.5km s-min=11.1km az=156.0*
*PGC **07** 09:31:23.8,6626N×14172W,h1km,ML3.4/2, Eastern Alaska.*
*NEIC **07** 09:31:24.6,6626N×14291W,h6km,ML3.5(AEIC), After AEIC.*

ISC 07 09:31:21.9±0.5,6623N±003×14197W±009,h10km,n23, σ1°49/33,mb3.1/1,MS3.2/1,1C,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.58**	**320**	P	**Pn**	**09 31 48.6**	**-1.4**
BM3				S	**Sn**	**09 32 09.8**	**-0.8**
DAWY	**Dawson**	**2.44**	**152**	⇑Pn	**Pn**	**09 32 03.6**	**+1.9**
DAWY				Pg	**Pg**	**09 32 07.0**	**-1.7**
DAWY				Sg	**Sg**	**09 32 38.5**	**-1.6**
DAWY				Trac		09 32 42.1	
	comp=Z,75nm,0.2s						
IL1	**Eielson Array**	**2.52**	**237**	P	**Pn**	**09 32 02.4**	**-0.5**
ILAR	**Eielson Array**	**2.52**	**237**	Pn	**Pn**	**09 32 02.3**	**-0.6**
	3.4nm,0.3s,baz=47,slow=13,SNR=4.4						
ILAR				Pg	**Pg**	**09 32 07.7**	**-2.5**
	11nm,0.3s,baz=52,slow=17,SNR=7.4						
ILAR				Lg		09 32 37.7	
	80nm,0.3s,baz=50,slow=28,SNR=35						
DOT	**Dot Lake**	**2.74**	**200**	P	**Pn**	**09 32 07.2**	**+1.2**
COLA	**College**	**2.80**	**244**	P	**Pn**	**09 32 05.9**	**-0.9**
MENT	**Mentasta**	**3.39**	**194**	P	**Pn**	**09 32 16.4**	**+1.4**
COLD	**Coldfoot**	**3.42**	**291**	P	**Pn**	**09 32 15.0**	**-0.2**
PAX	**Paxson**	**3.61**	**206**	P	**Pn**	**09 32 19.3**	**+1.5**
MCK	**McKinley**	**3.88**	**233**	P	**Pn**	**09 32 21.3**	**-0.3**
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**09 32 23.1**	**+1.4**
	1.5nm,0.3s,baz=238,slow=15,SNR=2.1						
INK				Sn	**Sn**	**09 33 07.6**	**+0.3**
	4.3nm,0.3s,baz=336,slow=19,SNR=5.9						
INK				Lg		09 33 26.5	
	6.4nm,0.3s,baz=318,slow=16,SNR=7.7						
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**09 32 22.6**	**+0.9**
INK				Sn	**Sn**	**09 33 07.3**	**0.0**
INK				Trac		09 33 33.4	
	comp=Z,52nm,0.5s						
IM3	**Indian Mountai**	**4.80**	**272**	P	**Pn**	**09 32 33.2**	**-1.0**
SML	**Sawmill**	**5.

CSEM ***07*** *09:53:29.6±0.1, 31.10N×35.10E, h1km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.6km az=113.0, Mining explosion.*
GII ***07*** *09:53:29.0±0.3, 31.12N×35.10E, h0km±1km, ML2.6/4*
ISC 07 09:53:29.8±0.6, 3117N±003×3503E±006, h0km, n18, σ1§20/25, 1C-3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.32**	**63**	Pg	**Pg**	**09 53 35.1**	**-0.8**
MZDA				Sg	**Sg**	**09 53 40.9**	**+0.8**
MZDA	**Masada**	**0.32**	**63**	Pg	**Pg**	**09 53 35.1**	**-0.8**
MZDA				Sg	**Sg**	**09 53 40.8**	**+0.8**
DSI	**Dead Sea**	**0.50**	**37**	Pg	**Pg**	**09 53 40.3**	**+0.9**
KZIT	**Kziot**	**0.60**	**245**	Pg	**Pg**	**09 53 42.5**	**+1.1**
KZIT				Sg	**Sg**	**09 53 52.6**	**+3.4**
RMNI	**Mount Ramon**	**0.61**	**202**	Pg	**Pg**	**09 53 41.7**	**+0.1**
ZFRI	**Zfri**	**0.62**	**168**	Pg	**Pg**	**09 53 40.7**	**-1.1**
PRNI	**Paran**	**0.81**	**182**	Pg	**Pg**	**09 53 45.1**	**-0.3**
PRNI				Sg	**Sg**	**09 53 57.6**	**+1.6**
KMTI	**Karmit**	**1.09**	**194**	Pg	**Pg**	**09 53 49.7**	**-1.0**
HRFI	**Mount Harif**	**1.13**	**180**	Pg	**Pg**	**09 53 51.1**	**-0.3**
HRFI				Sg	**Sg**	**09 54 07.3**	**+1.3**
EIL	**Elat**	**1.49**	**183**	Pn	**Pn**	**09 53 55.9**	**-2.0**
EIL				Sn	**Sn**	**09 54 18.0**	**0.0**
EIL	**Elat**	**1.49**	**183**	Pn	**Pn**	**09 53 55.8**	**-2.1**
HNKL	**Nakhl**	**1.53**	**217**	⇓P	**Pn**	**09 53 57.2**	**-1.1**
HNKL	**Nakhl**	**1.53**	**217**	P	**Pn**	**09 53 57.2**	**-1.2**
AMAG	**Maghara**	**1.65**	**252**	⇓P	**Pn**	**09 53 56.3**	**-3.7**
MMA0	**Mount Meron ar**	**1.87**	**10**	Pn	**Pn**	**09 54 03.6**	**+0.6**
KSHT	**Keshet**	**1.93**	**20**	Pn	**Pn**	**09 54 04.1**	**+0.3**
HBST	**Basata**	**1.96**	**188**	⇑P	**Pn**	**09 54 03.8**	**-0.5**
HBST				S	**Sn**	**09 54 32.6**	**+3.0**
SUZ		**2.31**	**236**	⇓P	**Pn**	**09 54 07.2**	**-1.9**

ISCJB ***07*** *10:10:55.5±1.2, 2983N±006×3625E±007, h0km, Error ellipse: s-maj=9.8km s-min=7.8km az=71.8*
HLW ***07*** *10:10:56.3, 2972N×3649E, h15km, Mb2.8*
GII ***07*** *10:10:56.5±0.4, 2987N×3617E, h0km±9km, ML2.5/4*
CSEM ***07*** *10:10:57.5±0.4, 2986N×3608E, h1km, ML2.5, Error ellipse: s-maj=6.0km s-min=5.0km az=120.0, Mining explosion.*
ISC 07 10:10:55.5±1.2, 2983N±007×3629E±007, h0km, n15, σ0§57/21, 1C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**281**	Pg	**Pg**	**10 11 16.0**	**-0.7**
HRFI				Sg	**Sg**	**10 11 31.6**	**+0.4**
EIL	**Elat**	**1.18**	**263**	Pg	**Pg**	**10 11 18.1**	**0.0**
ZFRI	**Zfri**	**1.21**	**307**	Pg	**Pg**	**10 11 18.1**	**-0.4**
ZFRI				Sg	**Sg**	**10 11 34.9**	**+0.7**
PRNI	**Paran**	**1.23**	**295**	Pg	**Pg**	**10 11 18.6**	**-0.5**
PRNI				Sg	**Sg**	**10 11 35.2**	**+0.1**
KMTI	**Karmit**	**1.39**	**282**	Pg	**Pg**	**10 11 21.2**	**-0.8**
KMTI				Sg	**Sg**	**10 11 39.6**	**-0.4**
HBST	**Basata**	**1.49**	**246**	⇓P	**Pn**	**10 11 23.5**	**0.0**
RMNI	**Mount Ramon**	**1.53**	**300**	Pn	**Pn**	**10 11 23.7**	**-0.4**
RMNI				Sn	**Sn**	**10 11 43.9**	**-0.7**
MZDA	**Masada**	**1.68**	**332**	Pn	**Pn**	**10 11 25.9**	**-0.1**
MZDA	**Masada**	**1.68**	**332**	Pn	**Pn**	**10 11 25.9**	**-0.2**
DSI	**Dead Sea**	**1.91**	**336**	Pn	**Pn**	**10 11 29.6**	**+0.4**
KZIT	**Kziot**	**1.96**	**304**	Sn	**Sn**	**10 11 55.2**	**0.0**
KZIT	**Kziot**	**1.96**	**304**	Sn	**Sn**	**10 11 55.2**	**0.0**
HNKL	**Nakhl**	**2.01**	**273**	⇑P	**Pn**	**10 11 31.3**	**+0.7**
HNKL				S	**Sn**	**10 11 57.3**	**+0.8**
TR2		**2.67**	**238**	⇓P	**Pn**	**10 11 39.5**	**-0.2**
AMAG	**Maghara**	**2.79**	**288**	⇓P	**Pn**	**10 11 42.7**	**+1.3**

BER ***07*** *10:14:14.9±3.5, 5933N×27.16E, h0km, ML2.2(NAO), Suspected explosion*
NAO ***07*** *10:14:15.0±1.8, 5932N×2686E, ML2.2*
HEL 07 10:14:15.2±0.2, 5933N×2704E, h0km, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**190**	*i* P	Pg	10 14 30.9	-1.2
VSU				*i* S	Sg	10 14 42.4	-1.1
FIA0	**FINESS Array S**	**2.18**	**348**	Pn	Pn	10 14 52.6	-0.1
	baz=160,slow=16						
FIA0				Lg		10 15 23.6	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.18**	**348**	*e*P	Pn	10 14 52.5	-0.2
FIA0				*e*RG		10 15 40.1	
HFS	**Hagfors**	**6.80**	**283**	Pn	Pn	10 15 54.9	-1.3
	baz=101,slow=12						
HFS				Sn	Sn	10 17 10.7	-3.5
	baz=100,slow=28						
HFS				Lg		10 17 46.6	
	baz=92,slow=28						
HFS	**Hagfors**	**6.80**	**283**	*e*P	Pn	10 15 54.9	-1.3
HFS				*e*S	Sn	10 17 10.7	-3.5
HFS				*e*SG		10 17 46.6	
NB2	**NORSAR Subarra**	**8.07**	**289**	*e*P	Pn	10 16 11.0	-2.6
NB2				*e*SG	Sg	10 18 23.6	-11
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 16 41.5	-2.3
	baz=172,slow=14						
ARA0				Sn	Sn	10 18 32.5	-7.2
	baz=171,slow=22						
ARA0				Lg		10 19 28.2	
	baz=162,slow=37						
ARA0	**ARCESS Array S**	**10.27**	**357**	*e*P	Pn	10 16 41.5	-2.3
ARA0				*e*S	Sn	10 18 32.5	-7.2
ARA0				*e*SG		10 19 28.2	

SZGRF ***07*** *10:14:17.2, 2077S×16866E, h33km, mb5.4, Loyalty Islands*
LDG ***07*** *10:14:20.9±0.2, 1857S×16751E, h10km, Mb5.4/4, Ms5.1/8, Error ellipse: s-maj=32.2km s-min=17.2km az=24.0*
IDC ***07*** *10:14:23.0±2.2, 1818S×16796E, h23km±13km, mb4.7/16, mb1 4.8/18, mb1mx4.8/19, mbtmp4.8/18, ML4.3/1, MS5.1/20, Ms1 5.1/20, ms1mx5.0/24, Error ellipse: s-maj=12.6km s-min=11.7km az=132.0*
MOS ***07*** *10:14:23.4±1.4, 1818S×16808E, h33km, mb5.5/27, MS5.3/12, Error ellipse: s-maj=9.9km s-min=8.6km az=39.9*
ISCJB ***07*** *10:14:25.8±0.2, 1826S±004×16803E±004, h55km, mb5.2/74, MS5.1/41, Error ellipse: s-maj=5.2km s-min=4.9km az=88.2*
BJI ***07*** *10:14:26.0, 1795S×16834E, h57km, mB5.5, mb5.0, Ms5.3, Msz5.0*
NEIC ***07*** *10:14:27.3±1.0, 1824S×16809E, h59km±8km, mb5.4/27, Error ellipse: s-maj=6.1km s-min=5.7km az=67.0*
HRVD ***07*** *10:14:27.3±0.1, 1824S×16802E, h24km, MW5.6/99, Centroid moment Tensor Solution. LP body waves: s99,c194;Mantle waves: s96,c186; Half duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.92±.05; $M_{\theta\theta}$0.16±.04; $M_{\phi\phi}$-3.08±.04; $M_{r\theta}$0.50±.06; $M_{\theta\phi}$0.95±.03; $M_{\phi r}$-1.62±.06; Best double couple: $M_0$3.56000×10^{17} NP1:ϕ_s346.00000°, δ31.00000°, λ92.00000°. NP2:ϕ_s164.00000°, δ59.00000°, λ89.00000°. Principal axes: T 3.3510, Plg76.0000°, Azm70.0000°; N 0.4190, Plg1.0000°, Azm164.0000°; P -3.7690, Plg14.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***07*** *10:14:31.5, 1445S×167.15E, h33km, mb4.7*
ISC 07 10:14:27.6±0.2, 1827S±004×16808E±004, h57km, h57km±1.6km: pP-P, n357, σ1§12/175, mb5.2/74, MS5.1/41, 61C-8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.62**	**15**	⇓*i*P	**Pn**	**10 14 36.1**	**-4.6**
BKM				S	**Sn**	**10 14 44.1**	**-6.1**
DZM	**Mont Dzumac**	**4.08**	**202**	Pn	**Pn**	**10 15 23.4**	**-4.0**
	19nm,0.3s,baz=58,slow=18,SNR=170						
DZM				Sn	**Sn**	**10 16 08.6**	**-5.3**
	131nm,0.3s,baz=128,slow=20,SNR=17						
DZM				LR	LR	10 16 18.2	
	comp=Z,6μm,21.2s,baz=19,slow=28						
HNR	**Honiara**	**11.81**	**317**	Pn	**Pn**	**10 17 11.7**	**-1.5**
	56nm,0.3s,baz=274,slow=1.7,SNR=8.8						
HNR				Sn	**Sn**	**10 19 18.0**	**-5.4**
	13nm,0.3s,baz=86,slow=19,SNR=2.5						
HNR				LR	LR	10 21 10.1	
	comp=Z,10μm,18.8s,baz=179,slow=35						
HNR	**Honiara**	**11.81**	**317**	*e*P	**Pn**	**10 17 11.4**	**-1.8**
HNR				pmax	pmax		
	comp=Z,387nm,0.8s						
HNR	**Honiara**	**11.81**	**317**	*e*Pn	**Pn**	**10 17 11.4**	**-1.8**
	comp=Z,387nm,0.8s						
FUNA	**Funafuti**	**14.51**	**50**	*e*Pn	**Pn**	**10 17 51.2**	**+1.5**
RAO	**Raoul Island**	**16.83**	**133**	LR	LR	10 23 21.1	
	comp=Z,10μm,21.9s,baz=101,slow=32						
OUZ	**Omahuta**	**17.58**	**165**	*e*PN	**Pn**	**10 18 28.0**	**-0.5**
OUZ	**Omahuta**	**17.58**	**165**	*e*P	**Pn**	**10 18 28.0**	**-0.5**
WCZ	**Waipu Caves**	**18.45**	**164**	PN	**Pn**	**10 18 38.7**	**-0.5**
WCZ	**Waipu Caves**	**18.45**	**164**	P	**Pn**	**10 18 38.7**	**-0.4**
AFI	**Afiamalu**	**19.83**	**80**	P	**Pn**	**10 18 54.0**	**-1.5**
	comp=Z,4.1nm,0.3s,baz=64,slow=14,SNR=7.0						
AFI				LR	LR	10 24 52.3	
	comp=Z,8μm,20.7s,baz=253,slow=32						
AFI	**Afiamalu**	**19.83**	**80**	*e*P	**Pn**	**10 18 53.9**	**-1.7**
AFI				pmax	pmax		
	comp=Z,87nm,0.8s						
AFI	**Afiamalu**	**19.83**	**80**	*e*Pn	**Pn**	**10 18 53.9**	**-1.6**
	comp=Z,87nm,0.8s						
CTA	**Charters Tower**	**20.69**	**261**	*e*P	**P**	**10 19 04.4**	**+1.5**
	comp=Z,68nm,0.9s						
CTA				*e*S	**S**	**10 22 57.1**	**+6.2**
CTA	**Charters Tower**	**20.69**	**261**	P	**P**	**10 19 04.2**	**+1.3**
	comp=Z,61nm,0.9s,baz=89,slow=12,SNR=22						
CTA				S	**S**	**10 22 55.1**	**+4.2**
	comp=Z,2.2nm,0.7s,baz=83,slow=16,SNR=1.8						
CTA				LR	LR	10 24 45.9	
	comp=Z,1μm,20.6s,MS4.3,baz=96,slow=30						
CTA	**Charters Tower**	**20.69**	**261**	P	**P**	**10 19 04.2**	**+1.3**
CTA				S	**S**	**10 22 55.1**	**+4.2**
CTAO	**Charters Tower**	**20.69**	**261**	*e*P	**P**	**10 19 04.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,139nm,1.1s						
CTAO	**Charters Tower**	**20.69**	**261**	*e*P	**P**	**10 19 04.1**	**+1.2**
	comp=Z,139nm,1.1s						
HIZ	**Hauiti**	**21.02**	**165**	*e*PN	**P**	**10 19 07.4**	**+1.0**
HIZ	**Hauiti**	**21.02**	**165**	*e*P	**P**	**10 19 07.4**	**+1.0**
URZ	**Urewera**	**21.42**	**160**	P	**P**	**10 19 10.5**	**-0.2**
	comp=Z,44nm,0.7s,mb4.9,baz=333,slow=7.1,SNR=20						
URZ				S	**S**	**10 23 09.6**	**+4.4**
	comp=Z,8.2nm,0.8s,baz=296,slow=16,SNR=2.7						
URZ				LR	LR	10 26 31.2	
	comp=Z,10μm,19.9s,MS5.2,baz=169,slow=34						
URZ	**Urewera**	**21.42**	**160**	*e*PN	**P**	**10 19 11.1**	**+0.4**
URZ	**Urewera**	**21.42**	**160**	*e*P	**P**	**10 19 11.1**	**+0.4**
PUZ	**Puketiti**	**21.64**	**158**	*e*PN	**P**	**10 19 12.8**	**-0.3**
PUZ	**Puketiti**	**21.64**	**158**	*e*P	**P**	**10 19 15.3**	**+2.2**
PMG	**Port Moresby**	**22.12**	**291**	P	**P**	**10 19 18.7**	**+0.5**
	comp=Z,25nm,0.9s,mb4.6,baz=137,slow=12,SNR=8.7						
PMG				S	**S**	**10 23 24.6**	**+5.8**
	comp=Z,5.7nm,0.9s,baz=299,slow=19,SNR=2.1						
PMG				LR	LR	10 26 09.6	
	comp=Z,7μm,20.4s,MS5.0,baz=233,slow=32						
MRZ	**Mangatainoka R**	**23.23**	**165**	*e*PN	**P**	**10 19 27.9**	**-1.9**
MRZ	**Mangatainoka R**	**23.23**	**165**	*e*P	**P**	**10 19 27.9**	**-1.9**
BFZ	**Birch Farm**	**23.41**	**164**	*e*PN	**P**	**10 19 30.6**	**-0.9**
BFZ	**Birch Farm**	**23.41**	**164**	*e*P	**P**	**10 19 30.6**	**-0.9**
CNB	**Canberra Magne**	**23.75**	**221**	*e*P	**P**	**10 19 33.6**	**-0.9**
	comp=Z,159nm,1.0s,mb5.4						
THZ	**Tophouse**	**23.77**	**171**	*e*PN	**P**	**10 19 35.3**	**+0.5**
THZ	**Tophouse**	**23.77**	**171**	*e*P	**P**	**10 19 35.3**	**+0.5**
KHZ	**Kahutara**	**24.51**	**170**	*e*PN	**P**	**10 19 41.2**	**-0.3**
KHZ	**Kahutara**	**24.51**	**170**	*e*P	**P**	**10 19 41.2**	**-0.3**
LTZ	**Lake Taylor**	**24.69**	**173**	PN	**P**	**10 19 42.9**	**-0.2**
LTZ	**Lake Taylor**	**24.69**	**173**	P	**P**	**10 19 42.9**	**-0.2**
RPZ	**Rata Peaks**	**25.49**	**175**	P	**P**	**10 19 51.0**	**+0.6**
	comp=Z,17nm,0.6s,mb4.8,baz=354,slow=15,SNR=9.5						
STKA	**Stephens Creek**	**27.46**	**235**	*e*P	**P**	**10 20 07.4**	**-0.8**
	comp=Z,89nm,1.0s,mb5.2						
STKA				*e*S	**S**	**10 24 52.0**	**+7.3**
STKA	**Stephens Creek**	**27.46**	**235**	P	**P**	**10 20 07.0**	**-1.1**
	comp=Z,19nm,0.8s,mb4.7,baz=64,slow=8.5,SNR=16						
STKA				PcP	PcP	10 23 24.6	-0.8
	comp=Z,8.4nm,0.8s,baz=77,slow=7.3,SNR=3.7						
STKA				LR	LR	10 30 43.0	
	comp=Z,4μm,20.6s,MS5.0,baz=35,slow=36						
STKA	**Stephens Creek**	**27.46**	**235**	*e*P	**P**	**10 20 07.2**	**-1.0**
TUZ	**Tuapeka**	**27.64**	**178**	*e*PN	**P**	**10 20 12.9**	**+3.2**
RAR	**Rarotonga**	**30.37**	**101**	LR	LR	10 30 34.2	
	comp=Z,3μm,20.4s,MS4.9,baz=272,slow=32						
WB2	**Warramunga Arr**	**31.89**	**261**	*e*P	**P**	**10 20 46.4**	**-0.9**
WB2				*e*S	**S**	**10 25 52.4**	**-1.7**
WRAB	**Tennant Creek**	**31.89**	**261**	*e*P	**P**	**10 20 46.2**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**31.89**	**261**	*e*P	**P**	**10 20 46.2**	**-1.2**
	comp=Z,33nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**31.90**	**261**	P	**P**	**10 20 46.5**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.0,baz=81,slow=6.0,SNR=20						
WRA				PcP	PcP	10 23 37.6	+0.8
	comp=Z,4.3nm,0.7s,baz=93,slow=2.8,SNR=4.8						
WRA				S	**S**	**10 25 54.4**	**+0.2**
	comp=Z,2.1nm,1.2s,baz=124,slow=16,SNR=3.6						
ASAR	**Alice Springs**	**32.31**	**254**	P	**P**	**10 20 50.9**	**-0.2**
	comp=Z,10nm,0.6s,mb4.8,baz=84,slow=8.7,SNR=178						
ASAR				S	**S**	**10 26 00.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=60,slow=30,SNR=2.8						
ASPA	**Alice Springs**	**32.31**	**254**	*e*P	**P**	**10 20 50.9**	**-0.2**
TBI	**Tubuai**	**39.91**	**105**	*e*S	**S**	**10 28 01.7**	**+5.0**
	comp=Z,1μm,30.5s						
TBI				*e*LQ		10 31 11.0	
	comp=Z,5μm,31.8s						
TBI				*e*LR	LR	10 32 58.8	
	comp=Z,4μm,26.0s,baz=274						
PAE	**Paea**	**40.22**	**96**	*e*P	**P**	**10 22 00.7**	**+2.2**
	comp=Z,113nm,1.2s,mb5.5						
PPT	**Papeete**	**40.23**	**96**	*e*P	**P**	**10 22 00.8**	**+2.2**
	comp=Z,26nm,0.8s,mb5.0						
PPT	**Papeete**	**40.23**	**96**	*e*S	**S**	**10 28 06.5**	**+4.9**
	comp=Z,2μm,25.2s						
PPT				*e*LQ		10 31 36.9	
	comp=Z,6μm,31.8s						
PPT				*e*LR	LR	10 33 08.2	
	comp=Z,6μm,24.0s,baz=260						
PPT	**Papeete**	**40.23**	**96**	P	**P**	**10 21 57.7**	**-0.9**
	comp=Z,34nm,0.5s,mb5.3,baz=257,slow=9.7,SNR=5.8						
PPT				LR	LR	10 35 00.5	
	comp=Z,2μm,21.9s,MS4.9,baz=257,slow=31						
FITZ	**Fitzroy Crossi**	**40.25**	**263**	*e*P	**P**	**10 21 59.6**	**+0.8**
	comp=Z,94nm,0.8s,mb5.6						
FITZ				*e*S	**S**	**10 28 04.4**	**+2.5**
TVO	**Taravao**	**40.51**	**96**	*e*P	**P**	**10 22 03.4**	**+2.5**
	comp=Z,86nm,0.7s,mb5.5						
PMOR	**Pomariorio Ree**	**42.23**	**92**	*e*P	**P**	**10 22 17.4**	**+2.4**
	comp=Z,55nm,0.9s,mb5.2						
VAH	**Vaihoa**	**42.45**	**93**	*e*P	**P**	**10 22 18.8**	**+2.0**
	comp=Z,58nm,1.0s,mb5.2						
MBWA	**Marble Bar**	**45.47**	**258**	*e*P	**P**	**10 22 41.8**	**+0.8**
	comp=Z,64nm,1.1s,mb5.4						
KLBR	**Kellerberrin**	**47.15**	**244**	*e*P	**P**	**10 22 53.7**	**-0.4**
	comp=Z,36nm,0.7s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.69**	**242**	LR	LR	10 43 52.8	
	comp=Z,4μm,18.4s,MS5.5,baz=271,slow=37						
NWAO	**Narrogin (SRO)**	**47.69**	**242**	*e*P	**P**	**10 22 56.5**	**-1.8**
NWAO				pmax	pmax		
	comp=Z,57nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.69**	**242**	*e*P	**P**	**10 22 56.5**	**-1.8**
	comp=Z,57nm,0.9s,mb5.6						
TAOE	**Nuku Hiva Isla**	**51.04**	**87**	*e*LR	LR	10 38 20.8	
	comp=Z,30μm,28.2s						
DRV	**Dumont d'Urvil**	**51.70**	**194**	P	**P**	**10 23 40.0**	**+11**
DRV				S	**S**	**10 30 50.0**	**+3.9**
DRV				R		10 39 00.0	
RKT	**Rikitea**	**53.22**	**106**	*e*P	**P**	**10 23 43.0**	**+2.9**
	comp=Z,66nm,0.9s,mb5.6						
RKT	**Rikitea**	**53.22**	**106**	*e*S	**S**	**10 31 11.3**	**+4.4**
	comp=Z,1μm,26.2s						
RKT				*e*SS	SS	10 34 52.9	+5.9
	comp=Z,721nm,30.0s						
RKT				*e*LQ		10 36 55.2	
	comp=Z,1μm,32.0s						
RKT				*e*LR	LR	10 39 07.2	
	comp=Z,3μm,26.0s,baz=263						
KKM	**Kota Kinabalu**	**56.57**	**290**	*e*P	**P**	**10 24 05.9**	**+1.7**
VNDA	**Vanda**	**59.36**	**182**	P	**P**	**10 24 23.9**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=18,slow=6.4,SNR=2.3						
VNDA				LR	LR	10 46 22.8	
	comp=Z,1μm,20.7s,MS5.0,baz=18,slow=32						
VNDA	**Vanda**	**59.36**	**182**	P	**P**	**10 24 23.9**	**+0.1**
VNDA				LR	LR	10 46 22.8	
KSM	**Kuching**	**60.09**	**283**	*e*P	**P**	**10 24 29.6**	**+0.7**
MJAR	**Matsushiro Arr**	**61.39**	**333**	P	**P**	**10 24 36.7**	**-1.0**
	comp=Z,18nm,1.0s,mb5.1,baz=165,slow=6.6,SNR=18						
MAT	**Matsushiro**	**61.39**	**333**	P	**P**	**10 24 36.8**	**-0.9**
MAT				S	**S**	**10 32 53.4**	**-0.8**
MAT	**Matsushiro**	**61.39**	**333**	*e*P	**P**	**10 24 37.0**	**-0.7**
MAT				*e*S	**S**	**10 32 53.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.2						
MAT	**Matsushiro**	**61.39**	**333**	*e*P	**P**	**10 24 37.0**	**-0.7**
	comp=Z,18nm,1.0s,mb5.2						
MAT				*e*S	**S**	**10 32 53.0**	**-1.2**
QZH	**Quanzhou**	**64.55**	**310**	⇑*i*P	**P**	**10 25 00.3**	**+1.6**
QZH				S	**S**	**10 33 34.0**	**+0.2**
QZH				LR	LR		
	comp=N,2μm,13.0s,MS5.6						
QZH				LR	LR		
	comp=E,1μm,12.3s,MS5.6						
QZH				LR	LR		
	comp=Z,1μm,24.8s						
SSE	**Sheshan**	**66.62**	**317**	P	**P**	**10 25 13.0**	**+1.0**
SSE				XP	sP	10 25 33.1	-0.9
SSE				PP	PP	10 27 40.0	+0.8
SSE				S	S	10 34 01.6	+2.7
SSE				XS	sS	10 34 25.8	+0.5
SSE				SS	SS	10 38 20.1	+3.1
SSE				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.0						
SSE				AMB	AMB		
	comp=Z,507nm,5.4s						
SSE				LR	LR		
	comp=N,338nm,20.0s,MS4.9						
SSE				LR	LR		
	comp=E,623nm,20.0s,MS4.9						
SSE				LR	LR		
	comp=Z,542nm,24.5s,MS4.7						
QIZ	**Qiongzhong**	**68.15**	**300**	⇑*i*P	**P**	**10 25 23.6**	**+2.0**
QIZ				AP	pP	10 25 38.6	+1.3
QIZ				S	S	10 34 23.0	+5.7
QIZ				XS	sS	10 34 47.7	+3.9
QIZ				AMB	AMB		
	comp=Z,404nm,7.6s						
QIZ				LR	LR		
	comp=E,438nm,21.8s						
QIZ				LR	LR		
	comp=Z,736nm,21.8s,MS4.9						
NJ2	**Nanjing**	**68.75**	**316**	*e*P	**P**	**10 25 26.6**	**+1.2**
NJ2				AP	pP	10 25 42.4	+1.3
NJ2				XP	sP	10 25 49.3	+1.8
NJ2				PCP	PcP	10 25 50.9	+1.1
NJ2				S	S	10 34 25.0	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,520nm,10.0s						
NJ2				LR	LR		
	comp=N,960nm,15.1s						
NJ2				LR	LR		
	comp=E,2μm,23.3s						
NJ2				LR	LR		
	comp=Z,990nm,22.0s						
YSS	**Yuzh-Sakhalins**	**68.82**	**342**	*oe*P	**P**	**10 25 27.2**	**+1.4**
YSS				*e*		10 25 35.8	
YSS				*e**SP	sP	10 25 39.0	-8.9
YSS				*e*S	S	10 34 29.0	+3.7
YSS				*e*PS		10 34 48.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YSS				pmax	pmax		
	comp=Z,600nm,4.0s						
YSS				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.0						
YSS				MLR	MLR		
	comp=N,900nm,18.0s						
PET	**Petropavlovsk**	**71.46**	**354**	*e*P	**P**	**10 25 41.5**	**-0.5**
PET				*e*	pP	10 26 00.7	+2.9
PET				*e*S	S	10 34 59.2	+3.0
PET				*e*PS		10 35 31.6	
PET				*e*SS	SS	10 39 35.1	+3.3
PET				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.2						
PET				pmax	pmax		
	comp=Z,600nm,15.5s						
PET				smax			
	comp=N,300nm,21.6s						
DL2	**Dalian**	**71.59**	**323**	P	**P**	**10 25 46.2**	**+3.5**
DL2				AP	pP	10 25 58.5	0.0
DL2				XP	sP	10 26 07.2	+2.3
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
DL2				LR	LR		
	comp=N,880nm,22.2s,MS5.1						
DL2				LR	LR		
	comp=E,640nm,20.9s,MS5.1						
DL2				LR	LR		
	comp=Z,660nm,22.4s,MS4.8						
MDJ	**Mudanjiang**	**71.76**	**332**	P	**P**	**10 25 44.5**	**+0.7**
MDJ				AP	pP	10 25 58.7	-0.9
MDJ				XP	sP	10 26 04.0	-1.9
MDJ				PP	PP	10 28 23.3	-0.3
MDJ				S	S	10 35 04.0	+4.4
MDJ				AMB	AMB		
	comp=Z,106nm,1.0s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,361nm,4.9s						
MDJ				LR	LR		
	comp=N,588nm,28.8s,MS4.8						
MDJ				LR	LR		
	comp=E,594nm,29.7s,MS4.8						
MDJ				LR	LR		
	comp=Z,662nm,27.2s,MS4.8						
QSPA	**South Pole Qui**	**71.78**	**180**	*e*P	**P**	**10 25 43.4**	**-0.5**
	comp=Z,49nm,0.8s,mb5.5						
QSPA				*e*PcP	PcP	10 25 59.5	-3.1
SNY	**Shenyang**	**72.57**	**327**	⇑P	**P**	**10 25 49.4**	**+0.8**
SNY				S	S	10 35 10.2	+1.3
SNY			

KMI AP pP 10 26 31.7 +2.5
KMI XP sP 10 26 38.0 +2.5
KMI PP PP 10 29 06.6 -0.1
KMI S S 10 35 56.3 -0.1
KMI SKS 10 36 19.7
KMI XS sS 10 36 24.8 +1.5
KMI SS SS 10 40 53.9 +0.4
KMI AMB AMB
comp=Z,25nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,458nm,3.2s
KMI LR LR
comp=N,461nm,24.9s,MS4.9
KMI LR LR
comp=E,496nm,20.2s,MS4.9
KMI LR LR
comp=Z,715nm,23.9s,MS4.9
HHC Hu-ho-hao-te 78.78 320⇑ eP P 10 26 24.9 +0.8
HHC PCP PcP 10 26 35.3 +2.6
HHC AP pP 10 26 38.9 -1.2
HHC XP sP 10 26 43.7 -2.7
HHC PP PP 10 29 21.9 -1.0
HHC S S 10 36 20.9 +3.5
HHC SKS 10 36 29.9
HHC SCS ScS 10 36 35.9 -5.0
HHC AMB AMB
comp=Z,17nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,566nm,6.2s
HHC LR LR
comp=N,405nm,20.4s,MS4.9
HHC LR LR
comp=E,440nm,20.4s,MS4.9
HHC LR LR
comp=Z,728nm,20.4s,MS5.0
CD2 Chengdu 78.78 308⇑ iP P 10 26 25.0 +0.9
CD2 AP pP 10 26 41.7 +1.6
CD2 XP sP 10 26 48.5 +2.1
CD2 PP PP 10 29 26.4 +3.5
CD2 S S 10 36 17.7 +0.3
CD2 XS sS 10 36 46.3 +1.9
CD2 SS SS 10 41 26.9 +4.1
CD2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.5
CD2 AMB AMB
comp=Z,240nm,10.3s
CD2 LR LR
comp=E,500nm,22.8s
CD2 LR LR
comp=Z,450nm,21.6s,MS4.8
MA2 Magadan 78.85 351c iP P 10 26 23.1 -1.4
MA2 e pP 10 26 38.6 -1.9
MA2 eS S 10 36 19.8 +1.7
MA2 e 10 36 31.2
MA2 e 10 36 42.9
MA2 ePS 10 37 11.5
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 MLR MLR
comp=Z,1µm,18.0s,MS5.2
MA2 Magadan 78.85 351 eP P 10 26 23.1 -1.3
comp=Z,31nm,0.9s,mb5.2
MAW Mawson 78.91 202 LR LR 10 57 15.2
comp=Z,2µm,18.8s,MS5.4,baz=96,slow=33
LZH Lanzhou 81.27 312 ⇑P P 10 26 39.2 +1.7
LZH AP pP 10 26 52.5 -1.1
LZH XP sP 10 26 58.5 -1.4
LZH PP PP 10 29 48.0 +4.4
LZH eS S 10 36 41.0 -2.6
LZH SKS 10 36 49.0
LZH XS sS 10 37 11.0 +0.3
LZH SS SS 10 42 05.0 +5.0
LZH AMB AMB
comp=Z,122nm,1.7s,mb5.6
LZH AMB AMB
comp=Z,315nm,5.2s
LZH LR LR
comp=E,1µm,18.3s
LZH LR LR
comp=Z,1µm,20.1s,MS5.3
SEY Seymchan 81.87 353 eP P 10 26 40.0 -0.7
SEY 10 29 52.4
SEY eS S 10 36 54.6 +4.8
SEY PS 10 37 52.3
SEY SS SS 10 42 16.2 +7.2
SEY pmax pmax
comp=Z,18nm,1.0s,mb5.0
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,7.0nm,0.8s
SEY smax
comp=N,620nm,20.6s
SEY smax
comp=E,660nm,21.8s
SEY MLR MLR
comp=Z,1µm,20.0s,MS5.2
SEY MLR MLR
comp=N,810nm,18.0s,MS5.3
SEY MLR MLR
comp=E,810nm,18.0s,MS5.3
SEY Seymchan 81.87 353 i Pr 10 26 39.4
KDAK Kodiak Island 82.50 20 P P 10 26 44.2 +0.2
comp=E,7.6nm,0.7s,mb4.7,baz=333,slow=12,SNR=4.6
CLNS Chul'man 83.08 338 eP P 10 26 47.2 +0.2
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CIT Chita 84.51 330 eP P 10 26 54.3 0.0
CIT pmax pmax
comp=Z,108nm,2.9s,mb5.5
SLKM Skilak Lake 85.40 19 eP P 10 26 57.1 -1.7
SLKM ePcP PcP 10 27 01.4 -0.3
ULN Ulaanbaatar 85.44 324⇑ eP P 10 26 58.8 -0.2
ULN Ulaanbaatar 85.44 324 eP P 10 26 59.0 0.0
comp=Z,46nm,1.2s,mb5.5
TNA Tin City 85.54 10 eP P 10 26 58.9 -0.6
comp=Z,9.6nm,0.9s,mb5.0
SYO Syowa Base 85.55 196⇓ eP P 10 26 59.0 -0.5
YAK Yakutsk 85.63 343 eP P 10 26 59.1 -0.8
YAK e 10 37 25.5
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.5
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.8s
YAK pmax pmax
comp=N,200nm,19.6s
YAK pmax pmax
comp=E,100nm,15.1s
YAK Yakutsk 85.63 343 eP P 10 26 59.0 -0.9
comp=E,52nm,0.8s,mb5.8
GTA Gaotai 85.67 314 eP P 10 27 00.6 +0.5
GTA AP pP 10 27 17.3 +1.0
GTA XP sP 10 27 24.5 +1.9
GTA PP PP 10 30 22.2 +2.6
GTA SKS 10 37 18.3
GTA S 10 37 27.5
GTA XS sS 10 37 55.8 +0.5
GTA SS SS 10 43 09.2 +4.1
GTA AMB AMB
comp=Z,21nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,409nm,6.1s
GTA LR LR
comp=N,359nm,22.9s,MS4.9
GTA LR LR
comp=E,466nm,25.6s,MS4.9
GTA LR LR
comp=Z,701nm,25.6s,MS5.0
SONM Songino Array 85.79 324 P P 10 27 01.0 +0.3
comp=Z,19nm,0.9s,mb5.3,baz=146,slow=4.9,SNR=77
SONM PKKPbc PKKPbc 10 45 00.9 -0.8
comp=Z,1.5nm,0.9s,baz=305,slow=2.1,SNR=10.0
SONM LR LR 11 05 59.5
comp=Z,559nm,19.7s,MS5.0,baz=29,slow=36
AGT Agartala 85.83 297⇓ iP P 10 27 09.0 +8.1
AGT iS 10 28 06.0
KCPM Cahto Peak 85.84 46 eP P 10 27 00.2 -0.8

SHL Shillong 85.93 298 eP P 10 27 03.0 +1.6
SHL eS 10 37 36.0
KIPM Iron Peak 85.97 46 eP P 10 27 01.5 -0.1
SAO San Andreas Ge 86.02 49 eP P 10 27 00.4 -1.5
SAO pmax pmax
comp=Z,17nm,0.8s,mb5.3
SAO San Andreas Ge 86.02 49 eP P 10 27 00.4 -1.5
comp=Z,17nm,0.8s,mb5.3
BILL Bilibino 86.07 359c iP P 10 27 00.7 -1.4
BILL eS 10 37 25.8
BILL eSS SS 10 43 15.3 +4.3
BILL pmax pmax
comp=Z,46nm,1.0s,mb5.7
BILL Bilibino 86.07 359 eP P 10 27 00.8 -1.3
comp=Z,42nm,0.9s,mb5.7
KHMM Horse Mountain 86.30 45 eP P 10 27 03.6 +0.4
OHCM Honcut 87.13 47 eP P 10 27 06.1 -1.2
CMB Columbia Colle 87.34 49 eP P 10 27 07.6 -0.7
CMB pmax pmax
comp=Z,19nm,0.7s,mb5.4
CMB Columbia Colle 87.34 49 eP P 10 27 07.6 -0.7
comp=Z,19nm,0.7s,mb5.4
CMB ePcP PcP 10 27 10.9 +0.6
YBH Yreka Blue Hor 87.38 44 P P 10 27 08.3 -0.1
comp=Z,6.4nm,0.9s,mb4.9,baz=204,slow=3.2,SNR=13
YBH LR LR 10 58 09.0
comp=Z,2µm,19.3s,MS5.6,baz=343,slow=30
MWC Mount Wilson 87.46 53 eP P 10 27 09.0 +0.2
HUMO Hull Mountain 87.61 44 eP P 10 27 09.3 -0.3
comp=Z,13nm,1.0s,mb5.1
BOD Bodaibo 87.99 334 eP P 10 27 07.7 -3.7
BOD pmax pmax
comp=Z,15nm,1.9s,mb4.9
LSA Lhasa 88.09 302 P P 10 27 12.7 +0.8
LSA S 10 37 40.0
LSA LR LR
comp=E,380nm,26.9s
LSA LR LR
comp=Z,480nm,23.8s,MS4.8
ZAK Zakamensk 88.88 325⇑ iP P 10 27 15.5 -0.1
ZAK pmax pmax
comp=Z,39nm,1.9s,mb5.4
NVAR Mina Array Bea 88.99 49 P P 10 27 15.4 -0.7
comp=Z,6.5nm,0.7s,mb5.1,baz=212,slow=5.4,SNR=29
NVAR PKKPbc PKKPbc 10 44 55.7 +1.7
comp=Z,0.3nm,0.5s,baz=72,slow=3.3,SNR=5.6
NVAR LR LR 11 01 26.6
comp=Z,482nm,18.0s,MS5.0,baz=170,slow=32
NVAR Mina Array Bea 88.99 49 P P 10 27 15.4 -0.7
NVAR PKKPbc PKKPbc 10 44 55.7 +1.7
NVAR LR LR 11 01 26.6
MOD Modoc 89.06 45 eP P 10 27 15.1 -1.3
comp=Z,12nm,0.7s,mb5.3
MNV Mina 89.10 49 eP P 10 27 15.9 -0.7
MNV pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
MNV Mina 89.10 49 eP P 10 27 15.9 -0.7
comp=Z,8.5nm,0.7s,mb5.2
IRK Irkutsk 89.31 327 eP P 10 27 16.2 -1.4
IRK pmax pmax
comp=Z,61nm,3.4s
ILAR Eielson Array 89.64 18 P P 10 27 16.4 -2.8
comp=Z,3.3nm,0.7s,mb4.8,baz=239,slow=4.5,SNR=42
ILAR LR LR 11 02 20.7
comp=Z,1µm,19.3s,MS5.3,baz=200,slow=32
NVL N'lazarevskaya 89.67 188 eP P 10 27 18.0 -1.3
NVL e*SP sP 10 27 29.6 -12
NVL pmax pmax
comp=Z,15nm,0.8s,mb5.4
NVL MLR MLR
comp=E,272nm,15.2s,MS5.1
NVL MLR MLR
comp=N,531nm,18.0s,MS5.1
NVL MLR MLR
comp=Z,692nm,16.3s,MS5.2
WVOR Wild Horse Val 90.41 45 eP P 10 27 21.9 -0.8
WVOR pmax pmax
comp=Z,30nm,1.2s,mb5.5
WVOR Wild Horse Val 90.41 45 eP P 10 27 21.9 -0.8
comp=Z,30nm,1.2s,mb5.5
VNA3 Neumayer Olymp 90.70 181⇑ iP P 10 27 23.7 -0.4
VNA3 e 10 27 27.4
VNA3 e pP 10 27 39.8 -0.6
VNA3 e 10 27 45.7
VNA2 Neumayer--Watz 90.98 181⇑ iP P 10 27 24.5 -0.9
VNA2 e 10 27 29.3
VNA2 e pP 10 27 40.5 -1.2
VNA2 e 10 27 46.5
JIRN Jiri 91.43 299 eP P 10 27 28.0 +0.5
comp=Z,65nm,1.5s,mb5.7
HAWA Hanford 91.48 41 eP P 10 27 26.8 -0.9
comp=Z,0.9nm,0.8s,mb4.2
GUN Gumba 91.78 299 eP P 10 27 29.4 +0.3
comp=Z,68nm,1.5s,mb5.8
PKI Pulchoki 92.06 298 eP P 10 27 30.8 +0.4
comp=Z,74nm,1.4s,mb5.8
PKI Pulchoki 92.06 298 eP P 10 27 30.8 +0.4
PKI pmax pmax
comp=Z,37nm,1.4s,mb5.5
KKN Kakani 92.24 298 eP P 10 27 31.4 +0.2
comp=Z,69nm,1.4s,mb5.8
KKN Kakani 92.24 298 eP P 10 27 31.4 +0.2
KKN pmax pmax
comp=Z,35nm,1.4s,mb5.5
DMN Daman 92.32 298 eP P 10 27 32.4 +0.8
comp=Z,101nm,1.4s,mb6.0
GKN Gorkha 92.84 298 eP P 10 27 33.7 -0.3
WUAZ Wupatki 93.03 54 eP P 10 27 33.8 -1.1
comp=Z,40nm,0.5s,mb6.1
MVU Marysvale 93.44 51 eP P 10 27 38.8 +2.1
comp=Z,3.7nm,1.0s,mb4.8
TIXI Tiksi 93.58 348⇑ iP P 10 27 34.9 -2.5
DUG Dugway 93.60 49 eP P 10 27 38.0 +0.5
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
DUG Dugway 93.60 49 eP P 10 27 38.0 +0.5
comp=Z,4.3nm,0.8s,mb4.9
KOLN Kołdanda 93.64 298 eP P 10 27 37.5 -0.2
comp=Z,69nm,1.7s,mb5.8
WMQ Urumqi 95.75 314 P P 10 27 47.0 -0.3
WMQ AP pP 10 28 04.0 +0.4
WMQ XP sP 10 28 11.0 +1.1
WMQ SKS 10 38 16.0
WMQ S 10 38 57.0
WMQ SS SS 10 45 31.0 +0.4
WMQ AMB AMB
comp=Z,17nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,105nm,8.0s
WMQ LR LR
comp=N,697nm,14.0s,MS5.5
WMQ LR LR
comp=E,699nm,13.0s,MS5.5
WMQ LR LR
comp=Z,788nm,12.0s,MS5.4
ANMO Albuquerque 96.66 56 P P 10 27 51.8 +0.3
comp=Z,1.3nm,0.7s,mb4.4,baz=242,slow=7.3,SNR=7.8
ANMO Albuquerque 96.66 56 i P P 10 27 50.9 -0.6
PDAR Pinedale Array 96.77 47 P P 10 27 52.7 +0.7
comp=Z,0.6nm,0.6s,mb4.2,baz=225,slow=4.2,SNR=6.9
PDAR PKKPbc PKKPbc 10 44 34.0 0.0
comp=Z,0.6nm,0.8s,baz=90,slow=4.4,SNR=4.9
PDAR LR LR 11 07 00.3
comp=Z,763nm,18.6s,MS5.2,baz=256,slow=33
TXAR Lajitas Array 97.27 62 P P 10 27 54.3 +0.1
comp=Z,0.8nm,0.8s,mb4.2,baz=225,slow=5.3,SNR=5.2
TXAR PKKPbc PKKPbc 10 44 33.2 +0.6
comp=Z,0.2nm,0.5s,baz=45,slow=1.8,SNR=4.2
TXAR LR LR 11 04 37.8
comp=Z,1µm,18.6s,MS5.4,baz=310,slow=31
TXAR Lajitas Array 97.27 62 P P 10 27 54.3 +0.1
TXAR PKKPbc PKKPbc 10 44 33.2 +0.6
TXAR LR LR 11 04 37.8
MKAR Makanchi Array 100.28 316 P Pdif 10 28 07.0 -0.7
comp=Z,1.1nm,0.6s,baz=91,slow=6.6,SNR=4.8
MKAR PKiKP PKiKP 10 32 35.1 +0.5
comp=Z,0.7nm,0.8s,baz=107,slow=1.9,SNR=4.9
MKAR PKKPbc PKKPbc 10 44 22.6 -1.5
comp=Z,2.2nm,0.7s,baz=265,slow=4.5,SNR=6.6
YKA Yellowknife Ar 100.32 27 P Pdif 10 28 06.5 -1.4
comp=Z,1.4nm,0.6s,baz=258,slow=5.0,SNR=34
YKA PKiKP PKiKP 10 32 33.0 -1.7
comp=Z,0.6nm,0.8s,baz=244,slow=1.3,SNR=7.5
YKA PKKPbc PKKPbc 10 44 24.1 +0.1
comp=Z,0.3nm,0.7s,baz=66,slow=3.1,SNR=6.2
YKA Yellowknife Ar 100.32 27 P Pdif 10 28 06.5 -1.4

ZAL Zalesovo 100.70 323 P Pdif 10 28 08.2 -1.3
comp=Z,0.9nm,0.5s,baz=355,slow=6.5,SNR=3.4
BVAR Borovoye Array 108.98 321 PKiKP PKiKP 10 32 49.5 -1.1
comp=Z,0.7nm,0.6s,baz=135,slow=2.1,SNR=4.9
ARU Arti 115.82 324 i PKIKP PKPdf 10 33 02.6 -1.0
ARU e 10 34 08.2
ARU e 10 39 49.8
ARU ePS PS 10 43 49.2 +0.3
ARU eSS SS 10 50 11.1 +7.0
AKTK Aktyubinsk 116.62 318 PKP PKPdf 10 33 04.2 -0.9
AKTO Aktyubinsk 116.62 318 PKP PKPdf 10 33 04.2 -0.9
comp=Z,2.9nm,0.9s,baz=112,slow=3.0,SNR=7.4
SUR Sutherland 120.68 212 PKP PKPdf 10 33 14.5 +1.5
comp=Z,4.8nm,0.8s,baz=153,slow=2.3,SNR=3.0
BOSA Boshof 121.14 218 PKP PKPdf 10 33 15.0 +1.1
comp=Z,4.7nm,0.9s,baz=116,slow=2.3,SNR=3.6
DAG Danmarks Havn 121.37 2⇑ iP PKPdf 10 33 11.8 -2.5
comp=Z,3.7nm,0.8s
DAG Danmarks Havn 121.37 2⇑ eP PKPdf 10 33 11.8 -2.5
APA Apatity 122.97 341⇑ iPKIKP PKPdf 10 33 14.0 -3.4
APA pmax pmax
comp=Z,15nm,1.1s
APA MLR MLR
comp=Z,1µm,20.0s,MS5.5
LBTB Lobatse 123.56 222 PKP PKPdf 10 33 19.3 +0.8
comp=Z,3.0nm,0.6s,baz=203,slow=4.8,SNR=3.8
SUMG Summit 123.59 9 ePKPdf PKPdf 10 33 17.2 -1.4
ARCES ARCESS Array B 123.86 345 PKP PKPdf 10 33 17.9 -1.2
comp=Z,9.1nm,0.6s,baz=74,slow=1.9,SNR=51
ARCES PKKPbc PKKPbc 10 43 06.0 +0.5
comp=Z,0.9nm,0.7s,baz=214,slow=4.4,SNR=6.6
KLMR Klimovskoe 124.17 332 ePKIKP PKPdf 10 33 18.3 -1.4
KLMR pmax pmax
comp=Z,40nm,2.5s
JOF Joensuu 126.44 337 ep PKPdf 10 33 23.2 -0.8
comp=Z,7.4nm,0.9s
SCO Scoresbysund 127.44 4 i P PKPdf 10 33 25.2 -0.7
comp=Z,6.8nm,1.0s
KIV Kislovodsk 127.81 312 i PKIKP PKPdf 10 33 27.7 +1.1
KIV e 10 35 28.4
KIV eSS SS 10 52 39.2 +2.2
KIV pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 127.95 254 PKP PKPdf 10 33 27.2 +0.3
comp=Z,1.4nm,0.7s,baz=70,slow=4.0,SNR=5.5
OBN Obninsk 128.09 327 ePKIKP PKPdf 10 33 25.9 -1.3
OBN e 10 35 32.5
OBN eSS SS 10 52 42.8 +2.3
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,700nm,21.0s,MS5.3
LSZ Lusaka 128.30 232 PKP PKPdf 10 33 28.5 +0.9
comp=Z,2.8nm,0.5s,baz=133,slow=1.8,SNR=9.3
KAF Kangasniemi 128.76 338 ep PKPdf 10 33 27.7 -0.7
comp=Z,3.1nm,0.6s
FINES FINESS Array B 129.28 338 PKP PKPdf 10 33 28.1 -1.3
comp=Z,2.2nm,0.7s,baz=315,slow=2.7,SNR=4.1
SOC Sochi 129.99 312 i PKIKP PKPdf 10 33 32.6 +1.8
SOC ePS PS 10 45 48.1 -6.4
SOC eSSS 10 57 59.6
BDFB Brasilia 131.01 131 PKP PKPdf 10 33 32.5 -0.2
comp=Z,7.3nm,0.7s,baz=286,slow=0.8,SNR=9.7
BAO Brasilia Array 131.03 131 P PKPdf 10 33 33.0 +0.2
AKASG Malin Array Be 134.07 324 PKP PKPdf 10 33 37.2 -1.2
comp=Z,2.0nm,0.6s,baz=71,slow=1.7,SNR=9.1
AKASG SKPbc SKPbc 10 37 06.0 +3.1
comp=Z,0.5nm,0.4s,baz=46,slow=3.9,SNR=4.7
NB2 NORSAR Subarra134.23 345 PKPd PKPdf 10 33 38.1 -0.7
comp=Z,2.4nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B134.23 345 PKP PKPdf 10 33 37.5 -1.2
comp=Z,3.8nm,0.8s,baz=34,slow=2.0,SNR=8.2
BRTR Keskin Array B 135.35 308 PKP PKPdf 10 33 41.8 +0.9
comp=Z,1.5nm,0.9s,baz=104,slow=5.1,SNR=4.5
BRTR Keskin Array B 135.35 308⇑ iPKIKP PKPdf 10 33 42.5 +1.6
KOLS Kolonicke sedl 138.81 326 ePKP PKPdf 10 33 48.2 +0.9
STHS Stebnicka Huta 139.07 327 ePKP PKPdf 10 33 46.4 -1.3
KECS Kecovo 140.03 326 ePKP PKPdf 10 33 48.4 -1.1
OKC Ostrava-Krasne 140.35 329 AMS AMS 11 32 40.0
comp=Z,800nm,18.0s
DPC Dobruska-Polom 140.85 331 ePKP PKPdf 10 33 46.1 -4.9
DPC AMS AMS 11 36 10.0
comp=Z,1µm,23.2s
VYHS Vyhne 140.88 327 ePKP PKPdf 10 33 48.8 -2.2
UPC Upice 140.88 332 ePKP PKPdf 10 33 47.3 -3.7
BRG Berggiesshubel 141.52 334 ePKP PKPdf 10 33 46.9 -5.3
comp=Z,2.9nm,0.9s
BRG e 10 33 50.6
comp=Z,4.4nm,1.2s
BRG Berggiesshubel 141.52 334 ePKHKP 10 33 46.9
BRG e 10 33 50.6
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,1.2s
CLL Collm 141.58 335 ePKPdf PKPdf 10 33 51.3 -1.0
CLL ePP PP 10 36 57.2 +1.0
CLL epPP 10 37 06.8
CLL eSKPbc SKPbc 10 37 27.6 +3.0
CLL ePSKS 10 47 17.2
CLL eLR LR 11 23 55.9
CLL eL 11 37 19.7
comp=Z,635nm,22.0s
CLL Collm 141.58 335 ePKPdf PKPdf 10 33 51.0 -1.3
comp=Z,123nm,2.8s
CLL ePP PP 10 36 57.0 +0.8
CLL ePSKS 10 47 15.0
CLL Collm 141.58 335 ePKP PKPdf 10 33 51.0 -1.3
CLL LR LR
comp=Z,1µm,22.1s,MS5.6
PRU Pruhonice 141.91 332 ePKP PKPdf 10 33 50.1 -2.8
PRU AMS AMS 11 31 40.0
comp=Z,1µm,25.2s
CLZ Clausthal 142.17 337 ePKPbc PKPdf 10 33 49.3 -4.0
WERD Werda 142.53 334 ePKPbc PKPdf 10 33 49.8 -4.2
NKC Novy Kostel 142.63 334 ePKP PKPdf 10 33 50.0 -4.2
NKC AMS AMS 11 37 30.0
comp=Z,900nm,23.6s
MOX Moxa 142.65 335 ePKPbc PKPdf 10 33 50.3 -3.9
MOX Moxa 142.65 335 e(P) PKPdf 10 33 51.6 -2.6
MOX e 10 33 55.0
comp=Z,70nm,2.3s
KHC Kasperske Hory 142.97 332 ePKP PKPdf 10 33 51.2 -3.6
KHC x x 10 33 58.0
KHC AMS AMS 11 32 20.0
comp=Z,900nm,23.7s
KHC Kasperske Hory 142.97 332 ePKP PKPdf 10 33 51.2 -3.6
KHC e 10 33 58.0
KHC LR LR
comp=Z,900nm,23.7s,MS5.5
ROTZ Rotzenmuhle 143.09 334 ePKPbc PKPdf 10 33 51.6 -3.4
GEC2 GERESS Array S 143.12 332 ePKPbc PKPdf 10 33 51.9 -3.1
GERES GERESS Array B 143.12 332 PKP PKPdf 10 33 52.0 -3.1
comp=Z,2.5nm,0.6s,baz=27,slow=3.0,SNR=9.8
GERES SKPbc SKPbc 10 37 32.9 +4.5
comp=Z,2.0nm,0.8s,baz=0.0,slow=1.3,SNR=4.6
WET Wettzell 143.27 333 ePKPbc PKPdf 10 33 52.5 -2.8
IDI Anoyia 143.28 305 PKP PKPdf 10 33 53.4 -2.0
comp=Z,11nm,0.8s,baz=76,slow=16,SNR=5.5
GRF Grafenberg Arr 143.55 335 ePKPbc PKPdf 10 33 53.1 -2.7
GRF eL 11 40 21.8
comp=Z,692nm,21.4s
MOA Molln 143.58 330⇑ iP PKPdf 10 33 53.0 -2.8
comp=Z,332nm,3.4s,SNR=6.1
MOA Molln 143.58 330⇑ iP PKPdf 10 33 53.0 -2.9
BUG Bochum--Univer 143.58 340 ePKPbc PKPdf 10 33 54.1 -1.7
PERS Pernice 144.00 328 ePKPbc PKPdf 10 33 54.2 -2.4
PERS e 10 34 05.6
TNS Taunus Mts 144.20 338 ePKPbc PKPdf 10 33 54.8 -2.1
KBA Koelnbreinsper 144.57 330⇓ iP PKPdf 10 33 56.0 -1.6
comp=Z,264nm,2.9s,SNR=8.6
KBA Koelnbreinsper 144.57 330⇓ iP PKPdf 10 33 56.0 -1.6
TOD Tromm 144.57 337 PKIKP PKPdf 10 33 56.3 -1.3
HGN Heimansgroeve 144.60 340 ePKP PKPdf 10 33 55.6 -2.0
comp=Z,51nm,1.1s
BOJS Bojanci 144.69 326 ePKPbc PKPdf 10 33 57.1 -0.7
LJU Ljubljana 144.70 328 ePKPbc PKPdf 10 33 56.8 -1.0
FUR Furstenfeldbru 144.71 333 ePKPbc PKPdf 10 33 57.1 -0.7
MEM Membach 144.71 340 PKP PKPdf 10 33 56.9 -0.9
MEM PKhKP 10 34 04.6
MEM APKiKP 10 34 14.1
DLF Lyons Farm 144.80 354⇑ iP PKPdf 10 33 56.6 -1.4
DLF Lyons Farm 144.80 354 eP 10 34 24.0
ABH Alteburg 144.81 338 PKP PKPdf 10 33 57.0 -1.0

DCN	Croghan	144.81 355	⇑iP		PKPdf	10 33 56.7	-1.3
DCN	Croghan	144.81 355	eP			10 34 24.0	
VOY	Vojsko	145.03 328	ePKPbc	PKPbc		10 33 57.3	-0.5
VOY			e			10 34 16.3	
PTCC	Patocco-Chiusa	145.04 329	PKP	PKPdf		10 33 57.2	-1.2
JAVS	Javornik	145.04 328	ePKPbc	PKPbc		10 33 57.6	-0.3
UCC	Uccle	145.05 342	PKP	PKPdf		10 33 57.3	-1.1
STU	Stuttgart	145.09 335	ePKPbc	PKPbc		10 33 58.3	+0.3
STU	Stuttgart	145.09 335	ePKPbc	PKPbc		10 33 58.5	+0.4
RUP	Ruppelstein	145.13 338	PKIKP	PKPdf		10 33 58.3	-0.2
KNDS	Knezji Dol	145.13 327	ePKPbc	PKPbc		10 33 58.1	-0.1
FVI	Forni Avoltri	145.18 330	PKIKP	PKPdf		10 33 57.5	-1.1
GMNA	Gemona	145.19 329	PKP	PKPdf		10 33 57.9	-0.7
WATA	Walderalm	145.20 332	⇓iPKPdf	PKPdf		10 33 58.4	-0.3
	comp=Z,93nm,1.8s						
WATA	Walderalm	145.20 332	⇓iP	PKPbc		10 33 58.4	0.0
WTTA	Wattenberg	145.23 331	⇑iP	PKPbc		10 33 58.2	-0.3
	comp=Z,629nm,2.8s,SNR=15						
TRI	Trieste	145.32 328	PKIKP	PKPdf		10 33 58.4	-0.5
SNF	Seneffe	145.33 342	PKP	PKPdf		10 33 58.6	-0.3
SNF			XPKiKP			10 34 27.3	
MOTA	Moosalm	145.41 332	⇑iP	PKPdf		10 33 59.0	0.0
	comp=Z,52nm,0.9s,SNR=14						
SQTA	Sankt Quirin	145.45 332	⇑iP	PKPdf		10 33 59.4	+0.3
	comp=Z,42nm,0.9s,SNR=15						
LANF	Langenberg	145.46 337	PKP	PKPdf		10 33 59.4	+0.3
WLF	Walferdange	145.47 339	ePKPbc	PKPbc		10 33 59.7	+0.4
WLF	Walferdange	145.47 339	PKP	PKPdf		10 33 59.9	+0.7
WLF			PKhKP			10 34 03.7	
WLF			APKiKP			10 34 17.0	
WLF			XPKiKP			10 34 28.4	
WLF			E			10 34 42.6	
WLF	Walferdange	145.47 339	ePKPab	PKPab		10 33 59.8	+0.3
GIVF	Givet	145.53 341	⇑iPKP1	PKPbc		10 33 59.2	-0.2
	comp=Z,108nm,1.1s						
DOU	Dourbes	145.60 341	PKP	PKPdf		10 33 59.4	+0.1
DOU			XPKiKP			10 34 28.1	
BRES	Bressanone	145.60 331	PKP	PKPdf		10 33 59.8	+0.5
BAIF	Baives	145.75 341	⇑iPKP1	PKPbc		10 34 00.1	0.0
	comp=Z,128nm,0.9s						
BFO	Black Forest	145.79 336	ePKPbc	PKPbc		10 33 59.8	-0.4
SPAK	Spaichingen	145.80 335	PKP	PKPdf		10 34 00.3	+0.6
DAVA	Damuels	145.99 333	iP	PKPdf		10 34 01.1	+1.1
	comp=Z,527nm,2.7s,SNR=12						
DAVA	Damuels	145.99 333	iP	PKPdf		10 34 01.1	+1.1
WLS	Welschbruch	146.10 337	PKP	PKPdf		10 34 01.2	+1.0
CTI	Castel Tesino	146.12 330	PKP2	PKPab		10 34 00.9	-1.0
CDF	Champ du Feu	146.13 337	⇑iPKP1	PKPbc		10 34 01.3	0.0
	comp=Z,151nm,0.9s						
LIBD	Limburg	146.22 336	PKP2	PKPab		10 34 01.6	-0.7
ECH	Echery	146.33 337	PKP	PKPdf		10 34 01.2	+0.6
ECH	Echery	146.33 337	PKP	PKPdf		10 34 01.6	+1.0
ECH	Echery	146.33 337	PKP	PKPdf		10 34 01.6	+1.0
RCBR	Riachuelo	146.34 133	ePKPdf	PKPdf		10 34 01.0	+0.4
BRMO	Bormio	146.39 332	PKP	PKPdf		10 34 02.5	+1.8
MABI	Malga Bissina	146.65 331	PKP	PKPdf		10 34 02.1	+1.0
MOF	Molkenrain	146.65 336	PKP	PKPdf		10 34 02.2	+1.1
THEF	They Montfort	146.75 338	PKP	PKPdf		10 34 02.5	+1.2
HINF	Hinteralfeld	146.78 337	⇑iPKP1	PKPbc		10 34 03.0	-0.2
	comp=Z,24nm,0.7s						
HAU	Haudompre	146.81 337	⇑iPKP1	PKPbc		10 34 04.2	+1.0
	comp=Z,67nm,0.8s						
HAU			eR				
	comp=Z,824nm,23.0s						
HAU	Haudompre	146.81 337	⇑iPKP	PKPbc		10 34 04.2	+1.0
HAU			LR	LR			
	comp=Z,820nm,23.0s,MS5.5						
BBS	Basel-Blauen	146.82 336	PKP2	PKPbc		10 34 02.5	-0.8
MEZF	Maizieres J'vi	146.84 339	⇑iPKP1	PKPbc		10 34 03.7	+0.4
	comp=Z,112nm,0.8s						
TUE	Stuetta	146.85 333	PKP	PKPbc		10 34 03.7	+0.3
LOMF	Lomont	147.18 336	PKP	PKPbc		10 34 04.0	-0.3
ARV	Arcevia	147.26 326	PKP	PKPbc		10 34 05.1	+0.6
SNTG	Esanatoglia	147.42 325	PKP	PKPbc		10 34 05.6	+0.6
SFI	Santa Sofia	147.56 327	PKP	PKPbc		10 34 06.3	+1.0
VAI	Varese	147.57 333	PKP	PKPbc		10 34 04.9	-0.5
NRCA	Norcia	147.61 324	PKP	PKPbc		10 34 06.0	+0.5
VMG	Vicchio	147.67 327	PKP	PKPbc		10 34 07.4	+1.8
ZCCA	Zocca	147.68 329	PKP	PKPbc		10 34 07.0	+1.3
SEI	Scarperia	147.70 328	PKP	PKPbc		10 34 07.2	+1.5
FNVD	Fontana Vidola	147.74 328	PKP	PKPbc		10 34 06.6	+0.8
MCGN	Macugnaga	147.84 333	PKP	PKPbc		10 34 06.3	+0.2
GSCL	Gusciola	147.87 329	PKP	PKPbc		10 34 07.2	+1.0
ERBM	Eremo	147.91 329	PKP	PKPbc		10 34 07.0	+0.7
VVLD	Villa Vallelon	147.95 323	PKP	PKPbc		10 34 06.1	-0.3
CABF	La Chapelle	148.07 336	⇑iPKP1	PKPbc		10 34 07.2	+0.5
	comp=Z,185nm,0.9s						
BDI	Bagni Di Lucca	148.08 329	PKP	PKPbc		10 34 05.8	-0.9
ORO	Oropa	148.10 333	PKP	PKPbc		10 34 06.4	-0.4
CSNT	Castellina Chi	148.15 327	PKP	PKPbc		10 34 06.2	-0.7
FLN	La Foliniere	148.20 346	⇑iPKP1	PKPbc		10 34 06.6	-0.5
	comp=Z,91nm,0.7s						
FLN			eR				
	comp=Z,1μm,22.0s						
LDF	La Druitiere	148.27 345	⇑iPKP1	PKPbc		10 34 06.7	-0.5
	comp=Z,36nm,0.7s						
LOR	Lormes	148.31 339	⇑iPKP1	PKPbc		10 34 07.3	0.0
	comp=Z,97nm,0.8s						
LOR			eR				
	comp=Z,971nm,23.0s						
LOR	Lormes	148.31 339	⇑iPKP	PKPbc		10 34 07.3	0.0
LOR			LR	LR			
	comp=Z,970nm,23.0s,MS5.5						
SSF	Saint Saulge	148.61 340	⇑iPKP1	PKPbc		10 34 08.2	+0.1
	comp=Z,153nm,0.9s						
SOI	Samo	148.61 315	PKP	PKPbc		10 34 08.6	+0.5
GRR	Gorron	148.64 346	⇑iPKP1	PKPbc		10 34 07.9	-0.3
	comp=Z,65nm,0.6s						
HYF	Humbligny	148.71 341	ePKP1	PKPbc		10 34 08.7	+0.3
LPL	La Plagne	148.72 334	⇑iPKP1	PKPbc		10 34 09.0	+0.6
	comp=Z,63nm,0.9s						
LPG	La Plagne	148.72 334	⇑iPKP1	PKPbc		10 34 09.1	+0.7
	comp=Z,80nm,0.8s						
OG05	Jujurieux	148.79 336	PKP	PKPbc		10 34 08.5	-0.1
SMF	Signal de Mont	148.86 339	⇑iPKP1	PKPbc		10 34 08.6	-0.1
	comp=Z,55nm,1.0s						
AVF	Avril sur Loir	148.90 339	⇑iPKP1	PKPbc		10 34 08.5	-0.3
	comp=Z,44nm,0.8s						
BNI	Bardonecchia	149.11 334	ePKP2	PKPbc		10 34 08.3	-1.1
SGMF	Saint Gilles	149.14 348	⇑iPKP1	PKPbc		10 34 09.0	-0.4
	comp=Z,106nm,0.9s						
ROSF	Rostrenen	149.20 349	ePKP1	PKPbc		10 34 09.0	-0.6
	comp=Z,45nm,0.9s						
BGF	Bois d'Agland	149.27 340	⇑iPKP1	PKPbc		10 34 09.7	-0.1
	comp=Z,72nm,0.7s						
MBDF	Montbardon	149.34 333	⇑iPKP1	PKPbc		10 34 10.0	+0.1
	comp=Z,50nm,1.1s						
PLDF	La Plantade	149.52 338	PKP	PKPbc		10 34 10.6	+0.2
ORIF	Oris-en-Rattie	149.55 335	⇑iPKP1	PKPbc		10 34 10.7	+0.2
	comp=Z,109nm,0.9s						
ORIF			eR				
	comp=Z,728nm,22.2s						
SAOF	Saorge	149.58 332	PKP	PKPbc		10 34 09.9	-0.6
QUIF	Quistinic	149.58 348	⇑iPKP1	PKPbc		10 34 09.9	-0.6
	comp=Z,28nm,0.5s						
AGO	Saint Agoulin	149.62 339	PKP	PKPbc		10 34 11.3	+0.7
AUTN	L'Aution	149.63 332	PKP	PKPbc		10 34 11.9	+1.2
TCF	Toulx Ste Croi	149.71 340	⇑iPKP1	PKPbc		10 34 10.8	-0.1
	comp=Z,88nm,0.9s						
SBF	Sospel	149.73 332	⇑iPKP1	PKPbc		10 34 10.6	-0.3
	comp=Z,121nm,0.9s						
MVIF	Mont Vial	149.83 332	PKP	PKPbc		10 34 11.0	-0.2
REVF	Revere	149.85 332	PKP	PKPbc		10 34 10.6	-0.6
COLF	Collangettes	149.88 338	PKP	PKPbc		10 34 11.5	+0.2
PYM	Petit Puy Mans	149.92 339	PKP	PKPbc		10 34 12.3	+0.9
PGF	Pioggiola	149.98 328	⇑iPKP1	PKPbc		10 34 11.6	+0.1
	comp=Z,178nm,1.0s						
VIVF	Saint-Julien-l	150.08 336	⇑iPKP1	PKPbc		10 34 12.0	+0.2
	comp=Z,75nm,0.9s						
CORF	Corte	150.09 328	PKP	PKPbc		10 34 12.0	+0.2
VERF	Verneugheol	150.10 340	PKP	PKPbc		10 34 12.0	+0.2
MFF	Saint Martin d	150.12 344	⇑iPKP1	PKPbc		10 34 11.7	-0.2
	comp=Z,120nm,0.9s						
LCHF	La Chataignera	150.22 344	PKP	PKPbc		10 34 12.0	-0.1
LBL	Lubilhac	150.29 338	PKP	PKPbc		10 34 12.5	+0.2
FRF	La Foret Royal	150.32 332	⇑iPKP1	PKPbc		10 34 12.1	-0.2
	comp=Z,108nm,1.0s						
SMRF	Simiane la Rot	150.45 334	⇑iPKP1	PKPbc		10 34 13.1	+0.5
	comp=Z,228nm,1.3s						
LMR	La Mourre	150.56 332	⇑iPKP1	PKPbc		10 34 12.7	-0.2
	comp=Z,144nm,1.0s						
RJF	Les Rejaudoux	150.81 340	⇑iPKP1	PKPbc		10 34 13.5	0.0
	comp=Z,91nm,1.0s						
RJF			eR				
	comp=Z,646nm,19.8s						
CAF	Calviac	150.97 339	⇑iPKP1	PKPbc		10 34 14.1	+0.2
	comp=Z,26nm,0.8s						
LASF	Ste Croix	151.06 336	⇑iPKP1	PKPbc		10 34 14.4	+0.3
	comp=Z,116nm,0.8s						
LFF	La Frestale	151.38 341	⇑iPKP1	PKPbc		10 34 14.8	0.0
	comp=Z,74nm,0.7s						
MTLF	Montolieu	152.30 337	⇑iPKP1	PKPbc		10 34 16.8	-0.1
	comp=Z,44nm,1.0s						
EPF	Esparros	153.22 340	ePKP1	PKPbc		10 34 19.0	0.0
	comp=Z,27nm,0.9s						
ETSF	Etsaut	153.63 341	ePKP1	PKPbc		10 34 20.2	+0.4
	comp=Z,30nm,0.9s						
SJPF	Ste Jean	153.63 342	ePKP1	PKPbc		10 34 19.8	-0.1
	comp=Z,32nm,1.1s						
EBR	Ebro Roquetas	155.12 337	eTs			10 34 49.0	
ESDC	Sonseca Array	157.59 344	PKPab	PKPab		10 34 48.6	-1.0
	comp=Z,2.0nm,0.6s,baz=13,slow=3.6,SNR=5.5						
TORD	Torodi Ar. Bea	165.94 251	PKP	PKPdf		10 34 25.9	0.0
	comp=Z,2.8nm,0.7s,baz=78,slow=0.6,SNR=13						

*MOS **07** 10:15:44.3±0.5, 4249N×4345E, h8km, mb3.5/1, Error ellipse: s-maj=46.0km s-min=11.2km az=61.6*

TIF 07 10:15:45.1, 4249N×4352E, h9km±3km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	Tsey	0.39	45	iPG	Pg	10 15 53.9	+1.1
ZEI				iS	Sg	10 15 59.9	+1.9
DIGR	Digorskoe uzhe	0.41	6	iPG	Pg	10 15 53.4	+0.3
DIGR				iS	Sg	10 15 59.0	+0.5
LACR	Lac	0.66	60	iPG	Pg	10 15 58.6	+0.7
LACR				iS	Sg	10 16 08.3	+1.8
LSNR	Lesken	0.81	15	ePG	Pg	10 16 00.9	+0.2
LSNR				iS	Sg	10 16 12.0	+0.7
ARNR	Ardon	0.89	38	ePG	Pg	10 16 02.6	+0.3
ARNR				eS	Sg	10 16 15.0	+1.1
KMSR	Komsomolskaya	1.04	33	ePG	Pg	10 16 05.2	0.0
KMSR				eS	Sg	10 16 19.7	+0.9
BTKR	Batakoyurt	1.16	40	ePG	Pg	10 16 07.3	0.0
BTKR				eS	Sg	10 16 23.1	+0.8

IDC 07 10:58:44.0±23.0, 2053S×17439W, h173km±216km, mb3.3/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.8/4, Error ellipse: s-maj=169.2km s-min=41.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.83	245	P	P	11 06 08.9	+0.4
	0.9nm,0.5s,baz=70,slow=8.7,SNR=3.6						
ASAR	Alice Springs	47.80	256	P	P	11 07 04.2	+0.4
	1.5nm,0.9s,baz=95,slow=8.1,SNR=9.4						
WRA	Warramunga Arr	47.94	261	P	P	11 07 05.1	+0.2
	0.6nm,0.7s,baz=101,slow=8.4,SNR=9.0						
NVAR	Mina Array Bea	78.76	42	P	P	11 10 27.8	+0.5
	0.8nm,0.7s,baz=224,slow=9.9,SNR=7.1						
AKASG	Malin Array Be	144.61	334	PKP	PKPdf	11 17 58.9	-0.9
	1.3nm,0.6s,baz=45,slow=4.0,SNR=9.3						

IDC 07 11:03:23.6±1.5, 296N×12180E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=172.3km s-min=27.0km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.88	152	P	P	11 08 57.3	+0.3
	0.2nm,0.3s,baz=335,slow=9.7,SNR=5.0						
SONM	Songino Array	46.64	346	P	P	11 11 54.4	+0.7
	0.5nm,0.5s,baz=161,slow=8.3,SNR=6.7						
MKAR	Makanchi Array	55.48	328	P	P	11 12 59.8	-0.3
	0.5nm,0.3s,baz=130,slow=7.5,SNR=17						

*ISCJB **07** 11:05:23.8±0.5, 6628N±004×14198W±0.10, h4km, Error ellipse: s-maj=6.0km s-min=4.9km az=128.2*
*NEIC **07** 11:05:25.0, 6630N×142.13W, h4km, ML2.6(AEIC), After AEIC.*
*PGC **07** 11:05:27.0, 6628N×14204W, h1km, ML2.5/2, Eastern Alaska.*

ISC 07 11:05:24.9±0.5, 6631N±003×14205W±009, h4km, n14, σ1§05/21, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	1.50	319	P	Pn	11 05 52.0	-0.7
BM3				S	Sn	11 06 13.8	+1.1
DAWY	Dawson	2.52	152	Pn	Pn	11 06 07.0	+0.4
DAWY				Sn	Sn	11 06 39.0	+1.2
DAWY				Sg	Sg	11 06 45.0	-0.8
DAWY				Trac		11 06 47.5	
	comp=Z,11nm,0.2s						
IL1	Eielson Array	2.54	235	P	Pn	11 06 06.1	-0.8
DOT	Dot Lake	2.81	199	P	Pn	11 06 11.5	+0.9
COLA	College	2.81	242	P	Pn	11 06 10.2	-0.4
COLD	Coldfoot	3.36	290	P	Pn	11 06 18.8	+0.5
MENT	Mentasta	3.46	193	P	Pn	11 06 20.1	+0.5
PAX	Paxson	3.66	205	P	Pn	11 06 23.5	+1.1
PAX				S	Sn	11 07 04.6	-1.5
INK	Inuvik	3.86	55	Pn	Pn	11 06 27.1	+2.0
INK				Sn	Sn	11 07 11.1	+0.1
INK				Sg	Sg	11 07 27.8	-1.3
INK				Trac		11 07 33.5	
	comp=Z,4.0nm,0.3s						
MCK	McKinley	3.90	232	P	Pn	11 06 24.7	-0.9
IM3	Indian Mountai	4.76	271	P	Pn	11 06 36.5	-1.0
HYT	Haines Junctio	5.87	158	Pn	Pn	11 06 54.0	+1.3
HYT				Sg	Sg	11 08 27.7	-5.6
HYT				Trac		11 08 34.0	
	comp=Z,3.0nm,0.5s						
WHY	Whitehorse	6.51	147	Sg	Sg	11 08 44.2	-10
YKW3	Yellowknife Ar	12.37	95	Pn	Pn	11 08 20.0	-1.8

*BJI **07** 11:08:49.6, 6630N×14220W, h6km, mB5.0, mb4.9, Ms4.8, Msz4.7*
*ISCJB **07** 11:09:03.5±0.4, 6631N±003×142.13W±008, h10km, mb4.3/8, MS4.3/2, Error ellipse: s-maj=4.9km s-min=4.2km az=86.3*
*NEIC **07** 11:09:03.6, 6628N×142.17W, h3km, ML4.2(AEIC), After AEIC.*
*IDC **07** 11:09:04.4±1.1, 6639N×14234W, h0km, mb3.8/4, mb1 4.3/7, mb1mx3.8/23, mbtmp3.9/7, ML4.2/3, MS4.0/2, Ms1 4.0/2, ms1mx3.3/37, Error ellipse: s-maj=24.6km s-min=10.0km az=151.0*
*PGC **07** 11:09:05.2, 6631N×142.16W, h5km, ML4.2/2, Eastern Alaska.*

ISC 07 11:09:04.4±0.4, 6634N±003×14209W±007, h10km, n41, σ1§42/52, mb4.3/8, MS4.3/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	1.47	319	P	Pn	11 09 30.9	-0.1
BM3				S	Sn	11 09 50.5	+0.3
IL1	Eielson Array	2.54	234	P	Pn	11 09 44.8	-0.9
ILAR	Eielson Array	2.54	234	Pn	Pn	11 09 44.8	-0.9
	14nm,0.3s,baz=45,slow=14,SNR=193						
ILAR				Pg	Pg	11 09 50.0	-3.2
	73nm,0.3s,baz=40,slow=17,SNR=117						
ILAR				Lg		11 10 20.9	
	254nm,0.3s,baz=46,slow=29,SNR=30						
DAWY	Dawson	2.55	152	Pn	Pn	11 09 45.8	-0.1
DAWY				Sn	Sn	11 10 17.1	+0.2
DAWY				Sg	Sg	11 10 23.5	-2.9
DAWY				Trac		11 10 27.4	
	comp=Z,431nm,0.4s						
COLA	College	2.81	241	P	Pn	11 09 48.3	-1.1
DOT	Dot Lake	2.83	198	P	Pn	11 09 49.3	-0.4
COLD	Coldfoot	3.34	289	P	Pn	11 09 57.3	+0.7
COLD				S	Sn	11 10 36.5	+0.3
MENT	Mentasta	3.49	192	P	Pn	11 09 58.3	-0.4
PAX	Paxson	3.68	205	P	Pn	11 10 02.2	+0.8
PAX				S	Sn	11 10 44.0	-0.9
INK	Inuvik	3.86	55	Pn	Pn	11 10 05.3	+1.5
	9.4nm,0.3s,baz=239,slow=17,SNR=52						
INK				Sn	Sn	11 10 50.6	+1.4
	28nm,0.3s,baz=191,slow=19,SNR=6.1						
INK				LR	LR	11 12 05.0	
	comp=Z,811nm,18.7s,baz=34,slow=46						
INK	Inuvik	3.86	55	Pn	Pn	11 10 05.2	+1.4
INK				Sn	Sn	11 10 49.3	+0.1
INK				Sg	Sg	11 11 06.6	-1.7
INK				Trac		11 11 13.3	
	comp=Z,287nm,0.7s						
MCK	McKinley	3.91	231	P	Pn	11 10 03.9	-0.6
KTH	Kantishna Hill	4.68	237	P	Pn	11 10 14.0	-1.2
IMA2	Indian Mountai	4.71	272	eP	Pn	11 10 15.3	-0.2
IM3	Indian Mountai	4.75	271	P	Pn	11 10 14.5	-1.5
SML	Sawmill	5.31	214	P	Pn	11 10 25.0	+1.3
DIV	Divide	5.48	199	P	Pn	11 10 28.2	+2.0
BMRM	Bremner River	5.51	193	P	Pn	11 10 27.3	+0.8
PMR	Palmer	5.69	216	eP	Pn	11 10 30.8	+1.9
HYT	Haines Junctio	5.90	158	Pn	Pn	11 10 32.5	+0.6
HYT				Sg	Sg	11 12 08.7	-5.2
HYT				Trac		11 12 12.8	
	comp=Z,107nm,0.5s						
EYAK	Cordova Ski Ar	6.04	197	P	Pn	11 10 35.8	+2.0
RC01	Rabbit Creek A	6.27	216	P	Pn	11 10 39.1	+2.2
WHY	Whitehorse	6.55	147	Pn	Pn	11 10 40.5	-0.3
WHY				Sg	Sg	11 12 29.2	-5.3
WHY				Trac		11 12 37.3	
	comp=Z,54nm,0.8s						
PNL	Peninsula	6.81	168	P	Pn	11 10 47.9	+3.6
TT01	Tatalina	6.90	247	P	Pn	11 10 43.4	-2.2
FNBB	Fort Nelson	11.48	122	Pn	Pn	11 11 49.7	+1.3
FNBB				Sg	Sn	11 15 02.3	+66
FNBB				Trac		11 15 25.8	
	comp=Z,4.0nm,0.3s						
YKW3	Yellowknife Ar	12.38	95	Pn	Pn	11 11 58.2	-2.6
YKW3				Pn	Pn	11 11 58.6	-2.1
YKW3				Sn	Sn	11 14 08.7	-10
YKW3				Sn	Sn	11 14 09.6	-9.2
YKW3				Trac		11 15 51.4	
	comp=Z,11nm,0.6s						
YKW3				Trac		11 16 04.6	
	comp=Z,51nm,1.3s						
YKA	Yellowknife Ar	12.42	95	Pn	Pn	11 11 58.4	-2.9
	baz=297,slow=13,SNR=62						
YKA				Sn	Sn	11 14 07.5	-12
	baz=296,slow=23,SNR=5.7						
HRY	Holter Researc	25.34	126	eP	P	11 14 32.2	+0.8
PDAR	Pinedale Array	29.59	127	P	P	11 15 11.9	+2.4
	1.3nm,0.8s,mb3.7,baz=333,slow=6.6,SNR=6.9						
NVAR	Mina Array Bea	31.09	142	P	P	11 15 25.9	+3.2
	1.5nm,0.7s,mb3.9,baz=326,slow=7.7,SNR=11						
LAZ	Ladron	37.99	130	eP	P	11 16 19.5	-3.0
TXAR	Lajitas Array	43.78	128	P	P	11 17 12.1	+1.9
	0.2nm,0.5s,mb3.1,baz=333,slow=4.0,SNR=4.1						
TXAR	Lajitas Array	43.78	128	P	P	11 17 12.1	+1.9
MDJ	Mudanjiang	49.54	290	P	Px	11 17 45.0	
MDJ				AMB	AMB		
	comp=Z,18nm,2.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,373nm,4.1s						
FINES	FINESS Array B	52.22	7	P	P	11 18 16.0	+0.5
	comp=Z,0.8nm,0.4s,mb4.0,baz=0.0,slow=8.9,SNR=13						
FINES	FINESS Array B	52.22	7	P	P	11 18 16.0	+0.5
WMQ	Urumqi	63.73	322	P	Px	11 19 24.0	
WMQ				XP	sP	11 19 31.0	-10
WMQ				PP	PP	11 21 45.0	-11
WMQ				S	S	11 27 54.0	-17
WMQ				SS	SS	11 32 12.0	-6.5
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,102nm,6.0s						
WMQ				LR	LR		
	comp=N,89nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=E,75nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,56nm,14.0s,MS3.9						
CD2	Chengdu	70.99	304	eP	Px	11 20 10.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,4.9s						
KMI	Kunming	76.66	303	P	Px	11 20 41.8	
KMI				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.2						
DZM	Mont Dzumac	96.24	227	LR	LR	12 02 11.0	
	comp=Z,164nm,19.1s,MS4.5,baz=309,slow=33						

BJI 07 11:26:56.2, 2760N×11994E, h19km, ML3.9, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.91	205	P	Pn	11 27 43.6	+2.1
QZH				S	Sn	11 28 19.8	+3.9
QZH				SG	Sg	11 28 28.7	-1.0
QZH				Smax			
	comp=N,410nm,0.7s						
QZH				Smax			
	comp=E,500nm,0.8s						

*MOS **07** 11:33:33.9±1.4, 5500N×11157E, h27km, mb4.2/1, Error ellipse: s-maj=33.3km s-min=17.9km az=75.1*

BYKL 07 11:33:34.3±0.2, 5504N×11164E, h17km±4km, 6C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.32	239	⇓iPg	Pg	11 33 40.6	-0.5
	362nm,0.3s						
YLYR				⇓iPg	Pg	11 33 40.6	-0.5
	398nm,0.3s						
YLYR				⇑iPg	Pg	11 33 40.6	-0.5
	442nm,0.3s						
YLYR				iSg	Sg	11 33 45.5	-0.2
YLYR				Pmax			
	316nm,0.1s						
YLYR				Smax			
	3μm,0.1s						
YLYR	Ulyunkhan	0.32	239	⇑iPG	Pg	11 33 40.6	-0.5
YLYR		

NIZ				*e*Sg	Sg	11 34 19.1	-0.6
NIZ				Pmax			
	comp=N,74nm,0.2s						
NIZ				Smax			
	comp=N,336nm,0.4s						
NIZ	**Nizh Angarsk**	**1.41**	**302**	*e*PN	Pn	11 33 59.7	+0.6
NIZ				*e*		11 34 18.6	
NIZ				pmax	pmax		
	comp=Z,74nm,0.2s						
NIZ				smax			
	comp=N,336nm,0.4s						
SVKR	**Severomuysk**	**1.53**	**44**	*e*Pg	Pg	11 34 02.8	-1.0
SVKR				*e*Sg	Sg	11 34 23.7	-0.1
SVKR				Pmax			
	comp=N,67nm,0.1s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SVKR	**Severomuysk**	**1.53**	**44**	*e*PN	Pn	11 34 02.7	+1.8
SVKR				*e*		11 34 03.9	
SVKR				*e*		11 34 23.7	
SVKR				pmax	pmax		
	comp=Z,104nm,0.2s						
SVKR				smax			
	comp=N,2μm,0.8s						
SYVR	**Suvo**	**1.69**	**215**	*e*Pn	Pn	11 34 04.2	+1.2
SYVR				*e*Pg	Pg	11 34 04.7	-2.0
SYVR				*e*		11 34 08.5	
SYVR				*e*Sg	Sg	11 34 27.4	-1.2
SYVR				max			
	comp=N,24nm,0.4s						
SYVR				Smax			
	comp=N,147nm,0.3s						
MXMB	**Maximikha**	**2.46**	**225**	*e*Sg	Sg	11 34 51.4	-2.1
MXMB				Smax			
	comp=N,226nm,1.0s						
NLYR	**Nelyaty**	**2.72**	**56**	*e*Pn	Pn	11 34 18.3	+1.1
NLYR				*e*Pg	Pg	11 34 22.6	-3.8
NLYR				*e*Sn	Sn	11 34 50.6	+1.0
NLYR				*e*Sg	Sg	11 34 58.6	-3.1
NLYR				Pmax			
	comp=N,18nm,0.6s						
NLYR				Smax			
	comp=N,132nm,1.5s						
OGRR	**Ongureny**	**2.75**	**241**	*e*Pn	Pn	11 34 19.0	+1.4
OGRR				⇓*i*Pg	Pg	11 34 22.7	-4.3
OGRR				*e*Sn	Sn	11 34 52.0	+1.6
OGRR				*e*Sg	Sg	11 34 58.8	-3.9
OGRR				*e*SgSg		11 34 59.8	
OGRR				Pmax			
	comp=N,13nm,0.2s						
OGRR				max			
	comp=N,58nm,0.5s						
BOD	**Bodaibo**	**3.08**	**24**	*e*Pn	Pn	11 34 22.7	+0.6
BOD				*e*Pg	Pg	11 34 28.7	-4.6
BOD				*e*Sn	Sn	11 34 59.5	+0.9
BOD				*e*Sg	Sg	11 35 07.3	-6.0
BOD				Pmax			
	comp=N,9.0nm,0.6s						
BOD				Smax			
	comp=N,62nm,0.4s						
KELR	**Kotokel**	**3.11**	**224**	*e*	Pn	11 34 28.3	+5.8
KELR				*e*Pg	Pg	11 34 31.1	-2.8
KELR				*e*Sg	Sg	11 35 11.6	-2.5
CIT	**Chita**	**3.23**	**159**	Pg	Pg	11 34 32.4	-3.9
CIT				*e*Sg	Sg	11 35 13.5	-4.7
CIT				Pmax			
	comp=N,12nm,0.5s						
CIT				Smax			
	comp=N,74nm,0.6s						
ZRHB	**Zarechye**	**3.65**	**229**	*e*Pg	Pg	11 34 39.8	-4.3
ZRHB				*e*Sg	Sg	11 35 27.8	-3.6
ZRHB				Pmax			
	comp=N,13nm,0.7s						
ZRHB				Smax			
	comp=N,161nm,1.4s						
TRTB	**Turuntaevo**	**3.69**	**222**	*e*Pg	Pg	11 34 40.9	-4.1
TRTB				*e*Sg	Sg	11 35 29.8	-3.0
TRTB				Pmax			
	comp=N,4.0nm,0.6s						
TRTB				Smax			
	comp=N,42nm,1.2s						
CRS	**Chara**	**4.17**	**61**	*e*Pg	Pg	11 34 49.7	-4.4
CRS				*e*Sg	Sg	11 35 43.6	-4.4
CRS				Pmax			
	comp=N,10.0nm,0.8s						
CRS				Smax			
	comp=N,45nm,1.0s						
CRS	**Chara**	**4.17**	**61**	*e*PN	Pn	11 34 50.2	+13
CRS				*e*		11 35 43.4	
CRS				pmax	pmax		
	comp=Z,18nm,0.6s						
CRS				smax			
	comp=E,45nm,0.6s						
KAB	**Kabansk**	**4.22**	**227**	*e*Sg	Sg	11 35 45.0	-4.8
KAB				Smax			
	comp=E,132nm,1.4s						
HRMR	**Khuramsha**	**4.42**	**221**	*e*Pg	Pg	11 34 53.4	-5.6
HRMR				*e*Sg	Sg	11 35 51.9	-4.4
HRMR				Pmax			
	comp=E,10.0nm,0.4s						
HRMR				Smax			
	comp=E,123nm,0.4s						
TUP	**Tupik**	**4.86**	**94**	⇑*i*Pn	Pn	11 34 47.0	+0.4
TUP				*e*Pg	Pg	11 35 01.1	-6.2
TUP				*e*Sn	Sn	11 35 41.9	-0.5
TUP				*e*Sg	Sg	11 36 04.2	-6.1
TUP				Pmax			
	comp=E,7.0nm,0.5s						
TUP				Smax			
	comp=E,54nm,1.0s						
LSTR	**Listvyanka**	**5.16**	**235**	*e*Sg	Sg	11 36 13.8	-6.2
LSTR				Smax			
	comp=E,11nm,1.2s						
KPC	**Khapcheranga**	**5.36**	**175**	*e*Pn	Pn	11 34 53.8	+0.3
KPC				*e*Pg	Pg	11 35 09.8	-7.2
KPC				*e*Sg	Sg	11 36 20.3	-6.2
KPC				Pmax			
	comp=E,2.0nm,0.6s						
KPC				Smax			
	comp=E,27nm,0.7s						
TLY	**Talaya**	**5.85**	**238**	*e*Sg	Sg	11 36 33.8	-8.3
TLY				Smax			
	comp=E,18nm,1.3s						
ARS	**Arshan**	**6.33**	**244**	*e*Sg	Sn	11 36 47.5	+29
ARS				Smax			
	comp=E,45nm,1.0s						
MOY	**Mondy**	**7.21**	**246**	*e*Sg	Sn	11 37 17.0	+37
MOY				Smax			
	comp=E,10.0nm,1.0s						
ORL	**Orlik**	**7.44**	**255**	*e*Sg	Sn	11 37 24.9	+39
ORL				Smax			
	comp=E,8.0nm,0.7s						

ISCJB ***07*** *11:35:29.6±0.6, 4242N±003×14042E±004, h13km±4km, mb3.2/2, Error ellipse: s-maj=5.1km s-min=4.6km az=30.3*
JMA ***07*** *11:35:30.0, 4241N×14042E, h13km±1km, M3.5*
JMA Felt I J1.
IDC ***07*** *11:35:33.5±6.0, 4257N×14024E, h34km±60km, mb3.1/2, mb1 3.2/4, mb1mx3.0/23, mbtmp3.2/4, ML3.4/1, Error ellipse: s-maj=59.6km s-min=27.5km az=137.0*

ISC 07 11:35:29.8±0.5, 4242N±003×14042E±004, h13km±6km, n12, σ0°58/20, mb3.2/2, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	**Yakumo 2**	**0.30**	**187**	⇑P	**Pg**	**11 35 36.2**	**+0.2**
JYM2				*e*S	**Sg**	**11 35 40.6**	**+0.5**
JSH	**Shimam**	**0.35**	**310**	⇓P	**Pg**	**11 35 37.1**	**+0.2**
JSH				*e*S	**Sg**	**11 35 41.9**	**+0.2**
JNB	**Noboribetsu**	**0.46**	**83**	⇓P	**Pg**	**11 35 38.8**	**-0.1**
JNB				*e*S	**Sg**	**11 35 45.0**	**-0.1**
JKB	**Kayabe**	**0.70**	**139**	⇓P	**Pg**	**11 35 43.0**	**-0.4**
JKB				*e*S	**Sg**	**11 35 52.2**	**-0.4**
JOSM	**Okushiri--Mats**	**0.78**	**245**	⇓P	**Pg**	**11 35 44.5**	**-0.3**
JOSM				*e*S	**Sg**	**11 35 54.8**	**-0.1**
JEW	**Eniwo**	**0.87**	**61**	⇓P	**Pg**	**11 35 46.6**	**0.0**
JEW				*e*S	**Sg**	**11 35 58.2**	**+0.2**
JSR	**Shiriuchi**	**0.89**	**180**	⇓P	**Pg**	**11 35 46.6**	**-0.3**
JSR				*e*S	**Sg**	**11 35 58.5**	**0.0**
JSK	**Shakotan**	**0.94**	**3**	⇑P	**Pb**	**11 35 47.4**	**-0.4**
JSK				*e*S	**Sg**	**11 36 00.0**	**-0.1**
ASAJ	**Asahikawa**	**2.33**	**42**	Pn	**Pn**	**11 36 09.1**	**+1.4**
	1.3nm,0.3s,baz=243,slow=11,SNR=8.9						
MJAR	**Matsushiro Arr**	**6.11**	**197**	Pn	**Pn**	**11 37 02.9**	**+3.2**
	0.8nm,0.3s,baz=9.2,slow=15,SNR=7.4						
MKAR	**Makanchi Array**	**40.80**	**297**	P	**P**	**11 43 10.0**	**-0.8**
	0.3nm,0.7s,mb3.1,baz=82,slow=9.5,SNR=4.1						
YKA	**Yellowknife Ar**	**59.58**	**31**	P	**P**	**11 45 32.6**	**-0.5**
	0.2nm,0.6s,mb3.3,baz=310,slow=6.3,SNR=5.7						

ISCJB ***07*** *11:45:14.6±0.6, 6627N±004×14184W±009, h10km, Error ellipse: s-maj=5.6km s-min=5.5km az=169.8*
NEIC ***07*** *11:45:16.7, 6622N×14222W, h10km, ML2.5(AEIC), After AEIC.*
PGC ***07*** *11:45:20.0, 6620N×14179W, h10km, ML2.4/2, Eastern Alaska.*

ISC 07 11:45:16.4±0.5, 6628N±004×14204W±009, h10km, n12, σ1°13/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.53**	**320**	P	**Pn**	**11 45 42.9**	**-0.9**
BM3				S	**Sn**	**11 46 05.1**	**+1.3**
DAWY	**Dawson**	**2.49**	**152**	Pn	**Pn**	**11 45 58.0**	**+1.1**
DAWY				Sn	**Sn**	**11 46 28.1**	**+0.8**
DAWY				Sg	**Sg**	**11 46 34.7**	**-1.6**
DAWY				Trac		11 46 39.6	
	comp=Z,6.0nm,0.1s						
IL1	**Eielson Array**	**2.52**	**235**	P	**Pn**	**11 45 56.9**	**-0.6**
COLA	**College**	**2.80**	**242**	P	**Pn**	**11 46 00.4**	**-0.9**
COLD	**Coldfoot**	**3.38**	**290**	P	**Pn**	**11 46 09.5**	**+0.3**
MENT	**Mentasta**	**3.43**	**193**	P	**Pn**	**11 46 10.8**	**+0.9**
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**11 46 18.2**	**+2.1**
INK				Sn	**Sn**	**11 47 01.6**	**-0.1**
INK				Sg	**Sg**	**11 47 19.8**	**-1.2**
INK				Trac		11 47 33.5	
	comp=Z,8.0nm,0.8s						
MCK	**McKinley**	**3.89**	**232**	P	**Pn**	**11 46 15.9**	**-0.3**
IM3	**Indian Mountai**	**4.77**	**272**	P	**Pn**	**11 46 26.8**	**-1.6**
HYT	**Haines Junctio**	**5.83**	**158**	Pn	**Pn**	**11 46 44.9**	**+1.9**
HYT				Sg	**Sg**	**11 48 17.1**	**-6.6**
HYT				Trac		11 48 23.2	
	comp=Z,3.0nm,0.5s						
WHY	**Whitehorse**	**6.48**	**147**	Sg	**Sg**	**11 48 36.8**	**-7.7**
YKW3	**Yellowknife Ar**	**12.36**	**95**	P	**Pn**	**11 48 11.7**	**-0.7**
YKW3				Sn	**Sn**	**11 50 17.8**	**-12**
YKW3				Trac		11 50 42.3	

NAO ***07*** *11:49:56.7, 4710N×15834E, h33km, mb5.1*
SKHL ***07*** *11:50:05.8±2.5, 4841N×15694E, h44km±5km, mb5.9/5, mbh5.6, Ms4.5/7, msh5.3/2*
MOS ***07*** *11:50:05.8±1.0, 4849N×15667E, h35km, mb5.3/50, MS4.2/11, Error ellipse: s-maj=8.0km s-min=4.2km az=91.5*
ISCJB ***07*** *11:50:05.3±0.5, 4843N±003×15676E±004, h35km±4km, mb4.9/119, MS4.2/33, Error ellipse: s-maj=5.1km s-min=3.3km az=110.9*
KRSC ***07*** *11:50:06.8±1.5, 4842N×15720E, h40km±7km, ML5.6*
BJI ***07*** *11:50:06.2, 4815N×15632E, h29km, mB5.1, mb4.7, Ms4.7, Msz4.2*
HRVD ***07*** *11:50:07.8±0.7, 4835N×15686E, h50km±1km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s35,c42;Mantle waves: s50,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.40±.24; $M_{\theta\theta}$-1.13±.17; $M_{\phi\phi}$-2.27±.16; $M_{r\theta}$0.80±.12; $M_{\theta\phi}$-1.76±.10; $M_{\phi r}$0.22±.12; Best double couple: $M_0$3.57500×10^{16} NP1:ϕ_s207.00000°, δ40.00000°, λ77.00000°. NP2: ϕ_s45.00000°, δ51.00000°, λ101.00000°. Principal axes: T 3.5390, Plg80.0000°, Azm5.0000°; N 0.0720, Plg9.0000°, Azm218.0000°; P -3.6120, Plg5.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *11:50:07.8±0.2, 4842N×15674E, mb5.1/64, MS4.4/6 Error ellipse: s-maj=6.2km s-min=3.7km az=168.0*
IDC ***07*** *11:50:08.7±2.8, 4842N×15671E, h52km±25km, mb4.4/28, mb1 4.5/31, mb1mx4.5/33, mbtmp4.6/31, ML4.4/3, MS4.1/15, Ms1 4.1/15, ms1mx3.7/35, Error ellipse: s-maj=14.1km s-min=10.0km az=156.0*
SZGRF ***07*** *11:50:11.3, 4858N×15670E, h51km, mb5.5, MS4.4, East of Kuril Islands, Russia*

ISC 07 11:50:08.0±0.5, 4845N±003×15670E±004, h44km±3km, h43km±1.5km: pP-P, n362, σ1°09/395, mb4.9/119, MS4.2/33, 11C-15D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.27**	**351**	*i*P	**Pn**	**11 50 40.0**	**-3.0**
SKR				AMB	AMB	11 50 41.0	
	3μm,2.0s						
SKR				AMB	AMB	11 50 41.0	
	6μm,2.0s						
SKR				AMB	AMB	11 50 41.0	
	4μm,2.0s						
SKR				AMB	AMB	11 50 41.0	
	2μm,2.0s						
SKR				AMB	AMB	11 50 41.0	
	5μm,2.0s						
SKR				AMB	AMB	11 50 46.0	
	1μm,0.5s						
SKR				AMB	AMB	11 50 46.0	
	1μm,0.5s						
SKR				AMB	AMB	11 50 46.0	
	2μm,0.5s						
SKR				pP		11 50 53.0	
SKR				⇓*i*S	**Sn**	**11 51 06.5**	**-3.2**
SKR				A		11 51 08.0	
	10μm,0.6s						
SKR				A		11 51 08.0	
	8μm,0.6s						
SKR				A		11 51 08.0	
	2μm,0.6s						
SKR				A		11 51 08.0	
	16μm,4.0s						
SKR				A		11 51 08.0	
	18μm,4.0s						
SKR				A		11 51 08.0	
	15μm,4.0s						
SKR				AMS	AMS	11 51 42.0	
	6μm,6.0s						
SKR				AMS	AMS	11 51 42.0	
	7μm,6.0s						
SKR				AMS	AMS	11 51 42.0	
	8μm,6.0s						
SKR				AMS	AMS	11 51 42.0	
	8μm,6.0s						
SKR				AMS	AMS	11 51 42.0	
	8μm,10.0s						
ALID	**Alaid**	**2.53**	**343**	*e*P	**Pn**	**11 50 48.3**	**+1.7**
ALID				*e*S	**Sn**	**11 51 18.3**	**+2.1**
PAU	**Pauzhetka**	**3.02**	**1**	*i*P	**Pn**	**11 50 53.9**	**+0.6**
PAU				*i*S	**Sn**	**11 51 28.2**	**0.0**
PAU	**Pauzhetka**	**3.02**	**1**	*i*P	**Pn**	**11 50 54.5**	**+1.2**
PAU				*i*S	**Sn**	**11 51 28.9**	**+0.7**
PAU				Smax			
	5μm,0.2s						
MIPR	**Malaya Ipel'ka**	**3.83**	**1**	*e*P	**Pn**	**11 51 05.7**	**+1.3**
MIPR				*i*S	**Sn**	**11 51 49.2**	**+1.0**
RUS	**Russkaya**	**4.15**	**16**	P	**Pn**	**11 51 08.4**	**-0.5**
RUS				S	**Sn**	**11 51 53.0**	**-3.1**
RUS	**Russkaya**	**4.15**	**16**	*i*P	**Pn**	**11 51 08.4**	**-0.5**
RUS				*e*S	**Sn**	**11 51 52.8**	**-3.3**
GRL	**Gorelyy**	**4.20**	**12**	*i*P	**Pn**	**11 51 10.5**	**+1.0**
GRL				*e*S	**Sn**	**11 51 54.7**	**-2.6**
KRMR	**Karymshinskiy**	**4.48**	**11**	*i*P	**Pn**	**11 51 13.3**	**0.0**
KRMR				*e*S	**Sn**	**11 52 03.6**	**-0.6**
APC	**Apacha**	**4.49**	**4**	*e*P	**Pn**	**11 51 14.9**	**+1.4**
APC				*e*S	**Sn**	**11 52 03.6**	**-0.8**
APC				Smax			
	410nm,0.9s						
PET	**Petropavlovsk**	**4.74**	**14**	P	**Pn**	**11 51 17.2**	**+0.2**
PET				S	**Sn**	**11 52 08.0**	**-2.7**
PET	**Petropavlovsk**	**4.74**	**14**	⇓*i*P	**Pn**	**11 51 17.1**	**+0.1**
PET				⇓*i*P		11 51 17.2	
PET				AMB	AMB	11 51 18.0	
	110nm,0.5s						
PET				*e*S	**Sn**	**11 52 09.0**	**-1.7**
PET				A		11 52 11.2	
	2μm,1.0s						
PET				A		11 52 12.8	
	1μm,0.5s						
PET				A		11 52 12.8	
	2μm,0.5s						
PET				AMS	AMS	11 52 56.6	
	2μm,20.0s						
PET	**Petropavlovsk**	**4.74**	**14**	*e*P	**Pn**	**11 51 17.1**	**+0.1**
PET				*e*S	**Sn**	**11 52 08.3**	**-2.4**
PET	**Petropavlovsk**	**4.74**	**14**κ	*i*PN	**Pn**	**11 51 17.1**	**+0.1**
PET				pmax	pmax		
	comp=Z,108nm,0.5s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**4.74**	**14**	*e*Pn	**Pn**	**11 51 17.2**	**+0.2**
PET				*e*Sn	**Sn**	**11 52 08.9**	**-1.8**
UGLR	**Uglovaya**	**4.95**	**15**	*i*P	**Pn**	**11 51 20.6**	**+0.8**
UGLR				*e*S	**Sn**	**11 52 12.4**	**-3.4**
AVH	**Avacha**	**4.99**	**14**	*e*P	**Pn**	**11 51 21.6**	**+1.2**
AVH				*e*S	**Sn**	**11 52 15.3**	**-1.5**
SMAR	**Somma**	**5.00**	**15**	*e*P	**Pn**	**11 51 21.1**	**+0.6**
SMAR				*e*S	**Sn**	**11 52 15.8**	**-1.2**
KOK	**Koryaka**	**5.00**	**13**	*i*P	**Pn**	**11 51 22.1**	**+1.6**
KOK				*e*S	**Sn**	**11 52 17.6**	**+0.6**
NLC	**Nalytchevo**	**5.01**	**19**	P	**Pn**	**11 51 19.3**	**-1.4**
NLC				S	**Sn**	**11 52 10.4**	**-7.0**
NLC	**Nalytchevo**	**5.01**	**19**	*e*P	**Pn**	**11 51 19.4**	**-1.3**
NLC				*e*S	**Sn**	**11 52 12.7**	**-4.7**
SPN	**Mys Shipunski**	**5.11**	**23**	P	**Pn**	**11 51 22.0**	**0.0**
SPN				S	**Sn**	**11 52 16.0**	**-3.7**
SPN	**Mys Shipunski**	**5.11**	**23**	*e*P	**Pn**	**11 51 22.0**	**0.0**
SPN				*i*S	**Sn**	**11 52 16.8**	**-2.9**
GNL	**Ganaly**	**5.31**	**8**	*i*P	**Pn**	**11 51 26.5**	**+1.8**
GNL				*e*S	**Sn**	**11 52 23.9**	**-0.7**
KUR	**Kuril'sk**	**6.86**	**245**	*i*P	**Pn**	**11 51 44.5**	**-1.5**
KUR				AMB	AMB	11 52 09.6	
	comp=Z,140nm,0.9s						
KUR				AMB	AMB	11 52 09.6	
	comp=Z,270nm,0.9s						
KUR				*e*S	**Sn**	**11 53 01.3**	**-1.4**
KUR				A		11 53 02.0	
	comp=Z,90nm,0.7s						
KUR				A		11 53 02.0	
	comp=Z,170nm,0.7s						
MKZ	**Mys Kozlova**	**6.87**	**25**	P	**Pn**	**11 51 45.4**	**-0.8**
MKZ				S	**Sn**	**11 52 56.8**	**-6.3**
MKZ	**Mys Kozlova**	**6.87**	**25**	*e*P	**Pn**	**11 51 45.4**	**-0.8**
MKZ				*e*S	**Sn**	**11 52 56.7**	**-6.4**
TUMR	**Tumrok**	**7.17**	**16**	*i*P	**Pn**	**11 51 51.5**	**+1.3**
ESO	**Esso**	**7.59**	**9**	*e*P	**Pn**	**11 51 56.8**	**+0.8**
ESO				Smax			
	comp=Z,180nm,1.1s						
KPT	**Kopyto**	**7.83**	**15**	*e*P	**Pn**	**11 52 00.2**	**+0.9**
KOZ	**Kozyrevsk**	**7.86**	**13**	P	**Pn**	**11 52 00.8**	**+1.0**
KOZ	**Kozyrevsk**	**7.86**	**13**	*e*P	**Pn**	**11 52 01.0**	**+1.2**
KOZR	**Kozyr**	**7.88**	**13**	PN	**Pn**	**11 52 00.8**	**+0.9**
ZLN	**Zelenaya**	**7.99**	**17**	*e*P	**Pn**	**11 52 02.7**	**+1.3**
CIRR	**Tsirk**	**8.07**	**16**	*e*P	**Pn**	**11 52 04.4**	**+1.8**
SRDR	**Sredinnyy**	**8.09**	**12**	*e*P	**Pn**	**11 52 05.1**	**+2.2**
KLY	**Klyuchi**	**8.24**	**16**	P	**Pn**	**11 52 06.3**	**+1.4**
KLY	**Klyuchi**	**8.24**	**16**	*e*P	**Pn**	**11 52 06.2**	**+1.3**
KLY				*e*S	**Sn**	**11 53 36.0**	**-0.6**
BDR	**Baidarnaya**	**8.58**	**17**	*i*P	**Pn**	**11 52 10.7**	**+1.1**
KBTR	**Krutoberegovo**	**8.62**	**23**	*e*P	**Pn**	**11 52 09.4**	**-0.8**
KBTR				*e*S	**Sn**	**11 53 39.6**	**-6.5**
KBG	**Krutoberegovo**	**8.63**	**23**	*e*P	**Pn**	**11 52 09.8**	**-0.5**
KBG				*e*S	**Sn**	**11 53 42.3**	**-4.1**
KBG				Smax			
	comp=Z,700nm,1.3s						
SRKR	**Sorokina**	**8.65**	**17**	*e*P	**Pn**	**11 52 11.2**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**8.71**	**244**	*e*P	**Pn**	**11 52 10.5**	**-0.9**
YUK				AMB	AMB	11 52 12.2	
	comp=Z,120nm,0.3s						
YUK				AMB	AMB	11 52 12.2	
	comp=Z,180nm,0.3s						
YUK				*e*S	**Sn**	**11 53 43.6**	**-4.7**
YUK				A		11 53 50.9	
	comp=Z,290nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**8.71**	**244**	*e*PN	**Pn**	**11 52 10.5**	**-0.9**
YUK				pmax	pmax		
	comp=Z,180nm,0.3s						
YUK				pmax	pmax		
	comp=E,120nm,0.4s						
BKI	**Bering**	**8.87**	**37**	*e*P	**Pn**	**11 52 12.1**	**-1.4**
BKI				*e*S	**Sn**	**11 53 40.6**	**-11**
BKI				Smax			
	comp=E,200nm,0.3s						
TYV	**Tymovskoe**	**9.43**	**290**	*e*P	**Pn**	**11 52 24.0**	**+2.8**
TYV				AMB	AMB	11 52 25.0	
	comp=E,600nm,2.0s						
TYV				AMB	AMB	11 52 25.0	
	comp=E,44nm,1.0s						
TYV				AMB	AMB	11 52 25.0	
	comp=E,69nm,1.0s						
TYV				AMB	AMB	11 52 25.0	
	comp=E,500nm,6.0s						
TYV				*e*S	**Sn**	**11 54 05.0**	**-0.8**
TYV				A		11 54 22.0	
	comp=E,500nm,16.0s						
TYV				A		11 54 22.0	
	comp=E,600nm,16.0s						
TYV				AMS	AMS	11 57 32.0	
	comp=E,1μm,14.0s						
TYV				AMS	AMS	11 57 32.0	
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.52**	**266**	⇓*i*P	**Pn**	**11 52 26.0**	**+3.5**
YSS				⇓*i*P		11 52 26.0	
YSS				AMB	AMB	11 52 27.7	
	comp=E,120nm,0.8s						
YSS				*e*pP		11 52 40.0	
YSS				*e*S	**Sn**	**11 54 05.6**	**-2.6**
YSS				AMS	AMS	11 56 05.0	
	comp=E,500nm,13.0s						
YSS				AMS	AMS	11 56 05.0	
	comp=E,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**9.52**	**266**κ	*i*PN	**Pn**	**11 52 26.0**	**+3.5**
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				MLR	MLR		
	comp=E,400nm,18.0s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS				MLR	MLR		
	comp=N,500nm,13.0s						
UGL	**Uglegorsk**	**9.69**	**279**	*i*P	**Pn**	**11 52 29.2**	**+4.4**
UGL				*e*P		11 52 29.2	
UGL				AMB	AMB	11 52 30.0	
	comp=N,120nm,0.8s						
UGL				AMB	AMB	11 52 30.0	
	comp=N,600nm,4.0s						
UGL				AMS	AMS	11 56 00.0	
	comp=N,2μm,16.0s						
UGL				AMS	AMS	11 56 00.0	
	comp=N,800nm,20.0s						
UGL				AMS	AMS	11 56 00.0	
	comp=N,1μm,20.0s						
OKH	**Okha**	**10.06**	**306**	*e*P	**Pn**	**11 52 30.2**	**+0.3**
OKH				*e*P		11 52 30.5	
OKH				AMB	AMB	11 52 31.0	
	comp=N,100nm,0.9s						
OKH				AMB	AMB	11 52 32.0	
	comp=N,1μm,8.0s						
OKH				*e*S	**Sn**	**11 54 24.8**	**+3.4**
OKH				*e*S	**Sn**	**11 54 26.0**	**+4.6**
OKH				AMS	AMS	11 57 53.8	
	comp=N,2μm,10.0s						
OKH				AMS	AMS	11 57 53.8	
	comp=N,2μm,10.0s						
OKH				AMS	AMS	11 57 53.8	
	comp=N,3μm,14.0s						
OKH	**Okha**	**10.06**	**306**	*e*PN	**Pn**	**11 52 30.2**	**+0.3**
OKH				*e*S	**Sn**	**11 54 26.0**	**+4.6**
OKH				pmax	pmax		
	comp=Z,1μm,8.0s						
OKH				smax			
	comp=Z,2μm,10.0s						
ASAJ	**Asahikawa**	**10.68**	**251**	P	**Pn**	**11 52 39.5**	**+1.2**
	comp=Z,3.8nm,0.3s,baz=89,slow=13,SNR=24						
ASAJ				LR	LR	11 57 05.9	
	comp=Z,543nm,19.8s,baz=16,slow=39						
ASAJ	**Asahikawa**	**10.68**	**251**	PN	**Pn**	**11 52 39.5**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,543nm,19.8s						
NKL	**Nikolayevsk**	**11.17**	**301**	*e*P	**Pn**	**11 52 43.0**	**-2.0**

NKL AMB AMB 11 52 44.5
comp=Z,60nm,1.2s
NKL AMB AMB 11 52 44.5
comp=Z,16nm,1.0s
NKL AMB AMB 11 52 45.0
comp=Z,800nm,4.0s
NKL AMB AMB 11 52 45.0
comp=Z,900nm,4.0s
NKL *e*rx rx 11 55 18.0
NKL AMS AMS 11 58 54.0
comp=Z,700nm,15.0s
NKL AMS AMS 11 58 54.0
comp=Z,900nm,15.0s
FX1 Attu Island--F 11.35 61 P **Pn 11 52 47.3 -0.1**
comp=Z,14nm,0.3s,baz=91,slow=11,SNR=13
FX1 Attu Island--F 11.35 61 PN **Pn 11 52 47.3 -0.1**
FX1 pmax pmax
comp=Z,14nm,0.3s
FX1 Attu Island--F 11.35 61 *e*Pn **Pn 11 52 47.4 -0.1**
FX1 *e*Sn **Sn 11 54 43.3 -9.5**
MA2 Magadan 11.67 345 *d i*PN **Pn 11 52 52.2 +0.3**
MA2 pmax pmax
comp=Z,40nm,0.7s
MA2 pmax pmax
comp=N,20nm,0.8s
MA2 MLR MLR
comp=Z,800nm,20.0s
MA2 Magadan 11.67 345 *e*Pn **Pn 11 52 52.5 +0.6**
comp=Z,69nm,0.6s
MA2 *ep*Pn 11 53 01.5
GRNR Gornyy 13.35 288 *e*P **Pn 11 53 13.1 -1.7**
GRNR AMB AMB 11 53 13.8
comp=Z,42nm,1.0s
HABR Khabarovsk 14.36 278 *i* P **Pn 11 53 29.0 +0.4**
HABR *e* 11 56 06.7
HABR pmax pmax
comp=Z,60nm,1.4s
SEY Seymchan 14.71 352 *e*P **Pn 11 53 33.0 -0.3**
SEY pmax pmax
comp=N,20nm,1.1s
SEY pmax pmax
comp=Z,30nm,1.1s
SEY pmax pmax
comp=E,8.0nm,0.8s
KAMR Kamenskoye 15.01 17 *e*P **Pn 11 53 37.2 0.0**
KAMR Smax
comp=E,40nm,1.1s
EKMR Ekimchan 15.69 296 *e*P **Pn 11 53 43.0 -3.0**
EKMR AMB AMB 11 54 07.5
comp=E,19nm,0.5s
KLR Kul'dur 16.43 282 *e*P **Pn 11 53 54.2 -1.2**
KLR *e*P 11 53 54.5
KLR AMB AMB 11 53 55.7
comp=E,74nm,1.6s
KLR AMB AMB 11 53 55.7
comp=E,62nm,1.6s
KLR AMS AMS 12 01 56.0
comp=E,2µm,14.0s
KLR AMS AMS 12 01 56.0
comp=E,4µm,14.0s
MJAR Matsushiro Arr 18.04 236 P **Pn 11 54 16.1 +0.7**
comp=E,0.4nm,0.3s,baz=36,slow=8.9,SNR=12
MAJO Matsushiro 18.04 236 *e*P **Pn 11 54 10.7 -4.7**
MAT Matsushiro 18.04 236 P **Pn 11 54 16.2 +0.8**
MAT S **S 11 57 37.0 -3.0**
MAT Matsushiro 18.04 236 *e*P **Pn 11 54 17.0 +1.6**
MAT *e*S **S 11 57 37.0 -3.0**
MAT pmax pmax
comp=Z,14nm,0.7s
MAT Matsushiro 18.04 236 *e*P **Pn 11 54 17.0 +1.6**
comp=Z,14nm,0.7s
MAT *e*S **S 11 57 37.0 -3.0**
MDJ Mudanjiang 19.00 269 P **Pn 11 54 23.7 -3.2**
MDJ AP pP 11 54 31.8 -4.6
MDJ XP sP 11 54 37.6 -4.3
MDJ S **S 11 57 55.6 -3.7**
MDJ PCP PcP 11 58 49.3 -0.5
MDJ SCP ScP 12 02 20.5 -1.5
MDJ AMB AMB
comp=Z,13nm,1.7s
MDJ AMB AMB
comp=Z,243nm,4.9s
ZEA Zeya 19.16 297 *e*P **Pn 11 54 25.7 -3.1**
ZEA AMB AMB 11 54 28.1
comp=Z,37nm,1.5s
ZEA AMB AMB 11 54 28.1
comp=Z,48nm,1.5s
ZEA pP pP 11 54 35.7 -2.4
ZEA *e*rx rx 12 03 45.0
KROS Kirovskiy 19.38 299 *e*P **Pn 11 54 26.9 -4.6**
KROS AMB AMB 11 54 29.1
comp=Z,3.0nm,0.6s
BILL Bilibino 20.23 10⇑ *i*P **P 11 54 39.1 -0.3**
BILL *e**PP 11 54 50.3
BILL *e**SP sP 11 54 57.8 +2.4
BILL *e*S **S 11 58 20.5 -3.4**
BILL pmax pmax
comp=Z,162nm,1.5s
BILL MLR MLR
comp=Z,800nm,20.0s,MS4.1
BILL Bilibino 20.23 10 *e*P **P 11 54 39.0 -0.3**
comp=Z,102nm,0.9s
BILL *ep*P 11 54 50.6
YAK Yakutsk 20.34 322 *c i*P **P 11 54 38.9 -1.6**
YAK *e**PP 11 54 50.2
YAK *e*S **S 11 58 21.0 -5.1**
YAK *e* 11 58 50.0
YAK *e**SS sS 11 58 54.7 +12
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,11nm,1.5s
YAK smax
comp=N,24nm,1.1s
YAK smax
comp=Z,8.0nm,0.9s
YAK smax
comp=E,21nm,1.3s
YAK Yakutsk 20.34 322 *e*P **P 11 54 38.8 -1.7**
comp=E,54nm,0.6s
YAK *ep*P 11 54 50.4
YAK *ep*Pn 11 54 53.1
CLNS Chul'man 20.88 306 *e*P Px 11 55 01.8
CLNS *e**PP pP 11 55 07.5 +11
CLNS *e* 11 55 11.7
CLNS *e*S **S 11 58 26.3 -10**
CLNS *e*SS 11 59 02.8
CLNS pmax pmax
comp=E,29nm,1.0s
CLNS pmax pmax
comp=Z,56nm,1.0s
CLNS pmax pmax
comp=N,23nm,0.8s
CLNS smax
comp=N,78nm,12.0s
CLNS smax
comp=Z,108nm,13.3s
CLNS smax
comp=E,311nm,14.2s
CLNS MLR MLR
comp=Z,600nm,14.0s,MS4.1
CLNS MLR MLR
comp=N,100nm,19.0s
CLNS MLR MLR
comp=E,300nm,12.0s
CN2 Changchun 22.07 270 *e*P **P 11 55 00.5 +1.4**
CN2 *e*XP sP 11 55 15.5 +0.2
CN2 *e*S **S 11 58 56.5 -3.4**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.1
CN2 LR LR
comp=E,500nm,16.0s,MS4.1
CN2 LR LR
comp=Z,500nm,21.0s,MS3.9
CBIJ Chichi jima 24.13 213 P **P 11 55 19.8 0.0**
comp=Z,101nm,0.9s,mb5.2,baz=284,slow=17,SNR=3.6
CBIJ LR LR 12 04 52.1
comp=Z,88nm,19.4s,MS3.2,baz=105,slow=37
TNA Tin City 25.26 34 *e*P **P 11 55 30.6 +0.6**
comp=Z,25nm,1.0s,mb4.7
TIXI Tiksi 26.59 341⇑ *e*P **P 11 55 40.9 -1.2**
TIXI pmax pmax
comp=Z,37nm,1.4s,mb4.7
TIXI MLR MLR
comp=Z,300nm,20.0s,MS3.8
BOD Bodaibo 26.85 307 *e*P **P 11 55 42.0 -2.4**
BOD *e* 11 55 56.4
IMA2 Indian Mountai 30.99 37 *e*P **P 11 56 20.5 -0.7**
IMA2 *ep*P pP 11 56 30.0 -2.9
KDAK Kodiak Island 31.14 53 P **P 11 56 21.4 -1.1**
comp=Z,18nm,0.9s,mb4.9,baz=295,slow=4.0,SNR=5.5
SSE Sheshan 31.97 250 P **P 11 56 26.8 -3.0**
SSE AP pP 11 56 37.7 -3.8
SSE XP sP 11 56 43.1 -3.7
SSE PP PP 11 57 39.2 -3.3
SSE S **S 12 01 35.6 -2.5**
SSE XS sS 12 01 54.6 -3.2
SSE AMB AMB
comp=Z,25nm,1.1s,mb5.0
SSE AMB AMB
comp=Z,278nm,5.5s
SSE LR LR
comp=N,152nm,26.9s,MS3.6
SSE LR LR
comp=E,109nm,26.9s,MS3.6
SSE LR LR
comp=Z,188nm,28.0s,MS3.6
HHC Hu-ho-hao-te 32.60 274 *e*P **P 11 56 36.4 +1.1**
HHC AP pP 11 56 47.5 +0.4
HHC XP sP 11 56 53.5 +1.2
HHC PP PP 11 57 46.3 -3.2
HHC PCP PcP 11 59 21.0 +0.2
HHC S **S 12 01 49.6 +1.6**
HHC SCP ScP 12 03 00.3 -0.8
HHC SCS ScS 12 06 57.7 -3.0
HHC AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,128nm,7.2s
HHC LR LR
comp=N,304nm,16.8s,MS4.3
HHC LR LR
comp=E,351nm,15.6s,MS4.3
HHC LR LR
comp=Z,398nm,18.0s,MS4.2
ULN Ulaanbaatar 32.66 288 P **P 11 56 34.8 -1.0**
ULN *e**PP pP 11 56 46.9 -0.7
ULN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ULN Ulaanbaatar 32.66 288 P **P 11 56 34.8 -1.0**
comp=Z,5.5nm,1.0s,mb4.4
ULN *ep*P pP 11 56 46.9 -0.7
MCK McKinley 32.77 42 *e*P **P 11 56 36.2 -0.6**
MCK *e**PP pP 11 56 45.4 -3.2
MCK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MCK McKinley 32.77 42 *e*P **P 11 56 36.2 -0.6**
comp=Z,5.2nm,1.2s,mb4.3
MCK *ep*P pP 11 56 45.4 -3.2
NJ2 Nanjing 32.81 254 *e*P **P 11 56 36.2 -0.9**
NJ2 AP pP 11 56 45.3 -3.6
NJ2 XP sP 11 56 49.6 -4.5
NJ2 PP PP 11 57 45.0 -6.8
NJ2 S **S 12 01 48.0 -3.2**
NJ2 XS sS 12 02 05.0 -5.9
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,310nm,5.5s
NJ2 LR LR
comp=N,680nm,16.0s,MS4.6
NJ2 LR LR
comp=E,720nm,15.4s,MS4.6
NJ2 LR LR
comp=Z,340nm,17.6s,MS4.1
SML Sawmill 33.05 45 *e*P **P 11 56 38.4 -0.9**
SONM Songino Array 33.08 288 P **P 11 56 39.2 -0.3**
comp=Z,0.3nm,0.4s,baz=77,slow=8.9,SNR=7.9
SONM PcP PcP 11 59 21.6 -0.6
comp=Z,1.1nm,0.7s,baz=78,slow=1.6,SNR=4.7
SONM LR LR 12 10 56.4
comp=Z,540nm,20.6s,baz=170,slow=38
SONM Songino Array 33.08 288 P **P 11 56 39.2 -0.3**
SONM 11 59 21.6
COLA College 33.29 40 *e*P **P 11 56 41.3 0.0**
COLA *e**PP pP 11 56 50.5 -2.6
COLA pmax pmax
comp=Z,27nm,0.9s,mb5.2
COLA College 33.29 40 *e*P **P 11 56 41.3 0.0**
comp=Z,28nm,0.9s,mb5.2
COLA *ep*P pP 11 56 50.5 -2.6
ILAR Eielson Array 33.70 40 P **P 11 56 44.0 -0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=249,slow=7.9,SNR=24
ILAR LR LR 12 10 17.4
comp=Z,174nm,19.5s,MS3.8,baz=100,slow=36
ZAK Zakamensk 34.19 294 *e*P **P 11 56 49.1 0.0**
ZAK pmax pmax
comp=Z,15nm,1.6s,mb4.7
DIV Divide 34.32 47 *e*P **P 11 56 49.3 -1.0**
INK Inuvik 38.90 34 P **P 11 57 29.6 +0.3**
comp=Z,11nm,0.9s,mb4.6,baz=290,slow=7.1,SNR=33
INK LR LR 12 14 31.8
comp=Z,191nm,21.3s,MS3.9,baz=68,slow=38
LZH Lanzhou 40.25 272 *e*P **P 11 57 42.2 +1.6**
LZH AP pP 11 57 53.5 +1.0
LZH XP sP 11 57 57.0 -0.7
LZH PP PP 11 59 18.7 +5.0
LZH *e*S **S 12 03 47.0 +2.3**
LZH SS SS 12 06 33.0 -11
LZH AMB AMB
comp=Z,46nm,1.6s,mb5.0
LZH AMB AMB
comp=Z,230nm,4.3s
LZH LR LR
comp=E,479nm,13.0s
LZH LR LR
comp=Z,890nm,14.4s,MS4.8
GTA Gaotai 41.10 279 *e*P **P 11 57 49.5 +2.0**
GTA AP pP 11 57 59.2 -0.3
GTA XP sP 11 58 04.1 -0.6
GTA PP PP 11 59 27.1 +4.2
GTA PCP PcP 11 59 46.9 +0.4
GTA SCP ScP 12 03 36.5 +3.9
GTA PCS PcS 12 03 39.8 +2.3
GTA S **S 12 04 01.5 +4.2**
GTA XS sS 12 04 16.7 -0.7
GTA SS SS 12 06 57.5 -3.4
GTA SCS ScS 12 07 50.2 +2.0
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.1
GTA AMB AMB
comp=Z,76nm,5.7s
GTA LR LR
comp=N,184nm,16.8s,MS4.1
GTA LR LR
comp=E,160nm,19.9s,MS4.1
GTA LR LR
comp=Z,215nm,22.5s,MS4.0
CD2 Chengdu 43.43 266⇑ *i*P **P 11 58 06.9 +0.4**
CD2 AP pP 11 58 16.8 -1.8
CD2 XP sP 11 58 20.7 -3.0
CD2 PP PP 11 59 50.1 +2.1
CD2 XS sS 12 04 48.6 -3.2
CD2 SS SS 12 07 39.6 -7.2
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
CD2 AMB AMB
comp=Z,60nm,12.0s
CD2 LR LR
comp=E,130nm,18.0s
CD2 LR LR
comp=Z,130nm,18.0s,MS3.9
ZAL Zalesovo 43.61 305 P **P 11 58 07.2 -0.7**
comp=Z,2.1nm,0.3s,mb4.3,baz=35,slow=7.5,SNR=5.6
ZAL PcP PcP 11 59 54.3 -0.5
comp=Z,1.7nm,0.4s,baz=333,slow=5.2,SNR=8.0
ZAL LR LR 12 17 32.6
comp=Z,222nm,21.3s,MS4.0,baz=56,slow=38
ZAL Zalesovo 43.61 305 P **P 11 58 07.3 -0.7**
ZAL 11 59 54.3
NVS Novosibirsk 44.09 307 *e*P **P 11 58 10.7 -1.1**
NVS *e* 11 59 52.0
NVS pmax pmax
comp=Z,16nm,1.8s,mb4.5
NVS pmax pmax
comp=E,10.0nm,1.4s
BBB Bella Bella 46.15 56 LR LR 12 15 32.9
comp=E,196nm,20.9s,MS4.0,baz=268,slow=33
WMQ Urumqi 46.57 291 P **P 11 58 33.0 +1.6**
WMQ AP pP 11 58 43.0 -0.6
WMQ XP sP 11 58 47.0 -1.7
WMQ PP PP 12 00 22.0 +0.7
WMQ S **S 12 05 19.0 +1.9**
WMQ SS SS 12 08 38.0 -5.4
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,112nm,5.0s
WMQ LR LR
comp=N,312nm,10.0s,MS4.6
WMQ LR LR
comp=E,211nm,10.0s,MS4.6
WMQ LR LR
comp=Z,197nm,10.0s,MS4.4
QIZ Qiongzhong 47.74 249 *e*P **P 11 58 40.1 -0.4**
QIZ *e*S **S 12 05 35.2 +1.5**
QIZ LR LR
comp=E,114nm,26.9s
QIZ LR LR
comp=Z,127nm,26.3s,MS3.8
ALE Alert 47.80 6 P **P 11 58 41.0 0.0**
comp=Z,83nm,0.5s,mb6.0,SNR=10.0
KMI Kunming 47.92 261 P **P 11 58 40.7 -1.3**
KMI AP pP 11 58 51.2 -3.0
KMI PP PP 12 00 32.2 -1.9
KMI S **S 12 05 36.9 +0.5**
KMI SS SS 12 08 56.7 -8.7
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.8
KMI AMB AMB
comp=Z,103nm,3.5s
KMI LR LR
comp=N,197nm,14.3s,MS4.4
KMI LR LR
comp=E,194nm,15.6s,MS4.4
KMI LR LR
comp=Z,214nm,17.4s,MS4.2
YKA Yellowknife Ar 48.10 39 P **P 11 58 43.0 -0.3**
comp=Z,12nm,0.8s,mb5.0,baz=296,slow=7.5,SNR=136
YKA Yellowknife Ar 48.10 39 P **P 11 58 43.0 -0.3**
MK31 Makanchi Array 48.31 298 *i* P **P 11 58 44.8 -0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MKAR Makanchi Array 48.31 298 P **P 11 58 45.0 0.0**
comp=Z,4.6nm,0.8s,mb4.6,baz=62,slow=7.6,SNR=50
MKAR LR LR 12 20 21.0
comp=Z,360nm,21.3s,MS4.3,baz=77,slow=38
KURK Kurchatov 48.44 304 P **P 11 58 46.5 +0.5**
comp=Z,111nm,0.7s,mb6.0,SNR=13
KURK Kurchatov 48.44 304 *e*P **P 11 58 45.7 -0.3**
KURK *e**PP pP 11 58 55.7 -2.5
KURK pmax pmax
comp=Z,18nm,0.9s,mb5.1
KURK Kurchatov 48.44 304 *e*P **P 11 58 45.7 -0.3**
comp=Z,18nm,0.9s,mb5.1
KURK *ep*P pP 11 58 55.7 -2.5
BVAR Borovoye Array 51.65 310 P **P 11 59 10.1 -0.1**
comp=Z,1.8nm,0.4s,mb4.3,baz=54,slow=6.9,SNR=23
BVAR PcP PcP 12 00 21.8 -1.7
comp=Z,3.5nm,0.7s,baz=57,slow=5.0,SNR=4.7
BRVK Borovoye 51.68 310 P **P 11 59 10.3 -0.2**
comp=Z,47nm,1.2s,mb5.3,SNR=5.6
BRVK Borovoye 51.68 310 *e*P **P 11 59 10.3 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRVK Borovoye 51.68 310 *e*P **P 11 59 10.3 -0.2**
comp=Z,3.2nm,0.7s,mb4.4
ZRNK Zerenda 52.39 310 *e*P **P 11 59 15.7 -0.1**
ZRNK *e**PP pP 11 59 25.6 -2.6
ZRNK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZRNK Zerenda 52.39 310 *e*P **P 11 59 15.7 -0.2**
comp=Z,7.4nm,0.9s,mb4.6
ZRNK *ep*P pP 11 59 25.6 -2.6
HUMO Hull Mountain 54.15 64 *e*P **P 11 59 26.6 -2.0**
comp=Z,14nm,1.4s,mb4.7
NEW Newport 54.21 55 P **P 11 59 28.9 -0.3**
comp=Z,6.1nm,1.0s,mb4.5,baz=307,slow=5.9,SNR=9.5
TKM2 Tokmak 2 54.41 297 P **P 11 59 31.9 +1.3**
SNR=5.8
ULHL Ulahol 54.43 296 P **P 11 59 31.8 +1.1**
SNR=9.3
YBH Yreka Blue Hor 54.81 65 P **P 11 59 34.6 +1.0**
comp=Z,4.4nm,0.8s,mb4.6,baz=311,slow=2.2,SNR=8.0
SHL Shillong 54.82 270 *e*P **P 11 59 34.0 +0.4**
USP Ospenovka 54.86 298 P **P 11 59 34.6 +0.8**
SNR=16
KBK Karagaybulak 54.96 297 P **P 11 59 35.6 +1.0**
SNR=6.9
DAG Danmarks Havn 55.02 359⇑ *i*P **P 11 59 34.7 -0.3**
comp=Z,5.0nm,1.0s,mb4.5
DAG Danmarks Havn 55.02 359⇑ *e*P **P 11 59 34.7 -0.3**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DAG Danmarks Havn 55.02 359⇑ *e*P **P 11 59 34.7 -0.3**
comp=Z,5.0nm,1.0s,mb4.5
KZA Kyzart 55.12 296 P **P 11 59 37.9 +2.1**
SNR=14
AAK Ala-Archa 55.24 297 P **P 11 59 37.6 +1.0**
SNR=9.7
AAK Ala-Archa 55.24 297 P **P 11 59 36.8 +0.2**
comp=Z,100nm,0.7s,mb6.0,SNR=7.3
AAK Ala-Archa 55.24 297 *e*P **P 11 59 36.3 -0.3**
AAK *e**PP pP 11 59 48.4 -0.6
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
AAK Ala-Archa 55.24 297 *e*P **P 11 59 36.3 -0.3**
comp=Z,12nm,0.9s,mb4.9
AAK *ep*P pP 11 59 48.4 -0.6
ARU Arti 55.38 318 P **P 11 59 37.8 +0.1**
comp=Z,225nm,0.5s,SNR=7.6
ARU Arti 55.38 318⇑ *i*P **P 11 59 37.0 -0.7**
ARU *e* pP 11 59 48.8 -1.3
ARU *e* 12 00 35.1
ARU *e* 12 01 36.5
ARU *e*S **S 12 07 17.2 -1.8**
ARU *e*SS SS 12 11 04.2 +0.3
ARU pmax pmax
comp=Z,22nm,0.7s,mb5.3
ARU Arti 55.38 318 *e*P **P 11 59 37.4 -0.3**
comp=Z,18nm,0.7s,mb5.2
ARU *ep*P pP 11 59 47.7 -2.4
EKS2 Erkin-Say 55.65 298 P **P 11 59 40.6 +1.1**
SNR=17
AML Almayashu 56.01 297 P **P 11 59 43.7 +1.5**
SNR=10
BMO Blue Mountains 56.11 59 *e*P **P 11 59 42.7 -0.2**
comp=Z,16nm,1.3s,mb4.9
KSH Kashi 56.23 293 *e*P **P 11 59 46.4 +2.7**
KSH *e*AP pP 11 59 57.1 +0.9
KSH *e*XP sP 12 00 01.4 +0.2
KSH *e*PCP PcP 12 00 43.3 +2.4
KSH *e*PP PP 12 01 52.0 +2.8
KSH *e*SCP ScP 12 04 38.0 +1.4
KSH *e*PCS PcS 12 04 42.1 +0.6
KSH *e*S **S 12 07 31.9 +1.7**
KSH *e*XS sS 12 07 51.2 +0.2
KSH *e*SCS ScS 12 09 30.4 +1.1
KSH AMB AMB
comp=Z,50nm,2.1s,mb5.2
KSH LR LR
comp=N,220nm,4.3s
KSH LR LR
comp=E,260nm,4.9s
MSO Missoula 56.80 55 *e*P **P 11 59 47.4 -0.3**
comp=E,17nm,1.3s,mb4.9
WVOR Wild Horse Val 56.81 62 *e*P **P 11 59 48.0 +0.2**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.9
WVOR Wild Horse Val 56.81 62 *e*P **P 11 59 48.0 +0.2**
comp=Z,12nm,1.0s,mb4.9
OHCM Honcut 57.01 66 *e*P **P 11 59 48.4 -0.9**
OHCM *ep*P pP 11 59 59.1 -2.6
ARCES ARCESS Array B 57.03 342 P **P 11 59 48.1 -1.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=37,slow=6.3,SNR=11
ARCES PcP PcP 12 00 43.9 -0.2
comp=Z,4.6nm,0.8s,baz=11,slow=6.2,SNR=3.7
ARCES LR LR 12 26 31.4
comp=Z,257nm,19.1s,MS4.3,baz=357,slow=38
ARCES ARCESS Array B 57.03 342 P **P 11 59 48.1 -1.3**
ARCES 12 00 43.9

CHMT Chamberlain Mo 57.12 55 *eP* **P 11 59 49.4 -0.7**
JIRN Jiri 57.21 276 *eP* **P 11 59 51.6 +0.9**
comp=Z,26nm,0.7s,mb5.4
GUN Gumba 57.25 276 *eP* **P 11 59 51.4 +0.5**
KK31 Karatay Array 57.29 300 *i* P **P 11 59 51.1 -0.1**
KK31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
HNR Honiara 57.70 176 LR LR 12 19 53.2
comp=Z,222nm,21.4s,MS4.2,baz=1.4,slow=31
KKN Kakani 57.73 277 *eP* **P 11 59 54.8 +0.5**
comp=Z,24nm,0.7s,mb5.3
KKN Kakani 57.73 277 *eP* **P 11 59 54.8 +0.5**
KKN pmax pmax
comp=Z,12nm,0.7s,mb5.0
PKI Pulchoki 57.78 276 *eP* **P 11 59 55.3 +0.6**
comp=Z,87nm,1.4s,mb5.6
PKI Pulchoki 57.78 276 *eP* **P 11 59 55.3 +0.6**
PKI pmax pmax
comp=Z,43nm,1.4s,mb5.3
FFC Flin Flon 57.86 42 P **P 11 59 54.4 -0.9**
comp=Z,107nm,0.9s,mb5.9,SNR=9.1
DMN Daman 57.96 277 *eP* **P 11 59 56.8 +0.9**
comp=Z,60nm,0.8s,mb5.7
GKN Gorkha 58.01 277 *eP* **P 11 59 56.8 +0.5**
comp=Z,20nm,0.4s,mb5.5
PMG Port Moresby 58.22 191 LR LR 12 20 35.5
comp=Z,77nm,19.4s,MS3.8,baz=187,slow=31
MCMT McKenzie Canyo 58.63 56 *eP* **P 12 00 00.3 -0.3**
SUMG Summit 58.81 5 *eP* **P 12 00 02.4 +0.5**
comp=Z,28nm,0.9s,mb5.3
SUMG *epP* pP 12 00 14.9 +0.5
KOLN Koldanda 58.85 278 *eP* **P 12 00 02.9 +0.8**
comp=Z,42nm,1.3s,mb5.3
QLMT Earthquake Lak 59.42 56 *eP* **P 12 00 06.7 +0.6**
NVAR Mina Array Bea 59.51 65 P **P 12 00 06.8 +0.2**
comp=Z,2.4nm,0.7s,mb4.3,baz=286,slow=8.5,SNR=25
KLP Kalpa 59.86 285 *eP* **P 12 00 09.8 +0.7**
KLMR Klimovskoe 59.88 330 *eP* **P 12 00 07.7 -1.6**
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.2
FLWY Flagg Ranch 60.30 56 *eP* **P 12 00 13.0 +0.9**
comp=Z,15nm,1.0s,mb5.0
MOOW Moose Ponds 60.49 56 *eP* **P 12 00 14.2 +0.7**
comp=Z,17nm,1.4s,mb4.9
LOHW Long Hollow 60.65 56 *eP* **P 12 00 15.2 +0.6**
comp=Z,29nm,1.3s,mb5.2
DLH Dalhousie 60.66 287 *ex* x 12 00 39.0
SNOW Snow King Moun 60.66 57 *eP* **P 12 00 16.2 +1.6**
comp=Z,31nm,1.1s,mb5.3
REDW Red Top Meadow 60.68 57 *eP* **P 12 00 15.1 +0.4**
comp=Z,46nm,1.3s,mb5.5
SMLA Simla 60.82 285 *eP* **P 12 00 14.8 -0.9**
SMLA AMb AMB 12 00 17.1
comp=Z,50nm,1.3s,mb5.5
JOF Joensuu 60.86 335 *ep* **P 12 00 16.3 +0.3**
comp=Z,4.1nm,0.8s,mb4.6
DGMT Dagmar 60.87 49 *eP* **P 12 00 16.1 0.0**
comp=Z,42nm,1.2s,mb5.4
LAO LASA Array 61.01 51 *eP* **P 12 00 17.3 +0.3**
comp=Z,48nm,1.2s,mb5.5
DUG Dugway 61.62 61 *eP* **P 12 00 21.1 0.0**
DUG *e*PP* pP 12 00 31.4 -2.3
DUG pmax pmax
comp=Z,17nm,1.2s,mb5.0
DUG Dugway 61.62 61 *eP* **P 12 00 21.1 0.0**
comp=Z,17nm,1.2s,mb5.1
DUG *epP* pP 12 00 31.4 -2.3
PDAR Pinedale Array 61.78 57 P **P 12 00 22.4 +0.2**
comp=Z,12nm,0.9s,mb5.0,baz=315,slow=4.2,SNR=54
NDI New Delhi 62.42 283 *eP* **P 12 00 26.0 -0.4**
AYAN Aya Nagar 62.61 283 *eP* **P 12 00 27.7 0.0**
RTK Rohtak 62.70 284 *ex* x 12 00 38.1
SONA Sohna 62.80 283 *eP* **P 12 00 28.9 -0.1**
SONA AMb AMB 12 00 29.6
comp=Z,7.9nm,0.3s,mb5.3
SONA *ex* x 12 00 40.5
AGRA Agra 62.92 281 *eP* **P 12 00 30.3 +0.5**
KUDL Kundal 63.25 283 *eP* **P 12 00 31.6 -0.4**
KUDL AMb AMB 12 00 46.8
comp=Z,27nm,1.0s,mb5.3
FINES FINESS Array B 63.51 336 P **P 12 00 33.2 -0.5**
comp=Z,3.8nm,0.6s,mb4.6,baz=40,slow=8.6,SNR=21
FINES LR LR 12 30 40.2
comp=Z,188nm,18.9s,MS4.3,baz=179,slow=38
FINES FINESS Array B 63.51 336 P **P 12 00 33.2 -0.5**
FINES LR LR 12 30 40.2
ULM Lac du Bonnet 63.63 43 P **P 12 00 34.0 -0.6**
comp=Z,5.8nm,0.7s,mb4.8,baz=307,slow=7.3,SNR=17
KHET Khetri 63.74 283 *eP* **P 12 00 35.3 +0.1**
RSSD Black Hills 63.87 52 *eP* **P 12 00 35.8 -0.3**
RSSD pmax pmax
comp=Z,45nm,1.4s,mb5.3
RSSD Black Hills 63.87 52 *eP* **P 12 00 35.8 -0.2**
comp=Z,45nm,1.4s,mb5.3
MOS Moscow 64.38 327 *eP* **P 12 00 37.3 -2.1**
OBN Obninsk 65.25 327 ⇓*i* P **P 12 00 44.8 -0.3**
OBN *e*PP* pP 12 00 57.7 -0.1
OBN *e* 12 01 17.0
OBN *e* 12 03 08.2
OBN *eS* S 12 09 22.2 -3.1
OBN pmax pmax
comp=Z,56nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
ISCO Idaho Springs 65.98 57 *eP* **P 12 00 50.1 +0.3**
ISCO pmax pmax
comp=Z,23nm,1.3s,mb5.0
ISCO Idaho Springs 65.98 57 *eP* **P 12 00 50.1 +0.4**
comp=Z,23nm,1.3s,mb5.1
BHPL Bhopal 66.00 278 *eP* **P 12 00 50.2 +0.3**
VRSR Storozhevoye 67.25 323 *eP* **P 12 00 57.4 -0.5**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,4.0nm,1.5s
VRSR pmax pmax
comp=E,2.0nm,1.2s
NB2 NORSAR Subarra 67.37 343 P **P 12 00 58.3 -0.3**
comp=Z,29nm,1.2s,mb5.2,baz=23,slow=6.5
NOA NORSAR Array B 67.37 343 P **P 12 00 58.4 -0.2**
comp=Z,11nm,0.9s,mb4.9,baz=24,slow=6.4,SNR=19
NOA LR LR 12 34 45.2
comp=Z,135nm,18.9s,MS4.2,baz=230,slow=40
NOA NORSAR Array B 67.37 343 P **P 12 00 58.4 -0.2**
NOA LR LR 12 34 45.2
CTA Charters Tower 68.86 191 LR LR 12 27 25.0
comp=Z,107nm,19.1s,MS4.1,baz=47,slow=32
ANMO Albuquerque 68.88 61 P **P 12 01 07.8 -0.3**
comp=Z,3.4nm,1.0s,mb4.2,baz=318,slow=7.2,SNR=8.1
ANMO Albuquerque 68.88 61 *eP* **P 12 01 07.7 -0.4**
KONO Kongsberg 68.97 343 *eP* **P 12 01 05.4 -3.3**
KONO *e*PP* pP 12 01 21.3 -0.1
KONO Kongsberg 68.97 343 *epP* **P 12 01 05.4 -3.2**
KONO *epP* pP 12 01 21.3 -0.1
HYB Hyderabad 69.36 273 *eP* pP 12 01 25.0 +1.1
GOF Gofitskoye 70.31 316 *i* P **P 12 01 17.5 +0.6**
GOF *i* pP 12 01 30.7 +1.0
GOF *i* 12 01 38.4
GOF pmax pmax
comp=Z,70nm,0.8s,mb5.6
SUW Suwalki 70.62 333 *eP* **P 12 01 18.4 -0.4**
SUW *epP* pP 12 01 31.9 +0.2
SUW *ePcP* PcP 12 01 40.6 +0.9
SUW L 12 33 31.1
comp=Z,0.3nm,25.2s
SUW Suwalki 70.62 333 *eP* **P 12 01 18.4 -0.4**
SUW *epP* pP 12 01 31.9 +0.2
SUW *ePcP* PcP 12 01 40.6 +0.9
SCHQ Schefferville 70.77 25 P **P 12 01 19.0 -0.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=344,slow=8.6,SNR=5.3
WRAB Tennant Creek 70.95 202 *i* P **P 12 01 18.1 -2.7**
WB2 Warramunga Arr 70.95 202 *eP* **P 12 01 19.7 -1.2**
WRA Warramunga Arr 70.96 202 P **P 12 01 19.9 -1.0**
comp=Z,6.2nm,0.8s,mb4.6,baz=19,slow=6.5,SNR=31
KIV Kislovodsk 71.31 316 *eP* **P 12 01 23.8 +0.8**
KIV *e* 12 01 46.8
KIV *eS* S 12 10 34.2 -3.3
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIV Kislovodsk 71.31 316 *eP* **P 12 01 23.1 +0.1**
comp=Z,16nm,0.8s,mb5.0
KIV *epP* pP 12 01 37.1 +1.3
AKASG Malin Array Be 71.44 328 P **P 12 01 22.6 -1.2**
comp=Z,8.2nm,0.9s,mb4.7,baz=32,slow=5.8,SNR=20
ZEI Tsey 71.65 314 *i* P **P 12 01 23.8 -1.2**
ZEI *i *PP* pP 12 01 37.4 -0.5
ZEI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
POO Poona 71.68 277 *ex* x 12 01 45.0
FITZ Fitzroy Crossi 71.82 211 ⇑*i* P **P 12 01 26.3 +0.2**
comp=Z,8.8nm,0.7s,mb4.8
FITZ *e* pP 12 01 36.0 -2.9
KAD Karad 72.33 276 *eP* **P 12 01 27.3 -1.8**
ANN Anapa 73.01 320 *eP* **P 12 01 37.3 +4.2**
ANN *e* pP 12 01 49.7 +3.7
ANN *e* pP 12 01 52.4 +6.4
ANN pmax pmax
comp=Z,33nm,1.1s,mb5.2
WMOK Wichita Mounta 73.39 56 *eP* **P 12 01 34.9 -0.5**
WMOK pmax pmax
comp=Z,14nm,1.2s,mb4.8
WMOK Wichita Mounta 73.39 56 *eP* **P 12 01 34.9 -0.6**
comp=Z,14nm,1.2s,mb4.8
SIM Simferopol' 74.29 322 P pP 12 01 54.4 +0.8
SIM pmax pmax
comp=Z,34nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,140nm,18.0s,MS4.3
TXAR Lajitas Array 74.55 63 P **P 12 01 42.1 -0.1**
comp=Z,8.4nm,0.9s,mb4.7,baz=298,slow=4.4,SNR=60
KWP Kalwaria 74.56 331 *eP* **P 12 01 43.3 +1.0**
KWP *ePcP* PcP 12 01 56.8 +0.3
ASAR Alice Springs 74.64 202 P **P 12 01 42.8 +0.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=15,slow=5.4,SNR=42
ASPA Alice Springs 74.64 202 *eP* **P 12 01 42.7 0.0**
OJC Ojcow 74.96 333 *eP* pP 12 01 58.3 +0.9
STHS Stebnicka Huta 75.22 332 *eP* **P 12 01 47.1 +1.1**
STHS *epP* pP 12 02 00.2 +1.3
KOLS Kolonicke sedl 75.31 331 *eP* **P 12 01 46.1 -0.5**
KOLS *epP* pP 12 02 00.3 +0.8
KOLS Kolonicke sedl 75.31 331 *eP* **P 12 01 46.1 -0.5**
KOLS *e* pP 12 02 00.3 +0.8
BURAR Bucovina Array 75.46 328 ⇓P **P 12 01 47.5 +0.1**
BURAR Bucovina Array 75.46 328 ⇓P **P 12 01 47.5 +0.1**
NIE Niedzica 75.51 332 *eP* pP 12 02 02.7 +2.1
CRVS Cervenica-Dubn 75.60 331 *eS*P sP 12 02 05.6 -0.5
OKC Ostrava-Krasne 75.79 334 *eP* **P 12 01 47.9 -1.4**
OKC *epP* pP 12 02 00.6 -1.6
UPC Upice 75.80 335 *eP* **P 12 01 47.4 -2.0**
UPC *epP* pP 12 02 03.3 +1.0
DPC Dobruska-Polom 75.85 335 *eP* **P 12 01 50.6 +0.9**
DPC *epP* pP 12 02 02.0 -0.6
CLL Collm 75.87 337 *eP* **P 12 01 52.0 +2.2**
comp=Z,7.0nm,0.8s,mb4.6
CLL *i* pP pP 12 02 03.3 +0.6
CLL *e*PP PP 12 04 42.0 +1.7
CLL *eS* S 12 11 36.0 +7.0
CLL LmV 12 36 00.0
comp=Z,200nm,20.2s
CLL Collm 75.87 337 *eP* **P 12 01 53.0 +3.2**
CLL *i* pP 12 02 03.3 +0.6
CLL pmax pmax
comp=Z,123nm,0.8s,mb5.9
CLL Collm 75.87 337 *eP* **P 12 01 53.0 +3.2**
comp=Z,7.0nm,0.8s,mb4.6
CLL *i* pP 12 02 03.3 +0.6
MORC Moravsky Berou 76.02 334 *eP* **P 12 01 48.7 -1.9**
MORC *e*PP* pP 12 02 03.3 -0.3
MORC pmax pmax
comp=Z,11nm,0.8s,mb4.8
MORC Moravsky Berou 76.02 334 *eP* **P 12 01 48.7 -2.0**
comp=Z,11nm,0.8s,mb4.8
MORC *epP* pP 12 02 03.3 -0.3
PVCC Panska Ves 76.17 336 *eP* **P 12 01 49.0 -2.5**
PVCC *epP* pP 12 02 05.9 +1.5
KECS Kecovo 76.28 332 *eP* **P 12 01 51.7 -0.4**
KECS *epP* pP 12 02 05.8 +0.8
PRU Pruhonice 76.67 336 *eP* **P 12 01 56.8 +2.5**
PRU *epP* pP 12 02 07.3 0.0
PRU AMS AMS 12 38 30.0
comp=Z,300nm,17.5s
VRAC Vranov 76.72 334 P **P 12 01 55.2 +0.6**
comp=Z,6.9nm,0.6s,mb4.8,baz=164,slow=3.2,SNR=5.2
VYHS Vyhne 76.78 333 *eP* **P 12 01 55.5 +0.6**
VYHS *epP* pP 12 02 08.6 +0.7
MLR Muntele Rosu 77.02 327 P **P 12 01 56.5 +0.2**
comp=Z,4.7nm,0.7s,mb4.5,baz=141,slow=18,SNR=3.9
MLR Muntele Rosu 77.02 327 ⇓P **P 12 01 54.4 -1.9**
MLR Muntele Rosu 77.02 327 ⇓P **P 12 01 54.4 -1.9**
WCI Wyandotte Cave 77.19 46 *eP* **P 12 01 56.7 -0.5**
WCI pmax pmax
comp=Z,37nm,0.8s,mb5.4
WCI Wyandotte Cave 77.19 46 *eP* **P 12 01 56.7 -0.6**
comp=Z,37nm,0.8s,mb5.4
KHC Kasperske Hory 77.71 336 *eP* **P 12 02 00.6 +0.4**
KHC *epP* pP 12 02 12.6 -0.5
MALT Malatya 77.73 315 *eP* **P 12 01 59.8 -0.4**
MALT *e*PP* pP 12 02 13.0 -0.2
MALT pmax pmax
comp=Z,26nm,1.1s,mb5.1
MALT Malatya 77.73 315 *eP* **P 12 01 59.8 -0.5**
comp=Z,26nm,1.1s,mb5.1
MALT *epP* pP 12 02 12.9 -0.2
GRA1 Grafenberg Arr 77.81 338 *eP* **P 12 02 01.3 +0.6**
comp=Z,41nm,0.9s,mb5.4
GRA1 *epP* pP 12 02 15.2 +1.5
GRA1 LR LR
comp=Z,200nm,21.5s,MS4.4
GRF Grafenberg Arr 77.81 338 *eP* **P 12 02 01.3 +0.6**
comp=Z,41nm,0.9s,mb5.4
GRF *epP* pP 12 02 15.2 +1.5
GRF *eL* 12 38 55.3
comp=Z,198nm,21.5s
GRF Grafenberg Arr 77.81 338 *eP* **P 12 02 01.3 +0.6**
GRF *e*PP* pP 12 02 15.2 +1.5
GRF pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
GRF Grafenberg Arr 77.81 338 *eP* **P 12 02 01.3 +0.6**
GRF *e*PP* pP 12 02 15.2 +1.5
GRF pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.4
GERES GERESS Array B 77.94 336 LR LR 12 40 11.6
comp=Z,235nm,19.0s,MS4.5,baz=126,slow=38
BZS Buzias 78.43 330 ⇑P **P 12 02 03.5 -0.6**
BZS Buzias 78.43 330 ⇑P **P 12 02 03.5 -0.7**
BRTR Keskin Array B 78.76 319 P **P 12 02 06.5 +0.5**
comp=Z,5.0nm,0.9s,mb4.5,baz=49,slow=4.0,SNR=13
GIVF Givet 78.89 342 *eP* **P 12 02 06.4 -0.3**
DOU Dourbes 78.94 342 P **P 12 02 05.4 -1.5**
DOU XP sP 12 02 23.4 -1.5
BAIF Baives 79.05 342 *eP* **P 12 02 07.5 -0.1**
comp=Z,31nm,1.1s,mb4.8
BAIF Baives 79.05 342 *eP* **P 12 02 07.5 -0.1**
BAIF pmax pmax
comp=Z,16nm,1.1s,mb4.9
BAIF Baives 79.05 342 *eP* **P 12 02 07.5 -0.1**
comp=Z,16nm,1.1s,mb4.8
CDF Champ du Feu 79.95 340 *eP* **P 12 02 12.5 +0.1**
comp=Z,26nm,0.9s,mb4.9
CDF Champ du Feu 79.95 340 *eP* **P 12 02 12.5 +0.1**
CDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
CDF Champ du Feu 79.95 340 *eP* **P 12 02 12.5 +0.1**
comp=Z,13nm,0.9s,mb4.9
MEZF Maizieres J'vi 80.36 341 *eP* **P 12 02 15.0 +0.4**
HAU Haudompre 80.54 340 *eP* **P 12 02 16.5 +0.9**
comp=Z,33nm,1.2s,mb4.8
HAU *eR*
comp=Z,144nm,20.8s
HAU Haudompre 80.54 340 *eP* **P 12 02 16.5 +0.9**
HAU pmax pmax
comp=Z,17nm,1.2s,mb4.8
HAU MLR MLR
comp=Z,140nm,20.8s,MS4.3
HAU Haudompre 80.54 340 *eP* **P 12 02 16.5 +0.9**
comp=Z,17nm,1.2s,mb4.8
HAU LR LR
comp=Z,140nm,20.8s,MS4.3
HINF Hinteralfeld 80.61 340 *eP* **P 12 02 15.9 -0.1**
DAVOX Davos 80.85 338 P **P 12 02 17.2 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=341,slow=23,SNR=5.2
STKA Stephens Creek 81.10 193 P **P 12 02 16.4 -2.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=7.5,slow=9.5,SNR=4.4
FLN La Foliniere 81.18 345 *eP* **P 12 02 18.9 -0.1**
comp=Z,119nm,1.5s,mb5.3
FLN *eR*
comp=Z,182nm,20.2s
FLN La Foliniere 81.18 345 *eP* **P 12 02 18.9 -0.1**
FLN pmax pmax
comp=Z,59nm,1.5s,mb5.3
FLN MLR MLR
comp=Z,180nm,20.3s,MS4.4
FLN La Foliniere 81.18 345 *eP* **P 12 02 18.9 -0.1**
comp=Z,59nm,1.5s,mb5.3
FLN LR LR
comp=Z,180nm,20.3s,MS4.4
PPT Papeete 81.26 129 *eLR* LR 12 27 20.4
comp=Z,190nm,24.0s
LDF La Druitiere 81.28 345 *eP* **P 12 02 19.3 -0.2**
comp=Z,44nm,1.2s,mb5.0
LDF La Druitiere 81.28 345 *eP* **P 12 02 19.3 -0.2**
LDF pmax pmax
comp=Z,22nm,1.3s,mb4.9
LDF La Druitiere 81.28 345 *eP* **P 12 02 19.3 -0.2**
comp=Z,22nm,1.3s,mb4.9
GRR Gorron 81.60 345 *eP* **P 12 02 21.7 +0.4**
comp=Z,120nm,1.3s,mb5.4
GRR Gorron 81.60 345 *eP* **P 12 02 21.7 +0.4**
GRR pmax pmax
comp=Z,60nm,1.3s,mb5.4
GRR Gorron 81.60 345 *eP* **P 12 02 21.7 +0.4**
comp=Z,60nm,1.3s,mb5.4
LOR Lormes 81.78 342 *eP* **P 12 02 22.3 +0.1**
comp=Z,71nm,1.5s,mb5.1
LOR *eR*
comp=Z,170nm,20.5s
LOR Lormes 81.78 342 *eP* **P 12 02 22.3 +0.1**
LOR pmax pmax
comp=Z,36nm,1.5s,mb5.1
LOR MLR MLR
comp=Z,170nm,20.5s,MS4.4
LOR Lormes 81.78 342 *eP* **P 12 02 22.3 +0.1**
comp=Z,36nm,1.5s,mb5.1
LOR LR LR
comp=Z,170nm,20.5s,MS4.4
CABF La Chapelle 81.92 340 *eP* **P 12 02 23.7 +0.8**
comp=Z,37nm,1.2s,mb4.9
CABF La Chapelle 81.92 340 *eP* **P 12 02 23.7 +0.8**
CABF pmax pmax
comp=Z,19nm,1.2s,mb4.9
CABF La Chapelle 81.92 340 *eP* **P 12 02 23.7 +0.8**
comp=Z,18nm,1.2s,mb4.9
SGMF Saint Gilles 82.01 346 *eP* **P 12 02 24.0 +0.6**
comp=Z,56nm,1.0s,mb5.2
SGMF Saint Gilles 82.01 346 *eP* **P 12 02 24.0 +0.6**
SGMF pmax pmax
comp=Z,28nm,1.0s,mb5.2
SGMF Saint Gilles 82.01 346 *eP* **P 12 02 24.0 +0.6**
comp=Z,28nm,1.0s,mb5.2
ROSF Rostrenen 82.05 347 *eP* **P 12 02 24.3 +0.7**
comp=Z,60nm,1.1s,mb5.1
ROSF Rostrenen 82.05 347 *eP* **P 12 02 24.3 +0.7**
ROSF pmax pmax
comp=Z,30nm,1.1s,mb5.1
ROSF Rostrenen 82.05 347 *eP* **P 12 02 24.3 +0.7**
comp=Z,30nm,1.1s,mb5.1
SSF Saint Saulge 82.05 342 *eP* **P 12 02 24.0 +0.4**
comp=Z,17nm,1.1s,mb4.6
SSF Saint Saulge 82.05 342 *eP* **P 12 02 24.0 +0.4**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SSF Saint Saulge 82.05 342 *eP* **P 12 02 24.0 +0.4**
comp=Z,8.3nm,1.1s,mb4.6
AVF Avril sur Loir 82.34 342 *eP* **P 12 02 25.5 +0.4**
comp=Z,43nm,1.3s,mb4.9
AVF Avril sur Loir 82.34 342 *eP* **P 12 02 25.5 +0.4**
AVF pmax pmax
comp=Z,21nm,1.3s,mb4.9
AVF Avril sur Loir 82.34 342 *eP* **P 12 02 25.5 +0.4**
comp=Z,22nm,1.3s,mb4.9
SMF Signal de Mont 82.38 342 *eP* **P 12 02 25.7 +0.4**
comp=Z,64nm,1.2s,mb5.1
SMF Signal de Mont 82.38 342 *eP* **P 12 02 25.7 +0.4**
SMF pmax pmax
comp=Z,32nm,1.2s,mb5.1
SMF Signal de Mont 82.38 342 *eP* **P 12 02 25.7 +0.4**
comp=Z,32nm,1.2s,mb5.1
QUIF Quistinic 82.44 346 *eP* **P 12 02 26.1 +0.5**
BGF Bois d'Agland 82.67 342 *eP* **P 12 02 27.1 +0.3**
comp=Z,55nm,1.4s,mb5.1
BGF Bois d'Agland 82.67 342 *eP* **P 12 02 27.1 +0.3**
BGF pmax pmax
comp=Z,27nm,1.4s,mb5.1
BGF Bois d'Agland 82.67 342 *eP* **P 12 02 27.1 +0.3**
comp=Z,28nm,1.4s,mb5.1
LPL La Plagne 82.80 339 *eP* **P 12 02 28.8 +1.3**
comp=Z,25nm,0.9s,mb4.9
LPL La Plagne 82.80 339 *eP* **P 12 02 28.8 +1.3**
LPL pmax pmax
comp=Z,12nm,0.9s,mb4.9
LPL La Plagne 82.80 339 *eP* **P 12 02 28.8 +1.3**
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 82.81 339 *eP* **P 12 02 28.9 +1.3**
comp=Z,63nm,1.2s,mb5.2
LPG La Plagne 82.81 339 *eP* **P 12 02 28.9 +1.3**
LPG pmax pmax
comp=Z,32nm,1.2s,mb5.2
LPG La Plagne 82.81 339 *eP* **P 12 02 28.9 +1.3**
comp=Z,32nm,1.2s,mb5.2
TCF Toulx Ste Croi 83.06 342 *eP* **P 12 02 29.1 +0.2**
comp=Z,22nm,1.0s,mb4.8
TCF Toulx Ste Croi 83.06 342 *eP* **P 12 02 29.1 +0.2**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.8
TCF Toulx Ste Croi 83.06 342 *eP* **P 12 02 29.1 +0.2**
comp=Z,11nm,1.0s,mb4.8
MFF Saint Martin d 83.20 344 *eP* **P 12 02 29.9 +0.3**
comp=Z,37nm,1.2s,mb5.0
MFF Saint Martin d 83.20 344 *eP* **P 12 02 29.9 +0.3**
MFF pmax pmax
comp=Z,18nm,1.2s,mb5.0
MFF Saint Martin d 83.20 344 *eP* **P 12 02 29.9 +0.3**
comp=Z,18nm,1.2s,mb5.0
BNI Bardonecchia 83.25 339 P **P 12 02 31.4 +1.5**
BNI pmax pmax
comp=Z,12nm,1.3s,mb4.8
MBDF Montbardon 83.53 339 *eP* **P 12 02 31.9 +0.6**
ORIF Oris-en-Rattie 83.56 340 *eP* **P 12 02 32.3 +0.8**
comp=Z,39nm,1.2s,mb5.1
ORIF *eR*
comp=Z,122nm,21.2s
ORIF Oris-en-Rattie 83.56 340 *eP* **P 12 02 32.3 +0.8**
ORIF pmax pmax
comp=Z,20nm,1.2s,mb5.1
ORIF Oris-en-Rattie 83.56 340 *eP* **P 12 02 32.3 +0.8**
comp=Z,20nm,1.2s,mb5.1
VIVF Saint-Julien-l 83.90 340 *eP* **P 12 02 33.6 +0.4**
RJF Les Rejaudoux 84.14 343 *eP* **P 12 02 34.7 +0.3**
comp=Z,30nm,1.2s,mb5.0
RJF *eR*
comp=Z,204nm,20.5s
RJF Les Rejaudoux 84.14 343 *eP* **P 12 02 34.7 +0.3**
RJF pmax pmax
comp=Z,15nm,1.2s,mb5.0
RJF MLR MLR
comp=Z,200nm,20.5s,MS4.5
RJF Les Rejaudoux 84.14 343 *eP* **P 12 02 34.7 +0.3**
comp=Z,15nm,1.2s,mb5.0
RJF LR LR
comp=Z,200nm,20.5s,MS4.5
SBF Sospel 84.19 338 *eP* **P 12 02 35.6 +1.0**
comp=Z,61nm,1.2s,mb5.3
SBF Sospel 84.19 338 *eP* **P 12 02 35.6 +1.0**
SBF pmax pmax
comp=Z,31nm,1.2s,mb5.3
SBF Sospel 84.19 338 *eP* **P 12 02 35.6 +1.0**
comp=Z,31nm,1.2s,mb5.3
CAF Calviac 84.39 342 *eP* **P 12 02 36.2 +0.5**
comp=Z,29nm,1.1s,mb5.0
CAF Calviac 84.39 342 *eP* **P 12 02 36.2 +0.5**
CAF pmax pmax
comp=Z,14nm,1.1s,mb5.0
CAF Calviac 84.39 342 *eP* **P 12 02 36.2 +0.5**
comp=Z,14nm,1.1s,mb5.0
LFF La Frestale 84.64 343 *eP* **P 12 02 37.5 +0.6**
LMR La Mourre 84.91 339 *eP* **P 12 02 38.3 0.0**
comp=Z,170nm,1.7s,mb5.6
LMR La Mourre 84.91 339 *eP* **P 12 02 38.3 0.0**
LMR pmax pmax
comp=Z,85nm,1.7s,mb5.6
LMR La Mourre 84.91 339 *eP* **P 12 02 38.3 0.0**
comp=Z,85nm,1.7s,mb5.6

TBI	**Tubuai**	**86.16**	**132**	*e*LR	LR	12 29 36.1		
	comp=Z,400nm,27.2s							
ESDC	**Sonseca Array**	**90.60**	**345**	P	**P**	**12 03 04.8**	**-0.8**	
	comp=Z,5.8nm,0.8s,mb4.9,baz=8.7,slow=4.3,SNR=13							
RKT	**Rikitea**	**93.72**	**121**	*e*LR	LR	12 33 05.6		
	comp=Z,130nm,29.8s							
LPAZ	**La Paz**	**131.41**	**65**	PKP	PKPdf	12 09 16.9	+1.4	
	comp=Z,2.4nm,1.2s,baz=236,slow=2.2,SNR=4.1							
LPAZ	**La Paz**	**131.41**	**65**	PKP	PKPdf	12 09 16.9	+1.4	
CPUP	**Villa Florida**	**145.52**	**63**	*e*PKPdf	PKPdf	12 09 39.6	-1.7	
CPUP				*e*pPKPdf	pPKPdf	12 09 51.0	-3.9	
PLCA	**Paso Flores**	**145.94**	**95**	PKPbc	PKPbc	12 09 41.3	-1.4	
	comp=Z,5.1nm,0.9s,baz=281,slow=4.5,SNR=6.6							
PLCA	**Paso Flores**	**145.94**	**95**	*e*PKPdf	PKPdf	12 09 41.8	-0.2	
PLCA				*e*pPKPdf	pPKPdf	12 09 51.2	-4.4	

IDC 07 12:09:22.6±19.0, 840S×11978E, h200km±198km, mb3.2/3, mb1 3.2/4, mb1mx3.1/17, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=250.3km s-min=43.6km az=61.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.17**	**131**	P	P	12 13 20.1	-0.1
	0.2nm,0.3s,baz=305,slow=12,SNR=13						
WB2	**Warramunga Arr**	**18.18**	**131**	*e*P	P	12 13 20.4	+0.1
ASAR	**Alice Springs**	**20.33**	**140**	P	P	12 13 44.0	+0.6
	2.1nm,0.4s,baz=314,slow=8.9,SNR=34						
STKA	**Stephens Creek**	**30.93**	**142**	P	P	12 15 20.7	0.0
	2.0nm,0.9s,baz=339,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**64.28**	**332**	P	P	12 19 36.6	+0.1
	0.2nm,0.6s,baz=124,slow=6.9,SNR=3.0						

*INMG **07** 12:42:31.5±0.9, 3661N×764W, h31km, ML1.9, Error ellipse: s-maj=5.7km s-min=3.9km az=16.0*

MDD 07 12:42:30.6±1.7, 3658N×761W, h39km±27km, mbLg2.1/7, 1D, Error ellipse: s-maj=17.3km s-min=8.1km az=24.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.96**	**6**	⇓P	Pn	12 42 47.0	-0.6
	2.0nm,0.1s,SNR=18						
EGRO				S	Sn	12 42 58.7	-1.4
	51nm,0.2s,SNR=18						
PTEO	**Sao Teotonio**	**1.31**	**318**	*e*P	Pn	12 42 51.5	-0.9
PTEO				*e*S	Sn	12 43 06.8	-1.9
PTEO							
	4.9nm,0.3s						
EMIN	**Mina Concepcio**	**1.40**	**32**	P	Pn	12 42 53.5	-0.2
	0.2nm,0.1s,SNR=8.8						
EMIN				S	Sn	12 43 09.3	-1.7
	5.5nm,0.1s,SNR=12						
ESPR	**Espera**	**1.44**	**78**	P	Pn	12 42 53.4	-0.8
	0.9nm,0.1s,SNR=5.7						
ESPR				S	Sn	12 43 10.0	-1.9
	15nm,0.3s						
PBEJ	**Beja**	**1.46**	**352**	*e*S	Sn	12 43 10.8	-1.5
PBEJ							
	9.8nm,0.2s						
PBEJ	**Beja**	**1.46**	**352**	S	Sn	12 43 10.8	-1.5
	4.9nm,0.2s						
MOE	**Montemor**	**2.03**	**343**	*e*Sn	Sn	12 43 24.9	-1.4
EBAD	**Badajoz**	**2.22**	**12**	P	Pn	12 43 04.8	-0.2
	0.4nm,0.1s,SNR=7.3						
EBAD				S	Sn	12 43 29.1	-2.1
	2.8nm,0.1s						
PLOU	**Loures**	**2.60**	**333**	*e*Sn	Sn	12 43 39.9	-0.7
EADA	**Adamuz**	**2.89**	**56**	P	Pn	12 43 14.1	-0.1
	0.7nm,0.1s,SNR=9.1						
EADA				S	Sn	12 43 45.4	-2.3
	1.9nm,0.1s,SNR=7.2						
PCBR	**Castelo Branco**	**3.26**	**2**	*e*Sn	Sn	12 43 54.4	-2.3

IDC 07 12:54:11.9±5.0, 1104N×14288E, h39km±50km, mb3.2/5, mb1 3.4/6, mb1mx3.4/20, mbtmp3.5/6, ML3.9/1, Error ellipse: s-maj=47.5km s-min=20.2km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.19**	**37**	Pn	Pn	12 54 59.6	+0.1
	14nm,0.3s,baz=9.3,slow=16,SNR=7.2						
GUMO				Sn	Sn	12 55 36.2	-0.1
	18nm,0.3s,baz=24,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**31.92**	**195**	P	P	13 00 33.3	-0.3
	0.4nm,0.9s,baz=18,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**35.60**	**194**	P	P	13 01 06.5	+0.9
	0.1nm,0.4s,baz=25,slow=12,SNR=5.2						
SONM	**Songino Array**	**47.75**	**327**	P	P	13 02 45.5	+0.5
	0.4nm,0.8s,baz=146,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**62.00**	**317**	P	P	13 04 27.8	-0.2
	0.8nm,0.8s,baz=97,slow=8.1,SNR=7.5						
YKA	**Yellowknife Ar**	**86.00**	**27**	P	P	13 06 48.1	-0.1
	0.3nm,0.5s,baz=287,slow=4.9,SNR=7.5						

MAN 07 13:08:52.7, 850N×12467E, h21km, MS4.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.05**	**149**	⇑*i*P	Pb	13 08 56.6	+0.2
CGP				*i* S	Sb	13 09 00.1	+1.1

IDC 07 13:10:43.1±1.5, 1111N×14282E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/25, Error ellipse: s-maj=59.0km s-min=28.5km az=85.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.96**	**195**	P	P	13 17 11.1	+0.4
	0.2nm,0.6s,baz=17,slow=9.8,SNR=3.9						
ASAJ	**Asahikawa**	**32.89**	**360**	LR	LR	13 30 52.7	
	comp=Z,32nm,19.0s,baz=323,slow=37						
SONM	**Songino Array**	**47.66**	**327**	P	P	13 19 22.2	+1.2
	0.2nm,0.4s,baz=138,slow=5.3,SNR=5.6						
MKAR	**Makanchi Array**	**61.91**	**317**	P	P	13 21 04.6	+0.2
	0.4nm,0.6s,baz=94,slow=7.9,SNR=7.7						
ZAL	**Zalesovo**	**62.50**	**326**	P	P	13 21 07.2	-1.2
	0.7nm,0.3s,baz=357,slow=2.7,SNR=3.3						
YKA	**Yellowknife Ar**	**85.97**	**27**	P	P	13 23 25.0	-0.1
	0.2nm,0.4s,baz=289,slow=5.0,SNR=6.3						

*ISCJB **07** 13:21:30.6±1.7, 521N±03×1709W±01, h49km±15km, mb3.5/3, Error ellipse: s-maj=44.8km s-min=8.9km az=152.1*
*IDC **07** 13:21:30.5±5.5, 5213N×16986W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=99.0km s-min=51.4km az=88.0*
*NEIC **07** 13:21:32.0±1.5, 5219N×17093W, h42km±15km, ML3.1(AEIC), Error ellipse: s-maj=43.3km s-min=9.7km az=161.0*

ISC 07 13:21:32.1±1.6, 522N±03×1709W±01, h44km±15km, n10, σ0§95/11, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.48**	**58**	P	**Pn**	**13 21 55.2**	**-1.0**
ATKA	**Atka Island**	**2.01**	**271**	P	**Pn**	**13 22 03.1**	**-0.4**
ATKA				S	**Sn**	**13 22 27.7**	**+0.2**
OKCD	**Okmok Cone D**	**2.10**	**54**	P	**Pn**	**13 22 06.6**	**+1.9**
UNV	**Unalaska Valle**	**3.13**	**57**	P	**Pn**	**13 22 19.9**	**+1.0**
ADK	**Adak**	**3.57**	**267**	P	**Pn**	**13 22 25.0**	**+0.1**
KDAK	**Kodiak Island**	**11.90**	**55**	Pn	**Pn**	**13 24 17.8**	**-1.4**
	0.4nm,0.3s,baz=242,slow=6.0,SNR=9.9						
ILAR	**Eielson Array**	**17.62**	**35**	P	**Pn**	**13 25 33.4**	**-1.0**
	0.1nm,0.3s,baz=237,slow=9.5,SNR=8.1						
INK	**Inuvik**	**24.00**	**34**	P	**P**	**13 26 42.7**	**0.0**
	1.3nm,0.4s,mb3.7,baz=240,slow=8.0,SNR=17						
YKA	**Yellowknife Ar**	**31.06**	**48**	P	**P**	**13 27 47.1**	**+1.2**
	0.4nm,0.5s,mb3.5,baz=271,slow=7.8,SNR=17						
TXAR	**Lajitas Array**	**53.71**	**88**	P	**P**	**13 30 49.3**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=290,slow=4.5,SNR=5.4						

*ISCJB **07** 13:34:30.2±0.8, 3858N±003×2371E±008, h16km±9km, Error ellipse: s-maj=10.2km s-min=4.3km az=157.0*
*ATH **07** 13:34:30.6, 3859N×2361E, h29km±2km, MD3.5/8, ML3.4*
*NEIC **07** 13:34:30.0, 3859N×2361E, h29km, ML3.4(ATH), After ATH.*
*CSEM **07** 13:34:31.1±0.1, 3859N×2367E, h10km, ML3.4, Error ellipse: s-maj=4.4km s-min=1.9km az=71.0*
*THE **07** 13:34:33.4, 3860N×2371E, h22km, ML3.2*

ISC 07 13:34:30.3±0.7, 3861N±003×2368E±007, h14km±6km, n18, σ1§16/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.46**	**174**	*e*PB	**Pb**	**13 34 40.0**	**-0.2**
LKR	**Lokris**	**0.53**	**274**	*e*PB	**Pb**	**13 34 40.3**	**-1.1**
PTL	**Penteli**	**0.58**	**165**	*e*PN	**Pg**	**13 34 42.0**	**+0.3**
ATH	**Athens Observa**	**0.64**	**177**	*e*PN	**Pn**	**13 34 43.0**	**-1.9**
ATH				*e*SN	**Sg**	**13 34 53.2**	**+1.9**
NEO	**Neokhori**	**0.78**	**333**	*e*PN	**Pn**	**13 34 45.6**	**-1.2**
NEO				*e*SN	**Sn**	**13 34 58.1**	**-0.2**
KVR	**Kavouri**	**0.79**	**175**	*e*PN	**Pn**	**13 34 46.0**	**-0.9**
NAIG	**Nisos Aigina**	**0.86**	**190**	*e*PN	**Pn**	**13 34 47.8**	**-0.2**
AGG	**Agios Georgios**	**1.13**	**292**	*e*Pg	**Pg**	**13 34 52.0**	**-0.1**
	comp=Z,6.5nm,0.2s						
AGG				*e*Sg	**Sg**	**13 35 08.1**	**+1.3**
PAIG	**Paliouri**	**1.31**	**0**	*e*Pg	**Pg**	**13 34 54.8**	**-0.8**
PAIG				*e*Sg	**Sg**	**13 35 11.8**	**-0.9**
EVR	**Evrytania**	**1.49**	**282**	*e*PN	**Pn**	**13 34 57.0**	**+0.3**
OUR	**Ouranopolis**	**1.74**	**8**	*e*Pb	**Pb**	**13 35 01.0**	**-0.9**
	comp=Z,7.6nm,0.5s						
LIT	**Litokhoron**	**1.75**	**329**	*e*Pb	**Pb**	**13 35 01.3**	**-0.8**
	comp=Z,2.5nm,0.2s						
LIT				*e*Sb	**Sb**	**13 35 22.9**	**-1.0**
PLG	**Polygyros**	**1.77**	**354**	*e*PN	**Pn**	**13 35 01.3**	**+0.8**
VLI	**Veliai**	**1.98**	**198**	*e*PB	**Pb**	**13 35 04.5**	**-1.6**
APE	**Apeiranthos**	**2.13**	**136**	*e*PN	**Pn**	**13 35 06.5**	**+1.1**
SOH	**Sokhos**	**2.22**	**354**	*e*Pn	**Pn**	**13 35 08.2**	**+1.5**
KNT	**Kendrikon**	**2.62**	**347**	*e*Pn	**Pn**	**13 35 14.1**	**+1.9**
	comp=Z,4.4nm,0.5s						
KNT				*e*Sn	**Sn**	**13 35 45.0**	**+1.4**
FNA	**Florina**	**2.80**	**321**	*e*Pn	**Pn**	**13 35 16.8**	**+2.2**

*NDI **07** 13:54:57.9±2.3, 3474N×7252E, h10km, ML3.4, mb3.4(NEIC)*
*IDC **07** 13:55:01.0±1.0, 3458N×7326E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/23, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=31.5km s-min=20.8km az=64.0*
*ISCJB **07** 13:55:01.0±0.6, 3461N±007×7311E±0.1, h10km, mb3.7/5, Error ellipse: s-maj=15.5km s-min=4.4km az=111.4*
*NEIC **07** 13:55:02.6±0.9, 3451N×7329E, h10km, mb3.4/1, Error ellipse: s-maj=21.1km s-min=5.9km az=56.0*
*MOS **07** 13:55:04.0±1.0, 3455N×7336E, h33km, mb3.6/1, Error ellipse: s-maj=22.7km s-min=11.0km az=100.6*
*NNC **07** 13:55:11.1±4.6, 3498N×7269E, h33km±340km, mb3.5, mpv3.8, Error ellipse: s-maj=314.3km s-min=67.1km az=168.0*

ISC 07 13:55:02.7±0.5, 3460N±006×732E±01, h10km, n33, σ1§21/37, mb3.7/5, 3C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.99**	**136**	*e*P	**Pn**	**13 55 54.1**	**+4.0**
THN				*e*x	x	13 56 36.8	
DLH	**Dalhousie**	**3.07**	**131**	*e*P	**Pn**	**13 55 55.0**	**+3.8**
DLH				*e*x	x	13 56 40.0	
BHK	**Bhakra**	**4.15**	**139**	*e*x	x	13 57 17.8	
SDNR	**Sundarnagar**	**4.40**	**134**	*e*P	**Pn**	**13 56 11.8**	**+2.3**
SDNR				*e*S	**Sn**	**13 57 05.4**	**+4.6**
SMLA	**Simla**	**4.79**	**135**	*e*P	**Pn**	**13 56 16.8**	**+2.0**
SMLA				*e*S	**Sn**	**13 57 16.2**	**+5.9**
KLP	**Kalpa**	**5.20**	**125**	*e*P	**Pn**	**13 56 22.6**	**+2.1**
KLP				*e*S	**Sn**	**13 57 25.9**	**+5.3**
KLP				AML	AML	13 57 49.6	
	comp=E,165nm,0.5s						
KLP				AML	AML	13 57 55.9	
	comp=N,121nm,0.3s						
DDI	**Dehra Dun**	**5.90**	**135**	*e*S	**Sn**	**13 57 41.9**	**+4.2**
KUDL	**Kundal**	**7.01**	**156**	*e*P	**Pn**	**13 56 45.3**	**0.0**
KUDL				*e*S	**Sn**	**13 58 03.6**	**-1.5**
KUDL				AML	AML	13 58 54.2	
	comp=E,16nm,0.5s						
KUDL				AML	AML	13 58 59.4	
	comp=N,8.8nm,0.6s						
AAK	**Ala-Archa**	**8.08**	**7**	*e*P	**Pn**	**13 57 03.8**	**+3.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**8.08**	**7**	*e*Pn	**Pn**	**13 57 03.8**	**+3.7**
	comp=Z,1.3nm,0.5s						
KK31	**Karatay Array**	**8.75**	**347**	⇓Pn	**Pn**	**13 57 11.6**	**+2.3**
	comp=Z,1.6nm,0.3s,baz=159,slow=12,SNR=70						
KK31				⇑Sn	**Sn**	**13 58 46.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=167,slow=24,SNR=6.1						
KOLN	**Koldanda**	**11.18**	**125**	*e*P	**Pn**	**13 57 42.3**	**-0.2**
GKN	**Gorkha**	**11.75**	**121**	*e*P	**Pn**	**13 57 49.8**	**-0.6**
	comp=Z,10nm,0.4s						
DMN	**Daman**	**12.32**	**121**	*e*P	**Pn**	**13 57 56.8**	**-1.3**
KKN	**Kakani**	**12.34**	**120**	*e*P	**Pn**	**13 57 57.8**	**-0.5**
	comp=Z,10nm,0.4s						
KKN	**Kakani**	**12.34**	**120**	*e*P	**Pn**	**13 57 57.8**	**-0.5**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
PKI	**Pulchoki**	**12.56**	**121**	*e*P	**Pn**	**13 58 00.8**	**-0.6**
GUN	**Gumba**	**12.70**	**118**	*e*P	**Pn**	**13 58 02.3**	**-1.0**
	comp=Z,11nm,0.5s						
JIRN	**Jiri**	**13.07**	**118**	*e*P	**Pn**	**13 58 06.7**	**-1.6**
	comp=Z,20nm,0.4s						
MKAR	**Makanchi Array**	**13.97**	**27**	Pn	**Pn**	**13 58 21.1**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=214,slow=13,SNR=3.0						
AB31	**Akbulak array**	**17.63**	**330**	⇑P	**Pn**	**13 59 06.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=140,slow=12,SNR=15						
BVAR	**Borovoye Array**	**18.53**	**355**	P	**Pn**	**13 59 19.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=160,slow=8.5,SNR=8.5						
ZRNK	**Zerenda**	**18.59**	**352**	⇑P	**Pn**	**13 59 20.3**	**+0.1**
	comp=Z,6.9nm,2.4s						
ZRNK	**Zerenda**	**18.59**	**352**	*e*P	**Pn**	**13 59 20.7**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZRNK	**Zerenda**	**18.59**	**352**	*e*Pn	**Pn**	**13 59 20.7**	**+0.5**
	comp=Z,2.5nm,0.9s						
AKTK	**Aktyubinsk**	**19.34**	**330**	P	**Pn**	**13 59 29.3**	**+0.1**
AKTO	**Aktyubinsk**	**19.34**	**330**	P	**Pn**	**13 59 29.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=118,slow=10.0,SNR=6.8						
ZAL	**Zalesovo**	**20.98**	**19**	P	**P**	**13 59 45.3**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=249,slow=8.4,SNR=7.2						
ARCES	**ARCESS Array B**	**43.59**	**338**	P	**P**	**14 03 07.2**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.1,baz=114,slow=8.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**67.53**	**271**	P	**P**	**14 05 59.2**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=45,slow=6.2,SNR=6.1						
WRA	**Warramunga Arr**	**79.43**	**123**	P	**P**	**14 07 09.6**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=322,slow=5.0,SNR=19						
ASAR	**Alice Springs**	**81.67**	**126**	P	**P**	**14 07 21.3**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=311,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**83.04**	**4**	P	**P**	**14 07 26.9**	**-1.4**
	comp=Z,0.2nm,0.7s,mb3.3,baz=345,slow=5.2,SNR=3.8						

IDC 07 14:21:20.6±1.5, 295N×12392E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=198.7km s-min=22.9km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.95**	**156**	P	P	14 26 45.5	-0.1
	0.6nm,0.3s,baz=333,slow=11,SNR=23						
ASAR	**Alice Springs**	**28.19**	**160**	P	P	14 27 15.8	+1.0
	0.1nm,0.3s,baz=345,slow=7.2,SNR=14						
MKAR	**Makanchi Array**	**56.63**	**327**	P	P	14 31 06.7	+1.3
	0.1nm,0.3s,baz=121,slow=7.6,SNR=7.2						
MKAR				PcP	PcP	14 32 00.1	-1.7
	0.4nm,0.6s,baz=126,slow=3.0,SNR=8.9						

MAN 07 14:24:23.7, 858N×12473E, h17km, mb3.0, ML4.4, MS3.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.13**	**196**	⇑*i*P	Pg	14 24 28.0	+0.5
CGP				*i* S	Sg	14 24 30.9	+0.8
DCPH	**Dipolog City**	**1.36**	**270**	⇑*e*P	Pn	14 24 47.1	-0.9
DCPH				*e*S	Sn	14 25 09.3	+3.7
TBP	**Tagbilaran**	**1.40**	**322**	*e*P	Pn	14 24 46.9	-1.5
TBP				*e*S	Sn	14 25 05.5	-0.9
SCPH	**Surigao**	**1.41**	**32**	⇓*e*P	Pn	14 24 47.2	-1.3
LLP	**Lapu-Lapu**	**1.88**	**336**	*e*P	Pn	14 24 55.5	+0.4
LLP				*e*S	Sn	14 25 19.7	+1.3

IDC 07 14:30:42.1±2.8, 696S×12904E, h0km, mb3.0/1, mb1 3.3/3, mb1mx3.2/14, mbtmp3.1/3, ML3.4/2, Error ellipse: s-maj=289.2km s-min=31.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**159**	Pn	Pn	14 34 00.5	+0.3
	0.3nm,0.3s,baz=339,slow=14,SNR=22						
WRA				Sn	Sn	14 36 24.1	-11
	0.2nm,0.3s,baz=330,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**17.26**	**165**	P	Pn	14 34 44.6	+0.2
	0.1nm,0.3s,baz=332,slow=11,SNR=10						
ASAR				S	Sn	14 37 45.8	-11
	0.0nm,0.3s,baz=336,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	14 41 41.1	+0.2
	0.1nm,0.6s,baz=134,slow=7.2,SNR=2.9						

*ISCJB **07** 14:59:17.2±0.2, 4259N±001×181E±001, h6km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=129.2*
*LDG **07** 14:59:19.6±0.1, 4247N×176E, h2km, Md3.4/3, Ml3.7/42, Error ellipse: s-maj=1.2km s-min=0.9km az=137.0*
*STR **07** 14:59:19.6±0.2, 4254N×175E, h2km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **07** 14:59:19.8±0.1, 4248N×176E, h4km±2km, mbLg3.2/26, Error ellipse: s-maj=1.4km s-min=1.1km az=169.0, PRXIMO III BELLVER DE CERDANYA MARTINET III PRULLANS PUIGCERD.GI, S II-III GUILS DE CERDANYA II ARSEGUELL I GER LLIVIA LA MOLINA I TOSES URTX*
MDD EMS: IV MERANGES LLES DE CERDANYA.
*NEIC **07** 14:59:19.6, 4254N×175E, h2km, ML3.7(STR), ML3.7(LDG), MN3.2(MDD), After STR.*
*CSEM **07** 14:59:20.0±0.1, 4248N×177E, h10km, ML3.1/6, Error ellipse: s-maj=1.4km s-min=1.1km az=136.0*

ISC 07 14:59:18.8±0.2, 4256N±001×178E±001, h9km±1km, n231, σ1§21/492, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLLI	**Llivia**	**0.17**	**120**	Pg	**Pg**	**14 59 22.7**	**+0.4**
CLLI				Lg		14 59 24.9	
	158nm,0.1s						
PAND	**Andorre**	**0.18**	**257**	Pg	**Pg**	**14 59 22.8**	**+0.3**
PAND				Lg		14 59 25.2	
VALF	**Valcebollere**	**0.24**	**133**	Pg	**Pg**	**14 59 23.6**	**0.0**
VALF	**Valcebollere**	**0.24**	**133**	Pg	**Pg**	**14 59 23.6**	**0.0**
VALF				Lg		14 59 26.5	
CARF	**Carcanieres**	**0.28**	**57**	Pg	**Pg**	**14 59 25.9**	**+1.5**
CARF				Sg	**Sg**	**14 59 29.4**	**+1.2**
CARF	**Carcanieres**	**0.28**	**57**	Pg	**Pg**	**14 59 26.3**	**+1.9**
CARF				Lg		14 59 31.0	
GRBF	**Gourbit**	**0.33**	**327**	Pg	**Pg**	**14 59 27.1**	**+1.8**
GRBF				Lg		14 59 32.3	
LPEF	**Le Peyrat**	**0.40**	**14**	Pg	**Pg**	**14 59 28.8**	**+2.3**
LPEF				Lg		14 59 35.9	
CORG	**Organya**	**0.48**	**226**	Pg	**Pg**	**14 59 26.1**	**-2.0**
CORG				Lg		14 59 32.4	
	210nm,0.1s						
SALF	**Salau**	**0.48**	**294**	Pg	**Pg**	**14 59 28.7**	**+0.6**
SALF				Sg	**Sg**	**14 59 35.3**	**+0.9**
SALF	**Salau**	**0.48**	**294**	Pg	**Pg**	**14 59 28.7**	**+0.7**
SALF				Lg		14 59 35.2	
CSOR	**Sort**	**0.51**	**249**	Pg	**Pg**	**14 59 28.1**	**-0.7**
CSOR				Lg		14 59 34.6	
	411nm,0.2s						
FILF	**Fillols**	**0.58**	**90**	Pg	**Pg**	**14 59 29.0**	**-0.9**
FILF				Sg	**Sg**	**14 59 34.9**	**-2.6**
FILF	**Fillols**	**0.58**	**90**	Pg	**Pg**	**14 59 28.9**	**-1.0**
FILF				Lg		14 59 35.6	
MLS	**Moulis**	**0.64**	**308**	Pg	**Pg**	**14 59 32.9**	**+1.8**
MLS				Sg	**Sg**	**14 59 41.0**	**+1.5**
MLS	**Moulis**	**0.64**	**308**	Pg	**Pg**	**14 59 32.1**	**+1.0**
MLS				Lg		14 59 40.9	
LRDF	**Laroque-de-Fa**	**0.67**	**56**	Pg	**Pg**	**14 59 33.0**	**+1.3**
LRDF				Sg	**Sg**	**14 59 43.3**	**+2.8**
LRDF	**Laroque-de-Fa**	**0.67**	**56**	Pg	**Pg**	**14 59 33.1**	**+1.4**
LRDF				Lg		14 59 43.5	
EMIR	**Miracle**	**0.68**	**196**	⇑Pg	**Pg**	**14 59 30.9**	**-0.9**
	557nm,0.1s,SNR=18						
EMIR				Lg		14 59 39.3	
	525nm,0.1s,SNR=34						
EMIR	**Miracle**	**0.68**	**196**	Pg	**Pg**	**14 59 30.9**	**-0.9**
	557nm,0.1s,SNR=18						
EMIR				Lg		14 59 39.3	
	525nm,0.1s,SNR=34						
MELF	**Melles**	**0.81**	**293**	Pg	**Pg**	**14 59 34.6**	**+0.2**
MELF				Sg	**Sg**	**14 59 45.1**	**+0.1**
MELF	**Melles**	**0.81**	**293**	Pg	**Pg**	**14 59 34.8**	**+0.3**
MELF				Lg		14 59 45.4	
SJAF	**Saint Jean de**	**0.82**	**95**	Pg	**Pg**	**14 59 35.0**	**+0.5**
SJAF				Sg	**Sg**	**14 59 46.4**	**+1.2**
SJAF	**Saint Jean de**	**0.82**	**95**	Pg	**Pg**	**14 59 35.0**	**+0.4**
SJAF				Lg		14 59 46.2	
EJON	**La Jonquera**	**0.83**	**98**	Pg	**Pg**	**14 59 35.3**	**+0.6**
	16nm,0.1s,SNR=45						
EJON				Lg		14 59 46.9	
	255nm,0.1s,SNR=17						
EJON	**La Jonquera**	**0.83**	**98**	Pg	**Pg**	**14 59 35.3**	**+0.6**
	16nm,0.1s,SNR=45						
EJON				Lg		14 59 46.9	
	100nm,0.1s,SNR=17						
MTLF	**Montolieu**	**0.84**	**22**	*e*Pn	**Pn**	**14 59 38.0**	**+1.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**14 59 49.5**	**+3.6**
	540nm,0.3s,SNR=1.0						
MTLF				*e*Sn	**Sn**	**14 59 51.7**	**+2.4**
	SNR=1.0						

EPOB	**Poblet**	**1.32 204**	⇑Pg	**Pg**	**14 59 42.7**	**-1.4**
	66nm,0.1s,SNR=18					
EPOB			Lg		14 59 59.1	
	430nm,0.1s,SNR=34					
EPOB	**Poblet**	**1.32 204**	Pg	**Pg**	**14 59 42.7**	**-1.4**
	66nm,0.1s,SNR=18					
EPOB			Lg		14 59 59.1	
	604nm,0.1s,SNR=34					
VIEF	**Viey**	**1.33 284**	Pg	**Pg**	**14 59 44.2**	**-0.2**
VIEF			Sg	**Sg**	**15 00 01.1**	**-0.6**
LABF	**Labassere**	**1.35 292**	Pn	**Pn**	**14 59 45.0**	**+1.2**
LABF			Sg	**Sg**	**15 00 04.8**	**+2.7**
CGAR	**Garraf**	**1.36 201**	Pg	**Pg**	**14 59 42.0**	**-2.8**
CGAR			Lg		14 59 57.5	
	117nm,0.1s					
REYF	**Montagne du Re**	**1.68 288**	Pg	**Pg**	**14 59 53.1**	**+2.2**
REYF			Sg	**Sg**	**15 00 14.1**	**+1.4**
ETSF	**Etsaut**	**1.76 282**	*e*Pg	**Pg**	**14 59 52.1**	**-0.4**
	SNR=1.0					
ETSF			*e*Sn	**Sn**	**15 00 10.6**	**-1.3**
	SNR=1.0					
ETSF			*e*Sg	**Sg**	**15 00 14.8**	**-0.4**
	249nm,0.3s					
ETSF	**Etsaut**	**1.76 282**	Pn	**Pn**	**14 59 48.9**	**-0.5**
ETSF			Pg	**Pg**	**14 59 52.1**	**-0.4**
ETSF			Sn	**Sn**	**15 00 10.6**	**-1.3**
ETSF			Lg		15 00 14.8	
	124nm,0.3s					
ETSF	**Etsaut**	**1.76 282**	*e*Pg	**Pg**	**14 59 52.1**	**-0.4**
ETSF			*e*Sn	**Sn**	**15 00 10.6**	**-1.3**
ETSF			*e*Sg	**Sg**	**15 00 14.8**	**-0.4**
ETSF	**Etsaut**	**1.76 282**	*e*Pn	**Pn**	**14 59 48.9**	**-0.5**
ETSF			*e*Pg	**Pg**	**14 59 52.1**	**-0.4**
ETSF			*e*Sn	**Sn**	**15 00 10.6**	**-1.3**
ETSF			*e*Sg	**Sg**	**15 00 14.8**	**-0.4**
ESAC	**San Caprasio**	**1.87 244**	Pn	**Pn**	**14 59 51.8**	**+0.8**
	14nm,0.3s,SNR=53					
ESAC			Pg	**Pg**	**14 59 53.7**	**-0.9**
	105nm,0.2s,SNR=7.9					
ESAC			Lg		15 00 17.4	
	541nm,0.2s,SNR=12					
ESAC	**San Caprasio**	**1.87 244**	Pg	**Pg**	**14 59 53.7**	**-1.0**
	105nm,0.2s,SNR=7.9					
ATE	**Arette**	**1.90 287**	Pg	**Pg**	**14 59 55.7**	**+0.5**
ATE			Sg	**Sg**	**15 00 20.5**	**+0.7**
ERTA	**Horta de San J**	**1.94 214**	Pn	**Pn**	**14 59 52.0**	**+0.2**
	3.2nm,0.1s,SNR=53					
ERTA			Pg	**Pg**	**14 59 54.0**	**-1.9**
	23nm,0.1s,SNR=7.9					
ERTA			Lg		15 00 17.9	
	148nm,0.1s,SNR=13					
ERTA	**Horta de San J**	**1.94 214**	Pn	**Pn**	**14 59 52.0**	**+0.1**
	3.2nm,0.1s,SNR=53					
ERTA	**Horta de San J**	**1.94 214**	Pg	**Pg**	**14 59 54.0**	**-1.9**
	23nm,0.1s,SNR=7.9					
ERTA			Lg		15 00 17.9	
	148nm,0.1s,SNR=13					
EBR	**Ebro Roquetas**	**1.99 209**	*e*PN	**Pn**	**14 59 54.5**	**+1.9**
EBR			*e*SN	**Sn**	**15 00 17.7**	**0.0**
EBR			*e*S*	**Sb**	**15 00 19.5**	**-0.6**
LARF	**Larrau**	**2.09 284**	Pg	**Pg**	**15 00 00.0**	**+1.1**
ORDF	**Ordiarp**	**2.10 289**	Pg	**Pg**	**14 59 59.6**	**+0.6**
ORDF			Sg	**Sg**	**15 00 27.1**	**+0.9**
LASF	**Ste Croix**	**2.14 44**	*e*Pg	**Pg**	**15 00 00.8**	**+1.0**
LASF			*e*Sn	**Sn**	**15 00 22.0**	**+0.6**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**15 00 29.5**	**+1.9**
	102nm,0.2s					
LASF	**Ste Croix**	**2.14 44**	Pn	**Pn**	**14 59 55.9**	**+1.2**
LASF			Pg	**Pg**	**15 00 00.8**	**+1.0**
LASF			Sn	**Sn**	**15 00 22.0**	**+0.6**
LASF			Lg		15 00 29.5	
	51nm,0.2s					
LASF	**Ste Croix**	**2.14 44**	*e*Pg	**Pg**	**15 00 00.8**	**+1.0**
LASF			*e*Sn	**Sn**	**15 00 22.0**	**+0.6**
LASF			*e*Sg	**Sg**	**15 00 29.5**	**+1.9**
LASF	**Ste Croix**	**2.14 44**	*e*Pn	**Pn**	**14 59 55.9**	**+1.2**
LASF			*e*Pg	**Pg**	**15 00 00.8**	**+1.0**
LASF			*e*Sn	**Sn**	**15 00 22.0**	**+0.6**
LASF			*e*Sg	**Sg**	**15 00 29.5**	**+1.9**
SJPF	**Ste Jean**	**2.28 285**	*e*Pg	**Pg**	**15 00 02.5**	**+0.1**
SJPF			*e*Sn	**Sn**	**15 00 22.6**	**-2.2**
SJPF			*e*Sg	**Sg**	**15 00 31.5**	**-0.5**
	130nm,0.4s					
SJPF	**Ste Jean**	**2.28 285**	Pn	**Pn**	**14 59 56.1**	**-0.5**
SJPF			Pg	**Pg**	**15 00 02.5**	**+0.1**
SJPF			Sn	**Sn**	**15 00 22.6**	**-2.2**
SJPF			Lg		15 00 31.5	
	65nm,0.4s					
SJPF	**Ste Jean**	**2.28 285**	*e*Pg	**Pg**	**15 00 02.5**	**+0.1**
SJPF			*e*Sn	**Sn**	**15 00 22.6**	**-2.2**
SJPF			*e*Sg	**Sg**	**15 00 31.5**	**-0.5**
SJPF	**Ste Jean**	**2.28 285**	*e*Pn	**Pn**	**14 59 56.1**	**-0.5**
SJPF			*e*Pg	**Pg**	**15 00 02.5**	**+0.1**
SJPF			*e*Sn	**Sn**	**15 00 22.6**	**-2.2**
SJPF			*e*Sg	**Sg**	**15 00 31.5**	**-0.5**
IPRE	**Itoiz**	**2.33 277**	Pg	**Pg**	**15 00 03.0**	**-0.4**
	0.7nm,0.1s,SNR=4.0					
IPRE			Lg		15 00 34.8	
	32nm,0.3s,SNR=7.9					
IPRE	**Itoiz**	**2.33 277**	Pg	**Pg**	**15 00 03.9**	**+0.5**
	0.7nm,0.1s,SNR=4.0					
IPRE			Lg		15 00 35.2	
	29nm,0.3s,SNR=7.9					
OSSF	**Osses**	**2.34 288**	Pg	**Pg**	**15 00 01.8**	**-1.8**
OSSF			Sg	**Sg**	**15 00 33.4**	**-0.6**
OSSF	**Osses**	**2.34 288**	Pg	**Pg**	**15 00 01.4**	**-2.2**
CAF	**Calviac**	**2.37 5**	*e*Pg	**Pg**	**15 00 04.8**	**+0.6**
CAF			*e*Sn	**Sn**	**15 00 27.1**	**+0.1**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**15 00 35.1**	**+0.2**
	291nm,0.3s					
CAF	**Calviac**	**2.37 5**	Pn	**Pn**	**14 59 58.8**	**+1.0**
CAF			Pg	**Pg**	**15 00 04.8**	**+0.6**
CAF			Sn	**Sn**	**15 00 27.1**	**+0.1**
CAF			Lg		15 00 35.1	
	146nm,0.3s					
CAF	**Calviac**	**2.37 5**	*e*Pn	**Pn**	**14 59 58.8**	**+1.0**
CAF			*e*Pg	**Pg**	**15 00 04.8**	**+0.6**
CAF			*e*Sn	**Sn**	**15 00 27.1**	**+0.1**
CAF			*e*Sg	**Sg**	**15 00 35.1**	**+0.2**
IUNC	**Unciti**	**2.43 276**	Pn	**Pn**	**15 00 00.8**	**+2.1**
	0.8nm,0.1s,SNR=4.0					
IUNC			Pg	**Pg**	**15 00 05.3**	**0.0**
	3.9nm,0.2s,SNR=7.9					
IUNC			Lg		15 00 38.3	
	67nm,0.3s,SNR=7.9					
IUNC	**Unciti**	**2.43 276**	Pn	**Pn**	**15 00 02.1**	**+3.5**
	0.8nm,0.1s,SNR=4.0					
IUNC	**Unciti**	**2.43 276**	Pg	**Pg**	**15 00 06.2**	**+0.9**
	3.9nm,0.2s,SNR=7.9					
IUSE	**Utxeti**	**2.48 280**	Pn	**Pn**	**15 00 02.6**	**+3.2**
	0.6nm,0.1s,SNR=4.0					
IUSE			Pg	**Pg**	**15 00 07.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9					
IUSE			Lg		15 00 39.0	
	35nm,0.3s,SNR=7.9					
IUSE	**Utxeti**	**2.48 280**	Pn	**Pn**	**15 00 02.6**	**+3.2**
	0.6nm,0.1s,SNR=4.0					
IUSE	**Utxeti**	**2.48 280**	Pg	**Pg**	**15 00 07.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9					
EARA	**Aranguren**	**2.49 276**	Pg	**Pg**	**15 00 04.0**	**-2.5**
	13nm,0.3s,SNR=4.0					
EARA			Lg		15 00 39.3	
	55nm,0.3s,SNR=7.3					
EARA	**Aranguren**	**2.49 276**	Pg	**Pg**	**15 00 03.9**	**-2.5**
	13nm,0.3s,SNR=4.0					
LFF	**La Frestale**	**2.49 343**	*e*Pg	**Pg**	**15 00 07.1**	**+0.6**
LFF			*e*Sn	**Sn**	**15 00 29.9**	**-0.1**
	SNR=1.0					
LFF			*e*Sg	**Sg**	**15 00 40.7**	**+1.9**
	328nm,0.4s,SNR=1.0					
LFF	**La Frestale**	**2.49 343**	Pn	**Pn**	**15 00 00.3**	**+0.8**
LFF			Pg	**Pg**	**15 00 07.1**	**+0.6**
LFF			Sn	**Sn**	**15 00 29.9**	**-0.1**
LFF			Lg		15 00 40.7	
	164nm,0.4s					
LFF	**La Frestale**	**2.49 343**	*e*Pn	**Pn**	**15 00 00.3**	**+0.8**
LFF			*e*Pg	**Pg**	**15 00 07.1**	**+0.6**
LFF			*e*Sn	**Sn**	**15 00 29.9**	**-0.1**
LFF			*e*Sg	**Sg**	**15 00 40.7**	**+1.9**
EALK	**Alkurruntz**	**2.50 286**	Pn	**Pn**	**15 00 03.2**	**+3.5**
	1.2nm,0.1s,SNR=13					
EALK			Pg	**Pg**	**15 00 08.0**	**+1.3**
	1.1nm,0.1s,SNR=20					
EALK			Lg		15 00 38.6	
	83nm,0.3s,SNR=6.4					
EALK	**Alkurruntz**	**2.50 286**	Pg	**Pg**	**15 00 08.0**	**+1.2**
	1.1nm,0.1s,SNR=20					
EALK	**Alkurruntz**	**2.50 286**	Pn	**Pn**	**15 00 03.2**	**+3.5**
EALK			Pg	**Pg**	**15 00 08.1**	**+1.3**
EALK			Lg		15 00 38.6	
ELIZ	**Elizondo**	**2.51 285**	Pn	**Pn**	**15 00 03.4**	**+3.7**
	1.3nm,0.2s,SNR=7.9					
ELIZ			Pg	**Pg**	**15 00 06.1**	**-0.7**
	10nm,0.2s,SNR=7.9					
ELIZ			Lg		15 00 39.6	
	21nm,0.2s,SNR=7.9					
ELIZ	**Elizondo**	**2.51 285**	Pg	**Pg**	**15 00 03.4**	**-3.4**
ELIZ			Lg		15 00 39.8	
RJF	**Les Rejaudoux**	**2.75 356**	*e*Pg	**Pg**	**15 00 12.7**	**+1.3**
RJF			*e*Sn	**Sn**	**15 00 37.1**	**+0.8**
RJF			*e*Sg	**Sg**	**15 00 48.1**	**+1.1**
	95nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	**2.75 356**	Pn	**Pn**	**15 00 04.7**	**+1.7**
RJF			Pg	**Pg**	**15 00 12.7**	**+1.3**
RJF			Sn	**Sn**	**15 00 37.1**	**+0.8**
RJF			Lg		15 00 48.1	
	48nm,0.2s					
RJF	**Les Rejaudoux**	**2.75 356**	*e*Pg	**Pg**	**15 00 12.7**	**+1.3**
RJF			*e*Sn	**Sn**	**15 00 37.1**	**+0.8**
RJF			*e*Sg	**Sg**	**15 00 48.1**	**+1.1**
RJF	**Les Rejaudoux**	**2.75 356**	*e*Pn	**Pn**	**15 00 04.7**	**+1.7**
RJF			*e*Pg	**Pg**	**15 00 12.7**	**+1.3**
RJF			*e*Sn	**Sn**	**15 00 37.1**	**+0.8**
RJF			*e*Sg	**Sg**	**15 00 48.1**	**+1.1**
EMOS	**Mosqueruela**	**2.77 218**	Pn	**Pn**	**15 00 04.3**	**+0.9**
	0.8nm,0.1s,SNR=14					
EMOS			Pg	**Pg**	**15 00 09.1**	**-2.9**
	3.8nm,0.2s,SNR=34					
EMOS			Sn	**Sn**	**15 00 37.2**	**+0.2**
	3.3nm,0.1s,SNR=7.9					
EMOS			Lg		15 00 44.4	
	14nm,0.2s,SNR=5.0					
EMOS	**Mosqueruela**	**2.77 218**	Pg	**Pg**	**15 00 09.1**	**-2.8**
	3.8nm,0.2s,SNR=34					
EMOS	**Mosqueruela**	**2.77 218**	Pn	**Pn**	**15 00 04.3**	**+0.9**
EMOS			Pg	**Pg**	**15 00 09.1**	**-2.9**
EMOS			Sn	**Sn**	**15 00 37.5**	**+0.4**
EMOS			Lg		15 00 44.4	
LBL	**Lubilhac**	**2.87 21**	Pg	**Pg**	**15 00 15.2**	**+1.4**
LBL			Sg	**Sg**	**15 00 53.6**	**+2.6**
LBL	**Lubilhac**	**2.87 21**	Pn	**Pn**	**15 00 05.8**	**+1.1**
LBL			Pg	**Pg**	**15 00 15.2**	**+1.4**
LBL			Sg	**Sg**	**15 00 53.6**	**+2.6**
FRNF	**Fournols**	**2.88 11**	Pg	**Pg**	**15 00 14.4**	**+0.5**
FRNF			Sg	**Sg**	**15 00 51.5**	**+0.3**
ETOS	**Mallorca**	**2.90 164**	Pn	**Pn**	**15 00 04.4**	**-0.7**
	0.8nm,0.1s,SNR=10.0					
ETOS			Sn	**Sn**	**15 00 37.0**	**-3.1**
	2.8nm,0.1s,SNR=6.1					
ETOS	**Mallorca**	**2.90 164**	Pn	**Pn**	**15 00 04.4**	**-0.7**
	0.8nm,0.1s,SNR=10.0					
ETOS			Sn	**Sn**	**15 00 37.0**	**-3.1**
	2.8nm,0.1s,SNR=6.1					
VIVF	**Saint-Julien-l**	**3.11 41**	*e*Pg	**Pg**	**15 00 18.1**	**-0.2**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**15 00 58.3**	**-0.3**
	58nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**3.11 41**	Pn	**Pn**	**15 00 09.0**	**+1.0**
VIVF			Pg	**Pg**	**15 00 18.1**	**-0.2**
VIVF			Lg		15 00 58.3	
	0.0nm,0.3s					
VIVF	**Saint-Julien-l**	**3.11 41**	*e*Pg	**Pg**	**15 00 18.1**	**-0.2**
VIVF			*e*Sg	**Sg**	**15 00 58.3**	**-0.3**
VIVF	**Saint-Julien-l**	**3.11 41**	*e*Pn	**Pn**	**15 00 09.0**	**+1.0**
VIVF			*e*Pg	**Pg**	**15 00 18.1**	**-0.2**
VIVF			*e*Sg	**Sg**	**15 00 58.3**	**-0.3**
SMRF	**Simiane la Rot**	**3.11 62**	*e*Pg	**Pg**	**15 00 19.0**	**+0.6**
	SNR=1.0					
SMRF			*e*Sn	**Sn**	**15 00 44.8**	**-0.5**
SMRF			*e*Sg	**Sg**	**15 00 58.6**	**-0.1**
	41nm,0.6s					
SMRF	**Simiane la Rot**	**3.11 62**	Pn	**Pn**	**15 00 09.3**	**+1.3**
SMRF			Pg	**Pg**	**15 00 19.0**	**+0.6**
SMRF			Sn	**Sn**	**15 00 44.8**	**-0.5**
SMRF			Lg		15 00 58.6	
	41nm,0.6s					
SMRF	**Simiane la Rot**	**3.11 62**	*e*Pn	**Pn**	**15 00 09.3**	**+1.3**
SMRF			*e*Pg	**Pg**	**15 00 19.0**	**+0.6**
SMRF			*e*Sn	**Sn**	**15 00 44.8**	**-0.5**
SMRF			*e*Sg	**Sg**	**15 00 58.6**	**-0.1**
ECRI	**Cripan**	**3.17 272**	Pn	**Pn**	**15 00 12.2**	**+3.4**
	5.8nm,0.2s,SNR=7.9					
ECRI			Lg		15 01 00.9	
	24nm,0.2s,SNR=4.0					
ECRI	**Cripan**	**3.17 272**	Pn	**Pn**	**15 00 12.2**	**+3.4**
	5.8nm,0.2s,SNR=7.9					
VERF	**Verneugheol**	**3.23 9**	Pg	**Pg**	**15 00 20.5**	**-0.1**
VERF			Sg	**Sg**	**15 01 02.8**	**+0.4**
VERF	**Verneugheol**	**3.23 9**	Pg	**Pg**	**15 00 20.5**	**-0.1**
VERF			Sg	**Sg**	**15 01 02.8**	**+0.4**
VERF	**Verneugheol**	**3.23 9**	Pn	**Pn**	**15 00 11.7**	**+2.1**
VERF			Pg	**Pg**	**15 00 20.5**	**-0.1**
VERF			Sg	**Sg**	**15 01 02.8**	**+0.4**
COLF	**Collangettes**	**3.26 24**	Pg	**Pg**	**15 00 21.4**	**+0.2**
COLF	**Collangettes**	**3.26 24**	Pn	**Pn**	**15 00 11.5**	**+1.4**
COLF			Pg	**Pg**	**15 00 21.4**	**+0.2**
PYM	**Petit Puy Mans**	**3.31 15**	Pg	**Pg**	**15 00 23.0**	**+0.9**
PYM			Sg	**Sg**	**15 01 07.4**	**+2.4**
EIBI	**Ibiza**	**3.55 186**	Pn	**Pn**	**15 00 13.2**	**-0.8**
	1.5nm,0.1s,SNR=7.6					
EIBI			Sn	**Sn**	**15 00 51.8**	**-4.3**
	7.2nm,0.2s,SNR=7.9					
EIBI	**Ibiza**	**3.55 186**	Pn	**Pn**	**15 00 13.2**	**-0.8**
	1.5nm,0.1s,SNR=7.6					
EIBI			Sn	**Sn**	**15 00 51.8**	**-4.3**
	7.2nm,0.2s,SNR=7.9					
LMR	**La Mourre**	**3.56 76**	*e*Pg	**Pg**	**15 00 25.8**	**-1.1**
LMR			*e*Sn	**Sn**	**15 00 55.5**	**-0.8**
	14nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**3.56 76**	Pn	**Pn**	**15 00 15.4**	**+1.3**
LMR			Pg	**Pg**	**15 00 25.8**	**-1.1**
LMR			Sn	**Sn**	**15 00 55.5**	**-0.8**
	7.2nm,0.3s					
LMR	**La Mourre**	**3.56 76**	*e*Pn	**Pn**	**15 00 15.4**	**+1.3**
LMR			*e*Pg	**Pg**	**15 00 25.8**	**-1.1**
LMR			*e*Sn	**Sn**	**15 00 55.5**	**-0.8**
AGO	**Saint Agoulin**	**3.62 15**	Pg	**Pg**	**15 00 28.8**	**+0.7**
AGO	**Saint Agoulin**	**3.62 15**	Pn	**Pn**	**15 00 15.7**	**+0.7**
AGO			Pg	**Pg**	**15 00 28.8**	**+0.7**
ECHE	**Chera**	**3.62 216**	Pn	**Pn**	**15 00 15.6**	**+0.6**
	2.0nm,0.2s,SNR=12					
ECHE			Pg	**Pg**	**15 00 25.5**	**-2.7**
	4.2nm,0.2s,SNR=7.4					
ECHE			Lg		15 01 13.0	
	6.7nm,0.3s,SNR=4.0					
ECHE	**Chera**	**3.62 216**	Pg	**Pg**	**15 00 27.7**	**-0.5**
	4.2nm,0.2s,SNR=7.4					
ECHE	**Chera**	**3.62 216**	Pn	**Pn**	**15 00 15.6**	**+0.6**
ECHE			Pg	**Pg**	**15 00 27.7**	**-0.5**
ECHE			Lg		15 01 13.0	
PLDF	**La Plantade**	**3.65 21**	Pg	**Pg**	**15 00 29.1**	**+0.3**
FRF	**La Foret Royal**	**3.70 73**	*e*Pg	**Pg**	**15 00 28.6**	**-1.1**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**15 00 58.5**	**-1.4**
	13nm,0.3s,SNR=1.0					
FRF	**La Foret Royal**	**3.70 73**	Pn	**Pn**	**15 00 17.0**	**+0.8**
FRF			Pg	**Pg**	**15 00 28.6**	**-1.1**
FRF			Sn	**Sn**	**15 00 58.5**	**-1.4**
	6.6nm,0.3s					
FRF	**La Foret Royal**	**3.70 73**	*e*Pn	**Pn**	**15 00 17.0**	**+0.8**
FRF			*e*Pg	**Pg**	**15 00 28.6**	**-1.1**
FRF			*e*Sn	**Sn**	**15 00 58.5**	**-1.4**
TCF	**Toulx Ste Croi**	**3.74 5**	*e*Pg	**Pg**	**15 00 30.1**	**-0.3**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**15 01 00.3**	**-0.4**
TCF			*e*Sg	**Sg**	**15 01 17.9**	**-0.9**
	96nm,0.5s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.74 5**	Pn	**Pn**	**15 00 18.3**	**+1.7**
TCF			Pg	**Pg**	**15 00 30.1**	**-0.3**
TCF			Sn	**Sn**	**15 01 00.3**	**-0.4**
TCF			Lg		15 01 17.9	
	48nm,0.5s					
TCF	**Toulx Ste Croi**	**3.74 5**	*e*Pn	**Pn**	**15 00 18.3**	**+1.7**
TCF			*e*Pg	**Pg**	**15 00 30.1**	**-0.3**
TCF			*e*Sn	**Sn**	**15 01 00.3**	**-0.4**
TCF			*e*Sg	**Sg**	**15 01 17.9**	**-0.9**
ORIF	**Oris-en-Rattie**	**3.79 50**	*e*Pg	**Pg**	**15 00 31.2**	**-0.2**
	SNR=1.0					
ORIF			*e*Sn	**Sn**	**15 01 01.5**	**-0.6**
ORIF			*e*Sg	**Sg**	**15 01 19.7**	**-0.8**
	8.8nm,0.4s					
ORIF	**Oris-en-Rattie**	**3.79 50**	Pn	**Pn**	**15 00 18.8**	**+1.4**
ORIF			Pg	**Pg**	**15 00 31.2**	**-0.2**
ORIF			Sn	**Sn**	**15 01 01.5**	**-0.6**
ORIF			Lg		15 01 19.7	
	4.4nm,0.4s					
ORIF	**Oris-en-Rattie**	**3.79 50**	*e*Pn	**Pn**	**15 00 18.8**	**+1.4**
ORIF			*e*Pg	**Pg**	**15 00 31.2**	**-0.2**
ORIF			*e*Sn	**Sn**	**15 01 01.5**	**-0.6**
ORIF			*e*Sg	**Sg**	**15 01 19.7**	**-0.8**
ELAN	**Lanestosa**	**3.89 282**	Pn	**Pn**	**15 00 22.5**	**+3.8**
	0.5nm,0.1s,SNR=7.9					
ELAN			Pg	**Pg**	**15 00 33.8**	**+0.5**
	2.6nm,0.2s,SNR=4.8					
ELAN			Sn	**Sn**	**15 01 05.0**	**+0.5**
	1.1nm,0.1s,SNR=5.0					
ELAN	**Lanestosa**	**3.89 282**	Pn	**Pn**	**15 00 22.5**	**+3.8**
	0.5nm,0.1s,SNR=7.9					
ELAN	**Lanestosa**	**3.89 282**	Pg	**Pg**	**15 00 33.8**	**+0.5**
	2.6nm,0.2s,SNR=4.8					
ELAN	**Lanestosa**	**3.89 282**	Pn	**Pn**	**15 00 22.5**	**+3.8**
ELAN			Pg	**Pg**	**15 00 33.8**	**+0.5**
ELAN			Sn	**Sn**	**15 01 06.7**	**+2.1**
BGF	**Bois d'Agland**	**4.07 10**	*e*Pg	**Pg**	**15 00 36.7**	**0.0**
BGF			*e*Sg	**Sg**	**15 01 27.5**	**-1.8**
	201nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**4.07 10**	Pn	**Pn**	**15 00 22.0**	**+0.9**
BGF			Pg	**Pg**	**15 00 36.7**	**0.0**
BGF			Lg		15 01 27.5	
	101nm,0.3s					
BGF	**Bois d'Agland**	**4.07 10**	*e*Pn	**Pn**	**15 00 22.0**	**+0.9**
BGF			*e*Pg	**Pg**	**15 00 36.7**	**0.0**
BGF			*e*Sg	**Sg**	**15 01 27.5**	**-1.8**
EBEN	**Beniarda**	**4.15 202**	Pn	**Pn**	**15 00 22.0**	**-0.3**
	4.2nm,0.1s,SNR=23					
EBEN			Sn	**Sn**	**15 01 07.8**	**-3.1**
	1.3nm,0.2s,SNR=7.9					
EBEN	**Beniarda**	**4.15 202**	Sn	**Sn**	**15 01 07.8**	**-3.1**
	1.3nm,0.2s,SNR=7.9					
MBDF	**Montbardon**	**4.22 57**	*e*Pn	**Pn**	**15 00 24.9**	**+1.7**
	SNR=1.0					
MBDF			*e*Sn	**Sn**	**15 01 11.2**	**-1.4**
MBDF			*e*Sg	**Sg**	**15 01 33.9**	**-0.3**
	16nm,0.8s					
MBDF	**Montbardon**	**4.22 57**	Pn	**Pn**	**15 00 24.9**	**+1.7**
MBDF			Sn	**Sn**	**15 01 11.2**	**-1.4**
MBDF			Lg		15 01 33.9	
	7.9nm,0.8s					
MFF	**Saint Martin d**	**4.27 342**	*e*Pg	**Pg**	**15 00 40.9**	**+0.4**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**15 01 12.5**	**-1.3**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**15 01 34.7**	**-1.1**
	45nm,0.4s,SNR=1.0					
MFF	**Saint Martin d**	**4.27 342**	Pn	**Pn**	**15 00 24.7**	**+0.8**
MFF			Pg	**Pg**	**15 00 40.9**	**+0.4**
MFF			Sn	**Sn**	**15 01 12.5**	**-1.3**
MFF			Lg		15 01 34.7	
	22nm,0.4s					
MFF	**Saint Martin d**	**4.27 342**	*e*Pn	**Pn**	**15 00 24.7**	**+0.8**
MFF			*e*Pg	**Pg**	**15 00 40.9**	**+0.4**
MFF			*e*Sn	**Sn**	**15 01 12.5**	**-1.3**
MFF			*e*Sg	**Sg**	**15 01 34.7**	**-1.1**
SBF	**Sospel**	**4.33 71**	*e*Pn	**Pn**	**15 00 26.6**	**+1.8**
SBF			*e*Sn	**Sn**	**15 01 14.0**	**-1.4**
	21nm,0.4s,SNR=1.0					
SBF	**Sospel**	**4.33 71**	Pn	**Pn**	**15 00 26.6**	**+1.8**
SBF			Sn	**Sn**	**15 01 14.0**	**-1.4**
	10nm,0.4s					
SMF	**Signal de Mont**	**4.34 19**	*e*Pg	**Pg**	**15 00 41.4**	**-0.5**
	SNR=1.0					
SMF			*e*Sn	**Sn**	**15 01 13.5**	**-2.1**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**15 01 36.6**	**-1.5**
	20nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	**4.34 19**	Pn	**Pn**	**15 00 26.1**	**+1.2**
SMF			Pg	**Pg**	**15 00 41.4**	**-0.5**
SMF			Sn	**Sn**	**15 01 13.5**	**-2.1**
SMF			Lg		15 01 36.6	
	9.8nm,0.2s					
SMF	**Signal de Mont**	**4.34 19**	*e*Pn	**Pn**	**15 00 26.1**	**+1.2**
SMF			*e*Pg	**Pg**	**15 00 41.4**	**-0.5**
SMF			*e*Sn	**Sn**	**15 01 13.5**	**-2.1**
SMF			*e*Sg	**Sg**	**15 01 36.6**	**-1.5**
AVF	**Avril sur Loir**	**4.37 14**	*e*Pg	**Pg**	**15 00 42.4**	**-0.1**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**15 01 37.9**	**-1.3**
	24nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	**4.37 14**	Pn	**Pn**	**15 00 26.7**	**+1.3**
AVF			Pg	**Pg**	**15 00 42.4**	**-0.1**
AVF			Lg		15 01 37.9	
	12nm,0.2s					
AVF	**Avril sur Loir**	**4.37 14**	*e*Pn	**Pn**	**15 00 26.7**	**+1.3**
AVF			*e*Pg	**Pg**	**15 00 42.4**	**-0.1**
AVF			*e*Sg	**Sg**	**15 01 37.9**	**-1.3**
LPG	**La Plagne**	**4.63 49**	*e*Pn	**Pn**	**15 00 29.6**	**+0.7**
LPG			*e*Sg	**Sg**	**15 01 47.1**	**-0.4**

25nm,0.4s,baz=196,SNR=1.0
LOR Lormes 4.93 17 Pn **Pn 15 00 33.6 +0.6**
LOR Pg **Pg 15 00 52.5 -0.7**
LOR Sn **Sn 15 01 29.5 -0.7**
LOR Lg 15 01 56.0
13nm,0.4s
LOR Lormes 4.93 17 *e*Pn **Pn 15 00 33.6 +0.6**
LOR *e*Pg **Pg 15 00 52.5 -0.7**
LOR *e*Sn **Sn 15 01 29.5 -0.7**
LOR *e*Sg **Sg 15 01 56.0 -1.1**
CABF La Chapelle 5.08 36 *e*Pg **Pg 15 00 55.0 -1.1**
SNR=1.0
CABF *e*Sg **Sg 15 02 00.1 -1.9**
41nm,0.7s,SNR=1.0
CABF La Chapelle 5.08 36 Pn **Pn 15 00 36.0 +0.9**
CABF Pg **Pg 15 00 55.0 -1.1**
CABF Lg 15 02 00.1
20nm,0.7s
CABF La Chapelle 5.08 36 *e*Pn **Pn 15 00 36.0 +0.9**
CABF *e*Pg **Pg 15 00 55.0 -1.1**
CABF *e*Sg **Sg 15 02 00.1 -1.9**
EARI Arriondas 5.18 281 Pn **Pn 15 00 38.7 +2.2**
0.7nm,0.1s,SNR=15
EARI Sn **Sn 15 01 35.7 -0.7**
72nm,1.6s,SNR=5.0
EARI Arriondas 5.18 281 Pn **Pn 15 00 38.7 +2.2**
EARI Sn **Sn 15 01 36.8 +0.3**
EARI Arriondas 5.18 281 Pn **Pn 15 00 38.7 +2.2**
EARI Sn **Sn 15 01 36.8 +0.4**
ESDC Sonseca Array 5.21 238 Pn **Pn 15 00 36.4 -0.5**
2.1nm,0.1s,baz=57,slow=14,SNR=10
ESDC Sn **Sn 15 01 33.5 -3.6**
2.8nm,0.1s,baz=54,slow=23,SNR=10
ESDC Lg 15 01 59.7
1.2nm,0.3s,baz=59,slow=30,SNR=3.5
ESDC Sonseca Array 5.21 238 Pn **Pn 15 00 36.4 -0.5**
2.1nm,0.1s,SNR=10
ESDC Sn **Sn 15 01 33.5 -3.6**
2.8nm,0.1s,SNR=10
PGF Pioggiola 5.33 88 *e*Pn **Pn 15 00 38.4 -0.2**
SNR=1.0
PGF *e*Sn **Sn 15 01 35.6 -4.5**
24nm,0.4s,SNR=1.0
PGF Pioggiola 5.33 88 Pn **Pn 15 00 38.4 -0.2**
PGF Sn **Sn 15 01 35.6 -4.5**
12nm,0.4s
SFTF Sexfontaines 6.09 21 *e*P **Pn 15 00 54.1 +5.1**
baz=197
SFTF Sexfontaines 6.09 21 *e*Pg **Pg 15 01 13.9 -1.5**
SFTF *e*Sg **Sg 15 02 33.6 -0.7**
23nm,0.5s
SFTF Sexfontaines 6.09 21 Pn **Pn 15 00 54.1 +5.1**
SFTF Pg **Pg 15 01 13.9 -1.5**
SFTF Lg 15 02 33.6
23nm,0.5s
SFTF Sexfontaines 6.09 21 *e*P **Pn 15 00 54.1 +5.1**
SFTF *e*Pg **Pg 15 01 13.9 -1.5**
SFTF *e*Sg **Sg 15 02 33.6 -0.7**
GRR Gorron 6.11 343 *e*Pg **Pg 15 01 14.1 -1.7**
GRR *e*Sn **Sn 15 01 57.4 -1.9**
GRR *e*Sg **Sg 15 02 32.8 -2.2**
16nm,0.4s,SNR=1.0
GRR Gorron 6.11 343 Pn **Pn 15 00 50.5 +1.2**
GRR Pg **Pg 15 01 14.1 -1.7**
GRR Sn **Sn 15 01 57.4 -1.9**
GRR Lg 15 02 32.8
8.2nm,0.4s
GRR Gorron 6.11 343 *e*Pn **Pn 15 00 50.5 +1.2**
GRR *e*Pg **Pg 15 01 14.1 -1.7**
GRR *e*Sn **Sn 15 01 57.4 -1.9**
GRR *e*Sg **Sg 15 02 32.8 -2.2**
LDF La Druitiere 6.18 348 *e*Pg **Pg 15 01 15.4 -1.7**
LDF *e*Sn **Sn 15 01 59.1 -1.8**
LDF *e*Sg **Sg 15 02 35.3 -1.7**
12nm,0.4s,SNR=1.0
LDF La Druitiere 6.18 348 *e*Pn **Pn 15 00 51.1 +0.9**
LDF *e*Pg **Pg 15 01 15.4 -1.7**
LDF *e*Sn **Sn 15 01 59.1 -1.8**
LDF *e*Sg **Sg 15 02 35.3 -1.7**
HAU Haudompre 6.32 29 *e*Pg **Pg 15 01 18.4 -1.5**
SNR=1.0
HAU *e*Sg **Sg 15 02 41.4 -0.4**
10nm,0.3s
HAU Haudompre 6.32 29 Pn **Pn 15 00 52.7 +0.5**
HAU Pg **Pg 15 01 18.4 -1.5**
HAU Lg 15 02 41.4
5.1nm,0.3s
HAU Haudompre 6.32 29 *e*Pn **Pn 15 00 52.7 +0.5**
HAU *e*Pg **Pg 15 01 18.4 -1.5**
HAU *e*Sg **Sg 15 02 41.4 -0.4**
ECAL Calabor 6.35 267 Pn **Pn 15 00 53.2 +0.7**
0.8nm,0.1s,SNR=7.9
ECAL Sn **Sn 15 02 01.8 -3.5**
1.6nm,0.2s,SNR=7.9
ECAL Calabor 6.35 267 Pn **Pn 15 00 53.2 +0.6**
ECAL Sn **Sn 15 02 01.8 -3.4**
HINF Hinteralfeld 6.36 33 *e*Pg **Pg 15 01 18.8 -1.7**
HINF *e*Sg **Sg 15 02 42.1 -0.8**
12nm,0.4s
HINF Hinteralfeld 6.36 33 Pn **Pn 15 00 53.2 +0.6**
HINF Pg **Pg 15 01 18.8 -1.7**
HINF Lg 15 02 42.1
5.9nm,0.4s
HINF Hinteralfeld 6.36 33 *e*Pn **Pn 15 00 53.2 +0.6**
HINF *e*Pg **Pg 15 01 18.8 -1.7**
HINF *e*Sg **Sg 15 02 42.1 -0.8**
MEZF Maizieres J'vi 6.37 20 *e*Sg **Sg 15 02 42.2 -1.0**
28nm,0.4s
MEZF Maizieres J'vi 6.37 20 Lg 15 02 42.2
28nm,0.4s
QUIF Quistinic 6.39 329 *e*Pg **Pg 15 01 18.7 -2.4**
QUIF *e*Sn **Sn 15 02 03.7 -2.5**
11nm,0.4s,SNR=1.0
QUIF *e*Sg **Sg 15 02 42.5 -1.4**
14nm,0.5s
QUIF Quistinic 6.39 329 Pn **Pn 15 00 53.8 +0.7**
QUIF Pg **Pg 15 01 18.7 -2.4**
QUIF Sn **Sn 15 02 03.7 -2.5**
0.0nm,0.4s
QUIF Lg 15 02 42.5
6.8nm,0.5s
QUIF Quistinic 6.39 329 *e*Pn **Pn 15 00 53.8 +0.7**
QUIF *e*Pg **Pg 15 01 18.7 -2.4**
QUIF *e*Sn **Sn 15 02 03.7 -2.5**
QUIF *e*Sg **Sg 15 02 42.5 -1.4**
FLN La Foliniere 6.40 346 *e*Pn **Pn 15 00 54.0 +0.8**
baz=167
FLN La Foliniere 6.40 346 *e*Pg **Pg 15 01 19.7 -1.6**
baz=169
FLN *e*Sn **Sn 15 02 04.7 -1.7**
baz=160,SNR=1.0
FLN *e*Sg **Sg 15 02 43.8 -0.4**
24nm,0.5s,SNR=1.0
FLN La Foliniere 6.40 346 Pn **Pn 15 00 54.0 +0.8**
FLN Pg **Pg 15 01 19.7 -1.6**
FLN Sn **Sn 15 02 04.7 -1.7**
FLN Lg 15 02 43.8
12nm,0.5s
FLN La Foliniere 6.40 346 *e*Pn **Pn 15 00 54.0 +0.8**
FLN *e*Pg **Pg 15 01 19.7 -1.6**
FLN *e*Sn **Sn 15 02 04.7 -1.7**
FLN *e*Sg **Sg 15 02 43.8 -0.4**
SGMF Saint Gilles 6.46 333 *e*Pg **Pg 15 01 20.5 -1.9**
SGMF *e*Sn **Sn 15 02 02.8 -5.0**
SGMF *e*Sg **Sg 15 02 44.4 -1.6**
22nm,0.5s
SGMF Saint Gilles 6.46 333 Pn **Pn 15 00 54.4 +0.4**
SGMF Pg **Pg 15 01 20.5 -1.9**
SGMF Sn **Sn 15 02 02.8 -5.0**
SGMF Lg 15 02 44.4
11nm,0.5s
SGMF Saint Gilles 6.46 333 *e*Pn **Pn 15 00 54.4 +0.4**
SGMF *e*Pg **Pg 15 01 20.5 -1.9**
SGMF *e*Sn **Sn 15 02 02.8 -5.0**
SGMF *e*Sg **Sg 15 02 44.4 -1.6**
EADA Adamuz 6.54 230 Pn **Pn 15 00 54.7 -0.5**
0.2nm,0.0s,SNR=7.9
EADA Sn **Sn 15 02 04.6 -5.4**
1.7nm,0.2s,SNR=7.9
EADA Lg 15 02 41.7
1.0nm,0.3s,SNR=7.9
EADA Adamuz 6.54 230 Pn **Pn 15 00 54.7 -0.5**
EADA Sn **Sn 15 02 04.6 -5.4**
RFYF Reffroy 6.59 22 *e*Sg **Sg 15 02 49.7 -0.8**
17nm,0.4s,baz=197
RFYF Reffroy 6.59 22 Lg 15 02 49.7
17nm,0.4s
ROSF Rostrenen 6.78 330 *e*Pn **Pn 15 00 59.4 +1.0**
SNR=1.0
ROSF *e*Sn **Sn 15 02 11.7 -4.0**
ROSF *e*Sg **Sg 15 02 54.5 -1.8**
12nm,0.6s
ROSF Rostrenen 6.78 330 Pn **Pn 15 00 59.4 +1.0**
ROSF Sn **Sn 15 02 11.7 -4.0**
ROSF Lg 15 02 54.5
6.2nm,0.6s
CDF Champ du Feu 7.01 32 *e*Sg **Sg 15 03 02.8 -0.9**
6.5nm,0.5s
CDF Champ du Feu 7.01 32 Lg 15 03 02.8
3.2nm,0.5s
BAIF Baives 7.68 12 *e*Sg **Sg 15 03 24.2 -1.1**
2.0nm,0.2s
BAIF Baives 7.68 12 Lg 15 03 24.2
1.0nm,0.2s

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*ISCJB **07** 14:59:51.0±0.5,2640S±003×2747E±004,h2km,mb3.5/2, Error ellipse: s-maj=5.1km s-min=4.5km az=83.4*
*PRE **07** 14:59:51.6±1.4,2641S×2750E,h2km,ML2.9*
*IDC **07** 14:59:52.7±1.5,2643S×2741E,h0km,mb3.5/2,mb1 3.6/7, mb1mx3.5/24,mbtmp3.6/7,ML3.3/4,Error ellipse: s-maj=19.0km s-min=13.4km az=100.0*
*NEIC **07** 14:59:53.6±1.2,2642S×2744E,h5km,Error ellipse: s-maj=21.1km s-min=11.1km az=107.0*
ISC 07 14:59:52.3±0.5,2640S±003×2746E±003,h2km,n18, σ1§11/29,mb3.5/2,1D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.75**	**317**	*e*P	**Pg**	**15 00 06.9**	**+0.3**
KSR				*e*S	**Sg**	**15 00 16.8**	**+0.5**
KSR				AML	AML	15 00 23.5	
comp=Z,1μm,0.9s							
SLR	**Silverton**	**0.99**	**48**	*e*P	**Pg**	**15 00 10.4**	**-1.0**
SLR				*e*S	**Sg**	**15 00 23.4**	**-0.8**
SLR				AML	AML	15 00 29.0	
comp=Z,118nm,0.2s							
SEK	**Senekal**	**1.92**	**176**	*e*S	**Sn**	**15 00 49.8**	**-0.9**
SEK				AML	AML	15 00 57.5	
comp=Z,166nm,0.3s							
LBTB	**Lobatse**	**2.18**	**309**	*e*P	**Pn**	**15 00 30.4**	**+0.8**
LBTB				*e*S	**Sn**	**15 00 57.3**	**+0.2**
LBTB				AML	AML	15 01 02.1	
comp=Z,127nm,0.3s							
LBTB	**Lobatse**	**2.18**	**309**	Pn	**Pn**	**15 00 31.3**	**+1.7**
comp=Z,16nm,0.3s,baz=142,slow=17,SNR=213							
LBTB				Pg	**Pg**	**15 00 32.6**	**-1.5**
comp=Z,16nm,0.3s,baz=138,slow=15,SNR=217							
LBTB				Lg		15 01 00.5	
comp=Z,54nm,0.3s,baz=238,slow=21,SNR=44							
LBTB				Rg		15 01 10.4	
comp=Z,158nm,1.0s,baz=213,slow=13,SNR=18							
LBTB	**Lobatse**	**2.18**	**309**	⇓*i*Pn	**Pn**	**15 00 31.3**	**+1.7**
LBTB				Pg	**Pg**	**15 00 32.6**	**-1.4**
LBTB				*e*Sg	**Sg**	**15 01 00.5**	**-1.9**
LBTB				Lg		15 01 00.5	
LBTB				Rg		15 01 10.4	
BOSA	**Boshof**	**2.95**	**221**	*e*P	**Pn**	**15 00 39.9**	**-0.2**
BOSA				*e*S	**Sn**	**15 01 16.7**	**+0.6**
BOSA				AML	AML	15 01 24.0	
comp=Z,41nm,0.3s							
BOSA	**Boshof**	**2.95**	**221**	Pn	**Pn**	**15 00 41.0**	**+0.8**
comp=Z,1.6nm,0.3s,baz=48,slow=14,SNR=43							
BOSA				Pg	**Pg**	**15 00 46.5**	**-2.3**
comp=Z,2.9nm,0.3s,baz=41,slow=15,SNR=20							
BOSA				Lg		15 01 23.5	
comp=Z,14nm,0.3s,baz=329,slow=17,SNR=30							
BOSA	**Boshof**	**2.95**	**221**	*e*Pn	**Pn**	**15 00 40.7**	**+0.5**
BOSA				Pg	**Pg**	**15 00 46.5**	**-2.3**
BOSA				*e*Sg	**Sg**	**15 01 23.2**	**-3.9**
BOSA				Lg		15 01 23.5	
POGA	**Pongola**	**3.83**	**106**	*e*P	**Pn**	**15 00 53.2**	**+0.9**
POGA				*e*S	**Sn**	**15 01 37.5**	**-0.3**
POGA				AML	AML	15 01 42.0	
comp=Z,6.2nm,0.2s							
SUR	**Sutherland**	**8.31**	**223**	Pn	**Pn**	**15 01 55.7**	**+1.9**
comp=Z,0.4nm,0.3s,baz=52,slow=16,SNR=5.0							
SUR				Lg		15 04 13.3	
comp=Z,1.5nm,0.3s,baz=303,slow=19,SNR=6.0							
SUR	**Sutherland**	**8.31**	**223**	Pn	**Pn**	**15 01 55.1**	**+1.3**
SUR				Lg		15 04 13.3	
LSZ	**Lusaka**	**11.09**	**4**	Pn	**Pn**	**15 02 34.0**	**+2.1**
comp=Z,0.3nm,0.3s,baz=179,slow=18,SNR=2.9							
LSZ	**Lusaka**	**11.09**	**4**	Pn	**Pn**	**15 02 34.0**	**+2.1**
TSUM	**Tsumeb**	**11.59**	**306**	Pn	**Pn**	**15 02 38.8**	**+0.1**
comp=Z,0.3nm,0.3s,baz=126,slow=14,SNR=4.7							
TSUM	**Tsumeb**	**11.59**	**306**	*e*Pn	**Pn**	**15 02 38.7**	**0.0**
TORD	**Torodi Ar. Bea**	**46.62**	**324**	P	**P**	**15 08 22.2**	**+0.3**
comp=Z,0.9nm,1.2s,mb3.6,baz=142,slow=7.2,SNR=5.5							
MKAR	**Makanchi Array**	**88.07**	**34**	P	**P**	**15 12 44.5**	**+0.2**
comp=Z,0.3nm,1.0s,mb3.5,baz=224,slow=6.6,SNR=2.9							

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*IDC **07** 15:21:40.6±3.2,4026N×6284E,h0km,mb3.5/3,mb1 3.7/6, mb1mx3.4/23,mbtmp3.6/6,ML3.5/3,Error ellipse: s-maj=45.7km s-min=25.3km az=11.0*
*NNC **07** 15:21:41.7±3.5,4037N×6309E,h0km,mb3.8,mpv3.9, Error ellipse: s-maj=37.7km s-min=13.0km az=10.0*
*CSEM **07** 15:21:42.1±0.2,4007N×6340E,h40km,mb3.8,Error ellipse: s-maj=5.2km s-min=3.2km az=30.0*
*MOS **07** 15:21:45.3±1.4,4062N×6324E,h33km,mb3.5/1,Error ellipse: s-maj=27.3km s-min=12.9km az=74.0*
*NEIC **07** 15:21:45.3±2.3,4047N×6328E,h25km,Error ellipse: s-maj=32.4km s-min=16.7km az=16.0*
*ISCJB **07** 15:21:47.5±1.2,4085N±008×6338E±010,h33km,mb3.4/2, Error ellipse: s-maj=13.3km s-min=7.5km az=82.5*
ISC 07 15:21:48.9±1.2,4073N±008×6339E±009,h35km,n29, σ1§24/36,mb3.4/2,6C-6D,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.82**	**64**	Pn	**Pn**	**15 23 13.3**	**+0.7**
3.4nm,0.4s,baz=249,slow=15,SNR=20							
KK31				⇓Pg	Pn	15 23 37.3	+25
6.5nm,0.4s,baz=239,slow=18,SNR=9.0							
KK31				⇓Lg		15 24 56.5	
17nm,0.5s,baz=245,slow=28,SNR=4.2							
KK31	**Karatay Array**	**5.82**	**64**	Pg	Px	15 23 37.3	
6.5nm,0.4s,SNR=9.0							
AAK	**Ala-Archa**	**8.53**	**73**	*e*P	**Pn**	**15 23 49.2**	**-0.6**
2.9nm,0.7s							
AAK	**Ala-Archa**	**8.53**	**73**	*e*P	**Pn**	**15 23 49.2**	**-0.6**
2.9nm,0.7s							
AB31	**Akbulak array**	**8.87**	**345**	⇓Pn	**Pn**	**15 23 55.1**	**+0.6**
0.4nm,0.2s,baz=153,slow=15,SNR=31							
AB31				⇓Sn	**Sn**	**15 25 35.0**	**+1.8**
0.7nm,0.3s,baz=154,slow=27,SNR=4.2							
AB31				⇑Lg		15 26 38.0	
12nm,0.9s,baz=154,slow=26,SNR=4.9							
AB31	**Akbulak array**	**8.87**	**345**	Pn	**Pn**	**15 23 55.1**	**+0.6**
0.4nm,0.2s,SNR=31							
AB31				Sn	**Sn**	**15 25 35.0**	**+1.9**
SNR=4.2							
AKTK	**Aktyubinsk**	**10.41**	**341**	Pn	**Pn**	**15 24 14.4**	**-1.2**
AKTK				Sn	**Sn**	**15 26 09.8**	**-1.1**
AKTK	**Aktyubinsk**	**10.41**	**341**	Pn	**Pn**	**15 24 14.4**	**-1.1**
AKTK				Sn	**Sn**	**15 26 09.8**	**-1.2**
AKTO	**Aktyubinsk**	**10.41**	**341**	⇑Pn	**Pn**	**15 24 16.9**	**+1.4**
0.4nm,0.6s							
AKTO				⇑Sn	**Sn**	**15 26 11.5**	**+0.6**
0.5nm,0.7s							
AKTO	**Aktyubinsk**	**10.41**	**341**	Pn	**Pn**	**15 24 14.4**	**-1.1**
0.5nm,0.3s,baz=162,slow=10,SNR=13							
AKTO				Sn	**Sn**	**15 26 09.8**	**-1.2**
0.2nm,0.3s,baz=170,slow=22,SNR=4.0							
AKTO	**Aktyubinsk**	**10.41**	**341**	P	**Pn**	**15 24 14.5**	**-1.1**
AKTO						15 26 09.8	
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZRNK	**Zerenda**	**12.81**	**15**	⇓Pn	**Pn**	**15 24 50.2**	**+1.8**
comp=Z,5.6nm,1.9s							
ZRNK	**Zerenda**	**12.81**	**15**	*e*P	**Pn**	**15 24 49.9**	**+1.5**
ZRNK				*e*S	**Sn**	**15 27 08.3**	**-1.4**
VOSK	**Vostochnaya**	**13.07**	**21**	⇓Pn	**Pn**	**15 24 53.0**	**+1.1**
comp=Z,5.7nm,1.6s							
BVA0	**Borovoye Array**	**13.19**	**19**	⇑Pn	**Pn**	**15 24 56.2**	**+2.6**
comp=Z,0.5nm,0.8s,baz=201,slow=15,SNR=28							
BVAR	**Borovoye Array**	**13.19**	**19**	Pn	**Pn**	**15 24 53.2**	**-0.4**
comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=13							
BVAR				Sn	**Sn**	**15 27 17.8**	**-1.2**
comp=Z,0.4nm,0.3s,baz=204,slow=26,SNR=5.1							
BRVK	**Borovoye**	**13.20**	**19**	*e*P	**Pn**	**15 24 55.8**	**+2.2**
comp=Z,1.1nm,0.5s							
KURK	**Kurchatov**	**14.56**	**42**	⇑Sn	**Sn**	**15 28 06.7**	**+14**
comp=Z,3.1nm,2.1s							
MK31	**Makanchi Array**	**14.93**	**60**	⇑Pn	**Pn**	**15 25 16.6**	**-0.6**
comp=Z,0.4nm,0.5s,baz=250,slow=13,SNR=8.2							
MKAR	**Makanchi Array**	**14.93**	**60**	Pn	**Pn**	**15 25 16.2**	**-1.0**
comp=Z,0.1nm,0.3s,baz=249,slow=16,SNR=7.8							
MKAR	**Makanchi Array**	**14.93**	**60**	Pn	**Pn**	**15 25 16.2**	**-1.1**
ZAL	**Zalesovo**	**19.52**	**40**	P	**Pn**	**15 26 15.2**	**+0.6**
comp=Z,0.9nm,0.3s,baz=274,slow=5.8,SNR=2.7							
ZAL	**Zalesovo**	**19.52**	**40**	P	**Pn**	**15 26 15.1**	**+0.5**
ZAL	**Zalesovo**	**19.52**	**40**	P	**Pn**	**15 26 15.2**	**+0.6**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**30.64**	**325**	P	**P**	**15 27 59.5**	**-0.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=117,slow=13,SNR=5.3							
FINES	**FINESS Array B**	**30.64**	**325**	P	**P**	**15 27 59.5**	**-0.2**
YKA	**Yellowknife Ar**	**77.12**	**359**	P	**P**	**15 33 36.9**	**-1.7**
comp=Z,0.2nm,0.6s,mb3.2,baz=358,slow=6.0,SNR=6.0							
YKA	**Yellowknife Ar**	**77.12**	**359**	P	**P**	**15 33 36.9**	**-1.8**
YKA	**Yellowknife Ar**	**77.12**	**359**	P	**P**	**15 33 36.9**	**-1.7**

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*ISCJB **07** 15:24:07.9±0.9,55N±02×328W±02,h10km,mb3.8/8, MS3.5/5,Error ellipse: s-maj=29.6km s-min=17.3km az=92.1*
*IDC **07** 15:24:08.0±1.1,556N×3283W,h0km,mb3.9/7,mb1 4.0/7, mb1mx3.8/23,mbtmp3.9/7,MS3.5/5,Ms1 3.5/5, ms1mx3.3/22,Error ellipse: s-maj=35.5km s-min=22.8km az=136.0*
*NEIC **07** 15:24:08.7±2.8,549N×3263W,h10km,mb4.1/2,Error ellipse: s-maj=82.8km s-min=17.3km az=107.0*
ISC 07 15:24:10.0±0.9,56N±02×328W±02,h10km,n12,σ0§55/9, mb3.8/8,MS3.5/5,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.90**	**215**	P	**P**	**15 29 41.3**	**-0.8**
2.7nm,0.6s,mb3.9,baz=54,slow=10,SNR=4.2							
BDFB				LR	LR	15 38 26.4	
comp=Z,81nm,20.4s,MS3.2,baz=127,slow=33							
SAML	**Samuel**	**33.53**	**245**	*e*P	**P**	**15 30 49.6**	**-0.2**
11nm,1.7s,mb4.5							
TORD	**Torodi Ar. Bea**	**34.84**	**75**	P	**P**	**15 31 01.4**	**+0.2**
2.0nm,0.7s,mb4.2,baz=270,slow=7.3,SNR=8.5							
SJG	**San Juan**	**34.84**	**294**	LR	LR	15 41 48.1	
comp=Z,138nm,20.9s,MS3.7,baz=82,slow=30							
SIV	**San Ignacio**	**35.23**	**232**	P	**P**	**15 31 05.1**	**+0.6**
0.9nm,0.8s,mb3.8,baz=86,slow=9.8,SNR=7.6							
LPAZ	**La Paz**	**41.14**	**238**	P	**P**	**15 31 54.6**	**+0.3**
1.1nm,0.7s,mb3.6,baz=98,slow=7.7,SNR=6.9							
LPAZ				LR	LR	15 48 15.1	
comp=Z,75nm,21.1s,MS3.5,baz=84,slow=35							
LPAZ	**La Paz**	**41.14**	**238**	*e*P	**P**	**15 31 55.3**	**+1.0**
1.4nm,0.8s,mb3.6							
LPAZ				LR	LR	15 48 15.1	
ROSC	**El Rosal**	**41.34**	**271**	LR	LR	15 48 39.1	
comp=Z,90nm,18.9s,MS3.7,baz=190,slow=36							
NOA	**NORSAR Array B**	**64.37**	**22**	LR	LR	16 00 33.8	
comp=Z,17nm,18.0s,MS3.3,baz=350,slow=34							
ULM	**Lac du Bonnet**	**68.69**	**322**	P	**P**	**15 35 14.2**	**+0.6**
1.8nm,0.8s,mb4.0,baz=101,slow=2.3,SNR=3.3							
PDAR	**Pinedale Array**	**76.50**	**313**	P	**P**	**15 36 00.0**	**-0.2**
0.5nm,0.8s,mb3.5,baz=98,slow=6.4,SNR=5.5							
YKA	**Yellowknife Ar**	**81.29**	**332**	P	**P**	**15 36 25.7**	**-0.7**
0.3nm,0.9s,mb3.2,baz=91,slow=5.5,SNR=4.8							

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*BJI **07** 15:41:51.9,2461N×12188E,h69km,ML3.9,Ms3.5, Msz3.2*
*MOS **07** 15:41:52.5±0.9,2488N×122.10E,h91km,mb3.8/4,Error ellipse: s-maj=43.7km s-min=12.3km az=114.9*
*ISCJB **07** 15:41:54.0±0.3,2475N±005×12175E±003,h98km±3km, mb3.8/18,Error ellipse: s-maj=9.0km s-min=4.5km az=27.4*
*IDC **07** 15:41:55.1±3.4,2482N×12190E,h95km±32km,mb3.6/12, mb1 3.8/13,mb1mx3.7/22,mbtmp4.0/13,Error ellipse: s-maj=22.9km s-min=13.6km az=60.0*
*NEIC **07** 15:41:55.1±0.4,2473N×12184E,mb3.9/4,Error ellipse: s-maj=11.6km s-min=9.2km az=58.0*
NEIC Recorded [2 TAP] in Hua-lien, T'ao-yuan and Yi-lan; [1 TAP] in Hsin-chu, Miao-li, T'ai-chung and T'ai-pei Counties.
*JMA **07** 15:41:55.5±0.3,2483N×12183E,h90km,M3.7*
ISC 07 15:41:55.0±0.3,2474N±005×12176E±003,h93km±3km, n39,σ0§92/51,mb3.8/18,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.34**	**313**	*e*Pn	**Pn**	**15 42 09.1**	**+0.1**
TATO				*e*S	**Sn**	**15 42 16.4**	**-2.9**
YHNB	**Yeheng**	**0.36**	**258**	*e*Pn	**Pn**	**15 42 09.2**	**+0.1**
NACB	**Ninganchiao**	**0.58**	**195**	*e*Pn	**Pn**	**15 42 10.8**	**+0.1**
NACB				*e*S	**Sn**	**15 42 22.5**	**0.0**
YOJ	**Yonaguni jima**	**1.17**	**104**	P	**Pn**	**15 42 17.0**	**+0.1**
YOJ				*e*S	**Sn**	**15 42 32.9**	**-0.4**
IRIF	**Iriomote-Funau**	**1.84**	**102**	P	**Pn**	**15 42 25.1**	**-0.1**
IRIF				*e*S	**Sn**	**15 42 47.6**	**-0.6**
HATJ	**Hateruma jima**	**1.98**	**110**	P	**Pn**	**15 42 27.9**	**+0.8**
HATJ				*e*S	**Sn**	**15 42 52.1**	**+0.5**
JKRS	**Kuro-shima**	**2.11**	**103**	P	**Pn**	**15 42 29.0**	**+0.3**
JKRS				*e*S	**Sn**	**15 42 54.8**	**+0.3**
JIJ	**Ishigaki jima**	**2.20**	**99**	P	**Pn**	**15 42 29.8**	**-0.1**
JIJ				*e*S	**Sn**	**15 42 56.0**	**-0.7**
JTJ	**Tarama**	**2.68**	**92**	P	**Pn**	**15 42 36.9**	**+0.6**
JTJ				*e*S	**Sn**	**15 43 08.8**	**+0.8**
QZH	**Quanzhou**	**2.89**	**275**	⇓*i*P	**Pn**	**15 42 39.4**	**+0.4**
QZH				S	**Sn**	**15 43 11.0**	**-1.9**
QZH				Smax			
comp=N,510nm,0.4s							
QZH				Smax			
comp=E,750nm,1.3s							
JMJ	**Miyako jima 2**	**3.21**	**88**	P	**Pn**	**15 42 45.1**	**+1.7**
JMJ				*e*S	**Sn**	**15 43 20.6**	**-0.2**
JKE	**Kume jima 2**	**4.81**	**70**	P	**Pn**	**15 43 06.0**	**+1.0**
JOW	**Kunigami**	**6.23**	**69**	P	**Pn**	**15 43 22.9**	**-1.5**
comp=E,3.4nm,0.3s,baz=136,slow=22,SNR=6.3							
JOW				S	**Sn**	**15 44 31.8**	**-2.3**
comp=E,2.9nm,0.3s,baz=112,slow=28,SNR=2.0							
NJ2	**Nanjing**	**7.72**	**341**	*e*P	**Pn**	**15 43 45.9**	**+1.3**
NJ2				XP		15 44 11.0	
NJ2				S	**Sn**	**15 45 11.0**	**+0.6**
NJ2				Smax			
comp=N,110nm,0.6s							
NJ2				Smax			
comp=E,70nm,0.6s							
NJ2				LR	LR		
comp=N,200nm,17.8s							
NJ2				LR	LR		
comp=E,320nm,7.5s							
NJ2				LR	LR		
comp=Z,250nm,18.2s							
WHN	**Wuhan**	**8.75**	**313**	*e*P	**Pn**	**15 44 00.8**	**+2.1**
ULN	**Ulaanbaatar**	**25.85**	**337**	*e*P	**P**	**15 47 18.3**	**+0.5**
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.7							
ULN	**Ulaanbaatar**	**25.85**	**337**	*e*P	**P**	**15 47 18.3**	**+0.5**
comp=Z,1.9nm,0.6s,mb3.7							
SONM	**Songino Array**	**26.07**	**336**	P	**P**	**15 47 20.1**	**+0.3**
comp=Z,1.5nm,0.6s,mb3.6,baz=156,slow=10.0,SNR=15							
SONM				pP	pP	15 47 42.6	+2.0
comp=Z,1.5nm,0.9s,baz=136,slow=8.0,SNR=5.1							
MKAR	**Makanchi Array**	**38.31**	**315**	P	**P**	**15 49 06.8**	**+0.3**
comp=Z,0.4nm,0.3s,mb3.7,baz=101,slow=8.7,SNR=18							
MKAR				pP	pP	15 49 29.2	+1.1
comp=Z,0.4nm,0.6s,baz=109,slow=9.5,SNR=3.0							
MKAR	**Makanchi Array**	**38.31**	**315**	P	**P**	**15 49 06.8**	**+0.3**
MKAR				p

WRA	**Warramunga Arr**	**46.07**	**163**	P	**P**	**15 50 09.3**	**-0.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=346,slow=8.8,SNR=17						
WB2	**Warramunga Arr**	**46.07**	**163**	*e*P	**P**	**15 50 09.1**	**-0.5**
TIXI	**Tiksi**	**47.11**	**3**	*e*P	**P**	**15 50 13.7**	**-4.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
BVAR	**Borovoye Array**	**47.58**	**320**	P	**P**	**15 50 21.1**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.0,baz=102,slow=8.1,SNR=19						
BRVK	**Borovoye**	**47.65**	**320**	*e*P	**P**	**15 50 21.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BRVK	**Borovoye**	**47.65**	**320**	*e*P	**P**	**15 50 21.9**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.8						
ASAR	**Alice Springs**	**49.54**	**165**	P	**P**	**15 50 37.0**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=340,slow=6.8,SNR=21						
ASAR				PcP	PcP	15 51 56.8	0.0
	comp=Z,0.4nm,0.7s,baz=348,slow=3.5,SNR=4.6						
ILAR	**Eielson Array**	**68.48**	**27**	P	**P**	**15 52 45.8**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.2,baz=268,slow=5.7,SNR=6.0						
JOF	**Joensuu**	**68.48**	**331**	*e*p	**P**	**15 52 47.1**	**-0.1**
	comp=Z,2.2nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**69.22**	**338**	P	**P**	**15 52 50.9**	**-0.9**
	comp=Z,2.2nm,1.0s,mb3.9,baz=51,slow=7.8,SNR=4.4						
ARCES	**ARCESS Array B**	**69.22**	**338**	P	**P**	**15 52 50.9**	**-0.9**
FINES	**FINESS Array B**	**71.23**	**330**	P	**P**	**15 53 03.3**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.1,baz=63,slow=8.0,SNR=7.9						
BRTR	**Keskin Array B**	**73.27**	**306**	P	**P**	**15 53 17.4**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.6,baz=90,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	**82.25**	**23**	P	**P**	**15 54 04.7**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=315,slow=4.8,SNR=15						
NVAR	**Mina Array Bea**	**95.67**	**43**	P	**P**	**15 55 11.1**	**+0.9**
	comp=Z,0.6nm,0.7s,mb4.1,baz=300,slow=4.2,SNR=5.0						

*ISCJB **07** 15:56:02.0±0.6, 3832N±003×2647E±004, h10km, Error ellipse: s-maj=4.8km s-min=3.9km az=114.6*
*CSEM **07** 15:56:01.5±0.1, 3836N×2652E, h10km, MD3.2, Error ellipse: s-maj=2.9km s-min=2.1km az=109.0*
*NEIC **07** 15:56:01.0, 3830N×2658E, h28km, MD3.6(ATH), ML3.3(ISK), After ATH.*
*ISK **07** 15:56:01.0, 3839N×2644E, h13km, MD3.2*
*ATH **07** 15:56:01.8, 3830N×2658E, h28km±4km, MD3.6/3*
ISC 07 15:56:01.3±0.9, 3831N±003×2643E±005, h4km±6km, n23, σ0§85/36, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.14**	**69**	*i* P	**Pg**	**15 56 04.4**	**+0.3**
URLA				*i* S	**Sg**	**15 56 05.6**	**-0.4**
BLCB	**Balcova**	**0.49**	**81**	*i* PG	**Pg**	**15 56 10.1**	**-0.6**
BLCB				*i* SG	**Sg**	**15 56 18.3**	**+1.3**
IZM	**Izmir**	**0.66**	**82**	*i* PG	**Pg**	**15 56 13.7**	**-0.3**
IZM				*i* SG	**Sg**	**15 56 23.0**	**+0.4**
KDAG	**Bornova**	**0.67**	**82**	*i* P	**Pg**	**15 56 13.7**	**-0.3**
KDAG				*i* S	**Sg**	**15 56 23.1**	**+0.4**
SMG	**Samos**	**0.68**	**151**	⇑*i* PN	**Pg**	**15 56 14.5**	**+0.2**
PRK	**Paraskevi**	**0.94**	**353**	*e*PB	**Pb**	**15 56 20.0**	**-0.2**
PRK				*e*SN	**Sn**	**15 56 34.8**	**-0.5**
AYVA	**Ayvalik**	**1.02**	**12**	*i* P	**Pg**	**15 56 20.6**	**-0.2**
AYVA				*i* S	**Sg**	**15 56 35.2**	**+1.2**
AKS	**Akhisar**	**1.23**	**62**	*i* PN	**Pn**	**15 56 23.8**	**-1.4**
AYDN	**Tasoluk**	**1.32**	**119**	*i* P	**Pn**	**15 56 26.0**	**-0.5**
AYDN				*i* S	**Sg**	**15 56 43.4**	**-0.2**
APE	**Apeiranthos**	**1.43**	**210**	PN	**Pn**	**15 56 28.6**	**+0.6**
APE	**Apeiranthos**	**1.43**	**210**	*e*Pn	**Pn**	**15 56 28.7**	**+0.7**
BODT	**Bodrum**	**1.43**	**150**	PN	**Pn**	**15 56 28.4**	**+0.4**
MLSB	**Milas**	**1.47**	**133**	PN	**Pn**	**15 56 29.0**	**+0.4**
BDRM	**Kayabasi**	**1.48**	**147**	*i* P	**Pn**	**15 56 30.6**	**+1.9**
BDRM				*i* S	**Sn**	**15 56 47.5**	**-1.1**
MANT	**Manisa**	**1.68**	**83**	*i* P	**Pb**	**15 56 32.9**	**+0.1**
MANT				*i* S	**Sb**	**15 56 54.6**	**+0.3**
BALB	**Balikesir**	**1.75**	**40**	PN	**Pn**	**15 56 31.1**	**-1.3**
DENT	**Denizli**	**2.13**	**104**	*e*PN	**Pn**	**15 56 37.5**	**-0.2**
DNZL	**Cakiroluk**	**2.16**	**106**	*i* P	**Pn**	**15 56 37.7**	**-0.3**
DNZL				*i* S	**Sg**	**15 57 10.4**	**-0.3**
ULDT	**Uludag**	**2.79**	**48**	*i* P	**Pg**	**15 56 53.7**	**-1.0**
ULDT				*i* S	**Sb**	**15 57 27.3**	**+1.1**
RDO	**Rodhopi**	**2.92**	**347**	*e*PN	**Pn**	**15 56 49.3**	**+0.9**
TKTP	**Tekketepe**	**3.08**	**94**	*i* P	**Pn**	**15 56 51.4**	**+0.7**
TKTP				*i* S	**Sg**	**15 57 43.8**	**+3.6**
TKTP	**Tekketepe**	**3.08**	**94**	*i* P	**Pn**	**15 56 51.3**	**+0.6**
ESKT	**Eskisehir**	**3.66**	**69**	*i* P	**Pg**	**15 57 08.8**	**-2.5**
ESKT				*i* S	**Sg**	**15 57 54.4**	**-4.3**

*TIF **07** 16:04:59.6, 4256N×4343E, h13km*
*ISCJB **07** 16:05:00.2±0.5, 4261N±003×4345E±004, h8km±4km, Error ellipse: s-maj=5.1km s-min=4.4km az=84.4*
*MOS **07** 16:05:00.2±0.6, 4258N×4348E, h10km, mb3.8/1, Error ellipse: s-maj=28.0km s-min=8.5km az=56.8*
ISC 07 16:05:00.7±0.4, 4262N±003×4345E±004, h12km±4km, n20, σ0§80/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**183**	P	**Pg**	**16 05 02.3**	**-0.5**
ONI				S	**Sg**	**16 05 03.9**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.30**	**18**	*i* PG	**Pg**	**16 05 07.3**	**+0.6**
ZEI	**Tsey**	**0.36**	**65**	*i* PG	**Pg**	**16 05 08.2**	**+0.3**
LACR	**Lac**	**0.66**	**71**	*i* PG	**Pg**	**16 05 13.3**	**-0.1**
LSNR	**Lesken**	**0.71**	**22**	*e*PG	**Pg**	**16 05 15.0**	**+0.6**
GOR	**Gori**	**0.80**	**142**	P	Px	16 05 34.2	
GOR				S	Sx	16 05 40.9	
ARNR	**Ardon**	**0.83**	**46**	*e*PG	**Pg**	**16 05 16.9**	**+0.1**
KMSR	**Komsomolskaya**	**0.97**	**39**	*i* PG	**Pg**	**16 05 19.7**	**+0.3**
VLKR	**Vladikavkaz**	**1.00**	**64**	*e*PG	**Pg**	**16 05 19.6**	**-0.3**
CHVG	**Ch'k'valeri**	**1.01**	**276**	P	**Pb**	**16 05 19.7**	**-0.5**
CHVG				S	**Sg**	**16 05 33.3**	**-0.1**
DUS	**Dusheti**	**1.07**	**119**	P	**Pb**	**16 05 19.4**	**-1.7**
DUS				S	**Sb**	**16 05 35.4**	**+0.4**
SNJR	**Sundja**	**1.10**	**65**	*i* PG	**Pg**	**16 05 21.3**	**-0.5**
BTKR	**Batakoyurt**	**1.10**	**46**	*e*PG	**Pg**	**16 05 21.9**	**+0.1**
AKH	**Akhalkalaki**	**1.21**	**179**	P	**Pn**	**16 05 22.0**	**-1.3**
AKH				S	**Sb**	**16 05 37.6**	**-1.5**
PRTR	**Priterechnaya**	**1.28**	**28**	*e*PG	**Pg**	**16 05 25.0**	**-0.4**
TBLG	**Delisi**	**1.30**	**132**	P	**Pn**	**16 05 24.6**	**-0.1**
TBLG				S	**Sb**	**16 05 41.4**	**-0.4**
ARTV	**Artvin**	**1.83**	**219**	*i* P	**Pn**	**16 05 32.0**	**0.0**
ARTV				*i* S	**Sn**	**16 05 56.0**	**+1.0**
DGRG	**David-gareji**	**1.85**	**129**	P	**Pb**	**16 05 34.4**	**0.0**
DGRG				S	**Sg**	**16 06 01.9**	**+1.9**
DIGO	**Kars**	**2.20**	**182**	*i* P	**Pn**	**16 05 39.0**	**+1.9**
DIGO				*i* S	**Sb**	**16 06 07.6**	**-0.1**
ERZM	**Erzurum**	**3.13**	**211**	*i* P	**Pb**	**16 05 56.2**	**-0.1**
ERZM				*i* S	**Sg**	**16 06 42.5**	**+1.1**

*IDC **07** 16:13:06.9±0.7, 1794S×17349W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.4/18, mbtmp4.3/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/24, Error ellipse: s-maj=30.0km s-min=16.2km az=130.0*
*ISCJB **07** 16:13:07.4±2.8, 179S±0.1×1736W±0.1, h12km±18km, mb4.4/14, MS4.3/1, Error ellipse: s-maj=23.1km s-min=10.6km az=80.6*
*NEIC **07** 16:13:08.6±0.4, 1796S×17351W, h10km, mb4.6/3, Error ellipse: s-maj=19.3km s-min=9.2km az=134.0*
*BJI **07** 16:13:08.6, 1800S×17350W, h10km, mB5.5, mb5.1, Ms4.9, Msz4.5*
ISC 07 16:13:11.1±3.0, 178S±01×1736W±01, h24km±21km, n55, σ1§06/34, mb4.4/14, MS4.3/1, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.22**	**25**	Pn	**Pn**	**16 14 12.9**	**-1.0**
	3.3nm,0.3s,baz=164,slow=11,SNR=2.3						
AFI				Sn	**Sn**	**16 14 56.5**	**-5.9**
	44nm,0.3s,baz=71,slow=21,SNR=7.3						
AFI				LR	LR	16 15 17.4	
	comp=Z,191nm,21.0s,baz=264,slow=30						
AFI	**Afiamalu**	**4.22**	**25**	P	**Pn**	**16 14 05.5**	**-8.4**
AFI				Sn	**Sn**	**16 14 56.5**	**-5.9**
AFI				LR	LR	16 15 17.4	
PUZ	**Puketiti**	**21.45**	**198**	PN	**P**	**16 17 54.2**	**-3.3**
URZ	**Urewera**	**21.98**	**200**	**P**	**P**	**16 18 00.1**	**-3.1**
	32nm,0.4s,mb5.1,baz=337,slow=2.9,SNR=62						
URZ				S	**S**	**16 21 53.1**	**-11**
	7.7nm,0.9s,baz=143,slow=14,SNR=4.8						
URZ	**Urewera**	**21.98**	**200**	PN	**P**	**16 17 59.9**	**-3.3**
QRZ	**Quartz Range**	**25.90**	**205**	PN	**P**	**16 18 41.3**	**+0.2**
LTZ	**Lake Taylor**	**27.68**	**203**	PN	**P**	**16 18 60.0**	**+2.8**

WVZ	**Waitaha Valley**	**28.52**	**204**	PN	**P**	**16 19 06.4**	**+1.7**
RPZ	**Rata Peaks**	**28.93**	**203**	P	**P**	**16 19 08.6**	**+0.2**
	16nm,0.8s,mb4.8,baz=103,slow=23,SNR=10						
CTA	**Charters Tower**	**37.98**	**260**	*e*P	**P**	**16 20 27.5**	**+0.5**
	3.0nm,0.5s,mb4.3						
CTAO	**Charters Tower**	**37.98**	**260**	*e*P	**P**	**16 20 27.9**	**+1.0**
	3.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**42.73**	**242**	*e*P	**P**	**16 21 05.7**	**-0.5**
	2.3nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**42.73**	**242**	P	**P**	**16 21 04.7**	**-1.5**
	2.3nm,0.7s,mb4.0,baz=108,slow=13,SNR=5.8						
STKA	**Stephens Creek**	**42.73**	**242**	*e*P	**P**	**16 21 05.0**	**-1.2**
WB2	**Warramunga Arr**	**49.14**	**259**	*e*P	**P**	**16 21 55.8**	**-1.1**
WRAB	**Tennant Creek**	**49.14**	**259**	*e*P	**P**	**16 21 56.9**	**+0.1**
	4.9nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**49.15**	**259**	P	**P**	**16 21 56.9**	**-0.1**
	1.4nm,0.3s,mb4.4,baz=98,slow=6.8,SNR=104						
WRA				S	**S**	**16 28 59.5**	**-1.4**
	0.2nm,0.8s,baz=91,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**49.23**	**254**	P	**P**	**16 21 57.6**	**+0.1**
	7.0nm,0.7s,mb4.8,baz=89,slow=8.6,SNR=147						
ASAR				S	**S**	**16 29 02.3**	**+0.3**
	0.3nm,0.7s,baz=96,slow=17,SNR=5.3						
ASPA	**Alice Springs**	**49.23**	**254**	‖*i* P	**P**	**16 21 57.6**	**+0.1**
MJAR	**Matsushiro Arr**	**70.62**	**320**	P	**P**	**16 24 25.9**	**+1.4**
	1.4nm,0.7s,mb4.0,baz=140,slow=4.3,SNR=4.7						
NVAR	**Mina Array Bea**	**76.21**	**42**	P	**P**	**16 24 57.4**	**0.0**
	1.1nm,0.7s,mb3.9,baz=217,slow=7.5,SNR=9.3						
MNTX	**Cornudas Mount**	**81.79**	**53**	*e*P	**P**	**16 25 27.8**	**-0.2**
TXAR	**Lajitas Array**	**82.09**	**56**	P	**P**	**16 25 29.9**	**+0.4**
	0.6nm,0.8s,baz=225,slow=5.3,SNR=6.4						
MCMT	**McKenzie Canyo**	**83.21**	**39**	*e*P	**P**	**16 25 35.5**	**+0.1**
MCK	**McKinley**	**83.47**	**11**	*e*P	**P**	**16 25 37.2**	**+0.5**
	3.5nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**84.15**	**42**	P	**P**	**16 25 37.0**	**-3.1**
	1.3nm,0.8s,mb4.1,baz=225,slow=4.3,SNR=10						
COLA	**College**	**84.71**	**11**	*e*P	**P**	**16 25 43.4**	**+0.4**
	12nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**84.79**	**11**	P	**P**	**16 25 43.4**	**0.0**
	1.9nm,0.9s,mb4.2,baz=233,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**92.33**	**23**	P	**P**	**16 26 19.1**	**-0.3**
	0.2nm,0.7s,mb3.6,baz=221,slow=4.5,SNR=5.7						
WMQ	**Urumqi**	**108.28**	**311**	*e*PDIF	Pdif	16 27 33.0	+2.0
WMQ				PP	PP		
	comp=Z,114nm,8.0s						
WMQ				LR	LR		
	comp=N,66nm,15.0s,MS4.4						
WMQ				LR	LR		
	comp=E,57nm,15.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,54nm,15.0s,MS4.2						
MALT	**Malatya**	**145.36**	**313**	*e*PKP	PKPdf	16 32 50.2	+3.3
CLL	**Collm**	**146.12**	**353**	*i* PKPbc	PKPbc	16 32 50.4	+1.3
	comp=Z,17nm,1.1s						
CLL				*e*(pPKPbc)		16 32 57.0	
CLL				LmV		16 50 00.0	
	comp=Z,100nm,18.5s						
BRG	**Berggiesshubel**	**146.42**	**351**	*e*P	PKPdf	16 32 49.9	+1.2
BRG				*e*		16 33 04.4	
BRG	**Berggiesshubel**	**146.42**	**351**	*e*	PKPdf	16 32 49.9	+1.2
	comp=Z,7.8nm,1.8s						
BRG				*e*		16 33 04.4	
	comp=Z,6.6nm,1.5s						
UCC	**Uccle**	**147.00**	**2**	PKP	PKPdf	16 32 43.9	-5.7
DOU	**Dourbes**	**147.72**	**2**	APKiKP	PKPab	16 32 58.4	+2.4
DOU				XPKiKP		16 33 01.9	
BRTR	**Keskin Array B**	**147.83**	**318**	PKPbc	PKPbc	16 32 56.0	+2.0
	comp=Z,2.1nm,0.9s,baz=123,slow=3.2,SNR=5.8						
GRA1	**Grafenberg Arr**	**147.92**	**354**	*e*PKP	PKPab	16 32 57.3	+0.5
GRF	**Grafenberg Arr**	**147.92**	**354**	*e*PKP	PKPab	16 32 57.3	+0.5
WLF	**Walferdange**	**148.18**	**0**	PKhKP	PKPab	16 32 57.1	-0.8
WLF				APKiKP		16 33 00.3	
GERES	**GERESS Array B**	**148.44**	**351**	PKPbc	PKPbc	16 32 57.0	+1.4
	comp=Z,1.4nm,0.7s,baz=315,slow=5.7,SNR=4.9						
FLN	**La Foliniere**	**148.58**	**9**	*e*PKP1	PKPbc	16 32 56.4	+0.5
	comp=Z,25nm,0.9s						
LDF	**La Druitiere**	**148.80**	**8**	*e*PKP1	PKPbc	16 32 57.0	+0.5
	comp=Z,14nm,0.9s						
GRR	**Gorron**	**148.89**	**9**	*e*PKP1	PKPbc	16 32 57.3	+0.6
	comp=Z,18nm,0.9s						
CDF	**Champ du Feu**	**149.43**	**359**	*e*PKP1	PKPbc	16 32 59.3	+1.2
	comp=Z,26nm,1.3s						
HAU	**Haudompre**	**149.84**	**0**	*e*PKP1	PKPbc	16 33 01.3	+2.2
	comp=Z,24nm,1.1s						
LOR	**Lormes**	**150.50**	**4**	*e*PKP1	PKPbc	16 33 01.8	+1.1
SSF	**Saint Saulge**	**150.69**	**4**	*e*PKP1	PKPbc	16 33 02.3	+1.2
	comp=Z,13nm,0.9s						
MFF	**Saint Martin d**	**150.74**	**9**	*e*PKP1	PKPbc	16 33 01.7	+0.5
	comp=Z,26nm,1.3s						
AVF	**Avril sur Loir**	**150.95**	**4**	*e*PKP1	PKPbc	16 33 02.5	+0.8
	comp=Z,8.6nm,0.9s						
SMF	**Signal de Mont**	**151.12**	**4**	*e*PKP1	PKPbc	16 33 02.9	+0.8
BGF	**Bois d'Agland**	**151.14**	**5**	*e*PKP1	PKPbc	16 33 03.1	+0.9
CABF	**La Chapelle**	**151.24**	**0**	*e*PKP1	PKPbc	16 33 04.1	+1.7
	comp=Z,24nm,1.1s						
TCF	**Toulx Ste Croi**	**151.35**	**6**	*e*PKP1	PKPbc	16 33 03.6	+0.9
TORD	**Torodi Ar. Bea**	**173.55**	**135**	PKP	PKPdf	16 33 17.1	-1.2
	comp=Z,0.9nm,1.0s,baz=333,slow=3.3,SNR=4.2						
TORD				PKPab	PKPab	16 34 46.6	-1.0
	comp=Z,1.4nm,0.8s,baz=266,slow=4.7,SNR=6.9						

*SZGRF **07** 16:14:23.0, 277N×3285W, h33km, mb4.8, Central Mid-Atlantic Ridge*
*NAO **07** 16:14:27.8, 320N×3263W, h33km, mb4.1*
*BJI **07** 16:14:34.6, 530N×3280W, h10km, mB5.4, Ms4.8, Msz4.5*
*MOS **07** 16:14:34.3±1.1, 541N×3283W, h10km, mb4.8/6, Error ellipse: s-maj=19.8km s-min=13.9km az=47.9*
*ISCJB **07** 16:14:34.1±0.4, 537N±008×3279W±006, h10km, mb4.4/36, MS4.0/16, Error ellipse: s-maj=11.9km s-min=8.2km az=140.1*
*IDC **07** 16:14:34.0±0.5, 540N×3283W, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/27, mbtmp4.3/24, MS4.1/14, Ms1 4.1/14, ms1mx4.0/20, Error ellipse: s-maj=17.0km s-min=11.8km az=156.0*
*NEIC **07** 16:14:35.6±0.3, 531N×3284W, h10km, mb4.7/15, Error ellipse: s-maj=9.1km s-min=7.3km az=144.0*
ISC 07 16:14:36.3±0.4, 540N±008×3282W±006, h10km, n70, σ0§97/60, mb4.4/36, MS4.0/16, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.57**	**195**	*e*P	**Pn**	**16 17 18.0**	**-3.5**
BDFB	**Brasilia**	**25.76**	**216**	P	**P**	**16 20 07.5**	**+0.5**
	8.7nm,0.9s,mb4.3,baz=47,slow=8.9,SNR=8.0						
BDFB				LR	LR	16 29 22.5	
	comp=Z,476nm,18.9s,MS4.0,baz=222,slow=34						
TORD	**Torodi Ar. Bea**	**34.89**	**75**	P	**P**	**16 21 26.7**	**-1.1**
	9.6nm,0.9s,mb4.7,baz=264,slow=8.7,SNR=40						
SJG	**San Juan**	**34.91**	**294**	P	**P**	**16 21 27.8**	**-0.2**
	27nm,0.2s,mb5.8,baz=334,slow=19,SNR=4.0						
SJG				LR	LR	16 31 01.6	
	comp=Z,86nm,19.9s,MS3.5,baz=81,slow=28						
SIV	**San Ignacio**	**35.12**	**232**	P	**P**	**16 21 30.1**	**+0.2**
	3.7nm,0.8s,mb4.4,baz=87,slow=7.4,SNR=15						
SDV	**Santo Domingo**	**37.67**	**278**	P	**P**	**16 21 51.8**	**+0.2**
	9.6nm,0.9s,mb4.5,baz=355,slow=2.2,SNR=7.5						
SDV	**Santo Domingo**	**37.67**	**278**	*e*P	**P**	**16 21 53.1**	**+1.5**
	11nm,1.0s,mb4.5						
MDT	**Midelt**	**37.89**	**40**	P	**P**	**16 21 54.8**	**+1.3**
	3.5nm,0.9s,mb4.1,baz=216,slow=8.3,SNR=4.9						
LPAZ	**La Paz**	**41.04**	**238**	P	**P**	**16 22 20.4**	**+0.6**
	4.3nm,0.8s,mb4.1,baz=69,slow=8.6,SNR=17						
LPAZ				LR	LR	16 38 48.9	
	comp=Z,438nm,18.4s,MS4.4,baz=82,slow=36						
LPAZ	**La Paz**	**41.04**	**238**	*e*P	**P**	**16 22 20.3**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPAZ	**La Paz**	**41.04**	**238**	*e*P	**P**	**16 22 20.3**	**+0.5**
	comp=Z,6.7nm,1.0s,mb4.2						
ROSC	**El Rosal**	**41.34**	**271**	P	**P**	**16 22 21.9**	**-0.3**
	comp=Z,6.9nm,0.4s,mb4.6,baz=84,slow=9.6,SNR=5.2						
ROSC				LR	LR	16 41 00.0	
	comp=Z,294nm,18.0s,MS4.2,baz=12,slow=38						
ESDC	**Sonseca Array**	**42.91**	**33**	P	**P**	**16 22 34.9**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=226,slow=8.5,SNR=10						
ESLA	**Sonseca Array**	**42.91**	**33**	*e*P	**P**	**16 22 35.4**	**+0.4**
	comp=Z,2.3nm,1.1s,mb3.8						
LVC	**Limon Verde**	**44.95**	**230**	P	**P**	**16 22 50.7**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.2,baz=117,slow=2.3,SNR=2.9						
CFAA	**Coronel Fontan**	**49.94**	**220**	LR	LR	16 45 47.0	
	comp=Z,9.5nm,21.2s,MS2.8,baz=311,slow=38						
DOU	**Dourbes**	**54.49**	**29**	P	**P**	**16 24 04.3**	**+0.2**
	comp=Z,6.6nm,0.0s						
DOU				AP	pP	16 24 07.6	+0.3
TSUM	**Tsumeb**	**55.31**	**118**	P	**P**	**16 24 10.4**	**+0.4**
	comp=Z,10nm,1.1s,mb4.8,baz=264,slow=5.3,SNR=9.1						
MEM	**Membach**	**55.51**	**29**	P	**P**	**16 24 10.3**	**-1.2**
MEM				AP	pP	16 24 15.0	+0.3
SCHQ	**Schefferville**	**56.38**	**337**	P	**P**	**16 24 17.3**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.5,baz=163,slow=11,SNR=4.2						
PLCA	**Paso Flores**	**57.48**	**213**	LR	LR	16 48 32.8	
	comp=Z,246nm,20.2s,MS4.3,baz=14,slow=36						
GRA1	**Grafenberg Arr**	**57.60**	**32**	*e*P	**P**	**16 24 26.2**	**-0.1**
	comp=Z,13nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**57.60**	**32**	*e*P	**P**	**16 24 26.2**	**-0.1**
	comp=Z,13nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**57.60**	**32**	*e*P	**P**	**16 24 26.2**	**-0.1**
GRF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**57.60**	**32**	*e*P	**P**	**16 24 26.2**	**-0.1**
GRF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
GERES	**GERESS Array B**	**58.48**	**34**	P	**P**	**16 24 31.8**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=252,slow=6.2,SNR=3.5						
BRG	**Berggiesshubel**	**59.71**	**32**	*e*P	**P**	**16 24 42.7**	**+1.7**
	comp=Z,14nm,1.7s,mb4.7						
LSZ	**Lusaka**	**63.82**	**110**	*e*P	**P**	**16 25 09.2**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
LSZ	**Lusaka**	**63.82**	**110**	*e*P	**P**	**16 25 09.2**	**+0.5**
	comp=Z,7.5nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	**64.53**	**22**	P	**P**	**16 25 13.7**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=229,slow=6.5						
NOA	**NORSAR Array B**	**64.53**	**22**	P	**P**	**16 25 13.3**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=230,slow=6.4,SNR=9.4						
NOA				LR	LR	16 51 09.6	
	comp=Z,49nm,19.6s,MS3.7,baz=80,slow=34						
BOSA	**Boshof**	**65.27**	**125**	P	**P**	**16 25 17.0**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.5,baz=285,slow=5.7,SNR=4.7						
BOSA				LR	LR	16 47 24.5	
	comp=Z,234nm,20.4s,MS4.4,baz=351,slow=30						
BOSA	**Boshof**	**65.27**	**125**	P	**P**	**16 25 17.0**	**-1.2**
BOSA				LR	LR	16 47 24.5	
USHA	**Ushuaia**	**66.92**	**201**	LR	LR	16 52 33.4	
	comp=Z,146nm,19.5s,MS4.2,baz=213,slow=34						
AKASG	**Malin Array Be**	**68.35**	**37**	P	**P**	**16 25 37.2**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=251,slow=7.2,SNR=8.1						
BRTR	**Keskin Array B**	**68.52**	**49**	P	**P**	**16 25 39.0**	**+0.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=270,slow=7.4,SNR=5.0						
ULM	**Lac du Bonnet**	**68.82**	**322**	P	**P**	**16 25 39.1**	**-1.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=109,slow=3.7,SNR=5.0						
ULM				LR	LR	16 51 03.6	
	comp=Z,130nm,18.8s,MS4.2,baz=14,slow=32						
KMBO	**Kilima Mbogo**	**70.28**	**93**	P	**P**	**16 25 51.0**	**+1.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=236,slow=21,SNR=4.3						
KMBO				LR	LR	16 54 37.4	
	comp=Z,227nm,18.2s,MS4.5,baz=48,slow=34						
KMBO	**Kilima Mbogo**	**70.28**	**93**	*e*P	**P**	**16 25 52.1**	**+2.3**
KMBO				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KMBO	**Kilima Mbogo**	**70.28**	**93**	*e*P	**P**	**16 25 52.1**	**+2.3**
	comp=Z,9.5nm,1.5s,mb4.5						

HRFI				Sn	Sn	17 07 28.5	-0.2
KSHT	Keshet	1.52	4	Pn	Pn	17 07 07.8	-0.4
KSHT	Keshet	1.52	4	Pn	Pn	17 07 07.7	-0.4
MMA0	Mount Meron ar	1.57	351	Pn	Pn	17 07 08.6	-0.2
KMTI	Karmit	1.58	212	Pn	Pn	17 07 08.0	-1.0
KSDI	Kefar Szold	1.73	359	Pn	Pn	17 07 11.0	0.0
KSDI				Sn	Sn	17 07 34.5	+0.8
HRI	Mount Hermon	1.80	1	Pn	Pn	17 07 12.0	0.0
HRI				Sn	Sn	17 07 36.5	+1.0
EIL	Elat	1.89	200	Pn	Pn	17 07 13.4	+0.2
EIL				Sn	Sn	17 07 38.7	+1.0
HNKL	Nakhl	2.12	224	||P	Pn	17 07 15.4	-0.8
HNKL				S	Sn	17 07 43.2	-0.1
AMAG	Maghara	2.27	250	||P	Pn	17 07 17.3	-1.2
SUZ		2.94	237	||P	Pn	17 07 27.1	-0.5
SUZ				S	Sn	17 08 03.0	-0.6

IDC 07 17:14:31.6±2.3, 205N×12702E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=190.5km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.00	162	P	P	17 19 39.8	+1.9
	0.8nm,0.4s,baz=342,slow=12,SNR=38						
ASAR	Alice Springs	26.42	166	P	P	17 20 09.2	-0.7
	0.3nm,0.8s,baz=333,slow=9.0,SNR=9.6						
MKAR	Makanchi Array	59.10	326	P	P	17 24 33.7	0.0
	0.1nm,0.3s,baz=127,slow=8.0,SNR=5.8						

BJI 07 17:26:45.9, 2759N×11994E, h21km, ML3.5, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.90	205	P	Pn	17 27 33.2	+2.4
QZH				S	Sn	17 28 08.6	+3.6
QZH				Smax			
	comp=N,190nm,0.4s						
QZH				Smax			
	comp=E,210nm,0.4s						
NJ2	Nanjing	4.54	348	*e*P	Pn	17 27 54.5	+1.1
NJ2				PG	Pn	17 28 10.3	+17
NJ2				S	Sn	17 28 44.6	-1.0
NJ2				SG	Sn	17 29 07.0	+21

*ISCJB **07** 17:27:18.7±0.3, 1723N±004×9498W±002, h132km±4km, mb3.6/9, Error ellipse: s-maj=6.5km s-min=3.8km az=13.9*
*NEIC **07** 17:27:20.3, 1722N×9496W, h138km, mb4.3/9, MD4.4(MEX), After MEX.*
*MEX **07** 17:27:20.7±1.4, 1721N×9498W, h134km±13km, MD4.4*
*IDC **07** 17:27:21.1±1.0, 1736N×9462W, h133km±8km, mb3.6/8, mb1 3.8/9, mb1mx3.6/17, mbtmp3.9/9, Error ellipse: s-maj=34.9km s-min=16.0km az=66.0*

ISC 07 17:27:19.9±0.3, 1724N±004×9497W±002, h124km±4km, h137km±1.0km: pP-P, n46, σ1§35/66, mb3.7/9, 9C-2D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.95	33	*i*P	Pn	17 27 42.4	+0.6
TUIG				*i*S	Sn	17 27 58.9	+0.6
EVV	El Vigia	1.27	343	*e*P	Pn	17 27 45.5	+0.6
EVV				*i*S	Sn	17 28 05.0	+1.0
VHO	Vista Hermosa	1.70	265	⇑*i*P	Pn	17 27 51.0	+1.1
VHO				*i*S	Sn	17 28 14.4	+1.7
VHO	Vista Hermosa	1.70	265	⇑*i*P	Pn	17 27 51.0	+1.1
VHO				*i*S	Sn	17 28 13.4	+0.7
HUIG	Huatulco	1.82	217	⇑*i*P	Pn	17 27 50.0	-1.3
HUIG				*i*S	Sn	17 28 14.6	-0.7
SCX	San Cristobal	2.29	102	*i*P	Pn	17 27 57.8	+0.8
SCX				*i*S	Sn	17 28 25.3	-0.3
UTMO	Huajuapan	2.77	283	⇑*i*P	Pn	17 28 04.4	+1.1
UTMO				*i*S	Sn	17 28 36.1	-0.6
LVIG	Laguna Verde	2.83	331	||*i*P	Pn	17 28 02.5	-1.5
LVIG				*i*S	Sn	17 28 34.9	-3.3
LVIG	Laguna Verde	2.83	331	||*i*P	Pn	17 28 02.5	-1.5
LVIG				*i*S	Sn	17 28 34.7	-3.4
CCIG	Comitan	2.87	109	⇑*i*P	Pn	17 28 05.9	+1.3
CCIG				*i*S	Sn	17 28 39.6	+0.5
PNIG	Pinotepa	3.14	255	⇑*i*P	Pn	17 28 06.6	-1.5
PNIG				*i*S	Sn	17 28 46.2	+0.9
PPM	Popocatepetl	3.93	298	*e*P	Pn	17 28 21.1	+2.7
PPM				*i*S	Sn	17 29 02.9	-1.0
PPM	Popocatepetl	3.93	298	*e*P	Pn	17 28 19.2	+0.8
PPM				*e*P		17 28 21.1	
PPM				*i*S	Sn	17 29 04.8	+0.9
SCIG		3.99	64	*i*P	Pn	17 28 18.5	-0.8
SCIG				*i*S	Sn	17 29 02.6	-2.7
YAIG	Yautepec	4.22	293	*i*P	Pn	17 28 24.0	+1.6
YAIG				*i*S	Sn	17 29 10.2	-0.7
YAIG	Yautepec	4.22	293	*e*P	Pn	17 28 23.2	+0.8
YAIG				*i*S	Sn	17 29 10.2	-0.7
PLIG	Platanillo	4.47	286	⇑*i*P	Pn	17 28 27.2	+1.5
PLIG				*i*S	Sn	17 29 14.7	-2.2
PLIG	Platanillo	4.47	286	⇑*i*P	Pn	17 28 27.2	+1.5
PLIG				*i*S	Sn	17 29 16.7	-0.2
MEIG	Mezcala	4.49	279	*e*P	Pn	17 28 26.3	+0.3
MEIG				*i*S	Sn	17 29 14.9	-2.5
UNM	Universidad Na	4.51	298	*i*S	Sn	17 29 18.0	+0.1
ACX	Acapulco	4.75	266	*e*P	Pn	17 28 27.1	-2.3
CAIG	El Cayaco	5.07	269	⇑*i*P	Pn	17 28 33.0	-0.8
CAIG				*i*S	Sn	17 29 29.6	-1.7
MOIG	Morelia	6.38	293	*e*P	Pn	17 28 54.6	+3.1
MOIG				*i*S	Sn	17 29 59.9	-3.1
MOIG	Morelia	6.38	293	*e*P	Pn	17 28 53.0	+1.5
MOIG				*i*S	Sn	17 30 04.8	+1.8
TEIG	Tepich	7.00	64	*e*Pn	Pn	17 28 57.8	-2.1
	27nm,0.6s						
TEIG				*e*Sn	Sn	17 30 14.3	-3.7
JTS	JuntasAbangare	11.92	124	*e*Pn	Pn	17 30 06.4	+0.7
	9.6nm,0.6s						
JCT	Junction City	13.90	342	P	Pn	17 30 35.1	+3.6
	9.0nm,0.6s						
TXAR	Lajitas Array	14.44	328	P	Pn	17 30 41.2	+2.9
	baz=145,slow=15,SNR=3.0						
MNTX	Cornudas Mount	17.22	329	*e*P	Pn	17 31 15.8	+3.1
	1.7nm,0.8s						
MIAR	Mount Ida	17.28	4	*e*P	Pn	17 31 13.0	-0.4
	23nm,0.6s						
UALR	University of	17.62	7	*e*P	Pn	17 31 17.3	-0.3
	26nm,0.6s						
WMOK	Wichita Mounta	17.76	350	*e*P	Pn	17 31 18.9	-0.3
	5.1nm,0.8s						
SDCO	Great Sand Dun	22.43	338	*e*P	P	17 32 10.2	+1.7
	1.6nm,0.7s,mb3.5						
PDAR	Pinedale Array	28.32	337	P	P	17 33 03.0	+1.2
	0.5nm,0.8s,mb3.1,baz=127,slow=7.4,SNR=4.3						
PDAR				pP	pP	17 33 31.3	+2.7
	0.8nm,0.8s,baz=143,slow=7.4,SNR=5.4						
NVAR	Mina Array Bea	29.37	321	P	P	17 33 13.5	+2.4
	0.2nm,0.6s,mb3.0,baz=175,slow=6.4,SNR=5.6						
NVAR				pP	pP	17 33 42.7	+4.7
	2.0nm,0.8s,baz=134,slow=9.9,SNR=11						
NVAR				sP	sP	17 33 56.1	+3.8
	1.3nm,0.7s,baz=126,slow=9.6,SNR=5.1						
ULM	Lac du Bonnet	32.94	359	P	P	17 33 40.9	-1.6
	2.3nm,0.5s,mb4.3,baz=179,slow=8.9,SNR=4.4						
LPAZ	La Paz	42.53	140	P	P	17 35 03.5	+0.4
	1.2nm,0.6s,mb3.8,baz=333,slow=7.5,SNR=7.0						
SCHQ	Schefferville	43.30	23	P	P	17 35 06.9	-2.3
	1.9nm,0.6s,mb4.0,baz=245,slow=8.7,SNR=8.1						
SCHQ	Schefferville	43.30	23	*e*P	P	17 35 06.7	-2.5
	2.6nm,0.7s,mb4.1						
YKA	Yellowknife Ar	47.26	348	P	P	17 35 39.6	-0.8
	0.6nm,0.5s,mb3.6,baz=153,slow=7.4,SNR=14						
YKA				pP	pP	17 36 10.4	+1.4
	0.3nm,0.5s,baz=152,slow=7.2,SNR=2.5						
ILAR	Eielson Array	58.76	337	pP	pP	17 37 36.4	+1.9
	0.8nm,0.9s,baz=115,slow=5.5,SNR=5.7						
PLCA	Paso Flores	61.97	159	P	P	17 37 26.6	0.0
	2.8nm,0.9s,mb4.3,baz=270,slow=4.8,SNR=4.1						
PLCA	Paso Flores	61.97	159	*e*P	P	17 37 27.3	+0.7
ESDC	Sonseca Array	79.96	52	P	P	17 39 15.2	+0.1
	0.4nm,0.3s,mb3.7,baz=295,slow=4.9,SNR=7.3						
NOA	NORSAR Array B	82.67	28	pP	pP	17 40 02.3	+1.4
	1.3nm,0.8s,baz=307,slow=2.4,SNR=3.1						
WRA	Warramunga Arr	133.32	259	PKP	PKPdf	17 46 21.6	+0.5
	0.5nm,0.8s,baz=81,slow=2.3,SNR=5.0						

BJI 07 17:29:19.6, 2777N×11996E, h22km, mB4.6, mb4.3, ML4.4, Ms4.3, Msz3.9, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	3.07	204	P	Pn	17 30 05.1	-1.7
QZH				S	Sn	17 30 39.0	-3.8
QZH				Smax			
	comp=N,1μm,1.0s						
QZH				Smax			
	comp=E,2μm,0.9s						
SSE	Sheshan	3.48	18	P	Pn	17 30 13.3	+0.9
SSE				S	Sn	17 30 56.7	+3.7
SSE				Smax			
	comp=N,439nm,0.9s						
SSE				Smax			
	comp=E,666nm,0.9s						
NJ2	Nanjing	4.37	348	*e*P	Pn	17 30 25.4	+0.7
NJ2				PG	Pn	17 30 42.4	+18
NJ2				S	Sn	17 31 17.1	+2.1
NJ2				SG	Sn	17 31 38.3	+23
NJ2				Smax			
	comp=N,2μm,0.9s						
NJ2				Smax			
	comp=E,1μm,0.7s						
LZH	Lanzhou	15.98	305	*e*P	Pn	17 33 02.4	-0.6
LZH				PP		17 33 15.5	
LZH				*e*S	Sn	17 36 00.0	+0.4
LZH				SS		17 36 18.5	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH				LR	LR		
	comp=N,590nm,9.5s						
LZH				LR	LR		
	comp=Z,678nm,10.3s						

MAN 07 17:36:33.3, 1347N×12011E, h21km, mb2.6, ML4.1, MS1.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.82	88	||*i*P	Pb	17 36 48.4	-0.4
ENPP	El Nido	2.35	197	*e*P	Pn	17 37 11.1	+0.4

*MOS **07** 17:56:05.5±1.2, 072S×12304E, h33km, mb4.8/15, Error ellipse: s-maj=18.1km s-min=8.2km az=119.8*
*IDC **07** 17:56:06.6±2.3, 080S×12299E, h29km±14km, mb4.3/12, mb1 4.5/12, mb1mx4.3/21, mbtmp4.5/12, MS4.1/19, Ms1 4.1/19, ms1mx3.9/31, Error ellipse: s-maj=24.5km s-min=9.8km az=61.0*
*ISCJB **07** 17:56:07.1±0.9, 071S±004×12316E±006, h48km±8km, mb4.7/44, MS4.2/29, Error ellipse: s-maj=9.7km s-min=5.6km az=145.8*
*NEIC **07** 17:56:09.8±1.1, 077S×12306E, h60km±11km, mb4.9/18, Error ellipse: s-maj=10.8km s-min=5.5km az=55.0*
*BJI **07** 17:56:09.3, 038S×12328E, h38km, mB5.0, mb4.8, Ms4.5, Msz4.1*
*HRVD **07** 17:56:09.8±0.4, 064S×12305E, h14km±2km, MW5.0/67, Centroid moment Tensor Solution. LP body waves: s17,c17;Mantle waves: s67,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.12; $M_{\theta\theta}$-0.16±.10; $M_{\phi\phi}$0.44±.13; $M_{r\theta}$-2.18±.60; $M_{\theta\phi}$-2.32±.10; $M_{\phi r}$2.10±.50; Best double couple: $M_0$3.42100×10^{16} NP1:ϕ_s14.00000°,δ35.00000°,λ-5.00000°. NP2: ϕ_s108.00000°,δ87.00000°,λ-125.00000°. Principal axes: T 4.4190, Plg33.0000°, Azm227.0000°; N -1.9980, Plg35.0000°, Azm110.0000°; P -2.4220, Plg38.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 17:56:09.8±0.7, 075S±004×12315E±006, h55km±7km, h32km±3.7km: pP-P, n109, σ1§20/104, mb4.7/44, MS4.2/29, 5C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	7.99	8	⇑*e*P	Pn	17 58 01.4	-1.8
CTBH				*i*S	Sn	17 59 27.1	-4.9
DAV	Davao City (W)	8.13	17	*e*P	Pn	17 58 05.2	0.0
	236nm,0.4s						
IPIL	Ipil	8.50	356	*e*P	Pn	17 58 08.7	-1.4
PAGZ	Pagadian	8.54	2	*e*P	Pn	17 58 11.6	+0.9
KKM	Kota Kinabalu	9.67	314	*e*P	Pn	17 58 27.0	+0.9
BJII	Banjamegara	14.91	244	P	Pn	17 59 36.9	-0.3
	83nm,1.6s						
BALP	Baler	16.45	355	*e*P	Px	18 00 07.2	
LEM	Lembang	16.63	248	P	Pn	18 00 01.5	+2.5
	99nm,1.1s						
SCZP	Santa Cruz	16.73	349	*e*P	Px	18 00 10.5	
FITZ	Fitzroy Crossi	17.42	172	*e*P	Pn	18 00 08.5	-0.4
	18nm,0.6s						
FITZ				*e*S	S	18 03 22.0	-5.7
CAUP	Cauayan	17.63	356	*e*P	Pn	18 00 15.4	+4.0
CVP	Callao Caves	18.38	356	*e*P	Pn	18 00 24.0	+3.5
ABRA	Dolores	18.43	353	*e*P	Px	18 00 40.3	
APYP	Conner	18.59	354	*e*P	Pn	18 00 27.4	+4.4
MBWA	Marble Bar	20.56	189	*e*P	P	18 00 43.1	-0.7
	32nm,1.0s						
WRAB	Tennant Creek	22.00	151	*c i*P	P	18 00 58.5	-0.7
WRAB	Tennant Creek	22.00	151	*e*P	P	18 00 58.1	-1.0
	91nm,0.9s,mb5.2						
WRA	Warramunga Arr	22.00	151	P	P	18 00 58.4	-0.8
	87nm,1.1s,mb5.1,baz=329,slow=10,SNR=85						
WRA				S	S	18 05 00.3	+1.5
	3.9nm,1.2s,baz=332,slow=17,SNR=5.6						
WRA				ScP	ScP	18 08 33.0	+4.6
	1.5nm,0.9s,baz=331,slow=2.5,SNR=5.2						
WRA	Warramunga Arr	22.00	151	P	P	18 00 58.4	-0.8
WRA				S	S	18 05 00.3	+1.5
WRA	Warramunga Arr	22.00	151	P	P	18 00 58.4	-0.8
WRA				S	S	18 05 00.3	+1.5
WRA				ScP	ScP	18 08 33.0	+4.6
WB2	Warramunga Arr	22.00	151	*e*P	P	18 00 58.5	-0.8
WB2				*e*S	S	18 05 05.0	+6.1
KULM	Kulim	23.26	285	*e*P	P	18 01 11.1	-1.4
QIZ	Qiongzhong	23.60	327	*e*P	P	18 01 17.2	+1.6
QIZ				LR	LR		
	comp=N,484nm,10.1s						
QIZ				LR	LR		
	comp=Z,462nm,23.6s						
PSI	Prapat	24.47	278	P	P	18 01 22.7	-0.8
	comp=Z,15nm,0.8s,mb4.5,baz=118,slow=2.2,SNR=10						
PSI				LR	LR	18 11 19.3	
	comp=Z,595nm,21.1s,MS4.0,baz=106,slow=38						
ASPA	Alice Springs	25.06	156	*e*P	P	18 01 29.0	+0.1
ASAR	Alice Springs	25.06	156	P	P	18 01 28.6	-0.2
	comp=Z,8.9nm,0.8s,mb4.4,baz=334,slow=8.2,SNR=68						
ASAR				PcP	PcP	18 05 03.5	+1.2
	comp=Z,2.5nm,0.9s,baz=344,slow=1.9,SNR=6.8						
ASAR				ScP	ScP	18 08 41.5	+4.9
	comp=Z,0.9nm,0.8s,baz=343,slow=2.5,SNR=3.5						
ASAR	Alice Springs	25.06	156	P	P	18 01 28.7	-0.2
ASAR						18 05 03.5	
PMG	Port Moresby	25.39	111	P	P	18 01 33.1	+1.2
	comp=Z,40nm,0.8s,mb5.0,baz=316,slow=4.7,SNR=22						
KKTK	Khon Kaen	26.28	311	P	P	18 01 41.0	+1.1
JOW	Kunigami	27.86	10	LR	LR	18 11 44.1	
	comp=Z,307nm,18.4s,MS3.9,baz=74,slow=34						
CTA	Charters Tower	29.67	132	*e*P	P	18 02 12.0	+1.8
	comp=Z,16nm,1.0s,mb4.7						
CTA	Charters Tower	29.67	132	P	P	18 02 11.8	+1.6
	comp=Z,24nm,1.0s,mb4.9,baz=319,slow=12,SNR=16						
CTA				LR	LR	18 14 58.2	
	comp=Z,258nm,21.1s,MS3.8,baz=311,slow=38						
CTAO	Charters Tower	29.67	132	*e*P	P	18 02 11.9	+1.7
CTAO				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
CTAO	Charters Tower	29.67	132	*e*P	P	18 02 11.9	+1.7
	comp=Z,30nm,1.0s,mb5.0						
CHG	Chiang Mai	30.71	310	P	P	18 02 20.0	+0.6
SSE	Sheshan	31.72	357	P	P	18 02 27.1	-1.2
SSE				AP	pP	18 02 35.9	-6.3
SSE				XP	sP	18 02 39.8	-8.9
SSE				S	S	18 07 33.1	-0.9
SSE				XS	sS	18 07 48.2	-9.4
SSE				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9						
SSE				AMB	AMB		
	comp=Z,467nm,4.7s						
SSE				LR	LR		
	comp=N,159nm,28.2s,MS3.7						
SSE				LR	LR		
	comp=E,193nm,28.2s,MS3.7						
SSE				LR	LR		
	comp=Z,220nm,26.5s,MS3.7						
KMI	Kunming	32.43	324	P	P	18 02 38.2	+3.7
KMI				AP	pP	18 02 45.3	-3.1
KMI				XP	sP	18 02 48.3	-6.6
KMI				PCP	PcP	18 05 21.7	+1.0
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=N,291nm,11.5s,MS4.3						
KMI				LR	LR		
	comp=E,297nm,12.8s,MS4.3						
KMI				LR	LR		
	comp=Z,259nm,25.1s						
NWAO	Narrogin (SRO)	32.49	189	LR	LR	18 16 46.1	
	comp=Z,326nm,19.2s,MS4.0,baz=164,slow=38						
NJ2	Nanjing	32.87	353	*e*P	P	18 02 38.4	+0.1
NJ2				AP	pP	18 02 47.9	-4.4
NJ2				XP	sP	18 02 51.9	-6.9
NJ2				PP	PP	18 03 48.0	-5.4
NJ2				S	S	18 07 53.0	+1.0
NJ2				XS	sS	18 08 12.0	-3.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,330nm,5.3s						
NJ2				LR	LR		
	comp=N,810nm,13.6s,MS4.6						
NJ2				LR	LR		
	comp=E,660nm,18.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,700nm,25.7s						
CBIJ	Chichi jima	33.19	32	P	P	18 02 42.4	+1.2
	comp=Z,114nm,0.6s,baz=279,slow=9.4,SNR=7.6						
ENH	Enshi	33.48	338	*e*P	P	18 02 42.8	-0.8
	comp=Z,33nm,0.9s,mb5.3						
STKA	Stephens Creek	35.53	152	*e*P	P	18 02 59.7	-1.7
	comp=Z,11nm,1.0s,mb4.8						
STKA	Stephens Creek	35.53	152	P	P	18 02 59.5	-1.8
	comp=Z,13nm,1.0s,mb4.8,baz=314,slow=7.8,SNR=13						
STKA				LR	LR	18 19 29.7	
	comp=Z,406nm,18.1s,MS4.2,baz=109,slow=40						
STKA	Stephens Creek	35.53	152	*e*P	P	18 02 59.7	-1.6
CD2	Chengdu	36.48	331	*e*P	P	18 03 11.1	+1.6
CD2				AP	pP	18 03 26.2	+2.6
CD2				PP	PP	18 04 37.1	+3.8
CD2				S	S	18 08 49.0	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,90nm,4.9s						
CD2				LR	LR		
	comp=E,200nm,12.9s						
CD2				LR	LR		
	comp=Z,190nm,13.2s,MS4.0						
MJAR	Matsushiro Arr	39.65	19	P	P	18 03 36.3	+0.1
	comp=Z,3.9nm,0.7s,mb4.2,baz=192,slow=8.2,SNR=7.7						
MJAR				LR	LR	18 17 07.7	
	comp=Z,251nm,19.6s,MS4.1,baz=185,slow=32						
SHL	Shillong	39.97	313	*e*P	P	18 03 40.0	+1.2
LZH	Lanzhou	40.81	336	*e*P	P	18 03 51.0	+5.2
LZH				AP	pP	18 04 02.5	+2.4
LZH				XP	sP	18 04 06.8	+0.3
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,103nm,4.2s						
HHC	Hu-ho-hao-te	42.72	347	*e*P	P	18 04 04.2	+2.8
HHC				PP	PP	18 05 46.9	+5.7
HHC				PCP	PcP	18 05 55.2	+3.0
HHC				SCP	ScP	18 09 38.2	-0.2
HHC				PCS	PcS	18 09 46.6	+2.2
HHC				S	S	18 10 26.2	+5.2
HHC				SCS	ScS	18 13 57.2	-0.2
HHC				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
HHC				AMB	AMB		
	comp=Z,82nm,7.2s						
HHC				LR	LR		
	comp=N,186nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=E,274nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=Z,233nm,21.6s						
LSA	Lhasa	42.99	317	P	P	18 04 04.6	+1.0
LSA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
LSA	Lhasa	42.99	317	P	P	18 04 04.5	+1.0
	comp=Z,19nm,0.8s,mb4.9						
GTA	Gaotai	45.32	334	*e*P	P	18 04 26.0	+3.8
GTA				AP	pP	18 04 33.2	-3.5
GTA				XP	sP	18 04 36.7	-6.3
GTA				SCP	ScP	18 09 52.2	+3.2
GTA				SCS	ScS	18 14 15.3	+1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,66nm,6.9s						
GTA				LR	LR		
	comp=N,138nm,13.8s,MS4.3						
GTA				LR	LR		
	comp=E,222nm,17.2s,MS4.3						
GTA				LR	LR		
	comp=Z,137nm,13.0s,MS4.1						
JIRN	Jiri	45.35	311	*e*P	P	18 04 22.6	+0.2
	comp=Z,32nm,0.8s,mb5.2						
GUN	Gumba	45.72	312	*e*P	P	18 04 25.4	+0.1
	comp=Z,57nm,0.7s,mb5.6						
PKI	Pulchoki	45.89	311	*e*P	P	18 04 26.7	0.0
	comp=Z,23nm,0.8s,mb5.2						
PKI	Pulchoki	45.89	311	*e*P	P	18 04 26.7	0.0
PKI				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
KKN	Kakani	46.11	311	*e*P	P	18 04 27.7	-0.7
	comp=Z,33nm,0.9s,mb5.3						
KKN	Kakani	46.11	311	*e*P	P	18 04 27.7	-0.7
KKN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
DMN	Daman	46.14	311	*e*P	P	18 04 28.5	-0.2
	comp=Z,38nm,0.9s,mb5.3						
GKN	Gorkha	46.70	311	*e*P	P	18 04 32.4	-0.7
	comp=Z,39nm,0.9s,mb5.3						
KOLN	Koldanda	47.37	310	*e*P	P	18 04 37.6	-0.7
	comp=Z,41nm,0.8s,mb5.4						
HYB	Hyderabad	47.47	295	*i*P	P	18 04 44.5	+5.4
HYB	Hyderabad	47.47	295	*e*P	P	18 04 44.5	+5.4
HABR	Khabarovsk	50.10	10	*e*P	P	18 04 54.9	-4.3
HABR				*e*S	S	18 12 04.6	-1.9
ULN	Ulaanbaatar	50.41	346	⇑*e*P	P	18 05 01.3	-0.2
ULN	Ulaanbaatar	50.41	346	*e*P	P	18 05 01.2	-0.3
	comp=Z,7.0nm,1.0s,mb4.7						
YSS	Yuzh-Sakhalins	50.52	17	P	P	18 05 05.0	+2.7
SONM	Songino Array	50.54	345	P	P	18 05 01.9	-0.6
	comp=Z,4.2nm,0.8s,mb4.4,baz=161,slow=8.6,SNR=14						
SONM				PcP	PcP	18 06 21.0	+1.2
	comp=Z,2.3nm,0.9s,baz=176,slow=2.4,SNR=4.0						
SONM				ScP	ScP	18 10 12.8	+1.8
	comp=Z,0.9nm,0.9s,baz=176,slow=4.2,SNR=4.1					

WMQ				LR	LR		
	comp=Z,152nm,13.0s,MS4.2						
KSH	**Kashi**	**58.83**	**318**	*e*P	**P**	**18 06 09.1**	**+6.6**
KSH				*e*AP	pP	18 06 19.3	+1.8
KSH				*e*XP	sP	18 06 23.0	-0.8
KSH				*e*PCP	PcP	18 06 55.1	+3.6
KSH				*e*SCP	ScP	18 10 52.3	+5.0
KSH				*e*PCS	PcS	18 10 55.4	+2.0
KSH				*e*S	**S**	**18 14 14.6**	**+11**
KSH				*e*SCS	ScS	18 15 53.2	+5.6
KSH				AMB	AMB		
	comp=Z,120nm,4.2s						
KSH				LR	LR		
	comp=N,310nm,4.6s						
KSH				LR	LR		
	comp=E,280nm,4.6s						
MKAR	**Makanchi Array**	**59.32**	**328**	P	**P**	**18 06 05.3**	**-0.6**
	comp=E,2.5nm,0.7s,mb4.4,baz=123,slow=7.9,SNR=21						
MKAR				ScP	ScP	18 10 50.8	+1.3
	comp=E,0.4nm,0.7s,baz=124,slow=5.4,SNR=3.7						
MKAR				LR	LR	18 35 06.9	
	comp=E,78nm,18.7s,MS3.9,baz=12,slow=40						
RPZ	**Rata Peaks**	**60.33**	**142**	P	**P**	**18 06 14.5**	**+1.6**
	comp=E,111nm,1.1s,mb5.8,baz=18,slow=4.5,SNR=8.0						
RPZ				LR	LR	18 33 19.9	
	comp=E,345nm,20.2s,MS4.5,baz=87,slow=37						
AAK	**Ala-Archa**	**61.40**	**321**	*e*P	**P**	**18 06 20.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**61.40**	**321**	*e*P	**P**	**18 06 20.8**	**+0.6**
	comp=Z,3.9nm,1.0s,mb4.5						
URZ	**Urewera**	**61.89**	**134**	LR	LR	18 29 41.1	
	comp=Z,142nm,21.7s,MS4.1,baz=93,slow=32						
YAK	**Yakutsk**	**62.81**	**3⇑**	*e*P	**P**	**18 06 28.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
YAK	**Yakutsk**	**62.81**	**3**	P	**P**	**18 06 26.4**	**-3.2**
	comp=Z,9.7nm,0.7s,mb5.0						
ZAL	**Zalesovo**	**63.05**	**336**	P	**P**	**18 06 30.4**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.2,baz=354,slow=4.5,SNR=11						
ZAL				LR	LR	18 35 48.8	
	comp=Z,89nm,19.1s,MS4.0,baz=327,slow=38						
ZAL	**Zalesovo**	**63.05**	**336**	*i* P	**P**	**18 06 32.2**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**63.69**	**330**	*e*P	**P**	**18 06 35.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**63.69**	**330**	*e*P	**P**	**18 06 35.0**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.8						
MA2	**Magadan**	**63.91**	**15**	*e*P	**P**	**18 06 37.3**	**+0.5**
MA2				*e*		18 15 18.5	
MA2				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
MA2	**Magadan**	**63.91**	**15**	*e*P	**P**	**18 06 36.6**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**64.34**	**336**	*e*P	**P**	**18 06 37.7**	**-1.9**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
NVS				pmax	pmax		
	comp=N,16nm,2.1s						
SEY	**Seymchan**	**67.19**	**14**	*e*P	**P**	**18 07 01.7**	**+3.7**
SEY						18 09 25.3	
SEY				*e*S	S	18 15 56.6	+8.2
SEY				*e*		18 16 53.0	
SEY				SS	SS	18 20 06.8	-1.6
SEY				*e*SSS		18 23 07.7	
SEY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SEY				smax			
	comp=N,90nm,25.6s						
SEY				smax			
	comp=E,100nm,18.3s						
BVAR	**Borovoye Array**	**69.19**	**329**	P	**P**	**18 07 09.2**	**-1.4**
	comp=E,1.7nm,0.9s,mb4.0,baz=125,slow=7.5,SNR=8.5						
BRVK	**Borovoye**	**69.27**	**329**	*e*P	**P**	**18 07 09.0**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**69.27**	**329**	*e*P	**P**	**18 07 09.0**	**-2.0**
	comp=Z,3.3nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**69.87**	**329**	*e*P	**P**	**18 07 14.6**	**-0.1**
TIXI	**Tiksi**	**72.37**	**2**	*e*P	**P**	**18 07 28.6**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.3						
BILL	**Bilibino**	**74.78**	**15**	*e*P	**P**	**18 07 43.5**	**-0.5**
BILL				*e*		18 10 30.0	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BILL				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.5						
AKTO	**Aktyubinsk**	**74.99**	**323**	LR	LR	18 46 33.1	
	comp=Z,79nm,19.2s,MS4.0,baz=301,slow=40						
MAW	**Mawson**	**78.35**	**200**	LR	LR	18 39 59.4	
	comp=Z,122nm,18.6s,MS4.3,baz=252,slow=34						
VNDA	**Vanda**	**79.49**	**172**	LR	LR	18 39 56.0	
	comp=Z,103nm,19.7s,MS4.2,baz=327,slow=33						
GNI	**Garni**	**81.62**	**311**	LR	LR	18 48 28.2	
	comp=Z,52nm,19.3s,MS3.9,baz=355,slow=38						
KMBO	**Kilima Mbogo**	**85.88**	**269**	LR	LR	18 44 23.5	
	comp=Z,101nm,20.3s,MS4.2,baz=92,slow=34						
VRSR	**Storozhevoye**	**86.78**	**321**	*e*P	**P**	**18 08 47.0**	**-1.0**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
VRSR				pmax	pmax		
	comp=E,3.0nm,2.2s						
SYO	**Syowa Base**	**86.99**	**201⇑**	*e*PcP	PcP	18 08 51.9	+0.8
KDAK	**Kodiak Island**	**87.56**	**32**	LR	LR	18 46 42.6	
	comp=E,148nm,18.4s,MS4.4,baz=85,slow=35						
OBN	**Obninsk**	**88.64**	**325**	*e*P	**P**	**18 08 58.3**	**+1.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
ILAR	**Eielson Array**	**90.65**	**25**	P	**P**	**18 09 07.2**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.9,baz=243,slow=4.6,SNR=4.9						
AKASG	**Malin Array Be**	**93.07**	**321**	*i* P	**P**	**18 09 19.2**	**+1.7**
ARCES	**ARCESS Array B**	**93.38**	**340**	LR	LR	18 51 07.4	
	comp=Z,106nm,21.3s,MS4.3,baz=46,slow=35						
BOSA	**Boshof**	**96.58**	**241**	LR	LR	18 49 25.8	
	comp=Z,118nm,18.7s,MS4.4,baz=158,slow=33						
TORD	**Torodi Ar. Bea**	**120.74**	**285**	PKP	PKPdf	18 14 58.0	+2.5
	comp=Z,0.8nm,0.8s,baz=72,slow=2.6,SNR=3.9						
TXAR	**Lajitas Array**	**127.14**	**53**	PKP	PKPdf	18 15 08.7	+0.9
	comp=Z,0.1nm,0.3s,baz=270,slow=4.5,SNR=2.5						
JTS	**JuntasAbangare**	**150.50**	**70**	*e*PKIKP	PKPdf	18 15 55.6	+5.8

NIED ***07*** *17:56:00, 28.60N×129.70E, h17km, Mw3.6 Best double couple: M0=2.46000×10¹⁴ NP1:φs=278.00000°, δ80.00000°, λ-140.00000°. NP2:φs=180.00000°, δ51.00000°, λ-12.00000°.*

JMA 07 17:56:56.2±0.1, 2858N×12968E, h22km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.18**	**201**	P	Pb	17 57 01.1	-0.2
JAM				S	Sb	17 57 04.1	-0.6
JZK	**Kikaishima**	**0.37**	**136**	P	Pb	17 57 03.7	-0.4
JZK				S	Sb	17 57 09.4	-0.1
JTK	**Tokunoshima**	**1.02**	**219**	P	Pb	17 57 14.8	-0.4
JTK				S	Sb	17 57 27.8	-0.3
JNN	**Nakanoshima**	**1.27**	**8**	P	Pn	17 57 18.4	-0.2
JNN				*e*S	Sn	17 57 35.1	+0.2
JOW	**Kunigami**	**2.14**	**216**	P	Pn	17 57 32.2	+1.6
JIH	**Iheya**	**2.16**	**225**	P	Pn	17 57 31.8	+0.9
JIH				*e*S	Sn	17 57 58.3	+1.3
JJT2	**Tamagusuku 2**	**2.98**	**216**	P	Pn	17 57 43.3	+1.2
JKE	**Kume jima 2**	**3.41**	**230**	P	Pn	17 57 49.7	+1.6

ECX ***07*** *18:23:55.0±0.4, 3222N×115.08W, h9km, ML3.9*
NEIC ***07*** *18:23:56.7, 3234N×115.21W, h9km, MD3.9(ECX), ML3.8(PAS), After ECX.*
NEIC Felt in the Calexico area, California.
ISCJB ***07*** *18:23:57.5±0.5, 3237N±004×115.10W±003, h19km±4km, mb3.2/2, Error ellipse: s-maj=7.1km s-min=3.9km az=130.5*
IDC ***07*** *18:23:57.3±2.8, 3195N×115.12W, h0km, mb3.2/2, mb1 3.5/6, mb1mx3.4/22, mbtmp3.1/6, ML3.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/14, Error ellipse: s-maj=50.0km s-min=12.9km az=40.0*

ISC 07 18:23:58.5±0.4, 3238N±003×11521W±003, h14km±3km, n43, σ1§24/55, mb3.2/2, 4C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DELX	**Delta**	**0.03**	**144**	*e*P	**Pg**	**18 24 00.4**	**-0.6**
DELX				*e*S	**Sg**	**18 24 04.2**	**+1.5**
CHIX	**Chihuahua**	**0.11**	**345**	*e*P	**Pg**	**18 24 02.7**	**+0.9**
EMSC	**East Mesa**	**0.41**	**27⇑**	*e*P	**Pg**	**18 24 07.0**	**+0.4**
SGL	**Mount Signal**	**0.51**	**302⇓**	*i*P	**Pg**	**18 24 08.7**	**+0.1**
SGL	**Mount Signal**	**0.51**	**302⇓**	*e*P	**Pg**	**18 24 08.7**	**0.0**
COK	**Cook Ranch**	**0.64**	**317⇓**	*e*P	**Pg**	**18 24 10.8**	**-0.3**
YUH	**Yuha Desert**	**0.66**	**294⇓**	*i*P	**Pg**	**18 24 10.9**	**-0.5**
YUH	**Yuha Desert**	**0.66**	**294⇓**	*e*P	**Pg**	**18 24 10.9**	**-0.5**
RMX	**La Rumorosa**	**0.77**	**287**	*e*P	**Pg**	**18 24 13.2**	**-0.3**
RMX				⇓*e*		18 24 37.6	
	comp=E,3μm,0.8s						
RDX	**Rancho Dowling**	**0.77**	**235**	*e*PN	**Pn**	**18 24 12.7**	**-2.2**
RDX				*e*S	**Sg**	**18 24 24.3**	**+0.7**
RDX				⇑*e*		18 24 37.4	
	comp=E,8μm,0.6s						
RDX				⇓*e*		18 24 37.4	
	comp=N,2μm,0.8s						
RDX	**Rancho Dowling**	**0.77**	**235⇑**	*e*P	**Pg**	**18 24 12.8**	**-0.6**
RDX				*e*S	**Sg**	**18 24 24.8**	**+1.2**
CLIC	**Calipatria**	**0.81**	**341⇑**	*e*P	**Pg**	**18 24 13.1**	**-1.1**
CRR	**Carrizo Plain**	**0.82**	**308⇓**	*e*P	**Pg**	**18 24 13.2**	**-1.2**
CBX	**Cerro Bola**	**1.23**	**267**	*e*P	**Pn**	**18 24 19.9**	**-1.4**
CBX				*e*S	**Sb**	**18 24 37.5**	**+0.2**
BAR	**Barrett**	**1.27**	**284**	*e*Pn	**Pn**	**18 24 21.1**	**-0.8**
ENX	**Ensenada**	**1.33**	**249**	*e*PN	**Pn**	**18 24 22.0**	**-0.7**
ENX				*e*S	**Sb**	**18 24 41.5**	**+1.3**
ENX	**Ensenada**	**1.33**	**249**	*e*Pn	**Pn**	**18 24 21.8**	**-0.8**
ENX				*e*S	**Sb**	**18 24 41.5**	**+1.3**
SPX	**San Pedro Mart**	**1.35**	**189**	*e*PN	**Pn**	**18 24 21.1**	**-1.8**
ECNX	**Esteban Cantu**	**1.38**	**239**	*e*PN	**Pn**	**18 24 22.7**	**-0.7**
ECNX				*e*PN	**Pn**	**18 24 22.4**	**-1.0**
ECNX				*e*S	**Sn**	**18 24 41.8**	**+0.4**
ECNX				*e*S	**Sn**	**18 24 43.5**	**+2.0**
PBX	**Punta Banda**	**1.44**	**244**	*e*PN	**Pn**	**18 24 25.3**	**+1.2**
PBX				*e*S	**Sn**	**18 24 44.8**	**+2.0**
PFO	**Pinyon Flat Ob**	**1.61**	**320**	*e*Pn	**Pn**	**18 24 24.0**	**-2.6**
LDFC	**Landfair**	**2.69**	**2**	Pn	**Pn**	**18 24 40.7**	**-0.7**
MWC	**Mount Wilson**	**3.01**	**308**	Pn	**Pn**	**18 24 44.0**	**-1.9**
TUC	**Tucson**	**3.74**	**90**	*e*Pn	**Pn**	**18 24 55.9**	**+0.1**
DAC	**Darwin (Calif)**	**4.36**	**334**	Pn	**Pn**	**18 25 06.6**	**+2.3**
WUAZ	**Wupatki**	**4.47**	**44**	*e*Pn	**Pn**	**18 25 05.4**	**-0.3**
NVAR	**Mina Array Bea**	**6.54**	**338**	Pn	**Pn**	**18 25 42.7**	**+8.4**
	comp=N,0.1nm,0.3s,baz=163,slow=15,SNR=3.0						
NVAR				Pg	**Pg**	**18 26 03.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=160,slow=17,SNR=14						
NVAR				Lg		18 27 38.4	
	comp=N,0.4nm,0.3s,baz=147,slow=30,SNR=3.4						
MVU	**Marysvale**	**6.58**	**21**	Pn	**Pn**	**18 25 35.7**	**+0.9**
	comp=N,27nm,0.8s						
LAZ	**Ladron**	**7.04**	**71**	Pn	**Pn**	**18 25 41.2**	**+0.1**
LENM	**Lemitar**	**7.12**	**73**	*e*Pn	**Pn**	**18 25 41.3**	**-0.9**
TMUT	**Trail Mountain**	**7.63**	**24**	Pn	**Pn**	**18 25 51.2**	**+2.0**
ANMO	**Albuquerque**	**7.73**	**68**	Pn	**Pn**	**18 25 52.8**	**+2.2**
	comp=N,0.2nm,0.3s,baz=267,slow=10,SNR=1.7						
ANMO				Lg		18 27 55.1	
	comp=N,0.7nm,0.3s,baz=168,slow=21,SNR=6.7						
ANMO	**Albuquerque**	**7.73**	**68**	Pn	**Pn**	**18 25 50.7**	**+0.1**
	comp=N,5.5nm,0.8s						
DUG	**Dugway**	**8.04**	**13**	P	**Pn**	**18 25 48.8**	**-6.0**
ELK	**Elko**	**8.35**	**360**	Pn	**Pn**	**18 26 05.8**	**+6.7**
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=3.8						
ELK				Lg		18 28 22.2	
	comp=N,0.2nm,0.3s,baz=318,slow=8.1,SNR=2.8						
ELK	**Elko**	**8.35**	**360**	Pn	**Pn**	**18 26 05.8**	**+6.7**
ELK				Lg		18 28 22.2	
MNTX	**Cornudas Mount**	**8.37**	**92**	*e*Pn	**Pn**	**18 25 57.1**	**-2.2**
	comp=N,3.6nm,0.6s						
MNTX				*e*Sn	**Sn**	**18 27 32.8**	**-0.8**
SMCO	**Snowmass**	**9.52**	**42**	*e*Pn	**Pn**	**18 26 16.0**	**+0.8**
	comp=N,28nm,1.2s						
SDCO	**Great Sand Dun**	**9.59**	**53**	Pn	**Pn**	**18 26 17.6**	**+1.5**
	comp=N,4.8nm,0.8s						
TXAR	**Lajitas Array**	**10.37**	**104**	Pn	**Pn**	**18 26 26.9**	**+0.1**
	baz=283,slow=16,SNR=5.3						
TXAR				Lg		18 29 18.7	
	baz=285,slow=21,SNR=3.3						
TXAR				LR	LR	18 30 55.9	
	comp=N,232nm,18.8s,baz=215,slow=41						
TXAR	**Lajitas Array**	**10.37**	**104**	Pn	**Pn**	**18 26 26.9**	**+0.1**
TXAR				Lg		18 29 18.7	
TXAR				LR	LR	18 30 55.9	
YKA	**Yellowknife Ar**	**30.13**	**1**	P	**P**	**18 30 11.3**	**+3.5**
	comp=N,0.1nm,0.4s,mb2.9,baz=180,slow=8.6,SNR=3.3						
ILAR	**Eielson Array**	**37.80**	**338**	P	**P**	**18 31 17.0**	**+2.7**
	comp=N,0.9nm,1.0s,mb3.4,baz=150,slow=8.4,SNR=5.9						

IDC 07 18:29:09.0±14.0, 2179N×14232E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=552.9km s-min=30.9km az=73.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.20**	**191**	P	P	18 37 04.1	+0.5
	0.4nm,0.5s,baz=12,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**45.92**	**191**	P	P	18 37 33.1	-0.3
	0.3nm,1.0s,baz=12,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**54.04**	**313**	P	P	18 38 35.2	+0.1
	0.2nm,0.5s,baz=91,slow=7.9,SNR=5.6						

ISCJB ***07*** *18:32:05.9±0.9, 1155N±007×43.36E±006, h10km, Error ellipse: s-maj=13.3km s-min=4.3km az=101.2*
DHMR ***07*** *18:32:05.1±1.9, 1166N×43.23E, h12km±16km, ML4.1*

ISC 07 18:32:06.2±1.0, 1149N±008×4343E±007, h10km, n12, σ1§32/23, 3C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.85**	**21⇓**	*i*P	**Pn**	**18 32 36.8**	**-1.2**
TRBA				*i* S	**Sn**	**18 33 01.3**	**-0.2**
TRBA				AML	AML	18 33 05.9	
	comp=N,2μm,0.7s						
ADEN	**Aden**	**1.98**	**50**	*i* P	**Pn**	**18 32 41.3**	**+1.5**
ADEN				*i* S	**Sn**	**18 33 07.8**	**+3.1**
ADEN				AML	AML	18 33 25.8	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.98**	**50**	*i* P	**Pn**	**18 32 41.3**	**+1.5**
ADEN				*i* S	**Sn**	**18 33 07.8**	**+3.1**
	comp=E,1μm,0.5s						
UDYN	**Al 'Udayn**	**2.51**	**12⇑**	*i*P	**Pn**	**18 32 47.9**	**+0.8**
UDYN				AML	AML	18 32 54.0	
	comp=Z,2μm,0.4s						
UDYN				*i* S	**Sn**	**18 33 18.6**	**+0.7**
LBOS		**2.96**	**37⇓**	*i*P	**Pn**	**18 32 54.1**	**+0.9**
LBOS				*i* S	**Sb**	**18 33 34.0**	**-1.1**
BDHA	**Al Bayda'**	**3.23**	**40⇑**	*i*P	**Pn**	**18 32 58.0**	**+1.0**
BDHA				*i* S	**Sb**	**18 33 41.0**	**-2.0**
BDHA				AML	AML	18 34 02.0	
	comp=N,877nm,0.5s						
BDHA	**Al Bayda'**	**3.23**	**40⇑**	*i*P	**Pn**	**18 32 58.0**	**+1.0**
BDHA				*i* S	**Sb**	**18 33 41.0**	**-2.0**
	comp=N,438nm,0.5s						
DESE	**Dese**	**3.74**	**265**	*e*PN	**Pn**	**18 33 09.4**	**+5.5**
DESE				*e*S	**Sn**	**18 33 50.0**	**+1.9**
SANA	**San'a**	**3.94**	**11**	*i* P	**Pn**	**18 33 06.6**	**-0.1**
HAJJ	**Hajjah**	**4.18**	**2⇓**	*i*P	**Pn**	**18 33 08.4**	**-1.6**
HAJJ				*i* S	**Sn**	**18 33 59.3**	**+0.3**
FURI	**Furi**	**5.34**	**242**	*e*PN	**Pb**	**18 33 36.9**	**-2.7**
FURI				*e*S	**Sb**	**18 34 42.9**	**-0.9**
FURI	**Furi**	**5.34**	**242**	*e*PN	**Pb**	**18 33 36.9**	**-2.7**
FURI				*e*S	**Sb**	**18 34 42.9**	**-0.9**

IDC 07 18:39:30.6±2.1, 314N×12748E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=155.6km s-min=24.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.91**	**164**	P	P	18 44 46.1	+0.1
	0.8nm,0.7s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.37**	**167**	P	P	18 45 17.8	+0.3
	0.4nm,0.9s,baz=348,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**58.47**	**325**	P	P	18 49 28.5	+0.3
	0.3nm,0.5s,baz=116,slow=8.4,SNR=11						

ISCJB ***07*** *18:56:26.4±0.5, 3661N±005×108.58W±007, h0km, mb2.8/1, Error ellipse: s-maj=9.1km s-min=5.2km az=113.4*
IDC ***07*** *18:56:26.1±0.9, 3668N×108.36W, h0km, mb3.0/1, mb1 3.3/5, mb1mx3.3/24, mbtmp3.0/5, ML3.0/3, Error ellipse: s-maj=19.0km s-min=8.1km az=54.0*
NEIC ***07*** *18:56:28.1±0.5, 3656N×108.49W, h0km, ML3.3, Error ellipse: s-maj=9.2km s-min=6.9km az=52.0, Suspected Mining explosion.*
NEIC 35 km [20 miles] SW of Farmington.

ISC 07 18:56:28.1±0.5, 3661N±004×10852W±006, h0km, n27, σ1§18/33, mb2.8/1, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PV01	**Paradox Valley**	**1.52**	**359**	*e*P	**Pn**	**18 56 56.3**	**-0.2**
ANMO	**Albuquerque**	**2.36**	**134**	Pn	**Pn**	**18 57 06.8**	**-1.3**
	10nm,0.3s,baz=321,slow=12,SNR=83						
ANMO				Lg		18 57 37.9	
	12nm,0.3s,baz=236,slow=23,SNR=13						
ANMO	**Albuquerque**	**2.36**	**134**	*e*Pn	**Pn**	**18 57 06.8**	**-1.3**
ANMO				*e*S	**Sn**	**18 57 38.3**	**+0.6**
WUAZ	**Wupatki**	**2.56**	**246**	*e*P	**Pn**	**18 57 10.4**	**-0.4**
WUAZ				*e*S	**Sn**	**18 57 45.5**	**+2.9**
SDCO	**Great Sand Dun**	**2.66**	**64**	*e*Pn	**Pn**	**18 57 12.0**	**-0.3**
SMCO	**Snowmass**	**2.84**	**25**	*e*Pn	**Pn**	**18 57 16.3**	**+1.6**
BNM	**Barren Site**	**2.90**	**147**	*e*P	**Pn**	**18 57 14.1**	**-1.4**
TMUT	**Trail Mountain**	**3.42**	**322**	*e*Pn	**Pn**	**18 57 24.4**	**+1.7**
ISCO	**Idaho Springs**	**3.92**	**35**	*e*Pn	**Pn**	**18 57 31.2**	**+1.6**
DUG	**Dugway**	**4.91**	**318**	*e*Pn	**Pn**	**18 57 43.9**	**+0.7**
NOQ	**North Oquirrh**	**4.92**	**326**	*e*Pn	**Pn**	**18 57 47.2**	**+4.0**
RWWY	**Rawlins**	**5.17**	**11**	Pn	**Pn**	**18 57 49.4**	**+2.7**
RWWY				*e*P		18 58 00.9	
HWUT	**Hardware Ranch**	**5.52**	**336**	*e*P	**Pn**	**18 57 50.9**	**-0.6**
	23nm,0.6s						
LDFC	**Landfair**	**5.57**	**256**	*e*Pg	**Pg**	**18 58 09.6**	**-5.2**
PDAR	**Pinedale Array**	**6.20**	**353**	Pn	**Pn**	**18 58 00.5**	**-0.3**
	3.7nm,0.3s,baz=164,slow=11,SNR=142						
PDAR				Lg		18 59 41.2	
	0.4nm,0.3s,baz=151,slow=28,SNR=2.9						
AHID	**Auburn Hatcher**	**6.46**	**343**	*e*Pn	**Pn**	**18 58 04.2**	**-0.2**
	10nm,0.4s						
ELK	**Elko**	**6.68**	**310**	Pn	**Pn**	**18 58 09.9**	**+2.4**
	0.3nm,0.3s,baz=120,slow=10,SNR=5.0						
ELK				Pg	**Pg**	**18 58 34.0**	**-2.1**
	0.8nm,0.3s,baz=124,slow=9.1,SNR=12						
ELK				Lg		19 00 00.3	
	0.2nm,0.3s,baz=226,slow=23,SNR=3.9						
REDW	**Red Top Meadow**	**6.97**	**346**	*e*Pn	**Pn**	**18 58 10.4**	**-1.1**
	8.1nm,0.5s						
LOHW	**Long Hollow**	**7.17**	**348**	*e*Pn	**Pn**	**18 58 13.5**	**-0.7**
	8.8nm,0.4s						
MOOW	**Moose Ponds**	**7.33**	**347**	*e*Pn	**Pn**	**18 58 15.5**	**-0.8**
	8.1nm,1.0s						
FLWY	**Flagg Ranch**	**7.64**	**348**	*e*Pn	**Pn**	**18 58 20.5**	**-0.2**
	12nm,0.5s						
NVAR	**Mina Array Bea**	**7.98**	**286**	Pn	**Pn**	**18 58 25.8**	**+0.4**
	0.2nm,0.3s,baz=107,slow=12,SNR=3.6						
NVAR				Pg	**Pg**	**18 58 56.2**	**-4.8**
	0.9nm,0.3s,baz=99,slow=13,SNR=12						
NVAR				Lg		19 00 40.7	
	0.2nm,0.3s,baz=117,slow=34,SNR=3.4						
WMOK	**Wichita Mounta**	**8.14**	**100**	*e*Pb	**Pb**	**18 58 50.1**	**0.0**
	9.7nm,0.8s						
WMOK				*e*S	Sn	19 00 38.1	+38
TXAR	**Lajitas Array**	**8.32**	**149**	Pn	**Pn**	**18 58 30.7**	**+0.7**
	baz=325,slow=11,SNR=2.7						
TXAR				Pg	**Pg**	**18 58 56.5**	**-11**
	baz=322,slow=15,SNR=3.1						
TXAR				Lg		19 00 49.4	
	baz=321,slow=29,SNR=2.7						
TXAR	**Lajitas Array**	**8.32**	**149**	Pn	**Pn**	**18 58 30.7**	**+0.7**
TXAR				Pg	**Pg**	**18 58 56.5**	**-11**
TXAR				Lg		19 00 49.4	
QLMT	**Earthquake Lak**	**8.50**	**346**	*e*Pn	**Pn**	**18 58 32.0**	**-0.5**
YKA	**Yellowknife Ar**	**26.18**	**354**	P	**P**	**19 02 02.8**	**-1.5**
	0.2nm,0.7s,mb2.8,baz=163,slow=10,SNR=4.0						

NAO ***07*** *18:58:48.1, 2460S×175.61W, h33km, mb3.5*

IDC 07 18:58:34.4±3.5, 2750S×17625W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/13, mbtmp3.8/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=215.4km s-min=27.8km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.29**	**220**	LR	LR	18 59 44.5	
	comp=Z,644nm,19.0s,baz=196,slow=31						
STKA	**Stephens Creek**	**36.72**	**253**	P	P	19 05 43.5	+0.3
	0.6nm,0.3s,baz=105,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**44.89**	**263**	P	P	19 06 51.0	+0.5
	0.6nm,0.7s,baz=92,slow=6.6,SNR=29						
ASPA	**Alice Springs**	**44.89**	**263**	*e*P	P	19 06 51.

3.8nm,0.8s,mb4.3
WRAB Tennant Creek 32.60 192 *e*P **P 19 29 04.8 +0.1**
13nm,0.7s,mb5.0
WB2 Warramunga Arr 32.61 192 *e*P **P 19 29 04.7 -0.1**
WRA Warramunga Arr 32.61 192 P **P 19 29 04.9 0.0**
7.9nm,0.7s,mb4.8,baz=10,slow=9.9,SNR=94
ENH Enshi 34.43 306 P **P 19 29 21.5 +0.8**
ASAR Alice Springs 36.32 191 P **P 19 29 37.0 +0.1**
2.5nm,0.6s,mb4.3,baz=17,slow=12,SNR=66
ASPA Alice Springs 36.32 191 *e*P **P 19 29 37.5 +0.6**
STKA Stephens Creek 43.79 179 P **P 19 30 37.2 -1.7**
4.7nm,0.9s,mb4.2,baz=348,slow=7.4,SNR=8.7
STKA Stephens Creek 43.79 179 *e*P **P 19 30 36.9 -1.9**
ULN Ulaanbaatar 45.58 328 *e*P **P 19 30 53.8 +0.6**
1.7nm,0.9s,mb4.0
SONM Songino Array 45.91 328 P **P 19 30 55.0 -0.7**
0.8nm,1.0s,mb3.6,baz=117,slow=6.6,SNR=4.2
MA2 Magadan 47.86 7 P **P 19 31 11.9 +1.0**
2.5nm,0.6s,mb4.4
YAK Yakutsk 50.47 353 P **P 19 31 30.9 0.0**
9.8nm,1.1s,mb4.8
BILL Bilibino 58.19 11 *e*P **P 19 32 27.7 +0.7**
9.3nm,1.0s,mb4.8
MKAR Makanchi Array 60.05 317 P **P 19 32 40.6 +0.7**
2.4nm,0.9s,mb4.2,baz=100,slow=8.7,SNR=13
ZAL Zalesovo 60.73 326 P **P 19 32 43.9 -0.6**
0.7nm,0.6s,mb4.0,baz=7.4,slow=12,SNR=5.1
ZAL Zalesovo 60.73 326 P **P 19 32 43.9 -0.6**
KURK Kurchatov 63.38 321 *e*P **P 19 33 02.4 0.0**
14nm,0.9s,mb5.1
KURK *e* pP 19 33 10.5 -2.6
BVAR Borovoye Array 68.83 322 P **P 19 33 37.5 +0.1**
6.4nm,0.5s,mb4.8,baz=105,slow=8.0,SNR=62
BRVK Borovoye 68.89 322 *e*P **P 19 33 37.9 +0.1**
4.2nm,0.6s,mb4.5
ILAR Eielson Array 71.39 25 P **P 19 33 52.2 -0.8**
0.5nm,0.7s,mb3.5,baz=247,slow=6.4,SNR=6.2
ARU Arti 75.88 325 *e*P **P 19 34 18.4 -1.0**
4.1nm,0.9s,mb4.4
YKA Yellowknife Ar 85.76 27 P **P 19 35 12.6 +0.5**
0.3nm,0.9s,mb3.5,baz=282,slow=4.7,SNR=3.7
FINES FINESS Array B 90.90 334 P **P 19 35 34.8 -1.8**
0.8nm,0.5s,mb4.3,baz=72,slow=6.0,SNR=7.2

*ISCJB **07** 19:24:43.8±0.5, 2.16N×007×9629E±007, h26km, mb4.5/40, MS4.0/4, Error ellipse: s-maj=12.0km s-min=6.9km az=82.5*
*BJI **07** 19:24:43.1, 175N×9629E, h45km, mB5.2, mb4.8, Ms4.4, Msz4.0*
*MOS **07** 19:24:44.4±0.9, 209N×96.13E, h37km, mb4.8/11, Error ellipse: s-maj=13.3km s-min=9.0km az=102.0*
*IDC **07** 19:24:45.2±0.9, 205N×96.13E, h26km±4km, mb4.1/11, mb1 4.2/12, mb1mx4.0/23, mbtmp4.2/12, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=39.8km s-min=12.5km az=51.0*
*NEIC **07** 19:24:45.7±0.4, 2.13N×9628E, mb4.6/19, Error ellipse: s-maj=10.8km s-min=5.8km az=216.0*
ISC 07 19:24:46.2±0.5, 216N±007×9627E±007, h27km, h27km±1.5km: pP-P, n64, σ0=99/64, mb4.5/40, MS4.0/4, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.73**	**76**		Pn		**Pn**	**19 25 28.6**	**+0.5**
	14nm,0.3s,baz=267,slow=6.2,SNR=46								
PSI					LR		LR	19 26 40.7	
	comp=Z,366nm,18.7s,baz=236,slow=40								
KULM	**Kulim**	**5.36**	**54**	*e*P			**Pn**	**19 26 04.6**	**+0.2**
KULM				*e*				19 26 11.8	
PALK	**Pallekele**	**16.32**	**289**	P			**Pn**	**19 28 34.7**	**+1.3**
	28nm,1.2s								
PALK				*e*pP			pP	19 28 43.1	-0.4
KKM	**Kota Kinabalu**	**20.26**	**78**	*e*P			**P**	**19 29 20.1**	**+0.7**
QIZ	**Qiongzhong**	**21.39**	**37**	*e*P			**P**	**19 29 32.6**	**+0.9**
QIZ					AMB		AMB		
	comp=Z,117nm,4.9s								
QIZ					LR		LR		
	comp=N,569nm,13.6s,MS4.2								
QIZ					LR		LR		
	comp=E,353nm,14.3s,MS4.2								
QIZ					LR		LR		
	comp=Z,657nm,13.3s,MS4.2								
SHL	**Shillong**	**23.65**	**350**	*e*P			**P**	**19 29 53.0**	**-2.3**
KMI	**Kunming**	**23.67**	**15**	P			**P**	**19 29 57.4**	**+1.9**
KMI					AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.2								
KMI					LR		LR		
	comp=N,287nm,13.4s,MS4.0								
KMI					LR		LR		
	comp=E,259nm,14.6s,MS4.0								
KMI					LR		LR		
	comp=Z,244nm,14.4s,MS3.8								
JIRN	**Jiri**	**27.13**	**340**	*e*P			**P**	**19 30 27.7**	**+0.8**
	comp=Z,29nm,0.7s,mb4.9								
PKI	**Pulchoki**	**27.32**	**339**	*e*P			**P**	**19 30 29.8**	**+1.2**
	comp=Z,9.7nm,0.7s,mb4.4								
PKI	**Pulchoki**	**27.32**	**339**	*e*P			**P**	**19 30 29.8**	**+1.2**
PKI					pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.2								
GUN	**Gumba**	**27.47**	**340**	*e*P			**P**	**19 30 30.6**	**+0.7**
	comp=Z,25nm,0.7s,mb4.9								
DMN	**Daman**	**27.47**	**338**	*e*P			**P**	**19 30 31.3**	**+1.4**
	comp=Z,14nm,0.9s,mb4.5								
KKN	**Kakani**	**27.57**	**339**	*e*P			**P**	**19 30 31.4**	**+0.6**
	comp=Z,20nm,0.9s,mb4.7								
KKN	**Kakani**	**27.57**	**339**	*e*P			**P**	**19 30 31.4**	**+0.6**
KKN					pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5								
LSA	**Lhasa**	**27.82**	**350**	P			**P**	**19 30 33.2**	**+0.1**
LSA	**Lhasa**	**27.82**	**350**	*e*P			**P**	**19 30 33.7**	**+0.6**
LSA					pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**27.82**	**350**	*e*P			**P**	**19 30 33.7**	**+0.6**
	comp=Z,8.7nm,0.8s,mb4.4								
GKN	**Gorkha**	**28.00**	**338**	*e*P			**P**	**19 30 35.7**	**+1.0**
	comp=Z,27nm,0.7s,mb5.0								
KOLN	**Koldanda**	**28.20**	**336**	*e*P			**P**	**19 30 37.7**	**+1.2**
	comp=Z,11nm,0.7s,mb4.6								
CD2	**Chengdu**	**29.46**	**13**	*e*P			**P**	**19 30 49.0**	**+1.3**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7								
ENH	**Enshi**	**30.64**	**23**	*e*P			**P**	**19 30 56.9**	**-1.2**
	comp=Z,14nm,0.8s,mb4.8								
XAN	**Xi'an**	**33.85**	**19**	P			**P**	**19 31 25.2**	**-1.0**
XAN					AMB		AMB		
	comp=Z,48nm,0.8s,mb5.5								
LZH	**Lanzhou**	**34.48**	**11**	*e*P			**P**	**19 31 31.2**	**-0.5**
LZH					AP		pP	19 31 41.5	+1.7
LZH					XP		sP	19 31 44.0	+0.8
LZH					AMB		AMB		
	comp=Z,23nm,1.0s,mb5.1								
LZH					AMB		AMB		
	comp=Z,110nm,4.6s								
LZH					LR		LR		
	comp=E,429nm,13.5s								
LZH					LR		LR		
	comp=Z,685nm,14.5s,MS4.5								
SSE	**Sheshan**	**37.18**	**37**	P			**P**	**19 31 54.7**	**-0.2**
SSE					AMB		AMB		
	comp=Z,16nm,1.2s,mb4.7								
SSE					AMB		AMB		
	comp=Z,273nm,4.8s								
SSE					LR		LR		
	comp=N,31nm,15.8s,MS3.5								
SSE					LR		LR		
	comp=E,53nm,15.8s,MS3.5								
SSE					LR		LR		
	comp=Z,61nm,15.2s,MS3.5								
GTA	**Gaotai**	**37.22**	**5**	*e*P			**P**	**19 31 54.8**	**-0.4**
GTA					AMB		AMB		
	comp=Z,10.0nm,1.8s,mb4.3								
BJT	**Baijiatuau**	**41.79**	**23**	*e*P			**P**	**19 32 33.8**	**+0.5**
BJT				*e**PP			pP	19 32 40.5	-1.0
BJT					pmax		pmax		
	comp=Z,29nm,0.8s								
BJT	**Baijiatuau**	**41.79**	**23**	*e*P			**P**	**19 32 33.8**	**+0.5**
	comp=Z,29nm,0.8s,mb5.0								
BJT				*e*pP			pP	19 32 40.5	-1.0
WRA	**Warramunga Arr**	**43.33**	**122**	P			**P**	**19 32 46.2**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.0,baz=301,slow=9.2,SNR=15								
WRAB	**Tennant Creek**	**43.33**	**122**	*e*P			**P**	**19 32 46.1**	**+0.3**
WRAB				*e**PP			pP	19 32 54.7	+0.6
WRAB					pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.5								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**43.33**	**122**	*e*P			**P**	**19 32 46.1**	**+0.3**
	comp=Z,8.3nm,0.8s,mb4.5								
WRAB				*e*pP			pP	19 32 54.7	+0.7
WB2	**Warramunga Arr**	**43.34**	**122**	*e*P			**P**	**19 32 46.0**	**+0.2**
ASPA	**Alice Springs**	**44.71**	**127**	*e*P			**P**	**19 32 57.3**	**+0.5**
ASAR	**Alice Springs**	**44.71**	**127**	P			**P**	**19 32 56.9**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.8,baz=300,slow=8.1,SNR=15								
ASAR					pP		pP	19 33 05.2	+0.1
	comp=Z,1.6nm,0.8s,baz=299,slow=7.7,SNR=9.0								
AAK	**Ala-Archa**	**44.76**	**337**	*e*P			**P**	**19 32 57.9**	**+0.7**
AAK					pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.8								
AAK	**Ala-Archa**	**44.76**	**337**	*e*P			**P**	**19 32 57.9**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.8								
MK31	**Makanchi Array**	**46.10**	**347**	*i* P			**P**	**19 33 07.5**	**-0.3**
MK31					pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.8								
MKAR	**Makanchi Array**	**46.10**	**347**	P			**P**	**19 33 07.8**	**-0.1**
	comp=Z,9.9nm,0.8s,mb4.8,baz=162,slow=7.7,SNR=48								
MKAR					pP		pP	19 33 16.0	-0.1
	comp=Z,5.4nm,0.7s,baz=157,slow=8.4,SNR=9.2								
SONM	**Songino Array**	**46.33**	**9**	P			**P**	**19 33 09.9**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.5,baz=188,slow=8.5,SNR=27								
SONM					PcP		PcP	19 34 44.6	0.0
	comp=Z,1.2nm,0.9s,baz=203,slow=3.3,SNR=3.7								
ULN	**Ulaanbaatar**	**46.47**	**10**	*i* P			**P**	**19 33 10.7**	**-0.1**
ULN	**Ulaanbaatar**	**46.47**	**10**	*e*P			**P**	**19 33 11.0**	**+0.2**
	comp=Z,6.4nm,1.2s,mb4.4								
HIA	**Hailar**	**51.04**	**20**	*e*P			**P**	**19 33 45.3**	**-0.6**
HIA					pmax		pmax		
	comp=Z,9.0nm,1.0s								
HIA	**Hailar**	**51.04**	**20**	*e*P			**P**	**19 33 45.3**	**-0.6**
	comp=Z,9.4nm,1.0s,mb4.7								
PMG	**Port Moresby**	**51.98**	**104**	P			**P**	**19 33 53.9**	**+1.0**
	comp=Z,7.7nm,1.0s,mb4.6,baz=298,slow=6.1,SNR=4.4								
ZAL	**Zalesovo**	**52.47**	**351**	P			**P**	**19 33 55.6**	**-0.9**
	comp=Z,5.6nm,0.5s,mb4.8,baz=308,slow=5.8,SNR=26								
NVS	**Novosibirsk**	**53.58**	**351**	*e*P			**P**	**19 34 03.5**	**-1.2**
NVS					pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.5								
NVS					pmax		pmax		
	comp=N,10.0nm,1.4s								
CTAO	**Charters Tower**	**53.76**	**117**	P			**P**	**19 34 06.1**	**+0.1**
CTAO					pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5								
CTAO	**Charters Tower**	**53.76**	**117**	P			**P**	**19 34 06.1**	**0.0**
	comp=Z,7.3nm,1.1s,mb4.5								
STKA	**Stephens Creek**	**54.68**	**132**	P			**P**	**19 34 11.8**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=284,slow=4.2,SNR=4.0								
STKA					pP		pP	19 34 19.8	-1.4
	comp=Z,4.4nm,0.8s,baz=329,slow=6.6,SNR=5.4								
STKA	**Stephens Creek**	**54.68**	**132**	P			**P**	**19 34 11.2**	**-1.6**
STKA				*e*pP			pP	19 34 20.1	-1.1
BVAR	**Borovoye Array**	**55.05**	**341**	P			**P**	**19 34 14.2**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=150,slow=8.8,SNR=5.5								
BOD	**Bodaibo**	**57.25**	**11**	*e*P			**P**	**19 34 29.3**	**-1.8**
BOD					pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.8								
YSS	**Yuzh-Sakhalins**	**60.09**	**35**	*e*P			**P**	**19 34 51.5**	**+0.6**
MALT	**Malatya**	**63.80**	**312**	P			**P**	**19 35 19.6**	**+3.7**
	comp=Z,3.9nm,1.2s,mb4.3								
YAK	**Yakutsk**	**64.77**	**17**	*e*P			**P**	**19 35 20.9**	**-1.3**
YAK				*e**PP			pP	19 35 28.4	-2.4
YAK					pmax		pmax		
	comp=Z,26nm,0.8s,mb5.3								
YAK	**Yakutsk**	**64.77**	**17**	*e*P			**P**	**19 35 20.9**	**-1.2**
	comp=Z,26nm,0.8s,mb5.3								
YAK				*e*pP			pP	19 35 28.4	-2.3
BRTR	**Keskin Array B**	**67.78**	**312**	⇑*e*P			**P**	**19 35 38.7**	**-2.8**
MA2	**Magadan**	**70.88**	**26**	P			**P**	**19 36 00.6**	**0.0**
MA2					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5								
MA2	**Magadan**	**70.88**	**26**	P			**P**	**19 36 00.6**	**-0.1**
	comp=Z,6.3nm,1.0s,mb4.5								
TIXI	**Tiksi**	**72.41**	**10**	⇑*e*P			**P**	**19 36 08.6**	**-1.3**
TIXI					pmax		pmax		
	comp=Z,7.0nm,1.6s,mb4.3								
SEY	**Seymchan**	**73.25**	**23**	⇓*i*P			**P**	**19 36 13.8**	**-1.1**
AKASG	**Malin Array Be**	**73.94**	**322**	P			**P**	**19 36 17.7**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=86,slow=4.5,SNR=2.5								
FINES	**FINESS Array B**	**78.72**	**333**	P			**P**	**19 36 45.5**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=45,slow=5.4,SNR=4.0								
FINES					pP		pP	19 36 53.4	-1.4
	comp=Z,1.1nm,0.6s,baz=72,slow=6.0,SNR=2.4								
BILL	**Bilibino**	**80.61**	**21**	*e*P			**P**	**19 36 55.4**	**-0.9**
BILL				*e*			pP	19 37 02.4	-2.6
BILL					pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.7								
ARCES	**ARCESS Array B**	**81.33**	**340**	P			**P**	**19 37 01.4**	**+1.3**
	comp=Z,3.7nm,1.0s,mb4.3,baz=0.0,slow=3.6,SNR=4.4								
ARCES					pP		pP	19 37 08.0	-0.9
	comp=Z,1.7nm,0.5s,baz=90,slow=4.9,SNR=2.4								

IDC 07 19:40:40.4±2.0, 1705S×6926W, h186km±8km, mb3.4/2, mb1 3.3/4, mb1mx3.1/18, mbtmp3.9/4, Error ellipse: s-maj=35.3km s-min=13.9km az=112.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.32**	**55**	P			Pn	19 41 12.7	+1.4
	88nm,0.3s,baz=273,slow=7.8,SNR=1190								
LPAZ					S		Sn	19 41 36.2	+1.0
	2.8nm,0.3s,baz=107,slow=24,SNR=4.5								
LVC	**Limon Verde**	**5.54**	**177**	P			Pn	19 42 00.3	-1.1
	0.4nm,0.3s,baz=288,slow=13,SNR=6.6								
LVC					S		Sn	19 43 07.0	+1.7
	2.7nm,0.3s,baz=176,slow=22,SNR=19								
SIV	**San Ignacio**	**7.92**	**84**	P			Pn	19 42 32.5	-0.1
	1.8nm,0.3s,baz=276,slow=10,SNR=19								
SIV					S		Sn	19 44 01.6	0.0
	0.0nm,0.3s,baz=4.0,slow=22,SNR=3.5								
BDFB	**Brasilia**	**20.43**	**89**	P			P	19 45 05.0	+1.7
	1.7nm,0.5s,baz=260,slow=12,SNR=3.2								
TORD	**Torodi Ar. Bea**	**76.22**	**71**	P			P	19 52 08.5	+0.3
	0.8nm,0.5s,baz=254,slow=5.7,SNR=5.9								

*ISCJB **07** 19:43:41.4±0.3, 3500N±004×13752E±006, h291km±2km, mb3.7/15, Error ellipse: s-maj=8.5km s-min=6.2km az=74.6*
*MOS **07** 19:43:41.7±1.2, 3507N×13776E, h300km, mb3.8/4, Error ellipse: s-maj=25.7km s-min=11.8km az=99.4*
*BJI **07** 19:43:41.0, 3500N×13750E, h292km, mB4.7, mb4.0*
*NEIC **07** 19:43:42.5±0.6, 3503N×13750E, h292km±8km, mb4.0/8, Error ellipse: s-maj=18.5km s-min=11.9km az=61.0*
*IDC **07** 19:43:42.2±0.7, 3485N×13756E, h276km±7km, mb3.4/8, mb1 3.6/10, mb1mx3.4/24, mbtmp4.1/10, Error ellipse: s-maj=18.9km s-min=12.4km az=81.0*
*JMA **07** 19:43:42.2±0.1, 3504N×13747E, h290km±2km, M3.4*
ISC 07 19:43:42.4±0.3, 3503N±004×13749E±006, h285km±2km, n53, σ0=93/68, mb3.7/15, 2C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYZW	**Yoshizawa**	**0.20**	**98**		S		**S**	**19 44 47.8**	**+0.3**
JIE	**Ise**	**0.90**	**226**		P		**Pn**	**19 44 21.3**	**+0.6**
JIE					S		**S**	**19 44 51.0**	**0.0**
JGM	**Miyama**	**0.92**	**317**		P		**Pn**	**19 44 21.3**	**+0.5**
JGM					S		**S**	**19 44 51.3**	**+0.1**
JYN	**Shimob**	**0.98**	**61**		P		**Pn**	**19 44 21.9**	**+0.8**
JOD2	**Odawara 2**	**1.33**	**79**		P		**Pn**	**19 44 23.9**	**+0.9**
JRY	**Ryogami san**	**1.52**	**49**		P		**Pn**	**19 44 25.2**	**+1.0**
JRY					S		**S**	**19 44 57.4**	**+0.1**
JKG	**Kaga**	**1.56**	**323**		P		**Pn**	**19 44 24.8**	**+0.3**
JKG					S		**S**	**19 44 58.1**	**+0.2**
MAJO	**Matsushiro**	**1.62**	**21**	⇑*i*P			**Pn**	**19 44 25.5**	**+0.6**
MAJO				*e*S			**S**	**19 44 57.7**	**-1.0**
MAT	**Matsushiro**	**1.62**	**21**	P			**Pn**	**19 44 25.5**	**+0.6**
MAT					S		**S**	**19 44 58.6**	**-0.1**
MAT	**Matsushiro**	**1.62**	**21**	*e*P			**Pn**	**19 44 26.0**	**+1.1**
MAT				*e*S			**S**	**19 44 59.0**	**+0.3**
MJAR	**Matsushiro Arr**	**1.62**	**21**	P			**Pn**	**19 44 25.6**	**+0.7**
	29nm,0.3s,baz=202,slow=8.4,SNR=332								
MJAR					S		**S**	**19 44 59.0**	**+0.3**
	3.3nm,0.3s,baz=233,slow=14,SNR=9.2								
JWT	**Wachi**	**1.73**	**279**		P		**Pn**	**19 44 26.1**	**+0.4**
JWT					S		**S**	**19 44 59.0**	**-1.1**
JWY	**Kouya**	**1.76**	**243**		P		**Pn**	**19 44 26.5**	**+0.6**
JWZ	**Kozaga**	**2.09**	**225**		P		**Pn**	**19 44 28.7**	**+0.1**
JAG	**Ashikaga**	**2.12**	**48**		P		**Pn**	**19 44 28.5**	**-0.4**
JAG					S		**S**	**19 45 03.6**	**-2.2**
JSZ	**Suzu**	**2.42**	**358**		P		**Pn**	**19 44 32.0**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAI	**Aioi**	**2.80**	**245**	P			**Pn**	**19 44 34.9**	**-0.2**
JAI					S		**S**	**19 45 15.4**	**-1.6**
BSO1	**Boso 1**	**2.89**	**96**	P			**Pn**	**19 44 35.5**	**-0.5**
JSD	**Sado**	**3.07**	**11**	P			**Pn**	**19 44 38.3**	**+0.5**
JSD				*e*S			**S**	**19 45 20.5**	**-1.5**
JNS	**Sasagawa**	**3.15**	**27**	P			**Pn**	**19 44 39.0**	**+0.3**
JNU	**Nakatsue**	**5.80**	**253**	P			**Pn**	**19 45 09.7**	**+0.8**
	2.2nm,0.3s,baz=68,slow=15,SNR=6.4								
CBIJ	**Chichi jima**	**8.87**	**152**	P			**Pn**	**19 45 42.3**	**-4.3**
	40nm,0.3s,baz=262,slow=19,SNR=18								
CBIJ					S		**S**	**19 47 16.8**	**-11**
	14nm,0.3s,baz=292,slow=19,SNR=6.7								
VLA	**Vladivostok**	**9.18**	**333**	*e*P			**Pn**	**19 45 50.8**	**+0.4**
VLA					pmax		pmax		
	comp=Z,90nm,1.6s								
ASAJ	**Asahikawa**	**9.90**	**22**	P			**Pn**	**19 45 58.0**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=229,slow=9.3,SNR=13								
ASAJ					S		**S**	**19 47 42.9**	**-8.0**
	comp=Z,1.1nm,0.3s,baz=142,slow=19,SNR=4.9								
ASAJ	**Asahikawa**	**9.90**	**22**	P			**Pn**	**19 45 58.0**	**-1.3**
ASAJ					S		**S**	**19 47 42.9**	**-8.0**
ASAJ					pmax		pmax		
	comp=Z,1.0nm,0.3s								
MDJ	**Mudanjiang**	**11.33**	**330**	P			**Pn**	**19 46 17.4**	**+0.4**
MDJ					AMB		AMB		
	comp=Z,28nm,2.4s								
MDJ					AMB		AMB		
	comp=Z,243nm,4.5s								
MDJ	**Mudanjiang**	**11.33**	**330**	*e*P			**Pn**	**19 46 16.5**	**-0.5**
	comp=Z,19nm,0.9s								
YSS	**Yuzh-Sakhalins**	**12.56**	**17**	P			**Pn**	**19 46 30.8**	**-1.2**
KLR	**Kul'dur**	**14.81**	**345**	*e*P			**Pn**	**19 46 54.8**	**-4.3**
HIA	**Hailar**	**19.31**	**323**	*e*P			**P**	**19 47 45.0**	**-1.9**
HIA					pmax		pmax		
	comp=Z,3.0nm,0.6s								
HIA	**Hailar**	**19.31**	**323**	*e*P			**P**	**19 47 45.0**	**-1.9**
	comp=Z,3.3nm,0.6s								
XAN	**Xi'an**	**23.52**	**276**	P			**P**	**19 48 26.8**	**-0.6**
XAN					AMB		AMB		
	comp=Z,8.0nm,1.3s,mb3.9								
ENH	**Enshi**	**24.01**	**267**	*e*P			**P**	**19 48 31.0**	**-0.8**
	comp=Z,11nm,0.6s,mb4.4								
ULN	**Ulaanbaatar**	**25.99**	**309**	*e*P			**P**	**19 48 52.8**	**+3.3**
ULN					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.7								
ULN	**Ulaanbaatar**	**25.99**	**309**	*e*P			**P**	**19 48 52.8**	**+3.2**
	comp=Z,2.4nm,0.6s,mb3.8								
SONM	**Songino Array**	**26.40**	**309**	P			**P**	**19 48 55.8**	**+2.6**
	comp=Z,1.5nm,0.7s,mb3.6,baz=112,slow=9.7,SNR=14								
MKAR	**Makanchi Array**	**42.53**	**303**	P			**P**	**19 51 11.2**	**+0.8**
	comp=Z,0.2nm,0.3s,mb2.8,baz=86,slow=10,SNR=6.3								
KURK	**Kurchatov**	**44.70**	**309**	*e*P			**P**	**19 51 28.2**	**+0.6**
KURK					pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.5								
KURK	**Kurchatov**	**44.70**	**309**	*e*P			**P**	**19 51 28.1**	**+0.5**
	comp=Z,2.0nm,0.7s,mb3.5								
WRAB	**Tennant Creek**	**54.73**	**184**	*e*P			**P**	**19 52 42.3**	**-0.5**
WRAB					pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.2								
WRAB	**Tennant Creek**	**54.73**	**184**	*e*P			**P**	**19 52 42.3**	**-0.5**
	comp=Z,3.7nm,0.4s,mb4.2								
WB2	**Warramunga Arr**	**54.74**	**184**	⇑*i*P			**P**	**19 52 42.6**	**-0.2**
WRA	**Warramunga Arr**	**54.74**	**184**	P			**P**	**19 52 42.6**	**-0.3**
	comp=Z,4.8nm,0.3s,mb4.4,baz=360,slow=7.6,SNR=159								
CTAO	**Charters Tower**	**55.44**	**170**	*e*P			**P**	**19 52 48.6**	**+0.8**
CTAO					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.7								
CTAO	**Charters Tower**	**55.44**	**170**	*e*P			**P**	**19 52 48.6**	**+0.8**
	comp=Z,2.1nm,0.6s,mb3.7								
MBWA	**Marble Bar**	**58.36**	**200**	*e*P			**P**	**19 53 06.9**	**-1.3**
	comp=Z,4.1nm,0.8s,mb3.9								
ASAR	**Alice Springs**	**58.47**	**184**	P			**P**	**19 53 09.1**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.6,baz=15,slow=12,SNR=30								
ASPA	**Alice Springs**	**58.47**	**184**	*e*P			**P**	**19 53 08.8**	**-0.1**
STKA	**Stephens Creek**	**66.66**	**176**	P			**P**	**19 54 01.3**	**-1.5**
	comp=Z,1.5nm,0.6s,mb3.9,baz=338,slow=23,SNR=6.9								
STKA	**Stephens Creek**	**66.66**	**176**	*e*P			**P**	**19 54 00.6**	**-2.2**
YKA	**Yellowknife Ar**	**67.12**	**29**	P			**P**	**19 54 06.6**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=298,slow=6.1,SNR=6.6								
FINES	**FINESS Array B**	**69.08**	**331**	P			**P**	**19 54 17.4**

KSH *e*XS 19 54 57.3
KSH AMB AMB
comp=Z,90nm,4.2s
KSH LR LR
comp=N,230nm,4.5s
KSH LR LR
comp=E,260nm,6.1s
KBK Karagaybulak 9.65 275 P **Pn 19 52 57.5 -0.4**
SNR=12
USP Ospenovka 9.95 278 P **Pn 19 53 01.8 -0.3**
SNR=18
AAK Ala-Archa 9.98 275⇑*e*P **Pn 19 53 00.5 -2.0**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 9.98 275 *e*Pn **Pn 19 53 00.0 -2.5**
comp=Z,5.8nm,0.7s
KURK Kurchatov 10.36 325 ⇑Pn **Pn 19 53 06.5 -1.1**
comp=Z,2.6nm,1.0s
KURK ⇑Sn **Sn 19 54 59.7 -2.8**
comp=Z,3.1nm,0.7s
KURK ⇑Lg 19 56 15.3
comp=Z,11nm,0.7s
KURK Kurchatov 10.36 325 *e*P **Pn 19 53 06.4 -1.3**
KURK Kurchatov 10.36 325 *e*Pn **Pn 19 53 05.5 -2.2**
ZAL Zalesovo 11.53 350 Pn **Pn 19 53 22.3 -1.4**
comp=Z,1.3nm,0.3s,baz=305,slow=11,SNR=17
ZAL Sn **Sn 19 55 27.0 -4.1**
comp=Z,1.8nm,0.3s,baz=230,slow=24,SNR=7.2
ZAL Zalesovo 11.53 350 Pn **Pn 19 53 22.3 -1.4**
ZAL Sn **Sn 19 55 27.0 -4.1**
NVS Novosibirsk 12.63 347 *e*P **Pn 19 53 47.1 +8.3**
NVS *e* 19 55 50.9
KK31 Karatay Array 12.87 278 ⇓Pn **Pn 19 53 44.0 +2.0**
comp=Z,0.9nm,0.4s,baz=79,slow=13,SNR=19
KK31 Karatay Array 12.87 278 *i* P **Pn 19 53 43.9 +1.9**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
LZH Lanzhou 13.85 113 *e*P **Pn 19 53 56.8 +1.4**
LZH AP 19 54 00.2
LZH XP 19 54 03.6
LZH PP 19 54 08.1
LZH *e*S **Sn 19 56 31.8 +4.0**
LZH XS 19 56 36.8
LZH *e*SS 19 56 47.8
LZH AMB AMB
comp=Z,21nm,1.4s
LZH AMB AMB
comp=Z,69nm,4.5s
LZH LR LR
comp=N,356nm,13.6s
LZH LR LR
comp=Z,452nm,14.8s
SONM Songino Array 13.94 62 Pn **Pn 19 54 00.3 +3.7**
comp=Z,0.0nm,0.3s,baz=250,slow=11,SNR=2.8
SONM Lg 19 58 00.6
comp=Z,0.1nm,0.3s,baz=245,slow=30,SNR=3.7
ULN Ulaanbaatar 14.38 62 P **Pn 19 54 07.4 +4.8**
comp=Z,1.2nm,0.7s
VOSK Vostochnaya 15.27 317 ⇓Pn **Pn 19 54 13.1 -1.3**
comp=Z,7.2nm,0.8s
VOSK ⇑Sn **Sn 19 56 55.4 -6.8**
comp=Z,2.6nm,1.2s
VOSK ⇑Lg 19 58 42.6
comp=Z,8.5nm,1.2s
BVA0 Borovoye Array 15.73 318 ⇑Pn **Pn 19 54 19.2 -1.2**
comp=Z,0.9nm,0.8s,baz=118,slow=8.9,SNR=39
BVAR Borovoye Array 15.73 318 Pn **Pn 19 54 19.0 -1.4**
comp=Z,0.9nm,0.3s,baz=117,slow=12,SNR=23
BRVK Borovoye 15.80 317 *e*P **Pn 19 54 20.4 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 15.80 317 *e*P **Pn 19 54 20.4 -0.9**
comp=Z,4.3nm,0.8s
BRVK *e* 19 54 24.9
ZRNK Zerenda 16.39 316 ⇑Pn **Pn 19 54 26.9 -2.0**
comp=Z,5.1nm,0.8s
CD2 Chengdu 17.15 128 *e*P **Pn 19 54 37.4 -0.9**
CD2 S **S 19 57 45.2 -11**
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 AMB AMB
comp=Z,60nm,6.2s
CD2 LR LR
comp=E,200nm,6.2s
CD2 LR LR
comp=Z,150nm,6.0s
ENH Enshi 21.14 119 P **P 19 55 21.4 -1.8**
comp=Z,6.1nm,0.6s,mb4.1
AKTK Aktyubinsk 21.97 301 P **P 19 55 31.6 -0.5**
AKTO Aktyubinsk 21.97 301 ⇑Pn **P 19 55 31.2 -0.9**
comp=Z,0.9nm,0.9s,mb3.2
AKTO Aktyubinsk 21.97 301 P **P 19 55 31.6 -0.5**
comp=Z,4.1nm,0.6s,mb4.0,baz=86,slow=15,SNR=19
AKTO Aktyubinsk 21.97 301 P **P 19 55 31.6 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
ARU Arti 23.37 316⇑*i*P **P 19 55 46.7 -0.2**
ARU *e*PPP 19 56 20.8
ARU *e*S **S 19 59 57.7 +1.0**
ARU *e*SS 20 00 38.4
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
ARU Arti 23.37 316 *e*P **P 19 55 46.2 -0.6**
comp=Z,8.6nm,0.7s,mb4.3
YAK Yakutsk 31.24 37 P **P 19 56 56.3 -1.2**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
YAK Yakutsk 31.24 37 P **P 19 56 56.3 -1.2**
comp=Z,6.0nm,0.6s,mb4.6
OBN Obninsk 35.28 309 *e*P **P 19 57 33.7 +1.0**
OBN *e* 20 00 02.7
OBN *e*SS SS 20 05 20.7 -17
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 37.55 281 P **P 19 57 52.8 +0.7**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
MALT Malatya 37.55 281 P **P 19 57 52.8 +0.7**
comp=Z,2.0nm,0.8s,mb3.9
BR131 Keskin Array S 40.46 285 *e*P **P 19 58 17.0 +0.6**
comp=Z,1.2nm,0.5s,mb3.9
BRTR Keskin Array B 40.46 285 P **P 19 58 16.6 +0.2**
comp=Z,1.3nm,0.6s,mb3.9,baz=106,slow=7.6,SNR=7.1
BRTR Keskin Array B 40.46 285 *i* P **P 19 58 16.8 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 40.68 319 P **P 19 58 18.4 +0.2**
comp=Z,2.2nm,0.9s,mb3.8,baz=72,slow=6.0,SNR=4.4
FINES FINESS Array B 40.68 319 *i* P **P 19 58 18.6 +0.4**
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 40.68 319 P **P 19 58 18.4 +0.2**
ARCES ARCESS Array B 41.30 332 P **P 19 58 23.7 +0.4**
comp=Z,1.7nm,0.8s,mb3.7,baz=95,slow=8.9,SNR=10
ARCES PcP PcP 20 00 20.4 -0.9
comp=Z,3.5nm,1.0s,baz=117,slow=2.7,SNR=5.5
BILL Bilibino 47.02 30 *e*P **P 19 59 11.5 +2.4**
BILL *e* 20 00 42.3
BILL *e*S **S 20 06 00.6 +2.5**
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MORC Moravsky Berou 47.67 304 P **P 19 59 14.8 +0.7**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
MORC Moravsky Berou 47.67 304 P **P 19 59 14.8 +0.6**
comp=Z,2.2nm,0.9s,mb4.2
NOA NORSAR Array B 47.84 320 P **P 19 59 15.6 +0.1**
comp=Z,1.2nm,0.8s,mb4.0,baz=79,slow=7.2,SNR=3.1
CLL Collm 49.85 307 *e*P **P 19 59 31.0 +0.1**
GERES GERESS Array B 50.35 304 P **P 19 59 35.4 +0.8**
comp=Z,0.8nm,0.8s,mb3.8,baz=100,slow=6.0,SNR=2.2
MEZF Maizieres J'vi 55.69 307 *e*P **P 20 00 14.3 +0.3**
comp=Z,17nm,0.9s,mb4.8
MEZF Maizieres J'vi 55.69 307 *e*P **P 20 00 14.3 +0.3**
comp=Z,17nm,0.9s,mb5.1
LPG La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
comp=Z,11nm,0.7s,mb4.7
LPG La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LPG La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
comp=Z,5.7nm,0.7s,mb4.7
LPL La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
comp=Z,13nm,0.6s,mb4.8
LPL La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LPL La Plagne 56.07 303 *e*P **P 20 00 18.1 +1.4**
comp=Z,6.7nm,0.6s,mb4.8
MBDF Montbardon 56.42 302 *e*P **P 20 00 19.2 -0.1**
comp=Z,13nm,1.0s,mb4.6
MBDF Montbardon 56.42 302 *e*P **P 20 00 19.2 -0.1**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MBDF Montbardon 56.42 302 *e*P **P 20 00 19.2 -0.1**
comp=Z,6.5nm,1.0s,mb4.6
SBF Sospel 56.42 301 *e*P **P 20 00 20.1 +0.8**
comp=Z,48nm,0.9s,mb5.2
SBF Sospel 56.42 301 *e*P **P 20 00 20.1 +0.8**
SBF pmax pmax
comp=Z,24nm,0.9s,mb5.2
SBF Sospel 56.42 301 *e*P **P 20 00 20.1 +0.8**
comp=Z,24nm,0.9s,mb5.2
ORIF Oris-en-Rattie 56.88 303 *e*P **P 20 00 22.4 -0.1**
LOR Lormes 56.98 306 *e*P **P 20 00 22.9 -0.3**
comp=Z,7.1nm,0.9s,mb4.4
LOR Lormes 56.98 306 *e*P **P 20 00 22.9 -0.3**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LOR Lormes 56.98 306 *e*P **P 20 00 22.9 -0.3**
comp=Z,3.5nm,0.9s,mb4.4
SMF Signal de Mont 57.29 305 *e*P **P 20 00 25.0 -0.4**
comp=Z,4.6nm,0.6s,mb4.4
AVF Avril sur Loir 57.51 306 *e*P **P 20 00 26.5 -0.5**
TCF Toulx Ste Croi 58.45 306 *e*P **P 20 00 33.1 -0.4**
comp=Z,8.3nm,0.9s,mb4.5
RJF Les Rejaudoux 59.36 305 *e*P **P 20 00 40.7 +0.8**
ILAR Eielson Array 64.68 23 P **P 20 01 15.2 -0.4**
comp=Z,0.8nm,0.8s,mb3.8,baz=313,slow=5.2,SNR=9.9
YKA Yellowknife Ar 73.67 11 P **P 20 02 11.1 -0.1**
comp=Z,0.4nm,0.7s,mb3.4,baz=332,slow=5.8,SNR=8.8
WRAB Tennant Creek 75.46 135 *e*P **P 20 02 21.1 -0.5**
WRAB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WRAB Tennant Creek 75.46 135 *e*P **P 20 02 21.1 -0.5**
comp=Z,6.5nm,0.8s,mb4.6
WRA Warramunga Arr 75.46 135 P **P 20 02 21.5 -0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=332,slow=5.1,SNR=29
WB2 Warramunga Arr 75.47 135 *e*P **P 20 02 21.3 -0.4**
ASPA Alice Springs 78.34 138 *e*P **P 20 02 37.7 -0.2**
ASAR Alice Springs 78.35 138 P **P 20 02 37.6 -0.3**
comp=Z,1.1nm,0.4s,mb4.2,baz=331,slow=5.5,SNR=33
TORD Torodi Ar. Bea 78.56 277 P **P 20 02 37.8 -1.2**
comp=Z,0.9nm,0.6s,mb3.9,baz=57,slow=5.7,SNR=8.5
STKA Stephens Creek 88.94 137 P **P 20 03 29.2 -2.9**
comp=Z,1.1nm,0.6s,mb4.4,baz=299,slow=10,SNR=4.3

IDC 07 20:56:40.5±1.6, 088N×10021E, h209km±10km, mb3.6/5, mb1 3.7/6, mb1mx3.4/18, mbtmp4.1/6, Error ellipse: s-maj=73.7km s-min=16.0km az=47.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.30**	**326**	P	Pn	20 57 23.6	+0.8
PSI	13nm,0.3s,baz=146,slow=9.3,SNR=83			S	Sn	20 57 54.7	-1.1
	baz=88,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**39.33**	**124**	P	P	21 03 48.9	-0.4
	2.3nm,0.4s,baz=303,slow=9.0,SNR=37						
WRA				PcP	PcP	21 05 55.9	+2.5
	0.1nm,0.3s,baz=318,slow=2.5,SNR=5.9						
WB2	**Warramunga Arr**	**39.34**	**124**	*e*P	P	21 03 48.8	-0.6
MKAR	**Makanchi Array**	**48.34**	**344**	P	P	21 05 01.3	+0.3
	0.4nm,0.3s,baz=162,slow=8.5,SNR=13						
BRTR	**Keskin Array B**	**71.56**	**312**	P	P	21 07 38.5	-0.2
	1.2nm,0.6s,baz=134,slow=8.1,SNR=7.6						
FINES	**FINESS Array B**	**81.68**	**332**	P	P	21 08 35.0	-0.3
	2.2nm,1.0s,baz=108,slow=8.8,SNR=4.4						
ARCES	**ARCESS Array B**	**83.86**	**340**	P	P	21 08 46.2	-0.4
	3.4nm,0.9s,baz=105,slow=6.0,SNR=4.3						

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*IDC **07** 20:57:27.7±1.5, 1346S×17422E, h0km, mb4.1/8, mb1 4.5/8, mb1mx4.3/14, mbtmp4.1/8, Error ellipse: s-maj=73.7km s-min=27.0km az=157.0*
*ISCJB **07** 20:57:31.2±1.4, 136S±05×1742E±02, h33km, mb4.2/8, Error ellipse: s-maj=71.7km s-min=23.0km az=137.4*

ISC 07 20:57:33.6±1.3, 134S±05×1741E±02, h35km, n23, σ0§74/8, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.59**	**255**	P	P	21 04 52.7	-0.4
	0.5nm,0.8s,mb3.3,baz=85,slow=8.0,SNR=4.8						
WRA				PcP	PcP	21 07 05.9	+0.9
	1.0nm,1.1s,baz=78,slow=3.5,SNR=4.5						
NVAR	**Mina Array Bea**	**81.42**	**47**	P	P	21 09 47.4	+0.5
	1.6nm,1.0s,mb3.9,baz=220,slow=7.6,SNR=7.6						
ILAR	**Eielson Array**	**83.31**	**16**	P	P	21 09 55.6	-1.1
	7.2nm,0.9s,mb4.7,baz=238,slow=5.8,SNR=39						
SONM	**Songino Array**	**85.48**	**321**	P	P	21 10 09.0	+1.3
	1.5nm,1.0s,mb4.1,baz=117,slow=3.2,SNR=9.2						
ANMO	**Albuquerque**	**89.11**	**54**	P	P	21 10 25.7	+0.5
	2.1nm,0.9s,mb4.4,baz=214,slow=7.3,SNR=3.2						
PDAR	**Pinedale Array**	**89.21**	**46**	P	P	21 10 25.6	-0.1
	0.7nm,0.8s,mb4.1,baz=236,slow=6.5,SNR=4.2						
TXAR	**Lajitas Array**	**89.83**	**60**	P	P	21 10 28.8	+0.2
	0.6nm,0.4s,mb4.3,baz=247,slow=6.9,SNR=4.0						
YKA	**Yellowknife Ar**	**93.36**	**26**	P	P	21 10 44.0	-1.0
	1.3nm,0.9s,mb4.4,baz=254,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**100.85**	**316**	P	Pdif	21 11 19.6	+0.8
	1.2nm,0.9s,baz=104,slow=5.0,SNR=10.0						
CDF	**Champ du Feu**	**143.40**	**345**	*e*PKP1	PKPdf	21 17 04.0	-0.2
SGMF	**Saint Gilles**	**145.12**	**356**	*e*PKP1	PKPbc	21 17 06.4	-0.4
	27nm,1.0s						
LOR	**Lormes**	**145.24**	**348**	*e*PKP1	PKPbc	21 17 07.0	-0.2
	40nm,1.5s						
CABF	**La Chapelle**	**145.37**	**345**	*e*PKP1	PKPbc	21 17 08.3	+0.7
	32nm,1.0s						
QUIF	**Quistinic**	**145.49**	**357**	*e*PKP1	PKPbc	21 17 08.0	0.0
SSF	**Saint Saulge**	**145.50**	**349**	*e*PKP1	PKPbc	21 17 08.4	+0.4
	43nm,1.2s						
AVF	**Avril sur Loir**	**145.79**	**349**	*e*PKP1	PKPbc	21 17 08.8	-0.1
	6.7nm,1.0s						
SMF	**Signal de Mont**	**145.84**	**348**	*e*PKP1	PKPbc	21 17 09.0	0.0
	18nm,1.0s						
BGF	**Bois d'Agland**	**146.11**	**349**	*e*PKP1	PKPbc	21 17 10.0	+0.1
LPL	**La Plagne**	**146.22**	**344**	*e*PKP1	PKPbc	21 17 11.3	+1.1
	5.1nm,0.8s						
LPG	**La Plagne**	**146.23**	**344**	*e*PKP1	PKPbc	21 17 11.3	+1.1
	21nm,1.2s						
TCF	**Toulx Ste Croi**	**146.49**	**350**	*e*PKP1	PKPbc	21 17 11.1	+0.1
	18nm,1.2s						
ORIF	**Oris-en-Rattie**	**147.00**	**345**	*e*PKP1	PKPbc	21 17 10.6	-1.9
	45nm,1.5s						
PGF	**Pioggiola**	**148.20**	**339**	*e*PKP1	PKPbc	21 17 13.3	-2.4
	26nm,1.1s						

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*ISCJB **07** 21:02:27.9±0.2, 1698S×006×17359W±005, h46km, mb5.0/77, MS4.9/46, Error ellipse: s-maj=9.9km s-min=5.6km az=117.3*
*BJI **07** 21:02:27.6, 1671S×17283W, h55km, mB5.5, mb5.0, Ms5.3, Msz4.7*
*MOS **07** 21:02:28.8±0.9, 1643S×17352W, h33km, mb5.4/25, MS4.8/19, Error ellipse: s-maj=16.5km s-min=10.8km az=77.0*
*NAO **07** 21:02:29.9, 1626S×17363W, h33km, mb5.0*
*IDC **07** 21:02:30.0±0.5, 1683S×17363W, h48km±4km, mb4.6/22, mb1 4.8/23, mb1mx4.7/26, mbtmp4.9/23, MS4.6/18, Ms1 4.6/18, ms1mx4.5/25, Error ellipse: s-maj=18.8km s-min=10.5km az=138.0*
*HRVD **07** 21:02:30.1±0.2, 1686S×17307W, h53km±1km, MW5.2/87, Centroid moment Tensor Solution. LP body waves: s75,c118;Mantle waves: s87,c156; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.54±.03; $M_{\theta\theta}$-0.12±.02; $M_{\phi\phi}$-0.42±.02; $M_{r\theta}$-0.57±.02; $M_{\phi\theta}$0.53±.02; $M_{\phi r}$0.18±.02; Best double couple: $M_0$0.92900×10^{17} NP1:ϕ_s173.00000°, δ35.00000°, λ140.00000°. NP2: ϕ_s297.00000°, δ68.00000°, λ62.00000°. Principal axes: T 0.8760, Plg57.0000°, Azm169.0000°; N 0.1060, Plg26.0000°, Azm308.0000°; P -0.9820, Plg19.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 21:02:30.1±0.1, 1685S×17363W, mb5.2/35, MS5.1/16 Error ellipse: s-maj=9.4km s-min=4.9km az=139.0*

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*SZGRF **07** 21:02:31.8, 1658S×173.17W, h48km, mb4.9, Tonga Islands*

ISC 07 21:02:29.8±0.2, 1698S±006×17355W±005, h48km, h48km±1.3km:pP-P, n336, σ1§03/137, mb5.0/77, MS4.9/46, 32C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.50**	**30**	P	**Pn**	**21 03 14.1**	**-7.5**
	45nm,0.3s,baz=4.7,slow=4.3,SNR=16						
AFI				S	**Sn**	**21 03 49.1**	**-13**
	296nm,0.3s,baz=209,slow=22,SNR=8.7						
RAR	**Rarotonga**	**13.69**	**110**	P	**Pn**	**21 05 36.5**	**-4.7**
	4.1nm,0.3s,baz=303,slow=8.7,SNR=7.0						
RAR				S	**Sn**	**21 07 54.0**	**-18**
	0.8nm,0.3s,baz=18,slow=12,SNR=2.3						
RAR				LR	LR	21 09 50.9	
	comp=Z,1μm,18.3s,baz=286,slow=32						
DZM	**Mont Dzumac**	**19.52**	**252**	P	**Pn**	**21 06 52.8**	**-1.9**
	0.3nm,0.3s,baz=102,slow=16,SNR=3.6						
URZ	**Urewera**	**22.73**	**199**	P	**P**	**21 07 28.0**	**+0.3**
	75nm,0.5s,mb5.4,baz=10,slow=4.3,SNR=55						
PPT	**Papeete**	**22.90**	**95**	*e*LQ		21 11 50.0	
	4μm,29.5s						
PPT	**Papeete**	**22.90**	**95**	*e*P	**P**	**21 07 27.5**	**-1.9**
PPT				*e*LR	LR	21 12 37.1	
PPT	**Papeete**	**22.90**	**95**	LR	LR	21 14 01.2	
	comp=Z,940nm,18.9s,MS4.2,baz=261,slow=30						
TBI	**Tubuai**	**23.47**	**110**	*e*P	**P**	**21 07 33.7**	**-1.4**
TBI				*e*LR	LR	21 12 46.2	
	2μm,26.5s						
RPZ	**Rata Peaks**	**29.68**	**203**	P	**P**	**21 08 31.3**	**+0.3**
	11nm,0.6s,mb4.8,baz=65,slow=16,SNR=5.6						
ARMA	**Armidale**	**34.43**	**241**	*e*P	**P**	**21 09 13.2**	**+0.6**
RKT	**Rikitea**	**36.67**	**106**	*e*S	**S**	**21 15 07.9**	**-3.9**
	236nm,30.5s						
RKT				*e*LQ		21 17 44.1	
	1μm,33.8s						
RKT				*e*LR	LR	21 19 05.0	
	1μm,25.5s						
CNB	**Canberra Magne**	**37.69**	**234**	*e*P	**P**	**21 09 40.4**	**-0.1**
	21nm,0.8s,mb4.9						
CTA	**Charters Tower**	**38.18**	**259**	*e*P	**P**	**21 09 44.2**	**-0.4**
	13nm,0.7s,mb4.8						
CTA	**Charters Tower**	**38.18**	**259**	P	**P**	**21 09 44.1**	**-0.4**
	18nm,0.8s,mb4.8,baz=87,slow=11,SNR=20						
CTA				LR	LR	21 24 03.2	
	comp=Z,633nm,19.3s,MS4.4,baz=84,slow=34						
CTA	**Charters Tower**	**38.18**	**259**	P	**P**	**21 09 44.1**	**-0.4**
CTA				LR	LR	21 24 03.2	
PMG	**Port Moresby**	**38.93**	**276**	P	**P**	**21 09 51.4**	**+0.5**
	29nm,0.9s,mb5.0,baz=111,slow=6.2,SNR=12						
TOO	**Toolangi**	**41.37**	**232**	*e*P	**P**	**21 10 10.1**	**-1.0**
	12nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**43.14**	**241**	*e*P	**P**	**21 10 23.3**	**-2.2**
	72nm,1.0s,mb5.4						
STKA	**Stephens Creek**	**43.14**	**241**	P	**P**	**21 10 24.1**	**-1.4**
	85nm,0.9s,mb5.5,baz=83,slow=8.3,SNR=76						
STKA				LR	LR	21 26 21.3	
	comp=Z,610nm,19.1s,MS4.5,baz=53,slow=33						
STKA	**Stephens Creek**	**43.14**	**241**	*e*P	**P**	**21 10 23.4**	**-2.1**
WB2	**Warramunga Arr**	**49.35**	**258**	*e*P	**P**	**21 11 13.3**	**-1.0**
WRAB	**Tennant Creek**	**49.35**	**258**	P	**P**	**21 11 13.4**	**-0.9**
	163nm,0.6s,SNR=14						
WRAB	**Tennant Creek**	**49.35**	**258**⇑*i*P		**P**	**21 11 12.4**	**-1.9**
WRAB	**Tennant Creek**	**49.35**	**258**	*e*P	**P**	**21 11 12.9**	**-1.4**
	62nm,1.2s,mb5.5						
WRA	**Warramunga Arr**	**49.36**	**258**	P	**P**	**21 11 13.4**	**-1.0**
	18nm,0.8s,mb5.2,baz=95,slow=7.1,SNR=196						
ASPA	**Alice Springs**	**49.51**	**253**⇑*i*P		**P**	**21 11 14.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**57.76**	**259**	*e*P	**P**	**21 12 15.9**	**0.0**
	5.1nm,0.4s,mb4.9						
VNDA	**Vanda**	**61.80**	**186**	P	**P**	**21 12 46.0**	**+2.4**
	20nm,0.9s,mb5.2,baz=9.5,slow=7.0,SNR=26						
VNDA				LR	LR	21 33 09.6	
	comp=Z,332nm,20.7s,MS4.5,baz=15,slow=30						
VNDA	**Vanda**	**61.80**	**186**	*e*P	**P**	**21 12 46.0**	**+2.4**
VNDA				pmax	pmax		
	comp=Z,29nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,540nm,19.0s						
VNDA	**Vanda**	**61.80**	**186**	*e*P	**P**	**21 12 46.0**	**+2.4**
	comp=Z,29nm,1.1s,mb5.3						
VNDA				LR	LR		
	comp=Z,540nm,19.0s,MS4.7						
MBWA	**Marble Bar**	**62.80**	**255**	*e*P	**P**	**21 12 49.8**	**-0.5**
	comp=Z,21nm,0.8s,mb5.3						
KLBR	**Kellerberrin**	**63.39**	**243**	*e*P	**P**	**21 12 54.4**	**+0.2**
	comp=Z,22nm,0.7s,mb5.4						
NWAO	**Narrogin (SRO)**	**63.73**	**241**	P	**P**	**21 12 57.2**	**+0.8**
	comp=Z,8.5nm,0.8s,mb4.8,baz=73,slow=9.9,SNR=9.3						
MJAR	**Matsushiro Arr**	**70.05**	**320**	P	**P**	**21 13 36.8**	**+0.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=158,slow=6.5,SNR=4.9						
MJAR				LR	LR	21 38 01.0	
	comp=Z,432nm,21.0s,MS4.7,baz=120,slow=30						
MJAR	**Matsushiro Arr**	**70.05**	**320**	P	**P**	**21 13 36.8**	**+0.2**
MJAR				LR	LR	21 38 01.0	
KIPM	**Iron Peak**	**73.25**	**38**	*e*P	**P**	**21 13 56.2**	**+0.3**
PET	**Petropavlovsk**	**73.73**	**343**	*e*P	**P**	**21 14 04.7**	**+6.0**
PET				*e*S	S	21 23 32.2	+6.1
PET				pmax	pmax		
	comp=Z,100nm,11.0s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
CMB	**Columbia Colle**	**74.04**	**41**	*e*P	**P**	**21 14 00.7**	**+0.2**
CMB				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
CMB	**Columbia Colle**	**74.04**	**41**	*e*P	**P**	**21 14 00.7**	**+0.2**
	comp=Z,12nm,1.1s,mb4.7						
OHCM	**Honcut**	**74.15**	**39**	*e*P	**P**	**21 14 01.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**74.78**	**331**⇑*i*P		**P**	**21 14 05.7**	**+0.9**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
YBH	**Yreka Blue Hor**	**74.94**	**37**	P	**P**	**21 14 05.8**	**+0.1**
	comp=Z,13nm,1.0s,mb4.8,baz=169,slow=0.3,SNR=17						
YBH				LR	LR	21 39 10.1	
	comp=Z,1μm,20.0s,MS5.1,baz=296,slow=29						
YBH	**Yreka Blue Hor**	**74.94**	**37**	P	**P**	**21 14 05.8**	**+0.1**
YBH				LR	LR	21 39 10.1	
HUMO	**Hull Mountain**	**75.36**	**36**	*e*P	**P**	**21 14 08.6**	**+0.5**
	comp=Z,25nm,1.4s,mb5.0						
NVAR	**Mina Array Bea**	**75.59**	**42**	P	**P**	**21 14 09.9**	**+0.4**
	comp=Z,13nm,1.1s,mb4.8,baz=222,slow=8.0,SNR=41						
MNV	**Mina**	**75.69**	**42**	*e*P	**P**	**21 14 09.5**	**-0.5**
MNV				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
MNV				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.3						
MNV	**Mina**	**75.69**	**42**	*e*P	**P**	**21 14 09.5**	**-0.5**
	comp=Z,27nm,1.1s,mb5.1						
MNV				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
TPH	**Tonopah**	**76.08**	**43**	*e*P	**P**	**21 14 13.0**	**+0.7**
TPH				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
TPH				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.2						
TPH	**Tonopah**	**76.08**	**43**	*e*P	**P**	**21 14 13.0**	**+0.7**
	comp=Z,31nm,1.1s,mb5.2						
TPH				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
TUC	**Tucson**	**77.50**	**50**	*e*P	**P**	**21 14 21.1**	**+0.8**
TUC				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
TUC				MLR	MLR		
	comp=Z,556nm,20.0s,MS4.9						
TUC	**Tucson**	**77.50**	**50**	*e*P	**P**	**21 14 21.1**	**+0.8**
	comp=Z,13nm,1.3s,mb4.7						
TUC				LR	LR		
	comp=Z,556nm,20.0s,MS4.9						
WVOR	**Wild Horse Val**	**77.75**	**38**	*e*P	**P**	**21 14 21.8**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
WVOR				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
WVOR	**Wild Horse Val**	**77.75**	**38**	*e*P	**P**	**21 14 21.8**	**+0.1**
	comp=Z,21nm,1.1s,mb5.0						
WVOR				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
SSE	**Sheshan**	**78.79**	**307**	P	**P**	**21 14 25.2**	**-2.2**
SSE				S	S	21 24 18.4	-3.2
SSE				AMB	AMB		
	comp=Z,19nm,1.0s,mb

SSE				LR	LR			
	comp=E,173nm,20.0s,MS4.5							
SSE				LR	LR			
	comp=Z,247nm,20.0s,MS4.5							
ELK	**Elko**	**78.85**	**41**	P	**P**	**21 14 27.8**	**0.0**	
	comp=Z,11nm,0.9s,mb4.8,baz=238,slow=5.2,SNR=37							
HABR	**Khabarovsk**	**79.59**	**328**	*i* P	**P**	**21 14 32.8**	**+1.0**	
HABR				*e*S	S	21 24 31.3	+1.3	
HABR				pmax	pmax			
	comp=Z,28nm,1.1s,mb5.1							
HABR				MLR	MLR			
	comp=Z,250nm,19.0s,MS4.6							
BMO	**Blue Mountains**	**79.96**	**37**	*e*P	**P**	**21 14 33.0**	**-0.8**	
BMO				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.8							
BMO	**Blue Mountains**	**79.96**	**37**	*e*P	**P**	**21 14 33.0**	**-0.8**	
	comp=Z,17nm,1.2s,mb4.8							
DUG	**Dugway**	**80.11**	**43**	*e*P	**P**	**21 14 34.8**	**+0.2**	
DUG				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
DUG				MLR	MLR			
	comp=Z,799nm,20.0s,MS5.1							
DUG	**Dugway**	**80.11**	**43**	*e*P	**P**	**21 14 34.8**	**+0.2**	
	comp=Z,16nm,1.3s,mb4.8							
DUG				LR	LR			
	comp=Z,799nm,20.0s,MS5.1							
MDJ	**Mudanjiang**	**80.18**	**323**	P	**P**	**21 14 35.4**	**+0.4**	
MDJ				AP	pP	21 14 47.8	-1.1	
MDJ				XP	sP	21 14 52.7	-1.6	
MDJ				S	S	21 24 37.7	+1.4	
MDJ				XS	sS	21 24 58.4	-1.3	
MDJ				SS	SS	21 29 45.2	-2.4	
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.6							
MDJ				AMB	AMB			
	comp=Z,140nm,4.7s							
MDJ				LR	LR			
	comp=N,186nm,34.7s,MS4.4							
MDJ				LR	LR			
	comp=E,252nm,33.9s,MS4.4							
MDJ				LR	LR			
	comp=Z,447nm,29.8s,MS4.6							
TMUT	**Trail Mountain**	**80.70**	**44**	*e*P	**P**	**21 14 38.8**	**+1.1**	
TTA	**Tatalina**	**80.82**	**8**	*e*P	**P**	**21 14 37.8**	**-0.6**	
TTA				pmax	pmax			
	comp=Z,91nm,1.6s,mb5.5							
TTA	**Tatalina**	**80.82**	**8**	*e*P	**P**	**21 14 37.8**	**-0.6**	
	comp=Z,91nm,1.6s,mb5.5							
DIV	**Divide**	**80.95**	**13**	*e*P	**P**	**21 14 38.3**	**-0.8**	
	comp=Z,114nm,1.0s,mb5.8							
DIV				LR	LR			
	comp=Z,4μm,21.0s,MS5.8							
NJ2	**Nanjing**	**81.00**	**307**	*e*P	**P**	**21 14 40.1**	**+0.7**	
NJ2				AP	pP	21 14 54.0	+0.7	
NJ2				XP	sP	21 14 59.1	+0.4	
NJ2				S	S	21 24 44.0	-0.8	
NJ2				SKS		21 24 51.0		
NJ2				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,220nm,5.4s							
NJ2				LR	LR			
	comp=N,4μm,33.6s,MS5.7							
NJ2				LR	LR			
	comp=E,3μm,32.1s,MS5.7							
NJ2				LR	LR			
	comp=Z,500nm,33.1s,MS4.7							
MNTX	**Cornudas Mount**	**81.28**	**53**	*e*P	**P**	**21 14 41.2**	**+0.4**	
	comp=Z,14nm,1.3s,mb4.7							
LPM	**Los Pinos Moun**	**81.50**	**50**	*e*P	**P**	**21 14 42.3**	**+0.2**	
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**21 14 43.0**	**+0.4**	
	comp=Z,7.7nm,1.1s,mb4.5,baz=225,slow=5.3,SNR=18							
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**21 14 43.0**	**+0.4**	
MA2	**Magadan**	**81.61**	**343**	*ce*P	**P**	**21 14 41.7**	**-0.9**	
MA2				*e*	pP	21 14 52.9	-3.7	
MA2				*e*		21 17 51.8		
MA2				*e*S	S	21 24 46.9	-4.3	
MA2				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.5							
MA2				MLR	MLR			
	comp=Z,6.0nm,19.0s							
MA2	**Magadan**	**81.61**	**343**	*e*P	**P**	**21 14 41.9**	**-0.8**	
	comp=Z,38nm,1.5s,mb5.1							
ANMO	**Albuquerque**	**81.92**	**50**	P	**P**	**21 14 44.6**	**+0.4**	
	comp=Z,3.3nm,1.0s,mb4.6,baz=238,slow=5.3,SNR=11							
ANMO	**Albuquerque**	**81.92**	**50**	*e*P	**P**	**21 14 44.5**	**+0.3**	
ANMO				pmax	pmax			
	comp=Z,16nm,1.3s							
ANMO				MLR	MLR			
	comp=Z,695nm,21.0s							
ANMO	**Albuquerque**	**81.92**	**50**	*e*P	**P**	**21 14 44.5**	**+0.2**	
	comp=Z,16nm,1.3s,mb4.8							
ANMO				LR	LR			
	comp=Z,695nm,21.0s,MS5.0							
NEW	**Newport**	**82.08**	**34**	P	**P**	**21 14 44.2**	**-0.9**	
	comp=Z,4.5nm,0.8s,mb4.5,baz=201,slow=4.8,SNR=5.6							
NEW				LR	LR	21 43 29.8		
	comp=Z,569nm,18.6s,MS5.0,baz=219,slow=30							
CN2	**Changchun**	**82.20**	**320**	*e*P	**P**	**21 14 46.2**	**+0.5**	
CN2				*e*S	S	21 24 55.5	-1.7	
CN2				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,500nm,19.0s,MS5.1							
CN2				LR	LR			
	comp=E,600nm,19.0s,MS5.1							
CN2				LR	LR			
	comp=Z,700nm,21.0s,MS5.0							
GDL2	**Guadalupe Moun**	**82.28**	**53**	*e*P	**P**	**21 14 47.6**	**+1.5**	
SNY	**Shenyang**	**82.34**	**318**	⇓P	**P**	**21 14 47.8**	**+1.4**	
SNY				XP	sP	21 15 04.5	-1.3	
SNY				AMB	AMB			
	comp=Z,20nm,1.5s,mb4.8							
SNY				AMB	AMB			
	comp=Z,250nm,4.7s							
SNY				LR	LR			
	comp=Z,350nm,27.0s,MS4.6							
TNA	**Tin City**	**82.39**	**2**	*e*P	**P**	**21 14 46.1**	**-0.6**	
	comp=Z,47nm,1.2s,mb5.3							
TNA				*e*pP	pP	21 15 00.7	0.0	
AHID	**Auburn Hatcher**	**82.55**	**41**	*e*P	**P**	**21 14 48.2**	**+0.7**	
	comp=Z,25nm,1.2s,mb5.1							
AHID				LR	LR			
	comp=Z,815nm,21.0s,MS5.1							
MCMT	**McKenzie Canyo**	**82.57**	**39**	*e*P	**P**	**21 14 48.1**	**+0.5**	
MCK	**McKinley**	**82.69**	**11**	*e*P	**P**	**21 14 47.1**	**-1.1**	
MCK				*e**PP	pP	21 15 01.6	-0.7	
MCK				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.1							
MCK				MLR	MLR			
	comp=Z,650nm,21.0s,MS5.0							
MCK	**McKinley**	**82.69**	**11**	*e*P	**P**	**21 14 47.1**	**-1.2**	
	comp=Z,21nm,1.0s,mb5.1							
MCK				*e*pP	pP	21 15 01.6	-0.7	
MCK				LR	LR			
	comp=Z,650nm,21.0s,MS5.0							
DLMT	**Dillon**	**83.00**	**38**	*e*P	**P**	**21 14 49.5**	**-0.4**	
	comp=Z,29nm,1.0s,mb5.3							
DLMT				*e*pP	pP	21 15 05.1	+1.2	
REDW	**Red Top Meadow**	**83.01**	**41**	*e*P	**P**	**21 14 50.1**	**+0.1**	
	comp=Z,39nm,1.2s,mb5.3							
MSO	**Missoula**	**83.02**	**37**	*e*P	**P**	**21 14 49.2**	**-0.8**	
	comp=Z,16nm,1.3s,mb4.9							
SNOW	**Snow King Moun**	**83.13**	**41**	*e*P	**P**	**21 14 50.9**	**+0.4**	
	comp=Z,54nm,1.1s,mb5.5							
MOOW	**Moose Ponds**	**83.28**	**40**	*e*P	**P**	**21 14 51.1**	**-0.2**	
	comp=Z,18nm,1.2s,mb5.0							
LOHW	**Long Hollow**	**83.30**	**41**	*e*P	**P**	**21 14 51.4**	**0.0**	
	comp=Z,26nm,1.2s,mb5.1							
QIZ	**Qiongzhong**	**83.36**	**292**	⇑P	**P**	**21 14 54.4**	**+2.7**	
QIZ				S	S	21 25 05.3	-3.7	
QIZ				AMB	AMB			
	comp=Z,17nm,1.3s,mb4.9							
QIZ				AMB	AMB			
	comp=Z,140nm,4.1s							
QIZ				LR	LR			
	comp=Z,348nm,20.2s,MS4.7							
QLMT	**Earthquake Lak**	**83.42**	**39**	*e*P	**P**	**21 14 52.7**	**+0.7**	
CHMT	**Chamberlain Mo**	**83.47**	**37**	*e*P	**P**	**21 14 51.7**	**-0.6**	
FLWY	**Flagg Ranch**	**83.48**	**40**	*e*P	**P**	**21 14 52.7**	**+0.4**	
	comp=Z,54nm,1.0s,mb5.5							
SMCO	**Snowmass**	**83.50**	**46**	*e*P	**P**	**21 14 53.2**	**+0.8**	
	comp=Z,24nm,1.0s,mb5.3							
PDAR	**Pinedale Array**	**83.53**	**42**	P	**P**	**21 14 52.3**	**-0.3**	
	comp=Z,15nm,0.9s,mb5.2,baz=207,slow=3.3,SNR=59							
PDAR				pP	pP	21 15 06.2	-0.5	
	comp=Z,5.2nm,0.7s,baz=243,slow=3.3,SNR=6.2							
BOZ	**Bozeman (W)**	**83.73**	**39**	*e*P	**P**	**21 14 53.4**	**-0.2**	
BOZ				pmax	pmax			
	comp=Z,27nm,1.0s,mb5.3							
BOZ	**Bozeman (W)**	**83.73**	**39**	*e*P	**P**	**21 14 53.4**	**-0.2**	
	comp=Z,27nm,1.0s,mb5.3							
SDCO	**Great Sand Dun**	**83.87**	**48**	*e*P	**P**	**21 14 54.6**	**+0.3**	
	comp=Z,45nm,1.9s,mb5.3							
SDCO				LR	LR			
	comp=Z,689nm,20.0s,MS5.0							
LKWY	**Lake**	**83.91**	**40**	*e*P	**P**	**21 14 56.1**	**+1.6**	
LKWY				pmax	pmax			
	comp=Z,35nm,1.0s,mb5.4							
LKWY	**Lake**	**83.91**	**40**	*e*P	**P**	**21 14 56.1**	**+1.6**	
	comp=Z,35nm,1.0s,mb5.4							
COLA	**College**	**83.93**	**11**	*e*P	**P**	**21 14 52.8**	**-1.8**	
COLA				*e**PP	pP	21 15 06.7	-2.0	
COLA				pmax	pmax			
	comp=Z,48nm,1.0s,mb5.6							
COLA				MLR	MLR			
	comp=Z,1μm,20.0s,MS5.2							
COLA	**College**	**83.93**	**11**	*e*P	**P**	**21 14 52.8**	**-1.8**	
	comp=Z,48nm,1.0s,mb5.6							
COLA				*e*pP	pP	21 15 06.7	-2.0	
COLA				LR	LR			
	comp=Z,1μm,20.0s,MS5.2							
SEY	**Seymchan**	**83.99**	**345**	*e*P	**P**	**21 14 54.9**	**-0.1**	
SEY				*PP	pP	21 15 08.3	-0.7	
SEY						21 18 05.6		
SEY				*e*		21 20 05.4		
SEY				*e*S		21 25 13.8		
SEY				PS		21 26 06.7		
SEY				*e*SSS		21 34 13.7		
SEY				pmax	pmax			
	comp=N,10.0nm,0.8s							
SEY				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0							
SEY				smax				
	comp=N,140nm,20.9s							
SEY				smax				
	comp=E,180nm,24.7s							
ILAR	**Eielson Array**	**84.01**	**11**	P	**P**	**21 14 53.6**	**-1.4**	
	comp=E,3.3nm,0.7s,mb4.6,baz=214,slow=4.9,SNR=38							
ILAR				pP	pP	21 15 07.6	-1.5	
	comp=E,9.2nm,1.1s,baz=217,slow=5.1,SNR=10							
ILAR				LR	LR	21 44 20.8		
	comp=E,378nm,21.2s,MS4.8,baz=210,slow=30							
ILAR	**Eielson Array**	**84.01**	**11**	P	**P**	**21 14 53.7**	**-1.3**	
ILAR				*PP	pP	21 15 07.6	-1.5	
IMA2	**Indian Mountai**	**84.13**	**8**	*e*P	**P**	**21 14 55.2**	**-0.4**	
IMA2				*e*pP	pP	21 15 07.7	-2.1	
HRY	**Holter Researc**	**84.18**	**38**	*e*P	**P**	**21 14 55.6**	**-0.3**	
HRY				*e*pP	pP	21 15 09.3	-0.7	
BILL	**Bilibino**	**86.04**	**353**	⇑*i*P	**P**	**21 15 03.6**	**-1.6**	
BILL				*e*		21 18 21.0		
BILL				*e*S		21 25 19.9		
BILL				*e*SS	SS	21 31 05.0	-9.5	
BILL				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.3							
BILL				MLR	MLR			
	comp=Z,2μm,17.0s,MS5.6							
LAO	**LASA Array**	**87.51**	**39**	*e*P	**P**	**21 15 11.8**	**-0.5**	
	comp=Z,14nm,1.0s,mb5.1							
RSSD	**Black Hills**	**87.71**	**42**	*e*P	**P**	**21 15 12.1**	**-1.3**	
RSSD				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.1							
RSSD	**Black Hills**	**87.71**	**42**	*e*P	**P**	**21 15 12.1**	**-1.2**	
	comp=Z,14nm,1.1s,mb5.1							
PLCA	**Paso Flores**	**88.57**	**132**	P	**P**	**21 15 19.6**	**+2.2**	
	comp=Z,2.7nm,0.8s,mb4.6,baz=221,slow=8.9,SNR=6.8							
GYA	**Guiyang**	**88.65**	**298**	⇑*i*P	**P**	**21 15 19.9**	**+2.1**	
GYA				AP	pP	21 15 35.4	+3.5	
GYA				XP	sP	21 15 38.6	+1.3	
GYA				PP	PP	21 18 51.7	+4.9	
GYA				SKS		21 25 43.3		
GYA				S		21 26 01.8		
GYA				XS	sS	21 26 24.4	-0.1	
GYA				SS	SS	21 31 56.5	+3.9	
GYA				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.6							
GYA				AMB	AMB			
	comp=Z,120nm,3.4s							
GYA				LR	LR			
	comp=N,640nm,18.4s,MS5.3							
GYA				LR	LR			
	comp=E,780nm,18.9s,MS5.3							
GYA				LR	LR			
	comp=E,650nm,19.0s,MS5.1							
XAN	**Xi'an**	**89.43**	**306**	P	**P**	**21 15 22.9**	**+1.4**	
XAN				AP	pP	21 15 32.7	-2.9	
XAN				AMB	AMB			
	comp=Z,14nm,1.7s,mb5.0							
DGMT	**Dagmar**	**89.54**	**39**	*e*P	**P**	**21 15 22.0**	**0.0**	
	comp=Z,27nm,1.1s,mb5.5							
INK	**Inuvik**	**89.82**	**14**	P	**P**	**21 15 22.6**	**-0.7**	
	comp=Z,4.1nm,0.9s,mb4.7,baz=205,slow=9.4,SNR=10							
INK				LR	LR	21 48 17.4		
	comp=Z,482nm,19.4s,MS4.9,baz=239,slow=31							
HHC	**Hu-ho-hao-te**	**89.99**	**313**	⇓*e*P	**P**	**21 15 25.2**	**+1.1**	
HHC				AP	pP	21 15 38.1	-0.1	
HHC				XP	sP	21 15 42.9	-0.6	
HHC				PP	PP	21 18 58.3	+0.9	
HHC				SKS		21 25 49.5		
HHC				S		21 26 11.1		
HHC				AMB	AMB			
	comp=Z,21nm,0.8s,mb5.5							
HHC				AMB	AMB			
	comp=Z,159nm,4.8s							
HHC				LR	LR			
	comp=N,168nm,15.6s,MS4.7							
HHC				LR	LR			
	comp=E,181nm,15.6s,MS4.7							
HHC				LR	LR			
	comp=Z,169nm,15.6s,MS4.6							
BTO	**Baotou**	**90.98**	**312**	*e*P	**P**	**21 15 29.4**	**+0.7**	
SYO	**Syowa Base**	**91.03**	**191**	⇓*e*pP	pP	21 15 44.7	+1.6	
SYO	**Syowa Base**	**91.03**	**191**	⇓*e*P	**P**	**21 15 27.5**	**-1.4**	
SYO				⇓*e*pP	pP	21 15 44.7	+1.6	
VNA3	**Neumayer Olymp**	**91.31**	**175**	*e*P	**P**	**21 15 30.4**	**+0.2**	
KMI	**Kunming**	**91.58**	**296**	P	**P**	**21 15 32.6**	**+1.2**	
KMI				AP	pP	21 15 46.5	+0.9	
KMI				XP	sP	21 15 52.9	+2.0	
KMI				PP	PP	21 19 10.8	+0.8	
KMI				SKS		21 25 57.7		
KMI				S		21 26 25.5		
KMI				SS	SS	21 32 37.3	+2.4	
KMI				AMB	AMB			
	comp=Z,15nm,1.2s,mb5.2							
KMI				AMB	AMB			
	comp=Z,137nm,4.0s							
KMI				LR	LR			
	comp=N,219nm,11.9s,MS4.9							
KMI				LR	LR			
	comp=E,186nm,15.6s,MS4.9							
KMI				LR	LR			
	comp=Z,229nm,24.3s							
YKA	**Yellowknife Ar**	**91.59**	**23**	P	**P**	**21 15 30.8**	**-0.7**	
	comp=Z,3.9nm,1.0s,mb4.7,baz=232,slow=4.2,SNR=30							
YKA				pP	pP	21 15 45.0	-0.7	
	comp=Z,3.4nm,1.0s,baz=236,slow=4.2,SNR=9.6							
YKA				LR	LR	21 49 34.7		
	comp=Z,481nm,18.6s,MS5.0,baz=230,slow=31							
YKA	**Yellowknife Ar**	**91.59**	**23**	P	**P**	**21 15 30.8**	**-0.7**	
YKA				*PP	pP	21 15 45.0	-0.7	
YKA	**Yellowknife Ar**	**91.59**	**23**	P	**P**	**21 15 30.8**	**-0.7**	
YKA				pP	pP	21 15 45.0	-0.7	
YKA				LR	LR	21 49 34.7		
JTS	**JuntasAbangare**	**91.63**	**80**	*e*P	**P**	**21 15 34.1**	**+2.4**	
JTS				*e**PP	pP	21 15 47.8	+1.9	
JTS				pmax	pmax			
	comp=Z,14nm,1.0s							
JTS	**JuntasAbangare**	**91.63**	**80**	*e*P	**P**	**21 15 34.1**	**+2.4**	
	comp=Z,14nm,1.0s,mb5.2							
JTS				*e*pP	pP	21 15 47.8	+2.0	
VNA2	**Neumayer--Watz**	**91.80**	**175**	*e*P	**P**	**21 15 33.6**	**+1.1**	
	baz=211,slow=4.4							
CD2	**Chengdu**	**92.50**	**301**	*e*P	**P**	**21 15 35.7**	**0.0**	
CD2				AP	pP	21 15 49.2	-0.7	
CD2				XP	sP	21 15 54.4	-0.8	
CD2				PP	PP	21 19 19.2	+1.9	
CD2				SKS		21 26 03.4		
CD2				S		21 26 32.5		
CD2				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb5.1							
CD2				AMB	AMB			
	comp=Z,140nm,5.1s							
CD2				LR	LR			
	comp=E,130nm,21.6s							
CD2				LR	LR			
	comp=Z,110nm,21.6s,MS4.3							
CHRT	**Chiangrai**	**92.62**	**290**	PG	**P**	**21 15 39.0**	**+2.7**	
	comp=Z,105nm,0.9s							
CIT	**Chita**	**93.11**	**324**	*e*P	**P**	**21 15 37.8**	**-0.7**	
LZH	**Lanzhou**	**94.04**	**306**	*e*P	**P**	**21 15 45.0**	**+2.2**	
LZH				AP	pP	21 15 57.5	+0.5	
LZH				XP	sP	21 16 02.5	+0.2	
LZH				PP	PP	21 19 33.3	+4.0	
LZH				SKS		21 26 16.0		
LZH				*e*S		21 26 47.0		
LZH				SS	SS	21 33 09.0	-1.2	
LZH				AMB	AMB			
	comp=Z,23nm,1.1s,mb5.5							
LZH				AMB	AMB			
	comp=Z,97nm,4.7s							
LZH				LR	LR			
	comp=E,450nm,18.6s							
LZH				LR	LR			
	comp=Z,730nm,20.0s,MS5.1							
ULM	**Lac du Bonnet**	**95.24**	**39**	P	**P**	**21 15 46.6**	**-1.7**	
	comp=Z,4.8nm,0.8s,mb5.0,baz=226,slow=5.3,SNR=8.9							
ULM				LR	LR	21 51 59.0		
	comp=Z,805nm,19.9s,MS5.2,baz=246,slow=31							
ULN	**Ulaanbaatar**	**95.51**	**318**	⇑*e*P	**P**	**21 15 46.9**	**-2.6**	
SONM	**Songino Array**	**95.92**	**318**	P	**P**	**21 15 51.3**	**-0.1**	
	comp=Z,0.6nm,0.6s,mb4.2,baz=133,slow=5.2,SNR=5.9							
SONM				LR	LR	21 53 40.6		
	comp=Z,134nm,21.2s,MS4.4,baz=123,slow=32							
TIXI	**Tiksi**	**96.47**	**344**	⇓*e*P	**P**	**21 15 52.3**	**-1.6**	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.9							
GTA	**Gaotai**	**98.05**	**309**	*e*P	**P**	**21 16 01.7**	**+0.7**	
GTA				AP	pP	21 16 15.3	+0.1	
GTA				XP	sP	21 16 19.9	-0.6	
GTA				PP	PP	21 20 06.0	+5.7	
GTA				SKS		21 26 34.9		
GTA				S		21 27 24.1		
GTA				XS	sS	21 27 46.7	-1.5	
GTA				SS	SS	21 34 14.9	+8.0	
GTA				AMB	AMB			
	comp=Z,5.0nm,1.6s,mb4.8							
GTA				AMB	AMB			
	comp=Z,101nm,5.3s							
GTA				LR	LR			
	comp=N,123nm,18.3s,MS4.7							
GTA				LR	LR			
	comp=E,196nm,23.3s,MS4.7							
GTA				LR	LR			
	comp=Z,323nm,22.9s,MS4.8							
WMQ	**Urumqi**	**107.80**	**311**	*e*PDIF	Pdif	21 16 44.0	-0.4	
WMQ				PP	PP	21 21 15.0	+1.7	
WMQ				S	Sdif	21 28 42.0	-3.7	
WMQ				SS	SS	21 36 19.0	-2.4	
WMQ				PP	PP			
	comp=Z,325nm,8.0s							
WMQ				LR	LR			
	comp=N,547nm,15.0s,MS5.4							
WMQ				LR	LR			
	comp=E,654nm,15.0s,MS5.4							
WMQ				LR	LR			
	comp=Z,586nm,15.0s,MS5.3							
MKAR	**Makanchi Array**	**111.82**	**314**	PKiKP	PKiKP	21 20 59.0	-0.3	
	comp=Z,1.9nm,0.6s,baz=68,slow=0.9,SNR=28							
MKAR				PKKPbc	PKKPbc	21 31 53.3	+1.3	
	comp=Z,0.8nm,0.9s,baz=289,slow=3.6,SNR=5.8							
MKAR				PKKPab	PKKPab	21 32 02.4	+1.0	
	comp=Z,0.9nm,0.9s,baz=252,slow=3.8,SNR=5.4							
KURK	**Kurchatov**	**114.22**	**318**	*e*PKIKP	PKiKP	21 21 03.1	-0.8	
KURK				*e*		21 21 14.7		
KSH	**Kashi**	**116.29**	**306**	*e*PKP	PKPdf	21 21 06.0	-1.9	
KSH				*e*PKS		21 24 41.1		
KSH				*e*SKS	SKSdf	21 28 13.0	-3.0	
KSH				PP	PP			
	comp=Z,130nm,4.4s							
KSH				LR	LR			
	comp=N,260nm,4.5s							
KSH				LR	LR			
	comp=E,270nm,4.8s							
AAK	**Ala-Archa**	**117.38**	**310**	⇑*i*PKIKP	PKPdf	21 21 09.3	-0.7	
BRVK	**Borovoye**	**119.08**	**322**	*e*PKIKP	PKPdf	21 21 12.9	-0.3	
ZRNK	**Zerenda**	**119.86**	**322**	*e*PKIKP	PKPdf	21 21 14.3	-0.4	
ZRNK				*e*		21 21 28.9		
ARU	**Arti**	**124.59**	**328**	*i* PKIKP	PKPdf	21 21 22.7	-1.1	
ARU				*e*		21 23 07.6		
ARU				*e*		21 28 21.7		
ARU				MLR	MLR			
	comp=Z,200nm,20.0s,MS4.8							
ARU				MLR	MLR			
	comp=N,200nm,18.0s,MS5.0							
ARU				MLR	MLR			
	comp=E,200nm,18.0s,MS5.0							
ARCES	**ARCESS Array B**	**126.14**	**352**	PKP	PKPdf	21 21 26.5	-0.3	
	comp=E,10nm,0.8s,baz=0.0,slow=1.2,SNR=19							
KLMR	**Klimovskoe**	**130.21**	**340**	*i* PKIKP	PKPdf	21 21 32.4	-2.1	
KLMR				pmax	pmax			
	comp=Z,50nm,2.7s							
JOF	**Joensuu**	**130.95**	**345**	*e*p	PKPdf	21 21 35.4	-0.5	
	comp=Z,6.4nm,0.7s							
BOSA	**Boshof**	**131.17**	**202**	PKP	PKPdf	21 21 38.5	+2.2	
	comp=Z,2.8nm,1.0s,baz=184,slow=16,SNR=3.4							
KAF	**Kangasniemi**	**132.79**	**347**	*e*p	PKPdf	21 21 37.7	-1.7	
	comp=Z,3.9nm,0.7s							
FINES	**FINESS Array B**	**133.44**	**347**	PKP	PKPdf	21 21 40.5	-0.2	
	comp=Z,5.2nm,0.8s,baz=45,slow=2.7,SNR=14							
MOS	**Moscow**	**134.62**	**336**	*e*PKIKP		21 21 58.8		
OBN	**Obninsk**	**135.49**	**336**	⇑*i*PKIKP	PKPdf	21 21 44.2	-0.3	
OBN				pmax	pmax			
	comp=Z,11nm,1.1s							
OBN				MLR	MLR			
	comp=Z,100nm,21.0s,MS4.5							
NB2	**NORSAR Subarra**	**135.86**	**357**	PKPd	PKPdf	21 21 45.4	+0.2	
	comp=Z,8.5nm,1.4s,baz=6.6,slow=1.8							
NB2	**NORSAR Subarra**	**135.86**	**357**	PKPd	PKPdf	21 21 45.4	+0.2	
	baz=6.6,slow=1.8							
NOA	**NORSAR Array B**	**135.86**	**357**	PKP	PKPdf	21 21 44.7	-0.4	
	comp=Z,2.1nm,0.8s,baz=13,slow=4.0,SNR=4.3							
HFS	**Hagfors**	**136.58**	**355**	PKP	PKPdf	21 21 46.1	-0.4	
	comp=Z,3.3nm,0.7s,baz=108,slow=9.4,SNR=5.7							
KIV	**Kislovodsk**	**139.30**	**319**	*i* PKIKP		21 22 03.8		
KIV				pmax	pmax			
	comp=Z,7.0nm,0.9s							

CLL ep PKP pPKPdf 21 22 16.0 -0.9
STHS Stebnicka Huta 145.49 343 i PKP PKPdf 21 22 03.7 +1.2
STHS e 21 22 16.2
BUG Bochum--Univer 145.61 359 ePKPbc PKPbc 21 22 02.6 -0.4
KOLS Kolonicke sedl 145.62 341 i PKP PKPdf 21 22 03.5 +0.8
KOLS e 21 22 15.2
RAC Raciborz 145.64 347 ePKIKP PKPdf 21 22 04.0 +1.2
BRG Berggiesshubel 145.66 352 ePKPbc PKPbc 21 22 02.8 -0.3
BRG Berggiesshubel 145.66 352 ePKP PKPdf 21 22 03.2 +0.4
comp=Z,37nm,1.2s
BRG i 21 22 18.5
comp=Z,16nm,1.2s
UPC Upice 145.68 349 ePKP PKPdf 21 22 03.9 +1.1
UPC epPKP pPKPdf 21 22 14.8 -2.7
NIE Niedzica 145.74 344 ePKP PKPdf 21 22 04.7 +1.8
BURAR Bucovina Array 145.76 337 ⇑P PKPdf 21 22 04.3 +1.3
BURAR Bucovina Array 145.76 337 ⇑P PKPdf 21 22 04.3 +1.3
DPC Dobruska-Polom 145.77 349 ePKP PKPdf 21 22 04.4 +1.4
DPC epPKP pPKPdf 21 22 18.0 +0.4
OKC Ostrava-Krasne 145.88 346 ePKP PKPdf 21 22 02.7 -0.5
OKC epPKP pPKPdf 21 22 14.3 -3.5
CRVS Cervenica-Dubn 145.89 342 ePKP pPKPdf 21 22 18.9 +1.1
CRVS Cervenica-Dubn 145.89 342 ePKIKP PKPdf 21 22 06.1 +2.9
CRVS e 21 22 18.9
PVCC Panska Ves 145.90 351 ePKP PKPdf 21 22 04.6 +1.4
PVCC epPKP pPKPdf 21 22 17.8 -0.1
MORC Moravsky Berou 146.07 347 ePKP2 PKPab 21 22 04.6 -0.5
MOX Moxa 146.16 354 ePKPbc PKPbc 21 22 04.8 +0.1
MOX Moxa 146.16 354 ⇓P PKPdf 21 22 05.1 +1.5
comp=Z,88nm,1.2s
MOX e 21 22 18.3
MOX
comp=Z,100nm,22.0s
UCC Uccle 146.22 2 PKPab PKPab 21 22 05.1 -0.5
UCC APKPab 21 22 20.7
UCC XPKPab 21 22 27.1
BEBN Eben Emael 146.25 1 PKPab PKPab 21 22 05.4 -0.4
BEBN APKPab 21 22 19.7
BEBN XPKPab 21 22 26.6
WERD Werda 146.28 353 ePKPbc PKPbc 21 22 05.2 +0.2
HGN Heimansgroeve 146.29 1 ePKP PKPdf 21 22 05.4 +1.6
comp=Z,87nm,1.8s
HGN ex x 21 22 19.8
PRU Pruhonice 146.43 351 ePKP PKPdf 21 22 06.0 +1.9
PRU epPKP pPKPdf 21 22 19.5 +0.7
PRU AMS AMS 22 26 10.0
comp=Z,300nm,27.6s
MEM Membach 146.45 1 PKPab PKPab 21 22 05.9 -0.6
MEM APKPab 21 22 19.2
MEM XPKPab 21 22 25.2
SNF Seneffe 146.50 3 PKPab PKPab 21 22 06.2 -0.5
SNF APKPab 21 22 18.8
CFR Carcaliu 146.52 332 ⇓P PKPdf 21 22 06.3 +2.0
CFR Carcaliu 146.52 332 ⇓P PKPdf 21 22 06.3 +2.0
KECS Kecovo 146.55 343 i PKP PKPdf 21 22 06.5 +2.2
KECS e 21 22 19.9
VRI Vrincioaia 146.60 334 ⇓P PKPdf 21 22 06.6 +2.2
VRI Vrincioaia 146.60 334 ⇓P PKPdf 21 22 06.6 +2.2
VRAC Vranov 146.72 348 PKP2 PKPab 21 22 07.8 +0.2
TNS Taunus Mts 146.80 358 ePKPbc PKPbc 21 22 06.7 +0.2
DOU Dourbes 146.93 2 PKP PKPdf 21 22 07.3 +2.3
DOU APKP 21 22 18.0
DOU APKPab 21 22 21.7
DOU XPKiKP 21 22 29.1
ROTZ Rotzenmuhle 146.96 353 ePKPbc PKPbc 21 22 07.6 +0.6
VYHS Vyhne 146.97 345 i PKP PKPdf 21 22 08.0 +3.0
VYHS e 21 22 18.1
HARR Harsova 146.99 331 ⇓P PKPdf 21 22 08.6 +3.6
HARR Harsova 146.99 331 ⇓P PKPdf 21 22 08.7 +3.6
GRF Grafenberg Arr 147.14 354 ePKPbc PKPbc 21 22 08.3 +0.8
GRF epPKPbc pPKPbc 21 22 22.6 +0.6
GRF eL 22 27 52.6
comp=Z,208nm,19.2s
ABH Alteburg 147.16 359 PKP PKPdf 21 22 08.1 +2.8
PSZ Piszkesteto 147.22 343 eP PKPdf 21 22 08.7 +3.3
PSZ Piszkesteto 147.22 343 ePKPbc PKPbc 21 22 08.6 +0.8
MLR Muntele Rosu 147.23 334 ⇑P PKPdf 21 22 08.7 +3.3
MLR Muntele Rosu 147.23 334 PKP2 PKPab 21 22 08.9 -0.7
MLR Muntele Rosu 147.23 334 ⇑P PKPdf 21 22 08.7 +3.3
BR131 Keskin Array S 147.27 319 ePKPdf PKPdf 21 22 06.5 +1.0
BR131 ePKPbc PKPbc 21 22 08.5 +0.6
BRTR Keskin Array B 147.27 319 PKP PKPdf 21 22 05.8 +0.3
comp=Z,8.5nm,0.8s,baz=99,slow=3.9,SNR=26
BRTR PKPbc PKPbc 21 22 08.7 +0.8
comp=Z,8.7nm,0.8s,baz=122,slow=2.6,SNR=28
BRTR pPKPbc pPKPbc 21 22 23.1 +0.7
comp=Z,10.0nm,0.7s,baz=114,slow=1.5,SNR=9.4
BRTR Keskin Array B 147.27 319 PKIKP PKPdf 21 22 05.8 +0.3
BRTR 21 22 08.7
SMOL Smolenice 147.29 346 ePKP PKPdf 21 22 09.3 +3.8
RUP Ruppelstein 147.35 359 PKP PKPdf 21 22 08.7 +3.1
DRGR 147.36 339 ⇓P PKPdf 21 22 08.4 +2.7
DRGR 147.36 339 PKP2 PKPab 21 22 09.1 -1.0
DRGR 147.36 339 ⇓P PKPdf 21 22 08.4 +2.7
WLF Walferdange 147.39 0 ePKPbc PKPbc 21 22 08.8 +0.6
WLF Walferdange 147.39 0 PKPab PKPab 21 22 08.9 -1.3
WLF APKPab 21 22 23.5
WLF Walferdange 147.39 0 ePKPbc PKPbc 21 22 09.5 +1.3
WLF ePKPab pPKPab 21 22 23.4 -1.1
TOD Tromm 147.40 357 PKP PKPdf 21 22 08.5 +2.8
KHC Kasperske Hory 147.41 351 ePKP PKPdf 21 22 06.3 +0.6
KHC x x 21 22 09.0
KHC epPKP pPKPdf 21 22 23.2 +2.8
KHC Kasperske Hory 147.41 351 ePKIKP PKPdf 21 22 06.3 +0.6
KHC e 21 22 09.0
KHC Kasperske Hory 147.41 351 ePKP PKPdf 21 22 06.3 +0.6
KHC e 21 22 09.0
KHC e 21 22 23.2
WET Wettzell 147.49 352 ePKPbc PKPbc 21 22 09.3 +0.8
VOIR 147.63 335 ⇓P PKPdf 21 22 10.3 +4.2
VOIR 147.63 335 ⇓P PKPdf 21 22 10.3 +4.2
ZST Bratislava 147.66 347 ePKP PKPdf 21 22 10.1 +3.9
ZST e 21 22 22.3
GEC2 GERESS Array S 147.67 351 ePKPbc PKPbc 21 22 09.3 +0.3
GERES GERESS Array B 147.67 351 PKP PKPdf 21 22 06.5 +0.4
comp=Z,9.4nm,0.9s,baz=117,slow=3.0,SNR=18
GERES PKPbc PKPbc 21 22 09.4 +0.5
comp=Z,9.2nm,0.9s,baz=63,slow=3.0,SNR=27
GERES pPKPbc pPKPbc 21 22 23.6 +0.1
comp=Z,1.9nm,0.7s,baz=315,slow=3.8,SNR=3.5
GERES GERESS Array B 147.67 351 PKIKP PKPdf 21 22 06.5 +0.3
GERES 21 22 09.4
FLN La Foliniere 147.80 9 ePKIKP PKPdf 21 22 06.5 +0.1
FLN eR
comp=Z,535nm,22.8s
FLN La Foliniere 147.80 9 ePKPdf PKPdf 21 22 06.5 +0.1
FLN LR LR
comp=Z,540nm,22.8s,MS5.3
SGMF Saint Gilles 147.94 11 ePKIKP PKPdf 21 22 06.7 +0.1
comp=Z,24nm,1.1s
LDF La Druitiere 148.01 8 ePKIKP PKPdf 21 22 06.7 0.0
GRR Gorron 148.10 9 ePKIKP PKPdf 21 22 06.9 0.0
QUIF Quistinic 148.15 12 ePKIKP PKPdf 21 22 07.3 +0.3
STU Stuttgart 148.21 357 ePKPbc PKPbc 21 22 10.8 +0.4
STU Stuttgart 148.21 357 ePKPbc PKPbc 21 22 10.7 +0.3
MOA Molln 148.55 350 ⇑iP PKPbc 21 22 11.8 +0.6
comp=Z,54nm,1.5s,SNR=12
WLS Welschbruch 148.64 359 PKP PKPbc 21 22 12.0 +0.5
FUR Furstenfeldbru 148.64 354 ePKPbc PKPbc 21 22 12.3 +0.8
BFO Black Forest 148.69 358 ePKPbc PKPbc 21 22 11.6 -0.1
BZS Buzias 148.75 339 ⇑P PKPdf 21 22 09.0 +1.0
BZS Buzias 148.75 339 ⇑P PKPdf 21 22 09.0 +1.0
THEF They Montfort 148.83 1 PKP PKPbc 21 22 12.4 +0.4
ECH Echery 148.84 359 PKP PKPbc 21 22 13.5 +1.5
ARSA Arzberg 148.89 348 ⇑iP PKPbc 21 22 12.2 0.0
comp=Z,102nm,2.4s,SNR=9.8
ARSA Arzberg 148.89 348 ⇑iP PKPbc 21 22 12.2 0.0
SZH Strazhica 149.00 332 eP PKPbc 21 22 14.0 +1.6
HAU Haudompre 149.06 0 ePKIKP PKPdf 21 22 09.6 +1.2
HAU eR
comp=Z,154nm,22.0s
HAU Haudompre 149.06 0 ePKPdf PKPdf 21 22 09.6 +1.2
HAU LR LR
comp=Z,150nm,22.0s,MS4.7
PKSM Moragy 149.13 343 PKP2 PKPab 21 22 13.5 -3.7
MOF Molkenrain 149.20 359 PKP PKPbc 21 22 13.1 +0.1
HINF Hinteralfeld 149.24 359 ePKIKP PKPdf 21 22 08.8 +0.1
WATA Walderalm 149.43 353 ⇓iPKiKP PKiKP 21 22 14.0 -0.6
comp=Z,39nm,1.3s
KBA Koelnbreinsper 149.44 351 ⇑iP PKPbc 21 22 13.3 -0.3
comp=Z,44nm,1.5s,SNR=6.9
KBA Koelnbreinsper 149.44 351 ⇑iP PKPbc 21 22 13.3 -0.3
MOTA Moosalm 149.47 354 ⇑iP PKPbc 21 22 14.2 +0.6
comp=Z,48nm,1.2s,SNR=16
MOTA Moosalm 149.47 354 ⇑iP PKPbc 21 22 14.2 +0.6
WTTA Wattenberg 149.49 353 ⇑iP PKPbc 21 22 14.3 +0.6
comp=Z,63nm,1.3s,SNR=7.0
WTTA Wattenberg 149.49 353 ⇑iP PKPbc 21 22 14.3 +0.6
PERS Pernice 149.56 348 ePKPbc PKPbc 21 22 13.9 +0.1
BBS Basel-Blauen 149.58 359 PKP PKPbc 21 22 14.6 +0.7
SQTA Sankt Quirin 149.59 354 ⇑iP PKPbc 21 22 14.4 +0.5
comp=Z,40nm,1.2s,SNR=14
SQTA Sankt Quirin 149.59 354 ⇑iP PKPbc 21 22 14.4 +0.5
DAVA Damuels 149.64 355 ⇑iP PKPbc 21 22 14.7 +0.7
comp=Z,99nm,1.4s,SNR=16
LOMF Lomont 149.71 359 PKP PKPbc 21 22 14.6 +0.4
LOR Lormes 149.72 4 ePKIKP PKPdf 21 22 10.0 +0.5
comp=Z,13nm,1.0s
LOR eR
comp=Z,435nm,21.0s
LOR Lormes 149.72 4 ePKPdf PKPdf 21 22 10.0 +0.5
LOR LR LR
comp=Z,430nm,21.0s,MS5.2
LCHF La Chataignera 149.80 10 PKP PKPbc 21 22 15.3 +0.9
SSF Saint Saulge 149.90 4 ePKIKP PKPdf 21 22 10.3 +0.5
comp=Z,21nm,1.1s
MFF Saint Martin d 149.96 9 ePKIKP PKPdf 21 22 10.0 +0.1
SVIS Svilajnac 150.05 338 ⇑iP PKPbc 21 22 15.6 +0.6
PTCC Patocco-Chiusa 150.10 350 PKP PKPbc 21 22 15.0 -0.1
AVF Avril sur Loir 150.16 4 ePKIKP PKPdf 21 22 10.8 +0.6
GMNA Gemona 150.25 350 PKP PKPdf 21 22 11.1 +0.8
LJU Ljubljana 150.25 349 ePKPdf PKPdf 21 22 11.3 +1.0
LJU ePKPbc PKPbc 21 22 15.9 +0.4
LJU e 21 22 28.6
APPI Appiano 150.31 353 PKP PKPbc 21 22 15.8 +0.1
SMF Signal de Mont 150.34 4 ePKIKP PKPdf 21 22 10.7 +0.2
comp=Z,49nm,1.6s
VOY Vojsko 150.37 349 ePKPdf PKPdf 21 22 11.3 +0.8
VOY ePKPbc PKPbc 21 22 15.7 -0.1
VOY ePKPab PKPab 21 22 20.3 -2.0
OLEF Ile d'Oleron 150.39 11 PKP PKPbc 21 22 16.2 +0.4
SISC Sisak 150.40 346 i PKP PKPbc 21 22 15.2 -0.7
CABF La Chapelle 150.45 1 ePKIKP PKPdf 21 22 11.7 +1.1
JAVS Javornik 150.47 349 ePKPbc PKPbc 21 22 15.9 -0.2
TCF Toulx Ste Croi 150.56 6 ePKIKP PKPdf 21 22 11.1 +0.3
comp=Z,12nm,0.9s
BOJS Bojanci 150.62 347 ePKPdf PKPdf 21 22 11.5 +0.6
BOJS ePKPbc PKPbc 21 22 16.9 +0.5
BOJS e 21 22 29.3
DIVS Divcibare 150.64 340 ⇓iP PKPbc 21 22 17.4 +1.0
VTS Vitosha 150.73 334 eP PKPbc 21 22 18.0 +1.3
KNDS Knezji Dol 150.77 349 ePKPbc PKPbc 21 22 17.1 +0.4
RZN Rozhen 150.80 331 eP PKPbc 21 22 18.0 +1.2
AGO Saint Agoulin 150.88 5 PKP PKPbc 21 22 18.0 +1.0
PLDF La Plantade 151.00 4 PKP PKPbc 21 22 18.3 +1.0
OG05 Jujurieux 151.01 1 PKP PKPbc 21 22 18.2 +0.9
PYM Petit Puy Mans 151.17 5 PKP PKPbc 21 22 18.8 +1.1
MMB Musomiste 151.32 332 eP PKPbc 21 22 19.0 +1.0
RSL Roselend 151.37 360 PKP PKPbc 21 22 19.3 +1.2
KKB Krupnik 151.38 333 eP PKPbc 21 22 19.0 +0.8
RJF Les Rejaudoux 151.46 7 ePKIKP PKPdf 21 22 12.6 +0.4
RJF eR
comp=Z,612nm,23.0s
RJF Les Rejaudoux 151.46 7 ePKPdf PKPdf 21 22 12.6 +0.4
RJF LR LR
comp=Z,610nm,23.0s,MS5.3
LPL La Plagne 151.54 360 ePKIKP PKPdf 21 22 13.6 +1.3
LPG La Plagne 151.56 360 ePKIKP PKPdf 21 22 13.7 +1.3
LBL Lubilhac 151.70 5 PKP PKPbc 21 22 20.6 +1.7
LFF La Frestale 151.71 9 ePKIKP PKPdf 21 22 13.1 +0.5
CAF Calviac 151.89 7 ePKIKP PKPdf 21 22 13.5 +0.6
STIP Stip 151.90 334 i P PKPbc 21 22 19.0 -0.4
SKO Skopje 151.97 336 i P PKPbc 21 22 20.4 +0.9
BNI Bardonecchia 152.01 360 ePKIKP PKPbc 21 22 20.3 +0.7
ORIF Oris-en-Rattie 152.14 1 ePKIKP PKPdf 21 22 14.1 +0.9
comp=Z,24nm,1.1s
ORIF eR
comp=Z,344nm,22.5s
VIVF Saint-Julien-l 152.16 3 ePKIKP PKPdf 21 22 14.2 +0.9
comp=Z,18nm,1.1s
MBDF Montbardon 152.33 360 ePKIKP PKPdf 21 22 12.9 -0.6
comp=Z,18nm,1.2s
PCAB Cabril 152.39 24 ePKPbc PKPbc 21 22 21.5 +1.0
PCAB Cabril 152.39 24 ePKPab PKPab 21 22 33.0 +2.3
PBRG Braganca 152.79 22 ePKPbc PKPbc 21 22 22.0 +0.7
PVRL Vila Real 152.88 24 ePKPbc PKPbc 21 22 22.6 +1.0
OHR Ohrid 152.95 336 i P PKPbc 21 22 22.5 +0.8
PVIS Viseu 153.29 25 ePKPbc PKPbc 21 22 23.3 +0.9
ETSF Etsaut 153.48 12 ePKIKP PKPdf 21 22 16.3 +1.1
comp=Z,13nm,1.0s
MTE Manteigas 153.70 25 ePKPbc PKPbc 21 22 24.2 +0.9
MTE Manteigas 153.70 25 ePKPab PKPab 21 22 35.0 -1.2
PTOM Tomar 153.99 27 ePKPbc PKPbc 21 22 24.9 +0.9
PTOM Tomar 153.99 27 ePKPab PKPab 21 22 36.4 -1.1
PCBR Castelo Branco 154.20 25 ePKPbc PKPbc 21 22 25.0 +0.6
PCBR Castelo Branco 154.20 25 ePKPab PKPab 21 22 37.6 -0.7
TORD Torodi Ar. Bea 174.03 129 PKP PKPdf 21 22 34.2 +0.3
comp=Z,5.7nm,0.8s,baz=319,slow=1.3,SNR=33
TORD PKPab PKPab 21 24 06.5 +1.3
comp=Z,6.8nm,0.9s,baz=244,slow=4.8,SNR=16

*IDC **07** 21:35:19.6±1.6, 084S×12287E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=153.1km s-min=26.8km az=62.0*
*ISCJB **07** 21:35:22.6±1.1, 06S±02×1233E±06, h33km, mb3.8/3, Error ellipse: s-maj=84.5km s-min=16.3km az=139.3*
ISC 07 21:35:25.0±1.1, 06S±02×1233E±05, h35km, n5, σ0°15/5, mb3.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.50**	**173**	eP	**Pn**	**21 39 26.1**	**0.0**
	4.5nm,0.6s						
WRA	**Warramunga Arr**	**22.00**	**151**	P	**P**	**21 40 16.2**	**+0.2**
	10nm,1.2s,mb4.2,baz=325,slow=11,SNR=30						
WB2	**Warramunga Arr**	**22.01**	**151**	eP	**P**	**21 40 16.0**	**-0.1**
SONM	**Songino Array**	**50.48**	**345**	P	**P**	**21 44 19.4**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=166,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**59.33**	**328**	P	**P**	**21 45 23.4**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=122,slow=8.6,SNR=11						

IDC 07 21:39:48.6±1.5, 040S×12379E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=147.4km s-min=27.2km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**153**	P	P	21 44 44.6	+0.2
	2.5nm,0.7s,baz=332,slow=10,SNR=15						
SONM	**Songino Array**	**50.37**	**345**	P	P	21 48 48.1	+0.7
	0.3nm,0.7s,baz=168,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**59.37**	**328**	P	P	21 49 52.5	-0.1
	0.3nm,0.5s,baz=112,slow=7.8,SNR=8.2						

*JMA **07** 21:47:40.5±0.3, 3405N×14177E, h21km±3km, M3.7*
*ISCJB **07** 21:47:42.3±1.3, 3413N±005×14174E±007, h25km±8km, mb4.1/10, Error ellipse: s-maj=11.4km s-min=6.5km az=117.9*
*NEIC **07** 21:47:45.6±4.3, 3418N×14158E, h28km±28km, mb4.2/5, Error ellipse: s-maj=17.0km s-min=12.6km az=146.0*
*IDC **07** 21:47:46.3±6.4, 3419N×14163E, h31km±50km, mb3.6/5, mb1 3.9/7, mb1mx3.6/22, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=24.9km s-min=18.8km az=87.0*
ISC 07 21:47:43.2±1.3, 3417N±005×14169E±007, h16km±7km, n26, σ0°92/35, mb4.1/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**310**	P	**Pg**	**21 47 57.0**	**-1.2**
BSO1				S	**Sg**	**21 48 09.1**	**+0.8**
BSO2	**Boso 2**	**0.97**	**307**	S	**Sb**	**21 48 14.4**	**+0.2**
BSO3	**Boso 3**	**1.16**	**303**	P	**Pn**	**21 48 03.3**	**-1.5**
BSO3				S	**Sb**	**21 48 20.4**	**+0.6**
BSO4	**Boso 4**	**1.39**	**307**	P	**Pn**	**21 48 07.7**	**-0.2**
BSO4				S	**Sn**	**21 48 25.9**	**+0.1**
KTR	**Katsuura**	**1.50**	**311**	eS	**Sn**	**21 48 29.2**	**+0.6**
JHJ	**Hachijo jima 2**	**1.90**	**237**	Pn	**Pn**	**21 48 16.9**	**+1.9**
	49nm,0.3s,baz=40,slow=20,SNR=8.6						
JHJ				Sn	**Sn**	**21 48 37.9**	**-0.7**
	148nm,0.3s,baz=225,slow=23,SNR=9.5						
JIZS	**Izushimoda**	**2.39**	**284**	P	**Pn**	**21 48 20.9**	**-0.8**
JOD2	**Odawara 2**	**2.41**	**298**	P	**Pn**	**21 48 21.1**	**-0.8**
MJAR	**Matsushiro Arr**	**3.70**	**311**	Pn	**Pn**	**21 48 39.5**	**-0.2**
	5.9nm,0.3s,baz=142,slow=11,SNR=38						
MJAR				Sn	**Sn**	**21 49 21.4**	**-1.7**
	2.6nm,0.3s,baz=145,slow=14,SNR=5.1						
MAJO	**Matsushiro**	**3.71**	**311**	ePn	**Pn**	**21 48 40.2**	**+0.4**
MAT	**Matsushiro**	**3.71**	**311**	P	**Pn**	**21 48 40.2**	**+0.4**
MAT				S	**Sn**	**21 49 22.8**	**-0.3**
MAT	**Matsushiro**	**3.71**	**311**	eP	**Pn**	**21 48 40.0**	**+0.2**
MAT				eS	**Sn**	**21 49 23.0**	**-0.1**
CBIJ	**Chichi jima**	**7.06**	**176**	Pn	**Pn**	**21 49 26.3**	**+0.5**
	7.4nm,0.3s,baz=245,slow=20,SNR=4.6						
CBIJ				Sn	**Sn**	**21 50 43.8**	**-2.0**
	12nm,0.3s,baz=255,slow=22,SNR=3.9						
ASAJ	**Asahikawa**	**9.96**	**4**	Pn	**Pn**	**21 50 02.7**	**-2.9**
	1.3nm,0.3s,baz=301,slow=18,SNR=9.9						
ASAJ				Sn	**Sn**	**21 51 48.5**	**-8.5**
	0.8nm,0.3s,baz=96,slow=28,SNR=4.8						
SONM	**Songino Array**	**29.65**	**308**	P	**P**	**21 53 48.9**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=112,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**45.88**	**305**	P	**P**	**21 56 04.9**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=82,slow=9.3,SNR=10.0						
JIRN	**Jiri**	**47.57**	**278**	eP	**P**	**21 56 18.4**	**+0.4**
	4.5nm,0.4s,mb4.9						
GUN	**Gumba**	**47.73**	**278**	eP	**P**	**21 56 20.0**	**+0.8**
KKN	**Kakani**	**48.27**	**279**	eP	**P**	**21 56 23.7**	**+0.3**
GKN	**Gorkha**	**48.72**	**279**	eP	**P**	**21 56 27.1**	**+0.3**
	4.7nm,0.4s,mb4.8						
KOLN	**Koldanda**	**49.65**	**279**	eP	**P**	**21 56 34.1**	**+0.1**
	1.8nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**51.81**	**31**	P	**P**	**21 56 51.1**	**+0.9**
	1.0nm,0.8s,mb3.8,baz=262,slow=6.7,SNR=10						
ZRNK	**Zerenda**	**53.53**	**314**	P	**P**	**21 57 03.2**	**+0.1**
	1.3nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**54.26**	**189**	P	**P**	**21 57 09.4**	**+1.1**
	1.0nm,0.5s,mb4.0,baz=4.1,slow=7.5,SNR=32						
INK	**Inuvik**	**56.84**	**26**	P	**P**	**21 57 26.9**	**-0.1**
	0.9nm,0.5s,mb4.1,baz=279,slow=5.2,SNR=4.3						
HLID	**Hailey**	**76.17**	**47**	P	**P**	**21 59 22.0**	**-8.5**
	2.5nm,1.1s,mb4.1						

*ISCJB **07** 22:06:25.8±1.2, 1870N±006×1455E±0.1, h230km±12km, mb4.0/25, Error ellipse: s-maj=16.1km s-min=9.4km az=173.9*
*MOS **07** 22:06:25.6±0.9, 1872N×14544E, h227km, mb4.1/6, Error ellipse: s-maj=23.9km s-min=10.0km az=96.9*
*IDC **07** 22:06:26.5±1.5, 1870N×14550E, h220km±14km, mb3.9/16, mb1 3.9/18, mb1mx3.8/26, mbtmp4.4/18, Error ellipse: s-maj=16.4km s-min=9.7km az=86.0*
*NEIC **07** 22:06:26.4±1.2, 1870N×14552E, h221km±11km, mb4.0/8, Error ellipse: s-maj=11.5km s-min=6.5km az=80.0*
ISC 07 22:06:26.3±1.2, 1871N±006×1455E±01, h218km±12km, n48, σ0°81/47, mb4.0/25, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.14**	**187**	P	**Pn**	**22 07 42.8**	**0.0**
	5.5nm,0.3s,baz=182,slow=5.7,SNR=4.3						
GUMO				S	**S**	**22 08 42.9**	**-0.6**
	12nm,0.3s,baz=165,slow=24,SNR=4.2						
GUMO	**Guam**	**5.14**	**187**	P	**Pn**	**22 07 42.8**	**0.0**
GUMO				S	**S**	**22 08 42.9**	**-0.6**
MJAR	**Matsushiro Arr**	**18.89**	**342**	P	**P**	**22 10 30.8**	**+0.3**
	0.9nm,0.3s,baz=168,slow=10,SNR=5.8						
NACB	**Ninganchiao**	**22.92**	**288**	eP	**P**	**22 11 10.7**	**-0.6**
YHNB	**Yeheng**	**23.20**	**289**	eP	**P**	**22 11 14.9**	**+1.2**
ASAJ	**Asahikawa**	**25.45**	**355**	P	**P**	**22 11 36.0**	**+1.9**
	2.1nm,0.4s,mb4.1,baz=130,slow=28,SNR=5.0						
CTA	**Charters Tower**	**38.57**	**179**	P	**P**	**22 13 27.4**	**-0.5**
	2.7nm,0.7s,mb3.9,baz=349,slow=10,SNR=2.8						
CTAO	**Charters Tower**	**38.57**	**179**	eP	**P**	**22 13 27.7**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
CTAO	**Charters Tower**	**38.57**	**179**	eP	**P**	**22 13 27.7**	**-0.3**
	comp=Z,2.3nm,0.7s,mb3.8						
WRAB	**Tennant Creek**	**39.94**	**197**	eP	**P**	**22 13 40.1**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**39.94**	**197**	eP	**P**	**22 13 40.1**	**+0.8**
	comp=Z,4.7nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**39.95**	**197**	eP	**P**	**22 13 39.5**	**+0.1**
WRA	**Warramunga Arr**	**39.95**	**197**	P	**P**	**22 13 40.1**	**+0.7**
	comp=Z,1.8nm,0.3s,mb4.0,baz=19,slow=8.8,SNR=75						
WRA				PcP	PcP	22 15 40.3	+0.1
	comp=Z,0.8nm,0.5s,baz=16,slow=3.3,SNR=8.4						
WRA				ScP	ScP	22 19 06.4	-1.7
	comp=Z,0.3nm,0.7s,baz=25,slow=4.7,SNR=5.1						
WRA	**Warramunga Arr**	**39.95**	**197**	P	**P**	**22 13 40.1**	**+0.7**
WRA						22 15 40.3	
FX1	**Attu Island--F**	**40.31**	**26**	P	**P**	**22 13 42.8**	**+0.5**
	comp=Z,40nm,1.0s,mb4.8,baz=233,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**41.48**	**209**	⇑iP	**P**	**22 13 52.7**	**+0.8**
	comp=Z,2.7nm,0.2s,mb4.3						
ULN	**Ulaanbaatar**	**42.66**	**322**	eP	**P**	**22 14 01.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
ULN	**Ulaanbaatar**	**42.66**	**322**	eP	**P**	**22 14 01.8**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.4						
SONM	**Songino Array**	**43.03**	**321**	P	**P**	**22 14 04.5**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.5,baz=134,slow=7.2,SNR=24						
DZM	**Mont Dzumac**	**45.40**	**152**	P	**P**	**22 14 23.5**	**+0.3**
	comp=Z,6.3nm,0.6s,mb4.1,baz=339,slow=17,SNR=7.2						
MBWA	**Marble Bar**	**47.00**	**214**	eP	**P**	**22 14 36.5**	**+0.9**
	comp=Z,1.5nm,0.5s,mb3.6						
STKA	**Stephens Creek**	**50.44**	**184**	eP	**P**	**22 14 58.8**	**-2.9**
BILL	**Bilibino**	**51.03**	**10**	eP	**P**	**22 15 05.7**	**-0.4**
BILL				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
BILL	**Bilibino**	**51.03**	**10**	eP	**P**	**22 15 05.7**	**-0.4**
	comp=Z,13nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**58.04**	**208**	eP	**P**	**22 15 56.2**	**-0.2**
MKAR	**Makanchi Array**	**58.34**	**314**	P	**P**	**22 15 58.8**	**+0.3**
	comp=Z,1.7nm,0.5s,mb3.9,baz=93,slow=7.7,SNR=33						
KDAK	**Kodiak Island**	**59.43**	**33**	P	**P**	**22 16 06.4**	**+0.4**
	comp=Z,6.8nm,0.7s,mb4.4,baz=311,slow=6.6,SNR=9.0						
KURK	**Kurchatov**	**61.16**	**318**	eP	**P**	**22 16 17.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
KURK	**Kurchatov**	**61.16**	**318**	eP	**P**	**22 16 17.2**	**-0.5**
	comp=Z,1.7nm,0.3s,mb4.2						
TAU	**Tasmania Unive**	**61.34**	**179**	eP	**P**	**22 16 19.0**	**+0.1**
ILAR	**Eielson Array**	**63.70**	**26**	P	**P**	**22 16 33.2**	**-1.3**
	comp=Z,3.1nm,0.9s,mb3.8,baz=253,slow=5.3,SNR=20						
BVAR	**Borovoye Array**	**66.36**	**320**	P	**P**	**22 16 51.3**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.2,baz=94,slow=7.8,SNR=47						
BRVK	**

NEIC ***07*** *22:22:08.9,4937N×689E,h1km,ML3.0(SZGRF), ML3.7(LDG), After LDG.*
CSEM ***07*** *22:22:08.8±0.1,4938N×687E,h1km,ML3.5/7, Error ellipse: s-maj=0.9km s-min=0.8km az=7.0*
LDG ***07*** *22:22:08.9±0.1,4937N×689E,h1km,Md3.6/2,Ml3.7/41, Error ellipse: s-maj=1.3km s-min=1.3km az=63.0, Suspected Mining induced.*
STR ***07*** *22:22:08.3±0.5,4937N×679E,h1km±1km,Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR ***07*** *22:22:08.9±0.2,4939N×687E,h1km,ML3.2/17, Error ellipse: s-maj=3.3km s-min=3.3km az=94.0*
UCC ***07*** *22:22:09.5±0.8,4936N×683E,h1km,ML2.8*
PRU ***07*** *22:22:09.1,4944N×693E,h0km*
LEDBW ***07*** *22:22:09.1±0.2,4938N×691E,h1km,ML3.0, Error ellipse: s-maj=6.0km s-min=4.0km az=104.0*
BNS ***07*** *22:22:10.0±1.0,4938N×692E,h1km,ML2.8*
ISC 07 22:22:07.5±0.1,49353N±0008×679E±001,h0km,n183,σ1§40/393,18C-26D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein** SNR=42	**0.39**	**27**	*e*Pg	**Pg**	**22 22 15.8**	**+0.8**
RUP				P*	**Pg**	**22 22 15.9**	**+0.8**
RUP				S*	**Sg**	**22 22 21.9**	**+1.8**
RUP	**Ruppelstein**	**0.39**	**27**	P	**Pg**	**22 22 15.9**	**+0.8**
WLF	**Walferdange** SNR=40	**0.52**	**307**	*e*Pg	**Pg**	**22 22 20.0**	**+2.5**
WLF				*e*Sg	**Sg**	**22 22 26.5**	**+2.3**
WLF	**Walferdange**	**0.52**	**307**	⇑P	**Pg**	**22 22 19.9**	**+2.5**
WLF	comp=N,222nm,0.0s			S	**Sg**	**22 22 27.0**	**+2.8**
ABH	**Alteburg** SNR=9.6	**0.72**	**43**	⇓P*	**Pb**	**22 22 21.2**	**-1.8**
ABH				*e*Pg	**Pg**	**22 22 21.4**	**0.0**
ABH	**Alteburg** SNR=9.6	**0.72**	**43**	Pg	**Pg**	**22 22 21.4**	**0.0**
ABH				Sg	**Sg**	**22 22 30.8**	**0.0**
LANF	**Langenberg**	**0.76**	**119**	Pg	**Pg**	**22 22 22.2**	**0.0**
LANF	**Langenberg** SNR=60	**0.76**	**119**	*e*Pg	**Pg**	**22 22 22.4**	**+0.3**
LANF				⇓P*	**Pg**	**22 22 22.5**	**+0.3**
LANF	**Langenberg**	**0.76**	**119**	⇓P	**Pg**	**22 22 22.5**	**+0.3**
LANF	**Langenberg** SNR=60	**0.76**	**119**	Pg	**Pg**	**22 22 22.4**	**+0.2**
KTD	**Kalmit** SNR=16	**0.85**	**92**	P*	**Pb**	**22 22 23.5**	**-1.6**
KTD				*e*Pg	**Pg**	**22 22 23.6**	**-0.2**
KTD				PmP		22 22 24.6	
KTD	**Kalmit** SNR=16	**0.85**	**92**	Pg	**Pg**	**22 22 23.6**	**-0.2**
BGG	**Burgeitz** comp=N,162nm,0.6s	**0.92**	**22**	*e*Pg	**Pg**	**22 22 26.2**	**+0.9**
BGG				*e*Sg	**Sg**	**22 22 38.3**	**+1.1**
HILG	**Hillesheim** comp=N,388nm,0.4s	**0.94**	**356**	*e*Pg	**Pg**	**22 22 27.6**	**+2.0**
HILG				*e*Sg	**Sg**	**22 22 40.2**	**+2.4**
CDF	**Champ du Feu** SNR=1.0	**0.99**	**161**	*e*Pn	**Pn**	**22 22 28.4**	**-0.3**
CDF	comp=N,196nm,0.2s			*e*Sg	**Sg**	**22 22 40.5**	**+1.0**
CDF	**Champ du Feu**	**0.99**	**161**	*e*Pn	**Pn**	**22 22 28.4**	**-0.3**
CDF				*e*Sg	**Sg**	**22 22 40.5**	**+1.0**
CDF	**Champ du Feu**	**0.99**	**161**	*e*Pg	**Pg**	**22 22 27.3**	**+0.7**
CDF				*e*Pn	**Pn**	**22 22 28.4**	**-0.3**
CDF				*e*Sg	**Sg**	**22 22 40.5**	**+1.0**
WLS	**Welschbruch**	**1.01**	**158**	Pg	**Pg**	**22 22 28.9**	**+2.0**
WLS				Sg	**Sg**	**22 22 42.6**	**+2.6**
WLS	**Welschbruch**	**1.01**	**158**	⇓P	**Pg**	**22 22 27.9**	**+0.9**
WLS				P		22 22 29.0	
RFYF	**Reffroy** baz=45	**1.13**	**231**	*e*Pg	**Pg**	**22 22 31.9**	**+2.7**
RFYF	comp=N,394nm,0.2s			*e*Sg	**Sg**	**22 22 47.1**	**+3.2**
ECH	**Echery** SNR=57	**1.16**	**168**	*e*Pg	**Pg**	**22 22 30.8**	**+0.9**
ECH				Sg	**Sg**	**22 22 46.7**	**+1.7**
ECH	**Echery**	**1.16**	**168**	⇓P	**Pg**	**22 22 30.8**	**+0.9**
ECH				S	**Sg**	**22 22 46.7**	**+1.7**
ECH	**Echery**	**1.16**	**168**	Pg	**Pg**	**22 22 31.7**	**+1.8**
ECH				Sg	**Sg**	**22 22 46.5**	**+1.5**
STB	**Steinbach** comp=N,145nm,0.6s	**1.24**	**1**	*e*Pg	**Pg**	**22 22 32.2**	**+0.8**
STB				*e*Sg	**Sg**	**22 22 49.5**	**+2.0**
THEF	**They Montfort** SNR=84	**1.25**	**206**	*e*Pg	**Pg**	**22 22 32.7**	**+1.3**
THEF				Sg	**Sg**	**22 22 50.2**	**+2.6**
THEF	**They Montfort**	**1.25**	**206**	⇓P	**Pg**	**22 22 32.9**	**+1.4**
THEF				S	**Sg**	**22 22 50.2**	**+2.6**
THEF	**They Montfort**	**1.25**	**206**	Pg	**Pg**	**22 22 32.9**	**+1.5**
THEF				Sg	**Sg**	**22 22 49.9**	**+2.3**
SWS	**Schriesheim**	**1.25**	**83**	⇓P	**Pg**	**22 22 30.7**	**-0.9**
LIBD	**Limburg** SNR=45	**1.32**	**156**	*e*Pg	**Pg**	**22 22 34.0**	**+1.2**
LIBD	**Limburg**	**1.32**	**156**	⇓P	**Pg**	**22 22 34.0**	**+1.2**
LIBD	**Limburg**	**1.32**	**156**	Pg	**Pg**	**22 22 34.2**	**+1.4**
LIBD				Sg	**Sg**	**22 22 51.1**	**+1.2**
KLL	**Kalltalsperre**	**1.33**	**347**	*e*Pg	**Pg**	**22 22 33.1**	**0.0**
KLL	comp=N,105nm,0.5s			*e*Sg	**Sg**	**22 22 51.5**	**+1.1**
TOD	**Tromm**	**1.34**	**78**	Pg	**Pg**	**22 22 32.8**	**-0.4**
TOD				Sg	**Sg**	**22 22 51.5**	**+1.0**
TOD	**Tromm**	**1.34**	**78**	⇓P	**Pg**	**22 22 31.8**	**-1.4**
TOD				S	**Sg**	**22 22 51.5**	**+1.0**
MEM	**Membach**	**1.35**	**338**	⇑P	**Pg**	**22 22 33.4**	**-0.1**
MEM				S	**Sg**	**22 22 53.3**	**+2.2**
HAU	**Haudompre** SNR=1.0	**1.38**	**192**	*e*Pg	**Pg**	**22 22 36.5**	**+2.5**
HAU	comp=N,343nm,0.2s			*e*Sg	**Sg**	**22 22 53.7**	**+1.8**
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**22 22 36.5**	**+2.5**
HAU				*e*Sg	**Sg**	**22 22 53.7**	**+1.8**
HAU	**Haudompre**	**1.38**	**192**	*e*Pn	**Pn**	**22 22 35.1**	**+1.1**
HAU				*e*Pg	**Pg**	**22 22 36.5**	**+2.5**
HAU				*e*Sg	**Sg**	**22 22 53.7**	**+1.8**
TNS	**Taunus Mts** SNR=29	**1.38**	**50**	*e*Pg	**Pg**	**22 22 33.1**	**-1.0**
TNS				*e*Sg	**Sg**	**22 22 51.8**	**-0.2**
TNS	**Taunus Mts**	**1.38**	**50**	*e*Pg	**Pg**	**22 22 32.7**	**-1.3**
TNS				*e*Sg	**Sg**	**22 22 51.6**	**-0.4**
MEZF	**Maizieres J'vi** baz=56,SNR=1.0	**1.43**	**234**	*e*Pn	**Pn**	**22 22 35.8**	**+1.1**
MEZF	**Maizieres J'vi** baz=54	**1.43**	**234**	*e*Pg	**Pg**	**22 22 37.3**	**+2.4**
MEZF				*e*Sn	**Sn**	**22 22 54.0**	**-0.2**
MEZF				*e*Sg	**Sg**	**22 22 56.1**	**+2.7**
MEZF	**Maizieres J'vi**	**1.43**	**234**	*e*Pg	**Pg**	**22 22 37.3**	**+2.4**
MEZF				*e*Sn	**Sn**	**22 22 54.0**	**-0.2**
MEZF				*e*Sg	**Sg**	**22 22 56.1**	**+2.7**
MEZF	**Maizieres J'vi**	**1.43**	**234**	*e*Pn	**Pn**	**22 22 35.8**	**+1.1**
MEZF				*e*Pg	**Pg**	**22 22 37.3**	**+2.4**
MEZF				*e*Sn	**Sn**	**22 22 54.0**	**-0.2**
MEZF				*e*Sg	**Sg**	**22 22 56.1**	**+2.7**
BFO	**Black Forest** SNR=5.6	**1.44**	**135**	*e*Pn	**Pn**	**22 22 34.1**	**-0.8**
BFO				Pg	**Pg**	**22 22 36.0**	**+0.7**
BFO				Sg	**Sg**	**22 22 54.5**	**+0.5**
BFO	**Black Forest**	**1.44**	**135**	⇓P	**Pn**	**22 22 34.1**	**-0.8**
BFO				P		22 22 36.0	
BFO				S	**Sg**	**22 22 54.5**	**+0.5**
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**22 22 34.1**	**-1.1**
BFO				*e*Sg	**Sg**	**22 22 54.4**	**+0.5**
GIVF	**Givet** SNR=1.0	**1.48**	**301**	*e*Pg	**Pg**	**22 22 37.8**	**+1.9**
GIVF				*e*Sn	**Sn**	**22 22 54.9**	**-0.6**
GIVF	comp=N,404nm,0.6s,SNR=1.0			*e*Sg	**Sg**	**22 22 57.0**	**+1.9**
GIVF	**Givet**	**1.48**	**301**	*e*Pg	**Pg**	**22 22 37.8**	**+1.9**
GIVF				*e*Sn	**Sn**	**22 22 54.9**	**-0.6**
GIVF				*e*Sg	**Sg**	**22 22 57.0**	**+1.9**
GIVF	**Givet**	**1.48**	**301**	*e*Pn	**Pn**	**22 22 36.0**	**+0.6**
GIVF				*e*Pg	**Pg**	**22 22 37.8**	**+1.9**
GIVF				*e*Sn	**Sn**	**22 22 54.9**	**-0.6**
GIVF				*e*Sg	**Sg**	**22 22 57.0**	**+1.9**
LBG	**Lerchenberg**	**1.49**	**117**	⇓P	**Pn**	**22 22 34.4**	**-1.1**
LBG				Pg	**Pg**	**22 22 36.3**	**+0.2**
LBG				Sg	**Sg**	**22 22 55.6**	**+0.3**
HGN	**Heimansgroeve** comp=N,126nm,0.7s	**1.52**	**339**	*e*Pg	**Pg**	**22 22 35.8**	**-0.8**
HGN				*e*Sg	**Sg**	**22 22 57.1**	**+0.8**
HGN				*e*Rg		22 23 16.6	
HGN	**Heimansgroeve** comp=N,126nm,0.7s	**1.52**	**339**	*e*Pg	**Pg**	**22 22 35.8**	**-0.8**
HGN				*e*Sg	**Sg**	**22 22 57.1**	**+0.8**
MOF	**Molkenrain**	**1.52**	**171**	P	**Pn**	**22 22 36.9**	**+0.9**
MOF				Pg	**Pg**	**22 22 38.0**	**+1.3**
MOF				S	**Sg**	**22 22 54.8**	**-1.6**
MOF				Sg	**Sg**	**22 22 58.4**	**+2.0**
MOF	**Molkenrain**	**1.52**	**171**	Pg	**Pg**	**22 22 37.9**	**+1.2**
MOF				Sg	**Sg**	**22 22 58.1**	**+1.7**
FBB	**Freiburg**	**1.52**	**152**	S*	**Sb**	**22 22 57.9**	**+1.3**
HINF	**Hinteralfeld** SNR=1.0	**1.54**	**178**	*e*Pg	**Pg**	**22 22 38.2**	**+1.2**
HINF	comp=N,1μm,0.2s			*e*Sg	**Sg**	**22 22 58.3**	**+1.3**
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**22 22 38.2**	**+1.2**
HINF				*e*Sg	**Sg**	**22 22 58.3**	**+1.3**
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pn	**Pn**	**22 22 36.4**	**+0.2**
HINF				*e*Pg	**Pg**	**22 22 38.2**	**+1.2**
HINF				*e*Sg	**Sg**	**22 22 58.3**	**+1.3**
KIZ	**Kirchzarten**	**1.59**	**151**	P	**Pn**	**22 22 36.9**	**0.0**
KIZ				Pg	**Pg**	**22 22 38.4**	**+0.5**
KIZ				*e*Sg	**Sg**	**22 22 58.9**	**+0.4**
DOU	**Dourbes**	**1.61**	**298**	⇑P	**Pn**	**22 22 38.1**	**+0.9**
DOU	comp=N,105nm,0.0s			S	**Sn**	**22 23 00.6**	**+2.0**
DOU	**Dourbes**	**1.61**	**298**	P	**Pn**	**22 22 38.1**	**+0.9**
DOU				S	**Sn**	**22 23 00.5**	**+1.9**
BEBN	**Eben Emael**	**1.61**	**334**	P	**Pn**	**22 22 37.6**	**+0.4**
BEBN				S	**Sn**	**22 23 00.3**	**+1.5**
BEBN	**Eben Emael**	**1.61**	**334**	P	**Pn**	**22 22 37.6**	**+0.4**
BEBN				S	**Sn**	**22 23 00.2**	**+1.5**
BNS	**Bensberg** comp=N,163nm,0.5s	**1.63**	**9**	*e*Pg	**Pg**	**22 22 38.4**	**-0.5**
BNS				*e*Sg	**Sg**	**22 22 58.4**	**-1.5**
SFTF	**Sexfontaines** baz=44	**1.63**	**226**	*e*Pn	**Pn**	**22 22 38.5**	**+1.0**
SFTF	**Sexfontaines** baz=51	**1.63**	**226**	*e*Pg	**Pg**	**22 22 40.3**	**+1.5**
SFTF	baz=40			*e*Sn	**Sn**	**22 22 58.7**	**-0.5**
SFTF	comp=N,231nm,0.3s			*e*Sg	**Sg**	**22 23 02.3**	**+2.3**
SFTF	**Sexfontaines**	**1.63**	**226**	*e*Pg	**Pg**	**22 22 40.3**	**+1.5**
SFTF				*e*Sn	**Sn**	**22 22 58.7**	**-0.5**
SFTF				*e*Sg	**Sg**	**22 23 02.3**	**+2.3**
SFTF	**Sexfontaines**	**1.63**	**226**	*e*Pn	**Pn**	**22 22 38.5**	**+1.0**
SFTF				*e*Pg	**Pg**	**22 22 40.3**	**+1.5**
SFTF				*e*Sn	**Sn**	**22 22 58.7**	**-0.5**
SFTF				*e*Sg	**Sg**	**22 23 02.3**	**+2.3**
HOBG	**Hohbusch** comp=N,321nm,0.7s	**1.67**	**12**	*e*Pg	**Pg**	**22 22 38.8**	**-0.7**
HOBG				*e*Sg	**Sg**	**22 22 59.0**	**-2.1**
FELD	**Feldberg**	**1.68**	**151**	Pg	**Pg**	**22 22 40.6**	**+0.8**
FELD				Sg	**Sg**	**22 23 02.2**	**+0.5**
FELD	**Feldberg**	**1.68**	**151**	Pg	**Pg**	**22 22 40.4**	**+0.6**
FELD				Sg	**Sg**	**22 23 02.1**	**+0.5**
STU	**Stuttgart** SNR=2.4	**1.69**	**109**	*e*Pn	**Pn**	**22 22 37.5**	**-0.8**
STU				*e*Sg	**Sg**	**22 22 59.2**	**-2.5**
STU	**Stuttgart**	**1.69**	**109**	*e*Pn	**Pn**	**22 22 37.4**	**-0.8**
STU				*e*S	**Sn**	**22 23 00.5**	**0.0**
STU	**Stuttgart**	**1.69**	**109**	*e*Pn	**Pn**	**22 22 37.4**	**-0.9**
STU				*e*S	**Sn**	**22 23 00.5**	**-0.1**
TUBL	**Tuebingen Lnz**	**1.73**	**118**	P	**Pn**	**22 22 37.8**	**-1.0**
TUBL				Pg	**Pg**	**22 22 40.9**	**+0.2**
TUBL				Sg	**Sg**	**22 23 03.9**	**+0.9**
TUBL	**Tuebingen Lnz**	**1.73**	**118**	P	**Pg**	**22 22 40.9**	**+0.2**
TUBL				S	**Sg**	**22 23 03.9**	**+0.9**
BAIF	**Baives** SNR=1.0	**1.82**	**294**	*e*Pg	**Pg**	**22 22 44.1**	**+1.7**
BAIF	comp=N,120nm,0.5s,SNR=1.0			*e*Sg	**Sg**	**22 23 02.6**	**-1.2**
BAIF	**Baives**	**1.82**	**294**	*e*Pg	**Pg**	**22 22 44.1**	**+1.7**
BAIF				*e*Sn	**Sn**	**22 23 02.6**	**-1.2**
BAIF				*e*Sg	**Sg**	**22 23 07.8**	**+1.8**
BAIF	**Baives**	**1.82**	**294**	*e*Pn	**Pn**	**22 22 39.7**	**-0.4**
BAIF				*e*Pg	**Pg**	**22 22 44.1**	**+1.7**
BAIF				*e*Sn	**Sn**	**22 23 02.6**	**-1.2**
BAIF				*e*Sg	**Sg**	**22 23 07.8**	**+1.8**
SPAK	**Spaichingen**	**1.82**	**133**	Pg	**Pg**	**22 22 42.8**	**+0.3**
SPAK				Sg	**Sg**	**22 23 09.1**	**+3.0**
SIND	**Sindeldorf**	**1.84**	**89**	⇓P	**Pn**	**22 22 38.9**	**-1.5**
SIND				Pg	**Pg**	**22 22 45.9**	**+3.0**
BBS	**Basel-Blauen**	**1.95**	**166**	P	**Pn**	**22 22 42.3**	**+0.5**
SNF	**Seneffe**	**1.99**	**306**	P	**Pn**	**22 22 43.9**	**+1.5**
LOMF	**Lomont** SNR=3.1	**2.00**	**179**	*e*Pn	**Pn**	**22 22 43.0**	**+0.4**
LOMF				Pg	**Pg**	**22 22 47.1**	**+1.2**
LOMF				Sg	**Sg**	**22 23 13.4**	**+1.5**
LOMF	**Lomont**	**2.00**	**179**	P	**Pn**	**22 22 42.8**	**+0.1**
LOMF				P		22 22 47.1	
LOMF				S	**Sg**	**22 23 13.4**	**+1.5**
LOMF	**Lomont**	**2.00**	**179**	Pg	**Pg**	**22 22 47.0**	**+1.0**
GUT	**Gutenstein**	**2.00**	**129**	P	**Pn**	**22 22 42.1**	**-0.6**
GUT				Pg	**Pg**	**22 22 46.1**	**+0.1**
GUT				Sg	**Sg**	**22 23 12.7**	**+0.7**
BUG	**Bochum--Univer** SNR=2.2	**2.11**	**8**	*e*Pg	**Pg**	**22 22 48.4**	**+0.4**
BUG				*e*Sg	**Sg**	**22 23 13.2**	**-2.3**
UCC	**Uccle**	**2.13**	**314**	P	**Pn**	**22 22 49.4**	**+5.0**
UCC				S	**Sn**	**22 23 04.4**	**-7.1**
SISB	**Singen-Sch Ber**	**2.21**	**138**	P*	**Pb**	**22 22 49.8**	**+1.5**
HDH	**Heidenheim**	**2.38**	**108**	Pg	**Pg**	**22 22 52.3**	**-0.9**
WTSB	**Winterswijk** comp=N,48nm,1.3s	**2.62**	**0**	*e*Pg	**Pg**	**22 22 52.8**	**-4.9**
WTSB				*e*Sg	**Sg**	**22 23 26.1**	**-5.5**
UBR	**Uberruh**	**2.77**	**126**	P	**Pn**	**22 22 54.4**	**+1.3**
CABF	**La Chapelle** SNR=1.0	**2.78**	**190**	*e*Pn	**Pn**	**22 22 53.6**	**+0.2**
CABF	SNR=1.0			*e*Sn	**Sn**	**22 23 26.4**	**-1.2**
CABF	comp=N,59nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**22 23 37.9**	**+0.9**
LOR	**Lormes** baz=42,SNR=1.0	**2.86**	**224**	*e*Pn	**Pn**	**22 22 54.1**	**-0.3**
LOR				*e*Sn	**Sn**	**22 23 28.5**	**-1.0**
LOR	comp=N,82nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**22 23 39.6**	**+0.2**
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**22 22 54.1**	**-0.3**
LOR				*e*Sn	**Sn**	**22 23 28.5**	**-1.0**
GRF	**Grafenberg Arr** SNR=12	**2.91**	**82**	*e*Pg	**Pg**	**22 23 03.4**	**+0.1**
GRF				*e*Sn	**Sn**	**22 23 27.7**	**-3.0**
GRF				*e*Sg	**Sg**	**22 23 39.7**	**-1.2**
DAVA	**Damuels** SNR=5.7	**2.92**	**134**	⇑*e*Pn	**Pn**	**22 22 56.2**	**+0.9**
DAVA				⇑*i*Sn	**Sn**	**22 23 30.6**	**-0.4**
DAVA				⇓*i*Sg	**Sg**	**22 23 41.8**	**+0.4**
DAVA	**Damuels** comp=N,69nm,0.6s	**2.92**	**134**	⇑*e*Pn	**Pn**	**22 22 56.1**	**+0.9**
DAVA				Sn	**Sn**	**22 23 30.6**	**-0.4**
DAVA				Sg	**Sg**	**22 23 41.8**	**+0.4**
IBBN	**Ibbenburen**	**3.02**	**11**	*e*Sg	**Sg**	**22 23 43.4**	**-1.2**
SSF	**Saint Saulge** SNR=1.0	**3.17**	**225**	*e*Pn	**Pn**	**22 22 58.7**	**0.0**
SSF				*e*Sn	**Sn**	**22 23 35.1**	**-2.2**
SSF	comp=N,161nm,0.7s			*e*Sg	**Sg**	**22 23 48.2**	**-1.4**
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**22 22 58.7**	**0.0**
SSF				*e*Sn	**Sn**	**22 23 35.1**	**-2.2**
FUR	**Furstenfeldbru** SNR=2.4	**3.20**	**110**	*e*Pn	**Pn**	**22 23 00.4**	**+1.4**
FUR				*e*Sg	**Sg**	**22 23 51.3**	**+1.0**
DAVOX	**Davos**	**3.30**	**140**	Pn	**Pn**	**22 23 02.7**	**+2.2**
SMF	**Signal de Mont** SNR=1.0	**3.36**	**217**	*e*Pg	**Pg**	**22 23 14.2**	**+2.3**
SMF				*e*Sn	**Sn**	**22 23 39.2**	**-2.6**
SMF	comp=N,53nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**22 23 55.9**	**+0.5**
SMF	**Signal de Mont**	**3.36**	**217**	*e*Pn	**Pn**	**22 23 00.7**	**-0.5**
SMF				*e*Pg	**Pg**	**22 23 14.2**	**+2.3**
SMF				*e*Sn	**Sn**	**22 23 39.2**	**-2.6**
SMF				*e*Sg	**Sg**	**22 23 55.9**	**+0.5**
TUE	**Stuetta**	**3.36**	**148**	Pn	**Pn**	**22 23 07.4**	**+2.2**
MOX	**Moxa** SNR=2.3	**3.37**	**66**	*e*Pn	**Pn**	**22 23 02.2**	**+0.8**
MOX				*e*Sn	**Sn**	**22 23 41.1**	**-1.0**
MOX				*e*Sg	**Sg**	**22 23 55.5**	**-0.3**
MOX	**Moxa** comp=N,19nm,0.7s	**3.37**	**66**	*e*(P)	**Pn**	**22 23 09.6**	**+8.2**
MOX				*e*		22 23 40.3	
MOX				*e*		22 23 54.2	
CLZ	**Clausthal** SNR=1.3	**3.38**	**41**	*e*Pn	**Pn**	**22 23 01.4**	**-0.2**
CLZ	SNR=2.5			*e*Pg	**Pg**	**22 23 11.5**	**-0.8**
CLZ				*e*Sg	**Sg**	**22 23 52.9**	**-3.2**
CLZ	**Clausthal**	**3.38**	**41**	*e*Pn	**Pn**	**22 23 01.2**	**-0.3**
CLZ				*e*Sg	**Sg**	**22 23 57.3**	**+1.2**
OG05	**Jujurieux**	**3.43**	**196**	Sg	**Sg**	**22 24 00.1**	**+2.2**
AVF	**Avril sur Loir** SNR=1.0	**3.45**	**223**	*e*Pn	**Pn**	**22 23 02.2**	**-0.3**
AVF	SNR=1.0			*e*Sn	**Sn**	**22 23 41.9**	**-2.1**
AVF	comp=N,47nm,0.5s,SNR=1.0			*e*Sg	**Sg**	**22 23 58.9**	**+0.6**
HYF	**Humbligny**	**3.47**	**235**	*e*Pn	**Pn**	**22 23 02.2**	**-0.6**
HYF				*e*Pg	**Pg**	**22 23 11.4**	**-2.6**
HYF				*e*Sn	**Sn**	**22 23 42.4**	**-2.1**
HYF				*e*Sg	**Sg**	**22 23 59.5**	**+0.5**
MCGN	**Macugnaga**	**3.49**	**166**	Pn	**Pn**	**22 23 05.5**	**+2.4**
MOTA	**Moosalm** comp=N,18nm,0.4s	**3.51**	**123**	⇓Sg	**Sg**	**22 23 59.1**	**-1.2**
MOTA	**Moosalm** SNR=6.1	**3.51**	**123**	⇑*i*Pn	**Pn**	**22 23 04.2**	**+0.9**
MOTA				⇓*i*Sn	**Sn**	**22 23 43.4**	**-2.1**
MOTA				⇑⇑*i*Sg	**Sg**	**22 24 00.8**	**+0.5**
MOTA	**Moosalm** comp=N,18nm,0.4s	**3.51**	**123**	⇑*i*Pn	**Pn**	**22 23 04.2**	**+0.9**
MOTA				Sn	**Sn**	**22 23 43.4**	**-2.1**
MOTA				Sg	**Sg**	**22 23 59.1**	**-1.2**
ROTZ	**Rotzenmuhle**	**3.55**	**81**	*e*Pn	**Pn**	**22 23 05.0**	**+1.1**
ROTZ				*e*Sg	**Sg**	**22 23 59.6**	**-2.0**
SQTA	**Sankt Quirin**	**3.64**	**124**	⇓Sn	**Sn**	**22 23 46.7**	**-2.1**
SQTA	**Sankt Quirin** SNR=6.4	**3.64**	**124**	⇑*i*Pn	**Pn**	**22 23 06.2**	**+1.0**
SQTA				⇑*i*Sn	**Sn**	**22 23 49.7**	**+0.9**
SQTA				⇓*i*Sg	**Sg**	**22 24 04.1**	**-0.4**
SQTA	**Sankt Quirin** comp=N,10nm,0.3s	**3.64**	**124**	⇑*i*Pn	**Pn**	**22 23 06.2**	**+1.0**
SQTA				Sn	**Sn**	**22 23 46.7**	**-2.1**
SQTA				Sg	**Sg**	**22 24 04.1**	**-0.4**
WERD	**Werda**	**3.73**	**71**	*e*Pn	**Pn**	**22 23 06.8**	**+0.5**
WERD				*e*Sg	**Sg**	**22 24 06.2**	**-1.3**
VAI	**Varese**	**3.74**	**158**	Pn	**Pn**	**22 23 07.8**	**+1.4**
MUGIO	**Muggio**	**3.75**	**155**	Pn	**Pn**	**22 23 08.3**	**+1.6**
WATA	**Walderalm**	**3.78**	**121**	⇑Sn	**Sn**	**22 23 49.9**	**-2.3**
WATA	**Walderalm** comp=N,8.8nm,0.4s	**3.78**	**121**	⇓Sg	**Sg**	**22 24 08.6**	**-0.3**
WATA	**Walderalm** SNR=7.9	**3.78**	**121**	⇑*i*Pn	**Pn**	**22 23 08.4**	**+1.4**
WATA				⇓*i*Sn	**Sn**	**22 23 53.6**	**+1.5**
WATA				⇑⇑*i*Sg	**Sg**	**22 24 09.6**	**+0.7**
WATA	**Walderalm** comp=N,8.8nm,0.4s	**3.78**	**121**	⇑*i*Pn	**Pn**	**22 23 08.4**	**+1.4**
WATA				Sn	**Sn**	**22 23 49.9**	**-2.3**
WATA				Sg	**Sg**	**22 24 08.6**	**-0.3**
ORO	**Oropa**	**3.81**	**167**	Pn	**Pn**	**22 23 09.9**	**+2.4**
TANN	**Tannenbergstha** SNR=4.6	**3.82**	**72**	*e*Pg	**Pg**	**22 23 17.9**	**-2.8**
TANN				*e*Sg	**Sg**	**22 24 07.5**	**-2.7**
LPL	**La Plagne** SNR=1.0	**3.84**	**181**	*e*Pn	**Pn**	**22 23 08.3**	**+0.4**
LPL	SNR=1.0			*e*Sn	**Sn**	**22 23 52.0**	**-1.7**
LPL	comp=N,26nm,0.6s,SNR=1.0			*e*Sg	**Sg**	**22 24 10.5**	**-0.4**
WTTA	**Wattenberg** comp=N,20nm,0.7s	**3.85**	**121**	⇓Sg	**Sg**	**22 24 10.7**	**-0.5**
WTTA	**Wattenberg**	**3.85**	**121**	⇓*i*Pn	**Pn**	**22 23 08.8**	**+0.8**
WTTA				⇑⇑*i*Sn	**Sn**	**22 23 52.0**	**-2.0**
WTTA				⇑⇑*i*Sg	**Sg**	**22 24 11.9**	**+0.6**
WTTA	**Wattenberg** comp=N,20nm,0.7s	**3.85**	**121**	⇓Pn	**Pn**	**22 23 08.8**	**+0.8**
WTTA				Sn	**Sn**	**22 23 52.0**	**-2.0**
WTTA				Sg	**Sg**	**22 24 10.7**	**-0.5**
BGF	**Bois d'Agland** SNR=1.0	**3.85**	**225**	*e*Pn	**Pn**	**22 23 08.2**	**+0.2**
BGF				*e*Sn	**Sn**	**22 23 51.4**	**-2.6**
BGF	comp=N,274nm,0.5s			*e*Sg	**Sg**	**22 24 10.7**	**-0.6**
LPG	**La Plagne** SNR=1.0	**3.86**	**180**	*e*Pn	**Pn**	**22 23 10.3**	**+2.2**
LPG	comp=N,21nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**22 24 10.0**	**-1.5**
WET	**Wettzell** SNR=16	**3.99**	**91**	*e*Pn	**Pn**	**22 23 10.1**	**+0.1**
WET				*e*Sn	**Sn**	**22 23 55.8**	**-1.7**
WET				*e*Sg	**Sg**	**22 24 15.4**	**-0.5**
APPI	**Appiano**	**4.14**	**132**	Pn	**Pn**	**22 23 14.5**	**+2.4**
TCF	**Toulx Ste Croi** SNR=1.0	**4.35**	**227**	*e*Pn	**Pn**	**22 23 16.4**	**+1.5**
TCF				*e*Sn	**Sn**	**22 24 04.5**	**-1.8**
TCF	**Toulx Ste Croi** comp=N,37nm,0.5s,SNR=1.0	**4.35**	**227**	*e*Sg	**Sg**	**22 24 26.6**	**-0.7**
TCF	**Toulx Ste Croi**	**4.35**	**227**	*e*Pn

SNR=1.0
GRR eSg Sg 22 24 51.2 -1.4
comp=Z,29nm,0.5s
GRR Gorron 5.14 262 ePn Pn 22 23 26.4 +0.7
GRR ePg Pg 22 23 45.0 -1.0
GRR eSn Sn 22 24 21.9 -3.8
GRR eSg Sg 22 24 51.2 -1.4
MOA Molln 5.18 104 ⇓iPn Pn 22 23 26.7 +0.4
SNR=17
MOA ⇓iSn Sn 22 24 23.8 -3.0
PTCC Patocco-Chiusa 5.31 121 Pn Pn 22 23 30.9 +2.8
RJF Les Rejaudoux 5.41 223 ePn Pn 22 23 29.6 +0.2
RJF eSn Sn 22 24 29.2 -3.2
SNR=1.0
RJF eSg Sg 22 24 59.2 -2.1
comp=Z,31nm,0.6s,SNR=1.0
MFF Saint Martin d 5.41 242 ePn Pn 22 23 30.1 +0.7
MFF eSn Sn 22 24 29.5 -2.9
SNR=1.0
MFF eSg Sg 22 25 01.3 0.0
comp=Z,39nm,0.7s
SMRF Simiane la Rot 5.44 189 eSn Sn 22 24 29.2 -4.0
comp=Z,7.0nm,0.5s
CAF Calviac 5.48 218 ePn Pn 22 23 29.4 -1.0
SNR=1.0
CAF eSn Sn 22 24 30.6 -3.5
SNR=1.0
CAF eSg Sg 22 25 01.5 -2.0
comp=Z,26nm,0.6s,SNR=1.0
SBF Sospel 5.51 175 eSn Sn 22 24 30.5 -4.4
comp=Z,13nm,0.5s
LASF Ste Croix 5.65 202 eSg Sg 22 25 06.9 -2.2
comp=Z,43nm,0.7s
FRF La Foret Royal 5.79 181 eSn Sn 22 24 37.3 -4.6
comp=Z,4.4nm,0.4s
LMR La Mourre 6.02 182 eSn Sn 22 24 43.3 -4.2
comp=Z,14nm,1.0s,SNR=1.0
LFF La Frestale 6.04 225 eSn Sn 22 24 44.2 -3.8
SNR=1.0
LFF eSg Sg 22 25 18.6 -3.0
comp=Z,39nm,0.6s
SGMF Saint Gilles 6.27 263 ePn Pn 22 23 41.4 +0.1
SNR=1.0
SGMF eSn Sn 22 24 49.2 -4.5
SNR=1.0
SGMF eSg Sg 22 25 27.8 -1.2
comp=Z,39nm,0.7s
ROSF Rostrenen 6.72 265 ePg Pg 22 24 14.6 -1.7
SNR=1.0
ROSF eSn Sn 22 24 59.7 -5.0
SNR=1.0
ROSF eSg Sg 22 25 41.3 -2.1
comp=Z,32nm,0.8s
ROSF Rostrenen 6.72 265 ePn Pn 22 23 46.0 -1.4
ROSF ePg Pg 22 24 14.6 -1.7
ROSF eSn Sn 22 24 59.7 -5.0
ROSF eSg Sg 22 25 41.3 -2.1
QUIF Quistinic 6.75 261 ePn Pn 22 23 47.5 -0.4
SNR=1.0
QUIF eSn Sn 22 25 00.0 -5.5
SNR=1.0
QUIF eSg Sg 22 25 42.6 -1.9
comp=Z,26nm,0.7s
MTLF Montolieu 6.79 209 eSg Sg 22 25 43.3 -2.5
comp=Z,9.8nm,0.6s,SNR=1.0
EPF Esparros 7.74 218 eSg Sg 22 26 13.6 -2.6
comp=Z,12nm,0.7s
VYHS Vyhne 7.98 92 ePN Pn 22 24 05.3 +0.5
ETSF Etsaut 8.23 221 eSg Sg 22 26 27.1 -4.6
comp=Z,12nm,0.7s
SJPF Ste Jean 8.35 225 eSg Sg 22 26 32.4 -3.3
comp=Z,24nm,1.0s

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*ISCJB **07** 22:51:04.6±0.4, 6627N±003×14204W±008, h10km, mb4.2/1, Error ellipse: s-maj=4.7km s-min=4.6km az=163.9*
*IDC **07** 22:51:07.4±1.1, 6633N×14242W, h0km, mb4.3/1, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, ML3.4/3, Error ellipse: s-maj=22.7km s-min=9.3km az=147.0*
*NEIC **07** 22:51:07.2, 6629N×14251W, h9km, ML3.5(AEIC), After AEIC.*
*PGC **07** 22:51:08.3, 6628N×14187W, h1km, ML3.4/2, Eastern Alaska.*

ISC 07 22:51:06.2±0.4, 6629N±003×14218W±008, h10km, n27, σ1°36/44, mb4.2/1, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.49**	**321**	P	**Pn**	**22 51 32.4**	**-0.5**
BM3				S	**Sn**	**22 51 52.8**	**+0.4**
IL1	**Eielson Array**	**2.48**	**234**	P	**Pn**	**22 51 46.5**	**-0.1**
ILAR	**Eielson Array**	**2.48**	**234**	Pn	**Pn**	**22 51 46.5**	**-0.1**
	2.6nm,0.3s,baz=45,slow=13,SNR=146						
ILAR				Pg	**Pg**	**22 51 51.7**	**-2.1**
	9.0nm,0.3s,baz=48,slow=15,SNR=60						
ILAR				Lg		22 52 23.3	
	78nm,0.3s,baz=48,slow=28,SNR=43						
DAWY	**Dawson**	**2.52**	**151**	Pn	**Pn**	**22 51 48.0**	**+0.8**
DAWY				Sn	**Sn**	**22 52 18.6**	**+0.6**
DAWY				Sg	**Sg**	**22 52 24.4**	**-2.9**
DAWY				Trac		22 52 29.2	
	comp=Z,101nm,0.3s						
COLA	**College**	**2.75**	**242**	P	**Pn**	**22 51 50.4**	**0.0**
DOT	**Dot Lake**	**2.77**	**198**	P	**Pn**	**22 51 51.5**	**+0.9**
COLD	**Coldfoot**	**3.32**	**290**	P	**Pn**	**22 51 58.7**	**+0.5**
MENT	**Mentasta**	**3.43**	**192**	P	**Pn**	**22 52 00.9**	**+1.2**
PAX	**Paxson**	**3.62**	**205**	P	**Pn**	**22 52 03.8**	**+1.5**
PAX				S	**Sn**	**22 52 45.0**	**-0.1**
MCK	**McKinley**	**3.85**	**231**	P	**Pn**	**22 52 05.8**	**+0.4**
INK	**Inuvik**	**3.92**	**55**	Pn	**Pn**	**22 52 08.0**	**+1.6**
	0.8nm,0.3s,baz=244,slow=14,SNR=18						
INK				Pg	**Pg**	**22 52 19.2**	**-2.1**
	2.2nm,0.3s,baz=242,slow=17,SNR=10						
INK				Lg		22 53 11.3	
	6.2nm,0.3s,baz=313,slow=29,SNR=9.5						
INK	**Inuvik**	**3.92**	**55**	Sn	**Sn**	**22 52 52.4**	**-0.1**
INK				Sg	**Sg**	**22 53 06.7**	**-5.3**
INK	**Inuvik**	**3.92**	**55**	Pn	**Pn**	**22 52 08.0**	**+1.6**
INK				Pg	**Pg**	**22 52 19.2**	**-2.1**
INK				Lg		22 53 11.3	
KTH	**Kantishna Hill**	**4.63**	**238**	P	**Pn**	**22 52 15.6**	**-0.5**
IMA2	**Indian Mountai**	**4.67**	**273**	ePn	**Pn**	**22 52 17.1**	**+0.4**
IMA2				ePg	**Pg**	**22 52 33.3**	**-2.4**
IMA2				eSn	**Sn**	**22 53 05.4**	**-5.6**
IM3	**Indian Mountai**	**4.71**	**272**	P	**Pn**	**22 52 16.2**	**-1.1**
SML	**Sawmill**	**5.25**	**214**	ePn	**Pn**	**22 52 26.7**	**+2.0**
SML				eSn	**Sn**	**22 53 24.0**	**-1.2**
DIV	**Divide**	**5.42**	**199**	P	**Pn**	**22 52 30.2**	**+3.1**
BMRM	**Bremner River**	**5.45**	**193**	P	**Pn**	**22 52 29.4**	**+1.9**
HYT	**Haines Junctio**	**5.87**	**157**	Pn	**Pn**	**22 52 34.8**	**+1.6**
HYT				Sg	**Sg**	**22 54 10.2**	**-4.4**
HYT				Trac		22 54 24.2	
	comp=Z,39nm,0.8s						
WHY	**Whitehorse**	**6.52**	**147**	Pn	**Pn**	**22 52 43.0**	**+0.8**
WHY				Sg	**Sg**	**22 54 31.4**	**-4.2**
WHY				Trac		22 54 43.6	
	comp=Z,9.0nm,0.6s						
TT01	**Tatalina**	**6.85**	**247**	P	**Pn**	**22 52 45.3**	**-1.3**
YKW3	**Yellowknife Ar**	**12.42**	**95**	P	**Pn**	**22 54 01.6**	**-1.3**
YKW3				P		22 54 02.4	
YKW3				Sn	**Sn**	**22 56 11.8**	**-9.5**
YKW3				Sn	**Sn**	**22 56 12.0**	**-9.4**
YKW3				Trac		22 56 29.9	
	comp=Z,2.0nm,0.4s						
YKW3				Trac		22 56 54.0	
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**12.46**	**95**	Pn	**Pn**	**22 54 02.6**	**-0.8**
	baz=298,slow=13,SNR=16						
YKA				Sn	**Sn**	**22 56 11.0**	**-11**
	baz=295,slow=24,SNR=5.3						
YKA	**Yellowknife Ar**	**12.46**	**95**	Pn	**Pn**	**22 54 02.6**	**-0.8**
YKA				Sn	**Sn**	**22 56 11.0**	**-11**
FINES	**FINESS Array B**	**52.28**	**7**	P	**P**	**23 00 20.4**	**+2.7**
	3.1nm,1.0s,mb4.2,baz=0.0,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**52.28**	**7**	P	**P**	**23 00 20.4**	**+2.7**

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*ISCJB **07** 22:53:09.4±0.3, 4283N±002×272E±003, h5km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=84.9*
*MDD **07** 22:53:11.6±0.3, 4278N×270E, h10km, mbLg1.7/18, Error ellipse: s-maj=2.2km s-min=1.8km az=71.0, PRXIMO*
*CSEM **07** 22:53:11.6±0.1, 4278N×270E, h10km, ML2.1, Error ellipse: s-maj=1.5km s-min=1.2km az=112.0*
*LDG **07** 22:53:11.3±0.1, 4277N×269E, h2km, Md2.3/1, Ml2.2/9, Error ellipse: s-maj=1.8km s-min=1.5km az=150.0*
*STR **07** 22:53:11.3±0.2, 4278N×270E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 22:53:10.6±0.3, 4279N±002×270E±003, h15km±4km, n69, σ0°74/102, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.19**	**322**	Pg	**Pg**	**22 53 15.4**	**+0.4**
LRDF				Sg	**Sg**	**22 53 18.5**	**+0.5**
LRDF	**Laroque-de-Fa**	**0.19**	**322**	Pg	**Pg**	**22 53 15.4**	**+0.5**
LRDF				Lg		22 53 18.5	
FILF	**Fillols**	**0.25**	**203**	Pg	**Pg**	**22 53 17.0**	**+1.0**
FILF				Lg		22 53 21.5	
SJAF	**Saint Jean de**	**0.34**	**156**	Pg	**Pg**	**22 53 17.9**	**+0.4**
SJAF				Sg	**Sg**	**22 53 22.4**	**+0.2**
SJAF	**Saint Jean de**	**0.34**	**156**	Pg	**Pg**	**22 53 17.9**	**+0.4**
SJAF				Lg		22 53 22.4	
EJON	**La Jonquera**	**0.37**	**157**	Pg	**Pg**	**22 53 18.4**	**+0.3**
	1.1nm,0.1s,SNR=4.0						
EJON				Lg		22 53 23.7	
	4.9nm,0.1s,SNR=9.4						
EJON	**La Jonquera**	**0.37**	**157**	Pg	**Pg**	**22 53 18.4**	**+0.3**
	SNR=4.0						
CARF	**Carcanieres**	**0.44**	**260**	Pg	**Pg**	**22 53 20.4**	**+1.0**
CARF				Sg	**Sg**	**22 53 26.0**	**+0.6**
CARF	**Carcanieres**	**0.44**	**260**	Pg	**Pg**	**22 53 20.1**	**+0.7**
CARF				Lg		22 53 26.0	
CLLI	**Llivia**	**0.62**	**240**	Pg	**Pg**	**22 53 23.0**	**+0.3**
CLLI				Lg		22 53 31.9	
	4.1nm,0.1s						
VALF	**Valcebollere**	**0.64**	**232**	Pg	**Pg**	**22 53 23.4**	**+0.4**
VALF				Sg	**Sg**	**22 53 31.7**	**+0.3**
VALF	**Valcebollere**	**0.64**	**232**	Pg	**Pg**	**22 53 23.2**	**+0.2**
VALF				Lg		22 53 31.8	
MTLF	**Montolieu**	**0.65**	**328**	ePg	**Pg**	**22 53 23.7**	**+0.4**
MTLF	**Montolieu**	**0.65**	**328**	ePn	**Pn**	**22 53 26.1**	**+0.8**
MTLF				eSg	**Sg**	**22 53 33.0**	**+1.1**
MTLF				eSn	**Sg**	**22 53 36.7**	**+4.8**
	38nm,0.2s						
MTLF	**Montolieu**	**0.65**	**328**	Pg	**Pg**	**22 53 23.7**	**+0.4**
MTLF				Lg		22 53 33.0	
MTLF	**Montolieu**	**0.65**	**328**	ePn	**Pn**	**22 53 26.1**	**+0.8**
MTLF				eSg	**Sg**	**22 53 33.0**	**+1.1**
MTLF				eSn	**Sg**	**22 53 36.7**	**+4.8**
PAND	**Andorre**	**0.89**	**253**	Pg	**Pg**	**22 53 28.1**	**+0.3**
PAND				Lg		22 53 40.1	
CFON	**Fontmartina**	**1.05**	**191**	Pg	**Pg**	**22 53 31.3**	**+0.5**
CFON				Lg		22 53 45.4	
	11nm,0.2s						
SALF	**Salau**	**1.11**	**269**	Pg	**Pg**	**22 53 33.2**	**+1.2**
SALF				Sg	**Sg**	**22 53 47.6**	**+1.1**
SALF	**Salau**	**1.11**	**269**	Pg	**Pg**	**22 53 32.7**	**+0.8**
SALF				Lg		22 53 47.0	
CORG	**Organya**	**1.16**	**242**	Pg	**Pg**	**22 53 32.4**	**-0.6**
CORG				Lg		22 53 48.4	
	1.2nm,0.1s						
CSOR	**Sort**	**1.23**	**251**	Pg	**Pg**	**22 53 34.1**	**-0.1**
CSOR				Lg		22 53 51.3	
	3.9nm,0.2s						
EMIR	**Miracle**	**1.23**	**225**	Pg	**Pg**	**22 53 34.6**	**+0.3**
	3.6nm,0.3s,SNR=20						
EMIR				Lg		22 53 51.3	
	3.2nm,0.1s,SNR=8.3						
EMIR	**Miracle**	**1.23**	**225**	Pg	**Pg**	**22 53 34.6**	**+0.3**
	3.6nm,0.3s,SNR=20						
LASF	**Ste Croix**	**1.54**	**33**	ePn	**Pn**	**22 53 37.4**	**-0.1**
LASF	**Ste Croix**	**1.54**	**33**	ePg	**Pg**	**22 53 40.0**	**-0.1**
LASF				eSn	**Sn**	**22 53 57.8**	**+0.6**
LASF				eSg	**Sg**	**22 54 00.8**	**+0.7**
	6.6nm,0.5s						
LASF	**Ste Croix**	**1.54**	**33**	Pn	**Pn**	**22 53 37.4**	**-0.1**
LASF				Pg	**Pg**	**22 53 40.0**	**-0.1**
LASF				Sn	**Sn**	**22 53 57.8**	**+0.6**
LASF				Lg		22 54 00.8	
	3.3nm,0.5s						
LASF	**Ste Croix**	**1.54**	**33**	ePg	**Pg**	**22 53 40.0**	**-0.1**
LASF				eSn	**Sn**	**22 53 57.8**	**+0.6**
LASF				eSg	**Sg**	**22 54 00.8**	**+0.7**
CAVN	**Les Avellanes**	**1.70**	**238**	Pg	**Pg**	**22 53 43.4**	**+0.1**
CAVN				Lg		22 54 05.6	
	11nm,0.2s						
EPF	**Esparros**	**1.75**	**279**	ePn	**Pn**	**22 53 40.4**	**0.0**
EPF	**Esparros**	**1.75**	**279**	ePg	**Pg**	**22 53 43.0**	**-1.1**
EPF				eSg	**Sg**	**22 54 06.2**	**-0.6**
	2.5nm,0.1s						
EPF	**Esparros**	**1.75**	**279**	Pn	**Pn**	**22 53 40.4**	**0.0**
EPF				Pg	**Pg**	**22 53 43.0**	**-1.1**
EPF				Lg		22 54 06.2	
	1.2nm,0.1s						
EPF	**Esparros**	**1.75**	**279**	ePg	**Pg**	**22 53 43.0**	**-1.1**
EPF				eSg	**Sg**	**22 54 06.2**	**-0.6**
EGRA	**Graus**	**1.86**	**252**	Pg	**Pg**	**22 53 45.7**	**-0.6**
	1.8nm,0.4s,SNR=6.1						
EGRA				Lg		22 54 11.5	
	0.5nm,0.1s,SNR=7.4						
EGRA	**Graus**	**1.86**	**252**	Pg	**Pg**	**22 53 47.2**	**+0.9**
	1.8nm,0.4s,SNR=6.1						
EPOB	**Poblet**	**1.88**	**220**	Pg	**Pg**	**22 53 45.6**	**-1.0**
	5.4nm,0.9s,SNR=9.2						
EPOB				Lg		22 54 10.2	
	4.8nm,0.2s,SNR=13						
EPOB	**Poblet**	**1.88**	**220**	Pg	**Pg**	**22 53 45.6**	**-1.0**
	5.4nm,0.9s,SNR=9.2						
EBIE	**Bielsa**	**1.88**	**268**	Pg	**Pg**	**22 53 46.4**	**-0.3**
	3.7nm,1.1s,SNR=7.8						
EBIE				Lg		22 54 11.6	
	1.2nm,0.2s,SNR=7.0						
EBIE	**Bielsa**	**1.88**	**268**	Pg	**Pg**	**22 53 46.4**	**-0.3**
	3.7nm,1.1s,SNR=7.8						
CAF	**Calviac**	**2.18**	**348**	ePn	**Pn**	**22 53 46.8**	**+0.5**
CAF	**Calviac**	**2.18**	**348**	eP	**Pn**	**22 53 49.3**	**+3.0**
CAF	**Calviac**	**2.18**	**348**	ePg	**Pg**	**22 53 52.1**	**-0.3**
CAF				eSg	**Sg**	**22 54 21.1**	**+0.4**
	3.5nm,0.2s						
CAF	**Calviac**	**2.18**	**348**	Pn	**Pn**	**22 53 46.8**	**+0.5**
CAF				Pg	**Pg**	**22 53 52.1**	**-0.3**
CAF				Lg		22 54 21.1	
	1.8nm,0.2s						
CAF	**Calviac**	**2.18**	**348**	eP	**Pn**	**22 53 49.3**	**+3.0**
CAF	**Calviac**	**2.18**	**348**	ePg	**Pg**	**22 53 52.1**	**-0.3**
CAF				eSg	**Sg**	**22 54 21.1**	**+0.4**
ETSF	**Etsaut**	**2.40**	**274**	ePn	**Pn**	**22 53 49.5**	**+0.2**
ETSF	**Etsaut**	**2.40**	**274**	ePg	**Pg**	**22 53 54.8**	**-1.7**
ETSF				eSg	**Sg**	**22 54 24.6**	**-3.0**
	3.7nm,0.3s						
ETSF	**Etsaut**	**2.40**	**274**	Pn	**Pn**	**22 53 49.5**	**+0.2**
ETSF				Pg	**Pg**	**22 53 54.8**	**-1.7**
ETSF				Lg		22 54 24.6	
	1.9nm,0.3s						
ETSF	**Etsaut**	**2.40**	**274**	ePg	**Pg**	**22 53 54.8**	**-1.7**
ETSF				eSg	**Sg**	**22 54 24.6**	**-3.0**
SMRF	**Simiane la Rot**	**2.41**	**60**	ePg	**Pg**	**22 53 56.1**	**-0.7**
SMRF				eSg	**Sg**	**22 54 27.8**	**-0.2**
	0.7nm,0.2s						
SMRF	**Simiane la Rot**	**2.41**	**60**	Pg	**Pg**	**22 53 56.1**	**-0.7**
SMRF				Lg		22 54 27.8	
	0.7nm,0.2s						
VIVF	**Saint-Julien-l**	**2.51**	**34**	ePn	**Pn**	**22 53 51.4**	**+0.5**
VIVF	**Saint-Julien-l**	**2.51**	**34**	ePg	**Pg**	**22 53 58.4**	**-0.3**
VIVF				eSn	**Sn**	**22 54 21.4**	**+0.2**
VIVF				eSg	**Sg**	**22 54 30.9**	**-0.4**
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**2.51**	**34**	Pn	**Pn**	**22 53 51.4**	**+0.5**
VIVF				Pg	**Pg**	**22 53 58.4**	**-0.3**
VIVF				Sn	**Sn**	**22 54 21.4**	**+0.2**
VIVF				Lg		22 54 30.9	
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**2.51**	**34**	ePg	**Pg**	**22 53 58.4**	**-0.3**
VIVF				eSn	**Sn**	**22 54 21.4**	**+0.2**
VIVF				eSg	**Sg**	**22 54 30.9**	**-0.4**
ERTA	**Horta de San J**	**2.54**	**225**	Pg	**Pg**	**22 53 58.7**	**-0.7**
	0.3nm,0.1s,SNR=4.0						
ERTA				Lg		22 54 30.8	
	2.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.54**	**225**	Pg	**Pg**	**22 53 58.7**	**-0.7**
	SNR=4.0						
LFF	**La Frestale**	**2.57**	**327**	ePn	**Pn**	**22 53 51.6**	**-0.1**
LFF	**La Frestale**	**2.57**	**327**	ePg	**Pg**	**22 53 59.6**	**-0.3**
LFF				eSg	**Sg**	**22 54 33.5**	**+0.3**
	4.9nm,0.3s						
LFF	**La Frestale**	**2.57**	**327**	Pn	**Pn**	**22 53 51.6**	**-0.1**
LFF				Pg	**Pg**	**22 53 59.6**	**-0.3**
LFF				Lg		22 54 33.5	
	2.5nm,0.3s						
LFF	**La Frestale**	**2.57**	**327**	ePg	**Pg**	**22 53 59.6**	**-0.3**
LFF				eSg	**Sg**	**22 54 33.5**	**+0.3**
ESAC	**San Caprasio**	**2.58**	**247**	Pg	**Pg**	**22 53 58.9**	**-1.2**
	7.5nm,0.3s,SNR=7.9						
ESAC				Lg		22 54 33.2	
	6.3nm,0.2s,SNR=6.0						
ESAC	**San Caprasio**	**2.58**	**247**	Pg	**Pg**	**22 53 59.8**	**-0.3**
	SNR=7.9						
RJF	**Les Rejaudoux**	**2.65**	**342**	ePg	**Pg**	**22 54 00.7**	**-0.7**
RJF				eSg	**Sg**	**22 54 35.5**	**-0.3**
	4.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.65**	**342**	Pg	**Pg**	**22 54 00.7**	**-0.7**
RJF				Lg		22 54 35.5	
	2.1nm,0.2s						
SJPF	**Ste Jean**	**2.90**	**278**	ePg	**Pg**	**22 54 04.3**	**-1.8**
FRF	**La Foret Royal**	**2.99**	**74**	eSg	**Sg**	**22 54 45.3**	**-1.3**
	2.8nm,0.4s						
FRF	**La Foret Royal**	**2.99**	**74**	Lg		22 54 45.3	
	1.4nm,0.4s						
EMOS	**Mosqueruela**	**3.40**	**225**	Lg		22 54 59.8	
	4.0nm,0.8s,SNR=7.9						

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*NEIC **07** 22:56:09.9, 3061S×7198W, h25km, ML3.3(GUC), After GUC.*

GUC 07 22:56:09.9±0.5, 3061S×7198W, h25km±13km, MD3.6, ML3.3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.01**	**124**	⇑iP	Pn	22 56 27.8	-0.6
CMCH				*i* S	Sb	22 56 41.8	+0.3
CMCH				AMP		22 56 43.9	
	comp=N,1μm,0.8s						
CMCH	**Combarbala**	**1.01**	**124**	⇑iP	Pn	22 56 27.8	-0.6
CMCH				*i* S	Sb	22 56 41.8	+0.3
JACH	**Jahuel**	**2.38**	**151**	*i* P	Pn	22 56 48.7	+1.5
JACH				*i* S	Sn	22 57 18.4	+2.8
RCDM	**Rinconada Maip**	**3.04**	**161**	eP	Pn	22 56 57.9	+1.6
RCDM				*i* S	Sn	22 57 33.8	+2.0
RCDM				AMP		22 57 38.0	
	comp=E,108nm,0.1s						
RCDM	**Rinconada Maip**	**3.04**	**161**	eP	Pn	22 56 57.9	+1.6
RCDM				*i* S	Sn	22 57 33.8	+2.0
TACH	**Talagante**	**3.16**	**164**	eP	Pn	22 56 59.5	+1.5

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*LDG **07** 22:56:54.3±0.1, 4272N×269E, h2km, Md2.3/1, Ml2.2/7, Error ellipse: s-maj=2.5km s-min=1.3km az=159.0*

MDD 07 22:56:55.6±0.3, 4278N×270E, h10km, mbLg1.8/15, Error ellipse: s-maj=2.4km s-min=1.9km az=67.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.20**	**324**	Pg	Pg	22 56 59.4	-0.3
LRDF				Lg		22 57 02.6	
FILF	**Fillols**	**0.24**	**204**	Pg	Pg	22 57 01.2	+0.6
FILF				Lg		22 57 05.5	
SJAF	**Saint Jean de**	**0.33**	**155**	Pg	Pg	22 57 01.9	-0.2
SJAF				Lg		22 57 06.3	
EJON	**La Jonquera**	**0.36**	**157**	Pg	Pg	22 57 02.5	-0.2
	1.0nm,0.1s,SNR=7.9						
EJON				Lg		22 57 07.5	
	6.5nm,0.1s,SNR=8.9						
CARF	**Carcanieres**	**0.44**	**262**	Pg	Pg	22 57 04.2	-0.1
CARF				Lg		22 57 10.1	
CLLI	**Llivia**	**0.61**	**241**	Pg	Pg	22 57 07.0	-0.5
VALF	**Valcebollere**	**0.63**	**233**	Pg	Pg	22 57 07.4	-0.3
VALF				Lg		22 57 15.8	
MTLF	**Montolieu**	**0.66**	**328**	ePg	Pg	22 57 07.6	-0.8
MTLF	**Montolieu**	**0.66**	**328**	ePn	Pn	22 57 10.0	-1.0
MTLF				eSg	Sg	22 57 16.9	-0.2
MTLF				eSn	Sg	22 57 20.7	+3.6
	34nm,0.2s						
MTLF	**Montolieu**	**0.66**	**328**	Pg	Pg	22 57 07.6	-0.8
MTLF				Lg		22 57 16.9	
PAND	**Andorre**	**0.89**	**253**	Lg		22 57 24.3	
CFON	**Fontmartina**	**1.04**	**191**	Pg	Pg	22 57 15.3	-0.2
SALF	**Salau**	**1.11**	**269**	Pg	Pg	22 57 16.5	-0.5
SALF				Lg		22 57 31.2	
CORG	**Organya**	**1.16**	**242**	Pg	Pg	22 57 16.4	-1.5
CORG				Lg		22 57 32.5	
	1.0nm,0.1s						
CSOR	**Sort**	**1.22**	**251**	Pg	Pg	22 57 18.1	-1.0
EMIR	**Miracle**	**1.23**	**225**	Pg	Pg	22 57 18.6	-0.6
	0.8nm,0.1s,SNR=18						
EMIR				Lg		22 57 35.1	
	17nm,0.2s,SNR=9.3						
LASF	**Ste Croix**	**1.55**	**33**	ePn	Pn	22 57 21.3	-1.9
LASF	**Ste Croix**	**1.55**	**33**	ePg	Pg	22 57 24.0	-1.3
LASF				eSg	Sg	22 57 44.8	-0.6
	3.0nm,0.3s						
LASF	**Ste Croix**	**1.55**	**33**	Pn	Pn	22 57 21.3	-1.9
LASF				Pg	Pg	22 57 24.0	-1.3
LASF				Lg		22 57 44.8	
	1.5nm,0.3s						
CAVN	**Les Avellanes**	**1.70**	**239**	Pg	Pg	22 57 27.3	-0.9
CAVN				Lg		22 57 49.7	
	10nm,0.2s						
EPF	**Esparros**	**1.75**	**279**	ePg	Pg	22 57 26.9	-2.3
EPF				eSg	Sg	22 57 50.2	-1.7
	7.3nm,0.3s						
EPF	**Esparros**	**1.75**	**279**	Pg	Pg	22 57 26.9	-2.3
EPF				Lg		22 57 50.2	
	3.7nm,0.3s						
EGRA	**Graus**	**1.85**	**252**	Pg	Pg	22 57 30.6	-0.6
	0.3nm,0.1s,SNR=5.1						
EGRA				Lg		22 57 55.7	
	1.6nm,0.2s,SNR=7.0						
EPOB	**Poblet**	**1.87**	**221**	Pg	Pg	22 57 29.7	-1.7
	0.5nm,0.1s,SNR=8.1						
EPOB				Lg		22 57 53.7	
	7.6nm,0.3s,SNR=13						
EBIE	**Bielsa**	**1.88**	**268**	Pg	Pg	22 57 30.2	-1.5
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		22 57 55.8	
	2.3nm,0.3s,SNR=6.4						
CAF	**Calviac**	**2.19**	**348**	ePg	Pg	22 57 35.9	-1.8
CAF				eSg	Sg	22 58 05.0	-1.1
	2.7nm,0.2s						
CAF	**Calviac**	**2.19**	**348**	Pg	Pg	22 57 35.9	-1.8
CAF				Lg		22 58 05.0	
	1.4nm,0.2s						
ETSF	**Etsaut**	**2.40**	**274**	ePg	Pg	22 57 38.8	-2.8
ETSF				eSg	Sg	22 58 08.5	-4.1
	2.1nm,0.3s						
ETSF	**Etsaut**	**2.40**	**274**	Pg	Pg	22 57 38.8	-2.8
ETSF				Lg		22 58 08.5	
	1.1nm,0.3s						
VIVF	**Saint-Julien-l**	**2.52**	**34**	ePn	Pn	22 57 35.2	-1.4
VIVF	**Saint-Julien-l**	**2.52**	**34**	ePg	Pg	22 57 42.2	-1.7
VIVF				eSn	Sn	22 58 05.2	-2.2
VIVF				eSg	Sg	22 58 14.7	-1.9

EMOS	**Mosqueruela**	**3.39 226**	Lg		22 58 42.8		
	8.8nm,1.1s,SNR=7.9						

*IDC **07** 22:56:58.3±1.9, 384S×13562E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/11, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=67.9km s-min=43.1km az=78.0*
*ISCJB **07** 22:57:01.6±0.9, 385S±007×1357E±02, h33km, mb3.9/5, Error ellipse: s-maj=34.3km s-min=9.9km az=1.3*
*NEIC **07** 22:57:03.4±0.9, 385S×13587E, h35km, mb4.2/3, Error ellipse: s-maj=33.6km s-min=12.6km az=91.0*
ISC 07 22:57:03.6±0.9, 385S±007×1359E±02, h35km, n12, σ0§92/15, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.05**	**185**	*e*Pn	**Pn**	**23 00 46.8**	**+0.2**
	12nm,0.6s						
WRAB				*e*Sn	**Sn**	**23 03 42.9**	**-0.6**
WB2	**Warramunga Arr**	**16.06**	**185**	*e*P	**Pn**	**23 00 46.4**	**-0.3**
WRA	**Warramunga Arr**	**16.06**	**185**	Pn	**Pn**	**23 00 45.6**	**-1.1**
	0.1nm,0.3s,baz=4.4,slow=13,SNR=13						
WRA				Sn	**Sn**	**23 03 39.0**	**-4.7**
	0.5nm,0.3s,baz=13,slow=22,SNR=5.6						
FITZ	**Fitzroy Crossi**	**17.36**	**215**	*e*P	**Pn**	**23 01 03.1**	**+0.1**
	4.4nm,0.6s						
FITZ				*e*S	**S**	**23 04 04.9**	**-18**
ASPA	**Alice Springs**	**19.79**	**185**	*e*P	**Pn**	**23 01 35.3**	**+2.8**
MBWA	**Marble Bar**	**23.30**	**221**	*e*P	**P**	**23 02 09.8**	**+1.5**
	4.8nm,0.8s,mb4.0						
NWAO	**Narrogin (SRO)**	**33.78**	**209**	*e*P	**P**	**23 03 41.5**	**-0.5**
	9.9nm,0.9s,mb4.7						
TAU	**Tasmania Unive**	**40.20**	**167**	P	**P**	**23 04 36.8**	**+0.3**
SONM	**Songino Array**	**57.60**	**337**	P	**P**	**23 06 49.5**	**-0.5**
	0.1nm,0.4s,mb3.2,baz=155,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**69.00**	**324**	P	**P**	**23 08 04.6**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=109,slow=6.0,SNR=16						
MKAR	**Makanchi Array**	**69.00**	**324**	P	**P**	**23 08 04.6**	**-0.9**
ILAR	**Eielson Array**	**88.04**	**25**	P	**P**	**23 09 50.9**	**+0.7**
	0.3nm,0.5s,mb3.7,baz=267,slow=4.2,SNR=6.3						

*LDG **07** 22:58:16.2±0.2, 4272N×269E, h2km, Md2.2/1, Ml2.2/7, Error ellipse: s-maj=2.9km s-min=1.6km az=154.0*
*CSEM **07** 22:58:17.5±0.1, 4279N×271E, h10km, ML1.8, Error ellipse: s-maj=2.0km s-min=1.4km az=119.0*
*STR **07** 22:58:17.7±0.9, 4283N×264E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 07 22:58:17.5±0.3, 4278N×269E, h10km±1km, mbLg1.7/15, Error ellipse: s-maj=2.9km s-min=2.1km az=91.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.19**	**324**	Pg	Pg	22 58 21.3	-0.3
LRDF				Sg	Sg	22 58 24.6	+0.3
LRDF	**Laroque-de-Fa**	**0.19**	**324**	Pg	Pg	22 58 21.3	-0.3
LRDF				Lg		22 58 24.6	
FILF	**Fillols**	**0.24**	**204**	Pg	Pg	22 58 22.9	+0.5
FILF				Lg		22 58 27.4	
EJON	**La Jonquera**	**0.36**	**157**	Pg	Pg	22 58 24.3	-0.4
	0.5nm,0.0s,SNR=7.9						
EJON				Lg		22 58 29.5	
	5.3nm,0.1s,SNR=6.3						
EJON	**La Jonquera**	**0.36**	**157**	Pg	Pg	22 58 24.3	-0.4
	0.5nm,0.0s,SNR=7.9						
CARF	**Carcanieres**	**0.44**	**262**	Pg	Pg	22 58 26.3	+0.2
CARF				Sg	Sg	22 58 31.9	0.0
CARF	**Carcanieres**	**0.44**	**262**	Pg	Pg	22 58 26.0	-0.1
CARF				Lg		22 58 31.9	
CLLI	**Llivia**	**0.61**	**241**	Pg	Pg	22 58 28.9	-0.4
MTLF	**Montolieu**	**0.66**	**328**	*e*Pg	Pg	22 58 29.6	-0.6
MTLF	**Montolieu**	**0.66**	**328**	*e*Pn	Pn	22 58 32.0	-0.9
MTLF				*e*Sg	Sg	22 58 38.7	-0.2
MTLF				*e*Sn	Sg	22 58 42.6	+3.7
	25nm,0.2s						
MTLF	**Montolieu**	**0.66**	**328**	Pg	Pg	22 58 29.6	-0.6
MTLF				Lg		22 58 38.7	
MTLF	**Montolieu**	**0.66**	**328**	*e*Pn	Pn	22 58 32.0	-0.9
MTLF				*e*Sg	Sg	22 58 38.7	-0.2
MTLF				*e*Sn	Sg	22 58 42.6	+3.7
CFON	**Fontmartina**	**1.04**	**191**	Pg	Pg	22 58 37.1	-0.3
CFON				Lg		22 58 51.5	
	10nm,0.3s						
CORG	**Organya**	**1.16**	**242**	Pg	Pg	22 58 38.6	-1.1
CORG				Lg		22 58 54.3	
	0.7nm,0.1s						
CSOR	**Sort**	**1.22**	**251**	Pg	Pg	22 58 40.0	-0.9
EMIR	**Miracle**	**1.23**	**225**	Pg	Pg	22 58 40.3	-0.7
	0.6nm,0.1s,SNR=4.8						
EMIR				Lg		22 58 57.1	
	13nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.23**	**225**	Pg	Pg	22 58 40.3	-0.7
	0.6nm,0.1s,SNR=4.8						
LASF	**Ste Croix**	**1.55**	**33**	*e*Pn	Pn	22 58 43.2	-1.9
LASF	**Ste Croix**	**1.55**	**33**	*e*Pg	Pg	22 58 45.9	-1.3
LASF				*e*Sn	Sn	22 59 03.5	-1.7
LASF				*e*Sg	Sg	22 59 06.7	-0.5
	2.2nm,0.2s						
LASF	**Ste Croix**	**1.55**	**33**	Pn	Pn	22 58 43.2	-1.9
LASF				Pg	Pg	22 58 45.9	-1.3
LASF				Sn	Sn	22 59 03.5	-1.7
LASF				Lg		22 59 06.7	
	1.1nm,0.2s						
LASF	**Ste Croix**	**1.55**	**33**	*e*Pg	Pg	22 58 45.9	-1.3
LASF				*e*Sn	Sn	22 59 03.5	-1.7
LASF				*e*Sg	Sg	22 59 06.7	-0.5
CAVN	**Les Avellanes**	**1.70**	**239**	Pg	Pg	22 58 49.4	-0.6
CAVN				Lg		22 59 11.5	
	8.2nm,0.3s						
EPF	**Esparros**	**1.75**	**279**	*e*Pn	Pn	22 58 46.2	-1.6
EPF	**Esparros**	**1.75**	**279**	*e*Pg	Pg	22 58 48.8	-2.2
EPF				*e*Sg	Sg	22 59 12.1	-1.6
	3.8nm,0.3s						
EPF	**Esparros**	**1.75**	**279**	Pn	Pn	22 58 46.2	-1.6
EPF				Pg	Pg	22 58 48.8	-2.2
EPF				Lg		22 59 12.1	
	1.9nm,0.3s						
EPF	**Esparros**	**1.75**	**279**	*e*Pg	Pg	22 58 48.8	-2.2
EPF				*e*Sg	Sg	22 59 12.1	-1.6
EGRA	**Graus**	**1.85**	**252**	Pg	Pg	22 58 52.4	-0.6
	0.1nm,0.1s,SNR=5.8						
EGRA				Lg		22 59 18.1	
	2.0nm,0.2s						
EPOB	**Poblet**	**1.87**	**221**	Pg	Pg	22 58 51.4	-1.9
	0.6nm,0.1s,SNR=7.8						
EPOB				Lg		22 59 15.6	
	7.7nm,0.3s						
EPOB	**Poblet**	**1.87**	**221**	Pg	Pg	22 58 51.4	-1.9
	0.6nm,0.1s,SNR=7.8						
EBIE	**Bielsa**	**1.88**	**268**	Pg	Pg	22 58 52.3	-1.3
	0.3nm,0.2s,SNR=7.9						
EBIE				Lg		22 59 17.5	
	3.0nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**1.88**	**268**	Pg	Pg	22 58 52.3	-1.3
	SNR=7.9						
CAF	**Calviac**	**2.19**	**348**	*e*Pn	Pn	22 58 52.6	-1.3
CAF	**Calviac**	**2.19**	**348**	*e*Pg	Pg	22 58 57.8	-1.7
CAF				*e*Sg	Sg	22 59 26.8	-1.1
	4.2nm,0.3s						
CAF	**Calviac**	**2.19**	**348**	Pn	Pn	22 58 52.6	-1.3
CAF				Pg	Pg	22 58 57.8	-1.7
CAF				Lg		22 59 26.8	
	2.1nm,0.3s						
CAF	**Calviac**	**2.19**	**348**	*e*Pg	Pg	22 58 57.8	-1.7
CAF				*e*Sg	Sg	22 59 26.8	-1.1
ETSF	**Etsaut**	**2.40**	**274**	*e*Pg	Pg	22 59 00.5	-2.9
ETSF				*e*Sg	Sg	22 59 30.4	-4.0
	3.6nm,0.4s						
ETSF	**Etsaut**	**2.40**	**274**	Pg	Pg	22 59 00.5	-2.9
ETSF				Lg		22 59 30.4	
	1.8nm,0.4s						
VIVF	**Saint-Julien-l**	**2.52**	**34**	*e*Pn	Pn	22 58 57.1	-1.4
VIVF	**Saint-Julien-l**	**2.52**	**34**	*e*Pg	Pg	22 59 04.3	-1.5
VIVF				*e*Sg	Sg	22 59 36.7	-1.8
	1.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.52**	**34**	Pn	Pn	22 58 57.1	-1.4
VIVF				Pg	Pg	22 59 04.3	-1.5
VIVF				Lg		22 59 36.7	
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**2.52**	**34**	*e*Pg	Pg	22 59 04.3	-1.5
VIVF				*e*Sg	Sg	22 59 36.7	-1.8
ERTA	**Horta de San J**	**2.54**	**225**	Pg	Pg	22 59 05.4	-0.7
	0.2nm,0.1s,SNR=7.9						
ERTA				Lg		22 59 36.5	
	3.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.54**	**225**	Pg	Pg	22 59 05.4	-0.7
	0.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**2.58**	**247**	Pg	Pg	22 59 05.1	-1.7
	0.1nm,0.1s,SNR=7.9						
ESAC				Lg		22 59 39.0	
	9.3nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**2.58**	**247**	Pg	Pg	22 59 05.1	-1.8
	0.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.58**	**327**	*e*Pn	Pn	22 58 57.4	-1.9
LFF	**La Frestale**	**2.58**	**327**	*e*Pg	Pg	22 59 05.4	-1.5
LFF				*e*Sg	Sg	22 59 39.2	-1.1
	3.3nm,0.3s						
LFF	**La Frestale**	**2.58**	**327**	Pn	Pn	22 58 57.4	-1.9
LFF				Pg	Pg	22 59 05.4	-1.5
LFF				Lg		22 59 39.2	
	1.6nm,0.3s						
LFF	**La Frestale**	**2.58**	**327**	*e*Pg	Pg	22 59 05.4	-1.5
LFF				*e*Sg	Sg	22 59 39.2	-1.1
RJF	**Les Rejaudoux**	**2.66**	**342**	*e*Pg	Pg	22 59 06.5	-2.0
RJF				*e*Sg	Sg	22 59 41.1	-1.9
	3.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.66**	**342**	Pg	Pg	22 59 06.5	-2.0
RJF				Lg		22 59 41.1	
	1.5nm,0.2s						
EMOS	**Mosqueruela**	**3.39**	**226**	Lg		23 00 04.7	
	1.3nm,0.3s,SNR=7.9						

*IDC **07** 22:58:36.5±1.9, 4454N×3449E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.3/23, mbtmp3.3/5, ML3.2/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=21.6km s-min=16.5km az=81.0*
*CSEM **07** 22:58:37.9±0.2, 4455N×3435E, h20km, mb3.4, Error ellipse: s-maj=5.1km s-min=4.7km az=26.0*
*MOS **07** 22:58:37.3±1.4, 4448N×3435E, h14km, mb3.4/1, Error ellipse: s-maj=15.9km s-min=10.9km az=126.9*
*ISCJB **07** 22:58:38.9±1.0, 4452N±006×3437E±006, h29km±9km, mb3.1/1, MS3.2/2, Error ellipse: s-maj=9.3km s-min=7.2km az=6.8*
*NEIC **07** 22:58:38.0±0.9, 4453N×3444E, h10km, Error ellipse: s-maj=13.9km s-min=8.6km az=77.0*
ISC 07 22:58:40.1±1.2, 4457N±005×3442E±006, h24km±10km, n27, σ0§96/34, mb3.1/1, MS3.2/2, 4C-7D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIM	**Simferopol'**	**0.44**	**331**	*e*P	**Pb**	**22 58 48.6**	**-0.6**
	106nm,0.7s						
SIM				*e*S	**Sb**	**22 58 56.3**	**+0.9**
SIM	**Simferopol'**	**0.44**	**331**	*c e*P	**Pb**	**22 58 48.6**	**-0.6**
SIM				*e*S	**Sb**	**22 58 55.9**	**+0.5**
SIM				*e*S	**Sb**	**22 58 56.3**	**+0.9**
SIM				pmax	pmax		
	comp=Z,106nm,0.7s						
ANN	**Anapa**	**2.16**	**83**	*i* P	**Pn**	**22 59 14.9**	**+0.3**
	comp=Z,5.0nm,0.2s						
ANN				*e*S	**Sn**	**22 59 41.2**	**+0.6**
	comp=Z,64nm,0.2s						
ANN	**Anapa**	**2.16**	**83**	⇑*i* P	**Pn**	**22 59 14.9**	**+0.3**
ANN				*e*		22 59 41.2	
ANN				pmax	pmax		
	comp=Z,5.0nm,0.2s						
ANN				smax			
	comp=N,64nm,0.2s						
TIRR	**Tirgusor**	**4.30**	**271**	⇓P	**Pn**	**22 59 42.8**	**-1.1**
TIRR	**Tirgusor**	**4.30**	**271**	*e*P	**Pn**	**22 59 42.7**	**-1.2**
TIRR	**Tirgusor**	**4.30**	**271**	*e*Pn	**Pn**	**22 59 42.7**	**-1.2**
CFR	**Carcaliu**	**4.51**	**280**	⇑P	**Pn**	**22 59 46.2**	**-0.6**
CFR	**Carcaliu**	**4.51**	**280**	⇑P	**Pn**	**22 59 46.1**	**-0.6**
KIS	**Kishinev**	**4.61**	**304**	*e*P	**Pn**	**22 59 52.0**	**+3.8**
KIS				*e*		23 00 42.0	
HARR	**Harsova**	**4.63**	**274**	⇓P	**Pn**	**22 59 48.0**	**-0.5**
HARR	**Harsova**	**4.63**	**274**	⇓P	**Pn**	**22 59 48.0**	**-0.5**
BR131	**Keskin Array S**	**4.87**	**187**	*e*Pn	**Pn**	**22 59 51.6**	**-0.2**
BR131				*e*Sn	**Sn**	**23 00 47.4**	**-0.1**
BR131	**Keskin Array S**	**4.87**	**187**	*e*Pn	**Pn**	**22 59 51.6**	**-0.2**
BR131				*e*Sn	**Sn**	**23 00 47.4**	**-0.1**
BRTR	**Keskin Array B**	**4.88**	**187**	Pn	**Pn**	**22 59 50.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=355,slow=11,SNR=7.6						
BRTR				Sn	**Sn**	**23 00 47.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=49,slow=22,SNR=3.2						
MLR	**Muntele Rosu**	**6.08**	**282**	Pn	**Pn**	**23 00 08.9**	**+0.6**
	comp=N,0.5nm,0.3s,baz=86,slow=15,SNR=7.3						
MLR				Sn	**Sn**	**23 01 19.7**	**+2.6**
	comp=N,0.7nm,0.3s,baz=196,slow=21,SNR=5.6						
MLR	**Muntele Rosu**	**6.08**	**282**	⇓P	**Pn**	**23 00 09.5**	**+1.2**
MLR	**Muntele Rosu**	**6.08**	**282**	P	**Pn**	**23 00 08.9**	**+0.6**
MLR						23 01 19.7	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**6.08**	**282**	⇓P	**Pn**	**23 00 09.5**	**+1.1**
VOIR		**6.70**	**281**	⇓P	**Pn**	**23 00 17.7**	**+0.8**
VOIR		**6.70**	**281**	⇓P	**Pn**	**23 00 17.7**	**+0.8**
AKASG	**Malin Array Be**	**7.07**	**332**	Pn	**Pn**	**23 00 21.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=154,slow=10,SNR=4.1						
AKASG				Sn	**Sn**	**23 01 39.6**	**-1.9**
	comp=Z,2.1nm,0.3s,baz=142,slow=24,SNR=6.9						
AKASG				Lg		23 02 21.4	
	comp=Z,1.9nm,0.3s,baz=148,slow=29,SNR=4.6						
AKASG	**Malin Array Be**	**7.07**	**332**	P	**Pn**	**23 00 21.8**	**-0.2**
AKASG						23 01 39.6	
FINES	**FINESS Array B**	**17.61**	**347**	P	**Pn**	**23 02 43.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=2.2						
NOA	**NORSAR Array B**	**21.46**	**328**	LR	LR	23 12 43.4	
	comp=Z,15nm,20.4s,MS2.4,baz=115,slow=39						
YKA	**Yellowknife Ar**	**70.44**	**345**	P	**P**	**23 09 52.6**	**+0.3**
	comp=Z,0.1nm,0.4s,mb3.1,baz=18,slow=6.5,SNR=4.0						
ASAJ	**Asahikawa**	**71.06**	**46**	LR	LR	23 45 51.2	
	comp=Z,65nm,18.2s,MS3.9,baz=7.9,slow=40						

*ISCJB **07** 23:06:42.0±3.1, 389N±03×694E±01, h10km, Error ellipse: s-maj=38.5km s-min=14.8km az=174.1*
*NNC **07** 23:06:43.1±4.7, 3882N×6946E, h9km±11km, mb3.7, mpv3.4, Error ellipse: s-maj=42.2km s-min=12.3km az=174.0*
ISC 07 23:06:43.1±3.0, 388N±03×694E±01, h10km, n10, σ0§59/11, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.42**	**11**	⇓Pn	**Pn**	**23 07 50.7**	**+0.5**
	1.8nm,0.4s,baz=195,slow=15,SNR=35						
KK31				⇑Lg		23 09 01.4	
	4.3nm,0.4s,baz=204,slow=32,SNR=4.8						
AML	**Almayashu**	**4.70**	**43**	P	**Pn**	**23 07 53.5**	**-0.5**
	SNR=20						
UCH	**Uchtor**	**5.21**	**47**	P	**Pn**	**23 08 01.6**	**+0.4**
	SNR=6.1						
AAK	**Ala-Archa**	**5.47**	**43**	P	**Pn**	**23 08 04.8**	**+0.1**
	SNR=6.4						
KZA	**Kyzart**	**5.56**	**52**	P	**Pn**	**23 08 06.0**	**0.0**
	SNR=8.5						
KBK	**Karagaybulak**	**5.74**	**46**	P	**Pn**	**23 08 09.6**	**+1.2**
	SNR=5.0						
USP	**Ospenovka**	**5.93**	**39**	P	**Pn**	**23 08 10.0**	**-1.0**
	SNR=9.5						
TKM2	**Tokmak 2**	**6.27**	**47**	P	**Pn**	**23 08 15.3**	**-0.4**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.27**	**47**	⇑Pn	**Pn**	**23 08 15.0**	**-0.7**
	1.9nm,0.4s						
TKM2				⇑Sn	**Sn**	**23 09 27.4**	**0.0**
	5.2nm,0.6s						
AB31	**Akbulak array**	**12.49**	**330**	⇑Pn	**Pn**	**23 09 40.7**	**-0.1**
	0.7nm,0.4s,baz=149,slow=14,SNR=28						

*ISCJB **07** 23:23:56.7±1.8, 4161N±008×75.10E±010, h10km, Error ellipse: s-maj=12.9km s-min=9.1km az=106.8*
*KNET **07** 23:23:57.9±0.4, 4172N×7506E, h13km±1km, ml1.6, Error ellipse: s-maj=2.1km s-min=1.4km az=176.0*
*NNC **07** 23:23:58.8±1.3, 4177N×7503E, h0km, mb1.9, mpv1.9, Error ellipse: s-maj=13.2km s-min=4.7km az=163.0*
ISC 07 23:23:56.2±1.7, 4159N±007×7506E±009, h10km, n9, σ0§95/16, 15C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.51**	**16**	⇑P	**Pg**	**23 24 05.7**	**-0.5**
	7.6nm,0.1s,SNR=42						
KZA				⇑S	**Sg**	**23 24 12.1**	**-0.7**
	52nm,0.2s						
UCH	**Uchtor**	**0.76**	**328**	⇑P	**Pg**	**23 24 10.7**	**-0.1**
	7.5nm,0.2s,SNR=18						
UCH				⇑S	**Sg**	**23 24 21.0**	**+0.4**
	45nm,0.2s						
KBK	**Karagaybulak**	**1.07**	**356**	⇑P	**Pg**	**23 24 16.3**	**-0.5**
	12nm,0.1s,SNR=62						
KBK				⇑S	**Sg**	**23 24 30.6**	**-0.1**
	24nm,0.1s						
AAK	**Ala-Archa**	**1.12**	**338**	⇓P	**Pb**	**23 24 17.4**	**-0.3**
	3.7nm,0.1s,SNR=9.3						
AAK				⇑S	**Sb**	**23 24 32.0**	**-0.4**
	10.0nm,0.2s						
AML	**Almayashu**	**1.15**	**298**	⇑P	**Pb**	**23 24 18.7**	**+0.4**
	3.7nm,0.1s,SNR=15						
TKM2	**Tokmak 2**	**1.39**	**17**	⇓P	**Pn**	**23 24 22.0**	**+0.4**
	2.7nm,0.1s,SNR=14						
TKM2				⇑S	**Sb**	**23 24 40.3**	**+0.3**
	20nm,0.1s						
TKM2	**Tokmak 2**	**1.39**	**17**	⇑P	**Pn**	**23 24 22.0**	**+0.3**
	0.4nm,0.3s						
TKM2				⇑S	**Sb**	**23 24 39.2**	**-0.9**
	1.0nm,0.1s						
USP	**Ospenovka**	**1.73**	**346**	⇑P	**Pn**	**23 24 28.2**	**+1.9**
	7.3nm,0.2s,SNR=6.0						
USP				⇑S	**Sn**	**23 24 50.4**	**+2.1**
	15nm,0.3s						
KK31	**Karatay Array**	**3.69**	**296**	⇑Pg	**Pg**	**23 25 05.0**	**-1.9**
	0.1nm,0.3s,baz=118,slow=16,SNR=6.2						
KK31				⇑Lg		23 25 51.6	
	0.8nm,0.4s,baz=109,slow=28,SNR=8.8						

BJI 07 23:38:42.9, 4121N×9766E, h18km, ML3.7, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.44**	**137**	P	Pn	23 39 23.2	+1.4
GTA				PG	Pg	23 39 25.4	-4.3
GTA				SG	Sg	23 39 56.5	-4.8
GTA				Smax			
	comp=N,236nm,0.7s						
GTA				Smax			
	comp=E,237nm,0.7s						

PGC 07 23:58:46.1, 6621N×14174W, h1km, ML2.6/2, Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.37**	**154**	Pn	Pn	23 59 24.8	-1.3
DAWY				Sn	Sn	23 59 55.0	-0.9
DAWY				Sg	Sg	00 00 00.5	-1.9
DAWY				Trac		00 00 02.4	
	comp=Z,10.0nm,0.1s						
INK	**Inuvik**	**3.82**	**53**	Pn	Pn	23 59 45.4	-0.7
INK				Sn	Sn	00 00 30.0	-1.7
INK				Sg	Sg	00 00 44.4	-4.6
INK				Trac		00 00 50.2	
	comp=Z,10.0nm,0.6s						
HYT	**Haines Junctio**	**5.73**	**159**	Pn	Pn	00 00 11.4	-0.9
HYT				Sg	Sg	00 01 44.3	-5.8
HYT				Trac		00 01 54.4	
	comp=Z,9.0nm,0.9s						
YKW3	**Yellowknife Ar**	**12.23**	**95**	P	Pn	00 01 38.4	-3.1
YKW3				Sn	Sn	00 03 50.7	-7.8
YKW3				Trac		00 04 55.7	

*IDC **08** 00:13:23.5±0.6, 782N×12536E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/20, mbtmp4.4/12, MS3.9/14, Ms1 3.9/14, ms1mx3.7/28, Error ellipse: s-maj=30.9km s-min=15.5km az=74.0*
*ISCJB **08** 00:13:24.5±1.0, 778N±002×125.18E±003, h15km±6km, mb4.7/58, MS4.1/19, Error ellipse: s-maj=5.2km s-min=4.0km az=147.7*
*MAN **08** 00:13:26.6, 796N×12500E, h4km, mb4.5, ML5.3, MS4.0*
MAN F INTENSITY III - MALAYBALAY POBLACION VALENCIA MALAYBALAY MAGPET COTABATO INTENSITY II - DAVAO CITY KIDAPAWAN CITY ROXAS & ANTIPAS COTABATO.
*BJI **08** 00:13:26.2, 806N×12536E, h15km, mB5.1, mb4.8, Ms4.5, Msz4.1*
*MOS **08** 00:13:27.8±0.9, 788N×12520E, h39km, mb4.9/26, Error ellipse: s-maj=14.6km s-min=7.3km az=115.7*
*NEIC **08** 00:13:28.5±0.3, 780N×12520E, h35km, mb4.8/24, Error ellipse: s-maj=7.7km s-min=6.0km az=60.0*
NEIC Felt [III PIVS] at Magpet, Malaybalay and Valencia; [II PIVS] at Davao and Kidapawan.
*NAO **08** 00:13:34.7, 879N×12516E, h33km, mb4.9*
ISC 08 00:13:25.8±0.5, 780N±002×12514E±003, h10km±3km, h27km±1.7km: pP-P, n138, σ1§16/154, mb4.7/58, MS4.1/19, 12C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.11**	**317**	*e*P	**Pg**	**00 13 28.6**	**+0.1**
BUKP				*e*S	**Sg**	**00 13 31.3**	**+0.8**
KCP	**Kidapawan**	**0.78**	**184**	⇑*i* P	**Pg**	**00 13 41.1**	**+0.2**
KCP				*i* S	**Sg**	**00 13 52.6**	**+1.4**
CGP	**Cagayan de Oro**	**0.79**	**326**	⇓*i* P	**Pg**	**00 13 39.2**	**-1.7**
CGP				*i* S	**Sg**	**00 13 48.4**	**-2.9**
CTBH	**Cotabato--PC H**	**1.05**	**237**	⇑*i* P	**Pg**	**00 13 44.6**	**-1.4**
CTBH				*i* S	**Sg**	**00 13 59.1**	**-0.7**
BUTP	**Butuan**	**1.26**	**22**	*e*P	**Pn**	**00 13 50.0**	**+0.6**
BUTP				*e*S	**Sb**	**00 14 11.1**	**+5.3**
BIPH	**Bislig**	**1.27**	**72**	⇑*i* P	**Pn**	**00 13 49.9**	**+0.3**
BIPH				*i* S	**Sb**	**00 14 08.4**	**+2.3**
PAGZ	**Pagadian**	**1.74**	**272**	*e*P	**Pn**	**00 13 55.9**	**-0.1**
PAGZ				*e*S	**Sn**	**00 14 19.5**	**+1.2**
DCPH	**Dipolog City**	**1.94**	**294**	⇓*i* P	**Pn**	**00 13 57.1**	**-1.6**
SCPH	**Surigao**	**2.00**	**10**	⇓*e*P	**Pn**	**00 13 58.2**	**-1.4**
TBP	**Tagbilaran**	**2.27**	**326**	*e*P	**Pn**	**00 14 01.5**	**-1.8**
TBP				*e*S	**Sn**	**00 14 28.7**	**-2.6**
MSLP	**Maasin**	**2.34**	**353**	*e*P	**Pn**	**00 14 04.2**	**0.0**
MSLP				*e*S	**Sn**	**00 14 34.4**	**+1.4**
SNPH	**Sibulan**	**2.43**	**309**	*i* P	**Pn**	**00 14 06.0**	**+0.5**
IPIL	**Ipil**	**2.55**	**270**	*e*P	**Pn**	**

SSE AP 00 18 44.2
SSE XP sP 00 18 47.6 +7.7
SSE S **S** **00 22 45.9 -2.9**
SSE AMB AMB
comp=Z,17nm,0.8s,mb4.5
SSE AMB AMB
comp=Z,113nm,3.6s
SSE LR LR
comp=N,62nm,26.1s,MS3.6
SSE LR LR
comp=E,285nm,26.0s,MS3.6
SSE LR LR
comp=Z,204nm,21.3s,MS3.6
KULM Kulim 24.46 266 P **P** **00 18 38.9 -5.8**
FITZ Fitzroy Crossi 25.74 179 *eP* **P** **00 18 56.1 -0.3**
comp=Z,50nm,0.7s,mb5.2
PSI Prapat 26.56 261 P **P** **00 19 05.2 +1.4**
comp=Z,12nm,0.9s,mb4.4,baz=102,slow=9.3,SNR=6.4
PSI LR LR 00 29 05.5
comp=Z,191nm,21.7s,MS3.6,baz=242,slow=35
PSI Prapat 26.56 261 P **P** **00 19 05.2 +1.4**
PSI LR LR 00 29 05.5
ENH Enshi 26.74 329 *eP* **P** **00 19 04.7 -0.8**
comp=Z,21nm,1.0s,mb4.6
KMI Kunming 27.46 311 P **P** **00 19 13.5 +1.6**
KMI AP pP 00 19 21.3 +6.3
KMI XP sP 00 19 25.5 +9.2
KMI PP 00 20 00.7
KMI S **S** **00 23 51.5 -0.9**
KMI XS sS 00 24 05.2 +7.7
KMI SS 00 25 09.6
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.4
KMI AMB AMB
comp=Z,95nm,3.1s
KMI LR LR
comp=N,280nm,17.7s,MS4.0
KMI LR LR
comp=E,235nm,15.9s,MS4.0
KMI LR LR
comp=Z,254nm,24.8s
WRAB Tennant Creek 29.01 162 *eP* **P** **00 19 28.4 +2.7**
WRAB Tennant Creek 29.01 162 *eP* **P** **00 19 25.2 -0.5**
comp=Z,12nm,0.6s,mb4.8
WRA Warramunga Arr 29.01 162 P **P** **00 19 24.0 -1.7**
comp=Z,4.9nm,0.8s,mb4.3,baz=339,slow=10.0,SNR=14
WRA Warramunga Arr 29.01 162 *i P* **P** **00 19 27.7 +2.0**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 29.02 162 *eP* **P** **00 19 24.9 -0.9**
MBWA Marble Bar 29.26 190 *eP* **P** **00 19 27.3 -0.7**
comp=Z,5.4nm,0.6s,mb4.5
XAN Xi'an 30.10 332 P **P** **00 19 36.4 +1.0**
XAN AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
CD2 Chengdu 30.47 322 *eP* **P** **00 19 41.2 +2.6**
CD2 AP pP 00 19 48.5 +6.8
CD2 XP sP 00 19 51.8 +8.8
CD2 PP PP 00 20 41.8 -5.5
CD2 S **S** **00 24 40.6 +0.9**
CD2 XS sS 00 24 52.7 +7.9
CD2 SS SS 00 26 22.3 -27
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,90nm,4.5s
CD2 LR LR
comp=N,360nm,22.8s
CD2 LR LR
comp=Z,180nm,19.2s,MS3.7
ASPA Alice Springs 32.42 165 *eP* **P** **00 19 59.1 +3.3**
BJT Baijiatuau 33.07 347 *eP* **P** **00 20 00.9 -0.6**
BJT pmax pmax
comp=Z,27nm,1.1s
BJT Baijiatuau 33.07 347 *eP* **P** **00 20 00.9 -0.6**
comp=Z,27nm,1.1s,mb5.1
LZH Lanzhou 34.22 328 *eP* **P** **00 20 09.6 -1.9**
LZH AP pP 00 20 18.3 +3.6
LZH XP sP 00 20 23.0 +7.0
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,80nm,5.0s
LZH LR LR
comp=E,503nm,14.6s
LZH LR LR
comp=Z,890nm,15.9s,MS4.6
CTA Charters Tower 34.63 143 *eP* **P** **00 20 16.0 +0.9**
comp=Z,8.7nm,1.0s,mb4.6
CTAO Charters Tower 34.63 143 *eP* **P** **00 20 15.6 +0.5**
CTAO pmax pmax
comp=Z,16nm,1.0s,mb4.9
CTAO Charters Tower 34.63 143 *eP* **P** **00 20 15.6 +0.5**
comp=Z,16nm,1.0s,mb4.9
HHC Hu-ho-hao-te 35.07 342⇑ *eP* **P** **00 20 23.7 +4.9**
HHC PCP PcP 00 22 49.4 -1.2
HHC S **S** **00 25 56.4 +5.2**
HHC SCP ScP 00 26 32.3 -3.9
HHC PCS PcS 00 26 33.5 -3.9
HHC SCS ScS 00 30 33.3 -6.6
HHC AMB AMB
comp=Z,79nm,3.8s
HHC LR LR
comp=N,233nm,15.6s,MS4.3
HHC LR LR
comp=E,408nm,19.2s,MS4.3
HHC LR LR
comp=Z,261nm,20.4s,MS4.0
CN2 Changchun 35.86 0 *eP* **P** **00 20 28.5 +2.8**
CN2 *e*XP sP 00 20 39.2 +9.1
CN2 *e*S **S** **00 26 05.1 +1.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,19.0s,MS4.6
CN2 LR LR
comp=E,600nm,19.0s,MS4.6
CN2 LR LR
comp=Z,200nm,22.0s,MS3.8
SHL Shillong 36.27 303 *eP* **P** **00 20 30.0 +0.8**
MDJ Mudanjiang 36.88 5 P **P** **00 20 37.0 +2.6**
MDJ AP pP 00 20 42.6 +5.1
MDJ PP PP 00 22 00.6 +2.2
MDJ S **S** **00 26 22.9 +3.9**
MDJ AMB AMB
comp=Z,25nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,99nm,3.2s
MDJ LR LR
comp=E,185nm,22.0s
MDJ LR LR
comp=Z,128nm,33.0s
LSA Lhasa 38.62 309 *eP* **P** **00 20 49.6 +0.5**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LSA Lhasa 38.62 309 *eP* **P** **00 20 49.6 +0.4**
comp=Z,7.4nm,0.8s,mb4.5
HNR Honiara 38.67 116 *eP* **P** **00 20 48.7 -0.8**
GTA Gaotai 38.82 328 *eP* **P** **00 20 51.5 +0.7**
GTA AP pP 00 20 59.0 +5.0
GTA XP sP 00 21 02.1 +6.9
GTA PCP PcP 00 23 02.2 +0.3
GTA SCP ScP 00 26 47.9 -2.2
GTA S **S** **00 26 49.0 +0.6**
GTA PCS PcS 00 26 50.0 -1.3
GTA XS sS 00 27 00.9 +7.3
GTA SS SS 00 29 32.5 -6.9
GTA SCS ScS 00 30 57.4 -3.6
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,95nm,5.3s
GTA LR LR
comp=N,358nm,21.0s
GTA LR LR
comp=E,237nm,15.7s
GTA LR LR
comp=Z,321nm,19.1s,MS4.2
KLBR Kellerberrin 39.80 190 *eP* **P** **00 20 58.2 -0.7**
comp=Z,56nm,1.3s,mb5.1
NWAO Narrogin (SRO) 41.19 190 P **P** **00 21 10.6 +0.1**
comp=Z,11nm,0.8s,mb4.6,baz=8.3,slow=3.2,SNR=4.1
NWAO LR LR 00 37 02.8
comp=Z,99nm,20.6s,MS3.7,baz=26,slow=34
KLR Kul'dur 41.67 7 *eP* **P** **00 21 10.3 -4.1**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,56nm,1.8s,mb4.9
JIRN Jiri 41.78 303 *eP* **P** **00 21 15.7 +0.4**
comp=Z,51nm,1.0s,mb5.1
GUN Gumba 42.12 303 *eP* **P** **00 21 18.1 0.0**
comp=Z,50nm,1.0s,mb5.1
PKI Pulchoki 42.40 303 *eP* **P** **00 21 20.6 +0.3**
comp=Z,17nm,0.9s,mb4.7
PKI Pulchoki 42.40 303 *eP* **P** **00 21 20.6 +0.3**
PKI pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
STKA Stephens Creek 42.47 159 *eP* **P** **00 21 18.9 -2.0**
comp=Z,11nm,0.8s,mb4.5
STKA Stephens Creek 42.47 159 P **P** **00 21 19.1 -1.8**
comp=Z,13nm,0.8s,mb4.6,baz=342,slow=7.3,SNR=13
KKN Kakani 42.58 303 *eP* **P** **00 21 22.1 +0.3**
comp=Z,25nm,1.0s,mb4.9
KKN Kakani 42.58 303 *eP* **P** **00 21 22.1 +0.3**
KKN pmax pmax
comp=Z,13nm,1.0s,mb4.6
DMN Daman 42.66 303 *eP* **P** **00 21 23.0 +0.5**
comp=Z,27nm,0.9s,mb5.0
ULN Ulaanbaatar 42.79 342⇑ *eP* **P** **00 21 23.7 +0.2**
ULN Ulaanbaatar 42.79 342 *eP* **P** **00 21 22.8 -0.7**
comp=Z,5.8nm,0.9s,mb4.3
SONM Songino Array 42.96 341 P **P** **00 21 22.9 -2.0**
comp=Z,1.2nm,1.0s,mb3.6,baz=163,slow=7.8,SNR=7.4
SONM LR LR 00 40 31.0
comp=Z,185nm,20.2s,MS4.0,baz=132,slow=38
GKN Gorkha 43.19 303 *eP* **P** **00 21 26.7 0.0**
KOLN Koldanda 43.97 302 *eP* **P** **00 21 33.3 +0.2**
comp=Z,36nm,0.9s,mb5.1
PALK Pallekele 44.04 272 *eP* **P** **00 21 32.8 -0.8**
ZAK Zakamensk 46.19 341 *eP* **P** **00 21 51.7 +1.0**
ZAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.2
HYB Hyderabad 46.35 287 *i P* **P** **00 21 52.0 0.0**
HYB Hyderabad 46.35 287 *eP* **P** **00 21 52.0 0.0**
MOY Mondy 48.04 340 *eP* **P** **00 22 05.2 0.0**
WMQ Urumqi 48.52 324 P **P** **00 22 10.0 +1.2**
WMQ XP sP 00 22 21.0 +7.7
WMQ PP PP 00 24 02.0 +0.5
WMQ SCP ScP 00 27 30.0 +0.5
WMQ S **S** **00 29 09.0 -1.0**
WMQ SS SS 00 32 34.0 -5.8
WMQ AMB AMB
comp=Z,15nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,126nm,5.0s
WMQ LR LR
comp=N,386nm,11.0s,MS4.7
WMQ LR LR
comp=E,184nm,11.0s,MS4.7
WMQ LR LR
comp=Z,262nm,11.0s,MS4.5
BOD Bodaibo 50.64 352 *eP* **P** **00 22 23.4 -1.6**
PET Petropavlovsk 52.67 25 *eP* **P** **00 22 39.5 -0.7**
PET pmax pmax
comp=Z,39nm,1.4s,mb5.1
PET Petropavlovsk 52.67 25 P **P** **00 22 39.1 -1.1**
MK31 Makanchi Array 53.34 324 *i P* **P** **00 22 45.1 0.0**
MK31 pmax pmax
comp=Z,16nm,0.8s,mb5.0
MKAR Makanchi Array 53.34 324 P **P** **00 22 45.4 +0.2**
comp=Z,8.6nm,0.8s,mb4.7,baz=123,slow=7.5,SNR=45
MKAR LR LR 00 45 09.9
comp=Z,112nm,19.4s,MS3.9,baz=287,slow=36
MKAR Makanchi Array 53.34 324 *i P* **P** **00 22 45.1 0.0**
MKAR pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 54.23 3 *eP* **P** **00 22 50.5 -1.1**
YAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.6s
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=Z,25nm,1.4s,mb5.0
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 54.23 3 P **P** **00 22 50.4 -1.3**
MA2 Magadan 55.20 16 *eP* **P** **00 22 57.3 -1.4**
MA2 pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
MA2 Magadan 55.20 16 *eP* **P** **00 22 57.3 -1.4**
comp=Z,2.6nm,0.3s,mb4.7
ZAL Zalesovo 56.27 333 LR LR 00 49 19.5
comp=Z,153nm,18.8s,MS4.1,baz=339,slow=38
AAK Ala-Archa 56.31 317⇑ *eP* **P** **00 23 07.3 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
AAK MLR MLR
comp=Z,200nm,21.0s,MS4.2
AAK Ala-Archa 56.31 317 *eP* **P** **00 23 06.7 +0.1**
comp=Z,12nm,1.4s,mb4.8
KURK Kurchatov 57.49 327⇑ *eP* **P** **00 23 15.6 +0.6**
KURK Kurchatov 57.49 327 *eP* **P** **00 23 14.0 -1.0**
comp=Z,23nm,0.9s,mb5.2
NVS Novosibirsk 57.55 333 *eP* **P** **00 23 14.6 -0.9**
NVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.2s
SEY Seymchan 58.48 14 *eP* **P** **00 23 22.3 +0.4**
SEY pmax pmax
comp=Z,11nm,1.2s,mb4.8
KK31 Karatay Array 59.21 316 *i P* **P** **00 23 27.0 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KKAR Karatay Array 59.21 316 *i P* **P** **00 23 27.0 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BVA0 Borovoye Array 63.07 326 *i P* **P** **00 23 55.1 +1.9**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.2
BVAR Borovoye Array 63.07 326 P **P** **00 23 53.5 +0.3**
comp=Z,3.0nm,0.9s,mb4.4,baz=121,slow=8.6,SNR=15
BRVK Borovoye 63.15 326 *eP* **P** **00 23 53.3 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.2s,mb4.9
BRVK Borovoye 63.15 326 *eP* **P** **00 23 53.3 -0.4**
comp=Z,12nm,1.2s,mb4.9
ZRNK Zerenda 63.81 326 *eP* **P** **00 23 58.5 +0.4**
ZRNK pmax pmax
comp=Z,12nm,1.0s,mb4.9
ZRNK Zerenda 63.81 326 *eP* **P** **00 23 58.5 +0.4**
comp=Z,12nm,1.0s,mb4.9
TIXI Tiksi 63.83 1⇑ *eP* **P** **00 23 57.4 -0.8**
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.1
BILL Bilibino 66.07 16⇓ *eP* **P** **00 24 11.8 -1.0**
BILL *e*S S 00 33 14.5 +14
BILL pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
BILL MLR MLR
comp=Z,2μm,23.0s,MS5.2
BILL Bilibino 66.07 16 *eP* **P** **00 24 10.9 -1.9**
comp=Z,6.2nm,0.9s,mb4.6
AB31 Akbulak array 68.03 320 *i P* **P** **00 24 25.6 +0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ARU Arti 70.68 327⇓ *i P* **P** **00 24 43.0 +1.3**
ARU *e* 00 27 23.8
ARU *e*PPP 00 29 07.3
ARU *e*S S 00 33 58.5 +2.7
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ARU Arti 70.68 327 *eP* **P** **00 24 41.4 -0.3**
comp=Z,9.0nm,0.9s,mb4.7
CASY Casey 74.65 186 P **P** **00 25 05.7 +0.4**
KIV Kislovodsk 79.21 313 *eP* **P** **00 25 39.2 +8.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,67nm,20.0s,MS4.0
IMA2 Indian Mountai 79.33 24 *eP* **P** **00 25 31.1 -0.6**
MCK McKinley 81.26 27 *eP* **P** **00 25 40.8 -1.2**
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MCK McKinley 81.26 27 *eP* **P** **00 25 40.8 -1.2**
comp=Z,7.7nm,1.1s,mb4.5
ILAR Eielson Array 82.14 26 P **P** **00 25 44.9 -1.8**
comp=Z,1.7nm,1.0s,mb3.9,baz=246,slow=5.0,SNR=10
FINES FINESS Array B 87.53 332 P **P** **00 26 13.6 -0.2**
comp=Z,2.8nm,1.1s,mb4.4,baz=90,slow=5.6,SNR=2.7
FINES LR LR 01 08 20.7
comp=Z,66nm,19.0s,MS4.1,baz=116,slow=38
VNDA Vanda 87.64 173 P **P** **00 26 14.2 -0.1**
comp=Z,1.8nm,0.8s,mb4.4,baz=161,slow=3.6,SNR=6.0
VNDA LR LR 01 01 50.7
comp=Z,135nm,19.1s,MS4.4,baz=85,slow=33
VNDA Vanda 87.64 173 *eP* **P** **00 26 16.1 +1.7**
comp=Z,1.4nm,0.6s,mb4.4
KMBO Kilima Mbogo 88.06 269 *eP* **P** **00 26 14.3 -2.0**
DAG Danmarks Havn 93.04 352⇑ *iP* **P** **00 26 43.4 +3.9**
comp=Z,2.1nm,0.7s,mb4.7
DAG Danmarks Havn 93.04 352⇑ *eP* **P** **00 26 43.4 +3.9**
DAG pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
DAG Danmarks Havn 93.04 352⇑ *eP* **P** **00 26 43.4 +3.9**
comp=Z,2.0nm,0.7s,mb4.7
NB2 NORSAR Subarra 94.47 333 P **P** **00 26 47.1 +1.0**
comp=Z,5.7nm,1.1s,mb4.9,baz=65,slow=4.6
NOA NORSAR Array B 94.47 333 P **P** **00 26 46.3 +0.2**
comp=Z,1.5nm,0.8s,mb4.5,baz=64,slow=4.7,SNR=4.3
NOA LR LR 01 12 48.7
comp=Z,96nm,18.1s,MS4.3,baz=55,slow=38
YKA Yellowknife Ar 96.46 24 P **P** **00 26 54.0 -1.2**
comp=Z,0.8nm,0.8s,mb4.2,baz=297,slow=4.6,SNR=13
YKA Yellowknife Ar 96.46 24⇑ *eP* **P** **00 26 54.2 -1.0**
YKA Yellowknife Ar 96.46 24 P **P** **00 26 54.0 -1.2**
TORD Torodi Ar. Bea 120.10 290 PKP PKPdf 00 32 19.6 +2.8
comp=Z,0.8nm,0.8s,baz=26,slow=2.0,SNR=4.2
TXAR Lajitas Array 120.28 50 PKP PKPdf 00 32 18.1 +1.0
comp=Z,0.3nm,0.6s,baz=296,slow=1.1,SNR=4.6
PLCA Paso Flores 144.34 159 PKP PKPdf 00 33 03.2 +1.1
comp=Z,3.4nm,0.8s,baz=226,slow=6.8,SNR=4.3
PLCA Paso Flores 144.34 159 PKP PKPdf 00 33 03.2 +1.1

IDC 08 00:38:26.0±2.9, 931S×11189E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.8/16, Error ellipse: s-maj=117.2km s-min=29.0km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**17.66**	**312**	LR	LR	00 49 42.1	
	comp=Z,68nm,19.6s,baz=263,slow=38						
WRA	**Warramunga Arr**	**24.12**	**118**	P	P	00 43 44.0	+0.6
	0.5nm,0.6s,baz=291,slow=11,SNR=7.5						
SONM	**Songino Array**	**57.10**	**356**	P	P	00 48 14.0	-0.2
	0.6nm,0.8s,baz=175,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**61.78**	**337**	P	P	00 48 46.6	+0.1
	0.8nm,0.5s,baz=152,slow=7.3,SNR=16						

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*ISCJB **08** 01:16:05.1±0.9, 30.1N±0.1×427W±02, h10km, mb3.8/10, MS3.2/3, Error ellipse: s-maj=21.3km s-min=19.3km az=0.4*

*IDC **08** 01:16:05.4±1.0, 30.10N×4265W, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, MS3.2/3, Ms1 3.2/3, ms1mx2.9/25, Error ellipse: s-maj=25.9km s-min=22.8km az=2.0*

ISC 08 01:16:07.2±0.9, 302N±01×426W±02, h10km, n11, σ0.9±50/10, mb3.8/10, MS3.2/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**30.12**	**332**	P	**P**	**01 22 17.1**	**0.0**
	4.0nm,0.8s,mb4.2,baz=105,slow=6.5,SNR=4.1						
SCHQ				LR	LR	01 32 28.4	
	comp=Z,6.4nm,21.0s,MS2.2,baz=236,slow=33						
SADO	**Sadowa**	**32.13**	**307**	LR	LR	01 33 52.9	
	comp=Z,75nm,18.8s,MS3.4,baz=244,slow=33						
TORD	**Torodi Ar. Bea**	**44.24**	**103**	P	**P**	**01 24 16.7**	**+0.1**
	0.5nm,0.9s,mb3.2,baz=284,slow=5.9,SNR=2.9						
NOA	**NORSAR Array B**	**46.72**	**33**	P	**P**	**01 24 37.1**	**+0.8**
	1.6nm,0.9s,mb4.0,baz=55,slow=5.4,SNR=3.6						
LPAZ	**La Paz**	**52.33**	**211**	P	**P**	**01 25 19.1**	**0.0**
	0.9nm,0.6s,mb3.9,baz=23,slow=8.7,SNR=5.8						
FINES	**FINESS Array B**	**53.86**	**34**	P	**P**	**01 25 30.5**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=207,slow=4.3,SNR=4.1						
PDAR	**Pinedale Array**	**53.96**	**303**	P	**P**	**01 25 31.9**	**+0.7**
	1.2nm,0.7s,mb4.0,baz=79,slow=8.0,SNR=13						
PDAR				LR	LR	01 46 20.3	
	comp=Z,99nm,20.1s,MS3.9,baz=243,slow=34						
ARCES	**ARCESS Array B**	**54.43**	**24**	P	**P**	**01 25 34.9**	**+0.3**
	2.7nm,0.9s,mb4.2,baz=288,slow=8.6,SNR=3.0						
YKA	**Yellowknife Ar**	**55.43**	**328**	P	**P**	**01 25 41.2**	**-0.6**
	0.4nm,0.8s,mb3.5,baz=89,slow=7.6,SNR=5.2						
AKASG	**Malin Array Be**	**56.12**	**47**	P	**P**	**01 25 45.9**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=278,slow=6.7,SNR=4.7						
ILAR	**Eielson Array**	**68.87**	**334**	P	**P**	**01 27 11.4**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=98,slow=3.2,SNR=4.8						

IDC 08 01:33:05.5±4.3, 050N×9781E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/14, Error ellipse: s-maj=167.3km s-min=31.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.16**	**122**	P	P	01 40 51.6	+0.2
	0.3nm,0.6s,baz=303,slow=9.2,SNR=3.5						
SONM	**Songino Array**	**47.73**	**8**	P	P	01 41 45.3	+1.3
	0.3nm,0.5s,baz=182,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**48.06**	**346**	P	P	01 41 46.3	-0.3
	0.3nm,0.5s,baz=163,slow=8.8,SNR=8.1						
ZAL	**Zalesovo**	**54.33**	**351**	P	P	01 42 33.0	-0.7
	0.7nm,0.3s,baz=300,slow=8.1,SNR=3.2						
ZAL				LR	LR	02 06 56.5	
	comp=Z,36nm,18.4s,baz=310,slow=37						

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*CSEM **08** 01:47:01.7±0.1, 3681N×474E, h10km, ML3.2, Error ellipse: s-maj=4.6km s-min=2.8km az=55.0*

*ISCJB **08** 01:47:02.5±1.5, 3688N±008×477E±007, h14km±13km, Error ellipse: s-maj=15.3km s-min=6.9km az=64.4*

*MDD **08** 01:47:03.1±0.6, 3683N×477E, h0km, mb3.5/6, Error ellipse: s-maj=7.5km s-min=5.1km az=29.0, PRXIMO MAGNITUD INDETERMINADA*

*CRAAG **08** 01:47:03.9, 3636N×462E, Ml3.2*

ISC 08 01:47:02.5±1.2, 3686N±010×478E±007, h4km±14km, n20, σ1.5±17/25, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKF	**Akfadou**	**0.28**	**218**	P	**Pg**	**01 47 07.8**	**-0.1**
SET	**Setif**	**0.82**	**143**	P	**Pg**	**01 47 18.0**	**-0.2**
DFRA	**Djebel Bou Aff**	**0.93**	**109**	P	**Pg**	**01 47 19.3**	**-1.1**
CKHR	**Kef el Ahmar**	**1.02**	**145**	P	**Pg**	**01 47 22.5**	**+0.4**
ABMS	**Boumerdes**	**1.05**	**265**	P	**Pg**	**01 47 22.0**	**-0.6**
ABA	**Alger-Bouzarea**	**1.40**	**268**	P	**Pn**	**01 47 27.0**	**-1.8**
CASM	**Ain Smara**	**1.50**	**113**	P	**Pn**	**01 47 30.0**	**-0.1**
ETOS	**Mallorca**	**3.29**	**333**	P	**Pn**	**01 47 55.2**	**+0.3**
	0.9nm,0.2s,SNR=7.6						
ETOS				S	**Sn**	**01 48 31.6**	**-2.9**
	1.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.29**	**333**	P	**Pn**	**01 47 55.2**	**+0.4**
	0.9nm,0.2s,SNR=7.6						
ETOS				S	**Sn**	**01 48 31.6**	**-2.9**
	1.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.48**	**310**	P	**Pn**	**01 47 58.1**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**01 48 37.3**	**-1.7**
	0.5nm,0.1s,SNR=4.0						
EIBI	**Ibiza**	**3.48**	**310**	P	**Pn**	**01 47 58.1**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**01 48 37.3**	**-1.7**
	0.5nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**5.33**	**292**	P	**Pn**	**01 48 24.1**	**+1.4**
	0.3nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**5.33**	**292**	P	**Pn**	**01 48 24.4**	**+1.6**
	0.3nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**5.33**	**328**	P	**Pn**	**01 48 22.9**	**0.0**
	0.6nm,0.1s,SNR=4.0						
EPOB				S	**Sn**	**01 49 20.8**	**-4.0**
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.33**	**328**	P	**Pn**	**01 48 22.9**	**0.0**
	0.6nm,0.1s,SNR=4.0						

EMIR	Miracle	5.65	334	⇑P	Pn	01 48 28.5 +1.3
	5.0nm,0.3s,SNR=18					
EMIR	Miracle	5.65	334	P	Pn	01 48 28.5 +1.3
	5.0nm,0.3s,SNR=18					
EQES	Quesada	6.33	281	P	Pn	01 48 38.3 +1.7
	0.3nm,0.2s,SNR=7.9					
EQES	Quesada	6.33	281	P	Pn	01 48 38.3 +1.7
	0.3nm,0.2s,SNR=7.9					
EGRA	Graus	6.35	328	P	Pn	01 48 38.1 +1.2
	0.4nm,0.2s,SNR=4.0					

*NEIC **08** 01:58:33.1, 34.46S×72.66W, h25km, ML3.6(GUC), After GUC.*

GUC 08 01:58:33.1±0.8, 34.46S×72.66W, h25km±4km, MD3.9, ML3.6, 10C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	1.15	65	⇑iP	Pn	01 58 54.7	+1.2
LNV				i S	Sn	01 59 10.2	+1.8
CNCO	Chanco	1.28	175	⇑iP	Pn	01 58 56.6	+1.3
CNCO				i S	Sn	01 59 12.0	+0.4
CNCO				AMP		01 59 12.9	
	comp=E,5μm,0.4s						
LCCH	Las Cruces	1.33	43	⇑iP	Pn	01 58 56.4	+0.3
LCCH				i S	Sn	01 59 13.2	+0.2
SFDO	San Fernando	1.37	97	⇓iP	Pn	01 58 59.2	+2.7
SFDO				i S	Sn	01 59 17.8	+4.0
LNCH	Linares	1.64	148	⇑iP	Pn	01 59 03.2	+3.0
LNCH				i S	Sn	01 59 24.3	+3.9
LNCH				AMP		01 59 25.7	
	comp=N,2μm,0.7s						
LNCH	Linares	1.64	148	⇑iP	Pn	01 59 03.2	+3.0
LNCH				i S	Sn	01 59 24.3	+3.9
COCH	Cobquecura	1.67	184	⇑iP	Pn	01 59 01.5	+0.8
COCH				AMP		01 59 21.1	
	comp=E,52nm,0.3s						
RCDM	Rinconada Maip	1.82	58	⇑iP	Pn	01 59 03.9	+1.1
RCDM				i S	Sn	01 59 26.6	+1.6
RCDM				AMP		01 59 28.4	
	comp=N,969nm,0.4s						
RCDM	Rinconada Maip	1.82	58	⇑iP	Pn	01 59 03.9	+1.1
RCDM				i S	Sn	01 59 26.6	+1.6
ANTU	Antumapu	1.90	63	i S	Sn	01 59 29.4	+2.4
ANTU				AMP		01 59 30.2	
	comp=E,1μm,0.5s						
PCH	Pirque	1.97	65	⇓iP	Pn	01 59 06.6	+1.9
PCH				i S	Sn	01 59 31.6	+3.0
PEL	Peldehue	2.10	52	⇑iP	Pn	01 59 08.4	+1.7
PEL				i S	Sn	01 59 34.5	+2.5
PEL				AMP		01 59 35.9	
	comp=N,1μm,0.5s						
PEL	Peldehue	2.10	52	⇑iP	Pn	01 59 08.4	+1.7
PEL				i S	Sn	01 59 34.5	+2.5
LMEL	Las Melosas	2.12	74	i P	Pn	01 59 09.4	+2.4
LMEL				i S	Sn	01 59 36.6	+4.1
LMEL				AMP		01 59 38.2	
	comp=N,944nm,0.2s						
LMEL	Las Melosas	2.12	74	i P	Pn	01 59 09.4	+2.4
LMEL				i S	Sn	01 59 36.6	+4.1
CCHI	Chillan	2.19	168	eP	Pn	01 59 10.2	+2.3
CCHI				i S	Sn	01 59 36.2	+2.1
CCHI				AMP		01 59 38.9	
	comp=E,619nm,0.3s						
CCHI	Chillan	2.19	168	P	Pn	01 59 10.2	+2.3
CCHI				i S	Sn	01 59 36.2	+2.1
FCH	Farellones	2.27	61	eP	Pn	01 59 10.9	+1.9
FCH				AMP		01 59 41.1	
	comp=N,518nm,0.2s						
JACH	Jahuel	2.47	45	eP	Pn	01 59 13.2	+1.5

MAN 08 02:07:30.6, 1589N×11985E, h27km, mb2.8, ML4.2, MS4.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.12	152	eP	Pb	02 07 37.3	+1.6
SCZP				eS	Sb	02 07 42.2	+3.0
BOLP	Bolinao	0.50	7	eP	Pb	02 07 41.3	+0.5
BOLP				eS	Sb	02 07 49.6	+1.8
PCPH	Palayan	1.24	105	⇓eP	Pn	02 07 51.4	-0.8
PCPH				i S	Sn	02 08 08.7	+0.7
BALP	Baler	1.67	95	eP	Pn	02 07 59.3	+1.2
LUBP	Lubang	2.17	170	eP	Pn	02 08 06.0	+1.0
APYP	Conner	2.37	34	eP	Sn	02 08 38.5	+2.5

MAN 08 02:27:52.9, 788N×12520E, h11km, mb2.3, ML3.9, MS2.2, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.13	270	eP	Pg	02 27 56.8	+0.7
BUKP				eS	Sg	02 27 59.2	+0.9
CGP	Cagayan de Oro	0.76	319	⇑iP	Pg	02 28 07.3	-0.3
CGP				i S	Sg	02 28 16.8	-0.7
KCP	Kidapawan	0.87	187	⇑iP	Pg	02 28 09.4	-0.2
KCP				i S	Sg	02 28 21.4	+0.4
CTBH	Cotabato--PC H	1.15	235	⇑iP	Pb	02 28 12.8	-1.9
CTBH				i S	Sb	02 28 26.9	-2.7
PAGZ	Pagadian	1.80	269	eP	Pn	02 28 24.0	+0.1
PAGZ				eS	Sn	02 28 47.7	+1.1

*ISCJB **08** 03:08:44.7±1.2, 3155S±008×688W±0.1, h114km±17km, mb3.4/2, Error ellipse: s-maj=21.2km s-min=11.1km az=140.1*
*NEIC **08** 03:08:45.5, 3159S×6934W, h169km, MD3.6(GUC), After GUC.*
*GUC **08** 03:08:45.5±0.8, 3159S×6934W, h169km±13km, MD3.6, ML3.7*
*IDC **08** 03:09:04.5±14.0, 2344S×6537W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/13, mbtmp3.6/2, Error ellipse: s-maj=580.8km s-min=43.4km az=19.0*

ISC 08 03:08:45.4±1.1, 3153S±008×688W±01, h99km±16km, n23, σ0°83/34, mb3.4/2, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.91	232	⇑iP	Pn	03 09 17.2	+0.5
JACH				i S	Sn	03 09 41.3	+0.7
CMCH	Combarbala	1.92	280	⇓iP	Pn	03 09 16.8	-0.1
CMCH				i S	Sn	03 09 41.0	+0.2
CMCH				AMP		03 09 45.0	
	comp=E,3μm,0.7s						
CMCH	Combarbala	1.92	280	⇓iP	Pn	03 09 16.8	-0.1
CMCH				i S	Sn	03 09 41.0	+0.2
FCH	Farellones	2.19	215	⇑iP	Pn	03 09 21.4	+0.9
FCH				i S	Sn	03 09 50.0	+2.7
FCH				AMP		03 09 58.5	
	comp=E,157nm,0.2s						
PEL	Peldehue	2.27	224	eP	Pn	03 09 21.7	+0.2
PEL				i S	Sn	03 09 48.8	-0.2
PEL				AMP		03 09 52.4	
	comp=E,468nm,0.3s						
PEL	Peldehue	2.27	224	eP	Pn	03 09 21.7	+0.2
PEL				i S	Sn	03 09 48.8	-0.2
ROCH	El Roble	2.36	232	⇑iP	Pn	03 09 22.1	-0.6
ROCH				i S	Sn	03 09 50.3	-1.0
PCH	Pirque	2.54	214	i P	Pn	03 09 25.8	+0.8
PCH				i S	Sn	03 09 55.8	+0.3
ANTU	Antumapu	2.56	217	i P	Pn	03 09 25.2	0.0
ANTU				i S	Sn	03 09 55.8	-0.1
ANTU				AMP		03 10 00.7	
	comp=N,150nm,0.3s						
ANTU	Antumapu	2.56	217	i P	Pn	03 09 25.2	0.0
ANTU				i S	Sn	03 09 55.8	-0.1
RCDM	Rinconada Maip	2.59	220	eP	Pn	03 09 25.7	0.0
RCDM				i S	Sn	03 09 55.6	-0.9
RCDM				AMP		03 09 57.9	
	comp=E,318nm,0.1s						
RCDM	Rinconada Maip	2.59	220	eP	Pn	03 09 25.7	0.0
RCDM				i S	Sn	03 09 55.6	-0.9
TACH	Talagante	2.79	220	⇓iP	Pn	03 09 27.7	-0.5
CHCH	Chadas Angostu	2.86	213	⇑iP	Pn	03 09 29.4	+0.1
CACH	El Canelo	3.00	210	eP	Pn	03 09 31.8	+0.7
LCCH	Las Cruces	3.04	230	i P	Pn	03 09 30.3	-1.4
CICH	Cipreses	3.10	206	i P	Pn	03 09 33.1	+0.6
LNV	Longovilo	3.27	222	⇑iP	Pn	03 09 32.6	-2.2
TRQA	Tornquist	8.60	141	eP	Pn	03 10 46.2	-0.7
	comp=E,8.6nm,0.7s						
TXAR	Lajitas Array	69.01	328	P	P	03 19 40.7	+0.5
	comp=E,0.2nm,0.6s,mb3.1,baz=149,slow=7.3,SNR=4.5						
TXAR	Lajitas Array	69.01	328	P	P	03 19 40.7	+0.5
TORD	Torodi Ar. Bea	80.78	68	P	P	03 20 48.1	+0.1
	comp=E,0.8nm,0.7s,mb3.7,baz=252,slow=4.3,SNR=14						
MKAR	Makanchi Array	153.09	47	PKPbc	PKPab	03 28 42.6	-0.6
	comp=E,0.1nm,0.6s,baz=304,slow=4.4,SNR=4.6						

*NEIC **08** 03:29:22.4, 3223S×7169W, h37km, MD3.6(GUC), After GUC.*

GUC 08 03:29:22.4±0.7, 3223S×7169W, h37km±3km, MD3.6, ML2.3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.38	145	⇑iP	Pn	03 29 31.1	-0.3
JACH	Jahuel	1.03	116	i P	Pn	03 29 41.3	+0.9
JACH				i S	Sn	03 29 55.8	+2.2
CMCH	Combarbala	1.20	29	eP	Pn	03 29 43.8	+1.1
CMCH				i S	Sn	03 30 00.0	+2.2
CMCH				AMP		03 30 03.1	
	comp=E,190nm,0.5s						
CMCH	Combarbala	1.20	29	eP	Pn	03 29 43.8	+1.1
CMCH				i S	Sn	03 30 00.0	+2.2
PEL	Peldehue	1.25	137	eP	Pn	03 29 44.3	+1.0
PEL				i S	Sn	03 30 01.2	+2.4
PEL				AMP		03 30 03.9	
	comp=E,110nm,0.3s						
PEL	Peldehue	1.25	137	eP	Pn	03 29 44.3	+1.0
PEL				i S	Sn	03 30 01.2	+2.4
TACH	Talagante	1.56	156	i P	Pn	03 29 49.4	+1.9
TACH				i S	Sn	03 30 09.1	+2.6
FCH	Farellones	1.61	133	eP	Pn	03 29 50.6	+2.3
FCH				i S	Sn	03 30 11.3	+3.5
FCH				AMP		03 30 13.3	
	comp=E,34nm,0.2s						
PCH	Pirque	1.71	145	eP	Pn	03 29 51.4	+1.8

JMA 08 03:29:58.3±0.6, 3390N×14212E, h18km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.21	309	P	Pn	03 30 20.3	0.0
BSO1				eS	Sb	03 30 36.3	+0.4
BSO2	Boso 2	1.41	307	eS	Sn	03 30 41.8	+0.5
BSO3	Boso 3	1.61	304	P	Pn	03 30 26.4	+0.6
BSO3				eS	Sn	03 30 46.5	+0.5
BSO4	Boso 4	1.83	307	P	Pn	03 30 30.5	+1.7
JHJ2	Mitsune	2.08	248	P	Pn	03 30 33.6	+1.3
JFK	Kawauchi	3.60	344	P	Pn	03 30 54.0	+0.8

IDC 08 03:30:20.0±4.3, 3482S×5753E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=233.3km s-min=31.5km az=37.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	18.61	328	P	Pn	03 34 39.7	+0.6
	0.6nm,0.3s,baz=120,slow=8.1,SNR=4.5						
ASAR	Alice Springs	66.14	103	P		03 41 10.5	+1.3
	0.3nm,0.5s,baz=241,slow=5.9,SNR=5.5						
WRA	Warramunga Arr	68.33	100	P	P	03 41 22.9	-0.1
	0.5nm,0.5s,baz=244,slow=5.8,SNR=14						
YKA	Yellowknife Ar	151.86	352	PKPbc	PKPbc	03 50 15.4	-1.3
	0.6nm,0.7s,baz=358,slow=3.3,SNR=16						

*IDC **08** 03:33:04.9±1.6, 3528N×4417E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.8/24, mbtmp3.7/15, ML2.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=29.8km s-min=20.8km az=7.0*
*ISCJB **08** 03:33:08.8±2.9, 354N±02×4417E±0.1, h34km±16km, mb3.7/13, MS2.8/1, Error ellipse: s-maj=37.2km s-min=12.2km az=157.1*
*MOS **08** 03:33:08.5±0.9, 3536N×4400E, h33km, mb3.9/1, Error ellipse: s-maj=16.9km s-min=10.0km az=99.9*
*CSEM **08** 03:33:12.6±0.1, 3565N×4425E, h60km, mb3.9/2, Error ellipse: s-maj=5.0km s-min=3.5km az=29.0*
*NEIC **08** 03:33:14.4±1.7, 3561N×4400E, h60km, mb3.9/2, MD4.0(ISN), Error ellipse: s-maj=33.2km s-min=11.8km az=184.0*
*NAO **08** 03:34:02.9, 4019N×3978E, h33km, mb3.8*

ISC 08 03:33:09.4±5.3, 354N±02×442E±01, h27km±31km, n43, σ0°83/34, mb3.7/13, MS2.8/1, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	Mosul	1.28	317	i x	x	03 33 32.0	
MSL				i x	x	03 33 33.8	
MSL				i x	x	03 33 48.5	
MSL				i x	x	03 33 49.9	
MSL	Mosul	1.28	317	P	Px	03 33 32.0	
MSL				S	Sx	03 33 48.5	
BHD	Baghdad	2.09	175	ex	x	03 33 43.0	
BHD				ex	x	03 33 46.0	
BHD				ex	x	03 33 50.0	
BHD				ex	x	03 34 15.0	
BHD				ex	x	03 34 18.0	
BHD				ex	x	03 34 24.0	
BHD	Baghdad	2.09	175	eP	Px	03 33 46.0	
BHD	Baghdad	2.09	175	eP	Px	03 33 50.0	
BHD				eSn	Sx	03 34 15.0	
BHD				eS	Sx	03 34 18.0	
BHD				eSg	Sx	03 34 24.0	
TVAN	Van	3.23	349	i P	Pn	03 33 58.3	+0.1
MARD	Mardin	3.37	306	i P	Pn	03 34 00.2	+0.1
BEST	Besiri	3.44	318	i P	Pn	03 34 03.3	+2.1
BNGL	BINGOL	4.33	327	i P	Pn	03 34 22.4	+9.1
GNI	Garni	4.80	5	Pn	Pn	03 34 20.9	+1.0
	0.7nm,0.3s,baz=234,slow=19,SNR=5.7						
GNI				Lg		03 35 41.5	
	0.2nm,0.3s,baz=193,slow=21,SNR=3.5						
GNI	Garni	4.80	5	Pn	Pn	03 34 20.9	+1.0
GNI				Lg		03 35 41.5	
ERZM	Erzurum	5.06	335	i P	Px	03 34 34.4	
ATAB	Bozova	5.19	296	i P	Px	03 34 35.7	
ELZG	Elazig	5.21	309	i P	Px	03 34 36.6	
MALT	Malatya	5.47	304	eP	Pn	03 34 27.3	-1.8
	89nm,1.9s						
MALT	Malatya	5.47	304	eP	Pn	03 34 27.3	-1.8
MALT				pmax	pmax		
	comp=Z,89nm,1.9s						
MALT	Malatya	5.47	304	ePn	Pn	03 34 27.3	-1.7
	comp=Z,89nm,1.9s						
GZT	Gaziantep	5.69	292	i P	Pn	03 34 33.0	+0.9
COBT	Iskenderun	6.53	283	i P	Px	03 35 02.2	
BRTR	Keskin Array B	9.43	301	Pn	Pn	03 35 22.8	-0.6
	comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=2.4						
AKTK	Aktyubinsk	18.12	29	P	Pn	03 37 18.0	-1.0
AKTK	Aktyubinsk	18.12	29	P	Pn	03 37 17.9	-1.0
AKTO	Aktyubinsk	18.12	29	P	Pn	03 37 17.9	-1.0
	comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=10						
AKASG	Malin Array Be	18.77	329	P	Pn	03 37 25.3	-1.7
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=7.1						
BRVK	Borovoye	25.54	38	P	P	03 38 36.4	+0.7
	comp=Z,1.0nm,0.7s,mb3.5						
BRVK	Borovoye	25.54	38	P	P	03 38 36.4	+0.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
BRVK	Borovoye	25.54	38	P	P	03 38 36.4	+0.8
	comp=Z,1.5nm,0.7s,mb3.6						
BVAR	Borovoye Array	25.57	38	P	P	03 38 36.7	+0.7
	comp=Z,2.0nm,0.7s,mb3.7,baz=227,slow=9.5,SNR=12						
GERES	GERESS Array B	26.12	310	P	P	03 38 41.4	+0.5
	comp=Z,0.7nm,0.7s,mb3.3,baz=106,slow=7.1,SNR=3.5						
GERES				LR	LR	03 49 40.2	
	comp=Z,30nm,19.8s,MS2.8,baz=266,slow=38						
GERES	GERESS Array B	26.12	310	P	P	03 38 41.4	+0.5
GERES				LR	LR	03 49 40.2	
FINES	FINESS Array B	28.53	342	P	P	03 39 02.4	-0.2
	comp=Z,1.6nm,0.8s,mb3.8,baz=147,slow=10,SNR=7.2						
MKAR	Makanchi Array	30.64	56	P	P	03 39 21.4	+0.1
	comp=Z,0.2nm,0.5s,mb3.2,baz=246,slow=10,SNR=3.5						
HFS	Hagfors	31.65	331	P	P	03 39 30.6	+0.4
	comp=Z,5.2nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=23						
NB2	NORSAR Subarra	33.17	331	P	P	03 39 43.5	0.0
	comp=Z,1.2nm,0.7s,mb3.9,baz=127,slow=9.3						
NOA	NORSAR Array B	33.17	331	P	P	03 39 43.4	-0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=126,slow=8.9,SNR=4.1						
NAO01	NORSAR Array S	33.19	331	P	P	03 39 43.9	+0.2
	comp=Z,2.8nm,0.6s,mb4.4						
NAO01	NORSAR Array S	33.19	331	P	P	03 39 43.9	+0.2
	comp=Z,2.8nm,0.6s,mb4.4						
ARCES	ARCESS Array B	35.74	349	P	P	03 40 06.2	+0.5
	comp=Z,5.0nm,1.1s,mb4.4,baz=157,slow=9.2,SNR=6.6						
ARCES	ARCESS Array B	35.74	349	P	P	03 40 06.2	+0.4
SONM	Songino Array	46.97	55	P	P	03 41 38.0	+0.1
	comp=Z,0.1nm,0.4s,mb3.1,baz=265,slow=8.9,SNR=2.8						
INK	Inuvik	76.64	359	P	P	03 44 57.5	-0.1
	comp=Z,0.6nm,0.9s,mb3.5,baz=292,slow=5.0,SNR=2.6						
ILAR	Eielson Array	79.83	5	P	P	03 45 14.6	-0.7
	comp=Z,0.6nm,1.0s,mb3.5,baz=292,slow=5.0,SNR=4.1						
YKA	Yellowknife Ar	81.00	350	P	P	03 45 21.1	-0.4
	comp=Z,0.2nm,0.6s,mb3.2,baz=358,slow=5.1,SNR=5.0						

*ISCJB **08** 03:48:57.5±0.5, 6622N±004×14198W±0.10, h10km, Error ellipse: s-maj=5.8km s-min=5.1km az=106.2*
*PGC **08** 03:48:58.9, 6626N×14229W, h1km, ML3.2/2, Eastern Alaska.*
*NEIC **08** 03:49:00.4, 6628N×14240W, h10km, ML3.2(AEIC), After AEIC.*

ISC 08 03:48:59.0±0.5, 6626N±003×14216W±007, h10km, n15, σ1°38/28, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	1.51	321	P	Pn	03 49 25.9	-0.1
BM3				S	Sn	03 49 46.5	+0.7
IL1	Eielson Array	2.47	235	P	Pn	03 49 39.9	+0.6
DAWY	Dawson	2.50	151	Pn	Pn	03 49 41.0	+1.3
DAWY				Sn	Sn	03 50 11.2	+1.0
DAWY				Sg	Sg	03 50 17.4	-1.9
DAWY				Trac		03 50 19.3	
	comp=Z,38nm,0.2s						
COLA	College	2.75	242	ePn	Pn	03 49 43.4	+0.3
COLA				ePg	Pg	03 49 49.8	-1.8
COLA				eSg	Sg	03 50 25.4	-1.8
DOT	Dot Lake	2.75	198	P	Pn	03 49 44.7	+1.6
COLD	Coldfoot	3.33	291	P	Pn	03 49 52.5	+1.3
PAX	Paxson	3.60	205	P	Pn	03 49 56.9	+2.1
PAX				S	Sn	03 50 38.6	+1.2
MCK	McKinley	3.84	232	P	Pn	03 49 59.1	+1.0
INK	Inuvik	3.93	55	Pn	Pn	03 50 01.0	+1.7
INK				Sn	Sn	03 50 45.7	+0.2
INK				Sg	Sg	03 51 01.9	-3.2
INK				Trac		03 51 11.1	
	comp=Z,26nm,0.5s						
KTH	Kantishna Hill	4.62	238	P	Pn	03 50 09.2	+0.4
IMA2	Indian Mountai	4.68	273	ePn	Pn	03 50 10.2	+0.5
IMA2				ePg	Pg	03 50 27.4	-1.3
IMA2				eSg	Sg	03 51 27.1	-2.2
IM3	Indian Mountai	4.72	272	P	Pn	03 50 10.4	+0.2
HYT	Haines Junctio	5.84	157	Pn	Pn	03 50 20.9	-4.7
HYT				Sg	Sg	03 52 01.1	-5.4
HYT				Trac		03 52 14.9	
	comp=Z,11nm,0.5s						
WHY	Whitehorse	6.50	147	Pn	Pn	03 50 33.0	-1.6
WHY				Sg	Sg	03 52 22.8	-4.8
WHY				Trac		03 52 40.5	
	comp=Z,5.0nm,0.6s						
YKW3	Yellowknife Ar	12.41	94	P	Pn	03 51 54.1	-1.5
YKW3				Sn	Sn	03 54 04.1	-10
YKW3				Trac		03 54 22.2	
	comp=Z,1.0nm,0.4s						

*CSEM **08** 04:07:40.4, 4074N×3035E, h2km, mb4.6*
*BJI **08** 04:07:40.9, 4124N×2983E, h23km, mB5.1, mb4.8, Ms4.5, Msz4.0*
*ISCJB **08** 04:07:41.3±0.4, 4075N±002×3037E±002, h12km±3km, mb4.3/41, MS3.5/10, Error ellipse: s-maj=3.0km s-min=2.2km az=8.1*
*MOS **08** 04:07:41.0±0.9, 4071N×3038E, h14km, mb4.5/9, Error ellipse: s-maj=6.6km s-min=4.6km az=114.5*
*NEIC **08** 04:07:41.6, 4070N×3035E, h9km, mb4.6/8, MD4.1(ATH), ML4.5(ISK), ML3.9(BUC), After ISK.*
*ISK **08** 04:07:41.5, 4071N×3037E, h10km, ML4.5*
*NAO **08** 04:07:42.0, 4102N×3247E, h33km, mb3.2*
*THE **08** 04:07:43.7, 4052N×3036E, h14km, ML4.8*
*IDC **08** 04:07:44.5±2.8, 4076N×3040E, h28km±20km, mb3.9/18, mb1 4.1/22, mb1mx4.0/29, mbtmp4.1/22, ML3.9/4, MS3.5/12, Ms1 3.5/12, ms1mx3.3/33, Error ellipse: s-maj=13.4km s-min=9.9km az=55.0*
*ATH **08** 04:08:12.5, 4038N×27.16E, h11km±7km, MD4.1/3*

ISC 08 04:07:42.3±0.4, 4072N±002×3036E±002, h8km±3km, n238, σ1°06/272, mb4.3/41, MS3.5/10, 19C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	Hendek	0.42	76	i P	Pg	04 07 50.0	-0.5
GPA	Golpazari	0.44	185	i PG	Pg	04 07 50.5	-0.3
MDU	Mudurnu	0.70	111	i PG	Pg	04 07 55.4	-0.4
YLV	Yalova	0.77	258	i PG	Pg	04 07 55.9	-1.2
YLV				i SG	Sg	04 08 08.0	+0.9
BADT	Buyukada	0.95	278	i PG	Pg	04 08 00.0	-0.6
BADT	Buyukada	0.95	278	Pg	Pg	04 08 00.2	-0.4
ISK	Istanbul-Kandi	1.04	289	i PG	Pg	04 08 01.8	-0.6
ISK				i SG	Sg	04 08 17.3	+1.4
ISK	Istanbul-Kandi	1.04	289	Pg	Pg	04 08 01.9	-0.5
ISK				i Sg	Sg	04 08 17.3	+1.4
ULDT	Uludag	1.10	238	i P	Pg	04 08 02.1	-1.4
ULDT				i S	Sg	04 08 17.2	-0.6
ESKT	Eskisehir	1.26	162	i P	Pn	04 08 05.0	-1.2
ESKT				i S	Sb	04 08 23.5	+0.9
ESKT	Eskisehir	1.26	162	i Pn	Pn	04 08 05.1	-1.1
SEYT	Eskypehyr	1.26	162	i P	Pn	04 08 05.0	-1.2
SEYT				i S	Sb	04 08 23.5	+0.8
ORLT	Orhaneli	1.31	239	i PN	Pn	04 08 06.3	-0.6
ELBA	Catalca	1.52	287	i P	Pn	04 08 10.2	+0.4
ELBA				i S	Sn	04 08 30.0	+0.2
KCT	Karacabey	1.59	254	i PN	Pn	04 08 10.9	+0.1
ALT	Altintas	1.68	187	i PN	Pn	04 08 11.8	-0.2
SAFT	Safranbolu	1.84	73	PN	Pn	04 08 13.8	-0.3
EDC	Edincik	1.94	260	PN	Pn	04 08 15.7	+0.1
LOD	Lodumlu	2.02	114	PN	Pn	04 08 16.2	-0.4
KIZT	Kizilcal	2.18	147	PN	Pn	04 08 18.4	-0.5
BALB	Balikesir	2.19	241	PN	Pn	04 08 19.0	0.0
ELDT	Eldivan	2.35	95	i P	Pn	04 08 21.3	+0.1
ELDT				i S	Sn	04 08 57.3	+7.2
SART	Tekirdag	2.42	270	i P	Pn	04 08 24.1	+2.0
SART				i S	Sg	04 08 57.8	-2.2
BALT	Daday	2.42	70	i P	Pn	04 08 23.5	+1.2
BALT				i S	Sn	04 08 50.5	-1.6
CANT	Cankiri	2.48	92	PN	Pn	04 08 23.7	+0.7
KHL	Karahalli	2.48	195	PN	Pn	04 08 23.4	+0.4
MANT	Manisa	2.63	213	i P	Pn	04 08 24.4	-0.6
MANT				i S	Sg	04 09 05.1	-1.7
TKTP	Tekketepe	2.68	181	i P	Pn	04 08 26.1	+0.3
TKTP				i S	Sg	04 09 08.6	+0.1
AKS	Akhisar	2.69	228	PN	Pn	04 08 26.0	+0.1
BR131	Keskin Array S	2.70	111	ePn	Pn	04 08 25.6	-0.4

ALN *e*Sn **Sn** **04 09 13.3 +0.2**
CORM Corum 3.30 98 *e*PN **Pn** **04 08 35.1 +0.8**
KDAG Bornova 3.33 227 *i* P **Pn** **04 08 33.4 -1.3**
KDAG *i* S **Sg** **04 09 25.3 -4.0**
IZM Izmir 3.34 227 *e*PN **Pn** **04 08 34.5 -0.3**
CTKT Corum 3.37 90 *i* P **Pn** **04 08 35.8 +0.5**
CTKT *i* S **Sg** **04 09 33.1 +2.5**
BYBT Boyabat 3.41 76 *e*PN **Pn** **04 08 37.0 +1.2**
BLCB Balcova 3.47 229 *e*PN **Pn** **04 08 37.3 +0.7**
PRK Paraskevi 3.47 246 *e*PG **Pn** **04 08 37.2 +0.6**
BOYT Boyabat 3.50 77 *i* P **Pn** **04 08 37.8 +0.7**
BOYT *i* S **Sn** **04 09 27.4 +8.7**
GOLH Golhisar 3.54 190 *i* P **Pn** **04 08 39.4 +1.9**
GOLH *i* S **Sg** **04 09 36.4 +0.4**
AYDN Tasoluk 3.62 213 *i* P **Pn** **04 08 38.1 -0.5**
AYDN *i* S **Sg** **04 09 38.8 +0.3**
RDO Rodhopi 3.68 278 *e*PB **Pn** **04 08 39.8 +0.4**
URLA Izmir 3.75 232 *i* P **Pn** **04 08 40.2 -0.2**
URLA *i* S **Sg** **04 09 45.2 +2.5**
MLSB Milas 3.97 211 *e*PN **Pn** **04 08 44.1 +0.6**
ELL Elmali 3.99 185 *e*PN **Pn** **04 08 44.4 +0.7**
TIRR Tirgusor 4.00 340⇑ *i*P **Pn** **04 08 43.8 -0.1**
TIRR Tirgusor 4.00 340⇑ *i*P **Pn** **04 08 43.8 -0.1**
LIA Limnos Island 4.04 260 *e*PB **Pn** **04 08 42.7 -1.8**
SMG Samos 4.07 223 *e*PN **Pg** **04 08 58.2 -2.1**
HDMB Hadim 4.11 155 *e*PN **Pn** **04 08 46.0 +0.7**
BDRM Kayabasi 4.30 213 *i* P **Pn** **04 08 48.1 0.0**
BDRM *i* S **Sg** **04 09 54.9 -5.6**
HARR Harsova 4.35 337⇑ *i*P **Pn** **04 08 49.0 +0.3**
HARR Harsova 4.35 337⇑ *i*P **Pn** **04 08 49.0 +0.3**
BODT Bodrum 4.36 214 *e*PN **Pn** **04 08 49.6 +0.7**
TOKT Tokat 4.73 93 *e*PN **Pn** **04 08 55.1 +1.2**
CFR Carcaliu 4.74 341⇑ *i*P **Pn** **04 08 54.1 0.0**
CFR Carcaliu 4.74 341⇑ *i*P **Pn** **04 08 54.1 0.0**
BUC1 Bucharest 4.83 320 P **Pn** **04 08 55.8 +0.5**
BUC1 Bucharest 4.83 320 P **Pn** **04 08 55.8 +0.5**
OUR Ouranopolis 4.88 267 *e*Pn **Pn** **04 08 55.1 -0.9**
comp=Z,7.0nm,0.4s
NVR Nevrokopi 4.95 279 *e*PB **Pn** **04 08 57.6 +0.6**
SIM Simferopol' 5.04 32 *i* P **Pn** **04 08 58.7 +0.5**
571nm,0.3s
SIM *i* S **Sn** **04 09 52.6 -4.1**
800nm,23.0s
SIM Simferopol' 5.04 32*c i*P **Pn** **04 08 58.7 +0.5**
SIM *i* S **Sn** **04 09 52.6 -4.1**
SIM pmax pmax
comp=Z,571nm,0.3s
SIM MLR MLR
comp=Z,800nm,23.0s
SVSK Karacayir 5.14 97 *e*PN **Pn** **04 09 00.7 +1.2**
PAIG Paliouri 5.17 263 *e*Pn **Pn** **04 08 59.0 -0.9**
PAIG *e*Sn **Sn** **04 09 58.2 -1.5**
ISR Istrita 5.21 329⇑ *i*P **Pn** **04 09 01.9 +1.4**
ISR Istrita 5.21 329⇑ *i*P **Pn** **04 09 01.9 +1.4**
XOR Xorichti 5.67 258 *e*Pn **Pn** **04 09 06.8 0.0**
VTS Vitosha 5.67 292⇑ *i*P **Pn** **04 09 07.3 +0.4**
VTS Vitosha 5.67 292⇑ *i*P **Pn** **04 09 07.2 +0.4**
MLR Muntele Rosu 5.76 327 Pn **Pn** **04 09 09.3 +1.3**
comp=Z,3.5nm,0.3s,baz=98,slow=3.2,SNR=63
MLR Sn **Sn** **04 10 15.1 +0.9**
comp=Z,1.9nm,0.3s,baz=126,slow=17,SNR=2.1
MLR LR LR 04 11 52.6
comp=Z,286nm,18.3s,baz=131,slow=43
MLR Muntele Rosu 5.76 327⇑ *i*P **Pn** **04 09 09.2 +1.2**
MLR Muntele Rosu 5.76 327 P **Pn** **04 09 09.3 +1.3**
MLR 04 10 15.1
MLR pmax pmax
comp=Z,4.0nm,0.3s
MLR MLR
comp=Z,287nm,18.3s
MLR Muntele Rosu 5.76 327⇑ *i*P **Pn** **04 09 09.2 +1.2**
VRI Vrincioaia 5.78 334⇓ *i*P **Pn** **04 09 09.0 +0.6**
VRI Vrincioaia 5.78 334⇓ *i*P **Pn** **04 09 09.0 +0.6**
VAY Valandovo 5.92 278 *e*Pn **Pn** **04 09 10.5 +0.2**
VAY Valandovo 5.92 278 *e*Pn **Pn** **04 09 10.6 +0.3**
MTUR Matau 5.94 321⇓ *i*P **Pn** **04 09 11.7 +1.1**
MTUR Matau 5.94 321⇓ *i*P **Pn** **04 09 11.7 +1.1**
LIT Litokhoron 6.04 267 *e*Pn **Pn** **04 09 11.6 -0.3**
comp=Z,6.7nm,0.9s
GRG Griva 6.04 275 *e*Pn **Pn** **04 09 12.8 +0.9**
VOIR 6.11 322⇓ *i*P **Pn** **04 09 14.6 +1.8**
VOIR 6.11 322⇓ *i*P **Pn** **04 09 14.6 +1.8**
STIP Stip 6.24 282 *i* Pn **Pn** **04 09 15.3 +0.7**
KIS Kishinev 6.37 350 *i* P **Sn** **04 09 18.0 +1.6**
KIS *i* S **Sn** **04 10 29.0 -0.3**
AGG Agios Georgios 6.41 257 *e*Pn **Sn** **04 09 17.2 +0.2**
ANN Anapa 6.61 50 P **Pn** **04 09 16.1 -3.6**
ANN *i* S **Sn** **04 10 30.1 -5.1**
ANN pmax pmax
comp=Z,65nm,1.2s
MALT Malatya 6.69 109 *e*Pn **Pn** **04 09 21.1 +0.3**
MALT Malatya 6.69 109 *e*Pn **Pn** **04 09 21.1 +0.3**
FNA Florina 6.82 273 *e*Pn **Pn** **04 09 23.4 +0.8**
SKO Skopje 6.83 283 *e*Pn **Pn** **04 09 26.9 +4.2**
BIA Bitola 6.86 275 *e*Pn **Pn** **04 09 25.5 +2.3**
BIA Bitola 6.86 275 *e*Pn **Pn** **04 09 25.4 +2.3**
ATAB Bozova 6.97 115 *i* P **Pg** **04 09 55.8 -0.1**
ELZG Elazig 7.02 106 *i* P **Pn** **04 09 26.2 +0.9**
SOC Sochi 7.52 65 *e*P **Pb** **04 09 48.1 -4.8**
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC MLR MLR
comp=Z,135nm,11.0s
BURAR Bucovina Array 7.82 334⇓ *i*P **Pn** **04 09 37.0 +0.7**
BURAR Bucovina Array 7.82 334⇓ *i*P **Pn** **04 09 37.0 +0.7**
GRUS Gruza 7.82 297 *e*Pn **Pn** **04 09 36.0 -0.3**
BZS Buzias 8.04 310⇓ *i*P **Pn** **04 09 40.6 +1.2**
BZS Buzias 8.04 310⇓ *i*P **Pn** **04 09 40.6 +1.2**
DIVS Divcibare 8.38 297 *i* Pn **Pn** **04 09 46.3 +2.3**
KIV Kislovodsk 9.68 66 *e*P **Pn** **04 10 04.4 +2.5**
comp=Z,130nm,10.0s
KIV Kislovodsk 9.68 66 *e*P **Pn** **04 10 04.4 +2.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,130nm,10.0s
AKASG Malin Array Be 10.01 356 Pn **Pn** **04 10 04.0 -2.4**
comp=Z,7.6nm,0.3s,baz=172,slow=12,SNR=42
AKASG Sn **Sn** **04 11 51.3 -7.5**
comp=Z,5.4nm,0.3s,baz=174,slow=23,SNR=6.7
AKASG Malin Array Be 10.01 356 Pn **Pn** **04 10 04.0 -2.4**
AKASG Sn **Sn** **04 11 51.3 -7.5**
comp=Z,4.0nm,1.0s
ZEI Tsey 10.32 74 *e*P **Pn** **04 10 12.3 +1.6**
ZEI Tsey 10.32 74 *e*P **Pn** **04 10 12.3 +1.6**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
TIP Timpagrande 10.56 266 *e*Pn **Pn** **04 10 16.6 +2.7**
GNI Garni 10.98 88 LR LR 04 14 51.4
comp=Z,276nm,21.0s,baz=144,slow=39
VRSR Storozhevoye 12.15 27 *e*P **Pn** **04 10 32.4 -3.2**
VRSR *e*S **Sn** **04 12 53.8 +2.6**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,2.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,2.4s
VRSR smax
comp=N,70nm,5.1s
VRSR smax
comp=Z,110nm,4.5s
VRSR smax
comp=E,30nm,4.7s
VRSR MLR MLR
comp=Z,50nm,24.0s
VRSR MLR MLR
comp=N,90nm,34.0s
VRSR MLR MLR
comp=E,10.0nm,20.0s
MORC Moravsky Berou 12.77 319 *e*Pn **Pn** **04 10 42.1 -2.0**
MORC Moravsky Berou 12.77 319 *e*Pn **Pn** **04 10 42.1 -2.0**
AQU L'Aquila 12.81 283 P **Pn** **04 10 47.9 +3.2**
AQU L'Aquila 12.81 283 Pn **Pn** **04 10 47.9 +3.1**
SUW Suwalki 14.14 342 *e*P **Pn** **04 11 00.9 -2.0**
comp=E,19nm,0.8s
SUW Suwalki 14.14 342 *e*P **Pn** **04 11 00.9 -2.0**
SUW pmax pmax
comp=Z,19nm,0.8s
OBN Obninsk 14.98 14⇑ *e*P **Pn** **04 11 11.2 -3.1**
OBN *e*S **Sn** **04 13 52.4 -7.9**
OBN pmax pmax
comp=Z,5.0nm,0.7s

OBN MLR MLR
comp=Z,200nm,17.0s
MOS Moscow 15.77 15 *e*P **Pn** **04 11 24.1 -0.6**
DAVOX Davos 15.97 299 Pn **Pn** **04 11 27.2 -0.1**
comp=Z,0.1nm,0.3s,baz=90,slow=10,SNR=2.4
SBF Sospel 17.24 288 *e*P **Pn** **04 11 43.6 +0.2**
comp=Z,78nm,1.3s
SBF Sospel 17.24 288 *e*P **Pn** **04 11 43.6 +0.2**
comp=Z,39nm,1.3s
LPG La Plagne 17.86 293 *e*P **Pn** **04 11 51.2 +0.1**
comp=Z,54nm,1.6s
LPG La Plagne 17.86 293 *e*P **Pn** **04 11 51.2 +0.1**
comp=Z,27nm,1.6s
BNI Bardonecchia 17.86 292 P **Pn** **04 11 52.8 +1.6**
comp=Z,11nm,1.2s
BNI Bardonecchia 17.86 292 P **Pn** **04 11 52.8 +1.6**
BNI pmax pmax
comp=Z,11nm,1.2s
LPL La Plagne 17.88 293 *e*P **Pn** **04 11 51.6 +0.3**
comp=Z,15nm,1.0s
LPL La Plagne 17.88 293 *e*P **Pn** **04 11 51.6 +0.3**
comp=Z,7.4nm,1.0s
VSU Vasula 17.91 354 *e*P **Pn** **04 11 50.7 -1.0**
CDF Champ du Feu 18.11 303 *e*P **Pn** **04 11 56.6 +2.4**
comp=Z,128nm,1.9s
CDF Champ du Feu 18.11 303 *e*P **Pn** **04 11 56.6 +2.4**
comp=Z,64nm,1.9s
HAU Haudompre 18.60 301 *e*P **Pn** **04 12 00.2 0.0**
comp=Z,23nm,1.1s
HAU *e*R
comp=Z,57nm,17.5s
HAU Haudompre 18.60 301 *e*P **Pn** **04 12 00.2 0.0**
comp=Z,12nm,1.1s
LASF Ste Croix 19.83 289 *e*P **Pn** **04 12 14.7 -0.2**
comp=Z,52nm,1.4s
LASF Ste Croix 19.83 289 *e*P **Pn** **04 12 14.7 -0.2**
comp=Z,26nm,1.4s
SMF Signal de Mont 20.02 296 *e*P **P** **04 12 16.5 +1.0**
comp=Z,22nm,1.1s
SMF Signal de Mont 20.02 296 *e*P **P** **04 12 16.5 +1.0**
comp=Z,11nm,1.1s
LOR Lormes 20.10 298 *e*P **P** **04 12 16.2 -0.1**
comp=Z,34nm,1.1s
LOR *e*R
comp=Z,78nm,22.2s
LOR Lormes 20.10 298 *e*P **P** **04 12 16.2 -0.1**
comp=Z,17nm,1.1s
SSF Saint Saulge 20.30 297 *e*P **P** **04 12 17.1 -1.5**
comp=Z,38nm,1.3s
SSF Saint Saulge 20.30 297 *e*P **P** **04 12 17.1 -1.5**
comp=Z,19nm,1.3s
AVF Avril sur Loir 20.37 296 *e*P **P** **04 12 19.8 +0.5**
comp=Z,44nm,1.2s
AVF Avril sur Loir 20.37 296 *e*P **P** **04 12 19.8 +0.5**
comp=Z,22nm,1.2s
UCC Uccle 20.65 308 P **P** **04 12 22.9 +0.6**
UCC Uccle 20.65 308 P **P** **04 12 22.8 +0.5**
BGF Bois d'Agland 20.69 296 *e*P **P** **04 12 22.8 0.0**
comp=Z,52nm,1.3s
BGF Bois d'Agland 20.69 296 *e*P **P** **04 12 22.8 0.0**
comp=Z,26nm,1.3s
FINES FINESS Array B 20.91 354 P **P** **04 12 23.3 -1.9**
comp=Z,8.4nm,0.8s,baz=169,slow=9.7,SNR=8.8
FINES LR LR 04 21 34.4
comp=Z,66nm,20.3s,MS3.0,baz=182,slow=40
FINES FINESS Array B 20.91 354 P **P** **04 12 23.3 -1.9**
FINES LR LR 04 21 34.4
KLMR Klimovskoe 20.93 13 *e*P **P** **04 12 23.6 -1.8**
KLMR pmax pmax
comp=Z,50nm,1.5s
TCF Toulx Ste Croi 21.10 295 *e*P **P** **04 12 28.4 +1.2**
comp=Z,46nm,1.4s,mb4.3
TCF Toulx Ste Croi 21.10 295 *e*P **P** **04 12 28.4 +1.2**
comp=Z,23nm,1.4s,mb4.3
CAF Calviac 21.12 291 *e*P **P** **04 12 28.7 +1.2**
comp=Z,35nm,1.4s,mb4.2
CAF Calviac 21.12 291 *e*P **P** **04 12 28.7 +1.2**
comp=Z,18nm,1.4s,mb4.2
RJF Les Rejaudoux 21.52 292 *e*P **P** **04 12 32.5 +0.7**
comp=Z,62nm,1.6s,mb4.5
RJF *e*R
comp=Z,65nm,17.8s
RJF Les Rejaudoux 21.52 292 *e*P **P** **04 12 32.5 +0.7**
comp=Z,31nm,1.6s,mb4.5
AKTK Aktyubinsk 21.54 54 P **P** **04 12 31.0 -1.0**
comp=Z,191nm,20.2s
AKTK Aktyubinsk 21.54 54 P **P** **04 12 31.0 -1.0**
AKTK LR LR 04 24 17.3
AKTO Aktyubinsk 21.54 54 P **P** **04 12 31.0 -1.0**
comp=Z,3.4nm,0.7s,mb3.9,baz=243,slow=6.1,SNR=5.3
AKTO LR LR 04 24 17.3
comp=Z,191nm,20.2s,MS3.5,baz=0.0,slow=46
AKTO Aktyubinsk 21.54 54 P **P** **04 12 31.0 -1.0**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
AKTO MLR MLR
comp=Z,191nm,20.2s,MS3.5
KAF Kangasniemi 21.56 355 *e*p **P** **04 12 28.8 -3.3**
comp=Z,11nm,0.9s,mb4.3
KAF Kangasniemi 21.56 355 *e*P **P** **04 12 28.8 -3.3**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.3
HFS Hagfors 22.02 337 P **P** **04 12 36.2 -0.9**
comp=Z,4.0nm,0.7s,mb4.0,baz=135,slow=13,SNR=8.9
HFS LR LR 04 22 49.7
comp=Z,132nm,18.3s,MS3.4,baz=181,slow=41
JOF Joensuu 22.23 1 *e*p **P** **04 12 37.9 -1.5**
comp=Z,8.5nm,0.9s,mb4.2
MFF Saint Martin d 22.75 295 *e*P **P** **04 12 44.8 0.0**
comp=Z,42nm,1.4s,mb4.4
MFF Saint Martin d 22.75 295 *e*P **P** **04 12 44.8 0.0**
comp=Z,21nm,1.4s,mb4.4
LDF La Druitiere 22.95 300 *e*P **P** **04 12 46.0 -1.0**
ETSF Etsaut 23.09 286 *e*P **P** **04 12 49.7 +1.3**
comp=Z,18nm,1.1s,mb4.1
ETSF Etsaut 23.09 286 *e*P **P** **04 12 49.7 +1.3**
comp=Z,8.8nm,1.1s,mb4.1
GRR Gorron 23.41 300 *e*P **P** **04 12 50.5 -1.3**
comp=Z,92nm,1.3s,mb4.8
GRR Gorron 23.41 300 *e*P **P** **04 12 50.5 -1.3**
comp=Z,46nm,1.3s,mb4.8
NAO01 NORSAR Array S 23.43 336 *e*P **P** **04 12 52.0 -0.1**
comp=Z,29nm,1.1s,mb4.6
NAO01 NORSAR Array S 23.43 336 *e*P **P** **04 12 52.0 -0.1**
comp=Z,29nm,1.1s,mb4.6
NB2 NORSAR Subarra 23.48 336 P **P** **04 12 51.5 -1.1**
comp=Z,0.6nm,0.7s,mb3.1,baz=133,slow=10
NOA NORSAR Array B 23.48 336 P **P** **04 12 51.5 -1.1**
comp=Z,10.0nm,0.9s,mb4.2,baz=138,slow=9.2,SNR=14
NOA LR LR 04 23 03.6
comp=Z,81nm,18.9s,MS3.2,baz=90,slow=39
SJPF Ste Jean 23.55 286 *e*P **P** **04 12 53.9 +0.6**
comp=Z,26nm,1.4s,mb4.2
SJPF Ste Jean 23.55 286 *e*P **P** **04 12 53.9 +0.6**
comp=Z,13nm,1.4s,mb4.2
ARU Arti 24.15 40 P **P** **04 12 56.0 -2.8**
ARU Arti 24.15 40⇓ *i*P **P** **04 12 59.1 +0.3**
ARU *e* 04 13 28.0
ARU *e*S **S** **04 17 17.5 +0.6**
ARU *e*SS 04 18 04.2
ARU pmax pmax
comp=Z,22nm,1.6s,mb4.3
ARU Arti 24.15 40 P **P** **04 12 56.0 -2.7**
SOKR Solikamsk 25.07 32 *i* P **P** **04 13 07.5 +0.4**
comp=Z,170nm,17.0s
SOKR Solikamsk 25.07 32⇑ *i*P **P** **04 13 07.5 +0.4**
SOKR pmax pmax
comp=Z,30nm,0.7s,mb4.9
SOKR MLR MLR
comp=Z,170nm,17.0s,MS3.6
ESDC Sonseca Array 26.14 279 P **P** **04 13 16.3 -0.6**
comp=Z,2.0nm,0.7s,mb3.8,baz=65,slow=9.0,SNR=8.5
ESLA Sonseca Array 26.14 279 P **P** **04 13 16.1 -0.8**
comp=Z,0.8nm,0.8s,mb3.3
ESLA Sonseca Array 26.14 279 P **P** **04 13 16.1 -0.8**
comp=Z,0.8nm,0.8s,mb3.3
MDT Midelt 28.96 265 P **P** **04 13 42.0 -0.2**
comp=Z,2.3nm,1.0s,mb3.9,baz=86,slow=11,SNR=3.3
ARCES ARCESS Array B 28.99 356 P **P** **04 13 41.9 -0.5**
comp=Z,3.9nm,0.7s,mb4.2,baz=164,slow=8.8,SNR=7.6
ARCES LR LR 04 24 40.5
comp=Z,64nm,20.1s,MS3.2,baz=180,slow=35
AAK Ala-Archa 32.74 72 *e*P **P** **04 14 15.4 -0.1**
comp=Z,11nm,1.8s,mb4.5
AAK Ala-Archa 32.74 72⇑ *e*P **P** **04 14 15.4 -0.1**
AAK pmax pmax
comp=Z,11nm,1.8s,mb4.5

AAK Ala-Archa 32.74 72 *e*P **P** **04 14 11.2 -4.3**
comp=Z,15nm,1.5s,mb4.7
TORD Torodi Ar. Bea 37.20 231 P **P** **04 14 53.6 -0.4**
comp=Z,3.9nm,0.6s,mb4.5,baz=37,slow=7.4,SNR=40
MKAR Makanchi Array 37.42 63 P **P** **04 14 56.2 +0.4**
comp=Z,2.2nm,0.7s,mb4.1,baz=286,slow=6.5,SNR=29
MKAR LR LR 04 34 50.1
comp=Z,62nm,19.2s,MS3.4,baz=204,slow=44
WMQ Urumqi 41.81 66 P **P** **04 15 32.0 -0.4**
WMQ XP sP 04 15 39.0 +3.0
WMQ PP PP 04 17 12.0 +2.9
WMQ S **S** **04 21 49.0 -1.1**
WMQ SS SS 04 24 50.0 -6.1
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,105nm,5.0s
WMQ LR LR
comp=N,115nm,14.0s,MS4.0
WMQ LR LR
comp=E,75nm,14.0s,MS4.0
WMQ LR LR
comp=Z,68nm,13.0s,MS3.7
KOLN Koldanda 45.23 89 *e*P **P** **04 15 59.6 -0.4**
comp=Z,19nm,1.0s,mb4.9
GKN Gorkha 45.90 88 *e*P **P** **04 16 04.7 -0.6**
DMN Daman 46.46 89 *e*P **P** **04 16 09.4 -0.3**
comp=Z,25nm,1.1s,mb5.1
KKN Kakani 46.50 88 *e*P **P** **04 16 09.5 -0.5**
comp=Z,7.0nm,0.7s,mb4.7
KKN Kakani 46.50 88 *e*P **P** **04 16 09.5 -0.5**
KKN pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PKI Pulchoki 46.71 88 *e*P **P** **04 16 10.8 -0.8**
comp=Z,3.3nm,0.4s,mb4.6
PKI Pulchoki 46.71 88 *e*P **P** **04 16 10.8 -0.8**
PKI pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
GUN Gumba 46.89 88 *e*P **P** **04 16 13.0 -0.1**
JIRN Jiri 47.26 88 *e*P **P** **04 16 15.5 -0.4**
SONM Songino Array 52.86 55 P **P** **04 16 58.1 -0.3**
comp=Z,0.3nm,0.4s,mb3.5,baz=262,slow=4.6,SNR=4.4
SONM LR LR 04 44 10.9
comp=Z,47nm,19.6s,MS3.5,baz=28,slow=41
TIXI Tiksi 54.49 23 *e*P **P** **04 17 09.3 -1.1**
comp=Z,100nm,20.0s
TIXI Tiksi 54.49 23⇑ *e*P **P** **04 17 09.3 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
TIXI MLR MLR
comp=Z,100nm,20.0s,MS3.9
FRB Frobisher Bay 58.01 329 P **P** **04 17 34.2 -1.3**
comp=Z,11nm,0.9s,mb4.9,baz=85,slow=9.3,SNR=5.3
FRB Frobisher Bay 58.01 329 P **P** **04 17 34.2 -1.3**
CD2 Chengdu 58.75 74 *e*P **P** **04 17 41.5 +0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.8s
SCHQ Schefferville 61.64 319 P **P** **04 17 59.1 -1.4**
comp=Z,3.1nm,0.9s,mb4.4,baz=52,slow=8.5,SNR=5.4
SEY Seymchan 66.83 25⇑ *e*P **P** **04 18 34.3 -0.2**
MA2 Magadan 68.68 28⇑ *e*P **P** **04 18 46.6 +0.4**
MA2 pmax pmax
comp=Z,13nm,1.5s,mb4.6
NJ2 Nanjing 68.89 65 *e*P **P** **04 18 48.4 +0.9**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
BOSA Boshof 69.15 185 P **P** **04 18 49.1 0.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=353,slow=6.1,SNR=7.2
SSE Sheshan 71.06 65 P **P** **04 18 57.9 -3.0**
SSE AMB AMB
comp=Z,18nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,363nm,4.0s
PSI Prapat 72.00 102 P **P** **04 19 05.1 -1.5**
comp=Z,5.3nm,0.7s,mb4.6,baz=262,slow=7.1,SNR=5.6
PSI Prapat 72.00 102 P **P** **04 19 05.1 -1.5**
YKA Yellowknife Ar 73.34 344 P **P** **04 19 12.8 -1.7**
comp=Z,0.9nm,0.8s,mb3.7,baz=30,slow=5.7,SNR=14
YKA Yellowknife Ar 73.34 344 *i* P **P** **04 19 13.6 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 74.82 359 P **P** **04 19 21.2 -1.9**
comp=Z,0.3nm,0.8s,mb3.2,baz=340,slow=4.0,SNR=6.2
ULM Lac du Bonnet 77.89 328 P **P** **04 19 38.7 -1.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=300,slow=3.3,SNR=3.9
ULM Lac du Bonnet 77.89 328 P **P** **04 19 38.7 -1.8**
PDAR Pinedale Array 89.34 332 P **P** **04 20 38.8 -0.5**
comp=Z,0.3nm,0.8s,mb3.7,baz=63,slow=6.0,SNR=3.1

MAN ***08*** *04:22:19.4, 1494N×11895E, h1km, mb2.7, ML4.1, MS7.4*
ISCJB ***08*** *04:22:22.9±0.5, 1488N±005×11901E±006, h33km, mb3.9/10, Error ellipse: s-maj=8.8km s-min=6.9km az=124.9*
MOS ***08*** *04:22:22.6±0.4, 1472N×11881E, h33km, mb4.4/3, Error ellipse: s-maj=36.2km s-min=15.0km az=126.1*
IDC ***08*** *04:22:26.8±4.7, 1483N×119.14E, h53km±46km, mb3.6/7, mb1 3.8/7, mb1mx3.5/21, mbtmp3.9/7, MS2.4/1, Ms1 2.4/1, ms1mx2.3/30, Error ellipse: s-maj=62.1km s-min=16.6km az=65.0*
NEIC ***08*** *04:22:26.6±2.4, 1481N×119.11E, h53km±24km, mb4.2/3, Error ellipse: s-maj=36.7km s-min=9.2km az=64.0*
ISC 08 04:22:25.0±0.5, 1490N±005×11912E±006, h35km, n30, σ1§03/31, mb3.9/10, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.15**	**41**	*e*P		**Pn**		**04 22 42.8**	**-1.9**
LUBP	**Lubang**	**1.59**	**137**	*e*P		**Pn**		**04 22 48.5**	**-2.3**
BOLP	**Bolinao**	**1.66**	**27**	*e*P		**Pn**		**04 22 50.0**	**-1.6**
TGY	**Tagaytay City**	**1.93**	**114**	P		**Pn**		**04 22 56.9**	**+1.5**
182nm,0.3s,baz=261,slow=3.4,SNR=6.6									
TGY				S		**Sn**		**04 23 24.5**	**+6.1**
208nm,0.3s,baz=188,slow=7.6,SNR=5.6									
PCPH	**Palayan**	**2.02**	**71⇓**	*e*P		**Pn**		**04 22 55.3**	**-1.2**
BCPH	**Baguio City Da**	**2.03**	**44⇓**	*e*P		**Pn**		**04 22 56.1**	**-0.6**
226μm,101s									
BCPH				*e*S		**Sn**		**04 23 26.6**	**+5.7**
BALP	**Baler**	**2.51**	**70**	*e*P		**Pn**		**04 23 04.0**	**+0.7**
POLP	**Polilio Island**	**2.73**	**93**	*e*P		**Pn**		**04 23 08.2**	**+1.8**
BOAC	**Boac**	**3.01**	**118**	*e*P		**Pn**		**04 23 10.4**	**+0.3**
BUSP	**Coron**	**3.07**	**160**	*e*P		**Pn**		**04 23 11.3**	**+0.3**
ABRA	**Dolores**	**3.13**	**29**	*e*P		**Pn**		**04 23 12.2**	**+0.4**
APYP	**Conner**	**3.58**	**34**	*e*P		**Pn**		**04 23 18.5**	**+0.5**
PVCP	**Virac**	**5.05**	**104**	*e*P		**Pn**		**04 23 41.3**	**+3.0**
PSI	**Prapat**	**23.27**	**241**	LR		LR		04 35 43.9	
comp=Z,8.3nm,18.8s,baz=14,slow=34									
SONM	**Songino Array**	**34.49**	**345**	P		**P**		**04 29 10.0**	**+0.4**
0.4nm,0.4s,mb3.7,baz=166,slow=9.3,SNR=6.4									
WRAB	**Tennant Creek**	**37.72**	**156**	*e*P		**P**		**04 29 36.4**	**-0.8**
WRAB				pmax		pmax			
comp=Z,2.0nm,0.6s,mb4.0									
WRAB	**Tennant Creek**	**37.72**	**156**	*e*P		**P**		**04 29 36.4**	**-0.8**
comp=Z,2.5nm,0.6s,mb4.1									
WRA	**Warramunga Arr**	**37.72**	**156**	P		**P**		**04 29 36.5**	**-0.8**
comp=Z,1.7nm,0.6s,mb3.9,baz=336,slow=9.5,SNR=14									
WB2	**Warramunga Arr**	**37.73**	**156**	*e*P		**P**		**04 29 36.5**	**-0.8**
ASAR	**Alice Springs**	**40.97**	**159**	P		**P**		**04 30 04.2**	**-0.1**
comp=Z,1.9nm,0.7s,mb3.9,baz=337,slow=7.1,SNR=25									
MKAR	**Makanchi Array**	**44.16**	**324**	P		**P**		**04 30 31.2**	**+0.9**
comp=Z,0.9nm,0.8s,mb3.6,baz=130,slow=9.5,SNR=8.2									
KURK	**Kurchatov**	**48.34**	**326**	*e*P		**P**		**04 31 03.2**	**0.0**
KURK				pmax		pmax			
comp=Z,1.0nm,0.4s,mb4.2									
KURK	**Kurchatov**	**48.34**	**326**	*e*P		**P**		**04 31 03.2**	**+0.1**
comp=Z,1.0nm,0.4s,mb4.2									
BVAR	**Borovoye Array**	**53.92**	**326**	P		**P**		**04 31 44.9**	**-0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=117,slow=9.7,SNR=4.6									
BRVK	**Borovoye**	**53.99**	**326**	*e*P		**P**		**04 31 45.8**	**+0.3**
BRVK				pmax		pmax			
comp=Z,1.0nm,0.5s,mb4.0									
BRVK	**Borovoye**	**53.99**	**326**	*e*P		**P**		**04 31 45.8**	**+0.2**
comp=Z,1.0nm,0.5s,mb4.0									
AKTK	**Aktyubinsk**	**60.31**	**320**	P		**P**		**04 32 30.7**	**+0.5**
AKTO	**Aktyubinsk**	**60.31**	**320**	P		**P**		**04 32 30.7**	**+0.5**
comp=Z,1.8nm,0.6s,mb4.3,baz=97,slow=8.1,SNR=7.3									
YKA	**Yellowknife Ar**	**92.25**	**22**	P		**P**		**04 35 31.3**	**0.0**
comp=Z,0.2nm,0.6s,mb3.6,baz=308,slow=4.4,SNR=6.7									
YKA	**Yellowknife Ar**	**92.25**	**22**	P		**P**		**04 35 31.3**	**0.0**

IDC 08 04:48:48.3±6.6, 572S×15162E, h67km±53km, mb3.1/3,

mb1 3.4/4, mb1mx3.2/14, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=119.9km s-min=35.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.74**	**230**	P	Pn	04 50 11.7	+0.8
	1.2nm,0.3s,baz=49,slow=11,SNR=2.7						
PMG				S	Sn	04 51 15.5	+0.1
	1.3nm,0.3s,baz=278,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**21.96**	**228**	P	P	04 53 37.1	+0.7
	0.6nm,0.7s,baz=55,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**24.68**	**222**	P	P	04 54 03.4	+0.5
	0.6nm,0.7s,baz=55,slow=8.1,SNR=7.4						
ILAR	**Eielson Array**	**83.45**	**22**	P	P	05 01 08.1	-0.5
	0.2nm,0.6s,baz=256,slow=5.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	PKPbc	05 08 30.5	+0.7
	0.2nm,0.5s,baz=270,slow=2.9,SNR=5.3						

*ISCJB **08** 05:00:02.9±0.4, 5146N±002×16.17E±003, h0km, Error ellipse: s-maj=3.4km s-min=2.3km az=29.8*
*NEIC **08** 05:00:04.6±0.4, 5153N×16.19E, h5km, ML2.4(CLL), ML2.7(SZGRF), Error ellipse: s-maj=6.0km s-min=4.6km az=84.0*
*MOS **08** 05:00:04.5±1.1, 5159N×1614E, h15km, mb3.6/1, Error ellipse: s-maj=13.0km s-min=5.8km az=85.8*
*CSEM **08** 05:00:05.7±0.2, 5147N×1606E, h1km, ML3.3/7, Error ellipse: s-maj=3.7km s-min=3.2km az=31.0*
*IDC **08** 05:00:05.8±0.7, 5143N×16.18E, h0km, mb1 3.4/6, mb1mx3.2/23, mbtmp3.2/6, ML2.9/6, Error ellipse: s-maj=16.3km s-min=6.2km az=100.0*
*WAR **08** 05:00:06.5, 5144N×1612E, ML2.7, Mining Induced*
*IPEC **08** 05:00:06.7±0.3, 5139N×1642E, h0km, ML2.4/3, Error ellipse: s-maj=3.2km s-min=2.1km az=92.0*
*PRU **08** 05:00:07.3, 5136N×1610E, h0km, Felt In Harrachov*
*VIE **08** 05:00:08.4±0.6, 5121N×1622E, h0km, mb2.4/4, ML2.6/5, Error ellipse: s-maj=4.2km s-min=3.8km az=102.0 56 km WNW of Breslau Suspected Mining induced.*
*UPP **08** 05:00:49.5, 5475N×1525E, h0km, ML2.5, Mining explosion.*

ISC 08 05:00:04.6±0.4, 5147N±002×1613E±003, h0km, n58, σ1§13/108, 6C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**171**	⇓*i*Pg	**Pg**	**05 00 17.7**	**+0.9**
KSP				*e*Sg	**Sg**	**05 00 25.0**	**-0.1**
UPC	**Upice**	**0.97**	**184**	*e*PG	**Pg**	**05 00 23.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.13**	**174**	*e*PG	**Pg**	**05 00 26.5**	**+0.3**
DPC				*e*SG	**Sg**	**05 00 39.9**	**-1.0**
	34nm,0.4s						
DPC	**Dobruska-Polom**	**1.13**	**174**	*e*Pg	**Pg**	**05 00 26.5**	**+0.3**
DPC				*e*Sg	**Sg**	**05 00 40.0**	**-0.9**
DPC	**Dobruska-Polom**	**1.13**	**174**	*e*P	**Pg**	**05 00 26.5**	**+0.3**
DPC				*e*		05 00 39.9	
DPC				smax			
	comp=N,34nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**227**	*e*PG	**Pg**	**05 00 31.0**	**+0.3**
PVCC				*e*SG	**Sg**	**05 00 49.8**	**+1.3**
	comp=N,124nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**227**	*e*P	**Pg**	**05 00 31.0**	**+0.3**
PVCC				*e*		05 00 49.8	
PVCC				smax			
	comp=N,124nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**05 00 31.8**	**-1.0**
BRG				PG	**Pg**	**05 00 33.4**	**0.0**
BRG				SG	**Sg**	**05 00 53.9**	**+1.0**
	comp=N,21nm,0.6s						
BRG	**Berggiesshubel**	**1.50**	**247**	Pg	**Pg**	**05 00 33.4**	**0.0**
BRG				S	**Sg**	**05 00 53.8**	**+1.0**
	comp=N,21nm,0.6s						
BRG	**Berggiesshubel**	**1.50**	**247**	P	**Pn**	**05 00 31.8**	**-0.9**
BRG						05 00 53.8	
BRG				smax			
	comp=N,21nm,0.6s						
BRG	**Berggiesshubel**	**1.50**	**247**	Pn	**Pn**	**05 00 31.8**	**-1.0**
BRG				Pg	**Pg**	**05 00 33.4**	**0.0**
BRG				Sg	**Sg**	**05 00 53.9**	**+1.0**
PRU	**Pruhonice**	**1.80**	**215**	*e*PN	**Pn**	**05 00 36.8**	**0.0**
PRU				*e*PG	**Pg**	**05 00 38.5**	**-0.5**
PRU				*e*SG	**Sg**	**05 01 01.0**	**-1.3**
	comp=N,26nm,0.3s						
PRU	**Pruhonice**	**1.80**	**215**	*e*Pg	**Pg**	**05 00 38.5**	**-0.5**
PRU				*e*Sg	**Sg**	**05 01 01.0**	**-1.3**
	comp=N,26nm,0.3s						
PRU	**Pruhonice**	**1.80**	**215**	*e*P	**Pn**	**05 00 36.8**	**0.0**
PRU				*e*		05 01 01.0	
PRU				smax			
	comp=N,26nm,0.3s						
RAC	**Raciborz**	**1.91**	**136**	*e*Pg	**Pg**	**05 00 41.2**	**0.0**
RAC				*e*Sg	**Sg**	**05 01 07.2**	**+1.2**
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**05 00 38.6**	**+0.1**
MORC				*e*Sn	**Sn**	**05 01 01.3**	**-2.1**
MORC				*e*Sg	**Sg**	**05 01 02.3**	**-4.0**
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**05 00 38.7**	**+0.2**
MORC				*e*Sn	**Sn**	**05 01 01.3**	**-2.0**
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**05 00 39.1**	**0.0**
CLL				*i* Pg	**Pg**	**05 00 41.8**	**-0.5**
CLL				*i* Sg	**Sg**	**05 01 09.0**	**+1.2**
	comp=Z,20nm,0.6s						
CLL	**Collm**	**1.97**	**266**	*i* Pg	**Pg**	**05 00 41.8**	**-0.5**
CLL				*i* S	**Sg**	**05 01 09.0**	**+1.2**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PG	**Pg**	**05 00 42.3**	**-2.1**
OKC				*e*SG	**Sg**	**05 01 08.2**	**-3.2**
VRAC	**Vranov**	**2.19**	**172**	Pn	**Pn**	**05 00 41.6**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=337,slow=15,SNR=17						
VRAC				Lg		05 01 15.4	
	comp=Z,5.1nm,0.3s,baz=72,slow=19,SNR=3.6						
VRAC	**Vranov**	**2.19**	**172**	Pn	**Pn**	**05 00 41.6**	**-0.6**
VRAC				*e*Sg	**Sg**	**05 01 11.7**	**-3.1**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**05 00 56.4**	**+1.2**
OJC				*e*Sg	**Sg**	**05 01 31.2**	**+1.7**
JAVC	**Velka Javorina**	**2.80**	**159**	*e*Sg	**Sg**	**05 01 33.8**	**-0.6**
	comp=Z,24nm,0.8s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**05 00 51.9**	**+0.5**
KHC				*e*PG	**Pg**	**05 00 58.0**	**-1.4**
KHC				*e*SN	**Sn**	**05 01 26.0**	**-0.5**
KHC				*e*SG	**Sg**	**05 01 35.7**	**-0.7**
	comp=Z,11nm,0.5s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pg	**Pg**	**05 00 58.0**	**-1.4**
KHC				*e*Sn	**Sn**	**05 01 26.0**	**-0.5**
KHC				*e*S	**Sn**	**05 01 26.0**	**-0.5**
	comp=Z,11nm,0.5s						
KHC				*e*Sg	**Sg**	**05 01 35.7**	**-0.7**
	comp=Z,11nm,0.5s						
MOX	**Moxa**	**2.97**	**256**	*e*PN	**Pn**	**05 00 54.0**	**+1.1**
MOX				*i* PG	**Pg**	**05 01 01.4**	**0.0**
MOX				*i* SG	**Sg**	**05 01 40.9**	**+1.0**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**05 00 55.6**	**+1.5**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**05 00 55.6**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=28,slow=12,SNR=19						
GERES				Pg	**Pg**	**05 01 01.2**	**-1.9**
	comp=Z,4.1nm,0.3s,baz=34,slow=19,SNR=48						
GERES				Sn	**Sn**	**05 01 31.9**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=31,slow=26,SNR=5.8						
GERES				Lg		05 01 43.6	
	comp=Z,3.0nm,0.3s,baz=32,slow=25,SNR=6.1						
GERES	**GERESS Array B**	**3.06**	**212**	Pg	**Pg**	**05 01 01.2**	**-2.0**
GERES				S	**Sn**	**05 01 31.9**	**+0.5**
GERES	**GERESS Array B**	**3.06**	**212**	P	**Pn**	**05 00 55.6**	**+1.5**
GERES						05 01 31.9	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**05 00 55.8**	**+0.7**
WET				*e*Sg	**Sg**	**05 01 42.9**	**-2.1**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**05 01 07.6**	**-1.6**
NIE				*e*S	**Sg**	**05 01 51.8**	**-1.1**
VYHS	**Vyhne**	**3.46**	**149**	*e*PG	**Pg**	**05 01 12.1**	**+1.3**
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**05 01 02.8**	**-0.5**
BSD				*i*		05 01 09.1	
BSD				*i* S	**Sn**	**05 01 43.2**	**-4.6**
BSD				*i*		05 01 44.2	
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**05 01 02.8**	**-0.5**
BSD				*i* S	**Sn**	**05 01 43.2**	**-4.6**
MOA	**Molln**	**3.82**	**199**	⇑Sg	**Sg**	**05 02 08.9**	**+1.6**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**3.82**	**199**	⇓*i*Pn	**Pn**	**05 01 05.3**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**05 02 08.9**	**+1.6**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**3.82**	**199**	⇓Pn	**Pn**	**05 01 05.3**	**+0.6**
MOA				Sg	**Sg**	**05 02 08.9**	**+1.5**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**3.82**	**199**	⇓Pn	**Pn**	**05 01 05.3**	**+0.6**
MOA				Sg	**Sg**	**05 02 08.9**	**+1.5**
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*PN	**Pn**	**05 01 07.3**	**+2.1**
STHS				*e*PG	**Pg**	**05 01 19.4**	**+0.8**
STHS				*e*SG	**Sg**	**05 02 11.8**	**+3.1**
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*Pg	**Pg**	**05 01 19.4**	**+0.8**
STHS				*e*Sg	**Sg**	**05 02 11.8**	**+3.1**
ARSA	**Arzberg**	**4.24**	**186**	⇑Sg	**Sg**	**05 02 19.8**	**-1.2**
	comp=Z,8.2nm,0.6s						
ARSA	**Arzberg**	**4.24**	**186**	⇑*i*Pn	**Pn**	**05 01 11.1**	**+0.6**
ARSA				⇑*i*Sg	**Sg**	**05 02 19.8**	**-1.2**
	comp=Z,8.2nm,0.6s						
ARSA	**Arzberg**	**4.24**	**186**	⇑Pn	**Pn**	**05 01 11.1**	**+0.6**
ARSA				Sg	**Sg**	**05 02 19.8**	**-1.2**
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*SG	**Sg**	**05 02 22.9**	**+0.7**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*PN	**Pn**	**05 01 17.1**	**+0.5**
KBA	**Koelnbreinsper**	**4.76**	**204**	⇓Sg	**Sg**	**05 02 38.0**	**+0.5**
	comp=Z,7.1nm,0.7s						
KBA	**Koelnbreinsper**	**4.76**	**204**	⇓*i*Pn	**Pn**	**05 01 18.3**	**+0.7**
KBA				⇓*i*Sg	**Sg**	**05 02 38.0**	**+0.5**
	comp=Z,7.1nm,0.7s						
KBA	**Koelnbreinsper**	**4.76**	**204**	⇓Pn	**Pn**	**05 01 18.3**	**+0.7**
KBA				Sg	**Sg**	**05 02 38.0**	**+0.5**
BLEU	**Blekinge**	**4.85**	**358**	P	**Pn**	**05 01 18.7**	**0.0**
DIVS	**Divcibare**	**7.82**	**159**	Sg	**Sg**	**05 04 20.6**	**+4.8**
DIVS	**Divcibare**	**7.82**	**159**	Sg	**Sg**	**05 04 20.6**	**+4.9**
HFS	**Hagfors**	**8.79**	**352**	Pn	**Pn**	**05 02 12.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=3.9						
NOA	**NORSAR Array B**	**9.97**	**346**	Pn	**Pn**	**05 02 28.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=161,slow=12,SNR=2.9						
NOA				Sn	**Sn**	**05 04 16.6**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=205,slow=19,SNR=2.6						
NOA	**NORSAR Array B**	**9.97**	**346**	Pn	**Pn**	**05 02 28.0**	**-1.1**
NOA				Sn	**Sn**	**05 04 16.5**	**-5.1**
FINES	**FINESS Array B**	**11.39**	**25**	Pn	**Pn**	**05 02 46.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=219,slow=9.9,SNR=4.1						
FINES				Sn	**Sn**	**05 04 48.0**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=252,slow=28,SNR=3.7						
ARCES	**ARCESS Array B**	**18.66**	**10**	Pn	**Pn**	**05 04 20.2**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=5.3						

*ISCJB **08** 05:04:51.8±0.3, 5456S±004×1438E±0.1, h10km, mb5.1/30, MS5.6/43, Error ellipse: s-maj=10.1km s-min=5.9km az=6.9*
*IDC **08** 05:04:51.3±0.5, 5456S×14358E, h0km, mb4.8/12, mb1 4.8/12, mb1mx4.8/15, mbtmp4.8/12, MS5.7/16, Ms1 5.6/16, ms1mx5.6/16, Error ellipse: s-maj=20.1km s-min=15.7km az=94.0*
*NAO **08** 05:04:52.3, 5500S×14400E, h33km, mb4.9*
*NEIC **08** 05:04:53.6±0.2, 5450S×14381E, h10km, mb5.3/10, MS5.6/14, MW5.8, Error ellipse: s-maj=11.0km s-min=7.9km az=98.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-0.65; $M_{r\theta}$-0.06; $M_{r\phi}$-5.95; $M_{\theta\phi}$-1.19; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s357.00000°, δ90.00000°, λ-11.00000°. NP2:ϕ_s88.00000°, δ79.00000°, λ-180.00000°. Principal axes: T 5.9500, Plg8.0000°, Azm43.0000°; N 0.2700, Plg79.0000°, Azm176.0000°; P -6.2300, Plg8.0000°, Azm312.0000°;*
*HRVD **08** 05:04:53.6±0.1, 5460S×14395E, h12km, MW5.9/106, Centroid moment Tensor Solution. LP body waves: s94,c202; Mantle waves: s106,c331; Half duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25±.06; $M_{\theta\theta}$1.78±.07; $M_{\phi\phi}$-1.52±.08; $M_{r\theta}$0.06±.17; $M_{\theta\phi}$-7.29±.06; $M_{r\phi}$-0.19±.17; Best double couple: $M_0$7.47700×10^{17} NP1:ϕ_s84.00000°, δ88.00000°, λ180.00000°. NP2: ϕ_s174.00000°, δ90.00000°, λ2.00000°. Principal axes: T 7.6080, Plg1.0000°, Azm39.0000°; N -0.2530, Plg88.0000°, Azm182.0000°; P -7.3460, Plg1.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **08** 05:04:53.5, 5450S×14380E, h10km, mB5.7, mb5.5, Ms5.7, Msz5.4*
*CRAAG **08** 05:04:56.1, 5450S×14386E, Mb5.4*
*MOS **08** 05:04:57.8±1.6, 5414S×14379E, h33km, mb5.3/11, MS5.6/20, Error ellipse: s-maj=34.4km s-min=11.1km az=91.4*

ISC 08 05:04:53.3±0.3, 5456S±004×1438E±01, h10km, (h14km±2.0km:pP-P), n200, σ1§16/69, mb5.1/30, MS5.6/43, 13C-9D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**11.88**	**13**	*e*P	**Pn**	**05 07 42.0**	**-0.8**
TAU				pmax	pmax		
	comp=Z,193nm,1.4s						
TAU	**Tasmania Unive**	**11.88**	**13**	*e*Pn	**Pn**	**05 07 42.0**	**-0.8**
	comp=Z,193nm,1.4s						
DRV	**Dumont d'Urvil**	**12.28**	**187**	P	**Pn**	**05 07 48.0**	**-0.2**
DRV				R		05 10 00.0	
DRV				S	**Sn**	**05 10 05.0**	**-0.2**
TOO	**Toolangi**	**17.03**	**5**	*e*P	**Pn**	**05 08 51.4**	**-0.1**
	comp=Z,96nm,1.5s						
TOO				*e*S	**Sn**	**05 12 05.8**	**+4.9**
CNB	**Canberra Magne**	**19.63**	**14**	*e*P	**Pn**	**05 09 22.7**	**-0.6**
RPZ	**Rata Peaks**	**20.72**	**70**	P	**P**	**05 09 35.3**	**+1.5**
	comp=Z,32nm,0.9s,baz=158,slow=8.5,SNR=4.9						
RPZ				LR	LR	05 15 53.0	
	comp=Z,62μm,18.9s,MS6.0,baz=223,slow=32						
RIV	**Riverview**	**21.36**	**17**	*e*P	**P**	**05 09 40.8**	**+0.1**
STKA	**Stephens Creek**	**22.73**	**355**	*e*P	**P**	**05 09 52.9**	**-2.5**
	comp=Z,45nm,0.9s,mb4.9						
STKA				*e*S	**S**	**05 14 05.3**	**+1.0**
STKA	**Stephens Creek**	**22.73**	**355**	P	**P**	**05 09 53.0**	**-2.3**
	comp=Z,28nm,1.0s,mb4.6,baz=166,slow=8.9,SNR=13						
STKA				LR	LR	05 17 33.5	
	comp=Z,10μm,19.1s,MS5.3,baz=346,slow=34						
STKA	**Stephens Creek**	**22.73**	**355**	*e*P	**P**	**05 09 53.5**	**-1.8**
VNDA	**Vanda**	**23.95**	**170**	P	**P**	**05 10 03.9**	**-3.8**
	comp=Z,18nm,1.0s,mb4.4,baz=336,slow=9.8,SNR=13						
VNDA				LR	LR	05 18 15.8	
	comp=Z,9μm,20.2s,MS5.3,baz=345,slow=34						
VNDA	**Vanda**	**23.95**	**170**	*e*P	**P**	**05 10 06.2**	**-1.4**
VNDA				pmax	pmax		
	comp=Z,72nm,1.4s						
VNDA				MLR	MLR		
	comp=Z,21μm,22.0s						
VNDA	**Vanda**	**23.95**	**170**	*e*P	**P**	**05 10 06.2**	**-1.5**
	comp=Z,72nm,1.4s,mb4.9						
VNDA				LR	LR		
	comp=Z,21μm,22.0s,MS5.6						
URZ	**Urewera**	**27.80**	**68**	P	**P**	**05 10 43.8**	**+1.3**
	comp=Z,27nm,0.9s,mb4.9,baz=191,slow=2.9,SNR=3.3						
URZ				LR	LR	05 20 43.4	
	comp=Z,29μm,19.6s,MS5.9,baz=223,slow=34						
NWAO	**Narrogin (SRO)**	**28.63**	**308**	P	**P**	**05 10 49.9**	**0.0**
	comp=Z,11nm,0.9s,mb4.6,baz=127,slow=6.7,SNR=3.3						
NWAO				LR	LR	05 19 39.1	
	comp=Z,34μm,21.0s,MS5.9,baz=114,slow=31						
KLBR	**Kellerberrin**	**29.52**	**310**	*e*P	**P**	**05 10 58.2**	**+0.4**
	comp=Z,64nm,1.1s,mb5.3						
ASAR	**Alice Springs**	**31.74**	**343**	P	**P**	**05 11 16.1**	**-1.2**
	comp=Z,9.4nm,0.7s,mb4.7,baz=166,slow=9.5,SNR=37						
ASAR				PcP	PcP	05 14 08.3	-0.5
	comp=Z,5.2nm,0.8s,baz=158,slow=3.1,SNR=5.4						
ASPA	**Alice Springs**	**31.74**	**343**	*e*P	**P**	**05 11 17.0**	**-0.4**
CTA	**Charters Tower**	**34.47**	**4**	*e*P	**P**	**05 11 40.9**	**-0.3**
	comp=Z,8.4nm,0.9s,mb4.7						
CTA				*e*S	**S**	**05 17 11.6**	**+2.1**
CTA	**Charters Tower**	**34.47**	**4**	P	**P**	**05 11 40.5**	**-0.6**
	comp=Z,6.3nm,0.9s,mb4.5,baz=183,slow=6.0,SNR=3.6						
CTAO	**Charters Tower**	**34.47**	**4**	*e*P	**P**	**05 11 40.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.5						
CTAO	**Charters Tower**	**34.47**	**4**	*e*P	**P**	**05 11 40.8**	**-0.4**
	comp=Z,26nm,1.3s,mb5.0						
CTAO				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
WB2	**Warramunga Arr**	**35.31**	**344**	*e*P	**P**	**05 11 46.3**	**-2.2**
WB2				*e*S	**S**	**05 17 23.2**	**+0.7**
WRA	**Warramunga Arr**	**35.31**	**344**	P	**P**	**05 11 46.2**	**-2.3**
	comp=Z,22nm,0.6s,mb5.3,baz=168,slow=7.8,SNR=112						
WRA				PcP	PcP	05 14 18.0	-0.9
	comp=Z,3.8nm,0.8s,baz=188,slow=2.5,SNR=5.8						
WRAB	**Tennant Creek**	**35.32**	**344**	P	**P**	**05 11 46.6**	**-2.0**
	comp=Z,314nm,0.6s,SNR=35						
WRAB	**Tennant Creek**	**35.32**	**344**	*e*P	**P**	**05 11 48.0**	**-0.6**
WRAB	**Tennant Creek**	**35.32**	**344**	*e*P	**P**	**05 11 46.9**	**-1.7**
	comp=Z,58nm,0.8s,mb5.6						
WRAB				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
DZM	**Mont Dzumac**	**36.64**	**37**	P	**P**	**05 12 00.0**	**+0.1**
	comp=Z,7.7nm,0.9s,mb4.5,baz=190,slow=13,SNR=4.4						
DZM				LR	LR	05 24 46.6	
	comp=Z,12μm,18.3s,MS5.7,baz=203,slow=32						
MBWA	**Marble Bar**	**38.01**	**322**	*e*P	**P**	**05 12 10.6**	**-0.8**
	comp=Z,67nm,1.1s,mb5.3						
MBWA				LR	LR		
	comp=Z,14μm,20.0s,MS5.8						
FITZ	**Fitzroy Crossi**	**38.99**	**332**	*e*P	**P**	**05 12 18.9**	**-0.8**
	comp=Z,35nm,0.9s,mb5.1						
FITZ				*e*S	**S**	**05 18 20.3**	**+1.9**
SYO	**Syowa Base**	**45.03**	**210**	⇓*e*pP	pP	05 13 11.4	-0.8
SYO	**Syowa Base**	**45.03**	**210**	⇑*i*P	**P**	**05 13 09.0**	**-0.1**
SYO				⇓*e*pP	pP	05 13 11.4	-0.8
PMG	**Port Moresby**	**45.11**	**5**	P	**P**	**05 13 08.7**	**-1.1**
	comp=Z,6.6nm,0.4s,mb4.8,baz=93,slow=7.5,SNR=5.6						
PMG				LR	LR	05 31 00.2	
	comp=Z,6μm,18.4s,MS5.5,baz=358,slow=35						
NVL	**N'lazarevskaya**	**50.37**	**199**	⇓*i*P	**P**	**05 13 50.4**	**-0.1**
NVL				*e**PP	pP	05 13 59.7	+6.0
NVL				*e**SP	sP	05 14 03.6	+8.7
NVL				*e*		05 15 15.2	
NVL				*e*PPP		05 16 46.9	
NVL				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5						
NVL				MLR	MLR		
	comp=N,12μm,18.4s,MS6.0						
NVL				MLR	MLR		
	comp=E,9μm,18.4s,MS6.0						
NVL				MLR	MLR		
	comp=Z,15μm,17.4s,MS6.0						
SNAA	**Sanae**	**51.89**	**193**	P	**P**	**05 14 00.4**	**-1.6**
	comp=Z,17nm,1.1s,mb4.9,baz=165,slow=5.3,SNR=8.8						
SNAA				LR	LR	05 35 46.5	
	comp=Z,10μm,19.2s,MS5.9,baz=146,slow=36						
TBI	**Tubuai**	**57.86**	**86**	*e*S	**S**	**05 22 45.9**	**+1.1**
	comp=Z,615nm,24.8s						
TBI				*e*SS	SS	05 26 31.9	-3.5
	comp=Z,450nm,31.5s						
TBI				*e*LQ		05 28 51.7	
	comp=Z,6μm,26.0s						
TBI				*e*LR	LR	05 31 42.6	
	comp=Z,5μm,29.0s,baz=209						
PPT	**Papeete**	**62.32**	**81**	*e*S	**S**	**05 23 39.9**	**-2.1**
	comp=Z,3μm,24.9s						
PPT				*e*SS	SS	05 27 48.1	+2.7
	comp=Z,704nm,28.5s						
PPT				*e*LQ		05 30 48.8	
	comp=Z,17μm,29.0s						
PPT				*e*LR	LR	05 33 46.1	
	comp=Z,5μm,23.8s,baz=224						
PPT	**Papeete**	**62.32**	**81**	LR	LR	05 37 47.6	
	comp=Z,3μm,18.9s,MS5.4,baz=224,slow=32						
RKT	**Rikitea**	**66.46**	**97**	*e*S	S	05 24 33.2	0.0
	comp=Z,2μm,29.8s						
RKT				*e*SS	SS	05 28 44.7	-5.2
	comp=Z,346nm,34.2s						
RKT				*e*LQ		05 32 38.7	
	comp=Z,5μm,30.2s						
RKT				*e*LR	LR	05 35 08.6	
	comp=Z,6μm,31.8s,baz=217						
KULM	**Kulim**	**69.61**	**313**	*e*P	**P**	**05 16 03.4**	**+0.8**
TAOE	**Nuku Hiva Isla**	**74.73**	**84**	*e*SS	SS	05 30 58.6	+1.5
	comp=Z,2μm,28.2s						
TAOE				*e*LR	LR	05 39 31.2	
	comp=Z,12μm,23.0s,baz=226						
QIZ	**Qiongzhong**	**78.85**	**327**	P	**P**	**05 16 56.4**	**-0.2**
QIZ				XP	sP	05 17 02.7	+1.6
QIZ				S	S	05 26 56.6	+2.0
QIZ				SCS	ScS	05 27 18.3	-0.1
QIZ				SS	SS	05 32 00.1	+0.8
QIZ				AMB	AMB		
	comp=Z,305nm,5.1s						
QIZ				LR	LR		
	comp=N,1μm,24.3s						
QIZ				LR	LR		
	comp=Z,3μm,27.2s,MS5.4						
SUR	**Sutherland**	**80.52**	**226**	P	**P**	**05 17 07.1**	**+1.5**
	comp=Z,38nm,1.1s,mb5.2						
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PLCA	**Paso Flores**	**80.61**	**154**	P	**P**	**05 17 05.4**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.5,baz=195,slow=11,SNR=14						
PLCA	**Paso Flores**	**80.61**	**154**	*e*P	**P**	**05 17 05.7**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,57nm,1.8s						
PLCA				MLR	MLR		
	comp=Z,3μm,20.0s						
PLCA	**Paso Flores**	**80.61**	**154**	*e*P	**P**	**05 17 05.7**	**-0.5**
	comp=Z,56nm,1.8s,mb5.2						
PLCA				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
BOSA	**Boshof**	**81.82**	**231**	P	**P**	**05 17 10.4**	**-2.1**
	comp=Z,6.0nm,1.0s,mb4.5,baz=148,slow=8.1,SNR=4.6

SSE AMB AMB
comp=Z,15nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,68nm,6.7s
SSE LR LR
comp=N,395nm,27.8s,MS5.0
SSE LR LR
comp=E,815nm,27.8s,MS5.0
SSE LR LR
comp=Z,847nm,23.6s,MS5.1
MNGI Mangalore 88.71 294 *e*P pP 05 17 58.8 +8.4
MNGI *e*S 05 28 21.8
NJ2 Nanjing 88.91 339 *e*P **P** **05 17 46.8 -1.1**
NJ2 PP PP 05 21 17.9 +0.7
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,380nm,5.3s
NJ2 LR LR
comp=N,6μm,18.0s
NJ2 LR LR
comp=E,5μm,23.9s
NJ2 LR LR
comp=Z,560nm,24.2s
AGT Agartala 90.19 313 *e*P pP 05 18 02.0 +4.7
HYB Hyderabad 90.53 300 *i* P **P** **05 17 55.0 -0.5**
HYB *e*S 05 28 50.0
MJAR Matsushiro Arr 90.87 355 P **P** **05 17 58.1 +1.1**
comp=Z,6.7nm,1.0s,mb4.9,baz=179,slow=5.9,SNR=8.5
MJAR LR LR 05 58 09.5
comp=Z,1μm,20.7s,MS5.3,baz=160,slow=35
MAT Matsushiro 90.87 355 P **P** **05 17 57.4 +0.3**
MAT S 05 28 58.0
MAT Matsushiro 90.87 355 P **P** **05 17 57.0 -0.1**
MAT *e*S 05 28 59.0
MAT LR LR
comp=Z,2μm,20.0s,MS5.6
LSZ Lusaka 91.74 241 *e*P **P** **05 18 03.4 +2.3**
LSZ pmax pmax
comp=Z,40nm,1.5s,mb5.5
LSZ MLR MLR
comp=Z,6μm,19.0s,MS6.1
LSZ Lusaka 91.74 241 *e*P **P** **05 18 03.4 +2.3**
comp=Z,40nm,1.5s,mb5.5
LSZ LR LR
comp=Z,6μm,19.0s,MS6.1
CD2 Chengdu 91.86 326 *e*P **P** **05 18 03.5 +1.8**
CD2 AP pP 05 18 08.3 +3.3
CD2 XP sP 05 18 10.5 +4.3
CD2 PP PP 05 21 46.4 +5.7
CD2 SKS 05 28 34.4
CD2 S 05 29 03.0
CD2 XS sS 05 29 11.1 +2.6
CD2 SS SS 05 35 16.4 +5.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,100nm,4.9s
CD2 LR LR
comp=E,1μm,16.8s
CD2 LR LR
comp=Z,910nm,21.6s,MS5.2
POO Poona 93.88 297 *e*P **P** **05 18 11.0 0.0**
HHC Hu-ho-hao-te 98.98 336 *e*P **P** **05 18 34.4 +0.3**
HHC AP pP 05 18 39.3 +1.8
HHC XP sP 05 18 41.7 +3.1
HHC PP PP 05 22 40.3 +4.4
HHC SKS 05 29 11.1
HHC S 05 29 56.6
HHC XS sS 05 30 09.8 -0.6
HHC SS SS 05 36 53.8 +1.9
HHC AMB AMB
comp=Z,6.0nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,124nm,9.6s
HHC LR LR
comp=N,502nm,20.4s,MS5.2
HHC LR LR
comp=E,425nm,18.0s,MS5.2
HHC LR LR
comp=Z,1μm,30.0s
CN2 Changchun 99.23 347 *e*P **P** **05 18 37.2 +1.9**
CN2 *e*XP sP 05 18 44.0 +4.2
CN2 *e*S 05 30 06.2
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,21.0s,MS5.4
MDJ Mudanjiang 99.54 350 P **P** **05 18 36.3 -0.3**
MDJ PP PP 05 22 43.2 +3.0
MDJ SKS 05 29 10.9
MDJ S 05 30 08.8
MDJ SS SS 05 37 05.5 +5.7
MDJ AMB AMB
comp=Z,12nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,246nm,3.9s
MDJ LR LR
comp=N,1μm,25.7s,MS5.4
MDJ LR LR
comp=E,648nm,25.7s,MS5.4
MDJ LR LR
comp=Z,2μm,24.6s,MS5.5
GTA Gaotai 100.92 327 *e*P Pdif 05 18 44.2 +1.4
GTA AP 05 18 48.3
GTA XP 05 18 51.2
GTA PP PP 05 22 55.0 +4.3
GTA SKS 05 29 19.4
GTA XS 05 30 26.5
GTA SS SS 05 37 21.0 +2.0
GTA AMB AMB
comp=Z,3.0nm,2.2s
GTA AMB AMB
comp=Z,152nm,6.5s
GTA LR LR
comp=N,542nm,27.9s,MS5.2
GTA LR LR
comp=E,828nm,27.5s,MS5.2
GTA LR LR
comp=Z,2μm,33.2s
YSS Yuzh-Sakhalins 101.14 359 *e*P Pdif 05 18 50.0 +6.2
YSS *e* 05 37 12.0
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.5
YSS MLR MLR
comp=N,1μm,16.0s,MS5.6
YSS MLR MLR
comp=E,500nm,18.0s,MS5.6
WMQ Urumqi 109.02 321 *e*PDIF Pdif 05 19 21.0 +2.2
WMQ PP PP 05 23 57.0 +6.2
WMQ S Sdif 05 31 28.0 -0.6
WMQ SS SS 05 39 13.0 +3.1
WMQ PP PP
comp=Z,287nm,8.0s
WMQ LR LR
comp=N,2μm,17.0s,MS5.8
WMQ LR LR
comp=E,1μm,14.0s,MS5.8
WMQ LR LR
comp=Z,1μm,14.0s,MS5.7
AAK Ala-Archa 113.38 311 *i* PKIKP PKiKP 05 23 37.9 +6.5
BRVK Borovoye 123.27 316 *i* P PKPdf 05 23 52.2 +1.8
BILL Bilibino 123.42 10⇓*e*PKIKP PKPdf 05 23 51.6 +0.9
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 123.42 10 *e*P PKPdf 05 23 50.7 0.0
YBH Yreka Blue Hor 124.43 65 PKP PKPdf 05 23 53.3 +0.7
comp=Z,2.4nm,0.8s,baz=231,slow=3.4,SNR=6.7
NVAR Mina Array Bea 124.46 71 PKP PKPdf 05 23 52.7 0.0
comp=Z,3.1nm,0.9s,baz=163,slow=3.0,SNR=10.0
TNA Tin City 125.30 22 *e*PKPdf PKPdf 05 23 53.5 -0.7
TXAR Lajitas Array 126.22 89 PKP PKPdf 05 23 55.0 -1.0
comp=Z,0.6nm,0.7s,baz=187,slow=5.1,SNR=8.8
TIXI Tiksi 126.36 354 *i* PKIKP PKPdf 05 23 53.2 -3.1
TIXI *e*PPP 05 28 32.0
TIXI *e*SS SS 05 42 45.0 -10
TIXI pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 126.36 354 *i* P PKPdf 05 23 54.4 -1.9
MNTX Cornudas Mount 126.96 86 *e*PKPdf PKPdf 05 23 56.5 -1.0
WVOR Wild Horse Val 127.08 67 *e*PKIKP PKPdf 05 23 57.7 0.0
ANMO Albuquerque 128.68 82 *e*PKIKP PKPdf 05 24 00.5 -0.2
ANMO Albuquerque 128.68 82 *e*PKPdf PKPdf 05 23 59.2 -1.5
DUG Dugway 128.73 73 *e*PKIKP PKPdf 05 24 00.5 -0.3
MCK McKinley 128.88 32 *e*PKIKP PKPdf 05 23 59.1 -2.0
TORD Torodi Ar. Bea 129.17 230 PKP PKPdf 05 23 59.9 -1.8
comp=Z,0.6nm,0.8s,baz=24,slow=1.7,SNR=5.3
COLA College 130.03 31 *e*PKIKP PKPdf 05 24 01.5 -1.8
KIV Kislovodsk 130.06 292 *i* PKIKP PKPdf 05 24 02.8 -0.6
KIV *e* 05 26 18.6
KIV *e* 05 31 03.2
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,1μm,18.0s,MS5.6
ILAR Eielson Array 130.25 32 PKP PKPdf 05 24 00.7 -3.0
comp=Z,0.7nm,0.7s,baz=297,slow=3.2,SNR=9.3
HWUT Hardware Ranch 130.38 72 *e*PKPdf PKPdf 05 24 04.4 +0.4
ARU Arti 130.48 313 *i* PKIKP PKPdf 05 24 06.4 +2.2
ARU *e* 05 26 20.9
ARU *e*SS SS 05 43 48.5 +2.3
ARU MLR MLR
comp=N,800nm,21.0s,MS5.4
ARU MLR MLR
comp=E,400nm,21.0s,MS5.4
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.6
ARU Arti 130.48 313 *e*P PKPdf 05 24 06.6 +2.4
SOC Sochi 131.42 290 *i* PKIKP PKPdf 05 24 11.9 +6.0
SOC *e* 05 26 34.0
SOC *e*SSS 05 48 52.4
SOC pmax pmax
comp=Z,16nm,1.3s
PDAR Pinedale Array 132.27 72 PKP PKPdf 05 24 06.5 -1.0
comp=Z,0.5nm,0.9s,baz=180,slow=1.5,SNR=2.7
WMOK Wichita Mounta 132.98 88 *e*PKIKP PKPdf 05 24 08.5 -0.4
ANN Anapa 133.46 290 *e*PKHKP 05 23 38.5
ANN pmax pmax
comp=Z,76nm,1.6s
RSSD Black Hills 136.22 75 *e*PKIKP PKPdf 05 24 15.3 +0.4
MOS Moscow 139.67 303 *e*PKIKP PKPdf 05 24 18.5 -2.8
MOS MLR MLR
comp=Z,2μm,21.8s,MS5.7
MOS MLR MLR
comp=N,2μm,22.8s,MS5.8
MOS MLR MLR
comp=E,1μm,21.8s,MS5.8
OBN Obninsk 139.87 302*c* *i*PKIKP PKPdf 05 24 26.5 +4.8
OBN *i* 05 24 43.3
OBN *e*PS 05 37 39.7
OBN pmax pmax
comp=Z,16nm,1.8s
OBN MLR MLR
comp=Z,1μm,22.0s,MS5.6
OBN Obninsk 139.87 302 *e*P PKPdf 05 24 26.6 +4.9
OBN LR LR
comp=Z,1μm,22.0s,MS5.6
YKA Yellowknife Ar 140.73 46 PKhKP 05 24 14.3
comp=Z,0.6nm,0.7s,baz=232,slow=3.7,SNR=14
YKA PKP PKPdf 05 24 21.1 -2.1
comp=Z,1.7nm,0.8s,baz=238,slow=3.6,SNR=18
KLMR Klimovskoe 141.20 311 *i* PKIKP PKPdf 05 24 29.6 +5.5
KLMR pmax pmax
comp=Z,30nm,2.2s
KLMR MLR MLR
comp=Z,1μm,21.0s,MS5.7
AKASG Malin Array Be 141.40 292 PKP PKPdf 05 24 20.7 -3.7
comp=Z,0.7nm,0.5s,baz=338,slow=20,SNR=4.0
FFC Flin Flon 143.19 62 *e*PKIKP PKPdf 05 24 25.5 -2.1
LVV L'vov 143.78 288 *e*PKIKP 05 24 40.0
UZH Uzhgorod 144.13 285 *e*PKHKP 05 24 26.0
ULM Lac du Bonnet 144.28 72 PKP PKPdf 05 24 25.6 -3.9
comp=Z,9.5nm,1.0s,baz=244,slow=3.1,SNR=16
KOLS Kolonicke sedl 144.30 286 *e*PKP PKPdf 05 24 28.4 -1.2
KWP Kalwaria 144.42 287 *e*PKP PKPdf 05 24 28.1 -1.7
CRVS Cervenica-Dubn 144.74 285 *e*PKP PKPdf 05 24 30.4 +0.1
CRVS *e* 05 24 35.6
KECS Kecovo 145.07 284 *e*PKP PKPdf 05 24 28.4 -2.5
PSZ Piszkesteto 145.10 283 *e*PKP/p PKPdf 05 24 29.1 -1.8
PSZ Piszkesteto 145.10 283 *e*PKPbc PKPbc 05 24 31.9 +1.5
STHS Stebnicka Huta 145.13 286 *e*PKP PKPdf 05 24 29.7 -1.3
BLA Blacksburg 145.34 102 *e*PKP2 PKPab 05 24 30.2 -1.1
EYMN Ely 145.54 78 *e*PKPbc PKPbc 05 24 32.3 +0.5
JOF Joensuu 145.57 312 *e*p PKPdf 05 24 31.2 -0.5
comp=Z,9.0nm,0.9s
LVZ Lovozero 145.57 321 *i* PKIKP PKPdf 05 24 32.7 +0.9
LVZ MLR MLR
comp=Z,2μm,24.0s,MS5.8
LVZ MLR MLR
comp=N,1μm,20.0s
AQU L'Aquila 145.65 270 *e*PKP2 PKPab 05 24 33.2 +0.7
NIE Niedzica 145.65 285 *e*PKP PKPdf 05 24 31.9 0.0
SISC Sisak 145.77 277 *i* P PKPdf 05 24 39.2 +7.1
SRO2 Moca 145.88 282 *e*PKP PKPdf 05 24 33.5 +1.2
ACSO Alum Creek Sta 145.91 95 *e*PKPdf PKPdf 05 24 30.5 -1.8
SRO Srobarova 145.95 282 *e*PKP PKPdf 05 24 31.9 -0.5
APA Apatity 145.96 320⇑*e*PKP2 PKPab 05 24 32.5 -1.1
APA pmax pmax
comp=Z,20nm,0.8s
VYHS Vyhne 146.01 283 *e*PKP PKPdf 05 24 31.9 -0.6
NVLJ Novalja 146.12 274 *i* PKP PKPdf 05 24 39.9 +7.2
VSU Vasula 146.20 303 *e*PKP2 PKPab 05 24 36.0 +1.5
SUW Suwalki 146.25 294 *e*PKP PKPdf 05 24 32.9 0.0
OJC Ojcow 146.34 286 *e*PKP PKPdf 05 24 35.1 +2.0
SNTG Esanatoglia 146.47 271 PKP PKPab 05 24 37.0 +1.4
FSSB Fossombrone 146.83 271 PKP PKPab 05 24 37.3 +0.3
ZST Bratislava 146.84 281 *e*PKP PKPab 05 24 37.8 +0.8
OKC Ostrava-Krasne 147.08 285 *e*PKPbc PKPbc 05 24 34.2 -2.2
OKC AMS AMS 06 42 10.0
comp=Z,800nm,23.6s
LJU Ljubljana 147.16 276 *e*PKP PKPab 05 24 38.2 -0.1
ARSA Arzberg 147.25 279⇑*i*PKPbc PKPbc 05 24 36.8 -0.1
comp=Z,34nm,1.4s
ARSA Arzberg 147.25 279⇑P PKPdf 05 24 36.8 +2.2
MORC Moravsky Berou 147.39 284 *e*PKIKP PKPdf 05 24 36.2 +1.4
FINES FINESS Array B 147.48 308 PKPbc PKPbc 05 24 35.8 -1.7
comp=Z,6.5nm,0.8s,baz=99,slow=3.4,SNR=28
SFI Santa Sofia 147.49 271 PKP PKPdf 05 24 37.7 +2.7
EMHD Djebel Mahouad 147.51 252 P 05 24 50.0
VOY Vojsko 147.53 276 *e*PKP PKPdf 05 24 39.8 +4.8
VOY *e* 05 24 53.5
KAF Kangasniemi 147.56 309 *e*p PKPdf 05 24 35.0 -0.1
comp=Z,15nm,1.0s
ETRT Tiaret 147.82 249 P PKPab 05 24 45.0 +4.1
EANR 'Ain N'Sour 148.34 249 P PKPab 05 24 46.0 +3.0
ECHA Ech Chlef 148.34 250 P PKPab 05 24 48.0 +5.0
EBNR Beni Rached 148.36 250 P PKPab 05 24 47.0 +4.0
DPC Dobruska-Polom 148.36 284 *e*PKPbc PKPbc 05 24 39.5 -0.4
KBA Koelnbreinsper 148.41 277⇓*i*PKPbc PKPbc 05 24 39.4 -0.6
comp=Z,18nm,1.1s
KBA Koelnbreinsper 148.41 277⇓P PKPdf 05 24 39.4 +2.9
KEV Kevo 148.60 323 *e*p PKPdf 05 24 38.9 +2.1
comp=Z,12nm,0.9s
KEV Kevo 148.60 323 *e*PKP2 PKPab 05 24 38.9 -5.1
KEV pmax pmax
comp=Z,12nm,0.9s
UPC Upice 148.61 284 *e*PKPbc PKPbc 05 24 42.4 +1.9
ARCES ARCESS Array B 149.11 323 PKPbc PKPbc 05 24 39.8 -2.0
comp=Z,14nm,0.8s,baz=107,slow=2.9,SNR=14
ARE0 ARCESS Array S 149.11 323 *e*PKPbc PKPbc 05 24 40.9 -0.9
GERES GERESS Array B 149.12 280 PKPbc PKPbc 05 24 41.1 -0.7
comp=Z,1.9nm,0.9s,baz=315,slow=3.8,SNR=7.4
PRU Pruhonice 149.19 283 *e*PKP2 PKPab 05 24 47.0 +0.6
PRU MLR MLR
comp=E,900nm,23.4s
PRU MLR MLR
comp=Z,1μm,24.6s,MS5.6
PRA Prague 149.30 283 PKPbc PKPab 05 24 50.0 +3.2
KHC Kasperske Hory 149.33 281 *e*PKPbc PKPbc 05 24 43.5 +1.2
KHC x x 05 24 51.0
KHC Kasperske Hory 149.33 281 *e*PKP PKPdf 05 24 43.5 +5.5
KHC *e* 05 24 51.0
PVCC Panska Ves 149.43 284 *e*PKPbc PKPbc 05 24 42.3 -0.3
WTTA Wattenberg 149.50 276⇑*i*PKPbc PKPbc 05 24 42.2 -0.6
comp=Z,51nm,1.3s
WTTA Wattenberg 149.50 276⇑P PKPdf 05 24 42.2 +3.9
SQTA Sankt Quirin 149.72 276⇑*i*PKPbc PKPbc 05 24 42.7 -0.6
comp=Z,31nm,1.2s
SQTA Sankt Quirin 149.72 276⇑P PKPdf 05 24 42.7 +4.1
MOTA Moosalm 149.85 276⇑*i*PKPbc PKPbc 05 24 42.9 -0.7
comp=Z,34nm,1.1s
BRG Berggiesshubel 149.94 284 *e*PKP PKPdf 05 24 43.5 +4.6
comp=Z,2.5nm,1.0s
BRG
comp=N,534nm,20.1s
BRG
comp=E,370nm,21.1s
BRG
comp=Z,545nm,20.9s
BRG Berggiesshubel 149.94 284 *e*PKHKP 05 24 43.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=N,534nm,20.1s,MS5.4
BRG MLR MLR
comp=E,370nm,21.1s,MS5.4
BRG MLR MLR
comp=Z,545nm,20.9s,MS5.3
FRF La Foret Royal 150.32 266 *e*PKP1 PKPbc 05 24 44.6 -0.1
comp=Z,72nm,1.0s
DAVA Damuels 150.53 275⇑*i*PKPdf PKPdf 05 24 42.4 +2.5
comp=Z,47nm,1.6s
CLL Collm 150.67 284 *e*PKPbc PKPbc 05 24 45.5 -0.1
CLL *e*PKPab PKPab 05 24 53.2 +0.7
CLL *e*PP PP 05 28 26.5 +4.6
CLL *e*SKSP 05 38 37.5
CLL *e*SS SS 05 48 17.4 +35
CLL *e*LR LR 06 17 23.0
CLL *e*L 06 41 35.5
comp=Z,883nm,22.0s
CLL Collm 150.67 284 *i* PKPbc PKPbc 05 24 45.3 -0.3
comp=Z,22nm,1.2s
CLL ⇓*i*PKPab PKPab 05 24 53.3 +0.8
comp=Z,96nm,2.1s
CLL *i* pPKPab pPKPab 05 25 01.3 +5.5
CLL *e*PP PP 05 28 24.0 +2.1
CLL *e*SKKSac SKKSac 05 35 04.0 -9.1
CLL *e*SKSP 05 38 48.0
CLL Collm 150.67 284⇓*i*PKIKP PKPbc 05 24 45.3 -0.3
CLL *i* 05 24 53.3
CLL *i* 05 25 01.3
CLL pmax pmax
comp=Z,64nm,1.2s
CLL pmax pmax
comp=Z,22nm,2.1s
CLL MLR MLR
comp=Z,1μm,16.5s,MS5.8
CLL Collm 150.67 284 *i* PKP PKPbc 05 24 45.3 -0.3
CLL ⇓*i*PKP PKPab 05 24 53.3 +0.8
CLL *i* pPKP pPKPab 05 25 01.3 +5.5
CLL *e*SKKS SKKSac 05 35 04.0 -9.1
CLL LR LR
comp=Z,1μm,16.5s,MS5.8
MBDF Montbardon 150.93 268 *e*PKP1 PKPbc 05 24 46.3 +0.1
comp=Z,30nm,0.7s
GRA1 Grafenberg Arr 150.95 280 *e*PKP PKPbc 05 24 46.0 -0.2
GRF Grafenberg Arr 150.95 280 *e*PKPbc PKPbc 05 24 46.0 -0.2
BSD Bornholm Skovb 151.11 292 *i* P PKPdf 05 24 43.8 +3.0
comp=Z,44nm,1.0s
BSD *i* 05 48 43.9
BSD
comp=Z,1μm,20.0s
BSD Bornholm Skovb 151.11 292 *e*PKIKP PKPdf 05 24 43.8 +3.0
BSD pmax pmax
comp=Z,44nm,1.0s
BSD MLR MLR
comp=Z,1μm,20.0s,MS5.7
BSD Bornholm Skovb 151.11 292 *e*P PKPdf 05 24 43.8 +3.0
BSD *i* 05 48 43.9
MOX Moxa 151.16 282 *e*(P) pPKPbc 05 24 50.9 +0.7
comp=Z,58nm,2.0s
MOX
comp=Z,1μm,21.0s
MOX Moxa 151.16 282 *e*PKIKP pPKPbc 05 24 50.9 +0.7
MOX pmax pmax
comp=Z,58nm,2.0s
MOX MLR MLR
comp=Z,1μm,21.0s,MS5.7
BNI Bardonecchia 151.17 269 *e*PKIKP PKPdf 05 24 46.5 +5.6
LPG La Plagne 151.38 269 *e*PKP1 PKPbc 05 24 47.2 0.0
comp=Z,33nm,0.9s
LPL La Plagne 151.40 269 *e*PKP1 PKPbc 05 24 47.0 -0.3
comp=Z,43nm,1.0s
ORIF Oris-en-Rattie 151.56 268 *e*PKP1 PKPbc 05 24 47.1 -0.6
comp=Z,23nm,1.0s
BFO Black Forest 151.96 276 *e*PKIKP PKPbc 05 24 48.3 -0.3
CABF La Chapelle 152.38 271 *e*PKP1 PKPbc 05 24 49.0 -0.5
comp=Z,38nm,0.9s
HINF Hinteralfeld 152.56 274 *e*PKP1 PKPbc 05 24 48.6 -1.3
comp=Z,17nm,0.9s
HAU Haudompre 152.95 274 *e*PKP1 PKPbc 05 24 50.9 +0.1
comp=Z,36nm,1.0s
HFS Hagfors 153.08 302 PKPbc PKPbc 05 24 49.5 -1.6
comp=Z,1.9nm,0.8s,baz=82,slow=22,SNR=2.1
HFS PKPab PKPab 05 25 01.4 -1.1
comp=Z,6.6nm,0.9s,baz=297,slow=6.6,SNR=5.1
ESDC Sonseca Array 153.80 249 PKPbc PKPbc 05 24 49.9 -2.7
comp=Z,1.5nm,0.7s,baz=134,slow=3.0,SNR=6.3
ESDC PKPab PKPab 05 25 03.7 -1.9
comp=Z,1.1nm,0.6s,baz=102,slow=1.1,SNR=5.7
NB2 NORSAR Subarra154.43 304 PKPa 05 24 55.6
comp=Z,19nm,1.7s,baz=98,slow=4.3
NOA NORSAR Array B154.43 304 PKPbc PKPbc 05 24 56.2 +2.3
comp=Z,2.8nm,0.9s,baz=252,slow=3.1,SNR=2.9
NOA PKPab PKPab 05 25 05.9 -2.4
comp=Z,2.6nm,1.1s,baz=96,slow=2.1,SNR=3.4
NOA NORSAR Array B154.43 304 PKPbc PKPbc 05 24 56.2 +2.2
NOA PKPab PKPab 05 25 05.9 -2.4
DAG Danmarks Havn 156.77 350⇑*i*P PKPdf 05 24 55.9 +7.1
comp=Z,1.5nm,0.8s
DAG Danmarks Havn 156.77 350⇑*e*PKIKP PKPdf 05 24 55.9 +7.1
DAG pmax pmax
comp=Z,2.0nm,0.8s

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*ISCJB **08** 05:19:48.1±5.4, 12.19N±009×1437E±0.1, h8km±34km, mb4.1/14, Error ellipse: s-maj=23.2km s-min=10.8km az=64.5*
*IDC **08** 05:19:48.3±0.7, 1222N×14381E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/21, mbtmp4.0/11, Error ellipse: s-maj=28.6km s-min=16.0km az=109.0*
*NEIC **08** 05:19:49.5±7.0, 1221N×14381E, h8km±44km, mb4.5/4, Error ellipse: s-maj=22.9km s-min=11.1km az=101.0*
ISC 08 05:19:49.1±6.5, 1222N±009×1438E±01, h4km±40km, n17, σ1$00/19, mb4.1/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.73**	**38**	Pn	**Pn**	**05 20 19.9**	**+0.1**
	160nm,0.3s,baz=181,slow=5.0,SNR=42						
GUMO				Sn	**Sn**	**05 20 44.1**	**+1.8**
	76nm,0.3s,baz=5.6,slow=23,SNR=6.3						
GUMO	**Guam**	**1.73**	**38**	*e*Pn	**Pn**	**05 20 20.1**	**+0.3**
GUMO				*e*Sn	**Sn**	**05 20 41.0**	**-1.3**
MAJO	**Matsushiro**	**24.74**	**349**	P	**P**	**05 25 07.8**	**-3.8**
	6.5nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**33.27**	**196**	*e*P	**P**	**05 26 27.7**	**+0.1**
	3.1nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**33.28**	**196**	P	**P**	**05 26 27.3**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=18,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**36.95**	**195**	P	**P**	**05 26 58.8**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=23,slow=12,SNR=7.3						
SONM	**Songino Array**	**47.26**	**326**	P	**P**	**05 28 24.0**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=144,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**05 30 09.8**	**+1.0**
	0.3nm,0.7s,mb3.6,baz=96,slow=8.6,SNR=4.4						
KURK	**Kurchatov**	**64.96**	**320**	*e*P	**P**	**05 30 30.4**	**+0.4**
	2.3nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**70.25**	**25**	P	**P**	**05 31 01.4**	**-2.0**
	0.8nm,0.5s,mb3.9,baz=252,slow=5.7,SNR=28						
BVAR	**Borovoye Array**	**70.35**	**322**	P	**P**	**05 31 04.0**	**0.0**
	0.9nm,0.4s,mb4.1,baz=108,slow=9.4,SNR=7.2						
YKA	**Yellowknife Ar**	**84.56**	**27**	P	**P**	**05 32 23.0**	**-0.5**
	0.8nm,0.4s,mb4.2,baz=285,slow=5.1,SNR=30						
ARCES	**ARCESS Array B**	**88.06**	**342**	P	**P**	**05 32 40.6**	**-0.1**
	1.5nm,0.6s,mb4.4,baz=53,slow=6.1,SNR=4.4						
NVAR	**Mina Array Bea**	**88.60**	**51**	P	**P**	**05 32 44.9**	**+1.6**
	1.0nm,0.7s,mb4.3,baz=257,slow=7.7,SNR=9.1						
VNDA	**Vanda**	**90.17**	**176**	P	**P**	**05 32 51.6**	**+1.0**
	2.4nm,0.9s,mb4.5,baz=322,slow=4.9,SNR=6.0						
VNDA	**Vanda**	**90.17**	**176**	P	**P**	**05 32 51.4**	**+0.7**
	6.0nm,0.9s,mb4.9						
FINES	**FINESS Array B**	**91.95**	**335**	P	**P**	**05 32 57.2**	**-1.7**
	1.7nm,0.6s,mb4.5,baz=56,slow=6.9,SNR=6.0						

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*ISK **08** 05:24:25.7, 4070N×3036E, h9km, MD3.6*
*MOS **08** 05:24:25.3±0.9, 4075N×3044E, h10km, mb3.6/5, Error ellipse: s-maj=14.0km s-min=6.6km az=98.6*
*ISCJB **08** 05:24:25.5±0.5, 4075N±002×3035E±002, h9km±3km, mb3.5/6, Error ellipse: s-maj=3.4km s-min=2.7km*

az=136.9
*IDC **08** 05:24:25.4±1.1, 4078N×3034E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/24, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=18.7km s-min=11.8km az=49.0*
*CSEM **08** 05:24:25.4±0.1, 4071N×3037E, h10km, mb3.5/4, Error ellipse: s-maj=1.5km s-min=1.1km az=10.0*
*NEIC **08** 05:24:25.9, 4069N×3035E, h11km, MD3.8(ATH), ML3.7(ISK), After ISK.*
*ATH **08** 05:24:55.4, 4046N×2725E, h16km±2km, MD3.8/3*

ISC 08 05:24:26.4±0.4, 4075N±002×3035E±002, h9km±3km, n102, σ1§08/132, mb3.5/6, 9C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.42**	**80**	*i* P	**Pg**	**05 24 34.2**	**-0.4**
HENT				*i* S	**Sg**	**05 24 40.3**	**+0.1**
GPA	**Golpazari**	**0.46**	**184**	*i* PG	**Pg**	**05 24 34.6**	**-0.8**
GPA				*i* SG	**Sg**	**05 24 40.2**	**-1.2**
MDU	**Mudurnu**	**0.71**	**113**	*i* PG	**Pg**	**05 24 39.5**	**-0.7**
MDU				*i* SG	**Sg**	**05 24 49.9**	**+0.4**
YLV	**Yalova**	**0.77**	**257**	*i* PG	**Pg**	**05 24 40.0**	**-1.2**
YLV				*i* SG	**Sg**	**05 24 52.0**	**+0.8**
BADT	**Buyukada**	**0.94**	**277**	*i* PG	**Pg**	**05 24 44.5**	**-0.1**
BADT	**Buyukada**	**0.94**	**277**	Pg	**Pg**	**05 24 44.7**	**+0.1**
ISK	**Istanbul-Kandi**	**1.03**	**288**	*i* PG	**Pg**	**05 24 45.9**	**-0.3**
ULDT	**Uludag**	**1.11**	**237**	*i* P	**Pg**	**05 24 46.3**	**-1.4**
ULDT				*i* S	**Sg**	**05 25 02.4**	**+0.3**
ESKT	**Eskisehir**	**1.28**	**163**	*i* P	**Pn**	**05 24 48.4**	**-2.2**
ESKT				*i* S	**Sb**	**05 25 08.3**	**+0.9**
ESKT	**Eskisehir**	**1.28**	**163**	*i* Pn	**Pn**	**05 24 49.6**	**-1.0**
SEYT	**Eskypehyr**	**1.28**	**163**	*i* P	**Pn**	**05 24 48.4**	**-2.2**
SEYT				*i* S	**Sb**	**05 25 08.4**	**+1.0**
ORLT	**Orhaneli**	**1.32**	**238**	*i* PN	**Pn**	**05 24 50.5**	**-0.5**
ELBA	**Catalca**	**1.51**	**286**	*i* P	**Pn**	**05 24 54.4**	**+0.7**
ELBA				*i* S	**Sn**	**05 25 14.1**	**+0.6**
ELBA	**Catalca**	**1.51**	**286**	*i* P	**Pn**	**05 24 54.3**	**+0.6**
ELBA				*i* S	**Sn**	**05 25 14.1**	**+0.6**
KCT	**Karacabey**	**1.60**	**253**	*i* PN	**Pn**	**05 24 55.1**	**+0.2**
ALT	**Altintas**	**1.70**	**186**	*i* PN	**Pn**	**05 24 56.0**	**-0.3**
SAFT	**Safranbolu**	**1.83**	**74**	*i* PN	**Pn**	**05 24 58.5**	**+0.4**
EDC	**Edincik**	**1.94**	**259**	PN	**Pn**	**05 24 59.4**	**-0.2**
BTOK	**Tokmak**	**2.03**	**242**	*i* P	**Pn**	**05 25 04.5**	**+3.7**
BTOK				*i* S	**Sn**	**05 25 29.9**	**+3.5**
BTOK	**Tokmak**	**2.03**	**242**	*i* S	**Sn**	**05 25 29.9**	**+3.5**
LOD	**Lodumlu**	**2.03**	**114**	PN	**Pn**	**05 25 00.2**	**-0.7**
BALB	**Balikesir**	**2.19**	**241**	PN	**Pn**	**05 25 03.3**	**+0.2**
BALB	**Balikesir**	**2.19**	**241**	Pn	**Pn**	**05 25 03.1**	**0.0**
BALB	**Balikesir**	**2.19**	**241**	Pn	**Pn**	**05 25 03.1**	**0.0**
KIZT	**Kizilcal**	**2.21**	**147**	PN	**Pn**	**05 25 02.6**	**-0.6**
ELDT	**Eldivan**	**2.35**	**95**	*i* P	**Pn**	**05 25 05.3**	**+0.1**
ELDT				*i* S	**Sn**	**05 25 38.0**	**+3.7**
BALT	**Daday**	**2.42**	**70**	*i* P	**Pn**	**05 25 08.8**	**+2.6**
BALT				*i* S	**Sn**	**05 25 42.9**	**+7.0**
CANT	**Cankiri**	**2.49**	**92**	PN	**Pn**	**05 25 07.6**	**+0.5**
KHL	**Karahalli**	**2.51**	**195**	PN	**Pn**	**05 25 07.3**	**-0.1**
MANT	**Manisa**	**2.65**	**212**	*i* P	**Pn**	**05 25 08.6**	**-0.7**
MANT				*i* S	**Sn**	**05 25 40.3**	**-1.2**
AKS	**Akhisar**	**2.71**	**227**	PN	**Pn**	**05 25 09.9**	**-0.2**
TKTP	**Tekketepe**	**2.71**	**181**	*i* P	**Pn**	**05 25 10.3**	**+0.2**
TKTP				*i* S	**Sg**	**05 25 55.4**	**+2.1**
BRTR	**Keskin Array B**	**2.71**	**111**	Pn	**Pn**	**05 25 09.9**	**-0.3**
	3.3nm,0.3s,baz=282,slow=14,SNR=100						
BRTR				Lg		05 25 53.9	
	3.3nm,0.3s,baz=266,slow=17,SNR=4.7						
BRTR	**Keskin Array B**	**2.71**	**111**	Pn	**Pn**	**05 25 09.9**	**-0.3**
LPK	**Lapseki**	**2.76**	**263**	PN	**Pn**	**05 25 11.6**	**+0.7**
TOS	**Tosya**	**2.80**	**83**	PN	**Pn**	**05 25 11.4**	**0.0**
ISP	**Isparta**	**2.90**	**178**	*e*PN	**Pn**	**05 25 13.4**	**+0.6**
ISP	**Isparta**	**2.90**	**178**	*e*P	**Pn**	**05 25 13.3**	**+0.5**
ISP	**Isparta**	**2.90**	**178**	*e*Pn	**Pn**	**05 25 17.1**	**+4.2**
KAMT	**Kaman**	**2.92**	**117**	PN	**Pn**	**05 25 12.8**	**-0.3**
EDRB	**Edirne**	**2.93**	**293**	*e*PN	**Pn**	**05 25 14.2**	**+1.0**
AYVA	**Ayvalik**	**3.16**	**244**	*i* P	**Pg**	**05 25 24.1**	**-2.8**
AYVA				*i* S	**Sg**	**05 26 08.1**	**+0.2**
EZN	**Ezine**	**3.22**	**255**	*e*PN	**Pn**	**05 25 18.1**	**+1.0**
DNZL	**Cakiroluk**	**3.22**	**199**	*i* P	**Pn**	**05 25 17.1**	**-0.1**
DNZL				*i* S	**Sg**	**05 26 13.4**	**+3.5**
DNZL	**Cakiroluk**	**3.22**	**199**	*i* P	**Pn**	**05 25 17.0**	**-0.2**
CDAG	**Cicekdag**	**3.28**	**109**	*i* P	**Pn**	**05 25 17.9**	**-0.1**
CDAG				*i* S	**Sb**	**05 26 09.3**	**+4.6**
CORM	**Corum**	**3.31**	**99**	*e*PN	**Pn**	**05 25 19.2**	**+0.8**
KDAG	**Bornova**	**3.34**	**227**	*i* P	**Pn**	**05 25 18.1**	**-0.8**
KDAG				*i* S	**Sn**	**05 25 57.7**	**-1.0**
IZM	**Izmir**	**3.35**	**226**	*e*PN	**Pn**	**05 25 18.7**	**-0.3**
CTKT	**Corum**	**3.38**	**91**	*i* P	**Pn**	**05 25 19.6**	**+0.3**
PRK	**Paraskevi**	**3.48**	**246**	*e*PN	**Pn**	**05 25 22.4**	**+1.7**
BLCB	**Balcova**	**3.48**	**228**	*e*PN	**Pn**	**05 25 20.9**	**+0.1**
BOYT	**Boyabat**	**3.50**	**77**	*i* P	**Pn**	**05 25 22.3**	**+1.2**
AYDN	**Tasoluk**	**3.63**	**213**	*i* P	**Pg**	**05 25 34.6**	**-1.5**
AYDN				*i* S	**Sg**	**05 26 25.4**	**+2.3**
RDO	**Rodhopi**	**3.67**	**278**	*e*PN	**Pn**	**05 25 22.9**	**-0.5**
RDO				*e*SN	rx	05 25 43.2	
TIRR	**Tirgusor**	**3.98**	**340**	⇑*i*P	**Pn**	**05 25 29.0**	**+1.4**
TIRR				S	**Sn**	**05 26 12.5**	**-1.8**
TIRR	**Tirgusor**	**3.98**	**340**	⇑*i*P	**Pn**	**05 25 29.0**	**+1.4**
TIRR				*i* S	**Sn**	**05 26 12.5**	**-1.8**
LIA	**Limnos Island**	**4.04**	**260**	*e*PN	**Pn**	**05 25 26.2**	**-2.3**
HARR	**Harsova**	**4.33**	**336**	⇑*i*P	**Pn**	**05 25 33.8**	**+1.4**
HARR	**Harsova**	**4.33**	**336**	⇑*i*P	**Pn**	**05 25 33.8**	**+1.4**
CFR	**Carcaliu**	**4.72**	**341**	⇓*i*P	**Pn**	**05 25 38.4**	**+0.6**
CFR				S	**Sn**	**05 26 30.8**	**-1.8**
CFR	**Carcaliu**	**4.72**	**341**	⇓*i*P	**Pn**	**05 25 38.4**	**+0.6**
CFR				*i* S	**Sn**	**05 26 30.8**	**-1.8**
NVR	**Nevrokopi**	**4.95**	**279**	*e*PN	**Pn**	**05 25 41.1**	**+0.2**
SIM	**Simferopol'**	**5.03**	**32**	*e*P	**Pn**	**05 25 42.9**	**+0.9**
	344nm,0.4s						
SIM				*e*S	**Sn**	**05 26 37.3**	**-2.9**
	200nm,15.0s						
SIM	**Simferopol'**	**5.03**	**32**	*ce*P	**Pn**	**05 25 42.9**	**+0.9**
SIM				*e*S	**Sn**	**05 26 37.3**	**-2.9**
SIM				pmax	pmax		
	comp=Z,344nm,0.4s						
SIM				MLR	MLR		
	comp=Z,200nm,15.0s						
ISR	**Istrita**	**5.19**	**329**	⇑*i*P	**Pn**	**05 25 46.4**	**+2.2**
ISR	**Istrita**	**5.19**	**329**	⇑*i*P	**Pn**	**05 25 46.4**	**+2.2**
VTS	**Vitosha**	**5.66**	**291**	⇑*i*P	**Pn**	**05 25 51.7**	**+1.0**
VTS	**Vitosha**	**5.66**	**291**	⇑*i*P	**Pn**	**05 25 51.7**	**+1.0**
MLR	**Muntele Rosu**	**5.73**	**327**	Pn	**Pn**	**05 25 52.9**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=148,slow=8.1,SNR=35						
MLR	**Muntele Rosu**	**5.73**	**327**	⇓*i*P	**Pn**	**05 25 53.5**	**+1.8**
MLR	**Muntele Rosu**	**5.73**	**327**	⇓*i*P	**Pn**	**05 25 53.5**	**+1.8**
VRI	**Vrincioaia**	**5.76**	**334**	⇓*i*P	**Pn**	**05 25 53.2**	**+1.1**
VRI	**Vrincioaia**	**5.76**	**334**	⇓*i*P	**Pn**	**05 25 53.2**	**+1.1**
ANN	**Anapa**	**6.60**	**50**	P	**Pn**	**05 26 02.7**	**-0.9**
	comp=Z,84nm,1.6s						
ANN	**Anapa**	**6.60**	**50**	P	**Pn**	**05 26 02.7**	**-0.9**
ANN				*e*S	**Sn**	**05 27 17.5**	**-1.4**
ANN				pmax	pmax		
	comp=Z,84nm,1.6s						
SOC	**Sochi**	**7.51**	**65**	*e*P	**Pn**	**05 26 22.0**	**+5.9**
SOC				pmax	pmax		
	comp=Z,19nm,1.0s						
SOC				MLR	MLR		
	comp=Z,43nm,5.0s						
BURAR	**Bucovina Array**	**7.79**	**333**	⇓*i*P	**Pn**	**05 26 22.3**	**+2.3**
BURAR	**Bucovina Array**	**7.79**	**333**	⇓*i*P	**Pn**	**05 26 22.3**	**+2.3**
AKASG	**Malin Array Be**	**9.98**	**356**	Pn	**Pn**	**05 26 48.7**	**-1.4**
	comp=Z,3.0nm,0.3s,baz=183,slow=10,SNR=18						
AKASG				Sn	**Sn**	**05 28 36.1**	**-6.1**
	comp=Z,3.5nm,0.3s,baz=176,slow=23,SNR=5.4						
AKASG	**Malin Array Be**	**9.98**	**356**	P	**Pn**	**05 26 48.7**	**-1.4**
AKASG						05 28 36.1	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**9.98**	**356**	Pn	**Pn**	**05 26 48.7**	**-1.4**
AKASG				Sn	**Sn**	**05 28 36.1**	**-6.1**
VOR	**Voronezh**	**12.56**	**26**	P	**Pn**	**05 27 26.0**	**+0.6**
	comp=Z,120nm,1.2s						
VOR	**Voronezh**	**12.56**	**26**	P	**Pn**	**05 27 26.0**	**+0.6**
VOR				pmax	pmax		
	comp=Z,120nm,1.2s						
MORC	**Moravsky Berou**	**12.75**	**319**	*e*Pn	**Pn**	**05 27 26.1**	**-1.8**
	comp=Z,2.8nm,0.4s						
MORC	**Moravsky Berou**	**12.75**	**319**	*e*Pn	**Pn**	**05 27 26.1**	**-1.8**
	comp=Z,2.8nm,0.4s						
OBN	**Obninsk**	**14.96**	**14**	*e*P	**Pn**	**05 27 58.8**	**+0.8**
	comp=Z,5.0nm,0.5s						
OBN	**Obninsk**	**14.96**	**14**	⇓*e*P	**Pn**	**05 27 58.8**	**+0.8**
OBN				*e*S	**Sn**	**05 30 39.5**	**-4.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**20.89**	**354**	P	**P**	**05 29 07.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=180,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**20.89**	**354**	P	**P**	**05 29 07.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**22.00**	**337**	P	**P**	**05 29 20.5**	**-0.3**
	comp=Z,2.1nm,0.8s,mb3.6,baz=217,slow=39,SNR=5.3						
HFS	**Hagfors**	**22.00**	**337**	P	**P**	**05 29 20.5**	**-0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JOF	**Joensuu**	**22.21**	**1**	*e*p	**P**	**05 29 22.6**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.6						
JOF	**Joensuu**	**22.21**	**1**	*e*P	**P**	**05 29 22.6**	**-0.5**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
NOA	**NORSAR Array B**	**23.46**	**336**	P	**P**	**05 29 36.4**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.1,baz=140,slow=8.5,SNR=3.4						
NOA	**NORSAR Array B**	**23.46**	**336**	P	**P**	**05 29 36.4**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARU	**Arti**	**24.13**	**40**	*e*P	**P**	**05 29 41.7**	**-0.9**
ARU				*e*		05 30 13.2	
ARU				*e*S	**S**	**05 34 01.3**	**+0.7**
ARU				*e*SS		05 34 41.0	
TORD	**Torodi Ar. Bea**	**37.21**	**231**	P	**P**	**05 31 37.9**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=38,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**37.41**	**63**	P	**P**	**05 31 40.0**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=284,slow=6.1,SNR=8.9						
MKAR	**Makanchi Array**	**37.41**	**63**	P	**P**	**05 31 40.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**52.85**	**55**	P	**P**	**05 33 42.2**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=284,slow=5.9,SNR=2.4						
SONM	**Songino Array**	**52.85**	**55**	P	**P**	**05 33 42.1**	**-0.2**

IDC 08 05:27:29.3±4.4, 5377S×14025E, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.2/10, mbtmp4.2/3, Error ellipse: s-maj=197.6km s-min=37.4km az=103.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.90**	**3**	P	P	05 32 24.1	+0.1
	29nm,1.0s,baz=172,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**30.44**	**348**	P	P	05 33 43.5	0.0
	0.6nm,0.6s,baz=167,slow=9.4,SNR=8.1						
WRA	**Warramunga Arr**	**34.07**	**350**	P	P	05 34 14.9	-0.4
	5.7nm,1.1s,baz=175,slow=7.7,SNR=15						
GERES	**GERESS Array B**	**146.90**	**284**	PKPbc	PKPbc	05 47 12.5	-1.1
	0.4nm,0.5s,baz=180,slow=2.7,SNR=3.6						
DAVOX	**Davos**	**148.09**	**278**	PKPbc	PKPbc	05 47 15.2	-1.6
	3.0nm,0.8s,baz=72,slow=3.2,SNR=2.7						

*IDC **08** 05:35:08.1±0.9, 1952N×64.11W, h0km, mb3.6/8, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, ML4.1/2, Error ellipse: s-maj=20.6km s-min=17.3km az=85.0*
*TRN **08** 05:35:08.6, 1949N×64.14W, h14km, MD4.0*
*ISCJB **08** 05:35:09.8±1.2, 1958N±004×64.10W±003, h23km±10km, mb3.7/8, Error ellipse: s-maj=6.7km s-min=5.2km az=6.6*
*NEIC **08** 05:35:10.5, 1967N×6399W, h25km, MD3.9(RSPR), MD4.0(TRN), After RSPR.*
*RSPR **08** 05:35:10.5, 1967N×6399W, h25km±21km, MD3.9/15, MD3.9/15*

ISC 08 05:35:09.8±1.2, 1954N±004×6411W±003, h9km±7km, n42, σ0§73/57, mb3.7/8, 10C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.83**	**194**	⇓*i*P	**Pg**	**05 35 26.8**	**+1.0**
TBVI	**Tortola**	**1.22**	**203**	⇓*e*P	**Pb**	**05 35 31.7**	**-1.2**
CULB	**Culebra**	**1.68**	**224**	*e*S	**Sn**	**05 36 00.2**	**-0.6**
CULB	**Culebra**	**1.68**	**224**	⇑*i*P	**Pn**	**05 35 38.5**	**-0.8**
CULB				*e*S	**Sn**	**05 36 00.2**	**-0.6**
STMA	**St. Maarten, A**	**1.76**	**147**	*e*P	**Pn**	**05 35 40.7**	**+0.2**
STMA				*e*S	**Sn**	**05 36 03.1**	**+0.2**
CDVI	**St. Croix**	**1.88**	**199**	*e*S	**Sn**	**05 36 05.4**	**-0.5**
CDVI	**St. Croix**	**1.88**	**199**	⇑*e*P	**Pn**	**05 35 42.4**	**+0.4**
CDVI				*e*S	**Sn**	**05 36 05.4**	**-0.5**
MTP	**Monte Pirata**	**1.98**	**224**	*e*S	**Sn**	**05 36 08.3**	**0.0**
MTP	**Monte Pirata**	**1.98**	**224**	⇑*e*P	**Pn**	**05 35 43.0**	**-0.4**
MTP				*e*S	**Sn**	**05 36 08.3**	**0.0**
CBYP	**Canovanas**	**2.08**	**233**	*e*S	**Sn**	**05 36 10.9**	**+0.3**
CBYP	**Canovanas**	**2.08**	**233**	*e*P	**Pn**	**05 35 44.0**	**-0.8**
CBYP				*e*S	**Sn**	**05 36 10.9**	**+0.3**
SABT	**Saba**	**2.08**	**156**	*e*P	**Pn**	**05 35 45.3**	**+0.5**
SABT				*e*S	**Sn**	**05 36 11.0**	**+0.3**
HUMP	**Col San Antoni**	**2.15**	**230**	⇑*e*P	**Pn**	**05 35 45.3**	**-0.5**
CPD	**Cerro la Pandu**	**2.27**	**229**	*e*S	**Sn**	**05 36 15.4**	**+0.1**
CPD	**Cerro la Pandu**	**2.27**	**229**	*e*P	**Pn**	**05 35 47.1**	**-0.2**
CPD				*e*S	**Sn**	**05 36 15.4**	**+0.1**
SJG	**San Juan**	**2.39**	**234**	*e*S	**Sn**	**05 36 17.8**	**-0.7**
SJG	**San Juan**	**2.39**	**234**	⇑*e*P	**Pn**	**05 35 48.7**	**-0.4**
SJG				*e*S	**Sn**	**05 36 18.7**	**+0.2**
SJG	**San Juan**	**2.39**	**234**	*e*P	**Pn**	**05 35 48.7**	**-0.4**
SJG				*e*S	**Sn**	**05 36 17.8**	**-0.7**
SJG	**San Juan**	**2.39**	**234**	Pn	**Pn**	**05 35 48.8**	**-0.3**
	29nm,0.3s,baz=55,slow=7.1,SNR=47						
SJG				Sn	**Sn**	**05 36 17.7**	**-0.8**
	40nm,0.3s,baz=285,slow=20,SNR=5.3						
CELP	**Cerrillos**	**2.75**	**238**	⇑*i*P	**Pn**	**05 35 53.7**	**-0.3**
AOPR	**Arecibo Observ**	**2.76**	**245**	⇑*e*P	**Pn**	**05 35 53.7**	**-0.5**
OBIP	**Obispado Ponce**	**2.79**	**238**	*e*S	**Sn**	**05 36 28.8**	**+0.5**
OBIP	**Obispado Ponce**	**2.79**	**238**	⇑*e*P	**Pn**	**05 35 54.2**	**-0.3**
OBIP				*e*S	**Sn**	**05 36 28.8**	**+0.5**
ICM	**Isla Caja Muer**	**2.81**	**235**	*e*S	**Sn**	**05 36 29.4**	**+0.6**
ICM	**Isla Caja Muer**	**2.81**	**235**	⇑*e*P	**Pn**	**05 35 54.9**	**+0.1**
ICM				*e*S	**Sn**	**05 36 29.4**	**+0.6**
LRS	**Lares**	**2.87**	**245**	⇓*e*P	**Pn**	**05 35 55.0**	**-0.6**
AGPR	**Aguadilla, PR**	**3.03**	**250**	*e*S	**Sn**	**05 36 34.3**	**+0.1**
AGPR	**Aguadilla, PR**	**3.03**	**250**	⇑*e*P	**Pn**	**05 35 58.0**	**+0.1**
AGPR				*e*S	**Sn**	**05 36 34.3**	**+0.1**
MPR	**Mayaguez**	**3.15**	**246**	⇑*e*P	**Pn**	**05 36 00.0**	**+0.5**
LZG	**Guadaloupe-1**	**4.04**	**146**	*e*P	**Pn**	**05 36 10.3**	**-1.5**
LZG				*e*S	**Sn**	**05 36 58.9**	**-0.4**
BCG	**Bois Riant Cap**	**4.17**	**145**	*e*P	**Pn**	**05 36 13.7**	**+0.1**
SDV	**Santo Domingo**	**12.33**	**212**	Pn	**Pn**	**05 38 06.5**	**+1.1**
	0.9nm,0.3s,baz=48,slow=8.9,SNR=13						
SDV				Sn	**Sn**	**05 40 23.4**	**+0.5**
	0.2nm,0.3s,baz=357,slow=19,SNR=2.5						
SDV	**Santo Domingo**	**12.33**	**212**	*e*Pn	**Pn**	**05 38 08.0**	**+2.6**
	9.1nm,0.8s						
ROSC	**El Rosal**	**17.66**	**216**	Pn	**Pn**	**05 39 17.9**	**+1.9**
	1.3nm,0.3s,baz=266,slow=13,SNR=3.2						
LPAZ	**La Paz**	**35.82**	**187**	P	**P**	**05 42 08.9**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=339,slow=8.6,SNR=3.3						
TXAR	**Lajitas Array**	**37.16**	**293**	P	**P**	**05 42 22.6**	**+1.7**
	1.7nm,1.1s,mb3.8,baz=114,slow=11,SNR=7.3						
BDFB	**Brasilia**	**38.38**	**155**	P	**P**	**05 42 31.0**	**-0.2**
	3.0nm,0.8s,mb4.1,baz=342,slow=7.1,SNR=4.6						
PDAR	**Pinedale Array**	**44.59**	**312**	P	**P**	**05 43 21.6**	**-0.5**
	1.3nm,1.1s,mb3.7,baz=127,slow=7.4,SNR=5.9						
NVAR	**Mina Array Bea**	**50.27**	**304**	P	**P**	**05 44 07.2**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=95,slow=8.2,SNR=4.5						
YKA	**Yellowknife Ar**	**55.04**	**334**	P	**P**	**05 44 40.9**	**-0.8**
	0.3nm,0.5s,mb3.6,baz=102,slow=7.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**63.15**	**85**	P	**P**	**05 45 39.1**	**+1.2**
	0.5nm,0.7s,mb3.8,baz=290,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**69.44**	**333**	P	**P**	**05 46 17.4**	**-0.8**
	0.6nm,0.9s,mb3.5,baz=102,slow=4.5,SNR=7.3						

IDC 08 06:11:08.2±2.9, 605N×9132E, h33km±8km, mb3.3/4, mb1 3.4/4, mb1mx3.2/20, mbtmp3.5/4, Error ellipse: s-maj=120.3km s-min=20.9km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.33**	**351**	P	P	06 18 49.5	-1.2
	0.5nm,0.4s,baz=167,slow=8.9,SNR=11						
MKAR				pP	pP	06 18 59.9	-0.6
	0.4nm,0.4s,baz=162,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**43.58**	**15**	P	P	06 19 10.8	+1.8
	0.3nm,0.5s,baz=200,slow=9.5,SNR=3.3						
WRA	**Warramunga Arr**	**49.57**	**123**	P	P	06 19 56.1	+0.2
	0.4nm,0.5s,baz=305,slow=8.7,SNR=4.3						
WRA				pP	pP	06 20 06.3	+0.4
	1.7nm,0.7s,baz=303,slow=8.9,SNR=10						
BVAR	**Borovoye Array**	**49.87**	**344**	P	P	06 19 58.5	+0.3
	0.5nm,0.7s,baz=146,slow=10,SNR=3.5						
BVAR				pP	pP	06 20 08.9	+0.7
	0.5nm,0.7s,baz=141,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**50.98**	**127**	pP	pP	06 20 18.4	+1.8
	1.6nm,0.7s,baz=307,slow=7.3,SNR=11						

*CSEM **08** 06:13:58.3, 3781N×2109E, h6km, MD3.5/3, After ATH*
*NEIC **08** 06:13:58.0, 3781N×2109E, h6km, MD3.5(ATH), After ATH.*

ATH 08 06:13:58.3, 3781N×2109E, h6km±1km, MD3.5/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.39**	**50**	*e*PB	Pg	06 14 05.9	+0.1
RLS				*e*SB	Sg	06 14 11.3	+0.4
VLS	**Valsamata**	**0.54**	**313**	*e*PB	Pg	06 14 08.8	+0.1
ITM	**Ithomi**	**0.92**	**133**	*e*PB	Pb	06 14 15.8	-0.8
EVR	**Evrytania**	**1.24**	**27**	*e*PB	Pb	06 14 21.7	-0.4
LKR	**Lokris**	**1.72**	**60**	*e*PN	Pn	06 14 30.7	+1.9
NEO	**Neokhori**	**2.24**	**48**	*e*PN	Pn	06 14 38.1	+2.2

BJI 08 06:21:58.0, 3516N×11859E, h10km, ML3.5, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.59**	**312**	P	Pn	06 22 23.2	-3.0
TIA				PG	Pg	06 22 24.4	-4.1
TIA				S	Sn	06 22 42.4	-4.4
TIA				SG	Sg	06 22 44.7	-4.4
TIA				Smax			
	comp=N,558nm,0.3s						
TIA				Smax			
	comp=E,569nm,0.3s						
NJ2	**Nanjing**	**3.11**	**176**	*e*P	Pn	06 22 44.4	-2.7
NJ2				PG	Pg	06 22 54.5	-3.1
NJ2				S	Sn	06 23 24.3	+0.1
NJ2				SG	Sg	06 23 33.9	-3.9
NJ2				Smax			
	comp=N,200nm,0.5s						
NJ2				Smax			
	comp=E,160nm,0.8s						
DL2	**Dalian**	**4.46**	**32**	*e*PG	Pg	06 23 17.1	-6.3
DL2				SG	Sg	06 24 14.3	-6.9
DL2				Smax			
	comp=N,50nm,0.6s						
DL2				Smax			
	comp=E,50nm,0.6s						

*IDC **08** 06:36:36.7±2.5, 578S×13058E, h0km, mb3.3/1, mb1 4.1/3, mb1mx3.8/13, mbtmp3.8/3, ML4.2/2, MS3.9/1, Ms1 3.9/1, ms1mx3.4/10, Error ellipse: s-maj=144.0km s-min=31.7km az=71.0*
*ISCJB **08** 06:36:38.9±1.6, 57S±01×1309E±03, h33km, mb3.4/1, MS3.7/1, Error ellipse: s-maj=46.2km s-min=17.2km az=146.1*

ISC 08 06:36:41.2±1.6, 57S±01×1310E±03, h35km, n7, σ1§77/6, mb3.4/1, MS3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.35**	**203**	*e*P	**Pn**	**06 39 47.9**	**-0.3**
	3.2nm,0.2s						
FITZ				*e*S	Sx	06 42 06.4	
WRA	**Warramunga Arr**	**14.49**	**167**	Pn	**Pn**	**06 40 02.1**	**-1.6**
	1.3nm,0.3s,baz=349,slow=13,SNR=39						
WRA				Sn	Sx	06 42 35.8	
	0.8nm,0.3s,baz=345,slow=24,SNR=6.9						
WB2	**Warramunga Arr**	**14.49

OBN MLR MLR
comp=Z,100nm,20.0s,MS4.5
YKA Yellowknife Ar 141.63 46 PKhKP 06 59 03.9
comp=Z,0.1nm,0.6s,baz=242,slow=3.4,SNR=5.8
YKA PKP PKPdf 06 59 09.3 -1.4
comp=Z,0.2nm,0.7s,baz=243,slow=3.5,SNR=4.1
YKA Yellowknife Ar 141.63 46 PKP PKPdf 06 59 09.3 -1.4
VYHS Vyhne 144.05 286 *e*P PKPdf 06 59 12.6 -2.4
VYHS *e*PcP 07 07 11.0
ARSA Arzberg 145.31 282⇑*i*PKPab PKPab 06 59 17.4 +0.4
comp=Z,36nm,1.4s
ARSA Arzberg 145.31 282 ⇑P PKPbc 06 59 17.4 +0.5
MORC Moravsky Berou 145.43 287 *e*PKIKP PKPdf 06 59 16.5 -0.9
FINES FINESS Array B 145.63 309 PKPbc PKPbc 06 59 17.1 -0.8
comp=Z,3.3nm,1.1s,baz=201,slow=2.4,SNR=3.9
ULM Lac du Bonnet 145.85 73 PKPbc PKPbc 06 59 16.7 -2.0
comp=Z,2.1nm,0.7s,baz=201,slow=2.2,SNR=4.2
ULM Lac du Bonnet 145.85 73 PKPbc PKPbc 06 59 16.7 -2.0
DPC Dobruska-Polom 146.40 287 *e*PKP PKPdf 06 59 20.5 +1.5
UPC Upice 146.65 287 *e*PKP PKPdf 06 59 21.3 +1.9
GERES GERESS Array B 147.17 283 PKPbc PKPbc 06 59 22.0 -0.5
comp=Z,2.7nm,0.7s,baz=207,slow=9.0,SNR=5.6
PRU Pruhonice 147.24 286 *e*PKP PKPdf 06 59 23.0 +2.6
KHC Kasperske Hory 147.38 284 *e*PKP PKPdf 06 59 20.0 -0.7
KHC *ex* x 06 59 23.0
KHC x x 06 59 30.0
KHC Kasperske Hory 147.38 284 *e*PKP PKPdf 06 59 20.0 -0.7
KHC *e* 06 59 23.0
KHC *e* 06 59 30.0
PVCC Panska Ves 147.47 286 *e*PKP PKPab 06 59 28.6 +3.2
ARCES ARCESS Array B 147.49 324 PKPbc PKPbc 06 59 22.2 -1.2
comp=Z,5.7nm,1.0s,baz=45,slow=1.7,SNR=5.7
BRG Berggiesshubel 147.99 287 *e*P PKPab 06 59 32.8 +5.4
comp=Z,5.6nm,1.0s
BRG Berggiesshubel 147.99 287 *e*PKP2 PKPab 06 59 32.8 +5.4
BRG pmax pmax
comp=Z,6.0nm,1.0s
DAVOX Davos 148.35 277 PKPbc PKPbc 06 59 27.6 +1.8
comp=Z,3.7nm,0.8s,baz=138,slow=16,SNR=3.8
CLL Collm 148.71 287 *e*PKIKP PKPdf 06 59 20.0 -2.9
GRF Grafenberg Arr 149.00 283 *e*PKP PKPdf 06 59 27.9 +4.6

IDC 08 06:44:03.6±3.0, 520N×9055E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=91.5km s-min=24.0km az=65.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**14.31**	**331**	*e*P		Pn	06 47 37.3	+10
VIS				AMb		AMB	06 47 39.2	
	comp=Z,67nm,0.3s							
VIS				*e*S		Sn	06 50 03.9	-3.1
JIRN	**Jiri**	**22.72**	**350**	*e*P		P	06 49 09.5	+2.5
	comp=Z,7.0nm,0.4s							
PKI	**Pulchoki**	**22.78**	**348**	*e*P		P	06 49 12.4	+4.8
	comp=Z,33nm,0.8s							
DMN	**Daman**	**22.88**	**347**	*e*P		P	06 49 14.9	+6.2
GUN	**Gumba**	**23.02**	**349**	*e*P		P	06 49 10.2	0.0
	comp=Z,13nm,0.5s							
KKN	**Kakani**	**23.02**	**348**	*e*P		P	06 49 13.4	+3.2
	comp=Z,9.8nm,0.6s							
GKN	**Gorkha**	**23.36**	**347**	*e*P		P	06 49 15.8	+2.0
	comp=Z,13nm,0.4s							
KOLN	**Koldanda**	**23.40**	**344**	*e*P		P	06 49 19.9	+5.7
	comp=Z,11nm,0.5s							
MKAR	**Makanchi Array**	**42.05**	**352**	P		P	06 51 56.2	-0.7
	comp=Z,0.3nm,0.4s,baz=168,slow=8.8,SNR=9.0							
SONM	**Songino Array**	**44.60**	**15**	P		P	06 52 18.5	+1.0
	comp=Z,0.3nm,0.5s,baz=200,slow=8.8,SNR=3.1							
WRA	**Warramunga Arr**	**49.77**	**121**	P		P	06 52 57.2	-0.7
	comp=Z,0.6nm,0.6s,baz=304,slow=8.5,SNR=6.8							
ASAR	**Alice Springs**	**51.09**	**126**	P		P	06 53 09.1	+1.2
	comp=Z,0.6nm,0.5s,baz=300,slow=7.7,SNR=16							
MJAR	**Matsushiro Arr**	**53.58**	**48**	P		P	06 53 26.8	+0.4
	comp=Z,0.6nm,0.3s,baz=283,slow=6.7,SNR=3.3							

MAN 08 07:06:49.8, 858N×12577E, h17km, mb3.8, ML4.9, MS2.3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.70**	**124**⇑	*i*P		Pg	07 07 01.7	-1.9
BIPH				*i*S		Sg	07 07 13.2	+0.3
BUKP	**Musuan**	**0.99**	**225**	*e*P		Pb	07 07 08.6	+0.1
BUKP				*e*S		Sb	07 07 23.7	+2.4
CGP	**Cagayan de Oro**	**1.08**	**263**⇓	*e*P		Pb	07 07 08.6	-1.4
CGP				*i*S		Sb	07 07 24.6	+0.9
SCPH	**Surigao**	**1.22**	**347**⇑	*e*P		Pn	07 07 11.3	-0.8
MSLP	**Maasin**	**1.79**	**330**	*e*P		Pn	07 07 19.0	-0.8
TBP	**Tagbilaran**	**2.19**	**300**	*e*P		Pn	07 07 25.7	+0.3
TBP				*e*S		Sn	07 07 52.8	+0.8
PAGZ	**Pagadian**	**2.48**	**253**	*e*P		Pn	07 07 31.8	+2.4
LLP	**Lapu-Lapu**	**2.48**	**314**	*e*P		Pn	07 07 35.7	+6.4
SNPH	**Sibulan**	**2.62**	**287**	*e*P		Pn	07 07 31.5	+0.2
PLP	**Palo**	**2.68**	**343**	*e*P		Pn	07 07 34.6	+2.4
PLP				*e*S		Sn	07 08 10.8	+6.6
OCLP	**Ormoc**	**2.71**	**335**	*e*P		Pn	07 07 24.4	-8.1

MOS ***08*** *07:44:45.1±0.9, 699S×12769E, h186km, mb5.1/29, Error ellipse: s-maj=11.1km s-min=6.1km az=108.8*
BJI ***08*** *07:44:49.4, 721S×128.16E, h245km, mB5.0, mb4.9*
ISCJB ***08*** *07:44:50.2±0.1, 7.18S±002×12768E±003, h236km, mb5.1/127, Error ellipse: s-maj=4.8km s-min=2.6km az=136.6*
HRVD ***08*** *07:44:51.8±0.2, 7.18S×12774E, h244km±1km, MW5.5/99, Centroid moment Tensor Solution. LP body waves: s72,c118;Mantle waves: s99,c159; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.04; $M_{\theta\theta}$0.12±.04; $M_{\phi\phi}$0.06±.04; $M_{r\theta}$-0.79±.04; $M_{\theta\phi}$-0.19±.03; $M_{\phi r}$1.84±.04; Best double couple: $M_0$2.01900×10^{17} NP1:ϕ_s280.00000°, δ5.00000°, λ-146.00000°. NP2: ϕ_s157.00000°, δ87.00000°, λ-86.00000°. Principal axes: T 2.0340, Plg42.0000°, Azm242.0000°; N -0.0290, Plg4.0000°, Azm336.0000°; P -2.0050, Plg48.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *07:44:51.8±0.1, 7.15S×12774E, mb5.2/34 Error ellipse: s-maj=6.2km s-min=4.2km az=55.0*
IDC ***08*** *07:44:52.8±0.5, 7.11S×12757E, h247km±3km, mb4.9/29, mb1 4.9/31, mb1mx4.9/31, mbtmp5.6/31, Error ellipse: s-maj=8.6km s-min=5.7km az=52.0*
NAO ***08*** *07:47:33.9, 869S×13065E, h33km, mb4.7*
ISC 08 07:44:51.7±0.1, 724S±002×12777E±004, h237km, h237km±2.1km: pP-P, n354, σ1s20/292, mb5.1/126, 33C-25D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.00**	**191**⇑	*i*P		**Pn**	**07 47 22.1**	**-0.8**
	341nm,0.4s							
FITZ				*e*S		**S**	**07 49 20.6**	**-5.4**
WRAB	**Tennant Creek**	**14.14**	**154**	Pn		**Pn**	**07 48 02.0**	**+0.1**
	2μm,1.1s							
WRAB	**Tennant Creek**	**14.14**	**154**	*e*P		**Pn**	**07 48 01.6**	**-0.3**
WRAB				*e*			07 50 37.2	
WRAB				pmax		pmax		
	comp=Z,480nm,0.8s							
WRAB	**Tennant Creek**	**14.14**	**154**	*e*Pn		**Pn**	**07 48 01.6**	**-0.3**
	comp=Z,480nm,0.8s							
WRAB				*e*Sn		**S**	**07 50 37.2**	**-1.4**
WRA	**Warramunga Arr**	**14.15**	**154**	P		**Pn**	**07 48 01.4**	**-0.5**
	comp=Z,33nm,0.3s,baz=331,slow=12,SNR=301							
WRA				S		**S**	**07 50 35.1**	**-3.5**
	comp=Z,39nm,0.3s,baz=329,slow=21,SNR=12							
WB2	**Warramunga Arr**	**14.15**	**154**	*e*P		**Pn**	**07 48 01.5**	**-0.5**
WB2				*e*S		**S**	**07 50 37.4**	**-1.4**
WB2				*e*SCS		ScS	07 59 45.9	-4.8
TSM	**Tawau**	**15.13**	**319**	P		**Pn**	**07 48 15.4**	**+1.6**
BUKP	**Musuan**	**15.26**	**350**	*e*P		**Pn**	**07 48 16.8**	**+1.4**
BIPH	**Bislig**	**15.38**	**355**⇓	*i*P		**Pn**	**07 48 17.0**	**+0.1**
BIPH				*i*S		**S**	**07 51 03.1**	**-3.3**
PAGZ	**Pagadian**	**15.61**	**344**	*e*P		**Pn**	**07 48 21.7**	**+2.1**
MBWA	**Marble Bar**	**15.88**	**209**⇑	*i*Pn		**Pn**	**07 48 22.9**	**+0.1**
	comp=Z,2.5nm,0.3s							
MBWA				*e*S		**S**	**07 51 12.8**	**-3.6**
BUTP	**Butuan**	**16.24**	**352**	*e*P		**P**	**07 48 28.9**	**+3.1**
SCPH	**Surigao**	**17.06**	**352**⇑	*e*P		**P**	**07 48 37.3**	**+2.5**
TBP	**Tagbilaran**	**17.26**	**347**	*e*P		**P**	**07 48 37.2**	**+0.2**
ASPA	**Alice Springs**	**17.36**	**161**	*e*P		**P**	**07 48 40.4**	**+2.3**
ASPA				*e*S		**S**	**07 51 45.5**	**-0.8**
ASPA				*e*SCS		ScS	07 59 54.8	-4.7
ASAR	**Alice Springs**	**17.36**	**161**	P		**P**	**07 48 40.4**	**+2.3**
	comp=Z,42nm,0.3s,baz=344,slow=12,SNR=1692							
ASAR				S		**S**	**07 51 45.0**	**-1.2**
	comp=Z,12nm,0.3s,baz=342,slow=24,SNR=16							
ASAR				ScP		ScP	07 56 17.5	-1.8
	comp=Z,5.6nm,0.3s,baz=356,slow=1.8,SNR=5.9							
ASAR	**Alice Springs**	**17.36**	**161**	P		**P**	**07 48 40.4**	**+2.3**
ASAR				S		**S**	**07 51 45.1**	**-1.2**
MSLP	**Maasin**	**17.50**	**350**	*e*P		**P**	**07 48 41.2**	**+1.6**
KKM	**Kota Kinabalu**	**17.52**	**319**	P		**P**	**07 48 41.5**	**+1.7**
KKM	**Kota Kinabalu**	**17.52**	**319**⇑	*e*P		**P**	**07 48 41.4**	**+1.6**
LLP	**Lapu-Lapu**	**17.84**	**348**	*e*P		**P**	**07 48 48.8**	**+5.5**
BJII	**Banjamegara**	**17.92**	**269**	P		**P**	**07 48 42.4**	**-1.7**
	comp=Z,273nm,1.2s							
OCLP	**Ormoc**	**18.44**	**350**	*e*P		**P**	**07 48 51.2**	**+1.5**
GUIM	**Jordan**	**18.48**	**344**	*e*P		**P**	**07 48 50.9**	**+0.7**
PLP	**Palo**	**18.49**	**351**	*e*P		**P**	**07 48 51.7**	**+1.4**
BATP	**Bataraza**	**18.77**	**328**	*e*P		**P**	**07 48 55.7**	**+2.4**
CUYO	**Cuyo Island**	**19.18**	**339**	*e*P		**P**	**07 48 59.9**	**+2.1**
PMG	**Port Moresby**	**19.30**	**98**	P		**P**	**07 49 02.3**	**+3.3**
	comp=Z,12nm,0.3s,baz=272,slow=4.2,SNR=68							
PMG				S		**S**	**07 52 33.2**	**+8.7**
	comp=Z,0.5nm,0.3s,baz=237,slow=17,SNR=3.8							
KSM	**Kuching**	**19.45**	**296**	*e*P		**P**	**07 49 00.9**	**+0.2**
LEM	**Lembang**	**20.01**	**270**	P		**P**	**07 49 04.7**	**-1.8**
	comp=Z,1μm,1.1s							
ENPP	**El Nido**	**20.12**	**336**	*e*P		**P**	**07 49 09.5**	**+1.8**
OTRP	**Odiongan**	**20.29**	**344**	*e*P		**P**	**07 49 10.8**	**+1.2**
BUSP	**Coron**	**20.54**	**338**	*e*P		**P**	**07 49 14.6**	**+2.4**
PVCP	**Virac**	**21.01**	**350**	*e*P		**P**	**07 49 16.9**	**-0.1**
AUQP	**San Andres**	**21.04**	**346**	*e*P		**P**	**07 49 20.5**	**+3.1**
PGP	**Puerto Galera**	**21.69**	**342**	*e*P		**P**	**07 49 25.5**	**+1.7**
CTA	**Charters Tower**	**22.00**	**127**⇓	*i*P		**P**	**07 49 29.0**	**+2.3**
	comp=Z,149nm,0.8s,mb5.6							
CTA	**Charters Tower**	**22.00**	**127**	P		**P**	**07 49 29.1**	**+2.4**
	comp=Z,310nm,1.0s,mb5.8,baz=304,slow=11,SNR=124							
CTA				S		**S**	**07 53 12.6**	**+0.6**
	comp=Z,12nm,0.6s,baz=210,slow=20,SNR=3.2							
CTAO	**Charters Tower**	**22.00**	**127**⇓	*e*P		**P**	**07 49 29.0**	**+2.3**
CTAO				pmax		pmax		
	comp=Z,514nm,1.2s,mb5.9							
CTAO	**Charters Tower**	**22.00**	**127**⇓	*e*P		**P**	**07 49 29.0**	**+2.4**
	comp=Z,514nm,1.2s,mb5.9							
LUBP	**Lubang**	**22.13**	**340**	*e*P		**P**	**07 49 27.3**	**-0.5**
TGY	**Tagaytay City**	**22.26**	**342**	P		**P**	**07 49 29.3**	**+0.3**
	comp=Z,791nm,0.7s,baz=208,slow=2.0,SNR=15							
POLP	**Polillo Island**	**22.58**	**345**	*e*P		**P**	**07 49 31.8**	**-0.1**
SCZP	**Santa Cruz**	**24.15**	**341**	*e*P		**P**	**07 49 42.8**	**-3.5**
BCPH	**Baguio City Da**	**24.52**	**343**⇑	*i*P		**P**	**07 49 50.9**	**+1.3**
APYP	**Conner**	**25.76**	**346**	*e*P		**P**	**07 49 59.2**	**-1.4**
KLBR	**Kellerberrin**	**25.97**	**200**⇑	*i*P		**P**	**07 50 02.7**	**+0.1**
	comp=Z,454nm,1.0s,mb6.1							
KGM	**Kluang**	**26.07**	**290**	P		**P**	**07 50 04.5**	**+1.0**
NWAO	**Narrogin (SRO)**	**27.37**	**200**	P		**P**	**07 50 15.6**	**+0.6**
	comp=Z,165nm,0.6s,mb5.8,baz=26,slow=8.9,SNR=116							
NWAO				pP		pP	07 51 03.5	+1.6
	comp=Z,84nm,0.6s,baz=30,slow=12,SNR=3.4							
NWAO	**Narrogin (SRO)**	**27.37**	**200**⇑	*i*P		**P**	**07 50 15.5**	**+0.5**
NWAO				pmax		pmax		
	comp=Z,159nm,0.7s							
NWAO	**Narrogin (SRO)**	**27.37**	**200**⇑	*i*P		**P**	**07 50 15.5**	**+0.5**
	comp=Z,160nm,0.7s,mb5.8							
STKA	**Stephens Creek**	**27.70**	**154**	*e*P		**P**	**07 50 16.9**	**-1.0**
	comp=Z,35nm,0.7s,mb5.1							
STKA	**Stephens Creek**	**27.70**	**154**	P		**P**	**07 50 17.4**	**-0.5**
	comp=Z,56nm,0.8s,mb5.3,baz=328,slow=9.1,SNR=3.6							
STKA				S		**S**	**07 54 40.0**	**-2.2**
	comp=Z,67nm,0.9s,baz=121,slow=14,SNR=4.9							
STKA	**Stephens Creek**	**27.70**	**154**	P		**P**	**07 50 17.4**	**-0.5**
STKA				S		**S**	**07 54 40.0**	**-2.2**
IPM	**Ipoh**	**29.12**	**293**	P		**P**	**07 50 30.8**	**+0.3**
KULM	**Kulim**	**29.79**	**294**	*e*P		**P**	**07 50 35.9**	**-0.6**
PSI	**Prapat**	**30.47**	**288**	P		**P**	**07 50 41.6**	**-0.7**
	comp=Z,200nm,0.9s,mb5.8,baz=132,slow=4.2,SNR=103							
PSI				S		**S**	**07 55 20.3**	**-5.3**
	comp=Z,5.2nm,0.6s,baz=300,slow=22,SNR=7.4							
PSI				ScP		ScP	07 56 52.9	-2.2
	comp=Z,5.4nm,0.7s,baz=175,slow=13,SNR=4.2							
PSI	**Prapat**	**30.47**	**288**	P		**P**	**07 50 41.6**	**-0.8**
PSI				S		**S**	**07 55 20.3**	**-5.3**
SNG	**Songkhla**	**30.64**	**297**	P		**P**	**07 50 45.0**	**+1.1**
	comp=Z,260nm,0.9s,mb5.9							
QIZ	**Qiongzhong**	**31.52**	**326**	⇑P		**P**	**07 50 51.8**	**+0.2**
QIZ				S		**S**	**07 55 40.4**	**-1.6**
QIZ				XS		sS	07 57 06.2	-0.9
QIZ				SS		SS	07 57 57.2	-2.8
QIZ				AMB		AMB		
	comp=Z,27nm,1.1s,mb4.7							
HNR	**Honiara**	**31.90**	**96**	P		**P**	**07 50 55.6**	**+0.7**
	comp=Z,178nm,0.8s,mb5.7,baz=252,slow=5.3,SNR=6.0							
HNR	**Honiara**	**31.90**	**96**	P		**P**	**07 50 55.2**	**+0.3**
QZH	**Quanzhou**	**33.21**	**345**⇑	*i*P		**P**	**07 51 06.3**	**0.0**
QZH				AMB		AMB		
	comp=Z,240nm,1.3s,mb5.6							
JOW	**Kunigami**	**33.87**	**1**	P		**P**	**07 51 12.6**	**+0.7**
	comp=Z,160nm,0.9s,mb5.5,baz=200,slow=8.5,SNR=12							
RIV	**Riverview**	**34.17**	**144**	*e*P		**P**	**07 51 17.5**	**+3.0**
TOO	**Toolangi**	**34.22**	**155**⇓	*i*P		**P**	**07 51 18.1**	**+3.2**
	comp=Z,48nm,0.8s,mb5.1							
CNB	**Canberra Magne**	**34.26**	**148**⇓	*i*P		**P**	**07 51 17.7**	**+2.4**
	comp=Z,68nm,0.9s,mb5.2							
BSI	**Banda Aceh**	**34.79**	**290**	P		**P**	**07 51 17.4**	**-2.4**
	comp=Z,473nm,1.1s,mb5.9							
NST	**Nakhon Sawan**	**35.60**	**310**	P		**P**	**07 51 27.0**	**+0.3**
	comp=Z,50nm,1.0s,mb5.0							
CBIJ	**Chichi jima**	**36.87**	**22**	P		**P**	**07 51 36.5**	**-0.9**
	comp=Z,159nm,0.5s,mb5.8,baz=99,slow=23,SNR=5.3							
CHG	**Chiang Mai**	**38.45**	**313**	PG		**P**	**07 51 50.9**	**+0.3**
	comp=Z,18nm,0.9s,mb4.6							
CHRT	**Chiangrai**	**38.53**	**315**	⇑P		**P**	**07 51 52.0**	**+0.7**
	comp=Z,329nm,1.1s,mb5.8							
SSE	**Sheshan**	**38.63**	**351**	P		**P**	**07 51 52.7**	**+0.5**
SSE				AMB		AMB		
	comp=Z,46nm,1.3s,mb4.8							
SSE				AMB		AMB		
	comp=Z,424nm,6.6s							
GYA	**Guiyang**	**39.26**	**329**⇓	*i*P		**P**	**07 51 57.6**	**+0.2**
GYA				AP		pP	07 52 44.5	-1.9
GYA				PP		PP	07 53 35.8	+3.0
GYA				PCP		PcP	07 54 03.6	+2.5
GYA				SCP		ScP	07 57 29.3	+2.6
GYA				S		**S**	**07 57 39.5**	**-0.3**
GYA				AMB		AMB		
	comp=Z,40nm,1.0s,mb4.9							
GYA				AMB		AMB		
	comp=Z,140nm,3.6s							
GYA				LR		LR		
	comp=N,480nm,16.8s							
GYA				LR		LR		
	comp=E,640nm,17.0s							
GYA				LR		LR		
	comp=Z,670nm,15.4s							
WHN	**Wuhan**	**39.71**	**342**	⇓P		**P**	**07 52 01.7**	**+0.7**
NOUC	**Port Laguerre**	**39.95**	**116**	*e*P		**P**	**07 52 01.7**	**-1.4**
NJ2	**Nanjing**	**39.98**	**348**	*e*P		**P**	**07 52 03.5**	**+0.2**
NJ2				AP		pP	07 52 51.3	-1.2
NJ2				PP		PP	07 53 45.5	+4.9
NJ2				S		**S**	**07 57 55.0**	**+4.4**
NJ2				XS		sS	07 59 19.1	+1.2
NJ2				AMB		AMB		
	comp=Z,120nm,1.1s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,270nm,10.6s							
NJ2				LR		LR		
	comp=N,1μm,24.6s							
NJ2				LR		LR		
	comp=E,880nm,27.3s							
NJ2				LR		LR		
	comp=Z,270nm,20.1s							
DZM	**Mont Dzumac**	**40.07**	**116**	*e*P		**P**	**07 52 05.6**	**+1.6**
KMI	**Kunming**	**40.35**	**324**	P		**P**	**07 52 08.8**	**+2.5**
KMI				AP		pP	07 52 55.5	-0.1
KMI				XP		sP	07 53 20.4	-2.1
KMI				PP		PP	07 53 48.5	+4.0
KMI				PCP		PcP	07 54 07.4	+2.7
KMI				S		**S**	**07 57 55.4**	**-0.7**
KMI				SCS		ScS	08 01 45.3	-0.5
KMI				AMB		AMB		
	comp=Z,47nm,0.9s,mb4.9							
KMI				AMB		AMB		
	comp=Z,141nm,3.9s							
KMI				LR		LR		
	comp=N,302nm,17.5s							
KMI				LR		LR		
	comp=E,528nm,19.1s							
KMI				LR		LR		
	comp=Z,322nm,14.9s							
CD2	**Chengdu**	**44.36**	**330**	*e*P		**P**	**07 52 38.4**	**-0.1**
CD2				AP		pP	07 53 25.9	-2.8
CD2				PP		PP	07 54 26.5	-0.6
CD2				S		**S**	**07 58 55.3**	**+0.8**
CD2				SS		SS	08 02 13.2	-6.2
CD2				AMB		AMB		
	comp=Z,30nm,0.8s,mb4.7							
CD2				AMB		AMB		
	comp=Z,120nm,4.8s							
TIA	**Tai'an**	**44.36**	**348**	*e*P		**P**	**07 52 37.4**	**-1.1**
KS15	**Wonju Array Si**	**44.44**	**0**	*e*P		**P**	**07 52 38.6**	**-0.6**
MJAR	**Matsushiro Arr**	**44.63**	**12**	P		**P**	**07 52 38.9**	**-1.8**
	comp=Z,39nm,0.9s,mb4.7,baz=188,slow=8.9,SNR=43							
MJAR				ScP		ScP	07 57 47.0	-1.3
	comp=Z,34nm,1.1s,baz=198,slow=5.7,SNR=20							
MAJO	**Matsushiro**	**44.63**	**12**	*e*P		**P**	**07 52 38.9**	**-1.8**
MAJO				pmax		pmax		
	comp=Z,48nm,0.9s,mb4.8							
MAJO	**Matsushiro**	**44.63**	**12**	*e*P		**P**	**07 52 38.9**	**-1.8**
	comp=Z,48nm,0.9s,mb4.8							
MAT	**Matsushiro**	**44.63**	**12**	P		**P**	**07 52 38.8**	**-1.9**
MAT				*e*S		**S**	**07 58 56.6**	**-1.9**
MAT	**Matsushiro**	**44.63**	**12**	*e*P		**P**	**07 52 39.0**	**-1.7**
MAT				S		**S**	**07 58 57.0**	**-1.5**
MAT				pmax		pmax		
	comp=Z,50nm,1.0s,mb4.8							
MAT	**Matsushiro**	**44.63**	**12**	*e*P		**P**	**07 52 39.0**	**-1.7**
	comp=Z,50nm,1.0s,mb4.8							
MAT				S		**S**	**07 58 57.0**	**-1.5**
XAN	**Xi'an**	**44.77**	**338**	P		**P**	**07 52 40.5**	**-1.3**
XAN				AMB		AMB		
	comp=Z,58nm,0.8s,mb5.0							
DL2	**Dalian**	**46.26**	**353**	P		**P**	**07 52 53.8**	**+0.4**
DL2				S		**S**	**07 59 19.6**	**-2.1**
DL2				XS		sS	08 00 50.3	-0.7
DL2				AMB		AMB		
	comp=Z,30nm,0.6s,mb4.8							
SHL	**Shillong**	**47.76**	**314**	*e*P		**P**	**07 53 05.0**	**+0.1**
SHL				*ex*		x	07 59 38.0	
LZH	**Lanzhou**	**48.61**	**334**	⇓P		**P**	**07 53 12.0**	**+0.6**
LZH				AP		pP	07 54 04.9	+2.4
LZH				XP		sP	07 54 32.6	+3.6
LZH				PCP		PcP	07 54 35.0	+1.9
LZH				PP		PP	07 55 08.0	+1.3
LZH				SCP		ScP	07 58 05.0	+0.1
LZH				S		**S**	**07 59 52.3**	**-2.4**
LZH				XS		sS	08 01 28.0	+3.2
LZH				SCS		ScS	08 02 36.5	-2.0
LZH				*e*SS		SS	08 03 23.0	-5.1
LZH				AMB		AMB		
	comp=Z,170nm,1.1s,mb5.3							
LZH				AMB		AMB		
	comp=Z,540nm,4.2s							
LZH				LR		LR		
	comp=N,680nm,14.6s							
LZH				LR		LR		
	comp=Z,550nm,14.8s							
SNY	**Shenyang**	**48.98**	**356**	⇑P		**P**	**07 53 11.9**	**-2.3**
SNY				AMB		AMB		
	comp=Z,70nm,1.8s,mb4.7							
PALK	**Pallekele**	**49.11**	**286**	P		**P**	**07 53 15.8**	**+0.6**
	comp=Z,368nm,1.4s,mb5.5,SNR=6.6							
PALK	**Pallekele**	**49.11**	**286**	*e*P		**P**	**07 53 14.9**	**-0.3**
	comp=Z,80nm,1.2s,mb4.9							
HHC	**Hu-ho-hao-te**	**50.12**	**344**	⇓P		**P**	**07 53 22.3**	**-0.5**
HHC				AP		pP	07 54 16.3	+2.1
HHC				PCP		PcP	07 54 41.4	+2.8
HHC				XP		sP	07 54 45.0	+4.4
HHC				PP		PP	07 55 19.8	-0.6
HHC				SCP		ScP	07 58 10.0	-1.4
HHC				S		**S**	**08 00 08.7**	**-7.0**
HHC				XS		sS	08 01 43.4	-2.8
HHC				SCS		ScS	08 02 44.6	-4.2
HHC				AMB		AMB		
	comp=Z,28nm,1.6s,mb4.3							
HHC				AMB		AMB		
	comp=Z,228nm,7.2s							
HHC				LR		LR		
	comp=N,238nm,14.4s							
HHC				LR		LR		
	comp=E,197nm,16.8s							
HHC				LR		LR		
	comp=Z,225nm,18.0s							
VLA	**Vladivostok**	**50.26**	**4***c*	*i*P		**P**	**07 53 22.4**	**-1.5**
VLA				pmax		pmax		
	comp=Z,93nm,1.4s,mb4.9							
VIS	**Vishakhapatnam**	**50.41**	**300**	*e*P		**P**	**07 53 25.5**	**+0.5**
VIS				AMb		AMB	07 53 27.2	
	comp=Z,107nm,0.7s,mb5.3							
CN2	**Changchun**	**50.84**	**358**	*e*P		**P**	**07 53 27.7**	**-0.5**
CN2				*e*AP		pP	07 54 23.4	+3.7
CN2				PCP		PcP	07 54 40.6	-0.7
CN2				SCP		ScP	07 58 13.2	-1.3
CN2			

KKN **Kakani 53.84 312⇑*i*P P 07 53 50.3 +0.1**
comp=Z,150nm,0.6s,mb5.7
KKN **Kakani 53.84 312⇑*i*P P 07 53 50.3 +0.1**
KKN pmax pmax
comp=Z,75nm,0.6s,mb5.4
DMN **Daman 53.86 312⇑*i*P P 07 53 50.7 +0.3**
comp=Z,288nm,1.0s,mb5.8
URZ **Urewera 54.12 133 P P 07 53 53.4 +1.1**
comp=Z,60nm,0.7s,mb5.2,baz=19,slow=2.8,SNR=12
GKN **Gorkha 54.43 312⇑*i*P P 07 53 54.5 +0.1**
comp=Z,255nm,0.4s,mb6.1
HYB **Hyderabad 54.45 297⇑*i*P P 07 53 54.5 -0.1**
comp=Z,220nm,1.0s,mb5.6
HYB *e*pP pP 07 54 45.0 -1.8
HYB *e*ScP ScP 07 58 29.0 -1.2
HYB *e*S **S 08 01 13.0 -1.4**
HYB **Hyderabad 54.45 297⇑*e*P P 07 53 54.5 -0.1**
HYB *e* 07 54 40.0
HYB pmax pmax
comp=Z,220nm,1.0s,mb5.6
HYB **Hyderabad 54.45 297⇑*e*P P 07 53 54.5 -0.1**
comp=Z,220nm,1.0s,mb5.6
HYB *e* 07 54 40.0
ALBI **Allahabad 55.18 308 *e*P P 07 54 00.0 +0.2**
NGP **Nagpur 55.52 302 *e*P P 07 54 00.5 -1.8**
NGP AMb AMB 07 54 03.4
comp=Z,138nm,1.2s,mb5.3
YSS **Yuzh-Sakhalins 55.57 12⇓*e*P P 07 54 02.3 -0.3**
YSS *e**SP sP 07 55 07.3 -14
YSS **Yuzh-Sakhalins 55.57 12 *e*P P 07 54 01.7 -0.9**
comp=Z,28nm,0.8s,mb4.8
HABR **Khabarovsk 55.84 6 *i*P P 07 54 03.9 -0.6**
HABR *i* 07 55 02.4
HABR pmax pmax
comp=Z,125nm,1.6s,mb5.2
MNGI **Mangalore 56.29 291 *e*P P 07 54 07.5 -0.2**
MNGI AMb AMB 07 54 10.2
comp=Z,232nm,1.1s,mb5.6
MNGI *e*S **S 08 01 33.7 -5.1**
KLR **Kul'dur 56.34 3*α i*P P 07 54 04.8 -3.2**
KLR *e* pP 07 54 57.2 -3.4
KLR *e*S **S 08 01 31.0 -8.3**
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.0
AKL **Akola 57.07 300 *e*x x 07 53 31.2**
AKL AMb AMB 07 53 32.8
comp=Z,181nm,2.4s,mb5.3
BHPL **Bhopal 57.77 303 *e*P P 07 54 17.2 -0.9**
BHPL AMb AMB 07 54 19.1
comp=Z,111nm,1.4s,mb5.3
BHPL *e*x x 08 01 49.9
ULN **Ulaanbaatar 57.84 344*d i*P P 07 54 18.6 +0.1**
ULN **Ulaanbaatar 57.84 344 *e*P P 07 54 18.9 +0.4**
comp=Z,68nm,1.1s,mb5.2
SONM **Songino Array 57.99 343 P P 07 54 19.6 0.0**
comp=Z,27nm,0.9s,mb4.9,baz=167,slow=6.9,SNR=138
SONM ScP ScP 07 58 44.3 -1.5
comp=Z,3.7nm,1.0s,baz=166,slow=3.3,SNR=3.6
SONM PKPPKP 08 23 58.8
comp=Z,1.1nm,1.2s,baz=90,slow=1.5,SNR=4.2
KAD **Karad 58.29 295 *e*P P 07 54 20.9 -0.8**
KAD AMb AMB 07 54 22.5
comp=Z,131nm,1.1s,mb5.5
POO **Poona 59.02 297⇑*i x* x 07 54 45.0**
POO *e*x x 07 54 48.2
POO AMb AMB 07 54 49.9
comp=Z,125nm,1.1s,mb5.5
AFI **Afiamalu 59.67 102 P P 07 54 33.6 +2.5**
comp=Z,108nm,1.0s,mb5.4,baz=42,slow=4.5,SNR=6.3
AFI **Afiamalu 59.67 102 *e*P P 07 54 33.1 +2.0**
AFI pmax pmax
comp=Z,89nm,0.9s,mb5.4
AFI **Afiamalu 59.67 102 *e*P P 07 54 33.1 +2.1**
comp=Z,89nm,0.9s,mb5.4
CIT **Chita 60.27 350 *e*P P 07 54 35.4 +0.2**
CIT *e* 07 55 18.4
CIT *e* 07 55 37.4
CIT *e* 08 02 32.1
CIT *e* 08 03 55.8
CIT pmax pmax
comp=Z,60nm,2.0s,mb4.9
NDI **New Delhi 60.39 309 *e*P P 07 54 34.5 -1.5**
NDI *e*x x 08 02 22.0
DDI **Dehra Dun 60.54 311 *e*P P 07 54 34.6 -2.4**
DDI *e*x x 08 02 12.6
ZAK **Zakamensk 61.19 342⇓*i*P P 07 54 41.2 -0.1**
ZAK *e* 07 55 21.2
ZAK pmax pmax
comp=Z,23nm,2.1s,mb4.4
ZAK pmax pmax
comp=Z,22nm,1.4s,mb4.6
AJM **Ajmer 61.44 305 *e*P P 07 54 42.5 -0.5**
AJM AMb AMB 07 54 43.8
comp=Z,80nm,0.8s,mb5.4
SMLA **Simla 61.60 311 *e*P P 07 54 42.4 -1.6**
SMLA *e*P 07 54 43.2
SMLA AMb AMB 07 54 48.0
comp=Z,182nm,1.1s,mb5.6
SMLA *e*x x 08 02 41.6
WMQ **Urumqi 62.41 328** P **P 07 54 49.7 +0.3**
WMQ AP pP 07 55 44.0 +0.8
WMQ XP sP 07 56 09.0 +0.1
WMQ PP PP 07 57 11.0 +1.2
WMQ S **S 08 02 56.0 -1.0**
WMQ XS sS 08 04 30.0 -1.3
WMQ SS SS 08 07 06.0 +0.9
WMQ AMB AMB
comp=Z,31nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,187nm,6.0s
WMQ LR LR
comp=N,245nm,11.0s
WMQ LR LR
comp=E,252nm,11.0s
WMQ LR LR
comp=Z,134nm,10.0s
IRK **Irkutsk 62.56 344 *e*P P 07 54 50.2 -0.3**
IRK *e* 07 55 26.8
IRK pmax pmax
comp=Z,57nm,2.9s,mb4.7
MOY **Mondy 63.02 342 *e*P P 07 54 54.4 +1.0**
MOY pmax pmax
comp=Z,63nm,2.6s,mb4.8
THN **Thein Dam 63.31 312 *e*P P 07 54 54.0 -1.4**
CLNS **Chul'man 63.89 358 *e*P P 07 54 57.0 -2.2**
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=Z,12nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,3.0nm,0.8s
BHJ **Bhuj 64.35 300 *e*P P 07 55 01.2 -1.0**
BHJ AMb AMB 07 55 03.5
comp=Z,86nm,1.8s,mb5.1
PET **Petropavlovsk 65.50 20 *e*P P 07 55 09.0 -0.6**
PET *e**PP pP 07 56 11.2 +7.4
PET *e*S S 08 03 39.0 +4.0
PET *e* 08 04 37.2
PET pmax pmax
comp=Z,81nm,1.3s,mb5.2
PET pmax pmax
comp=Z,100nm,14.5s
PET pmax pmax
comp=Z,42nm,1.6s,mb4.8
PET pmax pmax
comp=Z,200nm,14.9s
PET smax
comp=E,100nm,13.4s
PET **Petropavlovsk 65.50 20 *e*P P 07 55 09.2 -0.4**
comp=E,28nm,0.5s,mb5.2
NIL **Nilore 65.71 312** P **P 07 55 11.6 +0.7**
comp=E,132nm,0.4s,mb5.9,SNR=6.3
BOD **Bodaibo 65.80 352 *e*P P 07 55 10.1 -1.3**
BOD pmax pmax
comp=Z,23nm,1.4s,mb4.6
KSH **Kashi 66.72 319 *e*P P 07 55 20.4 +3.2**
KSH *e*PCP PcP 07 55 47.6 +3.2
KSH *e*AP pP 07 56 12.2 +0.5
KSH *e*XP sP 07 56 35.7 -1.6
KSH *e*PP PP 07 57 52.2 +4.8
KSH *e*SCP 07 59 27.1
KSH *e*PCS 07 59 51.1
KSH *e*S S 08 03 47.7 -1.9
KSH *e*SCS ScS 08 04 52.3 +1.3
KSH *e*SS SS 08 08 15.1 +3.1
KSH AMB AMB
comp=Z,180nm,3.0s
KSH LR LR
comp=N,250nm,4.7s
KSH LR LR
comp=E,320nm,6.3s
MK31 **Makanchi Array 67.23 328 *i* P P 07 55 20.3 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.5s,mb4.7
MKAR **Makanchi Array 67.23 328** P **P 07 55 20.3 -0.2**
comp=Z,15nm,0.5s,mb4.9,baz=121,slow=7.9,SNR=265
MKAR pP pP 07 56 14.2 -0.8
comp=Z,7.1nm,0.8s,baz=128,slow=7.4,SNR=1.7
MKAR S S 08 03 52.7 -3.0
comp=Z,3.0nm,1.1s,baz=135,slow=10,SNR=7.3
MKAR PKPPKP 08 23 43.0
comp=Z,0.6nm,0.9s,baz=0.0,slow=2.4,SNR=4.8
MKAR **Makanchi Array 67.23 328** P **P 07 55 20.3 -0.2**
MKAR S S 08 03 52.7 -3.0
ULHL **Ulahol 68.01 321** P **P 07 55 25.6 +0.2**
SNR=7.7
KZA **Kyzart 68.54 321** P **P 07 55 30.1 +1.4**
SNR=22
TKM2 **Tokmak 2 68.78 322** P **P 07 55 30.8 +0.7**
SNR=21
KBK **Karagaybulak 69.04 321** P **P 07 55 33.7 +2.0**
SNR=7.1
YAK **Yakutsk 69.08 1 *e*P P 07 55 31.3 -0.6**
YAK *i* 07 55 55.5
YAK *e**PP pP 07 56 17.1 -10
YAK *e* 07 56 37.3
YAK *e* 07 58 02.2
YAK *e*PPP 07 59 45.4
YAK *e*S S 08 04 15.1 -2.4
YAK *e* 08 05 04.9
YAK pmax pmax
comp=Z,52nm,1.1s,mb5.1
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK pmax pmax
comp=Z,31nm,1.1s,mb4.8
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=N,6.0nm,0.6s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK smax
comp=E,17nm,1.5s
YAK smax
comp=N,11nm,1.3s
YAK **Yakutsk 69.08 1 *e*P P 07 55 31.1 -0.8**
comp=N,40nm,0.6s,mb5.2
MA2 **Magadan 69.08 12*de*P P 07 55 31.5 -0.4**
MA2 *e* 07 56 14.2
MA2 *e*S S 08 04 16.4 -1.2
MA2 *e* 08 05 05.3
MA2 *e*SS SS 08 08 44.7 -3.8
MA2 pmax pmax
comp=N,20nm,1.6s
MA2 pmax pmax
comp=Z,60nm,1.6s,mb5.0
MA2 **Magadan 69.08 12⇓*e*P P 07 55 31.6 -0.3**
comp=Z,142nm,1.5s,mb5.4
UCH **Uchtor 69.08 320** P **P 07 55 33.3 +1.4**
SNR=21
KRAR **Krasnoyarsk 69.30 340 *e*P P 07 55 32.7 -0.6**
KRAR pmax pmax
comp=Z,31nm,0.5s,mb5.2
AAK **Ala-Archa 69.31 321** P **P 07 55 34.3 +1.0**
SNR=20
AAK **Ala-Archa 69.31 321** P **P 07 55 33.8 +0.5**
comp=Z,167nm,0.6s,mb5.8,SNR=7.8
AAK **Ala-Archa 69.31 321*c i*P P 07 55 33.1 -0.2**
AAK pmax pmax
comp=Z,26nm,1.0s,mb4.8
AAK **Ala-Archa 69.31 321 *e*P P 07 55 32.9 -0.4**
comp=Z,17nm,0.6s,mb4.8
FRU **Bishkek 69.34 321 *e*P P 07 55 37.0 +3.5**
FRU *e* 07 56 03.0
FRU *e* 07 56 39.0
FRU *e* 08 04 19.0
AML **Almayashu 69.55 320** P **P 07 55 35.9 +1.1**
SNR=42
USP **Ospenovka 69.64 321** P **P 07 55 35.5 +0.1**
SNR=26
EKS2 **Erkin-Say 69.77 321** P **P 07 55 37.3 +1.1**
SNR=19
ZAL **Zalesovo 70.83 335** P **P 07 55 41.1 -1.5**
comp=Z,17nm,0.6s,mb4.8,baz=337,slow=5.6,SNR=58
ZAL pP pP 07 56 37.5 -0.2
comp=Z,7.1nm,0.9s,baz=328,slow=5.0,SNR=2.1
ZAL S S 08 04 32.0 -5.9
comp=Z,3.3nm,0.8s,baz=93,slow=24,SNR=22
ZAL PKPPKP 08 23 33.7
comp=Z,0.8nm,0.7s,baz=136,slow=3.0,SNR=5.7
ZAL **Zalesovo 70.83 335** P **P 07 55 41.1 -1.5**
ZAL S S 08 04 32.0 -5.9
ZAL **Zalesovo 70.83 335** P **P 07 55 41.1 -1.5**
ZAL pP pP 07 56 37.5 -0.2
ZAL S S 08 04 32.0 -5.9
ZAL P'P' 08 23 33.7
FX1 **Attu Island--F 71.17 27** P **P 07 55 44.5 -0.1**
comp=Z,80nm,0.9s,mb5.4,baz=59,slow=3.1,SNR=13
FX1 **Attu Island--F 71.17 27 *e*P P 07 55 44.6 -0.1**
KURK **Kurchatov 71.58 330** P **P 07 55 46.6 -0.5**
comp=Z,447nm,0.7s,mb6.2,SNR=64
KURK **Kurchatov 71.58 330*d i*P P 07 55 46.3 -0.8**
KURK **Kurchatov 71.58 330 *e*P P 07 55 46.6 -0.4**
comp=Z,52nm,0.8s,mb5.2
KK31 **Karatay Array 72.07 320 *i* P P 07 55 50.3 +0.3**
KK31 pmax pmax
comp=Z,15nm,1.2s,mb4.5
KKAR **Karatay Array 72.07 320 *i* P P 07 55 50.3 +0.3**
KKAR pmax pmax
comp=Z,18nm,1.3s,mb4.5
NVS **Novosibirsk 72.12 335⇓*i*P P 07 55 48.1 -2.2**
NVS *e* 08 05 24.9
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=Z,37nm,1.3s,mb4.8
NVS pmax pmax
comp=E,33nm,1.2s
SEY **Seymchan 72.46 12 *e*P P 07 55 51.8 -0.5**
SEY *e* 07 56 08.3
SEY *e*S S 08 04 54.6 -1.9
SEY *e*SS SS 08 09 44.6 +4.4
SEY pmax pmax
comp=Z,20nm,0.8s,mb4.8
SEY pmax pmax
comp=N,8.0nm,1.0s
SEY smax
comp=N,330nm,23.8s
SEY smax
comp=E,360nm,27.8s
VNDA **Vanda 72.49 173** P **P 07 55 53.0 +0.5**
comp=E,7.8nm,0.8s,mb4.4,baz=318,slow=7.5,SNR=45
VNDA **Vanda 72.49 173 *e*P P 07 55 52.7 +0.3**
VNDA pmax pmax
comp=Z,16nm,1.1s
VNDA **Vanda 72.49 173 *e*P P 07 55 52.7 +0.3**
comp=Z,16nm,1.1s,mb4.6
WBK **Wadi Bani Khal 73.52 296** ⇑P **P 07 55 58.6 +0.2**
SNR=22
MAW **Mawson 73.93 201 *e*P P 07 56 01.9 +1.1**
comp=Z,55nm,0.8s,mb5.2
MAW **Mawson 73.93 201** P **P 07 56 01.4 +0.6**
comp=Z,67nm,0.8s,mb5.3,baz=97,slow=6.3,SNR=16
SMDO **Samad 74.46 296** P **P 07 56 04.1 +0.2**
SNR=30
BIDO **Bidbid 74.51 297** P **P 07 56 04.6 +0.5**
SNR=32
BSY **Bisya 75.14 296** ⇑P **P 07 56 07.9 +0.1**
HOQ **Hoqain 75.25 297** P **P 07 56 08.6 +0.2**
SNR=38
SHAO **Shalim 75.47 291** P **P 07 56 10.0 +0.3**
SNR=9.3
ARQ **Araqi 75.89 296** P **P 07 56 12.2 +0.2**
SNR=11
ARQ P 07 56 12.3
SNR=11
ASHO **Ashiyiah 76.63 297** P **P 07 56 15.9 -0.3**
SNR=21
BANOM **Banah 76.73 299** ⇓P **P 07 56 17.2 +0.4**
SNR=69
BVA0 **Borovoye Array 77.10 329 *i* P P 07 56 18.0 -0.8**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BVAR **Borovoye Array 77.10 329** P **P 07 56 18.2 -0.6**
comp=Z,19nm,0.7s,mb4.8,baz=125,slow=8.3,SNR=79
BVAR pP pP 07 57 14.8 -0.1
comp=Z,2.3nm,0.6s,baz=158,slow=7.8,SNR=1.2
BVAR S S 08 05 45.8 -1.9
comp=Z,1.9nm,1.0s,baz=131,slow=14,SNR=7.0
BRVK **Borovoye 77.17 329** P **P 07 56 18.5 -0.7**
comp=Z,184nm,0.7s,mb5.8,SNR=23
BRVK **Borovoye 77.17 329 *e*P P 07 56 18.6 -0.6**
BRVK pmax pmax
comp=Z,23nm,1.0s,mb4.8
BRVK **Borovoye 77.17 329 *e*P P 07 56 18.6 -0.6**
comp=Z,23nm,1.0s,mb4.8
WHFO **Wadi Hawf 77.17 290** P **P 07 56 18.7 -0.5**
ABTO **Aybut 77.50 290** P **P 07 56 21.0 0.0**
SNR=15
ABKT **Ailbek 78.69 311** P **P 07 56 28.6 +1.1**
comp=Z,187nm,1.1s,mb5.6,SNR=8.3
TIXI **Tiksi 78.72 0⇑*i*P P 07 56 22.8 -5.0**
TIXI *e* 07 57 30.7
TIXI pmax pmax
comp=Z,61nm,1.5s,mb5.0
TIXI MLR MLR
comp=Z,208nm,17.0s
OPO **Ambohidratompo 78.84 253** P **P 07 56 29.1 +0.7**
comp=Z,14nm,0.8s,mb4.7,baz=88,slow=3.7,SNR=28
BILL **Bilibino 79.86 14⇓*i*P P 07 56 31.5 -2.4**
BILL *e* 07 59 37.6
BILL *e*S S 08 06 22.3 +5.4
BILL pmax pmax
comp=Z,18nm,2.0s,mb4.3
BILL **Bilibino 79.86 14 *e*P P 07 56 32.5 -1.4**
comp=Z,10nm,1.1s,mb4.4
PAE **Paea 80.86 107 *e*P P 07 56 42.0 +2.8**
comp=Z,160nm,1.1s,mb5.5
PPT **Papeete 80.88 107 *e*P P 07 56 42.2 +2.9**
comp=Z,71nm,1.1s,mb5.2
PPT **Papeete 80.88 107** P **P 07 56 42.4 +3.2**
comp=Z,22nm,0.6s,mb5.0,baz=163,slow=3.3,SNR=3.6
TVO **Taravao 81.17 107 *e*P P 07 56 43.7 +2.9**
comp=Z,242nm,1.2s,mb5.7
UNV **Unalaska Valle 81.90 33** P **P 07 56 43.4 -1.3**
SYO **Syowa Base 82.64 201**⇑*i*PcP PcP 07 56 50.3 -2.5
SYO **Syowa Base 82.64 201**⇓*e*pP pP 07 57 46.2 +0.9
SYO **Syowa Base 82.64 201**⇓*i*P **P 07 56 48.5 0.0**
SYO ⇑*i*PcP PcP 07 56 50.3 -2.5
SYO ⇓*e*pP pP 07 57 46.2 +0.9
PMOR **Pomariorio Ree 82.71 104 *e*P P 07 56 51.4 +2.6**
comp=Z,172nm,1.1s,mb5.7
AKTK **Aktyubinsk 82.92 323** P **P 07 56 49.4 -0.5**
AKTK pP pP 07 57 47.1 +0.4
AKTK S S 08 06 44.6 -3.7
AKTO **Aktyubinsk 82.92 323** P **P 07 56 49.4 -0.5**
comp=Z,28nm,0.9s,mb5.0,baz=111,slow=7.2,SNR=58
AKTO pP pP 07 57 47.1 +0.4
comp=Z,8.9nm,0.9s,baz=100,slow=8.1,SNR=1.6
AKTO S S 08 06 44.6 -3.7
comp=Z,3.2nm,0.9s,baz=251,slow=20,SNR=21
VAH **Vaihoa 82.95 104 *e*P P 07 56 52.7 +2.7**
comp=Z,153nm,1.2s,mb5.6
QRN **Al-Qurain 84.63 300 *e*P P 07 56 58.2 -0.3**
QRN AMb AMB 07 57 00.3
comp=Z,209nm,0.9s,mb5.9
ARU **Arti 84.75 329⇓*i*P P 07 56 58.0 -1.1**
ARU *e* 07 58 01.8
ARU *e* 08 00 17.6
ARU *e*S 08 06 56.9
ARU *e*SS SS 08 12 42.2 -1.8
ARU pmax pmax
comp=Z,36nm,1.4s,mb4.9
ARU **Arti 84.75 329 *e*P P 07 56 58.4 -0.7**
comp=Z,44nm,1.2s,mb5.1
UMR **Umm Al-Rimmam 84.96 301 *e*P P 07 56 59.7 -0.5**
UMR AMb AMB 07 57 01.9
comp=Z,110nm,0.8s,mb5.6
RDF **Al-Radifah 84.98 300 *e*P P 07 56 59.6 -0.7**
RDF AMb AMB 07 57 02.2
comp=Z,136nm,0.9s,mb5.7
NAY **Al-Naaiem 85.31 300 *e*P P 07 57 01.4 -0.5**
NAY AMb AMB 07 57 03.6
comp=Z,146nm,1.1s,mb5.6
MIB **Mutribah 85.33 301 *e*P P 07 57 01.0 -1.0**
MIB AMb AMB 07 57 03.4
comp=Z,220nm,1.1s,mb5.8
TNA **Tin City 86.26 22 *e*P P 07 57 05.3 -1.3**
comp=Z,10nm,1.0s,mb4.5
ATD **Arta Tunnel 86.49 282** P **P 07 57 08.7 +1.0**
comp=Z,25nm,0.7s,mb5.0,baz=58,slow=3.9,SNR=8.3
GNI **Garni 89.32 310** P **P 07 57 21.4 +0.3**
comp=Z,5.4nm,0.7s,mb4.5,baz=173,slow=18,SNR=4.9
TTA **Tatalina 90.18 26 *e*P P 07 57 24.4 -0.7**
KMBO **Kilima Mbogo 90.38 269** P **P 07 57 26.2 +0.2**
comp=Z,14nm,1.0s,mb4.7,baz=55,slow=6.3,SNR=28
KMBO **Kilima Mbogo 90.38 269 *i* P P 07 57 26.2 +0.2**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO **Kilima Mbogo 90.38 269 *e*P P 07 57 27.1 +1.2**
comp=Z,7.1nm,0.8s,mb4.5
ZEI **Tsey 90.38 313 *e*P P 07 57 26.5 +0.5**
ZEI pmax pmax
comp=Z,14nm,0.9s,mb4.8
KDAK **Kodiak Island 90.58 32** P **P 07 57 26.1 -0.8**
comp=Z,8.8nm,0.7s,mb4.8,baz=44,slow=8.2,SNR=5.7
KIV **Kislovodsk 91.44 314 *e*P P 07 57 30.3 -0.6**
KIV *e* 08 01 07.8
KIV *e* 08 07 38.5
KIV *e*SS SS 08 14 22.3 +1.2
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NVL **N'lazarevskaya 91.48 197 *e*P P 07 57 33.1 +2.0**
NVL pmax pmax
comp=Z,47nm,1.1s,mb5.3
IMA2 **Indian Mountai 91.94 24 *e*P P 07 57 31.3 -1.9**
SLKM **Skilak Lake 92.32 29 *e*P P 07 57 32.7 -2.3**
PMR **Palmer 93.03 28 *e*P P 07 57 36.6 -1.6**
PMR pmax pmax
comp=Z,45nm,1.3s,mb5.3
PMR **Palmer 93.03 28 *e*P P 07 57 36.6 -1.6**
comp=Z,45nm,1.3s,mb5.3
SML **Sawmill 93.44 28 *e*P P 07 57 38.8 -1.3**
MCK **McKinley 93.47 26 *e*P P 07 57 37.5 -2.8**
MCK pmax pmax
comp=Z,39nm,1.4s,mb5.2
MCK **McKinley 93.47 26 *e*P P 07 57 37.5 -2.8**
comp=Z,39nm,1.4s,mb5.2
MALT **Malatya 93.92 308 *e*P P 07 57 42.6 +0.3**
MALT pmax pmax
comp=Z,11nm,0.9s,mb4.9
MALT **Malatya 93.92 308 *e*P P 07 57 42.6 +0.3**
comp=Z,11nm,0.9s,mb4.9
COLA **College 94.11 25** P **P 07 57 39.4 -3.8**
comp=Z,10nm,1.2s,mb4.7
ILAR **Eielson Array 94.50 25** P **P 07 57 42.1 -2.8**
comp=Z,6.0nm,1.1s,mb4.7,baz=263,slow=4.3,SNR=25
ILAR PKKP PKKPbc 08 14 42.2 -0.2
comp=Z,0.5nm,0.8s,baz=61,slow=1.0,SNR=5.0
VRSR **Storozhevoye 94.69 321 *e*P P 07 57 44.3 -1.6**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.7s
SNAA **Sanae 94.91 194** P **P 07 57 47.8 +0.9**
comp=E,7.6nm,0.7s,mb4.9,baz=142,slow=4.7,SNR=26
OBN **Obninsk 96.57 325⇓*e*P P 07 57 53.2 -1.2**
OBN *e* 08 01 56.4
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,100nm,16.0s
LSZ **Lusaka 97.28 254 *e*P P 07 57 58.2 +0.6**
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
LSZ **Lusaka 97.28 254 *e*P P 07 57 58.1 +0.6**
comp=Z,3.9nm,0.6s,mb4.8
BR131 **Keskin Array S 97.75 309 *e*P P 07 57 59.1 -0.6**
comp=Z,3.3nm,0.9s,mb4.7
BRTR **Keskin Array B 97.75 309** P **P 07 57 58.7 -1.0**
comp=Z,2.4nm,0.8s,mb4.6,baz=128,slow=5.1,SNR=9.1

BRTR pP pP 07 58 57.5 -0.1
comp=Z,1.3nm,0.8s,baz=135,slow=4.1,SNR=2.5
LBTB Lobatse 97.89 244 *eP* **P 07 58 00.8 +0.5**
LBTB pmax pmax
comp=Z,19nm,0.9s,mb5.4
LBTB Lobatse 97.89 244 *eP* **P 07 58 00.8 +0.5**
comp=Z,19nm,0.9s,mb5.4
INK Inuvik 99.91 22 P Pdif 07 58 07.7 -1.6
comp=Z,5.2nm,1.0s,baz=274,slow=7.2,SNR=16
INK pP pP 07 59 07.4 +0.1
comp=Z,1.9nm,1.1s,baz=315,slow=2.9,SNR=1.7
AKASG Malin Array Be 100.97 320 P Pdif 07 58 11.9 -2.2
comp=Z,1.4nm,0.6s,baz=89,slow=3.4,SNR=6.2
AKASG pP 07 59 11.5
comp=Z,0.3nm,0.2s,baz=79,slow=4.3,SNR=1.8
AKASG PP PP 08 02 22.1 -3.2
comp=Z,1.3nm,0.8s,baz=77,slow=7.2,SNR=2.9
AKASG Malin Array Be 100.97 320 *i P* Pdif 07 58 15.1 +1.1
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 100.97 320 P Pdif 07 58 11.9 -2.2
AKASG pP 07 59 11.5
AKASG PP PP 08 02 22.1 -3.2
ARCES ARCESS Array B 101.03 340 PKiKP PKiKP 08 02 37.0 -1.2
comp=Z,2.8nm,1.0s,baz=118,slow=1.1,SNR=10
ARCES PKKPbc PKKPbc 08 14 24.4 -0.1
comp=Z,5.4nm,1.1s,baz=270,slow=3.6,SNR=4.1
FINES FINESS Array B 101.91 331 P Pdif 07 58 16.2 -2.0
comp=Z,1.7nm,0.8s,baz=27,slow=4.3,SNR=5.1
FINES PKiKP PKiKP 08 02 40.0 +0.2
comp=Z,1.9nm,0.9s,baz=90,slow=2.8,SNR=3.3
FINES FINESS Array B 101.91 331 *i P* Pdif 07 58 16.2 -2.0
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 101.91 331 P Pdif 07 58 16.2 -2.0
HFS Hagfors 108.11 331 Pdiff Pdif 07 58 43.6 -2.1
comp=Z,0.8nm,0.4s,baz=100,slow=9.0,SNR=7.5
YKA Yellowknife Ar 108.93 26 Pdiff Pdif 07 58 48.8 -0.6
comp=Z,0.7nm,0.8s,baz=294,slow=4.6,SNR=11
YKA PKiKP PKiKP 08 02 51.4 -1.3
comp=Z,0.8nm,0.4s,baz=294,slow=2.0,SNR=54
YKA SKP 08 06 03.2
comp=Z,1.0nm,0.7s,baz=293,slow=2.2,SNR=7.6
YKA PKKPbc PKKPbc 08 14 00.6 -0.1
comp=Z,2.4nm,0.9s,baz=104,slow=3.0,SNR=27
YKA PKKPab PKKPab 08 14 13.1 -1.0
comp=Z,1.1nm,0.9s,baz=104,slow=5.1,SNR=8.1
YKA Yellowknife Ar 108.93 26 Pdif Pdif 07 58 48.9 -0.6
YKA PKPdif PKiKP 08 02 51.4 -1.3
YKA SKP 08 06 03.2
YKA PKKPbc PKKPbc 08 14 00.6 -0.1
YKA PKKPab PKKPab 08 14 13.2 -1.0
NB2 NORSAR Subarra108.98 333 PKPd 08 06 05.2
comp=Z,1.7nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 108.98 333 SKP 08 06 01.1
comp=Z,1.8nm,0.8s,baz=129,slow=2.8,SNR=4.7
GERES GERESS Array B 111.18 320 PKiKP PKiKP 08 02 56.3 -0.7
comp=Z,1.9nm,0.7s,baz=63,slow=3.0,SNR=6.5
GERES PP PP 08 03 36.0 -4.0
comp=Z,0.9nm,0.7s,baz=30,slow=7.9,SNR=2.1
GERES SKP 08 06 06.6
comp=Z,0.9nm,0.5s,baz=90,slow=1.3,SNR=4.2
NVAR Mina Array Bea 113.17 51 Pdiff Pdif 07 59 14.1 +5.9
comp=Z,1.3nm,1.0s,baz=239,slow=3.2,SNR=5.1
NVAR PKiKP PKiKP 08 03 02.1 +1.4
comp=Z,1.5nm,0.9s,baz=90,slow=0.2,SNR=10
NVAR PP PP 08 03 53.6 -0.7
comp=Z,2.0nm,1.1s,baz=254,slow=4.8,SNR=6.5
NVAR SKP 08 06 12.8
comp=Z,1.9nm,0.8s,baz=250,slow=4.5,SNR=7.6
NVAR PKKPbc PKKPbc 08 13 49.1 +2.2
comp=Z,0.5nm,0.6s,baz=127,slow=3.9,SNR=5.0
NVAR PKKPab PKKPab 08 13 56.8 +1.5
comp=Z,4.4nm,0.9s,baz=102,slow=7.4,SNR=20
NVAR Mina Array Bea 113.17 51 PKPdf PKiKP 08 03 02.1 +1.4
NVAR PP PP 08 03 53.6 -0.7
NVAR SKP 08 06 12.8
NVAR PKKPbc PKKPbc 08 13 49.1 +2.2
NVAR PKKPab PKKPab 08 13 56.8 +1.5
HLID Hailey 114.99 45 *e*PKPdf PKPdf 08 03 04.7 +0.5
MCMT McKenzie Canyo 115.74 44 *e*PKPdf PKPdf 08 03 06.4 +0.7
LPG La Plagne 116.65 318 *e*PKIKP PKPdf 08 03 07.8 +0.3
LPL La Plagne 116.66 318 *e*PKIKP PKPdf 08 03 07.6 +0.1
comp=Z,6.2nm,0.7s
SBF Sospel 116.67 316 *e*PKIKP PKPdf 08 03 07.7 +0.2
CABF La Chapelle 116.74 319 *e*PKIKP PKPdf 08 03 07.8 +0.2
comp=Z,12nm,0.6s
DUG Dugway 116.98 48 *e*PKIKP PKPdf 08 03 08.7 +0.6
ORIF Oris-en-Rattie 117.42 317 *e*PKIKP PKPdf 08 03 08.8 -0.1
comp=Z,8.0nm,0.6s
LMR La Mourre 117.47 315 *e*PKIKP PKPdf 08 03 09.3 +0.3
comp=Z,15nm,0.9s
MOOW Moose Ponds 117.50 44 *e*PKPdf PKPdf 08 03 09.9 +0.8
HWUT Hardware Ranch 117.53 47 *e*PKPdf PKPdf 08 03 09.8 +0.6
REDW Red Top Meadow 117.54 45 *e*PKPdf PKPdf 08 03 10.0 +0.8
SNOW Snow King Moun 117.58 44 *e*PKPdf PKPdf 08 03 10.1 +0.9
LOHW Long Hollow 117.64 44 *e*PKPdf PKPdf 08 03 09.6 +0.2
SMF Signal de Mont 118.18 320 *e*PKIKP PKPdf 08 03 10.4 0.0
comp=Z,6.5nm,0.5s
SSF Saint Saulge 118.24 320 *e*PKIKP PKPdf 08 03 10.4 -0.1
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 118.25 317 *e*PKIKP PKPdf 08 03 10.3 -0.2
FFC Flin Flon 118.28 30 *e*PKIKP PKPdf 08 03 10.0 -0.6
AVF Avril sur Loir 118.44 320 *e*PKIKP PKPdf 08 03 10.4 -0.5
BW06 Boulder Array 118.62 45 *e*PKPdf PKPdf 08 03 11.2 0.0
PDAR Pinedale Array 118.62 45 PKP PKPdf 08 03 11.6 +0.3
comp=Z,2.0nm,0.8s,baz=71,slow=1.9,SNR=13
PDAR SKP 08 06 23.2
comp=Z,2.8nm,0.8s,baz=230,slow=1.0,SNR=9.1
PDAR PKKPbc PKKPbc 08 13 21.9 -6.1
comp=Z,0.4nm,0.8s,baz=101,slow=7.6,SNR=3.5
BGF Bois d'Agland 118.85 320 *e*PKIKP PKPdf 08 03 11.4 -0.3
comp=Z,9.6nm,0.5s
WUAZ Wupatki 119.17 53 *e*PKPdf PKPdf 08 03 13.6 +1.3
TCF Toulx Ste Croi 119.36 320 *e*PKIKP PKPdf 08 03 12.8 +0.1
LDF La Druitiere 119.88 323 *e*PKIKP PKPdf 08 03 14.1 +0.4
CAF Calviac 119.96 318 *e*PKIKP PKPdf 08 03 14.2 +0.4
FLN La Foliniere 120.02 323 *e*PKIKP PKPdf 08 03 14.3 +0.4
RJF Les Rejaudoux 120.18 319 *e*PKIKP PKPdf 08 03 14.5 +0.3
TUC Tucson 120.32 57 *e*PKIKP PKPdf 08 03 14.5 0.0
MTLF Montolieu 120.43 316 *e*PKIKP PKPdf 08 03 14.5 -0.2
MFF Saint Martin d 120.73 321 *e*PKIKP PKPdf 08 03 14.7 -0.6
comp=Z,11nm,0.6s
SMCO Snowmass 121.59 48 *e*PKPdf PKPdf 08 03 18.5 +1.6
EPF Esparros 121.82 317 *e*PKIKP PKPdf 08 03 17.5 +0.1
comp=Z,5.4nm,0.6s
RSSD Black Hills 121.91 42 *e*PKPdf PKPdf 08 03 17.5 -0.1
RSSD *e*SKPdf SKPdf 08 06 29.7 -0.4
ETSF Etsaut 122.48 317 *e*PKIKP PKPdf 08 03 19.5 +0.8
SJPF Ste Jean 122.85 317 *e*PKIKP PKPdf 08 03 20.2 +0.8
SDCO Great Sand Dun 123.13 49 *e*PKPdf PKPdf 08 03 20.4 +0.4
ANMO Albuquerque 123.21 53 *e*PKIKP PKPdf 08 03 21.4 +1.3
LPM Los Pinos Moun 123.25 54 *e*PKPdf PKPdf 08 03 21.0 +0.8
LPM *e*SKPdf SKPdf 08 06 32.4 -0.2
BNM Barren Site 123.29 54 *e*PKPdf PKPdf 08 03 21.6 +1.4
ULM Lac du Bonnet 123.84 32 PKP PKPdf 08 03 20.0 -1.3
comp=Z,4.1nm,0.7s,baz=301,slow=4.8,SNR=7.5
ULM SKP 08 06 30.5
comp=Z,2.3nm,0.7s,baz=263,slow=2.4,SNR=3.6
ULM PKKPab PKKPab 08 13 09.3 +0.6
comp=Z,1.9nm,0.8s,baz=57,slow=7.1,SNR=3.9
ULM Lac du Bonnet 123.84 32 PKP PKPdf 08 03 20.0 -1.3
ULM SKP 08 06 30.5
ULM PKKPab PKKPab 08 13 09.3 +0.6
MNTX Cornudas Mount 124.93 56 *e*PKPdf PKPdf 08 03 24.1 +0.7
ESDC Sonseca Array 126.11 315 PKP PKPdf 08 03 24.0 -1.6
comp=Z,0.3nm,0.3s,baz=25,slow=4.2,SNR=5.0
TORD Torodi Ar. Bea 126.69 281 PKP PKPdf 08 03 27.1 +0.4
comp=Z,4.0nm,0.5s,baz=61,slow=2.3,SNR=39
TORD pPKP pPKPdf 08 04 30.7 +3.4
comp=Z,2.5nm,1.0s,baz=83,slow=1.7,SNR=2.4
TORD SKPbc 08 06 18.5
comp=Z,9.6nm,1.2s,baz=102,slow=3.2,SNR=7.1
TORD PKKPab 08 12 58.1
comp=Z,1.8nm,0.9s,baz=284,slow=4.2,SNR=6.6
TXAR Lajitas Array 126.94 59 PKP PKPdf 08 03 28.5 +1.3
comp=Z,1.4nm,0.7s,baz=270,slow=1.3,SNR=15
TXAR PP PP 08 05 25.6 -2.6
comp=Z,1.6nm,1.1s,baz=243,slow=5.6,SNR=4.3
TXAR SKPbc 08 06 25.0
comp=Z,2.7nm,0.9s,baz=246,slow=1.5,SNR=7.2
TXAR PKKPab 08 12 58.0
comp=Z,0.4nm,0.5s,baz=109,slow=5.6,SNR=10
TXAR Lajitas Array 126.94 59 PKIKP PKPdf 08 03 28.5 +1.3
TXAR 08 05 25.6
TXAR Lajitas Array 126.94 59 PKP PKPdf 08 03 28.5 +1.3
TXAR PP PP 08 05 25.6 -2.6
TXAR SKPbc 08 06 25.0
TXAR PKKPab 08 12 58.0
CBKS Cedar Bluff 126.99 46 *e*PKIKP PKPdf 08 03 27.0 -0.3
MDT Midelt 129.10 307 PKP PKPdf 08 03 31.9 +0.6
comp=Z,2.8nm,0.8s,baz=246,slow=1.3,SNR=4.6
MDT SKPbc 08 06 28.5
comp=Z,11nm,1.0s,baz=81,slow=2.7,SNR=8.9
WMOK Wichita Mounta 129.26 51 *e*PKIKP PKPdf 08 03 32.2 +0.6
PLCA Paso Flores 129.38 162 PKP PKPdf 08 03 32.9 +1.1
comp=Z,6.6nm,1.2s,baz=172,slow=7.1,SNR=4.1
PLCA SKPbc 08 06 29.5
comp=Z,8.5nm,0.9s,baz=197,slow=6.0,SNR=8.6
PLCA Paso Flores 129.38 162 *e*PKPdf PKPdf 08 03 32.8 +0.9
JCT Junction City 129.87 56 *e*PKIKP PKPdf 08 03 34.1 +1.3
SCHQ Schefferville 131.11 11 PKP PKPdf 08 03 35.2 +0.1
comp=Z,3.2nm,0.4s,baz=289,slow=2.4,SNR=28
SCHQ SKPbc SKPbc 08 06 34.7 -2.5
comp=Z,82nm,0.9s,baz=357,slow=4.4,SNR=52
MIAR Mount Ida 133.27 48 *e*PKIKP PKPdf 08 03 40.6 +1.4
HKT Hockley 133.29 55 *e*PKIKP PKPdf 08 03 39.5 +0.3
WCI Wyandotte Cave 136.42 40 *e*PKIKP PKPdf 08 03 46.0 +0.9
WVT Waverly 136.60 43 *e*PKIKP PKPdf 08 03 45.6 +0.2
CFAA Coronel Fontan 138.46 159 SKPbc SKPbc 08 06 59.5 -1.1
comp=Z,1.8nm,0.8s,baz=232,slow=3.1,SNR=18
LVC Limon Verde 146.13 152 PKPbc PKPbc 08 04 05.3 +1.4
comp=Z,28nm,0.8s,baz=253,slow=5.9,SNR=5.2
LVC SKPbc SKPbc 08 07 21.0 +1.2
comp=Z,12nm,0.8s,baz=262,slow=2.2,SNR=4.3
LVC Limon Verde 146.13 152 *e*PKPab PKPab 08 04 06.5 +1.5
LVC *e*SKPbc SKPbc 08 07 20.9 +1.2
CPUP Villa Florida 146.27 172 *e*PKIKP PKPdf 08 04 03.8 +1.1
CPUP *e* 08 04 05.4
SOR Soroa 146.60 59 *e*P PKPdf 08 04 01.7 -1.5
JTS JuntasAbangare 147.53 82 *e*PKIKP PKPdf 08 04 05.6 +0.8
JTS *e* 08 04 09.4
NNA Nana 148.95 128 *e*PKPbc PKPbc 08 04 13.2 +1.8
NNA *e*PKPab PKPab 08 04 19.1 +2.9
CAM4 Nova Friburgo 149.10 198 *e*P PKPbc 08 04 13.5 +1.8
CAM4 *i* 08 04 14.8
CAM4 *i* 08 04 19.4
CAM4 *i* 08 04 26.1
MGV Manicaragua 149.44 58 *e*P PKPdf 08 04 09.6 +1.7
CAM3 Guarapari 149.92 202 *e*P PKPbc 08 04 15.5 +1.8
CAM3 *i* 08 04 21.8
CAM3 *i* 08 04 27.9
LPAZ La Paz 151.82 146 PKP PKPdf 08 04 14.2 +2.7
comp=Z,11nm,1.3s,baz=65,slow=3.6,SNR=15
LPAZ PKPbc PKPbc 08 04 20.6 +2.4
comp=Z,12nm,0.6s,baz=5.8,slow=1.2,SNR=67
LPAZ PKPab PKPab 08 04 31.2 +3.1
comp=Z,46nm,0.8s,baz=204,slow=4.5,SNR=34
LPAZ La Paz 151.82 146 *e*PKPdf PKPdf 08 04 14.1 +2.6
LPAZ *e*PKPbc PKPbc 08 04 20.8 +2.6
LPAZ *e*PKPab PKPab 08 04 31.6 +3.5
BDFB Brasilia 156.89 190 PKPab PKPab 08 04 51.6 +1.8
comp=Z,3.4nm,0.4s,baz=166,slow=3.7,SNR=8.6
ROSC El Rosal 157.90 95 PKP PKPdf 08 04 21.6 +1.8
comp=Z,1.6nm,0.3s,baz=247,slow=9.8,SNR=5.4
ROSC PKPab PKPab 08 04 57.8 +3.7
comp=Z,7.8nm,0.6s,baz=165,slow=3.2,SNR=8.2
SDV Santo Domingo 161.70 84 *e*PKPdf PKPdf 08 04 24.5 +0.4
SDV *e*PKPab PKPab 08 05 12.9 +2.2

*ISCJB **08** 08:03:28.6±2.9, 52S×01×1435E±01, h144km±32km, mb4.3/12, Error ellipse: s-maj=24.9km s-min=16.2km az=108.3*
*NEIC **08** 08:03:30.5±2.0, 522S×14351E, h148km±22km, mb4.6/7, Error ellipse: s-maj=19.8km s-min=11.9km az=114.0*
*IDC **08** 08:03:31.2±5.3, 523S×14359E, h157km±61km, mb3.6/6, mb1 3.7/8, mb1mx3.6/14, mbtmp4.1/8, Error ellipse: s-maj=46.9km s-min=26.4km az=137.0*
ISC 08 08:03:30.9±2.6, 53S±01×1435E±01, h149km±31km, n19, σ0°72/20, mb4.3/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**139**	P	**Pn**	**08 04 50.9**	**+0.1**
	3.5nm,0.3s,baz=1.7,slow=5.8,SNR=7.1						
PMG				S	**Sn**	**08 05 53.5**	**+0.3**
	3.1nm,0.3s,baz=127,slow=21,SNR=7.0						
WRAB	**Tennant Creek**	**17.09**	**211**	*e*P	**Pn**	**08 07 19.7**	**-1.1**
	5.4nm,0.5s						
WB2	**Warramunga Arr**	**17.10**	**211**	*e*P	**Pn**	**08 07 21.3**	**+0.4**
WRA	**Warramunga Arr**	**17.10**	**211**	P	**Pn**	**08 07 20.1**	**-0.8**
	0.7nm,0.3s,baz=30,slow=12,SNR=30						
ASAR	**Alice Springs**	**20.50**	**206**	P	**P**	**08 07 58.0**	**+0.8**
	1.5nm,0.9s,baz=29,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**21.62**	**232**	*e*P	**P**	**08 08 08.7**	**-0.4**
	4.8nm,1.0s,mb3.9						
TAU	**Tasmania Unive**	**37.65**	**175**	P	**P**	**08 10 31.7**	**+0.3**
	25nm,1.2s,mb4.7						
SONM	**Songino Array**	**62.10**	**333**	P	**P**	**08 13 35.8**	**0.0**
	0.5nm,0.5s,mb3.6,baz=150,slow=6.1,SNR=5.6						
JIRN	**Jiri**	**64.21**	**304**	*e*P	**P**	**08 13 50.1**	**+0.4**
	6.0nm,0.7s,mb4.6						
GUN	**Gumba**	**64.56**	**304**	*e*P	**P**	**08 13 52.2**	**+0.2**
	17nm,0.8s,mb5.0						
KKN	**Kakani**	**65.01**	**304**	*e*P	**P**	**08 13 55.7**	**+0.8**
	13nm,0.8s,mb4.8						
DMN	**Daman**	**65.09**	**304**	*e*P	**P**	**08 13 55.8**	**+0.4**
	19nm,0.9s,mb4.9						
GKN	**Gorkha**	**65.62**	**304**	*e*P	**P**	**08 13 59.1**	**+0.3**
KOLN	**Koldanda**	**66.40**	**303**	*e*P	**P**	**08 14 04.5**	**+0.7**
	11nm,0.7s,mb4.8						
MKAR	**Makanchi Array**	**74.73**	**321**	P	**P**	**08 14 54.5**	**+0.3**
	1.3nm,0.5s,mb3.6,baz=96,slow=8.7,SNR=20						
ZAL	**Zalesovo**	**76.56**	**329**	P	**P**	**08 15 02.7**	**-2.0**
	0.9nm,0.5s,mb3.7,baz=54,slow=6.0,SNR=4.1						
ZAL	**Zalesovo**	**76.56**	**329**	P	**P**	**08 15 02.7**	**-2.0**
BVAR	**Borovoye Array**	**84.13**	**324**	P	**P**	**08 15 45.5**	**+0.4**
	2.9nm,0.5s,mb4.2,baz=112,slow=7.0,SNR=24						
ILAR	**Eielson Array**	**86.19**	**24**	P	**P**	**08 15 54.0**	**-1.3**
	1.1nm,0.6s,mb3.8,baz=261,slow=4.9,SNR=22						

OTT 08 08:04:28.7±0.7, 6937N×5347W, h18km, MN3.2/1, 1C, Greenland coast 478km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone., Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**2.61**	**155**	∥*i*P	Pn	08 05 09.4	-0.7
SFJD				*i* S	Sn	08 05 41.5	+0.2
SFJD	**Kangerlussuaq**	**2.61**	**155**	PN	Pn	08 05 09.7	-0.4
SFJD				SN	Sn	08 05 42.0	+0.6
SFJD				Trac		08 05 44.9	
	comp=Z,27nm,0.1s						
FRB	**Frobisher Bay**	**8.23**	**234**	PN	Pn	08 06 25.6	-1.6
FRB				SN	Sn	08 07 53.0	-6.6
TULEG	**Thule**	**8.45**	**335**	PN	Pn	08 06 25.9	-4.3
TULEG				SN	Sn	08 07 57.6	-7.5
PINU	**Pond Inlet**	**8.60**	**304**	PN	Pn	08 06 32.1	-0.2
PINU				SN	Sn	08 07 59.5	-9.4
EUNU	**Eureka**	**13.45**	**336**	PN	Pn	08 07 36.4	-2.3
YRTN	**Rankin Inlet**	**16.71**	**266**	PN	Pn	08 08 16.2	-5.8
YRTN				SN	Sn	08 11 07.7	-19
FCC	**Fort Churchill**	**20.24**	**259**	PN	P	08 09 04.6	+1.7

IDC 08 08:09:24.5±1.0, 2024S×6877W, h123km±11km, mb3.2/2, mb1 3.4/5, mb1mx3.2/18, mbtmp3.6/5, Error ellipse: s-maj=37.7km s-min=9.0km az=97.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.37**	**183**	P	Pn	08 10 02.2	-0.4
	6.2nm,0.3s,baz=354,slow=11,SNR=72						
LVC				S	Sn	08 10 33.2	+1.3
	8.5nm,0.3s,baz=317,slow=8.8,SNR=9.3						
LPAZ	**La Paz**	**3.98**	**9**	P	Pn	08 10 24.5	+0.7
	1.5nm,0.3s,baz=189,slow=7.5,SNR=24						
LPAZ				S	Sn	08 11 11.5	+1.8
	0.1nm,0.3s,baz=221,slow=20,SNR=2.7						
SIV	**San Ignacio**	**8.45**	**61**	P	Pn	08 11 23.6	-0.5
	1.0nm,0.3s,baz=254,slow=11,SNR=23						
TORD	**Torodi Ar. Bea**	**76.81**	**71**	P	P	08 21 03.4	+0.7
	0.1nm,0.3s,baz=253,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**90.05**	**341**	P	P	08 22 09.8	-0.4
	0.4nm,0.6s,baz=128,slow=4.8,SNR=14						

IDC 08 08:26:02.1±2.5, 281S×12962E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=177.5km s-min=26.8km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.64**	**165**	P	Pn	08 30 07.9	-1.3
	0.1nm,0.3s,baz=348,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**21.14**	**169**	P	P	08 30 49.7	+1.1
	2.2nm,0.6s,baz=346,slow=9.9,SNR=34						
MKAR	**Makanchi Array**	**64.55**	**326**	P	P	08 36 41.1	+0.1
	0.2nm,0.6s,baz=118,slow=8.5,SNR=4.0						

*IDC **08** 08:38:10.6±6.9, 4641N×15175E, h155km±69km, mb3.1/4, mb1 3.4/6, mb1mx3.1/24, mbtmp3.7/6, Error ellipse: s-maj=109.0km s-min=15.6km az=127.0*
*ISCJB **08** 08:38:14.9±2.0, 467N±02×1508E±03, h222km±24km, mb3.1/4, Error ellipse: s-maj=42.0km s-min=18.6km az=54.1*
*JMA **08** 08:38:21.6±0.6, 4639N×15003E, h281km, M3.7*
ISC 08 08:38:15.4±1.9, 468N±02×1508E±03, h213km±24km, n34, σ0°90/26, mb3.1/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**4.92**	**237**	P	**Pn**	**08 39 30.5**	**+1.5**
NEM2	**Nemuro 2**	**4.95**	**228**	P	**Pn**	**08 39 30.3**	**+0.9**
NEM2				*e*S		08 40 24.1	
JNK	**Nakash**	**5.36**	**236**	P	**Pn**	**08 39 35.8**	**+1.2**
JTKR	**Abashiri--Toko**	**5.62**	**243**	P	**Pn**	**08 39 38.3**	**+0.4**
JAK	**Akkeshi**	**5.76**	**231**	P	**Pn**	**08 39 39.6**	**-0.1**
JAK				*e*S		08 40 41.5	
JMP	**Maruseppu**	**5.94**	**245**	P	**Pn**	**08 39 42.1**	**+0.2**
JSE	**Soyaes**	**6.03**	**255**	P	**Pn**	**08 39 42.5**	**-0.6**
JAR	**Ashorobuto**	**6.08**	**238**	P	**Pn**	**08 39 44.1**	**+0.3**
JOB	**Onbets**	**6.29**	**235**	P	**Pn**	**08 39 46.2**	**-0.3**
JOB				*e*S	Sx	08 40 53.1	
ASAJ	**Asahikawa**	**6.36**	**248**	P	**Pn**	**08 39 47.5**	**+0.1**
ASAJ	**Asahikawa**	**6.36**	**248**	P	**Pn**	**08 39 47.8**	**+0.4**
	2.9nm,0.3s,baz=65,slow=14,SNR=31						
JWK2	**Keihoku**	**6.38**	**260**	P	**Pn**	**08 39 48.0**	**+0.4**
JKK2	**Kamakawa 2**	**6.38**	**246**	P	**Pn**	**08 39 47.6**	**-0.1**
JSS	**Shosan**	**6.72**	**253**	P	**Pn**	**08 39 52.4**	**+0.4**
JCH	**Churui**	**6.75**	**235**	P	**Pn**	**08 39 51.1**	**-1.3**
JCH				*e*S	Sx	08 41 01.1	
JFR	**Furan**	**6.86**	**241**	P	**Pn**	**08 39 53.4**	**-0.4**
JAB	**Ashibetsu**	**6.90**	**245**	P	**Pn**	**08 39 55.2**	**+0.9**
JBT2	**Biratori 2**	**7.22**	**239**	P	**Pn**	**08 39 56.8**	**-1.7**
JEM	**Erimo**	**7.26**	**232**	P	**Pn**	**08 39 58.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**7.31**	**235**	P	**Pn**	**08 39 57.1**	**-2.5**
JNBK				*e*S	Sx	08 41 11.9	
JNB	**Noboribetsu**	**8.20**	**242**	P	Px	08 40 07.9	
JKB	**Kayabe**	**8.54**	**239**	P	Px	08 40 11.9	
JSH	**Shimam**	**8.71**	**246**	P	Px	08 40 15.5	
JYM2	**Yakumo 2**	**8.80**	**242**	P	Px	08 40 15.9	
JSR	**Shiriuchi**	**9.13**	**239**	P	Px	08 40 19.3	
JTM	**Tenmabayashi**	**9.24**	**233**	P	Px	08 40 20.7	
JTM				*e*S	Sx	08 41 54.9	
JANG	**Nango**	**9.30**	**230**	P	Px	08 40 21.9	
JANG				*e*S	Sx	08 41 56.7	
MJAR	**Matsushiro Arr**	**13.89**	**227**	P	**Pn**	**08 41 23.5**	**+0.1**
	0.5nm,0.3s,baz=25,slow=12,SNR=8.6						
JOW	**Kunigami**	**26.70**	**230**	P	**P**	**08 43 38.6**	**+3.7**
	69nm,0.4s,baz=82,slow=14,SNR=9.0						
ILAR	**Eielson Array**	**37.51**	**39**	P	**P**	**08 45 08.8**	**+0.1**
	0.6nm,0.8s,mb3.2,baz=282,slow=8.8,SNR=8.1						
INK	**Inuvik**	**42.47**	**32**	P	**P**	**08 45 49.1**	**-0.4**
	0.6nm,0.4s,mb3.4,baz=284,slow=4.6,SNR=7.8						
YKA	**Yellowknife Ar**	**51.84**	**36**	P	**P**	**08 47 01.5**	**-0.2**
	0.3nm,0.5s,mb3.0,baz=302,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**71.76**	**196**	P	**P**	**08 49 14.7**	**+0.2**
	0.1nm,0.3s,mb2.9,baz=14,slow=6.1,SNR=4.4						
PLCA	**Paso Flores**	**149.78**	**94**	PKPbc	PKPbc	08 57 38.2	-1.7
	2.1nm,1.1s,baz=224,slow=3.3,SNR=3.5						

IDC 08 09:06:40.4±9.0, 1169S×16613E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.7/3, MS3.8/2, Ms1 3.8/2, ms1mx2.9/31, 1C, Error ellipse: s-maj=273.0km s-min=54.7km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**6.29**	**161**	∥*i*P	Pg	09 09 46.0	+65
BKM				S	Sn	09 10 05.4	+39
RAO	**Raoul Island**	**22.94**	**142**	LR	LR	09 18 45.1	
	comp=Z,170nm,20.4s,baz=126,slow=32						
WRA	**Warramunga Arr**	**31.62**	**251**	P	P	09 13 05.8	+0.7
	0.5nm,0.6s,baz=82,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**32.85**	**244**	P	P	09 13 15.8	0.0
	0.5nm,0.7s,baz=71,slow=9.5,SNR=6.3						
RPN	**Rapa Nui**	**79.95**	**116**	LR	LR	09 48 15.2	
	comp=Z,88nm,19.2s,baz=43,slow=31						
MKAR	**Makanchi Array**	**94.25**	**317**	P	P	09 20 01.6	+0.1
	0.8nm,0.8s,baz=101,slow=6.2,SNR=5.9						

*BJI **08** 09:08:27.7, 206N×9553E, h35km, mB4.9, mb4.8*
*ISCJB **08** 09:08:32.4±0.8, 25N±01×958E±01, h33km, mb4.2/16, Error ellipse: s-maj=18.0km s-min=9.7km az=90.6*
*MOS **08** 09:08:32.1±0.7, 248N×9569E, h33km, mb4.3/5, Error ellipse: s-maj=20.0km s-min=14.3km az=122.8*
*NEIC **08** 09:08:33.5±0.7, 247N×9574E, h30km, mb4.2/5, Error ellipse: s-maj=17.5km s-min=9.5km az=215.0*
*IDC **08** 09:08:37.7±8.2, 266N×9601E, h56km±63km, mb3.9/7, mb1 4.0/8, mb1mx3.7/21, mbtmp4.2/8, ML3.5/1, Error ellipse: s-maj=92.8km s-min=18.4km az=58.0*
ISC 08 09:08:34.8±0.8, 25N±01×958E±01, h35km, n31, σ0°47/30, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**85**	P	**Pn**	**09 09 21.9**	**0.0**
	6.3nm,0.3s,baz=281,slow=7.4,SNR=24						
PSI	**Prapat**	**3.16**	**85**	P	**Pn**	**09 09 21.9**	**0.0**
KULM	**Kulim**	**5.58**	**60**	*e*Pn	**Pn**	**09 09 54.9**	**-0.4**
KKM	**Kota Kinabalu**	**20.68**	**80**	*e*P	**P**	**09 13 12.1**	**+0.5**
CD2	**Chengdu**	**29.22**	**14**	*e*P	**P**	**09 14 33.9**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
FITZ	**F

comp=Z,0.9nm,0.5s,mb4.1
ZRNK Zerenda 54.93 341 *e*P **P 09 18 01.6 -0.4**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ZRNK Zerenda 54.93 341 *e*P **P 09 18 01.6 -0.5**
comp=Z,1.3nm,0.6s,mb4.1
TIXI Tiksi 72.14 10 *e*P **P 09 19 49.8 -5.9**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
FINES FINESS Array B 78.17 333 P **P 09 20 30.9 +0.5**
comp=Z,2.1nm,0.9s,mb4.1,baz=114,slow=14,SNR=4.0
FINES FINESS Array B 78.17 333 P **P 09 20 30.9 +0.5**
ARCES ARCESS Array B 80.81 340 P **P 09 20 44.9 +0.1**
comp=Z,5.5nm,1.1s,mb4.4,baz=76,slow=5.0,SNR=7.7
ARCES ARCESS Array B 80.81 340 P **P 09 20 44.9 +0.1**
TXAR Lajitas Array 143.25 29 PKP PKPdf 09 28 03.3 -1.8
comp=Z,0.1nm,0.6s,baz=225,slow=2.6,SNR=3.0

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*IDC **08** 09:10:02.5±3.1, 2621S×6730W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=74.2km s-min=46.0km az=26.0*
*ISCJB **08** 09:10:35.0±1.4, 240S±0.1×667W±02, h217km±16km, mb3.2/2, Error ellipse: s-maj=29.1km s-min=17.0km az=92.6*
*GUC **08** 09:10:37.0±0.6, 2383S×6727W, h248km±14km, MD3.6, ML3.7*
*NEIC **08** 09:10:37.0, 2383S×6727W, h248km, MD3.6(GUC), After GUC.*
ISC 08 09:10:36.3±1.3, 240S±01×668W±02, h217km±15km, n11, σ1§18/16, mb3.2/2, 2C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.70**	**309**	⇑*i*P	**Pn**	**09 11 15.1**	**+1.9**
LVC	**Limon Verde**	**2.41**	**304**	⇑*i*P	**Pn**	**09 11 21.0**	**+0.9**
LVC				*i* S	**S**	**09 11 53.9**	**-0.7**
LVC				AMP		09 11 59.1	
	comp=E,77nm,0.3s						
LVC	**Limon Verde**	**2.41**	**304**	*e*Pn	**Pn**	**09 11 19.1**	**-1.1**
LVC				*e*Sn	**S**	**09 11 54.1**	**-0.5**
CEN1	**Los Morros**	**3.21**	**280**	⇓*i*P	**Pn**	**09 11 31.2**	**+2.0**
CEN1				*i* S	**S**	**09 12 11.4**	**+0.5**
CEN1				AMP		09 12 14.4	
	comp=E,99nm,0.9s						
ANCH	**Antofagasta**	**3.36**	**274**	*e*P	**Pn**	**09 11 29.8**	**-1.2**
ANCH				*i* S	**S**	**09 12 10.4**	**-3.5**
CPN1	**Cerro Paranal**	**3.39**	**258**	*e*P	**Pn**	**09 11 32.0**	**+0.7**
CPN1				*i* S	**S**	**09 12 13.5**	**-1.1**
CPN1				AMP		09 12 15.9	
	comp=N,148nm,0.3s						
LPAZ	**La Paz**	**7.76**	**350**	Pn	**Pn**	**09 12 26.9**	**+0.5**
	comp=N,0.1nm,0.3s,baz=190,slow=9.9,SNR=5.6						
LPAZ	**La Paz**	**7.76**	**350**	*e*P	**Pn**	**09 12 24.7**	**-1.7**
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**09 14 45.7**	**-1.0**
	comp=N,1.3nm,0.4s,baz=252,slow=7.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.35**	**69**	P	**P**	**09 22 01.3**	**-0.1**
	comp=N,0.5nm,0.6s,mb3.3,baz=254,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**09 23 31.1**	**+0.7**
	comp=N,0.1nm,0.5s,mb3.1,baz=138,slow=4.3,SNR=5.8						

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*NEIC **08** 09:19:58.3, 32.12S×71.11W, h68km, MD3.7(GUC), After GUC.*
GUC 08 09:19:58.3±0.7, 3212S×7111W, h68km±5km, MD3.7, ML3.2, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.49**	**354**	⇑*i*P	Pn	09 20 11.5	+0.8
ILCH				*i* S	Sn	09 20 20.9	+1.0
ILCH				AMP		09 20 22.0	
	comp=N,1μm,0.2s						
ILCH	**Illapel**	**0.49**	**354**	⇑*i*P	Pn	09 20 11.5	+0.8
ILCH				*i* S	Sn	09 20 20.9	+1.0
PACH	**Papudo**	**0.50**	**214**	⇓*i*P	Pn	09 20 11.4	+0.5
JACH	**Jahuel**	**0.71**	**142**	⇓*i*P	Pn	09 20 13.8	+0.7
JACH				*i* S	Sn	09 20 25.0	+1.0
ROCH	**El Roble**	**0.85**	**174**	⇓*i*P	Pn	09 20 15.3	+0.5
ROCH				*i* S	Sn	09 20 28.3	+1.3
CMCH	**Combarbala**	**0.95**	**6**	⇑*i*P	Pn	09 20 16.4	+0.4
CMCH				*i* S	Sn	09 20 29.9	+0.7
CMCH				AMP		09 20 31.3	
	comp=N,1μm,0.2s						
CMCH	**Combarbala**	**0.95**	**6**	⇑*i*P	Pn	09 20 16.4	+0.4
CMCH				*i* S	Sn	09 20 29.9	+0.7
IHA	**Instituto Hidr**	**1.01**	**206**	*e*P	Pn	09 20 16.7	0.0
PEL	**Peldehue**	**1.08**	**161**	⇑*i*P	Pn	09 20 18.2	+0.6
PEL				*i* S	Sn	09 20 32.9	+0.8
PEL				AMP		09 20 34.0	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.08**	**161**	⇑*i*P	Pn	09 20 18.2	+0.6
PEL				*i* S	Sn	09 20 32.9	+0.8
FCH	**Farellones**	**1.39**	**150**	⇓*i*P	Pn	09 20 23.0	+1.3
FCH				*i* S	Sn	09 20 41.1	+1.9
FCH				AMP		09 20 45.0	
	comp=E,353nm,0.1s						
RCDM	**Rinconada Maip**	**1.39**	**169**	⇑*i*P	Pn	09 20 22.1	+0.4
RCDM				*i* S	Sn	09 20 40.5	+1.3
RCDM				AMP		09 20 46.4	
	comp=E,944nm,0.1s						
RCDM	**Rinconada Maip**	**1.39**	**169**	⇑*i*P	Pn	09 20 22.1	+0.4
RCDM				*i* S	Sn	09 20 40.5	+1.3
LCCH	**Las Cruces**	**1.40**	**196**	*i* P	Pn	09 20 22.1	+0.2
ANTU	**Antumapu**	**1.50**	**165**	*i* P	Pn	09 20 23.8	+0.6
ANTU				*i* S	Sn	09 20 43.1	+1.3
PCH	**Pirque**	**1.57**	**162**	⇑*i*P	Pn	09 20 24.9	+0.7
SJCH	**San Jose de Ma**	**1.64**	**157**	*e*P	Pn	09 20 25.4	+0.4
SJCH				*i* S	Sn	09 20 46.5	+1.2
SJCH				AMP		09 20 49.9	
	comp=N,251nm,0.3s						
SJCH	**San Jose de Ma**	**1.64**	**157**	*e*P	Pn	09 20 25.4	+0.4
SJCH				*i* S	Sn	09 20 46.5	+1.2
LNV	**Longovilo**	**1.84**	**188**	*i* P	Pn	09 20 27.8	0.0
CHCH	**Chadas Angostu**	**1.85**	**168**	*e*P	Pn	09 20 28.5	+0.7
CACH	**El Canelo**	**2.03**	**168**	*e*P	Pn	09 20 31.5	+1.2

IDC 08 09:23:16.4±1.7, 1149S×16594E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/31, Error ellipse: s-maj=51.0km s-min=28.7km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.53**	**177**	Pn	Pn	09 25 49.6	+1.0
	0.5nm,0.3s,baz=294,slow=20,SNR=5.3						
URZ	**Urewera**	**28.46**	**161**	LR	LR	09 37 23.5	
	comp=Z,100nm,20.1s,baz=0.9,slow=30						
WRA	**Warramunga Arr**	**31.51**	**251**	P	P	09 29 40.3	+0.2
	0.5nm,0.6s,baz=80,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**32.77**	**244**	P	P	09 29 50.9	-0.2
	0.6nm,0.7s,baz=72,slow=9.6,SNR=13						
SONM	**Songino Array**	**79.14**	**324**	P	P	09 35 24.1	+1.2
	0.5nm,0.8s,baz=134,slow=4.6,SNR=3.7						
ILAR	**Eielson Array**	**83.87**	**18**	P	P	09 35 46.8	-1.2
	0.9nm,1.1s,baz=257,slow=4.6,SNR=5.3						
MKAR	**Makanchi Array**	**93.98**	**317**	P	P	09 36 37.2	+1.0
	1.2nm,0.8s,baz=101,slow=7.3,SNR=4.0						

IDC 08 09:41:23.7±12.0, 472S×12274E, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.8/17, mbtmp4.2/3, ML4.3/1, 1D, Error ellipse: s-maj=226.7km s-min=177.6km az=48.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**144**	P	Pn	09 45 46.8	+0.7
	0.9nm,0.3s,baz=318,slow=12,SNR=24						
WB2	**Warramunga Arr**	**18.89**	**144**	⇓*i*P	Pn	09 45 46.7	+0.5
WB2				*e*S	Sn	09 48 40.6	-38
ASPA	**Alice Springs**	**21.70**	**151**	*e*P	P	09 46 16.4	+0.2
ASPA				*i*		09 46 20.5	
ASAR	**Alice Springs**	**21.70**	**151**	P	P	09 46 16.4	+0.2
	11nm,0.6s,baz=332,slow=14,SNR=28						
STKA	**Stephens Creek**	**32.29**	**149**	P	P	09 47 54.0	-0.2
	1.4nm,0.4s,baz=328,slow=12,SNR=7.6						

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*NNC **08** 09:42:08.8±1.1, 4324N×77.14E, h0km, mb2.9, mpv3.2, Error ellipse: s-maj=28.5km s-min=5.6km az=158.0*
*ISCJB **08** 09:42:10.5±1.1, 433N±0.1×772E±0.1, h10km, Error ellipse: s-maj=20.8km s-min=7.7km az=125.1*
*KNET **08** 09:42:10.9±0.7, 4320N×7700E, h4km±3km, ml2.0, Error ellipse: s-maj=7.2km s-min=3.0km az=1.0*
ISC 08 09:42:12.2±1.1, 434N±02×770E±01, h10km, n11, σ1§17/14, 10C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.19**	**187**	⇑P	Px	09 42 11.1	
	2μm,0.5s						
KNDC				⇑S	Sx	09 42 12.7	
	7μm,0.3s						
TKM2	**Tokmak 2**	**1.14**	**245**	⇑P	**Pb**	**09 42 31.1**	**-2.9**
	20nm,0.2s,SNR=32						
TKM2				⇓S	**Sb**	**09 42 47.6**	**-1.1**
	13nm,0.3s						
TKM2	**Tokmak 2**	**1.14**	**245**	⇑P	**Pb**	**09 42 31.1**	**-2.9**
	5.2nm,0.2s						
TKM2				⇑S	**Sb**	**09 42 47.5**	**-1.3**
	4.4nm,0.3s						
ULHL	**Ulahol**	**1.29**	**206**	⇑P	**Pn**	**09 42 31.8**	**-4.4**
	3.1nm,0.2s,SNR=7.2						
KBK	**Karagaybulak**	**1.68**	**244**	⇓P	**Pn**	**09 42 41.1**	**-0.6**
	15nm,0.3s,SNR=21						
KZA	**Kyzart**	**1.85**	**225**	⇑P	**Pn**	**09 42 43.4**	**-0.6**
	7.2nm,0.3s,SNR=6.7						
AAK	**Ala-Archa**	**1.99**	**248**	⇓P	**Pn**	**09 42 46.2**	**+0.2**
	7.6nm,0.2s,SNR=10						
AAK				⇑S	**Sb**	**09 43 14.0**	**+0.5**
	6.8nm,0.4s						
UCH	**Uchtor**	**2.18**	**238**	⇓P	**Pn**	**09 42 49.3**	**+0.8**
	8.8nm,0.3s,SNR=6.4						
UCH				⇓S	**Sb**	**09 43 19.8**	**+1.1**
	7.9nm,0.4s						
AML	**Almayashu**	**2.75**	**243**	⇑P	**Pn**	**09 42 58.3**	**+2.0**
	5.0nm,0.2s,SNR=13						
KK31	**Karatay Array**	**4.75**	**269**	⇑Pg	**Pb**	**09 43 35.5**	**-0.1**
	0.4nm,0.6s,baz=91,slow=15,SNR=5.8						
KK31				⇓Lg		09 44 39.0	
	1.3nm,0.6s,baz=82,slow=27,SNR=5.0						
MK31	**Makanchi Array**	**5.05**	**46**	Pn	**Pn**	**09 43 28.1**	**+0.1**
	0.4nm,0.3s,baz=222,slow=15,SNR=18						
MK31				⇓Lg		09 44 51.4	
	0.4nm,0.5s,baz=237,slow=27,SNR=4.3						

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*ISCJB **08** 09:44:13.4±0.8, 2278S±007×66.1W±0.1, h254km±14km, mb3.7/2, Error ellipse: s-maj=18.8km s-min=10.0km az=38.9*
*IDC **08** 09:44:13.9±1.1, 2271S×66.17W, h250km±17km, mb3.5/2, mb1 3.5/6, mb1mx3.2/17, mbtmp4.0/6, Error ellipse: s-maj=24.0km s-min=17.4km az=111.0*
*NEIC **08** 09:44:14.5, 2266S×6693W, h304km, mb3.3/1, After GUC.*
*GUC **08** 09:44:14.5±0.6, 2266S×6693W, h304km±14km, ML4.5*
ISC 08 09:44:14.4±0.8, 2274S±007×662W±01, h252km±14km, n14, σ1§10/22, mb3.7/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.54**	**272**	P	**Pn**	**09 45 03.5**	**+1.3**
	7.6nm,0.3s,baz=95,slow=6.2,SNR=133						
LVC				S	**S**	**09 45 39.7**	**-0.2**
	11nm,0.3s,baz=236,slow=19,SNR=26						
LVC	**Limon Verde**	**2.54**	**272**	*e*P	**Pn**	**09 45 03.0**	**+0.8**
LVC				*i* S	**S**	**09 45 39.7**	**-0.2**
LVC				AMP		09 45 43.4	
	comp=E,72nm,0.3s						
LVC	**Limon Verde**	**2.54**	**272**	P	**Pn**	**09 45 03.5**	**+1.3**
LVC				S	**S**	**09 45 39.7**	**-0.2**
CEN1	**Los Morros**	**3.77**	**259**	*e*P	**Pn**	**09 45 18.1**	**+2.5**
CEN1				*i* S	**S**	**09 46 05.3**	**+1.1**
ANCH	**Antofagasta**	**4.01**	**256**	*e*P	**Pn**	**09 45 17.0**	**-1.4**
ANCH				*i* S	**S**	**09 46 04.8**	**-4.5**
ANCH				AMP		09 46 07.6	
	comp=N,594nm,0.4s						
ANCH	**Antofagasta**	**4.01**	**256**	*e*P	**Pn**	**09 45 17.0**	**-1.4**
ANCH				*i* S	**S**	**09 46 04.8**	**-4.5**
CPN1	**Cerro Paranal**	**4.31**	**243**	*e*P	**Pn**	**09 45 22.6**	**+0.6**
CPN1				*i* S	**S**	**09 46 13.7**	**-2.1**
CPN1				AMP		09 46 16.4	
	comp=E,430nm,0.3s						
LPAZ	**La Paz**	**6.68**	**344**	P	**Pn**	**09 45 50.6**	**-0.4**
	comp=E,0.5nm,0.3s,baz=164,slow=12,SNR=9.4						
LPAZ				S	**S**	**09 47 08.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=90,slow=20,SNR=3.8						
LPAZ	**La Paz**	**6.68**	**344**	*e*Pn	**Pn**	**09 45 49.9**	**-1.2**
	comp=E,3.0nm,0.7s						
SIV	**San Ignacio**	**8.26**	**37**	P	**Pn**	**09 46 10.0**	**-0.9**
	comp=E,0.8nm,0.3s,baz=223,slow=9.4,SNR=24						
CFAA	**Coronel Fontan**	**9.02**	**191**	P	**Pn**	**09 46 20.4**	**-0.2**
	comp=E,0.1nm,0.3s,baz=0.3,slow=14,SNR=5.7						
BDFB	**Brasilia**	**18.53**	**71**	P	**P**	**09 48 13.7**	**+1.1**
	comp=E,0.5nm,0.3s,baz=248,slow=12,SNR=7.8						
TORD	**Torodi Ar. Bea**	**75.40**	**69**	P	**P**	**09 55 29.9**	**-0.6**
	comp=E,1.8nm,0.4s,mb4.1,baz=256,slow=5.9,SNR=43						
YKA	**Yellowknife Ar**	**93.21**	**340**	P	**P**	**09 57 00.5**	**+0.3**
	comp=E,0.2nm,0.7s,mb3.2,baz=127,slow=4.3,SNR=5.7						

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*MOS **08** 09:44:50.2±0.6, 5600N×16388E, h5km, mb4.3/1, Error ellipse: s-maj=26.9km s-min=18.0km az=59.8*
KRSC 08 09:44:48.9±1.1, 5616N×16424E, h24km±3km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.80**	**274**	P	Pb	09 45 03.3	-0.8
KBTR				S	Sb	09 45 11.8	-2.6
KBTR	**Krutoberegovo**	**0.80**	**274**	*i* P	Pb	09 45 02.9	-1.2
KBTR				*e*S	Sb	09 45 14.1	-0.3
KBG	**Krutoberegovo**	**0.86**	**277**	*i* P	Pb	09 45 04.0	-1.2
KBG				*e*S	Sb	09 45 15.9	-0.4
KBG				Smax			
	4μm,0.5s						
BKI	**Bering**	**1.37**	**134**	*i* P	Pn	09 45 11.6	-0.9
BKI				*e*S	Sn	09 45 28.5	-1.4
BKI				Smax			
	390nm,0.8s						
BDR	**Baidarnaya**	**1.74**	**285**	*i* P	Pn	09 45 18.7	+1.2
BDR				*e*S	Sn	09 45 40.7	+1.8
SRKR	**Sorokina**	**1.78**	**287**	*i* P	Pn	09 45 19.1	+1.0
SRKR				*i* S	Sn	09 45 40.4	+0.5
ZLN	**Zelenaya**	**1.93**	**267**	*e*P	Pn	09 45 22.0	+1.8
ZLN				*e*S	Sn	09 45 46.8	+3.1
CIRR	**Tsirk**	**1.96**	**270**	*i* P	Pn	09 45 22.1	+1.6
CIRR				*i* S	Sn	09 45 46.9	+2.6
KLY	**Klyuchi**	**2.01**	**276**	P	Pn	09 45 21.0	-0.3
KLY				S	Sn	09 45 43.9	-1.7
KLY	**Klyuchi**	**2.01**	**276**	*e*P	Pn	09 45 20.8	-0.5
KLY				*e*S	Sn	09 45 44.8	-0.8
MKZ	**Mys Kozlova**	**2.15**	**223**	P	Pn	09 45 23.2	-0.1
MKZ				S	Sn	09 45 46.8	-2.4
MKZ	**Mys Kozlova**	**2.15**	**223**	*i* P	Pn	09 45 23.6	+0.3
MKZ				*i* S	Sn	09 45 48.6	-0.6
KPT	**Kopyto**	**2.26**	**267**	*i* P	Pn	09 45 27.0	+2.2
KPT				*e*S	Sn	09 45 54.8	+2.9
KOZR	**Kozyr**	**2.44**	**270**	PN	Pn	09 45 29.8	+2.7
KOZR				S	Sn	09 45 59.8	+3.6
KOZ	**Kozyrevsk**	**2.45**	**269**	P	Pn	09 45 29.8	+2.5
KOZ				S	Sn	09 45 59.8	+3.3
KOZ	**Kozyrevsk**	**2.45**	**269**	*e*P	Pn	09 45 29.7	+2.4
KOZ				*e*S	Sn	09 46 00.5	+4.0
TUMR	**Tumrok**	**2.48**	**251**	*e*P	Pn	09 45 29.6	+1.9
SRDR	**Sredinnyy**	**2.53**	**275**	*e*P	Pn	09 45 30.4	+1.9
SRDR				*e*S	Sn	09 46 00.8	+2.3
ESO	**Esso**	**3.12**	**268**	*i* P	Pn	09 45 38.4	+1.9
ESO				*e*S	Sn	09 46 14.8	+1.8
ESO				Smax			
	50nm,0.7s						
SPN	**Mys Shipunski**	**3.93**	**220**	*e*P	Pn	09 45 48.8	+1.1
SPN				*i* S	Sn	09 46 31.2	-1.8
NLC	**Nalytchevo**	**4.13**	**226**	P	Pn	09 45 51.6	+1.2
NLC				S	Sn	09 46 36.4	-1.5
NLC	**Nalytchevo**	**4.13**	**226**	*e*P	Pn	09 45 51.6	+1.2
NLC				*e*S	Sn	09 46 37.3	-0.6
SMAR	**Somma**	**4.29**	**230**	*i* P	Pn	09 45 54.5	+1.9
AVH	**Avacha**	**4.31**	**230**	*i* P	Pn	09 45 55.4	+2.5
AVH				*e*S	Sn	09 46 45.8	+3.3
UGLR	**Uglovaya**	**4.32**	**229**	*e*P	Pn	09 45 55.1	+2.1
KOK	**Koryaka**	**4.34**	**231**	*e*P	Pn	09 45 55.8	+2.5
GNL	**Ganaly**	**4.39**	**238**	*e*P	Pn	09 45 56.7	+2.6
PET	**Petropavlovsk**	**4.52**	**228**	*e*S	Sn	09 46 48.5	+0.9
KRMR	**Karymshinskiy**	**4.88**	**229**	*e*P	Pn	09 46 01.2	+0.4
RUS	**Russkaya**	**5.02**	**224**	P	Pn	09 46 04.3	+1.6
RUS	**Russkaya**	**5.02**	**224**	*e*P	Pn	09 46 04.2	+1.5
MIPR	**Malaya Ipel'ka**	**5.86**	**232**	*e*P	Pn	09 46 17.4	+3.1
KAMR	**Kamenskoye**	**6.40**	**8**	*i* P	Pn	09 46 22.2	+0.6
KAMR				*e*S	Sn	09 47 31.1	-2.7
KAMR				Smax			
	30nm,0.9s						
PAU	**Pauzhetka**	**6.44**	**226**	*e*P	Pn	09 46 24.3	+2.2

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*BER **08** 09:52:39.3±4.2, 6113N×2937E, h0km, ML2.0(NAO), Suspected explosion*
*NAO **08** 09:52:42.8±3.7, 6095N×2902E, ML2.0*
HEL 08 09:52:44.4±0.4, 6101N×2902E, h0km, ML1.6, ML2.0(NAO), Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.86**	**237**	*e*P	Pg	09 53 00.5	-0.5
VJF				*e*S	Sg	09 53 11.5	-0.7
FIA0	**FINESS Array S**	**1.49**	**288**	*e*P	Pn	09 53 10.6	-1.8
FIA0				*e*S	Sg	09 53 30.5	-1.8
FIA0	**FINESS Array S**	**1.49**	**288**	Pn	Pn	09 53 10.8	-1.6
	baz=111,slow=16						
FIA0				Lg		09 53 30.1	
	baz=111,slow=28						
FIA0				Rg		09 53 38.3	
	baz=100,slow=37						
PVF	**Pernaja**	**1.62**	**255**	*e*P	Pn	09 53 12.5	-1.7
PVF				*e*S	Sn	09 53 33.9	-1.9
SUF	**Sumiainen**	**2.19**	**323**	MSG		09 53 54.1	
	comp=Z,3.4nm,0.1s						
JOF	**Joensuu**	**2.20**	**29**	*e*SG	Sg	09 53 52.2	-2.8
KEF	**Keuruu**	**2.30**	**302**	MSG		09 53 55.8	
	comp=Z,1.6nm,0.2s						
VSU	**Vasula**	**2.81**	**205**	Lg		09 54 10.2	
VSU	**Vasula**	**2.81**	**205**	*e*SG		09 54 10.2	
ARA0	**ARCESS Array S**	**8.68**	**352**	Lg		09 57 01.9	
	baz=168,slow=28						
ARA0	**ARCESS Array S**	**8.68**	**352**	*e*SB		09 57 01.9	
ARA0	**ARCESS Array S**	**8.68**	**352**	Lg		09 57 01.9	
	baz=168,slow=28						

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*NAO **08** 10:03:57.4±2.9, 6086N×2915E, ML2.0*
*BER **08** 10:03:59.5±2.9, 6091N×2908E, h0km, ML2.0(NAO), Suspected explosion*
HEL 08 10:03:58.7±0.4, 6096N×2915E, h0km, ML1.2, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.89**	**242**	*e*P	Pg	10 04 15.0	-0.7
VJF				*e*S	Sg	10 04 27.2	-0.1
FIA0	**FINESS Array S**	**1.56**	**289**	*e*P	Pn	10 04 26.2	-1.5
FIA0				*e*S	Sn	10 04 46.9	-1.8
FIA0	**FINESS Array S**	**1.56**	**289**	Pn	Pn	10 04 26.4	-1.4
	baz=119,slow=16						
FIA0				Lg		10 04 47.9	
	baz=97,slow=37						
FIA0				Rg		10 04 56.3	
	baz=120,slow=37						
PVF	**Pernaja**	**1.67**	**257**	*e*P	Pn	10 04 26.6	-2.6
PVF				*e*S	Sn	10 04 49.3	-1.9
JOF	**Joensuu**	**2.21**	**27**	*e*P	Pn	10 04 36.6	0.0
JOF				*e*SG	Sg	10 05 06.5	-3.3
JOF				MSG		10 05 09.4	
	comp=Z,1.1nm,0.1s						
KEF	**Keuruu**	**2.38**	**302**	MSG		10 05 14.4	
	comp=Z,0.8nm,0.1s						
VSU	**Vasula**	**2.79**	**207**	Lg		10 05 23.9	
VSU	**Vasula**	**2.79**	**207**	*e*SG		10 05 23.9	
ARA0	**ARCESS Array S**	**8.74**	**352**	Pn	Pn	10 06 05.7	-0.7
	baz=170,slow=12						
ARA0	**ARCESS Array S**	**8.74**	**352**	*e*P	Pn	10 06 05.7	-0.7

IGQ 08 10:05:14.4, 293S×7846W, h79km±11km, Mb4.1, Ms3.9, 3C-3D, Error ellipse: s-maj=8.8km s-min=5.7km az=74.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.44**	**353**	P	Pn	10 05 40.7	+1.8
ULBA	**Ulba**	**1.47**	**2**	⇓P	Pn	10 05 40.6	+1.3
ULBA				S	Sn	10 05 59.4	+1.3
CUSU	**Cusua**	**1.48**	**359**	P	Pn	10 05 40.4	+1.0
JUIV	**Juive**	**1.50**	**360**	⇑P	Pn	10 05 41.0	+1.4
PISA	**Pisayambo**	**1.86**	**2**	⇑P	Pn	10 05 46.1	+1.7
TAMB	**Tambo**	**2.22**	**2**	P	Pn	10 05 51.2	+2.0
CAMI	**Rancho Maria**	**2.24**	**359**	⇑P	Pn	10 05 52.0	+2.5
VC1	**Cotopaxi 1**	**2.27**	**1**	⇓P	Pn	10 05 51.8	+1.9
ANTI	**Antisana**	**2.48**	**7**	⇓P	Pn	10 05 53.8	+1.1
GGP	**Refugio Guagua**	**2.74**	**357**	P	Pn	10 05 58.2	+2.0
PINO	**Pino**	**2.76**	**357**	P	Pn	10 05 58.3	+1.8
YANA	**Yana**	**2.79**	**358**	P	Pn	10 05 58.5	+1.6
CAYR	**Refugio Cayambi**	**2.96**	**9**	P	Pn	10 06 01.4	+2.2
ANGU	**Angureal**	**2.99**	**9**	P	Pn	10 06 01.8	+2.3
CAYA	**Cayambe**	**3.02**	**9**	P	Pn	10 06 02.3	+2.4
MAG1	**Magdalena**	**3.13**	**335**	P	Pn	10 06 02.0	+0.5

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*NEIC **08** 10:25:08.4, 38.15N×2658E, h7km, MD3.5(ISK), ML3.8(ATH), After ISK.*
*ISCJB **08** 10:25:08.5±0.6, 38.12N±002×2658E±003, h0km±5km, Error ellipse: s-maj=3.5km s-min=3.4km az=54.4*
*ISK **08** 10:25:08.4, 38.15N×2657E, h7km, MD3.5*
*ATH **08** 10:25:09.7, 3809N×2655E, h25km±6km, MD3.7/8, ML3.8*
*THE **08** 10:25:09.6, 3807N×2677E, h2km, ML3.9*
*CSEM **08** 10:25:10.5±0.1, 38.14N×2675E, h12km, ML3.8, Error ellipse: s-maj=1.8km s-min=1.4km az=57.0*
ISC 08 10:25:10.4±0.5, 3813N±002×2663E±003, h10km±4km, n57, σ0§96/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.42**	**51**	*i* PG	**Pg**	**10 25 17.7**	**-0.9**
BLCB				*i* SG	**Sg**	**10

SANT			*e*Pg		**Pg**	**10 25 48.1**	**-0.3**
SANT			*e*Sg		**Sg**	**10 26 15.3**	**+1.1**
DALT	**Dalyan (Mudla)**	**2.10 130**	*e*PN		**PN**	**10 25 45.9**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.10 130**	Pn		**Pn**	**10 25 45.9**	**+0.4**
LIA	**Limnos Island**	**2.10 328**	*e*PB		**Pb**	**10 25 45.6**	**-2.9**
PTL	**Penteli**	**2.18 269**	*e*PN		**Pn**	**10 25 45.0**	**-1.7**
MPAR	**Parnis Oros**	**2.28 272**	*e*PB		**Pb**	**10 25 47.5**	**-4.1**
KHL	**Karahalli**	**2.29 84**	*e*PN		**Pn**	**10 25 48.3**	**+0.1**
ATH	**Athens Observa**	**2.30 267**	*e*PN		**Pn**	**10 25 47.4**	**-1.0**
GOLH	**Golhisar**	**2.49 110**	*i* P		**Pn**	**10 25 54.0**	**+3.1**
GOLH			*i* S		**Sg**	**10 26 33.0**	**+2.6**
ULDT	**Uludag**	**2.80 43**	*i* P		**Pn**	**10 26 02.2**	**+6.9**
ULDT			*i* S		**Sn**	**10 26 33.2**	**+4.1**
ULDT	**Uludag**	**2.80 43**	*i* S		**Sn**	**10 26 33.2**	**+4.1**
ALN	**Alexandroupoli**	**2.81 351**	*e*Pn		**Pn**	**10 25 55.1**	**-0.1**
comp=Z,3.4nm,0.1s							
ELL	**Elmali**	**2.95 117**	*e*PN		**Pn**	**10 25 58.4**	**+1.1**
OUR	**Ouranopolis**	**3.02 318**	*e*Pn		**Pn**	**10 25 58.5**	**+0.3**
RDO	**Rodhopi**	**3.13 345**	*e*PN		**Pn**	**10 26 00.0**	**+0.2**
VLI	**Veliai**	**3.26 246**	*e*PN		**Pn**	**10 26 01.5**	**0.0**
AGG	**Agios Georgios**	**3.48 286**	*e*Pn		**Pn**	**10 26 05.8**	**+1.1**
SOH	**Sokhos**	**3.70 318**	*e*Pn		**Pn**	**10 26 08.4**	**+0.9**
LIT	**Litokhoron**	**3.77 303**	*e*Pn		**Pn**	**10 26 09.5**	**+0.9**
NVR	**Nevrokopi**	**3.86 327**	*e*PN		**Pn**	**10 26 10.3**	**+0.5**
GRG	**Griva**	**4.32 312**	*e*Pn		**Pn**	**10 26 17.6**	**+1.6**
GRG	**Griva**	**4.32 312**	*e*Pn		**Pn**	**10 26 17.6**	**+1.5**
VTS	**Vitosha**	**5.17 331**	*e*Pn		**Pn**	**10 26 29.2**	**+1.5**
VTS	**Vitosha**	**5.17 331**	*e*Pn		**Pn**	**10 26 29.2**	**+1.4**
BR131	**Keskin Array S**	**5.70 72**	*e*Pn		**Pn**	**10 26 34.5**	**-0.5**
8.0nm,0.7s							
BR131	**Keskin Array S**	**5.70 72**	*e*Pn		**Pn**	**10 26 34.5**	**-0.5**
8.0nm,0.7s							
BR131			*e*Pg		**Pg**	**10 27 00.1**	**+0.6**
DIVS	**Divcibare**	**7.79 322**	*i* P		**Pn**	**10 27 04.6**	**+0.9**

IDC 08 10:43:37.0±1.4, 751N×7771W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/21, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=38.3km s-min=22.9km az=40.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.27 128**		Pn	Pn	10 44 45.1	**+1.9**
3.6nm,0.3s,baz=104,slow=19,SNR=3.8							
ROSC				Sn	Sn	10 45 37.4	**+3.6**
2.7nm,0.3s,baz=99,slow=20,SNR=2.2							
SDV	**Santo Domingo**	**7.14 78**		Pn	Pn	10 45 24.1	**+1.4**
2.8nm,0.3s,baz=255,slow=4.9,SNR=16							
SDV				Sn	Sn	10 46 44.4	**-0.1**
baz=49,slow=19,SNR=2.1							
SIV	**San Ignacio**	**28.58 145**		P	P	10 49 33.6	**-1.0**
0.6nm,0.6s,baz=320,slow=11,SNR=5.3							
YKA	**Yellowknife Ar**	**61.11 341**		P	P	10 53 52.4	**-0.5**
0.1nm,0.6s,baz=134,slow=7.0,SNR=4.8							
ASAR	**Alice Springs**	**145.69 239**		PKPbc	PKPbc	11 03 19.0	**+1.3**
0.2nm,0.5s,baz=119,slow=3.6,SNR=4.3							

*CSEM **08** 10:46:29.7, 3641N×473E, h0km, ML3.5, After ALG*
CRAAG 08 10:46:29.7, 3641N×473E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKF	**Akfadou**	**0.26 330**		P	Pg	10 46 36.5	**+1.8**
SET	**Setif**	**0.58 111**		P	Pg	10 46 43.0	**+2.2**
CKHR	**Kef el Ahmar**	**0.74 121**		P	Pg	10 46 48.0	**+4.1**
DFRA	**Djebel Bou Aff**	**0.93 81**		P	Pg	10 46 50.5	**+2.9**
ABMS	**Boumerdes**	**1.06 289**		P	Pg	10 46 51.8	**+1.7**
ABA	**Alger-Bouzarea**	**1.42 287**		P	Pn	10 46 58.0	**+1.2**
CASM	**Ain Smara**	**1.43 95**		P	Pn	10 47 02.0	**+5.1**
EMHD	**Djebel Mahouad**	**1.45 262**		P	Pn	10 46 59.8	**+2.6**
EBNR	**Beni Rached**	**2.59 268**		P	Pn	10 47 07.0	**-5.8**

IDC 08 11:20:03.2±1.7, 153N×12389E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=197.6km s-min=23.1km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68 155**		P	P	11 25 16.6	**0.0**
2.0nm,0.3s,baz=333,slow=11,SNR=25							
WB2	**Warramunga Arr**	**23.68 155**		*e*P	P	11 25 16.5	**-0.1**
ASAR	**Alice Springs**	**26.88 159**		P	P	11 25 46.3	**+0.7**
0.6nm,0.5s,baz=342,slow=7.6,SNR=30							
ASPA	**Alice Springs**	**26.88 159**		*e*P	P	11 25 46.2	**+0.6**
MKAR	**Makanchi Array**	**57.80 327**		P	P	11 29 56.1	**-0.1**
0.4nm,0.5s,baz=120,slow=8.2,SNR=13							

IDC 08 11:28:46.2±1.9, 002S×12570E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=192.7km s-min=25.4km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54 157**		P	P	11 33 36.5	**-0.4**
0.3nm,0.4s,baz=335,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**24.82 162**		P	P	11 34 10.8	**+0.8**
0.3nm,0.4s,baz=344,slow=7.6,SNR=12							
MKAR	**Makanchi Array**	**60.07 327**		P	P	11 38 55.1	**+0.1**
0.2nm,0.4s,baz=124,slow=8.3,SNR=7.4							

IDC 08 11:41:30.6±1.7, 162N×9776E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.5/5, Error ellipse: s-maj=44.5km s-min=21.8km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.65 45**		Pn	Pn	11 41 59.8	**-1.1**
15nm,0.3s,baz=229,slow=5.9,SNR=51							
POO	**Poona**	**28.85 307**		*ex*	x	11 47 37.0	
WRA	**Warramunga Arr**	**41.78 123**		P	P	11 49 22.0	**+0.3**
0.9nm,0.6s,baz=302,slow=9.2,SNR=9.5							
ASAR	**Alice Springs**	**43.20 128**		P	P	11 49 33.6	**+0.4**
0.3nm,0.4s,baz=303,slow=8.2,SNR=7.5							
SONM	**Songino Array**	**46.64 8**		P	P	11 50 01.7	**+1.0**
0.1nm,0.3s,baz=193,slow=8.2,SNR=3.7							
MKAR	**Makanchi Array**	**46.98 345**		P	P	11 50 02.6	**-0.6**
0.2nm,0.5s,baz=153,slow=6.4,SNR=4.8							
ZAL	**Zalesovo**	**53.23 350**		P	P	11 50 50.4	**-0.3**
1.3nm,0.3s,baz=355,slow=3.7,SNR=3.3							

*ROM **08** 11:42:42.4±0.5, 4276N×1708E, h10km, Md3.2/12, Ml3.1/8, Error ellipse: s-maj=8.4km s-min=3.6km az=111.0*
*ISCJB **08** 11:42:43.5±0.3, 4278N±002×1690E±002, h10km, Error ellipse: s-maj=3.4km s-min=2.1km az=43.9*
*CSEM **08** 11:42:43.6±0.1, 4286N×1688E, h2km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.7km az=8.0*
*NEIC **08** 11:42:43.7, 4270N×1692E, h8km, ML3.1(ROM), ML3.4(PDG), After PDG.*
*PDG **08** 11:42:43.7±0.3, 4270N×1692E, h8km±1km*
ISC 08 11:42:44.6±0.3, 4272N±002×1690E±002, h10km, n58, σ1§01/84, 21C-15D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.61 76**		*i* Pg	**Pg**	**11 42 55.4**	**-0.9**
STON				*i* Sg	**Sg**	**11 43 04.2**	**-0.2**
HCY	**Herceg Novi**	**1.21 103**		⇓*i* Pg	**Pg**	**11 43 06.0**	**-1.9**
HCY				*e*Sg	**Sg**	**11 43 24.2**	**+0.5**
BRY	**Bratogost**	**1.23 81**		*e*Pg	**Pg**	**11 43 05.8**	**-2.3**
BRY				*e*Sg	**Sg**	**11 43 24.9**	**+0.9**
FGMS	**Monte Sant'Ang**	**1.23 215**		Pn	**Pn**	**11 43 07.8**	**0.0**
RGNG	**Rignano Grg**	**1.43 223**		Pn	**Pn**	**11 43 10.2**	**-0.4**
BUM	**Brajici-Budva**	**1.54 105**		⇓*i* Pg	**Pg**	**11 43 11.2**	**-2.9**
BUM				*e*Sg	**Sg**	**11 43 34.3**	**+0.2**
NKY	**Niksic**	**1.55 86**		⇓*i* Pg	**Pg**	**11 43 11.9**	**-2.4**
NKY				*e*Sg	**Sg**	**11 43 34.2**	**-0.3**
UPM	**Unac-Piva**	**1.55 71**		⇓*i* Pg	**Pg**	**11 43 12.3**	**-2.1**
UPM				*e*Sg	**Sg**	**11 43 34.6**	**0.0**
CDT	**Castel del Mon**	**1.70 196**		*e*Pn	**Pn**	**11 43 15.1**	**+0.8**
TTG	**Podgorica**	**1.77 99**		⇓*i* Pn	**Pn**	**11 43 15.6**	**+0.4**
TTG				*e*Sn	**Sn**	**11 43 40.8**	**+3.0**
AMUR	**Altamura**	**1.83 187**		Pn	**Pn**	**11 43 15.1**	**-0.9**
BRT	**Bari-Castellan**	**1.86 173**		Pn	**Pn**	**11 43 15.0**	**-1.4**
SG1	**Sgolgore (BA)**	**1.89 185**		*e*Pn	**Pn**	**11 43 15.7**	**-1.2**
ULC	**Ulcinj**	**1.90 113**		*e*Pn	**Pn**	**11 43 17.1**	**0.0**
ULC				*e*Sn	**Sn**	**11 43 43.1**	**+2.1**
PLE	**Pljevlja**	**1.93 71**		⇓*i* Pn	**Pn**	**11 43 18.5**	**+1.1**
PLE				*e*Sn	**Sn**	**11 43 44.3**	**+2.5**
PVY	**Plav**	**2.27 92**		⇓*i* Pn	**Pn**	**11 43 22.9**	**+0.7**
PVY				*e*Sn	**Sn**	**11 43 52.7**	**+2.4**
INTR	**Introdacqua**	**2.33 253**		Pn	**Pn**	**11 43 21.9**	**-1.0**
MCRV	**Calabrutti - M**	**2.33 214**		Pn	**Pn**	**11 43 23.1**	**+0.2**
VAGA	**Valle Agricola**	**2.37 238**		Pn	**Pn**	**11 43 25.3**	**+1.8**
TERO	**Teramo**	**2.43 269**		Pn	**Pn**	**11 43 24.2**	**-0.1**
QSH	**Qafa e Shtames**	**2.54 117**		*e*Pn	**Pn**	**11 43 30.0**	**+4.2**
VVLD	**Villa Vallelon**	**2.57 252**		Pn	**Pn**	**11 43 26.8**	**+0.5**
250nm,1.6s							
DIVS	**Divcibare**	**2.64 58**		⇑*i* Pn	**Pn**	**11 43 26.9**	**-0.3**
DIVS				Sn	**Sn**	**11 43 56.4**	**-2.9**
NRCA	**Norcia**	**2.79 274**		Pn	**Pn**	**11 43 29.2**	**0.0**
9.0nm,0.2s							
CING	**Cingoli**	**2.79 285**		Pn	**Pn**	**11 43 29.3**	**0.0**
26nm,0.5s							
SNTG	**Esanatoglia**	**2.95 282**		Pn	**Pn**	**11 43 30.8**	**-0.7**
11nm,0.2s							
ARV	**Arcevia**	**3.00 286**		Pn	**Pn**	**11 43 32.9**	**+0.8**
7.0nm,0.2s							
ARVD	**Arcevia**	**3.00 286**		Pn	**Pn**	**11 43 31.6**	**-0.5**
27um,19.0s							
BOJS	**Bojanci**	**3.02 337**		*i* Pn	**Pn**	**11 43 33.5**	**+1.0**
BOJS				*e*Sn	**Sn**	**11 44 09.9**	**+1.2**
MNS	**Montasola**	**3.13 265**		Pn	**Pn**	**11 43 34.5**	**+0.5**
9.0nm,0.4s							
FSSB	**Fossombrone**	**3.16 289**		Pn	**Pn**	**11 43 34.0**	**-0.4**
10.0nm,0.2s							
PIEI	**Pieia**	**3.29 286**		Pn	**Pn**	**11 43 36.0**	**-0.2**
10.0nm,0.2s							
CEY	**Cerknica**	**3.50 330**		*e*Sn	**Sn**	**11 44 20.4**	**-0.1**
CEY							
comp=Z,16nm,0.1s							
TRI	**Trieste**	**3.74 324**		Pn	**Pn**	**11 43 42.1**	**-0.2**
comp=Z,79nm,0.6s							
VOY	**Vojsko**	**3.95 328**		⇓*e*Pn	**Pn**	**11 43 45.2**	**0.0**
VOY				*e*Sn	**Sn**	**11 44 30.5**	**-1.0**
OBKA	**Obir**	**4.14 337**		⇑Sn	**Sn**	**11 44 36.3**	**0.0**
OBKA	**Obir**	**4.14 337**		⇓*i* Pn	**Pn**	**11 43 48.1**	**+0.2**
SNR=12							
OBKA				⇑*i* Sn	**Sn**	**11 44 36.3**	**0.0**
OBKA	**Obir**	**4.14 337**		Pn	**Pn**	**11 43 48.1**	**+0.2**
OBKA				Sn	**Sn**	**11 44 36.3**	**0.0**
CADS	**Cadrg**	**4.17 328**		*i* Pn	**Pn**	**11 43 48.2**	**0.0**
CADS				*e*Sn	**Sn**	**11 44 36.3**	**-0.7**
CADS							
comp=Z,16nm,0.1s							
ARSA	**Arzberg**	**4.63 348**		⇑Sn	**Sn**	**11 44 48.0**	**-0.4**
ARSA	**Arzberg**	**4.63 348**		⇑*i* Pn	**Pn**	**11 43 55.0**	**+0.4**
ARSA				⇑*i* Sn	**Sn**	**11 44 48.0**	**-0.4**
CTI	**Castel Tesino**	**5.02 313**		Pn	**Pn**	**11 43 59.7**	**-0.2**
comp=Z,36nm,0.4s							
KBA	**Koelnbreinsper**	**5.03 331**		⇓Sn	**Sn**	**11 44 57.1**	**-1.2**
KBA	**Koelnbreinsper**	**5.03 331**		⇑*i* Pn	**Pn**	**11 44 00.4**	**+0.3**
KBA				⇓*i* Sn	**Sn**	**11 44 57.1**	**-1.2**
SEST	**Monte Rota**	**5.23 322**		Pn	**Pn**	**11 44 03.6**	**+0.8**
comp=Z,194nm,2.6s							
MOA	**Molln**	**5.45 341**		⇑Sn	**Sn**	**11 45 08.0**	**-0.6**
MOA	**Molln**	**5.45 341**		⇑*i* Pn	**Pn**	**11 44 06.5**	**+0.6**
SNR=6.5							
MOA				⇑*i* Sn	**Sn**	**11 45 08.0**	**-0.6**
WTTA	**Wattenberg**	**5.88 322**		⇑Sn	**Sn**	**11 45 18.7**	**-0.4**
WTTA	**Wattenberg**	**5.88 322**		⇑*i* Pn	**Pn**	**11 44 12.3**	**+0.7**
WTTA				⇑*i* Sn	**Sn**	**11 45 18.7**	**-0.4**
WTTA	**Wattenberg**	**5.88 322**		⇑Pn	**Pn**	**11 44 12.3**	**+0.7**
WTTA				Sn	**Sn**	**11 45 18.7**	**-0.4**
WATA	**Walderalm**	**5.96 323**		⇓Sn	**Sn**	**11 45 21.5**	**+0.4**
WATA	**Walderalm**	**5.96 323**		⇑*i* Pn	**Pn**	**11 44 13.5**	**+0.7**
WATA				⇓*i* Sn	**Sn**	**11 45 21.5**	**+0.4**
WATA	**Walderalm**	**5.96 323**		⇑Pn	**Pn**	**11 44 13.5**	**+0.7**
WATA				Sn	**Sn**	**11 45 21.4**	**+0.4**
SQTA	**Sankt Quirin**	**6.04 320**		⇓Sn	**Sn**	**11 45 22.9**	**-0.3**
SQTA	**Sankt Quirin**	**6.04 320**		⇑*i* Pn	**Pn**	**11 44 15.0**	**+1.1**
SQTA				⇓*i* Sn	**Sn**	**11 45 22.9**	**-0.3**
MOTA	**Moosalm**	**6.18 320**		⇑Sn	**Sn**	**11 45 26.8**	**+0.2**
MOTA	**Moosalm**	**6.18 320**		⇑*i* Pn	**Pn**	**11 44 16.9**	**+1.0**
MOTA				⇑*i* Sn	**Sn**	**11 45 26.8**	**+0.2**
MOTA	**Moosalm**	**6.18 320**		⇑Pn	**Pn**	**11 44 16.9**	**+1.0**
MOTA				Sn	**Sn**	**11 45 26.8**	**+0.2**

*ISCJB **08** 12:44:02.0±0.3, 6534N±003×13343W±007, h10km, mb4.0/17, Error ellipse: s-maj=4.5km s-min=4.1km az=155.2*
*IDC **08** 12:44:03.1±0.5, 6531N×13354W, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, ML4.0/3, Error ellipse: s-maj=11.2km s-min=8.8km az=30.0*
*NEIC **08** 12:44:04.4, 6524N×13341W, h5km, mb4.0/1, ML4.3(AEIC), MW4.1(PGC), After PGC.*
*PGC **08** 12:44:04.4, 6524N×13341W, h5km, ML4.3/4, Mw4.2, Mackenzie Mountains, Yukon Territory*
ISC 08 12:44:04.0±0.3, 6537N±003×13338W±006, h10km, n65, σ1§10/95, mb4.0/17, 1C, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.89 246**		Pn	**Pn**	**12 44 50.5**	**+0.4**
DAWY				Sg	**Sb**	**12 45 31.4**	**+0.4**
DAWY				Trac		12 45 33.9	
comp=Z,648nm,0.5s							
DAWY	**Dawson**	**2.89 246**		Pn	**Pn**	**12 44 50.5**	**+0.4**
DAWY				*e*Sg	**Sb**	**12 45 31.4**	**+0.4**
INK	**Inuvik**	**2.96 359**		Pn	**Pn**	**12 44 52.4**	**+1.4**
16nm,0.3s,baz=170,slow=15,SNR=1139							
INK				Pg	**Pg**	**12 45 00.2**	**-0.4**
97nm,0.3s,baz=189,slow=13,SNR=167							
INK				Sn	**Sn**	**12 45 27.4**	**+0.9**
63nm,0.3s,baz=224,slow=28,SNR=4.2							
INK				Lg		12 45 39.4	
126nm,0.3s,baz=271,slow=31,SNR=12							
INK	**Inuvik**	**2.96 359**		Pn	**Pn**	**12 44 52.2**	**+1.2**
INK				Pg	**Pg**	**12 45 00.2**	**-0.4**
INK				Sn	**Sn**	**12 45 27.6**	**+1.1**
INK				Trac		12 45 43.9	
comp=Z,445nm,0.3s							
INK				Trac		12 45 43.9	
comp=Z,445nm,0.3s							
INK	**Inuvik**	**2.96 359**		Pn	**Pn**	**12 44 52.5**	**+1.6**
INK				*e*Pg	**Pg**	**12 45 00.2**	**-0.4**
INK				*e*Sn	**Sn**	**12 45 27.6**	**+1.1**
WHY	**Whitehorse**	**4.77 189**		Pn	**Pn**	**12 45 15.2**	**-0.7**
WHY				Pg	**Pg**	**12 45 30.3**	**-5.1**
WHY				Sg	**Sg**	**12 46 29.3**	**-8.0**
WHY				Trac		12 46 33.9	
comp=Z,138nm,0.5s							
WHY	**Whitehorse**	**4.77 189**		Pn	**Pn**	**12 45 15.2**	**-0.7**
WHY				*e*Pg	**Pg**	**12 45 30.3**	**-5.1**
WHY				*e*Sg	**Sg**	**12 46 29.3**	**-8.0**
DOT	**Dot Lake**	**4.93 254**		P	**Pn**	**12 45 18.7**	**+0.6**
DOT				S	**Sn**	**12 46 13.0**	**-2.1**
HYT	**Haines Junctio**	**4.93 204**		⇑Pn	**Pn**	**12 45 17.7**	**-0.3**
HYT				Pg	**Pg**	**12 45 32.8**	**-5.6**
HYT				Sg	**Sg**	**12 46 33.0**	**-9.2**
HYT				Trac		12 46 39.8	
comp=Z,135nm,0.4s							
HYT	**Haines Junctio**	**4.93 204**		Pn	**Pn**	**12 45 17.7**	**-0.3**
HYT				*e*Pg	**Pg**	**12 45 32.8**	**-5.6**
HYT				*e*Sg	**Sg**	**12 46 33.0**	**-9.2**
BM3	**Burnt Mountain**	**4.96 300**		P	**Pn**	**12 45 18.6**	**+0.1**
MENT	**Mentasta**	**5.14 246**		P	**Pn**	**12 45 20.2**	**-0.8**
IL1	**Eielson Array**	**5.75 270**		P	**Pn**	**12 45 28.0**	**-1.3**
ILAR	**Eielson Array**	**5.75 270**		Pn	**Pn**	**12 45 27.8**	**-1.5**
0.8nm,0.3s,baz=83,slow=12,SNR=41							
ILAR				Pg	**Pg**	**12 45 37.1**	**-17**
2.1nm,0.3s,baz=70,slow=14,SNR=25							
ILAR				Sn	**Sn**	**12 46 29.3**	**-5.9**
4.0nm,0.3s,baz=80,slow=15,SNR=5.6							
ILAR				Lg		12 47 04.5	
11nm,0.3s,baz=83,slow=28,SNR=7.6							
PAX	**Paxson**	**5.81 251**		P	**Pn**	**12 45 30.2**	**+0.1**
COLA	**College**	**6.13 272**		P	**Pn**	**12 45 33.7**	**-0.9**
PNL	**Peninsula**	**6.36 209**		P	**Pn**	**12 45 38.5**	**+0.8**
BMRM	**Bremner River**	**6.72 234**		P	**Pn**	**12 45 44.2**	**+1.4**
BESE	**Bessie Mountai**	**6.85 187**		P	**Pn**	**12 45 44.2**	**-0.2**
MCK	**McKinley**	**6.90 263**		*e*Pn	**Pn**	**12 45 44.9**	**-0.3**
17nm,0.9s							
MCK				*e*S	**Sg**	**12 47 38.2**	**-7.2**
DIV	**Divide**	**7.02 238**		*e*Pn	**Pn**	**12 45 48.0**	**+1.2**
41nm,0.5s							
COLD	**Coldfoot**	**7.03 293**		P	**Pn**	**12 45 47.1**	**+0.2**
SML	**Sawmill**	**7.56 249**		*e*Pn	**Pn**	**12 45 57.6**	**+3.4**
SML				*e*S	**Sg**	**12 47 57.4**	**-9.1**
KTH	**Kantishna Hill**	**7.79 265**		P	**Pn**	**12 45 56.8**	**-0.6**
FNBB	**Fort Nelson**	**8.10 138**		Pn	**Pn**	**12 46 01.2**	**-0.4**
FNBB				Sg	Sn	12 48 18.0	**+45**
FNBB				Trac		12 48 32.4	
comp=Z,18nm,0.8s							
FNBB				Trac		12 48 32.4	
comp=Z,18nm,0.8s							
FNBB	**Fort Nelson**	**8.10 138**		*e*Pn	**Pn**	**12 46 01.2**	**-0.4**
FNBB				*e*Sg	Sn	12 48 18.0	**+45**
IMA2	**Indian Mountai**	**8.39 284**		*e*Pn	**Pn**	**12 46 05.5**	**-0.1**
IM3	**Indian Mountai**	**8.42 283**		P	**Pn**	**12 46 05.6**	**-0.5**
YKW3	**Yellowknife Ar**	**8.71 100**		Pn	**Pn**	**12 46 08.3**	**-1.7**
YKW3				Pn	**Pn**	**12 46 08.8**	**-1.2**
YKW3				Sn	**Sn**	**12 47 39.1**	**-9.1**
YKW3				Sn	**Sn**	**12 47 39.5**	**-8.7**
YKW3				Trac		12 47 54.8	
comp=Z,15nm,0.3s							
YKW3				Trac		12 47 54.8	
comp=Z,15nm,0.3s							
YKW3				Trac		12 48 16.1	
comp=Z,25nm,0.5s							
YKW3				Trac		12 48 16.1	
comp=Z,25nm,0.5s							
YKW3	**Yellowknife Ar**	**8.71 100**		Pn	**Pn**	**12 46 08.3**	**-1.7**
YKW3				*e*Sn	**Sn**	**12 47 39.1**	**-9.1**
YKA	**Yellowknife Ar**	**8.74 101**		Pn	**Pn**	**12 46 08.3**	**-2.1**
baz=289,slow=13,SNR=74							
YKA				Sn	**Sn**	**12 47 36.3**	**-13**
baz=293,slow=21,SNR=3.2							
YKA				Lg		12 48 41.6	
baz=304,slow=31,SNR=4.9							
CRAG	**Craig**	**9.93 179**		P	**Pn**	**12 46 27.0**	**+0.2**
TT01	**Tatalina**	**10.17 266**		P	**Pn**	**12 46 29.6**	**-0.4**
SVW2	**Sparrevohn**	**10.86 257**		P	**Pn**	**12 46 40.1**	**+0.7**
FSB	**Fort Saint Jam**	**11.81 153**		Pn	**Pn**	**12 46 51.1**	**-1.4**
FSB				Sg		12 50 25.7	
FSB				Trac		12 50 49.4	
comp=Z,4.0nm,0.7s							
FSB	**Fort Saint Jam**	**11.81 153**		*e*Pn	**Pn**	**12 46 51.1**	**-1.4**
FSB				*e*Sg		12 50 49.4	
KDAK	**Kodiak Island**	**11.85 239**		Pn	**Pn**	**12 46 54.0**	**+1.1**
0.2nm,0.3s,baz=106,slow=19,SNR=2.2							
MNB	**Mounoet Dainar**	**15.26 143**		*e*Pn	**Pn**	**12 47 45.0**	**+5.6**
RES	**Resolute Bay**	**15.75 38**		Pn	**Pn**	**12 47 43.9**	**-1.9**
RES				Sn	**Sn**	**12 50 25.9**	**-14**
RES				Trac		12 50 37.2	
comp=Z,12nm,0.6s							
RES				Trac		12 50 37.2	
comp=Z,12nm,0.6s							
RES	**Resolute Bay**	**15.75 38**		*e*Pn	**Pn**	**12 47 43.9**	**-1.9**
RES				*e*Sn	**Sn**	**12 50 25.9**	**-14**
EDM	**Edmonton**	**15.80 131**		*e*Pn	**Pn**	**12 47 44.6**	**-1.8**
LLLB	**Lillooet**	**15.96 152**		*e*Pn	**Pn**	**12 47 52.4**	**+3.8**
FFC	**Flin Flon**	**18.72 110**		*e*P	**Pn**	**12 48 20.4**	**-2.6**
6.0nm,0.6s							
NEW	**Newport**	**19.20 145**		P	**Pn**	**12 48 30.8**	**+1.9**
0.2nm,0.3s,baz=335,slow=5.1,SNR=4.0							
FCC	**Fort Churchill**	**19.28 91**		Pn	**Pn**	**12 48 28.6**	**-1.1**
FCC				Sn	**Sn**	**12 51 46.1**	**-20**
FCC				Trac		12 52 10.5	
comp=Z,3.0nm,0.4s							
FCC				Trac		12 52 10.5	
comp=Z,3.0nm,0.4s							
FCC	**Fort Churchill**	**19.28 91**		*e*Pn	**Pn**	**12 48 28.6**	**-1.1**
FCC				*e*Sn	**Sn**	**12 51 46.1**	**-20**
HRY	**Holter Researc**	**22.02 138**		*e*P	**P**	**12 49 00.1**	**+1.6**
ULM	**Lac du Bonnet**	**24.55 110**		P	**P**	**12 49 25.6**	**+1.8**
0.8nm,0.3s,mb3.7,baz=218,slow=6.4,SNR=2.9							
PDAR	**Pinedale Array**	**26.28 138**		P	**P**	**12 49 40.4**	**+0.9**
1.0nm,0.9s,mb3.4,baz=338,slow=8.0,SNR=7.9							
PDAR				PcP	PcP	12 53 05.5	-0.2
0.4nm,0.6s,baz=0.0,slow=0.9,SNR=3.9							
ELK	**Elko**	**26.76 148**		P	**P**	**12 49 44.5**	**+0.8**
1.1nm,0.8s,mb3.5,baz=333,slow=8.9,SNR=5.8							
FRB	**Frobisher Bay**	**26.82 63**		P	**P**	**12 49 46.7**	**+2.4**

BKI Smax
30nm,0.3s

*CSEM **08** 12:56:33.1,4043N×2163E,h5km,MD3.7/3,After ATH*
*NEIC **08** 12:56:33.0,4043N×2163E,h5km,MD3.7(ATH),After ATH.*
ATH 08 12:56:33.1,4043N×2163E,h5km,MD3.7/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.16**	**139**	*e*PG	Pg	12 56 35.9	-0.5
KZN				*e*SG	Sg	12 56 39.2	+0.7
VAY	**Valandovo**	**1.14**	**38**	*e*Pn	Pn	12 56 53.2	-2.5
VAY				*i* Sn	Sn	12 57 12.8	+1.1
PLG	**Polygyros**	**1.39**	**92**	*e*PG	Pg	12 56 58.7	-1.0
PLG				*e*SB	Sb	12 57 18.5	+1.0
EVR	**Evrytania**	**1.52**	**175**	*e*PB	Pb	12 57 02.8	+1.1

*CSEM **08** 12:56:53.3,3769N×2156E,h31km,MD3.5/3,After ATH*
ATH 08 12:56:53.3,3769N×2156E,h31km,MD3.5/3,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.38**	**349**	*e*PB	Pb	12 57 02.3	+0.4
RLS				*e*SB	Sb	12 57 08.8	+1.1
ITM	**Ithomi**	**0.59**	**150**	*e*PN	Pn	12 57 05.6	+0.1
ITM				*e*SN	Sn	12 57 14.4	+0.4
VLS	**Valsamata**	**0.91**	**303**	*e*PN	Pn	12 57 11.3	+1.4

*NAO **08** 12:57:03.5,3084N×7399E,h33km,mb4.9*
*LDG **08** 12:57:24.4±0.1,3469N×7322E,h10km,Mb4.8/17,Ms3.5/6, Error ellipse: s-maj=9.3km s-min=4.3km az=22.0*
*ISCJB **08** 12:57:26.3±0.1,3483N±002×7327E±002,h10km, mb4.8/117,MS4.0/27,Error ellipse: s-maj=3.2km s-min=2.3km az=103.8*
*BJI **08** 12:57:26.8,3482N×7327E,h11km,mB5.1,mb4.7,ML5.1, Ms4.5,Msz4.2*
*IDC **08** 12:57:26.3±0.5,3482N×7327E,h0km,mb4.7/28, mb1 4.8/31,mb1mx4.8/31,mbtmp4.7/31,ML4.9/3,MS3.8/13, Ms1 3.8/13,ms1mx3.6/33,Error ellipse: s-maj=14.5km s-min=12.1km az=26.0*
*NEIC **08** 12:57:27.9±0.2,3479N×7328E,h10km,mb4.9/46,Error ellipse: s-maj=5.6km s-min=3.4km az=215.0*
*HRVD **08** 12:57:27.9±0.8,3475N×7299E,h33km±1km,MW4.8/41, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s41,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.01±.23; $M_{\theta\theta}$-1.19±.14; $M_{\phi\phi}$-0.82±.18; $M_{r\theta}$0.59±.13; $M_{\theta\phi}$0.89±.09; $M_{\phi r}$-0.67±.14; Best double couple: $M_0$2.15800×10^{16} NP1:ϕ_s306.00000°,δ33.00000°,λ84.00000°. NP2: ϕ_s133.00000°,δ57.00000°,λ94.00000°. Principal axes: T 2.2080, Plg77.0000°, Azm56.0000°; N -0.1060, Plg3.0000°, Azm311.0000°; P -2.1080, Plg12.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **08** 12:57:29.7±1.2,3483N×7333E,h33km,mb4.9/35, MS4.1/8 Error ellipse: s-maj=7.1km s-min=4.3km az=100.9*
*NDI **08** 12:57:32.4±4.5,3452N×7304E,h10km,ML4.8, mb4.9(NEIC)*
*NNC **08** 12:57:35.2±4.3,3513N×7287E,h40km±49km,mb4.6, mpv5.0,Error ellipse: s-maj=64.5km s-min=27.0km az=108.0*
*SZGRF **08** 12:57:40.4,3561N×7253E,h44km,mb4.8,Pakistan*
ISC 08 12:57:28.3±0.1,3488N±002×7329E±002,h10km, (h16km±3.2km:pP-P),n304,σ1§19/319,mb4.8/117, MS4.0/27,25C-19D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.55**	**228**	⇓P	**Pn**	**12 57 56.0**	**+0.1**
THW	**Thamme Wali**	**2.44**	**212**	P	**Pn**	**12 58 10.2**	**+2.0**
SARP	**Sargodha**	**2.99**	**190**	P	**Pn**	**12 58 17.4**	**+1.7**
THN	**Thein Dam**	**3.17**	**140**	*e*P	**Pn**	**12 58 22.0**	**+3.8**
THN				*ex*	x	12 59 13.0	
DLH	**Dalhousie**	**3.23**	**135**	*e*P	**Pn**	**12 58 23.0**	**+4.0**
DLH				*ex*	x	12 59 14.0	
SBDP	**Sheikh Budin**	**3.30**	**220**	P	**Pn**	**12 58 21.5**	**+1.5**
PONG	**Pong**	**3.67**	**142**	*e*P	**Pn**	**12 58 29.0**	**+4.0**
PONG				*ex*	x	12 59 27.0	
DRP	**Derazinda**	**4.05**	**220**	P	**Pn**	**12 58 32.5**	**+2.2**
BHK	**Bhakra**	**4.34**	**142**	*ex*	x	12 58 42.9	
BHK				*e*S	**Sn**	**12 59 23.1**	**-1.7**
SDNR	**Sundarnagar**	**4.57**	**136**	*e*P	**Pn**	**12 58 40.4**	**+3.0**
SDNR				*ex*	x	12 59 51.0	
SMLA	**Simla**	**4.96**	**138**	*e*P	**Pn**	**12 58 44.7**	**+1.9**
SMLA				*e*P		12 58 45.2	
SMLA				*e*S	**Sn**	**12 59 38.9**	**-1.3**
SMLA				AML	AML	13 00 08.6	
	comp=N,3μm,0.5s						
SMLA				AML	AML	13 00 08.8	
	comp=E,3μm,0.5s						
KLP	**Kalpa**	**5.33**	**127**	*e*P	**Pn**	**12 58 50.1**	**+2.2**
KLP				*e*S	**Sn**	**12 59 49.8**	**+0.4**
KLP				AML	AML	13 00 27.6	
	comp=N,3μm,0.9s						
KLP				AML	AML	13 00 31.6	
	comp=E,4μm,0.9s						
DDI	**Dehra Dun**	**6.07**	**137**	*e*P	**Pn**	**12 58 58.8**	**+0.8**
DDI				*e*S	**Sn**	**13 00 04.5**	**-3.0**
NDI	**New Delhi**	**7.02**	**150**	*e*P	**Pn**	**12 59 10.0**	**-1.1**
NDI				*ex*	x	13 00 22.0	
KHET	**Khetri**	**7.12**	**162**	*e*P	**Pn**	**12 59 12.9**	**+0.5**
KHET				*ex*	x	13 00 31.2	
AYAN	**Aya Nagar**	**7.17**	**152**	*e*P	**Pn**	**12 59 13.2**	**+0.2**
AYAN				*e*S	**Sn**	**13 00 28.1**	**-6.4**
KUDL	**Kundal**	**7.25**	**157**	*e*P	**Pn**	**12 59 14.7**	**+0.5**
KUDL				*e*S	**Sn**	**13 00 29.7**	**-6.8**
AML	**Almayashu**	**7.25**	**2**	P	**Pn**	**12 59 17.9**	**+3.7**
	SNR=99						
KZA	**Kyzart**	**7.35**	**11**	P	**Pn**	**12 59 19.8**	**+4.2**
	SNR=61						
SONA	**Sohna**	**7.36**	**153**	*e*P	**Pn**	**12 59 17.0**	**+1.3**
SONA				*e*S	**Sn**	**13 00 32.0**	**-7.3**
UCH	**Uchtor**	**7.40**	**7**	P	**Pn**	**12 59 20.6**	**+4.3**
	SNR=106						
ULHL	**Ulahol**	**7.71**	**17**	P	**Pn**	**12 59 25.2**	**+4.7**
	SNR=21						
EKS2	**Erkin-Say**	**7.78**	**3**	P	**Pn**	**12 59 25.4**	**+3.9**
	SNR=82						
AAK	**Ala-Archa**	**7.80**	**7**	P	**Pn**	**12 59 26.0**	**+4.2**
	SNR=37						
AAK	**Ala-Archa**	**7.80**	**7**	*c iP*	**Pn**	**12 59 24.8**	**+3.0**
AAK	**Ala-Archa**	**7.80**	**7**	*e*Pn	**Pn**	**12 59 25.0**	**+3.2**
KBK	**Karagaybulak**	**7.87**	**9**	P	**Pn**	**12 59 27.1**	**+4.3**
	SNR=29						
PTH	**Pithoragarh**	**7.92**	**130**	*e*p	**Pn**	**12 59 26.1**	**+2.7**
PTH				*e*S	**Sn**	**13 00 49.5**	**-3.5**
LGTI	**Lohaghat**	**8.00**	**131**	*e*P	**Pn**	**12 59 27.0**	**+2.4**
LGTI				*ex*	x	13 01 29.0	
FRU	**Bishkek**	**8.01**	**7**	*e*P	**Pn**	**12 59 30.0**	**+5.3**
FRU				pmax	pmax		
	comp=Z,260nm,1.4s						
CHMS	**Chumysh**	**8.19**	**8**	P	**Pn**	**12 59 30.9**	**+3.8**
	SNR=14						
TKM2	**Tokmak 2**	**8.23**	**12**	P	**Pn**	**12 59 31.7**	**+4.1**
	SNR=33						
TKM2	**Tokmak 2**	**8.23**	**12**	⇑Pn	**Pn**	**12 59 31.6**	**+3.9**
	comp=Z,82nm,0.8s						
TKM2				⇓Sn	**Sn**	**13 01 00.6**	**-0.1**
	comp=Z,88nm,0.5s						
TKM2				⇑Lg		13 01 51.2	
	comp=Z,254nm,2.1s						
TKM2				⇑Rg		13 02 25.0	
	comp=Z,2μm,9.2s						
USP	**Ospenovka**	**8.43**	**6**	P	**Pn**	**12 59 33.4**	**+3.0**
	SNR=31						
AJM	**Ajmer**	**8.45**	**172**	*e*P	**Pn**	**12 59 31.4**	**+0.6**
AJM				*ex*	x	13 01 02.2	
AJM				*ex*	x	13 01 02.9	
KK31	**Karatay Array**	**8.49**	**346**	⇓Pn	**Pn**	**12 59 33.6**	**+2.3**
	comp=Z,18nm,0.3s,baz=154,slow=11,SNR=1111						
KK31				⇑Sn	**Sn**	**13 01 06.9**	**-0.3**
	comp=Z,22nm,0.3s,baz=175,slow=24,SNR=8.2						
KK31				⇑Rg		13 02 33.4	
	comp=Z,2μm,10.8s						
KK31	**Karatay Array**	**8.49**	**346**	*i* P	**Pn**	**12 59 33.9**	**+2.6**
KK31				pmax	pmax		
	comp=Z,77nm,0.3s						
KKAR	**Karatay Array**	**8.49**	**346**	*e*P	**Pn**	**12 59 33.9**	**+2.6**
KKAR				S	**Sn**	**13 01 06.8**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,27nm,0.4s						
AGRA	**Agra**	**8.61**	**151**	*e*P	**Pn**	**12 59 34.3**	**+1.4**
AGRA				*e*S	**Sn**	**13 01 03.0**	**-6.9**
AGRA				AML	AML	13 02 10.9	
	comp=N,482nm,0.8s						
AGRA				AML	AML	13 02 17.8	
	comp=E,502nm,0.6s						
AAA	**Alma-Ata**	**8.85**	**18**	*i* P	**Pn**	**12 59 44.1**	**+7.9**
AAA				*i* S	**Sn**	**13 01 23.9**	**+7.9**
AAA				pmax	pmax		
	comp=Z,600nm,1.7s						
AAA				smax			
	comp=E,500nm,2.0s						
AAA				MLR	MLR		
	comp=Z,3μm,7.8s						
KOLN	**Koldanda**	**11.31**	**126**	*e*Pn	**Pn**	**13 00 08.9**	**-0.9**
KOLN				*e*Sn	**Sn**	**13 02 12.9**	**-3.3**
	comp=Z,153nm,0.6s						
KOLN	**Koldanda**	**11.31**	**126**	*e*Pn	**Pn**	**13 00 08.9**	**-0.9**
	comp=Z,76nm,0.6s						
KOLN				*e*Sn	**Sn**	**13 02 12.9**	**-3.3**
GKN	**Gorkha**	**11.87**	**122**	*e*Pn	**Pn**	**13 00 16.4**	**-1.1**
GKN				*e*Sn	**Sn**	**13 02 25.7**	**-4.2**
	comp=Z,328nm,0.6s						
GKN	**Gorkha**	**11.87**	**122**	*e*Pn	**Pn**	**13 00 16.4**	**-1.1**
	comp=Z,164nm,0.6s						
GKN				*e*Sn	**Sn**	**13 02 25.7**	**-4.2**
BHJ	**Bhuj**	**12.01**	**196**	*e*P	**Pn**	**13 00 18.7**	**-0.7**
BHJ				*ex*	x	13 02 23.3	
BHJ				⇓*ex*	x	13 02 28.3	
BHJ				*ex*	x	13 03 57.6	
ALBI	**Allahabad**	**12.05**	**140**	*ex*	x	13 00 16.0	
BHPL	**Bhopal**	**12.14**	**162**	*e*P	**Pn**	**13 00 20.2**	**-1.1**
BHPL				*ex*	x	13 02 33.2	
DMN	**Daman**	**12.43**	**122**	*e*Pn	**Pn**	**13 00 24.0**	**-1.3**
DMN				*e*Sn	**Sn**	**13 02 39.9**	**-3.9**
	comp=Z,244nm,0.7s						
DMN	**Daman**	**12.43**	**122**	*e*Pn	**Pn**	**13 00 24.0**	**-1.3**
	comp=Z,122nm,0.7s						
DMN				*e*Sn	**Sn**	**13 02 39.9**	**-3.9**
KKN	**Kakani**	**12.45**	**121**	*e*Pn	**Pn**	**13 00 24.1**	**-1.3**
KKN				*e*Sn	**Sn**	**13 02 39.1**	**-5.0**
	comp=Z,205nm,0.7s						
KKN	**Kakani**	**12.45**	**121**	*e*P	**Pn**	**13 00 24.1**	**-1.3**
KKN				*e*		13 02 39.1	
KKN				pmax	pmax		
	comp=Z,102nm,0.7s						
KKN	**Kakani**	**12.45**	**121**	*e*Pn	**Pn**	**13 00 24.1**	**-1.3**
	comp=Z,102nm,0.7s						
KKN				*e*Sn	**Sn**	**13 02 39.1**	**-5.0**
PKI	**Pulchoki**	**12.67**	**122**	*e*Pn	**Pn**	**13 00 27.3**	**-1.2**
PKI				*e*Sn	**Sn**	**13 02 44.3**	**-5.3**
GUN	**Gumba**	**12.80**	**119**	*e*Pn	**Pn**	**13 00 28.8**	**-1.4**
BHV	**Bhavnagar**	**13.12**	**185**	*e*P	**Pn**	**13 00 32.5**	**-2.1**
JIRN	**Jiri**	**13.17**	**120**	*e*Pn	**Pn**	**13 00 33.9**	**-1.4**
JIRN				*e*Sn	**Sn**	**13 02 56.8**	**-5.0**
	comp=Z,451nm,0.9s						
JIRN	**Jiri**	**13.17**	**120**	*e*Pn	**Pn**	**13 00 33.9**	**-1.4**
	comp=Z,225nm,0.9s						
JIRN				*e*Sn	**Sn**	**13 02 56.8**	**-5.0**
MK31	**Makanchi Array**	**13.70**	**27**	⇑P	**Pn**	**13 00 45.1**	**+2.5**
	comp=Z,11nm,0.6s,baz=208,slow=14,SNR=148						
MK31	**Makanchi Array**	**13.70**	**27**	*i* P	**Pn**	**13 00 45.1**	**+2.5**
MK31				pmax	pmax		
	comp=Z,11nm,0.5s						
MKAR	**Makanchi Array**	**13.70**	**27**	Pn	**Pn**	**13 00 44.0**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=204,slow=15,SNR=36						
MKAR	**Makanchi Array**	**13.70**	**27**	*i* P	**Pn**	**13 00 44.9**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WMQ	**Urumqi**	**14.27**	**47**	P	**Pn**	**13 00 50.0**	**-0.3**
WMQ				XP	sP	13 00 57.0	-4.7
WMQ				PP		13 01 02.0	
WMQ				S	**Sn**	**13 03 29.0**	**+0.4**
WMQ				SS		13 03 45.0	
WMQ				AMB	AMB		
	comp=Z,42nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,154nm,3.0s						
WMQ				LR	LR		
	comp=N,235nm,5.0s						
WMQ				LR	LR		
	comp=E,508nm,6.0s						
WMQ				LR	LR		
	comp=Z,507nm,6.0s						
NGP	**Nagpur**	**14.59**	**158**	*e*P	**Pn**	**13 00 51.2**	**-3.4**
NGP				*ex*	x	13 03 27.5	
BLSP	**Bilaspur**	**14.88**	**146**	*e*P	**Pn**	**13 00 59.8**	**+1.2**
BLSP				*ex*	x	13 03 28.1	
BOK	**Bokaro**	**15.56**	**132**	*ex*	x	13 01 05.3	
BOK				*i x*	x	13 03 48.0	
BOK				*ex*	x	13 03 49.4	
BOM	**Bombay**	**15.93**	**182**	*ex*	x	13 01 28.7	
BOM				*ex*	x	13 01 28.7	
BOM				*e*S	x	13 04 04.8	
LSA	**Lhasa**	**15.96**	**104**	P	**Pn**	**13 01 11.5**	**-1.3**
LSA	**Lhasa**	**15.96**	**104**	*e*P	**Pn**	**13 01 10.7**	**-2.1**
LSA				pmax	pmax		
	comp=Z,39nm,0.8s						
LSA	**Lhasa**	**15.96**	**104**	*e*P	**Pn**	**13 01 10.7**	**-2.2**
	comp=Z,39nm,0.8s						
LSA				*e*		13 01 18.1	
POO	**Poona**	**16.29**	**178**	⇓*ix*	x	13 01 35.0	
POO				*i x*	x	13 01 47.5	
POO				*i x*	x	13 01 55.5	
POO				*i x*	x	13 04 25.5	
POO				*i x*	x	13 04 29.0	
POO				*i x*	x	13 04 47.5	
POO				*i x*	x	13 05 09.0	
POO				*i* PCP	x	13 06 37.5	
KURK	**Kurchatov**	**16.30**	**12**	⇓P	**Pn**	**13 01 15.6**	**-1.6**
	comp=Z,26nm,0.9s						
KURK	**Kurchatov**	**16.30**	**12**	⇑*e*P	**Pn**	**13 01 16.7**	**-0.5**
KURK	**Kurchatov**	**16.30**	**12**	*e*P	**Pn**	**13 01 18.0**	**+0.8**
	comp=Z,55nm,1.0s						
LATR	**Latur**	**16.65**	**169**	*e*P	**Pn**	**13 01 20.5**	**-1.2**
BANOM	**Banah**	**17.14**	**243**	⇑P	**Pn**	**13 01 30.4**	**+2.5**
	SNR=21						
WBK	**Wadi Bani Khal**	**17.50**	**229**	⇓P	**Pn**	**13 01 33.4**	**+1.1**
	SNR=39						
KAD	**Karad**	**17.52**	**177**	*e*P	**Pn**	**13 01 33.5**	**+1.0**
SMDO	**Samad**	**17.76**	**233**	P	**Pn**	**13 01 37.3**	**+1.7**
	SNR=19						
VOSK	**Vostochnaya**	**17.92**	**355**	⇑P	**Pn**	**13 01 36.0**	**-1.5**
	comp=Z,3.9nm,0.6s						
VOSK	**Vostochnaya**	**17.92**	**355**	P	**Pn**	**13 01 36.0**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,17nm,1.0s						
HYB	**Hyderabad**	**18.02**	**164**	*i* P	**Pn**	**13 01 36.0**	**-2.7**
HYB				*e*S	**Sn**	**13 05 03.0**	**+3.4**
BVA0	**Borovoye Array**	**18.26**	**354**	⇑P	**Pn**	**13 01 40.4**	**-1.3**
	comp=Z,5.3nm,0.8s,baz=161,slow=12,SNR=245						
BVA0	**Borovoye Array**	**18.26**	**354**	*i* P	**Pn**	**13 01 43.0**	**+1.3**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**18.26**	**354**	P	**Pn**	**13 01 40.8**	**-0.9**
	comp=Z,9.2nm,0.3s,baz=160,slow=11,SNR=157						
BRVK	**Borovoye**	**18.30**	**354**	⇑*e*P	**Pn**	**13 01 42.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,25nm,0.8s						
BRVK	**Borovoye**	**18.30**	**354**	⇑*e*P	**Pn**	**13 01 42.7**	**+0.5**
	comp=Z,25nm,0.8s						
SHL	**Shillong**	**18.53**	**115**	*ex*	x	13 01 40.5	
SHL				*ex*	x	13 04 52.5	
AGT	**Agartala**	**19.08**	**120**	*ex*	x	13 01 54.0	
AKTK	**Aktyubinsk**	**19.12**	**329**	P	**Pn**	**13 01 52.1**	**0.0**
AKTK				LR	LR	13 09 30.9	
AKTO	**Aktyubinsk**	**19.12**	**329**	⇑P	**Pn**	**13 01 51.3**	**-0.9**
	comp=Z,8.8nm,0.7s						
AKTO				⇑S	**Sn**	**13 05 17.4**	**-8.9**
	comp=Z,6.4nm,1.6s						
AKTO	**Aktyubinsk**	**19.12**	**329**	P	**Pn**	**13 01 52.1**	**0.0**
	comp=Z,7.1nm,0.3s,baz=130,slow=11,SNR=192						
AKTO				LR	LR	13 09 30.9	
	comp=Z,23nm,21.6s,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**19.12**	**329**	P	**Pn**	**13 01 52.1**	**0.0**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,23nm,21.6s						
VIS	**Vishakhapatnam**	**19.29**	**150**	*e*P	**Pn**	**13 01 55.4**	**+1.2**
VIS				*ex*	x	13 05 22.3	
ZAL	**Zalesovo**	**20.70**	**19**	P	**P**	**13 02 08.2**	**-0.4**
	comp=Z,23nm,0.5s,baz=256,slow=7.0,SNR=98						
ZAL				LR	LR	13 11 32.2	
	comp=Z,386nm,19.5s,MS3.8,baz=258,slow=41						
NVS	**Novosibirsk**	**21.13**	**16**	*e*P	**P**	**13 02 11.8**	**-1.4**
NVS				*e*S	**S**	**13 06 02.8**	**-5.4**
NVS				pmax	pmax		
	comp=N,141nm,1.2s						
NVS				pmax	pmax		
	comp=Z,122nm,1.2s,mb5.1						
NVS				pmax	pmax		
	comp=E,45nm,1.0s						
NVS				smax			
	comp=N,104nm,1.7s						
NVS				smax			
	comp=E,29nm,1.3s						
GTA	**Gaotai**	**21.59**	**70**	P	**P**	**13 02 19.7**	**+1.5**
GTA				PP		13 02 46.7	
GTA				S	**S**	**13 06 16.2**	**-1.1**
GTA				PCS	PcS	13 09 53.3	-4.9
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,150nm,5.0s						
GTA				LR	LR		
	comp=N,300nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=E,383nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=Z,573nm,13.8s,MS4.1						
QRN	**Al-Qurain**	**22.38**	**261**	*e*P	**P**	**13 02 26.5**	**0.0**
QRN				AMb	AMB	13 02 28.1	
	comp=Z,180nm,0.7s,mb5.6						
MIB	**Mutribah**	**22.47**	**264**	*e*P	**P**	**13 02 27.9**	**+0.3**
MIB				AMb	AMB	13 02 30.3	
	comp=Z,167nm,1.1s,mb5.4						
RDF	**Al-Radifah**	**22.61**	**262**	*e*P	**P**	**13 02 29.2**	**+0.2**
RDF				AMb	AMB	13 02 30.6	
	comp=Z,209nm,0.7s,mb5.7						
NAY	**Al-Naaiem**	**22.74**	**263**	*e*P	**P**	**13 02 30.6**	**+0.1**
NAY				AMb	AMB	13 02 34.0	
	comp=Z,108nm,1.0s,mb5.2						
GNI	**Garni**	**23.19**	**292**	P	**P**	**13 02 36.7**	**+1.5**
	comp=Z,8.0nm,0.5s,mb4.5,baz=45,slow=3.0,SNR=7.2						
GNI				LR	LR	13 13 55.0	
	comp=Z,142nm,18.7s,MS3.5,baz=331,slow=43						
ARU	**Arti**	**23.79**	**340**	⇓*i*P	**P**	**13 02 41.6**	**+0.5**
ARU				*e*		13 03 09.9	
ARU				*e*S	**S**	**13 06 55.1**	**-1.3**
ARU				*e*SS		13 07 38.3	
ARU				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
ARU				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,100nm,15.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,300nm,17.0s,MS3.9						
ARU	**Arti**	**23.79**	**340**	*e*P	**P**	**13 02 41.3**	**+0.2**
	comp=E,47nm,1.1s,mb4.8						
ZEI	**Tsey**	**24.13**	**298**	*i* P	**P**	**13 02 45.8**	**+1.6**
ZEI				*i* *PP		13 02 54.5	
ZEI				*i*		13 03 16.8	
ZEI				pmax	pmax		
	comp=Z,50nm,1.8s,mb4.6						
LZH	**Lanzhou**	**24.87**	**78**	*e*P	**P**	**13 02 52.2**	**+1.2**
LZH				AP		13 02 58.9	
LZH				XP	sP	13 03 02.2	+7.0
LZH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,600nm,4.2s						
LZH				LR	LR		
	comp=E,900nm,16.0s						
LZH				LR	LR		
	comp=Z,570nm,16.6s,MS4.2						
KRAR	**Krasnoyarsk**	**25.04**	**26**	*e*P	**P**	**13 02 52.0**	**-0.5**
KRAR				pmax	pmax		
	comp=Z,21nm,0.5s,mb4.9						
KRAR				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.1						
GOF	**Gofitskoye**	**25.18**	**303**	*e*P	**P**	**13 02 53.5**	**-0.4**
GOF				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
KIV	**Kislovodsk**	**25.20**	**300**	*c iP*	**P**	**13 02 56.2**	**+2.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
CD2	**Chengdu**	**25.84**	**90**	P	**P**	**13 03 01.0**	**+1.2**
CD2				PP		13 03 42.9	
CD2				S	**S**	**13 07 24.3**	**-5.1**
CD2				SS		13 08 32.0	
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,150nm,9.2s						
CD2				LR	LR		
	comp=N,340nm,16.8s						
CD2				LR	LR		
	comp=Z,170nm,10.8s						
MOY	**Mondy**	**26.01**	**41**	*e*P	**P**	**13 03 04.6**	**+3.2**
MOY				pmax	pmax		
	comp=Z,46nm,2.9s,mb4.5						
ZAK	**Zakamensk**	**26.73**	**45**	⇑*i*P	**P**	**13 03 09.3**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.0						
SOKR	**Solikamsk**	**26.97**	**341**	⇑*i*P	**P**	**13 03 11.8**	**+1.8**
SOKR				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
SOKR				MLR	MLR		
	comp=Z,450nm,20.0s,MS4.0						
KMI	**Kunming**	**27.21**	**103**	P	**P**	**13 03 16.3**	**+4.1**
KMI				S	**S**	**13 07 48.0**	**-3.0**
KMI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,213nm,4.0s						
KMI				LR	LR		
	comp=N,279nm,14.3s,MS4.1						
KMI				LR	LR		
	comp=E,169nm,10.9s,MS4.1						
KMI				LR	LR		
	comp=Z,213nm,14.1s,MS3.9						
TLY	**Talaya**	**27.48**	**43**	*e*P	**P**	**13 03 14.9**	**+0.3**
CHRT	**Chiangrai**	**27.76**	**116**	PG	**P**	**13 03 18.0**	**+0.9**
CHRT				SG	Px	13 03 22.0	
SONM	**Songino Array**	**27.79**	**52**	P	**P**	**13 03 19.0**	**+1.7**
	comp=Z,3.8nm,0.7s,mb4.2,baz=252,slow=9.1,SNR=23						
SONM				LR	LR	13 16 02.1	
	comp=Z,691nm,18.7s,MS4.3,baz=277,slow=40						
IRK	**Irkutsk**	**28.08**	**42**	*e*P	**P**	**13 03 19.8**	**-0.1**
IRK				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.6						
MALT	**Malatya**	**28.10**	**287**	*e*P	**P**	**13 03 22.3**	**+2.2**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
MALT	**Malatya**	**28.10**	**287**	*e*P	**P**

GYA AMB AMB
comp=Z,90nm,3.2s
GYA LR LR
comp=N,640nm,17.0s,MS4.5
GYA LR LR
comp=E,710nm,17.2s,MS4.5
GYA LR LR
comp=Z,730nm,18.0s,MS4.4
HHC Hu-ho-hao-te 30.63 67 *e*P **P 13 03 44.0 +1.5**
HHC AP pP 13 03 48.9 +3.3
HHC XP sP 13 03 51.3 +4.5
HHC PP PP 13 04 46.4 -5.2
HHC PCP PcP 13 06 37.9 -2.9
HHC S **S 13 08 48.6 +3.9**
HHC XS sS 13 08 54.6 +4.9
HHC SCP ScP 13 10 19.7 -3.7
HHC SCS ScS 13 14 14.7 -5.0
HHC AMB AMB
comp=Z,16nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,233nm,2.4s,mb5.6
HHC LR LR
comp=N,282nm,13.2s,MS4.3
HHC LR LR
comp=E,370nm,13.2s,MS4.3
HHC LR LR
comp=Z,284nm,15.6s,MS4.0
BR131 Keskin Array S 31.72 291 *e*P **P 13 03 52.0 -0.2**
comp=Z,3.5nm,0.7s,mb4.3
BRTR Keskin Array B 31.72 291 P **P 13 03 51.1 -1.1**
comp=Z,1.8nm,0.6s,mb4.1,baz=100,slow=7.5,SNR=8.2
BRTR PcP PcP 13 06 42.4 -1.3
comp=Z,1.9nm,0.7s,baz=100,slow=4.0,SNR=4.1
MOS Moscow 32.09 322 *e*P **P 13 03 54.5 -0.9**
MOS pmax pmax
comp=Z,47nm,0.8s,mb5.4
OBN Obninsk 32.38 320⇓*e*P **P 13 03 58.1 +0.2**
OBN *e* 13 05 01.4
OBN *e*SS SS 13 11 02.1 -29
OBN pmax pmax
comp=Z,39nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.9
OBN Obninsk 32.38 320 *e*P **P 13 03 58.0 +0.1**
KLMR Klimovskoe 33.80 331 *e*P **P 13 04 10.2 -0.2**
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.3
WHN Wuhan 34.65 85 ⇓P **P 13 04 19.7 +2.0**
AKASG Malin Array Be 35.41 310 P **P 13 04 23.3 -1.0**
comp=Z,4.2nm,0.5s,mb4.6,baz=80,slow=7.5,SNR=16
AKASG PP PP 13 05 37.7 -7.0
comp=Z,3.5nm,0.7s,baz=83,slow=11,SNR=4.9
AKASG PcP PcP 13 06 52.5 -1.6
comp=Z,0.5nm,0.3s,baz=89,slow=3.6,SNR=6.3
AKASG Malin Array Be 35.41 310 P **P 13 04 23.3 -1.0**
AKASG PP PP 13 05 37.7 -7.0
AKASG PcP PcP 13 06 52.5 -1.6
BOD Bodaibo 35.48 37 *e*P **P 13 04 23.0 -1.9**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MLR Muntele Rosu 37.20 301 P **P 13 04 40.9 +1.2**
comp=Z,15nm,0.9s,mb4.8,baz=124,slow=5.1,SNR=16
MLR LR LR 13 23 08.0
comp=Z,144nm,18.1s,MS3.8,baz=272,slow=41
JOF Joensuu 38.20 330 *e*p **P 13 04 48.4 +0.4**
comp=Z,34nm,0.6s,mb5.2
VSU Vasula 38.61 322 *d i*P **P 13 04 51.6 +0.1**
KULM Kulim 38.81 133 *e*P **P 13 04 54.2 +1.0**
LVZ Lovozero 39.65 338 *e*P **P 13 05 00.3 +0.1**
LVZ MLR MLR
comp=Z,840nm,16.0s,MS4.7
KOLS Kolonicke sedl 39.73 307 *e* **P 13 04 57.7 -3.2**
KOLS *e* 13 06 48.4
KOLS *e*PCP PcP 13 07 06.1 -1.2
APA Apatity 39.84 337⇓*e*P **P 13 05 07.0 +5.2**
APA *i* 13 05 24.0
APA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
FINES FINESS Array B 39.86 327 P **P 13 05 01.9 0.0**
comp=Z,17nm,0.8s,mb4.8,baz=118,slow=11,SNR=42
FINES LR LR 13 23 18.7
comp=Z,52nm,19.6s,MS3.4,baz=169,slow=39
KAF Kangasniemi 39.99 328 *e*p **P 13 05 02.6 -0.5**
comp=Z,5.9nm,0.5s,mb4.6
KAF Kangasniemi 39.99 328 *e*P **P 13 05 02.6 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
SSE Sheshan 40.06 81 P **P 13 05 04.4 +0.8**
SSE PP PP 13 06 37.2 +1.5
SSE S **S 13 11 05.7 -3.8**
SSE SS SS 13 14 05.6 -1.1
SSE AMB AMB
comp=Z,13nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,160nm,5.0s
SSE LR LR
comp=N,97nm,24.9s,MS3.6
SSE LR LR
comp=E,65nm,25.0s,MS3.6
SSE LR LR
comp=Z,81nm,15.4s
STHS Stebnicka Huta 40.42 307 *e*P **P 13 05 06.2 -0.4**
STHS *e*pP pP 13 05 10.2 +0.5
CN2 Changchun 40.73 61 *e*P **P 13 05 11.8 +2.6**
CLNS Chul'man 40.87 41 *e*P **P 13 05 09.2 -1.1**
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.5
CLNS pmax pmax
comp=E,9.0nm,1.0s
KECS Kecovo 40.91 306 *e*P **P 13 05 09.4 -1.3**
KECS *e* 13 06 34.5
KECS *e*PP PP 13 06 53.3 +8.3
DIVS Divcibare 41.51 299 *e*P **P 13 05 16.2 +0.6**
MORC Moravsky Berou 42.82 308 *e*P **P 13 05 26.1 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MORC Moravsky Berou 42.82 308 *e*P **P 13 05 26.1 -0.2**
comp=Z,3.6nm,0.6s,mb4.3
KEV Kevo 42.99 338 *e*p **P 13 05 25.8 -1.9**
comp=Z,17nm,0.8s,mb4.8
KEV Kevo 42.99 338 *e*P **P 13 05 25.8 -1.9**
KEV pmax pmax
comp=Z,17nm,0.8s,mb4.8
ARCES ARCESS Array B 43.35 338 P **P 13 05 31.2 +0.6**
comp=Z,16nm,0.6s,mb4.9,baz=118,slow=8.4,SNR=118
ARCES LR LR 13 24 47.9
comp=Z,462nm,19.4s,MS4.4,baz=285,slow=38
ARCES ARCESS Array B 43.35 338 P **P 13 05 31.2 +0.6**
ARCES LR LR 13 24 47.9
ARE0 ARCESS Array S 43.35 338 *e*P **P 13 05 30.9 +0.3**
VRAC Vranov 43.46 307 P **P 13 05 32.2 +0.7**
comp=Z,3.7nm,0.6s,mb4.3,baz=64,slow=5.0,SNR=4.6
VRAC LR LR 13 26 40.9
comp=Z,79nm,19.8s,MS3.6,baz=292,slow=40
DPC Dobruska-Polom 43.59 309 *e*P **P 13 05 32.9 +0.4**
DPC Dobruska-Polom 43.59 309 *e*P **P 13 05 23.7 -8.8**
DPC *e* 13 05 32.9
MDJ Mudanjiang 43.60 60 P **P 13 05 31.9 -0.7**
MDJ XP sP 13 05 38.6 +1.7
MDJ PP PP 13 07 12.5 -1.4
MDJ S **S 13 12 01.3 -0.6**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,39nm,3.1s
MDJ LR LR
comp=E,148nm,16.1s
MDJ LR LR
comp=Z,197nm,15.9s,MS4.1
KS15 Wonju Array Si 43.64 70 *e*P **P 13 05 34.8 +1.9**
UPC Upice 43.79 309 *e*P **P 13 05 33.1 -1.0**
YAK Yakutsk 44.23 34 *e*P **P 13 05 38.3 +0.7**
YAK *e* 13 07 17.1
YAK *e* 13 07 25.2
YAK *e*S **S 13 12 09.9 -1.2**
YAK *e* 13 15 19.1
YAK *e*SS SS 13 15 38.3 +9.3
YAK pmax pmax
comp=Z,30nm,1.2s,mb4.9
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
YAK smax
comp=N,5.0nm,1.2s
YAK smax
comp=E,3.0nm,1.1s
YAK Yakutsk 44.23 34 *e*P **P 13 05 37.8 +0.1**
comp=E,44nm,0.7s,mb5.3
PRU Pruhonice 44.76 308 *e*P **P 13 05 31.7 -10**
PRU *ex* x 13 05 42.0
BRG Berggiesshubel 45.09 310 *e*P **P 13 05 44.2 -0.3**
comp=E,2.7nm,0.8s,mb4.1
BRG *e* pP 13 05 48.6 +0.9
comp=E,3.6nm,0.7s
GERES GERESS Array B 45.39 307 P **P 13 05 46.7 -0.2**
comp=E,0.8nm,0.6s,mb3.7,baz=76,slow=5.5,SNR=6.3
GERES PcP PcP 13 07 25.3 -0.9
comp=E,1.4nm,0.7s,baz=90,slow=5.3,SNR=3.6
KHC Kasperske Hory 45.44 307 *ex* **P 13 05 47.3 0.0**
HFS Hagfors 45.48 323 P **P 13 05 47.5 -0.1**
comp=E,12nm,0.5s,mb5.0,baz=97,slow=9.1,SNR=56
CLL Collm 45.66 310⇓*i*P **P 13 05 48.7 -0.3**
TIXI Tiksi 46.60 21⇑*i*P **P 13 05 55.1 -1.3**
TIXI pmax pmax
comp=Z,16nm,0.7s,mb5.1
TIXI MLR MLR
comp=Z,463nm,16.0s,MS4.5
NB2 NORSAR Subarra 46.79 324 P **P 13 05 57.2 -0.7**
comp=Z,16nm,0.8s,mb5.0,baz=97,slow=7.9
NOA NORSAR Array B 46.79 324 P **P 13 05 57.3 -0.6**
comp=Z,12nm,0.7s,mb4.9,baz=96,slow=7.7,SNR=28
NOA LR LR 13 28 48.7
comp=Z,75nm,18.4s,MS3.7,baz=160,slow=40
HABR Khabarovsk 46.86 53 *e*P **P 13 05 55.7 -2.8**
HABR *e*S **S 13 12 41.3 -7.8**
GRA1 Grafenberg Arr 46.92 308 *e*P **P 13 05 59.7 +0.8**
comp=Z,7.0nm,0.7s,mb4.7
GRA1 *e*pP pP 13 06 11.7 +10
GRF Grafenberg Arr 46.92 308 *e*P **P 13 05 59.7 +0.8**
comp=Z,7.0nm,0.7s,mb4.7
GRF *e*pP pP 13 06 11.7 +10
GRF Grafenberg Arr 46.92 308 *e*P **P 13 05 59.7 +0.8**
GRF *e**PP pP 13 06 11.7 +10
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 46.92 308 *e*P **P 13 05 59.7 +0.8**
GRF *e**PP pP 13 06 11.7 +10
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KSM Kuching 47.88 126 *e*P **P 13 06 07.5 +1.1**
DAVA Damuels 48.12 305⇑*i*P **P 13 06 07.7 -0.6**
comp=Z,16nm,0.9s,mb5.0
DAVA Damuels 48.12 305⇑P **P 13 06 07.7 -0.6**
comp=Z,16nm,0.9s,mb5.1
DAVOX Davos 48.21 304 P **P 13 06 08.1 -0.8**
comp=Z,4.2nm,0.6s,mb4.7
KKM Kota Kinabalu 48.83 116 *e*P **P 13 06 15.4 +1.6**
KMBO Kilima Mbogo 49.19 231 P **P 13 06 16.9 +0.4**
comp=Z,5.1nm,0.7s,mb4.7,baz=29,slow=12,SNR=13
KMBO Kilima Mbogo 49.19 231 *e*P **P 13 06 17.9 +1.4**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 49.19 231 *e*P **P 13 06 17.9 +1.4**
comp=Z,5.6nm,0.8s,mb4.7
HINF Hinteralfeld 50.05 306 *e*P **P 13 06 21.7 -1.4**
SBF Sospel 50.48 301 *e*P **P 13 06 25.5 -0.8**
comp=Z,23nm,0.7s,mb5.0
LPG La Plagne 50.59 303 *e*P **P 13 06 26.7 -0.4**
comp=Z,27nm,0.8s,mb4.9
LPL La Plagne 50.60 303 *e*P **P 13 06 26.8 -0.4**
comp=Z,24nm,0.9s,mb4.8
MBDF Montbardon 50.74 302 *e*P **P 13 06 27.0 -1.3**
comp=Z,35nm,1.0s,mb4.9
CABF La Chapelle 50.80 305 *e*P **P 13 06 28.1 -0.6**
LMR La Mourre 51.26 301 *e*P **P 13 06 30.8 -1.4**
SMRF Simiane la Rot 51.76 302 *e*P **P 13 06 35.2 -0.7**
comp=Z,29nm,1.1s,mb4.8
MAJO Matsushiro 51.82 68 *e*P **P 13 06 36.8 +0.4**
MAJO pmax pmax
comp=Z,37nm,0.8s,mb5.4
MAJO Matsushiro 51.82 68 *e*P **P 13 06 36.8 +0.4**
comp=Z,37nm,0.8s,mb5.4
MAT Matsushiro 51.82 68 P **P 13 06 36.7 +0.3**
MAT Matsushiro 51.82 68 *e*P **P 13 06 37.0 +0.6**
MAT pmax pmax
comp=Z,34nm,0.9s,mb5.3
MAT Matsushiro 51.82 68 *e*P **P 13 06 37.0 +0.6**
comp=Z,34nm,0.9s,mb5.3
MJAR Matsushiro Arr 51.82 68 P **P 13 06 37.1 +0.7**
comp=Z,24nm,0.8s,mb5.2,baz=292,slow=9.8,SNR=44
LOR Lormes 52.15 306 *e*P **P 13 06 37.4 -1.4**
LOR *e*R
comp=Z,45nm,19.1s
YSS Yuzh-Sakhalins 52.25 54⇓*i*P **P 13 06 40.4 +0.8**
YSS pmax pmax
comp=Z,17nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 52.25 54 *e*P **P 13 06 40.0 +0.4**
comp=Z,16nm,1.0s,mb4.9
SMF Signal de Mont 52.30 305 *e*P **P 13 06 38.7 -1.3**
comp=Z,23nm,0.9s,mb4.8
SSF Saint Saulge 52.43 306 *e*P **P 13 06 39.5 -1.4**
comp=Z,16nm,1.0s,mb4.6
AVF Avril sur Loir 52.60 306 *e*P **P 13 06 40.8 -1.4**
comp=Z,32nm,1.1s,mb4.8
LASF Ste Croix 52.93 302 *e*P **P 13 06 44.2 -0.4**
comp=Z,31nm,1.0s,mb4.9
BGF Bois d'Agland 52.99 305 *e*P **P 13 06 43.8 -1.3**
TCF Toulx Ste Croi 53.48 305 *e*P **P 13 06 47.8 -0.9**
comp=Z,14nm,0.8s,mb4.6
CAF Calviac 53.94 304 *e*P **P 13 06 51.4 -0.6**
comp=Z,8.2nm,0.7s,mb4.5
LDF La Druitiere 54.44 309 *e*P **P 13 06 54.1 -1.6**
MA2 Magadan 54.50 38 *ce*P **P 13 06 56.8 +0.7**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MA2 Magadan 54.50 38 *e*P **P 13 06 56.9 +0.7**
comp=Z,7.9nm,0.6s,mb4.9
FLN La Foliniere 54.63 309 *e*P **P 13 06 55.4 -1.7**
FLN *e*R
comp=Z,74nm,23.0s
SEY Seymchan 54.74 33 *e*P **P 13 06 59.2 +1.4**
SEY *e* 13 07 58.8
SEY 13 08 55.9
SEY *e*S **S 13 14 36.7 -1.6**
SEY 13 16 46.6
SEY pmax pmax
comp=E,9.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s,mb5.0
SEY pmax pmax
comp=N,3.0nm,0.8s
SEY smax
comp=N,70nm,6.4s
SEY smax
comp=E,110nm,5.5s
SEY MLR MLR
comp=Z,250nm,17.0s,MS4.3
SEY MLR MLR
comp=N,42nm,19.0s,MS4.0
SEY MLR MLR
comp=E,101nm,15.0s,MS4.0
EKA Eskdalemuir Ar 54.74 317 P **P 13 06 57.3 -0.6**
comp=E,1.3nm,0.5s,mb4.2,baz=100,slow=7.1,SNR=8.0
LFF La Frestale 54.84 304 *e*P **P 13 06 57.7 -0.9**
GRR Gorron 54.97 308 *e*P **P 13 06 57.9 -1.6**
comp=E,31nm,1.0s,mb5.0
MFF Saint Martin d 54.98 306 *e*P **P 13 06 57.9 -1.7**
comp=E,19nm,1.0s,mb4.8
ETSF Etsaut 56.35 302 *e*P **P 13 07 08.8 -0.6**
comp=E,16nm,0.6s,mb4.9
SJPF Ste Jean 56.74 302 *e*P **P 13 07 11.7 -0.5**
DAG Danmarks Havn 56.80 344⇓*i*P **P 13 07 12.2 -0.5**
comp=E,5.0nm,0.9s,mb4.5
DAG Danmarks Havn 56.80 344⇓*e*P **P 13 07 12.2 -0.5**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DAG Danmarks Havn 56.80 344⇓*e*P **P 13 07 12.2 -0.5**
comp=Z,5.0nm,0.9s,mb4.5
ELAN Lanestosa 58.23 303 P **P 13 07 24.9 +2.2**
comp=Z,6.7nm,0.8s,mb4.7
BILL Bilibino 59.25 26⇑*e*P **P 13 07 30.6 +0.8**
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.3
BILL Bilibino 59.25 26 *e*P **P 13 07 30.3 +0.5**
comp=Z,13nm,1.3s,mb4.8
EARI Arriondas 59.42 304 P **P 13 07 31.4 +0.4**
comp=Z,41nm,1.6s,mb5.2
ENIJ Nijar 59.61 296 P **P 13 07 30.6 -1.7**
ENIJ pmax pmax
comp=Z,13nm,2.2s,mb4.6
ENIJ Nijar 59.61 296 P **P 13 07 30.6 -1.8**
comp=Z,13nm,2.2s,mb4.6
GUD Guadarrama 59.64 301 P **P 13 07 33.0 +0.5**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GUD Guadarrama 59.64 301 P **P 13 07 33.0 +0.4**
comp=Z,7.1nm,0.8s,mb4.8
ESDC Sonseca Array 59.87 299 P **P 13 07 33.9 -0.1**
comp=Z,5.5nm,0.9s,mb4.6,baz=66,slow=6.8,SNR=12
ESDC Sonseca Array 59.87 299 P **P 13 07 33.5 -0.5**
comp=Z,4.4nm,0.8s,mb4.5
ESLA Sonseca Array 59.87 299 *e*P **P 13 07 33.6 -0.5**
comp=Z,1.7nm,0.9s,mb4.1
EQES Quesada 59.93 297 P **P 13 07 34.1 -0.4**
comp=Z,8.6nm,0.8s,mb4.8
EBER Berja 60.15 296 P **P 13 07 35.5 -0.5**
comp=Z,90nm,1.6s,mb5.5
PET Petropavlovsk 60.41 44 *e*P **P 13 07 37.6 -0.2**
PET pmax pmax
comp=Z,16nm,1.7s,mb4.8
EADA Adamuz 60.89 298 P **P 13 07 40.7 -0.4**
comp=Z,6.4nm,0.9s,mb4.8
ECAL Calabor 60.97 303 P **P 13 07 41.3 -0.3**
comp=Z,26nm,1.6s,mb5.1
ELOB Lobios 61.91 303 P **P 13 07 48.4 +0.4**
comp=Z,11nm,0.6s,mb5.2
EMAZ Mazaricos 62.11 305 P **P 13 07 50.6 +1.3**
comp=Z,7.8nm,0.7s,mb5.0
MTE Manteigas 62.12 301 *e*P **P 13 07 50.3 +0.9**
comp=Z,31nm,1.0s,mb5.4
PVIS Viseu 62.24 302 *e*P **P 13 07 50.7 +0.5**
comp=Z,21nm,1.0s,mb5.2
EBAD Badajoz 62.41 300 P **P 13 07 51.3 0.0**
comp=Z,18nm,0.8s,mb5.2
EMIN Mina Concepcio 62.56 298 P **P 13 07 52.6 +0.2**
comp=Z,7.2nm,0.9s,mb4.8
PTOM Tomar 63.05 301 *e*P **P 13 07 56.0 +0.4**
comp=Z,43nm,1.1s,mb5.5
MDT Midelt 63.12 293 P **P 13 07 55.8 -0.3**
comp=Z,4.8nm,1.0s,mb4.6,baz=68,slow=8.7,SNR=5.1
SUMG Summit 63.19 342 *e*P **P 13 07 57.2 +0.7**
comp=Z,20nm,0.9s,mb5.3
EGRO El Granado 63.24 299 P **P 13 07 56.4 -0.4**
comp=Z,12nm,0.8s,mb5.1
PBEJ Beja 63.32 299 *e*P **P 13 07 58.0 +0.6**
LSZ Lusaka 65.73 229 *e*P **P 13 08 13.3 +0.2**
LSZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
LSZ Lusaka 65.73 229 *e*P **P 13 08 13.3 +0.2**
comp=Z,6.1nm,1.1s,mb4.5
TORD Torodi Ar. Bea 67.57 271 P **P 13 08 24.6 -0.3**
comp=Z,34nm,0.6s,mb5.6,baz=46,slow=5.5,SNR=374
TNA Tin City 69.34 23 *e*P **P 13 08 35.6 -0.3**
comp=Z,6.8nm,0.9s,mb4.6
SFJD Kangerlussuaq 69.93 340 LR LR 13 39 11.0
comp=Z,91nm,18.5s,MS4.1,baz=0.3,slow=36
SFJD Kangerlussuaq 69.93 340 *i* P **P 13 08 39.3 -0.3**
comp=Z,16nm,0.8s,mb5.0
SFJD Kangerlussuaq 69.93 340 *i* P **P 13 08 39.3 -0.3**
SFJD pmax pmax
comp=Z,16nm,0.8s,mb5.0
MBWA Marble Bar 71.06 134 *e*P **P 13 08 46.0 -0.5**
comp=Z,5.2nm,0.6s,mb4.6
FITZ Fitzroy Crossi 72.43 128 *e*P **P 13 08 55.4 +0.6**
comp=Z,10nm,1.1s,mb4.7
IMA2 Indian Mountai 73.09 18 *e*P **P 13 08 58.5 -0.2**
LBTB Lobatse 74.77 224 *e*P **P 13 09 09.1 +0.6**
LBTB pmax pmax
comp=Z,15nm,0.9s,mb4.9
LBTB Lobatse 74.77 224 *e*P **P 13 09 09.1 +0.6**
comp=Z,15nm,0.9s,mb4.9
TSUM Tsumeb 75.42 234 *e*P **P 13 09 13.1 +0.8**
comp=Z,8.3nm,1.1s,mb4.6
COLA College 75.50 17 *d i*P **P 13 09 13.1 +0.4**
COLA College 75.50 17 *e*P **P 13 09 12.8 +0.1**
ILAR Eielson Array 75.81 17 P **P 13 09 12.8 -1.8**
comp=Z,6.4nm,0.9s,mb4.6,baz=312,slow=4.9,SNR=17
MCK McKinley 76.18 18 *e*P **P 13 09 16.3 -0.3**
FRB Frobisher Bay 77.15 344 P **P 13 09 20.9 -1.1**
comp=Z,7.4nm,0.8s,mb4.7,baz=34,slow=8.9,SNR=5.3
BOSA Boshof 77.75 222 P **P 13 09 25.6 +0.2**
comp=Z,13nm,0.6s,mb5.1,baz=35,slow=5.0,SNR=57
SML Sawmill 77.93 19 *e*P **P 13 09 26.5 +0.1**
KLBR Kellerberrin 78.23 142 *e*P **P 13 09 27.0 -1.1**
comp=Z,22nm,1.1s,mb5.0
WRA Warramunga Arr 79.55 123 P **P 13 09 35.9 +0.5**
comp=Z,12nm,0.8s,mb4.8,baz=323,slow=5.1,SNR=104
WRA PKKPbc PKKPbc 13 28 23.8 +0.3
comp=Z,0.8nm,0.6s,baz=134,slow=2.1,SNR=13
WRAB Tennant Creek 79.55 123 *c i*P **P 13 09 36.2 +0.8**
WRAB Tennant Creek 79.55 123 *e*P **P 13 09 35.9 +0.5**
comp=Z,13nm,0.7s,mb5.0
WB2 Warramunga Arr 79.56 123 *e*P **P 13 09 35.9 +0.5**
ASAR Alice Springs 81.80 126 P **P 13 09 47.7 +0.3**
comp=Z,9.3nm,0.7s,mb4.8,baz=310,slow=5.2,SNR=118
ASAR PKKPbc PKKPbc 13 28 18.8 +0.4
comp=Z,0.3nm,0.6s,baz=127,slow=1.6,SNR=4.9
YKA Yellowknife Ar 82.76 4 P **P 13 09 52.3 -0.1**
comp=Z,17nm,0.7s,mb5.2,baz=347,slow=5.3,SNR=382
YKA PKKPbc PKKPbc 13 28 14.5 -1.6
comp=Z,0.1nm,0.6s,baz=164,slow=2.2,SNR=5.5
YKA LR LR 13 50 52.6
comp=Z,77nm,18.1s,MS4.1,baz=215,slow=39
YKA Yellowknife Ar 82.76 4 P **P 13 09 52.3 -0.1**
YKA PKKPbc PKKPbc 13 28 14.6 -1.6
YKA LR LR 13 50 52.6
SCHQ Schefferville 84.30 338 P **P 13 09 59.8 -0.6**
comp=Z,4.0nm,0.7s,mb4.6,baz=54,slow=5.2,SNR=5.4
SCHQ LR LR 13 47 00.5
comp=Z,74nm,18.9s,MS4.1,baz=267,slow=35
SCHQ Schefferville 84.30 338 *e*P **P 13 09 59.7 -0.7**
CTA Charters Tower 88.17 116 *e*P **P 13 10 19.9 +0.5**
comp=Z,4.8nm,0.6s,mb4.9
CTAO Charters Tower 88.17 116 *e*P **P 13 10 19.4 0.0**
CTAO pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
CTAO Charters Tower 88.17 116 *e*P **P 13 10 19.4 0.0**
comp=Z,7.0nm,0.7s,mb5.0
STKA Stephens Creek 92.33 128 P **P 13 10 36.8 -2.0**
comp=Z,1.8nm,0.8s,mb4.4,baz=340,slow=16,SNR=4.5
ULM Lac du Bonnet 94.70 353 P **P 13 10 48.7 -1.0**
comp=Z,0.6nm,0.3s,mb4.5,baz=359,slow=8.4,SNR=3.7
YBH Yreka Blue Hor 102.36 12 P Pdif 13 11 24.4 +0.2
comp=Z,1.3nm,0.7s,baz=343,slow=2.6,SNR=2.7
PDAR Pinedale Array 102.69 2 PKiKP PKiKP 13 15 46.8 +0.4
comp=Z,0.4nm,0.7s,baz=0.0,slow=5.4,SNR=2.5
TXAR Lajitas Array 116.07 357 PKP PKPdf 13 16 11.5 0.0
comp=Z,0.3nm,0.7s,baz=153,slow=2.8,SNR=4.1
TXAR PKKPbc PKKPbc 13 26 41.0 -0.5
comp=Z,0.4nm,0.8s,baz=181,slow=7.8,SNR=4.9
VNDA Vanda 123.44 165 PKP PKPdf 13 16 23.9 -1.8
comp=Z,2.8nm,1.0s,baz=334,slow=4.8,SNR=4.8
VNDA Vanda 123.44 165 PKIKP PKPdf 13 16 23.9 -1.8
VNDA pmax pmax
comp=Z,3.0nm,1.0s
SDV Santo Domingo 124.70 315 PKP PKPdf 13 16 27.4 -0.7
comp=Z,1.2nm,0.4s,baz=104,slow=8.3,SNR=2.9
SDV Santo Domingo 124.70 315 *e*PKPdf PKPdf 13 16 28.1 0.0
SIV San Ignacio 135.13 283 PKP PKPdf 13 16 48.6 +0.7
comp=Z,0.6nm,0.4s,baz=123,slow=11,SNR=5.9
CPUP Villa Florida 137.01 267 *e*PKIKP PKPdf 13 16 50.3 -1.1
TRQA Tornquist 144.14 252 *e*PKPdf PKPdf 13 17 02.2 -2.0
NNA Nana 144.59 303 *e*PKPdf PKPdf 13 17 04.2 -0.8
LVC Limon Verde 144.88 280 PKP PKPdf 13 17 05.2 -0.3
comp=Z,16nm,0.7s,baz=42,slow=2.5,SNR=24
LVC Limon Verde 144.88 280 *e*PKPdf PKPdf 13 17 05.2 -0.4
PLCA Paso Flores 150.98 248 PKPbc PKPbc 13 17 20.0 -1.3
comp=Z,5.2nm,1.0s,baz=136,slow=2.5,SNR=7.2
PLCA Paso Flores 150.98 248 PKIKP PKPdf 13 17 20.0 +4.5
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA Paso Flores 150.98 248 *e*PKPbc PKPbc 13 17 22.3 +1.0

MEX 08 13:02:16.4±0.5, 1682N×10015W, h8km±3km, MD3.5, 1C,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**79**	*i* P	Pg	13 02 20.5	-0.4
ACX				*i* S	Sg	13 02 24.0	+0.1

CAIG	**El Cayaco**	**0.25**	**333**	⇑*i*P	Pg	13 02 21.2	-0.2
CAIG				*i*S	Sg	13 02 24.8	0.0
MEIG	**Mezcala**	**1.21**	**25**	*i*P	Pb	13 02 35.8	-3.7
MEIG				*i*S	Sg	13 02 51.1	-4.1
PLIG	**Platanillo**	**1.68**	**21**	*i*P	Pn	13 02 43.4	-2.7
PLIG				*i*S	Sn	13 03 02.4	-5.4

*ISCJB **08** 13:11:27.7±2.0, 349N±02×726E±04, h33km, Error ellipse: s-maj=51.7km s-min=10.9km az=125.5*
*NNC **08** 13:11:29.3±10.0, 3493N×7161E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=449.7km s-min=99.7km az=87.0*
ISC 08 13:11:28.9±2.0, 347N±02×725E±04, h35km, n4, σ0§37/6, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.52**	**130**	*e*P	**Pn**	**13 12 21.3**	**+0.1**
THN				*e*S	**Sn**	**13 13 08.3**	**+6.7**
KK31	**Karatay Array**	**8.51**	**350**	⇑P	**Pn**	**13 13 29.6**	**0.0**
	0.7nm,0.4s,baz=158,slow=12,SNR=19						
KK31				⇓S	**Sn**	**13 15 04.6**	**+0.3**
	0.5nm,0.4s,baz=185,slow=24,SNR=6.7						
BVA0	**Borovoye Array**	**18.36**	**356**	P	**Pn**	**13 15 40.1**	**-0.5**
	baz=0.0,slow=0.1,SNR=5.8						
AKTO	**Aktyubinsk**	**18.93**	**330**	P	**Pn**	**13 15 47.7**	**+0.1**

*IDC **08** 13:24:42.7±0.7, 3484N×7323E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.2/24, mbtmp4.2/17, ML3.8/3, Error ellipse: s-maj=18.3km s-min=16.4km az=114.0*
*ISCJB **08** 13:24:43.2±0.3, 3488N±002×7340E±004, h10km, mb4.2/25, MS3.9/2, Error ellipse: s-maj=5.3km s-min=3.1km az=142.9*
*BJI **08** 13:24:43.8, 3480N×7330E, h10km, mB5.0, mb4.7, ML4.2, Ms4.5, Msz4.3*
*NEIC **08** 13:24:43.9±0.6, 3475N×7328E, h10km, mb4.1/6, Error ellipse: s-maj=13.0km s-min=5.7km az=53.0*
*MOS **08** 13:24:45.6±1.3, 3481N×7334E, h33km, mb4.4/11, Error ellipse: s-maj=14.8km s-min=7.6km az=93.1*
*NDI **08** 13:24:48.4±2.8, 3459N×7308E, h10km, MD4.1, ML4.1, mb4.1(NEIC)*
*NNC **08** 13:24:50.4±2.7, 3537N×7285E, h0km, mb4.0, mpv4.2, Error ellipse: s-maj=31.5km s-min=21.3km az=79.0*
ISC 08 13:24:44.9±0.3, 3487N±002×7334E±004, h10km, n105, σ1§48/128, mb4.2/25, MS3.9/2, 7C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.21**	**183**	⇓P	**Pb**	**13 25 07.6**	**-0.3**
CEP	**Cherat**	**1.58**	**229**	P	**Pn**	**13 25 12.3**	**-0.6**
THW	**Thamme Wali**	**2.46**	**213**	⇑P	**Pn**	**13 25 26.4**	**+1.4**
SARP	**Sargodha**	**2.99**	**191**	P	**Pn**	**13 25 33.5**	**+1.1**
THN	**Thein Dam**	**3.14**	**140**	*e*P	**Pn**	**13 25 37.7**	**+3.4**
THN				*e*x	x	13 26 25.0	
DLH	**Dalhousie**	**3.19**	**136**	*e*P	**Pn**	**13 25 39.0**	**+3.9**
DLH				*e*x	x	13 26 29.0	
SBDP	**Sheikh Budin**	**3.32**	**220**	P	**Pn**	**13 25 38.0**	**+1.1**
PONG	**Pong**	**3.64**	**142**	*e*P	**Pn**	**13 25 45.0**	**+3.8**
PONG				*e*x	x	13 26 43.0	
DRP	**Derazinda**	**4.08**	**221**	P	**Pn**	**13 25 48.6**	**+1.3**
BHK	**Bhakra**	**4.30**	**142**	*e*x	x	13 26 08.3	
BHK				*e*x	x	13 26 47.8	
SDNR	**Sundarnagar**	**4.53**	**137**	*e*P	**Pn**	**13 25 56.2**	**+2.6**
SDNR				*e*S	**Sn**	**13 26 47.6**	**+1.3**
SMLA	**Simla**	**4.92**	**138**	*e*P	**Pn**	**13 26 00.8**	**+1.9**
SMLA				*e*P		13 26 00.8	
SMLA				*e*S	**Sn**	**13 26 55.9**	**-0.1**
KLP	**Kalpa**	**5.29**	**128**	*e*P	**Pn**	**13 26 06.9**	**+2.9**
KLP				*e*S	**Sn**	**13 27 04.4**	**-0.6**
KLP				AML	AML	13 27 43.4	
	comp=N,764nm,0.6s						
KLP				AML	AML	13 27 45.9	
	comp=E,1μm,0.3s						
DDI	**Dehra Dun**	**6.03**	**137**	*e*p	**Pn**	**13 26 15.9**	**+1.8**
DDI				*e*x	x	13 27 07.4	
NDI	**New Delhi**	**7.00**	**151**	*e*x	x	13 25 40.0	
NDI				*e*x	x	13 26 21.0	
AYAN	**Aya Nagar**	**7.14**	**152**	*e*P	**Pn**	**13 26 30.8**	**+1.4**
AYAN				*e*S	**Sn**	**13 27 44.5**	**-5.9**
KUDL	**Kundal**	**7.22**	**157**	*e*P	**Pn**	**13 26 30.6**	**+0.1**
KUDL				*e*S	**Sn**	**13 27 47.0**	**-5.5**
KUDL				AML	AML	13 28 43.3	
	comp=E,104nm,0.5s						
KUDL				AML	AML	13 28 43.7	
	comp=N,77nm,0.5s						
AML	**Almayashu**	**7.25**	**2**	P	**Pn**	**13 26 34.5**	**+3.6**
	SNR=28						
SONA	**Sohna**	**7.33**	**153**	*e*P	**Pn**	**13 26 32.9**	**+0.9**
SONA				*e*S	**Sn**	**13 27 47.4**	**-7.8**
SONA				AML	AML	13 28 54.2	
	comp=N,60nm,0.7s						
SONA				AML	AML	13 28 54.8	
	comp=E,161nm,0.6s						
KZA	**Kyzart**	**7.35**	**11**	P	**Pn**	**13 26 35.7**	**+3.4**
	SNR=9.8						
UCH	**Uchtor**	**7.40**	**7**	P	**Pn**	**13 26 36.5**	**+3.5**
	SNR=10						
ULHL	**Ulahol**	**7.71**	**16**	P	**Pn**	**13 26 41.5**	**+4.3**
	SNR=6.7						
EKS2	**Erkin-Say**	**7.79**	**2**	P	**Pn**	**13 26 41.8**	**+3.6**
	SNR=16						
AAK	**Ala-Archa**	**7.80**	**6**	*e*P	**Pn**	**13 26 40.8**	**+2.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**7.80**	**6**	*e*Pn	**Pn**	**13 26 40.8**	**+2.3**
	comp=Z,10nm,0.8s						
PTH	**Pithoragarh**	**7.88**	**130**	*e*P	**Pn**	**13 26 43.1**	**+3.6**
PTH				*e*S	**Sn**	**13 28 05.3**	**-3.4**
LGTI	**Lohaghat**	**7.97**	**131**	*e*P	**Pn**	**13 26 43.0**	**+2.3**
LGTI				*e*x	x	13 28 10.0	
TKM2	**Tokmak 2**	**8.23**	**12**	P	**Pn**	**13 26 53.1**	**+8.8**
	SNR=7.3						
TKM2	**Tokmak 2**	**8.23**	**12**	⇓Pn	**Pn**	**13 26 48.2**	**+3.9**
	comp=Z,10nm,0.7s						
TKM2				⇑Sn	**Sn**	**13 28 16.1**	**-1.3**
	comp=Z,8.6nm,0.5s						
TKM2				⇑Rg		13 29 43.5	
	comp=Z,295nm,11.2s						
AJM	**Ajmer**	**8.44**	**172**	*i*P	**Pn**	**13 26 47.0**	**-0.2**
AJM				*i*x	x	13 28 19.0	
KK31	**Karatay Array**	**8.51**	**346**	⇑Pn	**Pn**	**13 26 49.9**	**+1.7**
	comp=Z,5.0nm,0.4s,baz=154,slow=12,SNR=198						
KK31				⇓Sn	**Sn**	**13 28 23.8**	**-0.5**
	comp=Z,5.4nm,0.5s,baz=181,slow=25,SNR=5.3						
AGRA	**Agra**	**8.58**	**151**	*e*P	**Pn**	**13 26 49.9**	**+0.8**
AGRA				*e*S	**Sn**	**13 28 20.0**	**-5.9**
AGRA				AML	AML	13 29 26.8	
	comp=N,137nm,0.5s						
AGRA				AML	AML	13 29 31.5	
	comp=E,166nm,0.7s						
KOLN	**Koldanda**	**11.27**	**126**	*e*Pn	**Pn**	**13 27 25.9**	**0.0**
KOLN				*e*Sn	**Sn**	**13 29 28.8**	**-3.1**
	comp=E,37nm,0.5s						
KOLN	**Koldanda**	**11.27**	**126**	*e*Pn	**Pn**	**13 27 25.9**	**0.0**
	comp=E,18nm,0.5s						
KOLN				*e*Sn	**Sn**	**13 29 28.8**	**-3.1**
GKN	**Gorkha**	**11.82**	**122**	*e*Pn	**Pn**	**13 27 31.0**	**-2.5**
GKN				*e*Sn	**Sn**	**13 29 39.5**	**-6.0**
	comp=E,62nm,0.4s						
GKN	**Gorkha**	**11.82**	**122**	*e*Pn	**Pn**	**13 27 31.0**	**-2.5**
	comp=E,31nm,0.4s						
GKN				*e*Sn	**Sn**	**13 29 39.5**	**-6.0**
DMN	**Daman**	**12.39**	**123**	*e*Pn	**Pn**	**13 27 40.0**	**-1.3**
DMN				*e*Sn	**Sn**	**13 29 54.2**	**-5.3**
	comp=E,56nm,0.6s						
DMN	**Daman**	**12.39**	**123**	*e*Pn	**Pn**	**13 27 40.0**	**-1.3**
	comp=E,28nm,0.6s						
DMN				*e*Sn	**Sn**	**13 29 54.2**	**-5.3**
KKN	**Kakani**	**12.40**	**121**	*e*Pn	**Pn**	**13 27 40.1**	**-1.4**
KKN				*e*Sn	**Sn**	**13 29 53.7**	**-6.0**
	comp=E,49nm,0.6s						
KKN	**Kakani**	**12.40**	**121**	*e*P	**Pn**	**13 27 40.1**	**-1.4**
KKN				*e*		13 29 53.7	
KKN				pmax	pmax		
	comp=Z,24nm,0.6s						
KKN	**Kakani**	**12.40**	**121**	*e*Pn	**Pn**	**13 27 40.1**	**-1.4**
	comp=Z,24nm,0.6s						
KKN				*e*Sn	**Sn**	**13 29 53.7**	**-6.0**
PKI	**Pulchoki**	**12.63**	**122**	*e*Pn	**Pn**	**13 27 42.9**	**-1.6**
PKI				*e*Sn	**Sn**	**13 29 59.4**	**-5.8**
	comp=Z,25nm,0.4s						
PKI	**Pulchoki**	**12.63**	**122**	*e*P	**Pn**	**13 27 42.9**	**-1.6**
PKI				*e*		13 29 59.4	
PKI				pmax	pmax		
	comp=Z,13nm,0.4s						
PKI	**Pulchoki**	**12.63**	**122**	*e*Pn	**Pn**	**13 27 42.9**	**-1.6**
	comp=Z,13nm,0.4s						
PKI				*e*Sn	**Sn**	**13 29 59.4**	**-5.8**
GUN	**Gumba**	**12.76**	**120**	*e*Pn	**Pn**	**13 27 45.0**	**-1.3**
JIRN	**Jiri**	**13.13**	**120**	*e*Pn	**Pn**	**13 27 50.1**	**-1.2**
JIRN				*e*Sn	**Sn**	**13 30 10.0**	**-7.4**
	comp=Z,44nm,0.5s						
JIRN	**Jiri**	**13.13**	**120**	*e*Pn	**Pn**	**13 27 50.1**	**-1.2**
	comp=Z,22nm,0.5s						
JIRN				*e*Sn	**Sn**	**13 30 10.0**	**-7.4**
MK31	**Makanchi Array**	**13.69**	**27**	⇑P	**Pn**	**13 28 01.0**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=208,slow=12,SNR=16						
MKAR	**Makanchi Array**	**13.69**	**27**	Pn	**Pn**	**13 28 00.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=206,slow=15,SNR=14						
WMQ	**Urumqi**	**14.24**	**47**	*e*P	**Pn**	**13 28 10.8**	**+4.2**
WMQ				S	**Sn**	**13 30 47.8**	**+3.2**
WMQ				XS		13 31 00.8	
WMQ				SS		13 31 06.8	
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,102nm,3.0s						
WMQ				LR	LR		
	comp=N,326nm,5.0s						
WMQ				LR	LR		
	comp=E,412nm,5.0s						
WMQ				LR	LR		
	comp=Z,358nm,5.0s						
LSA	**Lhasa**	**15.91**	**104**	P	**Pn**	**13 28 34.0**	**+5.1**
LSA	**Lhasa**	**15.91**	**104**	*e*P	**Pn**	**13 28 33.7**	**+4.8**
	comp=Z,9.1nm,0.7s						
KURK	**Kurchatov**	**16.30**	**12**	⇓P	**Pn**	**13 28 33.1**	**-0.7**
	comp=Z,4.7nm,1.1s						
KURK	**Kurchatov**	**16.30**	**12**	*e*P	**Pn**	**13 28 33.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURK	**Kurchatov**	**16.30**	**12**	*e*P	**Pn**	**13 28 33.0**	**-0.8**
	comp=Z,8.3nm,1.0s						
VOSK	**Vostochnaya**	**17.93**	**355**	⇑P	**Pn**	**13 28 52.1**	**-2.2**
	comp=Z,4.8nm,1.1s						
HYB	**Hyderabad**	**18.00**	**164**	*i*P	**Pn**	**13 28 52.0**	**-3.1**
HYB				*e*S	Sn	13 32 34.0	+18
HYB	**Hyderabad**	**18.00**	**164**	*e*P	**Pn**	**13 28 57.0**	**+1.9**
HYB				*e*S	**Sn**	**13 32 30.0**	**+14**
BVA0	**Borovoye Array**	**18.27**	**354**	⇓P	**Pn**	**13 28 57.3**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=167,slow=13,SNR=36						
BVAR	**Borovoye Array**	**18.27**	**354**	P	**Pn**	**13 28 56.7**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=168,slow=14,SNR=36						
BRVK	**Borovoye**	**18.31**	**354**	*e*P	**Pn**	**13 28 59.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**18.31**	**354**	*e*P	**Pn**	**13 28 59.3**	**+0.3**
	comp=Z,3.3nm,0.7s						
AKTK	**Aktyubinsk**	**19.15**	**329**	P	**Pn**	**13 29 08.2**	**-0.9**
AKTO	**Aktyubinsk**	**19.15**	**329**	⇑P	**Pn**	**13 29 07.9**	**-1.2**
	comp=Z,2.1nm,1.1s						
AKTO	**Aktyubinsk**	**19.15**	**329**	P	**Pn**	**13 29 08.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=135,slow=11,SNR=27						
AKTO	**Aktyubinsk**	**19.15**	**329**	P	**Pn**	**13 29 08.2**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.70**	**19**	P	**P**	**13 29 24.1**	**-1.1**
	comp=Z,4.0nm,0.3s,baz=264,slow=9.8,SNR=22						
NVS	**Novosibirsk**	**21.12**	**16**	*e*P	**P**	**13 29 25.2**	**-4.6**
NVS				*e*S	**S**	**13 33 26.7**	**+2.0**
NVS				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.3						
NVS				pmax	pmax		
	comp=N,23nm,1.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.9s						
NVS				smax			
	comp=N,14nm,1.8s						
NVS				smax			
	comp=E,8.0nm,1.8s						
GTA	**Gaotai**	**21.55**	**70**	*e*P	**P**	**13 29 35.2**	**+0.8**
GTA				AP		13 29 39.3	
GTA				XP	sP	13 29 42.4	+3.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.9						
GNI	**Garni**	**23.24**	**292**	P	**P**	**13 29 56.9**	**+4.6**
	comp=Z,5.3nm,0.5s,mb4.3,baz=58,slow=9.5,SNR=4.2						
GNI	**Garni**	**23.24**	**292**	P	**P**	**13 29 56.9**	**+4.6**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARU	**Arti**	**23.81**	**339**	*e*P	**P**	**13 29 56.5**	**-1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ARU	**Arti**	**23.81**	**339**	*e*P	**P**	**13 29 56.5**	**-1.4**
	comp=Z,3.6nm,0.6s,mb4.0						
CD2	**Chengdu**	**25.80**	**90**	*e*P	**P**	**13 30 14.1**	**-1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**26.70**	**45**	*e*P	**P**	**13 30 24.5**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.9						
SONM	**Songino Array**	**27.76**	**52**	P	**P**	**13 30 35.0**	**+1.2**
	comp=Z,0.9nm,0.8s,mb3.5,baz=249,slow=8.9,SNR=7.7						
HHC	**Hu-ho-hao-te**	**30.59**	**67**	*e*P	**P**	**13 30 57.3**	**-1.5**
HHC				AP	pP	13 31 08.7	+6.8
HHC				XP	sP	13 31 14.7	+12
HHC				PP	PP	13 31 57.9	-10
HHC				PCP	PcP	13 33 57.7	+0.4
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,138nm,4.8s						
HHC				LR	LR		
	comp=N,183nm,13.2s,MS4.0						
HHC				LR	LR		
	comp=E,162nm,13.2s,MS4.0						
HHC				LR	LR		
	comp=Z,168nm,13.2s,MS3.9						
ENH	**Enshi**	**30.70**	**88**	*e*P	**P**	**13 31 01.0**	**+1.2**
	comp=Z,9.9nm,1.1s,mb4.5						
JOF	**Joensuu**	**38.23**	**330**	*e*p	**P**	**13 32 04.9**	**0.0**
	comp=Z,4.1nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**39.89**	**327**	P	**P**	**13 32 18.0**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.1,baz=112,slow=10,SNR=7.6						
FINES	**FINESS Array B**	**39.89**	**327**	P	**P**	**13 32 18.0**	**-0.8**
ARCES	**ARCESS Array B**	**43.37**	**338**	P	**P**	**13 32 46.6**	**-0.7**
	comp=Z,3.5nm,0.7s,mb4.2,baz=120,slow=7.5,SNR=11						
YAK	**Yakutsk**	**44.21**	**34**	*e*P	**P**	**13 32 55.6**	**+1.5**
YAK				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.3						
YAK	**Yakutsk**	**44.21**	**34**	*e*P	**P**	**13 32 55.6**	**+1.5**
	comp=Z,39nm,0.6s,mb5.3						
TIXI	**Tiksi**	**46.59**	**21**	*e*P	**P**	**13 33 10.7**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,101nm,15.0s,MS3.9						
NOA	**NORSAR Array B**	**46.82**	**324**	P	**P**	**13 33 13.6**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=96,slow=7.7,SNR=6.2						
KMBO	**Kilima Mbogo**	**49.21**	**231**	P	**P**	**13 33 32.9**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.1,baz=16,slow=20,SNR=2.3						
KMBO	**Kilima Mbogo**	**49.21**	**231**	P	**P**	**13 33 32.9**	**-0.4**
MJAR	**Matsushiro Arr**	**51.79**	**68**	P	**P**	**13 33 53.1**	**+0.3**
	comp=Z,4.8nm,0.7s,mb4.5,baz=287,slow=10,SNR=8.0						
TORD	**Torodi Ar. Bea**	**67.61**	**271**	P	**P**	**13 35 40.6**	**-1.2**
	comp=Z,4.6nm,0.6s,mb4.7,baz=43,slow=5.5,SNR=26						
INK	**Inuvik**	**75.19**	**10**	P	**P**	**13 36 26.9**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.3,baz=349,slow=7.2,SNR=6.0						
INK	**Inuvik**	**75.19**	**10**	P	**P**	**13 36 26.9**	**-0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**75.81**	**17**	P	**P**	**13 36 30.0**	**-1.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=313,slow=5.9,SNR=7.2						
ILAR	**Eielson Array**	**75.81**	**17**	P	**P**	**13 36 30.0**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOSA	**Boshof**	**77.77**	**222**	P	**P**	**13 36 41.8**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.4,baz=29,slow=4.2,SNR=8.0						
BOSA	**Boshof**	**77.77**	**222**	P	**P**	**13 36 41.8**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**79.51**	**123**	P	**P**	**13 36 51.8**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=324,slow=5.1,SNR=22						
WRA	**Warramunga Arr**	**79.51**	**123**	P	**P**	**13 36 51.8**	**0.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**79.51**	**123**	*e*P	**P**	**13 36 51.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**79.51**	**123**	*e*P	**P**	**13 36 51.5**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**79.52**	**123**	*e*P	**P**	**13 36 52.1**	**+0.3**
ASAR	**Alice Springs**	**81.76**	**126**	P	**P**	**13 37 03.8**	**-0.1**
	comp=Z,1.8nm,1.2s,mb3.9,baz=323,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**81.76**	**126**	P	**P**	**13 37 03.8**	**0.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	**Yellowknife Ar**	**82.77**	**4**	P	**P**	**13 37 07.9**	**-1.1**
	comp=Z,6.6nm,0.6s,mb4.4,baz=347,slow=5.2,SNR=42						
YKA	**Yellowknife Ar**	**82.77**	**4**	P	**P**	**13 37 07.9**	**-1.2**

*KRSC **08** 13:28:49.8±1.8, 5139N×15781E, h74km±7km, ML4.7*
*BJI **08** 13:28:49.9, 5159N×15750E, h105km, mB4.9, mb4.6*
*ISCJB **08** 13:28:49.9±0.4, 5150N±004×15756E±006, h102km±3km, mb4.2/30, Error ellipse: s-maj=8.1km s-min=3.8km az=104.8*
*MOS **08** 13:28:50.0±1.2, 5158N×15746E, h102km, mb4.0/10, Error ellipse: s-maj=13.0km s-min=6.3km az=72.4*
*NEIC **08** 13:28:51.4±0.5, 5161N×15740E, mb4.3/11, Error ellipse: s-maj=12.4km s-min=7.4km az=165.0*
*IDC **08** 13:28:51.3±0.9, 5176N×15723E, h98km±7km, mb3.8/15, mb1 4.1/16, mb1mx3.9/26, mbtmp4.2/16, MS3.3/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=18.2km s-min=10.6km az=153.0*
ISC 08 13:28:51.1±0.4, 5152N±004×15751E±005, h98km±3km, h102km±1.8km:pP-P, n111, σ1§31/140, mb4.2/30, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.44**	**263**	*i*P	**Pn**	**13 29 06.1**	**-0.1**
PAU				Smax			
	8μm,1.1s						
MIPR	**Malaya Ipel'ka**	**0.89**	**329**	*i*P	**Pn**	**13 29 10.3**	**+0.1**
MIPR				*i*S	**Sn**	**13 29 25.2**	**+0.7**
GRL	**Gorelyy**	**1.09**	**19**	*i*P	**Pn**	**13 29 12.2**	**-0.2**
GRL				*i*S	**Sn**	**13 29 28.3**	**-0.1**
RUS	**Russkaya**	**1.11**	**34**	P	**Pn**	**13 29 11.0**	**-1.5**
RUS				S	**Sn**	**13 29 26.3**	**-2.4**
RUS	**Russkaya**	**1.11**	**34**	*i*P	**Pn**	**13 29 11.0**	**-1.5**
RUS				*e*S	**Sn**	**13 29 26.4**	**-2.3**
SKR	**Severo-Kuril's**	**1.21**	**227**	*i*P	**Pn**	**13 29 11.0**	**-2.8**
SKR				*i*S	**Sn**	**13 29 28.4**	**-2.5**
KRMR	**Karymshinskiy**	**1.37**	**16**	*i*P	**Pn**	**13 29 14.4**	**-1.2**
KRMR				*e*S	**Sn**	**13 29 33.3**	**-0.8**
ALID	**Alaid**	**1.39**	**243**	*i*P	**Pn**	**13 29 16.5**	**+0.6**
ALID				*i*S	**Sn**	**13 29 35.3**	**+0.6**
APC	**Apacha**	**1.42**	**351**	*i*P	**Pn**	**13 29 16.6**	**+0.3**
APC				*i*S	**Sn**	**13 29 36.0**	**+0.6**
APC				Smax			
	5μm,0.8s						
PET	**Petropavlovsk**	**1.66**	**25**	P	**Pn**	**13 29 18.7**	**-0.6**
PET				S	**Sn**	**13 29 39.8**	**-0.9**
PET	**Petropavlovsk**	**1.66**	**25**	*i*P	**Pn**	**13 29 18.7**	**-0.6**
PET				*e*S	**Sn**	**13 29 39.7**	**-1.0**
PET	**Petropavlovsk**	**1.66**	**25**	*e*Pn	**Pn**	**13 29 18.6**	**-0.6**
UGLR	**Uglovaya**	**1.87**	**25**	*i*P	**Pn**	**13 29 22.4**	**+0.5**
UGLR				*e*S	**Sn**	**13 29 45.3**	**-0.2**
AVH	**Avacha**	**1.90**	**23**	*i*P	**Pn**	**13 29 23.1**	**+0.8**
AVH				*i*S	**Sn**	**13 29 48.3**	**+2.2**
KOK	**Koryaka**	**1.91**	**21**	*i*P	**Pn**	**13 29 23.2**	**+0.9**
KOK				*e*S	**Sn**	**13 29 43.7**	**-2.5**
SMAR	**Somma**	**1.92**	**24**	*e*P	**Pn**	**13 29 23.0**	**+0.5**
SMAR				*e*S	**Sn**	**13 29 45.9**	**-0.6**
NLC	**Nalytchevo**	**2.00**	**34**	P	**Pn**	**13 29 21.9**	**-1.7**
NLC				S	**Sn**	**13 29 45.1**	**-3.3**
NLC	**Nalytchevo**	**2.00**	**34**	*e*P	**Pn**	**13 29 21.9**	**-1.7**
NLC				*e*S	**Sn**	**13 29 44.8**	**-3.6**
GNL	**Ganaly**	**2.19**	**7**	*e*P	**Pn**	**13 29 26.9**	**+0.8**
GNL				*e*S	**Sn**	**13 29 54.5**	**+1.6**
SPN	**Mys Shipunski**	**2.21**	**43**	P	**Pn**	**13 29 25.8**	**-0.5**
SPN				S	**Sn**	**13 29 52.1**	**-1.1**
SPN	**Mys Shipunski**	**2.21**	**43**	*e*P	**Pn**	**13 29 25.4**	**-0.9**
SPN				*e*S	**Sn**	**13 29 50.5**	**-2.7**
KII	**Karymskiy**	**2.78**	**24**	P	**Pn**	**13 29 36.4**	**+2.5**
KII				S	**Sn**	**13 30 10.0**	**+3.2**
KII	**Karymskiy**	**2.78**	**24**	*e*P	**Pn**	**13 29 35.3**	**+1.4**
MKZ	**Mys Kozlova**	**3.97**	**38**	P	**Pn**	**13 29 48.3**	**-1.5**
MKZ				S	**Sn**	**13 30 30.0**	**-5.3**
MKZ	**Mys Kozlova**	**3.97**	**38**	*i*P	**Pn**	**13 29 48.4**	**-1.4**
MKZ				*e*S	**Sn**	**13 30 32.0**	**-3.3**
TUMR	**Tumrok**	**4.09**	**22**	*e*P	**Pn**	**13 29 53.0**	**+1.6**
ESO	**Esso**	**4.47**	**9**	*i*P	**Pn**	**13 29 58.3**	**+1.7**
ESO				Smax			
	60nm,1.1s						
KPT	**Kopyto**	**4.74**	**19**	*e*P	**Pn**	**13 30 01.3**	**+1.1**
KOZ	**Kozyrevsk**	**4.76**	**16**	*e*P	**Pn**	**13 30 01.4**	**+0.9**
KOZR	**Kozyr**	**4.77**	**16**	PN	**Pn**	**13 30 01.4**	**+0.8**
ZLN	**Zelenaya**	**4.91**	**22**	*e*P	**Pn**	**13 30 04.4**	**+1.9**
SRDR	**Sredinnyy**	**4.98**	**14**	*e*P	**

comp=Z,29nm,21.8s
MAJO Matsushiro 20.32 230 *e*P **P 13 33 20.6 +1.3**
MJAR Matsushiro Arr 20.32 230 P **P 13 33 20.4 +1.2**
comp=Z,4.3nm,0.7s,baz=30,slow=8.2,SNR=11
TIXI Tiksi 23.90 338 P **P 13 33 54.4 -1.2**
BOD Bodaibo 25.56 301 *e*P **P 13 34 10.2 -0.6**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.1
MCK McKinley 30.19 45 *e*P **P 13 34 51.0 -1.0**
MCK pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
MCK McKinley 30.19 45 *e*P **P 13 34 51.0 -1.0**
comp=Z,1.0nm,0.7s,mb3.5
SML Sawmill 30.59 49 *e*P **P 13 34 54.9 -0.6**
COLA College 30.64 43⇑*i*P **P 13 34 55.9 0.0**
ILAR Eielson Array 31.05 43 P **P 13 34 58.5 -1.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=262,slow=8.2,SNR=24
ILAR PcP PcP 13 37 51.1 -1.9
comp=Z,0.5nm,0.6s,baz=284,slow=3.5,SNR=4.7
ULN Ulaanbaatar 32.31 284 *e*P **P 13 35 10.6 -0.1**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ULN Ulaanbaatar 32.31 284 *e*P **P 13 35 10.6 -0.1**
comp=Z,0.6nm,0.5s,mb3.6
SONM Songino Array 32.73 284 P **P 13 35 13.6 -0.7**
comp=Z,0.4nm,0.5s,mb3.5,baz=71,slow=8.3,SNR=10
SONM PcP PcP 13 37 57.4 -0.2
comp=Z,0.6nm,0.8s,baz=98,slow=2.0,SNR=4.4
SONM ScP ScP 13 41 32.5 0.0
comp=Z,0.9nm,0.8s,baz=44,slow=3.1,SNR=6.3
SONM LR LR 13 49 00.0
comp=Z,47nm,18.5s,baz=12,slow=37
SONM Songino Array 32.73 284 P **P 13 35 13.6 -0.7**
SONM 13 37 57.4
HHC Hu-ho-hao-te 33.04 269 *e*P **P 13 35 14.3 -2.7**
HHC AP pP 13 35 38.3 -0.9
HHC XP sP 13 35 51.5 +0.9
HHC PP PP 13 36 29.9 -3.5
HHC S **S 13 40 26.0 -2.4**
HHC XS sS 13 41 05.6 -1.3
HHC SCP ScP 13 41 27.2 -6.4
HHC SS SS 13 42 30.7 -24
HHC SCS ScS 13 45 28.1 -6.0
HHC AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,138nm,4.8s
HHC LR LR
comp=N,103nm,9.6s
HHC LR LR
comp=E,162nm,13.2s
HHC LR LR
comp=Z,109nm,12.0s
SSE Sheshan 33.58 247 P **P 13 35 21.5 -0.2**
SSE AMB AMB
comp=Z,18nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,225nm,4.8s
NJ2 Nanjing 34.24 250 *e*P **P 13 35 30.0 +2.6**
INK Inuvik 36.08 36 P **P 13 35 42.6 -0.7**
comp=Z,2.0nm,0.4s,mb4.4,baz=297,slow=6.7,SNR=35
GTA Gaotai 41.20 276 *e*P **P 13 36 25.9 -0.1**
GTA AP pP 13 36 50.9 +2.0
GTA XP sP 13 37 04.7 +4.6
GTA PP PP 13 38 05.7 +2.8
GTA PCP PcP 13 38 22.4 -0.9
GTA SCP ScP 13 42 02.4 -1.7
GTA PCS PcS 13 42 14.0 -0.5
GTA S **S 13 42 29.5 -2.7**
GTA SS SS 13 45 31.2 -7.7
GTA SCS ScS 13 46 16.6 -3.5
GTA AMB AMB
comp=Z,3.0nm,1.6s,mb3.9
GTA AMB AMB
comp=Z,163nm,6.1s
GTA LR LR
comp=N,145nm,7.6s
GTA LR LR
comp=E,182nm,7.6s
GTA LR LR
comp=Z,96nm,8.0s
CD2 Chengdu 44.22 264 *e*P **P 13 36 51.0 +0.6**
CD2 AP pP 13 37 13.9 +0.4
CD2 PP PP 13 38 36.6 +1.3
CD2 S **S 13 43 15.1 -1.4**
CD2 SS SS 13 46 26.0 -12
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,90nm,6.2s
CD2 LR LR
comp=E,170nm,8.4s
CD2 LR LR
comp=Z,140nm,8.4s
YKA Yellowknife Ar 45.40 41 P **P 13 36 58.9 -0.8**
comp=Z,1.1nm,0.6s,mb3.8,baz=295,slow=7.9,SNR=23
YKA Yellowknife Ar 45.40 41 *i*P **P 13 36 59.4 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 45.40 41 P **P 13 36 58.9 -0.8**
WMQ Urumqi 45.99 289 *e*P **P 13 37 06.0 +1.6**
WMQ AP pP 13 37 29.0 +1.4
WMQ XP sP 13 37 41.0 +2.3
WMQ PP PP 13 38 56.0 +2.1
WMQ S **S 13 43 43.0 +1.0**
WMQ SCS ScS 13 46 49.0 -1.2
WMQ SS SS 13 47 02.0 -5.9
WMQ AMB AMB
comp=Z,19nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,103nm,5.0s
WMQ LR LR
comp=N,68nm,8.0s
WMQ LR LR
comp=E,54nm,8.0s
WMQ LR LR
comp=Z,48nm,9.0s
KURK Kurchatov 47.21 302 *e*P **P 13 37 11.9 -2.1**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
KURK Kurchatov 47.21 302 *e*P **P 13 37 11.9 -2.0**
comp=Z,2.6nm,0.6s,mb4.1
MKAR Makanchi Array 47.40 296 P **P 13 37 12.8 -2.6**
comp=Z,0.8nm,0.4s,mb3.8,baz=60,slow=7.1,SNR=25
MKAR pP pP 13 37 36.8 -2.0
comp=Z,1.5nm,0.8s,baz=56,slow=8.7,SNR=5.5
MKAR LR LR 13 57 00.0
comp=Z,18nm,19.0s,baz=27,slow=36
MKAR Makanchi Array 47.40 296 P **P 13 37 12.8 -2.6**
MKAR *PP pP 13 37 36.8 -2.0
MKAR Makanchi Array 47.40 296 P **P 13 37 12.8 -2.6**
MKAR pP pP 13 37 36.8 -2.0
MKAR LR LR 13 57 00.0
BVAR Borovoye Array 50.12 308 P **P 13 37 33.0 -3.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=49,slow=7.5,SNR=10.0
BVAR pP pP 13 37 57.4 -2.3
comp=Z,0.9nm,0.6s,baz=55,slow=9.1,SNR=3.9
BVAR PcP PcP 13 38 52.7 -1.6
comp=Z,0.8nm,0.5s,baz=82,slow=3.2,SNR=6.2
BMO Blue Mountains 54.12 61 P **P 13 38 06.2 +0.4**
comp=Z,2.3nm,0.6s,mb4.4
MOD Modoc 54.35 66 *e*P **P 13 38 08.5 +1.1**
comp=Z,9.6nm,0.6s,mb5.0
WVOR Wild Horse Val 54.94 64 *e*P **P 13 38 12.6 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WVOR Wild Horse Val 54.94 64 *e*P **P 13 38 12.6 +0.8**
comp=Z,9.0nm,1.0s,mb4.8
SUMG Summit 55.70 6 P **P 13 38 17.0 -0.2**
comp=Z,7.7nm,0.8s,mb4.8
WAKR Walker 57.09 68 P **P 13 38 28.5 +1.5**
AKTK Aktyubinsk 57.70 312 P **P 13 38 28.6 -2.8**
AKTK PcP PcP 13 39 21.3 -2.0
AKTO Aktyubinsk 57.70 312 P **P 13 38 28.6 -2.8**
comp=Z,0.9nm,0.5s,mb4.1,baz=56,slow=12,SNR=5.1
AKTO PcP PcP 13 39 21.3 -2.0
comp=Z,0.5nm,0.5s,baz=38,slow=6.2,SNR=3.9
AKTO Aktyubinsk 57.70 312 P **P 13 38 28.6 -2.8**
AKTO 13 39 21.3
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1

NVAR Mina Array Bea 57.80 67 P **P 13 38 33.0 +1.0**
comp=Z,2.9nm,0.6s,mb4.5,baz=295,slow=7.7,SNR=31
BOO Boulder Array 59.69 58 *e*P **P 13 38 45.4 +0.2**
comp=Z,2.3nm,0.7s,mb4.3
PDAR Pinedale Array 59.69 58 P **P 13 38 45.8 +0.6**
comp=Z,2.6nm,0.8s,mb4.3,baz=324,slow=3.3,SNR=24
PDAR pP pP 13 39 09.4 0.0
comp=Z,0.6nm,0.6s,baz=317,slow=3.7,SNR=2.8
PDAR sP sP 13 39 17.8 -2.5
comp=Z,0.8nm,0.7s,baz=311,slow=3.0,SNR=3.9
DUG Dugway 59.70 63 *e*P **P 13 38 45.9 +0.7**
DUG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
DUG Dugway 59.70 63 *e*P **P 13 38 45.9 +0.7**
comp=Z,1.9nm,0.8s,mb4.2
ULM Lac du Bonnet 61.06 45 P **P 13 38 53.8 -0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=5.4,slow=5.1,SNR=3.0
RSSD Black Hills 61.61 54 P **P 13 38 58.6 +0.4**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RSSD Black Hills 61.61 54 P **P 13 38 58.6 +0.4**
comp=Z,3.0nm,0.8s,mb4.4
SRU San Rafael 61.72 62 P **P 13 39 00.1 +1.2**
NOA NORSAR Array B 64.59 343 LR LR 14 09 26.2
comp=Z,27nm,18.9s,baz=180,slow=38
SCHQ Schefferville 67.77 26 P **P 13 39 38.0 -0.3**
comp=Z,3.4nm,0.8s,mb4.2,baz=299,slow=13,SNR=3.5
MNTX Cornudas Mount 69.98 64 P **P 13 39 52.2 +0.3**
TXAR Lajitas Array 72.73 65 P **P 13 40 09.2 +0.7**
comp=Z,4.4nm,0.5s,mb4.5,baz=298,slow=4.7,SNR=68
TXAR LR LR 14 13 10.4
comp=Z,67nm,18.0s,baz=5.0,slow=36
TXAR Lajitas Array 72.73 65 P **P 13 40 09.2 +0.7**
TXAR pmax pmax
comp=Z,4.0nm,0.5s
TXAR MLR MLR
comp=Z,67nm,18.0s
WRA Warramunga Arr 74.00 203 P **P 13 40 16.0 +0.1**
comp=Z,2.1nm,0.6s,mb4.0,baz=18,slow=6.2,SNR=26
WRA Warramunga Arr 74.00 203 P **P 13 40 16.0 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 77.68 202 P **P 13 40 37.9 +1.0**
comp=Z,1.7nm,0.5s,mb4.0,baz=14,slow=5.4,SNR=40
ASAR Alice Springs 77.68 202 P **P 13 40 37.9 +1.0**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
PLCA Paso Flores 145.57 91 PKPbc PKPbc 13 48 17.8 -0.3
comp=Z,2.9nm,0.7s,baz=296,slow=3.7,SNR=7.2
PLCA Paso Flores 145.57 91 PKP2 PKPab 13 48 17.8 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.7s

MAN 08 13:42:31.9, 817N×12337E, h35km, MS3.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.32**	**178**	*e*P	Pn	13 42 42.1	+2.1
PAGZ				*e*S	Sn	13 42 47.8	+2.1
DCPH	**Dipolog City**	**0.41**	**357**	*e*P	Pn	13 42 42.8	+1.5
DCPH				*e*S	Sn	13 42 50.0	+2.3
IPIL	**Ipil**	**0.88**	**244**	*e*P	Pn	13 42 49.4	+1.7
IPIL				*e*S	Sn	13 43 00.6	+1.3

*NEIC **08** 13:51:48.4±1.9, 3459N×7320E, h10km, mb3.2/1, Error ellipse: s-maj=30.0km s-min=16.7km az=168.0*
*IDC **08** 13:51:48.3±0.9, 3477N×7319E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.8/23, mbtmp3.8/14, ML3.9/3, Error ellipse: s-maj=23.7km s-min=19.4km az=49.0*
*ISCJB **08** 13:51:49.7±0.3, 3495N±003×7327E±006, h10km, mb3.7/10, Error ellipse: s-maj=7.2km s-min=3.7km az=144.0*
*MOS **08** 13:51:51.7±1.1, 3481N×7311E, h33km, mb4.1/7, Error ellipse: s-maj=28.6km s-min=12.8km az=91.3*
*NDI **08** 13:51:55.1±1.9, 3465N×7301E, h10km, ML3.3, mb3.2(NEIC)*
*NNC **08** 13:51:60.0±5.9, 3543N×7260E, h15km±64km, mb3.5, mpv3.7, Error ellipse: s-maj=57.6km s-min=21.1km az=163.0*

ISC 08 13:51:51.4±0.3, 3492N±003×7316E±006, h10km, n50, σ1§34/56, mb3.7/10, 4C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.26**	**176**	⇓P	Pn	13 52 13.3	-1.7
CEP	**Cherat**	**1.50**	**224**	⇑P	Pn	13 52 17.8	-0.5
THW	**Thamme Wali**	**2.42**	**209**	P	Pn	13 52 32.1	+1.1
SARP	**Sargodha**	**3.01**	**188**	P	Pn	13 52 39.2	+0.1
SBDP	**Sheikh Budin**	**3.26**	**218**	P	Pn	13 52 43.8	+1.2
THN	**Thein Dam**	**3.27**	**138**	*e*P	Pn	13 52 44.0	+1.3
THN				*e*x	x	13 53 34.2	
DLH	**Dalhousie**	**3.33**	**134**	*e*P	Pn	13 52 46.0	+2.5
DLH				*e*x	x	13 53 27.0	
PONG	**Pong**	**3.77**	**141**	*e*P	Pn	13 52 52.0	+2.5
PONG				*e*x	x	13 53 50.0	
BHK	**Bhakra**	**4.43**	**141**	*e*x	x	13 54 03.9	
SDNR	**Sundarnagar**	**4.67**	**136**	*e*P	Pn	13 53 02.4	+0.5
SDNR				*e*S	Sn	13 53 54.2	-2.0
SMLA	**Simla**	**5.06**	**137**	*e*P	Pn	13 53 09.2	+2.0
SMLA				*e*S	Sn	13 54 04.6	-1.2
KLP	**Kalpa**	**5.44**	**127**	*e*P	Pn	13 53 15.6	+3.1
KLP				*e*S	Sn	13 54 14.5	-0.6
KLP				AML	AML	13 54 58.9	
KLP	comp=E,148nm,0.5s			AML	AML	13 55 00.4	
DDI	**Dehra Dun**	**6.17**	**137**	*e*x	x	13 54 01.7	
DDI				*e*x	x	13 55 20.2	
KHET	**Khetri**	**7.18**	**161**	*e*P	Pn	13 53 36.4	0.0
KHET				*e*S	Sn	13 54 51.8	-6.3
KHET				AML	AML	13 54 57.4	
KHET	comp=E,22nm,0.3s			AML	AML	13 54 57.7	
KUDL	**Kundal**	**7.32**	**156**	*e*P	Pn	13 53 39.5	+1.1
KUDL				*e*S	Sn	13 54 54.2	-7.3
KUDL				AML	AML	13 55 43.2	
KUDL	comp=E,21nm,0.3s			AML	AML	13 55 53.1	
SONA	**Sohna**	**7.44**	**152**	*e*P	Pn	13 53 41.5	+1.5
SONA				*e*S	Sn	13 54 56.9	-7.5
SONA				AML	AML	13 55 50.5	
SONA	comp=E,30nm,0.2s			AML	AML	13 55 50.5	
AAK	**Ala-Archa**	**7.78**	**7**	*e*Pn	Pn	13 53 46.6	+2.1
TKM2	**Tokmak 2**	**8.22**	**13**	⇓Pn	Pn	13 53 54.6	+4.0
TKM2				⇑Sn	Sn	13 55 22.8	-0.8
KK31	**Karatay Array**	**8.43**	**347**	Pn	Pn	13 53 55.9	+2.3
KK31				⇓Sn	Sn	13 55 28.1	-0.6
AGRA	**Agra**	**8.69**	**151**	*e*S	Sn	13 55 27.8	-7.3
MK31	**Makanchi Array**	**13.72**	**27**	P	Pn	13 55 10.3	+4.4
MKAR	**Makanchi Array**	**13.72**	**27**	Pn	Pn	13 55 07.7	+1.7
VOSK	**Vostochnaya**	**17.87**	**356**	⇑P	Pn	13 56 00.8	+0.8
BVA0	**Borovoye Array**	**18.21**	**355**	P	Pn	13 56 04.9	+0.7
BVAR	**Borovoye Array**	**18.21**	**355**	P	Pn	13 56 04.9	+0.7
BVAR	**Borovoye Array**	**18.21**	**355**	P	Pn	13 56 04.9	+0.7
BVAR				pmax	pmax		
BRVK	**Borovoye**	**18.25**	**354**	*e*P	Pn	13 56 05.0	+0.3
AKTK	**Aktyubinsk**	**19.03**	**329**	P	Pn	13 56 13.6	-0.7
AKTO	**Aktyubinsk**	**19.03**	**329**	⇑P	Pn	13 56 13.8	-0.4
AKTO	**Aktyubinsk**	**19.03**	**329**	P	Pn	13 56 13.6	-0.7
AKTO	**Aktyubinsk**	**19.03**	**329**	P	Pn	13 56 13.6	-0.6
AKTO				pmax	pmax		
ZAL	**Zalesovo**	**20.70**	**20**	P	P	13 56 30.3	-1.4
ZAL	**Zalesovo**	**20.70**	**20**	P	P	13 56 30.3	-1.4
SONM	**Songino Array**	**27.86**	**52**	P	P	13 57 39.9	-1.2
FINES	**FINESS Array B**	**39.77**	**327**	P	P	13 59 23.7	-0.6
FINES	**FINESS Array B**	**39.77**	**327**	P	P	13 59 23.7	-0.6
ARCES	**ARCESS Array B**	**43.27**	**338**	P	P	13 59 52.8	-0.3
ARCES	**ARCESS Array B**	**43.27**	**338**	P	P	13 59 52.8	-0.3
NOA	**NORSAR Array B**	**46.70**	**324**	P	P	14 00 19.5	-0.8
NOA	**NORSAR Array B**	**46.70**	**324**	P	P	14 00 19.5	-0.8
TORD	**Torodi Ar. Bea**	**67.46**	**271**	P	P	14 02 46.2	-1.1
INK	**Inuvik**	**75.17**	**10**	P	P	14 03 32.8	-1.1
INK	**Inuvik**	**75.17**	**10**	P	P	14 03 32.8	-1.1
ILAR	**Eielson Array**	**75.81**	**17**	P	P	14 03 37.0	-0.6
WRA	**Warramunga Arr**	**79.66**	**123**	P	P	14 03 57.8	-1.3
WRA	**Warramunga Arr**	**79.66**	**123**	P	P	14 03 57.8	-1.3
ASAR	**Alice Springs**	**81.91**	**126**	P	P	14 04 09.4	-1.6
YKA	**Yellowknife Ar**	**82.73**	**4**	P	P	14 04 13.8	-1.5
YKA	**Yellowknife Ar**	**82.73**	**4**	P	P	14 04 13.8	-1.6

*ISCJB **08** 13:57:47.9±0.5, 2875S±003×6739W±006, h113km±5km, mb4.4/27, Error ellipse: s-maj=8.5km s-min=4.8km az=144.4*
*MOS **08** 13:57:47.8±1.0, 2880S×6740W, h113km, mb4.7/7, Error ellipse: s-maj=17.3km s-min=10.0km az=89.6*
*NEIC **08** 13:57:49.2±0.4, 2879S×6728W, h115km±4km, mb4.5/19, Error ellipse: s-maj=6.0km s-min=4.3km az=82.0*
*BJI **08** 13:57:49.2, 2880S×6730W, h114km, mB5.0*
*IDC **08** 13:57:51.0±0.5, 2870S×6734W, h130km±4km, mb4.0/12, mb1 4.1/16, mb1mx4.1/21, mbtmp4.4/16, MS3.3/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=18.6km s-min=11.5km az=79.0*
*GUC **08** 13:57:53.0±0.8, 2853S×6771W, h153km±42km, ML4.7*

ISC 08 13:57:49.0±0.5, 2876S±003×6737W±005, h110km±4km, h129km±2.3km; pP-P, n98, σ0§99/84, mb4.4/27, 3C-4D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.94**	**195**	P	Pn	13 58 35.6	+1.5
	13nm,0.3s,baz=5.4,slow=12,SNR=1415						
CFAA				S	Sn	13 59 07.2	-1.7
	44nm,0.3s,baz=274,slow=21,SNR=26						
CPCH	**Copiapo**	**2.98**	**297**	*e*P	Pn	13 58 36.5	+1.8
CPCH				*i* S	Sn	13 59 09.0	-1.0
CDCH	**Caldera**	**3.49**	**298**	⇓*i*P	Pn	13 58 42.3	+0.8
CDCH				*i* S	Sn	13 59 19.3	-2.7
CDCH				AMP		13 59 28.1	
	comp=N,1μm,0.5s						
CDCH	**Caldera**	**3.49**	**298**	⇓*i*P	Pn	13 58 42.3	+0.8
CDCH				S	Sn	13 59 19.3	-2.7
CRCH	**Chaqaral**	**3.75**	**309**	*e*P	Pn	13 58 46.9	+1.9
CRCH				*i* S	Sn	13 59 27.0	-1.4
CRCH				AMP		13 59 32.5	
	comp=E,789nm,0.3s						
CRCH	**Chaqaral**	**3.75**	**309**	*e*P	Pn	13 58 46.9	+1.9
CRCH				*i* S	Sn	13 59 27.0	-1.4
JACH	**Jahuel**	**4.80**	**215**	*i* P	Pn	13 59 00.0	+1.0
CPN1	**Cerro Paranal**	**4.93**	**326**	⇓*i*P	Pn	13 59 03.0	+2.2
CPN1				*i* S	Sn	13 59 56.0	-0.7
FCH	**Farellones**	**5.20**	**208**	*e*P	Pn	13 59 05.4	+0.9
PEL	**Peldehue**	**5.22**	**212**	*e*P	Pn	13 59 04.4	-0.4
PCH	**Pirque**	**5.55**	**208**	*e*P	Pn	13 59 09.4	+0.2
CEN1	**Los Morros**	**5.92**	**334**	*e*P	Pn	13 59 13.6	-0.6
CEN1				*i* S	Sn	14 00 15.5	-5.2
LVC	**Limon Verde**	**6.27**	**347**	P	Pn	13 59 21.2	+2.1
	comp=E,13nm,0.3s,baz=184,slow=8.6,SNR=72						
LVC				S	Sn	14 00 29.2	-0.1
	comp=E,13nm,0.3s,baz=331,slow=19,SNR=12						
LVC	**Limon Verde**	**6.27**	**347**	*e*P	Pn	13 59 21.5	+2.5
LVC				*i* S	Sn	14 00 28.5	-0.8
LVC	**Limon Verde**	**6.27**	**347**	*e*Pn	Pn	13 59 21.6	+2.5
	comp=E,34nm,0.4s						
LVC				*e*Sn	Sn	14 00 27.3	-2.0
CPUP	**Villa Florida**	**9.23**	**77**	*e*P	Pn	13 59 59.0	-0.2
CPUP				pmax	pmax		
	comp=Z,79nm,0.5s						
CPUP	**Villa Florida**	**9.23**	**77**	*e*Pn	Pn	13 59 59.0	-0.3
	comp=Z,79nm,0.5s						
TRQA	**Tornquist**	**10.31**	**156**	Pn	Pn	14 00 13.9	+0.1
PLCA	**Paso Flores**	**12.23**	**191**	P	Pn	14 00 37.2	-2.2
	comp=Z,0.2nm,0.3s,baz=4.7,slow=12,SNR=5.8						
PLCA	**Paso Flores**	**12.23**	**191**	*e*Pn	Pn	14 00 37.1	-2.3
LPAZ	**La Paz**	**12.43**	**357**	P	Pn	14 00 43.4	+1.4
	comp=Z,0.9nm,0.3s,baz=156,slow=7.7,SNR=17						
LPAZ	**La Paz**	**12.43**	**357**	*e*P	Pn	14 00 43.5	+1.5
LPAZ				pmax	pmax		
	comp=Z,11nm,0.7s						
LPAZ	**La Paz**	**12.43**	**357**	*e*Pn	Pn	14 00 43.5	+1.5
	comp=Z,11nm,0.7s						
SIV	**San Ignacio**	**13.97**	**26**	P	Pn	14 01 01.1	-1.0
	comp=Z,0.9nm,0.3s,baz=219,slow=14,SNR=60						
BDFB	**Brasilia**	**22.13**	**58**	P	P	14 02 34.5	-1.1
	comp=Z,7.5nm,0.4s,mb4.4,baz=234,slow=10,SNR=17						
BDFB				LR	LR	14 12 16.3	
	comp=Z,70nm,18.6s,baz=274,slow=39						
BAO	**Brasilia Array**	**22.15**	**58**	P	P	14 02 35.0	-0.8
CAM4	**Nova Friburgo**	**23.25**	**80**	*e*P	P	14 02 45.9	-0.7
CAM4				*i*		14 02 47.2	
CAM4				*i*		14 02 59.9	
SDV	**Santo Domingo**	**37.55**	**355**	P	P	14 04 51.3	-1.2
	comp=Z,2.8nm,0.4s,mb4.5,baz=214,slow=7.3						
SDV	**Santo Domingo**	**37.55**	**355**	*e*P	P	14 04 52.3	-0.2
	comp=Z,8.4nm,0.9s,mb4.6						
TEIG	**Tepich**	**52.71**	**335**	*e*P	P	14 06 52.0	-0.3
	comp=Z,1.3nm,0.4s,mb4.3						
SNAA	**Sanae**	**55.01**	**160**	P	P	14 07 08.1	-0.8
	comp=Z,2.1nm,0.6s,mb4.3,baz=330,slow=8.5,SNR=7.2						
OXF	**Oxford**	**66.29**	**340**	P	P	14 08 24.8	-0.7
JCT	**Junction City**	**66.53**	**330**	P	P	14 08 27.4	+0.3
JCT				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
JCT	**Junction City**	**66.53**	**330**	P	P	14 08 27.4	+0.3
	comp=Z,8.5nm,0.7s,mb4.7						
WVT	**Waverly**	**67.35**	**342**	*e*P	P	14 08 31.3	-1.0
WVT				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.1						
WVT	**Waverly**	**67.35**	**342**	*e*P	P	14 08 31.3	-0.9
	comp=Z,20nm,0.6s,mb5.1						
TXAR	**Lajitas Array**	**67.38**	**326**	P	P	14 08 32.8	+0.4
	comp=Z,1.2nm,0.7s,mb3.9,baz=149,slow=7.3,SNR=7.8						
MIAR	**Mount Ida**	**67.66**	**337**	*e*P	P	14 08 34.2	0.0
MIAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
MIAR	**Mount Ida**	**67.66**	**337**	*e*P	P	14 08 34.2	+0.1
	comp=Z,4.3nm,0.6s,mb4.5						
PARMO	**Parma**	**68.39**	**341**	*e*P	P	14 08 38.8	+0.1
WCI	**Wyandotte Cave**	**68.95**	**344**	P	P	14 08 41.2	-1.0
SYO	**Syowa Base**	**69.26**	**158**	⇑*i*P	P	14 08 43.3	-0.9
WMOK	**Wichita Mounta**	**69.78**	**333**	P	P	14 08 47.0	-0.3
VNDA	**Vanda**	**69.98**	**190**	P	P	14 08 48.1	-0.4
	comp=Z,3.5nm,0.9s,mb4.2,baz=331,slow=14,SNR=4.2						
MNTX	**Cornudas Mount**	**70.16**	**326**	P	P	14 08 49.2	-0.4
ANMO	**Albuquerque**	**73.33**	**327**	P	P	14 09 08.6	0.0
	comp=Z,2.0nm,0.7s,mb4.1,baz=140,slow=6.1,SNR=6.6						
ANMO	**Albuquerque**	**73.33**	**327**	*e*P	P	14 09 09.5	+0.9
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ANMO	**Albuquerque**	**73.33**	**327**	*e*P	P	14 09 09.5	+0.9

comp=Z,6.0nm,1.3s,mb4.3
SDCO Great Sand Dun 75.18 330 *e*P **P 14 09 20.0 +0.6**
comp=Z,3.0nm,0.8s,mb4.1
WUAZ Wupatki 76.20 324 *e*P **P 14 09 26.3 +1.1**
comp=Z,14nm,1.1s,mb4.6
TSUM Tsumeb 76.74 105 *e*P **P 14 09 29.4 +1.2**
comp=Z,5.3nm,0.8s,mb4.3
SMCO Snowmass 77.01 329 *e*P **P 14 09 31.2 +1.4**
comp=Z,8.3nm,0.9s,mb4.5
SRU San Rafael 78.60 327 P **P 14 09 39.2 +0.6**
TORD Torodi Ar. Bea 78.61 68 P **P 14 09 39.2 +0.6**
comp=Z,6.3nm,0.7s,mb4.5,baz=257,slow=5.2,SNR=35
TORD pP pP 14 10 09.8 +3.1
comp=Z,2.3nm,0.9s,baz=270,slow=5.3,SNR=2.6
RSSD Black Hills 79.91 334 *e*P **P 14 09 45.6 -0.1**
RSSD pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
RSSD Black Hills 79.91 334 *e*P **P 14 09 45.6 -0.1**
comp=Z,3.3nm,0.9s,mb4.2
DUG Dugway 80.55 326 P **P 14 09 49.7 +0.6**
DUG pmax pmax
comp=Z,35nm,2.0s,mb4.8
DUG Dugway 80.55 326 P **P 14 09 49.7 +0.6**
comp=Z,35nm,2.0s,mb4.8
LBTB Lobatse 80.79 113 P **P 14 09 51.1 +0.7**
LBTB pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
LBTB Lobatse 80.79 113 P **P 14 09 51.1 +0.7**
comp=Z,5.6nm,0.6s,mb4.6
HWUT Hardware Ranch 81.05 328 *e*P **P 14 09 51.8 0.0**
comp=Z,9.3nm,0.9s,mb4.6
BW06 Boulder Array 81.06 330 P **P 14 09 52.1 +0.2**
PDAR Pinedale Array 81.06 330 P **P 14 09 51.8 -0.1**
comp=Z,2.1nm,0.8s,mb4.0,baz=128,slow=6.3,SNR=19
PDAR pP pP 14 10 24.4 +4.4
comp=Z,1.0nm,0.7s,baz=116,slow=6.3,SNR=4.1
SPUT South Promonto 81.23 327 P **P 14 09 53.4 +0.6**
AHID Auburn Hatcher 81.75 329 P **P 14 09 56.1 +0.6**
comp=Z,19nm,1.3s,mb4.8
NVAR Mina Array Bea 82.05 322 P **P 14 09 57.0 0.0**
comp=Z,1.6nm,0.9s,mb3.8,baz=162,slow=6.8,SNR=9.9
NVAR pP pP 14 10 30.4 +5.1
comp=Z,1.1nm,0.8s,baz=165,slow=6.7,SNR=4.4
LOHW Long Hollow 82.20 330 P **P 14 09 58.0 +0.2**
ULM Lac du Bonnet 82.62 342 P **P 14 09 59.0 -1.0**
comp=Z,1.6nm,0.6s,mb4.0,baz=224,slow=1.5,SNR=4.5
HLID Hailey 83.90 328 P **P 14 10 07.2 +0.6**
comp=Z,8.1nm,1.1s,mb4.5
MCMT McKenzie Canyo 84.15 329 *e*P **P 14 10 08.6 +0.7**
MOD Modoc 85.60 323 P **P 14 10 15.6 +0.5**
comp=Z,4.0nm,1.0s,mb4.3
YBH Yreka Blue Hor 86.77 322 P **P 14 10 19.2 -1.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=148,slow=5.2,SNR=3.7
YKA Yellowknife Ar 98.46 340 P **P 14 11 13.6 -1.2**
comp=Z,0.8nm,0.7s,mb4.3,baz=140,slow=4.5,SNR=20
YKA pP pP 14 11 47.4 +3.9
comp=Z,0.4nm,0.9s,baz=137,slow=4.4,SNR=3.9
APA Apatity 120.33 26⇑ *e*PKIKP PKPdf 14 16 32.0 +4.7
APA pmax pmax
comp=Z,34nm,1.3s
OBN Obninsk 120.88 41⇓ *i*PKIKP PKPdf 14 16 27.0 -1.3
OBN pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 124.00 204 PKP PKPdf 14 16 33.2 -1.1
comp=Z,2.9nm,0.6s,baz=133,slow=1.7,SNR=74
ASAR pPKP pPKPdf 14 17 09.2 +5.0
comp=Z,0.7nm,0.6s,baz=144,slow=1.7,SNR=3.4
ASPA Alice Springs 124.00 204 *e*P PKPdf 14 16 33.2 -1.1
WB2 Warramunga Arr 127.24 206 *e*P PKPdf 14 16 39.6 -0.9
WRA Warramunga Arr 127.24 206 PKP PKPdf 14 16 39.9 -0.6
comp=Z,7.8nm,0.6s,baz=166,slow=1.6,SNR=154
WRA pPKP pPKPdf 14 17 15.5 +5.1
comp=Z,1.9nm,0.6s,baz=162,slow=1.6,SNR=6.0
WRAB Tennant Creek 127.25 206 *e*PKIKP PKPdf 14 16 39.9 -0.6
BILL Bilibino 129.74 337⇑ *i*PKIKP PKPdf 14 16 44.1 -1.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 136.13 353 *i*PKIKP PKPdf 14 16 55.0 -2.3
TIXI MLR MLR
comp=Z,100nm,18.0s
SEY Seymchan 137.25 334 *i*PKIKP PKPdf 14 16 58.8 -0.6
YAK Yakutsk 144.87 346 *e*PKIKP PKPdf 14 17 11.1 -1.9
YAK *e* 14 17 46.4
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=N,11nm,1.0s
KURK Kurchatov 146.32 40 *i*PKP2 PKPab 14 17 15.5 -2.4
KURK Kurchatov 146.32 40 *e*PKPbc PKPbc 14 17 15.7 -1.1
AAK Ala-Archa 146.37 55 *e*PKPbc PKPbc 14 17 15.9 -1.1
AAK *ep*PKPdf pPKPdf 14 17 51.0 +5.5
NVS Novosibirsk 146.40 31 *e*PKIKP PKPdf 14 17 14.3 -1.3
NVS *e* 14 17 50.3
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,9.0nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.2s
ZAL Zalesovo 147.68 31 PKP PKPdf 14 17 16.5 -1.3
comp=E,4.1nm,0.5s,baz=171,slow=2.3,SNR=22
ZAL PKPbc PKPbc 14 17 20.2 -0.5
comp=E,4.1nm,0.5s,baz=162,slow=3.0,SNR=24
ZAL pPKPbc pPKPbc 14 17 53.5 +3.1
comp=E,2.2nm,0.7s,baz=132,slow=3.4,SNR=3.5
MKAR Makanchi Array 150.27 44 PKP PKPdf 14 17 21.0 -1.0
comp=E,2.1nm,0.8s,baz=0.0,slow=0.0,SNR=4.3
MKAR PKPbc PKPbc 14 17 26.7 -0.5
comp=E,5.1nm,0.8s,baz=303,slow=2.6,SNR=43
MKAR PKPab PKPab 14 17 33.4 -0.4
comp=E,2.3nm,0.7s,baz=303,slow=3.1,SNR=20
MKAR pPKPbc pPKPbc 14 18 01.9 +4.9
comp=E,7.5nm,1.1s,baz=315,slow=1.7,SNR=5.6
YSS Yuzh-Sakhalins 150.33 316 *e*PKIKP PKPdf 14 17 27.0 +5.0
YSS pmax pmax
comp=Z,30nm,0.9s
BOD Bodaibo 150.93 358 *e*PKIKP PKPdf 14 17 26.3 +3.3
BOD pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 155.03 46 *e*PKP PKPdf 14 17 28.0 -0.9
SONM Songino Array 160.35 13 PKP PKPdf 14 17 35.2 -0.3
comp=Z,0.6nm,0.8s,baz=271,slow=1.9,SNR=6.2
SONM PKPab PKPab 14 18 14.6 -2.2
comp=Z,0.8nm,0.7s,baz=324,slow=4.6,SNR=8.1
GTA Gaotai 165.00 42 *e*PKP PKPdf 14 17 40.7 +0.6
GTA APKP 14 18 07.0
GTA XPKP 14 18 18.3
GTA PP PP 14 22 27.2 +3.4
GTA SKS SKSdf 14 24 33.1 -1.1
GTA SKKS SKKSac 14 29 04.5 +3.3
GTA SS SS 14 42 42.9 -6.3
GTA PP PP
comp=Z,154nm,7.3s
GTA LR LR
comp=N,123nm,6.5s
GTA LR LR
comp=E,93nm,8.4s
GTA LR LR
comp=Z,106nm,8.8s
HHC Hu-ho-hao-te 167.90 4 *e*PKP PKPdf 14 17 42.3 0.0
HHC APKP 14 18 10.7
HHC XPKP 14 18 20.3
HHC PKS 14 21 14.1
HHC PP PP 14 22 41.6 +2.8
HHC SKS SKSdf 14 24 34.3 -1.7
HHC SKKS SKKSac 14 29 17.2 +1.5
HHC SS SS 14 43 19.3 +0.7
HHC PP PP
comp=Z,100nm,6.0s
HHC LR LR
comp=N,206nm,10.8s
HHC LR LR
comp=E,166nm,12.0s
HHC LR LR
comp=Z,138nm,15.6s
CD2 Chengdu 172.00 72 *e*PKP PKPdf 14 17 45.9 +1.2
NJ2 Nanjing 173.70 303 *e*PKP PKPdf 14 17 47.1 +1.7

OTT 08 14:05:09.8±1.4, 6219N×6577W, h18km, MN2.7/1, 110km northwest from Resolution Island, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**2.01**	**322**	PN	Pn	14 05 42.7	0.0
FRB				SN	Sn	14 06 07.2	-0.2
FRB				Trac		14 06 07.8	
	comp=Z,79nm,0.1s						
KUQ	**Kuujjuuaa**	**4.31**	**199**	SG	Sg	14 07 27.3	-0.7
KUQ				Trac		14 07 34.0	
	comp=Z,5.1nm,0.2s						
SCHQ	**Schefferville**	**7.41**	**185**	PN	Pn	14 06 55.2	-1.7
SCHQ				SN	Sn	14 08 21.2	+0.7
SCHQ				LG		14 09 07.5	
LG4Q	**La Grande 4**	**9.66**	**211**	PN	Pn	14 07 28.3	+0.5
LG4Q				SN	Sn	14 09 06.7	-9.0
YOSQ	**Ashton Mining**	**9.96**	**203**	PN	Pn	14 07 33.2	+1.2
YOSQ				SN	Sn	14 09 17.3	-6.0
PINU	**Pond Inlet**	**11.50**	**342**	SN	Sn	14 09 43.6	-17
PINU				LG		14 10 52.9	
SILO	**Sutton Inlier**	**12.64**	**241**	PN	Pn	14 08 10.4	+1.8
SILO				SN	Sn	14 10 16.4	-13
SILO				Trac		14 10 31.2	
	comp=Z,0.1nm,0.1s						
RES	**Resolute Bay**	**16.19**	**332**	PN	Pn	14 08 52.9	-3.4
RES				SN	Sn	14 11 32.4	-23

*CSEM **08** 14:17:30.2, 3782N×2109E, h5km, MD3.7/6, After ATH*
*NEIC **08** 14:17:30.0, 3782N×2109E, h5km, MD3.7(ATH), After ATH.*

ATH 08 14:17:30.2, 3782N×2109E, h5km±4km, MD3.7/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.38**	**51**	*e*PG	Pg	14 17 37.1	-0.5
RLS				*e*SB	Sg	14 17 43.8	+1.3
VLS	**Valsamata**	**0.53**	**312**	*e*PG	Pg	14 17 40.4	0.0
VLS				*e*SB	Sg	14 17 49.5	+2.1
ITM	**Ithomi**	**0.92**	**134**	*e*PB	Pb	14 17 48.0	-0.7
ITM				*e*SB	Sb	14 18 01.3	+0.1
EVR	**Evrytania**	**1.23**	**27**	*e*PN	Pn	14 17 52.8	-1.3
EVR				*e*SB	Sb	14 18 11.4	+1.3
JAN	**Janina**	**1.84**	**354**	*e*PN	Pn	14 18 05.5	+3.0
KEK	**Kerkira**	**2.14**	**332**	*e*PN	Pn	14 18 09.4	+2.8
KZN	**Kozani**	**2.54**	**12**	*e*PN	Pn	14 18 15.0	+3.0

MAN 08 14:30:41.3, 1640N×12219E, h32km, mb3.3, ML4.5, MS1.0, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.88**	**222**	*e*P	Pn	14 30 57.5	0.0
BALP				*e*S	Sn	14 31 09.5	+0.3
PCPH	**Palayan**	**1.34**	**232**⇓	*e*P	Pn	14 31 03.9	0.0
PCPH				*i*S	Sn	14 31 21.2	+0.6
CVP	**Callao Caves**	**1.34**	**345**⇓	*i*P	Pn	14 31 04.0	+0.1
CVP				*i*S	Sn	14 31 20.0	-0.6
BCPH	**Baguio City Da**	**1.55**	**270**⇑	*i*P	Pn	14 31 08.3	+1.7
BCPH				*i*S	Sn	14 31 27.6	+2.0
POLP	**Polilio Island**	**1.68**	**188**	*e*P	Pn	14 31 08.6	+0.1
APYP	**Conner**	**1.71**	**328**	*e*P	Pn	14 31 09.1	+0.1
APYP				*e*S	Sn	14 31 30.6	+0.9
ABRA	**Dolores**	**1.88**	**311**	*e*P	Pn	14 31 11.8	+0.5
ABRA				*e*S	Sn	14 31 35.0	+1.1
GQP	**Guinayangan**	**2.49**	**174**⇓	*e*P	Pn	14 31 20.6	+0.9
GQP				*e*S	Sn	14 31 48.4	-0.6

WEL 08 14:34:35.7±0.1, 4087S×17567E, h29km, ML3.7/32, 3C-4D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.21**	**341**	⇑P*	Pb	14 34 41.9	-0.1
MRZ				S*	Sb	14 34 46.1	-0.1
MTW	**Mount Morrison**	**0.32**	**204**	P*	Pb	14 34 43.4	+0.1
MTW				S*	Sb	14 34 48.7	+0.2
CAW	**Cannon Point**	**0.52**	**242**	⇑P*	Pb	14 34 46.6	+0.2
CAW				S*	Sb	14 34 54.0	+0.4
TRWZ	**Traveller**	**0.54**	**179**	P*	Pb	14 34 46.6	0.0
TRWZ				S*	Sb	14 34 55.6	+1.6
PAWZ	**Paruwai Farm**	**0.55**	**200**	P*	Pb	14 34 46.8	-0.1
PAWZ				S*	Sb	14 34 55.6	+1.1
KIW	**Kapiti Island**	**0.58**	**270**	⇑P*	Pb	14 34 47.7	+0.3
KIW				S*	Sb	14 34 55.8	+0.5
MSWZ	**Moikau Station**	**0.64**	**210**	⇓P*	Pb	14 34 48.0	-0.3
WEL	**Wellington**	**0.80**	**238**	P*	Pb	14 34 50.9	-0.2
BHW	**Baring Head**	**0.81**	**228**	P*	Pb	14 34 50.7	-0.6
BHW				S*	Sb	14 35 01.8	-0.1
MRW	**Makara Radio**	**0.82**	**243**	⇓P*	Pb	14 34 51.1	-0.3
TSZ	**Takapari Road**	**0.83**	**15**	P*	Pb	14 34 51.6	0.0
SNZO	**South Karori**	**0.86**	**238**	⇓P*	Pb	14 34 51.5	-0.5
TCW	**Tory Channel**	**1.11**	**251**	⇓P*	Pb	14 34 55.2	-1.1
PXZ	**Pawanui**	**1.23**	**48**	P*	Pb	14 34 56.4	-1.9
TUWZ	**Tuamarina**	**1.42**	**246**	PN	Pn	14 34 58.8	-0.8
BSWZ	**Blackbirch Sta**	**1.60**	**237**	PN	Pn	14 35 01.3	-0.7
NNZ	**Nelson**	**1.77**	**258**	PN	Pn	14 35 04.1	-0.3
BKZ	**Black Stump Fm**	**1.81**	**21**	*e*PN	Pn	14 35 04.7	-0.3

ISC 08 14:52:36.2±0.8, 3840N±005×3051E±009, h10km, n7, σ1$55/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.39**	**203**	*i*P	**Pg**	**14 52 42.8**	**-1.1**
TKTP				*i*S	**Sg**	**14 52 50.9**	**+1.8**
ALT	**Altintas**	**0.72**	**335**	PG	**Pg**	**14 52 48.9**	**-1.3**
KHL	**Karahalli**	**0.78**	**265**	PG	**Pg**	**14 52 49.3**	**-2.0**
ESKT	**Eskisehir**	**1.15**	**13**	*e*PN	**Pn**	**14 52 57.0**	**-1.4**
ESKT	**Eskisehir**	**1.15**	**13**	*i*P	**Pb**	**14 53 00.9**	**+2.7**
ESKT				*i*S	**Sb**	**14 53 14.3**	**+1.2**
KIZT	**Kizilcal**	**1.18**	**66**	*e*PN	**Pn**	**14 52 58.3**	**-0.4**
MANT	**Manisa**	**1.54**	**274**	*i*P	**Pn**	**14 53 03.4**	**-0.3**
MANT				*i*S	**Sn**	**14 53 26.0**	**+2.4**

*NEIC **08** 14:56:23.5, 3140S×6829W, h162km, After GUC.*

GUC 08 14:56:23.5±0.8, 3140S×6829W, h162km±45km, ML3.9, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.33**	**275**⇓	*i*P	Pn	14 57 03.9	+0.7
CMCH				*i*S	Sn	14 57 34.4	+0.6
CMCH				AMP		14 57 35.9	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**2.33**	**275**⇓	*i*P	Pn	14 57 03.9	+0.7
CMCH				*i*S	Sn	14 57 34.4	+0.6
JACH	**Jahuel**	**2.33**	**236**	*e*P	Pn	14 57 04.6	+1.4
FCH	**Farellones**	**2.56**	**221**	*e*P	Pn	14 57 07.0	+1.1
FCH				*i*S	Sn	14 57 40.5	+1.8
FCH				AMP		14 57 51.9	
	comp=E,104nm,0.3s						
PEL	**Peldehue**	**2.67**	**229**	*i*P	Pn	14 57 08.4	+1.2
PEL				*i*S	Sn	14 57 41.7	+0.6
PEL				AMP		14 57 43.3	
	comp=N,215nm,0.3s						
PEL	**Peldehue**	**2.67**	**229**	*i*P	Pn	14 57 08.4	+1.2
PEL				*i*S	Sn	14 57 41.7	+0.6
PCH	**Pirque**	**2.90**	**220**	*i*P	Pn	14 57 10.5	+0.4
RCDM	**Rinconada Maip**	**2.98**	**225**	*e*P	Pn	14 57 11.6	+0.6
RCDM				*i*S	Sn	14 57 48.8	+0.9
RCDM				AMP		14 57 50.5	
	comp=N,268nm,0.1s						
RCDM	**Rinconada Maip**	**2.98**	**225**	*e*P	Pn	14 57 11.6	+0.6
RCDM				*i*S	Sn	14 57 48.8	+0.9
CHCH	**Chadas Angostu**	**3.22**	**218**	*e*P	Pn	14 57 14.9	+0.9
CICH	**Cipreses**	**3.42**	**211**	*i*P	Pn	14 57 17.5	+0.9

*MOS **08** 14:56:40.8±0.9, 4996N×15470E, h100km, mb4.7/31, Error ellipse: s-maj=9.9km s-min=6.3km az=69.8*
*KRSC **08** 14:56:42.5±1.7, 4957N×15562E, h106km±7km, ML4.7*
*ISCJB **08** 14:56:44.6±0.2, 4996N±003×15486E±004, h134km, mb4.5/84, Error ellipse: s-maj=5.6km s-min=2.6km az=105.6*
*BJI **08** 14:56:45.4, 5017N×15515E, h155km, mB4.9, mb4.7*
*IDC **08** 14:56:45.8±0.6, 5000N×15474E, h131km±5km, mb4.0/22, mb1 4.1/24, mb1mx4.0/29, mbtmp4.4/24, MS3.4/4, Ms1 3.5/4, ms1mx2.9/35, Error ellipse: s-maj=12.0km s-min=8.8km az=150.0*
*NEIC **08** 14:56:46.2±0.2, 5002N×15476E, mb4.7/43, Error ellipse: s-maj=6.0km s-min=3.4km az=157.0*

ISC 08 14:56:46.4±0.2, 5003N±003×15482E±004, h136km, h136km±1.5km: pP-P, n216, σ1$02/240, mb4.5/84, 5C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**0.96**	**29**	*i*P	**Pn**	**14 57 07.7**	**-1.8**
ALID				*i*S	**Sn**	**14 57 24.8**	**-2.2**
SKR	**Severo-Kuril's**	**1.06**	**51**	*i*P	**Pn**	**14 57 05.0**	**-5.4**
SKR				*i*S	**Sn**	**14 57 23.0**	**-5.6**
PAU	**Pauzhetka**	**1.92**	**40**	*i*P	**Pn**	**14 57 18.1**	**-1.6**
PAU				*e*S	**Sn**	**14 57 44.3**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.56**	**28**	*e*P	**Pn**	**14 57 27.3**	**-0.3**
MIPR				*i*S	**Sn**	**14 57 59.7**	**+0.4**
APC	**Apacha**	**3.25**	**26**	*i*P	**Pn**	**14 57 36.4**	**0.0**
APC				*e*S	**Sn**	**14 58 17.2**	**+2.1**
APC				Smax			
	120nm,1.1s						
GRL	**Gorelyy**	**3.25**	**38**	*e*P	**Pn**	**14 57 36.7**	**+0.2**
GRL				*e*S	**Sn**	**14 58 15.7**	**+0.6**
RUS	**Russkaya**	**3.35**	**42**	P	**Pn**	**14 57 35.5**	**-2.2**
RUS				S	**Sn**	**14 58 13.1**	**-4.2**
RUS	**Russkaya**	**3.35**	**42**	*e*P	**Pn**	**14 57 35.4**	**-2.3**
RUS				*e*S	**Sn**	**14 58 12.3**	**-5.0**
KRMR	**Karymshinskiy**	**3.49**	**35**	*i*P	**Pn**	**14 57 38.4**	**-1.2**
PET	**Petropavlovsk**	**3.84**	**37**	P	**Pn**	**14 57 43.7**	**-0.5**
PET				S	**Sn**	**14 58 27.3**	**-1.6**
PET	**Petropavlovsk**	**3.84**	**37**	*e*P	**Pn**	**14 57 43.2**	**-1.0**
PET				*e*S	**Sn**	**14 58 28.3**	**-0.6**
PET	**Petropavlovsk**	**3.84**	**37**	*e*P	**Pn**	**14 57 42.9**	**-1.2**
PET				*e*S	**Sn**	**14 58 30.0**	**+1.1**
KOK	**Koryaka**	**4.04**	**35**	*e*P	**Pn**	**14 57 47.4**	**+0.6**
KOK				*e*S	**Sn**	**14 58 35.1**	**+1.4**
UGLR	**Uglovaya**	**4.05**	**36**	*i*P	**Pn**	**14 57 47.0**	**+0.1**
UGLR				*e*S	**Sn**	**14 58 32.3**	**-1.5**
AVH	**Avacha**	**4.06**	**35**	*e*P	**Pn**	**14 57 47.7**	**+0.6**
SMAR	**Somma**	**4.08**	**36**	*e*P	**Pn**	**14 57 47.7**	**+0.4**
GNL	**Ganaly**	**4.15**	**27**	*i*P	**Pn**	**14 57 49.2**	**+0.9**
NLC	**Nalytchevo**	**4.23**	**40**	P	**Pn**	**14 57 46.6**	**-2.7**
NLC				S	**Sn**	**14 58 32.1**	**-6.0**
NLC	**Nalytchevo**	**4.23**	**40**	*e*P	**Pn**	**14 57 46.5**	**-2.8**
SPN	**Mys Shipunski**	**4.47**	**45**	P	**Pn**	**14 57 50.0**	**-2.5**
SPN				S	**Sn**	**14 58 37.0**	**-6.9**
SPN	**Mys Shipunski**	**4.47**	**45**	*e*P	**Pn**	**14 57 49.7**	**-2.8**
SPN				*e*S	**Sn**	**14 58 37.5**	**-6.4**
TUMR	**Tumrok**	**6.18**	**30**	*e*P	**Pn**	**14 58 16.1**	**+0.7**
MKZ	**Mys Kozlova**	**6.21**	**40**	P	**Pn**	**14 58 12.3**	**-3.4**
MKZ				S	**Sn**	**14 59 16.2**	**-9.3**
MKZ	**Mys Kozlova**	**6.21**	**40**	*e*P	**Pn**	**14 58 12.3**	**-3.4**
MKZ				*e*S	**Sn**	**14 59 17.9**	**-7.6**
ESO	**Esso**	**6.36**	**20**	*i*P	**Pn**	**14 58 19.6**	**+1.9**
KUR	**Kuril'sk**	**6.71**	**227**	*e*PN	**Pn**	**14 58 21.0**	**-1.5**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KOZ	**Kozyrevsk**	**6.77**	**25**	*e*P	**Pn**	**14 58 24.7**	**+1.5**
KOZR	**Kozyr**	**6.78**	**25**	PN	**Pn**	**14 58 24.7**	**+1.3**
KPT	**Kopyto**	**6.78**	**27**	*e*P	**Pn**	**14 58 23.2**	**-0.3**
SSDR	**Sredinnyy**	**6.95**	**23**	*e*P	**Pn**	**14 58 27.0**	**+1.2**
ZLN	**Zelenaya**	**7.00**	**29**	*e*P	**Pn**	**14 58 27.4**	**+1.0**
CIRR	**Tsirk**	**7.07**	**28**	*e*P	**Pn**	**14 58 27.6**	**+0.3**
KLY	**Klyuchi**	**7.21**	**27**	*e*P	**Pn**	**14 58 30.1**	**+0.9**
BDR	**Baidarnaya**	**7.59**	**28**	*i*P	**Pn**	**14 58 34.4**	**+0.1**
SRKR	**Sorokina**	**7.65**	**27**	*e*P	**Pn**	**14 58 35.0**	**-0.1**
KBG	**Krutoberegovo**	**7.83**	**34**	*e*P	**Pn**	**14 58 35.5**	**-2.1**
KBG				Smax			
	comp=Z,160nm,0.7s						
KBTR	**Krutoberegovo**	**7.84**	**35**	P	**Pn**	**14 58 35.1**	**-2.6**
KBTR				S	**Sn**	**14 59 55.9**	**-8.9**
KBTR	**Krutoberegovo**	**7.84**	**35**	*e*P	**Pn**	**14 58 35.1**	**-2.6**
KBTR				*e*S	**Sn**	**14 59 59.6**	**-5.2**
OKH	**Okha**	**8.17**	**300**	*e*PN	**Pn**	**14 58 42.0**	**-0.1**
OKH				pmax	pmax		
	comp=Z,500nm,6.0s						
BKI	**Bering**	**8.54**	**48**	*e*P	**Pn**	**14 58 41.6**	**-5.4**
BKI				*e*S	**Sn**	**15 00 07.5**	**-14**
BKI				Smax			
	comp=Z,120nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**8.56**	**229**	*e*PN	**Pn**	**14 58 47.0**	**-0.4**
YUK				*e*S	**Sn**	**15 00 17.5**	**-4.8**
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YUK				pmax	pmax		
	comp=N,180nm,0.5s						
YUK				pmax	pmax		
	comp=E,110nm,0.5s						
YUK				smax			
	comp=N,210nm,0.4s						
YUK				smax			
	comp=E,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.58**	**254**	*e*PN	**Pn**	**14 58 50.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**8.58**	**254**	*e*P	**Pn**	**14 58 49.3**	**+1.7**
	comp=E,47nm,1.2s						
YSS				*e*		14 58 53.1	
MA2	**Magadan**	**9.85**	**348**	*d i*PN	**Pn**	**14 59 05.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,55nm,2.5s						
MA2	**Magadan**	**9.85**	**348**	*e*P	**Pn**	**14 59 05.5**	**+0.9**
	comp=Z,8.9nm,0.6s						
ASAJ	**Asahikawa**	**10.21**	**239**	P	**Pn**	**14 59 10.8**	**+1.4**
	comp=Z,3.6nm,0.3s,baz=61,slow=13,SNR=75						
ASAJ	**Asahikawa**	**10.21**	**239**	PN	**Pn**	**14 59 10.9**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	**Attu Island--F**	**11.79**	**69**	P	**Pn**	**14 59 28.9**	**-1.4**
	comp=Z,6.7nm,0.3s,baz=314,slow=5.8,SNR=12						
FX1				S	**Sn**	**15 01 31.9**	**-8.5**
	comp=Z,20nm,0.3s,baz=143,slow=22,SNR=18						
FX1	**Attu Island--F**	**11.79**	**69**	PN	**Pn**	**14 59 28.9**	**-1.4**
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SEY	**Seymchan**	**13.01**	**355**⇑	*e*PN	**Pn**	**14 59 46.1**	**0.0**
HABR	**Khabarovsk**	**13.01**	**271**	*i*PN	**Pn**	**14 59 48.2**	**+2.0**
HABR				pmax	pmax		
	comp=Z,51nm,1.4s						
HABR				pmax	pmax		
	comp=Z,35nm,1.0s						
KAMR	**Kamenskoye**	**13.94**	**22**	*e*P	**Pn**	**14 59 58.2**	**+0.1**
KLR	**Kul'dur**	**14.96**	**276**	*e*P	**Pn**	**15 00 10.8**	**-0.2**
KLR				pmax	pmax		
	comp=E,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s						
VLA	**Vladivostok**	**17.17**	**255**⇓	*i*P	**Pn**	**15 00 38.8**	**+0.8**
VLA				pmax	pmax		
	comp=Z,52nm,1.7s						
MDJ	**Mudanjiang**	**17.90**	**262**	P	**Pn**	**15 00 49.5**	**+2.8**
MDJ				S	**S**	**15 04 08.9**	**+4.9**
MDJ				AMB	AMB		
	comp=Z,28nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,132nm,3.4s						
MDJ				LR	LR		
	comp=E,82nm,27.4s						
MDJ				LR	LR		
	comp=Z,114nm,31.7s						
MDJ	**Mudanjiang**	**17.90**	**262**	*e*P	**Pn**	**15 00 49.7**	**+2.9**
	comp=Z,12nm,0.8s						
MDJ				*ep*P	pP	15 01 11.4	+2.1
MJAR	**Matsushiro Arr**	**18.05**	**228**	P	**P**	**15 00 47.1**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=19,slow=12,SNR=9.5						
YAK	**Yakutsk**	**18.34**	**320**	*e*P	**P**	**15 00 51.5**	**+1.2**
YAK				*e*S	**S**	**15 04 14.1**	**+1.3**
YAK				pmax	pmax		
	comp=Z,60nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,20nm,0.9s

BILL	**Bilibino**	**18.94**	**13**	*eP*	**P**	**15 00 56.4**	**-0.5**
	comp=Z,4.9nm,0.5s						
CLNS	**Chul'man**	**18.98**	**303**	*eP*	**P**	**15 00 59.5**	**+2.2**
CLNS				pmax	pmax		
	comp=Z,72nm,0.9s						
CLNS				pmax	pmax		
	comp=N,33nm,1.0s						
CLNS				pmax	pmax		
	comp=E,51nm,1.0s						
CN2	**Changchun**	**20.92**	**264**	*eP*	**P**	**15 01 20.8**	**+2.6**
CN2				*eS*	**S**	**15 05 01.4**	**-2.4**
CN2				AMB	AMB		
	comp=Z,50nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
HIA	**Hailar**	**22.61**	**282**	*eP*	**P**	**15 01 35.6**	**-0.2**
HIA				*e**PP		15 02 05.2	
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**22.61**	**282**	*eP*	**P**	**15 01 35.6**	**-0.2**
	comp=Z,15nm,1.0s,mb4.4						
HIA				*ep*P		15 02 05.2	
TIXI	**Tiksi**	**24.70**	**341**	*eP*	**P**	**15 01 52.1**	**-2.7**
TIXI				*e*		15 02 23.8	
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
TNA	**Tin City**	**24.70**	**37**	*eP*	**P**	**15 01 54.3**	**-0.6**
	comp=Z,20nm,1.3s,mb4.5						
BOD	**Bodaibo**	**24.94**	**304**	*eP*	**P**	**15 01 56.4**	**-0.6**
BOD				*e*		15 02 13.6	
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
IMA2	**Indian Mountai**	**30.51**	**39**	*eP*	**P**	**15 02 46.1**	**-0.5**
JOW	**Kunigami**	**30.83**	**231**	P	**P**	**15 02 50.5**	**+0.9**
	comp=Z,30nm,0.4s,mb5.4,baz=332,slow=30,SNR=6.7						
ULN	**Ulaanbaatar**	**31.03**	**285**	*d iP*	**P**	**15 02 51.2**	**0.0**
KDAK	**Kodiak Island**	**31.22**	**55**	P	**P**	**15 02 51.2**	**-1.7**
	comp=Z,13nm,0.8s,mb4.7,baz=336,slow=5.6,SNR=6.0						
KDAK	**Kodiak Island**	**31.22**	**55**	P	**P**	**15 02 51.2**	**-1.7**
SSE	**Sheshan**	**31.42**	**246**	P	**P**	**15 02 54.6**	**0.0**
SSE				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,201nm,3.6s						
SONM	**Songino Array**	**31.45**	**285**	P	**P**	**15 02 53.7**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.3,baz=70,slow=8.2,SNR=4.4						
SONM				PcP	PcP	15 05 44.9	0.0
	comp=Z,0.5nm,0.5s,baz=104,slow=3.5,SNR=6.0						
SONM				ScP	ScP	15 09 16.2	+0.8
	comp=Z,2.2nm,0.9s,baz=110,slow=1.3,SNR=11						
SONM				LR	LR	15 16 57.2	
	comp=Z,46nm,18.1s,baz=64,slow=39						
SONM	**Songino Array**	**31.45**	**285**	P	**P**	**15 02 53.7**	**-1.2**
SONM						15 05 44.9	
ZAK	**Zakamensk**	**32.45**	**291⇓**	*eP*	**P**	**15 03 03.0**	**-0.7**
ZAK				*e*	pP	15 03 33.1	+0.2
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
MCK	**McKinley**	**32.45**	**44**	*eP*	**P**	**15 03 03.1**	**-0.6**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MCK	**McKinley**	**32.45**	**44**	*eP*	**P**	**15 03 03.1**	**-0.5**
	comp=Z,8.6nm,1.0s,mb4.4						
PMR	**Palmer**	**32.50**	**48**	*eP*	**P**	**15 03 03.3**	**-0.8**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
PMR	**Palmer**	**32.50**	**48**	*eP*	**P**	**15 03 03.3**	**-0.8**
	comp=Z,4.4nm,0.7s,mb4.3						
SML	**Sawmill**	**32.86**	**47**	*eP*	**P**	**15 03 06.8**	**-0.4**
COLA	**College**	**32.89**	**41⇓**	*iP*	**P**	**15 03 07.8**	**+0.3**
ILAR	**Eielson Array**	**33.31**	**42**	P	**P**	**15 03 10.5**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.0,baz=264,slow=5.9,SNR=34						
KRAR	**Krasnoyarsk**	**36.62**	**304**	*eP*	**P**	**15 03 38.6**	**-0.9**
KRAR				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8						
INK	**Inuvik**	**38.29**	**35**	P	**P**	**15 03 52.9**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.0,baz=274,slow=8.7,SNR=14						
INK	**Inuvik**	**38.29**	**35**	P	**P**	**15 03 52.9**	**-0.7**
ZAL	**Zalesovo**	**41.70**	**303**	P	**P**	**15 04 20.0**	**-1.8**
	comp=Z,1.3nm,0.8s,mb3.6,baz=183,slow=17,SNR=6.9						
ZAL				pP	pP	15 04 50.6	-1.4
	comp=Z,1.5nm,0.8s,baz=48,slow=5.8,SNR=2.5						
ZAL				PcP	PcP	15 06 15.1	-0.7
	comp=Z,0.9nm,0.6s,baz=27,slow=1.7,SNR=5.1						
NVS	**Novosibirsk**	**42.17**	**305**	*eP*	**P**	**15 04 23.6**	**-1.9**
NVS				*e**PP	pP	15 04 54.6	-1.2
NVS				*e*		15 06 17.8	
NVS				pmax	pmax		
	comp=N,9.0nm,1.9s						
NVS				pmax	pmax		
	comp=E,15nm,1.9s						
NVS				pmax	pmax		
	comp=Z,23nm,1.9s,mb4.5						
CD2	**Chengdu**	**42.35**	**263**	*eP*	**P**	**15 04 28.0**	**+1.0**
CD2				PP	PP	15 06 11.0	+3.2
CD2				S	**S**	**15 10 39.6**	**+1.6**
CD2				SS	SS	15 13 46.3	-5.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,90nm,4.9s						
WMQ	**Urumqi**	**44.87**	**289**	*eP*	**P**	**15 04 48.0**	**+0.9**
WMQ				AP	pP	15 05 20.0	+2.2
WMQ				XP	sP	15 05 36.0	+3.0
WMQ				PP	PP	15 06 36.0	+1.4
WMQ				S	**S**	**15 11 14.0**	**-0.5**
WMQ				XS	sS	15 12 10.0	+2.4
WMQ				SS	SS	15 14 31.0	-7.9
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,110nm,5.0s						
WMQ				LR	LR		
	comp=N,58nm,10.0s						
WMQ				LR	LR		
	comp=E,62nm,10.0s						
WMQ				LR	LR		
	comp=Z,49nm,9.0s						
MKAR	**Makanchi Array**	**46.51**	**295**	P	**P**	**15 04 59.2**	**-0.8**
	comp=Z,2.8nm,0.8s,mb3.9,baz=63,slow=8.1,SNR=26						
MKAR				pP	pP	15 05 29.8	-1.1
	comp=Z,3.9nm,1.0s,baz=63,slow=11,SNR=6.2						
MKAR				LR	LR	15 24 49.9	
	comp=Z,55nm,19.7s,baz=34,slow=36						
MKAR	**Makanchi Array**	**46.51**	**295**	P	**P**	**15 04 59.2**	**-0.8**
MKAR				*PP	pP	15 05 29.8	-1.0
MKAR	**Makanchi Array**	**46.51**	**295**	P	**P**	**15 04 59.2**	**-0.8**
MKAR				pP	pP	15 05 29.8	-1.1
MKAR				LR	LR	15 24 49.9	
KURK	**Kurchatov**	**46.55**	**302**	*eP*	**P**	**15 04 59.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**46.55**	**302**	*eP*	**P**	**15 04 59.6**	**-0.7**
	comp=Z,9.9nm,0.9s,mb4.4						
KURK				*ep*P	pP	15 05 29.5	-1.6
KMI	**Kunming**	**47.00**	**258**	P	**P**	**15 05 07.5**	**+3.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**47.64**	**39**	P	**P**	**15 05 08.8**	**+0.1**
	comp=Z,4.1nm,0.8s,mb4.1,baz=299,slow=7.6,SNR=63						
YKA				PcP	PcP	15 06 36.0	-0.2
	comp=Z,1.0nm,0.8s,baz=298,slow=3.2,SNR=7.1						
YKA	**Yellowknife Ar**	**47.64**	**39**	P	**P**	**15 05 08.8**	**+0.1**
YKA				PcP	PcP	15 06 36.0	-0.2
BVAR	**Borovoye Array**	**49.70**	**308**	P	**P**	**15 05 24.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.0,baz=52,slow=7.8,SNR=25						
BVAR				pP	pP	15 05 54.2	-1.5
	comp=Z,9.7nm,0.9s,baz=60,slow=7.2,SNR=13						
BVAR				PcP	PcP	15 06 43.2	-0.5
	comp=Z,1.4nm,0.6s,baz=79,slow=4.7,SNR=5.5						
BVAR				PP	PP	15 07 22.9	+2.7
	comp=Z,2.5nm,1.0s,baz=63,slow=9.9,SNR=3.7						
BVAR				ScP	ScP	15 10 26.3	-0.2
	comp=Z,3.1nm,1.0s,baz=45,slow=4.2,SNR=8.6						
BVAR	**Borovoye Array**	**49.70**	**308**	P	**P**	**15 05 24.0**	**-0.5**
BVAR				*PP	pP	15 05 54.2	-1.5
BVAR						15 06 43.2	
BVAR						15 07 22.9	
BRVK	**Borovoye**	**49.73**	**308**	*eP*	**P**	**15 05 24.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
BRVK	**Borovoye**	**49.73**	**308**	*eP*	**P**	**15 05 24.3**	**-0.5**
	comp=Z,4.7nm,1.0s,mb4.1						
BRVK				*ep*P	pP	15 05 54.3	-1.6
ARU	**Arti**	**53.39**	**317⇑**	*iP*	**P**	**15 05 51.2**	**-0.8**
ARU				*e*	pP	15 06 22.0	-1.5
ARU				*e*		15 06 55.9	
ARU				*e*		15 07 51.2	
ARU				*e*S	**S**	**15 13 14.4**	**+0.8**
ARU				*e*		15 15 27.4	
ARU				*e*SS	SS	15 16 55.1	-0.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**53.44**	**295**	*eP*	**P**	**15 05 49.8**	**-2.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.2						
NEW	**Newport**	**54.33**	**55**	P	**P**	**15 05 58.8**	**0.0**
	comp=Z,6.2nm,1.0s,mb4.3,baz=326,slow=6.7,SNR=6.1						
NEW				PcP	PcP	15 07 01.2	+0.2
	comp=Z,3.1nm,0.9s,baz=312,slow=4.8,SNR=3.8						
ARCES	**ARCESS Array B**	**55.14**	**341**	LR	LR	15 38 08.2	
	comp=Z,54nm,18.4s,baz=90,slow=45						
YBH	**Yreka Blue Hor**	**55.25**	**65**	P	**P**	**15 06 06.9**	**+1.5**
	comp=Z,8.5nm,0.6s,mb4.6,baz=339,slow=2.9,SNR=21						
JIRN	**Jiri**	**55.85**	**274**	*eP*	**P**	**15 06 09.8**	**+0.1**
GUN	**Gumba**	**55.88**	**274**	*eP*	**P**	**15 06 10.1**	**+0.2**
KKN	**Kakani**	**56.35**	**274**	*eP*	**P**	**15 06 13.8**	**+0.6**
	comp=Z,5.4nm,0.5s,mb4.6						
KKN	**Kakani**	**56.35**	**274**	*eP*	**P**	**15 06 13.8**	**+0.6**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
PKI	**Pulchoki**	**56.41**	**274**	*eP*	**P**	**15 06 14.2**	**+0.5**
MOD	**Modoc**	**56.53**	**63**	*eP*	**P**	**15 06 15.8**	**+1.3**
	comp=Z,11nm,0.7s,mb4.8						
DMN	**Daman**	**56.58**	**274**	*eP*	**P**	**15 06 15.5**	**+0.6**
	comp=Z,8.7nm,0.8s,mb4.7						
GKN	**Gorkha**	**56.62**	**275**	*eP*	**P**	**15 06 15.1**	**0.0**
	comp=Z,8.6nm,0.6s,mb4.7						
WVOR	**Wild Horse Val**	**57.14**	**62**	*eP*	**P**	**15 06 19.9**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WVOR	**Wild Horse Val**	**57.14**	**62**	*eP*	**P**	**15 06 19.9**	**+1.0**
	comp=Z,16nm,0.9s,mb4.9						
CHMT	**Chamberlain Mo**	**57.22**	**55**	*eP*	**P**	**15 06 19.6**	**+0.3**
AKTK	**Aktyubinsk**	**57.41**	**311**	P	**P**	**15 06 20.2**	**-0.6**
AKTK				ScP	ScP	15 10 59.6	-0.5
AKTO	**Aktyubinsk**	**57.41**	**311**	P	**P**	**15 06 20.2**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.1,baz=56,slow=8.4,SNR=6.2						
AKTO				ScP	ScP	15 10 59.6	-0.5
	comp=Z,2.7nm,0.9s,baz=38,slow=2.5,SNR=6.8						
AKTO	**Aktyubinsk**	**57.41**	**311**	P	**P**	**15 06 20.2**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
KOLN	**Koldanda**	**57.44**	**276**	*eP*	**P**	**15 06 20.7**	**-0.2**
	comp=Z,7.4nm,0.9s,mb4.5						
FFC	**Flin Flon**	**57.52**	**42**	*eP*	**P**	**15 06 21.8**	**+0.3**
FFC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
FFC	**Flin Flon**	**57.52**	**42**	*eP*	**P**	**15 06 21.8**	**+0.3**
	comp=Z,12nm,0.8s,mb4.8						
HRY	**Holter Researc**	**58.09**	**54**	*eP*	**P**	**15 06 26.0**	**+0.6**
DLMT	**Dillon**	**58.57**	**56**	*eP*	**P**	**15 06 29.7**	**+0.9**
	comp=Z,7.7nm,0.8s,mb4.6						
MCMT	**McKenzie Canyo**	**58.78**	**56**	*eP*	**P**	**15 06 31.0**	**+0.7**
BOZ	**Bozeman (W)**	**58.89**	**55**	*eP*	**P**	**15 06 30.2**	**-0.8**
BOZ				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.0						
BOZ	**Bozeman (W)**	**58.89**	**55**	*eP*	**P**	**15 06 30.2**	**-0.8**
	comp=Z,17nm,0.7s,mb5.0						
BMN	**Battle Mountai**	**59.26**	**63**	*eP*	**P**	**15 06 34.8**	**+1.3**
BMN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
BMN	**Battle Mountai**	**59.26**	**63**	*eP*	**P**	**15 06 34.8**	**+1.2**
	comp=Z,17nm,0.9s,mb4.9						
QLMT	**Earthquake Lak**	**59.54**	**55**	*eP*	**P**	**15 06 36.6**	**+1.1**
PMG	**Port Moresby**	**59.56**	**189**	P	**P**	**15 06 35.1**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.1,baz=230,slow=22,SNR=4.0						
NVAR	**Mina Array Bea**	**59.96**	**65**	P	**P**	**15 06 39.4**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8,baz=284,slow=9.3,SNR=85						
MNV	**Mina**	**60.04**	**65**	*eP*	**P**	**15 06 39.8**	**+0.9**
MNV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
MNV	**Mina**	**60.04**	**65**	*eP*	**P**	**15 06 39.8**	**+0.8**
	comp=Z,8.3nm,0.7s,mb4.7						
DGMT	**Dagmar**	**60.75**	**48**	*eP*	**P**	**15 06 44.1**	**+0.3**
	comp=Z,45nm,1.3s,mb5.1						
LOHW	**Long Hollow**	**60.80**	**56**	*eP*	**P**	**15 06 45.7**	**+1.6**
	comp=Z,19nm,1.1s,mb4.8						
TPH	**Tonopah**	**60.83**	**65**	*eP*	**P**	**15 06 45.0**	**+0.8**
TPH				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
TPH	**Tonopah**	**60.83**	**65**	*eP*	**P**	**15 06 45.0**	**+0.7**
	comp=Z,23nm,1.0s,mb5.0						
REDW	**Red Top Meadow**	**60.83**	**56**	*eP*	**P**	**15 06 45.8**	**+1.5**
	comp=Z,38nm,1.3s,mb5.1						
LAO	**LASA Array**	**60.98**	**51**	*eP*	**P**	**15 06 46.1**	**+0.8**
	comp=Z,27nm,0.8s,mb5.1						
FINES	**FINESS Array B**	**61.56**	**335**	P	**P**	**15 06 48.4**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.7,baz=29,slow=6.4,SNR=8.0						
HWUT	**Hardware Ranch**	**61.64**	**58**	*eP*	**P**	**15 06 50.6**	**+0.9**
	comp=Z,9.7nm,0.8s,mb4.7						
DUG	**Dugway**	**61.91**	**60**	*eP*	**P**	**15 06 52.6**	**+1.1**
DUG				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
DUG	**Dugway**	**61.91**	**60**	*eP*	**P**	**15 06 52.6**	**+1.1**
	comp=Z,16nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**61.93**	**56**	P	**P**	**15 06 52.5**	**+0.8**
	comp=Z,11nm,0.8s,mb4.7,baz=318,slow=2.1,SNR=92						
OBN	**Obninsk**	**63.25**	**325⇑**	*eP*	**P**	**15 07 01.2**	**+0.8**
OBN				*e*		15 09 21.0	
OBN				*e*S	**S**	**15 15 13.0**	**-8.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
ULM	**Lac du Bonnet**	**63.32**	**43**	P	**P**	**15 07 00.2**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.3,baz=328,slow=8.4,SNR=8.7						
TMUT	**Trail Mountain**	**63.42**	**60**	*eP*	**P**	**15 07 02.3**	**+0.7**
RSSD	**Black Hills**	**63.87**	**52**	*eP*	**P**	**15 07 05.1**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
RSSD	**Black Hills**	**63.87**	**52**	*eP*	**P**	**15 07 05.1**	**+0.6**
	comp=Z,19nm,0.9s,mb4.9						
NOA	**NORSAR Array B**	**65.49**	**341**	P	**P**	**15 07 14.7**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.7,baz=24,slow=7.1,SNR=2.7						
NOA				LR	LR	15 40 02.7	
	comp=Z,24nm,18.9s,baz=350,slow=40						
SMCO	**Snowmass**	**65.84**	**57**	*eP*	**P**	**15 07 18.1**	**+0.8**
	comp=Z,9.4nm,0.8s,mb4.7						
ISCO	**Idaho Springs**	**66.13**	**56**	*eP*	**P**	**15 07 20.5**	**+1.4**
ISCO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ISCO	**Idaho Springs**	**66.13**	**56**	*eP*	**P**	**15 07 20.5**	**+1.4**
	comp=Z,14nm,1.0s,mb4.8						
SDCO	**Great Sand Dun**	**67.67**	**58**	*eP*	**P**	**15 07 29.8**	**+0.9**
	comp=Z,18nm,1.5s,mb4.6						
TUC	**Tucson**	**68.61**	**65**	*eP*	**P**	**15 07 35.3**	**+0.6**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
TUC	**Tucson**	**68.61**	**65**	*eP*	**P**	**15 07 35.3**	**+0.6**
	comp=Z,5.3nm,1.1s,mb4.2						
KIV	**Kislovodsk**	**69.33**	**314**	*c iP*	**P**	**15 07 40.2**	**+1.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
AKASG	**Malin Array Be**	**69.45**	**326**	P	**P**	**15 07 38.0**	**-1.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=31,slow=5.6,SNR=4.9						
AKASG				pP	pP	15 08 11.8	-1.1
	comp=Z,1.5nm,0.7s,baz=31,slow=6.3,SNR=2.5						
SCHQ	**Schefferville**	**69.85**	**24**	P	**P**	**15 07 42.3**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.1,baz=357,slow=11,SNR=3.0						
CTA	**Charters Tower**	**70.21**	**189**	*eP*	**P**	**15 07 43.3**	**-1.2**
	comp=Z,5.2nm,0.7s,mb4.4						
CTA	**Charters Tower**	**70.21**	**189**	P	**P**	**15 07 43.4**	**-1.2**
	comp=Z,7.2nm,0.7s,mb4.5,baz=30,slow=6.2,SNR=8.2						
CTAO	**Charters Tower**	**70.21**	**189**	*eP*	**P**	**15 07 43.2**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
CTAO	**Charters Tower**	**70.21**	**189**	*eP*	**P**	**15 07 43.2**	**-1.3**
	comp=Z,6.3nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**71.97**	**200**	*eP*	**P**	**15 07 54.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**71.97**	**200**	*eP*	**P**	**15 07 54.1**	**-1.0**
	comp=Z,7.0nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**71.98**	**200**	*eP*	**P**	**15 07 54.4**	**-0.8**
WRA	**Warramunga Arr**	**71.98**	**200**	P	**P**	**15 07 54.5**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.1,baz=18,slow=6.7,SNR=23						
WRA				pP	pP	15 08 25.6	-2.9
	comp=Z,1.8nm,0.9s,baz=19,slow=6.5,SNR=3.9						
MNTX	**Cornudas Mount**	**72.18**	**62**	*eP*	**P**	**15 07 57.0**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**73.53**	**55**	*eP*	**P**	**15 08 04.2**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
WMOK	**Wichita Mounta**	**73.53**	**55**	*eP*	**P**	**15 08 04.2**	**-0.2**
	comp=Z,13nm,1.0s,mb4.6						
TXAR	**Lajitas Array**	**74.93**	**62**	P	**P**	**15 08 13.2**	**+0.7**
	comp=Z,13nm,0.6s,mb4.7,baz=297,slow=4.3,SNR=104						
FVM	**French Village**	**75.23**	**48**	P	**P**	**15 08 13.8**	**-0.4**
FVM				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
FVM	**French Village**	**75.23**	**48**	P	**P**	**15 08 13.8**	**-0.3**
	comp=Z,10nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**75.68**	**200**	P	**P**	**15 08 16.4**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.8,baz=11,slow=5.5,SNR=27						
KHC	**Kasperske Hory**	**75.77**	**335**	*eP*	**P**	**15 08 23.0**	**+5.7**
JCT	**Junction City**	**76.23**	**59**	*eP*	**P**	**15 08 20.0**	**+0.1**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
JCT	**Junction City**	**76.23**	**59**	*eP*	**P**	**15 08 20.0**	**+0.1**
	comp=Z,10nm,0.7s,mb4.6						
MIAR	**Mount Ida**	**76.39**	**52**	*eP*	**P**	**15 08 20.8**	**0.0**
MIAR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
MIAR	**Mount Ida**	**76.39**	**52**	*eP*	**P**	**15 08 20.8**	**0.0**
	comp=Z,13nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**76.77**	**317**	P	**P**	**15 08 22.4**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=90,slow=3.7,SNR=5.0						
BRTR				pP	pP	15 08 56.0	-0.5
	comp=Z,2.5nm,1.1s,baz=0.0,slow=1.2,SNR=3.8						
WCI	**Wyandotte Cave**	**76.97**	**45**	*eP*	**P**	**15 08 24.2**	**+0.2**
WCI				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
WCI	**Wyandotte Cave**	**76.97**	**45**	*eP*	**P**	**15 08 24.2**	**+0.2**
	comp=Z,14nm,1.0s,mb4.5						
WVT	**Waverly**	**77.95**	**47**	*eP*	**P**	**15 08 29.8**	**+0.3**
WVT				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
WVT	**Waverly**	**77.95**	**47**	*eP*	**P**	**15 08 29.8**	**+0.3**
	comp=Z,12nm,1.2s,mb4.4						
CDF	**Champ du Feu**	**78.04**	**339**	*eP*	**P**	**15 08 30.1**	**+0.1**
	comp=Z,16nm,1.1s,mb4.3						
FLN	**La Foliniere**	**79.33**	**344**	*eP*	**P**	**15 08 36.8**	**-0.2**
LDF	**La Druitiere**	**79.42**	**343**	*eP*	**P**	**15 08 37.5**	**0.0**
	comp=Z,113nm,1.7s,mb4.9						
GRR	**Gorron**	**79.75**	**344**	*eP*	**P**	**15 08 39.2**	**-0.1**
LOR	**Lormes**	**79.89**	**340**	*eP*	**P**	**15 08 40.0**	**-0.1**
CABF	**La Chapelle**	**80.01**	**339**	*eP*	**P**	**15 08 39.8**	**-0.9**
	comp=Z,108nm,1.7s,mb4.9						
SSF	**Saint Saulge**	**80.16**	**341**	*eP*	**P**	**15 08 40.6**	**-0.9**
AVF	**Avril sur Loir**	**80.45**	**341**	*eP*	**P**	**15 08 42.1**	**-1.0**
	comp=Z,31nm,1.3s,mb4.5						
SMF	**Signal de Mont**	**80.48**	**340**	*eP*	**P**	**15 08 43.4**	**+0.2**
	comp=Z,26nm,1.1s,mb4.5						
LPL	**La Plagne**	**80.88**	**338**	*eP*	**P**	**15 08 45.3**	**-0.1**
LPG	**La Plagne**	**80.90**	**338**	*eP*	**P**	**15 08 45.6**	**+0.2**
	comp=Z,29nm,1.1s,mb4.5						
MBDF	**Montbardon**	**81.61**	**338**	*eP*	**P**	**15 08 48.7**	**-0.5**
ORIF	**Oris-en-Rattie**	**81.65**	**338**	*eP*	**P**	**15 08 48.7**	**-0.7**
VIVF	**Saint-Julien-l**	**81.99**	**339**	*eP*	**P**	**15 08 50.8**	**-0.4**
	comp=Z,9.4nm,0.8s,mb4.2						
RJF	**Les Rejaudoux**	**82.26**	**341**	*eP*	**P**	**15 08 52.1**	**-0.5**
SBF	**Sospel**	**82.26**	**337**	*eP*	**P**	**15 08 52.0**	**-0.6**
	comp=Z,62nm,1.0s,mb4.9						
CAF	**Calviac**	**82.50**	**341**	*eP*	**P**	**15 08 53.8**	**-0.1**
	comp=Z,37nm,1.2s,mb4.7						
FRF	**La Foret Royal**	**82.74**	**337**	*eP*	**P**	**15 08 54.4**	**-0.7**
LFF	**La Frestale**	**82.77**	**342**	*eP*	**P**	**15 08 54.5**	**-0.7**
LASF	**Ste Croix**	**82.92**	**339**	*eP*	**P**	**15 08 55.8**	**-0.2**
LMR	**La Mourre**	**82.99**	**337**	*eP*	**P**	**15 08 55.6**	**-0.8**
MTLF	**Montolieu**	**83.98**	**340**	*eP*	**P**	**15 09 00.9**	**-0.5**
LPAZ	**La Paz**	**131.79**	**61**	PKIKP	PKPd

YOA	**Uoyan**	**0.94**	**33**⇑	*i*Pg	**Pg**	**15 31 35.4**	**-0.9**
YOA				*e*Pb	**Pb**	**15 31 37.9**	**+1.0**
YOA				max		15 31 40.7	
	comp=N,6μm,0.5s						
YOA				*e*Sg	**Sg**	**15 31 47.8**	**-0.6**
YOA				Smax		15 31 58.5	
	comp=N,43μm,0.6s						
YOA	**Uoyan**	**0.94**	**33**⇑	*i*PG	**Pg**	**15 31 35.4**	**-0.9**
YOA				*e*		15 31 48.7	
YOA				pmax	pmax		
	comp=Z,4μm,0.5s						
YOA				smax			
	comp=N,1μm,0.6s						
UKT	**Uakit**	**1.60**	**84**	*e*Pg	**Pg**	**15 31 46.7**	**-2.4**
UKT				*e*		15 31 48.3	
UKT				max		15 31 50.8	
	comp=N,6μm,0.8s						
UKT				*e*Sg	**Sg**	**15 32 07.9**	**-2.0**
UKT				*e*		15 32 10.5	
UKT				max		15 32 11.4	
	comp=N,20μm,1.9s						
UKT	**Uakit**	**1.60**	**84**	*e*PN	**Pn**	**15 31 46.5**	**-0.7**
UKT				*e*		15 32 07.2	
UKT				pmax	pmax		
	comp=Z,2μm,0.4s						
UKT				smax			
	comp=N,2μm,0.4s						
SVKR	**Severomuysk**	**1.73**	**63**⇓	*i*Pg	**Pg**	**15 31 49.5**	**-1.9**
SVKR				Pmax		15 31 50.8	
	comp=N,12μm,0.5s						
SVKR				*e*Sg	**Sg**	**15 32 13.2**	**-0.6**
SVKR				Smax		15 32 16.1	
	comp=N,45μm,0.9s						
SVKR	**Severomuysk**	**1.73**	**63**	*e*PN	**Pn**	**15 31 49.4**	**+0.5**
SVKR				*e*		15 31 50.2	
SVKR				*e*		15 32 13.1	
SVKR				pmax	pmax		
	comp=Z,12μm,0.4s						
SVKR				smax			
	comp=N,4μm,0.9s						
SYVR	**Suvo**	**1.76**	**196**	*e*Pn	**Pn**	**15 31 50.0**	**+0.6**
SYVR				*e*Pg	**Pg**	**15 31 50.9**	**-1.2**
SYVR				Pmax		15 31 52.6	
	comp=N,3μm,0.9s						
SYVR				*e*Sg	**Sg**	**15 32 14.8**	**-0.2**
SYVR				Smax		15 32 19.3	
	comp=N,13μm,1.1s						
SYVR	**Suvo**	**1.76**	**196**	*e*PN	**Pn**	**15 31 50.1**	**+0.7**
SYVR				*e*		15 32 14.3	
SYVR				pmax	pmax		
	comp=Z,3μm,0.6s						
SYVR				smax			
	comp=N,11μm,0.8s						
MXMB	**Maximikha**	**2.42**	**211**	*e*Pn	**Pn**	**15 32 00.1**	**+1.7**
MXMB				*e*Pg	**Pg**	**15 32 03.1**	**-1.6**
MXMB				Pmax		15 32 04.4	
	comp=N,3μm,1.0s						
MXMB				*i* Sg	**Sg**	**15 32 35.6**	**-0.5**
MXMB				Smax		15 32 39.3	
	comp=N,48μm,0.9s						
OGRR	**Ongureny**	**2.54**	**229**	*e*Pn	**Pn**	**15 32 01.3**	**+1.2**
OGRR				*e*Pg	**Pg**	**15 32 04.4**	**-2.7**
OGRR				Pmax		15 32 07.6	
	comp=N,660nm,1.1s						
OGRR				*e*Sn	**Sn**	**15 32 31.4**	**0.0**
OGRR				*e*Sg	**Sg**	**15 32 37.5**	**-2.5**
OGRR				Smax		15 32 40.6	
	comp=N,5μm,1.1s						
OGRR	**Ongureny**	**2.54**	**229**	*e*PN	**Pn**	**15 32 01.4**	**+1.3**
OGRR				*e*		15 32 05.2	
OGRR				*e*		15 32 37.6	
OGRR				pmax	pmax		
	comp=Z,759nm,0.8s						
OGRR				smax			
	comp=E,5μm,1.2s						
NLYR	**Nelyaty**	**2.98**	**65**⇓	*i*Pn	**Pn**	**15 32 06.7**	**+0.7**
NLYR				*e*Pg	**Pg**	**15 32 10.7**	**-4.6**
NLYR				Pmax		15 32 18.9	
	comp=E,1μm,0.7s						
NLYR				*e*Sn	**Sn**	**15 32 41.2**	**-0.8**
NLYR				*e*Sg	**Sg**	**15 32 50.0**	**-3.9**
NLYR				Smax		15 32 54.9	
	comp=E,16μm,1.2s						
NLYR	**Nelyaty**	**2.98**	**65**	*e*PN	**Pn**	**15 32 06.7**	**+0.7**
NLYR				*e*		15 32 14.0	
NLYR				*e*S	**Sn**	**15 32 41.0**	**-1.0**
NLYR				*e*		15 32 50.1	
NLYR				pmax	pmax		
	comp=Z,1μm,0.6s						
NLYR				smax			
	comp=N,6μm,1.1s						
BOD	**Bodaibo**	**3.04**	**34**⇓	*i*Pn	**Pn**	**15 32 06.8**	**-0.1**
BOD				*e*		15 32 07.8	
BOD				*e*Pg	**Pg**	**15 32 11.6**	**-4.9**
BOD				Pmax		15 32 18.0	
	comp=N,840nm,0.8s						
BOD				*e*Sn	**Sn**	**15 32 43.4**	**-0.1**
BOD				*e*Sg	**Sg**	**15 32 51.1**	**-4.7**
BOD				Smax		15 32 52.2	
	comp=N,4μm,1.2s						
BOD	**Bodaibo**	**3.04**	**34**	*e*PN	**Pn**	**15 32 05.8**	**-1.1**
BOD				*e*		15 32 11.3	
BOD				*e*		15 32 49.5	
BOD				pmax	pmax		
	comp=Z,626nm,0.4s						
BOD				smax			
	comp=E,4μm,0.8s						
KELR	**Kotokel**	**3.06**	**213**	*e*Pn	**Pn**	**15 32 08.4**	**+1.2**
KELR				*e*Pg	**Pg**	**15 32 13.4**	**-3.5**
KELR				*e*Sg	**Sg**	**15 32 53.3**	**-3.3**
ZRHB	**Zarechye**	**3.54**	**219**	*e*Pn	**Pn**	**15 32 14.8**	**+1.0**
ZRHB				*e*Pg	**Pg**	**15 32 21.4**	**-4.8**
ZRHB				Pmax		15 32 29.2	
	comp=E,1μm,0.7s						
ZRHB				*e*Sg	**Sg**	**15 33 07.8**	**-4.3**
ZRHB				Smax		15 33 12.6	
	comp=E,11μm,1.2s						
TRTB	**Turuntaevo**	**3.66**	**212**	*e*Pn	**Pn**	**15 32 16.9**	**+1.5**
TRTB				*e*Pg	**Pg**	**15 32 23.4**	**-5.0**
TRTB				Pmax		15 32 29.1	
	comp=E,656nm,1.3s						
TRTB				*e*Sg	**Sg**	**15 33 12.3**	**-3.4**
TRTB				Smax		15 33 15.2	
	comp=E,4μm,1.5s						
TRG	**Tyrgan**	**3.70**	**227**⇑	*i*Pn	**Pn**	**15 32 17.0**	**+1.0**
TRG				*e*		15 32 28.0	
TRG				max		15 32 30.6	
	comp=E,621nm,1.4s						
TRG				*e*Sn	**Sn**	**15 32 56.7**	**-3.2**
TRG				*e*Sg	**Sg**	**15 33 13.8**	**-3.4**
TRG				Smax		15 33 22.0	
	comp=E,3μm,1.4s						
TRG	**Tyrgan**	**3.70**	**227**⇑	*i*PN	**Pn**	**15 32 17.1**	**+1.1**
TRG				*e*		15 32 26.0	
TRG				*e*S	**Sn**	**15 33 00.4**	**+0.5**
TRG				*e*		15 33 13.8	
TRG				pmax	pmax		
	comp=Z,627nm,1.0s						
TRG				smax			
	comp=E,3μm,1.1s						
CIT	**Chita**	**3.71**	**153**	*e*Pn	**Pn**	**15 32 15.7**	**-0.4**
CIT				*e*Pg	**Pg**	**15 32 24.1**	**-5.3**
CIT				Pmax		15 32 26.8	
	comp=E,1μm,1.8s						
CIT				*e*Sn	**Sn**	**15 32 59.0**	**-1.2**
CIT				*e*Sg	**Sg**	**15 33 11.8**	**-5.7**
CIT				Smax		15 33 14.0	
	comp=E,5μm,1.5s						
CIT	**Chita**	**3.71**	**153**	*e*PN	**Pn**	**15 32 15.7**	**-0.4**
CIT				*e*		15 32 24.1	
CIT				*e*S	**Sn**	**15 32 59.2**	**-1.0**
CIT				*e*		15 33 11.8	
CIT				pmax	pmax		
	comp=Z,1μm,1.6s						
CIT				smax			
	comp=E,5μm,1.7s						
KAB	**Kabansk**	**4.13**	**219**	*e*Pg	**Pg**	**15 32 32.3**	**-5.2**
KAB				Pmax		15 32 36.5	
	comp=E,730nm,0.7s						
KAB				*e*Sg	**Sg**	**15 33 26.8**	**-4.2**
KAB				Smax		15 33 42.4	
	comp=E,11μm,1.4s						
KAB	**Kabansk**	**4.13**	**219**	*e*PN	**Pg**	**15 32 34.7**	**-2.8**
KAB				*e*		15 33 27.6	
KAB				pmax	pmax		
	comp=Z,784nm,0.9s						
KAB				smax			
	comp=N,12μm,1.3s						
STDB	**Stepnoy Dvoret**	**4.14**	**221**	*e*Pn	**Pn**	**15 32 23.6**	**+1.5**
STDB				*e*Pg	**Pg**	**15 32 33.7**	**-4.0**
STDB				Pmax		15 32 44.3	
	comp=N,639nm,0.9s						
STDB				*e*Sg	**Sg**	**15 33 29.8**	**-1.5**
STDB				Smax		15 34 01.0	
	comp=N,14μm,1.2s						
CRS	**Chara**	**4.45**	**67**⇓	*i*Pn	**Pn**	**15 32 27.1**	**+0.8**
CRS				*e*Pg	**Pg**	**15 32 37.7**	**-5.8**
CRS				Pmax		15 32 42.8	
	comp=N,1μm,1.3s						
CRS				*e*Sn	**Sn**	**15 33 16.8**	**-1.5**
CRS				*e*Sg	**Sg**	**15 33 35.1**	**-6.0**
CRS				Smax		15 33 43.2	
	comp=N,8μm,1.8s						
CRS	**Chara**	**4.45**	**67**	*e*PN	**Pn**	**15 32 27.2**	**+0.9**
CRS				*e*		15 32 37.3	
CRS				*e*		15 33 35.2	
CRS				pmax	pmax		
	comp=Z,1μm,1.3s						
CRS				smax			
	comp=E,8μm,1.8s						
BTMB	**Babushkin**	**4.72**	**221**	*e*Pn	**Pn**	**15 32 29.8**	**-0.2**
BTMB				*e*Pg	**Pg**	**15 32 42.9**	**-5.8**
BTMB				Pmax		15 32 47.3	
	comp=E,270nm,0.6s						
BTMB				*e*Sn	**Sn**	**15 33 23.5**	**-1.5**
BTMB				*e*Sg	**Sg**	**15 33 46.0**	**-3.8**
BTMB				Smax		15 33 54.5	
	comp=E,2μm,0.8s						
IRK	**Irkutsk**	**4.98**	**234**	Pn	**Pn**	**15 32 34.6**	**+1.0**
IRK				*e*Pg	**Pg**	**15 32 47.3**	**-6.4**
IRK				Pmax		15 32 56.6	
	comp=E,504nm,0.6s						
IRK				*e*Sg	**Sg**	**15 33 52.2**	**-5.9**
IRK				Smax		15 33 54.7	
	comp=E,10μm,1.1s						
IRK	**Irkutsk**	**4.98**	**234**	*e*PN	**Pn**	**15 32 34.2**	**+0.6**
IRK				*e*		15 32 48.2	
IRK				*e*		15 33 52.7	
IRK				pmax	pmax		
	comp=Z,245nm,0.4s						
IRK				smax			
	comp=N,10μm,1.1s						
LSTR	**Listvyanka**	**4.99**	**228**⇑	*i*Pn	**Pn**	**15 32 34.0**	**+0.3**
LSTR				*e*		15 32 36.9	
LSTR				*e*Pg	**Pg**	**15 32 48.0**	**-5.9**
LSTR				Pmax		15 32 58.1	
	comp=N,265nm,0.6s						
LSTR				*e*Sn	**Sn**	**15 33 28.9**	**-2.8**
LSTR				*e*Sg	**Sg**	**15 33 52.9**	**-5.6**
LSTR				Smax		15 34 03.9	
	comp=N,2μm,1.1s						
LSTR	**Listvyanka**	**4.99**	**228**⇑	*i*PN	**Pn**	**15 32 34.0**	**+0.3**
LSTR				*e*		15 32 50.4	
LSTR				*e*		15 33 51.8	
LSTR				pmax	pmax		
	comp=Z,267nm,0.7s						
LSTR				smax			
	comp=N,2μm,1.1s						
TUP	**Tupik**	**5.35**	**96**⇓	*i*Pn	**Pn**	**15 32 38.9**	**+0.2**
TUP				*e*Pg	**Pg**	**15 32 53.0**	**-7.9**
TUP				Pmax		15 32 55.2	
	comp=N,383nm,0.8s						
TUP				*e*Sn	**Sn**	**15 33 37.5**	**-3.2**
TUP				*e*Sg	**Sg**	**15 34 02.9**	**-7.3**
TUP				Smax		15 34 07.9	
	comp=N,8μm,1.4s						
TUP	**Tupik**	**5.35**	**96**	*e*PN	**Pn**	**15 32 38.7**	**0.0**
TUP				*e*		15 32 54.0	
TUP				*e*S	**Sn**	**15 33 37.5**	**-3.2**
TUP				*e*		15 34 01.6	
TUP				pmax	pmax		
	comp=Z,354nm,0.6s						
TUP				smax			
	comp=N,7μm,1.5s						
KHNR	**Khani**	**5.36**	**69**	*e*Pn	**Pn**	**15 32 39.9**	**+1.1**
KHNR				*e*		15 32 42.1	
KHNR				*e*Sg	**Sg**	**15 34 03.6**	**-6.8**
TLY	**Talaya**	**5.64**	**232**⇓	*i*Pn	**Pn**	**15 32 42.6**	**-0.1**
TLY				*e*Pg	**Pg**	**15 32 58.8**	**-7.6**
TLY				Pmax		15 33 05.6	
	comp=N,241nm,1.0s						
TLY				*e*		15 33 51.3	
TLY				*e*Sg	**Sg**	**15 34 12.6**	**-6.9**
TLY				Smax		15 34 22.9	
	comp=N,2μm,1.1s						
TLY	**Talaya**	**5.64**	**232**⇑	*i*PN	**Pn**	**15 32 42.6**	**-0.1**
TLY				*e*		15 32 59.3	
TLY				*e*S	**Sn**	**15 33 45.6**	**-2.2**
KPC	**Khapcheranga**	**5.74**	**170**	*e*Pn	**Pn**	**15 32 42.9**	**-1.1**
KPC				*e*Pg	**Pg**	**15 33 00.8**	**-7.4**
KPC				Pmax		15 33 07.2	
	comp=N,168nm,1.4s						
KPC				*e*Sg	**Sg**	**15 34 16.4**	**-6.1**
KPC				Smax		15 34 23.8	
	comp=N,4μm,1.2s						
KPC	**Khapcheranga**	**5.74**	**170**	*e*PN	**Pn**	**15 32 43.1**	**-0.9**
KPC				*e*		15 33 03.4	
KPC				*e*		15 34 16.0	
KPC				pmax	pmax		
	comp=Z,167nm,0.8s						
KPC				smax			
	comp=E,4μm,1.3s						
ARS	**Arshan**	**6.06**	**239**	*e*Pn	**Pn**	**15 32 48.5**	**0.0**
ARS				*e*		15 33 11.3	
ARS				max		15 33 12.9	
	comp=E,429nm,0.7s						
ARS				*e*Sn	**Sn**	**15 33 58.3**	**+0.1**
ARS				*e*Sg	**Sg**	**15 34 26.3**	**-6.7**
ARS				Smax		15 34 31.8	
	comp=E,6μm,1.3s						
ARS	**Arshan**	**6.06**	**239**	*e*PN	**Pn**	**15 32 47.9**	**-0.6**
ZAK	**Zakamensk**	**6.75**	**226**	*e*Pn	**Pn**	**15 32 59.4**	**+1.5**
ZAK				*e*Pg	**Pg**	**15 33 19.5**	**-8.1**
ZAK				*e*		15 33 24.5	
ZAK				max		15 33 27.2	
	comp=E,89nm,0.8s						
ZAK				*e*Sg	**Sg**	**15 34 48.1**	**-7.0**
ZAK				Smax		15 34 55.7	
	comp=E,1μm,1.2s						
ZAK	**Zakamensk**	**6.75**	**226**	*e*PN	**Pn**	**15 32 58.8**	**+0.9**
ZAK				*e*		15 33 19.8	
MOY	**Mondy**	**6.93**	**242**	*e*Pn	**Pn**	**15 33 01.6**	**+1.3**
MOY				max		15 33 19.6	
	comp=E,390nm,1.5s						
MOY				Smax		15 34 07.3	
	comp=E,4μm,1.8s						
MOY				*e*Sn	**Sn**	**15 34 19.8**	**+0.4**
MOY				*e*Sg	**Sg**	**15 34 54.7**	**-6.0**
MOY	**Mondy**	**6.93**	**242**	*e*PN	**Pn**	**15 33 01.5**	**+1.2**
MOY				*e*		15 33 23.1	
MOY				*e*		15 34 53.8	
MOY				pmax	pmax		
	comp=Z,134nm,0.7s						
MOY				smax			
	comp=N,4μm,2.0s						
ORL	**Orlik**	**7.08**	**251**	*e*Pn	**Pn**	**15 33 03.5**	**+1.0**
ORL				max		15 33 06.6	
	comp=N,333nm,1.5s						
ORL				*e*Sn	**Sn**	**15 34 21.9**	**-1.4**
ORL				*e*Sg	**Sg**	**15 34 57.1**	**-8.6**
ORL				Smax		15 35 00.8	
	comp=N,3μm,1.3s						
ORL	**Orlik**	**7.08**	**251**	*e*PN	**Pn**	**15 33 03.4**	**+0.9**
ORL				*e*S	**Sg**	**15 34 59.0**	**-6.7**
ORL				smax			
	comp=N,3μm,1.3s						
ULN	**Ulaanbaatar**	**7.86**	**199**	*e*PN	**Pn**	**15 33 12.6**	**-0.5**
ULN				*e*		15 34 40.0	
ULN				*e*		15 35 25.5	
ULN				pmax	pmax		
	comp=Z,35nm,0.6s						
ULN	**Ulaanbaatar**	**7.86**	**199**	*e*Pn	**Pn**	**15 33 12.6**	**-0.5**
	comp=Z,35nm,0.6s						
ULN				*e*Sn	**Sn**	**15 34 40.0**	**-2.3**
ULN				*e*Sg	**Sg**	**15 35 25.4**	**-5.0**
NRGR	**Nerungri**	**7.90**	**75**	*e*PN	**Pn**	**15 33 14.0**	**+0.3**
CLNS	**Chul'man**	**8.01**	**74**	*e*PN	**Pn**	**15 33 15.8**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,18nm,0.5s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.6s						
CLNS				MLR	MLR		
	comp=E,100nm,9.0s						
CLNS				MLR	MLR		
	comp=Z,100nm,9.0s						
CLNS				MLR	MLR		
	comp=N,136nm,13.0s						
SONM	**Songino Array**	**8.02**	**202**	Pn	**Pn**	**15 33 16.7**	**+1.5**
	comp=N,3.6nm,0.3s,baz=12,slow=13,SNR=73						
SONM				Sn	**Sn**	**15 34 48.5**	**+2.2**
	comp=N,4.3nm,0.3s,baz=16,slow=26,SNR=5.8						
SONM				Lg		15 35 31.3	
	comp=N,18nm,0.3s,baz=19,slow=26,SNR=16						
SONM				LR	LR	15 36 35.6	
	comp=N,568nm,20.3s,baz=37,slow=40						
SONM	**Songino Array**	**8.02**	**202**	PN	**Pn**	**15 33 16.7**	**+1.4**
SONM						15 34 48.5	
KRAR	**Krasnoyarsk**	**10.16**	**281**⇑	*e*P	**Pn**	**15 33 43.9**	**-0.8**
YAK	**Yakutsk**	**11.84**	**48**	*e*P	**Pn**	**15 34 04.4**	**-3.3**
YAK				*e*		15 36 17.1	
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				smax			
	comp=Z,12nm,0.9s						
YAK				smax			
	comp=N,30nm,1.2s						
YAK				smax			
	comp=E,24nm,1.0s						
YAK	**Yakutsk**	**11.84**	**48**	*e*Pn	**Pn**	**15 34 03.6**	**-4.1**
	comp=E,31nm,0.6s						
YAK				*e*Sg	Sn	15 37 19.3	+59
KLR	**Kul'dur**	**14.17**	**107**	*e*P	**Pn**	**15 34 37.0**	**-2.5**
KLR				MLR	MLR		
	comp=N,1μm,7.0s						
KLR				MLR	MLR		
	comp=E,2μm,7.0s						
KLR				MLR	MLR		
	comp=Z,4μm,7.0s						
HHC	**Hu-ho-hao-te**	**14.52**	**178**	*e*P	**Pn**	**15 34 46.0**	**+1.7**
HHC				AP	pP	15 34 49.9	-2.8
HHC				XP	sP	15 34 52.9	-0.6
HHC				PP		15 34 57.7	
HHC				S	**Sn**	**15 37 28.2**	**+2.6**
HHC				XS	sS	15 37 34.2	-14
HHC				SS		15 37 46.2	
HHC				AMB	AMB		
	comp=Z,11nm,1.2s						
HHC				AMB	AMB		
	comp=Z,197nm,4.8s						
HHC				LR	LR		
	comp=N,839nm,7.8s						
HHC				LR	LR		
	comp=E,4μm,9.6s						
HHC				LR	LR		
	comp=Z,690nm,9.0s						
CN2	**Changchun**	**14.92**	**135**	*e*P	**Pn**	**15 34 51.0**	**+1.3**
CN2				*e*XP	sP	15 34 58.0	+0.1
CN2				*e*S	**Sn**	**15 37 37.0**	**+1.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,6.0s						
CN2				LR	LR		
	comp=E,700nm,6.0s						
CN2				LR	LR		
	comp=Z,1μm,6.0s						
NVS	**Novosibirsk**	**15.76**	**280**	*e*P	**Pn**	**15 34 59.3**	**-1.5**
NVS				*e*S	**Sn**	**15 37 57.3**	**+1.5**
NVS				pmax	pmax		
	comp=N,24nm,1.4s						
NVS				pmax	pmax		
	comp=E,46nm,1.4s						
NVS				pmax	pmax		
	comp=Z,34nm,1.4s						
NVS				smax			
	comp=N,60nm,2.0s						
NVS				smax			
	comp=E,79nm,2.0s						
SNY	**Shenyang**	**15.91**	**143**	⇑P	**Pn**	**15 35 06.3**	**+3.5**
SNY				S	**Sn**	**15 38 01.4**	**+2.0**
SNY				AMB	AMB		
	comp=Z,30nm,2.9s						
SNY				AMB	AMB		
	comp=Z,290nm,4.8s						
SNY				LR	LR		
	comp=N,2μm,10.2s						
SNY				LR	LR		
	comp=Z,800nm,12.6s						
MDJ	**Mudanjiang**	**16.10**	**124**	P	**Pn**	**15 35 04.8**	**-0.5**
MDJ				S	**Sn**	**15 38 03.1**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,88nm,3.1s						
MDJ				LR	LR		
	comp=N,268nm,14.0s						
MDJ				LR	LR		
	comp=E,193nm,14.5s						
MDJ				LR	LR		
	comp=Z,387nm,15.2s						
HABR	**Khabarovsk**	**16.40**	**105**	*i* P	**Pn**	**15 35 10.8**	**+1.7**
GTA	**Gaotai**	**17.57**	**209**	*e*P	**Pn**	**15 35 25.2**	**+1.5**
GTA				AP	pP	15 35 29.9	+3.4
GTA				XP	sP	15 35 33.0	+5.7
GTA				S	**Sn**	**15 38 41.4**	**+1.8**
GTA				XS	sS	15 38 47.0	-3.3
GTA				SS		15 39 03.4	
GTA				AMB	AMB		
	comp=Z,126nm,6.9s						
GTA				LR	LR		
	comp=N,573nm,15.3s						
GTA				LR	LR		
	comp=E,972nm,12.6s						
GTA				LR	LR		
	comp=Z,826nm,14.1s						
TIXI	**Tiksi**	**18.08**	**18***c*	*i* P	**Pn**	**15 35 24.8**	**-5.3**
TIXI				pmax	pmax		
	comp=Z,12nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,300nm,9.0s						
VLA	**Vladivostok**	**18.32**	**123**	*e*P	**Pn**	**15 35 33.3**	**+0.2**
VLA				pmax	pmax		
	comp=Z,51nm,1.7s						
VLA				MLR	MLR		
	comp=Z,300nm,7.0s						
WMQ	**Urumqi**	**18.82**	**242**	P	**Pn**	**15 35 40.0**	**+0.9**
WMQ				XP	sP	15 35 47.0	+5.9
WMQ				PP		15 35 56.0	
WMQ				S	**Sn**	**15 39 06.0**	**-3.8**
WMQ				SS		15 39 32.0	
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,214nm,4.0s						
WMQ				LR	LR		
	comp=N,65nm,7.0s						
WMQ				LR	LR		
	comp=E,46nm,6.0s						
WMQ				LR	LR		
	comp=Z,45nm,6.0s						
MK31	**Makanchi Array**	**19.75**	**256**	*i* P	**Pn**	**15 35 48.3**	**-2.0**
MK31				pmax	pmax		
	comp=Z,11nm,0.5s						
MKAR	**Makanchi Array**	**19.75**	**256**	P	**Pn**	**15 35 47.8**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=64,slow=9.2,SNR=40						
MKAR				LR	LR	15 43 55.5	
	comp=Z,301nm,21.1s,baz=46,slow=38						
MKAR	**Makanchi Array**	**19.75**	**256**	*i* P	**Pn**	**15 35 48.3**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**19.80**	**270**	*e*P	**Pn**	**15 35 48.3**	**-2.6**
KURK				S	**Sn**	**15 39 26.6**	**-7.0**
KURK				pmax	pmax		
	comp=Z,71nm,1.1s						
KURK	**Kurchatov**	**19.80**	**270**	*e*P	**Pn**	**15 35 48.3**	**-2.6**
	comp=Z,71nm,1.1s						

KURK S **Sn** **15 39 26.6 -7.1**
LZH Lanzhou 19.85 197 *e*P **Pn** **15 35 53.8 +2.3**
LZH AP pP 15 36 00.2 +8.5
LZH XP sP 15 36 04.0 +12
LZH PP 15 36 10.0
LZH AMB AMB
comp=Z,50nm,1.2s
LZH AMB AMB
comp=Z,152nm,4.5s
LZH LR LR
comp=E,1μm,8.5s
LZH LR LR
comp=Z,2μm,9.1s
XAN Xi'an 21.35 184 P **P** **15 36 07.5 +1.3**
XAN AMB AMB
comp=Z,6.0nm,2.0s,mb3.6
XAN LR LR
comp=N,304nm,15.7s,MS4.4
XAN LR LR
comp=E,1μm,15.9s,MS4.4
XAN LR LR
comp=Z,389nm,9.4s
YSS Yuzh-Sakhalins 21.56 100 *e*P **P** **15 36 10.0 +1.6**
YSS *e* 15 36 32.0
YSS MLR MLR
comp=Z,900nm,14.0s,MS4.3
YSS MLR MLR
comp=E,1μm,12.0s
YSS Yuzh-Sakhalins 21.56 100 *e*P **P** **15 36 08.5 +0.1**
comp=E,15nm,1.0s,mb4.4
MA2 Magadan 21.65 62 *ce*P **P** **15 36 10.2 +0.8**
MA2 *e* 15 36 35.9
MA2 *e*S **S** **15 40 07.7 -1.7**
MA2 SS 15 40 37.8
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
MA2 Magadan 21.65 62 *e*P **P** **15 36 10.1 +0.6**
SEY Seymchan 22.27 53 *e*P **P** **15 36 17.6 +1.6**
SEY *e*S **S** **15 40 23.5 +2.1**
SEY *e*SS 15 41 16.6
SEY pmax pmax
comp=E,11nm,0.8s
SEY pmax pmax
comp=Z,17nm,0.8s,mb4.5
SEY pmax pmax
comp=N,18nm,1.1s
SEY smax
comp=N,200nm,20.7s
SEY smax
comp=E,30nm,13.8s
SEY MLR MLR
comp=Z,130nm,19.0s,MS3.4
SEY MLR MLR
comp=N,49nm,11.0s
SEY MLR MLR
comp=E,66nm,13.0s
ASAJ Asahikawa 23.20 106 P **P** **15 36 26.4 +0.5**
comp=E,9.4nm,0.9s,mb4.2,baz=329,slow=12,SNR=7.0
ASAJ LR LR 15 46 12.1
comp=E,435nm,18.4s,MS3.9,baz=336,slow=38
ASAJ Asahikawa 23.20 106 P **P** **15 36 26.4 +0.5**
ASAJ pmax pmax
comp=Z,9.0nm,0.9s
ASAJ MLR MLR
comp=Z,435nm,18.4s
VOSK Vostochnaya 23.32 280 P **P** **15 36 26.8 -0.4**
VOSK pmax pmax
comp=Z,15nm,0.9s,mb4.4
BVA0 Borovoye Array 23.54 281 *i*P **P** **15 36 28.5 -1.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
BVAR Borovoye Array 23.54 281 P **P** **15 36 28.5 -1.0**
comp=Z,6.9nm,0.4s,mb4.4,baz=71,slow=11,SNR=90
BVAR S **S** **15 40 44.3 +0.8**
comp=Z,3.6nm,0.9s,baz=55,slow=18,SNR=3.5
BRVK Borovoye 23.59 281 *e*P **P** **15 36 28.4 -1.5**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb4.7
BRVK Borovoye 23.59 281 *e*P **P** **15 36 28.4 -1.6**
comp=Z,22nm,0.8s,mb4.7
NJ2 Nanjing 23.97 163 *e*P **P** **15 36 32.5 -1.0**
NJ2 AP 15 36 37.0
NJ2 XP sP 15 36 40.0 +4.0
NJ2 PP 15 37 08.3
NJ2 S **S** **15 40 45.0 -5.5**
NJ2 XS sS 15 40 55.0 +1.5
NJ2 AMB AMB
comp=Z,140nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,130nm,8.4s
NJ2 LR LR
comp=N,670nm,18.9s,MS4.6
NJ2 LR LR
comp=E,2μm,18.2s,MS4.6
NJ2 LR LR
comp=Z,480nm,26.8s
CD2 Chengdu 24.94 195 *e*P **P** **15 36 43.2 +0.9**
CD2 AP 15 36 47.4
CD2 PP 15 37 20.3
CD2 S **S** **15 41 03.2 -2.9**
CD2 SS 15 42 01.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,100nm,4.5s
CD2 LR LR
comp=E,560nm,8.4s
CD2 LR LR
comp=Z,170nm,8.4s
SSE Sheshan 25.34 159 P **P** **15 36 46.5 +0.6**
SSE XP sP 15 36 51.2 +2.7
SSE S **S** **15 41 09.9 -2.6**
SSE XS sS 15 41 15.5 0.0
SSE AMB AMB
comp=Z,16nm,1.0s,mb4.5
SSE AMB AMB
comp=Z,208nm,4.7s
SSE LR LR
comp=N,117nm,19.0s,MS4.0
SSE LR LR
comp=E,386nm,19.0s,MS4.0
SSE LR LR
comp=Z,116nm,20.0s,MS3.4
TKM2 Tokmak 2 25.88 256 P **P** **15 36 53.9 +3.0**
SNR=29
TKM2 Tokmak 2 25.88 256 P **P** **15 36 51.8 +1.0**
TKM2 pmax pmax
comp=Z,18nm,0.8s,mb4.7
ULHL Ulahol 25.98 254 P **P** **15 36 53.1 +1.4**
SNR=19
CHMS Chumysh 26.30 257 P **P** **15 36 57.8 +3.1**
SNR=12
KBK Karagaybulak 26.42 256 P **P** **15 36 57.1 +1.4**
SNR=8.4
KZA Kyzart 26.63 255 P **P** **15 37 01.9 +4.3**
SNR=16
AAK Ala-Archa 26.68 257 P **P** **15 36 59.5 +1.4**
SNR=5.8
AAK Ala-Archa 26.68 257 *d*iP **P** **15 36 58.5 +0.4**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.4
AAK MLR MLR
comp=Z,900nm,12.0s,MS4.5
AAK Ala-Archa 26.68 257 *e*P **P** **15 36 58.1 0.0**
comp=Z,10nm,0.9s,mb4.3
UCH Uchtor 26.94 256 P **P** **15 37 05.1 +4.7**
SNR=11
EKS2 Erkin-Say 27.06 258 P **P** **15 37 02.9 +1.4**
SNR=12
PET Petropavlovsk 27.65 75 *c*iP **P** **15 37 06.6 -0.2**
PET pmax pmax
comp=Z,44nm,1.9s,mb4.8
PET MLR MLR
comp=Z,200nm,17.0s,MS3.8
KSH Kashi 28.02 250 *e*P **P** **15 37 15.0 +4.9**
KSH *e*AP pP 15 37 19.2 +7.3
KSH *e*XP sP 15 37 22.3 +10
KSH *e*PP 15 38 06.0
KSH *e*PCP PcP 15 40 27.2 +2.3
KSH *e*S **S** **15 41 59.5 +4.7**
KSH *e*XS sS 15 42 07.0 +9.2
KSH *e*SS 15 43 24.1
KSH *e*SCP ScP 15 44 06.0 -0.3
KSH *e*PCS PcS 15 44 08.2 +1.2
KSH *e*SCS ScS 15 47 58.0 -0.7
KSH AMB AMB
comp=Z,160nm,4.5s
KSH LR LR
comp=N,300nm,5.2s
KSH LR LR
comp=E,530nm,8.2s
BILL Bilibino 28.07 41⇑ *i*P **P** **15 37 11.9 +1.4**
BILL pmax pmax
comp=Z,23nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,2μm,19.0s,MS4.8
KK31 Karatay Array 28.61 262 *i*P **P** **15 37 16.4 +1.0**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
KKAR Karatay Array 28.61 262 *i*P **P** **15 37 16.4 +1.0**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ARU Arti 28.75 294⇑ *i*P **P** **15 37 16.1 -0.5**
ARU *e* 15 38 07.5
ARU *e*S **S** **15 42 04.7 -1.6**
ARU *e*SS SS 15 43 33.0 -35
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ARU MLR MLR
comp=Z,300nm,15.0s,MS4.0
ARU MLR MLR
comp=N,100nm,17.0s,MS3.9
ARU MLR MLR
comp=E,200nm,14.0s,MS3.9
ARU Arti 28.75 294 *e*P **P** **15 37 15.6 -0.9**
comp=E,12nm,0.8s,mb4.7
KMI Kunming 30.78 194 P **P** **15 37 36.2 +1.7**
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
AKTK Aktyubinsk 31.59 283 P **P** **15 37 41.0 -0.7**
AKTO Aktyubinsk 31.59 283 P **P** **15 37 41.0 -0.7**
comp=Z,9.2nm,0.8s,mb4.7,baz=70,slow=12,SNR=14
AKTO Aktyubinsk 31.59 283 P **P** **15 37 41.0 -0.7**
AKTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
GUN Gumba 32.80 224 *e*P **P** **15 37 55.2 +2.8**
comp=Z,20nm,0.7s,mb5.1
JIRN Jiri 32.91 223 *e*P **P** **15 37 56.1 +2.8**
comp=Z,33nm,0.8s,mb5.3
KKN Kakani 33.15 224 *e*P **P** **15 37 57.7 +2.3**
comp=Z,73nm,0.9s,mb5.6
KKN Kakani 33.15 224 *e*P **P** **15 37 57.7 +2.3**
KKN pmax pmax
comp=Z,37nm,0.9s,mb5.3
GKN Gorkha 33.22 225 *e*P **P** **15 37 58.0 +2.0**
comp=Z,38nm,0.9s,mb5.3
PKI Pulchoki 33.29 224 *e*P **P** **15 37 58.0 +1.4**
comp=Z,44nm,1.4s,mb5.2
PKI Pulchoki 33.29 224 *e*P **P** **15 37 58.0 +1.4**
PKI pmax pmax
comp=Z,22nm,1.4s,mb4.9
DMN Daman 33.38 224 *e*P **P** **15 37 59.8 +2.4**
comp=Z,41nm,0.8s,mb5.4
KOLN Koldanda 33.85 227 *e*P **P** **15 38 03.2 +1.7**
comp=Z,30nm,0.7s,mb5.3
QIZ Qiongzhong 36.27 182 *e*P **P** **15 38 24.9 +2.6**
QIZ *e*S **S** **15 44 02.2 -1.0**
QIZ LR LR
comp=E,387nm,11.6s
QIZ LR LR
comp=Z,376nm,10.1s,MS4.5
APA Apatity 36.32 321⇓ *e*P **P** **15 38 28.6 +5.8**
APA pmax pmax
comp=Z,43nm,1.4s,mb5.2
KLMR Klimovskoe 36.35 309 *e*P **P** **15 38 21.2 -1.9**
KLMR *e* 15 39 41.5
KLMR pmax pmax
comp=Z,30nm,2.2s,mb4.8
ARCES ARCESS Array B 38.30 326 P **P** **15 38 37.5 -2.0**
comp=Z,4.1nm,0.7s,mb4.3,baz=51,slow=8.4,SNR=12
ARCES LR LR 15 58 26.9
comp=Z,116nm,18.9s,MS3.7,baz=261,slow=43
TNA Tin City 38.50 41 *e*P **P** **15 38 42.0 +0.7**
comp=Z,19nm,0.8s,mb4.9
JOF Joensuu 38.98 314 *e*p **P** **15 38 43.9 -1.4**
OBN Obninsk 40.46 302⇑ *e*P **P** **15 38 56.9 -0.7**
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.2
VRSR Storozhevoye 41.29 295 *e*P **P** **15 39 04.3 -0.2**
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.9s
KAF Kangasniemi 41.40 315 *e*p **P** **15 39 03.1 -2.3**
comp=E,4.0nm,0.6s,mb4.2,baz=62,slow=7.8
KAF Kangasniemi 41.40 315 *e*P **P** **15 39 03.1 -2.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
FINES FINESS Array B 41.84 314 P **P** **15 39 08.3 -0.7**
comp=Z,8.1nm,0.6s,mb4.5,baz=65,slow=9.0,SNR=19
FINES LR LR 15 57 10.2
comp=Z,121nm,19.2s,MS3.8,baz=30,slow=37
FINES FINESS Array B 41.84 314 P **P** **15 39 08.3 -0.7**
FINES LR LR 15 57 10.2
VSU Vasula 43.18 310 *e*P **P** **15 39 19.9 0.0**
IMA2 Indian Mountai 43.35 36 *e*P **P** **15 39 20.9 -0.4**
KIV Kislovodsk 43.83 285 *e*P **P** **15 39 26.4 +1.3**
KIV *e* 15 41 08.8
KIV *e* 15 41 11.5
KIV *e*S **S** **15 46 00.0 +3.6**
KIV *e*SS SS 15 49 16.1 +3.8
KIV pmax pmax
comp=Z,21nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,141nm,15.0s,MS4.0
KIV Kislovodsk 43.83 285 *e*P **P** **15 39 26.2 +1.1**
comp=Z,19nm,0.8s,mb4.9
ZEI Tsey 43.93 282 *e*P **P** **15 39 24.8 -1.1**
ZEI *i* 15 41 09.7
ZEI *e*S **S** **15 45 55.0 -2.8**
ZEI pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
HYB Hyderabad 45.15 226 *i*P **P** **15 39 36.5 +0.8**
HYB Hyderabad 45.15 226 *e*P **P** **15 39 36.5 +0.8**
COLA College 46.02 36⇑ *i*P **P** **15 39 43.2 +0.6**
MCK McKinley 46.38 37 *e*P **P** **15 39 45.2 -0.2**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MCK McKinley 46.38 37 *e*P **P** **15 39 45.2 -0.1**
comp=Z,2.4nm,0.7s,mb4.2
ILAR Eielson Array 46.41 35 P **P** **15 39 45.7 +0.1**
comp=Z,12nm,0.9s,mb4.8,baz=300,slow=6.7,SNR=77
AKASG Malin Array Be 46.64 300 P **P** **15 39 46.9 -0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=44,slow=8.6,SNR=15
SML Sawmill 47.83 39 *e*P **P** **15 39 56.8 +0.1**
NB2 NORSAR Subarra 47.88 320 P **P** **15 39 56.4 -0.7**
comp=Z,25nm,1.1s,mb5.2,baz=48,slow=7.4
NOA NORSAR Array B 47.88 320 P **P** **15 39 55.7 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=48,slow=7.3,SNR=19
NOA LR LR 16 01 43.3
comp=Z,65nm,19.4s,MS3.6,baz=320,slow=38
KDAK Kodiak Island 48.85 45 P **P** **15 40 03.8 -0.9**
comp=Z,4.0nm,0.6s,mb4.6,baz=320,slow=5.4,SNR=4.3
MALT Malatya 50.01 282 *e*P **P** **15 40 15.2 +1.8**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MALT Malatya 50.01 282 *e*P **P** **15 40 15.2 +1.7**
comp=Z,6.7nm,0.8s,mb4.7
BRTR Keskin Array B 51.67 287 P **P** **15 40 26.4 +0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=71,slow=4.0,SNR=6.4
DPC Dobruska-Polom 53.02 307 *e*P **P** **15 40 36.3 +0.3**
UPC Upice 53.05 307 *e*P **P** **15 40 39.6 +3.4**
PSI Prapat 53.27 195 P **P** **15 40 39.3 +1.5**
comp=Z,2.5nm,0.4s,mb4.5,baz=314,slow=9.1,SNR=4.2
KHC Kasperske Hory 55.13 307 *e*P **P** **15 40 51.6 +0.2**
KHC Kasperske Hory 55.13 307 *i*P **P** **15 40 52.5 +1.1**
GERES GERESS Array B 55.29 307 P **P** **15 40 52.6 +0.1**
comp=Z,1.2nm,0.8s,mb4.0,baz=39,slow=8.5,SNR=4.1
MOA Molln 55.75 306⇑P **P** **15 41 01.3 +5.4**
comp=Z,9.9nm,1.4s,mb4.7
MOA Molln 55.75 306⇓ *i*P **P** **15 40 54.8 -1.0**
comp=Z,9.9nm,1.4s,mb4.7
GRA1 Grafenberg Arr 55.78 309 *e*P **P** **15 40 56.1 0.0**
comp=Z,7.0nm,1.1s,mb4.6
GRF Grafenberg Arr 55.78 309 *e*P **P** **15 40 56.1 0.0**
comp=Z,7.0nm,1.1s,mb4.6
GRF Grafenberg Arr 55.78 309 *e*P **P** **15 40 56.1 0.0**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
GRF Grafenberg Arr 55.78 309 *e*P **P** **15 40 56.1 0.0**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
OBKA Obir 56.60 305⇓P **P** **15 41 02.1 +0.2**
comp=Z,7.9nm,0.7s,mb4.8
OBKA Obir 56.60 305⇓ *i*P **P** **15 41 02.0 +0.1**
comp=Z,7.9nm,0.7s,mb4.8
KBA Koelnbreinsper 56.74 306⇑P **P** **15 41 04.6 +1.6**
comp=Z,9.4nm,1.1s,mb4.7
KBA Koelnbreinsper 56.74 306⇑ *i*P **P** **15 41 02.1 -0.9**
comp=Z,9.4nm,1.1s,mb4.7
KBA Koelnbreinsper 56.74 306⇑P **P** **15 41 04.6 +1.7**
KBA pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KBA Koelnbreinsper 56.74 306⇑P **P** **15 41 04.5 +1.6**
comp=Z,9.4nm,1.1s,mb4.7
EKA Eskdalemuir Ar 57.25 322 P **P** **15 41 06.3 -0.2**
comp=Z,7.5nm,0.9s,mb4.7,baz=45,slow=6.6,SNR=7.4
YKA Yellowknife Ar 57.26 23 P **P** **15 41 04.8 -1.7**
comp=Z,3.2nm,0.7s,mb4.5,baz=331,slow=7.2,SNR=71
YKA Yellowknife Ar 57.26 23 P **P** **15 41 04.8 -1.7**
CDF Champ du Feu 58.47 311 *e*P **P** **15 41 15.4 +0.3**
DAVOX Davos 58.55 308 P **P** **15 41 14.2 -1.4**
comp=Z,2.2nm,0.6s,mb4.3,baz=55,slow=5.6,SNR=2.5
DAVOX LR LR 16 08 05.3
comp=Z,141nm,18.5s,MS4.1,baz=266,slow=38
HINF Hinteralfeld 59.10 310 *e*P **P** **15 41 19.7 +0.2**
IDI Anoyia 59.65 289 LR LR 16 11 03.0
comp=Z,77nm,20.7s,MS3.8,baz=175,slow=40
CABF La Chapelle 60.37 310 *e*P **P** **15 41 28.2 0.0**
comp=Z,25nm,1.2s,mb4.8
LOR Lormes 60.82 312 *e*P **P** **15 41 31.5 +0.2**
comp=Z,11nm,0.7s,mb4.8
LOR *e*R
comp=Z,107nm,19.0s
LPL La Plagne 60.93 309 *e*P **P** **15 41 32.9 +0.9**
LPG La Plagne 60.93 309 *e*P **P** **15 41 32.6 +0.5**
comp=Z,3.7nm,0.6s,mb4.4
SSF Saint Saulge 61.13 312 *e*P **P** **15 41 33.2 -0.2**
comp=Z,14nm,1.0s,mb4.8
SMF Signal de Mont 61.31 311 *e*P **P** **15 41 34.3 -0.3**
AVF Avril sur Loir 61.41 312 *e*P **P** **15 41 35.3 0.0**
LDF La Druitiere 61.42 315 *e*P **P** **15 41 36.0 +0.6**
comp=Z,19nm,0.7s,mb5.0
FLN La Foliniere 61.44 315 *e*P **P** **15 41 35.7 +0.2**
FLN *e*R
comp=Z,156nm,21.2s
MBDF Montbardon 61.52 308 *e*P **P** **15 41 36.5 +0.5**
comp=Z,7.9nm,0.8s,mb4.6
ORIF Oris-en-Rattie 61.77 309 *e*P **P** **15 41 37.8 +0.1**
ORIF *e*R
comp=Z,96nm,21.8s
TCF Toulx Ste Croi 62.29 312 *e*P **P** **15 41 41.3 +0.1**
comp=Z,19nm,1.0s,mb4.9
VIVF Saint-Julien-l 62.35 310 *e*P **P** **15 41 41.3 -0.3**
comp=Z,5.1nm,0.7s,mb4.5
SGMF Saint Gilles 62.67 316 *e*P **P** **15 41 43.8 0.0**
LMR La Mourre 62.72 307 *e*P **P** **15 41 44.1 0.0**
MFF Saint Martin d 63.02 314 *e*P **P** **15 41 45.9 -0.2**
comp=Z,39nm,1.2s,mb5.1
QUIF Quistinic 63.18 316 *e*P **P** **15 41 46.8 -0.4**
comp=Z,62nm,1.2s,mb5.3
LASF Ste Croix 63.33 310 *e*P **P** **15 41 48.1 0.0**
CAF Calviac 63.43 311 *e*P **P** **15 41 49.0 +0.2**
SCHQ Schefferville 70.16 359 P **P** **15 42 30.9 -0.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=314,slow=6.6,SNR=4.9
BMO Blue Mountains 72.19 34 *e*P **P** **15 42 44.3 +0.3**
comp=Z,5.9nm,1.0s,mb4.5
ULM Lac du Bonnet 72.44 18 P **P** **15 42 43.9 -1.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=317,slow=19,SNR=3.1
MCMT McKenzie Canyo 73.58 31 *e*P **P** **15 42 52.0 -0.2**
FITZ Fitzroy Crossi 74.24 165 *e*P **P** **15 42 56.2 +0.1**
comp=Z,5.4nm,0.7s,mb4.6
LKWY Lake 74.52 29 P **P** **15 42 58.5 +0.8**
LKWY pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
LKWY Lake 74.52 29 P **P** **15 42 58.5 +0.7**
comp=Z,5.3nm,0.4s,mb4.8
PDAR Pinedale Array 76.41 29 P **P** **15 43 07.3 -1.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=359,slow=3.4,SNR=6.4
HWUT Hardware Ranch 76.90 31 *e*P **P** **15 43 11.7 +0.3**
comp=Z,5.6nm,0.4s,mb4.8
NVAR Mina Array Bea 77.61 37 P **P** **15 43 15.9 +0.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=332,slow=3.1,SNR=9.0
WRAB Tennant Creek 77.61 157 *e*P **P** **15 43 15.5 +0.1**
WRAB Tennant Creek 77.61 157 *e*P **P** **15 43 14.8 -0.6**
comp=Z,5.9nm,0.8s,mb4.6
WRA Warramunga Arr 77.62 157 P **P** **15 43 15.0 -0.5**
comp=Z,4.8nm,0.7s,mb4.5,baz=350,slow=6.1,SNR=31
WB2 Warramunga Arr 77.62 157 *e*P **P** **15 43 15.0 -0.5**
SMCO Snowmass 80.46 29 *e*P **P** **15 43 32.1 +1.1**
comp=Z,11nm,1.2s,mb4.7
ASAR Alice Springs 81.14 159 P **P** **15 43 34.1 -0.5**
comp=Z,2.1nm,0.9s,mb4.1,baz=354,slow=4.9,SNR=16
ASPA Alice Springs 81.14 159 *e*P **P** **15 43 36.2 +1.6**
SDCO Great Sand Dun 82.21 28 *e*P **P** **15 43 40.3 0.0**
comp=Z,4.4nm,1.0s,mb4.3
ANMO Albuquerque 84.56 30⇑ *e*P **P** **15 43 53.4 +1.0**
WMOK Wichita Mounta 86.75 24 *e*P **P** **15 44 02.8 -0.5**
WMOK pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
WMOK Wichita Mounta 86.75 24 *e*P **P** **15 44 02.8 -0.5**
comp=Z,4.5nm,0.8s,mb4.8
TORD Torodi Ar. Bea 89.81 293 P **P** **15 44 17.9 +0.1**
comp=Z,3.0nm,0.8s,mb4.7,baz=33,slow=4.1,SNR=16
STKA Stephens Creek 90.80 154 P **P** **15 44 21.8 -0.7**
comp=Z,2.2nm,0.7s,mb4.6,baz=333,slow=11,SNR=3.2
QSPA South Pole Qui 145.11 180 *e*P PKPbc 15 50 54.3 -1.9
CPUP Villa Florida 149.74 339 *e*PKHKP 15 51 04.7

IDC 08 16:02:11.4±2.0, 065N×12687E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=172.8km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**161**	P	P	16 07 03.8	-0.5
	0.3nm,0.3s,baz=339,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**25.12**	**165**	P	P	16 07 38.8	+0.8
	0.3nm,0.3s,baz=344,slow=11,SNR=14						
MKAR	**Makanchi Array**	**60.16**	**326**	P	P	16 12 20.9	+0.1
	0.1nm,0.3s,baz=112,slow=7.9,SNR=7.5						

IDC 08 16:10:49.1±3.9, 2245N×4480W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=173.0km s-min=29.1km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**45.07**	**94**	P	P	16 19 07.1	+0.3
	0.4nm,0.7s,baz=304,slow=10,SNR=2.5						
PDAR	**Pinedale Array**	**56.81**	**307**	P	P	16 20 35.3	+0.1
	0.2nm,0.5s,baz=79,slow=4.6,SNR=4.5						
YKA	**Yellowknife Ar**	**61.02**	**330**	P	P	16 21 03.9	-0.6
	0.2nm,0.6s,baz=90,slow=7.4,SNR=4.7						
ILAR	**Eielson Array**	**74.93**	**334**	P	P	16 22 32.3	+0.3
	0.9nm,0.8s,baz=71,slow=4.7,SNR=13						

*CSEM **08** 16:11:58.7, 35.12N×3231E, h15km, Mw3.5, After NIC*
NIC 08 16:11:58.7±0.2, 3512N×3231E, h15km, ML2.6, MW3.5, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.23**	**173**	P	Pg	16 12 04.1	+0.3
ALFC	**Alevga**	**0.24**	**80**⇓	*i*P	Pg	16 12 04.6	+0.7
	53nm,0.2s						
ALFC				S	Sg	16 12 08.1	+0.6
MAMC	**Mammari**	**0.74**	**86**	⇑P	Pg	16 12 13.1	-0.1
CSS	**Prodhromos**	**0.85**	**100**	P	Pb	16 12 14.6	-0.5

*ISCJB **08** 16:12:35.5±2.3, 36.1S±04×959W±04, h10km, mb3.8/4, MS3.3/6, Error ellipse: s-maj=67.1km s-min=22.1km az=70.1*
*IDC **08** 16:12:35.9±3.3, 3607S×9592W, h0km, mb3.7/5, mb1 4.1/5, mb1mx4.0/15, mbtmp3.8/5, MS3.4/6, Ms1 3.4/6, ms1mx3.3/16, Error ellipse: s-maj=93.5km s-min=32.6km az=28.0*

*NEIC **08** 16:12:37.9±2.1,3602S×9585W,h10km,mb4.2/1,Error ellipse: s-maj=62.5km s-min=19.8km az=215.0*

ISC 08 16:12:37.3±2.3,362S±04×960W±04,h10km,n12,σ0§53/7, mb3.8/4,MS3.3/6,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**20.43**	**111**	P		**P**	**16 17 14.7**	**+0.1**
	1.8nm,0.9s,baz=280,slow=12,SNR=3.0						
CFAA	**Coronel Fontan**	**23.46**	**87**	LR		LR	16 24 33.1	
	comp=Z,14nm,21.2s,MS2.4,baz=264,slow=31						
USHA	**Ushuaia**	**26.60**	**143**	LR		LR	16 26 05.9	
	comp=Z,102nm,19.5s,MS3.4,baz=22,slow=30						
LVC	**Limon Verde**	**27.08**	**68**	LR		LR	16 26 45.2	
	comp=Z,43nm,20.2s,MS3.0,baz=17,slow=32						
LPAZ	**La Paz**	**31.70**	**59**	P		**P**	**16 19 00.9**	**-0.1**
	2.2nm,0.8s,mb4.0,baz=198,slow=6.3,SNR=8.5						
LPAZ				LR		LR	16 29 15.4	
	comp=Z,42nm,19.3s,MS3.1,baz=310,slow=32						
LPAZ	**La Paz**	**31.70**	**59**	*e*P		**P**	**16 19 00.8**	**-0.3**
	4.0nm,1.2s,mb4.1						
LPAZ				LR		LR	16 29 15.4	
ROSC	**El Rosal**	**45.56**	**31**	LR		LR	16 36 35.6	
	comp=Z,86nm,19.0s,MS3.7,baz=123,slow=32						
VNDA	**Vanda**	**57.57**	**195**	LR		LR	16 44 55.1	
	comp=Z,146nm,18.7s,MS4.1,baz=238,slow=34						
TXAR	**Lajitas Array**	**65.53**	**353**	P		**P**	**16 23 21.9**	**+0.9**
	0.6nm,0.9s,mb3.6,baz=173,slow=7.3,SNR=4.3						
NVAR	**Mina Array Bea**	**77.02**	**342**	P		**P**	**16 24 30.2**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=167,slow=9.3,SNR=4.1						
NVAR	**Mina Array Bea**	**77.02**	**342**	P		**P**	**16 24 30.2**	**-0.2**
PDAR	**Pinedale Array**	**79.51**	**350**	P		**P**	**16 24 43.5**	**-0.7**
	1.1nm,1.0s,mb3.8,baz=146,slow=5.3,SNR=6.7						

*MOS **08** 16:26:10.6±1.1,5543N×11075E,h13km,mb4.2/1,Error ellipse: s-maj=37.0km s-min=17.1km az=70.3*

BYKL 08 16:26:10.9±0.2,5534N×11084E,h4km±19km,4C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.50**	**158**	⇑*i*Pg	Pg	16 26 19.9	-0.6
YLYR				*e*Sg	Sg	16 26 26.6	-0.4
YLYR				*e*L		16 26 32.4	
YLYR				Pmax			
	128nm,0.7s						
YLYR				Smax			
	539nm,0.7s						
KMO	**Kumora**	**0.58**	**20**	⇑*i*Pg	Pg	16 26 21.0	-1.1
KMO				*e*		16 26 22.4	
KMO				*e*Pb	Pg	16 26 25.0	+2.9
KMO				*e*Sg	Sg	16 26 28.9	-0.8
KMO				max			
	168nm,0.2s						
KMO				Smax			
	1μm,1.0s						
KMO	**Kumora**	**0.58**	**20**	*e*PG	Pg	16 26 21.1	-1.0
KMO				*e*		16 26 28.8	
KMO				pmax	pmax		
	comp=Z,218nm,0.3s						
KMO				smax			
	comp=N,1μm,0.8s						
NIZ	**Nizh Angarsk**	**0.86**	**301**	*i*Pg	Pg	16 26 26.5	-0.8
NIZ				*e*Pb	Pb	16 26 30.0	+1.7
NIZ				*e*Sg	Sg	16 26 38.3	-0.2
NIZ				*e*		16 26 45.6	
NIZ				max			
	comp=N,45nm,0.3s						
NIZ				max			
	comp=N,534nm,0.4s						
NIZ	**Nizh Angarsk**	**0.86**	**301**	*e*PG	Pg	16 26 26.5	-0.8
NIZ				*e*		16 26 38.5	
NIZ				pmax	pmax		
	comp=Z,26nm,0.2s						
NIZ				smax			
	comp=N,519nm,0.4s						
YOA	**Uoyan**	**0.94**	**32**	*e*Pg	Pg	16 26 27.9	-1.0
YOA				*e*Sg	Sg	16 26 41.4	+0.3
YOA				Pmax			
	comp=N,123nm,0.2s						
YOA				Smax			
	comp=N,949nm,0.4s						
YOA	**Uoyan**	**0.94**	**32**	⇑*i*PG	Pg	16 26 27.8	-1.1
YOA				*e*		16 26 41.1	
YOA				pmax	pmax		
	comp=Z,116nm,0.3s						
YOA				smax			
	comp=N,845nm,0.4s						
SVKR	**Severomuysk**	**1.72**	**62**	*e*Pn	Pn	16 26 41.6	0.0
SVKR				*e*Pg	Pg	16 26 42.8	-1.1
SVKR				*e*		16 27 00.6	
SVKR				*e*Sg	Sg	16 27 05.7	-0.6
SVKR				Pmax			
	comp=N,116nm,0.4s						
SVKR				Smax			
	comp=N,853nm,0.8s						
SVKR	**Severomuysk**	**1.72**	**62**	*e*PN	Pn	16 26 42.6	+1.0
SVKR				*e*		16 26 44.2	
SVKR				*e*		16 27 05.6	
SVKR				pmax	pmax		
	comp=Z,106nm,0.3s						
SVKR				smax			
	comp=N,849nm,0.9s						
SYVR	**Suvo**	**1.76**	**197**	*e*Pg	Pg	16 26 42.2	-2.4
SYVR				*e*Sg	Sg	16 27 06.4	-0.9
SYVR				Pmax			
	comp=N,56nm,0.8s						
SYVR				Smax			
	comp=N,313nm,0.5s						
SYVR	**Suvo**	**1.76**	**197**	*e*PN	Pn	16 26 42.2	+0.1
SYVR				*e*		16 27 06.2	
SYVR				pmax	pmax		
	comp=Z,48nm,0.6s						
SYVR				smax			
	comp=E,308nm,0.5s						
MXMB	**Maximikha**	**2.42**	**211**	*e*	Pn	16 26 54.6	+3.4
MXMB				*e*Pg	Pg	16 26 55.4	-1.8
MXMB				*e*Sg	Sg	16 27 27.4	-1.1
MXMB				Pmax			
	comp=E,25nm,0.5s						
MXMB				Smax			
	comp=E,273nm,0.8s						
OGRR	**Ongureny**	**2.54**	**229**	*e*Pn	Pn	16 26 53.8	+0.9
OGRR				*e*Pg	Pg	16 26 55.9	-3.8
OGRR				*e*		16 27 00.3	
OGRR				*e*Sn	Sn	16 27 25.1	+0.8
OGRR				*e*Sg	Sg	16 27 29.6	-3.0
OGRR				max			
	comp=E,12nm,0.4s						
OGRR				Smax			
	comp=E,54nm,0.6s						
NLYR	**Nelyaty**	**2.97**	**65**	⇓*i*Pn	Pn	16 26 59.1	+0.3
NLYR				*e*		16 27 02.1	
NLYR				*e*Sn	Sn	16 27 34.2	-0.7
NLYR				*e*Sg	Sg	16 27 42.9	-3.4
NLYR				max			
	comp=E,15nm,0.6s						
NLYR				Smax			
	comp=E,103nm,1.2s						
BOD	**Bodaibo**	**3.04**	**34**	*e*Pn	Pn	16 26 59.5	-0.2
BOD				*e*Sg	Sg	16 27 44.1	-4.4
BOD				max			
	comp=E,14nm,0.3s						
BOD				Smax			
	comp=E,58nm,0.3s						
KELR	**Kotokel**	**3.05**	**213**	*e*Pg	Pg	16 27 05.0	-4.4
KELR				*e*Sn	Sn	16 27 38.5	+1.6
KELR				*e*Sg	Sg	16 27 46.4	-2.6
ZRHB	**Zarechye**	**3.54**	**219**	*e*Sg	Sg	16 28 01.2	-3.5
ZRHB				Smax			
	comp=E,109nm,0.8s						
TRTB	**Turuntaevo**	**3.65**	**213**	*e*Pn	Pn	16 27 09.8	+1.6
TRTB				*e*Pg	Pg	16 27 14.8	-6.1
TRTB				*e*Sn	Sn	16 27 49.1	-2.6
TRTB				*e*Sg	Sg	16 28 03.9	-4.3
TRTB				Pmax			
	comp=E,6.0nm,0.8s						
TRTB				Smax			
	comp=E,23nm,0.7s						
CIT	**Chita**	**3.69**	**153**	*e*Pg	Pg	16 27 17.2	-4.5
CIT				*e*Sg	Sg	16 28 06.0	-3.6
CIT				Pmax			
	comp=E,14nm,0.4s						
CIT				Smax			
	comp=E,60nm,1.7s						
TRG	**Tyrgan**	**3.70**	**228**	*e*Pn	Pn	16 27 10.1	+1.3
TRG				*e*Pg	Pg	16 27 16.8	-5.0
TRG				*e*Sn	Sn	16 27 50.0	-2.9
TRG				*e*Sg	Sg	16 28 05.8	-4.0
TRG				Pmax			
	comp=E,5.0nm,0.3s						
TRG				Smax			
	comp=E,26nm,0.4s						
KAB	**Kabansk**	**4.13**	**219**	*e*Sg	Sg	16 28 20.2	-3.3
KAB				Smax			
	comp=E,126nm,0.8s						
CRS	**Chara**	**4.44**	**66**	*e*Pn	Pn	16 27 19.4	+0.4
CRS				*e*		16 27 33.3	
CRS				*e*Sn	Sn	16 28 11.5	+0.3
CRS				*e*Sg	Sg	16 28 28.2	-5.4
CRS				max			
	comp=E,8.0nm,0.8s						
CRS				Smax			
	comp=E,24nm,0.7s						
CRS	**Chara**	**4.44**	**66**	*e*PN	Pn	16 27 19.2	+0.2
CRS				*e*		16 27 33.2	
CRS				*e*		16 28 28.2	
CRS				pmax	pmax		
	comp=Z,15nm,1.0s						
CRS				smax			
	comp=E,45nm,1.2s						
IRK	**Irkutsk**	**4.98**	**234**	*e*Sg	Sg	16 28 45.3	-5.5
IRK				Smax			
	comp=E,77nm,1.1s						
LSTR	**Listvyanka**	**4.99**	**228**	*e*Sg	Sg	16 28 45.7	-5.4
LSTR				Smax			
	comp=E,10.0nm,0.6s						
TUP	**Tupik**	**5.34**	**96**	⇓*i*Pn	Pn	16 27 30.9	-0.5
TUP				*e*Pg	Pg	16 27 45.3	-7.9
TUP				*e*		16 28 47.2	
TUP				*e*Sg	Sg	16 28 56.3	-6.2
TUP				Pmax			
	comp=E,5.0nm,0.5s						
TUP				Smax			
	comp=E,54nm,0.6s						
KPC	**Khapcheranga**	**5.72**	**170**	*e*Pn	Pn	16 27 35.1	-1.5
KPC				*e*Pg	Pg	16 27 53.2	-7.3
KPC				*e*Sg	Sg	16 29 07.8	-6.9
KPC				Pmax			
	comp=E,3.0nm,0.6s						
KPC				Smax			
	comp=E,37nm,1.6s						
ARS	**Arshan**	**6.07**	**239**	*e*Sn	Sn	16 28 48.0	-3.2
ARS				*e*Sg	Sg	16 29 18.2	-7.5
ARS				Smax			
	comp=E,46nm,0.8s						
MOY	**Mondy**	**6.93**	**242**	*e*	Pb	16 29 12.7	+61
MOY				*e*Sg	Sg	16 29 44.0	-9.4
MOY				Smax			
	comp=E,9.0nm,1.0s						
ORL	**Orlik**	**7.09**	**251**	*e*Pn	Pn	16 27 57.0	+1.6
ORL				*e*		16 29 17.9	
ORL				*e*Sg	Sg	16 29 49.2	-9.3
ORL				Smax			
	comp=E,21nm,1.4s						

*ISCJB **08** 16:42:45.0±0.8,225N±02×450W±0.1,h10km,mb4.0/11, MS3.6/12,Error ellipse: s-maj=23.9km s-min=17.3km az=10.6*

*IDC **08** 16:42:45.1±1.0,2248N×4497W,h0km,mb3.8/9,mb1 4.1/9, mb1mx3.9/23,mbtmp3.8/9,MS3.6/12,Ms1 3.6/12, ms1mx3.5/24,Error ellipse: s-maj=31.3km s-min=21.9km az=7.0*

*NEIC **08** 16:42:46.7±1.0,2245N×4490W,h10km,mb4.6/2,Error ellipse: s-maj=27.2km s-min=21.1km az=159.0*

ISC 08 16:42:47.2±0.8,226N±02×449W±01,h10km,n21,σ0§72/13, mb4.0/11,MS3.6/12,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.37**	**261**	LR	LR	16 53 28.3	
	comp=Z,150nm,22.0s,MS3.3,baz=95,slow=32						
SDV	**Santo Domingo**	**28.15**	**245**	LR	LR	16 58 34.2	
	comp=Z,54nm,18.7s,MS3.2,baz=56,slow=34						
BDFB	**Brasilia**	**38.08**	**185**	LR	LR	17 03 17.2	
	comp=Z,46nm,19.3s,MS3.3,baz=147,slow=32						
LRAL	**Lakeview Retre**	**38.42**	**295**	*e*P		**P**	**16 50 11.8**	**+2.9**
	14nm,0.6s,mb4.9						
LPAZ	**La Paz**	**44.78**	**212**	P		**P**	**16 51 00.9**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=0.0,slow=12,SNR=3.8						
LPAZ				LR		LR	17 08 19.2	
	comp=Z,66nm,18.7s,MS3.6,baz=247,slow=34						
TORD	**Torodi Ar. Bea**	**45.21**	**94**	P		**P**	**16 51 04.4**	**0.0**
	3.3nm,1.2s,mb4.0,baz=299,slow=6.8,SNR=7.1						
ULM	**Lac du Bonnet**	**48.21**	**318**	LR		LR	17 09 24.2	
	comp=Z,76nm,19.2s,MS3.7,baz=66,slow=33						
TXAR	**Lajitas Array**	**52.78**	**290**	P		**P**	**16 52 02.1**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=90,slow=5.0,SNR=4.4						
NOA	**NORSAR Array B**	**54.29**	**30**	LR		LR	17 11 14.5	
	comp=Z,57nm,19.3s,MS3.6,baz=75,slow=31						
HFS	**Hagfors**	**55.18**	**31**	LR		LR	17 11 44.8	
	comp=Z,84nm,19.0s,MS3.8,baz=255,slow=32						
BW06	**Boulder Array**	**56.65**	**307**	*e*P		**P**	**16 52 30.1**	**-0.4**
	3.6nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**56.65**	**307**	P		**P**	**16 52 30.4**	**-0.1**
	1.1nm,0.9s,mb3.9,baz=90,slow=8.9,SNR=8.2						
PDAR				LR		LR	17 16 11.5	
	comp=Z,52nm,19.9s,MS3.6,baz=308,slow=35						
PDAR	**Pinedale Array**	**56.65**	**307**	P		**P**	**16 52 30.4**	**-0.1**
PDAR				LR		LR	17 16 11.5	
YKA	**Yellowknife Ar**	**60.86**	**330**	P		**P**	**16 52 59.2**	**-0.6**
	0.8nm,0.8s,mb3.9,baz=98,slow=7.3,SNR=13						
YKA				LR		LR	17 17 12.6	
	comp=Z,63nm,18.0s,MS3.8,baz=95,slow=34						
YKA	**Yellowknife Ar**	**60.86**	**330**	P		**P**	**16 52 59.2**	**-0.6**
YKA				LR		LR	17 17 12.6	
FINES	**FINESS Array B**	**61.38**	**31**	LR		LR	17 15 32.5	
	comp=Z,40nm,18.0s,MS3.6,baz=5.2,slow=32						
AKASG	**Malin Array Be**	**62.95**	**43**	P		**P**	**16 53 14.7**	**+0.8**
	0.7nm,0.7s,mb3.9,baz=272,slow=5.5,SNR=4.4						
BRTR	**Keskin Array B**	**67.42**	**55**	P		**P**	**16 53 42.5**	**-0.4**
	0.3nm,0.6s,mb3.5,baz=90,slow=33,SNR=2.1						
INK	**Inuvik**	**68.74**	**336**	P		**P**	**16 53 50.9**	**-0.3**
	0.5nm,0.3s,mb4.0,baz=80,slow=13,SNR=4.3						
ILAR	**Eielson Array**	**74.78**	**334**	P		**P**	**16 54 27.8**	**+0.3**
	2.7nm,0.8s,mb4.2,baz=72,slow=4.7,SNR=32						
ILAR				LR		LR	17 26 27.8	
	comp=Z,89nm,18.7s,MS4.1,baz=360,slow=35						
AKTO	**Aktyubinsk**	**80.76**	**39**	LR		LR	17 26 28.4	
	comp=Z,48nm,19.5s,MS3.9,baz=0.0,slow=32						

*IDC **08** 16:54:30.9±4.6,2312N×9449E,h0km,mb3.7/3,mb1 3.8/3, mb1mx3.4/19,mbtmp3.7/3,Error ellipse: s-maj=388.5km s-min=25.2km az=60.0*

*ISCJB **08** 16:54:32.9±1.7,229N±06×94.1E±09,h33km,mb3.7/3, Error ellipse: s-maj=150.6km s-min=12.0km az=104.4*

ISC 08 16:54:36.3±1.3,231N±05×944E±06,h35km,n4,σ1§56/5, mb3.7/3,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.33**	**317**	*e*P		**Pn**	**16 55 28.3**	**+2.4**
SHL				*e*S		**Sn**	**16 56 03.0**	**-1.2**
MKAR	**Makanchi Array**	**25.54**	**340**	P		**P**	**17 00 01.7**	**0.0**
	1.7nm,0.5s,mb3.6,baz=150,slow=9.4,SNR=37						
WRA	**Warramunga Arr**	**57.90**	**135**	P		**P**	**17 04 24.4**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=321,slow=7.5,SNR=6.4						
ASAR	**Alice Springs**	**60.32**	**138**	P		**P**	**17 04 41.3**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=320,slow=6.9,SNR=19						

*NIED **08** 16:58:00,2330N×12540E,h5km,Mw4.2 Best double couple: M0=2.02000×10^15 NP1:ϕs=302.00000°,δ71.00000°, λ-93.00000°. NP2:ϕs=132.00000°,δ19.00000°, λ-81.00000°.*

*IDC **08** 16:58:46.1±1.1,2304N×12584E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/20,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=50.2km s-min=19.4km az=72.0*

*ISCJB **08** 16:58:48.2±0.7,2325N±005×12568E±003,h33km, mb3.4/5,Error ellipse: s-maj=7.1km s-min=4.4km az=151.1*

*JMA **08** 16:58:50.6±0.2,2332N×12543E,h95km,M3.5*

ISC 08 16:58:50.0±0.7,2325N±005×12561E±004,h35km,n20, σ1§05/33,mb3.4/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.51**	**353**	P		**Pn**	**16 59 16.0**	**+1.5**
JOGS				S		**Sn**	**16 59 36.0**	**+3.1**
JMJ	**Miyako jima 2**	**1.58**	**349**	P		**Pn**	**16 59 16.9**	**+1.4**
JMJ				S		**Sn**	**16 59 36.6**	**+1.9**
JTJ	**Tarama**	**1.61**	**329**	P		**Pn**	**16 59 16.6**	**+0.7**
JTJ				S		**Sn**	**16 59 36.3**	**+0.8**
JIJ	**Ishigaki jima**	**1.74**	**310**	P		**Pn**	**16 59 17.8**	**+0.1**
JIJ				S		**Sn**	**16 59 37.3**	**-1.3**
JKRS	**Kuro-shima**	**1.77**	**304**	P		**Pn**	**16 59 18.3**	**+0.3**
JKRS				S		**Sn**	**16 59 38.8**	**-0.4**
HATJ	**Hateruma jima**	**1.84**	**296**	P		**Pn**	**16 59 19.3**	**+0.3**
HATJ				*e*S		**Sn**	**16 59 40.0**	**-1.1**
IRIF	**Iriomote-Funau**	**2.03**	**302**	P		**Pn**	**16 59 21.7**	**0.0**
IRIF				*e*S		**Sn**	**16 59 44.9**	**-0.9**
YOJ	**Yonaguni jima**	**2.67**	**297**	P		**Pn**	**16 59 30.6**	**+0.2**
YOJ				*e*S		**Sn**	**17 00 00.1**	**-1.4**
JKE	**Kume jima 2**	**3.24**	**19**	P		**Pn**	**16 59 38.5**	**+0.2**
JKE				S		**Sn**	**17 00 14.5**	**-1.1**
JJT2	**Tamagusuku 2**	**3.47**	**34**	*e*S		**Sn**	**17 00 20.6**	**-0.6**
JOW	**Kunigami**	**4.30**	**34**	P		**Pn**	**16 59 53.5**	**+0.6**
JOW				*e*S		**Sn**	**17 00 40.6**	**-1.2**
JOW	**Kunigami**	**4.30**	**34**	Pn		**Pn**	**16 59 52.9**	**0.0**
	7.6nm,0.3s,baz=144,slow=20,SNR=8.4						
JOW				Sn		**Sn**	**17 00 40.5**	**-1.4**
	11nm,0.3s,baz=99,slow=27,SNR=12						
JIH	**Iheya**	**4.33**	**29**	*e*S		**Sn**	**17 00 41.3**	**-1.1**
JTK	**Tokunoshima**	**5.43**	**33**	P		**Pn**	**17 00 08.4**	**+0.1**
JTK				*e*S		**Sn**	**17 01 05.1**	**-4.4**
JAM	**Amami Oshima**	**6.27**	**34**	P		**Pn**	**17 00 19.5**	**-0.4**
JAM				*e*S		**Sn**	**17 01 25.6**	**-4.7**
SONM	**Songino Array**	**28.93**	**333**	P		**P**	**17 04 51.0**	**+5.3**
	0.4nm,0.8s,mb3.2,baz=138,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**41.84**	**315**	P		**P**	**17 06 38.7**	**+2.3**
	0.6nm,0.7s,mb3.3,baz=101,slow=11,SNR=7.2						
ZAL	**Zalesovo**	**43.27**	**326**	P		**P**	**17 06 52.0**	**+4.0**
	0.7nm,0.4s,mb3.8,baz=79,slow=5.7,SNR=2.7						
WRA	**Warramunga Arr**	**43.77**	**168**	P		**P**	**17 06 51.2**	**-0.9**
	0.9nm,0.8s,mb3.5,baz=349,slow=8.8,SNR=6.2						
ASAR	**Alice Springs**	**47.33**	**170**	P		**P**	**17 07 20.2**	**0.0**
	0.2nm,0.4s,mb3.4,baz=352,slow=14,SNR=7.7						

*KNET **08** 16:59:44.9±0.3,4256N×7456E,h18km±3km,ml1.3,Error ellipse: s-maj=3.0km s-min=2.2km az=156.0*

*ISCJB **08** 16:59:46.0±0.5,4257N±003×7456E±004,h12km±4km, Error ellipse: s-maj=5.7km s-min=4.7km az=157.2*

*NNC **08** 16:59:47.5±2.8,4286N×7458E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=68.9km s-min=15.6km az=177.0*

ISC 08 16:59:46.1±0.6,4257N±003×7456E±004,h12km±7km,n12, σ0§41/21,14C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.08**	**324**	⇑P		**Pg**	**16 59 48.6**	**-0.2**
	111nm,0.1s,SNR=348						
AAK				⇓S		**Sg**	**16 59 50.4**	**-0.4**
	235nm,0.1s						
KBK	**Karagaybulak**	**0.30**	**73**	⇑P		**Pg**	**16 59 52.5**	**+0.2**
	14nm,0.1s,SNR=38						
KBK				⇑S		**Sg**	**16 59 57.1**	**+0.7**
	43nm,0.2s						
UCH	**Uchtor**	**0.34**	**186**	P		**Pg**	**16 59 53.0**	**-0.1**
	SNR=46						
CHMS	**Chumysh**	**0.45**	**18**	⇑P		**Pg**	**16 59 55.0**	**0.0**
	2.5nm,0.1s,SNR=12						
CHMS				⇓S		**Sg**	**17 00 01.4**	**+0.2**
	28nm,0.1s						
EKS2	**Erkin-Say**	**0.58**	**279**	⇓P		**Pg**	**16 59 57.8**	**+0.2**
	2.2nm,0.1s,SNR=11						
EKS2				⇑S		**Sg**	**17 00 06.2**	**+0.9**
	9.3nm,0.1s						
USP	**Ospenovka**	**0.70**	**356**	⇓P		**Pg**	**16 59 59.5**	**-0.2**
	2.6nm,0.1s,SNR=19						
USP				⇑S		**Sg**	**17 00 09.0**	**+0.1**
	46nm,0.2s						
KZA	**Kyzart**	**0.71**	**134**	⇑P		**Pg**	**16 59 59.7**	**-0.2**
	8.7nm,0.1s,SNR=31						
KZA				⇑S		**Sg**	**17 00 09.8**	**+0.6**
	14nm,0.2s						
AML	**Almayashu**	**0.78**	**236**	⇑P		**Pg**	**17 00 00.8**	**-0.4**
	2.5nm,0.1s,SNR=18						
AML				⇑S		**Sg**	**17 00 11.1**	**-0.3**
	12nm,0.2s						
TKM2	**Tokmak 2**	**0.84**	**65**	⇑P		**Pg**	**17 00 01.8**	**-0.6**
	4.3nm,0.1s,SNR=32						
TKM2				⇑S		**Sg**	**17 00 13.1**	**-0.3**
	13nm,0.1s						
TKM2	**Tokmak 2**	**0.84**	**65**	⇑P		**Pg**	**17 00 01.7**	**-0.7**
	1.0nm,0.1s						
TKM2				⇑S		**Sg**	**17 00 13.0**	**-0.5**
	8.3nm,0.2s						
ULHL	**Ulahol**	**1.29**	**104**	⇓P		**Pn**	**17 00 09.8**	**0.0**
	1.3nm,0.1s,SNR=5.5						
KK31	**Karatay Array**	**3.02**	**282**	⇓Pn		**Pn**	**17 00 41.1**	**+7.3**
	0.3nm,0.2s,baz=96,slow=15,SNR=13						
KK31				Lg			17 01 19.3
	0.6nm,0.2s,baz=92,slow=28,SNR=9.1						

SKHL 08 17:45:13.7±0.1,5302N×12894E,h7km±1km,mb3.5/4,1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YASR	**Yasnyy**	**0.64**	**295**	⇑*i*Pg	Pg	17 45 24.6	-1.4
YASR				AMB	AMB	17 45 25.0	
	20nm,0.4s						
YASR				pPg		17 45 26.5	
YASR				*i* Sg	Sg	17 45 32.6	-1.7
YASR				A		17 45 32.9	
	360nm,0.3s						
ZEA	**Zeya**	**1.24**	**306**	*e*Pg	Pg	17 45 35.7	-1.8
ZEA				AMB	AMB	17 45 36.5	
	37nm,0.2s						
ZEA				*e*Sg	Sg	17 45 51.4	-2.2
ZEA				A		17 45 54.0	
	64nm,0.2s						
ZEA				A		17 45 54.0	
	110nm,0.2s						
KROS	**Kirovskiy**	**1.84**	**321**	*e*Pg	Pg	17 45 47.2	-1.7
KROS				AMB	AMB	17 45 48.5	
	17nm,0.4s						
KROS				pPg		17 45 49.4	
KROS				*i* Sg	Sg	17 46 11.6	-1.1
KROS				A		17 46 12.8	
	56nm,0.4s						
EKMR	**Ekimchan**	**2.42**	**87**	*e*Pg	Pg	17 45 56.6	-3.5
EKMR				AMB	AMB	17 45 58.2	
	4.0nm,0.2s						
EKMR				*e*Sg	Sg	17 46 27.7	-3.8
EKMR				A		17 46 30.0	
	45nm,0.4s						
EKMR				A		17 46 30.0	
	33nm,0.4s						
EKMR				A		17 46 30.0	
	25nm,0.4s						
TUP	**Tupik**	**5.52**	**288**	*e*Sg	Sg	17 48 05.6	-5.3
TUP				A		17 48 16.7	
	12nm,1.1s						

MAN 08 18:35:20.8,1015N×12575E,h174km,mb3.4,ML4.6, MS3.1,1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.45**	**215**	⇓*e*P		Pn	18 35 46.9	+2.2
MSLP	**Maasin**	**0.87**	**269**	*e*P		Pn	18 35 47.2	+0.2
MSLP				*e*S		Sn	18 36 08.2	+1.1
PLP	**Palo**	**1.26**	**323**	*e*P		Pn	18 35 50.4

mb1 3.9/6, mb1mx3.7/21, mbtmp3.6/6, MS3.5/4, Ms1 3.5/4, ms1mx3.0/21, Error ellipse: s-maj=45.8km s-min=20.5km az=71.0
*NEIC **08** 19:24:49.3±0.6, 2775N×12032E, h10km, mb4.3/1, Error ellipse: s-maj=20.5km s-min=8.2km az=63.0*
ISC 08 19:24:48.1±0.4, 2768N±003×12008E±005, h10km, n24, σ1§62/38, mb3.7/7, MS3.5/2, 1C, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**2.98**	**155**	*e*Pn	**Pn**	**19 25 36.1**	**+0.7**
TATO				*e*Pg	**Pg**	19 25 43.2	-2.0
TATO				*e*Sg	**Sg**	19 26 21.7	-2.1
QZH	**Quanzhou**	**3.04**	**206**	⇑*i*P	**Pn**	**19 25 35.9**	**-0.3**
QZH				S	**Sn**	**19 26 09.8**	**-2.8**
QZH				Smax			
	comp=N,3μm,0.4s						
QZH				Smax			
	comp=E,5μm,0.9s						
QZH				LR	LR		
	comp=N,7μm,2.2s						
QZH				LR	LR		
	comp=E,14μm,3.5s						
QZH				LR	LR		
	comp=Z,4μm,3.9s						
YHNB	**Yeheng**	**3.22**	**158**	*e*Pn	**Pn**	**19 25 39.0**	**+0.2**
YHNB				*e*Pg	**Pg**	19 25 47.7	-2.1
YHNB				*e*Sg	**Sg**	19 26 26.0	-5.5
SSE	**Sheshan**	**3.54**	**16**	P	**Pn**	**19 25 43.5**	**+0.4**
SSE				S	**Sn**	**19 26 24.0**	**-1.0**
SSE				Smax			
	comp=N,818nm,0.8s						
SSE				Smax			
	comp=E,1μm,0.9s						
NACB	**Ninganchiao**	**3.75**	**158**	*e*Pn	**Pn**	**19 25 46.7**	**+0.7**
NACB				*e*S	**Sn**	**19 26 32.6**	**+2.4**
NJ2	**Nanjing**	**4.48**	**347**	*e*P	**Pn**	**19 25 55.9**	**-0.2**
NJ2				PG	**Pg**	**19 26 10.5**	**-3.5**
NJ2				S	**Sn**	**19 26 45.0**	**-3.3**
NJ2				SG	**Sg**	**19 27 06.8**	**-5.3**
NJ2				Smax			
	comp=N,2μm,0.8s						
NJ2				Smax			
	comp=E,1μm,0.8s						
WHN	**Wuhan**	**5.76**	**301**	*e*P	**Pn**	**19 26 14.2**	**+0.5**
WHN				S	**Sn**	**19 27 11.2**	**-8.7**
WHN				SG	**Sg**	**19 27 49.7**	**-3.5**
WHN				Smax			
	comp=N,220nm,0.7s						
WHN				Smax			
	comp=E,890nm,0.8s						
WHN				LR	LR		
	comp=N,620nm,12.6s						
WHN				LR	LR		
	comp=E,4μm,6.8s						
GZH	**Guangzhou**	**7.61**	**235**	PG	**Pg**	**19 26 58.2**	**-16**
GZH				Smax			
	comp=N,658nm,0.7s						
GZH				Smax			
	comp=E,666nm,0.8s						
ENH	**Enshi**	**9.63**	**288**	P	**Pn**	**19 27 10.8**	**+4.0**
GYA	**Guiyang**	**12.02**	**267**	P	**Pn**	**19 27 41.1**	**+1.7**
GYA				S	**Sn**	**19 30 03.8**	**+10**
GYA				LR	LR		
	comp=N,460nm,5.6s						
GYA				LR	LR		
	comp=E,640nm,5.7s						
GYA				LR	LR		
	comp=Z,590nm,7.4s						
QIZ	**Qiongzhong**	**12.74**	**230**	*e*P	**Pn**	**19 27 51.0**	**+1.7**
QIZ				LR	LR		
	comp=N,897nm,9.2s						
QIZ				LR	LR		
	comp=E,984nm,7.3s						
CD2	**Chengdu**	**14.60**	**287**	*e*P	**Pn**	**19 28 12.7**	**-2.0**
CD2				PP		19 28 24.2	
CD2				S	**Sn**	**19 30 53.2**	**-3.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
CD2				AMB	AMB		
	comp=Z,90nm,4.5s						
CD2				LR	LR		
	comp=E,340nm,9.6s						
CD2				LR	LR		
	comp=Z,230nm,12.0s						
LZH	**Lanzhou**	**16.12**	**305**	*e*P	**Pn**	**19 28 36.0**	**+1.2**
LZH				AP	pP	19 28 39.5	-1.4
LZH				XP	sP	19 28 43.1	+0.9
LZH				PP		19 28 49.1	
LZH				*e*S	**Sn**	**19 31 33.4**	**-0.2**
LZH				XS	sS	19 31 38.9	-13
LZH				*e*SS		19 31 51.1	
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						
LZH				AMB	AMB		
	comp=Z,89nm,4.2s						
LZH				LR	LR		
	comp=N,356nm,15.6s						
LZH				LR	LR		
	comp=Z,652nm,16.3s						
OCLP	**Ormoc**	**17.08**	**165**	*e*P	**Pn**	**19 28 36.5**	**-10**
MJAR	**Matsushiro Arr**	**17.70**	**56**	LR	LR	19 35 42.1	
	comp=Z,106nm,18.4s,baz=120,slow=37						
GTA	**Gaotai**	**20.49**	**310**	*e*P	**P**	**19 29 29.5**	**+3.3**
GTA				AP		19 29 33.6	
GTA				XP	sP	19 29 36.7	+6.4
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,102nm,6.5s						
GTA				LR	LR		
	comp=N,357nm,13.4s,MS4.0						
GTA				LR	LR		
	comp=E,262nm,12.2s,MS4.0						
GTA				LR	LR		
	comp=Z,161nm,13.4s,MS3.6						
SONM	**Songino Array**	**22.78**	**336**	P	**P**	**19 29 52.6**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.2,baz=156,slow=9.3,SNR=6.2						
SONM				LR	LR	19 39 53.9	
	comp=Z,76nm,21.4s,MS3.1,baz=151,slow=40						
MKAR	**Makanchi Array**	**35.19**	**313**	P	**P**	**19 31 43.3**	**+1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=101,slow=11,SNR=14						
WRAB	**Tennant Creek**	**49.31**	**162**	*e*P	**P**	**19 33 40.2**	**+2.9**
	comp=Z,3.1nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**49.31**	**162**	P	**P**	**19 33 38.4**	**+1.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=346,slow=8.2,SNR=6.8						
ASAR	**Alice Springs**	**52.76**	**164**	P	**P**	**19 34 05.9**	**+2.6**
	comp=Z,1.0nm,0.9s,mb3.8,baz=344,slow=6.0,SNR=8.1						
ILAR	**Eielson Array**	**66.59**	**28**	P	**P**	**19 35 39.0**	**+0.5**
	comp=Z,0.3nm,0.9s,mb3.3,baz=296,slow=7.5,SNR=4.1						
YKA	**Yellowknife Ar**	**80.14**	**23**	P	**P**	**19 36 57.7**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=321,slow=5.1,SNR=7.5						
YKA	**Yellowknife Ar**	**80.14**	**23**	P	**P**	**19 36 57.7**	**-0.8**

BJI 08 19:27:08.1, 2759N×11992E, h23km, ML4.2, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.89**	**205**	*e*P	Pn	19 27 54.3	+1.6
QZH				S	Sn	19 28 29.5	+2.7
QZH				Smax			
	comp=N,1μm,0.6s						
QZH				Smax			
	comp=E,1μm,0.8s						
NJ2	**Nanjing**	**4.54**	**348**	*e*P	Pn	19 28 16.0	+0.6
NJ2				PG	Pn	19 28 30.6	+15
NJ2				S	Sn	19 29 10.3	+2.8
NJ2				SG	Sn	19 29 27.1	+20
NJ2				Smax			
	comp=N,590nm,0.7s						
NJ2				Smax			
	comp=E,630nm,0.9s						

MAN 08 19:29:11.2, 1123N×12468E, h18km, mb1.9, ML3.6, MS1.8, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.19**	**200**	*e*P	Pg	19 29 17.4	+1.4
OCLP				*e*S	Sg	19 29 20.6	+1.3
PLP	**Palo**	**0.31**	**103**	*e*P	Pg	19 29 19.0	+1.2
MSLP	**Maasin**	**1.11**	**171**	*e*P	Pn	19 29 31.0	-0.8
MSLP				*e*S	Sb	19 29 48.0	+2.2

*HLW **08** 19:30:33.4, 3372N×2568E, h10km, Mb3.7*
*ISCJB **08** 19:30:34.2±0.6, 3367N±005×2574E±008, h33km, Error ellipse: s-maj=9.7km s-min=6.1km az=133.6*
*CSEM **08** 19:30:34.4±0.1, 3368N×2576E, h40km, ML3.7, Error ellipse: s-maj=3.2km s-min=2.1km az=58.0*
*ATH **08** 19:30:34.0, 3384N×2540E, h10km, MD3.4/3*
ISC 08 19:30:35.6±0.6, 3371N±005×2565E±008, h35km, n23, σ0§67/25, 13C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.16**	**2**	*e*PG	**Pn**	**19 30 53.8**	**-1.5**
NPS	**Neapolis**	**1.55**	**359**	*e*PG	**Pn**	**19 31 00.7**	**0.0**
VAM	**Vamos**	**2.07**	**325**	*e*PN	**Pn**	**19 31 08.1**	**+0.2**
SLUM		**2.24**	**190**	P	**Pn**	**19 31 10.1**	**-0.1**
DABA	**Dabaa**	**3.50**	**140**	⇑P	**Pn**	**19 31 27.6**	**+0.2**
SWA1		**4.44**	**179**	P	**Pn**	**19 31 40.8**	**+0.4**
SWA1				S	**Sn**	**19 32 29.6**	**-1.2**
SWA2		**4.46**	**182**	⇑*e*P	**Pn**	**19 31 40.7**	**0.0**
HBRG	**Burj al 'Arab**	**4.74**	**130**	⇑P	**Pn**	**19 31 44.4**	**-0.1**
HBRG				S	**Sn**	**19 32 36.1**	**-2.0**
HMYD	**Mayadein**	**5.87**	**130**	⇑P	**Pn**	**19 32 00.0**	**-0.1**
SQR		**6.07**	**127**	⇑P	**Pn**	**19 32 02.5**	**-0.4**
FYM	**Al Fayyum**	**6.10**	**130**	⇑P	**Pn**	**19 32 03.4**	**+0.1**
AYT	**Al 'Ayyat**	**6.16**	**129**	⇑P	**Pn**	**19 32 04.1**	**0.0**
KOT	**Kottamia**	**6.47**	**124**	P	**Pn**	**19 32 08.1**	**-0.3**
GLL	**Jalalah**	**6.61**	**127**	⇑P	**Pn**	**19 32 11.1**	**+0.9**
HFRF	**Wahat Farafira**	**6.93**	**160**	⇑P	**Pn**	**19 32 15.0**	**+0.3**
AMAG	**Maghara**	**7.10**	**113**	⇑*e*P	**Pn**	**19 32 16.8**	**-0.2**
SUZ		**7.23**	**120**	P	**Pn**	**19 32 19.1**	**+0.3**
ZAF		**7.36**	**125**	⇑P	**Pn**	**19 32 21.2**	**+0.7**
ZAF		**7.36**	**125**	P	**Pn**	**19 32 21.2**	**+0.6**
ZNM		**7.53**	**123**	⇑P	**Pn**	**19 32 23.3**	**+0.5**
TR2		**8.73**	**125**	⇑P	**Pn**	**19 32 39.8**	**+0.5**
HDK1	**Dakhla**	**8.77**	**157**	P	**Pn**	**19 32 40.6**	**+0.8**
HKAT	**Jabal Katrina**	**8.83**	**124**	⇓P	**Pn**	**19 32 41.4**	**+0.7**

*NEIC **08** 19:32:11.0, 3798N×2072E, h10km, MD3.5(ATH), After ATH.*
*CSEM **08** 19:32:11.5, 3798N×2072E, h10km±2km, MD3.5/4, After ATH*
ATH 08 19:32:11.5, 3798N×2072E, h10km±2km, MD3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**332**	*e*PG	Pg	19 32 16.3	+0.2
VLS				*e*SG	Sg	19 32 20.0	+0.8
RLS	**Riolos of Patr**	**0.59**	**82**	*e*PB	Pb	19 32 23.4	-0.6
RLS				*e*SB	Sb	19 32 31.3	-1.1
ITM	**Ithomi**	**1.25**	**129**	*e*PB	Pb	19 32 35.0	-0.1
EVR	**Evrytania**	**1.27**	**42**	*e*PG	Pg	19 32 35.3	-0.5
JAN	**Janina**	**1.68**	**3**	*e*PG	Pg	19 32 42.5	-1.2
KEK	**Kerkira**	**1.87**	**338**	*e*PG	Pg	19 32 46.9	-0.5

*SKO **08** 19:35:19.6, 4191N×2320E, h22km, M1.9, ML2.5*
*SOF **08** 19:35:20.3, 4196N×2328E, h2km, MD2.8*
*ISCJB **08** 19:35:20.1±0.7, 4189N±003×2320E±005, h0km±7km, Error ellipse: s-maj=6.3km s-min=5.0km az=18.9*
*CSEM **08** 19:35:20.1±0.1, 4195N×2320E, h2km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.6km az=145.0*
*ATH **08** 19:35:21.8, 4182N×2320E, h13km±1km, MD3.4/3*
*THE **08** 19:35:22.0, 4185N×2316E, h8km, ML2.9*
*NEIC **08** 19:35:21.0, 4182N×2320E, h13km, MD3.4(ATH), After ATH.*
ISC 08 19:35:20.9±0.7, 4189N±003×2320E±005, h3km±7km, n24, σ1§02/32, 1C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.09**	**253**	*i* Pg	**Pg**	**19 35 23.5**	**+0.8**
MMB	**Musomiste**	**0.50**	**127**	*i* Pg	**Pg**	**19 35 31.5**	**+1.0**
VTS	**Vitosha**	**0.70**	**1**	*i* Pg	**Pg**	**19 35 33.5**	**-0.8**
NVR	**Nevrokopi**	**0.74**	**137**	*e*PB	**Pb**	**19 35 34.9**	**-1.4**
VAY	**Valandovo**	**0.74**	**220**	*i* Pg	**Pg**	**19 35 35.0**	**-0.1**
VAY				*e*Lg		19 35 48.0	
	comp=E,125nm,0.4s						
VAY				*e*Lg		19 35 48.1	
	comp=N,122nm,0.4s						
VAY	**Valandovo**	**0.74**	**220**	*i* Pg	**Pg**	**19 35 34.9**	**-0.2**
KNT	**Kendrikon**	**0.76**	**197**	*e*Pg	**Pg**	**19 35 35.5**	**0.0**
KNT				*e*Sg	**Sg**	**19 35 46.1**	**+0.6**
KNT	**Kendrikon**	**0.76**	**197**	*e*Pg	**Pg**	**19 35 35.5**	**0.0**
KNT				*e*Sg	**Sg**	**19 35 46.1**	**+0.7**
STIP	**Stip**	**0.78**	**256**	*i* Pg	**Pg**	**19 35 35.6**	**-0.2**
STIP				*i* Sg	**Sg**	**19 35 46.3**	**+0.3**
STIP				*e*Lg		19 35 49.6	
	comp=N,43nm,0.3s						
STIP				*e*Lg		19 35 50.1	
	comp=E,38nm,0.2s						
STIP	**Stip**	**0.78**	**256**	*i* Pg	**Pg**	**19 35 35.6**	**-0.3**
STIP				*i* Sg	**Sg**	**19 35 46.2**	**+0.2**
SOH	**Sokhos**	**1.08**	**174**	*e*Pg	**Pg**	**19 35 41.3**	**-0.2**
GRG	**Griva**	**1.11**	**213**	*e*Pg	**Pg**	**19 35 41.9**	**-0.3**
GRG				*e*Sg	**Sg**	**19 35 57.2**	**+0.6**
RZN	**Rozhen**	**1.16**	**100**	*i* Pg	**Pg**	**19 35 42.3**	**-0.7**
THE	**Thessaloniki**	**1.27**	**188**	*e*Pg	**Pg**	**19 35 44.9**	**-0.4**
	comp=E,2.5nm,0.1s						
THE				*e*Sg	**Sg**	**19 36 02.2**	**+0.5**
PLG	**Polygyros**	**1.53**	**173**	*e*PB	**Pb**	**19 35 48.6**	**-1.2**
PLG				*e*SB	**Sb**	**19 36 08.4**	**-1.2**
RDO	**Rodhopi**	**1.91**	**112**	*e*PN	**Pn**	**19 35 55.8**	**+1.5**
RDO				*e*SN	**Sn**	**19 36 20.5**	**+1.7**
PVL	**Pavlikeni**	**2.06**	**49**	P	**Pn**	**19 35 55.5**	**-0.9**
XOR	**Xorichti**	**2.52**	**180**	*e*Pn	**Pn**	**19 36 01.8**	**-0.9**
DIVS	**Divcibare**	**3.22**	**314**	*i* P	**Pn**	**19 36 13.8**	**+1.4**
BZS	**Buzias**	**3.90**	**343**	⇑P	**Pn**	**19 36 19.6**	**-2.0**
MLR	**Muntele Rosu**	**4.11**	**28**	⇓P	**Pn**	**19 36 27.5**	**+2.9**
MLR	**Muntele Rosu**	**4.11**	**28**	⇓P	**Pn**	**19 36 27.6**	**+3.0**
TIRR	**Tirgusor**	**4.60**	**54**	⇓P	**Pn**	**19 36 32.0**	**+0.8**
TIRR	**Tirgusor**	**4.60**	**54**	⇓P	**Pn**	**19 36 31.9**	**+0.7**

*NEIC **08** 19:39:46.8±2.8, 1685S×7062W, h15km±18km, mb4.5/2, Error ellipse: s-maj=13.4km s-min=9.6km az=221.0*
*ISCJB **08** 19:39:47.7±0.6, 1689S±004×7061W±005, h33km, mb3.9/8, MS3.6/2, Error ellipse: s-maj=7.3km s-min=6.1km az=135.0*
*IDC **08** 19:39:52.9±2.7, 1695S×7028W, h70km±26km, mb3.6/7, mb1 3.9/11, mb1mx3.7/20, mbtmp3.9/11, MS3.4/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=30.1km s-min=20.6km az=96.0*
ISC 08 19:39:46.5±1.7, 1688S±005×7065W±007, h11km±12km, n22, σ1§32/24, mb3.9/8, MS3.6/2, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.91**	**297**	⇑*i*P	**Pg**	**19 40 04.0**	**0.0**
ARE				*e*S	**Sg**	**19 40 29.0**	**+13**
LPAZ	**La Paz**	**2.49**	**77**	P	**Pn**	**19 40 28.9**	**+2.0**
	26nm,0.3s,baz=258,slow=13,SNR=1663						
LPAZ				S	**Sn**	**19 41 02.0**	**+4.7**
	baz=343,slow=20						
LPAZ	**La Paz**	**2.49**	**77**	⇑*i*P	**Pn**	**19 40 28.5**	**+1.6**
LPAZ				*e*Sn	**Sn**	**19 40 55.0**	**-2.2**
LVC	**Limon Verde**	**5.93**	**164**	P	**Pn**	**19 41 16.1**	**+1.9**
	3.5nm,0.3s,baz=323,slow=8.7,SNR=23						
LVC				S	**Sn**	**19 42 32.2**	**+10**
	2.6nm,0.3s,baz=249,slow=20,SNR=3.1						
LVC	**Limon Verde**	**5.93**	**164**	*e*P	**Pn**	**19 41 15.9**	**+1.6**
LVC				*e*Sn	**Sn**	**19 42 23.4**	**+1.2**
LVC				*e*Sb	**Sb**	**19 42 40.4**	**-0.5**
SIV	**San Ignacio**	**9.23**	**86**	P	**Pn**	**19 41 57.4**	**-2.1**
	0.6nm,0.3s,baz=271,slow=12,SNR=18						
SIV				S	**Sn**	**19 43 44.5**	**+1.1**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.2						
CFAA	**Coronel Fontan**	**14.82**	**172**	P	**Pn**	**19 43 15.9**	**-0.1**
	0.0nm,0.3s,baz=2.9,slow=14,SNR=2.3						
CFAA				LR	LR	19 49 31.6	
	comp=Z,22nm,18.1s,baz=151,slow=39						
TRQA	**Tornquist**	**22.43**	**162**	P	**P**	**19 44 43.7**	**-1.5**
	20nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**23.77**	**180**	P	**P**	**19 44 58.6**	**-0.4**
	8.3nm,1.0s,mb4.1,baz=360,slow=11,SNR=11						
PLCA				LR	LR	19 54 42.4	
	comp=Z,118nm,19.2s,MS3.4,baz=5.6,slow=38						
PLCA	**Paso Flores**	**23.77**	**180**	*e*P	**P**	**19 44 58.8**	**-0.2**
	20nm,1.2s,mb4.4						
PLCA				LR	LR	19 54 42.4	
TXAR	**Lajitas Array**	**55.92**	**325**	P	**P**	**19 49 25.1**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=129,slow=8.0,SNR=3.9						
PDAR	**Pinedale Array**	**69.31**	**330**	P	**P**	**19 50 55.0**	**+1.1**
	0.2nm,0.5s,mb3.3,baz=144,slow=7.8,SNR=3.0						
PDAR				LR	LR	20 23 04.5	
	comp=Z,64nm,20.8s,MS3.8,baz=45,slow=37						
ULM	**Lac du Bonnet**	**70.44**	**343**	P	**P**	**19 50 59.3**	**-1.5**
	2.2nm,0.8s,mb4.2,baz=101,slow=6.1,SNR=4.2						
NVAR	**Mina Array Bea**	**70.86**	**322**	P	**P**	**19 51 04.8**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=163,slow=4.7,SNR=3.8						
NVAR	**Mina Array Bea**	**70.86**	**322**	P	**P**	**19 51 04.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**77.43**	**72**	P	**P**	**19 51 38.5**	**-3.2**
	1.0nm,0.7s,mb3.9,baz=250,slow=5.1,SNR=6.2						
YKA	**Yellowknife Ar**	**86.31**	**341**	P	**P**	**19 52 27.2**	**-1.2**
	1.4nm,1.0s,mb4.2,baz=136,slow=4.8,SNR=14						
ZAL	**Zalesovo**	**138.39**	**22**	PKP	PKPdf	19 59 10.3	-1.7
	0.9nm,0.6s,baz=148,slow=5.5,SNR=6.3						
ZAL	**Zalesovo**	**138.39**	**22**	PKP	PKPdf	19 59 10.3	-1.7
MKAR	**Makanchi Array**	**142.71**	**31**	PKP	PKPdf	19 59 18.5	-1.3
	0.3nm,0.8s,baz=315,slow=2.0,SNR=3.2						
MJAR	**Matsushiro Arr**	**147.82**	**313**	PKPbc	PKPbc	19 59 31.7	+0.2
	4.1nm,1.1s,baz=180,slow=1.3,SNR=5.5						
SONM	**Songino Array**	**149.04**	**4**	PKPbc	PKPbc	19 59 34.2	-0.4
	1.4nm,0.6s,baz=332,slow=2.0,SNR=15						

CASC 08 19:41:11.9±2.3, 1108N×8678W, h29km±28km, MD3.8, 6C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.94**	**77**	⇑*e*P	Pn	19 41 28.3	-0.8
SSNN				*e*S	Sn	19 41 43.2	+1.7
APON	**Apoyo**	**1.09**	**40**	⇓*e*P	Pn	19 41 31.1	-0.1
TICN	**Ticuantepe**	**1.09**	**30**	⇓*e*P	Pn	19 41 34.0	+2.8
COPN	**Copaltepe**	**1.11**	**10**	⇓*e*P	Pn	19 41 31.2	-0.3
XAVN	**Gruta Xavier**	**1.15**	**23**	*e*P	Pn	19 41 32.1	+0.1
MGAN	**Managua**	**1.18**	**26**	⇓*e*P	Pn	19 41 32.4	-0.1
MGAN				*e*S	Sn	19 41 48.2	+0.6
APYN	**Apoyeque**	**1.22**	**20**	⇑*e*P	Pn	19 41 32.9	-0.1
CONN	**Concepcion**	**1.23**	**67**	*e*P	Pn	19 41 32.7	-0.5
MADN	**Villa Maderas**	**1.27**	**75**	*e*P	Pn	19 41 33.2	-0.4
LEON	**Leon**	**1.33**	**355**	⇓*e*P	Pn	19 41 34.3	-0.2
MIRN	**Miramar**	**1.35**	**3**	⇑*e*P	Pn	19 41 34.8	0.0
RIN3	**Volcan Rincon**	**1.41**	**102**	*e*P	Pn	19 41 34.7	-0.9
CNGN	**Cerro Negro**	**1.41**	**3**	⇓*e*P	Pn	19 41 35.3	-0.4
VCR	**Vista de Mar**	**1.48**	**130**	*e*S	Sn	19 41 56.9	+2.1
TEL3	**Telica 3**	**1.48**	**358**	⇑*e*P	Pn	19 41 36.3	-0.3
CRIN	**San Cristobal**	**1.63**	**351**	⇓*e*P	Pn	19 41 38.5	-0.2
LCR2	**La Lucha 2**	**3.04**	**116**	*e*P	Pn	19 41 57.6	-0.4
URSC	**Urasca**	**3.20**	**112**	⇑*e*P	Pn	19 42 02.5	+2.2
ACR	**Cerro Adams**	**4.30**	**124**	⇑*e*P	Pn	19 42 15.9	+0.5

BJI 08 19:45:07.0, 2760N×11997E, h20km, ML3.6, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.92**	**205**	P	Pn	19 45 53.9	+1.6
QZH				S	Sn	19 46 29.1	+2.3
QZH				Smax			
	comp=N,190nm,0.6s						
QZH				Smax			
	comp=E,330nm,1.1s						
NJ2	**Nanjing**	**4.54**	**348**	*e*PG	Pn	19 46 30.5	+16
NJ2				SG	Sn	19 47 26.0	+19
NJ2				Smax			
	comp=N,260nm,0.6s						
NJ2				Smax			
	comp=E,40nm,0.6s						

*CSEM **08** 20:01:26.6±0.3, 3509N×406W, h12km, MD3.1, Error ellipse: s-maj=6.3km s-min=5.1km az=37.0*
*ISCJB **08** 20:01:27.5±1.0, 3509N±004×409W±005, h20km±12km, Error ellipse: s-maj=7.6km s-min=6.1km az=24.0*
*CNRM **08** 20:01:27.9, 3499N×403W, h0km, MD3.1*
*MDD **08** 20:01:27.2±0.6, 3502N×405W, h0km, mbLg2.1/5, Error ellipse: s-maj=7.8km s-min=3.9km az=27.0, PRXIMO*
ISC 08 20:01:27.1±0.8, 3507N±004×406W±005, h11km±6km, n22, σ0§97/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**31**	*i* P	**Pg**	**20 01 32.0**	**+0.9**
TOU	**Touzarine**	**0.27**	**113**	P	**Pg**	**20 01 31.5**	**-1.2**
TOU				S	**Sg**	**20 01 34.0**	**-2.4**
TOU	**Touzarine**	**0.27**	**113**	*i* P	**Pg**	**20 01 31.5**	**-1.2**
EMEL	**Melilla**	**0.93**	**75**	P	**Pg**	**20 01 45.1**	**+0.1**
	46nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**20 01 57.2**	**+0.1**
	37nm,0.1s,SNR=4.7						
EMLI	**Melilla**	**0.94**	**75**	P	**Pg**	**20 01 45.1**	**0.0**
	46nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**20 01 57.2**	**-0.1**
	37nm,0.1s,SNR=4.7						
ZAI	**Zaio**	**1.08**	**95**	*i* P	**Pb**	**20 01 48.0**	**+0.2**
ZAI				*i* S	**Sb**	**20 02 02.5**	**+0.6**
EMIJ	**Mijas**	**1.60**	**339**	P	**Pn**	**20 01 55.5**	**+0.3**
	1.3nm,0.1s,SNR=5.7						
EMIJ				S	**Sn**	**20 02 14.8**	**-1.1**
	3.5nm,0.2s,SNR=5.8						
EJIF	**Jimena Fronter**	**1.79**	**321**	P	**Pn**	**20 01 58.3**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 02 21.0**	**+0.3**
	0.7nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.79**	**321**	P	**Pn**	**20 01 58.3**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 02 20.2**	**-0.4**
	0.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.06**	**27**	P	**Pn**	**20 02 02.2**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 02 25.4**	**-1.7**
	3.0nm,0.3s,SNR=5.2						
EBER	**Berja**	**2.06**	**27**	P	**Pn**	**20 02 02.2**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 02 25.4**	**-1.7**
	3.0nm,0.3s,SNR=5.2						
CZD	**Col de Zad**	**2.19**	**202**	*e*P	**Pn**	**20 02 04.0**	**+0.7**
CZD				*i* S	**Sn**	**20 02 30.0**	**-0.4**
EQES	**Quesada**	**2.84**	**16**	P	**

*ECX **08** 20:06:14.4±0.5, 32.27N×115.07W, h14km, MD3.5, ML3.6*
*NEIC **08** 20:06:14.9, 32.31N×115.11W, h14km, MD4.0(ECX), ML3.5(PAS), After ECX.*
*ISCJB **08** 20:06:15.4±0.8, 32.33N±004×115.03W±006, h18km±5km, Error ellipse: s-maj=9.7km s-min=5.5km az=66.6*

ISC 08 20:06:15.4±0.9, 32.34N±004×115.02W±007, h19km±4km, n21, σ0.87/32, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELX	**Delta**	**0.14**	**277**	*eP*	**Pg**	**20 06 19.2**	**-0.4**
DELX				*eS*	**Sg**	**20 06 22.7**	**+0.3**
VCP	**Volcan Cerro P**	**0.24**	**285**	*eP*	**Pg**	**20 06 21.6**	**+0.6**
EMSC	**East Mesa**	**0.40**	**4⇓**	*eP*	**Pg**	**20 06 25.1**	**+1.3**
SGL	**Mount Signal**	**0.67**	**298⇑**	*eP*	**Pb**	**20 06 27.7**	**-0.8**
ERPC	**Ernies Place**	**0.67**	**307⇑**	*eP*	**Pb**	**20 06 28.3**	**-0.2**
GLA	**Glamis**	**0.73**	**13**	*eP*	**Pb**	**20 06 29.8**	**+0.3**
GLA				*eS*	**Sb**	**20 06 40.1**	**+1.0**
YUH	**Yuha Desert**	**0.82**	**292⇑**	*eP*	**Pb**	**20 06 30.0**	**-1.1**
RDX	**Rancho Dowling**	**0.88**	**243**	*eP*	**Pb**	**20 06 31.5**	**-0.6**
RDX				*eS*	**Sb**	**20 06 43.1**	**-0.4**
RDX				⇑*e*		20 06 43.3	
	comp=N,4μm,0.3s						
RDX	**Rancho Dowling**	**0.88**	**243⇓**	*eP*	**Pb**	**20 06 31.6**	**-0.5**
RMX	**La Rumorosa**	**0.93**	**287⇑**	*eP*	**Pb**	**20 06 32.2**	**-0.7**
RMX				⇑*e*		20 06 44.7	
	comp=E,764nm,0.2s						
RMX	**La Rumorosa**	**0.93**	**287⇓**	*eP*	**Pb**	**20 06 32.2**	**-0.7**
SPX	**San Pedro Mart**	**1.34**	**196**	*eP*	**Pn**	**20 06 38.6**	**-0.5**
SPX				*eS*	**Sn**	**20 06 55.9**	**-0.5**
CBX	**Cerro Bola**	**1.39**	**269**	*eP*	**Pn**	**20 06 38.9**	**-0.8**
CBX				*eS*	**Sn**	**20 06 56.4**	**-1.2**
BAR	**Barrett**	**1.43**	**284**	*eP*	**Pn**	**20 06 39.3**	**-1.0**
ENX	**Ensenada**	**1.47**	**252**	*eP*	**Pn**	**20 06 40.7**	**-0.1**
ENX				*eS*	**Sn**	**20 07 00.1**	**+0.7**
ENX	**Ensenada**	**1.47**	**252**	*eP*	**Pn**	**20 06 40.8**	**0.0**
ECX	**Ensenada**	**1.47**	**252**	*eP*	**Pn**	**20 06 41.4**	**+0.6**
ECX				*eS*	**Sn**	**20 07 01.8**	**+2.3**
CCX	**Cicese**	**1.47**	**252**	*eP*	**Pn**	**20 06 41.0**	**+0.1**
CCX				*eS*	**Sn**	**20 07 00.2**	**+0.7**
ECNX	**Esteban Cantu**	**1.50**	**243**	*eP*	**Pn**	**20 06 41.4**	**+0.1**
ECNX				*eP*		20 06 41.0	
ECNX				*eS*	**Sn**	**20 07 00.2**	**-0.1**
ECNX				*eS*	**Sn**	**20 07 01.8**	**+1.5**
PBX	**Punta Banda**	**1.56**	**248**	*eP*	**Pn**	**20 06 42.3**	**+0.2**
PBX				*eS*	**Sn**	**20 07 03.4**	**+1.6**
PFO	**Pinyon Flat Ob**	**1.75**	**317**	*eP*	**Pn**	**20 06 43.0**	**-1.7**

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*ISCJB **08** 20:14:56.1±0.5, 66.33N±003×141.83W±009, h10km, Error ellipse: s-maj=5.1km s-min=4.8km az=117.3*
*NEIC **08** 20:14:58.6, 66.26N×142.57W, h2km, ML3.2(AEIC), After AEIC.*
*PGC **08** 20:15:01.2, 66.23N×141.89W, h10km, ML3.4/2, Eastern Alaska.*

ISC 08 20:14:57.5±1.4, 66.32N±004×142.00W±010, h8km±10km, n14, σ1.01/22, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.51**	**318**	P	**Pn**	**20 15 24.6**	**-0.3**
BM3				S	**Sn**	**20 15 44.8**	**+0.1**
DAWY	**Dawson**	**2.52**	**153**	Pn	**Pn**	**20 15 39.4**	**+0.7**
DAWY				Sn	**Sn**	**20 16 08.8**	**-0.8**
DAWY				Sg	**Sg**	**20 16 17.2**	**-1.2**
DAWY				Trac		20 16 23.6	
	comp=Z,106nm,0.7s						
IL1	**Eielson Array**	**2.56**	**235**	P	**Pn**	**20 15 38.4**	**-0.9**
DOT	**Dot Lake**	**2.82**	**199**	P	**Pn**	**20 15 43.1**	**+0.2**
COLA	**College**	**2.83**	**242**	P	**Pn**	**20 15 42.3**	**-0.7**
COLD	**Coldfoot**	**3.38**	**289**	P	**Pn**	**20 15 50.9**	**+0.4**
PAX	**Paxson**	**3.68**	**206**	P	**Pn**	**20 15 55.3**	**+0.6**
INK	**Inuvik**	**3.84**	**55**	Pn	**Pn**	**20 16 00.1**	**+3.2**
INK				Sn	**Sn**	**20 16 41.5**	**-0.8**
INK				Sg	**Sg**	**20 17 01.2**	**+0.4**
INK				Trac		20 17 09.6	
	comp=Z,30nm,0.5s						
MCK	**McKinley**	**3.92**	**232**	*eP*	**Pn**	**20 15 57.5**	**-0.6**
IM3	**Indian Mountai**	**4.78**	**271**	P	**Pn**	**20 16 09.1**	**-0.8**
BMRM	**Bremner River**	**5.50**	**193**	P	**Pn**	**20 16 21.9**	**+2.2**
HYT	**Haines Junctio**	**5.87**	**158**	Pn	**Pn**	**20 16 26.4**	**+1.6**
HYT				Sg	**Sg**	**20 18 00.2**	**-5.8**
HYT				Trac		20 18 03.8	
	comp=Z,17nm,0.7s						
WHY	**Whitehorse**	**6.51**	**147**	Pn	**Pn**	**20 16 34.6**	**+1.0**
WHY				Sg	**Sg**	**20 18 20.6**	**-5.9**
WHY				Trac		20 18 37.1	
	comp=Z,7.0nm,0.8s						
YKW3	**Yellowknife Ar**	**12.35**	**95**	P	**Pn**	**20 17 52.1**	**-1.5**
YKW3				Sn	**Sn**	**20 20 03.9**	**-7.5**
YKW3				Trac		20 20 05.7	
	comp=Z,1.0nm,0.4s						

MAN 08 20:57:41.7, 714N×12351E, h12km, mb3.0, ML4.3, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.71**	**350**	*eP*	Pg	20 57 55.8	+0.3
PAGZ				*eS*	Sg	20 58 05.7	+0.7
CTBH	**Cotabato--PC H**	**0.74**	**84⇓**	*iP*	Pg	20 57 55.4	-0.5
CTBH				*i* S	Sg	20 58 04.7	-1.0
IPIL	**Ipil**	**1.13**	**305**	*eP*	Pb	20 58 03.4	+0.2
IPIL				*eS*	Sb	20 58 18.3	+0.5
DCPH	**Dipolog City**	**1.44**	**354⇑**	*eP*	Pn	20 58 06.5	-1.1
DCPH				*i* S	Sn	20 58 25.3	-1.1
BUKP	**Musuan**	**1.71**	**64**	*eP*	Pn	20 58 11.2	-0.1

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*JMA **08** 20:57:55.5±0.3, 28.59N×128.13E, h13km±4km, M3.3*
*ISCJB **08** 20:57:57.7±0.8, 28.50N±005×128.18E±006, h13km, mb3.2/4, Error ellipse: s-maj=8.1km s-min=7.0km az=86.6*
*IDC **08** 20:57:58.9±1.2, 28.38N×127.72E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=41.0km s-min=18.4km az=69.0*

ISC 08 20:57:58.5±0.8, 28.46N±006×128.24E±006, h13km, n10, σ1.05/14, mb3.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.92**	**137**	P	**Pg**	**20 58 15.5**	**-0.8**
JTK				*eS*	**Sg**	**20 58 29.8**	**+1.5**
JAM	**Amami Oshima**	**1.21**	**92**	P	**Pn**	**20 58 19.3**	**-1.7**
JAM				*eS*	**Sb**	**20 58 36.8**	**+0.1**
JIH	**Iheya**	**1.44**	**190**	P	**Pn**	**20 58 23.3**	**-0.9**
JIH				*eS*	**Sn**	**20 58 42.8**	**-0.2**
JOW	**Kunigami**	**1.62**	**179**	P	**Pn**	**20 58 25.9**	**-0.8**
JOW	**Kunigami**	**1.62**	**179**	Pn	**Pn**	**20 58 28.2**	**+1.5**
JOW	25nm,0.3s,baz=0.9,slow=16,SNR=20			Sn	**Sn**	**20 58 52.6**	**+5.2**
	19nm,0.3s,baz=109,slow=25,SNR=4.8						
JNU	**Nakatsue**	**5.17**	**25**	Pn	**Pn**	**20 59 21.9**	**+6.3**
	0.6nm,0.3s,baz=44,slow=40,SNR=2.8						
SONM	**Songino Array**	**25.72**	**325**	P	**P**	**21 03 28.2**	**-0.3**
	0.5nm,0.6s,mb3.2,baz=139,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	**40.08**	**310**	P	**P**	**21 05 33.9**	**+0.3**
	0.3nm,0.7s,mb3.1,baz=111,slow=10,SNR=3.5						
ZAL	**Zalesovo**	**40.51**	**321**	P	**P**	**21 05 38.3**	**+1.2**
	0.4nm,0.5s,mb3.3,baz=356,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**76.51**	**25**	P	**P**	**21 09 52.0**	**+3.8**
	0.2nm,0.7s,mb3.2,baz=299,slow=5.3,SNR=4.0						

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*IDC **08** 21:23:09.2±1.0, 633N×12555E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=75.0km s-min=18.5km az=72.0*
*ISCJB **08** 21:23:22.5±0.6, 6.18N±009×1253E±0.1, h131km±6km, mb3.6/7, Error ellipse: s-maj=18.7km s-min=12.2km az=110.5*
*NEIC **08** 21:23:24.1±1.2, 6.17N×125.29E, h130km±12km, mb4.1/1, Error ellipse: s-maj=46.2km s-min=9.7km az=70.0*
*MAN **08** 21:23:25.2, 752N×125.67E, h100km, mb4.1, ML5.0, MS6.2*

ISC 08 21:23:23.8±0.6, 620N±009×1253E±01, h125km±6km, n16, σ0.62/18, mb3.7/7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.83**	**344⇓**	*iP*	**Pn**	**21 23 44.8**	**+0.1**
DAV	**Davao City (W)**	**0.90**	**17**	*eP*	**Pn**	**21 23 46.5**	**+1.2**
DAV				*eS*	**Sn**	**21 24 00.7**	**-0.8**
CTBH	**Cotabato--PC H**	**1.47**	**314**	*eP*	**Pn**	**21 23 50.9**	**-0.2**
CTBH				*i* S	**Sn**	**21 24 11.1**	**-0.9**
BUKP	**Musuan**	**1.69**	**351**	*eP*	**Pn**	**21 23 54.0**	**+0.4**
PAGZ	**Pagadian**	**2.52**	**311**	*eP*	**Pn**	**21 24 04.2**	**+0.2**
IPIL	**Ipil**	**3.15**	**300**	*eP*	**Pn**	**21 24 13.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.15**	**179**	*eP*	**P**	**21 28 27.6**	**-0.6**
	2.3nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**27.45**	**161**	P	**P**	**21 28 57.8**	**-0.2**
	0.5nm,0.5s,mb3.4,baz=331,slow=11,SNR=8.1						
WB2	**Warramunga Arr**	**27.46**	**161**	*eP*	**P**	**21 28 58.5**	**+0.5**
ASAR	**Alice Springs**	**30.85**	**165**	P	**P**	**21 29 28.5**	**+0.5**
	baz=341,slow=6.7						
STKA	**Stephens Creek**	**40.92**	**159**	P	**P**	**21 30 52.8**	**-1.0**
	3.0nm,0.7s,mb4.2,baz=339,slow=3.2,SNR=4.4						
SONM	**Songino Array**	**44.52**	**342**	P	**P**	**21 31 22.3**	**-0.6**
	0.5nm,0.8s,mb3.3,baz=146,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**54.74**	**325**	P	**P**	**21 32 40.7**	**+0.5**
	0.6nm,0.6s,mb3.8,baz=121,slow=7.6,SNR=11						
KURK	**Kurchatov**	**58.91**	**327**	*eP*	**P**	**21 33 09.9**	**+0.2**
	1.5nm,0.7s,mb4.1						
BRVK	**Borovoye**	**64.57**	**327**	P	**P**	**21 33 47.0**	**-0.5**
ILAR	**Eielson Array**	**83.49**	**26**	P	**P**	**21 35 37.8**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=234,slow=5.5,SNR=8.4						

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*MOS **08** 21:45:43.3±1.0, 56.99N×155.94W, h27km, mb4.8/24, Error ellipse: s-maj=12.4km s-min=5.7km az=84.4*
*BJI **08** 21:45:46.8, 57.16N×155.70W, h8km, mB4.9, mb4.8, Ms4.7, Msz4.3*
*ISCJB **08** 21:45:47.4±0.7, 57.16N±004×155.69W±006, h53km±5km, mb4.6/76, MS3.8/9, Error ellipse: s-maj=6.9km s-min=4.7km az=47.8*
*NEIC **08** 21:45:49.3, 56.94N×155.41W, h24km, mb4.7/27, ML4.4(AEIC), ML4.6(PMR), After AEIC.*
NEIC Felt at Kodiak.
*IDC **08** 21:45:49.8±0.6, 57.29N×155.54W, h55km±4km, mb4.2/23, mb1 4.4/26, mb1mx4.4/30, mbtmp4.5/26, MS3.5/10, Ms1 3.5/10, ms1mx3.3/24, Error ellipse: s-maj=12.8km s-min=7.6km az=1.0*
*NAO **08** 21:45:58.8, 58.76N×154.47W, h33km, mb4.9*

ISC 08 21:45:49.4±0.6, 5717N±004×15569W±006, h58km±4km, h60km±1.5km: pP-P, n184, σ0.90/187, mb4.6/76, MS3.8/9, 6C-16D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.73**	**241**	*eP*	**Pn**	**21 46 16.7**	**-0.5**
KDAK	**Kodiak Island**	**1.79**	**68**	P	**Pn**	**21 46 16.9**	**-1.0**
	308nm,0.3s,baz=234,slow=6.7,SNR=2830						
KDAK				S	**Sn**	**21 46 36.2**	**-3.4**
KDAK	**Kodiak Island**	**1.79**	**68**	P	**Pn**	**21 46 16.8**	**-1.2**
KDAK				S	**Sn**	**21 46 38.2**	**-1.3**
SVW2	**Sparrevohn**	**3.94**	**1**	P	**Pn**	**21 46 49.5**	**+2.1**
SLKM	**Skilak Lake**	**4.39**	**38**	*e*Pn	**Pn**	**21 46 53.7**	**+0.2**
SLKM				*e*Sn	**Sn**	**21 47 41.5**	**-1.8**
SEW	**Seward**	**4.39**	**45**	P	**Pn**	**21 46 52.8**	**-0.8**
FIB	**Fire Island**	**4.91**	**33**	P	**Pn**	**21 47 02.4**	**+1.8**
RC01	**Rabbit Creek A**	**4.99**	**35**	P	**Pn**	**21 47 02.4**	**+0.8**
PMR	**Palmer**	**5.56**	**34**	P	**Pn**	**21 47 09.7**	**+0.2**
GHO	**Glory Hole Cre**	**5.76**	**34**	P	**Pn**	**21 47 12.3**	**0.0**
TT01	**Tatalina**	**5.76**	**358**	P	**Pn**	**21 47 14.2**	**+2.0**
TTA	**Tatalina**	**5.79**	**359**	*eP*	**Pn**	**21 47 14.8**	**+2.2**
SML	**Sawmill**	**5.97**	**36**	P	**Pn**	**21 47 15.6**	**+0.4**
EYAK	**Cordova Ski Ar**	**6.17**	**53**	P	**Pn**	**21 47 16.7**	**-1.2**
DIV	**Divide**	**6.46**	**48**	P	**Pn**	**21 47 21.3**	**-0.6**
KTH	**Kantishna Hill**	**6.83**	**18**	P	**Pn**	**21 47 28.2**	**+1.4**
BMRM	**Bremner River**	**6.87**	**52**	P	**Pn**	**21 47 26.4**	**-1.0**
UNV	**Unalaska Valle**	**6.98**	**246**	P	**Pn**	**21 47 28.3**	**-0.7**
MCK	**McKinley**	**7.38**	**24**	P	**Pn**	**21 47 36.0**	**+1.5**
PAX	**Paxson**	**7.74**	**37**	P	**Pn**	**21 47 39.3**	**-0.1**
COLA	**College**	**8.61**	**23**	P	**Pn**	**21 47 50.6**	**-0.7**
ILAR	**Eielson Array**	**8.74**	**26**	P	**Pn**	**21 47 52.0**	**-1.1**
	2.2nm,0.3s,baz=216,slow=14,SNR=57						
ILAR				S	**Sn**	**21 49 27.5**	**-2.5**
	3.1nm,0.3s,baz=215,slow=26,SNR=6.6						
ILAR				LR	LR	21 51 34.5	
	comp=Z,237nm,20.3s,baz=44,slow=40						
ILAR				ScP	ScP	21 57 42.0	-1.0
	baz=252,slow=2.7,SNR=4.4						
ILAR	**Eielson Array**	**8.74**	**26**	P	**Pn**	**21 47 52.0**	**-1.0**
ILAR				S	**Sn**	**21 49 27.5**	**-2.5**
PNL	**Peninsula**	**8.91**	**67**	P	**Pn**	**21 47 52.9**	**-2.4**
IMA2	**Indian Mountai**	**8.99**	**5**	*eP*	**Pn**	**21 47 58.9**	**+2.5**
TNA	**Tin City**	**10.24**	**330**	P	**Pn**	**21 48 16.9**	**+3.3**
COLD	**Coldfoot**	**10.41**	**12**	P	**Pn**	**21 48 17.3**	**+1.4**
INK	**Inuvik**	**14.98**	**33**	P	**Pn**	**21 49 17.4**	**-0.1**
	1.5nm,0.3s,baz=233,slow=15,SNR=22						
INK				LR	LR	21 54 25.0	
	comp=Z,98nm,21.8s,baz=52,slow=35						
FX1	**Attu Island--F**	**18.27**	**270**	P	**Pn**	**21 49 59.3**	**+0.6**
	1.5nm,0.3s,baz=287,slow=23,SNR=12						
FX1				LR	LR	21 56 55.0	
	comp=Z,7.7nm,19.1s,baz=102,slow=36						
BILL	**Bilibino**	**20.22**	**318⇓**	*eP*	**P**	**21 50 19.2**	**-0.3**
BILL				pmax	pmax		
	comp=Z,21nm,1.2s						
YKA	**Yellowknife Ar**	**21.04**	**58**	P	**P**	**21 50 27.6**	**-0.6**
	comp=Z,11nm,0.6s,mb4.4,baz=273,slow=10,SNR=181						
YKA				pP		21 50 39.9	
	comp=Z,8.4nm,0.9s,baz=270,slow=11,SNR=6.1						
YKA				PcP	PcP	21 54 31.8	-1.3
	comp=Z,1.0nm,0.6s,baz=272,slow=1.7,SNR=6.5						
YKA				LR	LR	21 59 12.0	
	comp=Z,123nm,19.3s,MS3.3,baz=275,slow=38						
YKA	**Yellowknife Ar**	**21.04**	**58**	P	**P**	**21 50 27.7**	**-0.6**
YKA				*PP		21 50 39.9	
YKA						21 54 31.8	
YKA	**Yellowknife Ar**	**21.04**	**58**	P	**P**	**21 50 27.6**	**-0.6**
YKA				pP		21 50 39.9	
YKA				PcP	PcP	21 54 31.8	-1.3
YKA				LR	LR	21 59 12.0	
ETW	**Entiat**	**23.36**	**99**	P	**P**	**21 50 53.1**	**+0.5**
WTV	**Waterville**	**23.50**	**98**	P	**P**	**21 50 54.0**	**0.0**
VFP	**Flag Point**	**24.21**	**105**	P	**P**	**21 51 01.1**	**+0.6**
MDW	**Midway**	**24.27**	**100**	P	**P**	**21 51 01.6**	**+0.5**
OD2	**Odessa Site #2**	**24.36**	**98**	P	**P**	**21 51 01.9**	**+0.1**
RSW	**Rattlesnake Hi**	**24.50**	**101**	P	**P**	**21 51 04.0**	**+0.8**
HAWA	**Hanford**	**24.54**	**100**	*eP*	**P**	**21 51 03.8**	**+0.3**
	comp=Z,1.8nm,1.1s,mb3.5						
NEW	**Newport**	**24.70**	**95**	P	**P**	**21 51 05.4**	**+0.5**
	comp=Z,12nm,0.8s,mb4.5,baz=320,slow=8.5,SNR=12						
NEW				LR	LR	21 59 30.1	
	comp=Z,179nm,20.0s,MS3.6,baz=286,slow=33						
NEW	**Newport**	**24.70**	**95**	*eP*	**P**	**21 51 05.0**	**+0.1**
NEW				pmax	pmax		
	comp=Z,11nm,0.7s						
NEW	**Newport**	**24.70**	**95**	*eP*	**P**	**21 51 05.0**	**+0.1**
	comp=Z,12nm,0.7s,mb4.5						
NEW				*e*		21 51 23.1	
PET	**Petropavlovsk**	**26.07**	**281**	*diP*	**P**	**21 51 15.8**	**-1.5**
PET				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
YBH	**Yreka Blue Hor**	**26.08**	**112**	P	**P**	**21 51 18.4**	**+0.9**
	comp=Z,6.4nm,0.8s,mb4.2,baz=299,slow=2.9,SNR=12						
YBH				sP	sP	21 51 38.5	-0.2
	comp=Z,4.9nm,0.8s,baz=291,slow=4.5,SNR=4.1						
YBH				LR	LR	22 00 25.1	
	comp=Z,113nm,19.9s,MS3.4,baz=254,slow=34						
MA2	**Magadan**	**27.55**	**298**	P	**P**	**21 51 30.3**	**-0.4**
OHCM	**Honcut**	**28.50**	**114**	*eP*	**P**	**21 51 38.4**	**-0.7**
HRY	**Holter Researc**	**28.50**	**92**	*eP*	**P**	**21 51 39.1**	**0.0**
MCMT	**McKenzie Canyo**	**29.14**	**96**	*eP*	**P**	**21 51 45.0**	**+0.2**
BOZ	**Bozeman (W)**	**29.28**	**94**	*eP*	**P**	**21 51 46.0**	**0.0**
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
BOZ	**Bozeman (W)**	**29.28**	**94**	*eP*	**P**	**21 51 46.0**	**0.0**
	comp=Z,5.5nm,0.6s,mb4.5						
QLMT	**Earthquake Lak**	**29.91**	**95**	*eP*	**P**	**21 51 51.9**	**+0.3**
YFT	**Old Faithful**	**30.48**	**95**	*eP*	**P**	**21 51 58.5**	**+1.8**
LKWY	**Lake**	**30.64**	**95**	*eP*	**P**	**21 51 59.3**	**+1.2**
LKWY				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
LKWY	**Lake**	**30.64**	**95**	*eP*	**P**	**21 51 59.3**	**+1.3**
	comp=Z,6.2nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**30.79**	**111**	P	**P**	**21 52 00.1**	**+0.7**
	comp=Z,6.0nm,0.6s,mb4.6,baz=299,slow=9.8,SNR=42						
NVAR				pP	pP	21 52 14.9	+1.0
	comp=Z,3.0nm,0.8s,baz=285,slow=12,SNR=7.5						
NVAR				sP	sP	21 52 19.9	-0.8
	comp=Z,3.0nm,0.8s,baz=316,slow=8.6,SNR=4.9						
NVAR				PcP	PcP	21 54 55.5	+0.1
	comp=Z,1.5nm,0.7s,baz=336,slow=1.2,SNR=8.2						
NVAR	**Mina Array Bea**	**30.79**	**111**	P	**P**	**21 52 00.1**	**+0.7**
NVAR				pP	pP	21 52 14.9	+1.0
NVAR				sP	sP	21 52 19.9	-0.8
NVAR				PcP	PcP	21 54 55.5	+0.1
FLWY	**Flagg Ranch**	**30.79**	**96**	*eP*	**P**	**21 52 00.7**	**+1.3**
	comp=Z,41nm,0.6s,mb5.4						
LOHW	**Long Hollow**	**31.16**	**96**	*eP*	**P**	**21 52 03.2**	**+0.6**
	comp=Z,9.7nm,0.7s,mb4.7						
LAO	**LASA Array**	**31.57**	**88**	*eP*	**P**	**21 52 06.9**	**+0.6**
	comp=Z,10nm,0.8s,mb4.7						
HWUT	**Hardware Ranch**	**32.01**	**100**	*eP*	**P**	**21 52 10.7**	**+0.6**
	comp=Z,12nm,0.7s,mb4.8						
PDAR	**Pinedale Array**	**32.29**	**96**	P	**P**	**21 52 12.7**	**+0.1**
	comp=Z,13nm,0.5s,mb5.0,baz=314,slow=4.8,SNR=170						
PDAR				pP	pP	21 52 27.4	+0.3
	comp=Z,2.5nm,0.6s,baz=315,slow=6.3,SNR=3.9						
PDAR				sP	sP	21 52 33.2	-0.8
	comp=Z,6.0nm,0.7s,baz=317,slow=4.9,SNR=6.7						
PDAR				PcP	PcP	21 54 58.3	-1.3
	comp=Z,0.5nm,0.5s,baz=315,slow=1.3,SNR=4.2						
PDAR	**Pinedale Array**	**32.29**	**96**	P	**P**	**21 52 12.7**	**+0.1**
PDAR				pP	pP	21 52 27.4	+0.3
PDAR				sP	sP	21 52 33.2	-0.8
PDAR				PcP	PcP	21 54 58.3	-1.3
DUG	**Dugway**	**32.34**	**103**	*eP*	**P**	**21 52 13.7**	**+0.7**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
DUG	**Dugway**	**32.34**	**103**	*eP*	**P**	**21 52 13.7**	**+0.7**
	comp=Z,9.5nm,1.0s,mb4.6						
ISA	**Isabella**	**32.86**	**115**	*eP*	**P**	**21 52 17.2**	**-0.3**
ISA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
ISA	**Isabella**	**32.86**	**115**	*eP*	**P**	**21 52 17.1**	**-0.4**
	comp=Z,9.1nm,0.7s,mb4.8						
TIXI	**Tiksi**	**32.99**	**326⇓**	*iP*	**P**	**21 52 17.1**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TMUT	**Trail Mountain**	**33.84**	**103**	*eP*	**P**	**21 52 27.1**	**+1.0**
RWWY	**Rawlins**	**34.30**	**96**	*eP*	**P**	**21 52 30.0**	**-0.1**
	comp=Z,39nm,0.8s,mb5.4						
RSSD	**Black Hills**	**34.39**	**90**	*eP*	**P**	**21 52 31.1**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
RSSD	**Black Hills**	**34.39**	**90**	*eP*	**P**	**21 52 31.1**	**+0.3**
	comp=Z,25nm,0.6s,mb5.3						
ULM	**Lac du Bonnet**	**35.03**	**75**	P	**P**	**21 52 35.9**	**-0.5**
	comp=Z,4.6nm,0.6s,mb4.6,baz=297,slow=8.9,SNR=9.7						
ULM				pP	pP	21 52 49.6	-1.5
	comp=Z,3.8nm,0.6s,baz=296,slow=8.2,SNR=3.9						
YAK	**Yakutsk**	**36.14**	**310**	*diP*	**P**	**21 52 44.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SMCO	**Snowmass**	**36.20**	**98**	*eP*	**P**	**21 52 45.8**	**-0.5**
	comp=Z,5.7nm,0.9s,mb4.5						
WUAZ	**Wupatki**	**36.58**	**107**	*eP*	**P**	**21 52 50.3**	**+0.6**
	comp=Z,16nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**39.60**	**103⇑**	*eP*	**P**	**21 53 14.5**	**-0.6**
MNTX	**Cornudas Mount**	**42.69**	**105**	*eP*	**P**	**21 53 40.5**	**+0.1**
	comp=Z,9.9nm,1.0s,mb4.5						
MNTX				*e*pP	pP	21 53 56.6	+1.3
MNTX				*e*		21 54 01.3	
DAG	**Danmarks Havn**	**43.60**	**13⇓**	*iP*	**P**	**21 53 47.9**	**+0.2**
	comp=Z,2.8nm,0.5s,mb4.2						
DAG	**Danmarks Havn**	**43.60**	**13⇓**	*eP*	**P**	**21 53 47.9**	**+0.2**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
DAG	**Danmarks Havn**	**43.60**	**13⇓**	*eP*	**P**	**21 53 47.9**	**+0.2**
	comp=Z,2.8nm,0.5s,mb4.2						
WMOK	**Wichita Mounta**	**43.89**	**96**	*eP*	**P**	**21 53 49.0**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
WMOK	**Wichita Mounta**	**43.89**	**96**	*eP*	**P**	**21 53 49.0**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.1						
WMOK				*e*pP	pP	21 54 05.4	+0.3
BOD	**Bodaibo**	**45.02**	**311**	*eP*	**P**	**21 53 56.5**	**-2.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
TXAR	**Lajitas Array**	**45.46**	**105**	P	**P**	**21 54 02.6**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.5,baz=314,slow=6.0,SNR=31						
TXA

MKAR	Makanchi Array	65.74	320⇑	eP	P	21 56 27.6	-0.4
WMQ	Urumqi	66.30	315	eP	P	21 56 40.0	+8.4
WMQ				XP	sP	21 56 47.0	-7.0
WMQ				PP	PP	21 59 09.0	+11
WMQ				S	S	22 05 29.0	+12
WMQ				SS	SS	22 09 48.0	+14
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,101nm,7.0s						
WMQ				LR	LR		
	comp=N,75nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=E,78nm,16.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,46nm,12.0s,MS3.9						
OBN	Obninsk	67.64	352⇓	iP	P	21 56 39.7	-0.4
OBN				e		21 59 09.0	
OBN				eS	S	22 05 43.0	+10
OBN				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
AKTO	Aktyubinsk	69.22	338	P	P	21 56 49.8	-0.2
	comp=Z,10nm,0.8s,mb4.8,baz=19,slow=5.7,SNR=36						
CD2	Chengdu	69.95	296	eP	P	21 57 00.7	+6.2
CD2				PP	PP	21 59 37.5	+7.8
CD2				S	S	22 06 09.8	+10
CD2				SS	SS	22 10 41.0	+11
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=E,180nm,9.6s						
CD2				LR	LR		
	comp=Z,100nm,10.8s,MS4.3						
BAIF	Baives	71.86	13	eP	P	21 57 06.0	0.0
GIVF	Givet	71.89	13	eP	P	21 57 06.1	-0.1
AAK	Ala-Archa	72.03	323	c iP	P	21 57 06.8	-0.3
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
AKASG	Malin Array Be	72.42	357	P	P	21 57 08.8	-0.6
	comp=Z,6.2nm,0.5s,mb4.8,baz=5.2,slow=5.9,SNR=32						
AKASG				pP	pP	21 57 23.7	-1.8
	comp=Z,2.2nm,0.6s,baz=3.9,slow=5.8,SNR=3.5						
AKASG	Malin Array Be	72.42	357	i P	P	21 57 08.8	-0.6
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SGMF	Saint Gilles	72.60	18	eP	P	21 57 10.5	0.0
KHC	Kasperske Hory	73.70	7	eP	P	21 57 17.5	+0.6
STHS	Stebnicka Huta	73.75	2	e	P	21 57 18.3	+1.0
STHS	Stebnicka Huta	73.75	2	i P	P	21 57 18.3	+1.0
GERES	GERESS Array B	73.99	7	P	P	21 57 18.2	-0.4
	comp=Z,2.5nm,0.6s,mb4.3,baz=346,slow=5.5,SNR=11						
KOLS	Kolonicke sedl	74.25	1	eP	P	21 57 24.6	+4.4
CRVS	Cervenica-Dubn	74.27	2	epP	pP	21 57 32.9	-3.6
HYF	Humbligny	74.38	15	eP	P	21 57 21.2	+0.3
LOR	Lormes	74.55	14	eP	P	21 57 21.9	0.0
	comp=Z,5.6nm,0.6s,mb4.3						
MFF	Saint Martin d	74.61	17	eP	P	21 57 22.2	0.0
	comp=Z,7.0nm,0.6s,mb4.5						
KECS	Kecovo	74.67	3	e	P	21 57 21.2	-1.4
SSF	Saint Saulge	74.70	15	eP	P	21 57 22.7	-0.1
	comp=Z,14nm,0.8s,mb4.6						
AVF	Avril sur Loir	74.95	15	eP	P	21 57 24.1	-0.1
	comp=Z,14nm,0.8s,mb4.7						
BGF	Bois d'Agland	75.11	15	eP	P	21 57 25.1	0.0
	comp=Z,10nm,0.7s,mb4.6						
SMF	Signal de Mont	75.16	14	eP	P	21 57 25.2	-0.2
	comp=Z,17nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	75.28	16	eP	P	21 57 25.9	-0.2
	comp=Z,5.3nm,0.7s,mb4.2						
CABF	La Chapelle	75.48	13	eP	P	21 57 27.2	-0.1
BURAR	Bucovina Array	75.59	359	⇓P	P	21 57 27.8	-0.1
RJF	Les Rejaudoux	76.13	16	eP	P	21 57 30.9	-0.1
LFF	La Frestale	76.37	17	eP	P	21 57 32.3	0.0
	comp=Z,18nm,0.7s,mb4.8						
OBKA	Obir	76.37	7	⇑iP	P	21 57 33.1	+0.7
	comp=Z,11nm,0.5s,mb5.0						
DRGR		76.40	1	⇓P	P	21 57 32.5	0.0
CAF	Calviac	76.59	16	eP	P	21 57 33.5	-0.1
LPL	La Plagne	76.64	13	eP	P	21 57 33.9	+0.1
LPG	La Plagne	76.66	13	eP	P	21 57 33.9	-0.1
VIVF	Saint-Julien-l	77.03	14	eP	P	21 57 36.3	+0.3
	comp=Z,8.4nm,0.8s,mb4.4						
ORIF	Oris-en-Rattie	77.12	13	eP	P	21 57 36.6	0.0
	comp=Z,19nm,1.0s,mb4.7						
BZS	Buzias	77.56	2	⇓P	P	21 57 39.1	+0.1
MLR	Muntele Rosu	77.70	359	P	P	21 57 40.5	+0.6
	comp=Z,2.0nm,0.9s,mb4.1,baz=345,slow=10,SNR=6.6						
MLR	Muntele Rosu	77.70	359	⇓P	P	21 57 41.2	+1.4
MLR	Muntele Rosu	77.70	359	⇓P	P	21 57 41.2	+1.3
ETSF	Etsaut	78.14	18	eP	P	21 57 42.3	+0.1
	comp=Z,22nm,1.0s,mb4.8						
MTLF	Montolieu	78.16	16	eP	P	21 57 42.5	+0.2
	comp=Z,14nm,1.0s,mb4.5						
HARR	Harsova	78.47	357	⇓P	P	21 57 44.4	+0.3
HARR	Harsova	78.47	357	⇓P	P	21 57 44.4	+0.3
TIRR	Tirgusor	78.69	357	⇑P	P	21 57 45.3	0.0
SOC	Sochi	78.79	349	eP	P	21 57 45.4	-0.4
SOC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
MTE	Manteigas	79.17	24	eP	P	21 57 49.0	+1.1
PCBR	Castelo Branco	79.72	24	eP	P	21 57 51.5	+0.6
	comp=Z,10nm,0.9s,mb4.8						
PGF	Pioggiola	79.82	11	eP	P	21 57 51.3	-0.2
	comp=Z,109nm,1.2s,mb5.3						
SDV	Santo Domingo	79.92	89	eP	P	21 57 50.7	-1.3
	comp=Z,6.7nm,0.8s,mb4.6						
ESDC	Sonseca Array	80.52	22	P	P	21 57 56.7	+0.9
	comp=Z,1.6nm,0.5s,mb4.2,baz=0.0,slow=1.3,SNR=2.7						
EBAN	Banos Encina	82.12	22	P	P	21 58 03.3	-0.4
EBAN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
EBAN	Banos Encina	82.12	22	P	P	21 58 03.3	-0.4
	comp=Z,3.6nm,0.8s,mb4.3						
ECOG	Cogollos-Vega	83.02	22	P	P	21 58 09.9	+1.6
ECOG				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ECOG	Cogollos-Vega	83.02	22	P	P	21 58 09.9	+1.5
	comp=Z,7.1nm,0.6s,mb4.9						
ELOJ	Sierra Loja	83.02	23	P	P	21 58 09.7	+1.3
ELOJ				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.5						
ELOJ	Sierra Loja	83.02	23	P	P	21 58 09.7	+1.3
	comp=Z,0.7nm,0.2s,mb4.3						
BR131	Keskin Array S	83.16	353	eP	P	21 58 09.2	+0.2
	comp=Z,4.3nm,1.0s,mb4.4						
BRTR	Keskin Array B	83.16	353	P	P	21 58 08.8	-0.2
	comp=Z,2.8nm,0.9s,mb4.3,baz=35,slow=2.4,SNR=14						
BRTR	Keskin Array B	83.16	353	i P	P	21 58 09.6	+0.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ERON	Agron	83.22	22	P	P	21 58 09.9	+0.5
EJIF	Jimena Fronter	83.41	24	P	P	21 58 12.0	+1.6
EJIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
EJIF	Jimena Fronter	83.41	24	P	P	21 58 12.0	+1.7
	comp=Z,4.8nm,0.8s,mb4.6						
EMIJ	Mijas	83.45	23	P	P	21 58 12.4	+1.8
	comp=Z,0.6nm,0.7s,mb3.7						
MDT	Midelt	87.09	24	P	P	21 58 28.7	0.0
	comp=Z,2.9nm,0.8s,mb4.6,baz=11,slow=7.5,SNR=6.9						
TORD	Torodi Ar. Bea	107.48	23	PKKPbc	PKKPbc	22 15 20.8	-3.5
	comp=Z,0.6nm,0.7s,baz=144,slow=1.4,SNR=6.4						
KMBO	Kilima Mbogo	123.18	344	PKP	PKPdf	22 04 39.2	-0.2
	comp=Z,0.8nm,0.6s,baz=232,slow=23,SNR=5.2						

ECX ***08*** *22:04:46.0±0.4, 32.28N×115.06W, h14km, MD3.5, ML3.6*
NEIC ***08*** *22:04:46.0, 32.28N×115.06W, h4km, ML3.1(PAS), After ECX.*
ISCJB ***08*** *22:04:47.4±1.0, 32.34N±0.05×115.07W±0.07, h19km±5km, Error ellipse: s-maj=12.4km s-min=5.9km az=79.7*

ISC 08 22:04:47.6±0.9, 32.36N±0.05×115.08W±0.08, h19km±4km, n19, σ0°69/26, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELX	Delta	0.09	266	eP	Pg	22 04 50.9	-0.4
DELX				eS	Sg	22 04 54.5	+0.6
EMSC	East Mesa	0.39	12	⇓iP	Pg	22 04 56.7	+0.9
SGL	Mount Signal	0.61	298	eP	Pb	22 04 59.4	-0.4
ERPC	Ernies Place	0.62	308	⇑iP	Pb	22 05 00.1	+0.2
GLA	Glamis	0.72	17	⇓iP	Pb	22 05 01.8	+0.2
GLA				eS	Sb	22 05 11.7	+0.7
COK	Cook Ranch	0.73	312	⇓eP	Pb	22 05 01.4	-0.3
YUH	Yuha Desert	0.77	292	eP	Pb	22 05 01.6	-0.7
SWSC	Sam W. Stewart	0.83	314	⇑eP	Pb	22 05 02.4	-1.0
RDX	Rancho Dowling	0.85	240	eP	Pb	22 05 03.5	-0.3
RDX				eS	Sb	22 05 14.8	+0.1
RDX				⇓e		22 05 15.3	
	comp=N,955nm,0.4s						
RDX				e		22 05 15.8	
	comp=E,2μm,0.3s						
RDX	Rancho Dowling	0.85	240	eP	Pb	22 05 03.5	-0.3
RDX				eS	Sb	22 05 14.8	+0.1
DVTC	Desert V Tower	0.91	289	⇑iP	Pb	22 05 04.6	-0.1
CRR	Carrizo Plain	0.91	305	⇑eP	Pb	22 05 03.9	-0.9
CBX	Cerro Bola	1.34	268	eP	Pn	22 05 10.6	-0.6
CBX				eS	Sn	22 05 28.2	-0.3
SPX	San Pedro Mart	1.35	194	eP	Pn	22 05 09.9	-1.5
BAR	Barrett	1.38	284	P	Pn	22 05 12.2	+0.4
ENX	Ensenada	1.42	251	eP	Pn	22 05 12.4	0.0
ENX				eS	Sn	22 05 31.7	+1.1
CCX	Cicese	1.43	250	eP	Pn	22 05 12.7	+0.2
ECNX	Esteban Cantu	1.47	242	eP	Pn	22 05 13.2	+0.2
ECNX				eP		22 05 12.7	
ECNX				eS	Sn	22 05 33.4	+1.7
PBX	Punta Banda	1.52	247	eP	Pn	22 05 14.0	+0.2

NEIC ***08*** *22:07:37.4, 36.28S×177.27E, h280km, mb3.7/2, After WEL.*

WEL 08 22:07:37.5±0.3, 36.26S×177.24E, h277km±3km, ML4.1/13, Error ellipse: s-maj=5.6km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.56	147	PN	Pn	22 08 18.7	0.0
MXZ				SN	S	22 08 50.6	-0.9
MXZ	Matakaoa Point	1.56	147	P	Pn	22 08 18.7	0.0
PUZ	Puketiti	1.99	156	PN	Pn	22 08 22.2	+0.2
PUZ				SN	S	22 08 56.2	-1.2
PUZ	Puketiti	1.99	156	P	Pn	22 08 22.2	+0.2
URZ	Urewera	2.00	183	PN	Pn	22 08 22.4	+0.2
URZ				SN	S	22 08 57.3	-0.3
URZ	Urewera	2.00	183	P	Pn	22 08 22.4	+0.2
MWZ	Matawai	2.09	174	PN	Pn	22 08 23.5	+0.6
MWZ				SN	S	22 08 59.0	0.0
MWZ	Matawai	2.09	174	P	Pn	22 08 23.5	+0.6
KNZ	Kokohu	2.78	173	PN	Pn	22 08 29.5	+0.1
KNZ				SN	S	22 09 09.5	-1.1
KNZ	Kokohu	2.78	173	P	Pn	22 08 29.5	+0.1
KNZ				S	S	22 09 09.5	-1.2
BKZ	Black Stump Fm	2.96	191	PN	Pn	22 08 31.2	-0.1
BKZ	Black Stump Fm	2.96	191	P	Pn	22 08 31.2	0.0
NGZ	Ngauruhoe	3.19	204	PN	Pn	22 08 34.8	+1.2
NGZ	Ngauruhoe	3.19	204	P	Pn	22 08 34.8	+1.2
FWVZ	Far West T-bar	3.28	204	PN	Pn	22 08 35.6	+1.0
FWVZ	Far West T-bar	3.28	204	eP	Pn	22 08 35.7	+1.2
WNVZ	Wahianoa	3.33	203	PN	Pn	22 08 35.7	+0.6
WNVZ	Wahianoa	3.33	203	P	Pn	22 08 35.7	+0.6
MOVZ	Moawhango	3.36	200	PN	Pn	22 08 35.6	+0.2
PXZ	Pawanui	3.78	184	PN	Pn	22 08 39.2	-0.7
WAZ	Wanganui	3.92	206	PN	Pn	22 08 42.0	+0.5
WAZ	Wanganui	3.92	206	P	Pn	22 08 42.0	+0.4
BFZ	Birch Farm	4.49	190	ePN	Pn	22 08 46.9	-1.1
MRZ	Mangatainoka R	4.59	196	eP	Pn	22 08 47.9	-1.3
KIW	Kapiti Island	4.95	201	P	Pn	22 08 51.8	-1.7
MTW	Mount Morrison	5.08	195	P	Pn	22 08 54.2	-0.8
CAW	Cannon Point	5.13	199	P	Pn	22 08 54.3	-1.4
MRW	Makara Radio	5.35	201	P	Pn	22 08 56.5	-1.7
MSWZ	Moikau Station	5.38	196	P	Pn	22 08 56.7	-1.9
TCW	Tory Channel	5.46	204	P	Pn	22 08 58.0	-1.6
BHW	Baring Head	5.47	199	P	Pn	22 08 56.7	-3.0
THZ	Tophouse	6.45	210	eP	Pn	22 09 10.5	-1.1
KHZ	Kahutara	6.79	204	eP	Pn	22 09 14.1	-1.7
LTZ	Lake Taylor	7.56	209	eP	Pn	22 09 23.5	-1.9
TAU	Tasmania Unive	23.92	245	P	P	22 12 25.1	-1.5
STKA	Stephens Creek	29.74	268	eP	P	22 13 18.3	-0.2
WRAB	Tennant Creek	40.83	282	eP	P	22 14 51.3	-1.1
	0.6nm,0.4s						
CASY	Casey	48.10	210	P	P	22 15 47.7	-2.0
	5.8nm,0.4s						

IDC ***08*** *22:28:51.8±1.0, 207N×126.45E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, Error ellipse: s-maj=61.3km s-min=19.0km az=70.0*
ISCJB ***08*** *22:28:55.4±0.6, 209N±009×1264E±0.1, h33km, mb4.0/8, Error ellipse: s-maj=22.7km s-min=9.6km az=130.7*
NEIC ***08*** *22:28:57.1±0.5, 204N×126.42E, h35km, mb4.3/2, Error ellipse: s-maj=19.3km s-min=8.9km az=61.0*

ISC 08 22:28:57.4±0.6, 209N±009×1265E±0.1, h35km, n15, σ0°84/15, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	10.95	291	Pn	Pn	22 31 31.1	-0.5
FITZ	Fitzroy Crossi	20.08	182	eP	P	22 33 29.7	+1.9
	3.4nm,0.6s						
WRAB	Tennant Creek	23.21	161	eP	P	22 34 01.1	-0.2
	8.8nm,0.6s,mb4.4						
WRA	Warramunga Arr	23.22	161	P	P	22 34 01.3	-0.1
	5.5nm,0.6s,mb4.1,baz=339,slow=11,SNR=31						
WB2	Warramunga Arr	23.22	161	eP	P	22 34 00.9	-0.5
QIZ	Qiongzhong	23.42	317	P	P	22 34 03.2	-0.3
MJAR	Matsushiro Arr	35.96	16	P	P	22 35 54.2	-0.4
	1.6nm,0.8s,mb4.0,baz=179,slow=8.1,SNR=4.2						
STKA	Stephens Creek	36.71	158	P	P	22 35 59.9	-1.1
	1.9nm,0.6s,mb4.1,baz=320,slow=7.9,SNR=4.7						
STKA	Stephens Creek	36.71	158	eP	P	22 36 00.1	-0.9
SONM	Songino Array	48.76	342	P	P	22 37 39.5	+0.8
	0.4nm,0.6s,mb3.6,baz=162,slow=5.9,SNR=3.4						
MKAR	Makanchi Array	58.75	326	P	P	22 38 52.8	+1.0
	0.5nm,0.5s,mb3.9,baz=123,slow=8.7,SNR=13						
KURK	Kurchatov	62.98	328	eP	P	22 39 20.8	+0.3
	1.0nm,0.5s,mb4.2						
BVAR	Borovoye Array	68.55	327	P	P	22 39 54.8	-1.6
	0.2nm,0.5s,mb3.3,baz=108,slow=4.6,SNR=3.1						
BRVK	Borovoye	68.62	327	P	P	22 39 57.0	+0.1
IMA2	Indian Mountai	83.97	24	eP	P	22 41 24.8	+0.8

IGQ 08 22:29:37.3, 097S×7934W, h93km±3km, Mb4.0, Ms3.8, 5C-6D, Error ellipse: s-maj=1.4km s-min=1.0km az=15.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	0.87	126	⇓P	Pn	22 29 56.9	+1.1
CAMI	Rancho Maria	0.89	71	⇓P	Pn	22 29 57.4	+1.4
CUSU	Cusua	0.98	119	P	Pn	22 29 57.9	+1.0
JUIV	Juive	0.98	117	P	Pn	22 29 57.7	+0.6
MAG1	Magdalena	0.99	334	⇑P	Pn	22 29 57.6	+0.5
VC1	Cotopaxi 1	0.99	71	P	Pn	22 29 58.5	+1.4
TAMB	Tambo	1.01	74	⇓P	Pn	22 29 58.4	+1.1
ULBA	Ulba	1.05	117	⇓P	Pn	22 29 58.2	+0.5
PATA	Patacocha	1.05	120	P	Pn	22 29 59.3	+1.5
TERV	Terraza Guagua	1.08	43	⇑P	Pn	22 29 59.4	+1.3
TERV				S	Sn	22 30 14.8	+1.1
GGP	Refugio Guagua	1.09	43	⇑P	Pn	22 29 59.4	+1.3
PINO	Pino	1.09	42	⇑P	Pn	22 29 59.3	+1.1
YANA	Yana	1.14	42	⇓P	Pn	22 29 59.9	+1.1
YANA				S	Sn	22 30 16.4	+1.3
ANTI	Antisana	1.29	66	⇓P	Pn	22 30 01.7	+1.2
COTA	Cotacachi	1.64	38	P	Pn	22 30 06.1	+1.2
COTA				S	Sn	22 30 30.8	+4.9
CAYR	Refugio Cayamb	1.65	54	P	Pn	22 30 06.7	+1.6
ANGU	Angureal	1.67	53	⇑P	Pn	22 30 06.8	+1.5
CAYA	Cayambe	1.70	53	P	Pn	22 30 07.2	+1.5
LAV3	Lava3-Reventad	1.92	63	P	Pn	22 30 09.9	+1.4
CONE	Cono NE Rev Vo	1.92	62	P	Pn	22 30 10.1	+1.6
SALI	Salinas	2.04	234	P	Pn	22 30 10.1	-0.1

ISCJB ***08*** *22:29:46.5±2.8, 1693S±0.05×7061W±0.05, h10km±19km, mb3.9/5, Error ellipse: s-maj=9.3km s-min=7.9km az=92.1*
NEIC ***08*** *22:29:46.2±2.7, 1706S×7070W, h6km±23km, Error ellipse: s-maj=19.5km s-min=13.9km az=109.0*
IDC ***08*** *22:29:55.9±3.0, 1713S×7000W, h88km±27km, mb3.4/4, mb1 3.5/7, mb1mx3.4/19, mbtmp3.7/7, Error ellipse: s-maj=42.8km s-min=20.4km az=106.0*

ISC 08 22:29:48.3±1.8, 1690S±0.05×7067W±0.08, h14km±15km, n15, σ1°23/20, mb3.9/5, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.90	299	⇑iP	Pg	22 30 04.5	-1.3
ARE				i S	Sg	22 30 19.0	+1.4
LPAZ	La Paz	2.51	76	P	Pn	22 30 28.7	0.0
	32nm,0.3s,baz=253,slow=14,SNR=1014						
LPAZ				S	Sn	22 30 59.5	+0.5
	6.4nm,0.3s,baz=155,slow=22,SNR=3.0						
LPAZ	La Paz	2.51	76	P	Pn	22 30 28.7	0.0
LPAZ				S	Sn	22 30 59.5	+0.5
LVC	Limon Verde	5.92	164	P	Pn	22 31 16.3	+0.8
	2.9nm,0.3s,baz=337,slow=10,SNR=16						
LVC				S	Sn	22 32 24.8	+1.7
	1.5nm,0.3s,baz=264,slow=22,SNR=2.3						
LVC	Limon Verde	5.92	164	P	Pn	22 31 16.3	+0.8
LVC				S	Sn	22 32 24.8	+1.7
NNA	Nana	7.72	308	ePn	Pn	22 31 46.9	+6.6
SIV	San Ignacio	9.25	86	P	Pn	22 31 57.8	-3.5
	0.4nm,0.3s,baz=282,slow=12,SNR=18						
SAML	Samuel	10.76	44	ePn	Pn	22 32 23.5	+1.6
SAML				Sn	Sn	22 34 21.5	-0.6
CFAA	Coronel Fontan	14.80	172	P	Pn	22 33 15.9	-1.2
	0.0nm,0.3s,baz=3.6,slow=16,SNR=2.0						
TRQA	Tornquist	22.41	162	eP	P	22 34 42.3	-4.1
	57nm,1.7s,mb4.7						
PLCA	Paso Flores	23.75	180	P	P	22 34 58.3	-1.9
	2.0nm,1.0s,mb3.5,baz=10,slow=17,SNR=2.0						
ULM	Lac du Bonnet	70.46	343	P	P	22 41 02.5	+0.2
	0.8nm,0.4s,mb4.0,baz=156,slow=6.6,SNR=3.5						
TORD	Torodi Ar. Bea	77.45	72	P	P	22 41 38.9	-4.3
	0.3nm,0.5s,mb3.5,baz=251,slow=5.2,SNR=5.5						
YKA	Yellowknife Ar	86.32	341	P	P	22 42 29.6	-0.2
	0.3nm,0.7s,mb3.6,baz=131,slow=5.7,SNR=4.3						
SONM	Songino Array	149.06	4	PKPbc	PKPbc	22 49 35.0	-1.0
	0.3nm,0.7s,baz=336,slow=2.3,SNR=3.1						

SFS ***08*** *22:36:28.0, 35.10N×4.04W, h38km, ML1.2*
CSEM ***08*** *22:36:29.5±0.3, 36.75N×4.77W, h20km, mb2.7/6, Error ellipse: s-maj=9.0km s-min=5.3km az=141.0*

MDD 08 22:36:29.3±1.0, 3649N±462W, h42km±5km, mb3.0/4, 1D, Error ellipse: s-maj=12.4km s-min=5.4km az=152.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.15	301	⇓P	Pn	22 36 36.0	-0.4
	SNR=18						
EMIJ				S	Sn	22 36 41.5	+0.1
	32nm,0.3s,SNR=23						
EMIJ	Mijas	0.15	301	P	Pn	22 36 36.0	-0.4
	3.7nm,0.1s,SNR=18						
EMIJ				S	Sn	22 36 41.5	+0.1
	32nm,0.3s,SNR=23						
EJIF	Jimena Fronter	0.69	267	P	Pn	22 36 42.9	+0.3
	1.2nm,0.2s,SNR=7.9						
EJIF				S	Sn	22 36 52.5	+0.3
	1.4nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	0.69	267	P	Pn	22 36 42.9	+0.3
	1.2nm,0.2s,SNR=7.9						
EJIF				S	Sn	22 36 52.9	+0.7
	1.4nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	0.76	29	P	Pn	22 36 43.5	0.0
	1.5nm,0.2s,SNR=7.9						
ELOJ				S	Sn	22 36 54.2	+0.4
	1.3nm,0.2s,SNR=7.9						
LIJA	Lijar	0.76	304	i P	Pn	22 36 40.5	-3.0
ESPR	Espera	1.07	291	P	Pn	22 36 47.3	-0.4
	2.1nm,0.2s,SNR=7.9						
ESPR				S	Sn	22 36 59.4	-2.0
	3.3nm,0.3s,SNR=6.0						
ESPR	Espera	1.07	291	P	Pn	22 36 47.3	-0.5
	2.1nm,0.2s,SNR=7.9						
ESPR				S	Sn	22 36 58.9	-2.5
	3.3nm,0.3s,SNR=6.0						
ELUQ	Luque	1.11	14	P	Pn	22 36 47.1	-1.2
	1.0nm,0.2s,SNR=8.1						
ELUQ				S	Sn	22 37 00.7	-1.7
	3.2nm,0.2s,SNR=7.9						
ELUQ	Luque	1.11	14	P	Pn	22 36 47.1	-1.2
	1.0nm,0.2s,SNR=8.1						
ELUQ				S	Sn	22 36 58.4	-3.9
	3.2nm,0.2s,SNR=7.9						
EADA	Adamuz	1.68	1	P	Pn	22 36 55.0	-1.1
	0.4nm,0.1s,SNR=7.8						
EADA				S	Sn	22 37 11.8	-4.6
	2.5nm,0.1s,SNR=12						
EADA	Adamuz	1.68	1	P	Pn	22 36 54.0	-2.1
	0.4nm,0.1s,SNR=7.8						
EBAN	Banos Encina	1.80	21	P	Pn	22 36 58.3	+0.5
	0.7nm,0.1s,SNR=6.3						
EBAN				S	Sn	22 37 17.7	-1.7
	2.7nm,0.2s,SNR=7.9						
EBAN	Banos Encina	1.80	21	P	Pn	22 36 59.0	+1.2
	0.7nm,0.1s,SNR=6.3						
EBAN				S	Sn	22 37 16.6	-2.8
	2.7nm,0.2s,SNR=7.9						
EQES	Quesada	1.80	43	P	Pn	22 36 59.7	+1.9
	0.7nm,0.2s,SNR=7.9						
EQES				S	Sn	22 37 19.2	-0.3
	0.3nm,0.1s,SNR=6.9						
EQES	Quesada	1.80	43

EMIJ	**Mijas**	**1.65 339**	P		**Pn**	**23 20 30.5**	**-0.1**
	0.7nm,0.3s,SNR=7.9						
EMIJ			S		**Sn**	23 20 49.0	-2.7
	3.7nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**1.65 339**	P		**Pn**	**23 20 30.5**	**0.0**
	0.7nm,0.3s,SNR=7.9						
EMIJ			S		**Sn**	**23 20 50.5**	**-1.2**
EMIJ	**Mijas**	**1.65 339**	P		**Pn**	**23 20 30.5**	**-0.1**
EMIJ			S		**Sn**	**23 20 50.5**	**-1.2**
EBER	**Berja**	**2.10 26**	P		**Pn**	**23 20 36.2**	**-0.5**
	0.3nm,0.2s,SNR=7.9						
EBER			S		**Sn**	**23 21 01.4**	**-1.4**
	2.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.10 26**	P		**Pn**	**23 20 36.2**	**-0.5**
	0.3nm,0.2s,SNR=7.9						
EBER			S		**Sn**	**23 21 03.3**	**+0.5**
EBER	**Berja**	**2.10 26**	P		**Pn**	**23 20 36.2**	**-0.5**
EBER			S		**Sn**	**23 21 03.4**	**+0.6**
CZD	**Col de Zad**	**2.14 203**	*e*P		**Pn**	**23 20 37.0**	**-0.2**
CZD			*i* S		**Sn**	**23 21 04.0**	**+0.3**
ELUQ	**Luque**	**2.55 356**	P		**Pn**	**23 20 44.6**	**+1.8**
	0.5nm,0.1s,SNR=4.0						
ELUQ	**Luque**	**2.55 356**	P		**Pn**	**23 20 45.2**	**+2.4**
	0.5nm,0.1s,SNR=4.0						
ELUQ	**Luque**	**2.55 356**	P		**Pn**	**23 20 45.7**	**+2.9**
EQES	**Quesada**	**2.89 16**	P		**Pn**	**23 20 49.1**	**+1.6**
	0.5nm,0.2s,SNR=5.8						
EQES			S		**Sn**	**23 21 22.5**	**+0.2**
	1.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.89 16**	P		**Pn**	**23 20 49.8**	**+2.2**
	0.5nm,0.2s,SNR=5.8						
EQES			S		**Sn**	**23 21 22.5**	**+0.2**
	1.4nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.89 16**	P		**Pn**	**23 20 49.8**	**+2.2**
EQES			S		**Sn**	**23 21 24.6**	**+2.4**
EADA	**Adamuz**	**3.17 353**	P		**Pn**	**23 20 52.7**	**+1.3**
	0.3nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.17 353**	P		**Pn**	**23 20 52.7**	**+1.2**
	0.3nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.47 323**	P		**Pn**	**23 20 56.0**	**+0.6**
	0.1nm,0.2s,SNR=7.9						
EMIN			S		**Sn**	**23 21 34.6**	**-1.8**
	1.9nm,0.8s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.47 323**	P		**Pn**	**23 20 56.0**	**+0.5**
	0.1nm,0.2s,SNR=7.9						
EMIN			S		**Sn**	**23 21 34.6**	**-1.8**
	0.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.47 323**	P		**Pn**	**23 20 57.0**	**+1.5**
EMIN			S		**Sn**	**23 21 35.5**	**-0.9**
EGRO	**El Granado**	**3.74 313**	P		**Pn**	**23 20 59.3**	**0.0**
	0.6nm,0.4s,SNR=7.9						
EGRO			S		**Sn**	**23 21 40.9**	**-2.4**
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.74 313**	P		**Pn**	**23 21 00.1**	**+0.8**
EGRO			S		**Sn**	**23 21 40.8**	**-2.4**
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.74 313**	P		**Pn**	**23 21 00.1**	**+0.8**
EGRO			S		**Sn**	**23 21 41.7**	**-1.5**
EBAD	**Badajoz**	**4.42 328**	P		**Pn**	**23 21 09.7**	**+1.0**
	0.4nm,0.2s,SNR=4.0						
EBAD			S		**Sn**	**23 21 58.1**	**-1.9**
	1.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.42 328**	P		**Pn**	**23 21 09.7**	**+1.1**
	0.4nm,0.2s,SNR=4.0						
EBAD			S		**Sn**	**23 21 58.1**	**-2.0**
	0.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.42 328**	P		**Pn**	**23 21 10.7**	**+2.1**
EBAD			S		**Sn**	**23 21 59.2**	**-0.8**

*IDC **08** 23:20:20.9±4.7, 7.12S×12925E, h46km±45km, mb3.9/6, mb1 4.1/7, mb1mx3.9/13, mbtmp4.3/7, ML4.6/2, Error ellipse: s-maj=52.9km s-min=18.2km az=66.0*
*NEIC **08** 23:20:23.1±1.6, 7.145S×12937E, h64km±16km, mb4.3/5, Error ellipse: s-maj=13.0km s-min=8.8km az=46.0*
*ISCJB **08** 23:20:24.3±2.2, 7.23S±006×12942E±008, h96km±22km, mb4.2/11, Error ellipse: s-maj=13.0km s-min=9.4km az=177.9*

ISC 08 23:20:25.5±2.5, 731S±009×12943E±009, h88km±26km, n28, σ1§17/32, mb4.2/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.35 199**		*e*P	**Pn**	**23 23 10.2**	**+5.6**
	19nm,0.6s						
FITZ				*e*S	**Sn**	**23 25 09.3**	**-0.1**
WRAB	**Tennant Creek**	**13.43 160**		*e*Pn	**Pn**	**23 23 33.3**	**+0.9**
	64nm,0.6s						
WRAB				*e*S	**Sn**	**23 25 56.7**	**-3.2**
WRA	**Warramunga Arr**	**13.43 160**		P	**Pn**	**23 23 33.1**	**+0.7**
	7.9nm,0.3s,baz=350,slow=13,SNR=188						
WRA				S	**Sn**	**23 25 57.6**	**-2.5**
	6.0nm,0.3s,baz=332,slow=22,SNR=9.0						
WB2	**Warramunga Arr**	**13.44 160**		*e*P	**Pn**	**23 23 33.6**	**+1.1**
WB2				*e*S	**Sn**	**23 25 56.3**	**-3.8**
MBWA	**Marble Bar**	**16.66 213**		*e*P	**Pn**	**23 24 13.8**	**+0.3**
MBWA				*e*S	**S**	**23 27 16.7**	**-7.2**
ASPA	**Alice Springs**	**16.82 166**		*e*P	**Pn**	**23 24 19.0**	**+3.5**
ASPA				*e*S	**S**	**23 27 19.3**	**-7.9**
PMG	**Port Moresby**	**17.66 98**		P	**Pn**	**23 24 25.9**	**+0.1**
	1.3nm,0.3s,baz=55,slow=8.8,SNR=10						
CTA	**Charters Tower**	**20.67 130**		P	**P**	**23 25 00.6**	**+2.3**
	11nm,0.9s,baz=302,slow=11,SNR=6.7						
CTAO	**Charters Tower**	**20.67 130**		*e*P	**P**	**23 24 59.4**	**+1.1**
	15nm,1.0s						
STKA	**Stephens Creek**	**26.95 157**		*e*P	**P**	**23 25 59.2**	**+0.5**
	4.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**26.95 157**		P	**P**	**23 25 59.2**	**+0.5**
	6.6nm,0.7s,mb4.3,baz=338,slow=6.3,SNR=12						
STKA	**Stephens Creek**	**26.95 157**		P	**P**	**23 25 59.2**	**+0.5**
STKA				*e*	pP	23 26 21.8	+3.2
TAU	**Tasmania Unive**	**38.80 159**		P	**P**	**23 27 42.4**	**+0.8**
LSA	**Lhasa**	**52.03 317**		P	**P**	**23 29 25.6**	**-0.5**
JIRN	**Jiri**	**54.36 312**		*e*P	**P**	**23 29 43.8**	**+0.7**
	4.3nm,0.6s,mb4.6						
GUN	**Gumba**	**54.73 312**		*e*P	**P**	**23 29 46.4**	**+0.6**
	7.6nm,0.6s,mb4.9						
PKI	**Pulchoki**	**54.90 311**		*e*P	**P**	**23 29 47.9**	**+0.9**
KKN	**Kakani**	**55.11 311**		*e*P	**P**	**23 29 49.1**	**+0.6**
	2.2nm,0.4s,mb4.5						
GKN	**Gorkha**	**55.70 311**		*e*P	**P**	**23 29 53.1**	**+0.3**
	4.9nm,0.4s,mb4.9						
KOLN	**Koldanda**	**56.36 310**		*e*P	**P**	**23 29 57.6**	**+0.1**
SONM	**Songino Array**	**58.55 342**		P	**P**	**23 30 11.4**	**-1.5**
	0.4nm,0.4s,mb3.8,baz=168,slow=6.0,SNR=8.1						
MKAR	**Makanchi Array**	**68.17 327**		P	**P**	**23 31 15.7**	**-0.6**
	0.9nm,0.3s,mb4.0,baz=121,slow=6.6,SNR=8.1						
ZAL	**Zalesovo**	**71.61 334**		P	**P**	**23 31 35.0**	**-2.4**
	0.6nm,0.4s,mb3.8,baz=53,slow=3.1,SNR=4.0						
VNDA	**Vanda**	**72.21 173**		P	**P**	**23 31 42.1**	**+1.1**
	2.1nm,0.8s,mb4.0,baz=342,slow=6.4,SNR=5.1						
KURK	**Kurchatov**	**72.48 329**		*e*P	**P**	**23 31 41.6**	**-1.0**
	4.3nm,1.2s,mb4.2						
KURK				*e*		23 32 11.0	
BRVK	**Borovoye**	**78.09 328**		*e*P	**P**	**23 32 13.6**	**-1.2**
	0.4nm,0.5s,mb3.4						
CPUP	**Villa Florida**	**145.93 169**		*e*PKPdf	PKPdf	23 39 56.7	+2.6
LPAZ	**La Paz**	**150.82 144**		PKPbc	PKPbc	23 40 10.4	+2.7
	0.6nm,0.4s,baz=315,slow=1.4,SNR=4.0						
LPAZ				PKPab	PKPab	23 40 18.6	+3.5
	2.1nm,0.5s,baz=164,slow=4.7,SNR=11						

*IDC **08** 23:26:07.9±3.4, 5.93S×10209E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=145.8km s-min=22.5km az=55.0*
*ISCJB **08** 23:26:11.8±1.0, 5.8S±02×1023E±03, h33km, mb4.2/10, Error ellipse: s-maj=47.9km s-min=11.7km az=108.4*
*NEIC **08** 23:26:13.4±0.8, 5.82S×10228E, h30km, mb4.2/5, Error ellipse: s-maj=38.6km s-min=9.3km az=54.0*

ISC 08 23:26:14.3±1.0, 58S±02×1023E±03, h35km, n16, σ0§87/13, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**30.36 155**		*e*P	**P**	**23 32 22.8**	**0.0**
	5.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**34.19 117**		P	**P**	**23 32 56.2**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=304,slow=9.3,SNR=4.3						
WRAB	**Tennant Creek**	**34.19 117**		*e*P	**P**	**23 32 58.0**	**+1.7**
JIRN	**Jiri**	**36.73 336**		*e*P	**P**	**23 33 19.4**	**+1.3**
	5.7nm,0.7s,mb4.5						
GUN	**Gumba**	**37.08 336**		*e*P	**P**	**23 33 22.4**	**+1.3**
	7.3nm,0.4s,mb4.8						
KKN	**Kakani**	**37.22 335**		*e*P	**P**	**23 33 27.6**	**+5.3**
GKN	**Gorkha**	**37.69 334**		*e*P	pP	23 33 34.2	-2.2
KOLN	**Koldanda**	**37.95 333**		*e*P	sP	23 33 43.6	+0.7
	5.4nm,0.9s						
STKA	**Stephens Creek**	**44.96 130**		P	**P**	**23 34 24.9**	**-1.1**
	2.9nm,0.6s,mb4.3,baz=301,slow=9.4,SNR=4.2						
SONM	**Songino Array**	**53.55 3**		P	**P**	**23 35 31.2**	**-0.4**
	2.2nm,0.7s,mb4.2,baz=183,slow=9.0,SNR=21						
MKAR	**Makanchi Array**	**55.30 343**		P	**P**	**23 35 43.7**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=146,slow=8.1,SNR=5.7						
HNR	**Honiara**	**57.24 97**		P	**P**	**23 35 58.1**	**0.0**
KURK	**Kurchatov**	**59.89 343**		*e*P	**P**	**23 36 16.2**	**-0.4**
	0.8nm,0.6s,mb3.9						
ZAL	**Zalesovo**	**61.32 348**		P	**P**	**23 36 25.2**	**-1.1**
	0.7nm,0.3s,mb4.3,baz=298,slow=1.4,SNR=3.2						
BRVK	**Borovoye**	**64.59 339**		*e*P	**P**	**23 36 47.7**	**-0.3**
	0.4nm,0.6s,mb3.6						
TXAR	**Lajitas Array**	**146.15 43**		PKPbc	PKPbc	23 45 52.0	+1.3
	0.2nm,0.5s,baz=270,slow=1.3,SNR=3.8						

JMA 08 23:54:26.2±0.3, 4393N×14803E, h83km, M3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.75 252**		P	Pn	23 54 55.3	+0.4
NEM2				*e*S	Sn	23 55 17.6	+0.9
JRA	**Rausu**	**2.10 271**		P	Pn	23 55 00.2	+0.7
JRA				*e*S	Sn	23 55 25.9	+1.0
JNK	**Nakash**	**2.42 263**		P	Pn	23 55 04.1	+0.3
JAK	**Akkeshi**	**2.60 250**		P	Pn	23 55 06.7	+0.5
JAK				*e*S	Sn	23 55 37.6	+0.7
JTKR	**Abashiri--Toko**	**2.98 272**		P	Pn	23 55 11.7	+0.5
JAR	**Ashorobuto**	**3.16 260**		P	Pn	23 55 15.1	+1.4
JAR				*e*S	Sn	23 55 52.2	+1.9
JCH	**Churui**	**3.65 251**		P	Pn	23 55 21.2	+0.8
JCH				*e*S	Sn	23 56 02.6	+0.2
JNBK	**Urakawa-nobuka**	**4.20 249**		P	Pn	23 55 28.5	+0.6
JKB	**Kayabe**	**5.53 251**		*e*S	Sn	23 56 46.4	-1.7
JOT	**Ohata**	**5.74 246**		P	Pn	23 55 49.7	+0.8
JOT				*e*S	Sn	23 56 50.8	-2.5
JANG	**Nango**	**6.00 236**		P	Pn	23 55 52.2	-0.2
JANG				*e*S	Sn	23 56 56.5	-3.3

*NAO **09** 00:04:27.8, 8.00S×12200E, h33km, mb4.8*
*MOS **09** 00:05:01.6±0.9, 7.61S×12159E, h310km, mb5.4/45, Error ellipse: s-maj=9.0km s-min=5.3km az=113.3*
*BJI **09** 00:05:04.0, 8.07S×12221E, h375km, mB4.8, mb5.4*
*CSEM **09** 00:05:04.6, 7.68S×12163E, h342km, mb5.5*
*ISCJB **09** 00:05:06.9±0.2, 7.74S±003×12165E±004, h367km, mb5.3/121, Error ellipse: s-maj=5.0km s-min=3.4km az=131.8*
*NEIC **09** 00:05:08.3±0.7, 7.69S×12165E, h366km±6km, mb5.5/34, Error ellipse: s-maj=6.1km s-min=4.0km az=54.0*
NEIC Felt [III] at Waingapu, Sumba.
*IDC **09** 00:05:08.1±0.9, 7.68S×12167E, h362km±8km, mb4.8/28, mb1 4.9/29, mb1mx4.8/31, mbtmp5.5/29, Error ellipse: s-maj=9.8km s-min=6.0km az=61.0*

ISC 09 00:05:08.6±0.2, 775S±003×12169E±004, h369km, h369km±5.0km: pP-P, n450, σ1§01/310, mb5.3/118, 25C-48D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**7.04 345**		P	**Pn**	**00 06 52.4**	**+0.6**
	3μm,1.2s						
FITZ	**Fitzroy Crossi**	**10.99 160**		*e*P	**Pn**	**00 07 38.6**	**+0.5**
	1μm,0.9s						
TLE	**Tual**	**11.17 80**		P	**Pn**	**00 07 38.4**	**-1.9**
	313nm,1.1s						
TSM	**Tawau**	**12.55 342**		P	**P**	**00 07 57.9**	**+2.4**
MBWA	**Marble Bar**	**13.47 188**		Pn	**Pn**	**00 08 06.4**	**-0.8**
KSM	**Kuching**	**14.59 308**		Pn	**P**	**00 08 17.3**	**-0.5**
KKM	**Kota Kinabalu**	**14.75 338**		P	**P**	**00 08 20.9**	**+1.4**
KKM	**Kota Kinabalu**	**14.75 338**		*e*Pn	**P**	**00 08 21.1**	**+1.6**
DAV	**Davao City (W)**	**15.22 15**		P	**P**	**00 08 24.6**	**-0.1**
IPIL	**Ipil**	**15.46 3**		*e*P	**P**	**00 08 29.4**	**+2.2**
PAGZ	**Pagadian**	**15.58 6**		*e*P	**P**	**00 08 31.0**	**+2.4**
BUKP	**Musuan**	**15.88 12**		*e*P	**P**	**00 08 33.1**	**+1.2**
BATP	**Bataraza**	**16.89 347**		*e*P	**P**	**00 08 44.1**	**+1.4**
WRA	**Warramunga Arr**	**17.24 136**		P	**P**	**00 08 46.0**	**-0.5**
	70nm,0.3s,baz=315,slow=12,SNR=1576						
WRA				S	**S**	**00 11 51.1**	**+4.1**
	3.4nm,0.3s,baz=311,slow=20,SNR=22						
WRA				ScS	ScS	00 19 44.3	-3.9
	0.3nm,0.3s,baz=294,slow=4.4,SNR=5.0						
WRA				P3KPbc		00 43 27.4	
	0.1nm,0.3s,baz=143,slow=4.4,SNR=8.9						
WRA	**Warramunga Arr**	**17.24 136**		P	**P**	**00 08 46.0**	**-0.4**
WRA				S	**S**	**00 11 51.1**	**+4.1**
WRA	**Warramunga Arr**	**17.24 136**		P	**P**	**00 08 46.0**	**-0.5**
WRA				S	**S**	**00 11 51.1**	**+4.1**
WRA				ScS	ScS	00 19 44.3	-3.9
WRAB	**Tennant Creek**	**17.24 136**		P	**P**	**00 08 46.0**	**-0.5**
	6μm,0.6s						
WRAB	**Tennant Creek**	**17.24 136**	*c*	*i*P	**P**	**00 08 46.3**	**-0.2**
WRAB	**Tennant Creek**	**17.24 136**		P	**P**	**00 08 46.5**	**+0.1**
WB2	**Warramunga Arr**	**17.25 136**	⇑	*i*P	**P**	**00 08 46.4**	**-0.1**
WB2				*e*S	**S**	**00 11 52.1**	**+5.0**
WB2				*e*SCS	ScS	00 19 44.9	-3.3
TBP	**Tagbilaran**	**17.46 7**		*e*P	**P**	**00 08 49.4**	**+0.6**
MSLP	**Maasin**	**18.04 10**		*e*P	**P**	**00 08 55.3**	**+0.4**
GUIM	**Jordan**	**18.27 3**		*e*P	**P**	**00 08 57.4**	**-0.1**
CUYO	**Cuyo Island**	**18.49 358**		*e*P	**P**	**00 09 00.5**	**+0.8**
OCLP	**Ormoc**	**18.90 9**		*e*P	**P**	**00 09 04.9**	**+0.9**
ENPP	**El Nido**	**18.96 353**		*e*P	**P**	**00 09 05.4**	**+0.7**
BUSP	**Coron**	**19.68 356**		*e*P	**P**	**00 09 12.2**	**+0.1**
ASPA	**Alice Springs**	**19.69 145**		*e*P	**P**	**00 09 12.1**	**-0.2**
ASPA				*e*SCS	ScS	00 19 51.8	-4.3
ASAR	**Alice Springs**	**19.69 145**		P	**P**	**00 09 12.4**	**+0.1**
	68nm,0.3s,baz=321,slow=8.9,SNR=1562						
OTRP	**Odiongan**	**19.98 1**		*e*P	**P**	**00 09 15.4**	**+0.5**
KGM	**Kluang**	**20.73 297**		P	**P**	**00 09 23.5**	**+1.6**
AUQP	**San Andres**	**20.95 3**		*e*P	**P**	**00 09 25.9**	**+2.0**
BOAC	**Boac**	**21.07 0**		*e*P	**P**	**00 09 24.9**	**+0.1**
PGP	**Puerto Galera**	**21.12 358**	⇑	*i*P	**P**	**00 09 26.2**	**+0.9**
PVCP	**Virac**	**21.34 7**		*e*P	**P**	**00 09 26.5**	**-0.9**
LUBP	**Lubang**	**21.39 356**		*e*P	**P**	**00 09 28.9**	**+1.1**
TGY	**Tagaytay City**	**21.72 358**		P	**P**	**00 09 31.3**	**+0.5**
	953nm,0.5s,baz=252,slow=1.7,SNR=18						
POLP	**Polilio Island**	**22.33 1**		*e*P	**P**	**00 09 36.0**	**-0.4**
PPI	**Padang Panjang**	**22.43 288**		P	**P**	**00 09 36.0**	**-1.2**
	38nm,0.9s,mb4.6						
BALP	**Baler**	**23.34 360**		*e*P	**P**	**00 09 46.4**	**+1.0**
IPM	**Ipoh**	**23.93 300**		P	**P**	**00 09 51.2**	**+0.4**
KLBR	**Kellerberrin**	**24.01 188**	⇑	*i*P	**P**	**00 09 51.2**	**-0.3**
	104nm,0.4s,mb5.4						
KLBR				*e*SCP	ScP	00 16 24.3	-0.2
MUN	**Mundaring**	**24.64 191**	⇑	*i*P	**P**	**00 09 56.9**	**-0.3**
KULM	**Kulim**	**24.66 301**		*e*P	**P**	**00 09 57.0**	**-0.4**
PSI	**Prapat**	**25.01 294**		P	**P**	**00 10 00.3**	**-0.2**
	63nm,0.8s,mb4.9,baz=127,slow=6.9,SNR=54						
PMG	**Port Moresby**	**25.23 96**		P	**P**	**00 10 02.7**	**+0.2**
	12nm,0.6s,mb4.3,baz=333,slow=4.4,SNR=8.7						
PMG				ScP	ScP	00 16 27.6	-0.4
	15nm,0.8s,baz=250,slow=3.7,SNR=5.4						
PMG	**Port Moresby**	**25.23 96**		P	**P**	**00 10 02.7**	**+0.2**
PMG				ScP	ScP	00 16 27.6	-0.4
NWAO	**Narrogin (SRO)**	**25.39 189**		P	**P**	**00 10 04.0**	**+0.1**
	41nm,0.3s,mb5.1,baz=24,slow=7.9,SNR=86						
NWAO				ScP	ScP	00 16 28.1	-0.4
	37nm,1.0s,baz=92,slow=9.2,SNR=3.8						
NWAO	**Narrogin (SRO)**	**25.39 189**		P	**P**	**00 10 04.0**	**+0.1**
	31nm,0.4s,mb4.9						
CTA	**Charters Tower**	**26.76 120**		*e*P	**P**	**00 10 16.8**	**+0.7**
	12nm,0.6s,mb4.3						
CTA				*e*PCP	PcP	00 13 29.0	+0.9
CTA				*e*SCP	ScP	00 16 31.9	-0.6
CTA	**Charters Tower**	**26.76 120**		P	**P**	**00 10 17.0**	**+0.9**
	15nm,0.6s,mb4.4,baz=285,slow=10,SNR=22						
CTA				ScP	ScP	00 16 31.6	-0.9
	14nm,0.6s,baz=248,slow=7.6,SNR=3.6						
CTAO	**Charters Tower**	**26.76 120**		P	**P**	**00 10 17.0**	**+0.9**
QIZ	**Qiongzhong**	**29.06 336**		P	**P**	**00 10 36.2**	**-0.1**
QIZ				AP		00 11 44.7	
QIZ				S	**S**	**00 14 59.4**	**-0.8**
QIZ				PCS	PcS	00 17 17.0	0.0
QIZ				AMB	AMB		
	comp=Z,211nm,1.0s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,357nm,5.0s						
QIZ	**Qiongzhong**	**29.06 336**		*e*P	**P**	**00 10 36.6**	**+0.3**
	comp=Z,202nm,1.0s,mb5.3						
BSI	**Banda Aceh**	**29.43 296**		P	**P**	**00 10 37.5**	**-2.1**
	comp=Z,125nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**30.33 145**		*e*P	**P**	**00 10 46.5**	**-1.0**
	comp=Z,440nm,0.4s,mb6.0						
STKA				*e*S	**S**	**00 15 18.4**	**-1.7**
STKA				*e*SCP	ScP	00 16 41.1	-2.7
STKA	**Stephens Creek**	**30.33 145**		P	**P**	**00 10 46.5**	**-0.9**
	comp=Z,443nm,0.4s,mb6.1,baz=322,slow=8.6,SNR=1826						
STKA				PP	PP	00 11 56.2	-9.0
	comp=Z,37nm,0.5s,baz=313,slow=15,SNR=3.3						
STKA				S	**S**	**00 15 18.5**	**-1.6**
	comp=Z,25nm,0.8s,baz=110,slow=15,SNR=3.6						
STKA				ScP	ScP	00 16 40.6	-3.1
	comp=Z,20nm,0.5s,baz=342,slow=2.4,SNR=6.9						
STKA	**Stephens Creek**	**30.33 145**		P	**P**	**00 10 46.5**	**-0.9**
STKA				PP	PP	00 11 56.2	-9.0
STKA				S	**S**	**00 15 18.5**	**-1.6**
STKA				ScP	ScP	00 16 40.6	-3.1
KKTK	**Khon Kaen**	**30.35 322**	⇓	P	**P**	**00 10 48.5**	**+0.9**
	comp=Z,1μm,0.4s						
GUMO	**Guam**	**31.29 47**		P	**P**	**00 10 54.3**	**-1.5**
	comp=Z,112nm,0.4s,mb5.4,baz=144,slow=4.1,SNR=5.8						
GUMO	**Guam**	**31.29 47**		P	**P**	**00 10 54.3**	**-1.5**
NST	**Nakhon Sawan**	**31.58 317**	⇑	P	**P**	**00 10 59.8**	**+1.5**
	comp=Z,116nm,0.6s,mb5.3						
YHNB	**Yeheng**	**32.22 359**		*e*P	**P**	**00 11 02.7**	**-1.1**
QZH	**Quanzhou**	**32.63 355**	⇓	*i*P	**P**	**00 11 07.2**	**-0.2**
QZH				AMB	AMB		
	comp=Z,190nm,0.7s,mb5.4						
CHRT	**Chiangrai**	**34.90 322**	⇑	P	**P**	**00 11 27.0**	**+0.3**
	comp=Z,2μm,0.8s,mb6.4						
TOO	**Toolangi**	**36.70 148**		*e*P	**P**	**00 11 43.7**	**+1.9**
	comp=Z,34nm,0.4s,mb4.9						
GYA	**Guiyang**	**37.00 337**	⇑	*i*P	**P**	**00 11 44.1**	**-0.2**
GYA				AP	pP	00 12 57.7	+3.0
GYA				XP	sP	00 13 40.3	+3.3
GYA				PCP	PcP	00 13 57.9	+1.6
GYA				S	**S**	**00 17 02.1**	**+0.2**
GYA				SCS	ScS	00 21 15.1	-0.8
GYA				AMB	AMB		
	comp=Z,270nm,0.6s,mb5.7						
GYA				AMB	AMB		
	comp=Z,480nm,3.2s						
CNB	**Canberra Magne**	**37.36 141**		*e*P	**P**	**00 11 48.9**	**+1.6**
	comp=Z,47nm,0.7s,mb4.8						
KMI	**Kunming**	**37.52 331**	⇓	P	**P**	**00 11 50.8**	**+2.1**
KMI				PP	PP	00 13 29.1	+5.4
KMI				PCP	PcP	00 14 00.1	+2.2
KMI				SCP	ScP	00 17 11.1	+1.7
KMI				S	**S**	**00 17 13.5**	**+3.7**
KMI				XS	sS	00 19 20.8	+2.9
KMI				SS	SS	00 20 10.9	-1.8
KMI				AMB	AMB		
	comp=Z,156nm,1.0s,mb5.2						
KMI				LR	LR		
	comp=Z,62nm,18.4s						
RIV	**Riverview**	**37.59 138**		*e*P	**P**	**00 11 52.0**	**+2.8**
HNR	**Honiara**	**37.85 95**		P	**P**	**00 11 52.2**	**+0.8**
	comp=Z,264nm,0.8s,mb5.5,baz=260,slow=3.8,SNR=6.1						
HNR	**Honiara**	**37.85 95**		*e*P	**P**	**00 11 53.2**	**+1.8**
HNR				pmax	pmax		
	comp=Z,238nm,0.8s,mb5.5						
HNR	**Honiara**	**37.85 95**		*e*P	**P**	**00 11 53.2**	**+1.8**
	comp=Z,238nm,0.8s,mb5.5						
SSE	**Sheshan**	**38.62 359**		P	**P**	**00 11 57.9**	**+0.1**
SSE				PP	PP	00 13 34.3	-1.2
SSE				XP	sP	00 13 51.8	+0.9
SSE				PCP	PcP	00 14 00.2	-1.1
SSE				S	**S**	**00 17 28.0**	**+1.9**
SSE				XS	sS	00 19 38.8	+4.0
SSE				AMB	AMB		
	comp=Z,104nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,216nm,6.1s						
SSE				LR	LR		
	comp=N,96nm,24.4s						
SSE				LR	LR		
	comp=E,28nm,24.4s						
SSE				LR	LR		
	comp=Z,116nm,22.5s						
WHN	**Wuhan**	**38.72 350**	⇓	P	**P**	**00 11 59.3**	**+0.8**
WHN				AMB	AMB		
	comp=Z,800nm,1.0s,mb5.9						
ENH	**Enshi**	**39.58 343**		*e*P	**P**	**00 12 05.7**	**+0.1**
	comp=Z,207n

LZH PCS PcS 00 18 25.0 +0.8
LZH S **S** **00 19 22.5 -0.7**
LZH XS sS 00 21 38.0 +2.0
LZH SCS ScS 00 22 18.0 +2.0
LZH *e*SS SS 00 22 53.0 -1.9
LZH AMB AMB
comp=Z,390nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,920nm,4.0s
LZH LR LR
comp=E,1μm,16.0s
LZH LR LR
comp=Z,2μm,18.9s
BOK Bokaro 46.96 313 *e*P **P** **00 13 01.8 -2.1**
TRD Trivandrum 47.42 289 *e*P **P** **00 13 06.4 -0.9**
LSA Lhasa 47.42 323⇓*i*P **P** **00 13 08.8 +1.4**
LSA *e* 00 14 32.8
LSA pmax pmax
comp=Z,323nm,0.5s,mb5.8
LSA Lhasa 47.42 323⇓*i*P **P** **00 13 08.8 +1.4**
comp=Z,323nm,0.5s,mb5.8
LSA *e*PcP PcP 00 14 32.8 +1.6
BJT Baijiatuau 47.80 354 *e*P **P** **00 13 09.7 -0.6**
BJT *e* 00 14 33.5
BJT pmax pmax
comp=Z,211nm,0.6s
BJT Baijiatuau 47.80 354 *e*P **P** **00 13 09.7 -0.5**
comp=Z,211nm,0.6s,mb5.5
BJT *e*PcP PcP 00 14 33.5 +1.0
BJT *e*ScP ScP 00 17 53.4 +2.6
DGAR Diego Garcia 48.79 267 P **P** **00 13 17.2 -0.5**
DGAR pmax pmax
comp=Z,102nm,0.6s,mb5.2
DGAR Diego Garcia 48.79 267 P **P** **00 13 17.2 -0.5**
comp=Z,102nm,0.6s,mb5.2
BLSP Bilaspur 48.83 308 *e*P **P** **00 13 17.8 -0.3**
JIRN Jiri 49.17 317⇓*i*P **P** **00 13 21.6 +1.0**
comp=Z,1μm,0.6s,mb6.3
HHC Hu-ho-hao-te 49.24 350⇓*i*P **P** **00 13 21.1 -0.1**
HHC AP pP 00 14 32.8 -3.3
HHC PCP PcP 00 14 40.0 +2.2
HHC PP PP 00 15 18.4 -0.8
HHC SCP ScP 00 17 59.0 +2.0
HHC S **S** **00 19 57.7 -0.6**
HHC SCS ScS 00 22 31.1 -1.9
HHC SS SS 00 23 32.3 -2.7
HHC AMB AMB
comp=Z,121nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,172nm,4.8s
HHC LR LR
comp=N,168nm,12.0s
HHC LR LR
comp=E,182nm,12.0s
HHC LR LR
comp=Z,163nm,15.6s
BTO Baotou 49.30 348 *e*P **P** **00 13 20.9 -0.7**
BTO AMB AMB
comp=Z,26nm,0.5s,mb4.7
SNY Shenyang 49.36 2⇓P **P** **00 13 20.4 -1.6**
SNY S **S** **00 19 56.4 -3.5**
SNY AMB AMB
comp=Z,50nm,0.9s,mb4.7
SNY AMB AMB
comp=Z,390nm,5.1s
SNY LR LR
comp=N,290nm,12.6s
SNY LR LR
comp=Z,240nm,17.7s
HYB Hyderabad 49.42 301⇓*i*P **P** **00 13 21.5 -0.9**
comp=Z,170nm,1.0s,mb5.2
HYB *e*PcP PcP 00 14 39.5 +1.0
HYB *e*S **S** **00 19 51.0 -10**
HYB Hyderabad 49.42 301⇓*e*P **P** **00 13 21.5 -0.9**
HYB *e* pP 00 14 39.5 +2.1
HYB pmax pmax
comp=Z,170nm,1.0s,mb5.2
HYB Hyderabad 49.42 301⇓*e*P **P** **00 13 21.5 -0.9**
comp=Z,170nm,1.0s,mb5.2
HYB *e* pP 00 14 39.5 +2.1
GUN Gumba 49.55 317⇓*i*P **P** **00 13 24.3 +0.9**
comp=Z,1μm,0.5s,mb6.3
PKI Pulchoki 49.65 316⇓*i*P **P** **00 13 24.6 +0.4**
comp=Z,902nm,0.5s,mb6.3
PKI Pulchoki 49.65 316⇓*i*P **P** **00 13 24.6 +0.4**
PKI pmax pmax
comp=Z,451nm,0.5s,mb6.0
KKN Kakani 49.87 317⇓*i*P **P** **00 13 26.4 +0.5**
comp=Z,560nm,0.5s,mb6.1
KKN Kakani 49.87 317⇓*i*P **P** **00 13 26.4 +0.5**
KKN pmax pmax
comp=Z,280nm,0.5s,mb5.8
DMN Daman 49.88 316⇓*i*P **P** **00 13 26.4 +0.5**
comp=Z,597nm,0.7s,mb6.0
GKN Gorkha 50.45 316⇓*i*P **P** **00 13 30.5 +0.4**
comp=Z,812nm,0.5s,mb6.2
NGP Nagpur 50.77 305 *e*P **P** **00 13 30.5 -2.0**
KOLN Koldanda 51.02 315⇓*i*P **P** **00 13 34.7 +0.4**
GTA Gaotai 51.11 336⇓*i*P **P** **00 13 35.8 +0.8**
GTA PP PP 00 15 39.7 +3.7
GTA PCS PcS 00 18 42.6 -0.4
GTA S **S** **00 20 27.5 +3.6**
GTA XS sS 00 22 41.8 +2.7
GTA SCS ScS 00 22 47.4 +1.6
GTA AMB AMB
comp=Z,162nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,240nm,5.7s
GTA LR LR
comp=N,106nm,8.0s
GTA LR LR
comp=E,128nm,8.8s
GTA LR LR
comp=Z,142nm,9.6s
CN2 Changchun 51.42 3 *e*P **P** **00 13 35.4 -1.8**
CN2 PCP PcP 00 14 45.9 0.0
CN2 *e*S **S** **00 20 28.4 +0.4**
VLA Vladivostok 51.47 10 *i*P **P** **00 13 35.8 -1.8**
VLA *i* 00 14 45.5
VLA pmax pmax
comp=Z,112nm,1.0s,mb5.0
AKL Akola 52.22 304 *e*x x 00 13 01.4
AKL AMb AMB 00 13 03.2
comp=Z,138nm,0.8s,mb5.3
MDJ Mudanjiang 52.60 7 P **P** **00 13 45.4 -0.5**
MDJ AP pP 00 14 59.7 -2.3
MDJ XP sP 00 15 39.5 -3.2
MDJ PP PP 00 15 47.8 -1.6
MDJ SCP ScP 00 18 12.3 +0.8
MDJ PCS PcS 00 18 49.7 +0.2
MDJ S **S** **00 20 42.8 -1.2**
MDJ SCS ScS 00 22 56.3 0.0
MDJ AMB AMB
comp=Z,135nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,226nm,4.9s
MDJ Mudanjiang 52.60 7 *e*P **P** **00 13 45.4 -0.5**
comp=Z,113nm,0.9s,mb5.2
BHPL Bhopal 53.12 307 *e*P **P** **00 13 48.5 -1.1**
BHPL AMb AMB 00 13 50.0
comp=Z,61nm,0.5s,mb5.2
KAD Karad 53.14 298 *e*P **P** **00 13 48.9 -0.9**
POO Poona 53.93 300 *e*x x 00 14 16.8
PTH Pithoragarh 54.46 315 *e*P **P** **00 13 59.2 0.0**
ASAJ Asahikawa 54.98 18 P **P** **00 14 03.2 +0.4**
comp=Z,222nm,0.7s,mb5.6,baz=233,slow=11,SNR=81
RPZ Rata Peaks 55.93 138 P **P** **00 14 10.7 +1.1**
comp=Z,89nm,0.6s,mb5.3,baz=269,slow=2.8,SNR=53
YUK Yuzh-Kuril'sk 55.99 21⇑*i*P **P** **00 14 10.0 0.0**
YUK pmax pmax
comp=Z,310nm,0.5s,mb5.9
YUK pmax pmax
comp=Z,2μm,1.0s,mb6.4
NDI New Delhi 56.12 312 *e*P **P** **00 14 07.0 -4.0**
DDI Dehra Dun 56.43 314 *e*P **P** **00 14 09.8 -3.3**
HIA Hailar 56.80 358 *e*P **P** **00 14 15.1 -0.5**
HIA pmax pmax
comp=Z,29nm,0.6s
HIA Hailar 56.80 358 *e*P **P** **00 14 15.1 -0.6**
comp=Z,29nm,0.6s,mb4.8
HIA *e*ScP ScP 00 18 32.0 +2.1
ULN Ulaanbaatar 56.86 348*d*i*P **P** **00 14 16.2 +0.1**
ULN Ulaanbaatar 56.86 348 P **P** **00 14 16.3 +0.2**
comp=Z,105nm,0.8s,mb5.2
AJM Ajmer 56.92 308 *e*P **P** **00 14 15.3 -1.2**

SONM Songino Array 56.97 348 P **P** **00 14 17.0 +0.2**
comp=Z,118nm,0.7s,mb5.3,baz=166,slow=8.2,SNR=1086
SONM PcP PcP 00 15 07.4 +0.1
comp=Z,8.4nm,0.4s,baz=168,slow=7.0,SNR=6.9
SONM PKPPKP 00 44 03.5
comp=Z,0.4nm,0.7s,baz=326,slow=5.7,SNR=3.7
SONM Songino Array 56.97 348 P **P** **00 14 17.0 +0.2**
SONM 00 15 07.4
HABR Khabarovsk 57.20 11 *i*P **P** **00 14 17.9 -0.6**
HABR pmax pmax
comp=Z,171nm,1.7s,mb5.1
KLR Kul'dur 57.41 8 *i*P **P** **00 14 16.2 -3.7**
KLR *e* 00 15 06.0
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb4.7
SNZO South Karori 57.51 134 *e*P **P** **00 14 20.9 +0.4**
SMLA Simla 57.52 315 *e*P **P** **00 14 19.1 -1.6**
SMLA AMb AMB 00 14 21.2
comp=Z,303nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 57.59 17κ *i*P **P** **00 14 21.9 +0.8**
YSS pmax pmax
comp=N,140nm,1.0s
YSS pmax pmax
comp=Z,250nm,1.0s,mb5.5
URZ Urewera 58.31 130 P **P** **00 14 26.4 +0.3**
comp=Z,19nm,0.6s,mb4.6,baz=273,slow=5.1,SNR=7.9
URZ PcP PcP 00 15 14.6 +2.0
comp=Z,15nm,0.8s,baz=324,slow=5.8,SNR=3.7
PONG Pong 58.84 315 *e*P **P** **00 14 29.0 -0.7**
WMQ Urumqi 59.85 332⇓*i*P **P** **00 14 37.4 +0.9**
WMQ AP pP 00 15 59.0 +4.1
WMQ XP sP 00 16 40.0 +5.0
WMQ PP PP 00 16 57.0 +3.4
WMQ S **S** **00 22 18.0 -0.4**
WMQ SCS ScS 00 23 46.0 -3.1
WMQ SS SS 00 26 23.0 +1.2
WMQ AMB AMB
comp=Z,345nm,0.7s,mb5.9
WMQ AMB AMB
comp=Z,652nm,4.0s
WMQ LR LR
comp=N,68nm,12.0s
WMQ LR LR
comp=E,64nm,10.0s
WMQ LR LR
comp=Z,58nm,10.0s
CIT Chita 59.94 354 *e*P **P** **00 14 36.3 -0.8**
CIT *e* 00 15 19.4
CIT pmax pmax
comp=Z,76nm,1.8s,mb4.8
ZAK Zakamensk 60.06 347⇑*e*P **P** **00 14 37.6 -0.3**
ZAK *e* 00 15 18.5
ZAK pmax pmax
comp=Z,72nm,1.0s,mb5.1
ZAK pmax pmax
comp=Z,35nm,1.4s,mb4.6
TLY Talaya 61.19 347*d*i*P **P** **00 14 45.5 0.0**
NIL Nilore 61.67 315 P **P** **00 14 48.4 -0.3**
comp=Z,659nm,0.4s,SNR=42
MOY Mondy 61.80 346 *e*P **P** **00 14 49.9 +0.4**
MOY pmax pmax
comp=Z,81nm,1.6s,mb5.0
KSH Kashi 63.23 322⇑*i*P **P** **00 14 59.5 +0.6**
KSH *e*PCP PcP 00 15 35.0 +2.5
KSH *e*AP pP 00 16 19.0 +0.7
KSH *e*PP PP 00 17 28.2 +4.9
KSH *e*PCS 00 19 38.2
KSH *e*S **S** **00 22 54.3 -6.3**
KSH *e*SCS ScS 00 24 17.4 +2.7
KSH *e*SS SS 00 27 21.5 +6.9
KSH AMB AMB
comp=Z,320nm,1.4s,mb5.7
KSH LR LR
comp=N,230nm,5.5s
KSH LR LR
comp=E,290nm,5.1s
CLNS Chul'man 64.41 2 *e*P **P** **00 15 05.5 -1.0**
CLNS pmax pmax
comp=Z,50nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,26nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.9s
MKAR Makanchi Array 64.61 331 P **P** **00 15 07.9 +0.2**
comp=E,212nm,0.6s,mb5.9,baz=139,slow=7.7,SNR=2078
MKAR S **S** **00 23 18.1 +0.8**
comp=E,4.2nm,1.1s,baz=135,slow=14,SNR=7.8
MKAR PKPPKP 00 43 53.6
comp=E,0.5nm,0.8s,baz=333,slow=2.7,SNR=5.1
MKAR Makanchi Array 64.61 331 P **P** **00 15 07.9 +0.1**
MKAR S **S** **00 23 18.1 +0.7**
ULHL Ulahol 64.75 324 P **P** **00 15 09.5 +0.8**
SNR=5.7
KZA Kyzart 65.23 324 P **P** **00 15 13.2 +1.4**
SNR=31
TKM2 Tokmak 2 65.55 324 P **P** **00 15 14.3 +0.6**
SNR=157
TKM2 Tokmak 2 65.55 324 P **P** **00 15 14.4 +0.7**
TKM2 pmax pmax
comp=Z,49nm,0.6s,mb5.4
BOD Bodaibo 65.64 355⇑*i*P **P** **00 15 13.6 -0.7**
BOD pmax pmax
comp=Z,61nm,1.0s,mb5.3
UCH Uchtor 65.75 323 P **P** **00 15 16.4 +1.4**
SNR=6.9
KBK Karagaybulak 65.76 324 P **P** **00 15 16.1 +1.0**
SNR=5.7
AAK Ala-Archa 66.01 324 P **P** **00 15 17.7 +1.0**
SNR=17
AAK Ala-Archa 66.01 324 P **P** **00 15 16.0 -0.7**
comp=Z,2μm,0.7s
AAK Ala-Archa 66.01 324*d*i*P **P** **00 15 16.5 -0.2**
AAK pmax pmax
comp=Z,191nm,0.8s,mb5.9
AAK Ala-Archa 66.01 324 P **P** **00 15 16.7 0.0**
comp=Z,144nm,0.6s,mb5.9
FRU Bishkek 66.06 324⇓*i*P **P** **00 15 17.7 +0.7**
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.2
CHMS Chumysh 66.08 324 P **P** **00 15 17.3 +0.1**
SNR=35
AML Almayashu 66.18 323 P **P** **00 15 18.9 +1.1**
SNR=348
USP Ospenovka 66.39 324 P **P** **00 15 19.4 +0.4**
SNR=164
EKS2 Erkin-Say 66.45 323 P **P** **00 15 20.4 +0.9**
SNR=21
KRAR Krasnoyarsk 67.86 343*d*i*P **P** **00 15 25.8 -2.4**
KRAR pmax pmax
comp=Z,46nm,1.1s,mb5.1
PET Petropavlovsk 68.18 23 *i*P **P** **00 15 31.0 +0.8**
PET pmax pmax
comp=Z,800nm,5.2s
PET pmax pmax
comp=Z,134nm,0.7s,mb5.8
PET pmax pmax
comp=N,58nm,0.8s
PET pmax pmax
comp=E,57nm,0.8s
KKAR Karatay Array 68.66 322 *i*P **P** **00 15 32.8 -0.3**
KKAR pmax pmax
comp=Z,13nm,0.4s,mb5.0
ZAL Zalesovo 68.86 338 P **P** **00 15 32.9 -1.4**
comp=Z,197nm,0.3s,mb6.3,baz=346,slow=4.5,SNR=630
ZAL PP PP 00 18 06.7 -5.3
comp=Z,5.1nm,0.8s,baz=340,slow=12,SNR=3.5
ZAL S S 00 24 05.5 -2.4
comp=Z,1.2nm,0.8s,baz=131,slow=20,SNR=9.3
ZAL PKPPKP 00 43 41.3
comp=Z,0.4nm,0.3s,baz=138,slow=9.0,SNR=3.4
ZAL Zalesovo 68.86 338 *i*P **P** **00 15 32.9 -1.4**
ZAL pmax pmax
comp=Z,197nm,0.3s
KURK Kurchatov 69.09 332 P **P** **00 15 35.6 -0.2**
comp=Z,2μm,0.8s
KURK Kurchatov 69.09 332*d*i*P **P** **00 15 35.6 -0.2**
KURK Kurchatov 69.09 332 P **P** **00 15 35.7 0.0**
YAK Yakutsk 69.84 4 *e*P **P** **00 15 40.4 +0.1**
YAK *e*S SKSac 00 25 04.4 -0.3
YAK pmax pmax
comp=Z,139nm,0.9s,mb5.7
YAK pmax pmax
comp=N,53nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK smax
comp=E,15nm,1.5s
YAK smax
comp=N,8.0nm,1.1s
YAK Yakutsk 69.84 4 *e*P **P** **00 15 39.1 -1.1**
comp=N,260nm,0.8s,mb6.0
NVS Novosibirsk 70.14 338 *e*P **P** **00 15 39.2 -2.9**
NVS *e* 00 16 05.5
NVS *e**PP pP 00 16 50.9 -13
NVS *e* 00 24 55.2
NVS pmax pmax
comp=N,35nm,0.7s
NVS pmax pmax
comp=E,38nm,0.7s
NVS pmax pmax
comp=Z,66nm,0.7s,mb5.5
MA2 Magadan 71.00 15*d*i*P **P** **00 15 48.1 +0.9**
MA2 pmax pmax
comp=Z,191nm,0.6s,mb6.0
MA2 Magadan 71.00 15 *e*P **P** **00 15 47.8 +0.5**
comp=Z,199nm,0.7s,mb6.0
VNDA Vanda 72.82 172 P **P** **00 15 58.0 +0.1**
comp=Z,2.8nm,0.4s,mb4.4,baz=314,slow=7.9,SNR=18
OPO Ambohidratompo 72.93 253 P **P** **00 15 59.7 +1.1**
comp=Z,36nm,0.7s,mb5.2,baz=85,slow=4.6,SNR=106
VOSK Vostochnaya 74.01 331 P **P** **00 16 04.1 -0.7**
VOSK pmax pmax
comp=Z,59nm,0.7s,mb5.4
SEY Seymchan 74.29 14 *e*P **P** **00 16 07.2 +0.8**
SEY *e* 00 25 39.2
SEY pmax pmax
comp=N,10.0nm,0.6s
SEY pmax pmax
comp=E,6.0nm,0.6s
SEY pmax pmax
comp=Z,30nm,0.6s,mb5.2
BVA0 Borovoye Array 74.48 331 *i*P **P** **00 16 07.1 -0.4**
BVA0 pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
BVAR Borovoye Array 74.48 331 P **P** **00 16 07.1 -0.4**
comp=Z,35nm,0.6s,mb5.3,baz=135,slow=6.3,SNR=169
ABKT Ailbek 74.53 313 P **P** **00 16 08.4 +0.7**
comp=Z,531nm,0.5s,SNR=23
BRVK Borovoye 74.55 331 P **P** **00 16 07.6 -0.3**
comp=Z,476nm,0.9s,mb6.2,SNR=31
BRVK Borovoye 74.55 331 P **P** **00 16 06.8 -1.1**
SMY Shemya 74.85 30 P **P** **00 16 11.0 +1.4**
MUKL Al Mukalla 75.35 287 *i*P **P** **00 16 13.8 +1.4**
MUKL ⇓*e* 00 16 14.8
baz=58,slow=2.8
AB31 Akbulak array 78.10 324 P **P** **00 16 26.9 -0.7**
AB31 pmax pmax
comp=Z,19nm,0.6s,mb5.0
LBOS 78.83 286 *i*P **P** **00 16 33.5 +1.9**
LBOS AMP 00 16 34.8
comp=Z,315nm,1.0s
TIXI Tiksi 79.37 2⇑*i*P **P** **00 16 31.1 -3.4**
TIXI *e* 00 16 37.7
TIXI *e* 00 19 37.2
TIXI *e*S S 00 25 58.6 -5.3
TIXI pmax pmax
comp=Z,93nm,0.9s,mb5.5
TIXI pmax pmax
comp=Z,17nm,6.7s
TIXI smax
comp=N,117nm,2.2s
TIXI smax
comp=E,115nm,3.8s
TIXI Tiksi 79.37 2 P **P** **00 16 33.7 -0.8**
AKTK Aktyubinsk 79.74 324 P **P** **00 16 36.0 -0.4**
AKTK PKKPbc PKKPbc 00 35 19.8 -0.1
AKTO Aktyubinsk 79.74 324 P **P** **00 16 36.0 -0.4**
comp=E,64nm,0.6s,mb5.5,baz=107,slow=7.4,SNR=219
AKTO PKKPbc PKKPbc 00 35 19.8 -0.1
comp=E,0.8nm,0.3s,baz=26,slow=3.5,SNR=6.3
TRBA At Turbah 79.80 285 *i*P **P** **00 16 38.6 +1.8**
SYO Syowa Base 79.98 201 *e*SH S 00 26 09.1 -1.1
SYO Syowa Base 79.98 201⇓*e*P **P** **00 16 37.5 -0.2**
SYO ⇓*e*PcP PcP 00 16 43.9 0.0
BILL Bilibino 81.87 15⇓*i*P **P** **00 16 47.2 -0.4**
BILL pmax pmax
comp=Z,48nm,1.7s,mb5.0
BILL Bilibino 81.87 15 *e*P **P** **00 16 47.2 -0.4**
comp=Z,15nm,0.6s,mb5.0
ARU Arti 82.10 330 P **P** **00 16 47.6 -1.2**
comp=Z,199nm,0.6s,mb6.1,SNR=17
ARU Arti 82.10 330*d*i*P **P** **00 16 47.5 -1.3**
ARU pmax pmax
comp=Z,61nm,1.7s,mb5.2
ARU Arti 82.10 330 P **P** **00 16 46.8 -1.9**
comp=Z,31nm,0.9s,mb5.1
KIP Kipapa 83.86 67 *e*P **P** **00 16 57.0 -0.7**
NIKO Nikolski 84.05 35 *e*P **P** **00 16 58.6 0.0**
SOKR Solikamsk 84.33 332⇑*i*P **P** **00 16 59.6 -0.5**
SOKR pmax pmax
comp=Z,40nm,0.8s,mb5.3
KMBO Kilima Mbogo 84.34 270 P **P** **00 17 00.6 +0.5**
comp=Z,9.0nm,0.5s,mb4.8,baz=69,slow=7.2,SNR=39
KMBO Kilima Mbogo 84.34 270 *i*P **P** **00 17 00.6 +0.5**
KMBO pmax pmax
comp=Z,9.0nm,0.5s
KMBO Kilima Mbogo 84.34 270 P **P** **00 17 01.3 +1.1**
DGRG David-gareji 84.96 313 P **P** **00 17 04.9 +1.7**
GNI Garni 85.09 311 P **P** **00 17 04.3 +0.5**
comp=Z,18nm,0.7s,mb5.0,baz=313,slow=3.7,SNR=24
GNI Garni 85.09 311 P **P** **00 17 04.3 +0.5**
SAMG Sameba 85.42 313 P **P** **00 17 05.8 +0.3**
MTA Mtatsminda 85.44 313 P **P** **00 17 06.4 +0.9**
TBLG Delisi 85.49 313 P **P** **00 17 06.8 +1.0**
TBLG Delisi 85.49 313 *e*P **P** **00 17 06.8 +1.0**
DUS Dusheti 85.60 313 P **P** **00 17 07.5 +1.2**
UNV Unalaska Valle 85.67 34 P **P** **00 17 06.7 0.0**
AKH Akhalkalaki 86.32 312 P **P** **00 17 11.4 +1.6**
ZEI Tsey 86.35 314 *i*P **P** **00 17 10.7 +0.8**
ZEI *i* 00 20 32.5
ZEI pmax pmax
comp=Z,58nm,1.0s,mb5.4
GAMB Gambell 86.86 24 P **P** **00 17 12.6 +0.2**
KIV Kislovodsk 87.48 315 P **P** **00 17 15.7 +0.4**
comp=Z,129nm,1.1s,mb5.7,SNR=8.5
KIV Kislovodsk 87.48 315*d*i*P **P** **00 17 15.4 +0.1**
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.0
KIV Kislovodsk 87.48 315 P **P** **00 17 15.8 +0.5**
TNA Tin City 89.05 23 P **P** **00 17 22.6 -0.1**
ELZG Elazig 89.10 309 *i*P **P** **00 17 23.9 +1.0**
KELT Kelkit 89.20 311 *i*P **P** **00 17 23.8 +0.4**
MALT Malatya 89.50 309 ⇓P **P** **00 17 25.8 +1.1**
MALT Malatya 89.50 309 P **P** **00 17 25.3 +0.6**
comp=Z,35nm,0.8s,mb5.2
SOC Sochi 89.51 314 *e*P **P** **00 17 23.3 -1.5**
SOC pmax pmax
comp=Z,33nm,0.8s,mb5.3
VRHR Novokhopersk 89.78 322 *e*P **P** **00 17 24.9 -1.1**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.4s
GZT Gaziantep 90.01 308 *i*P **P** **00 17 27.6 +0.5**
GRSN GIRESUNGRSN 90.08 311 *i*P **P** **00 17 26.0 -1.5**
VRSR Storozhevoye 91.30 321 *e*P **P** **00 17 31.5 -1.6**
VRSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.8s
LSZ Lusaka 91.34 254 P **P** **00 17 34.2 +0.9**
LSZ pmax pmax
comp=Z,28nm,0.6s,mb5.4
LSZ Lusaka 91.34 254 P **P** **00 17 34.2 +0.9**
comp=Z,28nm,0.6s,mb5.4
ANN Anapa 91.34 315 *e*P **P** **00 17 31.6 -1.7**
ANN pmax pmax
comp=Z,43nm,1.0s,mb5.3
LBTB Lobatse 92.24 245 P **P** **00 17 38.3 +0.8**
comp=Z,5.0nm,0.4s,mb4.8,baz=128,slow=5.1,SNR=20
BOYT Boyabat 92.66 311 *i*P **P** **00 17 39.4 0.0**
KLMR Klimovskoe 92.91 331*d*i*P **P** **00 17 38.9 -1.6**
KLMR pmax pmax

comp=Z,100nm,1.6s,mb5.6
SNAA Sanae 92.91 195 P P 00 17 40.8 +0.3
comp=Z,2.4nm,0.7s,mb4.4,baz=146,slow=7.1,SNR=19
TTA Tatalina 93.34 27 *e*P **P 00 17 42.5 0.0**
TTA pmax pmax
comp=Z,67nm,1.3s,mb5.5
TTA Tatalina 93.34 27 *e*P **P 00 17 42.5 0.0**
comp=Z,67nm,1.3s,mb5.5
BR131 Keskin Array S 93.40 309 *e*P **P 00 17 42.1 -0.6**
comp=Z,21nm,0.8s,mb5.2
BRTR Keskin Array B 93.40 309 P **P 00 17 42.1 -0.6**
comp=Z,29nm,1.0s,mb5.3,baz=126,slow=5.2,SNR=107
BRTR PP PP 00 21 32.4 -0.1
comp=Z,1.8nm,0.9s,baz=117,slow=5.5,SNR=4.9
BRTR Keskin Array B 93.40 309 *i* P **P 00 17 42.2 -0.5**
BRTR pmax pmax
comp=Z,29nm,1.0s
OBN Obninsk 93.51 325 P **P 00 17 42.8 -0.4**
comp=Z,549nm,0.5s,SNR=15
OBN Obninsk 93.51 325 *d* iP **P 00 17 42.1 -1.1**
OBN *e* 00 21 34.1
OBN pmax pmax
comp=Z,34nm,0.6s,mb5.5
OBN Obninsk 93.51 325 P **P 00 17 42.3 -1.0**
comp=Z,44nm,0.5s,mb5.7
SIM Simferopol' 93.70 315 *e*P **P 00 17 43.0 -1.1**
SIM pmax pmax
comp=Z,14nm,1.0s,mb5.0
BALT Daday 93.81 311 *i* P **P 00 17 44.6 0.0**
ANTO Ankara 94.06 310 ⇑P **P 00 17 45.6 -0.2**
ANTO Ankara 94.06 310 *e*P **P 00 17 45.2 -0.6**
comp=Z,14nm,0.8s,mb5.0
KDAK Kodiak Island 94.21 32 P **P 00 17 45.8 -0.7**
comp=Z,12nm,0.7s,mb5.0,baz=339,slow=3.9,SNR=7.8
IMA2 Indian Mountai 94.84 24 *e*P **P 00 17 49.1 -0.2**
ESKT Eskisehir 95.52 309 *i* P **P 00 17 52.0 -0.4**
SLKM Skilak Lake 95.74 30 P **P 00 17 52.7 -0.7**
FIB Fire Island 95.82 29 P **P 00 17 53.9 +0.1**
PMR Palmer 96.36 29 P **P 00 17 55.2 -1.0**
PMR pmax pmax
comp=Z,22nm,0.9s,mb5.3
PMR Palmer 96.36 29 P **P 00 17 55.2 -1.0**
comp=Z,22nm,0.9s,mb5.3
MCK McKinley 96.61 27 P **P 00 17 56.4 -0.9**
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.4
MCK McKinley 96.61 27 P **P 00 17 56.4 -0.9**
comp=Z,32nm,1.0s,mb5.4
SML Sawmill 96.75 29 *e*P **P 00 17 57.5 -0.5**
JOF Joensuu 97.01 333 *e*p **P 00 17 57.3 -1.8**
comp=Z,2.7nm,0.5s,mb4.6
AKASG Malin Array Be 97.50 320 P **P 00 17 59.8 -1.5**
comp=Z,4.8nm,0.5s,mb4.9,baz=80,slow=4.4,SNR=32
AKASG PP PP 00 21 56.1 -7.9
comp=Z,0.4nm,0.4s,baz=83,slow=6.9,SNR=4.1
AKASG PKiKP PKiKP 00 22 33.6 -0.1
comp=Z,1.0nm,0.5s,baz=82,slow=2.3,SNR=5.4
AKASG PKKPbc PKKPbc 00 34 35.0 -1.5
comp=Z,1.1nm,0.5s,baz=283,slow=3.8,SNR=4.1
AKASG Malin Array Be 97.50 320 P **P 00 17 59.8 -1.5**
AKASG PP PP 00 21 56.1 -7.9
ILAR Eielson Array 97.56 26 P **P 00 17 59.5 -2.1**
comp=Z,8.9nm,1.0s,mb5.0,baz=241,slow=4.8,SNR=62
ILAR PP PP 00 21 57.0 -7.4
comp=Z,2.3nm,0.9s,baz=270,slow=5.9,SNR=8.8
ILAR PKiKP PKiKP 00 22 33.2 -0.6
comp=Z,0.7nm,0.6s,baz=264,slow=3.2,SNR=4.1
ILAR PKKPbc PKKPbc 00 34 35.8 -0.5
comp=Z,1.4nm,0.7s,baz=90,slow=1.7,SNR=15
ILAR SKKP 00 37 40.0
comp=Z,0.4nm,0.6s,baz=103,slow=2.0,SNR=5.0
ILAR Eielson Array 97.56 26 P **P 00 17 59.5 -2.1**
ILAR PP PP 00 21 57.0 -7.4
TIRR Tirgusor 97.70 314 ⇓P **P 00 18 00.7 -1.5**
TIRR Tirgusor 97.70 314 ⇓P **P 00 18 00.7 -1.5**
CFR Carcaliu 97.94 315 ⇑P **P 00 18 02.1 -1.2**
CFR Carcaliu 97.94 315 ⇑P **P 00 18 02.1 -1.2**
DIV Divide 97.95 29 *e*P **P 00 18 03.6 +0.3**
comp=Z,47nm,1.1s,mb5.6
HARR Harsova 98.06 314 ⇓P **P 00 18 02.6 -1.2**
HARR Harsova 98.06 314 ⇓P **P 00 18 02.6 -1.2**
VRI Vrincioaia 98.96 315 ⇑P Pdif 00 18 07.6 -0.2
VRI Vrincioaia 98.96 315 ⇑P Pdif 00 18 07.6 -0.2
VSU Vasula 99.14 328 *d* iP Pdif 00 18 07.8 -0.8
KAF Kangasniemi 99.32 332 *e*p Pdif 00 18 05.7 -3.7
comp=Z,4.5nm,0.5s
KAF Kangasniemi 99.32 332 *e*P Pdif 00 18 05.7 -3.7
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
ARCES ARCESS Array B 99.38 339 P Pdif 00 18 07.6 -2.1
comp=Z,4.9nm,0.5s,baz=80,slow=4.9,SNR=45
ARCES PKiKP PKiKP 00 22 36.5 -0.5
comp=Z,1.7nm,0.7s,baz=101,slow=1.3,SNR=10
ARCES PKKPbc PKKPbc 00 34 30.6 -0.7
comp=Z,3.8nm,1.0s,baz=270,slow=3.9,SNR=9.0
FINES FINESS Array B 99.44 331 P Pdif 00 18 08.6 -1.3
comp=Z,3.5nm,0.7s,baz=92,slow=5.4,SNR=23
FINES PKiKP PKiKP 00 22 35.9 -1.4
comp=Z,1.4nm,0.5s,baz=101,slow=5.0,SNR=6.7
FINES PKKPbc PKKPbc 00 34 29.2 -1.9
comp=Z,1.1nm,0.8s,baz=225,slow=14,SNR=3.7
FINES FINESS Array B 99.44 331 *i* P Pdif 00 18 08.6 -1.4
FINES pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 99.50 315 P Pdif 00 18 09.1 -1.1
comp=Z,3.5nm,0.6s,baz=177,slow=0.5,SNR=12
MLR PP PP 00 22 18.2 -0.9
comp=Z,7.7nm,0.9s,baz=82,slow=6.4,SNR=8.6
MLR PKKPbc PKKPbc 00 34 31.0 +0.1
baz=333,slow=16
MLR Muntele Rosu 99.50 315 ⇑P Pdif 00 18 09.8 -0.4
MLR Muntele Rosu 99.50 315 ⇑P Pdif 00 18 09.8 -0.5
BURAR Bucovina Array 100.03 317 ⇑P Pdif 00 18 12.8 +0.2
BURAR Bucovina Array 100.03 317 ⇑P Pdif 00 18 12.8 +0.2
SUW Suwalki 101.22 323 *e*P Pdif 00 18 17.3 -0.6
VTS Vitosha 101.43 312 ⇑P Pdif 00 18 18.2 -0.6
BZS Buzias 102.54 315 ⇑P Pdif 00 18 23.1 -0.6
BZS Buzias 102.54 315 ⇑P Pdif 00 18 23.1 -0.6
INK Inuvik 102.61 22 P Pdif 00 18 23.6 -0.4
comp=Z,4.7nm,0.6s,baz=295,slow=4.2,SNR=44
INK PKiKP PKiKP 00 22 41.2 -1.8
comp=Z,1.7nm,0.4s,baz=278,slow=2.5,SNR=13
INK PKKPbc PKKPbc 00 34 20.5 -1.6
comp=Z,0.9nm,0.5s,baz=129,slow=3.0,SNR=8.9
DIVS Divcibare 103.75 313 *e*P PKiKP 00 22 45.4 +0.4
HFS Hagfors 105.61 330 Pdiff Pdif 00 18 36.1 -1.3
comp=Z,4.7nm,0.5s,baz=135,slow=4.2,SNR=35
HFS PP PP 00 23 04.7 +0.2
comp=Z,2.5nm,0.6s,baz=72,slow=4.7,SNR=4.1
NB2 NORSAR Subarra106.60 332 Pdif Pdif 00 18 40.3 -1.5
comp=Z,2.8nm,0.8s,baz=76,slow=4.4
NOA NORSAR Array B 106.60 332 Pdiff Pdif 00 18 40.6 -1.2
comp=Z,2.3nm,0.8s,baz=75,slow=4.5,SNR=6.2
NOA PP PP 00 23 10.1 -1.6
comp=Z,1.8nm,0.9s,baz=63,slow=4.0,SNR=3.5
NOA NORSAR Array B 106.60 332 Pdif Pdif 00 18 40.6 -1.2
NOA PP PP 00 23 10.1 -1.6
GERES GERESS Array B 107.62 319 PKiKP PKiKP 00 22 51.4 -0.8
comp=Z,2.5nm,0.7s,baz=90,slow=1.3,SNR=6.1
GERES PKKPbc PKKPbc 00 34 11.0 +4.0
comp=Z,0.5nm,0.5s,baz=315,slow=1.9,SNR=6.5
CDF Champ du Feu 111.89 319 *e*PKIKP PKiKP 00 22 59.9 -0.3
YKA Yellowknife Ar 111.96 25 Pdiff Pdif 00 19 05.8 +0.2
comp=Z,0.3nm,0.5s,baz=300,slow=4.0,SNR=7.3
YKA PKiKP PKiKP 00 22 59.4 -0.9
comp=Z,8.3nm,0.5s,baz=302,slow=1.8,SNR=150
YKA PP PP 00 23 44.8 -5.3
comp=Z,1.4nm,0.9s,baz=295,slow=6.6,SNR=5.1
YKA SKiKP 00 25 59.1
comp=Z,1.4nm,0.7s,baz=305,slow=1.9,SNR=8.5
YKA PKKPbc PKKPbc 00 33 52.5 -0.7
comp=Z,0.5nm,0.5s,baz=113,slow=3.3,SNR=12
YKA Yellowknife Ar 111.96 25 Pdif Pdif 00 19 05.8 +0.2
YKA PKPdf PKiKP 00 22 59.4 -0.9
YKA PP PP 00 23 44.9 -5.3
YKA PKKPbc PKKPbc 00 33 52.5 -0.7
HINF Hinteralfeld 112.30 319 *e*PKIKP PKiKP 00 23 00.5 -0.5
comp=Z,5.2nm,0.5s
HAU Haudompre 112.59 319 *e*PKIKP PKiKP 00 23 01.7 +0.1
comp=Z,4.6nm,0.5s
SBF Sospel 112.76 314 *e*PKIKP PKiKP 00 23 01.8 -0.1
LPG La Plagne 112.90 316 *e*PKIKP PKiKP 00 23 02.7 +0.6
comp=Z,11nm,0.8s
LPL La Plagne 112.91 316 *e*PKIKP PKiKP 00 23 02.5 +0.3
comp=Z,8.3nm,0.6s
GIVF Givet 113.01 321 *e*PKIKP PKiKP 00 23 02.3 -0.1
comp=Z,18nm,0.8s
CMW Cultus Mountai 113.03 41 P PKiKP 00 23 04.2 +1.8
MBDF Montbardon 113.05 315 *e*PKIKP PKiKP 00 23 02.4 0.0
CABF La Chapelle 113.09 317 *e*PKIKP PKiKP 00 23 02.5 0.0
comp=Z,16nm,0.5s
MEZF Maizieres J'vi 113.30 320 *e*PKIKP PKiKP 00 23 02.9 0.0
FRF La Foret Royal 113.39 314 *e*PKIKP PKiKP 00 23 03.0 -0.1
BAIF Baives 113.40 321 *e*PKIKP PKiKP 00 23 03.1 0.0
comp=Z,16nm,0.8s
GSM Grass Mountain 113.55 42 PKIKP PKiKP 00 23 04.4 +1.0
ORIF Oris-en-Rattie 113.63 316 *e*PKIKP PKiKP 00 23 03.7 +0.2
comp=Z,10nm,0.8s
LOR Lormes 114.40 319 *e*PKIKP PKiKP 00 23 04.9 -0.1
comp=Z,5.5nm,0.6s
VIVF Saint-Julien-l 114.48 316 *e*PKIKP PKiKP 00 23 05.4 +0.2
comp=Z,17nm,0.9s
SMF Signal de Mont 114.58 318 *e*PKIKP PKiKP 00 23 05.4 0.0
SSF Saint Saulge 114.69 318 *e*PKIKP PKiKP 00 23 05.7 +0.1
comp=Z,21nm,0.7s
AVF Avril sur Loir 114.87 318 *e*PKIKP PKPdf 00 23 05.6 -0.3
comp=Z,14nm,0.9s
HYF Humbligny 115.20 319 *e*PKIKP PKPdf 00 23 06.9 +0.3
LASF Ste Croix 115.23 315 *e*PKIKP PKPdf 00 23 06.9 +0.3
BGF Bois d'Agland 115.27 318 *e*PKIKP PKPdf 00 23 06.9 +0.2
comp=Z,17nm,0.5s
TCF Toulx Ste Croi 115.77 318 *e*PKIKP PKPdf 00 23 07.6 -0.1
comp=Z,3.6nm,0.5s
MOD Modoc 115.88 47 *e*PKPdf PKPdf 00 23 09.1 +1.2
CAF Calviac 116.25 316 *e*PKIKP PKPdf 00 23 08.4 -0.2
comp=Z,11nm,0.5s
NEW Newport 116.26 40 PKP PKPdf 00 23 09.5 +0.9
comp=Z,4.8nm,0.5s,baz=70,slow=0.9,SNR=9.8
NEW Newport 116.26 40 *e*PKPdf PKPdf 00 23 09.6 +1.0
LRV Little Rabbit 116.46 53 PKPdf PKPdf 00 23 11.2 +2.2
RJF Les Rejaudoux 116.51 317 *e*PKIKP PKPdf 00 23 09.1 0.0
LDF La Druitiere 116.55 321 *e*PKIKP PKPdf 00 23 09.0 -0.2
comp=Z,4.4nm,0.4s
MTLF Montolieu 116.57 315 *e*PKIKP PKPdf 00 23 09.2 0.0
comp=Z,6.7nm,0.5s
FLN La Foliniere 116.72 321 *e*PKIKP PKPdf 00 23 09.3 -0.2
comp=Z,19nm,0.8s
GRR Gorron 117.08 321 *e*PKIKP PKPdf 00 23 10.2 0.0
comp=Z,9.9nm,0.4s
USHA Ushuaia 117.08 173 PKKPbc PKKPbc 00 33 35.9 0.0
comp=Z,9.5nm,0.8s,baz=45,slow=1.5,SNR=5.9
LFF La Frestale 117.14 317 *e*PKIKP PKPdf 00 23 10.2 -0.1
comp=Z,27nm,0.7s
BMO Blue Mountains 117.21 43 *e*PKIKP PKPdf 00 23 10.4 0.0
MFF Saint Martin d 117.22 319 *e*PKIKP PKPdf 00 23 10.4 -0.1
comp=Z,40nm,1.0s
BSMT Bassoo Peak 117.88 39 P PKPdf 00 23 12.1 +0.3
EPF Esparros 117.98 315 *e*PKIKP PKPdf 00 23 12.0 +0.1
NVAR Mina Array Bea 118.17 50 PKP PKPdf 00 23 13.9 +1.6
comp=Z,4.0nm,0.7s,baz=249,slow=4.8,SNR=30
NVAR PP PP 00 24 32.6 -0.9
comp=Z,1.7nm,0.9s,baz=266,slow=6.2,SNR=5.5
NVAR SKP 00 26 13.3
comp=Z,1.2nm,0.8s,baz=221,slow=1.2,SNR=4.6
NVAR PKKPbc PKKPbc 00 33 34.3 +2.3
comp=Z,2.1nm,0.7s,baz=120,slow=6.1,SNR=15
SGMF Saint Gilles 118.19 321 *e*PKIKP PKPdf 00 23 12.2 -0.1
comp=Z,18nm,0.8s
ROSF Rostrenen 118.60 321 *e*PKIKP PKPdf 00 23 13.1 0.0
comp=Z,19nm,0.7s
ETSF Etsaut 118.65 315 *e*PKIKP PKPdf 00 23 13.6 +0.4
comp=Z,7.2nm,0.5s
QUIF Quistinic 118.69 321 *e*PKIKP PKPdf 00 23 13.1 -0.2
comp=Z,19nm,0.8s
MSO Missoula 118.78 40 *e*PKPdf PKPdf 00 23 13.3 -0.1
SJPF Ste Jean 119.05 315 *e*PKIKP PKPdf 00 23 14.4 +0.4
comp=Z,8.8nm,0.5s
CHMT Chamberlain Mo 119.19 40 *e*PKPdf PKPdf 00 23 14.7 +0.4
HRY Holter Researc 120.17 40 *e*PKPdf PKPdf 00 23 16.6 +0.5
MCMT McKenzie Canyo 120.21 42 *e*PKPdf PKPdf 00 23 16.9 +0.8
SFJD Kangerlussuaq 120.61 356 PKP PKPdf 00 23 15.9 -1.0
baz=57,slow=7.0
PFO Pinyon Flat Ob 120.68 56 *e*PKIKP PKPdf 00 23 17.3 +0.2
TORD Torodi Ar. Bea 120.86 281 PKP PKPdf 00 23 17.9 +0.5
comp=Z,14nm,0.6s,baz=52,slow=2.1,SNR=137
TORD PKKPbc PKKPbc 00 33 23.8 +1.5
comp=Z,0.5nm,0.4s,baz=290,slow=2.7,SNR=14
QLMT Earthquake Lak 121.15 42 *e*PKPdf PKPdf 00 23 19.7 +1.7
FFC Flin Flon 121.66 28 *e*PKIKP PKPdf 00 23 18.8 -0.2
FFC *e* 00 24 59.1
DUG Dugway 121.79 47 *e*PKIKP PKPdf 00 23 20.2 +1.0
MOOW Moose Ponds 122.01 43 *e*PKPdf PKPdf 00 23 20.5 +0.8
MOOW *e*PP PP 00 24 58.5 -1.1
ESDC Sonseca Array 122.07 312 PKP PKPdf 00 23 20.5 +0.8
comp=Z,4.0nm,0.6s,baz=90,slow=1.3,SNR=2.0
REDW Red Top Meadow 122.08 43 *e*PKPdf PKPdf 00 23 21.0 +1.2
SNOW Snow King Moun 122.11 43 *e*PKPdf PKPdf 00 23 21.6 +1.7
AHID Auburn Hatcher 122.13 44 *e*PKPdf PKPdf 00 23 20.5 +0.6
LOHW Long Hollow 122.16 43 *e*PKPdf PKPdf 00 23 21.3 +1.3
LOHW PP PP 00 25 00.7 +0.1
HWUT Hardware Ranch 122.22 45 *e*PKPdf PKPdf 00 23 21.1 +1.1
MVU Marysvale 122.76 49 *e*PKPdf PKPdf 00 23 23.7 +2.6
PDAR Pinedale Array 123.19 43 PKiKP 00 23 19.5
comp=Z,3.5nm,0.4s,baz=81,slow=2.7,SNR=10
PDAR PKKPbc PKKPbc 00 33 13.8 +0.2
comp=Z,2.5nm,0.6s,baz=116,slow=6.9,SNR=26
TMUT Trail Mountain 123.25 48 *e*PKPdf PKPdf 00 23 23.6 +1.6
FRB Frobisher Bay 123.62 5 PKP PKPdf 00 23 22.0 -0.7
comp=Z,12nm,0.6s,baz=12,slow=3.7,SNR=19
LAO LASA Array 123.67 38 *e*PKPdf PKPdf 00 23 24.3 +1.5
WUAZ Wupatki 124.28 52 *e*PKPdf PKPdf 00 23 25.9 +1.9
RSSD Black Hills 126.24 40 *e*PKPpre 00 23 18.4
RSSD *e*PKPdf PKPdf 00 23 28.1 +0.3
SMCO Snowmass 126.37 46 *e*PKPdf PKPdf 00 23 28.6 +0.6
SMCO *e*PP PP 00 25 28.0 -0.5
ISCO Idaho Springs 127.09 45 *e*PKIKP PKPdf 00 23 31.1 +1.7
ULM Lac du Bonnet 127.37 30 PKP PKPdf 00 23 29.9 -0.1
comp=Z,14nm,0.5s,baz=321,slow=1.7,SNR=35
ULM SKPbc 00 26 12.3
comp=Z,2.9nm,0.7s,baz=280,slow=3.9,SNR=4.0
ULM Lac du Bonnet 127.37 30 PKP PKPdf 00 23 29.9 -0.1
ULM SKPbc 00 26 12.3
SDCO Great Sand Dun 127.98 48 *e*PKPdf PKPdf 00 23 32.4 +1.4
ANMO Albuquerque 128.28 51 PKP PKPdf 00 23 32.9 +1.3
comp=Z,13nm,1.1s,baz=234,slow=3.7,SNR=16
ANMO PP PP 00 25 38.9 -2.0
comp=Z,1.1nm,0.7s,baz=347,slow=7.8,SNR=4.1
ANMO SKPbc 00 26 17.9
comp=Z,3.5nm,0.9s,baz=276,slow=3.5,SNR=5.7
ANMO Albuquerque 128.28 51 *e*PKPdf PKPdf 00 23 33.1 +1.4
LPM Los Pinos Moun 128.36 52 *e*PKPdf PKPdf 00 23 32.7 +0.9
BNM Barren Site 128.41 52 *e*PKPdf PKPdf 00 23 33.5 +1.6
MNTX Cornudas Mount 130.19 55 *e*PKPdf PKPdf 00 23 37.3 +2.1
PLCA Paso Flores 130.46 168 PKP PKPdf 00 23 36.8 +1.0
comp=Z,4.6nm,0.6s,baz=230,slow=2.7,SNR=15
PLCA SKPbc SKPbc 00 26 25.2 +1.1
comp=Z,20nm,0.9s,baz=221,slow=3.2,SNR=26
PLCA Paso Flores 130.46 168 PKP PKPdf 00 23 36.8 +1.0
PLCA SKPbc SKPbc 00 26 25.2 +1.1
GDL2 Guadalupe Moun 130.85 54 PKPdf PKPdf 00 23 38.4 +1.9
CBKS Cedar Bluff 131.61 44 *e*PKIKP PKPdf 00 23 39.2 +1.2
TXAR Lajitas Array 132.32 57 PKhKP 00 23 24.5
comp=Z,0.8nm,0.4s,baz=237,slow=2.1,SNR=6.1
TXAR SKPbc SKPbc 00 26 31.8 +1.1
comp=Z,1.7nm,0.5s,baz=257,slow=2.9,SNR=5.1
SCHQ Schefferville 132.55 7 PKP PKPdf 00 23 40.5 +0.8
comp=Z,8.9nm,0.5s,baz=15,slow=2.6,SNR=26
SCHQ PP PP 00 26 06.8 -1.6
comp=Z,5.3nm,0.9s,baz=9.8,slow=6.3,SNR=4.4
SCHQ SKPbc SKPbc 00 26 33.3 +1.8
comp=Z,16nm,0.9s,baz=18,slow=3.4,SNR=10
SCHQ Schefferville 132.55 7 *e*PKPdf PKPdf 00 23 40.4 +0.6
SCHQ *e*PP PP 00 26 04.3 -4.1
KSU1 Kansas State U 133.57 42 *e*PKPdf PKPdf 00 23 43.2 +1.6
WMOK Wichita Mounta 134.17 48 *e*PKPpre 00 23 34.7
WMOK *e*PKPdf PKPdf 00 23 43.7 +0.9
JCT Junction City 135.10 54 *e*PKPpre 00 23 33.1
JCT *e*PKPdf PKPdf 00 23 45.7 +1.1
MIAR Mount Ida 138.03 45 *e*PKP PKPdf 00 23 40.3 -10
MIAR *e*SKPbc SKPbc 00 26 49.8 +1.3
FVM French Village 138.18 39 *e*PKP PKPdf 00 23 40.2 -10
UALR University of 138.77 44 *e*PKP PKPdf 00 23 44.7 -6.6
BLO Bloomington 139.73 35 *e*PKP PKPdf 00 23 46.4 -6.7
CFAA Coronel Fontan 139.74 167 PKhKP 00 23 38.0
baz=193,slow=5.4
CFAA SKPbc SKPbc 00 26 52.9 -0.3
comp=Z,3.4nm,0.9s,baz=214,slow=2.5,SNR=18
WCI Wyandotte Cave 140.51 36 *e*PKP PKPdf 00 23 47.2 -7.3
LONY Lake Ozonia 140.63 18 *e*PKP PKPdf 00 23 47.9 -6.8
FRNY Flat Rock 140.74 17 *e*PKP PKPdf 00 23 47.6 -7.2
ERPA Erie 140.77 26 *e*PKP PKPdf 00 23 48.9 -6.1
ACSO Alum Creek Sta 140.86 30 *e*PKP PKPdf 00 23 49.3 -5.7
OXF Oxford 140.92 43 *e*PKP PKPdf 00 23 49.6 -5.6
WVT Waverly 140.96 39 *e*PKP PKPdf 00 23 49.5 -5.8
WVT *e*SKP 00 26 56.8
NCB Newcomb 141.33 18 *e*PKP PKPdf 00 23 50.4 -5.5
PLAL Pickwick Lake 141.52 41 *e*PKP PKPdf 00 23 51.2 -5.1
PLAL *e*SKP 00 26 56.6
LBNH Lisbon 141.75 16 *e*PKP PKPdf 00 23 53.0 -3.6
HNH Hanover 142.15 17 *e*PKP PKPdf 00 23 54.1 -3.3
FFD Franklin Falls 142.54 16 *e*PKP PKPdf 00 23 55.8 -2.2
MCWV Mont Chateau 142.82 28 *e*PKP PKPdf 00 23 56.2 -2.4
TZTN Tazewell 143.25 35 *e*PKP PKPdf 00 23 57.6 -1.8
LRAL Lakeview Retre 143.41 43 *e*PKPdf PKPdf 00 23 58.6 -1.0
LRAL *e*SKP 00 27 03.0
QUA2 Belchertown 143.44 18 *e*PKPdf PKPdf 00 23 58.2 -1.5
HRV Harvard--Oak R 143.46 17 *e*PKIKP PKPdf 00 23 58.5 -1.2
WES Weston 143.64 16 *e*PKIKP PKPdf 00 23 58.9 -1.1
BRYW Bryant College 144.01 17 *e*PKPdf PKPdf 00 24 01.2 +0.6
MVL Millersville 144.05 24 *e*PKPdf PKPdf 00 24 00.2 -0.5
BLA Blacksburg 144.45 31 *e*PKIKP PKPdf 00 24 01.5 +0.1
CBN Corbin 145.12 27 *e*PKPdf PKPdf 00 24 03.8 +1.2
CPUP Villa Florida 146.12 182 *e*PKIKP PKPdf 00 24 05.5 +1.2
JSC Jenkinsville 146.17 35 *e*SKPbc SKPbc 00 27 09.5 +0.7
CAM4 Nova Friburgo 146.34 207 *e*P PKPdf 00 24 05.5 +0.9
CAM4 *i* 00 24 06.6
CAM4 *i* 00 24 08.5
CAM4 *i* 00 24 10.6
CAM4 *i* 00 24 27.9
CAM3 Guarapari 146.74 211 *e*P PKPdf 00 24 09.2 +3.9
CAM3 *i* 00 24 11.5
COW Cow Castle Cre 147.14 36 *e*PKPdf PKPdf 00 24 07.9 +1.9
NHSC New Hope 147.64 36 *e*PKPbc PKPbc 00 24 11.1 +1.0
LVC Limon Verde 148.09 161 PKP PKPdf 00 24 09.1 +1.6
comp=Z,28nm,0.6s,baz=150,slow=1.6,SNR=29
LVC PKPbc PKPbc 00 24 13.8 +2.5
comp=Z,28nm,0.6s,baz=259,slow=5.5,SNR=37
LVC Limon Verde 148.09 161 *e*PKPdf PKPdf 00 24 10.3 +2.8
TEIG Tepich 148.46 64 *e*PKPbc PKPbc 00 24 13.4 +1.2
DWPF Disney 150.21 44 *e*PKPbc PKPbc 00 24 17.6 +1.2
LPAZ La Paz 154.22 158 PKP PKPdf 00 24 19.5 +2.7
comp=Z,4.4nm,0.9s,baz=142,slow=0.9,SNR=16
LPAZ PKPab PKPab 00 24 42.4 +1.5
comp=Z,8.5nm,0.4s,baz=74,slow=1.2,SNR=13
LPAZ La Paz 154.22 158 *e*PKPdf PKPdf 00 24 19.6 +2.8
LPAZ *e*PKPbc PKPbc 00 24 27.7 +2.4
BDFB Brasilia 154.62 204 PKP PKPdf 00 24 19.0 +1.6
comp=Z,9.8nm,0.9s,baz=120,slow=0.7,SNR=12
SIV San Ignacio 156.26 173 PKP PKPdf 00 24 21.3 +1.7
comp=Z,4.4nm,0.7s,baz=218,slow=1.1,SNR=30
SIV PKPab PKPab 00 24 51.4 +1.7
comp=Z,5.5nm,0.5s,baz=195,slow=5.0,SNR=16
SAML Samuel 162.72 164 *e*PKPdf PKPdf 00 24 28.6 +1.7
SAML *e*PKPab PKPab 00 25 19.0 +1.1
ROSC El Rosal 163.82 99 PKPab PKPab 00 25 26.2 +3.5
comp=Z,8.9nm,0.7s,baz=116,slow=22,SNR=5.0
SJG San Juan 167.18 36 PKPab PKPab 00 25 37.9 +0.4
baz=38,slow=9.3
SDV Santo Domingo 167.75 84 PKPab PKPab 00 25 42.4 +2.3
comp=Z,6.1nm,0.4s,baz=289,slow=7.7,SNR=7.4
SDV Santo Domingo 167.75 84 *e*PKPdf PKPdf 00 24 31.9 +0.8

NEIC ***09*** *00:14:55.8, 2699S×7001W, h63km, MD3.6(GUC), After GUC.*
GUC 09 00:14:55.8±0.6, 2699S×7001W, h63km±9km, MD3.6, ML3.5, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.48**	**220**	⇓*i*P	Pn	00 15 08.0	+0.1
CPCH				*i* S	Sn	00 15 17.3	+0.7
CPCH				AMP		00 15 19.0	
	comp=E,27μm,0.1s						
CPCH	**Copiapo**	**0.48**	**220**	⇓*i*P	Pn	00 15 08.0	+0.1
CPCH				*i* S	Sn	00 15 17.3	+0.7
CDCH	**Caldera**	**0.74**	**263**	⇓*i*P	Pn	00 15 11.0	+0.4
CDCH				*i* S	Sn	00 15 22.1	+0.5
CDCH				AMP		00 15 25.8	
	comp=N,1μm,0.1s						
CDCH	**Caldera**	**0.74**	**263**	⇓*i*P	Pn	00 15 11.0	+0.4
CDCH				*i* S	Sn	00 15 22.1	+0.5
CRCH	**Chaqaral**	**0.84**	**319**	⇓*i*P	Pn	00 15 14.0	+2.0
CRCH				*i* S	Sn	00 15 26.3	+2.4
CRCH				AMP		00 15 26.7	
	comp=N,1μm,0.2s						
CEN1	**Los Morros**	**3.59**	**357**	*e*P	Pn	00 15 46.8	-2.1
CEN1				*i* S	Sn	00 16 26.3	-3.8
CEN1				AMP		00 16 44.9	
	comp=E,57nm,0.6s						
LVC	**Limon Verde**	**4.47**	**13**	*e*P	Pn	00 16 02.2	+1.2

IDC ***09*** *00:18:06.3±1.7, 754N×9825E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=73.0km s-min=20.8km az=73.0*
ISCJB ***09*** *00:18:10.2±1.2, 770N±009×986E±03, h33km, mb3.8/4, Error ellipse: s-maj=40.1km s-min=11.4km az=165.9*
ISC 09 00:18:12.7±1.2, 774N±009×986E±03, h35km, n6, σ1$23/7, mb3.8/4, Malay Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.92**	**176**	Pn	**Pn**	**00 19 19.8**	**-4.3**
	1.4nm,0.3s,baz=311,slow=12,SNR=8.6						
PSI				Sn	**Sn**	**00 20 20.8**	**+1.0**
	1.0nm,0.3s,baz=309,slow=19,SNR=10						
PSI				LR	LR	00 20 42.0	
	comp=Z,133nm,21.4s,baz=299,slow=32						
FITZ	**Fitzroy Crossi**	**37.04**	**134**	*e*P	**P**	**00 25 18.0**	**-1.1**
	7.9nm,1.4s,mb4.3						
SONM	**Songino Array**	**40.50**	**8**	P	**P**	**00 25 48.1**	**0.0**
	0.7nm,0.7s,mb3.5,baz=201,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**41.35**	**343**	P	**P**	**00 25 55.3**	**+0.3**
	0.3nm,0.6s,mb3.1,baz=153,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**44.65**	**129**	P	**P**	**00 26 22.4**	**+0.6**
	3.2nm,0.7s,mb4.3,baz=304,slow=9.2,SNR=32						
WB2	**Warramunga Arr**	**44.66**	**129**	*e*P	**P**	**00 26 22.4**	**+0.5**

ISCJB ***09*** *00:19:56.8±0.6, 5137N±003×16.16E±003, h0km, Error ellipse: s-maj=5.1km s-min=2.7km az=18.9*
IPEC ***09*** *00:19:58.4±0.3, 5143N×1620E, h7km±1km, ML2.0/2, Error ellipse: s-maj=2.5km s-min=0.9km az=28.0*
WAR ***09*** *00:19:58.6, 5146N×1613E, ML2.6, Mining Induced*
PRU ***09*** *00:19:58.9, 5141N×1613E, h0km*
CSEM ***09*** *00:19:59.9±0.2, 5137N×1610E, h1km, ML2.9/4, Error ellipse: s-maj=3.4km s-min=1.9km az=39.0*
VIE ***09*** *00:20:01.7±0.4, 5117N×1626E, h0km, mb2.2/2, ML2.5/4, Error ellipse: s-maj=2.8km s-min=2.3km az=91.0 52 km W of Breslau Suspected Mining induced.*
ISC 09 00:19:57.5±0.6, 5144N±003×1615E±003, h0km, n30, σ1$10/59, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**171**	*e*Pg	**Pg**	**00 20 10.0**	**+0.9**
KSP				*e*Sg	**Sg**	**00 20 19.6**	**+2.6**
KSP	**Ksiaz**	**0.61**	**171**	*i* Pgd	**Pg**	**00 20 10.0**	**+0.9**
KSP				e		00 20 17.5	
KSP				*e*Sg	**Sg**	**00 20 18.9**	**+1.9**

PRU				*e*SG	**Sg**	**00 20 54.4**	**-0.3**
	21nm,0.7s						
PRU	**Pruhonice**	**1.78**	**216**	*e*Pn	**Pn**	**00 20 29.2**	**-0.3**
PRU				*e*Sg	**Sg**	**00 20 54.4**	**-0.3**
	21nm,0.7s						
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pn**	**00 20 30.9**	**-0.1**
MORC				*e*Sg	**Sg**	**00 20 55.6**	**-2.6**
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pg**	**00 20 34.0**	**-1.4**
CLL				*i* Sg	**Sg**	**00 21 01.0**	**0.0**
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pn**	**00 20 33.1**	**+0.9**
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PN	**Pn**	**00 20 30.6**	**-2.6**
OKC				*e*PG	**Pg**	**00 20 34.2**	**-2.6**
OKC				*e*SG	**Sg**	**00 21 00.2**	**-3.1**
VRAC	**Vranov**	**2.16**	**172**	*e*Pn	**Pn**	**00 20 34.2**	**-0.4**
VRAC				*e*Sg	**Sg**	**00 21 05.2**	**-1.6**
	8.1nm,0.2s						
KRUC	**Moravsky**	**2.39**	**176**	*e*Pn	**Pn**	**00 20 38.8**	**+0.9**
KRUC	**Moravsky**	**2.39**	**176**	*e*Pg	**Pg**	**00 20 42.2**	**-1.1**
OJC	**Ojcow**	**2.62**	**116**	*e*Pg	**Pg**	**00 20 47.5**	**-0.2**
OJC				*e*Sg	**Sg**	**00 21 23.1**	**+1.5**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN	**Pn**	**00 20 41.3**	**0.0**
NKC				*e*PG	**Pg**	**00 20 47.7**	**-0.4**
NKC				*e*SG	**Sg**	**00 21 24.1**	**+1.8**
	17nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**00 20 44.5**	**+0.4**
KHC				*e*PG	**Pg**	**00 20 50.5**	**-1.5**
KHC				*e*SN	**Sn**	**00 21 17.5**	**-1.5**
KHC				*e*SG	**Sg**	**00 21 29.2**	**+0.4**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*Pn	**Pn**	**00 20 44.4**	**+0.3**
MOX	**Moxa**	**2.97**	**256**	*e*Pg	**Pg**	**00 20 53.7**	**-0.7**
SMOL	**Smolenice**	**3.05**	**164**	*e*PG	**Pg**	**00 20 57.6**	**+1.7**
SMOL				*e*SG	**Sg**	**00 21 39.2**	**+3.9**
WET	**Wettzell**	**3.11**	**224**	*e*Pn	**Pn**	**00 20 48.0**	**+0.2**
NIE	**Niedzica**	**3.34**	**126**	*e*P	**Pg**	**00 20 59.9**	**-1.7**
NIE				*e*S	**Sg**	**00 21 45.6**	**+0.6**
MOA	**Molln**	**3.80**	**200**	⇑*i*Pn	**Pn**	**00 20 57.9**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**00 21 59.6**	**0.0**
	7.5nm,0.6s						
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*PN	**Pn**	**00 20 59.0**	**+1.2**
STHS				*e*PG	**Pg**	**00 21 12.2**	**+1.2**
STHS				*e*SG	**Sg**	**00 22 06.7**	**+6.0**
ARSA	**Arzberg**	**4.22**	**186**	⇑*i*Pn	**Pn**	**00 21 03.7**	**+0.8**
ARSA				⇓*i*Sg	**Sg**	**00 22 12.5**	**-0.4**
	4.2nm,0.7s						

*BER **09** 00:23:26.0±2.2, 6796N×2059E, h0km, ML1.1, Suspected explosion*

HEL 09 00:23:21.2±0.1, 6784N×2021E, h0km, ML1.2, ML2.5(UPP), ML1.1(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	*i* P	Pg	00 23 22.9	-0.7
KUA				*i* S	Sg	00 23 24.6	-0.4
NIKU	**Nikkaluokta**	**0.45**	**274**	*i* P	Pg	00 23 29.1	-0.7
NIKU				*i* S	Sg	00 23 35.3	-0.2
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	00 23 33.7	-0.9
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 23 34.4	-1.0
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 23 35.5	-0.7
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 23 35.5	-1.1
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	00 23 44.3	+0.4
KIF				*e*S	Sg	00 23 59.9	+0.5
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 23 45.9	-1.9
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	00 23 48.3	-1.2
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	Pn	00 23 50.5	-0.6
KTK1				*e*S	Sn	00 24 11.2	-1.5
KTK1				AML	AML	00 24 14.4	
	comp=Z,3.8nm,0.3s						
TRO	**Tromso**	**1.86**	**346**	*e*S	Sn	00 24 18.3	-0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	00 24 03.5	+1.2
SGF				*e*S	Sn	00 24 32.4	-0.6
SGF				*e*SB	Sb	00 24 34.7	-2.1
SGF				MSG		00 24 35.2	
	comp=Z,0.8nm,0.2s						
MOR8	**Moi Rana**	**2.82**	**236**	*e*P	Pn	00 24 09.5	+2.0
MOR8				*e*S	Sn	00 24 45.0	+2.8
KEV	**Kevo**	**3.13**	**49**	*e*S	Sn	00 24 50.8	+1.0

IDC 09 00:38:32.2±73.0, 1758S×17991W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=1313.0km s-min=164.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.54**	**240**	P	P	00 45 47.2	-0.8
	2.3nm,0.8s,baz=73,slow=10.0,SNR=3.7						
WRA	**Warramunga Arr**	**43.28**	**259**	P	P	00 46 36.2	+0.7
	0.4nm,0.5s,baz=91,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**43.50**	**254**	P	P	00 46 38.0	+0.7
	4.9nm,0.5s,baz=87,slow=8.3						
ASPA	**Alice Springs**	**43.50**	**254**	*e*P	P	00 46 37.9	+0.5

*CSEM **09** 00:41:11.9±0.1, 5169N×707E, h1km, ML2.7/8, Error ellipse: s-maj=2.3km s-min=2.0km az=71.0*
*BUG **09** 00:41:11.3, 5169N×709E, h1km, ML1.4*
*LDG **09** 00:41:12.1±0.2, 5167N×709E, h1km, Ml2.8/11, Error ellipse: s-maj=3.0km s-min=2.2km az=52.0, Suspected Mining induced.*
*BNS **09** 00:41:12.2±0.9, 5168N×7.13E, h1km, ML2.2*

BGR 09 00:41:12.3±0.6, 5163N×714E, h1km, ML2.1/4, 1D, Error ellipse: s-maj=11.1km s-min=4.4km az=118.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.17**	**268**	Pg	Pg	00 41 15.2	-0.3
BZER				Sg	Sg	00 41 18.5	+0.8
BUG	**Bochum--Univer**	**0.20**	**156**	⇓*i*Pg	Pg	00 41 17.5	+1.2
BUG				Sg	Sg	00 41 22.0	+3.1
WTSB	**Winterswijk**	**0.40**	**328**	*e*Pg	Pg	00 41 18.0	-1.9
WTSB				*e*Sg	Sg	00 41 22.8	-2.3
WTSB	**Winterswijk**	**0.40**	**328**	*e*Pg	Pg	00 41 18.0	-2.0
WTSB				*e*Sg	Sg	00 41 22.8	-2.4
HOBG	**Hohbusch**	**0.66**	**169**	*e*Pg	Pg	00 41 25.8	+0.9
HOBG				*e*Sg	Sg	00 41 35.2	+1.8
	93nm,0.4s						
BNS	**Bensberg**	**0.67**	**178**	*e*Pg	Pg	00 41 26.1	+1.0
BNS				*e*Sg	Sg	00 41 36.5	+2.8
	114nm,0.4s						
IBBN	**Ibbenburen**	**0.78**	**29**	*e*Sg	Sg	00 41 37.7	+0.3
STB	**Steinbach**	**1.05**	**190**	*e*Pg	Pg	00 41 32.8	+0.3
STB				*e*Sg	Sg	00 41 48.4	+2.3
	50nm,0.3s						
KLL	**Kalltalsperre**	**1.11**	**208**	*e*Pg	Pg	00 41 33.5	-0.2
KLL				*e*Sg	Sg	00 41 49.3	+1.3
	43nm,0.3s						
HGN	**Heimansgroeve**	**1.15**	**222**	*e*Pg	Pg	00 41 33.8	-0.6
	15nm,0.4s,baz=40						
HGN				*e*Sg	Sg	00 41 49.8	+0.5
HILG	**Hillesheim**	**1.37**	**192**	*e*Pg	Pg	00 41 38.0	-0.6
BGG	**Burgeitz**	**1.43**	**175**	*e*Pg	Pg	00 41 38.8	-0.9
TNS	**Taunus Mts**	**1.63**	**149**	*e*Pg	Pg	00 41 42.8	-0.9
	SNR=3.9						
TNS				*e*Sg	Sg	00 42 05.0	+0.2
CLZ	**Clausthal**	**2.02**	**83**	*e*Pg	Pg	00 41 49.1	-2.0
	SNR=3.6						
CLZ				*e*Sg	Sg	00 42 16.2	-1.2
WLF	**Walferdange**	**2.06**	**198**	*e*Pg	Pg	00 41 52.0	+0.1
	SNR=1.6						
WLF				*e*Sg	Sg	00 42 16.5	-2.1
GIVF	**Givet**	**2.12**	**225**	*e*Pn	Pn	00 41 46.7	-2.2
GIVF	**Givet**	**2.12**	**225**	*e*Pg	Pg	00 41 52.1	-0.8
GIVF				*e*Sn	Sn	00 42 12.5	-3.3
GIVF				*e*Sg	Sg	00 42 19.0	-1.4
	15nm,0.3s						
GIVF	**Givet**	**2.12**	**225**	*e*Pg	Pg	00 41 52.1	-0.8
GIVF				*e*Sn	Sn	00 42 12.5	-3.3
GIVF				*e*Sg	Sg	00 42 19.0	-1.4
	7.3nm,0.3s						
BAIF	**Baives**	**2.43**	**231**	*e*Pn	Pn	00 41 51.1	-2.1
BAIF	**Baives**	**2.43**	**231**	*e*Pg	Pg	00 41 57.5	-1.4
BAIF				*e*Sn	Sn	00 42 19.4	-4.2
BAIF				*e*Sg	Sg	00 42 28.4	-2.1
	4.2nm,0.2s						
BAIF	**Baives**	**2.43**	**231**	*e*Pg	Pg	00 41 57.5	-1.4
BAIF				*e*Sn	Sn	00 42 19.4	-4.2
BAIF				*e*Sg	Sg	00 42 28.4	-2.1
	2.1nm,0.2s						
RFYF	**Reffroy**	**3.19**	**200**	*e*Pn	Pn	00 42 01.7	-1.9
	baz=19						
RFYF				*e*Sg	Sg	00 42 53.0	-1.7
	18nm,0.6s,baz=22						
RFYF	**Reffroy**	**3.19**	**200**	*e*Pn	Pn	00 42 01.7	-1.9
RFYF				*e*Sg	Sg	00 42 53.0	-1.7
	8.9nm,0.6s						
CDF	**Champ du Feu**	**3.22**	**178**	*e*Pn	Pn	00 42 02.6	-1.4
CDF				*e*Sn	Sn	00 42 40.3	-2.7
CDF				*e*Sg	Sg	00 42 54.2	-1.6
	7.4nm,0.5s						
CDF	**Champ du Feu**	**3.22**	**178**	*e*Pn	Pn	00 42 02.6	-1.4
CDF				*e*Sn	Sn	00 42 40.3	-2.7
CDF				*e*Sg	Sg	00 42 54.2	-1.6
	3.7nm,0.5s						
MEZF	**Maizieres J'vi**	**3.41**	**204**	*e*Pn	Pn	00 42 04.6	-2.0
	baz=31						
MEZF				*e*Sg	Sg	00 43 00.3	-1.4
	4.8nm,0.4s						
MEZF	**Maizieres J'vi**	**3.41**	**204**	*e*Pn	Pn	00 42 04.6	-2.0
MEZF				*e*Sg	Sg	00 43 00.3	-1.4
	2.4nm,0.4s						
HAU	**Haudompre**	**3.66**	**188**	*e*Pn	Pn	00 42 08.5	-1.6
HAU				*e*Sg	Sg	00 43 08.2	-1.8
	1.7nm,0.2s						
HAU	**Haudompre**	**3.66**	**188**	*e*Pn	Pn	00 42 08.5	-1.6
HAU				*e*Sg	Sg	00 43 08.2	-1.8
	0.9nm,0.2s						
SFTF	**Sexfontaines**	**3.68**	**202**	*e*Sg	Sg	00 43 08.4	-2.3
	4.1nm,0.3s						
SFTF	**Sexfontaines**	**3.68**	**202**	*e*Sg	Sg	00 43 08.4	-2.3
	2.0nm,0.3s						
HINF	**Hinteralfeld**	**3.82**	**183**	*e*Pn	Pn	00 42 10.4	-1.9
LOR	**Lormes**	**4.86**	**207**	*e*Pn	Pn	00 42 24.4	-2.1
LOR	**Lormes**	**4.86**	**207**	*e*Pg	Pg	00 42 42.4	-3.0
LOR				*e*Sn	Sn	00 43 18.6	-4.8
LOR				*e*Sg	Sg	00 43 45.1	-3.3
	1.8nm,0.3s,baz=29						
LOR	**Lormes**	**4.86**	**207**	*e*Pg	Pg	00 42 42.4	-3.0
LOR				*e*Sn	Sn	00 43 18.6	-4.8
LOR				*e*Sg	Sg	00 43 45.1	-3.3
	0.9nm,0.3s						
CABF	**La Chapelle**	**5.07**	**188**	*e*Pn	Pn	00 42 28.4	-1.0
SSF	**Saint Saulge**	**5.15**	**209**	*e*Pn	Pn	00 42 28.7	-1.8
SSF	**Saint Saulge**	**5.15**	**209**	*e*Pg	Pg	00 42 47.8	-3.2
SMF	**Signal de Mont**	**5.43**	**205**	*e*Pn	Pn	00 42 32.7	-1.8
AVF	**Avril sur Loir**	**5.44**	**209**	*e*Pn	Pn	00 42 28.7	-5.8
LDF	**La Druitiere**	**5.57**	**240**	*e*Pn	Pn	00 42 34.2	-2.1
FLN	**La Foliniere**	**5.67**	**243**	*e*Pn	Pn	00 42 35.6	-2.1
	baz=56						
BGF	**Bois d'Agland**	**5.80**	**211**	*e*Pn	Pn	00 42 37.3	-2.2
GRR	**Gorron**	**6.09**	**241**	*e*Pn	Pn	00 42 41.2	-2.2
GRR				*e*Sn	Sn	00 43 46.7	-7.0
TCF	**Toulx Ste Croi**	**6.25**	**213**	*e*Pn	Pn	00 42 43.4	-2.3
SGMF	**Saint Gilles**	**7.11**	**245**	*e*Pn	Pn	00 42 54.1	-3.3
ROSF	**Rostrenen**	**7.48**	**248**	*e*Pn	Pn	00 42 59.4	-3.1
QUIF	**Quistinic**	**7.63**	**245**	*e*Pn	Pn	00 43 01.3	-3.4

*NEIC **09** 01:01:00.0, 4277N×1278E, h8km, ML3.1(ROM), After ROM.*
*IDC **09** 01:01:07.2±1.6, 4280N×1302E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/20, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=39.1km s-min=16.9km az=93.0*
*ISCJB **09** 01:01:07.2±0.2, 4275N±001×1272E±002, h12km±2km, mb3.4/2, Error ellipse: s-maj=2.7km s-min=2.4km az=162.8*
*CSEM **09** 01:01:07.2±0.0, 4276N×1279E, h12km, ML3.8/5, Error ellipse: s-maj=1.0km s-min=0.7km az=71.0*
*ROM **09** 01:01:07.7±0.2, 4276N×1280E, h7km±3km, Md3.3/7, Ml3.1/25, Error ellipse: s-maj=2.2km s-min=1.7km az=109.0*
*LDG **09** 01:01:08.9±0.1, 4272N×1290E, h10km, Ml2.9/7, Error ellipse: s-maj=4.4km s-min=3.0km az=66.0*

ISC 09 01:01:08.1±0.2, 4276N±001×1273E±002, h4km±2km, n92, σ1§05/141, mb3.4/2, 13C-15D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.28**	**124**	Pg	**Pg**	**01 01 13.4**	**0.0**
LNSS				Sg	**Sg**	**01 01 17.4**	**+0.3**
	9μm,0.3s						
NRCA	**Norcia**	**0.29**	**75**	⇑*i*Pg	**Pg**	**01 01 13.3**	**-0.5**
MNS	**Montasola**	**0.37**	**186**	Pg	**Pg**	**01 01 15.6**	**+0.3**
MNS				Sg	**Sg**	**01 01 21.8**	**+1.6**
	934nm,0.5s						
SNTG	**Esanatoglia**	**0.52**	**17**	Pg	**Pg**	**01 01 17.4**	**-0.7**
SNTG				Sg	**Sg**	**01 01 25.3**	**+0.4**
	180nm,0.2s						
MURB	**Monte Urbino**	**0.53**	**344**	Pg	**Pg**	**01 01 18.3**	**0.0**
MURB				Sg	**Sg**	**01 01 28.2**	**+3.1**
	2μm,0.3s						
CAMP	**Campotosto**	**0.55**	**114**	Pg	**Pg**	**01 01 17.8**	**-0.8**
CAMP				Sg	**Sg**	**01 01 25.8**	**+0.1**
	1μm,0.5s						
FIAM	**Fiamignano**	**0.57**	**149**	Pg	**Pg**	**01 01 18.2**	**-0.8**
FIAM				Sg	**Sg**	**01 01 26.8**	**+0.5**
	3μm,0.7s						
SACS	**San Casciano d**	**0.61**	**279**	Pg	**Pg**	**01 01 20.3**	**+0.5**
	806nm,0.8s						
AQU	**L'Aquila**	**0.64**	**129**	Pg	**Pg**	**01 01 19.5**	**-0.9**
AQU				Sg	**Sg**	**01 01 30.0**	**+1.3**
TERO	**Teramo**	**0.66**	**101**	Pg	**Pg**	**01 01 19.4**	**-1.3**
TERO				Sg	**Sg**	**01 01 29.6**	**+0.3**
	985nm,0.5s						
CING	**Cingoli**	**0.71**	**29**	Pg	**Pg**	**01 01 20.8**	**-0.9**
CING				Sg	**Sg**	**01 01 31.5**	**+0.7**
	489nm,0.4s						
MTCE	**Montecelio**	**0.73**	**179**	Pg	**Pg**	**01 01 21.6**	**-0.6**
MTCE				Sg	**Sg**	**01 01 32.9**	**+1.2**
	762nm,0.4s						
ARV	**Arcevia**	**0.76**	**12**	Pg	**Pg**	**01 01 21.7**	**-0.9**
	146nm,0.4s						
ARVD	**Arcevia**	**0.76**	**12**	Pg	**Pg**	**01 01 22.1**	**-0.5**
ARVD				Sg	**Sg**	**01 01 33.5**	**+1.0**
	551nm,1.1s						
PIEI	**Pieia**	**0.79**	**350**	Pg	**Pg**	**01 01 23.0**	**-0.3**
	122nm,0.4s						
FAGN	**Fagnano**	**0.80**	**128**	Pg	**Pg**	**01 01 22.9**	**-0.5**
	3μm,0.4s						
CERT	**Cerreto**	**0.83**	**167**	Pg	**Pg**	**01 01 23.0**	**-1.0**
CERT				Sg	**Sg**	**01 01 35.9**	**+1.2**
	1μm,0.4s						
BADI	**Badiali**	**0.83**	**335**	Pg	**Pg**	**01 01 24.9**	**+0.8**
	451nm,0.6s						
TOLF	**Tolfa**	**0.88**	**218**	Pg	**Pg**	**01 01 25.0**	**+0.1**
TOLF				Sg	**Sg**	**01 01 38.7**	**+2.4**
	782nm,0.4s						
PTQR	**Pietraquaria**	**0.89**	**146**	Pg	**Pg**	**01 01 24.2**	**-0.9**
	273nm,0.6s						
ARCI	**Arcidosso**	**0.93**	**276**	Pg	**Pg**	**01 01 26.6**	**+0.7**
	175nm,0.5s						
FSSB	**Fossombrone**	**0.94**	**2**	Pg	**Pg**	**01 01 25.9**	**-0.2**
	195nm,0.4s						
ROM9	**Roma**	**0.94**	**190**	Pg	**Pg**	**01 01 27.1**	**+1.0**
	460nm,0.6s						
MA9	**Marino**	**0.99**	**183**	Pg	**Pg**	**01 01 26.9**	**-0.1**
	421nm,0.4s						
RDP	**Rocca di Papa**	**1.00**	**181**	Pg	**Pg**	**01 01 27.3**	**+0.1**
	863nm,0.5s						
AOI	**Ancona**	**1.02**	**39**	Pg	**Pg**	**01 01 26.6**	**-1.0**
	351nm,0.8s						
CRE	**Caprese Michel**	**1.03**	**327**	Pg	**Pg**	**01 01 28.2**	**+0.3**
	66nm,0.3s						
LAV9	**Lanuvio**	**1.08**	**181**	Pg	**Pg**	**01 01 29.3**	**+0.5**
	618nm,0.2s						
VVLD	**Villa Vallelon**	**1.10**	**143**	Pg	**Pg**	**01 01 29.8**	**+0.5**
	1μm,0.7s						
INTR	**Introdacqua**	**1.15**	**130**	Pg	**Pg**	**01 01 27.2**	**-2.9**
	2μm,0.9s						
MAON	**Monte Argentar**	**1.23**	**255**	Pg	**Pg**	**01 01 30.2**	**-1.4**
	185nm,0.9s						
GIUL	**Giuliano Di Ro**	**1.26**	**162**	Pg	**Pg**	**01 01 30.7**	**-1.5**
	232nm,0.6s						
CSNT	**Castellina Chi**	**1.27**	**305**	Pg	**Pg**	**01 01 32.5**	**0.0**
	131nm,0.7s						
SFI	**Santa Sofia**	**1.32**	**331**	Pg	**Pg**	**01 01 33.5**	**+0.2**
	276nm,0.9s						
GRFL	**Gerfalco**	**1.35**	**287**	⇓*i*Pg	**Pg**	**01 01 33.1**	**-0.8**
	29nm,0.6s						
VMG	**Vicchio**	**1.48**	**325**	Pg	**Pg**	**01 01 36.9**	**+0.4**
	446nm,0.7s						
RNI2	**Rionero Sannit**	**1.49**	**134**	Pg	**Pg**	**01 01 36.7**	**0.0**
MIDA	**Miranda**	**1.59**	**134**	Pg	**Pg**	**01 01 37.3**	**-1.2**
	395nm,0.9s						
TRIV	**Trivento**	**1.67**	**126**	Pg	**Pg**	**01 01 40.2**	**0.0**
VAGA	**Valle Agricola**	**1.75**	**140**	Pg	**Pg**	**01 01 40.8**	**-0.8**
PII	**Pisa**	**1.88**	**302**	Pg	**Pg**	**01 01 43.4**	**-0.7**
	341nm,2.0s						
GSCL	**Gusciola**	**2.23**	**316**	Pg	**Pg**	**01 01 47.6**	**-3.2**
NVLJ	**Novalja**	**2.38**	**40**	*i* Pn	**Pn**	**01 01 47.8**	**0.0**
NVLJ				*i* Sn	**Sn**	**01 02 17.2**	**-0.3**
NVLJ	**Novalja**	**2.38**	**40**	*i* Pn	**Pn**	**01 01 47.8**	**-0.1**
NVLJ				*i* Sn	**Sn**	**01 02 17.1**	**-0.4**
PGF	**Pioggiola**	**2.76**	**267**	*e*Pn	**Pn**	**01 01 52.7**	**-0.3**
JAVS	**Javornik**	**3.28**	**17**	*i* Pn	**Pn**	**01 02 00.2**	**0.0**
JAVS				*e*Sn	**Sn**	**01 02 42.1**	**+2.5**
BOJS	**Bojanci**	**3.29**	**33**	*i* Pn	**Pn**	**01 02 01.8**	**+1.5**
BOJS				*e*Sn	**Sn**	**01 02 40.6**	**+0.7**
VOY	**Vojsko**	**3.38**	**14**	*e*Pn	**Pn**	**01 02 02.8**	**+1.2**
VOY				*e*Sn	**Sn**	**01 02 41.5**	**-0.6**
VISS	**Visnje**	**3.40**	**26**	*e*Pn	**Pn**	**01 02 03.3**	**+1.4**
VISS				*e*Sn	**Sn**	**01 02 45.2**	**+2.6**
ROBS	**Robic**	**3.53**	**9**	*e*Pn	**Pn**	**01 02 03.4**	**-0.3**
ROBS				*i* Sn	**Sn**	**01 02 44.5**	**-1.3**
ROBS	**Robic**	**3.53**	**9**	*e*Pn	**Pn**	**01 02 03.3**	**-0.4**
OBKA	**Obir**	**3.97**	**18**	⇑*i*Pn	**Pn**	**01 02 09.2**	**-0.5**
OBKA				⇑*i*Sn	**Sn**	**01 02 56.0**	**-0.7**
SBF	**Sospel**	**4.02**	**288**	*e*Pn	**Pn**	**01 02 10.4**	**0.0**
SBF				*e*Sn	**Sn**	**01 02 56.2**	**-1.7**
	9.5nm,0.4s						
SBF	**Sospel**	**4.02**	**288**	*e*Pn	**Pn**	**01 02 10.4**	**0.0**
SBF				*e*Sn	**Sn**	**01 02 56.2**	**-1.7**
	4.8nm,0.4s						
KBA	**Koelnbreinsper**	**4.34**	**6**	⇓*i*Pn	**Pn**	**01 02 15.1**	**+0.2**
KBA				⇑*i*Sn	**Sn**	**01 03 06.3**	**+0.4**
KBA	**Koelnbreinsper**	**4.34**	**6**	⇓Pn	**Pn**	**01 02 15.1**	**+0.2**
KBA				Sn	**Sn**	**01 03 06.3**	**+0.4**
DAVOX	**Davos**	**4.51**	**334**	Pn	**Pn**	**01 02 18.9**	**+1.8**
	1.4nm,0.3s,baz=168,slow=17,SNR=14						
DAVOX				Sn	**Sn**	**01 03 15.1**	**+5.3**
	0.9nm,0.3s,baz=36,slow=9.1,SNR=7.0						
FRF	**La Foret Royal**	**4.52**	**282**	*e*Pn	**Pn**	**01 02 16.5**	**-0.8**
FRF				*e*Sn	**Sn**	**01 03 08.2**	**-2.1**
	0.7nm,0.3s						
FRF	**La Foret Royal**	**4.52**	**282**	*e*Pn	**Pn**	**01 02 16.5**	**-0.8**
FRF				*e*Sn	**Sn**	**01 03 08.2**	**-2.1**
	0.3nm,0.3s						
WTTA	**Wattenberg**	**4.57**	**351**	⇓*i*Pn	**Pn**	**01 02 18.3**	**+0.3**
WTTA				⇓*i*Sn	**Sn**	**01 03 12.3**	**+0.8**
WTTA	**Wattenberg**	**4.57**	**351**	⇓Pn	**Pn**	**01 02 18.3**	**+0.3**
WTTA				Sn	**Sn**	**01 03 12.3**	**+0.8**
LMR	**La Mourre**	**4.60**	**279**	*e*Pn	**Pn**	**01 02 17.4**	**-0.9**
LMR				*e*Sn	**Sn**	**01 03 09.3**	**-2.8**
	0.8nm,0.3s						
LMR	**La Mourre**	**4.60**	**279**	*e*Pn	**Pn**	**01 02 17.4**	**-0.9**
LMR				*e*Sn	**Sn**	**01 03 09.3**	**-2.8**
	0.4nm,0.3s						
WATA	**Walderalm**	**4.65**	**350**	⇓*i*Pn	**Pn**	**01 02 19.5**	**+0.5**
WATA				⇑*i*Sn	**Sn**	**01 03 14.8**	**+1.4**
WATA	**Walderalm**	**4.65**	**350**	⇓Pn	**Pn**	**01 02 19.5**	**+0.5**
WATA				Sn	**Sn**	**01 03 14.8**	**+1.4**
MOTA	**Moosalm**	**4.73**	**346**	⇓Sn	**Sn**	**01 03 16.5**	**+1.1**
MOTA	**Moosalm**	**4.73**	**346**	⇑*i*Pn	**Pn**	**01 02 20.7**	**+0.6**
MOTA				⇑*i*Sn	**Sn**	**01 03 13.1**	**-2.3**
MOTA	**Moosalm**	**4.73**	**346**	⇑Pn	**Pn**	**01 02 20.7**	**+0.6**
MOTA				Sn	**Sn**	**01 03 16.5**	**+1.1**
MBDF	**Montbardon**	**4.75**	**297**	*e*Pn	**Pn**	**01 02 20.9**	**+0.6**
ARSA	**Arzberg**	**4.91**	**23**	⇓*i*Pn	**Pn**	**01 02 22.9**	**+0.3**
ARSA				⇓*i*Sn	**Sn**	**01 03 17.8**	**-2.0**
ARSA	**Arzberg**	**4.91**	**23**	⇓Pn	**Pn**	**01 02 22.9**	**+0.3**
ARSA				Sn	**Sn**	**01 03 17.8**	**-2.0**
DAVA	**Damuels**	**4.96**	**337**	⇑*i*Pn	**Pn**	**01 02 24.3**	**+1.0**
DAVA				⇑*i*Sn	**Sn**	**01 03 23.4**	**+2.3**
DAVA	**Damuels**	**4.96**	**337**	⇑Pn	**Pn**	**01 02 24.2**	**+0.9**
DAVA				Sn	**Sn**	**01 03 23.4**	**+2.4**
DAVA	**Damuels**	**4.96**	**337**	⇑Pn	**Pn**	**01 02 24.2**	**+1.0**
DAVA				Sn	**Sn**	**01 03 23.4**	**+2.3**
LPG	**La Plagne**	**5.10**	**305**	*e*Pn	**Pn**	**01 02 26.4**	**+1.2**
LPL	**La Plagne**	**5.12**	**305**	*e*Pn	**Pn**	**01 02 25.5**	**0.0**
MOA	**Molln**	**5.21**	**11**	⇓*i*Pn	**Pn**	**01 02 26.3**	**-0.4**
MOA				⇑*i*Sn	**Sn**	**01 03 26.5**	**-0.7**
MOA	**Molln**	**5.21**	**11**

MAN 09 01:37:44.5, 782N×12386E, h42km, mb2.0, ML3.7, MS5.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.47**	**273**	*e*P	Pn	01 37 56.6	+1.6
PAGZ				*e*S	Sn	01 38 05.7	+3.4
BUKP	**Musuan**	**1.19**	**87**	*e*P	Pn	01 38 05.5	+0.9
BUKP				*e*S	Sn	01 38 18.2	-1.4
SNPH	**Sibulan**	**1.63**	**338**	*e*P	Pn	01 38 11.0	+0.3
SNPH				*e*S	Sn	01 38 32.0	+1.5

IDC 09 01:44:15.9±2.7, 754S×10730E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=169.7km s-min=27.1km az=56.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.06**	**132**	P	P	01 51 53.0	+0.1
	4.1nm,0.5s,baz=306,slow=8.1,SNR=7.4						
SONM	**Songino Array**	**55.14**	**359**	P	P	01 53 50.1	+0.1
	0.1nm,0.4s,baz=146,slow=5.2,SNR=3.5						
SONM				PcP	PcP	01 54 51.8	+0.6
	0.8nm,0.4s,baz=176,slow=3.7,SNR=21						
MKAR	**Makanchi Array**	**58.49**	**340**	P	P	01 54 13.1	-0.7
	0.2nm,0.5s,baz=151,slow=8.2,SNR=4.9						
BVAR	**Borovoye Array**	**67.98**	**337**	P	P	01 55 17.1	+0.4
	0.3nm,0.3s,baz=138,slow=8.3,SNR=5.5						
TXAR	**Lajitas Array**	**143.69**	**49**	PKP	PKPdf	02 03 52.3	-0.5
	0.3nm,0.6s,baz=240,slow=2.0,SNR=6.3						

*NEIC **09** 01:53:02.3, 3147S×6880W, h124km, MD3.5(GUC), After GUC.*

GUC 09 01:53:02.3±0.8, 3147S×6880W, h124km±35km, MD3.5, ML3.2, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.91**	**278**	*e*P	Pn	01 53 35.1	+0.3
CMCH				*i* S	Sn	01 54 00.6	+1.0
CMCH				AMP		01 54 01.7	
	comp=N,459nm,0.6s						
CMCH	**Combarbala**	**1.91**	**278**	*e*P	Pn	01 53 35.1	+0.3
CMCH				*i* S	Sn	01 54 00.6	+1.0
JACH	**Jahuel**	**1.94**	**231**	*e*P	Pn	01 53 35.6	+0.4
JACH				*i* S	Sn	01 54 01.0	+0.6
FCH	**Farellones**	**2.24**	**214**	*e*P	Pn	01 53 39.9	+1.0
FCH				*i* S	Sn	01 54 09.1	+2.2
FCH				AMP		01 54 16.3	
	comp=E,65nm,0.2s						
RCDM	**Rinconada Maip**	**2.63**	**220**	*e*P	Pn	01 53 45.0	+1.1
RCDM				*i* S	Sn	01 54 16.5	+0.6
RCDM				AMP		01 54 18.6	
	comp=N,92nm,0.1s						
RCDM	**Rinconada Maip**	**2.63**	**220**	*e*P	Pn	01 53 45.0	+1.1
RCDM				*i* S	Sn	01 54 16.5	+0.6
TACH	**Talagante**	**2.83**	**219**	*e*P	Pn	01 53 47.0	+0.6
CHCH	**Chadas Angostu**	**2.91**	**212**	⇓*i*P	Pn	01 53 48.2	+0.7

*IDC **09** 01:58:04.0±0.8, 1059S×16182E, h27km±4km, mb3.9/9, mb1 4.2/13, mb1mx4.1/17, mbtmp4.2/13, ML4.1/4, MS3.3/4, Ms1 3.3/4, ms1mx3.2/19, Error ellipse: s-maj=22.0km s-min=18.3km az=110.0*

*NEIC **09** 01:58:04.2±0.5, 1055S×16187E, mb4.1/4, Error ellipse: s-maj=11.2km s-min=9.9km az=99.0*

*ISCJB **09** 01:58:05.7±1.8, 1069S±008×1618E±0.1, h59km±15km, mb4.0/12, MS3.6/1, Error ellipse: s-maj=18.4km s-min=11.4km az=133.0*

ISC 09 01:58:06.8±1.5, 1064S±008×1619E±01, h51km±13km, h30km±3.1km: pP-P, n23, σ0§97/23, mb4.0/12, MS3.6/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.23**	**302**	Pn	**Pn**	**01 58 40.1**	**-1.2**
	207nm,0.3s,baz=147,slow=2.3,SNR=23						
HNR				Sn	**Sn**	**01 59 09.2**	**+1.5**
	280nm,0.3s,baz=318,slow=4.6,SNR=10						
DZM	**Mont Dzumac**	**12.19**	**159**	Pn	**Pn**	**02 00 57.6**	**-0.1**
	1.1nm,0.3s,baz=146,slow=22,SNR=13						
DZM				Sn	**Sn**	**02 03 06.3**	**-5.7**
	0.4nm,0.3s,baz=253,slow=20,SNR=3.8						
DZM				LR	LR	02 05 02.4	
	comp=Z,132nm,21.8s,baz=12,slow=34						
PMG	**Port Moresby**	**14.53**	**274**	Pn	**Pn**	**02 01 28.0**	**-1.3**
	0.8nm,0.3s,baz=120,slow=8.1,SNR=2.3						
PMG				LR	LR	02 05 07.9	
	comp=Z,44nm,21.4s,baz=207,slow=29						
CTA	**Charters Tower**	**17.72**	**236**	*e*P	**Pn**	**02 02 11.2**	**+1.3**
	10nm,0.8s						
CTA	**Charters Tower**	**17.72**	**236**	P	**Pn**	**02 02 10.1**	**+0.3**
	0.7nm,0.3s,baz=76,slow=13,SNR=14						
CTA				LR	LR	02 07 46.1	
	comp=Z,89nm,21.0s,baz=50,slow=33						
CTAO	**Charters Tower**	**17.72**	**236**	*e*Pn	**Pn**	**02 02 11.2**	**+1.4**
	13nm,0.8s						
AFI	**Afiamalu**	**25.96**	**100**	LR	LR	02 11 45.8	
	comp=Z,187nm,21.7s,MS3.6,baz=292,slow=32						
WRAB	**Tennant Creek**	**28.06**	**247**	*e*P	**P**	**02 03 53.5**	**+0.3**
	3.7nm,0.9s,mb4.0						
WRAB				*e*pP	pP	02 03 59.8	-6.6
WRA	**Warramunga Arr**	**28.07**	**247**	P	**P**	**02 03 51.8**	**-1.6**
	1.4nm,0.7s,mb3.7,baz=75,slow=9.4,SNR=5.7						
STKA	**Stephens Creek**	**28.24**	**219**	P	**P**	**02 03 56.6**	**+1.7**
	3.2nm,0.9s,mb4.0,baz=27,slow=14,SNR=2.8						
MBWA	**Marble Bar**	**41.73**	**250**	*e*P	**P**	**02 05 50.9**	**+0.2**
	2.1nm,0.4s,mb4.1						
MJAR	**Matsushiro Arr**	**51.94**	**336**	P	**P**	**02 07 10.9**	**+0.5**
	1.0nm,0.4s,mb4.1,baz=160,slow=9.2,SNR=3.1						
YHNB	**Yeheng**	**52.83**	**312**	P	**P**	**02 07 17.0**	**-0.1**
TATO	**Taipei**	**52.93**	**313**	P	**P**	**02 07 17.5**	**-0.3**
KS15	**Wonju Array Si**	**57.46**	**328**	P	**P**	**02 07 51.2**	**+0.7**
VNDA	**Vanda**	**66.87**	**180**	P	**P**	**02 08 53.1**	**-0.4**
	4.3nm,0.8s,mb4.5,baz=356,slow=7.6,SNR=5.6						
ULN	**Ulaanbaatar**	**75.76**	**325**	*e*P	**P**	**02 09 46.0**	**-1.1**
	0.5nm,0.4s,mb3.8						
ULN				*e*pP	pP	02 09 56.5	-5.2
SONM	**Songino Array**	**76.11**	**325**	P	**P**	**02 09 49.0**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=143,slow=6.2,SNR=5.4						
SONM				pP	pP	02 09 58.0	-5.8
	1.3nm,0.6s,baz=139,slow=5.4,SNR=5.6						
ILAR	**Eielson Array**	**84.38**	**20**	P	**P**	**02 10 33.6**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=243,slow=5.5,SNR=12						
NVAR	**Mina Array Bea**	**88.70**	**51**	P	**P**	**02 10 56.5**	**+1.8**
	0.8nm,0.6s,mb4.2,baz=240,slow=8.6,SNR=8.1						
NVAR				sP	sP	02 11 07.9	-7.4
	0.1nm,0.4s,baz=262,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**90.63**	**317**	P	**P**	**02 11 02.4**	**-1.3**
	0.5nm,0.4s,mb4.2,baz=91,slow=6.9,SNR=16						
MKAR				pP	pP	02 11 12.2	-6.5
	0.6nm,0.5s,baz=86,slow=6.2,SNR=7.1						
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**	**02 11 29.9**	**-0.2**
	0.3nm,0.6s,mb3.9,baz=262,slow=4.8,SNR=11						
ARCES	**ARCESS Array B**	**114.95**	**344**	PKP	PKiKP	02 16 40.3	-1.6
	2.5nm,0.9s,baz=45,slow=2.7,SNR=6.8						

*MOS **09** 02:19:29.3±1.1, 5538N×11081E, h7km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=9.5km az=69.5*

BYKL 09 02:19:30.4±0.3, 5535N×11086E, h3km±18km, 7C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.51**	**160**	⇓*i*Pg	Pg	02 19 39.6	-0.5
	356nm,0.5s						
YLYR				⇑*i*Pg	Pg	02 19 39.6	-0.5
	139nm,0.5s						
YLYR				⇑*i*Pg	Pg	02 19 39.6	-0.5
	326nm,0.5s						
YLYR				*e*Sg	Sg	02 19 46.6	-0.1
YLYR				Pmax			
	257nm,0.7s						
YLYR				Smax			
	1μm,0.7s						
YLYR	**Ulyunkhan**	**0.51**	**160**	⇑*i*PG	Pg	02 19 39.6	-0.5
YLYR				*e*		02 19 46.2	
YLYR				pmax	pmax		
	comp=Z,229nm,0.2s						
YLYR				smax			
	comp=E,986nm,0.5s						
KMO	**Kumora**	**0.57**	**20**	⇑*i*Pg	Pg	02 19 40.4	-1.0
KMO				*e*Pb	Pg	02 19 42.1	+0.7
KMO				*e*Sg	Sg	02 19 48.1	-0.7
KMO				max			
	comp=E,307nm,0.3s						
KMO				Smax			
	comp=E,2μm,0.9s						
KMO	**Kumora**	**0.57**	**20**	*e*PG	Pg	02 19 40.5	-0.9
KMO				*e*		02 19 48.1	
KMO				pmax	pmax		
	comp=Z,307nm,0.3s						
KMO				smax			
	comp=N,2μm,1.0s						
NIZ	**Nizh Angarsk**	**0.86**	**300**	⇑*i*Pg	Pg	02 19 46.2	-0.7
NIZ				*e*Sg	Sg	02 19 58.3	+0.2
NIZ				*e*		02 20 05.4	
NIZ				Pmax			
	comp=N,80nm,0.2s						
NIZ				max			
	comp=N,651nm,0.3s						
NIZ	**Nizh Angarsk**	**0.86**	**300**	*e*PG	Pg	02 19 46.2	-0.7
NIZ				*e*		02 19 58.0	
NIZ				pmax	pmax		
	comp=Z,60nm,0.3s						
NIZ				smax			
	comp=E,500nm,0.3s						
YOA	**Uoyan**	**0.92**	**32**	*e*Pg	Pg	02 19 47.6	-0.5
YOA				*e*Sg	Sg	02 20 00.2	+0.1
YOA				Pmax			
	comp=E,346nm,0.2s						
YOA				Smax			
	comp=E,2μm,0.4s						
YOA	**Uoyan**	**0.92**	**32**	⇑*i*PG	Pg	02 19 47.4	-0.7
YOA				*i*		02 20 00.2	
YOA				pmax	pmax		
	comp=Z,190nm,0.3s						
YOA				smax			
	comp=N,1μm,0.4s						
UKT	**Uakit**	**1.58**	**84**	*e*Pn	Pn	02 19 58.5	-0.8
UKT				*e*Pg	Pg	02 19 59.0	-1.8
UKT				*e*		02 20 01.8	
UKT				*e*Sg	Sg	02 20 19.7	-1.6
UKT				*e*		02 20 22.5	
UKT				max			
	comp=N,103nm,0.7s						
UKT				max			
	comp=N,618nm,0.3s						
UKT	**Uakit**	**1.58**	**84**	*e*PG	Pg	02 19 58.5	-2.3
UKT				*e*		02 20 19.6	
UKT				pmax	pmax		
	comp=Z,82nm,0.3s						
UKT				smax			
	comp=N,436nm,0.5s						
SVKR	**Severomuysk**	**1.71**	**62**	*e*Pg	Pg	02 20 01.1	-2.1
SVKR				*e*Sg	Sg	02 20 25.0	-0.3
SVKR				Pmax			
	comp=N,302nm,0.5s						
SVKR				Smax			
	comp=N,2μm,0.8s						
SVKR	**Severomuysk**	**1.71**	**62**	*e*PN	Pn	02 20 01.4	+0.3
SVKR				*e*		02 20 02.1	
SVKR				*e*		02 20 24.9	
SVKR				pmax	pmax		
	comp=Z,300nm,0.4s						
SVKR				smax			
	comp=N,1μm,0.5s						
SYVR	**Suvo**	**1.77**	**197**	*e*Pg	Pg	02 20 02.2	-2.1
SYVR				*e*Sg	Sg	02 20 26.6	-0.6
SYVR				Pmax			
	comp=N,85nm,1.0s						
SYVR				Smax			
	comp=N,468nm,0.5s						
SYVR	**Suvo**	**1.77**	**197**	*e*PN	Pn	02 20 02.1	+0.2
SYVR				*e*		02 20 26.7	
SYVR				pmax	pmax		
	comp=Z,63nm,0.5s						
SYVR				smax			
	comp=E,453nm,0.5s						
MXMB	**Maximikha**	**2.43**	**212**	*e*Sg	Sg	02 20 47.4	-1.1
MXMB				Smax			
	comp=E,544nm,0.7s						
OGRR	**Ongureny**	**2.56**	**229**	*e*Pn	Pn	02 20 13.8	+1.0
OGRR				*e*Pg	Pg	02 20 16.0	-3.5
OGRR				*e*		02 20 19.2	
OGRR				*e*Sg	Sg	02 20 49.6	-3.0
OGRR				max			
	comp=E,20nm,0.4s						
OGRR				Smax			
	comp=E,152nm,1.1s						
OGRR	**Ongureny**	**2.56**	**229**	*e*PN	Pn	02 20 13.7	+0.9
OGRR				*e*		02 20 17.5	
OGRR				*e*		02 20 49.8	
OGRR				pmax	pmax		
	comp=Z,19nm,0.3s						
OGRR				smax			
	comp=E,121nm,0.4s						
NLYR	**Nelyaty**	**2.96**	**65**	⇑*i*Pn	Pn	02 20 18.5	+0.3
NLYR				*e*		02 20 26.4	
NLYR				*e*Sn	Sn	02 20 53.8	-0.4
NLYR				*e*Sg	Sg	02 21 02.0	-3.4
NLYR				max			
	comp=E,26nm,0.5s						
NLYR				Smax			
	comp=E,176nm,1.1s						
NLYR	**Nelyaty**	**2.96**	**65**	*e*PN	Pn	02 20 18.4	+0.2
NLYR				*e*		02 20 23.1	
NLYR				*e*S	Sn	02 20 53.6	-0.6
NLYR				*e*		02 21 01.7	
NLYR				pmax	pmax		
	comp=Z,25nm,0.5s						
NLYR				smax			
	comp=N,175nm,1.1s						
BOD	**Bodaibo**	**3.02**	**34**	*e*Pn	Pn	02 20 19.5	+0.3
BOD				*e*Pg	Pg	02 20 24.1	-4.3
BOD				Pmax		02 20 24.6	
	comp=N,21nm,0.4s						
BOD				*e*Sn	Sn	02 20 56.4	+0.5
BOD				*e*Sg	Sg	02 21 03.3	-4.3
BOD				Smax		02 21 03.9	
	comp=N,128nm,0.3s						
KELR	**Kotokel**	**3.07**	**213**	*e*Pn	Pn	02 20 20.4	+0.6
KELR				*e*Pg	Pg	02 20 24.9	-4.3
KELR				*e*Sg	Sg	02 21 06.4	-2.6
ZRHB	**Zarechye**	**3.56**	**220**	*e*	Pn	02 20 37.3	+11
ZRHB				*e*Sg	Sg	02 21 22.1	-2.5
ZRHB				max			
ZRHB				Smax			
	comp=N,202nm,1.4s						
TRTB	**Turuntaevo**	**3.67**	**213**	*e*Pn	Pn	02 20 28.7	+0.7
TRTB				*e*Pg	Pg	02 20 35.3	-5.4
TRTB				*e*Sg	Sg	02 21 24.1	-4.1
TRTB				Pmax			
	comp=N,15nm,0.7s						
TRTB				Smax			
	comp=N,75nm,1.5s						
CIT	**Chita**	**3.70**	**153**	*e*Pg	Pg	02 20 35.8	-5.5
CIT				*e*Sg	Sg	02 21 23.5	-5.7
CIT				Pmax			
	comp=N,24nm,0.8s						
CIT				Smax			
	comp=N,89nm,1.4s						
TRG	**Tyrgan**	**3.71**	**228**	*e*Pn	Pn	02 20 29.5	+0.8
TRG				*e*Pg	Pg	02 20 35.7	-5.9
TRG				*e*Sg	Sg	02 21 24.1	-5.7
TRG				Pmax			
	comp=N,7.0nm,0.3s						
TRG				Smax			
	comp=N,48nm,0.3s						
CRS	**Chara**	**4.43**	**66**	*e*Pn	Pn	02 20 38.3	-0.1
CRS				*e*Pg	Pg	02 20 49.6	-5.6
CRS				*e*Sn	Sn	02 21 28.6	-1.9
CRS				*e*Sg	Sg	02 21 48.1	-4.5
CRS				Pmax			
	comp=N,11nm,0.6s						
CRS				Smax			
	comp=N,96nm,2.0s						
CRS	**Chara**	**4.43**	**66**	*e*PN	Pn	02 20 39.2	+0.8
CRS				*e*		02 20 49.8	
CRS				*e*		02 21 48.1	
CRS				pmax	pmax		
	comp=Z,28nm,1.0s						
CRS				smax			
	comp=E,92nm,1.4s						
LSTR	**Listvyanka**	**5.00**	**228**	*e*Sg	Sg	02 22 04.7	-6.4
LSTR				Smax			
	comp=E,35nm,1.3s						
LSTR	**Listvyanka**	**5.00**	**228**	*e*PN	Pn	02 21 01.9	+16
LSTR				*e*		02 22 05.3	
LSTR				pmax	pmax		
	comp=Z,17nm,0.5s						
LSTR				smax			
	comp=N,41nm,1.0s						
TUP	**Tupik**	**5.33**	**96**	*e*Pn	Pn	02 20 50.5	-0.4
TUP				*e*Pg	Pg	02 21 05.7	-6.9
TUP				*e*Sg	Sg	02 22 15.6	-6.0
TUP				Pmax			
	comp=N,8.0nm,0.5s						
TUP				Smax			
	comp=N,117nm,1.6s						
TUP	**Tupik**	**5.33**	**96**	*e*PN	Pn	02 21 06.0	+15
TUP				*e*S	Sn	02 21 50.7	-2.1
TUP				*e*		02 22 15.2	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.3s						
TUP				smax			
	comp=N,79nm,0.7s						
TLY	**Talaya**	**5.66**	**232**	*e*Sg	Sg	02 22 23.0	-9.2
TLY				Smax			
	comp=N,28nm,1.0s						
KPC	**Khapcheranga**	**5.73**	**170**	*e*Pn	Pn	02 20 54.9	-1.5
KPC				*e*Pg	Pg	02 21 13.3	-6.9
KPC				*e*		02 22 06.0	
KPC				*e*Sg	Sg	02 22 27.7	-6.8
KPC				Pmax			
	comp=N,6.0nm,1.4s						
KPC				Smax			
	comp=N,65nm,1.4s						
ARS	**Arshan**	**6.08**	**239**	*e*Pn	Pn	02 21 03.0	+1.8
ARS				*e*		02 21 22.1	
ARS				*e*Sg	Sg	02 22 38.1	-7.6
ARS				max			
	comp=N,10.0nm,0.4s						
ARS				Smax			
	comp=N,90nm,0.9s						
ARS	**Arshan**	**6.08**	**239**	*e*PG	Pg	02 21 22.0	-4.9
ZAK	**Zakamensk**	**6.77**	**226**	*e*Sg	Sg	02 23 02.6	-5.1
ZAK				Smax			
	comp=N,10.0nm,1.1s						
MOY	**Mondy**	**6.94**	**242**	*e*	Pn	02 21 17.1	+4.1
MOY				*e*		02 22 33.2	
MOY				*e*Sg	Sg	02 23 07.0	-6.4
MOY				max			
	comp=N,4.0nm,0.7s						
MOY				Smax			
	comp=N,43nm,1.3s						
ORL	**Orlik**	**7.10**	**251**	*e*Pn	Pn	02 21 17.2	+2.0
ORL				*e*		02 22 37.8	
ORL				*e*Sg	Sg	02 23 10.0	-8.5
ORL				max			
	comp=N,4.0nm,1.1s						
ORL				Smax			
	comp=N,42nm,1.5s						
ORL	**Orlik**	**7.10**	**251**	*e*PN	Pn	02 21 17.4	+2.2
ORL				*e*S	Sn	02 23 11.7	+35
ORL				smax			
	comp=N,29nm,0.7s						

ISC 09 02:19:48.3±3.4, 256S±02×1795E±10, h285km±49km, n10, σ0§64/11, mb3.9/1, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**12.54**	**185**	SN	**S**	**02 24 56.7**	**-0.1**
URZ	**Urewera**	**12.84**	**189**	PN	**Pn**	**02 22 41.2**	**-0.1**
MWZ	**Matawai**	**12.86**	**187**	PN	**Pn**	**02 22 42.1**	**+0.6**
KNZ	**Kokohu**	**13.53**	**186**	PN	**Pn**	**02 22 50.6**	**+1.0**
BKZ	**Black Stump Fm**	**13.82**	**190**	PN	**Pn**	**02 22 52.5**	**-0.6**
BFZ	**Birch Farm**	**15.34**	**189**	PN	**Pn**	**02 23 10.3**	**-0.9**
BFZ				SN	**S**	**02 25 57.3**	**+0.1**
MRZ	**Mangatainoka R**	**15.43**	**191**	PN	**Pn**	**02 23 08.2**	**-4.0**
ASPA	**Alice Springs**	**41.38**	**263**	*e*P	**P**	**02 27 07.7**	**+0.7**
WB2	**Warramunga Arr**	**41.89**	**268**	*e*P	**P**	**02 27 11.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.30**	**267**	*e*P	**P**	**02 28 15.7**	**-0.6**
	3.4nm,0.6s,mb3.9						

IDC 09 02:27:14.0±2.6, 660S×11981E, h0km, mb4.1/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=169.6km s-min=31.0km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.36**	**135**	P	Pn	02 31 41.0	-1.2
	0.2nm,0.3s,baz=316,slow=11,SNR=10						
WRA				S	Sn	02 35 40.2	+20
	0.1nm,0.3s,baz=325,slow=21,SNR=3.6						
SONM	**Songino Array**	**55.48**	**349**	P	P	02 36 50.9	+0.3
	0.9nm,0.5s,baz=165,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**62.71**	**332**	P	P	02 37 40.9	+0.1
	1.6nm,0.6s,baz=140,slow=7.9,SNR=25						

BJI 09 02:53:34.4, 2746N×11999E, h18km, ML3.8, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.80**	**207**	P	Pn	02 54 21.4	+3.1
QZH				S	Sn	02 54 55.9	+4.2
QZH				Smax			
	comp=N,340nm,0.4s						
QZH				Smax			
	comp=E,730nm,1.2s						
NJ2	**Nanjing**	**4.68**	**348**	*e*PG	Pg	02 55 01.4	-2.6
NJ2				SG	Sg	02 55 55.1	-10
NJ2				Smax			
	comp=N,310nm,0.8s						
NJ2				Smax			
	comp=E,210nm,1.0s						

IGQ 09 02:59:31.7, 264S×7721W, h12km±5km, Mb4.1, Ms3.9, 2C-3D, Error ellipse: s-maj=8.0km s-min=3.6km az=109.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.66**	**313**	P	Pn	03 00 03.3	+2.6
ULBA	**Ulba**	**1.68**	**315**	⇑P	Pn	03 00 03.2	+2.3
ULBA				S	Sn	03 00 25.2	+2.8
CUSU	**Cusua**	**1.74**	**313**	P	Pn	03 00 04.2	+2.5
JUIV	**Juive**	**1.74**	**314**	P	Pn	03 00 03.9	+2.2
JUIV				S	Sn	03 00 27.3	+3.4
IGUA	**Igualata**	**1.83**	**309**	P	Pn	03 00 06.3	+3.3
TAMB	**Tambo**	**2.25**	**329**	⇓P	Pn	03 00 11.8	+3.0
VC1	**Cotopaxi 1**	**2.31**	**329**	⇓P	Pn	03 00 12.9	+3.3
CAMI	**Rancho Maria**	**2.34**	**326**	⇓P	Pn	03 00 13.5	+3.5
ANTI	**Antisana**	**2.38**	**336**	⇑P	Pn	03 00 12.8	+2.3
LAV3	**Lava3-Reventad**	**2.56**	**351**	P	Pn	03 00 16.4	+3.3

*ISCJB **09** 03:14:05.9±0.4, 3593N±005×81.1E±0.1, h10km, mb3.7/6, Error ellipse: s-maj=14.4km s-min=4.7km az=128.1*

*BJI **09** 03:14:05.7, 3583N×81.10E, h12km, ML4.4*

*IDC **09** 03:14:07.3±1.2, 3585N×8088E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, ML3.5/3, Error ellipse: s-maj=27.8km s-min=23.3km az=66.0*

*NEIC **09** 03:14:08.4±0.5, 3582N×8092E, h10km, mb3.5/1, Error ellipse: s-maj=21.1km s-min=6.0km az=68.0*

*MOS **09** 03:14:09.4±1.7, 3586N×8096E, h33km, mb3.6/1, Error ellipse: s-maj=27.3km s-min=7.4km az=107.8*

*NNC **09** 03:14:12.2±10.0, 3639N×8081E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=127.2km s-min=42.1km az=129.0*

ISC 09 03:14:08.4±0.4, 3595N±005×8110E±010, h10km, n40, σ1§18/44, mb3.7/6, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.41**	**313**	*e*P	**Pn**	**03 15 28.7**	**-0.3**
KSH				S	**Sn**	**03 16 30.0**	**-1.3**
KSH				Smax			
	comp=N,250nm,0.8s						
KSH				Smax			
	comp=E,360nm,0.9s						
TKM2	**Tokmak 2**	**8.16**	**330**	⇑P	**Pn**	**03 16 07.6**	**+0.7**
	comp=E,3.7nm,0.5s						
AAK	**Ala-Archa**	**8.41**	**325**	*e*P	**Pn**	**03 16 10.4**	**+0.1**

AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 8.41 325 *e*Pn **Pn 03 16 10.3 0.0**
comp=Z,9.1nm,0.6s
KOLN Koldanda 8.43 165 *e*P **Pn 03 16 07.3 -3.2**
comp=Z,5.4nm,0.5s
GKN Gorkha 8.47 158 *e*P **Pn 03 16 09.8 -1.3**
comp=Z,6.0nm,0.3s
FRU Bishkek 8.51 326 *e*P **Pn 03 16 13.6 +1.9**
KKN Kakani 8.87 155 *e*P **Pn 03 16 16.7 0.0**
comp=Z,8.2nm,0.5s
KKN Kakani 8.87 155 *e*P **Pn 03 16 16.7 0.0**
KKN pmax pmax
comp=Z,4.0nm,0.5s
GUN Gumba 8.98 152 *e*P **Pn 03 16 18.9 +0.8**
comp=Z,6.2nm,0.4s
DMN Daman 8.98 157 *e*P **Pn 03 16 17.3 -0.9**
PKI Pulchoki 9.12 155 *e*P **Pn 03 16 19.7 -0.3**
comp=Z,6.3nm,0.4s
PKI Pulchoki 9.12 155 *e*P **Pn 03 16 19.7 -0.3**
PKI pmax pmax
comp=Z,3.0nm,0.4s
JIRN Jiri 9.33 151 *e*P **Pn 03 16 23.5 +0.7**
comp=Z,8.1nm,0.4s
KK31 Karatay Array 10.86 314 ⇑P **Pn 03 16 40.0 -3.8**
comp=Z,0.6nm,0.5s,baz=131,slow=12,SNR=9.9
MK31 Makanchi Array 10.87 4 P **Pn 03 16 43.7 -0.3**
comp=Z,0.9nm,0.3s,baz=181,slow=13,SNR=72
MK31 ⇑S **Sn 03 18 42.7 -3.0**
comp=Z,17nm,1.1s,baz=188,slow=24,SNR=9.1
MKAR Makanchi Array 10.87 4 Pn **Pn 03 16 44.3 +0.3**
comp=Z,0.9nm,0.3s,baz=184,slow=13,SNR=41
MKAR Sn **Sn 03 18 44.8 -1.0**
comp=Z,1.2nm,0.3s,baz=188,slow=24,SNR=8.3
MKAR Makanchi Array 10.87 4 *e*P **Pn 03 16 43.7 -0.3**
MKAR *e*S **Sn 03 18 42.7 -3.0**
KURK Kurchatov 14.87 354 *e*P **Pn 03 17 35.3 -3.3**
comp=Z,2.3nm,1.0s
ZAL Zalesovo 18.17 7 P **Pn 03 18 21.6 +0.8**
comp=Z,0.2nm,0.3s,baz=296,slow=9.0,SNR=3.3
VOSK Vostochnaya 18.24 340 ⇓P **Pn 03 18 20.0 -1.6**
comp=Z,2.9nm,0.9s
VOSK Vostochnaya 18.24 340 P **Pn 03 18 20.7 -0.8**
VOSK pmax pmax
comp=Z,3.0nm,0.9s
BVA0 Borovoye Array 18.67 339 ⇓P **Pn 03 18 23.1 -3.7**
comp=Z,1.0nm,1.3s,baz=147,slow=11,SNR=19
BVA0 Borovoye Array 18.67 339 *i*P **Pn 03 18 26.9 +0.1**
BVAR Borovoye Array 18.67 339 P **Pn 03 18 25.2 -1.6**
comp=Z,0.4nm,0.3s,baz=140,slow=11,SNR=9.1
BRVK Borovoye 18.73 339 *e*P **Pn 03 18 28.4 +0.8**
BRVK pmax pmax
comp=Z,195nm,3.3s
BRVK Borovoye 18.73 339 *e*P **Pn 03 18 28.4 +0.9**
comp=Z,195nm,3.3s
ZRNK Zerenda 19.02 337 *e*P **Pn 03 18 31.7 +0.6**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s
ZRNK Zerenda 19.02 337 *e*P **Pn 03 18 31.7 +0.6**
comp=Z,2.3nm,0.7s
AB31 Akbulak array 20.39 317 ⇑P **P 03 18 44.5 -0.9**
comp=Z,1.4nm,0.6s,baz=122,slow=10,SNR=20
AB31 Akbulak array 20.39 317 *i*P **P 03 18 45.6 +0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
AKTK Aktyubinsk 22.08 318 P **P 03 19 05.0 +1.5**
AKTO Aktyubinsk 22.08 318 P **P 03 19 05.1 +1.6**
AKTO Aktyubinsk 22.08 318 P **P 03 19 05.0 +1.5**
comp=Z,1.9nm,0.7s,mb3.6,baz=125,slow=18,SNR=7.8
AKTO Aktyubinsk 22.08 318 P **P 03 19 05.0 +1.5**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
SONM Songino Array 22.15 50 P **P 03 19 08.1 +3.8**
comp=Z,0.5nm,0.6s,mb3.1,baz=241,slow=10,SNR=6.0
FINES FINESS Array B 42.60 324 P **P 03 22 05.6 +1.0**
comp=Z,1.3nm,0.7s,mb3.8,baz=104,slow=7.9,SNR=5.0
ARCES ARCESS Array B 44.90 336 P **P 03 22 23.7 +0.6**
comp=Z,3.9nm,0.9s,mb4.2,baz=45,slow=5.1,SNR=4.3
TORD Torodi Ar. Bea 73.90 275 P **P 03 25 42.5 -1.0**
comp=Z,0.9nm,0.7s,mb3.8,baz=45,slow=5.3,SNR=7.8
WRA Warramunga Arr 75.00 129 P **P 03 25 51.1 +1.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=327,slow=5.6,SNR=4.9

*NAO **09** 03:22:50.5, 3387N×7203E, h33km, mb4.1*
*MOS **09** 03:23:26.4±1.1, 3642N×7103E, h207km, mb4.1/2, Error ellipse: s-maj=23.6km s-min=9.3km az=87.5*
*NEIC **09** 03:23:26.8±3.4, 3639N×7108E, h195km±24km, mb3.7/1, Error ellipse: s-maj=31.8km s-min=14.3km az=203.0*
*IDC **09** 03:23:28.3±4.5, 3643N×7102E, h212km±41km, mb3.4/8, mb1 3.5/12, mb1mx3.4/21, mbtmp4.0/12, Error ellipse: s-maj=22.1km s-min=16.0km az=14.0*
*ISCJB **09** 03:23:28.6±0.4, 3656N±003×7109E±008, h223km±5km, mb3.7/10, Error ellipse: s-maj=10.0km s-min=4.5km az=162.6*
*NNC **09** 03:23:37.3±4.0, 3730N×7128E, h228km±29km, mb2.9, mpv4.4, Error ellipse: s-maj=35.3km s-min=24.5km az=24.0*

ISC 09 03:23:29.3±0.4, 3656N±003×7103E±008, h217km±6km, n60, σ0°73/78, mb3.7/10, 9C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.82**	**165**	⇓P	**Pn**	**03 24 18.4**	**+0.6**
CEP				S	**S**	**03 24 56.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.42**	**147**	⇓P	**Pn**	**03 24 25.6**	**+0.9**
THW	**Thamme Wali**	**3.80**	**171**	⇑P	**Pn**	**03 24 29.5**	**+0.3**
SBDP	**Sheikh Budin**	**4.25**	**183**	⇑P	**Pn**	**03 24 34.5**	**-0.3**
SARP	**Sargodha**	**4.82**	**163**	⇓P	**Pn**	**03 24 41.5**	**-0.3**
DRP	**Derazinda**	**4.85**	**188**	P	**Pn**	**03 24 42.2**	**0.0**
THN	**Thein Dam**	**5.65**	**135**	*e*P	**Pn**	**03 24 52.5**	**+0.3**
THN				*e*S	**S**	**03 25 51.5**	**-6.6**
AML	**Almayashu**	**5.93**	**20**	P	**Pn**	**03 24 55.9**	**-0.1**
SNR=448							
UCH	**Uchtor**	**6.27**	**24**	P	**Pn**	**03 25 00.4**	**+0.2**
SNR=94							
KZA	**Kyzart**	**6.41**	**29**	P	**Pn**	**03 25 01.5**	**-0.5**
SNR=19							
EKS2	**Erkin-Say**	**6.45**	**18**	P	**Pn**	**03 25 02.4**	**-0.1**
SNR=29							
KK31	**Karatay Array**	**6.55**	**357**	⇑P	**Pn**	**03 25 02.7**	**-1.1**
12nm,0.4s,baz=182,slow=12,SNR=222							
KK31				⇑S	**S**	**03 26 12.2**	**-6.8**
9.4nm,0.4s,baz=187,slow=25,SNR=6.8							
AAK	**Ala-Archa**	**6.63**	**23**	P	**Pn**	**03 25 04.7**	**-0.1**
SNR=56							
AAK	**Ala-Archa**	**6.63**	**23**	*d i*PN	**Pn**	**03 25 03.8**	**-1.0**
AAK				pmax	pmax		
comp=Z,33nm,0.6s							
AAK	**Ala-Archa**	**6.63**	**23**	⇓*e*Pn	**Pn**	**03 25 03.7**	**-1.1**
comp=Z,45nm,0.6s							
KBK	**Karagaybulak**	**6.80**	**25**	P	**Pn**	**03 25 07.5**	**+0.5**
SNR=21							
ULHL	**Ulahol**	**6.96**	**34**	P	**Pn**	**03 25 09.2**	**+0.1**
SNR=17							
CHMS	**Chumysh**	**7.04**	**23**	P	**Pn**	**03 25 10.2**	**+0.1**
SNR=6.5							
SDNR	**Sundarnagar**	**7.05**	**134**	*e*P	**Pn**	**03 25 10.4**	**+0.1**
SDNR				*e*x	x	03 26 26.8	
USP	**Ospenovka**	**7.21**	**21**	P	**Pn**	**03 25 12.2**	**-0.1**
SNR=14							
TKM2	**Tokmak 2**	**7.26**	**28**	P	**Pn**	**03 25 12.9**	**0.0**
SNR=11							
TKM2	**Tokmak 2**	**7.26**	**28**	⇑P	**Pn**	**03 25 12.7**	**-0.3**
comp=Z,36nm,0.8s							
TKM2				⇑S	**S**	**03 26 25.7**	**-10**
comp=Z,11nm,0.8s							
KLP	**Kalpa**	**7.81**	**128**	*e*P	**Pn**	**03 25 20.4**	**+0.4**
KLP				*e*S	**S**	**03 26 41.1**	**-7.4**
KLP				AML	AML	03 26 49.1	
comp=N,154nm,0.5s							
KHET	**Khetri**	**9.37**	**153**	*e*P	**Pn**	**03 25 39.6**	**-0.6**
KHET				*e*S	**S**	**03 27 17.7**	**-7.7**
KHET				*e*S	**S**	**03 27 18.3**	**-7.1**
KHET				AML	AML	03 27 22.4	
comp=E,20nm,0.3s							
KHET				AML	AML	03 27 25.1	
comp=N,26nm,0.2s							
NDI	**New Delhi**	**9.42**	**145**	*e*P	**Pn**	**03 25 40.0**	**-0.8**
NDI				*e*x	x	03 26 21.0	
AYAN	**Aya Nagar**	**9.55**	**146**	*e*P	**Pn**	**03 25 42.4**	**-0.1**
KUDL	**Kundal**	**9.57**	**150**	*e*P	**Pn**	**03 25 42.2**	**-0.6**
KUDL				*e*S	**S**	**03 27 22.2**	**-8.0**
KUDL				*e*S	**S**	**03 27 23.2**	**-7.0**
KUDL				AML	AML	03 27 30.5	
comp=N,16nm,0.3s							
SONA	**Sohna**	**9.73**	**147**	*e*P	**Pn**	**03 25 44.5**	**-0.3**
AJM	**Ajmer**	**10.51**	**162**	*e*S	**S**	**03 27 43.7**	**-8.7**
AJM				AML	AML	03 28 39.1	
comp=N,22nm,0.2s							
AJM				AML	AML	03 28 40.4	
comp=E,23nm,0.3s							
MK09	**Makanchi Array**	**13.21**	**36**	⇓P	**Pn**	**03 26 28.7**	**0.0**
comp=E,0.7nm,0.6s							
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**03 26 28.3**	**-0.7**
comp=E,0.3nm,0.3s,baz=226,slow=20,SNR=15							
BHPL	**Bhopal**	**14.38**	**156**	*e*P	**Pn**	**03 26 47.8**	**+4.6**
BHPL				*e*S	**S**	**03 29 28.2**	**+5.6**
AB31	**Akbulak array**	**15.04**	**331**	P	**Pn**	**03 26 49.5**	**-1.7**
comp=E,3.5nm,0.5s,baz=140,slow=12,SNR=84							
AB31				⇓S	**S**	**03 29 33.8**	**-4.1**
comp=E,3.7nm,0.9s,baz=144,slow=21,SNR=5.6							
KURK	**Kurchatov**	**15.17**	**19**	⇓*i*P	**Pn**	**03 26 52.7**	**0.0**
VOSK	**Vostochnaya**	**16.16**	**360**	⇑P	**P**	**03 27 02.6**	**-1.2**
comp=E,2.5nm,0.6s							
BVA0	**Borovoye Array**	**16.47**	**359**	⇓P	**P**	**03 27 07.8**	**+0.6**
comp=E,0.6nm,0.9s,baz=164,slow=14,SNR=14							
BVA0				⇑S	**S**	**03 30 03.0**	**-5.3**
comp=E,1.3nm,1.6s,baz=172,slow=15,SNR=6.1							
BVAR	**Borovoye Array**	**16.47**	**359**	P	**P**	**03 27 07.8**	**+0.6**
comp=E,0.6nm,0.3s,baz=163,slow=14,SNR=15							
BVAR				S	**S**	**03 30 08.7**	**+0.4**
comp=E,0.0nm,0.3s,baz=175,slow=16,SNR=5.9							
BRVK	**Borovoye**	**16.51**	**358**	*e*P	**P**	**03 27 08.9**	**+1.3**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**16.51**	**358**	*e*P	**P**	**03 27 08.9**	**+1.3**
comp=Z,1.4nm,0.5s							
AKTK	**Aktyubinsk**	**16.74**	**330**	P	**P**	**03 27 11.3**	**+1.1**
AKTK				S	**S**	**03 30 12.8**	**-1.0**
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P	**P**	**03 27 11.0**	**+0.8**
comp=Z,0.8nm,0.8s							
AKTO				⇓S	**S**	**03 30 08.8**	**-4.9**
comp=Z,2.9nm,2.8s							
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**03 27 11.3**	**+1.1**
comp=Z,0.9nm,0.3s,baz=139,slow=12,SNR=26							
AKTO				S	**S**	**03 30 12.8**	**-1.0**
comp=Z,0.1nm,0.3s,baz=61,slow=19,SNR=1.9							
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**03 27 11.3**	**+1.1**
AKTO				S	**S**	**03 30 12.8**	**-1.0**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**19.83**	**24**	P	**P**	**03 27 43.0**	**-0.7**
comp=Z,1.3nm,0.3s,baz=268,slow=7.6,SNR=11							
ZAL	**Zalesovo**	**19.83**	**24**	*i*P	**P**	**03 27 43.4**	**-0.2**
ZAL				pmax	pmax		
comp=Z,3.0nm,0.4s							
ARU	**Arti**	**21.59**	**341**	*e*P	**P**	**03 28 03.9**	**+1.8**
ARU				*e*		03 28 35.7	
ARU				*e*S	**S**	**03 31 55.8**	**+10**
SONM	**Songino Array**	**28.28**	**55**	P	**P**	**03 29 04.1**	**+1.7**
comp=Z,0.6nm,0.7s,mb3.3,baz=265,slow=10,SNR=6.6							
JOF	**Joensuu**	**35.83**	**330**	*e*p	**P**	**03 30 09.2**	**+1.1**
comp=Z,2.4nm,0.4s,mb4.1							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**03 30 22.4**	**+0.6**
comp=Z,1.6nm,0.4s,mb3.9,baz=114,slow=9.6,SNR=18							
FINES	**FINESS Array B**	**37.45**	**326**	*i*P	**P**	**03 30 22.3**	**+0.5**
FINES				pmax	pmax		
comp=Z,2.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**03 30 52.6**	**+0.7**
comp=Z,1.7nm,0.5s,mb3.7,baz=108,slow=7.7,SNR=18							
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**03 31 18.0**	**0.0**
comp=Z,1.5nm,0.6s,mb3.5,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**03 31 17.7**	**-0.2**
comp=Z,1.8nm,0.6s,mb3.6,baz=97,slow=7.7,SNR=7.0							
BILL	**Bilibino**	**58.54**	**26**	⇑*i*P	**P**	**03 33 02.3**	**-0.7**
BILL				pmax	pmax		
comp=Z,11nm,2.4s,mb4.1							
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**03 33 50.0**	**-0.8**
comp=Z,0.7nm,0.4s,mb3.7,baz=52,slow=6.0,SNR=33							
ILAR	**Eielson Array**	**74.72**	**16**	P	**P**	**03 34 44.2**	**-0.9**
comp=Z,0.6nm,0.7s,mb3.3,baz=303,slow=5.0,SNR=8.8							
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**03 35 21.0**	**+0.3**
comp=Z,0.5nm,0.5s,mb3.4,baz=352,slow=5.4,SNR=27							
YKA				pP	pP	03 36 14.4	+1.6
comp=Z,0.3nm,0.7s,baz=350,slow=5.5,SNR=3.3							
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**03 35 21.1**	**+0.3**
YKA				pP	pP	03 36 14.4	+1.6
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**03 35 24.4**	**-0.6**
comp=Z,1.2nm,0.8s,mb3.6,baz=322,slow=4.7,SNR=10.0							
WB2	**Warramunga Arr**	**82.01**	**122**	*e*P	**P**	**03 35 24.9**	**-0.1**

*ISCJB **09** 03:38:43.3±0.5, 4199N±003×762W±004, h13km±6km, Error ellipse: s-maj=6.0km s-min=4.8km az=70.9*
*MDD **09** 03:38:45.0±0.2, 4196N×763W, h11km±1km, mbLg1.9/15, Error ellipse: s-maj=2.7km s-min=1.4km az=157.0, PRXIMO*
*INMG **09** 03:38:45.3±1.0, 4195N×762W, h8km±4km, ML1.7, Error ellipse: s-maj=2.5km s-min=1.6km az=137.0*

ISC 09 03:38:44.0±0.5, 4198N±003×762W±004, h16km±6km, n20, σ0°61/21, 3C, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELOB	**Lobios**	**0.35**	**250**	⇑Pg	**Pg**	**03 38 51.6**	**+0.4**
SNR=18							
ELOB				Lg		03 38 56.1	
59nm,0.1s,SNR=108							
PCAB	**Cabril**	**0.41**	**228**	*i*Pg	**Pg**	**03 38 52.4**	**+0.1**
PCAB				*e*Sg	**Sg**	**03 38 57.8**	**0.0**
PCAB							
105nm,0.1s							
ERUA	**La Rua**	**0.54**	**41**	⇑Pg	**Pg**	**03 38 54.5**	**-0.3**
11nm,0.1s,SNR=18							
ERUA				Lg		03 39 03.6	
9.3nm,0.2s,SNR=21							
ECAL	**Calabor**	**0.66**	**93**	⇑Pg	**Pg**	**03 38 57.5**	**+0.5**
5.0nm,0.1s,SNR=18							
ECAL				Lg		03 39 06.5	
52nm,0.1s,SNR=59							
PBRG	**Braganca**	**0.68**	**105**	*e*Pg	**Pg**	**03 38 57.5**	**+0.1**
PBRG				*e*Sg	**Sg**	**03 39 06.6**	**+0.1**
PBRG							
16nm,0.2s							
PVRL	**Vila Real**	**0.71**	**186**	*e*Pg	**Pg**	**03 38 57.6**	**-0.3**
PVRL				*e*Sg	**Sg**	**03 39 06.8**	**-0.5**
PVRL							
27nm,0.1s							
EZAM	**Zamans**	**0.81**	**282**	Pg	**Pg**	**03 39 00.2**	**+0.4**
4.8nm,0.2s,SNR=8.6							
EZAM				Lg		03 39 11.0	
5.8nm,0.1s,SNR=9.4							
STS	**Santiago**	**1.13**	**323**	Pg	**Pg**	**03 39 05.7**	**-0.2**
2.5nm,0.1s,SNR=7.9							
STS				Lg		03 39 20.7	
5.3nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**1.28**	**189**	*e*P	**Pn**	**03 39 07.8**	**+0.6**
PVIS				*e*S	**Sb**	**03 39 24.3**	**+0.3**
PVIS							
12nm,0.1s							
EPON	**Pontenova**	**1.39**	**14**	Pg	**Pg**	**03 39 10.7**	**0.0**
0.6nm,0.1s,SNR=7.4							
EPON				Lg		03 39 28.9	
8.8nm,0.2s,SNR=17							
EMAZ	**Mazaricos**	**1.39**	**314**	Pg	**Pg**	**03 39 10.4**	**-0.4**
1.3nm,0.1s,SNR=7.9							
EMAZ				Lg		03 39 29.1	
2.6nm,0.1s,SNR=6.9							
MTE	**Manteigas**	**1.58**	**178**	*e*S	**Sn**	**03 39 32.8**	**+1.3**
MTE							
8.2nm,0.2s							
MTE	**Manteigas**	**1.58**	**178**	Lg		03 39 32.8	
4.1nm,0.2s							
PCBR	**Castelo Branco**	**2.15**	**177**	*e*Sn	**Sn**	**03 39 43.4**	**-1.9**
PCBR							
2.8nm,0.4s							
PCBR	**Castelo Branco**	**2.15**	**177**	Sn	**Sn**	**03 39 43.4**	**-1.9**
1.4nm,0.4s							
EARI	**Arriondas**	**2.21**	**53**	Pg	**Pg**	**03 39 26.2**	**-0.3**
0.2nm,0.1s,SNR=6.6							
EARI				Lg		03 39 54.7	
0.3nm,0.1s,SNR=6.3							
PTOM	**Tomar**	**2.44**	**194**	*e*Sg	**Sg**	**03 40 02.4**	**0.0**
PTOM							
2.7nm,0.2s							
PTOM	**Tomar**	**2.44**	**194**	Lg		03 40 02.4	
1.4nm,0.2s							
GUD	**Guadarrama**	**2.94**	**116**	Lg		03 40 15.8	
1.5nm,0.3s,SNR=4.0							
EBAD	**Badajoz**	**3.26**	**172**	Sn	**Sn**	**03 40 08.5**	**-4.4**
0.8nm,0.1s,SNR=7.9							
EBAD				Lg		03 40 25.3	
1.4nm,0.2s,SNR=7.9							

*ISCJB **09** 04:07:38.6±1.0, 412S±02×892W±0.1, h10km, mb4.4/22, MS3.7/4, Error ellipse: s-maj=27.9km s-min=11.4km az=12.3*
*IDC **09** 04:07:38.7±1.6, 4119S×8918W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/16, mbtmp4.2/8, ML3.2/2, MS3.7/7, Ms1 3.7/7, ms1mx3.6/21, Error ellipse: s-maj=52.2km s-min=20.9km az=166.0*
*NEIC **09** 04:07:40.4±0.8, 4109S×8920W, h10km, mb4.5/16, Error ellipse: s-maj=23.4km s-min=9.6km az=187.0*

ISC 09 04:07:40.5±1.0, 410S±02×892W±01, h10km, n29, σ0°82/26, mb4.4/22, MS3.7/4, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**14.10**	**95**	Pn	**Pn**	**04 11 00.2**	**-0.1**
0.0nm,0.3s,baz=272,slow=11,SNR=3.5							
PLCA				LR	LR	04 14 59.1	
comp=Z,351nm,20.8s,baz=242,slow=31							
CFAA	**Coronel Fontan**	**19.29**	**67**	P	**Pn**	**04 12 06.2**	**-0.2**
0.0nm,0.3s,baz=236,slow=9.6,SNR=9.2							
CFAA				LR	LR	04 17 52.9	
comp=Z,34nm,18.5s,baz=233,slow=32							
TRQA	**Tornquist**	**21.16**	**91**	*e*P	**P**	**04 12 25.6**	**-0.1**
30nm,1.3s,mb4.5							
LVC	**Limon Verde**	**25.08**	**49**	P	**P**	**04 13 06.3**	**+1.1**
4.5nm,1.0s,mb4.0,baz=241,slow=5.9,SNR=4.8							
LVC				LR	LR	04 20 18.7	
comp=Z,200nm,21.3s,MS3.6,baz=217,slow=30							
LVC	**Limon Verde**	**25.08**	**49**	*e*P	**P**	**04 13 06.6**	**+1.4**
14nm,1.3s,mb4.3							
LPAZ	**La Paz**	**30.65**	**43**	P	**P**	**04 13 58.1**	**+3.1**
1.4nm,1.1s,mb3.7,baz=155,slow=15,SNR=3.5							
LPAZ				LR	LR	04 23 26.1	
comp=Z,148nm,20.5s,MS3.6,baz=272,slow=31							
LPAZ	**La Paz**	**30.65**	**43**	*e*P	**P**	**04 13 58.1**	**+3.0**
3.5nm,1.2s,mb4.1							
SIV	**San Ignacio**	**34.84**	**52**	P	**P**	**04 14 31.4**	**-0.2**
2.6nm,1.0s,mb4.1,baz=239,slow=7.0,SNR=8.0							
SAML	**Samuel**	**39.40**	**43**	*e*P	**P**	**04 15 09.6**	**-0.8**
3.5nm,1.0s,mb4.0							
BDFB	**Brasilia**	**43.63**	**67**	LR	LR	04 32 53.5	
comp=Z,203nm,18.2s,MS4.1,baz=257,slow=35							
ROSC	**El Rosal**	**47.66**	**20**	P	**P**	**04 16 19.8**	**+2.9**
3.2nm,0.4s,mb4.7,baz=283,slow=23,SNR=4.6							
ROSC				LR	LR	04 33 31.5	
comp=Z,58nm,20.1s,MS3.5,baz=157,slow=32							
SDV	**Santo Domingo**	**52.54**	**23**	*e*P	**P**	**04 16 52.6**	**-1.4**
2.8nm,0.8s,mb4.2							
RAR	**Rarotonga**	**61.98**	**265**	P	**P**	**04 18 01.5**	**+0.8**
13nm,0.3s,mb5.5,baz=124,slow=5.6,SNR=9.2							
TXAR	**Lajitas Array**	**71.29**	**347**	P	**P**	**04 19 00.7**	**+0.5**
2.5nm,0.8s,mb4.2,baz=170,slow=9.0,SNR=32							
JCT	**Junction City**	**71.84**	**350**	*e*P	**P**	**04 19 02.9**	**-0.6**
7.3nm,1.1s,mb4.5							
TUC	**Tucson**	**75.66**	**341**	*e*P	**P**	**04 19 26.3**	**+0.4**
2.1nm,1.0s,mb4.0							
ANMO	**Albuquerque**	**77.27**	**346**	*e*P	**P**	**04 19 34.9**	**-0.2**
4.2nm,1.2s,mb4.2							
SDCO	**Great Sand Dun**	**79.82**	**347**	*e*P	**P**	**04 19 49.2**	**+0.1**
0.9nm,0.5s,mb4.0							
SMCO	**Snowmass**	**81.47**	**346**	*e*P	**P**	**04 19 58.6**	**+0.6**
12nm,1.5s,mb4.6							
NVAR	**Mina Array Bea**	**83.45**	**337**	P	**P**	**04 20 08.4**	**+0.2**
1.8nm,0.8s,mb4.1,baz=150,slow=7.0,SNR=12							
DUG	**Dugway**	**83.66**	**342**	*e*P	**P**	**04 20 09.4**	**+0.1**
8.6nm,1.0s,mb4.8							
HWUT	**Hardware Ranch**	**84.73**	**343**	*e*P	**P**	**04 20 13.9**	**-0.9**
8.2nm,1.5s,mb4.6							
PDAR	**Pinedale Array**	**85.43**	**345**	P	**P**	**04 20 17.9**	**-0.4**
1.5nm,0.8s,mb4.2,baz=155,slow=6.2,SNR=12							
BW06	**Boulder Array**	**85.43**	**345**	*e*P	**P**	**04 20 17.9**	**-0.4**
3.5nm,1.0s,mb4.4							
RSSD	**Black Hills**	**85.82**	**349**	*e*P	**P**	**04 20 19.5**	**-0.8**
2.5nm,0.9s,mb4.4							
LOHW	**Long Hollow**	**86.45**	**345**	*e*P	**P**	**04 20 23.1**	**-0.3**
6.0nm,1.4s,mb4.6							
HLID	**Hailey**	**87.23**	**342**	*e*P	**P**	**04 20 27.1**	**-0.1**
4.8nm,1.3s,mb4.6							
ZAL	**Zalesovo**	**166.48**	**15**	PKPab	PKPab	04 28 45.3	-2.7
0.6nm,0.3s,baz=187,slow=3.8,SNR=3.4							
MKAR	**Makanchi Array**	**171.58**	**44**	PKPab	PKPab	04 29 08.7	-1.9
0.7nm,0.9s,baz=304,slow=4.4,SNR=5.9							

AUST 09 04:16:25.1, 3287S×13813E, h10km, ML3.5, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**72**	*e*P	Pn	04 17 10.7	-3.3
38nm,0.3s							
STKA				*e*S	Sn	04 17 54.9	+3.8
ASPA	**Alice Springs**	**9.90**	**337**	*e*P	Pn	04 18 45.7	-1.7
ASPA				*e*S	Sn	04 20 30.9	-7.7
WB2	**Warramunga Arr**	**13.31**	**344**	*e*P	Pn	04 19 30.8	-3.3
WB2				*e*S	Sn	04 21 54.8	-7.4
FITZ	**Fitzroy Crossi**	**18.51**	**320**	*e*P	Pn	04 20 37.6	-4.0
8.5nm,1.8s							

WEL 09 04:30:39.8±0.3, 3834S×17603E, h157km±2km, ML3.6/14, 2C, Error ellipse: s-maj=3.5km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.86**	**85**	PN	Pn	04 31 03.9	-0.2
URZ				SN	Sn	04 31 22.6	-0.1
BKZ	**Black Stump Fm**	**0.91**	**156**	⇑PN	Pn	04 31 04.9	+0.4
BKZ				SN	Sn	04 31 23.5	+0.1
TUVZ	**Tukino**	**0.97**	**197**	PN	Pn	04 31 05.3	+0.2
TUVZ				SN	Sn	04 31 25.3	+1.0
FWVZ

MS3.3/2, Error ellipse: s-maj=24.2km s-min=10.1km az=163.7
*NEIC **09** 04:53:01.3±0.9, 1209S×16608E, h35km, mb4.4/1, Error ellipse: s-maj=25.5km s-min=18.0km az=116.0*
ISC 09 04:53:02.7±1.3, 1233S±010×1661E±02, h35km, n10, σ1§10/10, mb4.0/5, MS3.3/2, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.70**	**178**	Pn	**Pn**	**04 55 21.7**	**+2.1**
	4.0nm,0.3s,baz=34,slow=16,SNR=22						
DZM				Sn	**Sn**	**04 57 07.1**	**-0.2**
	0.5nm,0.3s,baz=66,slow=22,SNR=3.8						
DZM	**Mont Dzumac**	**9.70**	**178**	*e*P	**Pn**	**04 55 21.7**	**+2.1**
DZM				*e*S	**Sn**	**04 57 04.9**	**-2.4**
CTA	**Charters Tower**	**20.54**	**245**	LR	LR	05 04 10.4	
	comp=Z,112nm,21.5s,MS3.2,baz=50,slow=33						
STKA	**Stephens Creek**	**29.77**	**225**	P	**P**	**04 59 05.8**	**-0.1**
	8.2nm,0.7s,mb4.5,baz=53,slow=8.4,SNR=13						
STKA				LR	LR	05 09 24.0	
	comp=Z,97nm,20.4s,MS3.4,baz=28,slow=33						
STKA	**Stephens Creek**	**29.77**	**225**	*e*P	**P**	**04 59 05.4**	**-0.5**
WRAB	**Tennant Creek**	**31.38**	**252**	*e*P	**P**	**04 59 20.2**	**+0.1**
	5.6nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**31.39**	**252**	P	**P**	**04 59 20.1**	**-0.1**
	2.3nm,0.8s,mb4.1,baz=81,slow=9.5,SNR=11						
ILAR	**Eielson Array**	**84.61**	**18**	P	**P**	**05 05 28.4**	**-4.2**
	0.4nm,0.7s,mb3.7,baz=214,slow=6.5,SNR=6.7						
NVAR	**Mina Array Bea**	**86.59**	**50**	P	**P**	**05 05 42.1**	**-0.2**
	0.1nm,0.3s,mb3.5,baz=243,slow=6.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**164.76**	**275**	PKPab	PKPab	05 13 58.8	+0.2
	0.5nm,0.8s,baz=92,slow=5.5,SNR=5.0						

GUC 09 04:53:13.8±1.3, 2584S×7057W, h47km±12km, MD3.8, ML3.0, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.51**	**185**	⇑*i*P	Pn	04 53 26.8	+1.8
CRCH				*i* S	Sn	04 53 34.6	+1.7
CRCH				AMP		04 53 34.8	
	comp=E,763nm,0.2s						
CPN1	**Cerro Paranal**	**1.22**	**7**	*e*P	Pn	04 53 36.1	+1.7
CPN1				*i* S	Sn	04 53 52.2	+2.5
CPN1				AMP		04 53 55.3	
	comp=E,361nm,0.5s						
CDCH	**Caldera**	**1.25**	**191**	*e*P	Pn	04 53 35.7	+0.8
CDCH				*i* S	Sn	04 53 51.9	+1.3
CPCH	**Copiapo**	**1.53**	**173**	*e*P	Pn	04 53 41.3	+2.7
CPCH				*i* S	Sn	04 54 00.1	+2.8
CPCH				AMP		04 54 19.1	
	comp=N,7μm,0.1s						
CEN1	**Los Morros**	**2.46**	**8**	*e*P	Pn	04 53 49.6	-1.8
CEN1				*i* S	Sn	04 54 15.3	-4.9
CEN1				AMP		04 54 28.4	
	comp=E,18nm,0.5s						

*MOS **09** 05:03:38.9±1.0, 3807N×7418E, h165km, mb4.3/7, Error ellipse: s-maj=11.3km s-min=5.5km az=103.7*
*ISCJB **09** 05:03:39.6±0.2, 3807N±002×7428E±004, h179km, mb4.1/31, Error ellipse: s-maj=4.8km s-min=2.5km az=157.8*
*BJI **09** 05:03:40.7, 3828N×7423E, h170km, mb4.6*
*NEIC **09** 05:03:41.2±0.4, 3805N×7428E, mb4.6/16, Error ellipse: s-maj=12.2km s-min=5.3km az=54.0*
*IDC **09** 05:03:41.8±0.6, 3798N×7420E, h182km±4km, mb3.8/16, mb1 4.0/18, mb1mx3.9/20, mbtmp4.3/18, Error ellipse: s-maj=14.7km s-min=9.5km az=28.0*
*NNC **09** 05:03:42.2±13.0, 3834N×7367E, h169km±116km, mb3.6, mpv4.8, Error ellipse: s-maj=117.2km s-min=62.4km az=3.0*
*NAO **09** 05:04:09.2, 3799N×7343E, h33km, mb4.0*
ISC 09 05:03:40.8±0.2, 3808N±002×7425E±005, h181km, h181km±.9km: pP-P, n129, σ1§19/162, mb4.1/31, 11C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.97**	**43**	⇓*i*P	**Pn**	**05 04 17.7**	**+0.2**
KSH				S	**Sn**	**05 04 45.2**	**-0.8**
KSH				Smax			
	comp=N,19μm,0.3s						
KSH				Smax			
	comp=E,16μm,0.6s						
KZA	**Kyzart**	**4.07**	**11**	P	**Pn**	**05 04 42.2**	**-0.5**
	SNR=277						
AML	**Almayashu**	**4.07**	**354**	P	**Pn**	**05 04 42.1**	**-0.7**
	SNR=584						
UCH	**Uchtor**	**4.15**	**3**	P	**Pn**	**05 04 43.6**	**-0.2**
	SNR=77						
ULHL	**Ulahol**	**4.43**	**19**	P	**Pn**	**05 04 46.8**	**-0.5**
	SNR=297						
CHCP	**Chirah Chowk**	**4.48**	**191**	⇓P	**Pn**	**05 04 48.8**	**+0.8**
AAK	**Ala-Archa**	**4.55**	**2**	P	**Pn**	**05 04 49.0**	**0.0**
	SNR=51						
AAK	**Ala-Archa**	**4.55**	**2**	⇑*e*Pn	**Pn**	**05 04 48.1**	**-0.8**
AAK	**Ala-Archa**	**4.55**	**2**	*e*Pn	**Pn**	**05 04 47.6**	**-1.3**
EKS2	**Erkin-Say**	**4.59**	**356**	P	**Pn**	**05 04 49.3**	**-0.1**
	SNR=46						
KBK	**Karagaybulak**	**4.60**	**6**	P	**Pn**	**05 04 49.6**	**+0.1**
	SNR=40						
CEP	**Cherat**	**4.65**	**205**	⇓P	**Pn**	**05 04 49.8**	**-0.4**
FRU	**Bishkek**	**4.76**	**3**	*e*PN	**Pn**	**05 04 52.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,60nm,1.4s						
FRU				pmax	pmax		
	comp=N,1μm,2.0s						
CHMS	**Chumysh**	**4.93**	**4**	P	**Pn**	**05 04 53.7**	**-0.1**
	SNR=35						
TKM2	**Tokmak 2**	**4.94**	**12**	P	**Pn**	**05 04 53.8**	**-0.2**
	SNR=145						
TKM2	**Tokmak 2**	**4.94**	**12**	⇓P	**Pn**	**05 04 53.7**	**-0.2**
	comp=N,129nm,0.5s						
TKM2				⇑S	**Sn**	**05 05 48.2**	**-3.3**
	comp=N,288nm,0.7s						
TAS	**Tashkent**	**5.01**	**312**	⇑*e*PN	**Pn**	**05 04 53.4**	**-1.4**
USP	**Ospenovka**	**5.19**	**2**	P	**Pn**	**05 04 56.5**	**-0.6**
	SNR=14						
AAA	**Alma-Ata**	**5.58**	**21**	*i* PN	**Pn**	**05 05 01.7**	**-0.5**
THW	**Thamme Wali**	**5.66**	**202**	⇑P	**Pn**	**05 05 02.2**	**-1.0**
DLH	**Dalhousie**	**5.70**	**165**	*e*P	**Pn**	**05 05 04.0**	**+0.2**
DLH				*e*S	**Sn**	**05 06 05.0**	**-4.1**
KK31	**Karatay Array**	**5.77**	**332**	⇑P	**Pn**	**05 05 03.2**	**-1.5**
	comp=N,26nm,0.3s,baz=148,slow=15,SNR=1891						
KK31				⇑S	**Sn**	**05 06 03.1**	**-7.7**
	comp=N,74nm,0.2s,baz=169,slow=24						
KK31	**Karatay Array**	**5.77**	**332**	*i* PN	**Pn**	**05 05 03.1**	**-1.6**
KK31				pmax	pmax		
	comp=Z,58nm,0.2s						
KKAR	**Karatay Array**	**5.77**	**332**	PN	**Pn**	**05 05 03.1**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,12nm,0.2s						
PONG	**Pong**	**6.27**	**167**	*e*P	**Pn**	**05 05 12.0**	**+0.8**
PONG				*e*S	**Sn**	**05 06 20.0**	**-2.5**
SARP	**Sargodha**	**6.28**	**192**	⇓P	**Pn**	**05 05 09.7**	**-1.6**
SBDP	**Sheikh Budin**	**6.42**	**207**	⇑P	**Pn**	**05 05 12.1**	**-1.1**
SDNR	**Sundarnagar**	**6.93**	**160**	*e*P	**Pn**	**05 05 20.0**	**+0.1**
SDNR				*e*S	**Sn**	**05 06 32.8**	**-5.5**
DRP	**Derazinda**	**7.14**	**209**	⇓P	**Pn**	**05 05 22.1**	**-0.6**
KLP	**Kalpa**	**7.31**	**152**	*e*P	**Pn**	**05 05 26.0**	**+1.2**
KLP				*e*S	**Sn**	**05 06 43.1**	**-4.1**
SMLA	**Simla**	**7.34**	**160**	*e*P	**Pn**	**05 05 23.9**	**-1.3**
SMLA				*e*S	**Sn**	**05 06 41.9**	**-6.0**
DDI	**Dehra Dun**	**8.35**	**157**	*ex*	x	05 05 37.0	
DDI				*ex*	x	05 07 09.0	
NDI	**New Delhi**	**9.69**	**164**	*e*P	**Pn**	**05 05 55.0**	**-1.1**
NDI				*e*S	**Sn**	**05 07 36.0**	**-8.1**
PTH	**Pithoragarh**	**9.84**	**148**	*e*P	**Pn**	**05 05 58.8**	**+0.7**
PTH				*e*S	**Sn**	**05 07 41.3**	**-6.4**
BISR	**Bishrakh**	**9.85**	**163**	*e*S	**Sn**	**05 07 38.4**	**-9.5**
AYAN	**Aya Nagar**	**9.87**	**165**	*e*P	**Pn**	**05 05 58.3**	**-0.2**
AYAN				*e*S	**Sn**	**05 07 40.8**	**-7.5**
AYAN				AML	AML	05 07 45.3	
	comp=Z,172nm,0.5s						
LGTI	**Lohaghat**	**9.94**	**148**	*e*P	**Pn**	**05 05 58.5**	**-0.9**
LGTI				*e*S	**Sn**	**05 07 43.5**	**-6.6**
KHET	**Khetri**	**10.06**	**172**	*e*P	**Pn**	**05 05 59.6**	**-1.4**
KHET				*e*S	**Sn**	**05 07 43.1**	**-10**
KHET				AML	AML	05 07 49.2	
	comp=N,74nm,0.5s						
KUDL	**Kundal**	**10.08**	**169**	*e*P	**Pn**	**05 06 00.5**	**-0.8**
KUDL				*e*S	**Sn**	**05 07 44.8**	**-8.7**
KUDL				AML	AML	05 07 50.6	
	comp=E,125nm,0.4s						
KUDL				AML	AML	05 07 50.9	
	comp=N,87nm,0.4s						
SONA	**Sohna**	**10.08**	**166**	*e*P	**Pn**	**05 06 01.6**	**+0.3**
SONA				*e*S	**Sn**	**05 07 45.9**	**-7.6**
SONA				*e*S	**Sn**	**05 07 46.2**	**-7.3**
SONA				AML	AML	05 07 49.4	
	comp=N,75nm,0.5s						
MK31	**Makanchi Array**	**10.54**	**32**	P	**Pn**	**05 06 06.2**	**-0.9**
	comp=N,58nm,0.8s,baz=206,slow=13,SNR=336						
MKAR	**Makanchi Array**	**10.54**	**32**	P	**Pn**	**05 06 06.7**	**-0.5**
	comp=N,2.5nm,0.3s,baz=215,slow=14,SNR=221						
AJM	**Ajmer**	**11.57**	**178**	*ex*	x	05 06 15.7	
AJM				*e*S	**Sn**	**05 08 17.7**	**-11**
AJM				*e*S	**Sn**	**05 08 18.0**	**-11**
WMQ	**Urumqi**	**11.67**	**56**	P	**Pn**	**05 06 21.2**	**-0.6**
WMQ				S	**Sn**	**05 08 26.2**	**-5.2**
WMQ				AMB	AMB		
	comp=Z,38nm,0.7s						
KOLN	**Koldanda**	**12.93**	**140**	*e*Pn	**Pn**	**05 06 37.4**	**-0.5**
KOLN				*e*Sn	**Sn**	**05 08 53.4**	**-8.1**
	comp=Z,196nm,0.8s						
KOLN	**Koldanda**	**12.93**	**140**	*e*Pn	**Pn**	**05 06 37.4**	**-0.5**
	comp=Z,98nm,0.8s						
KOLN				*e*Sn	**Sn**	**05 08 53.4**	**-8.1**
KURK	**Kurchatov**	**13.01**	**12**	⇓P	**Pn**	**05 06 35.9**	**-3.1**
	comp=Z,9.7nm,1.1s						
KURK	**Kurchatov**	**13.01**	**12**	*d i*P	**Pn**	**05 06 36.2**	**-2.7**
KURK	**Kurchatov**	**13.01**	**12**	*e*Pn	**Pn**	**05 06 35.7**	**-3.2**
	comp=Z,20nm,1.0s						
KURK				*e*P		05 06 43.2	
GKN	**Gorkha**	**13.29**	**136**	*e*Pn	**Pn**	**05 06 41.8**	**-0.6**
GKN				*e*Sn	**Sn**	**05 09 00.5**	**-10**
	comp=Z,124nm,0.5s						
GKN	**Gorkha**	**13.29**	**136**	*e*Pn	**Pn**	**05 06 41.8**	**-0.6**
	comp=Z,62nm,0.5s						
GKN				*e*Sn	**Sn**	**05 09 00.5**	**-10**
KKN	**Kakani**	**13.81**	**135**	*e*Pn	**Pn**	**05 06 47.9**	**-1.0**
KKN				*e*Sn	**Sn**	**05 09 11.8**	**-11**
	comp=Z,95nm,0.6s						
KKN	**Kakani**	**13.81**	**135**	*e*P	**Pn**	**05 06 47.9**	**-1.0**
KKN				*e*		05 09 11.8	
KKN				pmax	pmax		
	comp=Z,47nm,0.6s						
KKN	**Kakani**	**13.81**	**135**	*e*Pn	**Pn**	**05 06 47.9**	**-1.0**
	comp=Z,47nm,0.6s						
KKN				*e*Sn	**Sn**	**05 09 11.8**	**-11**
DMN	**Daman**	**13.85**	**136**	*e*Pn	**Pn**	**05 06 49.0**	**-0.5**
DMN				*e*Sn	**Sn**	**05 09 13.0**	**-11**
	comp=Z,176nm,0.8s						
DMN	**Daman**	**13.85**	**136**	*e*Pn	**Pn**	**05 06 49.0**	**-0.5**
	comp=Z,88nm,0.8s						
DMN				*e*Sn	**Sn**	**05 09 13.0**	**-11**
PKI	**Pulchoki**	**14.05**	**135**	*e*Pn	**Pn**	**05 06 51.2**	**-0.8**
PKI				*e*Sn	**Sn**	**05 09 18.2**	**-10**
GUN	**Gumba**	**14.06**	**133**	*e*Pn	**Pn**	**05 06 51.0**	**-1.1**
GUN				*e*Sn	**Sn**	**05 09 16.5**	**-12**
	comp=Z,98nm,0.8s						
GUN	**Gumba**	**14.06**	**133**	*e*Pn	**Pn**	**05 06 51.0**	**-1.1**
	comp=Z,49nm,0.8s						
GUN				*e*Sn	**Sn**	**05 09 16.5**	**-12**
JIRN	**Jiri**	**14.43**	**133**	*e*Pn	**Pn**	**05 06 56.4**	**-0.2**
JIRN				*e*Sn	**Sn**	**05 09 26.7**	**-11**
	comp=Z,97nm,0.6s						
JIRN	**Jiri**	**14.43**	**133**	*e*Pn	**Pn**	**05 06 56.4**	**-0.2**
	comp=Z,49nm,0.6s						
JIRN				*e*Sn	**Sn**	**05 09 26.7**	**-11**
VOSK	**Vostochnaya**	**14.82**	**352**	⇓P	**Pn**	**05 06 59.3**	**-2.2**
	comp=Z,3.7nm,0.9s						
BHPL	**Bhopal**	**15.04**	**169**	*e*P	**Pn**	**05 07 04.1**	**-0.1**
BHPL				*ex*	x	05 09 40.0	
BVA0	**Borovoye Array**	**15.19**	**351**	⇑P	**Pn**	**05 07 04.2**	**-1.7**
	comp=Z,2.1nm,0.8s						
BVA0	**Borovoye Array**	**15.19**	**351**	P	**Pn**	**05 07 04.2**	**-1.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**15.19**	**351**	P	**Pn**	**05 07 04.7**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=159,slow=10.0,SNR=32						
AB31	**Akbulak array**	**15.20**	**322**	⇓P	**Pn**	**05 07 05.9**	**-0.2**
	comp=Z,2.5nm,0.4s						
AB31				⇓S	**S**	**05 09 41.0**	**-14**
	comp=Z,4.5nm,0.4s,baz=136,slow=26,SNR=9.0						
BRVK	**Borovoye**	**15.23**	**351**	*e*P	**Pn**	**05 07 05.1**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**15.23**	**351**	*e*Pn	**Pn**	**05 07 05.0**	**-1.5**
	comp=Z,12nm,0.8s						
BRVK				*e*P		05 07 08.0	
LSA	**Lhasa**	**16.32**	**116**	*e*P	**Pn**	**05 07 21.5**	**+1.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LSA	**Lhasa**	**16.32**	**116**	*e*P	**Pn**	**05 07 21.5**	**+1.8**
	comp=Z,8.2nm,0.5s						
AKTK	**Aktyubinsk**	**16.92**	**322**	P	**Pn**	**05 07 26.6**	**-0.3**
AKTO	**Aktyubinsk**	**16.92**	**322**	⇓P	**Pn**	**05 07 26.6**	**-0.3**
	comp=Z,1.2nm,0.8s						
AKTO				⇑S	**S**	**05 10 23.8**	**-9.2**
	comp=Z,1.3nm,0.6s						
AKTO	**Aktyubinsk**	**16.92**	**322**	P	**Pn**	**05 07 26.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=119,slow=12,SNR=9.5						
BLSP	**Bilaspur**	**17.28**	**155**	*e*P	**Pn**	**05 07 30.2**	**-1.0**
BLSP				*ex*	x	05 10 32.9	
BOK	**Bokaro**	**17.36**	**142**	*e*P	**Pn**	**05 07 32.0**	**-0.2**
ZAL	**Zalesovo**	**17.44**	**21**	P	**Pn**	**05 07 32.1**	**-1.0**
	comp=Z,19nm,0.3s,baz=259,slow=9.3,SNR=146						
NVS	**Novosibirsk**	**17.84**	**17**	*e*P	**Pn**	**05 07 34.6**	**-3.3**
NVS				*e*S	**S**	**05 10 47.6**	**-4.0**
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,11nm,0.5s						
NVS				smax			
	comp=N,34nm,1.8s						
SHL	**Shillong**	**19.45**	**125**	*e*P	**P**	**05 07 55.0**	**+1.5**
SHL				*ex*	x	05 11 32.0	
POO	**Poona**	**19.48**	**181**	*e*PP		05 08 34.5	
POO				*i x*	x	05 11 54.0	
POO				*ex*	x	05 12 00.5	
POO				*i* SS		05 12 21.5	
POO				*i* PCP	PcP	05 12 33.5	+27
POO				*i* SSS		05 12 34.5	
POO				*i x*	x	05 13 04.5	
HYB	**Hyderabad**	**20.93**	**168**	⇑*i*P	**P**	**05 08 10.0**	**+0.8**
HYB				*e*S	**S**	**05 11 53.0**	**+0.9**
HYB	**Hyderabad**	**20.93**	**168**	⇑*e*P	**P**	**05 08 11.0**	**+1.8**
HYB				*e*		05 08 55.0	
HYB				*e*S	**S**	**05 11 55.5**	**+3.4**
ARU	**Arti**	**21.13**	**335**	⇓*i*P	**P**	**05 08 12.2**	**+0.8**
ARU				*e*		05 08 41.5	
ARU				*e*S	**S**	**05 11 56.2**	**+0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
ARU	**Arti**	**21.13**	**335**	*e*P	**P**	**05 08 11.3**	**0.0**
	comp=Z,3.4nm,0.7s,mb3.8						
VIS	**Vishakhapatnam**	**21.79**	**156**	*e*P	**P**	**05 08 20.0**	**+1.7**
VIS				AMb	AMB	05 08 24.3	
	comp=Z,45nm,1.6s,mb4.7						
GNI	**Garni**	**22.95**	**284**	P	**P**	**05 08 28.9**	**-0.2**
	comp=Z,0.9nm,0.3s,mb3.6,baz=103,slow=14,SNR=1.5						
KIV	**Kislovodsk**	**24.44**	**294**	*e*P	**P**	**05 08 43.7**	**+1.0**
KIV				*e*PP		05 09 19.8	
KIV				*e*S	**S**	**05 12 49.1**	**-0.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
CD2	**Chengdu**	**25.28**	**98**	*e*P	**P**	**05 08 51.1**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**25.30**	**57**	P	**P**	**05 08 52.9**	**+2.4**
	comp=Z,0.5nm,0.5s,mb3.3,baz=261,slow=9.3,SNR=7.3						
SONM				pP	pP	05 09 28.7	+1.4
	comp=Z,4.0nm,0.8s,baz=257,slow=11,SNR=9.5						
ULN	**Ulaanbaatar**	**25.75**	**57**	*e*P	**P**	**05 08 58.5**	**+4.0**
ENH	**Enshi**	**30.04**	**94**	P	**P**	**05 09 35.0**	**+2.4**
	comp=Z,3.1nm,0.4s,mb4.4						
BRTR	**Keskin Array B**	**31.46**	**286**	pP	pP	05 10 27.4	+4.7
	comp=Z,0.9nm,0.7s,baz=106,slow=9.0,SNR=3.2						
AKASG	**Malin Array Be**	**34.04**	**307**	P	**P**	**05 10 08.4**	**+0.9**
	comp=Z,0.3nm,0.3s,mb3.5,baz=79,slow=8.5,SNR=4.3						
AKASG				pP	pP	05 10 46.9	+1.5
	comp=Z,0.8nm,0.4s,baz=84,slow=7.2,SNR=4.1						
JOF	**Joensuu**	**35.86**	**328**	*ep*	**P**	**05 10 25.1**	**+2.0**
	comp=Z,4.2nm,0.8s,mb4.1						
NJ2	**Nanjing**	**36.73**	**86**	*e*P	**P**	**05 10 35.0**	**+4.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**37.67**	**324**	P	**P**	**05 10 39.8**	**+1.4**
	comp=Z,1.1nm,0.3s,mb4.0,baz=115,slow=9.6,SNR=18						
FINES				pP	pP	05 11 17.8	+1.0
	comp=Z,1.3nm,0.4s,baz=114,slow=9.6,SNR=2.4						
OJC	**Ojcow**	**40.06**	**306**	*e*P	pP	05 11 41.0	+4.0
PSZ	**Piszkesteto**	**40.20**	**302**	P	**P**	**05 11 00.1**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
PSZ	**Piszkesteto**	**40.20**	**302**	P	**P**	**05 11 00.1**	**+0.7**
	comp=Z,3.6nm,1.0s,mb4.0						
ARCES	**ARCESS Array B**	**40.72**	**336**	P	**P**	**05 11 05.2**	**+1.6**
	comp=Z,4.2nm,0.5s,mb4.3,baz=110,slow=8.4,SNR=50						
ARCES				pP	pP	05 11 43.3	+0.8
	comp=Z,1.5nm,0.6s,baz=108,slow=7.7,SNR=1.7						
ARCES	**ARCESS Array B**	**40.72**	**336**	P	**P**	**05 11 05.2**	**+1.6**
ARCES				pP	pP	05 11 43.3	+0.8
ARE0	**ARCESS Array S**	**40.72**	**336**	P	**P**	**05 11 04.6**	**+0.9**
PSI	**Prapat**	**41.75**	**141**	P	**P**	**05 11 13.7**	**+1.7**
	comp=Z,3.0nm,0.4s,mb4.2,baz=200,slow=11,SNR=3.4						
TIXI	**Tiksi**	**43.34**	**22**	⇓*i*P	**P**	**05 11 25.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
GERES	**GERESS Array B**	**44.16**	**304**	pP	pP	05 12 13.9	+3.1
	comp=Z,0.6nm,0.6s,baz=68,slow=7.2,SNR=3.6						
NB2	**NORSAR Subarra**	**44.71**	**322**	P	**P**	**05 11 36.6**	**+0.9**
	comp=Z,1.6nm,0.5s,mb3.9,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.71**	**322**	P	**P**	**05 11 36.2**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.0,baz=91,slow=7.7,SNR=8.0						
NOA				pP	pP	05 12 16.1	+0.9
	comp=Z,3.4nm,0.8s,baz=92,slow=8.0,SNR=3.9						
NOA	**NORSAR Array B**	**44.71**	**322**	P	**P**	**05 11 36.2**	**+0.4**
NOA				pP	pP	05 12 16.1	+0.9
TGY	**Tagaytay City**	**47.63**	**107**	P	**P**	**05 11 58.8**	**+0.4**
	comp=Z,243nm,0.3s,baz=217,slow=5.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**49.98**	**71**	P	**P**	**05 12 18.4**	**+2.1**
	comp=Z,1.4nm,0.5s,mb3.8,baz=293,slow=8.3,SNR=3.3						
ESDC	**Sonseca Array**	**59.01**	**298**	P	**P**	**05 13 22.0**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.6,baz=56,slow=7.3,SNR=6.2						
SUMG	**Summit**	**60.41**	**341**	*e*P	**P**	**05 13 33.2**	**+2.3**
	comp=Z,6.2nm,0.9s,mb4.4						
TORD	**Torodi Ar. Bea**	**68.33**	**270**	P	**P**	**05 14 23.6**	**+1.2**
	comp=Z,2.2nm,0.4s,mb4.2,baz=47,slow=5.6,SNR=72						
TORD				pP	pP	05 15 05.9	+0.7
	comp=Z,1.6nm,0.6s,baz=45,slow=5.6,SNR=4.1						
INK	**Inuvik**	**71.91**	**11**	P	**P**	**05 14 45.6**	**+1.5**
	comp=Z,4.0nm,0.5s,mb4.4,baz=360,slow=6.8,SNR=36						
INK				pP	pP	05 15 28.8	+1.5
	comp=Z,1.3nm,0.5s,baz=349,slow=8.7,SNR=2.9						
COLA	**College**	**72.22**	**17**	*e*P	**P**	**05 14 46.8**	**+0.9**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
COLA	**College**	**72.22**	**17**	*e*P	**P**	**05 14 46.8**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**72.53**	**17**	P	**P**	**05 14 48.3**	**+0.5**
	comp=Z,2.3nm,0.8s,mb3.9,baz=318,slow=5.0,SNR=20						
ILAR				pP	pP	05 15 31.6	+0.5
	comp=Z,0.9nm,0.8s,baz=324,slow=4.2,SNR=4.1						
FITZ	**Fitzroy Crossi**	**73.81**	**129**	*e*P	**P**	**05 14 57.8**	**+2.5**
	comp=Z,6.9nm,1.5s,mb4.2						
YKA	**Yellowknife Ar**	**79.52**	**4**	P	**P**	**05 15 28.5**	**+1.3**
	comp=Z,2.2nm,0.4s,mb4.2,baz=348,slow=5.4,SNR=66						
YKA				pP	pP	05 16 12.8	+1.5
	comp=Z,2.0nm,0.7s,baz=348,slow=5.6,SNR=7.2						
WRA	**Warramunga Arr**	**80.68**	**124**	P	**P**	**05 15 35.2**	**+1.7**
	comp=Z,6.4nm,0.7s,mb4.4,baz=325,slow=4.9,SNR=47						
WRA				pP	pP	05 16 19.4	+1.7
	comp=Z,0.8nm,0.6s,baz=329,slow=5.0,SNR=2.2						
WRAB	**Tennant Creek**	**80.68**	**124**	*e*P	**P**	**05 15 35.1**	**+1.6**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**80.68**	**124**	*e*P	**P**	**05 15 35.0**	**+1.6**
	comp=Z,9.3nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**80.69**	**124**	*e*P	**P**	**05 15 35.3**	**+1.8**
SCHQ	**Schefferville**	**81.62**	**338**	P	**P**	**05 15 39.0**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=353,slow=11,SNR=5.1						
FFC	**Flin Flon**	**87.51**	**358**	*e*P	**P**	**05 16 09.3**	**+1.4**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
FFC	**Flin Flon**	**87.51**	**358**	*e*P	**P**	**05 16 09.3**	**+1.4**
	comp=Z,1.7nm,0.8s,mb3.9						
ULM	**Lac du Bonnet**	**91.62**	**354**

ellipse: s-maj=11.0km s-min=7.2km az=167.0

ISC 09 05:38:21.4±0.4,7996N±007×1239E±03,h10km,n42,σ0§91/42,mb3.8/23,MS3.3/4,4C-5D,East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**8.44**	**169**	*eP*	**Pn**	**05 40 23.7**	**0.0**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.2s							
BILL	**Bilibino**	**16.07**	**114**	*eP*	**Pn**	**05 42 10.8**	**+3.4**
comp=Z,11nm,0.9s							
MA2	**Magadan**	**22.01**	**142**	P	**P**	**05 43 14.7**	**-1.1**
MA2				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.1							
MA2	**Magadan**	**22.01**	**142**	P	**P**	**05 43 14.7**	**-1.1**
comp=Z,6.3nm,0.8s,mb4.1							
DAG	**Danmarks Havn**	**22.19**	**338**	⇓*iP*	**P**	**05 43 18.5**	**+0.8**
comp=Z,1.5nm,0.8s,mb3.5							
DAG	**Danmarks Havn**	**22.19**	**338**	⇓*eP*	**P**	**05 43 18.5**	**+0.8**
DAG				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.3							
DAG	**Danmarks Havn**	**22.19**	**338**	⇓*eP*	**P**	**05 43 18.5**	**+0.8**
comp=Z,1.5nm,0.8s,mb3.5							
BOD	**Bodaibo**	**22.45**	**194**	*eP*	**P**	**05 43 16.5**	**-4.0**
BOD				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.2							
TNA	**Tin City**	**22.73**	**89**	*eP*	**P**	**05 43 25.1**	**+1.6**
comp=Z,10nm,1.2s,mb4.1							
ARCES	**ARCESS Array B**	**24.13**	**302**	P	**P**	**05 43 36.5**	**-0.9**
comp=Z,2.0nm,0.6s,mb3.8,baz=30,slow=10,SNR=15							
INK	**Inuvik**	**25.89**	**56**	P	**P**	**05 43 52.8**	**-0.6**
comp=Z,0.6nm,0.6s,mb3.3,baz=0.0,slow=10,SNR=4.8							
INK				PcP	PcP	05 47 20.6	-1.6
comp=Z,0.6nm,0.9s,baz=236,slow=3.6,SNR=2.9							
INK				LR	LR	05 54 51.7	
comp=Z,79nm,18.1s,MS3.3,baz=253,slow=38							
INK	**Inuvik**	**25.89**	**56**	P	**P**	**05 43 52.8**	**-0.6**
INK						05 47 20.6	
ILAR	**Eielson Array**	**27.07**	**70**	P	**P**	**05 44 04.9**	**+0.8**
comp=Z,1.2nm,0.8s,mb3.5,baz=337,slow=8.9,SNR=17							
ILAR				LR	LR	05 55 15.8	
comp=Z,44nm,19.6s,MS3.0,baz=176,slow=38							
SONM	**Songino Array**	**32.83**	**202**	P	**P**	**05 44 55.7**	**+0.7**
comp=Z,0.8nm,0.9s,mb3.6,baz=354,slow=8.9,SNR=5.8							
SONM				PcP	PcP	05 47 39.9	+0.1
comp=Z,0.5nm,0.7s,baz=342,slow=4.6,SNR=3.7							
KURK	**Kurchatov**	**33.02**	**236**	P	**P**	**05 44 56.7**	**0.0**
KURK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
KURK	**Kurchatov**	**33.02**	**236**	P	**P**	**05 44 56.7**	**0.0**
comp=Z,1.0nm,0.4s,mb4.1							
YKA	**Yellowknife Ar**	**33.98**	**45**	P	**P**	**05 45 04.4**	**-0.6**
comp=Z,0.4nm,0.8s,mb3.4,baz=347,slow=7.9,SNR=7.3							
YKA				PcP	PcP	05 47 41.8	-1.3
comp=Z,0.3nm,1.0s,baz=327,slow=3.6,SNR=4.4							
YKA				LR	LR	05 58 25.5	
comp=Z,51nm,18.6s,MS3.3,baz=220,slow=36							
YKA	**Yellowknife Ar**	**33.98**	**45**	P	**P**	**05 45 04.4**	**-0.6**
YKA						05 47 41.8	
YKA				MLR	MLR		
comp=Z,51nm,18.6s							
NOA	**NORSAR Array B**	**34.20**	**307**	P	**P**	**05 45 07.5**	**+0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=24,slow=6.8,SNR=3.0							
MKAR	**Makanchi Array**	**36.34**	**230**	P	**P**	**05 45 24.7**	**-0.7**
comp=Z,1.6nm,0.7s,mb4.0,baz=1.5,slow=7.4,SNR=19							
AKTK	**Aktyubinsk**	**36.60**	**258**	P	**P**	**05 45 27.3**	**-0.4**
AKTO	**Aktyubinsk**	**36.60**	**258**	P	**P**	**05 45 27.3**	**-0.4**
comp=Z,1.0nm,0.8s,mb3.7,baz=353,slow=14,SNR=4.6							
AKTO	**Aktyubinsk**	**36.60**	**258**	P	**P**	**05 45 27.3**	**-0.3**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.7							
AKASG	**Malin Array Be**	**41.34**	**286**	P	**P**	**05 46 06.9**	**-0.4**
comp=Z,1.3nm,0.5s,mb3.8,baz=15,slow=8.8,SNR=6.6							
AAK	**Ala-Archa**	**41.52**	**238**	*eP*	**P**	**05 46 09.0**	**+0.2**
AAK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.0							
AAK	**Ala-Archa**	**41.52**	**238**	*eP*	**P**	**05 46 09.0**	**+0.2**
comp=Z,3.3nm,0.8s,mb4.0							
BURAR	**Bucovina Array**	**45.00**	**289**	⇑P	**P**	**05 46 37.3**	**+0.4**
BURAR	**Bucovina Array**	**45.00**	**289**	⇑P	**P**	**05 46 37.3**	**+0.3**
GERES	**GERESS Array B**	**45.64**	**300**	P	**P**	**05 46 41.2**	**-0.8**
comp=Z,0.3nm,0.4s,mb3.5,baz=9.5,slow=8.1,SNR=3.7							
GERES				LR	LR	06 08 35.1	
comp=Z,68nm,18.2s,MS3.6,baz=133,slow=40							
CFR	**Carcaliu**	**46.88**	**285**	⇓P	**P**	**05 46 51.7**	**0.0**
CFR	**Carcaliu**	**46.88**	**285**	⇓P	**P**	**05 46 51.7**	**0.0**
MLR	**Muntele Rosu**	**46.94**	**288**	⇑P	**P**	**05 46 54.2**	**+2.0**
MLR	**Muntele Rosu**	**46.94**	**288**	⇑P	**P**	**05 46 54.2**	**+2.0**
BOZ	**Bozeman (W)**	**50.82**	**48**	*eP*	**P**	**05 47 22.7**	**+0.7**
BOZ				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.1							
BOZ	**Bozeman (W)**	**50.82**	**48**	*eP*	**P**	**05 47 22.7**	**+0.7**
comp=Z,3.4nm,1.2s,mb4.2							
BRTR	**Keskin Array B**	**51.23**	**278**	P	**P**	**05 47 26.5**	**+1.4**
comp=Z,1.0nm,0.9s,mb3.7,baz=0.0,slow=8.6,SNR=2.9							
PDAR	**Pinedale Array**	**53.92**	**47**	P	**P**	**05 47 44.5**	**-0.5**
comp=Z,0.4nm,0.6s,mb3.5,baz=14,slow=6.1,SNR=4.1							
NVAR	**Mina Array Bea**	**56.98**	**56**	P	**P**	**05 48 05.2**	**-1.9**
comp=Z,0.5nm,0.8s,mb3.6,baz=308,slow=5.4,SNR=4.0							
ANMO	**Albuquerque**	**62.01**	**46**	P	**P**	**05 48 41.5**	**-0.3**
comp=Z,1.1nm,0.8s,mb4.0,baz=350,slow=7.0,SNR=4.1							
ANMO	**Albuquerque**	**62.01**	**46**	P	**P**	**05 48 41.5**	**-0.3**
TXAR	**Lajitas Array**	**67.90**	**44**	P	**P**	**05 49 19.9**	**-0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=2.3,slow=4.2,SNR=33							
TORD	**Torodi Ar. Bea**	**82.44**	**304**	P	**P**	**05 50 43.1**	**-0.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=347,slow=3.5,SNR=4.7							

*IDC **09** 05:41:07.7±0.6,2161S×17459W,h0km,mb4.5/14,*
mb1 4.6/15,mb1mx4.6/22,mbtmp4.4/15,ML4.3/1,MS5.0/2,
Ms1 5.0/2,ms1mx4.1/23,Error ellipse: s-maj=26.4km
s-min=17.2km az=136.0
*BJI **09** 05:41:09.0,2150S×17480W,h10km,mB5.3,mb5.1,Ms5.4,*
Msz5.1
*NEIC **09** 05:41:11.4±8.0,2148S×17482W,h20km±48km,mb4.7/15,*
Error ellipse: s-maj=16.8km s-min=10.5km az=157.0
*SZGRF **09** 05:41:11.7,2200S×17275W,h33km,mb5.1,Tonga*
Islands region
*ISCJB **09** 05:41:12.0±0.3,2153S±009×1748W±01,h33km,mb4.8/34,*
MS5.1/4,Error ellipse: s-maj=16.0km s-min=9.9km
az=88.9

ISC 09 05:41:13.8±0.4,2154S±009×1748W±01,h35km,n107,σ1§11/49,mb4.8/34,MS5.1/4,9C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.11**	**21**	Pn	**Pn**	**05 43 03.5**	**-5.5**
7.5nm,0.3s,baz=26,slow=19,SNR=3.2							
AFI				Sn	**Sn**	**05 44 21.2**	**-18**
4.8nm,0.3s,baz=59,slow=23,SNR=2.6							
AFI				LR	LR	05 45 44.7	
comp=Z,178nm,19.4s,baz=218,slow=34							
AFI	**Afiamalu**	**8.11**	**21**	Pn	**Pn**	**05 43 03.5**	**-5.5**
AFI				Sn	**Sn**	**05 44 21.2**	**-18**
AFI				LR	LR	05 45 44.7	
RAO	**Raoul Island**	**8.18**	**200**	Sn	**Sn**	**05 44 35.3**	**-5.9**
53nm,0.3s,baz=256,slow=22,SNR=11							
RAR	**Rarotonga**	**14.00**	**91**	Pn	**Pn**	**05 44 13.2**	**-16**
15nm,0.3s,baz=244,slow=8.7,SNR=14							
DZM	**Mont Dzumac**	**17.43**	**265**	Pn	**Pn**	**05 45 20.5**	**+6.4**
0.4nm,0.3s,baz=83,slow=19,SNR=4.9							
URZ	**Urewera**	**18.07**	**201**	P	**Pn**	**05 45 21.9**	**-0.1**
1.0nm,0.3s,baz=49,slow=8.6,SNR=6.2							
RPZ	**Rata Peaks**	**25.05**	**205**	P	**P**	**05 46 33.7**	**-0.9**
16nm,0.9s,mb4.5,baz=50,slow=7.9,SNR=3.9							
CTA	**Charters Tower**	**36.37**	**265**	P	**P**	**05 48 14.8**	**+0.2**
6.3nm,0.7s,mb4.6,baz=89,slow=10,SNR=7.2							
CTAO	**Charters Tower**	**36.37**	**265**	*eP*	**P**	**05 48 15.6**	**+1.1**
9.6nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**40.06**	**246**	P	**P**	**05 48 44.5**	**-1.1**
8.4nm,1.1s,mb4.4,baz=14,slow=6.0,SNR=4.1							
STKA				LR	LR	06 03 24.1	
comp=Z,5μm,20.0s,MS5.3,baz=339,slow=33							
STKA	**Stephens Creek**	**40.06**	**246**	*eP*	**P**	**05 48 44.5**	**-1.1**
RPN	**Rapa Nui**	**59.33**	**110**	LR	LR	06 12 53.2	
comp=Z,532nm,18.3s,MS4.7,baz=266,slow=32							
CASY	**Casey**	**64.32**	**206**	P	**P**	**05 51 40.5**	**-5.2**
21nm,0.5s,mb5.4							
MJAR	**Matsushiro Arr**	**72.84**	**322**	P	**P**	**05 52 39.3**	**+0.4**
6.9nm,0.7s,mb4.7,baz=158,slow=6.5,SNR=6.2							
YBH	**Yreka Blue Hor**	**79.27**	**37**	P	**P**	**05 53 16.3**	**+0.8**
2.5nm,1.0s,mb4.1,baz=196,slow=8.3,SNR=3.0							
NVAR	**Mina Array Bea**	**79.76**	**42**	P	**P**	**05 53 17.3**	**-0.8**
2.6nm,0.8s,mb4.2,baz=209,slow=5.8,SNR=15							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**81.30**	**50**	*eP*	**P**	**05 53 26.8**	**+0.3**
1.6nm,0.9s,mb4.0							
NJ2	**Nanjing**	**82.85**	**308**	*eP*	**P**	**05 53 34.9**	**+0.4**
NJ2				AMB	AMB		
comp=Z,20nm,1.1s,mb5.1							
DUG	**Dugway**	**84.24**	**43**	*eP*	**P**	**05 53 42.8**	**+1.1**
comp=Z,4.5nm,1.3s,mb4.4							
MNTX	**Cornudas Mount**	**84.94**	**53**	*eP*	**P**	**05 53 46.5**	**+1.3**
comp=Z,12nm,1.8s,mb4.7							
CN2	**Changchun**	**84.96**	**321**	*eP*	**P**	**05 53 46.5**	**+1.2**
CN2				AMB	AMB		
comp=Z,20nm,1.2s,mb5.1							
CN2				LR	LR		
comp=N,1μm,17.0s,MS5.5							
CN2				LR	LR		
comp=E,1μm,17.0s,MS5.5							
CN2				LR	LR		
comp=Z,2μm,21.0s,MS5.4							
TXAR	**Lajitas Array**	**85.12**	**56**	P	**P**	**05 53 45.1**	**-1.0**
comp=Z,0.8nm,0.9s,mb3.9,baz=202,slow=6.7,SNR=6.7							
HLID	**Hailey**	**85.19**	**39**	*eP*	**P**	**05 53 45.4**	**-1.1**
comp=Z,11nm,1.3s,mb4.8							
MA2	**Magadan**	**85.60**	**343**	*eP*	**P**	**05 53 45.1**	**-3.5**
comp=Z,7.2nm,0.9s,mb4.9							
ANMO	**Albuquerque**	**85.75**	**50**	P	**P**	**05 53 47.5**	**-1.7**
comp=Z,9.8nm,1.2s,mb4.9,baz=215,slow=6.6,SNR=13							
ANMO	**Albuquerque**	**85.75**	**50**	*eP*	**P**	**05 53 48.8**	**-0.4**
comp=Z,8.8nm,1.1s,mb4.9							
GDL2	**Guadalupe Moun**	**85.94**	**53**	*eP*	**P**	**05 53 52.1**	**+1.9**
SYO	**Syowa Base**	**86.36**	**192**	⇓*eP*	**P**	**05 53 52.7**	**+0.5**
SYO				⇑*ePcP*	PcP	05 53 55.5	+0.8
PLCA	**Paso Flores**	**86.38**	**132**	P	**P**	**05 53 51.5**	**-0.9**
comp=Z,2.8nm,1.0s,mb4.5,baz=159,slow=4.9,SNR=3.5							
PLCA	**Paso Flores**	**86.38**	**132**	P	**P**	**05 53 53.7**	**+1.3**
comp=Z,8.0nm,1.2s,mb4.8							
MCK	**McKinley**	**87.36**	**11**	*eP*	**P**	**05 53 56.0**	**-1.2**
comp=Z,20nm,1.5s,mb5.1							
SMCO	**Snowmass**	**87.50**	**46**	*eP*	**P**	**05 53 58.3**	**+0.5**
comp=Z,2.8nm,0.9s,mb4.5							
PSI	**Prapat**	**87.55**	**274**	P	**P**	**05 53 58.2**	**+0.1**
comp=Z,6.1nm,0.7s,mb5.0,baz=129,slow=4.4,SNR=4.5							
BW06	**Boulder Array**	**87.69**	**42**	*eP*	**P**	**05 53 58.9**	**+0.1**
comp=Z,3.4nm,1.0s,mb4.5							
PDAR	**Pinedale Array**	**87.69**	**42**	P	**P**	**05 53 56.8**	**-1.9**
comp=Z,1.9nm,0.9s,mb4.3,baz=213,slow=2.5,SNR=11							
SDCO	**Great Sand Dun**	**87.80**	**48**	*eP*	**P**	**05 54 00.3**	**+1.1**
comp=Z,2.3nm,1.0s,mb4.4							
COLA	**College**	**88.60**	**11**	P	**P**	**05 54 01.5**	**-1.6**
comp=Z,57nm,1.9s,mb5.6							
ILAR	**Eielson Array**	**88.69**	**12**	P	**P**	**05 54 02.2**	**-1.2**
comp=Z,2.2nm,1.0s,mb4.4,baz=214,slow=5.6,SNR=9.8							
ENH	**Enshi**	**89.10**	**303**	P	**P**	**05 54 06.6**	**+1.2**
comp=Z,104nm,1.5s,mb5.9							
WMOK	**Wichita Mounta**	**91.25**	**53**	*eP*	**P**	**05 54 15.4**	**0.0**
comp=Z,3.0nm,1.1s,mb4.5							
RSSD	**Black Hills**	**91.85**	**43**	*eP*	**P**	**05 54 19.4**	**+1.2**
comp=Z,2.7nm,1.0s,mb4.5							
JTS	**JuntasAbangare**	**93.57**	**80**	*eP*	**P**	**05 54 28.4**	**+2.2**
comp=Z,16nm,0.9s,mb5.5							
DGMT	**Dagmar**	**93.82**	**39**	*eP*	**P**	**05 54 25.7**	**-1.6**
comp=Z,13nm,0.9s,mb5.4							
CD2	**Chengdu**	**93.87**	**302**	*eP*	**P**	**05 54 27.8**	**+0.3**
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.6							
CD2				AMB	AMB		
comp=Z,90nm,5.3s							
INK	**Inuvik**	**94.51**	**14**	P	**P**	**05 54 31.2**	**+0.7**
comp=Z,1.0nm,0.9s,mb4.2,baz=220,slow=11,SNR=3.7							
INK	**Inuvik**	**94.51**	**14**	P	**P**	**05 54 31.2**	**+0.7**
LZH	**Lanzhou**	**95.78**	**306**	*eP*	**P**	**05 54 36.5**	**+0.3**
LZH				AP	pP	05 54 41.3	-6.1
LZH				XP	sP	05 54 43.5	-7.9
LZH				PP	PP	05 58 30.7	+2.5
LZH				AMB	AMB		
comp=Z,22nm,1.6s,mb5.3							
YKA	**Yellowknife Ar**	**96.22**	**24**	P	**P**	**05 54 36.4**	**-1.9**
comp=Z,0.6nm,0.9s,mb4.0,baz=235,slow=4.2,SNR=8.3							
ARCES	**ARCESS Array B**	**130.44**	**351**	PKP	PKPdf	06 00 18.2	-2.3
comp=Z,7.2nm,1.1s,baz=45,slow=1.3,SNR=3.8							
FINES	**FINESS Array B**	**137.56**	**345**	PKP	PKPdf	06 00 34.5	+0.6
comp=Z,1.3nm,0.8s,baz=90,slow=1.4,SNR=3.3							
SUW	**Suwalki**	**144.81**	**342**	*eP*	PKPdf	06 00 45.5	-1.4
AKASG	**Malin Array Be**	**145.33**	**333**	PKPbc	PKPbc	06 00 47.0	-0.7
comp=Z,5.7nm,0.6s,baz=36,slow=3.6,SNR=26							
RUE	**Ruedersdorf**	**148.41**	**350**	*e*PKPbc	PKPbc	06 00 56.6	+0.1
KWP	**Kalwaria**	**148.72**	**338**	*eP*	PKPdf	06 00 56.0	+2.5
COBT	**Iskenderun**	**149.18**	**306**	*i P*	PKPdf	06 00 58.5	+4.4
COBT				*i* S		06 01 39.6	
BURAR	**Bucovina Array**	**149.38**	**333**	⇑P	PKPdf	06 01 01.4	+6.9
BURAR	**Bucovina Array**	**149.38**	**333**	⇑P	PKPdf	06 01 01.4	+6.9
STHS	**Stebnicka Huta**	**149.40**	**339**	*e*PKP	PKPdf	06 01 00.1	+5.5
STHS				*e*		06 01 07.5	
KOLS	**Kolonicke sedl**	**149.46**	**338**	*e*PKP	PKPdf	06 00 58.8	+4.2
KOLS				*e*		06 01 10.8	
CLL	**Collm**	**149.66**	**350**	*e*PKPbc	PKPbc	06 00 59.3	-0.3
CLL	**Collm**	**149.66**	**350**	*i* PKPbc	PKPbc	06 00 59.3	-0.3
comp=Z,20nm,1.0s							
CLL				LmV		06 58 00.0	
comp=Z,400nm,20.7s							
BR131	**Keskin Array S**	**149.73**	**313**	*e*PKPbc	PKPbc	06 01 00.0	+0.2
BRTR	**Keskin Array B**	**149.73**	**313**	PKPbc	PKPbc	06 01 00.6	+0.7
comp=Z,4.1nm,1.0s,baz=63,slow=2.8,SNR=12							
BRTR				PKPab	PKPab	06 01 07.2	+2.1
comp=Z,3.8nm,0.8s,baz=105,slow=1.4,SNR=8.0							
CFR	**Carcaliu**	**149.82**	**327**	⇓P	PKPdf	06 00 59.8	+4.6
UPC	**Upice**	**149.86**	**346**	*e*PKPbc	PKPbc	06 00 59.7	-0.4
BRG	**Berggiesshubel**	**149.93**	**349**	*e*PKPbc	PKPbc	06 00 59.9	-0.4
BRG	**Berggiesshubel**	**149.93**	**349**	*eP*	PKPdf	06 01 00.3	+4.9
comp=Z,10nm,1.4s							
BRG				*i*		06 01 14.4	
comp=Z,9.3nm,1.1s							
BRG	**Berggiesshubel**	**149.93**	**349**	*eP*	PKPdf	06 01 00.3	+4.9
BRG				*i*		06 01 14.4	
DPC	**Dobruska-Polom**	**149.94**	**346**	*e*PKPbc	PKPbc	06 00 59.9	-0.4
OKC	**Ostrava-Krasne**	**149.95**	**343**	*e*PKPbc	PKPbc	06 00 57.4	-2.9
VRI	**Vrincioaia**	**150.02**	**329**	⇓P	PKPdf	06 01 01.2	+5.7
PVCC	**Panska Ves**	**150.14**	**348**	*e*PKPbc	PKPbc	06 01 00.5	-0.3
TIRR	**Tirgusor**	**150.17**	**325**	⇑P	PKPdf	06 01 00.4	+4.6
TIRR	**Tirgusor**	**150.17**	**325**	⇑P	PKPdf	06 01 00.4	+4.6
MORC	**Moravsky Berou**	**150.17**	**344**	*e*PKPbc	PKPbc	06 01 01.1	+0.2
ANTO	**Ankara**	**150.23**	**314**	*e*PKPbc	PKPbc	06 01 01.2	+0.2
KECS	**Kecovo**	**150.46**	**339**	*e*PKP	PKPdf	06 00 56.8	+0.6
MOX	**Moxa**	**150.51**	**352**	*e*PKPbc	PKPbc	06 01 01.3	-0.4
WERD	**Werda**	**150.61**	**351**	*e*PKPbc	PKPbc	06 01 01.8	-0.1
PRU	**Pruhonice**	**150.66**	**348**	*e*PKPbc	PKPbc	06 01 02.2	+0.2
MLR	**Muntele Rosu**	**150.67**	**329**	PKPbc	PKPbc	06 01 02.3	+0.2
comp=Z,5.4nm,0.8s,baz=11,slow=2.7,SNR=7.3							
VRAC	**Vranov**	**150.84**	**345**	PKPbc	PKPbc	06 01 03.1	+0.7
comp=Z,3.0nm,0.5s,baz=225,slow=3.5,SNR=4.8							
VYHS	**Vyhne**	**150.97**	**341**	*e*PKP	PKPdf	06 01 02.9	+5.9
VYHS				*e*		06 01 16.0	
MEM	**Membach**	**150.98**	**359**	PKPbc	PKPbc	06 01 02.6	-0.2
VOIR		**151.13**	**330**	⇑P	PKPbc	06 01 04.4	+1.3
VOIR		**151.13**	**330**	⇑P	PKPbc	06 01 04.4	+1.2
PSZ	**Piszkesteto**	**151.14**	**339**	*e*PKPbc	PKPbc	06 01 02.4	-0.8
TNS	**Taunus Mts**	**151.26**	**356**	*e*PKPbc	PKPbc	06 01 03.4	0.0
ROTZ	**Rotzenmuhle**	**151.28**	**351**	*e*PKPbc	PKPbc	06 01 03.6	+0.1
GIVF	**Givet**	**151.49**	**1**	*e*PKP1	PKPbc	06 01 03.7	-0.3
comp=Z,58nm,1.1s							
DOU	**Dourbes**	**151.49**	**1**	PKPbc	PKPbc	06 01 04.0	0.0
GRA1	**Grafenberg Arr**	**151.50**	**352**	*e*PKPbc	PKPbc	06 01 03.3	-0.7
GRA1				LR	LR		
comp=Z,300nm,21.4s,MS5.1							
GRF	**Grafenberg Arr**	**151.50**	**352**	*e*PKPbc	PKPbc	06 01 03.3	-0.7
GRF				*e*L		06 59 11.0	
comp=Z,311nm,21.4s							
BAIF	**Baives**	**151.52**	**1**	*e*PKP1	PKPbc	06 01 03.8	-0.3
comp=Z,127nm,1.7s							
KHC	**Kasperske Hory**	**151.66**	**348**	*e*PKPbc	PKPbc	06 01 04.1	-0.3
GEC2	**GERESS Array S**	**151.92**	**348**	*e*PKPbc	PKPbc	06 01 05.6	+0.7
GERES	**GERESS Array B**	**151.92**	**348**	PKPbc	PKPbc	06 01 05.0	+0.1
comp=Z,2.8nm,0.8s,baz=0.0,slow=1.3,SNR=8.3							
GERES				PKPab	PKPab	06 01 13.6	-0.6
comp=Z,1.6nm,0.8s,baz=45,slow=1.9,SNR=3.6							
WLF	**Walferdange**	**151.92**	**359**	PKPbc	PKPbc	06 01 03.0	-2.0
WLF				APKPbc		06 01 09.6	
WLF	**Walferdange**	**151.92**	**359**	*e*PKPbc	PKPbc	06 01 04.4	-0.5
BZS	**Buzias**	**152.47**	**335**	⇑P	PKPdf	06 01 01.9	+2.6
BZS	**Buzias**	**152.47**	**335**	⇑P	PKPdf	06 01 01.9	+2.6
STU	**Stuttgart**	**152.64**	**354**	*e*PKPbc	PKPbc	06 01 06.9	+0.3
GRR	**Gorron**	**152.77**	**9**	*e*PKP1	PKPbc	06 01 06.0	-0.9
comp=Z,34nm,1.1s							
CDF	**Champ du Feu**	**153.13**	**357**	*e*PKP1	PKPbc	06 01 07.2	-0.5
comp=Z,40nm,1.4s							
BFO	**Black Forest**	**153.15**	**355**	*e*PKPbc	PKPbc	06 01 06.9	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOR	**Lormes**	**154.30**	**2**	*e*PKP1	PKPbc	06 01 10.7	+0.5
TORD	**Torodi Ar. Bea**	**171.01**	**158**	PKPab	PKPab	06 02 36.9	-0.5
comp=Z,1.8nm,1.0s,baz=229,slow=4.4,SNR=5.5							

*BJI **09** 05:44:22.6,5.15S×13397E,h20km,mB5.3,mb4.9,Ms5.1,*
Msz4.7
*CSEM **09** 05:44:23.0,5.19S×13305E,h2km,mb5.6*
*ISCJB **09** 05:44:24.3±1.7,503S±005×133.11E±005,h9km±10km,*
mb5.0/65,MS4.7/24,Error ellipse: s-maj=9.1km
s-min=6.2km az=91.4
*IDC **09** 05:44:26.2±0.5,473S×13308E,h0km,mb4.6/13,*
mb1 4.7/15,mb1mx4.7/19,mbtmp4.7/15,ML4.8/2,MS4.8/10,
Ms1 4.8/10,ms1mx4.7/16,Error ellipse: s-maj=23.1km
s-min=14.4km az=60.0
*MOS **09** 05:44:29.0±1.2,485S×13300E,h33km,mb5.3/24,*
MS4.7/7,Error ellipse: s-maj=13.0km s-min=7.0km
az=113.4
*NEIC **09** 05:44:30.4±0.3,481S×13306E,h30km,mb5.2/25,*
MS4.7/7,Error ellipse: s-maj=9.2km s-min=6.3km az=49.0
*HRVD **09** 05:44:30.4±0.2,485S×13286E,h12km,MW5.2/95,*
Centroid moment Tensor Solution. LP body waves:
s51,c78;Mantle waves: s95,c161; Half duration: 1§0
Moment tensor: Scale 10^{16}Nm; M_{rr}0.94±.20;
$M_{\theta\theta}$-5.27±.16; $M_{\phi\phi}$4.33±.24; $M_{r\theta}$-0.48±.47; $M_{\theta\phi}$6.25±.16;
$M_{\phi r}$1.57±.55; Best double couple: $M_0$8.05700×10^{16}
NP1:ϕ_s341.00000°,δ88.00000°,λ168.00000°. Principal axes:
T 7.6270, Plg10.0000°, Azm296.0000°; N 0.8600,
Plg78.0000°, Azm150.0000°; P -8.4860, Plg7.0000°,
Azm27.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.

ISC 09 05:44:28.0±1.9,499S±005×13314E±004,h18km±12km,h26km±3.2km:pP-P,n160,σ1§21/152,mb5.0/65,MS4.7/24,6C-3D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**0.75**	**212**	P	**Pb**	**05 44 45.0**	**+2.4**
182μm,0.9s							
PCI	**Palu**	**13.89**	**287**	P	**Pn**	**05 47 42.9**	**-1.0**
350nm,1.1s							
PMG	**Port Moresby**	**14.58**	**108**	Pn	**Pn**	**05 47 54.5**	**+1.1**
2.3nm,0.3s,baz=302,slow=5.3,SNR=7.2							
PMG				Sn	**Sn**	**05 50 34.7**	**+0.1**
1.0nm,0.3s,baz=263,slow=23,SNR=3.0							
WRAB	**Tennant Creek**	**14.90**	**176**	Pn	**Pn**	**05 47 54.1**	**-3.6**
568nm,0.6s,SNR=23							
WRAB	**Tennant Creek**	**14.90**	**176**	*d iP*	**Pn**	**05 47 56.4**	**-1.3**
WRAB	**Tennant Creek**	**14.90

MAT pmax pmax
comp=Z,17nm,0.9s,mb4.7
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 41.59 6 *e*P **P 05 52 14.0 -0.8**
comp=Z,17nm,0.9s,mb4.7
MAT *e*S **S 05 58 35.0 +5.0**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
ENH Enshi 41.74 329 *e*P **P 05 52 15.0 -1.1**
comp=Z,44nm,0.9s,mb5.1
ENH *e* pP 05 52 20.9 -0.8
ENH LR LR
comp=Z,1μm,22.0s,MS4.7
KMI Kunming 42.06 317 P **P 05 52 23.4 +4.8**
KMI AMB AMB
comp=Z,22nm,1.1s,mb4.7
TIA Tai'an 43.65 341 *e*P **P 05 52 30.6 -0.9**
XAN Xi'an 45.06 331 P **P 05 52 41.6 -1.2**
XAN S **S 05 59 21.3 +0.4**
XAN AMB AMB
comp=Z,12nm,1.1s,mb4.6
XAN AMB AMB
comp=Z,56nm,5.3s
XAN LR LR
comp=N,411nm,25.7s,MS4.4
XAN LR LR
comp=E,427nm,23.5s,MS4.4
XAN LR LR
comp=Z,697nm,21.4s,MS4.6
CD2 Chengdu 45.42 324 P **P 05 52 48.6 +3.0**
CD2 AP pP 05 52 58.4 +7.2
CD2 XP sP 05 53 03.7 +10
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CD2 AMB AMB
comp=Z,80nm,4.3s
CD2 LR LR
comp=E,430nm,15.0s
CD2 LR LR
comp=Z,450nm,19.8s,MS4.4
BJT Baijiatuau 47.44 342 *e*P **P 05 53 00.3 -1.2**
BJT pmax pmax
comp=Z,76nm,1.1s
BJT Baijiatuau 47.44 342 *e*P **P 05 53 00.3 -1.2**
comp=Z,76nm,1.1s,mb5.5
CN2 Changchun 49.06 353 *e*P **P 05 53 14.0 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 LR LR
comp=N,1μm,18.0s,MS5.1
CN2 LR LR
comp=E,1μm,18.0s,MS5.1
CN2 LR LR
comp=Z,2μm,21.0s,MS5.0
LZH Lanzhou 49.23 328 *e*P **P 05 53 14.9 -0.4**
LZH AP pP 05 53 21.0 +0.1
LZH XP sP 05 53 24.6 +1.5
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,110nm,4.4s
LZH LR LR
comp=N,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.0s,MS5.1
MDJ Mudanjiang 49.49 357 *e*P **P 05 53 17.1 -0.1**
comp=Z,28nm,1.1s,mb5.2
HHC Hu-ho-hao-te 49.72 339 ⇑P **P 05 53 19.6 +0.5**
HHC AP pP 05 53 24.2 -0.5
HHC XP sP 05 53 27.7 +0.8
HHC PCP PcP 05 54 40.9 +0.9
HHC PP PP 05 55 14.4 +0.8
HHC SCP ScP 05 58 33.4 -1.3
HHC S **S 06 00 27.3 +0.1**
HHC SCS ScS 06 03 08.0 -1.9
HHC SS SS 06 03 57.1 -2.5
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,187nm,6.0s
HHC LR LR
comp=N,585nm,18.0s,MS4.7
HHC LR LR
comp=E,514nm,21.6s,MS4.7
HHC LR LR
comp=Z,678nm,19.2s,MS4.7
BTO Baotou 50.09 337 *e*P **P 05 53 23.6 +1.7**
SHL Shillong 50.26 309 *e*P **P 05 53 23.0 -0.1**
RPZ Rata Peaks 50.99 145 P **P 05 53 31.6 +2.9**
comp=Z,12nm,0.9s,mb4.8,baz=350,slow=3.4,SNR=3.4
YSS Yuzh-Sakhalins 52.42 8 *e*P **P 05 53 40.1 +0.8**
YSS pmax pmax
comp=Z,71nm,2.6s,mb5.1
LSA Lhasa 53.01 313 P **P 05 53 45.7 +2.0**
LSA Lhasa 53.01 313 *e*P **P 05 53 45.2 +1.5**
LSA pmax pmax
comp=Z,14nm,0.8s,mb4.9
LSA MLR MLR
comp=Z,449nm,22.0s,MS4.5
LSA Lhasa 53.01 313 *e*P **P 05 53 45.2 +1.5**
comp=Z,14nm,0.8s,mb5.0
LSA LR LR
comp=Z,449nm,22.0s,MS4.5
PALK Pallekele 53.72 283 *e*P **P 05 53 51.9 +2.9**
comp=Z,21nm,0.9s,mb5.1
KLR Kul'dur 54.01 359 *e*P **P 05 53 47.2 -3.9**
KLR *e*S **S 06 01 30.0 +3.8**
KLR *e* 06 03 34.0
KLR pmax pmax
comp=Z,130nm,2.6s,mb5.4
KLR MLR MLR
comp=N,700nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.0
JIRN Jiri 55.71 308 *e*P **P 05 54 03.5 +0.1**
comp=Z,70nm,1.3s,mb5.5
GUN Gumba 56.07 308 *e*P **P 05 54 05.2 -0.8**
comp=Z,58nm,0.9s,mb5.6
PKI Pulchoki 56.28 308 *e*P **P 05 54 07.2 -0.3**
KKN Kakani 56.49 308 *e*P **P 05 54 08.0 -0.9**
DMN Daman 56.54 308 *e*P **P 05 54 08.7 -0.6**
GKN Gorkha 57.09 308 *e*P **P 05 54 12.2 -1.0**
comp=Z,43nm,0.7s,mb5.6
ULN Ulaanbaatar 57.41 339 *d i*P **P 05 54 15.3 -0.2**
ULN Ulaanbaatar 57.41 339 *e*P **P 05 54 15.5 0.0**
comp=Z,21nm,1.0s,mb5.1
ULN LR LR
comp=Z,561nm,21.0s,MS4.7
SONM Songino Array 57.62 339 P **P 05 54 17.1 +0.2**
comp=Z,5.5nm,0.8s,mb4.6,baz=176,slow=7.9,SNR=19
KOLN Koldanda 57.80 307 *e*P **P 05 54 17.4 -0.8**
comp=Z,92nm,1.1s,mb5.7
HYB Hyderabad 58.30 294 *i*P **P 05 54 21.0 -0.7**
HYB Hyderabad 58.30 294 *e*P **P 05 54 21.0 -0.7**
CIT Chita 59.20 346 *e*P **P 05 54 28.6 +0.6**
CIT pmax pmax
comp=Z,57nm,1.4s,mb5.4
ZAK Zakamensk 60.87 339 *e*P **P 05 54 39.3 -0.1**
ZAK pmax pmax
comp=Z,32nm,1.7s,mb5.2
PET Petropavlovsk 61.69 17 *e*P **P 05 54 51.1 +6.1**
PET *e* 06 03 09.8
PET smax
comp=N,43nm,0.5s
IRK Irkutsk 62.08 340 *e*P **P 05 54 49.2 +1.6**
IRK pmax pmax
comp=Z,44nm,1.3s,mb5.4
WMQ Urumqi 63.49 325 P **P 05 54 57.5 +0.5**
WMQ XP sP 05 55 04.5 -0.5
WMQ PP PP 05 57 18.5 +1.8
WMQ SCP ScP 05 59 35.0 -0.2
WMQ S **S 06 03 28.0 -1.4**
WMQ SCS ScS 06 04 46.0 -3.5
WMQ AMB AMB
comp=Z,68nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,35nm,6.0s
WMQ LR LR
comp=N,389nm,13.0s,MS4.9
WMQ LR LR
comp=E,327nm,12.0s,MS4.9
WMQ LR LR
comp=Z,347nm,11.0s,MS4.8
BOD Bodaibo 64.49 349 *e*P **P 05 55 02.7 -0.9**
BOD pmax pmax
comp=Z,19nm,1.3s,mb5.0
MA2 Magadan 65.87 10 *e*P **P 05 55 14.8 +2.3**
MA2 *e* 05 55 32.3
MA2 *i*S S 06 03 58.3 -0.4
MA2 *e*PS 06 04 15.7
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MA2 Magadan 65.87 10 *e*P **P 05 55 12.8 +0.2**
comp=Z,33nm,1.3s,mb5.2
YAK Yakutsk 66.88 358 *e*P **P 05 55 19.1 +0.1**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 66.88 358 *e*P **P 05 55 18.5 -0.5**
comp=N,36nm,0.6s,mb5.6
MK31 Makanchi Array 68.32 325 *i*P **P 05 55 27.7 -0.4**
MK31 pmax pmax
comp=Z,37nm,1.0s,mb5.4
MKAR Makanchi Array 68.32 325 P **P 05 55 28.1 0.0**
comp=Z,3.7nm,0.6s,mb4.6,baz=113,slow=7.9,SNR=41
MKAR LR LR 06 28 02.7
comp=Z,329nm,21.3s,MS4.5,baz=178,slow=38
KSH Kashi 68.71 316 *e*P **P 05 55 33.2 +2.7**
KSH *e*AP pP 05 55 44.0 +7.6
KSH *e*XP sP 05 55 48.1 +10
KSH AMB AMB
comp=Z,280nm,5.4s
KSH LR LR
comp=N,250nm,4.8s
KSH LR LR
comp=E,290nm,5.7s
KRAR Krasnoyarsk 69.18 337 *i*P **P 05 55 33.5 0.0**
SEY Seymchan 69.30 9 ⇑*e*P **P 05 55 35.5 +1.3**
KZA Kyzart 70.33 318 P **P 05 55 41.9 +1.4**
SNR=9.9
TKM2 Tokmak 2 70.48 319 P **P 05 55 47.7 +6.2**
SNR=7.0
UCH Uchtor 70.89 318 P **P 05 55 51.1 +7.1**
SNR=8.5
AAK Ala-Archa 71.08 318 P **P 05 55 52.1 +7.0**
SNR=6.6
AAK Ala-Archa 71.08 318 ⇑*e*P **P 05 55 45.7 +0.6**
AAK pmax pmax
comp=Z,19nm,1.3s,mb4.9
AAK MLR MLR
comp=Z,400nm,21.0s,MS4.7
AAK Ala-Archa 71.08 318 *e*P **P 05 55 44.5 -0.6**
comp=Z,17nm,1.2s,mb4.8
AAK LR LR
comp=Z,456nm,21.0s,MS4.7
FRU Bishkek 71.09 318 *e*P **P 05 55 51.4 +6.3**
USP Ospenovka 71.36 319 P **P 05 55 52.6 +5.8**
SNR=7.2
AML Almayashu 71.40 317 P **P 05 55 49.1 +2.1**
SNR=9.1
EKS2 Erkin-Say 71.57 318 P **P 05 55 54.5 +6.5**
SNR=5.3
KURK Kurchatov 72.49 327 P **P 05 55 53.7 +0.1**
comp=Z,154nm,1.0s,mb5.9,SNR=6.5
KURK Kurchatov 72.49 327 *d i*P **P 05 55 54.0 +0.4**
KURK Kurchatov 72.49 327 *e*P **P 05 55 52.9 -0.7**
comp=Z,30nm,1.0s,mb5.2
NVS Novosibirsk 72.50 332 *e*P **P 05 55 50.9 -2.8**
NVS pmax pmax
comp=N,29nm,1.7s
NVS pmax pmax
comp=E,24nm,1.7s
NVS pmax pmax
comp=Z,43nm,1.7s,mb5.1
KK31 Karatay Array 73.94 317 *i*P **P 05 56 01.6 -0.5**
KK31 pmax pmax
comp=Z,23nm,1.2s,mb5.0
KKAR Karatay Array 73.94 317 *i*P **P 05 56 01.6 -0.5**
KKAR pmax pmax
comp=Z,28nm,1.3s,mb5.0
VNDA Vanda 74.07 174 P **P 05 56 04.3 +1.4**
comp=Z,17nm,1.0s,mb4.9,baz=327,slow=3.7,SNR=8.0
VNDA LR LR 06 30 30.8
comp=Z,932nm,18.5s,MS5.1,baz=346,slow=37
VNDA Vanda 74.07 174 *e*P **P 05 56 04.4 +1.5**
VNDA pmax pmax
comp=Z,23nm,1.1s
VNDA Vanda 74.07 174 *e*P **P 05 56 04.4 +1.5**
comp=Z,23nm,1.1s,mb5.0
BILL Biiibino 76.48 12 *e*P **P 05 56 18.0 +1.2**
BILL pmax pmax
comp=Z,11nm,2.5s,mb4.3
BILL MLR MLR
comp=Z,500nm,21.0s,MS4.8
TIXI Tiksi 76.55 359 *e*P **P 05 56 15.1 -2.0**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TIXI MLR MLR
comp=Z,928nm,18.0s,MS5.1
BVA0 Borovoye Array 78.07 327 *i*P **P 05 56 24.9 -0.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 78.07 327 P **P 05 56 25.4 -0.3**
comp=Z,3.6nm,0.8s,mb4.3,baz=117,slow=6.6,SNR=18
BRVK Borovoye 78.15 327 *e*P **P 05 56 24.6 -1.5**
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 78.15 327 *e*P **P 05 56 24.6 -1.5**
comp=Z,14nm,0.9s,mb4.9
AB31 Akbulak array 82.91 321 *i*P **P 05 56 49.8 -1.9**
AB31 pmax pmax
comp=Z,17nm,1.1s,mb5.0
AKTK Aktyubinsk 84.43 322 P **P 05 56 59.1 -0.3**
AKTO Aktyubinsk 84.43 322 P **P 05 56 59.1 -0.3**
comp=Z,6.2nm,1.0s,mb4.7,baz=87,slow=7.4,SNR=6.6
AKTO Aktyubinsk 84.43 322 *i*P **P 05 56 59.5 +0.1**
AKTO pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
ARU Arti 85.68 328 *e*P **P 05 57 04.3 -1.4**
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.9
ARU Arti 85.68 328 P **P 05 57 06.7 +0.9**
comp=Z,21nm,1.0s,mb5.3
ARU LR LR
comp=Z,443nm,21.0s,MS4.8
TTA Tatalina 85.83 26 *e*P **P 05 57 05.8 -0.7**
TTA pmax pmax
comp=Z,33nm,1.3s,mb5.4
TTA Tatalina 85.83 26 *e*P **P 05 57 05.8 -0.7**
comp=Z,33nm,1.3s,mb5.4
KDAK Kodiak Island 85.89 31 P **P 05 57 07.3 +0.6**
comp=Z,11nm,0.7s,mb5.2,baz=207,slow=4.5,SNR=5.0
TAOE Nuku Hiva Isla 86.01 98 *e*LR LR 05 56 53.4
comp=Z,1μm,20.6s
SYO Syowa Base 86.65 201 ⇑*e*pP pP 05 57 16.1 -0.4
SYO Syowa Base 86.65 201 ⇑*e*pP pP 05 57 16.1 -0.4
IMA2 Indian Mountai 87.78 23 P **P 05 57 14.9 -1.1**
MCK McKinley 89.12 26 *e*P **P 05 57 24.0 +1.7**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
MCK McKinley 89.12 26 *e*P **P 05 57 23.9 +1.6**
comp=Z,7.6nm,1.0s,mb5.0
RKT Rikitea 89.80 113 *e*LR LR 05 57 30.0
comp=Z,456nm,20.8s
ILAR Eielson Array 90.22 25 P **P 05 57 26.3 -1.1**
comp=Z,1.6nm,1.1s,mb4.3,baz=267,slow=4.4,SNR=9.9
ILAR LR LR 06 38 24.8
comp=Z,402nm,18.9s,MS4.9,baz=93,slow=36
INK Inuvik 95.85 22 P **P 05 57 52.8 -0.6**
comp=Z,0.7nm,1.0s,mb4.1,baz=236,slow=5.8,SNR=2.9
SOC Sochi 95.89 313 *e*P **P 05 57 50.6 -3.0**
SOC *e*S SKSac 06 08 24.0 -5.1
SOC *e**SS 06 08 58.8
SOC pmax pmax
comp=Z,17nm,0.9s,mb5.5
KLMR Klimovskoe 96.09 331 *e*P **P 05 57 54.0 -0.5**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb5.3
OBN Obninsk 97.83 325 *e*P **P 05 58 02.7 +0.3**
OBN pmax pmax
comp=Z,24nm,2.5s,mb5.3
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.5
ARCES ARCESS Array B 100.78 340 P Pdif 05 58 14.6 -0.9
comp=Z,4.5nm,0.7s,baz=90,slow=4.9,SNR=6.2
FINES FINESS Array B 102.49 332 P Pdif 05 58 26.7 +3.5
comp=Z,2.0nm,1.0s,baz=207,slow=4.3,SNR=4.1
FINES FINESS Array B 102.49 332 P Pdif 05 58 26.7 +3.5
YKA Yellowknife Ar 104.58 26 Pdiff Pdif 05 58 33.4 +0.9
comp=Z,0.1nm,0.6s,baz=293,slow=4.2,SNR=2.8
YKA PKiKP PKiKP 06 02 50.3 +2.0
comp=Z,1.5nm,1.2s,baz=304,slow=1.5,SNR=4.2
YKA PKKPbc PKKPbc 06 14 23.5 +6.2
comp=Z,0.2nm,0.8s,baz=105,slow=3.5,SNR=4.5
ULM Lac du Bonnet 119.06 34 PKP PKPdf 06 03 16.8 +1.1
comp=Z,0.9nm,0.4s,baz=208,slow=1.0,SNR=2.8
TXAR Lajitas Array 121.23 59 PKP PKPdf 06 03 22.3 +2.5
comp=Z,0.1nm,0.5s,baz=98,slow=18,SNR=2.7
PLCA Paso Flores 129.58 157 PKP PKPdf 06 03 41.8 +5.9
comp=Z,2.6nm,0.9s,baz=129,slow=1.0,SNR=3.6
TORD Torodi Ar. Bea 131.44 283 PKP PKPdf 06 03 41.3 +2.0
comp=Z,1.1nm,0.8s,baz=95,slow=1.8,SNR=5.8
CFAA Coronel Fontan 138.29 152 PKP PKPdf 06 03 55.0 +2.9
comp=Z,0.2nm,0.2s
LVC Limon Verde 145.10 143 *e*PKPbc PKPbc 06 04 07.4 +3.6
NNA Nana 145.75 120 *e*PKPbc PKPbc 06 04 08.9 +3.0
CPUP Villa Florida 147.25 162 *e*PKP2 PKPab 06 04 13.0 +1.0
ARE Arequipa 147.63 132 *e*P PKPdf 06 04 16.0 +7.4
LPAZ La Paz 150.17 136 PKPbc PKPbc 06 04 22.0 +4.3
comp=Z,11nm,0.9s,baz=210,slow=0.9,SNR=15
LPAZ La Paz 150.17 136 *e*PKPbc PKPbc 06 04 21.6 +3.8
ROSC El Rosal 152.63 89 PKPbc PKPbc 06 04 27.1 +3.6
comp=Z,4.6nm,0.6s,baz=93,slow=22,SNR=3.2
ROSC PKPab PKPab 06 04 38.3 +4.3
comp=Z,8.3nm,0.8s,baz=82,slow=18,SNR=4.7
SDV Santo Domingo 156.09 79 *e*PKPdf PKPdf 06 04 24.9 +3.6

IDC 09 05:44:55.4±7.6, 1039N×9371E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/19, mbtmp4.0/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/22, Error ellipse: s-maj=164.9km s-min=54.2km az=149.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.15**	**145**	LR	LR	05 51 34.3	
	comp=Z,151nm,18.4s,baz=290,slow=43						
MKAR	**Makanchi Array**	**37.55**	**347**	P	P	05 52 11.5	+0.2
	1.2nm,0.8s,baz=170,slow=8.8,SNR=15						
SONM	**Songino Array**	**38.82**	**14**	P	P	05 52 22.0	0.0
	0.6nm,0.9s,baz=207,slow=6.6,SNR=4.9						
AKTO	**Aktyubinsk**	**49.55**	**331**	P	P	05 53 47.6	-0.4
	0.9nm,0.7s,baz=114,slow=9.9,SNR=3.9						
BRTR	**Keskin Array B**	**60.49**	**310**	P	P	05 55 07.5	+0.5
	1.7nm,0.7s,baz=121,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**70.30**	**332**	P	P	05 56 10.5	-0.1
	2.3nm,1.0s,baz=90,slow=6.9,SNR=5.5						
ARCES	**ARCESS Array B**	**72.77**	**340**	P	P	05 56 25.4	-0.2
	5.2nm,1.0s,baz=90,slow=7.2,SNR=4.7						

*NEIC **09** 05:47:22.2, 38.75S×176.19E, h86km, ML3.8(WEL), After WEL.*

WEL 09 05:47:22.3±0.1, 3875S×17620E, h85km±1km, ML3.8/12, 8C-2D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.16**	**210**	⇑P*	Pn	05 47 34.3	-0.2
HATZ	**Hinemaiaia**	**0.16**	**210**	P	Pn	05 47 34.3	-0.2
WHTZ	**Whakaora**	**0.20**	**294**	P*	Pn	05 47 34.8	+0.1
WHTZ	**Whakaora**	**0.20**	**294**	P	Pn	05 47 34.8	+0.2
RITZ	**Rihia Road**	**0.35**	**229**	P*	Pn	05 47 35.5	+0.2
RITZ	**Rihia Road**	**0.35**	**229**	P	Pn	05 47 35.6	+0.2
RATZ	**Rangitukua**	**0.35**	**251**	⇑P*	Pn	05 47 35.1	-0.3
RATZ	**Rangitukua**	**0.35**	**251**	P	Pn	05 47 35.1	-0.3
WATZ	**Wairara**	**0.36**	**277**	⇑P*	Pn	05 47 35.2	-0.2
WATZ	**Wairara**	**0.36**	**277**	P	Pn	05 47 35.3	-0.2
PATZ	**Paeroa**	**0.37**	**7**	⇑P*	Pn	05 47 35.8	+0.2
PATZ	**Paeroa**	**0.37**	**7**	P	Pn	05 47 35.8	+0.3
KATZ	**Kakaramea**	**0.45**	**240**	P*	Pn	05 47 36.0	-0.1
BKZ	**Black Stump Fm**	**0.47**	**151**	P*	Pn	05 47 36.4	+0.1
BKZ	**Black Stump Fm**	**0.47**	**151**	P	Pn	05 47 36.4	+0.1
KRVZ	**Karewarewa**	**0.55**	**231**	P*	Pn	05 47 36.9	0.0
KRVZ				S*	Sn	05 47 48.0	+0.2
TAZ	**Tarawera**	**0.57**	**25**	P*	Pn	05 47 37.2	+0.1
TAZ	**Tarawera**	**0.57**	**25**	P	Pn	05 47 37.3	+0.2
OTVZ	**Oturere**	**0.58**	**225**	⇑P*	Pn	05 47 37.5	+0.3
OTVZ				S*	Sn	05 47 48.7	+0.4
WTVZ	**West Tongariro**	**0.60**	**232**	P*	Pn	05 47 37.2	-0.1
WTVZ				S*	Sn	05 47 48.9	+0.4
WTVZ	**West Tongariro**	**0.60**	**232**	P	Pn	05 47 37.3	0.0
WTVZ				S	Sn	05 47 48.9	+0.4
NGZ	**Ngauruhoe**	**0.63**	**227**	P*	Pn	05 47 37.6	-0.1
NGZ				S*	Sn	05 47 49.3	+0.3
NGZ	**Ngauruhoe**	**0.63**	**227**	P	Pn	05 47 37.8	+0.2
TUVZ	**Tukino**	**0.67**	**219**	⇑P*	Pn	05 47 38.2	+0.2
TUVZ				S*	Sn	05 47 50.0	+0.3
TUVZ	**Tukino**	**0.67**	**219**	P	Pn	05 47 38.3	+0.3
TWVZ	**Taurewa**	**0.67**	**241**	P*	Pn	05 47 37.9	-0.2
TWVZ	**Taurewa**	**0.67**	**241**	P	Pn	05 47 37.9	-0.2
WPVZ	**Whakapapa**	**0.68**	**228**	P*	Pn	05 47 38.0	-0.1
WPVZ	**Whakapapa**	**0.68**	**228**	P	Pn	05 47 38.0	-0.1
FWVZ	**Far West T-bar**	**0.71**	**225**	P*	Pn	05 47 38.3	-0.1
FWVZ	**Far West T-bar**	**0.71**	**225**	P	Pn	05 47 38.4	0.0
DRZ	**Dome Shelter**	**0.72**	**223**	P*	Pn	05 47 38.6	+0.1
DRZ	**Dome Shelter**	**0.72**	**223**	P	Pn	05 47 38.9	+0.4
MOVZ	**Moawhango**	**0.74**	**208**	⇑P*	Pn	05 47 38.6	-0.2
MOVZ				S*	Sn	05 47 50.6	-0.4
MOVZ	**Moawhango**	**0.74**	**208**	P	Pn	05 47 38.6	-0.1
MOVZ				S	Sn	05 47 50.7	-0.3
WNVZ	**Wahianoa**	**0.74**	**219**	⇑P*	Pn	05 47 38.9	+0.2
WNVZ				S*	Sn	05 47 50.9	-0.1
WNVZ	**Wahianoa**	**0.74**	**219**	P	Pn	05 47 39.0	+0.3
TRVZ	**Turoa**	**0.74**	**222**	P*	Pn	05 47 39.0	+0.2
TRVZ				S*	Sn	05 47 51.2	+0.2
EDRZ	**Edgecumbe**	**0.77**	**34**	P*	Pn	05 47 39.0	-0.1
EDRZ	**Edgecumbe**	**0.77**	**34**	P	Pn	05 47 39.0	-0.1
MTVZ	**Mangateitei**	**0.85**	**222**	P*	Pn	05 47 40.1	+0.2
MARZ	**Manawahe**	**0.85**	**26**	P*	Pn	05 47 39.8	-0.1
MARZ	**Manawahe**	**0.85**	**26**	P	Pn	05 47 39.9	0.0
PKVZ	**Pokaka**	**0.85**	**231**	P*	Pn	05 47 39.9	-0.1
URZ	**Urewera**	**0.87**	**56**	⇓P*	Pn	05 47 39.9	-0.2
URZ	**Urewera**	**0.87**	**56**	P	Pn	05 47 39.9	-0.2
TGRZ	**Tauranga**	**1.02**	**3**	P*	Pn	05 47 41.8	-0.1
TGRZ	**Tauranga**	**1.02**	**3**	P	Pn	05 47 41.8	-0.1
HIZ	**Hauiti**	**1.08**	**282**	PN	Pn	05 47 42.2	-0.3
HIZ				SN	Sn	05 47 57.6	0.0
HIZ	**Hauiti**	**1.08**	**282**	P	Pn	05 47 42.3	-0.2
MWZ	**Matawai**	**1.12**	**69**	P*	Pn	05 47 43.1	0.0
VRZ	**Vera Road**	**1.18**	**251**	P*	Pn	05 47 43.6	-0.2
VRZ	**Vera Road**	**1.18**	**251**	*e*P	Pn	05 47 43.6	-0.2
KNZ	**Kokohu**	**1.18**	**104**	PN	Pn	05 47 44.1	+0.3
KNZ	**Kokohu**	**1.18**	**104**	*e*P	Pn	05 47 44.3	+0.5
TSZ	**Takapari Road**	**1.32**	**188**	PN	Pn	05 47 45.2	-0.3
TSZ	**Takapari Road**	**1.32**	**188**	P	Pn	05 47 45.2	-0.3
WAZ	**Wanganui**	**1.38**	**223**	⇓PN	Pn	05 47 46.5	+0.3
WAZ	**Wanganui**	**1.38**	**223**	P	Pn	05 47 46.5	+0.3
PXZ	**Pawanui**	**1.38**	**158**	PN	Pn	05 47 45.9	-0.3
MYRZ	**Mayor Island**	**1.47**	**1**	P*	Pn	05 47 47.6	+0.3
RAEZ	**Rainy Point**	**1.50**	**249**	PN	Pn	05 47 48.3	+0.5
RAEZ	**Rainy Point**	**1.50**	**249**	P	Pn	05 47 48.3	+0.5
NEZ	**North Egmont**	**1.72**	**252**	PN	Pn	05 47 51.1	+0.5
NEZ	**North Egmont**	**1.72**	**252**	P	Pn	05 47 51.1	+0.5
PUZ	**Puketiti**	**1.75**	**68**	PN	Pn	05 47 50.8	-0.3
PUZ	**Puketiti**	**1.75**	**68**	P	Pn	05 47 50.9	-0.2
PKE	**Pukeiti**	**1.78**	**255**	PN	Pn	05 47 51.3	-0.1
BFZ	**Birch Farm**	**1.93**	**179**	*e*PN	Pn	05 47 52.2	-1.2
MRZ	**Mangatainoka R**	**1.97**	**194**	PN	Pn	05 47 52.2	-1.7
MRZ	**Mangatainoka R**	**1.97**	**194**	*e*P	Pn	05 47 52.2	-1.7
MXZ	**Matakaoa Point**	**2.04**	**55**	PN	Pn	05 47 55.2	+0.4
MXZ	**Matakaoa Point**	**2.04**	**55**	*e*P	Pn	05 47 55.3	+0.4
KIW	**Kapiti Island**	**2.33**	**205**	PN	Pn	05 47 56.4	-2.3
KIW	**Kapiti Island**	**2.33**	**205**	P	Pn	05 47 56.6	-2.1
MTW	**Mount Morrison**	**2.46**	**192**	PN	Pn	05 47 57.7	-2.8
MTW	**Mount Morrison**	**2.46**	**192**	P	Pn	05 47 57.9	-2.6
CAW	**Cannon Point**	**2.51**	**200**	PN	Pn	05 47 58.4	-2.7
CAW	**Cannon Point**	**2.51**	**200**	P	Pn	05 47 58.5	-2.6
TRWZ	**Traveller**	**2.67**	**188**	PN	Pn	05 48 00.8	-2.5
PAWZ	**Paruwai Farm**	**2.69**	**192**	PN	Pn	05 48 00.7	-2.9
PAWZ	**Paruwai Farm**	**2.69**	**192**	P	Pn	05 48 01.0	-2.6
DUWZ	**D'Urville Isla**	**2.70**	**220**	PN	Pn	05 48 01.1	-2.5
MRW	**Makara Radio**	**2.73**	**204**	PN	Pn	05 48 00.9	-3.1
MRW	**Makara Radio**	**2.73**	**204**	P	Pn	05 48 01.1	-2.9
MSWZ	**Moikau Station**	**2.76**	**195**	PN	Pn	05 48 01.4	-3.0
MSWZ	**Moikau Station**	**2.76**	**195**	P	Pn	05 48 01.7	-2.7
BHW	**Baring Head**	**2.84**	**201**	PN	Pn	05 48 02.2	-3.3
TCW	**Tory Channel**	**2.87**	**210**	PN	Pn	05 48 03.0	-2.9
TUWZ	**Tuamarina**	**3.19**	**212**	PN	Pn	05 48 07.0	-3.2
BSWZ	**Blackbirch Sta**	**3.45**	**210**	PN	Pn	05 48 10.1	-3.7
QRZ	**Quartz Range**	**3.50**	**233**	*e*PN	Pn	05 48 11.8	-2.7

THZ	**Tophouse**	**3.92 219**	*e*PN	Pn	05 48 16.7	-3.5
KHZ	**Kahutara**	**4.18 208**	PN	Pn	05 48 19.7	-4.1
MQZ	**McQueen's Vall**	**5.63 207**	PN	Pn	05 48 37.4	-6.0
MQZ			SN	Sn	05 49 36.1	-10
ODZ	**Otahua Downs**	**7.53 212**	*e*PN	Pn	05 49 03.2	-6.1

CSEM ***09*** *05:55:47.9±0.0, 4276N×1278E, h12km, ML3.1/4, Error ellipse: s-maj=1.1km s-min=0.8km az=59.0*
ISCJB ***09*** *05:55:48.5±0.3, 4276N±002×1275E±005, h27km±5km, Error ellipse: s-maj=5.9km s-min=3.9km az=167.3*
NEIC ***09*** *05:55:48.3, 4276N×1280E, h8km, ML2.9(ROM), After ROM.*
ROM ***09*** *05:55:48.3±0.2, 4276N×1280E, h8km±2km, Md2.9/23, Ml2.9/18, Error ellipse: s-maj=1.9km s-min=1.7km az=113.0*
LDG ***09*** *05:55:49.4±0.1, 4275N×1282E, h10km, Ml2.7/3, Error ellipse: s-maj=4.1km s-min=2.7km az=64.0*

ISC 09 05:55:48.5±0.3, 4277N±002×1278E±004, h20km±4km, n38, σ9:80/51, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.25**	**130**	Pg	**Pg**	**05 55 54.1**	**-0.3**
LNSS				Sg	**Sg**	**05 55 58.2**	**-0.3**
	7μm,0.2s						
NRCA	**Norcia**	**0.26**	**74⇑**	*i*Pg	**Pg**	**05 55 54.2**	**-0.3**
MNS	**Montasola**	**0.39**	**190**	Pg	**Pg**	**05 55 56.2**	**-0.5**
MNS				Sg	**Sg**	**05 56 02.7**	**+0.6**
	501nm,0.4s						
SNTG	**Esanatoglia**	**0.51**	**14**	Pg	**Pg**	**05 55 58.4**	**-0.4**
	233nm,0.5s						
CAMP	**Campotosto**	**0.52**	**116⇑**	*i*Pg	**Pg**	**05 55 58.6**	**-0.4**
CAMP				Sg	**Sg**	**05 56 06.7**	**+0.6**
	670nm,0.5s						
MURB	**Monte Urbino**	**0.53**	**340**	Pg	**Pg**	**05 55 59.2**	**0.0**
	2μm,0.7s						
FIAM	**Fiamignano**	**0.56**	**153**	Pg	**Pg**	**05 55 59.1**	**-0.6**
FIAM				Sg	**Sg**	**05 56 08.1**	**+0.9**
	1μm,0.5s						
AQU	**L'Aquila**	**0.62**	**131**	Pg	**Pg**	**05 56 00.5**	**-0.3**
TERO	**Teramo**	**0.63**	**103**	Pg	**Pg**	**05 56 00.2**	**-0.8**
TERO				Sg	**Sg**	**05 56 10.1**	**+0.7**
	608nm,0.3s						
SACS	**San Casciano d**	**0.64**	**278**	Pg	**Pg**	**05 56 01.1**	**-0.2**
	338nm,0.4s						
CING	**Cingoli**	**0.68**	**27**	Pg	**Pg**	**05 56 01.8**	**-0.2**
CING				Sg	**Sg**	**05 56 12.9**	**+1.7**
	308nm,0.6s						
MTCE	**Montecelio**	**0.74**	**182**	Pg	**Pg**	**05 56 02.4**	**-0.7**
MTCE				Sg	**Sg**	**05 56 14.1**	**+1.1**
	376nm,0.4s						
ARV	**Arcevia**	**0.74**	**9**	Pg	**Pg**	**05 56 03.0**	**-0.1**
	156nm,0.6s						
ARVD	**Arcevia**	**0.74**	**9**	Pg	**Pg**	**05 56 02.9**	**-0.2**
	505nm,1.3s						
FAGN	**Fagnano**	**0.78**	**130**	Pg	**Pg**	**05 56 03.6**	**-0.2**
	1μm,0.4s						
PIEI	**Pieia**	**0.79**	**347**	Pg	**Pg**	**05 56 03.8**	**-0.2**
	83nm,0.4s						
CERT	**Cerreto**	**0.83**	**169**	Pg	**Pg**	**05 56 03.8**	**-1.0**
CERT				Sg	**Sg**	**05 56 16.6**	**+0.8**
	590nm,0.4s						
BADI	**Badiali**	**0.84**	**333**	Pg	**Pg**	**05 56 06.4**	**+1.4**
	353nm,0.8s						
PTQR	**Pietraquaria**	**0.88**	**148**	Pg	**Pg**	**05 56 05.1**	**-0.5**
	175nm,0.6s						
TOLF	**Tolfa**	**0.91**	**220**	Pg	**Pg**	**05 56 05.8**	**-0.4**
	378nm,0.4s						
FSSB	**Fossombrone**	**0.93**	**0**	Pg	**Pg**	**05 56 06.4**	**-0.2**
	138nm,0.4s						
ARCI	**Arcidosso**	**0.96**	**276**	Pg	**Pg**	**05 56 07.1**	**-0.1**
	103nm,0.4s						
RDP	**Rocca di Papa**	**1.01**	**182**	Pg	**Pg**	**05 56 09.3**	**+1.2**
	501nm,0.5s						
CRE	**Caprese Michel**	**1.05**	**325**	Pg	**Pg**	**05 56 09.1**	**+0.2**
	49nm,0.3s						
INTR	**Introdacqua**	**1.12**	**132**	Pg	**Pg**	**05 56 08.1**	**-2.3**
	733nm,0.8s						
CSNT	**Castellina Chi**	**1.30**	**304**	Pg	**Pg**	**05 56 12.8**	**-0.8**
	97nm,0.6s						
PGF	**Pioggiola**	**2.79**	**267**	*e*Pn	**Pn**	**05 56 32.6**	**+0.5**
PGF				*e*Sn	**Sn**	**05 57 04.8**	**-0.4**
	3.6nm,0.4s						
PGF	**Pioggiola**	**2.79**	**267**	*e*Pn	**Pn**	**05 56 32.6**	**+0.5**
PGF				*e*Sn	**Sn**	**05 57 04.8**	**-0.4**
	1.8nm,0.4s						
SBF	**Sospel**	**4.05**	**288**	*e*Pn	**Pn**	**05 56 50.0**	**+0.6**
FRF	**La Foret Royal**	**4.55**	**282**	*e*Pn	**Pn**	**05 56 56.4**	**+0.1**
LMR	**La Mourre**	**4.63**	**279**	*e*Pn	**Pn**	**05 56 57.2**	**-0.1**
MBDF	**Montbardon**	**4.77**	**296**	*e*Pn	**Pn**	**05 57 00.3**	**+1.0**
MBDF				*e*Sn	**Sn**	**05 57 52.9**	**-1.1**
	3.6nm,0.6s						
MBDF	**Montbardon**	**4.77**	**296**	*e*Pn	**Pn**	**05 57 00.3**	**+1.0**
MBDF				*e*Sn	**Sn**	**05 57 52.9**	**-1.1**
	1.8nm,0.6s						
LPL	**La Plagne**	**5.15**	**304**	*e*P	**Pn**	**05 57 09.2**	**+4.8**
ORIF	**Oris-en-Rattie**	**5.43**	**296**	*e*Pn	**Pn**	**05 57 08.7**	**+0.3**
HINF	**Hinteralfeld**	**6.55**	**322**	*e*Pn	**Pn**	**05 57 24.3**	**+0.5**
HINF				*e*Sn	**Sn**	**05 58 35.4**	**-2.5**
	2.4nm,0.4s						
CDF	**Champ du Feu**	**6.84**	**328**	*e*Pn	**Pn**	**05 57 29.3**	**+1.6**
CAF	**Calviac**	**8.04**	**289**	*e*Pn	**Pn**	**05 57 44.7**	**+0.5**

MEX 09 06:11:12.7±1.1, 1540N×9490W, h45km±76km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.22**	**288**	*i* P	Pn	06 11 32.1	-1.3
HUIG				*i* S	Sn	06 11 46.1	-2.5
OXX	**Oaxaca**	**2.42**	**314**	*i* P	Pn	06 11 49.0	-0.8
OXX				*i* S	Sn	06 12 16.0	-2.2
VHO	**Vista Hermosa**	**2.42**	**314**	*i* P	Pn	06 11 48.7	-1.1
VHO				*i* S	Sn	06 12 16.1	-2.1
SCX	**San Cristobal**	**2.55**	**58**	*i* P	Pn	06 11 51.0	-0.6
SCX				*i* S	Sn	06 12 21.0	-0.4
CCIG	**Comitan**	**2.80**	**71**	*i* P	Pn	06 11 52.8	-2.1
CCIG				*i* S	Sn	06 12 25.3	-2.2

DHMR ***09*** *06:27:27.5±1.6, 1163N×4310E, h9km±14km, ML3.8*
ISCJB ***09*** *06:27:30.3±1.1, 1156N±008×4316E±007, h10km, Error ellipse: s-maj=15.3km s-min=5.1km az=101.0*

ISC 09 06:27:31.4±1.1, 1154N±009×4319E±008, h10km, n12, σ1:50/22, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.91**	**28**	*i* P	**Pn**	**06 28 01.9**	**-2.1**
TRBA				*i* S	**Sn**	**06 28 27.3**	**-0.8**
TRBA				AML	AML	06 28 30.7	
	comp=N,839nm,0.4s						
TRBA	**At Turbah**	**1.91**	**28**	*i* P	**Pn**	**06 28 01.9**	**-2.1**
TRBA				*i* S	**Sn**	**06 28 27.3**	**-0.8**
	comp=N,420nm,0.4s						
UDYN	**Al 'Udayn**	**2.53**	**17**	*i* S	**Sn**	**06 28 43.3**	**-0.1**
UDYN				AML	AML	06 28 53.1	
	comp=Z,945nm,0.6s						
UDYN	**Al 'Udayn**	**2.53**	**17**	*i* S	**Sn**	**06 28 43.3**	**-0.1**
	comp=Z,473nm,0.6s						
LBOS		**3.07**	**41**	*i* P	**Pn**	**06 28 19.0**	**-0.9**
LBOS				*i* S	**Sn**	**06 28 59.3**	**+2.7**
DHBB	**Dhamar BB**	**3.23**	**21**	*i* P	**Pn**	**06 28 19.8**	**-2.3**
DHBB				*i* S	**Sn**	**06 29 02.0**	**+1.3**
BDHA	**Al Bayda'**	**3.35**	**44**	*i* P	**Pn**	**06 28 23.1**	**-0.8**
BDHA				*i* S	**Sn**	**06 29 06.2**	**+2.5**
BDHA				AML	AML	06 29 23.6	
	comp=N,387nm,0.5s						
BDHA	**Al Bayda'**	**3.35**	**44**	*i* P	**Pn**	**06 28 23.1**	**-0.7**
BDHA				*i* S	**Sn**	**06 29 06.2**	**+2.5**
	comp=N,193nm,0.5s						
DESE	**Dese**	**3.51**	**264**	*e*PN	**Pn**	**06 28 25.8**	**-0.2**
DESE				*e*SG	**Sn**	**06 29 07.9**	**+0.4**
HAJJ	**Hajjah**	**4.16**	**5**	*i* P	**Pn**	**06 28 32.4**	**-2.4**
HAJJ				*i* S	**Sn**	**06 29 24.1**	**+0.6**
FURI	**Furi**	**5.16**	**240**	*e*PN	**Pn**	**06 28 50.4**	**+1.8**
FURI				*e*SN	**Sn**	**06 29 58.1**	**+10**
FURI	**Furi**	**5.16**	**240**	*e*PN	**Pn**	**06 28 50.4**	**+1.8**
FURI				*e*SN	**Sn**	**06 29 58.1**	**+10**

PGC 09 06:28:00.9, 5432N×11892W, h1km, MN2.5/7, Near Grande Cache, Alberta., Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNB	**Mounoet Dainar**	**2.15**	**171**	⇑Pg	Pg	06 28 39.6	-2.6
MNB				Sg	Sg	06 29 08.5	-1.5
BMBC	**Bull Mountain**	**2.53**	**314**	Pn	Pn	06 28 42.8	-0.2
BMBC				Sn	Sn	06 29 14.2	-0.2
BMBC				Trac		06 29 27.4	
	comp=Z,15nm,0.1s						
BMBC				Trac		06 29 27.4	
	comp=Z,15nm,0.1s						
DOWB	**Downie Slide**	**2.82**	**175**	Pg	Pg	06 28 51.1	-3.8
DOWB				Sg	Sg	06 29 27.9	-3.5
DOWB				Trac		06 29 33.4	
	comp=Z,79nm,0.3s						
FSB	**Fort Saint Jam**	**3.17**	**275**	Pn	Pn	06 28 52.7	+0.9
FSB				Pg	Pg	06 28 57.3	-4.3
FSB				Sg	Sg	06 29 39.7	-3.0
FSB				Trac		06 29 42.9	
	comp=Z,5.0nm,0.4s						
SLEB	**Sale Mountain**	**3.20**	**171**	Pn	Pn	06 28 53.5	+1.3
SLEB				Pg	Pg	06 28 59.5	-2.7
SLEB				Sg	Sg	06 29 39.5	-4.0
SLEB				Trac		06 29 44.8	
	comp=Z,13nm,0.3s						
EDM	**Edmonton**	**3.48**	**106**	Pn	Pn	06 28 57.3	+1.1
EDM				Pg	Pg	06 29 04.8	-2.9
EDM				Sn	Sn	06 29 36.9	-1.2
EDM				Sg	Sg	06 29 49.7	-3.0
EDM				Trac		06 29 57.0	
	comp=Z,7.0nm,0.2s						
EDM				Trac		06 29 57.0	
	comp=Z,7.0nm,0.2s						
LLLB	**Lillooet**	**4.14**	**207**	Pn	Pn	06 29 04.0	-1.2
LLLB				Pg	Pg	06 29 09.0	-11
LLLB				Sg	Sg	06 30 02.5	-11
LLLB				Trac		06 30 09.2	
	comp=Z,7.0nm,0.5s						
WSLR	**Whistler**	**4.87**	**212**	Pn	Pn	06 29 14.4	-0.8
WSLR				Sg	Sg	06 30 29.2	-8.1
WSLR				Trac		06 30 34.9	
	comp=Z,1.0nm,0.2s						
PNT	**Penticton**	**5.03**	**185**	Trac		06 30 45.8	
	comp=Z,8.0nm,0.5s						
PNT	**Penticton**	**5.03**	**185**	Sg	Sg	06 30 34.5	-8.1
FNBB	**Fort Nelson**	**5.11**	**335**	Pn	Pn	06 29 17.2	-1.4
FNBB				Sn	Sn	06 30 13.6	-4.6
FNBB				Trac		06 30 20.9	
	comp=Z,3.0nm,0.2s						
FNBB				Trac		06 30 20.9	
	comp=Z,3.0nm,0.2s						
HOPB	**Hope**	**5.18**	**198**	Trac		06 30 43.8	
	comp=Z,15nm,0.4s						
HOPB	**Hope**	**5.18**	**198**	Sg	Sg	06 30 41.8	-5.5
WALA	**Waterton Lakes**	**6.12**	**147**	Pn	Pn	06 29 33.6	+1.1
WALA				Sn	Sn	06 30 40.8	-2.3
WALA				Sg	Sg	06 31 09.5	-7.9
WALA				Trac		06 31 15.9	
	comp=Z,2.0nm,0.5s						
WALA				Trac		06 31 15.9	
	comp=Z,2.0nm,0.5s						
YKW3	**Yellowknife Ar**	**8.56**	**13**	Trac		06 31 42.0	
	comp=Z,1.0nm,0.2s						
YKW3				Trac		06 31 42.0	
	comp=Z,1.0nm,0.2s						
YKW3	**Yellowknife Ar**	**8.56**	**13**	Pn	Pn	06 30 02.8	-3.1
YKW3				Sn	Sn	06 31 34.1	-9.1
YKW3				Trac		06 31 37.9	
	comp=Z,1.0nm,0.1s						
YKW3				Trac		06 31 37.9	
	comp=Z,1.0nm,0.1s						
FCC	**Fort Churchill**	**14.36**	**62**	Pn	Pn	06 31 20.2	-5.0
FCC				Trac		06 33 55.5	
FCC				Trac		06 33 55.5	

IDC ***09*** *06:35:59.5±9.3, 1367N×9063W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.5/6, ML3.6/1, MS4.1/2, Ms1 4.1/2, ms1mx3.1/28, Error ellipse: s-maj=190.4km s-min=55.4km az=4.0*
CASC ***09*** *06:36:05.9±2.6, 1363N×9160W, h75km±61km, MD3.8, ML3.8, mb4.0(NEIC)*
ISCJB ***09*** *06:36:10.7±2.3, 139N±02×914W±02, h78km±16km, mb3.6/5, Error ellipse: s-maj=37.9km s-min=14.8km az=79.0*
NEIC ***09*** *06:36:10.9±3.2, 1378N×9116W, h75km, Error ellipse: s-maj=51.9km s-min=30.5km az=163.0*

ISC 09 06:36:09.9±2.9, 137N±02×915W±01, h54km±22km, n23, σ1:07/14, mb3.6/5, MS4.1/2, 3C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.97**	**42**	*e*P	**Pn**	**06 36 26.2**	**-1.1**
PCG	**Pacaya**	**1.10**	**52⇑**	*e*P	**Pn**	**06 36 27.9**	**-1.2**
PCG				*e*S	**Sn**	**06 36 44.6**	**+1.3**
NBG	**Las Nubes**	**1.42**	**52⇓**	*e*P	**Pn**	**06 36 33.9**	**+0.6**
RTR	**El Retiro**	**1.82**	**84**	*e*P	Px	06 36 43.7	
RTR				*e*S	Sx	06 37 07.9	
SBLS	**San Blas**	**1.84**	**86**	*e*P	Px	06 36 44.2	
SBLS				*e*S	Sx	06 37 09.3	
BOQS	**Boqueron**	**2.17**	**89⇑**	*e*P	Px	06 36 48.9	
BOQS				*e*S	Sx	06 37 18.3	
MTO2	**Montecristo 2**	**2.19**	**72⇑**	*e*P	Px	06 36 50.2	
MTO2				*e*S	Sx	06 37 17.0	
LFU	**La Fuente**	**2.33**	**89**	*e*P	Px	06 36 51.1	
LFU				*e*S	Sx	06 37 21.4	
LFRS	**El Faro**	**2.38**	**92**	*e*P	Px	06 36 51.4	
LFRS				*e*S	Sx	06 37 20.9	
LBRS	**Las Brisas**	**2.40**	**89⇓**	*e*P	Px	06 36 52.4	
LBRS				*e*S	Sx	06 37 23.2	
LCBS	**La Ceiba**	**2.46**	**91**	*e*P	Px	06 36 53.0	
LCBS				*e*S	Sx	06 37 23.9	
SNVI	**San Vicente**	**2.60**	**92**	*e*P	Px	06 36 55.6	
SNVI				*e*S	Sx	06 37 27.9	
CCIG	**Comitan**	**2.62**	**347**	*i* P	**Pn**	**06 36 50.2**	**+0.5**
CCIG				*i* S	**Sn**	**06 37 19.6**	**-0.7**
TEIG	**Tepich**	**7.17**	**25**	*e*Pn	**Pn**	**06 37 52.1**	**0.0**
	12nm,0.5s						
TXAR	**Lajitas Array**	**19.19**	**326**	P	**Pn**	**06 40 31.0**	**+0.5**
	baz=155,slow=12,SNR=12						
ANMO	**Albuquerque**	**25.08**	**330**	P	**P**	**06 41 30.0**	**+0.7**
	0.5nm,0.5s,mb3.3,baz=142,slow=8.6,SNR=3.9						
ANMO	**Albuquerque**	**25.08**	**330**	P	**P**	**06 41 30.0**	**+0.7**
NVAR	**Mina Array Bea**	**34.19**	**321**	P	**P**	**06 42 52.6**	**+2.6**
	0.5nm,0.6s,mb3.6,baz=139,slow=8.3,SNR=4.5						
RPN	**Rapa Nui**	**44.14**	**203**	LR	LR	06 58 37.3	
	comp=Z,172nm,18.1s,MS4.0,baz=229,slow=31						
YKA	**Yellowknife Ar**	**51.41**	**347**	P	**P**	**06 45 07.8**	**-1.5**
	0.2nm,0.4s,mb3.4,baz=153,slow=7.6,SNR=10						
FRB	**Frobisher Bay**	**52.48**	**13**	P	**P**	**06 45 12.8**	**-4.5**
	4.7nm,0.9s,mb4.4,baz=218,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**63.28**	**337**	P	**P**	**06 46 32.0**	**-0.9**
	0.2nm,0.6s,mb3.5,baz=96,slow=6.7,SNR=4.5						
AFI	**Afiamalu**	**84.07**	**254**	LR	LR	07 18 23.7	
	comp=Z,114nm,19.7s,MS4.3,baz=328,slow=30						

IDC ***09*** *06:54:17.3±5.9, 1715N×10540W, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/19, mbtmp4.0/6, ML3.4/2, Error ellipse: s-maj=122.4km s-min=72.5km az=124.0*
ISCJB ***09*** *06:54:27.8±2.3, 177N±0.1×10593W±009, h44km±17km, mb4.2/17, Error ellipse: s-maj=22.9km s-min=10.5km az=54.4*
BJI ***09*** *06:54:27.7, 1770N×10600W, h47km, mB5.6, mb5.2, Ms5.0, Msz4.5*
NEIC ***09*** *06:54:29.7±0.9, 1772N×10598W, mb4.1/20, Error ellipse: s-maj=13.9km s-min=9.0km az=203.0*

ISC 09 06:54:30.9±2.1, 178N±01×10590W±009, h56km±14km, h49km±4.1km: pP-P, n45, σ0:88/40, mb4.2/18, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**3.81**	**45**	*i* P	**Pn**	**06 55 22.0**	**-5.1**
MOIG	**Morelia**	**4.84**	**66**	*i* P	**Pn**	**06 55 39.1**	**-2.1**
MOIG				*i* S	**Sn**	**06 56 36.6**	**+0.6**
MEIG	**Mezcala**	**5.98**	**88**	*e*P	**Pn**	**06 55 56.4**	**-0.4**
PPM	**Popocatepetl**	**7.02**	**78**	*i* P	**Pn**	**06 56 11.6**	**+0.5**
OXX	**Oaxaca**	**8.79**	**93**	*e*P	**Pn**	**06 56 40.0**	**+4.8**
TXAR	**Lajitas Array**	**11.68**	**10**	Pn	**Pn**	**06 57 14.6**	**-0.2**
	baz=184,slow=13,SNR=17						
JCT	**Junction City**	**13.81**	**23**	*e*Pn	**Pn**	**06 57 45.0**	**+1.2**
	5.6nm,1.0s						
GDL2	**Guadalupe Moun**	**14.42**	**5**	*e*P	**Pn**	**06 57 53.1**	**+1.2**
TUC	**Tucson**	**15.12**	**344**	*e*P	**Pn**	**06 58 00.9**	**-0.2**
	6.2nm,1.2s						
BNM	**Barren Site**	**16.32**	**358**	*e*P	**Pn**	**06 58 16.6**	**+0.4**
ANMO	**Albuquerque**	**17.11**	**358**	P	**Pn**	**06 58 25.6**	**-0.5**
	0.1nm,0.3s,baz=177,slow=12,SNR=9.2						
ANMO	**Albuquerque**	**17.11**	**358**	*e*P	**Pn**	**06 58 26.5**	**+0.4**
	6.5nm,1.2s						
WMOK	**Wichita Mounta**	**18.04**	**19**	*e*P	**Pn**	**06 58 37.5**	**-0.1**
	3.9nm,1.0s						
WUAZ	**Wupatki**	**18.32**	**346**	*e*P	**Pn**	**06 58 41.5**	**+0.5**
	14nm,0.9s						
PFO	**Pinyon Flat Ob**	**18.39**	**331**	*e*P	**Pn**	**06 58 41.0**	**-0.8**
	7.4nm,1.3s						
SDCO	**Great Sand Dun**	**19.89**	**1**	*e*P	**Pn**	**06 58 58.4**	**-1.3**
	17nm,1.4s						
MIAR	**Mount Ida**	**20.00**	**31**	*e*P	**Pn**	**06 58 58.9**	**-2.0**
	4.4nm,0.8s						
DAC	**Darwin (Calif)**	**21.13**	**333**	*e*P	**P**	**06 59 11.3**	**+0.3**
	4.5nm,0.9s,mb3.8						
MVU	**Marysvale**	**21.37**	**346**	*e*P	**P**	**06 59 19.6**	**+5.9**
	12nm,1.1s,mb4.2						
TMUT	**Trail Mountain**	**21.93**	**349**	*e*P	**P**	**06 59 20.1**	**+0.5**
ISCO	**Idaho Springs**	**21.94**	**1**	*e*P	**P**	**06 59 20.5**	**+0.8**
	4.9nm,1.1s,mb3.9						
KSU1	**Kansas State U**	**22.73**	**19**	*e*P	**P**	**06 59 27.7**	**-0.4**
LRAL	**Lakeview Retre**	**22.79**	**45**	*e*P	**P**	**06 59 28.5**	**-0.3**
	30nm,1.5s,mb4.5						
DUG	**Dugway**	**23.12**	**346**	*e*P	**P**	**06 59 32.5**	**+0.3**
	16nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**23.25**	**335**	P	**P**	**06 59 33.8**	**+0.2**
	2.2nm,0.9s,mb3.6,baz=153,slow=10,SNR=17						
PLAL	**Pickwick Lake**	**23.35**	**39**	*e*P	**P**	**06 59 33.9**	**-0.5**
	12nm,1.4s,mb4.1						
FVM	**French Village**	**24.27**	**31**	*e*P	**P**	**06 59 43.0**	**+0.3**
	20nm,1.4s,mb4.3						
BMN	**Battle Mountai**	**24.60**	**339**	P	**P**	**06 59 45.3**	**-0.5**
	16nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**25.10**	**354**	P	**P**	**06 59 50.3**	**0.0**
	2.3nm,1.0s,mb3.7,baz=156,slow=8.9,SNR=11						
REDW	**Red Top Meadow**	**25.84**	**352**	*e*P	**P**	**06 59 57.2**	**+0.2**
	19nm,1.1s,mb4.5						
SNOW	**Snow King Moun**	**25.93**	**352**	*e*P	**P**	**06 59 58.6**	**+0.7**
	16nm,1.1s,mb4.5						
LOHW	**Long Hollow**	**26.06**	**352**	*e*P	**P**	**06 59 59.3**	**+0.3**
	12nm,1.2s,mb4.3						
LOHW				*e*pP	pP	07 00 13.0	+0.1
HLID	**Hailey**	**26.69**	**346**	*e*P	**P**	**07 00 05.6**	**+0.9**
	5.2nm,1.0s,mb4.0						
HLID				*e*pP	pP	07 00 16.2	-2.4
MCMT	**McKenzie Canyo**	**27.59**	**349**	*e*P	**P**	**07 00 13.6**	**+0.9**
MCMT				*e*pP	pP	07 00 25.7	-1.1
SDV	**Santo Domingo**	**35.38**	**100**	*e*P	**P**	**07 01 23.6**	**+2.5**
	1.5nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**45.08**	**354**	P	**P**	**07 02 40.0**	**-1.4**
	1.6nm,0.8s,mb3.9,baz=167,slow=7.3,SNR=30						
YKA	**Yellowknife Ar**	**45.08**	**354**	P	**P**	**07 02 40.0**	**-1.4**
INK	**Inuvik**	**53.44**	**348**	P	**P**	**07 03 44.2**	**-1.0**
	8.3nm,1.0s,mb4.6,baz=147,slow=8.3,SNR=20						
ILAR	**Eielson Array**	**54.38**	**340**	P	**P**	**07 03 50.9**	**-1.1**
	152nm,0.3s,baz=153,slow=5.6,SNR=2.1						
MDJ	**Mudanjiang**	**99.97**	**323**	P	Pdif	07 08 08.9	-0.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,92nm,4.1s						
CN2	**Changchun**	**102.80**	**325**	*e*P	Pdif	07 08 24.0	+1.6
NJ2	**Nanjing**	**114.48**	**319**	*e*PKP	PKiKP	07 13 08.1	+3.6
GTA	**Gaotai**	**118.24**	**338**	*e*PKP	PKPdf	07 13 13.0	+1.2
GTA				XPKP		07 13 27.7	
GTA				PP	PP	07 14 28.5	+0.6
GTA				PKS		07 16 48.5	
GTA				SKS	SKSdf	07 20 20.5	+1.5
GTA				SKKS	SKKSac	07 21 18.0	-5.4
GTA				PP	PP		
	comp=Z,110nm,6.9s						
GTA				LR	LR		
	comp=N,110nm,7.3s						
GTA				LR	LR		
	comp=E,122nm,8.4s						
GTA				LR	LR		
	comp=Z,97nm,8.8s						
LZH	**Lanzhou**	**119.48**	**333**	*e*PKP	PKPdf	07 13 15.8	+1.7
LZH				XPKP		07 13 30.2	
CD2	**Chengdu**	**123.82**	**329**	*e*PKP	PKPdf	07 13 24.3	+1.8

THE ***09*** *06:59:40.9, 3757N×2122E, h10km, ML3.5*
ISCJB ***09*** *06:59:41.3±0.7, 3767N±005×2110E±006, h11km, mb3.7/7, Error ellipse: s-maj=8.0km s-min=5.8km az=94.9*
CSEM ***09*** *06:59:42.8±0.1, 3771N×2124E, h2km, ML3.6, Error ellipse: s-maj=4.8km s-min=2.0km az=44.0*
ATH ***09*** *06:59:42.9, 3778N×2132E, h11km±1km, MD3.6/12, ML3.6*
NEIC ***09*** *06:59:45.0, 3782N×2125E, h0km, ML3.1(CSEM), ML3.1(ATH), After ATH.*
IDC ***09*** *06:59:50.9±3.4, 3794N×2129E, h79km±37km, mb3.5/7, mb1 3.5/9, mb1mx3.4/22, mbtmp3.7/9, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=28.7km s-min=21.3km az=113.0*
NAO ***09*** *06:59:50.7, 3821N×2141E, h33km, mb3.8*

ISC 09 06:59:42.6±0.7, 3772N±004×2116E±006, h11km, n35, σ1:56/40, mb3.7/7, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.41**	**36⇑**	*i*PG	**Pg**	**06 59 48.8**	**-2.0**
RLS				*e*SB	**Sg**	**06 59 53.8**	**-2.4**
VLS	**Valsamata**	**0.64**	**315**	*e*PB	**Pb**	**06 59 56.5**	**+0.7**
ITM	**Ithomi**	**0.81**	**132**	*e*PB	**Pb**	**06 59 57.6**	**-1.2**
LKD	**Levkas**	**1.06**	**338**	*e*P

ZAL Zalesovo 45.61 48 P P 07 08 00.6 -2.2
comp=Z,0.9nm,0.3s,mb4.2,baz=286,slow=5.6,SNR=2.8

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*NIED **09** 07:00:00,2930N×13060E,h47km,Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φs 15.00000°,δ82.00000°,λ64.00000°. NP2:φs 269.00000°,δ27.00000°,λ162.00000°.*
*JMA **09** 07:00:10.6±0.2,2930N×13058E,h19km±3km,M3.6*
*ISCJB **09** 07:00:12.3±0.7,2933N±004×13049E±009,h56km±5km, mb4.0/11,Error ellipse: s-maj=14.5km s-min=4.2km az=49.7*
*NEIC **09** 07:00:13.6±1.3,2930N×13046E,h54km±11km,mb4.5/3, MW4.1(NIED),Error ellipse: s-maj=23.6km s-min=10.8km az=125.0*
*IDC **09** 07:00:14.3±2.5,2937N×13035E,h57km±25km,mb3.7/8, mb1 3.7/10,mb1mx3.6/24,mbtmp3.9/10,ML2.9/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/32,Error ellipse: s-maj=35.6km s-min=16.9km az=119.0*
ISC 09 07:00:13.3±0.7,2933N±004×13048E±009,h49km±5km, n28,σ0§80/38,mb4.0/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.73**	**314**	P	**Pn**	**07 00 26.0**	**-1.4**
JNN				S	**Sn**	**07 00 37.2**	**-0.4**
JKC	**Kuchinoerabu**	**1.15**	**348**	P	**Pn**	**07 00 32.4**	**-0.6**
JKC				S	**Sn**	**07 00 47.7**	**0.0**
JAM	**Amami Oshima**	**1.20**	**220**	P	**Pn**	**07 00 33.0**	**-0.7**
JAM				S	**Sn**	**07 00 49.2**	**+0.4**
JTN	**Tanegashima 3**	**1.39**	**18**	P	**Pn**	**07 00 35.4**	**-0.8**
JTN				S	**Sn**	**07 00 53.1**	**-0.2**
JTSR	**Tashiro 2**	**1.86**	**12**	P	**Pn**	**07 00 42.9**	**+0.1**
JTSR				*e*S	**Sn**	**07 01 05.8**	**+0.7**
JTK	**Tokunoshima**	**2.05**	**222**	P	**Pn**	**07 00 45.4**	**+0.1**
JTK				*e*S	**Sn**	**07 01 10.5**	**+0.9**
JSU	**Suzuyama**	**2.17**	**359**	P	**Pn**	**07 00 46.8**	**-0.1**
JSU				S	**Sn**	**07 01 13.7**	**+1.2**
JNAR	**Kushima--Naru**	**2.29**	**17**	P	**Pn**	**07 00 48.6**	**0.0**
JNAR				*e*S	**Sn**	**07 01 16.1**	**+0.6**
JOW	**Kunigami**	**3.17**	**219**	P	**Pn**	**07 01 00.0**	**-0.6**
JOW				*e*S	**Sn**	**07 01 37.8**	**+0.7**
JOW	**Kunigami**	**3.17**	**219**	P	**Pn**	**07 00 59.8**	**-0.8**
	2.7nm,0.3s,baz=88,slow=22,SNR=6.0						
JOW				S	**Sn**	**07 01 37.8**	**+0.7**
	7.2nm,0.3s,baz=130,slow=27,SNR=6.2						
JOW				LR	LR	07 02 40.8	
	comp=Z,240nm,18.1s,baz=192,slow=47						
JIH	**Iheya**	**3.19**	**225**	P	**Pn**	**07 01 00.0**	**-0.9**
JNU	**Nakatsue**	**3.79**	**5**	P	**Pn**	**07 01 10.7**	**+1.5**
	1.5nm,0.3s,baz=80,slow=13,SNR=9.1						
SONM	**Songino Array**	**26.20**	**321**	P	**P**	**07 05 41.6**	**-1.7**
	1.0nm,0.6s,mb3.5,baz=140,slow=8.9,SNR=8.0						
JIRN	**Jiri**	**38.79**	**279**	*e*P	**P**	**07 07 34.0**	**+0.9**
GUN	**Gumba**	**39.00**	**279**	*e*P	**P**	**07 07 36.0**	**+1.1**
	8.4nm,0.5s,mb4.7						
KKN	**Kakani**	**39.55**	**279**	*e*P	**P**	**07 07 40.4**	**+1.0**
	7.9nm,0.5s,mb4.7						
GKN	**Gorkha**	**40.05**	**280**	*e*P	**P**	**07 07 43.8**	**+0.2**
	6.5nm,0.5s,mb4.6						
KOLN	**Koldanda**	**41.00**	**280**	*e*P	**P**	**07 07 52.1**	**+0.7**
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**07 07 51.9**	**0.0**
	0.7nm,0.5s,mb3.6,baz=90,slow=11,SNR=20						
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**07 07 51.9**	**0.0**
ZAL	**Zalesovo**	**41.08**	**320**	P	**P**	**07 07 51.1**	**-1.0**
	1.1nm,0.3s,mb4.0,baz=27,slow=7.8,SNR=4.9						
ZAL	**Zalesovo**	**41.08**	**320**	P	**P**	**07 07 51.1**	**-1.0**
INK	**Inuvik**	**65.26**	**24**	P	**P**	**07 10 49.5**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=300,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**71.15**	**331**	P	**P**	**07 11 25.2**	**-1.5**
	12nm,1.3s,mb4.7,baz=72,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**74.47**	**320**	P	**P**	**07 11 45.6**	**-0.8**
	1.4nm,0.5s,mb4.2,baz=60,slow=6.2,SNR=5.7						
YKA	**Yellowknife Ar**	**74.88**	**26**	P	**P**	**07 11 48.9**	**+0.2**
	0.2nm,0.8s,mb3.1,baz=304,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**74.88**	**26**	P	**P**	**07 11 48.9**	**+0.2**
BRTR	**Keskin Array B**	**76.70**	**308**	P	**P**	**07 11 59.6**	**+0.5**
	1.2nm,0.7s,mb3.9,baz=96,slow=5.7,SNR=5.8						

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*ISCJB **09** 07:25:49.3±0.4,6631N±003×14194W±008,h10km, mb3.4/3,Error ellipse: s-maj=5.1km s-min=4.3km az=98.3*
*IDC **09** 07:25:50.1±1.9,6645N×14244W,h0km,mb3.5/3, mb1 4.0/5,mb1mx3.6/22,mbtmp3.6/5,ML3.8/3,Error ellipse: s-maj=37.6km s-min=11.3km az=152.0*
*NEIC **09** 07:25:51.1,6626N×14249W,h2km,ML3.7(AEIC),After AEIC.*
*PGC **09** 07:25:52.8,6625N×14187W,h1km,ML3.7/2,Eastern Alaska.*
ISC 09 07:25:51.1±0.4,6634N±003×14211W±008,h10km,n28, σ1§44/44,mb3.4/3,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.47**	**319**	P	**Pn**	**07 26 17.5**	**-0.1**
BM3				S	**Sn**	**07 26 37.0**	**+0.2**
IL1	**Eielson Array**	**2.53**	**234**	P	**Pn**	**07 26 31.1**	**-1.2**
ILAR	**Eielson Array**	**2.53**	**234**	Pn	**Pn**	**07 26 31.2**	**-1.1**
	37nm,0.3s,baz=44,slow=14,SNR=5.4						
ILAR				Lg		07 27 06.9	
	137nm,0.3s,baz=256,slow=12,SNR=9.9						
DAWY	**Dawson**	**2.55**	**152**	Pn	**Pn**	**07 26 32.4**	**-0.2**
DAWY				Sn	**Sn**	**07 27 04.8**	**+1.0**
DAWY				Sg	**Sg**	**07 27 08.7**	**-4.5**
DAWY				Trac		07 27 13.9	
	comp=Z,170nm,0.4s						
COLA	**College**	**2.80**	**241**	P	**Pn**	**07 26 34.9**	**-1.1**
DOT	**Dot Lake**	**2.83**	**198**	P	**Pn**	**07 26 35.6**	**-0.7**
COLD	**Coldfoot**	**3.33**	**289**	P	**Pn**	**07 26 43.9**	**+0.7**
MENT	**Mentasta**	**3.48**	**192**	*e*P	**Pn**	**07 26 47.2**	**+1.8**
PAX	**Paxson**	**3.68**	**205**	P	**Pn**	**07 26 48.6**	**+0.6**
PAX				S	**Sn**	**07 27 30.8**	**-0.6**
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**07 26 51.6**	**+0.9**
	3.0nm,0.3s,baz=239,slow=14,SNR=94						
INK				Sn	**Sn**	**07 27 37.0**	**+0.8**
	3.4nm,0.3s,baz=242,slow=16,SNR=4.2						
INK				Lg		07 27 52.0	
	7.3nm,0.3s,baz=318,slow=33,SNR=5.8						
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**07 26 52.2**	**+1.5**
INK				Sn	**Sn**	**07 27 36.6**	**+0.4**
INK				Sg	**Sg**	**07 27 55.0**	**-0.4**
INK				Trac		07 27 57.7	
	comp=Z,121nm,0.8s						
INK	**Inuvik**	**3.87**	**55**	Pn	**Pn**	**07 26 51.6**	**+0.9**
INK				Sn	**Sn**	**07 27 37.0**	**+0.8**
INK				Lg		07 27 52.0	
MCK	**McKinley**	**3.90**	**231**	P	**Pn**	**07 26 50.3**	**-0.8**
KTH	**Kantishna Hill**	**4.67**	**237**	P	**Pn**	**07 27 00.4**	**-1.3**
IMA2	**Indian Mountai**	**4.70**	**272**	*e*P	**Pn**	**07 27 02.1**	**0.0**
IM3	**Indian Mountai**	**4.74**	**271**	P	**Pn**	**07 27 01.2**	**-1.4**
SML	**Sawmill**	**5.30**	**214**	*e*Pn	**Pn**	**07 27 11.7**	**+1.4**
DIV	**Divide**	**5.47**	**199**	*e*Pn	**Pn**	**07 27 14.3**	**+1.5**
	61nm,0.8s						
BMRM	**Bremner River**	**5.50**	**193**	P	**Pn**	**07 27 14.9**	**+1.8**
HYT	**Haines Junctio**	**5.90**	**157**	Pn	**Pn**	**07 27 19.1**	**+0.5**
HYT				Sg	**Sg**	**07 28 52.8**	**-7.8**
HYT				Trac		07 29 01.7	
	comp=Z,74nm,0.9s						
FIB	**Fire Island**	**6.30**	**218**	*e*Pn	**Pn**	**07 27 25.7**	**+1.7**
WHY	**Whitehorse**	**6.55**	**147**	Pn	**Pn**	**07 27 27.5**	**0.0**
WHY				Sn	**Sn**	**07 28 38.0**	**-4.3**
WHY				Sg	**Sg**	**07 29 15.7**	**-5.8**
WHY				Trac		07 29 47.8	
	comp=Z,17nm,0.7s						
YKW3	**Yellowknife Ar**	**12.40**	**95**	Pn	**Pn**	**07 28 44.0**	**-3.7**
YKW3				Pn	**Pn**	**07 28 44.9**	**-2.7**
YKW3				Sn	**Sn**	**07 30 54.8**	**-11**
YKW3				Sn	**Sn**	**07 30 54.9**	**-11**
YKW3				Trac		07 31 25.6	
	comp=Z,5.0nm,0.6s						
YKW3				Trac		07 31 25.7	
	comp=Z,5.0nm,0.6s						
YKA	**Yellowknife Ar**	**12.43**	**95**	Pn	**Pn**	**07 28 45.2**	**-3.0**
	baz=299,slow=13,SNR=40						
YKA				Sn	**Sn**	**07 30 57.6**	**-9.1**
	baz=296,slow=23,SNR=8.5						
YKA	**Yellowknife Ar**	**12.43**	**95**	Pn	**Pn**	**07 28 45.2**	**-3.0**
YKA				Sn	**Sn**	**07 30 57.6**	**-9.1**
PDAR	**Pinedale Array**	**29.60**	**127**	P	**P**	**07 31 58.2**	**+1.9**
	0.9nm,0.9s,mb3.5,baz=0.0,slow=4.4,SNR=7.2						
NVAR	**Mina Array Bea**	**31.09**	**142**	P	**P**	**07 32 12.3**	**+2.8**
	0.6nm,0.8s,mb3.5,baz=307,slow=6.9,SNR=5.3						

TXAR Lajitas Array 43.78 128 P P 07 33 59.8 +2.8
0.3nm,0.8s,mb3.1,baz=356,slow=6.9,SNR=4.3

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*CSEM **09** 07:26:58.5±0.1,3971N×298W,h10km,ML3.2/17,Error ellipse: s-maj=1.2km s-min=0.9km az=148.0*
*NEIC **09** 07:26:58.5,3968N×297W,h0km,MN2.5(MDD),After MDD.*
*LDG **09** 07:26:58.8±0.1,3966N×296W,h10km,Ml3.1/5,Error ellipse: s-maj=2.9km s-min=2.3km az=127.0*
MDD 09 07:26:58.2±0.3,3971N×296W,h6km±4km,mbLg2.6/46, 1D,Error ellipse: s-maj=3.0km s-min=2.6km az=109.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.78**	**268**	⇓Pg	Pg	07 27 12.8	-0.2
	baz=89,slow=19,SNR=18						
ESDC				Lg		07 27 22.7	
	4.3nm,0.2s,baz=86,slow=31,SNR=7.9						
ESDC	**Sonseca Array**	**0.78**	**268**	Pg	Pg	07 27 12.8	-0.3
	111nm,0.1s,baz=89,slow=19,SNR=18						
ESDC	**Sonseca Array**	**0.78**	**268**	Pg	Pg	07 27 12.4	-0.6
ESDC				Lg		07 27 22.5	
ESLA	**Sonseca Array**	**0.78**	**268**	*e*Pg	Pg	07 27 13.0	-0.1
ESLA				*e*Sg	Sg	07 27 23.1	0.0
ESLA	**Sonseca Array**	**0.78**	**268**	*e*Pg	Pg	07 27 13.0	-0.1
ESLA				*e*Sg	Sg	07 27 23.1	0.0
GUD	**Guadarrama**	**1.30**	**316**	Pg	Pg	07 27 22.1	-1.1
	12nm,0.2s,SNR=10						
GUD				Lg		07 27 39.8	
	150nm,0.3s,SNR=5.3						
GUD	**Guadarrama**	**1.30**	**316**	Pg	Pg	07 27 23.3	+0.1
GUD				Lg		07 27 39.8	
ETOB	**Tobarra**	**1.53**	**134**	Pn	Pn	07 27 24.7	-1.2
	0.3nm,0.1s,SNR=7.9						
ETOB				Pg	Pg	07 27 26.9	-0.6
	14nm,0.2s,SNR=7.9						
ETOB				Lg		07 27 46.0	
	128nm,0.3s,SNR=13						
ETOB	**Tobarra**	**1.53**	**134**	Pn	Pn	07 27 24.7	-1.3
	0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.53**	**134**	Pg	Pg	07 27 26.9	-0.6
	14nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.53**	**134**	Pg	Pg	07 27 26.5	-1.0
ETOB				Lg		07 27 46.6	
ECHE	**Chera**	**1.54**	**94**	Pg	Pg	07 27 26.8	-0.9
	12nm,0.3s,SNR=7.9						
ECHE				Lg		07 27 47.0	
	12nm,0.2s,SNR=7.9						
ECHE	**Chera**	**1.54**	**94**	Pg	Pg	07 27 27.0	-0.7
ECHE	**Chera**	**1.54**	**94**	Pg	Pg	07 27 27.0	-0.8
ECHE				Lg		07 27 47.1	
EBAN	**Banos Encina**	**1.67**	**203**	Pn	Pn	07 27 26.8	-1.1
	2.1nm,0.2s,SNR=7.9						
EBAN				Pg	Pg	07 27 28.9	-1.4
	20nm,0.1s,SNR=7.9						
EBAN				Lg		07 27 50.6	
	76nm,0.3s,SNR=6.2						
EBAN	**Banos Encina**	**1.67**	**203**	Pg	Pg	07 27 28.9	-1.3
	20nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**1.67**	**203**	Pg	Pg	07 27 27.5	-2.8
EBAN				Lg		07 27 50.2	
EQES	**Quesada**	**1.91**	**183**	Pg	Pg	07 27 33.2	-1.5
	16nm,0.1s,SNR=26						
EQES				Lg		07 27 57.5	
	28nm,0.2s,SNR=6.2						
EQES	**Quesada**	**1.91**	**183**	Pg	Pg	07 27 33.2	-1.5
	16nm,0.1s,SNR=26						
EQES	**Quesada**	**1.91**	**183**	Pg	Pg	07 27 33.2	-1.5
EQES				Lg		07 27 57.9	
EHUE	**Huescar**	**1.92**	**171**	Pg	Pg	07 27 33.0	-1.9
	10nm,0.2s,SNR=7.9						
EHUE				Lg		07 27 58.3	
	15nm,0.2s,SNR=6.7						
EHUE	**Huescar**	**1.92**	**171**	Pg	Pg	07 27 33.0	-1.9
EHUE				Lg		07 27 58.5	
EADA	**Adamuz**	**1.99**	**220**	Pn	Pn	07 27 31.3	-1.1
	0.2nm,0.1s,SNR=7.9						
EADA				Pg	Pg	07 27 34.6	-1.7
	1.3nm,0.1s,SNR=24						
EADA				Lg		07 28 00.8	
	72nm,0.2s,SNR=29						
EADA	**Adamuz**	**1.99**	**220**	Pn	Pn	07 27 31.3	-1.0
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.99**	**220**	Pg	Pg	07 27 34.7	-1.6
EADA	**Adamuz**	**1.99**	**220**	Pg	Pg	07 27 34.6	-1.7
EADA				Lg		07 28 01.1	
EMOS	**Mosqueruela**	**2.02**	**70**	Pn	Pn	07 27 32.1	-0.5
	0.2nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	07 27 36.0	-0.8
	0.3nm,0.1s,SNR=7.3						
EMOS				Lg		07 28 01.7	
	9.3nm,0.2s,SNR=13						
EMOS	**Mosqueruela**	**2.02**	**70**	Pn	Pn	07 27 32.1	-0.6
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.02**	**70**	Pg	Pg	07 27 36.0	-0.8
	0.3nm,0.1s,SNR=7.3						
EMOS	**Mosqueruela**	**2.02**	**70**	Pn	Pn	07 27 32.1	-0.5
EMOS				Pg	Pg	07 27 36.3	-0.5
EMOS				Lg		07 28 00.8	
EBEN	**Beniarda**	**2.35**	**114**	Pn	Pn	07 27 35.5	-1.8
	0.6nm,0.1s,SNR=7.9						
EBEN				Pg	Pg	07 27 41.7	-1.5
	0.9nm,0.1s,SNR=6.7						
EBEN				Lg		07 28 10.9	
	22nm,0.4s,SNR=7.7						
EBEN	**Beniarda**	**2.35**	**114**	Pn	Pn	07 27 35.5	-1.8
	0.6nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.35**	**114**	Pg	Pg	07 27 41.7	-1.5
	0.9nm,0.1s,SNR=6.7						
ELUQ	**Luque**	**2.38**	**206**	Pg	Pg	07 27 41.8	-2.0
	4.5nm,0.2s,SNR=7.9						
ELUQ				Lg		07 28 13.7	
	11nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.48**	**191**	Pg	Pg	07 27 43.7	-1.9
	1.3nm,0.2s,SNR=7.9						
ECOG				Lg		07 28 16.3	
	6.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.53**	**189**	Pg	Pg	07 27 44.1	-2.5
	5.6nm,0.3s,SNR=12						
EQUE				Lg		07 28 17.9	
	5.0nm,0.2s,SNR=6.4						
ESAC	**San Caprasio**	**2.76**	**42**	Pg	Pg	07 27 47.3	-3.7
	5.0nm,0.1s,SNR=5.5						
ESAC				Lg		07 28 25.4	
	206nm,0.2s,SNR=16						
ESAC	**San Caprasio**	**2.76**	**42**	Pg	Pg	07 27 50.2	-0.8
	5.0nm,0.1s,SNR=5.5						
ESAC	**San Caprasio**	**2.76**	**42**	Pn	Pn	07 27 50.4	+7.5
ESAC				Lg		07 28 24.8	
ERON	**Agron**	**2.77**	**194**	Lg		07 28 26.8	
	4.0nm,0.2s,SNR=4.0						
ENIJ	**Nijar**	**2.80**	**168**	Pg	Pg	07 27 48.6	-3.2
	4.4nm,0.2s,SNR=7.9						
ENIJ				Lg		07 28 26.2	
	5.4nm,0.3s,SNR=4.0						
ERTA	**Horta de San J**	**2.81**	**63**	Pn	Pn	07 27 42.6	-0.9
	2.2nm,0.2s,SNR=7.9						
ERTA				Pg	Pg	07 27 50.2	-1.7
	2.1nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	07 28 15.7	-2.0
	3.4nm,0.4s,SNR=4.0						
ERTA				Lg		07 28 25.0	
	25nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**2.81**	**63**	Pn	Pn	07 27 42.6	-0.9
	2.2nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.81**	**63**	Pg	Pg	07 27 50.2	-1.8
	2.1nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	07 28 15.7	-2.0
	3.4nm,0.4s,SNR=4.0						
ERTA	**Horta de San J**	**2.81**	**63**	Pn	Pn	07 27 43.2	-0.4
ERTA				Pg	Pg	07 27 50.2	-1.7
ERTA				Lg		07 28 27.7	
EBER	**Berja**	**2.81**	**179**	Pg	Pg	07 27 48.8	-3.2
	0.7nm,0.2s,SNR=7.9						
EBER				Lg		07 28 28.4	
	9.0nm,0.3s,SNR=5.0						
EBER	**Berja**	**2.81**	**179**	Pg	Pg	07 27 51.2	-0.8
	0.7nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.87**	**66**	*e*Ss		07 28 27.0	
EGUA	**Guajares**	**2.91**	**190**	Pg	Pg	07 27 51.3	-2.6
	0.7nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**2.92**	**7**	Pg	Pg	07 27 52.0	-2.0
	2.7nm,0.1s,SNR=7.9						
ECRI				Lg		07 28 30.1	
	9.9nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**2.92**	**7**	Pn	Pn	07 27 52.7	+7.7
ECRI				Lg		07 28 33.2	
EARA	**Aranguren**	**3.23**	**18**	Lg		07 28 40.8	
	18nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**3.23**	**19**	Lg		07 28 41.2	
	10nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.29**	**254**	Pn	Pn	07 27 48.6	-1.6
	1.2nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	07 27 58.2	-2.9
	0.5nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	07 28 26.0	-3.6
	6.6nm,0.2s,SNR=4.0						
EBAD				Lg		07 28 39.3	
	27nm,0.2s,SNR=7.0						
EBAD	**Badajoz**	**3.29**	**254**	Pn	Pn	07 27 48.6	-1.6
	1.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.29**	**254**	Pg	Pg	07 27 58.2	-3.0
	0.5nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	07 28 26.0	-3.6
	6.6nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**3.29**	**254**	Pn	Pn	07 27 51.6	+1.4
EBAD				Pg	Pg	07 27 58.7	-2.5
EBAD				Lg		07 28 42.5	
IPRE	**Itoiz**	**3.32**	**21**	Lg		07 28 43.4	
	2.3nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**3.40**	**18**	Lg		07 28 46.5	
	3.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.40**	**100**	Pn	Pn	07 27 50.0	-1.7
	1.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.40**	**100**	Pn	Pn	07 27 50.0	-1.8
	1.0nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**3.45**	**205**	Lg		07 28 43.5	
	3.8nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.48**	**274**	*e*Sn	Sn	07 28 32.4	-2.0
PCBR							
	11nm,0.3s						
PCBR	**Castelo Branco**	**3.48**	**274**	*e*Sn	Sn	07 28 32.4	-2.0
	11nm,0.3s						
EPOB	**Poblet**	**3.49**	**61**	Pn	Pn	07 27 50.6	-2.2
	0.2nm,0.2s,SNR=7.9						
EPOB				Pg	Pg	07 28 02.3	-2.7
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	07 28 30.6	-3.9
	0.7nm,0.8s,SNR=7.9						
EPOB				Lg		07 28 45.1	
	2.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**3.49**	**61**	Pn	Pn	07 27 50.6	-2.3
	0.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**3.49**	**61**	Pg	Pg	07 28 02.3	-2.7
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	07 28 30.6	-3.9
	0.7nm,0.8s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**237**	Pn	Pn	07 27 52.1	-0.9
	0.3nm,0.2s,SNR=7.9						
EMIN				Pg	Pg	07 28 02.1	-3.0
	0.5nm,0.2s,SNR=7.9						
EMIN				Lg		07 28 44.3	
	8.9nm,0.3s,SNR=11						
EMIN	**Mina Concepcio**	**3.49**	**237**	Pn	Pn	07 27 52.1	-0.9
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**237**	Pg	Pg	07 28 02.1	-3.0
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**237**	Pn	Pn	07 27 53.2	+0.2
EMIN				Pg	Pg	07 28 02.1	-3.0
EMIN				Lg		07 28 47.0	
EGRA	**Graus**	**3.51**	**44**	Pg	Pg	07 28 01.1	-4.3
	1.4nm,0.2s,SNR=7.9						
EGRA				Lg		07 28 49.0	
	12nm,0.3s,SNR=6.9						
ELAN	**Lanestosa**	**3.54**	**354**	Pg	Pg	07 28 03.6	-2.3
	1.1nm,0.1s,SNR=8.4						
ELAN				Sn	Sn	07 28 32.1	-3.6
	3.8nm,0.4s,SNR=7.9						
ELAN				Lg		07 28 48.8	
	3.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.54**	**354**	Pg	Pg	07 28 03.6	-2.3
	1.1nm,0.1s,SNR=8.4						
ELAN				Sn	Sn	07 28 31.3	-4.4
	3.8nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**3.54**	**354**	Pn	Pn	07 28 04.8	+11
ELAN				Lg		07 28 49.1	
PBRG	**Braganca**	**3.55**	**307**	*e*Sg	Sg	07 28 50.3	-2.0
PBRG							
	16nm,0.4s						
PBRG	**Braganca**	**3.55**	**307**	*e*Sg	Sg	07 28 50.3	-2.0
	16nm,0.4s						
MTE	**Manteigas**	**3.58**	**283**	*e*Sg	Sg	07 28 51.7	-1.6
MTE							
	12nm,0.5s						
MTE	**Manteigas**	**3.58**	**283**	*e*Sg	Sg	07 28 51.7	-1.6
	12nm,0.5s						
ELIZ	**Elizondo**	**3.61**	**17**	Sn	Sn	07 28 35.1	-2.5
	5.8nm,0.5s,SNR=7.9						
ELIZ				Lg		07 28 53.3	
	6.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.63**	**309**	Pn	Pn	07 27 54.1	-0.8
	10nm,0.3s,SNR=5.0						
ECAL				Pg	Pg	07 28 04.9	-2.8
	1.3nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	07 28 35.3	-2.7
	5.5nm,0.3s,SNR=7.9						
ECAL				Lg		07 28 53.3	
	25nm,0.4s,SNR=7.5						
ECAL	**Calabor**	**3.63**	**309**	Pn	Pn	07 27 54.1	-0.8
	10nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.63**	**309**	Pg	Pg	07 28 04.9	-2.8
	1.3nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	07 28 35.3

2.4nm,0.2s,SNR=5.9
EMIR Miracle 4.05 56 Lg 07 29 05.5
9.4nm,0.3s,SNR=7.9
EPF Esparros 4.14 36 *e*P Pn 07 28 04.9 +3.0
EPF *e*Sn Sn 07 28 47.5 -3.1
EPF *e*Sg Sg 07 29 09.3 -1.9
18nm,0.4s
EPF Esparros 4.14 36 *e*P Pn 07 28 04.9 +3.0
EPF *e*Sn Sn 07 28 47.5 -3.1
EPF *e*Sg Sg 07 29 09.3 -1.9
8.9nm,0.4s
ERUA La Rua 4.14 312 Lg 07 29 08.9
4.6nm,0.2s,SNR=7.9
EGRO El Granado 4.16 240 Pn Pn 07 28 00.7 -1.4
0.6nm,0.2s,SNR=7.9
EGRO Sn Sn 07 28 45.0 -6.0
4.3nm,0.2s,SNR=4.0
EGRO Lg 07 29 08.0
6.5nm,0.2s,SNR=9.4
EGRO El Granado 4.16 240 Pn Pn 07 28 00.6 -1.5
EGRO Sn Sn 07 28 47.7 -3.3
EGRO El Granado 4.16 240 Pn Pn 07 28 00.7 -1.4
EGRO Sn Sn 07 28 47.7 -3.3
EGRO Lg 07 29 11.6
PBEJ Beja 4.18 248 *e*Sg Sg 07 29 09.8 -2.7
PBEJ
5.9nm,0.4s
PBEJ Beja 4.18 248 *e*Sg Sg 07 29 09.8 -2.7
5.9nm,0.4s
PCAB Cabril 4.34 299 *e*Sg Sg 07 29 15.7 -1.8
PCAB
11nm,0.3s
PCAB Cabril 4.34 299 *e*Sg Sg 07 29 15.7 -1.8
11nm,0.3s
MOE Montemor 4.36 256 *e*Sn Sn 07 28 53.9 -2.0
MOE *e*Sg Sg 07 29 18.0 -0.1
ELOB Lobios 4.43 301 Lg 07 29 17.2
8.9nm,0.3s,SNR=7.0
EPON Pontenova 4.79 320 Lg 07 29 26.9
4.7nm,0.2s,SNR=7.9
PTEO Sao Teotonio 5.00 246 *e*Sg Sg 07 29 38.1 -0.8
MTLF Montolieu 5.31 45 *e*Pn Pn 07 28 17.3 -0.7
MTLF *e*Sg Sg 07 29 43.2 -5.6
2.6nm,0.3s
MTLF Montolieu 5.31 45 *e*Pn Pn 07 28 17.3 -0.7
MTLF *e*Sg Sg 07 29 43.2 -5.6
1.3nm,0.3s
EMAZ Mazaricos 5.56 307 Lg 07 29 53.6
1.6nm,0.1s,SNR=4.0
LASF Ste Croix 6.70 47 *e*Sg Sg 07 30 29.4 -3.8
2.6nm,0.3s
LASF Ste Croix 6.70 47 *e*Sg Sg 07 30 29.4 -3.8
1.3nm,0.3s
QUIF Quistinic 8.20 359 *e*Pn Pn 07 28 56.2 -1.5
ROSF Rostrenen 8.63 359 *e*Pn Pn 07 29 01.4 -2.1

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*ISCJB **09** 07:27:47.4±0.3, 6574N±002×2726E±008, h10km, Error ellipse: s-maj=4.6km s-min=2.2km az=13.0*
*NAO **09** 07:27:47.8±1.2, 6579N×2676E, ML2.3*
*BER **09** 07:27:48.8±6.9, 6580N×2687E, h0km±38km, ML2.3(NAO)*
*HEL **09** 07:27:48.3±0.2, 6575N×2724E, h4km±2km, ML2.1, ML2.3(NAO)*
ISC 09 07:27:48.0±0.3, 6574N±002×2728E±007, h10km, n21, σ1§22/49, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.88**	**222**	*e*PB	**Pb**	**07 28 05.0**	**-0.2**
OUL				*e*S	**Sg**	**07 28 14.8**	**-1.5**
OUL				*e*SB	**Sb**	**07 28 16.3**	**-0.8**
KU4	**Liikasenvaara**	**1.13**	**55**	*e*P	**Pb**	**07 28 09.2**	**-0.3**
KU4				*e*S	**Sb**	**07 28 22.5**	**-1.8**
KU4				*e*SB	**Sb**	**07 28 24.1**	**-0.2**
KJN	**Kajaani**	**1.67**	**174**	*e*P	**Pn**	**07 28 18.6**	**+1.3**
KJN				*e*S	**Sn**	**07 28 38.5**	**-0.3**
KJN				*e*SG	**Sg**	**07 28 39.6**	**-2.1**
SGF	**Sodankyl**	**1.74**	**350**	*e*P	**Pn**	**07 28 19.3**	**+1.1**
SGF				*e*S	**Sn**	**07 28 40.4**	**0.0**
SGF				*e*SG	**Sg**	**07 28 41.2**	**-2.6**
SGF				MSG		07 28 41.8	
comp=Z,18nm,0.1s							
APA0	**Apatity Array**	**2.94**	**48**	Pn	**Pn**	**07 28 35.9**	**+1.1**
baz=239,slow=16							
APA0				Sn	**Sb**	**07 29 14.8**	**-1.8**
baz=229,slow=37							
APA0	**Apatity Array**	**2.94**	**48**	*e*P	**Pn**	**07 28 35.9**	**+1.1**
APA0				*e*SB	**Sb**	**07 29 14.8**	**-1.8**
SUF	**Sumiainen**	**3.07**	**190**	*e*P	**Pn**	**07 28 38.5**	**+1.9**
SUF				*e*S	**Sn**	**07 29 13.3**	**-0.1**
SUF				*e*SG	**Sg**	**07 29 22.6**	**-4.1**
SUF				MSG		07 29 26.1	
comp=Z,3.6nm,0.1s							
JOF	**Joensuu**	**3.33**	**146**	*e*P	**Pn**	**07 28 42.8**	**+2.6**
JOF				*e*S	**Sn**	**07 29 20.7**	**+1.0**
JOF				*e*SB	**Sb**	**07 29 27.2**	**-0.5**
JOF				MSG		07 29 33.1	
comp=Z,4.5nm,0.2s							
VAF	**Ylistaro**	**3.37**	**219**	*e*P	**Pn**	**07 28 41.5**	**+0.9**
VAF				*e*S	**Sn**	**07 29 20.3**	**-0.4**
VAF				*e*SB	**Sb**	**07 29 28.6**	**-0.2**
VAF				MSG		07 29 34.7	
comp=Z,4.4nm,0.2s							
KAF	**Kangasniemi**	**3.67**	**187**	*e*PB	**Pb**	**07 28 49.9**	**-3.0**
KAF				*e*S	**Sn**	**07 29 28.2**	**+0.1**
KAF				*e*SB	**Sb**	**07 29 36.4**	**-1.0**
KAF				MSG		07 29 42.8	
comp=Z,3.9nm,0.2s							
KEF	**Keuruu**	**3.74**	**198**	*e*P	**Pn**	**07 28 47.0**	**+1.2**
KEF				*e*S	**Sn**	**07 29 29.2**	**-0.6**
KEF				*e*SB	**Sb**	**07 29 39.4**	**-0.1**
KEF				MSG		07 29 47.8	
comp=Z,2.2nm,0.2s							
ARA0	**ARCESS Array S**	**3.87**	**351**	*e*P	**Pn**	**07 28 48.0**	**+0.5**
ARA0				*e*PG	**Pb**	**07 28 56.0**	**-0.3**
ARA0				*e*SB	**Sb**	**07 29 41.4**	**-1.9**
ARA0	**ARCESS Array S**	**3.87**	**351**	Pn	**Pn**	**07 28 48.0**	**+0.5**
baz=174,slow=11							
ARA0				Pg	**Pb**	**07 28 56.0**	**-0.3**
ARA0				Lg		07 29 41.4	
baz=166,slow=28							
KEV	**Kevo**	**4.04**	**359**	*e*P	**Pn**	**07 28 50.5**	**+0.7**
KEV				*e*S	**Sn**	**07 29 36.9**	**-0.3**
KEV				*e*SB	**Sb**	**07 29 48.0**	**0.0**
KEV				MSG		07 29 55.6	
comp=Z,2.6nm,0.2s							
KIF	**Kilpisjarvi**	**4.12**	**326**	*e*P	**Pn**	**07 28 53.8**	**+2.8**
KIF				*e*S	**Sn**	**07 29 38.6**	**-0.7**
KIF				*e*SB	**Sb**	**07 29 52.5**	**+2.0**
FIA0	**FINESS Array S**	**4.35**	**188**	*e*P	**Pn**	**07 28 55.5**	**+1.4**
FIA0				*e*S	**Sn**	**07 29 44.5**	**-0.3**
FIA0				*e*SB	**Sb**	**07 29 56.7**	**-0.2**
FIA0				MSG		07 30 06.7	
comp=Z,2.8nm,0.2s							
FIA0	**FINESS Array S**	**4.35**	**188**	Pn	**Pn**	**07 28 55.9**	**+1.8**
baz=11,slow=16							
FIA0				Pg	**Pg**	**07 29 07.7**	**-3.6**
baz=8.7,slow=16							
FIA0				Sn	**Sn**	**07 29 44.7**	**-0.1**
baz=22,slow=22							
FIA0				Lg		07 29 58.2	
baz=21,slow=28							
VJF	**Virojoki**	**5.22**	**179**	*e*SB	**Sb**	**07 30 23.6**	**+1.4**
HFS	**Hagfors**	**8.35**	**234**	Lg		07 32 06.8	
baz=57,slow=28							
HFS	**Hagfors**	**8.35**	**234**	*e*SG		07 32 06.8	
HFS	**Hagfors**	**8.35**	**234**	Lg		07 32 06.8	
baz=57,slow=28							

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*NEIC **09** 07:35:50.9, 21.10S×68.90W, h95km, MD4.0(GUC), After GUC.*
GUC 09 07:35:50.9±0.9, 2110S×6890W, h95km±24km, MD4.0, ML3.6, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.51**	**180**	⇑*i*P	Pn	07 36 18.3	+1.3
LVC				*i* S	Sn	07 36 38.6	+1.9
LVC				AMP		07 36 40.0	
comp=E,561nm,0.5s							
LVC	**Limon Verde**	**1.51**	**180**	⇑*i*P	Pn	07 36 18.3	+1.3
LVC				*i* S	Sn	07 36 38.6	+1.9
SPCH	**San Pedro de A**	**1.92**	**160**	*e*P	Pn	07 36 23.5	+1.3
SPCH				*i* S	Sn	07 36 48.3	+2.3
SPCH				AMP		07 37 00.8	
comp=E,376nm,0.9s							
SPCH	**San Pedro de A**	**1.92**	**160**	*e*P	Pn	07 36 23.5	+1.3
SPCH				*i* S	Sn	07 36 48.3	+2.3
CEN1	**Los Morros**	**2.58**	**208**	*e*P	Pn	07 36 35.0	+4.1
CEN1				AMP		07 37 18.1	
comp=N,567nm,0.5s							
ANCH	**Antofagasta**	**2.93**	**208**	*e*P	Pn	07 36 37.5	+2.0
ANCH				*i* S	Sn	07 37 11.8	+1.9
CPN1	**Cerro Paranal**	**3.77**	**201**	*e*P	Pn	07 36 48.9	+2.0
CPN1				*i* S	Sn	07 37 33.9	+3.6
LPAZ	**La Paz**	**4.84**	**9**	*e*Pn	Pn	07 37 06.0	+4.6

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*IDC **09** 07:40:16.8±1.0, 573N×12757E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=41.4km s-min=20.7km az=68.0*
*NEIC **09** 07:40:18.9±0.6, 579N×12768E, h15km, mb4.1/3, Error ellipse: s-maj=26.5km s-min=10.4km az=71.0*
*ISCJB **09** 07:40:19.2±0.7, 58N±01×1277E±02, h33km, mb3.9/10, Error ellipse: s-maj=33.6km s-min=12.0km az=138.8*
ISC 09 07:40:21.7±0.7, 58N±01×1277E±02, h35km, n13, σ0§91/13, mb3.9/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**19.16**	**343**	*e*P	**Pn**	**07 44 41.1**	**-2.0**
WRAB	**Tennant Creek**	**26.43**	**166**	*e*P	**P**	**07 45 54.8**	**-0.2**
1.3nm,0.5s,mb3.7							
WRA	**Warramunga Arr**	**26.43**	**166**	P	**P**	**07 45 54.9**	**-0.2**
1.1nm,0.4s,mb3.7,baz=343,slow=10,SNR=12							
PSI	**Prapat**	**28.89**	**265**	P	**P**	**07 46 17.8**	**+0.7**
3.0nm,0.5s,mb4.3,baz=341,slow=16,SNR=4.1							
ASAR	**Alice Springs**	**29.94**	**169**	P	**P**	**07 46 25.9**	**-0.5**
0.2nm,0.3s,mb3.3,baz=348,slow=8.5,SNR=3.2							
MKAR	**Makanchi Array**	**56.43**	**324**	P	**P**	**07 50 00.7**	**+1.0**
1.2nm,0.6s,mb4.1,baz=115,slow=7.6,SNR=20							
KZA	**Kyzart**	**58.77**	**316**	P	**P**	**07 50 16.3**	**+0.1**
SNR=11							
KURK	**Kurchatov**	**60.53**	**326**	*e*P	**P**	**07 50 28.8**	**+0.5**
1.1nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**66.12**	**326**	P	**P**	**07 51 06.0**	**+0.6**
1.1nm,0.5s,mb4.1,baz=134,slow=8.1,SNR=7.4							
BRVK	**Borovoye**	**66.19**	**326**	*e*P	**P**	**07 51 06.0**	**+0.2**
0.9nm,0.5s,mb4.1							
AKTK	**Aktyubinsk**	**72.65**	**321**	P	**P**	**07 51 44.7**	**-1.0**
AKTO	**Aktyubinsk**	**72.65**	**321**	P	**P**	**07 51 44.7**	**-1.0**
0.5nm,0.4s,mb3.8,baz=90,slow=8.1,SNR=4.4							
ILAR	**Eielson Array**	**82.78**	**26**	P	**P**	**07 52 43.9**	**+1.8**
0.3nm,0.6s,mb3.5,baz=260,slow=5.5,SNR=4.7							

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*NAO **09** 07:47:52.1, 2997N×7397E, h33km, mb4.1*
*LDG **09** 07:48:17.3±0.1, 3427N×7326E, h10km, Mb4.5/10, Ms3.6/1, Error ellipse: s-maj=8.8km s-min=3.5km az=26.0*
*IDC **09** 07:48:18.3±0.7, 3450N×7324E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, ML4.4/3, MS3.7/6, Ms1 3.7/6, ms1mx3.4/28, Error ellipse: s-maj=19.2km s-min=15.7km az=28.0*
*ISCJB **09** 07:48:18.4±0.2, 3456N±002×7339E±003, h10km, mb4.4/35, MS3.6/6, Error ellipse: s-maj=3.9km s-min=2.6km az=133.3*
*NEIC **09** 07:48:19.7±0.3, 3446N×7339E, h10km, mb4.4/5, Error ellipse: s-maj=9.2km s-min=5.0km az=223.0*
*BJI **09** 07:48:19.2, 3446N×7290E, h41km, mB4.9, mb4.7, ML4.7, Ms4.5, Msz4.4*
*MOS **09** 07:48:21.4±1.4, 3449N×7343E, h33km, mb4.6/12, Error ellipse: s-maj=9.6km s-min=5.2km az=99.3*
*NDI **09** 07:48:23.2±5.7, 3439N×7320E, h10km, ML4.4, mb4.4(NEIC)*
*NNC **09** 07:48:34.7±5.7, 3505N×7310E, h139km±43km, mb3.8, mpv5.1, Error ellipse: s-maj=59.3km s-min=37.9km az=57.0*
ISC 09 07:48:20.3±0.2, 3454N±002×7334E±003, h10km, n171, σ1§28/203, mb4.4/36, MS3.6/6, 15C-15D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.88**	**184**	⇓P	**Pg**	**07 48 36.1**	**-1.2**
CEP	**Cherat**	**1.39**	**239**	P	**Pn**	**07 48 43.1**	**-2.6**
THW	**Thamme Wali**	**2.19**	**218**	⇑P	**Pn**	**07 48 57.2**	**+0.4**
SARP	**Sargodha**	**2.67**	**192**	⇓P	**Pn**	**07 49 03.1**	**-0.3**
DLH	**Dalhousie**	**2.96**	**132**	*e*P	**Pn**	**07 49 10.0**	**+2.6**
DLH				*e*S	**Sn**	**07 49 45.0**	**+2.0**
SBDP	**Sheikh Budin**	**3.08**	**224**	⇑P	**Pn**	**07 49 09.1**	**+0.1**
PONG	**Pong**	**3.38**	**139**	*e*P	**Pn**	**07 49 15.0**	**+1.9**
PONG				*e*x	x	07 50 09.0	
DRP	**Derazinda**	**3.84**	**224**	⇓P	**Pn**	**07 49 19.7**	**+0.3**
BHK	**Bhakra**	**4.05**	**139**	*e*x	x	07 49 34.6	
BHK				*e*x	x	07 50 33.8	
SDNR	**Sundarnagar**	**4.30**	**134**	*e*P	**Pn**	**07 49 28.0**	**+2.3**
SDNR				*e*x	x	07 50 17.8	
SMLA	**Simla**	**4.69**	**136**	*e*P	**Pn**	**07 49 33.0**	**+2.0**
SMLA				*e*P		07 49 33.5	
SMLA				*e*S	**Sn**	**07 50 25.6**	**+0.1**
SMLA				*e*S	**Sn**	**07 50 27.1**	**+1.7**
SMLA				AML	AML	07 50 50.7	
comp=N,2μm,0.4s							
SMLA				AML	AML	07 50 50.8	
comp=E,2μm,0.4s							
KLP	**Kalpa**	**5.10**	**125**	*e*P	**Pn**	**07 49 38.9**	**+2.2**
KLP				*e*S	**Sn**	**07 50 34.9**	**-0.7**
KLP				AML	AML	07 51 11.8	
comp=N,2μm,0.9s							
KLP				AML	AML	07 51 12.5	
comp=E,2μm,0.5s							
KSH	**Kashi**	**5.39**	**22**	*e*P	**Pn**	**07 49 47.1**	**+6.4**
KSH				*e*S	**Sn**	**07 50 49.1**	**+6.2**
KSH				AMB	AMB		
comp=Z,90nm,1.0s							
KSH				LR	LR		
comp=N,3μm,2.5s							
KSH				LR	LR		
comp=E,2μm,2.5s							
DDI	**Dehra Dun**	**5.79**	**135**	*e*P	**Pn**	**07 49 49.0**	**+2.7**
DDI				*e*x	x	07 50 55.0	
NDI	**New Delhi**	**6.71**	**149**	*e*P	**Pn**	**07 50 01.0**	**+2.1**
NDI				*e*x	x	07 51 15.0	
KHET	**Khetri**	**6.78**	**161**	*e*P	**Pn**	**07 50 00.8**	**+0.9**
KHET				*e*S	**Sn**	**07 51 14.1**	**-3.1**
KHET				AML	AML	07 52 07.5	
comp=E,121nm,0.4s							
KHET				AML	AML	07 52 10.2	
comp=N,98nm,0.5s							
AYAN	**Aya Nagar**	**6.85**	**151**	*e*P	**Pn**	**07 50 02.4**	**+1.6**
SONA	**Sohna**	**7.04**	**152**	*e*P	**Pn**	**07 50 04.4**	**+1.0**
SONA				*e*S	**Sn**	**07 51 18.9**	**-4.6**
SONA				AML	AML	07 52 06.1	
comp=N,225nm,0.8s							
SONA				AML	AML	07 52 17.5	
comp=E,521nm,1.6s							
AML	**Almayashu**	**7.58**	**2**	P	**Pn**	**07 50 14.6**	**+3.7**
SNR=140							
PTH	**Pithoragarh**	**7.67**	**129**	*e*P	**Pn**	**07 50 16.1**	**+4.1**
PTH				*e*x	x	07 51 41.2	
UCH	**Uchtor**	**7.73**	**6**	P	**Pn**	**07 50 17.0**	**+4.2**
SNR=58							
LGTI	**Lohaghat**	**7.75**	**129**	*e*P	**Pn**	**07 50 14.3**	**+1.1**
LGTI				*e*x	x	07 52 19.5	
JASL	**Jaisalmer**	**7.88**	**196**	*e*P	**Pn**	**07 50 15.6**	**+0.7**
ULHL	**Ulahol**	**8.02**	**16**	P	**Pn**	**07 50 21.2**	**+4.4**
SNR=28							
EKS2	**Erkin-Say**	**8.11**	**2**	P	**Pn**	**07 50 21.9**	**+3.8**
SNR=24							
AJM	**Ajmer**	**8.12**	**172**	*e*P	**Pn**	**07 50 18.0**	**-0.2**
AJM				*e*S	**Sn**	**07 51 44.0**	**-5.9**
AAK	**Ala-Archa**	**8.13**	**6**	P	**Pn**	**07 50 22.3**	**+4.0**
SNR=20							
AAK	**Ala-Archa**	**8.13**	**6**	*e*P	**Pn**	**07 50 20.6**	**+2.3**
AAK				*e*		07 51 49.4	
AAK				pmax	pmax		
comp=Z,19nm,0.5s							
AAK	**Ala-Archa**	**8.13**	**6**	*e*Pn	**Pn**	**07 50 20.6**	**+2.3**
comp=Z,18nm,0.5s							
AAK				*e*Sn	**Sn**	**07 51 49.4**	**-0.9**
KBK	**Karagaybulak**	**8.20**	**8**	P	**Pn**	**07 50 23.4**	**+4.1**
SNR=20							
AGRA	**Agra**	**8.29**	**150**	*e*P	**Pn**	**07 50 22.0**	**+1.5**
AGRA				*e*S	**Sn**	**07 51 48.6**	**-5.6**
AGRA				AML	AML	07 52 53.1	
comp=N,165nm,0.6s							
AGRA				AML	AML	07 52 53.3	
comp=E,226nm,0.3s							
FRU	**Bishkek**	**8.34**	**6**	*e*P	**Pn**	**07 50 26.2**	**+5.0**
FRU				*e*S	**Sn**	**07 51 52.0**	**-3.4**
FRU				pmax	pmax		
comp=Z,40nm,1.8s							
FRU				smax			
comp=N,140nm,2.0s							
CHMS	**Chumysh**	**8.52**	**7**	P	**Pn**	**07 50 28.4**	**+4.8**
SNR=6.2							
TKM2	**Tokmak 2**	**8.55**	**11**	P	**Pn**	**07 50 28.3**	**+4.2**
SNR=35							
TKM2	**Tokmak 2**	**8.55**	**11**	⇑P	**Pn**	**07 50 28.1**	**+4.0**
comp=N,18nm,0.5s							
TKM2				⇑S	**Sn**	**07 52 01.4**	**+0.8**
comp=N,41nm,0.8s							
TKM2	**Tokmak 2**	**8.55**	**11**	*i* P	**Pn**	**07 50 28.0**	**+3.9**
TKM2				pmax	pmax		
comp=Z,18nm,0.4s							
USP	**Ospenovka**	**8.76**	**6**	P	**Pn**	**07 50 31.0**	**+4.0**
SNR=13							
KK31	**Karatay Array**	**8.83**	**346**	⇑P	**Pn**	**07 50 30.2**	**+2.3**
comp=Z,64nm,0.2s,baz=152,slow=11,SNR=1119							
KK31				⇑S	**Sn**	**07 52 06.7**	**-0.7**
comp=Z,23nm,0.3s,baz=166,slow=23,SNR=13							
KK31	**Karatay Array**	**8.83**	**346**	*i* P	**Pn**	**07 50 30.1**	**+2.2**
KK31				pmax	pmax		
comp=Z,64nm,0.2s							
KKAR	**Karatay Array**	**8.83**	**346**	P	**Pn**	**07 50 30.1**	**+2.2**
KKAR				S	**Sn**	**07 52 06.7**	**-0.7**
KKAR				pmax	pmax		
comp=Z,16nm,0.3s							
KOLN	**Koldanda**	**11.08**	**125**	*e*Pn	**Pn**	**07 50 59.2**	**+0.5**
KOLN				*e*Sn	**Sn**	**07 52 58.3**	**-4.3**
comp=Z,99nm,0.6s							
KOLN	**Koldanda**	**11.08**	**125**	*e*Pn	**Pn**	**07 50 59.2**	**+0.5**
comp=Z,49nm,0.6s							
KOLN				*e*Sn	**Sn**	**07 52 58.3**	**-4.3**
GKN	**Gorkha**	**11.65**	**121**	*e*Pn	**Pn**	**07 51 05.6**	**-1.0**
GKN				*e*Sn	**Sn**	**07 53 09.6**	**-7.1**
comp=Z,81nm,0.4s							
GKN	**Gorkha**	**11.65**	**121**	*e*Pn	**Pn**	**07 51 05.6**	**-1.0**
comp=Z,40nm,0.4s							
GKN				*e*Sn	**Sn**	**07 53 09.6**	**-7.1**
BHPL	**Bhopal**	**11.81**	**161**	*e*P	**Pn**	**07 51 09.2**	**+0.4**
BHPL				*e*S	**Sn**	**07 53 13.2**	**-7.4**
DMN	**Daman**	**12.22**	**121**	*e*Pn	**Pn**	**07 51 12.9**	**-1.4**
DMN				*e*Sn	**Sn**	**07 53 22.0**	**-8.6**
comp=Z,102nm,0.7s							
DMN	**Daman**	**12.22**	**121**	*e*Pn	**Pn**	**07 51 12.9**	**-1.4**
comp=Z,51nm,0.7s							
DMN				*e*Sn	**Sn**	**07 53 22.0**	**-8.6**
KKN	**Kakani**	**12.23**	**120**	*e*Pn	**Pn**	**07 51 13.1**	**-1.5**
KKN				*e*Sn	**Sn**	**07 53 23.1**	**-7.9**
comp=Z,90nm,0.6s							
KKN	**Kakani**	**12.23**	**120**	*e*P	**Pn**	**07 51 13.1**	**-1.5**
KKN				*e*		07 53 23.1	
KKN				pmax	pmax		
comp=Z,45nm,0.6s							
KKN	**Kakani**	**12.23**	**120**	*e*Pn	**Pn**	**07 51 13.1**	**-1.5**
comp=Z,45nm,0.6s							
KKN				*e*Sn	**Sn**	**07 53 23.1**	**-7.9**
PKI	**Pulchoki**	**12.46**	**121**	*e*Pn	**Pn**	**07 51 16.1**	**-1.5**
PKI				*e*Sn	**Sn**	**07 53 27.8**	**-8.6**
comp=Z,162nm,0.8s							
PKI	**Pulchoki**	**12.46**	**121**	*e*P	**Pn**	**07 51 16.1**	**-1.5**
PKI				*e*		07 53 27.8	
PKI				pmax	pmax		
comp=Z,81nm,0.8s							
PKI	**Pulchoki**	**12.46**	**121**	*e*Pn	**Pn**	**07 51 16.1**	**-1.5**
comp=Z,81nm,0.8s							
PKI				*e*Sn	**Sn**	**07 53 27.8**	**-8.6**
GUN	**Gumba**	**12.60**	**118**	*e*Pn	**Pn**	**07 51 18.5**	**-1.0**
GUN				*e*Sn	**Sn**	**07 53 31.3**	**-8.5**
comp=Z,62nm,0.5s							
GUN	**Gumba**	**12.60**	**118**	*e*Pn	**Pn**	**07 51 18.5**	**-1.0**
comp=Z,31nm,0.5s							
GUN				*e*Sn	**Sn**	**07 53 31.3**	**-8.5**
JIRN	**Jiri**	**12.96**	**118**	*e*Pn	**Pn**	**07 51 23.2**	**-1.3**
JIRN				*e*Sn	**Sn**	**07 53 40.1**	**-8.7**
comp=Z,87nm,0.6s							
JIRN	**Jiri**	**12.96**	**118**	*e*Pn	**Pn**	**07 51 23.2**	**-1.3**
comp=Z,43nm,0.6s							
JIRN				*e*Sn	**Sn**	**07 53 40.1**	**-8.7**
MKAR	**Makanchi Array**	**13.98**	**26**	Pn	**Pn**	**07 51 39.6**	**+1.2**
comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=18							
MKAR				LR	LR	07 57 36.7	
comp=Z,397nm,18.2s,baz=224,slow=40							
MKAR	**Makanchi Array**	**13.98**	**26**	*i* P	**Pn**	**07 51 39.3**	**+0.9**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**13.98**	**26**	P	**Pn**	**07 51 39.4**	**+0.9**
comp=Z,4.9nm,0.7s,baz=189,slow=11,SNR=57							
MK31	**Makanchi Array**	**13.98**	**26**	*i* P	**Pn**	**07 51 39.3**	**+0.9**
MK31				pmax	pmax		
comp=Z,5.0nm,0.6s							
NGP	**Nagpur**	**14.26**	**158**	*e*P	**Pn**	**07 51 39.8**	**-2.4**
NGP				*e*x	x	07 54 11.5	
WMQ	**Urumqi**	**14.46**	**46**	*e*P	**Pn**	**07 51 44.0**	**-1.0**
WMQ				PP		07 51 56.0	
WMQ				S	**Sn**	**07 54 25.0**	**-0.4**
WMQ				AMB	AMB		
comp=Z,15nm,1.0s							
WMQ				AMB	AMB		
comp=Z,103nm,3.0s							
WMQ				LR	LR		
comp=N,487nm,5.0s							
WMQ				LR	LR		
comp=E,539nm,5.0s							
WMQ				LR	LR		
comp=Z,541nm,5.0s							
BLSP	**Bilaspur**	**14.58**	**146**	*e*x	x	07 51 45.3	
LSA	**Lhasa**	**15.84**	**103**	P	**Pn**	**07 52 02.3**	**-1.0**
LSA	**Lhasa**	**15.84**	**103**	*e*P	**Pn**	**07 52 00.9**	**-2.4**
LSA				pmax	pmax		
comp=Z,10.0nm,0.8s							
LSA	**Lhasa**	**15.84**	**103**	*e*P	**Pn**	**07 52 00.9**	**-2.3**
comp=Z,9.9nm,0.8s							
POO	**Poona**	**15.96**	**178**	*e*x	x	07 52 22.5	
POO				*i* x	x	07 52 37.5	
POO				*e*PPP		07 52 46.0	
POO				*i* x	x	07 55 39.5	
POO				*i* x	x	07 56 02.0	
POO				*i* LR	LR	07 56 30.5	
POO				*e*PCS	PcS	08 00 36.5	-1.3
LATR	**Latur**	**16.32**	**169**	*e*x	x	07 54 56.0	
KURK	**Kurchatov**	**16.62**	**12**	⇓P	**Pn**	**07 52 11.0**	**-2.3**
comp=Z,6.2nm,1.1s							
KURK	**Kurchatov**	**16.62**	**12**	*e*Pn	**Pn**	**07 52 12.2**	**-1.1**
KURK				*e*S	**Sn**	**07 55 27.5**	**+10**
KAD	**Karad**	**17.18**	**177**	*e*P	**Pn**	**07 52 20.3**	**-0.1**
HYB	**Hyderabad**	**17.68**	**163**	*i* P	**Pn**	**07 52 25.0**	**-1.6**
HYB				*e*S	**Sn**	**07 55 48.0**	**+4.4**
HYB	**Hyderabad**	**17.68**	**163**	*e*P	**Pn**	**07 52 25.0**	**-1.6**
HYB				*e*S	**Sn**	**07 55 30.0**	**-14**
AB31	**Akbulak array**	**17.72**	**330**	P	**Pn**	**07 52 25.1**	**-2.1**
comp=Z,7.5nm,0.6s,baz=140,slow=12,SNR=130					

AKTK LR LR 07 59 50.5
AKTO Aktyubinsk 19.43 329 ⇑P **Pn 07 52 46.9 -1.0**
comp=Z,4.0nm,0.6s
AKTO ⇓S **Sn 07 56 12.0 -14**
comp=Z,1.9nm,1.1s
AKTO Aktyubinsk 19.43 329 P **Pn 07 52 47.2 -0.6**
comp=Z,4.1nm,0.3s,baz=135,slow=11,SNR=95
AKTO S **Sn 07 56 14.5 -11**
comp=Z,0.2nm,0.3s,baz=270,slow=23,SNR=4.0
AKTO LR LR 07 59 50.5
comp=Z,40nm,21.1s,baz=0.0,slow=36
AKTO Aktyubinsk 19.43 329 P **Pn 07 52 47.3 -0.6**
AKTO S **Sn 07 56 14.5 -11**
AKTO pmax pmax
comp=Z,4.0nm,0.3s
AKTO MLR MLR
comp=Z,41nm,21.1s
ZAL Zalesovo 21.00 19 P **P 07 53 03.4 -0.5**
comp=Z,19nm,0.4s,mb4.8,baz=259,slow=6.7,SNR=76
ZAL S **S 07 56 52.3 -5.4**
comp=Z,1.0nm,0.5s,baz=40,slow=24,SNR=2.8
ZAL LR LR 08 02 20.5
comp=Z,179nm,19.5s,MS3.5,baz=246,slow=40
ZAL Zalesovo 21.00 19 *i* P **P 07 53 03.4 -0.5**
ZAL pmax pmax
comp=Z,19nm,0.4s
ZAL Zalesovo 21.00 19 P **P 07 53 03.4 -0.5**
ZAL S **S 07 56 52.3 -5.4**
ZAL LR LR 08 02 20.5
NVS Novosibirsk 21.44 16 *e*P **P 07 53 06.4 -2.1**
NVS *e*S **S 07 57 09.0 +2.7**
NVS pmax pmax
comp=N,29nm,1.4s
NVS pmax pmax
comp=Z,23nm,1.4s,mb4.3
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS smax
comp=N,10.0nm,1.1s
GTA Gaotai 21.67 69 P **P 07 53 13.1 +2.1**
GTA AP 07 53 18.5
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.3
GNI Garni 23.36 292 P **P 07 53 28.9 0.0**
comp=Z,1.7nm,0.4s,mb3.9,baz=90,slow=16,SNR=1.9
GNI Garni 23.36 292 P **P 07 53 28.9 0.0**
ARU Arti 24.11 340*c i*P **P 07 53 36.7 +0.6**
ARU pmax pmax
comp=Z,13nm,0.6s,mb4.5
ARU Arti 24.11 340 *e*P **P 07 53 36.8 +0.6**
comp=Z,12nm,0.6s,mb4.5
ZEI Tsey 24.32 299 *e*P **P 07 53 40.7 +2.7**
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
LZH Lanzhou 24.89 78 *e*P **P 07 53 45.0 +1.8**
LZH AP 07 53 53.0
LZH XP sP 07 53 57.0 +9.5
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,108nm,4.2s
KIV Kislovodsk 25.41 301 *e*P **P 07 53 47.8 -0.1**
KIV *e* 07 54 25.4
KIV *e*S **S 07 58 11.4 -3.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
KIV MLR MLR
comp=Z,52nm,17.0s,MS3.1
SOC Sochi 27.47 299 *e*P **P 07 54 05.1 -1.4**
SOC *e* 07 54 50.5
SOC *e*S **S 07 58 41.0 -6.1**
SOC pmax pmax
comp=Z,15nm,1.1s,mb4.4
SONM Songino Array 27.96 52 P **P 07 54 12.2 +1.3**
comp=Z,1.6nm,0.7s,mb3.8,baz=255,slow=8.6,SNR=17
SONM LR LR 08 06 55.3
comp=Z,268nm,18.4s,MS3.9,baz=140,slow=40
ULN Ulaanbaatar 28.40 52⇓*e*P **P 07 54 15.5 +0.7**
HHC Hu-ho-hao-te 30.71 67 *e*P **P 07 54 34.3 -1.1**
HHC PP PP 07 55 34.8 -10
HHC PCP PcP 07 57 32.3 -0.7
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
BRTR Keskin Array B 31.89 291 P **P 07 54 46.1 +0.5**
comp=Z,1.2nm,0.6s,mb3.9,baz=108,slow=9.5,SNR=7.0
BRTR Keskin Array B 31.89 291⇑*e*P **P 07 54 48.2 +2.5**
OBN Obninsk 32.66 320 *e*P **P 07 54 52.0 -0.5**
OBN pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
AKASG Malin Array Be 35.66 311 P **P 07 55 17.4 -1.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=84,slow=7.6,SNR=9.8
MLR Muntele Rosu 37.42 302 ⇓P **P 07 55 35.4 +1.9**
MLR Muntele Rosu 37.42 302 ⇓P **P 07 55 35.4 +1.9**
NJ2 Nanjing 37.88 81 *e*P **P 07 55 33.2 -4.2**
BURAR Bucovina Array 37.96 305 ⇓P **P 07 55 38.5 +0.4**
BURAR Bucovina Array 37.96 305 ⇓P **P 07 55 38.5 +0.5**
VOIR 38.05 301 ⇓P **P 07 55 39.6 +0.8**
VOIR 38.05 301 ⇓P **P 07 55 39.6 +0.8**
JOF Joensuu 38.51 331 *e*p **P 07 55 43.4 +0.7**
comp=Z,3.4nm,0.5s,mb4.3
SSE Sheshan 40.06 81 P **P 07 55 52.9 -2.8**
SSE AMB AMB
comp=Z,15nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,219nm,6.3s
FINES FINESS Array B 40.17 327 P **P 07 55 55.1 -1.4**
comp=Z,1.0nm,0.5s,mb3.8,baz=123,slow=10.0,SNR=9.5
FINES FINESS Array B 40.17 327 *i* P **P 07 55 56.5 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 43.68 338 P **P 07 56 25.1 -0.1**
comp=Z,6.4nm,0.8s,mb4.4,baz=113,slow=7.8,SNR=37
ARCES LR LR 08 14 57.5
comp=Z,126nm,18.1s,MS3.9,baz=199,slow=37
YAK Yakutsk 44.48 34*ce*P **P 07 56 31.1 -0.6**
YAK pmax pmax
comp=Z,24nm,0.6s,mb5.1
TIXI Tiksi 46.89 21⇓*e*P **P 07 56 51.2 +0.5**
TIXI pmax pmax
comp=Z,15nm,2.5s,mb4.5
NB2 NORSAR Subarra 47.09 324 P **P 07 56 51.2 -1.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=98,slow=7.9
NOA NORSAR Array B 47.09 324 P **P 07 56 50.7 -1.6**
comp=Z,2.2nm,0.6s,mb4.3,baz=96,slow=7.6,SNR=9.0
NOA NORSAR Array B 47.09 324 P **P 07 56 50.7 -1.6**
KMBO Kilima Mbogo 49.01 231 *e*P **P 07 57 08.1 +1.0**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 49.01 231 *e*P **P 07 57 08.1 +0.9**
comp=Z,2.8nm,0.8s,mb4.3
CDF Champ du Feu 49.91 307 *e*P **P 07 57 15.3 +1.3**
HINF Hinteralfeld 50.29 307 *e*P **P 07 57 17.9 +1.0**
HAU Haudompre 50.59 307 *e*P **P 07 57 19.8 +0.6**
LPG La Plagne 50.81 304 *e*P **P 07 57 21.1 +0.3**
LPL La Plagne 50.82 304 *e*P **P 07 57 21.0 +0.1**
MBDF Montbardon 50.96 303 *e*P **P 07 57 22.6 +0.6**
comp=Z,5.6nm,0.5s,mb4.5
CABF La Chapelle 51.03 305 *e*P **P 07 57 23.2 +0.7**
GIVF Givet 51.21 310 *e*P **P 07 57 24.5 +0.7**
BAIF Baives 51.61 310 *e*P **P 07 57 27.2 +0.4**
LOR Lormes 52.39 306 *e*P **P 07 57 32.7 +0.1**
comp=Z,5.9nm,0.7s,mb4.3
VIVF Saint-Julien-l 52.39 303 *e*P **P 07 57 32.7 +0.1**
YSS Yuzh-Sakhalins 52.41 54 *i* P **P 07 57 33.3 +0.5**
SMF Signal de Mont 52.54 306 *e*P **P 07 57 33.3 -0.4**
comp=Z,10nm,0.6s,mb4.6
SSF Saint Saulge 52.67 306 *e*P **P 07 57 35.2 +0.5**
AVF Avril sur Loir 52.83 306 *e*P **P 07 57 35.1 -0.8**
comp=Z,11nm,0.6s,mb4.6
TCF Toulx Ste Croi 53.72 306 *e*P **P 07 57 42.1 -0.3**
comp=Z,4.1nm,0.4s,mb4.5
CAF Calviac 54.16 304 *e*P **P 07 57 45.5 -0.2**
comp=Z,11nm,0.8s,mb4.5
MTLF Montolieu 54.49 302 *e*P **P 07 57 47.7 -0.4**
LDF La Druitiere 54.69 309 *e*P **P 07 57 49.1 -0.4**
SEY Seymchan 54.99 33⇑*e*P **P 07 57 52.7 +1.0**
EPF Esparros 55.89 302 *e*P **P 07 57 57.5 -0.7**
ETSF Etsaut 56.56 302⇑*i*P **P 07 58 03.0 0.0**
comp=Z,15nm,0.6s,mb4.9
ESDC Sonseca Array 60.07 300 P **P 07 58 25.9 -1.6**
comp=Z,1.0nm,0.4s,mb4.2,baz=61,slow=7.4,SNR=5.7
GUMO Guam 67.29 89 LR LR 08 28 35.8
comp=Z,65nm,20.0s,MS3.8,baz=55,slow=36
TORD Torodi Ar. Bea 67.62 271 P **P 07 59 16.6 -0.7**
comp=Z,5.3nm,0.5s,mb4.8,baz=46,slow=5.2,SNR=46
IMA2 Indian Mountai 73.39 18 *e*P **P 07 59 50.1 -2.4**
COLA College 75.81 17⇓*e*P **P 08 00 04.5 -2.0**
ILAR Eielson Array 76.12 17 P **P 08 00 07.7 -0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=4.6,SNR=17
ILAR Eielson Array 76.12 17 P **P 08 00 07.7 -0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 79.33 123 P **P 08 00 26.4 +0.2**
comp=Z,3.7nm,0.7s,mb4.5,baz=324,slow=5.1,SNR=68
WRA Warramunga Arr 79.33 123 *i* P **P 08 00 26.7 +0.5**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 79.33 123*c i*P **P 08 00 26.8 +0.6**
WRAB Tennant Creek 79.33 123 P **P 08 00 24.4 -1.8**
comp=Z,6.1nm,0.7s,mb4.6
WB2 Warramunga Arr 79.34 123 *e*P **P 08 00 26.7 +0.5**
ASPA Alice Springs 81.56 126 *e*P **P 08 00 38.6 +0.4**
ASAR Alice Springs 81.56 126 P **P 08 00 38.7 +0.5**
comp=Z,3.4nm,0.6s,mb4.4,baz=310,slow=5.2,SNR=68
ASAR Alice Springs 81.56 126 P **P 08 00 38.7 +0.5**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 83.09 4 P **P 08 00 45.8 -0.4**
comp=Z,1.5nm,0.6s,mb4.2,baz=347,slow=5.3,SNR=57
YKA Yellowknife Ar 83.09 4 *i* P **P 08 00 45.7 -0.5**
YKA pmax pmax
comp=Z,2.0nm,0.6s
TRQA Tornquist 144.08 251 *e*PKPdf PKPdf 08 07 54.6 -1.5
LVC Limon Verde 144.98 280 *e*PKPbc PKPdf 08 07 58.0 +0.3
USHA Ushuaia 146.68 221 PKPbc PKPbc 08 08 00.0 -2.2
comp=Z,3.2nm,0.6s,baz=72,slow=3.2,SNR=5.4
PLCA Paso Flores 150.89 247 PKPbc PKPbc 08 08 12.4 -0.7
comp=Z,0.6nm,0.5s,baz=184,slow=18,SNR=3.4
PLCA Paso Flores 150.89 247 PKIKP PKPdf 08 08 12.4 +5.0
PLCA pmax pmax
comp=Z,1.0nm,0.5s

*NEIC **09** 07:59:34.5, 35.30S×70.87W, h107km, MD3.5(GUC), After GUC.*

GUC 09 07:59:34.5±0.5, 35.30S×70.87W, h107km±4km, MD3.5, ML3.2, 4C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.70**	**350**	⇓*i*P		Pn	07 59 52.7	+0.2
SFDO				*i* S		Sn	08 00 06.4	+0.3
CICH	**Cipreses**	**1.05**	**21**	⇑*i*P		Pn	07 59 56.6	+0.7
CACH	**El Canelo**	**1.20**	**11**	*e*P		Pn	07 59 58.1	+0.4
CACH				*i* S		Sn	08 00 16.3	+1.1
CHCH	**Chadas Angostu**	**1.38**	**7**	*e*P		Pn	08 00 00.1	+0.5
CHCH				*i* S		Sn	08 00 19.6	+0.8
LNV	**Longovilo**	**1.42**	**341**	⇓*i*P		Pn	08 00 00.2	+0.1
TACH	**Talagante**	**1.65**	**358**	⇑*i*P		Pn	08 00 03.3	+0.4
TACH				*i* S		Sn	08 00 25.0	+0.5
PCH	**Pirque**	**1.70**	**10**	*e*P		Pn	08 00 04.3	+0.7
PCH				*i* S		Sn	08 00 26.5	+0.8
RCDM	**Rinconada Maip**	**1.81**	**2**	⇑*i*P		Pn	08 00 05.5	+0.6
RCDM				*i* S		Sn	08 00 28.9	+0.8
RCDM				AMP			08 00 30.5	
comp=E,222nm,0.1s								
RCDM	**Rinconada Maip**	**1.81**	**2**	⇑*i*P		Pn	08 00 05.5	+0.6
RCDM				*i* S		Sn	08 00 28.9	+0.8
LCCH	**Las Cruces**	**1.92**	**342**	⇓*i*P		Pn	08 00 06.5	+0.2
LCCH				*i* S		Sn	08 00 31.0	+0.6
FCH	**Farellones**	**2.03**	**14**	*e*P		Pn	08 00 08.6	+0.9
FCH				*i* S		Sn	08 00 34.7	+1.6
FCH				AMP			08 00 40.2	
comp=N,163nm,0.3s								
PEL	**Peldehue**	**2.16**	**4**	*e*P		Pn	08 00 09.8	+0.5
PEL				*i* S		Sn	08 00 36.8	+0.8
PEL				AMP			08 00 44.0	
comp=N,174nm,0.4s								
PEL	**Peldehue**	**2.16**	**4**	*e*P		Pn	08 00 09.8	+0.5
PEL				*i* S		Sn	08 00 36.8	+0.8
ROCH	**El Roble**	**2.33**	**357**	*e*P		Pn	08 00 09.7	-1.9
JACH	**Jahuel**	**2.62**	**5**	*e*P		Pn	08 00 15.9	+0.5
JACH				*i* S		Sn	08 00 47.6	+0.7

IDC 09 08:03:37.0±1.1, 6241S×15802W, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/11, mbtmp3.9/4, ML3.9/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/22, Error ellipse: s-maj=46.2km s-min=27.5km az=12.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.73**	**205**	P		Pn	08 08 07.7	-2.0
0.3nm,0.3s,baz=88,slow=15,SNR=11								
VNDA				LR		LR	08 13 22.3	
comp=Z,715nm,20.1s,baz=65,slow=30								
URZ	**Urewera**	**28.57**	**316**	LR		LR	08 18 03.5	
comp=Z,342nm,22.0s,baz=238,slow=30								
TBI	**Tubuai**	**39.48**	**12**	*e*LR		LR	08 21 47.3	
595nm,27.5s								
RAR	**Rarotonga**	**41.19**	**358**	LR		LR	08 26 03.6	
comp=Z,237nm,18.4s,baz=108,slow=33								
RKT	**Rikitea**	**42.27**	**32**	*e*LQ			08 21 25.1	
648nm,29.8s								
RKT				*e*LR		LR	08 23 14.9	
221nm,30.5s								
PPT	**Papeete**	**45.19**	**11**	*e*S		S	08 18 45.4	+9.1
PPT				*e*LR		LR	08 24 22.3	
706nm,27.0s								
MAW	**Mawson**	**46.95**	**200**	LR		LR	08 30 48.0	
comp=Z,280nm,18.5s,baz=330,slow=35								
DZM	**Mont Dzumac**	**47.00**	**313**	LR		LR	08 28 17.9	
comp=Z,225nm,19.9s,baz=199,slow=32								
STKA	**Stephens Creek**	**48.64**	**280**	LR		LR	08 28 18.3	
comp=Z,174nm,21.2s,baz=49,slow=30								
PLCA	**Paso Flores**	**53.78**	**110**	P		P	08 13 00.6	-0.6
1.6nm,0.8s,baz=201,slow=7.3,SNR=5.0								
PLCA				LR		LR	08 29 48.4	
comp=Z,143nm,20.9s,baz=208,slow=29								
TAOE	**Nuku Hiva Isla**	**55.02**	**22**	*e*LR		LR	08 29 07.4	
1μm,24.3s								
CTA	**Charters Tower**	**56.73**	**292**	LR		LR	08 35 05.0	
comp=Z,141nm,18.0s,baz=157,slow=33								
ASAR	**Alice Springs**	**59.16**	**278**	P		P	08 13 40.0	+0.4
1.0nm,0.9s,baz=144,slow=6.0,SNR=7.6								
WRA	**Warramunga Arr**	**62.18**	**280**	P		P	08 13 59.4	-0.8
1.5nm,1.2s,baz=146,slow=6.9,SNR=4.2								
LPAZ	**La Paz**	**75.67**	**98**	LR		LR	08 38 57.6	
comp=Z,35nm,20.3s,baz=332,slow=28								
BDFB	**Brasilia**	**85.20**	**115**	LR		LR	08 50 05.6	
comp=Z,186nm,18.6s,baz=38,slow=33								
ROSC	**El Rosal**	**91.34**	**82**	LR		LR	08 49 50.5	
comp=Z,58nm,20.1s,baz=197,slow=30								
LBTB	**Lobatse**	**92.83**	**183**	LR		LR	08 51 45.1	
comp=Z,190nm,21.8s,baz=220,slow=31								
SDV	**Santo Domingo**	**96.59**	**84**	LR		LR	08 53 29.2	
comp=Z,77nm,21.3s,baz=12,slow=31								
TSUM	**Tsumeb**	**98.59**	**176**	LR		LR	09 00 14.1	
comp=Z,136nm,18.3s,baz=146,slow=34								
TORD	**Torodi Ar. Bea**	**128.71**	**154**	PKP		PKPdf	08 22 46.2	0.0
0.3nm,0.8s,baz=177,slow=25,SNR=2.3								
YKA	**Yellowknife Ar**	**128.82**	**24**	PKP		PKPdf	08 22 44.4	-2.0
0.2nm,1.0s,baz=274,slow=11,SNR=2.4								
MKAR	**Makanchi Array**	**143.27**	**274**	PKP		PKPdf	08 23 10.1	-3.1
0.3nm,0.7s,baz=108,slow=3.8,SNR=3.6								

*NEIC **09** 08:07:04.1, 31.36S×69.18W, h150km, MD3.5(GUC), After GUC.*

GUC 09 08:07:04.1±0.5, 3136S×6918W, h150km, MD3.5, ML3.6, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.57**	**276**	⇓*i*P		Pn	08 07 35.0	+0.6
CMCH				*i* S		Sn	08 07 58.3	+0.7
CMCH				AMP			08 08 00.3	
comp=E,1μm,0.6s								
CMCH	**Combarbala**	**1.57**	**276**	⇓*i*P		Pn	08 07 35.0	+0.6
CMCH				*i* S		Sn	08 07 58.3	+0.7
FCH	**Farellones**	**2.18**	**205**	*e*P		Pn	08 07 42.6	+1.3
FCH				*i* S		Sn	08 08 12.1	+2.2
FCH				AMP			08 08 13.7	
comp=E,144nm,0.2s								
PEL	**Peldehue**	**2.19**	**215**	*e*P		Pn	08 07 42.1	+0.6
PEL				*i* S		Sn	08 08 10.5	+0.4
RCDM	**Rinconada Maip**	**2.53**	**213**	*e*P		Pn	08 07 46.1	+0.5
RCDM				*i* S		Sn	08 08 18.4	+0.9
RCDM				AMP			08 08 21.7	
comp=E,213nm,0.1s								
RCDM	**Rinconada Maip**	**2.53**	**213**	*e*P		Pn	08 07 46.1	+0.5
RCDM				*i* S		Sn	08 08 18.4	+0.9
CHCH	**Chadas Angostu**	**2.85**	**205**	*e*P		Pn	08 07 50.1	+0.6
LNV	**Longovilo**	**3.20**	**215**	*i* P		Pn	08 07 53.4	-0.6

*ISCJB **09** 08:22:11.8±1.3, 188S±02×1693E±02, h268km±9km, mb3.5/6, Error ellipse: s-maj=36.8km s-min=19.9km az=68.7*
*IDC **09** 08:22:12.2±3.5, 1889S×16945E, h266km±43km, mb3.3/6, mb1 3.5/7, mb1mx3.5/15, mbtmp3.9/7, Error ellipse: s-maj=91.0km s-min=21.7km az=161.0*

ISC 09 08:22:12.4±1.4, 188S±02×1694E±02, h260km±9km, n13, σ0°72/9, mb3.5/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.58**	**317**	⇑*i*P		**Pn**	**08 22 52.5**	**+0.2**
BKM				S		**S**	**08 23 23.6**	**-0.1**
DZM	**Mont Dzumac**	**4.24**	**220**	P		**Pn**	**08 23 19.1**	**-0.2**
2.5nm,0.3s,baz=65,slow=18,SNR=23								
WRA	**Warramunga Arr**	**33.03**	**262**	P		**P**	**08 28 23.8**	**+0.3**
0.2nm,0.6s,mb2.8,baz=83,slow=6.1,SNR=4.2								
ASAR	**Alice Springs**	**33.35**	**255**	P		**P**	**08 28 26.3**	**+0.1**
1.0nm,0.6s,mb3.5,baz=82,slow=8.9,SNR=17								
YBH	**Yreka Blue Hor**	**86.92**	**44**	P		**P**	**08 34 28.6**	**+0.7**
1.1nm,0.6s,mb3.9,baz=297,slow=12,SNR=3.9								
SONM	**Songino Array**	**86.97**	**323**	P		**P**	**08 34 28.2**	**-0.1**
1.3nm,0.8s,mb3.8,baz=143,slow=5.2,SNR=8.8								
NVAR	**Mina Array Bea**	**88.44**	**48**	P		**P**	**08 34 35.5**	**+0.3**
1.0nm,0.8s,mb3.7,baz=224,slow=11,SNR=6.6								
ILAR	**Eielson Array**	**89.80**	**17**	P		**P**	**08 34 38.5**	**-3.0**
0.8nm,0.8s,mb3.6,baz=238,slow=5.2,SNR=7.5								
YKA	**Yellowknife Ar**	**100.25**	**27**	P		Pdif	08 35 28.4	-0.6
0.3nm,0.6s,baz=254,slow=4.7,SNR=7.3								
MKAR	**Makanchi Array**	**101.54**	**316**	P		Pdif	08 35 35.7	+0.9
0.2nm,0.7s,baz=89,slow=7.4,SNR=3.3								
ARCES	**ARCESS Array B**	**124.71**	**345**	PKP		PKPdf	08 40 38.9	-2.1
4.2nm,1.0s,baz=55,slow=2.8,SNR=9.1								
GERES	**GERESS Array B**	**144.19**	**332**	PKP		PKPdf	08 41 14.1	-3.0
1.0nm,0.6s,baz=45,slow=1.9,SNR=5.1								
DAVOX	**Davos**	**147.43**	**333**	PKPbc		PKPbc	08 41 24.8	-0.8
5.6nm,0.6s,baz=321,slow=14,SNR=5.6								

IDC 09 08:47:17.6±11.0, 689S×12929E, h143km±113km, mb3.3/2, mb1 3.5/4, mb1mx3.3/14, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=138.7km s-min=41.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.87**	**160**	P		Pn	08 50 27.1	-1.0
0.4nm,0.3s,baz=341,slow=12,SNR=30								
WRA				S		Sn	08 52 53.4	-8.2
0.5nm,0.3s,baz=333,slow=22,SNR=8.4								
WB2	**Warramunga Arr**	**13.88**	**160**	*e*P		Pn	08 50 27.4	-0.8
WB2				*e*S		Sn	08 52 53.5	-8.2
ASPA	**Alice Springs**	**17.26**	**166**	*e*P		Pn	08 51 10.7	+0.8
ASAR	**Alice Springs**	**17.26**	**166**	P		Pn	08 51 11.4	+1.5
0.7nm,0.3s,baz=341,slow=10.0,SNR=82								
ASAR				S		S	08 54 15.3	-6.2
0.1nm,0.3s,baz=327,slow=15,SNR=4.9								
STKA	**Stephens Creek**	**27.39**	**157**	P		P	08 52 49.2	-0.4
0.9nm,0.5s,baz=57,slow=16,SNR=3.5								
MKAR	**Makanchi Array**	**67.75**	**327**	P		P	08 57 60.0	+0.2
0.3nm,0.6s,baz=129,slow=7.8,SNR=4.1								

*IDC **09** 08:51:21.5±1.0, 284N×9843E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, Error ellipse: s-maj=36.7km s-min=11.4km az=36.0*
*NEIC **09** 08:51:25.6±0.8, 2.72N×98.32E, h30km, mb4.5/2, Error ellipse: s-maj=20.8km s-min=12.3km az=223.0*
*ISCJB **09** 08:51:27.6±1.0, 307N±008×987E±01, h52km±8km, mb4.1/10, Error ellipse: s-maj=20.7km s-min=12.9km az=20.7*

ISC 09 08:51:28.2±1.5, 307N±008×986E±01, h41km±13km, n14, σ0°77/17, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.40**	**133**	Pn		**Pn**	**08 51 36.6**	**-1.1**
115nm,0.3s,baz=297,slow=13,SNR=159								
PSI				Sn		**Sn**	**08 51 45.2**	**+0.9**
209nm,0.3s,baz=301,slow=13,SNR=27								
PSI	**Prapat**	**0.40**	**133**	Pn		**Pn**	**08 51 36.6**	**-1.1**
PSI				Sn		**Sn**	**08 51 45.2**	**+0.9**
KULM	**Kulim**	**2.98**	**42**	*e*Pn		**Pn**	**08 52 18.9**	**+5.9**
KULM				*e*Sn		**Sn**	**08 52 47.2**	**-0.3**
WRA	**Warramunga Arr**	**41.86**	**125**	P		**P**	**08 59 14.5**	**+0.2**
1.6nm,0.5s,mb4.0,baz=302,slow=9.2,SNR=24								
WRA				PcP		PcP	09 01 09.8	+0.3
0.3nm,0.5s,baz=314,slow=2.7,SNR=24								
WRAB	**Tennant Creek**	**41.87**	**125**	*e*P		**P**	**08 59 14.3**	**0.0**
2.8nm,0.5s,mb4.2								
ASAR	**Alice Springs**	**43.43**	**130**	P		**P**	**08 59 26.4**	**-0.6**
0.4nm,0.5s,mb3.4,baz=300,slow=7.5,SNR=10								
ASAR				PcP		PcP	09 01 13.4	-1.3
0.1nm,0.4s,baz=343,slow=13,SNR=3.7								
SONM	**Songino Array**	**45.09**	**7**	P		**P**	**08 59 41.9**	**+1.6**
0.6nm,0.4s,mb3.8,baz=192,slow=9.2,SNR=10								
MKAR	**Makanchi Array**	**45.81**	**344**	P		**P**	**08 59 46.5**	**+0.6**
1.7nm,0.9s,mb4.0,baz=156,slow=8.2,SNR=18								
ZAL	**Zalesovo**	**51.96**	**350**	P		**P**	**09 00 32.2**	**-0.9**
1.5nm,0.3s,mb4.3,baz=302,slow=4.4,SNR=4.8								
ZAL	**Zalesovo**	**51.96**	**350**	P		**P**	**09 00 32.2**	**-0.9**
BRVK	**Borovoye**	**55.05**	**340**	*e*P		**P**	**09 00 47.4**	**-8.3**
3.7nm,0.4s,mb4.8								
AKASG	**Malin Array Be**	**74.67**	**322**	P		**P**	**09 03 02.5**	**-1.0**
0.8nm,0.5s,mb4.0,baz=91,slow=5.8,SNR=5.6								
FINES	**FINESS Array B**	**79.01**	**332**	P		**P**	**09 03 28.1**	**+0.2**
1.2nm,0.5s,mb4.1,baz=94,slow=6.1,SNR=15								
ARCES	**ARCESS Array B**	**81.27**	**340**	P		**P**	**09 03 40.5**	**+0.4**
3.6nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=8.0								

*IDC **09** 08:55:26.3±1.9, 202S×9953E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=87.9km s-min=18.8km az=58.0*
*NEIC **09** 08:55:26.5±13.0, 2.12S×99.41E, h8km±74km, mb4.1/1, Error ellipse: s-maj=95.6km s-min=11.5km az=55.0*
*ISCJB **09** 08:55:29.0±2.1, 19S±03×996E±05, h33km, mb3.7/6, Error ellipse: s-maj=79.3km s-min=12.6km az=118.0*

ISC 09 08:55:31.7±2.2, 19S±03×996E±05, h35km, n10, σ0°58/9, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.70**	**351**	Pn		**Pn**	**08 56 39.4**	**-0.7**
0.5nm,0.3s,baz=138,slow=22,SNR=2.3								
WRA	**Warramunga Arr**	**38.38**	**120**	P		**P**	**09 02 49.3**	**-0.1**
1.2nm,0.4s,mb4.0,baz=303,slow=9.0,SNR=15								
WRA				PcP		PcP	09 05 04.2	+1.7
0.4nm,0.9s,baz=314,slow=2.6,SNR=4.9								
WRAB	**Tennant Creek**	**38.38**	**120**	*e*P		**P**	**09 02 49.1**	**-0.4**
2.1nm,0.5s,mb4.1								
WB2	**Warramunga Arr**	**38.39**	**120**	*e*P		**P**	**09 02 50.1**	**+0.6**
ASAR	**Alice Springs**	**39.63**	**126**	P		**P**	**09 02 59.4**	**-0.5**
0.4nm,0.5s,mb3.4,baz=301,slow=7.5,SNR=9.0								
ASAR				PcP		PcP	09 05 07.7	+1.2

TRBA				*i* S	Sn	09 06 04.2	+0.1
TRBA				AML	AML	09 06 06.7	
comp=Z,2μm,0.4s							
UDYN	**Al 'Udayn**	**2.62**	**15**	*i* P	Pn	09 05 47.4	-0.6
UDYN				*i* S	Sn	09 06 20.1	+0.2
UDYN				AML	AML	09 06 29.8	
comp=E,3μm,0.6s							
UDYN	**Al 'Udayn**	**2.62**	**15**	*i* P	Pn	09 05 47.4	-0.6
UDYN				*i* S	Sn	09 06 20.1	+0.2
LBOS		**3.11**	**38⇓**	*i* P	Pn	09 05 56.4	+1.7
LBOS				*i* S	Sb	09 06 38.1	-1.0
DHBB	**Dhamar BB**	**3.32**	**19**	*i* P	Pn	09 05 57.3	-0.3
DHBB				*i* S	Sn	09 06 38.4	+1.4
BDHA	**Al Bayda'**	**3.39**	**41**	*i* P	Pn	09 06 00.5	+1.9
BDHA				*i* S	Sb	09 06 45.3	-1.8
BDHA				AML	AML	09 07 04.6	
comp=E,902nm,0.5s							
BDHA	**Al Bayda'**	**3.39**	**41**	*i* P	Pn	09 06 00.5	+1.9
BDHA				*i* S	Sb	09 06 45.3	-1.8
DESE	**Dese**	**3.57**	**265**	*e*PN	Pn	09 06 02.2	+1.1
DESE				*e*S	Sn	09 06 43.2	-0.2
FURI	**Furi**	**5.16**	**241**	*e*PN	Pn	09 06 23.6	+0.6
FURI				*e*S	Sb	09 07 36.7	-1.5
FURI	**Furi**	**5.16**	**241**	*e*PN	Pn	09 06 23.6	+0.6
FURI				*e*S	Sb	09 07 36.7	-1.5

BJI 09 09:11:05.3, 2769N×11996E, h16km, ML3.5, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.00**	**204**	*e*P	Pn	09 11 51.8	-0.3
QZH				S	Sn	09 12 25.4	-2.3
QZH				Smax			
comp=N,130nm,0.5s							
QZH				Smax			
comp=E,210nm,0.9s							
NJ2	**Nanjing**	**4.45**	**348**	*e*PG	Pg	09 12 26.1	-4.5
NJ2				SG	Sg	09 13 17.9	-10
NJ2				Smax			
comp=N,120nm,1.0s							
NJ2				Smax			
comp=E,180nm,0.9s							
WHN	**Wuhan**	**5.67**	**301**	PG	Pg	09 12 41.7	-12
WHN				SG	Sg	09 14 05.0	-2.3
WHN				Smax			
comp=N,25nm,0.7s							
WHN				Smax			
comp=E,33nm,0.9s							

IDC 09 09:18:08.8±1.9, 1949S×17773W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.6/6, Error ellipse: s-maj=129.1km s-min=24.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.00**	**261**	P	P	09 26 26.8	+0.9
0.1nm,0.3s,baz=96,slow=7.8,SNR=9.3							
ASAR	**Alice Springs**	**45.01**	**256**	P	P	09 26 25.8	-0.2
0.3nm,0.5s,baz=105,slow=8.2,SNR=3.3							
TXAR	**Lajitas Array**	**86.30**	**57**	P	P	09 30 52.5	0.0
0.4nm,0.6s,baz=221,slow=7.0,SNR=6.1							
ANMO	**Albuquerque**	**86.57**	**51**	P	P	09 30 54.6	+0.7
0.7nm,0.7s,baz=271,slow=3.4,SNR=4.3							
ILAR	**Eielson Array**	**87.27**	**13**	P	P	09 30 56.8	-0.5
0.4nm,0.6s,baz=229,slow=4.4,SNR=6.8							
PDAR	**Pinedale Array**	**88.05**	**43**	P	P	09 31 02.0	+0.9
0.7nm,1.0s,baz=207,slow=3.3,SNR=4.2							

*NAO **09** 09:24:38.4, 3218S×17865W, h33km, mb4.0*
*IDC **09** 09:25:23.2±0.8, 3169S×17994W, h404km±8km, mb3.7/3, mb1 3.9/6, mb1mx3.6/17, mbtmp4.6/6, Error ellipse: s-maj=22.5km s-min=12.6km az=127.0*
*ISCJB **09** 09:25:24.9±0.9, 3189S±007×1799E±02, h432km±12km, mb4.3/7, Error ellipse: s-maj=34.0km s-min=7.8km az=26.9*
*NEIC **09** 09:25:24.2±0.6, 3170S×17995W, h414km±11km, mb4.2/2, Error ellipse: s-maj=22.3km s-min=8.1km az=101.0*
*BJI **09** 09:25:24.2, 3170S×17990W, h414km, mB4.9, mb4.6*

ISC 09 09:25:28.8±0.9, 3202S±008×1795E±03, h426km±17km, n63, σ0.92/71, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.52**	**39**	P	**P**	**09 26 28.4**	**-10**
69nm,0.3s,baz=252,slow=20,SNR=3.2							
RAO				S	**S**	**09 27 17.7**	**-17**
183nm,0.3s,baz=238,slow=23,SNR=4.1							
MXZ	**Matakaoa Point**	**5.63**	**190**	*e*PN	**P**	**09 26 58.6**	**+0.3**
MXZ				SN	**S**	**09 28 11.5**	**+0.2**
MXZ	**Matakaoa Point**	**5.63**	**190**	*e*P	**P**	**09 26 58.6**	**+0.3**
MXZ				S	**S**	**09 28 11.5**	**+0.1**
PUZ	**Puketiti**	**6.13**	**189**	*e*PN	**P**	**09 27 01.8**	**-1.8**
PUZ				SN	**S**	**09 28 18.2**	**-2.9**
PUZ	**Puketiti**	**6.13**	**189**	*e*P	**P**	**09 27 01.8**	**-1.8**
PUZ				S	**S**	**09 28 18.2**	**-2.9**
MWZ	**Matawai**	**6.52**	**194**	*e*PN	**P**	**09 27 07.8**	**+0.1**
MWZ				SN	**S**	**09 28 25.1**	**-3.5**
MWZ	**Matawai**	**6.52**	**194**	*e*P	**P**	**09 27 07.8**	**+0.1**
MWZ				S	**S**	**09 28 25.1**	**-3.4**
URZ	**Urewera**	**6.54**	**197**	P	**P**	**09 27 07.5**	**-0.4**
18nm,0.3s,baz=358,slow=2.4,SNR=125							
URZ				S	**S**	**09 28 29.5**	**+0.5**
17nm,0.3s,baz=253,slow=6.6,SNR=16							
URZ	**Urewera**	**6.54**	**197**	*e*PN	**P**	**09 27 08.1**	**+0.2**
URZ				SN	**S**	**09 28 30.0**	**+1.0**
URZ	**Urewera**	**6.54**	**197**	*e*P	**P**	**09 27 08.1**	**+0.2**
KNZ	**Kokohu**	**7.15**	**192**	*e*PN	**P**	**09 27 14.9**	**+0.3**
KNZ				*e*SN	**S**	**09 28 40.3**	**-0.9**
KNZ	**Kokohu**	**7.15**	**192**	*e*P	**P**	**09 27 14.9**	**+0.3**
KNZ				*e*S	**S**	**09 28 40.3**	**-0.9**
BKZ	**Black Stump Fm**	**7.55**	**198**	*e*PN	**P**	**09 27 18.5**	**-0.5**
BKZ				SN	**S**	**09 28 51.0**	**+1.7**
BKZ	**Black Stump Fm**	**7.55**	**198**	*e*P	**P**	**09 27 18.5**	**-0.4**
BKZ				S	**S**	**09 28 51.0**	**+1.8**
MOVZ	**Moawhango**	**7.99**	**202**	*e*PN	**P**	**09 27 24.9**	**+1.2**
PXZ	**Pawanui**	**8.29**	**194**	*e*PN	**P**	**09 27 27.0**	**0.0**
PXZ				SN	**S**	**09 29 04.2**	**+0.1**
TSZ	**Takapari Road**	**8.53**	**199**	SN	**S**	**09 29 08.6**	**-0.4**
BFZ	**Birch Farm**	**9.04**	**196**	SN	**S**	**09 29 18.8**	**-0.6**
MRZ	**Mangatainoka R**	**9.20**	**199**	*e*PN	**P**	**09 27 35.7**	**-1.3**
MRZ				*e*SN		09 29 21.5	
MRZ	**Mangatainoka R**	**9.20**	**199**	*e*P	**P**	**09 27 35.7**	**-1.3**
MRZ				*e*S		09 29 21.5	
KIW	**Kapiti Island**	**9.58**	**202**	*e*PN	**P**	**09 27 41.2**	**0.0**
KIW	**Kapiti Island**	**9.58**	**202**	*e*P	**P**	**09 27 41.2**	**-0.1**
MTW	**Mount Morrison**	**9.68**	**198**	*e*PN	**P**	**09 27 43.7**	**+1.3**
MTW				SN		09 29 32.1	
MTW	**Mount Morrison**	**9.68**	**198**	*e*P	**P**	**09 27 43.7**	**+1.3**
MTW				S		09 29 32.1	
CAW	**Cannon Point**	**9.76**	**200**	*e*PN	**P**	**09 27 43.9**	**+0.7**
CAW	**Cannon Point**	**9.76**	**200**	*e*P	**P**	**09 27 43.9**	**+0.7**
PAWZ	**Paruwai Farm**	**9.91**	**198**	*e*PN	**P**	**09 27 45.6**	**+0.7**
PAWZ				SN		09 29 36.8	
MSWZ	**Moikau Station**	**9.99**	**199**	*e*PN	**P**	**09 27 46.0**	**+0.3**
MSWZ	**Moikau Station**	**9.99**	**199**	*e*P	**P**	**09 27 46.0**	**+0.2**
TCW	**Tory Channel**	**10.10**	**203**	*e*PN	**P**	**09 27 47.1**	**+0.1**
TCW				SN		09 29 40.6	
TCW	**Tory Channel**	**10.10**	**203**	*e*P	**P**	**09 27 47.1**	**+0.1**
TCW				S		09 29 40.6	
TUWZ	**Tuamarina**	**10.41**	**204**	PN	**P**	**09 27 50.2**	**-0.2**
NNZ	**Nelson**	**10.43**	**207**	*e*PN	**P**	**09 27 50.7**	**+0.1**
NNZ				SN		09 29 46.2	
NNZ	**Nelson**	**10.43**	**207**	*e*P	**P**	**09 27 50.7**	**+0.1**
NNZ				S		09 29 46.2	
QRZ	**Quartz Range**	**10.45**	**211**	*e*PN	**P**	**09 27 51.9**	**+1.1**
QRZ	**Quartz Range**	**10.45**	**211**	*e*P	**P**	**09 27 51.9**	**+1.1**
THZ	**Tophouse**	**11.08**	**207**	*e*PN	**P**	**09 27 58.0**	**+0.3**
THZ				SN	**S**	**09 29 59.3**	**-1.4**
THZ	**Tophouse**	**11.08**	**207**	*e*P	**P**	**09 27 58.0**	**+0.3**
THZ				S	**S**	**09 29 59.3**	**-1.4**
KHZ	**Kahutara**	**11.43**	**203**	*e*PN	**P**	**09 28 02.3**	**+0.8**
KHZ				SN	**S**	**09 30 07.1**	**-0.5**
KHZ	**Kahutara**	**11.43**	**203**	*e*P	**P**	**09 28 02.3**	**+0.8**
KHZ				S	**S**	**09 30 07.1**	**-0.5**
LTZ	**Lake Taylor**	**12.20**	**206**	SN	**S**	**09 30 23.4**	**+0.3**
MQZ	**McQueen's Vall**	**12.87**	**203**	SN	**S**	**09 30 38.1**	**+1.6**
RPZ	**Rata Peaks**	**13.46**	**207**	P	**P**	**09 28 24.8**	**+1.1**
0.3nm,0.3s,baz=6.0,slow=19,SNR=2.4							
RPZ				S	**S**	**09 30 50.1**	**+1.8**
1.1nm,0.3s,baz=1.3,slow=22,SNR=5.5							
CTA	**Charters Tower**	**32.05**	**284**	P	**P**	**09 31 18.1**	**-0.2**
4.4nm,0.5s,mb4.0,baz=110,slow=8.0,SNR=10							
CTAO	**Charters Tower**	**32.05**	**284**	*e*P	**P**	**09 31 18.7**	**+0.4**
4.5nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**40.95**	**270**	P	**P**	**09 32 32.2**	**-0.2**
2.1nm,0.6s,mb3.7,baz=106,slow=7.2,SNR=46							
ASAR				PcP	PcP	09 34 21.3	-1.7
0.3nm,0.4s,baz=121,slow=4.1,SNR=4.8							
ASAR				ScP	ScP	09 37 30.9	-0.5
0.4nm,0.7s,baz=106,slow=5.5,SNR=4.6							
WB2	**Warramunga Arr**	**42.09**	**275**	*e*P	**P**	**09 32 41.0**	**-0.4**
WRAB	**Tennant Creek**	**42.09**	**275**	*e*P	**P**	**09 32 41.0**	**-0.5**
5.0nm,0.3s,mb4.3							
WRA	**Warramunga Arr**	**42.09**	**275**	P	**P**	**09 32 41.1**	**-0.4**
4.2nm,0.3s,mb4.3,baz=111,slow=8.0,SNR=124							
WRA				ScP	ScP	09 37 36.7	+0.7
0.5nm,0.8s,baz=108,slow=4.0,SNR=4.6							
FITZ	**Fitzroy Crossi**	**50.28**	**272**	*e*P	**P**	**09 33 44.4**	**+0.2**
3.2nm,0.4s,mb4.0							
CD2	**Chengdu**	**95.18**	**303**	*e*P	**P**	**09 38 02.8**	**-2.4**
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
HHC	**Hu-ho-hao-te**	**95.86**	**315**	*e*P	**P**	**09 38 09.1**	**+0.8**
HHC				PP	PP	09 42 11.5	+4.6
HHC				SKS		09 48 01.5	
HHC				S		09 48 45.9	
HHC				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.7							
HHC				AMB	AMB		
comp=Z,92nm,8.4s							
MKAR	**Makanchi Array**	**117.19**	**310**	PKP	PKPdf	09 43 20.6	-3.7
comp=Z,0.3nm,0.6s,baz=230,slow=1.0,SNR=4.9							
BVAR	**Borovoye Array**	**126.07**	**315**	PKP	PKPdf	09 43 38.1	-3.3
comp=Z,1.0nm,0.5s,baz=77,slow=0.9,SNR=5.6							
ARCES	**ARCESS Array B**	**139.68**	**346**	PKP	PKPdf	09 44 00.7	-6.2
comp=Z,4.7nm,0.9s,baz=45,slow=1.7,SNR=3.1							
KAF	**Kangasniemi**	**145.31**	**338**	*e*p	PKPdf	09 44 12.7	-4.1
comp=Z,2.7nm,0.5s							
FINES	**FINESS Array B**	**145.88**	**337**	PKPbc	PKPbc	09 44 14.0	-5.3
comp=Z,4.7nm,0.5s,baz=47,slow=4.5,SNR=45							
NB2	**NORSAR Subarra**	**149.97**	**349**	PKPa		09 44 25.4	
comp=Z,1.7nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**149.97**	**349**	PKPbc	PKPbc	09 44 25.7	-4.1
comp=Z,1.7nm,0.5s,baz=17,slow=4.2,SNR=6.6							
NOA				PKPab	PKPab	09 44 31.8	-5.5
comp=Z,1.1nm,0.6s,baz=26,slow=4.1,SNR=4.3							
HFS	**Hagfors**	**150.34**	**346**	PKPbc	PKPbc	09 44 25.2	-5.5
comp=Z,1.7nm,0.4s,baz=90,slow=1.5,SNR=12							
HFS				PKPab	PKPab	09 44 32.5	-6.4
comp=Z,2.0nm,0.4s,baz=76,slow=6.1,SNR=7.9							
AKASG	**Malin Array Be**	**151.22**	**319**	PKPbc	PKPbc	09 44 29.1	-3.6
comp=Z,0.4nm,0.4s,baz=64,slow=2.6,SNR=5.2							
BRTR	**Keskin Array B**	**151.44**	**295**	PKPbc	PKPbc	09 44 30.6	-2.7
comp=Z,1.1nm,0.5s,baz=115,slow=3.3,SNR=5.9							
TORD	**Torodi Ar. Bea**	**161.12**	**187**	PKPab	PKPab	09 45 24.7	-0.5
comp=Z,0.5nm,0.8s,baz=162,slow=3.4,SNR=5.2							

DHMR 09 09:33:53.4±1.4, 1182N×4322E, h7km±12km, ML4.0, 4C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.66**	**32**	*i* P	Pn	09 34 24.0	+1.2
TRBA				*i* S	Sn	09 34 46.9	+2.6
TRBA				AML	AML	09 34 58.2	
comp=N,2μm,0.9s							
UDYN	**Al 'Udayn**	**2.26**	**19**	*i* P	Pn	09 34 33.7	+2.6
UDYN				*i* S	Sn	09 35 03.8	+4.6
UDYN				AML	AML	09 35 18.2	
comp=N,2μm,0.5s							
LBOS		**2.84**	**44⇑**	*i* P	Pn	09 34 41.6	+2.4
LBOS				*i* S	Sn	09 35 20.0	+6.3
DHBB	**Dhamar BB**	**2.97**	**22⇑**	*i* P	Pn	09 34 43.5	+2.7
DHBB				*i* S	Sn	09 35 23.1	+6.5
BDHA	**Al Bayda'**	**3.14**	**47⇑**	*i* P	Pn	09 34 46.3	+3.1
BDHA				*i* S	Sn	09 35 28.1	+7.2
BDHA				AML	AML	09 35 52.7	
comp=N,700nm,0.6s							
BDHA	**Al Bayda'**	**3.14**	**47⇑**	*i* P	Pn	09 34 46.3	+3.1
BDHA				*i* S	Sn	09 35 28.1	+7.2
comp=N,350nm,0.6s							
HAJJ	**Hajjah**	**3.88**	**5**	*i* P	Pn	09 34 55.8	+2.4
HAJJ				*i* S	Sn	09 35 45.3	+6.1
HAJJ				AML	AML	09 36 02.1	
comp=E,579nm,0.5s							
HAJJ	**Hajjah**	**3.88**	**5**	*i* P	Pn	09 34 55.8	+2.4
HAJJ				*i* S	Sn	09 35 45.3	+6.1
comp=E,290nm,0.5s							

*ISCJB **09** 09:34:38.3±0.5, 5148N±003×648E±004, h0km, Error ellipse: s-maj=4.3km s-min=3.1km az=100.2*
*CSEM **09** 09:34:40.4±0.1, 5152N×664E, h1km, ML3.0/11, Error ellipse: s-maj=2.0km s-min=1.4km az=157.0*
*LDG **09** 09:34:40.5±0.2, 5152N×661E, h1km, Ml2.8/8, Error ellipse: s-maj=3.2km s-min=2.1km az=25.0, Suspected Mining induced.*
*BGR **09** 09:34:41.4±0.9, 5142N×666E, h1km, ML2.2/5, Error ellipse: s-maj=12.2km s-min=5.6km az=116.0*
*BNS **09** 09:34:41.8±0.8, 5147N×664E, h1km, ML2.1*
*BUG **09** 09:34:42.9, 5154N×677E, h1km, ML1.5*

ISC 09 09:34:39.3±0.5, 5151N±003×652E±004, h0km, n36, σ1.14/63, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUG	**Bochum--Univer**	**0.48**	**98**	*e*Pg	**Pg**	**09 34 50.1**	**+1.7**
BUG				Sg	**Sg**	**09 34 55.3**	**+0.7**
WTSB	**Winterswijk**	**0.49**	**21**	*e*Pg	**Pg**	**09 34 49.2**	**+0.4**
HOBG	**Hohbusch**	**0.73**	**135**	*e*Pg	**Pg**	**09 34 54.2**	**+0.8**
HOBG				*e*Sg	**Sg**	**09 35 03.5**	**+0.6**
68nm,0.4s							
HGN	**Heimansgroeve**	**0.83**	**207**	*e*Pg	**Pg**	**09 34 56.3**	**+1.1**
59nm,0.2s,baz=30							
HGN				*e*Sg	**Sg**	**09 35 09.8**	**+3.9**
KLL	**Kalltalsperre**	**0.87**	**189**	*e*Pg	**Pg**	**09 34 57.5**	**+1.5**
KLL				*e*Sg	**Sg**	**09 35 10.0**	**+2.7**
55nm,0.2s							
STB	**Steinbach**	**0.94**	**167**	*e*Pg	**Pg**	**09 34 58.7**	**+1.4**
STB				*e*Sg	**Sg**	**09 35 10.6**	**+1.2**
61nm,0.2s							
IBBN	**Ibbenburen**	**1.11**	**43**	*e*Sg	**Sg**	**09 35 16.2**	**+1.2**
HILG	**Hillesheim**	**1.22**	**175**	*e*Pg	**Pg**	**09 35 03.6**	**+0.9**
HILG				*e*Sg	**Sg**	**09 35 20.2**	**+1.6**
52nm,0.4s							
BGG	**Burgeitz**	**1.40**	**158**	*e*Pg	**Pg**	**09 35 06.2**	**0.0**
BGG				*e*Sg	**Sg**	**09 35 24.1**	**-0.3**
27nm,0.3s							
GIVF	**Givet**	**1.77**	**218**	*e*Pn	**Pn**	**09 35 11.4**	**+0.2**
GIVF	**Givet**	**1.77**	**218**	*e*Pg	**Pg**	**09 35 14.9**	**+1.7**
GIVF				*e*Sn	**Sn**	**09 35 33.5**	**-0.8**
GIVF				*e*Sg	**Sg**	**09 35 37.6**	**+1.5**
18nm,0.3s							
GIVF	**Givet**	**1.77**	**218**	*e*Pg	**Pg**	**09 35 14.9**	**+1.7**
GIVF				*e*Sn	**Sn**	**09 35 33.5**	**-0.8**
GIVF				*e*Sg	**Sg**	**09 35 37.6**	**+1.5**
9.0nm,0.3s							
TNS	**Taunus Mts**	**1.77**	**136**	*e*Pg	**Pg**	**09 35 12.7**	**-0.7**
SNR=2.6							
TNS				*e*Sg	**Sg**	**09 35 32.8**	**-3.5**
WLF	**Walferdange**	**1.86**	**187**	*e*Sg	**Sg**	**09 35 38.3**	**-0.7**
BAIF	**Baives**	**2.06**	**226**	*e*Pn	**Pn**	**09 35 15.2**	**0.0**
BAIF	**Baives**	**2.06**	**226**	*e*Pg	**Pg**	**09 35 19.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**09 35 40.5**	**-1.0**
BAIF				*e*Sg	**Sg**	**09 35 47.7**	**+2.2**
6.5nm,0.3s							
BAIF	**Baives**	**2.06**	**226**	*e*Pg	**Pg**	**09 35 19.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**09 35 40.5**	**-1.0**
BAIF				*e*Sg	**Sg**	**09 35 47.7**	**+2.2**
3.2nm,0.3s							
CLZ	**Clausthal**	**2.42**	**81**	*e*Pg	**Pg**	**09 35 24.9**	**-0.9**
SNR=1.8							
CLZ				*e*Sg	**Sg**	**09 35 55.4**	**-1.9**
CDF	**Champ du Feu**	**3.13**	**171**	*e*Pn	**Pn**	**09 35 29.5**	**-0.5**
CDF				*e*Sg	**Sg**	**09 36 18.7**	**-1.4**
4.1nm,0.4s							
CDF	**Champ du Feu**	**3.13**	**171**	*e*Pn	**Pn**	**09 35 29.5**	**-0.5**
CDF				*e*Sg	**Sg**	**09 36 18.7**	**-1.4**
2.0nm,0.4s							
MEZF	**Maizieres J'vi**	**3.15**	**198**	*e*Sg	**Sg**	**09 36 20.2**	**-0.4**
15nm,0.4s							
MEZF	**Maizieres J'vi**	**3.15**	**198**	*e*Sg	**Sg**	**09 36 20.2**	**-0.4**
7.6nm,0.4s							
SFTF	**Sexfontaines**	**3.44**	**197**	*e*Pg	**Pg**	**09 35 44.5**	**-0.7**
SFTF				*e*Sg	**Sg**	**09 36 29.5**	**-0.3**
8.4nm,0.3s							
SFTF	**Sexfontaines**	**3.44**	**197**	*e*Pg	**Pg**	**09 35 44.5**	**-0.7**
SFTF				*e*Sg	**Sg**	**09 36 29.5**	**-0.3**
4.2nm,0.3s							
HAU	**Haudompre**	**3.50**	**182**	*e*Pn	**Pn**	**09 35 34.4**	**-0.6**
HAU				*e*Sg	**Sg**	**09 36 31.0**	**-0.9**
9.3nm,0.5s							
HAU	**Haudompre**	**3.50**	**182**	*e*Pn	**Pn**	**09 35 34.4**	**-0.6**
HAU				*e*Sg	**Sg**	**09 36 31.0**	**-0.9**
4.7nm,0.5s							
LOR	**Lormes**	**4.58**	**203**	*e*Pn	**Pn**	**09 35 48.8**	**-1.0**
baz=23							
LOR				*e*Sn	**Sn**	**09 36 40.4**	**-3.4**
baz=31							
LOR				*e*Sg	**Sg**	**09 37 04.9**	**-1.6**
1.6nm,0.2s,baz=27							
LOR	**Lormes**	**4.58**	**203**	*e*Pn	**Pn**	**09 35 48.8**	**-1.0**
LOR				*e*Sn	**Sn**	**09 36 40.4**	**-3.4**
LOR				*e*Sg	**Sg**	**09 37 04.9**	**-1.6**
0.8nm,0.2s							
SSF	**Saint Saulge**	**4.86**	**205**	*e*Pn	**Pn**	**09 35 52.6**	**-1.1**
CABF	**La Chapelle**	**4.91**	**183**	*e*Pn	**Pn**	**09 35 53.7**	**-0.6**
AVF	**Avril sur Loir**	**5.16**	**205**	*e*Pn	**Pn**	**09 35 56.6**	**-1.1**
SMF	**Signal de Mont**	**5.17**	**201**	*e*Pn	**Pn**	**09 35 57.1**	**-0.9**
LDF	**La Druitiere**	**5.17**	**238**	*e*Pn	**Pn**	**09 35 58.3**	**+0.3**
FLN	**La Foiniiere**	**5.27**	**241**	*e*Pn	**Pn**	**09 35 59.1**	**-0.2**
baz=64							
BGF	**Bois d'Agland**	**5.51**	**207**	*e*Pn	**Pn**	**09 36 01.0**	**-1.6**
GRR	**Gorron**	**5.69**	**240**	*e*Pn	**Pn**	**09 36 04.6**	**-0.5**

*ISCJB **09** 09:36:50.7±1.1, 6760N±003×342E±02, h0km, Error ellipse: s-maj=8.4km s-min=4.6km az=160.1*
*CSEM **09** 09:36:52.1±0.8, 6749N×3425E, h1km, ML3.5/1, Error ellipse: s-maj=14.7km s-min=8.8km az=59.0, Mining explosion.*
*HEL **09** 09:36:52.5±0.2, 6764N×3422E, h0km, ML2.6, ML2.1(NAO), Explosion*
*NAO **09** 09:36:53.2±1.9, 6768N×3409E, ML2.1*

ISC 09 09:36:52.4±1.0, 6763N±003×341E±01, h0km, n22, σ1.20/50, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.40**	**267**	*i* P	**Pg**	**09 37 01.1**	**+1.0**
APA0				*i* S	**Sg**	**09 37 07.0**	**+1.6**
APA0				*e*RG		09 37 10.2	
APA0	**Apatity Array**	**0.40**	**267**	Pg	**Pg**	**09 37 01.1**	**+1.0**
baz=82,slow=16							
APA0				Lg		09 37 07.0	
baz=84,slow=37							
APA0				Rg		09 37 10.2	
baz=75,slow=37							
KU4	**Liikasenvaara**	**2.17**	**236**	*e*P	**Pn**	**09 37 29.4**	**-0.3**
KU4				*e*S	**Sn**	**09 37 58.0**	**+0.7**
KU4				*e*SG	**Sg**	**09 38 01.2**	**-0.8**
KU4	**Liikasenvaara**	**2.17**	**236**	P	**Pn**	**09 37 29.3**	**-0.4**
KU4				S	**Sn**	**09 37 57.9**	**+0.7**
KU4				Sg	**Sg**	**09 38 01.1**	**-0.9**
SGF	**Sodankyl**	**2.89**	**270**	*e*P	**Pn**	**09 37 40.4**	**+0.7**
SGF				*e*S	**Sn**	**09 38 17.3**	**+2.1**
SGF				*e*SG	**Sg**	**09 38 23.4**	**-2.0**
SGF				MSG		09 38 25.4	
comp=Z,13nm,0.2s							
SGF	**Sodankyl**	**2.89**	**270**	P	**Pn**	**09 37 40.4**	**+0.7**
SGF				S	**Sn**	**09 38 17.3**	**+2.1**
SGF				Sg	**Sg**	**09 38 23.3**	**-2.1**
comp=Z,13nm,0.2s							
KEV	**Kevo**	**3.34**	**313**	*e*P	**Pn**	**09 37 46.8**	**+0.9**
KEV				*e*S	**Sn**	**09 38 26.5**	**+0.2**
KEV				*e*SB	**Sb**	**09 38 32.7**	**-1.0**
KEV				MSG		09 38 36.6	
comp=Z,25nm,0.2s							
KEV	**Kevo**	**3.34**	**313**	P	**Pn**	**09 37 46.7**	**+0.8**
KEV				S	**Sn**	**09 38 26.4**	**+0.1**
ARA0	**ARCESS Array S**	**3.67**	**305**	*e*P	**Pn**	**09 37 51.0**	**+0.5**
ARA0				*e*PG	**Pg**	**09 37 59.6**	**-3.1**
ARA0				*e*S	**Sn**	**09 38 33.3**	**-1.1**
ARA0				*e*SB	**Sb**	**09 38 44.1**	**+0.9**
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**09 37 51.0**	**+0.5**
baz=120,slow=14							
ARA0				Pg	**Pg**	**09 37 59.6**	**-3.1**
baz=114,slow=16							
ARA0				Sn	**Sn**	**09 38 33.3**	**-1.1**
baz=125,slow=22							
ARA0				Lg		09 38 44.1	
baz=111,slow=37							
ARA0	**ARCESS Array S**	**3.67**	**305**	Pg	**Pg**	**09 37 59.7**	**-3.1**
ARA0				Sn	**Sn**	**09 38 33.3**	**-1.1**
SNR=7.1							
OUL	**Oulu**	**4.16**	**236**	*e*P	**Pn**	**09 37 58.2**	**+1.1**
OUL				*e*S	**Sn**	**09 38 46.0**	**-0.4**
OUL				*e*SB	**Sb**	**09 38 57.9**	**+0.7**
OUL	**Oulu**	**

HAJJ	**Hajjah**	**4.00**	**6**	*i* P	Pn	09 56 28.0	+2.3
HAJJ				*i* S	Sn	09 57 18.2	+5.5
	comp=E,74nm,0.5s						

CSEM ***09*** *10:03:23.7±0.0,3903N×37.15E,h5km,ML4.1,Error ellipse: s-maj=1.3km s-min=1.0km az=44.0*
ISCJB ***09*** *10:03:24.7±0.2,3904N±002×37.16E±002,h10km,Error ellipse: s-maj=3.1km s-min=2.3km az=54.4*
ISK ***09*** *10:03:24.1,3903N×37.15E,h9km,ML4.2*
NEIC ***09*** *10:03:26.0,3904N×37.15E,h27km,ML4.1(ISK),After ISK.*

ISC 09 10:03:25.7±0.2,3903N±002×3716E±002,h10km,n77, σ1°05/102,2C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.90**	**352**	PG	**Pg**	**10 03 41.2**	**-1.7**
SVSK				SG	**Sg**	**10 03 55.0**	**+0.4**
SVSK	**Karacayir**	**0.90**	**352**	Pg	**Pg**	**10 03 41.2**	**-1.7**
SVSK				Sg	**Sg**	**10 03 55.2**	**+0.6**
MYA	**Malataya**	**1.22**	**125**	PN	**Pn**	**10 03 47.2**	**-1.5**
MYA				SN	**Sn**	**10 04 06.0**	**+0.8**
MYA	**Malataya**	**1.22**	**125**	*e*Pn	**Pn**	**10 03 47.2**	**-1.5**
MYA				Sg	**Sg**	**10 04 03.9**	**-0.9**
MYA				*e*Sn	**Sn**	**10 04 06.0**	**+0.8**
MYA	**Malataya**	**1.22**	**125**	Pn	**Pn**	**10 03 46.9**	**-1.9**
MYA				Sg	**Sg**	**10 04 03.9**	**-1.0**
MALT	**Malatya**	**1.22**	**125**	PN	**Pn**	**10 03 47.2**	**-1.7**
MALT				SN	**Sn**	**10 04 05.1**	**-0.4**
MALT	**Malatya**	**1.22**	**125**	*e*Pn	**Pn**	**10 03 47.2**	**-1.7**
MALT				Sg	**Sg**	**10 04 04.7**	**-0.4**
MALT				*e*Sn	**Sn**	**10 04 05.1**	**-0.4**
MALT	**Malatya**	**1.22**	**125**	Pn	**Pn**	**10 03 46.1**	**-2.8**
MALT				Sg	**Sg**	**10 04 04.7**	**-0.4**
TOKT	**Tokat**	**1.37**	**340**	PN	**Pn**	**10 03 50.2**	**-0.7**
TOKT				SN	**Sn**	**10 04 09.1**	**0.0**
TOKT	**Tokat**	**1.37**	**340**	Pn	**Pn**	**10 03 50.2**	**-0.7**
ELZG	**Elazig**	**1.52**	**110**	*i* P	**Pn**	**10 03 51.9**	**-1.1**
ELZG				*i* S	**Sn**	**10 04 15.9**	**+3.0**
GZT	**Gaziantep**	**1.70**	**169**	*i* P	**Pn**	**10 03 55.3**	**-0.1**
GZT				*i* S	**Sn**	**10 04 21.6**	**+4.3**
ATAB	**Bozova**	**1.80**	**150**	*i* P	**Pn**	**10 03 59.3**	**+2.6**
ATAB				*i* S	**Sn**	**10 04 24.4**	**+4.8**
GAZ	**Gaziantep**	**1.85**	**179**	PN	**Pn**	**10 03 57.0**	**-0.5**
KOZT	**Kozan**	**1.87**	**215**	PN	**Pn**	**10 03 57.1**	**-0.6**
KELT	**Kelkit**	**1.97**	**55**	*i* P	**Pn**	**10 04 00.8**	**+1.7**
KELT				*i* S	**Sg**	**10 04 29.8**	**+0.9**
URFA	**Urfa**	**2.06**	**140**	PN	**Pn**	**10 04 00.2**	**-0.1**
URFA	**Urfa**	**2.06**	**140**	Pn	**Pn**	**10 04 00.2**	**-0.1**
GRSN	**GIRESUNGRSN**	**2.08**	**24**	*i* P	**Pn**	**10 04 01.3**	**+0.8**
GRSN				*i* S	**Sg**	**10 04 32.2**	**-0.2**
EZC	**Erzincan**	**2.18**	**70**	PN	**Pn**	**10 03 57.2**	**-4.8**
EZC	**Erzincan**	**2.18**	**70**	Pn	**Pn**	**10 03 57.3**	**-4.7**
NIG	**Nigde**	**2.20**	**246**	PN	**Pn**	**10 04 01.4**	**-0.8**
NIG	**Nigde**	**2.20**	**246**	Pn	**Pn**	**10 04 01.5**	**-0.7**
NIG	**Nigde**	**2.20**	**246**	Pn	**Pn**	**10 04 01.5**	**-0.8**
KVT	**Kavak**	**2.22**	**338**	*e*PN	**Pn**	**10 04 02.2**	**-0.3**
KVT	**Kavak**	**2.22**	**338**	Pn	**Pn**	**10 04 02.2**	**-0.3**
CDAG	**Cicekdag**	**2.24**	**286**	*i* P	**Pn**	**10 04 03.4**	**+0.6**
CDAG				*i* S	**Sg**	**10 04 36.2**	**-1.5**
CORM	**Corum**	**2.27**	**301**	*e*PN	**Pn**	**10 04 02.7**	**-0.5**
GUMT	**Gumushane**	**2.29**	**51**	*e*PN	**Pn**	**10 04 03.6**	**+0.1**
GUMT	**Gumushane**	**2.29**	**51**	Pn	**Pn**	**10 04 03.6**	**+0.1**
CEYT	**Ceyhan**	**2.30**	**209**	*e*PN	**Pn**	**10 04 03.3**	**-0.4**
CEYT	**Ceyhan**	**2.30**	**209**	Pn	**Pn**	**10 04 03.3**	**-0.4**
KARA	**Karaisali**	**2.42**	**224**	*e*PN	**Pn**	**10 04 05.0**	**-0.3**
COBT	**Iskenderun**	**2.60**	**196**	*i* P	**Pn**	**10 04 07.8**	**-0.1**
BSTP	**Nigde**	**2.62**	**247**	*i* P	**Pb**	**10 04 12.6**	**-0.2**
BSTP				*i* S	**Sg**	**10 04 51.3**	**+1.4**
DIY	**Diyarbakir**	**2.66**	**114**	*e*PN	**Pn**	**10 04 08.8**	**+0.2**
DIY	**Diyarbakir**	**2.66**	**114**	Pn	**Pn**	**10 04 08.9**	**+0.3**
KAMT	**Kaman**	**2.70**	**278**	*e*PN	**Pn**	**10 04 08.9**	**-0.2**
KAMT	**Kaman**	**2.70**	**278**	Pn	**Pn**	**10 04 09.0**	**-0.1**
KAMT	**Kaman**	**2.70**	**278**	Pn	**Pn**	**10 04 09.0**	**-0.1**
BOYT	**Boyabat**	**2.95**	**325**	*i* P	**Pn**	**10 04 13.4**	**+0.9**
BOYT				*i* S	**Sg**	**10 04 58.1**	**-2.2**
MERS	**Mersin**	**3.00**	**225**	*e*PN	**Pn**	**10 04 13.3**	**0.0**
HTY	**Hatay**	**3.01**	**196**	*e*PN	**Pn**	**10 04 13.6**	**+0.1**
HTY	**Hatay**	**3.01**	**196**	Pn	**Pn**	**10 04 13.6**	**+0.2**
BYBT	**Boyabat**	**3.05**	**324**	*e*PN	**Pn**	**10 04 13.9**	**0.0**
BYBT	**Boyabat**	**3.05**	**324**	Pn	**Pn**	**10 04 14.0**	**+0.1**
BNGL	**BINGOL**	**3.11**	**90**	*i* P	**Pg**	**10 04 23.8**	**-1.5**
BNGL				*i* S	**Sg**	**10 05 06.5**	**+0.8**
TOS	**Tosya**	**3.13**	**311**	*e*PN	**Pn**	**10 04 15.3**	**+0.2**
TOS	**Tosya**	**3.13**	**311**	Pn	**Pn**	**10 04 15.3**	**+0.2**
CANT	**Cankiri**	**3.15**	**301**	*e*PN	**Pn**	**10 04 15.0**	**-0.3**
ELDT	**Eldivan**	**3.22**	**298**	*i* P	**Pn**	**10 04 16.3**	**-0.1**
ELDT				*i* S	**Sg**	**10 05 05.8**	**-3.5**
MARD	**Mardin**	**3.33**	**120**	*i* P	**Pn**	**10 04 18.3**	**+0.5**
MARD				*i* S	**Sg**	**10 05 10.7**	**-1.9**
ERZM	**Erzurum**	**3.37**	**74**	*i* P	**Pb**	**10 04 26.5**	**+1.0**
BEST	**Besiri**	**3.42**	**108**	*i* P	**Pn**	**10 04 19.6**	**+0.6**
BEST				*i* S	**Sg**	**10 05 19.4**	**+3.8**
BEST	**Besiri**	**3.42**	**108**	*i* P	**Pn**	**10 04 19.6**	**+0.5**
ANTO	**Ankara**	**3.48**	**285**	*e*PN	**Pn**	**10 04 20.4**	**+0.5**
ANTO	**Ankara**	**3.48**	**285**	Pn	**Pn**	**10 04 20.4**	**+0.5**
BTMT	**Batman**	**3.49**	**102**	*e*PN	**Pn**	**10 04 19.0**	**-1.1**
LOD	**Lodumlu**	**3.51**	**286**	*e*PN	**Pn**	**10 04 19.6**	**-0.7**
LOD	**Lodumlu**	**3.51**	**286**	Pn	**Pn**	**10 04 19.7**	**-0.6**
LOD	**Lodumlu**	**3.51**	**286**	Pn	**Pn**	**10 04 19.7**	**-0.6**
BALT	**Daday**	**3.82**	**312**	*i* P	**Pn**	**10 04 25.3**	**+0.8**
BALT				*i* S	**Sb**	**10 05 20.0**	**+0.6**
IKL	**Isikli**	**3.92**	**226**	*e*PN	**Pn**	**10 04 26.3**	**+0.4**
IKL	**Isikli**	**3.92**	**226**	Pn	**Pn**	**10 04 26.4**	**+0.5**
IKL	**Isikli**	**3.92**	**226**	Pn	**Pn**	**10 04 26.4**	**+0.5**
SAFT	**Safranbolu**	**4.08**	**304**	*e*PN	**Pn**	**10 04 28.9**	**+0.8**
SGKT	**Sivrigoynuk**	**4.22**	**293**	*i* P	**Pn**	**10 04 30.6**	**+0.6**
HWQ	**Hawqa**	**4.84**	**192**	*e*Pn	**Pn**	**10 04 43.7**	**+5.1**
ESKT	**Eskisehir**	**4.92**	**278**	*i* P	**Pn**	**10 04 42.2**	**+2.5**
ESKT				*i* S	**Sg**	**10 05 59.1**	**-4.6**
HENT	**Hendek**	**5.13**	**292**	*i* P	**Pn**	**10 04 41.5**	**-1.1**
HENT				*i* S	**Sn**	**10 05 42.7**	**+0.8**
BHL	**Bhannes**	**5.26**	**194**	*e*Pn	**Pn**	**10 04 47.0**	**+2.7**
MSL	**Mosul**	**5.44**	**118**	*ex*	x	10 05 15.0	
TIRR	**Tirgusor**	**8.49**	**312**	⇑P	**Pn**	**10 05 31.3**	**+2.6**
TIRR	**Tirgusor**	**8.49**	**312**	⇑P	**Pn**	**10 05 31.3**	**+2.6**
CFR	**Carcaliu**	**9.09**	**315**	⇓P	**Pn**	**10 05 36.2**	**-0.7**
BURAR	**Bucovina Array**	**12.20**	**319**	⇓P	**Pn**	**10 06 19.1**	**-0.4**
BURAR	**Bucovina Array**	**12.20**	**319**	⇓P	**Pn**	**10 06 19.1**	**-0.5**

CSEM ***09*** *10:17:56.8±0.3,1164N×4297E,h2km,ML4.4,Error ellipse: s-maj=9.1km s-min=6.0km az=102.0*
DHMR ***09*** *10:17:56.9±1.3,1166N×4308E,h9km±11km,ML4.4*
ISCJB ***09*** *10:17:57.8±0.7,1160N±006×4299E±007,h10km,mb3.8/8, MS3.8/6,Error ellipse: s-maj=10.6km s-min=6.5km az=78.6*
IDC ***09*** *10:17:58.8±2.6,1170N×4281E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.8/19,mbtmp3.9/8,MS3.9/7,Ms1 3.8/7, ms1mx3.6/17,Error ellipse: s-maj=62.4km s-min=26.0km az=164.0*
NEIC ***09*** *10:18:00.3±1.2,1173N×4297E,h10km,mb4.5/1, ML4.4(DHMR),Error ellipse: s-maj=19.5km s-min=17.1km az=74.0*

ISC 09 10:17:60.0±0.7,1163N±006×4303E±007,h10km,n35, σ1°22/47,mb3.8/8,MS3.8/6,9C-2D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.91**	**34**	⇑*i* P	**Pn**	**10 18 30.7**	**-1.8**
TRBA				*i* S	**Sn**	**10 18 56.0**	**-0.6**
TRBA				AML	AML	10 19 04.9	
	comp=E,3μm,0.4s						
TRBA	**At Turbah**	**1.91**	**34**	*i* P	**Pn**	**10 18 30.7**	**-1.8**
TRBA				*i* S	**Sn**	**10 18 56.0**	**-0.6**
ADEN	**Aden**	**2.22**	**59**	*i* P	**Pn**	**10 18 34.5**	**-2.4**
ADEN				*i* S	**Sn**	**10 19 04.2**	**-0.2**
ADEN				AML	AML	10 19 22.9	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**2.22**	**59**	⇓*i* P	**Pn**	**10 18 35.9**	**-1.0**
ADEN				*i* S	**Sn**	**10 19 04.2**	**-0.2**
	comp=E,1μm,0.5s						
ADEN	**Aden**	**2.22**	**59**	⇓*i* P	**Pn**	**10 18 35.9**	**-1.0**
ADEN				*i* S	**Sn**	**10 19 03.3**	**-1.1**
UDYN	**Al 'Udayn**	**2.49**	**21**	*i* S	**Sn**	**10 19 12.4**	**+1.3**
UDYN				AML	AML	10 19 25.0	
	comp=N,4μm,0.8s						
UDYN	**Al 'Udayn**	**2.49**	**21**	*i* S	**Sn**	**10 19 12.4**	**+1.3**
	comp=N,2μm,0.8s						
LBOS		**3.11**	**44**	⇑*i* P	**Pn**	**10 18 47.4**	**-1.6**
LBOS				*i* S	**Sn**	**10 19 29.2**	**+3.0**
LBOS		**3.11**	**44**	⇑*i* P	**Pn**	**10 18 47.4**	**-1.6**
LBOS				*i* S	**Sn**	**10 19 25.9**	**-0.3**
DHBB	**Dhamar BB**	**3.21**	**24**	⇑*i* P	**Pn**	**10 18 49.9**	**-0.6**
DHBB				*i* S	**Sn**	**10 19 31.0**	**+2.3**
DHBB	**Dhamar BB**	**3.21**	**24**	⇑*i* P	**Pn**	**10 18 49.9**	**-0.6**
DHBB				*i* S	**Sn**	**10 19 27.9**	**-0.8**
BDHA	**Al Bayda'**	**3.40**	**47**	⇑*i* P	**Pn**	**10 18 52.2**	**-0.8**
BDHA				*i* S	**Sn**	**10 19 35.5**	**+2.1**
BDHA				AML	AML	10 19 57.7	
	comp=N,2μm,0.9s						
BDHA	**Al Bayda'**	**3.40**	**47**	⇑*i* P	**Pn**	**10 18 52.2**	**-0.9**
BDHA				*i* S	**Sn**	**10 19 35.5**	**+2.1**
	comp=N,931nm,0.9s						
BDHA	**Al Bayda'**	**3.40**	**47**	⇑*i* P	**Pn**	**10 18 52.2**	**-0.8**
BDHA				*i* S	**Sn**	**10 19 32.9**	**-0.6**
HAJJ	**Hajjah**	**4.08**	**8**	*i* P	**Pn**	**10 19 02.1**	**-0.3**
HAJJ				*i* S	**Sn**	**10 19 51.8**	**+1.6**
HAJJ				AML	AML	10 20 13.3	
	comp=N,2μm,0.6s						
HAJJ	**Hajjah**	**4.08**	**8**	*i* P	**Pn**	**10 19 02.1**	**-0.3**
HAJJ				*i* S	**Sn**	**10 19 51.8**	**+1.6**
	comp=N,907nm,0.6s						
HAJJ	**Hajjah**	**4.08**	**8**	⇑*i* P	**Pn**	**10 19 00.9**	**-1.5**
HAJJ				*i* S	**Sn**	**10 19 49.4**	**-0.9**
FURI	**Furi**	**5.07**	**238**	*e*PN	**Pn**	**10 19 22.8**	**+6.8**
FURI				*e*S	**Sn**	**10 20 24.8**	**+10**
KMBO	**Kilima Mbogo**	**13.91**	**205**	LR	LR	10 26 32.9	
	comp=N,677nm,19.2s,baz=276,slow=37						
MSEY	**Mahe Island**	**20.39**	**142**	*e*P	**P**	**10 22 38.2**	**+1.3**
	comp=N,22nm,0.9s						
MSEY	**Mahe Island**	**20.39**	**142**	*e*P	**P**	**10 22 38.2**	**+1.2**
	comp=N,22nm,0.9s						
GNI	**Garni**	**28.44**	**3**	LR	LR	10 35 51.1	
	comp=N,115nm,21.8s,MS3.4,baz=12,slow=38						
BRTR	**Keskin Array B**	**29.19**	**345**	P	**P**	**10 24 01.3**	**-0.3**
	comp=N,0.3nm,0.5s,mb3.3,baz=135,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**40.37**	**277**	P	**P**	**10 25 37.3**	**-0.6**
	comp=N,1.5nm,0.9s,mb3.7,baz=99,slow=5.8,SNR=8.4						
AKTK	**Aktyubinsk**	**40.60**	**15**	P	**P**	**10 25 41.0**	**+1.2**
AKTK	**Aktyubinsk**	**40.60**	**15**	P	**P**	**10 25 41.0**	**+1.2**
AKTO	**Aktyubinsk**	**40.60**	**15**	P	**P**	**10 25 41.0**	**+1.2**
	comp=N,1.4nm,0.8s,mb3.7,baz=201,slow=7.3,SNR=6.2						
BOSA	**Boshof**	**43.54**	**203**	LR	LR	10 45 48.5	
	comp=N,109nm,19.0s,MS3.8,baz=265,slow=38						
GERES	**GERESS Array B**	**44.38**	**332**	P	**P**	**10 26 08.5**	**-2.1**
	comp=N,0.6nm,0.6s,mb3.5,baz=129,slow=8.5,SNR=3.8						
BVAR	**Borovoye Array**	**46.74**	**22**	P	**P**	**10 26 30.7**	**+1.4**
	comp=N,1.0nm,0.7s,mb3.9,baz=225,slow=8.2,SNR=7.4						
MKAR	**Makanchi Array**	**48.18**	**36**	P	**P**	**10 26 41.3**	**+0.8**
	comp=N,2.2nm,0.8s,mb4.2,baz=225,slow=6.9,SNR=24						
MKAR				LR	LR	10 48 05.4	
	comp=N,40nm,19.1s,MS3.4,baz=180,slow=37						
FINES	**FINESS Array B**	**51.24**	**350**	LR	LR	10 48 02.7	
	comp=N,135nm,18.5s,MS4.0,baz=157,slow=35						
ZAL	**Zalesovo**	**53.59**	**29**	P	**P**	**10 27 21.0**	**-0.2**
	comp=N,1.5nm,0.3s,mb4.5,baz=177,slow=1.8,SNR=6.3						
ZAL				LR	LR	10 54 25.4	
	comp=N,279nm,19.3s,MS4.3,baz=252,slow=41						
ZAL	**Zalesovo**	**53.59**	**29**	P	**P**	**10 27 21.0**	**-0.2**
ZAL				LR	LR	10 54 25.4	
SONM	**Songino Array**	**63.64**	**42**	P	**P**	**10 28 32.5**	**+1.2**
	comp=N,1.1nm,0.8s,mb3.9,baz=254,slow=5.4,SNR=11						
SONM				LR	LR	10 57 25.8	
	comp=N,83nm,18.1s,MS4.0,baz=273,slow=37						

GUC 09 10:18:29.6±1.1,2338S×6938W,h75km±14km,MD3.7, ML3.2,3C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.75**	**269**	⇓*i* P	Pn	10 18 48.5	+3.1
CEN1				*i* S	Sn	10 19 02.7	+5.6
CEN1				AMP		10 19 04.1	
	comp=E,514nm,0.6s						
LVC	**Limon Verde**	**0.88**	**30**	*e*P	Pn	10 18 47.6	+0.7
LVC				*i* S	Sn	10 19 01.4	+1.6
LVC				AMP		10 19 02.4	
	comp=E,970nm,0.3s						
ANCH	**Antofagasta**	**0.99**	**252**	⇑*i* P	Pn	10 18 47.5	-0.7
ANCH				*i* S	Sn	10 19 02.1	0.0
ANCH				AMP		10 19 06.3	
	comp=N,2μm,0.1s						
SPCH	**San Pedro de A**	**1.19**	**67**	⇑*i* P	Pn	10 18 52.1	+1.4
SPCH				*i* S	Sn	10 19 08.7	+2.2
SPCH				AMP		10 19 09.6	
	comp=E,1μm,0.3s						
CPN1	**Cerro Paranal**	**1.55**	**217**	⇑*i* P	Pn	10 18 56.6	+1.3
CPN1				*i* S	Sn	10 19 16.9	+2.1
CPN1				AMP		10 19 21.7	
	comp=E,615nm,0.3s						

IDC 09 10:40:13.8±1.8,2309S×16920E,h0km,mb4.0/5, mb1 4.2/6,mb1mx4.1/14,mbtmp4.0/6,ML3.9/1,MS3.6/2, Ms1 3.6/2,ms1mx2.7/15,Error ellipse: s-maj=50.3km s-min=28.2km az=165.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.74**	**291**	Pn	Pn	10 40 59.7	+0.6
	21nm,0.3s,baz=92,slow=17,SNR=299						
DZM				Sn	Sn	10 41 33.4	+0.5
	19nm,0.3s,baz=88,slow=21,SNR=3.7						
CTA	**Charters Tower**	**21.54**	**274**	*e*P	P	10 45 07.2	+2.6
	7.3nm,1.2s						
CTA	**Charters Tower**	**21.54**	**274**	P	P	10 45 05.6	+1.0
	5.3nm,0.8s,baz=105,slow=11,SNR=5.6						
CTA				LR	LR	10 52 46.2	
	comp=Z,113nm,20.0s,baz=65,slow=35						
PMG	**Port Moresby**	**25.11**	**299**	LR	LR	10 53 49.0	
	comp=Z,187nm,19.1s,baz=87,slow=32						
STKA	**Stephens Creek**	**25.95**	**244**	*e*P	P	10 45 49.4	+1.5
	6.6nm,0.8s						
STKA	**Stephens Creek**	**25.95**	**244**	P	P	10 45 47.8	-0.1
	6.3nm,0.8s,baz=89,slow=12,SNR=6.9						
WB2	**Warramunga Arr**	**32.53**	**269**	*e*P	P	10 46 46.0	-0.4
WRA	**Warramunga Arr**	**32.54**	**269**	P	P	10 46 45.8	-0.7
	1.1nm,0.8s,baz=99,slow=7.9,SNR=10						
FITZ	**Fitzroy Crossi**	**40.97**	**269**	*e*P	P	10 47 58.9	+0.6
	7.1nm,0.8s						
SONM	**Songino Array**	**90.26**	**323**	P	P	10 53 17.7	+1.2
	0.7nm,0.8s,baz=117,slow=3.2,SNR=4.2						
ILAR	**Eielson Array**	**93.90**	**17**	P	P	10 53 31.2	-2.1
	0.4nm,0.8s,baz=231,slow=5.8,SNR=3.8						
GERES	**GERESS Array B**	**147.81**	**329**	PKPbc	PKPbc	11 00 01.6	+0.9
	0.6nm,0.6s,baz=22,slow=5.3,SNR=3.4						

BJI 09 10:51:26.9,2765N×11985E,h25km,mB4.2,mb4.2, ML4.1,Ms3.7,Msz4.0,1D,Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.92**	**203**	⇓*i* P	Pn	10 52 13.7	+1.9
QZH				S	Sn	10 52 47.8	+1.7
QZH				Smax			
	comp=N,1μm,0.6s						
QZH				Smax			
	comp=E,1μm,0.4s						
SSE	**Sheshan**	**3.63**	**18**	PG	Pn	10 52 32.5	+11
SSE				Smax			
	comp=N,181nm,1.0s						
SSE				Smax			
	comp=E,338nm,1.0s						
NJ2	**Nanjing**	**4.47**	**349**	*e*P	Pn	10 52 33.8	+0.8
NJ2				PG	Pn	10 52 51.4	+18
NJ2				SG	Sn	10 53 47.0	+23
NJ2				Smax			
	comp=N,500nm,1.0s						
NJ2				Smax			
	comp=E,120nm,0.7s						
LZH	**Lanzhou**	**15.97**	**306**	*e*P	Pn	10 55 10.8	+0.9
LZH				AP	pP	10 55 14.5	-5.5
LZH				XP	sP	10 55 17.8	-5.4
LZH				PP		10 55 23.8	
LZH				*e*S	Sn	10 58 08.2	+2.0
LZH				*e*SS		10 58 27.1	
LZH				AMB	AMB		
	comp=Z,14nm,1.4s						
LZH				AMB	AMB		
	comp=Z,45nm,4.2s						
LZH				LR	LR		
	comp=N,236nm,13.6s						
LZH				LR	LR		
	comp=Z,556nm,14.1s						

IDC 09 11:07:45.3±4.2,1598S×7228W,h86km±44km,mb3.1/2, mb1 3.5/4,mb1mx3.3/19,mbtmp3.5/4,Error ellipse: s-maj=42.4km s-min=32.5km az=161.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.00**	**95**	P	Pn	11 08 46.8	+2.6
	0.5nm,0.3s,baz=277,slow=11,SNR=26						
LPAZ				S	Sn	11 09 31.0	+1.0
	0.6nm,0.3s,baz=276,slow=8.1,SNR=5.3						
LVC	**Limon Verde**	**7.32**	**155**	P	Pn	11 09 29.2	-0.3
	0.6nm,0.3s,baz=328,slow=10,SNR=17						
LVC				S	Sn	11 10 45.4	-5.6
	2.6nm,0.3s,baz=107,slow=22,SNR=14						
SIV	**San Ignacio**	**10.78**	**92**	P	Pn	11 10 12.2	-4.4
	0.2nm,0.3s,baz=263,slow=13,SNR=5.5						
TXAR	**Lajitas Array**	**54.30**	**326**	P	P	11 17 02.8	+0.2
	0.2nm,0.7s,baz=153,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**84.96**	**342**	P	P	11 20 09.9	-1.0
	0.5nm,0.6s,baz=136,slow=5.2,SNR=16						
WRA	**Warramunga Arr**	**135.74**	**217**	PKP	PKPdf	11 26 56.4	+0.7
	0.2nm,0.6s,baz=146,slow=2.0,SNR=5.3						
ZAL	**Zalesovo**	**138.11**	**20**	PKP	PKPdf	11 26 60.0	-0.2
	1.5nm,0.3s,baz=74,slow=2.2,SNR=3.7						
SONM	**Songino Array**	**148.22**	**2**	PKPbc	PKPbc	11 27 21.8	+0.6
	0.8nm,0.7s,baz=0.0,slow=1.4,SNR=5.6						

DHMR ***09*** *11:12:25.4±1.5,1171N×4309E,h8km±18km,ML3.9*
ISCJB ***09*** *11:12:28.1±1.7,115N±01×437E±02,h10km,Error ellipse: s-maj=29.2km s-min=6.3km az=73.7*

ISC 09 11:12:29.8±1.8,115N±01×437E±02,h10km,n6,σ1°44/12, 3D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.78**	**13**	*i* P	**Pn**	**11 12 57.3**	**-3.2**
TRBA				*i* S	**Sn**	**11 13 24.1**	**+0.9**
TRBA				AML	AML	11 13 32.3	
	comp=E,1μm,0.6s						
UDYN	**Al 'Udayn**	**2.48**	**6**	⇓*i* P	**Pn**	**11 13 08.0**	**-2.1**
UDYN				*i* S	**Sn**	**11 13 39.3**	**-1.1**
UDYN				AML	AML	11 13 49.3	
	comp=N,2μm,0.7s						
UDYN	**Al 'Udayn**	**2.48**	**6**	⇓*i* P	**Pn**	**11 13 08.0**	**-2.1**
UDYN				*i* S	**Sn**	**11 13 39.3**	**-1.1**
	comp=N,804nm,0.7s						
LBOS		**2.81**	**32**	⇓*i* P	**Pn**	**11 13 16.2**	**+1.5**
LBOS				*i* S	**Sn**	**11 13 56.2**	**+7.6**
DHBB	**Dhamar BB**	**3.13**	**12**	*i* P	**Pn**	**11 13 18.2**	**-1.0**
DHBB				*i* S	**Sn**	**11 13 59.0**	**+2.3**
FURI	**Furi**	**5.57**	**243**	*e*PN	**Pn**	**11 13 52.4**	**-0.3**
FURI				*e*S	**Sn**	**11 14 57.6**	**+0.8**

IDC ***09*** *11:29:08.4±0.8,5776S×14236W,h0km,mb4.2/5, mb1 4.4/5,mb1mx4.2/14,mbtmp4.2/5,MS4.6/11, Ms1 4.6/11,ms1mx4.5/14,Error ellipse: s-maj=82.4km s-min=21.4km az=6.0*
ISCJB ***09*** *11:29:10.0±0.6,5694S±009×1415W±02,h10km,mb4.8/14, MS4.8/9,Error ellipse: s-maj=13.2km s-min=12.7km az=56.8*
MOS ***09*** *11:29:11.3±1.0,5735S×14143W,h9km,mb5.1/6,Error ellipse: s-maj=43.0km s-min=28.6km az=105.1*
BJI ***09*** *11:29:13.3,5720S×14130W,h10km,mB5.7,Ms5.5, Msz5.1*
NEIC ***09*** *11:29:13.3±0.7,5721S×14127W,h10km,mb5.1/11,Error ellipse: s-maj=23.3km s-min=13.3km az=176.0*
HRVD ***09*** *11:29:13.3±0.2,5689S×14171W,h12km,MW5.5/99, Centroid moment Tensor Solution. LP body waves: s80,c134;Mantle waves: s99,c181; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.18±.04; Mθθ1.73±.04; Mφφ-1.55±.03; Mrθ0.28±.11; Mθφ1.38±.03; Mφr-0.11±.09; Best double couple: M0=2.16400×10^17 NP1:φs25.00000°,δ82.00000°,λ-179.00000°. NP2: φs295.00000°,δ89.00000°,λ-8.00000°. Principal axes: T 2.2540, Plg5.0000°, Azm340.0000°; N -0.1810, Plg82.0000°, Azm111.0000°; P -2.0750, Plg6.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 11:29:10.9±0.7,5693S±009×1418W±02,h10km,n55, σ1°57/30,mb4.8/14,MS4.8/9,2C-1D,Pacific-Antarctic Ridge

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

LPAZ La Paz 67.58 85 *eP* **P 11 40 09.6 +1.9**
comp=Z,14nm,1.3s,mb4.8
WRA Warramunga Arr 70.21 264 P **P 11 40 20.9 -3.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=147,slow=5.7,SNR=7.0
WRAB Tennant Creek 70.22 264 *eP* **P 11 40 19.9 -4.1**
WRAB pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WRAB Tennant Creek 70.22 264 P **P 11 40 20.1 -3.9**
comp=Z,6.4nm,0.9s,mb4.5
MBWA Marble Bar 77.02 251 *eP* **P 11 41 07.2 +3.2**
comp=Z,23nm,1.4s,mb4.9
BDFB Brasilia 79.08 102 LR LR 12 12 33.5
comp=Z,811nm,19.8s,MS5.1,baz=18,slow=33
ROSC El Rosal 82.00 68 LR LR 12 10 46.2
comp=Z,170nm,20.9s,MS4.4,baz=17,slow=30
BOSA Boshof 94.09 169 LR LR 12 23 36.9
comp=Z,618nm,18.2s,MS5.1,baz=181,slow=35
SSE Sheshan 119.17 283 PKP PKPdf 11 48 00.5 +0.3
NJ2 Nanjing 121.16 282 *e*PKP PKPdf 11 48 04.0 0.0
NJ2 PP PP 11 49 40.0 +6.0
NJ2 PKS 11 51 40.0
NJ2 PP PP
comp=Z,200nm,10.0s
NJ2 LR LR
comp=N,570nm,26.7s,MS5.2
NJ2 LR LR
comp=E,690nm,30.4s,MS5.2
NJ2 LR LR
comp=Z,370nm,35.2s,MS4.8
ILAR Eielson Array 121.44 357 PKP PKPdf 11 48 03.6 -0.9
comp=Z,1.9nm,0.9s,baz=220,slow=1.5,SNR=12
COLA College 121.56 357 *i* PKIKP PKIKPdf 11 48 06.7 +1.9
MDJ Mudanjiang 125.17 299 PKP PKPdf 11 48 15.7 +4.0
MDJ PP PP 11 50 08.4 +7.4
MDJ SS SS 12 07 09.3 +11
MDJ PP PP
comp=Z,105nm,4.7s
MDJ LR LR
comp=N,337nm,50.0s,MS4.7
MDJ LR LR
comp=E,289nm,47.1s,MS4.7
MDJ LR LR
comp=Z,119nm,35.3s
CN2 Changchun 126.59 296 *e*PKP PKPdf 11 48 15.3 +0.9
MA2 Magadan 127.80 323 *i* PKIKP PKPdf 11 48 26.2 +9.5
CD2 Chengdu 128.51 269 *e*PKP PKPdf 11 48 17.5 -0.6
CD2 PP PP 11 50 29.3 +6.2
CD2 SS SS 12 07 42.7 +3.2
CD2 PP PP
comp=Z,80nm,5.8s
CD2 LR LR
comp=N,170nm,16.8s
CD2 LR LR
comp=Z,80nm,21.6s,MS4.4
BILL Bilibino 130.37 337 *i* PKIKP PKPdf 11 48 21.2 -0.4
HHC Hu-ho-hao-te 131.61 284 *e*PKP PKPdf 11 48 30.7 +6.7
HHC PP PP 11 50 56.0 +13
HHC PKS 11 52 04.3
HHC SKS SKSdf 11 55 38.9 +3.5
HHC SS SS 12 08 30.8 +13
HHC PP PP
comp=Z,123nm,9.6s
HHC LR LR
comp=N,96nm,14.4s,MS4.9
HHC LR LR
comp=E,146nm,15.6s,MS4.9
HHC LR LR
comp=Z,132nm,14.4s,MS4.8
LZH Lanzhou 132.35 273 *e*PKP PKPdf 11 48 24.9 -0.5
LZH PP PP 11 50 53.8 +5.7
LZH SKKS SKKSac 11 57 40.7 -3.8
LZH *e*SS SS 12 08 30.3 +3.6
LZH PP PP
comp=Z,236nm,4.6s
LZH LR LR
comp=N,1μm,19.6s
LZH LR LR
comp=Z,1μm,20.8s,MS5.7
GTA Gaotai 136.96 273 *e*PKP PKPdf 11 48 41.5 +7.5
GTA PKS 11 52 16.4
GTA SKKS SKKSac 11 58 19.6 +7.4
GTA PP PP
comp=Z,176nm,6.1s
GTA LR LR
comp=N,136nm,5.4s
GTA LR LR
comp=E,169nm,6.5s
GTA LR LR
comp=Z,132nm,6.9s
TIXI Tiksi 142.31 329 *e*PKIKP PKPdf 11 48 42.9 -0.8
WMQ Urumqi 146.61 268 *e*PKP PKPdf 11 48 55.5 +4.3
ESDC Sonseca Array 147.71 104 PKPbc PKPbc 11 48 55.3 -0.4
comp=Z,0.8nm,0.5s,baz=237,slow=2.6,SNR=5.7
MKAR Makanchi Array 151.44 268 PKPbc PKPbc 11 49 00.9 -4.1
comp=Z,4.6nm,1.0s,baz=124,slow=5.2,SNR=6.7
MKAR PKPab PKPab 11 49 09.5 -3.8
comp=Z,0.6nm,0.6s,baz=117,slow=3.2,SNR=10
MKAR Makanchi Array 151.44 268 *i* PKIKP PKPdf 11 49 04.5 +5.6
MKAR pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 152.94 254 *i* PKIKP PKPdf 11 48 59.7 -1.5
KURK Kurchatov 155.64 273 *i* PKIKP PKPdf 11 49 03.9 -1.1
ARU Arti 168.80 276 *i* PKIKP PKPdf 11 49 17.1 -1.0
OBN Obninsk 177.96 152 *e*PKIKP PKPdf 11 49 24.8 +3.2
OBN pmax pmax
comp=Z,6.0nm,1.1s

GUC 09 11:44:25.1±1.6, 2243S×6917W, h90km±11km, MD3.7, ML3.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.30**	**128**	*eP*	Pn	11 44 39.2	+0.7
LVC				*i* S	Sn	11 44 50.1	+1.6
LVC				AMP		11 44 51.4	
	comp=E,1μm,0.3s						
SPCH	**San Pedro de A**	**1.02**	**118**	*eP*	Pn	11 44 45.8	+0.9
SPCH				*i* S	Sn	11 45 01.9	+2.0
SPCH				AMP		11 45 03.0	
	comp=E,1μm,0.4s						
CEN1	**Los Morros**	**1.35**	**225**	*eP*	Pn	11 44 53.8	+4.9
CEN1				*i* S	Sn	11 45 14.9	+8.0
CEN1				AMP		11 45 18.1	
	comp=N,132nm,0.7s						
ANCH	**Antofagasta**	**1.69**	**222**	*eP*	Pn	11 44 54.2	+0.9
ANCH				*i* S	Sn	11 45 14.8	+0.1
CPN1	**Cerro Paranal**	**2.46**	**207**	*eP*	Pn	11 45 05.5	+2.0
CPN1				*i* S	Sn	11 45 35.7	+2.9
CPN1				AMP		11 45 59.9	
	comp=E,83nm,0.4s						

*ISCJB **09** 11:46:08.8±0.7, 7171N±009×32W±03, h10km, mb3.4/4, MS3.3/3, Error ellipse: s-maj=15.7km s-min=9.1km az=74.2*
*IDC **09** 11:46:10.6±1.4, 7163N×293W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.5/25, mbtmp3.6/9, ML3.4/5, MS3.3/8, Ms1 3.3/8, ms1mx3.2/22, Error ellipse: s-maj=32.8km s-min=21.6km az=39.0*

ISC 09 11:46:10.7±0.7, 7167N±009×32W±03, h10km, n13, σ0°78/11, mb3.4/4, MS3.3/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**6.20**	**268**	*i* P	**Pn**	**11 47 41.5**	**-0.7**
SCO				*i*		11 47 46.9	
DAG	**Danmarks Havn**	**6.60**	**328**	*i* P	**Pn**	**11 47 47.0**	**-0.8**
	6.7nm,0.8s						
DAG				*e*		11 48 40.0	
ARCES	**ARCESS Array B**	**9.74**	**89**	Pn	**Pn**	**11 48 31.2**	**+0.4**
	0.4nm,0.3s,baz=292,slow=12,SNR=13						
ARCES				LR	LR	11 52 27.1	
	comp=Z,142nm,18.6s,baz=18,slow=39						
NOA	**NORSAR Array B**	**12.09**	**145**	Pn	**Pn**	**11 49 02.5**	**-0.6**
	0.2nm,0.3s,baz=337,slow=13,SNR=2.7						
NOA				LR	LR	11 53 29.0	
	comp=Z,195nm,18.2s,baz=345,slow=36						
HFS	**Hagfors**	**13.41**	**141**	Pn	**Pn**	**11 49 20.7**	**-0.4**
	0.3nm,0.3s,baz=346,slow=12,SNR=6.6						
HFS				LR	LR	11 53 27.8	
	comp=Z,212nm,19.6s,baz=146,slow=33						
FINES	**FINESS Array B**	**15.31**	**117**	Pn	**Pn**	**11 49 46.2**	**-0.7**
	0.1nm,0.3s,baz=330,slow=11,SNR=3.5						
FINES				LR	LR	11 53 56.6	
	comp=Z,46nm,21.1s,baz=356,slow=31						
EKA	**Eskdalemuir Ar**	**16.40**	**180**	Pn	**Pn**	**11 50 01.4**	**+0.4**
	0.2nm,0.3s,baz=9.5,slow=13,SNR=2.8						
SFJD	**Kangerlussuaq**	**16.97**	**278**	LR	LR	11 56 47.2	
	comp=Z,70nm,18.5s,baz=28,slow=37						
GERES	**GERESS Array B**	**24.20**	**152**	P	**P**	**11 51 26.7**	**-0.7**
	0.6nm,0.7s,mb3.1,baz=354,slow=9.9,SNR=2.4						
GERES				LR	LR	12 00 44.7	
	comp=Z,88nm,18.4s,MS3.3,baz=307,slow=36						
AKASG	**Malin Array Be**	**25.59**	**128**	P	**P**	**11 51 40.6**	**+0.5**
	1.8nm,0.6s,mb3.8,baz=336,slow=9.5,SNR=5.1						
DAVOX	**Davos**	**25.73**	**159**	LR	LR	12 00 45.7	
	comp=Z,58nm,18.9s,MS3.1,baz=83,slow=34						
YKA	**Yellowknife Ar**	**38.13**	**316**	P	**P**	**11 53 31.1**	**+1.2**
	0.3nm,0.8s,mb3.1,baz=30,slow=8.1,SNR=4.6						
YKA				LR	LR	12 08 32.3	
	comp=Z,73nm,18.0s,MS3.5,baz=265,slow=35						
TORD	**Torodi Ar. Bea**	**58.57**	**174**	P	**P**	**11 56 09.1**	**+1.5**
	0.7nm,1.0s,mb3.7,baz=346,slow=5.9,SNR=3.5						

MEX 09 12:05:03.7±1.1, 1524N×9509W, h20km±222km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.11**	**298**	*i* P	Pn	12 05 20.7	-3.5
HUIG				*i* S	Sb	12 05 34.1	-4.2
VHO	**Vista Hermosa**	**2.41**	**319**	*i* P	Pn	12 05 40.7	-1.3
VHO				*i* S	Sn	12 06 05.7	-5.3
OXX	**Oaxaca**	**2.41**	**320**	*i* P	Pn	12 05 41.7	-0.3
OXX				*i* S	Sn	12 06 07.8	-3.2
CCIG	**Comitan**	**3.03**	**70**	*i* P	Pn	12 05 48.1	-2.3
CCIG				*i* S	Sn	12 06 22.1	-4.0

GUC 09 12:09:13.3±0.3, 2296S×6643W, h264km±11km, ML3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.32**	**278**	*eP*	Pn	12 10 02.2	+2.4
LVC				*i* S	S	12 10 39.6	+2.9
LVC				AMP		12 10 41.2	
	comp=E,11nm,0.2s						
CEN1	**Los Morros**	**3.50**	**262**	*eP*	Pn	12 10 16.6	+4.6
CEN1				*i* S	S	12 11 04.7	+6.0
CEN1				AMP		12 11 07.7	
	comp=N,37nm,0.9s						
ANCH	**Antofagasta**	**3.73**	**258**	*eP*	Pn	12 10 15.7	+1.1
ANCH				*i* S	S	12 11 04.4	+1.0
CPN1	**Cerro Paranal**	**4.00**	**245**	*eP*	Pn	12 10 21.6	+3.9
CPN1				*i* S	S	12 11 13.5	+4.5
CPN1				AMP		12 11 15.8	
	comp=N,50nm,0.3s						

*IDC **09** 12:12:31.7±2.6, 3287N×13932E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=96.9km s-min=24.3km az=77.0*
*ISCJB **09** 12:12:35.7±0.8, 3336N±005×14058E±007, h76km±8km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=8.2km az=166.9*
*JMA **09** 12:12:37.3±0.1, 3343N×14054E, h63km±2km, M3.8*
JMA Felt I J1.
*NEIC **09** 12:12:37.4, 3343N×14054E, h63km, MG3.7(JMA), After JMA.*

ISC 09 12:12:36.9±0.8, 3336N±005×14057E±007, h68km±9km, n20, σ0°98/33, mb3.4/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.68**	**249**	P	**Pn**	**12 12 51.7**	**+0.3**
JHJ2				S	**Sn**	**12 13 02.0**	**-0.1**
JMY	**Miyakejima3**	**1.13**	**309**	P	**Pn**	**12 12 56.6**	**-0.3**
JMY				S	**Sn**	**12 13 10.8**	**-1.1**
BSO1	**Boso 1**	**1.33**	**15**	P	**Pn**	**12 12 59.3**	**-0.2**
BSO1				S	**Sn**	**12 13 16.0**	**-0.5**
BSO3	**Boso 3**	**1.44**	**358**	P	**Pn**	**12 13 01.0**	**+0.1**
JKO	**Kozu shima**	**1.45**	**305**	P	**Pn**	**12 13 01.3**	**+0.2**
JKO				S	**Sn**	**12 13 18.9**	**-0.4**
NJJJ	**Nii jima 2**	**1.49**	**314**	P	**Pn**	**12 13 01.6**	**0.0**
NJJJ				S	**Sn**	**12 13 19.4**	**-0.9**
BSO4	**Boso 4**	**1.63**	**353**	P	**Pn**	**12 13 04.0**	**+0.5**
JIM2	**Oshima 3**	**1.65**	**325**	P	**Pn**	**12 13 03.5**	**-0.2**
JIM2				S	**Sn**	**12 13 22.5**	**-1.6**
JIZS	**Izushimoda**	**1.95**	**314**	P	**Pn**	**12 13 08.1**	**+0.3**
JIZS				S	**Sn**	**12 13 30.9**	**-0.4**
KTJJ	**Kamata 2**	**2.00**	**322**	P	**Pn**	**12 13 08.4**	**0.0**
KTJJ				S	**Sn**	**12 13 31.1**	**-1.3**
JOD2	**Odawara 2**	**2.26**	**327**	P	**Pn**	**12 13 12.0**	**+0.1**
JOD2				S	**Sn**	**12 13 37.1**	**-1.7**
TK04	**Tokai 4**	**2.46**	**295**	P	**Pn**	**12 13 15.8**	**+1.0**
SHZ3	**Shizuoka 3**	**2.59**	**312**	P	**Pn**	**12 13 18.0**	**+1.5**
SHZ3				*eS*	**Sn**	**12 13 49.2**	**+2.3**
JYN	**Shimob**	**2.71**	**322**	P	**Pn**	**12 13 19.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.72**	**329**	Pn	**Pn**	**12 13 31.1**	**-0.8**
	3.2nm,0.3s,baz=167,slow=11,SNR=30						
MJAR				Sn	**Sn**	**12 14 15.8**	**+1.4**
	1.2nm,0.3s,baz=157,slow=22,SNR=3.0						
MAJO	**Matsushiro**	**3.72**	**329**	*e*Pn	**Pn**	**12 13 32.6**	**+0.8**
MAT	**Matsushiro**	**3.72**	**329**	P	**Pn**	**12 13 32.7**	**+0.9**
MAT				S	**Sn**	**12 14 16.8**	**+2.4**
MAT	**Matsushiro**	**3.72**	**329**	*eP*	**Pn**	**12 13 33.0**	**+1.2**
MAT				*eS*	**Sn**	**12 14 17.0**	**+2.6**
MKAR	**Makanchi Array**	**45.57**	**305**	P	**P**	**12 20 48.8**	**-1.2**
	0.2nm,0.5s,mb3.1,baz=103,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**53.34**	**187**	P	**P**	**12 21 48.1**	**-1.0**
	0.2nm,0.3s,mb3.6,baz=3.9,slow=7.5,SNR=12						

MAN 09 12:24:01.2, 930N×12671E, h8km, mb2.9, ML4.3, MS7.8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.13**	**253**	*eP*	Pg	12 24 22.9	0.0
BUTP				*eS*	Sg	12 24 39.8	+2.3
BIPH	**Bislig**	**1.16**	**198**	↑*iP*	Pg	12 24 20.0	-3.6
BIPH				*i* S	Sg	12 24 33.4	-5.2
SCPH	**Surigao**	**1.30**	**292**	↑*eP*	Pn	12 24 26.0	+0.3
BUKP	**Musuan**	**2.16**	**229**	*eP*	Pn	12 24 38.4	+0.9
BUKP				*eS*	Sn	12 25 07.4	+3.0
PAGZ	**Pagadian**	**3.60**	**247**	*eP*	Pn	12 24 59.7	+2.5

*ISCJB **09** 12:27:20.8±1.0, 69N±01×728W±0.1, h177km±9km, mb3.3/2, Error ellipse: s-maj=27.5km s-min=11.6km az=98.5*
*IDC **09** 12:27:21.0±0.8, 675N×7298W, h159km±12km, mb3.1/2, mb1 3.5/4, mb1mx3.1/21, mbtmp3.7/4, Error ellipse: s-maj=41.1km s-min=7.6km az=132.0*
*FUNV **09** 12:27:24.2, 706N×7292W, h177km, MW4.0*

ISC 09 12:27:21.7±1.0, 68N±01×729W±01, h169km±9km, n12, σ1°22/20, mb3.3/2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.17**	**27**	*eP*	**Pn**	**12 27 50.6**	**+1.0**
CAPV				*eS*	**Sn**	**12 28 11.1**	**0.0**
ROSC	**El Rosal**	**2.44**	**217**	P	**Pn**	**12 28 02.6**	**-0.4**
	60nm,0.3s,baz=282,slow=20,SNR=130						
ROSC				S	**Sn**	**12 28 31.5**	**-3.6**
	36nm,0.3s,baz=97,slow=19,SNR=14						
SOCV	**Socops**	**2.46**	**54**	*eP*	**Pn**	**12 28 05.0**	**+1.8**
SOCV				*eS*	**Sn**	**12 28 33.9**	**-1.5**
SDV	**Santo Domingo**	**3.01**	**47**	P	**Pn**	**12 28 12.3**	**+2.4**
	7.9nm,0.3s,baz=241,slow=6.3,SNR=66						
SDV				S	**Sn**	**12 28 49.4**	**+2.1**
	37nm,0.3s,baz=51,slow=19,SNR=41						
VIRV	**Villa del Rosa**	**3.68**	**7**	*eP*	**Pn**	**12 28 17.7**	**-0.7**
VIRV				*eS*	**Sn**	**12 28 56.1**	**-6.4**
QARV	**Quebrada Arrib**	**4.08**	**34**	*eP*	**Pn**	**12 28 22.7**	**-0.7**
QARV				*eS*	**Sn**	**12 29 06.3**	**-5.2**
SANV	**Sanarito**	**4.23**	**51**	*eP*	**Pn**	**12 28 25.3**	**-0.1**
SANV				*eS*	**Sn**	**12 29 11.1**	**-3.9**
CURV	**Curarigua**	**4.27**	**42**	*eP*	**Pn**	**12 28 25.5**	**-0.4**
CURV				*eS*	**Sn**	**12 29 11.7**	**-4.3**
SIQV	**Siquisique**	**4.85**	**38**	*eP*	**Pn**	**12 28 32.7**	**-0.7**
SIQV				*eS*	**Sn**	**12 29 23.3**	**-6.2**
TXAR	**Lajitas Array**	**36.66**	**311**	P	**P**	**12 34 12.2**	**+0.2**
	0.3nm,0.6s,mb3.1,baz=124,slow=11,SNR=6.3						
YKA	**Yellowknife Ar**	**63.35**	**340**	P	**P**	**12 37 33.0**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=130,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**150.57**	**241**	PKPbc	PKPbc	12 46 54.2	+0.7
	0.3nm,0.4s,baz=108,slow=2.7,SNR=15						

*IDC **09** 12:29:21.9±1.4, 6295N×14961W, h58km±15km, mb3.6/8, mb1 3.8/12, mb1mx3.6/24, mbtmp3.9/12, Error ellipse: s-maj=18.6km s-min=9.4km az=109.0*
*ISCJB **09** 12:29:23.1±0.3, 6294N±003×14933W±008, h91km±4km, mb3.8/8, Error ellipse: s-maj=6.2km s-min=4.3km az=173.1*
*NEIC **09** 12:29:24.3, 6293N×14925W, h72km, MG3.7(AEIC), After AEIC.*

ISC 09 12:29:24.1±0.3, 6294N±003×14931W±008, h85km±4km, n37, σ0°86/46, mb3.8/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCK	**McKinley**	**0.81**	**12**	P	**Pn**	**12 29 41.4**	**0.0**
MCK				S	**Sn**	**12 29 53.9**	**-0.3**
KTH	**Kantishna Hill**	**0.95**	**311**	P	**Pn**	**12 29 43.2**	**+0.3**
KTH				S	**Sn**	**12 29 57.3**	**+0.3**
GHO	**Glory Hole Cre**	**1.19**	**171**	P	**Pn**	**12 29 45.0**	**-0.8**
SML	**Sawmill**	**1.23**	**158**	P	**Pn**	**12 29 45.3**	**-0.9**
SML				S	**Sn**	**12 30 02.4**	**-0.4**
PMR	**Palmer**	**1.36**	**176**	P	**Pn**	**12 29 47.3**	**-0.6**
PMR				S	**Sn**	**12 30 06.1**	**+0.4**
PAX	**Paxson**	**1.75**	**87**	P	**Pn**	**12 29 53.5**	**+0.6**
PAX				S	**Sn**	**12 30 16.5**	**+1.7**
FIB	**Fire Island**	**1.83**	**193**	P	**Pn**	**12 29 55.4**	**+1.4**
RC01	**Rabbit Creek A**	**1.87**	**186**	P	**Pn**	**12 29 54.3**	**-0.2**
COLA	**College**	**2.04**	**18**	P	**Pn**	**12 29 56.9**	**+0.2**
COLA				S	**Sn**	**12 30 21.0**	**-0.5**
IL1	**Eielson Array**	**2.13**	**29**	P	**Pn**	**12 29 57.8**	**-0.1**
ILAR	**Eielson Array**	**2.13**	**29**	P	**Pn**	**12 29 57.8**	**0.0**
	30nm,0.3s,baz=212,slow=14,SNR=781						
ILAR				S	**Sn**	**12 30 22.3**	**-1.2**
	41nm,0.3s,baz=214,slow=22,SNR=23						
DIV	**Divide**	**2.47**	**136**	P	**Pn**	**12 30 01.5**	**-0.9**
DOT	**Dot Lake**	**2.47**	**71**	P	**Pn**	**12 30 03.0**	**+0.5**
SLKM	**Skilak Lake**	**2.48**	**190**	*e*Pn	**Pn**	**12 30 03.4**	**+0.8**
MENT	**Mentasta**	**2.56**	**88**	*eP*	**Pn**	**12 30 04.1**	**+0.5**
SEW	**Seward**	**2.85**	**181**	P	**Pn**	**12 30 07.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**2.94**	**143**	P	**Pn**	**12 30 08.4**	**-0.3**
BMRM	**Bremner River**	**2.98**	**130**	P	**Pn**	**12 30 08.3**	**-0.9**
TTA	**Tatalina**	**3.06**	**273**	*eP*	**Pn**	**12 30 10.2**	**-0.2**
TT01	**Tatalina**	**3.07**	**272**	P	**Pn**	**12 30 10.3**	**-0.2**
IM3	**Indian Mountai**	**3.61**	**330**	P	**Pn**	**12 30 18.4**	**+0.6**
IMA2	**Indian Mountai**	**3.66**	**331**	*eP**	**Pn**	**12 30 19.4**	**+0.9**
COLD	**Coldfoot**	**4.32**	**355**	P	**Pn**	**12 30 28.1**	**+0.7**
BM3	**Burnt Mountain**	**4.91**	**22**	P	**Pn**	**12 30 36.0**	**+0.6**
PCA	**Pinnacle**	**5.19**	**119**	P	**Pn**	**12 30 38.4**	**-0.8**
KDAK	**Kodiak Island**	**5.43**	**199**	P	**Pn**	**12 30 41.2**	**-1.2**
	3.6nm,0.3s,baz=53,slow=11,SNR=51						
KDAK				S	**Sn**	**12 31 38.8**	**-4.7**
	8.4nm,0.3s,baz=314,slow=22,SNR=12						
KDAK	**Kodiak Island**	**5.43**	**199**	P	**Pn**	**12 30 41.1**	**-1.4**
INK	**Inuvik**	**8.44**	**44**	P	**Pn**	**12 31 24.0**	**+0.4**
	0.7nm,0.3s,baz=230,slow=17,SNR=45						
INK				S	**Sn**	**12 32 53.8**	**-3.3**
	0.9nm,0.3s,baz=314,slow=26,SNR=8.8						
YKA	**Yellowknife Ar**	**15.80**	**76**	P	**Pn**	**12 33 01.0**	**-0.6**
	baz=286,slow=9.9,SNR=12						
PDAR	**Pinedale Array**	**30.62**	**112**	P	**P**	**12 35 32.1**	**+2.0**
	0.9nm,0.8s,mb3.6,baz=319,slow=7.4,SNR=9.8						
TXAR	**Lajitas Array**	**44.55**	**117**	P	**P**	**12 37 29.2**	**+1.8**
	0.4nm,0.6s,mb3.3,baz=329,slow=6.7,SNR=8.5						
ARCES	**ARCESS Array B**	**47.75**	**2**	P	**P**	**12 37 52.0**	**-0.6**
	4.8nm,1.0s,mb4.3,baz=9.5,slow=7.4,SNR=6.9						
SONM	**Songino Array**	**54.47**	**307**	P	**P**	**12 38 44.2**	**+1.3**
	0.6nm,0.7s,mb3.7,baz=14,slow=5.6,SNR=5.4						
FINES	**FINESS Array B**	**55.88**	**3**	P	**P**	**12 38 51.9**	**-1.1**
	1.4nm,0.7s,mb4.1,baz=0.0,slow=9.5,SNR=5.1						
BVAR	**Borovoye Array**	**60.25**	**334**	P	**P**	**12 39 23.1**	**-0.4**
	0.8nm,0.6s,mb4.0,baz=66,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**63.19**	**323**	P	**P**	**12 39 41.6**	**-1.6**
	0.4nm,0.4s,mb3.7,baz=43,slow=6.8,SNR=7.7						
AKTO	**Aktyubinsk**	**64.92**	**341**	P	**P**	**12 39 54.1**	**-0.4**
	0.9nm,0.4s,mb3.9,baz=24,slow=6.4,SNR=4.2						

WEL 09 12:41:06.0±0.2, 3888S×17555E, h114km±1km, ML3.5/17, 1C-3D, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.23**	**40**	PN	Pn	12 41 22.1	+0.2
WATZ				SN	Sn	12 41 34.2	+0.4
WTVZ	**West Tongariro**	**0.24**	**172**	PN	Pn	12 41 22.0	+0.1
OTVZ	**Oturere**	**0.30**	**162**	PN	Pn	12 41 22.0	-0.1
WPVZ	**Whakapapa**	**0.32**	**180**	PN	Pn	12 41 22.5	+0.2
FWVZ	**Far West T-bar**	**0.37**	**179**	⇓PN	Pn	12 41 22.7	+0.2
TUVZ	**Tukino**	**0.40**	**168**	PN	Pn	12 41 22.9	+0.3
TRVZ	**Turoa**	**0.42**	**180**	PN	Pn	12 41 23.0	+0.3
PKVZ	**Pokaka**	**0.44**	**201**	PN	Pn	12 41 22.7	-0.1
WNVZ	**Wahianoa**	**0.45**	**175**	PN	Pn	12 41 23.2	+0.3
MTVZ	**Mangateitei**	**0.51**	**187**	PN	Pn	12 41 23.1	-0.2
MOVZ	**Moawhango**	**0.55**	**163**	⇑PN	Pn	12 41 23.3	-0.3
MOVZ				SN	Sn	12 41 36.4	-0.4
HIZ	**Hauiti**	**0.65**	**304**	PN	Pn	12 41 24.1	-0.2
HIZ				SN	Sn	12 41 37.9	-0.2
VRZ	**Vera Road**	**0.66**	**248**	PN	Pn	12 41 24.1	-0.3
BKZ	**Black Stump Fm**	**0.79**	**111**	PN	Pn	12 41 25.4	-0.1
BKZ				SN	Sn	12 41 40.4	+0.3
WAZ	**Wanganui**	**0.97**	**206**	PN	Pn	12 41 27.2	0.0
RAEZ	**Rainy Point**	**0.98**	**245**	PN	Pn	12 41 27.5	+0.2
NEZ	**North Egmont**	**1.19**	**251**	PN	Pn	12 41 29.7	+0.2
TSZ	**Takapari Road**	**1.22**	**165**	PN	Pn	12 41 30.0	+0.2
NRZ	**Ngariki Road**	**1.33**	**250**	*e*PN	Pn	12 41 30.9	-0.2
URZ	**Urewera**	**1.38**	**64**	PN	Pn	12 41 31.3	-0.2
PXZ	**Pawanui**	**1.54**	**139**	PN	Pn	12 41 33.5	+0.1
MWZ	**Matawai**	**1.65**	**71**	PN	Pn	12 41 35.0	+0.2
KNZ	**Kokohu**	**1.67**	**95**	PN	Pn	12 41 35.3	+0.3
MRZ	**Mangatainoka R**	**1.78**	**179**	⇓PN	Pn	12 41 35.6	-0.8
BFZ	**Birch Farm**	**1.88**	**164**	⇓PN	Pn	12 41 36.9	-0.6
BFZ				SN	Sn	12 41 59.1	-2.5
KIW	**Kapiti Island**	**2.04**	**194**	PN	Pn	12 41 38.2	-1.3
CAW	**Cannon Point**	**2.25**	**189**	PN	Pn	12 41 40.7	-1.6
MTW	**Mount Morrison**	**2.27**	**181**	PN	Pn	12 41 40.9	-1.6
DUWZ	**D'Urville Isla**	**2.29**	**213**	PN	Pn	12 41 41.2	-1.6
MRW	**Makara Radio**	**2.43**	**195**	PN	Pn	12 41 42.7	-2.0
WEL	**Wellington**	**2.47**	**194**	PN	Pn	12 41 43.3	-1.9
PAWZ	**Paruwai Farm**	**2.50**	**182**	PN	Pn	12 41 43.5	-2.0
SNZO	**South Karori**	**2.51**	**195**	PN	Pn	12 41 43.5	-2.1
TRWZ	**Traveller**	**2.52**	**178**	PN	Pn	12 41 43.8	-2.0

JYN	**Shimob**	**3.46 308**	P	**Pn**	**12 58 53.9**	**+0.6**
JAG	**Ashikaga**	**3.62 327**	P	**Pn**	**12 58 56.1**	**+0.7**
JAG			S	**Sn**	**12 59 37.2**	**+0.3**
MJAR	**Matsushiro Arr**	**4.35 317**	Pn	**Pn**	**12 59 06.3**	**+0.8**
	0.3nm,0.3s,baz=156,slow=11,SNR=4.0					
MKAR	**Makanchi Array**	**46.45 305**	P	**P**	**13 06 25.6**	**+0.3**
	0.1nm,0.6s,mb3.0,baz=87,slow=9.3,SNR=2.7					
WRA	**Warramunga Arr**	**53.53 189**	P	**P**	**13 07 18.7**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=5.0,slow=7.7,SNR=6.6					

NDI 09 13:00:40.2±2.1, 3449N×7350E, h10km, ML3.0, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.77**	**137**	*e*P	Pn	13 01 27.7	+3.1
THN				*e*S	Sn	13 02 00.0	+2.0
DLH	**Dalhousie**	**2.83**	**133**	*e*S	Sn	13 02 00.0	+0.3
KLP	**Kalpa**	**4.96**	**125**	*e*P	Pn	13 01 54.5	-0.3
KLP				*e*S	Sn	13 02 48.9	-3.4
KLP				AML	AML	13 03 12.6	
	comp=E,76nm,0.6s						
KLP				AML	AML	13 03 12.6	
	comp=N,56nm,0.9s						
KUDL	**Kundal**	**6.83**	**157**	*e*P	Pn	13 02 20.1	-0.2
KUDL				*e*S	Sn	13 03 32.2	-5.9
KUDL				AML	AML	13 04 21.7	
	comp=N,7.0nm,0.4s						
KUDL				AML	AML	13 04 22.2	
	comp=E,6.5nm,0.6s						
KK31	**Karatay Array**	**8.91**	**346**	P	Pn	13 02 42.3	-6.6
	comp=E,1.0nm,0.3s,baz=165,slow=12,SNR=21						
KK31				⇓S	Sn	13 04 19.8	-10
	comp=E,2.2nm,0.6s,baz=159,slow=22,SNR=10						

*ISCJB **09** 13:01:17.1±1.3, 449N±02×1486E±02, h33km, mb3.7/4, Error ellipse: s-maj=37.1km s-min=7.8km az=108.1*
*JMA **09** 13:01:20.2±0.5, 4386N×14847E, h0km, M3.6*
*IDC **09** 13:01:20.3±3.6, 4596N×148.18E, h0km, mb3.8/3, ML3.0/1, Error ellipse: s-maj=95.7km s-min=23.2km az=158.0*
ISC 09 13:01:18.4±1.4, 448N±02×1487E±02, h35km, n12, σ1⇕08/15, mb3.7/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.52**	**237**	P	**Pn**	**13 01 56.2**	**-0.7**
JNK	**Nakash**	**3.07**	**249**	P	**Pn**	**13 02 06.1**	**+1.7**
JNK				*e*S	**Sn**	**13 02 40.1**	**+0.2**
JTKR	**Abashiri--Toko**	**3.50**	**259**	P	**Pn**	**13 02 14.0**	**+3.7**
JAR	**Ashorobuto**	**3.82**	**249**	*e*S	**Sn**	**13 02 58.5**	**+0.2**
ASAJ	**Asahikawa**	**4.39**	**264**	Pn	**Pn**	**13 02 27.7**	**+5.2**
	0.6nm,0.3s,baz=174,slow=25,SNR=5.5						
JCH	**Churui**	**4.40**	**243**	P	**Pn**	**13 02 23.6**	**+0.9**
JCH				*e*S	**Sn**	**13 03 10.3**	**-2.4**
JKB	**Kayabe**	**6.26**	**245**	P	**Pn**	**13 02 48.5**	**+0.3**
JKB				*e*S	**Sn**	**13 03 54.5**	**-4.0**
SONM	**Songino Array**	**29.10**	**291**	P	**P**	**13 07 16.1**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=79,slow=7.4,SNR=4.1						
ILAR	**Eielson Array**	**40.03**	**37**	P	**P**	**13 08 49.9**	**-0.1**
	baz=270,slow=7.2						
INK	**Inuvik**	**44.98**	**31**	P	**P**	**13 09 30.3**	**+0.1**
	0.9nm,0.6s,mb3.8,baz=297,slow=6.9,SNR=8.6						
MKAR	**Makanchi Array**	**45.08**	**297**	P	**P**	**13 09 31.2**	**+0.3**
	0.9nm,0.7s,mb3.7,baz=78,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**64.46**	**333**	P	**P**	**13 11 49.5**	**-1.8**
	0.9nm,0.5s,mb4.0,baz=37,slow=9.5,SNR=5.2						

*NIED **09** 13:05:00, 3780N×142.30E, h23km, Mw4.4 Best double couple: M0=3.88000×10^15 NP1:φ0=196.00000°, δ62.00000°, λ88.00000°. NP2:φ0=20.00000°, δ28.00000°, λ93.00000°.*
*BJI **09** 13:05:18.2, 3780N×142.29E, h26km, mB5.0, mb4.7, Ms4.3, Msz3.9*
*ISCJB **09** 13:05:20.1±0.2, 3779N±003×142.15E±003, h25km, mb4.5/64, MS3.9/8, Error ellipse: s-maj=3.9km s-min=2.9km az=138.4*
*JMA **09** 13:05:20.3±0.2, 3780N×142.17E, h35km±2km, M4.6*
JMA Felt II J1.
*MOS **09** 13:05:20.3±0.9, 3783N×142.12E, h26km, mb4.7/23, Error ellipse: s-maj=9.2km s-min=6.3km az=95.1*
*NEIC **09** 13:05:21.5±0.2, 3774N×142.16E, mb4.6/27, MW4.3(NIED), Error ellipse: s-maj=6.3km s-min=3.7km az=150.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi; [1 JMA] in Iwate and Tochigi Prefectures.
*IDC **09** 13:05:22.7±4.5, 3770N×142.15E, h33km±34km, mb4.2/19, mb1 4.4/22, mb1mx4.4/25, mbtmp4.4/22, ML4.2/3, MS3.8/5, Ms1 3.9/5, ms1mx3.4/25, Error ellipse: s-maj=17.4km s-min=13.7km az=110.0*
*NAO **09** 13:05:25.4, 3824N×142.76E, h33km, mb4.7*
ISC 09 13:05:21.9±0.2, 3778N±003×14212E±003, h26km, h26km±2.2km: pP-P, n158, σ1⇕01/174, mb4.5/64, MS3.9/8, 4C-15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.91**	**318**	⇓P	**Pn**	**13 05 37.2**	**-1.8**
JIO				S	**Sb**	**13 05 48.8**	**-1.9**
JMM	**Marumori**	**1.06**	**275**	⇓P	**Pn**	**13 05 39.7**	**-1.3**
JMM				S	**Sn**	**13 05 53.1**	**-1.8**
JFK	**Kawauchi**	**1.07**	**248**	⇓P	**Pn**	**13 05 39.7**	**-1.6**
JFK				S	**Sn**	**13 05 53.6**	**-1.7**
JOU	**Okura**	**1.29**	**297**	⇓P	**Pn**	**13 05 43.5**	**-0.7**
JMK	**Ichinoseki**	**1.37**	**329**	⇓P	**Pn**	**13 05 43.7**	**-1.6**
JFT	**Otama**	**1.44**	**260**	⇓P	**Pn**	**13 05 46.1**	**-0.2**
JFT				S	**Sn**	**13 06 04.8**	**+0.4**
JYS	**Shiratake**	**1.68**	**286**	⇓P	**Pn**	**13 05 49.2**	**-0.4**
JYS				*e*S	**Sn**	**13 06 10.3**	**-0.1**
JYK	**Kaneyama**	**1.79**	**310**	⇓P	**Pn**	**13 05 50.7**	**-0.4**
JOM	**Ohasama**	**1.81**	**339**	⇓P	**Pn**	**13 05 49.9**	**-1.5**
JOM				*e*S	**Sn**	**13 06 12.0**	**-1.5**
JFY	**Yanaizu**	**1.96**	**260**	⇓P	**Pn**	**13 05 53.4**	**0.0**
JFY				*e*S	**Sn**	**13 06 17.9**	**+0.8**
JYA	**Atsumi**	**2.06**	**294**	⇓P	**Pn**	**13 05 54.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.36**	**250**	Pn	**Pn**	**13 06 13.5**	**+0.7**
	22nm,0.3s,baz=76,slow=16,SNR=59						
MAJO	**Matsushiro**	**3.36**	**250**	*e*P	**Pn**	**13 06 14.0**	**+1.3**
MAT	**Matsushiro**	**3.36**	**250**	P	**Pn**	**13 06 13.7**	**+1.0**
MAT				S	**Sn**	**13 06 52.9**	**+1.1**
MAT	**Matsushiro**	**3.36**	**250**	*e*P	**Pn**	**13 06 14.0**	**+1.3**
MAT				*e*S	**Sn**	**13 06 56.0**	**+4.2**
JHJ	**Hachijo jima 2**	**5.03**	**203**	Pn	**Pn**	**13 06 34.9**	**-0.8**
	57nm,0.3s,baz=129,slow=11,SNR=16						
JHJ				Sn	**Sn**	**13 07 31.3**	**-1.5**
	55nm,0.3s,baz=270,slow=23,SNR=3.4						
ASAJ	**Asahikawa**	**6.34**	**3**	Pn	**Pn**	**13 06 53.0**	**-0.7**
	3.3nm,0.3s,baz=223,slow=10,SNR=24						
ASAJ				Sn	**Sn**	**13 08 07.7**	**+2.4**
	baz=206,slow=30,SNR=3.8						
ASAJ				LR	LR	13 09 51.4	
	comp=Z,220nm,19.5s,baz=141,slow=42						
ASAJ	**Asahikawa**	**6.34**	**3**	P	**Pn**	**13 06 53.0**	**-0.7**
ASAJ						13 08 07.7	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,220nm,19.5s						
YUK	**Yuzh-Kuril'sk**	**6.86**	**23**	*e*P	**Pn**	**13 06 54.5**	**-6.3**
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.18**	**3**	*e*P	**Pn**	**13 07 34.9**	**+2.3**
YSS				*e*S	**Sn**	**13 09 13.5**	**-1.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**9.18**	**3**	*e*Pn	**Pn**	**13 07 34.3**	**+1.7**
	comp=N,25nm,0.8s						
VLA	**Vladivostok**	**9.44**	**308**	*e*P	**Pn**	**13 07 41.5**	**+5.3**
VLA				*e*S	**Sn**	**13 09 24.6**	**+3.1**
VLA				pmax	pmax		
	comp=Z,36nm,1.0s						
VLA				MLR	MLR		
	comp=Z,400nm,12.9s						
JNU	**Nakatsue**	**10.28**	**246**	Pn	**Pn**	**13 07 51.9**	**+4.2**
	comp=Z,0.6nm,0.3s,baz=29,slow=18,SNR=8.1						
JNU				LR	LR	13 12 07.8	
	comp=Z,457nm,18.7s,baz=243,slow=40						
KS15	**Wonju Array Si**	**11.30**	**273**	*e*Pn	**Pn**	**13 08 05.5**	**+3.8**
MDJ	**Mudanjiang**	**11.64**	**310**	P	**Pn**	**13 08 08.5**	**+2.2**
MDJ				XP		13 08 22.6	
MDJ				S	**Sn**	**13 10 18.0**	**+2.5**
MDJ				SCP	ScP	13 17 22.3	-4.4
MDJ				PCS	PcS	13 17 28.1	-1.5
MDJ				SCS	ScS	13 20 59.4	-2.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,100nm,5.7s						
MDJ				LR	LR		
	comp=N,309nm,12.9s						
MDJ				LR	LR		
	comp=E,227nm,16.4s						
MDJ				LR	LR		
	comp=Z,557nm,12.5s						
HABR	**Khabarovsk**	**11.86**	**337**	*e*P	**Pn**	**13 08 10.8**	**+1.4**
HABR				*e*S	**Sn**	**13 10 21.1**	**+0.3**
KLR	**Kul'dur**	**13.68**	**330**	*e*P	**Pn**	**13 08 39.0**	**+4.8**
KLR				MLR	MLR		
	comp=N,700nm,15.0s						
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1μm,15.0s						
CN2	**Changchun**	**13.98**	**301**	*e*P	**Pn**	**13 08 40.6**	**+2.3**
CN2				*e*S	**Sn**	**13 11 13.6**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SSE	**Sheshan**	**18.49**	**255**	P	**Pn**	**13 09 37.6**	**+1.4**
SSE				S	**Sn**	**13 12 58.6**	**-3.5**
SSE				AMB	AMB		
	comp=Z,34nm,0.8s						
SSE				AMB	AMB		
	comp=Z,123nm,3.5s						
SSE				LR	LR		
	comp=N,89nm,18.5s						
SSE				LR	LR		
	comp=E,48nm,18.5s						
SSE				LR	LR		
	comp=Z,105nm,25.1s						
PET	**Petropavlovsk**	**19.09**	**32**	⇑*e*P	**Pn**	**13 09 41.6**	**-1.8**
PET				pmax	pmax		
	comp=Z,13nm,1.0s						
PET	**Petropavlovsk**	**19.09**	**32**	*e*P	**Pn**	**13 09 42.0**	**-1.4**
	comp=Z,9.0nm,0.8s						
NJ2	**Nanjing**	**19.90**	**260**	*e*P	**Pn**	**13 09 55.2**	**+2.1**
NJ2				PP		13 10 14.5	
NJ2				S	**Sn**	**13 13 31.0**	**-5.0**
NJ2				XS	sS	13 13 44.0	-1.3
NJ2				AMB	AMB		
	comp=Z,110nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,120nm,11.0s						
NJ2				LR	LR		
	comp=N,560nm,22.2s						
NJ2				LR	LR		
	comp=E,640nm,16.1s						
NJ2				LR	LR		
	comp=Z,380nm,18.6s						
CLNS	**Chul'man**	**22.24**	**335**	*e*P	**P**	**13 10 19.5**	**+2.9**
CLNS				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				MLR	MLR		
	comp=N,100nm,15.0s,MS3.7						
CLNS				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,200nm,14.0s,MS3.7						
MA2	**Magadan**	**22.51**	**12**	*e*P	**P**	**13 10 18.5**	**-1.0**
MA2				*e*		13 10 27.5	
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
MA2	**Magadan**	**22.51**	**12**	*e*P	**P**	**13 10 20.5**	**+1.0**
	comp=Z,14nm,0.7s,mb4.5						
MA2				*e*pP		13 10 27.4	
CIT	**Chita**	**24.54**	**315**	*e*P	**P**	**13 10 38.8**	**-0.6**
CIT				pmax	pmax		
	comp=Z,74nm,1.1s,mb5.1						
YAK	**Yakutsk**	**25.47**	**346**	*e*P	**P**	**13 10 48.4**	**+0.6**
YAK				*e*		13 15 19.1	
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
YAK	**Yakutsk**	**25.47**	**346**	*e*P	**P**	**13 10 47.5**	**-0.4**
	comp=E,17nm,0.8s,mb4.6						
SEY	**Seymchan**	**25.95**	**11**	*e*P	**P**	**13 10 53.0**	**+0.8**
SEY				*e*		13 11 46.0	
SEY				*e*S	**S**	**13 15 21.4**	**+0.4**
SEY				*e*SS		13 16 21.5	
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=E,6.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
SEY				smax			
	comp=N,54nm,12.6s						
SEY				smax			
	comp=E,89nm,18.0s						
BOD	**Bodaibo**	**27.21**	**327**	⇓*i*P	**P**	**13 11 02.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**27.41**	**303**	⇑*e*P	**P**	**13 11 05.2**	**-0.1**
ULN	**Ulaanbaatar**	**27.41**	**303**	*e*P	**P**	**13 11 05.4**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.0						
SONM	**Songino Array**	**27.85**	**303**	P	**P**	**13 11 09.9**	**+0.7**
	comp=Z,9.7nm,0.8s,mb4.5,baz=96,slow=8.4,SNR=64						
ZAK	**Zakamensk**	**30.26**	**307**	*e*P	**P**	**13 11 27.8**	**-2.8**
ZAK				*e*		13 11 30.7	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
LZH	**Lanzhou**	**30.51**	**279**	*e*P	**P**	**13 11 33.6**	**+0.8**
LZH				PP	PP	13 12 35.1	-6.7
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.8						
MOY	**Mondy**	**31.90**	**309**	*e*P	**P**	**13 11 44.9**	**-0.2**
CD2	**Chengdu**	**32.24**	**269**	*e*P	**P**	**13 11 47.5**	**-0.6**
CD2				AP	pP	13 11 59.4	+3.6
CD2				XP	sP	13 12 04.8	+5.8
CD2				PP	PP	13 12 55.6	-5.5
CD2				S	**S**	**13 16 56.2**	**-3.6**
CD2				XS	sS	13 17 16.4	+3.9
CD2				SS	SS	13 18 52.0	-27
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=E,130nm,10.8s						
CD2				LR	LR		
	comp=Z,120nm,12.0s,MS3.8						
GTA	**Gaotai**	**32.89**	**286**	*e*P	**P**	**13 11 53.4**	**-0.4**
GTA				AP	pP	13 12 05.1	+3.6
GTA				XP	sP	13 12 11.3	+6.6
GTA				PP	PP	13 13 04.1	-4.2
GTA				PCP	PcP	13 14 37.8	-0.1
GTA				S	**S**	**13 17 07.0**	**-2.9**
GTA				XS	sS	13 17 27.0	+4.4
GTA				SCP	ScP	13 18 16.9	-3.3
GTA				PCS	PcS	13 18 22.2	-1.0
GTA				SS	SS	13 19 06.0	-26
GTA				SCS	ScS	13 22 15.8	-4.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,152nm,6.1s						
GTA				LR	LR		
	comp=N,112nm,6.9s						
GTA				LR	LR		
	comp=E,199nm,7.6s						
GTA				LR	LR		
	comp=Z,210nm,17.6s,MS3.9						
BILL	**Bilibino**	**33.15**	**16**	*e*P	**P**	**13 11 55.1**	**-1.0**
BILL				*e*PP	pP	13 12 02.1	-1.7
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**33.15**	**16**	*e*P	**P**	**13 11 55.1**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.4						
BILL				*e*pP	pP	13 12 02.0	-1.8
TIXI	**Tiksi**	**34.62**	**353**	⇑*i*P	**P**	**13 12 07.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.1						
KMI	**Kunming**	**35.63**	**261**	P	**P**	**13 12 17.7**	**+0.1**
KMI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
KMI				LR	LR		
	comp=Z,84nm,27.8s,MS3.4						
TNA	**Tin City**	**39.93**	**30**	*e*P	**P**	**13 12 54.0**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.2						
TNA				*e*pP	pP	13 13 01.6	0.0
WMQ	**Urumqi**	**41.01**	**296**	P	**P**	**13 13 04.0**	**+1.2**
WMQ				AP	pP	13 13 16.5	+5.8
WMQ				PP	PP	13 14 42.5	+4.9
WMQ				SCP	ScP	13 18 49.0	-1.4
WMQ				S	**S**	**13 19 13.0**	**-0.5**
WMQ				SS	SS	13 22 12.0	-4.0
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,217nm,5.0s						
WMQ				LR	LR		
	comp=N,58nm,10.0s,MS4.0						
WMQ				LR	LR		
	comp=E,87nm,12.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,68nm,9.0s						
LSA	**Lhasa**	**42.71**	**275**	P	**P**	**13 13 19.5**	**+2.9**
NVS	**Novosibirsk**	**42.74**	**313**	*e*P	**P**	**13 13 15.3**	**-1.6**
SHL	**Shillong**	**43.98**	**269**	*e*P	**P**	**13 13 28.0**	**+1.1**
MK31	**Makanchi Array**	**44.21**	**302**	*i* P	**P**	**13 13 28.7**	**0.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**13 13 28.9**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.1,baz=88,slow=9.8,SNR=33						
MKAR	**Makanchi Array**	**44.21**	**302**	*i* P	**P**	**13 13 28.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**45.92**	**308**	*e*P	**P**	**13 13 41.8**	**-0.6**
KURK				*e**PP	pP	13 13 49.0	-1.3
KURK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
KURK	**Kurchatov**	**45.92**	**308**	*e*P	**P**	**13 13 41.8**	**-0.6**
	comp=Z,13nm,0.6s,mb5.0						
KURK				*e*pP	pP	13 13 49.0	-1.3
KDAK	**Kodiak Island**	**46.17**	**42**	P	**P**	**13 13 44.1**	**-0.2**
	comp=Z,24nm,1.0s,mb5.1,baz=353,slow=12,SNR=6.2						
JIRN	**Jiri**	**47.51**	**275**	*e*P	**P**	**13 13 55.6**	**+0.8**
GUN	**Gumba**	**47.65**	**275**	*e*P	**P**	**13 13 57.0**	**+1.1**
	comp=Z,32nm,0.5s,mb5.6						
MCK	**McKinley**	**47.70**	**34**	*e*P	**P**	**13 13 55.1**	**-1.2**
MCK				*e**PP	pP	13 14 02.4	-1.8
MCK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
MCK	**McKinley**	**47.70**	**34**	*e*P	**P**	**13 13 55.1**	**-1.2**
	comp=Z,1.4nm,0.7s,mb4.1						
MCK				*e*pP	pP	13 14 02.4	-1.9
COLA	**College**	**48.15**	**33**	*e*P	**P**	**13 13 59.4**	**-0.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
COLA	**College**	**48.15**	**33**	*e*P	**P**	**13 13 59.4**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.3						
PKI	**Pulchoki**	**48.17**	**275**	*e*P	**P**	**13 14 00.6**	**+0.7**
KKN	**Kakani**	**48.17**	**276**	*e*P	**P**	**13 14 00.5**	**+0.6**
	comp=Z,32nm,0.6s,mb5.5						
KKN	**Kakani**	**48.17**	**276**	*e*P	**P**	**13 14 00.5**	**+0.6**
KKN				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
DMN	**Daman**	**48.39**	**275**	*e*P	**P**	**13 14 02.4**	**+0.8**
ILAR	**Eielson Array**	**48.56**	**33**	P	**P**	**13 14 02.5**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.6,baz=264,slow=6.1,SNR=72						
GKN	**Gorkha**	**48.58**	**276**	*e*P	**P**	**13 14 03.2**	**+0.1**
	comp=Z,49nm,0.8s,mb5.6						
KOLN	**Koldanda**	**49.51**	**276**	*e*P	**P**	**13 14 10.7**	**+0.5**
	comp=Z,51nm,1.3s,mb5.4						
BVA0	**Borovoye Array**	**50.49**	**312**	*i* P	**P**	**13 14 17.2**	**-0.4**
AAK	**Ala-Archa**	**50.64**	**298**	⇓*e*P	**P**	**13 14 18.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**50.64**	**298**	*e*P	**P**	**13 14 17.9**	**-0.8**
	comp=Z,5.8nm,0.7s,mb4.6						
KK31	**Karatay Array**	**53.24**	**300**	*i* P	**P**	**13 14 38.5**	**+0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KKAR	**Karatay Array**	**53.24**	**300**	*i* P	**P**	**13 14 38.5**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
INK	**Inuvik**	**53.47**	**27**	P	**P**	**13 14 39.9**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.3,baz=287,slow=7.2,SNR=49						
ARU	**Arti**	**56.18**	**318**	⇑*i*P	**P**	**13 14 59.4**	**0.0**
ARU				*e*		13 15 54.7	
ARU				*e*		13 17 01.8	
ARU				*e*PPP		13 18 19.2	
ARU				*e*S	**S**	**13 22 44.6**	**-2.6**
ARU				*e*SS	SS	13 26 26.5	-7.3
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
ARU	**Arti**	**56.18**	**318**	*e*P	**P**	**13 14 58.7**	**-0.7**
	comp=Z,4.6nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**57.71**	**199**	*e*P	**P**	**13 15 10.8**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**57.87**	**189**	*de*P	**P**	**13 15 11.1**	**-0.3**
WRAB	**Tennant Creek**	**57.87**	**189**	*e*P	**P**	**13 15 10.8**	**-0.6**
	comp=Z,24nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**57.88**	**189**	*e*P	**P**	**13 15 10.9**	**-0.6**
WRA	**Warramunga Arr**	**57.88**	**189**	P	**P**	**13 15 11.0**	**-0.5**
	comp=Z,10nm,0.6s,mb5.1,baz=6.3,slow=7.1,SNR=135						
AB31	**Akbulak array**	**57.89**	**310**	*i* P	**P**	**13 15 11.1**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ASPA	**Alice Springs**	**61.60**	**189**	*e*P	**P**	**13 15 36.9**	**-0.2**
POO	**Poona**	**61.90**	**272**	*e*x	x	13 16 28.0	
MBWA	**Marble Bar**	**62.30**	**204**	*e*P	**P**	**13 15 41.8**	**0.0**
	comp=Z,16nm,1.2s,mb5.0						
MBWA				*e*pP	pP	13 15 48.7	-1.2
YKA	**Yellowknife Ar**	**62.88**	**31**	P	**P**	**13 15 44.9**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.4,baz=303,slow=6.7,SNR=42						
ARCES	**ARCESS Array B**	**63.50**	**339**	P	**P**	**13 15 49.4**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.6,baz=51,slow=7.8,SNR=11						
ARCES				LR	LR	13 50 32.7	
	comp=Z,127nm,20.0s,MS4.1,baz=199,slow=43						
OBN	**Obninsk**	**67.84**	**323**	*e*P	**P**	**13 16 18.1**	**+0.4**
OBN				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.9						
FINES	**FINESS Array B**	**68.42**	**332**	P	**P**	**13 16 21.8**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.4,baz=37,slow=9.5,SNR=10						
FINES				LR	LR	13 50 48.1	
	comp=Z,83nm,18.1s,MS4.0,baz=346,slow=40						
FINES	**FINESS Array B**	**68.42**	**332**	*i* P	**P**	**13 16 21.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**68.42**	**332**	P	**P**	**13

comp=Z,2.8nm,0.6s,mb4.4
BW06 Boulder Array 76.74 46 *e*P **P 13 17 10.8 -0.2**
comp=Z,2.1nm,0.6s,mb4.2
BW06 *e*pP pP 13 17 18.0 -1.3
PDAR Pinedale Array 76.74 46 P **P 13 17 11.3 +0.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=284,slow=1.2,SNR=32
MALT Malatya 76.76 308 P **P 13 17 11.1 +0.1**
MALT pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MALT Malatya 76.76 308 P **P 13 17 11.1 +0.1**
comp=Z,7.3nm,1.2s,mb4.5
NLU North Lily Min 77.04 49 P **P 13 17 12.8 +0.3**
MVU Marysvale 77.86 51 P **P 13 17 24.3 +7.2**
SRU San Rafael 78.50 49 P **P 13 17 21.3 +0.6**
ULM Lac du Bonnet 78.57 34 P **P 13 17 20.6 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=316,slow=7.3,SNR=5.9
OJC Ojcow 78.73 326 *e*P **P 13 17 22.3 +0.3**
RSSD Black Hills 78.90 42 P **P 13 17 23.2 +0.3**
MORC Moravsky Berou 80.04 327 *e*P **P 13 17 28.7 -0.4**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MORC Moravsky Berou 80.04 327 *e*P **P 13 17 28.6 -0.5**
comp=Z,3.7nm,0.9s,mb4.3
CLL Collm 80.73 330 *e*P **P 13 17 33.0 +0.2**
comp=Z,8.0nm,1.3s,mb4.5
CLL *i* PcP PcP 13 17 39.8 +0.3
CLL Collm 80.73 330 *e*P **P 13 17 33.0 +0.2**
CLL *i* pP 13 17 39.8 -1.4
CLL pmax pmax
comp=Z,20nm,1.3s,mb4.9
PRU Pruhonice 81.14 329 *e*P **P 13 17 39.9 +4.9**
KHC Kasperske Hory 82.20 329 *e*P **P 13 17 41.1 +0.5**
KHC pP pP 13 17 47.5 -1.5
KHC Kasperske Hory 82.20 329 *e*P **P 13 17 41.1 +0.5**
KHC *e* pP 13 17 47.5 -1.5
SDCO Great Sand Dun 82.37 48 *e*P **P 13 17 42.4 +0.8**
comp=Z,2.3nm,0.9s,mb4.1
GERES GERESS Array B 82.38 329 P **P 13 17 41.4 -0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=4.8,SNR=4.4
GERES GERESS Array B 82.38 329 P **P 13 17 41.4 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.4s
ANMO Albuquerque 83.67 50 ‖ *e*P **P 13 17 47.2 -1.1**
ANMO Albuquerque 83.67 50 P **P 13 17 49.4 +1.1**
comp=Z,4.5nm,1.1s,mb4.5
SCHQ Schefferville 84.47 16 P **P 13 17 52.3 0.0**
comp=Z,3.1nm,1.0s,mb4.4,baz=310,slow=7.9,SNR=2.8
GIVF Givet 84.74 334 *e*P **P 13 17 53.2 -0.5**
BAIF Baives 84.99 334 *e*P **P 13 17 55.0 +0.1**
CDF Champ du Feu 85.26 332 *e*P **P 13 17 56.2 -0.1**
CABF La Chapelle 87.21 331 *e*P **P 13 18 05.8 -0.1**
LOR Lormes 87.48 333 *e*P **P 13 18 07.2 0.0**
LPL La Plagne 87.87 330 *e*P **P 13 18 09.5 +0.4**
LPG La Plagne 87.88 330 *e*P **P 13 18 09.5 +0.4**
AVF Avril sur Loir 88.06 333 *e*P **P 13 18 10.1 +0.1**
comp=Z,14nm,1.0s,mb4.8
WMOK Wichita Mounta 88.36 46 P **P 13 18 12.2 +0.8**
WMOK pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
WMOK Wichita Mounta 88.36 46 P **P 13 18 12.2 +0.8**
comp=Z,4.4nm,1.0s,mb4.6
ORIF Oris-en-Rattie 88.70 331 *e*P **P 13 18 12.7 -0.3**
TCF Toulx Ste Croi 88.90 333 *e*P **P 13 18 14.0 +0.1**
TXAR Lajitas Array 89.22 53 P **P 13 18 16.0 +0.6**
comp=Z,1.8nm,0.7s,mb4.5,baz=293,slow=3.2,SNR=27
TXAR Lajitas Array 89.22 53 P **P 13 18 16.0 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
MIAR Mount Ida 91.39 43 P **P 13 18 26.1 +0.6**
TORD Torodi Ar. Bea 117.20 316 PKP PKPdf 13 24 04.2 -0.6
comp=Z,0.5nm,0.9s,baz=66,slow=2.8,SNR=3.4
TORD PP PP 13 25 15.4 +0.3
comp=Z,1.2nm,1.1s,baz=0.0,slow=8.9,SNR=4.2
LPAZ La Paz 145.83 59 PKPbc PKPbc 13 24 59.7 +1.0
comp=Z,9.5nm,0.8s,baz=337,slow=4.1,SNR=37
LPAZ La Paz 145.83 59 *e*PKPdf PKPdf 13 24 59.6 +1.4
LVC Limon Verde 149.38 69 *e*PKPbc PKPbc 13 25 09.1 +0.6
LVC *e*PKPab PKPab 13 25 14.5 +1.2
PLCA Paso Flores 154.61 107 PKPbc PKPbc 13 25 17.8 -2.5
comp=Z,1.2nm,0.8s,baz=207,slow=6.8,SNR=2.9
PLCA PKPab PKPab 13 25 35.8 +0.7
comp=Z,1.3nm,0.7s,baz=315,slow=8.6,SNR=3.0
PLCA Paso Flores 154.61 107 PKIKP PKPdf 13 25 17.8 +5.9
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA pmax pmax
comp=Z,1.0nm,0.7s

*IDC **09** 13:16:37.7±1.8, 331N×12835E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=147.7km s-min=24.4km az=71.0*
*ISCJB **09** 13:16:40.7±1.5, 33N±02×1284E±04, h33km, mb4.4/8, Error ellipse: s-maj=65.1km s-min=19.3km az=124.3*
ISC 09 13:16:42.7±1.5, 33N±02×1285E±04, h35km, n8, σ0°17/8, mb4.4/8, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.77**	**166**	P		**P**	**13 21 52.0**	**0.0**
	1.0nm,0.8s,mb3.3,baz=345,slow=10.0,SNR=6.9							
JIRN	**Jiri**	**47.08**	**305**	*e*P		**P**	**13 25 11.3**	**+0.3**
	6.4nm,0.7s,mb4.7							
GUN	**Gumba**	**47.43**	**306**	*e*P		**P**	**13 25 13.8**	**+0.1**
	8.7nm,0.7s,mb4.8							
KKN	**Kakani**	**47.87**	**305**	*e*P		**P**	**13 25 16.9**	**-0.2**
	4.5nm,0.5s,mb4.8							
SONM	**Songino Array**	**48.31**	**340**	P		**P**	**13 25 20.5**	**0.0**
	0.7nm,0.6s,mb3.9,baz=150,slow=7.8,SNR=6.5							
GKN	**Gorkha**	**48.48**	**305**	*e*P		**P**	**13 25 21.6**	**-0.2**
	3.5nm,0.5s,mb4.6							
KOLN	**Koldanda**	**49.24**	**304**	*e*P		**P**	**13 25 27.7**	**0.0**
	11nm,0.7s,mb5.0							
MKAR	**Makanchi Array**	**58.94**	**325**	P		**P**	**13 26 38.4**	**-0.1**
	2.2nm,0.6s,mb4.4,baz=116,slow=8.1,SNR=44							

MAN 09 13:36:51.9, 1160N×12541E, h7km, mb2.4, ML3.9, MS2.4, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.03**	**96**	*e*P		Pg	13 36 53.7	+0.5
BESP				*e*S		Sg	13 37 00.5	+6.3
PLP	**Palo**	**0.61**	**224**	*e*P		Pg	13 37 03.9	+0.3
PLP				*e*S		Sg	13 37 16.6	+5.1
MSLP	**Maasin**	**1.56**	**200**	*e*P		Pn	13 37 20.3	+0.3
MSLP				*e*S		Sn	13 37 46.9	+6.5

*IDC **09** 13:37:55.3±4.2, 2239S×7064W, h0km, mb3.6/1, mb1 3.7/2, mb1mx3.5/15, mbtmp3.6/2, ML3.7/1, Error ellipse: s-maj=146.0km s-min=63.4km az=97.0*
*ISCJB **09** 13:38:17.3±0.8, 2131S±005×693W±0.1, h118km±12km, mb3.2/1, Error ellipse: s-maj=19.0km s-min=8.3km az=175.7*
*NEIC **09** 13:38:17.1, 2139S×6921W, h125km, mb3.8/1, MD3.9(GUC), After GUC.*
*GUC **09** 13:38:17.1±0.6, 2139S×6921W, h125km±15km, MD3.9, ML3.5*
ISC 09 13:38:18.7±0.8, 2132S±005×692W±01, h112km±13km, n10, σ0°76/15, mb3.2/1, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.32**	**167**	*e*P		**Pn**	**13 38 43.4**	**-0.2**
LVC				*i* S		**Sn**	**13 39 02.8**	**+0.4**
LVC				AMP			13 39 04.1	
	comp=E,626nm,0.3s							
LVC	**Limon Verde**	**1.32**	**167**	*e*P		**Pn**	**13 38 43.4**	**-0.2**
LVC				*i* S		**Sn**	**13 39 02.8**	**+0.4**
CEN1	**Los Morros**	**2.24**	**203**	*e*P		**Pn**	**13 38 58.8**	**+3.9**
CEN1				*i* S		**Sn**	**13 39 28.9**	**+6.4**
CEN1				AMP			13 39 32.7	
	comp=N,161nm,0.3s							
ANCH	**Antofagasta**	**2.59**	**204**	*e*P		**Pn**	**13 38 58.5**	**-0.8**
ANCH				*i* S		**Sn**	**13 39 30.0**	**-0.6**
CPN1	**Cerro Paranal**	**3.46**	**198**	*e*P		**Pn**	**13 39 10.8**	**-0.1**
CPN1				*i* S		**Sn**	**13 39 52.1**	**+0.9**
CPN1				AMP			13 40 00.4	
	comp=E,132nm,0.1s							
LPAZ	**La Paz**	**5.11**	**12**	Pn		**Pn**	**13 39 33.0**	**0.0**
	comp=E,0.7nm,0.3s,baz=190,slow=8.1,SNR=15							
LPAZ	**La Paz**	**5.11**	**12**	*e*Pn		**Pn**	**13 39 32.6**	**-0.3**
	comp=E,4.0nm,0.7s							
ARE	**Arequipa**	**5.28**	**336**	*e*P		**Pn**	**13 39 34.0**	**-1.2**
ARE				*e*S		**Sn**	**13 40 36.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**77.59**	**71**	P		**P**	**13 50 02.6**	**+0.3**
	comp=E,0.2nm,0.4s,mb3.2,baz=245,slow=6.1,SNR=4.1							
MKAR	**Makanchi Array**	**145.67**	**35**	PKPbc		PKPbc	13 57 40.0	-4.3
	comp=E,0.2nm,0.6s,baz=315,slow=3.4,SNR=3.8							

*IDC **09** 13:38:39.1±4.6, 649S×12987E, h100km±45km, mb4.4/8, mb1 4.4/10, mb1mx4.3/16, mbtmp4.7/10, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=26.6km s-min=16.5km az=70.0*
*MOS **09** 13:38:40.5±0.8, 624S×13007E, h126km, mb4.5/17, Error ellipse: s-maj=16.1km s-min=7.2km az=117.7*
*ISCJB **09** 13:38:44.7±1.3, 649S±004×13025E±005, h178km±13km, mb4.6/46, Error ellipse: s-maj=8.5km s-min=6.5km az=131.4*
*BJI **09** 13:38:44.9, 623S×13054E, h178km, mB5.0, mb4.7*
*NEIC **09** 13:38:47.2±2.2, 641S×13012E, h177km±24km, mb4.8/22, Error ellipse: s-maj=12.6km s-min=9.0km az=216.0*
ISC 09 13:38:47.4±1.1, 658S±004×13024E±006, h189km±12km, n102, σ1°17/105, mb4.6/46, 10C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**11.81**	**298**	P		**Pn**	**13 41 30.3**	**+0.2**
	387nm,1.2s							
FITZ	**Fitzroy Crossi**	**12.30**	**201**	*e*P		**Pn**	**13 41 34.9**	**-1.4**
	43nm,0.4s							
FITZ				*e*S		**Sn**	**13 43 44.7**	**-8.4**
WRAB	**Tennant Creek**	**13.86**	**164**	*e*P		**Pn**	**13 41 56.4**	**+0.5**
WRAB				*e*			13 44 24.1	
WRAB				pmax		pmax		
	comp=Z,48nm,0.3s							
WRAB	**Tennant Creek**	**13.86**	**164**	*e*Pn		**Pn**	**13 41 56.4**	**+0.5**
	comp=Z,48nm,0.3s							
WRAB				*e*Sn		**Sn**	**13 44 24.1**	**-6.3**
WRA	**Warramunga Arr**	**13.87**	**164**	P		**Pn**	**13 41 54.5**	**-1.5**
	comp=Z,5.5nm,0.3s,baz=337,slow=13,SNR=92							
WRA				S		**Sn**	**13 44 25.1**	**-5.5**
	comp=Z,20nm,0.3s,baz=348,slow=22,SNR=20							
WB2	**Warramunga Arr**	**13.87**	**164**	↑ *i*P		**Pn**	**13 41 55.6**	**-0.4**
WB2				*e*S		**Sn**	**13 44 22.0**	**-8.6**
PMG	**Port Moresby**	**16.99**	**101**	P		**Pn**	**13 42 35.4**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=302,slow=7.7,SNR=6.0							
PMG				S		**S**	**13 45 35.9**	**-4.2**
	comp=Z,2.1nm,0.3s,baz=343,slow=21,SNR=5.7							
ASPA	**Alice Springs**	**17.35**	**169**	*e*P		**Pn**	**13 42 40.6**	**+2.4**
ASPA				*e*S		**S**	**13 45 47.3**	**-0.1**
MBWA	**Marble Bar**	**17.71**	**214**	*e*P		**Pn**	**13 42 44.0**	**+1.5**
	comp=Z,19nm,0.5s							
MBWA				*e*S		**S**	**13 45 51.9**	**-2.6**
KKM	**Kota Kinabalu**	**18.79**	**312**	*e*P		**P**	**13 42 51.1**	**-1.3**
BJII	**Banjamegara**	**20.39**	**267**	P		**P**	**13 43 14.1**	**+4.5**
	comp=Z,34nm,1.3s							
CTA	**Charters Tower**	**20.54**	**132**	*e*P		**P**	**13 43 16.0**	**+4.8**
	comp=Z,5.6nm,1.2s							
CTA	**Charters Tower**	**20.54**	**132**	P		**P**	**13 43 14.3**	**+3.2**
	comp=Z,3.1nm,0.6s,baz=343,slow=8.9,SNR=3.5							
CTA	**Charters Tower**	**20.54**	**132**	P		**P**	**13 43 14.3**	**+3.1**
CTAO	**Charters Tower**	**20.54**	**132**	*e*P		**P**	**13 43 15.7**	**+4.5**
CTAO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CTAO	**Charters Tower**	**20.54**	**132**	*e*P		**P**	**13 43 15.7**	**+4.5**
	comp=Z,5.0nm,0.7s							
KSM	**Kuching**	**21.44**	**291**	*e*P		**P**	**13 43 22.1**	**+1.4**
TGY	**Tagaytay City**	**22.53**	**336**	P		**P**	**13 43 31.5**	**+0.3**
	comp=Z,90nm,0.3s,baz=168,slow=9.3,SNR=4.5							
GUMO	**Guam**	**24.75**	**36**	P		**P**	**13 43 54.9**	**+3.4**
	comp=Z,116nm,1.0s,mb5.4,baz=287,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**27.31**	**159**	*e*P		**P**	**13 44 16.2**	**+1.8**
	comp=Z,3.0nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**27.31**	**159**	P		**P**	**13 44 16.2**	**+1.8**
	comp=Z,2.5nm,0.4s,mb4.2,baz=329,slow=9.5,SNR=11							
KLBR	**Kellerberrin**	**27.49**	**204**	*e*P		**P**	**13 44 19.0**	**+3.0**
	comp=Z,20nm,1.3s,mb4.6							
NWAO	**Narrogin (SRO)**	**28.87**	**203**	LR		LR	13 57 40.9	
	comp=Z,88nm,18.3s,baz=55,slow=40							
PPI	**Padang Panjang**	**30.39**	**280**	P		**P**	**13 44 41.7**	**+0.1**
	comp=Z,42nm,1.1s,mb5.1							
KULM	**Kulim**	**31.80**	**291**	*e*P		**P**	**13 44 53.3**	**-0.7**
PSI	**Prapat**	**32.62**	**286**	P		**P**	**13 44 59.2**	**-2.0**
	comp=Z,13nm,0.8s,mb4.7,baz=122,slow=4.6,SNR=5.5							
PSI	**Prapat**	**32.62**	**286**	P		**P**	**13 44 59.2**	**-2.0**
ENH	**Enshi**	**41.70**	**333**	*e*P		**P**	**13 46 16.1**	**-1.4**
	comp=Z,5.0nm,0.6s,mb4.3							
MAJO	**Matsushiro**	**43.54**	**9**	*e*P		**P**	**13 46 29.8**	**-2.5**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.5							
MAJO	**Matsushiro**	**43.54**	**9**	*e*P		**P**	**13 46 29.8**	**-2.5**
	comp=Z,8.0nm,0.7s,mb4.5							
MJAR	**Matsushiro Arr**	**43.54**	**9**	P		**P**	**13 46 30.9**	**-1.4**
	comp=Z,4.3nm,0.7s,mb4.2,baz=184,slow=9.2,SNR=12							
KS15	**Wonju Array Si**	**43.85**	**357**	*e*P		**P**	**13 46 34.3**	**-0.4**
CD2	**Chengdu**	**45.08**	**327**	*e*P		**P**	**13 46 44.7**	**+0.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
BJT	**Baijiatuau**	**48.15**	**345**	*e*P		**P**	**13 47 07.6**	**-0.7**
BJT				pmax		pmax		
	comp=Z,13nm,0.8s							
BJT	**Baijiatuau**	**48.15**	**345**	*e*P		**P**	**13 47 07.5**	**-0.8**
	comp=Z,14nm,0.8s,mb4.6							
SHL	**Shillong**	**49.09**	**312**	*e*P		**P**	**13 47 15.0**	**-0.5**
LZH	**Lanzhou**	**49.15**	**332**	*e*P		**P**	**13 47 15.5**	**-0.4**
LZH				AMB		AMB		
	comp=Z,40nm,1.5s,mb4.8							
LZH				AMB		AMB		
	comp=Z,128nm,4.2s							
VLA	**Vladivostok**	**49.49**	**2**	*i* P		**P**	**13 47 16.2**	**-2.3**
CN2	**Changchun**	**50.33**	**355**	*e*P		**P**	**13 47 22.4**	**-2.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
MDJ	**Mudanjiang**	**50.96**	**359**	*e*P		**P**	**13 47 29.3**	**-0.3**
	comp=Z,6.9nm,0.7s,mb4.4							
LSA	**Lhasa**	**52.06**	**316**	P		**P**	**13 47 38.6**	**+0.9**
LSA	**Lhasa**	**52.06**	**316**	*e*P		**P**	**13 47 38.9**	**+1.2**
LSA				pmax		pmax		
	comp=Z,25nm,1.2s,mb4.7							
LSA	**Lhasa**	**52.06**	**316**	*e*P		**P**	**13 47 38.9**	**+1.2**
	comp=Z,26nm,1.2s,mb4.7							
YSS	**Yuzh-Sakhalins**	**54.45**	**111**	↑ *e*P		**P**	**13 47 51.9**	**-3.2**
YSS				pmax		pmax		
	comp=Z,25nm,1.7s,mb4.7							
JIRN	**Jiri**	**54.49**	**311**	*e*P		**P**	**13 47 55.9**	**+0.5**
	comp=Z,36nm,0.6s,mb5.3							
GUN	**Gumba**	**54.86**	**311**	*e*P		**P**	**13 47 58.5**	**+0.5**
	comp=Z,77nm,0.6s,mb5.6							
PKI	**Pulchoki**	**55.04**	**310**	*e*P		**P**	**13 47 59.5**	**+0.2**
	comp=Z,25nm,0.7s,mb5.1							
PKI	**Pulchoki**	**55.04**	**310**	*e*P		**P**	**13 47 59.5**	**+0.2**
PKI				pmax		pmax		
	comp=Z,13nm,0.7s,mb4.8							
KKN	**Kakani**	**55.25**	**310**	*e*P		**P**	**13 48 01.1**	**+0.3**
	comp=Z,32nm,0.6s,mb5.2							
KKN	**Kakani**	**55.25**	**310**	*e*P		**P**	**13 48 01.1**	**+0.3**
KKN				pmax		pmax		
	comp=Z,16nm,0.6s,mb4.9							
DMN	**Daman**	**55.29**	**310**	*e*P		**P**	**13 48 01.4**	**+0.3**
GKN	**Gorkha**	**55.84**	**310**	*e*P		**P**	**13 48 05.4**	**+0.3**
	comp=Z,59nm,0.6s,mb5.6							
HYB	**Hyderabad**	**56.35**	**296**	*i* P		**P**	**13 48 08.0**	**-0.6**
HYB	**Hyderabad**	**56.35**	**296**	*e*P		**P**	**13 48 08.0**	**-0.6**
HIA	**Hailar**	**56.37**	**352**	*e*P		**P**	**13 48 08.3**	**-0.5**
HIA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
HIA	**Hailar**	**56.37**	**352**	*e*P		**P**	**13 48 08.3**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.0							
KOLN	**Koldanda**	**56.52**	**309**	*e*P		**P**	**13 48 10.4**	**+0.6**
	comp=Z,28nm,0.6s,mb5.3							
ULN	**Ulaanbaatar**	**57.94**	**342**	‖ *e*P		**P**	**13 48 19.4**	**-0.4**
ULN	**Ulaanbaatar**	**57.94**	**342**	*e*P		**P**	**13 48 20.4**	**+0.6**
	comp=Z,21nm,0.8s,mb5.0							
SONM	**Songino Array**	**58.12**	**341**	P		**P**	**13 48 21.6**	**+0.5**
	comp=Z,5.0nm,0.5s,mb4.6,baz=162,slow=7.0,SNR=89							
ZAK	**Zakamensk**	**61.35**	**341**	↑ *i*P		**P**	**13 48 43.0**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.9s,mb3.6							
WMQ	**Urumqi**	**63.17**	**327**	*e*P		**P**	**13 48 55.6**	**+0.4**
WMQ				AMB		AMB		
	comp=Z,19nm,0.9s,mb4.9							
MOY	**Mondy**	**63.20**	**340**	*e*P		**P**	**13 48 56.0**	**+0.6**
MOY				pmax		pmax		
BOD	**Bodaibo**	**65.52**	**351**	*e*P		**P**	**13 49 09.6**	**-0.8**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.5s,mb4.4							
MA2	**Magadan**	**67.94**	**11**	*c i*P		**P**	**13 49 26.0**	**+0.3**
MA2				pmax		pmax		
	comp=Z,26nm,2.0s,mb4.6							
MA2	**Magadan**	**67.94**	**11**	*e*P		**P**	**13 49 26.0**	**+0.3**
	comp=Z,63nm,2.0s,mb5.0							
MK31	**Makanchi Array**	**68.01**	**327**	*i* P		**P**	**13 49 26.8**	**+0.7**
MK31				pmax		pmax		
	comp=Z,12nm,0.4s,mb5.0							
MKAR	**Makanchi Array**	**68.01**	**327**	P		**P**	**13 49 26.9**	**+0.7**
	comp=Z,14nm,0.4s,mb5.0,baz=114,slow=8.4,SNR=485							
MKAR	**Makanchi Array**	**68.01**	**327**	↑ *e*P		**P**	**13 49 26.8**	**+0.7**
YAK	**Yakutsk**	**68.41**	**360**	*c i*P		**P**	**13 49 28.3**	**-0.3**
YAK				pmax		pmax		
	comp=Z,39nm,0.8s,mb5.2							
YAK	**Yakutsk**	**68.41**	**360**	*e*P		**P**	**13 49 28.5**	**-0.1**
	comp=Z,37nm,0.8s,mb5.2							
KZA	**Kyzart**	**69.61**	**319**	P		**P**	**13 49 38.3**	**+2.3**
	SNR=17							
TKM2	**Tokmak 2**	**69.81**	**320**	P		**P**	**13 49 38.2**	**+1.0**
	SNR=10							
KBK	**Karagaybulak**	**70.09**	**320**	P		**P**	**13 49 40.5**	**+1.5**
	SNR=7.4							
UCH	**Uchtor**	**70.17**	**319**	P		**P**	**13 49 41.6**	**+2.2**
	SNR=12							
AAK	**Ala-Archa**	**70.38**	**320**	P		**P**	**13 49 42.4**	**+1.8**
	SNR=9.6							
AAK	**Ala-Archa**	**70.38**	**320**	↑ *e*P		**P**	**13 49 41.2**	**+0.5**
AAK				*i* *PP		pP	13 50 22.4	-3.1
AAK				pmax		pmax		
	comp=Z,26nm,1.6s,mb4.7							
AAK	**Ala-Archa**	**70.38**	**320**	*e*P		**P**	**13 49 41.0**	**+0.4**
	comp=Z,14nm,1.1s,mb4.6							
AML	**Almayashu**	**70.65**	**319**	P		**P**	**13 49 44.4**	**+2.1**
	SNR=26							
EKS2	**Erkin-Say**	**70.85**	**319**	P		**P**	**13 49 45.4**	**+1.9**
	SNR=9.8							
ZAL	**Zalesovo**	**71.32**	**334**	P		**P**	**13 49 45.3**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.3,baz=341,slow=5.0,SNR=22							
ZAL	**Zalesovo**	**71.32**	**334**	*i* P		**P**	**13 49 45.2**	**-1.1**
ZAL				pmax		pmax		
	comp=Z,3.0nm,0.5s							
SEY	**Seymchan**	**71.35**	**10**	*e*P		**P**	**13 49 47.0**	**+0.5**
SEY				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.3							
KURK	**Kurchatov**	**72.29**	**328**	*c i*P		**P**	**13 49 52.3**	**+0.2**
KURK				*i* *PP		pP	13 50 26.1	-11
KURK	**Kurchatov**	**72.29**	**328**	*e*P		**P**	**13 49 52.2**	**+0.1**
	comp=Z,13nm,1.0s,mb4.6							
NVS	**Novosibirsk**	**72.60**	**334**	*e*P		**P**	**13 49 51.9**	**-2.1**
KK31	**Karatay Array**	**73.18**	**319**	*i* P		**P**	**13 49 57.9**	**+0.5**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.3							
KKAR	**Karatay Array**	**73.18**	**319**	*i* P		**P**	**13 49 57.9**	**+0.5**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
VOSK	**Vostochnaya**	**77.38**	**328**	P		**P**	**13 50 20.6**	**-0.7**
VOSK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.7							
BVA0	**Borovoye Array**	**77.84**	**328**	*i* P		**P**	**13 50 23.7**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb3.6							
BRVK	**Borovoye**	**77.91**	**328**	*e*P		**P**	**13 50 24.4**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.2							
BRVK	**Borovoye**	**77.91**	**328**	*e*P		**P**	**13 50 24.4**	**+0.2**
	comp=Z,6.6nm,1.1s,mb4.2							
TIXI	**Tiksi**	**78.08**	**360**	*e*P		**P**	**13 50 23.4**	**-1.7**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.2							
BILL	**Bilibino**	**78.65**	**13**	↑ *e*P		**P**	**13 50 27.7**	**-0.6**
AB31	**Akbulak array**	**82.33**	**322**	*e*P		**P**	**13 50 48.0**	**+0.1**
AB31				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.0							
AKTO	**Aktyubinsk**	**83.89**	**322**	*i* P		**P**	**13 50 56.3**	**+0.5**
AKTO				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.5							
ARU	**Arti**	**85.48**	**328**	↑ *i*P		**P**	**13 51 03.4**	**-0.4**
ARU				pmax		pmax		
	comp=Z,14nm,1.6s,mb4.4							
ARU	**Arti**	**85.48**	**328**	*e*P		**P**	**13 51 03.7**	**-0.1**
	comp=Z,13nm,1.1s,mb4.6							
ILAR	**Eielson Array**	**92.87**	**25**	P		**P**	**13 51 37.2**	**-1.4**
	comp=Z,1.0nm,0.8s,mb4.0,baz=260,slow=4.2,SNR=9.4							
ARCES	**ARCESS Array B**	**101.27**	**340**	P		Pdif	13 52 15.8	-0.7
	comp=Z,2.5nm,0.8s,baz=45,slow=6.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**128.96**	**282**	PKP		PKPdf	13 57 35.0	+2.5
	comp=Z,0.7nm,0.6s,baz=64,slow=2.0,SNR=7.3							
LPAZ	**La Paz**	**150.90**	**142**	PKPbc		PKPbc	13 58 22.7	+5.3
	comp=Z,1.4nm,0.4s,baz=18,slow=0.8,SNR=7.3							

IDC 09 14:02:10.6±0.8, 679N×7297W, h161km±12km, mb3.2/3, mb1 3.6/5, mb1mx3.3/21, mbtmp3.8/5, Error ellipse: s-maj=39.6km s-min=7.6km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**215**	P		Pn	14 02 52.0	+1.7
	38nm,0.3s,baz=4.3,slow=1.4,SNR=37							
ROSC				S		Sn	14 03 22.2	+1.1
	67nm,0.3s,baz=92,slow=23,SNR=13							
SDV	**Santo Domingo**	**3.12**	**48**	P		Pn	14

0.2nm,0.4s,baz=256,slow=5.9,SNR=4.5
TORD Torodi Ar. Bea 135.24 305 PKP PKPdf 14 32 31.2 +1.9
0.4nm,0.4s,baz=29,slow=3.2,SNR=6.3

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*ISCJB **09** 14:17:32.8±0.6,529N±0.1×17234E±006,h54km±7km, mb3.2/5, Error ellipse: s-maj=23.9km s-min=5.8km az=9.8*
*NEIC **09** 14:17:32.7±2.3,5260N×17239E,h49km±13km, ML3.5(AEIC), Error ellipse: s-maj=50.1km s-min=21.0km az=180.0*
*IDC **09** 14:17:33.4±2.7,5276N×17247E,h42km±15km,mb3.3/6, mb1 3.5/6,mb1mx3.3/23,mbtmp3.5/6,Error ellipse: s-maj=83.6km s-min=27.8km az=168.0*
*KRSC **09** 14:17:34.5±1.8,5240N×17202E,h48km±75km,ML4.2*

ISC 09 14:17:34.4±0.6,529N±01×17245E±006,h50km±8km,n22, σ1º14/26,mb3.2/5,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.44**	**95**	P	**Pn**	**14 17 45.5**	**+0.6**
	baz=66,slow=12						
FX1				S	**Sn**	**14 17 52.5**	**0.0**
	baz=66,slow=19						
FX1	**Attu Island--F**	**0.44**	**95**	P	**Pn**	**14 17 44.3**	**-0.7**
SMY	**Shemya**	**1.02**	**100**	P	**Pn**	**14 17 51.5**	**-1.0**
SMY				S	**Sn**	**14 18 05.6**	**-0.1**
BKI	**Bering**	**4.45**	**304**	*e*S	**Sn**	**14 19 28.2**	**-1.6**
KBTR	**Krutoberegovo**	**6.50**	**304**	*e*P	**Pn**	**14 19 08.7**	**+1.3**
MKZ	**Mys Kozlova**	**6.57**	**289**	*e*P	**Pn**	**14 19 10.7**	**+2.3**
MKZ				*e*S	**Sn**	**14 20 19.4**	**-2.5**
KOZ	**Kozyrevsk**	**7.97**	**298**	*e*P	**Pn**	**14 19 30.7**	**+3.1**
UGLR	**Uglovaya**	**8.21**	**277**	P	**Pn**	**14 19 30.6**	**-0.4**
SMAR	**Somma**	**8.22**	**278**	*e*P	**Pn**	**14 19 31.2**	**+0.1**
AVH	**Avacha**	**8.26**	**278**	*e*P	**Pn**	**14 19 31.3**	**-0.3**
KOK	**Koryaka**	**8.32**	**278**	*e*P	**Pn**	**14 19 32.2**	**-0.2**
PET	**Petropavlovsk**	**8.33**	**276**	*e*P	**Pn**	**14 19 33.5**	**+1.0**
RUS	**Russkaya**	**8.48**	**272**	*e*P	**Pn**	**14 19 33.5**	**-1.2**
RUS				*e*S	**Sn**	**14 21 01.1**	**-7.9**
GNL	**Ganaly**	**8.72**	**281**	*e*P	**Pn**	**14 19 39.6**	**+1.7**
KDAK	**Kodiak Island**	**20.31**	**62**	P	**P**	**14 22 04.8**	**-1.3**
	15nm,1.0s,baz=299,slow=10,SNR=3.6						
KDAK	**Kodiak Island**	**20.31**	**62**	P	**P**	**14 22 04.8**	**-1.3**
ILAR	**Eielson Array**	**23.67**	**44**	P	**P**	**14 22 42.1**	**+0.8**
	0.5nm,0.5s,mb3.2,baz=250,slow=8.2,SNR=8.3						
INK	**Inuvik**	**29.43**	**38**	P	**P**	**14 23 33.8**	**+0.7**
	0.6nm,0.8s,mb3.4,baz=285,slow=9.5,SNR=5.3						
YKA	**Yellowknife Ar**	**38.07**	**46**	P	**P**	**14 24 48.7**	**+0.7**
	0.2nm,0.4s,mb3.2,baz=291,slow=7.7,SNR=4.0						
YKA	**Yellowknife Ar**	**38.07**	**46**	P	**P**	**14 24 48.7**	**+0.7**
PDAR	**Pinedale Array**	**50.87**	**68**	P	**P**	**14 26 29.8**	**-0.4**
	0.3nm,0.5s,mb3.5,baz=339,slow=2.0,SNR=4.3						
MKAR	**Makanchi Array**	**54.75**	**303**	P	**P**	**14 26 57.9**	**-1.0**
	0.1nm,0.6s,mb3.0,baz=45,slow=6.1,SNR=3.4						

MAN 09 14:22:09.3,917N×12685E,h2km,mb3.0,ML4.3,MS8.7, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.09**	**206**	⇑*i*P	Pg	14 22 29.6	-0.5
BIPH				*i* S	Sg	14 22 43.1	-1.1
BUTP	**Butuan**	**1.23**	**261**	*e*P	Pg	14 22 32.0	-0.7
BUTP				*e*S	Sg	14 22 50.5	+1.9
SCPH	**Surigao**	**1.47**	**295**	⇑*e*P	Pn	14 22 35.5	-1.2
BUKP	**Musuan**	**2.18**	**234**	*e*P	Pn	14 22 47.8	+1.3
BUKP				*e*S	Sn	14 23 17.2	+3.2
MSLP	**Maasin**	**2.18**	**296**	*e*P	Pn	14 22 47.5	+0.9
PAGZ	**Pagadian**	**3.67**	**249**	*e*P	Pn	14 23 08.5	+1.5

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*ISCJB **09** 14:35:26.5±0.5,6053N±004×14796W±006,h60km±9km, mb3.2/1,Error ellipse: s-maj=6.3km s-min=4.6km az=162.1*
*NEIC **09** 14:35:27.6,6058N×14790W,h15km,ML3.3(AEIC), ML3.7(PMR),After AEIC.*
*IDC **09** 14:35:29.0±1.8,6062N×14854W,h50km±28km,mb3.0/1, mb1 3.5/5,mb1mx3.3/22,mbtmp3.4/5,ML3.4/4,Error ellipse: s-maj=51.3km s-min=13.9km az=126.0*

ISC 09 14:35:27.6±0.5,6053N±004×14796W±006,h49km±13km, n30,σ1º00/39,mb3.2/1,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEW	**Seward**	**0.86**	**240**	P	**Pn**	**14 35 43.4**	**0.0**
SEW				S	**Sn**	**14 35 55.9**	**+1.0**
KNK	**Knik Glacier**	**0.91**	**345**	P	**Pn**	**14 35 42.6**	**-1.5**
RC01	**Rabbit Creek A**	**1.03**	**303**	P	**Pn**	**14 35 45.3**	**-0.4**
RC01				S	**Sn**	**14 35 59.1**	**0.0**
EYAK	**Cordova Ski Ar**	**1.09**	**88**	P	**Pn**	**14 35 45.7**	**-0.8**
EYAK				S	**Sn**	**14 36 01.6**	**+1.0**
SLKM	**Skilak Lake**	**1.12**	**270**	P	**Pn**	**14 35 47.5**	**+0.6**
PMR	**Palmer**	**1.21**	**332**	P	**Pn**	**14 35 47.3**	**-0.8**
PMR				S	**Sn**	**14 36 03.1**	**-0.1**
DIV	**Divide**	**1.23**	**60**	P	**Pn**	**14 35 46.9**	**-1.4**
DIV				S	**Sn**	**14 36 02.8**	**-1.1**
FIB	**Fire Island**	**1.26**	**301**	P	**Pn**	**14 35 49.4**	**+0.7**
SML	**Sawmill**	**1.29**	**352**	*e*Pn	**Pn**	**14 35 48.9**	**-0.3**
SML				*e*Sn	**Sn**	**14 36 04.2**	**-1.2**
GHO	**Glory Hole Cre**	**1.33**	**340**	P	**Pn**	**14 35 49.3**	**-0.5**
BMRM	**Bremner River**	**1.71**	**74**	P	**Pn**	**14 35 54.7**	**-0.2**
BMRM				S	**Sn**	**14 36 15.8**	**+0.3**
PAX	**Paxson**	**2.72**	**25**	P	**Pn**	**14 36 09.7**	**+1.0**
MENT	**Mentasta**	**3.15**	**38**	*e*P	**Pn**	**14 36 17.6**	**+3.0**
MCK	**McKinley**	**3.24**	**352**	P	**Pn**	**14 36 17.4**	**+1.4**
KTH	**Kantishna Hill**	**3.33**	**337**	P	**Pn**	**14 36 18.2**	**+1.0**
KDAK	**Kodiak Island**	**3.64**	**223**	P	**Pn**	**14 36 22.2**	**+0.8**
	10nm,0.3s,baz=36,slow=12,SNR=46						
KDAK				S	**Sn**	**14 37 01.9**	**-1.3**
	7.7nm,0.3s,baz=314,slow=23,SNR=14						
KDAK	**Kodiak Island**	**3.64**	**223**	P	**Pn**	**14 36 22.0**	**+0.6**
SVW2	**Sparrevohn**	**3.77**	**282**	*e*P	**Pn**	**14 36 22.2**	**-1.0**
PCA	**Pinnacle**	**3.86**	**93**	P	**Pn**	**14 36 24.1**	**-0.3**
IL1	**Eielson Array**	**4.28**	**6**	P	**Pn**	**14 36 29.6**	**-0.6**
ILAR	**Eielson Array**	**4.28**	**6**	P	**Pn**	**14 36 30.4**	**+0.2**
	1.2nm,0.3s,baz=190,slow=14,SNR=22						
ILAR				S	**Sn**	**14 37 28.0**	**+9.1**
	2.7nm,0.3s,baz=184,slow=22,SNR=12						
COLA	**College**	**4.36**	**1**	*e*Pn	**Pn**	**14 36 31.1**	**-0.2**
PNL	**Peninsula**	**4.38**	**98**	P	**Pn**	**14 36 31.1**	**-0.3**
TT01	**Tatalina**	**4.51**	**305**	P	**Pn**	**14 36 32.7**	**-0.7**
TTA	**Tatalina**	**4.52**	**306**	*e*P	**Pn**	**14 36 36.9**	**+3.4**
IMA2	**Indian Mountai**	**6.12**	**338**	*e*P	**Pn**	**14 36 57.0**	**+1.5**
INK	**Inuvik**	**9.96**	**32**	P	**Pn**	**14 37 50.3**	**+2.3**
	0.1nm,0.3s,baz=235,slow=13,SNR=5.3						
YKA	**Yellowknife Ar**	**15.93**	**68**	P	**Pn**	**14 39 12.5**	**+4.1**
	baz=278,slow=10,SNR=26						
YKA	**Yellowknife Ar**	**15.93**	**68**	P	**Pn**	**14 39 12.5**	**+4.1**
MKAR	**Makanchi Array**	**65.52**	**325**	P	**P**	**14 46 05.2**	**-0.7**
	0.1nm,0.4s,mb3.2,baz=36,slow=6.5,SNR=4.6						

KRSC 09 14:42:20.5±1.1,5617N×16426E,h19km±2km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.81**	**273**	*i* P	Pb	14 42 35.3	-0.6
KBTR				*e*S	Sb	14 42 45.3	-1.1
KBG	**Krutoberegovo**	**0.87**	**276**	*e*P	Pb	14 42 36.5	-0.5
KBG				*i* S	Sb	14 42 49.1	+0.8
BKI	**Bering**	**1.37**	**134**	*i* P	Pn	14 42 43.9	-0.7
BKI				*i* S	Sn	14 43 00.7	-1.5
BKI				Smax			
	340nm,0.6s						
BDR	**Baidarnaya**	**1.74**	**284**	*i* P	Pn	14 42 51.1	+1.4
BDR				*e*S	Sn	14 43 13.3	+1.9
SRKR	**Sorokina**	**1.79**	**287**	*e*P	Pn	14 42 51.4	+1.1
SRKR				*e*S	Sn	14 43 12.7	+0.3
ZLN	**Zelenaya**	**1.94**	**267**	*i* P	Pn	14 42 54.3	+1.8
ZLN				*e*S	Sn	14 43 19.3	+3.0
CIRR	**Tsirk**	**1.97**	**270**	*i* P	Pn	14 42 54.4	+1.6
CIRR				*e*S	Sn	14 43 19.4	+2.5
KLY	**Klyuchi**	**2.02**	**276**	*e*P	Pn	14 42 53.2	-0.3
KLY				*e*S	Sn	14 43 16.2	-2.0
MKZ	**Mys Kozlova**	**2.17**	**223**	*e*P	Pn	14 42 55.7	+0.1
MKZ				*e*S	Sn	14 43 20.9	-1.0
KPT	**Kopyto**	**2.27**	**267**	*i* P	Pn	14 42 59.4	+2.4
KPT				*e*S	Sn	14 43 26.7	+2.2
KOZ	**Kozyrevsk**	**2.46**	**269**	*i* P	Pn	14 43 02.2	+2.6
KOZ				*e*S	Sn	14 43 33.3	+4.2
TUMR	**Tumrok**	**2.49**	**251**	P	Pn	14 43 02.3	+2.3
SRDR	**Sredinnyy**	**2.54**	**275**	*e*P	Pn	14 43 02.8	+2.1
SRDR				*i* S	Sn	14 43 34.0	+2.9
ESO	**Esso**	**3.13**	**268**	*e*P	Pn	14 43 10.3	+1.5
ESO				Smax			
	20nm,0.7s						
SPN	**Mys Shipunski**	**3.94**	**220**	*i* S	Sn	14 44 03.5	-2.1
NLC	**Nalytchevo**	**4.14**	**226**	*e*S	Sn	14 44 11.0	+0.4
SMAR	**Somma**	**4.30**	**230**	*i* P	Pn	14 43 27.1	+2.2
AVH	**Avacha**	**4.33**	**230**	*e*P	Pn	14 43 27.2	+2.0
AVH				*e*S	Sn	14 44 18.4	+3.2
UGLR	**Uglovaya**	**4.33**	**229**	*e*P	Pn	14 43 27.3	+2.0
KOK	**Koryaka**	**4.35**	**231**	*e*P	Pn	14 43 28.3	+2.7
GNL	**Ganaly**	**4.41**	**238**	*i* P	Pn	14 43 29.1	+2.8
PET	**Petropavlovsk**	**4.54**	**228**	*e*P	Pn	14 43 29.5	+1.4
KRMR	**Karymshinskiy**	**4.89**	**229**	*e*P	Pn	14 43 35.5	+2.5
RUS	**Russkaya**	**5.03**	**224**	*e*P	Pn	14 43 36.6	+1.6
MIPR	**Malaya Ipel'ka**	**5.88**	**232**	*e*P	Pn	14 43 49.9	+3.3
KAMR	**Kamenskoye**	**6.38**	**8**	*i* P	Pn	14 43 54.8	+1.3
KAMR				*i* S	Sn	14 45 03.3	-2.6
KAMR				Smax			
	20nm,0.9s						

MAN 09 14:42:42.6,957N×12271E,h13km,mb2.0,ML3.8,MS2.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.56**	**113**	*i* P	Pg	14 42 54.0	+0.4
SNPH				*i* S	Sg	14 43 04.5	+3.5
GUIM	**Jordan**	**1.06**	**353**	*e*P	Pb	14 43 02.2	-0.6
GUIM				*e*S	Sb	14 43 17.8	+1.2
PAGZ	**Pagadian**	**1.83**	**159**	*e*P	Pn	14 43 13.5	-0.2
PAGZ				*e*S	Sn	14 43 37.7	+1.0

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*IDC **09** 14:49:49.9±2.1,656S×12867E,h0km,mb4.0/2,mb1 4.1/3, mb1mx3.9/13,mbtmp4.0/3,ML4.0/1,Error ellipse: s-maj=104.7km s-min=41.9km az=67.0*
*ISCJB **09** 14:49:51.5±1.1,60S±01×1304E±03,h33km,mb4.1/2, Error ellipse: s-maj=44.0km s-min=13.4km az=153.0*

ISC 09 14:49:53.9±1.1,60S±01×1304E±03,h35km,n6,σ0º66/6, mb4.1/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.95**	**201**	*e*P	**Pn**	**14 52 55.5**	**+0.1**
	3.4nm,0.2s						
FITZ				*e*S	Sx	14 55 04.2	
WRA	**Warramunga Arr**	**14.41**	**165**	Pn	**Pn**	**14 53 14.9**	**-0.4**
	0.8nm,0.3s,baz=336,slow=13,SNR=30						
WRA				Sn	Sx	14 55 44.3	
	2.5nm,0.3s,baz=329,slow=22,SNR=12						
WB2	**Warramunga Arr**	**14.41**	**165**	*e*P	**Pn**	**14 53 15.5**	**+0.2**
WB2				*e*S	Sx	14 55 43.6	
ASPA	**Alice Springs**	**17.92**	**170**	*e*P	**Pn**	**14 54 00.4**	**+0.1**
ASPA				*e*S	Sx	14 57 03.7	
SONM	**Songino Array**	**57.60**	**341**	P	**P**	**14 59 41.0**	**+0.7**
	0.4nm,0.4s,mb3.8,baz=158,slow=6.8,SNR=8.3						
MKAR	**Makanchi Array**	**67.60**	**326**	P	**P**	**15 00 46.2**	**-0.8**
	1.7nm,0.4s,mb4.5,baz=116,slow=8.0,SNR=76						

DHMR 09 15:03:33.4±0.8,1166N×4325E,h9km±9km,ML3.6,3C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.78**	**28**	⇑*i*P	Pn	15 04 05.2	+0.9
TRBA				*i* S	Sn	15 04 29.8	+2.8
TRBA				AML	AML	15 04 38.8	
	comp=E,618nm,0.3s						
UDYN	**Al 'Udayn**	**2.40**	**17**	*i* P	Pn	15 04 15.6	+2.8
UDYN				*i* S	Sn	15 04 48.0	+5.6
UDYN				AML	AML	15 04 58.1	
	comp=Z,564nm,0.5s						
UDYN	**Al 'Udayn**	**2.40**	**17**	⇓*i*P	Pn	15 04 16.4	+3.5
UDYN				*i* S	Sn	15 04 53.5	+11
LBOS		**2.94**	**41**	*i* P	Pn	15 04 23.4	+3.1
LBOS				*i* S	Sn	15 05 02.7	+7.0
DHBB	**Dhamar BB**	**3.10**	**21**	⇑*i*P	Pn	15 04 25.3	+2.8
DHBB				*i* S	Sn	15 05 06.3	+6.7
DHBB	**Dhamar BB**	**3.10**	**21**	⇑*i*P	Pn	15 04 25.3	+2.8
DHBB				*i* S	Sn	15 05 09.3	+10

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*ISCJB **09** 15:15:45.7±0.7,4257N±003×4343E±004,h2km±4km, Error ellipse: s-maj=5.0km s-min=4.8km az=57.4*
*TIF **09** 15:15:45.0,4254N×4344E,h14km±2km*
*MOS **09** 15:15:49.7±2.6,4267N×4376E,h20km,mb4.1/1,Error ellipse: s-maj=16.8km s-min=8.0km az=71.3*

ISC 09 15:15:46.5±0.6,4256N±003×4345E±004,h8km±4km,n19, σ0º83/33,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**360**	P	**Pg**	**15 15 48.3**	**+0.4**
ONI				S	**Sg**	**15 15 50.0**	**+1.1**
DIGR	**Digorskoe uzhe**	**0.35**	**16**	*i* PG	**Pg**	**15 15 53.2**	**-0.2**
ZEI	**Tsey**	**0.39**	**57**	*i* PG	**Pg**	**15 15 53.9**	**-0.3**
ZEI				*i* S	**Sg**	**15 16 00.0**	**+0.7**
LACR	**Lac**	**0.68**	**67**	*i* PG	**Pg**	**15 15 58.8**	**-0.8**
LACR				*i* S	**Sg**	**15 16 08.7**	**+0.3**
GOR	**Gori**	**0.75**	**139**	P	Px	15 16 12.0	
GOR				S	Sx	15 16 33.3	
LSNR	**Lesken**	**0.76**	**20**	*e*PG	**Pg**	**15 16 01.1**	**-0.1**
LSNR				*e*S	**Sg**	**15 16 12.2**	**+1.1**
ARNR	**Ardon**	**0.88**	**44**	*e*PG	**Pg**	**15 16 02.8**	**-0.6**
ARNR				*e*S	**Sg**	**15 16 15.3**	**+0.6**
CHVG	**Ch'k'valeri**	**1.02**	**279**	P	**Pg**	**15 16 05.7**	**-0.4**
CHVG				S	**Sg**	**15 16 19.1**	**-0.2**
KMSR	**Komsomolskaya**	**1.02**	**37**	*e*PG	**Pg**	**15 16 05.3**	**-0.8**
KMSR				*e*S	**Sg**	**15 16 20.0**	**+0.7**
VLKR	**Vladikavkaz**	**1.03**	**61**	*e*PG	**Pg**	**15 16 05.3**	**-0.9**
VLKR				*e*S	**Sg**	**15 16 19.6**	**+0.1**
DUS	**Dusheti**	**1.04**	**116**	P	**Pg**	**15 16 05.9**	**-0.6**
DUS				S	**Sg**	**15 16 20.2**	**+0.2**
SNJR	**Sundja**	**1.12**	**63**	*e*PG	**Pg**	**15 16 06.8**	**-1.3**
SNJR				*e*S	**Sg**	**15 16 22.5**	**-0.2**
BTKR	**Batakoyurt**	**1.14**	**44**	*e*PG	**Pg**	**15 16 07.4**	**-1.0**
BTKR				*e*S	**Sg**	**15 16 23.4**	**+0.2**
TBLG	**Delisi**	**1.27**	**130**	S	**Sb**	**15 16 27.6**	**+0.5**
TBLG	**Delisi**	**1.27**	**130**	*e*PG	**Pg**	**15 16 11.6**	**+0.8**
TBLG				*e*S	**Sb**	**15 16 27.6**	**+0.6**
PRTR	**Priterechnaya**	**1.34**	**27**	*i* PG	**Pg**	**15 16 10.7**	**-1.5**
PRTR				*e*S	**Sb**	**15 16 29.5**	**+0.4**
TRKR	**Terskaya**	**1.49**	**38**	*e*PG	**Pg**	**15 16 13.0**	**-2.2**
TRKR				*e*S	**Sn**	**15 16 33.6**	**+0.3**
DGRG	**David-gareji**	**1.81**	**127**	P	**Pn**	**15 16 19.5**	**+1.5**
GOF	**Gofitskoye**	**2.52**	**353**	*e*PN	**Pg**	**15 16 36.4**	**+1.7**
GOF				*i* S	**Sg**	**15 17 07.7**	**+0.4**
GOF				smax			
	comp=E,97nm,0.8s						

OTT 09 15:22:12.8±1.2,6379N×8676W,h18km,MN2.7/4,181km west from Coral Harbour, Nu Boothia Ungava Seismic Zone.,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**2.61**	**250**	PN	Pn	15 22 54.1	+0.1
YRTN				SN	Sn	15 23 24.9	-0.3
YRTN				Trac		15 23 35.8	
	comp=Z,51nm,0.2s						
FCC	**Fort Churchill**	**6.15**	**218**	PN	Pn	15 23 42.9	+0.1
FCC				SN	Sn	15 24 48.9	-3.8
FCC				LG		15 25 22.8	
FCC				Trac		15 25 28.6	
	comp=Z,2.0nm,0.1s						
FRB	**Frobisher Bay**	**8.07**	**82**	SN	Sn	15 25 37.1	-2.7
SILO	**Sutton Inlier**	**9.38**	**173**	PN	Pn	15 24 26.5	-0.6
SILO				SN	Sn	15 26 04.7	-7.5
SILO				LG		15 27 11.3	
KNDN	**Kennady Lake**	**9.99**	**278**	SN	Sn	15 26 15.3	-12
KUQ	**Kuujjuuaa**	**10.56**	**114**	SN	Sn	15 26 33.2	-7.7
KUQ				Trac		15 28 26.9	
	comp=Z,0.6nm,0.1s						
VIMO	**Victor Mine**	**11.11**	**170**	SN	Sn	15 26 47.0	-7.6
RES	**Resolute Bay**	**11.31**	**349**	PN	Pn	15 24 55.4	+1.9
RES				Trac		15 27 22.0	
	comp=Z,0.4nm,0.1s						
YKW3	**Yellowknife Ar**	**12.60**	**277**	PN	Pn	15 25 07.3	-3.8
YKW3				SN	Sn	15 27 13.9	-17
YKW3				Trac		15 28 46.6	
	comp=Z,0.8nm,0.3s						

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*ISCJB **09** 15:29:43.8±0.3,4936N±002×684E±003,h0km,Error ellipse: s-maj=2.5km s-min=2.3km az=42.1*
*CSEM **09** 15:29:45.4±0.1,4939N×690E,h1km,ML2.8/14,Error ellipse: s-maj=1.2km s-min=0.9km az=127.0*
*LDG **09** 15:29:45.6±0.1,4939N×689E,h1km,Md2.8/1,Ml2.8/15, Error ellipse: s-maj=1.8km s-min=1.7km az=89.0, Suspected Mining induced.*
*NEIC **09** 15:29:45.5,4935N×692E,h5km,ML1.7(SZGRF), ML2.5(STR),After STR.*
*BGR **09** 15:29:45.8±0.4,4938N×686E,h1km,ML2.0/3,Error ellipse: s-maj=6.7km s-min=4.4km az=32.0*
*STR **09** 15:29:45.0±0.3,4938N×686E,h1km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 09 15:29:44.8±0.3,4937N±002×684E±003,h0km,n47, σ0º96/92,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**23**	Pg	**Pg**	**15 29 51.9**	**+0.2**
RUP				Sg	**Sg**	**15 29 56.8**	**+0.4**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**15 29 56.5**	**+1.4**
	SNR=2.9						
WLF				*e*Sg	**Sg**	**15 30 02.5**	**+0.4**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**15 29 57.5**	**-0.5**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**15 29 58.8**	**-0.2**
LANF				Sg	**Sg**	**15 30 10.2**	**+1.6**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**15 30 03.8**	**-0.1**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**15 30 04.8**	**-1.2**
CDF				*e*Sg	**Sg**	**15 30 17.3**	**+0.4**
	18nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**15 30 04.8**	**-1.2**
CDF				*e*Sg	**Sg**	**15 30 17.3**	**+0.4**
	8.8nm,0.2s						
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**15 30 09.2**	**+2.1**
	baz=43						
RFYF				*e*Sg	**Sg**	**15 30 24.0**	**+1.7**
	35nm,0.3s						
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**15 30 09.2**	**+2.1**
RFYF				*e*Sg	**Sg**	**15 30 24.0**	**+1.7**
	17nm,0.3s						
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**15 30 07.9**	**+0.6**
ECH				Sg	**Sg**	**15 30 22.9**	**+0.4**
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**15 30 09.7**	**+0.5**
THEF				Sg	**Sg**	**15 30 26.5**	**+0.7**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**15 30 09.1**	**-0.6**
TOD				Sg	**Sg**	**15 30 26.2**	**-0.4**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**15 30 10.3**	**-0.3**
	SNR=3.4						
TNS				*e*Sg	**Sg**	**15 30 28.1**	**+0.1**
TNS	**Taunus Mts**	**1.35**	**50**	Pg	**Pg**	**15 30 10.3**	**-0.3**
	SNR=3.4						
TNS				*e*Sg	**Sg**	**15 30 27.4**	**-0.6**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**15 30 09.3**	**-1.3**
TNS				*e*Sg	**Sg**	**15 30 27.4**	**-0.6**
HAU	**Haudompre**	**1.40**	**194**	*e*Pn	**Pn**	**15 30 11.9**	**+0.3**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**15 30 12.9**	**+1.2**
HAU				*e*Sg	**Sg**	**15 30 30.3**	**+0.4**
	36nm,0.4s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**15 30 12.9**	**+1.2**
HAU				*e*Sg	**Sg**	**15 30 30.3**	**+0.4**
	18nm,0.4s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**15 30 12.6**	**+0.4**
	SNR=5.3						
BFO				*e*Sg	**Sg**	**15 30 30.9**	**+0.2**
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**15 30 12.1**	**-0.1**
BFO				Sg	**Sg**	**15 30 30.9**	**+0.2**
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**15 30 12.1**	**-0.1**
BFO				*e*Sg	**Sg**	**15 30 30.9**	**+0.2**
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg	**Pg**	**15 30 14.1**	**+1.2**
	baz=60						
MEZF				*e*Sg	**Sg**	**15 30 33.0**	**+1.1**
	14nm,0.3s						
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg	**Pg**	**15 30 14.1**	**+1.2**
MEZF				*e*Sg	**Sg**	**15 30 33.0**	**+1.1**
	7.1nm,0.3s						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**15 30 12.4**	**-0.6**
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**15 30 14.6**	**+1.0**
GIVF				*e*Sg	**Sg**	**15 30 34.0**	**+0.9**
	23nm,0.4s						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**15 30 14.6**	**+1.0**
GIVF				*e*Sg	**Sg**	**15 30 34.0**	**+0.9**
	11nm,0.4s						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**15 30 14.4**	**+0.3**
MOF				Sg	**Sg**	**15 30 34.5**	**+0.5**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**15 30 14.7**	**+0.1**
HINF				*e*Sg	**Sg**	**15 30 35.0**	**+0.3**
	57nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**15 30 14.7**	**+0.1**
HINF				*e*Sg	**Sg**	**15 30 35.0**	**+0.3**
	28nm,0.2s						
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pg	**Pg**	**15 30 17.0**	**+0.3**
SFTF				*e*Sg	**S

s-min=12.9km az=160.0
*NEIC **09** 15:40:40.4±0.3, 5.34N×32.83W, h10km, mb4.7/24, Error ellipse: s-maj=10.7km s-min=8.6km az=134.0*

ISC 09 15:40:41.0±0.3, 537N±007×3281W±006, h10km, n48, σ1§17/48, mb4.4/40, MS4.2/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.54**	**196**	*eP*	**Pn**	**15 43 23.6**	**-2.2**
	9.1nm,0.9s						
BDFB	**Brasilia**	**25.74**	**216**	P	**P**	**15 46 13.0**	**+1.4**
	11nm,0.8s,mb4.4,baz=47,slow=11,SNR=12						
BDFB				LR	LR	15 55 17.8	
	comp=Z,604nm,20.7s,MS4.1,baz=37,slow=34						
DBIC	**Dimbokro**	**27.82**	**86**	P	**P**	**15 46 29.4**	**-0.9**
	9.3nm,0.8s,mb4.5,baz=247,slow=10,SNR=9.8						
DBIC				LR	LR	15 55 06.9	
	comp=Z,570nm,21.0s,MS4.1,baz=248,slow=31						
TORD	**Torodi Ar. Bea**	**34.88**	**75**	P	**P**	**15 47 31.5**	**-1.0**
	6.1nm,0.9s,mb4.5,baz=266,slow=8.8,SNR=26						
SIV	**San Ignacio**	**35.12**	**232**	P	**P**	**15 47 36.0**	**+1.5**
	7.8nm,0.8s,mb4.7,baz=79,slow=9.3,SNR=25						
SDV	**Santo Domingo**	**37.68**	**278**	P	**P**	**15 47 56.7**	**+0.3**
	1.6nm,0.4s,mb4.1,baz=342,slow=7.2,SNR=4.3						
SDV	**Santo Domingo**	**37.68**	**278**	*eP*	**P**	**15 47 56.0**	**-0.4**
	6.1nm,1.0s,mb4.3						
CPUP	**Villa Florida**	**39.47**	**216**	*eP*	**P**	**15 48 11.3**	**-0.1**
	9.4nm,0.8s,mb4.6						
LPAZ	**La Paz**	**41.04**	**238**	P	**P**	**15 48 25.6**	**+1.2**
	4.4nm,0.8s,mb4.2,baz=50,slow=9.4,SNR=9.8						
LPAZ				ScP	ScP	15 54 15.8	+1.8
	1.7nm,0.4s,baz=10,slow=6.0,SNR=6.8						
LPAZ				LR	LR	16 05 02.4	
	comp=Z,494nm,18.2s,MS4.4,baz=84,slow=36						
LPAZ	**La Paz**	**41.04**	**238**	*eP*	**P**	**15 48 24.8**	**+0.4**
	7.4nm,0.9s,mb4.3						
ROSC	**El Rosal**	**41.36**	**271**	P	**P**	**15 48 28.2**	**+1.2**
	3.4nm,0.3s,mb4.4,baz=93,slow=9.0,SNR=5.6						
ROSC				LR	LR	16 04 03.7	
	comp=Z,345nm,21.1s,MS4.2,baz=14,slow=34						
ESDC	**Sonseca Array**	**42.92**	**33**	P	**P**	**15 48 40.4**	**+0.6**
	2.1nm,0.8s,mb3.9,baz=230,slow=8.9,SNR=10						
ESLA	**Sonseca Array**	**42.92**	**33**	*eP*	**P**	**15 48 41.3**	**+1.5**
	3.1nm,1.1s,mb4.0						
NNA	**Nana**	**47.06**	**248**	P	**P**	**15 49 13.3**	**+0.5**
	16nm,1.0s,mb4.9						
TRQA	**Tornquist**	**51.01**	**210**	P	**P**	**15 49 42.7**	**-0.3**
	13nm,1.1s,mb4.8						
TSUM	**Tsumeb**	**55.28**	**118**	P	**P**	**15 50 15.6**	**+1.1**
	2.1nm,0.7s,mb4.3,baz=275,slow=11,SNR=3.3						
SADO	**Sadowa**	**56.29**	**322**	P	**P**	**15 50 19.9**	**-1.9**
	12nm,1.0s,mb4.8,baz=303,slow=6.2,SNR=3.0						
SCHQ	**Schefferville**	**56.41**	**337**	P	**P**	**15 50 21.1**	**-1.5**
	2.5nm,0.7s,mb4.3,baz=150,slow=14,SNR=6.4						
SCHQ				LR	LR	16 10 43.3	
	comp=Z,115nm,19.6s,MS4.0,baz=312,slow=32						
SCHQ	**Schefferville**	**56.41**	**337**	P	**P**	**15 50 20.4**	**-2.2**
	4.7nm,0.8s,mb4.6						
GERES	**GERESS Array B**	**58.50**	**34**	P	**P**	**15 50 37.9**	**+0.6**
	2.7nm,1.0s,mb4.2,baz=252,slow=4.2,SNR=7.7						
GERES				LR	LR	16 13 31.6	
	comp=Z,135nm,18.7s,MS4.1,baz=135,slow=34						
KHC	**Kasperske Hory**	**58.58**	**34**	*eP*	**P**	**15 50 38.0**	**+0.1**
BRG	**Berggiesshubel**	**59.72**	**32**	*eP*	**P**	**15 50 44.9**	**-0.9**
	3.0nm,1.0s,mb4.3						
MORC	**Moravsky Berou**	**61.14**	**35**	P	**P**	**15 50 55.4**	**0.0**
	7.0nm,1.2s,mb4.7						
PSZ	**Piszkesteto**	**61.66**	**37**	P	**P**	**15 50 59.8**	**+0.8**
	30nm,1.5s,mb5.2						
SUR	**Sutherland**	**63.25**	**130**	P	**P**	**15 51 08.1**	**-1.5**
	11nm,1.1s,mb4.9						
LSZ	**Lusaka**	**63.79**	**110**	*eP*	**P**	**15 51 14.7**	**+1.5**
	11nm,1.4s,mb4.7						
LBTB	**Lobatse**	**64.27**	**121**	P	**P**	**15 51 12.5**	**-3.8**
	7.2nm,1.1s,mb4.6						
NAO01	**NORSAR Array S**	**64.30**	**22**	P	**P**	**15 51 18.1**	**+1.5**
	20nm,1.1s,mb5.1						
NB2	**NORSAR Subarra**	**64.55**	**22**	P	**P**	**15 51 17.1**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=228,slow=6.5						
NOA	**NORSAR Array B**	**64.55**	**22**	P	**P**	**15 51 17.5**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=230,slow=6.3,SNR=5.2						
NOA				LR	LR	16 15 37.5	
	comp=Z,93nm,18.5s,MS4.0,baz=260,slow=32						
BOSA	**Boshof**	**65.24**	**125**	P	**P**	**15 51 22.1**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.5,baz=233,slow=3.5,SNR=8.4						
BOSA				LR	LR	16 14 12.0	
	comp=Z,260nm,19.1s,MS4.4,baz=347,slow=31						
BOSA	**Boshof**	**65.24**	**125**	*eP*	**P**	**15 51 20.3**	**-2.4**
	comp=Z,4.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**68.36**	**37**	P	**P**	**15 51 42.0**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=250,slow=6.4,SNR=6.8						
BRTR	**Keskin Array B**	**68.53**	**49**	P	**P**	**15 51 45.2**	**+1.6**
	comp=Z,1.6nm,1.1s,mb3.9,baz=252,slow=4.6,SNR=4.9						
ULM	**Lac du Bonnet**	**68.85**	**322**	P	**P**	**15 51 47.0**	**+1.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=97,slow=8.1,SNR=3.7						
ULM				LR	LR	16 17 08.6	
	comp=Z,122nm,20.8s,MS4.1,baz=75,slow=32						
KMBO	**Kilima Mbogo**	**70.26**	**93**	*eP*	**P**	**15 51 57.6**	**+3.2**
	comp=Z,9.7nm,1.5s,mb4.5						
SDCO	**Great Sand Dun**	**73.05**	**308**	*eP*	**P**	**15 52 10.7**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.2						
ANMO	**Albuquerque**	**73.55**	**305**	P	**P**	**15 52 15.2**	**+1.1**
	comp=Z,1.8nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**76.65**	**313**	P	**P**	**15 52 30.9**	**-1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=93,slow=5.4,SNR=12						
PDAR				LR	LR	16 21 00.7	
	comp=Z,190nm,20.2s,MS4.4,baz=107,slow=32						
LOHW	**Long Hollow**	**77.48**	**313**	*eP*	**P**	**15 52 36.0**	**-0.7**
	comp=Z,15nm,1.4s,mb4.7						
FLWY	**Flagg Ranch**	**77.59**	**314**	*eP*	**P**	**15 52 36.2**	**-1.0**
	comp=Z,36nm,1.5s,mb5.1						
WUAZ	**Wupatki**	**77.60**	**305**	P	**P**	**15 52 36.5**	**-0.8**
	comp=Z,10nm,1.1s,mb4.7						
HWUT	**Hardware Ranch**	**78.05**	**311**	*eP*	**P**	**15 52 38.0**	**-1.8**
	comp=Z,7.7nm,0.9s,mb4.6						
DUG	**Dugway**	**78.92**	**310**	P	**P**	**15 52 44.9**	**+0.3**
	comp=Z,19nm,1.7s,mb4.8						
CHMT	**Chamberlain Mo**	**79.57**	**317**	P	**P**	**15 52 49.1**	**+0.9**
HLID	**Hailey**	**80.24**	**313**	P	**P**	**15 52 51.9**	**+0.1**
	comp=Z,1.8nm,1.0s,mb4.0						
YKA	**Yellowknife Ar**	**81.47**	**332**	P	**P**	**15 52 56.4**	**-2.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=96,slow=5.7,SNR=7.0						
YKA				LR	LR	16 26 07.9	
	comp=Z,142nm,18.1s,MS4.4,baz=80,slow=34						
NVAR	**Mina Array Bea**	**83.17**	**308**	P	**P**	**15 53 08.5**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=150,slow=2.9,SNR=4.6						

GUC 09 15:43:32.7±0.6, 2190S×6841W, h5km, MD4.0, ML3.4, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.85**	**213**	⇑*iP*	Pg	15 43 47.9	-1.1
LVC				*i* S	Sg	15 43 59.8	-0.2
LVC				AMP		15 44 01.4	
	comp=E,276nm,0.5s						
CEN1	**Los Morros**	**2.22**	**228**	⇓*iP*	Pn	15 44 14.1	+3.9
CEN1				*i* S	Sn	15 44 45.7	+7.6
CEN1				AMP		15 44 48.1	
	comp=N,635nm,0.5s						
ANCH	**Antofagasta**	**2.56**	**226**	*eP*	Pn	15 44 14.1	-0.7
ANCH				*i* S	Sn	15 44 47.1	+0.7
CPN1	**Cerro Paranal**	**3.28**	**214**	*eP*	Pn	15 44 27.3	+2.7
CPN1				*i* S	Sn	15 45 08.7	+4.7
CPN1				AMP		15 45 13.4	
	comp=E,253nm,0.2s						

MEX 09 16:21:22.8±0.4, 1816N×10346W, h12km±29km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**2.34**	**10**	*iP*	Pn	16 21 58.0	-3.1
SFJM				*i* S	Sn	16 22 26.0	-3.8
MOIG	**Morelia**	**2.62**	**55**	*eP*	Pn	16 22 02.4	-2.5
MOIG				*i* S	Sn	16 22 32.3	-4.3
MEIG	**Mezcala**	**3.66**	**93**	*eP*	Pn	16 22 17.6	-1.5
MEIG				*i* S	Sn	16 22 58.2	-3.9

*ISCJB **09** 16:42:55.7±0.8, 43.13N±004×1289E±007, h78km±6km, Error ellipse: s-maj=8.9km s-min=5.6km az=149.9*
*ROM **09** 16:42:56.9±0.3, 43.08N×12.84E, h67km±4km, Md2.4/10, Ml2.1/9, Error ellipse: s-maj=3.2km s-min=2.3km az=101.0*
*VIE **09** 16:43:01.1±0.8, 43.60N×13.10E, h10km, ML2.2/1, Error ellipse: s-maj=11.0km s-min=6.3km az=99.0 62 km SE of San Marino*

ISC 09 16:42:56.4±0.8, 4312N±003×1289E±007, h75km±6km, n18, σ0§74/31, 3C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTG	**Esanatoglia**	**0.14**	**16**	⇓*iPg*	**Pn**	**16 43 07.1**	**-0.2**
SNTG				Sg	**Sn**	**16 43 14.9**	**-0.4**
MURB	**Monte Urbino**	**0.30**	**299**	Pg	**Pn**	**16 43 08.1**	**+0.1**
MURB				Sg	**Sn**	**16 43 15.8**	**-0.8**
NRCA	**Norcia**	**0.33**	**150**	Pg	**Pn**	**16 43 07.9**	**-0.3**
	34nm,0.2s						
CING	**Cingoli**	**0.34**	**41**	⇓*iPg*	**Pn**	**16 43 08.4**	**+0.1**
CING				Sg	**Sn**	**16 43 16.7**	**-0.4**
	103nm,0.3s						
ARV	**Arcevia**	**0.38**	**6**	⇓*iPg*	**Pn**	**16 43 08.9**	**+0.3**
ARV				Sg	**Sn**	**16 43 18.0**	**+0.4**
	20nm,0.2s						
ARVD	**Arcevia**	**0.38**	**6**	⇓*iPg*	**Pn**	**16 43 08.8**	**+0.2**
ARVD				Sg	**Sn**	**16 43 18.0**	**+0.4**
	54nm,0.6s						
PIEI	**Pieia**	**0.49**	**328**	Pg	**Pn**	**16 43 10.1**	**+0.6**
PIEI				Sg	**Sn**	**16 43 20.3**	**+1.2**
	36nm,0.2s						
LNSS	**Leonessa**	**0.53**	**168**	Pg	**Pn**	**16 43 09.4**	**-0.4**
LNSS				Sg	**Sn**	**16 43 18.5**	**-1.3**
	86nm,0.4s						
BADI	**Badiali**	**0.61**	**310**	Pg	**Pn**	**16 43 11.4**	**+0.8**
	33nm,0.4s						
AOI	**Ancona**	**0.68**	**50**	Pg	**Pn**	**16 43 11.5**	**+0.2**
CAMP	**Campotosto**	**0.70**	**146**	⇑*iPg*	**Pn**	**16 43 12.5**	**+0.9**
CAMP				Sg	**Sn**	**16 43 22.9**	**+0.1**
	41nm,0.3s						
TERO	**Teramo**	**0.72**	**133**	Pg	**Pn**	**16 43 12.2**	**+0.3**
TERO				Sg	**Sn**	**16 43 24.9**	**+1.6**
	105nm,0.6s						
MNS	**Montasola**	**0.75**	**192**	Pg	**Pn**	**16 43 11.9**	**-0.2**
MNS				Sg	**Sn**	**16 43 22.7**	**-1.1**
	30nm,0.3s						
CRE	**Caprese Michel**	**0.85**	**307**	Pg	**Pn**	**16 43 13.4**	**+0.2**
CRE				Sg	**Sn**	**16 43 25.4**	**-0.4**
	51nm,0.3s						
NVLJ	**Novalja**	**2.04**	**44**	*i* Pn	**Pn**	**16 43 28.7**	**+0.1**
NVLJ				*i* Sn	**Sn**	**16 43 51.9**	**-1.2**
VOJS	**Vojsko**	**3.00**	**13**	*e*Pn	**Pn**	**16 43 41.3**	**-0.3**
ROBS	**Robic**	**3.16**	**8**	*e*Pn	**Pn**	**16 43 43.7**	**0.0**
KBA	**Koelnbreinsper**	**3.97**	**5**	⇑*i*Pn	**Pn**	**16 43 56.1**	**+1.3**
KBA				⇑*i*Sn	**Sn**	**16 44 38.2**	**-1.9**

HLW 09 17:07:49.5, 3503N×2758E, h33km, Mb3.9, 10C-6D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM		**4.05**	**210**	⇓*e*P	Pn	17 08 49.5	+0.4
SLUM				S	Sn	17 09 32.4	-3.0
DABA	**Dabaa**	**4.05**	**171**	⇓*e*P	Pn	17 08 49.3	+0.1
HBRG	**Burj al 'Arab**	**4.83**	**156**	⇓*e*P	Pn	17 08 59.9	0.0
HBRG				S	Sn	17 09 52.0	-2.7
HBRG	**Burj al 'Arab**	**4.83**	**156**	P	Pn	17 08 59.9	0.0
HBRG				S	Sn	17 09 52.0	-2.7
SWA1		**5.96**	**196**	⇑*e*P	Pn	17 09 16.1	+0.7
SWA1				S	Sn	17 10 18.7	-3.9
SWA1		**5.96**	**196**	P	Pn	17 09 16.1	+0.7
SWA1				S	Sn	17 10 18.7	-3.9
SWA2		**6.04**	**198**	⇑*e*P	Pn	17 09 16.9	+0.4
AYT	**Al 'Ayyat**	**6.11**	**149**	⇓*e*P	Pn	17 09 17.9	+0.5
HHAG	**Hagoal**	**6.34**	**142**	⇑P	Pn	17 09 20.7	+0.1
HSAF	**As Saff**	**6.36**	**147**	⇓*i*P	Pn	17 09 21.6	+0.8
AMAG	**Maghara**	**6.45**	**131**	⇑P	Pn	17 09 22.5	+0.4
GLL	**Jalalah**	**6.46**	**146**	⇑*e*P	Pn	17 09 22.7	+0.4
AWBH		**6.78**	**170**	⇑P	Pn	17 09 27.0	+0.3
SUZ		**6.82**	**138**	⇓*e*P	Pn	17 09 27.8	+0.7
HNKL	**Nakhl**	**7.42**	**131**	⇑*e*P	Pn	17 09 36.1	+0.6
HFRF	**Wahat Farafira**	**7.88**	**175**	⇓P	Pn	17 09 42.2	+0.4
GRB	**Gharib**	**8.07**	**145**	⇑*e*P	Pn	17 09 44.9	+0.6
GRB	**Gharib**	**8.07**	**145**	P	Pn	17 09 44.8	+0.5
HDK1	**Dakhla**	**9.59**	**170**	⇑*e*P	Pn	17 10 06.3	+1.2

*ISCJB **09** 17:08:35.5±0.6, 2751S±004×69.10W±0.10, h93km±11km, mb3.9/4, Error ellipse: s-maj=14.7km s-min=6.4km az=160.4*
*IDC **09** 17:08:37.0±1.4, 2752S×68.92W, h92km±12km, mb3.6/3, mb1 3.6/7, mb1mx3.5/18, mbtmp3.8/7, MS2.6/1, Ms1 2.7/1, ms1mx2.5/20, Error ellipse: s-maj=37.0km s-min=10.1km az=87.0*
*NEIC **09** 17:08:37.5±1.2, 2747S×68.78W, h94km±11km, mb4.6/1, Error ellipse: s-maj=22.6km s-min=11.1km az=83.0*
*GUC **09** 17:08:38.4±1.0, 27.29S×69.10W, h35km±13km, MD4.2, ML4.1*

ISC 09 17:08:36.8±0.6, 2752S±004×6914W±009, h89km±10km, n20, σ1§06/26, mb3.9/4, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.09**	**278**	⇑*iP*	**Pn**	**17 08 58.1**	**+0.7**
CPCH				*i* S	**Sn**	**17 09 13.6**	**+0.6**
CPCH				AMP		17 09 14.9	
	comp=E,32μm,0.1s						
CDCH	**Caldera**	**1.56**	**286**	⇓*iP*	**Pn**	**17 09 02.9**	**-0.4**
CDCH				*i* S	**Sn**	**17 09 22.6**	**-0.9**
CDCH				AMP		17 09 22.9	
	comp=N,2μm,0.5s						
CRCH	**Chaqaral**	**1.76**	**311**	⇑*iP*	**Pn**	**17 09 06.4**	**+0.5**
CRCH				*i* S	**Sn**	**17 09 27.6**	**-0.4**
CRCH				AMP		17 09 33.3	
	comp=E,2μm,0.4s						
CPN1	**Cerro Paranal**	**3.09**	**338**	*i* P	**Pn**	**17 09 24.6**	**+1.1**
CPN1				*i* S	**Sn**	**17 09 59.0**	**-0.7**
CPN1				AMP		17 10 11.1	
	comp=N,585nm,0.7s						
CFAA	**Coronel Fontan**	**4.15**	**169**	P	**Pn**	**17 09 39.5**	**+1.6**
	comp=N,3.8nm,0.3s,baz=349,slow=13,SNR=255						
CFAA				S	**Sn**	**17 10 24.8**	**-0.5**
	comp=N,3.7nm,0.3s,baz=271,slow=24,SNR=13						
CFAA	**Coronel Fontan**	**4.15**	**169**	P	**Pn**	**17 09 39.5**	**+1.6**
CFAA				S	**Sn**	**17 10 24.8**	**-0.5**
CEN1	**Los Morros**	**4.22**	**347**	⇑*iP*	**Pn**	**17 09 36.3**	**-2.5**
CEN1				*i* S	**Sn**	**17 10 21.4**	**-5.5**
LVC	**Limon Verde**	**4.88**	**2**	P	**Pn**	**17 09 49.0**	**+1.2**
LVC				S	**Sn**	**17 10 44.1**	**+1.0**
	comp=N,9.1nm,0.3s,baz=185,slow=11,SNR=29						
LVC	**Limon Verde**	**4.88**	**2**	*e*P	**Pn**	**17 09 48.6**	**+0.7**
LVC				P		17 09 49.0	
LVC				S	**Sn**	**17 10 44.1**	**+1.0**
	comp=N,9.4nm,0.3s,baz=10.0,slow=21,SNR=6.3						
CPUP	**Villa Florida**	**10.61**	**86**	Pn	**Pn**	**17 11 00.6**	**-5.2**
	comp=N,12nm,0.5s						
LPAZ	**La Paz**	**11.21**	**5**	P	**Pn**	**17 11 13.8**	**-0.2**
	comp=N,0.1nm,0.3s,baz=271,slow=16,SNR=3.3						
LPAZ				LR	LR	17 15 29.2	
	comp=N,34nm,21.6s,baz=24,slow=37						
TRQA	**Tornquist**	**12.11**	**152**	*e*Pn	**Pn**	**17 11 24.7**	**-1.5**
	comp=N,6.6nm,0.7s						
SIV	**San Ignacio**	**13.69**	**35**	P	**Pn**	**17 11 46.3**	**-0.7**
	comp=N,0.1nm,0.3s,baz=215,slow=18,SNR=2.4						
DBIC	**Dimbokro**	**70.75**	**71**	P	**P**	**17 19 41.3**	**-2.0**
	comp=N,1.0nm,0.4s,mb4.0,baz=220,slow=7.9,SNR=2.9						
TSUM	**Tsumeb**	**78.57**	**106**	P	**P**	**17 20 30.3**	**+1.8**
	comp=N,5.8nm,0.6s,mb4.6						
PDAR	**Pinedale Array**	**79.22**	**331**	P	**P**	**17 20 32.5**	**+0.4**
	comp=N,0.5nm,0.8s,mb3.4,baz=117,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**79.62**	**69**	P	**P**	**17 20 34.7**	**+0.4**
	comp=N,0.5nm,0.4s,mb3.7,baz=246,slow=4.8,SNR=7.1						
WRA	**Warramunga Arr**	**127.63**	**208**	PKP	PKPdf	17 27 31.2	-0.4
	comp=N,0.4nm,0.6s,baz=162,slow=1.5,SNR=10.0						
ZAL	**Zalesovo**	**147.39**	**29**	PKPbc	PKPbc	17 28 09.4	-0.8
	comp=N,2.0nm,0.4s,baz=178,slow=2.4,SNR=11						
MKAR	**Makanchi Array**	**150.44**	**42**	PKPbc	PKPbc	17 28 17.6	-0.4
	comp=N,2.3nm,0.6s,baz=310,slow=2.1,SNR=33						

*ISCJB **09** 17:20:46.0±0.4, 6628N±003×14196W±008, h10km, mb3.2/1, Error ellipse: s-maj=4.8km s-min=4.4km az=98.5*
*IDC **09** 17:20:47.5±1.6, 6637N×142.36W, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.4/22, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=27.2km s-min=11.6km az=159.0*
*NEIC **09** 17:20:50.6, 66.27N×142.62W, h17km, ML3.5(AEIC), After AEIC.*
*PGC **09** 17:20:50.4, 66.26N×141.83W, h1km, ML3.5/2, Eastern Alaska.*

ISC 09 17:20:47.9±0.4, 6628N±003×14212W±008, h10km, n21, σ1§34/35, mb3.2/1, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.51**	**320**	P	**Pn**	**17 21 14.8**	**-0.2**
BM3				S	**Sn**	**17 21 33.5**	**-1.1**
IL1	**Eielson Array**	**2.50**	**235**	P	**Pn**	**17 21 28.6**	**0.0**
ILAR	**Eielson Array**	**2.50**	**235**	Pn	**Pn**	**17 21 28.4**	**-0.2**
	2.7nm,0.3s,baz=44,slow=14,SNR=202						
ILAR				Lg		17 22 04.2	
	73nm,0.3s,baz=48,slow=30,SNR=32						
DAWY	**Dawson**	**2.51**	**151**	Pn	**Pn**	**17 21 30.5**	**+1.8**
DAWY				Sn	**Sn**	**17 22 00.8**	**+1.5**
DAWY				Sg	**Sg**	**17 22 06.5**	**-1.9**
DAWY				Trac		17 22 14.5	
	comp=Z,178nm,0.8s						
DAWY				Trac		17 22 14.5	
	comp=Z,178nm,0.8s						
COLA	**College**	**2.77**	**242**	P	**Pn**	**17 21 29.9**	**-2.5**
DOT	**Dot Lake**	**2.77**	**198**	P	**Pn**	**17 21 33.0**	**+0.6**
COLD	**Coldfoot**	**3.34**	**290**	P	**Pn**	**17 21 41.2**	**+1.0**
PAX	**Paxson**	**3.63**	**205**	P	**Pn**	**17 21 45.6**	**+1.5**
PAX				S	**Sn**	**17 22 27.6**	**+0.7**
MCK	**McKinley**	**3.86**	**232**	*e*Pn	**Pn**	**17 21 47.6**	**+0.2**
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**17 21 49.0**	**+1.1**
	1.6nm,0.3s,baz=246,slow=15,SNR=66						
INK				Sn	**Sn**	**17 22 33.9**	**+0.1**
	4.2nm,0.3s,baz=242,slow=7.0,SNR=8.0						
INK				Lg		17 22 48.5	
	8.3nm,0.3s,baz=313,slow=25,SNR=4.1						
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**17 21 49.3**	**+1.4**
INK				Sn	**Sn**	**17 22 34.2**	**+0.5**
INK				Sg	**Sg**	**17 22 53.4**	**+0.1**
INK				Trac		17 22 55.1	
	comp=Z,58nm,0.5s						
INK				Trac		17 22 55.1	
	comp=Z,58nm,0.5s						
IMA2	**Indian Mountai**	**4.70**	**273**	*e*Pn	**Pn**	**17 21 59.0**	**+0.2**
IM3	**Indian Mountai**	**4.74**	**272**	P	**Pn**	**17 21 58.5**	**-0.9**
DIV	**Divide**	**5.42**	**199**	*e*Pn	**Pn**	**17 22 09.1**	**+0.3**
PMR	**Palmer**	**5.63**	**217**	Pn	**Pn**	**17 22 10.0**	**-1.7**
HYT	**Haines Junctio**	**5.85**	**157**	Pn	**Pn**	**17 22 16.4**	**+1.7**
HYT				Sg	**Sg**	**17 23 50.6**	**-5.2**
HYT				Trac		17 23 59.5	
	comp=Z,25nm,0.7s						
HYT				Trac		17 23 59.5	
	comp=Z,25nm,0.7s						
WHY	**Whitehorse**	**6.50**	**147**	Pn	**Pn**	**17 22 24.6**	**+0.9**
WHY				Sg	**Sg**	**17 24 13.7**	**-3.0**
WHY				Trac		17 24 45.5	
	comp=Z,13nm,1.0s						
WHY				Trac		17 24 45.5	
	comp=Z,13nm,1.0s						
YKW3	**Yellowknife Ar**	**12.39**	**95**	Pn	**Pn**	**17 23 42.4**	**-1.9**
YKW3				Pn	**Pn**	**17 23 43.5**	**-0.9**
YKW3				Sn	**Sn**	**17 25 51.6**	**-11**
YKW3				Sn	**Sn**	**17 25 52.9**	**-10**
YKW3				Trac		17 26 11.4	
	comp=Z,2.0nm,0.4s						
YKW3				Trac		17 26 11.4	
	comp=Z,2.0nm,0.4s						
YKW3				Trac		17 26 11.5	
	comp=Z,2.0nm,0.4s						
YKW3				Trac		17 26 11.5	
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**12.43**	**95**	Pn	**Pn**	**17 23 42.5**	**-2.4**
	baz=298,slow=13,SNR=21						
YKA				Sn	**Sn**	**17 25 54.1**	**-9.2**
	baz=296,slow=23,SNR=9.9						
YKA	**Yellowknife Ar**	**12.43**	**95**	Pn	**Pn**	**17 23 42.5**	**-2.4**
YKA				Sn	**Sn**	**17 25 54.1**	**-9.2**
PDAR	**Pinedale Array**	**29.57**	**127**	P	**P**	**17 26 55.6**	**+2.8**
	0.4nm,0.8s,mb3.2,baz=0.0,slow=5.4,SNR=3.7						

*NAO **09** 17:41:32.0±6.1, 5855N×656E, h5km±32km, ML1.3*

BER 09 17:41:29.5±2.3, 5832N×644E, h0km, MD1.9, ML1.5, ML1.3(NAO), 1C, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**0.41**	**87**	⇑*iP*	Pg	17 41 36.9	-0.3
SNART				*e*S	Sg	17 41 42.8	+0.3
SNART				AML	AML	17 41 46.1	
	comp=Z,24nm,0.5s						
KMY	**Karmoy**	**1.09**	**326**	*e*P	Pg	17 41 47.5	-2.9
KMY				*e*S	Sg	17 42 02.4	-2.2
KMY				*e*Sg	Sg	17 42 05.3	+0.7
BLS5	**Blasjo**	**1.11**	**0**	*e*P

Error ellipse: s-maj=28.7km s-min=16.7km az=163.9
*IDC **09** 18:06:40.2±11.0, 2108N×14429E, h266km±115km, mb3.2/7, mb1 3.4/7, mb1mx3.2/20, mbtmp3.8/7, Error ellipse: s-maj=35.3km s-min=18.8km az=67.0*

ISC 09 18:06:38.6±0.8, 211N±01×1442E±02, h250km, n14, σ0°56/14, mb3.5/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.42**	**320**	P	**P**	**18 13 53.0**	**+0.4**
	0.2nm,0.3s,mb3.0,baz=123,slow=4.9,SNR=5.7						
WRAB	**Tennant Creek**	**41.92**	**194**	*e*P	**P**	**18 14 04.6**	**-0.2**
WRA	**Warramunga Arr**	**41.93**	**194**	P	**P**	**18 14 05.0**	**+0.1**
	0.6nm,0.3s,mb3.5,baz=15,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**55.82**	**313**	P	**P**	**18 15 50.7**	**+0.7**
	0.7nm,0.6s,mb3.4,baz=95,slow=7.7,SNR=19						
MKAR				PcP	PcP	18 16 46.0	+0.3
	0.3nm,0.5s,baz=83,slow=3.2,SNR=5.7						
MKAR	**Makanchi Array**	**55.82**	**313**	P	**P**	**18 15 50.7**	**+0.6**
MKAR				PcP	PcP	18 16 46.0	+0.3
KURK	**Kurchatov**	**58.58**	**317**	P	**P**	**18 16 08.7**	**-0.5**
BVAR	**Borovoye Array**	**63.76**	**320**	P	**P**	**18 16 44.1**	**+0.2**
	2.5nm,0.5s,mb4.1,baz=92,slow=7.1,SNR=31						
BRVK	**Borovoye**	**63.83**	**320**	*e*P	**P**	**18 16 44.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**63.83**	**320**	*e*P	**P**	**18 16 44.5**	**+0.1**
	comp=Z,1.9nm,0.7s,mb3.8						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**18 18 00.6**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=292,slow=5.6,SNR=7.8						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**18 18 00.6**	**-0.4**
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**18 18 35.2**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.0,baz=261,slow=8.8,SNR=4.4						
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**18 18 35.2**	**+0.8**
FINES	**FINESS Array B**	**84.14**	**335**	P	**P**	**18 18 40.4**	**-1.2**
	comp=Z,0.9nm,0.8s,mb3.6,baz=112,slow=7.5,SNR=2.9						

MAN 09 18:08:03.0, 788N×12647E, h1km, mb2.4, ML4.0, MS3.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.32**	**340**	⇑*i*P	Pg	18 08 11.2	+2.0
BIPH				*i* S	Sg	18 08 18.2	+4.9
BUTP	**Butuan**	**1.37**	**322**	*e*P	Pn	18 08 28.1	-1.1
BUTP				*e*S	Sg	18 08 48.6	+1.5
BUKP	**Musuan**	**1.40**	**270**	*e*P	Pn	18 08 29.7	0.0
PAGZ	**Pagadian**	**3.06**	**270**	*e*P	Pn	18 08 52.8	+0.3

*IDC **09** 18:11:24.4±2.8, 1800N×10027W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.7/5, Error ellipse: s-maj=114.7km s-min=48.6km az=84.0*
*ISCJB **09** 18:11:36.1±0.5, 1831N±004×10107W±004, h75km±7km, mb3.5/5, Error ellipse: s-maj=6.7km s-min=5.7km az=73.5*
*MEX **09** 18:11:38.2±0.6, 1831N×101.11W, h69km±9km, MD4.1*
*NEIC **09** 18:11:39.3, 1833N×100.98W, h60km, MD4.1(MEX), After MEX.*

ISC 09 18:11:37.2±0.5, 1831N±004×10106W±004, h67km±7km, n32, σ1°03/53, mb3.5/5, 3C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.80**	**209**	*i* P	**Pn**	**18 11 52.4**	**-0.6**
ZIIG				*i* S	**Sn**	**18 12 04.3**	**-0.5**
MOIG	**Morelia**	**1.37**	**355**	*i* P	**Pn**	**18 11 60.0**	**-0.3**
MOIG				*i* S	**Sn**	**18 12 17.8**	**+0.1**
MOIG	**Morelia**	**1.37**	**355**	⇑*i*P	**Pn**	**18 11 59.9**	**-0.4**
MOIG				*i* S	**Sn**	**18 12 17.3**	**-0.4**
MEIG	**Mezcala**	**1.43**	**105**	*i* P	**Pn**	**18 12 01.5**	**+0.4**
MEIG				*i* S	**Sn**	**18 12 19.3**	**+0.2**
CAIG	**El Cayaco**	**1.47**	**149**	*i* P	**Pn**	**18 12 01.4**	**-0.3**
CAIG				*i* S	**Sn**	**18 12 19.2**	**-0.8**
CAIG	**El Cayaco**	**1.47**	**149**	⇑*i*P	**Pn**	**18 12 01.5**	**-0.1**
CAIG				*i* S	**Sn**	**18 12 19.3**	**-0.7**
PLIG	**Platanillo**	**1.49**	**87**	*i* P	**Pn**	**18 12 02.4**	**+0.5**
PLIG				*i* S	**Sn**	**18 12 17.1**	**-3.4**
PLIG	**Platanillo**	**1.49**	**87**	*e*P	**Pn**	**18 12 02.4**	**+0.5**
PLIG				*i* S	**Sn**	**18 12 21.8**	**+1.3**
ACX	**Acapulco**	**1.80**	**142**	*e*P	**Pn**	**18 12 06.6**	**+0.4**
ACX				*i* P		18 12 06.8	
ACX				*i* S	**Sn**	**18 12 27.5**	**-0.6**
ACX	**Acapulco**	**1.80**	**142**	*e*P	**Pn**	**18 12 06.7**	**+0.5**
ACX				*i* S	**Sn**	**18 12 28.4**	**+0.2**
YAIG	**Yautepec**	**1.97**	**73**	*e*P	**Pn**	**18 12 07.9**	**-0.5**
YAIG				*i* S	**Sn**	**18 12 28.1**	**-4.0**
YAIG	**Yautepec**	**1.97**	**73**	*e*P	**Pn**	**18 12 07.9**	**-0.5**
YAIG				*i* S	**Sn**	**18 12 32.4**	**+0.3**
UNM	**Universidad Na**	**2.06**	**60**	*e*P	**Pn**	**18 12 07.6**	**-1.9**
UNM				*i* P		18 12 10.5	
UNM				*i* S	**Sn**	**18 12 32.5**	**-1.6**
UNM	**Universidad Na**	**2.06**	**60**	*e*P	**Pn**	**18 12 07.6**	**-1.9**
UNM				*i* P		18 12 09.9	
UNM				*i* S	**Sn**	**18 12 34.4**	**+0.3**
PPM	**Popocatepetl**	**2.43**	**72**	*e*P	**Pn**	**18 12 15.2**	**+0.6**
PPM				*i* S	**Sn**	**18 12 37.9**	**-5.4**
PPM	**Popocatepetl**	**2.43**	**72**	*e*P	**Pn**	**18 12 15.2**	**+0.6**
PPM				⇑*e*P		18 12 16.4	
PPM				*i* S	**Sn**	**18 12 44.5**	**+1.3**
SFJM	**Santa Fe**	**2.86**	**320**	*e*P	**Pn**	**18 12 21.8**	**+1.4**
UTMO	**Huajuapan**	**3.14**	**98**	*i* P	**Pn**	**18 12 26.3**	**+2.0**
UTMO				*i* S	**Sn**	**18 12 59.8**	**-0.8**
PNIG	**Pinotepa**	**3.39**	**124**	*i* P	**Pn**	**18 12 33.6**	**+5.9**
PNIG				*i* S	**Sn**	**18 13 06.4**	**-0.3**
PNIG	**Pinotepa**	**3.39**	**124**	*i* P	**Pn**	**18 12 29.6**	**+1.9**
PNIG				*i* S	**Sn**	**18 13 08.0**	**+1.3**
OXX	**Oaxaca**	**4.31**	**106**	*e*P	**Pn**	**18 12 38.6**	**-1.7**
OXX	**Oaxaca**	**4.31**	**106**	*e*P	**Pn**	**18 12 42.6**	**+2.3**
LVIG	**Laguna Verde**	**4.62**	**72**	*i* P	**Pn**	**18 12 44.3**	**-0.2**
LVIG				*i* S	**Sn**	**18 13 33.1**	**-3.6**
LVIG	**Laguna Verde**	**4.62**	**72**	*i* P	**Pn**	**18 12 44.5**	**0.0**
ZAIG	**Zacatecas**	**4.66**	**343**	*i* P	**Pn**	**18 12 45.0**	**+0.1**
ZAIG				*i* S	**Sn**	**18 13 43.4**	**+5.7**
ZAIG	**Zacatecas**	**4.66**	**343**	*i* P	**Pn**	**18 12 45.3**	**+0.3**
ZAIG				*i* S	**Sn**	**18 13 45.5**	**+7.9**
NVAR	**Mina Array Bea**	**25.06**	**327**	P	**P**	**18 16 57.0**	**+1.8**
	1.3nm,0.7s,mb3.5,baz=159,slow=10,SNR=12						
PDAR	**Pinedale Array**	**25.42**	**345**	P	**P**	**18 16 58.7**	**+0.3**
	2.0nm,0.9s,mb3.5,baz=148,slow=10,SNR=15						
YKA	**Yellowknife Ar**	**45.14**	**351**	P	**P**	**18 19 45.9**	**-1.1**
	0.2nm,0.8s,mb2.9,baz=161,slow=7.4,SNR=4.4						
INK	**Inuvik**	**53.99**	**346**	P	**P**	**18 20 53.0**	**-1.2**
	0.6nm,0.7s,mb3.8,baz=124,slow=7.3,SNR=3.4						
ILAR	**Eielson Array**	**55.54**	**338**	P	**P**	**18 21 05.0**	**-0.5**
	1.0nm,1.0s,mb3.8,baz=158,slow=6.3,SNR=7.1						
WRA	**Warramunga Arr**	**127.83**	**259**	PKP	PKPdf	18 30 34.0	-1.0
	0.3nm,0.7s,baz=29,slow=0.5,SNR=4.7						

IDC 09 18:19:26.9±2.5, 1185S×7157W, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=89.8km s-min=30.2km az=46.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.53**	**143**	Pn	Pn	18 20 50.5	0.0
	0.2nm,0.3s,baz=324,slow=8.7,SNR=4.4						
LPAZ				Pg	Pg	18 21 03.1	-10
	1.3nm,0.3s,baz=305,slow=16,SNR=13						
LPAZ				Lg		18 22 14.2	
	3.6nm,0.3s,baz=200,slow=20,SNR=7.2						
SIV	**San Ignacio**	**10.99**	**113**	Pn	Pn	18 22 07.7	+2.3
	0.2nm,0.3s,baz=295,slow=14,SNR=4.7						
SIV				Lg		18 25 09.2	
	0.6nm,0.3s,baz=325,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.79**	**73**	P	P	18 31 20.7	+0.3
	1.0nm,0.5s,baz=261,slow=4.8,SNR=14						
YKA	**Yellowknife Ar**	**81.28**	**341**	P	P	18 31 45.1	+0.1
	0.6nm,0.8s,baz=134,slow=5.7,SNR=11						

IDC 09 18:28:03.9±3.6, 1713S×17596E, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.9/12, mbtmp3.8/3, MS3.9/11, Ms1 3.9/11, ms1mx3.7/22, Error ellipse: s-maj=193.2km s-min=33.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**17.35**	**294**	LR	LR	18 37 53.7	
	comp=Z,147nm,20.3s,baz=182,slow=34						
URZ	**Urewera**	**21.08**	**177**	LR	LR	18 39 43.1	
	comp=Z,148nm,19.8s,baz=58,slow=33						
RAR	**Rarotonga**	**23.27**	**104**	LR	LR	18 40 13.1	
	comp=Z,241nm,18.9s,baz=282,slow=31						
RPZ	**Rata Peaks**	**26.83**	**188**	LR	LR	18 43 15.2	
	comp=Z,224nm,19.4s,baz=13,slow=34						
CTA	**Charters Tower**	**28.29**	**259**	LR	LR	18 43 03.7	
	comp=Z,192nm,18.9s,baz=80,slow=32						
PMG	**Port Moresby**	**29.04**	**282**	LR	LR	18 44 24.6	
	comp=Z,184nm,18.3s,baz=180,slow=34						
PPT	**Papeete**	**32.87**	**96**	*e*LR	LR	18 43 22.3	
	274nm,29.2s						
TBI	**Tubuai**	**32.97**	**107**	*e*LR	LR	18 43 27.8	
	268nm,33.2s						
WRA	**Warramunga Arr**	**39.50**	**259**	P	P	18 35 36.5	+0.4
	1.6nm,0.8s,baz=92,slow=9.0,SNR=12						
RKT	**Rikitea**	**46.28**	**106**	*e*LR	LR	18 49 38.4	
	204nm,27.0s						
YBH	**Yreka Blue Hor**	**81.41**	**42**	LR	LR	19 09 32.8	
	comp=Z,81nm,18.1s,baz=179,slow=31						
NVAR	**Mina Array Bea**	**82.67**	**46**	P	P	18 40 30.0	+0.7
	0.8nm,0.9s,baz=229,slow=9.6,SNR=3.5						
BBB	**Bella Bella**	**84.30**	**31**	LR	LR	19 11 35.2	
	comp=Z,120nm,20.4s,baz=297,slow=31						
ILAR	**Eielson Array**	**86.43**	**15**	P	P	18 40 47.8	-0.6
	0.5nm,0.7s,baz=219,slow=4.8,SNR=4.4						
NEW	**Newport**	**88.12**	**38**	LR	LR	19 13 54.9	
	comp=Z,86nm,21.1s,baz=56,slow=31						
PDAR	**Pinedale Array**	**90.55**	**45**	LR	LR	19 14 14.8	
	comp=Z,64nm,21.9s,baz=348,slow=31						
YKA	**Yellowknife Ar**	**95.92**	**26**	LR	LR	19 21 29.0	
	comp=Z,58nm,18.8s,baz=275,slow=33						

*ISCJB **09** 18:39:45.2±0.3, 1768N±004×9590W±003, h101km±4km, mb3.8/9, Error ellipse: s-maj=5.8km s-min=4.4km az=0.7*
*NEIC **09** 18:39:46.0, 1770N×9594W, h112km, mb4.5/3, MD4.3(MEX), After MEX.*
*MEX **09** 18:39:46.8±1.2, 1768N×9590W, h107km±13km, MD4.3*
*IDC **09** 18:39:47.2±0.9, 1777N×9565W, h97km±7km, mb3.6/9, mb1 3.8/10, mb1mx3.6/23, mbtmp3.9/10, Error ellipse: s-maj=43.2km s-min=12.1km az=55.0*

ISC 09 18:39:46.4±0.3, 1769N±004×9591W±003, h94km±4km, h97km±3.0km: pP-P, n35, σ1°17/53, mb3.8/9, 5C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVV	**El Vigia**	**0.93**	**35**	*i* P	**Pn**	**18 40 05.8**	**+0.2**
EVV				*i* S	**Sn**	**18 40 19.3**	**-0.7**
EVV	**El Vigia**	**0.93**	**35**	*i* P	**Pn**	**18 40 05.8**	**+0.2**
EVV				*i* S	**Sn**	**18 40 19.7**	**-0.3**
OXX	**Oaxaca**	**0.98**	**232**	*i* P	**Pn**	**18 40 07.8**	**+1.7**
VHO	**Vista Hermosa**	**0.99**	**232**	*i* P	**Pn**	**18 40 06.8**	**+0.5**
VHO				*i* S	**Sn**	**18 40 22.4**	**+1.2**
TUIG	**Tuzandepetl**	**1.46**	**76**	*i* P	**Pn**	**18 40 12.2**	**+0.4**
TUIG				*i* S	**Sn**	**18 40 31.6**	**+0.6**
TPIG	**Tehuac#an**	**1.56**	**298**	*i* P	**Pn**	**18 40 14.1**	**+1.0**
TPIG				*i* S	**Sn**	**18 40 34.2**	**+0.9**
UTMO	**Huajuapan**	**1.81**	**275**	⇓*i*P	**Pn**	**18 40 17.3**	**+1.1**
UTMO				*i* S	**Sn**	**18 40 39.5**	**+0.5**
HUIG	**Huatulco**	**1.92**	**186**	*e*P	**Pn**	**18 40 16.5**	**-1.1**
HUIG				*i* S	**Sn**	**18 40 39.7**	**-1.7**
HUIG	**Huatulco**	**1.92**	**186**	⇑*i*P	**Pn**	**18 40 16.5**	**-1.0**
HUIG				*i* S	**Sn**	**18 40 39.7**	**-1.7**
LVIG	**Laguna Verde**	**2.08**	**347**	*i* P	**Pn**	**18 40 18.6**	**-1.2**
LVIG				*i* S	**Sn**	**18 40 42.8**	**-2.4**
PNIG	**Pinotepa**	**2.48**	**239**	⇑*i*P	**Pn**	**18 40 22.8**	**-2.2**
PNIG				*i* S	**Sn**	**18 40 52.7**	**-2.0**
PNIG	**Pinotepa**	**2.48**	**239**	⇑*i*P	**Pn**	**18 40 22.9**	**-2.1**
PNIG				*i* S	**Sn**	**18 40 55.1**	**+0.5**
PPM	**Popocatepetl**	**2.92**	**298**	*e*P	**Pn**	**18 40 34.2**	**+3.3**
YAIG	**Yautepec**	**3.22**	**292**	*e*P	**Pn**	**18 40 36.8**	**+1.9**
YAIG				*i* S	**Sn**	**18 41 09.8**	**-2.6**
YAIG	**Yautepec**	**3.22**	**292**	*e*P	**Pn**	**18 40 36.8**	**+1.9**
YAIG				*i* S	**Sn**	**18 41 11.8**	**-0.6**
PLIG	**Platanillo**	**3.49**	**282**	⇑*i*P	**Pn**	**18 40 40.0**	**+1.5**
PLIG				*i* S	**Sn**	**18 41 15.6**	**-3.3**
PLIG	**Platanillo**	**3.49**	**282**	⇑*i*P	**Pn**	**18 40 40.0**	**+1.5**
PLIG				*i* S	**Sn**	**18 41 19.0**	**+0.1**
MEIG	**Mezcala**	**3.54**	**274**	*i* P	**Pn**	**18 40 40.0**	**+0.8**
MEIG				*i* S	**Sn**	**18 41 19.7**	**-0.5**
CCIG	**Comitan**	**3.87**	**111**	*e*P	**Pn**	**18 40 43.8**	**+0.1**
CCIG				*i* S	**Sn**	**18 41 28.5**	**+0.5**
CAIG	**El Cayaco**	**4.21**	**262**	*i* P	**Pn**	**18 40 46.8**	**-1.5**
CAIG				*i* S	**Sn**	**18 41 34.5**	**-1.8**
TEIG	**Tepich**	**7.65**	**70**	*e*Pn	**Pn**	**18 41 33.0**	**-2.1**
	12nm,0.3s						
TEIG				*e*Sn	**Sn**	**18 42 54.3**	**-5.9**
JCT	**Junction City**	**13.22**	**345**	*e*P	**Pn**	**18 42 50.7**	**+0.4**
	9.2nm,0.6s						
JCT				*e*		18 42 54.0	
MIAR	**Mount Ida**	**16.92**	**7**	*e*P	**Pn**	**18 43 37.1**	**-0.1**
	14nm,0.6s						
MIAR				*e*		18 43 43.1	
ANMO	**Albuquerque**	**19.60**	**333**	P	**Pn**	**18 44 09.3**	**+0.1**
	0.4nm,0.3s,baz=153,slow=11,SNR=3.7						
SDV	**Santo Domingo**	**26.08**	**106**	P	**P**	**18 45 11.1**	**0.0**
	3.7nm,0.7s,mb4.0,baz=292,slow=6.5,SNR=7.4						
NVAR	**Mina Array Bea**	**28.46**	**321**	P	**P**	**18 45 35.1**	**+2.8**
	1.6nm,0.9s,mb3.6,baz=152,slow=7.0,SNR=7.8						
NVAR				pP	pP	18 45 55.1	+1.6
	1.0nm,0.8s,baz=152,slow=8.4,SNR=3.5						
NVAR				sP	sP	18 46 07.5	+3.1
	1.0nm,0.8s,baz=159,slow=9.0,SNR=4.0						
ULM	**Lac du Bonnet**	**32.49**	**0**	P	**P**	**18 46 06.9**	**-1.0**
	1.3nm,0.5s,mb3.9,baz=190,slow=6.1,SNR=3.2						
LPAZ	**La Paz**	**43.46**	**139**	P	**P**	**18 47 40.8**	**+0.7**
	0.6nm,0.4s,mb3.7,baz=252,slow=4.0,SNR=4.1						
YKA	**Yellowknife Ar**	**46.63**	**348**	P	**P**	**18 48 04.7**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=151,slow=7.4,SNR=9.8						
SIV	**San Ignacio**	**47.94**	**132**	P	**P**	**18 48 15.0**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=288,slow=13,SNR=3.3						
SIV				pP	pP	18 48 38.3	+0.5
	0.9nm,0.6s,baz=326,slow=13,SNR=4.0						
INK	**Inuvik**	**55.87**	**344**	P	**P**	**18 49 13.9**	**-0.2**
	3.0nm,0.7s,mb4.4,baz=126,slow=7.0,SNR=20						
INK				pP	pP	18 49 38.2	+0.9
	0.5nm,0.6s,baz=126,slow=7.4,SNR=1.5						
INK	**Inuvik**	**55.87**	**344**	P	**P**	**18 49 13.9**	**-0.2**
INK				pP	pP	18 49 38.2	+0.9
ILAR	**Eielson Array**	**57.99**	**337**	P	**P**	**18 49 29.7**	**+0.5**
	1.3nm,0.8s,mb4.0,baz=156,slow=4.3,SNR=13						
PLCA	**Paso Flores**	**62.72**	**159**	P	**P**	**18 50 01.9**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=322,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**132.52**	**259**	PKP	PKPdf	18 58 50.9	+1.0
	0.3nm,0.4s,baz=85,slow=2.8,SNR=8.5						

IDC 09 18:58:11.3±1.4, 1992S×6851W, h132km±16km, mb3.2/2, mb1 3.5/5, mb1mx3.3/18, mbtmp3.7/5, Error ellipse: s-maj=38.5km s-min=15.4km az=105.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.70**	**188**	P	Pn	18 58 56.0	+1.9
	6.9nm,0.3s,baz=18,slow=11,SNR=64						
LVC				S	Sn	18 59 27.8	+0.7
	6.8nm,0.3s,baz=353,slow=8.9,SNR=7.6						
LPAZ	**La Paz**	**3.63**	**6**	P	Pn	18 59 06.7	+0.5
	2.7nm,0.3s,baz=198,slow=8.2,SNR=26						
SIV	**San Ignacio**	**8.09**	**62**	P	Pn	19 00 05.7	-0.2
	2.6nm,0.3s,baz=258,slow=10,SNR=77						
TORD	**Torodi Ar. Bea**	**76.48**	**71**	P	P	19 09 47.4	+0.9
	0.2nm,0.4s,baz=260,slow=5.1,SNR=5.7						
YKA	**Yellowknife Ar**	**89.83**	**340**	P	P	19 10 54.2	-0.8
	0.2nm,0.6s,baz=134,slow=4.7,SNR=6.0						

MAN 09 19:13:37.4, 914N×12682E, h10km, mb3.1, ML4.5, MS8.8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.05**	**206**	⇓*i*P	Pg	19 13 56.5	-1.1
BIPH				*i* S	Sg	19 14 10.0	-1.2
BUTP	**Butuan**	**1.19**	**262**	*e*P	Pb	19 13 59.2	-0.9
BUTP				*e*S	Sb	19 14 16.6	+0.9
SCPH	**Surigao**	**1.46**	**296**	⇓*e*P	Pn	19 14 02.6	-1.3
BUKP	**Musuan**	**2.14**	**234**	*e*P	Pn	19 14 15.0	+1.8
BUKP				*e*S	Sn	19 14 44.6	+4.8
MSLP	**Maasin**	**2.17**	**297**	*e*P	Pn	19 14 14.8	+1.2
MSLP				*e*S	Sn	19 14 39.0	-1.6
OCLP	**Ormoc**	**2.89**	**311**	*e*P	Pn	19 14 23.7	+0.2

*PGC **09** 19:26:25.8, 4739N×12194W, h1km, ML2.5/23, East of Seattle, Washington.*
*ISCJB **09** 19:26:26.1±0.3, 4747N±002×12181W±003, h11km±2km, Error ellipse: s-maj=3.8km s-min=2.2km az=106.5*
*NEIC **09** 19:26:26.7, 4748N×12181W, h8km, MD2.9(SEA), After SEA.*
NEIC Felt [III] at Carnation, Fall City, North Bend and Snoqualmie. Also felt at Bremerton, Issaquah, Redmond and Seattle.
*PNSN **09** 19:26:26.7, 4748N×12181W, h8km, MD2.9, Fault plane solution: NP1:φs135.00000°, δ55.00000°, NP2: φs251.00000°, δ58.00000°, Principal axes: T Plg51.0000°, Azm105.0000°; P Plg2.0000°, Azm12.0000°;*

ISC 09 19:26:26.2±0.3, 4748N±002×12179W±003, h7km±2km, n79, σ0°94/106, 9C-17D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMW	**Rattlesnake Mo**	**0.02**	**211**	⇑P	**Pg**	**19 26 28.1**	**+0.7**
ELW	**Echo Lake**	**0.06**	**289**	⇑P	**Pg**	**19 26 28.3**	**+0.5**
RAW	**Raver**	**0.17**	**215**	⇓P	**Pg**	**19 26 30.3**	**+0.7**
PNLK	**Pine Lake Midd**	**0.19**	**303**	P	**Pg**	**19 26 31.1**	**+1.0**
GSM	**Grass Mountain**	**0.27**	**180**	⇑P	**Pg**	**19 26 32.0**	**+0.5**
RHAZ	**Hazelwood Elem**	**0.28**	**284**	P	**Pg**	**19 26 32.5**	**+0.9**
EARN	**East Ridge Ele**	**0.31**	**328**	P	**Pg**	**19 26 33.2**	**+0.9**
HTW	**Haystack Looko**	**0.33**	**3**	⇑P	**Pg**	**19 26 32.6**	**0.0**
BLH	**Bald Hill**	**0.40**	**336**	⇓P	**Pg**	**19 26 34.0**	**+0.1**
MBPA	**Monroe Substat**	**0.43**	**351**	P	**Pg**	**19 26 34.6**	**+0.1**
GHW	**Garrison Hill**	**0.54**	**217**	⇓P	**Pg**	**19 26 36.5**	**-0.1**
RVC	**Mount Rainier-**	**0.55**	**193**	⇓P	**Pg**	**19 26 36.6**	**-0.1**
FMW	**Mount Fremont**	**0.55**	**171**	⇓P	**Pg**	**19 26 36.7**	**-0.1**
RCS	**Mount Rainier-**	**0.61**	**176**	⇓P	**Pg**	**19 26 37.9**	**+0.1**
RCS				S	**Sg**	**19 26 46.4**	**+0.7**
RCM	**Mount Rainier-**	**0.64**	**176**	⇓P	**Pg**	**19 26 38.6**	**+0.1**
MEW	**McNeil Island**	**0.64**	**245**	P	**Pg**	**19 26 38.9**	**+0.4**
REMR	**Mount Rainier-**	**0.66**	**183**	⇓P	**Pg**	**19 26 38.6**	**-0.2**
JCW	**Jim Creek**	**0.72**	**353**	⇓P	**Pg**	**19 26 39.6**	**-0.4**
LON	**Longmire**	**0.73**	**181**	⇓P	**Pg**	**19 26 39.6**	**-0.5**
ATES	**Arlington Traf**	**0.78**	**347**	P	**Pg**	**19 26 40.8**	**-0.4**
LTY	**Liberty**	**0.79**	**106**	⇑P	**Pg**	**19 26 41.2**	**-0.2**
WPW	**White Pass**	**0.80**	**168**	⇑P	**Pg**	**19 26 41.1**	**-0.4**
TBM	**Table Mountain**	**0.87**	**110**	⇑P	**Pg**	**19 26 42.9**	**+0.1**
SLFW	**Sugar Loaf**	**0.90**	**71**	P	**Pg**	**19 26 43.5**	**0.0**
GLK	**Glacier Lake**	**0.92**	**172**	P	**Pg**	**19 26 43.7**	**-0.1**
BLN	**Blyn Mountain**	**0.96**	**304**	P	**Pg**	**19 26 43.1**	**-1.5**
CMW	**Cultus Mountai**	**0.97**	**347**	⇓P	**Pg**	**19 26 44.3**	**-0.6**
RPW	**Rockport**	**0.99**	**11**	⇓P	**Pg**	**19 26 44.3**	**-0.9**
NAC	**Naches**	**0.99**	**138**	⇑P	**Pg**	**19 26 45.0**	**-0.2**
EBG	**Ellensburg**	**1.01**	**124**	⇑P	**Pg**	**19 26 45.7**	**+0.2**
SQM	**Sequim**	**1.04**	**306**	P	**Pg**	**19 26 44.9**	**-1.2**
NLW	**Nelson Butte**	**1.15**	**58**	⇓P	**Pg**	**19 26 47.5**	**-0.8**
CBSW	**Chelan Butte S**	**1.23**	**74**	P	**Pg**	**19 26 49.0**	**-0.7**
WTV	**Waterville**	**1.26**	**79**	P	**Pn**	**19 26 49.9**	**-0.3**
MBW	**Mount Baker**	**1.31**	**357**	⇓P	**Pn**	**19 26 50.1**	**-0.8**
JLK	**June Lake**	**1.35**	**191**	P	**Pn**	**19 26 50.2**	**-1.2**
MXC	**Moxie City**	**1.36**	**131**	P	**Pn**	**19 26 51.3**	**-0.3**
MCW	**Mount Constitu**	**1.39**	**330**	P	**Pn**	**19 26 50.9**	**-1.1**
VGZ	**Gonzales**	**1.39**	**313**	P	**Pn**	**19 26 49.6**	**-2.4**
VGZ				S	**Sb**	**19 27 07.4**	**-3.1**
VGZ				Trac		19 27 08.0	
	comp=Z,58nm,0.1s						
BMW	**Boistfort Moun**	**1.40**	**225**	⇓P	**Pn**	**19 26 50.8**	**-1.3**
DHW2	**Dyer Hill 2**	**1.46**	**69**	P	**Pn**	**19 26 53.0**	**+0.1**
BVW	**Beverly**	**1.46**	**116**	P	**Pn**	**19 26 53.4**	**+0.5**
MTMW	**Mount Mitchell**	**1.48**	**191**	P	**Pn**	**19 26 52.4**	**-0.8**
EPH	**Ephrata**	**1.50**	**94**	P	**Pn**	**19 26 53.5**	**+0.1**
VDB	**Vedder Mountai**	**1.57**	**352**	⇓P	**Pn

SLEB				Sg	Sg	19 28 42.3	-5.2
SLEB				Trac		19 28 45.7	
	comp=Z,5.0nm,0.3s						
DOWB	**Downie Slide**	**4.58**	**27**	Pg	Pg	19 27 49.1	-4.7
DOWB				Sg	Sg	19 28 48.3	-4.8
DOWB				Trac		19 28 50.3	
	comp=Z,40nm,0.3s						
MNB	**Mounoet Dainar**	**5.22**	**24**	Pg	Pg	19 28 00.9	-5.2
MNB				Sg	Sg	19 29 09.8	-3.9
WALA	**Waterton Lakes**	**5.50**	**70**	P	Pn	19 27 48.6	+0.2
WALA				S	Sn	19 28 51.2	-0.6
WALA				Sg	Sg	19 29 14.9	-7.7
WALA				Trac		19 29 27.1	
	comp=Z,9.0nm,0.8s						

*IDC **09** 19:53:26.4±0.7, 1048N×6270W, h0km, mb3.9/10, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, ML3.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/22, Error ellipse: s-maj=22.4km s-min=17.0km az=108.0*

*NEIC **09** 19:53:28.8, 1038N×6270W, h16km, mb4.0/1, MD4.1(TRN), MW4.2(CAR), After CAR.*

*FUNV **09** 19:53:28.8, 1038N×6270W, h16km, MW4.2*

*ISCJB **09** 19:53:30.0±0.5, 1037N±003×6290W±002, h31km±4km, mb3.9/10, Error ellipse: s-maj=5.0km s-min=3.3km az=109.7*

*TRN **09** 19:53:29.7, 1040N×6294W, h21km*

ISC 09 19:53:30.6±0.5, 1038N±003×6288W±002, h22km±4km, n45, σ1§04/61, mb3.9/10, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.22**	**195**	i P	Pb	19 53 34.9	-1.3
GUNV				eS	Sb	19 53 40.4	+0.4
CRUV	**Carupano**	**0.46**	**310**	eP	Pb	19 53 40.1	+0.2
CRUV				eS	Sb	19 53 46.6	+0.4
GUIV	**Guiria**	**0.70**	**68**	eP	Pb	19 53 39.2	-4.9
GUIV				eS	Sb	19 53 46.8	-6.5
ITEV	**Isla Los Testi**	**1.00**	**346**	eP	Pb	19 53 47.7	-1.5
ITEV				eS	Sb	19 54 02.3	+0.3
ORIV	**Oritupano**	**1.40**	**202**	eP	Pn	19 53 54.2	-0.6
ORIV				eS	Sn	19 54 13.6	+1.0
TPP	**Pointe-a-Pierr**	**1.41**	**92**	eP	Pn	19 53 55.4	+0.5
TPP				eS	Sn	19 54 16.3	+3.5
TRN	**Trinidad (W)**	**1.48**	**79**	eP	Pn	19 53 54.0	-1.9
TRN				eS	Sn	19 54 15.1	+0.6
PCRV	**Puerto La Cruz**	**1.74**	**264**	eP	Pn	19 53 59.4	0.0
TBH	**Brigand Hill**	**1.79**	**86**	i eP	Pn	19 54 01.0	+0.9
GRW	**Mount Saint Ca**	**2.14**	**34**	eP	Pn	19 54 04.6	-0.4
GRW				eS	Sn	19 54 30.2	-0.6
IBAV	**Isla La Blanqu**	**2.20**	**311**	eP	Pn	19 54 06.0	+0.2
IBAV				eS	Sn	19 54 33.4	+1.1
GRHS	**Sauteurs**	**2.20**	**33**	eP	Pn	19 54 06.5	+0.7
GRHS				eS	Sn	19 54 32.1	-0.2
TPR	**Prospect**	**2.22**	**69**	eP	Pn	19 54 06.5	+0.5
TPR				eS	Sn	19 54 34.7	+1.9
BOT	**Bacolet**	**2.27**	**70**	eP	Pn	19 54 07.3	+0.6
GRSS	**Sisters**	**2.28**	**33**	eP	Pn	19 54 06.9	0.0
GRSS				eS	Sn	19 54 34.8	+0.5
GRIC	**Isle de Caille**	**2.28**	**34**	eP	Pn	19 54 06.9	0.0
GRCU	**Cariacou**	**2.51**	**34**	eP	Pn	19 54 10.1	0.0
GRCU				eS	Sn	19 54 38.5	-1.5
GURV	**El Guri**	**2.61**	**184**	eP	Pn	19 54 10.5	-0.9
CUPV	**Cœpira**	**2.88**	**264**	eP	Pn	19 54 16.0	+0.9
CUPV				eS	Sn	19 54 50.0	+1.0
SVB	**Belmont**	**3.29**	**29**	eP	Pn	19 54 22.0	+1.3
SVB	**Belmont**	**3.29**	**29**	eP	Pn	19 54 22.0	+1.3
MERV	**Las Mercedes**	**3.55**	**252**	eP	Pn	19 54 23.7	-0.6
MERV				eS	Sn	19 55 05.1	-0.5
ORCV	**Isla La Orchil**	**3.55**	**294**	eP	Pn	19 54 24.8	+0.5
CAOV	**Caicara del Or**	**4.55**	**229**	eP	Pn	19 54 38.0	-0.2
CAOV				eS	Sn	19 55 27.4	-3.0
MVM	**Montagne Vaucl**	**4.58**	**25**	eP	Pn	19 54 38.0	-0.5
FDF	**Fort de France**	**4.65**	**21**	i eP	Pn	19 54 38.9	-0.6
CRM	**Caravelle**	**4.75**	**24**	eP	Pn	19 54 40.7	-0.2
BAUV	**El Baul**	**5.28**	**255**	eP	Pn	19 54 47.5	-0.6
BAUV				eS	Sn	19 55 46.3	-2.1
LZG	**Guadaloupe-1**	**5.83**	**11**	eP	Pn	19 54 56.5	+0.8
SDV	**Santo Domingo**	**7.78**	**260**	Pn	Pn	19 55 24.3	+1.8
	18nm,0.3s,baz=88,slow=7.8,SNR=99						
SDV				Sn	Sn	19 56 50.7	+0.7
	7.1nm,0.3s,baz=35,slow=17,SNR=2.6						
ROSC	**El Rosal**	**12.60**	**245**	Pn	Pn	19 56 29.4	+0.9
	2.0nm,0.3s,baz=84,slow=22,SNR=2.6						
SIV	**San Ignacio**	**26.26**	**176**	P	P	19 59 04.1	0.0
	2.0nm,0.6s,mb3.8,baz=12,slow=10,SNR=9.2						
LPAZ	**La Paz**	**27.00**	**191**	P	P	19 59 11.6	+0.8
	0.6nm,0.7s,mb3.2,baz=94,slow=7.5,SNR=3.3						
LPAZ	**La Paz**	**27.00**	**191**	P	P	19 59 11.6	+0.8
PLCA	**Paso Flores**	**51.34**	**187**	P	P	20 02 34.3	+1.0
	2.0nm,1.0s,mb4.0,baz=354,slow=10,SNR=3.0						
PLCA	**Paso Flores**	**51.34**	**187**	eP	P	20 02 35.2	+2.0
	2.0nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**56.68**	**309**	P	P	20 03 13.4	+1.2
	0.3nm,0.5s,mb3.6,baz=234,slow=18,SNR=2.8						
TORD	**Torodi Ar. Bea**	**63.14**	**80**	P	P	20 03 56.2	-0.4
	1.3nm,0.8s,mb4.1,baz=285,slow=6.1,SNR=9.6						
YKA	**Yellowknife Ar**	**63.80**	**336**	P	P	20 03 58.6	-2.4
	0.9nm,0.4s,mb4.1,baz=111,slow=7.5,SNR=10.0						
EKA	**Eskdalemuir Ar**	**64.51**	**33**	P	P	20 04 03.8	-1.9
	2.5nm,1.0s,mb4.2,baz=270,slow=4.3,SNR=3.7						
INK	**Inuvik**	**73.30**	**339**	P	P	20 05 00.6	+0.3
	1.4nm,0.7s,mb4.0,baz=106,slow=11,SNR=6.4						
GERES	**GERESS Array B**	**73.43**	**42**	P	P	20 04 58.6	-2.5
	0.9nm,0.8s,mb3.8,baz=270,slow=6.9,SNR=4.0						
FINES	**FINESS Array B**	**80.47**	**29**	P	P	20 05 38.8	-2.0
	2.0nm,1.0s,mb4.0,baz=329,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**148.85**	**223**	PKPbc	PKPbc	20 13 17.8	+1.3
	1.9nm,0.8s,baz=259,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**160.87**	**238**	PKPab	PKPab	20 14 11.6	+0.2
	0.6nm,0.7s,baz=111,slow=4.3,SNR=7.4						

*ISCJB **09** 19:56:57.8±0.7, 3506N±002×406W±003, h12km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=6.5*

*MDD **09** 19:56:58.5±0.4, 3508N×402W, h0km, mb3.2/3, mbLg2.0/12, Error ellipse: s-maj=5.5km s-min=3.4km az=50.0, PRXIMO*

*CSEM **09** 19:56:58.2±0.2, 3505N×393W, h15km, MD3.5, Error ellipse: s-maj=4.9km s-min=3.4km az=91.0*

*CNRM **09** 19:57:00.3, 3506N×386W, h12km, MD3.5*

ISC 09 19:56:58.6±0.6, 3507N±002×402W±003, h13km±4km, n39, σ1§31/70, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.17**	**22**	i P	Pg	19 57 03.5	+1.1
TOU	**Touzarine**	**0.24**	**116**	P	Pg	19 57 03.0	-0.7
TOU				S	Sg	19 57 06.0	-1.1
TOU	**Touzarine**	**0.24**	**116**	i P	Pg	19 57 03.0	-0.7
EMEL	**Melilla**	**0.90**	**75**	P	Pb	19 57 15.7	-0.4
	136nm,0.2s,SNR=11						
EMEL				S	Sb	19 57 29.3	+1.4
	88nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.91**	**75**	P	Pb	19 57 15.7	-0.4
	136nm,0.2s,SNR=11						
EMLI				S	Sb	19 57 29.3	+1.2
	88nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**1.05**	**95**	eP	Pb	19 57 15.0	-3.6
ZAI				i S	Sb	19 57 30.0	-2.2
TAF	**Taforalt**	**1.34**	**100**	P	Pn	19 57 21.5	-1.5
EMIJ	**Mijas**	**1.61**	**338**	P	Pn	19 57 25.2	-1.5
	2.7nm,0.2s,SNR=8.8						
EMIJ				S	Sn	19 57 45.4	-2.0
	14nm,0.3s,SNR=4.6						
EJIF	**Jimena Fronter**	**1.82**	**320**	P	Pn	19 57 28.9	-0.6
	1.1nm,0.2s,SNR=7.9						
EJIF				S	Sn	19 57 52.3	-0.1
	2.4nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.82**	**320**	P	Pn	19 57 31.0	+1.5
	1.1nm,0.2s,SNR=7.9						
EJIF				S	Sn	19 57 52.3	-0.1
	2.4nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.04**	**26**	P	Pn	19 57 31.7	-0.9
	1.0nm,0.2s,SNR=7.2						
EBER				S	Sn	19 57 57.7	-0.3
	7.1nm,0.3s,SNR=5.1						
EBER	**Berja**	**2.04**	**26**	P	Pn	19 57 31.7	-0.9
	1.0nm,0.2s,SNR=7.2						
EBER				S	Sn	19 57 57.7	-0.3
	7.1nm,0.3s,SNR=5.1						
ELOJ	**Sierra Loja**	**2.08**	**357**	P	Pn	19 57 33.6	+0.5
	1.1nm,0.2s,SNR=7.9						
ELOJ				S	Sn	19 57 59.8	+0.9
	3.8nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.08**	**357**	P	Pn	19 57 31.4	-1.7
	1.1nm,0.2s,SNR=7.9						
ELOJ				S	Sn	19 57 59.8	+0.9
	3.8nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**2.18**	**12**	P	Pn	19 57 34.0	-0.6
	1.1nm,0.1s,SNR=7.9						
EQUE				S	Sn	19 58 01.6	+0.1
	5.9nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.20**	**203**	i P	Pn	19 57 36.0	+1.2
CZD				i S	Sn	19 58 02.0	+0.1
ECOG	**Cogollos-Vega**	**2.23**	**9**	P	Pn	19 57 37.1	+1.8
	1.4nm,0.2s,SNR=7.9						
ECOG				S	Sn	19 58 03.6	+0.9
	2.7nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.23**	**9**	P	Pn	19 57 37.1	+1.8
	1.4nm,0.2s,SNR=7.9						
ECOG				S	Sn	19 58 05.2	+2.5
	2.7nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.33**	**321**	P	Pn	19 57 37.3	+0.6
	0.6nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 58 05.0	-0.3
	5.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.33**	**321**	P	Pn	19 57 37.3	+0.6
	0.6nm,0.1s,SNR=7.9						
ESPR				S	Sn	19 58 06.5	+1.3
	5.5nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**2.50**	**355**	P	Pn	19 57 38.8	-0.1
	1.3nm,0.2s,SNR=7.9						
ELUQ				S	Sn	19 58 08.8	-0.4
	3.8nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.50**	**355**	P	Pn	19 57 41.0	+2.1
	1.3nm,0.2s,SNR=7.9						
ELUQ				S	Sn	19 58 11.8	+2.6
	3.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.83**	**15**	P	Pn	19 57 45.6	+2.1
	0.9nm,0.1s,SNR=9.1						
EQES				S	Sn	19 58 19.6	+2.1
	6.8nm,0.2s						
EQES	**Quesada**	**2.83**	**15**	P	Pn	19 57 45.6	+2.1
	0.9nm,0.1s,SNR=9.1						
EQES				S	Sn	19 58 19.7	+2.2
	6.8nm,0.2s						
KIB	**El Ksiba**	**3.00**	**215**	P	Pn	19 57 47.0	+1.2
KIB				S	Sn	19 58 21.0	-0.7
KIB	**El Ksiba**	**3.00**	**215**	eP	Pn	19 57 47.0	+1.2
ZFT	**Errachidia**	**3.04**	**185**	eP	Pn	19 57 48.0	+1.7
ZFT				i S	Sn	19 58 23.0	+0.4
EADA	**Adamuz**	**3.13**	**352**	P	Pn	19 57 48.6	+1.0
	0.6nm,0.2s,SNR=6.4						
EADA				S	Sn	19 58 25.6	+0.9
	6.3nm,0.3s						
EADA	**Adamuz**	**3.13**	**352**	P	Pn	19 57 48.6	+1.1
	0.6nm,0.2s,SNR=6.4						
EADA				S	Sn	19 58 30.0	+5.3
	6.3nm,0.3s						
EMIN	**Mina Concepcio**	**3.44**	**322**	P	Pn	19 57 51.8	-0.1
	0.3nm,0.1s,SNR=7.4						
EMIN				S	Sn	19 58 30.4	-2.1
	0.3nm,0.1s						
EMIN	**Mina Concepcio**	**3.44**	**322**	P	Pn	19 57 50.5	-1.4
	0.3nm,0.1s,SNR=7.4						
EMIN				S	Sn	19 58 30.4	-2.1
	0.3nm,0.1s						
EMUR	**La Murta**	**3.56**	**38**	S	Sn	19 58 32.9	-2.5
	3.5nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.56**	**38**	S	Sn	19 58 32.9	-2.6
	3.5nm,0.3s,SNR=4.0						
EGRO	**El Granado**	**3.73**	**312**	P	Pn	19 57 55.0	-0.8
	0.5nm,0.1s,SNR=7.3						
EGRO				S	Sn	19 58 37.0	-2.6
	1.6nm,0.2s						
EGRO	**El Granado**	**3.73**	**312**	P	Pn	19 57 55.0	-0.8
	0.5nm,0.1s,SNR=7.3						
ETOB	**Tobarra**	**4.08**	**28**	P	Pn	19 58 01.8	+1.1
	0.7nm,0.2s,SNR=7.9						
ETOB				S	Sn	19 58 47.3	-1.0
	0.5nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.08**	**28**	P	Pn	19 58 01.8	+1.1
	0.7nm,0.2s,SNR=7.9						
ETOB				S	Sn	19 58 47.3	-1.0
	0.5nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.39**	**328**	P	Pn	19 58 04.6	-0.3
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 58 52.9	-3.2
	2.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.18**	**344**	P	Pn	19 58 43.9	+0.6
	0.8nm,0.2s,SNR=4.0						

*IDC **09** 19:59:12.9±3.9, 3469N×7329E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/22, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=82.6km s-min=31.6km az=131.0*

*NEIC **09** 19:59:14.7±7.5, 3470N×7329E, h10km, mb3.2/1, Error ellipse: s-maj=112.0km s-min=29.4km az=165.0*

*ISCJB **09** 19:59:15.8±0.7, 3496N±009×729E±02, h10km, mb3.8/2, Error ellipse: s-maj=23.1km s-min=6.4km az=114.7*

ISC 09 19:59:17.0±0.7, 3493N±007×730E±01, h10km, n16, σ1§49/22, mb3.8/2, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.36**	**137**	eP	Pn	20 00 12.0	+2.5
THN				ex	Sn	20 00 58.6	+9.2
DLH	**Dalhousie**	**3.42**	**133**	eP	Pn	20 00 13.0	+2.6
DLH				ex	Sn	20 01 00.0	+8.9
SDNR	**Sundarnagar**	**4.76**	**135**	eP	Pn	20 00 30.8	+2.0
SDNR				eS	Sn	20 01 22.8	-1.3
SMLA	**Simla**	**5.15**	**136**	eP	Pn	20 00 34.5	+0.4
SMLA				eS	Sn	20 01 32.8	-0.9
KLP	**Kalpa**	**5.54**	**126**	eP	Pn	20 00 40.8	+1.3
KLP				eS	Sn	20 01 41.5	-1.8
KLP				AML	AML	20 02 17.4	
	comp=N,81nm,0.6s						
KLP				AML	AML	20 02 18.4	
	comp=E,95nm,0.6s						
DDI	**Dehra Dun**	**6.26**	**136**	ex	Sn	20 02 11.0	+10
NDI	**New Delhi**	**7.18**	**149**	ex	Sn	20 02 30.0	+6.3
SONA	**Sohna**	**7.51**	**151**	ex	Pn	20 01 04.3	-2.3
SONA				eS	Sn	20 02 31.0	-0.8
SONA				AML	AML	20 03 14.9	
	comp=N,11nm,0.2s						
SONA				AML	AML	20 03 16.1	
	comp=E,17nm,0.3s						
MKAR	**Makanchi Array**	**13.76**	**28**	Pn	Pn	20 02 30.2	-1.9
	comp=E,0.0nm,0.3s,baz=217,slow=7.2,SNR=3.6						
BVAR	**Borovoye Array**	**18.19**	**355**	P	Pn	20 03 30.4	+0.8
	comp=E,0.5nm,0.3s,baz=158,slow=9.6,SNR=15						
BRVK	**Borovoye**	**18.23**	**355**	eP	Pn	20 03 32.2	+2.2
	comp=E,1.7nm,0.9s						
AKTK	**Aktyubinsk**	**18.96**	**329**	P	Pn	20 03 38.1	-0.9
AKTO	**Aktyubinsk**	**18.96**	**329**	P	Pn	20 03 38.1	-0.9
	comp=E,0.3nm,0.3s,baz=122,slow=8.9,SNR=5.2						
ZAL	**Zalesovo**	**20.73**	**20**	P	P	20 03 57.1	-0.6
	comp=E,1.8nm,0.6s,baz=269,slow=7.6,SNR=8.3						
ARCES	**ARCESS Array B**	**43.22**	**338**	P	P	20 07 18.1	-0.1
	comp=E,1.4nm,0.5s,mb4.0,baz=101,slow=6.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**67.35**	**270**	P	P	20 10 11.5	-0.8
	comp=E,0.5nm,0.8s,mb3.6,baz=44,slow=6.4,SNR=4.7						

*IDC **09** 20:42:08.7±0.9, 049N×12220E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, Error ellipse: s-maj=130.9km s-min=17.9km az=66.0*

*ISCJB **09** 20:42:12.4±0.7, 06N±01×122.1E±03, h33km, mb4.1/9, Error ellipse: s-maj=48.6km s-min=11.3km az=138.1*

*NEIC **09** 20:42:16.8±6.8, 056N×12229E, h60km±66km, mb4.3/3, Error ellipse: s-maj=42.2km s-min=12.6km az=64.0*

ISC 09 20:42:14.5±0.7, 06N±01×1223E±03, h35km, n12, σ0§76/12, mb4.1/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.90**	**170**	eP	Pn	20 46 33.8	+1.0
	6.1nm,0.5s						
MBWA	**Marble Bar**	**21.80**	**186**	eP	P	20 47 03.3	-0.1
	3.6nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**23.60**	**151**	eP	P	20 47 22.5	+0.3
	15nm,1.2s,mb4.3						
WRA	**Warramunga Arr**	**23.61**	**151**	P	P	20 47 22.3	+0.1
	6.9nm,0.7s,mb4.2,baz=332,slow=10,SNR=33						
WB2	**Warramunga Arr**	**23.61**	**151**	eP	P	20 47 23.0	+0.7
STKA	**Stephens Creek**	**37.13**	**152**	P	P	20 49 19.1	-2.6
	2.3nm,0.5s,mb4.2,baz=328,slow=8.6,SNR=9.6						
STKA	**Stephens Creek**	**37.13**	**152**	eP	P	20 49 20.6	-1.1
SONM	**Songino Array**	**49.01**	**346**	P	P	20 50 58.3	+0.6
	0.7nm,0.6s,mb3.8,baz=161,slow=9.0,SNR=9.9						
MKAR	**Makanchi Array**	**57.71**	**328**	P	P	20 52 01.8	+0.2
	0.9nm,0.3s,mb4.2,baz=126,slow=8.6,SNR=34						
ZAL	**Zalesovo**	**61.45**	**336**	P	P	20 52 26.8	-0.6
	0.5nm,0.4s,mb4.0,baz=313,slow=2.8,SNR=3.3						
KURK	**Kurchatov**	**62.09**	**330**	eP	P	20 52 31.9	+0.2
	2.2nm,0.7s,mb4.4						
VNDA	**Vanda**	**80.96**	**172**	P	P	20 54 24.3	-1.1
	1.0nm,0.5s,mb4.0,baz=242,slow=4.7,SNR=6.6						

WEL 09 21:07:26.2±0.4, 3667S×17688E, h250km±4km, ML3.5/7, Error ellipse: s-maj=10.1km s-min=6.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.60**	**173**	ePN	Pn	21 08 05.5	+0.3
URZ				SN	S	21 08 35.1	-0.8
MWZ	**Matawai**	**1.74**	**163**	ePN	Pn	21 08 06.7	+0.4
MWZ				SN	S	21 08 37.7	-0.3
KNZ	**Kokohu**	**2.43**	**165**	ePN	Pn	21 08 12.6	0.0
BKZ	**Black Stump Fm**	**2.51**	**187**	PN	Pn	21 08 13.8	+0.3
BKZ				SN	S	21 08 51.1	+0.3
TSZ	**Takapari Road**	**3.46**	**192**	ePN	Pn	21 08 23.5	-0.2
TSZ				SN	S	21 09 09.1	-0.2
MRZ	**Mangatainoka R**	**4.11**	**194**	ePN	Pn	21 08 30.7	-0.6
MRZ				SN	S	21 09 20.7	-2.3
KIW	**Kapiti Island**	**4.46**	**200**	ePN	Pn	21 08 34.4	-1.0
CAW	**Cannon Point**	**4.65**	**197**	ePN	Pn	21 08 36.5	-1.2
TCW	**Tory Channel**	**4.97**	**203**	ePN	Pn	21 08 40.6	-0.9
NNZ	**Nelson**	**5.30**	**210**	SN	S	21 09 47.6	-1.3
THZ	**Tophouse**	**5.95**	**210**	ePN	Pn	21 08 50.4	-3.3
KHZ	**Kahutara**	**6.29**	**203**	ePN	Pn	21 08 56.8	-1.1
LTZ	**Lake Taylor**	**7.06**	**209**	ePN	Pn	21 09 06.0	-1.6
LTZ				SN	S	21 10 23.7	-5.2
MQZ	**McQueen's Vall**	**7.74**	**203**	SN	S	21 10 38.4	-6.2

IDC 09 22:01:35.1±3.8, 259N×9656E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=148.8km s-min=27.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.31**	**123**	P	P	22 09 39.0	+0.4
	1.2nm,1.0s,baz=300,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**45.75**	**346**	P	P	22 09 58.3	+0.2
	2.3nm,0.8s,baz=162,slow=7.4,SNR=25						
SONM	**Songino Array**	**45.87**	**9**	P	P	22 09 59.2	+0.1
	1.1nm,0.8s,baz=191,slow=7.6,SNR=9.7						
ZAL	**Zalesovo**	**52.09**	**351**	P	P	22 10 46.4	-0.4
	1.1nm,0.5s,baz=314,slow=5.7,SNR=8.9						

*MDD **09** 22:07:23.1±0.6, 3878N×834W, h0km, mbLg1.4/5, Error ellipse: s-maj=6.9km s-min=3.3km az=94.0, PRXIMO*

INMG 09 22:07:22.5±1.2, 3874N×845W, h15km±4km, ML1.3, Error ellipse: s-maj=3.8km s-min=2.3km az=82.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.23**	**160**	ePg	Pg	22 07 27.5	-0.2
MOE				eSg	Sg	22 07 31.2	0.0
PLOU	**Loures**	**0.56**	**285**	eSg	Sg	22 07 40.4	-0.7
PLOU							
	12nm,0.3s						
PLOU	**Loures**	**0.56**	**285**	Lg		22 07 40.4	
	6.2nm,0.3s						
PBEJ	**Beja**	**0.85**	**147**	eSg	Sg	22 07 49.2	-1.0
PTOM	**Tomar**	**0.87**	**2**	eP	Pb	22 07 38.2	-1.2
PTOM				eS	Sb	22 07 49.9	-1.0
PTOM							
	7.8nm,0.2s						
EBAD	**Badajoz**	**1.13**	**89**	Pg	Pg	22 07 42.6	-1.7
	0.6nm,0.1s,SNR=7.9						
EBAD				Lg		22 07 57.9	
	3.1nm,0.1s,SNR=22						
PTEO	**Sao Teotonio**	**1.22**	**190**	eS	Sb	22 07 59.4	-1.3
PTEO							
	3.8nm,0.1s						
PTEO	**Sao Teotonio**	**1.22**	**190**	Lg		22 07 59.4	
	1.9nm,0.1s						
PCBR	**Castelo Branco**	**1.33**	**34**	eS	Sn	22 08 03.1	-0.9
EGRO	**El Granado**	**1.43**	**147**	Pg	Pg	22 07 48.0	-2.0
	0.2nm,0.1s,SNR=4.0						
EGRO				Lg		22 08 06.8	
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.71**	**124**	Pg	Pg	22 07 52.4	-2.9
	0.1nm,0.1s,SNR=4.0						
EMIN				Lg		22 08 14.9	
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.10**	**100**	Lg		22 08 58.5	
	0.3nm,0.1s,SNR=4.0						

*IDC **09** 22:47:37.1±1.2, 536N×12358E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=161.9km s-min=22.1km az=66.0*

*ISCJB **09** 22:47:39.9±0.9, 54N±05×124E±, h33km, mb3.6/5, Error ellipse: s-maj=159.3km s-min=15.3km az=130.0*

*NEIC **09** 22:47:42.2±0.7, 551N×12387E, h35km, mb4.4/1, Error ellipse: s-maj=123.0km s-min=11.8km az=65.0*

ISC 09 22:47:42.3±0.9, 55N±05×124E±, h35km, n8, σ0§46/8, mb3.6/5, Mindanao

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

SWA1		**6.80**	**205**	P	**Pn**	**22 52 30.5 +0.1**
SWA1				S	**Sn**	**22 53 41.0 -6.0**
SWA2		**6.90**	**206**	P	**Pn**	**22 52 32.0 +0.2**
HNKL	**Nakhl**	**6.98**	**141**	⇓P	**Pn**	**22 52 32.5 -0.5**
HKAT	**Jabal Katrina**	**8.16**	**147**	P	**Pn**	**22 52 49.1 -0.1**

MAN 09 23:29:32.0, 1524N×12135E, h28km, mb2.8, ML4.3, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.55**	**24**	*e*P	Pb	23 29 43.3	+0.2
BALP				*e*S	Sb	23 29 53.5	+2.9
POLP	**Polilio Island**	**0.76**	**131**	*e*P	Pb	23 29 47.1	+0.4
POLP				*e*S	Sb	23 30 00.4	+3.7
GQP	**Guinayangan**	**1.70**	**141**	⇑*e*P	Pn	23 29 59.5	-0.3
GQP				*e*S	Sn	23 30 21.1	+0.5
ABRA	**Dolores**	**2.48**	**346**	*e*P	Pn	23 30 11.7	+1.3
APYP	**Conner**	**2.61**	**358**	*e*P	Pn	23 30 10.4	-1.8
APYP				*e*S	Sn	23 30 38.9	-4.2

*ISCJB **09** 23:47:09.8±0.8, 3515N±003×27.18E±003, h13km±6km, mb3.7/9, Error ellipse: s-maj=5.0km s-min=4.0km az=74.6*
*ISK **09** 23:47:09.9, 3511N×2697E, h85km, MD3.7, ML3.8*
*HLW **09** 23:47:09.9, 3544N×2728E, h18km, Mb3.2*
*CSEM **09** 23:47:10.1±0.1, 3517N×2723E, h15km, mb4.3/2, Error ellipse: s-maj=2.9km s-min=1.9km az=143.0*
*NEIC **09** 23:47:11.9, 3540N×2708E, h22km, ML3.8(ATH), After ATH.*
*ATH **09** 23:47:11.9, 3540N×2708E, h22km±3km, MD3.8/7*
*THE **09** 23:47:14.8, 3539N×2695E, h10km, ML3.9*
*IDC **09** 23:47:15.2±3.4, 3529N×2706E, h39km±31km, mb3.5/6, mb1 3.6/9, mb1mx3.5/23, mbtmp3.6/9, ML3.5/3, Error ellipse: s-maj=35.7km s-min=15.8km az=151.0*

ISC 09 23:47:10.5±0.8, 3518N±003×2719E±003, h4km±6km, n80, σ1§16/92, mb3.7/9, 5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.36**	**356**	*e*PB	**Pg**	**23 47 16.5**	**-1.0**
ZKR	**Zakros**	**0.80**	**265**	*e*Pg	**Pg**	**23 47 25.5**	**-0.3**
ZKR				*e*Sg	**Sg**	**23 47 37.6**	**+1.4**
ARG	**Arkhangelos**	**1.28**	**36**	*e*PN	**Pn**	**23 47 33.8**	**-1.3**
ARG				*e*SN	**Sn**	**23 47 51.9**	**-0.8**
NPS	**Neapolis**	**1.29**	**274**	*e*PN	**Pn**	**23 47 34.8**	**-0.4**
LAST	**Lasithi**	**1.40**	**270**	*e*Pg	**Pg**	**23 47 36.6**	**-0.8**
LAST				*e*Sg	**Sg**	**23 47 57.9**	**+2.4**
NISR	**Nisiros**	**1.43**	**358**	*e*PN	**Pn**	**23 47 35.0**	**-2.1**
SANT	**Santorini**	**1.84**	**311**	*e*Pg	**Pg**	**23 47 41.6**	**-4.1**
SANT	**Santorini**	**1.84**	**311**	*e*Pn	**Pn**	**23 47 41.0**	**-1.8**
SANT	**Santorini**	**1.84**	**311**	*e*Pg	**Pg**	**23 47 41.6**	**-4.1**
SANT				*e*Sn	**Sn**	**23 47 57.5**	**-8.9**
SANT	**Santorini**	**1.84**	**311**	*e*Pn	**Pn**	**23 47 41.0**	**-1.8**
SANT				*e*Sn	**Sn**	**23 47 57.5**	**-8.9**
BODT	**Bodrum**	**1.88**	**3**	PN	**Pn**	**23 47 43.1**	**-0.2**
BODT				SN	**Sn**	**23 48 06.7**	**-0.7**
IDI	**Anoyia**	**1.89**	**274**	Pn	**Pn**	**23 47 43.6**	**+0.2**
	27nm,0.3s,baz=60,slow=12,SNR=102						
SIVA	**Sivas**	**1.96**	**266**	*e*Pb	**Pb**	**23 47 47.7**	**+1.0**
DALT	**Dalyan (Mudla)**	**1.97**	**36**	PN	**Pn**	**23 47 45.9**	**+1.3**
FETY	**Fethiye**	**2.11**	**46**	PN	**Pn**	**23 47 47.0**	**+0.5**
MLSB	**Milas**	**2.16**	**13**	PN	**Pn**	**23 47 46.2**	**-1.0**
APE	**Apeiranthos**	**2.31**	**325**	PN	**Pn**	**23 47 47.0**	**-2.2**
APE	**Apeiranthos**	**2.31**	**325**	*e*Pn	**Pn**	**23 47 47.5**	**-1.7**
APE				*e*Sn	**Sn**	**23 48 13.7**	**-4.4**
VAM	**Vamos**	**2.46**	**276**	*e*PB	**Pb**	**23 47 51.8**	**-3.3**
AYDN	**Tasoluk**	**2.53**	**12**	*i* P	**Pn**	**23 47 53.0**	**+0.7**
AYDN	**Tasoluk**	**2.53**	**12**	*i* P	**Pn**	**23 47 53.0**	**+0.7**
GVD	**Gavdhos**	**2.57**	**263**	*e*Pg	**Pg**	**23 47 58.6**	**-1.1**
GVD				*e*Sn	**Sn**	**23 48 16.3**	**-8.2**
GVD	**Gavdhos**	**2.57**	**263**	*e*Pg	**Pg**	**23 47 58.6**	**-1.1**
GVD				*e*Sn	**Sn**	**23 48 16.3**	**-8.2**
ELL	**Elmali**	**2.70**	**54**	PN	**Pn**	**23 47 55.6**	**+1.0**
GOLH	**Golhisar**	**2.81**	**42**	*i* P	**Pn**	**23 47 57.0**	**+1.0**
DNZL	**Cakiroluk**	**2.92**	**30**	*i* P	**Pn**	**23 47 58.5**	**+0.9**
DENT	**Denizli**	**2.96**	**30**	PN	**Pn**	**23 47 58.5**	**+0.3**
BLCB	**Balcova**	**3.20**	**358**	*e*PN	**Pn**	**23 48 00.5**	**-0.9**
KDAG	**Bornova**	**3.21**	**1**	*i* P	**Pn**	**23 48 01.9**	**+0.3**
BCK	**Bucak**	**3.56**	**49**	*e*PN	**Pn**	**23 48 06.6**	**+0.1**
AKS	**Akhisar**	**3.72**	**8**	*e*PN	**Pn**	**23 48 07.7**	**-0.9**
ISP	**Isparta**	**3.77**	**44**	*e*PN	**Pn**	**23 48 09.2**	**-0.1**
ISP	**Isparta**	**3.77**	**44**	*e*Pn	**Pn**	**23 48 07.9**	**-1.4**
ISP				*e*Pg	**Pg**	**23 48 19.1**	**-3.6**
VLI	**Veliai**	**3.77**	**295**	*e*PN	**Pn**	**23 48 08.7**	**-0.7**
TKTP	**Tekketepe**	**3.80**	**41**	*i* P	**Pn**	**23 48 10.4**	**+0.6**
SLUM		**4.04**	**205**	⇓P	**Pn**	**23 48 14.2**	**+1.2**
DABA	**Dabaa**	**4.26**	**167**	⇓P	**Pn**	**23 48 16.1**	**0.0**
KONT	**Konya--Tatoy**	**4.99**	**55**	*e*PN	**Pn**	**23 48 26.1**	**0.0**
ULDT	**Uludag**	**5.18**	**17**	*i* P	**Pn**	**23 48 28.5**	**-0.3**
XOR	**Xorichti**	**5.25**	**324**	*e*Pn	**Pn**	**23 48 29.9**	**+0.3**
	comp=Z,0.9nm,0.6s						
KIZT	**Kizilcal**	**5.26**	**44**	*e*PN	**Pn**	**23 48 29.4**	**-0.4**
AGG	**Agios Georgios**	**5.45**	**316**	*e*Pn	**Pn**	**23 48 34.5**	**+2.0**
	comp=Z,1.5nm,1.0s						
SWA1		**6.04**	**192**	⇓P	**Pn**	**23 48 41.2**	**+0.8**
SWA1				S	**Sn**	**23 49 48.9**	**-1.0**
SWA2		**6.10**	**194**	⇓P	**Pn**	**23 48 42.0**	**+0.6**
ANTO	**Ankara**	**6.46**	**42**	*e*Pn	**Pn**	**23 48 46.2**	**0.0**
	7.0nm,0.8s						
ANTO	**Ankara**	**6.46**	**42**	*e*Pn	**Pn**	**23 48 46.2**	**-0.1**
	7.0nm,0.8s						
GLL	**Jalalah**	**6.77**	**144**	P	**Pn**	**23 48 50.3**	**-0.2**
BR131	**Keskin Array S**	**6.84**	**47**	*e*Pn	**Pn**	**23 48 50.8**	**-0.7**
	2.6nm,0.7s						
BR131				*e*Sn	Sx	23 49 56.2	
BRTR	**Keskin Array B**	**6.84**	**47**	Pn	**Pn**	**23 48 51.7**	**+0.2**
	0.3nm,0.3s,baz=216,slow=14,SNR=9.9						
BRTR				Sn	**Sn**	**23 50 12.4**	**+2.6**
	0.1nm,0.3s,baz=216,slow=24,SNR=4.5						
GRG	**Griva**	**6.89**	**328**	*e*Pn	**Pn**	**23 48 53.0**	**+0.8**
SUZ		**7.15**	**137**	⇓P	**Pn**	**23 48 54.5**	**-1.3**
FNA	**Florina**	**7.23**	**322**	*e*Pn	**Pn**	**23 48 58.6**	**+1.7**
	comp=Z,0.7nm,0.8s						
HFRF	**Wahat Farafira**	**8.07**	**173**	P	**Pn**	**23 49 08.1**	**-0.2**
MLR	**Muntele Rosu**	**10.34**	**355**	Pn	**Pn**	**23 49 40.2**	**+0.7**
	0.1nm,0.3s,baz=242,slow=6.3,SNR=3.4						
AKASG	**Malin Array Be**	**15.58**	**5**	Pn	**Pn**	**23 50 53.7**	**+2.9**
	0.6nm,0.3s,baz=193,slow=12,SNR=3.3						
VRAC	**Vranov**	**16.12**	**334**	Pn	**Pn**	**23 51 00.6**	**+2.7**
	0.5nm,0.3s,baz=169,slow=16,SNR=2.6						
GERES	**GERESS Array B**	**16.90**	**328**	Pn	**Pn**	**23 51 09.0**	**+1.3**
	0.1nm,0.3s,baz=139,slow=12,SNR=5.3						
KHC	**Kasperske Hory**	**17.17**	**328**	*e*P	**Pn**	**23 51 11.5**	**+0.4**
LPL	**La Plagne**	**18.65**	**310**	*e*P	**Pn**	**23 51 28.9**	**-0.5**
	46nm,1.7s						
LPL	**La Plagne**	**18.65**	**310**	*e*P	**Pn**	**23 51 28.9**	**-0.5**
	45nm,1.7s						
HINF	**Hinteralfeld**	**19.71**	**316**	*e*P	**Pn**	**23 51 41.7**	**-0.5**
CDF	**Champ du Feu**	**19.80**	**318**	*e*P	**Pn**	**23 51 41.3**	**-2.0**
HAU	**Haudompre**	**20.10**	**316**	*e*P	**P**	**23 51 47.3**	**+2.3**
	3.1nm,0.5s						
HAU	**Haudompre**	**20.10**	**316**	*e*P	**P**	**23 51 47.3**	**+2.3**
	3.0nm,0.5s						
SMF	**Signal de Mont**	**20.95**	**310**	*e*P	**P**	**23 51 54.6**	**+0.3**
AVF	**Avril sur Loir**	**21.32**	**310**	*e*P	**P**	**23 51 58.9**	**+0.7**
	18nm,1.4s,mb3.9						
AVF	**Avril sur Loir**	**21.32**	**310**	*e*P	**P**	**23 51 58.9**	**+0.7**
	18nm,1.4s,mb4.2						
SSF	**Saint Saulge**	**21.34**	**311**	*e*P	**P**	**23 51 55.7**	**-2.7**
	14nm,1.0s,mb3.9						
BGF	**Bois d'Agland**	**21.54**	**309**	*e*P	**P**	**23 52 01.1**	**+0.5**
	14nm,0.9s,mb4.1						
BGF	**Bois d'Agland**	**21.54**	**309**	*e*P	**P**	**23 52 01.1**	**+0.5**
	14nm,0.9s,mb4.4						
FLN	**La Foliniere**	**24.48**	**312**	*e*P	**P**	**23 52 29.9**	**-0.6**
ESDC	**Sonseca Array**	**25.07**	**290**	P	**P**	**23 52 34.8**	**-1.1**
	0.5nm,0.3s,mb3.5,baz=90,slow=10.0,SNR=5.5						
FINES	**FINESS Array B**	**26.29**	**359**	P	**P**	**23 52 44.4**	**-2.5**
	0.5nm,0.5s,mb3.3,baz=169,slow=9.7,SNR=4.5						
AKTK	**Aktyubinsk**	**27.02**	**46**	P	**P**	**23 52 55.0**	**+1.4**
AKTK	**Aktyubinsk**	**27.02**	**46**	P	**P**	**23 52 55.0**	**+1.5**
AKTO	**Aktyubinsk**	**27.02**	**46**	P	**P**	**23 52 55.0**	**+1.5**
	0.5nm,0.5s,mb3.3,baz=235,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**31.80**	**233**	P	**P**	**23 53 35.7**	**-0.3**
	0.8nm,0.7s,mb3.6,baz=34,slow=8.6,SNR=7.5						
MKAR	**Makanchi Array**	**42.37**	**57**	P	**P**	**23 55 05.0**	**-0.7**
	0.5nm,0.5s,mb3.4,baz=275,slow=7.1,SNR=20						
TSUM	**Tsumeb**	**54.85**	**191**	*e*P	**P**	**23 56 38.0**	**-3.8**
SONM	**Songino Array**	**58.18**	**51**	P	**P**	**23 57 05.4**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=287,slow=7.3,SNR=6.0						

BJI 09 23:59:38.9, 2740N×11992E, h16km, mB4.4, mb4.4, ML4.2, Ms4.0, Msz3.7, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.72**	**206**	PG	Pg	00 00 27.7	-3.4
QZH				SG	Sg	00 01 03.9	-2.5
QZH				Smax			
	comp=N,770nm,0.4s						
QZH				Smax			
	comp=E,1μm,0.8s						
SSE	**Sheshan**	**3.84**	**16**	PG	Pg	00 00 46.9	-5.7
SSE				SG	Sg	00 01 32.0	-10
SSE				Smax			
	comp=N,240nm,0.9s						
SSE				Smax			
	comp=E,353nm,0.8s						
NJ2	**Nanjing**	**4.73**	**349**	*e*PG	Pg	00 01 05.1	-4.3
NJ2				SG	Sg	00 02 01.8	-8.9
NJ2				Smax			
	comp=N,760nm,0.6s						
NJ2				Smax			
	comp=E,580nm,1.0s						
LZH	**Lanzhou**	**16.17**	**306**	*e*P	Pn	00 03 24.1	-1.3
LZH				PP		00 03 37.1	
LZH				*e*S	Sn	00 06 21.5	-2.9
LZH				*e*SS		00 06 40.3	
LZH				AMB	AMB		
	comp=Z,18nm,1.4s						
LZH				AMB	AMB		
	comp=Z,51nm,4.2s						
LZH				LR	LR		
	comp=N,356nm,14.8s						
LZH				LR	LR		
	comp=Z,542nm,15.3s						

*CSEM **10** 00:24:56.0±0.1, 6781N×2013E, h1km, ML2.9/1, Error ellipse: s-maj=3.2km s-min=2.6km az=137.0, Mining explosion.*
*UPP **10** 00:24:57.1, 6787N×2018E, h12km, ML2.6, Mining explosion.*
*BER **10** 00:24:58.7±0.4, 6787N×2008E, h0km, ML1.4, Suspected explosion*

HEL 10 00:24:57.7±0.1, 6786N×2017E, h0km, ML1.5, ML2.6(UPP), ML1.4(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**32**	*i* P	Pg	00 24 59.2	-0.7
KUA				*i* S	Sg	00 25 00.9	-0.5
NIKU	**Nikkaluokta**	**0.43**	**272**	*i* P	Pg	00 25 05.3	-0.7
LANU	**Lannavaara**	**0.71**	**73**	*i* P	Pg	00 25 10.4	-1.0
DUNU	**Dundret**	**0.75**	**168**	*i* P	Pg	00 25 11.3	-0.8
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	00 25 11.8	-1.2
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 25 11.8	-1.4
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	00 25 20.6	+0.4
KIF				*e*S	Sg	00 25 36.5	+0.9
KIF	**Kilpisjarvi**	**1.18**	**11**	P	Pg	00 25 20.6	+0.3
KIF				S	Sg	00 25 36.4	+0.8
PAJU	**Pajala**	**1.41**	**125**	*e*P	Pn	00 25 22.3	-2.3
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	00 25 24.3	-1.9
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	00 25 26.6	-0.9
KTK1				*e*S	Sn	00 25 47.7	-1.5
KTK1				AML	AML	00 25 52.0	
	comp=Z,5.8nm,0.2s						
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	00 25 26.6	-0.9
	SNR=50						
KTK1				*e*S	Sn	00 25 47.7	-1.4
	comp=Z,5.8nm,0.2s,SNR=50						
TRO	**Tromso**	**1.84**	**346**	*e*P	Pn	00 25 29.3	-1.3
SJUU	**Sjulsmark**	**2.43**	**166**	*e*P	Pn	00 25 38.5	-0.1
SGF	**Sodankyl**	**2.46**	**97**	*e*P	Pn	00 25 40.0	+0.8
SGF				*e*S	Sn	00 26 09.4	-0.5
SGF				MSG		00 26 14.1	
	comp=Z,1.7nm,0.2s						
SGF	**Sodankyl**	**2.46**	**97**	P	Pn	00 25 39.9	+0.8
SGF				S	Sn	00 26 09.4	-0.5
	comp=Z,1.7nm,0.2s						
MOR8	**Moi Rana**	**2.81**	**236**	*e*PG	Pg	00 25 45.6	-6.1
MOR8				*e*SG	Sg	00 26 20.7	-7.5
MOR8				AML	AML	00 26 21.5	
	comp=Z,3.7nm,0.2s						
MOR8	**Moi Rana**	**2.81**	**236**	*e*Pg	Pg	00 25 45.6	-6.1
	SNR=90						
MOR8				*e*Sg	Sg	00 26 20.7	-7.4
	comp=Z,3.7nm,0.2s,SNR=90						
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	00 25 48.5	+0.3
KEV				*e*S	Sn	00 26 26.7	+0.3
KEV				MSG		00 26 34.5	
	comp=Z,1.5nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	P	Pn	00 25 48.5	+0.2
KEV				S	Sn	00 26 26.7	+0.3
	comp=Z,1.5nm,0.2s						
OUL	**Oulu**	**3.60**	**138**	*e*SG	Sg	00 26 49.8	-3.8
OUL				MSG		00 26 54.3	
	comp=Z,0.6nm,0.2s						
KU4	**Liikasenvaara**	**3.97**	**108**	*e*SG	Sg	00 26 59.9	-5.3
KU4				MSG		00 27 05.3	
	comp=Z,0.5nm,0.2s						

*NEIC **10** 00:33:39.6, 3900S×17494E, h199km, MG4.0(WEL), After WEL.*

WEL 10 00:33:40.1±0.3, 3906S×17493E, h196km±2km, ML4.0/16, 9C-3D, Error ellipse: s-maj=2.6km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.15**	**244**	PN	Pn	00 34 05.2	-0.7
VRZ				SN	Sn	00 34 25.4	-0.3
VRZ	**Vera Road**	**0.15**	**244**	P	Pn	00 34 05.2	-0.6
PKVZ	**Pokaka**	**0.40**	**126**	⇑PN	Pn	00 34 06.2	-0.1
PKVZ				SN	Sn	00 34 26.5	-0.1
RAEZ	**Rainy Point**	**0.47**	**241**	⇑PN	Pn	00 34 06.4	-0.2
RAEZ	**Rainy Point**	**0.47**	**241**	P	Pn	00 34 06.4	-0.2
WPVZ	**Whakapapa**	**0.50**	**107**	PN	Pn	00 34 06.7	0.0
WPVZ				SN	Sn	00 34 27.1	-0.2
WPVZ	**Whakapapa**	**0.50**	**107**	P	Pn	00 34 06.7	0.0
MTVZ	**Mangateitei**	**0.53**	**128**	PN	Pn	00 34 06.9	+0.1
MTVZ				SN	Sn	00 34 26.8	-0.6
NGZ	**Ngauruhoe**	**0.54**	**103**	⇑PN	Pn	00 34 06.9	+0.1
NGZ				SN	Sn	00 34 27.0	-0.5
NGZ	**Ngauruhoe**	**0.54**	**103**	P	Pn	00 34 06.9	+0.1
NGZ				S	Sn	00 34 27.0	-0.5
TRVZ	**Turoa**	**0.54**	**117**	PN	Pn	00 34 07.1	+0.2
HIZ	**Hauiti**	**0.55**	**354**	⇑PN	Pn	00 34 06.1	-0.7
HIZ				SN	Sn	00 34 26.6	-1.0
HIZ	**Hauiti**	**0.55**	**354**	P	Pn	00 34 06.1	-0.8
HIZ				S	Sn	00 34 26.6	-1.0
OTVZ	**Oturere**	**0.58**	**101**	PN	Pn	00 34 07.3	+0.3
OTVZ				SN	Sn	00 34 28.0	+0.2
WNVZ	**Wahianoa**	**0.58**	**117**	PN	Pn	00 34 07.4	+0.4
WNVZ	**Wahianoa**	**0.58**	**117**	P	Pn	00 34 07.4	+0.4
TUVZ	**Tukino**	**0.60**	**111**	PN	Pn	00 34 07.3	+0.2
TUVZ				SN	Sn	00 34 27.9	-0.1
NEZ	**North Egmont**	**0.68**	**252**	⇓PN	Pn	00 34 07.6	+0.2
NEZ	**North Egmont**	**0.68**	**252**	P	Pn	00 34 07.6	+0.1
WAZ	**Wanganui**	**0.70**	**176**	⇑PN	Pn	00 34 07.9	+0.3
MOVZ	**Moawhango**	**0.73**	**119**	⇑PN	Pn	00 34 07.6	-0.1
MOVZ				SN	Sn	00 34 27.6	-1.5
MOVZ	**Moawhango**	**0.73**	**119**	P	Pn	00 34 07.6	-0.1
PKE	**Pukeiti**	**0.74**	**259**	PN	Pn	00 34 07.6	-0.2
PKE	**Pukeiti**	**0.74**	**259**	P	Pn	00 34 07.6	-0.2
NRZ	**Ngariki Road**	**0.82**	**250**	PN	Pn	00 34 08.2	-0.1
NRZ	**Ngariki Road**	**0.82**	**250**	P	Pn	00 34 08.2	-0.1
NWEZ	**Newall Road**	**0.85**	**255**	PN	Pn	00 34 08.0	-0.4
NWEZ	**Newall Road**	**0.85**	**255**	P	Pn	00 34 07.5	-0.9
BKZ	**Black Stump Fm**	**1.22**	**95**	PN	Pn	00 34 10.6	-0.4
BKZ				SN	Sn	00 34 32.9	-2.0
BKZ	**Black Stump Fm**	**1.22**	**95**	P	Pn	00 34 10.6	-0.4
BKZ				S	Sn	00 34 32.9	-2.1
TSZ	**Takapari Road**	**1.28**	**142**	PN	Pn	00 34 11.7	+0.2
TSZ	**Takapari Road**	**1.28**	**142**	P	Pn	00 34 11.7	+0.2
MRZ	**Mangatainoka R**	**1.68**	**163**	PN	Pn	00 34 14.7	-0.4
MRZ				SN	Sn	00 34 40.1	-2.0
MRZ	**Mangatainoka R**	**1.68**	**163**	P	Pn	00 34 14.7	-0.3
PXZ	**Pawanui**	**1.78**	**124**	PN	Pn	00 34 16.1	0.0
KIW	**Kapiti Island**	**1.80**	**180**	⇑PN	Pn	00 34 15.7	-0.6
KIW	**Kapiti Island**	**1.80**	**180**	P	Pn	00 34 15.7	-0.5
URZ	**Urewera**	**1.89**	**66**	⇓PN	Pn	00 34 15.4	-1.7
URZ				SN	Sn	00 34 42.2	-3.6
URZ	**Urewera**	**1.89**	**66**	⇓P	Pn	00 34 15.4	-1.7
DUWZ	**D'Urville Isla**	**1.91**	**204**	PN	Pn	00 34 16.4	-0.9
DUWZ				SN	Sn	00 34 43.9	-2.3
BFZ	**Birch Farm**	**1.91**	**148**	PN	Pn	00 34 17.0	-0.3
BFZ	**Birch Farm**	**1.91**	**148**	*e*P	Pn	00 34 17.0	-0.3
CAW	**Cannon Point**	**2.05**	**177**	PN	Pn	00 34 18.2	-0.6
CAW	**Cannon Point**	**2.05**	**177**	P	Pn	00 34 18.2	-0.6
KNZ	**Kokohu**	**2.14**	**90**	PN	Pn	00 34 18.9	-0.8
KNZ				SN	Sn	00 34 47.3	-3.2
KNZ	**Kokohu**	**2.14**	**90**	P	Pn	00 34 18.9	-0.8
MTW	**Mount Morrison**	**2.14**	**168**	PN	Pn	00 34 18.8	-1.0
MTW	**Mount Morrison**	**2.14**	**168**	P	Pn	00 34 18.8	-1.0
MWZ	**Matawai**	**2.16**	**71**	⇑PN	Pn	00 34 18.7	-1.2
MWZ				SN	Sn	00 34 46.7	-4.2
MWZ	**Matawai**	**2.16**	**71**	P	Pn	00 34 18.7	-1.2
MRW	**Makara Radio**	**2.17**	**185**	PN	Pn	00 34 19.3	-0.8
MRW	**Makara Radio**	**2.17**	**185**	P	Pn	00 34 19.3	-0.8
TCW	**Tory Channel**	**2.21**	**193**	PN	Pn	00 34 19.8	-0.6
TCW	**Tory Channel**	**2.21**	**193**	P	Pn	00 34 19.8	-0.7
WEL	**Wellington**	**2.23**	**183**	PN	Pn	00 34 19.7	-0.9
WEL	**Wellington**	**2.23**	**183**	P	Pn	00 34 19.9	-0.8
SNZO	**South Karori**	**2.25**	**184**	PN	Pn	00 34 20.0	-1.0
SNZO	**South Karori**	**2.25**	**184**	P	Pn	00 34 20.0	-1.0
BHW	**Baring Head**	**2.35**	**181**	PN	Pn	00 34 21.0	-1.0
BHW	**Baring Head**	**2.35**	**181**	P	Pn	00 34 19.9	-2.1
PAWZ	**Paruwai Farm**	**2.35**	**171**	PN	Pn	00 34 21.0	-1.1
PAWZ	**Paruwai Farm**	**2.35**	**171**	P	Pn	00 34 21.0	-1.0
MSWZ	**Moikau Station**	**2.37**	**174**	PN	Pn	00 34 21.1	-1.1
MSWZ				SN	Sn	00 34 52.2	-2.8
MSWZ	**Moikau Station**	**2.37**	**174**	P	Pn	00 34 21.2	-1.0
TRWZ	**Traveller**	**2.41**	**166**	PN	Pn	00 34 21.7	-1.0
NNZ	**Nelson**	**2.46**	**208**	⇑PN	Pn	00 34 21.8	-1.5
NNZ	**Nelson**	**2.46**	**208**	P	Pn	00 34 21.8	-1.5
TUWZ	**Tuamarina**	**2.48**	**197**	PN	Pn	00 34 22.6	-1.0
QRZ	**Quartz Range**	**2.55**	**226**	*e*P	Pn	00 34 22.1	-2.2
BSWZ	**Blackbirch Sta**	**2.77**	**197**	P	Pn	00 34 24.9	-1.9
PUZ	**Puketiti**	**2.79**	**70**	*e*P	Pn	00 34 25.1	-1.9
MXZ	**Matakaoa Point**	**3.05**	**62**	P	Pn	00 34 28.2	-1.9
THZ	**Tophouse**	**3.11**	**209**	*e*P	Pn	00 34 28.8	-2.0
KHZ	**Kahutara**	**3.52**	**197**	*e*P	Pn	00 34 34.5	-1.2
DSZ	**Denniston Nort**	**3.59**	**221**	SN	Sn	00 35 15.9	-5.0
LTZ	**Lake Taylor**	**4.23**	**208**	*e*P	Pn	00 34 42.2	-2.4
JCZ	**Jackson Bay**	**6.82**	**221**	*e*PN	Pn	00 35 12.8	-5.1

*NIED **10** 00:40:00, 3770N×14350E, h5km, Mw3.6 Best double couple: M0:2.64000×10^14 NP1:φ0=234.00000°, δ74.00000°, λ110.00000°. NP2:φ0=2.00000°, δ25.00000°, λ40.00000°.*

JMA 10 00:40:54.4±0.1, 3774N×14345E, h35km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.81**	**294**	P	Pn	00 41 24.3	+1.3
JIO				*e*S	Sn	00 41 46.5	+1.9
OFUJ	**Ofunato**	**1.94**	**314**	P	Pn	00 41 26.1	+1.3
OFUJ				*e*S	Sn	00 41 49.6	+1.7
JMM	**Marumori**	**2.11**	**274**	P	Pn	00 41 28.7	+1.5
JMK	**Ichinoseki**	**2.13**	**305**	P	Pn	00 41 28.9	+1.4
JYK	**Kaneyama**	**2.70**	**297**	P	Pn	00 41 37.7	+2.4

*MOS **10** 00:49:56.0±1.2, 4268N×4345E, h23km, mb3.5/1, Error ellipse: s-maj=22.9km s-min=11.6km az=54.2*

TIF 10 00:49:54.4, 4259N×4342E, h15km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**115**	P	Pg	00 49 57.3	+0.2
ONI				S	Sg	00 49 58.9	+0.1
DIGR	**Digorskoe uzhe**	**0.33**	**22**	*i* PG	Pg	00 50 02.0	+0

1.9nm,0.3s,baz=112,slow=17,SNR=4.8
NEW Lg 01 38 38.4
5.6nm,0.3s,baz=49,slow=21,SNR=17
NEW Newport 4.29 316 Pn **Pn 01 37 31.7 +1.4**
NEW Sn **Sn 01 38 19.2 -1.2**
NEW Lg 01 38 38.4
ELK Elko 4.92 204 Pn **Pn 01 37 42.0 +3.1**
0.1nm,0.3s,baz=350,slow=17,SNR=4.7
ELK Pg **Pg 01 37 50.8 -8.5**
0.4nm,0.3s,baz=9.4,slow=15,SNR=10
ELK Lg 01 39 01.1
0.7nm,0.3s,baz=169,slow=16,SNR=4.4
DUG Dugway 5.09 182 *e*Pg **Pg 01 37 58.9 -3.6**
4.1nm,0.6s
DUG *e*Sg **Sg 01 39 08.5 +0.1**
WVOR Wild Horse Val 5.19 239 *e*Pg **Pg 01 38 00.6 -3.9**
4.6nm,0.6s
RSSD Black Hills 6.24 98 *e*Pg **Pg 01 38 20.3 -4.2**
3.3nm,0.6s
RSSD *e*Sg **Sg 01 39 43.9 -1.3**
DGMT Dagmar 6.60 58 *e*Pg **Pg 01 38 26.6 -4.9**
9.5nm,0.6s
NVAR Mina Array Bea 8.05 214 Pn **Pn 01 38 27.8 +5.9**
0.5nm,0.3s,baz=16,slow=6.8,SNR=6.4
NVAR Pg Pn 01 38 51.6 +30
baz=27,slow=12,SNR=2.7
NVAR Lg 01 40 43.0
0.1nm,0.3s,baz=3.2,slow=32,SNR=2.8
NVAR Mina Array Bea 8.05 214 Pn **Pn 01 38 27.8 +5.9**
NVAR Pg Pn 01 38 51.6 +30
NVAR Lg 01 40 43.0
YKA Yellowknife Ar 17.28 357 Pn **Pn 01 40 21.5 -4.8**
baz=176,slow=13,SNR=4.1
YKA Lg 01 45 21.6
baz=173,slow=28,SNR=4.4

*IDC **10** 01:48:39.7±6.2, 8.19S×75.15W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.9/4, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/25, Error ellipse: s-maj=226.7km s-min=37.8km az=35.0*
*ISCJB **10** 01:48:42.0±1.1, 83S±01×752W±02, h33km, mb3.7/3, Error ellipse: s-maj=26.7km s-min=12.8km az=107.5*
*NEIC **10** 01:48:43.9±0.9, 831S×7523W, h35km, mb3.8/1, Error ellipse: s-maj=24.0km s-min=11.3km az=53.0*

ISC 10 01:48:44.2±1.1, 83S±01×752W±02, h35km, n9, σ0§77/10, mb3.7/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**11.94**	**94**	*e*Pn	**Pn**	**01 51 31.9**	**0.0**
SAML				*e*Sn	**Sn**	**01 53 34.3**	**-9.5**
LVC	**Limon Verde**	**15.47**	**158**	Pn	**Pn**	**01 52 19.6**	**-0.2**
SIV	**San Ignacio**	**15.81**	**120**	Pn	**Pn**	**01 52 23.2**	**-0.9**
0.4nm,0.3s,baz=299,slow=11,SNR=22							
JTS	**JuntasAbangare**	**20.85**	**332**	*e*P	**P**	**01 53 22.6**	**-0.3**
2.0nm,0.4s							
SJG	**San Juan**	**27.74**	**19**	P	**P**	**01 54 28.4**	**-1.0**
DBIC	**Dimbokro**	**71.73**	**80**	P	**P**	**02 00 04.3**	**+1.5**
2.2nm,0.8s,mb4.1,baz=225,slow=7.4,SNR=6.8							
YKA	**Yellowknife Ar**	**76.81**	**342**	P	**P**	**02 00 32.5**	**+0.2**
0.2nm,0.5s,mb3.3,baz=137,slow=6.0,SNR=5.8							
YKA				pP	pP	02 00 50.0	+6.8
0.1nm,0.4s,baz=138,slow=5.6,SNR=3.2							
YKA	**Yellowknife Ar**	**76.81**	**342**	P	**P**	**02 00 32.5**	**+0.2**
YKA				pP	pP	02 00 50.0	+6.8
TORD	**Torodi Ar. Bea**	**79.31**	**75**	P	**P**	**02 00 47.0**	**+0.8**
0.5nm,0.6s,mb3.6,baz=274,slow=4.8,SNR=9.2							

*ISCJB **10** 01:57:58.8±0.4, 750N±006×7726W±004, h30km, mb4.5/45, MS4.0/7, Error ellipse: s-maj=9.3km s-min=4.2km az=61.5*
*CASC **10** 01:57:59.8±2.1, 738N×7722W, h20km±15km, MD4.2, mb4.6(NEIC)*
*NEIC **10** 01:58:00.0±0.4, 749N×77.14W, mb4.6/14, Error ellipse: s-maj=10.9km s-min=7.7km az=220.0*
*IDC **10** 01:58:01.6±2.6, 743N×7732W, h47km±25km, mb3.7/13, mb1 3.9/15, mb1mx3.9/22, mbtmp4.0/15, ML3.8/2, MS3.8/10, Ms1 3.8/10, ms1mx3.6/24, Error ellipse: s-maj=27.6km s-min=14.0km az=65.0*
*NAO **10** 01:58:09.2, 693N×7669W, h33km, mb4.1*

ISC 10 01:58:01.1±0.4, 751N±006×7725W±004, h32km, h32km±.6km: pP-P, n76, σ1§08/78, mb4.5/45, MS4.0/7, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**1.28**	**324**	*e*P	**Pn**	**01 58 23.1**	**+0.4**
UPD1				*e*S	**Sn**	**01 58 44.4**	**+5.6**
ZANG	**Zanguenga, Cho**	**2.96**	**299**	*e*P	**Pn**	**01 58 45.4**	**-0.5**
ZANG				*e*S	**Sn**	**01 59 24.4**	**+4.1**
ACLA	**Agua Clara, Si**	**3.05**	**307**	⇓*i*P	**Pn**	**01 58 47.5**	**+0.4**
ACLA				*e*S	**Sn**	**01 59 26.5**	**+4.0**
TOLC	**Tolima**	**3.46**	**147**	*e*P	**Pn**	**01 58 51.4**	**-1.3**
ROSC	**El Rosal**	**3.92**	**132**	P	**Pn**	**01 58 59.0**	**0.0**
66nm,0.3s,baz=62,slow=2.3,SNR=105							
ROSC				S	**Sn**	**01 59 46.2**	**+2.3**
17nm,0.3s,baz=84,slow=20,SNR=2.8							
ROSC				LR	LR	02 00 01.7	
comp=Z,249nm,20.4s,baz=344,slow=30							
OCAC	**Ocana**	**3.96**	**79**	*e*P	**Pn**	**01 58 60.0**	**+0.4**
OCAC				*e*S	**Sn**	**01 59 46.5**	**+1.6**
BARC	**Barichara**	**4.13**	**102**	*e*P	**Pn**	**01 59 01.8**	**-0.1**
RUSC	**La Rusia**	**4.43**	**110**	*e*P	**Pn**	**01 59 05.7**	**-0.3**
RUSC				*e*S	**Sn**	**01 59 58.8**	**+2.2**
SDV	**Santo Domingo**	**6.69**	**78**	P	**Pn**	**01 59 37.8**	**+0.7**
6.5nm,0.3s,baz=275,slow=5.8,SNR=31							
SDV				S	**Sn**	**02 00 49.5**	**-2.8**
27nm,0.3s,baz=34,slow=14,SNR=6.4							
SDV				LR	LR	02 02 40.6	
comp=Z,841nm,19.1s,baz=273,slow=41							
SDV	**Santo Domingo**	**6.69**	**78**	P	**Pn**	**01 59 37.8**	**+0.7**
SDV				S	**Sn**	**02 00 49.5**	**-2.8**
SDV				LR	LR	02 02 40.6	
JTS	**JuntasAbangare**	**8.10**	**291**	*e*Pn	**Pn**	**01 59 58.0**	**+1.6**
28nm,0.8s							
SJG	**San Juan**	**15.10**	**45**	P	**Pn**	**02 01 29.9**	**-2.0**
1.3nm,0.3s,baz=339,slow=20,SNR=3.3							
SJG				S	**Sn**	**02 04 07.2**	**-11**
13nm,0.3s,baz=327,slow=17,SNR=14							
SJG				LR	LR	02 07 36.1	
comp=Z,192nm,21.7s,baz=264,slow=38							
CPD	**Cerro la Pandu**	**15.21**	**45**	Pn	**Pn**	**02 01 30.0**	**-3.5**
MTP	**Monte Pirata**	**15.51**	**46**	*e*Pn	**Pn**	**02 01 34.2**	**-3.0**
SAML	**Samuel**	**21.53**	**139**	*e*P	**P**	**02 02 42.4**	**-5.1**
6.5nm,0.9s,mb4.1							
LRAL	**Lakeview Retre**	**26.96**	**342**	P	**P**	**02 03 41.4**	**+1.8**
30nm,1.2s,mb4.7							
LRAL				*e*	pP	02 03 49.7	+0.8
SIV	**San Ignacio**	**28.31**	**146**	P	**P**	**02 03 47.7**	**-4.0**
1.0nm,0.7s,mb3.6,baz=324,slow=14,SNR=4.8							
PLAL	**Pickwick Lake**	**29.10**	**342**	P	**P**	**02 03 53.9**	**-4.9**
29nm,1.5s,mb4.8							
PLAL				*e*		02 04 07.0	
MIAR	**Mount Ida**	**30.82**	**333**	*e*P	**P**	**02 04 14.0**	**0.0**
4.0nm,0.8s,mb4.3							
MIAR				*e*	pP	02 04 23.4	0.0
LVC	**Limon Verde**	**31.03**	**165**	P	**P**	**02 04 15.9**	**+0.1**
2.1nm,0.5s,mb4.2,baz=334,slow=8.6,SNR=3.5							
FVM	**French Village**	**32.60**	**340**	*e*P	**P**	**02 04 29.9**	**+0.3**
62nm,1.4s,mb5.3							
FVM				*e*pP	pP	02 04 38.8	-0.2
WMOK	**Wichita Mounta**	**33.57**	**327**	*e*P	**P**	**02 04 37.7**	**-0.4**
4.5nm,0.8s,mb4.5							
WMOK				*e*pP	pP	02 04 45.9	-1.6
MNTX	**Cornudas Mount**	**35.59**	**316**	*e*P	**P**	**02 04 55.3**	**-0.2**
12nm,1.1s,mb4.7							
MNTX				*e*pP	pP	02 05 04.4	-0.5
KSU1	**Kansas State U**	**35.96**	**334**	*e*P	**P**	**02 04 57.9**	**-0.8**
KSU1				*e*pP	pP	02 05 06.8	-1.4
BDFB	**Brasilia**	**36.98**	**129**	P	**P**	**02 05 05.6**	**-1.8**
0.9nm,0.4s,mb4.0,baz=266,slow=7.6,SNR=3.9							
BDFB				LR	LR	02 21 09.7	
comp=Z,405nm,18.1s,MS4.2,baz=197,slow=38							
SADO	**Sadowa**	**37.16**	**358**	P	**P**	**02 05 09.1**	**+0.2**
3.8nm,0.4s,mb4.5,baz=180,slow=7.6,SNR=3.0							
CBKS	**Cedar Bluff**	**37.18**	**330**	*e*P	**P**	**02 05 09.2**	**+0.1**
11nm,0.8s,mb4.7							
CBKS				*e*pP	pP	02 05 18.0	-0.6
ANMO	**Albuquerque**	**38.28**	**320**	*e*P	**P**	**02 05 19.2**	**+0.8**
13nm,1.1s,mb4.6							
ANMO				*e*pP	pP	02 05 28.3	+0.4
SDCO	**Great Sand Dun**	**39.51**	**324**	*e*P	**P**	**02 05 29.6**	**+0.9**
12nm,0.9s,mb4.6							
SDCO				*e*pP	pP	02 05 38.9	+0.8
CFAA	**Coronel Fontan**	**39.83**	**168**	P	**P**	**02 05 30.8**	**-0.6**
0.2nm,0.4s,mb3.2,baz=337,slow=15,SNR=2.9							
CFAA	**Coronel Fontan**	**39.83**	**168**	P	**P**	**02 05 30.8**	**-0.6**
ISCO	**Idaho Springs**	**40.98**	**326**	*e*P	**P**	**02 05 42.0**	**+1.1**
9.0nm,1.1s,mb4.3							
ISCO				*e*pP	pP	02 05 51.1	+0.8
WUAZ	**Wupatki**	**41.87**	**317**	P	**P**	**02 05 48.4**	**+0.2**
8.2nm,0.9s,mb4.4							
WUAZ				*e*pP	pP	02 05 58.9	+1.2
PDAR	**Pinedale Array**	**45.18**	**326**	P	**P**	**02 06 14.2**	**-0.6**
0.6nm,0.6s,mb3.6,baz=129,slow=8.3,SNR=7.8							
ULM	**Lac du Bonnet**	**45.35**	**343**	P	**P**	**02 06 14.9**	**-1.3**
2.5nm,0.6s,mb4.2,baz=163,slow=7.6,SNR=8.8							
ULM				LR	LR	02 26 41.1	
comp=Z,81nm,21.9s,MS3.6,baz=327,slow=38							
HWUT	**Hardware Ranch**	**45.57**	**324**	*e*P	**P**	**02 06 17.9**	**-0.1**
3.5nm,0.8s,mb4.3							
HWUT				*e*pP	pP	02 06 27.4	-0.1
SCHQ	**Schefferville**	**47.93**	**8**	P	**P**	**02 06 35.6**	**-0.8**
3.0nm,0.9s,mb4.3,baz=290,slow=5.5,SNR=5.2							
NVAR	**Mina Array Bea**	**48.12**	**316**	P	**P**	**02 06 38.0**	**+0.2**
0.4nm,0.6s,mb3.6,baz=156,slow=6.6,SNR=4.5							
PLCA	**Paso Flores**	**48.39**	**173**	LR	LR	02 25 30.4	
comp=Z,138nm,20.1s,MS3.9,baz=254,slow=34							
YKA	**Yellowknife Ar**	**61.26**	**341**	P	**P**	**02 08 11.5**	**-1.5**
1.8nm,0.6s,mb4.4,baz=131,slow=7.0,SNR=61							
YKA				LR	LR	02 34 51.8	
comp=Z,70nm,20.3s,MS3.8,baz=215,slow=36							
SUMG	**Summit**	**69.11**	**12**	*e*P	**P**	**02 09 04.1**	**+0.1**
8.4nm,0.8s,mb4.7							
SUMG				*e*pP	pP	02 09 13.1	-0.9
BORG	**Borgarnes**	**69.17**	**22**	LR	LR	02 34 43.7	
comp=Z,213nm,18.1s,MS4.4,baz=191,slow=32							
DBIC	**Dimbokro**	**71.77**	**85**	LR	LR	02 38 12.1	
comp=Z,55nm,18.3s,MS3.9,baz=328,slow=34							
QUIF	**Quistinic**	**73.81**	**42**	*e*P	**P**	**02 09 40.1**	**+7.8**
95nm,1.6s,mb5.2							
SGMF	**Saint Gilles**	**74.25**	**42**	*e*P	**P**	**02 09 42.6**	**+7.7**
ILAR	**Eielson Array**	**74.63**	**335**	P	**P**	**02 09 36.0**	**-1.0**
1.4nm,0.6s,mb4.0,baz=111,slow=4.3,SNR=7.0							
SJPF	**Ste Jean**	**74.71**	**47**	*e*P	**P**	**02 09 46.1**	**+8.5**
51nm,1.2s,mb5.0							
ETSF	**Etsaut**	**75.18**	**48**	*e*P	**P**	**02 09 48.6**	**+8.3**
20nm,1.2s,mb4.6							
GRR	**Gorron**	**75.39**	**42**	*e*P	**P**	**02 09 49.2**	**+7.7**
43nm,1.1s,mb5.0							
FLN	**La Foliniere**	**75.67**	**42**	*e*P	**P**	**02 09 51.0**	**+7.9**
35nm,1.1s,mb4.9							
MFF	**Saint Martin d**	**75.73**	**44**	*e*P	**P**	**02 09 51.3**	**+7.9**
EPF	**Esparros**	**75.85**	**48**	*e*P	**P**	**02 09 52.6**	**+8.5**
34nm,1.3s,mb4.8							
LDF	**La Druitiere**	**75.90**	**42**	*e*P	**P**	**02 09 52.2**	**+7.8**
29nm,1.1s,mb4.8							
LFF	**La Frestale**	**76.24**	**46**	*e*P	**P**	**02 09 54.3**	**+8.0**
RJF	**Les Rejaudoux**	**76.81**	**45**	*e*P	**P**	**02 09 57.3**	**+7.8**
44nm,1.4s,mb4.9							
CAF	**Calviac**	**77.18**	**46**	*e*P	**P**	**02 09 59.1**	**+7.5**
27nm,1.2s,mb4.8							
MTLF	**Montolieu**	**77.23**	**47**	*e*P	**P**	**02 09 59.8**	**+7.8**
67nm,1.6s,mb5.0							
TCF	**Toulx Ste Croi**	**77.33**	**44**	*e*P	**P**	**02 10 00.0**	**+7.5**
59nm,1.7s,mb5.0							
TORD	**Torodi Ar. Bea**	**77.61**	**78**	P	**P**	**02 09 53.7**	**-0.3**
0.3nm,0.6s,mb3.4,baz=284,slow=6.6,SNR=9.6							
BGF	**Bois d'Agland**	**77.78**	**44**	*e*P	**P**	**02 10 02.6**	**+7.6**
AVF	**Avril sur Loir**	**78.14**	**44**	*e*P	**P**	**02 10 04.1**	**+7.1**
79nm,1.9s,mb5.0							
SSF	**Saint Saulge**	**78.25**	**44**	*e*P	**P**	**02 10 05.1**	**+7.5**
17nm,1.4s,mb4.5							
LASF	**Ste Croix**	**78.44**	**47**	*e*P	**P**	**02 10 06.2**	**+7.5**
40nm,1.3s,mb4.9							
SMF	**Signal de Mont**	**78.47**	**44**	*e*P	**P**	**02 10 06.3**	**+7.5**
28nm,1.1s,mb4.8							
LOR	**Lormes**	**78.50**	**43**	*e*P	**P**	**02 10 06.2**	**+7.2**
MEZF	**Maizieres J'vi**	**79.33**	**42**	*e*P	**P**	**02 10 10.4**	**+6.9**
16nm,0.9s,mb4.7							
ORIF	**Oris-en-Rattie**	**79.89**	**46**	*e*P	**P**	**02 10 13.6**	**+7.0**
36nm,1.1s,mb4.9							
HAU	**Haudompre**	**80.19**	**43**	*e*P	**P**	**02 10 15.1**	**+6.9**
LPG	**La Plagne**	**80.50**	**45**	*e*P	**P**	**02 10 17.1**	**+7.2**
NB2	**NORSAR Subarra**	**82.75**	**29**	P	**P**	**02 10 30.6**	**+8.9**
comp=Z,1.4nm,0.8s,mb4.0,baz=272,slow=5.3							
NOA	**NORSAR Array B**	**82.75**	**29**	P	**P**	**02 10 22.1**	**+0.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=53,slow=21,SNR=2.8							
GERES	**GERESS Array B**	**85.04**	**42**	P	**P**	**02 10 33.0**	**-0.5**
comp=Z,0.2nm,0.3s,mb3.7,baz=332,slow=14,SNR=2.3							
AFI	**Afiamalu**	**96.14**	**257**	LR	LR	02 49 58.4	
comp=Z,121nm,18.8s,MS4.4,baz=357,slow=32							
MKAR	**Makanchi Array**	**122.96**	**17**	PKP	PKPdf	02 16 54.6	+0.6
comp=Z,0.3nm,0.9s,baz=333,slow=3.2,SNR=2.9							
ASAR	**Alice Springs**	**146.08**	**238**	PKPbc	PKPbc	02 17 35.7	-2.0
comp=Z,2.3nm,0.6s,baz=116,slow=3.8,SNR=44							
WRA	**Warramunga Arr**	**146.99**	**245**	PKPbc	PKPbc	02 17 37.3	-3.1
comp=Z,1.1nm,0.6s,baz=105,slow=3.2,SNR=7.8							

*MOS **10** 02:28:36.3±2.0, 5160N×1600E, h10km, mb3.6/1, Error ellipse: s-maj=13.7km s-min=7.4km az=83.4*
*NEIC **10** 02:28:36.3±1.2, 5155N×1602E, h5km, MG2.5(WAR), Error ellipse: s-maj=25.2km s-min=10.2km az=69.0*
*ISCJB **10** 02:28:36.5±0.6, 5140N±003×1610E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.5km az=17.2*
*IPEC **10** 02:28:37.5±0.3, 5152N×1618E, h8km±1km, ML2.2/3, Error ellipse: s-maj=2.0km s-min=0.7km az=31.0*
*CSEM **10** 02:28:38.4±0.2, 5146N×1610E, h0km, ML3.2/5, Error ellipse: s-maj=3.1km s-min=1.7km az=4.0*
*PRU **10** 02:28:38.3, 5145N×1609E, h0km*
*WAR **10** 02:28:38.0, 5152N×1611E, ML2.5, Mining Induced*
*VIE **10** 02:28:41.9±0.5, 5114N×1632E, h0km, mb2.2/4, ML2.6/5, Error ellipse: s-maj=3.5km s-min=3.1km az=105.0 48 km W of Breslau Suspected Mining induced.*

ISC 10 02:28:36.9±0.6, 5148N±003×1610E±003, h0km, n47, σ1§13/89, 7C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*i* Pgd	**Pg**	**02 28 50.6**	**+1.1**
KSP				*e*Sg	**Sg**	**02 28 59.9**	**+2.0**
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg	**Pg**	**02 28 50.5**	**+1.0**
KSP				*e*Sg	**Sg**	**02 28 59.9**	**+2.0**
KSP	**Ksiaz**	**0.65**	**169**	⇓*i*Pg	**Pg**	**02 28 50.6**	**+1.1**
KSP				*e*Sg	**Sg**	**02 28 59.9**	**+2.0**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**02 28 56.6**	**+0.9**
UPC	**Upice**	**0.98**	**183**	*e*Pg	**Pg**	**02 28 56.7**	**+1.0**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**02 28 59.4**	**+0.5**
DPC				*e*SG	**Sg**	**02 29 14.2**	**+0.5**
31nm,0.5s							
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg	**Pg**	**02 28 59.3**	**+0.4**
DPC				*e*Sg	**Sg**	**02 29 14.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*P	**Pg**	**02 28 59.4**	**+0.5**
DPC				*e*		02 29 14.2	
DPC				smax			
comp=N,31nm,0.5s							
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**02 29 03.7**	**+0.6**
PVCC	**Panska Ves**	**1.36**	**226**	*e*Pn	**Pn**	**02 29 03.9**	**+0.7**
BRG	**Berggiesshubel**	**1.49**	**247**	PN	**Pn**	**02 29 05.1**	**+0.1**
BRG				SG	**Sg**	**02 29 25.9**	**+1.1**
comp=N,19nm,0.4s							
BRG	**Berggiesshubel**	**1.49**	**247**	*e*Pn	**Pn**	**02 29 05.6**	**+0.6**
BRG				*e*Sg	**Sg**	**02 29 26.0**	**+1.1**
BRG	**Berggiesshubel**	**1.49**	**247**	P	**Pn**	**02 29 05.1**	**+0.1**
BRG						02 29 26.0	
BRG				smax			
comp=N,19nm,0.4s							
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**02 29 08.9**	**-0.3**
PRU				*e*PG	**Pg**	**02 29 11.0**	**-0.4**
PRU				*e*SG	**Sg**	**02 29 34.2**	**-0.5**
comp=N,19nm,0.4s							
PRU	**Pruhonice**	**1.80**	**214**	*e*Pn	**Pn**	**02 29 09.0**	**-0.2**
PRU	**Pruhonice**	**1.80**	**214**	*e*Pg	**Pg**	**02 29 11.0**	**-0.4**
PRU				*e*Sg	**Sg**	**02 29 34.8**	**+0.1**
PRU	**Pruhonice**	**1.80**	**214**	*e*P	**Pn**	**02 29 08.9**	**-0.3**
PRU				*e*		02 29 34.2	
PRU				smax			
comp=N,19nm,0.4s							
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**02 29 10.6**	**-0.5**
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pg	**Pg**	**02 29 15.8**	**+1.7**
MORC				*e*Sg	**Sg**	**02 29 37.7**	**-1.6**
comp=N,29nm,0.5s							
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**02 29 10.6**	**-0.5**
MORC				*e*Pg	**Pg**	**02 29 15.8**	**+1.7**
MORC				*e*Sn	**Sn**	**02 29 38.6**	**+2.4**
CLL	**Collm**	**1.95**	**266**	*i* Pn	**Pn**	**02 29 10.4**	**-0.9**
CLL				*e*Pg	**Pg**	**02 29 13.0**	**-1.3**
CLL				*i* x	x	02 29 17.5	
CLL				*i* Sg	**Sg**	**02 29 40.2**	**+0.6**
comp=Z,23nm,0.5s							
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**02 29 10.3**	**-1.0**
CLL	**Collm**	**1.95**	**266**	*e*Pg	**Pg**	**02 29 13.0**	**-1.3**
CLL				*e*Sg	**Sg**	**02 29 39.6**	**0.0**
CLL				*i* S	**Sg**	**02 29 40.2**	**+0.6**
CLL	**Collm**	**1.95**	**266**	*i* Pn	**Pn**	**02 29 10.4**	**-0.9**
CLL				*e*Pg	**Pg**	**02 29 13.0**	**-1.3**
CLL				*i* Sg	**Sg**	**02 29 40.2**	**+0.6**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PN	**Pn**	**02 29 11.2**	**-2.1**
OKC				*e*PG	**Pg**	**02 29 14.9**	**-2.3**
OKC				*e*SG	**Sg**	**02 29 42.4**	**-2.0**
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**02 29 15.0**	**+0.3**
VRAC				*e*Sg	**Sg**	**02 29 47.0**	**-0.7**
comp=Z,8.8nm,0.2s							
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn	**Pn**	**02 29 18.5**	**+0.6**
KRUC				*e*Sg	**Sg**	**02 29 55.0**	**-0.1**
comp=Z,8.3nm,0.2s							
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**02 29 21.3**	**+0.6**
NKC				*e*SG	**Sg**	**02 30 02.2**	**+0.6**
comp=Z,29nm,0.3s							
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pn	**Pn**	**02 29 21.2**	**+0.5**
NKC				*e*Sg	**Sg**	**02 30 02.4**	**+0.8**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**02 29 28.1**	**+0.1**
OJC				*e*Sg	**Sg**	**02 30 02.9**	**+0.4**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**02 29 24.0**	**+0.2**
KHC				*e*PG	**Pg**	**02 29 29.5**	**-2.2**
KHC				*e*SN	**Sn**	**02 29 59.0**	**+0.1**
KHC				*e*SG	**Sg**	**02 30 07.6**	**-1.2**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	**Pg**	**02 29 29.5**	**-2.2**
KHC				*e*Sn	**Sn**	**02 29 59.0**	**+0.1**
KHC				*e*Sg	**Sg**	**02 30 07.6**	**-1.2**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*P	**Pn**	**02 29 24.0**	**+0.2**
KHC				*e*		02 29 59.0	
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**02 29 32.9**	**-0.7**
MOX				*e*Sg	**Sg**	**02 30 11.9**	**0.0**
MOX	**Moxa**	**2.95**	**255**	*e*PG	**Pg**	**02 29 33.0**	**-0.6**
MOX				*e*SG	**Sg**	**02 30 13.1**	**+1.2**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**02 29 27.7**	**+1.2**
GEC2				*e*Sg	**Sg**	**02 30 13.5**	**-1.8**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**02 29 27.8**	**+0.4**
WET				*e*Sg	**Sg**	**02 30 16.4**	**-0.9**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**02 29 27.9**	**+0.5**
WET				*e*Sg	**Sg**	**02 30 15.9**	**-1.4**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**02 29 41.3**	**-0.7**
NIE				*e*S	**Sg**	**02 30 25.7**	**-0.3**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**02 29 33.2**	**-2.2**
BSD				*i* S	**Sn**	**02 30 14.8**	**-5.0**
MOA	**Molln**	**3.83**	**199**	⇑Sg	**Sg**	**02 30 39.6**	**-0.4**
comp=Z,8.0nm,0.5s							
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**02 29 38.0**	**+0.9**
MOA				⇑*i*Sg	**Sg**	**02 30 39.6**	**-0.4**
comp=Z,8.0nm,0.5s							
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PG	**Pg**	**02 29 52.3**	**+0.9**
STHS				*e*SG	**Sg**	**02 30 45.1**	**+3.4**
ARSA	**Arzberg**	**4.25**	**185**	⇑Sg	**Sg**	**02 30 51.7**	**-2.0**
comp=Z,6.1nm,0.5s							
ARSA	**Arzberg**	**4.25**	**185**	⇑*i*Pn	**Pn**	**02 29 44.5**	**+1.5**
ARSA				⇑*i*Sg	**Sg**	**02 30 51.7**	**-2.0**
comp=Z,6.1nm,0.5s							
KBA	**Koelnbreinsper**	**4.76**	**203**	⇓Sg	**Sg**	**02 31 10.8**	**+0.7**
comp=Z,6.0nm,0.6s							
KBA	**Koelnbreinsper**	**4.76**	**203**	⇑*i*Pn	**Pn**	**02 29 51.0**	**+1.0**
KBA				⇓*i*Sg	**Sg**	**02 31 10.8**	**+0.7**
comp=Z,6.0nm,0.6s							

*NEIC **10** 02:38:32.6, 1928N×68.19W, h51km, MD3.5(RSPR), After RSPR.*

RSPR 10 02:38:32.6, 1929N×6819W, h51km±25km, MD3.5/9, MD3.5/9, 6C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.63**	**141**	*e*S	Sn	02 39 18.1	-0.6
CRPR	**Cabo Rojo, PR**	**1.63**	**141**	⇓*e*P	Pn	02 38 57.6	-1.3
CRPR				*e*S	Sn	02 39 18.1	-0.6
MGP	**Maguayo**	**1.64**	**140**

*ROM **10** 03:10:25.0±0.3, 4509N×722E, h10km, Md2.1/4, Ml1.6/2, Error ellipse: s-maj=5.2km s-min=3.9km az=5.0*

ISC 10 03:10:24.2±0.4, 4509N±002×733E±003, h12km±3km, n58, σ0§91/94, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSP	**Reno Superiore**	**0.07**	**321**	P	**Pg**	**03 10 28.2**	**+1.4**
FENE	**Fenestrelle**	**0.20**	**251**	P	**Pg**	**03 10 29.5**	**+1.0**
RRL	**Cesana Torines**	**0.42**	**246**	P	**Pg**	**03 10 33.2**	**+0.7**
MONC	**Moncucco Torin**	**0.43**	**92**	Pg	**Pg**	**03 10 35.3**	**+2.6**
MONC				Sg	**Sg**	**03 10 43.3**	**+4.9**
	36nm,0.4s						
BNI	**Bardonecchia**	**0.46**	**265**	Pg	**Pg**	**03 10 33.9**	**+0.6**
BNI				Sg	**Sg**	**03 10 39.5**	**+0.1**
	41nm,0.1s						
TRAV		**0.51**	**35**	P	**Pg**	**03 10 34.3**	**0.0**
MBDF	**Montbardon**	**0.54**	**227**	*e*Pg	**Pg**	**03 10 35.3**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 10 42.1**	**+0.3**
	67nm,0.2s						
MBDF	**Montbardon**	**0.54**	**227**	*e*Pg	**Pg**	**03 10 35.3**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 10 42.1**	**+0.3**
	33nm,0.2s						
LPG	**La Plagne**	**0.57**	**315**	*e*Pg	**Pg**	**03 10 35.9**	**+0.5**
LPG				*e*Sg	**Sg**	**03 10 43.1**	**+0.2**
	49nm,0.2s						
LPG	**La Plagne**	**0.57**	**315**	*e*Pg	**Pg**	**03 10 35.9**	**+0.5**
LPG				*e*Sg	**Sg**	**03 10 43.1**	**+0.2**
	24nm,0.2s						
DOI	**San Damiano**	**0.59**	**185**	Pg	**Pg**	**03 10 35.4**	**-0.4**
	19nm,0.2s						
LPL	**La Plagne**	**0.59**	**316**	*e*Pg	**Pg**	**03 10 36.3**	**+0.5**
LPL				*e*Sg	**Sg**	**03 10 43.5**	**-0.2**
	49nm,0.2s						
LPL	**La Plagne**	**0.59**	**316**	*e*Pg	**Pg**	**03 10 36.3**	**+0.5**
LPL				*e*Sg	**Sg**	**03 10 43.5**	**-0.2**
	24nm,0.2s						
PZZ	**Prazzo**	**0.61**	**195**	P	**Pg**	**03 10 35.9**	**-0.2**
MRGE	**Morge**	**0.70**	**345**	Pg	**Pg**	**03 10 38.3**	**+0.5**
MRGE				Sg	**Sg**	**03 10 47.5**	**+0.5**
ORX	**Oropa**	**0.71**	**40**	P	**Pg**	**03 10 37.6**	**-0.4**
SURF	**Saint Ours**	**0.71**	**211**	Pg	**Pg**	**03 10 38.6**	**+0.6**
SURF				Sg	**Sg**	**03 10 48.1**	**+0.7**
STV2	**Anna di Valdie**	**0.85**	**180**	P	**Pg**	**03 10 39.2**	**-1.4**
STV	**Sta Anna Valdi**	**0.85**	**180**	P	**Pg**	**03 10 39.3**	**-1.3**
ENR	**Entracque**	**0.87**	**175**	P	**Pg**	**03 10 39.7**	**-1.3**
ROB	**Roburent**	**0.89**	**154**	P	**Pg**	**03 10 41.4**	**0.0**
ORIF	**Oris-en-Rattie**	**1.04**	**261**	*e*Pg	**Pg**	**03 10 44.3**	**0.0**
ORIF				*e*Sg	**Sg**	**03 10 57.1**	**-0.7**
	13nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.04**	**261**	*e*Pg	**Pg**	**03 10 44.3**	**0.0**
ORIF				*e*Sg	**Sg**	**03 10 57.1**	**-0.7**
	6.6nm,0.2s						
MONE	**Monesi**	**1.06**	**163**	P	**Pb**	**03 10 43.5**	**-1.0**
AUTN	**L'Aution**	**1.10**	**176**	Pg	**Pg**	**03 10 49.6**	**+4.2**
AUTN				Sg	**Sg**	**03 11 09.1**	**+9.4**
MVIF	**Mont Vial**	**1.20**	**186**	Pg	**Pg**	**03 10 50.3**	**+2.9**
MVIF				Sg	**Sg**	**03 11 10.1**	**+7.1**
SBF	**Sospel**	**1.23**	**176**	*e*Pn	**Pn**	**03 10 46.5**	**-0.8**
	SNR=1.0						
SBF	**Sospel**	**1.23**	**176**	*e*Pg	**Pg**	**03 10 47.4**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**03 11 04.5**	**+0.5**
	38nm,0.4s						
SBF	**Sospel**	**1.23**	**176**	*e*Pg	**Pg**	**03 10 47.4**	**-0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**03 11 04.5**	**+0.5**
	19nm,0.4s						
IMI	**Imperia**	**1.25**	**161**	P	**Pn**	**03 10 46.7**	**-0.8**
NEGI	**Negi**	**1.27**	**168**	P	**Pn**	**03 10 46.7**	**-1.1**
FRF	**La Foret Royal**	**1.61**	**198**	*e*Pn	**Pn**	**03 10 52.9**	**+0.5**
	SNR=1.0						
FRF	**La Foret Royal**	**1.61**	**198**	*e*Pg	**Pg**	**03 10 54.8**	**-0.3**
FRF				*e*Sn	**Sn**	**03 11 12.8**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**03 11 16.3**	**+0.3**
	14nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.61**	**198**	*e*Pg	**Pg**	**03 10 54.8**	**-0.3**
FRF				*e*Sn	**Sn**	**03 11 12.8**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**03 11 16.3**	**+0.3**
	7.2nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.68**	**229**	*e*Pg	**Pg**	**03 10 55.7**	**-0.7**
SMRF				*e*Sg	**Sg**	**03 11 18.3**	**+0.1**
	2.6nm,0.2s						
SMRF	**Simiane la Rot**	**1.68**	**229**	*e*Pg	**Pg**	**03 10 55.7**	**-0.7**
SMRF				*e*Sg	**Sg**	**03 11 18.3**	**+0.1**
	1.3nm,0.2s						
CABF	**La Chapelle**	**1.75**	**331**	*e*Pg	**Pg**	**03 10 57.3**	**-0.4**
CABF				*e*Sg	**Sg**	**03 11 19.3**	**-1.1**
	4.4nm,0.4s						
CABF	**La Chapelle**	**1.75**	**331**	*e*Pg	**Pg**	**03 10 57.3**	**-0.4**
CABF				*e*Sg	**Sg**	**03 11 19.3**	**-1.1**
	2.2nm,0.4s						
LMR	**La Mourre**	**1.85**	**199**	*e*Pn	**Pn**	**03 10 56.6**	**+0.8**
	SNR=1.0						
LMR	**La Mourre**	**1.85**	**199**	*e*Pg	**Pg**	**03 10 58.7**	**-1.1**
LMR				*e*Sg	**Sg**	**03 11 23.7**	**-0.2**
	7.6nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.85**	**199**	*e*Pg	**Pg**	**03 10 58.7**	**-1.1**
LMR				*e*Sg	**Sg**	**03 11 23.7**	**-0.2**
	3.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.90**	**264**	*e*Pn	**Pn**	**03 10 57.1**	**+0.7**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.90**	**264**	*e*Pg	**Pg**	**03 11 00.3**	**-0.3**
VIVF				*e*Sn	**Sn**	**03 11 20.0**	**-0.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**03 11 24.9**	**-0.3**
	3.5nm,0.3s						
VIVF	**Saint-Julien-l**	**1.90**	**264**	*e*Pg	**Pg**	**03 11 00.3**	**-0.3**
VIVF				*e*Sn	**Sn**	**03 11 20.0**	**-0.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**03 11 24.9**	**-0.3**
	1.8nm,0.3s						
LASF	**Ste Croix**	**2.68**	**249**	*e*Pn	**Pn**	**03 11 07.9**	**+0.8**
HINF	**Hinteralfeld**	**2.74**	**353**	*e*Pn	**Pn**	**03 11 07.9**	**-0.1**
HINF				*e*Sg	**Sg**	**03 11 50.2**	**-2.2**
	2.2nm,0.3s						
HINF	**Hinteralfeld**	**2.74**	**353**	*e*Pn	**Pn**	**03 11 07.9**	**-0.1**
HINF				*e*Sg	**Sg**	**03 11 50.2**	**-2.2**
	1.1nm,0.3s						
PGF	**Pioggiola**	**2.82**	**154**	*e*Pn	**Pn**	**03 11 08.3**	**-0.8**
SMF	**Signal de Mont**	**2.89**	**304**	*e*Pn	**Pn**	**03 11 10.0**	**0.0**
SMF				*e*Sg	**Sg**	**03 11 55.4**	**-1.6**
	3.2nm,0.3s						
SMF	**Signal de Mont**	**2.89**	**304**	*e*Pn	**Pn**	**03 11 10.0**	**0.0**
SMF				*e*Sg	**Sg**	**03 11 55.4**	**-1.6**
	1.6nm,0.3s						
HAU	**Haudompre**	**2.99**	**347**	*e*P	**Pn**	**03 11 14.0**	**+2.6**
LOR	**Lormes**	**3.25**	**313**	*e*Pn	**Pn**	**03 11 15.7**	**+0.8**
AVF	**Avril sur Loir**	**3.25**	**303**	*e*Pn	**Pn**	**03 11 14.8**	**-0.2**
BGF	**Bois d'Agland**	**3.46**	**297**	*e*Pn	**Pn**	**03 11 19.1**	**+1.3**
BGF				*e*Sg	**Sg**	**03 12 13.6**	**-1.6**
	2.5nm,0.3s						
BGF	**Bois d'Agland**	**3.46**	**297**	*e*Pn	**Pn**	**03 11 19.1**	**+1.3**
BGF				*e*Sg	**Sg**	**03 12 13.6**	**-1.6**
	1.2nm,0.3s						
CAF	**Calviac**	**3.73**	**269**	*e*Pn	**Pn**	**03 11 23.5**	**+1.8**
MTLF	**Montolieu**	**4.07**	**246**	*e*Pn	**Pn**	**03 11 27.1**	**+0.9**
ETSF	**Etsaut**	**6.09**	**252**	*e*Pn	**Pn**	**03 11 53.6**	**-0.5**

*ISCJB **10** 03:33:05.9±1.2, 2024S±007×702W±02, h50km±15km, mb3.9/2, Error ellipse: s-maj=25.4km s-min=8.2km az=139.7*

*NEIC **10** 03:33:06.9±1.3, 2041S×7032W, h49km±14km, mb3.3/1, Error ellipse: s-maj=23.7km s-min=11.1km az=72.0*

*IDC **10** 03:33:07.2±4.5, 2023S×7024W, h44km±39km, mb3.5/3, mb1 3.9/5, mb1mx3.6/17, mbtmp4.0/5, ML4.8/2, MS3.7/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=47.1km s-min=24.3km az=98.0*

ISC 10 03:33:07.6±1.1, 2027S±007×703W±02, h48km±14km, n11, σ1§07/12, mb3.9/2, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.66**	**151**	P	**Pn**	**03 33 46.2**	**-1.7**
	34nm,0.3s,baz=310,slow=9.0,SNR=146						
LVC				S	**Sn**	**03 34 20.2**	**+1.3**
	86nm,0.3s,baz=121,slow=17,SNR=8.7						
LVC	**Limon Verde**	**2.66**	**151**	*e*Pn	**Pn**	**03 33 46.5**	**-1.4**
LVC				*e*Sn	**Sn**	**03 34 18.1**	**-0.7**
ARE	**Arequipa**	**3.96**	**343**	*e*P	**Pn**	**03 34 07.0**	**+1.3**
ARE				*e*S	**Sn**	**03 34 50.0**	**-0.8**
SIV	**San Ignacio**	**9.74**	**66**	P	**Pn**	**03 35 25.6**	**+0.6**
	2.0nm,0.3s,baz=261,slow=11,SNR=43						
TRQA	**Tornquist**	**19.13**	**160**	P	**Pn**	**03 37 24.0**	**-3.8**
	1.5nm,0.7s						
PLCA	**Paso Flores**	**20.40**	**181**	P	**P**	**03 37 41.6**	**+1.3**
	1.2nm,0.7s,baz=311,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.17**	**71**	P	**P**	**03 45 01.5**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=246,slow=5.7,SNR=26						
YKA	**Yellowknife Ar**	**89.61**	**341**	P	**P**	**03 45 59.5**	**-0.5**
	0.7nm,1.0s,mb3.9,baz=133,slow=4.8,SNR=6.4						
YKA	**Yellowknife Ar**	**89.61**	**341**	P	**P**	**03 45 59.5**	**-0.5**
MKAR	**Makanchi Array**	**145.37**	**34**	PKPbc	PKPbc	03 52 40.0	0.0
	2.2nm,0.9s,baz=328,slow=3.5,SNR=15						
MKAR	**Makanchi Array**	**145.37**	**34**	PKPbc	PKPbc	03 52 40.0	0.0

*CSEM **10** 03:52:18.1±1.0, 3854N×2856W, h18km±6km, ML2.0, Error ellipse: s-maj=4.7km s-min=3.3km az=17.0, After PDA*

*PDA **10** 03:52:18.1±1.0, 3854N×2856W, h18km±6km, MD3.3, ML2.0, Error ellipse: s-maj=4.7km s-min=3.3km az=17.0*

SVSA 10 03:52:18.1±1.0, 3854N×2856W, h18km±6km, MD3.3, ML2.0, Error ellipse: s-maj=4.7km s-min=3.3km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.05**	**255**	*i* P	Pg	03 52 19.2	-2.1
HOR				*i* S	Sg	03 52 21.3	-2.2
HOR	**Horta**	**0.05**	**255**	*i* S	Sg	03 52 21.3	-2.2
PCND	**Candelaria**	**0.11**	**132**	*e*P	Pg	03 52 21.1	-0.7
PCND				*e*S	Sg	03 52 23.8	-0.5
PCND							
	217nm,0.2s						
CALA	**Caldeira**	**0.12**	**291**	*i* P	Pg	03 52 19.9	-2.0
CALA				*e*S	Sg	03 52 22.1	-2.3
CALA	**Caldeira**	**0.12**	**291**	*e*S	Sg	03 52 22.1	-2.3
PICO	**Pico**	**0.12**	**110**	*i* P	Pg	03 52 20.1	-1.8
PICO				*e*S	Sg	03 52 22.8	-1.6
PICO	**Pico**	**0.12**	**110**	*e*S	Sg	03 52 22.8	-1.6
PBOI	**Pico dos Bois**	**0.18**	**125**	*e*P	Pg	03 52 22.0	-0.7
PBOI				*e*S	Sg	03 52 25.0	-0.9
PBOI							
	40nm,0.1s						
PTCA	**Ponta do Capel**	**0.19**	**283**	*e*P	Pg	03 52 22.0	-0.8
PTCA				*e*S	Sg	03 52 25.4	-0.6
PTCA							
	92nm,0.1s						
PTCA	**Ponta do Capel**	**0.19**	**283**	*e*P	Pg	03 52 22.0	-0.8
PTCA				*e*S	Sg	03 52 25.4	-0.6
ROSA	**Rosais**	**0.31**	**55**	*e*P	Pg	03 52 22.2	-2.6
ROSA				*i* S	Sg	03 52 26.2	-3.1
PAMA	**Santo Amaro**	**0.33**	**65**	*e*P	Pg	03 52 23.6	-1.5
PAMA				*e*S	Sg	03 52 28.5	-1.4
ASBA	**Santa Barbara**	**0.99**	**79**	*e*S	Sb	03 52 44.6	-4.7
ASBA							
	15nm,0.2s						
PPAD	**Pico dos Padre**	**1.01**	**81**	*e*S	Sb	03 52 45.0	-5.1
PPAD							
	9.9nm,0.1s						

MEX 10 03:54:21.2±0.8, 1604N×9986W, h20km±999km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.82**	**356**	*i* P	Pb	03 54 33.5	-3.3
ACX				*i* S	Sb	03 54 45.5	-1.9
MEIG	**Mezcala**	**1.89**	**7**	*i* P	Pn	03 54 50.2	-2.1
MEIG				*i* S	Sn	03 55 10.9	-4.6
PLIG	**Platanillo**	**2.36**	**8**	*e*P	Pn	03 54 54.5	-4.3
PLIG				*i* S	Sn	03 55 22.9	-4.3

*IDC **10** 04:14:16.4±8.7, 2684N×9035W, h0km, mb3.1/5, mb1 3.5/6, mb1mx3.4/21, mbtmp3.2/6, ML2.8/1, Error ellipse: s-maj=146.0km s-min=58.2km az=157.0*

*BJI **10** 04:14:16.4, 2732N×9096W, h14km, mB5.7, mb5.6, Ms5.7, Msz5.4*

*ISCJB **10** 04:14:20.0±0.9, 2788N±006×90.12W±005, h10km, mb4.0/1, MS5.2/107, Error ellipse: s-maj=9.1km s-min=5.4km az=130.6*

*NEIC **10** 04:14:22.2, 2783N×9021W, h5km, mb4.2/6, MS5.3/103, Special solution.*

NEIC Felt [III] at Diamondhead, Mississippi and New Orleans, Louisiana. Also felt at Gulf Shores, Alabama; Belleair Beach, Miami, Navarre, Orlando, Osprey and Port Charlotte, Florida; Lafayette, Lake Charles and Thibodaux, Louisiana; Biloxi, Mississippi; Spring, Texas. Felt slightly on a deepwater oil platform about 15 km southwest of the epicenter. About 2 cm of seafloor subsidence was detected from this platform.

*SZGRF **10** 04:14:33.1, 2785N×9051W, h33km, mb4.9, MS5.4, Gulf of Mexico*

ISC 10 04:14:21.7±0.9, 2780N±006×9013W±005, h10km, n170, σ1§43/61, mb4.0/1, MS5.2/107, 2C, Gulf of Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKT	**Hockley**	**5.44**	**295**	*e*Pn	**Pn**	**04 15 40.0**	**-2.8**
	28nm,0.8s						
HKT				*e*Sn	**Sn**	**04 16 47.5**	**+2.0**
NATX	**Nacogdoches**	**5.58**	**316**	Pn	**Pn**	**04 15 41.0**	**-3.7**
	49nm,0.9s						
NATX				*e*Sn	**Sn**	**04 16 49.2**	**+0.3**
LRAL	**Lakeview Retre**	**5.88**	**27**	*e*Pn	**Pn**	**04 15 49.5**	**+0.7**
	14nm,0.5s						
LRAL				*e*Sn	**Sn**	**04 16 56.6**	**+0.4**
OXF	**Oxford**	**6.72**	**5**	*e*Pn	**Pn**	**04 16 00.6**	**+0.3**
	25nm,0.9s						
UALR	**University of**	**7.21**	**345**	Pn	**Pn**	**04 16 10.5**	**+3.4**
UALR				*e*Sn	**Sn**	**04 17 30.8**	**+1.8**
MIAR	**Mount Ida**	**7.34**	**337**	Pn	**Pn**	**04 16 07.4**	**-1.5**
	12nm,0.9s						
MIAR				*e*Sn	**Sn**	**04 17 32.0**	**-0.4**
PLAL	**Pickwick Lake**	**7.37**	**13**	*e*Pn	**Pn**	**04 16 10.2**	**+0.9**
	55nm,1.8s						
DWPF	**Disney**	**7.70**	**86**	*e*Pn	**Pn**	**04 16 09.4**	**-4.4**
TEIG	**Tepich**	**7.72**	**167**	Pn	**Pn**	**04 16 08.7**	**-5.4**
HBAR	**Harrisburg**	**7.75**	**357**	Pn	**Pn**	**04 16 13.8**	**-0.6**
WVT	**Waverly**	**8.53**	**13**	Pn	**Pn**	**04 16 25.1**	**-0.2**
	12nm,1.1s						
JCT	**Junction City**	**8.87**	**290**	*e*Pn	**Pn**	**04 16 26.4**	**-3.5**
	24nm,1.0s						
JCT				*e*Sn	Sx	04 17 57.2	
MYNC	**Murphy**	**8.88**	**34**	*e*Pn	**Pn**	**04 16 32.2**	**+2.3**
MYNC				*e*Sn	**Sn**	**04 18 08.8**	**-1.3**
WMOK	**Wichita Mounta**	**10.13**	**315**	Pn	**Pn**	**04 16 46.7**	**-0.5**
FVM	**French Village**	**10.16**	**359**	P	**Pn**	**04 16 45.3**	**-2.2**
TZTN	**Tazewell**	**10.35**	**31**	*e*Pn	**Pn**	**04 16 50.6**	**+0.6**
TZTN				*e*S	**Sn**	**04 18 44.2**	**-1.9**
SLM	**Saint Louis**	**10.81**	**360**	P	**Pn**	**04 16 53.6**	**-2.8**
SLM				*e*Sn	**Sn**	**04 18 57.0**	**-0.4**
WCI	**Wyandotte Cave**	**10.89**	**16**	Pn	**Pn**	**04 16 57.8**	**+0.3**
WCI				*e*Sn	**Sn**	**04 18 58.2**	**-1.1**
BLO	**Bloomington**	**11.73**	**14**	P	**Pn**	**04 17 17.4**	**+8.3**
BLO				*e*Sn	**Sn**	**04 19 21.8**	**+1.6**
KSU1	**Kansas State U**	**12.50**	**336**	P	**Pn**	**04 17 11.2**	**-8.4**
CBKS	**Cedar Bluff**	**13.60**	**326**	Pn	**Pn**	**04 17 33.5**	**-1.1**
	32nm,1.3s						
ANMO	**Albuquerque**	**15.66**	**301**	Pn	**Pn**	**04 18 02.5**	**+0.1**
	0.0nm,0.3s,baz=105,slow=14,SNR=2.1						
ANMO	**Albuquerque**	**15.66**	**301**	*e*Pn	**Pn**	**04 18 01.8**	**-0.5**
	15nm,1.6s						
SDCO	**Great Sand Dun**	**16.28**	**311**	Pn	**Pn**	**04 18 09.4**	**-0.9**
	25nm,1.4s						
ISCO	**Idaho Springs**	**17.55**	**317**	*e*P	**Pn**	**04 18 25.5**	**-0.8**
	42nm,1.9s						
TUC	**Tucson**	**18.43**	**289**	*e*P	**Pn**	**04 18 35.8**	**-1.5**
WUAZ	**Wupatki**	**19.63**	**298**	P	**Pn**	**04 18 46.2**	**-5.5**
RSSD	**Black Hills**	**19.75**	**329**	P	**Pn**	**04 19 01.4**	**+8.2**
	31nm,2.1s						
EYMN	**Ely**	**20.14**	**357**	PFAKE		04 19 10.0	+14
EYMN				LR	LR		
	comp=Z,93μm,19.0s,MS6.2						
NCB	**Newcomb**	**20.59**	**34**	PFAKE		04 19 10.0	+9.2
NCB				LR	LR		
	comp=Z,11μm,19.0s,MS5.2						
HRV	**Harvard--Oak R**	**21.05**	**41**	PFAKE		04 19 20.0	+14
HRV				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
WES	**Weston**	**21.11**	**42**	PFAKE		04 19 20.0	+14
WES				LR	LR		
	comp=Z,3μm,20.0s,MS4.6						
MVU	**Marysvale**	**21.30**	**306**	PFAKE		04 19 20.0	+12
MVU				LR	LR		
	comp=Z,4μm,22.0s,MS4.8						
PDAR	**Pinedale Array**	**21.71**	**319**	P	**P**	**04 19 16.3**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=121,slow=10,SNR=3.3						
BW06	**Boulder Array**	**21.71**	**319**	PFAKE		04 19 20.0	+7.1
BW06				LR	LR		
	comp=Z,5μm,21.0s,MS4.9						
LBNH	**Lisbon**	**21.96**	**37**	PFAKE		04 19 30.0	+14
LBNH				LR	LR		
	comp=Z,9μm,20.0s,MS5.2						
HWUT	**Hardware Ranch**	**22.29**	**314**	P	**P**	**04 19 25.1**	**+6.0**
	comp=Z,8.8nm,1.3s,mb4.0						
HWUT				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
DUG	**Dugway**	**22.44**	**309**	PFAKE		04 19 30.0	+9.4
DUG				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
BBSR	**BB Station**	**22.45**	**72**	PFAKE		04 19 30.0	+9.2
BBSR				LR	LR		
	comp=Z,3μm,22.0s,MS4.7						
AHID	**Auburn Hatcher**	**22.63**	**317**	PFAKE		04 19 30.0	+7.3
AHID				LR	LR		
	comp=Z,6μm,22.0s,MS5.0						
LAO	**LASA Array**	**22.72**	**330**	PFAKE		04 19 30.0	+6.4
LAO				LR	LR		
	comp=Z,6μm,21.0s,MS5.0						
ULM	**Lac du Bonnet**	**22.85**	**350**	P	**P**	**04 19 29.1**	**+4.1**
	comp=Z,1.9nm,0.8s,baz=169,slow=5.2,SNR=3.8						
LKWY	**Lake**	**23.30**	**321**	PFAKE		04 19 40.0	+10
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
PFO	**Pinyon Flat Ob**	**23.34**	**291**	PFAKE		04 19 40.0	+10
PFO				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
DGMT	**Dagmar**	**23.35**	**336**	PFAKE		04 19 40.0	+10
DGMT				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
SJG	**San Juan**	**24.05**	**109**	P	**P**	**04 19 31.5**	**-5.4**
SJG				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
BOZ	**Bozeman (W)**	**24.66**	**322**	PFAKE		04 19 50.0	+7.5
BOZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
DAC	**Darwin (Calif)**	**24.71**	**297**	PFAKE		04 19 50.0	+7.1
DAC				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
TPH	**Tonopah**	**24.86**	**301**	PFAKE		04 20 00.0	+16
TPH				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
BMN	**Battle Mountai**	**25.62**	**306**	PFAKE		04 20 00.0	+8.8
BMN				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
MNV	**Mina**	**25.67**	**302**	PFAKE		04 20 00.0	+8.3
MNV				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
NVAR	**Mina Array Bea**	**25.78**	**301**	P	**P**	**04 19 52.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=124,slow=9.8,SNR=2.4						
SDV	**Santo Domingo**	**26.31**	**132**	PFAKE		04 20 10.0	+13
SDV				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
MSO	**Missoula**	**26.65**	**322**	PFAKE		04 20 10.0	+9.4
MSO				LR	LR		
	comp=Z,1μm,22.0s,MS4.3						
CMB	**Columbia Colle**	**27.27**	**300**	PFAKE		04 20 20.0	+14
CMB				LR	LR		
	comp=Z,5μm,22.0s,MS5.1						
WVOR	**Wild Horse Val**	**27.36**	**310**	PFAKE		04 20 20.0	+13
WVOR				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
BMO	**Blue Mountains**	**27.55**	**315**	PFAKE		04 20 20.0	+11
BMO				LR	LR		
	comp=Z,5μm,21.0s,MS5.0						
SAO	**San Andreas Ge**	**27.85**	**297**	PFAKE		04 20 20.0	+8.7
SAO				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
FFC	**Flin Flon**	**28.26**	**345**	PFAKE		04 20 30.0	+15
FFC				LR	LR		
	comp=Z,8μm,20.0s,MS5.3						
PAYG	**Puerto Ayora**	**28.31**	**180**	PFAKE		04 20 30.0	+15
PAYG				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
MOD	**Modoc**	**28.31**	**308**	PFAKE		04 20 30.0	+15
MOD				LR	LR		
	comp=Z,8μm,19.0s,MS5.4						
WDC	**Whiskeytown Da**	**29.52**	**304**	PFAKE		04 20 40.0	+14
WDC				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
HOPS	**Hopland**	**29.54**	**301**	PFAKE		04 20 40.0	+14
HOPS				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
YBH	**Yreka Blue Hor**	**29.96**	**306**	PFAKE		04 20 40.0	+10
YBH				LR	LR		
	comp=Z,5μm,19.0s,MS5.1						
HUMO	**Hull Mountain**	**30.41**	**308**	PFAKE		04 20 40.0	+6.0
HUMO				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
COR	**Corvallis**	**31.31**	**311**	PFAKE		04 20 50.0	+8.0
COR				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
SCHQ	**Schefferville**	**31.88**	**26**	PFAKE		04 21 00.0	+13
SCHQ				LR	LR		
	comp=Z,11μm,20.0s,MS5.5						
OCWA	**Octopus Mounta**	**33.10**	**316**	PFAKE		04 21 10.0	+12
OCWA				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
YKA	**Yellowknife Ar**	**38.26**	**342**	P	**P**	**04 21 45.9**	**+3.9**
	comp=Z,0.4nm,1.1s,baz=138,slow=8.3,SNR=3.2						
YKA

TRQA	**Tornquist**	**70.62**	**157**	PFAKE		04 25 50.0	+13
TRQA				LR	LR		
comp=Z,645nm,21.0s,MS4.9							
KONO	**Kongsberg**	**71.12**	**32**	PFAKE		04 25 50.0	+10
KONO				LR	LR		
comp=Z,4μm,19.0s,MS5.7							
SMY	**Shemya**	**71.70**	**320**	PFAKE		04 25 50.0	+6.2
SMY				LR	LR		
comp=Z,2μm,20.0s,MS5.4							
KEV	**Kevo**	**72.89**	**19**	PFAKE		04 26 00.0	+9.1
KEV				LR	LR		
comp=Z,3μm,19.0s,MS5.6							
IBBN	**Ibbenburen**	**73.05**	**39**	*e*P	**P**	**04 26 02.2**	**+10**
IBBN				*e*S	S	04 35 26.5	+7.4
BUG	**Bochum--Univer**	**73.12**	**40**	*e*S	S	04 35 26.5	+6.7
PPT	**Papeete**	**73.12**	**239**	*e*S	S	04 35 11.0	-8.9
comp=Z,272nm,28.0s							
PPT				*e*LR	LR	04 49 01.0	
comp=Z,1μm,27.0s							
BSEG	**Bad Segeberg**	**73.79**	**37**	*e*P	**P**	**04 26 06.8**	**+11**
BSEG				*e*S	S	04 35 33.2	+5.7
TNS	**Taunus Mts**	**74.29**	**41**	*e*S	S	04 35 43.7	+11
CLZ	**Clausthal**	**74.71**	**39**	*e*S	S	04 35 45.1	+7.3
BFO	**Black Forest**	**75.02**	**43**	*e*P	**P**	**04 26 12.3**	**+9.0**
STU	**Stuttgart**	**75.35**	**42**	*e*P	**P**	**04 26 14.1**	**+8.8**
MOX	**Moxa**	**75.94**	**40**	*e*P	**P**	**04 26 16.8**	**+8.2**
MOX				*e*S	S	04 36 02.2	+11
MOX	**Moxa**	**75.94**	**40**	*e*P	**P**	**04 26 10.0**	**+1.4**
MOX				*e*S	S	04 36 05.0	+14
MOX				LR	LR		
comp=Z,2μm,20.0s,MS5.3							
GRA1	**Grafenberg Arr**	**76.14**	**41**	*e*P	**P**	**04 26 19.4**	**+10**
GRA1				*e*S	S	04 36 02.2	+8.5
GRA1				LR	LR		
comp=Z,142μm,15.4s							
GRF	**Grafenberg Arr**	**76.14**	**41**	*e*P	**P**	**04 26 19.4**	**+10**
comp=Z,142nm,15.4s							
GRF				*e*S	S	04 36 02.2	+8.5
GRF				*e*L		05 00 43.1	
comp=Z,2μm,19.6s							
LVZ	**Lovozero**	**76.22**	**19**	PFAKE		04 26 20.0	+10
LVZ				LR	LR		
comp=Z,2μm,21.0s,MS5.5							
CLL	**Collm**	**76.42**	**39**	*e*P	**P**	**04 26 18.2**	**+6.8**
CLL				*e*S	S	04 36 06.2	+9.5
TANN	**Tannenbergstha**	**76.53**	**40**	*e*P	**P**	**04 26 22.0**	**+10**
TANN				*e*S	S	04 36 10.2	+12
TBI	**Tubuai**	**76.56**	**234**	*e*S	S	04 35 49.0	-9.2
comp=Z,210nm,30.5s							
TBI				*e*LR	LR	04 50 43.8	
comp=Z,1μm,26.5s							
FUR	**Furstenfeldbru**	**76.86**	**42**	*e*P	**P**	**04 26 19.4**	**+5.5**
BRG	**Berggiesshubel**	**77.15**	**39**	*e*P	**P**	**04 26 27.3**	**+12**
BRG				*e*S	S	04 36 12.8	+8.1
TIXI	**Tiksi**	**77.18**	**348**	PFAKE		04 26 30.0	+14
TIXI				LR	LR		
comp=Z,3μm,20.0s,MS5.5							
WET	**Wettzell**	**77.35**	**41**	*e*P	**P**	**04 26 28.7**	**+12**
WET				*e*S	S	04 36 19.4	+12
GEC2	**GERESS Array S**	**77.97**	**41**	*e*S	S	04 36 22.1	+8.5
MA2	**Magadan**	**79.63**	**333**	PFAKE		04 26 40.0	+11
MA2				LR	LR		
comp=Z,1μm,20.0s,MS5.2							
PET	**Petropavlovsk**	**79.86**	**325**	PFAKE		04 26 40.0	+10
PET				LR	LR		
comp=Z,2μm,21.0s,MS5.3							
DBIC	**Dimbokro**	**82.76**	**86**	PFAKE		04 27 00.0	+14
DBIC				LR	LR		
comp=Z,879nm,22.0s,MS5.1							
YAK	**Yakutsk**	**84.94**	**342**	PFAKE		04 27 10.0	+13
YAK				LR	LR		
comp=Z,2μm,21.0s,MS5.5							
OBN	**Obninsk**	**85.67**	**28**	PFAKE		04 27 10.0	+9.4
OBN				LR	LR		
comp=Z,2μm,22.0s,MS5.5							
YSS	**Yuzh-Sakhalins**	**91.62**	**327**	PFAKE		04 27 40.0	+11
YSS				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
ARU	**Arti**	**91.99**	**17**	PFAKE		04 27 40.0	+9.3
ARU				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
HOPE	**Hope Point**	**93.89**	**152**	PFAKE		04 27 50.0	+11
HOPE				LR	LR		
comp=Z,593nm,19.0s,MS5.1							
ANTO	**Ankara**	**94.26**	**40**	PFAKE		04 27 50.0	+8.9
ANTO				LR	LR		
comp=Z,865nm,20.0s,MS5.2							
FUNA	**Funafuti**	**94.51**	**263**	PFAKE		04 27 50.0	+7.7
FUNA				LR	LR		
comp=Z,6μm,20.0s,MS6.1							
BR131	**Keskin Array S**	**94.84**	**40**	PFAKE		04 28 00.0	+16
BR131				LR	LR		
comp=Z,830nm,22.0s,MS5.2							
BRVK	**Borovoye**	**97.69**	**12**	PFAKE		04 28 10.0	+13
BRVK				LR	LR		
comp=Z,2μm,22.0s,MS5.5							
HIA	**Hailar**	**98.78**	**341**	PFAKE		04 28 10.0	+8.4
HIA				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
MDJ	**Mudanjiang**	**99.32**	**332**	P	**P**	**04 28 01.1**	**-2.9**
MDJ				PP	PP	04 32 06.7	-0.2
MDJ				S		04 39 30.9	
MDJ				AMB	AMB		
comp=Z,13nm,2.5s							
MDJ				AMB	AMB		
comp=Z,185nm,5.1s							
MDJ				LR	LR		
comp=N,896nm,25.0s,MS5.5							
MDJ				LR	LR		
comp=E,1μm,23.8s,MS5.5							
MDJ				LR	LR		
comp=Z,1μm,20.2s,MS5.3							
MDJ	**Mudanjiang**	**99.32**	**332**	P	**P**	**04 28 01.1**	**-2.9**
comp=Z,13nm,2.5s							
MDJ				PP	PP	04 32 06.7	-0.2
MDJ				S		04 39 30.9	
KURK	**Kurchatov**	**101.20**	**7**	PFAKE		04 28 20.0	+7.6
KURK				LR	LR		
comp=Z,2μm,22.0s,MS5.6							
MAJO	**Matsushiro**	**101.49**	**322**	PFAKE		04 28 30.0	+16
MAJO				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
CN2	**Changchun**	**101.64**	**335**	*e*P	Pdif	04 28 13.6	-0.7
CN2				*e*S	Sdif	04 39 51.8	-3.6
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,600nm,22.0s,MS5.2							
CN2				LR	LR		
comp=E,700nm,22.0s,MS5.2							
CN2				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
CN2	**Changchun**	**101.64**	**335**	*e*P	Pdif	04 28 13.6	-0.7
comp=Z,10.0nm,0.6s							
CN2				*e*S	Sdif	04 39 51.8	-3.6
CN2				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
ULN	**Ulaanbaatar**	**103.12**	**348**	PFAKE		04 28 30.0	+9.1
ULN				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
BJT	**Baijiatuau**	**108.23**	**339**	PFAKE		04 33 00.0	+10
BJT				LR	LR		
comp=Z,2μm,21.0s,MS5.6							
AAK	**Ala-Archa**	**108.50**	**12**	PFAKE		04 33 00.0	+9.5
AAK				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
WMQ	**Urumqi**	**108.70**	**2**	*e*PDIF	Pdif	04 28 44.0	-1.7
WMQ				PP	PP	04 33 19.0	+2.2
WMQ				S	Sdif	04 40 49.0	-5.3
WMQ				SS	SS	04 48 33.0	-1.0
WMQ				LR	LR		
comp=N,2μm,13.0s,MS5.9							
WMQ				LR	LR		
comp=E,1μm,12.0s,MS5.9							
WMQ				LR	LR		
comp=Z,2μm,12.0s,MS5.9							
WMQ	**Urumqi**	**108.70**	**2**	*e*Pdif	Pdif	04 28 44.0	-1.7
WMQ				PP	PP	04 33 19.0	+2.2
WMQ				S	Sdif	04 40 49.0	-5.3
WMQ				SS	SS	04 48 33.0	-1.0
WMQ				LR	LR		
comp=Z,2μm,12.0s,MS5.9							
HHC	**Hu-ho-hao-te**	**108.80**	**343**	*e*PDIF	Pdif	04 28 44.3	-1.8
HHC				PP	PP	04 33 19.3	+1.8
HHC				SS	SS	04 48 34.0	-1.2
HHC				PP	PP		
comp=Z,160nm,6.0s							
HHC				LR	LR		
comp=N,280nm,16.8s,MS5.0							
HHC				LR	LR		
comp=E,235nm,16.8s,MS5.0							
HHC				LR	LR		
comp=Z,159nm,16.8s,MS4.7							
HNR	**Honiara**	**111.93**	**271**	PFAKE		04 33 10.0	+13
HNR				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
GTA	**Gaotai**	**112.50**	**352**	*e*PKP	PKiKP	04 32 54.1	-4.0
GTA				PP	PP	04 33 42.0	-2.2
GTA				PKS		04 36 30.0	
GTA				SKS	SKSdf	04 40 05.3	-5.0
GTA				SKKS	SKKSac	04 40 35.5	-11
GTA				PP	PP		
comp=Z,111nm,8.8s							
GTA				LR	LR		
comp=N,929nm,21.8s,MS5.5							
GTA				LR	LR		
comp=E,823nm,21.0s,MS5.5							
GTA				LR	LR		
comp=Z,840nm,19.1s,MS5.3							
GTA	**Gaotai**	**112.50**	**352**	*e*PKP	PKiKP	04 32 54.1	-4.0
GTA				PP	PP	04 33 42.0	-2.2
GTA				PKS		04 36 30.0	
GTA				SKS	SKSdf	04 40 05.3	-5.0
GTA				SKKS	SKKSac	04 40 35.5	-11
GTA				LR	LR		
comp=Z,840nm,19.1s,MS5.3							
TSUM	**Tsumeb**	**113.97**	**100**	PFAKE		04 33 10.0	+9.1
TSUM				LR	LR		
comp=Z,594nm,21.0s,MS5.2							
SSE	**Sheshan**	**114.26**	**331**	PKP	PKiKP	04 32 58.2	-3.3
SSE				PP	PP	04 33 57.7	+1.0
SSE				SS	SS	04 49 44.3	-3.7
SSE				LR	LR		
comp=N,705nm,23.8s,MS5.4							
SSE				LR	LR		
comp=E,784nm,23.9s,MS5.4							
SSE				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
NJ2	**Nanjing**	**114.40**	**333**	*e*PKP	PKiKP	04 32 55.4	-6.3
NJ2				PP	PP	04 33 58.0	+0.3
NJ2				SKS	SKSdf	04 40 04.0	-10
NJ2				PP	PP		
comp=Z,408nm,5.6s							
NJ2				LR	LR		
comp=N,400nm,19.2s,MS5.1							
NJ2				LR	LR		
comp=E,350nm,21.7s,MS5.1							
NJ2				LR	LR		
comp=Z,3μm,20.0s,MS5.9							
LZH	**Lanzhou**	**115.11**	**348**	*e*PKP	PKiKP	04 32 54.5	-8.6
LZH				XPKP		04 33 06.5	
LZH				PP	PP	04 33 58.5	-4.2
LZH				*e*SKS	SKSdf	04 40 01.5	-14
LZH				PP	PP		
comp=Z,46nm,4.2s							
LZH				LR	LR		
comp=E,570nm,18.2s							
LZH				LR	LR		
comp=Z,930nm,21.0s,MS5.4							
LZH	**Lanzhou**	**115.11**	**348**	*e*PKP	PKiKP	04 32 54.5	-8.6
LZH				sPKP		04 33 06.5	
LZH				PP	PP	04 33 58.5	-4.2
LZH				*e*SKS	SKSdf	04 40 01.5	-14
LZH				LR	LR		
comp=Z,930nm,21.0s,MS5.4							
QSPA	**South Pole Qui**	**117.68**	**180**	PFAKE		04 33 20.0	+12
QSPA				LR	LR		
comp=Z,551nm,19.0s,MS5.2							
ENH	**Enshi**	**119.29**	**341**	PFAKE		04 33 20.0	+8.9
ENH				LR	LR		
comp=Z,946nm,20.0s,MS5.4							
TATO	**Taipei**	**119.33**	**327**	PFAKE		04 33 20.0	+8.8
TATO				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
CD2	**Chengdu**	**120.14**	**346**	*e*PKP	PKPdf	04 33 09.7	-3.1
LSZ	**Lusaka**	**121.80**	**91**	PFAKE		04 33 30.0	+14
LSZ				LR	LR		
comp=Z,514nm,20.0s,MS5.2							
LSA	**Lhasa**	**122.81**	**359**	PFAKE		04 33 30.0	+12
LSA				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
LBTB	**Lobatse**	**122.95**	**103**	PFAKE		04 33 30.0	+12
LBTB				LR	LR		
comp=Z,572nm,21.0s,MS5.2							
KMBO	**Kilima Mbogo**	**123.14**	**72**	PFAKE		04 33 30.0	+11
KMBO				LR	LR		
comp=Z,754nm,21.0s,MS5.3							
GYA	**Guiyang**	**123.69**	**342**	*e*PKP	PKPdf	04 33 11.2	-8.4
GYA				PKS		04 36 46.6	
GYA				SKS	SKSdf	04 40 21.8	-10
GYA				PP	PP		
comp=Z,110nm,7.8s							
GYA				LR	LR		
comp=N,640nm,19.8s,MS5.5							
GYA				LR	LR		
comp=E,740nm,20.4s,MS5.5							
GYA				LR	LR		
comp=Z,750nm,20.2s,MS5.3							
BOSA	**Boshof**	**123.70**	**107**	PFAKE		04 33 30.0	+10
BOSA				LR	LR		
comp=Z,350nm,20.0s,MS5.0							
KMI	**Kunming**	**125.95**	**346**	PKP	PKPdf	04 33 21.2	-2.7
KMI				PP	PP	04 35 19.7	+2.8
KMI				PKS		04 36 56.4	
KMI				SKS	SKSdf	04 40 27.8	-8.0
KMI				SKKS	SKKSac	04 42 07.6	-7.7
KMI				SS	SS	04 52 16.6	-1.7
KMI				LR	LR		
comp=N,915nm,19.5s,MS5.7							
KMI				LR	LR		
comp=E,1μm,18.9s,MS5.7							
KMI				LR	LR		
comp=Z,519nm,16.7s,MS5.3							
KMI	**Kunming**	**125.95**	**346**	PKP	PKPdf	04 33 21.2	-2.7
KMI				PP	PP	04 35 19.7	+2.8
KMI				PKS		04 36 56.4	
KMI				SKS	SKSdf	04 40 27.8	-8.0
KMI				SKKS	SKKSac	04 42 07.6	-7.7
KMI				SS	SS	04 52 16.6	-1.7
KMI				LR	LR		
comp=Z,520nm,16.7s,MS5.3							
CTAO	**Charters Tower**	**128.27**	**266**	PFAKE		04 33 40.0	+12
CTAO				LR	LR		
comp=Z,608nm,21.0s,MS5.3							
SYO	**Syowa Base**	**129.55**	**159⇑**	*e*Pdiff	Pdif	04 30 10.2	-8.2
SYO	**Syowa Base**	**129.55**	**159⇑**	*e*P	Pdif	04 30 26.0	+7.6
QIZ	**Qiongzhong**	**129.59**	**335**	*e*PKP	PKPdf	04 33 26.4	-4.5
QIZ				PP	PP	04 35 39.4	-1.6
QIZ				SS	SS	04 53 02.1	-1.5
QIZ				LR	LR		
comp=E,869nm,20.8s							
QIZ				LR	LR		
comp=Z,785nm,22.2s,MS5.4							
CHTO	**Chiang Mai**	**132.84**	**348**	PFAKE		04 33 50.0	+13
CHTO				LR	LR		
comp=Z,259nm,21.0s,MS4.9							
WRAB	**Tennant Creek**	**138.76**	**271**	PFAKE		04 34 00.0	+12
WRAB				LR	LR		
comp=Z,673nm,20.0s,MS5.4							
MSEY	**Mahe Island**	**140.01**	**61**	PFAKE		04 34 00.0	+10
MSEY				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
PALK	**Pallekele**	**144.03**	**16**	PFAKE		04 34 10.0	+13
PALK				LR	LR		
comp=Z,661nm,21.0s,MS5.4							
MBWA	**Marble Bar**	**152.08**	**277**	PFAKE		04 34 20.0	+9.4
MBWA				LR	LR		
comp=Z,959nm,21.0s,MS5.6							
DGAR	**Diego Garcia**	**153.86**	**42**	PFAKE		04 34 30.0	+17
DGAR				LR	LR		
comp=Z,670nm,19.0s,MS5.5							
NWAO	**Narrogin (SRO)**	**155.88**	**251**	PFAKE		04 34 30.0	+14
NWAO				LR	LR		
comp=Z,588nm,22.0s,MS5.4							
COCO	**West Island**	**163.16**	**336**	PFAKE		04 34 40.0	+16
COCO				LR	LR		
comp=Z,818nm,20.0s							

ISCJB ***10*** *04:19:52.0±2.9, 366N±02×710E±02, h100km, Error ellipse: s-maj=29.1km s-min=21.5km az=70.5*
NNC ***10*** *04:19:53.8±6.0, 3691N×7027E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=105.1km s-min=42.1km az=105.0*

ISC 10 04:19:52.4±2.8, 366N±02×710E±02, h100km, n8, σ0°22/9, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=62	**5.94**	**20**	P	**Pn**	**04 21 17.9**	**+0.1**
UCH	**Uchtor** SNR=6.9	**6.28**	**25**	P	**Pn**	**04 21 22.4**	**-0.1**
KZA	**Kyzart** SNR=7.2	**6.42**	**30**	P	**Pn**	**04 21 24.2**	**-0.1**
EKS2	**Erkin-Say** SNR=11	**6.46**	**19**	P	**Pn**	**04 21 24.9**	**0.0**
KK31	**Karatay Array** 4.9nm,0.2s,baz=177,slow=12,SNR=430	**6.54**	**357**	⇓P	**Pn**	**04 21 26.5**	**+0.5**
KK31	2.3nm,0.4s,baz=185,slow=24,SNR=8.9			⇑S	**Sn**	**04 22 39.0**	**-0.1**
AAK	**Ala-Archa** SNR=8.8	**6.63**	**23**	P	**Pn**	**04 21 27.5**	**+0.2**
USP	**Ospenovka** SNR=9.0	**7.21**	**21**	P	**Pn**	**04 21 34.8**	**-0.4**
AB31	**Akbulak array** 0.7nm,0.5s,baz=139,slow=13,SNR=33	**15.02**	**331**	⇓P	**Pn**	**04 23 19.2**	**-0.2**

JMA 10 04:29:16.5±0.3, 4362N×14730E, h20km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.16**	**258**	P	Pn	04 29 37.6	0.0
NEM2				*e*S	Sb	04 29 52.8	+0.3
JRA	**Rausu**	**1.61**	**282**	P	Pn	04 29 44.8	+1.0
JRA				*e*S	Sn	04 30 05.4	+1.5
JNK	**Nakash**	**1.88**	**270**	P	Pn	04 29 48.2	+0.8
JNK				*e*S	Sn	04 30 12.3	+1.8
JTKR	**Abashiri--Toko**	**2.48**	**279**	P	Pn	04 29 56.7	+1.0
JTKR				*e*S	Sn	04 30 26.5	+1.1
JAR	**Ashorobuto**	**2.59**	**264**	P	Pn	04 29 59.3	+2.0
JAR				*e*S	Sn	04 30 30.3	+2.2
JMP	**Maruseppu**	**2.88**	**279**	P	Pn	04 30 02.5	+1.3
JCH	**Churui**	**3.05**	**252**	P	Pn	04 30 05.7	+2.1
JCH				*e*S	Sn	04 30 42.4	+2.9

IDC ***10*** *04:36:04.4±2.7, 6022N×142.11W, h0km, mb3.4/1, mb1 3.2/4, mb1mx3.1/20, mbtmp3.0/4, ML2.8/3, Error ellipse: s-maj=36.3km s-min=16.7km az=13.0*
ISCJB ***10*** *04:36:07.1±1.3, 6066N±005×14165W±006, h3km±8km, mb3.6/1, Error ellipse: s-maj=8.6km s-min=4.5km az=18.0*
NEIC ***10*** *04:36:09.7, 6065N×14163W, h6km, ML2.7(AEIC), After AEIC.*
PGC ***10*** *04:36:10.1, 6054N×14163W, h10km, ML2.8/3, Chugach Mountains, Alaska - British Columbia border.*

ISC 10 04:36:08.7±1.4, 6060N±005×14171W±006, h11km±8km, n12, σ1°17/24, mb3.6/1, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMRM	**Bremner River**	**1.47**	**286**	P	**Pn**	**04 36 34.8**	**-0.3**
BMRM				S	**Sn**	**04 36 54.1**	**-0.3**
PNL	**Peninsula**	**1.49**	**128**	P	**Pn**	**04 36 34.7**	**-0.8**
PNL				S	**Sn**	**04 36 55.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**1.99**	**270**	P	**Pn**	**04 36 42.5**	**+0.1**
EYAK				S	**Sn**	**04 37 10.1**	**+2.7**
DIV	**Divide**	**2.06**	**287**	*e*Pn	**Pn**	**04 36 40.0**	**-3.2**
DIV				*e*Sn	**Sn**	**04 37 06.8**	**-2.1**
HYT	**Haines Junctio**	**2.08**	**82**	P	**Pn**	**04 36 44.6**	**+1.0**
HYT				S	**Sn**	**04 37 09.6**	**+0.1**
HYT				Sg	**Sg**	**04 37 13.9**	**-1.7**
HYT				Trac		04 37 15.8	
comp=Z,70nm,0.5s							
WHY	**Whitehorse**	**3.37**	**86**	P	**Pn**	**04 37 01.6**	**+0.3**
WHY				S	**Sn**	**04 37 40.6**	**-0.6**
WHY				Trac		04 37 43.3	
comp=Z,6.0nm,0.2s							
DAWY	**Dawson**	**3.64**	**16**	P	**Pn**	**04 37 06.5**	**+1.4**
DAWY				Pg	**Pg**	**04 37 19.1**	**+0.6**
DAWY				S	**Sn**	**04 37 48.6**	**+0.6**
DAWY				Trac		04 38 08.8	
comp=Z,8.0nm,0.3s							
ILAR	**Eielson Array** 0.1nm,0.3s,baz=156,slow=13,SNR=5.9	**4.81**	**333**	Pn	**Pn**	**04 37 21.7**	**+0.5**
ILAR	0.2nm,0.3s,baz=149,slow=26,SNR=4.6			Lg		04 38 45.6	
INK	**Inuvik** 0.1nm,0.3s,baz=235,slow=14,SNR=3.4	**8.50**	**21**	Pn	**Pn**	**04 38 12.9**	**+1.1**
INK	0.1nm,0.3s,baz=256,slow=18,SNR=4.8			Sn	**Sn**	**04 39 45.7**	**-1.9**
INK	**Inuvik**	**8.50**	**21**	Pn	**Pn**	**04 38 12.9**	**+1.1**
INK				Sn	**Sn**	**04 39 45.7**	**-1.9**
YKA	**Yellowknife Ar** baz=270,slow=13,SNR=6.1	**13.02**	**70**	Pn	**Pn**	**04 39 14.3**	**+0.6**
YKA	baz=273,slow=22,SNR=5.0			Sn	**Sn**	**04 41 33.4**	**-5.1**
SONM	**Songino Array** 0.3nm,0.5s,mb3.6,baz=45,slow=4.1,SNR=3.9	**58.75**	**313**	P	**P**	**04 46 03.0**	**-3.7**

ISCJB ***10*** *04:36:08.4±0.7, 735N±008×729W±01, h169km±8km, mb3.5/8, Error ellipse: s-maj=20.0km s-min=8.5km az=63.2.*
IDC ***10*** *04:36:09.2±0.7, 730N×7286W, h160km±9km, mb3.5/7, mb1 3.7/10, mb1mx3.4/23, mbtmp4.0/10, MS3.7/1, Ms1 3.7/1, ms1mx3.6/11, Error ellipse: s-maj=22.9km s-min=7.2km az=126.0*
NEIC ***10*** *04:36:09.2±0.9, 736N×7295W, h158km±9km, mb4.0/2, Error ellipse: s-maj=18.7km s-min=9.3km az=102.0*

ISC 10 04:36:09.5±0.7, 738N±008×729W±01, h161km±8km, n16, σ0°76/18, mb3.5/8, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo** 50nm,0.3s,baz=275,slow=4.8,SNR=182	**2.72**	**56**	P	**Pn**	**04 36 54.7**	**+0.8**
SDV	30nm,0.3s,baz=61,slow=21,SNR=16			S	**Sn**	**04 37 28.3**	**+0.1**
SDV	**Santo Domingo** 1.2nm,0.8s,mb3.5,baz=57,slow=14,SNR=4.2	**2.72**	**56**	⇓/P	**Pn**	**04 36 54.7**	**+0.8**
SDV				*e*Sn	**Sn**	**04 37 27.7**	**-0.5**
ROSC	**El Rosal** 20nm,0.3s,baz=64,slow=4.7,SNR=38	**2.87**	**209**	P	**Pn**	**04 36 55.3**	**-0.4**
ROSC	53nm,0.3s,baz=292,slow=21,SNR=13			S	**Sn**	**04 37 31.7**	**+0.3**
ROSC	comp=Z,1μm,18.1s,baz=359,slow=38			LR	LR	04 37 58.6	
SJG	**San Juan** 4.2nm,0.3s,baz=332,slow=18,SNR=7.8	**12.55**	**31**	P	**Pn**	**04 39 00.9**	**-1.5**
SAML	**Samuel** 4.8nm,0.4s	**18.90**	**149**	*e*P	**P**	**04 40 18.9**	**+1.2**
CFAA	**Coronel Fontan** 0.1nm,0.4s,mb2.8,baz=323,slow=5.1,SNR=3.1	**39.02**	**174**	P	**P**	**04 43 19.2**	**-1.1**
CFAA	**Coronel Fontan** 0.6nm,0.4s,mb3.6,baz=154,slow=9.8,SNR=3.7	**39.02**	**174**	P	**P**	**04 43 19.2**	**-1.1**
ULM	**Lac du Bonnet** 1.2nm,0.8s,mb3.5,baz=57,slow=14,SNR=4.2	**46.83**	**340**	P	**P**	**04 44 22.7**	**-0.4**
SCHQ	**Schefferville**	**47.57**	**5**	P	**P**	**04 44 29.9**	**+1.1**
PLCA	**Paso Flores** 0.7nm,0.5s,mb3.5,baz=302,slow=7.8,SNR=3.9	**47.92**	**178**	P	**P**	**04 44 30.6**	**-0.9**
PLCA	**Paso Flores** 1.1nm,0.6s,mb3.7	**47.92**	**178**	*e*P	**P**	**04 44 30.9**	**-0.5**
FRB	**Frobisher Bay** 1.5nm,0.6s,mb4.0,baz=179,slow=12,SNR=7.2	**56.35**	**2**	P	**P**	**04 45 33.9**	**+0.2**
YKA	**Yellowknife Ar** 1.3nm,0.5s,mb4.0,baz=131,slow=6.7,SNR=58	**62.81**	**340**	P	**P**	**04 46 17.8**	**-0.1**
INK	**Inuvik** 1.3nm,0.9s,mb3.7,baz=106,slow=4.4,SNR=4.7	**72.57**	**340**	P	**P**	**04 47 19.4**	**+0.4**
ILAR	**Eielson Array** 0.4nm,0.7s,mb3.1,baz=120,slow=4.7,SNR=5.8	**76.54**	**335**	P	**P**	**04 47 42.2**	**+0.3**
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=108,slow=2.5,SNR=16	**150.77**	**242**	PKPbc	PKPbc	04 55 43.9	+1.2

**IDC 10 04:36:38.2±1.4, 442N×12623E, h110km±9km, mb3.7/4, mb1 3.9/4, mb1mx3.4/18, mbtmp4.0/

WRA Warramunga Arr 25.49 162 P P 04 41 57.0 +0.9
4.0nm,0.4s,baz=339,slow=10,SNR=20
WRA pP pP 04 42 22.0 +1.9
2.8nm,0.6s,baz=343,slow=10,SNR=6.6
WB2 Warramunga Arr 25.50 162 *e*P P 04 41 58.2 +2.0
ASAR Alice Springs 28.91 165 P P 04 42 27.2 +0.5
0.4nm,0.4s,baz=346,slow=7.1,SNR=14
STKA Stephens Creek 38.95 159 P P 04 43 52.4 -1.0
3.2nm,0.5s,baz=340,slow=7.8,SNR=10
STKA pP pP 04 44 17.8 -0.5
1.5nm,0.7s,baz=342,slow=16,SNR=2.3
MKAR Makanchi Array 56.70 325 P P 04 46 10.6 +0.4
0.4nm,0.4s,baz=124,slow=7.5,SNR=23
MKAR pP pP 04 46 36.3 -0.5
0.4nm,0.7s,baz=128,slow=8.3,SNR=6.0

NNC 10 04:54:21.0±4.9, 3703N×6996E, h0km, mb3.8, mpv3.4, 1C-1D, Error ellipse: s-maj=84.9km s-min=33.2km az=108.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.08**	**4**	P	Pn	04 55 52.4	+0.2
	1.4nm,0.3s,baz=180,slow=12,SNR=96						
KK31				⇑S	Sn	04 57 03.7	+1.2
	1.2nm,0.4s						
AB31	**Akbulak array**	**14.23**	**332**	⇓P	Pn	04 57 43.3	-0.3
	1.4nm,1.0s,baz=146,slow=11,SNR=7.5						
DPC	**Dobruska-Polom**	**40.15**	**307**	AMS	AMS	05 02 10.0	
	2μm,21.1s						
KHC	**Kasperske Hory**	**42.00**	**305**	AMS	AMS	05 03 00.0	
	3μm,20.3s						
NKC	**Novy Kostel**	**42.64**	**307**	AMS	AMS	05 02 50.0	
	2μm,20.6s						

*ISCJB **10** 04:56:29.3±0.6, 3944N±002×2073E±004, h5km±5km, Error ellipse: s-maj=4.9km s-min=4.1km az=168.9*
*NEIC **10** 04:56:29.0, 3944N×2071E, h27km, ML2.9(THE), ML3.3(ATH), After ATH.*
*ATH **10** 04:56:29.4, 3944N×2071E, h27km±1km, MD3.3/5*
*CSEM **10** 04:56:30.1±0.2, 3944N×2070E, h10km, MD3.3, Error ellipse: s-maj=3.3km s-min=3.2km az=94.0*
*THE **10** 04:56:31.0, 3946N×2077E, h10km, ML3.0*
ISC 10 04:56:30.2±0.5, 3945N±002×2069E±004, h15km±4km, n26, σ1§38/44, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.24**	**31**	*e*PB	Pg	04 56 35.5	-0.1
JAN				*e*SB	Sg	04 56 40.2	+0.9
IGT	**Igoumenitsa**	**0.29**	**287**	*e*Pg	Pg	04 56 36.3	0.0
MEV	**Metsovon**	**0.54**	**51**	*e*Pg	Pg	04 56 40.3	-0.5
SRN	**Sarande**	**0.69**	**309**	*e*Pg	Pg	04 56 43.7	+0.1
SRN				*i* Sg	Sg	04 56 53.5	+0.8
KEK	**Kerkira**	**0.74**	**291**	*e*PN	Pn	04 56 44.4	-1.6
LKD	**Levkas**	**0.74**	**182**	*e*Pg	Pg	04 56 44.6	0.0
LKD				*e*Sg	Sg	04 56 57.2	+2.7
EVR	**Evrytania**	**1.02**	**121**	*e*PN	Pn	04 56 49.0	-0.9
KZN	**Kozani**	**1.20**	**44**	*e*PN	Pn	04 56 52.1	-0.3
VLS	**Valsamata**	**1.27**	**184**	*e*PN	Pn	04 56 53.5	+0.1
VLS				*e*SN	Sn	04 57 10.7	+0.6
AGG	**Agios Georgios**	**1.34**	**108**	*e*Pg	Pg	04 56 54.5	-1.6
	comp=Z,2.0nm,0.2s						
AGG				*e*Sg	Sg	04 57 13.6	0.0
AGG	**Agios Georgios**	**1.34**	**108**	*e*Pg	Pg	04 56 54.5	-1.6
	2.0nm,0.2s						
AGG				*e*Sg	Sg	04 57 13.6	0.0
FNA	**Florina**	**1.44**	**21**	*e*Pg	Pg	04 56 56.3	-1.5
	comp=Z,5.0nm,0.2s						
FNA				*e*Sg	Sg	04 57 17.4	+0.9
LIT	**Litokhoron**	**1.54**	**64**	*e*Pg	Pg	04 56 57.9	-1.8
	comp=Z,2.8nm,0.2s						
LIT				*e*Sg	Sg	04 57 19.1	-0.6
BIA	**Bitola**	**1.64**	**17**	*e*Pg	Pg	04 56 59.4	-2.4
BIA				*e*Sg	Sg	04 57 23.0	-0.2
BIA	**Bitola**	**1.64**	**17**	*e*Pn	Pn	04 57 01.1	+2.5
BIA				*i* 1		04 57 02.9	
BIA				*i* Sg	Sg	04 57 23.5	+0.3
BIA	**Bitola**	**1.64**	**17**	*e*Pn	Pn	04 57 01.0	+2.5
BIA				*i* Sg	Sg	04 57 23.5	+0.3
OHR	**Ohrid**	**1.67**	**3**	*e*Pb	Pb	04 57 00.9	+0.4
OHR				*e*Sb	Sb	04 57 24.1	+2.8
OHR	**Ohrid**	**1.67**	**3**	*i* Pn	Pn	04 57 01.4	+2.6
OHR				*i* 1		04 57 02.2	
OHR				*i* Sg	Sg	04 57 25.7	+1.8
OHR	**Ohrid**	**1.67**	**3**	*i* Sg	Sg	04 57 25.7	+1.8
GRG	**Griva**	**2.00**	**40**	*e*Pb	Pb	04 57 04.8	-1.4
VAY	**Valandovo**	**2.36**	**37**	*e*Pn	Pn	04 57 10.8	+2.4
VAY	**Valandovo**	**2.36**	**37**	*e*Pn	Pn	04 57 10.7	+2.3
KNT	**Kendrikon**	**2.41**	**44**	*e*Pn	Pn	04 57 10.4	+1.4
OUR	**Ouranopolis**	**2.69**	**70**	*e*Pn	Pn	04 57 13.9	+1.1
STON	**Ston**	**4.10**	**328**	*i* Pn	Pn	04 57 31.6	-0.7
STON				*i* Sn	Sn	04 58 17.4	-2.5
STON				*i* Sb	Sb	04 58 29.0	-2.3
STON				*i* Sg	Sg	04 58 35.7	-6.1
STON	**Ston**	**4.10**	**328**	*i* Pn	Pn	04 57 31.5	-0.8
STON				*i* Sn	Sn	04 58 17.4	-2.5
STON				*i* Sg	Sg	04 58 35.7	-6.1

*NNC **10** 05:07:55.6±5.1, 4253N×7702E, h0km, mb2.6, mpv3.6, Error ellipse: s-maj=33.9km s-min=13.4km az=139.0*
*ISCJB **10** 05:08:06.6±0.9, 431N±0.1×7664E±0.10, h33km, Error ellipse: s-maj=20.3km s-min=8.2km az=142.4*
ISC 10 05:08:06.7±0.9, 431N±01×767E±01, h35km, n10, σ1§19/12, 4C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.25**	**63**	⇑P	Pn	05 08 08.2	-5.9
	4μm,0.2s						
KNDC				⇓S	Sn	05 08 19.1	+0.1
	11μm,0.8s						
TKM2	**Tokmak 2**	**0.80**	**257**	P	Pn	05 08 19.0	-2.5
	SNR=5.4						
TKM2	**Tokmak 2**	**0.80**	**257**	⇑P	Pn	05 08 18.8	-2.7
	2.4nm,0.2s						
TKM2				⇑S	Sn	05 08 31.9	-0.3
	2.3nm,0.2s						
ULHL	**Ulahol**	**0.91**	**200**	P	Pn	05 08 22.2	-0.8
	SNR=12						
KBK	**Karagaybulak**	**1.33**	**251**	P	Pn	05 08 29.0	+0.2
	SNR=9.1						
USP	**Ospenovka**	**1.59**	**277**	P	Pn	05 08 31.8	-0.5
	SNR=9.2						
AAK	**Ala-Archa**	**1.66**	**254**	P	Pn	05 08 34.4	+1.1
	SNR=6.5						
UCH	**Uchtor**	**1.81**	**242**	P	Pn	05 08 37.5	+2.1
	SNR=6.4						
AML	**Almayashu**	**2.39**	**247**	P	Pn	05 08 47.7	+4.3
	SNR=19						
KK31	**Karatay Array**	**4.50**	**272**	Pg	Pn	05 09 23.2	+11
	0.6nm,0.7s,baz=95,slow=16,SNR=9.3						
KK31				⇑Lg		05 10 28.6	
	0.7nm,0.5s,baz=82,slow=31,SNR=4.7						

*IDC **10** 05:08:41.8±5.7, 5133N×15741E, h55km±46km, mb3.4/5, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML4.4/1, Error ellipse: s-maj=68.8km s-min=24.6km az=178.0*
*NEIC **10** 05:08:41.4±2.7, 5103N×15746E, h64km±19km, mb4.0/2, Error ellipse: s-maj=35.8km s-min=13.3km az=186.0*
*ISCJB **10** 05:08:43.5±0.9, 5104N±007×158.1E±01, h77km±10km, mb3.7/7, Error ellipse: s-maj=13.2km s-min=8.6km az=92.7*
*KRSC **10** 05:08:43.0±1.3, 5098N×158.13E, h40km±8km, ML4.4*
*MOS **10** 05:08:44.4±1.4, 5121N×15820E, h67km, mb4.5/1, Error ellipse: s-maj=31.1km s-min=10.9km az=74.9*
ISC 10 05:08:45.0±0.9, 5108N±007×15801E±010, h72km±10km, n46, σ1§09/66, mb3.7/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.85**	**298**	*e*P	Pn	05 09 00.5	-1.2
PAU				*e*S	Sn	05 09 14.2	0.0
PAU				Smax			
	2μm,0.8s						
RUS	**Russkaya**	**1.40**	**13**	P	Pn	05 09 07.8	-0.8
RUS				S	Sn	05 09 25.3	-1.1
RUS	**Russkaya**	**1.40**	**13**	*i* P	Pn	05 09 07.8	-0.8
RUS				*e*S	Sn	05 09 24.0	-2.4
MIPR	**Malaya Ipel'ka**	**1.43**	**328**	*i* P	Pn	05 09 07.9	-1.2
MIPR				*i* S	Sn	05 09 26.7	-0.6
GRL	**Gorelyy**	**1.48**	**1**	*e*P	Pn	05 09 09.9	+0.2
GRL				*i* S	Sn	05 09 29.1	+0.7
KRMR	**Karymshinskiy**	**1.76**	**2**	*i* P	Pn	05 09 13.6	+0.2
KRMR				*i* S	Sn	05 09 36.9	+1.9
APC	**Apacha**	**1.93**	**344**	*e*P	Pn	05 09 15.3	-0.3
APC				*i* S	Sn	05 09 38.9	-0.1
APC				Smax			
	190nm,1.1s						
PET	**Petropavlovsk**	**1.99**	**11**	P	Pn	05 09 16.1	-0.4
PET				S	Sn	05 09 39.2	-1.4
PET	**Petropavlovsk**	**1.99**	**11**	*e*P	Pn	05 09 16.0	-0.5
PET				*e*S	Sn	05 09 40.1	-0.5
PET	**Petropavlovsk**	**1.99**	**11**	*e*PN	Pn	05 09 16.3	-0.2
PET				*e*S	Sn	05 09 40.8	+0.2
PET				pmax	pmax		
	comp=Z,65nm,0.4s						
PET				smax			
	comp=N,497nm,0.4s						
PET	**Petropavlovsk**	**1.99**	**11**	*e*Pn	Pn	05 09 15.4	-1.1
PET				*e*Sn	Sn	05 09 34.9	-5.7
UGLR	**Uglovaya**	**2.19**	**13**	*i* P	Pn	05 09 19.7	+0.4
UGLR				*e*S	Sn	05 09 43.9	-1.6
AVH	**Avacha**	**2.24**	**11**	*e*P	Pn	05 09 20.7	+0.9
AVH				*e*S	Sn	05 09 48.9	+2.4
SMAR	**Somma**	**2.25**	**12**	*e*P	Pn	05 09 20.2	+0.3
KOK	**Koryaka**	**2.25**	**10**	*i* P	Pn	05 09 21.2	+1.2
NLC	**Nalytchevo**	**2.25**	**21**	P	Pn	05 09 18.8	-1.3
NLC				S	Sn	05 09 43.5	-3.4
NLC	**Nalytchevo**	**2.25**	**21**	*e*P	Pn	05 09 18.8	-1.3
NLC				*i* S	Sn	05 09 44.7	-2.2
SPN	**Mys Shipunski**	**2.38**	**31**	P	Pn	05 09 21.9	+0.2
SPN				S	Sn	05 09 49.3	-0.5
SPN	**Mys Shipunski**	**2.38**	**31**	*i* P	Pn	05 09 21.9	+0.2
SPN				*e*S	Sn	05 09 49.6	-0.2
GNL	**Ganaly**	**2.62**	**359**	*e*P	Pn	05 09 25.6	+0.5
GNL				*e*S	Sn	05 09 55.8	-0.1
MKZ	**Mys Kozlova**	**4.15**	**31**	P	Pn	05 09 45.2	-0.7
MKZ				S	Sn	05 10 29.7	-3.4
MKZ	**Mys Kozlova**	**4.15**	**31**	*e*P	Pn	05 09 45.2	-0.7
MKZ				*e*S	Sn	05 10 31.1	-2.0
TUMR	**Tumrok**	**4.41**	**16**	*e*P	Pn	05 09 50.9	+1.6
ESO	**Esso**	**4.88**	**5**	*e*P	Pn	05 09 56.0	+0.2
KPT	**Kopyto**	**5.07**	**14**	*e*P	Pn	05 09 59.6	+1.1
CIRR	**Tsirk**	**5.31**	**17**	*e*P	Pn	05 10 03.9	+2.3
SRDR	**Sredinnyy**	**5.35**	**10**	*i* P	Pn	05 10 03.7	+1.5
BDR	**Baidarnaya**	**5.82**	**18**	*e*P	Pn	05 10 09.6	+1.0
KBTR	**Krutoberegovo**	**5.88**	**27**	P	Pn	05 10 09.4	-0.1
KBTR	**Krutoberegovo**	**5.88**	**27**	*e*P	Pn	05 10 09.3	-0.2
SRKR	**Sorokina**	**5.89**	**17**	*e*P	Pn	05 10 10.2	+0.6
BKI	**Bering**	**6.33**	**46**	*e*P	Pn	05 10 14.8	-0.8
BKI				*e*S	Sn	05 11 19.4	-7.0
BKI				Smax			
	comp=N,60nm,0.3s						
FX1	**Attu Island--F**	**9.53**	**73**	P	Pn	05 11 00.2	+1.0
	comp=N,12nm,0.3s,baz=134,slow=14,SNR=23						
FX1				S	Sn	05 12 39.7	-4.9
	comp=N,12nm,0.3s,baz=170,slow=22,SNR=7.8						
FX1	**Attu Island--F**	**9.53**	**73**	PN	Pn	05 11 00.2	+0.9
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
FX1	**Attu Island--F**	**9.53**	**73**	*e*Pn	Pn	05 10 59.8	+0.5
ILAR	**Eielson Array**	**31.16**	**43**	P	P	05 14 54.8	-2.1
	comp=Z,0.7nm,0.9s,mb3.4,baz=250,slow=8.8,SNR=4.9						
YKA	**Yellowknife Ar**	**45.53**	**41**	P	P	05 16 56.1	-1.1
	comp=Z,0.5nm,0.7s,mb3.3,baz=300,slow=7.9,SNR=9.2						
KURK	**Kurchatov**	**47.72**	**302**	*e*P	P	05 17 08.8	-5.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
KURK	**Kurchatov**	**47.72**	**302**	*e*P	P	05 17 08.8	-5.6
	comp=Z,0.7nm,0.4s,mb3.8						
MKAR	**Makanchi Array**	**47.88**	**296**	P	P	05 17 10.4	-5.2
	comp=Z,0.9nm,0.5s,mb3.9,baz=62,slow=6.5,SNR=20						
AAK	**Ala-Archa**	**54.82**	**296**	P	P	05 18 02.6	-4.9
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**54.82**	**296**	P	P	05 18 02.6	-4.9
	comp=Z,1.1nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**57.67**	**67**	P	P	05 18 28.6	+0.7
	comp=Z,1.0nm,0.6s,mb4.0,baz=298,slow=7.2,SNR=8.3						
PDAR	**Pinedale Array**	**59.65**	**58**	P	P	05 18 41.6	0.0
	comp=Z,0.4nm,0.7s,mb3.6,baz=315,slow=2.1,SNR=3.5						
PLCA	**Paso Flores**	**145.25**	**92**	PKPbc	PKPbc	05 28 12.5	-1.5
	comp=Z,0.8nm,0.6s,baz=257,slow=5.4,SNR=4.3						
PLCA	**Paso Flores**	**145.25**	**92**	PKPbc	PKPbc	05 28 12.5	-1.5

*IDC **10** 05:24:49.5±0.8, 196N×9666E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML3.4/1, Error ellipse: s-maj=26.1km s-min=15.0km az=39.0*
*BJI **10** 05:24:51.4, 187N×9694E, h32km, mB5.4, mb4.8*
*ISCJB **10** 05:24:52.1±0.5, 206N±007×9682E±006, h28km, mb4.6/53, MS4.2/1, Error ellipse: s-maj=10.7km s-min=7.3km az=75.8*
*MOS **10** 05:24:52.9±0.9, 208N×9672E, h33km, mb4.8/23, Error ellipse: s-maj=12.1km s-min=7.0km az=101.2*
*NEIC **10** 05:24:53.9±0.4, 202N×9674E, mb4.7/18, Error ellipse: s-maj=9.7km s-min=5.9km az=222.0*
ISC 10 05:24:54.5±0.5, 206N±007×9680E±006, h29km, h29km±.7km: pP-P, n95, σ1§05/96, mb4.6/53, MS4.2/1, 5C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.25**	**71**	Pn	Pn	05 25 31.1	+1.4
	8.4nm,0.3s,baz=261,slow=7.6,SNR=38						
PSI				Sn	Sn	05 26 01.5	+5.0
	34nm,0.3s,baz=290,slow=7.8,SNR=8.2						
KULM	**Kulim**	**5.01**	**50**	⇑*i*Pn	Pn	05 26 09.0	+1.4
SNG	**Songkhla**	**6.35**	**37**	P	Pn	05 26 27.0	+0.9
	414nm,0.9s						
SHL	**Shillong**	**23.85**	**349**	*e*P	P	05 30 02.5	-2.7
GYA	**Guiyang**	**26.05**	**20**	P	P	05 30 26.4	+1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**27.41**	**339**	*e*P	P	05 30 38.5	+1.1
	comp=Z,39nm,0.8s,mb5.0						
PKI	**Pulchoki**	**27.61**	**338**	*e*P	P	05 30 39.4	+0.1
GUN	**Gumba**	**27.75**	**339**	*e*P	P	05 30 41.6	+1.1
	comp=Z,37nm,0.7s,mb5.2						
DMN	**Daman**	**27.76**	**337**	*e*P	P	05 30 41.2	+0.6
	comp=Z,8.4nm,0.4s,mb4.7						
KKN	**Kakani**	**27.86**	**338**	*e*P	P	05 30 42.0	+0.5
	comp=Z,28nm,0.9s,mb4.9						
KKN	**Kakani**	**27.86**	**338**	*e*P	P	05 30 42.0	+0.5
KKN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
LSA	**Lhasa**	**28.01**	**349**	P	P	05 30 43.4	+0.6
LSA	**Lhasa**	**28.01**	**349**	*e*P	P	05 30 43.3	+0.5
LSA				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
LSA	**Lhasa**	**28.01**	**349**	*e*P	P	05 30 43.3	+0.5
	comp=Z,15nm,0.9s,mb4.6						
GKN	**Gorkha**	**28.30**	**337**	*e*P	P	05 30 46.1	+0.7
	comp=Z,40nm,0.9s,mb5.1						
KOLN	**Koldanda**	**28.51**	**335**	*e*P	P	05 30 48.3	+1.0
	comp=Z,16nm,0.6s,mb4.9						
CD2	**Chengdu**	**29.44**	**12**	*e*P	P	05 30 58.3	+2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,60nm,4.8s						
ENH	**Enshi**	**30.53**	**22**	*e*P	P	05 31 03.5	-1.7
	comp=Z,7.4nm,0.7s,mb4.6						
ENH				*e*pP	pP	05 31 11.8	-2.0
XAN	**Xi'an**	**33.77**	**18**	P	P	05 31 32.3	-1.3
XAN				AP	pP	05 31 40.4	-1.9
LZH	**Lanzhou**	**34.48**	**10**	*e*P	P	05 31 39.5	-0.3
LZH				AP	pP	05 31 48.5	+0.1
LZH				XP	sP	05 31 54.0	+2.0
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2	**Nanjing**	**36.35**	**33**	*e*P	P	05 31 54.8	-1.1
NJ2				AP	pP	05 32 04.5	0.0
NJ2				XP	sP	05 32 08.5	+0.4
NJ2				PP	PP	05 33 17.1	-1.7
NJ2				S	S	05 37 32.0	-3.1
NJ2				XS	sS	05 37 48.0	-1.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,406nm,5.2s						
SSE	**Sheshan**	**36.95**	**36**	P	P	05 31 58.8	-2.2
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,670nm,8.4s						
GTA	**Gaotai**	**37.28**	**4**	P	P	05 32 03.8	+0.1
GTA				AP	pP	05 32 12.3	-0.1
GTA				XP	sP	05 32 15.5	-0.5
GTA				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**41.68**	**23**	*e*P	P	05 32 40.8	+0.4
BJT				*e**PP	pP	05 32 48.6	-0.6
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	**Baijiatuau**	**41.68**	**23**	*e*P	P	05 32 40.8	+0.4
	comp=Z,13nm,0.8s,mb4.6						
BJT				*e*pP	pP	05 32 48.6	-0.6
WRA	**Warramunga Arr**	**42.83**	**123**	P	P	05 32 50.0	+0.2
	comp=Z,6.4nm,0.7s,mb4.5,baz=301,slow=9.1,SNR=29						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	P	05 32 50.0	+0.2
WRAB				*e**PP	pP	05 32 57.9	-0.7
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	P	05 32 50.0	+0.2
	comp=Z,14nm,0.9s,mb4.7						
WRAB				*e*pP	pP	05 32 57.9	-0.7
WB2	**Warramunga Arr**	**42.84**	**123**	*e*P	P	05 32 50.3	+0.4
ULHL	**Ulahol**	**44.05**	**338**	P	P	05 32 60.0	+0.3
	SNR=8.6						
ASAR	**Alice Springs**	**44.23**	**128**	P	P	05 33 01.6	+0.6
	comp=Z,5.0nm,0.9s,mb4.2,baz=301,slow=8.2,SNR=32						
UCH	**Uchtor**	**44.71**	**336**	P	P	05 33 06.4	+1.6
	SNR=9.5						
KBK	**Karagaybulak**	**44.90**	**337**	P	P	05 33 08.4	+2.1
	SNR=13						
AML	**Almayashu**	**44.96**	**336**	P	P	05 33 08.2	+1.4
	SNR=14						
AAK	**Ala-Archa**	**45.06**	**337**	⇓*i*P	P	05 33 08.3	+0.7
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**45.06**	**337**	*e*P	P	05 33 07.9	+0.3
	comp=Z,8.9nm,1.2s,mb4.5						
EKS2	**Erkin-Say**	**45.37**	**336**	P	P	05 33 11.0	+0.9
	SNR=5.5						
USP	**Ospenovka**	**45.59**	**337**	P	P	05 33 12.7	+0.9
	SNR=15						
MK31	**Makanchi Array**	**46.32**	**346**	*i* P	P	05 33 17.2	-0.4
MK31				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**46.32**	**346**	P	P	05 33 17.7	+0.1
	comp=Z,17nm,0.8s,mb5.0,baz=161,slow=7.6,SNR=165						
MKAR	**Makanchi Array**	**46.32**	**346**	*i* P	P	05 33 17.2	-0.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**46.35**	**9**	P	P	05 33 18.2	+0.4
	comp=Z,9.0nm,0.8s,mb4.7,baz=190,slow=8.4,SNR=60						
SONM				PcP	PcP	05 34 53.7	+1.1
	comp=Z,1.1nm,0.6s,baz=190,slow=3.0,SNR=4.3						
ULN	**Ulaanbaatar**	**46.48**	**10**	*c i*P	P	05 33 18.0	-0.9
ULN	**Ulaanbaatar**	**46.48**	**10**	*e*P	P	05 33 18.4	-0.5
KK31	**Karatay Array**	**47.11**	**334**	*i* P	P	05 33 24.3	+0.5
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KKAR	**Karatay Array**	**47.11**	**334**	P	P	05 33 24.3	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZAK	**Zakamensk**	**48.46**	**6**	*e*P	P	05 33 34.3	0.0
ZAK				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.6						
CN2	**Changchun**	**48.73**	**28**	*e*P	P	05 33 35.9	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.86**	**345**	⇓*i*P	P	05 33 53.0	+0.4
KURK	**Kurchatov**	**50.86**	**345**	*e*P	P	05 33 52.4	-0.2
	comp=Z,17nm,1.3s,mb4.8						
HIA	**Hailar**	**50.96**	**19**	*e*P	P	05 33 52.9	-0.4
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**50.96**	**19**	*e*P	P	05 33 52.9	-0.4
	comp=Z,8.5nm,0.8s,mb4.7						
MJAR	**Matsushiro Arr**	**51.34**	**43**	P	P	05 33 56.5	+0.4
	comp=Z,2.1nm,0.5s,mb4.3,baz=209,slow=6.3,SNR=7.4						
CIT	**Chita**	**51.73**	**13**	*e*P	P	05 34 00.2	+1.2
ZAL	**Zalesovo**	**52.64**	**351**	P	P	05 34 05.6	-0.2
	comp=Z,8.9nm,0.7s,mb4.8,baz=289,slow=5.5,SNR=49						
ZAL	**Zalesovo**	**52.64**	**351**	*i* P	P	05 34 05.5	-0.4
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	**Charters Tower**	**53.25**	**117**	*e*P	P	05 34 11.2	+0.9
CTAO				*e**PP	pP	05 34 19.7	+0.4
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**53.25**	**117**	*e*P	P	05 34 11.2	+0.9
	comp=Z,11nm,1.0s,mb4.8						
CTAO				*e*pP	pP	05 34 19.7	+0.4
NVS	**Novosibirsk**	**53.77**	**350**	*e*P	P	05 34 12.1	-2.0
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
STKA	**Stephens Creek**	**54.23**	**132**	P	P	05 34 16.1	-1.3
	comp=E,1.6nm,0.8s,mb4.0,baz=270,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**54.23**	**132**	*e*P	P	05 34 16.2	-1.3
VOSK	**Vostochnaya**	**54.86**	**341**	P	P	05 34 21.0	-1.1
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BVA0	**Borovoye Array**	**55.31**	**341**	*i* P	P	05 34 21.6	-3.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**55.31**	**341**	P	P	05 34 25.0	-0.4

AKASG	Malin Array Be	74.34 322	P	P	05 36 28.2	-1.0
	comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=5.2,SNR=8.0					
AKASG	Malin Array Be	74.34 322	P	P	05 36 28.2	-1.1
JOF	Joensuu	77.20 335	*e*p	P	05 36 45.9	+0.3
	comp=Z,2.6nm,0.6s,mb4.3					
FINES	FINESS Array B	79.06 332	P	P	05 36 55.5	-0.3
	comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=7.6,SNR=9.5					
FINES	FINESS Array B	79.06 332	*i* P	P	05 36 55.5	-0.4
FINES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
KAF	Kangasniemi	79.14 333	*e*p	P	05 36 55.2	-1.1
	comp=Z,2.2nm,0.5s,mb4.3,baz=103,slow=5.1					
KAF	Kangasniemi	79.14 333	*e*P	P	05 36 55.2	-1.1
KAF			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3					
ARCES	ARCESS Array B	81.60 340	P	P	05 37 09.4	-0.1
	comp=Z,1.2nm,0.4s,mb4.2,baz=96,slow=6.8,SNR=11					
GERES	GERESS Array B	83.91 319	P	P	05 37 22.3	+0.7
	comp=Z,1.5nm,0.9s,mb4.1,baz=104,slow=5.5,SNR=6.8					
NOA	NORSAR Array B	86.06 331	P	P	05 37 32.3	-0.1
	comp=Z,0.4nm,0.6s,mb3.8,baz=108,slow=3.2,SNR=3.7					
TORD	Torodi Ar. Bea	94.50 283	P	P	05 38 12.8	+0.9
	comp=Z,0.1nm,0.4s,mb3.6,baz=45,slow=2.0,SNR=3.7					
NVAR	Mina Array Bea	128.32 35	PKP	PKPdf	05 44 00.7	+2.5
	comp=Z,0.1nm,0.3s,baz=270,slow=4.5,SNR=5.1					
CPUP	Villa Florida	145.36 224	*e*PKIKP	PKPdf	05 44 30.0	+0.6

JMA 10 05:45:27.2±0.1, 2917N×13970E, h443km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.01	133	P	P	05 46 34.2	+0.5
BSO3	Boso 3	5.66	7	S	S	05 48 10.9	-0.7
JWM	Minabe	5.96	323	P	P	05 47 01.6	+0.8
JRY	Ryogami san	6.86	355	P	P	05 47 11.3	+1.1
JWT	Wachi	7.10	330	P	P	05 47 13.6	+0.9
JAG	Ashikaga	7.24	358	P	P	05 47 14.3	+0.1
JGN	Niukaw	7.31	345	P	P	05 47 15.7	+0.6
JMM	Marumori	8.72	6	P	P	05 47 32.4	+2.1

IGQ 10 06:05:33.0, 072N×7989W, h12km±5km, Mb4.2, Ms4.0, 5C-9D, Error ellipse: s-maj=5.7km s-min=4.1km az=53.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	0.80	172	⇑P	Pg	06 05 48.0	-0.4
PINO	Pino	1.55	124	⇓P	Pn	06 06 01.7	+1.3
YANA	Yana	1.56	122	⇓P	Pn	06 06 01.9	+1.4
YANA				S	Sn	06 06 24.9	+4.2
TERV	Terraza Guagua	1.56	125	⇑P	Pn	06 06 02.0	+1.4
GGP	Refugio Guagua	1.57	124	⇓P	Pn	06 06 01.8	+1.1
COTA	Cotacachi	1.60	104	⇑P	Pn	06 06 03.9	+2.8
COTA				S	Sn	06 06 29.3	+7.7
CAMI	Rancho Maria	1.96	135	⇑P	Pn	06 06 08.3	+2.3
ANGU	Angureal	2.00	110	⇓P	Pn	06 06 10.9	+4.3
CAYA	Cayambe	2.01	109	⇓P	Pn	06 06 10.7	+4.0
CAYR	Refugio Cayamb	2.01	110	⇑P	Pn	06 06 11.0	+4.3
VC1	Cotopaxi 1	2.01	132	⇓P	Pn	06 06 09.3	+2.6
TAMB	Tambo	2.07	133	⇓P	Pn	06 06 10.3	+2.8
ANTI	Antisana	2.08	124	⇓P	Pn	06 06 10.6	+2.8
PISA	Pisayambo	2.32	140	⇓P	Pn	06 06 14.2	+3.2
IGUA	Igualata	2.53	150	P	Pn	06 06 17.8	+4.0
JUIV	Juive	2.56	146	P	Pn	06 06 17.9	+3.6
CUSU	Cusua	2.57	147	P	Pn	06 06 17.3	+2.8
ULBA	Ulba	2.62	145	P	Pn	06 06 18.3	+3.2
ULBA				S	Sn	06 06 51.7	+5.0

*ISCJB **10** 06:06:43.2±0.3, 5494N×002×16094E×005, h138km±2km, mb3.7/14, Error ellipse: s-maj=5.5km s-min=2.9km az=54.1*
*MOS **10** 06:06:43.2±0.9, 5495N×16083E, h142km, mb4.1/1, Error ellipse: s-maj=18.1km s-min=7.7km az=84.1*
*NEIC **10** 06:06:43.6±0.4, 55.11N×16049E, mb4.2/4, Error ellipse: s-maj=12.0km s-min=8.7km az=151.0*
*KRSC **10** 06:06:43.4±0.8, 5491N×16092E, h133km±3km, ML4.3*
*IDC **10** 06:06:44.3±0.9, 5513N×16038E, h133km±8km, mb3.4/12, mb1 3.7/13, mb1mx3.5/24, mbtmp3.9/13, Error ellipse: s-maj=20.9km s-min=12.7km az=146.0*

ISC 10 06:06:44.1±0.3, 5494N±002×16092E±005, h136km±2km, h135km±4.6km; pP-P, n71, σ1§04/108, mb3.7/14, 2C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.56	308	*i* P	Pn	06 07 04.7	+0.5
TUMR				*i* S	Sn	06 07 20.4	+0.9
MKZ	Mys Kozlova	0.61	129	P	Pn	06 07 04.1	-0.4
MKZ				S	Sn	06 07 18.7	-1.3
MKZ	Mys Kozlova	0.61	129	*i* P	Pn	06 07 04.1	-0.4
MKZ				*e*S	Sn	06 07 18.5	-1.5
KPT	Kopyto	1.10	339	*i* P	Pn	06 07 08.5	0.0
KPT				*e*S	Sn	06 07 26.0	-1.1
CIRR	Tsirk	1.18	355	*i* P	Pn	06 07 09.8	+0.5
CIRR				*e*S	Sn	06 07 29.3	+0.9
KII	Karymskiy	1.25	224	*e*P	Pn	06 07 10.2	+0.2
KOZ	Kozyrevsk	1.27	332	P	Pn	06 07 10.4	+0.2
KOZ				S	Sn	06 07 28.9	-1.1
KOZ	Kozyrevsk	1.27	332	*i* P	Pn	06 07 10.4	+0.2
KOZR	Kozyr	1.27	333	PN	Pn	06 07 10.4	+0.2
KOZR				S	Sn	06 07 28.9	-1.1
KLY	Klyuchi	1.38	354	P	Pn	06 07 11.6	+0.2
KLY				S	Sn	06 07 31.2	-0.9
KLY	Klyuchi	1.38	354	*i* P	Pn	06 07 11.6	+0.2
KLY				*i* S	Sn	06 07 32.2	+0.1
SRDR	Sredinnyy	1.54	334	*i* P	Pn	06 07 13.1	+0.1
ESO	Esso	1.60	309	*i* P	Pn	06 07 13.8	0.0
ESO				*e*S	Sn	06 07 35.8	-0.7
ESO				Smax			
	520nm,0.9s						
BDR	Baidarnaya	1.64	6	*e*P	Pn	06 07 14.7	+0.5
BDR				*i* S	Sn	06 07 38.4	+1.3
KBG	Krutoberegovo	1.66	37	*e*P	Pn	06 07 15.0	+0.6
KBG				*i* S	Sn	06 07 37.3	-0.3
KBTR	Krutoberegovo	1.66	40	P	Pn	06 07 14.8	+0.3
KBTR				S	Sn	06 07 36.4	-1.3
KBTR	Krutoberegovo	1.66	40	*i* P	Pn	06 07 14.8	+0.3
KBTR				*i* S	Sn	06 07 36.9	-0.8
SRKR	Sorokina	1.72	5	*i* P	Pn	06 07 15.5	+0.4
SRKR				*e*S	Sn	06 07 39.1	+0.3
SPN	Mys Shipunski	1.92	196	P	Pn	06 07 16.5	-1.0
SPN				S	Sn	06 07 40.7	-2.4
SPN	Mys Shipunski	1.92	196	*e*P	Pn	06 07 16.5	-1.0
SPN				*e*S	Sn	06 07 41.0	-2.1
NLC	Nalytchevo	2.00	208	P	Pn	06 07 18.2	-0.3
NLC				S	Sn	06 07 43.4	-1.4
NLC	Nalytchevo	2.00	208	*e*P	Pn	06 07 18.2	-0.3
NLC				*e*S	Sn	06 07 43.9	-0.9
SMAR	Somma	2.10	217	*e*P	Pn	06 07 20.2	+0.6
SMAR				*i* S	Sn	06 07 47.5	+0.7
AVH	Avacha	2.12	218	*e*P	Pn	06 07 20.6	+0.8
AVH				*e*S	Sn	06 07 47.0	-0.2
KOK	Koryaka	2.13	220	*e*P	Pn	06 07 21.0	+1.0
KOK				*e*S	Sn	06 07 49.1	+1.6
UGLR	Uglovaya	2.13	216	*e*P	Pn	06 07 20.5	+0.5
UGLR				*e*S	Sn	06 07 48.0	+0.5
GNL	Ganaly	2.15	236	*e*P	Pn	06 07 20.8	+0.6
GNL				*e*S	Sn	06 07 47.8	-0.1
PET	Petropavlovsk	2.34	216	P	Pn	06 07 23.2	+0.6
PET				S	Sn	06 07 51.9	-0.3
PET	Petropavlovsk	2.34	216	*e*P	Pn	06 07 22.9	+0.3
PET				*i* S	Sn	06 07 52.1	-0.1
PET	Petropavlovsk	2.34	216	⇓*i*PN	Pn	06 07 22.8	+0.2
PET				*e*S	Sn	06 07 52.1	-0.1
PET	Petropavlovsk	2.34	216	*e*Pn	Pn	06 07 22.6	0.0
PET				*e*Sn	Sn	06 07 53.1	+0.9
KRMR	Karymshinskiy	2.69	219	*e*P	Pn	06 07 27.2	+0.3
KRMR				*e*S	Sn	06 07 59.4	-0.5
RUS	Russkaya	2.89	211	P	Pn	06 07 29.2	-0.4
RUS				S	Sn	06 08 02.0	-2.6
RUS	Russkaya	2.89	211	*e*P	Pn	06 07 29.1	-0.5
RUS				*i* S	Sn	06 08 02.0	-2.6
BKI	Bering	2.92	83	*i* P	Pn	06 07 30.1	+0.2
BKI				*e*S	Sn	06 08 03.1	-2.0
BKI				Smax			
	630nm,0.6s						
GRL	Gorelyy	2.93	216	*e*P	Pn	06 07 31.0	+0.9
GRL				*e*S	Sn	06 08 06.5	+1.0
APC	Apacha	3.01	229	*i* P	Pn	06 07 31.9	+0.9
APC				*i* S	Sn	06 08 07.5	+0.3
APC				Smax			
	100nm,1.1s						
MIPR	Malaya Ipel'ka	3.65	225	*e*P	Pn	06 07 40.0	+0.7
PAU	Pauzhetka	4.27	217	*e*P	Pn	06 07 48.5	+0.9
SKR	Severo-Kuril's	5.17	216	*e*P	Pn	06 07 57.4	-2.1
MA2	Magadan	7.20	314	*e*PN	Pn	06 08 27.4	+0.6
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2	Magadan	7.20	314	*e*Pn	Pn	06 08 27.2	+0.4
	comp=Z,23nm,1.3s						
FX1	Attu Island--F	7.52	101	P	Pn	06 08 32.2	+1.1
	comp=Z,10nm,0.3s,baz=170,slow=3.1,SNR=19						
FX1				S	Sn	06 09 53.3	-1.6
	comp=Z,8.4nm,0.3s,baz=138,slow=16,SNR=9.3						
FX1	Attu Island--F	7.52	101	PN	Pn	06 08 32.2	+1.1
FX1				S	Sn	06 09 53.3	-1.6
FX1				pmax	pmax		
	comp=Z,10.0nm,0.3s						
FX1	Attu Island--F	7.52	101	*e*Pn	Pn	06 08 32.2	+1.1
FX1				*e*Sn	Sn	06 09 54.4	-0.5
KAMR	Kamenskoye	8.02	18	*i* P	Pn	06 08 39.7	+1.9
SEY	Seymchan	9.14	335	*i* PN	Pn	06 08 52.3	-0.5
BILL	Bilibino	13.38	9	⇑*i*PN	Pn	06 09 49.8	+1.2
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	Bilibino	13.38	9	Pn	Pn	06 09 49.5	+0.9
	comp=Z,5.6nm,0.6s						
ASAJ	Asahikawa	16.04	235	P	Pn	06 10 21.5	-0.4
	comp=Z,1.2nm,0.3s,baz=241,slow=5.0,SNR=6.7						
ASAJ	Asahikawa	16.04	235	P	Pn	06 10 21.5	-0.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	Tiksi	21.63	333	⇑*i*P	P	06 11 22.4	-0.9
MJAR	Matsushiro Arr	24.10	230	P	P	06 11 46.7	-0.3
	comp=Z,5.6nm,0.8s,mb4.2,baz=27,slow=8.9,SNR=9.5						
ILAR	Eielson Array	27.19	48	P	P	06 12 15.0	+0.2
	comp=Z,1.1nm,0.5s,mb3.7,baz=256,slow=6.6,SNR=21						
ILAR				pP	pP	06 12 45.4	+1.6
	comp=Z,0.7nm,1.0s,baz=281,slow=11,SNR=2.5						
INK	Inuvik	32.12	40	P	P	06 12 58.9	+0.5
	comp=Z,0.6nm,0.3s,mb3.8,baz=277,slow=5.1,SNR=14						
ULN	Ulaanbaatar	33.60	281	*i* P	P	06 13 07.4	-3.9
YKA	Yellowknife Ar	41.48	44	P	P	06 14 18.1	+0.6
	comp=Z,1.0nm,0.5s,mb3.7,baz=300,slow=8.1,SNR=18						
KURK	Kurchatov	47.19	301	P	P	06 14 59.4	-3.5
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
KURK	Kurchatov	47.19	301	P	P	06 14 59.4	-3.5
	comp=Z,2.2nm,0.4s,mb4.1						
MKAR	Makanchi Array	47.81	295	P	P	06 15 04.3	-3.4
	comp=Z,0.4nm,0.4s,mb3.4,baz=68,slow=5.4,SNR=10.0						
MKAR	Makanchi Array	47.81	295	P	P	06 15 04.3	-3.4
BVAR	Borovoye Array	49.63	308	P	P	06 15 18.7	-2.9
	comp=Z,0.5nm,0.5s,mb3.4,baz=63,slow=7.4,SNR=4.8						
ARU	Arti	52.37	317	*i* P	P	06 15 40.7	-1.4
NVAR	Mina Array Bea	54.68	72	P	P	06 16 01.4	+2.5
	comp=Z,0.7nm,0.5s,mb3.6,baz=294,slow=7.9,SNR=8.9						
NVAR				pP	pP	06 16 32.2	+1.5
	comp=Z,1.1nm,0.9s,baz=298,slow=6.9,SNR=4.6						
BW06	Boulder Array	56.21	62	P	P	06 16 11.7	+1.7
	comp=Z,0.5nm,0.5s,mb3.6						
PDAR	Pinedale Array	56.21	62	P	P	06 16 11.8	+1.9
	comp=Z,0.6nm,0.6s,mb3.6,baz=318,slow=2.8,SNR=5.6						
PDAR				pP	pP	06 16 42.1	+0.2
	comp=Z,0.8nm,0.8s,baz=349,slow=3.6,SNR=5.6						
FINES	FINESS Array B	58.62	336	P	P	06 16 25.2	-1.6
	comp=Z,0.5nm,0.3s,mb3.9,baz=31,slow=8.2,SNR=9.2						
NOA	NORSAR Array B	61.90	344	P	P	06 16 47.2	-1.9
	comp=Z,1.0nm,0.9s,mb3.6,baz=11,slow=5.3,SNR=2.2						
AKASG	Malin Array Be	67.28	329	*i* P	P	06 17 22.5	-1.5
WRA	Warramunga Arr	77.97	205	P	P	06 18 27.4	+0.3
	comp=Z,0.5nm,0.5s,mb3.4,baz=19,slow=5.9,SNR=6.2						
ASAR	Alice Springs	81.64	205	P	P	06 18 47.5	+0.5
	comp=Z,0.4nm,0.5s,mb3.3,baz=14,slow=5.5,SNR=4.9						

IDC 10 06:35:27.8±5.3, 8625N×15912E, h41km±57km, mb3.3/5, mb1 3.5/5, mb1mx3.4/14, mbtmp3.5/5, Error ellipse: s-maj=39.0km s-min=26.4km az=166.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.15	135	P	Pn	06 35 48.1	+0.7
	325nm,0.3s,baz=259,slow=2.0,SNR=144						
HNR				S	Sn	06 36 02.1	+0.1
	2μm,0.3s,baz=29,slow=0.7,SNR=51						
WRA	Warramunga Arr	26.48	242	P	P	06 41 00.1	-1.0
	0.6nm,0.8s,baz=67,slow=9.2,SNR=3.0						
ASAR	Alice Springs	28.39	235	P	P	06 41 20.0	+1.8
	0.2nm,0.4s,baz=59,slow=10,SNR=4.3						
SONM	Songino Array	72.93	326	P	P	06 46 53.8	+1.0
	0.5nm,0.9s,baz=136,slow=3.6,SNR=3.0						
ILAR	Eielson Array	83.42	20	P	P	06 47 51.0	+0.2
	0.3nm,0.5s,baz=249,slow=5.1,SNR=8.3						
MKAR	Makanchi Array	87.33	318	P	P	06 48 09.0	-1.4
	0.2nm,0.7s,baz=110,slow=2.1,SNR=5.3						

BJI 10 06:37:11.6, 2756N×11987E, h25km, ML4.2, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	2.85	204	P	Pn	06 37 58.8	+3.4
QZH				S	Sn	06 38 33.2	+4.3
QZH				Smax			
	comp=E,2μm,1.2s						
SSE	Sheshan	3.71	18	PG	Pn	06 38 18.2	+11
SSE				SG	Sn	06 39 02.3	+12
SSE				Smax			
	comp=N,199nm,0.7s						
SSE				Smax			
	comp=E,314nm,1.0s						
NJ2	Nanjing	4.56	349	*e*PG	Pn	06 38 36.8	+18
NJ2				SG	Sn	06 39 32.2	+21
NJ2				Smax			
	comp=N,890nm,0.9s						
NJ2				Smax			
	comp=E,450nm,0.7s						
LZH	Lanzhou	16.04	306	*e*P	Pn	06 40 56.2	+0.8
LZH				AP	pP	06 40 59.7	-5.8
LZH				XP	sP	06 41 03.2	-5.5
LZH				PP		06 41 09.3	

OTT 10 06:52:19.7±0.5, 6992N×9568W, h18km, MN2.9/4, 95km northwest from Taloyoak, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	4.80	2	PN	Pn	06 53 31.1	0.0
RES				SN	Sn	06 54 24.5	-1.7
RES				SG	Sg	06 54 40.6	-13
RES				Trac		06 54 49.7	
	comp=Z,8.4nm,0.3s						
PINU	Pond Inlet	6.32	56	PN	Pn	06 53 46.7	-5.3
PINU				SN	Sn	06 54 56.8	-7.0
PINU				LG		06 55 25.8	
PINU				Trac		06 55 33.6	
	comp=Z,9.0nm,0.3s						
LUPN	Lupin Mine	7.22	242	PN	Pn	06 54 00.7	-3.6
LUPN				SN	Sn	06 55 21.2	-4.7
LUPN				LG		06 55 53.6	
LUPN				Trac		06 56 00.6	
	comp=Z,3.9nm,0.4s						
YRTN	Rankin Inlet	7.28	167	PN	Pn	06 54 04.2	-0.9
YRTN				SN	Sn	06 55 22.4	-5.0
YRTN				LG		06 55 59.1	
YRTN				Trac		06 56 05.2	
	comp=Z,5.0nm,0.5s						
GLWN	Glow Worm Lake	7.40	232	PN	Pn	06 54 06.0	-0.8
GLWN				SN	Sn	06 55 21.1	-9.3
GLWN				LG		06 56 03.2	
GLWN				Trac		06 56 04.9	
	comp=Z,13nm,0.7s						
YNEN	Yamba Lake Nor	7.62	238	SN	Sn	06 55 27.4	-8.1
YNEN				LG		06 56 06.9	
ACKN	Achilles Lake	7.63	237	PN	Pn	06 54 07.2	-2.9
ACKN				SN	Sn	06 55 28.6	-7.4
ACKN				LG		06 56 07.7	
YMBN	Yamba Lake	7.91	238	PN	Pn	06 54 11.6	-2.2
YMBN				SN	Sn	06 55 35.4	-7.6
YMBN				LG		06 56 14.2	
YMBN				Trac		06 56 27.4	
	comp=Z,11nm,0.6s						
LGSN	Lac de Gras So	7.93	232	PN	Pn	06 54 16.1	+2.1
LGSN				SN	Sn	06 55 34.7	-8.6
LGSN				LG		06 56 18.5	
LGSN				Trac		06 56 26.8	
	comp=Z,3.4nm,0.3s						
MCKN	MacKay Lake No	8.05	232	SN	Sn	06 55 43.0	-3.4
MCKN				LG		06 56 19.8	
MLON	Marlo Lake	8.15	230	PN	Pn	06 54 15.1	-2.1
MLON				SN	Sn	06 55 42.0	-6.7
MLON				LG		06 56 24.4	
MLON				Trac		06 56 32.3	
	comp=Z,31nm,1.2s						
KNDN	Kennady Lake	8.43	226	SN	Sn	06 55 47.4	-8.2
KNDN				LG		06 56 34.3	
GBLN	Grizzly Bear L	8.84	238	PN	Pn	06 54 21.6	-5.0
GBLN				SN	Sn	06 55 56.1	-10
GBLN				LG		06 56 39.3	
GALN	Gameti Lake	10.22	246	PN	Pn	06 54 42.9	-2.5
GALN				SN	Sn	06 56 26.9	-13
GALN				LG		06 57 27.2	
YKW3	Yellowknife Ar	10.57	235	PN	Pn	06 54 46.8	-3.5
YKW3				SN	Sn	06 56 37.3	-11
YKW3				LG		06 57 35.8	
YKW3				Trac		06 57 44.9	
	comp=Z,3.2nm,0.4s						
FRB	Frobisher Bay	12.24	107	SN	Sn	06 57 25.3	-3.9

*NAO **10** 07:10:27.7, 3336N×8181E, h33km, mb3.8*
*NDI **10** 07:10:28.3±2.5, 3412N×8133E, h33km, ML3.5*
*MOS **10** 07:10:29.3±1.0, 3355N×8123E, h33km, mb4.2/3, Error ellipse: s-maj=18.4km s-min=9.7km az=108.6*
*NEIC **10** 07:10:30.9±3.5, 3353N×8124E, h33km±25km, mb4.1/3, Error ellipse: s-maj=14.3km s-min=8.0km az=47.0*
*ISCJB **10** 07:10:30.4±0.8, 3363N±004×8136E±005, h42km±9km, mb4.0/17, MS3.7/1, Error ellipse: s-maj=7.3km s-min=5.8km az=43.7*
*IDC **10** 07:10:31.1±8.4, 3354N×8124E, h33km±64km, mb3.8/17, mb1 3.9/18, mb1mx3.9/25, mbtmp4.0/18, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=21.3km s-min=16.3km az=20.0*
*BJI **10** 07:10:33.3, 3386N×8180E, h26km, mB4.8, mb4.4, ML4.1, Ms3.9, Msz4.0*

ISC 10 07:10:32.6±0.6, 3363N±003×8136E±005, h47km±7km, n54, σ1§13/63, mb4.0/17, MS3.7/1, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	Kalpa	3.36	232	*e*P	Pn	07 11 23.2	+0.7
KLP				*e*S	Sn	07 12 03.7	+2.6
KLP				AML	AML	07 12 11.3	
	comp=N,228nm,1.0s						
KLP				AML	AML	07 12 14.2	
	comp=E,196nm,0.9s						
LGTI	Lohaghat	4.27	193	*e*x	Pn	07 11 42.0	+6.9
DDI	Dehra Dun	4.33	221	*e*PN	Pn	07 11 35.1	-0.8
DDI				*e*SN	Sn	07 12 27.1	+2.0
SMLA	Simla	4.34	236	*e*P	Pn	07 11 35.5	-0.6
SMLA				*e*S	Sn	07 12 26.7	+1.4
SMLA				AML	AML	07 12 32.5	
	comp=N,90nm,0.6s						
SMLA				AML	AML	07 12 33.8	
	comp=E,109nm,0.8s						
DLH	Dalhousie	4.66	258	*e*P	Pn	07 11 39.0	-1.4
PONG	Pong	4.85	251	*e*x	Pn	07 11 51.0	+7.9
NDI	New Delhi	6.08	217	*e*P	Pn	07 12 01.0	+1.1
NDI				*e*S	Sn	07 13 08.0	-0.1
AYAN	Aya Nagar	6.29	216	*e*P	Pn	07 12 03.8	+1.1
SONA	Sohna	6.50	216	*e*P	Pn	07 12 07.5	+1.8
SONA				*e*S	Sn	07 13 17.4	-1.1
KSH	Kashi	7.30	325	P	Pn	07 12 21.1	+4.4
KSH				S	Sn	07 13 38.3	+0.1
KSH				Smax			
	comp=N,60nm,1.2s						
KSH				Smax			
	comp=E,60nm,1.2s						
KHET	Khetri	7.31	222	*e*P	Pn	07 12 16.0	-0.8
KHET				*e*S	Sn	07 13 35.9	-2.6
ALBI	Allahabad	8.30	177	*e*x	Pn	07 12 28.0	-2.3
LSA	Lhasa	9.21	113	P	Pn	07 12 46.5	+3.6
LSA				LR	LR		
	comp=N,270nm,9.3s						
LSA				LR	LR		
	comp=E,490nm,10.0s						
LSA				LR	LR		
	comp=Z,740nm,8.5s						
LSA	Lhasa	9.21	113	*e*P	Pn	07 12 42.9	0.0
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	Lhasa	9.21	113	*e*Pn	Pn	07 12 42.9	0.0
	comp=Z,7.6nm,0.7s						
JASL	Jaisalmer	11.24	236	*e*P	Pn	07 13 08.1	-2.5
JASL				*e*S	Sn	07 15 05.9	-8.7
WMQ	Urumqi	11.31	24	*e*P	Pn	07 13 12.0	+0.5
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s						
SHL	Shillong	12.17	129	*e*P	Pn	07 13 22.5	-0.8
SHL				*e*S	Sn	07 15 30.8	-6.8
MKAR	Makanchi Array	13.17	3	Pn	Pn	07 13 36.0	-0.9
	comp=Z,0.2nm,0.3s,baz=182,slow=12,SNR=28						
HYB	Hyderabad	16.34	190	*i* P	Pn	07 14 18.0	-0.7
HYB	Hyderabad	16.34	190	*e*P	Pn	07 14 22.0	+3.3
KURK	Kurchatov	17.19	354	*e*P	Pn	07 14 30.3	+0.9
KURK				pmax	pmax		
	comp=Z,20nm,1.4s						
KURK	Kurchatov	17.19	354	*e*Pn	Pn	07 14 30.3	+0.9
	comp=Z,20nm,1.4s						
LZH	Lanzhou	18.61	76	*e*P	Pn	07 14 47.5	+0.8
LZH				AP	pP	07 14 56.0	-0.9
LZH				XP	sP	07 15 01.0	-1.8
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
CD2	Chengdu	19.13	92	*e*P	Pn	07 14 52.6	-0.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
BVAR	Borovoye Array	20.92	341	P	P	07 15 11.2	-0.1
	comp=Z,3.4nm,0.7s,baz=143,slow=9.7,SNR=20						
BRVK	Borovoye	20.98	341	*e*P	P	07 15 11.6	-0.2
BRVK				pmax	pmax		

comp=Z,3.4nm,0.9s,mb4.3,baz=323,slow=5.8,SNR=24
WB2 Warramunga Arr 73.40 128 *e*P **P 07 22 01.0 +1.2**
TORD Torodi Ar. Bea 74.31 276 P **P 07 22 05.2 +0.1**
comp=Z,0.5nm,0.5s,mb3.8,baz=51,slow=5.1,SNR=12
ILAR Eielson Array 74.94 19 P **P 07 22 08.4 -0.3**
comp=Z,0.8nm,0.9s,mb3.6,baz=323,slow=4.5,SNR=5.4
INK Inuvik 75.09 13 P **P 07 22 09.7 0.0**
comp=Z,4.3nm,1.4s,mb4.2,baz=28,slow=5.2,SNR=5.6
ASAR Alice Springs 75.80 131 P **P 07 22 14.7 +1.0**
comp=Z,2.2nm,0.8s,mb4.2,baz=318,slow=6.1,SNR=30
BOSA Boshof 81.58 228 P **P 07 22 45.2 -0.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=200,slow=11,SNR=6.0
YKA Yellowknife Ar 83.35 7 P **P 07 22 54.3 -0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=342,slow=5.1,SNR=41
YKA Yellowknife Ar 83.35 7 P **P 07 22 54.3 -0.4**
STKA Stephens Creek 86.40 132 P **P 07 23 08.2 -1.8**
comp=Z,3.2nm,0.9s,mb4.6,baz=290,slow=2.3,SNR=5.8

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*ISCJB **10** 07:25:56.9±2.4, 463S±0.10×1529E±0.1, h34km±21km, mb4.1/12, MS3.4/1, Error ellipse: s-maj=21.1km s-min=12.7km az=75.9*
*IDC **10** 07:26:02.0±2.8, 473S×15279E, h65km±23km, mb3.7/8, mb1 4.0/9, mb1mx3.9/16, mbtmp4.0/9, MS3.3/3, Ms1 3.3/3, ms1mx3.1/21, Error ellipse: s-maj=26.1km s-min=14.5km az=127.0*
*NEIC **10** 07:26:01.7±2.1, 472S×15281E, h63km±19km, mb4.5/3, Error ellipse: s-maj=14.4km s-min=12.3km az=220.0*
ISC 10 07:26:01.9±2.0, 48S±01×1529E±01, h65km±17km, n25, σ0§87/22, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.33**	**231**	P	**Pn**	**07 27 46.0**	**-0.2**
	1.4nm,0.3s,baz=359,slow=10,SNR=4.7						
PMG				S	**Sn**	**07 29 08.4**	**+0.6**
	1.4nm,0.3s,baz=111,slow=22,SNR=3.2						
HNR	**Honiara**	**8.41**	**124**	LR	LR	07 30 37.8	
	comp=Z,78nm,20.8s,baz=0.3,slow=32						
CTA	**Charters Tower**	**16.55**	**202**	LR	LR	07 35 01.3	
	comp=Z,110nm,18.7s,baz=49,slow=33						
DZM	**Mont Dzumac**	**21.66**	**144**	P	**P**	**07 30 47.9**	**+1.1**
	3.8nm,0.7s,mb3.8,baz=321,slow=23,SNR=2.6						
DZM				LR	LR	07 37 00.6	
	comp=Z,144nm,19.0s,baz=206,slow=30						
WRAB	**Tennant Creek**	**23.52**	**229**	*e*P	**P**	**07 31 05.9**	**-0.1**
	22nm,1.3s,mb4.3						
WB2	**Warramunga Arr**	**23.53**	**229**	*e*P	**P**	**07 31 05.0**	**-1.1**
WRA	**Warramunga Arr**	**23.54**	**229**	P	**P**	**07 31 05.3**	**-0.9**
	4.9nm,0.8s,mb3.9,baz=51,slow=9.4,SNR=29						
WRA				S	**S**	**07 35 15.7**	**+0.4**
	0.7nm,1.0s,baz=53,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**26.24**	**222**	P	**P**	**07 31 30.6**	**-0.2**
	0.5nm,0.4s,mb3.3,baz=56,slow=8.9,SNR=9.5						
FITZ	**Fitzroy Crossi**	**29.76**	**241**	*e*P	**P**	**07 32 00.7**	**-1.4**
	5.5nm,1.1s,mb4.1						
MA2	**Magadan**	**64.15**	**359**	*e*P	**P**	**07 36 27.9**	**-1.5**
	4.1nm,0.8s,mb4.3						
SONM	**Songino Array**	**66.33**	**328**	P	**P**	**07 36 44.0**	**+0.5**
	0.6nm,0.7s,mb3.5,baz=152,slow=6.0,SNR=5.1						
SONM				PcP	PcP	07 37 13.5	+0.6
	0.2nm,0.5s,baz=162,slow=3.6,SNR=4.3						
JIRN	**Jiri**	**71.84**	**301**	*e*P	**P**	**07 37 19.2**	**+1.6**
GUN	**Gumba**	**72.17**	**301**	*e*P	**P**	**07 37 20.6**	**+1.0**
PKI	**Pulchoki**	**72.48**	**301**	*e*P	**P**	**07 37 21.8**	**+0.3**
KKN	**Kakani**	**72.65**	**301**	*e*P	**P**	**07 37 22.7**	**+0.2**
DMN	**Daman**	**72.75**	**301**	*e*P	**P**	**07 37 23.9**	**+0.8**
GKN	**Gorkha**	**73.25**	**301**	*e*P	**P**	**07 37 26.5**	**+0.5**
KOLN	**Koldanda**	**74.08**	**300**	*e*P	**P**	**07 37 30.8**	**-0.1**
	8.7nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**80.34**	**319**	P	**P**	**07 38 06.0**	**+0.1**
	1.2nm,0.7s,mb3.8,baz=104,slow=6.2,SNR=12						
ZAL	**Zalesovo**	**81.17**	**326**	P	**P**	**07 38 09.2**	**-1.2**
	0.8nm,0.5s,mb3.8,baz=337,slow=5.6,SNR=4.4						
ILAR	**Eielson Array**	**82.08**	**22**	P	**P**	**07 38 13.9**	**-1.3**
	1.7nm,0.7s,mb4.0,baz=242,slow=6.2,SNR=21						
YKA	**Yellowknife Ar**	**95.34**	**28**	P	**P**	**07 39 19.7**	**+0.9**
	0.5nm,0.8s,mb4.0,baz=272,slow=4.5,SNR=8.4						
GERES	**GERESS Array B**	**124.06**	**329**	PKP	PKPdf	07 44 53.7	+0.9
	0.9nm,0.6s,baz=63,slow=3.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.37**	**288**	PKPbc	PKPbc	07 45 46.5	+0.7
	2.8nm,0.7s,baz=63,slow=2.1,SNR=18						
TORD				PKPab	PKPab	07 45 53.1	+0.8
	4.5nm,0.8s,baz=68,slow=3.7,SNR=16						
BDFB	**Brasilia**	**151.04**	**135**	PKPbc	PKPbc	07 45 49.5	+2.2
	3.4nm,0.6s,baz=221,slow=0.4,SNR=6.4						

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*ISCJB **10** 07:33:01.9±0.9, 5142N±005×1602E±004, h0km, Error ellipse: s-maj=6.8km s-min=3.8km az=23.4*
*PRU **10** 07:33:04.5, 5138N×1609E, h0km*
*VIE **10** 07:33:04.3±0.4, 5132N×1605E, h0km, mb2.0/2, ML2.5/3, Error ellipse: s-maj=3.1km s-min=2.6km az=79.0 71 km WNW of Breslau Suspected Mining induced.*
*CSEM **10** 07:33:05.9±0.5, 5135N×1613E, h2km, ML3.0/5, Error ellipse: s-maj=8.7km s-min=4.4km az=175.0, Suspected Mining induced.*
ISC 10 07:33:02.9±0.9, 5144N±005×1609E±004, h0km, n14, σ1§05/27, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**168**	*e*Pgd	**Pg**	**07 33 15.5**	**+0.8**
KSP				*i* Sg	**Sg**	**07 33 23.8**	**+1.2**
KSP	**Ksiaz**	**0.61**	**168**	⇓*i*Pg	**Pg**	**07 33 15.5**	**+0.8**
KSP				*i* Sg	**Sg**	**07 33 23.8**	**+1.2**
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**07 33 21.5**	**+0.7**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**07 33 24.2**	**+0.2**
DPC				*e*SG	**Sg**	**07 33 38.6**	**+0.3**
	19nm,0.4s						
PRU	**Pruhonice**	**1.75**	**215**	*e*PN	**Pn**	**07 33 34.2**	**-0.4**
PRU				*e*PG	**Pg**	**07 33 36.0**	**-0.5**
PRU				*e*SG	**Sg**	**07 33 58.7**	**-0.6**
	15nm,0.5s						
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**07 33 36.7**	**0.0**
MORC				*e*Sg	**Sg**	**07 34 01.1**	**-3.1**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pg**	**07 33 39.0**	**-1.0**
CLL				*i* Sg	**Sg**	**07 34 05.2**	**+0.1**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*SG	**Sg**	**07 34 06.7**	**-2.8**
NKC	**Novy Kostel**	**2.60**	**244**	*e*SG	**Sg**	**07 34 27.7**	**+1.1**
	comp=Z,36nm,0.3s						
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**07 33 54.6**	**+0.8**
OJC				*e*Sg	**Sg**	**07 34 30.0**	**+1.8**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**07 33 49.7**	**+0.5**
KHC				*e*PG	**Pg**	**07 33 55.3**	**-1.6**
KHC				*e*SN	**Sn**	**07 34 22.2**	**-1.6**
KHC				*e*SG	**Sg**	**07 34 33.4**	**0.0**
	comp=Z,9.8nm,0.5s						
MOX	**Moxa**	**2.93**	**256**	*e*PG	**Pg**	**07 33 58.9**	**-0.2**
MOX				*e*SG	**Sg**	**07 34 38.6**	**+1.5**
MOA	**Molln**	**3.78**	**199**	⇑*i*Pn	**Pn**	**07 34 01.7**	**-0.7**
MOA				⇑*i*Sg	**Sg**	**07 35 05.4**	**+0.9**
	comp=Z,3.0nm,0.3s						
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*SG	**Sg**	**07 35 06.5**	**-0.8**

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*ISCJB **10** 07:34:22.6±1.3, 114N±0.1×433E±0.1, h10km, Error ellipse: s-maj=20.3km s-min=5.5km az=90.5*
*DHMR **10** 07:34:27.5±1.2, 1167N×4315E, h9km±14km, ML3.7*
ISC 10 07:34:22.9±1.3, 114N±01×433E±01, h10km, n9, σ1§29/18, 3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.00**	**24**	⇓*i*P	**Pb**	**07 34 59.9**	**+0.5**
TRBA				*i* S	**Sb**	**07 35 25.3**	**+1.1**
TRBA				AML	AML	07 35 34.6	
	comp=N,1μm,0.7s						
UDYN	**Al 'Udayn**	**2.64**	**14**	⇓*i*P	**Pb**	**07 35 10.2**	**-0.1**
UDYN				*i* S	**Sb**	**07 35 42.4**	**-0.4**
UDYN				AML	AML	07 35 52.6	
	comp=N,828nm,0.6s						
UDYN	**Al 'Udayn**	**2.64**	**14**	⇓*i*P	**Pb**	**07 35 10.9**	**+0.6**
UDYN				*i* S	**Sb**	**07 35 44.0**	**+1.2**
	comp=N,414nm,0.6s						
LBOS		**3.12**	**38**	*i* P	**Pb**	**07 35 18.4**	**-0.1**
LBOS				*i* S	**Sb**	**07 35 58.4**	**+1.8**
DHBB	**Dhamar BB**	**3.34**	**19**	*i* P	**Pb**	**07 35 20.5**	**-1.7**
DHBB				*i* S	**Sb**	**07 36 00.7**	**-2.1**
DHBB	**Dhamar BB**	**3.34**	**19**	*i* P	**Pb**	**07 35 19.8**	**-2.4**
DHBB				*i* S	**Sb**	**07 36 02.2**	**-0.6**
BDHA	**Al Bayda'**	**3.40**	**41**	*i* P	**Pb**	**07 35 21.2**	**-1.9**
BDHA				*i* S	**Sb**	**07 36 04.9**	**+0.4**
BDHA				AML	AML	07 36 31.4	
	comp=E,268nm,0.5s						
BDHA	**Al Bayda'**	**3.40**	**41**	*i* P	**Pb**	**07 35 21.1**	**-2.1**
BDHA				*i* S	**Sb**	**07 36 04.2**	**-0.3**
	comp=E,134nm,0.5s						
FURI	**Furi**	**5.17**	**242**	*e*PN	**Pb**	**07 35 56.4**	**+3.0**
FURI				*e*S	**Sb**	**07 36 55.2**	**-0.4**

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*BJI **10** 07:39:47.8, 046N×9727E, h30km, mB5.2, mb4.9, Ms4.9, Msz4.8*
*IDC **10** 07:39:49.4±0.8, 104N×97.13E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, ML3.8/1, MS4.3/12, Ms1 4.3/12, ms1mx4.0/25, Error ellipse: s-maj=31.1km s-min=15.4km az=50.0*
*NAO **10** 07:39:52.0, 078S×95.13E, h33km, mb4.3*
*ISCJB **10** 07:39:53.5±1.2, 107N±007×9725E±006, h38km±9km, mb4.7/46, MS4.5/25, Error ellipse: s-maj=12.2km s-min=8.9km az=72.1*
*MOS **10** 07:39:53.0±1.4, 112N×9722E, h33km, mb5.0/11, MS4.7/6, Error ellipse: s-maj=14.3km s-min=8.0km az=92.4*
*HRVD **10** 07:39:54.0±1.1, 089N×96.84E, h36km±2km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s21,c24;Mantle waves: s37,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.91±.24; $M_{\theta\theta}$-0.75±.15; $M_{\phi\phi}$-1.16±.20; $M_{r\theta}$0.88±.16; $M_{\theta\phi}$1.45±.12; $M_{\phi r}$-0.82±.19; Best double couple: $M_0$2.48000×10^{16} NP1:ϕs324.00000°, δ31.00000°, λ97.00000°. NP2: ϕs135.00000°, δ60.00000°, λ86.00000°. Principal axes: T 2.2290, Plg75.0000°, Azm33.0000°; N 0.5000, Plg4.0000°, Azm137.0000°; P -2.7310, Plg15.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 07:39:54.0±0.4, 106N×9723E, h30km, mb4.9/15 Error ellipse: s-maj=10.4km s-min=7.0km az=46.0*
ISC 10 07:39:57.2±1.1, 114N±007×9733E±006, h51km±9km, h38km±5.0km: pP-P, n105, σ1§14/99, mb4.7/46, MS4.5/25, 4C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**44**	Pn	**Pn**	**07 40 31.4**	**-1.2**
	19nm,0.3s,baz=214,slow=8.9,SNR=47						
PSI				LR	LR	07 41 23.0	
	comp=Z,4μm,20.9s,baz=308,slow=38						
IPM	**Ipoh**	**4.96**	**48**	P	**Pn**	**07 41 09.5**	**+0.3**
KULM	**Kulim**	**5.29**	**39**	*e*Pn	**Pn**	**07 41 12.4**	**-1.2**
KGM	**Kluang**	**6.05**	**82**	P	**Pn**	**07 41 24.9**	**+0.8**
KKM	**Kota Kinabalu**	**19.46**	**75**	P	**Pn**	**07 44 23.8**	**+2.6**
TRD	**Trivandrum**	**21.57**	**290**	*e*P	**P**	**07 44 55.4**	**+13**
TRD				*e*S	**S**	**07 48 53.4**	**+15**
QIZ	**Qiongzhong**	**21.60**	**34**	P	**P**	**07 44 43.6**	**+0.8**
QIZ				XP	sP	07 44 56.1	-4.8
QIZ				S	**S**	**07 48 38.2**	**-1.0**
QIZ				XS	sS	07 48 53.1	-5.2
QIZ				AMB	AMB		
	comp=Z,39nm,1.5s,mb4.6						
QIZ				LR	LR		
	comp=E,2μm,13.4s						
QIZ				LR	LR		
	comp=Z,1μm,13.0s,MS4.5						
KMI	**Kunming**	**24.41**	**12**	P	**P**	**07 45 11.9**	**+1.0**
KMI				S	**S**	**07 49 31.5**	**+4.4**
KMI				AMB	AMB		
	comp=Z,76nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,328nm,4.0s						
KMI				LR	LR		
	comp=N,3μm,15.6s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,14.3s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,16.0s,MS4.9						
HYB	**Hyderabad**	**24.55**	**312**	*i* P	**P**	**07 45 12.0**	**-0.1**
HYB				*e*S	**S**	**07 49 30.0**	**+0.6**
HYB	**Hyderabad**	**24.55**	**312**	*e*P	**P**	**07 45 15.0**	**+2.9**
HYB				*e*S	**S**	**07 49 44.0**	**+15**
SHL	**Shillong**	**24.85**	**348**	*e*P	**P**	**07 45 13.5**	**-1.3**
GYA	**Guiyang**	**26.73**	**19**	⇑*i*P	**P**	**07 45 34.5**	**+2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.45**	**339**	*e*P	**P**	**07 45 47.3**	**0.0**
	comp=Z,84nm,1.2s,mb5.3						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**07 45 50.3**	**+1.2**
	comp=Z,27nm,0.8s,mb5.0						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**07 45 50.3**	**+1.2**
PKI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**07 45 50.1**	**-0.2**
	comp=Z,81nm,1.0s,mb5.4						
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**07 45 51.1**	**+0.6**
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**07 45 52.3**	**+1.0**
	comp=Z,46nm,0.9s,mb5.2						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**07 45 52.3**	**+1.0**
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
LSA	**Lhasa**	**29.01**	**349**	P	**P**	**07 45 53.2**	**+1.0**
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**07 45 52.2**	**0.0**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**07 45 52.2**	**0.0**
	comp=Z,14nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.35**	**337**	*e*P	**P**	**07 45 55.0**	**-0.2**
	comp=Z,40nm,0.8s,mb5.2						
KOLN	**Koldanda**	**29.57**	**335**	*e*P	**P**	**07 45 57.0**	**-0.2**
	comp=Z,42nm,0.9s,mb5.2						
CD2	**Chengdu**	**30.23**	**11**	*e*P	**P**	**07 46 04.0**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ENH	**Enshi**	**31.19**	**21**	*e*P	**P**	**07 46 11.3**	**-0.2**
	comp=Z,28nm,0.7s,mb5.2						
LGTI	**Lohaghat**	**32.52**	**332**	*e*P	**P**	**07 46 23.7**	**+0.5**
WHN	**Wuhan**	**33.41**	**27**	*e*P	**P**	**07 46 33.5**	**+2.6**
DDI	**Dehra Dun**	**34.32**	**330**	*ex*	**P**	**07 46 40.1**	**+1.3**
XAN	**Xi'an**	**34.48**	**17**	P	**P**	**07 46 38.0**	**-2.2**
XAN				S	**S**	**07 52 14.4**	**+9.3**
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,211nm,12.8s						
XAN				LR	LR		
	comp=N,814nm,13.3s						
XAN				LR	LR		
	comp=E,1μm,20.9s						
XAN				LR	LR		
	comp=Z,1μm,19.0s						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	**P**	**07 46 47.7**	**+0.5**
LZH				AP	pP	07 46 56.1	-4.4
LZH				XP	sP	07 46 59.5	-6.9
LZH				PP	PP	07 48 10.0	+2.0
LZH				*e*S	**S**	**07 52 20.0**	**+2.4**
LZH				XS	sS	07 52 38.0	-1.9
LZH				*e*SS	SS	07 54 42.0	-11
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,100nm,4.1s						
LZH				LR	LR		
	comp=E,2μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,19.4s,MS4.9						
NJ2	**Nanjing**	**36.85**	**31**	*e*P	**P**	**07 46 59.5**	**-1.0**
NJ2				AP	pP	07 47 09.2	-4.6
NJ2				XP	sP	07 47 13.5	-6.3
NJ2				PP	PP	07 48 24.9	-0.2
NJ2				S	**S**	**07 52 40.0**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,806nm,4.2s						
NJ2				LR	LR		
	comp=N,280nm,11.4s						
NJ2				LR	LR		
	comp=E,490nm,17.8s						
NJ2				LR	LR		
	comp=Z,130nm,16.4s,MS3.8						
GTA	**Gaotai**	**38.16**	**3**	*e*P	**P**	**07 47 10.6**	**-1.0**
GTA				XP	sP	07 47 20.4	-10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,256nm,6.9s						
GTA				LR	LR		
	comp=N,415nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=E,477nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,719nm,20.6s						
NWAO	**Narrogin (SRO)**	**38.74**	**153**	LR	LR	08 04 03.8	
	comp=Z,740nm,18.8s,MS4.5,baz=106,slow=38						
JOW	**Kunigami**	**39.19**	**47**	LR	LR	08 03 32.1	
	comp=Z,185nm,20.7s,MS3.9,baz=278,slow=36						
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**07 47 42.4**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.2,baz=301,slow=9.2,SNR=23						
WRAB	**Tennant Creek**	**41.90**	**122**	*i* P	**P**	**07 47 42.5**	**-0.1**
WRAB	**Tennant Creek**	**41.90**	**122**	*e*P	**P**	**07 47 41.8**	**-0.8**
	comp=Z,8.5nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**41.90**	**122**	*e*P	**P**	**07 47 42.5**	**-0.1**
BJT	**Baijiatuau**	**42.33**	**22**	*e*P	**P**	**07 47 47.0**	**+0.9**
BJT				pmax	pmax		
	comp=Z,22nm,0.7s						
BJT	**Baijiatuau**	**42.33**	**22**	*e*P	**P**	**07 47 47.0**	**+0.9**
	comp=Z,22nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**43.25**	**127**	P	**P**	**07 47 53.4**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.0,baz=304,slow=7.5,SNR=21						
WMQ	**Urumqi**	**43.36**	**350**	*e*P	**P**	**07 47 56.3**	**+1.9**
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
ULHL	**Ulahol**	**45.10**	**338**	P	**P**	**07 48 08.7**	**+0.3**
	SNR=7.8						
UCH	**Uchtor**	**45.76**	**336**	P	**P**	**07 48 14.5**	**+0.9**
	SNR=8.3						
KS15	**Wonju Array Si**	**45.80**	**34**	*e*P	**P**	**07 48 13.9**	**+0.1**
KBK	**Karagaybulak**	**45.95**	**337**	P	**P**	**07 48 17.3**	**+2.2**
	SNR=6.7						
AML	**Almayashu**	**46.01**	**336**	P	**P**	**07 48 14.2**	**-1.4**
	SNR=7.5						
AAK	**Ala-Archa**	**46.11**	**337**	⇑*e*P	**P**	**07 48 16.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,15nm,2.1s,mb4.5						
AAK				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.4						
EKS2	**Erkin-Say**	**46.42**	**336**	P	**P**	**07 48 20.3**	**+1.5**
	SNR=7.5						
USP	**Ospenovka**	**46.64**	**337**	P	**P**	**07 48 20.0**	**-0.5**
	SNR=6.2						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**07 48 24.2**	**-0.5**
	comp=Z,7.3nm,0.7s,mb4.7,baz=191,slow=9.4,SNR=33						
SONM				PcP	PcP	07 49 56.4	+0.8
	comp=Z,1.9nm,0.8s,baz=196,slow=3.7,SNR=4.1						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**07 48 25.1**	**-0.8**
	comp=Z,7.5nm,0.8s,mb4.7,baz=160,slow=6.4,SNR=46						
CN2	**Changchun**	**49.30**	**27**	*e*P	**P**	**07 48 40.0**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				LR	LR		
	comp=N,700nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,14.0s,MS4.9						
ZAK	**Zakamensk**	**49.32**	**5**	*e*P	**P**	**07 48 41.9**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.1s,mb4.3						
CBIJ	**Chichi jima**	**50.15**	**55**	LR	LR	08 08 37.3	
	comp=Z,112nm,19.9s,MS3.9,baz=187,slow=34						
MJAR	**Matsushiro Art**	**51.65**	**42**	P	**P**	**07 49 00.1**	**+1.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=218,slow=7.6,SNR=4.0						
HIA	**Hailar**	**51.66**	**19**	*e*P	**P**	**07 48 58.1**	**-0.7**
HIA				pmax	pmax		
	comp=Z,11nm,0.7s						
HIA	**Hailar**	**51.66**	**19**	*e*P	**P**	**07 48 58.1**	**-0.7**
	comp=Z,11nm,0.7s,mb4.9						
KURK	**Kurchatov**	**51.89**	**345**	⇑*e*P	**P**	**07 49 00.7**	**+0.2**
KURK	**Kurchatov**	**51.89**	**345**	P	**P**	**07 48 58.6**	**-2.0**
	comp=Z,9.8nm,0.9s,mb4.7						
CIT	**Chita**	**52.50**	**13**	*e*P	**P**	**07 49 06.0**	**+0.9**
STKA	**Stephens Creek**	**53.22**	**132**	*e*P	**P**	**07 49 10.6**	**+0.2**
	comp=Z,7.7nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**07 49 10.6**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=291,slow=6.9,SNR=6.3						
STKA				LR	LR	08 14 25.1	
	comp=Z,534nm,21.0s,MS4.6,baz=120,slow=39						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**07 49 10.6**	**+0.2**
STKA				LR	LR	08 14 25.1	
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**07 49 12.4**	**-1.0**
	comp=Z,8.2nm,0.6s,mb4.9,baz=297,slow=7.4,SNR=27						
NVS	**Novosibirsk**	**54.76**	**350**	⇓*i*P	**P**	**07 49 19.0**	**-2.6**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
KLR	**Kul'dur**	**56.25**	**26**	*e*P	**P**	**07 49 30.0**	**-2.3**
KLR				pmax	pmax		
	comp=Z,150nm,2.6s,mb5.6						
KLR				MLR	MLR		
	comp=N,1μm,13.0s,MS5.2						
KLR				MLR	MLR		
	comp=E,600nm,13.0s,MS5.2						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.3						
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**07 49 31.4**	**-1.7**
	comp=Z,4.4nm,0.8s,mb4.5,baz=143,slow=9.3,SNR=20						
BRVK	**Borovoye**	**56.41**	**341**	P	**P**	**07 49 31.4**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,77nm,2.3s,mb5.3						
BRVK	**Borovoye**	**56.41**	**341**	P	**P**	**07 49 31.4**	**-2.1**
	comp=Z,77nm,2.3s,mb5.3						
ZRNK	**Zerenda**	**56.76**	**340**	*e*P	**P**	**07 49 34.1**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**56.76**	**340**	*e*P	**P**	**07 49 34.1**	**-1.8**
	comp=Z,4.9nm,0.8s,mb4.6						
HABR	**Khabarovsk**	**57.25**	**29**	*i* P	**P**	**07 49 38.6**	**-0.8**
HABR				*i* S	**S

BILL Bilibino 81.18 21 P P 07 52 15.0 +7.6
BILL MLR MLR
comp=Z,300nm,13.0s,MS4.8
ARCES ARCESS Array B 82.64 340 P **P 07 52 15.6 +0.5**
comp=Z,7.9nm,0.9s,mb4.7,baz=90,slow=4.9,SNR=9.0
ARCES LR LR 08 30 57.8
comp=Z,298nm,18.5s,MS4.7,baz=197,slow=37
GERES GERESS Array B 84.95 319 P **P 07 52 26.6 -0.3**
comp=Z,1.0nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=5.4
VNDA Vanda 85.74 169 LR LR 08 28 26.6
comp=Z,251nm,19.0s,MS4.6,baz=310,slow=34
NB2 NORSAR Subarra 87.12 331 P **P 07 52 36.9 -0.7**
comp=Z,2.4nm,0.9s,mb4.4,baz=96,slow=4.8
NOA NORSAR Array B 87.12 331 P **P 07 52 37.5 -0.1**
comp=Z,1.8nm,0.8s,mb4.3,baz=90,slow=5.8,SNR=4.5
NOA LR LR 08 37 39.5
comp=Z,94nm,20.0s,MS4.2,baz=95,slow=40
ILAR Eielson Array 99.70 23 LR LR 08 47 59.7
comp=Z,192nm,19.8s,MS4.6,baz=179,slow=41
TBI Tubuai 111.71 115 *e*LR LR 08 31 41.2
comp=Z,156nm,24.8s
YKA Yellowknife Ar 112.12 15 PKiKP PKiKP 07 58 27.0 0.0
comp=Z,0.1nm,0.5s,baz=315,slow=2.6,SNR=3.4
YKA PP PP 07 59 07.9 -3.7
comp=Z,0.5nm,0.8s,baz=329,slow=7.0,SNR=5.8
PPT Papeete 112.33 108 *e*LR LR 08 31 57.6
comp=Z,134nm,24.5s
NVAR Mina Array Bea 128.76 36 PKP PKPdf 07 59 00.2 +1.4
comp=Z,0.7nm,0.9s,baz=252,slow=3.4,SNR=4.2
NVAR Mina Array Bea 128.76 36 PKP PKPdf 07 59 00.2 +1.3
PDAR Pinedale Array 130.04 26 PKP PKPdf 07 59 01.8 +0.4
comp=Z,0.2nm,0.7s,baz=270,slow=0.9,SNR=2.2

*ISCJB **10** 07:46:06.7±0.8, 3889N±004×2351E±005, h8km±7km, Error ellipse: s-maj=6.7km s-min=6.2km az=121.9*
*CSEM **10** 07:46:07.5±0.1, 3889N×2353E, h20km, ML2.6, Error ellipse: s-maj=1.7km s-min=1.3km az=97.0*
*ATH **10** 07:46:07.5, 3891N×2344E, h27km, MD2.9/5, ML3.0*
*THE **10** 07:46:07.6, 3890N×2351E, h5km, ML2.6*
ISC 10 07:46:07.2±0.7, 3889N±004×2354E±005, h12km±8km, n13, σ0§79/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.39**	**44**	*e*Pg	**Pg**	**07 46 15.2**	**+0.3**
AOS				*e*Sg	**Sg**	**07 46 20.9**	**+0.9**
NEO	**Neokhori**	**0.48**	**329**	*e*PB	**Pg**	**07 46 17.1**	**+0.4**
NEO				*e*SB	**Sg**	**07 46 23.5**	**+0.4**
LKR	**Lokris**	**0.49**	**240**	*e*PB	**Pg**	**07 46 16.7**	**-0.1**
LKR				*e*SB	**Sg**	**07 46 23.5**	**+0.3**
XOR	**Xorichti**	**0.55**	**330**	*e*Pg	**Pg**	**07 46 18.1**	**+0.2**
XOR	comp=Z,25nm,0.1s			*e*Sg	**Sg**	**07 46 25.3**	**+0.2**
PTL	**Penteli**	**0.88**	**163**	*e*PN	**Pn**	**07 46 25.0**	**-0.4**
ATH	**Athens Observa**	**0.93**	**171**	*e*PN	**Pn**	**07 46 25.8**	**-0.2**
AGG	**Agios Georgios**	**0.95**	**278**	*e*Pg	**Pg**	**07 46 24.8**	**-0.8**
AGG	comp=Z,1.8nm,0.2s			*e*Sg	**Sg**	**07 46 38.7**	**+0.7**
NAIG	**Nisos Aigina**	**1.13**	**182**	*e*PN	**Pn**	**07 46 29.5**	**+0.7**
LIT	**Litokhoron**	**1.46**	**326**	*e*Pg	**Pg**	**07 46 33.2**	**-1.9**
LIT	comp=Z,1.8nm,0.1s **Litokhoron** 1.8nm,0.1s	**1.46**	**326**	*e*Pg	**Pg**	**07 46 33.2**	**-2.0**
OUR	**Ouranopolis**	**1.48**	**13**	*e*Pg	**Pg**	**07 46 33.7**	**-2.0**
PLG	**Polygyros**	**1.48**	**357**	*e*PN	**Pn**	**07 46 33.7**	**0.0**
KNT	**Kendrikon**	**2.32**	**348**	*e*Pn	**Pn**	**07 46 46.0**	**+0.8**

*ISCJB **10** 07:46:21.4±2.1, 6.15S±007×1301E±02, h160km±20km, mb4.0/10, Error ellipse: s-maj=27.3km s-min=9.0km az=142.2*
*NEIC **10** 07:46:24.0±3.1, 6.14S×13021E, h170km±32km, mb4.1/5, Error ellipse: s-maj=29.6km s-min=13.1km az=58.0*
*IDC **10** 07:46:33.9±5.9, 6.26S×13033E, h269km±61km, mb3.6/5, mb1 3.8/6, mb1mx3.6/13, mbtmp4.3/6, Error ellipse: s-maj=68.6km s-min=15.4km az=73.0*
ISC 10 07:46:26.2±1.6, 631S±007×1301E±02, h194km±16km, n19, σ0§93/25, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 14nm,0.3s	**12.48**	**200**	*e*P	**Pn**	**07 49 15.7**	**-1.6**
FITZ				*e*S	**Sn**	**07 51 27.4**	**-9.0**
WRAB	**Tennant Creek**	**14.17**	**163**	P	**Pn**	**07 49 38.8**	**+0.4**
WRA	**Warramunga Arr** 2.9nm,0.3s,baz=346,slow=12,SNR=42	**14.18**	**163**	P	**Pn**	**07 49 37.7**	**-0.8**
WRA				S	**Sn**	**07 52 08.6**	**-8.2**
WB2	5.5nm,0.3s,baz=339,slow=21,SNR=11 **Warramunga Arr**	**14.18**	**163**	*e*P	**Pn**	**07 49 37.6**	**-0.9**
WB2				*e*		07 49 42.7	
WB2				*e*S	**Sn**	**07 52 08.8**	**-8.0**
ASAR	**Alice Springs** 6.6nm,0.3s,baz=348,slow=10,SNR=131	**17.65**	**168**	P	**Pn**	**07 50 21.8**	**+1.4**
ASAR				S	**S**	**07 53 31.7**	**0.0**
ASAR	1.2nm,0.3s,baz=358,slow=28,SNR=10 **Alice Springs**	**17.65**	**168**	P	**Pn**	**07 50 21.8**	**+1.4**
ASAR				S	**S**	**07 53 31.7**	**0.0**
ASPA	**Alice Springs**	**17.65**	**168**	*e*P	**Pn**	**07 50 21.9**	**+1.5**
ASPA				*e*S	**S**	**07 53 30.7**	**-1.0**
MBWA	**Marble Bar** 15nm,0.6s	**17.82**	**213**	*e*P	**Pn**	**07 50 22.2**	**-0.2**
KKM	**Kota Kinabalu**	**18.47**	**311**	*e*P	**P**	**07 50 27.6**	**+0.1**
STKA	**Stephens Creek** 1.6nm,0.4s,mb4.0,baz=353,slow=6.7,SNR=3.7	**27.63**	**158**	P	**P**	**07 51 56.3**	**+0.7**
KLBR	**Kellerberrin** 4.8nm,0.4s,mb4.5	**27.66**	**203**	*e*P	**P**	**07 51 58.4**	**+2.5**
ULN	**Ulaanbaatar** 3.2nm,0.6s,mb4.1	**57.63**	**342**	*e*P	**P**	**07 55 55.7**	**-0.3**
SONM	**Songino Array** 0.9nm,0.5s,mb3.7,baz=159,slow=7.0,SNR=20	**57.81**	**341**	P	**P**	**07 55 57.8**	**+0.6**
MKAR	**Makanchi Array** 4.0nm,0.5s,mb4.3,baz=114,slow=8.6,SNR=73	**67.68**	**327**	P	**P**	**07 57 03.0**	**+0.5**
AAK	**Ala-Archa** 1.2nm,0.6s,mb3.7	**70.05**	**320**	P	**P**	**07 57 16.1**	**-0.9**
BVAR	**Borovoye Array** 0.6nm,0.3s,mb3.7,baz=103,slow=6.9,SNR=8.2	**77.51**	**328**	P	**P**	**07 58 00.4**	**0.0**
BRVK	**Borovoye** 0.6nm,0.4s,mb3.6	**77.58**	**328**	*e*P	**P**	**07 58 01.0**	**+0.2**
ZRNK	**Zerenda** 1.6nm,0.4s,mb4.0	**78.22**	**327**	*e*P	**P**	**07 58 04.1**	**-0.1**
ILAR	**Eielson Array** 0.6nm,1.0s,mb3.6,baz=256,slow=4.6,SNR=4.5	**92.71**	**25**	P	**P**	**07 59 14.8**	**-1.3**

*ISCJB **10** 07:49:23.6±1.0, 3811N±003×2662E±005, h3km±7km, Error ellipse: s-maj=7.1km s-min=4.4km az=137.2*
*CSEM **10** 07:49:23.6±0.1, 3815N×2666E, h7km±1km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.2km az=86.0*
*ATH **10** 07:49:23.9, 3809N×2652E, h23km±2km, MD3.1/3*
*ISK **10** 07:49:23.9, 3817N×2665E, h15km, MD3.2*
ISC 10 07:49:24.5±0.7, 3813N±003×2663E±005, h10km±4km, n17, σ0§78/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.23**	**354**	*i*P	**Pg**	**07 49 29.2**	**-0.1**
URLA				*i* S	**Sg**	**07 49 33.0**	**+0.5**
SMG	**Samos**	**0.45**	**158**	*e*PB	**Pg**	**07 49 33.3**	**0.0**
SMG				*e*SB	**Sg**	**07 49 40.3**	**+1.1**
IZM	**Izmir**	**0.57**	**61**	*i* PG	**Pg**	**07 49 35.0**	**-0.5**
IZM				*i* SG	**Sg**	**07 49 43.1**	**+0.1**
KDAG	**Bornova**	**0.57**	**61**	*i* P	**Pg**	**07 49 35.1**	**-0.5**
KDAG				*i* S	**Sg**	**07 49 41.7**	**-1.5**
AYDN	**Tasoluk**	**1.10**	**115**	*i* P	**Pb**	**07 49 45.6**	**+0.1**
AYDN				*i* S	**Sg**	**07 50 00.8**	**+1.0**
PRK	**Paraskevi**	**1.15**	**346**	*e*PN	**Pn**	**07 49 46.2**	**-0.3**
PRK				*e*SN	**Sn**	**07 50 02.5**	**+0.2**
AYVA	**Ayvalik**	**1.18**	**2**	*i* P	**Pb**	**07 49 47.6**	**+0.7**
AYVA				*i* S	**Sb**	**07 50 04.4**	**+2.2**
BODT	**Bodrum**	**1.19**	**153**	*e*PN	**Pn**	**07 49 47.3**	**+0.2**
AKS	**Akhisar**	**1.20**	**51**	PN	**Pn**	**07 49 46.4**	**-0.8**
MLSB	**Milas**	**1.23**	**132**	*e*PN	**Pn**	**07 49 47.4**	**-0.3**
BDRM	**Kayabasi**	**1.24**	**148**	*i* P	**Pn**	**07 49 47.5**	**-0.3**
BDRM				*i* S	**Sb**	**07 50 03.7**	**-0.3**
APE	**Apeiranthos**	**1.37**	**220**	*e*PN	**Pn**	**07 49 49.6**	**+0.1**
APE	**Apeiranthos**	**1.37**	**220**	*e*PN	**Pn**	**07 49 48.4**	**-1.1**
MANT	**Manisa**	**1.56**	**76**	*i* P	**Pn**	**07 49 53.3**	**+1.1**
MANT				*i* S	**Sn**	**07 50 13.3**	**+0.8**
YER	**Yerkesik**	**1.65**	**126**	*e*PN	**Pn**	**07 49 52.9**	**-0.5**
EZN	**Ezine**	**1.71**	**352**	*e*PN	**Pn**	**07 49 53.4**	**-0.9**
BALB	**Balikesir**	**1.80**	**33**	*e*PN	**Pn**	**07 49 54.5**	**-1.0**

*ISCJB **10** 07:50:41.8±0.8, 1303N±007×1438E±0.1, h141km±10km, mb4.1/18, Error ellipse: s-maj=18.4km s-min=11.1km az=171.5*
*IDC **10** 07:50:43.0±0.9, 1304N×14378E, h137km±10km, mb3.7/12, mb1 3.8/13, mb1mx3.8/24, mbtmp4.1/13, Error ellipse: s-maj=19.9km s-min=12.6km az=83.0*
*NEIC **10** 07:50:43.4±0.9, 1302N×14378E, h142km±9km, mb4.6/4, Error ellipse: s-maj=13.1km s-min=8.5km az=78.0*
ISC 10 07:50:43.5±0.8, 1306N±007×1438E±01, h140km±9km, n26, σ0§75/28, mb4.1/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.16**	**63**	P	**Pn**	**07 51 09.2**	**+0.4**
GUMO	216nm,0.3s,baz=133,slow=0.6,SNR=173			S	**Sn**	**07 51 27.6**	**-0.4**
GUMO	760nm,0.3s,baz=7.8,slow=24,SNR=51 **Guam**	**1.16**	**63**	*e*Pn	**Pn**	**07 51 09.1**	**+0.3**
GUMO				*e*Sn	**Sn**	**07 51 27.5**	**-0.5**
JOW	**Kunigami** 1.4nm,0.3s,baz=133,slow=8.6,SNR=4.8	**20.00**	**316**	P	**P**	**07 55 05.7**	**+0.7**
CTAO	**Charters Tower** 4.5nm,0.9s,mb4.2	**33.02**	**176**	*e*P	**P**	**07 57 05.3**	**+0.1**
QIZ	**Qiongzhong** 54nm,1.3s,mb5.1	**33.14**	**285**	*e*P	**P**	**07 57 06.2**	**-0.1**
WRAB	**Tennant Creek**	**34.08**	**196**	*e*P	**P**	**07 57 14.3**	**-0.1**
WB2	**Warramunga Arr**	**34.09**	**196**	*e*P	**P**	**07 57 15.0**	**+0.5**
WRA	**Warramunga Arr** 12nm,0.7s,mb4.7,baz=16,slow=9.4,SNR=20	**34.09**	**196**	P	**P**	**07 57 14.7**	**+0.2**
FITZ	**Fitzroy Crossi** 7.8nm,0.9s,mb4.3	**35.78**	**210**	*e*P	**P**	**07 57 29.1**	**+0.1**
ENH	**Enshi** 5.0nm,0.3s,mb4.6	**36.02**	**304**	*e*P	**P**	**07 57 31.4**	**+0.4**
ASAR	**Alice Springs** 4.0nm,0.5s,mb4.3,baz=17,slow=13,SNR=26	**37.76**	**195**	P	**P**	**07 57 46.3**	**+0.5**
ASPA	**Alice Springs**	**37.76**	**195**	*e*P	**P**	**07 57 46.0**	**+0.2**
DZM	**Mont Dzumac** 10nm,0.6s,mb4.6,baz=312,slow=13,SNR=13	**41.37**	**147**	P	**P**	**07 58 16.1**	**+0.5**
MBWA	**Marble Bar** 4.0nm,0.4s,mb4.4	**41.42**	**215**	*e*P	**P**	**07 58 16.2**	**+0.2**
STKA	**Stephens Creek** 2.9nm,0.6s,mb4.1,baz=33,slow=5.4,SNR=5.7	**44.73**	**183**	P	**P**	**07 58 40.5**	**-2.1**
PSI	**Prapat** 2.5nm,0.5s,mb4.1,baz=58,slow=15,SNR=3.5	**45.53**	**261**	P	**P**	**07 58 48.5**	**-0.5**
SONM	**Songino Array** 0.5nm,0.6s,mb3.3,baz=144,slow=8.5,SNR=3.7	**46.58**	**326**	P	**P**	**07 58 57.9**	**+0.7**
KLBR	**Kellerberrin** 7.0nm,0.5s,mb4.5	**50.95**	**209**	*e*P	**P**	**07 59 30.2**	**-0.3**
MKAR	**Makanchi Array** 0.9nm,0.6s,mb3.8,baz=91,slow=8.7,SNR=12	**61.16**	**316**	P	**P**	**08 00 43.1**	**0.0**
ILAR	**Eielson Array** 0.3nm,0.6s,mb3.2,baz=255,slow=5.9,SNR=7.0	**69.49**	**25**	P	**P**	**08 01 36.4**	**-0.3**
BVAR	**Borovoye Array** 0.9nm,0.4s,mb3.9,baz=116,slow=7.6,SNR=8.4	**69.71**	**322**	P	**P**	**08 01 37.3**	**-0.7**
YKA	**Yellowknife Ar** 0.2nm,0.3s,mb3.3,baz=286,slow=5.0,SNR=4.1	**83.80**	**27**	P	**P**	**08 02 56.8**	**-0.2**
YKA	**Yellowknife Ar**	**83.80**	**27**	P	**P**	**08 02 56.8**	**-0.2**
NVAR	**Mina Array Bea** 0.5nm,0.6s,mb3.5,baz=255,slow=6.5,SNR=6.0	**88.05**	**51**	P	**P**	**08 03 19.6**	**+1.7**
FINES	**FINESS Array B** 1.0nm,0.9s,mb3.9,baz=72,slow=6.0,SNR=4.1	**91.21**	**335**	P	**P**	**08 03 30.7**	**-2.0**
FINES	**FINESS Array B**	**91.21**	**335**	P	**P**	**08 03 30.7**	**-2.0**

*DHMR **10** 07:59:50.0±1.8, 1164N×4304E, h8km±20km, ML3.8*
*ISCJB **10** 07:59:51.5±1.8, 114N±0.1×4331E±0.10, h10km, Error ellipse: s-maj=21.8km s-min=7.6km az=110.6*
ISC 10 07:59:52.5±1.8, 114N±01×434E±01, h10km, n7, σ1§22/14, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.98**	**22**	⇓*i*P	**Pn**	**08 00 23.4**	**-2.6**
TRBA				*i* S	**Sn**	**08 00 49.7**	**-1.2**
TRBA	comp=N,674nm,0.5s			AML	AML	08 00 52.0	
UDYN	**Al 'Udayn**	**2.63**	**13**	⇓*i*P	**Pn**	**08 00 34.1**	**-0.9**
UDYN				*i* S	**Sn**	**08 01 07.9**	**+1.0**
UDYN	comp=N,761nm,0.7s			AML	AML	08 01 21.6	
LBOS		**3.08**	**37**	*i* P	**Pn**	**08 00 41.9**	**+0.7**
LBOS				*i* S	**Sn**	**08 01 23.8**	**+5.6**
DHBB	**Dhamar BB**	**3.32**	**18**	*i* P	**Pn**	**08 00 43.3**	**-1.2**
DHBB				*i* S	**Sn**	**08 01 24.9**	**+1.0**
BDHA	**Al Bayda'**	**3.36**	**40**	*i* P	**Pn**	**08 00 46.6**	**+1.6**
BDHA				*i* S	**Sn**	**08 01 29.9**	**+4.9**
BDHA	comp=N,538nm,0.7s			AML	AML	08 01 49.4	
DESE	**Dese**	**3.65**	**266**	*e*PN	**Pn**	**08 00 55.4**	**+6.3**
DESE				*e*S	**Sn**	**08 01 32.5**	**+0.3**
DESE	**Dese**	**3.65**	**266**	*e*PN	**Pn**	**08 00 55.4**	**+6.3**
DESE				*e*S	**Sn**	**08 01 32.5**	**+0.3**

GUC 10 08:04:51.4±0.8, 3580S×7180W, h67km±4km, MD3.9, ML3.4, 2C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.17**	**107**	*e*P	Pn	08 05 01.7	+0.2
LNCH				*i* S	Sn	08 05 09.3	+0.4
LNCH	comp=N,1μm,0.3s			AMP		08 05 09.7	
CNCO	**Chanco**	**0.60**	**276**	⇑*i*P	Pn	08 05 05.3	+0.2
CNCO				*i* S	Sn	08 05 15.7	+0.7
CNCO	comp=N,6μm,0.3s			AMP		08 05 16.6	
CCHI	**Chillan**	**0.83**	**196**	*e*P	Pn	08 05 07.8	+0.2
CCHI				*i* S	Sn	08 05 20.8	+1.1
CCHI	comp=E,2μm,0.3s			AMP		08 05 24.1	
COCH	**Cobquecura**	**0.87**	**247**	*e*P	Pn	08 05 08.8	+0.7
COCH				*i* S	Sn	08 05 21.1	+0.6
COCH	comp=N,147nm,0.4s			AMP		08 05 22.6	
NICH	**Los Niches**	**0.92**	**30**	⇓*i*P	Pn	08 05 08.9	+0.2
NICH				*i* S	Sn	08 05 21.3	-0.3
CICH	**Cipreses**	**1.86**	**38**	⇑*i*P	Pn	08 05 22.4	+1.3
CICH				*i* S	Sn	08 05 44.7	+1.1
LNV	**Longovilo**	**1.87**	**10**	*e*P	Pn	08 05 21.6	+0.5
LNV				*i* S	Sn	08 05 44.8	+1.0
CACH	**El Canelo**	**1.95**	**31**	⇓*i*P	Pn	08 05 22.7	+0.5
CACH				*i* S	Sn	08 05 47.0	+1.3
CHCH	**Chadas Angostu**	**2.09**	**27**	*i* P	Pn	08 05 24.6	+0.4
AGCH	**Angol**	**2.13**	**200**	*e*P	Pn	08 05 25.0	+0.3
AGCH				*i* S	Sn	08 05 50.5	+0.3
LMEL	**Las Melosas**	**2.35**	**34**	*e*P	Pn	08 05 29.0	+1.3
LMEL				*i* S	Sn	08 05 56.8	+1.4
LMEL	comp=N,434nm,0.2s			AMP		08 06 08.6	
RCDM	**Rinconada Maip**	**2.45**	**20**	*e*P	Pn	08 05 28.9	-0.1
RCDM				*i* S	Sn	08 05 57.7	-0.1
RCDM	comp=E,670nm,0.1s			AMP		08 06 07.8	
SJCH	**San Jose de Ma**	**2.46**	**29**	*e*P	Pn	08 05 29.3	+0.1
FSR	**Penalolen**	**2.54**	**25**	*e*P	Pn	08 05 30.8	+0.5
FCH	**Farellones**	**2.76**	**27**	*e*P	Pn	08 05 34.2	+0.9
FCH				*i* S	Sn	08 06 07.0	+1.5
FCH	comp=N,512nm,0.3s			AMP		08 06 15.6	

*NEIC **10** 08:42:33.7±0.6, 1019S×16154E, mb4.4/3, Error ellipse: s-maj=13.2km s-min=10.7km az=79.0*
*IDC **10** 08:42:33.5±0.7, 1023S×16152E, h80km±4km, mb3.9/9, mb1 4.2/11, mb1mx4.1/16, mbtmp4.3/11, MS3.5/4, Ms1 3.5/4, ms1mx3.2/26, Error ellipse: s-maj=13.9km s-min=9.5km az=26.0*
*ISCJB **10** 08:42:34.1±1.0, 1030S±007×16139E±009, h99km±8km, mb4.1/12, Error ellipse: s-maj=16.0km s-min=9.7km az=124.1*
ISC 10 08:42:34.5±1.1, 1023S±007×16148E±009, h88km±9km, h81km±2.1km: pP-P, n25, σ0§78/31, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.70**	**298**	P	**Pn**	**08 43 03.1**	**+0.4**
HNR	823nm,0.3s,baz=118,slow=1.3,SNR=182			S	**Sn**	**08 43 23.9**	**-0.3**
HNR	1μm,0.3s,baz=85,slow=7.2,SNR=7.8			*e*Pn	**Pn**	**08 43 03.1**	**+0.4**
HNR				*e*Sn	**Sn**	**08 43 23.6**	**-0.6**
HNR				S	**Sn**	**08 43 23.9**	**-0.3**
NOUC	**Port Laguerre**	**12.68**	**159**	*e*P	**Pn**	**08 45 30.0**	**-1.4**
NOUC				*e*S	**Sn**	**08 47 39.5**	**-11**
DZM	**Mont Dzumac** 3.0nm,0.3s,baz=298,slow=18,SNR=49	**12.70**	**159**	P	**Pn**	**08 45 32.9**	**+1.2**
DZM	1.6nm,0.3s,baz=310,slow=19,SNR=5.2			S	**Sn**	**08 47 51.0**	**-0.2**
DZM	comp=Z,201nm,19.9s,baz=17,slow=34			LR	LR	08 49 46.1	
DZM	**Mont Dzumac**	**12.70**	**159**	*e*P	**Pn**	**08 45 32.8**	**+1.1**
DZM				*e*S	**Sn**	**08 47 40.5**	**-11**
PMG	**Port Moresby** 0.8nm,0.3s,baz=82,slow=4.2,SNR=6.8	**14.13**	**272**	P	**Pn**	**08 45 55.5**	**+5.0**
PMG	comp=Z,178nm,19.2s,baz=296,slow=35			LR	LR	08 50 47.4	
CTA	**Charters Tower** 10nm,0.7s	**17.65**	**235**	*e*P	**Pn**	**08 46 37.8**	**+3.3**
CTA	**Charters Tower** 1.2nm,0.3s,baz=64,slow=12,SNR=20	**17.65**	**235**	P	**Pn**	**08 46 35.9**	**+1.4**
CTA	comp=Z,142nm,18.8s,baz=58,slow=33			LR	LR	08 52 11.0	
CTAO	**Charters Tower** 7.3nm,0.6s	**17.65**	**235**	*e*P	**Pn**	**08 46 37.3**	**+2.8**
WRAB	**Tennant Creek** 12nm,0.6s,mb4.6	**27.87**	**247**	*e*P	**P**	**08 48 16.0**	**+0.1**
WB2	**Warramunga Arr**	**27.87**	**247**	*e*P	**P**	**08 48 16.0**	**+0.1**
WRA	**Warramunga Arr** 9.7nm,0.6s,mb4.5,baz=76,slow=9.3,SNR=119	**27.88**	**247**	P	**P**	**08 48 16.1**	**+0.2**
WRA	3.3nm,0.6s,baz=76,slow=9.3,SNR=4.5			pP	pP	08 48 34.9	-1.0
STKA	**Stephens Creek** 1.3nm,0.7s,mb3.6,baz=335,slow=8.3,SNR=4.2	**28.33**	**218**	P	**P**	**08 48 19.7**	**-0.2**
STKA	1.9nm,0.7s,baz=51,slow=15,SNR=3.3			pP	pP	08 48 39.3	-0.6
STKA	comp=Z,159nm,18.4s,baz=25,slow=33			LR	LR	08 58 07.4	
STKA	**Stephens Creek**	**28.33**	**218**	*e*P	**P**	**08 48 19.9**	**0.0**
STKA				pP	pP	08 48 39.3	-0.6
STKA				LR	LR	08 58 07.4	
ASAR	**Alice Springs** 1.7nm,0.5s,mb3.9,baz=61,slow=10,SNR=29	**29.49**	**240**	P	**P**	**08 48 29.6**	**-0.7**
ASAR	0.6nm,0.4s,baz=65,slow=9.8,SNR=3.8			pP	pP	08 48 49.3	-1.0
ASPA	**Alice Springs**	**29.49**	**240**	*e*P	**P**	**08 48 29.7**	**-0.5**
FITZ	**Fitzroy Crossi** 7.5nm,0.9s,mb4.6	**35.56**	**253**	*e*P	**P**	**08 49 23.0**	**-0.2**
MJAR	**Matsushiro Arr** 2.5nm,0.8s,mb4.3,baz=168,slow=8.4,SNR=5.8	**51.42**	**336**	P	**P**	**08 51 29.9**	**-0.6**
ULN	**Ulaanbaatar** 6.4nm,1.1s,mb4.3	**75.22**	**325**	*e*P	**P**	**08 54 08.2**	**+0.7**
SONM	**Songino Array** 4.3nm,0.7s,mb4.3,baz=141,slow=5.7,SNR=40	**75.57**	**325**	P	**P**	**08 54 10.3**	**+0.7**
SONM	1.9nm,0.8s,baz=142,slow=5.8,SNR=4.6			pP	pP	08 54 30.6	-1.8
SONM	2.6nm,0.9s,baz=140,slow=5.7,SNR=4.1			sP	sP	08 54 38.9	-3.0
ILAR	**Eielson Array** 1.0nm,0.6s,mb3.8,baz=247,slow=5.1,SNR=8.7	**84.12**	**20**	P	**P**	**08 54 55.3**	**-0.4**
ILAR	0.6nm,0.8s,baz=255,slow=4.9,SNR=2.7			pP	pP	08 55 16.1	-2.8
ILAR	0.5nm,0.5s,baz=253,slow=5.2,SNR=2.8			sP	sP	08 55 26.6	-1.8
NVAR	**Mina Array Bea** 0.8nm,0.8s,mb3.8,baz=246,slow=8.4,SNR=7.7	**88.73**	**51**	P	**P**	**08 55 19.5**	**+1.2**
MKAR	**Makanchi Array** 0.7nm,0.6s,mb4.0,baz=93,slow=5.9,SNR=14	**90.08**	**318**	P	**P**	**08 55 23.6**	**-0.9**
YKA	**Yellowknife Ar** 0.4nm,0.7s,mb4.0,baz=261,slow=4.8,SNR=9.2	**96.19**	**28**	P	**P**	**08 55 52.2**	**-0.4**
YKA	0.4nm,0.8s,baz=259,slow=4.5,SNR=5.4			pP	pP	08 56 13.6	-2.6
YKA	**Yellowknife Ar**	**96.19**	**28**	P	**P**	**08 55 52.2**	**-0.4**
YKA				pP	pP	08 56 13.6	-2.6

IDC 10 09:02:28.2±2.0, 064N×12678E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=175.2km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=339,slow=11,SNR=15	**21.76**	**160**	P	P	09 07 21.8	+0.5
WB2	**Warramunga Arr**	**21.76**	**160**	*e*P	P	09 07 22.0	+0.6
ASAR	**Alice Springs** 0.5nm,0.3s,baz=347,slow=12,SNR=16	**25.13**	**164**	P	P	09 07 55.0	+0.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=118,slow=8.1,SNR=4.6	**60.12**	**326**	P	P	09 12 37.5	+0.2

*ISCJB **10** 09:14:37.5±0.7, 388N±0.1×15.1E±0.1, h291km±7km, mb3.4/5, Error ellipse: s-maj=20.4km s-min=12.1km az=126.3*
*NEIC **10** 09:14:37.8, 3885N×1494E, h280km, MD2.7(ROM), After ROM.*
*ROM **10** 09:14:37.8±0.4, 3885N×1494E, h280km±6km, Md2.7/2, Ml3.4/3, Error ellipse: s-maj=9.8km s-min=3.7km az=165.0*
*CSEM **10** 09:14:39.9±0.4, 3880N×1496E, h260km±4km, ML3.7/2, Error ellipse: s-maj=8.7km s-min=3.6km az=147.0*
*IDC **10** 09:14:48.5±6.2, 3956N×1504E, h348km±38km, mb3.0/5, mb1 3.0/8, mb1mx2.8/24, mbtmp3.7/8, Error ellipse: s-maj=69.3km s-min=31.3km az=13.0*
ISC 10 09:14:38.2±0.7, 388N±01×151E±01, h286km±7km, n24, σ0§99/27, mb3.4/5, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTTG	**Motta San Giov** 150nm,0.9s	**0.92**	**149**	Pg	**Pn**	**09 15 17.2**	**+0.5**
GRI	**Girifalco** 230nm,0.5s	**1.03**	**88**	Pg	**Pn**	**09 15 17.8**	**+0.6**
SOI	**Samo**	**1.04**	**134**	Pg	**Pn**	**09 15 17.6**	**+0.3**
SOI				Sg	**S**	**09 15 47.5**	**-0.8**
PLAC	**Placanica**	**1.10**	**108**	Pg	**Pn**	**09 15 18.0**	**+0.4**
PLAC	71nm,0.2s			Sg	**S**	**09 15 47.4**	**-1.4**
GIB	**Gibilmanna** 17nm,0.3s	**1.16**	**227**	Pg	**Pn**	**09 15 17.6**	**-0.3**
CSLB	**Castelbuono** 23nm,0.2s	**1.18**	**224**	Pg	**Pn**	**09 15 17.8**	**-0.2**
SERS	**Sersale**	**1.26**	**79**	Pg	**Pn**	**09 15 19.3**	**+0.8**
SERS	97nm,0.4s			Sg	**S**	**09 15 49.8**

Ms1 3.6/13, ms1mx3.4/37, Error ellipse: s-maj=20.1km s-min=15.5km az=105.0
JMA ***10*** *09:18:04.9±0.2, 3770N×14233E, h33km±3km, M4.4*
JMA Felt I J1.
MOS ***10*** *09:18:04.9±0.9, 3770N×14241E, h33km, mb4.6/10, Error ellipse: s-maj=12.1km s-min=6.9km az=96.8*
ISCJB ***10*** *09:18:05.3±0.8, 3771N±004×14236E±005, h35km±5km, mb4.3/33, MS3.8/14, Error ellipse: s-maj=8.0km s-min=5.2km az=83.4*
NEIC ***10*** *09:18:05.6±2.6, 3773N×14242E, h23km±18km, mb4.4/6, Error ellipse: s-maj=12.9km s-min=7.5km az=126.0*
NEIC Recorded [1 JMA] in Miyagi Prefecture.
BJI ***10*** *09:18:05.5, 3770N×14240E, h23km, mB5.0, mb4.6, Ms4.0, Msz3.8*

ISC 10 09:18:07.1±1.5, 3775N±004×14228E±004, h32km±11km, n77, σ1§00/91, mb4.3/33, MS3.8/14, 5C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.01**	**314**	⇑P	**Pn**	**09 18 24.1**	**-1.0**
JIO				S	**Sn**	**09 18 37.8**	**-0.4**
JFK	**Kawauchi**	**1.18**	**251**	⇓P	**Pn**	**09 18 25.7**	**-1.7**
JFK				S	**Sn**	**09 18 40.7**	**-1.6**
JMM	**Marumori**	**1.18**	**276**	⇓P	**Pn**	**09 18 26.3**	**-1.1**
JMM				S	**Sn**	**09 18 41.3**	**-1.0**
JOU	**Okura**	**1.41**	**296**	P	**Pn**	**09 18 30.6**	**0.0**
JOU				S	**Sn**	**09 18 48.9**	**+0.8**
JMK	**Ichinoseki**	**1.46**	**326**	⇑P	**Pn**	**09 18 30.7**	**-0.5**
JMK				*e*S	**Sn**	**09 18 49.3**	**+0.1**
JFT	**Otama**	**1.56**	**262**	⇓P	**Pn**	**09 18 32.4**	**-0.2**
JFT				S	**Sn**	**09 18 51.9**	**+0.3**
JYS	**Shiratake**	**1.81**	**286**	P	**Pn**	**09 18 36.4**	**+0.4**
JYS				*e*S	**Sn**	**09 19 00.4**	**+2.6**
JOM	**Ohasama**	**1.88**	**336**	⇑P	**Pn**	**09 18 36.5**	**-0.5**
JYK	**Kaneyama**	**1.91**	**308**	P	**Pn**	**09 18 37.6**	**+0.3**
JYA	**Atsumi**	**2.19**	**293**	P	**Pn**	**09 18 41.9**	**+0.7**
MJAR	**Matsushiro Arr**	**3.47**	**251**	Pn	**Pn**	**09 18 59.7**	**+0.8**
	6.9nm,0.3s,baz=79,slow=15,SNR=32						
MJAR				Sn	**Sn**	**09 19 46.9**	**+8.1**
	9.9nm,0.3s,baz=80,slow=15,SNR=5.1						
MJAR				LR	LR	09 20 27.5	
	comp=Z,566nm,21.4s,baz=65,slow=42						
MAJO	**Matsushiro**	**3.47**	**251**	*e*Pn	**Pn**	**09 19 00.1**	**+1.3**
MAJO				*e*Sn	**Sn**	**09 19 37.4**	**-1.4**
MAT	**Matsushiro**	**3.47**	**251**	P	**Pn**	**09 18 59.8**	**+1.0**
MAT	**Matsushiro**	**3.47**	**251**	*e*P	**Pn**	**09 19 00.0**	**+1.2**
MAT				*e*S	**Sn**	**09 19 48.0**	**+9.2**
JHJ	**Hachijo jima 2**	**5.05**	**204**	Pn	**Pn**	**09 19 19.1**	**-1.5**
	54nm,0.3s,baz=69,slow=22,SNR=10						
JHJ				Sn	**Sn**	**09 20 13.0**	**-4.8**
	61nm,0.3s,baz=224,slow=23,SNR=7.5						
JHJ				LR	LR	09 21 02.6	
	comp=Z,140nm,18.8s,baz=301,slow=36						
ASAJ	**Asahikawa**	**6.36**	**2**	Pn	**Pn**	**09 19 38.8**	**+0.2**
	2.2nm,0.3s,baz=189,slow=15,SNR=16						
ASAJ				Sn	**Sn**	**09 20 49.2**	**-0.9**
	1.0nm,0.3s,baz=21,slow=26,SNR=2.1						
ASAJ				LR	LR	09 22 41.4	
	comp=Z,372nm,21.9s,baz=225,slow=43						
ASAJ	**Asahikawa**	**6.36**	**2**	P	**Pn**	**09 19 38.8**	**+0.2**
ASAJ						09 20 49.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,372nm,21.9s						
YUK	**Yuzh-Kuril'sk**	**6.84**	**22**	*e*P	**Pn**	**09 19 44.5**	**-0.6**
YUK				*i* S	**Sn**	**09 20 55.7**	**-6.1**
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
YUK				smax			
	comp=N,310nm,0.5s						
YUK				smax			
	comp=E,330nm,0.5s						
KUR	**Kuril'sk**	**8.57**	**28**	P	**Pn**	**09 20 11.0**	**+2.1**
KUR				S	**Sn**	**09 21 38.7**	**-5.7**
KUR				smax			
	comp=E,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.20**	**2**	⇓*e*P	**Pn**	**09 20 18.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**9.20**	**2**	*e*Pn	**Pn**	**09 20 16.1**	**-1.4**
	comp=E,17nm,0.6s						
JNU	**Nakatsue**	**10.38**	**247**	LR	LR	09 24 46.3	
	comp=E,164nm,20.2s,baz=23,slow=39						
MDJ	**Mudanjiang**	**11.76**	**310**	P	**Pn**	**09 20 58.9**	**+6.4**
MDJ				AMB	AMB		
	comp=Z,16nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,213nm,4.8s						
MDJ				LR	LR		
	comp=N,108nm,18.2s						
MDJ				LR	LR		
	comp=E,129nm,18.9s						
MDJ				LR	LR		
	comp=Z,227nm,18.4s						
HABR	**Khabarovsk**	**11.94**	**336**	*i* P	**Pn**	**09 20 56.0**	**+1.0**
HABR				*e*S	**Sn**	**09 23 05.1**	**-1.9**
HABR				pmax	pmax		
	comp=Z,22nm,1.0s						
KLR	**Kul'dur**	**13.77**	**330**	*e*P	**Pn**	**09 21 16.9**	**-3.1**
SSE	**Sheshan**	**18.60**	**255**	P	**Pn**	**09 22 22.1**	**0.0**
SSE				S	**Sn**	**09 25 44.3**	**-4.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,82nm,4.1s						
SSE				LR	LR		
	comp=N,100nm,21.4s						
SSE				LR	LR		
	comp=E,31nm,21.4s						
SSE				LR	LR		
	comp=Z,76nm,20.9s						
NJ2	**Nanjing**	**20.01**	**261**	*e*P	**P**	**09 22 40.2**	**+3.1**
NJ2				PP		09 23 00.9	
NJ2				XS	sS	09 26 26.0	-8.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,66nm,4.5s						
NJ2				LR	LR		
	comp=N,370nm,16.2s,MS4.0						
NJ2				LR	LR		
	comp=E,300nm,14.5s,MS4.0						
CLNS	**Chul'man**	**22.32**	**334**	*e*P	**P**	**09 22 54.4**	**-7.5**
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
CLNS				MLR	MLR		
	comp=Z,300nm,14.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,200nm,15.0s,MS3.7						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS3.7						
MA2	**Magadan**	**22.51**	**11**	*e*P	**P**	**09 23 03.9**	**-0.1**
MA2				*e**PP		09 23 19.9	
MA2				*e*		09 23 34.9	
MA2				*e*S	**S**	**09 27 01.7**	**-7.7**
MA2				*e*SS		09 27 38.7	
MA2				*e*SSS		09 27 58.6	
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
MA2	**Magadan**	**22.51**	**11**	*e*P	**P**	**09 23 02.5**	**-1.5**
	comp=Z,5.8nm,0.6s,mb4.2						
GUMO	**Guam**	**24.18**	**174**	LR	LR	09 29 59.8	
	comp=Z,102nm,21.7s,MS3.3,baz=108,slow=30						
CIT	**Chita**	**24.65**	**315**	*e*P	**P**	**09 23 26.1**	**+1.4**
CIT				*e*		09 27 36.2	
CIT				pmax	pmax		
	comp=Z,104nm,1.1s,mb5.3						
YAK	**Yakutsk**	**25.53**	**346**	*e*P	**P**	**09 23 33.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.4						
SEY	**Seymchan**	**25.96**	**11**	⇑*i*P	**P**	**09 23 37.5**	**+0.9**
BOD	**Bodaibo**	**27.30**	**326**	*e*P	**P**	**09 23 48.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**27.53**	**303**	*i* P	**P**	**09 23 51.7**	**+0.9**
ULN	**Ulaanbaatar**	**27.53**	**303**	*e*P	**P**	**09 23 51.5**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.97**	**303**	P	**P**	**09 23 55.9**	**+1.3**
	comp=Z,6.7nm,0.9s,mb4.3,baz=98,slow=8.5,SNR=34						
SONM				LR	LR	09 35 07.8	
	comp=Z,102nm,18.4s,MS3.4,baz=78,slow=36						
ENH	**Enshi**	**28.08**	**264**	*e*P	**P**	**09 23 56.3**	**+0.6**
	comp=Z,22nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**30.37**	**307**	*e*P	**P**	**09 24 16.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.2						
LZH	**Lanzhou**	**30.63**	**279**	*e*P	**P**	**09 24 26.5**	**+8.2**
LZH				AP	pP	09 24 31.6	+4.0
LZH				XP	sP	09 24 35.1	+3.6
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.8						
GYA	**Guiyang**	**32.02**	**260**	P	**P**	**09 24 32.1**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2	**Chengdu**	**32.36**	**269**	*e*P	**P**	**09 24 33.6**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**33.02**	**286**	*e*P	**P**	**09 24 38.7**	**-0.6**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**33.15**	**16**	P	**P**	**09 24 48.0**	**+7.6**
BILL				*e*	pP	09 24 56.8	+7.0
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.7						
TIXI	**Tiksi**	**34.66**	**353**	*i* P	**P**	**09 24 52.0**	**-1.6**
TIXI				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.6						
WMQ	**Urumqi**	**41.13**	**296**	P	**P**	**09 25 50.7**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**41.96**	**312**	P	**P**	**09 25 55.1**	**+0.2**
	comp=Z,2.5nm,0.5s,mb4.1,baz=26,slow=7.6,SNR=5.0						
ZAL				LR	LR	09 42 16.5	
	comp=Z,58nm,20.1s,MS3.5,baz=163,slow=35						
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**09 26 14.4**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.2,baz=83,slow=9.5,SNR=27						
MKAR				LR	LR	09 47 04.5	
	comp=Z,40nm,18.8s,MS3.4,baz=4.5,slow=39						
MKAR	**Makanchi Array**	**44.32**	**302**	*i* P	**P**	**09 26 14.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**46.03**	**308**	*d* iP	**P**	**09 26 27.1**	**-0.5**
KURK	**Kurchatov**	**46.03**	**308**	*e*P	**P**	**09 26 27.6**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**48.52**	**33**	P	**P**	**09 26 46.8**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=264,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**09 27 02.6**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=77,slow=7.0,SNR=9.3						
AAK	**Ala-Archa**	**50.76**	**298**	⇑*i*P	**P**	**09 27 05.4**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8						
AAK	**Ala-Archa**	**50.76**	**298**	*e*P	**P**	**09 27 03.0**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**51.43**	**312**	*e*P	**P**	**09 27 08.9**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**51.43**	**312**	*e*P	**P**	**09 27 08.9**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3						
INK	**Inuvik**	**53.44**	**27**	P	**P**	**09 27 23.9**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=235,slow=7.2,SNR=8.1						
ARU	**Arti**	**56.28**	**310**	⇓*i*P	**P**	**09 27 44.1**	**-0.4**
ARU				*e*S	**S**	**09 35 29.3**	**-3.0**
ARU				*e*SS	SS	09 39 14.5	-4.7
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**57.87**	**189**	P	**P**	**09 27 54.5**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=6.0,slow=7.2,SNR=16						
AKTK	**Aktyubinsk**	**58.71**	**312**	P	**P**	**09 28 01.9**	**+0.2**
AKTO	**Aktyubinsk**	**58.71**	**312**	P	**P**	**09 28 01.9**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.2,baz=33,slow=3.2,SNR=7.1						
AKTO	**Aktyubinsk**	**58.71**	**312**	P	**P**	**09 28 01.9**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**61.60**	**189**	P	**P**	**09 28 20.6**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.2,baz=9.4,slow=6.9,SNR=7.8						
YKA	**Yellowknife Ar**	**62.84**	**31**	P	**P**	**09 28 29.3**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.6,baz=300,slow=6.0,SNR=9.4						
YKA	**Yellowknife Ar**	**62.84**	**31**	*i* P	**P**	**09 28 29.2**	**-0.5**
ARCES	**ARCESS Array B**	**63.57**	**339**	P	**P**	**09 28 35.8**	**+1.3**
	comp=Z,6.2nm,1.2s,mb4.5,baz=7.1,slow=9.8,SNR=4.4						
ARCES				LR	LR	10 03 28.0	
	comp=Z,97nm,18.8s,MS4.0,baz=355,slow=43						
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**09 29 06.4**	**+0.2**
	comp=Z,2.9nm,0.9s,mb4.3,baz=37,slow=9.5,SNR=8.7						
FINES				LR	LR	09 59 52.7	
	comp=Z,108nm,18.8s,MS4.1,baz=344,slow=37						
FINES	**FINESS Array B**	**68.50**	**332**	*i* P	**P**	**09 29 06.6**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	**Hagfors**	**73.72**	**336**	P	**P**	**09 29 37.7**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=42,slow=17,SNR=3.4						
HFS				LR	LR	10 05 07.4	
	comp=Z,102nm,21.8s,MS4.1,baz=252,slow=38						
NB2	**NORSAR Subarra**	**73.79**	**338**	P	**P**	**09 29 37.9**	**-0.4**
	comp=Z,3.7nm,1.1s,mb4.2,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**73.79**	**338**	P	**P**	**09 29 38.6**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**74.15**	**323**	P	**P**	**09 29 40.5**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=46,slow=6.0,SNR=5.8						
PDAR	**Pinedale Array**	**76.67**	**46**	P	**P**	**09 29 55.1**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=0.0,slow=1.5,SNR=3.5						
MLR	**Muntele Rosu**	**79.28**	**320**	LR	LR	10 09 53.2	
	comp=Z,97nm,18.1s,MS4.2,baz=306,slow=39						
DAVOX	**Davos**	**85.67**	**329**	LR	LR	10 12 39.0	
	comp=Z,59nm,18.4s,MS4.0,baz=77,slow=38						

MAN 10 09:33:55.2, 973N×12532E, h1km, mb1.2, ML3.2, MS8.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.18**	**73**	⇓*e*P	Pg	09 33 58.1	-0.5
MSLP	**Maasin**	**0.60**	**312**	*e*P	Pg	09 34 06.0	-0.7
MSLP				*e*S	Sg	09 34 24.3	+10
BUTP	**Butuan**	**0.81**	**158**	*e*P	Pg	09 34 10.3	-0.5
BUTP				*e*S	Sg	09 34 26.7	+5.5

JMA 10 09:59:12.0±0.1, 3772N×14228E, h38km±3km, M2.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.04**	**315**	P	Pn	09 59 30.5	+0.5
JIO				S	Sn	09 59 44.0	+0.7
JFK	**Kawauchi**	**1.17**	**253**	P	Pn	09 59 32.2	+0.3
JFK				S	Sn	09 59 47.0	+0.4
JMM	**Marumori**	**1.19**	**278**	P	Pn	09 59 32.8	+0.7
JMM				S	Sn	09 59 47.7	+0.7
JOU	**Okura**	**1.43**	**297**	P	Pn	09 59 36.9	+1.5
JMK	**Ichinoseki**	**1.49**	**326**	S	Sn	09 59 55.7	+1.3

NIED ***10*** *09:59:00, 3770N×14230E, h20km, Mw4.1 Best double couple: M0=1.45000×10^15 NP1:φs=222.00000°, δ76.00000°, λ-122.00000°. NP2:φs=111.00000°, δ34.00000°, λ-25.00000°.*
IDC ***10*** *09:59:40.0±0.8, 3762N×14249E, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.9/27, mbtmp4.0/15, ML3.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/23, Error ellipse: s-maj=20.9km s-min=15.8km az=113.0*
ISCJB ***10*** *09:59:41.8±1.4, 3769N±004×14240E±005, h26km±9km, mb4.1/19, Error ellipse: s-maj=7.7km s-min=5.9km az=118.5*
NEIC ***10*** *09:59:42.8, 3769N×14231E, h29km, mb4.6/3, MW4.1(NIED), After JMA.*
NEIC Recorded [1 JMA] in Miyagi Prefecture.
MOS ***10*** *09:59:42.5±1.3, 3770N×14248E, h33km, mb4.3/9, Error ellipse: s-maj=17.4km s-min=9.7km az=94.0*
JMA ***10*** *09:59:42.7±0.2, 3769N×14231E, h29km±3km, M4.5*
JMA Felt I J1.
BJI ***10*** *09:59:44.4, 3695N×14178E, h25km, mB4.7, mb4.2*

ISC 10 09:59:41.2±1.0, 3772N±004×14232E±005, h6km±5km, n57, σ1§10/67, mb4.1/19, 3C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.06**	**314**	⇑P	**Pg**	**10 00 02.0**	**+0.5**
JIO				S	**Sg**	**10 00 15.6**	**+0.3**
JFK	**Kawauchi**	**1.20**	**253**	⇓P	**Pg**	**10 00 03.5**	**-0.7**
JFK				S	**Sg**	**10 00 18.4**	**-1.4**
JMM	**Marumori**	**1.22**	**277**	⇓P	**Pg**	**10 00 04.1**	**-0.4**
JMM				S	**Sg**	**10 00 19.3**	**-1.0**
JOU	**Okura**	**1.46**	**297**	⇑P	**Pn**	**10 00 08.3**	**+0.3**
JOU				S	**Sn**	**10 00 26.3**	**-1.1**
JMK	**Ichinoseki**	**1.50**	**325**	⇓P	**Pn**	**10 00 08.8**	**+0.1**
JMK				S	**Sn**	**10 00 27.3**	**-1.3**
JFT	**Otama**	**1.59**	**263**	⇓P	**Pn**	**10 00 10.2**	**+0.4**
JFT				S	**Sn**	**10 00 30.2**	**-0.5**
JYS	**Shiratake**	**1.85**	**286**	P	**Pn**	**10 00 14.5**	**+1.1**
JYS				S	**Sn**	**10 00 38.0**	**+0.9**
JOM	**Ohasama**	**1.93**	**336**	P	**Pn**	**10 00 15.7**	**+1.2**
JYK	**Kaneyama**	**1.95**	**308**	P	**Pn**	**10 00 15.5**	**+0.7**
JFY	**Yanaizu**	**2.10**	**262**	P	**Pn**	**10 00 17.8**	**+0.9**
JFY				*e*S	**Sn**	**10 00 43.3**	**0.0**
JYA	**Atsumi**	**2.23**	**294**	P	**Pn**	**10 00 20.3**	**+1.6**
MJAR	**Matsushiro Arr**	**3.49**	**252**	Pn	**Pn**	**10 00 37.3**	**+1.3**
	6.4nm,0.3s,baz=83,slow=15,SNR=38						
MJAR				Sn	**Sn**	**10 01 22.6**	**+5.0**
	8.9nm,0.3s,baz=74,slow=18,SNR=4.7						
MJAR				LR	LR	10 02 13.7	
	comp=Z,540nm,18.1s,baz=75,slow=43						
MJAR	**Matsushiro Arr**	**3.49**	**252**	P	**Pn**	**10 00 37.3**	**+1.3**
MJAR						10 01 22.6	
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,540nm,18.1s						
MAJO	**Matsushiro**	**3.49**	**252**	*e*Pn	**Pn**	**10 00 37.5**	**+1.5**
MAT	**Matsushiro**	**3.49**	**252**	P	**Pn**	**10 00 37.4**	**+1.4**
MAT	**Matsushiro**	**3.49**	**252**	*e*P	**Pn**	**10 00 38.0**	**+2.0**
MAT				*e*S	**Sn**	**10 01 24.0**	**+6.4**
JHJ	**Hachijo jima 2**	**5.04**	**205**	Pn	**Pn**	**10 00 56.9**	**-0.3**
	comp=Z,24nm,0.3s,baz=292,slow=23,SNR=33						
JHJ				Sn	**Sn**	**10 01 51.0**	**-4.8**
	comp=Z,88nm,0.3s,baz=233,slow=22,SNR=9.4						
ASAJ	**Asahikawa**	**6.39**	**2**	Pn	**Pn**	**10 01 16.6**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=207,slow=15,SNR=10.0						
ASAJ				Sn	**Sn**	**10 02 26.5**	**-2.7**
	comp=Z,1.3nm,0.3s,baz=202,slow=34,SNR=2.7						
ASAJ				LR	LR	10 04 19.6	
	comp=Z,170nm,21.1s,baz=140,slow=43						
ASAJ	**Asahikawa**	**6.39**	**2**	P	**Pn**	**10 01 16.6**	**+0.7**
ASAJ						10 02 26.5	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,170nm,21.1s						
YUK	**Yuzh-Kuril'sk**	**6.85**	**22**	*e*P	**Pn**	**10 01 20.4**	**-1.8**
YUK				*e*S	**Sn**	**10 02 31.3**	**-9.3**
YUK				smax			
	comp=N,300nm,0.4s						
YUK				smax			
	comp=E,180nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.23**	**2**	⇑*e*P	**Pn**	**10 01 56.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**9.23**	**2**	P	**Pn**	**10 01 55.9**	**+1.1**
JNU	**Nakatsue**	**10.40**	**247**	LR	LR	10 06 34.0	
	comp=E,86nm,19.1s,baz=101,slow=40						
MDJ	**Mudanjiang**	**11.80**	**310**	P	**Pn**	**10 02 36.6**	**+6.6**
MDJ				AMB	AMB		
	comp=Z,15nm,2.2s						
MDJ				AMB	AMB		
	comp=Z,71nm,4.6s						
CIT	**Chita**	**24.70**	**315**	*e*P	**P**	**10 05 03.8**	**+0.8**
CIT				pmax	pmax		
	comp=Z,42nm,1.2s,mb4.8						
BOD	**Bodaibo**	**27.35**	**326**	*e*P	**P**	**10 05 25.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**10 05 33.5**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.0,baz=103,slow=8.1,SNR=24						
SONM				LR	LR	10 17 05.8	
	comp=Z,55nm,20.4s,baz=59,slow=37						
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**10 05 33.5**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,55nm,20.4s						
ENH	**Enshi**	**28.11**	**265**	P	**P**	**10 05 32.0**	**-1.8**
	comp=Z,16nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**30.42**	**307**	*e*P	**P**	**10 05 53.1**	**-1.2**
CD2	**Chengdu**	**32.40**	**270**	*e*P	**P**	**10 06 09.8**	**-1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**33.06**	**286**	*e*P	**P**	**10 06 24.0**	**+6.5**
GTA				AP	pP	10 06 28.3	+9.0
GTA				XP	sP	10 06 31.6	+12
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**10 07 52.0**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.9,baz=84,slow=10,SNR=16						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**10 07 52.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**10 07 52.0**	**-0.4**
KURK	**Kurchatov**	**46.08**	**308**	*e*P	**P**	**10 08 04.9**	**-1.1**
	comp=Z,7.9nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**48.53**	**33**	P	**P**	**10 08 23.9**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=264,slow=6.4,SNR=9.6						
ILAR	**Eielson Array**	**48.53**	**33**	P	**P**	**10 08 24.0**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.65**	**312**	P	**P**	**10 08 41.8**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=84,slow=5.6,SNR=6.2						
BVAR	**Borovoye Array**	**50.65**	**312**	P	**P**	**10 08 41.8**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**51.48**	**312**	*e*P	**P**	**10 08 47.3**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1						
INK	**Inuvik**	**53.45**	**27**	P	**P**	**10 09 01.9**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=225,slow=4.3,SNR=5.7						
WRA	**Warramunga Arr**	**57.84**	**189**	P	**P**	**10 09 32.4**	**-1.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=5.9,slow=7.2,SNR=41						
WRA	**Warramunga Arr**	**57.84**

Error ellipse: s-maj=50.3km s-min=28.6km az=161.0

ISC 10 10:20:37.5±2.5, 391N±02×750E±01, h35km, n12, σ0°66/15, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=18	**2.96**	**4**	P	**Pn**	**10 21 21.1**	**-0.9**
UCH	**Uchtor** SNR=15	**3.12**	**354**	P	**Pn**	**10 21 24.1**	**0.0**
AML	**Almayashu** SNR=13	**3.16**	**343**	P	**Pn**	**10 21 26.1**	**+1.5**
ULHL	**Ulahol** SNR=42	**3.27**	**17**	P	**Pn**	**10 21 25.5**	**-0.7**
AAK	**Ala-Archa** SNR=27	**3.52**	**354**	P	**Pn**	**10 21 29.7**	**0.0**
KBK	**Karagaybulak** SNR=38	**3.53**	**360**	P	**Pn**	**10 21 29.8**	**0.0**
EKS2	**Erkin-Say** SNR=8.6	**3.65**	**346**	P	**Pn**	**10 21 32.4**	**+1.0**
TKM2	**Tokmak 2** SNR=56	**3.83**	**7**	P	**Pn**	**10 21 33.5**	**-0.3**
TKM2	**Tokmak 2** 39nm,0.4s	**3.83**	**7**	⇓Pn	**Pn**	**10 21 33.3**	**-0.5**
TKM2	52nm,0.7s			⇑Sn	**Sn**	**10 22 18.0**	**+0.4**
CHMS	**Chumysh** SNR=14	**3.88**	**358**	P	**Pn**	**10 21 34.7**	**+0.2**
USP	**Ospenovka** SNR=11	**4.16**	**355**	P	**Pn**	**10 21 38.1**	**-0.3**
KK31	**Karatay Array** 0.9nm,0.4s,baz=122,slow=12,SNR=25	**5.21**	**321**	Pn	**Pn**	**10 21 52.6**	**-0.2**
KK31	2.5nm,0.5s,baz=141,slow=15,SNR=7.0			⇑Pg	**Pn**	**10 22 07.9**	**+15**
KK31	3.7nm,0.5s,baz=134,slow=27,SNR=5.0			⇑Sn	**Sn**	**10 22 50.9**	**-0.7**
KK31	15nm,0.7s,baz=134,slow=27,SNR=5.0			⇓Lg		10 23 13.8	

*ISCJB **10** 10:41:37.3±1.4, 1090N×007×6229W±004, h81km±14km, Error ellipse: s-maj=11.4km s-min=6.8km az=166.3*
*TRN **10** 10:41:37.3, 1080N×6223W, h90km, MD3.0*
*FUNV **10** 10:41:37.1, 1098N×6226W, h85km, MW2.4*

ISC 10 10:41:37.6±1.4, 1089N±007×6229W±004, h83km±14km, n7, σ0°80/14, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**165**	*e*P	**Pn**	**10 41 50.0**	**+0.2**
GUIV				*e*S	**Sn**	**10 41 59.4**	**+0.4**
TRN	**Trinidad (W)**	**0.90**	**105**	⇑*i*P	**Pn**	**10 41 56.0**	**+0.3**
TRN				*e*S	**Sn**	**10 42 07.9**	**-1.2**
ITEV	**Isla Los Testi**	**0.95**	**299**	*e*P	**Pn**	**10 41 55.1**	**-1.0**
ITEV				*e*S	**Sn**	**10 42 09.0**	**-1.0**
CRUV	**Carupano**	**0.96**	**257**	*e*P	**Pn**	**10 41 56.2**	**0.0**
CRUV				*e*S	**Sn**	**10 42 09.9**	**-0.3**
GUNV	**Guanoco**	**0.97**	**222**	*e*P	**Pn**	**10 41 56.9**	**+0.5**
GUNV				*e*S	**Sn**	**10 42 11.5**	**+1.0**
GRW	**Mount Saint Ca**	**1.40**	**26**	*e*P	**Pn**	**10 42 02.1**	**+0.4**
GRW				*e*S	**Sn**	**10 42 21.8**	**+1.9**
TPR	**Prospect**	**1.51**	**79**	*e*P	**Pn**	**10 42 02.8**	**-0.3**
TPR				*e*S	**Sn**	**10 42 21.8**	**-0.6**

*ISCJB **10** 11:47:51.8±5.8, 598S±02×276W±03, h94km±57km, mb4.3/8, Error ellipse: s-maj=30.3km s-min=20.3km az=35.7*
*NEIC **10** 11:47:59.0±3.1, 5989S×2769W, h152km±28km, mb4.2/3, Error ellipse: s-maj=18.2km s-min=12.9km az=181.0*
*IDC **10** 11:48:02.2±7.9, 5977S×2764W, h177km±68km, mb3.8/6, mb1 3.9/6, mb1mx3.7/14, mbtmp4.3/6, Error ellipse: s-maj=32.7km s-min=19.3km az=180.0*

ISC 10 11:47:54.5±5.5, 599S±02×276W±03, h107km±55km, n28, σ0°63/13, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**13.49**	**155**	*e*P	Px	11 51 17.3	
VNA2	**Neumayer--Watz** baz=315,slow=17	**13.78**	**152**	*e*P	Px	11 51 20.7	
PMSA	**Palmer Station**	**17.44**	**238**	*e*P	**Pn**	**11 51 50.2**	**-0.8**
EFI	**East Falkland**	**18.87**	**282**	P	**P**	**11 52 07.4**	**+1.2**
TRQA	**Tornquist**	**30.86**	**300**	*e*P	**P**	**11 54 00.4**	**0.0**
PLCA	**Paso Flores** 0.9nm,0.5s,mb3.9,baz=3.2,slow=4.8,SNR=5.0	**32.69**	**286**	P	**P**	**11 54 16.6**	**+0.1**
PLCA	**Paso Flores**	**32.69**	**286**	*e*P	**P**	**11 54 15.9**	**-0.6**
CPUP	**Villa Florida** 22nm,0.4s,mb5.3	**39.31**	**315**	*e*P	**P**	**11 55 12.4**	**-0.6**
BOSA	**Boshof** 2.8nm,0.9s,mb4.0,baz=144,slow=12,SNR=4.2	**47.21**	**73**	P	**P**	**11 56 16.7**	**+0.2**
BOSA	**Boshof** 1.2nm,0.6s,mb3.8	**47.21**	**73**	*e*P	**P**	**11 56 16.8**	**+0.3**
LBTB	**Lobatse** 2.5nm,0.6s,mb4.3	**50.41**	**70**	*e*P	**P**	**11 56 41.4**	**+0.6**
LPAZ	**La Paz** 1.2nm,0.4s,mb4.3,baz=194,slow=8.3,SNR=3.6	**52.52**	**308**	P	**P**	**11 56 57.2**	**+0.7**
DBIC	**Dimbokro** 1.5nm,0.4s,mb4.1,baz=146,slow=6.4,SNR=5.1	**68.76**	**24**	P	**P**	**11 58 45.9**	**-0.9**
TORD	**Torodi Ar. Bea** 6.3nm,0.5s,mb4.6,baz=198,slow=6.3,SNR=117	**76.52**	**29**	P	**P**	**11 59 32.3**	**-0.5**
ASAR	**Alice Springs** 0.5nm,0.6s,mb4.1,baz=180,slow=3.7,SNR=16	**95.37**	**163**	P	**P**	**12 01 06.9**	**+0.3**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=137,slow=6.8,SNR=4.8	**122.18**	**301**	PKP	PKPdf	12 06 34.1	-2.4
FIA0	**FINESS Array S**	**127.87**	**29**	PN	PKPdf	12 06 50.0	+2.5
FIA0				LG		12 07 20.1	
FIA0				RG		12 07 32.3	
FINES	**FINESS Array B** 0.3nm,0.3s,baz=194,slow=5.7,SNR=4.4	**127.87**	**29**	PKP	PKPdf	12 06 43.5	-4.0
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=198,slow=3.9,SNR=5.0	**136.92**	**61**	PKP	PKPdf	12 07 03.4	-1.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=233,slow=4.7,SNR=4.5	**138.17**	**76**	PKhKP		12 06 55.9	
MKAR	0.1nm,0.2s,baz=253,slow=0.6,SNR=5.3			PKP	PKPdf	12 07 06.5	-0.4
MKAR	**Makanchi Array**	**138.17**	**76**	PKP		12 06 55.9	
MKAR				PKP	PKPdf	12 07 06.5	-0.4
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=126,slow=3.0,SNR=4.0	**138.83**	**315**	PKhKP		12 06 56.4	
YKA	0.3nm,0.4s,baz=128,slow=2.4,SNR=17			PKP	PKPdf	12 07 04.7	-3.3
YKA	**Yellowknife Ar**	**138.83**	**315**	PKP		12 06 56.4	
YKA				PKP	PKPdf	12 07 04.7	-3.3
ZAL	**Zalesovo** 3.9nm,0.4s,baz=159,slow=0.5,SNR=11	**144.09**	**69**	PKP	PKPdf	12 07 12.7	-4.8
SONM	**Songino Array** 3.2nm,0.5s,baz=215,slow=3.4,SNR=52	**150.92**	**94**	PKPbc	PKPbc	12 07 33.1	-1.5
SONM	0.6nm,0.7s,baz=180,slow=2.7,SNR=3.2			PKPab	PKPab	12 07 40.1	-2.1
KDAK	**Kodiak Island** 19nm,1.0s,baz=185,slow=20,SNR=5.6	**152.16**	**290**	PKPbc	PKPbc	12 07 35.5	-1.9
KDAK	**Kodiak Island**	**152.16**	**290**	PKPbc	PKPbc	12 07 35.5	-1.9
ILAR	**Eielson Array** 0.9nm,0.3s,baz=149,slow=2.7,SNR=48	**152.39**	**306**	PKPbc	PKPbc	12 07 34.6	-3.2
ILAR	0.4nm,0.8s,baz=74,slow=1.5,SNR=4.2			PKPab	PKPab	12 07 44.9	-3.5

IDC 10 11:48:39.0±9.6, 1488S×16679E, h136km±105km, mb3.7/3, mb1 3.8/4, mb1mx3.4/15, mbtmp4.0/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=216.7km s-min=63.1km az=82.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=242,slow=21,SNR=12	**7.16**	**183**	P	Pn	11 50 21.7	+0.5
DZM	0.6nm,0.3s,baz=279,slow=21,SNR=2.8			S	Sn	11 51 41.4	+0.3
AFI	**Afiamalu** comp=Z,131nm,21.5s,baz=359,slow=33	**20.78**	**90**	LR	LR	11 59 57.1	
STKA	**Stephens Creek** 3.1nm,0.4s,baz=36,slow=9.5,SNR=18	**28.55**	**229**	P	P	11 54 21.7	-0.1
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=85,slow=8.6,SNR=7.8	**31.34**	**256**	P	P	11 54 46.6	+0.1
ASAR	**Alice Springs** 1.2nm,0.4s,baz=79,slow=9.2,SNR=57	**32.19**	**249**	P	P	11 54 54.8	+0.8

*MOS **10** 11:52:43.8±1.9, 3964N×7533E, h19km, mb4.4/3, Error ellipse: s-maj=24.3km s-min=10.3km az=94.4*
*NEIC **10** 11:52:43.8±0.9, 3956N×7528E, h10km, Error ellipse: s-maj=21.7km s-min=15.7km az=52.0*
*ISCJB **10** 11:52:46.9±1.6, 3953N±0.10×753E±0.1, h47km±13km, mb3.5/8, Error ellipse: s-maj=16.6km s-min=14.4km az=171.1*
*IDC **10** 11:52:47.8±6.8, 3973N×7538E, h34km±50km, mb3.4/8, mb1 3.5/11, mb1mx3.4/25, mbtmp3.5/11, ML3.1/3, Error ellipse: s-maj=37.3km s-min=19.3km az=25.0*
*NNC **10** 11:52:49.3±1.6, 3996N×7518E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=15.3km s-min=10.0km az=145.0*

ISC 10 11:52:48.3±1.6, 395N±01×753E±01, h47km±13km, n33, σ0°94/34, mb3.5/8, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=243	**2.55**	**359**	P	**Pn**	**11 53 26.7**	**-0.4**
UCH	**Uchtor** SNR=184	**2.76**	**348**	P	**Pn**	**11 53 30.2**	**+0.1**
ULHL	**Ulahol** SNR=42	**2.81**	**14**	P	**Pn**	**11 53 30.1**	**-0.5**
AML	**Almayashu** SNR=94	**2.88**	**335**	P	**Pn**	**11 53 32.0**	**+0.4**
KBK	**Karagaybulak** SNR=94	**3.14**	**355**	P	**Pn**	**11 53 35.5**	**+0.4**
AAK	**Ala-Archa** SNR=74	**3.16**	**349**	P	**Pn**	**11 53 36.0**	**+0.5**
AAK	**Ala-Archa**	**3.16**	**349**	*e*P	**Pn**	**11 53 35.1**	**-0.4**
AAK				*e*S	**Sn**	**11 54 13.9**	**+1.9**
EKS2	**Erkin-Say** SNR=40	**3.34**	**340**	P	**Pn**	**11 53 38.6**	**+0.6**
TKM2	**Tokmak 2** SNR=66	**3.40**	**4**	P	**Pn**	**11 53 39.0**	**+0.3**
TKM2	**Tokmak 2** 12nm,0.2s	**3.40**	**4**	⇓Pn	**Pn**	**11 53 38.5**	**-0.3**
TKM2	184nm,0.7s			⇑Lg		11 54 24.1	
TKM2	**Tokmak 2**	**3.40**	**4**	PN	**Pn**	**11 53 38.8**	**+0.1**
TKM2				S	**Sn**	**11 54 18.4**	**+0.6**
TKM2	comp=Z,13nm,0.4s			pmax	pmax		
CHMS	**Chumysh** SNR=52	**3.49**	**353**	P	**Pn**	**11 53 40.4**	**+0.3**
USP	**Ospenovka** SNR=27	**3.79**	**351**	P	**Pn**	**11 53 44.0**	**-0.1**
KNDC	**Almaty** comp=Z,2μm,0.9s	**3.89**	**18**	⇓Lg		11 54 40.7	
KK31	**Karatay Array** comp=Z,0.9nm,0.2s,baz=126,slow=12,SNR=18	**5.08**	**316**	⇑Pn	**Pn**	**11 54 01.1**	**-0.7**
KK31	comp=Z,4.3nm,0.2s,baz=124,slow=26,SNR=5.7			⇑Lg		11 55 19.3	
KKAR	**Karatay Array**	**5.08**	**316**	PN	**Pn**	**11 54 01.0**	**-0.8**
MK31	**Makanchi Array** comp=Z,1.9nm,0.7s,baz=204,slow=14,SNR=23	**8.87**	**33**	Pn	**Pn**	**11 54 54.0**	**+0.1**
MK31	comp=Z,3.2nm,0.7s			⇑Lg		11 57 22.4	
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=205,slow=15,SNR=14	**8.87**	**33**	Pn	**Pn**	**11 54 52.0**	**-1.8**
MKAR	comp=Z,0.2nm,0.3s,baz=211,slow=31,SNR=3.5			Lg		11 57 20.1	
MKAR	**Makanchi Array**	**8.87**	**33**	*e*P	**Pn**	**11 54 52.2**	**-1.6**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,0.1nm,0.3s,baz=141,slow=9.5,SNR=4.6	**13.92**	**348**	Pn	**Pn**	**11 55 58.4**	**-4.4**
ZAL	**Zalesovo** comp=Z,0.2nm,0.3s,baz=287,slow=11,SNR=4.2	**15.79**	**21**	Pn	**Pn**	**11 56 22.0**	**-5.4**
SONM	**Songino Array** comp=Z,0.3nm,0.7s,mb2.9,baz=272,slow=11,SNR=5.7	**23.84**	**59**	P	**P**	**11 57 56.3**	**-0.8**
FINES	**FINESS Array B** comp=Z,2.4nm,1.2s,mb3.9,baz=112,slow=10,SNR=3.4	**37.00**	**323**	P	**P**	**11 59 52.4**	**-0.9**
FINES	**FINESS Array B**	**37.00**	**323**	P	**P**	**11 59 52.4**	**-0.9**
FINES	comp=Z,2.0nm,1.2s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,6.7nm,1.0s,mb4.3,baz=106,slow=8.8,SNR=8.6	**39.74**	**335**	P	**P**	**12 00 15.2**	**-1.0**
ARCES	**ARCESS Array B**	**39.74**	**335**	P	**P**	**12 00 15.2**	**-1.1**
ARCES	comp=Z,7.0nm,1.0s			pmax	pmax		
HFS	**Hagfors** comp=Z,1.9nm,0.9s,mb3.8,baz=90,slow=12,SNR=3.7	**42.88**	**320**	P	**P**	**12 00 41.6**	**-0.4**
HFS	**Hagfors**	**42.88**	**320**	P	**P**	**12 00 41.6**	**-0.4**
HFS	comp=Z,2.0nm,0.9s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,mb3.4,baz=61,slow=4.8,SNR=4.7	**69.16**	**270**	P	**P**	**12 03 50.7**	**+0.9**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,mb3.5,baz=348,slow=5.5,SNR=13	**78.01**	**5**	P	**P**	**12 04 40.4**	**-1.3**
YKA	**Yellowknife Ar**	**78.01**	**5**	P	**P**	**12 04 40.4**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.7s,mb3.2,baz=330,slow=4.2,SNR=3.8	**80.82**	**125**	P	**P**	**12 04 59.1**	**+2.1**
ASAR	**Alice Springs** comp=Z,0.1nm,0.7s,mb3.0,baz=292,slow=5.0,SNR=3.6	**83.31**	**128**	P	**P**	**12 05 11.8**	**+1.7**

*IDC **10** 12:20:33.1±2.7, 341S×146.08E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.9/14, mbtmp3.9/5, ML2.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/21, Error ellipse: s-maj=76.4km s-min=27.3km az=81.0*
*ISCJB **10** 12:20:36.5±1.9, 35S±0.1×146.1E±0.2, h33km, mb3.8/4, Error ellipse: s-maj=36.3km s-min=12.5km az=133.3*

ISC 10 12:20:37.8±6.9, 35S±01×1459E±02, h25km±49km, n10, σ0°39/9, mb3.8/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.4nm,0.3s,baz=21,slow=7.4,SNR=10	**6.00**	**168**	Pn	**Pn**	**12 22 05.0**	**+0.1**
PMG	baz=52,slow=19,SNR=3.1			Sn	**Sn**	**12 23 12.6**	**-0.2**
PMG	comp=Z,65nm,18.4s,baz=162,slow=34			LR	LR	12 23 56.1	
HNR	**Honiara** comp=Z,116nm,18.5s,baz=358,slow=34	**15.14**	**114**	LR	LR	12 29 02.8	
CTA	**Charters Tower** comp=Z,80nm,19.5s,baz=207,slow=36	**16.49**	**179**	LR	LR	12 30 25.0	
WB2	**Warramunga Arr**	**19.86**	**214**	*e*P	**Pn**	**12 25 08.3**	**-0.3**
WRA	**Warramunga Arr** 15nm,0.9s,baz=38,slow=12,SNR=81	**19.86**	**214**	P	**Pn**	**12 25 08.0**	**-0.6**
ASAR	**Alice Springs** 3.1nm,0.9s,mb3.7,baz=39,slow=8.8,SNR=29	**23.16**	**209**	P	**P**	**12 25 43.0**	**+0.6**
ASPA	**Alice Springs**	**23.17**	**209**	*e*P	**P**	**12 25 43.0**	**+0.6**
FITZ	**Fitzroy Crossi** 9.2nm,0.7s,mb4.4	**24.59**	**232**	*e*P	**P**	**12 25 55.8**	**0.0**
STKA	**Stephens Creek** 1.5nm,0.8s,mb3.8,baz=350,slow=12,SNR=3.0	**28.52**	**188**	P	**P**	**12 26 31.5**	**+0.2**
MKAR	**Makanchi Array** 0.3nm,0.8s,mb3.2,baz=127,slow=7.2,SNR=3.0	**74.89**	**320**	P	**P**	**12 32 16.1**	**-0.3**

*GCG **10** 12:30:41.4, 1373N×8961W, h59km, MD3.8, ML3.0*
*SSS **10** 12:30:50.5, 1344N×8983W, h66km, MD2.9*

CASC 10 12:30:40.8±2.8, 1336N×8986W, h30km±10km, MD3.5, ML3.1, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.53**	**26**	*e*P	Pb	12 31 03.2	+11
SBLS				*e*S	Sb	12 31 13.4	+14
RTR	**El Retiro**	**0.57**	**21**	*e*P	Pb	12 31 03.6	+11
RTR				*e*S	Sb	12 31 12.2	+12
BOQS	**Boqueron**	**0.68**	**56**	*e*P	Pb	12 31 04.5	+10
BOQS				*e*S	Sb	12 31 16.7	+14
LFRS	**El Faro**	**0.82**	**71**	*e*P	Pn	12 31 06.3	+10
LFRS				*e*S	Sb	12 31 18.1	+11
LCBS	**La Ceiba**	**0.91**	**71**	*e*P	Pn	12 31 08.0	+10
LCBS				*e*S	Sn	12 31 20.8	+11
SNVI	**San Vicente**	**1.03**	**76**	*e*P	Pn	12 31 09.2	+10
SNVI				*e*S	Sn	12 31 22.8	+10
MTO2	**Montecristo 2**	**1.14**	**25**	⇓*i*P	Pn	12 31 09.7	+8.9
MTO2				*e*S	Sn	12 31 24.6	+9.2
NBG	**Las Nubes**	**1.31**	**339**	*e*P	Pn	12 31 04.1	+1.0
FUG	**Fuego 3**	**1.44**	**319**	*e*P	Pn	12 31 05.5	+0.6
FUG				*e*S	Sn	12 31 23.8	+1.0

*ISCJB **10** 12:31:32.7±0.7, 676N±0.10×730W±0.1, h173km±9km, mb3.6/5, Error ellipse: s-maj=22.4km s-min=9.6km az=80.7*
*IDC **10** 12:31:33.3±0.7, 675N×7299W, h160km±7km, mb3.4/5, mb1 3.7/7, mb1mx3.4/22, mbtmp3.9/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/16, Error ellipse: s-maj=20.7km s-min=7.6km az=129.0*
*NEIC **10** 12:31:34.1±0.8, 675N×7300W, h170km±8km, mb3.6/1, MD4.0(RSNC), Error ellipse: s-maj=16.0km s-min=12.3km az=97.0*

ISC 10 12:31:34.0±0.7, 677N±010×730W±01, h166km±9km, n12, σ0°74/11, mb3.6/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 60nm,0.3s,baz=278,slow=23,SNR=100	**2.32**	**215**	P	**Pn**	**12 32 14.6**	**+0.9**
ROSC	81nm,0.3s,baz=95,slow=16,SNR=9.8			S	**Sn**	**12 32 43.8**	**-0.7**
SDV	**Santo Domingo** 9.6nm,0.3s,baz=231,slow=1.3,SNR=22	**3.14**	**48**	P	**Pn**	**12 32 24.6**	**+0.8**
SDV	27nm,0.3s,baz=73,slow=21,SNR=24			S	**Sn**	**12 33 01.9**	**-0.5**
TEIG	**Tepich** 1.3nm,0.6s	**19.97**	**314**	*e*P	**P**	**12 35 52.9**	**-0.4**
SIV	**San Ignacio** 0.9nm,0.9s,mb3.4,baz=3.3,slow=5.9,SNR=5.0	**25.51**	**153**	P	**P**	**12 36 46.7**	**-0.2**
ULM	**Lac du Bonnet** 1.9nm,0.4s,mb4.1,baz=138,slow=7.0,SNR=5.9	**47.38**	**340**	P	**P**	**12 39 50.2**	**-1.1**
ULM	**Lac du Bonnet**	**47.38**	**340**	P	**P**	**12 39 50.2**	**-1.1**
PDAR	**Pinedale Array** 0.6nm,0.6s,mb3.4,baz=127,slow=9.4,SNR=6.6	**48.20**	**324**	P	**P**	**12 39 57.9**	**+0.3**
NVAR	**Mina Array Bea** 0.4nm,0.6s,mb3.2,baz=142,slow=6.8,SNR=4.2	**51.61**	**315**	P	**P**	**12 40 24.6**	**+1.3**
YKA	**Yellowknife Ar** 1.5nm,0.6s,mb4.0,baz=133,slow=6.6,SNR=57	**63.36**	**340**	P	**P**	**12 41 45.1**	**-0.3**
SONM	**Songino Array** 0.1nm,0.5s,baz=20,slow=0.7,SNR=5.2	**125.63**	**1**	PKP	PKPdf	12 50 17.0	+1.5
ASAR	**Alice Springs** 0.5nm,0.7s,baz=114,slow=3.6,SNR=5.2	**149.18**	**234**	PKPbc	PKPbc	12 51 02.4	-0.3
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=107,slow=2.8,SNR=12	**150.42**	**241**	PKPbc	PKPbc	12 51 06.6	+0.8

IDC 10 12:38:25.1±2.1, 235N×9623E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=63.0km s-min=23.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 1.5nm,0.3s,baz=297,slow=9.7,SNR=3.8	**2.73**	**80**	Pn	Pn	12 39 10.4	+0.3
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=302,slow=9.0,SNR=4.5	**43.46**	**122**	P	P	12 46 30.3	+0.4
ASAR	**Alice Springs** 0.2nm,0.8s,baz=296,slow=7.0,SNR=4.3	**44.85**	**127**	P	P	12 46 41.2	+0.2
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=162,slow=8.7,SNR=24	**45.91**	**347**	P	P	12 46 49.5	+0.1
SONM	**Songino Array** 0.5nm,0.4s,baz=190,slow=9.3,SNR=8.5	**46.16**	**9**	P	P	12 46 51.3	0.0

*IDC **10** 12:40:14.3±17.0, 2789S×177.14W, h338km±78km, mb3.3/3, mb1 3.5/4, mb1mx3.3/13, mbtmp4.1/4, Error ellipse: s-maj=416.4km s-min=53.7km az=83.0*
*ISCJB **10** 12:40:19.2±1.6, 2806S±008×1786W±04, h293km±20km, mb3.4/3, Error ellipse: s-maj=60.5km s-min=10.1km az=14.2*

ISC 10 12:40:21.6±1.4, 2828S±007×1790W±04, h272km±21km, n13, σ0°84/17, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 93nm,0.3s,baz=86,slow=22,SNR=5.6	**1.34**	**137**	P	**Pn**	**12 41 01.2**	**+0.3**
RAO	169nm,0.3s,baz=268,slow=22,SNR=5.0			S	**S**	**12 41 27.4**	**-4.6**
URZ	**Urewera** 0.6nm,0.3s,baz=313,slow=19,SNR=3.5	**10.48**	**197**	P	**Pn**	**12 42 49.1**	**+3.3**
URZ	3.1nm,0.3s,baz=139,slow=23,SNR=11			S	**S**	**12 44 44.9**	**+1.4**
MRZ	**Mangatainoka R**	**13.14**	**199**	SN	**S**	**12 45 43.3**	**-1.0**
KIW	**Kapiti Island**	**13.53**	**200**	SN	**S**	**12 45 52.4**	**-0.5**
TCW	**Tory Channel**	**14.04**	**201**	SN	**S**	**12 46 04.0**	**-0.6**
NNZ	**Nelson**	**14.35**	**204**	PN	**Pn**	**12 43 31.8**	**-1.4**
NNZ				SN	**S**	**12 46 12.2**	**+0.7**
THZ	**Tophouse**	**15.00**	**204**	PN	**Pn**	**12 43 40.8**	**-0.1**
THZ				SN	**S**	**12 46 24.2**	**-0.7**
KHZ	**Kahutara**	**15.37**	**201**	SN	**S**	**12 46 33.0**	**+0.7**
MQZ	**McQueen's Vall**	**16.81**	**201**	SN	**S**	**12 47 01.7**	**+0.4**
STKA	**Stephens Creek** 1.0nm,0.5s,mb3.6,baz=88,slow=8.9,SNR=4.4	**34.19**	**254**	P	**P**	**12 46 41.6**	**0.0**
ASAR	**Alice Springs** 0.7nm,0.6s,mb3.1,baz=99,slow=9.3,SNR=34	**42.41**	**265**	P	**P**	**12 47 50.2**	**+0.5**
WB2	**Warramunga Arr**	**43.19**	**270**	*e*P	**P**	**12 47 55.7**	**-0.3**
WRA	**Warramunga Arr** 1.7nm,0.4s,mb3.6,baz=109,slow=7.2,SNR=66	**43.20**	**270**	P	**P**	**12 47 56.1**	**+0.1**

IDC 10 12:41:49.3±20.0, 2393S×6975E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, MS3.7/1, Ms1 3.5/1, ms1mx3.2/9, Error ellipse: s-maj=649.8km s-min=42.2km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof** comp=Z,99nm,21.6s,baz=150,slow=30	**40.00**	**253**	LR	LR	13 02 10.7	
ASAR	**Alice Springs** 0.5nm,0.6s,baz=254,slow=6.2,SNR=17	**58.22**	**104**	P	P	12 51 46.0	+0.7
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=257,slow=6.2,SNR=5.3	**59.59**	**100**	P	P	12 51 54.8	0.0
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=202,slow=6.5,SNR=4.2	**71.30**	**9**	P	P	12 53 10.6	0.0

*CSEM **10** 12:58:23.9±1.1, 3859N×2848W, h11km±10km, ML1.7, Error ellipse: s-maj=3.0km s-min=3.0km az=144.0, After PDA*
*PDA **10** 12:58:23.9±1.1, 3859N×2848W, h11km±10km, MD2.8, ML1.7, Error ellipse: s-maj=3.0km s-min=3.0km az=144.0*

SVSA 10 12:58:23.9±1.1, 3859N×2848W, h11km±10km, MD2.8, ML1.7, Error ellipse: s-maj=3.0km s-min=3.0km az=144.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.09**	**155**	*e*P	Pg	12 58 26.5	0.0
PICO				*i* S	Sg	12 58 27.7	-0.8
PCND	**Candelaria**	**0.12**	**175**	*i* P	Pg	12 58 27.1	+0.2
PCND				*e*S	Sg	12 58 29.2	+0.2
PCND	56nm,0.3s						
HOR	**Horta**	**0.14**	**244**	*e*P	Pg	12 58 26.5	-0.6
HOR				*e*S	Sg	12 58 29.2	-0.2
PBOI	**Pico dos Bois**	**0.17**	**152**	*e*P	Pg	12 58 27.1	-0.6
PBOI				*e*S	Sg	12 58 30.2	0.0
PBOI	34nm,0.2s						
CALA	**Caldeira**	**0.18**	**269**	*e*P	Pg	12 58 27.6	-0.2
CALA				*e*S	Sg	12 58 30.3	-0.2
PPNO	**Prainha do Nor**	**0.20**	**124**	*e*P	Pg	12 58 27.6	-0.6
PPNO				*e*S	Sg	12 58 30.9	-0.2
PPNO	29nm,0.2s						
PPNO	**Prainha do Nor**	**0.20**	**124**	*e*P	Pg	12 58 27.6	-0.6

IDC 10 13:17:06.8±2.1,210N×12595E,h0km,mb3.0/3,mb1 3.2/3, mb1mx3.2/16,mbtmp3.0/3,Error ellipse: s-maj=185.3km s-min=26.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**160**	P	P	13 22 16.2	-1.1
	0.4nm,0.6s,baz=338,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**26.75**	**164**	P	P	13 22 50.0	+1.9
	0.1nm,0.3s,baz=354,slow=8.4,SNR=4.3						
MKAR	**Makanchi Array**	**58.45**	**326**	P	P	13 27 04.4	0.0
	0.1nm,0.4s,baz=118,slow=7.2,SNR=4.6						

*BJI **10** 13:22:16.6,71.19N×1508W,h10km,mB5.1,mb4.8,Ms4.9, Msz4.6*
*ISCJB **10** 13:22:16.9±0.2,7084N±003×1483W±009,h10km, mb4.6/87,MS4.0/19,Error ellipse: s-maj=4.5km s-min=3.4km az=106.0*
*IDC **10** 13:22:17.0±0.6,7087N×1463W,h0km,mb4.2/16, mb1 4.3/22,mb1mx4.3/28,mbtmp4.2/22,ML3.6/5,MS3.8/17, Ms1 3.8/17,ms1mx3.6/29,Error ellipse: s-maj=18.2km s-min=10.8km az=27.0*
*NEIC **10** 13:22:18.9±0.2,7088N×1466W,h10km,mb4.6/27,Error ellipse: s-maj=5.6km s-min=3.5km az=210.0*
*MOS **10** 13:22:18.3±0.9, 7089N×1462W,h16km,mb4.8/23,Error ellipse: s-maj=17.2km s-min=5.7km az=102.4*
*CSEM **10** 13:22:21.8,7087N×1471W,h51km,mb4.6*
*SZGRF **10** 13:22:27.3,7082N×1174W,h33km,mb4.6,Jan Mayen Island region*
*NAO **10** 13:22:34.0±11.0,71.16N×1131W,h30km±57km*

ISC 10 13:22:18.0±1.5,7083N±003×1474W±009,h8km±9km, h16km±.7km:pP-P,n249,σ1903/254,mb4.6/87,MS4.0/19, 9C-1D,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.05**	**83**	Lg		13 23 04.3	
JMIC	**Jan Mayen**	**2.05**	**83**	Pn	**Pn**	**13 22 50.2**	**-2.6**
	5.1nm,0.3s,baz=190,slow=6.1,SNR=2.3						
JMIC				LR	LR	13 23 39.4	
	comp=Z,1μm,19.7s,baz=312,slow=41						
SCO	**Scoresbysund**	**2.43**	**265**	*i* P	**Pn**	**13 22 54.3**	**-3.6**
SCO	**Scoresbysund**	**2.43**	**265**	*e*P	**Pn**	**13 22 54.3**	**-3.6**
DAG	**Danmarks Havn**	**6.08**	**351⇑**	*i*P	**Pn**	**13 23 45.2**	**-2.9**
	19nm,0.3s						
DAG	**Danmarks Havn**	**6.08**	**351⇑**	*e*P	**Pn**	**13 23 45.2**	**-2.9**
	20nm,0.3s						
DAG	**Danmarks Havn**	**6.08**	**351⇑**	*e*P	**Pn**	**13 23 45.2**	**-2.9**
DAG				pmax	pmax		
	comp=Z,19nm,0.3s						
BORG	**Borgarnes**	**6.59**	**205**	Pn	**Pn**	**13 23 57.1**	**+1.9**
	comp=Z,5.7nm,0.3s,baz=13,slow=4.2,SNR=18						
BORG				Sn	**Sn**	**13 25 09.4**	**-1.1**
	baz=234,slow=18,SNR=1.5						
BORG				LR	LR	13 25 56.4	
	comp=Z,893nm,18.3s,baz=344,slow=33						
BORG	**Borgarnes**	**6.59**	**205**	*e*Pn	**Pn**	**13 23 57.0**	**+1.8**
	comp=Z,92nm,1.0s						
BORG	**Borgarnes**	**6.59**	**205**	*e*Pn	**Pn**	**13 23 57.0**	**+1.8**
	comp=Z,92nm,1.0s						
SUMG	**Summit**	**7.64**	**294**	*e*Pn	**Pn**	**13 24 09.9**	**+0.3**
	comp=Z,72nm,1.1s						
SUMG	**Summit**	**7.64**	**294**	*e*Pn	**Pn**	**13 24 09.8**	**+0.3**
	comp=Z,72nm,1.1s						
KBS	**Kingsbay**	**10.55**	**28**	Pn	**Pn**	**13 24 47.9**	**-1.6**
KBS				Sn	**Sn**	**13 26 42.0**	**-5.8**
KBS	**Kingsbay**	**10.55**	**28**	*e*Pn	**Pn**	**13 24 48.3**	**-1.1**
	comp=Z,58nm,0.9s						
KBS	**Kingsbay**	**10.55**	**28**	*i* P	**Pn**	**13 24 49.0**	**-0.4**
KBS	**Kingsbay**	**10.55**	**28**	*e*Pn	**Pn**	**13 24 48.3**	**-1.2**
	comp=Z,58nm,0.9s						
SPA0	**Spitsbergen Ar**	**10.92**	**34**	Pn	**Pn**	**13 24 54.0**	**-0.5**
	baz=239,slow=14						
ARCES	**ARCESS Array B**	**13.53**	**76**	LR	LR	13 29 35.0	
	comp=Z,299nm,20.6s,baz=196,slow=32						
NB2	**NORSAR Subarra**	**14.28**	**120**	P	**Pn**	**13 25 45.2**	**+4.7**
	baz=323,slow=11						
NB2	**NORSAR Subarra**	**14.28**	**120**	Pn	**Pn**	**13 25 38.3**	**-2.2**
	comp=Z,19nm,1.4s,baz=324,slow=14						
NOA	**NORSAR Array B**	**14.28**	**120**	Pn	**Pn**	**13 25 38.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=3.5						
NOA				LR	LR	13 30 29.9	
	comp=Z,218nm,19.7s,baz=325,slow=34						
NOA	**NORSAR Array B**	**14.28**	**120**	Pn	**Pn**	**13 25 38.8**	**-1.7**
NAO01	**NORSAR Array S**	**14.35**	**121**	*e*Pn	**Pn**	**13 25 41.5**	**+0.1**
	comp=Z,19nm,1.2s						
NAO01	**NORSAR Array S**	**14.35**	**121**	*e*Pn	**Pn**	**13 25 41.5**	**+0.2**
	comp=Z,19nm,1.2s						
HFS	**Hagfors**	**15.73**	**118**	P	**Pn**	**13 26 04.4**	**+4.5**
	baz=317,slow=10						
HFS	**Hagfors**	**15.73**	**118**	Pn	**Pn**	**13 25 56.6**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=326,slow=5.2,SNR=2.6						
HFS				LR	LR	13 31 15.1	
	comp=Z,323nm,21.1s,baz=256,slow=34						
EKA	**Eskdalemuir Ar**	**16.36**	**156**	Pn	**Pn**	**13 26 08.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=357,slow=14,SNR=2.6						
APA0	**Apatity Array**	**16.87**	**78**	P	**Pn**	**13 26 14.2**	**-0.3**
	baz=314,slow=11						
APA	**Apatity**	**17.03**	**77⇑**	*i*P	**Pn**	**13 26 14.4**	**-2.0**
APA				*e*S	**Sn**	**13 29 30.0**	**+4.2**
APA				pmax	pmax		
	comp=Z,230nm,2.0s						
KAF	**Kangasniemi**	**18.17**	**98**	*e*p	**Pn**	**13 26 30.9**	**+0.3**
	comp=Z,11nm,0.7s,baz=319,slow=10						
KAF	**Kangasniemi**	**18.17**	**98**	*e*P	**Pn**	**13 26 30.9**	**+0.3**
KAF				pmax	pmax		
	comp=Z,11nm,0.7s						
FIA0	**FINESS Array S**	**18.58**	**100**	P	**Pn**	**13 26 34.3**	**-1.3**
	baz=330,slow=11						
FINES	**FINESS Array B**	**18.58**	**100**	P	**Pn**	**13 26 34.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=323,slow=9.5,SNR=15						
FINES				LR	LR	13 32 53.7	
	comp=Z,301nm,18.2s,baz=342,slow=34						
BSEG	**Bad Segeberg**	**20.26**	**134**	*e*P	**P**	**13 26 53.1**	**-0.7**
	comp=Z,8.0nm,0.5s						
VSU	**Vasula**	**21.08**	**105**	*i* P	**P**	**13 27 02.5**	**-0.2**
FRB	**Frobisher Bay**	**21.23**	**278**	P	**P**	**13 27 04.2**	**-0.1**
	comp=Z,14nm,1.0s,mb4.2,baz=49,slow=9.7,SNR=8.7						
BUG	**Bochum--Univer**	**21.90**	**141**	*e*P	**P**	**13 27 11.3**	**-0.2**
	comp=Z,29nm,1.4s,mb4.5						
CLZ	**Clausthal**	**22.20**	**136**	*e*P	**P**	**13 27 15.2**	**+0.4**
	comp=Z,27nm,1.8s,mb4.4						
HGN	**Heimansgroeve**	**22.27**	**144**	*e*P	**P**	**13 27 15.6**	**+0.1**
	comp=Z,56nm,2.0s,mb4.7						
RUE	**Ruedersdorf**	**22.44**	**130**	*e*P	**P**	**13 27 17.7**	**+0.4**
RUE	**Ruedersdorf**	**22.44**	**130**	*e*P	**P**	**13 27 17.7**	**+0.4**
BAIF	**Baives**	**22.62**	**147**	*e*P	**P**	**13 27 18.4**	**-0.8**
	comp=Z,152nm,1.7s,mb4.8						
BAIF	**Baives**	**22.62**	**147**	*e*P	**P**	**13 27 18.4**	**-0.8**
	comp=Z,76nm,1.7s,mb4.8						
GIVF	**Givet**	**22.70**	**146**	*e*P	**P**	**13 27 19.1**	**-0.9**
	comp=Z,209nm,1.6s,mb5.0						
GIVF	**Givet**	**22.70**	**146**	*e*P	**P**	**13 27 19.1**	**-0.9**
	comp=Z,105nm,1.6s,mb5.0						
FLN	**La Foliniere**	**23.14**	**155**	*e*P	**P**	**13 27 24.2**	**-0.5**
FLN				*e*R			
	comp=Z,448nm,17.2s						
ROSF	**Rostrenen**	**23.21**	**160**	*e*P	**P**	**13 27 22.3**	**-3.1**
	comp=Z,77nm,1.5s,mb4.6						
ROSF	**Rostrenen**	**23.21**	**160**	*e*P	**P**	**13 27 22.3**	**-3.1**
	comp=Z,39nm,1.5s,mb4.6						
TNS	**Taunus Mts**	**23.30**	**140**	*e*P	**P**	**13 27 27.5**	**+1.1**
	comp=Z,29nm,1.9s,mb4.4						
CLL	**Collm**	**23.32**	**132**	*i* P	**P**	**13 27 26.0**	**-0.6**
	comp=Z,54nm,1.6s,mb4.7						
CLL				Lm		13 36 00.0	
	comp=Z,300nm,20.3s						
CLL	**Collm**	**23.32**	**132**	*e*P	**P**	**13 27 26.3**	**-0.3**
	comp=Z,33nm,1.6s,mb4.5						
LDF	**La Druitiere**	**23.35**	**155**	*e*P	**P**	**13 27 24.4**	**-2.5**
	comp=Z,52nm,1.1s,mb4.6						
LDF	**La Druitiere**	**23.35**	**155**	*e*P	**P**	**13 27 24.4**	**-2.5**
	comp=Z,26nm,1.1s,mb4.6						
SGMF	**Saint Gilles**	**23.37**	**159**	*e*P	**P**	**13 27 24.4**	**-2.8**
	comp=Z,93nm,1.6s,mb4.7						
SGMF	**Saint Gilles**	**23.37**	**159**	*e*P	**P**	**13 27 24.4**	**-2.8**
	comp=Z,46nm,1.6s,mb4.7						
ABH	**Alteburg**	**23.43**	**142**	*e*P	**P**	**13 27 28.6**	**+0.8**
KLMR	**Klimovskoe**	**23.44**	**87**	*d i*P	**P**	**13 27 27.4**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,150nm,1.9s,mb5.1						
KLMR				MLR	MLR		
	comp=Z,660nm,17.0s,MS4.2						
GRR	**Gorron**	**23.45**	**156**	*e*P	**P**	**13 27 26.0**	**-2.0**
RUP	**Ruppelstein**	**23.51**	**143**	*e*P	**P**	**13 27 29.7**	**+1.1**
MOX	**Moxa**	**23.61**	**135**	*e*P	**P**	**13 27 29.6**	**+0.1**
	comp=Z,43nm,2.1s,mb4.5						
MOX	**Moxa**	**23.61**	**135**	*e*P	**P**	**13 27 30.1**	**+0.6**
	comp=Z,94nm,2.3s,mb4.8						
QUIF	**Quistinic**	**23.64**	**160**	*e*P	**P**	**13 27 25.5**	**-4.3**
SUW	**Suwalki**	**23.69**	**115**	*e*P	**P**	**13 27 29.8**	**-0.5**
WERD	**Werda**	**23.95**	**134**	*e*P	**P**	**13 27 32.0**	**-0.7**
	comp=Z,24nm,1.8s,mb4.3						
BRG	**Berggiesshubel**	**23.95**	**131**	*e*P	**P**	**13 27 32.1**	**-0.6**
	comp=Z,27nm,1.6s,mb4.4						
BRG				*i*		13 27 56.9	
	comp=Z,9.2nm,1.3s						
BRG							
	comp=N,139nm,13.9s						
BRG							
	comp=E,147nm,17.0s						
BRG							
	comp=Z,236nm,17.4s						
BRG	**Berggiesshubel**	**23.95**	**131**	*e*P	**P**	**13 27 30.7**	**-2.0**
	comp=Z,29nm,1.6s,mb4.5						
BRG	**Berggiesshubel**	**23.95**	**131**	*e*P	**P**	**13 27 32.1**	**-0.6**
BRG				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.4						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
BRG				MLR	MLR		
	comp=N,139nm,13.9s,MS3.7						
BRG				MLR	MLR		
	comp=E,147nm,17.0s,MS3.7						
BRG				MLR	MLR		
	comp=Z,20μm,0.4s						
TOD	**Tromm**	**23.96**	**140**	*e*P	**P**	**13 27 33.5**	**+0.8**
NKC	**Novy Kostel**	**24.19**	**134**	*e*P	**P**	**13 27 35.4**	**+0.6**
MEZF	**Maizieres J'vi**	**24.27**	**147**	*e*P	**P**	**13 27 35.4**	**-0.2**
	comp=Z,129nm,1.3s,mb4.9						
MEZF	**Maizieres J'vi**	**24.27**	**147**	*e*P	**P**	**13 27 35.4**	**-0.2**
	comp=Z,65nm,1.3s,mb4.9						
LANF	**Langenberg**	**24.34**	**142**	*e*P	**P**	**13 27 36.9**	**+0.6**
GRA3	**Grafenberg Arr**	**24.36**	**136**	*e*P	**P**	**13 27 37.3**	**+0.9**
ROTZ	**Rotzenmuhle**	**24.56**	**135**	*e*P	**P**	**13 27 39.3**	**+1.0**
	comp=Z,63nm,1.9s,mb4.8						
KSP	**Ksiaz**	**24.58**	**128**	*e*P	**P**	**13 27 38.8**	**+0.4**
KSP	**Ksiaz**	**24.58**	**128⇑**	*e*P	**P**	**13 27 38.6**	**+0.2**
MNK	**Minsk**	**24.69**	**109**	*e*P	**P**	**13 27 39.0**	**-0.4**
CDF	**Champ du Feu**	**24.78**	**143**	*e*P	**P**	**13 27 39.3**	**-0.9**
	comp=Z,68nm,1.4s,mb4.7						
CDF	**Champ du Feu**	**24.78**	**143**	*e*P	**P**	**13 27 39.3**	**-0.9**
	comp=Z,34nm,1.4s,mb4.7						
WLS	**Welschbruch**	**24.80**	**143**	*e*P	**P**	**13 27 41.3**	**+0.9**
UPC	**Upice**	**24.81**	**129**	*e*P	**P**	**13 27 40.9**	**+0.4**
PRU	**Pruhonice**	**24.92**	**131**	*e*P	**P**	**13 27 42.2**	**+0.7**
PRU				AMS	AMS	13 37 50.0	
	comp=Z,300nm,20.6s						
ECH	**Echery**	**24.95**	**144**	*e*P	**P**	**13 27 42.8**	**+1.1**
HAU	**Haudompre**	**24.99**	**145**	*e*P	**P**	**13 27 43.5**	**+1.3**
HAU				*e*R			
	comp=Z,261nm,23.0s						
DPC	**Dobruska-Polom**	**25.04**	**129**	*e*P	**P**	**13 27 43.3**	**+0.7**
BFO	**Black Forest**	**25.07**	**142**	*e*P	**P**	**13 27 43.1**	**+0.2**
	comp=Z,18nm,1.4s,mb4.4						
BFO	**Black Forest**	**25.07**	**142**	*e*P	**P**	**13 27 42.8**	**-0.1**
BFO	**Black Forest**	**25.07**	**142**	*e*P	**P**	**13 27 43.1**	**+0.2**
BFO				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.4						
BFO	**Black Forest**	**25.07**	**142**	*e*P	**P**	**13 27 42.9**	**0.0**
LIBD	**Limburg**	**25.10**	**143**	*e*P	**P**	**13 27 42.1**	**-1.0**
LOR	**Lormes**	**25.26**	**149**	*e*P	**P**	**13 27 44.1**	**-0.5**
	comp=Z,41nm,1.2s,mb4.5						
LOR				*e*R			
	comp=Z,331nm,20.2s						
LOR	**Lormes**	**25.26**	**149**	*e*P	**P**	**13 27 44.1**	**-0.5**
	comp=Z,20nm,1.2s,mb4.5						
HINF	**Hinteralfeld**	**25.27**	**144**	*e*P	**P**	**13 27 44.8**	**+0.1**
	comp=Z,88nm,1.6s,mb4.8						
HINF	**Hinteralfeld**	**25.27**	**144**	*e*P	**P**	**13 27 44.8**	**+0.1**
	comp=Z,44nm,1.6s,mb4.8						
MOF	**Molkenrain**	**25.29**	**144**	*e*P	**P**	**13 27 42.3**	**-2.6**
MFF	**Saint Martin d**	**25.30**	**156**	*e*P	**P**	**13 27 44.8**	**-0.2**
	comp=Z,74nm,1.6s,mb4.7						
MFF	**Saint Martin d**	**25.30**	**156**	*e*P	**P**	**13 27 44.8**	**-0.2**
	comp=Z,37nm,1.6s,mb4.7						
WET	**Wettzell**	**25.30**	**135**	*e*P	**P**	**13 27 46.4**	**+1.4**
	comp=Z,22nm,1.6s,mb4.4						
SSF	**Saint Saulge**	**25.40**	**150**	*e*P	**P**	**13 27 44.6**	**-1.3**
	comp=Z,37nm,1.4s,mb4.4						
SSF	**Saint Saulge**	**25.40**	**150**	*e*P	**P**	**13 27 44.6**	**-1.3**
	comp=Z,18nm,1.4s,mb4.4						
KHC	**Kasperske Hory**	**25.48**	**134**	*e*P	**P**	**13 27 47.8**	**+1.2**
KHC				*ep*P	tx	13 28 02.8	
AVF	**Avril sur Loir**	**25.64**	**150**	*e*P	**P**	**13 27 45.7**	**-2.3**
	comp=Z,22nm,1.2s,mb4.3						
AVF	**Avril sur Loir**	**25.64**	**150**	*e*P	**P**	**13 27 45.7**	**-2.3**
	comp=Z,11nm,1.2s,mb4.3						
LOMF	**Lomont**	**25.71**	**145**	*e*P	**P**	**13 27 49.0**	**+0.3**
BBS	**Basel-Blauen**	**25.73**	**144**	*e*P	**P**	**13 27 48.2**	**-0.7**
GEC2	**GERESS Array S**	**25.78**	**134**	*e*P	**P**	**13 27 49.7**	**+0.4**
	comp=Z,36nm,1.5s,mb4.7						
GERES	**GERESS Array B**	**25.78**	**134**	P	**P**	**13 27 49.8**	**+0.5**
	comp=Z,3.7nm,1.1s,mb3.8,baz=328,slow=13,SNR=15						
GERES				LR	LR	13 36 47.2	
	comp=Z,190nm,20.8s,MS3.6,baz=63,slow=34						
FUR	**Furstenfeldbru**	**25.86**	**138**	*e*P	**P**	**13 27 51.2**	**+1.2**
	comp=Z,12nm,0.6s,mb4.6						
SMF	**Signal de Mont**	**25.86**	**150**	*e*P	**P**	**13 27 49.6**	**-0.4**
	comp=Z,61nm,1.3s,mb4.7						
SMF	**Signal de Mont**	**25.86**	**150**	*e*P	**P**	**13 27 49.6**	**-0.4**
	comp=Z,30nm,1.3s,mb4.7						
MORC	**Moravsky Berou**	**25.88**	**128**	*e*P	**P**	**13 27 50.2**	**0.0**
	comp=Z,12nm,1.1s,mb4.3						
MORC	**Moravsky Berou**	**25.88**	**128**	*e*P	**P**	**13 27 50.2**	**0.0**
MORC				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
MORC	**Moravsky Berou**	**25.88**	**128**	*e*P	**P**	**13 27 50.2**	**0.0**
	comp=Z,12nm,1.1s,mb4.3						
TCF	**Toulx Ste Croi**	**25.95**	**152**	*e*P	**P**	**13 27 50.2**	**-0.6**
	comp=Z,85nm,1.6s,mb4.7						
TCF	**Toulx Ste Croi**	**25.95**	**152**	*e*P	**P**	**13 27 50.2**	**-0.6**
	comp=Z,42nm,1.6s,mb4.7						
OKC	**Ostrava-Krasne**	**25.98**	**127**	*e*P	**P**	**13 27 50.3**	**-0.9**
OKC				*ep*P	sP	13 28 03.5	+9.1
VRAC	**Vranov**	**26.06**	**129**	P	**P**	**13 27 51.7**	**-0.2**
	comp=Z,1.4nm,0.3s,mb4.0,baz=345,slow=8.5,SNR=6.6						
VRAC				LR	LR	13 38 09.1	
	comp=Z,255nm,19.1s,MS3.8,baz=341,slow=36						
OJC	**Ojcow**	**26.08**	**124**	*e*P	**P**	**13 27 52.4**	**+0.3**
CABF	**La Chapelle**	**26.29**	**146**	*e*P	**P**	**13 27 54.6**	**+0.7**
	comp=Z,147nm,1.9s,mb4.9						
CABF	**La Chapelle**	**26.29**	**146**	*e*P	**P**	**13 27 54.6**	**+0.7**
	comp=Z,74nm,1.9s,mb4.9						
RJF	**Les Rejaudoux**	**26.81**	**154**	*e*P	**P**	**13 27 56.5**	**-2.1**
	comp=Z,65nm,1.4s,mb4.7						
RJF				*e*R			
	comp=Z,453nm,18.8s						
RJF	**Les Rejaudoux**	**26.81**	**154**	*e*P	**P**	**13 27 56.5**	**-2.1**
	comp=Z,33nm,1.4s,mb4.7						
MOS	**Moscow**	**26.81**	**97**	*e*P	**P**	**13 28 00.9**	**+2.2**
MOS				*e*		13 28 07.0	
DAVOX	**Davos**	**26.87**	**141**	P	**P**	**13 28 00.3**	**+1.1**
	comp=Z,2.1nm,0.8s,mb3.7,baz=322,slow=19,SNR=2.3						
DAVOX				LR	LR	13 38 00.3	
	comp=Z,206nm,21.0s,MS3.7,baz=259,slow=35						
OBN	**Obninsk**	**26.98**	**99⇑**	*e*P	**P**	**13 27 59.4**	**-0.8**
OBN				*e*		13 28 07.3	
OBN						13 28 40.0	
OBN				*e*		13 33 52.1	
OBN				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
OBN	**Obninsk**	**26.98**	**99**	*e*P	**P**	**13 27 59.4**	**-0.8**
LFF	**La Frestale**	**27.05**	**155**	*e*P	**P**	**13 28 02.0**	**+1.2**
STHS	**Stebnicka Huta**	**27.21**	**123**	*e*P	**P**	**13 28 03.7**	**+1.5**
CAF	**Calviac**	**27.26**	**153**	*e*P	**P**	**13 28 02.0**	**-0.7**
	comp=Z,50nm,1.4s,mb4.6						
CAF	**Calviac**	**27.26**	**153**	*e*P	**P**	**13 28 02.0**	**-0.7**
	comp=Z,25nm,1.4s,mb4.6						
VYHS	**Vyhne**	**27.40**	**127**	*e*P	**P**	**13 28 04.1**	**+0.2**
VYHS				*es*P	sP	13 28 13.5	+6.4
KWP	**Kalwaria**	**27.42**	**121**	*e*P	sP	13 28 14.5	+7.1
KWP	**Kalwaria**	**27.42**	**121**	*e*P	**P**	**13 28 06.4**	**+2.2**
LPL	**La Plagne**	**27.46**	**146**	*e*P	**P**	**13 28 05.1**	**+0.6**
SCHQ	**Schefferville**	**27.47**	**262**	P	**P**	**13 28 04.3**	**-0.2**
	comp=Z,7.2nm,1.1s,mb4.1,baz=31,slow=8.0,SNR=5.2						
SCHQ				LR	LR	13 38 01.4	
	comp=Z,151nm,20.6s,MS3.5,baz=50,slow=34						
SCHQ	**Schefferville**	**27.47**	**262**	*e*P	**P**	**13 28 04.2**	**-0.3**
	comp=Z,14nm,1.2s,mb4.4						
SCHQ	**Schefferville**	**27.47**	**262**	*e*P	**P**	**13 28 04.2**	**-0.4**
	comp=Z,14nm,1.2s,mb4.4						
LPG	**La Plagne**	**27.48**	**146**	*e*P	**P**	**13 28 05.2**	**+0.5**
	comp=Z,70nm,1.6s,mb4.7						
LPG	**La Plagne**	**27.48**	**146**	*e*P	**P**	**13 28 05.2**	**+0.5**
	comp=Z,35nm,1.6s,mb4.7						
CRVS	**Cervenica-Dubn**	**27.73**	**123**	*e*P	**P**	**13 28 08.0**	**+1.1**
KECS	**Kecovo**	**27.85**	**125**	*e*P	**P**	**13 28 07.8**	**-0.2**
KECS				*e*		13 28 26.7	
KOLS	**Kolonicke sedl**	**27.93**	**122**	*e*P	**P**	**13 28 10.0**	**+1.3**
PSZ	**Piszkesteto**	**28.21**	**126**	*e*P	**P**	**13 28 12.3**	**+1.1**
	comp=Z,13nm,1.3s,mb4.4						
PSZ	**Piszkesteto**	**28.21**	**126**	*e*P	**P**	**13 28 12.3**	**+1.1**
PSZ				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
PSZ	**Piszkesteto**	**28.21**	**126**	*e*P	**P**	**13 28 12.3**	**+1.2**
	comp=Z,13nm,1.3s,mb4.4						
MBDF	**Montbardon**	**28.23**	**146**	*e*P	**P**	**13 28 12.1**	**+0.7**
	comp=Z,34nm,1.0s,mb4.6						
MBDF	**Montbardon**	**28.23**	**146**	*e*P	**P**	**13 28 12.1**	**+0.7**
	comp=Z,17nm,1.0s,mb4.6						
AKASG	**Malin Array Be**	**28.40**	**112**	P	**P**	**13 28 12.0**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.0,baz=332,slow=9.7,SNR=6.9						
AKASG	**Malin Array Be**	**28.40**	**112**	*i* P	**P**	**13 28 12.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**28.40**	**112**	P	**P**	**13 28 12.0**	**-0.9**
SJPF	**Ste Jean**	**28.60**	**159**	*e*P	**P**	**13 28 13.5**	**-1.1**
EPF	**Esparros**	**28.88**	**157**	*e*P	**P**	**13 28 16.6**	**-0.5**
ETSF	**Etsaut**	**28.89**	**158**	*e*P	**P**	**13 28 16.0**	**-1.2**
ARU	**Arti**	**33.12**	**77**	*e*P	**P**	**13 28 55.5**	**+1.0**
	comp=Z,26nm,1.5s,mb4.9						
ARU	**Arti**	**33.12**	**77⇑**	*i*P	**P**	**13 28 54.0**	**-0.5**
ARU				*e*		13 31 33.6	
ARU				*e*S	**S**	**13 34 11.8**	**-2.1**
ARU				*e*SS	SS	13 36 10.6	-26
ARU				*e*		13 39 15.7	
ARU				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
ARU	**Arti**	**33.12**	**77**	*e*P	**P**	**13 28 55.5**	**+1.0**
	comp=Z,26nm,1.5s,mb4.9						
TIXI	**Tiksi**	**35.81**	**19**	*i* P	**P**	**13 29 18.8**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
YKA	**Yellowknife Ar**	**35.94**	**309**	P	**P**	**13 29 18.4**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.2,baz=34,slow=8.9,SNR=26						
YKA				PcP	PcP	13 31 44.9	-0.9
	comp=Z,0.4nm,0.8s,baz=32,slow=2.6,SNR=3.8						
YKA				LR	LR	13 43 44.1	
	comp=Z,139nm,19.2s,MS3.7,baz=25,slow=36						
YKA	**Yellowknife Ar**	**35.94**	**309**	PcP	PcP	13 31 44.9	-0.9
YKA	**Yellowknife Ar**	**35.94**	**309**	P	**P**	**13 29 18.4**	**-0.5**
YKA						13 31 44.9	
YKA	**Yellowknife Ar**	**35.94**	**309**	P	**P**	**13 29 18.4**	**-0.5**
YKA				PcP	PcP	13 31 44.9	-0.9
YKA				LR	LR	13 43 44.1	
FFC	**Flin Flon**	**38.92**	**293**	*e*P	**P**	**13 29 44.6**	**+0.4**
	comp=Z,23nm,1.4s,mb4.7						
FFC	**Flin Flon**	**38.92**	**293**	*e*P	**P**	**13 29 44.6**	**+0.4**
FFC				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
FFC	**Flin Flon**	**38.92**	**293**	*e*P	**P**	**13 29 44.6**	**+0.4**
	comp=Z,23nm,1.4s,mb4.7						
ZRNK	**Zerenda**	**39.35**	**72**	*e*P	**P**	**13 29 47.5**	**-0.3**
	comp=Z,2.2nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**39.35**	**72**	*e*P	**P**	**13 29 47.5**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**39.35**	**72**	*e*P	**P**	**13 29 47.5**	**-0.3**
	comp=Z,2.2nm,0.9s,mb3.9						
BRTR	**

comp=Z,6.4nm,1.1s,mb4.6
ZAK Zakamensk 51.27 46 *e*P **P 13 31 21.7 -0.6**
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
PDAR Pinedale Array 51.82 291 P **P 13 31 26.0 -0.5**
comp=Z,5.6nm,1.1s,mb4.4,baz=45,slow=6.3,SNR=12
PDAR LR LR 13 53 25.8
comp=Z,229nm,18.0s,MS4.2,baz=38,slow=36
WMQ Urumqi 53.15 62 *e*P **P 13 31 37.0 +0.7**
WMQ XP sP 13 31 44.0 +4.4
WMQ PP PP 13 33 38.5 +2.3
WMQ S **S 13 39 05.0 -2.1**
WMQ SCS ScS 13 41 23.0 -3.4
WMQ SS SS 13 42 43.0 -3.5
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,116nm,5.5s
WMQ LR LR
comp=N,95nm,14.0s,MS4.2
WMQ LR LR
comp=E,68nm,10.0s,MS4.2
WMQ LR LR
comp=Z,67nm,10.0s,MS4.0
ISCO Idaho Springs 53.28 286 *e*P **P 13 31 38.1 +0.8**
comp=Z,7.8nm,1.3s,mb4.5
ISCO Idaho Springs 53.28 286 *e*P **P 13 31 38.1 +0.8**
ISCO pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
ISCO Idaho Springs 53.28 286 *e*P **P 13 31 38.1 +0.8**
comp=Z,7.8nm,1.3s,mb4.5
SMCO Snowmass 54.28 287 *e*P **P 13 31 45.4 +0.8**
comp=Z,11nm,1.3s,mb4.6
SMCO Snowmass 54.28 287 *e*P **P 13 31 45.4 +0.8**
comp=Z,11nm,1.3s,mb4.6
SONM Songino Array 54.38 45 P **P 13 31 43.9 -1.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=325,slow=4.9,SNR=7.5
SONM LR LR 13 57 28.3
comp=Z,71nm,19.9s,MS3.7,baz=28,slow=39
ULN Ulaanbaatar 54.51 45 *e*P **P 13 31 46.7 +0.4**
comp=Z,2.8nm,0.9s,mb4.3
ULN Ulaanbaatar 54.51 45 *i*P **P 13 31 46.8 +0.5**
ULN Ulaanbaatar 54.51 45 *e*P **P 13 31 46.7 +0.4**
comp=Z,2.8nm,0.9s,mb4.3
DUG Dugway 55.16 292 *e*P **P 13 31 51.8 +0.8**
comp=Z,21nm,1.5s,mb5.0
DUG Dugway 55.16 292 *e*P **P 13 31 51.8 +0.8**
DUG pmax pmax
comp=Z,21nm,1.5s,mb5.0
DUG Dugway 55.16 292 *e*P **P 13 31 51.8 +0.8**
comp=Z,21nm,1.5s,mb5.0
PET Petropavlovsk 56.36 5 *i*P **P 13 31 58.6 -1.0**
PET pmax pmax
comp=Z,41nm,1.9s,mb5.1
ANMO Albuquerque 57.99 284 *i*P **P 13 32 12.0 +0.9**
NVAR Mina Array Bea 58.44 296 P **P 13 32 14.2 -0.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=16,slow=3.4,SNR=11
NVAR LR LR 13 57 42.4
comp=Z,122nm,20.7s,MS4.0,baz=25,slow=36
OHCM Honcut 58.53 299 *e*P **P 13 32 13.6 -1.3**
OHCM Honcut 58.53 299 *e*P **P 13 32 13.6 -1.3**
TORD Torodi Ar. Bea 58.53 161 P **P 13 32 14.1 -0.8**
comp=Z,7.6nm,0.9s,mb4.7,baz=345,slow=5.5,SNR=25
HABR Khabarovsk 59.04 23 *e*P **P 13 32 18.2 -0.2**
HABR *e*S **S 13 40 23.9 -1.5**
GTA Gaotai 60.63 54 *e*P **P 13 32 30.7 +1.3**
GTA AP pP 13 32 34.9 +3.1
GTA XP sP 13 32 38.1 +5.4
GTA PP PP 13 34 47.1 +4.2
GTA SCP ScP 13 37 14.0 -1.3
GTA PCS PcS 13 37 15.4 -0.8
GTA S **S 13 40 47.1 +1.2**
GTA XS sS 13 40 54.5 +4.6
GTA SCS ScS 13 42 17.0 -3.7
GTA SS SS 13 44 46.2 +2.0
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=N,117nm,10.3s
GTA LR LR
comp=E,95nm,7.3s
GTA LR LR
comp=Z,107nm,10.3s,MS4.3
YSS Yuzh-Sakhalins 61.41 17 P **P 13 32 32.0 -2.7**
PTRM Twissleman Ran 61.58 297 *e*P **P 13 32 37.5 +1.7**
PTRM Twissleman Ran 61.58 297 *e*P **P 13 32 37.5 +1.7**
MDJ Mudanjiang 62.03 28 P **P 13 32 38.7 -0.2**
MDJ AMB AMB
comp=Z,16nm,1.5s,mb4.9
MDJ AMB AMB
comp=Z,114nm,4.2s
HHC Hu-ho-hao-te 62.19 44 *e*P **P 13 32 40.3 +0.4**
HHC AP pP 13 32 45.3 +2.9
HHC XP sP 13 32 47.7 +4.4
HHC PCP PcP 13 33 20.1 +0.1
HHC PP PP 13 34 59.6 +2.9
HHC SCP ScP 13 37 21.1 -1.2
HHC S **S 13 41 05.2 -0.5**
HHC XS sS 13 41 11.2 +1.5
HHC SCS ScS 13 42 27.9 -4.5
HHC AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
HHC LR LR
comp=N,148nm,13.2s,MS4.5
HHC LR LR
comp=E,169nm,12.0s,MS4.5
HHC LR LR
comp=Z,122nm,13.2s,MS4.2
LZH Lanzhou 64.82 52 *e*P **P 13 32 57.5 +0.1**
LZH AP pP 13 33 02.2 +2.4
LZH XP sP 13 33 04.5 +3.8
LZH PP PP 13 35 21.3 +1.5
LZH *e*S **S 13 41 34.5 -4.1**
LZH XS sS 13 41 42.1 -0.5
LZH *e*SS SS 13 45 46.5 -3.3
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,68nm,4.2s
LZH LR LR
comp=N,536nm,14.9s
LZH LR LR
comp=Z,856nm,15.3s,MS5.1
KOLN Koldanda 66.74 73 *e*P **P 13 33 09.3 -0.4**
comp=Z,32nm,1.4s,mb5.2
GKN Gorkha 66.84 72 *e*P **P 13 33 09.8 -0.6**
comp=Z,39nm,1.4s,mb5.2
KKN Kakani 67.25 71 *e*P **P 13 33 13.2 +0.3**
comp=Z,17nm,1.1s,mb5.0
KKN Kakani 67.25 71 *e*P **P 13 33 13.2 +0.3**
KKN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LSA Lhasa 67.26 65 P **P 13 33 14.5 +1.5**
GUN Gumba 67.32 71 *e*P **P 13 33 13.4 0.0**
comp=Z,34nm,1.2s,mb5.3
DMN Daman 67.36 71 *e*P **P 13 33 13.6 -0.1**
comp=Z,25nm,1.2s,mb5.1
JIRN Jiri 67.65 70 *e*P **P 13 33 15.8 +0.3**
comp=Z,43nm,1.4s,mb5.3
CD2 Chengdu 69.70 54 *e*P **P 13 33 28.4 +0.1**
CD2 PP PP 13 36 04.0 +1.7
CD2 S S 13 42 33.6 -3.7
CD2 SS SS 13 47 02.4 -3.0
CD2 AMB AMB
comp=Z,10.0nm,1.6s,mb4.5
CD2 AMB AMB
comp=Z,90nm,4.9s
CD2 LR LR
comp=E,90nm,9.2s
CD2 LR LR
comp=Z,80nm,9.6s
MJAR Matsushiro Arr 71.18 23 P **P 13 33 37.8 +0.4**
comp=Z,9.9nm,1.0s,mb4.7,baz=349,slow=5.3,SNR=9.1
NJ2 Nanjing 72.24 40 *e*P **P 13 33 45.9 +2.2**
NJ2 PP PP 13 36 29.5 +5.3
NJ2 S S 13 43 07.0 +0.2
NJ2 AMB AMB
comp=Z,10.0nm,1.0s
NJ2 AMB AMB
comp=Z,400nm,4.5s
NJ2 LR LR
comp=N,1μm,15.4s
NJ2 LR LR
comp=E,1μm,15.0s
NJ2 LR LR
comp=Z,2μm,16.7s
SSE Sheshan 73.66 38 P **P 13 33 48.9 -3.2**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,62nm,6.9s
BDFB Brasilia 89.24 212 LR LR 14 08 06.8
comp=Z,100nm,18.1s,MS4.3,baz=196,slow=31

IDC 10 13:28:25.5±0.9,5289S×2644E,h0km,mb4.1/3,mb1 4.4/3, mb1mx3.9/14,mbtmp4.1/3,Error ellipse: s-maj=69.0km s-min=31.4km az=31.0,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**69.13**	**334**	P	P	13 39 33.3	-0.2
	0.7nm,0.6s,baz=176,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**81.33**	**118**	P	P	13 40 44.0	+0.3
	1.8nm,0.6s,baz=216,slow=4.7,SNR=41						
WRA	**Warramunga Arr**	**84.58**	**116**	P	P	13 41 00.5	-0.2
	1.8nm,0.8s,baz=212,slow=3.9,SNR=16						
ULM	**Lac du Bonnet**	**144.87**	**289**	PKP	PKPdf	13 48 03.1	-1.3
	0.6nm,0.4s,baz=87,slow=2.7,SNR=3.8						
PDAR	**Pinedale Array**	**149.22**	**269**	PKPbc	PKPbc	13 48 15.8	-0.2
	0.6nm,0.8s,baz=153,slow=3.3,SNR=6.2						
NVAR	**Mina Array Bea**	**151.76**	**253**	PKPbc	PKPbc	13 48 20.9	-1.2
	0.4nm,0.6s,baz=195,slow=3.5,SNR=5.1						
NVAR				PKPab	PKPab	13 48 29.9	-1.0
	0.3nm,0.7s,baz=108,slow=6.0,SNR=4.0						

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*ISCJB **10** 13:47:31.1±5.1,216S±04×1692E±02,h12km±34km, mb4.1/9,MS3.2/2,Error ellipse: s-maj=62.7km s-min=13.0km az=139.5*
*IDC **10** 13:47:31.0±1.9,2162S×169.19E,h0km,mb4.0/7, mb1 4.2/8,mb1mx4.2/14,mbtmp4.0/8,ML2.9/1,MS3.3/3, Ms1 3.3/3,ms1mx3.0/17,Error ellipse: s-maj=83.1km s-min=20.2km az=156.0*
*NEIC **10** 13:47:32.3±1.3,2167S×16923E,h10km,mb4.2/1,Error ellipse: s-maj=51.9km s-min=14.5km az=156.0*
ISC 10 13:47:33.5±6.2,215S±04×1691E±02,h14km±40km,n21, σ0§77/19,mb4.0/9,MS3.2/2,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.56**	**257**	Pn	Pn	13 48 14.5	-0.1
	2.3nm,0.3s,baz=78,slow=18,SNR=42						
DZM				Sn	Sn	13 48 45.4	-0.1
	11nm,0.3s,baz=75,slow=15,SNR=5.3						
DZM	**Mont Dzumac**	**2.56**	**257**	*e*P	Pn	13 48 13.2	-1.4
URZ	**Urewera**	**18.04**	**159**	LR	LR	13 56 10.5	
	comp=Z,47nm,18.9s,baz=184,slow=29						
CTA	**Charters Tower**	**21.44**	**270**	*e*P	P	13 52 23.9	+2.7
	4.6nm,0.6s,mb4.0						
CTA	**Charters Tower**	**21.44**	**270**	P	P	13 52 23.3	+2.1
	7.1nm,0.7s,mb4.1,baz=98,slow=13,SNR=9.3						
CTA				LR	LR	13 59 53.8	
	comp=Z,82nm,20.6s,MS3.1,baz=228,slow=35						
CTAO	**Charters Tower**	**21.44**	**270**	*e*P	P	13 52 23.8	+2.5
STKA	**Stephens Creek**	**26.61**	**241**	P	P	13 53 11.2	-0.2
	2.5nm,0.9s,mb3.8,baz=85,slow=11,SNR=4.2						
STKA				LR	LR	14 04 09.5	
	comp=Z,95nm,18.2s,MS3.4,baz=25,slow=38						
STKA	**Stephens Creek**	**26.61**	**241**	P	P	13 53 11.2	-0.2
STKA				LR	LR	14 04 09.4	
WB2	**Warramunga Arr**	**32.53**	**266**	*e*P	P	13 54 03.5	-0.5
WRAB	**Tennant Creek**	**32.53**	**266**	*e*P	P	13 54 03.0	-1.0
	3.2nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**32.54**	**266**	P	P	13 54 03.3	-0.8
	1.1nm,0.6s,mb3.9,baz=96,slow=8.3,SNR=35						
ASAR	**Alice Springs**	**32.55**	**259**	P	P	13 54 04.5	+0.4
	3.3nm,0.8s,mb4.3,baz=94,slow=9.2,SNR=39						
ASPA	**Alice Springs**	**32.55**	**259**	*e*P	P	13 54 04.5	+0.3
FITZ	**Fitzroy Crossi**	**40.97**	**267**	*e*P	P	13 55 16.7	+0.9
	6.5nm,0.8s,mb4.3						
MBWA	**Marble Bar**	**45.86**	**261**	*e*P	P	13 55 56.0	+0.7
ENH	**Enshi**	**77.05**	**310**	P	P	13 59 25.9	-0.3
SONM	**Songino Array**	**88.98**	**323**	P	P	14 00 27.8	-0.1
	0.5nm,0.8s,mb3.9,baz=135,slow=4.2,SNR=3.7						
NVAR	**Mina Array Bea**	**90.38**	**49**	P	P	14 00 34.7	+0.3
	1.1nm,0.8s,mb4.2,baz=211,slow=7.7,SNR=7.8						
ILAR	**Eielson Array**	**92.43**	**17**	P	P	14 00 43.5	-0.5
	0.4nm,0.9s,mb3.8,baz=201,slow=7.7,SNR=6.8						
BRG	**Berggiesshubel**	**144.86**	**332**	*e*(P)	PKPdf	14 07 16.5	+6.4
	2.1nm,0.7s						
GERES	**GERESS Array B**	**146.44**	**330**	PKPbc	PKPbc	14 07 14.1	0.0
	0.5nm,0.6s,baz=37,slow=4.9,SNR=3.0						

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*IDC **10** 13:49:07.7±12.0,4553N×14824E,h168km±145km, mb3.3/2,mb1 3.5/4,mb1mx3.0/21,mbtmp3.8/4,ML3.6/2, Error ellipse: s-maj=268.2km s-min=21.9km az=120.0*
*ISCJB **10** 13:49:14.1±1.3,454N±01×147.1E±02,h235km±9km, mb3.3/2,Error ellipse: s-maj=22.4km s-min=14.4km az=73.2*
ISC 10 13:49:15.5±1.3,454N±01×1470E±02,h233km±9km,n16, σ1§08/24,mb3.3/2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**1.97**	**225**	P	Pn	13 49 55.5	-0.7
NEM2	**Nemuro 2**	**2.19**	**206**	P	Pn	13 49 56.5	-1.9
NEM2				*e*S	S	13 50 32.0	-0.1
JTKR	**Abashiri--Toko**	**2.63**	**239**	P	Pn	13 50 02.4	-0.4
JTKR				*e*S	S	13 50 42.5	+2.4
JAK	**Akkeshi**	**2.90**	**216**	P	Pn	13 50 05.4	-0.3
JAK				*e*S	S	13 50 46.6	+1.2
JAR	**Ashorobuto**	**3.12**	**230**	P	Pn	13 50 09.4	+1.2
JSE	**Soyaes**	**3.18**	**265**	P	Pn	13 50 07.9	-1.0
ASAJ	**Asahikawa**	**3.40**	**250**	P	Pn	13 50 11.6	+0.1
	2.9nm,0.3s,baz=67,slow=10.0,SNR=34						
JKK2	**Kamakawa 2**	**3.40**	**246**	P	Pn	13 50 12.0	+0.5
JCH	**Churui**	**3.81**	**225**	P	Pn	13 50 16.5	+0.3
JCH				*e*S	S	13 51 05.5	+1.2
JNBK	**Urakawa-nobuka**	**4.36**	**227**	P	Pn	13 50 22.3	-0.6
JNBK				*e*S	S	13 51 16.7	+0.4
JKB	**Kayabe**	**5.57**	**234**	P	Pn	13 50 37.3	-0.5
JKB				*e*S	S	13 51 42.7	-0.6
JOT	**Ohata**	**5.90**	**230**	P	Pn	13 50 41.0	-0.9
JOT				*e*S	S	13 51 49.2	-1.7
JMK	**Ichinoseki**	**7.72**	**216**	P	Pn	13 51 05.4	+0.4
JMK				*e*S	S	13 52 31.7	-1.2
MJAR	**Matsushiro Arr**	**11.04**	**220**	P	Pn	13 51 50.2	+2.9
	0.3nm,0.3s,baz=32,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**40.25**	**37**	P	P	13 56 22.1	-7.6
	0.3nm,0.4s,mb3.0,baz=258,slow=5.8,SNR=7.0						
WRA	**Warramunga Arr**	**66.00**	**193**	P	P	13 59 38.5	+1.6
	0.8nm,0.6s,mb3.5,baz=9.8,slow=6.6,SNR=10						

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*ISCJB **10** 14:00:51.4±0.9,5143N±004×1605E±004,h0km,Error ellipse: s-maj=6.5km s-min=3.2km az=17.0*
*CSEM **10** 14:00:54.9±0.7,5136N×1612E,h1km,ML2.6/3,Error ellipse: s-maj=11.6km s-min=5.5km az=175.0,Suspected Mining induced.*
*PRU **10** 14:00:54.1,5138N×1610E,h0km*
*VIE **10** 14:00:56.8±0.5,5118N×1627E,h0km,mb1.9/1,ML2.6/3, Error ellipse: s-maj=3.6km s-min=3.1km az=100.0 52 km WNW of Breslau Suspected Mining induced.*
ISC 10 14:00:53.0±0.9,5143N±005×1606E±004,h0km,n16, σ0§93/29,1C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**166**	*e*Pg	Pg	14 01 05.0	+0.3
KSP				*e*Sg	Sg	14 01 13.2	+0.6
UPC	**Upice**	**0.93**	**182**	*e*PG	Pg	14 01 10.8	0.0
DPC	**Dobruska-Polom**	**1.10**	**171**	*e*PG	Pg	14 01 13.7	-0.4
DPC				*e*SG	Sg	14 01 27.8	-0.5
	19nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**227**	*e*SG	Sg	14 01 36.2	+1.2
	102nm,0.4s						
BRG	**Berggiesshubel**	**1.45**	**248**	PG	Pg	14 01 20.6	-0.1
BRG				SG	Sg	14 01 40.8	+1.3
	20nm,0.4s						
PRU	**Pruhonice**	**1.74**	**214**	*e*PG	Pg	14 01 25.5	-0.9
PRU				*e*SG	Sg	14 01 48.1	-0.8
	26nm,0.5s						
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	Pn	14 01 26.2	-0.6
MORC				*e*Sg	Sg	14 01 49.9	-4.5
CLL	**Collm**	**1.92**	**267**	*e*Pg	Pg	14 01 29.0	-0.8
CLL				*e*Sg	Sg	14 01 55.0	+0.3
	comp=Z,15nm,0.5s						
OKC	**Ostrava-Krasne**	**2.08**	**139**	*e*SG	Sg	14 01 55.7	-4.1
NKC	**Novy Kostel**	**2.59**	**244**	*e*SG	Sg	14 02 15.8	-0.3
	comp=Z,30nm,0.3s						
OJC	**Ojcow**	**2.66**	**116**	*e*Pg	Pg	14 01 43.9	-0.2
OJC				*e*Sg	Sg	14 02 18.4	-0.2
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	Pn	14 01 39.5	+0.4
KHC				*e*PG	Pg	14 01 45.0	-1.7
KHC				*e*SN	Sn	14 02 12.0	-1.5
KHC				*e*SG	Sg	14 02 22.5	-0.5
	comp=Z,6.2nm,0.3s						
MOX	**Moxa**	**2.91**	**256**	*e*PG	Pg	14 01 48.5	-0.4
MOX				*e*SG	Sg	14 02 28.2	+1.5
MOA	**Molln**	**3.77**	**199**	⇑*i*Pn	Pn	14 01 53.3	+0.9
MOA				⇓*i*Sg	Sg	14 02 55.3	+1.1
	comp=Z,4.7nm,0.4s						
MOA	**Molln**	**3.77**	**199**	Pn	Pn	14 01 53.3	+0.9
MOA				Sg	Sg	14 02 55.3	+1.1
STHS	**Stebnicka Huta**	**3.88**	**119**	*e*SG	Sg	14 03 00.2	+2.5

NNC 10 14:04:47.5±3.1,5011N×8762E,h2km±17km,mb3.8, mpv3.5,6C-3D,Error ellipse: s-maj=23.2km s-min=13.1km az=87.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.86**	**229**	⇑Pn	Pn	14 06 02.4	+0.8
	6.1nm,0.5s,baz=56,slow=14,SNR=190						
MK31				⇓Sn	Sn	14 06 59.1	+0.7
	3.6nm,0.3s,baz=54,slow=23,SNR=4.9						
MK31				⇑Lg		14 07 21.1	
	22nm,0.7s,baz=58,slow=30,SNR=11						
KURK	**Kurchatov**	**5.79**	**279**	⇑Pn	Pn	14 06 15.1	+0.7
	2.0nm,0.6s						
KURK				⇑Sn	Sn	14 07 22.9	+1.5
	4.0nm,0.6s						
KURK				⇓Lg		14 07 51.8	
	7.6nm,0.6s						
VOSK	**Vostochnaya**	**10.72**	**291**	⇑Pn	Pn	14 07 20.6	-1.5
	2.5nm,1.9s						
BVA0	**Borovoye Array**	**11.12**	**292**	⇓Pn	Pn	14 07 26.5	-1.0
	1.0nm,1.5s,baz=105,slow=5.3,SNR=3.9						
ZRNK	**Zerenda**	**11.94**	**291**	⇑Pn	Pn	14 07 37.6	-1.1
	12nm,2.9s						

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*ISCJB **10** 14:17:55.4±0.5,3899N±004×4217E±005,h29km,Error ellipse: s-maj=6.3km s-min=5.9km az=144.7*
*ISK **10** 14:17:55.1,3899N×4215E,h29km,ML3.5*
ISC 10 14:17:54.7±1.7,3900N±004×4220E±007,h16km±13km, n15,σ0§82/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.82**	**267**	*i*P	Pg	14 18 09.9	-0.8
BNGL				*i*S	Sg	14 18 26.2	+4.7
BTMT	**Batman**	**0.98**	**215**	PN	Pn	14 18 13.7	0.0
VANB	**Van**	**1.01**	**113**	PN	Pn	14 18 14.9	+0.8
VANB				SN	Sn	14 18 28.1	+0.1
TVAN	**Van**	**1.05**	**116**	*i*P	Pg	14 18 07.2	-7.8
TVAN				*i*S	Sg	14 18 19.0	-10
ERZM	**Erzurum**	**1.11**	**325**	*i*P	Pb	14 18 14.9	-0.6
ERZM				*i*S	Sg	14 18 32.3	+1.6
EZM	**Erzurum**	**1.11**	**325**	*i*PN	Pn	14 18 14.4	-1.2
DIGO	**Kars**	**1.68**	**32**	*i*P	Pn	14 18 22.3	-1.0
DIGO				*i*S	Sn	14 18 44.7	+0.3
KARS	**Kars**	**1.75**	**23**	*i*PN	Pn	14 18 24.6	+0.3
DIY	**Diyarbakir**	**1.90**	**235**	PN	Pn	14 18 26.1	-0.3
EZC	**Erzincan**	**2.00**	**293**	PN	Pn	14 18 32.8	+5.1
MARD	**Mardin**	**2.02**	**214**	*i*P	Pn	14 18 27.7	-0.3
MARD				*i*S	Sn	14 18 57.5	+4.5
CUKT	**Cukurca**	**2.07**	**147**	PN	Pn	14 18 28.6	-0.1
GUMT	**Gumushane**	**2.56**	**306**	*e*PN	Pn	14 18 35.5	+0.1
MALT	**Malatya**	**3.03**	**258**	*e*PN	Pn	14 18 42.3	+0.3
URFA	**Urfa**	**3.08**	**241**	*e*PN	Pn	14 18 43.0	+0.4

IDC 10 14:20:24.8±2.1,514S×15343E,h0km,mb3.5/5,mb1 3.7/5, mb1mx3.6/13,mbtmp3.5/5,MS3.3/1,Ms1 3.3/1, ms1mx2.9/15,Error ellipse: s-maj=80.1km s-min=25.3km az=117.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.02**	**144**	LR	LR	14 31 44.9	
	comp=Z,81nm,21.1s,baz=151,slow=32						
WRA	**Warramunga Arr**	**23.70**	**230**	P	P	14 25 39.0	+0.7
	1.1nm,0.5s,baz=54,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**26.33**	**224**	P	P	14 26 02.6	+0.4
	0.4nm,0.6s,baz=57,slow=9.3,SNR=16						
SONM	**Songino Array**	**66.95**	**328**	P	P	14 31 19.8	+0.7
	0.2nm,0.4s,baz=135,slow=6.1,SNR=4.6						
MKAR	**Makanchi Array**	**81.00**	**319**	P	P	14 32 41.0	-0.3
	0.2nm,0.4s,baz=91,slow=7.9,SNR=8.0						
ILAR	**Eielson Array**	**82.24**	**22**	P	P	14 32 48.4	+0.5
	0.2nm,0.6s,baz=250,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**151.01**	**288**	PKPbc	PKPbc	14 40 19.3	-0.3
	0.3nm,0.3s,baz=66,slow=2.8,SNR=8.9						
TORD				PKPab	PKPab	14 40 28.6	+1.6
	0.6nm,0.7s,baz=74,slow=3.8,SNR=4.2						

MAN 10 14:23:44.2,1085N×12204E,h18km,mb2.2,ML3.8,MS1.2, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.59**	**113**	*e*P	Pg	14 23 56.2	+0.2
CUYO	**Cuyo Island**	**1.00**	**270**	*e*P	Pb	14 24 03.1	+0.2
CUYO				*e*S	Sb	14 24 17.4	+1.6
OTRP	**Odiongan**	**1.50**	**359**	*e*P	Pn	14 24 09.8	-0.4
BUSP	**Coron**	**2.13**	**303**	*e*P	Pn	14 24 19.1	+0.2

MAN 10 14:31:07.7,1108N×12473E,h2km,mb3.0,ML4.4,MS1.8, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.12**	**255**	*e*P	Pg	14 31 10.8	+0.8
OCLP				*e*S	Sg	14 31 12.9	+1.3
BESP	**Borongan**	**0.87**	**53**	*e*P	Pg	14 31 24.9	+0.6
MSLP	**Maasin**	**0.95**	**172**	*e*P	Pg	14 31 26.6	+0.6
MSLP				*e*S	Sg	14 31 43.8	+5.6
LLP	**Lapu-Lapu**	**1.07**	**225**	*e*P	Pg	14 31 28.2	+0.1
LLP				*e*S	Sg	14 31 44.5	+2.5
SCPH	**Surigao**	**1.49**	**150**	⇓*i*P	Pn	14 31 37.5	+2.0
GUIM	**Jordan**	**2.15**	**258**	*e*P	Pn	14 31 44.5	0.0
GUIM				*e*S	Sn	14 32 12.9	+1.2
BUKP	**Musuan**	**3.20**	**174**	*e*P	Pn	14 32 02.0	+3.0

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*IDC **10** 14:52:31.5±1.4,193N×9652E,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.8/20,mbtmp3.9/7,ML2.9/1,Error ellipse: s-maj=47.5km s-min=19.1km az=49.0*
*ISCJB **10** 14:52:34.6±0.6,188N±008×9665E±009,h33km,mb4.1/17, Error ellipse: s-maj=13.8km s-min=9.2km az=108.5*
*MOS **10** 14:52:34.7±1.3,193N×9655E,h33km,mb4.5/6,Error ellipse: s-maj=19.1km s-min=11.9km az=114.4*
*NEIC **10** 14:52:36.1±0.6,189N×9666E,h30km,mb4.1/10,Error ellipse: s-maj=14.3km s-min=9.4km az=56.0*
ISC 10 14:52:37.1±0.6,189N±008×9669E±009,h35km,n30, σ1§20/31,mb4.1/17,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.41**	**68**	Pn	Pn	14 53 14.2	+0.2
	2.4nm,0.3s,baz=252,slow=11,SNR=7.9						
PSI				Sn	Sn	14 53 53.9	+12
	6.3nm,0.3s,baz=284,slow=12,SNR=5.3						
KULM	**Kulim**	**5.20**	**49**	*e*Pn	Pn	14 53 51.7	-0.6
COCO	**West Island**	**13.99**	**179**	Pn	Pn	14 55 51.2	-1.5
JIRN	**Jiri**	**27.52**	**340**	*e*P	P	14 58 21.1	+0.8
	7.7nm,0.6s,mb4.5						
PKI	**Pulchoki**	**27.72**	**338**	*e*P	P	14 58 23.0	+0.9
GUN	**Gumba**	**27.86**	**339**	*e*P	P	14 58 24.0	+0.7
	9.6nm,0.5s,mb4.7						
DMN	**Daman**	**27.87**	**338**	*e*P	P	14 58 25.8	+2.4
KKN	**Kakani**	**27.97**	**338**	*e*P	P	14 58 25.6	+1.3

LSA	**Lhasa**	**28.15**	**350**	P	**P**	**14 58 25.8**	**-0.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
LSA	**Lhasa**	**28.15**	**350**	P	**P**	**14 58 25.8**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.0						
GKN	**Gorkha**	**28.41**	**337**	*e*P	**P**	**14 58 28.1**	**-0.1**
	comp=Z,6.2nm,0.8s,mb4.3						
KOLN	**Koldanda**	**28.62**	**335**	*e*P	**P**	**14 58 31.3**	**+1.2**
	comp=Z,7.2nm,0.7s,mb4.5						
YHNB	**Yeheng**	**32.88**	**44**	P	**P**	**14 59 06.6**	**-1.1**
WRA	**Warramunga Arr**	**42.83**	**122**	P	**P**	**15 00 32.8**	**+1.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=302,slow=9.0,SNR=21						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**15 00 32.9**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**15 00 32.9**	**+1.2**
	comp=Z,3.8nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**44.22**	**127**	P	**P**	**15 00 44.1**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.1,baz=306,slow=8.2,SNR=8.5						
MKAR	**Makanchi Array**	**46.45**	**346**	P	**P**	**15 00 59.9**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=163,slow=8.9,SNR=32						
SONM	**Songino Array**	**46.53**	**9**	P	**P**	**15 01 00.3**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=190,slow=9.2,SNR=9.9						
KURK	**Kurchatov**	**51.00**	**345**	P	**P**	**15 01 37.0**	**+1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**51.00**	**345**	P	**P**	**15 01 37.0**	**+1.6**
	comp=Z,1.5nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**55.43**	**341**	P	**P**	**15 02 06.7**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=140,slow=9.0,SNR=7.2						
BRVK	**Borovoye**	**55.49**	**341**	P	**P**	**15 02 07.0**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**55.49**	**341**	P	**P**	**15 02 07.0**	**-1.4**
	comp=Z,0.6nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**55.83**	**340**	P	**P**	**15 02 08.2**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**55.83**	**340**	P	**P**	**15 02 08.2**	**-2.7**
	comp=Z,1.3nm,0.9s,mb4.0						
YAK	**Yakutsk**	**64.90**	**16**	P	**P**	**15 03 10.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
YAK	**Yakutsk**	**64.90**	**16**	P	**P**	**15 03 10.9**	**-1.9**
	comp=Z,12nm,1.4s,mb4.7						
FINES	**FINESS Array B**	**79.15**	**333**	P	**P**	**15 04 37.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=68,slow=7.5,SNR=4.1						
ARCES	**ARCESS Array B**	**81.72**	**340**	P	**P**	**15 04 51.5**	**-0.5**
	comp=Z,9.5nm,1.1s,mb4.6,baz=90,slow=4.5,SNR=5.1						

*MOS **10** 14:58:57.4±0.5, 3646N×7130E, h209km, mb3.8/1, Error ellipse: s-maj=32.9km s-min=11.4km az=89.5*
*ISCJB **10** 14:58:58.3±1.4, 3647N±009×713E±0.1, h220km±13km, mb3.4/5, Error ellipse: s-maj=17.1km s-min=11.1km az=95.5*
*NEIC **10** 14:58:59.0±3.4, 3647N×7151E, h208km±28km, mb3.5/3, Error ellipse: s-maj=34.0km s-min=12.9km az=220.0*
*BJI **10** 14:58:59.6, 3667N×7128E, h239km, mb4.1*
*IDC **10** 14:59:00.6±6.8, 3651N×7143E, h227km±65km, mb3.2/5, mb1 3.3/8, mb1mx3.0/23, mbtmp3.9/8, Error ellipse: s-maj=39.4km s-min=21.2km az=34.0*
*NNC **10** 14:59:04.8±3.5, 3696N×7112E, h203km±38km, mb2.9, mpv4.3, Error ellipse: s-maj=31.9km s-min=20.0km az=18.0*

ISC 10 14:59:01.4±1.2, 3662N±009×714E±01, h230km±11km, n35, σ0°79/41, mb3.4/5, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**4.61**	**50**	⇑*i*P		**Pn**	**15 00 12.7**	**+1.1**
KSH				S		**S**	**15 01 07.6**	**+0.3**
KSH				Smax			
	comp=N,230nm,0.6s						
KSH				Smax			
	comp=E,220nm,0.6s						
AML	**Almayashu**	**5.78**	**17**	P		**Pn**	**15 00 26.4**	**+0.2**
	SNR=435						
UCH	**Uchtor**	**6.09**	**22**	P		**Pn**	**15 00 30.6**	**+0.4**
	SNR=52						
KZA	**Kyzart**	**6.20**	**27**	P		**Pn**	**15 00 31.3**	**-0.3**
	SNR=33						
EKS2	**Erkin-Say**	**6.30**	**16**	P		**Pn**	**15 00 33.0**	**+0.1**
	SNR=50						
AAK	**Ala-Archa**	**6.45**	**21**	P		**Pn**	**15 00 35.1**	**+0.3**
	SNR=61						
AAK	**Ala-Archa**	**6.45**	**21**	*e*P		**Pn**	**15 00 33.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,46nm,0.6s						
AAK	**Ala-Archa**	**6.45**	**21**	*e*PN		**Pn**	**15 00 33.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,46nm,0.6s						
KK31	**Karatay Array**	**6.51**	**354**	⇑P		**Pn**	**15 00 34.7**	**-0.9**
	comp=Z,4.0nm,0.3s,baz=165,slow=12,SNR=190						
KK31				⇓S		**S**	**15 01 45.2**	**-5.6**
	comp=Z,13nm,0.3s,baz=185,slow=25,SNR=11						
KBK	**Karagaybulak**	**6.61**	**23**	P		**Pn**	**15 00 37.5**	**+0.6**
	SNR=56						
ULHL	**Ulahol**	**6.74**	**32**	P		**Pn**	**15 00 38.3**	**-0.1**
	SNR=46						
CHMS	**Chumysh**	**6.86**	**21**	P		**Pn**	**15 00 39.9**	**-0.2**
	SNR=16						
USP	**Ospenovka**	**7.04**	**19**	P		**Pn**	**15 00 41.7**	**-0.7**
	SNR=15						
TKM2	**Tokmak 2**	**7.06**	**26**	P		**Pn**	**15 00 42.9**	**+0.4**
	SNR=82						
TKM2	**Tokmak 2**	**7.06**	**26**	⇑P		**Pn**	**15 00 42.9**	**+0.3**
	comp=Z,25nm,0.5s						
TKM2				⇑S		**S**	**15 02 02.5**	**-1.0**
	comp=Z,6.2nm,0.7s						
MKAR	**Makanchi Array**	**12.99**	**35**	P		**Pn**	**15 01 56.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=213,slow=13,SNR=19						
KURK	**Kurchatov**	**15.01**	**18**	*e*P		**Pn**	**15 02 21.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**15.01**	**18**	*e*P		**Pn**	**15 02 21.9**	**-0.5**
	comp=Z,1.3nm,0.8s						
AB31	**Akbulak array**	**15.15**	**330**	⇑P		**Pn**	**15 02 22.5**	**-1.6**
	comp=Z,3.4nm,0.7s,baz=139,slow=12,SNR=56						
AB31				⇓S		**S**	**15 05 07.0**	**-4.5**
	comp=Z,1.6nm,0.6s,baz=156,slow=24,SNR=4.6						
ZRNK	**Zerenda**	**16.42**	**355**	*e*P		**P**	**15 02 38.4**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**16.42**	**355**	*e*P		**P**	**15 02 38.4**	**+0.5**
	comp=Z,1.3nm,0.7s						
BVA0	**Borovoye Array**	**16.42**	**358**	P		**P**	**15 02 40.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=12						
BVAR	**Borovoye Array**	**16.42**	**358**	P		**P**	**15 02 38.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=163,slow=9.5,SNR=11						
BVAR				S		**S**	**15 05 37.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=163,slow=24,SNR=6.6						
BVAR	**Borovoye Array**	**16.42**	**358**	P		**P**	**15 02 38.9**	**+0.9**
BVAR				S		**S**	**15 05 37.4**	**-0.5**
BRVK	**Borovoye**	**16.45**	**358**	P		**P**	**15 02 39.5**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**16.45**	**358**	P		**P**	**15 02 39.5**	**+1.2**
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**16.85**	**329**	P		**P**	**15 02 43.3**	**+0.7**
AKTO	**Aktyubinsk**	**16.85**	**329**	⇑P		**P**	**15 02 43.0**	**+0.3**
	comp=Z,1.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.85**	**329**	P		**P**	**15 02 43.3**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=137,slow=10,SNR=29						
AKTO	**Aktyubinsk**	**16.85**	**329**	P		**P**	**15 02 43.3**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**37.58**	**326**	P		**P**	**15 05 54.1**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.5,baz=124,slow=10.0,SNR=3.9						
ARCES	**ARCESS Array B**	**41.16**	**337**	P		**P**	**15 06 23.2**	**-0.1**
	comp=Z,7.9nm,1.0s,mb4.1,baz=101,slow=6.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**15 09 22.8**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.0,baz=49,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**81.76**	**122**	P		**P**	**15 10 54.1**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.0,baz=324,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**84.04**	**125**	P		**P**	**15 11 05.7**	**-0.5**
	comp=Z,0.4nm,0.9s,mb3.1,baz=307,slow=5.2,SNR=7.0						

MAN 10 15:51:29.1, 857N×12334E, h32km, mb1.2, ML3.2, MS6.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.02**	**51**	⇑*i*P		Pb	15 51 34.3	-0.1
DCPH				*i*S		Sb	15 51 37.4	-0.6
PAGZ	**Pagadian**	**0.72**	**176**	*e*P		Pn	15 51 43.6	+0.6
PAGZ				*e*S		Sb	15 51 53.6	+0.8
IPIL	**Ipil**	**1.08**	**224**	*e*P		Pn	15 51 48.6	+0.6
IPIL				*e*S		Sn	15 52 01.6	-0.4

*ISCJB **10** 16:04:53.9±0.3, 4745N±002×1185E±003, h6km, Error ellipse: s-maj=3.7km s-min=2.4km az=122.9*
*VIE **10** 16:04:54.3±0.2, 4742N×1183E, h6km±2km, mb1.9/4, ML2.3/7, Error ellipse: s-maj=3.3km s-min=1.0km az=176.0 3 km NNW of Bruck am Ziller felt 3 EMS98 at Maurach am Achensee / TYROL*
*BGR **10** 16:04:56.0±0.4, 4730N×1188E, h10km, ML2.1/5, Error ellipse: s-maj=6.7km s-min=4.4km az=172.0*
*PRU **10** 16:04:56.3, 4743N×1198E, h0km*

ISC 10 16:04:54.8±0.4, 4744N±003×1183E±003, h3km±5km, n28, σ0°98/46, 15C-9D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.20**	**240**	⇓*e*Pg		**Pg**	**16 04 58.4**	**-0.3**
	comp=Z,84nm,0.1s,SNR=725						
WATA	**Walderalm**	**0.20**	**240**	⇑*i*Pg		**Pg**	**16 04 58.2**	**-0.5**
	0.9nm,0.1s,SNR=725						
WATA				⇓*i*Sg		**Sg**	**16 05 01.4**	**0.0**
	689nm,0.1s						
WTTA	**Wattenberg**	**0.22**	**217**	⇓*i*Pg		**Pg**	**16 04 58.6**	**-0.4**
	comp=Z,27nm,0.1s,SNR=114						
WTTA	**Wattenberg**	**0.22**	**217**	⇓*i*Pg		**Pg**	**16 04 58.6**	**-0.4**
	27nm,0.1s,SNR=114						
WTTA				⇓*i*Sg		**Sg**	**16 05 01.5**	**-0.4**
	62nm,0.1s						
WTTA	**Wattenberg**	**0.22**	**217**	*e*Pg		**Pg**	**16 04 58.6**	**-0.4**
	SNR=51						
WTTA				*e*Sg		**Sg**	**16 05 01.4**	**-0.5**
SCE	**Schlegeis**	**0.41**	**192**	⇑*i*Pg		**Pg**	**16 05 02.0**	**-0.7**
SCE				*i*Sg		**Sg**	**16 05 07.4**	**-0.5**
SQTA	**Sankt Quirin**	**0.48**	**243**	⇑Pg		**Pg**	**16 05 03.5**	**-0.4**
	comp=Z,9.3nm,0.1s						
SQTA	**Sankt Quirin**	**0.48**	**243**	⇑*i*Pg		**Pg**	**16 05 03.4**	**-0.5**
	9.3nm,0.1s						
SQTA				⇑*i*Sg		**Sg**	**16 05 10.5**	**+0.3**
	32nm,0.2s						
MOTA	**Moosalm**	**0.50**	**260**	⇓Pg		**Pg**	**16 05 03.6**	**-0.9**
	comp=Z,5.6nm,0.1s,SNR=22						
MOTA				⇑Sg		**Sg**	**16 05 10.2**	**-0.8**
	comp=Z,26nm,0.2s						
MOTA	**Moosalm**	**0.50**	**260**	⇓Pg		**Pg**	**16 05 03.5**	**-1.0**
	5.6nm,0.1s,SNR=22						
MOTA				⇑*i*Sg		**Sg**	**16 05 10.2**	**-0.8**
	26nm,0.2s						
RJOB	**Jochberg**	**0.72**	**65**	⇑*i*Pg		**Pg**	**16 05 10.3**	**+1.7**
FUR	**Furstenfeldbru**	**0.82**	**333**	*e*Pg		**Pg**	**16 05 13.7**	**+3.1**
	SNR=5.5						
FUR				*e*Sg		**Sg**	**16 05 26.7**	**+5.6**
KBA	**Koelnbreinsper**	**1.09**	**109**	⇑*e*Pg		**Pg**	**16 05 15.1**	**-0.7**
	3.3nm,0.3s,SNR=12						
KBA				⇓*i*Sg		**Sg**	**16 05 30.7**	**+0.8**
	12nm,0.3s						
KBA	**Koelnbreinsper**	**1.09**	**109**	*e*Pg		**Pg**	**16 05 15.2**	**-0.6**
	SNR=7.0						
DAVA	**Damuels**	**1.33**	**264**	⇑Pg		**Pg**	**16 05 20.9**	**+0.4**
	7.2nm,0.2s,SNR=12						
DAVA				⇑*i*Sg		**Sg**	**16 05 40.1**	**+2.3**
	28nm,0.3s						
DAVA	**Damuels**	**1.33**	**264**	*e*Pg		**Pg**	**16 05 21.8**	**+1.4**
	SNR=8.7						
DAVA				*e*Sg		**Sg**	**16 05 39.8**	**+2.1**
NORI	**Noerdlinger Ri**	**1.52**	**328**	⇓*i*Pn		**Pn**	**16 05 22.8**	**-0.1**
MOA	**Molln**	**1.70**	**75**	*e*Pg		**Pg**	**16 05 27.0**	**-0.4**
	2.0nm,0.1s,SNR=11						
MOA				⇑*i*Sg		**Sg**	**16 05 50.5**	**+1.1**
	6.2nm,0.2s						
MOA	**Molln**	**1.70**	**75**	*e*Pn		**Pn**	**16 05 27.0**	**+1.6**
	SNR=6.1						
MOA				*e*Sg		**Sg**	**16 05 50.0**	**+0.6**
GEC2	**GERESS Array S**	**1.89**	**41**	*e*Pn		**Pn**	**16 05 27.9**	**0.0**
	SNR=2.8						
KHC	**Kasperske Hory**	**2.06**	**34**	*e*PG		**Pg**	**16 05 33.3**	**-1.0**
KHC				*e*SN		**Sn**	**16 05 56.0**	**-0.5**
KHC				*e*SG		**Sg**	**16 06 00.9**	**-0.1**
	14nm,0.3s						
OBKA	**Obir**	**2.08**	**116**	⇑Pg		**Pg**	**16 05 34.6**	**-0.1**
	comp=Z,0.8nm,0.1s						
OBKA	**Obir**	**2.08**	**116**	⇑*i*Pg		**Pg**	**16 05 33.8**	**-0.9**
	0.8nm,0.1s						
OBKA				⇑*i*Sg		**Sg**	**16 06 02.4**	**+0.7**
	9.7nm,0.6s						
BFO	**Black Forest**	**2.52**	**292**	*e*Pn		**Pn**	**16 05 37.9**	**+1.3**
	SNR=2.4						
BFO				*e*Sn		**Sn**	**16 06 07.1**	**-0.8**
NKC	**Novy Kostel**	**2.83**	**8**	*e*SG		**Sg**	**16 06 26.0**	**+0.3**
	7.9nm,0.4s						
TANN	**Tannenbergstha**	**3.01**	**8**	*e*Pg		**Pg**	**16 05 53.4**	**+0.9**
	SNR=1.3						
TANN				*e*Sn		**Sn**	**16 06 19.4**	**-0.6**
UPC	**Upice**	**4.13**	**40**	*e*SG		**Sg**	**16 07 06.0**	**-1.4**
DPC	**Dobruska-Polom**	**4.16**	**44**	*e*SG		**Sg**	**16 07 05.8**	**-2.5**

*CSEM **10** 16:09:25.9, 1469S×16733E, h33km, mb5.6*
*NAO **10** 16:09:27.4, 1445S×167.15E, h240km, mb4.8*
*MOS **10** 16:09:36.8±1.2, 1454S×16729E, h120km, mb4.8/11, Error ellipse: s-maj=11.7km s-min=10.1km az=111.8*
*HRVD **10** 16:09:39.8±0.3, 1467S×167.11E, h145km±2km, MW5.1/80, Centroid moment Tensor Solution. LP body waves: s43,c49;Mantle waves: s80,c123; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.58±.15; Mθθ0.00±.18; Mφφ-3.59±.16; Mrθ-2.19±.13; Mθφ2.96±.18; Mφr-0.09±.15; Best double couple: M0:5.12100×10^16 NP1:φs179.00000°, δ47.00000°, λ135.00000°. NP2:φs303.00000°, δ59.00000°, λ53.00000°. Principal axes: T 4.8690, Plg58.0000°, Azm160.0000°; N 0.4990, Plg31.0000°, Azm325.0000°; P -5.3740, Plg7.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 16:09:39.8±0.2, 1463S×16740E, mb4.9/23 Error ellipse: s-maj=7.1km s-min=5.6km az=89.0*
*IDC **10** 16:09:40.1±0.7, 1469S×16730E, h144km±5km, mb4.5/16, mb1 4.6/18, mb1mx4.6/19, mbtmp4.9/18, MS3.8/7, Ms1 3.8/7, ms1mx3.6/19, Error ellipse: s-maj=11.1km s-min=9.8km az=116.0*
*ISCJB **10** 16:09:40.2±1.0, 1470S±004×16728E±005, h157km±8km, mb4.8/58, Error ellipse: s-maj=8.8km s-min=6.3km az=124.2*
*BJI **10** 16:09:41.9, 1423S×167.10E, h148km, mB5.1, mb4.6*
*LDG **10** 16:09:41.4±0.3, 1456S×16663E, h140km, Mb4.9/4, Error ellipse: s-maj=39.6km s-min=9.2km az=85.0*

ISC 10 16:09:40.8±0.9, 1466S±004×16736E±005, h148km±8km, h144km±7km: pP-P, n252, σ1°04/133, mb4.8/58, 49C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.11**	**164**	⇑*i*P		**Pn**	**16 10 28.7**	**-0.7**
DZM	**Mont Dzumac**	**7.42**	**187**	P		**Pn**	**16 11 27.0**	**+0.7**
	7.1nm,0.3s,baz=45,slow=19,SNR=38						
DZM				S		**Sn**	**16 12 48.2**	**-1.0**
	5.8nm,0.3s,baz=319,slow=22,SNR=5.6						
DZM				LR		LR	16 13 51.0	
	comp=Z,342nm,18.3s,baz=11,slow=34						
DZM	**Mont Dzumac**	**7.42**	**187**	*e*P		**Pn**	**16 11 26.7**	**+0.3**
DZM				*e*S		**Sn**	**16 12 48.7**	**-0.4**
HNR	**Honiara**	**8.92**	**305**	P		**Pn**	**16 11 46.9**	**+0.5**
	53nm,0.3s,baz=118,slow=3.6,SNR=14						
HNR				S		**Sn**	**16 13 25.7**	**+0.4**
	67nm,0.3s,baz=85,slow=20,SNR=9.7						
HNR	**Honiara**	**8.92**	**305**	*e*P		**Pn**	**16 11 47.6**	**+1.2**
HNR				*e*			16 13 22.8	
HNR				pmax	pmax		
	comp=Z,407nm,0.8s						
HNR	**Honiara**	**8.92**	**305**	*e*Pn		**Pn**	**16 11 47.6**	**+1.2**
	comp=Z,407nm,0.8s						
HNR				*e*Sn		**Sn**	**16 13 22.8**	**-2.5**
RAO	**Raoul Island**	**19.90**	**139**	P		**P**	**16 13 51.9**	**-8.8**
	comp=Z,452nm,0.5s						
PMG	**Port Moresby**	**20.43**	**283**	P		**P**	**16 14 07.4**	**+1.1**
	comp=Z,38nm,0.9s,baz=77,slow=6.5,SNR=15						
PMG	**Port Moresby**	**20.43**	**283**	*d*P		**P**	**16 14 07.4**	**+1.1**
PMG	**Port Moresby**	**20.43**	**283**	P		**P**	**16 14 07.6**	**+1.2**
	comp=Z,38nm,0.7s						
CTA	**Charters Tower**	**20.84**	**252**	*e*P		**P**	**16 14 11.7**	**+0.9**
	comp=Z,21nm,0.8s						
CTA				*i*S		**S**	**16 17 53.0**	**-1.9**
CTA	**Charters Tower**	**20.84**	**252**	P		**P**	**16 14 11.8**	**+1.1**
	comp=Z,33nm,0.9s,baz=76,slow=12,SNR=32						
CTA				S		**S**	**16 17 56.1**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=222,slow=23,SNR=5.7						
CTA	**Charters Tower**	**20.84**	**252**	P		**P**	**16 14 11.8**	**+1.1**
CTA				S		**S**	**16 17 56.1**	**+1.2**
CTAO	**Charters Tower**	**20.84**	**252**	P		**P**	**16 14 10.3**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,53nm,1.1s						
CTAO	**Charters Tower**	**20.84**	**252**	P		**P**	**16 14 10.3**	**-0.5**
	comp=Z,53nm,1.1s						
ARMA	**Armidale**	**21.34**	**220**	⇑*i*P		**P**	**16 14 17.7**	**+1.7**
ARMA				*e*S		**S**	**16 18 08.5**	**+4.1**
RIV	**Riverview**	**24.07**	**215**	⇑*i*P		**P**	**16 14 43.4**	**+1.1**
URZ	**Urewera**	**25.04**	**162**	P		**P**	**16 14 50.2**	**-0.9**
	comp=Z,15nm,0.8s,mb4.5,baz=113,slow=14,SNR=5.2						
URZ				LR		LR	16 23 28.8	
	comp=Z,122nm,20.1s,baz=115,slow=33						
CNB	**Canberra Magne**	**26.16**	**215**	⇑*i*P		**P**	**16 15 02.1**	**+0.9**
	comp=Z,45nm,1.2s,mb5.0						
SNZO	**South Karori**	**27.31**	**168**	*e*P		**P**	**16 15 12.2**	**+0.7**
	comp=Z,85nm,1.3s,mb5.2						
STKA	**Stephens Creek**	**29.10**	**229**	⇑*i*P		**P**	**16 15 26.6**	**-0.8**
	comp=Z,66nm,0.9s,mb5.4						
STKA				*e*			16 18 29.7	
STKA	**Stephens Creek**	**29.10**	**229**	P		**P**	**16 15 26.6**	**-0.8**
	comp=Z,78nm,0.8s,mb5.5,baz=41,slow=7.4,SNR=150						
STKA				PcP	PcP		16 18 30.0	-1.5
	comp=Z,28nm,0.8s,baz=35,slow=3.3,SNR=12						
STKA				ScP	ScP		16 21 59.7	+0.5
	comp=Z,2.8nm,0.7s,baz=61,slow=2.8,SNR=4.1						
STKA	**Stephens Creek**	**29.10**	**229**	P		**P**	**16 15 26.6**	**-0.8**
STKA				PcP	PcP		16 18 30.0	-1.5
STKA				ScP	ScP		16 21 59.7	+0.5
RPZ	**Rata Peaks**	**29.13**	**174**	P		**P**	**16 15 27.1**	**-0.5**
	comp=Z,30nm,0.8s,mb5.1,baz=44,slow=2.2,SNR=6.9						
TOO	**Toolangi**	**29.95**	**216**	⇑*i*P		**P**	**16 15 35.8**	**+0.9**
	comp=Z,24nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**31.91**	**256**	⇑*i*P		**P**	**16 15 50.9**	**-1.2**
WRAB	**Tennant Creek**	**31.91**	**256**	*i*P		**P**	**16 15 49.3**	**-2.8**
WRAB	**Tennant Creek**	**31.91**	**256**	P		**P**	**16 15 49.1**	**-3.0**
	comp=Z,17nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**31.93**	**256**	P		**P**	**16 15 51.1**	**-1.2**
	comp=Z,7.2nm,0.8s,mb4.5,baz=85,slow=8.4,SNR=98						
WRA				PcP	PcP		16 18 39.1	+0.1
	comp=Z,6.2nm,1.0s,baz=91,slow=3.2,SNR=6.5						
WRA				S		**S**	**16 20 47.3**	**-5.0**
	comp=Z,3.2nm,1.0s,baz=81,slow=15,SNR=6.0						
ASAR	**Alice Springs**	**32.78**	**249**	P		**P**	**16 15 59.0**	**-0.7**
	comp=Z,11nm,0.4s,mb4.9,baz=75,slow=9.3,SNR=597						
ASAR				PcP	PcP		16 18 41.0	-0.3
	comp=Z,6.7nm,0.8s,baz=75,slow=2.3,SNR=12						
ASPA	**Alice Springs**	**32.78**	**249**	⇑*i*P		**P**	**16 15 58.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.11**	**259**	⇑*i*P		**P**	**16 17 01.6**	**-0.2**
	comp=Z,36nm,0.9s,mb5.0						
PAE	**Paea**	**41.40**	**100**	*e*P		**P**	**16 17 14.2**	**+1.8**
	comp=Z,58nm,1.0s,mb5.2						
TVO	**Taravao**	**41.71**	**100**	*e*P		**P**	**16 17 17.1**	**+2.2**
	comp=Z,72nm,0.8s,mb5.4						
VAH	**Vaihoa**	**43.44**	**97**	*e*P		**P**	**16 17 31.1**	**+2.3**
	comp=Z,54nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**45.65**	**255**	P		**P**	**16 17 45.6**	**-0.7**
KLBR	**Kellerberrin**	**48.21**	**241**	⇑*i*P		**P**	**16 18 05.5**	**-0.8**
	comp=Z,18nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.86**	**239**	P		**P**	**16 18 10.9**	**-0.3**
KKM	**Kota Kinabalu**	**54.72**	**288**	*e*P		**P**	**16 18 55.3**	**+0.7**
MJAR	**Matsushiro Arr**	**57.89**	**332**	P		**P**	**16 19 16.4**	**-0.6**
	comp=Z,3.2nm,0.7s,mb4.3,baz=168,slow=8.9,SNR=8.2						
MJAR				pP	pP		16 19 51.0	-0.8
	comp=Z,5.0nm,0.9s,baz=170,slow=7.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**57.89**	**332**	P		**P**	**16 19 16.4**	**-0.6**
MJAR				pP	pP		16 19 51.0	-0.8
MAJO	**Matsushiro**	**57.89**	**332**	P		**P**	**16 19 15.5**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MAJO	**Matsushiro**	**57.89**	**332**	P		**P**	**16 19 15.5**	**-1.6**
	comp=Z,5.0nm,0.7s,mb4.5						
MAT	**Matsushiro**	**57.89**	**332**	P		**P**	**16 19 15.6**	**-1.5**
MAT	**Matsushiro**	**57.89**	**332**	*e*P		**P**	**16 19 16.0**	**-1.1**
KSM	**Kuching**	**58.68**	**281**	*e*P		**P**	**16 19 22.9**	**+0.4**
YHNB

KMI Kunming 74.34 302 P **P** **16 21 04.1 +2.1**
KMI AP pP 16 21 40.2 +1.9
KMI AMB AMB
comp=Z,21nm,1.0s,mb4.8
MA2 Magadan 75.19 351 *e*P **P** **16 21 06.3 -0.6**
MA2 *e* 16 23 57.9
MA2 *e* 16 31 11.7
MA2 Magadan 75.19 351 P **P** **16 21 04.4 -2.5**
QSPA South Pole Qui 75.36 180 P **P** **16 21 07.7 -0.2**
HHC Hu-ho-hao-te 75.59 320 *e*P **P** **16 21 10.2 +1.0**
HHC PCP PcP 16 21 22.7 +1.3
HHC AP pP 16 21 45.5 -0.1
HHC XP sP 16 21 59.9 -1.5
HHC PP PP 16 24 04.6 +4.1
HHC S S 16 30 37.8 -0.1
HHC SKS 16 31 01.7
HHC SCS ScS 16 31 07.7 -1.4
HHC XS sS 16 31 41.3 +0.4
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,145nm,7.2s
HHC LR LR
comp=N,108nm,13.2s
HHC LR LR
comp=E,138nm,14.4s
HHC LR LR
comp=Z,75nm,14.4s
CD2 Chengdu 76.04 308 *e*P **P** **16 21 11.9 +0.2**
CD2 AP pP 16 21 46.8 -1.4
CD2 XP sP 16 22 02.1 -1.9
CD2 PP PP 16 24 06.6 +2.3
CD2 S S 16 30 42.9 +0.1
CD2 XS sS 16 31 43.7 -2.1
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,80nm,4.9s
CD2 LR LR
comp=E,50nm,12.0s
CD2 LR LR
comp=Z,80nm,14.4s
HIA Hailar 76.27 330 P **P** **16 21 12.6 -0.4**
HIA *PP pP 16 21 47.7 -1.8
SEY Seymchan 78.23 353 *i* P **P** **16 21 23.9 0.0**
LZH Lanzhou 78.34 312 *e*P **P** **16 21 25.6 +1.1**
LZH AP pP 16 22 01.0 -0.2
LZH XP sP 16 22 16.5 -0.4
LZH PP PP 16 24 26.9 +3.3
LZH *e*S S 16 31 08.6 +0.9
LZH XS sS 16 32 09.8 -1.3
LZH AMB AMB
comp=Z,12nm,1.2s,mb4.4
LZH AMB AMB
comp=Z,69nm,6.0s
GAMB Gambell 79.85 9 P **P** **16 21 37.8 +5.1**
CIT Chita 81.06 330 *e*P **P** **16 21 39.0 -0.2**
MAW Mawson 81.98 202 *e*P **P** **16 21 44.1 +0.1**
comp=Z,39nm,1.0s,mb5.0
MAW Mawson 81.98 202 P **P** **16 21 44.2 +0.2**
comp=Z,43nm,1.0s,mb5.0,baz=185,slow=4.4,SNR=5.7
MAW LR LR 16 52 28.6
comp=Z,124nm,18.2s,baz=250,slow=31
YAK Yakutsk 81.99 343 *c i* P **P** **16 21 43.5 -0.6**
YAK pmax pmax
comp=Z,43nm,1.2s,mb5.0
YAK Yakutsk 81.99 343 P **P** **16 21 43.3 -0.8**
comp=Z,28nm,0.8s,mb4.9
ULN Ulaanbaatar 82.13 324 P **P** **16 21 45.2 +0.4**
ULN *PP pP 16 22 20.4 -1.4
BILL Bilibino 82.48 360⇓ *e*P **P** **16 21 46.8 +0.2**
BILL pmax pmax
comp=Z,23nm,1.8s,mb4.5
BILL Bilibino 82.48 360 *e*P **P** **16 21 46.2 -0.4**
comp=Z,8.5nm,1.0s,mb4.3
SONM Songino Array 82.49 324 P **P** **16 21 46.9 +0.2**
comp=Z,3.8nm,0.8s,mb4.0,baz=151,slow=5.8,SNR=27
SONM pP pP 16 22 22.8 -0.9
comp=Z,3.5nm,1.0s,baz=134,slow=5.8,SNR=5.1
SONM LR LR 16 54 51.9
comp=Z,34nm,20.9s,baz=237,slow=33
GTA Gaotai 82.68 314 P **P** **16 21 48.8 +1.1**
GTA PP PP 16 25 01.4 +2.0
GTA S S 16 31 51.8 -1.1
GTA AMB AMB
comp=Z,13nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,77nm,8.4s
GTA LR LR
comp=N,92nm,6.5s
GTA LR LR
comp=E,90nm,7.3s
GTA LR LR
comp=Z,76nm,8.8s
SHL Shillong 83.61 298 *e*P **P** **16 21 53.5 +1.1**
BOD Bodaibo 84.45 334 *e*P **P** **16 21 55.6 -1.1**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
MCK McKinley 85.06 18 P **P** **16 21 59.4 -0.4**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MCK McKinley 85.06 18 P **P** **16 21 59.4 -0.4**
comp=Z,5.2nm,1.0s,mb4.2
CMB Columbia Colle 85.49 49 P **P** **16 22 01.9 0.0**
CMB pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
CMB Columbia Colle 85.49 49 P **P** **16 22 01.9 0.0**
comp=Z,2.4nm,0.9s,mb3.9
ZAK Zakamensk 85.55 325 *e*P **P** **16 22 02.1 -0.1**
ZAK *e* pP 16 22 38.3 -1.1
ZAK pmax pmax
comp=Z,17nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,24nm,1.9s,mb4.6
LSA Lhasa 85.60 302 P **P** **16 22 04.5 +2.1**
LSA Lhasa 85.60 302 P **P** **16 22 04.1 +1.7**
LSA *PP pP 16 22 39.9 +0.2
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
LSA Lhasa 85.60 302 P **P** **16 22 04.1 +1.7**
comp=Z,9.7nm,0.8s,mb4.6
LSA pP pP 16 22 39.9 +0.3
COLA College 86.23 18 *e*P **P** **16 22 03.3 -2.2**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
COLA College 86.23 18 *e*P **P** **16 22 03.3 -2.2**
comp=Z,4.8nm,0.8s,mb4.3
ILAR Eielson Array 86.44 18 P **P** **16 22 04.7 -1.9**
comp=Z,3.9nm,0.8s,mb4.2,baz=239,slow=5.0,SNR=52
ILAR PKKPbc PKKPbc 16 40 01.2 -1.0
comp=Z,0.4nm,0.6s,baz=347,slow=2.3,SNR=6.8
ILAR LR LR 16 54 20.7
comp=Z,128nm,21.4s,baz=355,slow=31
DAC Darwin (Calif) 86.93 51 P **P** **16 22 08.4 -0.5**
DAC PKKPbc PKKPbc 16 39 59.9 -1.2
NVAR Mina Array Bea 87.16 49 P **P** **16 22 09.6 -0.5**
comp=Z,1.7nm,0.8s,mb3.9,baz=242,slow=11,SNR=11
NVAR PKKPbc PKKPbc 16 40 01.4 +0.9
comp=Z,0.3nm,0.5s,baz=104,slow=3.7,SNR=4.2
SYO Syowa Base 88.79 197⇑ *e*P **P** **16 22 14.0 -3.8**
SYO Syowa Base 88.79 197⇓ *e*PcP PcP 16 22 16.8 -2.4
SYO Syowa Base 88.79 197⇓ *e*pP pP 16 22 55.0 -0.3
SYO Syowa Base 88.79 197⇑ *e*PP PP 16 25 49.5 +0.7
JIRN Jiri 89.10 299 *e*P **P** **16 22 20.0 +0.8**
comp=Z,26nm,0.7s,mb5.2
GUN Gumba 89.44 299 *e*P **P** **16 22 21.3 +0.5**
comp=Z,41nm,1.0s,mb5.3
PKI Pulchoki 89.74 298 *e*P **P** **16 22 22.5 +0.3**
comp=Z,55nm,1.2s,mb5.4
PKI Pulchoki 89.74 298 *e*P **P** **16 22 22.5 +0.3**
PKI pmax pmax
comp=Z,28nm,1.2s,mb5.1
KKN Kakani 89.91 299 *e*P **P** **16 22 23.4 +0.4**
comp=Z,26nm,0.8s,mb5.2
KKN Kakani 89.91 299 *e*P **P** **16 22 23.4 +0.4**
KKN pmax pmax
comp=Z,13nm,0.8s,mb4.9
TIXI Tiksi 89.92 349 *i* P **P** **16 22 21.7 -1.3**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TIXI Tiksi 89.92 349 P **P** **16 22 21.8 -1.3**
DMN Daman 90.01 298 *e*P **P** **16 22 24.1 +0.7**
comp=Z,65nm,1.0s,mb5.5
GKN Gorkha 90.52 299 *e*P **P** **16 22 25.5 -0.3**
comp=Z,51nm,1.1s,mb5.5
KOLN Koldanda 91.34 298 *e*P **P** **16 22 29.0 -0.6**
comp=Z,23nm,1.2s,mb5.1
TMUT Trail Mountain 92.68 50 PKKPbc PKKPbc 16 39 48.8 +1.9
WMQ Urumqi 92.74 315 *e*P **P** **16 22 37.0 +0.9**
WMQ AP pP 16 23 13.0 -0.7
WMQ XP sP 16 23 28.0 -1.2
WMQ PP PP 16 26 24.0 +4.0
WMQ SKS 16 32 56.0
WMQ S 16 33 27.0
WMQ AMB AMB
comp=Z,16nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,105nm,8.0s
WMQ LR LR
comp=N,56nm,11.0s
WMQ LR LR
comp=E,62nm,13.0s
WMQ LR LR
comp=Z,42nm,10.0s
NVL N'lazarevskaya 93.13 188⇓ *i*P **P** **16 22 37.8 -0.1**
NVL pmax pmax
comp=Z,22nm,0.8s,mb5.3
SRU San Rafael 93.14 51 PKKPbc PKKPbc 16 39 46.4 +0.8
VNA3 Neumayer Olymp 94.28 181⇑ *i*P **P** **16 22 41.7 -1.5**
VNA3 *e* 16 22 46.9
VNA3 *e* 16 22 50.9
VNA2 Neumayer--Watz 94.55 182⇑ *i*P **P** **16 22 43.3 -1.1**
baz=182,slow=5.3
VNA2 *e* 16 22 48.3
VNA2 *e* 16 22 52.2
VNA2 *e* 16 23 07.2
LKWY Lake 94.73 45 P **P** **16 22 45.9 +0.7**
LKWY pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
LKWY Lake 94.73 45 P **P** **16 22 45.9 +0.7**
comp=Z,6.0nm,0.5s,mb5.1
PDAR Pinedale Array 94.84 47 PKKPbc PKKPbc 16 39 41.3 +0.1
comp=Z,1.2nm,0.7s,baz=84,slow=5.7,SNR=10
SDCO Great Sand Dun 96.61 53 PKKPbc PKKPbc 16 39 37.8 +1.4
MKAR Makanchi Array 97.22 316 P **P** **16 22 56.7 +0.2**
comp=Z,5.9nm,0.7s,mb5.0,baz=95,slow=6.3,SNR=76
MKAR pP pP 16 23 33.6 -0.6
comp=Z,1.6nm,0.8s,baz=82,slow=8.6,SNR=2.9
MKAR PP PP 16 27 02.0 +7.3
comp=Z,0.3nm,0.6s,baz=112,slow=8.4,SNR=5.8
MKAR PKiKP PKiKP 16 27 30.8 -0.4
comp=Z,0.3nm,0.5s,baz=108,slow=2.7,SNR=8.7
MKAR Makanchi Array 97.22 316 P **P** **16 22 56.7 +0.2**
MKAR pP pP 16 23 33.6 -0.6
MKAR PP PP 16 27 02.0 +7.3
ZAL Zalesovo 97.40 324 P **P** **16 22 55.9 -1.5**
comp=Z,3.0nm,0.7s,mb4.7,baz=12,slow=4.8,SNR=22
ZAL pP pP 16 23 33.1 -1.9
comp=Z,0.9nm,0.6s,baz=12,slow=5.4,SNR=2.2
YKA Yellowknife Ar 97.45 27 P **P** **16 22 55.9 -1.6**
comp=Z,0.8nm,0.7s,mb4.1,baz=255,slow=4.5,SNR=14
YKA PKKPbc PKKPbc 16 39 33.2 -0.9
comp=Z,0.5nm,0.7s,baz=66,slow=2.7,SNR=9.5
YKA LR LR 17 03 37.8
comp=Z,83nm,19.4s,baz=265,slow=33
YKA Yellowknife Ar 97.45 27 P **P** **16 22 55.9 -1.6**
YKA PKKPbc PKKPbc 16 39 33.2 -0.9
YKA LR LR 17 03 37.8
KEV Kevo 119.68 345 *ep* PKPdf 16 28 11.0 -2.1
comp=Z,6.6nm,0.6s
SUMG Summit 120.16 9 PKPdf PKPdf 16 28 14.5 +0.5
ARCES ARCESS Array B 120.21 345 PKP PKPdf 16 28 13.2 -0.9
comp=Z,10nm,0.6s,baz=81,slow=1.8,SNR=44
SCHQ Schefferville 122.19 34 PKP PKPdf 16 28 16.3 -1.6
comp=Z,2.4nm,0.9s,baz=198,slow=9.6,SNR=3.4
SCHQ Schefferville 122.19 34 PKP PKPdf 16 28 16.3 -1.6
SUR Sutherland 123.31 214 PKP PKPdf 16 28 20.8 +0.8
comp=Z,4.4nm,0.6s,baz=239,slow=5.9,SNR=4.3
BOSA Boshof 123.48 220 PKP PKPdf 16 28 21.1 +0.8
comp=Z,8.9nm,1.0s,baz=189,slow=0.4,SNR=4.3
VRHR Novokhopersk 123.48 322 *e*PKIKP PKPdf 16 28 18.8 -1.5
VRHR pmax pmax
comp=Z,7.0nm,0.4s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,7.0nm,0.5s
ZEI Tsey 124.27 312 *i* PKIKP PKPdf 16 28 21.5 -0.4
OBN Obninsk 124.69 328⇑ *i*PKIKP PKPdf 16 28 21.5 -1.2
OBN pmax pmax
comp=Z,13nm,0.6s
KAF Kangasniemi 125.17 339 *ep* PKPdf 16 28 22.4 -1.2
comp=Z,4.5nm,0.5s
FINES FINESS Array B 125.69 338 PKP PKPdf 16 28 23.9 -0.7
comp=Z,7.0nm,0.8s,baz=58,slow=2.1,SNR=28
LBTB Lobatse 125.73 224 PKP PKPdf 16 28 25.4 +0.8
comp=Z,5.7nm,0.6s,baz=169,slow=3.5,SNR=5.7
KMBO Kilima Mbogo 128.20 257 PKP PKPdf 16 28 30.4 +1.0
comp=Z,1.4nm,0.6s,baz=200,slow=23,SNR=5.7
KMBO Kilima Mbogo 128.20 257 PKP PKPdf 16 28 30.4 +1.0
MALT Malatya 129.33 308 PKIKP PKPdf 16 28 33.3 +1.8
LSZ Lusaka 129.86 235 PKP PKPdf 16 28 33.8 +1.3
comp=Z,5.0nm,0.6s,baz=120,slow=2.3,SNR=12
NB2 NORSAR Subarra 130.58 345 PKPd PKPdf 16 28 34.0 +0.1
comp=Z,3.2nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 130.58 345 PKP PKPdf 16 28 33.8 -0.1
comp=Z,3.8nm,0.7s,baz=35,slow=2.0,SNR=16
NOA SKPbc SKPbc 16 31 44.8 +0.9
comp=Z,12nm,0.7s,baz=31,slow=3.0,SNR=54
HFS Hagfors 130.69 343 PKP PKPdf 16 28 33.4 -0.7
comp=Z,1.1nm,0.4s,baz=104,slow=6.1,SNR=7.7
AKASG Malin Array Be 130.73 326 PKP PKPdf 16 28 33.9 -0.3
comp=Z,1.2nm,0.4s,baz=48,slow=2.9,SNR=12
AKASG SKPbc SKPbc 16 31 45.2 +0.8
comp=Z,8.5nm,0.9s,baz=47,slow=4.3,SNR=22
AKASG Malin Array Be 130.73 326 PKP PKPdf 16 28 33.9 -0.3
AKASG SKPbc SKPbc 16 31 45.2 +0.8
BRTR Keskin Array B 132.53 311 PKP PKPdf 16 28 38.7 +1.1
comp=Z,1.4nm,0.6s,baz=138,slow=4.5,SNR=8.3
BRTR SKPbc SKPbc 16 31 52.2 +1.4
comp=Z,0.8nm,0.7s,baz=117,slow=5.5,SNR=5.0
CFR Carcaliu 134.12 320 ⇓P PKPdf 16 28 42.5 +1.9
CFR Carcaliu 134.12 320 ⇓P PKPdf 16 28 42.5 +1.9
BURAR Bucovina Array 134.61 324 ⇓P PKPdf 16 28 43.2 +1.7
BURAR Bucovina Array 134.61 324 ⇓P PKPdf 16 28 43.2 +1.7
KWP Kalwaria 134.78 328 *e*PKP PKPdf 16 28 43.7 +1.9
TSUM Tsumeb 135.08 222 PKP PKPdf 16 28 42.5 +0.1
comp=Z,1.9nm,0.4s,baz=184,slow=4.3,SNR=5.2
KOLS Kolonicke sedl 135.44 327 *e*PKP PKPdf 16 28 44.0 +1.0
STHS Stebnicka Huta 135.66 329 *e*PKP PKPdf 16 28 44.6 +1.2
KECS Kecovo 136.64 328 *e*PKP PKPdf 16 28 45.0 -0.3
PSZ Piszkesteto 137.31 328 PKIKP PKPdf 16 28 47.5 +1.0
DPC Dobruska-Polom 137.36 333 *e*PKPdf PKPdf 16 28 47.3 +0.7
UPC Upice 137.38 333 *e*PKPdf PKPdf 16 28 46.8 +0.2
VYHS Vyhne 137.47 329 *e*PKP PKPdf 16 28 48.6 +1.8
BZS Buzias 137.78 324 ⇑P PKPdf 16 28 48.0 +0.6
BZS Buzias 137.78 324 ⇑P PKPdf 16 28 48.0 +0.6
BRG Berggiesshubel 137.99 335 *e*P PKPdf 16 28 42.2 -5.5
comp=Z,2.0nm,0.9s
BRG *e* 16 28 50.3
comp=Z,5.3nm,1.1s
BRG Berggiesshubel 137.99 335 *e*PKIKP PKPdf 16 28 42.2 -5.6
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG pmax pmax
comp=Z,11nm,0.5s
CLL Collm 138.03 336 *e*PKPdf PKPdf 16 28 50.0 +2.2
comp=Z,6.0nm,0.8s
PRU Pruhonice 138.41 334 *e*PKPdf PKPdf 16 28 50.3 +1.8
NKC Novy Kostel 139.09 335 *e*PKPdf PKPdf 16 28 52.4 +2.6
KHC Kasperske Hory 139.46 333 *e*PKPdf PKPdf 16 28 50.8 +0.3
GERES GERESS Array B 139.62 333 PKhKP 16 28 43.2
comp=Z,0.5nm,0.5s,baz=27,slow=2.2,SNR=4.5
GERES PKP PKPdf 16 28 49.7 -1.1
comp=Z,3.0nm,0.9s,baz=45,slow=1.9,SNR=10
GERES SKPbc SKPbc 16 32 14.4 +1.9
comp=Z,1.0nm,0.6s,baz=27,slow=3.0,SNR=5.5
GERES GERESS Array B 139.62 333 PKP PKPdf 16 28 49.7 -1.1
GERES SKPbc SKPbc 16 32 14.4 +1.9
GRA2 Grafenberg Arr 139.98 336 *e*PKP PKPdf 16 28 53.8 +2.4
BOJS Bojanci 141.30 328 *e*PKPbc PKPdf 16 28 49.0 -4.8
VISS Visnje 141.30 329 *e*PKPbc PKPdf 16 28 48.7 -5.1
MOTA Moosalm 141.90 334⇑ *i*PKPdf PKPdf 16 28 51.5 -3.3
comp=Z,8.8nm,1.2s
SQTA Sankt Quirin 141.95 333⇑ *i*PKPdf PKPdf 16 28 53.4 -1.5
comp=Z,3.5nm,0.8s
DAVA Damuels 142.46 335⇑ *i*PKPdf PKPdf 16 28 53.8 -2.1
comp=Z,19nm,1.2s
CDF Champ du Feu 142.55 338 *e*PKP1 PKPdf 16 28 52.0 -4.0
comp=Z,17nm,0.8s
THEF They Montfort 143.16 339 PKP PKPdf 16 28 54.7 -2.4
HINF Hinteralfeld 143.20 338 *e*PKP1 PKPdf 16 28 53.9 -3.3
comp=Z,8.3nm,0.6s
HAU Haudompre 143.22 339 *e*PKP1 PKPdf 16 28 55.4 -1.8
comp=Z,22nm,0.8s
LOMF Lomont 143.60 338 PKP PKPdf 16 28 57.0 -0.9
AQU L'Aquila 144.43 326 PKIKP PKPdf 16 28 59.0 -0.3
TIP Timpagrande 144.45 319 PKPdf PKPdf 16 28 58.5 -0.8
CABF La Chapelle 144.50 338 *e*PKP1 PKPdf 16 28 59.5 +0.1
comp=Z,62nm,0.8s
FLN La Foliniere 144.55 346⇑ *i*PKP1 PKPdf 16 28 58.6 -0.9
comp=Z,53nm,0.7s
LDF La Druitiere 144.63 346⇑ *i*PKP1 PKPdf 16 28 58.8 -0.8
comp=Z,46nm,0.8s
VLC Villacollemand 144.66 331 PKPdf PKPdf 16 28 59.1 -0.6
LOR Lormes 144.71 340 *e*PKP1 PKPdf 16 28 59.7 -0.1
comp=Z,77nm,1.0s
GRR Gorron 144.99 346⇑ *i*PKP1 PKPdf 16 29 00.4 +0.1
comp=Z,139nm,0.7s
SSF Saint Saulge 145.00 341⇑ *i*PKP1 PKPbc 16 29 00.9 +0.9
comp=Z,195nm,0.8s
RSL Roselend 145.07 336 PKP PKPdf 16 29 01.0 +0.6
HYF Humbligny 145.09 342 *e*PKP1 PKPbc 16 29 01.3 +1.1
LPL La Plagne 145.17 336⇑ *i*PKP1 PKPbc 16 29 01.8 +1.3
comp=Z,69nm,0.6s
LPG La Plagne 145.18 336⇑ *i*PKP1 PKPbc 16 29 02.0 +1.5
comp=Z,100nm,0.7s
OG05 Jujurieux 145.21 338 PKP PKPdf 16 29 01.6 +0.9
SMF Signal de Mont 145.26 340⇑ *i*PKP1 PKPbc 16 29 01.5 +0.7
comp=Z,222nm,1.2s
AVF Avril sur Loir 145.29 341⇑ *i*PKP1 PKPbc 16 29 01.5 +0.6
comp=Z,93nm,0.9s
SGMF Saint Gilles 145.48 348⇑ *i*PKP1 PKPbc 16 29 01.9 +0.4
comp=Z,120nm,0.8s
ROSF Rostrenen 145.54 349 *e*PKP1 PKPbc 16 29 02.1 +0.4
comp=Z,127nm,1.1s
BNI Bardonecchia 145.57 335 PKP2 PKPab 16 29 01.9 -0.3
OG22 Abries 145.65 335 PKP PKPdf 16 29 02.7 +1.3
BGF Bois d'Agland 145.66 341⇑ *i*PKP1 PKPbc 16 29 02.8 +0.8
comp=Z,87nm,0.6s
GDM Grand'Maison 145.67 336 PKP PKPdf 16 29 03.2 +1.8
GRN Grenoble 145.78 337 PKP PKPdf 16 29 03.8 +2.2
MBDF Montbardon 145.80 335⇑ *i*PKP1 PKPbc 16 29 03.1 +0.7
comp=Z,56nm,0.8s
PLDF La Plantade 145.92 340 PKP PKPdf 16 29 04.1 +2.2
QUIF Quistinic 145.93 349⇑ *i*PKP1 PKPbc 16 29 02.9 +0.1
comp=Z,35nm,0.8s
SURF Saint Ours 145.99 335 PKP PKPdf 16 29 04.4 +2.4
ORIF Oris-en-Rattie 146.00 336⇑ *i*PKP1 PKPbc 16 29 04.1 +1.1
comp=Z,150nm,0.7s
AGO Saint Agoulin 146.01 340 PKP PKPdf 16 29 04.1 +2.1
SAOF Saorge 146.07 333 PKP PKPdf 16 29 03.8 +1.7
TCF Toulx Ste Croi 146.10 341⇑ *i*PKP1 PKPbc 16 29 04.0 +0.7
comp=Z,80nm,0.9s
AUTN L'Aution 146.12 334 PKP PKPdf 16 29 04.1 +1.9
SBF Sospel 146.22 333 *e*PKP1 PKPbc 16 29 04.1 +0.4
comp=Z,222nm,0.9s
COLF Collangettes 146.29 339 PKP PKPdf 16 29 05.0 +2.5
PYM Petit Puy Mans 146.32 340 PKP PKPdf 16 29 05.0 +2.5
MFF Saint Martin d 146.48 344⇑ *i*PKP1 PKPbc 16 29 05.2 +0.8
comp=Z,149nm,0.8s
VERF Verneugheol 146.49 341 PKP PKPdf 16 29 06.0 +3.2
VIVF Saint-Julien-l 146.51 337⇑ *i*PKP1 PKPbc 16 29 05.4 +0.9
comp=Z,51nm,0.8s
PGF Pioggiola 146.54 330⇑ *i*PKP1 PKPbc 16 29 05.3 +0.7
comp=Z,132nm,0.8s
LCHF La Chataignera 146.57 345 PKP PKPdf 16 29 06.2 +3.2
CORF Corte 146.66 330 PKP PKPdf 16 29 05.5 +2.4
LBL Lubilhac 146.70 339 PKP PKPdf 16 29 06.6 +3.4
FRNF Fournols 146.79 340 PKP PKPdf 16 29 06.7 +3.4
FRF La Foret Royal 146.81 334⇑ *i*PKP1 PKPbc 16 29 05.9 +0.5
comp=Z,211nm,1.0s
SMRF Simiane la Rot 146.91 336⇑ *i*PKP1 PKPbc 16 29 06.8 +1.1
comp=Z,167nm,1.2s
LMR La Mourre 147.05 334⇑ *i*PKP1 PKPbc 16 29 06.5 +0.4
comp=Z,159nm,1.0s
RJF Les Rejaudoux 147.19 341⇑ *i*PKP1 PKPbc 16 29 07.3 +0.8
comp=Z,70nm,0.8s
CAF Calviac 147.36 340⇑ *i*PKP1 PKPbc 16 29 07.9 +1.0
comp=Z,78nm,1.1s
OLEF Ile d'Oleron 147.40 345 PKP PKPdf 16 29 07.6 +3.3
LASF Ste Croix 147.48 338⇑ *i*PKP1 PKPbc 16 29 08.2 +1.0
comp=Z,130nm,1.1s
LFF La Frestale 147.76 342⇑ *i*PKP1 PKPbc 16 29 08.8 +0.8
comp=Z,119nm,0.7s
VSL Villasalto 148.61 326 PKPdf PKPdf 16 29 10.6 +4.3
MTLF Montolieu 148.71 339⇑ *i*PKP1 PKPbc 16 29 11.4 +1.0
comp=Z,106nm,0.9s
LRDF Laroque-de-Fa 148.95 338 PKP PKPdf 16 29 12.1 +5.2
MLS Moulis 149.43 340 PKP PKPdf 16 29 12.9 +5.2
EPF Esparros 149.61 341⇑ *i*PKP1 PKPbc 16 29 13.9 +1.2
comp=Z,17nm,0.5s
RESF Ens 149.81 341 PKP PKPdf 16 29 15.1 +6.8
VIEF Viey 149.84 341 PKP PKPdf 16 29 14.9 +6.6
ATE Arette 149.88 342 PKP PKPdf 16 29 14.2 +5.8
SJPF Ste Jean 150.00 343 *e*PKP1 PKPbc 16 29 14.8 +1.2
comp=Z,78nm,1.1s
ETSF Etsaut 150.00 342⇑ *i*PKP1 PKPbc 16 29 15.0 +1.4
comp=Z,54nm,0.6s
ESDC Sonseca Array 153.94 345 PKP PKPdf 16 29 13.5 -0.9
comp=Z,0.3nm,0.3s,baz=23,slow=1.4,SNR=3.1
ESDC PKPbc PKPbc 16 29 23.2 +0.6
comp=Z,0.3nm,0.3s,baz=45,slow=1.8,SNR=6.2
TORD Torodi Ar. Bea 166.00 266 PKP PKPdf 16 29 28.2 +0.4
comp=Z,1.1nm,0.5s,baz=72,slow=0.6,SNR=9.0
TORD PKPab PKPab 16 30 29.7 +0.8
comp=Z,15nm,0.9s,baz=98,slow=3.6,SNR=44
DBIC Dimbokro 168.97 225 PKP PKPdf 16 29 29.6 -0.4
comp=Z,8.5nm,1.1s,baz=135,slow=1.4,SNR=3.6

ISCJB ***10*** *16:58:33.4±0.5,5143N±003×1605E±002,h0km, Error ellipse: s-maj=4.3km s-min=2.0km az=21.1*
IPEC ***10*** *16:58:33.1±0.2,5160N×1616E,h0km,ML2.6/3, Error ellipse: s-maj=1.5km s-min=0.8km az=31.0*
BGR ***10*** *16:58:33.4±0.7,5155N×1613E,h1km,ML3.0/10, Error ellipse: s-maj=7.8km s-min=5.6km az=164.0*
WAR ***10*** *16:58:35,5155N×1605E,ML2.8, Mining Induced*
PRU ***10*** *16:58:36.1,5147N×1599E,h0km*
CSEM ***10*** *16:58:36.3±0.2,5147N×1602E,h1km,ML3.4/6, Error ellipse: s-maj=2.9km s-min=1.6km az=8.0*
VIE ***10*** *16:58:37.1±0.5,5131N×1596E,h0km,mb2.7/4,ML2.9/4, Error ellipse: s-maj=2.9km s-min=1.9km az=13.0 77 km*
WNW of Breslau Suspected Mining induced.

ISC 10 16:58:34.5±0.5,5151N±003×1602E±002,h0km,n46,
σ0.88/83,2C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**165**	*e*Pg	**Pg**	**16 58 48.3**	**+0.6**
KSP				*e*Sg	**Sg**	**16 58 58.1**	**+1.5**
UPC	**Upice**	**1.00**	**180**	*e*PG	**Pg**	**16 58 54.0**	**+0.3**
UPC	**Upice**	**1.00**	**180**	*e*Pg	**Pg**	**16 58 54.3**	**+0.6**
DPC	**Dobruska-Polom**	**1.18**	**171**	*e*PG	**Pg**	**16 58 57.0**	**0.0**
DPC				*e*SG	**Sg**	**16 59 11.2**	**-1.0**
	93nm,0.8s						
DPC	**Dobruska-Polom**	**1.18**	**171**	*e*Pg	**Pg**	**16 58 57.0**	**0.0**
DPC				*e*Sg	**Sg**	**16 59 12.8**	**+0.6**
PVCC	**Panska Ves**	**1.34**	**224**	*e*PG	**Pg**	**16 59 00.4**	**+0.2**
BRG	**Berggiesshubel**	**1.45**	**245**	*e*Pn	**Pn**	**16 59 00.8**	**-1.2**
BRG				*e*Sg	**Sg**	**16 59 22.8**	**+1.7**
BRG	**Berggiesshubel**	**1.45**	**245**	PN	**Pn**	**16 59 00.7**	**-1.3**
BRG				PG	**Pg**	**16 59 02.6**	**+0.3**
BRG				SG	**Sg**	**16 59 22.6**	**+1.4**
	11nm,0.5s						
BRG	**Berggiesshubel**	**1.45**	**245**	*e*Pn	**Pn**	**16 59 02.8**	**+0.8**
BRG				*e*Sg	**Sg**	**16 59 22.5**	**+1.3**
PRA	**Prague**	**1.76**	**216**	PN	**Pn**	**16 59 06.0**	**-0.1**
FBE	**Freiberg**	**1.78**	**252**	*e*Pg	**Pg**	**16 59 07.2**	**-1.3**
FBE				*e*Sg	**Sg**	**16 59 31.8**	**+0.2**
PRU	**Pruhonice**	**1.79**	**212**	*e*PN	**Pn**	**16 59 06.3**	**-0.3**
PRU				*e*SG	**Sg**	**16 59 32.0**	**+0.1**
	47nm,0.6s						
PRU	**Pruhonice**	**1.79**	**212**	*e*Pn	**Pn**	**16 59 06.2**	**-0.4**
PRU				*e*Sg	**Sg**	**16 59 32.0**	**+0.1**
	47nm,0.6s						
CLL	**Collm**	**1.90**	**265**	*e*Pn	**Pn**	**16 59 07.0**	**-1.1**
CLL				*e*Sg	**Sg**	**16 59 35.9**	**+0.3**
CLL	**Collm**	**1.90**	**265**	*i* Pn	**Pn**	**16 59 07.1**	**-1.0**
	comp=Z,20nm,0.5s						
CLL				*i* Pg	**Pg**	**16 59 10.7**	**-0.2**
CLL				*i* x	x	16 59 14.1	
CLL				*i* Sg	**Sg**	**16 59 35.9**	**+0.4**

comp=Z,33nm,0.7s
MORC Moravsky Berou 1.99 150 *e*Pn **Pn 16 59 08.5 -0.8**
MORC *e*Sg **Sg 16 59 36.2 -2.1**
comp=Z,31nm,0.4s
OKC Ostrava-Krasne 2.15 140 *e*PN **Pn 16 59 12.9 +1.3**
OKC *e*SN **Sn 16 59 40.1 +1.1**
VRAC Vranov 2.23 170 *e*Pn **Pn 16 59 12.9 +0.2**
VRAC *e*Sg **Sg 16 59 44.7 -1.5**
comp=Z,39nm,0.6s
KRUC Moravsky 2.46 174 *e*Pn **Pn 16 59 16.4 +0.6**
KRUC Moravsky 2.46 174 *e*Pg **Pg 16 59 20.4 -1.2**
KRUC *e*Sg **Sg 16 59 52.0 -1.6**
comp=Z,32nm,0.5s
TANN Tannenbergstha 2.50 245 *e*Pn **Pn 16 59 16.2 -0.2**
TANN *e*Sg **Sg 16 59 55.0 +0.1**
WERD Werda 2.58 247 *e*Pn **Pn 16 59 17.1 -0.3**
WERD *e*Sg **Sg 16 59 58.6 +1.3**
NKC Novy Kostel 2.60 242 *e*PN **Pn 16 59 17.6 -0.1**
NKC *e*SG **Sg 16 59 58.4 +0.4**
comp=Z,103nm,0.7s
NKC Novy Kostel 2.60 242 *e*Pn **Pn 16 59 17.7 0.0**
NKC *e*Sg **Sg 16 59 58.4 +0.4**
WERN Wernitzgruen 2.61 244 *e*Pn **Pn 16 59 18.0 +0.1**
WERN *e*Sg **Sg 16 59 58.4 0.0**
OJC Ojcow 2.72 117 *e*Pg **Pg 16 59 25.3 -1.3**
OJC *e*Sg **Sg 17 00 01.4 -0.4**
KHC Kasperske Hory 2.85 214 *e*PN **Pn 16 59 21.2 0.0**
KHC *e*PG **Pg 16 59 27.2 -1.9**
KHC *e*SG **Sg 17 00 04.4 -1.6**
comp=Z,57nm,1.0s
KHC Kasperske Hory 2.85 214 *e*Pn **Pn 16 59 21.0 -0.2**
KHC Kasperske Hory 2.85 214 *e*Pg **Pg 16 59 27.2 -1.9**
KHC *e*Sg **Sg 17 00 05.2 -0.8**
MOX Moxa 2.91 254 *e*Sg **Sg 17 00 09.2 +1.2**
MOX Moxa 2.91 254 *e*Sg **Sg 17 00 08.7 +0.7**
MOX Moxa 2.91 254 *e*PG **Pg 16 59 30.2 0.0**
MOX *e*SG **Sg 17 00 09.3 +1.3**
ROTZ Rotzenmuhle 2.99 236 *e*Pn **Pn 16 59 23.1 0.0**
ROTZ *e*Sg **Sg 17 00 10.4 -0.1**
GEC2 GERESS Array S 3.06 210 *e*Pn **Pn 16 59 24.7 +0.7**
GEC2 *e*Sg **Sg 17 00 12.3 -0.3**
WET Wettzell 3.11 222 *e*Pn **Pn 16 59 24.8 +0.1**
SMOL Smolenice 3.13 163 *e*SG **Sg 17 00 17.3 +2.2**
ZST Bratislava 3.39 168 *e*PG **Pg 16 59 38.6 -0.8**
ZST *e*SG **Sg 17 00 23.1 -0.3**
NIE Niedzica 3.45 126 *e*P **Pg 16 59 39.4 -1.2**
NIE *e*S **Sg 17 00 25.8 +0.5**
VYHS Vyhne 3.52 148 *e*PG **Pg 16 59 41.9 -0.1**
VYHS *e* 17 00 26.7
MOA Molln 3.84 198 *i* Pn **Pn 16 59 35.3 +0.6**
SNR=17
MOA ⇑*i*Sg **Sg 17 00 37.9 +0.2**
comp=Z,30nm,0.8s
STHS Stebnicka Huta 3.94 120 *e*PN **Pn 16 59 36.0 -0.2**
STHS *e*PG **Pg 16 59 49.3 -0.7**
STHS *e*SG **Sg 17 00 41.3 +0.3**
KECS Kecovo 4.18 135 *e*PG **Pg 16 59 54.3 -0.3**
KECS *e*SG **Sg 17 00 49.9 +1.2**
ARSA Arzberg 4.28 185 ⇑*i*Pn **Pn 16 59 41.5 +0.7**
ARSA ⇓*i*Sg **Sg 17 00 51.5 -0.3**
comp=Z,24nm,0.6s
CRVS Cervenica-Dubn 4.36 125 *e*PG **Pg 16 59 57.8 -0.2**
CRVS Cervenica-Dubn 4.36 125 *e*PG **Pg 16 59 58.1 +0.1**
CRVS *e*SG **Sg 17 00 55.6 +1.0**
KOLS Kolonicke sedl 4.77 120 *e*SG **Sg 17 01 10.3 +2.6**

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*ISCJB **10** 17:06:04.5±1.5, 7961N±008×20.1E±03, h1km±9km, mb3.7/5, Error ellipse: s-maj=13.5km s-min=8.0km az=2.0*
*IDC **10** 17:06:06.5±2.8, 7970N×2025E, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.4/22, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=48.6km s-min=22.1km az=111.0*
*CSEM **10** 17:06:06.5±0.3, 7946N×2118E, h5km, mb3.8/2, Error ellipse: s-maj=6.7km s-min=4.6km az=153.0*
*MOS **10** 17:06:06.5±0.9, 7940N×1989E, h10km, mb4.1/2, Error ellipse: s-maj=80.9km s-min=8.0km az=91.4*
*NEIC **10** 17:06:07.2±1.1, 7966N×1960E, h10km, mb3.8/2, Error ellipse: s-maj=16.5km s-min=10.5km az=166.0*
*BER **10** 17:06:08.3±4.7, 7979N×1978E, h15km±35km, MD2.3, ML3.3, ML3.3(NAO)*
*NAO **10** 17:06:10.2±4.3, 7967N×1912E, h32km±24km, ML3.3*

ISC 10 17:06:05.9±1.5, 7969N±008×199E±03, h5km±9km, n33, σ0.89/47, mb3.6/5, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.66 206**		Pn	**Pn**	**17 06 36.2**	**+0.5**
	baz=18,slow=14						
SPA0				Pg	**Pg**	**17 06 39.3**	**+1.6**
	baz=22,slow=16						
SPA0				Lg		17 07 02.3	
	baz=44,slow=28						
SPA0	**Spitsbergen Ar**	**1.66 206**		Pg	**Pg**	**17 06 39.3**	**+1.6**
KBS	**Kingsbay**	**1.67 247**		Pn	**Pn**	**17 06 34.5**	**-1.2**
KBS				Pg	**Pg**	**17 06 37.5**	**-0.4**
KBS				Lg		17 06 58.9	
KBS	**Kingsbay**	**1.67 247**		*e*P	**Pn**	**17 06 34.5**	**-1.3**
KBS				*e*Sg	**Sg**	**17 06 59.1**	**-0.3**
KBS				AML	AML	17 07 09.7	
	comp=Z,552nm,0.5s						
KBS	**Kingsbay**	**1.67 247**		Pg	**Pg**	**17 06 37.5**	**-0.3**
KBS				*e*Sn	**Sn**	**17 06 58.6**	**+1.1**
KBS				*e*Sg	**Sg**	**17 06 59.1**	**-0.4**
	comp=Z,552nm,0.5s,SNR=91						
KBS	**Kingsbay**	**1.67 247**		*e*P	**Pn**	**17 06 34.4**	**-1.3**
KBS				*e*S	**Sn**	**17 06 58.7**	**+1.2**
KBS	**Kingsbay**	**1.67 247**		*e*Pn	**Pn**	**17 06 34.4**	**-1.3**
KBS				*e*P		17 06 34.5	
KBS				*i*		17 06 37.3	
KBS				Pg	**Pg**	**17 06 37.5**	**-0.4**
KBS				*e*Sn	**Sn**	**17 06 58.6**	**+1.1**
KBS				*e*S	**Sn**	**17 06 58.7**	**+1.2**
HSP	**Hornsund**	**2.83 200**		*e*P	**Pn**	**17 06 52.3**	**+0.5**
HOPEN	**Hopen**	**3.37 159**		*e*P	**Pn**	**17 07 00.3**	**+1.2**
HOPEN				*e*S	**Sn**	**17 07 40.4**	**+1.0**
BJO	**Bjornoya**	**5.21 182**		*e*S	**Sn**	**17 08 23.9**	**-1.1**
KEV	**Kevo**	**10.15 166**		*e*Pn	**Pn**	**17 08 32.1**	**0.0**
KEV				*e*Sn	**Sn**	**17 10 19.0**	**-7.3**
ARA0	**ARCESS Array S**	**10.31 169**		Pn	**Pn**	**17 08 34.6**	**+0.2**
	baz=356,slow=9.3						
ARA0				Sn	**Sn**	**17 10 21.4**	**-8.9**
	baz=358,slow=22						
ARCES	**ARCESS Array B**	**10.31 169**		Pn	**Pn**	**17 08 34.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=358,slow=12,SNR=23						
ARCES				Sn	**Sn**	**17 10 23.0**	**-7.3**
	comp=Z,1.5nm,0.3s,baz=1.6,slow=20,SNR=5.4						
ARCES	**ARCESS Array B**	**10.31 169**		Pn	**Pn**	**17 08 34.3**	**-0.1**
ARCES				Sn	**Sn**	**17 10 23.0**	**-7.3**
APA0	**Apatity Array**	**12.63 157**		P	**Pn**	**17 09 05.3**	**-0.8**
	baz=351,slow=14						
APA	**Apatity**	**12.70 156**		*e*P	**Pn**	**17 09 05.2**	**-1.8**
APA				*e*		17 11 20.6	
KAF	**Kangasniemi**	**17.77 170**		*e*p	**Pn**	**17 10 12.4**	**-1.5**
FIA0	**FINESS Array S**	**18.43 171**		P	**Pn**	**17 10 21.7**	**-0.3**
	baz=5.5,slow=12						
FINES	**FINESS Array B**	**18.43 171**		P	**Pn**	**17 10 21.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=11,SNR=5.9						
NB2	**NORSAR Subarra**	**18.92 193**		P	**Pn**	**17 10 28.6**	**+0.6**
NOA	**NORSAR Array B**	**18.92 193**		P	**Pn**	**17 10 28.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=11,slow=9.5,SNR=3.4						
HFS	**Hagfors**	**19.74 189**		P	**Pn**	**17 10 37.0**	**-0.8**
	baz=360,slow=10						
HFS	**Hagfors**	**19.74 189**		P	**Pn**	**17 10 37.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=9.5,slow=9.0,SNR=12						
AKASG	**Malin Array Be**	**29.29 168**		P	**P**	**17 12 08.5**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=353,slow=9.3,SNR=4.4						
MORC	**Moravsky Berou**	**30.04 183**		P	**P**	**17 12 16.2**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.8						
MORC	**Moravsky Berou**	**30.04 183**		P	**P**	**17 12 16.2**	**+0.4**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
MORC	**Moravsky Berou**	**30.04 183**		P	**P**	**17 12 16.2**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.8						
BRVK	**Borovoye**	**31.40 117**		*e*P	**P**	**17 12 28.0**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.7						
BRVK	**Borovoye**	**31.40 117**		*e*P	**P**	**17 12 28.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
BRVK	**Borovoye**	**31.40 117**		*e*P	**P**	**17 12 28.1**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**31.45 117**		P	**P**	**17 12 29.4**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=342,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**39.46 107**		P	**P**	**17 13 37.2**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=350,slow=6.8,SNR=23						
MKAR	**Makanchi Array**	**39.46 107**		P	**P**	**17 13 37.2**	**+0.1**

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*MOS **10** 17:51:51.8±0.9, 3255S×7158W, h23km, mb5.2/16, Error ellipse: s-maj=17.8km s-min=7.6km az=108.5*
*BJI **10** 17:51:52.7, 3188S×7188W, h32km, mB5.2, Ms5.3, Msz4.7*
*ISCJB **10** 17:51:53.1±0.2, 3251S±002×7162W±004, h32km, mb5.0/43, MS4.7/9, Error ellipse: s-maj=5.6km s-min=2.5km az=129.0*
*IDC **10** 17:51:53.8±0.4, 3257S×7143W, h30km±2km, mb4.8/12, mb1 4.8/16, mb1mx4.7/18, mbtmp4.8/16, ML4.8/4, MS4.6/10, Ms1 4.5/10, ms1mx4.4/19, Error ellipse: s-maj=14.1km s-min=9.3km az=109.0*
*HRVD **10** 17:51:54.3±0.3, 3257S×7184W, h42km±1km, MW5.2/72, Centroid moment Tensor Solution. LP body waves: s59,c94;Mantle waves: s72,c109; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.64±.03; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-0.72±.02; $M_{r\theta}$0.00±.02; $M_{\theta\phi}$-0.09±.02; $M_{\phi r}$-0.35±.03; Best double couple: $M_0$0.77400×10^{17} NP1:ϕ_s11.00000°, δ32.00000°, λ97.00000°. NP2:ϕ_s183.00000°, δ59.00000°, λ86.00000°. Principal axes: T 0.7300, Plg76.0000°, Azm81.0000°; N 0.0880, Plg3.0000°, Azm185.0000°; P -0.8180, Plg14.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **10** 17:51:54.2±0.7, 3260S×7156W, h34km±2km, ML5.2*
*NEIC **10** 17:51:54.3±0.2, 3252S×7139W, mb5.1/30, ML5.2(GUC), Error ellipse: s-maj=8.6km s-min=4.4km az=70.0*
NEIC Felt [IV] at Melipilla, Papudo, Quillota, Santiago, Valparaiso and Vina del Mar; [III] at Petorca, Rancagua, Salamanca and San Fernando; [II] at Canela, Curico, Illapel and Talca.

ISC 10 17:51:54.7±0.2, 3257S±002×7160W±004, h34km, h34km±.4km:pP-P, n264, σ1.902/181, mb5.0/44, MS4.7/9, 20C-14D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.14**	**77**	⇑*i*P	**Pb**	**17 52 00.8**	**-0.1**
IHA	**Instituto Hidr**	**0.46**	**185**	⇑*i*P	**Pb**	**17 52 03.6**	**-1.2**
ROCH	**El Roble**	**0.64**	**129**	⇑*i*P	**Pn**	**17 52 06.4**	**-1.0**
JACH	**Jahuel**	**0.85**	**98**	*i* P	**Pn**	**17 52 09.5**	**-0.8**
LCCH	**Las Cruces**	**0.91**	**179**	⇑*i*P	**Pn**	**17 52 10.3**	**-0.7**
PEL	**Peldehue**	**0.96**	**127**	⇑*i*P	**Pn**	**17 52 11.3**	**-0.5**
PEL				*i* S	**Sn**	**17 52 23.8**	**-0.4**
PEL				AMP		17 52 26.4	
	comp=E,277μm,0.4s						
PEL	**Peldehue**	**0.96**	**127**	⇑*i*P	**Pn**	**17 52 11.3**	**-0.5**
PEL				*i* S	**Sn**	**17 52 23.8**	**-0.4**
ILCH	**Illapel**	**1.00**	**21**	*e*P	**Pn**	**17 52 12.9**	**+0.6**
ILCH				*i* S	**Sn**	**17 52 26.7**	**+1.5**
RCDM	**Rinconada Maip**	**1.13**	**144**	*e*P	**Pn**	**17 52 13.4**	**-0.7**
RCDM				*i* S	**Sn**	**17 52 28.3**	**-0.2**
RCDM				AMP		17 52 29.1	
	comp=E,120μm,0.1s						
RCDM	**Rinconada Maip**	**1.13**	**144**	*e*P	**Pn**	**17 52 13.4**	**-0.7**
RCDM				*i* S	**Sn**	**17 52 28.3**	**-0.2**
SAN	**Santiago**	**1.18**	**139**	⇑*i*P	**Pn**	**17 52 14.5**	**-0.4**
SAN				AMP		17 52 45.8	
	comp=E,26μm,0.6s						
TACH	**Talagante**	**1.22**	**153**	⇑*i*P	**Pn**	**17 52 15.1**	**-0.2**
ANTU	**Antumapu**	**1.28**	**141**	⇓*i*P	**Pn**	**17 52 16.0**	**-0.2**
ANTU				*i* S	**Sn**	**17 52 32.7**	**+0.4**
ANTU				AMP		17 52 36.4	
	comp=N,180μm,0.4s						
ANTU	**Antumapu**	**1.28**	**141**	⇓*i*P	**Pn**	**17 52 16.0**	**-0.2**
ANTU				*i* S	**Sn**	**17 52 32.7**	**+0.4**
FCH	**Farellones**	**1.33**	**125**	⇓*i*P	**Pn**	**17 52 16.8**	**-0.1**
FCH				*i* S	**Sn**	**17 52 34.0**	**+0.5**
FCH				AMP		17 52 36.5	
	comp=E,35μm,0.2s						
PCH	**Pirque**	**1.39**	**139**	⇑*i*P	**Pn**	**17 52 17.4**	**-0.3**
LNV	**Longovilo**	**1.39**	**174**	⇑*i*P	**Pn**	**17 52 17.3**	**-0.5**
CMCH	**Combarbala**	**1.48**	**20**	⇓*i*P	**Pn**	**17 52 20.0**	**+1.0**
CMCH				*i* S	**Sn**	**17 52 39.7**	**+2.6**
CMCH				AMP		17 52 45.4	
	comp=N,134μm,0.6s						
CMCH	**Combarbala**	**1.48**	**20**	⇓*i*P	**Pn**	**17 52 20.0**	**+1.0**
CMCH				*i* S	**Sn**	**17 52 39.7**	**+2.6**
CHCH	**Chadas Angostu**	**1.57**	**150**	⇑*i*P	**Pn**	**17 52 20.8**	**+0.5**
LMEL	**Las Melosas**	**1.73**	**138**	⇓*i*P	**Pn**	**17 52 22.8**	**+0.4**
LMEL				*i* S	**Sn**	**17 52 45.4**	**+2.1**
LMEL				AMP		17 52 50.3	
	comp=N,47μm,0.4s						
LMEL	**Las Melosas**	**1.73**	**138**	⇓*i*P	**Pn**	**17 52 22.8**	**+0.4**
LMEL				*i* S	**Sn**	**17 52 45.4**	**+2.1**
CACH	**El Canelo**	**1.76**	**152**	⇓*i*P	**Pn**	**17 52 23.9**	**+1.2**
CICH	**Cipreses**	**2.00**	**151**	⇑*i*P	**Pn**	**17 52 27.2**	**+1.1**
SFDO	**San Fernando**	**2.10**	**167**	⇓*i*P	**Pn**	**17 52 27.9**	**+0.5**
NICH	**Los Niches**	**2.45**	**173**	⇑*i*P	**Pn**	**17 52 32.9**	**+0.7**
CFAA	**Coronel Fontan**	**3.01**	**72**	Pn	**Pn**	**17 52 42.7**	**+2.8**
	comp=N,19nm,0.3s,baz=247,slow=12,SNR=818						
CFAA				Sn	**Sn**	**17 53 20.3**	**+5.5**
	comp=N,23nm,0.3s,baz=103,slow=22,SNR=3.3						
CFAA				LR	LR	17 54 09.0	
	comp=N,2μm,20.7s,baz=232,slow=47						
LNCH	**Linares**	**3.27**	**180**	*i* P	**Pn**	**17 52 44.0**	**+0.4**
PLCA	**Paso Flores**	**8.19**	**174**	Pn	**Pn**	**17 53 51.4**	**+0.3**
	comp=N,4.4nm,0.3s,baz=331,slow=12,SNR=48						
PLCA				Sn	**Sn**	**17 55 28.0**	**+5.5**
	comp=N,0.9nm,0.3s,baz=341,slow=18,SNR=1.2						
PLCA				LR	LR	17 56 56.0	
	comp=N,3μm,20.3s,baz=359,slow=37						
PLCA	**Paso Flores**	**8.19**	**174**	P	**Pn**	**17 53 51.4**	**+0.3**
PLCA						17 55 28.0	
PLCA	**Paso Flores**	**8.19**	**174**	Pn	**Pn**	**17 53 51.4**	**+0.3**
PLCA				Sn	**Sn**	**17 55 28.0**	**+5.5**
PLCA				LR	LR	17 56 56.0	
TRQA	**Tornquist**	**9.57**	**128**	Pn	**Pn**	**17 54 10.2**	**+0.1**
LVC	**Limon Verde**	**10.20**	**14**	Pn	**Pn**	**17 54 16.1**	**-2.6**
	comp=N,1.2nm,0.3s,baz=163,slow=9.1,SNR=12						
LVC				Sn	**Sn**	**17 56 13.1**	**+1.4**
	comp=N,1.1nm,0.3s,baz=185,slow=16,SNR=2.4						
LVC				LR	LR	17 58 29.5	
	comp=N,4μm,21.3s,baz=208,slow=39						
LVC	**Limon Verde**	**10.20**	**14**	Pn	**Pn**	**17 54 18.2**	**-0.4**
ARE	**Arequipa**	**16.04**	**0**	*e*P	**Pn**	**17 55 43.0**	**+5.4**
LPAZ	**La Paz**	**16.51**	**12**	Pn	**Pn**	**17 55 44.5**	**+0.8**
	comp=N,0.9nm,0.3s,baz=183,slow=9.8,SNR=17						
LPAZ				Sn	**Sn**	**17 58 41.3**	**-4.5**
	baz=181,slow=2.6,SNR=1.5						
LPAZ	**La Paz**	**16.51**	**12**	Pn	**Pn**	**17 55 44.5**	**+0.8**
LPAZ				Sn	**Sn**	**17 58 41.3**	**-4.5**
SIV	**San Ignacio**	**19.07**	**33**	P	**Pn**	**17 56 12.1**	**-3.0**
	comp=N,0.7nm,0.3s,baz=218,slow=11,SNR=35						
SIV				S	**Sn**	**17 59 46.9**	**-0.7**
	comp=N,0.3nm,0.3s,baz=254,slow=16,SNR=2.2						
SIV				PcP	PcP	18 00 38.0	+0.1
	comp=N,0.3nm,0.3s,baz=173,slow=20,SNR=3.2						
NNA	**Nana**	**21.04**	**346**	*e*P	**P**	**17 56 34.3**	**-1.3**
	comp=N,95nm,1.6s,mb4.9						
EFI	**East Falkland**	**21.50**	**157**	P	**P**	**17 56 40.8**	**+0.2**
	comp=N,549nm,1.1s,mb5.9,SNR=11						
EFI	**East Falkland**	**21.50**	**157**	P	**P**	**17 56 39.2**	**-1.4**
USHA	**Ushuaia**	**22.37**	**175**	P	**P**	**17 56 51.0**	**+1.2**
	comp=N,51nm,0.9s,mb5.0,baz=326,slow=7.4,SNR=23						
BDFB	**Brasilia**	**27.24**	**57**	P	**P**	**17 57 34.0**	**-1.5**
	comp=N,52nm,1.1s,mb5.0,baz=232,slow=7.7,SNR=26						
BDFB				S	**S**	**18 02 12.1**	**-0.2**
	comp=N,2.4nm,0.5s,baz=46,slow=24,SNR=1.8						
BDFB				LR	LR	18 09 22.8	
	comp=N,3μm,21.5s,MS4.8,baz=233,slow=39						
BDFB	**Brasilia**	**27.24**	**57**	P	**P**	**17 57 34.0**	**-1.5**
BDFB				S	**S**	**18 02 12.1**	**-0.2**
CAM4	**Nova Friburgo**	**27.62**	**76**	*e*P	**P**	**17 57 33.4**	**-5.5**
CAM4				*i*		17 57 37.3	
CAM4				*i*	pP	17 57 41.1	-7.6
CAM4				*i*		17 57 47.4	
CAM4				*i*		17 58 31.5	
HOPE	**Hope Point**	**32.97**	**142**	P	**P**	**17 58 14.4**	**-12**
	comp=N,220nm,0.6s,mb6.3,SNR=6.2						
HOPE	**Hope Point**	**32.97**	**142**	P	**P**	**17 58 25.0**	**-1.2**
	comp=N,55nm,0.8s,mb5.5						
ROSC	**El Rosal**	**37.31**	**356**	P	**P**	**17 59 04.0**	**+0.5**
	comp=N,5.4nm,0.4s,mb4.7,baz=92,slow=20,SNR=5.0						
ROSC				S	**S**	**18 04 52.7**	**+3.9**
	comp=N,5.0nm,0.4s,baz=88,slow=22,SNR=1.9						
SDV	**Santo Domingo**	**41.23**	**1**	P	**P**	**17 59 34.5**	**-1.8**
RCBR	**Riachuelo**	**42.58**	**59**	P	**P**	**17 59 47.1**	**-0.2**
	comp=N,85nm,1.5s,mb5.2						
VNA3	**Neumayer Olymp**	**50.55**	**158**	⇑*i*P	**P**	**18 00 49.4**	**-0.3**
VNA3				*e*	pP	18 00 59.4	-0.6
VNA3				*e*		18 01 05.0	
VNA3				*e*		18 01 08.4	
VNA3				*e*		18 01 20.5	
VNA3				*e*		18 01 26.1	
VNA2	**Neumayer--Watz**	**51.19**	**158**	⇑*i*P	**P**	**18 00 54.3**	**-0.3**
	baz=292,slow=9.2						
VNA2				*e*	pP	18 01 04.2	-0.6
VNA2				*e*		18 01 10.0	
VNA2				*e*		18 01 14.2	
VNA2				*e*		18 01 25.1	
VNA2				*e*		18 01 30.9	
VNA2				*e*		18 01 39.9	
TEIG	**Tepich**	**54.87**	**341**	*e*P	**P**	**18 01 21.5**	**-0.2**
	comp=N,6.1nm,0.7s,mb4.7						
TEIG				pP	pP	18 01 33.2	+1.2
RKT	**Rikitea**	**56.12**	**262**	*e*S	**S**	**18 09 20.7**	**+3.4**
	comp=N,249nm,33.0s						
RKT				*e*LQ		18 15 40.7	
	comp=N,306nm,28.0s						
RKT				*e*LR	LR	18 17 51.9	
	comp=N,627nm,24.8s,baz=120						
NVL	**N'lazarevskaya**	**57.49**	**157**	⇑*i*P	pP	18 01 50.2	-0.6
NVL				*e**SP	sP	18 01 56.8	+2.0
NVL				*e*SS	**S**	**18 09 35.9**	**+0.5**
NVL				*e*SP		18 15 39.4	
NVL				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.3						
QSPA	**South Pole Qui**	**57.66**	**180**	P	**P**	**18 01 41.8**	**+0.2**
SBA	**Scott Base**	**64.55**	**192**	P	**P**	**18 02 28.6**	**+0.3**
SBA				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
SBA	**Scott Base**	**64.55**	**192**	P	**P**	**18 02 28.6**	**+0.3**
	comp=Z,23nm,1.1s,mb5.1						
VNDA	**Vanda**	**65.58**	**191**	P	**P**	**18 02 35.2**	**+0.2**
	comp=Z,6.5nm,0.9s,mb4.7,baz=125,slow=5.9,SNR=10						
HKT	**Hockley**	**66.29**	**337**	P	**P**	**18 02 41.4**	**+1.8**
LRAL	**Lakeview Retre**	**66.85**	**346**	P	**P**	**18 02 42.8**	**-0.4**
	comp=Z,13nm,1.0s,mb4.9						
LRAL				pP	pP	18 02 53.2	-0.5
SYO	**Syowa Base**	**67.06**	**159**	⇓*e*P	**P**	**18 02 43.0**	**-1.5**
SYO	**Syowa Base**	**67.06**	**159**	⇓*e*pP	pP	18 02 53.0	-2.0
SYO	**Syowa Base**	**67.06**	**159**	⇓*e*sP	sP	18 02 57.2	-1.8
TAOE	**Nuku Hiva Isla**	**67.23**	**274**	*e*S	S	18 11 40.5	+2.5
	comp=Z,620nm,26.5s						
TAOE				*e*LR	LR	18 23 02.4	
	comp=Z,1μm,22.9s						
TBI	**Tubuai**	**68.02**	**256**	*e*S	S	18 11 49.7	+2.2
	comp=Z,242nm,28.0s						
TBI				*e*LR	LR	18 23 25.0	
	comp=Z,1μm,25.2s,baz=111						
JCT	**Junction City**	**68.16**	**334**	*e*P	**P**	**18 02 51.6**	**+0.2**
JCT				*PP	pP	18 03 03.2	+1.2
JCT				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.4						
JCT	**Junction City**	**68.16**	**334**	*e*P	**P**	**18 02 51.5**	**+0.1**
	comp=Z,56nm,1.4s,mb5.4						
JCT				pP	pP	18 03 03.2	+1.2
CPCT	**Cooper Cave**	**68.74**	**349**	P	**P**	**18 02 54.9**	**-0.1**
OXF	**Oxford**	**68.79**	**344**	P	**P**	**18 02 54.8**	**-0.6**
OXF				*e**PP	pP	18 03 04.6	-1.4
PLAL	**Pickwick Lake**	**68.95**	**346**	P	**P**	**18 02 54.6**	**-1.8**
PLAL				*e*pP	pP	18 03 05.2	-1.8
TZTN	**Tazewell**	**69.66**	**350**	P	**P**	**18 02 59.1**	**-1.6**
MIAR	**Mount Ida**	**69.88**	**341**	P	**P**	**18 03 02.3**	**+0.2**
MIAR				*e**PP	pP	18 03 11.2	-1.5
MIAR				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
MIAR	**Mount Ida**	**69.88**	**341**	P	**P**	**18 03 02.3**	**+0.1**
	comp=Z,23nm,1.3s,mb4.9						
MIAR				*e*pP	pP	18 03 11.2	-1.5
BLA	**Blacksburg**	**69.91**	**353**	P	**P**	**18 03 00.0**	**-2.3**
BLA				*e**PP	pP	18 03 11.1	-1.8
BLA				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
BLA	**Blacksburg**	**69.91**	**353**	P	**P**	**18 03 00.0**	**-2.2**
	comp=Z,4.9nm,1.6s,mb4.2						
BLA				*e*pP	pP	18 03 11.1	-1.8
WVT	**Waverly**	**70.01**	**346**	*e*P	**P**	**18 03 02.1**	**-0.8**
WVT				*e**PP	pP	18 03 11.9	-1.6
WVT				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6						
WVT	**Waverly**	**70.01**	**346**	*e*P	**P**	**18 03 02.1**	**-0.8**
	comp=Z,60nm,0.8s,mb5.6						
WVT				*e*pP	pP	18 03 11.9	-1.6
PPT	**Papeete**	**70.82**	**261**	*e*S	S	18 12 23.5	+3.0
	comp=Z,353nm,31.0s						
PPT				*e*LR	LR	18 24 34.2	
	comp=Z,557nm,26.5s,baz=120						
MNTX	**Cornudas Mount**	**71.45**	**330**	P	**P**	**18 03 11.0**	**-0.7**
	comp=Z,10nm,0.8s,mb4.8						
MNTX				*e*pP	pP	18 03 20.6	-1.7
WMOK	**Wichita Mounta**	**71.66**	**337**	*e*P	**P**	**18 03 11.0**	**-1.9**
WMOK				*e**PP	pP	18 03 22.4

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BAR  Barrett            77.58 322  pP    pP    18 03 57.3 -0.7
PFO  Pinyon Flat Ob     78.21 323  P     P     18 03 52.7 +2.0
PFO                                pmax  pmax
     comp=Z,11nm,1.1s,mb4.7
PFO  Pinyon Flat Ob     78.21 323  P     P     18 03 52.7 +1.9
     comp=Z,11nm,1.1s,mb4.7
PV01 Paradox Valley     78.31 331  P     P     18 03 52.9 +1.5
PV01                               pP    pP    18 04 02.0 -0.1
SMCO Snowmass           78.58 333  eP    P     18 03 53.8 +1.1
     comp=Z,37nm,1.0s,mb5.3
SMCO                               epP   pP    18 04 03.4 -0.1
ISCO Idaho Springs      78.60 334  P     P     18 03 53.9 +1.0
ISCO                               e*PP  pP    18 04 03.3 -0.3
ISCO                               pmax  pmax
     comp=Z,11nm,0.9s,mb4.8
ISCO Idaho Springs      78.60 334  P     P     18 03 53.9 +0.9
     comp=Z,11nm,0.9s,mb4.8
ISCO                               epP   pP    18 04 03.3 -0.3
TSUM Tsumeb             79.25 106  P     P     18 03 56.9 +0.4
TSUM                               epP   pP    18 04 07.0 -0.2
TSUM                               esP   sP    18 04 10.9 -0.2
GSC  Goldstone          79.72 324  P     pP    18 04 10.5 +0.7
GSC  Goldstone          79.72 324  pP    pP    18 04 10.5 +0.7
PHWY Pilot Hill         79.86 335  P     P     18 04 00.8 +1.0
PHWY                               pP    pP    18 04 09.2 -1.3
SHPR Sheep Range        79.88 326  P     P     18 04 01.3 +1.4
SHPR                               pP    pP    18 04 11.4 +0.8
SRU  San Rafael         79.95 330  P     P     18 04 01.2 +0.9
MVU  Marysvale          80.17 329  P     P     18 04 07.5 +6.1
TMUT Trail Mountain     80.39 330  pP    pP    18 04 13.7 +0.2
BOSA Boshof             80.41 118  P     P     18 04 02.5 -0.2
     comp=Z,22nm,0.8s,mb5.2,baz=236,slow=5.0,SNR=39
BOSA                               LR    LR    18 37 15.9
     comp=Z,546nm,18.5s,MS4.9,baz=227,slow=34
BOSA Boshof             80.41 118  P     P     18 04 02.5 -0.2
BOSA                               LR    LR    18 37 15.8
RWWY Rawlins            80.84 334  P     P     18 04 05.1  0.0
RWWY                               pP    pP    18 04 15.7 -0.1
ISA  Isabella           80.85 323  P     P     18 04 06.4 +1.3
ISA                                e*PP  pP    18 04 15.6 -0.3
ISA                                pmax  pmax
     comp=Z,10.0nm,1.0s,mb4.7
ISA  Isabella           80.85 323  P     P     18 04 06.4 +1.3
     comp=Z,10nm,1.0s,mb4.7
ISA                                epP   pP    18 04 15.6 -0.3
DAC  Darwin (Calif)     80.89 324  P     P     18 04 06.5 +1.2
DAC                                e*PP  pP    18 04 15.7 -0.4
DAC                                pmax  pmax
     comp=Z,13nm,1.0s,mb4.8
DAC  Darwin (Calif)     80.89 324  P     P     18 04 06.5 +1.2
     comp=Z,13nm,1.0s,mb4.8
DAC                                epP   pP    18 04 15.7 -0.4
MPU  Maple Canyon       81.18 330  pP    pP    18 04 18.5 +0.9
CASY Casey              81.46 181  eP    P     18 04 07.8 -0.5
DUG  Dugway             81.83 329  P     P     18 04 11.0 +0.7
DUG                                pmax  pmax
     comp=Z,31nm,1.7s,mb5.0
DUG  Dugway             81.83 329  P     P     18 04 11.0 +0.7
     comp=Z,31nm,1.7s,mb5.0
RSSD Black Hills        81.86 337  P     P     18 04 11.0 +0.5
RSSD                               *PP   pP    18 04 21.3 +0.1
RSSD                               pmax  pmax
     comp=Z,12nm,0.9s,mb4.8
RSSD Black Hills        81.86 337  P     P     18 04 11.0 +0.5
     comp=Z,12nm,0.9s,mb4.8
RSSD                               pP    pP    18 04 21.3 +0.1
TCUT Toone Canyon       82.00 331  P     P     18 04 12.2 +1.0
TCUT                               pP    pP    18 04 22.6 +0.7
EYMN Ely                82.11 347  eP    P     18 04 10.3 -1.5
     comp=Z,69nm,1.3s,mb5.4
EYMN                               epP   pP    18 04 20.4 -2.1
TPH  Tonopah            82.12 325  eP    P     18 04 12.5 +0.7
TPH                                e*PP  pP    18 04 22.2 -0.4
HWUT Hardware Ranch     82.48 331  eP    P     18 04 13.2 -0.5
     comp=Z,28nm,1.4s,mb5.0
HWUT                               epP   pP    18 04 23.4 -1.1
BW06 Boulder Array      82.66 333  P     P     18 04 14.6 -0.1
     comp=Z,12nm,1.4s,mb4.7
BW06                               pP    pP    18 04 25.2 -0.2
PDAR Pinedale Array     82.66 333  P     P     18 04 13.7 -1.0
     comp=Z,3.1nm,1.0s,mb4.3,baz=137,slow=5.0,SNR=12
PDAR                               pP    pP    18 04 24.3 -1.1
     comp=Z,8.6nm,1.2s,baz=104,slow=6.1,SNR=11
PDAR                               LR    LR    18 37 24.6
     comp=Z,352nm,21.6s,MS4.7,baz=145,slow=33
MNV  Mina               82.85 325  P     P     18 04 16.4 +0.7
MNV                                *PP   pP    18 04 27.0 +0.6
NVAR Mina Array Bea     82.92 325  P     P     18 04 16.9 +0.9
     comp=Z,4.6nm,0.8s,mb4.6,baz=156,slow=6.2,SNR=33
NVAR                               pP    pP    18 04 26.4 -0.5
     comp=Z,3.5nm,0.7s,baz=162,slow=5.9,SNR=12
NVAR Mina Array Bea     82.92 325  P     P     18 04 16.9 +0.9
NVAR                               pP    pP    18 04 26.4 -0.5
HVU  Hansel Valley      83.12 330  P     pP    18 04 27.2 -0.6
HVU  Hansel Valley      83.12 330  pP    pP    18 04 27.2 -0.7
TORD Torodi Ar. Bea     83.37  70  P     P     18 04 17.4 -0.9
     comp=Z,21nm,0.8s,mb5.2,baz=261,slow=4.6,SNR=116
TORD                               pP    pP    18 04 27.6 -1.5
     comp=Z,32nm,0.9s,baz=246,slow=3.4,SNR=19
TORD                               sP    sP    18 04 31.7 -1.4
     comp=Z,33nm,0.9s,baz=235,slow=3.4,SNR=18
WAKR Walker             83.54 324  P     P     18 04 21.0 +1.8
WAKR                               pP    pP    18 04 30.8 +0.8
CMB  Columbia Colle     83.65 323  eP    P     18 04 20.0 +0.2
CMB                                e*PP  pP    18 04 30.2 -0.4
REDW Red Top Meadow     83.67 332  eP    P     18 04 19.6 -0.2
REDW                               pP    pP    18 04 30.1 -0.6
LOHW Long Hollow        83.78 333  eP    P     18 04 20.1 -0.3
LOHW                               epP   pP    18 04 30.1 -1.1
MOOW Moose Ponds        83.95 333  P     P     18 04 21.3 +0.1
FLWY Flagg Ranch        84.21 333  eP    P     18 04 22.5 -0.2
     comp=Z,35nm,1.1s,mb5.4
FLWY                               epP   pP    18 04 33.0 -0.4
YFT  Old Faithful       84.58 333  eP    P     18 04 26.8 +2.3
YFT                                epP   pP    18 04 36.1 +0.9
QLMT Earthquake Lak     85.12 333  P     P     18 04 28.3 +1.1
QLMT                               pP    pP    18 04 38.2 +0.2
OHCM Honcut             85.20 323  eP    P     18 04 28.0 +0.4
OHCM                               epP   pP    18 04 38.5 +0.1
ULM  Lac du Bonnet      85.22 345  P     P     18 04 26.3 -1.4
     comp=Z,8.7nm,0.8s,mb4.9,baz=162,slow=4.2,SNR=26
ULM                                pP    pP    18 04 36.6 -1.9
     comp=Z,18nm,1.0s,baz=162,slow=3.4,SNR=13
ULM  Lac du Bonnet      85.22 345  P     P     18 04 26.3 -1.4
ULM                                pP    pP    18 04 36.6 -1.9
MCMT McKenzie Canyo     85.68 332  eP    P     18 04 30.1 +0.1
MCMT                               epP   pP    18 04 40.2 -0.6
DGMT Dagmar             85.78 339  eP    P     18 04 30.0 -0.5
DGMT                               pP    pP    18 04 40.6 -0.7
BOZ  Bozeman (W)        85.89 333  P     P     18 04 30.9 -0.1
BOZ                                *PP   pP    18 04 40.8 -1.1
DLMT Dillon             86.02 332  eP    P     18 04 31.6 -0.1
     comp=Z,12nm,1.1s,mb5.1
DLMT                               epP   pP    18 04 41.9 -0.7
LRM  Limekiln Ridge     86.35 333  P     P     18 04 33.5 +0.2
HRY  Holter Researc     86.86 334  eP    P     18 04 34.3 -1.5
HRY                                epP   pP    18 04 46.5 -0.2
SCHQ Schefferville      87.14   3  P     P     18 04 35.7 -1.5
     comp=Z,4.5nm,0.9s,mb4.7,baz=184,slow=4.2,SNR=5.2
SCHQ                               pP    pP    18 04 45.8 -2.2
     comp=Z,22nm,1.1s,baz=159,slow=3.4,SNR=15
BMO  Blue Mountains     87.54 329  P     P     18 04 38.8 -0.3
BMO                                pmax  pmax
     comp=Z,5.0nm,0.8s,mb4.8
BMO  Blue Mountains     87.54 329  P     P     18 04 38.8 -0.3
     comp=Z,5.1nm,0.8s,mb4.8
CHMT Chamberlain Mo     87.56 333  P     P     18 04 39.6 +0.3
CHMT                               pP    pP    18 04 49.7 -0.4
YBH  Yreka Blue Hor     87.62 324  P     P     18 04 39.3 -0.2
MSO  Missoula           87.76 332  pP    pP    18 04 50.6 -0.4
BSMT Bassoo Peak        88.93 333  pP    pP    18 04 56.0 -0.6
HAWA Hanford            89.72 329  eP    P     18 04 48.9 -0.5
HAWA                               epP   pP    18 04 59.5 -0.7
LSZ  Lusaka             89.90 108  P     P     18 04 51.6 +1.4
LSZ                                e*PP  pP    18 05 01.7 +0.6
LSZ  Lusaka             89.90 108  P     P     18 04 51.6 +1.3
LSZ                                epP   pP    18 05 01.7 +0.6
LSZ                                esP   sP    18 05 05.2 +0.2
YKA  Yellowknife Ar     100.82 341 P     Pdif  18 05 38.1 -1.9
     comp=Z,0.7nm,0.7s,baz=142,slow=4.3,SNR=18
YKA                                pP          18 05 48.3
     comp=Z,0.8nm,0.7s,baz=146,slow=4.3,SNR=7.9
YKA                                PKKPbc PKKPbc 18 21 50.0 -2.5
     comp=Z,0.3nm,0.5s,baz=333,slow=3.1,SNR=9.0
YKA  Yellowknife Ar     100.82 341 P     Pdif  18 05 38.1 -1.9
YKA                                pP          18 05 48.3
YKA                                PKKPbc PKKPbc 18 21 50.0 -2.6
GERES GERESS Array B 110.88  45 PKiKP PKiKP   18 10 23.1 -1.1
     comp=Z,0.9nm,0.7s,baz=225,slow=1.9,SNR=5.3
GERES                              pPKiKP      18 10 33.2
     comp=Z,0.7nm,0.7s,baz=207,slow=2.2,SNR=3.5
ILAR Eielson Array      113.09 333 PKiKP PKiKP 18 10 27.2 -1.1
     comp=Z,0.5nm,0.7s,baz=159,slow=1.8,SNR=6.3
ILAR                               pPKiKP      18 10 37.5
     comp=Z,0.8nm,0.9s,baz=200,slow=2.1,SNR=4.6
ILAR                               PKKPbc PKKPbc 18 21 12.4 -2.0
     comp=Z,0.4nm,0.8s,baz=287,slow=4.4,SNR=5.3
NOA  NORSAR Array B 114.62  32 PKP   PKiKP   18 10 29.7 -1.6
     comp=Z,0.6nm,0.8s,baz=245,slow=5.0,SNR=3.9
NOA                                pPKP        18 10 40.1
     comp=Z,1.1nm,0.8s,baz=254,slow=2.1,SNR=3.0
SUW  Suwalki            118.29  42 eP    PKPdf   18 10 35.9 -2.5
SUW                                epP         18 10 46.9
ASAR Alice Springs      119.01 207 PKP   PKPdf   18 10 38.6 -1.2
     comp=Z,0.7nm,0.6s,baz=139,slow=2.0,SNR=15
ASAR                               PKKPbc PKKPbc 18 20 53.2 -0.5
     comp=Z,0.7nm,0.8s,baz=330,slow=2.4,SNR=8.2
BRTR Keskin Array B     120.81  60 PKP   PKPdf   18 10 42.1 -1.1
     comp=Z,2.5nm,0.7s,baz=194,slow=3.6,SNR=15
BRTR                               pPKP  pPKPdf  18 10 52.6 -1.8
     comp=Z,3.2nm,0.8s,baz=174,slow=2.9,SNR=10
AKASG Malin Array Be    120.95  47 PKP   PKPdf   18 10 41.1 -2.4
     comp=Z,3.3nm,0.7s,baz=260,slow=3.0,SNR=25
AKASG                              pPKP  pPKPdf  18 10 51.8 -2.9
     comp=Z,4.5nm,0.8s,baz=266,slow=2.8,SNR=11
AKASG                              PKKPab PKKPab 18 20 42.9 -5.0
     comp=Z,0.3nm,0.3s,baz=43,slow=4.2,SNR=4.2
AKASG Malin Array Be    120.95  47 PKiKP PKPdf   18 10 41.1 -2.4
AKASG                              PKP         18 10 51.8
VSU  Vasula             121.34  38 i PKiKP PKPdf 18 10 42.2 -2.0
FINES FINESS Array B    121.60  34 PKP   PKPdf   18 10 43.0 -1.5
     comp=Z,1.5nm,0.9s,baz=315,slow=2.7,SNR=4.7
FINES                              pPKP  pPKPdf  18 10 53.2 -2.7
     comp=Z,3.8nm,0.9s,baz=18,slow=6.0,SNR=4.8
FINES FINESS Array B    121.60  34 PKP   PKPdf   18 10 43.0 -1.8
FINES                              pPKP  pPKPdf  18 10 53.2 -2.7
WB2  Warramunga Arr     122.19 209 eP    PKPdf   18 10 44.7 -1.2
WRA  Warramunga Arr     122.19 209 PKP   PKPdf   18 10 44.8 -1.0
     comp=Z,1.9nm,0.6s,baz=167,slow=1.6,SNR=49
WRA                                PKKPab PKKPab 18 20 41.3 -1.1
     comp=Z,0.2nm,0.7s,baz=338,slow=4.1,SNR=6.1
MALT Malatya            123.93  63 eP    PKPdf   18 10 48.5 -0.7
MALT                               epP         18 10 59.2
OBN  Obninsk            126.14  43⇑ i PKiKP PKPdf 18 10 52.6 -0.8
OBN                                e           18 11 02.7
OBN                                pmax  pmax
     comp=Z,16nm,1.3s
OBN                                MLR   MLR
     comp=Z,100nm,18.0s,MS4.5
KLMR Klimovskoe         128.03  35d i PKiKP PKPdf 18 10 55.9 -1.2
KLMR                               pmax  pmax
     comp=Z,60nm,1.6s
BILL Bilibino           131.71 335⇓ i PKiKP PKPdf 18 11 03.3 -0.7
BILL                               e           18 11 13.8
BILL                               pmax  pmax
     comp=Z,11nm,1.3s
BILL                               MLR   MLR
     comp=Z,200nm,19.0s,MS4.8
ARU  Arti               138.41  40 i PKiKP PKPdf 18 11 16.6  0.0
ARU                                MLR   MLR
     comp=Z,100nm,19.0s,MS4.6
ARU                                MLR   MLR
     comp=N,100nm,17.0s,MS4.7
ARU                                MLR   MLR
     comp=E,100nm,22.0s,MS4.7
ARU  Arti               138.41  40 eP    PKPdf   18 11 15.5 -1.1
ARU                                epP         18 11 25.4
SEY  Seymchan           138.97 331 i PKiKP PKPdf 18 11 16.8 -0.8
AKTO Aktyubinsk         139.13  49 PKiKP PKPdf   18 11 16.0 -1.9
AKTO                               pmax  pmax
     comp=Z,14nm,2.0s
TIXI Tiksi              139.35 350 ePKiKP PKPdf  18 11 15.7 -2.6
TIXI                               i           18 11 18.9
TIXI                               pmax  pmax
     comp=Z,3.0nm,0.9s
TIXI                               pmax  pmax
     comp=Z,2.0nm,0.7s
AB31 Akbulak array      140.50  50 i PKHKP      18 11 11.4
AB31                               pmax  pmax
     comp=Z,5.0nm,0.8s
BHJ  Bhuj               144.68  95 eP    PKPdf   18 11 26.4 -1.4
BHJ                                AMb   AMB     18 11 40.3
     comp=Z,92nm,1.3s
BHJ                                ex    x       18 11 40.7
ZRNK Zerenda            145.22  42 eP    PKPbc   18 11 27.7 -0.7
ZRNK                               epP         18 11 37.6
KAD  Karad              145.63 108 eP    PKPdf   18 11 29.4 +0.1
KAD                                AMb   AMB     18 11 31.1
     comp=Z,68nm,1.1s
BRVK Borovoye           145.90  42 eP    PKPdf   18 11 29.3 -0.6
BRVK                               epP         18 11 40.3
BVA0 Borovoye Array     145.97  42 i PKP2 PKPab  18 11 29.4 -1.9
BVA0                               pmax  pmax
     comp=Z,38nm,1.7s
POO  Poona              146.00 106 ex    x       18 11 55.5
POO  Poona              146.00 106⇑ i P  PKPdf   18 11 31.0 +1.0
VOSK Vostochnaya        146.42  42 PKiKP PKPdf   18 11 29.7 -1.0
VOSK                               pmax  pmax
     comp=Z,138nm,2.0s
YAK  Yakutsk            147.50 341 eP    PKPdf   18 11 33.3 +0.7
YAK                                epP         18 11 43.6
KKAR Karatay Array      148.52  59 i PKiKP PKPdf 18 11 35.9 +1.7
KKAR                               pmax  pmax
     comp=Z,18nm,0.9s
HYB  Hyderabad          149.16 112 i PKP PKPdf   18 11 39.0 +3.7
     comp=Z,70nm,1.0s
HYB  Hyderabad          149.16 112 eP    PKPdf   18 11 39.0 +3.7
HYB                                e           18 11 49.5
AJM  Ajmer              150.09  93 eP    PKPdf   18 11 35.9 -0.8
AJM                                AMb   AMB     18 11 53.1
     comp=Z,40nm,1.3s
AJM                                ex    x       18 11 53.4
YSS  Yuzh-Sakhalins     150.21 309⇑ i PKiKP PKPdf 18 11 41.8 +4.9
YSS                                e           18 11 53.2
YSS                                pmax  pmax
     comp=Z,30nm,0.8s
YSS  Yuzh-Sakhalins     150.21 309 ePKPbc PKPbc  18 11 41.1 -0.9
YSS                                epPKPbc pPKPbc 18 11 51.0 -2.3
EKS2 Erkin-Say          150.96  60 P     PKPdf   18 11 38.3 +0.2
     SNR=10
AML  Almayashu          150.97  61 P     PKPdf   18 11 39.0 +0.8
     SNR=5.7
ASAJ Asahikawa          151.01 303 PKPbc PKPbc   18 11 43.5 -0.5
     comp=Z,22nm,0.9s,baz=268,slow=8.0,SNR=7.4
BHPL Bhopal             151.17 101 eP    PKPdf   18 11 35.8 -2.6
BHPL                               AMb   AMB     18 11 55.5
     comp=Z,40nm,1.1s
BHPL                               ex    x       18 11 55.7
USP  Ospenovka          151.38  58 P     PKPdf   18 11 44.6 +5.9
     SNR=19
AAK  Ala-Archa          151.48  60 P     PKPdf   18 11 45.5 +6.5
     SNR=29
AAK  Ala-Archa          151.48  60 ePKIKP PKPdf  18 11 37.7 -1.2
AAK                                e           18 11 44.2
AAK  Ala-Archa          151.48  60 ePKPdf PKPdf  18 11 37.7 -1.2
AAK                                ePKPbc PKPbc  18 11 44.2 -0.8
AAK                                epPKPbc pPKPbc 18 11 53.9 -2.3
NVS  Novosibirsk        151.53  31 ePKIKP PKPdf  18 11 36.9 -2.1
NVS                                pmax  pmax
     comp=Z,53nm,0.9s
NVS                                pmax  pmax
     comp=N,17nm,1.2s
FRU  Bishkek            151.54  59⇑ i PKiKP PKPdf 18 11 45.0 +6.0
FRU                                i           18 11 55.5
FRU                                pmax  pmax
     comp=Z,68nm,1.8s
UCH  Uchtor             151.56  60 P     PKPdf   18 11 39.6 +0.6
     SNR=5.5
KURK Kurchatov          151.57  42 ePKIKP PKPdf  18 11 38.1 -0.9
KURK                               e           18 11 44.2
KURK Kurchatov          151.57  42 ePKPdf PKPdf  18 11 38.1 -1.0
KURK                               ePKPbc PKPbc  18 11 44.2 -1.1
KURK                               epPKPbc pPKPbc 18 11 54.9 -1.6
CHMS Chumysh            151.61  59 P     PKPdf   18 11 45.1 +6.1
     SNR=15
KBK  Karagaybulak       151.81  59 P     PKPdf   18 11 46.4 +7.0
     SNR=5.7
KULM Kulim              151.91 163 ePKPbc PKPbc  18 11 44.7 -1.4
KULM                               ePKPbc pPKPbc 18 11 54.8 -2.4
KZA  Kyzart             152.12  61 P     PKPdf   18 11 47.2 +7.3
     SNR=10
TKM2 Tokmak 2           152.23  59 P     PKPdf   18 11 46.6 +6.5
     SNR=6.0
ULHL Ulahol             152.82  60 P     PKPdf   18 11 48.1 +7.2
     SNR=13
NDI  New Delhi          152.94  90 eP    PKPdf   18 11 41.0 -0.1
CLNS Chul'man           153.20 340 ePKIKP PKPdf  18 11 45.6 +4.2
CLNS                               pmax  pmax
     comp=Z,27nm,1.1s
CLNS                               pmax  pmax
     comp=N,10.0nm,0.8s
CLNS                               pmax  pmax
     comp=E,5.0nm,0.8s
BOD  Bodaibo            154.46 353 ePKIKP PKPdf  18 11 47.4 +4.2
BOD                                pmax  pmax
     comp=Z,22nm,1.4s
BLSP Bilaspur           154.52 107 eP    PKPdf   18 11 43.1 -0.2
BLSP                               AMb   AMB     18 11 55.0
     comp=Z,21nm,1.0s
BLSP                               ex    x       18 11 55.3
MKAR Makanchi Array     155.53  47 PKP   PKPdf   18 11 43.6 -1.1
     comp=Z,1.8nm,0.8s,baz=341,slow=1.2,SNR=19
MKAR                               pPKP  pPKPdf  18 11 52.6 -3.3
     comp=Z,3.9nm,0.8s,baz=306,slow=2.3,SNR=17
MKAR                               PKPab PKPab   18 12 09.9 -0.7
     comp=Z,6.6nm,0.7s,baz=292,slow=4.3,SNR=16
MKAR                               pPKPab pPKPab 18 12 20.0 -1.6
     comp=Z,7.2nm,0.8s,baz=304,slow=4.4,SNR=6.9
MKAR Makanchi Array     155.53  47 PKIKP PKPdf   18 11 43.7 -1.0
MKAR                               LR            18 11 52.6
MKAR Makanchi Array     155.53  47 PKP   PKPdf   18 11 43.6 -1.1
MKAR                               pPKP  pPKPdf  18 11 52.6 -3.3
MKAR                               PKPab PKPab   18 12 09.9 -0.7
MKAR                               pPKPab pPKPab 18 12 20.0 -1.6
KLR  Kul'dur            155.89 321 ePKIKP PKPdf  18 11 51.0 +5.8
KOLN Koldanda           158.05  96 eP    PKPdf   18 11 47.5 -0.4
BOK  Bokaro             158.34 108 eP    PKPdf   18 11 45.5 -2.8
GKN  Gorkha             158.99  96 eP    PKPdf   18 11 48.6 -0.5
DMN  Daman              159.26  98 eP    PKPdf   18 11 49.1 -0.3
KKN  Kakani             159.46  97 eP    PKPdf   18 11 49.2 -0.4
PKI  Pulchoki           159.50  98 eP    PKPdf   18 11 49.0 -0.7
MDJ  Mudanjiang         159.60 312 PKP   PKPdf   18 11 49.5 -0.3
MDJ                                XPKP          18 12 03.7
MDJ                                PP    PP      18 16 11.1 +1.5
MDJ                                PP    PP
     comp=Z,136nm,5.6s
MDJ                                LR    LR
     comp=N,33nm,31.8s,MS4.3
MDJ                                LR    LR
     comp=E,70nm,33.0s,MS4.3
MDJ                                LR    LR
     comp=Z,122nm,25.7s
GUN  Gumba              160.00  98 eP    PKPdf   18 11 50.1 -0.1
JIRN Jiri               160.18  98 eP    PKPdf   18 11 50.1 -0.3
WMQ  Urumqi             160.28  49 ePKP  PKPdf   18 11 50.0 -0.5
SHL  Shillong           163.97 112 eP    PKPdf   18 11 54.0 -0.3
SONM Songino Array      164.68   5 PKP   PKPdf   18 11 53.5 -1.4
     comp=Z,0.6nm,0.8s,baz=230,slow=0.3,SNR=5.5
SONM                               pPKP  pPKPdf  18 12 02.7 -3.4
     comp=Z,0.8nm,0.8s,baz=337,slow=0.5,SNR=5.6
SONM                               PKPab PKPab   18 12 50.3 -0.2
     comp=Z,1.4nm,0.8s,baz=349,slow=3.8,SNR=7.1
SONM                               pPKPab pPKPab 18 13 00.4 -0.9
     comp=Z,4.7nm,1.0s,baz=339,slow=4.1,SNR=9.6
SONM Songino Array      164.68   5 PKIKP PKPdf   18 11 53.5 -1.4
SONM                               LR            18 12 02.7
SONM                               LR            18 12 50.3
LSA  Lhasa              164.95  96 ePKIKP PKPdf  18 11 55.8 +0.7
LSA                                e             18 12 06.7
QIZ  Qiongzhong         166.46 186 ePKP  PKPdf   18 11 56.8 +0.4
QIZ                                PP    PP      18 16 54.5 +8.7
QIZ                                SS    SS      18 37 26.5 +1.3
QIZ                                LR    LR
     comp=N,73nm,30.7s
QIZ                                LR    LR
     comp=Z,142nm,28.5s
SSE  Sheshan            169.03 266 PKP   PKPdf   18 11 56.9 -1.3
SSE                                PP    PP      18 17 02.6 +3.6
SSE                                PP    PP
     comp=Z,38nm,3.9s
SSE                                LR    LR
     comp=N,59nm,23.7s
SSE                                LR    LR
     comp=E,42nm,23.7s
SSE                                LR    LR
     comp=Z,86nm,25.4s
GTA  Gaotai             170.25  43 PKP   PKPdf   18 11 58.7 -0.2
GTA                                APKP          18 12 09.7
GTA                                XPKP          18 12 13.1
GTA                                PKP2  PKPab   18 13 15.2 +0.1
GTA                                PKS           18 15 28.7
GTA                                PP    PP      18 17 06.9 +1.7
GTA                                SKS   SKSdf   18 18 56.8 -3.0
GTA                                SKKS  SKKSac  18 23 49.2 -0.3
GTA                                PP    PP
     comp=Z,158nm,7.3s
GTA                                LR    LR
     comp=N,125nm,6.1s
GTA                                LR    LR
     comp=E,99nm,8.0s
GTA                                LR    LR
     comp=Z,57nm,9.2s
NJ2  Nanjing            171.14 269 ePKP  PKPdf   18 11 59.0 -0.4
NJ2                                APKP          18 12 09.8
NJ2                                XPKP          18 12 13.9
NJ2                                PP    PP      18 17 13.0 +3.4
NJ2                                SKS   SKSdf   18 18 56.0 -4.1
NJ2                                PP    PP
     comp=Z,424nm,6.8s
NJ2                                LR    LR
     comp=N,250nm,24.7s
NJ2                                LR    LR
     comp=E,280nm,25.0s
HHC  Hu-ho-hao-te       171.35 344 ePKP  PKPdf   18 11 59.1 -0.4
HHC                                APKP          18 12 09.7
HHC                                XPKP          18 12 13.3
HHC                                PKS           18 15 32.3
HHC                                PP    PP      18 17 11.8 +1.1
HHC                                SKS   SKSdf   18 18 57.3 -2.9
HHC                                SKKS  SKKSac  18 23 53.4 -1.5
HHC                                PP    PP
     comp=Z,125nm,10.8s
HHC                                LR    LR
     comp=N,193nm,16.8s
HHC                                LR    LR
     comp=E,202nm,16.8s
HHC                                LR    LR
     comp=Z,105nm,18.0s
GYA  Guiyang            173.73 166 PKP   PKPdf   18 11 58.8 -1.7
GYA                                APKP          18 12 09.6
GYA                                PKS           18 15 29.8
GYA                                PP    PP
     comp=Z,120nm,7.8s
GYA                                LR    LR
     comp=N,870nm,20.8s
GYA                                LR    LR
     comp=E,790nm,21.0s
GYA                                LR    LR
     comp=Z,970nm,20.8s
ENH  Enshi              177.53 202 ePKPdf PKPdf  18 12 00.1 -1.3
ENH                                epPKPdf pPKPdf 18 12 11.1 -1.6
```

NIED ***10*** *17:52:00, 4390N×148.40E, h20km, Mw3.9 Best double couple: M0 8.19000×10^14 NP1:φ0 146.00000°, δ88.00000°, λ-42.00000°. NP2:φ0 237.00000°, δ48.00000°, λ-178.00000°.*

MOS ***10*** *17:52:09.7±1.5, 44.20N×148.79E, h33km, mb4.5/3, Error ellipse: s-maj=12.3km s-min=10.6km az=69.4*

SKHL ***10*** *17:52:09.8±2.4, 44.19N×149.08E, h38km±7km, mb5.2/2*

JMA ***10*** *17:52:12.7±0.2, 43.89N×148.44E, h0km, M4.6*

NEIC ***10*** *17:52:13.0±1.0, 44.25N×148.70E, h43km±9km, mb4.4/5, Error ellipse: s-maj=12.6km s-min=7.8km az=136.0*

ISCJB ***10*** *17:52:12.1±0.9, 44.21N±0.05×148.73E±0.07, h54km±7km, mb4.0/13, Error ellipse: s-maj=10.2km s-min=6.1km az=94.7*

IDC ***10*** *17:52:15.0±3.2, 44.26N×148.66E, h60km±29km, mb3.3/10, mb1 3.7/13, mb1mx3.6/22, mbtmp3.7/13, ML3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.0/16, Error ellipse: s-maj=20.9km s-min=16.4km az=122.0*

ISC 10 17:52:13.7±0.8, 4420N±006×14874E±007, h50km±7km, n52, σ1°21/66, mb4.0/13, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**329**	*i* P	**Pn**	**17 52 30.5**	**-3.7**
KUR	190nm,0.5s			AMB	AMB	17 52 31.2	
KUR	230nm,0.5s			AMB	AMB	17 52 31.2	
KUR	610nm,0.5s			AMB	AMB	17 52 32.0	
KUR	3μm,1.6s			*i* S	**Sn**	**17 52 46.0**	**-3.5**
KUR	8μm,1.6s			A		17 52 47.0	
KUR	10μm,1.6s			A		17 52 47.0	
KUR	2μm,0.5s			A		17 52 49.0	
KUR	2μm,0.5s			A		17 52 49.0	
KUR	**Kuril'sk**	**1.21**	**329**	⇓*i* PN	**Pn**	**17 52 30.5**	**-3.7**
KUR				*i* S	**Sn**	**17 52 46.0**	**-3.5**
KUR	comp=N,190nm,0.5s			pmax	pmax		
KUR	comp=E,230nm,0.5s			pmax	pmax		
KUR	comp=Z,610nm,0.5s			pmax	pmax		
KUR	comp=Z,3μm,1.6s			pmax	pmax		
KUR	comp=N,8μm,1.6s			smax			
KUR	comp=E,10μm,1.6s			smax			
KUR	comp=N,2μm,0.5s			smax			
KUR	comp=E,2μm,0.5s			smax			
YUK	**Yuzh-Kuril'sk**	**2.08**	**266**	⇓*i* P	**Pn**	**17 52 45.5**	**-0.7**
YUK				AMB	AMB	17 52 48.2	
YUK	comp=E,460nm,0.3s			AMB	AMB	17 52 48.2	
YUK	comp=E,500nm,0.3s			AMB	AMB	17 52 48.2	
YUK	comp=E,720nm,0.3s			*i* S	**Sn**	**17 53 09.5**	**-1.4**
YUK				A		17 53 14.0	
YUK	comp=E,2μm,0.5s			A		17 53 14.0	
YUK	comp=E,3μm,0.5s			A		17 53 14.8	
YUK	comp=E,6μm,0.6s			A		17 53 14.8	
YUK	comp=E,4μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.08**	**266**	⇓*i* PN	**Pn**	**17 52 45.5**	**-0.7**
YUK				*i* S	**Sn**	**17 53 09.5**	**-1.4**
YUK	comp=Z,720nm,0.3s			pmax	pmax		
YUK	comp=N,460nm,0.4s			pmax	pmax		
YUK	comp=E,500nm,0.4s			pmax	pmax		
YUK	comp=N,2μm,0.5s			smax			
YUK	comp=E,3μm,0.5s			smax			
YUK	comp=N,6μm,0.6s			smax			
YUK	comp=E,4μm,0.5s			smax			
NEM2	**Nemuro 2**	**2.33**	**250**	P	**Pn**	**17 52 48.7**	**-0.8**
NEM2				*e*S	**Sn**	**17 53 15.1**	**-1.8**
JRA	**Rausu**	**2.62**	**266**	P	**Pn**	**17 52 54.4**	**+0.8**
JRA				*e*S	**Sn**	**17 53 25.8**	**+1.6**
JNK	**Nakash**	**2.97**	**259**	P	**Pn**	**17 52 58.5**	**+0.1**
JNK				*e*S	**Sn**	**17 53 32.2**	**-0.6**
JAK	**Akkeshi**	**3.18**	**249**	P	**Pn**	**17 53 00.7**	**-0.4**
JAK				*e*S	**Sn**	**17 53 35.5**	**-2.3**
JTKR	**Abashiri--Toko**	**3.49**	**268**	P	**Pn**	**17 53 06.6**	**+1.1**
JAR	**Ashorobuto**	**3.71**	**258**	P	**Pn**	**17 53 09.3**	**+0.8**
JAR				*e*S	**Sn**	**17 53 51.3**	**+0.3**
JCH	**Churui**	**4.23**	**250**	P	**Pn**	**17 53 16.3**	**+0.7**
JCH				*e*S	**Sn**	**17 54 02.5**	**-1.2**
JKK2	**Kamakawa 2**	**4.33**	**268**	P	**Pn**	**17 53 19.0**	**+2.0**
ASAJ	**Asahikawa**	**4.42**	**271**	P	**Pn**	**17 53 19.9**	**+1.6**
ASAJ	comp=E,3.3nm,0.3s,baz=104,slow=10,SNR=28			LR	LR	17 55 05.9	
ASAJ	comp=E,134nm,18.3s,baz=174,slow=39			PN	**Pn**	**17 53 19.9**	**+1.6**
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,134nm,18.3s			MLR	MLR		
JFR	**Furan**	**4.58**	**259**	P	**Pn**	**17 53 22.4**	**+2.0**
JFR				*e*S	**Sn**	**17 54 13.8**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.78**	**248**	P	**Pn**	**17 53 23.1**	**0.0**
JNBK				*e*S	**Sn**	**17 54 16.0**	**-1.2**
JWK2	**Keihoku**	**5.00**	**285**	P	**Pn**	**17 53 29.6**	**+3.4**
YSS	**Yuzh-Sakhalins**	**5.03**	**305**	*e*P	**Pn**	**17 53 28.2**	**+1.7**
YSS				*e*S	**Sn**	**17 54 24.3**	**+1.0**
YSS	comp=Z,50nm,0.8s			A		17 54 28.0	
YSS	**Yuzh-Sakhalins**	**5.03**	**305**	Pn	**Pn**	**17 53 26.1**	**-0.4**
JEW	**Eniwo**	**5.47**	**258**	P	**Pn**	**17 53 34.9**	**+2.2**
JKB	**Kayabe**	**6.10**	**250**	P	**Pn**	**17 53 41.3**	**0.0**
JKB				*e*S	**Sn**	**17 54 46.4**	**-3.4**
JOT	**Ohata**	**6.32**	**246**	P	**Pn**	**17 53 43.6**	**-0.7**
JOSM	**Okushiri--Mats**	**7.10**	**256**	P	**Pn**	**17 53 56.1**	**+1.1**
PET	**Petropavlovsk**	**10.99**	**33**	*e*PN	**Pn**	**17 54 46.9**	**-1.3**
MAJO	**Matsushiro**	**11.09**	**230**	*e*PN	**Pn**	**17 54 48.4**	**-1.1**
MJAR	**Matsushiro Arr**	**11.09**	**230**	P	**Pn**	**17 54 48.5**	**-1.0**
FX1	**Attu Island--F**	**18.28**	**53**	P	**Pn**	**17 56 24.0**	**+0.4**
FX1	**Attu Island--F**	**18.28**	**53**	P	**Pn**	**17 56 24.0**	**+0.4**
FX1	comp=Z,1.0nm,0.3s			pmax	pmax		
SONM	**Songino Array**	**29.36**	**292**	P	**P**	**17 58 12.1**	**+0.3**
ILAR	**Eielson Array**	**40.45**	**37**	P	**P**	**17 59 46.5**	**-0.6**
MKAR	**Makanchi Array**	**45.40**	**298**	P	**P**	**18 00 27.0**	**-0.2**
KURK	**Kurchatov**	**46.23**	**304**	*e*P	**P**	**18 00 31.2**	**-2.6**
KURK	comp=Z,3.0nm,0.9s,mb4.2			pmax	pmax		
KURK	**Kurchatov**	**46.23**	**304**	*e*P	**P**	**18 00 31.2**	**-2.6**
JIRN	**Jiri**	**52.06**	**273**	*e*P	**P**	**18 01 19.5**	**+1.2**
GUN	**Gumba**	**52.13**	**274**	*e*P	**P**	**18 01 19.8**	**+0.9**
AAK	**Ala-Archa**	**52.20**	**296**	*e*P	**P**	**18 01 17.3**	**-2.1**
AAK	comp=Z,1.0nm,0.4s,mb4.1			pmax	pmax		
AAK	**Ala-Archa**	**52.20**	**296**	*e*P	**P**	**18 01 17.3**	**-2.1**
KKN	**Kakani**	**52.63**	**274**	*e*P	**P**	**18 01 22.7**	**+0.1**
KKN	**Kakani**	**52.63**	**274**	*e*P	**P**	**18 01 22.7**	**+0.1**
KKN	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax		
PKI	**Pulchoki**	**52.67**	**274**	*e*P	**P**	**18 01 23.0**	**+0.1**
DMN	**Daman**	**52.87**	**274**	*e*P	**P**	**18 01 24.8**	**+0.5**
GKN	**Gorkha**	**52.97**	**275**	*e*P	**P**	**18 01 25.7**	**+0.6**
KOLN	**Koldanda**	**53.85**	**275**	*e*P	**P**	**18 01 32.4**	**+0.9**
YKA	**Yellowknife Ar**	**54.79**	**34**	P	**P**	**18 01 38.3**	**0.0**
YKA	**Yellowknife Ar**	**54.79**	**34**	P	**P**	**18 01 38.3**	**-0.1**
YKA	**Yellowknife Ar**	**54.79**	**34**	P	**P**	**18 01 38.4**	**+0.1**
FINES	**FINESS Array B**	**64.99**	**333**	P	**P**	**18 02 46.3**	**-2.1**
WRA	**Warramunga Arr**	**65.17**	**195**	P	**P**	**18 02 49.6**	**0.0**
NVAR	**Mina Array Bea**	**66.36**	**59**	P	**P**	**18 02 58.3**	**+1.1**
NVAR	comp=Z,0.3nm,0.6s,mb3.5,baz=293,slow=6.9,SNR=2.1			pP	pP	18 03 12.4	+1.0
ASAR	**Alice Springs**	**68.89**	**195**	P	**P**	**18 03 14.0**	**+0.9**
NOA	**NORSAR Array B**	**69.59**	**339**	P	**P**	**18 03 16.4**	**-1.1**
GERES	**GERESS Array B**	**79.32**	**332**	P	**P**	**18 04 13.9**	**-0.1**

comp=Z,0.3nm,0.4s,mb3.6,baz=27,slow=6.6,SNR=5.0

*ISCJB **10** 18:02:11.1±3.7, 197S±07×177.7W±06, h500km, mb3.6/5, Error ellipse: s-maj=115.8km s-min=26.3km az=100.6*
*IDC **10** 18:02:12.3±16.0, 1973S×17762W, h505km±153km, mb3.1/4, mb1 3.4/4, mb1mx3.1/14, mbtmp4.0/4, Error ellipse: s-maj=114.9km s-min=48.6km az=121.0*

ISC 10 18:02:11.2±3.7, 198S±07×1775W±06, h500km, n8, σ0°36/6, mb3.6/5, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.08**	**263**	*e*P	**P**	**18 08 13.6**	**+0.4**
	2.8nm,0.4s,mb4.0						
ASAR	**Alice Springs**	**45.19**	**256**	P	**P**	**18 09 42.9**	**+0.2**
	1.7nm,0.7s,mb3.6,baz=87,slow=8.1,SNR=54						
WB2	**Warramunga Arr**	**45.20**	**261**	⇑*i* P	**P**	**18 09 42.5**	**-0.3**
WRA	**Warramunga Arr**	**45.21**	**261**	P	**P**	**18 09 42.6**	**-0.3**
	0.6nm,0.3s,mb3.5,baz=98,slow=7.4,SNR=57						
MJAR	**Matsushiro Arr**	**69.94**	**323**	P	**P**	**18 12 31.6**	**0.0**
	1.1nm,0.5s,mb3.7,baz=159,slow=6.3,SNR=4.6						
ILAR	**Eielson Array**	**87.51**	**13**	P	**P**	**18 14 05.3**	**0.0**
	0.2nm,0.4s,mb3.2,baz=211,slow=5.7,SNR=5.2						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	PKPbc	18 20 56.6	0.0
	0.5nm,0.5s,baz=76,slow=2.9,SNR=3.2						
GERES	**GERESS Array B**	**149.65**	**345**	PKPbc	PKPbc	18 21 04.0	0.0
	0.5nm,0.6s,baz=27,slow=3.0,SNR=4.8						

MAN 10 18:17:42.0, 1707N×12282E, h4km, mb1.9, ML3.7, MS4.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.70**	**298**	*e*P	Pn	18 18 12.8	+0.3
APYP				*e*S	Sn	18 18 35.6	+0.9
BALP	**Baler**	**1.78**	**222**	*e*P	Pn	18 18 14.0	+0.5
BALP				*e*S	Sn	18 18 37.8	+1.1
ABRA	**Dolores**	**2.10**	**286**	*e*P	Pn	18 18 18.9	+1.0
ABRA				*e*S	Sn	18 18 46.5	+2.1

*IDC **10** 18:27:26.0±1.2, 3349N×8112E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, ML3.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/20, Error ellipse: s-maj=44.6km s-min=20.5km az=58.0*
*NEIC **10** 18:27:27.8±0.9, 3353N×8116E, h10km, mb3.8/1, Error ellipse: s-maj=25.8km s-min=13.0km az=59.0*
*ISCJB **10** 18:27:30.1±0.8, 337N±0.1×814E±02, h33km, mb3.7/9, MS3.0/1, Error ellipse: s-maj=34.2km s-min=12.5km az=115.7*

ISC 10 18:27:31.7±0.8, 336N±01×812E±02, h35km, n13, σ0°74/13, mb3.7/9, MS3.0/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.20**	**3**	Pn	**Pn**	**18 30 36.0**	**-0.6**
	0.1nm,0.3s,baz=180,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**13.20**	**3**	Pn	**Pn**	**18 30 36.0**	**-0.6**
BVAR	**Borovoye Array**	**20.90**	**341**	P	**P**	**18 32 11.1**	**+0.1**
	0.8nm,0.5s,baz=143,slow=10,SNR=8.1						
ZRNK	**Zerenda**	**21.23**	**339**	*e*P	**P**	**18 32 14.2**	**-0.2**
	2.1nm,0.5s,mb3.7						
SONM	**Songino Array**	**23.66**	**46**	P	**P**	**18 32 41.1**	**+1.2**
	0.5nm,0.7s,mb3.1,baz=251,slow=9.5,SNR=7.3						
SONM				LR	LR	18 44 08.5	
	comp=Z,61nm,20.9s,MS3.0,baz=257,slow=42						
AKTK	**Aktyubinsk**	**23.93**	**322**	P	**P**	**18 32 43.4**	**+1.0**
AKTO	**Aktyubinsk**	**23.93**	**322**	P	**P**	**18 32 43.4**	**+1.0**
	0.6nm,0.6s,mb3.2,baz=94,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**44.58**	**326**	P	**P**	**18 35 39.1**	**-1.1**
	0.3nm,0.4s,mb3.4,baz=108,slow=4.4,SNR=3.5						
WRA	**Warramunga Arr**	**73.47**	**128**	P	**P**	**18 39 00.6**	**0.0**
	0.7nm,1.1s,mb3.5,baz=321,slow=5.8,SNR=5.8						
ASAR	**Alice Springs**	**75.88**	**131**	P	**P**	**18 39 14.7**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=321,slow=6.0,SNR=11						
CTA	**Charters Tower**	**81.78**	**121**	*e*P	**P**	**18 39 46.5**	**-0.4**
	5.4nm,0.4s,mb4.8						
YKA	**Yellowknife Ar**	**83.39**	**7**	P	**P**	**18 39 54.1**	**-1.2**
	0.3nm,0.6s,mb3.5,baz=340,slow=5.3,SNR=7.8						
STKA	**Stephens Creek**	**86.47**	**132**	*e*P	**P**	**18 40 10.7**	**-0.1**
	1.7nm,0.6s,mb4.5						

*ISCJB **10** 18:28:11.0±0.8, 3580N±005×14109E±008, h47km±6km, mb3.5/7, Error ellipse: s-maj=11.9km s-min=7.2km az=141.1*
*IDC **10** 18:28:11.2±6.5, 3573N×14102E, h28km±48km, mb3.3/6, mb1 3.6/10, mb1mx3.5/23, mbtmp3.6/10, ML3.7/4, Error ellipse: s-maj=23.7km s-min=15.6km az=89.0*
*JMA **10** 18:28:12.5±0.1, 3581N×14098E, h37km±1km, M3.1*
*NEIC **10** 18:28:13.9±2.0, 3574N×14086E, h53km±17km, mb4.0/1, Error ellipse: s-maj=21.2km s-min=15.3km az=87.0*

ISC 10 18:28:11.7±0.8, 3579N±005×14111E±009, h35km±7km, n22, σ0°83/27, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.22**	**247**	P	**Pn**	**18 28 19.0**	**+0.3**
CHOJ				S	**Sn**	**18 28 23.5**	**-0.1**
JCN	**Nagara**	**0.83**	**244**	P	**Pn**	**18 28 27.5**	**+0.7**
JYT	**Yasato**	**0.86**	**301**	P	**Pn**	**18 28 26.6**	**-0.7**
JHO	**Hitachi**	**0.93**	**332**	P	**Pn**	**18 28 28.4**	**+0.2**
BSO4	**Boso 4**	**1.02**	**218**	P	**Pn**	**18 28 30.8**	**+1.4**
BSO3	**Boso 3**	**1.10**	**207**	P	**Pn**	**18 28 30.7**	**+0.1**
BSO1	**Boso 1**	**1.14**	**189**	P	**Pn**	**18 28 31.7**	**+0.6**
JAG	**Ashikaga**	**1.48**	**296**	P	**Pn**	**18 28 35.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.46**	**289**	Pn	**Pn**	**18 28 49.5**	**+0.2**
	2.5nm,0.3s,baz=96,slow=11,SNR=21						
MJAR				Sn	**Sn**	**18 29 17.2**	**-1.0**
	2.9nm,0.3s,baz=85,slow=27,SNR=6.5						
MAJO	**Matsushiro**	**2.46**	**289**	*e*P	**Pn**	**18 28 48.3**	**-1.0**
MAT	**Matsushiro**	**2.46**	**289**	P	**Pn**	**18 28 49.4**	**+0.1**
MAT				*e*S	**Sn**	**18 29 19.9**	**+1.7**
MAT	**Matsushiro**	**2.46**	**289**	*e*P	**Pn**	**18 28 50.0**	**+0.7**
MAT				S	**Sn**	**18 29 20.0**	**+1.8**
JHJ	**Hachijo jima 2**	**2.88**	**203**	Pn	**Pn**	**18 28 54.8**	**-0.3**
	17nm,0.3s,baz=69,slow=18,SNR=6.4						
JHJ				Sn	**Sn**	**18 29 28.4**	**-0.1**
	44nm,0.3s,baz=70,slow=24,SNR=9.3						
ASAJ	**Asahikawa**	**8.39**	**7**	Pn	**Pn**	**18 30 10.4**	**-0.4**
	0.9nm,0.3s,baz=203,slow=7.7,SNR=9.2						
CBIJ	**Chichi jima**	**8.72**	**174**	Pn	**Pn**	**18 30 12.9**	**-2.2**
	11nm,0.3s,baz=279,slow=19,SNR=4.6						
SONM	**Songino Array**	**28.30**	**306**	P	**P**	**18 34 01.8**	**0.0**
	0.3nm,0.7s,mb3.0,baz=106,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**44.58**	**303**	P	**P**	**18 36 19.4**	**-0.8**
	0.5nm,0.7s,mb3.5,baz=90,slow=8.6,SNR=7.5						
KURK	**Kurchatov**	**46.51**	**309**	*e*P	**P**	**18 36 34.5**	**-1.0**
	1.7nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**50.68**	**32**	P	**P**	**18 37 08.6**	**+1.0**
	0.5nm,0.8s,mb3.5,baz=263,slow=6.4,SNR=5.7						
WRA	**Warramunga Arr**	**55.80**	**188**	P	**P**	**18 37 44.7**	**-0.4**
	0.6nm,0.7s,mb3.7,baz=5.7,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**59.52**	**188**	P	**P**	**18 38 11.7**	**+0.3**
	0.3nm,0.8s,mb3.4,baz=18,slow=9.3,SNR=8.1						
YKA	**Yellowknife Ar**	**65.01**	**30**	P	**P**	**18 38 49.3**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=302,slow=6.8,SNR=4.9						

*IDC **10** 18:58:49.9±3.0, 4080N×3059E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=53.0km s-min=13.8km az=44.0*
*ISCJB **10** 18:58:50.2±0.6, 4075N±003×3064E±003, h5km±5km, mb3.4/2, Error ellipse: s-maj=4.8km s-min=4.0km az=25.9*
*CSEM **10** 18:58:50.2±0.1, 4074N×3062E, h8km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.2km az=11.0*
*NEIC **10** 18:58:50.0, 4075N×3062E, h13km, MD3.2(ISK), After ISK.*
*ISK **10** 18:58:50.5, 4074N×3062E, h8km, MD3.4, ML3.5*

ISC 10 18:58:51.0±0.6, 4073N±003×3064E±003, h7km±4km, n42, σ0°78/53, mb3.4/2, 3C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.22**	**64**	*i* P	**Pg**	**18 58 55.8**	**+0.4**
HENT				*i* S	**Sg**	**18 59 02.6**	**+4.2**
GPA	**Golpazari**	**0.51**	**210**	*i* PG	**Pg**	**18 59 00.8**	**0.0**
GPA				*i* SG	**Sg**	**18 59 08.2**	**+0.8**
MDU	**Mudurnu**	**0.51**	**121**	*i* PG	**Pg**	**18 59 01.0**	**+0.1**
HRT	**Hereke**	**0.74**	**278**	*i* PG	**Pg**	**18 59 04.6**	**-0.7**
HRT				*i* SG	**Sg**	**18 59 15.2**	**+0.2**
BORA	**Eskisehir**	**0.86**	**190**	*i* P	**Pg**	**18 59 06.9**	**-0.6**
BORA				*i* S	**Sg**	**18 59 19.3**	**+0.6**
IZI	**Iznik**	**0.97**	**247**	*i* PG	**Pg**	**18 59 09.5**	**-0.1**
YLV	**Yalova**	**0.98**	**261**	*i* PG	**Pg**	**18 59 08.8**	**-1.0**
YLV				*i* SG	**Sg**	**18 59 23.2**	**+0.8**
BADT	**Buyukada**	**1.16**	**277**	*i* PN	**Pn**	**18 59 13.1**	**-0.5**
ESKT	**Eskisehir**	**1.22**	**172**	*i* P	**Pb**	**18 59 13.9**	**-0.4**
ESKT				*i* S	**Sg**	**18 59 30.5**	**+0.3**
ESKT	**Eskisehir**	**1.22**	**172**	*i* Pn	**Pn**	**18 59 14.2**	**-0.2**
SEYT	**Eskypehyr**	**1.22**	**172**	*i* P	**Pb**	**18 59 13.9**	**-0.4**
SEYT				*i* S	**Sg**	**18 59 30.5**	**+0.4**
ISK	**Istanbul-Kandi**	**1.24**	**286**	*i* PN	**Pn**	**18 59 14.5**	**-0.3**
ULDT	**Uludag**	**1.29**	**243**	*i* P	**Pn**	**18 59 14.8**	**-0.6**
ULDT				*i* S	**Sb**	**18 59 31.1**	**-1.1**
ORLT	**Orhaneli**	**1.50**	**243**	*i* PN	**Pn**	**18 59 18.0**	**-0.2**
SAFT	**Safranbolu**	**1.63**	**71**	*i* PN	**Pn**	**18 59 20.4**	**+0.3**
ALT	**Altintas**	**1.72**	**194**	PN	**Pn**	**18 59 21.8**	**+0.5**
KCT	**Karacabey**	**1.80**	**256**	PN	**Pn**	**18 59 22.7**	**+0.3**
LOD	**Lodumlu**	**1.83**	**117**	PN	**Pn**	**18 59 23.7**	**+0.9**
ANTO	**Ankara**	**1.86**	**117**	PN	**Pn**	**18 59 24.2**	**+1.0**
ANTO	**Ankara**	**1.86**	**117**	*e*Pg	**Pg**	**18 59 26.2**	**-0.4**
ANTO	**Ankara**	**1.86**	**117**	*e*Pn	**Pn**	**18 59 22.3**	**-1.0**
ANTO				*e*Pg	**Pg**	**18 59 26.2**	**-0.5**
ANTO				*e*S	**Sn**	**18 59 52.4**	**+5.5**
KIZT	**Kizilcal**	**2.08**	**152**	PN	**Pn**	**18 59 26.2**	**-0.1**
EDC	**Edincik**	**2.15**	**261**	*e*PN	**Pn**	**18 59 27.1**	**-0.1**
MRMT	**Marmara Adasi**	**2.32**	**268**	*e*PN	**Pn**	**18 59 29.6**	**+0.1**
BALB	**Balikesir**	**2.38**	**244**	*e*PN	**Pn**	**18 59 30.1**	**-0.2**
BRTR	**Keskin Array B**	**2.51**	**113**	Pn	**Pn**	**18 59 32.3**	**+0.2**
	0.7nm,0.3s,baz=293,slow=10,SNR=13						
BRTR				Pg	**Pg**	**18 59 37.4**	**-1.6**
	2.8nm,0.3s,baz=294,slow=15,SNR=44						
BRTR				Lg		19 00 11.2	
	2.4nm,0.3s,baz=297,slow=25,SNR=4.7						
BRTR	**Keskin Array B**	**2.51**	**113**	Pg	**Pg**	**18 59 37.4**	**-1.6**
MFT	**Murefte**	**2.55**	**272**	*e*PN	**Pn**	**18 59 32.7**	**0.0**
AKS	**Akhisar**	**2.85**	**231**	*e*PN	**Pn**	**18 59 37.7**	**+0.8**
CFR	**Carcaliu**	**4.81**	**338**	⇓P	**Pn**	**19 00 03.8**	**0.0**
CFR	**Carcaliu**	**4.81**	**338**	⇓P	**Pn**	**19 00 03.8**	**0.0**
MLR	**Muntele Rosu**	**5.87**	**326**	⇑P	**Pn**	**19 00 21.3**	**+2.9**
MLR	**Muntele Rosu**	**5.87**	**326**	⇑P	**Pn**	**19 00 21.3**	**+2.9**
VRI	**Vrincioaia**	**5.88**	**332**	⇓P	**Pn**	**19 00 18.7**	**+0.3**
VRI	**Vrincioaia**	**5.88**	**332**	⇓P	**Pn**	**19 00 18.7**	**+0.3**
VOIR		**6.24**	**321**	⇑P	**Pn**	**19 00 24.8**	**+1.4**
BURAR	**Bucovina Array**	**7.91**	**332**	⇓P	**Pn**	**19 00 50.1**	**+3.7**
BURAR	**Bucovina Array**	**7.91**	**332**	⇓P	**Pn**	**19 00 50.1**	**+3.7**
AKASG	**Malin Array Be**	**10.02**	**355**	Pn	**Pn**	**19 01 12.4**	**-2.9**
	1.1nm,0.3s,baz=175,slow=12,SNR=7.6						
NOA	**NORSAR Array B**	**23.57**	**336**	P	**P**	**19 04 01.5**	**-0.7**
	1.7nm,1.0s,mb3.5,baz=138,slow=8.9,SNR=3.4						
NOA	**NORSAR Array B**	**23.57**	**336**	P	**P**	**19 04 01.5**	**-0.7**
MKAR	**Makanchi Array**	**37.23**	**63**	P	**P**	**19 06 03.1**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=270,slow=9.0,SNR=12						

*NEIC **10** 19:03:41.9±0.4, 633S×1263E, h10km, mb4.3/6, Error ellipse: s-maj=16.4km s-min=6.9km az=62.0*
*ISCJB **10** 19:03:52.3±1.8, 660S±006×1299E±01, h133km±19km, mb4.2/18, Error ellipse: s-maj=18.4km s-min=8.1km az=143.1*
*IDC **10** 19:03:58.1±6.6, 650S×1303E, h171km±68km, mb3.9/10, mb1 3.9/12, mb1mx3.9/19, mbtmp4.5/12, Error ellipse: s-maj=34.0km s-min=15.3km az=83.0*

ISC 10 19:03:56.5±1.4, 680S±006×1299E±01, h166km±15km, n37, σ0°91/46, mb4.2/18, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.99**	**200**	*e*P	**Pn**	**19 06 41.7**	**-0.4**
	22nm,0.4s						
FITZ				*e*S	**Sn**	**19 08 49.2**	**-5.7**
WRAB	**Tennant Creek**	**13.74**	**162**	*e*P	**Pn**	**19 07 04.2**	**-0.3**
	39nm,0.9s						
WRAB				*e*S	**Sn**	**19 09 20.2**	**-17**
WRA	**Warramunga Arr**	**13.75**	**162**	P	**Pn**	**19 07 03.8**	**-0.8**
	2.8nm,0.3s,baz=341,slow=13,SNR=99						
WRA				S	**Sn**	**19 09 31.1**	**-6.0**
	4.5nm,0.3s,baz=335,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.75**	**162**	*e*P	**Pn**	**19 07 04.2**	**-0.4**
WB2				*e*S	**Sn**	**19 09 30.2**	**-7.1**
ASAR	**Alice Springs**	**17.20**	**168**	P	**Pn**	**19 07 50.5**	**+3.7**
	1.8nm,0.3s,baz=346,slow=10,SNR=268						
ASAR				S	**S**	**19 10 56.4**	**0.0**
	1.1nm,0.3s,baz=348,slow=24,SNR=9.0						
ASPA	**Alice Springs**	**17.20**	**168**	*e*P	**Pn**	**19 07 50.0**	**+3.1**
ASPA				*e*S	**S**	**19 10 55.1**	**-1.3**
PMG	**Port Moresby**	**17.25**	**100**	P	**Pn**	**19 07 49.1**	**+1.6**
	2.5nm,0.3s,baz=282,slow=5.0,SNR=20						
PMG				S	**S**	**19 10 47.8**	**-10**
	0.5nm,0.3s,baz=192,slow=17,SNR=2.7						
PMG	**Port Moresby**	**17.25**	**100**	*e*P	**Pn**	**19 07 49.2**	**+1.7**
PMG				S	**S**	**19 10 47.8**	**-10**
MBWA	**Marble Bar**	**17.35**	**214**	*e*P	**Pn**	**19 07 56.4**	**+7.7**
MBWA				S	**S**	**19 10 49.0**	**-10**
KKM	**Kota Kinabalu**	**18.71**	**313**	*e*P	**P**	**19 08 02.9**	**+0.6**
CTA	**Charters Tower**	**20.62**	**131**	⇑*i* P	**P**	**19 08 26.5**	**+3.6**
	7.6nm,0.6s						
CTA	**Charters Tower**	**20.62**	**131**	P	**P**	**19 08 26.9**	**+4.0**
	13nm,0.7s,baz=311,slow=12,SNR=27						
CTAO	**Charters Tower**	**20.62**	**131**	*e*P	**P**	**19 08 26.4**	**+3.4**
TGY	**Tagaytay City**	**22.60**	**337**	P	**P**	**19 08 42.3**	**-0.8**
	138nm,0.8s,baz=219,slow=5.6,SNR=6.1						
STKA	**Stephens Creek**	**27.22**	**158**	⇑*i* P	**P**	**19 09 26.5**	**+1.6**
	3.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**27.22**	**158**	P	**P**	**19 09 26.6**	**+1.7**
	5.5nm,0.7s,mb4.3,baz=335,slow=9.5,SNR=8.0						
NWAO	**Narrogin (SRO)**	**28.55**	**203**	P	**P**	**19 09 40.9**	**+4.2**
	8.4nm,1.0s,mb4.4,baz=34,slow=11,SNR=3.1						
JOW	**Kunigami**	**33.47**	**357**	P	**P**	**19 10 18.9**	**-1.0**
	6.9nm,0.6s,mb4.6,baz=200,slow=11,SNR=5.

IDC 10 19:11:29.0±2.7, 872S×11928E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/17, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=177.9km s-min=25.3km az=54.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.35**	**129**	P	Pn	19 15 43.6	-1.3
	0.1nm,0.3s,baz=307,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**20.42**	**138**	P	P	19 16 08.8	+1.1
	0.9nm,1.0s,baz=313,slow=9.2,SNR=2.9						
SONM	**Songino Array**	**57.45**	**350**	P	P	19 21 20.1	+0.5
	0.5nm,0.6s,baz=166,slow=7.3,SNR=6.1						
MKAR	**Makanchi Array**	**64.33**	**333**	P	P	19 22 06.3	-0.1
	0.2nm,0.4s,baz=124,slow=5.2,SNR=6.6						

MAN 10 19:11:38.0, 1303N×12423E, h100km, mb3.0, ML4.4, MS1.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.57**	**352**	*e*P	Pn	19 11 56.2	+2.0
PVCP				*e*S	Sn	19 12 09.2	+2.8
CNP	**Catarman**	**0.67**	**141**	*e*P	Pn	19 11 56.5	+1.4
CNP				*e*S	Sn	19 12 10.0	+2.1
GQP	**Guinayangan**	**1.94**	**297**	*e*P	Pn	19 12 10.7	+0.9
GQP				*e*S	Sn	19 12 34.3	+0.3
OTRP	**Odiongan**	**2.26**	**253**	*e*P	Pn	19 12 14.4	+0.5
BOAC	**Boac**	**2.37**	**281**	*e*P	Pn	19 12 15.8	+0.5
BOAC				*e*S	Sn	19 12 44.8	+0.9
POLP	**Polilio Island**	**2.79**	**307**	*e*P	Pn	19 12 22.0	+1.0
POLP				*e*S	Sn	19 12 54.9	+0.8
MSLP	**Maasin**	**2.94**	**168**	*e*P	Pn	19 12 24.2	+1.3
BUTP	**Butuan**	**4.26**	**161**	*e*P	Pn	19 12 42.5	+1.9
APYP	**Conner**	**5.60**	**329**	*e*P	Pn	19 12 59.8	+1.0
ABRA	**Dolores**	**5.71**	**324**	*e*P	Pn	19 13 01.9	+1.6

*ATH **10** 19:28:39.3, 4098N×2387E, h36km, MD3.0/3*
*ISCJB **10** 19:28:40.0±0.7, 4092N±005×2396E±006, h24km±8km, Error ellipse: s-maj=7.7km s-min=6.9km az=51.7*
*CSEM **10** 19:28:40.3±0.1, 4094N×2393E, h12km, ML2.5, Error ellipse: s-maj=1.5km s-min=1.3km az=60.0*
*THE **10** 19:28:40.9, 4091N×2389E, h17km, ML2.5*
ISC 10 19:28:40.0±0.7, 4092N±005×2395E±006, h23km±8km, n11, σ0§72/16, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.43**	**351**	⇑*i*PB	Pb	19 28 48.5	-0.6
SOH	**Sokhos**	**0.47**	**258**	*e*Pg	Pb	19 28 49.1	-0.4
SOH				*e*Sg	Sb	19 28 55.7	-0.4
OUR	**Ouranopolis**	**0.59**	**178**	*e*Pg	Pb	19 28 52.0	+0.4
	comp=Z,8.5nm,0.1s						
PLG	**Polygyros**	**0.67**	**215**	*e*PN	Pn	19 28 53.3	-0.8
PLG				*e*SN	Sn	19 29 02.4	-1.5
THE	**Thessaloniki**	**0.80**	**249**	*e*Pg	Pb	19 28 55.1	-0.2
KNT	**Kendrikon**	**0.83**	**287**	*e*Pg	Pb	19 28 55.7	-0.1
KNT				*e*Sg	Sb	19 29 06.7	0.0
PAIG	**Paliouri**	**1.01**	**192**	*e*Pg	Pn	19 28 59.4	+0.5
PAIG				*e*Sg	Sb	19 29 13.0	+1.2
VAY	**Valandovo**	**1.12**	**291**	*e*Pg	Pn	19 29 01.1	+0.8
VAY				*e*Sg	Sb	19 29 15.5	+0.6
GRG	**Griva**	**1.18**	**272**	*e*Pg	Pn	19 29 01.7	+0.6
RDO	**Rodhopi**	**1.22**	**79**	*e*PN	Pn	19 29 02.4	+0.7
ALN	**Alexandroupoli**	**1.59**	**90**	*e*Pb	Pb	19 29 07.7	-0.9

IDC 10 20:06:13.8±7.1, 981N×14323E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=223.8km s-min=60.9km az=12.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.96**	**328**	P	P	20 15 03.2	+1.3
	0.4nm,1.0s,baz=140,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**63.13**	**318**	P	P	20 16 41.9	-1.4
	0.2nm,0.8s,baz=92,slow=8.2,SNR=4.7						
YKA	**Yellowknife Ar**	**86.94**	**27**	P	P	20 19 00.2	-0.4
	0.4nm,0.4s,baz=291,slow=5.6,SNR=7.2						
FINES	**FINESS Array B**	**93.88**	**335**	P	P	20 19 33.9	+0.7
	2.7nm,1.0s,baz=56,slow=5.0,SNR=6.7						

*ISCJB **10** 20:11:37.1±3.5, 451S±008×970E±10, h10km, mb4.0/3, Error ellipse: s-maj=144.6km s-min=24.8km az=96.1*
*IDC **10** 20:11:37.4±3.4, 4526S×97.13E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=132.8km s-min=60.6km az=147.0*
ISC 10 20:11:38.7±3.4, 451S±07×970E±09, h10km, n5, σ0§06/4, mb4.0/3, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**36.77**	**67**	P	P	20 18 46.4	0.0
	1.1nm,0.7s,mb3.8,baz=223,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**36.85**	**85**	P	P	20 18 47.1	0.0
	1.7nm,0.6s,mb4.0,baz=224,slow=4.3,SNR=11						
WRA	**Warramunga Arr**	**39.73**	**63**	P	P	20 19 11.4	0.0
	2.6nm,0.7s,mb4.1,baz=223,slow=8.5,SNR=42						
VNA2	**Neumayer--Watz**	**52.47**	**204**	*e*	P	20 20 51.7	0.0
	baz=106,slow=5.5						
NVAR	**Mina Array Bea**	**152.98**	**92**	PKPbc	PKPbc	20 31 37.6	+1.4
	0.3nm,0.6s,baz=233,slow=4.5,SNR=2.9						
NVAR				PKPab	PKPab	20 31 45.1	-2.5
	0.5nm,0.7s,baz=217,slow=4.1,SNR=3.7						

BJI 10 20:36:26.0, 2776N×11989E, h27km, mb4.3, ML4.1, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.04**	**203**	PG	Pn	20 37 20.1	+7.8
QZH				Smax			
	comp=N,720nm,0.8s						
QZH				Smax			
	comp=E,750nm,0.6s						
SSE	**Sheshan**	**3.51**	**18**	PG	Pn	20 37 27.0	+8.2
SSE				SG	Sn	20 38 15.4	+16
SSE				Smax			
	comp=N,167nm,1.0s						
SSE				Smax			
	comp=E,292nm,0.7s						
NJ2	**Nanjing**	**4.37**	**348**	*e*P	Pn	20 37 33.1	+2.5
NJ2				S	Sn	20 38 24.3	+3.7
NJ2				SG	Sn	20 38 45.8	+25
NJ2				Smax			
	comp=N,1μm,1.0s						
NJ2				Smax			
	comp=E,610nm,0.8s						
WHN	**Wuhan**	**5.58**	**301**	P	Pn	20 37 49.6	+2.4
WHN				S	Sn	20 38 52.5	+2.0
WHN				Smax			
	comp=N,180nm,0.8s						
WHN				Smax			
	comp=E,134nm,0.6s						
WHN				LR	LR		
	comp=N,190nm,3.5s						
WHN				LR	LR		
	comp=E,1μm,6.7s						
GZH	**Guangzhou**	**7.53**	**233**	PG	Pn	20 38 40.1	+26
GZH				Smax			
	comp=N,219nm,0.9s						
GZH				Smax			
	comp=E,204nm,0.8s						
LZH	**Lanzhou**	**15.94**	**305**	*e*P	Pn	20 40 09.1	+0.8
LZH				AP	pP	20 40 16.1	-2.9
LZH				XP	sP	20 40 22.2	-0.2
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						

*ISCJB **10** 20:43:38.5±0.7, 2204S±008×6868W±010, h126km±6km, mb3.9/4, Error ellipse: s-maj=16.3km s-min=10.7km az=71.8*
*IDC **10** 20:43:38.2±0.9, 2189S×6855W, h98km±9km, mb3.7/5, mb1 3.7/6, mb1mx3.5/16, mbtmp4.0/6, Error ellipse: s-maj=27.4km s-min=20.9km az=124.0*
*NEIC **10** 20:43:38.9±0.8, 2202S×6843W, h106km±8km, Error ellipse: s-maj=20.7km s-min=11.7km az=109.0*
*GUC **10** 20:43:39.1±0.7, 2203S×6889W, h109km±6km, ML3.9*
ISC 10 20:43:39.5±0.7, 2201S±008×6858W±010, h114km±7km, n18, σ1§57/24, mb3.9/4, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.67**	**207**	P	Pn	20 43 57.6	-0.4
	300nm,0.3s,baz=22,slow=8.4,SNR=5804						
LVC				S	Sn	20 44 11.4	-0.5
	752nm,0.3s,baz=88,slow=22,SNR=183						
LVC	**Limon Verde**	**0.67**	**207**	*e*P	Pn	20 43 57.2	-0.8
LVC				*i* S	Sn	20 44 11.2	-0.7
LVC				AMP		20 44 12.6	
	comp=N,7μm,0.4s						
LVC	**Limon Verde**	**0.67**	**207**	P	Pn	20 43 57.6	-0.4
LVC				S	Sn	20 44 11.4	-0.5
SPCH	**San Pedro de A**	**0.96**	**158**	⇑*i*P	Pn	20 44 02.0	+1.4
SPCH				*i* S	Sn	20 44 19.6	+3.1
SPCH				AMP		20 44 29.6	
	comp=E,3μm,0.7s						
CEN1	**Los Morros**	**2.03**	**227**	*e*P	Pn	20 44 15.0	+2.0
CEN1				*i* S	Sn	20 44 40.4	+1.8
CEN1				AMP		20 44 50.8	
	comp=E,603nm,0.6s						
ANCH	**Antofagasta**	**2.37**	**225**	*i* P	Pn	20 44 14.5	-2.8
ANCH				*i* S	Sn	20 44 41.7	-4.7
CPN1	**Cerro Paranal**	**3.10**	**212**	*i* P	Pn	20 44 26.3	-0.5
CPN1				*i* S	Sn	20 45 01.6	-1.7
CPN1				AMP		20 45 14.6	
	comp=E,580nm,0.8s						
LPAZ	**La Paz**	**5.71**	**4**	P	Pn	20 45 03.2	+1.3
	comp=E,1.2nm,0.3s,baz=221,slow=6.7,SNR=15						
LPAZ				S	Sn	20 45 53.1	-13
	comp=E,0.6nm,0.3s,baz=168,slow=3.1,SNR=6.1						
SIV	**San Ignacio**	**9.29**	**51**	P	Pn	20 45 47.2	-3.2
	comp=E,2.0nm,0.3s,baz=241,slow=13,SNR=30						
CFAA	**Coronel Fontan**	**9.56**	**178**	P	Pn	20 45 53.1	-1.0
	comp=E,0.1nm,0.3s,baz=333,slow=14,SNR=2.8						
CFAA				S	Sn	20 47 33.6	-6.0
	comp=E,0.0nm,0.3s,baz=153,slow=16,SNR=2.1						
BDFB	**Brasilia**	**20.46**	**76**	P	P	20 48 06.7	-1.3
	comp=E,1.3nm,0.4s,baz=244,slow=11,SNR=4.0						
SNAA	**Sanae**	**61.70**	**161**	P	P	20 53 46.2	+0.7
	comp=E,1.8nm,0.9s,mb4.1,baz=315,slow=11,SNR=4.0						
DBIC	**Dimbokro**	**68.59**	**73**	P	P	20 54 31.8	+1.7
	comp=E,2.4nm,0.8s,mb4.1,baz=226,slow=17,SNR=4.4						
PDAR	**Pinedale Array**	**74.70**	**330**	P	P	20 55 06.3	-0.3
	comp=E,0.4nm,0.8s,mb3.2,baz=141,slow=5.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	P	20 55 21.6	+0.5
	comp=E,1.5nm,0.4s,mb4.0,baz=256,slow=5.6,SNR=41						
TORD				pP	pP	20 55 50.6	+0.7
	comp=E,1.4nm,0.8s,baz=255,slow=5.5,SNR=5.3						
WRA	**Warramunga Arr**	**132.67**	**210**	PKP	PKPdf	21 02 41.9	+1.2
	comp=E,0.4nm,0.8s,baz=167,slow=1.8,SNR=5.2						
BRVK	**Borovoye**	**135.97**	**35**	*e*PKPdf	PKPdf	21 02 45.9	-1.0
MKAR	**Makanchi Array**	**145.86**	**37**	PKPbc	PKPbc	21 03 05.6	+0.1
	comp=E,0.4nm,0.7s,baz=333,slow=2.7,SNR=5.8						
MKAR				pPKPbc	pPKPbc	21 03 37.4	+1.4
	comp=E,0.6nm,0.9s,baz=315,slow=3.4,SNR=4.3						

IDC 10 20:50:05.6±2.3, 1081N×9175E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, Error ellipse: s-maj=95.8km s-min=23.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.75**	**349**	P	P	20 57 14.8	+0.1
	0.8nm,0.8s,baz=165,slow=8.5,SNR=11						
MKAR				PcP	PcP	20 59 36.9	-0.3
	0.1nm,0.6s,baz=153,slow=3.2,SNR=3.4						
SONM	**Songino Array**	**38.91**	**16**	P	P	20 57 33.0	+0.1
	0.2nm,0.6s,baz=218,slow=6.1,SNR=2.8						
WRA	**Warramunga Arr**	**51.88**	**126**	P	P	20 59 16.0	+0.2
	0.2nm,0.4s,baz=306,slow=8.2,SNR=9.4						
ASAR	**Alice Springs**	**53.60**	**130**	P	P	20 59 29.1	+0.6
	0.4nm,0.6s,baz=298,slow=7.4,SNR=5.7						

BJI 10 21:05:59.3, 2768N×11988E, h21km, ML3.7, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.96**	**203**	P	Pn	21 06 46.5	+1.5
QZH				S	Sn	21 07 20.1	+0.2
QZH				Smax			
	comp=N,270nm,0.4s						
QZH				Smax			
	comp=E,350nm,0.6s						
WHN	**Wuhan**	**5.62**	**302**	P	Pn	21 07 21.7	+0.1
WHN				S	Sn	21 08 30.0	+4.6
WHN				Smax			
	comp=N,82nm,0.8s						
WHN				Smax			
	comp=E,65nm,0.6s						

IDC 10 21:23:38.3±3.4, 949S×10947E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, Error ellipse: s-maj=136.5km s-min=30.8km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.17**	**116**	P	P	21 29 14.8	+0.4
	0.3nm,0.5s,baz=286,slow=12,SNR=5.3						
SONM	**Songino Array**	**57.13**	**358**	P	P	21 33 26.6	-0.1
	0.1nm,0.6s,baz=168,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**61.05**	**339**	P	P	21 33 54.0	+0.2
	0.2nm,0.6s,baz=143,slow=7.6,SNR=3.9						

*NIED **10** 21:35:00, 3770N×14230E, h23km, Mw3.6 Best double couple: M0=2.41000×10^14 NP1:φs=227.00000°, δ62.00000°, λ-106.00000°. NP2:φs=78.00000°, δ32.00000°, λ-64.00000°.*
*IDC **10** 21:35:46.4±2.2, 3768N×14266E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=47.7km s-min=30.8km az=57.0*
*ISCJB **10** 21:35:48.9±1.5, 3768N±006×14234E±008, h17km±9km, mb3.4/3, Error ellipse: s-maj=11.6km s-min=10.0km az=52.5.*
*JMA **10** 21:35:49.9±0.2, 3769N×14233E, h35km±3km, M3.5*
ISC 10 21:35:49.1±1.5, 3771N±006×14225E±008, h5km±7km, n14, σ0§76/21, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.03**	**317**	P	Pg	21 36 09.2	+0.3
JIO				S	Sg	21 36 22.7	+0.3
JFK	**Kawauchi**	**1.15**	**253**	P	Pg	21 36 10.7	-0.4
JFK				S	Sg	21 36 26.1	+0.1
JMM	**Marumori**	**1.17**	**278**	P	Pg	21 36 11.3	-0.2
JMM				S	Sg	21 36 26.1	-0.6
JOU	**Okura**	**1.42**	**298**	P	Pn	21 36 15.5	-0.1
JOU				S	Sb	21 36 33.6	-0.8
JMK	**Ichinoseki**	**1.49**	**327**	P	Pn	21 36 15.9	-0.6
JFT	**Otama**	**1.53**	**264**	P	Pn	21 36 17.4	+0.2
JFT				S	Sn	21 36 36.6	-0.9
JYS	**Shiratake**	**1.81**	**287**	P	Pn	21 36 21.7	+0.8
JYS				S	Sn	21 36 44.8	+0.6
JOM	**Ohasama**	**1.92**	**337**	P	Pn	21 36 21.9	-0.5
JYK	**Kaneyama**	**1.92**	**310**	P	Pn	21 36 22.7	+0.2
MJAR	**Matsushiro Arr**	**3.44**	**251**	Pn	Pn	21 36 44.9	+1.6
	0.6nm,0.3s,baz=356,slow=16,SNR=5.4						
MJAR				Sn	Sn	21 37 30.9	+6.6
	1.2nm,0.3s,baz=302,slow=24,SNR=4.2						
MAT	**Matsushiro**	**3.44**	**251**	P	Pn	21 36 44.3	+1.0
SONM	**Songino Array**	**27.98**	**303**	P	P	21 41 40.4	-0.2
	0.6nm,0.8s,mb3.3,baz=98,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**44.33**	**302**	P	P	21 44 01.0	+0.9
	0.3nm,0.7s,mb3.1,baz=82,slow=9.0,SNR=5.7						
WRA	**Warramunga Arr**	**57.82**	**189**	P	P	21 45 39.7	-1.9
	0.5nm,0.6s,mb3.7,baz=6.6,slow=7.2,SNR=9.8						

*IDC **10** 21:42:26.0±1.5, 1170S×16272E, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML4.1/2, MS3.6/5, Ms1 3.6/5, ms1mx3.1/30, Error ellipse: s-maj=32.1km s-min=24.6km az=70.0*
*NEIC **10** 21:42:25.3±1.4, 1152S×16296E, h10km, mb4.3/2, Error ellipse: s-maj=31.8km s-min=12.6km az=55.0*
*ISCJB **10** 21:42:26.4±1.6, 116S±01×1629E±02, h33km, mb4.1/6, MS3.6/5, Error ellipse: s-maj=33.3km s-min=7.0km az=110.8*
ISC 10 21:42:30.6±1.1, 117S±01×1628E±01, h35km, n17, σ1§18/15, mb4.2/6, MS3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.56**	**309**	Pn	Pn	21 43 21.4	-1.9
	48nm,0.3s,baz=44,slow=1.4,SNR=13						
HNR				Sn	Sn	21 44 05.2	+1.1
	baz=272,slow=12,SNR=1.8						
HNR	**Honiara**	**3.56**	**309**	*e*P	Pn	21 43 20.9	-2.4
HNR				*e*S	Sn	21 44 11.9	+7.8
DZM	**Mont Dzumac**	**10.91**	**162**	Pn	Pn	21 45 02.7	-1.5
	0.4nm,0.3s,baz=244,slow=12,SNR=11						
DZM				Sn	Sn	21 47 05.5	+0.5
	0.3nm,0.3s,baz=135,slow=19,SNR=3.6						
CTA	**Charters Tower**	**17.93**	**240**	*e*P	Pn	21 46 44.2	+7.1
	6.1nm,0.6s						
CTAO	**Charters Tower**	**17.93**	**240**	*e*P	Pn	21 46 44.1	+7.0
	6.7nm,0.6s						
RAO	**Raoul Island**	**25.09**	**137**	LR	LR	21 55 57.7	
	comp=Z,519nm,18.5s,MS4.1,baz=143,slow=32						
STKA	**Stephens Creek**	**28.00**	**221**	LR	LR	21 59 16.6	
	comp=Z,120nm,19.5s,MS3.5,baz=25,slow=36						
WRAB	**Tennant Creek**	**28.50**	**250**	*e*P	P	21 48 23.6	+1.0
	27nm,1.6s,mb4.7						
WB2	**Warramunga Arr**	**28.50**	**250**	*e*P	P	21 48 22.1	-0.5
WRA	**Warramunga Arr**	**28.51**	**250**	P	P	21 48 23.5	+0.8
	2.2nm,0.5s,mb4.2,baz=80,slow=9.1,SNR=34						
ASAR	**Alice Springs**	**29.89**	**243**	P	P	21 48 35.9	+0.9
	2.5nm,0.7s,mb4.0,baz=64,slow=10.0,SNR=20						
GUMO	**Guam**	**30.75**	**324**	LR	LR	21 58 49.9	
	comp=Z,81nm,20.4s,MS3.4,baz=126,slow=32						
FITZ	**Fitzroy Crossi**	**36.38**	**255**	*e*P	P	21 49 30.7	-0.8
	5.6nm,0.6s,mb4.7						
RAR	**Rarotonga**	**37.08**	**110**	LR	LR	22 00 51.0	
	comp=Z,318nm,22.0s,MS4.1,baz=322,slow=30						
CBIJ	**Chichi jima**	**43.42**	**333**	LR	LR	22 08 26.7	
	comp=Z,11nm,18.2s,MS2.8,baz=320,slow=36						
ILAR	**Eielson Array**	**85.06**	**19**	P	P	21 55 04.8	+2.0
	0.4nm,0.6s,mb3.7,baz=248,slow=4.9,SNR=4.5						
MKAR	**Makanchi Array**	**91.99**	**317**	P	P	21 55 35.0	-0.7
	0.2nm,0.6s,mb3.6,baz=92,slow=4.9,SNR=3.5						

*ISCJB **10** 21:44:31.9±1.7, 34.1S±0.1×1357E±0.1, h10km, Error ellipse: s-maj=19.4km s-min=9.7km az=89.2*
*IDC **10** 21:44:34.4±9.4, 3393S×13571E, h0km, mb1 3.2/3, mb1mx3.1/12, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=111.6km s-min=30.8km az=10.0*
*AUST **10** 21:44:34.4, 34.16S×13568E, h2km, ML2.6*
ISC 10 21:44:35.1±1.7, 3412S±007×1357E±01, h10km, n6, σ1§08/11, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**1.33**	**13**	*e*P	Pn	21 44 59.7	0.0
BBOO				*e*S	Sb	21 45 18.3	+1.0
	20nm,0.2s						
STKA	**Stephens Creek**	**5.43**	**67**	*e*P	Pn	21 45 56.8	+0.7
STKA				*e*S	Sn	21 46 58.3	-0.4
	4.2nm,1.5s						
STKA	**Stephens Creek**	**5.43**	**67**	Pn	Pn	21 45 55.8	-0.3
	0.2nm,0.3s,baz=248,slow=12,SNR=4.3						
STKA				Sn	Sn	21 46 57.6	-1.1
	0.3nm,0.3s,baz=177,slow=21,SNR=4.1						
STKA				Lg		21 47 25.5	
	0.7nm,0.3s,baz=317,slow=11,SNR=6.2						
ARPS	**Mount Arapiles**	**5.67**	**120**	*e*P	Pn	21 46 01.0	+1.7
ARPS				*e*S	Sn	21 47 03.9	-0.6
	6.1nm,0.3s						
ASAR	**Alice Springs**	**10.53**	**351**	Pn	Pn	21 47 05.5	-0.5
	0.1nm,0.3s,baz=168,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**14.17**	**355**	Pn	Pn	21 47 52.0	-3.7
	0.1nm,0.3s,baz=185,slow=13,SNR=4.6						
WRA				Sn	Sn	21 50 22.4	-11
	baz=182,slow=24,SNR=3.2						

*IDC **10** 21:48:12.4±1.5, 3981N×10730W, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.4/25, mbtmp3.3/5, ML2.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/12, Error ellipse: s-maj=16.3km s-min=11.9km az=95.0*
*ISCJB **10** 21:48:13.3±0.3, 3960N±002×10745W±003, h10km, mb3.1/1, Error ellipse: s-maj=4.1km s-min=3.0km az=107.3*
*NEIC **10** 21:48:13.7±0.4, 3959N×10744W, h5km, ML3.8, MW3.8(SLM), Error ellipse: s-maj=5.8km s-min=4.6km az=77.0*
NEIC Felt [IV] at New Castle and Silt; [III] at Glenwood Springs. Also felt at Basalt, Carbondale, Clifton, Grand Junction and Gypsum.
ISC 10 21:48:14.4±0.3, 3957N±002×10743W±003, h10km, n58, σ1§42/77, mb3.1/1, 3C-1D, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**0.53**	**138**	⇑*i*P	Pg	21 48 24.7	+0.1
SMCO				S	Sg	21 48 32.5	+0.9
OMCO	**Orchard Mesa**	**1.01**	**238**	P	Pg	21 48 31.7	-2.1
CMCO	**Colorado Mnmt**	**1.12**	**246**	Pg	Pg	21 48 33.5	-2.5
ISCO	**Idaho Springs**	**1.42**	**80**	⇑*i*Pn	Pn	21 48 40.2	0.0
ISCO				*e*S	Sn	21 48 58.4	-0.6
RWWY	**Rawlins**	**2.12**	**4**	⇑*i*Pn	Pn	21 48 50.7	+0.7
RWWY				*e*Sn	Sn	21 49 17.0	+0.6
PHWY	**Pilot Hill**	**2.29**	**40**	Pn	Pn	21 48 52.9	+0.6
SDCO	**Great Sand Dun**	**2.36**	**140**	*e*Pn	Pn	21 48 55.2	+1.9
SDCO				*e*Sg	Sg	21 49 31.9	+1.5
SRU	**San Rafael**	**2.45**	**260**	Pn	Pn	21 48 54.6	+0.2
TMUT	**Trail Mountain**	**2.94**	**266**	Pn	Pn	21 49 01.5	+0.3
DAU	**Daniels Canyon**	**3.06**	**287**	Pn	Pn	21 49 04.2	+1.4
MPU	**Maple Canyon**	**3.27**	**279**	Pn	Pn	21 49 07.3	+1.5
TCUT	**Toone Canyon**	**3.42**	**298**	Pb	Pb	21 49 11.5	-3.5
BW06	**Boulder Array**	**3.58**	**334**	Pn	Pn	21 49 08.8	-1.2
PDAR	**Pinedale Array**	**3.58**	**334**	Pn	Pn	21 49 08.9	-1.1
	4.5nm,0.3s,baz=142,slow=11,SNR=117						
PDAR				Pg	Pg	21 49 16.9	-6.1
	15nm,0.3s,baz=141,slow=17,SNR=56						
PDAR				Sn	Sn	21 49 53.9	+1.6
	13nm,0.3s,baz=149,slow=21,SNR=4.4						
PDAR				Lg		21 50 00.2	
	44nm,0.3s,baz=132,slow=32,SNR=15						
NLU	**North Lily Min**	**3.60**	**278**	Pn	Pn	21 49 09.8	-0.5
HWUT	**Hardware Ranch**	**3.75**	**304**	Pn	Pn	21 49 10.5	-1.9
NOQ	**North Oquirrh**	**3.76**	**288**	*e*Pn	Pn	21 49 11.2	-1.3
MSU	**Marysvale**	**3.85**	**256**	Pn	Pn	21 49 09.3	-4.4
MVU	**Marysvale**	**3.88**	**256**	Pn	Pn	21 49 14.0	-0.1
MVU				*e*Pg	Pg	21 49 30.2	+1.5
DUG	**Dugway**	**4.19**	**280**	Pn	Pn	21 49 18.8	+0.4
AHID	**Auburn Hatcher**	**4.23**	**320**	Pn	Pn	21 49 18.8	-0.1
REDW	**Red Top Meadow**	**4.58**	**327**	Pn	Pn	21 49 23.4	-0.3
SNOW	**Snow King Moun**	**4.62**	**328**	*e*Pn	Pn	21 49 24.4	+0.1
SNOW				*e*Pg	Pg	21 49 35.6	-7.4
SNOW				*e*Sn	Sn	21 50 17.1	-0.9
SNOW				*e*Sg	Sg	21 50 39.1	-3.8
HVU	**Hansel Valley**	**4.63**	**300**	Pn	Pn	21 49 26.0	+1.6
ANMO	**Albuquerque**	**4.67**	**170**	Pg	Pg	21 49 40.0	-4.0

QLMT	**Earthquake Lak**	6.04	332	Pn	Pn	21 49 47.0	+3.2
QLMT				Pb	Pb	21 49 57.8	-2.0
ELK	**Elko**	6.10	284	Pn	Pn	21 49 47.0	+2.4
0.2nm,0.3s,baz=101,slow=9.9,SNR=5.1							
GCMT	**Greycliff**	6.43	346	*e*Pn	Pn	21 49 48.0	-1.2
GCMT				*e*Sg	Sb	21 51 27.8	+4.3
MCMT	**McKenzie Canyo**	6.62	324	*e*Pn	Pn	21 49 53.0	+1.3
BOZ	**Bozeman (W)**	6.82	334	Pn	Pn	21 49 55.5	+1.0
SHPR	**Sheep Range**	6.83	246	Sb	Sb	21 51 41.0	+6.3
DLMT	**Dillon**	6.94	328	*e*Pn	Pn	21 49 57.9	+1.8
14nm,0.8s							
LAO	**LASA Array**	7.17	7	Pn	Pn	21 49 59.3	0.0
LRM	**Limekiln Ridge**	7.26	331	Pn	Pn	21 50 02.4	+1.8
HRY	**Holter Researc**	7.83	337	Pn	Pn	21 50 09.6	+1.2
MNTX	**Cornudas Mount**	8.03	167	Pn	Pn	21 50 17.0	+5.9
MNTX				*e*Sg	Sn	21 52 25.8	+44
WMOK	**Wichita Mounta**	8.42	122	Pn	Pn	21 50 17.1	+0.7
WMOK				*e*Pg	Pn	21 50 46.9	+30
WMOK				Sg	Sn	21 52 45.6	+54
CHMT	**Chamberlain Mo**	8.48	332	Pn	Pn	21 50 19.2	+1.9
NVAR	**Mina Array Bea**	8.55	266	Pn	Pn	21 50 21.8	+3.6
0.1nm,0.3s,baz=74,slow=13,SNR=3.4							
MSO	**Missoula**	8.67	329	Pn	Pn	21 50 22.2	+2.2
WVOR	**Wild Horse Val**	8.95	292	*e*Pn	Pn	21 50 24.4	+0.7
7.3nm,0.4s							
BMO	**Blue Mountains**	9.03	309	*e*Pn	Pn	21 50 26.0	+1.2
1.5nm,0.5s							
DGMT	**Dagmar**	9.20	14	*e*Pn	Pn	21 50 25.2	-1.9
DGMT				*e*Pg	Pn	21 51 01.9	+35
NATX	**Nacogdoches**	12.97	123	Pn	Pn	21 51 16.4	-2.4
ULM	**Lac du Bonnet**	13.44	34	Pn	Pn	21 51 19.6	-5.6
0.4nm,0.3s,baz=206,slow=6.3,SNR=4.1							
ULM				Lg		21 55 02.7	
0.2nm,0.3s,baz=336,slow=20,SNR=3.2							
ULM	**Lac du Bonnet**	13.44	34	Pn	Pn	21 51 19.6	-5.6
ULM				Lg		21 55 02.7	
YKA	**Yellowknife Ar**	23.36	352	P	P	21 53 20.3	-2.9
0.6nm,0.8s,mb3.1,baz=165,slow=9.2,SNR=9.7							

*ISCJB **10** 22:11:13.7±0.8, 3817N±003×2660E±005, h8km±5km, Error ellipse: s-maj=6.9km s-min=5.1km az=152.0*
*CSEM **10** 22:11:13.8±0.1, 3819N×2665E, h10km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.6km az=87.0*
*ATH **10** 22:11:13.5, 3813N×2676E, h39km±4km, MD3.0/3*
*ISK **10** 22:11:13.9, 3821N×2663E, h11km, MD2.8*
ISC 10 22:11:14.1±0.7, 3817N±003×2660E±005, h10km±4km, n12, σ0°56/21, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.19	359	*i* P	Pg	22 11 18.6	+0.5
URLA				*i* S	Sg	22 11 21.4	+0.5
BLCB	**Balcova**	0.41	58	*i* PG	Pg	22 11 21.3	-0.8
BLCB				*i* SG	Sg	22 11 27.2	-0.3
SMG	**Samos**	0.50	158	⇑*i*PB	Pg	22 11 23.6	-0.1
SMG				*e*SB	Sg	22 11 30.9	+0.6
IZM	**Izmir**	0.57	66	*i* PG	Pg	22 11 24.8	-0.3
IZM				*i* SG	Sg	22 11 32.8	+0.2
PRK	**Paraskevi**	1.11	347	*e*PN	Pn	22 11 35.2	-0.4
PRK				*e*SN	Sn	22 11 50.7	-0.2
AYDN	**Tasoluk**	1.13	116	*i* P	Pb	22 11 35.2	-0.5
AYDN				*i* S	Sb	22 11 49.2	-1.2
AKS	**Akhisar**	1.19	53	PN	Pn	22 11 36.8	+0.1
AKS				SN	Sn	22 11 53.0	+0.2
MLSB	**Milas**	1.28	133	*e*PN	Pn	22 11 38.7	+0.8
BDRM	**Kayabasi**	1.29	148	*i* P	Pn	22 11 38.4	+0.3
BDRM				*i* S	Sb	22 11 55.1	+0.2
APE	**Apeiranthos**	1.39	218	*e*PN	Pn	22 11 38.9	-0.6
MANT	**Manisa**	1.57	78	*i* P	Pn	22 11 41.9	0.0
MANT				*i* S	Sn	22 12 03.8	+1.4
BALB	**Balikesir**	1.78	34	*e*PN	Pn	22 11 44.5	-0.3

*ISCJB **10** 22:12:49.2±2.0, 210S±03×114.1W±04, h10km, mb3.9/9, MS4.0/9, Error ellipse: s-maj=57.6km s-min=17.5km az=106.6*
*IDC **10** 22:12:49.1±1.3, 2102S×114.15W, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/17, mbtmp3.9/8, MS3.9/10, Ms1 4.0/10, ms1mx3.9/17, Error ellipse: s-maj=50.3km s-min=20.8km az=45.0*
*NEIC **10** 22:12:51.0±1.0, 2096S×11408W, h10km, mb4.6/1, Error ellipse: s-maj=36.3km s-min=17.7km az=224.0*
ISC 10 22:12:50.4±2.0, 211S±03×1143W±04, h10km, n25, σ0°80/10, mb3.9/9, MS4.0/9, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	7.54	144	LR	LR	22 16 52.4	
comp=Z,1μm,19.6s,baz=151,slow=32							
PPT	**Papeete**	33.42	270	*e*LR	LR	22 27 58.5	
217nm,25.5s							
PPT	**Papeete**	33.42	270	LR	LR	22 27 51.8	
comp=Z,75nm,20.3s,MS3.4,baz=79,slow=27							
PLCA	**Paso Flores**	41.84	128	P	P	22 20 39.1	-1.3
2.2nm,1.1s,mb3.7,baz=344,slow=18,SNR=2.0							
PLCA				LR	LR	22 33 30.5	
comp=Z,311nm,19.5s,MS4.2,baz=95,slow=30							
CFAA	**Coronel Fontan**	42.33	114	P	P	22 20 45.6	+1.2
0.2nm,0.5s,mb3.0,baz=304,slow=7.7,SNR=4.0							
LPAZ	**La Paz**	43.89	92	P	P	22 20 58.1	+1.1
1.3nm,0.5s,mb4.0,baz=259,slow=6.9,SNR=4.5							
LPAZ				LR	LR	22 34 40.9	
comp=Z,210nm,21.1s,MS4.0,baz=57,slow=30							
ROSC	**El Rosal**	46.92	61	LR	LR	22 36 05.9	
comp=Z,62nm,20.5s,MS3.6,baz=193,slow=30							
SIV	**San Ignacio**	50.55	94	P	P	22 21 48.8	-0.2
1.5nm,0.8s,mb4.0,baz=258,slow=12,SNR=7.6							
SDV	**Santo Domingo**	52.23	60	P	P	22 22 00.5	-1.1
3.6nm,0.5s,mb4.5,baz=303,slow=6.2,SNR=3.6							
JCT	**Junction City**	53.13	16	P	P	22 22 08.0	-0.3
2.3nm,0.3s,mb4.6							
NVAR	**Mina Array Bea**	59.32	356	P	P	22 22 52.5	+0.1
1.2nm,0.7s,mb4.0,baz=187,slow=8.4,SNR=8.2							
NVAR				LR	LR	22 42 28.5	
comp=Z,57nm,20.1s,MS3.7,baz=165,slow=30							
NVAR	**Mina Array Bea**	59.32	356	P	P	22 22 52.5	+0.1
NVAR				LR	LR	22 42 28.4	
URZ	**Urewera**	60.72	237	LR	LR	22 42 36.8	
comp=Z,118nm,21.2s,MS4.0,baz=2.5,slow=29							
PDAR	**Pinedale Array**	63.68	4	P	P	22 23 22.1	+0.2
1.1nm,0.8s,mb3.9,baz=158,slow=6.4,SNR=7.8							
RPZ	**Rata Peaks**	64.80	231	LR	LR	22 45 25.8	
comp=Z,204nm,21.1s,MS4.3,baz=116,slow=30							
VNDA	**Vanda**	68.23	193	LR	LR	22 49 19.1	
comp=Z,145nm,19.9s,MS4.2,baz=240,slow=32							
YKA	**Yellowknife Ar**	83.29	360	P	P	22 25 17.6	+0.3
0.4nm,0.7s,mb3.6,baz=174,slow=5.2,SNR=8.9							
YKA				LR	LR	22 58 26.9	
comp=Z,92nm,18.0s,MS4.2,baz=250,slow=33							
SONM	**Songino Array**	137.84	319	PKP	PKPdf	22 32 17.7	+2.7
0.5nm,1.1s,baz=63,slow=3.2,SNR=2.8							
ZAL	**Zalesovo**	144.11	341	PKP	PKPdf	22 32 27.9	+1.6
0.7nm,0.3s,baz=342,slow=3.2,SNR=3.6							
BRTR	**Keskin Array B**	146.94	49	PKPbc	PKPbc	22 32 31.2	-1.9
0.8nm,0.9s,baz=315,slow=8.2,SNR=2.4							
BVAR	**Borovoye Array**	147.91	355	PKPbc	PKPbc	22 32 37.0	+1.2
1.4nm,0.8s,baz=346,slow=6.1,SNR=3.8							
ZRNK	**Zerenda**	148.09	356	PKPab	PKPab	22 32 38.0	-1.1
AKTK	**Aktyubinsk**	150.09	10	PKPbc	PKPbc	22 32 39.7	-1.6
AKTO	**Aktyubinsk**	150.09	10	PKPbc	PKPbc	22 32 39.7	-1.6
1.0nm,0.9s,baz=306,slow=8.7,SNR=3.0							
MKAR	**Makanchi Array**	151.02	336	PKPbc	PKPbc	22 32 43.2	-0.3
2.2nm,1.1s,baz=45,slow=3.4,SNR=9.6							

*ISCJB **10** 22:14:28.6±0.5, 3029N±006×1387E±01, h440km±6km, mb3.6/15, Error ellipse: s-maj=13.6km s-min=8.8km az=170.5*
*JMA **10** 22:14:28.7±0.3, 3035N×13896E, h451km, M3.5*
*IDC **10** 22:14:29.6±0.8, 3035N×13865E, h429km±9km, mb2.9/8, mb1 3.1/11, mb1mx2.9/23, mbtmp3.7/11, Error ellipse: s-maj=22.5km s-min=11.9km az=93.0*
*NEIC **10** 22:14:30.4±1.3, 3037N×13858E, h439km±13km, mb4.1/7, Error ellipse: s-maj=17.4km s-min=12.0km az=128.0*
ISC 10 22:14:30.6±0.7, 3045N±008×1387E±01, h439km±6km, n31, σ0°68/39, mb3.6/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	2.82	19	P	P	22 15 35.8	+0.4
21nm,0.3s,baz=250,slow=19,SNR=8.0							
JHJ				S	S	22 16 27.2	-0.8
24nm,0.3s,baz=121,slow=18,SNR=3.9							
JHJ2	**Mitsune**	2.82	19	P	P	22 15 35.9	+0.5
JHJ2				*e*S	S	22 16 27.6	-0.4
JWZ	**Kozaga**	3.98	321	P	P	22 15 46.3	+1.5
CBIJ	**Chichi jima**	4.53	137	*e*S	S	22 16 48.1	-6.3
CBIJ	**Chichi jima**	4.53	137	S	S	22 16 48.4	-6.0
54nm,0.3s,baz=248,slow=21,SNR=14							
BSO3	**Boso 3**	4.60	19	P	P	22 15 51.0	+0.5
BSO3				*e*S	S	22 16 56.1	+0.4
BSO1	**Boso 1**	4.62	24	P	P	22 15 50.7	0.0
BSO1				*e*S	S	22 16 55.3	-0.6
BSO4	**Boso 4**	4.74	17	*e*S	S	22 16 58.0	0.0
JOD2	**Odawara 2**	4.81	4	P	P	22 15 52.8	+0.2
JOD2				*e*S	S	22 16 59.7	+0.3
JHU	**Hanno**	5.41	5	P	P	22 15 58.3	-0.1
JHU				S	S	22 17 06.0	-4.1
JRY	**Ryogami san**	5.56	2	P	P	22 16 00.7	+0.8
JRY				*e*S	S	22 17 12.7	-0.1
MJAR	**Matsushiro Arr**	6.09	356	P	P	22 16 05.2	-0.2
0.8nm,0.3s,baz=170,slow=11,SNR=9.1							
MJAR				S	S	22 17 20.9	-2.0
0.4nm,0.3s,baz=170,slow=22,SNR=3.2							
JOW	**Kunigami**	9.84	251	P	P	22 16 46.4	+0.5
1.5nm,0.3s,baz=99,slow=10,SNR=7.6							
ENH	**Enshi**	25.18	277	*e*P	P	22 19 15.5	-3.6
6.0nm,0.4s,mb4.4							
MA2	**Magadan**	30.25	12	*e*P	P	22 20 04.2	+0.4
3.1nm,0.4s,mb4.0							
JIRN	**Jiri**	45.65	280	*e*P	P	22 22 10.3	+0.2
13nm,0.3s,mb4.7							
GUN	**Gumba**	45.84	281	*e*P	P	22 22 11.6	0.0
8.7nm,0.4s,mb4.4							
MKAR	**Makanchi Array**	46.00	307	P	P	22 22 12.5	-0.3
0.3nm,0.6s,mb2.8,baz=87,slow=7.9,SNR=5.2							
KKN	**Kakani**	46.38	281	*e*P	P	22 22 15.6	-0.1
DMN	**Daman**	46.58	281	*e*P	P	22 22 17.0	-0.3
3.1nm,0.3s,mb4.1							
GKN	**Gorkha**	46.87	281	*e*P	P	22 22 19.3	-0.1
3.5nm,0.4s,mb4.0							
KOLN	**Koldanda**	47.81	281	*e*P	P	22 22 26.4	-0.2
9.4nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	50.27	185	P	P	22 22 43.1	-1.9
0.8nm,0.4s,mb3.4,baz=1.4,slow=7.7,SNR=17							
BVAR	**Borovoye Array**	53.51	316	P	P	22 23 08.7	+0.3
0.2nm,0.3s,mb2.8,baz=85,slow=11,SNR=4.2							
ASAR	**Alice Springs**	54.00	185	P	P	22 23 11.8	-0.1
0.5nm,0.5s,mb3.0,baz=17,slow=12,SNR=11							
ILAR	**Eielson Array**	56.29	30	P	P	22 23 28.7	+0.7
0.2nm,0.5s,mb2.7,baz=294,slow=8.5,SNR=5.2							
ARCES	**ARCESS Array B**	69.37	340	P	P	22 24 53.2	+0.4
2.5nm,0.7s,mb3.9,baz=64,slow=7.5,SNR=5.6							
ARCES	**ARCESS Array B**	69.37	340	P	P	22 24 53.2	+0.4
YKA	**Yellowknife Ar**	70.65	28	P	P	22 25 01.0	+0.5
0.4nm,0.6s,mb3.1,baz=298,slow=6.0,SNR=9.9							
YKA	**Yellowknife Ar**	70.65	28	P	P	22 25 01.0	+0.5
FINES	**FINESS Array B**	73.58	332	P	P	22 25 17.3	-0.3
0.3nm,0.3s,mb3.3,baz=47,slow=3.3,SNR=7.2							

*CSEM **10** 22:15:06.7±0.1, 3424N×2389E, h10km, mb4.3/6, Error ellipse: s-maj=1.9km s-min=1.1km az=45.0*
*ISCJB **10** 22:15:09.8±0.7, 3435N±003×2403E±004, h31km±6km, mb3.9/17, MS3.2/1, Error ellipse: s-maj=5.8km s-min=3.1km az=105.8*
*ATH **10** 22:15:09.9, 3437N×2400E, h21km±2km, MD3.9/10, ML4.2*
*THE **10** 22:15:12.7, 3452N×2391E, h17km, ML4.3*
*HLW **10** 22:15:13.3, 3456N×2439E, h24km, Mb3.8*
*NAO **10** 22:15:15.7, 3508N×2447E, h33km, mb3.8*
*IDC **10** 22:15:15.5±1.6, 3470N×2404E, h60km±10km, mb3.6/11, mb1 3.6/16, mb1mx3.5/28, mbtmp3.8/16, MS3.3/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=23.0km s-min=15.1km az=161.0*
*NEIC **10** 22:15:16.0, 3467N×24.11E, h0km, ML3.8(ATH), After ATH.*
ISC 10 22:15:11.8±0.7, 3441N±002×2400E±003, h28km±6km, n109, σ1°32/119, mb3.9/17, MS3.2/1, 4C-16D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	0.43	9	*e*PB	Pb	22 15 20.0	-1.0
GVD	**Gavdhos**	0.43	9	*e*Pg	Pb	22 15 20.4	-0.6
GVD				*e*Sg	Sb	22 15 25.8	-1.4
GVD	**Gavdhos**	0.43	9	⇓*i*Pn	Pb	22 15 20.3	-0.6
GVD				*e*Sn	Sb	22 15 25.6	-1.6
SIVA	**Sivas**	0.90	48	*e*Pg	Pn	22 15 28.5	0.0
SIVA				*e*Sg	Sb	22 15 41.2	+0.9
VAM	**Vamos**	1.00	9	*e*PN	Pn	22 15 29.6	-0.4
VAM				*e*SN	Sn	22 15 44.6	+1.4
IDI	**Anoyia**	1.14	40	P	Pn	22 15 31.5	-0.3
47nm,0.3s,baz=223,slow=16,SNR=124							
IDI				S	Sn	22 15 45.8	-0.6
154nm,0.3s,baz=300,slow=20,SNR=18							
LAST	**Lasithi**	1.43	58	*e*Pg	Pn	22 15 37.1	+1.4
LAST				*e*Sg	Sn	22 15 56.3	+2.8
NPS	**Neapolis**	1.57	57	*e*PN	Pn	22 15 39.0	+1.2
NPS				*e*SN	Sn	22 15 59.8	+2.6
ZKR	**Zakros**	1.95	68	*e*Pn	Pn	22 15 44.4	+1.3
ZKR	**Zakros**	1.95	68	*e*Pn	Pn	22 15 44.3	+1.3
KYTH	**Kithira**	2.02	337	*e*PN	Pn	22 15 45.5	+1.5
SANT	**Santorini**	2.29	31	*e*Pn	Pn	22 15 47.3	-0.3
VLI	**Veliai**	2.46	340	*e*PB	Pb	22 15 52.0	-3.3
KARP	**Karpathos**	2.83	66	*e*PN	Pn	22 15 56.5	+1.4
SLUM		3.09	160	⇓*e*P	Pn	22 16 00.5	+1.9
SLUM				S	Sn	22 16 34.4	-0.1
SLUM		3.09	160	P	Pn	22 16 00.4	+1.8
SLUM				S	Sn	22 16 34.4	-0.1
ITM	**Ithomi**	3.23	329	*e*PN	Pn	22 16 02.8	+2.2
ATH	**Athens Observa**	3.56	356	*e*PN	Pn	22 16 07.0	+1.9
ARG	**Arkhangelos**	3.82	61	*e*PN	Pn	22 16 10.0	+1.3
VLS	**Valsamata**	4.66	325	*e*PN	Pn	22 16 22.0	+1.8
AGG	**Agios Georgios**	4.79	344	*e*Pn	Pn	22 16 22.0	-0.1
DABA	**Dabaa**	4.95	132	⇓P	Pn	22 16 22.9	-1.3
LKD	**Levkas**	5.06	329	*e*Pn	Pn	22 16 27.2	+1.4
IGT	**Igoumenitsa**	5.89	331	*e*Pn	Pn	22 16 38.4	+1.3
FNA	**Florina**	6.69	343	*e*Pn	Pn	22 16 46.5	-1.6
comp=Z,1.2nm,0.4s							
AWBH		7.38	144	⇓P	Pn	22 16 58.2	+0.6
HMYD	**Mayadein**	7.38	127	P	Pn	22 16 57.0	-0.6
SQR		7.59	125	⇓P	Pn	22 16 59.9	-0.5
FYM	**Al Fayyum**	7.61	126	⇓P	Pn	22 16 60.0	-0.7
AYT	**Al 'Ayyat**	7.67	126	⇓P	Pn	22 17 01.0	-0.6
HSAF	**As Saff**	8.00	125	⇓P	Pn	22 17 06.6	+0.6
KOT	**Kottamia**	8.00	122	⇓P	Pn	22 17 05.1	-1.0
GLL	**Jalalah**	8.13	124	⇑*e*P	Pn	22 17 08.1	+0.3
HFRF	**Wahat Farafira**	8.13	152	⇑P	Pn	22 17 09.4	+1.5
HFRF	**Wahat Farafira**	8.13	152	P	Pn	22 17 09.4	+1.5
AMAG	**Maghara**	8.63	113	⇓P	Pn	22 17 12.7	-2.1
SUZ		8.76	119	⇓P	Pn	22 17 15.7	-0.9
ZAF		8.89	123	⇓P	Pn	22 17 18.0	-0.2
ZNM		9.06	121	P	Pn	22 17 19.4	-1.2
BRTR	**Keskin Array B**	9.35	53	P	Pn	22 17 25.1	+0.6
0.1nm,0.3s,baz=224,slow=11,SNR=8.1							
HNKL	**Nakhl**	9.56	115	⇑P	Pn	22 17 26.5	-1.0
GRB	**Gharib**	9.69	127	P	Pn	22 17 29.2	-0.1
STON	**Ston**	9.78	332	*i* Pn	Pn	22 17 26.6	-3.8
STON				*i* Sn	Sn	22 19 07.4	-12
HDK1	**Dakhla**	10.00	151	⇓P	Pn	22 17 35.4	+1.9
TR2		10.25	123	⇓P	Pn	22 17 35.9	-1.0
HKAT	**Jabal Katrina**	10.35	122	P	Pn	22 17 37.8	-0.5
HBST	**Basata**	10.49	117	P	Pn	22 17 39.2	-1.0
GTR	**Jabal at Tayr**	10.54	146	⇓P	Pn	22 17 42.6	+1.7
SHRM		10.84	124	P	Pn	22 17 44.5	-0.5
HHRG	**Al Ghardaqah**	10.91	129	⇑P	Pn	22 17 46.2	+0.2
HSFG		11.59	130	⇓P	Pn	22 17 55.5	+0.2
ASHG	**Umm Shaghir**	12.97	147	P	Pn	22 18 16.5	+2.4
PGF	**Pioggiola**	14.27	309	*e*P	Pn	22 18 33.7	+1.8
61nm,1.1s							
PGF	**Pioggiola**	14.27	309	*e*P	Pn	22 18 33.7	+1.8
31nm,1.1s							
VRAC	**Vranov**	15.86	342	P	Pn	22 18 53.2	+0.3
0.2nm,0.3s,baz=162,slow=9.6,SNR=3.2							
FRF	**La Foret Royal**	16.27	309	*e*P	Pn	22 18 59.4	+1.2
131nm,1.6s							
FRF	**La Foret Royal**	16.27	309	*e*P	Pn	22 18 59.4	+1.2
65nm,1.6s							
GERES	**GERESS Array B**	16.32	335	P	Pn	22 18 56.7	-2.2
0.1nm,0.3s,baz=152,slow=14,SNR=3.7							
DAVOX	**Davos**	16.33	323	P	Pn	22 18 56.8	-2.1
0.1nm,0.3s,baz=211,slow=13,SNR=2.2							
KHC	**Kasperske Hory**	16.61	335	*e*P	Pn	22 19 03.9	+1.4
AKASG	**Malin Array Be**	16.72	12	P	Pn	22 19 02.5	-1.4
0.5nm,0.3s,baz=206,slow=11,SNR=4.6							
MBDF	**Montbardon**	16.78	313	*e*P	Pn	22 19 02.2	-2.5
27nm,1.2s							
WET	**Wettzell**	16.87	334	*e*P	Pn	22 19 07.6	+1.8
comp=Z,6.0nm,1.2s							
LPG	**La Plagne**	17.21	315	*e*P	Pn	22 19 11.4	+1.3
comp=Z,8.3nm,1.0s							
LPG	**La Plagne**	17.21	315	*e*P	Pn	22 19 11.4	+1.3
comp=Z,4.2nm,1.0s							
LPL	**La Plagne**	17.23	315	*e*P	Pn	22 19 11.1	+0.8
comp=Z,18nm,1.2s							
LPL	**La Plagne**	17.23	315	*e*P	Pn	22 19 11.1	+0.8
comp=Z,9.1nm,1.2s							
ORIF	**Oris-en-Rattie**	17.42	312	*e*P	Pn	22 19 11.1	-1.6
GRA2	**Grafenberg Arr**	17.85	332	*e*P	Pn	22 19 18.4	+0.4
BRG	**Berggiesshubel**	18.01	339	*e*(P)	Pn	22 19 20.1	+0.1
comp=Z,1.4nm,0.5s							
VIVF	**Saint-Julien-l**	18.13	311	*e*P	Pn	22 19 22.0	+0.5
comp=Z,24nm,1.3s							
VIVF	**Saint-Julien-l**	18.13	311	*e*P	Pn	22 19 22.0	+0.5
comp=Z,12nm,1.3s							
HINF	**Hinteralfeld**	18.55	321	*e*P	Pn	22 19 26.5	-0.1
CDF	**Champ du Feu**	18.73	323	*e*P	Pn	22 19 29.5	+0.8
comp=Z,6.3nm,0.9s							
CDF	**Champ du Feu**	18.73	323	*e*P	Pn	22 19 29.5	+0.8
comp=Z,3.2nm,0.9s							
SMF	**Signal de Mont**	19.53	315	*e*P	Pn	22 19 38.3	-0.1
comp=Z,2.7nm,0.6s							
SMF	**Signal de Mont**	19.53	315	*e*P	Pn	22 19 38.3	-0.1
comp=Z,1.4nm,0.6s							
LOR	**Lormes**	19.86	316	*e*P	Pn	22 19 40.6	-1.6
comp=Z,14nm,1.2s							
LOR	**Lormes**	19.86	316	*e*P	Pn	22 19 40.6	-1.6
comp=Z,6.8nm,1.2s							
SSF	**Saint Saulge**	19.95	315	*e*P	Pn	22 19 41.3	-2.0
comp=Z,8.7nm,0.9s							
SSF	**Saint Saulge**	19.95	315	*e*P	Pn	22 19 41.3	-2.0
comp=Z,4.3nm,0.9s							
BGF	**Bois d'Agland**	20.08	313	*e*P	P	22 19 43.6	+0.7
comp=Z,12nm,0.9s							
BGF	**Bois d'Agland**	20.08	313	*e*P	P	22 19 43.6	+0.7
comp=Z,5.9nm,0.9s							
RJF	**Les Rejaudoux**	20.34	309	*e*P	P	22 19 47.0	+1.3
comp=Z,12nm,1.1s							
RJF	**Les Rejaudoux**	20.34	309	*e*P	P	22 19 47.0	+1.3
comp=Z,5.8nm,1.1s							
MFF	**Saint Martin d**	21.93	311	*e*P	P	22 20 03.7	+0.8
comp=Z,8.6nm,0.8s,mb3.9							
MFF	**Saint Martin d**	21.93	311	*e*P	P	22 20 03.7	+0.8
comp=Z,4.3nm,0.8s,mb3.9							
LDF	**La Druitiere**	22.83	316	*e*P	P	22 20 11.6	-0.9
comp=Z,4.5nm,0.5s,mb3.8							
LDF	**La Druitiere**	22.83	316	*e*P	P	22 20 11.6	-0.9
comp=Z,2.2nm,0.5s,mb3.8							
ESDC	**Sonseca Array**	22.89	291	P	P	22 20 14.4	+1.4
comp=Z,0.9nm,0.7s,mb3.3,baz=78,slow=8.3,SNR=3.6							
FLN	**La Foliniere**	23.12	316	*e*P	P	22 20 14.2	-1.4
comp=Z,15nm,0.8s,mb4.2							
FLN	**La Foliniere**	23.12	316	*e*P	P	22 20 14.2	-1.4
comp=Z,7.3nm,0.8s,mb4.2							
SGMF	**Saint Gilles**	24.12	313	*e*P	P	22 20 24.1	-1.0
comp=Z,70nm,1.5s,mb4.6							
SGMF	**Saint Gilles**	24.12	313	*e*P	P	22 20 24.1	-1.0
comp=Z,35nm,1.5s,mb4.6							
QUIF	**Quistinic**	24.35	312	*e*P	P	22 20 26.4	-0.8
comp=Z,42nm,1.2s,mb4.5							
QUIF	**Quistinic**	24.35	312	*e*P	P	22 20 26.4	-0.8
comp=Z,21nm,1.2s,mb4.5							
ROSF	**Rostrenen**	24.59	313	*e*P	P	22 20 28.5	-0.9
comp=Z,19nm,1.0s,mb4.3							
ROSF	**Rostrenen**	24.59	313	*e*P	P	22 20 28.5	-0.9
comp=Z,9.6nm,1.0s,mb4.3							
HFS	**Hagfors**	26.60	348	P	P	22 20 45.1	-2.5
comp=Z,

MVM	**Montagne Vaucl**	**0.86 170**	*e*P	**Pn**	**22 50 35.4**	**-0.3**
SFG	**Saint Francois**	**0.86 350**	*e*P	**Pn**	**22 50 36.3**	**+0.6**
SCG	**Saint Claude**	**0.87 316**	*e*P	**Pn**	**22 50 35.6**	**-0.3**
BCG	**Bois Riant Cap**	**0.87 321**	*e*P	**Pn**	**22 50 35.4**	**-0.5**
DEG	**La Desirade**	**0.91 359**⇑	*e*P	**Pn**	**22 50 36.3**	**+0.2**
DEG			*e*S	**Sn**	**22 50 54.6**	**0.0**
LZG	**Guadaloupe-1**	**1.01 316**	*e*P	**Pn**	**22 50 36.4**	**-0.6**
TBVI	**Tortola**	**4.54 312**⇑	*i*P	**Pn**	**22 51 17.3**	**-1.9**
TBVI			*e*S	**Sn**	**22 52 07.1**	**-4.5**
CULB	**Culebra**	**5.02 306**⇑	*e*P	**Pn**	**22 51 25.6**	**+0.1**
CULB			*e*S	**Sn**	**22 52 22.0**	**-0.9**
HUMP	**Col San Antoni**	**5.35 301**⇑	*e*P	**Pn**	**22 51 32.0**	**+2.2**
CBYP	**Canovanas**	**5.42 302**⇑	*e*P	**Pn**	**22 51 31.2**	**+0.5**
CBYP			*e*S	**Sn**	**22 52 32.5**	**+0.1**

ISCJB ***10*** *23:12:17.0±0.7, 1.1S±0.1×2362W±0.10, h10km, mb3.8/12, MS3.9/10, Error ellipse: s-maj=16.1km s-min=14.0km az=145.7*
IDC ***10*** *23:12:17.5±0.8, 102S×2373W, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, MS3.9/10, Ms1 3.9/10, ms1mx3.7/19, Error ellipse: s-maj=27.9km s-min=17.9km az=141.0*
NEIC ***10*** *23:12:18.5±0.6, 109S×2380W, h10km, Error ellipse: s-maj=17.0km s-min=12.0km az=158.0*
ISC 10 23:12:18.9±0.6, 11S±01×2375W±009, h10km, n23, σ1⇑14/17, mb3.8/12, MS3.9/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**11.57**	**126**	*e*Pn	**Pn**	**23 15 03.9**	**-0.2**
	82nm,0.8s						
RCBR	**Riachuelo**	**13.01**	**248**	*e*Pn	**Pn**	**23 15 20.8**	**-2.9**
	7.2nm,0.4s						
RCBR				*e*Sn	**Sn**	**23 17 34.3**	**-14**
DBIC	**Dimbokro**	**20.37**	**68**	P	**P**	**23 16 54.0**	**-1.6**
	20nm,0.9s,baz=217,slow=12,SNR=14						
DBIC				LR	LR	23 23 16.4	
	comp=Z,192nm,19.4s,MS3.5,baz=232,slow=32						
BDFB	**Brasilia**	**27.97**	**238**	P	**P**	**23 18 15.4**	**+5.8**
	2.3nm,0.7s,mb3.9,baz=57,slow=6.8,SNR=3.2						
BDFB				LR	LR	23 28 15.1	
	comp=Z,356nm,18.3s,MS4.0,baz=104,slow=34						
TORD	**Torodi Ar. Bea**	**28.92**	**60**	P	**P**	**23 18 17.2**	**-0.8**
	1.5nm,0.9s,mb3.7,baz=241,slow=9.8,SNR=12						
MDT	**Midelt**	**38.25**	**26**	P	**P**	**23 19 38.8**	**-0.3**
	2.3nm,1.0s,mb3.8,baz=245,slow=6.1,SNR=4.5						
SIV	**San Ignacio**	**39.66**	**246**	P	**P**	**23 19 51.7**	**+0.8**
	0.6nm,0.8s,mb3.4,baz=96,slow=13,SNR=3.1						
ESDC	**Sonseca Array**	**44.42**	**22**	P	**P**	**23 20 30.4**	**+0.6**
	2.1nm,0.8s,mb3.9,baz=206,slow=8.3,SNR=8.6						
LPAZ	**La Paz**	**46.25**	**248**	P	**P**	**23 20 45.3**	**+1.0**
	0.9nm,0.6s,mb3.9,baz=58,slow=2.7,SNR=3.5						
LPAZ				LR	LR	23 40 58.7	
	comp=Z,84nm,18.7s,MS3.7,baz=302,slow=37						
ROSC	**El Rosal**	**50.87**	**277**	LR	LR	23 40 59.7	
	comp=Z,98nm,18.1s,MS3.9,baz=36,slow=34						
BOSA	**Boshof**	**54.16**	**125**	P	**P**	**23 21 45.3**	**+1.1**
	3.2nm,1.0s,mb4.2,baz=211,slow=5.9,SNR=3.1						
BOSA				LR	LR	23 39 56.1	
	comp=Z,97nm,18.2s,MS3.9,baz=116,slow=31						
PLCA	**Paso Flores**	**57.84**	**221**	LR	LR	23 48 55.7	
	comp=Z,92nm,19.1s,MS3.9,baz=257,slow=38						
KMBO	**Kilima Mbogo**	**60.99**	**91**	LR	LR	23 45 53.3	
	comp=Z,186nm,18.9s,MS4.3,baz=278,slow=33						
BRTR	**Keskin Array B**	**66.19**	**45**	P	**P**	**23 23 06.4**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=225,slow=8.2,SNR=3.4						
NOA	**NORSAR Array B**	**67.51**	**18**	P	**P**	**23 23 15.4**	**+0.3**
	0.9nm,0.9s,mb3.8,baz=174,slow=13,SNR=2.8						
AKASG	**Malin Array Be**	**68.38**	**33**	P	**P**	**23 23 21.6**	**+1.0**
	0.3nm,0.2s,mb4.0,baz=241,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**72.93**	**23**	P	**P**	**23 23 51.4**	**+3.1**
	1.4nm,0.9s,mb3.9,baz=252,slow=4.4,SNR=4.3						
ULM	**Lac du Bonnet**	**79.47**	**322**	LR	LR	23 55 31.8	
	comp=Z,67nm,18.4s,MS4.0,baz=351,slow=33						
PDAR	**Pinedale Array**	**87.64**	**313**	LR	LR	23 58 10.6	
	comp=Z,61nm,18.8s,MS4.0,baz=354,slow=31						
YKA	**Yellowknife Ar**	**91.34**	**332**	P	**P**	**23 25 23.8**	**-1.0**
	0.5nm,0.8s,mb3.9,baz=92,slow=5.8,SNR=6.1						
YKA				LR	LR	00 01 41.3	
	comp=Z,83nm,18.9s,MS4.2,baz=85,slow=32						
YKA	**Yellowknife Ar**	**91.34**	**332**	P	**P**	**23 25 23.8**	**-1.0**
ASAR	**Alice Springs**	**147.19**	**140**	PKPbc	PKPbc	23 32 02.5	+0.2
	1.4nm,0.5s,baz=208,slow=2.2,SNR=14						
WRA	**Warramunga Arr**	**150.04**	**135**	PKPbc	PKPbc	23 32 12.7	+3.1
	0.8nm,0.7s,baz=237,slow=2.6,SNR=5.9						

ISCJB ***10*** *23:47:02.0±2.8, 396N±01×770E±02, h10km, Error ellipse: s-maj=28.4km s-min=15.4km az=64.1*
NNC ***10*** *23:47:03.2±3.7, 3970N×7654E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=31.5km s-min=25.8km az=110.0*
ISC 10 23:47:02.9±2.7, 396N±01×769E±02, h10km, n13, σ1⇑34/15, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.69**	**350**	P	**Pn**	**23 47 43.9**	**-2.3**
	SNR=38						
KZA	**Kyzart**	**2.77**	**334**	P	**Pn**	**23 47 46.2**	**-1.1**
	SNR=29						
UCH	**Uchtor**	**3.18**	**326**	P	**Pn**	**23 47 53.1**	**+0.2**
	SNR=7.2						
KBK	**Karagaybulak**	**3.38**	**335**	P	**Pn**	**23 47 58.3**	**+2.6**
	SNR=25						
TKM2	**Tokmak 2**	**3.46**	**344**	P	**Pn**	**23 47 55.5**	**-1.2**
	SNR=33						
TKM2	**Tokmak 2**	**3.46**	**344**	⇑P	**Pn**	**23 47 55.2**	**-1.5**
	10nm,0.4s						
TKM2				⇓S	**Sn**	**23 48 37.6**	**-0.1**
	28nm,0.5s						
AML	**Almayashu**	**3.50**	**317**	P	**Pn**	**23 47 58.2**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**3.53**	**330**	P	**Pn**	**23 48 01.2**	**+3.5**
	SNR=11						
KNDC	**Almaty**	**3.61**	**1**	⇓P	**Pn**	**23 48 00.3**	**+1.4**
	186nm,0.6s						
KNDC				⇑S	**Sn**	**23 48 42.3**	**+0.8**
	1μm,0.6s						
CHMS	**Chumysh**	**3.76**	**335**	P	**Pn**	**23 48 00.2**	**-0.6**
	SNR=14						
EKS2	**Erkin-Say**	**3.85**	**323**	P	**Pn**	**23 48 02.8**	**+0.6**
	SNR=15						
USP	**Ospenovka**	**4.08**	**335**	P	**Pb**	**23 48 11.9**	**-2.9**
	SNR=5.9						
KK31	**Karatay Array**	**5.94**	**308**	⇑Pg	**Pb**	**23 48 46.6**	**+0.2**
	0.5nm,0.4s,baz=121,slow=18,SNR=3.9						
KK31				⇑Lg		23 50 02.4	
	4.3nm,0.7s						

TRN ***11*** *00:06:11.9, 1626N×6170W, h191km, MD3.7, M3.3(FDF), Md3.2(FDF)*
ISCJB ***11*** *00:06:13.5±0.4, 1615N±006×6187W±006, h181km±3km, mb3.6/7, Error ellipse: s-maj=13.3km s-min=4.2km az=84.8*
RSPR ***11*** *00:06:13.4, 2154N×6263W, h25km±66km*
IDC ***11*** *00:06:13.9±0.6, 1612N×6188W, h168km±4km, mb3.3/7, mb1 3.6/8, mb1mx3.3/24, mbtmp3.8/8, Error ellipse: s-maj=15.3km s-min=8.7km az=64.0*
NEIC ***11*** *00:06:18.8, 1618N×6172W, h143km, MD3.3(FDF), MD4.1(TRN), After FDF.*
ISC 11 00:06:14.6±0.4, 1614N±006×6188W±006, h175km±3km, n44, σ0⇑84/59, mb3.6/7, 14C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.10**	**91**	⇓*e*P	**Pn**	**00 06 37.7**	**-0.1**
SCG	**Saint Claude**	**0.23**	**120**	⇓*e*P	**Pn**	**00 06 38.3**	**+0.3**
BCG	**Bois Riant Cap**	**0.26**	**103**	⇓*e*P	**Pn**	**00 06 38.1**	**+0.1**
DOG	**Dongo Capester**	**0.28**	**113**	⇓*e*P	**Pn**	**00 06 38.3**	**+0.2**
TBG	**Guadaloupe-3**	**0.37**	**142**	*e*P	**Pn**	**00 06 38.6**	**+0.3**
MGG	**Marie-Galante**	**0.59**	**112**	⇓*e*P	**Pn**	**00 06 39.3**	**+0.1**
SFG	**Saint Francois**	**0.67**	**80**	*e*P	**Pn**	**00 06 39.4**	**-0.2**
BBL	**Barber's Block**	**0.73**	**147**	⇓*e*P	**Pn**	**00 06 40.1**	**+0.1**
DWS	**Wesley**	**0.79**	**136**	⇑*e*P	**Pn**	**00 06 39.9**	**-0.4**
DWS				*e*S	**Sn**	**00 07 00.7**	**+0.5**
DWS	**Wesley**	**0.79**	**136**	⇑*e*P	**Pn**	**00 06 41.9**	**+1.6**
DWS				*e*S	**Sn**	**00 07 00.7**	**+0.5**
DEG	**La Desirade**	**0.81**	**78**	⇓*e*P	**Pn**	**00 06 39.9**	**-0.6**
DEG				*e*S	**Sn**	**00 06 50.6**	**-10**
SKI	**Saint Kitts**	**1.44**	**325**	*e*P	**Pn**	**00 06 46.4**	**+0.8**
SKI				*e*S	**Sn**	**00 07 09.4**	**0.0**
SKI	**Saint Kitts**	**1.44**	**325**	*e*P	**Pn**	**00 06 43.5**	**-2.0**
SKI				*e*S	**Sn**	**00 07 09.4**	**0.0**
PCM	**Pelee Case Pet**	**1.47**	**154**	*e*P	**Pn**	**00 06 45.6**	**-0.3**
BAMF	**Morne Balai**	**1.50**	**152**	⇑*e*P	**Pn**	**00 06 46.1**	**0.0**
PML	**Morne Lenard**	**1.51**	**153**	*e*P	**Pn**	**00 06 45.9**	**-0.3**
FDF	**Fort de France**	**1.57**	**153**	⇑*e*P	**Pn**	**00 06 46.6**	**-0.2**
FDF				*e*S	**Sn**	**00 07 11.5**	**-0.2**
CRM	**Caraverle**	**1.67**	**146**	*e*P	**Pn**	**00 06 47.3**	**-0.5**
CRM				*e*S	**Sn**	**00 07 13.4**	**0.0**
STAT	**Sint Eustatius**	**1.71**	**322**	*e*S	**Sn**	**00 07 15.1**	**+0.9**
ZAM	**Aeronautique**	**1.77**	**152**	*e*P	**Pn**	**00 06 48.9**	**+0.1**
TRMF	**Trois Ilets**	**1.79**	**153**	*e*P	**Pn**	**00 06 48.8**	**-0.2**
LPMF	**Morne Lapointe**	**1.79**	**150**	⇑*i*P	**Pn**	**00 06 48.5**	**-0.6**
MVM	**Montagne Vaucl**	**1.84**	**149**	*e*P	**Pn**	**00 06 49.3**	**-0.3**
SVB	**Belmont**	**2.92**	**168**	*e*P	**Pn**	**00 07 02.7**	**+0.7**
SVB				*e*S	**Sn**	**00 07 39.8**	**+1.0**
SVB	**Belmont**	**2.92**	**168**	*e*P	**Pn**	**00 07 02.7**	**+0.7**
SVB				*e*S	**Sn**	**00 07 44.9**	**+6.1**
TBVI	**Tortola**	**3.44**	**311**	⇑*e*P	**Pn**	**00 07 07.2**	**-1.3**
TBVI				*e*S	**Sn**	**00 07 47.1**	**-3.3**
CULB	**Culebra**	**3.94**	**304**	⇑*e*P	**Pn**	**00 07 13.9**	**-0.8**
CULB				*e*S	**Sn**	**00 08 00.9**	**-0.8**
MTP	**Monte Pirata**	**4.01**	**299**	⇑*e*P	**Pn**	**00 07 17.5**	**+1.8**
MTP				*e*S	**Sn**	**00 08 05.8**	**+2.4**
HUMP	**Col San Antoni**	**4.28**	**298**	⇑*e*P	**Pn**	**00 07 18.5**	**-0.7**
HUMP				*e*S	**Sn**	**00 08 11.6**	**+2.0**
CPD	**Cerro la Pandu**	**4.29**	**297**	⇑*e*P	**Pn**	**00 07 20.4**	**+1.1**
CBYP	**Canovanas**	**4.35**	**300**	⇑*e*P	**Pn**	**00 07 19.5**	**-0.5**
CBYP				*e*S	**Sn**	**00 08 09.2**	**-1.9**
SJG	**San Juan**	**4.53**	**296**	P	**Pn**	**00 07 21.0**	**-1.3**
	7.9nm,0.3s,baz=154,slow=23,SNR=8.2						
SJG				S	**Sn**	**00 08 16.0**	**+0.8**
	3.8nm,0.3s,baz=359,slow=20,SNR=4.3						
CELP	**Cerrillos**	**4.88**	**294**	⇑*e*P	**Pn**	**00 07 26.8**	**-0.1**
AOPR	**Arecibo Observ**	**5.14**	**296**	⇑*e*P	**Pn**	**00 07 30.2**	**0.0**
MGP	**Maguayo**	**5.31**	**291**	⇑*e*P	**Pn**	**00 07 31.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**5.33**	**291**	⇓*e*P	**Pn**	**00 07 32.4**	**-0.3**
SIV	**San Ignacio**	**31.94**	**179**	P	**P**	**00 12 23.6**	**-0.1**
	0.6nm,0.4s,mb3.6,baz=17,slow=9.0,SNR=6.8						
SCHQ	**Schefferville**	**38.80**	**355**	P	**P**	**00 13 23.6**	**+1.3**
	2.9nm,1.0s,mb3.9,baz=193,slow=8.3,SNR=6.6						
PDAR	**Pinedale Array**	**48.43**	**313**	P	**P**	**00 14 39.0**	**-0.1**
	0.6nm,0.8s,mb3.3,baz=113,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**59.00**	**334**	P	**P**	**00 15 55.3**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=106,slow=7.5,SNR=16						
TORD	**Torodi Ar. Bea**	**61.38**	**84**	P	**P**	**00 16 13.2**	**+1.3**
	0.4nm,0.6s,mb3.5,baz=282,slow=7.0,SNR=5.7						
INK	**Inuvik**	**68.34**	**338**	P	**P**	**00 16 56.5**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=123,slow=6.6,SNR=6.1						
INK	**Inuvik**	**68.34**	**338**	P	**P**	**00 16 56.5**	**-0.4**
ILAR	**Eielson Array**	**73.41**	**334**	P	**P**	**00 17 27.3**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=88,slow=5.0,SNR=8.1						

NIED ***11*** *00:32:00, 4360N×14730E, h44km, Mw3.4 Best double couple: M0=1.63000×10^14 NP1:φ=209.00000°, δ=61.00000°, λ=65.00000°. NP2:φ=72.00000°, δ=38.00000°, λ=127.00000°.*
JMA 11 00:32:25.1±0.3, 4360N×14726E, h27km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**259**	P	Pn	00 32 45.3	+0.2
NEM2				*e*S	Sn	00 33 00.2	+0.5
JRA	**Rausu**	**1.58**	**283**	P	Pn	00 32 51.7	+0.3
JRA				*e*S	Sn	00 33 11.4	+0.4
JNK	**Nakash**	**1.85**	**270**	P	Pn	00 32 55.5	+0.5
JNK				*e*S	Sn	00 33 17.5	+0.1
JAK	**Akkeshi**	**1.97**	**253**	P	Pn	00 32 57.1	+0.5
JAK				*e*S	Sn	00 33 20.4	0.0
JTKR	**Abashiri--Toko**	**2.46**	**280**	P	Pn	00 33 04.5	+1.1
JAR	**Ashorobuto**	**2.56**	**264**	P	Pn	00 33 06.5	+1.7
JAR				*e*S	Sn	00 33 37.2	+2.2
JOB	**Onbets**	**2.60**	**256**	P	Pn	00 33 06.6	+1.3
JOB				*e*S	Sn	00 33 37.2	+1.2
JCH	**Churui**	**3.02**	**252**	P	Pn	00 33 12.1	+1.0
JCH				*e*S	Sn	00 33 47.2	+0.8
JNBK	**Urakawa-nobuka**	**3.56**	**250**	P	Pn	00 33 20.4	+1.8

NEIC ***11*** *00:38:12.2, 1888N×6462W, h26km, MD3.5(RSPR), After RSPR.*
RSPR 11 00:38:12.2, 1888N×6462W, h26km±14km, MD3.5/5, MD3.5/5, 3C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.47**	**179**	⇑*e*P	Pb	00 38 20.8	-1.1
TBVI				*e*S	Sb	00 38 27.7	-0.7
CULB	**Culebra**	**0.88**	**230**	⇓*e*P	Pb	00 38 26.5	-2.4
CULB	**Culebra**	**0.88**	**230**	*e*S	Sb	00 38 37.9	-2.3
MTP	**Monte Pirata**	**1.18**	**229**	⇓*e*P	Pn	00 38 30.9	-2.2
MTP				*e*S	Sn	00 38 45.3	-3.0
CBYP	**Canovanas**	**1.32**	**243**	⇓*e*P	Pn	00 38 33.2	-1.7
CBYP				*e*S	Sn	00 38 48.1	-3.6
HUMP	**Col San Antoni**	**1.38**	**238**	⇑*e*P	Pn	00 38 33.7	-2.0
HUMP				*e*S	Sn	00 38 50.8	-2.3
CRPR	**Cabo Rojo, PR**	**2.52**	**250**	⇑*e*P	Pn	00 38 50.8	-0.7
CRPR				*e*S	Sn	00 39 19.8	-1.5

ISCJB ***11*** *00:56:54.2±0.6, 6633N±004×14195W±0.10, h10km, Error ellipse: s-maj=6.0km s-min=5.3km az=82.2*
PGC ***11*** *00:56:54.7, 6632N×14263W, h1km, ML2.5/2, Eastern Alaska.*
NEIC ***11*** *00:57:00.2, 6631N×14271W, h26km, ML2.7(AEIC), After AEIC.*
ISC 11 00:56:56.0±0.5, 6628N±003×14211W±009, h10km, n13, σ1⇑34/18, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.51**	**320**	P	**Pn**	**00 57 22.9**	**-0.2**
BM3				S	**Sn**	**00 57 40.5**	**-2.4**
IL1	**Eielson Array**	**2.50**	**235**	P	**Pn**	**00 57 36.8**	**+0.1**
DAWY	**Dawson**	**2.50**	**151**	Pn	**Pn**	**00 57 37.1**	**+0.4**
DAWY				Sn	**Sn**	**00 58 09.6**	**+2.4**
DAWY				Sg	**Sg**	**00 58 16.4**	**+0.1**
DAWY				Trac		00 58 21.8	
	comp=Z,7.0nm,0.2s						
DOT	**Dot Lake**	**2.77**	**198**	P	**Pn**	**00 57 42.8**	**+2.4**
COLD	**Coldfoot**	**3.35**	**290**	P	**Pn**	**00 57 49.2**	**+0.8**
MCK	**McKinley**	**3.86**	**232**	P	**Pn**	**00 57 55.9**	**+0.4**
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**00 57 57.8**	**+1.8**
INK				Sn	**Sn**	**00 58 43.3**	**+1.4**
INK				Sg	**Sg**	**00 59 00.2**	**-1.2**
INK				Trac		00 59 18.8	
	comp=Z,6.0nm,0.6s						
KTH	**Kantishna Hill**	**4.64**	**238**	P	**Pn**	**00 58 06.0**	**-0.2**
IM3	**Indian Mountai**	**4.74**	**272**	P	**Pn**	**00 58 06.7**	**-0.8**
HYT	**Haines Junctio**	**5.84**	**157**	Sg	**Sg**	**01 00 01.1**	**-2.6**
HYT				Trac		01 00 08.4	
	comp=Z,3.0nm,0.6s						
WHY	**Whitehorse**	**6.50**	**147**	Trac		01 00 34.2	
	comp=Z,1.0nm,0.4s						
WHY	**Whitehorse**	**6.50**	**147**	Sg	**Sg**	**01 00 22.8**	**-1.8**
YKW3	**Yellowknife Ar**	**12.39**	**95**	P	**Pn**	**00 59 51.7**	**-0.7**
YKW3				Sn	**Sn**	**01 02 03.6**	**-6.9**
YKW3				Trac		01 02 35.2	
	comp=Z,1.0nm,0.6s						

CSEM ***11*** *01:33:34.8±0.1, 4192N×771W, h12km, ML2.5/4, Error ellipse: s-maj=3.3km s-min=3.0km az=75.0*
INMG ***11*** *01:33:34.6±1.0, 4195N×771W, h8km±4km, ML1.7, Error ellipse: s-maj=1.7km s-min=1.3km az=92.0*
MDD 11 01:33:34.5±0.2, 4194N×770W, h0km, mbLg1.9/13, 2C, Error ellipse: s-maj=2.8km s-min=1.7km az=165.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.28**	**255**	⇑Pg	Pg	01 33 39.6	-0.2
	12nm,0.1s,SNR=18						
ELOB				Lg		01 33 43.5	
	45nm,0.1s,SNR=5.5						
ELOB	**Lobios**	**0.28**	**255**	Pg	Pg	01 33 39.6	-0.2
	12nm,0.1s,SNR=18						
ELOB				Lg		01 33 43.5	
	45nm,0.1s,SNR=5.5						
ERUA	**La Rua**	**0.62**	**43**	⇑Pg	Pg	01 33 45.9	-0.4
	16nm,0.1s,SNR=18						
ERUA				Lg		01 33 54.1	
	7.8nm,0.2s,SNR=4.0						
PVRL	**Vila Real**	**0.66**	**181**	*e*Pg	Pg	01 33 46.8	-0.5
PVRL				*e*Sg	Sg	01 33 56.0	+0.1
PVRL							
	24nm,0.1s						
PVRL	**Vila Real**	**0.66**	**181**	*e*Pg	Pg	01 33 46.8	-0.5
PVRL				*e*Sg	Sg	01 33 56.0	+0.1
	24nm,0.1s						
ECAL	**Calabor**	**0.72**	**90**	Pg	Pg	01 33 47.8	-0.6
	3.7nm,0.1s,SNR=23						
ECAL				Lg		01 33 57.4	
	71nm,0.2s,SNR=12						
ECAL	**Calabor**	**0.72**	**90**	Pg	Pg	01 33 47.8	-0.6
	3.7nm,0.1s,SNR=23						
PBRG	**Braganca**	**0.73**	**100**	*e*Pg	Pg	01 33 47.7	-0.8
PBRG				*e*Sg	Sg	01 33 58.6	+0.6
PBRG							
	17nm,0.1s						
PBRG	**Braganca**	**0.73**	**100**	*e*Pg	Pg	01 33 47.7	-0.8
PBRG				*e*Sg	Sg	01 33 58.6	+0.6
	17nm,0.1s						
EZAM	**Zamans**	**0.77**	**286**	Pg	Pg	01 33 48.4	-0.8
	2.2nm,0.2s,SNR=7.9						
EZAM				Lg		01 33 59.0	
	8.0nm,0.1s,SNR=7.9						
STS	**Santiago**	**1.13**	**327**	Pg	Pg	01 33 56.0	-0.3
	3.5nm,0.1s,SNR=11						
STS				Lg		01 34 10.3	
	5.9nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.23**	**187**	*e*P	Pg	01 33 57.2	-0.9
PVIS				*e*S	Sg	01 34 14.1	0.0
PVIS							
	18nm,0.1s						
PVIS	**Viseu**	**1.23**	**187**	*e*P	Pg	01 33 57.2	-0.9
PVIS				*e*S	Sg	01 34 14.1	0.0
	18nm,0.1s						
EMAZ	**Mazaricos**	**1.38**	**317**	Pg	Pg	01 33 59.9	-1.1
	1.3nm,0.2s,SNR=11						
EMAZ				Lg		01 34 18.4	
	6.1nm,0.2s						
EMAZ	**Mazaricos**	**1.38**	**317**	Pg	Pg	01 33 59.9	-1.1
	1.3nm,0.2s,SNR=11						
EPON	**Pontenova**	**1.45**	**16**	Pg	Pg	01 34 01.1	-1.2
	1.9nm,0.2s,SNR=12						
EPON				Lg		01 34 19.9	
	7.9nm,0.2s,SNR=9.8						
EPON	**Pontenova**	**1.45**	**16**	Pg	Pg	01 34 01.1	-1.1
	1.9nm,0.2s,SNR=12						
MTE	**Manteigas**	**1.54**	**175**	*e*Pg	Pg	01 34 02.8	-1.3
MTE				*e*Sg	Sg	01 34 22.8	-1.3
MTE							
	8.2nm,0.4s						
MTE	**Manteigas**	**1.54**	**175**	*e*Pg	Pg	01 34 02.8	-1.3
MTE				*e*Sg	Sg	01 34 22.8	-1.3
	8.2nm,0.4s						
PCBR	**Castelo Branco**	**2.10**	**175**	*e*Pg	Pg	01 34 13.4	-1.5
PCBR				*e*Sn	Sn	01 34 34.6	-3.3
PCBR				*e*Sg	Sg	01 34 40.3	-1.9
PCBR							
	2.8nm,0.3s						
PCBR	**Castelo Branco**	**2.10**	**175**	Pg	Pg	01 34 13.4	-1.5
PCBR				Sn	Sn	01 34 34.6	-3.3
PCBR				Lg		01 34 40.3	
	1.4nm,0.3s						
EARI	**Arriondas**	**2.29**	**53**	Pg	Pg	01 34 14.6	-3.8
	0.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	01 34 40.2	-2.2
	0.1nm,0.1s,SNR=7.9						
EARI				Lg		01 34 47.3	
	4.9nm,0.7s,SNR=7.9						
EARI	**Arriondas**	**2.29**	**53**	Pg	Pg	01 34 14.4	-4.0
	0.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	01 34 40.2	-2.2
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.23**	**170**	Pn	Pn	01 34 26.0	-0.4
	0.1nm,0.1s,SNR=9.1						
EBAD				Sn	Sn	01 35 02.0	-3.5
	1.1nm,0.1s						
EBAD				Lg		01 35 15.3	
	1.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.23**	**170**	Pn	Pn	01 34 26.0	-0.4
	0.1nm,0.1s,SNR=9.1						
EBAD				Sn	Sn	01 35 02.0	-3.5
	1.1nm,0.1s						
MOE	**Montemor**	**3.45**	**188**	*e*Sg	Sg	01 35 22.9	-2.4

IDC ***11*** *02:00:05.9±1.4, 3156N×7012E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=37.8km s-min=31.5km az=100.0*
ISCJB ***11*** *02:00:06.1±1.2, 3164N±0.1×7011E±0.2, h10km, mb3.4/6, Error ellipse: s-maj=26.4km s-min=20.3km az=5.9*
NEIC ***11*** *02:00:08.1±1.2, 3164N×7025E, h10km, mb3.3/2, Error ellipse: s-maj=30.7km s-min=16.4km az=71.0*
ISC 11 02:00:07.8±1.2, 316N±01×702E±02, h10km, n10, σ0⇑38/10, mb3.4/6, Pakistan

| Code | Station Name | Δ

PAZ	**Puerto Azul**	**1.69 220**	⇓*e*P	**Pn**	**02 27 36.6**	**-8.9**
PAZ			*e*S	**Sn**	**02 27 54.1**	**-13**
GQP	**Guinayangan**	**1.72 159**	*e*P	**Pn**	**02 27 47.4**	**+1.5**
GQP			*e*S	**Sn**	**02 28 10.7**	**+2.7**
SCZP	**Santa Cruz**	**1.84 278**	*e*P	**Pn**	**02 27 45.5**	**-2.0**
SCZP			*e*S	**Sn**	**02 28 12.9**	**+2.0**
BOLP	**Bolinao**	**2.01 295**	*e*P	**Pn**	**02 27 49.9**	**0.0**
BOLP			*e*S	**Sn**	**02 28 17.3**	**+2.3**
BOAC	**Boac**	**2.05 179**	*e*P	**Pn**	**02 27 50.7**	**+0.3**
BOAC			*e*S	**Sn**	**02 28 16.9**	**+0.9**
CVP	**Callao Caves**	**2.17 0**⇓	*e*P	**Pn**	**02 27 53.0**	**+0.9**
PGP	**Puerto Galera**	**2.17 202**	*e*P	**Pn**	**02 27 52.6**	**+0.5**
LUBP	**Lubang**	**2.33 221**	*e*P	**Pn**	**02 27 52.9**	**-1.4**
LUBP			*e*S	**Sn**	**02 28 21.9**	**-1.0**
AUQP	**San Andres**	**2.34 159**	*e*P	**Pn**	**02 27 57.5**	**+3.1**
AUQP			*e*S	**Sn**	**02 28 31.2**	**+8.0**
ABRA	**Dolores**	**2.36 334**	*e*P	**Pn**	**02 27 57.3**	**+2.7**
ABRA			*e*S	**Sn**	**02 28 29.4**	**+5.7**
APYP	**Conner**	**2.39 347**	*e*P	**Pn**	**02 27 56.5**	**+1.4**
APYP			*e*S	**Sn**	**02 28 28.3**	**+4.0**
SGCP	**Mt. Cagua**	**2.71 5**	*e*P	**Pn**	**02 28 01.0**	**+1.5**
SGCP			*e*S	**Sn**	**02 28 37.2**	**+4.8**
PVCP	**Virac**	**2.97 130**	*e*P	**Pn**	**02 28 04.0**	**+0.9**
PVCP			*e*S	**Sn**	**02 28 46.0**	**+7.2**
PIP	**Pasuquin**	**3.01 338**	*e*P	**Pn**	**02 28 07.4**	**+3.8**
PIP			*e*S	**Sn**	**02 28 47.2**	**+7.5**
OTRP	**Odiongan**	**3.15 176**	*e*P	**Pn**	**02 28 07.3**	**+1.8**
BUSP	**Coron**	**3.83 204**	*e*P	**Pn**	**02 28 15.6**	**+0.7**
RCP	**Roxas**	**4.04 167**	*e*P	**Pg**	**02 28 32.0**	**-1.4**
CNP	**Catarman**	**4.08 137**	*e*P	**Pn**	**02 28 22.2**	**+3.9**
ENPP	**El Nido**	**4.88 209**	*e*P	**Pn**	**02 28 30.0**	**+0.7**
GUIM	**Jordan**	**4.93 171**	*e*P	**Pn**	**02 28 31.4**	**+1.4**
MSLP	**Maasin**	**6.13 151**	*e*P	**Pn**	**02 28 41.1**	**-5.4**
BUTP	**Butuan**	**7.50 150**	*e*P	**Pn**	**02 29 05.6**	**+0.2**
BUKP	**Musuan**	**8.24 157**	*e*P	**Pn**	**02 29 20.8**	**+5.4**
YHNB	**Yeheng**	**9.11 358**	*e*Pn	**Pn**	**02 29 31.1**	**+3.7**
JOW	**Kunigami**	**12.77 27**	LR	LR	02 34 36.4	
	comp=Z,226nm,21.7s,baz=195,slow=35					
ENH	**Enshi**	**18.53 324**	*e*P	**Pn**	**02 31 36.6**	**+3.9**
	8.6nm,0.8s					
MJAR	**Matsushiro Arr**	**25.53 32**	P	**P**	**02 32 44.3**	**-0.3**
	1.2nm,0.7s,mb3.5,baz=194,slow=7.4,SNR=4.0					
MJAR			LR	LR	02 40 53.2	
	comp=Z,77nm,19.9s,MS3.2,baz=160,slow=32					
PSI	**Prapat**	**25.84 243**	P	**P**	**02 32 46.9**	**-0.6**
	9.4nm,0.9s,mb4.3,baz=50,slow=4.7,SNR=5.2					
FITZ	**Fitzroy Crossi**	**33.62 173**	*e*P	**P**	**02 33 54.7**	**-1.8**
	5.2nm,1.7s,mb4.2					
KLR	**Kul'dur**	**34.59 12**	*e*P	**P**	**02 34 03.3**	**-1.5**
SONM	**Songino Array**	**34.65 342**	P	**P**	**02 34 04.7**	**-0.7**
	0.7nm,0.7s,mb3.7,baz=161,slow=9.9,SNR=6.5					
SONM			PcP	PcP	02 36 39.4	-0.1
	0.4nm,0.7s,baz=180,slow=2.9,SNR=2.8					
SONM			LR	LR	02 48 50.3	
	comp=Z,279nm,21.3s,MS4.0,baz=184,slow=37					
SONM	**Songino Array**	**34.65 342**	P	**P**	**02 34 04.7**	**-0.7**
SONM					02 36 39.4	
PMG	**Port Moresby**	**35.27 133**	P	**P**	**02 34 09.9**	**-0.9**
PMG			pmax	pmax		
	comp=Z,4.0nm,0.6s					
PMG	**Port Moresby**	**35.27 133**	P	**P**	**02 34 09.9**	**-0.8**
	comp=Z,4.4nm,0.6s,mb4.6					
MBWA	**Marble Bar**	**36.51 183**	P	**P**	**02 34 19.7**	**-1.7**
	comp=Z,2.1nm,0.6s,mb4.1					
WRAB	**Tennant Creek**	**37.33 160**	*e*P	**P**	**02 34 25.2**	**-3.1**
WRAB			pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9					
WRAB	**Tennant Creek**	**37.33 160**	*e*P	**P**	**02 34 25.2**	**-3.1**
	comp=Z,15nm,0.7s,mb4.9					
WRA	**Warramunga Arr**	**37.33 160**	P	**P**	**02 34 26.2**	**-2.1**
	comp=Z,9.7nm,0.8s,mb4.7,baz=341,slow=9.3,SNR=29					
WRA			S	**S**	**02 40 09.1**	**-6.8**
	comp=Z,0.6nm,0.7s,baz=336,slow=15,SNR=3.2					
WB2	**Warramunga Arr**	**37.34 160**	*e*P	**P**	**02 34 25.5**	**-2.9**
ASAR	**Alice Springs**	**40.70 163**	P	**P**	**02 34 55.5**	**-1.0**
	comp=Z,7.5nm,0.7s,mb4.5,baz=342,slow=7.3,SNR=117					
ASPA	**Alice Springs**	**40.70 163**	*e*P	**P**	**02 34 55.0**	**-1.6**
CTA	**Charters Tower**	**42.78 145**	*e*P	**P**	**02 35 13.2**	**-0.3**
	comp=Z,3.0nm,1.0s,mb4.0					
CTAO	**Charters Tower**	**42.78 145**	*e*P	**P**	**02 35 12.9**	**-0.6**
CTAO			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2					
CTAO	**Charters Tower**	**42.78 145**	*e*P	**P**	**02 35 12.9**	**-0.7**
	comp=Z,4.7nm,0.9s,mb4.2					
MKAR	**Makanchi Array**	**45.23 322**	P	**P**	**02 35 33.9**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.0,baz=120,slow=8.5,SNR=24					
MKAR			PcP	PcP	02 37 12.5	-0.7
	comp=Z,1.3nm,0.9s,baz=124,slow=4.4,SNR=3.5					
MKAR	**Makanchi Array**	**45.23 322**	P	**P**	**02 35 33.9**	**+0.6**
MKAR			PcP	PcP	02 37 12.5	-0.7
ZAL	**Zalesovo**	**47.96 331**	P	**P**	**02 35 55.3**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=341,slow=2.9,SNR=6.2					
ZAL			LR	LR	02 57 39.7	
	comp=Z,155nm,19.5s,MS4.0,baz=336,slow=38					
KURK	**Kurchatov**	**49.30 325**	*e*P	**P**	**02 36 05.0**	**+0.1**
KURK			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9					
KURK	**Kurchatov**	**49.30 325**	*e*P	**P**	**02 36 05.0**	**0.0**
	comp=Z,11nm,0.8s,mb5.0					
STKA	**Stephens Creek**	**50.81 158**	*e*P	**P**	**02 36 12.9**	**-3.5**
	comp=Z,4.5nm,0.6s,mb4.6					
STKA	**Stephens Creek**	**50.81 158**	P	**P**	**02 36 13.3**	**-3.0**
	comp=Z,5.8nm,0.7s,mb4.6,baz=330,slow=7.8,SNR=18					
STKA			LR	LR	03 00 45.4	
	comp=Z,98nm,18.3s,MS3.9,baz=18,slow=40					
BVAR	**Borovoye Array**	**54.89 325**	P	**P**	**02 36 46.8**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=124,slow=11,SNR=10					
BVAR			PcP	PcP	02 37 48.1	-0.5
	comp=Z,1.2nm,0.8s,baz=135,slow=4.1,SNR=2.4					
BRVK	**Borovoye**	**54.97 325**	*e*P	**P**	**02 36 47.4**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5					
BRVK	**Borovoye**	**54.97 325**	*e*P	**P**	**02 36 47.4**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.4					
ZRNK	**Zerenda**	**55.64 324**	*e*P	**P**	**02 36 52.1**	**+0.1**
ZRNK			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7					
ZRNK	**Zerenda**	**55.64 324**	*e*P	**P**	**02 36 52.1**	**+0.1**
	comp=Z,7.6nm,1.0s,mb4.7					
TIXI	**Tiksi**	**56.27 3**	*e*P	**P**	**02 36 54.7**	**-1.8**
TIXI			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5					
TIXI			MLR	MLR		
	comp=Z,145nm,17.0s,MS4.1					
AKTK	**Aktyubinsk**	**61.53 319**	P	**P**	**02 37 33.1**	**+0.1**
AKTO	**Aktyubinsk**	**61.53 319**	P	**P**	**02 37 33.1**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.2,baz=114,slow=14,SNR=4.0					
ARU	**Arti**	**62.47 326**	*e*P	**P**	**02 37 37.8**	**-1.5**
KBD	**Kabd**	**68.91 296**	*e*P	**P**	**02 38 20.7**	**-0.2**
KBD			AMb	AMB	02 38 30.5	
	comp=Z,153nm,1.4s,mb5.7					
RDF	**Al-Radifah**	**69.07 295**	*e*P	**P**	**02 38 21.7**	**-0.2**
RDF			AMb	AMB	02 38 26.4	
	comp=Z,62nm,1.2s,mb5.4					
MIB	**Mutribah**	**69.15 296**	*e*P	**P**	**02 38 22.1**	**-0.3**
MIB			AMb	AMB	02 38 23.0	
	comp=Z,24nm,0.8s,mb5.2					
NAY	**Al-Naaiem**	**69.30 296**	*e*P	**P**	**02 38 22.9**	**-0.4**
NAY			AMb	AMB	02 38 24.2	
	comp=Z,12nm,0.7s,mb5.0					
FINES	**FINESS Array B**	**79.22 331**	P	**P**	**02 39 20.4**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.0,baz=333,slow=4.3,SNR=7.0					
FINES			LR	LR	03 14 53.1	
	comp=Z,58nm,21.1s,MS3.9,baz=245,slow=36					
FINES	**FINESS Array B**	**79.22 331**	P	**P**	**02 39 20.4**	**-0.7**
FINES			LR	LR	03 14 53.1	
KMBO	**Kilima Mbogo**	**85.05 267**	P	**P**	**02 39 52.0**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.4,baz=47,slow=6.5,SNR=8.2					
KMBO	**Kilima Mbogo**	**85.05 267**	*e*P	**P**	**02 39 53.5**	**+1.8**
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.9s					
KMBO	**Kilima Mbogo**	**85.05 267**	*e*P	**P**	**02 39 53.5**	**+1.8**
	comp=Z,1.4nm,0.9s,mb4.1					
NB2	**NORSAR Subarra**	**86.14 333**	P	**P**	**02 39 56.2**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.2,baz=66,slow=4.8					
NOA	**NORSAR Array B**	**86.14 333**	P	**P**	**02 39 56.1**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.4,baz=65,slow=4.9,SNR=6.7					
NOA			LR	LR	03 21 11.9	
	comp=Z,125nm,19.2s,MS4.3,baz=50,slow=38					
YKA	**Yellowknife Ar**	**90.69 23**	P	**P**	**02 40 18.6**	**-0.2**
	comp=Z,0.2nm,0.8s,mb3.5,baz=307,slow=4.4,SNR=6.5					
YKA			LR	LR	03 25 16.9	
	comp=Z,53nm,18.0s,MS4.0,baz=310,slow=38					
YKA	**Yellowknife Ar**	**90.69 23**	P	**P**	**02 40 18.6**	**-0.2**
YKA			LR	LR	03 25 16.9	

PLCA	**Paso Flores**	**152.68 159**	PKPbc	PKPbc	02 47 13.2	+0.5
	comp=Z,1.7nm,0.8s,baz=209,slow=6.5,SNR=5.6					

IDC 11 02:39:19.9±2.6, 1229N×14408E, h47km±29km, mb3.3/6, mb1 3.5/6, mb1mx3.3/20, mbtmp3.5/6, Error ellipse: s-maj=51.2km s-min=16.8km az=107.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**31**	P	Pn	02 39 43.3	-1.1
	43nm,0.3s,baz=212,slow=6.3,SNR=14						
GUMO				S	Sn	02 40 03.1	+0.3
	59nm,0.3s,baz=15,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**33.44**	**197**	P	P	02 45 54.4	+0.2
	0.3nm,0.6s,baz=21,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**37.10**	**196**	P	P	02 46 26.2	+0.5
	0.3nm,0.5s,baz=21,slow=10,SNR=7.6						
MKAR	**Makanchi Array**	**61.89**	**317**	P	P	02 49 35.1	+0.7
	0.3nm,0.6s,baz=89,slow=8.5,SNR=5.7						
ILAR	**Eielson Array**	**70.06**	**25**	P	P	02 50 25.9	-1.0
	0.3nm,0.8s,baz=248,slow=6.0,SNR=4.2						
YKA	**Yellowknife Ar**	**84.36**	**27**	P	P	02 51 47.7	+0.7
	0.1nm,0.5s,baz=287,slow=5.1,SNR=4.7						
FINES	**FINESS Array B**	**92.00**	**335**	P	P	02 52 22.6	-1.1
	0.7nm,0.6s,baz=104,slow=5.7,SNR=4.4						

MAN 11 02:52:55.2, 1544N×12173E, h2km, mb3.4, ML4.6, MS1.1, 2C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.33**	**334**	*e*P	Pg	02 53 01.6	0.0
BALP				*e*S	Sg	02 53 07.1	+1.1
PCPH	**Palayan**	**0.62**	**281**	⇓*e*P	Pg	02 53 07.4	+0.3
PCPH				*e*S	Sg	02 53 16.6	+1.3
POLP	**Polilio Island**	**0.74**	**164**	*e*P	Pg	02 53 10.4	+1.0
POLP				*e*S	Sg	02 53 23.4	+4.5
NZB	**Bigte**	**0.84**	**227**	⇓*e*P	Pg	02 53 11.7	+0.5
NZB				*e*S	Sg	02 53 23.6	+1.5
QVPH	**Quezon City--P**	**1.02**	**220**	*e*P	Pg	02 53 11.6	-3.2
LBPH	**Los Banos**	**1.39**	**203**	⇑*e*P	Pn	02 53 20.9	-0.7
LBPH				*e*S	Sg	02 53 42.3	+2.6
NBP	**Mount Natib**	**1.45**	**241**	*e*P	Pn	02 53 22.5	+0.1
NBP				*e*S	Sg	02 53 45.6	+3.8
BCPH	**Baguio City Da**	**1.45**	**310**	⇓*i*P	Pn	02 53 22.0	-0.5
BCPH				*i* S	Pg	02 53 22.0	-1.0
PAZ	**Puerto Azul**	**1.58**	**220**	⇑*e*P	Pn	02 53 24.2	-0.1
GQP	**Guinayangan**	**1.68**	**156**	*e*P	Pn	02 53 27.5	+1.9
GQP				*e*S	Sn	02 53 51.5	+3.9
SCZP	**Santa Cruz**	**1.78**	**281**	*e*P	Pn	02 53 27.3	+0.2
BOAC	**Boac**	**1.97**	**177**	*e*P	Pn	02 53 30.2	+0.5
BOAC				*e*S	Sn	02 53 58.1	+3.2
BOLP	**Bolinao**	**1.98**	**298**	*e*P	Pn	02 53 31.4	+1.7
BOLP				*e*S	Sn	02 54 00.0	+4.9
LUBP	**Lubang**	**2.22**	**220**	*e*P	Pn	02 53 33.1	0.0
LUBP				*e*S	Sn	02 54 01.6	+0.5
CVP	**Callao Caves**	**2.25**	**2**	⇓*e*P	Pn	02 53 33.0	-0.5
CVP				*e*S	Sn	02 54 03.0	+1.2
ABRA	**Dolores**	**2.40**	**336**	*e*P	Pn	02 53 37.2	+1.7
ABRA				*e*S	Sn	02 54 10.7	+5.2
APYP	**Conner**	**2.45**	**349**	*e*P	Pn	02 53 36.2	0.0
APYP				*e*S	Sn	02 54 07.8	+1.0
SGCP	**Mt. Cagua**	**2.80**	**6**	*e*P	Pn	02 53 41.6	+0.6
SGCP				*e*S	Sn	02 54 22.7	+7.3
PVCP	**Virac**	**2.98**	**128**	*e*P	Pn	02 53 38.4	-5.1
PVCP				*e*S	Sn	02 54 25.4	+5.6
OTRP	**Odiongan**	**3.07**	**175**	*e*P	Pn	02 53 44.0	-0.7

JMA 11 03:00:57.2±0.3, 3171N×14112E, h0km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.78**	**322**	S	Sn	03 01 53.3	+0.8
BSO4	**Boso 4**	**3.34**	**349**	*e*S	Sn	03 02 31.7	+0.8
JAG	**Ashikaga**	**4.90**	**344**	S	Sn	03 03 11.2	+1.6

*ISCJB **11** 03:51:10.6±0.3, 5525N±002×11040E±004, h10km, mb3.5/6, Error ellipse: s-maj=3.7km s-min=2.2km az=97.1*
*MOS **11** 03:51:11.1±1.6, 5523N×11033E, h10km, mb4.4/2, Error ellipse: s-maj=11.2km s-min=6.4km az=66.5*
*BYKL **11** 03:51:11.8±0.3, 5526N×11035E, h6km±19km*
*IDC **11** 03:51:12.7±1.5, 5510N×11051E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/24, mbtmp3.4/7, ML3.3/3, Error ellipse: s-maj=31.6km s-min=18.7km az=141.0*
*NEIC **11** 03:51:14.0±0.9, 5506N×11052E, h10km, mb3.8/3, Error ellipse: s-maj=17.1km s-min=10.7km az=105.0*

ISC 11 03:51:12.2±0.3, 5525N±002×11040E±003, h10km, n61, σ1§33/88, mb3.5/6, 6C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.57**	**130**	⇓*i*Pg	**Pg**	**03 51 22.9**	**-0.4**
	375nm,0.7s						
YLYR				⇑*i*Pg	**Pg**	**03 51 22.9**	**-0.4**
	399nm,0.7s						
YLYR				⇑*i*Pg	**Pg**	**03 51 22.9**	**-0.4**
	449nm,0.7s						
YLYR				*i* Sg	**Sg**	**03 51 31.0**	**+0.2**
YLYR				Pmax			
	460nm,0.9s						
YLYR				Smax			
	1μm,0.7s						
YLYR	**Ulyunkhan**	**0.57**	**130**	⇑*i*PG	**Pg**	**03 51 22.8**	**-0.5**
YLYR				*e*		03 51 30.6	
YLYR				pmax	pmax		
	comp=Z,319nm,0.2s						
YLYR				smax			
	comp=N,910nm,0.3s						
NIZ	**Nizh Angarsk**	**0.72**	**318**	⇑*i*Pg	**Pg**	**03 51 25.0**	**-1.1**
NIZ				*e*Sg	**Sg**	**03 51 34.7**	**-0.9**
NIZ				Pmax			
	comp=N,253nm,0.8s						
NIZ				Smax			
	comp=N,895nm,0.8s						
NIZ	**Nizh Angarsk**	**0.72**	**318**	*e*PG	**Pg**	**03 51 25.1**	**-1.0**
NIZ				*e*		03 51 34.8	
NIZ				pmax	pmax		
	comp=Z,193nm,0.6s						
NIZ				smax			
	comp=N,758nm,0.4s						
KMO	**Kumora**	**0.79**	**35**	⇓*i*Pg	**Pg**	**03 51 26.4**	**-0.9**
KMO				*e*Sg	**Sg**	**03 51 36.8**	**-0.8**
KMO				Pmax			
	comp=N,321nm,0.9s						
KMO				Smax			
	comp=N,1μm,0.8s						
KMO	**Kumora**	**0.79**	**35**	*e*PG	**Pg**	**03 51 26.3**	**-1.0**
KMO				*e*		03 51 37.0	
KMO				pmax	pmax		
	comp=Z,483nm,0.5s						
KMO				smax			
	comp=E,1μm,0.8s						
YOA	**Uoyan**	**1.16**	**40**	*e*Pg	**Pg**	**03 51 33.7**	**-0.8**
YOA				*e*Sg	**Sg**	**03 51 49.7**	**+0.1**
YOA				Pmax			
	comp=E,506nm,0.5s						
YOA				Smax			
	comp=E,2μm,0.8s						
YOA	**Uoyan**	**1.16**	**40**	⇓*i*PG	**Pg**	**03 51 33.5**	**-1.0**
YOA				*i*		03 51 49.6	
YOA				pmax	pmax		
	comp=Z,459nm,0.4s						
YOA				smax			
	comp=E,2μm,0.5s						
SYVR	**Suvo**	**1.61**	**189**	*e*Pn	**Pn**	**03 51 41.2**	**+0.6**
SYVR				*e*Pg	**Pg**	**03 51 42.3**	**-0.7**
SYVR				*e*Sg	**Sg**	**03 52 03.8**	**-0.1**
SYVR				Pmax			
	comp=E,115nm,0.6s						
SYVR				Smax			
	comp=E,846nm,1.5s						
SYVR	**Suvo**	**1.61**	**189**	*e*PN	**Pn**	**03 51 41.3**	**+0.7**
SYVR				*e*		03 52 03.9	
SYVR				pmax	pmax		
	comp=Z,103nm,0.6s						
SYVR				smax			
	comp=N,451nm,0.8s						
UKT	**Uakit**	**1.86**	**81**	⇑*i*Pg	**Pn**	**03 51 45.3**	**+1.3**
UKT				*e*Sg	**Sg**	**03 52 10.2**	**-1.7**
UKT				Pmax			
	comp=N,233nm,1.3s						
UKT				Smax			
	comp=N,602nm,1.9s						
UKT	**Uakit**	**1.86**	**81**	*e*PN	**Pn**	**03 51 45.3**	**+1.3**
UKT				*e*		03 52 10.0	
UKT				pmax	pmax		
	comp=Z,109nm,0.5s						
UKT				smax			
	comp=N,285nm,0.7s						
SVKR	**Severomuysk**	**1.99**	**63**	*e*Pn	**Pn**	**03 51 44.8**	**-1.1**
SVKR				*e*Pg	**Pg**	**03 51 48.7**	**-1.6**
SVKR				*e*Sg	**Sg**	**03 52 15.8**	**-0.3**
SVKR				Pmax			
	comp=N,263nm,0.6s						
SVKR				Smax			
	comp=N,5μm,0.7s						
SVKR	**Severomuysk**	**1.99**	**63**	*e*PN	**Pn**	**03 51 44.8**	**-1.1**
SVKR				*e*		03 51 49.5	
SVKR				*e*		03 52 15.2	
SVKR				pmax	pmax		
	comp=Z,259nm,0.6s						
SVKR				smax			
	comp=N,5μm,0.7s						
MXMB	**Maximikha**	**2.21**	**207**	*e*Pn	**Pn**	**03 51 50.1**	**+1.2**
MXMB				*e*Pg	Px	03 51 51.8	
MXMB				*e*Sg	**Sg**	**03 52 21.9**	**-1.4**
MXMB				Pmax			
	comp=N,126nm,1.1s						
MXMB				Smax			
	comp=N,781nm,0.9s						
OGRR	**Ongureny**	**2.29**	**227**	*e*Pn	**Pn**	**03 51 51.2**	**+1.1**
OGRR				*e*Pg	Px	03 51 53.1	
OGRR				*e*		03 51 56.3	
OGRR				*e*Sn	**Sn**	**03 52 19.0**	**+0.6**
OGRR				*e*Sg	Sx	03 52 23.1	
OGRR				max			
	comp=N,76nm,0.6s						
OGRR				Smax			
	comp=N,311nm,0.6s						
OGRR	**Ongureny**	**2.29**	**227**	*e*PN	**Pn**	**03 51 51.0**	**+0.9**
OGRR				*e*		03 51 53.7	
OGRR				*e*		03 52 23.4	
OGRR				pmax	pmax		
	comp=Z,88nm,1.0s						
OGRR				smax			
	comp=N,306nm,0.7s						
NLYR	**Nelyaty**	**3.24**	**65**	*e*Pn	**Pn**	**03 52 04.5**	**+1.5**
NLYR				*e*Pg	Px	03 52 10.6	
NLYR				*e*Sn	**Sn**	**03 52 41.6**	**0.0**
NLYR				*e*Sg	Sx	03 52 52.8	
NLYR				Pmax			
	comp=N,74nm,0.7s						
NLYR				Smax			
	comp=N,596nm,1.1s						
NLYR	**Nelyaty**	**3.24**	**65**	*e*PN	**Pn**	**03 52 04.3**	**+1.3**
NLYR				*e*		03 52 12.6	
NLYR				*e*		03 52 52.9	
NLYR				pmax	pmax		
	comp=Z,74nm,0.6s						
NLYR				smax			
	comp=N,596nm,1.1s						
BOD	**Bodaibo**	**3.26**	**36**	*e*Pn	**Pn**	**03 52 04.5**	**+1.2**
BOD				*e*Pg	Px	03 52 09.2	
BOD				*e*Sn	**Sn**	**03 52 41.1**	**-1.1**
BOD				*e*Sg	Sx	03 52 51.1	
BOD				Pmax			
	comp=N,28nm,0.6s						
BOD				Smax			
	comp=N,166nm,0.9s						
BOD	**Bodaibo**	**3.26**	**36**	*e*PN	**Pn**	**03 52 03.2**	**-0.1**
BOD				*e*		03 52 09.6	
BOD				*e*		03 52 51.6	
BOD				pmax	pmax		
	comp=Z,28nm,0.5s						
BOD				smax			
	comp=N,167nm,0.8s						
ZRHB	**Zarechye**	**3.31**	**217**	*e*Pg	**Pb**	**03 52 10.8**	**-0.2**
ZRHB				*e*Sn	**Sn**	**03 52 43.3**	**-0.2**
ZRHB				*e*Sg	**Sb**	**03 52 53.7**	**+2.3**
ZRHB				Pmax			
	comp=N,86nm,0.9s						
ZRHB				Smax			
	comp=N,529nm,1.4s						
TRTB	**Turuntaevo**	**3.44**	**210**	*e*Pn	**Pn**	**03 52 06.7**	**+0.9**
TRTB				*e*		03 52 10.4	
TRTB				*e*Pg	Px	03 52 13.2	
TRTB				*e*Sg	Sx	03 52 58.9	
TRTB				Pmax			
	comp=N,59nm,1.3s						
TRTB				Smax			
	comp=N,106nm,1.0s						
TRG	**Tyrgan**	**3.45**	**226**	*e*Pn	**Pn**	**03 52 06.7**	**+0.7**
TRG				*e*Pg	Px	03 52 12.2	
TRG				*e*Sg	Sx	03 52 56.2	
TRG				Pmax			
	comp=N,29nm,0.7s						
TRG				Smax			
	comp=N,114nm,0.6s						
TRG	**Tyrgan**	**3.45**	**226**	*e*PN	**Pn**	**03 52 05.3**	**-0.7**
TRG				*e*		03 52 12.9	
TRG				*e*S	**Sn**	**03 52 45.3**	**-1.7**
TRG				*e*		03 52 56.8	
TRG				pmax	pmax		
	comp=Z,35nm,0.6s						
TRG				smax			
	comp=E,137nm,0.7s						
CIT	**Chita**	**3.73**	**149**	*e*Pn	**Pn**	**03 52 11.3**	**+1.4**
CIT				*e*Pg	Px	03 52 17.9	
CIT				*e*		03 52 19.8	
CIT				*i* Sg	Sx	03 53 07.1	
CIT				max			
	comp=E,63nm,1.4s						
CIT				Smax			
	comp=E,141nm,2.0s						
CIT	**Chita**	**3.73**	**149**	*e*PN	**Pg**	**03 52 19.5**	**-4.2**
CIT				*e*		03 53 07.1	
CIT				pmax	pmax		
	comp=Z,62nm,1.2s						
CIT				smax			
	comp=E,139nm,1.8s						
KAB	**Kabansk**	**3.90**	**216**	*e*Sg	**Sg**	**03 53 14.4**	**-3.1**
KAB				Smax			
	comp=E,441nm,1.3s						
KAB	**Kabansk**	**3.90**	**216**	*e*PN	**Pg**	**03 52 23.5**

TLY			*e*Pg	Px	03 52 48.5	
TLY			*e*Sn	**Sn**	**03 53 32.7**	**-2.0**
TLY			*e*Sg	Sx	03 53 57.7	
TLY			Pmax			
	comp=N,31nm,1.3s					
TLY			Smax			
	comp=N,84nm,1.0s					
TLY	**Talaya**	**5.39 231**	*e*PN	**Pn**	**03 52 31.0**	**-1.6**
TLY			*e*		03 52 47.8	
TLY			*e*S	**Sn**	**03 53 33.0**	**-1.7**
TLY			*e*		03 53 57.8	
TLY			pmax	pmax		
	comp=Z,31nm,0.8s					
TLY			smax			
	comp=N,83nm,1.0s					
TUP	**Tupik**	**5.58 95**	*e*Pn	**Pn**	**03 52 35.5**	**+0.3**
TUP			*e*Pg	Px	03 52 52.4	
TUP			*e*Sg	Sx	03 54 05.4	
TUP			Smax			
	comp=N,227nm,1.2s					
TUP	**Tupik**	**5.58 95**	*e*PN	**Pn**	**03 52 35.8**	**+0.6**
TUP			*e*		03 52 52.3	
TUP			*e*S	**Sn**	**03 53 39.3**	**-0.1**
TUP			*e*		03 54 05.2	
TUP			pmax	pmax		
	comp=Z,8.0nm,0.6s					
TUP			smax			
	comp=N,227nm,1.1s					
KPC	**Khapcheranga**	**5.68 167**	*e*Pn	**Pn**	**03 52 36.6**	**0.0**
KPC			*e*Pg	Px	03 52 54.0	
KPC			*e*		03 52 56.7	
KPC			*e*Sn	**Sn**	**03 53 38.7**	**-3.2**
KPC			*e*Sg	Sx	03 54 08.5	
KPC			max			
	comp=N,6.0nm,0.8s					
KPC			Smax			
	comp=N,160nm,1.4s					
KPC	**Khapcheranga**	**5.68 167**	*e*PN	**Pn**	**03 52 37.4**	**+0.8**
KPC			*e*		03 52 56.5	
KPC			*e*		03 54 08.6	
KPC			pmax	pmax		
	comp=Z,14nm,0.5s					
KPC			smax			
	comp=E,157nm,1.4s					
ARS	**Arshan**	**5.80 238**	*e*Pn	**Pn**	**03 52 40.0**	**+1.7**
ARS			*e*		03 52 52.0	
ARS			*e*Sn	**Sn**	**03 53 44.0**	**-0.9**
ARS			*e*Sg	**Sg**	**03 54 09.6**	**-8.9**
ARS			max			
	comp=E,37nm,0.8s					
ARS			Smax			
	comp=E,244nm,1.2s					
ZAK	**Zakamensk**	**6.51 224**	*e*Sg	**Sg**	**03 54 33.3**	**-7.8**
ZAK			Smax			
	comp=E,47nm,1.3s					
ZAK	**Zakamensk**	**6.51 224**	*e*PN	**Pn**	**03 52 48.9**	**+0.9**
ZAK			*e*		03 53 09.9	
ZAK			*e*		03 54 32.0	
ZAK			pmax	pmax		
	comp=Z,11nm,1.2s					
ZAK			smax			
	comp=E,45nm,1.3s					
MOY	**Mondy**	**6.67 241**	*e*PN	**Pn**	**03 52 51.9**	**+1.8**
MOY			*e*		03 53 11.3	
MOY			*e*		03 54 37.4	
MOY			pmax	pmax		
	comp=Z,6.0nm,0.4s					
MOY			smax			
	comp=N,160nm,1.6s					
ORL	**Orlik**	**6.82 251**	⇑*i*Pn	**Pn**	**03 52 53.0**	**+0.7**
ORL			*e*Sn	**Sn**	**03 54 08.5**	**-1.5**
ORL			*e*Sg	Sx	03 54 42.2	
ORL			Smax			
	comp=N,120nm,1.5s					
ORL	**Orlik**	**6.82 251**	*e*PN	**Pn**	**03 52 53.1**	**+0.8**
ORL			*e*S	Sx	03 54 42.2	
ORL			smax			
	comp=N,120nm,1.5s					
ULN	**Ulaanbaatar**	**7.68 197**	PG	**Pg**	**03 53 37.2**	**-2.0**
SONM	**Songino Array**	**7.83 200**	Pn	**Pn**	**03 53 07.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=28,slow=11,SNR=4.2					
SONM			Lg		03 55 17.8	
	comp=N,0.3nm,0.3s,baz=10,slow=17,SNR=4.2					
ZAL	**Zalesovo**	**14.88 276**	Pn	**Pn**	**03 54 41.1**	**-1.4**
	comp=N,0.4nm,0.3s,baz=34,slow=11,SNR=16					
ZAL			Lg		03 58 55.5	
	comp=N,0.1nm,0.3s,baz=113,slow=21,SNR=4.1					
MKAR	**Makanchi Array**	**19.49 256**	P	**Pn**	**03 55 39.4**	**-1.1**
	comp=N,0.2nm,0.3s,baz=34,slow=7.8,SNR=16					
KURK	**Kurchatov**	**19.56 270**	*e*P	**Pn**	**03 55 42.7**	**+1.3**
KURK			pmax	pmax		
	comp=Z,4.0nm,0.6s					
KURK	**Kurchatov**	**19.56 270**	*e*P	**Pn**	**03 55 42.7**	**+1.3**
	comp=Z,3.8nm,0.6s					
BVAR	**Borovoye Array**	**23.33 281**	P	**P**	**03 56 23.8**	**+3.3**
	comp=Z,2.1nm,0.5s,mb3.9,baz=77,slow=12,SNR=14					
BRVK	**Borovoye**	**23.37 281**	*e*P	**P**	**03 56 24.3**	**+3.3**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7					
BRVK	**Borovoye**	**23.37 281**	*e*P	**P**	**03 56 24.3**	**+3.2**
	comp=Z,2.0nm,0.6s,mb3.7					
ZRNK	**Zerenda**	**24.13 282**	*e*P	**P**	**03 56 30.5**	**+2.3**
ZRNK			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7					
ZRNK	**Zerenda**	**24.13 282**	*e*P	**P**	**03 56 30.5**	**+2.3**
	comp=Z,1.6nm,0.6s,mb3.6					
FINES	**FINESS Array B**	**41.74 314**	P	**P**	**03 59 04.5**	**+3.1**
	comp=Z,0.4nm,0.7s,mb3.2,baz=40,slow=15,SNR=4.5					
ILAR	**Eielson Array**	**46.63 35**	P	**P**	**03 59 43.5**	**+2.9**
	comp=Z,0.6nm,0.9s,mb3.5,baz=310,slow=7.7,SNR=5.9					
YKA	**Yellowknife Ar**	**57.45 23**	P	**P**	**04 01 02.1**	**+1.0**
	comp=Z,0.1nm,0.5s,mb3.1,baz=328,slow=6.6,SNR=5.1					

*NAO **11** 04:00:56.1,2933N×13296E,h33km,mb4.1*
*IDC **11** 04:01:04.8±0.6,3148N×13197E,h0km,mb4.1/19,*
mb1 4.3/21,mb1mx4.2/26,mbtmp4.1/21,ML4.2/2,MS3.4/6,
Ms1 3.5/6,ms1mx3.0/33,Error ellipse: s-maj=18.0km
s-min=15.1km az=62.0
*MOS **11** 04:01:08.1±0.9,3152N×132.10E,h38km,mb4.3/5,Error*
ellipse: s-maj=14.6km s-min=9.6km az=94.7
*ISCJB **11** 04:01:08.2±0.6,3148N±004×13227E±004,h40km±5km,*
mb4.1/25,MS3.5/4,Error ellipse: s-maj=6.8km
s-min=5.3km az=93.1
*JMA **11** 04:01:08.0±0.2,3145N×13227E,h49km,M4.3*
JMA Felt II J1.
*NEIC **11** 04:01:11.2±0.3,3151N×13208E,mb4.3/6,Error ellipse:*
s-maj=8.4km s-min=7.1km az=129.0
NEIC Recorded [2 JMA] in Miyazaki and Kumamoto Prefectures.

ISC 11 04:01:09.8±0.6,3151N±004×13219E±004,h35km±5km,
n64,σ1°§05/72,mb4.1/25,MS3.5/4,2C-3D,Southeast of
Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.79**	**271**	⇑P	**Pn**	**04 01 24.0**	**-0.4**
JNAR				S	**Sn**	**04 01 35.3**	**+0.4**
JTSN	**Tsuno**	**0.94**	**321**	⇓P	**Pn**	**04 01 26.2**	**-0.3**
JTSN				S	**Sn**	**04 01 39.0**	**+0.4**
JTZ	**Takazaki**	**1.02**	**293**	⇓P	**Pn**	**04 01 27.4**	**-0.2**
JTZ				S	**Sn**	**04 01 41.4**	**+0.8**
JTN	**Tanegashima 3**	**1.35**	**231**	P	**Pn**	**04 01 31.4**	**-0.7**
JTN				S	**Sn**	**04 01 48.3**	**-0.5**
JTO	**Tosashimizu**	**1.44**	**21**	⇑P	**Pn**	**04 01 32.1**	**-1.3**
JTO				S	**Sn**	**04 01 47.7**	**-3.4**
JIU2	**Izumi 2**	**1.56**	**312**	⇓P	**Pn**	**04 01 35.6**	**+0.6**
JIU2				S	**Sn**	**04 01 56.6**	**+2.6**
UWA2	**Uwa jima 2**	**1.73**	**12**	P	**Pn**	**04 01 36.9**	**-0.6**
UWA2				S	**Sn**	**04 01 56.4**	**-2.0**
JNU	**Nakatsue**	**1.95**	**326**	Pn	**Pn**	**04 01 42.0**	**+1.6**
	32nm,0.3s,baz=50,slow=2.0,SNR=62						
JNU				Sn	**Sn**	**04 02 07.2**	**+3.4**
	78nm,0.3s,baz=80,slow=14,SNR=9.4						
JOW	**Kunigami**	**5.79**	**217**	Pn	**Pn**	**04 02 32.8**	**-0.3**
	3.0nm,0.3s,baz=113,slow=20,SNR=3.7						
JOW				Sn	**Sn**	**04 03 33.5**	**-4.7**
	3.5nm,0.3s,baz=108,slow=28,SNR=6.2						
JHJ	**Hachijo jima 2**	**6.62**	**74**	Pn	**Pn**	**04 02 44.8**	**+0.1**
	17nm,0.3s,baz=42,slow=18,SNR=6.2						
JHJ				LR	LR	04 05 15.0	
	comp=Z,245nm,19.3s,baz=75,slow=37						
MAJO	**Matsushiro**	**7.08**	**43**	*e*P	**Pn**	**04 02 51.8**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,25nm,0.3s						
MAJO	**Matsushiro**	**7.08**	**43**	*e*Pn	**Pn**	**04 02 51.8**	**+0.9**
	comp=Z,25nm,0.3s						
MAT	**Matsushiro**	**7.08**	**43**	P	**Pn**	**04 02 51.5**	**+0.6**
MAT				S	**Sn**	**04 04 08.2**	**-1.8**
MAT	**Matsushiro**	**7.08**	**43**	*e*P	**Pn**	**04 02 52.0**	**+1.1**
MAT				*e*S	**Sn**	**04 04 08.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAT	**Matsushiro**	**7.08**	**43**	*e*P	**Pn**	**04 02 52.0**	**+1.1**
	comp=Z,8.4nm,0.5s						
MAT				*e*S	**Sn**	**04 04 08.0**	**-2.0**
MJAR	**Matsushiro Arr**	**7.08**	**43**	Pn	**Pn**	**04 02 52.4**	**+1.5**
	comp=Z,3.7nm,0.3s,baz=244,slow=14,SNR=33						
CBIJ	**Chichi jima**	**9.77**	**114**	LR	LR	04 07 10.3	
	comp=Z,137nm,19.9s,baz=17,slow=37						
KLR	**Kul'dur**	**17.70**	**359**	*e*P	**Pn**	**04 05 13.2**	**-0.3**
ENH	**Enshi**	**19.52**	**272**	*e*P	**Pn**	**04 05 34.7**	**-0.9**
	comp=Z,29nm,0.8s						
ENH				*e*pP	pP	04 05 45.7	+2.4
ULN	**Ulaanbaatar**	**25.15**	**318**	*e*P	**P**	**04 06 31.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**25.15**	**318**	*e*P	**P**	**04 06 30.9**	**-0.7**
	comp=Z,5.7nm,1.0s,mb4.1						
SONM	**Songino Array**	**25.52**	**317**	P	**P**	**04 06 34.3**	**-0.6**
	comp=Z,1.9nm,0.7s,mb3.7,baz=133,slow=9.4,SNR=14						
SONM				PcP	PcP	04 10 05.9	+0.1
	comp=Z,0.4nm,0.7s,baz=135,slow=4.1,SNR=3.4						
ZAL	**Zalesovo**	**40.42**	**318**	P	**P**	**04 08 44.0**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.7,baz=151,slow=15,SNR=2.4						
ZAL				PcP	PcP	04 10 46.5	-0.6
	comp=Z,0.7nm,0.5s,baz=358,slow=4.1,SNR=4.0						
ZAL				LR	LR	04 27 33.3	
	comp=Z,55nm,21.1s,MS3.4,baz=185,slow=39						
ZAL	**Zalesovo**	**40.42**	**318**	P	**P**	**04 08 44.0**	**-0.6**
ZAL						04 10 46.5	
MKAR	**Makanchi Array**	**40.90**	**307**	P	**P**	**04 08 47.2**	**-1.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=88,slow=11,SNR=18						
MKAR				PcP	PcP	04 10 48.9	+0.2
	comp=Z,1.3nm,0.9s,baz=72,slow=3.8,SNR=8.4						
MKAR				LR	LR	04 27 24.1	
	comp=Z,52nm,19.2s,MS3.4,baz=0.0,slow=39						
MKAR	**Makanchi Array**	**40.90**	**307**	P	**P**	**04 08 47.2**	**-1.3**
MKAR						04 10 48.9	
MKAR	**Makanchi Array**	**40.90**	**307**	P	**P**	**04 08 47.2**	**-1.3**
MKAR				PcP	PcP	04 10 48.9	+0.2
MKAR				LR	LR	04 27 24.1	
KURK	**Kurchatov**	**43.62**	**312**	*e*P	**P**	**04 09 09.3**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**43.62**	**312**	*e*P	**P**	**04 09 09.3**	**-1.4**
	comp=Z,2.2nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**48.83**	**315**	P	**P**	**04 09 50.8**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=98,slow=10,SNR=10						
BVAR				PcP	PcP	04 11 16.4	+0.5
	comp=Z,2.8nm,0.7s,baz=90,slow=3.0,SNR=11						
BRVK	**Borovoye**	**48.90**	**315**	*e*P	**P**	**04 09 51.0**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**48.90**	**315**	*e*P	**P**	**04 09 51.0**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**49.67**	**315**	*e*P	**P**	**04 09 57.0**	**-1.1**
ZRNK				*e**PP	pP	04 10 10.1	+1.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**49.67**	**315**	*e*P	**P**	**04 09 57.0**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.2						
ZRNK				*e*pP	pP	04 10 10.1	+1.5
FITZ	**Fitzroy Crossi**	**49.73**	**188**	*e*P	**P**	**04 09 58.8**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**51.19**	**177**	*e*P	**P**	**04 10 09.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
WRAB	**Tennant Creek**	**51.19**	**177**	*e*P	**P**	**04 10 09.4**	**-0.1**
	comp=Z,18nm,1.5s,mb4.8						
WRA	**Warramunga Arr**	**51.20**	**177**	P	**P**	**04 10 10.0**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.4,baz=354,slow=8.2,SNR=48						
WB2	**Warramunga Arr**	**51.20**	**177**	*e*P	**P**	**04 10 09.6**	**0.0**
CTA	**Charters Tower**	**53.05**	**163**	LR	LR	04 31 43.4	
	comp=Z,65nm,19.7s,MS3.7,baz=42,slow=35						
ASAR	**Alice Springs**	**54.89**	**178**	P	**P**	**04 10 37.6**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.3,baz=12,slow=13,SNR=58						
KDAK	**Kodiak Island**	**56.23**	**39**	P	**P**	**04 10 47.8**	**+1.4**
	comp=Z,4.5nm,0.5s,mb4.8,baz=270,slow=10,SNR=6.1						
AKTK	**Aktyubinsk**	**56.72**	**313**	P	**P**	**04 10 50.6**	**+0.7**
AKTO	**Aktyubinsk**	**56.72**	**313**	P	**P**	**04 10 50.6**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=79,slow=13,SNR=9.3						
AKTO	**Aktyubinsk**	**56.72**	**313**	P	**P**	**04 10 50.6**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**58.15**	**30**	P	**P**	**04 11 01.4**	**+1.4**
	comp=Z,0.8nm,0.9s,mb3.8,baz=288,slow=7.1,SNR=7.3						
ILAR	**Eielson Array**	**58.15**	**30**	P	**P**	**04 11 01.4**	**+1.4**
STKA	**Stephens Creek**	**63.67**	**171**	P	**P**	**04 11 36.7**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.5,baz=341,slow=8.9,SNR=4.2						
STKA	**Stephens Creek**	**63.67**	**171**	P	**P**	**04 11 36.7**	**-0.8**
ARCES	**ARCESS Array B**	**66.38**	**338**	LR	LR	04 44 50.1	
	comp=Z,48nm,19.6s,MS3.7,baz=240,slow=40						
FINES	**FINESS Array B**	**69.99**	**331**	P	**P**	**04 12 16.9**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.1,baz=71,slow=6.0,SNR=33						
FINES	**FINESS Array B**	**69.99**	**331**	P	**P**	**04 12 16.9**	**-0.8**
YKA	**Yellowknife Ar**	**72.28**	**27**	P	**P**	**04 12 32.5**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.8,baz=302,slow=5.5,SNR=20						
YKA	**Yellowknife Ar**	**72.28**	**27**	P	**P**	**04 12 32.5**	**+1.0**
AKASG	**Malin Array Be**	**73.77**	**320**	P	**P**	**04 12 39.5**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=6.0,SNR=7.6						
NB2	**NORSAR Subarra**	**76.09**	**335**	P	**P**	**04 12 52.8**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**76.09**	**335**	P	**P**	**04 12 53.0**	**-0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=50,slow=5.7,SNR=7.2						
BRTR	**Keskin Array B**	**76.52**	**308**	P	**P**	**04 12 57.4**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=98,slow=5.5,SNR=6.6						
CLL	**Collm**	**81.75**	**326**	*e*P	**P**	**04 13 25.0**	**+0.1**
GERES	**GERESS Array B**	**83.03**	**324**	P	**P**	**04 13 30.8**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=37,slow=6.7,SNR=4.2						
NVAR	**Mina Array Bea**	**84.38**	**48**	P	**P**	**04 13 41.0**	**+2.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=284,slow=7.1,SNR=9.2						
PDAR	**Pinedale Array**	**86.89**	**41**	P	**P**	**04 13 52.6**	**+1.7**
	comp=Z,0.7nm,0.8s,mb4.0,baz=315,slow=2.1,SNR=6.7						
ULM	**Lac du Bonnet**	**88.14**	**29**	P	**P**	**04 13 57.8**	**+0.8**
	comp=Z,0.7nm,0.4s,mb4.3,baz=315,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**115.01**	**305**	PKP	PKiKP	04 19 47.3	+0.3
	comp=Z,0.3nm,1.1s,baz=71,slow=0.8,SNR=7.2						

IDC 11 04:22:45.3±1.9,1783S×17160W,h0km,mb3.6/3,
mb1 4.0/4,mb1mx3.8/17,mbtmp3.7/4,ML2.7/1,MS3.3/1,
Ms1 3.3/1,ms1mx2.8/22,Error ellipse: s-maj=71.5km
s-min=28.5km az=139.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.90**	**357**	Pn	Pn	04 23 46.8	+0.4
	31nm,0.3s,baz=52,slow=22,SNR=4.7						
HNR	**Honiara**	**28.85**	**283**	LR	LR	04 37 19.3	
	comp=Z,52nm,19.4s,baz=1.1,slow=30						
WRA	**Warramunga Arr**	**51.01**	**258**	P	P	04 31 49.1	+0.1
	1.0nm,1.1s,baz=94,slow=7.1,SNR=4.9						
ASAR	**Alice Springs**	**51.05**	**254**	P	P	04 31 49.5	+0.3
	0.8nm,0.7s,baz=87,slow=8.2,SNR=13						
NVAR	**Mina Array Bea**	**75.00**	**41**	P	P	04 34 28.6	0.0
	0.7nm,1.0s,baz=221,slow=8.8,SNR=4.6						
BRTR	**Keskin Array B**	**149.12**	**320**	PKPbc	PKPbc	04 42 36.6	+1.1
	0.6nm,0.8s,baz=45,slow=2.0,SNR=4.0						

*ATH **11** 04:29:55.6,3375N×26.12E,h10km,MD3.4/3*
*ISCJB **11** 04:29:58.6±0.7,3408N±006×264E±0.1,h10km,Error*
ellipse: s-maj=15.2km s-min=6.8km az=133.1
*CSEM **11** 04:29:58.5±0.2,3398N×2638E,h2km,ML2.8,Error*
ellipse: s-maj=12.8km s-min=4.0km az=59.0
*HLW **11** 04:30:10.9,3354N×2675E,h23km,Mb2.8*

ISC 11 04:30:00.3±0.7,3411N±006×263E±01,h10km,n14,
σ0°§65/15,2C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.92**	**326**	*e*PN	**Pg**	**04 30 17.5**	**-0.6**
NPS	**Neapolis**	**1.29**	**333**	*e*PG	**Pg**	**04 30 25.0**	**-0.1**
KARP	**Karpathos**	**1.59**	**26**	*e*PN	**Pg**	**04 30 31.5**	**+0.6**
SWA2		**4.91**	**189**	⇑*e*P	**Pn**	**04 31 15.5**	**+1.3**
SWA2		**4.91**	**189**	P	**Pn**	**04 31 15.5**	**+1.3**
	188nm,0.3s						
HNAT	**Natroun**	**5.77**	**140**	P	**Pn**	**04 31 25.2**	**-0.7**
AWBH		**6.18**	**158**	⇓*e*P	**Pn**	**04 31 31.1**	**-0.5**
AWBH		**6.18**	**158**	P	**Pn**	**04 31 31.1**	**-0.5**
	289nm,0.2s						
HSAF	**As Saff**	**6.32**	**134**	P	**Pn**	**04 31 32.8**	**-0.7**
GLL	**Jalalah**	**6.44**	**133**	P	**Pn**	**04 31 35.0**	**-0.2**
GLL	**Jalalah**	**6.44**	**133**	P	**Pn**	**04 31 35.0**	**-0.2**
	349nm,0.2s						
AMAG	**Maghara**	**6.78**	**119**	⇓*e*P	**Pn**	**04 31 40.5**	**+0.7**
AMAG				S	**Sn**	**04 32 45.8**	**-11**
AMAG	**Maghara**	**6.78**	**119**	P	**Pn**	**04 31 40.5**	**+0.7**
	170nm,0.1s						
HFRF	**Wahat Farafira**	**7.15**	**166**	⇑*e*P	**Pn**	**04 31 45.1**	**+0.1**

*ISCJB **11** 04:40:06.5±0.6,2429S×004×67.19W×007,h177km±5km,*
mb3.8/15,Error ellipse: s-maj=10.7km s-min=6.0km
az=179.5
*IDC **11** 04:40:06.6±1.2,2424S×6706W,h161km±11km,mb3.7/5,*
mb1 4.0/9,mb1mx3.8/17,mbtmp4.3/9,Error ellipse:
s-maj=20.0km s-min=12.3km az=78.0
*NEIC **11** 04:40:07.6±0.6,2422S×6708W,h171km±6km,mb4.0/11,*
Error ellipse: s-maj=10.3km s-min=7.0km az=76.0
*GUC **11** 04:40:08.5±0.6,2413S×6760W,h199km±8km,ML4.4*

ISC 11 04:40:07.5±0.6,2429S±004×6719W±007,h170km±5km,
n40,σ0°§99/45,mb3.8/15,5C-2D,Chile-Argentina border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.66**	**326**	*e*P	**Pn**	**04 40 41.9**	**+1.7**
SPCH				*i* S	**Sn**	**04 41 07.9**	**+2.5**
SPCH				AMP		04 41 08.8	
	comp=N,2μm,0.5s						
LVC	**Limon Verde**	**2.30**	**316**	P	**Pn**	**04 40 48.1**	**+0.8**
	comp=N,151nm,0.3s,baz=138,slow=5.4,SNR=1655						
LVC				S	**Sn**	**04 41 17.8**	**-0.2**
	comp=N,111nm,0.3s,baz=97,slow=12,SNR=5.5						
LVC	**Limon Verde**	**2.30**	**316**	⇑*i*P	**Pn**	**04 40 48.2**	**+0.9**
LVC				*i* S	**Sn**	**04 41 17.7**	**-0.3**
LVC				AMP		04 41 19.2	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**2.30**	**316**	⇑*i*Pn	**Pn**	**04 40 48.0**	**+0.7**
LVC				*e*Sn	**Sn**	**04 41 17.3**	**-0.8**
CEN1	**Los Morros**	**2.90**	**287**	⇓*i*P	**Pn**	**04 40 55.8**	**+1.4**
CEN1				*i* S	**Sn**	**04 41 30.7**	**-0.2**
CEN1				AMP		04 41 37.0	
	comp=N,673nm,0.3s						
CPN1	**Cerro Paranal**	**2.95**	**263**	⇑*e*P	**Pn**	**04 40 55.5**	**+0.5**
CPN1				*i* S	**Sn**	**04 41 31.5**	**-0.4**
CPN1				AMP		04 41 34.1	
	comp=N,914nm,0.2s						
ANCH	**Antofagasta**	**3.01**	**281**	⇑*i*P	**Pn**	**04 40 54.0**	**-1.8**
ANCH				*i* S	**Sn**	**04 41 29.2**	**-4.0**
ANCH				AMP		04 41 32.5	
	comp=N,1μm,0.1s						
CPCH	**Copiapo**	**4.18**	**222**	⇑*i*P	**Pn**	**04 41 09.3**	**-1.2**
CPCH				*i* S	**Sn**	**04 41 58.5**	**-1.3**
CFAA	**Coronel Fontan**	**7.34**	**187**	P	**Pn**	**04 41 52.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=5.8,slow=13,SNR=34						
CFAA				S	**Sn**	**04 43 14.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=65,slow=21,SNR=5.9						
CFAA	**Coronel Fontan**	**7.34**	**187**	P	**Pn**	**04 41 52.6**	**+0.6**
CFAA				S	**Sn**	**04 43 14.0**	**-0.5**
LPAZ	**La Paz**	**8.01**	**353**	P	**Pn**	**04 42 00.6**	**-0.4**
	comp=N,10.0nm,0.3s,baz=152,slow=6.5,SNR=130						
LPAZ				S	**Sn**	**04 43 28.6**	**-1.9**
	comp=N,0.1nm,0.3s,baz=50,slow=24,SNR=2.2						
ARE	**Arequipa**	**8.77**	**332**	*e*P	**Pn**	**04 42 07.0**	**-3.9**
TRQA	**Tornquist**	**14.42**	**163**	*e*P	**Pn**	**04 43 25.5**	**+1.7**
	comp=N,15nm,0.8s						
PLCA	**Paso Flores**	**16.64**	**189**	P	**Pn**	**04 43 51.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=23,slow=15,SNR=7.6						
BDFB	**Brasilia**	**19.95**	**68**	P	**P**	**04 44 25.8**	**-0.6**
	comp=N,1.7nm,0.3s,baz=249,slow=10,SNR=40						
BAO	**Brasilia Array**	**19.97**	**68**	P	**P**	**04 44 26.0**	**-0.6**
RCBR	**Riachuelo**	**35.20**	**64**	*e*P	**P**	**04 46 44.4**	**-0.9**
	comp=N,3.1nm,0.6s,mb4.1						
JCT	**Junction City**	**62.80**	**328**	*e*P	**P**	**04 50 14.9**	**0.0**
	comp=N,5.6nm,0.7s,mb4.5						
MNTX	**Cornudas Mount**	**66.58**	**325**	*e*P	**P**	**04 50 38.7**	**-0.7**
	comp=N,0.7nm,0.7s,mb3.6						
ANMO	**Albuquerque**	**69.70**	**326**	*e*P	**P**	**04 50 59.2**	**+0.5**
	comp=N,2.7nm,0.8s,mb4.0						
SDCO	**Great Sand Dun**	**71.45**	**329**	*e*P	**P**	**04 51 10.0**	**+0.6**
	comp=N,2.3nm,0.8s,mb4.0						
SMCO	**Snowmass**	**73.28**	**329**	*e*P	**P**	**04 51 21.4**	**+1.2**
	comp=N,3.1nm,0.8s,mb4.1						
SYO	**Syowa Base**	**73.34**	**159**	⇓*e*PcP	PcP	04 51 30.2	-5.8
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**04 51 40.0**	**-0.5**
	comp=N,0.8nm,0.3s,mb3.8,baz=259,slow=5.5,SNR=43						
PDAR	**Pinedale Array**	**77.31**	**329**	P	**P**

SLUM			S	Sn	04 56 51.9 +0.2
SWA2		5.41 173	⇓eP	Pn	04 56 46.8 +0.8
SWA1		5.42 170	⇑eP	Pn	04 56 47.2 +1.0
SWA1			S	Sn	04 57 45.8 -1.3
HFRF	Wahat Farafira	8.08 156	⇓eP	Pn	04 57 22.8 +0.2
AMAG	Maghara	8.22 116	⇑iP	Pn	04 57 22.6 -1.9

IDC ***11*** *04:57:50.3±2.0, 358N×12648E, h29km±13km, mb4.9/27, mb1 4.9/27, mb1mx4.9/29, mbtmp5.1/27, MS4.4/19, Ms1 4.4/19, ms1mx4.2/37, Error ellipse: s-maj=17.6km s-min=8.7km az=69.0*

MOS ***11*** *04:57:50.2±1.1, 360N×12651E, h41km, mb5.6/39, Error ellipse: s-maj=11.4km s-min=5.0km az=112.8*

ISCJB ***11*** *04:57:53.2±0.5, 353N±003×12655E±004, h73km±4km, mb5.3/115, Error ellipse: s-maj=6.3km s-min=4.1km az=155.3*

HRVD ***11*** *04:57:54.2±0.3, 380N×12665E, h35km±1km, MW5.1/72, Centroid moment Tensor Solution. LP body waves: s60,c79;Mantle waves: s72,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.22; $M_{\theta\theta}$0.17±.15; $M_{\phi\phi}$-3.88±.17; $M_{r\theta}$1.25±.18; $M_{\theta\phi}$3.15±.12; $M_{\phi r}$1.81±.22; Best double couple: $M_0$5.36700×10^{16} NP1:ϕ_s123.00000°, δ48.00000°,λ45.00000°. NP2:ϕ_s359.00000°,δ59.00000°, λ128.00000°. Principal axes: T 5.0250, Plg58.0000°, Azm323.0000°; N 0.6790, Plg32.0000°, Azm157.0000°; P -5.7090, Plg6.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *04:57:54.2±0.9, 359N×12653E, h65km±8km, mb5.4/40 Error ellipse: s-maj=7.7km s-min=5.1km az=70.0*

CSEM ***11*** *04:57:57.8, 4.14N×12645E, h80km, mb5.6*

NAO ***11*** *04:58:04.7, 670N×12524E, h33km, mb5.4*

ISC 11 04:57:55.2±0.4, 355N±002×12663E±004, h76km±3km, h72km±4.5km: pP-P, n361, σ1§10/314, mb5.3/114, 22C-25D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.65	343	⇓eP	Pn	04 58 49.4	+0.1
DAV	Davao City (W)	3.65	343	ePn	Pn	04 58 47.8	-1.5
DMPH	Davao City--Mi	3.68	342	eP	Pn	04 58 49.0	-0.8
DMPH				eS	Sn	04 59 35.7	+3.7
KCP	Kidapawan	3.76	336	⇓eP	Pn	04 58 51.5	+0.7
CTBH	Cotabato--PC H	4.35	327	⇑eP	Pn	04 58 58.1	-0.8
CTBH				i S	Sn	04 59 50.1	+1.8
BUKP	Musuan	4.57	340	eP	Pn	04 59 00.5	-1.4
BUKP				eS	Sn	04 59 53.0	-0.7
BIPH	Bislig	4.61	357	⇑eP	Pn	04 59 00.3	-2.1
BIPH				eS	Sn	05 00 00.5	+5.8
CGP	Cagayan de Oro	5.24	339	⇓eP	Pn	04 59 12.1	+1.1
PAGZ	Pagadian	5.35	323	eP	Pn	04 59 11.5	-1.1
PAGZ				eS	rx	05 00 05.2	
BUTP	Butuan	5.48	350	eP	Pn	04 59 14.1	-0.1
BUTP				eS	Sn	05 00 16.8	+0.9
IPIL	Ipil	5.83	316	eP	Pn	04 59 17.4	-1.6
IPIL				eS	rx	05 00 10.9	
DCPH	Dipolog City	5.97	327	⇑iP	Pn	04 59 22.6	+1.7
SCPH	Surigao	6.29	350	⇑eP	Pn	04 59 25.4	0.0
SWI	Sorong 373nm,1.1s	6.38	133	P	Pn	04 59 24.6	-1.9
SNPH	Sibulan	6.67	330	eP	Pn	04 59 32.0	+1.5
MSLP	Maasin	6.77	345	eP	Pn	04 59 30.6	-1.4
MSLP				eS	rx	05 01 34.0	
LLP	Lapu-Lapu	7.22	339	eP	Pn	04 59 37.6	-0.5
OCLP	Ormoc	7.72	345	eP	Pn	04 59 44.0	-0.8
GUIM	Jordan	8.09	331	eP	Pn	04 59 50.3	+0.3
PCI	Palu 253nm,1.0s	8.10	237	P	Pn	04 59 51.7	+1.6
TSM	Tawau	8.77	275	P	Pn	04 59 57.4	-1.8
RCP	Roxas	8.84	334	eP	Pn	05 00 02.0	+1.9
CUYO	Cuyo Island	9.14	323	eP	Pn	05 00 04.2	-0.1
OTRP	Odiongan	9.87	333	eP	Pn	05 00 17.1	+2.9
BATP	Bataraza	10.21	301	eP	Pn	05 00 18.6	-0.2
PVCP	Virac	10.28	346	eP	Pn	05 00 22.4	+2.6
ENPP	El Nido	10.43	317	eP	Pn	05 00 21.6	-0.2
BUSP	Coron	10.54	323	eP	Pn	05 00 11.9	-11
KKM	Kota Kinabalu	10.67	284	P	Pn	05 00 27.3	+2.2
KKM	Kota Kinabalu	10.67	284	ePn	Pn	05 00 24.2	-0.9
TLE	Tual 174nm,1.2s	10.98	146	P	Pn	05 00 30.9	+1.6
TGY	Tagaytay City 44nm,0.3s,baz=168,slow=5.8,SNR=2.3	11.89	332	Pn	Pn	05 00 40.8	-1.0
TGY				LR	LR	05 05 42.1	
	comp=Z,16nm,18.3s,baz=274,slow=40						
LUBP	Lubang	11.92	328	eP	Pn	05 00 37.9	-4.3
BALP	Baler	13.10	338	eP	Pn	05 00 58.5	+0.5
SCZP	Santa Cruz	13.83	332	eP	Pn	05 01 12.0	+4.3
CVP	Callao Caves	14.83	342	eP	Pn	05 01 22.0	+1.2
ABRA	Dolores	15.16	338	eP	Pn	05 01 20.6	-4.5
APYP	Conner	15.17	340	eP	Pn	05 01 26.4	+1.3
SGCP	Mt. Cagua	15.28	343	eP	Pn	05 01 26.5	+0.1
KSM	Kuching	16.43	263	eP	Pn	05 01 43.3	+2.2
KRKI	Karangkates 400nm,0.7s	18.31	231	P	Pn	05 02 04.6	+0.6
BJII	Banjamegara 82nm,1.0s	20.05	237	P	P	05 02 21.6	-0.6
GUMO	Guam comp=Z,1μm,21.7s,baz=249,slow=32	20.59	60	LR	LR	05 08 55.6	
NACB	Ninganchiao	21.07	347	eP	P	05 02 30.2	-3.0
FITZ	Fitzroy Crossi 79nm,1.0s,mb5.0	21.54	183	⇓iP	P	05 02 36.7	-1.5
FITZ				eS	S	05 06 32.8	+0.3
LEM	Lembang 144nm,0.8s,mb5.3	21.60	242	P	P	05 02 40.6	+1.8
YHNB	Yeheng	21.60	347	eP	P	05 02 35.4	-3.4
TATO	Taipei 40nm,0.5s,mb5.0	21.87	347	eP	P	05 02 38.4	-3.3
QIZ	Qiongzhong 33nm,0.8s,mb4.7	22.49	314	eP	P	05 02 47.0	-1.3
JOW	Kunigami 90nm,0.8s,mb5.2,baz=183,slow=8.6,SNR=48	23.20	4	P	P	05 02 56.0	+0.5
JOW				LR	LR	05 11 05.1	
	comp=Z,444nm,19.9s,baz=336,slow=34						
PMG	Port Moresby 5.7nm,0.6s,baz=134,slow=16,SNR=2.5	24.17	122	P	P	05 03 06.0	+1.6
PMG				LR	LR	05 13 39.9	
	comp=Z,513nm,18.1s,baz=191,slow=39						
PMG	Port Moresby	24.17	122	i P	P	05 03 13.3	+8.9
PMG	Port Moresby 14nm,0.9s,mb4.3	24.17	122	eP	P	05 03 06.9	+2.5
WRAB	Tennant Creek 846nm,0.9s,mb6.2,SNR=74	24.54	162	P	P	05 03 06.0	-1.7
WRAB	Tennant Creek	24.54	162	i P	P	05 03 07.0	-0.7
WRAB	Tennant Creek 180nm,0.9s,mb5.5	24.54	162	eP	P	05 03 06.5	-1.1
WRA	Warramunga Arr 102nm,0.8s,mb5.3,baz=342,slow=10,SNR=184	24.54	162	P	P	05 03 07.3	-0.5
WRA				S	S	05 07 27.9	+4.8
	16nm,1.0s,baz=343,slow=19,SNR=10.0						
WRA				ScP	ScP	05 10 21.2	+5.1
	2.8nm,0.9s,baz=334,slow=3.8,SNR=4.6						
WRA				P3KPbc		05 36 18.0	
	0.6nm,0.7s,baz=161,slow=4.1,SNR=8.2						
WRA	Warramunga Arr	24.54	162	P	P	05 03 07.3	-0.4
WRA				S	S	05 07 27.9	+4.8
WRA	Warramunga Arr	24.54	162	P	P	05 03 07.3	-0.5
WRA				S	S	05 07 27.9	+4.8
WRA				ScP	ScP	05 10 21.2	+5.1
WB2	Warramunga Arr	24.55	162	eP	P	05 03 06.6	-1.2
WB2				eS	S	05 07 21.2	-1.9
MBWA	Marble Bar 120nm,1.2s,mb5.2	25.47	195	eP	P	05 03 16.4	+0.3
IPM	Ipoh	25.56	273	P	P	05 03 16.5	-0.4
KULM	Kulim	25.96	275	eP	P	05 03 20.4	-0.2
KKTK	Khon Kaen	26.62	300	P	P	05 03 27.0	+0.4
PSI	Prapat 30nm,0.9s,mb4.8,baz=82,slow=4.0,SNR=11	27.67	269	P	P	05 03 36.0	+0.1
PSI				PcP	PcP	05 06 53.2	+1.9
	8.8nm,0.7s,baz=179,slow=5.1,SNR=3.8						
PSI				LR	LR	05 15 33.9	
	comp=Z,345nm,20.8s,baz=92,slow=39						
PSI	Prapat	27.67	269	P	P	05 03 36.0	0.0
PSI						05 06 53.2	
PSI	Prapat	27.67	269	P	P	05 03 36.0	+0.1
PSI				PcP	PcP	05 06 53.2	+1.9
PSI				LR	LR	05 15 33.9	
CBIJ	Chichi jima comp=Z,817nm,19.2s,baz=147,slow=32	27.74	31	LR	LR	05 12 54.3	
ASAR	Alice Springs	27.96	166	P	P	05 03 37.7	-0.9

	5.6nm,0.6s,mb4.3,baz=343,slow=7.4,SNR=59				
ASAR			PcP	PcP	05 06 53.4 +1.4
	5.1nm,0.5s,baz=347,slow=2.1,SNR=7.2				
ASAR			S	S	05 08 24.1 +6.9
	4.3nm,1.0s,baz=353,slow=20,SNR=4.1				
ASAR			P3KPbc		05 36 03.2
	0.3nm,0.6s,baz=156,slow=3.5,SNR=5.4				
ASAR	Alice Springs	27.96	166	P	P	05 03 37.7 -0.9
ASAR						05 06 53.4
ASAR				S	S	05 08 24.1 +7.0
ASAR	Alice Springs	27.96	166	P	P	05 03 37.7 -0.9
ASAR			PcP	PcP	05 06 53.4 +1.4
ASAR			S	S	05 08 24.1 +6.9
ASAR			e		05 36 03.2
ASPA	Alice Springs	27.96	166	eP	P	05 03 37.6 -1.0
ASPA			eS	S	05 08 16.5 -0.6
NST	Nakhon Sawan	28.72	297	P	P	05 03 45.0 -0.3
JNU	Nakatsue 40nm,0.8s,mb5.1,baz=223,slow=5.7,SNR=11	29.69	7	P	P	05 03 53.2 -0.6
CTA	Charters Tower 5.7nm,0.8s,mb4.2,baz=327,slow=7.2,SNR=5.9	30.39	141	P	P	05 04 01.3 +1.2
CTA			ScP	ScP	05 10 41.0 +7.1
	5.5nm,0.8s,baz=126,slow=2.1,SNR=4.4				
CTA	Charters Tower	30.39	141	P	P	05 04 01.3 +1.2
CTA			ScP	ScP	05 10 41.0 +7.1
CTAO	Charters Tower	30.39	141	eP	P	05 04 01.6 +1.6
CTAO			pmax	pmax	
	comp=Z,19nm,1.3s,mb4.6				
CTAO	Charters Tower comp=Z,19nm,1.3s,mb4.6	30.39	141	eP	P	05 04 01.6 +1.5
CHG	Chiang Mai comp=Z,13nm,0.9s,mb4.7	31.03	301	⇓P	P	05 04 06.2 +0.5
ENH	Enshi comp=Z,75nm,0.7s,mb5.5	31.13	330	eP	P	05 04 05.2 -1.4
MJAR	Matsushiro Arr comp=Z,5.2nm,0.8s,mb4.4,baz=191,slow=8.1,SNR=8.9	34.52	17	P	P	05 04 34.8 -1.4
MJAR			PcP	PcP	05 07 11.2 +1.7
	comp=Z,4.5nm,0.7s,baz=187,slow=3.2,SNR=5.8				
MJAR			LR	LR	05 16 43.7
	comp=Z,622nm,21.4s,baz=195,slow=33				
MJAR	Matsushiro Arr	34.52	17	P	P	05 04 34.8 -1.4
MJAR						05 07 11.2
MAT	Matsushiro	34.52	17	P	P	05 04 34.2 -2.0
MAT			S	S	05 10 02.2 +2.8
MAT	Matsushiro	34.52	17	eP	P	05 04 34.0 -2.2
MAT			eS	S	05 10 02.0 +2.6
MAT			LR	LR	
	comp=Z,720nm,21.0s				
KLBR	Kellerberrin comp=Z,13nm,0.5s,mb5.1	35.95	193	⇑iP	P	05 04 48.6 +0.1
MUN	Mundaring	36.70	195	⇑iP	P	05 04 55.1 +0.3
NWAO	Narrogin (SRO) comp=Z,13nm,0.7s,mb4.9,baz=18,slow=10,SNR=7.4	37.35	193	P	P	05 04 59.0 -1.4
NWAO	Narrogin (SRO)	37.35	193	eP	P	05 05 00.4 0.0
NWAO			pmax	pmax	
	comp=Z,28nm,1.1s				
NWAO	Narrogin (SRO)	37.35	193	eP	P	05 05 00.4 0.0
	comp=Z,28nm,1.1s,mb5.1				
BJT	Baijiatuau	37.52	347	eP	P	05 05 00.8 -0.9
BJT			pmax	pmax	
	comp=Z,219nm,1.0s				
BJT	Baijiatuau comp=Z,220nm,1.0s,mb5.9	37.52	347	eP	P	05 05 00.8 -0.9
STKA	Stephens Creek comp=Z,32nm,1.0s,mb5.1	38.00	159	eP	P	05 05 03.5 -2.3
STKA			e			05 07 19.7
STKA			eS	S		05 10 50.6 -1.8
STKA	Stephens Creek comp=Z,27nm,0.7s,mb5.2,baz=330,slow=8.0,SNR=29	38.00	159	P	P	05 05 03.6 -2.2
STKA			PcP	PcP	05 07 19.8 -0.2
	comp=Z,14nm,0.7s,baz=316,slow=10,SNR=3.0				
STKA			S	S	05 10 50.9 -1.6
	comp=Z,4.7nm,0.8s,baz=156,slow=20,SNR=3.4				
VLA	Vladivostok	39.68	6	eP	P	05 05 18.0 -1.8
VLA			i		05 05 25.3
VLA			pmax	pmax	
	comp=Z,37nm,1.2s,mb5.1				
MDJ	Mudanjiang	40.98	3	eP	P	05 05 30.9 +0.3
	comp=Z,55nm,0.8s,mb5.4				
ARMA	Armidale	41.37	146	eP	P	05 05 34.7 +0.9
CAL	Calcutta	41.61	300	ex	x	05 05 38.3
CAL			ex	x	05 07 13.7
ASAJ	Asahikawa comp=Z,30nm,0.7s,mb5.2,baz=227,slow=13,SNR=21	42.79	17	P	P	05 05 45.5 +0.2
ASAJ			LR	LR	05 24 40.4
	comp=Z,375nm,19.7s,baz=162,slow=38				
BWNR	Bhubaneshwar	43.10	296	eP	P	05 05 48.0 +0.2
BOK	Bokaro	44.16	301	eP	P	05 05 55.1 -1.3
VIS	Vishakhapatnam	44.69	292	eP	P	05 06 01.7 +1.2
VIS			AMb	AMB	05 06 02.6
	comp=Z,16nm,0.5s,mb5.0				
HABR	Khabarovsk	45.34	8	i P	P	05 06 06.1 +0.4
HABR			pmax	pmax	
	comp=Z,47nm,1.2s,mb5.1				
YSS	Yuzh-Sakhalins	45.44	15	⇑iP	P	05 06 07.0 +0.5
YSS			e	pP	05 06 26.0 +0.9
YSS			pmax	pmax	
	comp=Z,50nm,1.2s,mb5.1				
YSS	Yuzh-Sakhalins comp=Z,26nm,0.9s,mb5.0	45.44	15	eP	P	05 06 06.1 -0.5
KLR	Kul'dur	45.72	5	eP	P	05 06 05.9 -2.8
KLR			eS	S	05 12 51.5 +5.1
KLR			pmax	pmax	
	comp=Z,67nm,1.4s,mb5.2				
KLR			MLR	MLR	
	comp=E,500nm,14.0s				
KLR			MLR	MLR	
	comp=Z,2μm,14.0s				
PALK	Pallekele comp=Z,24nm,1.0s,mb4.9	45.85	277	eP	P	05 06 09.5 -0.3
HIA	Hailar	45.93	354	eP	P	05 06 10.1 -0.3
HIA			pmax	pmax	
	comp=Z,31nm,0.8s				
HIA	Hailar comp=Z,31nm,0.8s,mb5.1	45.93	354	eP	P	05 06 10.1 -0.2
DZM	Mont Dzumac comp=Z,13nm,0.7s,mb4.8,baz=59,slow=16,SNR=11	46.52	125	P	P	05 06 17.0 +2.1
BLSP	Bilaspur	46.91	297	eP	P	05 06 18.8 +0.7
ULN	Ulaanbaatar	47.26	342	eP	P	05 06 20.5 -0.3
ULN			pmax	pmax	
	comp=Z,43nm,1.0s,mb5.1				
ULN	Ulaanbaatar comp=Z,43nm,1.0s,mb5.1	47.26	342	eP	P	05 06 20.5 -0.3
SONM	Songino Array comp=Z,26nm,0.8s,mb5.0,baz=159,slow=7.4,SNR=161	47.43	342	P	P	05 06 22.0 -0.2
SONM			PcP	PcP	05 07 52.6 +1.1
	comp=Z,6.8nm,0.7s,baz=162,slow=4.4,SNR=4.4				
SONM			LR	LR	05 27 57.0
	comp=Z,343nm,18.8s,baz=317,slow=38				
SONM	Songino Array	47.43	342	P	P	05 06 22.0 -0.1
SONM						05 07 52.6
ALBI	Allahabad	48.17	301	ex	x	05 06 26.5
HYB	Hyderabad	49.08	290	⇓iP	P	05 06 34.5 -0.3
	comp=Z,80nm,1.0s,mb5.6				
HYB	Hyderabad	49.08	290	⇓eP	P	05 06 34.5 -0.3
HYB			pmax	pmax	
	comp=Z,80nm,1.0s,mb5.6				
HYB	Hyderabad comp=Z,80nm,1.0s,mb5.6	49.08	290	⇓eP	P	05 06 34.5 -0.3
NGP	Nagpur	49.42	295	eP	P	05 06 36.1 -1.3
CIT	Chita	49.52	349	eP	P	05 06 39.3 +1.1
CIT			e		05 06 46.7
CIT			e	pP	05 06 55.4 -1.6
CIT			e		05 07 58.6
CIT			pmax	pmax	
	comp=Z,143nm,1.3s,mb5.7				
ZAK	Zakamensk	50.66	341	eP	P	05 06 40.8 -6.0
ZAK			e		05 08 04.5
ZAK			pmax	pmax	
	comp=Z,13nm,1.6s,mb4.7				
ZAK			pmax	pmax	
	comp=Z,14nm,1.3s,mb4.8				
LATR	Latur	51.13	291	ex	x	05 06 10.4
AKL	Akola	51.16	294	ex	x	05 06 09.9
AKL			AMb	AMB	05 06 12.1
	comp=Z,167nm,1.1s,mb6.0				
AKL	Akola	51.16	294	i x	x	05 05 51.8
AKL			i x	x	05 11 29.1
BHPL	Bhopal	51.39	297	eP	P	05 06 52.0 -0.3
BHPL			AMb	AMB	05 06 53.9
	comp=Z,61nm,0.5s,mb5.8				
IRK	Irkutsk	51.97	343	eP	P	05 06 56.8 +0.3
IRK			pmax	pmax	
	comp=Z,38nm,1.7s,mb5.2				
MNGI	Mangalore	52.02	284	eP	P	05 06 55.6 -1.3

MNGI			AMb	AMB	05 06 57.5
	comp=Z,51nm,0.8s,mb5.6				
KALG	Kalgarh	52.14	305	eP	P	05 06 59.6 +1.8
MOY	Mondy	52.51	340	eP	P	05 07 01.1 +0.5
MOY			pmax	pmax	
	comp=Z,37nm,1.3s,mb5.2				
ASOR	Ausora	52.70	304	eP	P	05 07 01.3 -0.6
BISR	Bishrakh	52.91	303	eP	P	05 07 02.7 -0.9
BISR			AMb	AMB	05 07 04.1
	comp=Z,83nm,0.9s,mb5.8				
SONA	Sohna	53.11	303	eP	P	05 07 04.1 -0.8
SONA			AMb	AMB	05 07 05.0
	comp=Z,163nm,0.9s,mb6.1				
NDI	New Delhi	53.13	303	eP	P	05 07 03.0 -2.2
NDI			ex	x	05 09 42.0
AYAN	Aya Nagar	53.15	303	eP	P	05 07 03.3 -1.9
AYAN			AMb	AMB	05 07 06.1
	comp=Z,80nm,0.9s,mb5.7				
CLNS	Chul'man	53.15	359	eP	P	05 07 04.7 -0.6
CLNS			e*PP	pP	05 07 11.5 -13
CLNS			e		05 08 14.1
CLNS			e		05 09 04.8
CLNS			eS	S	05 14 28.0 -2.2
CLNS			ePS		05 14 37.4
CLNS			pmax	pmax	
	comp=N,12nm,0.8s				
CLNS			pmax	pmax	
	comp=E,6.0nm,0.8s				
CLNS			pmax	pmax	
	comp=Z,27nm,0.8s,mb5.3				
CLNS			pmax	pmax	
	comp=N,8.0nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.8				
CLNS			pmax	pmax	
	comp=E,4.0nm,0.7s				
CLNS			smax		
	comp=N,6.0nm,0.9s				
CLNS			smax		
	comp=Z,7.0nm,0.9s				
CLNS			smax		
	comp=E,3.0nm,0.7s				
KAD	Karad	53.18	289	eP	P	05 07 04.9 -0.6
KAD			AMb	AMB	05 07 06.2
	comp=Z,40nm,1.3s,mb5.3				
KLP	Kalpa	53.27	307	eP	P	05 07 06.2 +0.1
KLP			AMb	AMB	05 07 07.6
	comp=Z,83nm,0.7s,mb5.9				
KUDL	Kundal	53.58	303	eP	P	05 07 07.3 -1.1
KUDL			AMb	AMB	05 07 08.2
	comp=Z,156nm,0.8s,mb6.1				
POO	Poona	53.68	290	ePPP	PcP	05 08 13.5 -1.0
POO			i x	x	05 11 58.0
POO			ex	x	05 13 11.5
POO			ex	x	05 13 24.0
POO			eSSS		05 13 47.0
POO			i PCS	rx	05 13 59.0
POO			i x	x	05 14 36.5
SMLA	Simla	53.99	306	eP	P	05 07 10.4 -1.0
SMLA			eP		05 07 10.7
KHET	Khetri	54.13	302	eP	P	05 07 11.6 -0.9
KHET			AMb	AMB	05 07 13.2
	comp=Z,129nm,0.7s,mb6.0				
AJM	Ajmer	54.67	300	eP	P	05 07 16.0 -0.4
AJM			i P		05 07 16.0
AJM			AMb	AMB	05 07 16.5
	comp=Z,27nm,0.3s,mb5.8				
AJM	Ajmer	54.67	300	i x	x	05 07 16.0
BOD	Bodaibo	55.03	352	eP	P	05 07 18.7 -0.2
BOD			pmax	pmax	
	comp=Z,29nm,1.0s,mb5.3				
DLH	Dalhousie	55.44	308	eP	P	05 07 21.0 -0.9
PET	Petropavlovsk	55.93	23	eP	P	05 07 27.2 +1.8
PET			e		05 15 09.2
PET			MLR	MLR	
	comp=Z,200nm,21.0s				
MKAR	Makanchi Array comp=Z,42nm,0.5s,mb5.7,baz=121,slow=7.5,SNR=252	57.64	325	P	P	05 07 37.0 -0.5
MKAR			PcP	PcP	05 08 30.9 +1.0
	comp=Z,10nm,0.5s,baz=124,slow=4.0,SNR=6.6				
BHJ	Bhuj	58.37	295	eP	P	05 07 42.1 -0.5
BHJ			AMb	AMB	05 07 43.8
	comp=Z,124nm,1.2s,mb5.8				
YAK	Yakutsk	58.39	2c	iP	P	05 07 43.4 +0.7
YAK			eS	S	05 15 45.4 +5.6
YAK			pmax	pmax	
	comp=Z,43nm,0.9s,mb5.5				
YAK			pmax	pmax	
	comp=N,14nm,1.2s				
YAK			pmax	pmax	
	comp=E,3.0nm,0.8s				
YAK			smax		
	comp=N,8.0nm,1.2s				
YAK	Yakutsk comp=N,71nm,0.7s,mb5.8	58.39	2	eP	P	05 07 42.8 0.0
MA2	Magadan	58.90	14	eP	P	05 07 47.1 +0.8
MA2			e		05 08 31.9
MA2			e		05 10 01.9
MA2			eS	S	05 15 47.6 +1.1
MA2			ePS		05 16 06.8
MA2			pmax	pmax	
	comp=Z,20nm,1.3s,mb5.0				
MA2			pmax	pmax	
	comp=N,80nm,1.4s				
MA2			MLR	MLR	
	comp=Z,400nm,23.0s				
MA2	Magadan comp=Z,9.1nm,0.6s,mb5.0	58.90	14	eP	P	05 07 46.9 +0.6
ULHL	Ulahol SNR=5.8	59.09	318	P	P	05 07 49.2 +1.6
KZA	Kyzart SNR=20	59.68	318	P	P	05 07 53.9 +2.2
TKM2	Tokmak 2 SNR=29	59.81	319	P	P	05 07 52.7 +0.1
KBK	Karagaybulak SNR=18	60.13	318	P	P	05 07 56.5 +1.8
UCH	Uchtor SNR=78	60.24	318	P	P	05 07 57.8 +2.3
CHMS	Chumysh SNR=15	60.41	318	P	P	05 07 57.3 +0.7
AAK	Ala-Archa SNR=12	60.42	318	P	P	05 07 58.0 +1.3
USP	Ospenovka SNR=36	60.69	319	P	P	05 07 58.6 +0.1
ZAL	Zalesovo comp=Z,6.9nm,0.5s,mb5.0,baz=356,slow=6.9,SNR=34	60.70	333	P	P	05 07 57.1 -1.5
AML	Almayashu SNR=52	60.75	317	P	P	05 08 01.1 +2.1
EKS2	Erkin-Say SNR=36	60.91	318	P	P	05 08 00.5 +0.4
RPZ	Rata Peaks comp=Z,13nm,0.8s,mb5.0,baz=356,slow=13,SNR=3.8	61.67	145	P	P	05 08 06.2 +1.0
KURK	Kurchatov comp=Z,2μm,0.6s	61.84	328	P	P	05 08 05.0 -1.3
KURK	Kurchatov	61.84	328	eP	P	05 08 05.5 -0.8
KURK			pmax	pmax	
	comp=Z,206nm,0.8s,mb6.2				
KURK	Kurchatov comp=Z,206nm,0.8s,mb6.2	61.84	328	eP	P	05 08 05.5 -0.8
NVS	Novosibirsk	61.98	333	i P	P	05 08 05.0 -2.3
NVS			pmax	pmax	
	comp=Z,85nm,1.0s,mb5.7				
NVS			pmax	pmax	
	comp=N,12nm,0.7s				
NVS			pmax	pmax	
	comp=E,4.0nm,0.4s				
SEY	Seymchan	62.23	13	eP	P	05 08 10.4 +1.5
SEY			*PP	pP	05 08 29.7 +1.2
SEY			ePPP		05 12 01.2
SEY			eS	S	05 16 33.3 +4.4
SEY			eSS	SS	05 20 32.3 -0.8
SEY			pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.3				
SEY			pmax	pmax	
	comp=N,10.0nm,1.2s				
SEY			pmax	pmax	
	comp=E,7.0nm,1.2s				
SEY			smax		
	comp=N,370nm,28.1s				
SEY			smax		
	comp=E,270nm,30.3s				
SEY			MLR	MLR	
	comp=E,80nm,22.0s				
SEY			MLR	MLR	
	comp=Z,160nm,22.

comp=N,190nm,26.0s
KK31 Karatay Array 63.29 317 *i* P **P 05 08 16.2 +0.2**
KK31 pmax pmax
comp=Z,26nm,0.6s,mb5.3
KKAR Karatay Array 63.29 317 *i* P **P 05 08 16.2 +0.2**
KKAR pmax pmax
comp=Z,16nm,0.6s,mb5.1
VOSK Vostochnaya 66.96 327 P **P 05 08 38.7 -1.0**
VOSK pmax pmax
comp=Z,56nm,0.8s,mb5.5
BVA0 Borovoye Array 67.41 327 *i* P **P 05 08 42.0 -0.6**
BVA0 pmax pmax
comp=Z,21nm,1.1s,mb4.9
BVAR Borovoye Array 67.41 327 P **P 05 08 42.2 -0.5**
comp=Z,65nm,0.8s,mb5.5,baz=135,slow=6.3,SNR=144
BRVK Borovoye 67.49 327 P **P 05 08 42.3 -0.8**
comp=Z,922nm,0.9s,SNR=87
BRVK Borovoye 67.49 327 *e*P **P 05 08 42.3 -0.8**
BRVK pmax pmax
comp=Z,85nm,0.9s,mb5.6
BRVK Borovoye 67.49 327 *e*P **P 05 08 42.3 -0.8**
comp=Z,85nm,0.9s,mb5.6
TIXI Tiksi 68.02 1*c i*P **P 05 08 45.6 -0.8**
TIXI pmax pmax
comp=Z,76nm,1.5s,mb5.3
WBK Wadi Bani Khal 68.03 293 P **P 05 08 46.3 -0.2**
SNR=7.2
ZRNK Zerenda 68.14 327⇑*e*P **P 05 08 46.3 -0.9**
ZRNK pmax pmax
comp=Z,115nm,0.8s,mb5.8
ZRNK Zerenda 68.14 327⇑*e*P **P 05 08 46.3 -0.8**
comp=Z,114nm,0.8s,mb5.8
JMDO Jabal Madar 68.81 293 P **P 05 08 51.0 -0.3**
SNR=13
BIDO Bidbid 68.89 294 P **P 05 08 52.1 +0.2**
SNR=9.2
SMDO Samad 68.92 293 P **P 05 08 51.7 -0.3**
SNR=6.0
HOQ Hoqain 69.64 294 P **P 05 08 56.4 -0.1**
SNR=8.6
BSY Bisya 69.67 293 ⇑P **P 05 08 56.5 -0.2**
SNR=6.0
BILL Bilibino 69.75 15⇑*i*P **P 05 08 56.9 -0.3**
BILL *i* 05 09 07.4
BILL *e* pP 05 09 20.6 +3.6
BILL pmax pmax
comp=Z,13nm,1.5s,mb4.5
BILL MLR MLR
comp=Z,300nm,18.0s
CASY Casey 70.63 187 *e*P **P 05 09 03.4 +0.9**
comp=Z,31nm,1.0s,mb5.1
ABKT Ailbek 70.93 309 P **P 05 09 05.3 +1.0**
comp=Z,146nm,1.1s,mb5.7,SNR=6.4
RBK Rabkut 72.18 287 P **P 05 09 12.3 +0.4**
SNR=8.7
AB31 Akbulak array 72.22 321 *i* P **P 05 09 11.3 -0.8**
AB31 pmax pmax
comp=Z,46nm,1.0s,mb5.3
WHFO Wadi Hawf 72.61 288 ⇓P **P 05 09 13.2 -1.2**
SNR=14
ABTO Aybut 73.04 287 ⇓P **P 05 09 16.3 -0.7**
SNR=13
AKTK Aktyubinsk 73.74 322 P **P 05 09 21.1 0.0**
AKTK LR LR 05 43 57.9
AKTO Aktyubinsk 73.74 322 P **P 05 09 21.1 0.0**
comp=Z,30nm,0.6s,mb5.2,baz=101,slow=7.3,SNR=116
AKTO LR LR 05 43 57.9
comp=Z,430nm,22.0s,baz=342,slow=38
AKTO Aktyubinsk 73.74 322 *i* P **P 05 09 20.7 -0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ARU Arti 75.03 328⇓*i*P **P 05 09 27.8 -0.8**
ARU *e* 05 09 40.7
ARU *e* 05 12 12.5
ARU *e*S S 05 18 54.9 -5.7
ARU pmax pmax
comp=Z,45nm,0.7s,mb5.3
ARU Arti 75.03 328 *e*P **P 05 09 27.5 -1.1**
comp=Z,50nm,0.6s,mb5.4
SOKR Solikamsk 76.82 331 *e*P **P 05 09 37.7 -1.0**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,390nm,32.0s
QRN Al-Qurain 78.40 298 *e*P **P 05 09 47.1 -0.5**
QRN AMb AMB 05 09 48.4
comp=Z,173nm,0.5s,mb6.0
UMR Umm Al-Rimmam 78.61 299 *e*P **P 05 09 48.4 -0.3**
UMR AMb AMB 05 09 50.5
comp=Z,74nm,0.8s,mb5.6
KBD Kabd 78.62 299 *e*P **P 05 09 48.8 +0.1**
KBD AMb AMB 05 09 50.5
comp=Z,224nm,0.7s,mb6.1
MIB Mutribah 78.95 300 *e*P **P 05 09 50.6 0.0**
MIB AMb AMB 05 09 51.5
comp=Z,105nm,0.6s,mb5.9
NAY Al-Naaiem 79.02 299 *e*P **P 05 09 50.8 -0.2**
NAY AMb AMB 05 09 52.6
comp=Z,40nm,0.8s,mb5.3
TTA Tatalina 81.11 27 *e*P **P 05 10 03.3 +1.1**
TTA pmax pmax
comp=Z,18nm,0.8s,mb5.0
TTA Tatalina 81.11 27 *e*P **P 05 10 03.3 +1.1**
comp=Z,18nm,0.8s,mb5.0
GNI Garni 81.52 310 P **P 05 10 05.5 +1.2**
comp=Z,5.1nm,0.5s,mb4.6,baz=157,slow=16,SNR=4.8
MTA Mtatsminda 81.55 311 P **P 05 10 05.6 +1.1**
TBLG Delisi 81.59 311 P **P 05 10 05.6 +0.8**
DUS Dusheti 81.64 312 P **P 05 10 06.0 +1.0**
KDAK Kodiak Island 82.09 32 LR LR 05 39 27.9
comp=Z,532nm,21.9s,baz=254,slow=30
ZEI Tsey 82.26 313 *e*P **P 05 10 09.5 +1.2**
ZEI *i* 05 13 14.1
ZEI pmax pmax
comp=Z,37nm,1.2s,mb5.1
AKH Akhalkalaki 82.52 311 P **P 05 10 11.0 +1.4**
IMA2 Indian Mountai 82.58 24 *e*P **P 05 10 11.8 +1.8**
ONI Oni 82.59 312 P **P 05 10 03.8 -6.1**
ONI Oni 82.59 312 P **P 05 10 09.0 -1.0**
GOF Gofitskoye 82.97 315 *e*P **P 05 10 13.8 +1.8**
VNDA Vanda 83.26 173 P **P 05 10 14.4 +0.9**
comp=Z,6.7nm,0.9s,mb4.5,baz=305,slow=6.5,SNR=9.4
VNDA LR LR 05 45 46.7
comp=Z,147nm,19.6s,baz=343,slow=34
SLKM Skilak Lake 83.55 30 *e*P **P 05 10 14.6 -0.3**
CHVG Ch'k'valeri 83.60 312 P **P 05 10 16.9 +1.7**
ERZM Erzurum 84.11 310 *i* P **P 05 10 19.2 +1.5**
VRHR Novokhopersk 84.11 321 *e*P **P 05 10 17.6 -0.2**
VRHR pmax pmax
comp=Z,60nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
PMR Palmer 84.15 29 *e*P **P 05 10 18.3 +0.3**
PMR pmax pmax
comp=Z,57nm,1.4s,mb5.2
PMR Palmer 84.15 29 *e*P **P 05 10 18.3 +0.3**
comp=Z,57nm,1.4s,mb5.2
MCK McKinley 84.37 26 *e*P **P 05 10 19.4 +0.3**
MCK pmax pmax
comp=Z,15nm,0.9s,mb4.8
MCK McKinley 84.37 26 *e*P **P 05 10 19.4 +0.3**
comp=Z,15nm,0.9s,mb4.8
SML Sawmill 84.54 28 *e*P **P 05 10 21.0 +1.0**
COLA College 84.90 25 *i* P **P 05 10 24.1 +2.3**
COLA College 84.90 25 *e*P **P 05 10 21.5 -0.3**
comp=Z,4.0nm,0.7s,mb4.5
PPT Papeete 85.16 108 *e*SS SS 05 26 40.5 +19
comp=Z,110nm,30.2s
PPT *e*LR LR 05 37 28.6
comp=Z,207nm,25.8s
ILAR Eielson Array 85.31 25 P **P 05 10 23.7 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=251,slow=4.6,SNR=29
ILAR PKKPbc PKKPbc 05 28 30.2 +2.0
comp=Z,0.4nm,0.8s,baz=30,slow=2.5,SNR=4.1
SOC Sochi 85.33 313 *e*P **P 05 10 21.8 -2.1**
SOC *e*S 05 20 35.6
SOC pmax pmax
comp=Z,35nm,0.7s,mb5.4
KLMR Klimovskoe 85.51 331*c i*P **P 05 10 24.5 -0.3**
KLMR pmax pmax
comp=Z,240nm,1.5s,mb5.9
VRSR Storozhevoye 85.65 321*c i*P **P 05 10 25.1 -0.4**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.9s
KELT Kelkit 85.72 310 *i* P **P 05 10 27.2 +1.4**
DIV Divide 85.75 29 *e*P **P 05 10 28.0 +2.0**
comp=E,225nm,1.3s,mb5.9
MALT Malatya 86.41 308⇑*i*P **P 05 10 30.5 +1.2**
MALT pmax pmax
comp=Z,58nm,1.3s,mb5.3
MALT Malatya 86.41 308⇑*i*P **P 05 10 30.5 +1.2**
comp=Z,58nm,1.3s,mb5.3
MOS Moscow 86.53 325 *e*P **P 05 10 29.2 -0.6**
MOS *e* pP 05 10 48.6 -1.8
MOS pmax pmax
comp=Z,162nm,0.9s,mb6.0
ATAB Bozova 86.54 307 *i* P **P 05 10 31.0 +1.1**
ANN Anapa 86.95 315 *e*P **P 05 10 30.2 -1.7**
ANN *i* 05 13 58.6
ANN *e*S 05 20 46.3
ANN pmax pmax
comp=Z,177nm,1.0s,mb6.0
GZT Gaziantep 87.13 307 *i* P **P 05 10 34.0 +1.2**
OBN Obninsk 87.15 325 P **P 05 10 33.2 +0.3**
comp=Z,924nm,0.5s,SNR=6.3
OBN Obninsk 87.15 325*c i*P **P 05 10 32.6 -0.3**
OBN *e* pP 05 10 53.2 -0.2
OBN pmax pmax
comp=Z,142nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 87.15 325 *e*P **P 05 10 32.5 -0.3**
comp=Z,66nm,0.6s,mb5.7
APA Apatity 87.98 337⇓*i*P **P 05 10 38.7 +1.9**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
BOYT Boyabat 88.97 311 *i* P **P 05 10 41.6 +0.1**
JOF Joensuu 89.29 333 *e*p **P 05 10 40.7 -2.3**
SIM Simferopol' 89.30 315⇓*e*P **P 05 10 43.1 +0.1**
SIM pmax pmax
comp=Z,30nm,0.7s,mb5.4
KMBO Kilima Mbogo 89.45 269 P **P 05 10 45.2 +1.5**
comp=Z,22nm,0.9s,mb5.2,baz=56,slow=6.5,SNR=52
KMBO Kilima Mbogo 89.45 269⇑*i*P **P 05 10 45.9 +2.2**
KMBO pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 89.45 269⇑*i*P **P 05 10 45.9 +2.2**
comp=Z,20nm,1.0s,mb5.1
KEV Kevo 90.02 340 *e*p **P 05 10 44.4 -2.0**
comp=Z,6.1nm,0.6s,mb4.9
KEV Kevo 90.02 340 *e*P **P 05 10 44.4 -2.0**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
BRTR Keskin Array B 90.06 310 P **P 05 10 46.4 -0.2**
comp=Z,30nm,0.9s,mb5.4,baz=113,slow=4.3,SNR=76
BALT Daday 90.10 311 *i* P **P 05 10 46.8 +0.1**
ARCES ARCESS Array B 90.58 340 P **P 05 10 48.3 -0.7**
comp=Z,16nm,0.6s,mb5.3,baz=81,slow=7.0,SNR=67
ARCES LR LR 06 00 19.2
comp=Z,530nm,18.2s,baz=90,slow=41
CSS Prodhromos 90.69 305 *e*P **P 05 10 49.6 +0.1**
comp=Z,48nm,0.9s,mb5.6
ANTO Ankara 90.69 310 *e*P **P 05 10 49.1 -0.4**
ANTO pmax pmax
comp=Z,16nm,0.9s,mb5.2
ANTO Ankara 90.69 310 *e*P **P 05 10 49.1 -0.5**
comp=Z,16nm,0.9s,mb5.1
KAF Kangasniemi 91.71 332 *e*p **P 05 10 52.1 -2.1**
comp=Z,9.4nm,0.5s,mb5.3,baz=75,slow=4.3
KAF Kangasniemi 91.71 332 *e*P **P 05 10 52.1 -2.1**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb5.3
FINES FINESS Array B 91.94 332 P **P 05 10 53.5 -1.9**
comp=Z,6.1nm,0.5s,mb5.0,baz=72,slow=4.1,SNR=62
FINES FINESS Array B 91.94 332 P **P 05 10 53.5 -1.9**
AKASG Malin Array Be 91.97 321 P **P 05 10 54.7 -0.7**
comp=Z,9.9nm,0.6s,mb5.2,baz=70,slow=4.6,SNR=55
HENT Hendek 92.04 311 *i* P **P 05 10 55.6 -0.2**
ESKT Eskisehir 92.22 310 *i* P **P 05 10 56.1 -0.5**
SYO Syowa Base 92.22 201⇑*e*P **P 05 10 58.1 +1.5**
SYO Syowa Base 92.22 201⇑*e*pP pP 05 11 15.4 -1.9
KIS Kishinev 92.75 317 *e*P **P 05 10 58.0 -1.1**
ULDT Uludag 93.46 310 *i* P **P 05 11 02.2 -0.1**
CFR Carcaliu 93.48 316 ⇓P **P 05 11 02.5 +0.1**
CFR Carcaliu 93.48 316 ⇓P **P 05 11 02.5 0.0**
VRI Vrincioaia 94.35 316 ⇓P **P 05 11 07.4 +1.0**
VRI Vrincioaia 94.35 316 ⇓P **P 05 11 07.4 +1.0**
MLR Muntele Rosu 94.96 316 ⇓P **P 05 11 10.0 +0.8**
MLR Muntele Rosu 94.96 316 ⇓P **P 05 11 10.0 +0.8**
SUW Suwalki 95.01 325 *e*P **P 05 11 08.9 -0.5**
SUW Suwalki 95.01 325 *e*P **P 05 11 08.6 -0.8**
comp=Z,35nm,0.8s,mb5.8
KWP Kalwaria 96.28 321 *e*P **P 05 11 15.8 +0.6**
KWP Kalwaria 96.28 321 *e*P **P 05 11 15.1 -0.1**
comp=Z,33nm,1.1s,mb5.7
KOLS Kolonicke sedl 96.72 320 *e*P **P 05 11 17.3 +0.1**
DRGR 96.91 318 ⇓P **P 05 11 18.7 +0.6**
CRVS Cervenica-Dubn 97.24 320 *i* P **P 05 11 21.3 +1.7**
CRVS *e* 05 14 12.7
STHS Stebnicka Huta 97.26 321 *e*P **P 05 11 20.1 +0.4**
DAG Danmarks Havn 97.42 352⇓*i*P **P 05 11 19.6 -0.8**
comp=Z,13nm,0.5s,mb5.6
DAG Danmarks Havn 97.42 352⇓*e*P **P 05 11 19.6 -0.8**
DAG pmax pmax
comp=Z,13nm,0.5s,mb5.6
DAG Danmarks Havn 97.42 352⇓*e*P **P 05 11 19.6 -0.8**
comp=Z,13nm,0.5s,mb5.6
NIE Niedzica 97.85 321 *e*P **P 05 11 23.8 +1.5**
BZS Buzias 97.91 317 ⇓P **P 05 11 22.6 0.0**
BZS Buzias 97.91 317 ⇓P **P 05 11 22.6 0.0**
OJC Ojcow 97.96 322 *e*P **P 05 11 23.6 +0.8**
KECS Kecovo 97.97 320 *i* P **P 05 11 22.9 0.0**
KECS *e*pP pP 05 11 39.0 -4.6
KECS *e* 05 14 17.5
KECS Kecovo 97.97 320 *i* P **P 05 11 22.9 0.0**
KECS *e* pP 05 11 39.0 -4.6
PSZ Piszkesteto 98.50 319 *e*P **P 05 11 25.4 +0.2**
PSZ pmax pmax
comp=Z,19nm,1.4s,mb5.4
PSZ Piszkesteto 98.50 319 *e*P **P 05 11 25.4 +0.2**
comp=Z,19nm,1.4s,mb5.4
NB2 NORSAR Subarra 98.90 334 P **P 05 11 25.8 -1.2**
comp=Z,10nm,0.9s,mb5.3,baz=66,slow=4.6
NOA NORSAR Array B 98.90 334 P **P 05 11 26.0 -1.0**
comp=Z,5.8nm,0.8s,mb5.2,baz=67,slow=4.6,SNR=20
NOA LR LR 05 59 05.2
comp=Z,232nm,21.7s,baz=85,slow=37
NOA NORSAR Array B 98.90 334 P **P 05 11 26.0 -1.0**
NOA LR LR 05 59 05.2
VYHS Vyhne 99.03 320 *e*P **P 05 11 28.1 +0.5**
VYHS *e* 05 11 40.8
LSZ Lusaka 99.06 255 *e*P **P 05 11 28.4 +0.7**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.9
LSZ Lusaka 99.06 255 *e*P **P 05 11 28.4 +0.6**
comp=Z,3.4nm,0.7s,mb5.0
DIVS Divcibare 99.39 316 *e*P **P 05 11 29.0 -0.2**
MORC Moravsky Berou 99.48 322 *e*P Pdif 05 11 30.3 +0.7
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
MORC Moravsky Berou 99.48 322 *e*Pdif Pdif 05 11 30.3 +0.7
comp=Z,3.7nm,1.0s
SRO2 Moca 99.52 319 *e*P Pdif 05 11 30.9 +1.1
YKA Yellowknife Ar 99.70 24 P Pdif 05 11 31.1 +0.5
comp=Z,1.0nm,0.8s,baz=301,slow=4.6,SNR=23
YKA PKIKP PKiKP 05 16 00.5 +1.5
comp=Z,0.4nm,0.6s,baz=301,slow=1.7,SNR=7.8
YKA PKKPbc PKKPbc 05 27 50.6 -0.6
comp=Z,0.5nm,0.7s,baz=116,slow=2.6,SNR=11
YKA Yellowknife Ar 99.70 24 P Pdif 05 11 31.1 +0.5
KSP Ksiaz 99.92 323 *e*P Pdif 05 11 32.4 +0.8
KSP Ksiaz 99.92 323 *e*P Pdif 05 11 32.2 +0.6
DPC Dobruska-Polom 100.06 322 *e*PDIF Pdif 05 11 32.5 +0.3
DPC *e*x x 05 14 28.0
UPC Upice 100.20 323 *e*PDIF Pdif 05 11 33.1 +0.3
UPC *e*x x 05 14 30.1
UPC Upice 100.20 323 *i* P Pdif 05 11 33.1 +0.3
PRU Pruhonice 101.26 322 *e*PDIF Pdif 05 11 38.3 +0.8
PRU *e*x x 05 14 36.1
BRG Berggiesshubel 101.32 323 *e*Pdiff Pdif 05 11 38.3 +0.5
BRG Berggiesshubel 101.32 323 *e*P Pdif 05 11 38.9 +1.1
comp=Z,5.9nm,0.7s
BRG Berggiesshubel 101.32 323 *e*P Pdif 05 11 38.8 +1.0
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=N,183nm,32.8s
BRG MLR MLR
comp=E,118nm,26.5s
BRG MLR MLR
comp=Z,189nm,26.0s
CLL Collm 101.72 324 *e*Pdiff Pdif 05 11 40.1 +0.5
comp=Z,3.0nm,0.7s
CLL *e*pPdiff 05 12 02.9
CLL *e*L 06 03 42.2
comp=Z,116nm,20.0s
CLL Collm 101.72 324 *e*Pdif Pdif 05 11 40.0 +0.4
CLL *e*sPdif 05 12 03.0
GCIS Gornji Cirnik 101.89 318 *e*P Pdif 05 11 41.6 +1.3
LEGS Legarje 102.06 318 *e*P Pdif 05 11 42.1 +1.1
KHC Kasperske Hory 102.14 322 *e*PDIF Pdif 05 11 42.6 +1.2
KHC *e*x x 05 14 41.0
KHC *e*x x 05 14 49.0
GEC2 GERESS Array S 102.16 322 *e*Pdiff Pdif 05 11 42.4 +0.9
GERES GERESS Array B 102.16 322 P Pdif 05 11 42.7 +1.1
comp=Z,1.2nm,0.5s,baz=63,slow=5.1,SNR=14
VISS Visnje 102.43 318 *e*P Pdif 05 11 43.8 +1.1
NKC Novy Kostel 102.44 323 *e*PDIF Pdif 05 11 43.9 +1.1
WERD Werda 102.45 323 *e*Pdiff Pdif 05 11 43.2 +0.4
WET Wettzell 102.57 322 *e*Pdiff Pdif 05 11 44.2 +0.9
ROTZ Rotzenmuhle 102.75 323 *e*Pdiff Pdif 05 11 44.0 -0.2
GRA2 Grafenberg Arr 103.31 323 *e*Pdiff Pdif 05 11 47.2 +0.6
NVAR Mina Array Bea 107.10 48 PKKPbc PKKPbc 05 27 32.1 +2.9
comp=Z,0.8nm,0.8s,baz=118,slow=3.6,SNR=4.4
NVAR PKKPab PKKPab 05 27 46.5 +2.1
comp=Z,1.2nm,0.8s,baz=125,slow=4.8,SNR=6.9
PDAR Pinedale Array 111.56 41 PKiKP PKiKP 05 16 23.0 +2.2
comp=Z,1.1nm,1.2s,baz=239,slow=5.3,SNR=3.7
PDAR PKKPbc PKKPbc 05 27 15.2 +0.3
comp=Z,0.9nm,0.7s,baz=130,slow=6.5,SNR=7.1
PDAR PKKPab PKKPab 05 27 26.1 +1.5
comp=Z,1.8nm,0.9s,baz=125,slow=5.4,SNR=11
RSSD Black Hills 114.39 38 *e*PKIKP PKiKP 05 16 27.4 +1.1
ULM Lac du Bonnet 115.17 29 PKP PKiKP 05 16 28.4 +0.7
comp=Z,1.0nm,0.6s,baz=327,slow=2.9,SNR=3.6
ULM Lac du Bonnet 115.17 29 PKP PKiKP 05 16 28.4 +0.7
ANMO Albuquerque 117.22 48 *e*PKIKP PKPdf 05 16 33.8 +2.1
PVRL Vila Real 119.04 322 *e*PKPdf PKPdf 05 16 37.3 +2.1
MNTX Cornudas Mount 119.44 50 *e*PKPdf PKPdf 05 16 38.3 +2.4
PVIS Viseu 119.47 322 *e*PKPdf PKPdf 05 16 38.0 +2.0
PCBR Castelo Branco 119.71 320 *e*PKPdf PKPdf 05 16 38.3 +1.8
PTEO Sao Teotonio 121.81 319 *e*PKPdf PKPdf 05 16 41.4 +0.9
KSU1 Kansas State U 121.81 39 *e*PKPdf PKPdf 05 16 42.0 +1.5
WMOK Wichita Mounta 122.83 44 *e*PKIKP PKPdf 05 16 43.3 +0.8
TORD Torodi Ar. Bea 122.88 288 PKP PKPdf 05 16 44.3 +1.7
comp=Z,8.2nm,0.8s,baz=51,slow=1.8,SNR=46
TORD PP PP 05 18 24.5 +2.7
comp=Z,2.3nm,1.0s,baz=40,slow=3.5,SNR=3.6
JCT Junction City 124.25 49 *e*PKIKP PKPdf 05 16 47.3 +2.1
MIAR Mount Ida 126.48 42 *e*PKIKP PKPdf 05 16 51.7 +2.2
WCI Wyandotte Cave 128.46 33 *e*PKIKP PKPdf 05 16 54.8 +1.6
DBIC Dimbokro 130.52 282 PKP PKPdf 05 16 59.7 +2.6
comp=Z,4.6nm,0.7s,baz=174,slow=2.7,SNR=8.9
DBIC SKPbc SKPbc 05 20 19.1 +5.2
comp=Z,9.9nm,0.8s,baz=67,slow=5.4,SNR=10.0
DBIC Dimbokro 130.52 282 PKP PKPdf 05 16 59.7 +2.6
DBIC SKPbc SKPbc 05 20 19.1 +5.2
MCWV Mont Chateau 130.59 27 *e*PKPdf PKPdf 05 16 56.4 -0.9
PLCA Paso Flores 139.87 160 PKhKP 05 17 08.8
comp=Z,1.8nm,0.8s,baz=6.1,slow=1.0,SNR=4.6
PLCA PKP PKPdf 05 17 17.6 +3.0
comp=Z,4.4nm,0.8s,baz=240,slow=5.0,SNR=7.3
TRQA Tornquist 144.77 168 *e*PKPdf PKPdf 05 17 24.1 +0.9
JTS JuntasAbangare 145.68 66 *e*PKP2 PKPab 05 17 28.9 +3.2
CCCC Cccc 145.70 43 *e*P PKPdf 05 17 29.0 +4.1
CFAA Coronel Fontan 148.78 155 PKP PKPdf 05 17 32.5 +2.5
comp=Z,3.1nm,0.8s,baz=225,slow=3.0,SNR=52
CFAA PKPbc PKPbc 05 17 36.2 +2.2
comp=Z,3.1nm,0.8s,baz=236,slow=3.8,SNR=51
CFAA Coronel Fontan 148.78 155 PKP PKPdf 05 17 32.5 +2.5
CFAA PKPbc PKPbc 05 17 36.2 +2.2
ROSC El Rosal 157.46 68 PKPab PKPab 05 18 19.1 +4.6
comp=Z,4.2nm,0.8s,baz=240,slow=18,SNR=3.8
SDV Santo Domingo 158.82 54 *e*PKPdf PKPdf 05 17 46.0 +1.8
LPAZ La Paz 160.75 132 PKP PKPdf 05 17 50.6 +4.2
comp=Z,3.6nm,0.9s,baz=9.1,slow=2.2,SNR=9.1
RCBR Riachuelo 162.44 262 *e*PKPab PKPab 05 18 38.2 +2.0
BDFB Brasilia 166.88 203 PKPab PKPab 05 18 58.2 +2.5
comp=Z,4.7nm,1.0s,baz=334,slow=10,SNR=4.1

NAO ***11*** *05:04:04.5, 2530N×9342E, h33km, mb3.6*
LDG ***11*** *05:04:13.0±0.2, 2703N×9214E, h10km, Mb4.8/20, Ms3.8/6, Error ellipse: s-maj=10.2km s-min=4.3km az=156.0*
SZGRF ***11*** *05:04:15.9, 2689N×9259E, h33km, mb4.7, Northeastern India*
BJI ***11*** *05:04:16.3, 2731N×9225E, h15km, mB4.9, mb4.7, ML4.5, Ms4.3, Msz4.1*
IDC ***11*** *05:04:17.8±2.5, 2724N×9215E, h20km±14km, mb4.4/20, mb1 4.5/20, mb1mx4.4/27, mbtmp4.5/20, MS3.9/4, Ms1 3.9/4, ms1mx3.3/44, Error ellipse: s-maj=19.1km s-min=11.8km az=52.0*
MOS ***11*** *05:04:18.6±0.8, 2720N×9214E, h42km, mb4.9/19, Error ellipse: s-maj=9.6km s-min=6.6km az=116.8*
ISCJB ***11*** *05:04:18.6±0.6, 2720N±004×9214E±002, h43km±5km, mb4.6/77, MS4.0/6, Error ellipse: s-maj=6.2km s-min=3.5km az=176.8*
NEIC ***11*** *05:04:21.3±0.7, 2723N×9215E, h49km±6km, mb4.7/20, Error ellipse: s-maj=6.1km s-min=5.6km az=205.0*
ISC 11 05:04:21.9±0.4, 2726N±003×9213E±002, h53km±4km, n173, σ0°92/192, mb4.6/75, MS4.0/6, 6C-2D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.71**	**188**	*ex*	**Pn**	**05 04 51.4**	**+2.2**
SHL	**Shillong**	**1.71**	**188**	*e*P	**Pn**	**05 04 50.4**	**+1.2**
SHL				*e*S	**Sn**	**05 05 13.2**	**+3.4**
SHL				AML	AML	05 05 17.7	
	comp=E,44μm,0.3s						
SHL				AML	AML	05 05 17.9	
	comp=N,45μm,0.1s						
LSA	**Lhasa**	**2.58**	**341**	PG	**Pn**	**05 05 03.4**	**+2.3**
LSA				SG	**Sn**	**05 05 39.8**	**+8.6**
LSA	**Lhasa**	**2.58**	**341**⇑	*i*Pn	**Pn**	**05 05 03.4**	**+2.3**
LSA				*e*Sn	**Sn**	**05 05 39.6**	**+8.4**
JIRN	**Jiri**	**5.29**	**276**	*e*Pn	**Pn**	**05 05 38.1**	**-0.3**
JIRN	**Jiri**	**5.29**	**276**	*e*Sn	**Sn**	**05 06 40.2**	**+2.1**
	comp=N,2μm,0.3s						
GUN	**Gumba**	**5.59**	**278**	*e*Pn	**Pn**	**05 05 42.2**	**-0.2**
GUN	**Gumba**	**5.59**	**278**	*e*Sn	**Sn**	**05 06 46.1**	**+0.9**
	comp=N,267nm,0.4s						
PKI	**Pulchoki**	**5.98**	**274**	*e*Pn	**Pn**	**05 05 46.8**	**-1.0**
PKI				*e*Sn	**Sn**	**05 06 56.5**	**+1.5**
	comp=N,510nm,0.3s						
PKI	**Pulchoki**	**5.98**	**274**	*e*P	**Pn**	**05 05 46.8**	**-1.0**
PKI				*e*		05 06 56.5	
PKI				pmax	pmax		
	comp=Z,255nm,0.3s						
PKI	**Pulchoki**	**5.98**	**274**	*e*Pn	**Pn**	**05 05 46.8**	**-1.0**
	comp=Z,255nm,0.3s						
PKI				*e*Sn	**Sn**	**05 06 56.5**	**+1.5**
KKN	**Kakani**	**6.11**	**276**	*e*Pn	**Pn**	**05 05 48.9**	**-0.6**
DMN	**Daman**	**6.25**	**275**	*e*Pn	**Pn**	**05 05 51.4**	**-0.1**
DMN				*e*Sn	**Sn**	**05 07 03.4**	**+1.8**
	comp=Z,556nm,0.3s						
DMN	**Daman**	**6.25**	**275**	*e*Pn	**Pn**	**05 05 51.4**	**-0.1**
	comp=Z,278nm,0.3s						
DMN				*e*Sn	**Sn**	**05 07 03.4**	**+1.8**
BOK	**Bokaro**	**6.62**	**240**	*e*P	**Pn**	**05 05 55.0**	**-1.5**
BOK				*e*S	**Sn**	**05 07 08.1**	**-2.5**
BOK				AML	AML	05 07 44.6	
	comp=N,867nm,0.7s						
BOK				AML	AML	05 07 44.6	
	comp=E,463nm,0.5s						
GKN	**Gorkha**	**6.69**	**278**	*e*Pn	**Pn**	**05 05 56.5**	**-1.0**
GKN				*e*Sn	**Sn**	**05 07 11.4**	**-1.0**
GKN	**Gorkha**	**6.69**	**278**	*e*Sn	**Sn**	**05 07 11.6**	**-0.8**
	comp=E,1μm,0.4s						
KMI	**Kunming**	**9.76**	**100**	P	**Pn**	**05 06 40.9**	**+1.3**
KMI				PP		05 06 47.6	
KMI				S	**Sn**	**05 08 29.2**	**+1.5**

KMI SS 05 08 42.6
KMI AMB AMB
comp=Z,9.0nm,0.6s
KMI LR LR
comp=N,1μm,8.9s
KMI LR LR
comp=E,525nm,8.5s
KMI LR LR
comp=Z,673nm,26.1s
BLSP Bilaspur 10.43 243 *e*P **Pn 05 06 46.8 -1.9**
BLSP *ex* x 05 08 32.4
PTH Pithoragarh 10.74 285 *ex* **Pn 05 06 52.4 -0.5**
CD2 Chengdu 10.80 68 *e*P **Pn 05 06 53.6 -0.1**
CD2 S **Sn 05 08 53.1 0.0**
CD2 AMB AMB
comp=Z,30nm,0.6s
CD2 AMB AMB
comp=Z,90nm,4.9s
CD2 LR LR
comp=E,260nm,9.0s
CD2 LR LR
comp=Z,380nm,9.2s
VIS Vishakhapatnam 12.50 222 *e*P **Pn 05 07 13.5 -3.5**
VIS *ex* x 05 10 42.0
KLP Kalpa 12.83 293 *e*P **Pn 05 07 20.2 -1.3**
KLP *e*S **Sn 05 09 29.8 -13**
LZH Lanzhou 13.29 46 *e*P **Pn 05 07 29.0 +1.3**
LZH AP 05 07 36.1
LZH PP 05 07 40.2
LZH *e*S **Sn 05 09 55.8 +1.9**
LZH *e*SS 05 10 11.4
LZH AMB AMB
comp=Z,53nm,1.2s
LZH AMB AMB
comp=Z,124nm,4.3s
LZH LR LR
comp=E,2μm,8.2s
LZH LR LR
comp=Z,2μm,10.3s
AYAN Aya Nagar 13.33 279 *e*P **Pn 05 07 26.5 -1.8**
SONA Sohna 13.36 278 *e*P **Pn 05 07 25.0 -3.8**
SONA *e*S **Sn 05 09 44.8 -11**
GTA Gaotai 13.70 26⇑*i*P **Pn 05 07 29.6 -3.8**
GTA AP 05 07 38.4
GTA XP 05 07 44.2
GTA S **Sn 05 09 55.4 -8.5**
GTA LG2 05 11 31.2
GTA AMB AMB
comp=Z,59nm,0.9s
GTA AMB AMB
comp=Z,183nm,4.6s
GTA LR LR
comp=N,1μm,12.2s
GTA LR LR
comp=E,1μm,11.8s
GTA LR LR
comp=Z,2μm,12.6s
KUDL Kundal 13.89 277 *e*P **Pn 05 07 36.4 +0.5**
BHPL Bhopal 13.90 256 *ex* **Pn 05 07 31.0 -5.0**
BHPL *ex* x 05 09 54.7
PONG Pong 14.83 292 *e*P **Pn 05 07 47.0 -1.3**
ENH Enshi 15.51 75 *e*P **Pn 05 07 58.4 +1.3**
comp=Z,55nm,0.8s
HYB Hyderabad 15.92 235 *i*P **Pn 05 08 05.0 +2.6**
HYB *e*S **S 05 11 10.0 +0.5**
HYB LR LR 05 13 56.0
comp=Z,2.8nm,12.0s
XAN Xi'an 15.94 61 P **Pn 05 07 57.5 -5.1**
XAN AMB AMB
comp=Z,33nm,1.1s
WMQ Urumqi 16.91 349 P **Pn 05 08 15.0 +0.2**
WMQ AP pP 05 08 24.0 -3.8
WMQ PP 05 08 30.0
WMQ S **S 05 11 21.0 -8.6**
WMQ SS 05 11 42.0
WMQ PCP PcP 05 13 00.0 +0.8
WMQ AMB AMB
comp=Z,97nm,1.0s
WMQ AMB AMB
comp=Z,364nm,4.0s
WMQ LR LR
comp=N,324nm,6.0s
WMQ LR LR
comp=E,304nm,8.0s
WMQ LR LR
comp=Z,347nm,7.0s
KSH Kashi 18.17 316 *e*P **Pn 05 08 33.9 +3.6**
KSH AMB AMB
comp=Z,140nm,2.4s
KSH LR LR
comp=N,200nm,9.2s
KSH LR LR
comp=E,330nm,4.8s
KSH LR LR
comp=Z,220nm,6.8s
QIZ Qiongzhong 18.22 113 *e*P **Pn 05 08 30.4 -0.5**
BOM Bombay 19.61 249 *ex* **Pn 05 08 51.8 +4.2**
comp=Z,265nm,2.7s
BOM *ex* **S 05 12 24.0 -0.3**
WHN Wuhan 19.72 75⇓P **Pn 05 08 46.3 -2.6**
BTO Baotou 19.88 43 *e*P **Pn 05 08 47.0 -3.8**
BTO AMB AMB
comp=Z,14nm,0.6s
HHC Hu-ho-hao-te 20.98 45⇓P **P 05 08 59.8 -0.9**
HHC AP 05 09 11.7
HHC PP 05 09 26.9
HHC S **S 05 12 54.7 +3.3**
HHC AMB AMB
comp=Z,24nm,1.1s
HHC AMB AMB
comp=Z,126nm,4.8s
HHC LR LR
comp=N,1μm,12.0s,MS4.5
HHC LR LR
comp=E,811nm,12.0s,MS4.5
HHC LR LR
comp=Z,1μm,13.6s,MS4.5
MKAR Makanchi Array 20.98 341 P **P 05 09 01.1 +0.4**
comp=Z,25nm,0.7s,baz=150,slow=13,SNR=8.7
MKAR ScP ScP 05 16 42.1 +3.5
comp=Z,1.8nm,0.9s,baz=153,slow=2.7,SNR=6.8
MKAR LR LR 05 18 45.9
comp=Z,201nm,19.2s,MS3.5,baz=270,slow=41
PALK Pallekele 22.65 211 *e*P **P 05 09 19.8 +1.4**
comp=Z,22nm,1.0s,mb4.5
TIA Tai'an 23.00 61 *e*P **P 05 09 20.1 -2.1**
SONM Songino Array 23.37 25 P **P 05 09 25.0 -0.8**
comp=Z,11nm,0.8s,mb4.3,baz=212,slow=9.7,SNR=13
SONM ScP ScP 05 16 48.5 +3.9
comp=Z,0.9nm,1.0s,baz=180,slow=1.5,SNR=3.8
ULN Ulaanbaatar 23.64 26 *i*P **P 05 09 27.4 -0.9**
ULN Ulaanbaatar 23.64 26 *e*P **P 05 09 27.0 -1.3**
comp=Z,30nm,1.0s,mb4.7
ZAK Zakamensk 24.61 17 *e*P **P 05 09 33.6 -3.5**
ZAK pmax pmax
comp=Z,21nm,1.8s,mb4.4
PSI Prapat 25.18 164 P **P 05 09 42.0 -0.3**
comp=Z,8.8nm,0.7s,mb4.4,baz=296,slow=5.0,SNR=6.7
PSI Prapat 25.18 164 P **P 05 09 42.0 -0.3**
KURK Kurchatov 25.58 340 *e*P **P 05 09 46.1 +0.1**
KURK pmax pmax
comp=Z,19nm,0.8s,mb4.7
KURK Kurchatov 25.58 340 *e*P **P 05 09 46.1 +0.1**
comp=Z,19nm,0.8s,mb4.7
SSE Sheshan 25.62 74 P **P 05 09 45.8 -0.5**
SSE AMB AMB
comp=Z,24nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,40nm,4.4s
ZAL Zalesovo 27.19 350 P **P 05 10 00.0 -0.5**
comp=Z,4.8nm,0.8s,mb4.1,baz=307,slow=11,SNR=4.0
ZAL LR LR 05 21 59.6
comp=Z,113nm,19.6s,MS3.4,baz=81,slow=39
ZAL Zalesovo 27.19 350 *i*P **P 05 10 00.8 +0.3**
ZAL pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 30.39 334 P **P 05 10 28.8 -0.2**
comp=Z,5.2nm,0.9s,mb4.3,baz=149,slow=8.4,SNR=2.3
BVAR ScP ScP 05 17 08.7 +3.1
comp=Z,0.3nm,0.5s,baz=153,slow=3.3,SNR=4.3
HIA Hailar 30.57 37 *e*P **P 05 10 30.8 +0.3**
HIA pmax pmax
comp=Z,5.0nm,0.6s
HIA Hailar 30.57 37 *e*P **P 05 10 30.8 +0.2**
comp=Z,5.3nm,0.6s,mb4.5
ZRNK Zerenda 30.90 332 *e*P **P 05 10 33.1 -0.3**
ZRNK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ZRNK Zerenda 30.90 332 *e*P **P 05 10 33.1 -0.3**
comp=Z,7.2nm,0.7s,mb4.6
CN2 Changchun 31.47 50 *e*P **P 05 10 39.9 +1.4**
CN2 *e*S **S 05 15 43.0 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,15.0s,MS4.4
CN2 LR LR
comp=E,400nm,15.0s,MS4.4
CN2 LR LR
comp=Z,700nm,15.0s,MS4.5
MDJ Mudanjiang 34.56 50 P **P 05 11 04.3 -1.1**
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,89nm,5.3s
AKTK Aktyubinsk 34.76 321 P **P 05 11 06.6 -0.5**
AKTK ScP ScP 05 17 23.0 +2.4
AKTO Aktyubinsk 34.76 321 P **P 05 11 06.6 -0.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=111,slow=14,SNR=2.1
AKTO ScP ScP 05 17 23.0 +2.4
comp=Z,2.6nm,1.0s,baz=122,slow=6.9,SNR=4.5
KLR Kul'dur 37.48 43 *e*P **P 05 11 26.4 -3.9**
MAJO Matsushiro 39.88 65 *e*P **P 05 11 48.9 -1.5**
MAJO pmax pmax
comp=Z,13nm,0.7s,mb4.8
MAJO Matsushiro 39.88 65 *e*P **P 05 11 48.9 -1.5**
comp=Z,13nm,0.7s,mb4.8
MAT Matsushiro 39.88 65 P **P 05 11 49.0 -1.4**
MAT Matsushiro 39.88 65 *e*P **P 05 11 49.0 -1.4**
MJAR Matsushiro Arr 39.88 65 P **P 05 11 49.6 -0.8**
comp=Z,13nm,0.8s,mb4.7,baz=273,slow=9.8,SNR=23
YSS Yuzh-Sakhalins 44.04 50 *e*P **P 05 12 25.0 +0.6**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.0
SOC Sochi 44.96 305 *e*P **P 05 12 37.8 +6.1**
ANN Anapa 46.67 307 *e*P **P 05 12 43.8 -1.4**
ANN *e* 05 14 43.2
ANN *e*S **S 05 19 32.1 +1.3**
ANN pmax pmax
comp=Z,44nm,0.9s,mb5.4
OBN Obninsk 48.54 321 *i*P **P 05 12 59.9 +0.2**
OBN *e**PP pP 05 13 07.1 -6.6
OBN *e**SP sP 05 13 14.7 -5.1
OBN pmax pmax
comp=Z,31nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.8
TIXI Tiksi 48.84 15 *i*P **P 05 13 01.7 -0.3**
TIXI pmax pmax
comp=Z,21nm,1.6s,mb4.9
BRTR Keskin Array B 49.55 300 P **P 05 13 08.1 +0.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=135,slow=9.6,SNR=5.4
MA2 Magadan 51.10 34 *i*P **P 05 13 18.9 -0.2**
MA2 pmax pmax
comp=Z,11nm,1.2s,mb4.7
AKASG Malin Array Be 52.45 314 P **P 05 13 28.8 -0.4**
comp=Z,5.8nm,0.5s,mb4.8,baz=81,slow=6.8,SNR=25
AKASG Malin Array Be 52.45 314 P **P 05 13 28.8 -0.4**
SEY Seymchan 52.61 30 *i*P **P 05 13 30.6 +0.2**
JOF Joensuu 52.86 330 *ep* **P 05 13 32.8 +0.6**
comp=Z,5.1nm,0.6s,mb4.6
FINES FINESS Array B 55.03 328 P **P 05 13 47.9 -0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=90,slow=7.6,SNR=4.7
MBWA Marble Bar 55.05 148 *e*P **P 05 13 46.9 -1.3**
comp=Z,4.3nm,0.9s,mb4.5
SUW Suwalki 56.19 318 *e*P **P 05 13 56.7 +0.4**
KWP Kalwaria 56.66 313 *e*P **P 05 14 00.4 +0.7**
KWP Kalwaria 56.66 313 *e*P **P 05 14 00.1 +0.4**
comp=Z,9.7nm,0.7s,mb4.9
BILL Bilibino 59.09 25*c i*P **P 05 14 17.2 +0.5**
BILL pmax pmax
comp=Z,36nm,0.8s,mb5.5
KMBO Kilima Mbogo 59.80 251 P **P 05 14 21.6 -0.1**
comp=Z,3.0nm,0.6s,mb4.5,baz=44,slow=11,SNR=7.5
KMBO Kilima Mbogo 59.80 251 *i*P **P 05 14 22.7 +1.1**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 59.80 251 *e*P **P 05 14 22.3 +0.7**
comp=Z,3.8nm,0.9s,mb4.4
MORC Moravsky Berou 59.98 314 *e*P **P 05 14 23.0 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
MORC Moravsky Berou 59.98 314 *e*P **P 05 14 23.0 +0.1**
comp=Z,3.0nm,0.7s,mb4.4
KSP Ksiaz 60.63 315 *e*P **P 05 14 28.3 +1.0**
KSP Ksiaz 60.63 315 *e*P **P 05 14 27.8 +0.5**
BRG Berggiesshubel 62.10 315 *e*P **P 05 14 37.5 +0.3**
comp=Z,2.0nm,0.7s,mb4.4
BRG Berggiesshubel 62.10 315 *i*P **P 05 14 37.6 +0.3**
comp=Z,2.4nm,0.7s,mb4.5
NB2 NORSAR Subarra 62.20 327 P **P 05 14 37.1 -0.8**
comp=Z,0.5nm,0.6s,mb3.8,baz=85,slow=7.4
NOA NORSAR Array B 62.20 327 P **P 05 14 37.4 -0.5**
comp=Z,5.1nm,0.8s,mb4.7,baz=83,slow=6.8,SNR=14
NOA NORSAR Array B 62.20 327 P **P 05 14 37.4 -0.5**
WRA Warramunga Arr 62.24 134 P **P 05 14 38.1 -0.1**
comp=Z,5.1nm,0.9s,mb4.7,baz=323,slow=7.2,SNR=19
WRAB Tennant Creek 62.24 134 *i*P **P 05 14 38.3 +0.1**
WRAB Tennant Creek 62.24 134 *e*P **P 05 14 37.6 -0.6**
comp=Z,8.3nm,0.6s,mb5.0
WB2 Warramunga Arr 62.24 134 *e*P **P 05 14 38.0 -0.2**
CLL Collm 62.61 316 *e*P **P 05 14 40.8 +0.2**
comp=Z,3.0nm,1.0s,mb4.4
CLL *es*P sP 05 14 58.4 -2.8
CLL *e*L 05 43 08.4
comp=Z,37nm,20.0s
CLL Collm 62.61 316 *e*P **P 05 14 41.0 +0.4**
CLL *e*(sP) sP 05 15 01.0 -0.2
CLL Collm 62.61 316 *e*P **P 05 14 49.0 +8.4**
CLL *e* 05 15 09.0
GEC2 GERESS Array S 62.61 313 *e*P **P 05 14 41.1 +0.4**
comp=Z,6.0nm,0.7s,mb4.8
GERES GERESS Array B 62.61 313 P **P 05 14 41.3 +0.6**
comp=Z,4.2nm,0.5s,mb4.8,baz=73,slow=6.1,SNR=37
WET Wettzell 63.09 314 *e*P **P 05 14 44.3 +0.5**
comp=Z,2.0nm,0.9s,mb4.2
WERD Werda 63.20 315 *e*P **P 05 14 45.1 +0.5**
comp=Z,2.0nm,1.2s,mb4.1
ROTZ Rotzenmuhle 63.40 314 *e*P **P 05 14 46.9 +1.0**
comp=Z,6.0nm,0.8s,mb4.8
MOX Moxa 63.59 315 *e*P **P 05 14 46.7 -0.5**
comp=Z,3.0nm,1.0s,mb4.3
BSEG Bad Segeberg 63.74 319 *e*P **P 05 14 48.7 +0.5**
comp=Z,5.0nm,0.7s,mb4.7
GRA1 Grafenberg Arr 64.04 314 *e*P **P 05 14 48.7 -1.4**
GRF Grafenberg Arr 64.04 314 *e*P **P 05 14 48.7 -1.4**
comp=Z,12nm,1.2s,mb4.8
GRF Grafenberg Arr 64.04 314 *e*P **P 05 14 48.7 -1.4**
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.8
CLZ Clausthal 64.12 317 *e*P **P 05 14 51.3 +0.7**
comp=Z,6.0nm,0.8s,mb4.7
PMG Port Moresby 64.56 116 P **P 05 14 53.7 +0.1**
comp=Z,4.5nm,0.7s,mb4.6,baz=292,slow=19,SNR=3.2
PMG Port Moresby 64.56 116 P **P 05 14 53.1 -0.4**
PMG pmax pmax
comp=Z,6.0nm,0.8s
PMG Port Moresby 64.56 116 P **P 05 14 53.1 -0.5**
comp=Z,5.9nm,0.8s,mb4.7
SQTA Sankt Quirin 64.59 312⇑*i*P **P 05 14 53.4 -0.3**
comp=Z,3.0nm,1.0s,mb4.3
MOTA Moosalm 64.63 312⇑*i*P **P 05 14 53.6 -0.3**
comp=Z,4.8nm,0.9s,mb4.5
ASPA Alice Springs 64.73 138 *e*P **P 05 14 54.5 -0.1**
ASAR Alice Springs 64.73 138 P **P 05 14 55.3 +0.6**
comp=Z,4.3nm,0.8s,mb4.5,baz=320,slow=6.3,SNR=19
DAVA Damuels 65.45 312⇑*i*P **P 05 14 59.4 +0.1**
comp=Z,5.9nm,0.9s,mb4.6
STU Stuttgart 65.54 314 *e*P **P 05 15 00.3 +0.5**
comp=Z,8.0nm,0.8s,mb4.8
STU Stuttgart 65.54 314 *e*P **P 05 14 59.9 +0.1**
STU pmax pmax
comp=Z,11nm,0.7s,mb5.0
STU Stuttgart 65.54 314 *e*P **P 05 14 59.9 +0.1**
comp=Z,11nm,0.7s,mb5.0
TNS Taunus Mts 65.66 316 *e*P **P 05 15 00.9 +0.2**
comp=Z,4.0nm,0.8s,mb4.5
CDF Champ du Feu 66.86 314 *e*P **P 05 15 08.3 0.0**
comp=Z,11nm,0.8s,mb4.6
WLF Walferdange 67.24 315 P **P 05 15 11.5 +0.7**
comp=Z,6.6nm,0.9s,mb4.7
WLF AP pP 05 15 17.6 -7.9
WLF XP sP 05 15 24.0 -7.3
HINF Hinteralfeld 67.30 313 *e*P **P 05 15 10.9 -0.2**
HAU Haudompre 67.57 314 *e*P **P 05 15 12.9 +0.1**
HAU *e*R
comp=Z,74nm,22.0s
GIVF Givet 67.94 316 *e*P **P 05 15 15.4 +0.2**
LPG La Plagne 68.02 311 *e*P **P 05 15 16.3 +0.7**
comp=Z,16nm,1.0s,mb4.7
LPL La Plagne 68.03 311 *e*P **P 05 15 16.3 +0.6**
comp=Z,11nm,0.6s,mb4.7
CABF La Chapelle 68.14 312 *e*P **P 05 15 16.4 0.0**
SNF Seneffe 68.16 317 P **P 05 15 17.3 +0.7**
SNF XP sP 05 15 32.0 -5.2
MBDF Montbardon 68.23 310 *e*P **P 05 15 17.4 +0.4**
comp=Z,11nm,0.8s,mb4.6
MEZF Maizieres J'vi 68.26 314 *e*P **P 05 15 17.4 +0.3**
ORIF Oris-en-Rattie 68.78 310 *e*P **P 05 15 20.7 +0.3**
comp=Z,33nm,1.2s,mb4.8
ORIF *e*R
comp=Z,112nm,20.5s
LOR Lormes 69.40 313 *e*P **P 05 15 23.8 -0.4**
comp=Z,6.5nm,0.8s,mb4.3
LOR *e*R
comp=Z,66nm,19.8s
SMF Signal de Mont 69.60 313 *e*P **P 05 15 25.3 -0.2**
comp=Z,18nm,0.9s,mb4.7
VIVF Saint-Julien-l 69.61 311 *e*P **P 05 15 25.6 +0.1**
SSF Saint Saulge 69.69 313 *e*P **P 05 15 25.9 -0.1**
comp=Z,14nm,0.9s,mb4.6
AVF Avril sur Loir 69.88 313 *e*P **P 05 15 27.1 -0.1**
comp=Z,14nm,1.0s,mb4.5
BGF Bois d'Agland 70.28 313 *e*P **P 05 15 29.5 -0.1**
LASF Ste Croix 70.42 310 *e*P **P 05 15 30.7 +0.2**
CTA Charters Tower 70.44 126 *e*P **P 05 15 34.8 +4.2**
comp=Z,6.0nm,0.9s,mb4.5
CTA Charters Tower 70.44 126 P **P 05 15 31.5 +0.9**
comp=Z,8.9nm,1.0s,mb4.7,baz=317,slow=10.0,SNR=6.8
CTAO Charters Tower 70.44 126 P **P 05 15 31.4 +0.8**
CTAO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CTAO Charters Tower 70.44 126 P **P 05 15 31.4 +0.7**
comp=Z,10nm,1.0s,mb4.7
TCF Toulx Ste Croi 70.78 313 *e*P **P 05 15 33.1 +0.4**
comp=Z,20nm,1.0s,mb4.7
CAF Calviac 71.34 311 *e*P **P 05 15 36.1 0.0**
comp=Z,13nm,1.0s,mb4.5
LDF La Druitiere 71.49 316 *e*P **P 05 15 36.6 -0.4**
comp=Z,11nm,0.9s,mb4.5
RJF Les Rejaudoux 71.58 312 *e*P **P 05 15 37.4 -0.1**
comp=Z,15nm,0.9s,mb4.6
FLN La Foliniere 71.65 316 *e*P **P 05 15 38.0 0.0**
FLN *e*R
comp=Z,67nm,18.8s
GRR Gorron 72.02 316 *e*P **P 05 15 40.0 -0.2**
comp=Z,15nm,1.0s,mb4.6
ROSF Rostrenen 73.54 316 *e*P **P 05 15 49.3 +0.2**
comp=Z,61nm,1.4s,mb5.0
ETSF Etsaut 73.84 310 *e*P **P 05 15 50.7 -0.2**
comp=Z,12nm,0.9s,mb4.5
SUMG Summit 74.93 346 *e*P **P 05 15 57.1 -0.1**
comp=Z,9.8nm,0.8s,mb4.8
LSZ Lusaka 75.05 244 *e*P **P 05 15 58.7 +0.8**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSZ Lusaka 75.05 244 *e*P **P 05 15 58.7 +0.7**
comp=Z,5.4nm,0.7s,mb4.6
COLA College 77.18 22 *e*P **P 05 16 10.6 +0.5**
COLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
COLA College 77.18 22 *e*P **P 05 16 10.6 +0.5**
comp=Z,5.2nm,0.7s,mb4.6
MCK McKinley 77.50 24 *e*P **P 05 16 11.9 +0.1**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MCK McKinley 77.50 24 *e*P **P 05 16 11.9 +0.1**
comp=Z,4.0nm,0.7s,mb4.5
ILAR Eielson Array 77.57 22 P **P 05 16 11.8 -0.4**
comp=Z,4.9nm,0.8s,mb4.5,baz=298,slow=5.5,SNR=12
SML Sawmill 78.90 25 *e*P **P 05 16 18.5 -1.1**
BOSA Boshof 84.82 234 P **P 05 16 51.1 +0.4**
comp=Z,2.8nm,0.9s,mb4.4,baz=61,slow=3.9,SNR=5.4
BOSA LR LR 05 51 30.7
comp=Z,124nm,21.2s,MS4.3,baz=78,slow=33
YKA Yellowknife Ar 88.03 12 P **P 05 17 06.1 -0.3**
comp=Z,1.5nm,0.9s,mb4.2,baz=332,slow=4.8,SNR=8.3
YKA Yellowknife Ar 88.03 12 P **P 05 17 06.1 -0.3**
ROSC El Rosal 145.49 336 PKPbc PKPbc 05 23 56.9 +2.7
comp=Z,31nm,0.6s,baz=317,slow=1.7,SNR=28
SAML Samuel 150.40 303 *e*PKPbc PKPbc 05 24 08.1 +0.7
SAML *e*PKPab PKPab 05 24 14.7 +0.8

NEIC ***11*** *05:10:25.7, 1858N×6799W, h116km, MD3.7(RSPR), After RSPR.*

RSPR 11 05:10:25.7, 1858N×6799W, h115km±5km, MD3.7/13, MD3.7/13, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.01**	**124**⇑	*e*P	Pn	05 10 46.6	-0.9
CRPR				*e*S	Sn	05 11 03.3	-0.5
MGP	**Maguayo**	**1.02**	**123**⇑	*e*P	Pn	05 10 46.5	-1.1
AOPR	**Arecibo Observ**	**1.20**	**101**⇓	*e*P	Pn	05 10 49.8	+0.3
AOPR				*e*S	Sn	05 11 07.2	-0.2
OBIP	**Obispado Ponce**	**1.42**	**112**⇑	*e*P	Pn	05 10 51.6	-0.3
OBIP				*e*S	Sn	05 11 12.3	+0.6
CELP	**Cerrillos**	**1.43**	**110**⇑	*e*P	Pn	05 10 51.9	-0.1
CELP				*e*S	Sn	05 11 12.3	+0.3
ICM	**Isla Caja Muer**	**1.55**	**116**⇑	*e*P	Pn	05 10 52.4	-1.1
ICM				*e*S	Sn	05 11 14.4	-0.2
SJG	**San Juan**	**1.81**	**104**⇑	*e*P	Pn	05 10 56.6	0.0
SJG				*e*S	Sn	05 11 21.0	+0.9
SJG	**San Juan**	**1.81**	**104**⇑	*e*P	Pn	05 10 56.3	-0.3
SJG				*e*S	Sn	05 11 20.0	0.0
CPD	**Cerro la Pandu**	**2.04**	**105**⇑	*e*P	Pn	05 10 60.0	+0.5
CPD				*e*S	Sn	05 11 26.3	+1.0
CBYP	**Canovanas**	**2.05**	**98**⇑	*e*P	Pn	05 10 59.7	+0.1
CBYP				*e*S	Sn	05 11 25.2	-0.2
HUMP	**Col San Antoni**	**2.08**	**102**⇓	*e*P	Pn	05 11 00.1	+0.2
HUMP				*e*S	Sn	05 11 26.0	-0.1
MTP	**Monte Pirata**	**2.36**	**101**⇑	*e*P	Pn	05 11 04.2	+0.7
MTP				*e*S	Sn	05 11 32.0	-0.5
CULB	**Culebra**	**2.54**	**96**	*e*S	Sn	05 11 37.7	+1.1
CULB	**Culebra**	**2.54**	**96**⇑	*e*P	Pn	05 11 06.0	+0.2
TBVI	**Tortola**	**3.21**	**92**⇑	*e*P	Pn	05 11 13.8	-0.8
TBVI				*e*S	Sn	05 11 52.2	-0.3

IDC 11 05:18:50.4±2.5, 100N×9699E, h0km, mb3.2/3, mb1 3.2/4, mb1mx3.1/21, mbtmp3.1/4, Error ellipse: s-maj=58.1km s-min=34.0km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.63**	**47**	Pn	Pn	05 19 33.2	-0.9
	0.7nm,0.3s,baz=214,slow=17,SNR=5.9						
WRA	**Warramunga Arr**	**42.10**	**122**	P	P	05 26 44.6	+0.5
	0.3nm,0.9s,baz=296,slow=9.2,SNR=2.1						
SONM	**Songino Array**	**47.36**	**9**	P	P	05 27 26.0	-0.1
	0.3nm,0.8s,baz=190,slow=7.9,SNR=2.6						
MKAR	**Makanchi Array**	**47.39**	**346**	P	P	05 27 26.4	+0.1
	0.3nm,0.5s,baz=160,slow=8.4,SNR=5.7						

ISCJB ***11*** *05:19:12.2±1.0, 591S×02×257W±05, h10km, mb3.7/3, Error ellipse: s-maj=41.2km s-min=14.4km az=122.8*
IDC ***11*** *05:19:12.2±1.1, 5918S×2565W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=43.7km s-min=34.5km az=50.0*

ISC 11 05:19:17.4±3.9, 592S±03×257W±05, h36km±39km, n8, σ0±22/6, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**13.74**	**158**	*e*PKPdf	**Pn**	**05 22 29.7**	**+0.1**
VNA3				*e*		05 22 31.2	
VNA3				*e*		05 22 32.8	
VNA3				*e*		05 22 38.5	
VNA2	**Neumayer--Watz**	**13.97**	**155**	*e*PKPdf	**Pn**	**05 22 32.8**	**+0.1**
	baz=308,slow=14						

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VNA2                                  e                          05 22 34.6
VNA2                                  e                          05 22 36.2
VNA2                                  e                          05 22 37.2
SNAA Sanae                15.54 153   Pn          Pn             05 22 53.4 -0.3
     0.4nm,0.3s,baz=315,slow=14,SNR=40
CFAA Coronel Fontan       39.59 295   P           P              05 26 45.1  0.0
     0.2nm,0.7s,mb3.0,baz=133,slow=9.2,SNR=6.1
TORD Torodi Ar. Bea       75.46  28   P           P              05 30 57.6  0.0
     2.2nm,0.5s,mb4.4,baz=199,slow=6.4,SNR=37
ASAR Alice Springs        95.73 161   P           P              05 32 39.5 +0.1
     0.3nm,0.7s,mb3.8,baz=182,slow=3.7,SNR=5.3
YKA  Yellowknife Ar       139.02 315  PKP         PKPdf          05 38 38.8 -1.2
     0.4nm,0.6s,baz=129,slow=2.3,SNR=18
ILAR Eielson Array        152.74 307  PKPbc       PKPbc          05 39 09.0 -1.2
     0.3nm,0.4s,baz=153,slow=2.1,SNR=9.3
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NAO ***11*** *05:32:40.6, 3258N×7451E, h33km, mb5.0*
LDG ***11*** *05:32:48.8±0.1, 3444N×7380E, h10km, Mb4.9/33, Ms3.8/7, Error ellipse: s-maj=48.6km s-min=4.0km az=37.0*
ISCJB ***11*** *05:32:50.1±0.1, 3435N±002×7376E±002, h10km, mb4.8/129, MS4.3/11, Error ellipse: s-maj=3.1km s-min=2.0km az=106.8*
IDC ***11*** *05:32:50.4±0.3, 3434N×7372E, h0km, mb4.8/38, mb1 4.8/40, mb1mx4.8/41, mbtmp4.8/40, ML4.3/2, MS4.2/7, Ms1 4.1/7, ms1mx3.8/22, Error ellipse: s-maj=10.9km s-min=9.7km az=35.0*
MOS ***11*** *05:32:50.1±1.1, 3433N×7375E, h10km, mb5.0/29, Error ellipse: s-maj=6.6km s-min=4.0km az=115.3*
SZGRF ***11*** *05:32:50.5, 3369N×7415E, h33km, mb4.8, Southwestern Kashmir*
NEIC ***11*** *05:32:51.9±0.2, 3434N×7375E, h10km, mb4.8/36, Error ellipse: s-maj=5.5km s-min=3.3km az=214.0*
NEIC Felt at Balakot, Islamabad and Manshera. Also felt at Muzaffarabad, Kashmir.
NDI ***11*** *05:32:52.9±5.8, 3425N×7356E, h10km, ML4.8, mb4.8(NEIC)*
NNC ***11*** *05:33:00.6±2.6, 3501N×7297E, h0km, mb4.8, mpv5.1, Error ellipse: s-maj=32.1km s-min=22.6km az=60.0*
ISC 11 05:32:52.0±0.1,3438N±002×7373E±002,h10km, (h14km±1.8km:pP-P),n357,σ1§07/394,mb4.8/129, MS4.3/11,26C-19D,Pakistan

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m  s    ISC
CHCP Chirah Chowk        0.82 209   P     Pg                05 33 06.5 -1.3
SRNI Srinagar            0.97 107   eP    Pg                05 33 12.5 +1.9
SRNI                                ex    Sg                05 33 27.6 +4.4
CEP  Cherat              1.61 250   P     Pn                05 33 21.6 +1.1
THW  Thamme Wali         2.29 227   P     Pn                05 33 31.5 +1.6
THN  Thein Dam           2.55 139   eP    Pn                05 33 34.2 +0.7
THN                                 eS    Sn                05 34 04.5 -0.1
SARP Sargodha            2.61 200   P     Pn                05 33 35.6 +1.4
DLH  Dalhousie           2.62 134   eP    Pn                05 33 37.0 +2.6
DLH                                 ex    Sn                05 34 14.0 +7.8
SBDP Sheikh Budin        3.21 231   P     Pn                05 33 42.8 +0.3
BHK  Bhakra              3.72 142   eP    Px                05 33 58.9
BHK                                 eS    Sx                05 34 40.5
SDNR Sundarnagar         3.96 136   eP    Pn                05 33 54.6 +1.8
SDNR                                ex    Sn                05 34 54.2  +15
DRP  Derazinda           3.96 229   P     Pn                05 33 55.2 +2.4
SMLA Simla               4.35 137   eP    Pn                05 34 00.5 +2.4
SMLA                                eP                      05 34 00.8
SMLA                                ex    Sn                05 34 50.2 +1.4
SMLA                                AML   AML               05 35 11.0
     comp=N,5μm,0.4s
SMLA                                AML   AML               05 35 11.5
     comp=E,5μm,0.5s
KLP  Kalpa               4.74 126   eP    Pn                05 34 06.5 +3.0
KLP                                 eS    Sn                05 34 55.2 -3.4
KLP                                 AML   AML               05 35 29.5
     comp=E,10μm,0.6s
KLP                                 AML   AML               05 35 32.7
     comp=N,6μm,0.9s
DDI  Dehra Dun           5.45 137   eP    Pn                05 34 13.8 +0.5
DDI                                 ex    Sn                05 35 15.0 -1.1
NDI  New Delhi           6.41 151   eP    Pn                05 34 27.0 +0.5
NDI                                 ex    Sn                05 35 38.0 -1.7
KALG Kalgarh             6.47 137   eP    Pn                05 34 27.4 +0.1
KALG                                eS    Sn                05 35 35.2 -5.9
KALG                                AML   AML               05 36 18.9
     comp=E,2μm,0.7s
KHET Khetri              6.53 164   eP    Pn                05 34 28.6 +0.5
KHET                                eS    Sn                05 35 39.5 -3.2
KHET                                AML   AML               05 35 43.3
     comp=N,539nm,0.3s
KHET                                AML   AML               05 36 32.4
     comp=E,619nm,0.5s
AYAN Aya Nagar           6.56 153   eP    Pn                05 34 29.0 +0.5
AYAN                                AML   AML               05 35 45.1
     comp=Z,874nm,0.6s
BISR Bishrakh            6.60 150   eS    Sn                05 35 40.4 -3.9
KUDL Kundal              6.65 158   eP    Pn                05 34 30.3 +0.6
KUDL                                eS    Sn                05 35 42.0 -3.6
KUDL                                AML   AML               05 35 48.8
     comp=E,610nm,0.5s
KUDL                                AML   AML               05 35 57.9
     comp=N,530nm,0.5s
SONA Sohna               6.75 154   eP    Pn                05 34 32.2 +1.1
SONA                                eS    Sn                05 35 44.7 -3.4
SONA                                AML   AML               05 35 50.4
     comp=E,2μm,0.1s
SONA                                AML   AML               05 35 52.9
     comp=N,728nm,0.4s
PTH  Pithoragarh         7.32 129   ex    Pn                05 34 43.5 +4.6
PTH                                 ex    Sn                05 36 02.2 +0.2
LGTI Lohaghat            7.40 130   eP    Pn                05 34 40.0 -0.1
LGTI                                ex    Sn                05 36 05.0 +0.9
AML  Almayashu           7.74 360   P     Pn                05 34 48.5 +3.8
     SNR=76
KZA  Kyzart              7.78   8   P     Pn                05 34 49.2 +3.9
     SNR=38
UCH  Uchtor              7.86   4   P     Pn                05 34 50.5 +4.1
     SNR=123
AJM  Ajmer               7.91 174   eP    Pn                05 34 47.2 +0.1
AJM                                 eS    Sn                05 36 08.0 -8.7
AGRA Agra                7.99 152   eP    Pn                05 34 48.3 +0.1
AGRA                                eS    Sn                05 36 12.8 -5.9
AGRA                                AML   AML               05 36 18.8
     comp=N,937nm,0.7s
AGRA                                AML   AML               05 36 20.2
     comp=E,2μm,0.8s
ULHL Ulahol              8.10  13   P     Pn                05 34 54.2 +4.6
     SNR=7.6
AAK  Ala-Archa           8.26   4   P     Pn                05 34 55.9 +4.0
     SNR=42
EKS2 Erkin-Say           8.27   0   P     Pn                05 34 55.8 +3.8
     SNR=85
KBK  Karagaybulak        8.32   6   P     Pn                05 34 56.8 +4.1
     SNR=30
FRU  Bishkek             8.47   4   eP    Pn                05 34 57.0 +2.3
FRU                                 pmax  pmax              
     comp=Z,120nm,1.8s
CHMS Chumysh             8.64   5   P     Pn                05 35 00.8 +3.7
     SNR=72
TKM2 Tokmak 2            8.65   9   P     Pn                05 35 00.9 +3.7
     SNR=47
TKM2 Tokmak 2            8.65   9   ⇓Pn   Pn                05 35 01.0 +3.8
     comp=Z,60nm,0.7s
TKM2                                ⇑Sn   Sn                05 36 33.7 -1.1
     comp=Z,125nm,0.8s
USP  Ospenovka           8.89   4   P     Pn                05 35 03.4 +2.8
     SNR=8.5
KK31 Karatay Array       9.06 345   ⇑Pn   Pn                05 35 05.2 +2.3
     comp=Z,42nm,0.5s,baz=160,slow=13
KK31                                ⇑Sn   Sn                05 36 43.5 -1.5
     comp=Z,78nm,0.6s,baz=172,slow=23
KK31 Karatay Array       9.06 345   i P   Pn                05 35 05.2 +2.3
KK31                                pmax  pmax              
     comp=Z,72nm,0.5s
KKAR Karatay Array       9.06 345   P     Pn                05 35 05.2 +2.3
KKAR                                S     Sn                05 36 43.4 -1.6
KKAR                                pmax  pmax              
     comp=Z,36nm,0.5s
AAA  Alma-Ata            9.22  15   eP    Pn                05 35 08.0 +2.9
AAA                                 eS    Sn                05 36 51.5 +2.6
AAA                                 pmax  pmax              
     comp=Z,470nm,1.2s
AAA                                 smax                    
     comp=E,590nm,2.5s
AAA                                 MLR   MLR               
     comp=Z,4μm,7.0s
KOLN Koldanda            10.72 125  ePn   Pn                05 35 24.9 -0.7
KOLN                                eSn   Sn                05 37 19.7 -5.9
     comp=Z,502nm,0.6s
KOLN Koldanda            10.72 125  ePn   Pn                05 35 24.9 -0.7
     comp=Z,251nm,0.6s
KOLN                                eSn   Sn                05 37 19.7 -5.9
GKN  Gorkha              11.29 121  ePn   Pn                05 35 32.7 -0.7
GKN                                 eSn   Sn                05 37 32.8 -6.8
     comp=Z,412nm,0.4s
GKN  Gorkha              11.29 121  ePn   Pn                05 35 32.7 -0.7
     comp=Z,206nm,0.4s
GKN                                 eSn   Sn                05 37 32.8 -6.8
ALBI Allahabad           11.43 140  eP    Pn                05 35 35.0 -0.4
ALBI                                ex    x                 05 37 12.0
BHPL Bhopal              11.56 163  eP    Pn                05 35 35.9 -1.2
BHPL                                ex    Sn                05 37 40.3 -5.9
BHJ  Bhuj                11.65 199  eP    Pn                05 35 38.5 +0.2
BHJ                                 eS    Sn                05 37 34.7  -14
BHJ                                 ex    x                 05 39 08.9
     comp=E,433nm,0.6s
DMN  Daman               11.86 122  ePn   Pn                05 35 40.2 -1.0
DMN                                 eSn   Sn                05 37 46.4 -7.1
     comp=E,337nm,0.5s
DMN  Daman               11.86 122  ePn   Pn                05 35 40.2 -1.0
     comp=E,168nm,0.5s
DMN                                 eSn   Sn                05 37 46.4 -7.1
KKN  Kakani              11.87 120  ePn   Pn                05 35 40.2 -1.2
KKN                                 eSn   Sn                05 37 47.2 -6.7
     comp=E,410nm,0.6s
KKN  Kakani              11.87 120  eP    Pn                05 35 40.2 -1.2
KKN                                 e                       05 37 47.2
KKN                                 pmax  pmax              
     comp=Z,205nm,0.6s
KKN  Kakani              11.87 120  ePn   Pn                05 35 40.2 -1.2
     comp=Z,205nm,0.6s
KKN                                 eSn   Sn                05 37 47.2 -6.7
PKI  Pulchoki            12.10 121  ePn   Pn                05 35 43.0 -1.4
PKI                                 eSn   Sn                05 37 52.8 -6.5
     comp=Z,321nm,0.5s
PKI  Pulchoki            12.10 121  eP    Pn                05 35 43.0 -1.4
PKI                                 e                       05 37 52.8
PKI                                 pmax  pmax              
     comp=Z,161nm,0.5s
PKI  Pulchoki            12.10 121  ePn   Pn                05 35 43.0 -1.4
     comp=Z,161nm,0.5s
PKI                                 eSn   Sn                05 37 52.8 -6.5
GUN  Gumba               12.24 119  ePn   Pn                05 35 46.5 +0.2
GUN                                 eSn   Sn                05 37 57.2 -5.6
JIRN Jiri                12.60 119  ePn   Pn                05 35 50.4 -1.0
JIRN                                eSn   Sn                05 38 04.8 -7.0
     comp=Z,390nm,0.6s
JIRN Jiri                12.60 119  ePn   Pn                05 35 50.4 -1.0
     comp=Z,195nm,0.6s
JIRN                                eSn   Sn                05 38 04.8 -7.0
MK31 Makanchi Array      13.99  25  Pn    Pn                05 36 10.3 +0.1
     comp=Z,29nm,0.8s,baz=209,slow=11,SNR=189
MKAR Makanchi Array      13.99  25  Pn    Pn                05 36 10.5 +0.2
     comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=54
MKAR                                ScP   ScP               05 45 04.7  -0.2
     comp=Z,0.0nm,0.3s,baz=225,slow=1.7,SNR=4.6
MKAR Makanchi Array      13.99  25  Pn    Pn                05 36 10.5 +0.2
MKAR                                ScP   ScP               05 45 04.7  -0.2
NGP  Nagpur              13.99 159  ex    Pn                05 36 06.2  -4.1
NGP                                 ex    Sn                05 38 32.8  -13
BOK  Bokaro              14.96 132  eP    Pn                05 36 22.6  -0.8
BOK                                 ex    Sn                05 38 51.4  -18
BOM  Bombay              15.45 183  eP    Pn                05 36 27.6  -2.3
BOM                                 ex    Sn                05 39 11.3  -10
LSA  Lhasa               15.49 103  eP    Pn                05 36 28.8  -1.7
LSA                                 pmax  pmax              
     comp=Z,52nm,0.7s
LSA  Lhasa               15.49 103  ePn   Pn                05 36 28.8  -1.7
     comp=Z,52nm,0.7s
LSA                                 eP                      05 36 37.2
POO  Poona               15.79 180  ⇑iP   Pn                05 36 32.0  -2.4
POO                                 ePP                     05 36 40.0
POO                                 ePPP                    05 36 51.5
POO                                 ex    x                 05 36 54.5
POO                                 ex    x                 05 39 16.0
POO                                 i x   x                 05 39 21.0
POO                                 i SQ                    05 39 21.0
POO                                 eSS                     05 39 38.0
POO                                 i SSS                   05 39 51.0
POO                                 ex    x                 05 39 58.5
POO                                 i PCP PcP               05 41 40.5 +6.7
LATR Latur               16.10 170  eP    Pn                05 36 35.0  -3.4
KURK Kurchatov           16.71  11  ⇓Pn   Pn                05 36 44.2  -2.0
     comp=Z,34nm,1.0s
KURK                                ⇓Sn   Sn                05 39 56.3 +4.5
     comp=Z,31nm,2.0s
KURK Kurchatov           16.71  11  ⇑iP   Pn                05 36 44.9  -1.3
KURK Kurchatov           16.71  11  eP    Pn                05 36 44.5  -1.7
     comp=Z,74nm,1.1s
KAD  Karad               17.01 179  eP    Pn                05 36 50.3 +0.4
BANOM Banah              17.26 245  P     Pn                05 36 54.4 +1.3
     SNR=15
HYB  Hyderabad           17.44 164  i P   Pn                05 36 54.0  -1.3
     comp=Z,100nm,1.0s
HYB                                 e                       05 36 57.0
HYB                                 eS    Sn                05 40 16.0 +6.6
HYB                                 LR    LR                05 43 36.0
     comp=Z,3.5nm,12.0s
HYB  Hyderabad           17.44 164  eP    Pn                05 36 51.0  -4.3
     comp=Z,100nm,1.0s
HYB                                 e                       05 36 57.0
HYB                                 eS    Sn                05 39 52.0  -17
WBK  Wadi Bani Khal      17.47 232  ⇑P    Pn                05 36 56.9 +1.2
     SNR=20
SMDO Samad               17.76 235  P     Pn                05 37 02.8 +3.4
     SNR=10.0
HOQ  Hoqain              17.92 237  ⇑Pn   Pn                05 37 04.5 +3.1
AB31 Akbulak array       18.02 330  ⇑Pn   Pn                05 37 01.8  -0.8
     comp=Z,25nm,0.6s,baz=134,slow=12,SNR=323
AB31                                ⇑Sn   Sn                05 40 13.0  -11
     comp=Z,16nm,0.8s,baz=148,slow=23,SNR=6.5
AB31 Akbulak array       18.02 330  P     Pn                05 37 01.7  -0.9
AB31                                pmax  pmax              
     comp=Z,18nm,0.6s
ASHO Ashiyiah            18.14 243  P     Pn                05 37 07.4 +3.4
     SNR=23
JMDO Jabal Madar         18.20 233  P     Pn                05 37 08.8 +4.1
     SNR=9.9
VOSK Vostochnaya         18.44 355  ⇓Pn   Pn                05 37 06.1  -1.6
     comp=Z,24nm,0.7s
BSY  Bisya               18.55 236  ⇓P    Pn                05 37 10.8 +1.8
ARQ  Araqi               18.64 238  ⇓P    Pn                05 37 13.3 +3.2
VIS  Vishakhapatnam      18.68 150  eP    Pn                05 37 12.5 +2.0
VIS                                 ex    Sn                05 40 21.8  -18
VIS                                 ex    x                 05 42 47.8
BVA0 Borovoye Array      18.79 354  ⇓Pn   Pn                05 37 11.6  -0.3
     comp=Z,3.1nm,0.7s,baz=157,slow=10,SNR=165
BVA0 Borovoye Array      18.79 354  i P   Pn                05 37 11.6  -0.3
BVA0                                pmax  pmax              
     comp=Z,1.0nm,0.4s
BVAR Borovoye Array      18.79 354  P     Pn                05 37 12.2 +0.3
     comp=Z,3.4nm,0.3s,baz=157,slow=11,SNR=91
BRVK Borovoye            18.83 354  eP    Pn                05 37 12.5  0.0
BRVK                                pmax  pmax              
     comp=Z,28nm,0.8s
BRVK Borovoye            18.83 354  eP    Pn                05 37 12.5 +0.1
     comp=Z,28nm,0.8s
ZRNK Zerenda             18.87 351  ⇑Pn   Pn                05 37 12.2  -0.7
     comp=Z,34nm,1.2s
ZRNK Zerenda             18.87 351  eP    Pn                05 37 11.8  -1.1
ZRNK                                pmax  pmax              
     comp=Z,18nm,0.5s
ZRNK Zerenda             18.87 351  eP    Pn                05 37 11.8  -1.1
     comp=Z,18nm,0.5s
AKTK Aktyubinsk          19.73 329  P     Pn                05 37 22.9  -0.3
AKTK                                S     Sn                05 40 57.1  -7.8
AKTO Aktyubinsk          19.73 329  ⇑Pn   Pn                05 37 22.8  -0.5
     comp=Z,11nm,0.8s
AKTO                                ⇑Sn   Sn                05 40 51.4  -14
     comp=Z,3.5nm,0.9s
AKTO Aktyubinsk          19.73 329  P     Pn                05 37 22.9  -0.3
     comp=Z,4.1nm,0.3s,baz=133,slow=10,SNR=59
AKTO                                S     Sn                05 40 57.1  -7.8
     comp=Z,0.3nm,0.3s,baz=207,slow=20,SNR=3.9
AKTO Aktyubinsk          19.73 329  P     Pn                05 37 23.0  -0.3
AKTO                                S     Sn                05 40 57.1  -7.8
AKTO                                pmax  pmax              
     comp=Z,4.0nm,0.3s
ZAL  Zalesovo            21.05  18  P     P                 05 37 36.2 +0.1
     comp=Z,29nm,0.6s,mb4.8,baz=263,slow=12,SNR=99
ZAL                                 S     S                 05 41 22.8  -7.7
     comp=Z,1.6nm,0.7s,baz=178,slow=24,SNR=4.2
ZAL                                 LR    LR                05 47 02.8
     comp=Z,658nm,20.8s,MS4.0,baz=262,slow=40
ZAL  Zalesovo            21.05  18  P     P                 05 37 36.2 +0.1
ZAL                                 S     S                 05 41 22.8  -7.7
MNGI Mangalore           21.37 177  eP    P                 05 37 39.8 +0.3
MNGI                                ex    x                 05 41 20.6
NVS  Novosibirsk         21.51  15  eP    P                 05 37 39.2  -1.8
NVS                                 eS    S                 05 41 32.2  -7.2
NVS                                 pmax  pmax              
     comp=Z,69nm,1.2s,mb5.0
NVS                                 pmax  pmax              
     comp=N,104nm,1.7s
NVS                                 pmax  pmax              
     comp=E,20nm,0.8s
NVS                                 smax                    
     comp=N,28nm,1.6s
NVS                                 smax                    
     comp=E,88nm,1.6s
QRN  Al-Qurain           22.67 263  eP    P                 05 37 53.0  -0.4
QRN                                 AMb   AMB               05 37 54.0
     comp=Z,153nm,0.7s,mb5.5
KBD  Kabd                22.71 264  eP    P                 05 37 54.0 +0.1
KBD                                 AMb   AMB               05 37 58.5
     comp=Z,421nm,0.8s,mb5.9
RDF  Al-Radifah          22.91 263  eP    P                 05 37 56.0  0.0
RDF                                 AMb   AMB               05 37 57.0
     comp=Z,223nm,0.8s,mb5.6
NAY  Al-Naaiem           23.05 264  eP    P                 05 37 57.5  0.0
NAY                                 AMb   AMB               05 38 03.7
     comp=Z,54nm,0.9s,mb5.0
DGRG David-gareji        23.39 296  P     P                 05 38 03.0 +1.9
GNI  Garni               23.72 293  P     P                 05 38 05.7 +1.4
     comp=Z,12nm,0.7s,mb4.5,baz=15,slow=7.4,SNR=10
MTA  Mtatsminda          23.86 296  P     P                 05 38 07.7 +2.2
TBLG Delisi              23.91 296  P     P                 05 38 08.0 +2.0
WHFO Wadi Hawf           24.21 232  ⇓P    P                 05 38 09.5 +0.8
RBK  Rabkut              24.23 231  ⇓P    P                 05 38 10.3 +1.4
ARU  Arti                24.38 339  eP    P                 05 38 11.0 +0.7
ARU                                 pmax  pmax              
     comp=Z,28nm,0.6s,mb4.9
ARU  Arti                24.38 339  eP    P                 05 38 11.0 +0.7
     comp=Z,28nm,0.6s,mb4.9
ZEI  Tsey                24.68 299  i P   P                 05 38 12.5  -0.6
ZEI                                 i *PP                   05 38 20.3
ZEI                                 i                       05 38 42.8
ZEI                                 pmax  pmax              
     comp=Z,7.0nm,0.7s,mb4.3
AKH  Akhalkalaki         24.79 295  P     P                 05 38 16.6 +2.6
ABTO Aybut               24.93 232  ⇓P    P                 05 38 16.3 +1.0
ONI  Oni                 24.98 298  P     P                 05 38 21.3 +5.6
GOF  Gofitskoye          25.77 304  eP    P                 05 38 24.8 +1.9
GOF                                 pmax  pmax              
     comp=Z,50nm,0.8s,mb5.1
MOY  Mondy               26.15  40  eP    P                 05 38 27.9 +1.5
MOY                                 pmax  pmax              
     comp=Z,37nm,1.6s,mb4.7
ZAK  Zakamensk           26.82  44  ⇑eP   P                 05 38 33.3 +0.9
ZAK                                 pmax  pmax              
     comp=Z,20nm,1.9s,mb4.3
ZAK                                 pmax  pmax              
     comp=Z,10.0nm,1.9s,mb4.0
ZAK                                 pmax  pmax              
     comp=Z,14nm,1.9s,mb4.2
PALK Pallekele           27.73 165  eP    P                 05 38 41.6 +1.0
     comp=Z,7.4nm,0.6s,mb4.5
SONM Songino Array       27.81  51  P     P                 05 38 43.2 +1.9
     comp=Z,13nm,0.9s,mb4.6,baz=257,slow=9.9,SNR=118
SONM                                ScP   ScP               05 45 38.4 +0.2
     comp=Z,0.7nm,0.9s,baz=180,slow=4.4,SNR=3.9
SONM                                LR    LR                05 51 19.5
     comp=Z,2μm,19.1s,MS4.6,baz=65,slow=40
ULN  Ulaanbaatar         28.25  51  d iP  P                 05 38 46.5 +1.3
ULN  Ulaanbaatar         28.25  51  eP    P                 05 38 46.1 +1.0
     comp=Z,11nm,0.9s,mb4.5
MALT Malatya             28.60 288  eP    P                 05 38 50.5 +2.2
MALT                                pmax  pmax              
     comp=Z,3.0nm,0.7s,mb4.1
MALT Malatya             28.60 288  eP    P                 05 38 50.5 +2.2
     comp=Z,3.1nm,0.7s,mb4.2
ENH  Enshi               30.39  88  eP    P                 05 39 04.8 +0.6
     comp=Z,6.2nm,0.6s,mb4.5
BRTR Keskin Array B      32.25 291  P     P                 05 39 20.6 +0.1
     comp=Z,2.8nm,0.7s,mb4.2,baz=112,slow=8.7,SNR=14
OBN  Obninsk             32.99 320  eP    P                 05 39 27.3 +0.2
OBN                                 e                       05 40 34.1
OBN                                 pmax  pmax              
     comp=Z,10.0nm,0.8s,mb4.8
OBN                                 MLR   MLR               
     comp=Z,200nm,19.0s,MS3.8
BJT  Baijiatuau          34.02  68  eP    P                 05 39 37.3 +1.2
BJT                                 pmax  pmax              
     comp=Z,17nm,0.8s
BJT  Baijiatuau          34.02  68  eP    P                 05 39 37.3 +1.2
     comp=Z,17nm,0.8s,mb5.0
KLMR Klimovskoe          34.42 331  eP    P                 05 39 41.1 +1.6
KLMR                                pmax  pmax              
     comp=Z,40nm,1.4s,mb5.2
BOD  Bodaibo             35.66  36  eP    P                 05 39 50.0 -0.2
BOD                                 pmax  pmax              
     comp=Z,5.0nm,1.0s,mb4.4
AKASG Malin Array Be     36.01 311  P     P                 05 39 51.5 -1.7
     comp=Z,2.6nm,0.4s,mb4.5,baz=84,slow=7.6,SNR=27
AKASG Malin Array Be     36.01 311  i P   P                 05 39 52.4 -0.9
AKASG                               pmax  pmax              
     comp=Z,3.0nm,0.4s
CFR  Carcaliu            36.23 301  ⇑P    P                 05 39 55.4 +0.3
CFR  Carcaliu            36.23 301  ⇑P    P                 05 39 55.4 +0.3
HIA  Hailar              36.77  52  eP    P                 05 40 01.4 +1.6
HIA                                 pmax  pmax              
     comp=Z,6.0nm,0.8s
HIA  Hailar              36.77  52  eP    P                 05 40 01.4 +1.6
     comp=Z,6.3nm,0.8s,mb4.5
MLR  Muntele Rosu        37.78 302  P     P                 05 40 09.1 +0.8
     comp=Z,46nm,0.8s,mb5.2,baz=142,slow=1.5,SNR=63
MLR  Muntele Rosu        37.78 302  ⇓P    P                 05 40 10.4 +2.1
MLR  Muntele Rosu        37.78 302  ⇓P    P                 05 40 10.4 +2.2
KULM Kulim               38.20 133  eP    P                 05 40 12.8 +1.0
VOIR                     38.41 302  ⇑P    P                 05 40 14.7 +1.1
VOIR                     38.41 302  ⇑P    P                 05 40 14.7 +1.1
JOF  Joensuu             38.81 330  ep    P                 05 40 17.5 +0.5
     comp=Z,3.3nm,0.4s,mb4.4
PSI  Prapat              39.21 138  P     P                 05 40 19.7  -0.6
     comp=Z,5.4nm,0.7s,mb4.4,baz=302,slow=11,SNR=5.1
IDI  Anoyia              39.77 286  P     P                 05 40 25.3 +0.3
     comp=Z,10nm,0.6s,mb4.7,baz=56,slow=11,SNR=9.8
DRGR                     40.02 304  ⇓P    P                 05 40 28.2 +1.2
DRGR                     40.02 304  ⇓P    P                 05 40 28.2 +1.1
KWP  Kalwaria            40.07 308  eP    P                 05 40 28.3 +0.8
KWP  Kalwaria            40.07 308  eP    P                 05 40 27.9 +0.5
     comp=Z,16nm,1.0s,mb4.7
SUW  Suwalki             40.19 315  eP    P                 05 40 27.6  -0.9
KOLS Kolonicke sedl      40.33 307  eP    P                 05 40 29.7 +0.1
FINES FINESS Array B     40.48 327  P     P                 05 40 30.7  -0.2
     comp=Z,4.2nm,0.6s,mb4.3,baz=114,slow=8.9,SNR=37
FINES FINESS Array B     40.48 327  P     P                 05 40 30.7  -0.2
KAF  Kangasniemi         40.61 328  ep    P                 05 40 29.9  -2.0
     comp=Z,2.6nm,0.6s,mb4.0
KAF  Kangasniemi         40.61 328  eP    P                 05 40 29.9  -2.0
KAF                                 pmax  pmax              
     comp=Z,3.0nm,0.6s,mb4.1
BZS  Buzias              40.81 302  ⇑P    P                 05 40 34.5 +0.9
BZS  Buzias              40.81 302  ⇑P    P                 05 40 34.5 +0.9
STHS Stebnicka Huta      41.01 308  eP    P                 05 40 34.9  -0.4
STHS                                e                       05 40 43.2
STHS                                ePCP  PcP               05 42 27.7  -7.5
STHS Stebnicka Huta      41.01 308  eP    P                 05 40 34.9  -0.4
STHS                                e                       05 40 43.2
KECS Kecovo              41.51 306  i P   P                 05 40 39.3  0.0
KECS                                e                       05 42 32.9
NIE  Niedzica            41.62 308  eP    P                 05 40 41.5 +1.2
PSZ  Piszkesteto         41.91 306  eP    P                 05 40 42.9 +0.3
PSZ                                 pmax  pmax              
     comp=Z,6.0nm,0.8s,mb4.3
PSZ  Piszkesteto         41.91 306  eP    P                 05 40 42.9 +0.2
     comp=Z,6.2nm,0.8s,mb4.3
OJC  Ojcow               41.96 309  eP    P                 05 40 42.8  -0.3
DIVS Divcibare           42.08 300  eP    P                 05 40 44.3 +0.3
VYHS Vyhne               42.60 306  eP    P                 05 40 48.7 +0.4
SRO  Srobarova           42.98 306  eP    P                 05 40 52.3 +1.0
SRO                                 epP   pP                05 40 56.8 +2.3
OKC  Ostrava-Krasne      43.03 308  eP    P                 05 40 49.4  -2.3
MORC Moravsky Berou      43.42 308  eP    P                 05 40 54.9  0.0
MORC                                pmax  pmax              
     comp=Z,9.0nm,0.8s,mb4.5
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MORC Moravsky Berou 43.42 308 *eP* **P 05 40 54.9 0.0**
comp=Z,9.1nm,0.8s,mb4.6
ARCES ARCESS Array B 43.95 338 P **P 05 40 59.5 +0.3**
comp=Z,4.1nm,0.4s,mb4.5,baz=114,slow=8.4,SNR=40
VRAC Vranov 44.05 308 P **P 05 41 00.8 +0.8**
comp=Z,10nm,0.8s,mb4.6,baz=91,slow=9.0,SNR=15
DPC Dobruska-Polom 44.19 309 *eP* **P 05 41 01.4 +0.3**
KSP Ksiaz 44.20 310 *eP* **P 05 41 01.5 +0.3**
UPC Upice 44.39 309 *eP* **P 05 41 02.7 0.0**
KLR Kul'dur 44.63 52 *eP* **P 05 41 02.8 -1.8**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.3
GROS Grobnik 44.99 304 *eP* **P 05 41 07.5 0.0**
DOBS Dobrina 45.05 303 *eP* **P 05 41 08.0 0.0**
PERS Pernice 45.24 304 *eP* **P 05 41 09.7 +0.2**
TIP Timpagrande 45.25 293 *eP* **P 05 41 08.5 -1.0**
PRU Pruhonice 45.35 309 *eP* **P 05 41 10.5 +0.1**
VLA Vladivostok 45.39 61 *eP* **P 05 41 09.8 -0.9**
VLA pmax pmax
comp=Z,49nm,1.3s,mb5.2
BRG Berggiesshubel 45.69 310 *eP* **P 05 41 13.1 +0.1**
comp=Z,8.7nm,1.0s,mb4.7
BRG *e* pP 05 41 17.2 +1.1
comp=Z,7.1nm,1.0s
BRG *e* 05 41 24.6
comp=Z,4.6nm,0.9s
BRG
comp=N,183nm,32.8s
BRG
comp=E,118nm,26.5s
BRG
comp=Z,189nm,26.0s
MOA Molln 45.70 306 ⇑*iP* **P 05 41 13.0 -0.1**
comp=Z,18nm,1.0s,mb5.0,SNR=8.0
LJU Ljubljana 45.71 303 *eP* **P 05 41 13.7 +0.5**
GEC2 GERESS Array S 45.98 307 *eP* **P 05 41 15.4 +0.1**
comp=Z,15nm,1.9s,mb4.6
GERES GERESS Array B 45.98 307 P **P 05 41 15.3 0.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=82,slow=7.5,SNR=20
KHC Kasperske Hory 46.04 308 *eP* **P 05 41 16.0 +0.2**
HFS Hagfors 46.10 323 P **P 05 41 15.8 -0.5**
comp=Z,22nm,0.6s,mb5.3,baz=100,slow=9.0,SNR=97
VOY Vojsko 46.15 303 *eP* **P 05 41 16.5 -0.2**
VOY *e* 05 41 21.7
CADS Cadrg 46.23 304 *eP* **P 05 41 17.1 -0.3**
CLL Collm 46.26 311 *eP* **P 05 41 17.1 -0.4**
comp=Z,4.0nm,0.8s,mb4.4
CLL Collm 46.26 311 *iP* **P 05 41 16.3 -1.2**
comp=Z,6.0nm,0.8s,mb4.6
CLL *i* pP pP 05 41 20.9 +0.2
ROBS Robic 46.39 304 *eP* **P 05 41 18.6 0.0**
KBA Koelnbreinsper 46.40 305 ⇑*iP* **P 05 41 17.9 -0.7**
comp=Z,6.0nm,0.7s,mb4.7,SNR=5.2
NKC Novy Kostel 46.68 309 *eP* **P 05 41 19.5 -1.3**
MOR8 Moi Rana 46.75 331 *eP* **P 05 41 20.4 -0.9**
WERD Werda 46.76 310 *eP* **P 05 41 21.5 +0.1**
comp=Z,3.0nm,0.9s,mb4.2
HABR Khabarovsk 46.87 53 *iP* **P 05 41 23.1 +0.8**
HABR pmax pmax
comp=Z,26nm,1.0s,mb5.1
ROTZ Rotzenmuhle 46.88 309 *eP* **P 05 41 23.1 +0.7**
comp=Z,14nm,1.1s,mb4.8
TIXI Tiksi 46.93 21 *dP* **P 05 41 22.8 0.0**
JNU Nakatsue 46.98 75 P **P 05 41 24.9 +1.6**
comp=Z,20nm,0.9s,mb5.0,baz=315,slow=7.7,SNR=5.2
JOW Kunigami 47.07 84 P **P 05 41 23.6 -0.3**
comp=Z,5.6nm,0.7s,mb4.6,baz=346,slow=11,SNR=4.8
MOX Moxa 47.18 310 *eP* **P 05 41 24.7 0.0**
comp=Z,7.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 47.41 324 P **P 05 41 25.4 -1.1**
comp=Z,15nm,0.6s,mb5.1,baz=95,slow=7.9
NOA NORSAR Array B 47.41 324 P **P 05 41 25.5 -1.0**
comp=Z,15nm,0.6s,mb5.1,baz=96,slow=7.6,SNR=62
NOA NORSAR Array B 47.41 324 P **P 05 41 25.5 -1.0**
GRA1 Grafenberg Arr 47.52 309 *eP* **P 05 41 28.0 +0.6**
GRF Grafenberg Arr 47.52 309 *eP* **P 05 41 28.0 +0.6**
comp=Z,20nm,1.3s,mb5.0
GRF Grafenberg Arr 47.52 309 *eP* **P 05 41 28.0 +0.6**
GRF pmax pmax
comp=Z,20nm,1.3s,mb5.0
FUR Furstenfeldbru 47.66 307 *eP* **P 05 41 29.0 +0.6**
comp=Z,22nm,1.4s,mb5.0
BSEG Bad Segeberg 47.77 314 *eP* **P 05 41 29.3 0.0**
comp=Z,11nm,0.8s,mb4.9
SQTA Sankt Quirin 47.83 305 ⇑*iP* **P 05 41 28.8 -1.0**
comp=Z,6.1nm,1.1s,mb4.6,SNR=6.5
CLZ Clausthal 47.86 312 *eP* **P 05 41 29.7 -0.4**
comp=Z,9.0nm,0.9s,mb4.8
MOTA Moosalm 47.88 305 ⇓*iP* **P 05 41 29.0 -1.2**
comp=Z,7.6nm,1.0s,mb4.7,SNR=11
DAVA Damuels 48.71 306 *iP* **P 05 41 36.1 -0.5**
comp=Z,43nm,0.9s,mb5.5,SNR=16
DAVOX Davos 48.79 305 P **P 05 41 36.8 -0.4**
comp=Z,11nm,0.8s,mb5.0,baz=116,slow=6.0,SNR=12
STU Stuttgart 48.95 308 *eP* **P 05 41 38.2 -0.2**
comp=Z,8.0nm,0.9s,mb4.8
STU Stuttgart 48.95 308 *eP* **P 05 41 38.0 -0.4**
STU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
STU Stuttgart 48.95 308 *eP* **P 05 41 38.0 -0.4**
comp=Z,9.1nm,0.6s,mb5.0
KMBO Kilima Mbogo 49.16 232 P **P 05 41 41.0 +0.9**
comp=Z,12nm,0.9s,mb4.9,baz=35,slow=12,SNR=28
KMBO LR LR 06 03 13.6
comp=Z,200nm,21.4s,MS4.1,baz=89,slow=37
KMBO Kilima Mbogo 49.16 232 *eP* **P 05 41 41.6 +1.5**
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 49.16 232 *eP* **P 05 41 41.6 +1.5**
comp=Z,11nm,1.0s,mb4.8
TNS Taunus Mts 49.24 310 *eP* **P 05 41 40.7 +0.1**
comp=Z,5.0nm,0.9s,mb4.5
IBBN Ibbenburen 49.43 312 *eP* **P 05 41 41.8 -0.3**
comp=Z,11nm,0.8s,mb4.9
LANF Langenberg 49.83 308 *eP* **P 05 41 45.6 +0.5**
BUG Bochum--Univer 49.83 311 *eP* **P 05 41 45.0 -0.1**
comp=Z,10.0nm,1.1s,mb4.8
RUP Ruppelstein 50.20 309 *eP* **P 05 41 47.0 -1.0**
PGF Pioggiola 50.24 300 *eP* **P 05 41 47.2 -1.1**
comp=Z,49nm,1.0s,mb5.2
CDF Champ du Feu 50.26 307 *eP* **P 05 41 47.8 -0.6**
BBS Basel-Blauen 50.27 306 *eP* **P 05 41 47.5 -1.0**
MOF Molkenrain 50.45 307 *eP* **P 05 41 49.7 -0.2**
HINF Hinteralfeld 50.65 307 *eP* **P 05 41 50.4 -0.9**
comp=Z,21nm,0.9s,mb4.8
MEM Membach 50.73 310 P **P 05 41 51.6 -0.4**
MEM XP sP 05 41 56.1 -0.2
WLF Walferdange 50.79 309 P **P 05 41 52.2 -0.2**
comp=Z,6.6nm,0.9s,mb4.6
WLF XP sP 05 41 57.4 +0.6
HAU Haudompre 50.94 307 *eP* **P 05 41 53.8 +0.2**
comp=Z,20nm,0.9s,mb4.8
HAU *eR*
comp=Z,122nm,20.8s
SBF Sospel 51.05 302 *eP* **P 05 41 53.2 -1.2**
comp=Z,39nm,0.8s,mb5.1
LPG La Plagne 51.17 304 *eP* **P 05 41 55.2 -0.1**
comp=Z,30nm,0.8s,mb5.0
LPL La Plagne 51.18 304 *eP* **P 05 41 55.1 -0.2**
comp=Z,39nm,0.9s,mb5.0
BNI Bardonecchia 51.31 303 *eP* **P 05 41 55.2 -1.2**
BNI pmax pmax
comp=Z,11nm,0.9s,mb4.8
BNI Bardonecchia 51.31 303 *eP* **P 05 41 55.2 -1.2**
comp=Z,11nm,0.9s,mb4.8
MBDF Montbardon 51.32 303 *eP* **P 05 41 55.4 -1.0**
comp=Z,16nm,0.9s,mb4.7
CABF La Chapelle 51.39 305 *eP* **P 05 41 56.6 -0.3**
comp=Z,31nm,1.1s,mb4.9
GIVF Givet 51.56 310 *eP* **P 05 41 57.7 -0.5**
MAJO Matsushiro 51.67 68 *eP* **P 05 41 59.1 +0.1**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAJO Matsushiro 51.67 68 *eP* **P 05 41 59.1 +0.1**
comp=Z,11nm,0.8s,mb4.8
MJAR Matsushiro Arr 51.67 68 P **P 05 41 59.9 +0.9**
comp=Z,3.6nm,0.8s,mb4.3,baz=287,slow=9.6,SNR=5.3
FRF La Foret Royal 51.68 301 *eP* **P 05 41 58.1 -1.0**
comp=Z,24nm,1.0s,mb4.8
MEZF Maizieres J'vi 51.70 308 *eP* **P 05 41 59.0 -0.3**
comp=Z,34nm,1.1s,mb4.9
DOU Dourbes 51.71 310 P **P 05 41 59.5 +0.2**
comp=Z,9.4nm,1.0s,mb4.7
DOU AP pP 05 42 01.7 -0.8
DOU XP sP 05 42 04.4 +0.7
LMR La Mourre 51.83 301 *eP* **P 05 41 59.0 -1.2**
SNF Seneffe 51.83 310 P **P 05 41 60.0 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
SNF XP sP 05 42 04.8 +0.2
ORIF Oris-en-Rattie 51.90 303 *eP* **P 05 41 59.9 -0.8**
ORIF *eR*
comp=Z,138nm,21.8s
BAIF Baives 51.96 310 *eP* **P 05 42 00.9 -0.3**
comp=Z,24nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 52.24 54 ⇑*eP* **P 05 42 05.0 +1.7**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.7
YSS MLR MLR
comp=N,400nm,14.0s
YSS Yuzh-Sakhalins 52.24 54 *eP* **P 05 42 03.3 0.0**
comp=N,27nm,1.0s,mb5.1
SMRF Simiane la Rot 52.33 302 *eP* **P 05 42 03.8 -0.2**
LOR Lormes 52.74 307 *eP* **P 05 42 06.1 -0.9**
LOR *eR*
comp=N,122nm,21.5s
VIVF Saint-Julien-l 52.75 303 *eP* **P 05 42 06.5 -0.5**
SMF Signal de Mont 52.89 306 *eP* **P 05 42 07.3 -0.8**
comp=N,42nm,0.9s,mb5.1
SSF Saint Saulge 53.02 306 *eP* **P 05 42 08.0 -1.1**
comp=N,26nm,1.1s,mb4.8
AVF Avril sur Loir 53.19 306 *eP* **P 05 42 09.3 -1.0**
comp=N,29nm,0.9s,mb4.9
PLDF La Plantade 53.20 305 *eP* **P 05 42 10.2 -0.2**
LASF Ste Croix 53.51 303 *eP* **P 05 42 12.4 -0.2**
comp=N,21nm,1.0s,mb4.7
AGO Saint Agoulin 53.51 305 *eP* **P 05 42 12.5 -0.2**
HYF Humbligny 53.55 307 *eP* **P 05 42 12.4 -0.6**
BGF Bois d'Agland 53.58 306 *eP* **P 05 42 12.2 -1.0**
TCF Toulx Ste Croi 54.07 306 *eP* **P 05 42 16.2 -0.6**
comp=N,33nm,1.0s,mb4.9
CAF Calviac 54.52 304 *eP* **P 05 42 19.8 -0.3**
comp=N,19nm,0.9s,mb4.8
MA2 Magadan 54.67 37 *eP* **P 05 42 21.7 +0.6**
MA2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MA2 Magadan 54.67 37 *eP* **P 05 42 21.4 +0.2**
comp=Z,7.2nm,0.9s,mb4.7
RJF Les Rejaudoux 54.80 305 *eP* **P 05 42 21.7 -0.3**
comp=Z,32nm,1.2s,mb4.9
RJF *eR*
comp=Z,142nm,21.0s
MTLF Montolieu 54.85 302 *eP* **P 05 42 22.0 -0.4**
SEY Seymchan 54.95 33 *eP* **P 05 42 24.3 +1.1**
SEY *e* 05 43 30.3
SEY *e* 05 45 44.0
SEY pmax pmax
comp=E,7.0nm,0.8s
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LDF La Druitiere 55.04 309 *eP* **P 05 42 22.5 -1.3**
comp=Z,8.2nm,0.7s,mb4.5
FLN La Foliniere 55.23 309 *eP* **P 05 42 23.8 -1.4**
comp=Z,22nm,1.0s,mb4.8
FLN *eR*
comp=Z,140nm,22.5s
ESK Eskdalemuir 55.38 317 *eP* **P 05 42 25.3 -1.0**
ESK pmax pmax
comp=Z,16nm,1.0s,mb5.0
ESK Eskdalemuir 55.38 317 *eP* **P 05 42 25.3 -1.0**
comp=Z,16nm,1.0s,mb5.0
LFF La Prestale 55.42 304 *eP* **P 05 42 26.2 -0.4**
comp=Z,17nm,0.7s,mb4.9
GRR Gorron 55.56 309 *eP* **P 05 42 26.4 -1.2**
comp=Z,24nm,1.0s,mb4.9
MFF Saint Martin d 55.56 307 *eP* **P 05 42 26.4 -1.2**
comp=Z,17nm,1.0s,mb4.7
EPF Esparros 56.25 302 *eP* **P 05 42 31.6 -0.9**
comp=Z,15nm,1.1s,mb4.7
SGMF Saint Gilles 56.69 309 *eP* **P 05 42 34.6 -1.1**
comp=Z,27nm,1.0s,mb4.9
ETSF Etsaut 56.92 302 *eP* **P 05 42 37.0 -0.3**
comp=Z,19nm,0.7s,mb5.0
ROSF Rostrenen 57.13 309 *eP* **P 05 42 37.5 -1.3**
comp=Z,35nm,1.0s,mb5.0
QUIF Quistinic 57.18 309 *eP* **P 05 42 37.6 -1.5**
comp=Z,24nm,1.0s,mb4.9
SJPF Ste Jean 57.32 303 *eP* **P 05 42 39.6 -0.5**
DAG Danmarks Havn 57.38 344 *iP* **P 05 42 40.0 -0.5**
comp=Z,2.7nm,0.7s,mb4.4
DAG Danmarks Havn 57.38 344 *eP* **P 05 42 40.0 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
DAG Danmarks Havn 57.38 344 *eP* **P 05 42 40.0 -0.5**
comp=Z,2.7nm,0.7s,mb4.4
OPO Ambohidratompo 58.41 210 P **P 05 42 48.9 +1.1**
comp=Z,6.9nm,0.7s,mb4.8,baz=20,slow=6.7,SNR=12
BILL Bilibino 59.53 26 ⇓*eP* **P 05 42 56.2 +0.6**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.3
BILL Bilibino 59.53 26 *eP* **P 05 42 56.3 +0.7**
comp=Z,4.5nm,0.6s,mb4.7
ESDC Sonseca Array 60.43 300 P **P 05 43 02.1 +0.4**
comp=Z,3.0nm,0.8s,mb4.4,baz=56,slow=8.0,SNR=4.8
MTE Manteigas 62.70 302 *eP* **P 05 43 17.1 +0.1**
PVIS Viseu 62.82 302 *eP* **P 05 43 19.0 +1.2**
MDT Midelt 63.65 293 P **P 05 43 24.0 +0.6**
comp=Z,5.1nm,1.1s,mb4.5,baz=79,slow=5.9,SNR=7.6
MDT LR LR 06 14 15.9
comp=Z,105nm,22.0s,MS4.0,baz=299,slow=39
SUMG Summit 63.78 342 *eP* **P 05 43 24.5 +0.3**
comp=Z,11nm,0.9s,mb4.9
PBEJ Beja 63.88 300 *eP* **P 05 43 24.2 -0.7**
LSZ Lusaka 65.68 229 P **P 05 43 36.7 +0.1**
comp=Z,7.2nm,0.5s,mb4.9,baz=51,slow=7.4,SNR=10
LSZ Lusaka 65.68 229 *eP* **P 05 43 37.0 +0.4**
LSZ pmax pmax
comp=Z,19nm,1.3s,mb5.0
LSZ Lusaka 65.68 229 *eP* **P 05 43 37.0 +0.4**
comp=Z,19nm,1.3s,mb5.0
TORD Torodi Ar. Bea 67.94 271 P **P 05 43 50.3 -0.7**
comp=Z,28nm,0.7s,mb5.4,baz=47,slow=5.4,SNR=201
MBWA Marble Bar 70.45 135 *eP* **P 05 44 06.1 -0.5**
comp=Z,3.3nm,0.7s,mb4.4
FITZ Fitzroy Crossi 71.84 128 *eP* **P 05 44 14.5 -0.5**
comp=Z,5.4nm,0.9s,mb4.5
IMA2 Indian Mountai 73.45 18 *eP* **P 05 44 24.4 -0.2**
LBTB Lobatse 74.67 224 P **P 05 44 32.3 +0.6**
comp=Z,14nm,0.5s,mb5.2,baz=52,slow=4.7,SNR=48
TSUM Tsumeb 75.43 234 P **P 05 44 36.9 +0.8**
comp=Z,23nm,0.7s,mb5.2,baz=12,slow=6.6,SNR=46
TSUM Tsumeb 75.43 234 *eP* **P 05 44 36.5 +0.5**
comp=Z,20nm,0.7s,mb5.2
TSUM LR LR
comp=Z,236nm,21.0s,MS4.5
INK Inuvik 75.61 10 P **P 05 44 37.3 +0.1**
comp=Z,5.9nm,0.7s,mb4.6,baz=350,slow=6.1,SNR=22
COLA College 75.87 17 *eP* **P 05 44 39.7 +1.1**
COLA pmax pmax
comp=Z,19nm,1.1s,mb4.9
COLA College 75.87 17 *eP* **P 05 44 39.7 +1.1**
comp=Z,19nm,1.1s,mb4.9
ILAR Eielson Array 76.19 17 P **P 05 44 39.5 -0.8**
comp=Z,2.7nm,0.9s,mb4.2,baz=298,slow=5.1,SNR=15
ILAR PP PP 05 47 33.4 +2.0
comp=Z,1.9nm,0.8s,baz=317,slow=8.9,SNR=6.6
DBIC Dimbokro 76.86 269 P **P 05 44 43.9 -0.3**
comp=Z,14nm,0.8s,mb4.9,baz=40,slow=7.9,SNR=19
MUN Mundaring 77.16 144 *eP* **P 05 44 44.6 -1.3**
KLBR Kellerberrin 77.61 143 *eP* **P 05 44 47.3 -1.1**
comp=Z,16nm,1.0s,mb4.9
BOSA Boshof 77.63 222 P **P 05 44 48.4 -0.1**
comp=Z,11nm,0.7s,mb4.9,baz=32,slow=5.6,SNR=29
BOSA LR LR 06 15 38.4
comp=Z,82nm,19.9s,MS4.0,baz=7.2,slow=33
FRB Frobisher Bay 77.73 344 P **P 05 44 48.4 -0.7**
comp=Z,5.4nm,0.8s,mb4.5,baz=22,slow=7.5,SNR=7.4
NWAO Narrogin (SRO) 78.44 144 P **P 05 44 52.2 -0.8**
comp=Z,5.8nm,0.5s,mb4.8,baz=314,slow=5.2,SNR=12
NWAO Narrogin (SRO) 78.44 144 P **P 05 44 52.2 -0.8**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
NWAO Narrogin (SRO) 78.44 144 *eP* **P 05 44 51.5 -1.5**
comp=Z,14nm,1.0s,mb4.9
WRA Warramunga Arr 78.97 123 P **P 05 44 56.5 +0.5**
comp=Z,6.8nm,0.6s,mb4.7,baz=321,slow=5.0,SNR=102
WRA PKKPbc PKKPbc 06 03 49.1 +0.6
comp=Z,0.2nm,0.3s,baz=123,slow=2.2,SNR=6.2
WRAB Tennant Creek 78.97 123 ⇓*iP* **P 05 44 57.1 +1.1**
WRAB Tennant Creek 78.97 123 *eP* **P 05 44 56.6 +0.7**
comp=Z,26nm,0.9s,mb5.2
WB2 Warramunga Arr 78.98 123 ⇑*iP* **P 05 44 56.5 +0.5**
ASPA Alice Springs 81.21 126 *eP* **P 05 45 06.2 -1.8**
ASAR Alice Springs 81.21 126 P **P 05 45 08.6 +0.5**
comp=Z,8.7nm,0.7s,mb4.8,baz=310,slow=5.1,SNR=106
SUR Sutherland 82.97 223 P **P 05 45 18.1 +0.8**
comp=Z,3.8nm,0.6s,mb4.6,baz=41,slow=7.6,SNR=5.3
SUR Sutherland 82.97 223 *eP* **P 05 45 17.9 +0.6**
comp=Z,9.6nm,0.7s,mb4.9
YKA Yellowknife Ar 83.23 4 P **P 05 45 18.7 +0.1**
comp=Z,9.2nm,0.8s,mb4.9,baz=348,slow=5.2,SNR=70
YKA PKKPbc PKKPbc 06 03 36.4 -2.4
comp=Z,0.1nm,0.6s,baz=166,slow=2.4,SNR=7.9
YKA LR LR 06 26 36.6
comp=Z,141nm,18.4s,MS4.4,baz=280,slow=39
YKA Yellowknife Ar 83.23 4 P **P 05 45 18.7 0.0**
YKA PKKPbc PKKPbc 06 03 36.4 -2.4
YKA LR LR 06 26 36.5
SCHQ Schefferville 84.90 338 P **P 05 45 26.6 -0.6**
comp=Z,4.4nm,0.9s,mb4.6,baz=5.1,slow=12,SNR=3.5
CTA Charters Tower 87.62 116 *eP* **P 05 45 40.7 +0.2**
comp=Z,6.0nm,0.8s,mb4.9
CTA Charters Tower 87.62 116 P **P 05 45 41.0 +0.5**
comp=Z,9.4nm,0.9s,mb5.0,baz=304,slow=6.5,SNR=13
CTAO Charters Tower 87.62 116 *eP* **P 05 45 40.7 +0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
CTAO Charters Tower 87.62 116 *eP* **P 05 45 40.6 +0.1**
comp=Z,8.5nm,0.9s,mb5.0
FFC Flin Flon 91.18 358 *eP* **P 05 45 57.5 +0.2**
FFC pmax pmax
comp=Z,12nm,1.0s,mb5.2
FFC Flin Flon 91.18 358 *eP* **P 05 45 57.5 +0.3**
comp=Z,12nm,1.0s,mb5.2
STKA Stephens Creek 91.73 128 *eP* **P 05 45 58.3 -1.5**
comp=Z,2.3nm,0.8s,mb4.6
STKA Stephens Creek 91.73 128 P **P 05 45 58.4 -1.4**
comp=Z,2.5nm,0.5s,mb4.8,baz=327,slow=6.8,SNR=6.5
PDAR Pinedale Array 103.17 2 PKiKP PKiKP 05 51 11.1 +0.1
comp=Z,0.4nm,0.6s,baz=90,slow=1.8,SNR=2.9
NVAR Mina Array Bea 106.70 10 PKiKP PKiKP 05 51 19.2 +1.7
comp=Z,0.2nm,0.6s,baz=304,slow=3.3,SNR=3.1
VNA2 Neumayer--Watz 119.27 202 ⇑*iP*KPdf PKPdf 05 51 39.0 -2.4
baz=37,slow=3.5
VNA2 *e* 05 51 42.4
VNA2 *e* 05 51 44.7
VNA2 *e* 05 51 47.0
VNA3 Neumayer Olymp 120.07 202 ⇑*iP*KPdf PKPdf 05 51 40.6 -2.4
VNA3 *e* 05 51 44.5
VNA3 *e* 05 51 47.3
VNA3 *e* 05 51 49.3
SDV Santo Domingo 125.31 315 PKPdf PKPdf 05 51 52.9 -0.1
ROSC El Rosal 130.70 316 SKPbc SKPbc 05 55 26.3 -0.8
comp=Z,6.3nm,0.7s,baz=252,slow=15,SNR=6.2
TRQA Tornquist 144.33 251 *eP*KPdf PKPdf 05 52 25.7 -2.7
NNA Nana 145.17 303 *eP*KPbc PKPbc 05 52 29.6 +0.3
LVC Limon Verde 145.32 280 PKPbc PKPbc 05 52 30.0 +0.1
comp=Z,11nm,0.9s,baz=14,slow=3.8,SNR=8.0
LVC Limon Verde 145.32 280 *eP*KPbc PKPbc 05 52 30.0 +0.1
CFAA Coronel Fontan 148.10 264 PKP PKPdf 05 52 35.4 +0.6
comp=Z,0.8nm,0.6s,baz=95,slow=1.8,SNR=11
CFAA PKPbc PKPbc 05 52 37.8 -0.2
comp=Z,0.8nm,0.6s,baz=78,slow=2.6,SNR=16
PLCA Paso Flores 151.12 247 PKPbc PKPbc 05 52 45.3 -0.1
comp=Z,2.2nm,0.6s,baz=70,slow=1.5,SNR=13

MAN 11 05:37:14.9, 1249N×12364E, h19km, mb3.0, ML4.4, MS1.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.00**	**88**	*eP*	Pb	05 37 32.8	-0.9
CNP				*eS*	Sb	05 37 47.6	+1.2
PVCP	**Virac**	**1.21**	**24**	*eP*	Pn	05 37 35.7	-1.1
PVCP				*eS*	Sb	05 37 53.6	+1.1
AUQP	**San Andres**	**1.25**	**312**	*eP*	Pn	05 37 37.3	-0.1
AUQP				*eS*	Sb	05 37 57.2	+3.5
RCP	**Roxas**	**1.27**	**224**	⇓*eP*	Pn	05 37 37.0	-0.6
RCP				*i S*	Sn	05 37 54.5	+0.4
OTRP	**Odiongan**	**1.58**	**266**	*eP*	Pn	05 37 41.3	-0.6
OTRP				*eS*	Sn	05 38 00.1	-1.8
OCLP	**Ormoc**	**1.71**	**146**	*eP*	Pn	05 37 43.9	+0.2
OCLP				*eS*	Sn	05 38 10.7	+5.6
BESP	**Borongan**	**1.97**	**116**	*eP*	Pn	05 37 42.8	-4.4
BESP				*eS*	Sn	05 38 12.9	+1.6
BOAC	**Boac**	**2.00**	**299**	*eP*	Pn	05 37 45.3	-2.3
BOAC				*eS*	Sn	05 38 15.0	+2.9
GUIM	**Jordan**	**2.12**	**209**	*eP*	Pn	05 37 49.8	+0.6
GUIM				*eS*	Sn	05 38 18.6	+3.7
LLP	**Lapu-Lapu**	**2.18**	**171**	*eP*	Pn	05 37 50.9	+0.7
LLP				*i S*	Sn	05 38 17.9	+1.3
MSLP	**Maasin**	**2.63**	**153**	*eP*	Pn	05 38 01.0	+4.8
MSLP				*eS*	Sn	05 38 40.2	+13
POLP	**Polilio Island**	**2.77**	**324**	*eP*	Pn	05 38 02.9	+4.7
POLP				*eS*	Sn	05 38 32.3	+1.0
BUSP	**Coron**	**3.40**	**262**	*eP*	Pn	05 38 06.7	-0.1
BUSP				*eS*	Sn	05 38 44.3	-2.2

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*NEIC **11** 05:43:03.8, 3707S×17683E, h195km, MG3.8(WEL), After WEL.*

WEL 11 05:43:04.6±0.5, 3709S×17692E, h190km±4km, ML3.7/17, Error ellipse: s-maj=6.9km s-min=5.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.18**	**173**	PN	Pn	05 43 35.1	+0.4
URZ				SN	Sn	05 43 58.1	+0.3
URZ	**Urewera**	**1.18**	**173**	P	Pn	05 43 35.1	+0.5
MXZ	**Matakaoa Point**	**1.20**	**114**	PN	Pn	05 43 34.5	-0.3
MXZ				SN	Sn	05 43 57.5	-0.7
MXZ	**Matakaoa Point**	**1.20**	**114**	*eP*	Pn	05 43 34.5	-0.3
MWZ	**Matawai**	**1.33**	**159**	PN	Pn	05 43 36.1	+0.2
MWZ				SN	Sn	05 44 01.2	+1.0
MWZ	**Matawai**	**1.33**	**159**	P	Pn	05 43 36.1	+0.2
PUZ	**Puketiti**	**1.45**	**133**	PN	Pn	05 43 36.9	0.0
PUZ				SN	Sn	05 44 00.8	-1.1
PUZ	**Puketiti**	**1.45**	**133**	P	Pn	05 43 36.9	0.0
KNZ	**Kokohu**	**2.02**	**163**	PN	Pn	05 43 42.9	+0.3
KNZ				SN	Sn	05 44 10.1	-1.8
KNZ	**Kokohu**	**2.02**	**163**	P	Pn	05 43 42.9	+0.4
BKZ	**Black Stump Fm**	**2.10**	**189**	PN	Pn	05 43 43.3	-0.1
BKZ				SN	Sn	05 44 13.4	-0.2
BKZ	**Black Stump Fm**	**2.10**	**189**	P	Pn	05 43 43.3	-0.1
TSZ	**Takapari Road**	**3.06**	**194**	P	Pn	05 43 54.1	-0.3
MRZ	**Mangatainoka R**	**3.72**	**196**	PN	Pn	05 44 00.7	-1.8
MRZ	**Mangatainoka R**	**3.72**	**196**	P	Pn	05 44 01.2	-1.3
KIW	**Kapiti Island**	**4.08**	**202**	PN	Pn	05 44 05.5	-1.6
KIW	**Kapiti Island**	**4.08**	**202**	P	Pn	05 44 05.6	-1.4
MTW	**Mount Morrison**	**4.21**	**195**	P	Pn	05 44 06.6	-2.1
CAW	**Cannon Point**	**4.27**	**199**	PN	Pn	05 44 07.0	-2.4
CAW	**Cannon Point**	**4.27**	**199**	P	Pn	05 44 07.4	-2.0
MRW	**Makara Radio**	**4.48**	**202**	P	Pn	05 44 10.3	-1.8
MSWZ	**Moikau Station**	**4.51**	**196**	PN	Pn	05 44 10.1	-2.4
MSWZ	**Moikau Station**	**4.51**	**196**	P	Pn	05 44 10.3	-2.2
SNZO	**South Karori**	**4.55**	**202**	P	Pn	05 44 10.9	-2.1
BHW	**Baring Head**	**4.60**	**200**	P	Pn	05 44 10.2	-3.4
TCW	**Tory Channel**	**4.61**	**206**	PN	Pn	05 44 11.4	-2.2
TCW	**Tory Channel**	**4.61**	**206**	P	Pn	05 44 11.7	-2.0
THZ	**Tophouse**	**5.61**	**212**	*eP*	Pn	05 44 25.5	-1.1
KHZ	**Kahutara**	**5.93**	**205**	*eP*	Pn	05 44 28.2	-2.5
LTZ	**Lake Taylor**	**6.72**	**211**	*eP*	Pn	05 44 38.3	-2.7

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*CSEM **11** 05:51:47.8, 3846N×2634E, h20km, MD3.3/3, After ATH*
*ATH **11** 05:51:47.8, 3846N×2634E, h20km, MD3.3/3*

ISC 11 05:51:39.4±0.4, 3881N±002×2784E±003, h3km±4km, n27, σ0°95/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.07**	**345**	*i* PG	**Pg**	**05 51 41.4**	**+0.6**
KDAG	**Bornova**	**0.60**	**228**	*i* P	**Pg**	**05 51 50.2**	**-0.7**
KDAG				*i* S	**Sg**	**05 51 59.6**	**+0.7**
IZM	**Izmir**	**0.61**	**228**	*i* PG	**Pg**	**05 51 50.2**	**-0.9**
IZM				*i* SG	**Sg**	**05 51 59.8**	**+0.8**
MANT	**Manisa**	**0.65**	**119**	*i* P	**Pg**	**05 51 51.9**	**+0.1**
MANT				*i* S	**Sg**	**05 52 00.9**	**+0.7**
BLCB	**Balcova**	**0.75**	**236**	*i* PG	**Pg**	**05 51 52.9**	**-0.9**

BLCB				*i* SG	**Sg**	05 52 04.5	+0.9
BALB	**Balikesir**	0.83	2	*i* PG	**Pg**	05 51 55.8	+0.5
BALB				*i* SG	**Sg**	05 52 07.8	+1.8
BTOK	**Tokmak**	0.96	9	*i* P	**Pg**	05 51 57.3	-0.5
BTOK				*i* S	**Sg**	05 52 10.5	+0.2
AYVA	**Ayvalik**	1.02	299	*i* P	**Pg**	05 51 58.8	-0.2
AYVA				*i* S	**Sg**	05 52 12.7	+0.5
AYDN	**Tasoluk**	1.15	178	*i* P	**Pg**	05 52 00.7	-0.8
AYDN				*i* S	**Sg**	05 52 15.2	-1.2
PRK	**Paraskevi**	1.29	290	*e*PN	**Pn**	05 52 03.0	-1.4
GDZ	**Gediz**	1.31	77	*i* P	**Pg**	05 52 04.3	-0.2
GDZ				*i* S	**Sg**	05 52 21.3	-0.2
SMG	**Samos**	1.35	216	*e*PN	**Pn**	05 52 04.2	-1.0
KHL	**Karahalli**	1.41	110	PN	**Pn**	05 52 06.7	+0.7
DNZL	**Cakiroluk**	1.47	139	*i* P	**Pn**	05 52 05.4	-1.4
DNZL				*i* S	**Sb**	05 52 28.1	+1.6
ORLT	**Orhaneli**	1.48	33	PN	**Pn**	05 52 07.3	+0.3
KCT	**Karacabey**	1.51	15	PN	**Pn**	05 52 06.1	-1.2
MLSB	**Milas**	1.51	182	PN	**Pn**	05 52 07.4	0.0
EDC	**Edincik**	1.53	1	PN	**Pn**	05 52 06.5	-1.2
ULDT	**Uludag**	1.67	37	*i* P	**Pn**	05 52 10.0	+0.5
ULDT				*i* S	**Sn**	05 52 31.3	-0.1
BDRM	**Kayabasi**	1.77	190	*i* P	**Pn**	05 52 13.7	+2.8
BDRM				*i* S	**Sn**	05 52 36.2	+2.2
ALT	**Altintas**	1.79	81	*e*PN	**Pn**	05 52 10.9	-0.3
SART	**Tekirdag**	1.94	345	*i* P	**Pn**	05 52 12.5	-0.8
SART				*i* S	**Sn**	05 52 39.4	+1.2
YLV	**Yalova**	2.12	34	*e*PN	**Pn**	05 52 15.3	-0.4
BADT	**Buyukada**	2.27	25	*e*PN	**Pn**	05 52 17.0	-0.7
BORA	**Eskisehir**	2.29	61	*i* P	**Pn**	05 52 22.4	+4.3
BORA				*i* S	**Sn**	05 52 53.8	+7.0
ESKT	**Eskisehir**	2.45	72	*i* P	**Pn**	05 52 25.7	+5.4
ESKT				*i* S	**Sn**	05 52 56.4	+5.7
APE	**Apeiranthos**	2.52	227	*e*PN	**Pn**	05 52 16.2	-5.0
APE				*e*SN	**Sn**	05 52 37.3	-15

CSEM ***11*** *05:51:40.7±0.1, 3596N×2334E, h80km, MD3.5, Error ellipse: s-maj=2.9km s-min=1.6km az=68.0*
ISCJB ***11*** *05:51:41.7±0.4, 3604N±004×2326E±005, h79km±5km, mb3.5/6, Error ellipse: s-maj=8.5km s-min=4.0km az=101.6*
IDC ***11*** *05:51:42.8±3.5, 3617N×2328E, h63km±40km, mb3.5/6, mb1 3.5/6, mb1mx3.3/21, mbtmp3.8/6, Error ellipse: s-maj=30.5km s-min=18.8km az=127.0*
THE ***11*** *05:51:43.7, 3617N×2332E, h60km, ML3.4*
NEIC ***11*** *05:51:43.1±0.8, 3626N×2327E, h63km±12km, Error ellipse: s-maj=17.0km s-min=11.0km az=222.0*
ATH ***11*** *05:51:43.1, 3614N×2337E, h56km±1km, MD3.5/13, ML3.5*
HLW ***11*** *05:51:44.2, 3578N×2388E, h11km, Mb3.8*
ISC 11 05:51:42.5±0.3, 3604N±003×2330E±005, h73km±5km, n52, σ1°41/66, mb3.5/6, 2C-5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	0.32	318	*e*P	**Pn**	05 51 53.3	-0.8
VLI	**Veliai**	0.74	337	⇓*i*P	**Pn**	05 51 57.8	-0.2
VLI				*e*S	**Sn**	05 52 07.4	-2.1
VAM	**Vamos**	0.97	131	*e*P	**Pn**	05 52 02.0	+1.3
VAM				*e*S	**Sn**	05 52 15.7	+1.4
GVD	**Gavdhos**	1.36	152	*e*Pg	**Pn**	05 52 08.0	+2.2
GVD	**Gavdhos**	1.36	152	*e*Pn	**Pn**	05 52 10.7	+5.0
IDI	**Anoyia**	1.50	120	P	**Pn**	05 52 07.9	+0.4
IDI	17nm,0.3s,baz=308,slow=13,SNR=134			S	**Sn**	05 52 28.3	+2.0
	65nm,0.3s,baz=99,slow=23,SNR=19						
ITM	**Ithomi**	1.59	316	⇓*i*P	**Pn**	05 52 09.5	+0.8
SIVA	**Sivas**	1.60	129	*e*Pb	**Pn**	05 52 10.8	+2.0
SANT	**Santorini**	1.78	79	*e*Pb	**Pn**	05 52 12.1	+0.9
SANT				*e*Sb	**Sn**	05 52 32.8	-0.2
SANT	**Santorini**	1.78	79	*e*Pb	**Pn**	05 52 12.1	+0.9
SANT				*e*Sb	**Sn**	05 52 32.8	-0.2
SANT				*e*Sn	**Sn**	05 52 33.1	+0.1
SANT	**Santorini**	1.78	79	*e*Pn	**Pn**	05 52 11.7	+0.5
SANT				*e*Sn	**Sn**	05 52 33.1	+0.1
ATH	**Athens Observa**	1.96	10	*e*P	**Pn**	05 52 13.8	+0.2
ATH				*e*S	**Sn**	05 52 36.1	-1.2
LAST	**Lasithi**	1.98	116	*e*Pn	**Pn**	05 52 15.2	+1.3
LAST				*e*Sn	**Sn**	05 52 38.2	+0.3
NPS	**Neapolis**	2.04	112	*e*P	**Pn**	05 52 15.8	+1.1
PTL	**Penteli**	2.05	13	*e*P	**Pn**	05 52 14.5	-0.4
APE	**Apeiranthos**	2.07	60	*e*Pn	**Pn**	05 52 15.4	+0.3
MPAR	**Parnis Oros**	2.13	9	*e*P	**Pn**	05 52 16.3	+0.3
RLS	**Riolos of Patr**	2.49	324	*e*P	**Pn**	05 52 22.2	+1.4
ZKR	**Zakros**	2.55	110	*e*Pn	**Pn**	05 52 23.6	+2.0
LKR	**Lokris**	2.62	355	*e*P	**Pn**	05 52 23.0	+0.5
VLS	**Valsamata**	3.04	315	*e*P	**Pn**	05 52 29.0	+0.7
AGG	**Agios Georgios**	3.07	346	*e*Pn	**Pn**	05 52 30.5	+1.8
	comp=Z,1.4nm,0.3s						
EVR	**Evrytania**	3.11	338	*e*P	**Pn**	05 52 31.0	+1.8
XOR	**Xorichti**	3.32	359	*e*Pn	**Pn**	05 52 33.8	+1.7
	comp=Z,1.1nm,0.5s						
LKD	**Levkas**	3.40	322	*e*Pn	**Pn**	05 52 34.0	+0.8
PAIG	**Paliouri**	3.89	4	*e*Pn	**Pn**	05 52 40.5	+0.6
JAN	**Janina**	4.10	332	*e*P	**Pn**	05 52 44.0	+1.3
IGT	**Igoumenitsa**	4.20	327	*e*Pn	**Pn**	05 52 44.0	-0.1
IGT				*e*Sn	**Sn**	05 53 29.2	-2.8
SRN	**Sarande**	4.64	327	*e*Pn	**Pn**	05 52 49.8	-0.2
FNA	**Florina**	4.97	343	*e*Pn	**Pn**	05 52 54.8	+0.2
FNA				*e*Sn	**Sn**	05 53 48.6	-2.1
TIP	**Timpagrande**	6.07	303	*e*Pn	**Pn**	05 53 08.6	-0.9
TIP	**Timpagrande**	6.07	303	*e*Pn	**Pn**	05 53 08.6	-0.9
TIP				*e*Sn	**Sn**	05 54 12.0	-5.6
SWA2		7.02	164	⇓*e*P	**Pn**	05 53 21.6	-1.0
SWA1		7.06	163	⇓*e*P	**Pn**	05 53 22.4	-0.7
SWA1				S	**Sn**	05 54 33.8	-8.1
STON	**Ston**	8.08	329	*i* Pn	**Pn**	05 53 33.9	-3.1
STON				*i* Sn	**Sn**	05 54 57.0	-10
HMYD	**Mayadein**	8.86	133	P	**Pn**	05 53 45.5	-2.3
HNAT	**Natroun**	8.87	134	P	**Pn**	05 53 45.6	-2.2
KOT	**Kottamia**	9.40	128	P	**Pn**	05 53 52.6	-2.6
HSAF	**As Saff**	9.44	130	P	**Pn**	05 53 53.2	-2.5
HHAG	**Hagoal**	9.56	127	P	**Pn**	05 53 54.8	-2.4
GLL	**Jalalah**	9.57	130	⇑*e*P	**Pn**	05 53 55.1	-2.3
HFRF	**Wahat Farafira**	9.84	153	⇓*e*P	**Pn**	05 53 59.7	-1.4
AMAG	**Maghara**	9.88	120	⇑*e*P	**Pn**	05 53 59.3	-2.4
SUZ		10.11	125	P	**Pn**	05 54 02.9	-2.0
HNKL	**Nakhl**	10.84	121	P	**Pn**	05 54 12.6	-2.1
HFS	**Hagfors**	24.89	349	P	**P**	05 56 58.2	-0.3
	0.8nm,0.4s,mb3.5,baz=144,slow=12,SNR=8.2						
FINES	**FINESS Array B**	25.48	3	P	**P**	05 57 03.7	-0.2
	0.8nm,0.8s,mb3.2,baz=180,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	29.95	226	P	**P**	05 57 45.9	+2.1
	1.3nm,0.6s,mb3.7,baz=36,slow=9.6,SNR=21						
DBIC	**Dimbokro**	38.98	228	P	**P**	05 59 03.3	+1.7
	3.3nm,1.0s,mb4.1,baz=18,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	44.56	57	P	**P**	05 59 47.6	+0.4
	0.8nm,0.5s,mb3.7,baz=268,slow=7.9,SNR=18						
YKA	**Yellowknife Ar**	76.14	341	P	**P**	06 03 23.0	+0.5
	0.2nm,0.6s,mb3.0,baz=32,slow=5.5,SNR=5.8						
YKA	**Yellowknife Ar**	76.14	341	P	**P**	06 03 23.0	+0.4

SOF ***11*** *05:53:50.4, 4028N×2519E, h7km, MD3.4*
ATH ***11*** *05:53:51.2, 4030N×2528E, h27km±1km, MD3.5/6*
CSEM ***11*** *05:53:52.6±0.1, 4030N×2527E, h20km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.4km az=27.0*
ISCJB ***11*** *05:53:52.6±0.2, 4029N±002×2521E±003, h20km, Error ellipse: s-maj=3.1km s-min=2.6km az=64.3*
THE ***11*** *05:53:53.2, 4023N×2534E, h21km, ML3.7*
ISK ***11*** *05:53:53.3, 4024N×2533E, h11km, MD3.3*
ISC 11 05:53:51.1±0.5, 4026N±002×2521E±002, h0km±4km, n61, σ1°20/83, 6C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	0.36	183	⇑*i*PB	**Pg**	05 54 00.4	+2.3
LIA				*e*SB	**Sg**	05 54 06.5	+3.7
ALN	**Alexandroupoli**	0.90	45	*e*Pg	**Pg**	05 54 08.1	-0.4
ALN				*e*Sg	**Sg**	05 54 19.5	-0.6
RDO	**Rodhopi**	0.92	16	⇑*i*PN	**Pg**	05 54 08.3	-0.5
RDO				*e*SN	**Sg**	05 54 20.1	-0.6
OUR	**Ouranopolis**	0.94	275	*e*Pg	**Pg**	05 54 10.6	+1.5
EZN	**Ezine**	0.96	117	*i* PG	**Pg**	05 54 09.9	+0.3
EZN				*i* SG	**Sg**	05 54 22.5	+0.4
LPK	**Lapseki**	1.19	84	*e*PN	**Pn**	05 54 14.0	-1.0
PAIG	**Paliouri**	1.22	255	*e*Pg	**Pg**	05 54 14.4	-0.1
PAIG				*e*Sg	**Sg**	05 54 30.7	+0.4
PRK	**Paraskevi**	1.30	141	*e*PN	**Pn**	05 54 16.1	-0.5
PRK				*e*SN	**Sn**	05 54 32.9	-1.8
PLG	**Polygyros**	1.35	275	*e*PN	**Pn**	05 54 16.8	-0.4
PLG				*e*SN	**Sn**	05 54 34.8	-1.1
KDZ	**Kurdzhali**	1.40	6	*i* P	**Pn**	05 54 16.5	-1.4
RZN	**Rozhen**	1.47	346	*i* P	**Pn**	05 54 19.2	+0.3
AYVA	**Ayvalik**	1.49	129	*i* P	**Pn**	05 54 18.2	-0.9
AYVA				*i* S	**Sg**	05 54 37.9	-1.0
NVR	**Nevrokopi**	1.49	317	⇓*i*PN	**Pn**	05 54 18.3	-0.9
AOS	**Alonnisos**	1.50	224	*e*Pg	**Pg**	05 54 18.5	-1.3
SOH	**Sokhos**	1.52	292	*e*Pb	**Pb**	05 54 19.0	-1.2
SART	**Tekirdag**	1.56	74	*i* P	**Pn**	05 54 18.1	-2.1
SART				*i* S	**Sn**	05 54 38.0	-3.1
SART	**Tekirdag**	1.56	74	*i* P	**Pn**	05 54 18.1	-2.1
SART				*i* S	**Sn**	05 54 38.0	-3.1
MMB	**Musomiste**	1.74	320	*i* P	**Pn**	05 54 21.2	-1.3
XOR	**Xorichti**	1.79	241	*e*Pb	**Pb**	05 54 22.4	-2.4
DIM	**Dimitrovgrad**	1.80	8	*i* P	**Pn**	05 54 24.5	+1.0
PLD	**Plovdiv**	1.88	348	*e*P	**Pn**	05 54 28.0	+3.5
EDRB	**Edirne**	1.96	36	PN	**Pn**	05 54 27.0	+1.3
EDRB				SN	**Sn**	05 54 52.5	+1.5
KNT	**Kendrikon**	1.97	298	*e*Pn	**Pn**	05 54 25.6	-0.2
	comp=Z,2.2nm,0.5s						
EDC	**Edincik**	2.03	87	PN	**Pn**	05 54 27.1	+0.5
LIT	**Litokhoron**	2.09	266	*e*Pn	**Pn**	05 54 27.2	-0.2
	comp=Z,13nm,0.3s						
BALB	**Balikesir**	2.15	106	PN	**Pn**	05 54 28.7	+0.5
URLA	**Izmir**	2.18	150	*i* P	**Pn**	05 54 28.2	-0.4
URLA				*i* S	**Sn**	05 54 54.8	-1.6
BTOK	**Tokmak**	2.23	102	*i* P	**Pn**	05 54 31.3	+2.1
BTOK				*i* S	**Sn**	05 55 00.7	+3.2
GRG	**Griva**	2.25	289	*e*Pn	**Pn**	05 54 29.8	+0.3
VAY	**Valandovo**	2.27	299	*e*Pn	**Pn**	05 54 31.2	+1.4
VAY				*i* Pg	**Pg**	05 54 35.9	+1.3
VAY				*i* Sg	**Sg**	05 55 07.7	+3.7
KKB	**Krupnik**	2.27	316	*i* P	**Pn**	05 54 29.5	-0.4
KKB				*i* Pg	**Pg**	05 54 34.5	-0.2
BLCB	**Balcova**	2.35	142	*e*PN	**Pn**	05 54 32.8	+1.8
KCT	**Karacabey**	2.41	89	*e*PN	**Pn**	05 54 33.1	+1.3
PGB	**Panagyurishte**	2.42	341	*i* P	**Pn**	05 54 30.5	-1.4
JMB	**Yambol**	2.44	25	*e*P	**Pn**	05 54 31.2	-0.9
AKS	**Akhisar**	2.44	124	*e*PN	**Pn**	05 54 33.1	+0.9
KDAG	**Bornova**	2.45	139	*i* P	**Pn**	05 54 32.5	+0.2
KDAG				*i* S	**Sn**	05 55 04.2	+1.2
IZM	**Izmir**	2.45	139	*e*PN	**Pn**	05 54 33.3	+1.0
AGG	**Agios Georgios**	2.54	242	*e*Pn	**Pn**	05 54 33.6	0.0
ELBA	**Catalca**	2.60	69	*i* P	**Pn**	05 54 32.3	-2.2
ELBA				*i* S	**Sn**	05 55 12.2	+5.4
VTS	**Vitosha**	2.77	328	*i* P	**Pn**	05 54 36.5	-0.3
VTS				*i* Pg	**Pg**	05 54 44.0	-0.3
VTS	**Vitosha**	2.77	328	*e*Pn	**Pn**	05 54 36.9	+0.1
ORLT	**Orhaneli**	2.83	93	*e*PN	**Pn**	05 54 39.5	+1.9
SMG	**Samos**	2.85	153	*e*PN	**Pn**	05 54 37.5	-0.3
PVL	**Pavlikeni**	2.96	2	*e*P	**Pn**	05 54 37.8	-1.5
FNA	**Florina**	2.97	281	*e*Pn	**Pn**	05 54 39.9	+0.5
ULDT	**Uludag**	3.01	91	*i* P	**Pg**	05 54 44.1	-4.8
ULDT				*i* S	**Sg**	05 55 23.0	-4.9
BADT	**Buyukada**	3.04	78	*e*PN	**Pn**	05 54 40.7	+0.3
SZH	**Strazhica**	3.05	10	*e*P	**Pn**	05 54 42.2	+1.6
MANT	**Manisa**	3.14	123	*i* P	**Pg**	05 54 50.4	-1.0
MANT				*i* S	**Sg**	05 55 30.4	-1.7
YLV	**Yalova**	3.19	83	*e*PN	**Pn**	05 54 44.0	+1.4
IZI	**Iznik**	3.26	87	*e*PN	**Pn**	05 54 45.0	+1.5
ESKT	**Eskisehir**	4.40	98	*i* P	**Pn**	05 54 59.1	-0.1
ESKT				*i* S	**Sg**	05 56 05.8	-6.8
SEYT	**Eskypehyr**	4.40	98	*i* P	**Pn**	05 54 59.1	-0.1
TIRR	**Tirgusor**	4.82	28	⇑P	**Pn**	05 55 04.5	-0.4
HARR	**Harsova**	4.86	24	⇓P	**Pn**	05 55 01.3	-4.2
VOIR		5.17	359	⇑P	**Pn**	05 55 12.0	+2.2
MLR	**Muntele Rosu**	5.25	6	⇑P	**Pn**	05 55 12.0	+1.1
CFR	**Carcaliu**	5.37	23	⇓P	**Pn**	05 55 07.4	-5.0
BZS	**Buzias**	5.97	335	⇑P	**Pn**	05 55 20.0	-0.7
DRGR		6.78	345	⇓P	**Pn**	05 55 23.4	-8.4

NDI ***11*** *06:20:57.5±2.1, 3432N×7268E, h10km, ML3.0*
ISCJB ***11*** *06:20:59.6±0.9, 3400N±01×730E±0.1, h10km, mb3.5/4, Error ellipse: s-maj=22.3km s-min=7.0km az=99.2*
IDC ***11*** *06:21:01.8±1.1, 3447N×7407E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/23, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=35.3km s-min=23.9km az=68.0*
ISC 11 06:21:00.3±1.1, 343N±01×730E±02, h10km, n16, σ1°28/19, mb3.5/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	2.96	129	*e*P	**Pn**	06 21 49.0	+1.7
THN				*e*S	**Sn**	06 22 24.3	+1.4
DLH	**Dalhousie**	3.06	124	*ex*	**Sn**	06 22 21.0	-4.3
BHK	**Bhakra**	4.09	134	*ex*	**Sb**	06 23 06.3	+4.5
SDNR	**Sundarnagar**	4.37	129	*e*P	**Pn**	06 22 05.8	-1.0
SDNR				*ex*	**Sn**	06 23 03.2	+5.4
SMLA	**Simla**	4.75	131	*e*P	**Pn**	06 22 11.4	-0.5
SMLA				*ex*	**Sn**	06 23 01.5	-5.5
KLP	**Kalpa**	5.23	121	*e*S	**Sn**	06 23 18.3	-0.5
KLP				AML	AML	06 23 42.1	
	comp=E,80nm,0.6s						
KLP				AML	AML	06 23 46.5	
	comp=N,58nm,0.5s						
KUDL	**Kundal**	6.84	153	*e*P	**Pn**	06 22 39.4	-1.3
KUDL				*e*S	**Sn**	06 23 53.7	-5.0
KUDL				AML	AML	06 24 35.0	
	comp=N,5.0nm,0.8s						
KUDL				AML	AML	06 24 42.1	
	comp=E,6.6nm,0.1s						
SONA	**Sohna**	6.99	149	*e*S	**Sn**	06 23 56.9	-5.3
SONA				AML	AML	06 24 47.8	
	comp=E,12nm,0.4s						
SONA				AML	AML	06 24 50.9	
	comp=N,8.7nm,0.1s						
MKAR	**Makanchi Array**	14.32	27	Pn	**Pn**	06 24 19.4	-3.7
	comp=N,0.0nm,0.3s,baz=202,slow=15,SNR=2.2						
BVAR	**Borovoye Array**	18.80	355	P	**Pn**	06 25 23.3	+3.0
	comp=N,0.2nm,0.3s,baz=168,slow=13,SNR=5.2						
AKTO	**Aktyubinsk**	19.48	330	P	**Pn**	06 25 33.0	+4.5
	comp=N,0.2nm,0.3s,baz=131,slow=11,SNR=6.0						
ZAL	**Zalesovo**	21.32	19	P	**P**	06 25 45.8	-1.6
	comp=N,0.8nm,0.3s,mb3.5,baz=230,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	67.32	271	P	pP	06 32 04.8	+6.2
	comp=N,0.3nm,0.6s,baz=41,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	79.45	123	P	**P**	06 33 06.6	-0.3
	comp=N,0.5nm,0.9s,mb3.5,baz=321,slow=4.7,SNR=7.2						
ASAR	**Alice Springs**	81.67	126	P	**P**	06 33 19.2	+0.4
	comp=N,0.5nm,0.9s,mb3.4,baz=324,slow=2.5,SNR=5.0						
YKA	**Yellowknife Ar**	83.34	4	P	**P**	06 33 28.5	+1.1
	comp=N,0.2nm,0.6s,mb3.3,baz=344,slow=5.0,SNR=6.0						

IDC ***11*** *06:42:39.2±2.1, 1637S×17426W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/14, mbtmp3.9/5, Error ellipse: s-maj=160.7km s-min=23.7km az=148.0*
ISCJB ***11*** *06:42:52.9±3.4, 1633S±08×1744W±0.5, h121km±24km, mb3.8/6, Error ellipse: s-maj=148.4km s-min=19.0km az=116.0*
NEIC ***11*** *06:42:53.6±2.6, 1660S×17425W, h120km±16km, mb4.1/1, Error ellipse: s-maj=96.8km s-min=13.0km az=148.0*
ISC 11 06:42:54.2±3.5, 164S±07×1743W±05, h118km±24km, n10, σ0°46/9, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	3.51	45	Pn	Px	06 43 28.7	
	85nm,0.3s,baz=153,slow=1.8,SNR=10						
AFI				Sn	Sx	06 43 48.4	
	95nm,0.3s,baz=52,slow=22,SNR=15						
AFI	**Afiamalu**	3.51	45	Pn	**Pn**	06 43 47.8	+0.6
AFI				*e*Sn	**Sn**	06 44 27.6	-0.5
CTAO	**Charters Tower**	37.54	258	P	**P**	06 49 57.0	+0.3
	1.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	42.75	241	*e*P	**P**	06 50 38.8	-0.9
	2.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	42.75	241	P	**P**	06 50 39.1	-0.5
	4.8nm,0.8s,mb4.3,baz=97,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	48.74	258	P	**P**	06 51 26.4	-0.4
	0.6nm,0.6s,mb3.7,baz=94,slow=7.0,SNR=12						
WRA				PcP	PcP	06 52 50.8	+0.8
	0.3nm,0.5s,baz=94,slow=3.5,SNR=7.3						
ASAR	**Alice Springs**	48.94	253	P	**P**	06 51 28.6	+0.4
	2.9nm,0.6s,mb4.4,baz=88,slow=8.0,SNR=60						
NVAR	**Mina Array Bea**	75.68	42	P	**P**	06 54 26.7	+0.3
	0.6nm,0.8s,mb3.4,baz=226,slow=9.9,SNR=3.6						
PDAR	**Pinedale Array**	83.62	42	P	**P**	06 55 09.2	-0.1
	0.2nm,0.7s,mb3.1,baz=213,slow=3.1,SNR=4.5						
BRTR	**Keskin Array B**	146.35	319	PKPbc	PKPbc	07 02 21.6	+0.5
	0.7nm,0.7s,baz=45,slow=5.2,SNR=4.0						

ISCJB ***11*** *06:48:08.2±0.4, 3625N±003×3103E±004, h33km, Error ellipse: s-maj=6.1km s-min=3.7km az=92.7*
CSEM ***11*** *06:48:08.0±0.1, 3626N×3100E, h40km, Mw3.1, Error ellipse: s-maj=2.6km s-min=2.2km az=77.0*
NIC ***11*** *06:48:11.1±0.2, 3618N×3119E, h41km, ML3.3, MW3.1*
HLW ***11*** *06:48:15.0, 3587N×3095E, h24km, Mb3.2*
ISC 11 06:48:09.8±0.4, 3631N±004×3110E±005, h35km, n30, σ0°81/41, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	1.54	307	*i* P	**Pn**	06 48 37.1	+2.3
GOLH				*i* S	**Sn**	06 49 00.1	+6.4
AKMC	**Akamas**	1.62	142	P	**Pn**	06 48 35.5	-0.4
ALFC	**Alevga**	1.68	133	⇑*e*P	**Pn**	06 48 36.0	-0.6
	10nm,0.2s						
ALFC				S	**Sn**	06 48 56.1	-0.7
PPCY	**Paphos**	1.75	144	P	**Pn**	06 48 41.3	+3.7
TKTP	**Tekketepe**	1.84	340	*i* P	**Pn**	06 48 38.4	-0.4
TKTP				*i* S	**Sn**	06 49 00.6	-0.3
MAMC	**Mammari**	2.06	123	P	**Pn**	06 48 41.8	-0.1
SZAC	**Souni-Zanaja**	2.12	136	P	**Pn**	06 48 42.8	0.0
DNZL	**Cakiroluk**	2.15	311	*i* P	**Pn**	06 48 44.7	+1.6
DNZL				*i* S	**Sn**	06 49 14.1	+5.6
CSS	**Prodhromos**	2.26	126	P	**Pn**	06 48 44.7	+0.1
CSS				S	**Sn**	06 49 10.4	-0.8
MEST	**Erdemli**	2.47	83	*i* P	**Pn**	06 48 48.3	+0.8
MEST				*i* S	**Sn**	06 49 17.7	+1.3
MANT	**Manisa**	2.97	318	*i* P	**Pn**	06 48 53.4	-1.1
MANT				*i* S	**Sn**	06 49 28.9	0.0
BDRM	**Kayabasi**	3.04	285	*i* P	**Pn**	06 48 54.6	-0.7
BDRM				*i* S	**Sn**	06 49 30.4	-0.1
ESKT	**Eskisehir**	3.21	357	*i* P	**Pn**	06 48 55.6	-2.1
ESKT				*i* S	**Sn**	06 49 30.0	-4.8
SEYT	**Eskypehyr**	3.21	357	*i* P	**Pn**	06 48 55.6	-2.1
SEYT				*i* S	**Sn**	06 49 30.0	-4.8
AMAG	**Maghara**	5.92	162	⇓P	**Pn**	06 49 34.9	0.0
AMAG				S	**Sn**	06 50 34.3	-7.2
AMAG	**Maghara**	5.92	162	P	**Pn**	06 49 34.9	0.0
	299nm,0.1s						
KOT	**Kottamia**	6.39	174	P	**Pn**	06 49 41.4	-0.1
HMYD	**Mayadein**	6.50	182	P	**Pn**	06 49 42.5	-0.4
SUZ		6.61	167	P	**Pn**	06 49 44.9	+0.5
HNAT	**Natroun**	6.67	184	⇓P	**Pn**	06 49 45.0	-0.3
HNAT	**Natroun**	6.67	184	P	**Pn**	06 49

HOQ Hoqain 13.54 2 ⇑P Pn 07 32 21.7 +1.4
SNR=7.0
ATD Arta Tunnel 13.80 278 Pn **Pn 07 32 23.8 +0.1**
baz=49,slow=20,SNR=2.2
ATD LR LR 07 36 58.3
comp=Z,516nm,21.4s,baz=257,slow=34
FURI Furi 17.91 268 *e*PN **Pn 07 33 17.4 +0.1**
FURI *e*SG rx 07 33 22.2
BHJ Bhuj 18.04 41 *e*P **Pn 07 33 18.4 -0.5**
BHJ AMb AMB 07 33 22.8
comp=Z,149nm,1.0s
KAD Karad 18.39 65 *e*P **Pn 07 33 23.5 +0.3**
RDF Al-Radifah 20.76 337 *e*P **P 07 33 48.3 -0.7**
RDF AMb AMB 07 33 50.4
comp=Z,92nm,0.8s
NAY Al-Naaiem 21.16 336 *e*P **P 07 33 52.5 -0.9**
NAY AMb AMB 07 33 54.6
comp=Z,32nm,0.7s,mb4.8
UMR Umm Al-Rimmam 21.25 338 *e*P **P 07 33 53.4 -1.0**
UMR AMb AMB 07 33 55.4
comp=Z,97nm,0.8s,mb5.2
MIB Mutribah 21.62 337 *e*P **P 07 33 57.4 -0.9**
MIB AMb AMB 07 33 59.3
comp=Z,135nm,0.7s,mb5.5
KMBO Kilima Mbogo 22.36 242 P **P 07 34 05.0 -1.3**
comp=Z,11nm,0.9s,mb4.3,baz=46,slow=12,SNR=13
KMBO LR LR 07 42 05.7
comp=Z,646nm,21.6s,MS4.0,baz=278,slow=35
KMBO Kilima Mbogo 22.36 242 *e*P **P 07 34 07.5 +1.2**
comp=Z,20nm,1.1s,mb4.5
KMBO Kilima Mbogo 22.36 242 *i*P **P 07 34 12.6 +6.3**
KMBO pmax pmax
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 22.36 242 *e*P **P 07 34 07.5 +1.2**
comp=Z,20nm,1.1s,mb4.5
HYB Hyderabad 22.38 68 *i*P **P 07 34 02.0 -4.4**
HYB *e*S **S 07 38 17.0 +4.5**
BHPL Bhopal 23.72 54 *e*P **P 07 34 20.1 -0.2**
KHET Khetri 25.37 42 *e*P **P 07 34 36.4 +1.0**
KUDL Kundal 25.87 43 *e*P **P 07 34 40.8 +0.9**
KUDL AMb AMB 07 34 45.8
comp=Z,47nm,1.5s,mb4.8
AGRA Agra 26.31 46 *e*P **P 07 34 45.1 +1.2**
AGRA AMb AMB 07 34 46.6
comp=Z,49nm,0.3s,mb5.6
SONA Sohna 26.34 44 *e*P **P 07 34 45.5 +1.3**
SONA AMb AMB 07 34 53.5
comp=Z,27nm,0.8s,mb4.8
AYAN Aya Nagar 26.52 43 *e*P **P 07 34 46.8 +1.0**
AYAN AMb AMB 07 34 55.6
comp=Z,27nm,1.1s,mb4.7
NDI New Delhi 26.71 43 *e*P **P 07 34 46.0 -1.5**
KLP Kalpa 29.26 40 *e*P **P 07 35 12.1 +1.8**
KLP AMb AMB 07 35 20.8
comp=Z,34nm,1.2s,mb5.0
KOLN Koldanda 30.81 51 *e*P **P 07 35 25.3 +1.3**
comp=Z,96nm,0.9s,mb5.6
GKN Gorkha 31.73 52 *e*P **P 07 35 32.9 +0.8**
comp=Z,61nm,0.9s,mb5.4
DMN Daman 31.90 53 *e*P **P 07 35 34.0 +0.4**
comp=Z,105nm,1.0s,mb5.6
GNI Garni 31.91 342 P **P 07 35 33.4 -0.3**
comp=Z,8.0nm,0.6s,mb4.7,baz=343,slow=6.6,SNR=4.6
PKI Pulchoki 32.12 53 *e*P **P 07 35 36.9 +1.3**
comp=Z,78nm,0.9s,mb5.5
PKI Pulchoki 32.12 53 *e*P **P 07 35 36.9 +1.3**
PKI pmax pmax
comp=Z,39nm,0.9s,mb5.2
KKN Kakani 32.12 53 *e*P **P 07 35 37.1 +1.5**
comp=Z,127nm,0.9s,mb5.7
KKN Kakani 32.12 53 *e*P **P 07 35 37.1 +1.5**
KKN pmax pmax
comp=Z,64nm,0.9s,mb5.5
GUN Gumba 32.65 53 *e*P **P 07 35 41.8 +1.6**
comp=Z,136nm,0.9s,mb5.9
CAL Calcutta 32.67 64 *e*x x 07 35 09.4
CAL *e*x x 07 36 22.1
CAL *e*x x 07 38 05.1
MALT Malatya 32.69 333 *e*P **P 07 35 40.0 -0.5**
comp=Z,30nm,1.3s,mb5.1
MALT Malatya 32.69 333 *e*P **P 07 35 40.0 -0.5**
MALT pmax pmax
comp=Z,30nm,1.3s,mb5.1
MALT Malatya 32.69 333 *e*P **P 07 35 40.0 -0.6**
comp=Z,30nm,1.3s,mb5.1
JIRN Jiri 32.78 54 *e*P **P 07 35 42.7 +1.4**
comp=Z,109nm,1.0s,mb5.7
ZEI Tsey 34.57 343 *i*P **P 07 35 56.5 -0.4**
comp=Z,25nm,1.3s,mb5.0
ZEI Tsey 34.57 343 *i*P **P 07 35 56.5 -0.4**
ZEI *i* 07 37 12.5
ZEI pmax pmax
comp=Z,25nm,1.3s,mb5.0
BRTR Keskin Array B 36.10 329 P **P 07 36 11.0 +0.9**
comp=Z,4.4nm,0.8s,mb4.4,baz=149,slow=7.5,SNR=17
BRTR PcP PcP 07 38 36.9 +0.9
comp=Z,1.3nm,0.7s,baz=127,slow=6.2,SNR=3.7
SOC Sochi 36.64 339 *e*P **P 07 36 13.8 -0.9**
comp=Z,27nm,0.8s,mb5.1
SOC Sochi 36.64 339 *e*P **P 07 36 13.8 -0.9**
SOC *e*S **S 07 41 51.6 -6.0**
SOC *e*SS SS 07 44 27.9 -10
SOC *e*SSS 07 44 54.4
SOC *e* 07 46 24.7
SOC pmax pmax
comp=Z,27nm,0.8s,mb5.1
ANTO Ankara 36.64 328 *e*P **P 07 36 16.5 +1.8**
comp=Z,49nm,1.3s,mb5.2
ANTO Ankara 36.64 328 *e*P **P 07 36 16.5 +1.8**
ANTO *e* 07 36 23.1
ANTO pmax pmax
comp=Z,49nm,1.3s,mb5.2
ANTO Ankara 36.64 328 *e*P **P 07 36 16.5 +1.8**
comp=Z,49nm,1.3s,mb5.2
ANTO *e* 07 36 23.1
SHL Shillong 36.69 60 *e*P **P 07 36 16.0 +0.9**
GOF Gofitskoye 36.92 344 *e*P **P 07 36 14.4 -2.7**
LSA Lhasa 37.59 54 *e*P **P 07 36 23.2 +0.4**
comp=Z,26nm,1.2s,mb4.8
LSA Lhasa 37.59 54 *e*P **P 07 36 23.2 +0.4**
LSA pmax pmax
comp=Z,25nm,1.2s,mb4.8
LSZ Lusaka 37.85 229 P **P 07 36 27.1 +2.1**
comp=Z,6.7nm,0.8s,mb4.4,baz=42,slow=6.9,SNR=7.8
LSZ Lusaka 37.85 229 *e*P **P 07 36 26.7 +1.7**
comp=Z,6.9nm,0.8s,mb4.4
LSZ Lusaka 37.85 229 *e*P **P 07 36 26.7 +1.7**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
AB31 Akbulak array 39.25 3 *i*P **P 07 36 37.1 +0.4**
AB31 pmax pmax
comp=Z,33nm,1.1s,mb5.0
AKTK Aktyubinsk 40.35 1 P **P 07 36 46.5 +0.6**
AKTK Aktyubinsk 40.35 1 P **P 07 36 46.5 +0.6**
AKTO Aktyubinsk 40.35 1 P **P 07 36 46.5 +0.6**
comp=Z,26nm,0.9s,mb5.0,baz=181,slow=8.7,SNR=19
AKTO Aktyubinsk 40.35 1 *i*P **P 07 36 46.2 +0.3**
AKTO pmax pmax
comp=Z,22nm,1.9s,mb4.6
TIRR Tirgusor 42.21 330 ⇑P **P 07 37 02.6 +1.4**
TIRR Tirgusor 42.21 330 ⇑P **P 07 37 02.6 +1.4**
MKAR Makanchi Array 42.62 26 P **P 07 37 04.3 -0.2**
comp=Z,1.8nm,0.6s,mb4.0,baz=215,slow=10,SNR=26
MKAR PcP PcP 07 38 55.6 -0.9
comp=Z,1.4nm,0.8s,baz=243,slow=2.7,SNR=3.7
MKAR LR LR 07 55 40.6
comp=Z,283nm,20.8s,MS4.1,baz=230,slow=38
MKAR Makanchi Array 42.62 26 P **P 07 37 04.3 -0.2**
MKAR 07 38 55.7
HARR Harsova 42.62 329 ⇑P **P 07 37 05.5 +1.0**
HARR Harsova 42.62 329 ⇑P **P 07 37 05.5 +1.0**
CFR Carcaliu 42.86 330 ⇑P **P 07 37 06.8 +0.3**
CFR Carcaliu 42.86 330 ⇑P **P 07 37 06.8 +0.3**
VRSR Storozhevoye 43.59 344 *e*P **P 07 37 12.1 -0.3**
VRSR *e**PP pP 07 37 19.2 +3.7
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR MLR MLR
comp=Z,30nm,21.0s,MS3.2
VRSR MLR MLR
comp=N,60nm,20.0s,MS3.5
VRSR MLR MLR
comp=E,10.0nm,19.0s,MS3.5
ZRNK Zerenda 43.98 11 *e*P **P 07 37 14.8 -0.7**
comp=E,9.8nm,1.1s,mb4.5
ZRNK Zerenda 43.98 11 *e*P **P 07 37 14.8 -0.7**
ZRNK pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
ZRNK Zerenda 43.98 11 *e*P **P 07 37 14.8 -0.7**
comp=Z,9.8nm,1.1s,mb4.5
VRI Vrincioaia 44.05 330 ⇑P **P 07 37 17.8 +1.8**
VRI Vrincioaia 44.05 330 ⇑P **P 07 37 17.8 +1.8**
VOSK Vostochnaya 44.16 12 P **P 07 37 16.5 -0.4**
VOSK pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
MLR Muntele Rosu 44.18 329 ⇓P **P 07 37 19.3 +2.2**
MLR Muntele Rosu 44.18 329 ⇓P **P 07 37 19.3 +2.2**
BVA0 Borovoye Array 44.32 12 P **P 07 37 18.3 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,2.0s,mb3.9
BVAR Borovoye Array 44.32 12 P **P 07 37 17.9 -0.3**
comp=Z,1.0nm,0.7s,mb3.7,baz=180,slow=5.9,SNR=7.5
BVAR PcP PcP 07 39 01.0 -1.3
comp=Z,1.9nm,0.8s,baz=207,slow=3.3,SNR=6.9
BVAR Borovoye Array 44.32 12 PcP PcP 07 39 01.0 -1.3
BRVK Borovoye 44.33 12 *e*P **P 07 37 19.1 +0.8**
comp=Z,9.1nm,1.6s,mb4.2
BRVK Borovoye 44.33 12 *e*PP PP 07 39 01.0 -0.6
BRVK Borovoye 44.33 12 *e*P **P 07 37 19.1 +0.8**
BRVK *e* 07 39 01.0
BRVK pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
BRVK Borovoye 44.33 12 *e*P **P 07 37 19.1 +0.8**
comp=Z,9.1nm,1.6s,mb4.2
BRVK *e*PP PP 07 39 01.0 -0.6
KURK Kurchatov 44.43 20 P **P 07 37 19.4 +0.3**
comp=Z,33nm,0.9s,mb5.1,SNR=5.5
KURK Kurchatov 44.43 20 *e*P **P 07 37 19.6 +0.5**
comp=Z,5.1nm,0.9s,mb4.2
KURK Kurchatov 44.43 20 *e*P **P 07 37 19.6 +0.5**
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
KURK Kurchatov 44.43 20 *e*P **P 07 37 19.6 +0.5**
comp=Z,5.1nm,0.9s,mb4.2
VOIR 44.61 328 ⇓P **P 07 37 22.5 +2.0**
VOIR 44.61 328 ⇓P **P 07 37 22.5 +2.0**
BURAR Bucovina Array 46.02 330 ⇑P **P 07 37 32.8 +1.1**
BURAR Bucovina Array 46.02 330 ⇑P **P 07 37 32.9 +1.2**
LBTB Lobatse 46.20 221 *e*P **P 07 37 35.2 +2.1**
comp=Z,24nm,1.2s,mb5.0
LBTB Lobatse 46.20 221 *e*P **P 07 37 35.2 +2.1**
LBTB pmax pmax
comp=Z,24nm,1.2s,mb5.0
LBTB Lobatse 46.20 221 *e*P **P 07 37 35.2 +2.1**
comp=Z,24nm,1.2s,mb5.0
ARU Arti 46.37 1 *e*P **P 07 37 34.3 -0.2**
comp=Z,27nm,1.2s,mb5.1
ARU *e*S **S 07 44 19.8 -2.0**
ARU Arti 46.37 1 ⇓*i*P **P 07 37 34.2 -0.3**
ARU *e* 07 39 05.9
ARU *e* 07 39 16.9
ARU *e*S **S 07 44 19.8 -2.0**
ARU *e*SS SS 07 47 43.2 -4.2
ARU pmax pmax
comp=Z,21nm,1.2s,mb4.9
ARU Arti 46.37 1 *e*P **P 07 37 34.4 -0.1**
comp=Z,27nm,1.2s,mb5.1
AKASG Malin Array Be 46.53 336 P **P 07 37 35.0 -0.6**
comp=Z,1.7nm,0.8s,mb4.1,baz=146,slow=7.3,SNR=19
AKASG PcP PcP 07 39 09.9 0.0
comp=Z,0.2nm,0.4s,baz=144,slow=2.4,SNR=5.2
AKASG PP PP 07 39 22.2 -2.6
comp=Z,4.7nm,1.0s,baz=138,slow=9.0,SNR=4.5
AKASG Malin Array Be 46.53 336 P **P 07 37 35.0 -0.7**
AKASG Malin Array Be 46.53 336 PcP PcP 07 39 09.9 -0.1
BZS Buzias 46.56 326 ⇓P **P 07 37 32.2 -3.8**
BZS Buzias 46.56 326 ⇓P **P 07 37 32.2 -3.7**
DIVS Divcibare 46.56 324 *e*P **P 07 37 35.6 -0.4**
OBN Obninsk 47.79 344 *e*P **P 07 37 43.5 -2.1**
OBN Obninsk 47.79 344 *i*P **P 07 37 46.7 +1.1**
OBN *e*S **S 07 44 41.4 -0.7**
OBN pmax pmax
comp=Z,28nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.1
OBN Obninsk 47.79 344 *e*P **P 07 37 43.5 -2.1**
MOS Moscow 48.08 346 *e*P **P 07 37 47.3 -0.5**
MOS pmax pmax
comp=Z,73nm,1.6s,mb5.5
TSUM Tsumeb 48.31 233 *e*P **P 07 37 50.1 +0.5**
comp=Z,56nm,1.6s,mb5.3
TSUM Tsumeb 48.31 233 *e*P **P 07 37 50.1 +0.5**
comp=Z,56nm,1.6s,mb5.3
KOLS Kolonicke sedl 48.35 330 *e*P **P 07 37 51.0 +1.1**
KOLS *e* 07 37 58.0
KWP Kalwaria 48.61 331 *e*P **P 07 37 52.5 +0.6**
KWP Kalwaria 48.61 331 *e*P **P 07 37 51.8 -0.1**
comp=Z,45nm,1.4s,mb5.3
KWP Kalwaria 48.61 331 *e*P **P 07 37 51.8 -0.2**
comp=Z,45nm,1.4s,mb5.3
CRVS Cervenica-Dubn 48.74 329 *e* **P 07 37 59.3 +6.4**
KECS Kecovo 48.96 329 *e*P **P 07 37 52.9 -1.7**
KECS *e* 07 38 02.0
BOSA Boshof 48.99 218 P **P 07 37 56.3 +1.5**
comp=Z,15nm,0.9s,mb5.0,baz=49,slow=6.9,SNR=18
STHS Stebnicka Huta 49.18 330 *e*P **P 07 37 56.5 +0.2**
STHS *e* 07 38 03.4
ZAL Zalesovo 49.23 22 P **P 07 37 55.1 -1.6**
comp=Z,3.1nm,0.8s,mb4.4,baz=252,slow=8.2,SNR=17
ZAL LR LR 08 00 29.4
comp=Z,387nm,21.3s,MS4.4,baz=253,slow=38
NVS Novosibirsk 49.42 20 *i*P **P 07 37 57.1 -1.0**
NVS *e*S **S 07 45 04.0 -1.1**
NVS pmax pmax
comp=Z,14nm,1.4s,mb4.8
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,1.0s
SOKR Solikamsk 49.50 360 *i*P **P 07 37 59.9 +1.2**
SOKR pmax pmax
comp=Z,30nm,1.9s,mb5.0
SOKR MLR MLR
comp=Z,300nm,22.0s,MS4.2
SRO Srobarova 49.70 327 *e*P **P 07 37 59.9 -0.3**
SRO *e* 07 38 07.8
VYHS Vyhne 49.83 328 *e*P **P 07 38 01.0 -0.2**
VYHS *e* 07 38 07.1
BOJS Bojanci 50.15 323 *e*P **P 07 38 04.1 +0.4**
DOBS Dobrina 50.36 323 *e*P **P 07 38 05.9 +0.6**
OJC Ojcow 50.42 330 *e*P **P 07 38 05.3 -0.4**
GROS Grobnik 50.51 324 *e*P **P 07 38 06.8 +0.4**
ZST Bratislava 50.58 326 *e*P **P 07 38 06.1 -0.8**
LJU Ljubljana 50.87 323 *e*P **P 07 38 10.0 +1.0**
LJU *e* 07 38 16.6
ARSA Arzberg 50.93 325 ⇑*i*P **P 07 38 10.1 +0.6**
comp=Z,15nm,1.4s,mb4.7
OKC Ostrava-Krasne 51.01 329 *e*P **P 07 38 07.8 -2.3**
OKC AMS AMS 07 38 20.0
MORC Moravsky Berou 51.28 328 *e*P **P 07 38 11.8 -0.4**
MORC *e* 07 38 19.2
MORC pmax pmax
comp=Z,36nm,1.4s,mb5.1
MORC Moravsky Berou 51.28 328 *e*P **P 07 38 11.8 -0.4**
comp=Z,36nm,1.4s,mb5.1
MORC *e* 07 38 19.2
SUW Suwalki 51.46 335 *e*P **P 07 38 13.1 -0.5**
SFI Santa Sofia 51.48 319 P **P 07 38 15.1 +1.4**
PTCC Patocco-Chiusa 51.75 323 P **P 07 38 15.6 -0.1**
MOA Molln 51.97 325 *i*P **P 07 38 17.6 +0.2**
SNR=7.9
KBA Koelnbreinsper 52.10 323 ⇑*i*P **P 07 38 18.4 +0.1**
comp=Z,20nm,1.2s,mb4.9
DPC Dobruska-Polom 52.26 328 *e*P **P 07 38 18.4 -1.1**
KLMR Klimovskoe 52.38 349 *e*P **P 07 38 18.2 -2.2**
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.3
KLMR pmax pmax
comp=Z,70nm,3.7s
KLMR MLR MLR
comp=Z,450nm,21.0s,MS4.5
GSCL Gusciola 52.49 319 P **P 07 38 22.4 +1.2**
UPC Upice 52.51 328 *e*P **P 07 38 20.9 -0.5**
KSP Ksiaz 52.56 329 *e*P **P 07 38 21.6 -0.1**
KSP Ksiaz 52.56 329 ⇓*e*P **P 07 38 21.5 -0.2**
KSP *e**PP pP 07 38 26.8 +1.9
CTI Castel Tesino 52.60 322 P **P 07 38 22.3 +0.2**
PGF Pioggiola 52.78 317 *e*P **P 07 38 23.4 0.0**
comp=Z,177nm,1.7s,mb5.4
PGF Pioggiola 52.78 317 *e*P **P 07 38 23.4 0.0**
comp=Z,89nm,1.7s,mb5.4
GEC2 GERESS Array S 52.82 325 *e*P **P 07 38 23.2 -0.5**
comp=Z,17nm,1.7s,mb4.7
GERES GERESS Array B 52.82 325 P **P 07 38 22.3 -1.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=127,slow=7.1,SNR=11
GERES PcP PcP 07 39 33.3 +0.4
comp=Z,0.8nm,0.6s,baz=135,slow=5.7,SNR=4.3
GERES GERESS Array B 52.82 325 PcP PcP 07 39 33.3 +0.4
PRU Pruhonice 52.99 327 *e*P **P 07 38 24.4 -0.5**
PRU AMS AMS 07 38 30.0
KHC Kasperske Hory 53.04 326 *e*P **P 07 38 24.0 -1.3**
KHC *e*pP pP 07 38 30.5 +2.0
KHC Kasperske Hory 53.04 326 ⇑*e*P **P 07 38 25.9 +0.6**
WTTA Wattenberg 53.20 323 ⇑*i*P **P 07 38 26.4 0.0**
comp=Z,40nm,1.2s,mb5.2
PVCC Panska Ves 53.28 328 *e*P **P 07 38 26.2 -0.8**
SQTA Sankt Quirin 53.43 323 ⇓*i*P **P 07 38 27.7 -0.5**
comp=Z,15nm,0.5s,mb5.2,SNR=11
MOTA Moosalm 53.56 323 ⇓*i*P **P 07 38 28.2 -0.9**
comp=Z,7.0nm,0.6s,mb4.8,SNR=7.5
BRMO Bormio 53.59 322 P **P 07 38 31.0 +1.7**
BRG Berggiesshubel 53.80 328 *e*P **P 07 38 30.2 -0.7**
comp=Z,7.8nm,1.3s,mb4.5
BRG *e* 07 38 36.9
comp=Z,6.9nm,1.2s
BRG Berggiesshubel 53.80 328 *e*P **P 07 38 30.1 -0.8**
comp=Z,8.0nm,1.3s,mb4.5
BRG Berggiesshubel 53.80 328 *e*P **P 07 38 30.2 -0.7**
BRG *e* 07 38 36.9
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
FUR Furstenfeldbru 53.85 324 *e*P **P 07 38 30.8 -0.5**
comp=Z,39nm,1.2s,mb5.2
TORD Torodi Ar. Bea 53.99 279 P **P 07 38 34.5 +2.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=87,slow=6.9,SNR=24
ROTZ Rotzenmuhle 54.14 326 *e*P **P 07 38 32.5 -0.8**
comp=Z,8.0nm,1.2s,mb4.5
MUGIO Muggio 54.16 320 P **P 07 38 33.3 -0.2**
NKC Novy Kostel 54.25 326 *e*P **P 07 38 33.7 -0.5**
DAVA Damuels 54.26 322 *i*P **P 07 38 33.9 -0.3**
comp=Z,32nm,1.2s,mb5.1,SNR=7.6
SBF Sospel 54.35 318 *e*P **P 07 38 35.0 +0.1**
comp=Z,64nm,1.2s,mb5.1
SBF Sospel 54.35 318 *e*P **P 07 38 35.0 +0.1**
comp=Z,32nm,1.2s,mb5.1
SUR Sutherland 54.35 218 *e*P **P 07 38 36.9 +2.0**
comp=Z,9.2nm,0.9s,mb4.7
SUR Sutherland 54.35 218 *e*P **P 07 38 36.9 +2.0**
comp=Z,9.2nm,0.9s,mb4.7
AUTN L'Aution 54.41 318 *e*P **P 07 38 35.9 +0.6**
WERD Werda 54.44 327 *e*P **P 07 38 35.1 -0.4**
comp=Z,6.0nm,1.2s,mb4.4
CLL Collm 54.53 328 ⇓*i*P **P 07 38 35.5 -0.7**
comp=Z,54nm,2.0s,mb5.2
CLL *i*pP pP 07 38 41.5 +2.1
CLL *i*x x 07 38 51.4
CLL Collm 54.53 328 *e*P **P 07 38 35.7 -0.5**
comp=Z,15nm,1.6s,mb4.8
CLL *i*pP pP 07 38 41.5 +2.1
CLL Collm 54.53 328 ⇓*i*P **P 07 38 35.5 -0.7**
CLL *i**PP pP 07 38 41.5 +2.1
CLL Collm 54.53 328 ⇓*i*P **P 07 38 35.5 -0.7**
CLL *i*pP pP 07 38 41.5 +2.1
CLL *i* 07 38 51.4
GRA1 Grafenberg Arr 54.65 325 *e*P **P 07 38 36.0 -1.0**
comp=Z,35nm,1.3s,mb5.2
GRF Grafenberg Arr 54.65 325 *e*P **P 07 38 36.0 -1.0**
comp=Z,35nm,1.3s,mb5.2
GRF Grafenberg Arr 54.65 325 *e*P **P 07 38 36.0 -1.0**
GRF pmax pmax
comp=Z,35nm,1.3s,mb5.2
FRF La Foret Royal 54.76 317 *e*P **P 07 38 38.0 +0.1**
comp=Z,99nm,1.4s,mb5.3
FRF La Foret Royal 54.76 317 *e*P **P 07 38 38.0 +0.1**
comp=Z,50nm,1.4s,mb5.3
LMR La Mourre 54.77 317 *e*P **P 07 38 38.1 +0.2**
comp=Z,73nm,1.3s,mb5.2
LMR La Mourre 54.77 317 *e*P **P 07 38 38.1 +0.2**
comp=Z,36nm,1.3s,mb5.2
MOX Moxa 54.92 327 *e*P **P 07 38 38.4 -0.6**
comp=Z,15nm,1.5s,mb4.8
SURF Saint Ours 55.00 318 *e*P **P 07 38 39.5 -0.1**
MBDF Montbardon 55.13 318 *e*P **P 07 38 41.5 +1.0**
comp=Z,39nm,1.3s,mb5.0
MBDF Montbardon 55.13 318 *e*P **P 07 38 41.5 +1.0**
comp=Z,20nm,1.3s,mb5.0
DIX Grande Dixence 55.26 320 P **P 07 38 42.1 +0.6**
STU Stuttgart 55.36 324 *e*P **P 07 38 41.1 -1.1**
comp=Z,5.0nm,0.5s,mb4.8
LPG La Plagne 55.45 319 *e*P **P 07 38 42.6 -0.2**
comp=Z,24nm,0.8s,mb5.0
LPG La Plagne 55.45 319 *e*P **P 07 38 42.6 -0.2**
comp=Z,12nm,0.8s,mb5.0
LPL La Plagne 55.47 319 *e*P **P 07 38 42.6 -0.3**
comp=Z,32nm,1.0s,mb5.0
LPL La Plagne 55.47 319 *e*P **P 07 38 42.6 -0.3**
comp=Z,16nm,1.0s,mb5.0
SMRF Simiane la Rot 55.64 317 *e*P **P 07 38 44.9 +0.7**
comp=Z,88nm,1.7s,mb5.2
SMRF Simiane la Rot 55.64 317 *e*P **P 07 38 44.9 +0.7**
comp=Z,44nm,1.7s,mb5.2
BFO Black Forest 55.67 323 *e*P **P 07 38 44.2 -0.2**
comp=Z,21nm,1.4s,mb5.0
BFO Black Forest 55.67 323 *e*P **P 07 38 44.3 -0.1**
BFO Black Forest 55.67 323 *e*P **P 07 38 44.3 -0.1**
BBS Basel-Blauen 55.78 322 *e*P **P 07 38 45.0 -0.2**
ORIF Oris-en-Rattie 55.79 318 *e*P **P 07 38 45.3 0.0**
comp=Z,31nm,1.3s,mb4.9
ORIF *e*R
comp=Z,92nm,21.8s
ORIF Oris-en-Rattie 55.79 318 *e*P **P 07 38 45.3 0.0**
comp=Z,16nm,1.3s,mb4.9
JOF Joensuu 55.95 346 *e*p **P 07 38 45.1 -1.3**
comp=Z,6.8nm,0.8s,mb4.7
FINES FINESS Array B 56.10 343 P **P 07 38 46.4 -1.1**
comp=Z,2.6nm,0.7s,mb4.3,baz=139,slow=8.8,SNR=9.7
FINES FINESS Array B 56.10 343 P **P 07 38 46.4 -1.1**
SONM Songino Array 56.13 38 P **P 07 38 47.5 -0.2**
comp=Z,6.2nm,0.9s,mb4.6,baz=242,slow=6.2,SNR=32
SONM LR LR 08 04 54.5
comp=Z,215nm,20.7s,MS4.2,baz=262,slow=38
LOMF Lomont 56.16 321 *e*P **P 07 38 48.0 +0.1**
MOF Molkenrain 56.18 322 *e*P **P 07 38 47.9 -0.2**
CLZ Clausthal 56.21 327 *e*P **P 07 38 48.2 -0.1**
comp=Z,15nm,1.3s,mb4.9
WLS Welschbruch 56.29 323 *e*P **P 07 38 48.7 -0.2**
CABF La Chapelle 56.31 320 *e*P **P 07 38 49.5 +0.5**
comp=Z,251nm,1.2s,mb5.8
CABF La Chapelle 56.31 320 *e*P **P 07 38 49.5 +0.5**
comp=Z,126nm,1.2s,mb5.8
ECH Echery 56.32 322 *e*P **P 07 38 48.9 -0.2**
CDF Champ du Feu 56.34 322 *e*P **P 07 38 49.1 -0.1**
comp=Z,157nm,1.4s,mb5.5
CDF Champ du Feu 56.34 322 *e*P **P 07 38 49.1 -0.1**
comp=Z,78nm,1.4s,mb5.5
HINF Hinteralfeld 56.34 322 *e*P **P 07 38 48.7 -0.5**
comp=Z,17nm,0.8s,mb4.8
HINF Hinteralfeld 56.34 322 *e*P **P 07 38 48.7 -0.5**
comp=Z,8.4nm,0.8s,mb4.8
TNS Taunus Mts 56.47 325 *e*P **P 07 38 49.8 -0.4**
comp=Z,14nm,1.4s,mb4.8
ULN Ulaanbaatar 56.55 38 *e*P **P 07 38 50.1 -0.6**
comp=Z,13nm,1.4s,mb4.8
ULN Ulaanbaatar 56.55 38 *i*P **P 07 38 50.7 0.0**
ULN Ulaanbaatar 56.55 38 *e*P **P 07 38 50.1 -0.5**
comp=Z,13nm,1.4s,mb4.8
VIVF Saint-Julien-l 56.56 318 *e*P **P 07 38 50.6 -0.2**
KAF Kangasniemi 56.57 343 *e*p **P 07 38 47.7 -3.1**
comp=Z,7.1nm,1.0s,mb4.7
KAF Kangasniemi 56.57 343 *e*P **P 07 38 47.7 -3.1**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
HAU Haudompre 56.72 322 *e*P **P 07 38 52.5 +0.6**
comp=Z,48nm,1.2s,mb5.1
HAU *e*R
comp=Z,63nm,22.2s
HAU Haudompre 56.72 322 *e*P **P 07 38 52.5 +0.6**
comp=Z,24nm,1.2s,mb5.1
LASF Ste Croix 56.83 317 *e*P **P 07 38 52.9 +0.2**

comp=Z,93nm,1.7s,mb5.2
LASF Ste Croix 56.83 317 *e*P **P 07 38 52.9 +0.2**
comp=Z,46nm,1.7s,mb5.2
RUP Ruppelstein 57.03 324 *e*P **P 07 38 54.8 +0.7**
THEF They Montfort 57.04 322 *e*P **P 07 38 53.8 -0.4**
BSEG Bad Segeberg 57.33 329 *e*P **P 07 38 55.6 -0.6**
comp=Z,11nm,1.5s,mb4.7
WLF Walferdange 57.55 323 P **P 07 38 57.8 +0.1**
comp=Z,27nm,1.4s,mb5.1
WLF XP sP 07 39 04.9 +2.8
LBL Lubilhac 57.64 318 *e*P **P 07 38 58.7 +0.3**
BUG Bochum--Univer 57.70 326 *e*P **P 07 38 59.0 +0.1**
comp=Z,41nm,2.2s,mb5.1
MTLF Montolieu 57.71 315 *e*P **P 07 38 59.3 +0.4**
comp=Z,38nm,1.3s,mb5.0
MTLF Montolieu 57.71 315 *e*P **P 07 38 59.3 +0.4**
comp=Z,19nm,1.3s,mb5.0
MEZF Maizieres J'vi 57.72 322 *e*P **P 07 38 59.3 +0.3**
comp=Z,270nm,1.4s,mb5.8
MEZF Maizieres J'vi 57.72 322 *e*P **P 07 38 59.3 +0.3**
comp=Z,135nm,1.4s,mb5.8
SMF Signal de Mont 57.76 319 *e*P **P 07 38 58.8 -0.5**
comp=Z,47nm,1.4s,mb5.0
SMF Signal de Mont 57.76 319 *e*P **P 07 38 58.8 -0.5**
comp=Z,24nm,1.4s,mb5.0
IBBN Ibbenburen 57.84 327 *e*P **P 07 39 00.0 +0.1**
comp=Z,13nm,1.2s,mb4.8
LOR Lormes 57.98 320 *e*P **P 07 39 00.7 -0.1**
comp=Z,100nm,1.2s,mb5.4
LOR *e*R
comp=Z,51nm,22.6s
LOR Lormes 57.98 320 *e*P **P 07 39 00.7 -0.1**
comp=Z,50nm,1.2s,mb5.4
MEM Membach 58.04 324 P **P 07 39 03.2 +1.9**
MEM XP sP 07 39 08.9 +3.2
AVF Avril sur Loir 58.12 319 *e*P **P 07 39 01.4 -0.4**
comp=Z,69nm,1.5s,mb5.2
AVF Avril sur Loir 58.12 319 *e*P **P 07 39 01.4 -0.4**
comp=Z,34nm,1.5s,mb5.2
SSF Saint Saulge 58.12 320 *e*P **P 07 39 01.5 -0.3**
comp=Z,65nm,1.2s,mb5.2
SSF Saint Saulge 58.12 320 *e*P **P 07 39 01.5 -0.3**
comp=Z,32nm,1.2s,mb5.2
HGN Heimansgroeve 58.15 325 *e*P **P 07 39 02.2 +0.1**
CAF Calviac 58.33 317 *e*P **P 07 39 03.3 +0.1**
BGF Bois d'Agland 58.37 319 *e*P **P 07 39 03.7 +0.2**
comp=Z,121nm,1.3s,mb5.5
BGF Bois d'Agland 58.37 319 *e*P **P 07 39 03.7 +0.2**
comp=Z,61nm,1.3s,mb5.5
ERTA Horta de San J 58.37 312 P **P 07 39 02.7 -0.8**
comp=Z,61nm,1.6s,mb5.4
GIVF Givet 58.51 323 *e*P **P 07 39 04.6 +0.1**
comp=Z,112nm,1.2s,mb5.5
GIVF Givet 58.51 323 *e*P **P 07 39 04.6 +0.1**
comp=Z,56nm,1.2s,mb5.5
DOU Dourbes 58.64 323 ⇓P **P 07 39 05.6 +0.2**
comp=Z,21nm,1.2s,mb5.0
DOU XP sP 07 39 12.5 +2.6
TCF Toulx Ste Croi 58.68 319 *e*P **P 07 39 05.6 -0.1**
comp=Z,61nm,1.7s,mb5.1
TCF Toulx Ste Croi 58.68 319 *e*P **P 07 39 05.6 -0.1**
comp=Z,31nm,1.7s,mb5.1
RJF Les Rejaudoux 58.81 317 *e*P **P 07 39 06.7 +0.1**
RJF *e*R
comp=Z,72nm,21.8s
BAIF Baives 58.85 323 *e*P **P 07 39 07.0 +0.1**
comp=Z,131nm,1.2s,mb5.5
BAIF Baives 58.85 323 *e*P **P 07 39 07.0 +0.1**
comp=Z,66nm,1.2s,mb5.5
EPF Esparros 58.93 314 *e*P **P 07 39 07.3 -0.2**
EBIE Bielsa 58.97 314 P **P 07 39 07.2 -0.5**
comp=Z,28nm,1.6s,mb5.0
EBIE Bielsa 58.97 314 P **P 07 39 07.2 -0.5**
comp=Z,28nm,1.6s,mb5.0
SNF Seneffe 58.99 324 P **P 07 39 07.8 0.0**
comp=Z,11nm,1.6s,mb4.6
SNF XP sP 07 39 15.0 +2.7
comp=Z,17nm,1.6s
UCC Uccle 59.07 324 P **P 07 39 08.7 +0.3**
UCC XP sP 07 39 15.6 +2.7
LFF La Frestale 59.22 317 *e*P **P 07 39 09.8 +0.3**
comp=Z,82nm,1.5s,mb5.2
LFF La Frestale 59.22 317 *e*P **P 07 39 09.8 +0.3**
comp=Z,41nm,1.5s,mb5.2
HFS Hagfors 59.41 337 P **P 07 39 08.7 -2.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=121,slow=8.6,SNR=8.1
HFS LR LR 08 07 09.7
comp=Z,140nm,18.7s,MS4.1,baz=83,slow=38
ETSF Etsaut 59.53 314 *e*P **P 07 39 12.5 +0.9**
comp=Z,88nm,1.4s,mb5.3
ETSF Etsaut 59.53 314 *e*P **P 07 39 12.5 +0.9**
comp=Z,44nm,1.4s,mb5.3
EBER Berja 59.91 307 P **P 07 39 14.4 +0.2**
comp=Z,9.8nm,0.8s,mb4.9
EBER Berja 59.91 307 P **P 07 39 14.4 +0.2**
comp=Z,9.8nm,0.8s,mb4.9
EVIA Vianos 59.95 309 P **P 07 39 14.3 -0.2**
comp=Z,15nm,0.8s,mb5.1
EVIA Vianos 59.95 309 P **P 07 39 14.3 -0.2**
EVIA pmax pmax
comp=Z,15nm,0.8s,mb5.1
EVIA Vianos 59.95 309 P **P 07 39 14.3 -0.2**
comp=Z,15nm,0.8s,mb5.1
SJPF Ste Jean 60.06 314 *e*P **P 07 39 16.1 +0.9**
comp=Z,72nm,1.4s,mb5.2
SJPF Ste Jean 60.06 314 *e*P **P 07 39 16.1 +0.9**
comp=Z,36nm,1.4s,mb5.2
EQES Quesada 60.22 308 P **P 07 39 14.2 -2.1**
comp=Z,21nm,1.4s,mb5.0
ELIZ Elizondo 60.28 314 P **P 07 39 15.9 -0.9**
ELIZ Elizondo 60.28 314 P **P 07 39 15.9 -0.9**
MFF Saint Martin d 60.33 318 *e*P **P 07 39 17.0 -0.1**
comp=Z,63nm,1.5s,mb5.1
MFF Saint Martin d 60.33 318 *e*P **P 07 39 17.0 -0.1**
comp=Z,32nm,1.5s,mb5.1
ERON Agron 60.65 307 P **P 07 39 20.0 +0.7**
comp=Z,7.0nm,0.9s,mb4.8
ERON Agron 60.65 307 P **P 07 39 20.0 +0.7**
comp=Z,7.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 60.94 337 P **P 07 39 19.7 -1.5**
comp=Z,8.1nm,1.1s,mb4.8,baz=126,slow=6.9
NOA NORSAR Array B 60.94 337 P **P 07 39 19.8 -1.5**
comp=Z,1.0nm,0.7s,mb4.1,baz=125,slow=5.7,SNR=4.3
ELOJ Sierra Loja 60.95 307 P **P 07 39 21.9 +0.6**
comp=Z,6.2nm,0.9s,mb4.7
ELOJ Sierra Loja 60.95 307 P **P 07 39 21.9 +0.6**
ELOJ pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ELOJ Sierra Loja 60.95 307 P **P 07 39 21.9 +0.6**
comp=Z,6.2nm,0.9s,mb4.7
LDF La Druitiere 60.95 320 *e*P **P 07 39 20.9 -0.4**
comp=Z,129nm,1.2s,mb5.6
LDF La Druitiere 60.95 320 *e*P **P 07 39 20.9 -0.4**
comp=Z,65nm,1.2s,mb5.6
DBIC Dimbokro 61.02 272 P **P 07 39 24.1 +2.3**
comp=Z,7.0nm,0.7s,mb4.9,baz=75,slow=7.1,SNR=15
FLN La Foliniere 61.23 321 *e*P **P 07 39 22.8 -0.4**
comp=Z,85nm,1.3s,mb5.4
FLN *e*R
comp=Z,89nm,21.5s
FLN La Foliniere 61.23 321 *e*P **P 07 39 22.8 -0.4**
comp=Z,43nm,1.3s,mb5.4
ESDC Sonseca Array 61.27 310 P **P 07 39 24.7 +1.2**
comp=Z,4.2nm,0.8s,mb4.6,baz=93,slow=5.8,SNR=9.1
ESDC Sonseca Array 61.27 310 P **P 07 39 24.2 +0.7**
comp=Z,14nm,1.0s,mb5.1
ESDC Sonseca Array 61.27 310 P **P 07 39 24.2 +0.7**
comp=Z,14nm,1.0s,mb5.1
EMIJ Mijas 61.34 306 P **P 07 39 24.5 +0.5**
comp=Z,72nm,1.8s,mb5.5
EMIJ Mijas 61.34 306 P **P 07 39 24.5 +0.5**
comp=Z,72nm,1.8s,mb5.5
GRR Gorron 61.35 320 *e*P **P 07 39 23.4 -0.6**
comp=Z,87nm,1.4s,mb5.4
GRR Gorron 61.35 320 *e*P **P 07 39 23.4 -0.6**
comp=Z,43nm,1.4s,mb5.4
EADA Adamuz 61.46 308 P **P 07 39 24.8 0.0**
comp=Z,37nm,1.9s,mb5.2
EADA Adamuz 61.46 308 P **P 07 39 24.8 +0.1**
comp=Z,37nm,1.9s,mb5.2
GUD Guadarrama 61.60 311 P **P 07 39 25.3 -0.5**
comp=Z,29nm,1.7s,mb5.1
GUD Guadarrama 61.60 311 P **P 07 39 25.3 -0.5**
GUD pmax pmax
comp=Z,29nm,1.7s,mb5.1
GUD Guadarrama 61.60 311 P **P 07 39 25.3 -0.4**
comp=Z,29nm,1.7s,mb5.1
ELAN Lanestosa 61.65 314 P **P 07 39 24.9 -1.2**
comp=Z,64nm,1.5s,mb5.5
EJIF Jimena Fronter 61.88 306 P **P 07 39 28.3 +0.7**
comp=Z,29nm,1.4s,mb5.2
EJIF Jimena Fronter 61.88 306 P **P 07 39 28.3 +0.7**
EJIF pmax pmax
comp=Z,29nm,1.4s,mb5.2
EJIF Jimena Fronter 61.88 306 P **P 07 39 28.3 +0.7**
comp=Z,29nm,1.4s,mb5.2
ESPR Espera 62.25 306 P **P 07 39 29.7 -0.4**
comp=Z,29nm,1.3s,mb5.2
ESPR Espera 62.25 306 P **P 07 39 29.7 -0.4**
comp=Z,29nm,1.3s,mb5.2
SGMF Saint Gilles 62.38 320 *e*P **P 07 39 30.4 -0.6**
comp=Z,70nm,1.3s,mb5.3
SGMF Saint Gilles 62.38 320 *e*P **P 07 39 30.4 -0.6**
comp=Z,35nm,1.3s,mb5.3
ARCES ARCESS Array B 62.80 348 P **P 07 39 33.7 -0.1**
comp=Z,5.8nm,0.8s,mb4.8,baz=157,slow=9.2,SNR=11
ARCES ARCESS Array B 62.80 348 P **P 07 39 33.7 -0.1**
ROSF Rostrenen 62.87 319 *e*P **P 07 39 33.3 -0.9**
comp=Z,43nm,1.2s,mb5.2
ROSF Rostrenen 62.87 319 *e*P **P 07 39 33.3 -0.9**
comp=Z,22nm,1.2s,mb5.2
EMIN Mina Concepcio 63.03 307 P **P 07 39 33.5 -1.8**
comp=Z,45nm,1.5s,mb5.4
EMIN Mina Concepcio 63.03 307 P **P 07 39 33.5 -1.8**
comp=Z,45nm,1.5s,mb5.4
EBAD Badajoz 63.44 308 P **P 07 39 36.1 -1.9**
comp=Z,49nm,1.6s,mb5.4
EBAD Badajoz 63.44 308 P **P 07 39 36.1 -1.9**
comp=Z,49nm,1.6s,mb5.4
PBRG Braganca 63.74 312 *e*P **P 07 39 41.6 +1.6**
comp=Z,31nm,1.9s,mb5.0
PBEJ Beja 64.00 307 *e*P **P 07 39 42.5 +0.8**
BOD Bodaibo 64.48 30 *e*P **P 07 39 40.0 -4.9**
BOD pmax pmax
comp=Z,4.0nm,1.8s,mb4.2
HIA Hailar 64.94 40 *e*P **P 07 39 47.7 -0.2**
comp=Z,40nm,1.6s,mb5.2
HIA Hailar 64.94 40 *e*P **P 07 39 47.7 -0.2**
HIA pmax pmax
comp=Z,40nm,1.6s
HIA Hailar 64.94 40 *e*P **P 07 39 47.6 -0.3**
comp=Z,40nm,1.6s,mb5.2
MBWA Marble Bar 69.10 117 *e*P **P 07 40 13.2 -1.2**
comp=Z,11nm,1.0s,mb4.7
EBAJ Bajamar 70.54 297 P **P 07 40 18.7 -4.5**
comp=Z,136nm,1.3s,mb5.7
KLR Kul'dur 72.69 42 *e*P **P 07 40 31.8 -4.3**
KLR pmax pmax
comp=Z,28nm,1.4s,mb5.0
YAK Yakutsk 73.24 28 *i* P **P 07 40 37.9 -1.5**
comp=Z,200nm,24.0s
YAK Yakutsk 73.24 28 *i* P **P 07 40 37.9 -1.5**
YAK pmax pmax
comp=Z,24nm,1.3s,mb5.0
YAK MLR MLR
comp=Z,200nm,24.0s,MS4.3
FITZ Fitzroy Crossi 73.44 112 *e*P **P 07 40 39.9 -0.7**
comp=Z,11nm,1.6s,mb4.5
HABR Khabarovsk 74.82 42 *i* P **P 07 40 48.4 -0.2**
comp=Z,27nm,1.1s,mb5.1
HABR Khabarovsk 74.82 42 *i* P **P 07 40 48.4 -0.2**
HABR pmax pmax
comp=Z,27nm,1.1s,mb5.1
TIXI Tiksi 74.98 18 *e*P **P 07 40 47.8 -1.7**
comp=Z,400nm,25.0s
TIXI Tiksi 74.98 18⇑*e*P **P 07 40 47.8 -1.7**
TIXI pmax pmax
comp=Z,12nm,1.7s,mb4.5
TIXI MLR MLR
comp=Z,400nm,25.0s,MS4.6
DAG Danmarks Havn 77.03 347⇓*i*P **P 07 41 00.8 -0.5**
comp=Z,8.4nm,0.9s,mb4.7
DAG Danmarks Havn 77.03 347⇓*e*P **P 07 41 00.8 -0.5**
DAG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DAG Danmarks Havn 77.03 347⇓*e*P **P 07 41 00.8 -0.5**
comp=Z,8.4nm,0.9s,mb4.7
MJAR Matsushiro Arr 77.26 55 P **P 07 41 01.4 -1.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=278,slow=8.8,SNR=6.0
MJAR LR LR 08 15 37.0
comp=Z,144nm,22.0s,MS4.2,baz=275,slow=36
YSS Yuzh-Sakhalins 80.04 44 *e*P **P 07 41 16.4 -1.5**
YSS Yuzh-Sakhalins 80.04 44 *e*P **P 07 41 16.4 -1.5**
WRA Warramunga Arr 81.86 112 P **P 07 41 26.7 -0.8**
comp=Z,7.6nm,0.8s,mb4.7,baz=296,slow=4.2,SNR=42
WRA PKKPbc PKKPbc 07 59 59.4 +1.3
comp=Z,0.7nm,0.8s,baz=102,slow=2.1,SNR=8.4
WRAB Tennant Creek 81.87 112 P **P 07 41 27.5 -0.1**
comp=Z,100nm,0.9s,mb5.7,SNR=6.1
WRAB Tennant Creek 81.87 112 *i* P **P 07 41 26.8 -0.8**
WRAB Tennant Creek 81.87 112 *d i* P **P 07 41 26.8 -0.8**
WRAB Tennant Creek 81.87 112 *e*P **P 07 41 26.4 -1.2**
comp=Z,35nm,1.1s,mb5.2
WB2 Warramunga Arr 81.87 112⇓*i*P **P 07 41 26.6 -1.0**
SUMG Summit 82.14 342 *e*P **P 07 41 29.9 +0.9**
comp=Z,34nm,1.4s,mb5.1
SUMG Summit 82.14 342 *e*P **P 07 41 29.9 +0.9**
comp=Z,34nm,1.4s,mb5.1
ASPA Alice Springs 82.36 116 *e*P **P 07 41 29.1 -1.1**
ASAR Alice Springs 82.36 116 P **P 07 41 29.2 -1.0**
comp=Z,5.3nm,0.8s,mb4.5,baz=290,slow=5.2,SNR=45
ASAR PKKPbc PKKPbc 07 59 58.0 +1.0
comp=Z,0.5nm,0.8s,baz=101,slow=1.8,SNR=5.6
MA2 Magadan 83.49 31 *i* P **P 07 41 36.2 +0.1**
comp=Z,8.0nm,1.2s,mb4.6
MA2 Magadan 83.49 31 *i* P **P 07 41 36.2 +0.1**
MA2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
MA2 Magadan 83.49 31 *e*P **P 07 41 34.2 -1.9**
comp=Z,5.1nm,0.9s,mb4.5
SEY Seymchan 83.74 27 *e*P **P 07 41 36.8 -0.5**
ALE Alert 83.83 353 P **P 07 41 37.6 -0.2**
comp=Z,72nm,0.9s,mb5.8,SNR=8.2
STKA Stephens Creek 90.82 122 *e*P **P 07 42 09.1 -2.6**
comp=Z,4.6nm,1.0s,mb4.8
STKA Stephens Creek 90.82 122 P **P 07 42 09.2 -2.4**
comp=Z,5.4nm,1.0s,mb4.8,baz=327,slow=6.8,SNR=9.4
CTAO Charters Tower 92.86 110 *e*P **P 07 42 21.5 +0.4**
comp=Z,3.0nm,0.9s,mb4.7
CTAO Charters Tower 92.86 110 *e*P **P 07 42 21.5 +0.4**
CTAO pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
CTAO Charters Tower 92.86 110 *e*P **P 07 42 21.4 +0.3**
comp=Z,3.0nm,0.9s,mb4.7
ILAR Eielson Array 103.37 10 PP PP 07 47 28.1 +4.2
comp=Z,1.1nm,1.1s,baz=358,slow=5.3,SNR=4.9
YKA Yellowknife Ar 107.45 356 PP PP 07 47 49.2 -4.9
comp=Z,2.1nm,1.2s,baz=1.8,slow=7.1,SNR=8.7
YKA PKKPbc PKKPbc 07 58 49.3 -0.5
comp=Z,0.2nm,0.9s,baz=175,slow=2.7,SNR=3.7
FVM French Village 123.30 329 *e*PKIKP PKPdf 07 48 04.9 -0.4
PLCA Paso Flores 124.47 227 PKP PKPdf 07 48 08.0 +0.4
comp=Z,1.9nm,0.8s,baz=198,slow=14,SNR=4.1
PDAR Pinedale Array 126.06 348 PKP PKPdf 07 48 10.7 +0.1
comp=Z,1.1nm,0.9s,baz=51,slow=2.8,SNR=8.4
LPAZ La Paz 126.13 257 PKP PKPdf 07 48 12.8 +2.1
comp=Z,0.8nm,0.8s,baz=3.4,slow=15,SNR=3.8
LPAZ La Paz 126.13 257 PKP PKPdf 07 48 12.8 +2.1
NVAR Mina Array Bea 131.64 355 PKP PKPdf 07 48 23.6 +2.5
comp=Z,0.9nm,0.6s,baz=345,slow=1.2,SNR=9.3

IDC 11 07:39:39.3±3.8,1582S×17331W,h0km,mb3.8/5,
mb1 4.2/5,mb1mx3.9/16,mbtmp3.8/5,MS3.4/1,Ms1 3.4/1,
ms1mx2.9/26,Error ellipse: s-maj=248.0km
s-min=23.7km az=150.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**38**	Pn	Pn	07 40 15.1	-4.8
	114nm,0.3s,baz=317,slow=0.5,SNR=17						
AFI				Sn	Sn	07 40 34.7	-15
	208nm,0.3s,baz=71,slow=21,SNR=23						
URZ	**Urewera**	**23.90**	**199**	LR	LR	07 52 10.1	
	comp=Z,86nm,18.4s,baz=245,slow=31						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	07 48 34.4	+0.4
	0.4nm,0.5s,baz=90,slow=7.0,SNR=9.1						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	07 48 36.1	+0.3
	2.1nm,0.7s,baz=86,slow=8.2,SNR=44						
NVAR	**Mina Array Bea**	**74.58**	**42**	P	P	07 51 20.6	+0.5
	1.8nm,0.8s,baz=233,slow=13,SNR=11						
PDAR	**Pinedale Array**	**82.52**	**42**	P	P	07 52 04.8	+0.9
	0.4nm,0.9s,baz=207,slow=3.3,SNR=4.5						
YKA	**Yellowknife Ar**	**90.44**	**23**	P	P	07 52 41.4	-1.3
	0.2nm,0.8s,baz=242,slow=4.2,SNR=3.8						
BRTR	**Keskin Array B**	**146.54**	**321**	PKPbc	PKPbc	07 59 23.1	+0.5
	0.8nm,0.8s,baz=90,slow=1.2,SNR=4.3						
GERES	**GERESS Array B**	**146.57**	**352**	PKPbc	PKPbc	07 59 22.3	-0.4
	0.4nm,0.8s,baz=63,slow=2.2,SNR=4.1						

ISCJB 11 07:52:35.2±6.9,177S±0.1×1679E±0.4,h21km±52km,
mb3.9/6,MS3.2/1,Error ellipse: s-maj=57.8km
s-min=17.0km az=3.1
IDC 11 07:52:40.4±7.1,1789S×16821E,h69km±70km,mb3.7/5,
mb1 3.8/6,mb1mx3.7/14,mbtmp3.9/6,ML3.0/1,MS3.2/2,
Ms1 3.2/2,ms1mx2.8/29,Error ellipse: s-maj=70.2km
s-min=47.3km az=125.0
NEIC 11 07:52:41.6±4.0,1811S×16829E,h84km±39km,mb4.0/3,
Error ellipse: s-maj=52.4km s-min=36.8km az=149.0
ISC 11 07:52:38.4±4.5,178S±03×1682E±04,h47km±48km,n10,
σ0$69/11,mb4.0/6,MS3.2/1,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.59**	**201**	P	Pn	07 53 44.7	-0.5
	0.8nm,0.3s,baz=72,slow=20,SNR=21						
DZM				S	Sn	07 54 38.0	+0.6
	1.7nm,0.3s,baz=154,slow=22,SNR=3.1						
DZM				LR	LR	07 55 23.1	
	comp=Z,198nm,21.9s,baz=28,slow=36						
CTA	**Charters Tower**	**20.87**	**260**	P	P	07 57 18.1	+1.7
	5.1nm,0.8s,baz=90,slow=14,SNR=6.1						
CTA				LR	LR	08 03 44.1	
	comp=Z,101nm,20.0s,MS3.2,baz=56,slow=32						
CTAO	**Charters Tower**	**20.87**	**260**	*e*P	P	07 57 21.6	+5.2
	5.2nm,0.8s						
STKA	**Stephens Creek**	**27.83**	**235**	P	P	07 58 22.3	-1.0
	1.8nm,0.6s,mb3.9,baz=73,slow=8.4,SNR=2.9						
WB2	**Warramunga Arr**	**32.06**	**261**	*e*P	P	07 59 00.3	-0.4
WRAB	**Tennant Creek**	**32.06**	**261**	*e*P	P	07 59 00.2	-0.5
	0.8nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**32.07**	**261**	P	P	07 59 00.5	-0.3
	0.8nm,0.8s,mb3.6,baz=82,slow=6.2,SNR=8.4						
ASAR	**Alice Springs**	**32.54**	**254**	P	P	07 59 04.8	-0.1
	1.8nm,0.5s,mb4.2,baz=80,slow=8.8,SNR=76						
MBWA	**Marble Bar**	**45.67**	**258**	*e*P	P	08 00 55.1	+0.6
	7.7nm,0.9s,mb4.6						
SONM	**Songino Array**	**85.44**	**323**	P	P	08 05 11.8	+0.8
	0.4nm,0.7s,mb3.7,baz=134,slow=6.3,SNR=5.2						

NAO 11 08:02:58.6,1102N×12254E,h33km,mb4.1
IDC 11 08:03:13.1±0.7,1550N×12207E,h0km,mb4.0/11,
mb1 4.1/11,mb1mx3.9/21,mbtmp4.0/11,MS3.5/1,
Ms1 3.5/1,ms1mx2.8/35,Error ellipse: s-maj=28.6km
s-min=14.4km az=77.0
ISCJB 11 08:03:16.4±0.7,1556N±002×12177E±004,h20km±4km,
mb4.1/15,MS3.4/1,Error ellipse: s-maj=6.2km
s-min=4.0km az=158.9
MOS 11 08:03:16.3±0.7,1552N×122.10E,h33km,mb4.6/4,Error
ellipse: s-maj=25.1km s-min=13.6km az=105.0
MAN 11 08:03:16.1,1545N×12169E,h1km,mb3.8,ML4.9,MS1.1
NEIC 11 08:03:19.8±1.3,1539N×12195E,h47km±12km,mb4.5/3,
Error ellipse: s-maj=20.8km s-min=8.5km az=79.0
ISC 11 08:03:16.7±0.6,1551N±002×12173E±004,h10km±3km,
n50,σ1$29/67,mb4.1/15,MS3.4/1,4C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.27**	**327**	*e*P	Pg	08 03 22.5	+0.2
BALP				*e*S	Sg	08 03 26.7	+0.7
PCPH	**Palayan**	**0.61**	**275**⇑	*i*P	Pg	08 03 28.1	-0.6
PCPH				*e*S	Sg	08 03 37.1	+0.4
POLP	**Polilio Island**	**0.81**	**166**	*e*P	Pg	08 03 30.9	-1.3
POLP				*e*S	Sg	08 03 44.0	+1.3
NZB	**Bigte**	**0.89**	**223**⇑	*e*P	Pg	08 03 32.2	-1.6
NZB				*e*S	Sg	08 03 44.0	-1.4
QVPH	**Quezon City--P**	**1.07**	**217**	*e*P	Sg	08 03 52.6	+1.2
QVPH				*e*S	Sg	08 03 52.6	+1.2
BCPH	**Baguio City Da**	**1.40**	**308**⇓	*i*P	Pn	08 03 42.1	-0.2
BCPH				*i* S	Sn	08 04 01.7	+0.9
NBP	**Mount Natib**	**1.48**	**239**	*e*P	Pn	08 03 43.0	-0.4
NBP				*e*S	Sn	08 04 03.2	+0.4
TGY	**Tagaytay City**	**1.60**	**209**	Pn	Pn	08 03 45.5	+0.6
	1μm,0.3s,baz=15,slow=2.1,SNR=57						
TGY				Sn	Sn	08 04 07.4	+1.7
	834nm,0.3s,baz=95,slow=15,SNR=6.9						
TGY	**Tagaytay City**	**1.60**	**209**⇑	*i*P	Pn	08 03 46.1	+1.2
TGY				*i* S	Sn	08 04 07.2	+1.6
PAZ	**Puerto Azul**	**1.64**	**219**⇑	*e*P	Pn	08 03 44.8	-0.7
PAZ				*e*S	Sn	08 04 06.2	-0.4
GQP	**Guinayangan**	**1.74**	**157**	*e*P	Pn	08 03 46.6	-0.3
GQP				*e*S	Sn	08 04 11.6	+2.4
SCZP	**Santa Cruz**	**1.77**	**279**	*e*P	Pn	08 03 47.7	+0.4
SCZP				*e*S	Sn	08 04 17.0	+7.0
BOLP	**Bolinao**	**1.95**	**297**	*e*P	Pn	08 03 50.8	+0.9
BOLP				*e*S	Sn	08 04 20.8	+6.5
BOAC	**Boac**	**2.04**	**177**	*e*P	Pn	08 03 51.0	-0.1
BOAC				*e*S	Sn	08 04 18.6	+2.0
PGP	**Puerto Galera**	**2.14**	**201**	*e*P	Pn	08 03 52.9	+0.5
LUBP	**Lubang**	**2.28**	**219**	*e*P	Pn	08 03 52.9	-1.4
LUBP				*e*S	Sn	08 04 20.1	-2.3
ABRA	**Dolores**	**2.34**	**335**	*e*P	Pn	08 03 59.2	+4.0
AUQP	**San Andres**	**2.36**	**157**	*e*P	Pn	08 03 56.1	+0.7
APYP	**Conner**	**2.38**	**349**	*e*P	Pn	08 03 57.9	+2.1
PIP	**Pasuquin**	**2.99**	**339**	*e*P	Pn	08 04 08.2	+4.1
PIP				*e*S	Sn	08 04 49.3	+9.2
PVCP	**Virac**	**3.02**	**129**	*e*P	Pn	08 04 05.0	+0.5
PVCP				*e*S	Sn	08 04 46.5	+5.8
OTRP	**Odiongan**	**3.14**	**175**	*e*P	Pn	08 04 07.4	+1.2
BUSP	**Coron**	**3.79**	**203**	*e*P	Pn	08 04 15.8	+0.7
BUSP				*e*S	Sn	08 05 02.6	+2.8
CNP	**Catarman**	**4.12**	**136**	*e*P	Pn	08 04 26.2	+6.5
YHNB	**Yeheng**	**9.12**	**358**	Pn	Pn	08 05 31.2	+3.0
SONM	**Songino Array**	**34.63**	**342**	P	P	08 10 06.1	+0.1
	0.5nm,0.8s,mb3.5,baz=165,slow=9.2,SNR=4.0						
SONM				LR	LR	08 26 06.1	
	comp=Z,63nm,18.5s,MS3.4,baz=224,slow=40						
WRAB	**Tennant Creek**	**37.34**	**160**	*e*P	P	08 10 26.5	-2.7
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**37.34**	**160**	*e*P	P	08 10 26.4	-2.8
	comp=Z,4.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**37.35**	**160**	P	P	08 10 26.0	-3.2
	comp=Z,2.5nm,0.6s,mb4.2,baz=341,slow=9.1,SNR=35						
WB2	**Warramunga Arr**	**37.35**	**160**	*e*P	P	08 10 26.4	-2.9
ASAR	**Alice Springs**	**40.72**	**163**	P	P	08 10 55.8	-1.6
	comp=Z,2.3nm,0.4s,mb4.2,baz=342,slow=7.6,SNR=63						
ASPA	**Alice Springs**	**40.72**	**163**⇓	*i*P	P	08 10 55.7	-1.7
MKAR	**Makanchi Array**	**45.20**	**322**	P	P	08 11 33.6	-0.2
	comp=Z,1.8nm,0.8s,mb3.9,baz=124,slow=8.7,SNR=14						
KURK	**Kurchatov**	**49.27**	**325**	*e*P	P	08 12 05.8	+0.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**49.27**	**325**	*e*P	P	08 12 05.8	+0.3
	comp=Z,4.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**50.82**	**158**	*e*P	P	08 12 12.7	-4.6
	comp=Z,1.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**50.82**	**158**	P	P	08 12 13.1	-4.2
	comp=Z,1.1nm,0.5s,mb4.0,baz=360,slow=3.5,SNR=7.7						
BVAR	**Borovoye Array**	**54.86**	**325**	P	P	08 12 46.8	-0.4
	comp=Z,1.2nm,0.6s,mb4.1,baz=117,slow=9.9,SNR=7.3						
ZRNK	**Zerenda**	**55.61**	**324**	*e*P	P	08 12 52.7	+0.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**55.61**	**324**	*e*P	P	08 12 52.7	+0.1
	comp=Z,2.9nm,0.6s,mb4.5						
TIXI	**Tiksi**	**56.28**	**3**	*e*P	P	08 12 48.6	-8.8
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**79.20**	**331**	P	P	08 15 20.1	-1.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=51,slow=

comp=Z,1.0nm,0.6s,baz=304,slow=9.0,SNR=5.2

*IDC **11** 08:15:59.0±1.1, 1547N×12207E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=33.4km s-min=18.3km az=79.0*
*ISCJB **11** 08:16:01.8±0.9, 1551N±003×12172E±004, h6km±6km, mb3.9/8, Error ellipse: s-maj=6.0km s-min=4.6km az=160.7*
*MAN **11** 08:16:01.8, 1545N×12169E, h1km, mb3.5, ML4.7, MS1.0*
*NEIC **11** 08:16:04.0±0.7, 1544N×12199E, h35km, mb4.2/3, Error ellipse: s-maj=26.7km s-min=11.9km az=74.0*
ISC 11 08:16:02.5±0.7, 1548N±002×12171E±004, h9km±4km, n29, σ1§41/47, mb3.9/8, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.30**	**333**	*eP*	**Pg**	**08 16 08.3**	**-0.1**
BALP				*eS*	**Sg**	**08 16 14.5**	**+2.1**
PCPH	**Palayan**	**0.60**	**278⇑**	*eP*	**Pg**	**08 16 13.0**	**-1.2**
PCPH				*i S*	**Sg**	**08 16 22.5**	**+0.5**
POLP	**Polilio Island**	**0.77**	**164**	*eP*	**Pg**	**08 16 17.1**	**-0.3**
POLP				*eS*	**Sg**	**08 16 31.3**	**+3.8**
NZB	**Bigte**	**0.85**	**224**	*eP*	**Pg**	**08 16 17.7**	**-1.1**
NZB				*eS*	**Sg**	**08 16 28.9**	**-1.0**
QVPH	**Quezon City--P**	**1.03**	**218⇑**	*eP*	**Pg**	**08 16 21.8**	**-0.6**
QVPH				*eS*	**Sg**	**08 16 37.6**	**+1.8**
LBPH	**Los Banos**	**1.41**	**202⇑**	*eP*	**Pn**	**08 16 27.1**	**-1.3**
LBPH				*eS*	**Sb**	**08 16 48.3**	**+1.2**
NBP	**Mount Natib**	**1.45**	**240**	*eP*	**Pn**	**08 16 28.6**	**-0.3**
NBP				*eS*	**Sn**	**08 16 49.1**	**+1.0**
TGY	**Tagaytay City**	**1.56**	**209**	Pn	**Pn**	**08 16 30.9**	**+0.5**
	475nm,0.3s,baz=52,slow=2.2,SNR=31						
TGY				Sn	**Sn**	**08 16 54.2**	**+3.5**
	435nm,0.3s,baz=144,slow=16,SNR=20						
TGY	**Tagaytay City**	**1.56**	**209**	||*P*	**Pn**	**08 16 32.0**	**+1.6**
TGY				*i S*	**Sn**	**08 16 52.3**	**+1.6**
PAZ	**Puerto Azul**	**1.60**	**219⇑**	*eP*	**Pn**	**08 16 30.4**	**-0.5**
GQP	**Guinayangan**	**1.71**	**155**	*eP*	**Pn**	**08 16 33.4**	**+0.8**
GQP				*eS*	**Sn**	**08 16 57.8**	**+3.2**
SCZP	**Santa Cruz**	**1.76**	**280**	*eP*	**Pn**	**08 16 33.5**	**+0.3**
SCZP				*eS*	**Sn**	**08 16 54.8**	**-1.0**
BOLP	**Bolinao**	**1.95**	**298**	*eP*	**Pn**	**08 16 36.6**	**+0.8**
BOLP				*eS*	**Sn**	**08 17 06.7**	**+6.2**
BOAC	**Boac**	**2.01**	**176**	*eP*	**Pn**	**08 16 36.9**	**+0.3**
BOAC				*eS*	**Sn**	**08 17 04.0**	**+2.2**
LUBP	**Lubang**	**2.24**	**220**	*eP*	**Pn**	**08 16 38.7**	**-1.1**
LUBP				*eS*	**Sn**	**08 17 04.5**	**-3.1**
AUQP	**San Andres**	**2.33**	**156**	*eP*	**Pn**	**08 16 40.8**	**-0.2**
ABRA	**Dolores**	**2.37**	**336**	*eP*	**Pn**	**08 16 44.4**	**+2.9**
ABRA				*eS*	**Sn**	**08 17 17.3**	**+6.6**
APYP	**Conner**	**2.42**	**349**	*eP*	**Pn**	**08 16 42.7**	**+0.5**
APYP				*eS*	**Sn**	**08 17 14.7**	**+2.8**
PVCP	**Virac**	**3.01**	**128**	*eP*	**Pn**	**08 16 48.9**	**-1.5**
PVCP				*eS*	**Sn**	**08 17 31.7**	**+5.1**
OTRP	**Odiongan**	**3.11**	**174**	*eP*	**Pn**	**08 16 53.3**	**+1.6**
OTRP				*eS*	**Sn**	**08 17 39.2**	**+10**
BUSP	**Coron**	**3.75**	**203**	*eP*	**Pn**	**08 16 58.6**	**-2.0**
WRAB	**Tennant Creek**	**37.31**	**160**	*eP*	**P**	**08 23 12.0**	**-3.0**
	2.7nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**37.32**	**160**	P	**P**	**08 23 11.1**	**-4.0**
	1.1nm,0.6s,mb3.9,baz=340,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**40.69**	**163**	P	**P**	**08 23 41.4**	**-1.9**
	1.0nm,0.6s,mb3.6,baz=341,slow=7.0,SNR=22						
MKAR	**Makanchi Array**	**45.22**	**322**	P	**P**	**08 24 18.1**	**-1.9**
	0.8nm,1.0s,mb3.5,baz=130,slow=9.5,SNR=4.8						
KURK	**Kurchatov**	**49.29**	**325**	*eP*	**P**	**08 24 50.9**	**-0.8**
	2.5nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**54.88**	**325**	P	**P**	**08 25 34.0**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=101,slow=7.3,SNR=3.2						
BRVK	**Borovoye**	**54.95**	**325**	*eP*	**P**	**08 25 32.2**	**-1.7**
	1.1nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**79.22**	**331**	P	**P**	**08 28 06.4**	**-1.6**
	0.5nm,0.6s,mb3.6,baz=90,slow=1.9,SNR=3.8						

*ISCJB **11** 08:19:12.0±7.0, 176S±05×1775W±09, h550km, mb4.1/7, Error ellipse: s-maj=117.4km s-min=64.8km az=171.3*
*NEIC **11** 08:19:18.5±4.5, 1781S×178.19W, h550km, mb4.1/4, Error ellipse: s-maj=82.4km s-min=51.4km az=89.0*
*IDC **11** 08:19:21.0±36.0, 1786S×178.40W, h558km±163km, mb3.6/5, mb1 3.6/6, mb1mx3.2/17, mbtmp4.5/6, Error ellipse: s-maj=458.7km s-min=55.6km az=78.0*
ISC 11 08:19:19.4±6.0, 179S±05×1782W±08, h550km, n14, σ0§45/14, mb4.1/7, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.99**	**251**	P	**P**	**08 22 28.7**	**+0.1**
	0.8nm,0.3s,baz=78,slow=18,SNR=6.5						
CTA	**Charters Tower**	**33.61**	**260**	P	**P**	**08 25 14.3**	**-0.2**
	2.6nm,0.6s,mb4.0,baz=96,slow=8.9,SNR=7.6						
CTA	**Charters Tower**	**33.61**	**260**	P	**P**	**08 25 14.3**	**-0.2**
CTAO	**Charters Tower**	**33.61**	**260**	*eP*	**P**	**08 25 14.4**	**0.0**
	2.7nm,0.6s,mb4.0						
PMG	**Port Moresby**	**34.60**	**279**	P	**P**	**08 25 23.1**	**+0.4**
	7.1nm,0.7s,mb4.3,baz=85,slow=6.4,SNR=6.9						
PMG	**Port Moresby**	**34.60**	**279**	*eP*	**P**	**08 25 22.9**	**+0.2**
	9.1nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.80**	**241**	*eP*	**P**	**08 25 57.0**	**-0.2**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**08 25 57.1**	**-0.1**
	3.1nm,0.5s,mb4.1,baz=85,slow=8.7,SNR=15						
WB2	**Warramunga Arr**	**44.79**	**259**	*eP*	**P**	**08 26 43.9**	**-0.4**
WRAB	**Tennant Creek**	**44.79**	**259**	*eP*	**P**	**08 26 43.5**	**-0.8**
	2.5nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**44.80**	**259**	P	**P**	**08 26 44.1**	**-0.3**
	2.7nm,0.5s,mb4.0,baz=94,slow=6.8,SNR=78						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**08 26 46.4**	**+0.8**
	19nm,0.6s,mb4.8,baz=88,slow=8.1,SNR=431						
ASPA	**Alice Springs**	**44.96**	**254**	||*P*	**P**	**08 26 46.3**	**+0.6**
MBWA	**Marble Bar**	**58.24**	**256**	*eP*	**P**	**08 28 21.4**	**+0.1**
	1.6nm,0.3s,mb3.7						

IDC 11 08:33:09.6±4.2, 778S×6808E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, MS3.8/4, Ms1 3.7/4, ms1mx3.1/15, Error ellipse: s-maj=153.8km s-min=38.1km az=58.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.51**	**72**	LR	LR	08 51 14.1	
	comp=Z,155nm,18.4s,baz=8.6,slow=33						
BOSA	**Boshof**	**45.33**	**237**	LR	LR	09 00 34.3	
	comp=Z,90nm,18.1s,baz=20,slow=36						
MKAR	**Makanchi Array**	**55.78**	**12**	P	P	08 42 48.3	0.0
	0.2nm,0.6s,baz=198,slow=6.6,SNR=4.3						
ASAR	**Alice Springs**	**64.80**	**112**	P	P	08 43 50.4	+0.2
	0.6nm,1.0s,baz=259,slow=6.4,SNR=4.4						
SONM	**Songino Array**	**64.88**	**27**	LR	LR	09 11 29.7	
	comp=Z,66nm,18.9s,baz=147,slow=36						
WRA	**Warramunga Arr**	**65.11**	**108**	P	P	08 43 53.2	+1.1
	0.4nm,0.8s,baz=282,slow=6.2,SNR=4.1						
JOW	**Kunigami**	**67.68**	**57**	LR	LR	09 13 30.7	
	comp=Z,47nm,18.1s,baz=197,slow=36						
PDAR	**Pinedale Array**	**145.09**	**357**	PKPbc	PKPbc	08 52 48.3	-0.1
	0.3nm,0.7s,baz=45,slow=1.3,SNR=3.2						

*IDC **11** 08:48:03.8±0.6, 943S×11705E, h0km, mb4.4/13, mb1 4.4/14, mb1mx4.4/19, mbtmp4.3/14, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/20, Error ellipse: s-maj=26.4km s-min=15.8km az=41.0*
*ISCJB **11** 08:48:06.8±0.4, 950S±007×11733E±009, h33km, mb4.5/25, MS3.6/1, Error ellipse: s-maj=14.7km s-min=6.4km az=102.2*
*MOS **11** 08:48:06.5±1.3, 960S×11707E, h33km, mb4.9/7, Error ellipse: s-maj=22.2km s-min=11.0km az=44.8*
*NEIC **11** 08:48:09.3±3.2, 952S×11721E, h37km±29km, mb4.5/11, Error ellipse: s-maj=17.3km s-min=10.1km az=50.0*
ISC 11 08:48:09.2±0.4, 948S±008×11736E±009, h35km, n62, σ1§14/63, mb4.5/25, MS3.6/1, 3C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.75**	**138**	*eP*	**Pn**	**08 50 52.2**	**-2.1**
	9.6nm,0.3s						
FITZ				*eS*	**Sn**	**08 52 54.5**	**-10**
MBWA	**Marble Bar**	**11.84**	**169**	*ePn*	**Pn**	**08 50 49.5**	**-6.0**
	41nm,0.3s						
WRA	**Warramunga Arr**	**19.42**	**124**	P	**Pn**	**08 52 33.5**	**-0.2**
	0.6nm,0.3s,baz=298,slow=13,SNR=49						
WRA				S	**S**	**08 55 58.8**	**-11**
	0.6nm,0.3s,baz=290,slow=23,SNR=6.9						
WRAB	**Tennant Creek**	**19.43**	**124**	*i* P	**Pn**	**08 52 34.7**	**+0.9**
WRAB	**Tennant Creek**	**19.43**	**124**	*eP*	**Pn**	**08 52 33.1**	**-0.6**
	5.8nm,0.6s						
WB2	**Warramunga Arr**	**19.43**	**124**	*eP*	**Pn**	**08 52 34.1**	**+0.3**
WB2				*eS*	**S**	**08 55 56.7**	**-14**
ASPA	**Alice Springs**	**21.19**	**134**	*eP*	**P**	**08 52 53.0**	**+1.5**
ASPA				*eS*	**S**	**08 56 39.9**	**-5.3**
ASAR	**Alice Springs**	**21.19**	**134**	P	**P**	**08 52 53.0**	**+1.5**
	7.7nm,0.6s,mb4.2,baz=312,slow=11,SNR=116						
ASAR				S	**S**	**08 56 40.2**	**-5.1**
	1.7nm,0.8s,baz=322,slow=26,SNR=5.7						
ASAR	**Alice Springs**	**21.19**	**134**	P	**P**	**08 52 53.0**	**+1.5**
ASAR				S	**S**	**08 56 40.2**	**-5.1**
KLBR	**Kellerberrin**	**22.01**	**179**	*eP*	**P**	**08 53 06.0**	**+5.7**
	10nm,0.4s,mb4.6						
KLBR				*eS*	**S**	**08 56 44.1**	**-17**
KULM	**Kulim**	**22.19**	**311**	*eP*	**P**	**08 53 03.3**	**+1.1**
MUN	**Mundaring**	**22.42**	**183**	*eP*	**P**	**08 53 12.6**	**+7.9**
MUN				*eS*	**S**	**08 56 56.0**	**-13**
NWAO	**Narrogin (SRO)**	**23.34**	**180**	P	**P**	**08 53 20.1**	**+5.7**
	8.9nm,0.4s,mb4.5,baz=358,slow=13,SNR=13						
NWAO				S	**S**	**08 57 18.4**	**-6.0**
	12nm,0.3s,baz=283,slow=13,SNR=6.9						
NWAO	**Narrogin (SRO)**	**23.34**	**180**	P	**P**	**08 53 16.9**	**+2.5**
	7.2nm,0.4s,mb4.5						
PMG	**Port Moresby**	**29.39**	**92**	P	**P**	**08 54 13.0**	**+4.0**
	2.3nm,0.5s,mb4.2,baz=285,slow=16,SNR=3.0						
CTA	**Charters Tower**	**29.81**	**114**	*eP*	**P**	**08 54 15.3**	**+2.6**
	4.2nm,0.6s,mb4.3						
CTA	**Charters Tower**	**29.81**	**114**	P	**P**	**08 54 15.7**	**+3.0**
	6.0nm,0.8s,mb4.4,baz=272,slow=10,SNR=8.6						
CTAO	**Charters Tower**	**29.81**	**114**	P	**P**	**08 54 12.6**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**29.81**	**114**	P	**P**	**08 54 12.6**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**31.65**	**138**	*eP*	**P**	**08 54 27.9**	**-1.0**
	comp=Z,3.7nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**31.65**	**138**	P	**P**	**08 54 27.6**	**-1.4**
	comp=Z,4.2nm,0.8s,mb4.3,baz=300,slow=8.2,SNR=11						
STKA				LR	LR	09 07 05.0	
	comp=Z,132nm,18.7s,MS3.6,baz=1.2,slow=36						
ENH	**Enshi**	**40.23**	**349**	*eP*	**P**	**08 55 43.0**	**+0.6**
	comp=Z,3.3nm,0.4s,mb4.4						
MJAR	**Matsushiro Arr**	**49.80**	**22**	P	**P**	**08 56 58.2**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.5,baz=196,slow=8.4,SNR=8.0						
MJAR	**Matsushiro Arr**	**49.80**	**22**	P	**P**	**08 56 58.2**	**-0.2**
MDJ	**Mudanjiang**	**54.96**	**11**	*eP*	**P**	**08 57 37.2**	**+0.5**
	comp=Z,5.1nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**57.81**	**352**	||*eP*	**P**	**08 57 58.4**	**+1.4**
ULN	**Ulaanbaatar**	**57.81**	**352**	*eP*	**P**	**08 57 57.9**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.2						
SONM	**Songino Array**	**57.88**	**351**	P	**P**	**08 57 57.9**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.5,baz=167,slow=7.4,SNR=37						
MKAR	**Makanchi Array**	**64.15**	**334**	P	**P**	**08 58 39.2**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=156,slow=6.7,SNR=32						
MKAR	**Makanchi Array**	**64.15**	**334⇑**	*eP*	**P**	**08 58 39.5**	**-0.5**
KURK	**Kurchatov**	**68.72**	**335⇑**	*eP*	**P**	**08 59 09.1**	**-0.1**
ZAL	**Zalesovo**	**68.92**	**340**	P	**P**	**08 59 09.4**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=2.3,slow=0.7,SNR=5.9						
MA2	**Magadan**	**73.84**	**17**	*eP*	**P**	**08 59 40.8**	**+0.6**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
MA2	**Magadan**	**73.84**	**17**	*eP*	**P**	**08 59 40.8**	**+0.7**
	comp=Z,4.9nm,0.3s,mb4.9						
BVAR	**Borovoye Array**	**73.96**	**333**	P	**P**	**08 59 39.1**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=131,slow=9.7,SNR=8.0						
ZRNK	**Zerenda**	**74.55**	**332**	*eP*	**P**	**08 59 43.7**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**74.55**	**332**	*eP*	**P**	**08 59 43.7**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.4						
SEY	**Seymchan**	**77.05**	**16**	*i* P	**P**	**09 00 00.3**	**+1.7**
AKTK	**Aktyubinsk**	**78.70**	**326**	P	**P**	**09 00 07.2**	**-0.5**
AKTO	**Aktyubinsk**	**78.70**	**326**	P	**P**	**09 00 07.2**	**-0.5**
	comp=Z,1.8nm,0.4s,mb4.3,baz=84,slow=6.7,SNR=9.0						
KMBO	**Kilima Mbogo**	**80.06**	**271**	P	**P**	**09 00 15.1**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=54,slow=9.7,SNR=4.5						
KMBO	**Kilima Mbogo**	**80.06**	**271**	P	**P**	**09 00 15.1**	**-0.1**
LSZ	**Lusaka**	**86.75**	**255**	*eP*	**P**	**09 00 50.6**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LSZ	**Lusaka**	**86.75**	**255**	*eP*	**P**	**09 00 50.6**	**+1.0**
	comp=Z,4.1nm,0.8s,mb4.7						
BOSA	**Boshof**	**87.36**	**242**	P	**P**	**09 00 52.8**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.9,baz=92,slow=3.8,SNR=15						
BOSA	**Boshof**	**87.36**	**242**	P	**P**	**09 00 53.1**	**+0.6**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
BOSA	**Boshof**	**87.36**	**242**	P	**P**	**09 00 53.0**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.7						
LBTB	**Lobatse**	**87.64**	**245**	*eP*	**P**	**09 00 54.9**	**+1.0**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
LBTB	**Lobatse**	**87.64**	**245**	*eP*	**P**	**09 00 54.9**	**+1.0**
	comp=Z,3.9nm,0.6s,mb4.8						
SOC	**Sochi**	**87.64**	**315**	*eP*	**P**	**09 00 49.8**	**-4.1**
SOC				*e*		09 04 13.8	
SOC				*e*PPP		09 06 17.8	
SOC				*e*S		09 11 13.9	
SOC				*e*SSS		09 20 50.8	
SOC				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.5						
BRTR	**Keskin Array B**	**91.19**	**310**	P	**P**	**09 01 08.9**	**-1.6**
	comp=Z,0.8nm,0.8s,mb4.1,baz=68,slow=6.7,SNR=3.7						
BRTR	**Keskin Array B**	**91.19**	**310⇑**	*eP*	**P**	**09 01 11.0**	**+0.5**
OBN	**Obninsk**	**92.47**	**325**	*eP*	**P**	**09 01 15.6**	**-0.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**98.86**	**331**	P	**P**	**09 01 43.1**	**-2.4**
	comp=Z,1.0nm,0.7s,mb4.5,baz=108,slow=6.0,SNR=5.0						
ILAR	**Eielson Array**	**100.96**	**26**	P	Pdif	09 01 53.8	-1.1
	comp=Z,0.2nm,0.7s,baz=260,slow=5.2,SNR=5.6						
YKA	**Yellowknife Ar**	**115.28**	**24**	PKP	PKPdf	09 06 47.1	+0.2
	comp=Z,0.6nm,0.4s,baz=307,slow=1.9,SNR=22						
TORD	**Torodi Ar. Bea**	**116.95**	**280**	PKP	PKPdf	09 06 50.8	+0.7
	comp=Z,0.5nm,0.5s,baz=70,slow=2.1,SNR=6.0						
NVAR	**Mina Array Bea**	**122.57**	**50**	PKP	PKPdf	09 07 03.5	+2.6
	comp=Z,0.5nm,0.6s,baz=248,slow=3.4,SNR=7.0						
NVAR	**Mina Array Bea**	**122.57**	**50**	PKP	PKPdf	09 07 03.5	+2.6
TZTN	**Tazewell**	**147.05**	**32**	*e*PKPbc	PKPbc	09 07 49.9	+1.8
LRAL	**Lakeview Retre**	**147.53**	**40**	*e*PKPbc	PKPbc	09 07 51.2	+1.7
LRAL				*e*PKPab	PKPab	09 07 54.5	+2.9
BDFB	**Brasilia**	**151.15**	**210**	PKPbc	PKPbc	09 07 60.0	+1.4
	comp=Z,2.4nm,0.5s,baz=241,slow=3.1,SNR=3.9						

*NEIC **11** 08:56:23.6, 4267N×4608E, h14km, After MOS.*
NEIC Felt [III] at Botlikh.
MOS 11 08:56:23.6±1.8, 4267N×4608E, h14km, mb4.0/1, Error ellipse: s-maj=36.7km s-min=17.7km az=171.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.10**	**93**	*i* PG	Pg	08 56 24.8	-2.0
UNCR	**Uncukul**	**0.53**	**85**	*e*PG	Pg	08 56 33.3	-0.7
UNCR				*e*S	Sg	08 56 40.3	-0.8
KRNR	**Karanay**	**0.63**	**75**	*e*PG	Pg	08 56 35.8	-0.1
KRNR				*e*S	Sg	08 56 44.8	+0.6
DBC	**Dubki**	**0.65**	**57**	*e*PG	Pg	08 56 36.5	+0.1
DBC				*i* S	Sg	08 56 46.0	+1.0
BUJR	**Buynaksk**	**0.77**	**78**	*e*PG	Pg	08 56 40.0	+1.4
BUJR				*e*S	Sg	08 56 51.0	+2.2
KMKR	**Kumukh**	**0.93**	**125**	*e*PG	Pg	08 56 42.2	+0.7
KMKR				*e*S	Sb	08 56 55.0	+1.4

IDC 11 09:18:35.3±5.1, 582S×13191E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.5/12, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=351.0km s-min=31.5km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.66**	**206**	*eP*	Pn	09 21 36.1	-14
	1.0nm,0.3s						
FITZ				*e*S	Sn	09 23 33.2	-49
WRA	**Warramunga Arr**	**14.24**	**171**	Pn	Pn	09 21 57.4	-0.8
	0.4nm,0.3s,baz=350,slow=13,SNR=18						
WRA				Sn	Sn	09 24 20.2	-17
	0.5nm,0.3s,baz=330,slow=22,SNR=8.4						
WB2	**Warramunga Arr**	**14.24**	**171**	*e*P	Pn	09 21 57.7	-0.5
WB2				*e*S	Sn	09 24 20.1	-17
ASAR	**Alice Springs**	**17.85**	**174**	P	Pn	09 22 46.0	+1.0
	0.2nm,0.3s,baz=343,slow=8.5,SNR=8.7						
ASAR				S	Sn	09 25 44.2	-20
	0.1nm,0.3s,baz=324,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**68.30**	**326**	P	P	09 29 38.4	+0.2
	0.2nm,0.4s,baz=110,slow=6.1,SNR=6.8						

WEL 11 09:21:29.4±0.4, 3870S×17864E, h22km±2km, ML3.5/11, 2C, Error ellipse: s-maj=3.4km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.70**	**334**	||*P*	Pb	09 21 42.7	-0.2
PUZ				S*	Sb	09 21 52.4	+0.3
KNZ	**Kokohu**	**0.82**	**247**	P*	Pb	09 21 44.9	-0.1
KNZ				S*	Sb	09 21 56.4	+0.8
MWZ	**Matawai**	**0.95**	**292**	||*P*	Pb	09 21 46.7	-0.5
MWZ				S*	Sb	09 21 58.8	-0.5
MXZ	**Matakaoa Point**	**1.17**	**347**	PN	Pn	09 21 49.6	-0.8
MXZ				SN	Sn	09 22 05.6	0.0
URZ	**Urewera**	**1.28**	**290**	PN	Pn	09 21 51.0	-0.9
URZ				SN	Sn	09 22 08.8	+0.4
MARZ	**Manawahe**	**1.70**	**294**	PN	Pn	09 21 56.4	-1.4
BKZ	**Black Stump Fm**	**1.74**	**254**	PN	Pn	09 21 58.0	-0.3
BKZ				SN	Sn	09 22 18.8	-1.0
PXZ	**Pawanui**	**1.92**	**225**	PN	Pn	09 21 58.9	-1.8
PXZ				SN	Sn	09 22 22.5	-1.6
WNVZ	**Wahianoa**	**2.45**	**254**	PN	Pn	09 22 07.9	-0.1
WNVZ				*e*SN	Sn	09 22 35.8	-1.5
TSZ	**Takapari Road**	**2.48**	**236**	PN	Pn	09 22 06.7	-1.8
TSZ				SN	Sn	09 22 35.4	-2.7
BFZ	**Birch Farm**	**2.71**	**222**	PN	Pn	09 22 08.7	-2.9
BFZ				SN	Sn	09 22 39.4	-4.2
MRZ	**Mangatainoka R**	**3.07**	**229**	PN	Pn	09 22 14.2	-2.4
MRZ				SN	Sn	09 22 48.8	-3.8
MTW	**Mount Morrison**	**3.44**	**224**	PN	Pn	09 22 17.7	-4.0
MTW				SN	Sn	09 22 56.9	-4.9
QRZ	**Quartz Range**	**5.17**	**244**	PN	Pn	09 22 41.8	-3.6
MQZ	**McQueen's Vall**	**6.74**	**220**	*e*SN	Sn	09 24 12.2	-11

*IDC **11** 09:35:16.4±1.2, 2400N×12499E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.4/21, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=37.5km s-min=28.1km az=66.0*
*JMA **11** 09:35:18.7±0.3, 2382N×12501E, h22km, M3.5*
*ISCJB **11** 09:35:19.7±1.3, 2385N±008×12500E±006, h38km±11km, mb3.6/5, Error ellipse: s-maj=15.2km s-min=7.1km az=123.1*
*NEIC **11** 09:35:20.2±3.6, 2401N×12502E, h24km±27km, MG3.5(JMA), Error ellipse: s-maj=18.3km s-min=12.6km az=169.0*
ISC 11 09:35:18.4±2.3, 2383N±006×12500E±005, h16km±15km, n16, σ0§65/21, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.85**	**342**	P	**Pb**	**09 35 34.6**	**-0.1**
JTJ				S	**Sb**	**09 35 47.2**	**+1.3**
JIJ	**Ishigaki jima**	**0.94**	**304**	P	**Pb**	**09 35 36.0**	**-0.3**
JIJ				S	**Sb**	**09 35 48.4**	**-0.2**
JKRS	**Kuro-shima**	**0.99**	**294**	P	**Pb**	**09 35 37.5**	**+0.4**
JOGS	**Gusukube**	**0.99**	**22**	P	**Pb**	**09 35 37.2**	**0.0**
JOGS				S	**Sb**	**09 35 50.6**	**+0.5**
JMJ	**Miyako jima 2**	**1.01**	**15**	P	**Pb**	**09 35 37.6**	**0.0**
JMJ				S	**Sb**	**09 35 50.3**	**-0.3**
HATJ	**Hateruma jima**	**1.11**	**282**	P	**Pb**	**09 35 39.1**	**-0.2**
HATJ				S	**Sb**	**09 35 53.1**	**-0.4**
IRIF	**Iriomote-Funau**	**1.26**	**294**	P	**Pn**	**09 35 41.2**	**-0.2**
YOJ	**Yonaguni jima**	**1.92**	**289**	P	**Pn**	**09 35 50.5**	**+0.1**
YHNB	**Yeheng**	**3.41**	**285**	*e*Pn	**Pn**	**09 36 11.6**	**+0.7**
JOW	**Kunigami**	**4.21**	**44**	Pn	**Pn**	**09 36 20.9**	**-0.9**
	0.9nm,0.3s,baz=132,slow=16,SNR=10						
MKAR	**Makanchi Array

FINES	**FINESS Array B**	**90.28 335**	P	**P**	**10 28 38.2**	**-1.3**

*IDC **11** 10:29:21.6±0.5, 5628N×16421E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/27, mbtmp4.2/22, ML4.2/2, MS3.9/17, Ms1 3.9/17, ms1mx3.7/35, Error ellipse: s-maj=14.4km s-min=10.9km az=178.0*
*MOS **11** 10:29:21.6±1.1, 5621N×16437E, h13km, mb4.5/7, MS3.9/9, Error ellipse: s-maj=9.5km s-min=6.9km az=74.3*
*ISCJB **11** 10:29:23.9±0.3, 5612N±002×16432E±004, h28km, mb4.3/35, MS4.0/23, Error ellipse: s-maj=3.7km s-min=2.6km az=121.9*
*BJI **11** 10:29:23.5, 5626N×16373E, h18km, mB4.6, mb4.6, Ms4.7, Msz4.8*
*NEIC **11** 10:29:24.7±3.7, 5630N×164.15E, h18km±24km, mb4.7/6, Error ellipse: s-maj=9.2km s-min=4.7km az=151.0*
*KRSC **11** 10:29:25.4±1.3, 5614N×16423E, h30km±3km, ML4.8*
*NAO **11** 10:29:36.7, 5751N×162.44E, h33km, mb4.1*
ISC 11 10:29:25.7±0.2, 5614N±002×16432E±004, h30km, h30km±4.5km: pP-P, n113, σ1°19/147, mb4.3/35, MS4.0/23, 1C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.84**	**275**	*i* P	**Pn**	**10 29 39.1**	**-2.3**
KBG	**Krutoberegovo**	**0.91**	**278**	*i* P	**Pn**	**10 29 40.7**	**-1.7**
KBG				*i* S	**Sn**	**10 29 53.3**	**-1.2**
BKI	**Bering**	**1.33**	**134**	*i* P	**Pn**	**10 29 47.1**	**-1.0**
BKI				*e*S	**Sn**	**10 30 03.9**	**-0.9**
BKI				Smax			
	5μm,0.9s						
BDR	**Baidarnaya**	**1.78**	**285**	*i* P	**Pn**	**10 29 54.7**	**+0.3**
SRKR	**Sorokina**	**1.82**	**288**	*i* P	**Pn**	**10 29 55.1**	**+0.1**
SRKR				*e*S	**Sn**	**10 30 16.0**	**-1.1**
CIRR	**Tsirk**	**2.00**	**271**	*i* P	**Pn**	**10 29 58.2**	**+0.8**
CIRR				*e*S	**Sn**	**10 30 21.7**	**+0.3**
KLY	**Klyuchi**	**2.05**	**276**	P	**Pn**	**10 29 56.9**	**-1.2**
KLY				S	**Sn**	**10 30 19.2**	**-3.5**
KLY	**Klyuchi**	**2.05**	**276**	*e*P	**Pn**	**10 29 56.9**	**-1.2**
KLY				*e*S	**Sn**	**10 30 19.3**	**-3.4**
MKZ	**Mys Kozlova**	**2.17**	**224**	P	**Pn**	**10 29 59.6**	**-0.1**
MKZ				S	**Sn**	**10 30 24.0**	**-1.6**
MKZ	**Mys Kozlova**	**2.17**	**224**	*i* P	**Pn**	**10 29 59.3**	**-0.4**
MKZ				*e*S	**Sn**	**10 30 24.3**	**-1.3**
KPT	**Kopyto**	**2.30**	**267**	*e*P	**Pn**	**10 30 02.5**	**+0.9**
KPT				*e*S	**Sn**	**10 30 29.7**	**+0.8**
KMNR	**Kamenistaya**	**2.33**	**262**	*e*P	**Pn**	**10 30 03.9**	**+2.0**
KOZR	**Kozyr**	**2.48**	**270**	PN	**Pn**	**10 30 05.6**	**+1.6**
KOZR				S	**Sn**	**10 30 33.2**	**0.0**
KOZ	**Kozyrevsk**	**2.49**	**270**	P	**Pn**	**10 30 05.6**	**+1.5**
KOZ				S	**Sn**	**10 30 33.2**	**-0.3**
KOZ	**Kozyrevsk**	**2.49**	**270**	*e*P	**Pn**	**10 30 05.5**	**+1.4**
KOZ				*e*S	**Sn**	**10 30 33.0**	**-0.5**
TUMR	**Tumrok**	**2.51**	**252**	*i* P	**Pn**	**10 30 06.0**	**+1.6**
TUMR				*e*S	**Sn**	**10 30 33.9**	**-0.1**
SRDR	**Sredinnyy**	**2.57**	**276**	*i* P	**Pn**	**10 30 06.5**	**+1.2**
SRDR				*e*S	**Sn**	**10 30 36.7**	**+1.1**
ESO	**Esso**	**3.16**	**268**	*i* P	**Pn**	**10 30 14.2**	**+0.9**
ESO				*e*S	**Sn**	**10 30 49.8**	**-0.2**
ESO				Smax			
	1μm,0.8s						
KII	**Karymskiy**	**3.50**	**235**	P	**Pn**	**10 30 19.2**	**+1.1**
KII				S	**Sn**	**10 30 57.7**	**-0.8**
KII	**Karymskiy**	**3.50**	**235**	*e*P	**Pn**	**10 30 19.2**	**+1.1**
SPN	**Mys Shipunski**	**3.94**	**221**	P	**Pn**	**10 30 23.5**	**-0.6**
SPN				S	**Sn**	**10 31 05.6**	**-3.7**
SPN	**Mys Shipunski**	**3.94**	**221**	*e*P	**Pn**	**10 30 23.9**	**-0.2**
SPN				*e*S	**Sn**	**10 31 07.2**	**-2.1**
NLC	**Nalytchevo**	**4.14**	**226**	P	**Pn**	**10 30 27.4**	**+0.5**
NLC				S	**Sn**	**10 31 12.9**	**-1.4**
NLC	**Nalytchevo**	**4.14**	**226**	*e*P	**Pn**	**10 30 27.4**	**+0.5**
NLC				*e*S	**Sn**	**10 31 12.7**	**-1.6**
SMAR	**Somma**	**4.31**	**230**	*e*P	**Pn**	**10 30 30.6**	**+1.5**
SMAR				*e*S	**Sn**	**10 31 18.2**	**-0.1**
AVH	**Avacha**	**4.33**	**231**	*i* P	**Pn**	**10 30 31.0**	**+1.5**
AVH				*e*S	**Sn**	**10 31 18.1**	**-0.8**
UGLR	**Uglovaya**	**4.33**	**230**	*e*P	**Pn**	**10 30 31.1**	**+1.6**
UGLR				*e*S	**Sn**	**10 31 18.5**	**-0.5**
KOK	**Koryaka**	**4.36**	**231**	*e*P	**Pn**	**10 30 31.3**	**+1.5**
KOK				*e*S	**Sn**	**10 31 18.5**	**-1.1**
GNL	**Ganaly**	**4.42**	**239**	*e*P	**Pn**	**10 30 32.3**	**+1.6**
GNL				*e*S	**Sn**	**10 31 20.7**	**-0.4**
PET	**Petropavlovsk**	**4.54**	**229**	P	**Pn**	**10 30 33.5**	**+1.2**
PET				S	**Sn**	**10 31 22.6**	**-1.4**
PET	**Petropavlovsk**	**4.54**	**229**	*e*P	**Pn**	**10 30 33.3**	**+1.0**
PET				*e*S	**Sn**	**10 31 22.6**	**-1.4**
PET	**Petropavlovsk**	**4.54**	**229**	*e*Pn	**Pn**	**10 30 33.3**	**+1.0**
PET				*e*Sn	**Sn**	**10 31 23.4**	**-0.7**
KRMR	**Karymshinskiy**	**4.90**	**230**	*e*P	**Pn**	**10 30 39.2**	**+1.9**
KRMR				*e*S	**Sn**	**10 31 32.0**	**-0.9**
RUS	**Russkaya**	**5.03**	**225**	P	**Pn**	**10 30 40.1**	**+1.0**
RUS				S	**Sn**	**10 31 33.8**	**-2.5**
RUS	**Russkaya**	**5.03**	**225**	*e*P	**Pn**	**10 30 40.1**	**+1.0**
RUS				*e*S	**Sn**	**10 31 34.1**	**-2.2**
GRL	**Gorelyy**	**5.12**	**228**	*e*P	**Pn**	**10 30 41.6**	**+1.3**
GRL				*e*S	**Sn**	**10 31 38.2**	**-0.3**
APC	**Apacha**	**5.27**	**235**	*i* P	**Pn**	**10 30 44.9**	**+2.6**
MIPR	**Malaya Ipel'ka**	**5.88**	**232**	*e*P	**Pn**	**10 30 53.4**	**+2.6**
FX1	**Attu Island--F**	**6.10**	**119**	Pn	**Pn**	**10 30 52.9**	**-0.8**
	8.7nm,0.3s,baz=34,slow=4.1,SNR=28						
FX1				Sn	**Sn**	**10 31 58.9**	**-3.6**
	7.7nm,0.3s,baz=137,slow=20,SNR=6.0						
KAMR	**Kamenskoye**	**6.41**	**8**	*i* P	**Pn**	**10 30 58.2**	**+0.2**
KAMR				*e*S	**Sn**	**10 32 07.7**	**-2.5**
KAMR				Smax			
	400nm,1.0s						
PAU	**Pauzhetka**	**6.45**	**227**	*e*P	**Pn**	**10 31 00.6**	**+2.0**
MA2	**Magadan**	**8.00**	**301**	*e*PN	**Pn**	**10 31 21.5**	**+1.6**
MA2				*e*S	**Sn**	**10 32 56.8**	**+7.5**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SEY	**Seymchan**	**9.11**	**323**	*e*PN	**Pn**	**10 31 37.0**	**+2.0**
SEY				*e*S	**Sn**	**10 33 21.7**	**+5.2**
SEY				pmax	pmax		
	comp=E,17nm,1.2s						
SEY				pmax	pmax		
	comp=Z,17nm,1.2s						
SEY				smax			
	comp=N,210nm,6.2s						
SEY				smax			
	comp=E,116nm,6.5s						
BILL	**Bilibino**	**11.98**	**4⇓**	*i* PN	**Pn**	**10 32 15.3**	**+1.0**
BILL				pmax	pmax		
	comp=Z,14nm,0.6s						
BILL				MLR	MLR		
	comp=Z,700nm,15.0s						
UGL	**Uglegorsk**	**15.21**	**252**	P	**Pn**	**10 33 00.5**	**+2.3**
UGL				MLR	MLR		
	comp=N,900nm,14.0s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
UGL				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.20**	**244**	*e*P	**Pn**	**10 33 12.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.20**	**244**	*e*Pn	**Pn**	**10 33 10.0**	**-1.1**
	comp=N,45nm,1.3s						
ASAJ	**Asahikawa**	**18.31**	**238**	P	**Pn**	**10 33 36.1**	**-1.2**
	comp=N,2.6nm,0.3s,baz=26,slow=7.4,SNR=26						
ASAJ				LR	LR	10 41 37.1	
	comp=N,447nm,19.1s,baz=216,slow=40						
ASAJ	**Asahikawa**	**18.31**	**238**	P	**Pn**	**10 33 36.1**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,447nm,19.1s						
YAK	**Yakutsk**	**18.57**	**303**	*e*P	**Pn**	**10 33 40.4**	**-0.1**
YAK				*e*S	**Sn**	**10 37 07.7**	**+0.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,15nm,1.5s						
YAK				smax			
	comp=N,13nm,1.7s						
HABR	**Khabarovsk**	**19.35**	**259**	*e*P	**Pn**	**10 33 48.5**	**-1.5**
HABR				MLR	MLR		
	comp=Z,338nm,14.2s						
KLR	**Kul'dur**	**20.77**	**264**	*e*P	**P**	**10 34 02.0**	**-2.1**
KLR				MLR	MLR		
	comp=N,1μm,18.0s,MS4.4						
KLR				MLR	MLR		
	comp=E,1μm,18.0s,MS4.4						
KLR				MLR	MLR		
	comp=N,700nm,13.0s						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.8						
CLNS	**Chul'man**	**21.58**	**288**	*e*P	**P**	**10 34 11.5**	**-1.3**
CLNS				*e**PP		10 34 18.6	
CLNS				*e*PPP		10 34 38.4	
CLNS				*e*S	**S**	**10 38 03.9**	**-6.3**
CLNS				*e*		10 38 18.9	
CLNS				*e*SS		10 38 39.7	
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,1.1s						
CLNS				smax			
	comp=N,3.0nm,1.0s						
CLNS				smax			
	comp=Z,2.0nm,0.9s						
CLNS				smax			
	comp=E,6.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,300nm,16.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,300nm,17.0s,MS4.0						
IMA2	**Indian Mountai**	**22.14**	**46**	*e*P	**P**	**10 34 20.2**	**+1.4**
KDAK	**Kodiak Island**	**23.27**	**68**	P	**P**	**10 34 30.5**	**-0.3**
	comp=E,14nm,1.0s,mb4.3,baz=308,slow=4.3,SNR=4.3						
VLA	**Vladivostok**	**24.45**	**252**	*e*P	**P**	**10 34 40.8**	**-0.9**
VLA				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
VLA				MLR	MLR		
	comp=Z,400nm,17.8s,MS4.0						
COLA	**College**	**24.53**	**50**	*i* P	**P**	**10 34 42.8**	**+0.3**
ILAR	**Eielson Array**	**24.94**	**50**	P	**P**	**10 34 45.6**	**-0.6**
	comp=Z,2.1nm,0.9s,mb3.7,baz=263,slow=8.5,SNR=19						
MAJO	**Matsushiro**	**26.36**	**233**	*e*P	**P**	**10 34 59.7**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**26.36**	**233**	*e*P	**P**	**10 34 59.7**	**+0.6**
	comp=Z,19nm,0.8s,mb4.7						
MAT	**Matsushiro**	**26.36**	**233**	P	**P**	**10 34 59.7**	**+0.6**
MAT				S	**S**	**10 39 35.0**	**+4.7**
MAT	**Matsushiro**	**26.36**	**233**	*e*P	**P**	**10 35 00.0**	**+0.9**
MAT				*e*S	**S**	**10 39 35.0**	**+4.7**
MJAR	**Matsushiro Arr**	**26.36**	**233**	P	**P**	**10 35 00.3**	**+1.2**
	comp=Z,8.4nm,0.6s,mb4.4,baz=37,slow=7.1,SNR=28						
MJAR				LR	LR	10 46 03.5	
	comp=Z,256nm,21.3s,MS3.7,baz=45,slow=38						
BOD	**Bodaibo**	**26.96**	**295**	*e*P	**P**	**10 35 02.0**	**-2.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.9						
INK	**Inuvik**	**29.95**	**41**	P	**P**	**10 35 30.6**	**-0.6**
	comp=Z,2.4nm,0.5s,mb4.2,baz=286,slow=7.1,SNR=38						
INK				LR	LR	10 48 59.4	
	comp=Z,97nm,18.2s,MS3.5,baz=310,slow=39						
INK	**Inuvik**	**29.95**	**41**	P	**P**	**10 35 30.6**	**-0.6**
INK				LR	LR	10 48 59.4	
JNU	**Nakatsue**	**32.58**	**239**	LR	LR	10 50 20.4	
	comp=Z,204nm,19.2s,MS3.8,baz=180,slow=39						
ULN	**Ulaanbaatar**	**35.27**	**281**	*i* P	**P**	**10 36 17.7**	**+0.1**
SONM	**Songino Array**	**35.65**	**282**	P	**P**	**10 36 19.7**	**-1.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=66,slow=7.9,SNR=8.9						
SONM				LR	LR	10 52 27.4	
	comp=Z,295nm,18.5s,MS4.1,baz=347,slow=39						
JOW	**Kunigami**	**39.06**	**237**	P	**P**	**10 36 50.4**	**+0.5**
	comp=Z,10.0nm,0.5s,mb4.8,baz=82,slow=12,SNR=7.5						
SSE	**Sheshan**	**39.08**	**248**	P	**P**	**10 36 48.4**	**-1.6**
SSE				AP	pP	10 36 57.3	-1.5
SSE				XP	sP	10 37 01.1	-1.3
SSE				PP	PP	10 38 17.7	-2.1
SSE				S	**S**	**10 42 45.3**	**-2.2**
SSE				XS	sS	10 42 59.0	-3.0
SSE				SCS	ScS	10 46 55.7	-1.4
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,19nm,6.1s						
SSE				LR	LR		
	comp=N,121nm,22.6s,MS3.8						
SSE				LR	LR		
	comp=E,106nm,22.6s,MS3.8						
YKA	**Yellowknife Ar**	**39.27**	**46**	P	**P**	**10 36 51.2**	**-0.3**
	comp=E,1.7nm,0.5s,mb4.0,baz=299,slow=8.2,SNR=47						
YKA	**Yellowknife Ar**	**39.27**	**46**	P	**P**	**10 36 51.2**	**-0.3**
NJ2	**Nanjing**	**39.55**	**252**	*e*P	**P**	**10 36 54.8**	**+0.8**
NJ2				AP	pP	10 37 04.8	+2.0
NJ2				XP	sP	10 37 08.3	+1.9
NJ2				S	**S**	**10 42 54.0**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
NJ2				LR	LR		
	comp=N,480nm,13.6s,MS4.7						
NJ2				LR	LR		
	comp=E,560nm,14.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,4μm,17.8s,MS5.3						
ZAL	**Zalesovo**	**43.24**	**302**	LR	LR	10 57 29.0	
	comp=Z,158nm,18.6s,MS3.9,baz=56,slow=39						
GTA	**Gaotai**	**44.71**	**276**	*e*P	**P**	**10 37 34.6**	**-1.4**
GTA				AP	pP	10 37 43.6	-1.3
GTA				XP	sP	10 37 47.4	-1.1
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.1						
KURK	**Kurchatov**	**48.21**	**302**	*i* P	**P**	**10 38 03.5**	**0.0**
KURK	**Kurchatov**	**48.21**	**302**	*e*P	**P**	**10 38 01.9**	**-1.6**
	comp=Z,6.9nm,1.0s,mb4.6						
WMQ	**Urumqi**	**48.28**	**289**	*e*P	**P**	**10 38 04.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
CD2	**Chengdu**	**48.70**	**265**	*e*P	**P**	**10 38 08.0**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,4.9s						
MKAR	**Makanchi Array**	**49.05**	**296**	P	**P**	**10 38 08.4**	**-1.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=54,slow=6.5,SNR=22						
MKAR	**Makanchi Array**	**49.05**	**296**	*i* P	**P**	**10 38 09.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**10 38 19.7**	**-0.6**
	comp=Z,6.9nm,0.6s,mb4.8,baz=54,slow=7.9,SNR=54						
BRVK	**Borovoye**	**50.44**	**309**	*e*P	**P**	**10 38 19.8**	**-0.7**
BRVK				*e**PP	pP	10 38 25.0	-4.5
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**50.44**	**309**	*e*P	**P**	**10 38 19.8**	**-0.6**
	comp=Z,7.4nm,0.6s,mb4.9						
BRVK				*e*pP	pP	10 38 25.0	-4.5
ARCES	**ARCESS Array B**	**51.13**	**343**	LR	LR	11 04 40.7	
	comp=Z,94nm,18.5s,MS3.8,baz=274,slow=42						
NVAR	**Mina Array Bea**	**52.48**	**75**	P	**P**	**10 38 36.2**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=291,slow=9.7,SNR=8.1						
NVAR				LR	LR	10 57 37.0	
	comp=Z,79nm,19.5s,MS3.8,baz=80,slow=32						
ARU	**Arti**	**52.80**	**318⇑**	*e*P	**P**	**10 38 37.8**	**-0.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.2						
ARU	**Arti**	**52.80**	**318**	*e*P	**P**	**10 38 37.7**	**-0.4**
	comp=Z,4.7nm,0.4s,mb4.8						
LOHW	**Long Hollow**	**52.81**	**65**	*e*P	**P**	**10 38 39.0**	**+0.8**
	comp=Z,2.2nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**53.95**	**65**	P	**P**	**10 38 47.5**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.2,baz=335,slow=3.3,SNR=12						
PDAR				LR	LR	11 03 04.7	
	comp=Z,72nm,19.9s,MS3.7,baz=132,slow=38						
ULM	**Lac du Bonnet**	**54.96**	**51**	P	**P**	**10 38 53.8**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.4,baz=314,slow=7.3,SNR=6.6						
JOF	**Joensuu**	**55.80**	**336**	*ep*	**P**	**10 38 59.2**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.5						
AKTO	**Aktyubinsk**	**57.55**	**313**	LR	LR	11 04 14.3	
	comp=Z,116nm,19.1s,MS4.0,baz=355,slow=36						
FINES	**FINESS Array B**	**58.26**	**338**	P	**P**	**10 39 15.8**	**-1.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=27,slow=13,SNR=5.2						
FINES				LR	LR	11 06 26.8	
	comp=Z,100nm,19.2s,MS3.9,baz=349,slow=38						
FINES	**FINESS Array B**	**58.26**	**338**	P	**P**	**10 39 15.8**	**-1.6**
FINES				LR	LR	11 06 26.8	
OBN	**Obninsk**	**61.23**	**329**	*e*P	**P**	**10 39 37.1**	**-0.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
NB2	**NORSAR Subarra**	**61.26**	**345**	P	**P**	**10 39 37.1**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.2,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.26**	**345**	P	**P**	**10 39 36.8**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.5,baz=17,slow=6.8,SNR=7.8						
NOA				LR	LR	11 11 58.3	
	comp=Z,35nm,18.8s,MS3.5,baz=310,slow=42						
ANMO	**Albuquerque**	**61.39**	**69**	*i* P	**P**	**10 39 40.7**	**+1.8**
SCHQ	**Schefferville**	**61.79**	**31**	P	**P**	**10 39 40.9**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.5,baz=289,slow=7.2,SNR=5.3						
SCHQ				LR	LR	11 10 40.2	
	comp=Z,82nm,19.5s,MS3.9,baz=321,slow=40						
AKASG	**Malin Array Be**	**67.21**	**331**	P	**P**	**10 40 16.0**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.3,baz=27,slow=6.2,SNR=7.2						
GNI	**Garni**	**71.31**	**315**	LR	LR	11 14 46.3	
	comp=Z,140nm,18.3s,MS4.3,baz=33,slow=38						
KHC	**Kasperske Hory**	**72.30**	**340**	*i* P	**P**	**10 40 49.3**	**+1.0**
GERES	**GERESS Array B**	**72.55**	**340**	P	**P**	**10 40 48.7**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=27,slow=6.0,SNR=4.5						
BRTR	**Keskin Array B**	**75.75**	**323**	P	**P**	**10 41 07.8**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=70,slow=3.7,SNR=3.8						
BRTR	**Keskin Array B**	**75.75**	**323**	*i* P	**P**	**10 41 08.8**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**79.91**	**209**	P	**P**	**10 41 32.5**	**+0.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=25,slow=6.1,SNR=8.1						
WRA	**Warramunga Arr**	**79.91**	**209**	*i* P	**P**	**10 41 36.2**	**+4.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PPT	**Papeete**	**83.02**	**136**	LR	LR	11 19 32.3	
	comp=Z,91nm,18.1s,MS4.2,baz=296,slow=36						
ASAR	**Alice Springs**	**83.58**	**208**	P	**P**	**10 41 52.5**	**+1.6**
	comp=Z,0.8nm,0.9s,mb3.8,baz=17,slow=5.3,SNR=6.2						
STKA	**Stephens Creek**	**89.78**	**199**	LR	LR	11 20 20.4	
	comp=Z,71nm,19.0s,MS4.1,baz=209,slow=34						
RPZ	**Rata Peaks**	**99.65**	**175**	LR	LR	11 23 08.7	
	comp=Z,118nm,19.1s,MS4.4,baz=174,slow=32						

*ISCJB **11** 10:38:01.4±0.4, 3946N±002×2303E±004, h9km±4km, Error ellipse: s-maj=5.1km s-min=3.6km az=7.7*
*ATH **11** 10:38:01.6, 3942N×2297E, h9km±1km, MD3.4/14, ML3.3*
*CSEM **11** 10:38:02.1±0.1, 3951N×2312E, h10km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.4km az=92.0*
*THE **11** 10:38:02.4, 3945N×2301E, h9km, ML3.4*
*SOF **11** 10:38:05.1, 3975N×2326E, h11km, MD3.3*
ISC 11 10:38:01.8±0.5, 3943N±002×2299E±004, h6km±5km, n32, σ1°12/39, 3C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.17**	**112**	*e*Pg	**Pg**	**10 38 05.5**	**+0.2**
NEO	**Neokhori**	**0.22**	**124**	*e*PG	**Pg**	**10 38 06.3**	**+0.1**
NEO				*e*SG	**Sg**	**10 38 09.6**	**+0.5**
AGG	**Agios Georgios**	**0.65**	**232**	*e*Pg	**Pg**	**10 38 13.7**	**-0.7**
	comp=Z,54nm,0.1s						
PAIG	**Paliouri**	**0.73**	**47**	*e*Pg	**Pg**	**10 38 16.5**	**+0.7**
PAIG				*e*Sg	**Sg**	**10 38 27.2**	**+1.9**
AOS	**Alonnisos**	**0.74**	**110**	*e*Pg	**Pg**	**10 38 16.0**	**0.0**
LIT	**Litokhoron**	**0.77**	**330**	*e*Pg	**Pg**	**10 38 16.2**	**-0.4**
LIT				*e*Sg	**Sg**	**10 38 28.1**	**+1.4**
LKR	**Lokris**	**0.78**	**179**	*e*PG	**Pg**	**10 38 15.9**	**-0.9**
LKR				*e*SB	**Sb**	**10 38 27.1**	**-1.4**
PLG	**Polygyros**	**1.01**	**20⇑**	*i*PG	**Pg**	**10 38 20.8**	**-0.3**
PLG				*e*SN	**Sn**	**10 38 34.0**	**-2.8**
EVR	**Evrytania**	**1.05**	**241**	*e*PB	**Pb**	**10 38 21.1**	**-1.3**
EVR				*e*SB	**Sb**	**10 38 35.7**	**-0.6**
OUR	**Ouranopolis**	**1.18**	**40**	*e*Pg	**Pg**	**10 38 23.6**	**-1.0**
	comp=Z,29nm,0.1s						
OUR	**Ouranopolis**	**1.18**	**40**	*e*Pg	**Pg**	**10 38 23.5**	**-1.0**
	29nm,0.1s						
THE	**Thessaloniki**	**1.20**	**359**	*e*Pg	**Pg**	**10 38 23.3**	**-1.6**
	comp=Z,4.2nm,0.2s						
KZN	**Kozani**	**1.28**	**313**	*e*PB	**Pb**	**10 38 26.0**	**-0.3**
KZN				*e*SB	**Sb**	**10 38 43.1**	**+0.1**
MPAR	**Parnis Oros**	**1.40**	**155**	*e*PB	**Pb**	**10 38 28.1**	**-0.3**
PTL	**Penteli**	**1.54**	**153**	*e*PG	**Pg**	**10 38 30.5**	**-0.8**
ATH	**Athens Observa**	**1.56**	**158**	*e*PB	**Pb**	**10 38 31.1**	**0.0**
JAN	**Janina**	**1.67**	**278**	*e*PB	**Pb**	**10 38 32.5**	**-0.4**
RLS	**Riolos of Patr**	**1.81**	**221**	*e*PN	**Pn**	**10 38 35.0**	**+1.5**
MMB	**Musomiste**	**2.23**	**14**	*i* P	**Pn**	**10 38 38.5**	**-0.7**
VLS	**Vals

LBOS		**3.06**	**43**	⇓*i*P	**Pn**	**10 46 56.8**	**-0.1**
LBOS				*i* S	**Sn**	**10 47 34.7**	**+1.1**
DHBB	**Dhamar BB**	**3.19**	**23**	*i* P	**Pn**	**10 46 58.2**	**-0.4**
DHBB				*i* S	**Sn**	**10 47 37.4**	**+0.8**
BDHA	**Al Bayda'**	**3.36**	**46**	*i* P	**Pn**	**10 47 01.6**	**+0.7**
BDHA				*i* S	**Sn**	**10 47 43.0**	**+2.2**
BDHA				AML	AML	10 48 04.5	
	comp=N,916nm,0.6s						
BDHA	**Al Bayda'**	**3.36**	**46**	*i* P	**Pn**	**10 47 01.5**	**+0.6**
BDHA				*i* S	**Sn**	**10 47 43.0**	**+2.2**
	comp=N,458nm,0.6s						
DESE	**Dese**	**3.43**	**262**	*e*PN	**Pn**	**10 47 01.6**	**-0.3**
DESE				*e*S	**Sn**	**10 47 43.6**	**+1.1**
HAJJ	**Hajjah**	**4.08**	**7**	*i* P	**Pn**	**10 47 10.0**	**-0.8**
HAJJ				*i* S	**Sn**	**10 47 59.1**	**+0.6**
HAJJ				AML	AML	10 48 37.2	
	comp=E,771nm,0.8s						
HAJJ	**Hajjah**	**4.08**	**7**	*i* P	**Pn**	**10 47 10.0**	**-0.8**
HAJJ				*i* S	**Sn**	**10 47 59.1**	**+0.6**
	comp=E,386nm,0.8s						
FURI	**Furi**	**5.12**	**238**	*e*PN	**Pn**	**10 47 33.1**	**+7.9**
FURI				*e*S	**Sn**	**10 48 32.4**	**+8.1**
FURI	**Furi**	**5.12**	**238**	*e*PN	**Pn**	**10 47 33.1**	**+7.9**
FURI				*e*S	**Sn**	**10 48 32.4**	**+8.1**

DHMR 11 10:59:52.8±1.3, 1172N×4300E, h10km±11km, ML3.6, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.85**	**36**	*i* P	Pn	11 00 25.4	+0.7
TRBA				*i* S	Sn	11 00 51.2	+3.0
TRBA				AML	AML	11 00 58.8	
	comp=Z,660nm,0.4s						
UDYN	**Al 'Udayn**	**2.42**	**23**	*i* P	Pn	11 00 35.7	+3.2
UDYN				*i* S	Sn	11 01 08.4	+6.1
UDYN				AML	AML	11 01 18.4	
	comp=E,425nm,0.4s						
UDYN	**Al 'Udayn**	**2.42**	**23**	*i* P	Pn	11 00 35.7	+3.2
UDYN				*i* S	Sn	11 01 08.4	+6.1
LBOS		**3.06**	**45**	⇓*i*P	Pn	11 00 44.8	+3.5
LBOS				*i* S	Sn	11 01 24.3	+6.3
DHBB	**Dhamar BB**	**3.14**	**25**	⇑*i*P	Pn	11 00 45.4	+3.1
DHBB				*i* S	Sn	11 01 26.4	+6.5
BDHA	**Al Bayda'**	**3.36**	**48**	⇓*i*P	Pn	11 00 48.1	+2.8
BDHA				*i* S	Sn	11 01 32.3	+7.0
BDHA				AML	AML	11 01 49.8	
	comp=E,268nm,0.4s						
HAJJ	**Hajjah**	**4.00**	**8**	*i* P	Pn	11 00 56.6	+2.5
HAJJ				*i* S	Sn	11 01 46.7	+5.6

ISC 11 11:06:21.3±0.8, 3843N±007×3878E±005, h10km, n7, σ0°59/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.18**	**66**	*i* P	**Pg**	**11 06 25.6**	**+0.4**
ELZG				*i* S	**Sg**	**11 06 28.0**	**+0.3**
MYA	**Malataya**	**0.29**	**251**	PG	**Pg**	**11 06 27.1**	**-0.1**
MYA				SG	**Sg**	**11 06 32.0**	**+0.8**
MALT	**Malatya**	**0.30**	**248**	PG	**Pg**	**11 06 26.4**	**-0.9**
ATAB	**Bozova**	**1.03**	**202**	*i* P	**Pg**	**11 06 41.0**	**-0.1**
ATAB				*i* S	**Sg**	**11 06 54.7**	**+0.3**
DIY	**Diyarbakir**	**1.26**	**114**	PN	**Pn**	**11 06 43.8**	**-1.1**
BNGL	**BINGOL**	**1.93**	**73**	*i* P	**Pn**	**11 06 58.7**	**+4.6**
BNGL				*i* S	**Sn**	**11 07 27.1**	**+8.6**
MARD	**Mardin**	**1.93**	**124**	*i* P	**Pn**	**11 06 54.1**	**-0.1**
MARD				*i* S	**Sn**	**11 07 19.0**	**+0.4**

MAN 11 11:20:26.5, 924N×12670E, h3km, mb2.7, ML4.2, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.10**	**256**	*e*P	Pg	11 20 47.7	0.0
BUTP				*e*S	Sg	11 21 05.1	+3.1
SCPH	**Surigao**	**1.31**	**294**	⇑*e*P	Pg	11 20 51.3	-0.4
BUKP	**Musuan**	**2.11**	**230**	*e*P	Pn	11 21 03.5	+0.8
BUKP				*e*S	Sn	11 21 33.4	+3.8
GUIM	**Jordan**	**4.28**	**289**	*e*P	Pn	11 22 17.4	+45

*IDC **11** 11:43:22.0±3.9, 559N×12673E, h70km±32km, mb3.7/7, mb1 3.8/7, mb1mx3.6/18, mbtmp4.0/7, MS2.2/1, Ms1 2.2/1, ms1mx1.8/31, Error ellipse: s-maj=166.2km s-min=15.9km az=69.0*

*ISCJB **11** 11:43:29.1±0.6, 556N±009×1268E±02, h150km, mb3.9/12, Error ellipse: s-maj=25.1km s-min=10.3km az=136.9*

*NEIC **11** 11:43:30.6±0.6, 553N×12684E, h150km, mb4.1/4, Error ellipse: s-maj=25.8km s-min=10.6km az=67.0*

ISC 11 11:43:31.0±0.6, 556N±010×1268E±02, h150km, n15, σ0°92/14, mb3.9/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.95**	**257**	*e*P	**Pn**	**11 47 18.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.54**	**183**	*e*P	**P**	**11 48 28.0**	**+0.5**
	3.1nm,1.0s,mb3.8						
CBIJ	**Chichi jima**	**25.95**	**33**	LR	LR	11 58 36.4	
	comp=Z,4.6nm,18.0s,baz=188,slow=35						
WRAB	**Tennant Creek**	**26.40**	**164**	*e*P	**P**	**11 48 54.3**	**+1.0**
	3.3nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**26.41**	**164**	P	**P**	**11 48 53.2**	**-0.2**
	2.1nm,0.5s,mb4.0,baz=344,slow=10,SNR=37						
WRA				ScP	ScP	11 55 50.1	+9.4
	0.5nm,1.0s,baz=337,slow=3.0,SNR=4.8						
WB2	**Warramunga Arr**	**26.41**	**164**	*e*P	**P**	**11 48 54.7**	**+1.2**
ASAR	**Alice Springs**	**29.86**	**167**	P	**P**	**11 49 23.4**	**-0.7**
	0.6nm,0.4s,mb3.6,baz=339,slow=7.1,SNR=22						
ASAR				PcP	PcP	11 52 25.3	+1.8
	0.6nm,0.4s,baz=352,slow=2.4,SNR=13						
STKA	**Stephens Creek**	**39.81**	**160**	P	**P**	**11 50 47.8**	**-1.6**
	1.9nm,0.4s,mb4.1,baz=345,slow=8.4,SNR=5.4						
SONM	**Songino Array**	**45.60**	**341**	P	**P**	**11 51 35.9**	**-0.1**
	0.3nm,0.9s,mb2.9,baz=194,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**56.11**	**325**	P	**P**	**11 52 53.6**	**-0.9**
	0.6nm,0.4s,mb3.8,baz=114,slow=7.4,SNR=24						
KURK	**Kurchatov**	**60.25**	**327**	*e*P	**P**	**11 53 24.6**	**+1.3**
	2.0nm,0.4s,mb4.3						
BRVK	**Borovoye**	**65.91**	**327**	*e*P	**P**	**11 54 01.2**	**+0.5**
	1.6nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**66.57**	**326**	*e*P	**P**	**11 54 06.1**	**+1.2**
	1.0nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**88.77**	**340**	P	**P**	**11 56 06.7**	**-0.9**
	2.2nm,0.8s,mb4.1,baz=80,slow=6.6,SNR=6.0						
FINES	**FINESS Array B**	**90.26**	**332**	P	**P**	**11 56 13.7**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=45,slow=2.7,SNR=3.9						

*PNSN **11** 11:47:56.6, 4747N×12180W, h8km, MD2.9, Fault plane solution: NP1:φs80.00000°, δ65.00000°, NP2: φs330.00000°, δ54.00000°, Principal axes: T Plg45.0000°, Azm300.0000°; P Plg6.0000°, Azm203.0000°;*

PGC 11 11:47:55.8, 4741N×12195W, h1km, ML2.3/21, 1C-1D, East of Seattle, Washington., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGZ	**Gonzales**	**1.37**	**318**	P	Pn	11 48 19.2	-2.8
VGZ				S	Sg	11 48 37.0	-2.7
VGZ				Trac		11 48 37.5	
	comp=Z,48nm,0.1s						
SNB	**Saturna Island**	**1.59**	**330**	P	Pn	11 48 23.8	-1.4
SNB				S	Sn	11 48 43.9	-2.5
SNB				Trac		11 48 46.7	
	comp=Z,20nm,0.1s						
PGC	**Sidney**	**1.60**	**322**	P	Pn	11 48 23.3	-1.9
PGC				S	Sn	11 48 43.7	-2.8
PGC				Trac		11 48 44.8	
	comp=Z,31nm,0.1s						
VDB	**Vedder Mountai**	**1.62**	**357**	⇓P	Pn	11 48 23.8	-1.7
VDB				S	Sn	11 48 44.2	-2.9
VDB				Trac		11 48 45.8	
	comp=Z,34nm,0.2s						
LZB	**Mount Lazard**	**1.74**	**315**	P	Pn	11 48 25.1	-2.1
LZB				S	Sn	11 48 47.5	-2.5
LZB				Trac		11 48 49.1	
	comp=Z,8.0nm,0.1s						
GOBB	**Galiano Island**	**1.86**	**327**	P	Pn	11 48 27.7	-1.1
GOBB				S	Sn	11 48 51.3	-1.7
GOBB				Trac		11 48 53.7	
	comp=Z,13nm,0.1s						
HNB	**Haney**	**1.92**	**348**	⇑P	Pn	11 48 27.9	-1.6
HNB				S	Sn	11 48 52.0	-2.3
HNB				Trac		11 48 53.6	
	comp=Z,53nm,0.2s						
HOPB	**Hope**	**2.01**	**10**	P	Pn	11 48 28.9	-2.0
HOPB				S	Sn	11 48 54.8	-2.0
HOPB				Trac		11 48 57.8	
	comp=Z,30nm,0.2s						
PFB	**Port Renfrew**	**2.04**	**306**	Trac		11 49 00.5	
	comp=Z,5.0nm,0.1s						
PFB	**Port Renfrew**	**2.04**	**306**	P	Pn	11 48 30.7	-0.6
PFB				S	Sn	11 48 56.8	-0.5
BIB	**Bowen Island**	**2.19**	**336**	P	Pn	11 48 32.6	-0.8
BIB				S	Sn	11 48 59.9	-1.3
BIB				Trac		11 49 00.9	
	comp=Z,10.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**2.27**	**324**	P	Pn	11 48 34.1	-0.4
NLLB				S	Sn	11 49 02.6	-0.5
NLLB				Trac		11 49 11.4	
	comp=Z,12nm,0.3s						
WPB	**Watts Point**	**2.40**	**340**	P	Pn	11 48 35.0	-1.2
WPB				S	Sn	11 49 05.7	-0.6
WPB				Trac		11 49 09.8	
	comp=Z,8.0nm,0.2s						
MGB	**Mount Grey**	**2.43**	**312**	P	Pn	11 48 36.2	-0.4
MGB				S	Sn	11 49 07.1	+0.1
MGB				Trac		11 49 10.8	
	comp=Z,9.0nm,0.2s						
PNT	**Penticton**	**2.47**	**38**	P	Pn	11 48 38.5	+1.4
PNT				S	Sn	11 49 08.8	+1.0
PNT				Trac		11 49 11.0	
	comp=Z,15nm,0.2s						
SHB	**Sechelt**	**2.54**	**330**	P	Pn	11 48 37.8	-0.4
SHB				S	Sn	11 49 09.6	-0.1
SHB				Trac		11 49 13.6	
	comp=Z,20nm,0.2s						
ALB	**Alberni**	**2.68**	**315**	P	Pn	11 48 40.0	-0.1
ALB				Sg	Sg	11 49 13.7	-8.1
ALB				Trac		11 49 15.9	
	comp=Z,4.0nm,0.2s						
WSLR	**Whistler**	**2.80**	**347**	P	Pn	11 48 42.4	+0.7
WSLR				Sg	Sg	11 49 17.8	-7.9
WSLR				Trac		11 49 19.7	
	comp=Z,7.0nm,0.2s						
TXB	**Texada**	**2.82**	**325**	P	Pn	11 48 42.6	+0.5
TXB				S	Sn	11 49 14.9	-1.8
TXB				Trac		11 49 22.8	
	comp=Z,11nm,0.4s						
OZB	**Mount Ozzard**	**2.83**	**305**	P	Pn	11 48 44.0	+1.8
BTB	**Buttle Lake**	**3.15**	**312**	P	Pn	11 48 48.3	+1.8
BTB				Sg	Sg	11 49 26.3	-11
BTB				Trac		11 49 40.2	
	comp=Z,6.0nm,0.2s						
LLLB	**Lillooet**	**3.21**	**1**	P	Pn	11 48 46.7	-0.6
LLLB				Pg	Pg	11 48 52.2	-5.1
LLLB				Sg	Sg	11 49 31.0	-7.9
LLLB				Trac		11 49 34.1	
	comp=Z,4.0nm,0.3s						
SLEB	**Sale Mountain**	**4.52**	**32**	Pg	Pg	11 49 15.9	-6.5
SLEB				Sg	Sg	11 50 11.8	-9.2
SLEB				Trac		11 50 17.1	
	comp=Z,3.0nm,0.2s						
DOWB	**Downie Slide**	**4.69**	**27**	Pg	Pg	11 49 18.4	-7.2
DOWB				Sg	Sg	11 50 17.9	-8.4
DOWB				Trac		11 50 19.9	
	comp=Z,36nm,0.3s						
MNB	**Mounoet Dainar**	**5.33**	**24**	Pg	Pg	11 49 29.3	-8.6
MNB				Sg	Sg	11 50 40.1	-6.8

*ISCJB **11** 11:49:38.6±0.2, 3236S±003×6742W±003, h32km, mb4.7/51, MS3.9/2, Error ellipse: s-maj=4.4km s-min=2.7km az=116.1*

*GUC **11** 11:49:38.0±0.7, 3242S×6756W, h162km±16km, ML5.3*

*IDC **11** 11:49:40.0±0.4, 3239S×6774W, h32km±2km, mb4.4/13, mb1 4.5/17, mb1mx4.5/20, mbtmp4.6/17, ML4.7/4, MS3.8/7, Ms1 3.8/7, ms1mx3.6/22, Error ellipse: s-maj=17.8km s-min=8.4km az=65.0*

*NEIC **11** 11:49:40.0±0.2, 3242S×6763W, mb4.8/39, Error ellipse: s-maj=9.1km s-min=4.4km az=73.0*

*BJI **11** 11:49:42.5, 3240S×6760W, h32km, mB5.1, Ms5.0, Msz4.9*

ISC 11 11:49:40.6±0.2, 3234S±003×6745W±003, h34km, h34km±.6km: pP-P, n148, σ1°03/111, mb4.7/51, MS3.9/2, 6C-7D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.99**	**317**	Pg	**Pn**	**11 49 56.9**	**-1.2**
	150nm,0.3s,baz=159,slow=16,SNR=6087						
CFAA				Lg		11 50 09.4	
	933nm,0.3s,baz=353,slow=22,SNR=46						
FCH	**Farellones**	**2.59**	**247**	⇑*i*P	**Pn**	**11 50 20.0**	**0.0**
FCH				*i* S	**Sn**	**11 50 52.3**	**+2.0**
FCH				AMP		11 50 54.7	
	comp=N,6μm,0.3s						
JACH	**Jahuel**	**2.67**	**262**	*e*P	**Pn**	**11 50 21.7**	**+0.4**
JACH				*i* S	**Sn**	**11 50 54.3**	**+1.8**
LMEL	**Las Melosas**	**2.76**	**236**	*e*P	**Pn**	**11 50 22.0**	**-0.4**
LMEL				*i* S	**Sn**	**11 50 55.8**	**+1.2**
LMEL				AMP		11 51 01.1	
	comp=N,4μm,0.2s						
SJCH	**San Jose de Ma**	**2.76**	**241**	*i* P	**Pn**	**11 50 25.1**	**+2.6**
SJCH				*i* S	**Sn**	**11 50 58.6**	**+3.9**
SJCH				AMP		11 51 01.6	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**2.84**	**253**	⇓*i*P	**Pn**	**11 50 23.2**	**-0.3**
PEL				*i* S	**Sn**	**11 50 57.9**	**+1.3**
PEL				AMP		11 51 05.5	
	comp=E,9μm,0.5s						
PCH	**Pirque**	**2.87**	**243**	*e*P	**Pn**	**11 50 23.6**	**-0.5**
PCH				⇓*i*P		11 50 23.6	
PCH				*i* S	**Sn**	**11 50 58.3**	**+0.9**
SAN	**Santiago**	**2.92**	**247**	AMP		11 51 15.2	
	comp=E,4μm,0.6s						
ANTU	**Antumapu**	**2.94**	**244**	*e*P	**Pn**	**11 50 27.2**	**+2.2**
ANTU				*e*S	**Sn**	**11 51 02.3**	**+3.2**
ANTU				AMP		11 51 07.0	
	comp=E,6μm,0.4s						
RCDM	**Rinconada Maip**	**3.05**	**247**	*e*P	**Pn**	**11 50 26.0**	**-0.4**
RCDM				AMP		11 51 09.0	
	comp=N,4μm,0.4s						
ROCH	**El Roble**	**3.07**	**257**	*e*P	**Pn**	**11 50 26.7**	**0.0**
ROCH				*i* S	**Sn**	**11 51 03.4**	**+1.2**
CHCH	**Chadas Angostu**	**3.12**	**238**	⇑*e*P	**Pn**	**11 50 26.6**	**-0.8**
CHCH				*i* S	**Sn**	**11 51 03.6**	**+0.1**
CICH	**Cipreses**	**3.18**	**231**	*e*P	**Pn**	**11 50 27.8**	**-0.4**
CICH				*i* S	**Sn**	**11 51 05.2**	**+0.3**
CACH	**El Canelo**	**3.18**	**235**	⇑*e*P	**Pn**	**11 50 27.7**	**-0.5**
CACH				⇓*i*S	**Sn**	**11 51 05.3**	**+0.4**
TACH	**Talagante**	**3.21**	**245**	⇓*e*P	**Pn**	**11 50 27.7**	**-1.0**
TACH				*i* S	**Sn**	**11 51 05.7**	**0.0**
ILCH	**Illapel**	**3.23**	**281**	⇑*e*P	**Pn**	**11 50 28.5**	**-0.5**
ILCH				*i* S	**Sn**	**11 51 06.8**	**+0.5**
ILCH				AMP		11 51 30.6	
	comp=N,6μm,0.6s						
CMCH	**Combarbala**	**3.24**	**290**	AMP		11 51 29.0	
	comp=N,36μm,0.6s						
IHA	**Instituto Hidr**	**3.60**	**258**	⇑*i*P	**Pn**	**11 50 33.1**	**-0.9**
IHA				*i* S	**Sn**	**11 51 14.8**	**-0.5**
LCCH	**Las Cruces**	**3.64**	**251**	*e*P	**Pn**	**11 50 33.1**	**-1.5**
LCCH				*i* S	**Sn**	**11 51 14.9**	**-1.5**
LNV	**Longovilo**	**3.69**	**243**	⇑*e*P	**Pn**	**11 50 33.5**	**-1.8**
LNV				*i* S	**Sn**	**11 51 16.1**	**-1.5**
TRQA	**Tornquist**	**7.25**	**143**	*e*Pn	**Pn**	**11 51 25.7**	**+1.5**
	comp=N,105nm,0.6s						
TRQA				*e*Sn	**Sn**	**11 52 45.4**	**0.0**
PLCA	**Paso Flores**	**8.74**	**196**	Pn	**Pn**	**11 51 44.5**	**-0.1**
	comp=N,0.9nm,0.3s,baz=3.1,slow=14,SNR=33						
PLCA				Lg		11 54 09.9	
	comp=N,5.6nm,0.3s,baz=294,slow=18,SNR=3.5						
PLCA				LR	LR	11 55 21.8	
	comp=N,418nm,19.1s,baz=340,slow=40						
PLCA	**Paso Flores**	**8.74**	**196**	Pn	**Pn**	**11 51 44.5**	**-0.1**
PLCA				Lg		11 54 09.9	
PLCA				LR	LR	11 55 21.8	
LVC	**Limon Verde**	**9.77**	**352**	Pn	**Pn**	**11 51 59.3**	**+0.6**
	comp=N,5.1nm,0.3s,baz=189,slow=8.2,SNR=37						
LVC				Lg		11 54 48.7	
	comp=N,2.7nm,0.3s,baz=155,slow=2.2,SNR=5.2						
LVC				LR	LR	11 56 08.6	
	comp=N,945nm,19.0s,baz=271,slow=40						
LVC	**Limon Verde**	**9.77**	**352**	*e*Pn	**Pn**	**11 51 59.4**	**+0.7**
	comp=N,18nm,0.5s						
LPAZ	**La Paz**	**15.99**	**358**	Pn	**Pn**	**11 53 24.2**	**+1.3**
	comp=N,2.0nm,0.3s,baz=165,slow=6.6,SNR=25						
LPAZ				LR	LR	11 58 45.3	
	comp=N,73nm,19.1s,baz=300,slow=34						
LPAZ	**La Paz**	**15.99**	**358**	Pn	**Pn**	**11 53 24.2**	**+1.3**
LPAZ				LR	LR	11 58 45.3	
ARE	**Arequipa**	**16.22**	**346**	*e*P	**Pn**	**11 53 28.0**	**+2.1**
SIV	**San Ignacio**	**17.27**	**21**	P	**Pn**	**11 53 40.8**	**+1.7**
	comp=N,1.1nm,0.3s,baz=212,slow=11,SNR=76						
EFI	**East Falkland**	**20.51**	**163**	*e*Pn	**P**	**11 54 15.5**	**-0.3**
NNA	**Nana**	**22.02**	**335**	*e*P	**P**	**11 54 32.5**	**+0.5**
	comp=N,19nm,0.7s,mb4.6						
USHA	**Ushuaia**	**22.50**	**181**	P	**P**	**11 54 34.7**	**-2.4**
	comp=N,6.4nm,0.7s,mb4.2,baz=140,slow=7.1,SNR=2.3						
SAML	**Samuel**	**23.61**	**11**	*e*P	**P**	**11 54 49.3**	**+0.8**
	comp=N,13nm,0.8s,mb4.4						
BDFB	**Brasilia**	**24.25**	**51**	P	**P**	**11 54 55.5**	**+1.1**
	comp=N,3.4nm,0.5s,mb4.0,baz=229,slow=10,SNR=4.8						
BDFB				LR	LR	12 05 32.2	
	comp=N,362nm,18.9s,MS3.9,baz=238,slow=39						
RCBR	**Riachuelo**	**39.52**	**55**	*e*P	**P**	**11 57 09.6**	**+1.5**
	comp=N,23nm,1.3s,mb4.8						
RCBR				*e*pP	pP	11 57 18.8	+0.8
SDV	**Santo Domingo**	**41.10**	**355**	*e*P	**P**	**11 57 20.6**	**-0.6**
	comp=N,3.6nm,0.4s,mb4.3						
JTS	**JuntasAbangare**	**45.57**	**336**	*e*P	**P**	**11 57 58.4**	**+1.2**
VNA3	**Neumayer Olymp**	**49.48**	**159**	*e*P	**P**	**11 58 27.9**	**+0.3**
VNA3				*e*	pP	11 58 38.0	+0.3
VNA3				*e*		11 58 42.1	
VNA2	**Neumayer--Watz**	**50.09**	**158**	*e*P	**P**	**11 58 32.7**	**+0.5**
	baz=290,slow=8.0						
VNA2				*e*	pP	11 58 41.9	-0.4
VNA2				*e*		11 58 46.7	
SNAA	**Sanae**	**51.70**	**159**	P	**P**	**11 58 44.2**	**-0.2**
	comp=N,2.1nm,0.7s,mb4.2,baz=327,slow=10,SNR=21						
TEIG	**Tepich**	**55.94**	**336**	*e*P	**P**	**11 59 14.9**	**-0.4**
	comp=N,4.1nm,0.5s,mb4.7						
QSPA	**South Pole Qui**	**57.90**	**180**	*e*P	**P**	**11 59 27.4**	**-1.8**
	comp=N,22nm,1.0s,mb5.1						
SYO	**Syowa Base**	**65.97**	**158**	‖*e*P	**P**	**12 00 20.7**	**-2.8**
SYO	**Syowa Base**	**65.97**	**158**	‖*e*pP	pP	12 00 30.4	-3.5
SYO	**Syowa Base**	**65.97**	**158**	‖*e*sP	sP	12 00 33.6	-4.3
VNDA	**Vanda**	**66.45**	**190**	P	**P**	**12 00 26.3**	**-0.3**
	comp=N,2.5nm,0.7s,mb4.4,baz=153,slow=5.1,SNR=6.2						
NATX	**Nacogdoches**	**68.75**	**335**	*e*P	**P**	**12 00 41.2**	**+0.2**
	comp=N,28nm,0.8s,mb5.2						
JCT	**Junction City**	**69.59**	**330**	*e*P	**P**	**12 00 46.3**	**0.0**
	comp=N,60nm,1.4s,mb5.3						
TZTN	**Tazewell**	**70.16**	**346**	*e*P	**P**	**12 00 48.9**	**-0.8**
MIAR	**Mount Ida**	**70.92**	**337**	*e*P	**P**	**12 00 53.8**	**-0.6**
	comp=N,6.7nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**71.00**	**69**	P	**P**	**12 00 56.7**	**+1.8**
	comp=N,16nm,0.7s,mb5.0,baz=212,slow=7.3,SNR=31						
DBIC				LR	LR	12 28 03.1	
	comp=N,59nm,18.6s,MS3.9,baz=91,slow=32						
DBIC	**Dimbokro**	**71.00**	**69**	*e*P	**P**	**12 00 56.4**	**+1.6**
	comp=N,18nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**72.36**	**345**	*e*P	**P**	**12 01 01.7**	**-1.4**
	comp=N,14nm,0.8s,mb4.9						
SIUC	**Southern Illin**	**72.59**	**342**	*e*P	**P**	**12 01 03.3**	**-1.1**
WMOK	**Wichita Mounta**	**72.93**	**333**	*e*P	**P**	**12 01 05.5**	**-1.0**
	comp=N,7.1nm,0.9s,mb4.6						
MNTX	**Cornudas Mount**	**73.09**	**327**	*e*P	**P**	**12 01 06.2**	**-1.2**
	comp=N,9.1nm,0.7s,mb4.8						
FVM	**French Village**	**73.16**	**341**	*e*P	**P**	**12 01 07.1**	**-0.8**
	comp=N,27nm,0.9s,mb5.2						
ACSO	**Alum Creek Sta**	**73.62**	**348**	*e*P	**P**	**12 01 09.7**	**-0.9**
	comp=N,14nm,0.8s,mb5.0						
MAW	**Mawson**	**73.64**	**162**	P	**P**	**12 01 10.1**	**-0.6**
	comp=N,6.0nm,0.6s,mb4.7,baz=278,slow=16,SNR=4.4						
TSUM	**Tsumeb**	**75.92**	**104**	*e*P	**P**	**12 01 24.5**	**+0.6**
	comp=N,7.7nm,1.2s,mb4.5						
TSUM				*e*pP	pP	12 01 35.1	+0.7
KSU1	**Kansas State U**	**76.06**	**337**	*e*P	**P**	**12 01 23.8**	**-0.9**
TUC	**Tucson**	**76.21**	**323**	*e*P	**P**	**12 01 25.4**	**-0.1**
	comp=N,1.7nm,0.9s,mb4.0						
ANMO	**Albuquerque**	**76.30**	**328**	*e*P	**P**	**12 01 26.5**	**+0.5**
	comp=N,10nm,1.1s,mb4.7						
CBKS	**Cedar Bluff**	**76.89**	**335**	*e*P	**P**	**12 01 27.7**	**-1.6**
	comp=N,19nm,0.7s,mb5.1						
BOSA	**Boshof**	**77.38**	**116**	P	**P**	**12 01 33.6**	**+1.5**
	comp=N,6.7nm,0.7s,mb4.7,baz=226,slow=6.8,SNR=14						
BOSA				pP	pP	12 01 42.8	+0.1
	comp=N,8.3nm,0.7s,baz=232,slow=4.7,SNR=8.0						
BOSA	**Boshof**	**77.38**	**116**	*e*P	**P**	**12 01 33.1**	**+1.0**
	comp=N,12nm,0.9s,mb4.8						
BOSA				*e*pP	pP	12 01 42.4	-0.3
SDCO	**Great Sand Dun**	**78.23**	**330**	*e*P	**P**	**12 01 37.4**	**+0.6**
	comp=N,4.3nm,0.6s,mb4.6						
SDCO				*e*PcP	PcP	12 01 48.0	+1.9
WUAZ	**Wupatki**	**79.07**	**325**	*e*P	**P**	**12 01 42.0**	**+0.6**
	comp=N,6.8nm,0.9s,mb4.6						
LBTB	**Lobatse**	**79.46**	**113**	*e*P	**P**	**12 01 44.5**	**+0.9**
	comp=N,8.8nm,0.6s,mb4.9						
LBTB				*e*pP	pP	12 01 54.1	0.0
ISCO	**Idaho Springs**	**80.01**	**331**	*e*P	**P**	**12 01 47.1**	**+0.6**
	comp=N,4.4nm,0.7s,mb4.5						
ISCO				*e*PcP	PcP	12 01 57.9	+3.9
TORD	**Torodi Ar. Bea**

YKA Yellowknife Ar 101.78 340 P Pdif 12 03 28.8 -1.3
YKA pP 12 03 38.7
AKASG Malin Array Be 118.26 46 PKP PKPdf 12 08 22.4 -1.9
comp=N,0.8nm,0.5s,baz=254,slow=2.6,SNR=7.1
AKASG pPKP pPKPdf 12 08 33.4 -1.9
comp=N,0.5nm,0.5s,baz=253,slow=3.2,SNR=2.7
FINES FINESS Array B 119.46 33 PKP PKPdf 12 08 25.7 -0.9
comp=N,0.5nm,0.6s,baz=0.0,slow=3.8,SNR=3.4
FINES FINESS Array B 119.46 33 PKP PKPdf 12 08 25.7 -0.9
ASAR Alice Springs 120.69 203 PKP PKPdf 12 08 27.8 -1.2
comp=N,0.7nm,0.5s,baz=130,slow=1.7,SNR=15
ARCES ARCESS Array B 120.91 24 PKP PKPdf 12 08 27.8 -1.6
comp=N,2.6nm,0.8s,baz=252,slow=3.8,SNR=5.2
WRA Warramunga Arr 123.99 205 PKP PKPdf 12 08 34.6 -0.7
comp=N,3.4nm,0.5s,baz=169,slow=1.6,SNR=98
WRA pPKP pPKPdf 12 08 44.3 -2.0
comp=N,3.1nm,0.6s,baz=156,slow=1.8,SNR=12
WRAB Tennant Creek 123.99 205 *e*PKPdf PKPdf 12 08 34.1 -1.2
WRAB *e*pPKPdf pPKPdf 12 08 45.7 -0.7
AKTK Aktyubinsk 136.33 49 PKP PKPdf 12 08 56.9 -1.8
AKTO Aktyubinsk 136.33 49 PKP PKPdf 12 08 56.9 -1.8
comp=N,0.6nm,0.5s,baz=312,slow=3.7,SNR=3.7
ZRNK Zerenda 142.66 43 *e*PKPdf PKPdf 12 09 07.0 -3.1
BVAR Borovoye Array 143.44 43 PKP PKPdf 12 09 09.2 -2.3
comp=N,0.7nm,0.4s,baz=273,slow=2.3,SNR=8.7
HYB Hyderabad 145.94 108 *i* PKP PKPdf 12 09 16.0 +0.1
comp=N,50nm,1.0s
HYB *e*pPKP pPKPdf 12 09 26.0 -1.0
HYB Hyderabad 145.94 108 *e*P PKPdf 12 09 18.0 +2.1
HYB *e* 12 09 27.0
BHPL Bhopal 147.75 97 *e*P PKPbc 12 09 23.0 +1.3
BHPL Bhopal 147.75 97 *e*P PKPbc 12 09 23.0 +1.3
EKS2 Erkin-Say 147.81 60 P PKPbc 12 09 23.5 +1.6
SNR=5.6
PSI Prapat 147.95 154 PKPbc PKPbc 12 09 21.4 -1.0
comp=N,7.0nm,0.8s,baz=97,slow=4.8,SNR=7.3
PSI pPKPbc pPKPbc 12 09 31.4 -1.9
comp=N,11nm,0.7s,baz=191,slow=5.1,SNR=7.0
KHET Khetri 148.06 88 *e*P PKPbc 12 09 23.1 +0.5
KHET *i* pP 12 09 32.2
KHET *ex* x 12 10 41.7
KHET Khetri 148.06 88 *e*P PKPbc 12 09 23.1 +0.5
KHET *i* pP 12 09 32.2
KHET *ex* x 12 10 41.7
USP Ospenovka 148.27 59 P PKPbc 12 09 24.3 +1.1
SNR=5.4
YAK Yakutsk 148.30 345 *e*PKPbc PKPbc 12 09 21.7 -1.5
YAK *e*PKPab PKPab 12 09 25.5 -0.9
AAK Ala-Archa 148.34 60 P PKPbc 12 09 24.9 +1.6
SNR=5.5
UCH Uchtor 148.39 61 P PKPbc 12 09 25.4 +2.0
SNR=7.7
KUDL Kundal 148.66 88 *e*P PKPbc 12 09 25.5 +1.3
KUDL *i* pP 12 09 35.7
KUDL *ex* x 12 10 46.7
KUDL Kundal 148.66 88 *e*P PKPbc 12 09 25.5 +1.3
KUDL *i* pP 12 09 35.7
KUDL *ex* x 12 10 46.7
KBK Karagaybulak 148.67 60 P PKPbc 12 09 26.1 +1.9
SNR=6.2
KURK Kurchatov 149.03 44 *e*PKPbc PKPbc 12 09 25.7 +0.6
TKM2 Tokmak 2 149.11 59 P PKPbc 12 09 26.4 +1.0
SNR=9.0
SONA Sohna 149.20 88 *e*P PKPbc 12 09 26.2 +0.6
SONA *i* pP 12 09 35.8
SONA *ex* x 12 10 51.3
SONA Sohna 149.20 88 *e*P PKPbc 12 09 26.2 +0.6
SONA *i* pP 12 09 35.8
SONA *ex* x 12 10 51.3
AYAN Aya Nagar 149.30 88 *e*P PKPbc 12 09 25.2 -0.6
AYAN *i* x x 12 09 32.7
AYAN Aya Nagar 149.30 88 *e*P PKPbc 12 09 25.2 -0.6
AYAN *i* x x 12 09 32.7
ZAL Zalesovo 150.72 34 PKPbc PKPbc 12 09 28.4 -0.8
comp=N,16nm,0.5s,baz=150,slow=2.2,SNR=78
ZAL pPKPbc pPKPbc 12 09 38.5 -1.7
comp=N,10nm,0.7s,baz=173,slow=1.9,SNR=14
KULM Kulim 150.88 155 *e*PKPbc PKPbc 12 09 29.5 -0.1
KLP Kalpa 150.95 82 *e*P PKPbc 12 09 31.8 +2.0
KLP Kalpa 150.95 82 *e*P PKPbc 12 09 31.8 +2.0
YSS Yuzh-Sakhalins 152.74 311 *e*PKPbc PKPbc 12 09 32.3 -1.5
YSS *e*PKPab PKPab 12 09 43.4 -1.4
MKAR Makanchi Array 152.77 49 PKP PKPdf 12 09 25.4 -1.4
comp=N,0.3nm,0.6s,baz=0.0,slow=1.2,SNR=5.3
MKAR PKPbc PKPbc 12 09 34.1 +0.2
comp=N,4.0nm,0.7s,baz=258,slow=1.8,SNR=44
MKAR pPKPbc pPKPbc 12 09 45.0 +0.1
comp=N,4.2nm,0.7s,baz=297,slow=2.7,SNR=15
WMQ Urumqi 157.41 52 *e*PKP PKPdf 12 09 31.0 -2.1
SONM Songino Array 163.83 15 PKP PKPdf 12 09 39.2 -0.9
comp=N,0.3nm,0.8s,baz=63,slow=3.2,SNR=2.7
SONM PKPab PKPab 12 10 32.9 +0.2
comp=N,1.4nm,0.7s,baz=324,slow=4.9,SNR=13
SONM pPKPab pPKPab 12 10 43.0 -0.4
comp=N,0.6nm,0.7s,baz=330,slow=3.1,SNR=4.5
CN2 Changchun 164.72 322 *e*PKP PKPdf 12 09 40.5 -0.4
GTA Gaotai 167.50 52 PKP PKPdf 12 09 43.9 +0.8
GTA APKP 12 09 55.3
GTA XPKP 12 10 00.9
KMI Kunming 168.79 127 PKP PKPdf 12 09 47.2 +3.2
LZH Lanzhou 171.88 60 *e*PKP PKPdf 12 09 43.7 -2.0
LZH APKP 12 09 54.8
LZH XPKP 12 09 58.6
LZH SKS SKSdf 12 16 41.5 -4.9
LZH PP PP
comp=Z,145nm,8.6s
LZH LR LR
comp=E,167nm,18.5s
LZH LR LR
comp=Z,299nm,20.3s
GYA Guiyang 172.22 137 PKP PKPdf 12 09 44.2 -1.6
GYA APKP 12 09 55.0
GYA XPKP 12 09 58.6
GYA PKP2 PKPab 12 11 11.5 +1.8
GYA PP PP 12 15 04.0 +3.1
GYA PP PP
comp=Z,110nm,8.4s
CD2 Chengdu 172.37 98 *e*PKP PKPdf 12 09 44.2 -1.7
SSE Sheshan 172.54 263 PKP PKPdf 12 09 44.4 -1.6
SSE PP PP
comp=Z,36nm,3.7s
NJ2 Nanjing 174.65 269 *e*PKP PKPdf 12 09 48.9 +2.1
NJ2 APKP 12 09 58.8
NJ2 XPKP 12 10 03.2
NJ2 PKP2 PKPab 12 11 21.8 +1.3
NJ2 PKS 12 13 19.0
NJ2 PP PP
comp=Z,808nm,11.4s
NJ2 LR LR
comp=N,920nm,23.0s
NJ2 LR LR
comp=E,1μm,26.6s

MOS ***11*** *12:05:11.9±0.9, 999N×5694E, h10km, mb4.7/8, Error ellipse: s-maj=16.3km s-min=12.1km az=72.0*
IDC ***11*** *12:05:11.8±0.7, 998N×5699E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.1/22, mbtmp4.0/17, MS3.2/4, Ms1 3.2/4, ms1mx2.9/24, Error ellipse: s-maj=19.9km s-min=15.0km az=125.0*
ISCJB ***11*** *12:05:11.9±0.4, 1010N±008×5676E±005, h10km, mb4.4/39, MS3.3/3, Error ellipse: s-maj=10.9km s-min=7.7km az=161.8*
BJI ***11*** *12:05:12.9, 1000N×5690E, h10km, mB5.0, mb4.6*
NEIC ***11*** *12:05:13.9±0.4, 999N×5691E, h10km, mb4.6/12, Error ellipse: s-maj=12.0km s-min=8.0km az=142.0*
CSEM ***11*** *12:05:15.3±0.1, 1012N×5673E, h33km, mb4.6/23, Ms3.4, Error ellipse: s-maj=6.5km s-min=3.1km az=175.0*
ISC 11 12:05:14.3±0.4, 1010N±007×5678E±005, h10km, n87, σ0§93/86, mb4.4/39, MS3.3/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**22.41**	**241**		**P**		**12 10 13.2**	**+0.4**
	1.8nm,0.7s,mb3.6,baz=50,slow=14,SNR=6.2							
KMBO				LR		LR	12 18 22.4	
	comp=Z,60nm,20.4s,MS3.0,baz=95,slow=35							
KMBO	**Kilima Mbogo**	**22.41**	**241**	*e*P		**P**	**12 10 14.8**	**+1.9**
	4.5nm,0.9s,mb3.9							
KMBO	**Kilima Mbogo**	**22.41**	**241**	*e*P		**P**	**12 10 14.8**	**+2.0**
	4.5nm,0.9s,mb3.9							
KOLN	**Koldanda**	**30.75**	**51**	*e*P		**P**	**12 11 30.4**	**+0.8**
	11nm,0.8s,mb4.7							
GKN	**Gorkha**	**31.66**	**52**	*e*P		**P**	**12 11 39.9**	**+2.2**
KKN	**Kakani**	**32.07**	**53**	*e*P		**P**	**12 11 41.9**	**+0.7**
	18nm,0.8s,mb4.9							
KKN	**Kakani**	**32.07**	**53**	*e*P		**P**	**12 11 41.9**	**+0.7**
KKN				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.7							
PKI	**Pulchoki**	**32.07**	**53**	*e*P		**P**	**12 11 41.9**	**+0.7**
	comp=Z,12nm,0.8s,mb4.8							
PKI	**Pulchoki**	**32.07**	**53**	*e*P		**P**	**12 11 41.9**	**+0.7**
PKI				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
MALT	**Malatya**	**32.56**	**333**	P		**P**	**12 11 48.8**	**+3.2**
GUN	**Gumba**	**32.59**	**53**	*e*P		**P**	**12 11 47.1**	**+1.3**
	comp=Z,16nm,0.8s,mb5.0							
JIRN	**Jiri**	**32.72**	**54**	*e*P		**P**	**12 11 47.8**	**+0.8**
	comp=Z,16nm,0.9s,mb5.0							
BRTR	**Keskin Array B**	**35.98**	**329**	P		**P**	**12 12 16.9**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=120,slow=10.0,SNR=3.6							
LSZ	**Lusaka**	**37.92**	**229**	P		**P**	**12 12 33.4**	**+1.7**
	comp=Z,1.4nm,0.6s,mb3.9,baz=34,slow=6.2,SNR=5.0							
LSZ	**Lusaka**	**37.92**	**229**	P		**P**	**12 12 33.4**	**+1.7**
LSZ				P		pP	12 12 34.5	-0.3
AKTK	**Aktyubinsk**	**40.23**	**1**	P		**P**	**12 12 51.8**	**+0.8**
AKTO	**Aktyubinsk**	**40.23**	**1**	P		**P**	**12 12 51.8**	**+0.8**
	comp=Z,5.8nm,0.7s,mb4.4,baz=180,slow=10,SNR=17							
PSI	**Prapat**	**42.47**	**97**	LR		LR	12 27 03.3	
	comp=Z,59nm,19.9s,MS3.5,baz=38,slow=31							
MKAR	**Makanchi Array**	**42.51**	**26**	P		**P**	**12 13 08.3**	**-1.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=219,slow=7.8,SNR=4.3							
ARU	**Arti**	**46.24**	**1**	P		**P**	**12 13 41.0**	**+1.4**
	comp=Z,5.0nm,1.0s,mb4.4							
ARU	**Arti**	**46.24**	**1**	P		**P**	**12 13 41.0**	**+1.4**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
ARU	**Arti**	**46.24**	**1**	P		**P**	**12 13 41.0**	**+1.4**
	comp=Z,5.4nm,1.0s,mb4.4							
LBTB	**Lobatse**	**46.28**	**221**	P		**P**	**12 13 40.8**	**+0.9**
	comp=Z,4.3nm,1.0s,mb4.3,baz=55,slow=12,SNR=6.0							
CD2	**Chengdu**	**48.21**	**57**	*e*P		**P**	**12 13 53.8**	**-1.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
BOSA	**Boshof**	**49.08**	**217**	P		**P**	**12 14 01.4**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.3,baz=41,slow=8.5,SNR=5.0							
BOSA	**Boshof**	**49.08**	**217**	*e*P		**P**	**12 14 01.3**	**-0.3**
	comp=Z,6.4nm,1.0s,mb4.6							
BOSA	**Boshof**	**49.08**	**217**	*e*P		**P**	**12 14 01.3**	**-0.3**
BOSA				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
BOSA	**Boshof**	**49.08**	**217**	*e*P		**P**	**12 14 01.3**	**-0.4**
	comp=Z,6.4nm,1.0s,mb4.6							
ZAL	**Zalesovo**	**49.12**	**22**	P		**P**	**12 14 01.8**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=222,slow=8.1,SNR=3.5							
ZAL				LR		LR	12 36 24.2	
	comp=Z,37nm,18.3s,MS3.4,baz=51,slow=38							
ZAL	**Zalesovo**	**49.12**	**22**	P		**P**	**12 14 01.8**	**-0.2**
ZAL				LR		LR	12 36 24.2	
MORC	**Moravsky Berou**	**51.16**	**328**	*e*P		**P**	**12 14 18.4**	**+0.9**
	comp=Z,5.0nm,1.0s,mb4.4							
MORC	**Moravsky Berou**	**51.16**	**328**	*e*P		**P**	**12 14 18.4**	**+0.9**
MORC				*e*			12 14 24.5	
MORC				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
MORC	**Moravsky Berou**	**51.16**	**328**	*e*P		**P**	**12 14 18.4**	**+0.9**
	comp=Z,4.7nm,1.0s,mb4.4							
MORC				*e*			12 14 24.4	
PGF	**Pioggiola**	**52.67**	**317**	*e*P		**P**	**12 14 28.3**	**-0.4**
GERES	**GERESS Array B**	**52.70**	**325**	P		**P**	**12 14 28.3**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=141,slow=6.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**53.95**	**279**	P		**P**	**12 14 39.1**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=6.6,SNR=7.9							
SBF	**Sompel**	**54.24**	**317**	*e*P		**P**	**12 14 40.2**	**-0.1**
FRF	**La Foret Royal**	**54.66**	**317**	*e*P		**P**	**12 14 42.9**	**-0.3**
LMR	**La Mourre**	**54.66**	**317**	*e*P		**P**	**12 14 43.0**	**-0.3**
LPG	**La Plagne**	**55.34**	**319**	*e*P		**P**	**12 14 47.5**	**-0.7**
LPL	**La Plagne**	**55.36**	**319**	*e*P		**P**	**12 14 47.6**	**-0.7**
FINES	**FINESS Array B**	**55.97**	**343**	P		**P**	**12 14 52.6**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=127,slow=6.9,SNR=5.3							
SONM	**Songino Array**	**56.05**	**38**	P		**P**	**12 14 53.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=245,slow=7.0,SNR=12							
CABF	**La Chapelle**	**56.20**	**320**	*e*P		**P**	**12 14 54.5**	**+0.1**
	comp=Z,42nm,1.0s,mb5.1							
CABF	**La Chapelle**	**56.20**	**320**	*e*P		**P**	**12 14 54.5**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1							
CDF	**Champ du Feu**	**56.22**	**322**	*e*P		**P**	**12 14 54.0**	**-0.5**
	comp=Z,13nm,0.9s,mb4.7							
CDF	**Champ du Feu**	**56.22**	**322**	*e*P		**P**	**12 14 54.0**	**-0.5**
	comp=Z,6.6nm,0.9s,mb4.7							
HINF	**Hinteralfeld**	**56.22**	**322**	*e*P		**P**	**12 14 53.6**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.3							
HINF	**Hinteralfeld**	**56.22**	**322**	*e*P		**P**	**12 14 53.6**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**56.46**	**38**	*e*P		**P**	**12 14 56.1**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**56.46**	**38**	*e*P		**P**	**12 14 56.1**	**-0.1**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**56.46**	**38**	*e*P		**P**	**12 14 56.1**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.1							
HAU	**Haudompre**	**56.61**	**322**	*e*P		**P**	**12 14 57.4**	**+0.1**
LOR	**Lormes**	**57.87**	**320**	*e*P		**P**	**12 15 05.6**	**-0.6**
	comp=Z,23nm,1.1s,mb4.8							
LOR	**Lormes**	**57.87**	**320**	*e*P		**P**	**12 15 05.6**	**-0.6**
	comp=Z,11nm,1.1s,mb4.8							
AVF	**Avril sur Loir**	**58.01**	**319**	*e*P		**P**	**12 15 06.2**	**-1.0**
SSF	**Saint Saulge**	**58.01**	**320**	*e*P		**P**	**12 15 06.5**	**-0.7**
	comp=Z,9.6nm,0.9s,mb4.5							
SSF	**Saint Saulge**	**58.01**	**320**	*e*P		**P**	**12 15 06.5**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.5							
BGF	**Bois d'Agland**	**58.26**	**319**	*e*P		**P**	**12 15 08.9**	**0.0**
GIVF	**Givet**	**58.40**	**323**	*e*P		**P**	**12 15 09.6**	**-0.3**
	comp=Z,17nm,0.9s,mb4.8							
GIVF	**Givet**	**58.40**	**323**	*e*P		**P**	**12 15 09.6**	**-0.3**
	comp=Z,8.5nm,0.9s,mb4.8							
RJF	**Les Rejaudoux**	**58.71**	**317**	*e*P		**P**	**12 15 11.6**	**-0.5**
BAIF	**Baives**	**58.74**	**323**	*e*P		**P**	**12 15 12.0**	**-0.3**
	comp=Z,21nm,0.9s,mb4.9							
BAIF	**Baives**	**58.74**	**323**	*e*P		**P**	**12 15 12.0**	**-0.3**
	comp=Z,10nm,0.9s,mb4.9							
LFF	**La Frestale**	**59.11**	**317**	*e*P		**P**	**12 15 14.7**	**-0.2**
ETSF	**Etsaut**	**59.42**	**314**	*e*P		**P**	**12 15 17.5**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.5							
ETSF	**Etsaut**	**59.42**	**314**	*e*P		**P**	**12 15 17.5**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.5							
SJPF	**Ste Jean**	**59.95**	**314**	*e*P		**P**	**12 15 21.0**	**+0.3**
	comp=Z,17nm,1.0s,mb4.7							
SJPF	**Ste Jean**	**59.95**	**314**	*e*P		**P**	**12 15 21.0**	**+0.3**
	comp=Z,8.6nm,1.0s,mb4.7							
BJT	**Baijiatuau**	**60.22**	**50**	P		**P**	**12 15 22.8**	**+0.3**
	comp=Z,8.0nm,0.9s,mb4.8							
BJT	**Baijiatuau**	**60.22**	**50**	P		**P**	**12 15 22.8**	**+0.3**
BJT				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BJT	**Baijiatuau**	**60.22**	**50**	P		**P**	**12 15 22.8**	**+0.2**
	comp=Z,8.0nm,0.9s,mb4.8							
LDF	**La Druitiere**	**60.84**	**320**	*e*P		**P**	**12 15 26.0**	**-0.7**
	comp=Z,37nm,1.0s,mb5.2							
LDF	**La Druitiere**	**60.84**	**320**	*e*P		**P**	**12 15 26.0**	**-0.7**
	comp=Z,18nm,1.0s,mb5.2							
DBIC	**Dimbokro**	**61.00**	**272**	P		**P**	**12 15 29.0**	**+1.2**
	comp=Z,2.1nm,0.6s,mb4.4,baz=77,slow=7.8,SNR=3.8							
FLN	**La Foliniere**	**61.12**	**321**	*e*P		**P**	**12 15 27.7**	**-0.9**
ESDC	**Sonseca Array**	**61.17**	**310**	P		**P**	**12 15 29.1**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=90,slow=6.4,SNR=4.3							
GRR	**Gorron**	**61.24**	**320**	*e*P		**P**	**12 15 28.3**	**-1.1**
SGMF	**Saint Gilles**	**62.27**	**320**	*e*P		**P**	**12 15 35.3**	**-1.1**
	comp=Z,65nm,1.5s,mb5.2							
SGMF	**Saint Gilles**	**62.27**	**320**	*e*P		**P**	**12 15 35.3**	**-1.1**
	comp=Z,32nm,1.5s,mb5.2							
ARCES	**ARCESS Array B**	**62.67**	**348**	P		**P**	**12 15 39.7**	**+0.6**
	comp=Z,3.9nm,0.8s,mb4.6,baz=21,slow=10,SNR=5.3							
CN2	**Changchun**	**67.70**	**47**	*e*P		**P**	**12 16 11.7**	**0.0**
WRA	**Warramunga Arr**	**81.92**	**112**	P		**P**	**12 17 32.2**	**-1.9**
	comp=Z,2.2nm,0.8s,mb4.1,baz=295,slow=4.3,SNR=19							
WRAB	**Tennant Creek**	**81.93**	**112**	*e*P		**P**	**12 17 32.5**	**-1.6**
	comp=Z,6.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**81.93**	**112**	*e*P		**P**	**12 17 32.5**	**-1.6**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**81.93**	**112**	*e*P		**P**	**12 17 32.5**	**-1.6**
	comp=Z,5.6nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**81.92**	**112**	P		**P**	**12 17 35.0**	**-1.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=285,slow=4.9,SNR=14							
ASAR	**Alice Springs**	**82.44**	**116**	P		**P**	**12 17 35.0**	**-1.7**

IDC ***11*** *12:15:09.2±2.1, 2276S×17534W, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, Error ellipse: s-maj=75.5km s-min=26.7km az=150.0*
ISCJB ***11*** *12:15:12.8±1.8, 228S±04×1754W±03, h33km, mb4.1/8, Error ellipse: s-maj=64.2km s-min=23.8km az=120.6*
NEIC ***11*** *12:15:14.1±1.6, 2285S×17533W, h35km, mb4.6/3, Error ellipse: s-maj=59.8km s-min=20.7km az=151.0*
ISC 11 12:15:14.8±1.8, 228S±04×1754W±03, h35km, n11, σ1§03/10, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.74**	**267**	P		**P**	**12 22 11.2**	**+1.1**
	1.7nm,0.3s,mb4.4,baz=90,slow=11,SNR=4.2							
CTAO	**Charters Tower**	**35.74**	**267**	P		**P**	**12 22 11.2**	**+1.1**
	7.2nm,0.9s,mb4.6							
PMG	**Port Moresby**	**38.25**	**284**	P		**P**	**12 22 32.8**	**+1.3**
	2.0nm,0.6s,mb4.0,baz=351,slow=13,SNR=4.5							
STKA	**Stephens Creek**	**39.05**	**247**	P		**P**	**12 22 37.7**	**-0.5**
	1.0nm,0.4s,mb3.9,baz=96,slow=6.3,SNR=4.7							
STKA	**Stephens Creek**	**39.05**	**247**	P		**P**	**12 22 37.7**	**-0.5**
ASAR	**Alice Springs**	**46.40**	**259**	P		**P**	**12 23 38.0**	**+0.3**
	3.6nm,0.8s,mb4.3,baz=95,slow=7.9,SNR=37							
WRAB	**Tennant Creek**	**46.72**	**264**	P		**P**	**12 23 38.8**	**-1.5**
	9.8nm,1.3s,mb4.6							
WRA	**Warramunga Arr**	**46.73**	**264**	P		**P**	**12 23 40.4**	**+0.1**
	1.4nm,0.6s,mb4.1,baz=103,slow=8.1,SNR=25							
MJAR	**Matsushiro Arr**	**73.53**	**323**	P		**P**	**12 26 42.3**	**-1.7**
	0.8nm,0.6s,mb3.8,baz=165,slow=6.0,SNR=4.2							
NVAR	**Mina Array Bea**	**81.09**	**42**	P		**P**	**12 27 27.0**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=232,slow=9.3,SNR=4.4							
AKASG	**Malin Array Be**	**146.22**	**332**	PKPbc		PKPbc	12 34 50.0	-1.4
	0.5nm,0.5s,baz=42,slow=4.2,SNR=6.4							

MAN 11 12:24:47.9, 1543N×12171E, h1km, mb2.8, ML4.2, MS2.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.34**	**337**	*e*P		Pg	12 24 53.7	-0.6
BALP				*e*S		Sg	12 24 59.2	+0.4
PCPH	**Palayan**	**0.61**	**283‖**	*e*P		Pg	12 24 49.3	-10
PCPH				*e*S		Sg	12 25 08.6	+1.1
POLP	**Polilio Island**	**0.73**	**162**	*e*P		Pg	12 25 02.5	+0.7
POLP				*e*S		Sg	12 25 13.4	+2.1
BOAC	**Boac**	**1.96**	**176**	*e*P		Pn	12 25 22.5	+0.3
BOAC				*e*S		Sn	12 25 48.8	+1.3
BOLP	**Bolinao**	**1.97**	**299**	*e*P		Pn	12 25 23.8	+1.3
LUBP	**Lubang**	**2.20**	**220**	*e*P		Pn	12 25 25.3	-0.2
LUBP				*e*S		Sn	12 25 55.1	+1.7
CVP	**Callao Caves**	**2.27**	**3**	*e*P		Pn	12 25 26.0	-0.4
ABRA	**Dolores**	**2.41**	**337**	*e*P		Pn	12 25 30.1	+1.7
ABRA				*e*S		Sn	12 26 00.7	+2.2
APYP	**Conner**	**2.46**	**350**	*e*P		Pn	12 25 29.8	+0.7
APYP				*e*S		Sn	12 25 59.2	-0.6
BUSP	**Coron**	**3.71**	**204**	*e*P		Pn	12 25 50.6	+4.3

IDC 11 12:35:38.4±2.4, 4548S×9754E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=112.9km s-min=51.6km az=161.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.52**	**84**	P		P	12 42 44.6	-0.9
	2.0nm,0.8s,baz=260,slow=10,SNR=3.9							
ASAR	**Alice Springs**	**36.57**	**66**	P		P	12 42 46.4	+0.4
	0.9nm,0.8s,baz=221,slow=7.2,SNR=13							
WRA	**Warramunga Arr**	**39.56**	**62**	P		P	12 43 11.3	+0.1
	2.2nm,0.6s,baz=224,slow=8.5,SNR=54							
INK	**Inuvik**	**145.50**	**31**	PKPbc		PKPbc	12 55 15.7	-2.9
	1.1nm,0.8s,baz=187,slow=2.3,SNR=4.7							
NVAR	**Mina Array Bea**	**152.60**	**92**	PKPbc		PKPbc	12 55 37.1	+0.2
	0.5nm,0.6s,baz=224,slow=3.8,SNR=6.4							

ISCJB ***11*** *12:44:53.2±0.2, 4360N±003×2858W±004, h10km, mb4.4/63, MS3.9/27, Error ellipse: s-maj=4.5km s-min=3.7km az=12.6*
IDC ***11*** *12:44:53.3±0.5, 4380N×2864W, h0km, mb3.9/22, mb1 4.0/23, mb1mx4.0/33, mbtmp3.9/23, MS3.8/21, Ms1 3.8/21, ms1mx3.8/29, Error ellipse: s-maj=15.4km s-min=13.4km az=180.0*
MOS ***11*** *12:44:54.4±1.1, 4390N×2863W, h10km, mb4.7/4, Error ellipse: s-maj=15.7km s-min=9.9km az=139.4*
BJI ***11*** *12:44:55.6, 4476N×2896W, h10km, mB5.0, mb4.9, Ms4.7, Msz4.3*
NEIC ***11*** *12:44:55.6±0.3, 4387N×2868W, h10km, mb4.4/28, Error ellipse: s-maj=9.7km s-min=4.6km az=187.0*
CSEM ***11*** *12:44:56.6±0.2, 4343N×2790W, h10km, mb4.6/19, Ms3.7, Error ellipse: s-maj=6.1km s-min=1.3km az=107.0*
PDA ***11*** *12:44:58.5±1.1, 4359N×2886W, h10km, ML4.4, Error ellipse: s-maj=17.8km s-min=3.9km az=75.0*
SVSA ***11*** *12:44:58.5±1.1, 4359N×2886W, h10km, ML4.4, Error ellipse: s-maj=17.8km s-min=3.9km az=75.0*
ISC 11 12:44:54.8±0.2, 4353N±002×2854W±004, h10km, (h1§km±1.2km:pP-P), n220, σ1§35/228, mb4.4/62, MS3.9/27, 6C-1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBIS	**Biscoitos**	**4.87**	**168**	*e*P		**Pn**	**12 46 09.1**	**+1.0**
PBIS

PCNG Congro 6.24 156 *e*P **Pn 12 46 28.7 +1.8**
PCNG *e*S **Sn 12 47 36.9 -1.3**
VIF Vila Franca 6.25 157 *e*P **Pn 12 46 28.7 +1.7**
VIF *e*S **Sn 12 47 37.0 -1.4**
VIF
7.2nm,0.1s
VIF Vila Franca 6.25 157 *e*P **Pn 12 46 28.7 +1.7**
VIF *e*S **Sn 12 47 37.0 -1.4**
MIRA Miradouro 6.25 156 *e*P **Pn 12 46 28.8 +1.7**
MIRA *e*S **Sn 12 47 35.9 -2.8**
PSMN Pico do Norte, 7.04 157 *e*P **Pn 12 46 37.8 -0.2**
PSMN *e*S **Sn 12 47 53.8 -4.3**
MTE Manteigas 15.92 94 *e*P **Pn 12 48 44.2 +5.3**
19nm,1.1s
MTE *e*- 12 52 24.1
ECAL Calabor 16.09 88 P **Pn 12 48 44.1 +2.9**
38nm,1.1s
PBRG Braganca 16.12 89 *e*P **Pn 12 48 46.3 +4.8**
PCBR Castelo Branco 16.15 96 *e*P **Pn 12 48 46.9 +5.0**
28nm,1.0s
PBEJ Beja 16.58 102 *e*P **Pn 12 48 51.8 +4.4**
36nm,1.4s
EBAD Badajoz 16.89 99 P **Pn 12 48 54.3 +3.0**
19nm,1.5s
EGRO El Granado 17.07 103 P **Pn 12 48 58.2 +4.6**
10nm,0.9s
EMIN Mina Concepcio 17.55 102 P **Pn 12 49 04.0 +4.5**
23nm,1.4s
EBAJ Bajamar 17.89 143 P pP 12 49 17.4 +10
120nm,1.3s
ROSF Rostrenen 18.18 66 *e*P **Pn 12 49 06.2 -1.1**
34nm,1.4s
ROSF Rostrenen 18.18 66 *e*P **Pn 12 49 06.2 -1.1**
17nm,1.4s
ROSF Rostrenen 18.18 66 P **Pn 12 49 06.7 -0.6**
QUIF Quistinic 18.22 67 *e*P **Pn 12 49 07.3 -0.5**
67nm,1.7s
QUIF Quistinic 18.22 67 *e*P **Pn 12 49 07.3 -0.5**
34nm,1.7s
ELAN Lanestosa 18.24 82 P **Pn 12 49 06.9 -1.1**
GUD Guadarrama 18.31 91 P **Pn 12 49 12.6 +3.7**
GUD Guadarrama 18.31 91 P **Pn 12 49 12.1 +3.2**
12nm,1.1s
ESPR Espera 18.53 103 P **Pn 12 49 15.1 +3.5**
17nm,1.2s
SGMF Saint Gilles 18.65 66 *e*P **Pn 12 49 12.3 -0.8**
23nm,1.1s
SGMF Saint Gilles 18.65 66 *e*P **Pn 12 49 12.3 -0.8**
12nm,1.1s
ESDC Sonseca Array 18.76 93 P **Pn 12 49 14.6 +0.2**
0.4nm,0.3s,baz=263,slow=10,SNR=3.2
EADA Adamuz 18.88 98 P **Pn 12 49 20.4 +4.6**
17nm,1.4s
EJIF Jimena Fronter 19.00 104 P **Pn 12 49 22.8 +5.5**
4.1nm,0.7s
ELUQ Luque 19.35 100 P **Pn 12 49 28.0 +6.4**
GRR Gorron 19.79 66 *e*P **Pn 12 49 25.3 -1.5**
26nm,1.1s
GRR Gorron 19.79 66 *e*P **Pn 12 49 25.3 -1.5**
13nm,1.1s
GRR Gorron 19.79 66 P **Pn 12 49 25.4 -1.4**
SJPF Ste Jean 19.85 82 *e*P **Pn 12 49 26.0 -1.5**
19nm,1.0s
SJPF Ste Jean 19.85 82 *e*P **Pn 12 49 26.0 -1.5**
9.6nm,1.0s
ERON Agron 19.92 101 P **Pn 12 49 31.1 +2.8**
3.8nm,0.7s
ECOG Cogollos-Vega 19.98 100 P **Pn 12 49 30.2 +1.2**
5.0nm,0.7s
FLN La Foliniere 20.07 65 *e*P **P 12 49 28.8 +0.5**
43nm,1.2s
FLN *e*R
323nm,19.2s
FLN La Foliniere 20.07 65 *e*P **P 12 49 28.8 +0.5**
21nm,1.2s
EQES Quesada 20.11 98 P **P 12 49 32.1 +3.4**
31nm,1.7s
EKA Eskdalemuir Ar 20.16 45 P **P 12 49 27.4 -1.8**
3.2nm,0.8s,baz=246,slow=8.2,SNR=4.6
EKA Eskdalemuir Ar 20.16 45 P **P 12 49 27.4 -1.9**
MFF Saint Martin d 20.24 71 *e*P **P 12 49 30.0 -0.2**
66nm,1.5s
MFF Saint Martin d 20.24 71 *e*P **P 12 49 30.0 -0.2**
33nm,1.5s
LDF La Druitiere 20.30 66 *e*P **P 12 49 30.7 0.0**
63nm,1.4s
LDF La Druitiere 20.30 66 *e*P **P 12 49 30.7 0.0**
32nm,1.4s
ETSF Etsaut 20.37 82 *e*P **P 12 49 31.7 +0.2**
50nm,1.3s
ETSF Etsaut 20.37 82 *e*P **P 12 49 31.7 +0.2**
25nm,1.3s
EHUE Huescar 20.45 97 P **P 12 49 35.1 +2.6**
5.5nm,0.9s
OUK Oukaimeden 20.46 120 *i*P **P 12 49 33.0 +0.5**
EBER Berja 20.63 100 P **P 12 49 37.7 +3.3**
36nm,1.3s
ESAC San Caprasio 20.70 85 P **P 12 49 36.1 +1.0**
47nm,1.2s
VIEF Viey 20.79 82 *e*P **P 12 49 37.5 +1.4**
ETOB Tobarra 20.88 94 P **P 12 49 38.2 +1.2**
32nm,1.6s
EBIE Bielsa 20.92 82 P **P 12 49 36.6 -0.9**
28nm,1.3s
ECHE Chera 20.96 91 P **P 12 49 39.9 +1.9**
7.1nm,0.8s
LFF La Frestale 20.98 76 *e*P **P 12 49 38.2 0.0**
53nm,1.0s
LFF La Frestale 20.98 76 *e*P **P 12 49 38.2 0.0**
27nm,1.0s
EPF Esparros 20.99 81 *e*P **P 12 49 38.2 -0.1**
98nm,1.4s
EPF Esparros 20.99 81 *e*P **P 12 49 38.2 -0.1**
49nm,1.4s
RESF Ens 21.03 82 *e*P **P 12 49 40.3 +1.6**
EMOS Mosqueruela 21.07 89 P **P 12 49 40.7 +1.6**
20nm,1.0s,mb4.4
CZD Col de Zad 21.15 112 *i*P **P 12 49 42.0 +2.0**
EGRA Graus 21.15 84 P **P 12 49 41.7 +1.7**
50nm,1.2s,mb4.7
MELF Melles 21.32 82 *e*P **P 12 49 43.6 +1.7**
ERTA Horta de San J 21.48 87 P **P 12 49 43.7 +0.1**
93nm,1.6s,mb4.9
RJF Les Rejaudoux 21.49 75 *e*P **P 12 49 43.4 -0.2**
RJF *e*R
502nm,21.8s
MLS Moulis 21.55 81 *e*P **P 12 49 45.6 +1.3**
MDT Midelt 21.57 112 P **P 12 49 46.8 +2.3**
2.2nm,0.7s,mb3.7,baz=285,slow=6.3,SNR=5.6
MDT LR LR 12 56 19.9
comp=Z,146nm,21.5s,MS3.4,baz=337,slow=32
EBR Ebro Roquetas 21.64 87 *e*P **P 12 49 48.0 +2.7**
BORG Borgarnes 21.64 8 LR LR 12 54 58.6
comp=Z,148nm,20.3s,MS3.4,baz=266,slow=28
TCF Toulx Ste Croi 21.88 72 *e*P **P 12 49 47.8 -0.1**
83nm,1.3s,mb4.7
TCF Toulx Ste Croi 21.88 72 *e*P **P 12 49 47.8 -0.1**
41nm,1.3s,mb4.7
CAF Calviac 21.91 76 *e*P **P 12 49 47.8 -0.4**
45nm,1.4s,mb4.4
CAF Calviac 21.91 76 *e*P **P 12 49 47.8 -0.4**
22nm,1.4s,mb4.4
EPOB Poblet 21.92 85 P **P 12 49 48.7 +0.5**
42nm,1.4s,mb4.7
MTLF Montolieu 22.28 80 *e*P **P 12 49 51.3 -0.8**
58nm,1.2s,mb4.6
MTLF Montolieu 22.28 80 *e*P **P 12 49 51.3 -0.8**
29nm,1.2s,mb4.6
BGF Bois d'Agland 22.30 71 *e*P **P 12 49 51.6 -0.8**
59nm,1.1s,mb4.6
BGF Bois d'Agland 22.30 71 *e*P **P 12 49 51.6 -0.8**
30nm,1.1s,mb4.6
AGO Saint Agoulin 22.54 73 *e*P **P 12 49 57.0 +2.1**
AVF Avril sur Loir 22.64 71 *e*P **P 12 49 54.7 -1.2**
42nm,1.3s,mb4.4
AVF Avril sur Loir 22.64 71 *e*P **P 12 49 54.7 -1.2**
21nm,1.3s,mb4.4
LBL Lubilhac 22.71 75 *e*P **P 12 49 58.0 +1.3**
SSF Saint Saulge 22.73 70 *e*P **P 12 49 56.0 -0.9**
49nm,1.2s,mb4.5
SSF Saint Saulge 22.73 70 *e*P **P 12 49 56.0 -0.9**
25nm,1.2s,mb4.5
LOR Lormes 22.96 69 *e*P **P 12 49 58.4 -0.9**
43nm,1.2s,mb4.4
LOR *e*R
537nm,19.8s
LOR Lormes 22.96 69 *e*P **P 12 49 58.4 -0.9**
21nm,1.2s,mb4.4
SMF Signal de Mont 22.98 71 *e*P **P 12 49 58.2 -1.4**
45nm,1.4s,mb4.4
SMF Signal de Mont 22.98 71 *e*P **P 12 49 58.2 -1.4**
22nm,1.4s,mb4.4
BAIF Baives 23.22 62 *e*P **P 12 50 00.5 -1.5**
49nm,1.3s,mb4.5
BAIF Baives 23.22 62 *e*P **P 12 50 00.5 -1.5**
25nm,1.3s,mb4.5
LASF Ste Croix 23.31 77 *e*P **P 12 50 01.6 -1.4**
75nm,1.3s,mb4.7
LASF Ste Croix 23.31 77 *e*P **P 12 50 01.6 -1.4**
38nm,1.3s,mb4.7
MEZF Maizieres J'vi 23.73 66 *e*P **P 12 50 05.8 -1.4**
65nm,1.3s,mb4.6
MEZF Maizieres J'vi 23.73 66 *e*P **P 12 50 05.8 -1.4**
32nm,1.3s,mb4.6
VIVF Saint-Julien-l 23.76 75 *e*P **P 12 50 05.8 -1.7**
44nm,1.3s,mb4.4
VIVF Saint-Julien-l 23.76 75 *e*P **P 12 50 05.8 -1.7**
22nm,1.3s,mb4.4
HGN Heimansgroeve 24.36 61 *e*P **P 12 50 13.7 +0.8**
15nm,1.4s,mb4.2
HGN *e*S **S 12 54 40.6 +8.3**
CABF La Chapelle 24.53 71 *e*P **P 12 50 13.9 -0.6**
73nm,1.5s,mb4.7
CABF La Chapelle 24.53 71 *e*P **P 12 50 13.9 -0.6**
36nm,1.5s,mb4.7
SMRF Simiane la Rot 24.55 77 *e*P **P 12 50 13.3 -1.3**
36nm,1.1s,mb4.5
SMRF Simiane la Rot 24.55 77 *e*P **P 12 50 13.3 -1.3**
18nm,1.1s,mb4.5
ORIF Oris-en-Rattie 24.60 75 *e*P **P 12 50 14.1 -1.0**
34nm,1.2s,mb4.5
ORIF *e*R
357nm,21.8s
ORIF Oris-en-Rattie 24.60 75 *e*P **P 12 50 14.1 -1.0**
17nm,1.2s,mb4.5
HAU Haudompre 24.61 67 *e*P **P 12 50 13.3 -1.9**
HAU *e*R
453nm,19.5s
HINF Hinteralfeld 24.96 68 *e*P **P 12 50 17.7 -0.7**
30nm,1.3s,mb4.4
HINF Hinteralfeld 24.96 68 *e*P **P 12 50 17.7 -0.7**
15nm,1.3s,mb4.4
RUP Ruppelstein 25.05 63 *e*P **P 12 50 20.2 +1.0**
LPL La Plagne 25.11 73 *e*P **P 12 50 19.2 -0.5**
LPG La Plagne 25.12 73 *e*P **P 12 50 19.7 -0.2**
ECH Echery 25.14 67 *e*P **P 12 50 21.2 +1.2**
CDF Champ du Feu 25.21 66 *e*P **P 12 50 19.8 -0.9**
53nm,1.4s,mb4.6
CDF Champ du Feu 25.21 66 *e*P **P 12 50 19.8 -0.9**
26nm,1.4s,mb4.6
MBDF Montbardon 25.26 75 *e*P **P 12 50 20.4 -0.7**
WLS Welschbruch 25.26 66 *e*P **P 12 50 22.1 +1.0**
LMR La Mourre 25.34 78 *e*P **P 12 50 20.9 -1.0**
62nm,1.5s,mb4.6
LMR La Mourre 25.34 78 *e*P **P 12 50 20.9 -1.0**
31nm,1.5s,mb4.6
FRF La Foret Royal 25.39 78 *e*P **P 12 50 21.3 -1.0**
80nm,1.4s,mb4.8
FRF La Foret Royal 25.39 78 *e*P **P 12 50 21.3 -1.0**
40nm,1.4s,mb4.8
SBF Sospel 25.89 77 *e*P **P 12 50 26.1 -0.7**
SFJD Kangerlussuaq 26.36 341 LR LR 12 58 34.3
comp=Z,273nm,18.3s,MS3.8,baz=123,slow=32
DAVOX Davos 27.11 70 LR LR 13 00 08.2
comp=Z,291nm,19.2s,MS3.9,baz=263,slow=34
SCHQ Schefferville 27.12 308 P **P 12 50 36.9 -1.0**
5.4nm,1.0s,mb4.0,baz=231,slow=17,SNR=3.6
SCHQ LR LR 12 59 22.1
comp=Z,256nm,21.3s,MS3.8,baz=253,slow=32
SCHQ Schefferville 27.12 308 P **P 12 50 36.9 -1.0**
SCHQ LR LR 12 59 22.1
KHC Kasperske Hory 29.32 64 *i*P **P 12 50 57.5 -0.1**
NOA NORSAR Array B 29.34 39 LR LR 13 00 57.8
comp=Z,38nm,20.4s,MS3.0,baz=305,slow=33
GERES GERESS Array B 29.43 65 P **P 12 50 58.9 +0.4**
0.1nm,0.3s,baz=263,slow=7.9,SNR=2.7
FINES FINESS Array B 36.46 41 P **P 12 51 58.9 -1.0**
1.3nm,0.8s,mb3.9,baz=259,slow=7.1,SNR=3.4
FINES LR LR 13 06 58.0
comp=Z,40nm,19.3s,MS3.2,baz=342,slow=36
FINES FINESS Array B 36.46 41 P **P 12 51 58.9 -1.0**
FINES LR LR 13 06 58.0
ARCES ARCESS Array B 37.56 28 LR LR 13 05 34.6
comp=Z,54nm,19.0s,MS3.4,baz=273,slow=33
AKASG Malin Array Be 39.07 59 P **P 12 52 20.6 -1.3**
0.9nm,0.6s,mb3.7,baz=274,slow=9.0,SNR=5.6
TORD Torodi Ar. Bea 39.90 130 P **P 12 52 30.2 +1.3**
3.2nm,0.9s,mb4.0,baz=324,slow=5.0,SNR=12
SJG San Juan 40.53 243 LR LR 13 05 49.9
comp=Z,52nm,19.3s,MS3.4,baz=110,slow=31
DBIC Dimbokro 42.20 144 P **P 12 51 54.4 +3.5**
1.8nm,0.7s,mb3.8,baz=332,slow=14,SNR=3.2
DBIC LR LR 13 09 07.6
comp=Z,104nm,19.3s,MS3.7,baz=311,slow=34
OBN Obninsk 42.47 51 *e*P **P 12 52 51.1 +1.1**
OBN pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.0
ULM Lac du Bonnet 45.08 303 LR LR 13 10 08.1
comp=Z,242nm,19.9s,MS4.1,baz=82,slow=34
FVM French Village 46.26 285 *e*P **P 12 53 21.2 +0.9**
comp=Z,10nm,1.2s,mb4.6
MIAR Mount Ida 50.15 283 *e*P **P 12 53 50.5 +0.2**
comp=Z,15nm,1.1s,mb4.9
SDV Santo Domingo 50.31 239 P **P 12 53 53.4 +1.8**
comp=Z,5.0nm,1.1s,mb4.5,baz=73,slow=7.4,SNR=3.3
SDV Santo Domingo 50.31 239 P **P 12 53 53.4 +1.8**
YKA Yellowknife Ar 50.87 323 P **P 12 53 53.3 -2.5**
comp=Z,0.6nm,0.9s,mb3.5,baz=68,slow=7.1,SNR=7.5
YKA PcP PcP 12 55 10.2 -2.2
comp=Z,0.2nm,0.9s,baz=61,slow=4.2,SNR=3.2
YKA LR LR 13 12 29.2
comp=Z,127nm,19.0s,MS4.0,baz=70,slow=33
YKA Yellowknife Ar 50.87 323 *i*P **P 12 53 56.0 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 50.87 323 P **P 12 53 53.4 -2.5**
YKA PcP PcP 12 55 10.2 -2.2
YKA LR LR 13 12 29.2
ARU Arti 53.76 43 ⇑*i*P **P 12 54 17.0 -0.3**
ARU *e* 12 55 21.7
ARU *e* 12 56 15.9
ARU *e*S **S 13 01 50.1 -1.6**
ARU *e*SS SS 13 05 32.1 -0.4
ARU pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
INK Inuvik 55.44 334 P **P 12 54 26.6 -2.9**
comp=Z,2.4nm,1.0s,mb4.2,baz=48,slow=7.4,SNR=5.8
AKTK Aktyubinsk 56.25 50 P **P 12 54 35.0 -0.3**
AKTO Aktyubinsk 56.25 50 P **P 12 54 35.0 -0.3**
comp=Z,2.2nm,0.7s,mb4.3,baz=301,slow=8.9,SNR=8.0
JCT Junction City 56.77 282 *e*P **P 12 54 38.2 -0.8**
comp=Z,16nm,1.3s,mb4.9
PDAR Pinedale Array 56.77 300 P **P 12 54 36.4 -2.6**
comp=Z,2.0nm,1.1s,mb4.1,baz=63,slow=6.6,SNR=7.5
PDAR LR LR 13 17 57.0
comp=Z,168nm,19.6s,MS4.1,baz=232,slow=35
HWUT Hardware Ranch 58.65 299 *e*P **P 12 54 52.3 +0.1**
comp=Z,9.5nm,1.2s,mb4.7
ANMO Albuquerque 58.91 290⇑*e*P **P 12 54 55.6 +1.6**
DUG Dugway 60.21 299 *e*P **P 12 55 03.3 +0.2**
comp=Z,14nm,1.3s,mb4.8
BDFB Brasilia 61.53 201 LR LR 13 16 58.1
comp=Z,131nm,19.0s,MS4.1,baz=202,slow=31
ILAR Eielson Array 61.83 335 P **P 12 55 12.2 -1.9**
comp=Z,0.7nm,0.8s,mb3.9,baz=41,slow=5.7,SNR=9.5
ILAR LR LR 13 19 55.2
comp=Z,85nm,18.9s,MS3.9,baz=358,slow=34
COLA College 62.06 335 *i*P **P 12 55 14.7 -0.8**
IMA2 Indian Mountai 62.88 338 *e*P **P 12 55 20.4 -0.6**
NVAR Mina Array Bea 64.71 300 P **P 12 55 33.6 +0.5**
comp=Z,0.5nm,0.6s,mb3.7,baz=65,slow=6.4,SNR=5.4
NVAR LR LR 13 23 04.9
comp=Z,116nm,20.4s,MS4.1,baz=0.0,slow=36
NVAR Mina Array Bea 64.71 300 P **P 12 55 33.6 +0.5**
NVAR LR LR 13 23 04.9
SIV San Ignacio 66.31 214 P **P 12 55 45.0 +1.6**
comp=Z,1.0nm,1.0s,mb3.8,baz=13,slow=6.2,SNR=2.8
KURK Kurchatov 66.83 41 *i*P **P 12 55 46.7 -0.1**
ZAL Zalesovo 67.47 36 LR LR 13 23 24.2
comp=Z,54nm,19.2s,MS3.8,baz=336,slow=34
LPAZ La Paz 69.70 221 P **P 12 56 06.1 +1.3**
comp=Z,5.6nm,1.2s,mb4.4,baz=5.3,slow=11,SNR=7.8
LPAZ La Paz 69.70 221 P **P 12 56 06.1 +1.3**
MKAR Makanchi Array 71.28 43 P **P 12 56 13.0 -1.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=329,slow=7.1,SNR=7.1
MKAR Makanchi Array 71.28 43 P **P 12 56 13.0 -1.4**
YAK Yakutsk 73.33 11 *i*P **P 12 56 25.2 -1.5**
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
YAK MLR MLR
comp=Z,100nm,24.0s,MS4.0
KMBO Kilima Mbogo 73.45 108 P **P 12 56 29.0 +1.6**
comp=Z,0.8nm,0.4s,mb4.0,baz=345,slow=6.1,SNR=4.3
KMBO LR LR 13 29 59.2
comp=Z,98nm,18.4s,MS4.1,baz=92,slow=37
KMBO Kilima Mbogo 73.45 108⇑*e*P **P 12 56 31.3 +3.9**
BOD Bodaibo 74.29 20⇓*i*P **P 12 56 30.3 -2.0**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LVC Limon Verde 75.55 218 P **P 12 56 41.3 +1.7**
comp=Z,2.8nm,0.9s,mb4.2,baz=18,slow=9.6,SNR=2.8
WMQ Urumqi 76.06 42 *e*P **P 12 56 43.0 +0.5**
WMQ XP sP 12 56 50.0 +3.0
WMQ PP PP 12 59 35.0 +1.8
WMQ S S 13 06 23.0 -3.0
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,106nm,6.0s
WMQ LR LR
comp=N,88nm,12.0s,MS4.4
WMQ LR LR
comp=E,42nm,10.0s,MS4.4
WMQ LR LR
comp=Z,54nm,10.0s,MS4.2
ZAK Zakamensk 77.48 29 *e*P **P 12 56 57.1 +6.6**
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.3
LSZ Lusaka 78.15 124 LR LR 13 30 51.7
comp=Z,166nm,21.3s,MS4.3,baz=162,slow=35
SONM Songino Array 80.73 29 P **P 12 57 07.7 -0.6**
comp=Z,1.9nm,0.9s,mb4.0,baz=326,slow=6.0,SNR=15
ULN Ulaanbaatar 80.93 28⇑*e*P **P 12 57 09.2 -0.2**
CFAA Coronel Fontan 83.13 213 P **P 12 57 21.4 +0.5**
comp=Z,0.5nm,1.0s,mb3.5,baz=15,slow=4.4,SNR=4.7
LBTB Lobatse 84.38 132 LR LR 13 36 06.8
comp=Z,100nm,19.2s,MS4.2,baz=48,slow=36
GTA Gaotai 85.16 38 *e*P **P 12 57 30.1 -1.2**
GTA AP pP 12 57 34.5 -0.1
GTA XP sP 12 57 36.6 +0.8
GTA PP PP 13 00 47.7 -0.8
GTA PPP 13 02 43.7
GTA SKS 13 07 50.2
GTA S 13 07 56.3
GTA XS sS 13 08 04.2 -2.4
GTA PS 13 08 54.1
GTA SS SS 13 13 31.2 -3.6
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,43nm,6.5s
GTA LR LR
comp=N,72nm,12.9s,MS4.5
GTA LR LR
comp=E,136nm,16.7s,MS4.5
GTA LR LR
comp=Z,99nm,14.1s,MS4.3
KOLN Koldanda 85.69 55 *e*P **P 12 57 33.4 -0.5**
GKN Gorkha 86.13 55 *e*P **P 12 57 36.2 +0.1**
KKN Kakani 86.67 54 *e*P **P 12 57 38.9 +0.2**
DMN Daman 86.70 55 *e*P **P 12 57 39.6 +0.7**
GUN Gumba 86.93 54 *e*P **P 12 57 40.7 +0.7**
comp=Z,21nm,0.9s,mb5.4
BOSA Boshof 87.09 135 LR LR 13 34 58.1
comp=Z,97nm,21.3s,MS4.2,baz=25,slow=34
JIRN Jiri 87.30 54 *e*P **P 12 57 42.6 +0.8**
HHC Hu-ho-hao-te 88.63 29 *e*P **P 12 57 47.0 -1.1**
HHC AP pP 12 57 51.4 -0.1
HHC XP sP 12 57 54.2 +1.5
HHC PP PP 13 01 16.5 0.0
HHC SKS 13 08 11.3
HHC S 13 08 26.9
HHC XS sS 13 08 35.3 -4.9
HHC PS 13 09 32.8
HHC SS SS 13 14 18.1 -7.5
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,84nm,9.6s
HHC LR LR
comp=N,102nm,16.8s,MS4.5
HHC LR LR
comp=E,100nm,18.0s,MS4.5
HHC LR LR
comp=Z,67nm,18.0s,MS4.1
LZH Lanzhou 89.69 37 *e*P **P 12 57 52.5 -0.6**
LZH AP pP 12 57 55.6 -0.9
LZH XP sP 12 57 57.3 -0.4
LZH SKS 13 08 19.5
LZH *e*S 13 08 39.2
LZH XS sS 13 08 45.7 -4.5
LZH PS PS 13 09 47.3 -3.7
LZH *e*SS SS 13 14 34.5 -6.5
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,79nm,8.6s
LZH LR LR
comp=N,399nm,16.2s
LZH LR LR
comp=Z,435nm,18.3s,MS4.9
CN2 Changchun 89.99 19 *e*P **P 12 57 53.5 -1.0**
CN2 *e*XP sP 12 58 00.5 +1.4
CN2 *e*S 13 08 40.1
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
CD2 Chengdu 94.01 40 *e*P **P 12 58 11.2 -1.9**
KMI Kunming 98.35 44 P **P 12 58 34.0 +1.2**
KMI AMB AMB
comp=Z,5.0nm,0.6s,mb5.2
NJ2 Nanjing 99.08 28 *e*P **P 12 58 35.9 -0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.4
SSE Sheshan 100.72 26 P Pdif 12 58 41.5 -1.9
SSE AMB AMB
comp=Z,24nm,9.4s
PMG Port Moresby 145.80 8⇑*i*PKIKP PKPdf 13 04 34.8 +1.1
WRAB Tennant Creek 152.44 37 *i*PKIKP PKPbc 13 04 52.3 +1.1
WRA Warramunga Arr 152.45 37 PKPbc PKPbc 13 04 50.0 -1.3
comp=Z,2.1nm,1.0s,baz=332,slow=2.9,SNR=11
WRA Warramunga Arr 152.45 37⇑*i*PKIKP PKPbc 13 04 50.7 -0.5
ASAR Alice Springs 155.47 42 PKPbc PKPdf 13 04 56.8 +8.2
comp=Z,0.3nm,0.7s,baz=314,slow=1.7,SNR=5.9
ASAR PKPab PKPab 13 05 12.9 -1.3
comp=Z,0.4nm,0.9s,baz=333,slow=3.6,SNR=4.9

NEIC ***11*** *13:14:45.5±0.8, 223N×97.38E, h30km, mb4.4/2, Error ellipse: s-maj=17.6km s-min=11.9km az=55.0*
ISCJB ***11*** *13:14:51.0±5.0, 25N±02×97.9E±04, h81km±35km, mb3.8/8, Error ellipse: s-maj=69.3km s-min=17.3km az=116.6*
IDC ***11*** *13:14:52.8±4.4, 2.59N×97.96E, h80km±30km, mb3.4/6, mb1 3.6/6, mb1mx3.3/20, mbtmp3.7/6, Error ellipse: s-maj=68.9km s-min=18.4km az=57.0*
ISC 11 13:14:51.3±5.0, 25N±02×97.8E±03, h67km±37km, n10, σ0.87/11, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.18**	**75**	P	**Pn**	**13 15 12.2**	**+0.3**
	5.2nm,0.3s,baz=263,slow=7.2,SNR=20						
PSI				S	**Sn**	**13 15 26.2**	**-1.0**
	10nm,0.3s,baz=294,slow=15,SNR=12						
KULM	**Kulim**	**3.98**	**46**	*e*Pn	**Pn**	**13 15 51.0**	**+1.2**
WRA	**Warramunga Arr**	**42.24**	**124**	P	**P**	**13 22 37.3**	**-0.5**
	0.5nm,0.4s,mb3.6,baz=302,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.25**	**124**	*e*P	**P**	**13 22 36.9**	**-0.9**
	5.7nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**43.72**	**129**	P	**P**	**13 22 49.9**	**+0.1**
	0.1nm,0.4s,mb2.9,baz=298,slow=7.5,SNR=7.3						
SONM	**Songino Array**	**45.77**	**8**	P	**P**	**13 23 06.6**	**+0.6**
	0.2nm,0.5s,mb3.1,baz=198,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**46.13**	**345**	P	**P**	**13 23 08.2**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=155,slow=8.5,SNR=9.4						
ZAL	**Zalesovo**	**52.37**	**350**	P	**P**	**13 23 55.8**	**-0.6**
	2.0nm,0.4s,mb4.5,baz=315,slow=5.2,SNR=9.3						

CTAO	Charters Tower	52.57	118	*e*P		P	13 23 59.9	+1.9
	5.8nm,1.0s,mb4.6							
ARCES	ARCESS Array B	81.52	340	P		P	13 27 01.1	-0.2
	2.6nm,0.8s,mb4.1,baz=79,slow=4.6,SNR=3.8							

IDC 11 13:25:47.6±4.2,259S×10172E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/17,mbtmp3.5/4,Error ellipse: s-maj=226.4km s-min=28.3km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.22	121	P	P	13 32 52.5	+0.4
	0.3nm,0.4s,baz=300,slow=9.0,SNR=13						
ASAR	Alice Springs	37.52	127	P	P	13 33 04.5	+1.2
	0.3nm,0.4s,baz=300,slow=8.0,SNR=6.8						
STKA	Stephens Creek	47.48	132	P	P	13 34 23.1	-1.1
	1.4nm,0.9s,baz=306,slow=8.7,SNR=2.5						
MKAR	Makanchi Array	52.07	343	P	P	13 34 59.3	+0.1
	0.1nm,0.4s,baz=159,slow=7.0,SNR=4.1						

MAN 11 13:27:41.0,1249N×12359E,h9km,mb3.4,ML4.6,MS1.7, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.13	166	*i* P	Pg	13 27 45.0	+1.0
MMPH				*i* S	Sg	13 27 48.3	+2.3
CNP	Catarman	1.05	88	*e*P	Pg	13 28 00.5	-0.6
CNP				*e*S	Sg	13 28 15.3	+0.6
AUQP	San Andres	1.22	313	*e*P	Pn	13 28 05.4	+1.1
AUQP				*e*S	Sb	13 28 19.9	-0.2
PVCP	Virac	1.23	26	*e*P	Pn	13 28 03.5	-0.9
PVCP				*e*S	Sb	13 28 18.7	-1.8
OTRP	Odiongan	1.54	266	*e*P	Pn	13 28 09.1	+0.4
OTRP				*e*S	Sn	13 28 30.6	+1.9
OCLP	Ormoc	1.74	145	*e*P	Pn	13 28 11.9	+0.5
OCLP				*e*S	Sn	13 28 28.9	-4.8
PLP	Palo	1.89	134	*e*P	Pn	13 28 12.9	-0.5
PLP				*e*S	Sn	13 28 37.5	+0.1
BOAC	Boac	1.96	300	*e*P	Pn	13 28 11.7	-2.8
BOAC				*e*S	Sn	13 28 37.1	-2.1
BESP	Borongan	2.01	116	*e*P	Pn	13 28 15.8	+0.7
BESP				*e*S	Sn	13 28 41.5	+1.1
GUIM	Jordan	2.09	208	*e*P	Pn	13 28 17.1	+0.9
GUIM				*e*S	Sn	13 28 46.2	+3.8
LLP	Lapu-Lapu	2.19	170	*e*P	Pn	13 28 18.4	+0.8
LLP				*e*S	Sn	13 28 45.5	+0.8
MSLP	Maasin	2.65	152	*e*P	Pn	13 28 24.5	+0.6
MSLP				*e*S	Sn	13 29 08.0	+12
POLP	Polilio Island	2.75	324	*e*P	Pn	13 28 26.1	+0.8
POLP				*e*S	Sn	13 29 11.5	+13
CUYO	Cuyo Island	3.00	237	*e*P	Pn	13 28 29.6	+0.8
SNPH	Sibulan	3.14	186	*e*P	Pn	13 28 34.5	+3.8
SCPH	Surigao	3.27	145⇑	*e*P	Pn	13 28 38.4	+6.0
	112μm,80.0s						
BUSP	Coron	3.35	262	*e*P	Pn	13 28 34.4	+0.9
BUSP				*e*S	Sn	13 29 12.3	-1.2
LUBP	Lubang	3.49	291	*e*P	Pn	13 28 35.1	-0.3
BALP	Baler	3.78	329	*e*P	Pn	13 28 48.5	+9.1
ENPP	El Nido	4.27	253	*e*P	Pn	13 28 47.0	+0.7
PAGZ	Pagadian	4.61	183	*e*P	Pn	13 28 52.0	+1.1
PAGZ				*e*S	Sn	13 29 46.4	+1.8
APYP	Conner	5.81	337	*e*P	Pn	13 29 06.4	-0.9
APYP				*e*S	Sn	13 30 14.6	+0.6

*THE **11** 13:37:13.3,3906N×2020E,h10km,ML3.2*
*ISCJB **11** 13:37:14.2±0.8,3908N±003×2029E±006,h10km,Error ellipse: s-maj=7.5km s-min=3.5km az=142.2*
*CSEM **11** 13:37:14.6±0.2,3906N×2035E,h2km,ML3.2,Error ellipse: s-maj=5.2km s-min=3.3km az=60.0*
*ATH **11** 13:37:14.1,3905N×2037E,h5km±3km,MD3.4/9*
ISC 11 13:37:14.7±0.7,3905N±003×2031E±006,h10km,n20, σ1§27/28,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.44	142	*e*Pg	Pg	13 37 21.7	-1.6
LKD				*e*Sg	Sg	13 37 30.6	+1.5
IGT	Igoumenitsa	0.48	3	*e*Pg	Pg	13 37 22.2	-2.0
IGT				*e*Sg	Sg	13 37 29.3	-1.2
JAN	Janina	0.74	35	*e*PG	Pg	13 37 27.5	-1.5
JAN				*e*SB	Sg	13 37 37.9	-0.8
KEK	Kerkira	0.77	329	*e*PG	Pg	13 37 29.0	-0.6
KEK				*e*SB	Sg	13 37 41.2	+1.6
VLS	Valsamata	0.90	166	*e*PB	Pg	13 37 31.5	-0.6
MEV	Metsovon	1.02	44	*e*Pg	Pg	13 37 32.5	-1.9
	comp=Z,18nm,0.2s						
EVR	Evrytania	1.18	96	*e*PN	Pn	13 37 35.3	-2.0
EVR				*e*SB	Sb	13 37 51.7	-0.8
RLS	Riolos of Patr	1.35	137	*e*PB	Pb	13 37 39.6	-0.5
AGG	Agios Georgios	1.58	90	*e*Pb	Pb	13 37 42.6	-1.4
	comp=Z,2.9nm,0.3s						
AGG				*e*Sb	Sb	13 38 06.0	+2.0
KZN	Kozani	1.69	42	*e*PB	Pb	13 37 45.8	-0.1
LIT	Litokhoron	1.99	57	*e*Pn	Pn	13 37 49.9	+1.5
	comp=Z,2.2nm,0.4s						
OHR	Ohrid	2.09	10	*e*Pn	Pg	13 37 55.6	+0.7
OHR				*e*Sn	Sg	13 38 22.8	+0.8
BIA	Bitola	2.12	21	*e*Pn	Pg	13 37 56.0	+0.7
BIA				*e*Sn	Sg	13 38 22.7	0.0
LKR	Lokris	2.14	100	*e*PG	Pb	13 37 53.0	-0.6
XOR	Xorichti	2.27	81	*e*Pn	Pn	13 37 53.5	+1.2
NEO	Neokhori	2.28	83	*e*PN	Pn	13 37 54.8	+2.3
GRG	Griva	2.49	40	*e*Pn	Pn	13 37 57.1	+1.7
PAIG	Paliouri	2.75	70	*e*Pn	Pn	13 37 58.6	-0.3
PLG	Polygyros	2.76	60	*e*PN	Pn	13 38 00.8	+1.8
OUR	Ouranopolis	3.11	65	*e*Pn	Pn	13 38 04.4	+0.5

CASC 11 13:51:23.8±3.5,1516N×8954W,h16km±58km,MD3.9,2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.32	184	*e*P	Pn	13 51 52.3	+4.7
SBLS				*e*S	Sn	13 52 09.4	+4.5
IXG	Ixpaco	1.33	222	*e*P	Pn	13 51 47.6	-0.1
IXG				*e*S	Sn	13 52 05.4	+0.4
BOQS	Boqueron	1.44	170⇑	*e*P	Pn	13 51 54.1	+4.8
BOQS				*e*S	Sn	13 52 15.6	+7.7
LBRS	Las Brisas	1.50	161	*e*P	Pn	13 51 56.6	+6.6
LBRS				*e*S	Sn	13 52 18.4	+9.2
BLLM	Bellamira	2.12	144⇑	*i*P	Pn	13 52 04.0	+5.4
BLLM				*e*S	Sn	13 52 29.3	+4.6

IDC 11 14:26:48.9±1.0,034N×12457E,h0km,mb3.6/5,mb1 3.7/5, mb1mx3.6/17,mbtmp3.6/5,Error ellipse: s-maj=140.8km s-min=18.9km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.32	155	P	P	14 31 49.7	+1.7
	1.3nm,0.7s,baz=334,slow=10.0,SNR=11						
WB2	Warramunga Arr	22.32	155	*e*P	P	14 31 49.7	+1.6
ASPA	Alice Springs	25.53	160	*e*P	P	14 32 20.2	+1.1
ASAR	Alice Springs	25.53	160	P	P	14 32 20.4	+1.2
	0.5nm,0.4s,baz=344,slow=15,SNR=18						
ASAR				PcP	PcP	14 35 50.5	-0.2
	0.3nm,0.5s,baz=352,slow=2.1,SNR=10.0						
STKA	Stephens Creek	35.87	155	P	P	14 33 48.8	-1.7
	0.8nm,0.6s,baz=330,slow=12,SNR=3.3						
SONM	Songino Array	49.87	344	P	P	14 35 44.7	+0.8
	0.1nm,0.4s,baz=149,slow=8.4,SNR=2.7						
MKAR	Makanchi Array	59.16	327	P	P	14 36 51.6	+0.1
	0.8nm,0.5s,baz=117,slow=8.1,SNR=18						

MAN 11 14:31:28.1,1545N×12169E,h2km,mb3.5,ML4.7,MS0.8, 1C-5D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	Baler	0.31	339	*e*P	Pg	14 31 34.2	+0.2
BALP				*e*S	Sg	14 31 39.0	+0.9
PCPH	Palayan	0.58	281	*i*P	Pg	14 31 40.0	+0.7
PCPH				*e*S	Sg	14 31 48.5	+1.6
POLP	Polilio Island	0.76	161	*e*P	Pg	14 31 43.3	+0.7
POLP				*e*S	Sg	14 31 55.9	+3.5
NZB	Bigte	0.81	224⇓	*e*P	Pg	14 31 44.1	+0.4
NZB				*e*S	Sg	14 31 56.2	+1.9
QVPH	Quezon City--P	1.00	218⇓	*e*P	Pg	14 31 47.8	+0.5
QVPH				*e*S	Sg	14 32 03.2	+3.0
LBPH	Los Banos	1.38	201⇑	*e*P	Pn	14 31 53.4	-0.9
LBPH				*e*S	Sg	14 32 16.5	+4.1
BCPH	Baguio City Da	1.41	311⇓	*i*P	Pn	14 31 54.4	-0.5
BCPH				*i* S	Sg	14 32 14.4	+0.8
NBP	Mount Natib	1.42	240	*e*P	Pn	14 31 55.1	+0.2
NBP				*e*S	Sg	14 32 16.5	+2.8
PAZ	Puerto Azul	1.56	219	*e*P	Pn	14 31 55.4	-1.5
PAZ				*e*S	Sn	14 32 16.4	-1.2
SCZP	Santa Cruz	1.75	281	*e*P	Pn	14 31 59.4	0.0
BOLP	Bolinao	1.95	299	*e*P	Pn	14 32 00.8	-1.3
BOAC	Boac	1.98	176	*e*P	Pn	14 32 02.9	+0.2
BOAC				*e*S	Sn	14 32 30.6	+2.5
LUBP	Lubang	2.21	220	*e*P	Pn	14 32 02.6	-3.1
LUBP				*e*S	Sn	14 32 35.2	+1.7
CVP	Callao Caves	2.25	3⇓	*e*P	Pn	14 32 06.0	-0.3
CVP				*e*S	Sn	14 32 36.0	+1.5
ABRA	Dolores	2.38	337	*e*P	Pn	14 32 10.3	+2.2
ABRA				*e*S	Sn	14 32 43.2	+5.4
APYP	Conner	2.44	350	*e*P	Pn	14 32 09.2	+0.2
APYP				*e*S	Sn	14 32 40.5	+1.2
PVCP	Virac	3.01	127	*e*P	Pn	14 32 14.7	-2.1
PVCP				*e*S	Sn	14 33 00.8	+7.3
OTRP	Odiongan	3.08	174	*e*P	Pn	14 32 19.2	+1.3
BUSP	Coron	3.72	203	*e*P	Pn	14 32 28.3	+1.7

*ATH **11** 14:33:16.9,3812N×2684E,h42km,MD3.3/3*
*ISCJB **11** 14:33:17.8±0.9,3818N±004×2667E±008,h17km±8km, Error ellipse: s-maj=10.3km s-min=5.8km az=29.8*
*CSEM **11** 14:33:17.0±0.2,3816N×2669E,h16km±1km,MD3.3,Error ellipse: s-maj=3.6km s-min=2.0km az=96.0*
*ISK **11** 14:33:17.5,3817N×2672E,h18km,MD3.3,ML3.2*
ISC 11 14:33:17.7±1.0,3818N±004×2666E±008,h16km±5km,n11, σ0§41/17,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.36	56	*i* PG	Pg	14 33 25.0	-0.3
BLCB				*i* SG	Sg	14 33 30.1	-0.2
SMG	Samos	0.49	163⇑	*i*P	Pg	14 33 27.3	-0.2
SMG				*e*S	Sg	14 33 34.6	+0.5
IZM	Izmir	0.52	65	*i* PG	Pg	14 33 28.1	0.0
IZM				*i* SG	Sg	14 33 35.6	+0.5
PRK	Paraskevi	1.11	344	*e*P	Pb	14 33 38.6	+0.1
AKS	Akhisar	1.14	52	PN	Pn	14 33 38.9	-0.2
AKS				SN	Sn	14 33 54.9	+0.5
BODT	Bodrum	1.23	155	PN	Pn	14 33 39.9	-0.4
BODT				SN	Sn	14 33 56.2	-0.3
MLSB	Milas	1.25	135	*e*PN	Pn	14 33 40.0	-0.5
MLSB				*e*SN	Sn	14 33 57.3	+0.3
APE	Apeiranthos	1.43	219	*e*PN	Pn	14 33 44.1	+1.2
APE	Apeiranthos	1.43	219	*e*P	Pn	14 33 42.6	-0.3
APE	Apeiranthos	1.43	219	*e*Pn	Pn	14 33 44.1	+1.2
BALB	Balikesir	1.74	33	*e*PN	Pn	14 33 47.0	-0.3

*BJI **11** 14:39:49.4,5530N×11065E,h10km,mb4.6*
*ISCJB **11** 14:39:51.4±0.2,5527N±002×11030E±003,h6km, mb4.1/10,Error ellipse: s-maj=3.2km s-min=1.9km az=96.8*
*MOS **11** 14:39:51.5±1.3,5527N×11029E,h10km,mb4.3/4,Error ellipse: s-maj=9.7km s-min=5.5km az=65.7*
*BYKL **11** 14:39:52.4±0.2,5526N×11034E,h6km±15km*
*IDC **11** 14:39:52.5±1.1,5528N×110.15E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.6/23,mbtmp3.7/7,ML3.7/2,MS2.9/1, Ms1 2.9/1,ms1mx1.9/21,Error ellipse: s-maj=27.6km s-min=18.3km az=119.0*
*NEIC **11** 14:39:53.4±0.8,5535N×11032E,h10km,mb4.2/4,Error ellipse: s-maj=14.2km s-min=9.5km az=77.0*
ISC 11 14:39:52.7±0.2,5528N±002×11034E±003,h6km,n88, σ1§28/160,mb4.1/10,10C-5D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.62	130⇓	*i*Pg	Pg	14 40 03.5	-1.2
	2μm,0.4s						
YLYR			⇑	*i*Pg	Pg	14 40 03.5	-1.2
	2μm,0.4s						
YLYR			⇑	*i*Pg	Pg	14 40 03.5	-1.2
	2μm,0.4s						
YLYR				Pmax		14 40 03.8	
	2μm,0.5s						
YLYR				*i* Sg	Sg	14 40 11.7	-1.1
YLYR				Smax		14 40 12.1	
	4μm,0.3s						
YLYR	Ulyunkhan	0.62	130⇑	*i*PG	Pg	14 40 03.5	-1.2
YLYR				*e*		14 40 11.6	
YLYR				pmax	pmax		
	comp=Z,2μm,0.2s						
YLYR				smax			
	comp=N,4μm,0.3s						
NIZ	Nizh Angarsk	0.67	318⇑	*i*Pg	Pg	14 40 05.6	+0.1
NIZ				Pmax		14 40 09.2	
	comp=N,627nm,0.4s						
NIZ				*i* Sg	Sg	14 40 15.1	+0.9
NIZ				Smax		14 40 16.3	
	comp=N,3μm,0.4s						
NIZ	Nizh Angarsk	0.67	318	*e*PG	Pg	14 40 05.6	+0.1
NIZ				*e*		14 40 15.0	
NIZ				pmax	pmax		
	comp=Z,556nm,0.2s						
NIZ				smax			
	comp=N,3μm,0.4s						
KMO	Kumora	0.78	39⇓	*i*Pg	Pg	14 40 06.8	-0.9
KMO				Pmax		14 40 07.2	
	comp=N,802nm,0.4s						
KMO				*e*Sg	Sg	14 40 17.2	-0.6
KMO				Smax		14 40 18.2	
	comp=N,3μm,0.6s						
KMO	Kumora	0.78	39	*e*PG	Pg	14 40 06.8	-0.9
KMO				*e*		14 40 17.0	
KMO				pmax	pmax		
	comp=Z,815nm,0.4s						
KMO				smax			
	comp=N,3μm,0.6s						
YOA	Uoyan	1.16	42	*e*Pg	Pg	14 40 14.0	-0.9
YOA				Pmax		14 40 16.6	
	comp=N,1μm,0.3s						
YOA				*e*Sg	Sg	14 40 30.5	+0.5
YOA				Smax		14 40 33.0	
	comp=N,6μm,0.6s						
YOA	Uoyan	1.16	42⇑	*i*PG	Pg	14 40 13.9	-1.0
YOA				*e*		14 40 29.9	
YOA				pmax	pmax		
	comp=Z,796nm,0.3s						
YOA				smax			
	comp=E,5μm,0.9s						
SYVR	Suvo	1.64	187	*e*Pn	Pn	14 40 21.9	-0.1
SYVR				*e*Pg	Pn	14 40 22.2	+0.2
SYVR				Pmax		14 40 26.2	
	comp=E,520nm,0.6s						
SYVR				*e*Sg	Sg	14 40 44.0	-1.3
SYVR				Smax		14 40 47.3	
	comp=E,3μm,1.3s						
SYVR	Suvo	1.64	187	*e*PN	Pn	14 40 22.2	+0.2
SYVR				*e*		14 40 44.1	
SYVR				pmax	pmax		
	comp=Z,388nm,0.3s						
SYVR				smax			
	comp=N,2μm,0.4s						
UKT	Uakit	1.89	82⇑	*i*Pg	Pb	14 40 25.8	-1.8
UKT				Pmax		14 40 27.0	
	comp=N,745nm,0.9s						
UKT				*e*Sg	Sb	14 40 50.7	-0.7
UKT				Smax		14 40 51.4	
	comp=N,2μm,0.6s						
UKT	Uakit	1.89	82	*e*PN	Pn	14 40 25.9	+0.4
UKT				*e*		14 40 50.5	
UKT				pmax	pmax		
	comp=Z,270nm,0.2s						
UKT				smax			
	comp=E,1μm,0.6s						
SVKR	Severomuysk	2.01	64	*e*PN	Pn	14 40 28.1	+1.0
SVKR				*e*Pg	Pb	14 40 29.0	-0.6
SVKR				*e*		14 40 32.2	
SVKR				max		14 40 32.8	
	comp=E,1μm,0.4s						
SVKR				*e*Sg	Sb	14 40 56.2	+1.4
SVKR				Smax		14 40 58.3	
	comp=E,17μm,0.6s						
SVKR	Severomuysk	2.01	64	*e*PN	Pn	14 40 28.4	+1.3
SVKR				*e*		14 40 30.1	
SVKR				*e*		14 40 56.6	
SVKR				pmax	pmax		
	comp=Z,99nm,0.9s						
SVKR				smax			
	comp=N,2μm,1.1s						
MXMB	Maximikha	2.23	205	*e*Pn	Pn	14 40 31.1	+1.0
MXMB				*e*Pg	Pg	14 40 33.0	-2.3
MXMB				Pmax		14 40 37.1	
	comp=N,435nm,0.7s						
MXMB				*e*Sg	Sg	14 41 03.1	-1.1
MXMB				Smax		14 41 04.2	
	comp=N,3μm,0.9s						
OGRR	Ongureny	2.29	225	*e*Pn	Pn	14 40 31.7	+0.7
OGRR				*e*Pg	Pb	14 40 33.5	-0.9
OGRR				Pmax		14 40 34.6	
	comp=N,506nm,0.5s						
OGRR				*e*Sg	Sb	14 41 03.7	+0.7
OGRR				Smax		14 41 04.4	
	comp=N,3μm,0.4s						
OGRR	Ongureny	2.29	225	*e*PN	Pn	14 40 31.8	+0.8
OGRR				*e*		14 40 34.3	
OGRR				*e*		14 41 04.0	
OGRR				pmax	pmax		
	comp=Z,506nm,0.4s						
OGRR				smax			
	comp=N,3μm,0.4s						
KELR	Kotokel	2.85	209	*e*Pn	Pn	14 40 38.9	+0.2
KELR				*e*Pg	Pb	14 40 42.8	-1.2
KELR				*e*Sg	Sb	14 41 20.5	+1.3
BOD	Bodaibo	3.26	37	*e*Pn	Pn	14 40 44.4	+0.2
BOD				*e*		14 40 46.7	
BOD				max		14 40 54.3	
	comp=N,57nm,0.6s						
BOD				*e*		14 41 23.9	
BOD				*e*Sg	Sb	14 41 32.5	+1.8
BOD				Smax		14 41 33.6	
	comp=N,416nm,0.6s						
BOD	Bodaibo	3.26	37⇑	*i*PN	Pn	14 40 43.6	-0.6
BOD				*e*		14 40 50.2	
BOD				*e*S	Sn	14 41 21.3	-2.0
BOD				*e*		14 41 31.7	
BOD				pmax	pmax		
	comp=Z,56nm,0.3s						
BOD				smax			
	comp=N,423nm,0.6s						
NLYR	Nelyaty	3.26	66	*e*Pn	Pn	14 40 44.6	+0.3
NLYR				*e*		14 40 46.9	
NLYR				*e*Pg	Pb	14 40 50.4	-0.5
NLYR				*e*		14 40 54.2	
NLYR				max		14 40 54.9	
	comp=N,290nm,0.6s						
NLYR				*e*Sn	Sn	14 41 22.2	-1.1
NLYR				*e*Sg	Sb	14 41 33.3	+2.5
NLYR				Smax		14 41 35.6	
	comp=N,1μm,1.1s						
NLYR	Nelyaty	3.26	66	*e*PN	Pn	14 40 44.7	+0.4
NLYR				*e*		14 40 53.0	
NLYR				*e*S	Sn	14 41 21.8	-1.5
NLYR				*e*		14 41 33.4	
NLYR				pmax	pmax		
	comp=Z,279nm,0.6s						
NLYR				smax			
	comp=N,1μm,1.1s						
ZRHB	Zarechye	3.32	216⇓	*i*Pn	Pn	14 40 45.3	+0.2
ZRHB				*e*Pg	Pb	14 40 51.4	-0.5
ZRHB				Pmax		14 41 01.2	
	comp=N,251nm,0.6s						
ZRHB				*e*Sn	Sn	14 41 25.2	+0.4
ZRHB				*e*Sg	Sb	14 41 35.5	+3.0
ZRHB				Smax		14 41 49.3	
	comp=N,2μm,1.0s						
TRG	Tyrgan	3.45	225⇓	*i*Pn	Pn	14 40 47.5	+0.6
TRG				*e*Pg	Pb	14 40 53.0	-1.2
TRG				Pmax		14 40 59.7	
	comp=N,139nm,0.6s						
TRG				*e*Sn	Sn	14 41 29.9	+1.8
TRG				*e*Sg	Sb	14 41 39.0	+2.7
TRG				Smax		14 41 40.9	
	comp=N,699nm,0.4s						
TRG	Tyrgan	3.45	225	*e*PN	Pn	14 40 47.4	+0.5
TRG				*e*		14 40 54.9	
TRG				*e*S	Sn	14 41 27.4	-0.7
TRG				*e*		14 41 38.2	
TRG				pmax	pmax		
	comp=Z,140nm,0.5s						
TRG				smax			
	comp=E,696nm,0.4s						
TRTB	Turuntaevo	3.45	209⇓	*i*Pn	Pn	14 40 47.5	+0.6
TRTB				*e*Pg	Pb	14 40 54.5	+0.3
TRTB				Pmax		14 40 57.5	
	comp=E,137nm,1.1s						
TRTB				*e*Sn	Sn	14 41 28.1	0.0
TRTB				*e*Sg	Sb	14 41 39.0	+2.6
TRTB				Smax		14 41 42.7	
	comp=E,445nm,1.0s						
CIT	Chita	3.79	148	*e*Pn	Pn	14 40 50.7	-0.8
CIT				*e*Pg	Pb	14 40 59.0	-0.9
CIT				*e*		14 41 00.4	
CIT				max		14 41 01.8	
	comp=E,217nm,1.4s						
CIT				*e*Sn	Sn	14 41 35.5	-0.9
CIT				*e*Sg	Sb	14 41 48.0	+2.0
CIT				Smax		14 41 51.8	
	comp=E,473nm,1.4s						
CIT	Chita	3.79	148	*e*PN	Pb	14 41 00.4	+0.5
CIT				*e*		14 41 48.0	
CIT				pmax	pmax		
	comp=Z,209nm,0.9s						
CIT				smax			
	comp=E,447nm,1.0s						
KAB	Kabansk	3.91	216	*e*Pg	Pg	14 41 03.1	-4.4
KAB				Pmax		14 41 09.6	
	comp=E,141nm,0.6s						
KAB				*e*Sn	Sn	14 41 39.3	-0.1
KAB				*e*Sg	Sg	14 41 55.3	-2.9
KAB				Smax		14 42 11.3	
	comp=E,1μm,0.9s						
KAB	Kabansk	3.91	216	*e*PN	Pb	14 41 03.3	+1.4
STDB	Stepnoy Dvoret	3.91	219	*e*Pn	Pn	14 40 51.2	-2.0
STDB				*e*Pg	Pg	14 41 03.4	-4.1
STDB				Pmax		14 41 11.1	
	comp=E,10.0nm,0.8s						
STDB				*e*Sn	Sn	14 41 35.9	-3.5
STDB				*e*Sg	Sg	14 41 54.9	-3.3
STDB				Smax		14 42 16.9	
	comp=E,239nm,1.0s						
HRMR	Khuramsha	4.18	210	*i* Pn	Pn	14 40 57.5	+0.6
HRMR				*e*Pg	Pb	14 41 06.8	+0.2
HRMR				Pmax		14 41 14.4	
	comp=E,220nm,0.5s						
HRMR				*e*Sg	Sb	14 42 00.8	+3.5
HRMR				Smax		14 42 08.7	
	comp=E,1μm,0.8s						
BTMB	Babushkin	4.48	219	*e*Sg	Sg	14 42 10.6	-6.0
BTMB				Smax		14 42 19.2	
	comp=E,389nm,0.8s						
IRK	Irkutsk	4.71	232	*e*	Pb	14 41 18.2	+2.6
IRK				max		14 41 21.3	
	comp=E,235nm,0.5s						
IRK				*e*Sn	Sn	14 41 59.5	+0.3
IRK				*e*Sg	Sb	14 42 16.5	+3.9
IRK				Smax		14 42 21.9	
	comp=E,1μm,1.0s						
IRK	Irkutsk	4.71	232	*e*PN	Pn	14 41 04.0	-0.2
IRK				*e*		14 41 17.7	
IRK				*e*S	Sn	14 41 57.7	-1.5
IRK				*e*		14 42 16.7	
IRK				pmax	pmax		
	comp=Z,240nm,0.5s						
IRK				smax			
	comp=N,1μm,1.0s						
CRS	Chara	4.73	67	*e*Pn	Pn	14 41 05.5	+1.0
CRS				*e*Pg	Pb	14 41 17.7	+1.7
CRS				Pmax		14 41 23.4	
	comp=N,127nm,1.0s						
CRS				*e*Sg	Sb	14 42 19.3	+6.1
CRS				Smax		14 42 24.9	
	comp=N,590nm,2.0s						

CRS	**Chara**	**4.73**	**67**	*e*PN	**Pn**	**14 41 05.6**	**+1.1**
CRS				*e*		14 41 16.7	
CRS				*e*		14 42 19.3	
CRS				pmax	pmax		
	comp=Z,125nm,0.9s						
CRS				smax			
	comp=E,431nm,1.1s						
LSTR	**Listvyanka**	**4.74**	**226**	*e*Pn	**Pn**	**14 41 04.6**	**0.0**
LSTR				*e*Pg	**Pb**	**14 41 15.6**	**-0.5**
LSTR				Pmax		14 41 19.0	
	comp=E,35nm,0.9s						
LSTR				*e*Sn	**Sn**	**14 42 00.7**	**+0.9**
LSTR				*e*Sg	**Sb**	**14 42 16.4**	**+3.1**
LSTR				Smax		14 42 22.8	
	comp=E,373nm,1.1s						
LSTR	**Listvyanka**	**4.74**	**226**	*e*PN	**Pn**	**14 41 04.3**	**-0.3**
LSTR				*e*		14 41 16.8	
LSTR				*e*		14 42 16.7	
LSTR				pmax	pmax		
	comp=Z,36nm,0.8s						
LSTR				smax			
	comp=N,373nm,1.2s						
TLY	**Talaya**	**5.38**	**231**	*e*Pn	**Pn**	**14 41 13.4**	**0.0**
TLY				*e*Pg	**Pb**	**14 41 28.8**	**+1.7**
TLY				Pmax		14 41 30.4	
	comp=N,74nm,0.7s						
TLY				*e*Sn	**Sn**	**14 42 15.3**	**-0.4**
TLY				*e*Sg	**Sb**	**14 42 37.1**	**+5.2**
TLY				Smax		14 42 41.3	
	comp=N,305nm,0.9s						
TLY	**Talaya**	**5.38**	**231**	*e*PN	**Pn**	**14 41 13.4**	**0.0**
TLY				*e*		14 41 28.7	
TLY				*e*		14 42 37.0	
TLY				pmax	pmax		
	comp=Z,79nm,0.7s						
TLY				smax			
	comp=E,275nm,0.7s						
TUP	**Tupik**	**5.62**	**95⇑**	*i*Pn	**Pn**	**14 41 16.4**	**-0.4**
TUP				*e*		14 41 24.8	
TUP				*e*Pg	**Pg**	**14 41 32.7**	**-7.7**
TUP				Pmax		14 41 33.1	
	comp=E,26nm,0.6s						
TUP				*e*Sg	**Sg**	**14 42 46.0**	**-7.2**
TUP				Smax		14 42 56.3	
	comp=E,592nm,1.2s						
TUP	**Tupik**	**5.62**	**95**	*e*PN	**Pn**	**14 41 16.3**	**-0.5**
TUP				*e*		14 41 32.9	
TUP				*e*		14 42 44.4	
TUP				pmax	pmax		
	comp=Z,29nm,0.4s						
TUP				smax			
	comp=N,596nm,1.1s						
KPC	**Khapcheranga**	**5.72**	**167**	*e*Pn	**Pn**	**14 41 16.9**	**-1.3**
KPC				*e*Pg	**Pb**	**14 41 35.0**	**+2.1**
KPC				Pmax		14 41 39.3	
	comp=N,34nm,0.9s						
KPC				*e*Sn	**Sn**	**14 42 19.6**	**-4.6**
KPC				*e*Sg	**Sb**	**14 42 48.9**	**+7.2**
KPC				Smax		14 42 57.4	
	comp=N,415nm,1.0s						
KPC	**Khapcheranga**	**5.72**	**167**	*e*PN	**Pn**	**14 41 16.9**	**-1.3**
KPC				*e*S	**Sg**	**14 42 49.0**	**-7.5**
KPC				smax			
	comp=E,402nm,1.0s						
ARS	**Arshan**	**5.79**	**238**	*e*Pn	**Pn**	**14 41 18.4**	**-0.6**
ARS				*e*		14 41 27.2	
ARS				*e*Pg	**Pb**	**14 41 35.1**	**+1.1**
ARS				*e*		14 41 37.9	
ARS				max		14 41 40.4	
	comp=E,11nm,0.6s						
ARS				*e*Sn	**Sn**	**14 42 24.2**	**-1.5**
ARS				*e*Sg	**Sb**	**14 42 49.8**	**+6.2**
ARS				Smax		14 42 55.9	
	comp=E,142nm,1.4s						
ARS	**Arshan**	**5.79**	**238**	*e*PN	**Pn**	**14 41 18.3**	**-0.7**
ARS				*e*		14 41 36.2	
ARS				*e*		14 42 50.5	
ARS				pmax	pmax		
	comp=Z,136nm,0.5s						
ARS				smax			
	comp=N,700nm,0.6s						
ZAK	**Zakamensk**	**6.50**	**224**	*e*PN	**Pn**	**14 41 29.8**	**+0.9**
ZAK				*e*		14 41 50.2	
ZAK				*e*		14 43 12.5	
ZAK				pmax	pmax		
	comp=Z,22nm,1.1s						
ZAK				smax			
	comp=E,105nm,0.9s						
MOY	**Mondy**	**6.65**	**241⇑**	*i*Pn	**Pn**	**14 41 32.0**	**+1.2**
MOY				max		14 41 35.4	
	comp=E,999nm,0.6s						
MOY				*e*Sn	**Sn**	**14 42 44.9**	**-2.0**
MOY				*e*Sg	**Sg**	**14 43 18.4**	**-7.7**
MOY				Smax		14 43 25.6	
	comp=E,363nm,1.2s						
MOY	**Mondy**	**6.65**	**241**	*e*PN	**Pn**	**14 41 31.9**	**+1.1**
MOY				*e*		14 41 53.2	
MOY				*e*		14 43 18.9	
MOY				pmax	pmax		
	comp=Z,74nm,0.8s						
MOY				smax			
	comp=E,364nm,1.2s						
ORL	**Orlik**	**6.80**	**250⇑**	*i*Pn	**Pn**	**14 41 34.1**	**+1.2**
ORL				max		14 41 38.5	
	comp=E,633nm,0.9s						
ORL				*e*Sn	**Sn**	**14 42 49.4**	**-1.2**
ORL				*e*Sg	**Sg**	**14 43 22.6**	**-8.3**
ORL				Smax		14 43 27.6	
	comp=E,288nm,1.5s						
ORL	**Orlik**	**6.80**	**250**	*e*PN	**Pn**	**14 41 34.4**	**+1.5**
ORL				*e*S	**Sg**	**14 43 22.7**	**-8.2**
ORL				smax			
	comp=N,254nm,1.0s						
ULN	**Ulaanbaatar**	**7.70**	**197**	*e*PN	**Pn**	**14 41 45.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ULN	**Ulaanbaatar**	**7.70**	**197**	*e*Pn	**Pn**	**14 41 45.3**	**0.0**
	comp=Z,6.0nm,0.6s						
SONM	**Songino Array**	**7.85**	**200**	Pn	**Pn**	**14 41 48.3**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=24,slow=12,SNR=27						
SONM				Pg	**Pg**	**14 42 16.0**	**-7.0**
	comp=Z,1.7nm,0.3s,baz=7.9,slow=16,SNR=9.3						
SONM				Lg		14 43 59.0	
	comp=Z,1.9nm,0.3s,baz=0.0,slow=18,SNR=4.4						
SONM				LR	LR	14 45 02.7	
	comp=Z,74nm,18.4s,baz=236,slow=40						
SONM	**Songino Array**	**7.85**	**200**	PN	**Pn**	**14 41 48.3**	**+1.0**
SONM						14 42 16.0	
NRGR	**Nerungri**	**8.19**	**74**	*e*PG	**Pg**	**14 42 29.2**	**-0.3**
HIA	**Hailar**	**8.34**	**132**	*e*Pn	**Pn**	**14 41 44.0**	**-10**
HIA				*e*Sn	**Sn**	**14 43 24.7**	**-3.8**
YAK	**Yakutsk**	**12.10**	**48**	*i*P	**Pn**	**14 42 46.3**	**+0.8**
ZAL	**Zalesovo**	**14.83**	**275**	Pn	**Pn**	**14 43 22.1**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=33,slow=12,SNR=47						
ZAL				Lg		14 47 36.8	
	comp=Z,0.4nm,0.3s,baz=294,slow=20,SNR=3.7						
NVS	**Novosibirsk**	**15.50**	**280**	*e*P	**Pn**	**14 43 29.0**	**-2.8**
NVS				*e*S	**Sn**	**14 46 22.8**	**-0.9**
MKAR	**Makanchi Array**	**19.46**	**256**	P	**Pn**	**14 44 19.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=35,slow=8.7,SNR=33						
MKAR	**Makanchi Array**	**19.46**	**256**	*i*P	**Pn**	**14 44 19.7**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**19.52**	**270**	*i*P	**Pn**	**14 44 20.7**	**-1.2**
KURK	**Kurchatov**	**19.52**	**270**	*e*P	**Pn**	**14 44 19.6**	**-2.4**
	comp=Z,8.2nm,0.6s						
BVAR	**Borovoye Array**	**23.28**	**281**	P	**P**	**14 45 01.5**	**+0.4**
	comp=Z,4.4nm,0.5s,mb4.2,baz=70,slow=9.9,SNR=14						
BRVK	**Borovoye**	**23.33**	**281**	*e*P	**P**	**14 45 02.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**23.33**	**281**	*e*P	**P**	**14 45 02.2**	**+0.6**
	comp=Z,4.3nm,0.6s,mb4.1						
SSE	**Sheshan**	**25.38**	**158**	P	**P**	**14 45 18.0**	**-2.6**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.7						
ARU	**Arti**	**28.52**	**294**	P	**P**	**14 45 49.4**	**+0.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
ARU	**Arti**	**28.52**	**294**	P	**P**	**14 45 49.4**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.0						
GUN	**Gumba**	**32.56**	**223**	*e*P	**P**	**14 46 27.0**	**+2.4**
JIRN	**Jiri**	**32.67**	**222**	*e*P	**P**	**14 46 26.9**	**+1.4**
KKN	**Kakani**	**32.91**	**224**	*e*P	**P**	**14 46 28.9**	**+1.3**
	comp=Z,12nm,0.7s,mb4.9						
KKN	**Kakani**	**32.91**	**224**	*e*P	**P**	**14 46 28.9**	**+1.3**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
GKN	**Gorkha**	**32.97**	**225**	*e*P	**P**	**14 46 29.4**	**+1.2**
PKI	**Pulchoki**	**33.05**	**223**	*e*P	**P**	**14 46 28.8**	**-0.1**
DMN	**Daman**	**33.14**	**224**	*e*P	**P**	**14 46 30.1**	**+0.5**
KOLN	**Koldanda**	**33.60**	**226**	*e*P	**P**	**14 46 34.7**	**+1.0**
FINES	**FINESS Array B**	**41.69**	**314**	P	**P**	**14 47 40.6**	**-1.5**
	comp=Z,1.2nm,0.7s,mb3.6,baz=63,slow=8.5,SNR=4.1						
FINES	**FINESS Array B**	**41.69**	**314**	*i*P	**P**	**14 47 42.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SOC	**Sochi**	**45.46**	**286**	*e*P	**P**	**14 48 10.1**	**-2.4**
SOC				*e*		14 49 53.0	
SOC				*e*PPP		14 50 44.3	
SOC				*e*S	**S**	**14 54 52.8**	**-1.6**
SOC				*e*SSS		14 59 11.1	
SOC				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.3						
SOC				MLR	MLR		
	comp=Z,745nm,23.0s						
ILAR	**Eielson Array**	**46.62**	**35**	P	**P**	**14 48 24.0**	**+2.4**
	comp=Z,1.4nm,0.9s,mb3.9,baz=304,slow=7.0,SNR=15						
YKA	**Yellowknife Ar**	**57.43**	**23**	P	**P**	**14 49 40.9**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.5,baz=330,slow=7.2,SNR=6.2						
YKA	**Yellowknife Ar**	**57.43**	**23**	*i*P	**P**	**14 49 42.5**	**+0.4**
YKA	**Yellowknife Ar**	**57.43**	**23**	P	**P**	**14 49 40.9**	**-1.3**
SANT	**Santorini**	**58.30**	**289**	P	**P**	**14 49 46.3**	**-1.9**
	comp=Z,93nm,1.0s						
WRA	**Warramunga Arr**	**77.66**	**157**	P	**P**	**14 51 50.5**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=350,slow=5.8,SNR=2.9						

SZGRF ***11*** *14:49:21.3, 21.93S×177.03W, h33km, Fiji Islands region*
ISCJB ***11*** *14:50:21.4±2.8, 207S±01×178.2W±0.1, h541km±35km, mb4.2/17, Error ellipse: s-maj=23.6km s-min=14.9km az=137.5*
IDC ***11*** *14:50:23.2±2.6, 208.4S×178.14W, h553km±29km, mb3.5/8, mb1 3.7/9, mb1mx3.5/16, mbtmp4.5/9, Error ellipse: s-maj=28.4km s-min=14.2km az=157.0*
NEIC ***11*** *14:50:23.5±3.0, 207.6S×178.17W, h559km±34km, mb4.4/11, Error ellipse: s-maj=18.5km s-min=16.8km az=185.0*

ISC 11 14:50:21.8±2.9, 207S±01×178.1W±01, h535km±35km, n52, σ0.91/26, mb4.2/17, 2C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.96**	**192**	P	**P**	**14 53 59.3**	**-0.6**
	3.1nm,0.3s,baz=221,slow=6.0,SNR=19						
CTA	**Charters Tower**	**33.36**	**265**	*e*P	**P**	**14 56 16.4**	**+0.8**
	7.0nm,0.7s,mb4.3						
CTA	**Charters Tower**	**33.36**	**265**	P	**P**	**14 56 16.4**	**+0.8**
	7.1nm,0.6s,mb4.4,baz=99,slow=11,SNR=15						
CTAO	**Charters Tower**	**33.36**	**265**	*e*P	**P**	**14 56 16.2**	**+0.6**
	12nm,0.7s,mb4.5						
PMG	**Port Moresby**	**35.29**	**283**	P	**P**	**14 56 32.1**	**+0.4**
	7.5nm,0.7s,mb4.3,baz=87,slow=5.4,SNR=7.9						
PMG	**Port Moresby**	**35.29**	**283**	*e*P	**P**	**14 56 31.9**	**+0.1**
	16nm,1.4s,mb4.3						
TAU	**Tasmania Unive**	**36.39**	**225**	P	**P**	**14 56 40.0**	**-1.0**
	43nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**14 56 49.7**	**-1.1**
	2.9nm,0.6s,mb4.0,baz=72,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**14 56 49.7**	**-1.1**
ASAR	**Alice Springs**	**44.36**	**257**	P	**P**	**14 57 45.1**	**+0.6**
	11nm,0.8s,mb4.5,baz=86,slow=8.6,SNR=134						
ASAR				PcP	PcP	14 59 17.9	+1.1
	1.2nm,0.7s,baz=101,slow=4.0,SNR=6.1						
ASAR				S	**S**	**15 03 39.1**	**-0.8**
	0.3nm,0.8s,baz=102,slow=12,SNR=4.8						
ASPA	**Alice Springs**	**44.36**	**257**	*e*P	**P**	**14 57 45.3**	**+0.8**
WB2	**Warramunga Arr**	**44.45**	**262⇓**	*i*P	**P**	**14 57 45.1**	**-0.1**
WRAB	**Tennant Creek**	**44.45**	**262**	*e*P	**P**	**14 57 44.7**	**-0.5**
	21nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**44.46**	**262**	P	**P**	**14 57 45.2**	**-0.1**
	4.2nm,0.2s,mb4.5,baz=96,slow=7.0,SNR=318						
MBWA	**Marble Bar**	**57.70**	**258**	*e*P	**P**	**14 59 21.4**	**+0.1**
	13nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**69.35**	**180**	*e*P	**P**	**15 00 37.1**	**+1.4**
	2.4nm,0.5s,mb4.0						
KSM	**Kuching**	**73.33**	**278**	*e*P	**P**	**15 00 59.8**	**+0.7**
YSS	**Yuzn-Sakhalins**	**76.04**	**334**	*e*P	**P**	**15 01 14.8**	**+0.6**
	20nm,1.1s,mb4.5						
CMB	**Columbia Colle**	**79.70**	**43**	P	**P**	**15 01 34.5**	**+0.6**
	2.5nm,0.9s,mb3.5						
NVAR	**Mina Array Bea**	**81.26**	**43**	P	**P**	**15 01 43.6**	**+1.5**
	1.1nm,0.8s,mb3.3,baz=229,slow=11,SNR=9.1						
ENH	**Enshi**	**86.07**	**304**	*e*P	**P**	**15 02 06.8**	**+0.8**
	6.1nm,0.8s,mb4.3						
MCK	**McKinley**	**87.21**	**13**	*e*P	**P**	**15 02 10.0**	**-1.3**
	5.9nm,1.1s,mb4.1						
COLA	**College**	**88.45**	**12**	*e*P	**P**	**15 02 14.9**	**-2.1**
	6.5nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**88.55**	**13**	P	**P**	**15 02 16.1**	**-1.4**
	1.5nm,0.7s,mb3.9,baz=217,slow=5.3,SNR=32						
PDAR	**Pinedale Array**	**89.20**	**43**	P	**P**	**15 02 20.6**	**+0.1**
	0.8nm,0.8s,mb3.6,baz=212,slow=3.1,SNR=5.7						
MKAR	**Makanchi Array**	**111.27**	**313**	PKiKP	PKiKP	15 07 53.8	-1.1
	0.2nm,0.4s,baz=55,slow=0.6,SNR=8.5						
ARCES	**ARCESS Array B**	**129.12**	**350**	PKP	PKPdf	15 08 27.9	-1.2
	1.1nm,0.7s,baz=73,slow=1.3,SNR=7.9						
FINES	**FINESS Array B**	**135.96**	**344**	PKP	PKPdf	15 08 39.9	-2.0
	2.2nm,1.0s,baz=60,slow=2.8,SNR=5.4						
FINES	**FINESS Array B**	**135.96**	**344**	PKP	PKPdf	15 08 39.9	-2.0
AKASG	**Malin Array Be**	**143.16**	**331**	PKP	PKPdf	15 08 51.8	-3.1
	2.4nm,0.4s,baz=43,slow=4.1,SNR=27						
BSEG	**Bad Segeberg**	**146.22**	**351**	*e*PKPbc	PKPbc	15 09 02.5	+0.2
BRTR	**Keskin Array B**	**146.91**	**312**	PKPbc	PKPbc	15 09 04.5	+0.3
	1.6nm,0.7s,baz=139,slow=5.5,SNR=8.4						
BURAR	**Bucovina Array**	**147.20**	**330**	⇓P	PKPbc	15 09 06.1	+1.1
BURAR	**Bucovina Array**	**147.20**	**330**	⇓P	PKPbc	15 09 06.1	+1.2
KOLS	**Kolonicke sedl**	**147.47**	**335**	*e*PKP	PKPbc	15 09 05.5	-0.1
STHS	**Stebnicka Huta**	**147.48**	**336**	*e*PKP	PKPbc	15 09 09.8	+4.1
CLZ	**Clausthal**	**148.24**	**350**	*e*PKPbc	PKPbc	15 09 07.9	+0.3
CLL	**Collm**	**148.25**	**347**	*e*PKPbc	PKPbc	15 09 07.7	+0.1
	comp=Z,7.0nm,0.8s						
CLL				*e*PKPab	PKPab	15 09 12.2	-0.5
CLL	**Collm**	**148.25**	**347**	*i*PKPbc	PKPbc	15 09 07.6	0.0
	comp=Z,11nm,0.8s						
CLL				⇑*i*PKPab	PKPab	15 09 12.2	-0.5
	comp=Z,7.0nm,0.9s						
MLR	**Muntele Rosu**	**148.35**	**327**	⇑P	PKPbc	15 09 07.8	-0.1
BRG	**Berggiesshubel**	**148.45**	**345**	*e*PKPbc	PKPbc	15 09 08.2	+0.1
BRG	**Berggiesshubel**	**148.45**	**345**	*i*P	PKPbc	15 09 08.6	+0.5
	comp=Z,2.6nm,0.7s						
BRG				*e*		15 09 13.3	
	comp=Z,1.0nm,0.8s						
BRG				*e*		15 40 53.3	
BUG	**Bochum--Univer**	**149.05**	**353**	*e*PKPbc	PKPbc	15 09 09.8	+0.2
MOX	**Moxa**	**149.17**	**348**	*e*PKPbc	PKPbc	15 09 10.1	+0.2
WERD	**Werda**	**149.21**	**347**	*e*PKPbc	PKPbc	15 09 09.9	-0.1
ROTZ	**Rotzenmuhle**	**149.88**	**347**	*e*PKPbc	PKPbc	15 09 11.8	+0.2
TNS	**Taunus Mts**	**150.11**	**352**	*e*PKPbc	PKPbc	15 09 12.3	+0.2
GRF	**Grafenberg Arr**	**150.15**	**348**	*e*PKPbc	PKPbc	15 09 12.2	0.0
BZS	**Buzias**	**150.34**	**331**	⇓P	PKPbc	15 09 12.3	-0.4
GEC2	**GERESS Array S**	**150.38**	**344**	*e*PKPbc	PKPbc	15 09 13.1	+0.3
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc	PKPbc	15 09 12.8	0.0
	comp=Z,1.6nm,0.7s,baz=90,slow=1.3,SNR=12						
GERES				PKPab	PKPab	15 09 21.6	0.0
	comp=Z,0.5nm,0.8s,baz=34,slow=9.6,SNR=3.6						
BFO	**Black Forest**	**151.97**	**351**	*e*PKPbc	PKPbc	15 09 16.4	+0.1

IDC ***11*** *15:08:12.8±2.2, 078N×97.68E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=102.2km s-min=20.5km az=55.0*
NEIC ***11*** *15:08:17.9±0.6, 086N×97.88E, h30km, mb4.2/5, Error ellipse: s-maj=15.1km s-min=9.3km az=49.0*
ISCJB ***11*** *15:08:18.9±5.1, 10N±02×98.0E±02, h52km±41km, mb3.9/12, Error ellipse: s-maj=51.6km s-min=16.8km az=97.0*

ISC 11 15:08:21.5±4.8, 10N±02×98.0E±03, h56km±39km, n15, σ0.59/15, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.03**	**32**	*e*Pn	**Pn**	**15 09 33.9**	**-0.5**
QIZ	**Qiongzhong**	**21.36**	**32**	P	**P**	**15 13 04.5**	**+0.4**
	16nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.84**	**338**	*e*P	**P**	**15 14 15.2**	**+0.7**
	5.6nm,0.7s,mb4.4						
GUN	**Gumba**	**29.19**	**338**	*e*P	**P**	**15 14 18.2**	**+0.6**
	10.0nm,0.7s,mb4.7						
KKN	**Kakani**	**29.31**	**337**	*e*P	**P**	**15 14 19.5**	**+0.8**
GKN	**Gorkha**	**29.76**	**336**	*e*P	**P**	**15 14 22.7**	**0.0**
KOLN	**Koldanda**	**30.00**	**334**	*e*P	**P**	**15 14 25.1**	**+0.3**
	2.7nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**41.23**	**122**	P	**P**	**15 16 01.0**	**+0.1**
	0.4nm,0.7s,mb3.2,baz=303,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**42.62**	**127**	P	**P**	**15 16 12.5**	**+0.3**
	0.2nm,0.4s,mb3.2,baz=294,slow=7.4,SNR=9.6						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**15 16 49.5**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=192,slow=9.7,SNR=5.2						
MKAR	**Makanchi Array**	**47.65**	**345**	P	**P**	**15 16 52.1**	**0.0**
	0.9nm,0.5s,mb4.1,baz=161,slow=8.6,SNR=33						
KURK	**Kurchatov**	**52.21**	**345**	P	**P**	**15 17 25.8**	**-0.9**
	2.0nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**53.90**	**350**	P	**P**	**15 17 38.3**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=314,slow=9.2,SNR=6.7						
BVAR	**Borovoye Array**	**56.72**	**340**	P	**P**	**15 17 58.6**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=141,slow=9.5,SNR=5.5						
FINES	**FINESS Array B**	**80.56**	**332**	P	**P**	**15 20 26.9**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=108,slow=6.0,SNR=4.4						

NAO ***11*** *15:27:24.2±2.8, 6758N×3384E, ML2.0*

HEL 11 15:27:26.0±0.4, 6771N×3369E, h0km, ML1.9, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.28**	**249**	*i*P	Pg	15 27 30.9	-0.5
APA0				*i*S	Sg	15 27 34.9	-0.2
APA0				*e*RG		15 27 36.8	
APA0	**Apatity Array**	**0.28**	**249**	Pg	Pg	15 27 30.9	-0.5
	baz=79,slow=16						
APA0				Lg		15 27 34.9	
	baz=84,slow=37						
APA0				Rg		15 27 36.8	
	baz=84,slow=37						
KU4	**Liikasenvaara**	**2.10**	**232**	*e*P	Pn	15 28 02.7	+0.3
KU4				*e*S	Sn	15 28 29.1	-0.2
SGF	**Sodankyl**	**2.76**	**268**	*e*P	Pn	15 28 10.8	-0.7
SGF				*e*S	Sn	15 28 44.8	-0.7
SGF				MSG		15 28 53.0	
	comp=Z,2.3nm,0.2s						
KEV	**Kevo**	**3.19**	**313**	*e*P	Pn	15 28 17.9	+0.6
KEV				*e*S	Sn	15 28 55.7	-0.4
KEV				MSG		15 29 04.6	
	comp=Z,4.4nm,0.3s						
ARA0	**ARCESS Array S**	**3.51**	**305**	*e*P	Pn	15 28 21.9	0.0
ARA0				*e*PG	Pg	15 28 30.7	-2.6
ARA0				*e*S	Sn	15 29 02.7	-1.4
ARA0				*e*SG	Sg	15 29 13.2	-5.6
ARA0	**ARCESS Array S**	**3.51**	**305**	Pn	Pn	15 28 21.9	0.0
	baz=122,slow=16						
ARA0				Pg	Pg	15 28 30.7	-2.6
	baz=118,slow=16						
ARA0				Sn	Sn	15 29 02.7	-1.4
	baz=125,slow=28						
ARA0				Lg		15 29 13.2	
	baz=119,slow=28						
OUL	**Oulu**	**4.09**	**234**	*e*PG	Pg	15 28 38.6	-5.8
OUL				*e*SG	Sg	15 29 32.5	-5.0
OUL				MSG		15 29 34.5	
	comp=Z,2.0nm,0.3s						
KIF	**Kilpisjarvi**	**4.94**	**291**	*e*S	Sn	15 29 36.8	-2.6
FIA0	**FINESS Array S**	**7.08**	**211**	*e*S	Sn	15 30 26.2	-5.9
FIA0				*e*		15 30 58.0	
FIA0	**FINESS Array S**	**7.08**	**211**	Sn	Sn	15 30 26.2	-5.9
	baz=27,slow=28						
FIA0				Lg		15 30 58.0	
	baz=24,slow=28						

MEX 11 15:31:55.9±0.6, 1644N×9855W, h20km±112km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**96**	*i*P	Pb	15 32 03.3	-1.2
PNIG				*i*S	Sb	15 32 08.1	-2.2
ACX	**Acapulco**	**1.38**	**288**	*e*P	Pn	15 32 16.5	-3.4
UTMO	**Huajuapan**	**1.56**	**27**	*i*P	Pn	15 32 19.8	-2.7
UTMO				*i*S	Sn	15 32 37.9	-4.2
CAIG	**El Cayaco**	**1.75**	**291**	*e*P	Pn	15 32 21.7	-3.4
CAIG				*i*S	Sn	15 32 42.0	-4.8
MEIG	**Mezcala**	**1.80**	**326**	*e*P	Pn	15 32 23.9	-1.8
MEIG				*i*S	Sn	15 32 45.7	-2.2
OXX	**Oaxaca**	**1.87**	**70**	*e*P	Pn	15 32 26.5	-0.1

NAO ***11*** *16:15:09.9, 32.14N×73.13E, h33km, mb3.9*
BJI ***11*** *16:15:51.9, 36.30N×71.10E, h120km, mb4.3*
IDC ***11*** *16:15:51.6±6.6, 36.20N×71.11E, h114km±58km, mb3.4/10, mb1 3.6/13, mb1mx3.5/24, mbtmp3.9/13, Error ellipse: s-maj=31.7km s-min=17.0km az=20.0*
NEIC ***11*** *16:15:52.9±1.6, 36.30N×71.14E, h121km±18km, mb4.2/9, Error ellipse: s-maj=14.3km s-min=5.7km az=60.0*
MOS ***11*** *16:15:53.6±0.9, 36.34N×71.19E, h144km, mb4.4/2, Error ellipse: s-maj=16.8km s-min=8.4km az=100.2*
ISCJB ***11*** *16:15:54.6±0.4, 36.37N±003×71.20E±006, h158km±5km, mb3.7/14, Error ellipse: s-maj=7.6km s-min=4.4km az=158.2*
NNC ***11*** *16:16:02.5±2.7, 37.01N×71.00E, h178km±23km, mb3.3, mpv4.8, Error ell

comp=E,7.9nm,0.6s
KOLN *e*Sn **Sn** **16 21 24.0 -7.8**
GKN Gorkha 14.10 123 *e*Pn **Pn** **16 19 07.3 -1.2**
GKN *e*Sn **Sn** **16 21 34.9 -10**
comp=E,25nm,0.5s
GKN Gorkha 14.10 123 *e*Pn **Pn** **16 19 07.3 -1.2**
comp=E,13nm,0.5s
GKN *e*Sn **Sn** **16 21 34.9 -10**
DMN Daman 14.67 123 *e*Pn **Pn** **16 19 15.5 -0.2**
DMN *e*Sn **Sn** **16 21 49.3 -9.2**
comp=E,44nm,1.0s
DMN Daman 14.67 123 *e*Pn **Pn** **16 19 15.5 -0.2**
comp=E,22nm,1.0s
DMN *e*Sn **Sn** **16 21 49.3 -9.2**
KKN Kakani 14.68 122 *e*Pn **Pn** **16 19 14.6 -1.1**
KKN *e*Sn **Sn** **16 21 48.1 -11**
comp=E,20nm,0.7s
KKN Kakani 14.68 122 *e*P **Pn** **16 19 14.6 -1.1**
KKN *e* 16 21 48.1
KKN pmax pmax
comp=Z,10.0nm,0.7s
KKN Kakani 14.68 122 *e*Pn **Pn** **16 19 14.6 -1.1**
comp=Z,9.9nm,0.7s
KKN *e*Sn **Sn** **16 21 48.1 -11**
PKI Pulchoki 14.90 122 *e*Pn **Pn** **16 19 17.8 -0.7**
GUN Gumba 15.02 120 *e*Pn **Pn** **16 19 19.3 -0.6**
AB31 Akbulak array 15.27 331 ⇑P **Pn** **16 19 21.8 -1.3**
comp=Z,2.2nm,0.5s,baz=150,slow=12,SNR=126
AB31 ⇑S **S** **16 22 01.1 -12**
comp=Z,6.2nm,0.8s,baz=150,slow=24,SNR=10
KURK Kurchatov 15.29 18 ⇑P **Pn** **16 19 24.9 +1.6**
comp=Z,4.8nm,0.9s
KURK Kurchatov 15.29 18 *e*P **Pn** **16 19 24.5 +1.1**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 15.29 18 *e*P **Pn** **16 19 24.5 +1.1**
comp=Z,8.4nm,0.8s
JIRN Jiri 15.39 120 *e*Pn **Pn** **16 19 24.2 -0.3**
VOSK Vostochnaya 16.34 360 ⇑P **Pn** **16 19 34.3 -2.0**
comp=Z,5.5nm,1.1s
BVA0 Borovoye Array 16.66 358 ⇓P **Pn** **16 19 38.8 -1.2**
comp=Z,0.5nm,0.6s,baz=178,slow=12,SNR=47
BVAR Borovoye Array 16.66 358 P **Pn** **16 19 39.3 -0.7**
comp=Z,1.6nm,0.3s,baz=163,slow=11,SNR=38
BRVK Borovoye 16.69 358 *e*P **Pn** **16 19 39.1 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 16.69 358 *e*P **Pn** **16 19 39.0 -1.4**
comp=Z,4.2nm,0.6s
AKTK Aktyubinsk 16.97 330 P **Pn** **16 19 44.4 +0.6**
AKTK S **S** **16 22 45.7 -6.5**
AKTO Aktyubinsk 16.97 330 ⇓P **Pn** **16 19 43.7 -0.1**
comp=Z,1.6nm,0.9s
AKTO ⇑S **S** **16 22 43.7 -8.5**
comp=Z,1.7nm,1.8s
AKTO Aktyubinsk 16.97 330 P **Pn** **16 19 44.4 +0.6**
comp=Z,0.8nm,0.3s,baz=132,slow=9.0,SNR=28
AKTO S **S** **16 22 45.7 -6.5**
comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=3.5
AKTO Aktyubinsk 16.97 330 P **Pn** **16 19 44.4 +0.7**
AKTO S **S** **16 22 45.7 -6.5**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
LSA Lhasa 17.99 106 *e*P **Pn** **16 19 58.4 +2.4**
comp=Z,3.5nm,0.6s
ZAL Zalesovo 19.94 24 P **P** **16 20 15.2 -0.3**
comp=Z,7.0nm,0.5s,baz=249,slow=9.6,SNR=38
NVS Novosibirsk 20.24 20 *i* P **P** **16 20 18.2 -0.5**
NVS pmax pmax
comp=Z,20nm,1.0s
NVS pmax pmax
comp=N,21nm,1.5s
ARU Arti 21.80 341 *e*P **P** **16 20 34.9 -0.4**
ARU pmax pmax
comp=Z,19nm,1.3s,mb4.4
ARU Arti 21.80 341 *e*P **P** **16 20 35.2 -0.1**
ARU Arti 21.80 341 *e*P **P** **16 20 34.9 -0.4**
comp=Z,19nm,1.3s,mb4.4
GTA Gaotai 22.74 74 *e*P **P** **16 20 41.1 -3.5**
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb3.6
SONM Songino Array 28.27 55 P **P** **16 21 36.6 +2.2**
comp=Z,0.4nm,0.7s,mb3.3,baz=267,slow=9.0,SNR=4.4
AKASG Malin Array Be 33.15 309 P **P** **16 22 18.1 +0.9**
comp=Z,0.8nm,0.5s,mb3.7,baz=80,slow=7.3,SNR=5.9
JOF Joensuu 36.05 330 *e*p **P** **16 22 43.4 +1.2**
comp=Z,0.9nm,0.4s,mb3.8
FINES FINESS Array B 37.67 326 P **P** **16 22 56.9 +1.0**
comp=Z,0.7nm,0.7s,mb3.4,baz=126,slow=8.3,SNR=9.2
GVD Gavdhos 38.04 282 P **P** **16 22 58.4 -0.6**
comp=Z,88nm,1.1s,mb5.3
ARCES ARCESS Array B 41.32 338 P **P** **16 23 26.7 +0.6**
comp=Z,1.1nm,0.6s,mb3.7,baz=116,slow=8.3,SNR=17
ARCES ARCESS Array B 41.32 338 P **P** **16 23 26.7 +0.6**
NB2 NORSAR Subarra 44.58 323 P **P** **16 23 52.4 +0.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=97,slow=7.9
NOA NORSAR Array B 44.58 323 P **P** **16 23 52.8 +0.5**
comp=Z,1.7nm,0.7s,mb3.8,baz=96,slow=7.7,SNR=6.8
TORD Torodi Ar. Bea 65.88 269 P **P** **16 26 24.2 -0.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=51,slow=6.1,SNR=10
TSUM Tsumeb 74.97 232 *e*P **P** **16 27 14.9 -4.9**
comp=Z,5.4nm,1.0s,mb4.1
YKA Yellowknife Ar 81.36 3 P **P** **16 27 55.5 +0.5**
comp=Z,0.3nm,0.4s,mb3.2,baz=349,slow=5.3,SNR=15
YKA Yellowknife Ar 81.36 3 P **P** **16 27 55.5 +0.5**
WRA Warramunga Arr 81.79 122 P **P** **16 27 58.0 +0.7**
comp=Z,0.3nm,0.4s,mb3.2,baz=325,slow=4.9,SNR=10
WRAB Tennant Creek 81.79 122 P **P** **16 27 57.6 +0.3**
ASAR Alice Springs 84.05 125 P **P** **16 28 09.7 +0.7**
comp=Z,0.3nm,0.6s,mb3.2,baz=307,slow=4.9,SNR=14

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*ISCJB **11** 16:18:17.4±0.4, 5872S±007×25.1W±0.1, h10km, mb4.4/17, MS4.4/8, Error ellipse: s-maj=11.6km s-min=8.7km az=95.5*
*NEIC **11** 16:18:17.8±0.5, 5844S×2605W, h10km, mb4.6/7, Error ellipse: s-maj=20.8km s-min=17.6km az=55.0*
*IDC **11** 16:18:22.6±3.1, 5871S×2522W, h32km±21km, mb4.1/13, mb1 4.2/14, mb1mx4.2/20, mbtmp4.3/14, ML4.4/1, MS4.3/9, Ms1 4.3/9, ms1mx4.2/14, Error ellipse: s-maj=18.4km s-min=15.2km az=2.0*
ISC 11 16:18:18.8±6.5, 5875S±010×252W±01, h9km±42km, n50, σ0°76/26, mb4.4/17, MS4.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.69**	**301**	*e*Pn	**Pn**	**16 19 59.9**	**-11**
	126nm,1.0s						
VNA3	**Neumayer Olymp**	**14.07**	**159**	*e*P	**Pn**	**16 21 38.3**	**0.0**
VNA3				*e*		16 21 38.7	
VNA3				*e*		16 21 40.0	
VNA3				*e*		16 21 51.6	
VNA3				*e*		16 23 58.2	
VNA3				*e*		16 24 04.4	
VNA2	**Neumayer--Watz**	**14.27**	**156**	*e*P	**Pn**	**16 21 40.8**	**-0.2**
	baz=322,slow=14						
VNA2				*e*		16 21 41.2	
VNA2				*e*		16 21 42.6	
VNA2				*e*		16 21 53.1	
VNA2				*e*		16 22 00.8	
VNA2				*e*		16 24 04.9	
VNA2				*e*		16 24 11.8	
SNAA	**Sanae**	**15.82**	**154**	Pn	**Pn**	**16 22 01.3**	**-0.5**
	1.6nm,0.3s,baz=321,slow=14,SNR=233						
SNAA				Sn	**Sn**	**16 24 45.3**	**-12**
	0.2nm,0.3s,baz=328,slow=19,SNR=4.7						
SNAA				LR	LR	16 26 53.4	
	comp=Z,404nm,20.4s,baz=45,slow=32						
EFI	**East Falkland**	**19.90**	**276**	*e*P	**Pn**	**16 22 51.6**	**-0.5**
	32nm,0.8s						
USHA	**Ushuaia**	**23.70**	**261**	P	**P**	**16 23 31.6**	**+0.6**
	11nm,0.9s,mb4.3,baz=92,slow=12,SNR=3.8						
TRQA	**Tornquist**	**31.42**	**295**	*e*P	**P**	**16 24 40.6**	**+0.3**
	8.1nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**31.49**	**180**	*e*P	**P**	**16 24 41.8**	**+0.9**
	25nm,1.2s,mb4.9						
PLCA	**Paso Flores**	**33.60**	**282**	P	**P**	**16 24 59.9**	**+0.5**
	3.6nm,0.8s,mb4.4,baz=128,slow=9.7,SNR=15						
PLCA				PcP	PcP	16 27 39.8	+0.2
	1.4nm,0.8s,baz=144,slow=2.7,SNR=3.7						
PLCA				LR	LR	16 38 29.8	
	comp=Z,498nm,18.1s,MS4.3,baz=152,slow=36						
PLCA	**Paso Flores**	**33.60**	**282**	P	**P**	**16 24 59.9**	**+0.5**
PLCA				PcP	PcP	16 27 39.8	+0.2
PLCA				LR	LR	16 38 29.8	
MAW	**Mawson**	**37.34**	**141**	LR	LR	16 38 59.1	
	comp=Z,698nm,18.8s,MS4.5,baz=239,slow=33						
CFAA	**Coronel Fontan**	**39.65**	**294**	P	**P**	**16 25 49.6**	**-1.3**
	0.4nm,0.5s,mb3.4,baz=152,slow=7.1,SNR=12						
VNDA	**Vanda**	**43.91**	**182**	P	**P**	**16 26 27.4**	**+1.6**
	4.8nm,0.8s,mb4.3,baz=174,slow=4.4,SNR=13						
VNDA				LR	LR	16 43 54.4	
	comp=Z,244nm,18.3s,MS4.2,baz=182,slow=35						
BOSA	**Boshof**	**45.69**	**71**	P	**P**	**16 26 40.3**	**+0.3**
	2.7nm,0.7s,mb4.3,baz=207,slow=8.3,SNR=5.9						
BOSA				LR	LR	16 41 47.7	
	comp=Z,252nm,18.6s,MS4.2,baz=221,slow=31						
BOSA	**Boshof**	**45.69**	**71**	*e*P	**P**	**16 26 39.8**	**-0.2**
	3.8nm,0.8s,mb4.4						
BDFB	**Brasilia**	**46.25**	**329**	P	**P**	**16 26 45.0**	**+0.6**
	5.0nm,0.7s,mb4.5,baz=156,slow=9.6,SNR=7.2						
LBTB	**Lobatse**	**48.85**	**69**	P	**P**	**16 27 05.0**	**+0.3**
	1.8nm,0.7s,mb4.2,baz=222,slow=12,SNR=4.8						
TSUM	**Tsumeb**	**50.16**	**57**	P	**P**	**16 27 15.0**	**+0.4**
	2.1nm,0.6s,mb4.3,baz=177,slow=10.0,SNR=11						
LPAZ	**La Paz**	**52.83**	**305**	P	**P**	**16 27 34.5**	**-0.1**
	3.5nm,0.7s,mb4.4,baz=212,slow=8.0,SNR=17						
SAML	**Samuel**	**57.48**	**314**	*e*P	**P**	**16 28 02.1**	**-6.1**
	4.3nm,0.7s,mb4.6						
LSZ	**Lusaka**	**58.42**	**65**	*e*P	**P**	**16 28 14.9**	**+0.1**
	5.9nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**67.22**	**22**	P	**P**	**16 29 13.5**	**+0.1**
	2.8nm,0.6s,mb4.5,baz=247,slow=11,SNR=8.3						
DBIC				LR	LR	16 52 30.5	
	comp=Z,105nm,18.7s,MS4.1,baz=174,slow=30						
DBIC	**Dimbokro**	**67.22**	**22**	*e*P	**P**	**16 29 11.5**	**-1.9**
	3.0nm,0.6s,mb4.5						
TORD	**Torodi Ar. Bea**	**74.92**	**27**	P	**P**	**16 30 00.6**	**+0.5**
	5.9nm,0.6s,mb4.7,baz=201,slow=6.2,SNR=96						
KMBO	**Kilima Mbogo**	**75.05**	**67**	LR	LR	17 00 11.0	
	comp=Z,338nm,18.6s,MS4.7,baz=113,slow=33						
STKA	**Stephens Creek**	**89.04**	**169**	P	**P**	**16 31 12.7**	**-1.5**
	1.2nm,0.5s,mb4.5,baz=158,slow=6.7,SNR=5.4						
STKA				LR	LR	17 11 14.6	
	comp=Z,256nm,18.7s,MS4.7,baz=204,slow=36						
PPT	**Papeete**	**91.43**	**232**	LR	LR	17 05 25.7	
	comp=Z,198nm,18.2s,MS4.6,baz=144,slow=31						
ASAR	**Alice Springs**	**96.07**	**161**	P	**P**	**16 31 45.7**	**-1.0**
	0.6nm,0.6s,mb4.2,baz=184,slow=4.0,SNR=19						
SCHQ	**Schefferville**	**118.08**	**334**	PKP	PKPdf	16 37 03.4	-2.7
	2.0nm,0.9s,baz=251,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**122.67**	**299**	PKP	PKPdf	16 37 13.7	-1.3
	0.5nm,0.5s,baz=135,slow=4.2,SNR=7.2						
HWUT	**Hardware Ranch**	**122.68**	**297**	*e*PKPdf	PKPdf	16 37 13.9	-1.0
NOA	**NORSAR Array B**	**122.77**	**20**	PKP	PKPdf	16 37 11.8	-3.4
	1.3nm,0.9s,baz=194,slow=1.8,SNR=2.9						
ULM	**Lac du Bonnet**	**122.94**	**314**	PKP	PKPdf	16 37 13.2	-2.3
	1.4nm,0.5s,baz=77,slow=3.4,SNR=3.7						
NVAR	**Mina Array Bea**	**123.41**	**290**	PKP	PKPdf	16 37 17.2	+0.8
	1.2nm,0.6s,baz=192,slow=4.2,SNR=15						
NVAR	**Mina Array Bea**	**123.41**	**290**	PKP	PKPdf	16 37 17.2	+0.8
CMB	**Columbia Colle**	**124.13**	**288**	*e*PKPdf	PKPdf	16 37 16.9	-0.9
HLID	**Hailey**	**125.52**	**297**	*e*PKPdf	PKPdf	16 37 20.8	+0.4
FINES	**FINESS Array B**	**126.27**	**28**	PKP	PKPdf	16 37 19.9	-2.0
	0.8nm,0.6s,baz=192,slow=1.3,SNR=8.5						
ARCES	**ARCESS Array B**	**133.05**	**22**	PKP	PKPdf	16 37 31.7	-3.0
	3.9nm,0.9s,baz=270,slow=1.2,SNR=7.6						
ARCES	**ARCESS Array B**	**133.05**	**22**	PKP	PKPdf	16 37 31.7	-3.1
MKAR	**Makanchi Array**	**136.68**	**73**	PKP	PKPdf	16 37 41.3	-0.2
	0.2nm,0.5s,baz=196,slow=2.0,SNR=4.6						
YKA	**Yellowknife Ar**	**138.89**	**315**	PKhKP		16 37 33.0	
	0.3nm,0.5s,baz=125,slow=2.9,SNR=11						
YKA				PKP	PKPdf	16 37 44.3	-1.3
	2.4nm,0.6s,baz=128,slow=2.3,SNR=43						
YKA				SKPbc	SKPbc	16 41 15.1	-5.5
	0.3nm,0.8s,baz=114,slow=2.1,SNR=4.4						
YKA	**Yellowknife Ar**	**138.89**	**315**	PKP		16 37 33.0	
YKA				PKP	PKPdf	16 37 44.3	-1.3
YKA				SKPbc	SKPbc	16 41 15.1	-5.5
ZAL	**Zalesovo**	**142.51**	**66**	PKhKP		16 37 44.3	
	0.8nm,0.6s,baz=193,slow=2.8,SNR=4.7						
SONM	**Songino Array**	**149.73**	**90**	PKPbc	PKPbc	16 38 08.1	-0.9
	2.6nm,0.5s,baz=224,slow=3.6,SNR=30						
ULN	**Ulaanbaatar**	**150.09**	**90**	*e*PKPbc	PKPbc	16 38 08.9	-1.0
ILAR	**Eielson Array**	**152.68**	**307**	PKPbc	PKPbc	16 38 14.2	-1.7
	8.4nm,0.7s,baz=144,slow=5.0,SNR=85						
COLA	**College**	**153.11**	**307**	*e*PKPbc	PKPbc	16 38 14.9	-2.0
MCK	**McKinley**	**153.27**	**305**	*e*PKPbc	PKPbc	16 38 16.0	-1.2
IMA2	**Indian Mountai**	**155.72**	**309**	*e*PKPbc	PKPdf	16 38 22.0	+8.8
IMA2				*e*PKPab	PKPab	16 38 38.1	-1.4

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*IDC **11** 16:32:09.8±5.2, 3158S×17995W, h348km±48km, mb2.9/3, mb1 3.1/4, mb1mx3.1/13, mbtmp3.7/4, Error ellipse: s-maj=52.5km s-min=27.8km az=23.0*
*ISCJB **11** 16:32:11.6±2.1, 3205S×0.02×1795W±06, h425km±37km, mb3.1/3, Error ellipse: s-maj=83.4km s-min=19.9km az=39.6*
ISC 11 16:32:14.7±2.0, 3215S±02×1797W±06, h422km±48km, n16, σ1°08/13, mb3.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.16**	**195**	PN	**P**	**16 33 51.8**	**+2.0**
MWZ	**Matawai**	**6.59**	**199**	PN	**P**	**16 33 54.5**	**+0.2**
URZ	**Urewera**	**6.64**	**202**	P	**P**	**16 33 54.2**	**-0.7**
	1.2nm,0.3s,baz=74,slow=4.3,SNR=9.3						
URZ				S	**S**	**16 35 15.4**	**-1.4**
	2.2nm,0.3s,baz=186,slow=23,SNR=19						
URZ	**Urewera**	**6.64**	**202**	PN	**P**	**16 33 55.0**	**+0.1**
BKZ	**Black Stump Fm**	**7.67**	**203**	SN	**S**	**16 35 38.4**	**+1.0**
PXZ	**Pawanui**	**8.36**	**198**	PN	**P**	**16 34 13.8**	**+0.1**
PXZ				SN	**S**	**16 35 49.5**	**-1.9**
TSZ	**Takapari Road**	**8.65**	**203**	PN	**P**	**16 34 16.1**	**-0.8**
THZ	**Tophouse**	**11.28**	**209**	SN	**S**	**16 36 52.2**	**+1.6**
STKA	**Stephens Creek**	**32.68**	**260**	P	**P**	**16 38 10.1**	**+0.2**
	0.6nm,0.5s,mb3.2,baz=95,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**41.58**	**270**	P	**P**	**16 39 23.5**	**-0.1**
	0.3nm,0.5s,mb2.9,baz=104,slow=7.4,SNR=7.1						
WRA	**Warramunga Arr**	**42.72**	**275**	P	**P**	**16 39 32.1**	**-0.6**
	0.4nm,0.3s,mb3.2,baz=111,slow=8.0,SNR=16						
BVAR	**Borovoye Array**	**126.59**	**315**	PKP	PKPdf	16 50 30.1	+1.4
	0.7nm,0.4s,baz=97,slow=2.3,SNR=4.8						
FINES	**FINESS Array B**	**146.22**	**338**	PKPbc	PKPbc	16 51 06.4	-0.2
	2.6nm,0.5s,baz=44,slow=3.9,SNR=39						
AKASG	**Malin Array Be**	**151.71**	**319**	PKPbc	PKPbc	16 51 21.2	+1.0
	0.6nm,0.5s,baz=68,slow=1.9,SNR=5.4						
BRTR	**Keskin Array B**	**152.05**	**295**	PKPbc	PKPbc	16 51 22.9	+2.0
	0.9nm,0.5s,baz=136,slow=3.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**161.06**	**184**	PKPab	PKPab	16 52 17.1	+5.8
	0.5nm,0.5s,baz=177,slow=3.9,SNR=3.9						

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*ISCJB **11** 16:37:10.3±2.2, 085N±006×1267E±0.1, h33km±18km, mb4.5/28, Error ellipse: s-maj=20.0km s-min=6.9km az=138.4*
*MOS **11** 16:37:10.8±1.2, 080N×12659E, h33km, mb4.6/9, Error ellipse: s-maj=29.8km s-min=9.9km az=111.4*
*IDC **11** 16:37:14.8±3.5, 082N×12686E, h59km±31km, mb4.0/11, mb1 4.2/11, mb1mx4.0/18, mbtmp4.3/11, Error ellipse: s-maj=54.7km s-min=10.2km az=71.0*
*NEIC **11** 16:37:16.2±2.0, 077N×12664E, h72km±18km, mb4.5/14, Error ellipse: s-maj=17.1km s-min=6.6km az=64.0*
ISC 11 16:37:14.9±1.7, 080N±006×1267E±01, h58km±15km, n51, σ0°91/55, mb4.5/28, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**11.70**	**297**	*e*Pn	**Pn**	**16 39 59.7**	**+0.7**
KSM	**Kuching**	**16.42**	**272**	*e*Pn	**Pn**	**16 41 02.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.82**	**183**	*e*P	**Pn**	**16 41 29.5**	**-1.3**
	7.1nm,1.1s						
WRAB	**Tennant Creek**	**21.92**	**160**	*e*P	**P**	**16 42 03.9**	**+0.6**
WRAB				*e*		16 45 58.0	
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**21.92**	**160**	*e*P	**P**	**16 42 03.9**	**+0.5**
	comp=Z,15nm,0.6s,mb4.6						
WRAB				*e*PcP	PcP	16 45 58.0	-2.5
WRA	**Warramunga Arr**	**21.93**	**160**	P	**P**	**16 42 04.0**	**+0.6**
	comp=Z,6.3nm,0.3s,mb4.5,baz=333,slow=11,SNR=226						
WRA				S	**S**	**16 46 01.9**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=332,slow=21,SNR=7.9						
WB2	**Warramunga Arr**	**21.93**	**160**	*e*P	**P**	**16 42 03.8**	**+0.4**
WB2				*e*S	**S**	**16 46 02.2**	**-0.1**
MBWA	**Marble Bar**	**22.87**	**197**	*e*P	**P**	**16 42 11.9**	**-1.5**
	comp=Z,6.1nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**25.30**	**164**	P	**P**	**16 42 36.5**	**+0.5**
	comp=Z,13nm,0.8s,mb4.5,baz=337,slow=9.1,SNR=85						
ASAR				PcP	PcP	16 46 08.9	+1.3
	comp=Z,0.4nm,0.5s,baz=349,slow=2.2,SNR=4.4						
ASAR				S	**S**	**16 46 58.9**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=353,slow=22,SNR=5.2						
ASPA	**Alice Springs**	**25.30**	**164**	*e*P	**P**	**16 42 36.6**	**+0.6**
ASPA				*e*S	**S**	**16 46 58.6**	**+0.8**
KULM	**Kulim**	**26.40**	**280**	*e*P	**P**	**16 42 45.7**	**-0.2**
KLBR	**Kellerberrin**	**33.32**	**194**	*e*P	**P**	**16 43 47.2**	**+0.1**
	comp=Z,59nm,1.6s,mb5.3						
NWAO	**Narrogin (SRO)**	**34.72**	**194**	P	**P**	**16 43 58.6**	**-0.7**
	comp=Z,8.8nm,1.0s,mb4.7,baz=325,slow=6.9,SNR=5.2						
NWAO	**Narrogin (SRO)**	**34.72**	**194**	P	**P**	**16 43 58.6**	**-0.7**
NWAO				P		16 43 59.5	
STKA	**Stephens Creek**	**35.43**	**158**	P	**P**	**16 44 04.4**	**-0.9**
	comp=Z,4.3nm,0.6s,mb4.6,baz=327,slow=9.5,SNR=18						
BJT	**Baijiatuau**	**40.20**	**347**	P	**P**	**16 44 45.4**	**-0.2**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJT	**Baijiatuau**	**40.20**	**347**	P	**P**	**16 44 45.4**	**-0.2**
	comp=Z,4.5nm,0.6s,mb4.4						
LSA	**Lhasa**	**44.40**	**314**	*e*P	**P**	**16 45 21.5**	**+1.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
LSA	**Lhasa**	**44.40**	**314**	*e*P	**P**	**16 45 21.5**	**+1.8**
	comp=Z,2.6nm,0.7s,mb4.1						
JIRN	**Jiri**	**47.11**	**308**	*e*P	**P**	**16 45 40.7**	**-0.4**
	comp=Z,4.9nm,0.4s,mb4.8						
GUN	**Gumba**	**47.47**	**308**	*e*P	**P**	**16 45 43.0**	**-0.9**
	comp=Z,14nm,0.6s,mb5.0						
PKI	**Pulchoki**	**47.69**	**308**	*e*P	**P**	**16 45 45.6**	**0.0**
KKN	**Kakani**	**47.89**	**308**	*e*P	**P**	**16 45 46.8**	**-0.3**
DMN	**Daman**	**47.95**	**307**	*e*P	**P**	**16 45 46.5**	**-1.1**
GKN	**Gorkha**	**48.49**	**308**	*e*P	**P**	**16 45 51.1**	**-0.7**
	comp=Z,6.1nm,0.6s,mb4.8						
KOLN	**Koldanda**	**49.22**	**307**	*e*P	**P**	**16 45 56.8**	**-0.5**
	comp=Z,14nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**49.89**	**343**	*i* P	**P**	**16 46 03.1**	**+0.7**
ULN	**Ulaanbaatar**	**49.89**	**343**	*e*P	**P**	**16 46 02.7**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.4						
SONM	**Songino Array**	**50.06**	**342**	P	**P**	**16 46 03.8**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=162,slow=7.2,SNR=9.4						
BOD	**Bodaibo**	**57.74**	**352**	*e*P	**P**	**16 46 57.2**	**-2.6**
MKAR	**Makanchi Array**	**59.95**	**326**	P	**P**	**16 47 14.7**	**-0.4**
	comp=Z,1.3nm,0.3s,mb4.4,baz=121,slow=7.6,SNR=41						
MKAR	**Makanchi Array**	**59.95**	**326**	*i* P	**P**	**16 47 14.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**61.12**	**2**	*i* P	**P**	**16 47 26.7**	**+3.7**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
MA2	**Magadan**	**61.53**	**14**	P	**P**	**16 47 26.4**	**+0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MA2	**Magadan**	**61.53**	**14**	P	**P**	**16 47 26.4**	**+0.6**
	comp=Z,3.6nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**63.18**	**334**	P	**P**	**16 47 38.0**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.3,baz=14,slow=4.2,SNR=3.6						
ZAL	**Zalesovo**	**63.18**	**334**	P	**P**	**16 47 38.0**	**+1.1**
KURK	**Kurchatov**	**64.20**	**328**	⇓*e*P	**P**	**16 47 43.7**	**+0.1**
KURK	**Kurchatov**	**64.20**	**328**	*e*Pn	**P**	**16 47 42.9**	**-0.7**
	comp=Z,6.4nm,0.5s,mb4.9						
NVS	**Novosibirsk**	**64.47**	**334**	*e*P	**P**	**16 47 52.1**	**+6.8**
CASY	**Casey**	**67.93**	**187**	P	**P**	**16 48 07.8**	**+0.3**
	comp=Z,22nm,1.3s,mb5.0						
BVAR	**Borovoye Array**	**69.76**	**328**	P	**P**	**16 48 18.8**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=129,slow=9.5,SNR=9.2						
BRVK	**Borovoye**	**69.83**	**328**	*e*P	**P**	**16 48 18.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**69.83**	**328**	*e*P	**P**	**16 48 18.9**	**-0.4**
	comp=Z,3.5nm,1.0s,mb4.2						
ARU	**Arti**	**77.39**	**328**	*e*P	**P**	**16 49 05.1**	**+1.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARU	**Arti**	**77.39**	**328**	*e*P	**P**	**16 49 05.1**	**+1.4**
	comp=Z,2.2nm,0.6s,mb4.3						
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**16 49 21.4**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=329,slow=8.3,SNR=5.9						
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**16 49 21.4**	**+0.5**
ILAR	**Eielson Array**	**87.74**	**25**	P	**P**	**16 49 55.4**	**-2.1**
	comp=Z,0.2nm,0.7s,mb3.4,baz=260,slow=4.5,SNR=4.5						
OBN	**Obninsk**	**89.43**	**325**	*e*P	**P**	**16 50 07.0**	**+1.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5						
ARCES	**ARCESS Array B**	**93.17**	**340**	P	**P**	**16 50 22.8**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.6,baz=74,slow=6.7,SNR=3.5						

**IDC 11 16:41:49.2±3.4, 2148N×14428E, h124km±28km, mb3.3/7, mb1 3.6/8, mb1mx3.4/21, mbtmp3.8/8,

BUSP	**Coron**	**3.01 148**	*e*P	**Pn**	**17 06 52.9**	**-0.1**
BUSP			*e*S	**Sn**	**17 07 24.4**	**-3.3**
BALP	**Baler**	**3.15 68**	*e*P	**Pn**	**17 06 55.3**	**+0.4**
BALP			*e*S	**Sn**	**17 07 32.0**	**+0.8**
POLP	**Polilio Island**	**3.28 87**	*e*P	**Pn**	**17 06 58.1**	**+1.4**
POLP			*e*S	**Sn**	**17 07 35.9**	**+1.4**
BOAC	**Boac**	**3.38 109**	*e*P	**Pn**	**17 06 57.8**	**-0.3**
BOAC			*e*S	**Sn**	**17 07 36.2**	**-0.7**
ENPP	**El Nido**	**3.44 166**	*e*P	**Pn**	**17 06 59.0**	**0.0**
ENPP			*e*S	**Sn**	**17 07 36.9**	**-1.6**
ABRA	**Dolores**	**3.71 34**	*e*P	**Pn**	**17 07 03.9**	**+1.4**
ABRA			*e*S	**Sn**	**17 07 44.4**	**-0.6**
APYP	**Conner**	**4.18 38**	*e*P	**Pn**	**17 07 12.1**	**+3.1**
APYP			*e*S	**Sn**	**17 07 54.9**	**-1.7**
CUYO	**Cuyo Island**	**4.41 147**	*e*P	**Pn**	**17 07 12.2**	**+0.1**
PVCP	**Virac**	**5.52 99**	*e*P	**Pn**	**17 07 29.8**	**+2.3**
BATP	**Bataraza**	**5.78 187**	*e*P	**Pn**	**17 07 30.5**	**-0.5**
BATP			*e*S	**Sn**	**17 08 32.3**	**-3.7**
SONM	**Songino Array**	**34.68 346**	P	pP	17 13 05.3	+1.2
	0.5nm,0.5s,baz=164,slow=10.0,SNR=7.4					
WRA	**Warramunga Arr**	**37.64 155**	P	**P**	**17 13 21.2**	**+1.9**
	1.7nm,0.5s,mb4.0,baz=332,slow=9.9,SNR=33					
ASAR	**Alice Springs**	**40.85 158**	P	**P**	**17 13 48.4**	**+2.2**
	1.3nm,0.6s,mb3.7,baz=334,slow=7.0,SNR=43					
MKAR	**Makanchi Array**	**44.11 324**	P	pP	17 14 25.9	+2.9
	0.3nm,0.8s,baz=111,slow=7.2,SNR=2.9					
YKA	**Yellowknife Ar**	**92.77 22**	P	pP	17 19 27.5	-0.1
	0.1nm,0.5s,baz=315,slow=4.1,SNR=6.4					

MAN 11 17:39:38.5, 1543N×12172E, h1km, mb3.0, ML4.4, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.34 336**		*e*P	Pg	17 39 44.4	-0.5
BALP				*e*S	Sg	17 39 49.2	0.0
PCPH	**Palayan**	**0.61 282**		⇑*i*P	Pg	17 39 50.1	-0.1
PCPH				*i* S	Sg	17 39 59.4	+1.2
POLP	**Polilio Island**	**0.73 163**		*e*P	Pg	17 39 53.0	+0.5
POLP				*e*S	Sg	17 40 04.2	+2.1
SCZP	**Santa Cruz**	**1.77 281**		*e*P	Pn	17 40 11.0	+0.7
BOAC	**Boac**	**1.97 176**		*e*P	Pn	17 40 12.8	-0.2
BOAC				*e*S	Sn	17 40 39.4	+1.2
CVP	**Callao Caves**	**2.26 3**		*e*P	Pn	17 40 17.5	+0.5
ABRA	**Dolores**	**2.41 337**		*e*P	Pn	17 40 20.6	+1.6
ABRA				*e*S	Sn	17 40 53.5	+4.4
APYP	**Conner**	**2.46 349**		*e*P	Pn	17 40 20.0	+0.3
APYP				*e*S	Sn	17 40 48.1	-2.3

IDC 11 17:51:50.3±1.1, 218N×12626E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.6/5, Error ellipse: s-maj=132.8km s-min=18.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37 161**		P	P	17 57 01.0	+0.4
	1.7nm,0.5s,baz=339,slow=10,SNR=34						
WB2	**Warramunga Arr**	**23.38 160**		*e*P	P	17 57 01.1	+0.4
ASAR	**Alice Springs**	**26.75 164**		P	P	17 57 32.6	+1.0
	0.4nm,0.3s,baz=345,slow=10,SNR=19						
ASAR				PcP	PcP	18 00 55.5	+0.6
	0.2nm,0.7s,baz=353,slow=2.6,SNR=4.1						
ASPA	**Alice Springs**	**26.75 164**		*e*P	P	17 57 32.6	+1.0
STKA	**Stephens Creek**	**36.87 158**		P	P	17 58 59.2	-1.2
	1.4nm,0.7s,baz=343,slow=9.9,SNR=4.6						
SONM	**Songino Array**	**48.61 342**		P	P	18 00 36.0	+0.3
	0.2nm,0.6s,baz=156,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**58.56 326**		P	P	18 01 48.7	0.0
	0.2nm,0.3s,baz=119,slow=7.5,SNR=15						

*ISCJB **11** 18:04:15.3±1.3, 547S±008×1474E±0.1, h196km±13km, mb4.2/17, Error ellipse: s-maj=22.1km s-min=9.6km az=46.5*
*IDC **11** 18:04:16.9±1.4, 554S×14734E, h203km±14km, mb3.7/7, mb1 4.0/10, mb1mx3.9/15, mbtmp4.5/10, Error ellipse: s-maj=22.9km s-min=9.6km az=109.0*
*NEIC **11** 18:04:16.3±1.5, 557S×14777E, h208km±16km, mb4.6/8, Error ellipse: s-maj=18.0km s-min=13.3km az=134.0*
*BJI **11** 18:04:16.3, 560S×14780E, h208km, mB4.7, mb4.4*
ISC 11 18:04:18.4±1.1, 566S±007×1475E±01, h211km±11km, n36, σ1§20/36, mb4.2/17, 1C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74 185**		P	**Pn**	**18 05 17.7**	**+0.4**
	11nm,0.3s,baz=14,slow=4.9,SNR=133						
PMG				S	**S**	**18 06 03.0**	**-0.8**
	6.7nm,0.3s,baz=26,slow=5.7,SNR=5.7						
PMG	**Port Moresby**	**3.74 185**		*e*Pn	**Pn**	**18 05 17.5**	**+0.2**
PMG				*e*Sn	**S**	**18 05 54.8**	**-8.9**
HNR	**Honiara**	**12.94 108**		P	**Pn**	**18 07 15.8**	**+1.2**
	5.0nm,0.3s,baz=259,slow=2.9,SNR=7.6						
HNR	**Honiara**	**12.94 108**		*e*Pn	**Pn**	**18 07 08.7**	**-5.9**
	106nm,0.9s						
CTA	**Charters Tower**	**14.39 185**		*e*P	**Pn**	**18 07 35.7**	**+3.1**
	5.0nm,0.8s						
CTA				*e*		18 07 38.1	
CTA	**Charters Tower**	**14.39 185**		P	**Pn**	**18 07 36.2**	**+3.6**
	1.2nm,0.3s,baz=360,slow=12,SNR=23						
CTA	**Charters Tower**	**14.39 185**		P	**Pn**	**18 07 36.2**	**+3.6**
CTAO	**Charters Tower**	**14.39 185**		*e*Pn	**Pn**	**18 07 28.9**	**-3.7**
	23nm,0.8s						
WRAB	**Tennant Creek**	**19.07 221**		*e*P	**P**	**18 08 25.3**	**+0.4**
	53nm,0.6s						
WRAB				*e*		18 08 29.2	
WB2	**Warramunga Arr**	**19.08 221**		⇓*i*P	**P**	**18 08 25.7**	**+0.7**
WB2				*e*		18 08 29.2	
WB2				*e*S	**S**	**18 11 49.4**	**-0.6**
WRA	**Warramunga Arr**	**19.09 221**		P	**P**	**18 08 25.8**	**+0.7**
	3.9nm,0.3s,baz=46,slow=11,SNR=282						
WRA				S	**S**	**18 11 49.7**	**-0.5**
	0.3nm,0.3s,baz=36,slow=21,SNR=8.2						
ASAR	**Alice Springs**	**22.16 215**		P	**P**	**18 08 58.2**	**+1.3**
	28nm,0.8s,mb4.9,baz=47,slow=8.1,SNR=600						
ASAR				S	**S**	**18 12 47.0**	**+1.7**
	2.7nm,0.9s,baz=34,slow=21,SNR=12						
FITZ	**Fitzroy Crossi**	**24.64 238**		⇓*i*P	**P**	**18 09 19.0**	**-0.5**
	46nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**26.66 191**		*e*P	**P**	**18 09 36.4**	**-1.2**
	2.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**26.66 191**		P	**P**	**18 09 36.6**	**-1.0**
	3.1nm,0.6s,mb4.1,baz=1.0,slow=8.8,SNR=14						
MBWA	**Marble Bar**	**30.98 238**		*e*P	**P**	**18 10 13.5**	**-2.3**
	6.2nm,0.7s,mb4.3						
KLBR	**Kellerberrin**	**37.93 223**		*e*P	**P**	**18 11 14.9**	**-0.5**
	6.3nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**39.09 222**		P	**P**	**18 11 19.6**	**-5.4**
	15nm,1.0s,mb4.5						
CD2	**Chengdu**	**55.37 314**		*e*P	**P**	**18 13 30.7**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**56.78 328**		*e*P	**P**	**18 13 42.4**	**+2.0**
HHC				AP	pP	18 14 29.7	+1.7
HHC				PCP	PcP	18 14 35.7	+2.0
HHC				XP	sP	18 14 52.5	+1.4
HHC				PP	PP	18 15 52.4	+3.3
HHC				SCP	ScP	18 18 12.7	-0.1
HHC				S	**S**	**18 21 18.5**	**+1.8**
HHC				XS	sS	18 22 46.0	+6.2
HHC				SCS	ScS	18 23 05.2	-2.9
HHC				SS	SS	18 25 09.9	+1.9
HHC				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
HHC				AMB	AMB		
	comp=Z,92nm,7.2s						
HHC				LR	LR		
	comp=N,95nm,16.8s						
HHC				LR	LR		
	comp=E,116nm,15.6s						
HHC				LR	LR		
	comp=Z,62nm,19.2s						
ULN	**Ulaanbaatar**	**64.03 331**		*e*P	**P**	**18 14 28.4**	**-1.0**
	comp=Z,1.9nm,0.8s,mb3.8						
SONM	**Songino Array**	**64.33 331**		P	**P**	**18 14 30.9**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.5,baz=150,slow=5.1,SNR=8.2						
PALK	**Pallekele**	**67.83 280**		P	**P**	**18 14 55.5**	**+1.8**
	comp=Z,36nm,1.5s,mb4.8						
VNDA	**Vanda**	**72.22 177**		P	**P**	**18 15 21.2**	**+0.9**
	comp=Z,2.5nm,0.5s,mb4.1,baz=310,slow=6.9,SNR=12						
WMQ	**Urumqi**	**72.83 319**		*e*P	**P**	**18 15 25.0**	**+1.1**
WMQ				AP	pP	18 16 18.0	+4.2
WMQ				PP	PP	18 18 13.0	+4.1
WMQ				S	S	18 24 33.0	+0.6
WMQ				SS	SS	18 29 21.0	+4.1
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,116nm,6.0s						
WMQ				LR	LR		
	comp=N,328nm,14.0s						
WMQ				LR	LR		
	comp=E,345nm,13.0s						
WMQ				LR	LR		
	comp=Z,301nm,12.0s						
MKAR	**Makanchi Array**	**77.53 320**		P	**P**	**18 15 49.4**	**-1.3**
	comp=Z,1.4nm,0.7s,mb3.7,baz=98,slow=8.7,SNR=23						
ZAL	**Zalesovo**	**78.97 328**		P	**P**	**18 15 55.7**	**-2.9**
	comp=Z,1.7nm,0.4s,mb4.0,baz=37,slow=2.2,SNR=6.7						
ZAL	**Zalesovo**	**78.97 328**		P	**P**	**18 15 55.7**	**-2.9**
QSPA	**South Pole Qui**	**84.31 180**		*e*P	**P**	**18 16 26.2**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**84.99 23**		P	**P**	**18 16 28.1**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.3,baz=249,slow=5.0,SNR=10						
SYO	**Syowa Base**	**91.07 200**		⇑*e*P	pP	18 17 52.2	+1.5
SYO	**Syowa Base**	**91.07 200**		⇓*e*PP	PP	18 20 35.1	-3.2
LBTB	**Lobatse**	**115.81 239**		P	PKPdf	18 22 35.7	+0.1
GERES	**GERESS Array B**	**121.88 326**		PKP	PKPdf	18 22 46.4	-0.8
	comp=Z,0.1nm,0.3s,baz=0.0,slow=0.0,SNR=3.6						
DOU	**Dourbes**	**125.86 331**		PKP	PKPdf	18 22 51.1	-3.9
TORD	**Torodi Ar. Bea**	**145.45 285**		PKPbc	PKPbc	18 23 30.5	-1.0
	comp=Z,1.5nm,0.7s,baz=73,slow=3.7,SNR=14						

IDC 11 18:26:00.1±30.0, 2332N×1055W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=787.4km s-min=54.8km az=66.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.40 129**		Pn	Pn	18 29 39.1	+0.4
	0.1nm,0.3s,baz=317,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**45.59 24**		P	P	18 34 21.8	-0.2
	1.1nm,0.9s,baz=220,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**75.24 45**		P	P	18 37 44.8	+0.1
	0.1nm,0.4s,baz=285,slow=5.3,SNR=4.8						

*SOF **11** 19:01:08.9, 4066N×2341E, h6km, MD3.0*
*ISCJB **11** 19:01:09.3±0.4, 4063N±002×2339E±004, h7km±4km, Error ellipse: s-maj=4.9km s-min=3.5km az=163.7*
*ATH **11** 19:01:09.9, 4065N×2344E, h17km±1km, MD3.3/6*
*CSEM **11** 19:01:10.4±0.1, 4064N×2340E, h10km, ML2.8, Error ellipse: s-maj=1.6km s-min=1.3km az=88.0*
*THE **11** 19:01:10.3, 4063N×2341E, h5km, ML2.8*
ISC 11 19:01:10.0±0.4, 4064N±002×2338E±004, h11km±4km, n26, σ0§96/39, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.19 354**		*e*Pg	**Pg**	**19 01 14.6**	**+0.6**
SOH				*e*Sg	**Sg**	**19 01 17.2**	**+0.5**
PLG	**Polygyros**	**0.27 169**		⇑*i*PB	**Pg**	**19 01 15.9**	**+0.4**
PLG				*e*SB	**Sg**	**19 01 19.6**	**+0.5**
THE	**Thessaloniki**	**0.32 269**		*e*Pg	**Pg**	**19 01 16.8**	**+0.5**
	comp=Z,25nm,0.1s						
THE				*e*Sg	**Sg**	**19 01 21.9**	**+1.3**
OUR	**Ouranopolis**	**0.55 123**		*e*Pg	**Pg**	**19 01 20.4**	**-0.3**
	comp=Z,48nm,0.1s						
OUR				*e*Sg	**Sg**	**19 01 27.8**	**-0.2**
KNT	**Kendrikon**	**0.64 325**		*e*Sg	**Sg**	**19 01 31.2**	**+0.4**
	comp=Z,41nm,0.1s						
KNT				*e*Sg	**Sg**	**19 01 38.2**	**+7.4**
NVR	**Nevrokopi**	**0.80 27**		*e*PN	**Pn**	**19 01 25.2**	**-2.1**
NVR				*e*SN	**Sn**	**19 01 35.0**	**-4.2**
LIT	**Litokhoron**	**0.86 232**		*e*Pg	**Pg**	**19 01 27.1**	**+0.3**
	comp=Z,2.4nm,0.1s						
VAY	**Valandovo**	**0.92 318**		*e*Pg	**Pg**	**19 01 27.6**	**-0.1**
VAY				*e*Sg	**Sg**	**19 01 40.2**	**+0.6**
VAY	**Valandovo**	**0.92 318**		*e*Pg	**Pg**	**19 01 27.6**	**-0.1**
VAY				*e*Sg	**Sg**	**19 01 40.2**	**+0.5**
MMB	**Musomiste**	**0.99 15**		*i* P	**Pg**	**19 01 28.0**	**-1.0**
KKB	**Krupnik**	**1.25 350**		*i* P	**Pn**	**19 01 32.9**	**-0.5**
KZN	**Kozani**	**1.27 255**		*e*PN	**Pn**	**19 01 35.1**	**+1.4**
XOR	**Xorichti**	**1.28 187**		*e*Pg	**Pg**	**19 01 33.9**	**-0.6**
	comp=Z,2.5nm,0.3s						
XOR				*e*Sg	**Sg**	**19 01 51.1**	**-0.1**
RZN	**Rozhen**	**1.46 43**		*i* P	**Pn**	**19 01 37.0**	**+0.7**
FNA	**Florina**	**1.53 276**		*e*Pg	**Pg**	**19 01 38.4**	**-1.0**
LIA	**Limnos Island**	**1.56 118**		*e*PN	**Pn**	**19 01 38.3**	**+0.5**
RDO	**Rodhopi**	**1.71 72**		*e*PN	**Pn**	**19 01 40.5**	**+0.7**
RDO				*e*SN	**Sn**	**19 02 03.0**	**+1.3**
PLD	**Plovdiv**	**1.77 34**		*e*Pg	**Pg**	**19 01 44.0**	**0.0**
AGG	**Agios Georgios**	**1.80 207**		*e*Pb	**Pb**	**19 01 41.7**	**-1.4**
KDZ	**Kurdzhali**	**1.84 56**		*e*P	**Pn**	**19 01 44.0**	**+2.4**
VTS	**Vitosha**	**1.96 356**		*e*P	**Pn**	**19 01 44.3**	**+1.1**
VTS				*i* Pg	**Pg**	**19 01 47.3**	**-0.3**
VTS	**Vitosha**	**1.96 356**		*e*Pb	**Pb**	**19 01 44.3**	**-1.4**
VTS				*e*Sb	**Sb**	**19 02 09.4**	**-0.7**
VTS	**Vitosha**	**1.96 356**		*i* Pg	**Pg**	**19 01 47.3**	**-0.3**
PGB	**Panagyurishte**	**2.00 17**		*i* P	**Pn**	**19 01 44.5**	**+0.7**
PGB				*e*Pg	**Pg**	**19 01 47.0**	**-1.4**
ALN	**Alexandroupoli**	**2.04 82**		*e*Pn	**Pn**	**19 01 43.8**	**-0.5**
EVR	**Evrytania**	**2.10 216**		*e*PB	**Pb**	**19 01 46.4**	**-1.7**

*NEIC **11** 19:18:15.1, 37.18S×176.79E, h195km, MG3.9(WEL), After WEL.*
WEL 11 19:18:15.8±0.6, 3719S×17691E, h191km±5km, ML3.9/17, Error ellipse: s-maj=7.6km s-min=5.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.08 172**		PN	Pn	19 18 45.3	0.0
URZ				SN	Sn	19 19 08.6	+0.6
MXZ	**Matakaoa Point**	**1.18 109**		PN	Pn	19 18 46.1	+0.2
MXZ				SN	Sn	19 19 09.2	-0.1
MXZ	**Matakaoa Point**	**1.18 109**		*e*P	Pn	19 18 46.1	+0.1
MWZ	**Matawai**	**1.25 157**		PN	Pn	19 18 47.0	+0.5
MWZ				SN	Sn	19 19 10.2	-0.2
MWZ	**Matawai**	**1.25 157**		P	Pn	19 18 47.0	+0.4
MWZ				S	Sn	19 19 10.1	-0.2
PUZ	**Puketiti**	**1.39 130**		PN	Pn	19 18 47.9	+0.2
PUZ				SN	Sn	19 19 11.9	-0.6
PUZ	**Puketiti**	**1.39 130**		P	Pn	19 18 47.9	+0.1
KNZ	**Kokohu**	**1.93 162**		PN	Pn	19 18 53.2	+0.3
KNZ	**Kokohu**	**1.93 162**		P	Pn	19 18 53.2	+0.3
BKZ	**Black Stump Fm**	**2.00 189**		PN	Pn	19 18 53.5	-0.3
BKZ	**Black Stump Fm**	**2.00 189**		P	Pn	19 18 53.5	-0.2
FWVZ	**Far West T-bar**	**2.33 207**		PN	Pn	19 18 57.9	+0.7
PXZ	**Pawanui**	**2.84 181**		PN	Pn	19 19 02.4	-0.8
TSZ	**Takapari Road**	**2.96 194**		PN	Pn	19 19 03.7	-0.9
TSZ	**Takapari Road**	**2.96 194**		P	Pn	19 19 03.9	-0.7
MRZ	**Mangatainoka R**	**3.62 196**		PN	Pn	19 19 10.6	-2.0
MRZ	**Mangatainoka R**	**3.62 196**		*e*P	Pn	19 19 10.8	-1.8
KIW	**Kapiti Island**	**3.99 202**		PN	Pn	19 19 15.1	-2.1
KIW	**Kapiti Island**	**3.99 202**		P	Pn	19 19 15.1	-2.0
MTW	**Mount Morrison**	**4.12 195**		PN	Pn	19 19 16.5	-2.2
MTW	**Mount Morrison**	**4.12 195**		P	Pn	19 19 16.5	-2.2
CAW	**Cannon Point**	**4.17 199**		PN	Pn	19 19 17.1	-2.4
CAW	**Cannon Point**	**4.17 199**		P	Pn	19 19 17.1	-2.3
TRWZ	**Traveller**	**4.31 192**		PN	Pn	19 19 18.9	-2.3
MRW	**Makara Radio**	**4.39 202**		PN	Pn	19 19 19.7	-2.4
MRW	**Makara Radio**	**4.39 202**		P	Pn	19 19 19.7	-2.5
MSWZ	**Moikau Station**	**4.42 196**		PN	Pn	19 19 20.0	-2.5
MSWZ	**Moikau Station**	**4.42 196**		P	Pn	19 19 20.0	-2.5
WEL	**Wellington**	**4.42 201**		PN	Pn	19 19 20.1	-2.5
WEL	**Wellington**	**4.42 201**		P	Pn	19 19 20.1	-2.5
BHW	**Baring Head**	**4.50 200**		PN	Pn	19 19 20.7	-2.9
BHW	**Baring Head**	**4.50 200**		P	Pn	19 19 19.7	-3.9
TCW	**Tory Channel**	**4.51 206**		PN	Pn	19 19 21.3	-2.5
TCW	**Tory Channel**	**4.51 206**		P	Pn	19 19 21.3	-2.4
TUWZ	**Tuamarina**	**4.82 208**		PN	Pn	19 19 25.0	-2.8
QRZ	**Quartz Range**	**4.99 222**		PN	Pn	19 19 27.0	-2.8
BSWZ	**Blackbirch Sta**	**5.09 206**		PN	Pn	19 19 28.5	-2.7
THZ	**Tophouse**	**5.52 213**		PN	Pn	19 19 34.0	-2.7
THZ	**Tophouse**	**5.52 213**		*e*P	Pn	19 19 35.0	-1.7
KHZ	**Kahutara**	**5.83 205**		PN	Pn	19 19 37.6	-3.2
KHZ	**Kahutara**	**5.83 205**		*e*P	Pn	19 19 37.6	-3.2

MAN 11 19:32:54.4, 1621N×12227E, h66km, mb2.6, ML4.1, MS5.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.81 235**		*e*P	Pn	19 33 11.6	+1.3
BALP				*e*S	Sn	19 33 24.8	+2.8
POLP	**Polilio Island**	**1.50 192**		*e*P	Sn	19 33 44.7	+6.7
CVP	**Callao Caves**	**1.55 344**		*e*P	Pn	19 33 20.0	+0.1
APYP	**Conner**	**1.92 329**		*e*P	Pn	19 33 29.6	+4.8
APYP				*e*S	Sn	19 33 48.9	+0.9
ABRA	**Dolores**	**2.07 314**		*e*P	Pn	19 33 27.8	+1.0
ABRA				*e*S	Sn	19 33 53.0	+1.3

MAN 11 19:40:32.1, 1361N×12486E, h20km, mb3.5, ML4.7, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.69 269**		*e*P	Pb	19 40 44.8	-0.5
PVCP				*e*S	Sb	19 40 51.8	-2.6
CNP	**Catarman**	**1.11 190**		*e*P	Pn	19 40 52.7	+0.3
CNP				*e*S	Sb	19 41 07.5	+0.9
MMPH	**Masbate**	**1.73 224**		*e*P	Pn	19 41 00.8	-0.3
MMPH				*e*S	Sn	19 41 20.7	-1.8
BESP	**Borongan**	**2.08 164**		*e*P	Pn	19 41 06.2	+0.4
BESP				*e*S	Sn	19 41 31.6	+0.6
AUQP	**San Andres**	**2.14 263**		*e*P	Pn	19 41 07.4	+0.7
GQP	**Guinayangan**	**2.36 277**		*e*P	Pn	19 41 10.5	+0.8
GQP				*e*S	Sn	19 41 39.4	+1.3
PLP	**Palo**	**2.43 177**		*e*P	Pn	19 41 11.7	+1.0
PLP				*e*S	Sn	19 41 36.5	-3.3
BOAC	**Boac**	**2.94 267**		*e*P	Pn	19 41 16.9	-0.7
BOAC				*e*S	Sn	19 41 52.2	-0.1
OTRP	**Odiongan**	**3.03 246**		*e*P	Pn	19 41 20.2	+1.2
POLP	**Polilio Island**	**3.04 292**		*e*P	Pn	19 41 22.6	+3.6
POLP				*e*S	Sn	19 42 01.6	+6.8
MSLP	**Maasin**	**3.46 180**		*e*P	Pn	19 41 26.3	+1.5
GUIM	**Jordan**	**3.71 217**		*e*P	Pn	19 41 26.7	-1.5
BALP	**Baler**	**3.82 304**		*e*P	Pn	19 41 36.7	+7.0
BALP				*e*S	Sn	19 42 09.3	-4.7
APYP	**Conner**	**5.48 321**		*e*P	Pn	19 41 54.8	+2.3
APYP				*e*S	Sn	19 42 52.9	-2.0
ABRA	**Dolores**	**5.66 316**		*e*P	Pn	19 41 56.7	+1.6
ABRA				*e*S	Sn	19 42 56.2	-3.3

*BJI **11** 20:14:53.0, 3065N×9451E, h15km, ML3.6*
*ISCJB **11** 20:14:55.8±2.1, 313N±0.1×936E±0.2, h10km, Error ellipse: s-maj=19.6km s-min=14.1km az=28.7*
ISC 11 20:14:58.7±2.1, 313N±01×936E±02, h10km, n8, σ0§99/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.63 234**		PG	**Pg**	**20 15 45.5**	**-3.6**
LSA				SG	**Sg**	**20 16 23.3**	**+0.2**
LSA				Smax			
	comp=N,50nm,0.5s						
LSA				Smax			
	comp=E,60nm,0.5s						
SHL	**Shillong**	**5.87 195**		*e*S	**Sn**	**20 17 33.0**	**-0.1**
JIRN	**Jiri**	**7.39 243**		*e*P	**Pn**	**20 16 48.0**	**+1.4**
	comp=E,5.0nm,0.6s						
GUN	**Gumba**	**7.51 246**		*e*P	**Pn**	**20 16 48.8**	**+0.6**
	comp=E,6.1nm,0.3s						
KKN	**Kakani**	**8.03 247**		*e*P	**Pn**	**20 16 55.0**	**-0.4**
	comp=E,3.9nm,0.4s						
DMN	**Daman**	**8.26 246**		*e*P	**Pn**	**20 16 59.6**	**+1.2**
GKN	**Gorkha**	**8.45 250**		*e*P	**Pn**	**20 17 00.3**	**-0.9**
	comp=E,3.8nm,0.4s						
KOLN	**Koldanda**	**9.38 251**		*e*P	**Pn**	**20 17 12.6**	**-1.3**
	comp=E,9.9nm,0.7s						

*ISCJB **11** 20:50:21.4±0.6, 4260N±004×4341E±005, h8km±5km, Error ellipse: s-maj=7.4km s-min=4.7km az=103.5*
*TIF **11** 20:50:21.0, 4255N×4343E, h13km±1km*
*MOS **11** 20:50:23.8±1.5, 4260N×4363E, h16km, mb4.0/1, Error ellipse: s-maj=17.6km s-min=8.0km az=68.2*
ISC 11 20:50:21.7±0.5, 4255N±003×4341E±005, h6km±5km, n18, σ0§85/26, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04 50**		P	**Pg**	**20 50 23.7**	**+0.7**
ONI				S	**Sg**	**20 50 25.4**	**+1.5**
DIGR	**Digorskoe uzhe**	**0.37 20**		*i* PG	**Pg**	**20 50 28.9**	**0.0**
ZEI	**Tsey**	**0.42 59**		*i* PG	**Pg**	**20 50 30.0**	**+0.1**
ZEI				*e*		20 50 35.8	
ZEI				pmax	pmax		
	comp=Z,338nm,0.2s						
ZEI				smax			
	comp=N,724nm,0.2s						
LACR	**Lac**	**0.71 67**		*i* PG	**Pg**	**20 50 34.9**	**-0.5**
LSNR	**Lesken**	**0.78 23**		*i* PG	**Pg**	**20 50 37.3**	**+0.6**
ARNR	**Ardon**	**0.90 45**		⇑*e*PG	**Pg**	**20 50 39.2**	**+0.2**
**CHVG

PXZ				SN	Sn	20 58 36.8	-0.1
KNZ	**Kokohu**	**1.67**	**97**	PN	Pn	20 58 15.3	+0.3
MRZ	**Mangatainoka R**	**1.83**	**179**	PN	Pn	20 58 15.3	-1.6
MRZ				SN	Sn	20 58 39.0	-2.9
KIW	**Kapiti Island**	**2.09**	**193**	PN	Pn	20 58 17.5	-2.4
PUZ	**Puketiti**	**2.26**	**71**	SN	Sn	20 58 49.5	-1.5
CAW	**Cannon Point**	**2.31**	**189**	PN	Pn	20 58 20.1	-2.4
MTW	**Mount Morrison**	**2.33**	**181**	PN	Pn	20 58 20.3	-2.5
DUWZ	**D'Urville Isla**	**2.33**	**212**	PN	Pn	20 58 19.7	-3.1
MRW	**Makara Radio**	**2.48**	**195**	PN	Pn	20 58 21.9	-2.8
SNZO	**South Karori**	**2.56**	**194**	PN	Pn	20 58 22.5	-3.2
TRWZ	**Traveller**	**2.57**	**178**	PN	Pn	20 58 23.3	-2.4
TCW	**Tory Channel**	**2.57**	**202**	PN	Pn	20 58 22.7	-3.1
MSWZ	**Moikau Station**	**2.59**	**185**	PN	Pn	20 58 23.2	-2.9
BHW	**Baring Head**	**2.63**	**191**	PN	Pn	20 58 23.4	-3.2
TUWZ	**Tuamarina**	**2.87**	**205**	PN	Pn	20 58 25.9	-3.7
NNZ	**Nelson**	**2.91**	**214**	PN	Pn	20 58 25.8	-4.3
QRZ	**Quartz Range**	**3.06**	**228**	PN	Pn	20 58 27.2	-4.8
BSWZ	**Blackbirch Sta**	**3.15**	**203**	PN	Pn	20 58 29.6	-3.5
MQZ	**McQueen's Vall**	**5.34**	**203**	*e*SN	Sn	20 59 51.2	-11

*ISCJB **11** 21:04:06.8±0.4, 3981N±003×2070E±004, h11km±5km, Error ellipse: s-maj=4.8km s-min=4.3km az=76.3*
*ATH **11** 21:04:06.9, 3984N×2065E, h15km, MD3.1/5*
*CSEM **11** 21:04:07.4±0.1, 3984N×2065E, h2km, MD3.1*
*THE **11** 21:04:07.9, 3980N×2070E, h7km, ML2.8*

ISC 11 21:04:07.5±0.4, 3981N±003×2069E±003, h15km±4km, n20, σ1°10/29, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**141**	⇑*i*PB	**Pg**	**21 04 12.0**	**-0.1**
JAN				*e*SB	**Sg**	**21 04 15.9**	**+0.7**
LSK	**Leskovik**	**0.35**	**349**	*e*Pg	**Pg**	**21 04 14.8**	**+0.2**
IGT	**Igoumenitsa**	**0.39**	**225**	*e*Pg	**Pg**	**21 04 14.6**	**-0.7**
IGT				*e*Sg	**Sg**	**21 04 22.0**	**+1.3**
MEV	**Metsovon**	**0.42**	**93**	*e*Pg	**Pg**	**21 04 16.1**	**+0.2**
MEV				*e*Sg	**Sg**	**21 04 22.4**	**+0.8**
MEV	**Metsovon**	**0.42**	**93**	*e*Pg	**Pg**	**21 04 16.0**	**+0.1**
MEV				*e*Sg	**Sg**	**21 04 22.4**	**+0.8**
SRN	**Sarande**	**0.53**	**278**	*e*Pg	**Pg**	**21 04 17.2**	**-0.8**
SRN				*i* Sg	**Sg**	**21 04 25.9**	**+0.8**
KEK	**Kerkira**	**0.69**	**262**	*e*PN	**Pn**	**21 04 19.9**	**-2.8**
KZN	**Kozani**	**0.97**	**59**	*e*PN	**Pn**	**21 04 25.6**	**-0.9**
LKD	**Levkas**	**1.10**	**181**	*e*Pg	**Pg**	**21 04 27.8**	**-0.9**
FNA	**Florina**	**1.11**	**28**	*e*Pg	**Pg**	**21 04 28.3**	**-0.5**
	comp=Z,3.1nm,0.1s						
FNA				*e*Sg	**Sg**	**21 04 45.2**	**+2.0**
EVR	**Evrytania**	**1.25**	**135**	*e*PN	**Pn**	**21 04 31.0**	**+0.7**
BIA	**Bitola**	**1.30**	**22**	*e*Pg	**Pg**	**21 04 30.9**	**-1.6**
OHR	**Ohrid**	**1.30**	**4**	*e*Pg	**Pg**	**21 04 32.1**	**-0.5**
OHR				*e*Sg	**Sg**	**21 04 50.8**	**+1.3**
LIT	**Litokhoron**	**1.42**	**78**	*e*Pg	**Pg**	**21 04 33.1**	**-1.6**
	comp=Z,1.4nm,0.3s						
AGG	**Agios Georgios**	**1.50**	**121**	*e*Pg	**Pg**	**21 04 34.7**	**-1.6**
AGG				*e*Sg	**Sg**	**21 04 55.8**	**0.0**
VLS	**Valsamata**	**1.63**	**183**	*e*PN	**Pn**	**21 04 38.0**	**+2.4**
GRG	**Griva**	**1.74**	**48**	*e*Pb	**Pb**	**21 04 37.7**	**-1.4**
KNT	**Kendrikon**	**2.16**	**51**	*e*Pn	**Pn**	**21 04 43.7**	**+0.8**
PAIG	**Paliouri**	**2.31**	**86**	*e*Pn	**Pn**	**21 04 44.6**	**-0.3**
PAIG				*e*Sn	**Sn**	**21 05 13.8**	**+0.8**
OUR	**Ouranopolis**	**2.58**	**77**	*e*Pn	**Pn**	**21 04 49.4**	**+0.7**

MAN 11 21:12:54.1, 1544N×12169E, h4km, mb3.0, ML4.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.32**	**340**	*e*P	Pg	21 13 00.0	-0.3
BALP				*e*S	Sg	21 13 04.2	-0.3
PCPH	**Palayan**	**0.59**	**282**	⇑*i*P	Pg	21 13 05.5	+0.1
PCPH				*i* S	Sg	21 13 14.4	+1.4
POLP	**Polilio Island**	**0.74**	**161**	*e*P	Pg	21 13 09.1	+0.7
POLP				*e*S	Sg	21 13 22.2	+4.2
BOAC	**Boac**	**1.97**	**176**	*e*P	Pn	21 13 26.4	-1.8
BOAC				*e*S	Sn	21 13 56.7	+3.2
ABRA	**Dolores**	**2.39**	**337**	*e*P	Pn	21 13 35.5	+1.5
APYP	**Conner**	**2.45**	**350**	*e*P	Pn	21 13 35.3	+0.5
APYP				*e*S	Sn	21 14 07.3	+2.1

*ISCJB **11** 21:14:59.7±3.6, 201S±05×1692E±04, h90km±35km, mb3.8/6, Error ellipse: s-maj=89.6km s-min=30.5km az=112.2*
*NEIC **11** 21:14:59.8±3.1, 1996S×16920E, h76km±30km, Error ellipse: s-maj=62.0km s-min=27.0km az=150.0*
*IDC **11** 21:15:00.2±4.9, 1996S×16909E, h76km±46km, mb3.6/6, mb1 3.8/7, mb1mx3.8/14, mbtmp3.9/7, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/11, Error ellipse: s-maj=72.3km s-min=31.2km az=151.0*

ISC 11 21:14:59.4±3.6, 200S±04×1693E±03, h75km±34km, n15, σ0°91/8, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**232**	P	**Pn**	**21 15 49.4**	**+0.5**
	7.6nm,0.3s,baz=48,slow=16,SNR=72						
DZM				S	**Sn**	**21 16 26.6**	**-0.6**
	22nm,0.3s,baz=297,slow=22,SNR=16						
CTA	**Charters Tower**	**21.61**	**266**	P	**P**	**21 19 43.8**	**+0.7**
	8.1nm,1.0s,mb4.0,baz=85,slow=4.4,SNR=3.8						
CTA				LR	LR	21 26 17.2	
	comp=Z,76nm,18.2s,baz=47,slow=32						
STKA	**Stephens Creek**	**27.45**	**239**	P	**P**	**21 20 38.8**	**+0.6**
	0.9nm,0.6s,mb3.5,baz=62,slow=9.5,SNR=5.4						
WRA	**Warramunga Arr**	**32.78**	**264**	P	**P**	**21 21 24.2**	**-1.2**
	0.8nm,0.9s,mb3.5,baz=95,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**32.96**	**257**	P	**P**	**21 21 27.4**	**+0.6**
	2.2nm,0.6s,mb4.2,baz=85,slow=8.8,SNR=60						
SONM	**Songino Array**	**87.86**	**323**	P	**P**	**21 27 40.5**	**0.0**
	0.6nm,0.8s,mb3.7,baz=147,slow=3.6,SNR=6.0						
ILAR	**Eielson Array**	**90.98**	**17**	P	**P**	**21 27 54.6**	**-0.5**
	0.5nm,0.6s,mb3.8,baz=241,slow=5.6,SNR=6.5						
YKA	**Yellowknife Ar**	**101.36**	**27**	P	Pdif	21 28 44.3	+2.0
	0.2nm,0.6s,baz=252,slow=4.6,SNR=6.8						
ARCES	**ARCESS Array B**	**125.84**	**345**	PKP	PKPdf	21 33 52.3	-0.2
	2.2nm,0.9s,baz=59,slow=2.1,SNR=6.4						
GERES	**GERESS Array B**	**145.20**	**331**	PKPbc	PKPbc	21 34 26.8	-1.3
	1.1nm,0.6s,baz=0.0,slow=2.7,SNR=13						
CDF	**Champ du Feu**	**148.18**	**337**	*e*PKIKP	PKPdf	21 34 36.9	+3.6
MEZF	**Maizieres J'vi**	**148.88**	**340**	*e*PKIKP	PKPdf	21 34 39.2	+4.8
LOR	**Lormes**	**150.34**	**340**	*e*PKIKP	PKPdf	21 34 41.5	+4.7
	4.4nm,0.7s						
MBDF	**Montbardon**	**151.40**	**333**	*e*PKIKP	PKPdf	21 34 43.3	+4.9
ORIF	**Oris-en-Rattie**	**151.61**	**335**	*e*PKIKP	PKPdf	21 34 42.7	+4.0

*IDC **11** 21:27:42.7±2.9, 3262S×17828W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=67.9km s-min=35.5km az=117.0*
*NEIC **11** 21:27:47.1±1.9, 3277S×178.19W, h35km, mb4.2/1, Error ellipse: s-maj=42.8km s-min=20.9km az=105.0*
*ISCJB **11** 21:27:51.8±2.3, 326S±0.1×1792W±0.3, h33km, mb3.9/3, Error ellipse: s-maj=42.6km s-min=14.4km az=15.4*

ISC 11 21:27:52.5±2.2, 326S±01×1789W±03, h35km, n7, σ0°78/7, mb3.9/3, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.52**	**209**	Pn	**Pn**	**21 29 22.8**	**-3.1**
	2.6nm,0.3s,baz=275,slow=2.5,SNR=16						
URZ				Sn	**Sn**	**21 30 39.6**	**+0.5**
	2.8nm,0.3s,baz=156,slow=16,SNR=11						
ASAR	**Alice Springs**	**42.25**	**270**	P	**P**	**21 35 42.5**	**+0.2**
	1.3nm,0.6s,mb3.7,baz=107,slow=7.5,SNR=35						
WB2	**Warramunga Arr**	**43.43**	**275**	*e*P	**P**	**21 35 51.9**	**0.0**
WRAB	**Tennant Creek**	**43.44**	**275**	*e*P	**P**	**21 35 51.8**	**-0.1**
	2.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**43.44**	**275**	P	**P**	**21 35 51.9**	**0.0**
	0.9nm,0.3s,mb3.9,baz=113,slow=8.0,SNR=43						
SYO	**Syowa Base**	**74.82**	**193**	⇓*e*P	**P**	**21 39 29.7**	**+0.5**
FINES	**FINESS Array B**	**146.89**	**338**	PKPbc	PKPdf	21 47 26.1	-3.1
	1.6nm,0.7s,baz=60,slow=4.3,SNR=8.3						

*NAO **11** 21:49:04.2, 2891S×268E, h33km, mb4.6*
*IDC **11** 21:49:12.9±0.5, 2550S×126W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/21, mbtmp4.4/16, ML2.3/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/26, Error ellipse: s-maj=18.5km s-min=15.6km az=164.0*
*ISCJB **11** 21:49:13.3±0.3, 2539S±006×126W±008, h10km, mb4.5/50, MS4.0/8, Error ellipse: s-maj=10.5km s-min=8.3km az=52.0*
*SZGRF **11** 21:49:14.8, 2540S×288W, h33km, mb4.9, South Atlantic Ocean*
*NEIC **11** 21:49:16.5±0.3, 2543S×119W, mb4.8/7, Error ellipse: s-maj=12.6km s-min=8.7km az=155.0*
*BJI **11** 21:49:16.5, 2540S×120W, h21km, mB5.3, Ms5.0, Msz4.7*

ISC 11 21:49:15.1±0.3, 2541S±006×119W±008, h10km, (h22km±1.2km:pP-P), n105, σ0°69/90, mb4.5/50, MS4.0/8, 8C-1D, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**15.01**	**217**	*e*Pn	**Pn**	**21 52 49.3**	**+2.1**
	173nm,0.3s						
TRIS				*e*Sn	Sn	21 55 06.2	-27
TSUM	**Tsumeb**	**18.43**	**74**	P	**Pn**	**21 53 31.3**	**+0.6**
	0.6nm,0.3s,baz=243,slow=11,SNR=16						
TSUM				S	**Sn**	**21 56 41.8**	**-15**
	0.5nm,0.3s,baz=327,slow=18,SNR=3.6						
TSUM				LR	LR	22 00 13.9	
	comp=Z,234nm,18.2s,baz=320,slow=36						
TSUM	**Tsumeb**	**18.43**	**74**	*e*Pn	**Pn**	**21 53 30.9**	**+0.3**
	5.9nm,0.5s						
TSUM				*e*Sn	**Sn**	**21 56 38.9**	**-18**
BOSA	**Boshof**	**23.76**	**104**	P	**P**	**21 54 27.2**	**-0.5**
	19nm,0.5s,mb4.8,baz=293,slow=8.6,SNR=15						
BOSA				LR	LR	22 02 37.3	
	comp=Z,165nm,18.2s,MS3.5,baz=100,slow=34						
LBTB	**Lobatse**	**24.23**	**95**	P	**P**	**21 54 32.2**	**+0.2**
	7.1nm,0.6s,mb4.3,baz=280,slow=12,SNR=12						
LBTB				LR	LR	22 03 19.2	
	comp=Z,202nm,18.2s,MS3.6,baz=237,slow=35						
LBTB	**Lobatse**	**24.23**	**95**	P	**P**	**21 54 32.2**	**+0.2**
LBTB				LR	LR	22 03 19.2	
LSZ	**Lusaka**	**29.27**	**76**	P	**P**	**21 55 18.0**	**+0.6**
	3.7nm,0.8s,mb4.2,baz=229,slow=7.7,SNR=11						
LSZ				LR	LR	22 06 52.9	
	comp=Z,392nm,18.7s,MS4.0,baz=9.0,slow=36						
LSZ	**Lusaka**	**29.27**	**76**	*e*P	**P**	**21 55 18.1**	**+0.6**
	3.8nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**32.08**	**353**	P	**P**	**21 55 41.6**	**-0.6**
	4.0nm,0.7s,mb4.4,baz=144,slow=11,SNR=7.4						
DBIC				PcP	PcP	21 58 31.5	0.0
	4.3nm,0.7s,baz=168,slow=5.4,SNR=5.0						
DBIC				LR	LR	22 05 02.6	
	comp=Z,87nm,19.4s,MS3.5,baz=84,slow=30						
TORD	**Torodi Ar. Bea**	**38.42**	**5**	P	**P**	**21 56 37.2**	**+0.4**
	10nm,0.7s,mb4.7,baz=186,slow=9.7,SNR=153						
TORD				PcP	PcP	21 58 50.5	+0.4
	1.6nm,0.6s,baz=151,slow=3.0,SNR=4.4						
BDFB	**Brasilia**	**44.72**	**273**	P	**P**	**21 57 28.7**	**+0.2**
	16nm,0.7s,mb5.0,baz=105,slow=6.6,SNR=26						
BDFB				LR	LR	22 12 51.2	
	comp=Z,203nm,18.2s,MS4.1,baz=113,slow=32						
VNA2	**Neumayer--Watz**	**45.69**	**183**	*e*P	**P**	**21 57 36.1**	**0.0**
	baz=357,slow=11						
VNA2	**Neumayer--Watz**	**45.69**	**183**	*e*P	**P**	**21 57 36.1**	**0.0**
	baz=323,slow=15						
VNA2				*e*	pP	21 57 40.6	+1.3
VNA2				*e*		21 57 42.9	
VNA2				*e*		21 57 44.8	
VNA2				*e*		21 57 48.1	
VNA3	**Neumayer Olymp**	**46.12**	**184**	*e*P	**P**	**21 57 38.1**	**-1.5**
VNA3	**Neumayer Olymp**	**46.12**	**184**	*e*P	**P**	**21 57 38.1**	**-1.5**
VNA3				*e*		21 57 43.5	
VNA3				*e*		21 57 45.3	
SNAA	**Sanae**	**46.31**	**181**	P	**P**	**21 57 44.2**	**+3.1**
	3.3nm,0.8s,mb4.3,baz=352,slow=7.6,SNR=7.4						
SYO	**Syowa Base**	**49.85**	**162**	⇑*e*P	**P**	**21 58 04.9**	**-3.5**
SYO	**Syowa Base**	**49.85**	**162**	⇑*e*pP	pP	21 58 16.0	+4.4
SYO	**Syowa Base**	**49.85**	**162**	⇑*e*PP	PP	22 00 04.5	+1.4
PLCA	**Paso Flores**	**58.69**	**236**	P	**P**	**21 59 12.1**	**-0.8**
	1.1nm,0.6s,mb4.0,baz=111,slow=7.2,SNR=3.6						
PLCA	**Paso Flores**	**58.69**	**236**	P	**P**	**21 59 12.1**	**-0.8**
SAML	**Samuel**	**60.95**	**274**	*e*P	**P**	**21 59 29.1**	**+0.8**
	18nm,0.6s,mb5.4						
SAML				*e*pP	pP	21 59 35.6	+4.0
LVC	**Limon Verde**	**61.32**	**257**	*e*P	**P**	**21 59 30.4**	**-0.4**
	9.2nm,0.7s,mb5.0						
LPAZ	**La Paz**	**62.67**	**264**	P	**P**	**21 59 39.3**	**-0.6**
	3.8nm,0.5s,mb4.8,baz=103,slow=5.5,SNR=17						
LPAZ				LR	LR	22 23 17.7	
	comp=Z,76nm,19.9s,MS3.9,baz=269,slow=33						
ESDC	**Sonseca Array**	**64.79**	**358**	P	**P**	**21 59 54.4**	**+0.5**
	0.1nm,0.3s,mb3.4,baz=199,slow=7.6,SNR=4.7						
ETSF	**Etsaut**	**67.96**	**1**	*e*P	**P**	**22 00 14.5**	**+0.3**
	12nm,0.9s,mb4.6						
EPF	**Esparros**	**68.11**	**1**	*e*P	**P**	**22 00 15.3**	**+0.1**
	14nm,1.0s,mb4.6						
SJPF	**Ste Jean**	**68.18**	**360**	*e*P	**P**	**22 00 16.0**	**+0.4**
	5.2nm,0.7s,mb4.4						
MTLF	**Montolieu**	**68.48**	**3**	*e*P	**P**	**22 00 15.5**	**-2.0**
LMR	**La Mourre**	**68.76**	**6**	*e*P	**P**	**22 00 18.8**	**-0.4**
FRF	**La Foret Royal**	**69.00**	**6**	*e*P	**P**	**22 00 20.8**	**+0.1**
SBF	**Sospel**	**69.38**	**7**	*e*P	**P**	**22 00 23.5**	**+0.4**
	37nm,0.9s,mb5.0						
LFF	**La Frestale**	**70.02**	**1**	*e*P	**P**	**22 00 26.9**	**-0.1**
	11nm,0.7s,mb4.6						
CAF	**Calviac**	**70.05**	**2**	*e*P	**P**	**22 00 27.0**	**-0.2**
	14nm,1.0s,mb4.5						
VIVF	**Saint-Julien-l**	**70.12**	**4**	*e*P	**P**	**22 00 27.9**	**+0.2**
	10nm,0.9s,mb4.5						
MBDF	**Montbardon**	**70.17**	**6**	*e*P	**P**	**22 00 28.8**	**+0.9**
	15nm,0.8s,mb4.7						
ORIF	**Oris-en-Rattie**	**70.28**	**5**	*e*P	**P**	**22 00 28.8**	**+0.2**
	13nm,0.9s,mb4.5						
ORIF				*e*R			
	69nm,19.8s						
RJF	**Les Rejaudoux**	**70.41**	**2**	*e*P	**P**	**22 00 29.1**	**-0.3**
RJF				*e*R			
	102nm,20.5s						
LPG	**La Plagne**	**70.93**	**6**	*e*P	**P**	**22 00 33.4**	**+0.8**
	15nm,0.9s,mb4.6						
LPL	**La Plagne**	**70.95**	**6**	*e*P	**P**	**22 00 33.5**	**+0.8**
	16nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**71.42**	**2**	*e*P	**P**	**22 00 35.5**	**0.0**
	11nm,1.0s,mb4.4						
MFF	**Saint Martin d**	**71.67**	**1**	*e*P	**P**	**22 00 36.9**	**-0.2**
	7.3nm,0.8s,mb4.3						
BGF	**Bois d'Agland**	**71.71**	**3**	*e*P	**P**	**22 00 37.3**	**0.0**
SMF	**Signal de Mont**	**71.85**	**4**	*e*P	**P**	**22 00 38.0**	**-0.2**
	11nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**71.97**	**3**	*e*P	**P**	**22 00 38.7**	**-0.2**
	12nm,0.9s,mb4.5						
CABF	**La Chapelle**	**71.98**	**5**	*e*P	**P**	**22 00 38.6**	**-0.3**
	25nm,1.0s,mb4.8						
SSF	**Saint Saulge**	**72.25**	**3**	*e*P	**P**	**22 00 40.2**	**-0.3**
	10.0nm,0.9s,mb4.4						
HYF	**Humbligny**	**72.41**	**3**	*e*P	**P**	**22 00 41.5**	**0.0**
LOR	**Lormes**	**72.47**	**4**	*e*P	**P**	**22 00 41.4**	**-0.5**
	11nm,1.0s,mb4.5						
LOR				*e*R			
	66nm,17.2s						
BRTR	**Keskin Array B**	**72.48**	**28**	P	**P**	**22 00 42.9**	**+0.9**
	1.1nm,0.8s,mb3.9,baz=180,slow=9.9,SNR=7.1						
QUIF	**Quistinic**	**73.00**	**359**	*e*P	**P**	**22 00 44.7**	**-0.3**
DAVA	**Damuels**	**73.04**	**8**	⇑*i*P	**P**	**22 00 45.1**	**-0.1**
	7.8nm,0.6s,mb4.8						
SQTA	**Sankt Quirin**	**73.15**	**9**	⇓*i*P	**P**	**22 00 46.1**	**+0.2**
	5.7nm,0.6s,mb4.7						
WTTA	**Wattenberg**	**73.25**	**9**	⇑*i*P	**P**	**22 00 46.8**	**+0.4**
	10nm,0.8s,mb4.8						
MOTA	**Moosalm**	**73.25**	**9**	⇑*i*P	**P**	**22 00 46.2**	**-0.3**
	4.6nm,0.9s,mb4.4						
KBA	**Koelnbreinsper**	**73.33**	**10**	⇑*i*P	**P**	**22 00 47.8**	**+0.9**
	11nm,1.1s,mb4.7						
SGMF	**Saint Gilles**	**73.33**	**359**	*e*P	**P**	**22 00 46.5**	**-0.4**
	15nm,0.8s,mb4.6						
HAU	**Haudompre**	**73.38**	**5**	*e*P	**P**	**22 00 47.5**	**+0.2**
HAU				*e*R			
	61nm,20.0s						
ROSF	**Rostrenen**	**73.42**	**359**	*e*P	**P**	**22 00 47.2**	**-0.3**
GRR	**Gorron**	**73.45**	**0**	*e*P	**P**	**22 00 47.1**	**-0.6**
LDF	**La Druitiere**	**73.66**	**1**	*e*P	**P**	**22 00 48.6**	**-0.3**
	16nm,0.9s,mb4.6						
MEZF	**Maizieres J'vi**	**73.78**	**4**	*e*P	**P**	**22 00 49.3**	**-0.3**
	10nm,0.7s,mb4.6						
FLN	**La Foliniere**	**73.83**	**0**	*e*P	**P**	**22 00 49.4**	**-0.5**
	25nm,1.0s,mb4.8						
FLN				*e*R			
	118nm,19.5s						
MOA	**Molln**	**74.23**	**11**	⇑*i*P	**P**	**22 00 52.4**	**+0.2**
	8.3nm,1.1s,mb4.6						
WLF	**Walferdange**	**75.02**	**5**	P	**P**	**22 00 56.6**	**-0.2**
WLF				AP	pP	22 01 04.7	+4.6
WLF				XP	sP	22 01 07.7	+6.5
GERES	**GERESS Array B**	**75.10**	**10**	P	**P**	**22 00 57.2**	**-0.1**
	1.0nm,0.7s,mb3.8,baz=180,slow=5.3,SNR=11						
BAIF	**Baives**	**75.28**	**4**	*e*P	**P**	**22 00 57.7**	**-0.6**
	24nm,1.1s,mb4.7						
DOU	**Dourbes**	**75.34**	**4**	P	**P**	**22 00 58.5**	**-0.1**
DOU				AP	pP	22 01 05.4	+3.4
DOU				XP	sP	22 01 09.2	+6.1
GIVF	**Givet**	**75.36**	**4**	*e*P	**P**	**22 00 58.1**	**-0.7**
KHC	**Kasperske Hory**	**75.36**	**10**	*e*P	**P**	**22 00 57.1**	**-1.7**
GRA1	**Grafenberg Arr**	**75.57**	**8**	*e*P	**P**	**22 00 59.9**	**-0.1**
GRF	**Grafenberg Arr**	**75.57**	**8**	*e*P	**P**	**22 00 59.9**	**-0.1**
	comp=Z,11nm,1.2s,mb4.7						
SDV	**Santo Domingo**	**75.62**	**287**	*e*P	**P**	**22 01 01.0**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.5						
VYHS	**Vyhne**	**75.72**	**14**	*e*P	**P**	**22 01 01.2**	**+0.4**
VYHS				*e*pP	pP	22 01 08.4	+4.3
SNF	**Seneffe**	**75.73**	**4**	P	**P**	**22 01 01.2**	**+0.3**
SNF				AP	pP	22 01 06.8	+2.6
KECS	**Kecovo**	**76.07**	**15**	*e*P	**P**	**22 01 02.4**	**-0.5**
KECS				*e*pP	pP	22 01 08.8	+2.6
KECS				*e*PP	PP	22 03 50.3	-3.2
PRU	**Pruhonice**	**76.35**	**10**	*e*P	**P**	**22 01 04.4**	**0.0**
CRVS	**Cervenica-Dubn**	**76.69**	**15**	*e*P	**P**	**22 01 08.8**	**+2.4**
VNDA	**Vanda**	**76.81**	**176**	P	**P**	**22 01 06.7**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=49,slow=9.5,SNR=6.6						
VNDA	**Vanda**	**76.81**	**176**	P	**P**	**22 01 06.7**	**-0.3**
KOLS	**Kolonicke sedl**	**76.92**	**16**	*e*	PcP	22 01 18.5	-0.2
DPC	**Dobruska-Polom**	**77.00**	**11**	*e*P	**P**	**22 01 08.3**	**+0.2**
UPC	**Upice**	**77.10**	**11**	*e*P	**P**	**22 01 08.6**	**0.0**
STHS	**Stebnicka Huta**	**77.12**	**15**	*e*P	**P**	**22 01 10.2**	**+1.4**
AKASG	**Malin Array Be**	**80.40**	**19**	P	**P**	**22 01 26.2**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=212,slow=5.5,SNR=8.3						
SUW	**Suwalki**	**81.85**	**14**	*e*P	**P**	**22 01 34.5**	**-0.1**
	comp=Z,17nm,0.9s,mb5.0						
SUW				*e*pP	pP	22 01 41.4	+3.6
NB2	**NORSAR Subarra**	**86.72**	**6**	P	**P**	**22 01 59.5**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.5,baz=188,slow=4.8						
NOA	**NORSAR Array B**	**86.72**	**6**	P	**P**	**22 01 59.7**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.5,baz=188,slow=4.8,SNR=4.6						
NOA	**NORSAR Array B**	**86.72**	**6**	P	**P**	**22 01 59.7**	**+0.4**
FINES	**FINESS Array B**	**89.31**	**13**	P	**P**	**22 02 11.6**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.9,baz=153,slow=4.3,SNR=15						
FINES	**FINESS Array B**	**89.31**	**13**	P	**P**	**22 02 11.6**	**0.0**
KMI	**Kunming**	**112.18**	**72**	PKP	PKiKP	22 07 52.7	+1.8
ASAR	**Alice Springs**	**114.65**	**135**	PKP	PKiKP	22 07 55.0	-0.7
	comp=Z,0.2nm,0.5s,baz=188,slow=1.0,SNR=6.3						
ASAR				PKKPbc	PKKPbc	22 18 33.5	+0.1
	comp=Z,0.4nm,0.7s,baz=53,slow=2.9,SNR=7.0						
CD2	**Chengdu**	**114.75**	**66**	*e*PKP	PKiKP	22 07 54.3	-1.5
CD2				XPKP		22 08 08.6	
CD2				PP	PP	22 08 57.6	+4.0
CD2				PPP		22 11 23.2	
CD2				SKS	SKSdf	22 15 01.4	-6.6
CD2				SKKS	SKKSac	22 15 46.6	-8.9
CD2				SS	SS	22 24 46.4	-1.5
CD2				PP	PP		
	comp=Z,90nm,5.9s						
CD2				LR	LR		
	comp=E,40nm,10.8s						
CD2				LR	LR		
	comp=Z,60nm,16.8s						
WRA	**Warramunga Arr**	**117.55**	**132**	PKP	PKPdf	22 08 00.2	-1.0
	comp=Z,0.7nm,0.8s,baz=244,slow=2.2,SNR=14						
PDAR	**Pinedale Array**	**119.90**	**306**	PKP	PKPdf	22 08 04.2	-1.6
	comp=Z,0.9nm,0.7s,baz=106,slow=3.7,SNR=9.5						
SONM	**Songino Array**	**119.96**	**48**

CASC 11 22:28:21.2±2.6, 1294N×9067W, h0km±14km, MD3.7, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.25**	**10**	⇓*e*P	Pg	22 28 45.1	0.0
IXG				*e*S	Sg	22 29 03.1	+1.8
SBLS	**San Blas**	**1.36**	**49**	*e*P	Pg	22 28 56.2	+8.9
SBLS				*e*S	Sg	22 29 17.5	+13
RTR	**El Retiro**	**1.38**	**46**	*e*P	Pg	22 28 57.4	+10
RTR				*e*S	Sg	22 29 16.3	+11
LFRS	**El Faro**	**1.71**	**66**	*e*P	Pn	22 29 00.2	+8.0
LFRS				*e*S	Sn	22 29 24.6	+10
LBRS	**Las Brisas**	**1.77**	**63**	*e*P	Pn	22 29 01.1	+8.0
LBRS				*e*S	Sn	22 29 27.2	+11
LCBS	**La Ceiba**	**1.80**	**66**	*e*P	Pn	22 29 02.2	+8.8
LCBS				*e*S	Sn	22 29 27.8	+11
TP2	**Tecpan 2**	**1.87**	**350**	*e*P	Pn	22 28 56.0	+1.6
TP2				*e*S	Sn	22 29 21.9	+3.2

IDC 11 22:41:05.2±2.7, 642S×10448E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=150.3km s-min=27.2km az=51.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.95**	**118**	P	P	22 47 32.6	-0.1
WRA				PcP	PcP	22 50 24.5	+1.5
	0.3nm,0.8s,baz=312,slow=2.0,SNR=5.5						
ASAR	**Alice Springs**	**33.07**	**124**	P	P	22 47 43.4	+0.8
	0.6nm,0.6s,baz=301,slow=7.5,SNR=10						
STKA	**Stephens Creek**	**42.90**	**131**	P	P	22 49 05.3	-0.1
	1.9nm,0.6s,baz=305,slow=7.3,SNR=9.3						
MKAR	**Makanchi Array**	**56.52**	**342**	P	P	22 50 48.9	-0.4
	0.1nm,0.3s,baz=149,slow=7.6,SNR=4.2						

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*NEIC **11** 22:48:59.3±18.0, 3638N×1284W, h10km, MG3.6(MDD), Error ellipse: s-maj=209.0km s-min=25.6km az=56.0*
*MDD **11** 22:49:08.0±2.6, 3675N×1219W, h0km, mbLg2.7/8, Error ellipse: s-maj=23.1km s-min=17.4km az=88.0, PRXIMO*
*ISCJB **11** 22:49:09.4±1.5, 3697N±006×1196W±009, h10km, Error ellipse: s-maj=11.1km s-min=7.9km az=150.4*
*INMG **11** 22:49:09.5±0.6, 3675N×1215W, h0km, ML2.1, Error ellipse: s-maj=5.2km s-min=3.4km az=84.0*
*CSEM **11** 22:49:10.0±0.6, 3633N×1191W, h40km, ML2.1, Error ellipse: s-maj=11.5km s-min=10.0km az=78.0*

ISC 11 22:49:10.4±1.5, 3691N±006×1201W±009, h10km, n29, σ0e94/49, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.69**	**75**	*e*Pn	**Pn**	**22 49 54.0**	**+0.2**
PLOU	**Loures**	**3.00**	**48**	*e*Sn	**Sn**	**22 50 35.4**	**+1.5**
PLOU							
	12nm,0.1s						
PLOU	**Loures**	**3.00**	**48**	S	**Sn**	**22 50 35.4**	**+1.5**
	6.0nm,0.1s						
MOE	**Montemor**	**3.31**	**60**	*e*Sn	**Sn**	**22 50 43.1**	**+1.4**
PBEJ	**Beja**	**3.48**	**70**	*e*Pn	**Pn**	**22 50 05.2**	**+0.7**
PBEJ				*e*Sn	**Sn**	**22 50 46.8**	**+1.1**
EGRO	**El Granado**	**3.66**	**79**	P	**Pn**	**22 50 07.0**	**-0.1**
	0.2nm,0.1s,SNR=6.3						
EGRO				S	**Sn**	**22 50 50.7**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**79**	P	**Pn**	**22 50 07.1**	**0.0**
EGRO				S	**Sn**	**22 50 50.7**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**79**	P	**Pn**	**22 50 07.1**	**0.0**
EGRO				S	**Sn**	**22 50 50.5**	**+0.2**
EMIN	**Mina Concepcio**	**4.33**	**77**	P	**Pn**	**22 50 16.2**	**-0.1**
	0.2nm,0.2s,SNR=5.6						
EMIN				S	**Sn**	**22 51 06.1**	**-0.8**
	0.9nm,0.2s						
EMIN	**Mina Concepcio**	**4.33**	**77**	P	**Pn**	**22 50 16.2**	**-0.1**
	0.2nm,0.2s,SNR=5.6						
EMIN				S	**Sn**	**22 51 06.3**	**-0.6**
EMIN	**Mina Concepcio**	**4.33**	**77**	P	**Pn**	**22 50 16.4**	**+0.1**
EMIN				S	**Sn**	**22 51 06.3**	**-0.6**
EBAD	**Badajoz**	**4.36**	**64**	P	**Pn**	**22 50 17.2**	**+0.5**
	0.9nm,0.1s,SNR=11						
EBAD				S	**Sn**	**22 51 07.8**	**+0.3**
	2.1nm,0.2s						
EBAD	**Badajoz**	**4.36**	**64**	P	**Pn**	**22 50 17.2**	**+0.6**
	0.9nm,0.1s,SNR=11						
EBAD				S	**Sn**	**22 51 07.8**	**+0.3**
	1.3nm,0.1s						
PCBR	**Castelo Branco**	**4.61**	**49**	*e*Pn	**Pn**	**22 50 20.8**	**+0.8**
PCBR				*e*Sn	**Sn**	**22 51 14.2**	**+0.7**
ESPR	**Espera**	**4.93**	**89**	P	**Pn**	**22 50 23.2**	**-1.3**
	2.1nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 51 20.2**	**-1.4**
	6.1nm,0.2s						
ESPR	**Espera**	**4.93**	**89**	P	**Pn**	**22 50 23.2**	**-1.3**
	2.1nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**22 51 20.2**	**-1.4**
	7.5nm,0.3s						
ESPR	**Espera**	**4.93**	**89**	P	**Pn**	**22 50 23.2**	**-1.3**
ESPR				S	**Sn**	**22 51 20.6**	**-1.0**
MTE	**Manteigas**	**4.93**	**44**	*e*Sn	**Sn**	**22 51 22.5**	**+0.9**
PVIS	**Viseu**	**4.97**	**39**	*e*Pn	**Pn**	**22 50 25.7**	**+0.6**
PVIS				*e*Sn	**Sn**	**22 51 22.6**	**0.0**
PVIS							
	6.0nm,0.1s						
PVIS	**Viseu**	**4.97**	**39**	*e*Pn	**Pn**	**22 50 25.7**	**+0.6**
PVIS				*e*Sn	**Sn**	**22 51 22.6**	**0.0**
PVRL	**Vila Real**	**5.49**	**36**	*e*Sn	**Sn**	**22 51 35.3**	**0.0**
PCAB	**Cabril**	**5.70**	**32**	*e*Sn	**Sn**	**22 51 40.4**	**-0.1**
ELOB	**Lobios**	**5.81**	**30**	P	**Pn**	**22 50 37.3**	**+0.7**
	0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**22 51 41.1**	**-2.2**
	1.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.81**	**30**	P	**Pn**	**22 50 36.7**	**+0.1**
ELOB				S	**Sn**	**22 51 40.8**	**-2.5**
EADA	**Adamuz**	**6.04**	**76**	P	**Pn**	**22 50 39.5**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 51 48.2**	**-0.6**
	1.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.04**	**76**	P	**Pn**	**22 50 38.8**	**-0.9**
EADA				S	**Sn**	**22 51 47.9**	**-0.9**
EADA	**Adamuz**	**6.04**	**76**	P	**Pn**	**22 50 38.8**	**-0.8**
EADA				S	**Sn**	**22 51 47.9**	**-0.9**
PBRG	**Braganca**	**6.36**	**38**	*e*Sn	**Sn**	**22 51 55.7**	**-1.2**
ECAL	**Calabor**	**6.47**	**37**	S	**Sn**	**22 51 57.5**	**-2.0**
	1.0nm,0.2s,SNR=7.9						

MAN 11 22:56:24.1, 1869N×12194E, h2km, mb2.8, ML4.2, MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.46**	**167**	*e*P	Pg	22 56 33.4	+0.5
SGCP				*e*S	Sg	22 56 46.1	+7.3
CVP	**Callao Caves**	**0.99**	**187**	*e*P	Pg	22 56 45.0	+2.0
APYP	**Conner**	**1.06**	**219**	*e*P	Pg	22 56 43.4	-0.9
APYP				*e*S	Sg	22 57 01.4	+3.3
ABRA	**Dolores**	**1.56**	**229**	*e*P	Pn	22 56 52.5	-0.3
ABRA				*e*S	Sn	22 57 16.0	+2.3

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*IDC **11** 23:12:00.2±0.7, 3541N×14125E, h0km, mb4.0/13, mb1 4.2/16, mb1mx4.1/23, mbtmp4.1/16, ML4.2/3, MS3.6/4, Ms1 3.6/4, ms1mx2.9/35, Error ellipse: s-maj=23.7km s-min=14.9km az=85.0*
*NIED **11** 23:12:00, 3540N×14140E, h38km, Mw4.3 Best double couple: M0 3.65000×10^15 NP1:φs135.00000°, δ65.00000°, λ-34.00000°. NP2:φs240.00000°, δ60.00000°, λ-151.00000°.*
*ISCJB **11** 23:12:01.2±0.4, 3536N±003×14148E±004, h21km, mb4.2/26, MS3.7/7, Error ellipse: s-maj=5.0km s-min=4.7km az=42.8*
*BJI **11** 23:12:01.9, 3566N×14153E, h26km, mB4.8, mb4.4, Ms4.0, Msz3.7*
*MOS **11** 23:12:02.6±1.0, 3549N×14154E, h33km, mb4.7/6, Error ellipse: s-maj=16.5km s-min=8.8km az=117.3*
*JMA **11** 23:12:02.5±0.2, 3540N×14143E, h39km±3km, M4.0 Broadband fault plane solution: P waves. NP1: φs225.00000°, δ24.00000°, λ-168.00000°. NP2: φs124.00000°, δ85.00000°, λ-67.00000°. Principal axes: T Plg36.0000°, Azm194.0000°; N Plg23.0000°, Azm302.0000°; P Plg45.0000°, Azm57.0000°;*
*NEIC **11** 23:12:04.2±3.5, 3547N×14140E, h26km±23km, mb4.6/5, MW4.3(NIED) Error ellipse: s-maj=13.7km s-min=10.7km az=116.0*
*NAO **11** 23:12:12.4, 3678N×14153E, h33km, mb4.3*

ISC 11 23:12:03.1±0.4, 3537N±003×14141E±004, h22km, h22km±1.5km: pP-P, n70, σ1e16/83, mb4.2/26, MS3.7/7, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.56**	**306**	⇓P	**Pb**	**23 12 13.8**	**-0.4**
CHOJ				S	**Sb**	**23 12 22.7**	**+1.0**
BSO1	**Boso 1**	**0.80**	**206**	P	**Pb**	**23 12 18.3**	**0.0**
BSO2	**Boso 2**	**0.82**	**221**	S	**Sb**	**23 12 31.3**	**+2.0**
KTR	**Katsuura**	**0.92**	**256**	P	**Pb**	**23 12 19.5**	**-0.9**
KTR				S	**Sb**	**23 12 31.0**	**-1.2**
BSO4	**Boso 4**	**0.96**	**247**	⇓P	**Pb**	**23 12 20.4**	**-0.6**
JCN	**Nagara**	**0.99**	**273**	⇓P	**Pb**	**23 12 21.2**	**-0.3**
JYT	**Yasato**	**1.30**	**311**	⇑P	**Pn**	**23 12 25.3**	**-0.7**
JHO	**Hitachi**	**1.41**	**331**	⇑P	**Pn**	**23 12 26.7**	**-0.8**
JIM2	**Oshima 3**	**1.75**	**249**	P	**Pn**	**23 12 30.4**	**-1.7**
JIM2				*e*S	**Sn**	**23 12 50.1**	**-3.6**
JOD2	**Odawara 2**	**1.90**	**267**	P	**Pn**	**23 12 32.8**	**-1.4**
JOD2				*e*S	**Sn**	**23 12 53.3**	**-4.1**
JAG	**Ashikaga**	**1.90**	**304**	P	**Pn**	**23 12 34.3**	**+0.1**
JAG				S	**Sn**	**23 12 57.9**	**+0.4**
JFK	**Kawauchi**	**2.04**	**348**	P	**Pn**	**23 12 34.9**	**-1.2**
JHJ	**Hachijo jima 2**	**2.62**	**211**	Pn	**Pn**	**23 12 44.9**	**+0.8**
	49nm,0.3s,baz=72,slow=16,SNR=14						
JHJ				Sn	**Sn**	**23 13 12.8**	**-2.4**
	280nm,0.3s,baz=233,slow=23,SNR=13						
MJAR	**Matsushiro Arr**	**2.84**	**295**	Pn	**Pn**	**23 12 47.6**	**+0.4**
	8.1nm,0.3s,baz=96,slow=14,SNR=46						
MAJO	**Matsushiro**	**2.85**	**295**	*e*Pn	**Pn**	**23 12 47.9**	**+0.7**
MAJO				*e*Sn	**Sn**	**23 13 14.6**	**-6.2**
MAT	**Matsushiro**	**2.85**	**295**	P	**Pn**	**23 12 47.4**	**+0.2**
MAT				*e*S	**Sn**	**23 13 20.7**	**-0.1**
MAT	**Matsushiro**	**2.85**	**295**	*e*P	**Pn**	**23 12 48.0**	**+0.8**
MAT				*e*S	**Sn**	**23 13 31.0**	**+10**
CBIJ	**Chichi jima**	**8.28**	**175**	Pn	**Pn**	**23 14 00.5**	**-1.3**
	10nm,0.3s,baz=135,slow=23,SNR=3.6						
CBIJ				Sn	**Sn**	**23 15 25.2**	**-9.4**
	12nm,0.3s,baz=280,slow=22,SNR=3.2						
CBIJ				LR	LR	23 17 14.2	
	comp=Z,226nm,19.0s,baz=119,slow=38						
ASAJ	**Asahikawa**	**8.78**	**6**	Pn	**Pn**	**23 14 07.0**	**-1.7**
	3.7nm,0.3s,baz=212,slow=10,SNR=31						
ASAJ				Sn	**Sn**	**23 15 43.8**	**-3.2**
	0.7nm,0.3s,baz=85,slow=33,SNR=3.4						
ASAJ	**Asahikawa**	**8.78**	**6**	P	**Pn**	**23 14 07.0**	**-1.7**
ASAJ						23 15 43.8	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**9.30**	**20**	P	**Pn**	**23 14 11.5**	**-4.4**
YUK				*e*S	**Sn**	**23 15 50.0**	**-10**
YUK				smax			
	comp=N,190nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**11.62**	**5**	*e*P	**Pn**	**23 14 46.0**	**-1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**11.62**	**5**	*e*Pn	**Pn**	**23 14 45.3**	**-2.2**
	comp=Z,19nm,0.6s						
MDJ	**Mudanjiang**	**12.92**	**319**	P	**Pn**	**23 15 05.2**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,76nm,4.2s						
MDJ				LR	LR		
	comp=N,106nm,26.5s						
MDJ				LR	LR		
	comp=E,89nm,26.8s						
HABR	**Khabarovsk**	**13.91**	**342**	*e*P	**Pn**	**23 15 12.8**	**-6.1**
CN2	**Changchun**	**14.89**	**309**	*e*P	**Pn**	**23 15 34.1**	**+1.9**
CN2				*e*S	**Sn**	**23 18 18.6**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,21.0s						
SSE	**Sheshan**	**17.44**	**262**	P	**Pn**	**23 16 05.8**	**+0.9**
SSE				AP	pP	23 16 15.2	+3.0
SSE				S	**Sn**	**23 19 17.2**	**-1.2**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s						
SSE				AMB	AMB		
	comp=Z,34nm,4.5s						
SSE				LR	LR		
	comp=N,121nm,27.1s						
SSE				LR	LR		
	comp=E,33nm,27.1s						
NJ2	**Nanjing**	**19.05**	**266**	*e*P	**Pn**	**23 16 25.8**	**+1.2**
NJ2				AP	pP	23 16 33.3	+3.4
NJ2				XP	sP	23 16 38.6	+5.8
NJ2				S	**Sn**	**23 19 52.0**	**-5.2**
NJ2				XS	sS	23 20 05.0	-3.7
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,750nm,25.6s						
NJ2				LR	LR		
	comp=E,500nm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,22.0s						
MA2	**Magadan**	**24.98**	**11**	*e*P	**P**	**23 17 26.8**	**+1.8**
MA2				pmax	pmax		
	comp=N,2.0nm,0.8s						
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
MA2	**Magadan**	**24.98**	**11**	*e*P	**P**	**23 17 25.7**	**+0.6**
	comp=Z,6.2nm,0.8s,mb4.2						
ENH	**Enshi**	**27.23**	**268**	*e*P	**P**	**23 17 47.8**	**+2.4**
	comp=Z,12nm,0.8s,mb4.5						
ENH				*e*pP	pP	23 17 54.1	+2.0
YAK	**Yakutsk**	**27.69**	**348**	*i* P	**P**	**23 17 49.2**	**-0.3**
YAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.4						
ULN	**Ulaanbaatar**	**28.31**	**307**	*i* P	**P**	**23 17 56.1**	**+1.0**
SONM	**Songino Array**	**28.74**	**306**	P	**P**	**23 17 58.2**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=103,slow=9.4,SNR=9.4						
SONM				LR	LR	23 29 31.6	
	comp=Z,61nm,20.3s,MS3.2,baz=62,slow=37						
BOD	**Bodaibo**	**28.94**	**329**	*e*P	**P**	**23 17 59.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
LZH	**Lanzhou**	**30.38**	**282**	*e*P	**P**	**23 18 13.5**	**+0.1**
LZH				AP	pP	23 18 20.6	+0.5
LZH				XP	sP	23 18 23.7	+0.8
LZH				PP	PP	23 19 12.4	-10
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,54nm,5.4s						
LZH				LR	LR		
	comp=N,385nm,13.5s						
LZH				LR	LR		
	comp=Z,589nm,17.6s,MS4.3						
CD2	**Chengdu**	**31.71**	**273**	*e*P	**P**	**23 18 28.3**	**+3.1**
CD2				AP	pP	23 18 32.7	+0.8
CD2				XP	sP	23 18 35.3	+0.7
CD2				PP	PP	23 19 33.3	-3.6
CD2				S	**S**	**23 23 36.3**	**+2.8**
CD2				XS	sS	23 23 43.5	-1.1
CD2				SS	SS	23 25 26.1	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,4.9s						
CD2				LR	LR		
	comp=E,110nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,12.0s,MS3.8						
KMI	**Kunming**	**34.74**	**264**	P	**P**	**23 18 57.3**	**+5.7**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	**41.61**	**299**	*e*P	**P**	**23 19 50.0**	**+0.6**
WMQ				XP	sP	23 19 59.0	0.0
WMQ				PP	PP	23 21 30.0	+4.3
WMQ				S	**S**	**23 26 05.0**	**+0.6**
WMQ				SS	SS	23 29 05.0	-4.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,107nm,4.0s						
WMQ				LR	LR		
	comp=N,113nm,14.0s,MS4.0						
WMQ				LR	LR		
	comp=E,59nm,13.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,48nm,13.0s,MS3.6						
ZAL	**Zalesovo**	**43.05**	**314**	P	**P**	**23 20 00.8**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.7,baz=18,slow=10.0,SNR=5.7						
MKAR	**Makanchi Array**	**45.01**	**304**	P	**P**	**23 20 16.8**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=84,slow=10.0,SNR=26						
KURK	**Kurchatov**	**46.97**	**309**	*e*P	**P**	**23 20 30.9**	**-1.4**
KURK				*e*SP	sP	23 20 41.3	-0.6
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**46.97**	**309**	*e*P	**P**	**23 20 30.9**	**-1.4**
	comp=Z,7.8nm,0.8s,mb4.7						
KURK				*e*pP	pP	23 20 38.4	-0.8
KURK				*e*sP	sP	23 20 41.3	-0.6
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**23 21 02.9**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=271,slow=6.8,SNR=8.5						
WRAB	**Tennant Creek**	**55.41**	**188**	*e*P	**P**	**23 21 37.1**	**+1.4**
WRAB				*e*PP	pP	23 21 42.9	+0.2
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**55.41**	**188**	*e*P	**P**	**23 21 37.1**	**+1.4**
	comp=Z,12nm,0.8s,mb5.0						
WRAB				*e*pP	pP	23 21 42.9	+0.2
WB2	**Warramunga Arr**	**55.42**	**188**	*e*P	**P**	**23 21 35.2**	**-0.5**
WRA	**Warramunga Arr**	**55.42**	**188**	P	**P**	**23 21 35.5**	**-0.2**
	comp=Z,8.1nm,0.7s,mb4.9,baz=3.2,slow=7.7,SNR=56						
INK	**Inuvik**	**55.87**	**27**	P	**P**	**23 21 42.6**	**+3.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=304,slow=7.3,SNR=3.2						
ARU	**Arti**	**57.61**	**319**	⇓*i* P	**P**	**23 21 54.3**	**+3.0**
ARU				*e*		23 22 44.2	
ARU				*e*		23 24 02.0	
ARU				*e*PPP		23 25 20.2	
ARU				*e*S	**S**	**23 29 52.5**	**+4.4**
ARU				*e*		23 31 40.7	
ARU				*e*SS	SS	23 33 42.0	+3.7
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ARU	**Arti**	**57.61**	**319**	*e*P	**P**	**23 21 50.7**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.6						
ARU				*e*pP	pP	23 21 57.3	-1.1
ASAR	**Alice Springs**	**59.14**	**188**	P	**P**	**23 22 03.3**	**+1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=20,slow=10,SNR=22						
ARCES	**ARCESS Array B**	**65.55**	**340**	P	**P**	**23 22 44.9**	**0.0**
	comp=Z,3.3nm,1.0s,mb4.3,baz=45,slow=6.9,SNR=4.0						
JOF	**Joensuu**	**67.43**	**332**	*e*p	**P**	**23 22 57.0**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.1						
OBN	**Obninsk**	**69.42**	**324**	*e*P	**P**	**23 23 09.9**	**+0.5**
OBN				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.3						
FINES	**FINESS Array B**	**70.28**	**333**	P	**P**	**23 23 14.3**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=70,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**70.28**	**333**	*i* P	**P**	**23 23 14.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**70.28**	**333**	P	**P**	**23 23 14.3**	**-0.4**
AKASG	**Malin Array Be**	**75.61**	**323**	P	**P**	**23 23 45.8**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=48,slow=6.1,SNR=7.2						
NB2	**NORSAR Subarra**	**75.72**	**337**	P	**P**	**23 23 47.0**	**+0.1**
	comp=Z,4.4nm,1.1s,mb4.3,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.72**	**337**	P	**P**	**23 23 46.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=42,slow=3.5,SNR=3.3						
NVAR	**Mina Array Bea**	**75.99**	**53**	P	**P**	**23 23 50.9**	**+2.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=297,slow=6.1,SNR=6.0						
BRTR	**Keskin Array B**	**79.95**	**312**	P	**P**	**23 24 10.4**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=63,slow=5.5,SNR=3.6						
MLR	**Muntele Rosu**	**80.65**	**320**	LR	LR	00 06 35.7	
	comp=Z,66nm,19.0s,MS4.0,baz=136,slow=41						
VRAC	**Vranov**	**82.51**	**327**	LR	LR	00 00 51.8	
	comp=Z,34nm,19.3s,MS3.7,baz=290,slow=36						
CLL	**Collm**	**82.53**	**330**	*e*P	**P**	**23 24 25.0**	**+0.9**
GERES	**GERESS Array B**	**84.12**	**328**	P	**P**	**23 24 32.1**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.7,baz=37,slow=6.7,SNR=4.8						
LPAZ	**La Paz**	**147.51**	**62**	PKPbc	PKPbc	23 31 47.6	+2.2
	comp=Z,1.5nm,0.8s,baz=280,slow=6.1,SNR=4.8						
LPAZ	**La Paz**	**147.51**	**62**	PKP2	PKPab	23 31 47.6	+0.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SIV	**San Ignacio**	**152.14**	**52**	PKPbc	PKPbc	23 31 58.1	+1.3
	comp=Z,0.9nm,0.8s,baz=340,slow=2.8,SNR=4.4						

IDC 11 23:20:10.3±58.0, 1958S×17753W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=1060.0km s-min=166.0km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.64**	**182**	LR	LR	23 25 00.8	
	comp=Z,215nm,18.3s,baz=84,slow=30						
STKA	**Stephens Creek**	**38.59**	**243**	P	P	23 27 34.8	-0.2
	0.7nm,0.4s,baz=75,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**45.17**	**256**	P	P	23 28 29.2	+0.5
	1.2nm,0.6s,baz=92,slow=8.1,SNR=34						
WRA	**Warramunga Arr**	**45.18**	**261**	P	P	23 28 29.3	+0.5
	0.2nm,0.3s,baz=97,slow=7.4,SNR=7.9						

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*ISCJB **11** 23:20:57.4±0.5, 74N±0.1×3462W±0.10, h10km, mb4.1/18, MS3.8/9, Error ellipse: s-maj=16.7km s-min=12.5km az=114.2*
*IDC **11** 23:20:57.5±0.6, 742N×3467W, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/25, mbtmp4.1/18, MS3.8/9, Ms1 3.8/9, ms1mx3.5/28, Error ellipse: s-maj=20.4km s-min=15.2km az=150.0*

ISC 11 23:20:59.5±0.5, 75N±01×3467W±010, h10km, n23, σ0e96/18, mb4.1/18, MS3.8/9, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**26.48**	**210**	P	**P**	**23 26 35.5**	**-1.3**
	4.3nm,0.7s,mb4.1,baz=34

comp=Z,36nm,19.6s,MS3.6,baz=331,slow=33
KMBO Kilima Mbogo 72.23 94 LR LR 23 59 41.8
comp=Z,48nm,20.2s,MS3.8,baz=92,slow=32
ARCES ARCESS Array B 72.90 19 P **P 23 32 27.9 -0.9**
7.0nm,1.1s,mb4.5,baz=270,slow=4.9,SNR=3.8
PDAR Pinedale Array 73.89 312 P **P 23 32 35.1 +0.5**
2.4nm,0.9s,mb4.1,baz=97,slow=5.1,SNR=5.3
YKA Yellowknife Ar 78.78 332 P **P 23 33 01.3 -1.1**
3.1nm,0.8s,mb4.3,baz=95,slow=5.5,SNR=34
NVAR Mina Array Bea 80.44 308 P **P 23 33 11.8 +0.3**
0.7nm,0.8s,mb3.6,baz=99,slow=7.0,SNR=4.9
INK Inuvik 86.40 338 P **P 23 33 41.5 -0.5**
1.0nm,0.7s,mb4.2,baz=89,slow=9.6,SNR=3.4
ILAR Eielson Array 92.54 337 P **P 23 34 10.6 -0.4**
0.8nm,1.0s,mb4.1,baz=34,slow=4.3,SNR=4.9

*IDC **11** 23:31:54.0±1.5, 964S×11909E, h0km, mb4.0/5, mb1 4.1/7, mb1mx4.0/15, mbtmp4.0/7, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=75.8km s-min=19.8km az=57.0*
*ISCJB **11** 23:31:58.3±0.8, 90S±02×1203E±02, h33km, mb4.0/6, Error ellipse: s-maj=32.3km s-min=9.9km az=102.4*
*NEIC **11** 23:32:00.2±0.9, 927S×11967E, h30km, mb3.8/1, Error ellipse: s-maj=38.5km s-min=14.8km az=63.0*
ISC 11 23:32:00.8±0.8, 92S±02×1198E±02, h35km, n11, σ1$49/11, mb4.0/6, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.63**	**129**	P	**Pn**	**23 36 04.8**	**+1.2**
	0.2nm,0.3s,baz=301,slow=13,SNR=7.2						
WRA				S	**S**	**23 39 09.9**	**-16**
	0.2nm,0.3s,baz=299,slow=24,SNR=4.3						
ASAR	**Alice Springs**	**19.70**	**139**	P	**Pn**	**23 36 28.2**	**-0.5**
	0.4nm,0.3s,baz=317,slow=11,SNR=44						
ASAR				S	**S**	**23 39 56.4**	**-11**
	0.1nm,0.3s,baz=204,slow=12,SNR=2.8						
NWAO	**Narrogin (SRO)**	**23.74**	**185**	*e*P	**P**	**23 37 10.8**	**+1.1**
	2.7nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**30.29**	**141**	P	**P**	**23 38 07.1**	**-1.4**
	0.7nm,0.5s,mb3.7,baz=299,slow=13,SNR=2.9						
MJAR	**Matsushiro Arr**	**48.67**	**20**	P	**P**	**23 40 44.4**	**+3.1**
	1.0nm,0.5s,mb4.1,baz=203,slow=8.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**48.67**	**20**	P	**P**	**23 40 44.4**	**+3.0**
SONM	**Songino Array**	**58.02**	**349**	P	**P**	**23 41 51.6**	**+1.5**
	1.1nm,0.6s,mb4.1,baz=167,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**65.00**	**332**	P	**P**	**23 42 36.3**	**-0.9**
	2.5nm,0.8s,mb4.3,baz=135,slow=6.9,SNR=33						
ZAL	**Zalesovo**	**69.51**	**339**	P	**P**	**23 43 04.3**	**-1.4**
	0.9nm,0.5s,mb4.0,baz=354,slow=7.1,SNR=5.4						
YKA	**Yellowknife Ar**	**114.03**	**24**	PKP	PKiKP	23 50 36.2	+0.1
	0.2nm,0.5s,baz=302,slow=1.9,SNR=4.4						
YKA	**Yellowknife Ar**	**114.03**	**24**	PKP	PKiKP	23 50 36.2	+0.1

IDC 11 23:37:47.9±2.0, 541S×13084E, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=96.3km s-min=29.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.85**	**167**	Pn	Pn	23 41 19.4	+0.4
	0.5nm,0.3s,baz=347,slow=11,SNR=7.6						
WRA				Sn	Sn	23 43 49.0	-15
	0.4nm,0.3s,baz=351,slow=20,SNR=7.0						
ASAR	**Alice Springs**	**18.39**	**171**	P	Pn	23 42 04.2	-0.1
	0.7nm,0.3s,baz=348,slow=10,SNR=26						
ASAR				S	Sn	23 45 18.5	-12
	0.1nm,0.3s,baz=347,slow=27,SNR=2.6						
MKAR	**Makanchi Array**	**67.37**	**326**	P	P	23 48 45.1	+0.2
	0.8nm,0.6s,baz=108,slow=7.8,SNR=17						

*ISCJB **11** 23:49:49.9±0.5, 4258N±003×75.17E±004, h8km±6km, Error ellipse: s-maj=5.2km s-min=4.4km az=60.2*
*KNET **11** 23:49:49.1±0.3, 4257N×7516E, h17km±2km, ml1.8, Error ellipse: s-maj=2.2km s-min=1.7km az=49.0*
*NNC **11** 23:49:50.6±2.4, 4322N×7514E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=43.7km s-min=7.3km az=23.0*
ISC 11 23:49:50.1±0.6, 4258N±003×7516E±004, h12km±8km, n11, σ0$51/21, 9C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.17**	**297**	P	**Pg**	**23 49 54.1**	**+0.1**
	128nm,0.1s,SNR=338						
KBK				↑S	**Sg**	**23 49 57.0**	**+0.3**
	521nm,0.2s						
TKM2	**Tokmak 2**	**0.47**	**43**	↓P	**Pg**	**23 49 59.4**	**0.0**
	17nm,0.1s,SNR=80						
TKM2				↑S	**Sg**	**23 50 05.8**	**+0.2**
	97nm,0.1s						
TKM2	**Tokmak 2**	**0.47**	**43**	↓P	**Pg**	**23 49 59.4**	**0.0**
	3.5nm,0.2s						
TKM2				↑S	**Sg**	**23 50 05.8**	**+0.2**
	22nm,0.2s						
AAK	**Ala-Archa**	**0.49**	**277**	↓P	**Pg**	**23 49 59.7**	**-0.1**
	14nm,0.2s,SNR=25						
AAK				↓S	**Sg**	**23 50 06.5**	**+0.1**
	58nm,0.2s						
KZA	**Kyzart**	**0.51**	**172**	↓P	**Pg**	**23 50 00.3**	**+0.3**
	25nm,0.2s,SNR=27						
KZA				↑S	**Sg**	**23 50 07.3**	**+0.6**
	101nm,0.4s						
CHMS	**Chumysh**	**0.52**	**325**	↓P	**Pg**	**23 50 00.2**	**0.0**
	58nm,0.2s,SNR=62						
CHMS				↓S	**Sg**	**23 50 07.3**	**+0.3**
	43nm,0.1s						
UCH	**Uchtor**	**0.59**	**234**	↑P	**Pg**	**23 50 01.6**	**-0.1**
	9.4nm,0.4s,SNR=8.7						
UCH				↑S	**Sg**	**23 50 09.1**	**-0.3**
	19nm,0.3s						
USP	**Ospenovka**	**0.84**	**325**	↓P	**Pg**	**23 50 05.9**	**-0.4**
	24nm,0.1s,SNR=189						
USP				↓S	**Sg**	**23 50 17.6**	**+0.2**
	21nm,0.1s						
ULHL	**Ulahol**	**0.87**	**112**	↓P	**Pg**	**23 50 06.5**	**-0.4**
	3.3nm,0.2s,SNR=23						
ULHL				↓S	**Sg**	**23 50 18.2**	**-0.1**
	17nm,0.3s						
EKS2	**Erkin-Say**	**1.02**	**275**	↑P	**Pb**	**23 50 09.8**	**+0.1**
	3.0nm,0.2s,SNR=22						
EKS2				↑S	**Sb**	**23 50 24.0**	**+0.8**
	11nm,0.1s						
KK31	**Karatay Array**	**3.46**	**280**	↓Pg	**Pg**	**23 50 54.5**	**-1.8**
	0.3nm,0.3s,baz=90,slow=18,SNR=32						
KK31				↑Lg		23 51 36.4	
	1.8nm,0.3s,baz=88,slow=19,SNR=15						

*ISCJB **11** 23:53:22.5±4.0, 53S±01×1536E±02, h39km±36km, mb3.8/8, Error ellipse: s-maj=26.9km s-min=23.8km az=111.4*
*BJI **11** 23:53:24.5, 530S×15360E, h52km, mb4.2*
*IDC **11** 23:53:25.4±1.0, 522S×15354E, h52km±6km, mb3.6/7, mb1 3.7/8, mb1mx3.6/17, mbtmp3.9/8, MS2.5/1, Ms1 2.5/1, ms1mx2.3/16, Error ellipse: s-maj=29.9km s-min=18.1km az=100.0*
*NEIC **11** 23:53:25.5±1.1, 527S×15356E, mb3.9/1, Error ellipse: s-maj=20.3km s-min=17.3km az=185.0*
ISC 11 23:53:26.2±3.2, 53S±02×1536E±02, h56km±30km, h54km±.7km: pP-P, n13, σ0$64/11, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.55**	**237**	P	**Pn**	**23 55 13.5**	**-0.1**
	2.5nm,0.3s,baz=43,slow=7.9,SNR=14						
PMG	**Port Moresby**	**7.55**	**237**	P	**Pn**	**23 55 13.4**	**-0.1**
HNR	**Honiara**	**7.57**	**123**	LR	LR	23 57 07.9	
	comp=Z,33nm,18.8s,baz=357,slow=29						
DZM	**Mont Dzumac**	**20.84**	**144**	P	**P**	**23 58 03.2**	**0.0**
	4.7nm,0.5s,baz=100,slow=21,SNR=12						
WRAB	**Tennant Creek**	**23.69**	**230**	*e*P	**P**	**23 58 32.5**	**-0.2**
	2.2nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**23.70**	**230**	P	**P**	**23 58 32.8**	**-0.1**
	0.6nm,0.6s,mb3.2,baz=54,slow=10,SNR=4.6						
WRA				pPcP	PcP	00 02 16.1	+0.5
	1.0nm,0.7s,baz=59,slow=2.3,SNR=6.2						
WRA				pPcP		00 02 30.5	
	0.5nm,0.5s,baz=48,slow=2.3,SNR=4.9						
ASAR	**Alice Springs**	**26.31**	**224**	P	**P**	**23 58 57.1**	**+0.6**
	0.5nm,0.8s,mb3.1,baz=51,slow=8.5,SNR=6.8						

ASAR				pP	pP	23 59 10.7	+0.2
	1.4nm,0.8s,baz=56,slow=8.5,SNR=7.9						
ASAR				PcP	PcP	00 02 22.0	+0.6
	1.0nm,0.8s,baz=55,slow=2.6,SNR=7.4						
ASAR				pPcP		00 02 36.8	
	0.6nm,0.6s,baz=66,slow=2.7,SNR=6.5						
GTA	**Gaotai**	**66.51**	**317**	*e*P	**P**	**00 04 11.2**	**+1.2**
GTA				AP	pP	00 04 25.7	+0.2
GTA				XP	sP	00 04 32.2	+0.4
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**67.13**	**328**	P	**P**	**00 04 14.0**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=128,slow=5.8,SNR=8.4						
SONM				pP	pP	00 04 28.1	-1.3
	comp=Z,0.6nm,0.5s,baz=136,slow=5.7,SNR=5.7						
MKAR	**Makanchi Array**	**81.18**	**319**	P	**P**	**00 05 35.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=98,slow=6.6,SNR=28						
MKAR				pP	pP	00 05 50.5	-1.1
	comp=Z,1.1nm,0.8s,baz=94,slow=6.8,SNR=4.9						
ILAR	**Eielson Array**	**82.32**	**22**	P	**P**	**00 05 42.0**	**+0.3**
	comp=Z,0.5nm,1.1s,mb3.4,baz=237,slow=4.5,SNR=4.3						
BVAR	**Borovoye Array**	**90.07**	**323**	P	**P**	**00 06 18.3**	**-1.5**
	comp=Z,2.2nm,0.8s,mb4.6,baz=104,slow=6.1,SNR=20						
BVAR				pP	pP	00 06 33.7	-2.2
	comp=Z,1.4nm,0.8s,baz=104,slow=6.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**151.16**	**288**	PKPbc	PKPbc	00 13 13.1	0.0
	comp=Z,1.7nm,0.5s,baz=72,slow=2.4,SNR=40						

RSPR 12 00:18:04.5, 1833N×6800W, h155km±1km, MD3.6/5, MD3.6/5, 4C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.85**	**81**	↑*e*P	Pn	00 18 28.6	+0.1
AGPR	**Aguadilla, PR**	**0.85**	**81**	*e*S	Sn	00 18 47.0	+0.1
CRPR	**Cabo Rojo, PR**	**0.91**	**111**	↓*e*P	Pn	00 18 28.9	0.0
CRPR	**Cabo Rojo, PR**	**0.91**	**111**	*e*S	Sn	00 18 47.4	-0.3
AOPR	**Arecibo Observ**	**1.19**	**89**	↑*e*P	Pn	00 18 30.8	-0.5
AOPR	**Arecibo Observ**	**1.19**	**89**	*e*S	Sn	00 18 51.9	+0.1
CELP	**Cerrillos**	**1.38**	**101**	↑*e*P	Pn	00 18 33.0	-0.1
CELP				*e*S	Sn	00 18 55.5	+0.4
CBYP	**Canovanas**	**2.04**	**91**	↑*e*P	Pn	00 18 40.0	-0.2
CBYP	**Canovanas**	**2.04**	**91**	*e*S	Sn	00 19 08.7	+0.8
HUMP	**Col San Antoni**	**2.05**	**95**	↓*e*P	Pn	00 18 40.5	0.0
HUMP	**Col San Antoni**	**2.05**	**95**	*e*S	Sn	00 19 08.5	+0.3
MTP	**Monte Pirata**	**2.33**	**95**	↓*e*P	Pn	00 18 43.9	+0.1
MTP	**Monte Pirata**	**2.33**	**95**	*e*S	Sn	00 19 15.0	+0.9

*ATH **12** 00:42:18.3, 3586N×2185E, h5km±2km, MD3.8/15, ML3.9*
*ISCJB **12** 00:42:19.4±0.6, 3587N±004×2172E±006, h10km, mb3.7/8, Error ellipse: s-maj=7.7km s-min=4.3km az=101.6*
*CSEM **12** 00:42:21.4±0.2, 3588N×2187E, h2km, ML3.9, Error ellipse: s-maj=4.1km s-min=1.7km az=47.0*
*THE **12** 00:42:24.3, 3596N×2190E, h22km, ML3.6*
*IDC **12** 00:42:25.5±2.8, 3607N×2204E, h56km±29km, mb3.5/8, mb1 3.4/12, mb1mx3.3/26, mbtmp3.6/12, ML3.2/4, Error ellipse: s-maj=24.2km s-min=20.9km az=114.0*
ISC 12 00:42:21.3±0.6, 3590N±004×2184E±006, h10km, n42, σ1$44/49, mb3.7/8, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.04**	**69**	*e*PG	**Pg**	**00 42 38.0**	**-3.4**
VLI	**Veliai**	**1.21**	**47**	*e*PN	**Pn**	**00 42 41.2**	**-3.0**
VLI				*e*SB	**Sb**	**00 42 59.5**	**-0.3**
ITM	**Ithomi**	**1.27**	**3**	*e*PG	**Pn**	**00 42 42.8**	**-2.4**
ITM				*e*SB	**Sb**	**00 43 02.0**	**+0.1**
KARN	**Karanos**	**1.77**	**106**	*e*Pb	**Pb**	**00 42 52.4**	**-1.4**
VAM	**Vamos**	**1.99**	**104**	*e*PN	**Pn**	**00 42 55.3**	**+0.3**
VAM				*e*SN	**Sn**	**00 43 22.2**	**+2.3**
RLS	**Riolos of Patr**	**2.17**	**352**	*e*PN	**Pn**	**00 42 59.0**	**+1.5**
VLS	**Valsamata**	**2.48**	**337**	*e*PN	**Pn**	**00 43 03.3**	**+1.6**
ATH	**Athens Observa**	**2.56**	**36**	*e*PN	**Pn**	**00 43 04.1**	**+1.3**
IDI	**Anoyia**	**2.56**	**103**	P	**Pn**	**00 43 02.4**	**-0.6**
	1.7nm,0.3s,baz=351,slow=16,SNR=23						
SIVA	**Sivas**	**2.58**	**109**	*e*Pn	**Pn**	**00 43 03.8**	**+0.6**
PTL	**Penteli**	**2.69**	**37**	*e*PN	**Pn**	**00 43 05.8**	**+1.2**
MPAR	**Parnis Oros**	**2.71**	**34**	*e*PN	**Pn**	**00 43 05.5**	**+0.6**
LKR	**Lokris**	**2.89**	**18**	*e*PN	**Pn**	**00 43 08.5**	**+1.0**
LKR				*e*SN	**Sn**	**00 43 45.6**	**+3.3**
EVR	**Evrytania**	**3.01**	**360**	*e*PN	**Pn**	**00 43 11.0**	**+2.0**
LAST	**Lasithi**	**3.06**	**103**	*e*Pn	**Pn**	**00 43 09.2**	**-0.6**
AGG	**Agios Georgios**	**3.14**	**7**	*e*Pn	**Pn**	**00 43 12.1**	**+1.3**
NPS	**Neapolis**	**3.14**	**101**	*e*PN	**Pn**	**00 43 11.6**	**+0.7**
APE	**Apeiranthos**	**3.20**	**68**	*e*PN	**Pn**	**00 43 13.3**	**+1.7**
APE	**Apeiranthos**	**3.20**	**68**	*e*Pn	**Pn**	**00 43 10.7**	**-1.0**
XOR	**Xorichti**	**3.62**	**17**	*e*Pn	**Pn**	**00 43 18.9**	**+1.5**
	comp=Z,1.4nm,1.1s						
ZKR	**Zakros**	**3.66**	**101**	*e*Pn	**Pn**	**00 43 18.3**	**+0.3**
IGT	**Igoumenitsa**	**3.81**	**342**	*e*Pn	**Pn**	**00 43 19.8**	**-0.3**
IGT				*e*SN	**Sn**	**00 44 04.1**	**-0.9**
JAN	**Janina**	**3.83**	**349**	*e*PN	**Pn**	**00 43 21.2**	**+0.9**
MEV	**Metsovon**	**3.90**	**353**	*e*Pn	**Pn**	**00 43 22.9**	**+1.6**
KEK	**Kerkira**	**4.13**	**338**	*e*PN	**Pn**	**00 43 26.0**	**+1.6**
FNA	**Florina**	**4.88**	**356**	*e*Pn	**Pn**	**00 43 34.6**	**-0.3**
FNA				*e*Sn	**Sn**	**00 44 30.5**	**-0.9**
SOH	**Sokhos**	**5.05**	**13**	*e*Pn	**Pn**	**00 43 37.6**	**+0.5**
GRG	**Griva**	**5.06**	**5**	*e*Pn	**Pn**	**00 43 36.6**	**-0.6**
KNT	**Kendrikon**	**5.32**	**9**	*e*Pn	**Pn**	**00 43 40.8**	**0.0**
STON	**Ston**	**7.66**	**337**	*i* Pn	**Pn**	**00 44 10.2**	**-2.7**
STON				*i* Sn	**Sn**	**00 45 32.0**	**-7.7**
BRTR	**Keskin Array B**	**10.09**	**64**	P	**Pn**	**00 44 46.0**	**-0.2**
	0.1nm,0.3s,baz=254,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**14.25**	**338**	P	**Pn**	**00 45 43.9**	**+0.8**
	0.1nm,0.3s,baz=168,slow=14,SNR=2.6						
AKASG	**Malin Array Be**	**15.72**	**18**	P	**Pn**	**00 46 00.5**	**-2.3**
	0.4nm,0.3s,baz=206,slow=9.6,SNR=3.6						
HFS	**Hagfors**	**24.81**	**350**	P	**P**	**00 47 39.9**	**-3.6**
	1.0nm,0.5s,mb3.6,baz=166,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**25.70**	**5**	P	**P**	**00 47 47.9**	**-3.7**
	0.7nm,0.6s,mb3.4,baz=164,slow=10,SNR=7.4						
NOA	**NORSAR Array B**	**26.05**	**348**	P	**P**	**00 47 52.4**	**-2.4**
	1.3nm,0.9s,mb3.5,baz=172,slow=13,SNR=3.0						
KAF	**Kangasniemi**	**26.38**	**5**	*e*p	**P**	**00 47 56.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**29.02**	**224**	P	**P**	**00 48 22.4**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=35,slow=9.8,SNR=8.8						
ARCES	**ARCESS Array B**	**33.75**	**2**	P	**P**	**00 49 00.3**	**-2.7**
	4.2nm,1.1s,mb4.3,baz=192,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**45.63**	**57**	P	**P**	**00 50 38.8**	**-3.1**
	1.8nm,0.6s,mb4.2,baz=268,slow=7.8,SNR=37						
ZAL	**Zalesovo**	**46.44**	**47**	P	**P**	**00 50 43.5**	**-4.8**
	0.7nm,0.4s,mb4.0,baz=217,slow=4.2,SNR=4.6						
SONM	**Songino Array**	**61.10**	**50**	P	**P**	**00 52 32.4**	**-3.2**
	0.2nm,0.6s,mb3.4,baz=295,slow=6.9,SNR=2.4						

*CSEM **12** 00:52:23.2±0.1, 67.13N×2100E, h1km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.2km az=95.0, Mining explosion.*
*UPP **12** 00:52:23.0, 67.19N×2067E, h3km, ML2.5, Suspected Mining explosion.*
*BER **12** 00:52:28.4±1.5, 6737N×2003E, h0km, ML1.7, Suspected explosion*
HEL 12 00:52:23.4±0.0, 6718N×2067E, h0km, ML2.0, ML2.5(UPP), ML1.7(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**214**	*i* P	Pg	00 52 24.6	-0.1
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	00 52 34.0	-0.7
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	00 52 37.5	-1.1
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	00 52 38.9	-1.1
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	00 52 38.9	-1.2
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	00 52 40.0	-1.3
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	00 52 40.8	-1.2
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	00 52 41.5	-1.3
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	00 52 54.0	-0.5
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	00 52 54.0	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	00 52 57.1	+0.9
KIF				*e*S	Sn	00 53 21.3	+1.3
KIF	**Kilpisjarvi**	**1.83**	**2**	P	Pn	00 52 57.0	+0.8
KIF				S	Sn	00 53 21.3	+1.2
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	00 52 57.3	-0.2
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	Pn	00 53 01.0	+1.5
KTK1				*e*S	Sn	00 53 27.6	+1.5
KTK1				AML	AML	00 53 30.8	
	comp=Z,16nm,0.4s						
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	Pn	00 53 01.0	+1.5
	SNR=50						
KTK1				*e*S	Sn	00 53 27.6	+1.5
	comp=Z,16nm,0.4s,SNR=50						
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	00 53 03.1	-2.4
SGF				*e*SB	Sb	00 53 32.4	-1.9
SGF	**Sodankyl**	**2.29**	**81**	Sg	Sg	00 53 32.4	-4.5
TRO	**Tromso**	**2.55**	**346**	*e*SB	Sb	00 53 40.2	-1.6
BURU	**Burvik**	**2.62**	**173**	*e*P	Pn	00 53 07.3	+0.3
MOR8	**Moi Rana**	**2.68**	**251**	*e*SG	Sg	00 53 42.1	-7.3
	comp=Z,7.9nm,0.4s						
MOR8				AML	AML	00 53 44.3	
	comp=Z,7.9nm,0.4s						
OUL	**Oulu**	**2.99**	**132**	*e*P	Pn	00 53 11.9	-0.1
OUL				*e*SG	Sg	00 53 54.2	-5.2
OUL				MSG		00 53 57.8	
	comp=Z,4.8nm,0.4s						
OUL	**Oulu**	**2.99**	**132**	P	Pn	00 53 11.9	-0.1
OUL				Sg	Sg	00 53 54.2	-5.3
	comp=Z,4.8nm,0.4s						
STOK	**Stokkvaagen**	**3.15**	**258**	*e*PG	Pg	00 53 21.7	-2.1
UMAU	**Umeaa**	**3.31**	**180**	*e*P	Pn	00 53 16.4	0.0
KEV	**Kevo**	**3.49**	**39**	*e*PG	Pg	00 53 26.0	-4.2
KEV				*e*S	Sn	00 53 59.5	-1.4
KEV	**Kevo**	**3.49**	**39**	Pg	Pg	00 53 26.0	-4.2
KEV				S	Sn	00 53 59.4	-1.4
KU4	**Liikasenvaara**	**3.62**	**99**	*e*P	Pn	00 53 21.1	+0.4
VAF	**Ylistaro**	**4.24**	**168**	*e*P	Pn	00 53 30.2	+1.0
VAF				*e*S	Sn	00 54 17.8	-1.6
VAF				MSG		00 54 37.9	
	comp=Z,2.9nm,0.5s						
VAF	**Ylistaro**	**4.24**	**168**	P	Pn	00 53 30.2	+1.0
VAF				S	Sn	00 54 17.7	-1.7
	comp=Z,2.9nm,0.5s						
KJN	**Kajaani**	**4.26**	**134**	*e*S	Sn	00 54 18.2	-1.7
KJN				MSG		00 54 37.9	
	comp=Z,1.8nm,0.4s						
KJN	**Kajaani**	**4.26**	**134**	S	Sn	00 54 18.2	-1.7
	comp=Z,1.8nm,0.4s						
NSS	**Namsos**	**4.45**	**237**	*e*S	Sn	00 54 26.5	+1.8
SUF	**Sumiainnen**	**5.05**	**150**	*e*P	Pn	00 53 40.0	-0.3
SUF				*e*S	Sn	00 54 36.9	-2.4
SUF	**Sumiainnen**	**5.05**	**150**	P	Pn	00 53 39.9	-0.4
SUF				S	Sn	00 54 36.9	-2.4
KEF	**Keuruu**	**5.34**	**158**	*e*S	Sn	00 54 44.1	-2.5
KEF				MSG		00 55 13.7	
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**6.21**	**129**	*e*P	Pn	00 53 56.1	-0.1
JOF				*e*S	Sn	00 55 03.8	-4.1

IDC 12 00:54:02.7±1.8, 097S×12434E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=209.4km s-min=26.7km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.25**	**153**	P	P	00 58 48.7	-1.7
	1.1nm,0.5s,baz=329,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.40**	**158**	P	P	00 59 24.3	+1.6
	0.9nm,0.6s,baz=341,slow=11,SNR=23						
MKAR	**Makanchi Array**	**60.13**	**328**	P	P	01 04 12.0	0.0
	0.4nm,0.9s,baz=121,slow=7.7,SNR=4.5						

*ISCJB **12** 01:39:04.3±0.4, 4357N±006×14056E±008, h229km±5km, mb3.3/9, Error ellipse: s-maj=11.3km s-min=8.1km az=90.3*
*NEIC **12** 01:39:04.8, 4360N×14043E, h221km, MG3.4(JMA), After JMA.*
*JMA **12** 01:39:04.8±0.2, 4360N×14043E, h221km±2km, M3.4*
*IDC **12** 01:39:05.2±1.0, 4377N×14031E, h208km±13km, mb3.2/9, mb1 3.3/10, mb1mx3.2/21, mbtmp3.7/10, Error ellipse: s-maj=34.3km s-min=16.4km az=154.0*
ISC 12 01:39:05.1±0.4, 4357N±006×14055E±009, h224km±5km, n28, σ0$77/39, mb3.3/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.23**	**193**	P	**Pn**	**01 39 33.6**	**-0.7**
JHR	**Hokuryu**	**0.87**	**78**	P	**Pn**	**01 39 36.9**	**+0.3**
JHR				*e*S	**S**	**01 40 01.8**	**+0.5**
JEW	**Eniwo**	**0.98**	**138**	P	**Pn**	**01 39 37.7**	**+0.4**
JEW				*e*S	**S**	**01 40 03.0**	**+0.6**
JSH	**Shimam**	**1.00**	**202**	P	**Pn**	**01 39 36.9**	**-0.5**
JNB	**Noboribetsu**	**1.16**	**162**	P	**Pn**	**01 39 38.3**	**-0.1**
JFR	**Furan**	**1.55**	**105**	P	**Pn**	**01 39 41.7**	**+0.3**
JFR				*e*S	**S**	**01 40 09.5**	**-0.2**
ASAJ	**Asahikawa**	**1.58**	**69**	P	**Pn**	**01 39 41.9**	**+0.3**
	9.9nm,0.3s,baz=253,slow=8.3,SNR=52						
ASAJ				S	**S**	**01 40 09.4**	**-0.8**
	2.0nm,0.3s,baz=349,slow=19,SNR=10						
JKK2	**Kamakawa 2**	**1.62**	**79**	P	**Pn**	**01

*ISCJB **12** 03:08:16.7±4.3, 58S±03×1514E±03, h67km±35km, mb3.7/6, Error ellipse: s-maj=67.6km s-min=27.4km az=78.8*
*IDC **12** 03:08:18.4±5.9, 574S×15132E, h69km±49km, mb3.6/4, mb1 3.7/5, mb1mx3.5/13, mbtmp3.8/5, ML2.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/16, Error ellipse: s-maj=64.6km s-min=29.5km az=117.0*
*NEIC **12** 03:08:18.7±3.4, 570S×15131E, h73km±27km, mb4.0/2, Error ellipse: s-maj=55.7km s-min=24.3km az=123.0*

ISC 12 03:08:17.8±4.0, 57S±03×1514E±03, h64km±32km, n10, σ0°74/9, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.59**	**228**	P	**Pn**	**03 09 38.4**	**0.0**
	1.2nm,0.3s,baz=36,slow=14,SNR=4.0						
PMG				S	**Sn**	**03 10 40.9**	**-0.3**
	3.2nm,0.3s,baz=172,slow=14,SNR=8.7						
WRAB	**Tennant Creek**	**21.80**	**228**	*eP*	**P**	**03 13 05.4**	**+1.0**
	2.8nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**21.80**	**228**	*eP*	**P**	**03 13 05.9**	**+1.4**
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**03 13 03.4**	**-1.1**
	1.8nm,0.5s,mb3.8,baz=54,slow=10.0,SNR=30						
DZM	**Mont Dzumac**	**21.86**	**140**	LR	LR	03 19 39.7	
	comp=Z,131nm,18.9s,baz=211,slow=31						
ASAR	**Alice Springs**	**24.56**	**222**	P	**P**	**03 13 30.7**	**-0.8**
	1.4nm,0.7s,mb3.6,baz=55,slow=8.9,SNR=16						
STKA	**Stephens Creek**	**27.63**	**198**	P	**P**	**03 13 59.3**	**+0.1**
	2.0nm,1.0s,mb3.7,baz=13,slow=14,SNR=2.2						
MBWA	**Marble Bar**	**34.31**	**240**	P	**P**	**03 14 58.0**	**0.0**
	2.3nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**03 20 38.5**	**-0.2**
	0.9nm,0.6s,mb4.0,baz=248,slow=5.5,SNR=17						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	03 28 00.2	+1.2
	0.9nm,0.8s,baz=102,slow=3.1,SNR=9.8						

*ISCJB **12** 03:45:19.6±1.2, 175S±02×1787W±02, h528km±17km, mb4.3/18, Error ellipse: s-maj=39.0km s-min=10.7km az=114.0*
*IDC **12** 03:45:20.2±2.0, 1768S×17863W, h524km±23km, mb3.9/10, mb1 4.0/12, mb1mx3.9/18, mbtmp4.7/12, Error ellipse: s-maj=38.9km s-min=12.2km az=152.0*
*NEIC **12** 03:45:20.0±0.9, 1770S×17863W, h528km±11km, mb4.4/2, Error ellipse: s-maj=34.7km s-min=8.7km az=152.0*
*MOS **12** 03:45:24.3±1.4, 1689S×179.16W, h540km, mb4.5/1, Error ellipse: s-maj=35.9km s-min=31.0km az=13.2*

ISC 12 03:45:20.6±1.1, 175S±02×1787W±02, h526km±16km, n69, σ0°75/28, mb4.3/18, 11C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**63**	P	**P**	**03 47 13.1**	**0.0**
	7.8nm,0.3s,baz=82,slow=22,SNR=6.3						
DZM	**Mont Dzumac**	**14.71**	**249**	P	**P**	**03 48 26.7**	**-0.6**
	0.9nm,0.3s,baz=48,slow=16,SNR=7.4						
CTA	**Charters Tower**	**33.24**	**260**	*eP*	**P**	**03 51 14.1**	**+0.1**
	6.8nm,0.8s,mb4.2						
CNB	**Canberra Magne**	**33.48**	**232**	*eP*	**P**	**03 51 17.0**	**+1.0**
	18nm,0.6s,mb4.8						
PMG	**Port Moresby**	**34.10**	**279**	P	**P**	**03 51 23.0**	**+1.7**
	31nm,0.8s,mb4.9,baz=83,slow=5.9,SNR=19						
PMG	**Port Moresby**	**34.10**	**279**	*d iP*	**P**	**03 51 23.2**	**+1.9**
STKA	**Stephens Creek**	**38.60**	**241**	*eP*	**P**	**03 51 57.4**	**-1.0**
	11nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**03 51 57.4**	**-1.0**
	17nm,0.6s,mb4.7,baz=90,slow=9.9,SNR=91						
WB2	**Warramunga Arr**	**44.42**	**259**	‖ *iP*	**P**	**03 52 44.3**	**-0.2**
WRAB	**Tennant Creek**	**44.42**	**259**	*d iP*	**P**	**03 52 44.1**	**-0.4**
WRAB	**Tennant Creek**	**44.42**	**259**	*eP*	**P**	**03 52 43.7**	**-0.8**
	14nm,0.7s,mb4.6						
WRAB				*e*		03 55 49.4	
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**03 52 43.8**	**-0.7**
	5.4nm,0.5s,mb4.3,baz=96,slow=7.2,SNR=155						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**03 52 46.5**	**+0.4**
	59nm,0.6s,mb5.3,baz=88,slow=8.1,SNR=909						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	*eP*	**P**	**03 53 47.5**	**+0.7**
	10nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**57.91**	**256**	*eP*	**P**	**03 54 22.0**	**-0.2**
	5.3nm,0.4s,mb4.1						
KLBR	**Kellerberrin**	**58.77**	**243**	*eP*	**P**	**03 54 27.5**	**-0.6**
	12nm,0.6s,mb4.3						
MUN	**Mundaring**	**60.07**	**243**	*eP*	**P**	**03 54 37.2**	**+0.4**
MJAR	**Matsushiro Arr**	**67.38**	**323**	P	**P**	**03 55 24.0**	**+0.6**
	0.6nm,0.4s,mb3.5,baz=158,slow=5.8,SNR=4.2						
MJAR	**Matsushiro Arr**	**67.38**	**323**	P	**P**	**03 55 24.0**	**+0.6**
KDAK	**Kodiak Island**	**78.03**	**14**	P	**P**	**03 56 24.4**	**-0.3**
	9.4nm,0.8s,mb4.2,baz=323,slow=21,SNR=5.0						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**03 56 33.0**	**+1.5**
	4.0nm,0.8s,mb3.8,baz=230,slow=11,SNR=35						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**03 56 33.0**	**+1.5**
MA2	**Magadan**	**80.69**	**345**	*i P*	**P**	**03 56 38.1**	**-0.7**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb3.9						
COLA	**College**	**85.40**	**13**	*i P*	**P**	**03 57 01.8**	**-0.5**
ILAR	**Eielson Array**	**85.52**	**13**	P	**P**	**03 57 01.8**	**-1.1**
	comp=Z,1.7nm,0.4s,mb4.0,baz=225,slow=5.3,SNR=69						
BILL	**Bilibino**	**85.96**	**354**	⇑ *eP*	**P**	**03 57 05.0**	**0.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**87.22**	**44**	P	**P**	**03 57 11.7**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.0,baz=214,slow=3.3,SNR=25						
YKA	**Yellowknife Ar**	**94.04**	**25**	P	**P**	**03 57 41.9**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.1,baz=246,slow=4.4,SNR=22						
FINES	**FINESS Array B**	**132.68**	**344**	PKP	PKPdf	04 03 34.0	-1.5
	comp=Z,0.8nm,0.8s,baz=90,slow=3.8,SNR=3.9						
BRTR	**Keskin Array B**	**144.26**	**315**	PKP	PKPdf	04 03 56.7	+0.1
	comp=Z,0.3nm,0.4s,baz=114,slow=2.4,SNR=6.6						
KSP	**Ksiaz**	**144.60**	**344**	*e*PKIKP	PKPdf	04 03 57.7	+0.5
CLL	**Collm**	**144.97**	**347**	⇑ *i*P	PKPdf	04 03 58.3	+0.5
	comp=Z,26nm,1.5s						
CLL	**Collm**	**144.97**	**347**	⇑ *i*PKIKP	PKPdf	04 03 58.3	+0.5
CLL				pmax	pmax		
	comp=Z,7.0nm,1.5s						
UPC	**Upice**	**144.98**	**344**	*e*PKP	PKPdf	04 03 59.0	+1.2
DPC	**Dobruska-Polom**	**145.04**	**343**	*e*PKP	PKPdf	04 03 59.1	+1.2
BRG	**Berggiesshubel**	**145.16**	**346**	*e*P	PKPdf	04 03 59.1	+1.0
	comp=Z,2.2nm,0.7s						
BRG	**Berggiesshubel**	**145.16**	**346**	*e*PKIKP	PKPdf	04 03 59.2	+1.1
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PVCC	**Panska Ves**	**145.33**	**345**	*e*PKP	PKPdf	04 03 59.5	+1.1
PRU	**Pruhonice**	**145.84**	**345**	*e*PKP	PKPdf	04 04 01.3	+2.0
GRF	**Grafenberg Arr**	**146.86**	**348**	*e*PKIKP	PKPdf	04 04 04.2	+3.2
KHC	**Kasperske Hory**	**146.87**	**345**	*e*PKP	PKPdf	04 04 03.5	+2.5
KHC	**Kasperske Hory**	**146.87**	**345**	*c i*PKIKP	PKPdf	04 04 04.0	+3.0
GERES	**GERESS Array B**	**147.11**	**345**	PKPbc	PKPbc	04 04 04.8	+0.4
	comp=Z,1.7nm,0.5s,baz=21,slow=2.9,SNR=23						
GIVF	**Givet**	**147.31**	**356**	*e*PKP1	PKPbc	04 04 05.1	+0.1
	comp=Z,15nm,0.8s						
BAIF	**Baives**	**147.40**	**357**	*e*PKP1	PKPbc	04 04 05.4	+0.2
	comp=Z,16nm,1.0s						
CDF	**Champ du Feu**	**148.74**	**352**	*e*PKP1	PKPbc	04 04 08.9	+0.3
	comp=Z,3.0nm,0.5s						
FLN	**La Foliniere**	**148.74**	**2**	⇑ *i*PKP1	PKPbc	04 04 08.5	-0.1
	comp=Z,7.8nm,0.5s						
MEZF	**Maizieres J'vi**	**148.89**	**355**	*e*PKP1	PKPbc	04 04 09.3	+0.4
LDF	**La Druitiere**	**148.93**	**2**	⇑ *i*PKP1	PKPbc	04 04 08.7	-0.3
	comp=Z,2.8nm,0.4s						
WTTA	**Wattenberg**	**149.08**	**346**	⇑ *i*PKiKP	PKiKP	04 04 09.7	-0.6
	comp=Z,4.8nm,0.5s						
GRR	**Gorron**	**149.10**	**3**	⇑ *i*PKP1	PKPbc	04 04 09.4	-0.1
	comp=Z,6.5nm,0.6s						
SGMF	**Saint Gilles**	**149.12**	**5**	*e*PKP1	PKPbc	04 04 09.2	-0.3
	comp=Z,14nm,0.7s						
SQTA	**Sankt Quirin**	**149.21**	**347**	‖ *i*PKiKP	PKiKP	04 04 10.1	-0.5
	comp=Z,3.2nm,1.0s						
HAU	**Haudompre**	**149.25**	**353**	*e*PKP1	PKPbc	04 04 10.9	+1.1
HINF	**Hinteralfeld**	**149.38**	**353**	*e*PKP1	PKPbc	04 04 10.1	0.0
	comp=Z,3.1nm,0.6s						
LOR	**Lormes**	**150.20**	**356**	⇑ *i*PKP1	PKPbc	04 04 12.3	+0.2
	comp=Z,6.0nm,0.5s						
HYF	**Humbligny**	**150.25**	**358**	*e*PKP1	PKPbc	04 04 12.7	+0.5
SSF	**Saint Saulge**	**150.42**	**357**	⇑ *i*PKP1	PKPbc	04 04 12.8	+0.2
	comp=Z,5.5nm,0.5s						
CABF	**La Chapelle**	**150.66**	**353**	*e*PKP1	PKPbc	04 04 13.9	+0.8
	comp=Z,12nm,0.9s						
AVF	**Avril sur Loir**	**150.70**	**357**	*e*PKP1	PKPbc	04 04 13.0	-0.2
	comp=Z,1.9nm,0.5s						
MFF	**Saint Martin d**	**150.91**	**2**	⇑ *i*PKP1	PKPbc	04 04 13.6	-0.1
BGF	**Bois d'Agland**	**150.96**	**358**	*e*PKP1	PKPbc	04 04 14.0	+0.2
TCF	**Toulx Ste Croi**	**151.24**	**359**	*e*PKP1	PKPbc	04 04 14.4	-0.1
	comp=Z,3.6nm,0.6s						
LPL	**La Plagne**	**151.66**	**352**	*e*PKP1	PKPbc	04 04 16.3	+0.9
LPG	**La Plagne**	**151.67**	**352**	*e*PKP1	PKPbc	04 04 16.5	+1.1
	comp=Z,4.3nm,0.8s						
RJF	**Les Rejaudoux**	**152.24**	**360**	*e*PKP1	PKPbc	04 04 16.5	-0.2
ORIF	**Oris-en-Rattie**	**152.35**	**353**	*e*PKP1	PKPbc	04 04 17.3	+0.4
MBDF	**Montbardon**	**152.43**	**352**	*e*PKP1	PKPbc	04 04 18.1	+1.0
CAF	**Calviac**	**152.61**	**359**	*e*PKP1	PKPbc	04 04 17.7	+0.2

IDC 12 03:48:36.4±1.1, 214S×13679E, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.1/12, mbtmp4.0/5, MS3.6/3, Ms1 3.6/3, ms1mx3.1/14, Error ellipse: s-maj=66.6km s-min=22.0km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.86**	**188**	S	Sn	03 55 53.5	-12
	0.3nm,0.3s,baz=5.4,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**21.58**	**187**	P	P	03 53 27.9	+0.3
	11nm,0.8s,baz=9.5,slow=11,SNR=21						
ASAR				S	S	03 57 20.8	-6.7
	2.9nm,0.9s,baz=8.8,slow=26,SNR=6.4						
STKA	**Stephens Creek**	**29.93**	**172**	P	P	03 54 45.8	-0.2
	1.2nm,0.3s,baz=359,slow=9.7,SNR=5.0						
STKA				LR	LR	04 08 06.6	
	comp=Z,161nm,20.2s,baz=22,slow=39						
SONM	**Songino Array**	**56.40**	**336**	P	P	03 58 19.8	+0.3
	0.7nm,1.0s,baz=149,slow=8.4,SNR=2.5						
SONM				LR	LR	04 21 07.7	
	comp=Z,60nm,18.8s,baz=130,slow=35						
MKAR	**Makanchi Array**	**68.17**	**323**	P	P	03 59 38.2	-0.2
	1.3nm,0.7s,baz=110,slow=7.9,SNR=16						
ILAR	**Eielson Array**	**86.11**	**25**	P	P	04 01 19.0	-0.2
	1.1nm,0.8s,baz=266,slow=4.0,SNR=8.4						
ARCES	**ARCESS Array B**	**99.34**	**341**	LR	LR	04 46 48.9	
	comp=Z,19nm,21.3s,baz=242,slow=35						
TORD	**Torodi Ar. Bea**	**134.25**	**286**	PKP	PKPdf	04 07 58.9	+2.8
	0.5nm,0.8s,baz=70,slow=1.0,SNR=2.6						
DBIC	**Dimbokro**	**141.50**	**278**	PKP	PKPdf	04 08 11.2	+1.7
	0.9nm,0.4s,baz=135,slow=1.4,SNR=2.6						

*ROM **12** 03:48:54.9±0.2, 4649N×1069E, h10km, Md1.7/3, Ml1.1/1, Error ellipse: s-maj=9.4km s-min=2.0km az=6.0*
*ISCJB **12** 03:48:55.4±0.8, 4655N±005×1071E±005, h10km, Error ellipse: s-maj=7.2km s-min=4.4km az=141.5*
*VIE **12** 03:48:57.3±0.7, 4665N×1064E, h8km, ML1.3/2, Error ellipse: s-maj=6.2km s-min=1.4km az=155.0 7 km ESE of Glorenza*

ISC 12 03:48:56.0±2.8, 4654N±007×1071E±006, h5km±53km, n5, σ0°30/10, 2C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.24**	**255**	Pg	**Pg**	**03 49 00.5**	**-0.2**
BRMO				Sg	**Sg**	**03 49 03.5**	**-0.4**
FUORN	**Ofenpass**	**0.32**	**285**	Pg	**Pg**	**03 49 02.1**	**-0.1**
FUORN				Sg	**Sg**	**03 49 06.8**	**+0.5**
APPI	**Appiano**	**0.36**	**99**	Pg	**Pg**	**03 49 03.0**	**-0.1**
APPI				Sg	**Sg**	**03 49 07.9**	**+0.1**
	16nm,0.2s						
SQTA	**Sankt Quirin**	**0.76**	**27**	‖ *i*Pg	**Pg**	**03 49 11.0**	**+0.3**
SQTA				⇑ *i*Sg	**Sg**	**03 49 20.8**	**+0.2**
	1.9nm,0.3s						
MOTA	**Moosalm**	**0.85**	**18**	‖ *i*Pg	**Pg**	**03 49 12.1**	**-0.3**
MOTA				⇑ *i*Sg	**Sg**	**03 49 22.8**	**-0.5**
	1.0nm,0.2s						

*IDC **12** 03:51:50.7±2.7, 3456S×17965W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=69.0km s-min=43.9km az=128.0*
*ISCJB **12** 03:51:53.4±2.8, 3470S±009×1800W±07, h15km±39km, mb3.6/2, Error ellipse: s-maj=96.1km s-min=14.8km az=4.8*

ISC 12 03:51:54.5±3.8, 3471S±010×1799W±07, h16km±50km, n12, σ1°05/13, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.69**	**204**	PN	**Pn**	**03 52 51.8**	**+1.0**
PUZ				SN	**Sn**	**03 53 34.3**	**+0.3**
MWZ	**Matawai**	**4.19**	**210**	PN	**Pn**	**03 52 59.3**	**+1.6**
MWZ				SN	**Sn**	**03 53 45.8**	**-0.6**
URZ	**Urewera**	**4.31**	**214**	Pn	**Pn**	**03 53 00.3**	**+1.0**
	5.5nm,0.3s,baz=58,slow=3.7,SNR=14						
URZ				Sn	**Sn**	**03 53 49.6**	**+0.4**
	5.6nm,0.3s,baz=112,slow=19,SNR=4.0						
URZ	**Urewera**	**4.31**	**214**	PN	**Pn**	**03 53 01.1**	**+1.7**
URZ				SN	**Sn**	**03 53 49.4**	**+0.1**
KNZ	**Kokohu**	**4.74**	**204**	PN	**Pn**	**03 53 04.6**	**-0.7**
TSZ	**Takapari Road**	**6.29**	**211**	PN	**Pn**	**03 53 25.3**	**-1.3**
MRZ	**Mangatainoka R**	**6.96**	**210**	*e*PN	**Pn**	**03 53 33.5**	**-2.2**
ASAR	**Alice Springs**	**41.53**	**273**	P	**P**	**03 59 41.2**	**+0.1**
	0.8nm,0.5s,mb3.6,baz=114,slow=7.9,SNR=8.9						
WRA	**Warramunga Arr**	**42.91**	**278**	P	**P**	**03 59 52.3**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=117,slow=7.7,SNR=5.6						
JOF	**Joensuu**	**145.76**	**335**	*e*pkp	PKPdf	04 11 30.3	-2.0
KAF	**Kangasniemi**	**147.99**	**337**	*e*pkp	PKPdf	04 11 36.0	0.0
FINES	**FINESS Array B**	**148.56**	**336**	PKPbc	PKPdf	04 11 37.8	+0.9
	0.7nm,0.5s,baz=46,slow=4.0,SNR=15						

GUC 12 04:34:05.0±0.4, 2328S×6648W, h238km±11km, ML3.5, 1C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**286**	⇑ *iP*	Pn	04 34 52.0	+2.2
LVC				*i* S	S	04 35 27.9	+2.8
LVC				AMP		04 35 29.3	
	comp=E,64nm,0.7s						
CEN1	**Los Morros**	**3.42**	**267**	*eP*	Pn	04 35 05.7	+4.2
CEN1				*i* S	S	04 35 51.5	+5.3
CEN1				AMP		04 35 52.7	
	comp=N,44nm,0.4s						
ANCH	**Antofagasta**	**3.63**	**263**	*eP*	Pn	04 35 04.6	+0.7
ANCH				*i* S	S	04 35 51.3	+0.7
CPN1	**Cerro Paranal**	**3.83**	**249**	‖ *iP*	Pn	04 35 09.7	+3.5
CPN1				*i* S	S	04 35 59.0	+4.2
CRCH	**Chaqaral**	**4.84**	**230**	*i* S	S	04 36 20.3	+3.4

IDC 12 04:43:32.6±2.0, 176N×12605E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, Error ellipse: s-maj=177.6km s-min=24.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**160**	P	P	04 48 38.6	-0.8
	0.6nm,0.4s,baz=338,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.40**	**164**	P	P	04 49 12.1	+1.4
	0.2nm,0.5s,baz=346,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**58.79**	**326**	P	P	04 53 32.6	+0.1
	0.1nm,0.3s,baz=121,slow=7.8,SNR=8.0						

*BJI **12** 04:54:37.1, 2390N×9175E, h40km, mB4.4, mb4.6, Ms3.7, Msz3.8*
*MOS **12** 04:54:38.5±1.0, 2390N×9161E, h46km, mb4.4/2, Error ellipse: s-maj=21.3km s-min=9.8km az=119.9*
*ISCJB **12** 04:54:39.0±0.5, 2399N±005×9155E±004, h50km, mb3.9/16, Error ellipse: s-maj=7.5km s-min=5.1km az=57.6*
*IDC **12** 04:54:40.7±0.6, 2391N×9165E, h48km±5km, mb3.7/14, mb1 3.8/14, mb1mx3.6/24, mbtmp3.9/14, Error ellipse: s-maj=28.3km s-min=12.9km az=54.0*
*NEIC **12** 04:54:40.8±0.5, 2389N×9163E, mb4.2/2, Error ellipse: s-maj=12.0km s-min=6.8km az=216.0*

ISC 12 04:54:41.5±0.5, 2403N±005×9159E±004, h52km, h52km±.5km: pP-P, n46, σ1°26/62, mb3.9/16, 2D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**0.34**	**245**	‖ *iP*	**Pn**	**04 54 55.0**	**+3.9**
SHL	**Shillong**	**1.56**	**10**	‖ *i*PN	**Pn**	**04 55 05.0**	**-1.8**
SHL				*e*SN	**Sn**	**04 55 25.0**	**-0.8**
LSA	**Lhasa**	**5.66**	**356**	P	**Pn**	**04 56 04.1**	**+1.1**
LSA				S	**Sn**	**04 57 07.8**	**+1.1**
LSA	**Lhasa**	**5.66**	**356**	*eP*	**Pn**	**04 56 03.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,28nm,0.3s						
LSA	**Lhasa**	**5.66**	**356**	*ePn*	**Pn**	**04 56 03.5**	**+0.4**
	comp=Z,28nm,0.3s						
JIRN	**Jiri**	**6.06**	**308**	*ePn*	**Pn**	**04 56 10.1**	**+1.6**
JIRN				*eSn*	**Sn**	**04 57 15.8**	**-0.6**
	comp=Z,134nm,0.3s						
JIRN	**Jiri**	**6.06**	**308**	*ePn*	**Pn**	**04 56 10.1**	**+1.6**
	comp=Z,67nm,0.3s						
JIRN				*eSn*	**Sn**	**04 57 15.8**	**-0.6**
GUN	**Gumba**	**6.43**	**308**	*ePn*	**Pn**	**04 56 15.3**	**+1.8**
GUN				*eSn*	**Sn**	**04 57 25.4**	**-0.1**
	comp=Z,124nm,0.4s						
GUN	**Gumba**	**6.43**	**308**	*ePn*	**Pn**	**04 56 15.3**	**+1.8**
	comp=Z,62nm,0.4s						
GUN				*eSn*	**Sn**	**04 57 25.4**	**-0.1**
PKI	**Pulchoki**	**6.59**	**304**	*ePn*	**Pn**	**04 56 17.4**	**+1.7**
PKI				*eSn*	**Sn**	**04 57 28.1**	**-1.4**
	comp=Z,65nm,0.4s						
PKI	**Pulchoki**	**6.59**	**304**	*eP*	**Pn**	**04 56 17.4**	**+1.7**
PKI				*e*		04 57 28.1	
PKI				pmax	pmax		
	comp=Z,33nm,0.4s						
PKI	**Pulchoki**	**6.59**	**304**	*ePn*	**Pn**	**04 56 17.4**	**+1.7**
	comp=Z,33nm,0.4s						
PKI				*eSn*	**Sn**	**04 57 28.1**	**-1.4**
KKN	**Kakani**	**6.80**	**305**	*ePn*	**Pn**	**04 56 19.6**	**+1.0**
KKN				*eSn*	**Sn**	**04 57 33.1**	**-1.6**
	comp=Z,81nm,0.4s						
KKN	**Kakani**	**6.80**	**305**	*eP*	**Pn**	**04 56 19.6**	**+1.0**
KKN				*e*		04 57 33.1	
KKN				pmax	pmax		
	comp=Z,40nm,0.4s						
KKN	**Kakani**	**6.80**	**305**	*ePn*	**Pn**	**04 56 19.6**	**+1.0**
	comp=Z,40nm,0.4s						
KKN				*eSn*	**Sn**	**04 57 33.1**	**-1.6**
DMN	**Daman**	**6.84**	**303**	*ePn*	**Pn**	**04 56 20.5**	**+1.3**
DMN				*eSn*	**Sn**	**04 57 34.0**	**-1.7**
	comp=Z,60nm,0.4s						
DMN	**Daman**	**6.84**	**303**	*ePn*	**Pn**	**04 56 20.5**	**+1.3**
	comp=Z,30nm,0.4s						
DMN				*eSn*	**Sn**	**04 57 34.0**	**-1.7**
GKN	**Gorkha**	**7.40**	**304**	*ePn*	**Pn**	**04 56 28.1**	**+1.3**
GKN				*eSn*	**Sn**	**04 57 46.7**	**-2.7**
	comp=Z,132nm,0.3s						
GKN	**Gorkha**	**7.40**	**304**	*ePn*	**Pn**	**04 56 28.1**	**+1.3**
	comp=Z,66nm,0.3s						
GKN				*eSn*	**Sn**	**04 57 46.7**	**-2.7**
KOLN	**Koldanda**	**8.10**	**299**	*ePn*	**Pn**	**04 56 36.3**	**-0.1**
KOLN				*eSn*	**Sn**	**04 58 02.8**	**-3.7**
	comp=Z,97nm,0.5s						
KOLN	**Koldanda**	**8.10**	**299**	*ePn*	**Pn**	**04 56 36.3**	**-0.1**
	comp=Z,49nm,0.5s						
KOLN				*eSn*	**Sn**	**04 58 02.8**	**-3.7**
CD2	**Chengdu**	**12.79**	**55**	*eP*	**Pn**	**04 57 40.6**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**16.01**	**39**	*eP*	**Pn**	**04 58 20.7**	**-2.5**
LZH				AP	pP	04 58 33.6	-3.8
LZH				AMB	AMB		
	comp=Z,23nm,1.1s						
LZH				AMB	AMB		
	comp=Z,73nm,4.5s						
LZH				LR	LR		
	comp=N,165nm,10.5s						
LZH				LR	LR		
	comp=Z,342nm,13.7s						
GTA	**Gaotai**	**16.84**	**22**	*eP*	**Pn**	**04 58 29.5**	**-4.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
MKAR	**Makanchi Array**	**23.91**	**344**	P	**P**	**04 59 51.1**	**+0.7**
	comp=Z,1.9nm,0.4s,mb3.9,baz=163,slow=9.3,SNR=66						
SONM	**Songino Array**	**26.52**	**23**	P	**P**	**05 00 14.4**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.3,baz=200,slow=11,SNR=7.0						
ULN	**Ulaanbaatar**	**26.78**	**23**	*eP*	**P**	**05 00 18.6**	**+2.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**26.78**	**23**	*eP*	**P**	**05 00 18.6**	**+2.1**
	comp=Z,1.1nm,0.5s,mb3.6						
BVAR	**Borovoye Array**	**33.11**	**336**	P	**P**	**05 01 14.8**	**+2.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=104,slow=5.9						
BVAR				PcP	PcP	05 03 54.7	0.0
	comp=Z,0.5nm,0.6s,baz=135,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**54.39**	**316**	P	**P**	**05 04 02.5**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=85,slow=6.5,SNR=4.7						
AKASG				pP	pP	05 04 16.1	-1.1
	comp=Z,0.8nm,0.6s,baz=84,slow=6.6,SNR=4.4						
MLR	**Muntele Rosu**	**56.42**	**310**	P	**P**	**05 04 19.4**	**+1.7**
	comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=10,SNR

JOF eS **Sn** **05 06 40.5 -1.3**
KIF Kilpisjarvi 5.02 293 eP **Pn** **05 05 49.5 +0.7**
KIF eS **Sn** **05 06 46.0 -1.5**
FINES FINESS Array B 6.99 212 Pn **Pn** **05 06 15.6 -0.2**
comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=5.5
FINES Sn **Sn** **05 07 33.7 -2.4**
comp=Z,0.2nm,0.3s,baz=30,slow=22,SNR=5.6
FINES Lg 05 08 09.8
comp=Z,0.4nm,0.3s,baz=25,slow=27,SNR=6.9
NOA NORSAR Array B 11.71 247 Pn **Pn** **05 07 19.0 -1.6**
comp=Z,0.1nm,0.3s,baz=57,slow=13,SNR=2.5
NOA Sn **Sn** **05 09 21.9 -10**
comp=Z,0.0nm,0.3s,baz=50,slow=22,SNR=3.9

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*CASC **12** 05:30:52.8±2.3, 1139N×8706W, h28km±9km, MD4.5, mb4.5(NEIC)*
*ISCJB **12** 05:30:53.3±0.9, 1148N±007×8700W±010, h70km±7km, mb4.3/28, Error ellipse: s-maj=19.2km s-min=4.4km az=111.2*
*IDC **12** 05:30:54.0±6.5, 1175N×8676W, h48km±64km, mb3.9/10, mb1 4.0/11, mb1mx3.8/22, mbtmp4.1/11, ML3.0/1, MS3.9/11, Ms1 4.0/11, ms1mx3.8/18, Error ellipse: s-maj=42.3km s-min=14.8km az=54.0*
*NEIC **12** 05:30:54.0±1.6, 1152N×8695W, h60km±16km, mb4.5/20, Error ellipse: s-maj=19.0km s-min=8.0km az=52.0*
*BJI **12** 05:30:54.0, 1150N×8690W, h60km, mB5.0, Ms5.1, Msz5.0*
ISC 12 05:30:54.7±0.9, 1154N±007×8697W±010, h62km±7km, n91, σ0°89/67, mb4.3/28, 13C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.74**	**30**	↓↓*iP*	**Pn**	**05 31 09.9**	**+0.4**
COPN				*eP*		05 31 09.9	
TICN	**Ticuantepe**	**0.87**	**55**	↑*eP*	**Pn**	**05 31 11.6**	**+0.5**
XAVN	**Gruta Xavier**	**0.88**	**46**	↑*eP*	**Pn**	**05 31 11.8**	**+0.6**
LEON	**Leon**	**0.88**	**5**	↑↑*iP*	**Pn**	**05 31 10.9**	**-0.3**
APYN	**Apoyeque**	**0.92**	**41**	↓↓*eP*	**Pn**	**05 31 12.4**	**+0.6**
MGAN	**Managua**	**0.93**	**49**	↑*eP*	**Pn**	**05 31 12.5**	**+0.6**
MIRN	**Miramar**	**0.93**	**16**	↓↓*eP*	**Pn**	**05 31 12.0**	**+0.1**
APON	**Apoyo**	**0.96**	**67**	*eP*	**Pn**	**05 31 12.6**	**+0.4**
MOMJ	**Momotombo**	**0.96**	**26**	↑*eP*	**Pn**	**05 31 12.5**	**+0.2**
WILN	**Americas 2**	**0.98**	**51**	↑↑*eP*	**Pn**	**05 31 13.0**	**+0.4**
CNGN	**Cerro Negro**	**0.99**	**15**	↑↑*eP*	**Pn**	**05 31 12.7**	**0.0**
TEL3	**Telica 3**	**1.04**	**7**	*eP*	**Pn**	**05 31 13.1**	**-0.1**
TELN	**Telica**	**1.07**	**7**	↑↑*eP*	**Pn**	**05 31 13.2**	**-0.4**
SSNN	**San Juan del S**	**1.12**	**103**	↑↑*eP*	**Pn**	**05 31 13.2**	**-1.1**
CRIN	**San Cristobal**	**1.16**	**356**	*eP*	**Pn**	**05 31 14.4**	**-0.4**
CONN	**Concepcion**	**1.31**	**89**	↑↑*eP*	**Pn**	**05 31 16.1**	**-0.8**
MADN	**Villa Maderas**	**1.41**	**95**	*eP*	**Pn**	**05 31 17.5**	**-0.7**
RIN3	**Volcan Rincon**	**1.73**	**115**	*eP*	**Pn**	**05 31 20.5**	**-1.9**
LIM1	**Limonal**	**1.88**	**116**	*eP*	**Pn**	**05 31 23.3**	**-1.2**
CNCH	**Conchagua**	**1.93**	**334**	↑↑*eP*	Px	05 31 37.4	
CNCH				*eS*	Sx	05 32 03.1	
BLLM	**Bellamira**	**2.27**	**327**	*eP*	Px	05 31 40.5	
BLLM				*eS*	Sx	05 32 10.6	
VSM	**San Miguel**	**2.27**	**326**	*eP*	Px	05 31 41.4	
VSM				*eS*	Sx	05 32 10.0	
JTS	**JuntasAbangare**	**2.33**	**122**	*e*Pn	**Pn**	**05 31 29.8**	**-0.9**
CAO	**Cobano**	**2.58**	**135**	*eP*	**Pn**	**05 31 30.7**	**-3.4**
EPA	**Esparza**	**2.79**	**123**	*eP*	**Pn**	**05 31 36.6**	**-0.3**
LCBS	**La Ceiba**	**2.88**	**317**	*eP*	Px	05 31 48.9	
LCBS				*eS*	Sx	05 32 23.8	
CGA2	**Cerro Gallo 2**	**2.88**	**121**	*eP*	**Pn**	**05 31 39.0**	**+0.8**
CGA2				*eS*	**Sn**	**05 32 12.5**	**+0.8**
PRS1	**Puriscal**	**3.03**	**120**	*eP*	**Pn**	**05 31 41.3**	**+1.1**
BOQS	**Boqueron**	**3.14**	**314**	*eP*	Px	05 31 53.0	
BOQS				*eS*	Sx	05 32 32.5	
LAJ	**Bijagual**	**3.25**	**120**	↑↑*eP*	**Pn**	**05 31 39.1**	**-4.1**
OCM	**Ochomogo**	**3.37**	**119**	*eP*	**Pn**	**05 31 45.9**	**+1.0**
IRZ2	**Volcan Irazu 2**	**3.39**	**117**	*eP*	**Pn**	**05 31 47.0**	**+1.9**
LCR2	**La Lucha 2**	**3.42**	**121**	↑↑*eP*	**Pn**	**05 31 44.8**	**-0.6**
SBLS	**San Blas**	**3.46**	**312**	*eP*	Px	05 31 57.0	
SBLS				*eS*	Sx	05 32 39.2	
BUS	**Buena Vista**	**3.72**	**122**	↓↓*eP*	**Pn**	**05 31 49.5**	**-0.1**
BUS				*eS*	**Sn**	**05 32 32.3**	**+0.2**
ACR	**Cerro Adams**	**4.71**	**127**	*eP*	**Pn**	**05 32 03.9**	**+0.7**
ACR				*eS*	**Sn**	**05 32 56.2**	**-0.3**
ROSC	**El Rosal**	**14.15**	**117**	LR	LR	05 38 54.0	
comp=Z,217nm,19.8s,baz=162,slow=34							
SDV	**Santo Domingo**	**16.29**	**98**	P	**Pn**	**05 34 37.6**	**-1.8**
0.1nm,0.3s,baz=81,slow=9.0,SNR=2.1							
SDV	**Santo Domingo**	**16.29**	**98**	P	**Pn**	**05 34 37.6**	**-1.8**
SDV				*eP*		05 34 41.8	
HKT	**Hockley**	**20.09**	**337**	*eP*	**P**	**05 35 22.2**	**-1.0**
37nm,1.4s							
SJG	**San Juan**	**21.15**	**70**	LR	LR	05 44 22.7	
comp=Z,408nm,18.2s,baz=261,slow=39							
NATX	**Nacogdoches**	**21.34**	**342**	*eP*	**P**	**05 35 37.0**	**+0.4**
36nm,0.8s,mb4.8							
LRAL	**Lakeview Retre**	**21.40**	**360**	*eP*	**P**	**05 35 38.8**	**+1.6**
19nm,1.0s,mb4.4							
JCT	**Junction City**	**22.30**	**330**	P	**P**	**05 35 46.0**	**-0.8**
8.5nm,0.8s,mb4.2							
OXF	**Oxford**	**22.98**	**355**	*eP*	**P**	**05 35 53.6**	**-0.3**
102nm,1.5s,mb5.0							
OXF				*e*		05 36 00.4	
UALR	**University of**	**23.65**	**349**	*eP*	**P**	**05 36 00.4**	**+0.2**
16nm,0.9s,mb4.5							
WVT	**Waverly**	**24.50**	**358**	*eP*	**P**	**05 36 07.3**	**-0.7**
3.5nm,0.6s,mb4.0							
TZTN	**Tazewell**	**25.09**	**7**	P	**P**	**05 36 15.0**	**+1.6**
WMOK	**Wichita Mounta**	**25.48**	**337**	*eP*	**P**	**05 36 15.6**	**-1.3**
48nm,1.4s,mb4.8							
MNTX	**Cornudas Mount**	**26.30**	**323**	*eP*	**P**	**05 36 23.7**	**-0.6**
8.9nm,1.3s,mb4.1							
WCI	**Wyandotte Cave**	**26.59**	**1**	*eP*	**P**	**05 36 27.2**	**+0.2**
8.1nm,0.8s,mb4.3							
ANMO	**Albuquerque**	**29.28**	**326**	P	**P**	**05 36 52.2**	**+1.3**
1.0nm,0.8s,mb3.6,baz=158,slow=7.3,SNR=5.7							
ANMO	**Albuquerque**	**29.28**	**326**	*eP*	**P**	**05 36 51.9**	**+0.9**
1.4nm,0.9s,mb3.7							
SDCO	**Great Sand Dun**	**30.94**	**331**	*eP*	**P**	**05 37 06.1**	**+0.5**
4.0nm,0.9s,mb4.2							
SMCO	**Snowmass**	**32.77**	**331**	*eP*	**P**	**05 37 22.5**	**+0.8**
12nm,1.4s,mb4.7							
LPAZ	**La Paz**	**33.34**	**146**	LR	LR	05 51 21.0	
comp=Z,200nm,18.1s,baz=1.7,slow=37							
SADO	**Sadowa**	**33.79**	**10**	P	**P**	**05 37 30.0**	**-0.6**
3.6nm,0.5s,mb4.5,baz=199,slow=9.5,SNR=8.4							
PDAR	**Pinedale Array**	**36.80**	**332**	P	**P**	**05 37 56.6**	**+0.2**
1.2nm,0.7s,mb3.8,baz=126,slow=11,SNR=12							
HWUT	**Hardware Ranch**	**36.90**	**329**	*eP*	**P**	**05 37 57.6**	**+0.3**
7.9nm,0.8s,mb4.6							
SIV	**San Ignacio**	**37.48**	**136**	P	**P**	**05 38 03.2**	**+1.0**
4.5nm,0.6s,mb4.5,baz=311,slow=7.9,SNR=45							
REDW	**Red Top Meadow**	**37.86**	**331**	*eP*	**P**	**05 38 05.9**	**+0.4**
12nm,0.8s,mb4.7							
SNOW	**Snow King Moun**	**37.89**	**331**	*eP*	**P**	**05 38 06.1**	**+0.4**
25nm,1.0s,mb4.9							
LOHW	**Long Hollow**	**37.94**	**332**	*eP*	**P**	**05 38 06.6**	**+0.6**
12nm,1.3s,mb4.5							
MOOW	**Moose Ponds**	**38.11**	**332**	*eP*	**P**	**05 38 06.3**	**-1.2**
8.3nm,1.3s,mb4.3							
NVAR	**Mina Array Bea**	**38.70**	**319**	P	**P**	**05 38 14.1**	**+1.6**
1.2nm,0.8s,mb3.7,baz=113,slow=8.5,SNR=11							
NVAR				PcP	PcP	05 40 25.2	+2.0
0.6nm,0.8s,baz=122,slow=5.3,SNR=3.5							
NVAR				LR	LR	05 55 32.0	
comp=Z,238nm,18.6s,baz=105,slow=38							
ULM	**Lac du Bonnet**	**39.29**	**351**	P	**P**	**05 38 15.9**	**-1.5**
3.0nm,0.7s,mb4.2,baz=163,slow=9.6,SNR=8.3							
DGMT	**Dagmar**	**39.53**	**342**	*eP*	**P**	**05 38 18.8**	**-0.6**
5.4nm,0.6s,mb4.5							
MCMT	**McKenzie Canyo**	**39.91**	**331**	*eP*	**P**	**05 38 23.6**	**+1.0**
FFC	**Flin Flon**	**44.69**	**348**	*eP*	**P**	**05 39 01.3**	**0.0**
2.5nm,0.6s,mb4.2							
SCHQ	**Schefferville**	**46.02**	**16**	P	**P**	**05 39 10.9**	**-0.9**
1.4nm,0.4s,mb4.2,baz=174,slow=5.1,SNR=12							
SCHQ				LR	LR	06 01 50.3	
comp=Z,202nm,18.5s,baz=226,slow=41							
BDFB	**Brasilia**	**47.07**	**124**	P	**P**	**05 39 21.2**	**+1.1**
5.2nm,0.6s,mb4.6,baz=304,slow=11,SNR=15							
BDFB				LR	LR	05 59 42.1	
comp=Z,356nm,18.8s,baz=169,slow=37							
YKA	**Yellowknife Ar**	**54.61**	**345**	P	**P**	**05 40 15.3**	**-1.5**
1.2nm,0.8s,mb4.0,baz=139,slow=7.5,SNR=22							
YKA				PcP	PcP	05 41 19.5	+0.3
0.4nm,0.7s,baz=147,slow=4.7,SNR=4.0							
RKT	**Rikitea**	**58.26**	**234**	*e*LR	LR	05 57 42.4	
83nm,27.2s							
RKT	**Rikitea**	**58.26**	**234**	*e*T		06 43 04.7	
3.8nm,0.2s							
ILAR	**Eielson Array**	**67.04**	**336**	P	**P**	**05 41 40.6**	**-0.6**
0.4nm,0.6s,mb3.6,baz=148,slow=4.6,SNR=9.1							
ILAR				LR	LR	06 16 54.4	
comp=Z,123nm,19.7s,baz=356,slow=41							
PPT	**Papeete**	**68.25**	**246**	*e*LR	LR	06 02 20.9	
67nm,20.8s							
TBI	**Tubuai**	**70.26**	**240**	*e*LR	LR	06 03 16.6	
121nm,25.8s							
TBI	**Tubuai**	**70.26**	**240**	*e*T		06 58 08.2	
2.8nm,0.2s							
DBIC	**Dimbokro**	**80.99**	**85**	LR	LR	06 16 53.7	
comp=Z,45nm,18.8s,baz=356,slow=34							
NOA	**NORSAR Array B**	**83.94**	**29**	LR	LR	06 20 32.2	
comp=Z,50nm,18.2s,baz=265,slow=36							
ARCES	**ARCESS Array B**	**86.89**	**19**	LR	LR	06 23 48.9	
comp=Z,45nm,19.9s,baz=147,slow=37							
FINES	**FINESS Array B**	**90.58**	**26**	LR	LR	06 21 13.4	
comp=Z,52nm,20.3s,baz=330,slow=33							
MDJ	**Mudanjiang**	**115.03**	**332**	PKP	PKiKP	05 49 29.3	+0.7
MDJ				PP	PP		
comp=Z,116nm,6.1s							
CN2	**Changchun**	**117.52**	**334**	*e*PKP	PKPdf	05 49 34.3	+0.9
WMQ	**Urumqi**	**124.70**	**5**	*e*PKP	PKPdf	05 49 48.6	+1.4
HHC	**Hu-ho-hao-te**	**125.13**	**343**	*e*PKP	PKPdf	05 49 47.8	-0.2
HHC				PP	PP	05 51 40.2	+2.4
HHC				PKS		05 53 22.1	
HHC				SKS	SKSdf	05 56 53.1	-1.4
HHC				SKKS	SKKSac	05 58 27.8	-2.9
HHC				SS	SS	06 08 31.5	+1.7
HHC				PP	PP		
comp=Z,93nm,8.4s							
HHC				LR	LR		
comp=N,152nm,21.6s							
HHC				LR	LR		
comp=E,172nm,15.6s							
HHC				LR	LR		
comp=Z,125nm,18.0s							
SSE	**Sheshan**	**129.73**	**328**	*e*PKP	PKPdf	05 49 58.0	+1.2
SSE				PP	PP		
comp=Z,37nm,4.4s							
NJ2	**Nanjing**	**130.11**	**331**	*e*PKP	PKPdf	05 49 59.5	+2.0
NJ2				PP	PP	05 52 14.0	+3.4
NJ2				PKS		05 53 35.0	
NJ2				PP	PP		
comp=Z,130nm,7.6s							
NJ2				LR	LR		
comp=N,1μm,35.7s							
NJ2				LR	LR		
comp=E,1μm,29.7s							
NJ2				LR	LR		
comp=Z,460nm,28.2s							
LZH	**Lanzhou**	**131.55**	**348**	*e*PKP	PKPdf	05 50 01.5	+1.3
LZH				LR	LR		
comp=E,138nm,18.5s							
LZH				LR	LR		
comp=Z,275nm,20.0s							
CD2	**Chengdu**	**136.56**	**347**	*e*PKP	PKPdf	05 50 10.4	+0.8
CD2				PP	PP	05 52 54.8	+3.1
CD2				SKKS	SKKSac	05 59 41.6	+0.5
CD2				SS	SS	06 10 51.0	+1.4
CD2				PP	PP		
comp=Z,80nm,4.9s							
WRA	**Warramunga Arr**	**139.46**	**253**	PKhKP		05 50 13.8	
comp=Z,0.6nm,0.8s,baz=84,slow=1.5,SNR=2.5							

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*ISCJB **12** 05:40:07.2±2.1, 79S±0.1×1202E±01, h191km±21km, mb4.4/11, Error ellipse: s-maj=23.9km s-min=7.4km az=100.0*
*NEIC **12** 05:40:13.0±1.9, 801S×120.19E, h238km±21km, mb4.2/8, Error ellipse: s-maj=17.4km s-min=7.3km az=49.0*
*IDC **12** 05:40:13.7±2.8, 801S×12027E, h244km±27km, mb3.7/5, mb1 3.7/6, mb1mx3.4/17, mbtmp4.2/6, Error ellipse: s-maj=30.9km s-min=9.0km az=55.0*
ISC 12 05:40:12.5±1.9, 802S±010×1202E±01, h230km±20km, n25, σ0°64/26, mb4.3/11, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.32**	**153**	*eP*	**Pn**	**05 42 45.7**	**-2.2**
5.1nm,0.4s							
FITZ				*eS*	**S**	**05 44 45.5**	**-8.9**
MBWA	**Marble Bar**	**13.07**	**182**	*eP*	**Pn**	**05 43 10.5**	**+0.7**
4.7nm,1.0s							
WRA	**Warramunga Arr**	**18.08**	**132**	P	**P**	**05 44 07.6**	**+0.5**
1.0nm,0.3s,baz=306,slow=12,SNR=110							
WRA				S	**S**	**05 47 22.0**	**-0.2**
0.5nm,0.3s,baz=309,slow=21,SNR=7.1							
WRAB	**Tennant Creek**	**18.09**	**132**	*eP*	**P**	**05 44 07.7**	**+0.6**
4.6nm,0.5s							
WB2	**Warramunga Arr**	**18.09**	**132**	*eP*	**P**	**05 44 07.8**	**+0.6**
WB2				*eS*	**S**	**05 47 21.7**	**-0.6**
ASAR	**Alice Springs**	**20.34**	**141**	P	**P**	**05 44 32.0**	**+0.8**
2.0nm,0.4s,baz=320,slow=12,SNR=51							
ASAR				S	**S**	**05 48 06.8**	**+0.6**
2.4nm,0.6s,baz=321,slow=22,SNR=22							
KLBR	**Kellerberrin**	**23.57**	**185**	*eP*	**P**	**05 45 02.0**	**-0.3**
6.3nm,0.3s,mb4.7							
MUN	**Mundaring**	**24.13**	**188**	*eP*	**P**	**05 45 07.4**	**0.0**
NWAO	**Narrogin (SRO)**	**24.94**	**186**	P	**P**	**05 45 15.1**	**+0.4**
16nm,0.8s,mb4.7,baz=321,slow=5.5,SNR=12							
NWAO	**Narrogin (SRO)**	**24.94**	**186**	P	**P**	**05 45 15.1**	**+0.3**
STKA	**Stephens Creek**	**30.96**	**143**	P	**P**	**05 46 07.7**	**-0.4**
2.3nm,0.5s,mb4.0,baz=314,slow=9.5,SNR=5.4							
ENH	**Enshi**	**39.45**	**345**	P	**P**	**05 47 20.5**	**+0.1**
4.4nm,0.4s,mb4.3							
LSA	**Lhasa**	**46.79**	**325**	*eP*	**P**	**05 48 19.9**	**+0.9**
4.8nm,0.6s,mb4.0							
BJT	**Baijiatuau**	**47.94**	**356**	*eP*	**P**	**05 48 23.6**	**-4.2**
14nm,0.8s,mb4.4							
JIRN	**Jiri**	**48.41**	**318**	*eP*	**P**	**05 48 31.5**	**+0.1**
14nm,0.6s,mb4.5							
GUN	**Gumba**	**48.78**	**318**	*eP*	**P**	**05 48 34.2**	**0.0**
21nm,0.6s,mb4.6							
DMN	**Daman**	**49.09**	**317**	*eP*	**P**	**05 48 36.3**	**-0.3**
KKN	**Kakani**	**49.09**	**318**	*eP*	**P**	**05 48 36.8**	**+0.2**
GKN	**Gorkha**	**49.66**	**318**	*eP*	**P**	**05 48 40.4**	**-0.5**
KOLN	**Koldanda**	**50.21**	**317**	*eP*	**P**	**05 48 44.3**	**-0.7**
3.8nm,0.5s,mb4.0							
SONM	**Songino Array**	**56.94**	**349**	P	**P**	**05 49 33.8**	**+0.1**
1.0nm,0.6s,mb3.6,baz=168,slow=8.3,SNR=11							
MKAR	**Makanchi Array**	**64.16**	**332**	P	**P**	**05 50 22.1**	**-0.3**
2.9nm,0.6s,mb4.1,baz=138,slow=7.5,SNR=43							
YKA	**Yellowknife Ar**	**112.80**	**24**	PKiKP	PKiKP	05 58 21.0	-0.7
0.5nm,0.4s,baz=301,slow=1.8,SNR=20							
NVAR	**Mina Array Bea**	**119.45**	**50**	PKP	PKPdf	05 58 35.3	+0.8
0.4nm,0.8s,baz=288,slow=5.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**119.49**	**281**	PKP	PKPdf	05 58 35.1	+0.5
1.1nm,0.6s,baz=52,slow=1.8,SNR=21							

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*IDC **12** 05:52:24.9±1.2, 057N×12480E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=136.0km s-min=19.8km az=67.0*
*ISCJB **12** 05:52:27.7±0.8, 05N±0.1×1245E±03, h33km, mb4.2/7, Error ellipse: s-maj=47.6km s-min=12.3km az=142.3*
*NEIC **12** 05:52:30.9±0.7, 039N×12452E, h45km, mb4.4/3, Error ellipse: s-maj=39.7km s-min=10.3km az=70.0*
ISC 12 05:52:30.1±0.8, 05N±01×1246E±03, h35km, n9, σ0°48/9, mb4.2/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.47**	**177**	*eP*	**Pn**	**05 56 43.9**	**+0.8**
3.9nm,0.3s							
MBWA	**Marble Bar**	**21.99**	**192**	*eP*	**P**	**05 57 20.6**	**-0.4**
2.6nm,0.8s,mb3.7							
WRAB	**Tennant Creek**	**22.41**	**155**	*eP*	**P**	**05 57 25.0**	**-0.5**
14nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**22.41**	**155**	P	**P**	**05 57 25.4**	**-0.1**
6.9nm,0.5s,mb4.4,baz=335,slow=10,SNR=82							
WB2	**Warramunga Arr**	**22.42**	**155**	*eP*	**P**	**05 57 25.2**	**-0.3**
ASAR	**Alice Springs**	**25.63**	**160**	P	**P**	**05 57 56.8**	**+0.5**
1.5nm,0.5s,mb3.8,baz=349,slow=16,SNR=30							
SONM	**Songino Array**	**49.77**	**344**	P	**P**	**06 01 19.7**	**+0.6**
1.1nm,0.7s,mb4.0,baz=156,slow=8.2,SNR=9.9							
MKAR	**Makanchi Array**	**59.07**	**327**	P	**P**	**06 02 26.6**	**-0.1**
1.3nm,0.4s,mb4.3,baz=121,slow=8.1,SNR=48							
KURK	**Kurchatov**	**63.39**	**329**	*eP*	**P**	**06 02 55.5**	**-0.4**
3.2nm,0.5s,mb4.7							

RSPR 12 05:59:25.6, 1782N×6870W, h33km±19km, MD3.6/4, MD3.6/4, 8C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.52**	**83**	↑*eP*	Pn	05 59 49.6	-0.9
MGP	**Maguayo**	**1.54**	**83**	↑*eP*	Pn	05 59 49.5	-1.3
MGP				*eS*	Sn	06 00 07.7	-1.9
AGPR	**Aguadilla, PR**	**1.64**	**67**	↑*eP*	Pn	05 59 50.6	-1.4
AGPR	**Aguadilla, PR**	**1.64**	**67**	*eS*	Sn	06 00 10.2	-1.8
AOPR	**Arecibo Observ**	**1.92**	**74**	↑*eP*	Pn	05 59 55.2	-0.8
AOPR	**Arecibo Observ**	**1.92**	**74**	*eS*	Sn	06 00 17.8	-1.3
CELP	**Cerrillos**	**2.03**	**82**	↑*eP*	Pn	05 59 56.4	-1.1
CELP				*eS*	Sn	06 00 20.0	-1.7
HUMP	**Col San Antoni**	**2.73**	**83**	*eS*	Sn	06 00 38.2	-0.7
HUMP	**Col San Antoni**	**2.73**	**83**	↑*eP*	Pn	06 00 05.8	-1.3
MTP	**Monte Pirata**	**3.00**	**84**	*eS*	Sn	06 00 44.8	-0.8
MTP	**Monte Pirata**	**3.00**	**84**	↑*eP*	Pn	06 00 09.6	-1.3
CULB	**Culebra**	**3.24**	**81**	↑*eP*	Pn	06 00 13.7	-0.4

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*IDC **12** 06:02:23.7±0.7, 949S×15106E, h0km, mb4.5/8, mb1 4.6/12, mb1mx4.6/15, mbtmp4.4/12, ML3.8/4, MS4.0/13, Ms1 4.0/13, ms1mx3.8/21, Error ellipse: s-maj=21.4km s-min=17.3km az=162.0*
*ISCJB **12** 06:02:25.5±0.4, 961S±005×15105E±007, h23km, mb4.7/28, MS4.2/15, Error ellipse: s-maj=10.4km s-min=7.2km az=29.0*
*BJI **12** 06:02:26.5, 894S×15123E, h10km, mB4.9, mb4.8, Ms4.8, Msz4.2*
*MOS **12** 06:02:27.0±1.1, 966S×15106E, h37km, mb5.1/7, Error ellipse: s-maj=13.3km s-min=10.2km az=64.9*
*NEIC **12** 06:02:29.3±1.7, 965S×15101E, h41km±16km, mb4.7/8, Error ellipse: s-maj=13.5km s-min=11.0km az=49.0*
ISC 12 06:02:27.6±0.4, 963S±005×15107E±007, h25km, h25km±5.5km: pP-P, n79, σ1°08/66, mb4.7/28, MS4.2/15, 5C-6D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**273**	Pn	**Pn**	**06 03 25.6**	**+0.1**
9.4nm,0.3s,baz=103,slow=4.2,SNR=24							
PMG				Lg		06 04 25.6	
baz=273,slow=14,SNR=2.6							
HNR	**Honiara**	**8.76**	**89**	LR	LR	06 07 07.3	
comp=Z,228nm,19.4s,baz=358,slow=32							
CTA	**Charters Tower**	**11.39**	**204**	*eP*	**Pn**	**06 05 08.4**	**-0.3**
3.1nm,0.3s							
CTA	**Charters Tower**	**11.39**	**204**	Pn	**Pn**	**06 05 08.2**	**-0.6**
1.4nm,0.3s,baz=39,slow=13,SNR=9.1							
CTA				Sn	**Sn**	**06 07 13.1**	**-2.2**
0.5nm,0.3s,baz=277,slow=10.0,SNR=2.9							
CTA				LR	LR	06 09 03.1	
comp=Z,800nm,20.8s,baz=31,slow=35							
CTA	**Charters Tower**	**11.39**	**204**	P	**Pn**	**06 05 08.2**	**-0.5**
CTA				LR		06 07 13.1	
CTAO	**Charters Tower**	**11.39**	**204**	*eP*	**Pn**	**06 05 08.8**	**+0.1**
WRAB	**Tennant Creek**	**19.12**	**236**	*d iP*	**Pn**	**06 06 50.0**	**+0.3**
WRAB	**Tennant Creek**	**19.12**	**236**	*eP*	**Pn**	**06 06 48.9**	**-0.8**
30nm,0.9s							
WB2	**Warramunga Arr**	**19.13**	**236**	↓↓*iP*	**Pn**	**06 06 50.0**	**+0.3**
WRA	**Warramunga Arr**	**19.14**	**236**	P	**Pn**	**06 06 49.8**	**0.0**
0.7nm,0.3s,baz=62,slow=11,SNR=44							
WRA	**Warramunga Arr**	**19.14**	**236**	*i P*	**Pn**	**06 06 50.2**	**+0.4**
WRA				pmax	pmax		
comp=Z,12nm,0.8s							
DZM	**Mont Dzumac**	**19.26**	**132**	P	**Pn**	**06 06 51.6**	**+0.3**
comp=Z,0.1nm,0.3s,baz=5.2,slow=12,SNR=5.6							
DZM				LR	LR	06 12 55.7	
comp=Z,531nm,21.2s,baz=26,slow=33							
ARMA	**Armidale**	**20.70**	**179**	*eP*	**P**	**06 07 07.7**	**+1.8**
ASAR	**Alice Springs**	**21.54**	**227**	P	**P**	**06 07 16.0**	**+1.1**
comp=Z,7.3nm,1.1s,mb4.0,baz=65,slow=10,SNR=28							
ASPA	**Alice Springs**	**21.54**	**227**	*eP*	**P**	**06 07 17.7**	**+2.7**
STKA	**Stephens Creek**	**23.82**	**200**	*eP*	**P**	**06 07 36.2**	**-2.4**
comp=Z,15nm,1.0s,mb4.4							
STKA	**Stephens Creek**	**23.82**	**200**	P	**P**	**06 07 36.2**	**-2.4**
comp=Z,14nm,1.0s,mb4.4,baz=20,slow=11,SNR=12							
STKA				LR	LR	06 17 12.3	
comp=Z,436nm,19.7s,MS3.9,baz=22,slow=37							
GUMO	**Guam**	**23.87**	**345**	LR	LR	06 15 16.0	
comp=Z,221nm,21.7s,MS3.6,baz=253,slow=32							
FITZ	**Fitzroy Crossi**	**26.06**	**248**	↓↓*iP*	**P**	**06 07 59.5**	**+0.5**
comp=Z,12nm,0.6s,mb4.6							
MBWA	**Marble Bar**	**32.25**	**245**	*eP*	**P**	**06 08 53.6**	**-0.4**
comp

comp=Z,126nm,19.3s,MS4.2,baz=260,slow=32
ULN Ulaanbaatar 69.22 330⇑ *eP* **P 06 13 33.4 +1.1**
ULN Ulaanbaatar 69.22 330 *eP* **P 06 13 32.1 -0.1**
comp=Z,5.5nm,0.9s,mb4.5
SONM Songino Array 69.53 330 P **P 06 13 34.4 +0.2**
comp=Z,8.2nm,0.9s,mb4.7,baz=135,slow=4.0,SNR=50
SONM LR LR 06 42 43.2
comp=Z,100nm,19.1s,MS4.1,baz=201,slow=35
SEY Seymchan 72.34 1⇓ *eP* **P 06 13 51.4 +0.2**
ZAK Zakamensk 72.75 330⇑ *P* **P 06 13 53.3 -0.4**
ZAK pmax pmax
comp=Z,19nm,1.2s,mb4.9
BOD Bodaibo 73.69 340 *eP* **P 06 13 57.9 -1.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MOY Mondy 74.68 330 *eP* **P 06 14 05.8 +0.8**
WMQ Urumqi 78.16 319 *eP* **P 06 14 25.4 +0.7**
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.9
WMQ LR LR
comp=N,75nm,13.0s,MS4.5
WMQ LR LR
comp=E,115nm,14.0s,MS4.5
WMQ LR LR
comp=Z,64nm,11.0s,MS4.2
BILL Bilibino 78.23 6 *i* P **P 06 14 22.5 -2.6**
BILL *e* 06 14 34.0
BILL pmax pmax
comp=Z,29nm,1.4s,mb5.0
BILL Bilibino 78.23 6 *eP* **P 06 14 19.9 -5.2**
comp=Z,24nm,1.1s,mb5.0
MAW Mawson 80.49 203 LR LR 06 47 38.2
comp=Z,208nm,19.9s,MS4.5,baz=225,slow=34
TIXI Tiksi 82.44 353 *i* P **P 06 14 46.5 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIXI MLR MLR
comp=Z,100nm,22.0s,MS4.1
MKAR Makanchi Array 82.84 320 P **P 06 14 49.9 +0.1**
comp=Z,6.2nm,0.9s,mb4.6,baz=101,slow=6.2,SNR=26
MKAR Makanchi Array 82.84 320 P **P 06 14 49.9 +0.1**
TKM2 Tokmak 2 86.04 315 P **P 06 15 06.2 +0.2**
SNR=5.9
KZA Kyzart 86.05 314 P **P 06 15 04.0 -2.1**
SNR=12
KBK Karagaybulak 86.43 314 P **P 06 15 09.2 +1.3**
SNR=5.9
KURK Kurchatov 86.51 323⇑ *eP* **P 06 15 07.9 -0.5**
KURK Kurchatov 86.51 323 *eP* **P 06 15 07.4 -1.0**
comp=Z,3.4nm,1.1s,mb4.5
UCH Uchtor 86.61 314 P **P 06 15 10.4 +1.6**
SNR=6.9
CHMS Chumysh 86.66 314 P **P 06 15 09.5 +0.4**
SNR=5.1
AAK Ala-Archa 86.74 314 P **P 06 15 10.4 +0.9**
SNR=6.6
USP Ospenovka 86.91 315 P **P 06 15 10.4 +0.1**
SNR=12
COLA College 86.94 22⇑ *eP* **P 06 15 09.1 -1.3**
AML Almayashu 87.17 313 P **P 06 15 12.5 +0.9**
SNR=6.7
ILAR Eielson Array 87.25 22 P **P 06 15 09.9 -2.0**
comp=Z,3.3nm,0.9s,mb4.6,baz=260,slow=4.7,SNR=21
ILAR LR LR 06 54 24.2
comp=Z,79nm,18.1s,MS4.2,baz=357,slow=36
BVAR Borovoye Array 92.06 323 P **P 06 15 32.8 -1.7**
comp=Z,1.4nm,0.8s,mb4.3,baz=124,slow=5.3,SNR=7.2
YBH Yreka Blue Hor 93.53 48 LR LR 06 48 56.7
comp=Z,151nm,19.5s,MS4.5,baz=358,slow=30
NVAR Mina Array Bea 96.39 52 P **P 06 15 55.9 +1.6**
comp=Z,3.9nm,1.0s,mb4.8,baz=238,slow=3.4,SNR=18
NVAR Mina Array Bea 96.39 52 P **P 06 15 55.9 +1.6**
MNV Mina 96.51 52 *eP* **P 06 15 56.9 +2.0**
MNV pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
MNV Mina 96.51 52 *eP* **P 06 15 56.9 +2.0**
comp=Z,5.7nm,1.1s,mb4.9
NEW Newport 98.30 42 LR LR 06 56 21.8
comp=Z,199nm,19.2s,MS4.6,baz=284,slow=33
ARU Arti 99.33 326⇓ *iP* **P 06 16 05.1 -2.5**
ARU *e* 06 20 08.0
ARU *eS* 06 26 40.6
ARU *eSS* SS 06 34 22.7 -4.7
ARU pmax pmax
comp=Z,6.0nm,1.6s,mb4.9
SOC Sochi 112.03 313 *i* PKIKP PKiKP 06 20 58.8 -1.9
SOC *e* 06 27 37.1
SOC *eSS* SS 06 37 26.3 +5.6
SOC pmax pmax
comp=Z,47nm,1.0s
KHC Kasperske Hory 127.07 326 *i* PKIKP PKPdf 06 21 29.5 0.0
GERES GERESS Array B 127.16 326 PKP PKPdf 06 21 29.6 -0.1
comp=Z,0.7nm,0.6s,baz=45,slow=1.9,SNR=8.8
SDV Santo Domingo 138.85 87 *eP*KPdf PKPdf 06 21 51.8 +0.2
BDFB Brasilia 148.58 143 PKPbc PKPbc 06 22 13.5 +1.2
comp=Z,6.3nm,0.6s,baz=344,slow=1.1,SNR=14
TORD Torodi Ar. Bea 149.79 280 PKPbc PKPbc 06 22 16.2 +0.9
comp=Z,6.9nm,0.8s,baz=70,slow=2.5,SNR=41
DBIC Dimbokro 155.99 265 PKPab PKPab 06 22 48.6 +1.7
comp=Z,2.9nm,0.8s,baz=62,slow=9.0,SNR=4.7

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*IDC **12** 06:09:55.6±1.2, 3491N×8480E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/23, mbtmp3.6/8, ML2.9/1, Error ellipse: s-maj=50.8km s-min=22.3km az=50.0*
*NEIC **12** 06:09:58.4±0.5, 3507N×8481E, h10km, mb3.6/1, Error ellipse: s-maj=25.1km s-min=6.8km az=80.0*
*ISCJB **12** 06:09:60.0±1.6, 3498N±009×847E±02, h39km±19km, mb3.6/6, Error ellipse: s-maj=32.5km s-min=11.7km az=148.2*
ISC 12 06:10:02.6±1.1, 3500N±008×847E±02, h47km±14km, n16, σ0°68/16, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**6.97**	**181**	*eP*			**Pn**	**06 11 41.8**	**-0.3**
	12nm,0.5s								
GUN	**Gumba**	**7.13**	**172**	*eP*			**Pn**	**06 11 44.7**	**+0.4**
	13nm,0.5s								
KKN	**Kakani**	**7.20**	**176**	*eP*			**Pn**	**06 11 45.9**	**+0.7**
	12nm,0.5s								
KOLN	**Koldanda**	**7.27**	**188**	*eP*			**Pn**	**06 11 44.7**	**-1.5**
	20nm,0.5s								
JIRN	**Jiri**	**7.42**	**170**	*eP*			**Pn**	**06 11 49.1**	**+0.9**
	16nm,0.4s								
MKAR	**Makanchi Array**	**11.93**	**352**	Pn			**Pn**	**06 12 48.8**	**-1.1**
	0.1nm,0.3s,baz=170,slow=14,SNR=9.9								
KURK	**Kurchatov**	**16.33**	**346**	*eP*			**Pn**	**06 13 49.8**	**+1.4**
	7.8nm,1.5s								
BVAR	**Borovoye Array**	**20.69**	**335**	P			**P**	**06 14 38.6**	**0.0**
	0.5nm,0.6s,baz=150,slow=12,SNR=4.4								
AKTK	**Aktyubinsk**	**24.78**	**317**	P			**P**	**06 15 19.9**	**0.0**
AKTO	**Aktyubinsk**	**24.78**	**317**	P			**P**	**06 15 19.9**	**0.0**
	1.5nm,0.9s,mb3.5,baz=104,slow=5.1,SNR=4.4								
NOA	**NORSAR Array B**	**52.26**	**324**	P			**P**	**06 19 09.4**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=136,slow=7.3,SNR=3.4								
GERES	**GERESS Array B**	**52.77**	**308**	P			**P**	**06 19 12.9**	**0.0**
	0.7nm,0.7s,mb3.7,baz=53,slow=4.9,SNR=4.5								
WRA	**Warramunga Arr**	**72.13**	**131**	P			**P**	**06 21 21.7**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=325,slow=6.1,SNR=14								
ILAR	**Eielson Array**	**72.70**	**21**	P			**P**	**06 21 25.3**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=322,slow=5.0,SNR=4.9								
YKA	**Yellowknife Ar**	**81.61**	**9**	P			**P**	**06 22 15.2**	**-0.2**
	0.4nm,0.9s,mb3.4,baz=338,slow=5.1,SNR=6.2								
YKA	**Yellowknife Ar**	**81.61**	**9**	P			**P**	**06 22 15.2**	**-0.3**

FUNV 12 06:11:37.7, 663N×7312W, h170km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.46**	**33**	*eP*			Pn	06 12 08.1	-0.3
CAPV				*eS*			Sn	06 12 30.2	-1.8
SOCV	**Socops**	**2.78**	**54**	*eP*			Pn	06 12 22.3	-0.8
SOCV				*eS*			Sn	06 12 54.3	-4.0
VIGV	**El Vigia**	**2.80**	**38**	*eP*			Pn	06 12 22.6	-0.7
VIGV				*eS*			Sn	06 12 55.9	-2.9
VIRV	**Villa del Rosa**	**3.91**	**10**	*eP*			Pn	06 12 35.2	-2.0
VIRV				*eS*			Sn	06 13 19.2	-4.6
QARV	**Quebrada Arrib**	**4.38**	**36**	*eP*			Pn	06 12 42.6	-0.7
SANV	**Sanarito**	**4.55**	**51**	*eP*			Pn	06 12 44.4	-1.1
BAUV	**El Baul**	**5.53**	**65**	*eP*			Pn	06 12 56.1	-2.2
BAUV				*eS*			Sn	06 13 55.1	-6.4

IDC 12 06:21:08.5±1.9, 579S×12658E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=148.7km s-min=29.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.97**	**152**	Pn			Pn	06 24 56.8	+2.3
	0.1nm,0.3s,baz=331,slow=12,SNR=20								
ASAR	**Alice Springs**	**19.12**	**159**	P			Pn	06 25 32.5	-1.4
	0.2nm,0.3s,baz=344,slow=11,SNR=13								
MKAR	**Makanchi Array**	**65.38**	**328**	P			P	06 31 53.0	+0.2
	0.2nm,0.4s,baz=119,slow=6.2,SNR=4.6								

JMA 12 07:22:46.9±0.3, 4422N×14835E, h0km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.07**	**247**	P			Pn	07 23 23.9	+1.0
NEM2				*eS*			Sn	07 23 50.6	+1.2
JNK	**Nakash**	**2.70**	**258**	P			Pn	07 23 32.9	+1.3
JNK				*eS*			Sn	07 24 05.3	+0.4
JAK	**Akkeshi**	**2.92**	**247**	P			Pn	07 23 35.9	+1.3
JAK				*eS*			Sn	07 24 11.6	+1.2
JAR	**Ashorobuto**	**3.44**	**256**	P			Pn	07 23 44.2	+2.4
JAR				*eS*			Sn	07 24 25.4	+2.1
JCH	**Churui**	**3.97**	**248**	P			Pn	07 23 50.8	+1.8
JCH				*eS*			Sn	07 24 37.0	+0.7

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*ISCJB **12** 08:11:11.4±0.4, 5437N±009×3519W±008, h10km, mb4.0/30, MS3.4/7, Error ellipse: s-maj=13.5km s-min=6.2km az=33.0*
*IDC **12** 08:11:11.4±0.6, 5435N×3507W, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/28, mbtmp3.9/19, ML3.2/3, MS3.4/8, Ms1 3.4/8, ms1mx3.2/35, Error ellipse: s-maj=19.4km s-min=12.6km az=11.0*
*NEIC **12** 08:11:12.7±0.5, 5430N×3510W, h10km, mb4.1/1, Error ellipse: s-maj=14.2km s-min=7.0km az=191.0*
*CSEM **12** 08:11:13.9±0.1, 5434N×3520W, h33km, mb4.4/14, Ms3.1, Error ellipse: s-maj=10.0km s-min=2.2km az=13.0*
ISC 12 08:11:13.0±0.4, 5442N±009×3516W±008, h10km, n74, σ0°97/66, mb4.0/30, MS3.4/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**14.64**	**336**	*i* P			**Pn**	**08 14 47.8**	**+7.6**
	12nm,0.7s								
SCHQ	**Schefferville**	**18.27**	**284**	P			**Pn**	**08 15 26.1**	**-0.5**
	0.2nm,0.3s,baz=73,slow=9.5,SNR=7.8								
SCHQ				LR			LR	08 21 21.9	
	comp=Z,98nm,21.6s,baz=247,slow=33								
SUMG	**Summit**	**18.29**	**357**	*eP*			**Pn**	**08 15 28.7**	**+1.9**
	16nm,1.2s								
SUMG	**Summit**	**18.29**	**357**	*eP*			**Pn**	**08 15 28.7**	**+1.9**
	16nm,1.2s								
EKA	**Eskdalemuir Ar**	**18.36**	**74**	P			**Pn**	**08 15 26.7**	**-0.9**
	0.1nm,0.3s,baz=227,slow=18,SNR=4.8								
EKA	**Eskdalemuir Ar**	**18.36**	**74**	P			**Pn**	**08 15 26.7**	**-0.9**
FRB	**Frobisher Bay**	**19.30**	**312**	P			**Pn**	**08 15 39.0**	**-0.1**
	0.1nm,0.3s,baz=137,slow=5.9,SNR=6.1								
ROSF	**Rostrenen**	**20.69**	**94**	*eP*			**P**	**08 15 53.9**	**+0.7**
	117nm,1.7s								
ROSF	**Rostrenen**	**20.69**	**94**	*eP*			**P**	**08 15 53.9**	**+0.7**
	58nm,1.7s								
QUIF	**Quistinic**	**20.96**	**95**	*eP*			**P**	**08 15 56.5**	**+0.4**
	126nm,1.5s								
QUIF	**Quistinic**	**20.96**	**95**	*eP*			**P**	**08 15 56.5**	**+0.4**
	63nm,1.5s								
SGMF	**Saint Gilles**	**21.15**	**94**	*eP*			**P**	**08 15 57.2**	**-0.9**
	58nm,1.2s,mb4.5								
SGMF	**Saint Gilles**	**21.15**	**94**	*eP*			**P**	**08 15 57.2**	**-0.9**
	29nm,1.2s,mb4.5								
GRR	**Gorron**	**22.07**	**92**	*eP*			**P**	**08 16 09.3**	**+1.2**
FLN	**La Foliniere**	**22.12**	**91**	*eP*			**P**	**08 16 09.4**	**+0.9**
	36nm,1.0s,mb4.4								
FLN				*eR*					
	106nm,19.8s								
FLN	**La Foliniere**	**22.12**	**91**	*eP*			**P**	**08 16 09.4**	**+0.9**
	18nm,1.0s,mb4.4								
LDF	**La Druitiere**	**22.41**	**91**	*eP*			**P**	**08 16 12.6**	**+1.0**
	28nm,1.0s,mb4.3								
LDF	**La Druitiere**	**22.41**	**91**	*eP*			**P**	**08 16 12.6**	**+1.0**
	14nm,1.0s,mb4.3								
MFF	**Saint Martin d**	**23.40**	**95**	*eP*			**P**	**08 16 22.5**	**+0.4**
	11nm,0.8s,mb4.0								
MFF	**Saint Martin d**	**23.40**	**95**	*eP*			**P**	**08 16 22.5**	**+0.4**
	5.4nm,0.8s,mb4.0								
BAIF	**Baives**	**24.27**	**84**	*eP*			**P**	**08 16 28.0**	**-2.3**
	12nm,0.9s,mb4.0								
BAIF	**Baives**	**24.27**	**84**	*eP*			**P**	**08 16 28.0**	**-2.3**
	5.8nm,0.9s,mb4.0								
SJPF	**Ste Jean**	**24.81**	**103**	*eP*			**P**	**08 16 36.9**	**+1.7**
	15nm,1.0s,mb4.2								
SJPF	**Ste Jean**	**24.81**	**103**	*eP*			**P**	**08 16 36.9**	**+1.7**
	7.6nm,1.0s,mb4.2								
LFF	**La Frestale**	**24.84**	**98**	*eP*			**P**	**08 16 36.5**	**+1.0**
TCF	**Toulx Ste Croi**	**24.94**	**94**	*eP*			**P**	**08 16 35.7**	**-0.7**
	14nm,0.9s,mb4.2								
TCF	**Toulx Ste Croi**	**24.94**	**94**	*eP*			**P**	**08 16 35.7**	**-0.7**
	7.2nm,0.9s,mb4.2								
NOA	**NORSAR Array B**	**25.16**	**56**	P			**P**	**08 16 37.0**	**-1.4**
	1.6nm,0.8s,mb3.6,baz=276,slow=9.7,SNR=3.2								
NOA				LR			LR	08 24 46.8	
	comp=Z,40nm,19.3s,MS2.9,baz=130,slow=32								
BGF	**Bois d'Agland**	**25.17**	**92**	*eP*			**P**	**08 16 38.4**	**0.0**
	25nm,0.7s,mb4.5								
BGF	**Bois d'Agland**	**25.17**	**92**	*eP*			**P**	**08 16 38.4**	**0.0**
	12nm,0.7s,mb4.5								
SSF	**Saint Saulge**	**25.29**	**91**	*eP*			**P**	**08 16 39.3**	**-0.2**
	9.3nm,0.7s,mb4.1								
SSF	**Saint Saulge**	**25.29**	**91**	*eP*			**P**	**08 16 39.3**	**-0.2**
	4.7nm,0.7s,mb4.1								
ETSF	**Etsaut**	**25.33**	**103**	*eP*			**P**	**08 16 41.5**	**+1.6**
	8.8nm,0.9s,mb4.0								
ETSF	**Etsaut**	**25.33**	**103**	*eP*			**P**	**08 16 41.5**	**+1.6**
	4.4nm,0.9s,mb4.0								
AVF	**Avril sur Loir**	**25.34**	**92**	*eP*			**P**	**08 16 40.4**	**+0.4**
	11nm,0.9s,mb4.1								
AVF	**Avril sur Loir**	**25.34**	**92**	*eP*			**P**	**08 16 40.4**	**+0.4**
	5.7nm,0.9s,mb4.1								
LOR	**Lormes**	**25.39**	**90**	*eP*			**P**	**08 16 39.2**	**-1.2**
	16nm,1.0s,mb4.2								
LOR				*eR*					
	103nm,22.2s								
LOR	**Lormes**	**25.39**	**90**	*eP*			**P**	**08 16 39.2**	**-1.2**
	8.2nm,1.0s,mb4.2								
MEZF	**Maizieres J'vi**	**25.47**	**87**	*eP*			**P**	**08 16 40.6**	**-0.6**
	15nm,0.9s,mb4.2								
MEZF	**Maizieres J'vi**	**25.47**	**87**	*eP*			**P**	**08 16 40.6**	**-0.6**
	7.3nm,0.9s,mb4.2								
ESDC	**Sonseca Array**	**25.60**	**112**	P			**P**	**08 16 41.4**	**-0.9**
	1.7nm,0.7s,mb3.7,baz=299,slow=7.7,SNR=6.0								
CAF	**Calviac**	**25.62**	**96**	*eP*			**P**	**08 16 44.0**	**+1.5**
SMF	**Signal de Mont**	**25.70**	**91**	*eP*			**P**	**08 16 44.1**	**+0.8**
	23nm,1.3s,mb4.2								
SMF	**Signal de Mont**	**25.70**	**91**	*eP*			**P**	**08 16 44.1**	**+0.8**
	12nm,1.3s,mb4.2								
HAU	**Haudompre**	**26.47**	**87**	*eP*			**P**	**08 16 50.1**	**-0.1**
HAU				*eR*					
	136nm,20.0s								
HFS	**Hagfors**	**26.50**	**58**	LR			LR	08 25 15.2	
	comp=Z,59nm,18.5s,MS3.2,baz=248,slow=32								
HINF	**Hinteralfeld**	**26.86**	**87**	*eP*			**P**	**08 16 53.1**	**-0.7**
DAVOX	**Davos**	**29.16**	**86**	LR			LR	08 28 49.5	
	comp=Z,126nm,18.3s,MS3.6,baz=265,slow=36								
SADO	**Sadowa**	**29.65**	**269**	P			**P**	**08 17 18.4**	**-0.2**
	2.7nm,0.6s,mb4.2,baz=118,slow=3.2,SNR=3.7								
SADO	**Sadowa**	**29.65**	**269**	P			**P**	**08 17 18.4**	**-0.2**
GERES	**GERESS Array B**	**30.32**	**80**	P			**P**	**08 17 24.5**	**-0.1**
	0.3nm,0.8s,mb3.1,baz=323,slow=4.9,SNR=3.0								
FINES	**FINESS Array B**	**32.14**	**52**	P			**P**	**08 17 39.2**	**-1.4**
	0.3nm,0.4s,mb3.4,baz=231,slow=37,SNR=2.4								
FINES				LR			LR	08 29 07.6	
	comp=Z,35nm,21.5s,MS3.0,baz=312,slow=34								
FINES	**FINESS Array B**	**32.14**	**52**	P			**P**	**08 17 39.2**	**-1.4**
AKASG	**Malin Array Be**	**38.10**	**68**	P			**P**	**08 18 31.1**	**-0.8**
	0.2nm,0.3s,mb3.3,baz=293,slow=8.6,SNR=3.4								
AKASG	**Malin Array Be**	**38.10**	**68**	P			**P**	**08 18 31.1**	**-0.9**
YKA	**Yellowknife Ar**	**39.80**	**315**	P			**P**	**08 18 46.0**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=62,slow=9.1,SNR=18								
YKA				PcP			PcP	08 20 50.6	-1.6
	0.6nm,0.8s,baz=58,slow=3.4,SNR=9.4								
YKA	**Yellowknife Ar**	**39.80**	**315**	PcP			PcP	08 20 50.7	-1.6
YKA	**Yellowknife Ar**	**39.80**	**315**	P			**P**	**08 18 46.0**	**-0.2**
YKA				PcP			PcP	08 20 50.6	-1.6
INK	**Inuvik**	**43.81**	**328**	P			**P**	**08 19 18.6**	**-0.5**
	0.9nm,0.9s,mb3.5,baz=31,slow=7.5,SNR=3.7								
INK	**Inuvik**	**43.81**	**328**	P			**P**	**08 19 18.5**	**-0.5**
BRTR	**Keskin Array B**	**47.19**	**79**	P			**P**	**08 19 46.9**	**+1.0**
	2.0nm,0.8s,mb4.1,baz=314,slow=5.2,SNR=12								
BRTR	**Keskin Array B**	**47.19**	**79**	P			**P**	**08 19 46.8**	**+1.0**
PDAR	**Pinedale Array**	**48.34**	**288**	P			**P**	**08 19 54.6**	**-0.1**
	0.6nm,0.7s,mb3.7,baz=62,slow=5.7,SNR=6.0								
ILAR	**Eielson Array**	**50.18**	**329**	P			**P**	**08 20 09.7**	**+0.9**
	0.6nm,0.8s,mb3.7,baz=40,slow=5.6,SNR=6.4								
TORD	**Torodi Ar. Bea**	**50.28**	**131**	P			**P**	**08 20 07.9**	**-1.7**
	2.5nm,0.9s,mb4.3,baz=331,slow=7.7,SNR=14								
AKTO	**Aktyubinsk**	**52.91**	**53**	LR			LR	08 42 21.0	
	comp=Z,28nm,20.6s,MS3.3,baz=0.0,slow=35								
DBIC	**Dimbokro**	**53.49**	**141**	P			**P**	**08 20 32.4**	**-1.1**
	4.1nm,0.8s,mb4.4,baz=311,slow=4.7,SNR=6.5								
SDV	**Santo Domingo**	**53.50**	**226**	LR			LR	08 37 58.3	
	comp=Z,57nm,20.1s,MS3.6,baz=228,slow=30								
NVAR	**Mina Array Bea**	**56.15**	**290**	LR			LR	08 45 56.6	
	comp=Z,106nm,19.2s,MS4.0,baz=300,slow=37								
ROSC	**El Rosal**	**58.68**	**227**	P			**P**	**08 21 11.9**	**+1.2**
	8.9nm,0.8s,mb4.8,baz=80,slow=7.2,SNR=13								
MKAR	**Makanchi Array**	**66.14**	**42**	P			**P**	**08 22 00.2**	**-0.3**
	1.1nm,0.8s,mb4.0,baz=333,slow=6.2,SNR=15								
SONM	**Songino Array**	**73.07**	**26**	P			**P**	**08 22 43.5**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=336,slow=6.8,SNR=9.4								
ASAR	**Alice Springs**	**148.22**	**19**	PKPbc			PKPbc	08 30 58.8	-0.5
	2.9nm,0.7s,baz=350,slow=2.2,SNR=41								
ASPA	**Alice Springs**	**148.22**	**19**	*eP*			PKPbc	08 30 59.1	-0.1

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*SOF **12** 08:48:53.0, 4042N×2798E, h3km, MD3.1*
*CSEM **12** 08:48:59.2±0.1, 4064N×2769E, h10km, MD3.8, Error ellipse: s-maj=1.6km s-min=1.1km az=19.0*
*ISCJB **12** 08:48:59.5±0.4, 4065N±002×2765E±002, h7km±4km, Error ellipse: s-maj=3.5km s-min=2.8km az=42.1*
*ISK **12** 08:48:59.7, 4061N×2766E, h17km, MD3.8, ML3.8*
*THE **12** 08:49:01.4, 4050N×2760E, h14km, ML3.7*
*ATH **12** 08:49:02.1, 4067N×2736E, h5km, MD3.7/3*
*SKO **12** 08:49:06.0, 4099N×2752E, h16km*
ISC 12 08:49:00.3±0.4, 4063N±002×2766E±002, h10km±3km, n59, σ1°92/81, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.33**	**151**	*i* PG			**Pg**	**08 49 06.7**	**-0.1**
EDC				*i* SG			**Sg**	**08 49 11.6**	**+0.5**
SART	**Tekirdag**	**0.37**	**279**	*i* P			**Pg**	**08 49 08.0**	**+0.5**
SART				*i* S			**Sg**	**08 49 13.0**	**+0.6**
KCT	**Karacabey**	**0.65**	**124**	*i* PG			**Pg**	**08 49 12.4**	**-0.4**
KCT				*i* SG			**Sg**	**08 49 21.7**	**+0.4**
LPK	**Lapseki**	**0.73**	**250**	*i* PG			**Pg**	**08 49 14.1**	**-0.3**
LPK				*i* SG			**Sg**	**08 49 24.8**	**+0.9**
CTT	**Catalca**	**0.78**	**48**	*i* PG			**Pg**	**08 49 15.6**	**+0.2**
ELBA	**Catalca**	**0.78**	**49**	*i* P			**Pg**	**08 49 15.8**	**+0.4**
ELBA				*i* S			**Sg**	**08 49 26.6**	**+1.0**
BTOK	**Tokmak**	**0.91**	**161**	*i* P			**Pg**	**08 49 18.1**	**+0.2**
BTOK				*i* S			**Sg**	**08 49 30.1**	**+0.3**
BALB	**Balikesir**	**1.00**	**170**	PG			**Pg**	**08 49 18.9**	**-0.7**
BALB				SG			**Sg**	**08 49 32.9**	**+0.2**
ORLT	**Orhaneli**	**1.11**	**121**	PN			**Pn**	**08 49 21.0**	**-1.0**
BADT	**Buyukada**	**1.13**	**78**	PN			**Pn**	**08 49 21.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.15**	**67**	PN			**Pn**	**08 49 21.4**	**-1.1**
ISK				SN			**Sn**	**08 49 37.4**	**-0.9**
ULDT	**Uludag**	**1.23**	**113**	*i* P			**Pn**	**08 49 23.0**	**-0.6**
ULDT				*i* S			**Sb**	**08 49 40.2**	**+0.6**
ALN	**Alexandroupoli**	**1.25**	**283**	*e*Pg			**Pg**	**08 49 23.1**	**-1.2**
	comp=Z,14nm,0.2s								
ALN				*e*Sg			**Sg**	**08 49 40.0**	**-0.6**
EZN	**Ezine**	**1.30**	**232**	PN			**Pn**	**08 49 23.7**	**-0.8**
YLV	**Yalova**	**1.31**	**92**	PN			**Pn**	**08 49 23.9**	**-0.7**
EDRB	**Edirne**	**1.40**	**331**	PN			**Pn**	**08 49 24.5**	**-1.3**
IZI	**Iznik**	**1.42**	**101**	PN			**Pn**	**08 49 25.6**	**-0.5**
AYVA	**Ayvalik**	**1.51**	**210**	*i* P			**Pn**	**08 49 28.9**	**+1.4**
AYVA				*i* S			**Sn**	**08 49 48.5**	**+1.2**
HRT	**Hereke**	**1.54**	**82**	PN			**Pn**	**08 49 27.0**	**-0.8**
RDO	**Rodhopi**	**1.69**	**288**	*e*PB			**Pb**	**08 49 30.0**	**-1.4**
PRK	**Paraskevi**	**1.74**	**218**	*e*PB			**Pb**	**08 49 30.0**	**-2.4**
PRK				*e*SB			**Sb**	**08 49 57.0**	**+2.7**
AKS	**Akhisar**	**1.75**	**176**	PN			**Pn**	**08 49 30.2**	**-0.5**
KDZ	**Kurdzhali**	**1.97**	**302**	P			**Pn**	**08 49 34.0**	**+0.2**
JMB	**Yambol**	**2.00**	**337**	*e*Pn			**Pn**	**08 49 35.2**	**+1.0**
JMB	**Yambol**	**2.00**	**337**	P			**Pn**	**08 49 35.0**	**+0.8**
JMB	**Yambol**	**2.00**	**337**	*e*Pn			**Pn**	**08 49 35.2**	**+1.0**
GPA	**Golpazari**	**2.05**	**99**	*e*PN			**Pn**	**08 49 34.4**	**-0.5**
DIM	**Dimitrovgrad**	**2.14**	**312**	P			**Pn**	**08 49 35.6**	**-0.4**
MANT	**Manisa**	**2.25**	**162**	*i* P			**Pn**	**08 49 43.0**	**+5.4**
MANT				*i* S			**

BRVK Borovoye 68.84 321 *eP* **P 09 01 55.5 +0.2**
1.1nm,0.5s,mb3.9
YKA Yellowknife Ar 80.39 28 P **P 09 03 01.4 -0.6**
0.4nm,0.5s,mb3.5,baz=287,slow=5.1,SNR=12
YKA Yellowknife Ar 80.39 28 P **P 09 03 01.4 -0.6**
NVAR Mina Array Bea 84.73 52 P **P 09 03 25.7 +1.3**
0.6nm,0.5s,mb3.8,baz=262,slow=6.6,SNR=7.6

ISCJB ***12*** *09:47:17.8±0.6, 3051N±006×139.1E±0.1, h430km±7km, mb3.2/5, Error ellipse: s-maj=17.8km s-min=9.3km az=152.3*
NEIC ***12*** *09:47:18.5±1.1, 3042N×13849E, h415km±20km, mb4.1/2, Error ellipse: s-maj=63.0km s-min=15.5km az=78.0*
IDC ***12*** *09:47:19.3±1.5, 3042N×13843E, h423km±24km, mb3.0/5, mb1 3.1/8, mb1mx2.9/21, mbtmp3.8/8, Error ellipse: s-maj=64.9km s-min=13.9km az=80.0*
JMA ***12*** *09:47:19.8±0.5, 3059N×13905E, h415km±5km, M3.5*
ISC 12 09:47:18.7±0.6, 3055N±007×1392E±01, h426km±7km, n24, σ1§15/27, mb3.2/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.61**	**12**	*eS*	**S**	**09 49 10.0**	**-1.3**
JHJ	**Hachijo jima 2**	**2.61**	**11**	P	**P**	**09 48 24.1**	**+3.2**
	37nm,0.3s,baz=205,slow=22,SNR=4.7						
JHJ				S	**S**	**09 49 09.7**	**-1.7**
	20nm,0.3s,baz=62,slow=23,SNR=2.7						
JWZ	**Kozaga**	**4.18**	**316**	P	**P**	**09 48 33.8**	**-0.1**
CBIJ	**Chichi jima**	**4.34**	**142**	*eS*	**S**	**09 49 37.8**	**0.0**
CBIJ	**Chichi jima**	**4.34**	**142**	S	**S**	**09 49 37.5**	**-0.4**
	74nm,0.3s,baz=291,slow=22,SNR=15						
JKN2	**Miekihoku**	**4.42**	**327**	P	**P**	**09 48 37.0**	**+0.8**
JOD2	**Odawara 2**	**4.70**	**359**	P	**P**	**09 48 40.5**	**+1.7**
JRY	**Ryogami san**	**5.45**	**358**	P	**P**	**09 48 48.0**	**+1.6**
JMN	**Monobe**	**5.50**	**307**	P	**P**	**09 48 46.4**	**-0.5**
JFM	**Mihama**	**5.64**	**332**	P	**P**	**09 48 49.6**	**+1.3**
JAG	**Ashikaga**	**5.86**	**2**	P	**P**	**09 48 51.0**	**+0.4**
JAG				*eS*	**S**	**09 50 03.1**	**-2.6**
MJAR	**Matsushiro Arr**	**6.03**	**353**	P	**P**	**09 48 52.9**	**+0.5**
	2.0nm,0.3s,baz=168,slow=11,SNR=22						
MAJO	**Matsushiro**	**6.03**	**352**	*eP*	**P**	**09 48 52.3**	**-0.1**
	8.0nm,0.3s						
MAT	**Matsushiro**	**6.03**	**352**	P	**P**	**09 48 53.4**	**+1.0**
MAT	**Matsushiro**	**6.03**	**352**	*eP*	**P**	**09 48 53.0**	**+0.6**
	10.0nm,0.6s						
JHO	**Hitachi**	**6.15**	**10**	P	**P**	**09 48 55.1**	**+1.4**
JHO				*eS*	**S**	**09 50 10.3**	**-1.0**
JHK	**Hiroka**	**6.68**	**359**	P	**P**	**09 49 00.0**	**+0.7**
JHS	**Saijyo**	**6.76**	**313**	P	**P**	**09 48 59.6**	**-0.6**
ASAJ	**Asahikawa**	**13.81**	**10**	P	**P**	**09 50 21.4**	**+4.0**
	0.5nm,0.3s,baz=227,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**46.27**	**307**	P	**P**	**09 55 01.6**	**-2.3**
	0.1nm,0.5s,mb2.4,baz=84,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**50.42**	**186**	P	**P**	**09 55 34.3**	**-0.8**
	0.9nm,0.5s,mb3.4,baz=2.5,slow=7.7,SNR=24						
ASAR	**Alice Springs**	**54.15**	**186**	P	**P**	**09 56 02.0**	**0.0**
	0.3nm,0.4s,mb2.9,baz=355,slow=5.5,SNR=17						
ARCES	**ARCESS Array B**	**69.41**	**340**	P	**P**	**09 57 42.5**	**+0.1**
	2.8nm,0.8s,mb3.9,baz=63,slow=8.1,SNR=5.1						
FINES	**FINESS Array B**	**73.69**	**333**	P	**P**	**09 58 06.9**	**-0.6**
	0.5nm,0.5s,mb3.4,baz=67,slow=6.6,SNR=9.8						

ISCJB ***12*** *10:05:18.6±2.7, 456S±06×977E±08, h10km, mb4.2/4, MS3.5/2, Error ellipse: s-maj=122.7km s-min=17.1km az=93.0*
IDC ***12*** *10:05:18.0±1.5, 4544S×97.45E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/13, mbtmp4.2/4, MS3.6/3, Ms1 3.5/3, ms1mx3.1/19, Error ellipse: s-maj=72.4km s-min=26.0km az=141.0*
ISC 12 10:05:20.2±2.7, 456S±06×976E±08, h10km, n11, σ0§45/6, mb4.2/4, MS3.5/2, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**19.69**	**57**	LR	LR	10 15 23.2	
	comp=Z,151nm,19.9s,baz=207,slow=31						
STKA	**Stephens Creek**	**36.47**	**84**	P	**P**	**10 12 25.3**	**0.0**
	2.6nm,0.7s,mb4.3,baz=252,slow=5.2,SNR=7.5						
STKA				LR	LR	10 25 48.6	
	comp=Z,79nm,18.1s,MS3.5,baz=25,slow=34						
ASAR	**Alice Springs**	**36.55**	**66**	P	**P**	**10 12 26.2**	**+0.1**
	2.5nm,0.8s,mb4.1,baz=223,slow=6.8,SNR=35						
WRA	**Warramunga Arr**	**39.55**	**62**	P	**P**	**10 12 51.2**	**-0.1**
	8.4nm,0.9s,mb4.5,baz=223,slow=8.6,SNR=120						
WB2	**Warramunga Arr**	**39.56**	**62**	*eP*	**P**	**10 12 51.4**	**0.0**
PSI	**Prapat**	**48.19**	**2**	LR	LR	10 31 56.8	
	comp=Z,54nm,19.2s,MS3.5,baz=179,slow=33						
SNAA	**Sanae**	**50.58**	**204**	P	**P**	**10 14 18.5**	**-0.5**
	1.3nm,0.7s,mb4.0,baz=129,slow=15,SNR=6.3						
VNA2	**Neumayer--Watz**	**52.23**	**204**	*e*	**P**	**10 14 31.9**	**+0.5**
	baz=116,slow=7.0						
INK	**Inuvik**	**145.56**	**31**	PKPbc	PKPbc	10 24 55.9	-2.9
	1.9nm,1.1s,baz=268,slow=9.1,SNR=5.6						
NVAR	**Mina Array Bea**	**152.53**	**92**	PKPbc	PKPbc	10 25 16.5	-0.2
	0.4nm,0.6s,baz=231,slow=5.9,SNR=4.4						
YKA	**Yellowknife Ar**	**155.00**	**36**	PKPbc	PKPdf	10 25 20.0	+6.7
	0.3nm,0.7s,baz=309,slow=2.3,SNR=3.9						

IDC 12 10:21:40.9±4.0, 555S×14866E, h186km±41km, mb2.7/2, mb1 3.0/4, mb1mx2.8/13, mbtmp3.3/4, Error ellipse: s-maj=101.7km s-min=30.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**201**	P	Pn	10 22 44.4	+0.9
	1.8nm,0.3s,baz=17,slow=7.7,SNR=13						
PMG				S	Sn	10 23 33.0	+0.4
	2.7nm,0.3s,baz=16,slow=16,SNR=9.6						
WRA	**Warramunga Arr**	**19.97**	**223**	P	P	10 25 58.4	-0.5
	0.1nm,0.3s,baz=50,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.94**	**217**	P	P	10 26 29.9	+1.0
	0.2nm,0.4s,baz=49,slow=8.9,SNR=8.3						
ILAR	**Eielson Array**	**84.42**	**23**	P	P	10 33 52.0	-0.5
	0.3nm,0.7s,baz=262,slow=5.2,SNR=4.7						

NEIC ***12*** *10:32:52.0, 3538S×17890E, h277km, MG4.2(WEL), After WEL.*
WEL 12 10:32:51.4±0.5, 3540S×17920E, h279km±11km, ML4.2/16, Error ellipse: s-maj=29.8km s-min=24.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**198**	PN	Pn	10 33 39.0	+0.4
MXZ				SN	S	10 34 15.5	-0.7
MXZ				SN	S	10 34 15.9	-0.3
MXZ	**Matakaoa Point**	**2.27**	**198**	P	Pn	10 33 39.0	+0.3
MXZ				S	S	10 34 15.5	-0.7
MWZ	**Matawai**	**3.22**	**204**	*e*PN	Pn	10 33 48.5	+0.6
MWZ				SN	S	10 34 31.8	-1.2
MWZ	**Matawai**	**3.22**	**204**	*e*P	Pn	10 33 48.5	+0.5
URZ	**Urewera**	**3.31**	**210**	PN	Pn	10 33 48.4	-0.5
URZ				SN	S	10 34 34.7	0.0
URZ	**Urewera**	**3.31**	**210**	P	Pn	10 33 48.4	-0.5
KNZ	**Kokohu**	**3.81**	**198**	*e*PN	Pn	10 33 54.6	+0.2
KNZ	**Kokohu**	**3.81**	**198**	*e*P	Pn	10 33 54.6	+0.2
BKZ	**Black Stump Fm**	**4.33**	**209**	PN	Pn	10 33 59.7	-0.6
BKZ	**Black Stump Fm**	**4.33**	**209**	P	Pn	10 33 59.7	-0.6
MOVZ	**Moawhango**	**4.85**	**213**	*e*P	Pn	10 34 05.0	-1.3
WNVZ	**Wahianoa**	**4.86**	**215**	PN	Pn	10 34 05.9	-0.5
WNVZ	**Wahianoa**	**4.86**	**215**	P	Pn	10 34 05.9	-0.5
PXZ	**Pawanui**	**4.98**	**201**	*e*PN	Pn	10 34 07.5	-0.4
TSZ	**Takapari Road**	**5.31**	**208**	P	Pn	10 34 10.4	-1.4
WAZ	**Wanganui**	**5.49**	**216**	P	Pn	10 34 13.0	-0.9
BFZ	**Birch Farm**	**5.76**	**203**	P	Pn	10 34 16.6	-0.6
MRZ	**Mangatainoka R**	**5.98**	**207**	P	Pn	10 34 18.2	-1.7
MRZ				S	S	10 35 28.1	-2.8
KIW	**Kapiti Island**	**6.42**	**211**	P	Pn	10 34 23.1	-2.1
MTW	**Mount Morrison**	**6.44**	**206**	*e*P	Pn	10 34 23.5	-2.0
CAW	**Cannon Point**	**6.56**	**208**	P	Pn	10 34 24.6	-2.4
MSWZ	**Moikau Station**	**6.76**	**206**	P	Pn	10 34 27.6	-1.8
MRW	**Makara Radio**	**6.81**	**210**	P	Pn	10 34 27.5	-2.5
WEL	**Wellington**	**6.83**	**209**	P	Pn	10 34 28.2	-2.1
SNZO	**South Karori**	**6.88**	**210**	*e*Pn	Pn	10 34 28.3	-2.6
SNZO				*e*S	S	10 35 50.5	-0.5
TCW	**Tory Channel**	**6.97**	**212**	*e*P	Pn	10 34 29.2	-2.9
THZ	**Tophouse**	**8.04**	**216**	*e*P	Pn	10 34 42.4	-2.8
KHZ	**Kahutara**	**8.28**	**210**	*e*P	Pn	10 34 45.3	-2.9
LTZ	**Lake Taylor**	**9.13**	**214**	*e*P	Pn	10 34 55.9	-2.9

CSEM ***12*** *10:55:02.7±0.5, 3892N×2907W, h0km±6km, ML2.0, Error ellipse: s-maj=9.4km s-min=2.8km az=88.0, After PDA*
PDA ***12*** *10:55:02.7±0.5, 3892N×2907W, h0km±6km, MD3.3, ML2.0, Error ellipse: s-maj=9.4km s-min=2.8km az=88.0*
SVSA 12 10:55:02.7±0.5, 3892N×2907W, h0km±6km, MD3.3, ML2.0, Error ellipse: s-maj=9.4km s-min=2.8km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.41**	**136**	*e*P	Pg	10 55 10.3	-0.2
PCED				*e*S	Sg	10 55 16.0	+0.2
PCED							
	61nm,0.1s						
PCED	**Cedros**	**0.41**	**136**	*e*P	Pg	10 55 10.3	-0.2
PCED				*e*S	Sg	10 55 16.0	+0.2
CALA	**Caldeira**	**0.44**	**140**	*e*S	Sg	10 55 17.1	+0.1
PICO	**Pico**	**0.65**	**130**	*i* P	Pg	10 55 14.1	-1.1
PICO				*e*S	Sg	10 55 22.9	-0.8
PICO	**Pico**	**0.65**	**130**	*e*S	Sg	10 55 22.9	-0.8
ROSA	**Rosais**	**0.68**	**107**	*e*P	Pg	10 55 14.6	-1.0
ROSA				*e*S	Sg	10 55 23.2	-1.2
PPNO	**Prainha do Nor**	**0.77**	**125**	*e*S	Sg	10 55 25.9	-1.6
PPNO							
	25nm,0.3s						

IDC ***12*** *11:31:08.7±1.1, 106N×96.90E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.0/21, mbtmp4.2/9, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/22, Error ellipse: s-maj=42.9km s-min=17.4km az=54.0*
MOS ***12*** *11:31:12.4±0.8, 126N×97.10E, h33km, mb4.6/11, Error ellipse: s-maj=20.4km s-min=11.7km az=98.5*
BJI ***12*** *11:31:12.7, 060N×97.55E, h59km, mB5.0, mb4.9, Ms4.2, Msz4.1*
NEIC ***12*** *11:31:13.9±0.5, 1.16N×97.10E, h30km, mb4.4/11, Error ellipse: s-maj=12.4km s-min=7.6km az=50.0*
ISCJB ***12*** *11:31:14.3±1.7, 121N±008×97.17E±0.10, h49km±12km, mb4.5/31, MS4.0/3, Error ellipse: s-maj=18.4km s-min=10.1km az=109.3*
ISC 12 11:31:16.8±1.6, 124N±008×9719E±010, h51km±11km, n53, σ1§05/55, mb4.5/31, MS4.0/3, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.33**	**48**	Pn	**Pn**	**11 31 51.6**	**-0.9**
	11nm,0.3s,baz=273,slow=5.6,SNR=46						
PSI				LR	LR	11 32 41.6	
	comp=Z,325nm,21.1s,baz=314,slow=36						
IPM	**Ipoh**	**5.00**	**50**	P	**Pn**	**11 32 30.2**	**+0.9**
KULM	**Kulim**	**5.30**	**41**	*e*Pn	**Pn**	**11 32 32.6**	**-0.8**
KGM	**Kluang**	**6.18**	**83**	P	**Pn**	**11 32 46.2**	**+0.9**
QIZ	**Qiongzhong**	**21.60**	**34**	*e*P	**P**	**11 36 01.3**	**-1.0**
QIZ				S	**S**	**11 40 02.6**	**+4.0**
KMI	**Kunming**	**24.34**	**12**	P	**P**	**11 36 32.1**	**+2.4**
KMI				AP		11 36 50.6	
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,85nm,4.2s						
KMI				LR	LR		
	comp=N,342nm,13.1s,MS4.1						
KMI				LR	LR		
	comp=E,165nm,10.8s,MS4.1						
KMI				LR	LR		
	comp=Z,295nm,13.5s,MS3.9						
SHL	**Shillong**	**24.72**	**348**	⇑*i*P	**P**	**11 36 33.0**	**-0.2**
JIRN	**Jiri**	**28.30**	**339**	*e*P	**P**	**11 37 07.0**	**+1.5**
	comp=Z,20nm,0.9s,mb4.8						
GUN	**Gumba**	**28.64**	**339**	*e*P	**P**	**11 37 09.9**	**+1.4**
	comp=Z,19nm,0.6s,mb5.0						
GKN	**Gorkha**	**29.20**	**337**	*e*P	**P**	**11 37 14.7**	**+1.3**
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**11 37 15.6**	**+0.2**
CD2	**Chengdu**	**30.16**	**11**	*e*P	**P**	**11 37 23.2**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ENH	**Enshi**	**31.14**	**21**	*e*P	**P**	**11 37 30.1**	**-0.5**
	comp=Z,8.1nm,0.6s,mb4.7						
NJ2	**Nanjing**	**36.84**	**32**	*e*P	**P**	**11 38 20.4**	**+0.5**
NJ2				AP	pP	11 38 31.1	-2.1
NJ2				XP	sP	11 38 37.0	-2.1
NJ2				PP	PP	11 39 46.2	+1.7
NJ2				S	**S**	**11 44 02.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,240nm,10.0s						
NJ2				LR	LR		
	comp=N,1μm,33.7s,MS4.6						
NJ2				LR	LR		
	comp=E,890nm,30.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,510nm,27.0s,MS4.2						
SSE	**Sheshan**	**37.39**	**35**	*e*P	**P**	**11 38 22.7**	**-1.9**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,94nm,8.7s						
GTA	**Gaotai**	**38.06**	**3**	*e*P	**P**	**11 38 30.9**	**+0.6**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**11 39 03.8**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=44						
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**	**11 39 03.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**	**11 39 03.9**	**+0.4**
	comp=Z,3.4nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**42.08**	**122**	*e*P	**P**	**11 39 04.1**	**+0.5**
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	**P**	**11 39 05.6**	**+0.3**
BJT				*e**PP	pP	11 39 13.9	-4.8
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	**P**	**11 39 05.6**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.3						
BJT				*e*pP	pP	11 39 13.9	-4.8
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**11 39 15.3**	**+0.8**
	comp=Z,2.2nm,0.9s,mb3.9,baz=297,slow=8.1,SNR=34						
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**11 39 44.3**	**+0.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=192,slow=8.4,SNR=9.4						
SONM				PcP	PcP	11 41 14.7	-0.1
	comp=Z,0.9nm,0.5s,baz=198,slow=4.0,SNR=6.8						
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**11 39 44.4**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.5,baz=161,slow=9.0,SNR=76						
MKAR	**Makanchi Array**	**47.20**	**346**	⇑*e*P	**P**	**11 39 44.9**	**+0.5**
ULN	**Ulaanbaatar**	**47.22**	**9**	*e*P	**P**	**11 39 45.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**47.22**	**9**	*e*P	**P**	**11 39 45.3**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.2						
CN2	**Changchun**	**49.27**	**27**	*e*P	**P**	**11 40 00.7**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
HIA	**Hailar**	**51.60**	**19**	P	**P**	**11 40 17.5**	**-0.5**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**51.60**	**19**	P	**P**	**11 40 17.5**	**-0.5**
	comp=Z,3.6nm,0.6s,mb4.5						
KURK	**Kurchatov**	**51.75**	**345**	*e*P	**P**	**11 40 19.4**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**51.75**	**345**	*e*P	**P**	**11 40 19.4**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.2						
MDJ	**Mudanjiang**	**51.84**	**29**	*e*P	**P**	**11 40 19.5**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**11 40 30.2**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.3,baz=352,slow=6.4,SNR=2.8						
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**11 40 50.9**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.5,baz=139,slow=9.0,SNR=27						
KLR	**Kul'dur**	**56.22**	**27**	*e*P	**P**	**11 40 49.0**	**-2.7**
BRVK	**Borovoye**	**56.27**	**341**	*e*P	**P**	**11 40 51.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**56.27**	**341**	*e*P	**P**	**11 40 51.8**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.4						
BOD	**Bodaibo**	**57.97**	**11**	*e*P	**P**	**11 41 02.7**	**-1.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**59.98**	**268**	LR	LR	12 04 15.2	
	comp=Z,46nm,19.3s,MS3.6,baz=87,slow=33						
YSS	**Yuzh-Sakhalins**	**60.32**	**34**	*e*P	**P**	**11 41 20.6**	**+0.3**
YSS				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.0						
ARU	**Arti**	**63.14**	**337**	⇓*i*P	**P**	**11 41 37.9**	**-1.4**
ARU				*e*		11 43 53.2	
ARU				*e*PPP		11 45 26.6	
ARU				*e*S	**S**	**11 50 07.9**	**+1.2**
ARU				*e*		11 51 25.3	
ARU				*e*SS	SS	11 54 14.3	+1.1
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
ARU	**Arti**	**63.14**	**337**	*e*P	**P**	**11 41 37.8**	**-1.5**
	comp=Z,2.6nm,0.7s,mb4.5						
HNR	**Honiara**	**63.38**	**101**	*e*P	**P**	**11 41 42.4**	**+1.5**
HNR				pmax	pmax		
	comp=Z,24nm,0.5s,mb5.6						
HNR	**Honiara**	**63.38**	**101**	*e*P	**P**	**11 41 42.4**	**+1.6**
	comp=Z,24nm,0.5s,mb5.6						
ANN	**Anapa**	**68.06**	**318**	*e*P	**P**	**11 42 16.1**	**+5.1**
ANN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
MA2	**Magadan**	**71.30**	**26**	*e*P	**P**	**11 42 29.2**	**-1.7**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
TIXI	**Tiksi**	**73.15**	**10**	*e*P	**P**	**11 42 40.2**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SEY	**Seymchan**	**73.73**	**23**	*e*P	**P**	**11 42 44.2**	**-1.2**
FINES	**FINESS Array B**	**79.96**	**333**	P	**P**	**11 43 19.1**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=108,slow=6.0,SNR=5.5						
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**11 43 33.7**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.4,baz=63,slow=2.7,SNR=6.0						
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**11 43 33.7**	**-0.2**

JMA 12 11:40:50.0±0.3, 2555N×12261E, h229km, M3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.14**	**161**	P	Pn	11 41 24.0	+0.3
IRIF	**Iriomote-Funau**	**1.58**	**140**	P	Pn	11 41 26.9	-0.1
JKRS	**Kuro-shima**	**1.82**	**136**	P	Pn	11 41 29.4	+0.3
JKRS				*e*S	S	11 41 59.9	+0.2
JIJ	**Ishigaki jima**	**1.82**	**130**	P	Pn	11 41 28.9	-0.2
JIJ				S	S	11 41 58.7	-1.1
HATJ	**Hateruma jima**	**1.84**	**144**	P	Pn	11 41 29.7	+0.5
HATJ				*e*S	S	11 42 01.0	+1.0
JTJ	**Tarama**	**2.10**	**115**	P	Pn	11 41 32.2	+0.5
JTJ				*e*S	S	11 42 05.0	+0.6
JMJ	**Miyako jima 2**	**2.54**	**106**	P	Pn	11 41 36.7	+0.5
JMJ				*e*S	S	11 42 12.9	+0.4
JOGS	**Gusukube**	**2.65**	**107**	P	Pn	11 41 37.9	+0.5

LDG ***12*** *11:44:20.7±0.3, 1551N×6092W, h10km, Mb4.6/29, Error ellipse: s-maj=18.2km s-min=6.0km az=101.0*
IDC ***12*** *11:44:24.7±1.1, 1540N×6080W, h25km±7km, mb4.1/22, mb1 4.3/24, mb1mx4.2/29, mbtmp4.3/24, ML4.0/1, MS3.4/7, Ms1 3.5/7, ms1mx3.3/23, Error ellipse: s-maj=13.6km s-min=6.6km az=81.0*
TRN ***12*** *11:44:25.3, 1540N×6077W, h35km, MD4.2, Md4.0(FDF)*
NEIC ***12*** *11:44:26.3, 1534N×6085W, h32km, mb4.6/10, MD4.1(FDF), MD4.1(TRN), After TRN.*
NEIC Felt [III] on Martinique and [II] on Guadeloupe.
ISCJB ***12*** *11:44:26.5±0.3, 1537N±002×6079W±004, h54km±3km, mb4.5/60, MS4.0/4, Error ellipse: s-maj=6.5km s-min=3.1km az=152.0*
BJI ***12*** *11:44:32.3, 1530N×6080W, h32km, mB5.1, Ms5.2, Msz5.0*
NAO ***12*** *11:44:47.9, 1784N×5852W, h33km, mb4.2*
ISC 12 11:44:27.5±0.4, 1538N±002×6079W±004, h42km±5km, n140, σ0§98/157, mb4.5/60, MS4.0/4, 22C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.54**	**291**	⇓*i*P	**Pn**	**11 44 38.7**	**-0.1**
DWS				*e*S	**Sn**	**11 44 46.7**	**0.0**
DBCT	**Belle View Cho**	**0.55**	**259**	*e*P	**Pn**	**11 44 39.0**	**+0.1**
MDN	**Morne-Daniel**	**0.58**	**264**	*e*P	**Pn**	**11 44 40.0**	**+0.6**
MDN				*e*S	**Sn**	**11 44 47.8**	**0.0**
DSHT	**Scott's Head**	**0.58**	**254**	*e*P	**Pn**	**11 44 40.1**	**+0.7**
DSHT				*e*S	**Sn**	**11 44 48.1**	**+0.2**
CRM	**Caravelle**	**0.63**	**191**	⇑*i*P	**Pn**	**11 44 38.4**	**-1.7**
BAMF	**Morne Balai**	**0.66**	**212**	⇑*i*P	**Pn**	**11 44 39.7**	**-0.7**
BBL	**Barber's Block**	**0.67**	**283**	⇑*e*P	**Pn**	**11 44 39.9**	**-0.7**
BBL				*e*S	**Sn**	**11 44 49.6**	**-0.4**
BBL	**Barber's Block**	**0.67**	**283**	⇑*e*P	**Pn**	**11 44 39.8**	**-0.8**
BBL				S	**Sn**	**11 44 49.6**	**-0.4**
PCM	**Pelee Case Pet**	**0.69**	**216**	*i* P	**Pn**	**11 44 40.2**	**-0.6**
BVM	**Bellevue**	**0.69**	**202**	*e*P	**Pn**	**11 44 40.0**	**-0.9**
PML	**Morne Lenard**	**0.70**	**213**	⇑*i*P	**Pn**	**11 44 40.3**	**-0.7**
FDF	**Fort de France**	**0.73**	**208**	⇑*i*P	**Pn**	**11 44 40.5**	**-0.9**
FDF				S	**Sn**	**11 44 50.9**	**-0.5**
MGG	**Marie-Galante**	**0.74**	**317**	⇑*i*P	**Pn**	**11 44 40.3**	**-1.2**
MVM	**Montagne Vaucl**	**0.82**	**187**	*e*P	**Pn**	**11 44 41.3**	**-1.4**
TBG	**Guadaloupe-3**	**0.95**	**300**	⇑*i*P	**Pn**	**11 44 43.5**	**-0.

8.9nm,0.9s,mb4.2
SIV San Ignacio 31.17 181 P **P 11 50 42.7 +0.2**
3.3nm,0.6s,mb4.3,baz=26,slow=10,SNR=4.0
PLAL Pickwick Lake 31.31 314 *e*P **P 11 50 43.6 -0.1**
7.1nm,0.6s,mb4.7
BDFB Brasilia 33.31 157 P **P 11 51 02.1 +1.0**
2.3nm,0.6s,mb4.3,baz=323,slow=3.0,SNR=5.1
JCT Junction City 38.73 300 *e*P **P 11 51 45.1 -2.4**
8.5nm,0.7s,mb4.6
WMOK Wichita Mounta 39.14 307 *e*P **P 11 51 50.1 -0.9**
5.6nm,0.6s,mb4.5
KSU1 Kansas State U 39.27 314 *e*P **P 11 51 50.8 -1.3**
SCHQ Schefferville 39.65 355 P **P 11 51 55.5 +0.2**
7.5nm,1.0s,mb4.4,baz=166,slow=9.0,SNR=13
SCHQ LR LR 12 05 06.3
comp=Z,143nm,19.8s,MS3.8,baz=354,slow=31
SCHQ Schefferville 39.65 355 P **P 11 51 55.5 +0.2**
SCHQ LR LR 12 05 06.3
MNTX Cornudas Mount 43.67 300 *e*P **P 11 52 28.0 -0.1**
4.5nm,0.6s,mb4.4
ULM Lac du Bonnet 44.86 328 P **P 11 52 36.5 -1.1**
2.9nm,0.6s,mb4.3,baz=124,slow=8.3,SNR=6.8
CFAA Coronel Fontan 47.26 189 P **P 11 52 56.6 +0.1**
0.7nm,0.6s,mb3.8,baz=352,slow=8.8,SNR=2.5
WUAZ Wupatki 49.30 304 *e*P **P 11 53 13.0 +0.8**
7.8nm,1.0s,mb4.7
PDAR Pinedale Array 49.72 313 P **P 11 53 15.6 +0.1**
2.5nm,0.7s,mb4.4,baz=113,slow=9.2,SNR=30
SNOW Snow King Moun 50.77 314 *e*P **P 11 53 24.9 +1.5**
4.1nm,0.6s,mb4.5
REDW Red Top Meadow 50.80 314 *e*P **P 11 53 24.3 +0.6**
QLMT Earthquake Lak 51.65 315 *e*P **P 11 53 31.9 +1.9**
ELK Elko 53.31 310 P **P 11 53 41.8 -0.5**
0.8nm,0.7s,mb3.8,baz=186,slow=0.6,SNR=5.0
MNV Mina 55.13 306 *e*P **P 11 53 56.0 +0.5**
8.3nm,1.4s,mb4.6
NVAR Mina Array Bea 55.24 306 P **P 11 53 56.3 0.0**
2.1nm,0.7s,mb4.3,baz=101,slow=7.6,SNR=22
DBIC Dimbokro 55.45 92 P **P 11 53 57.5 -0.3**
8.5nm,0.8s,mb4.8,baz=273,slow=8.9,SNR=12
NEW Newport 56.40 318 P **P 11 54 04.1 -0.6**
5.9nm,0.7s,mb4.7,baz=116,slow=7.7,SNR=17
NEW Newport 56.40 318 P **P 11 54 04.1 -0.6**
PLCA Paso Flores 56.55 189 P **P 11 54 05.7 0.0**
2.3nm,0.8s,mb4.3,baz=23,slow=11,SNR=7.3
QUIF Quistinic 57.15 43 *e*P **P 11 54 10.0 0.0**
6.3nm,0.8s,mb4.4
ROSF Rostrenen 57.18 42 *e*P **P 11 54 10.4 +0.2**
SJPF Ste Jean 57.50 48 *e*P **P 11 54 13.3 +0.9**
9.0nm,0.8s,mb4.5
SGMF Saint Gilles 57.63 42 *e*P **P 11 54 10.9 -2.4**
26nm,1.0s,mb4.9
ETSF Etsaut 57.95 49 *e*P **P 11 54 16.2 +0.6**
EPF Esparros 58.62 49 *e*P **P 11 54 21.1 +0.8**
10nm,1.0s,mb4.5
GRR Gorron 58.76 42 *e*P **P 11 54 21.3 0.0**
MFF Saint Martin d 58.87 45 *e*P **P 11 54 21.6 -0.4**
16nm,1.1s,mb4.7
YBH Yreka Blue Hor 59.03 310 P **P 11 54 21.5 -1.6**
1.1nm,0.7s,mb4.0,baz=29,slow=5.1,SNR=5.5
FLN La Foliniere 59.09 42 *e*P **P 11 54 23.7 +0.2**
42nm,1.2s,mb5.1
LFF La Frestale 59.20 47 *e*P **P 11 54 24.6 +0.3**
LDF La Druitiere 59.28 42 *e*P **P 11 54 25.7 +0.8**
14nm,0.9s,mb4.7
RJF Les Rejaudoux 59.80 46 *e*P **P 11 54 28.5 +0.1**
11nm,1.0s,mb4.5
MTLF Montolieu 60.02 49 *e*P **P 11 54 30.1 +0.1**
4.9nm,0.6s,mb4.4
CAF Calviac 60.12 47 *e*P **P 11 54 30.8 +0.1**
7.4nm,0.8s,mb4.5
YKA Yellowknife Ar 60.14 334 P **P 11 54 29.5 -1.2**
2.0nm,0.7s,mb4.3,baz=106,slow=7.4,SNR=31
YKA LR LR 12 20 06.3
comp=Z,84nm,18.3s,MS3.9,baz=85,slow=36
TORD Torodi Ar. Bea 60.42 83 P **P 11 54 32.4 -0.2**
3.5nm,0.7s,mb4.5,baz=274,slow=6.7,SNR=20
TCF Toulx Ste Croi 60.43 45 *e*P **P 11 54 32.8 +0.1**
4.9nm,0.8s,mb4.3
BGF Bois d'Agland 60.90 45 *e*P **P 11 54 35.8 -0.2**
11nm,0.9s,mb4.7
AVF Avril sur Loir 61.28 45 *e*P **P 11 54 38.4 -0.1**
8.4nm,1.0s,mb4.5
LASF Ste Croix 61.29 48 *e*P **P 11 54 40.3 +1.7**
23nm,1.1s,mb4.9
SSF Saint Saulge 61.42 45 *e*P **P 11 54 39.2 -0.3**
4.9nm,0.7s,mb4.4
SMF Signal de Mont 61.59 45 *e*P **P 11 54 40.2 -0.4**
25nm,1.2s,mb4.9
LOR Lormes 61.69 44 *e*P **P 11 54 41.0 -0.3**
19nm,1.0s,mb4.9
VIVF Saint-Julien-l 61.96 47 *e*P **P 11 54 43.9 +0.8**
10nm,1.0s,mb4.6
SMRF Simiane la Rot 62.51 48 *e*P **P 11 54 47.3 +0.5**
4.4nm,0.7s,mb4.4
MEZF Maizieres J'vi 62.66 43 *e*P **P 11 54 47.7 -0.1**
28nm,0.8s,mb5.1
GIVF Givet 62.74 41 *e*P **P 11 54 47.3 -1.0**
ORIF Oris-en-Rattie 62.82 47 *e*P **P 11 54 49.9 +1.1**
11nm,1.1s,mb4.6
CABF La Chapelle 63.13 45 *e*P **P 11 54 50.9 0.0**
LMR La Mourre 63.14 49 *e*P **P 11 54 50.9 -0.1**
FRF La Foret Royal 63.26 49 *e*P **P 11 54 51.8 +0.1**
MBDF Montbardon 63.43 47 *e*P **P 11 54 53.8 +0.9**
6.0nm,0.7s,mb4.5
HAU Haudompre 63.45 44 *e*P **P 11 54 52.7 -0.3**
3.4nm,0.6s,mb4.3
LPL La Plagne 63.47 47 *e*P **P 11 54 54.1 +0.9**
LPG La Plagne 63.48 47 *e*P **P 11 54 54.4 +1.2**
HGN Heimansgroeve 63.53 41 *e*P **P 11 54 53.9 +0.3**
HINF Hinteralfeld 63.77 44 *e*P **P 11 54 54.4 -0.7**
6.0nm,0.8s,mb4.4
CDF Champ du Feu 64.11 43 *e*P **P 11 54 57.0 -0.4**
6.8nm,0.7s,mb4.5
PGF Pioggiola 64.92 50 *e*P **P 11 55 02.6 -0.1**
25nm,1.0s,mb4.9
NB2 NORSAR Subarra 67.96 30 P **P 11 55 22.4 +0.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=261,slow=6.5
NOA NORSAR Array B 67.96 30 P **P 11 55 22.1 0.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=262,slow=6.3,SNR=13
NOA LR LR 12 17 55.8
comp=Z,28nm,20.6s,MS3.5,baz=270,slow=30
CLL Collm 68.03 41 ⇓*i*P **P 11 55 22.2 -0.3**
comp=Z,6.0nm,1.0s,mb4.6
GERES GERESS Array B 68.39 43 P **P 11 55 24.1 -0.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=259,slow=6.8,SNR=15
BRG Berggiesshubel 68.60 41 *i*P **P 11 55 26.4 +0.3**
comp=Z,1.9nm,0.7s,mb4.1
INK Inuvik 69.44 338 P **P 11 55 29.2 -2.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=78,slow=3.5,SNR=17
INK Inuvik 69.44 338 P **P 11 55 29.2 -2.2**
BZS Buzias 73.91 46 ⇑P **P 11 55 59.0 +0.8**
BZS Buzias 73.91 46 ⇑P **P 11 55 59.0 +0.8**
ARCES ARCESS Array B 74.42 21 P **P 11 56 00.3 -0.8**
comp=Z,6.2nm,0.8s,mb4.6,baz=263,slow=9.8,SNR=6.4
ARCES ARCESS Array B 74.42 21 P **P 11 56 00.3 -0.8**
DRGR 74.55 45 ⇑P **P 11 56 02.4 +0.5**
DRGR 74.55 45 ⇑P **P 11 56 02.4 +0.5**
ILAR Eielson Array 74.56 334 P **P 11 56 00.1 -1.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=121,slow=4.4,SNR=11
FINES FINESS Array B 75.14 30 P **P 11 56 04.7 -0.7**
comp=Z,2.6nm,0.7s,mb4.3,baz=225,slow=2.7,SNR=11
KAF Kangasniemi 75.19 29 *e*p **P 11 56 04.6 -1.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=274,slow=5.5
BURAR Bucovina Array 76.14 44 ⇑P **P 11 56 12.4 +1.3**
BURAR Bucovina Array 76.14 44 ⇑P **P 11 56 12.4 +1.4**
MLR Muntele Rosu 76.94 46 ⇑P **P 11 56 17.5 +1.9**
MLR Muntele Rosu 76.94 46 ⇑P **P 11 56 17.5 +2.0**
JOF Joensuu 77.40 28 *e*p **P 11 56 15.6 -2.6**
comp=Z,4.4nm,1.1s,mb4.3
AKASG Malin Array Be 78.28 41 P **P 11 56 22.1 -0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=271,slow=5.4,SNR=6.7
BRTR Keskin Array B 83.67 51 P **P 11 56 52.1 +0.4**
comp=Z,2.5nm,0.8s,mb4.4,baz=262,slow=4.3,SNR=12
MDJ Mudanjiang 119.55 351 PKP PKPdf 12 03 19.5 +6.9
MDJ PP PP
comp=Z,103nm,6.2s
CN2 Changchun 120.83 355 *e*PKP PKPdf 12 03 17.3 +2.2
LZH Lanzhou 126.79 16 *e*PKP PKPdf 12 03 30.5 +4.0
LZH LR LR
comp=N,127nm,18.3s
LZH LR LR
comp=Z,196nm,20.0s,MS4.8
CD2 Chengdu 131.64 18 *e*PKP PKPdf 12 03 42.2 +6.5
NJ2 Nanjing 132.84 0 *e*PKP PKPdf 12 03 48.9 +11
SSE Sheshan 133.76 358 *e*PKP PKPdf 12 03 42.4 +2.7
SSE PP PP
comp=Z,35nm,3.9s
ASAR Alice Springs 163.89 237 PKPab PKPab 12 05 18.1 -0.7
comp=Z,0.3nm,0.5s,baz=118,slow=4.0,SNR=10
WRA Warramunga Arr 164.88 250 PKPab PKPab 12 05 23.8 +0.6
comp=Z,0.8nm,0.7s,baz=98,slow=4.2,SNR=16

IDC 12 11:44:41.3±2.4,265S×13003E,h0km,mb3.7/2,mb1 4.1/3, mb1mx3.7/15,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=167.8km s-min=25.7km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.69**	**167**	P	Pn	11 48 47.8	-1.3
	0.3nm,0.3s,baz=350,slow=12,SNR=26						
WB2	**Warramunga Arr**	**17.70**	**167**	*e*P	Pn	11 48 48.2	-1.0
ASAR	**Alice Springs**	**21.23**	**170**	P	P	11 49 29.9	+1.2
	1.7nm,0.4s,baz=349,slow=11,SNR=46						
MKAR	**Makanchi Array**	**64.64**	**326**	P	P	11 55 20.9	+0.1
	0.4nm,0.4s,baz=118,slow=7.7,SNR=13						

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*IDC **12** 11:45:29.9±5.4,3054S×17876W,h0km,mb4.2/3, mb1 4.4/3,mb1mx4.0/12,mbtmp4.2/3,MS3.0/1,Ms1 3.0/1, ms1mx2.5/18,Error ellipse: s-maj=208.5km s-min=49.0km az=152.0*

*ISCJB **12** 11:46:21.7±1.9,317S±02×1795W±03,h525km±21km, mb3.9/3,Error ellipse: s-maj=35.7km s-min=25.8km az=13.9*

ISC 12 11:46:24.9±1.8,319S±02×1797W±03,h538km±19km,n16, σ0°71/18,mb3.9/3,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.89**	**196**	*e*PN	**P**	**11 48 01.4**	**-0.4**
MWZ	**Matawai**	**6.82**	**199**	*e*PN	**P**	**11 48 10.3**	**-0.3**
MWZ				SN	**S**	**11 49 37.3**	**+0.2**
URZ	**Urewera**	**6.87**	**202**	LR	LR	11 50 06.9	
	comp=Z,111nm,21.9s,baz=249,slow=33						
URZ	**Urewera**	**6.87**	**202**	*e*PN	**P**	**11 48 10.6**	**-0.5**
URZ				SN	**S**	**11 49 36.8**	**-1.4**
KNZ	**Kokohu**	**7.43**	**196**	*e*PN	**P**	**11 48 18.0**	**+1.5**
BKZ	**Black Stump Fm**	**7.90**	**202**	*e*PN	**P**	**11 48 21.4**	**+0.2**
BKZ				SN	**S**	**11 49 56.6**	**+0.1**
KRVZ	**Karewarewa**	**8.14**	**207**	PN	**P**	**11 48 22.4**	**-1.2**
PXZ	**Pawanui**	**8.59**	**198**	*e*PN	**P**	**11 48 29.6**	**+1.5**
TSZ	**Takapari Road**	**8.88**	**202**	*e*PN	**P**	**11 48 31.0**	**-0.1**
TSZ				SN	**S**	**11 50 15.4**	**+0.7**
MRZ	**Mangatainoka R**	**9.55**	**202**	*e*PN	**P**	**11 48 38.1**	**+0.2**
STKA	**Stephens Creek**	**32.79**	**260**	P	**P**	**11 52 13.8**	**+0.1**
	1.3nm,0.4s,mb3.8,baz=100,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**41.65**	**269**	P	**P**	**11 53 26.4**	**+0.2**
	1.2nm,0.4s,mb3.7,baz=107,slow=7.6,SNR=19						
WB2	**Warramunga Arr**	**42.77**	**275**	*e*P	**P**	**11 53 35.0**	**0.0**
WRA	**Warramunga Arr**	**42.78**	**275**	P	**P**	**11 53 35.1**	**0.0**
	2.9nm,0.5s,mb4.1,baz=111,slow=8.1,SNR=36						
SYO	**Syowa Base**	**75.33**	**194**	⇓*e*P	**P**	**11 57 12.4**	**-0.7**
FINES	**FINESS Array B**	**146.04**	**338**	PKPbc	PKPbc	12 05 07.1	+2.5
	0.6nm,0.5s,baz=43,slow=3.8,SNR=12						

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*ISCJB **12** 11:46:57.4±1.0,2151S±006×699W±0.1,h76km±13km, mb3.6/1,Error ellipse: s-maj=22.9km s-min=7.9km az=146.3*

*NEIC **12** 11:46:57.6±1.3,2162S×7002W,h58km±15km,mb3.7/1, Error ellipse: s-maj=25.0km s-min=12.4km az=85.0*

*IDC **12** 11:47:01.7±2.3,2171S×6969W,h91km±17km,mb3.6/1, mb1 3.5/4,mb1mx3.4/17,mbtmp3.8/4,Error ellipse: s-maj=39.3km s-min=19.0km az=94.0*

ISC 12 11:46:57.7±0.9,2165S±007×700W±01,h68km±15km,n12, σ0°77/16,mb3.6/1,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.42**	**133**	P	**Pn**	**11 47 22.5**	**+0.9**
	276nm,0.3s,baz=314,slow=10,SNR=2625						
LVC				S	**Sn**	**11 47 40.2**	**+0.7**
	259nm,0.3s,baz=52,slow=21,SNR=27						
LVC	**Limon Verde**	**1.42**	**133**	*e*Pn	**Pn**	**11 47 22.5**	**+1.0**
LVC				Sn	**Sn**	**11 47 38.2**	**-1.2**
LVC				S	**Sn**	**11 47 40.2**	**+0.8**
ARE	**Arequipa**	**5.34**	**345**	*e*P	**Pn**	**11 48 15.0**	**+0.2**
ARE				*e*S	**Sn**	**11 49 15.0**	**0.0**
LPAZ	**La Paz**	**5.63**	**19**	P	**Pn**	**11 48 23.7**	**+4.9**
	0.5nm,0.3s,baz=188,slow=8.8,SNR=16						
CFAA	**Coronel Fontan**	**10.04**	**171**	P	**Pn**	**11 49 17.8**	**-1.3**
	0.2nm,0.3s,baz=324,slow=5.8,SNR=6.6						
CFAA				S	**Sn**	**11 51 17.2**	**+7.1**
	0.1nm,0.3s,baz=240,slow=17,SNR=3.3						
CFAA	**Coronel Fontan**	**10.04**	**171**	P	**Pn**	**11 49 17.8**	**-1.3**
CFAA				S	**Sn**	**11 51 17.2**	**+7.1**
SIV	**San Ignacio**	**10.19**	**58**	P	**Pn**	**11 49 20.3**	**-0.7**
	0.9nm,0.3s,baz=246,slow=12,SNR=17						
PLCA	**Paso Flores**	**19.03**	**181**	P	**Pn**	**11 51 15.5**	**0.0**
	0.1nm,0.3s,baz=359,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**19.03**	**181**	*e*P	**Pn**	**11 51 16.5**	**+1.0**
	5.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**78.40**	**71**	P	**P**	**11 58 51.0**	**+0.2**
	0.7nm,0.5s,mb3.6,baz=248,slow=5.1,SNR=8.6						
ASAR	**Alice Springs**	**129.28**	**209**	PKP	PKPdf	12 06 00.5	+2.3
	0.5nm,0.8s,baz=139,slow=2.8,SNR=4.1						
MKAR	**Makanchi Array**	**146.37**	**35**	PKPbc	PKPbc	12 06 31.3	+0.6
	0.4nm,0.5s,baz=320,slow=3.0,SNR=7.0						

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*NIED **12** 11:50:00,4540N×150.10E,h41km,Mw4.2 Best double couple: M0=2.23000×1015 NP1:ϕ0=334.00000°,δ76.00000°, λ57.00000°. NP2:ϕ0=224.00000°,δ35.00000°,λ156.00000°.*

*BJI **12** 11:50:18.8,4507N×15086E,h52km,mB4.6,mb4.7,Ms4.0, Msz3.8*

*NAO **12** 11:50:23.8,4578N×15092E,h33km,mb3.8*

*SKHL **12** 11:50:24.6±2.9,4533N×15026E,h54km±23km,mb4.8/10, Ms3.4/1*

*NEIC **12** 11:50:26.0±0.4,4531N×15000E,mb4.4/13,Error ellipse: s-maj=9.6km s-min=6.3km az=142.0*

*ISCJB **12** 11:50:25.0±0.7,4521N±004×15009E±006,h62km±5km, mb4.4/63,Error ellipse: s-maj=7.5km s-min=5.0km az=84.3*

*JMA **12** 11:50:25.5±0.8,4539N×150.10E,h30km,M4.8*

*MOS **12** 11:50:26.3±1.3,4536N×14998E,h73km,mb4.4/16,Error ellipse: s-maj=9.7km s-min=7.3km az=105.5*

*IDC **12** 11:50:26.3±0.7,4541N×14991E,h55km±5km,mb3.8/17, mb1 4.0/17,mb1mx4.0/22,mbtmp4.1/17,MS3.4/6, Ms1 3.4/6,ms1mx3.0/28,Error ellipse: s-maj=15.4km s-min=12.8km az=139.0*

ISC 12 11:50:26.5±0.6,4522N±004×15016E±006,h65km±4km, h54km±1.1km:pP-P,n190,σ1°14/203,mb4.3/63,19C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.62**	**271**	⇓*i*P	**Pn**	**11 50 49.5**	**-3.4**
KUR				*i* P		11 50 49.5	
KUR				AMB	AMB	11 50 50.0	
	7μm,1.0s						
KUR				AMB	AMB	11 50 50.4	
	940nm,0.4s						
KUR				AMB	AMB	11 50 50.4	
	600nm,0.4s						
KUR				AMB	AMB	11 50 50.4	
	4μm,0.4s						
KUR				*e*S	**Sn**	**11 51 08.2**	**-4.6**
KUR				A		11 51 10.0	
	16μm,2.0s						
KUR				A		11 51 10.0	
	8μm,2.0s						
KUR				A		11 51 10.2	
	3μm,0.5s						
KUR				A		11 51 10.2	
	5μm,0.5s						
KUR	**Kuril'sk**	**1.62**	**271**	⇓*i*PN	**Pn**	**11 50 49.5**	**-3.4**
KUR				*e*S	**Sn**	**11 51 08.2**	**-4.6**
KUR				pmax	pmax		
	comp=N,940nm,0.4s						
KUR				pmax	pmax		
	comp=E,600nm,0.4s						
KUR				pmax	pmax		
	comp=Z,4μm,0.4s						
KUR				smax			
	comp=N,16μm,2.0s						
KUR				smax			
	comp=E,8μm,2.0s						
KUR				smax			
	comp=N,3μm,0.5s						
KUR				smax			
	comp=E,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.29**	**250**	⇓*i*P	**Pn**	**11 51 16.4**	**+0.8**
YUK				AMB	AMB	11 51 17.4	
	comp=E,930nm,0.5s						
YUK				*i* S	**Sn**	**11 51 52.5**	**-1.0**
YUK				A		11 51 57.0	
	comp=E,3μm,0.9s						
YUK				A		11 51 59.9	
	comp=E,1μm,0.5s						
YUK				A		11 51 59.9	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.29**	**250**	⇓*i*PN	**Pn**	**11 51 16.4**	**+0.8**
YUK				*i* S	**Sn**	**11 51 52.5**	**-1.0**
YUK				pmax	pmax		
	comp=Z,930nm,0.5s						
YUK				smax			
	comp=N,3μm,0.9s						
YUK				smax			
	comp=E,3μm,0.9s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**3.67**	**241**	P	**Pn**	**11 51 19.3**	**-1.5**
NEM2				*e*S	**Sn**	**11 51 58.9**	**-4.0**
JRA	**Rausu**	**3.82**	**252**	P	**Pn**	**11 51 23.8**	**+1.0**
JNK	**Nakash**	**4.22**	**249**	P	**Pn**	**11 51 29.0**	**+0.6**
JNK				*e*S	**Sn**	**11 52 17.6**	**+1.2**
JAK	**Akkeshi**	**4.52**	**242**	P	**Pn**	**11 51 31.7**	**-0.7**
JAK				*e*S	**Sn**	**11 52 21.5**	**-2.1**
JTKR	**Abashiri--Toko**	**4.63**	**257**	P	**Pn**	**11 51 34.8**	**+0.8**
JAR	**Ashorobuto**	**4.97**	**250**	P	**Pn**	**11 51 40.0**	**+1.4**
JAR				*e*S	**Sn**	**11 52 36.6**	**+1.8**
JMP	**Maruseppu**	**5.00**	**258**	P	**Pn**	**11 51 40.3**	**+1.3**
JOB	**Onbets**	**5.11**	**245**	P	**Pn**	**11 51 41.2**	**+0.7**
JOB				*e*S	**Sn**	**11 52 37.8**	**-0.3**
JSE	**Soyaes**	**5.37**	**270**	P	**Pn**	**11 51 45.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**5.43**	**291**	⇑*i*P	**Pn**	**11 51 46.0**	**+1.1**
YSS				AMB	AMB	11 51 48.0	
	comp=E,30nm,0.6s						
YSS				AMB	AMB	11 51 48.0	
	comp=E,50nm,0.6s						
YSS				AMB	AMB	11 51 48.0	
	comp=E,40nm,0.8s						
YSS				pP		11 51 57.0	
YSS				sP		11 52 03.0	
YSS				*e*S	**Sn**	**11 52 47.3**	**+1.2**
YSS				AMS	AMS	11 53 32.0	
	comp=E,300nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.43**	**291**	⇑*i*PN	**Pn**	**11 51 46.0**	**+1.1**
YSS				pmax	pmax		
	comp=N,30nm,0.6s						
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				pmax	pmax		
	comp=E,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.43**	**291**	*e*Pn	**Pn**	**11 51 44.9**	**-0.1**
	comp=E,41nm,0.5s						
JKK2	**Kamakawa 2**	**5.46**	**258**	P	**Pn**	**11 51 47.0**	**+1.7**
ASAJ	**Asahikawa**	**5.50**	**261**	P	**Pn**	**11 51 47.4**	**+1.5**
	comp=E,5.3nm,0.3s,baz=80,slow=16,SNR=51						
ASAJ				LR	LR	11 54 00.0	
	comp=E,239nm,21.1s,baz=156,slow=40						
ASAJ	**Asahikawa**	**5.50**	**261**	PN	**Pn**	**11 51 47.4**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,239nm,21.1s						
JCH	**Churui**	**5.55**	**244**	P	**Pn**	**11 51 46.5**	**-0.1**
JCH				*e*S	**Sn**	**11 52 47.1**	**-2.0**
JFR	**Furan**	**5.81**	**252**	P	**Pn**	**11 51 51.6**	**+1.5**
JWK2	**Keihoku**	**5.83**	**274**	P	**Pn**	**11 51 53.2**	**+2.8**
JAB	**Ashibetsu**	**5.94**	**256**	P	**Pn**	**11 51 55.0**	**+3.1**
JEM	**Erimo**	**6.00**	**240**	P	**Pn**	**11 51 54.2**	**+1.5**
JNBK	**Urakawa-nobuka**	**6.11**	**244**	P	**Pn**	**11 51 53.4**	**-0.8**
JBT2	**Biratori 2**	**6.13**	**249**	P	**Pn**	**11 51 54.8**	**+0.4**
JEW	**Eniwo**	**6.71**	**252**	P	**Pn**	**11 52 04.4**	**+2.0**
UGL	**Uglegorsk**	**6.73**	**308**	*e*P	**Pn**	**11 52 04.0**	**+1.3**
UGL				AMB	AMB	11 52 05.0	
	comp=Z,120nm,1.0s						
SKR	**Severo-Kuril's**	**6.77**	**34**	*e*P	**Pn**	**11 51 59.0**	**-4.3**
SKR				AMB	AMB	11 51 59.2	
	comp=Z,60nm,0.5s						
SKR				*e*S	**Sn**	**11 53 09.9**	**-9.1**
SKR				A		11 53 30.4	
	comp=Z,80nm,0.5s						
JNB	**Noboribetsu**	**7.14**	**251**	P	**Pn**	**11 52 08.7**	**+0.4**
JNB				*e*S	**Sn**	**11 53 26.9**	**-1.1**
JKB	**Kayabe**	**7.42**	**247**	P	**Pn**	**11 52 11.5**	**-0.6**
JKB				*e*S	**Sn**	**11 53 29.8**	**-4.9**
TYV	**Tymovskoe**	**7.56**	**321**	*e*P	**Pn**	**11 52 13.5**	**-0.5**
TYV				AMB	AMB	11 52 18.2	
	comp=Z,14nm,0.7s						
TYV				AMB	AMB	11 52 18.2	
	comp=Z,29nm,0.7s						
JSH	**Shimam**	**7.74**	**254**	P	**Pn**	**11 52 17.8**	**+1.3**
JYM2	**Yakumo 2**	**7.74**	**250**	P	**Pn**	**11 52 16.4**	**-0.1**
JANG	**Nango**	**7.99**	**236**	P	**Pn**	**11 52 17.5**	**-2.3**
JANG				*e*S	**Sn**	**11 53 40.8**	**-7.9**
JSR	**Shiriuchi**	**7.99**	**246**	P	**Pn**	**11 52 19.6**	**-0.4**
JTM	**Tenmabayashi**	**8.00**	**240**	P	**Pn**	**11 52 19.0**	**-1.0**
JTM				*e*S	**Sn**	**11 53 42.4**	**-6.5**
JTH	**Tanohata**	**8.08**	**232**	*e*S	**Sn**	**11 53 41.1**	**-10**
JOSM	**Okushiri--Mats**	**8.36**	**252**	P	**Pn**	**11 52 25.1**	**+0.2**
OFUJ	**Ofunato**	**8.79**	**229**	P	**Pn**	**11 52 28.6**	**-2.3**
OFUJ				*e*S	**Sn**	**11 53 59.4**	**-9.0**
JRG	**Rokugo**	**9.14**	**234**	P	**Pn**	**11 52 34.4**	**-1.2**
JRG				*e*S	**Sn**	**11 54 10.5**	**-6.4**
JIO	**Ouri**	**9.42**	**227**	P	**Pn**	**11 52 37.5**	**-2.0**
JIO				*e*S	**Sn**	**11 54 12.9**	**-11**
PET	**Petropavlovsk**	**9.59**	**32**	*e*P	**Pn**	**11 52 41.0**	**-0.7**
PET				AMB	AMB	11 52 46.1	
	comp=Z,6.0nm,0.8s						
PET				*e*S	**Sn**	**11 54 27.3**	**-0.6**
PET				A		11 55 00.4	
	comp=Z,20nm,0.6s						
PET				A		11 55 03.9	
	comp=Z,20nm,0.6s						
PET				AMS	AMS	11 56 26.0	
	comp=Z,120nm,16.0s						
NKL	**Nikolayevsk**	**10.07**	**325**	*e*P	**Pn**	**11 52 43.0**	**-5.3**
NKL				AMB	AMB	11 52 44.0	
	comp=Z,25nm,0.8s						
JFK	**Kawauchi**	**10.50**	**225**	P	**Pn**	**11 52 52.0**	**-2.1**
JFK				*e*S	**Sn**	**11 54 39.5**	**-11**
HABR	**Khabarovsk**	**10.85**	**293**	*i* PN	**Pn**	**11 52 59.8**	**+0.9**
HABR				*e*S	**Sn**	**11 55 00.6**	**+2.0**
MAJO	**Matsushiro**	**12.51**	**230**	PN	**Pn**	**11 53 20.8**	**-0.8**
MJAR	**Matsushiro Arr**	**12.51**	**230**	P	**Pn**	**11 53 18.5**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=26,slow=13,SNR=6.0						
MJAR				LR	LR	11 58 20.8	
	comp=Z,144nm,18.1s,baz=40,slow=38						
MJAR	**Matsushiro Arr**	**12.51**	**230**	P	**Pn**	**11 53 18.5**	**-3.1**
MJAR				LR	LR	11 58 20.8	
KLR	**Kul'dur**	**13.13**	**294**	*e*PN	**Pn**	**11 53 29.0**	**-1.1**
MA2	**Magadan**	**14.39**	**1**	*e*P	**Pn**	**11 53 45.1**	**-1.6**
MA2				pmax	pmax		
	comp=Z,9.0nm,2.0s						
MA2	**Magadan**	**14.39**	**1**	*e*Pn	**Pn**	**11 53 45.8**	**-0.9**
**M

YAK				*e*			12 06 23.2
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,33nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
BOD	**Bodaibo**	**25.44**	**313**	*e*P	**P**		**11 55 39.2 -9.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.6						
SSE	**Sheshan**	**26.62**	**248**	*e*P	**P**		**11 55 56.9 -1.9**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,36nm,3.8s						
TIXI	**Tiksi**	**28.41**	**346**	*e*P	**P**		**11 56 13.5 -1.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**29.48**	**291**	*e*P	**P**		**11 56 24.0 -0.4**
ULN	**Ulaanbaatar**	**29.48**	**291**	*e*P	**P**		**11 56 23.6 -0.8**
	comp=Z,0.8nm,0.5s,mb3.6						
SONM	**Songino Array**	**29.93**	**291**	P	**P**		**11 56 26.4 -1.9**
	comp=Z,0.8nm,0.7s,mb3.4,baz=86,slow=8.6,SNR=6.0						
SONM				PcP	PcP		11 59 29.9 +0.3
	comp=Z,0.7nm,0.6s,baz=110,slow=1.9,SNR=6.4						
TLY	**Talaya**	**31.08**	**299**	*e*P	**P**		**11 56 39.6 +1.1**
GUMO	**Guam**	**31.84**	**190**	LR	LR		12 07 46.5
	comp=Z,43nm,18.9s,baz=213,slow=32						
ENH	**Enshi**	**35.05**	**259**	*e*P	**P**		**11 57 12.7 -0.4**
	comp=Z,4.8nm,0.8s,mb4.4						
LZH	**Lanzhou**	**35.88**	**272**	*e*P	**P**		**11 57 21.1 +1.0**
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,105nm,4.2s						
IMA2	**Indian Mountai**	**36.25**	**35**	*e*P	**P**		**11 57 23.8 +0.5**
IMA2				*e*pP	pP		11 57 37.7 -1.6
GTA	**Gaotai**	**37.18**	**279**	*e*P	**P**		**11 57 31.9 +0.7**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,77nm,5.3s						
GTA				LR	LR		
	comp=N,96nm,11.4s						
GTA				LR	LR		
	comp=E,63nm,12.9s						
GTA				LR	LR		
	comp=Z,91nm,12.5s						
MCK	**McKinley**	**38.15**	**39**	*e*P	**P**		**11 57 40.8 +1.4**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
MCK	**McKinley**	**38.15**	**39**	*e*P	**P**		**11 57 40.8 +1.4**
	comp=Z,1.4nm,0.9s,mb3.8						
COLA	**College**	**38.61**	**37**	*e*P	**P**		**11 57 44.4 +1.1**
COLA				*e**PP	pP		11 57 57.8 -1.6
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
COLA	**College**	**38.61**	**37**	*e*P	**P**		**11 57 44.4 +1.2**
	comp=Z,3.5nm,0.6s,mb4.4						
COLA				*e*pP	pP		11 57 57.8 -1.6
CD2	**Chengdu**	**38.69**	**265**	*e*P	**P**		**11 57 41.5 -2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**39.02**	**37**	P	**P**		**11 57 46.9 +0.1**
	comp=Z,1.9nm,0.8s,mb4.0,baz=263,slow=7.6,SNR=31						
ILAR				PcP	PcP		11 59 54.8 -0.9
	comp=Z,0.3nm,0.6s,baz=276,slow=4.0,SNR=4.5						
GYA	**Guiyang**	**39.36**	**257**	P	**P**		**11 57 49.8 +0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WMQ	**Urumqi**	**43.56**	**291**	*e*P	**P**		**11 58 24.0 +0.1**
WMQ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
INK	**Inuvik**	**44.04**	**31**	P	**P**		**11 58 28.3 +0.5**
	comp=Z,2.9nm,0.6s,mb4.2,baz=284,slow=7.1,SNR=15						
INK				pP	pP		11 58 42.1 -2.1
	comp=Z,4.1nm,0.7s,baz=271,slow=8.2,SNR=7.0						
MKAR	**Makanchi Array**	**45.82**	**297**	P	**P**		**11 58 41.2 -0.7**
	comp=Z,0.9nm,0.5s,mb3.8,baz=74,slow=8.1,SNR=19						
MKAR				PcP	PcP		12 00 18.7 +0.4
	comp=Z,1.4nm,0.6s,baz=100,slow=0.6,SNR=9.5						
MKAR				LR	LR		12 18 22.7
	comp=Z,84nm,20.8s,baz=202,slow=37						
MKAR	**Makanchi Array**	**45.82**	**297**	P	**P**		**11 58 41.2 -0.7**
MKAR							12 00 18.7
MKAR	**Makanchi Array**	**45.82**	**297**	P	**P**		**11 58 41.2 -0.7**
MKAR				PcP	PcP		12 00 18.7 +0.4
MKAR				LR	LR		12 18 22.6
KURK	**Kurchatov**	**46.50**	**304**	*e*P	**P**		**11 58 46.7 -0.5**
KURK				*e*			12 00 21.0
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**46.50**	**304**	*e*P	**P**		**11 58 46.7 -0.5**
	comp=Z,2.0nm,0.6s,mb4.0						
KURK				*e*PcP	PcP		12 00 21.0 +0.3
LSA	**Lhasa**	**48.29**	**272**	*e*P	**P**		**11 59 01.4 +0.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
LSA	**Lhasa**	**48.29**	**272**	*e*P	**P**		**11 59 01.4 +0.3**
	comp=Z,2.8nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**50.24**	**309**	P	**P**		**11 59 15.9 -0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=79,slow=7.6,SNR=5.0						
BVAR				pP	pP		11 59 28.7 -4.0
	comp=Z,0.5nm,0.4s,baz=81,slow=5.7,SNR=3.3						
BVAR				PcP	PcP		12 00 33.8 -0.4
	comp=Z,1.3nm,0.4s,baz=119,slow=1.8,SNR=7.8						
SHL	**Shillong**	**50.26**	**268**	*e*P	**P**		**11 59 17.0 +0.9**
BRVK	**Borovoye**	**50.28**	**309**	*e*P	**P**		**11 59 15.3 -1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**50.28**	**309**	*e*P	**P**		**11 59 15.3 -1.0**
	comp=Z,1.1nm,0.7s,mb3.9						
JIRN	**Jiri**	**53.00**	**274**	*e*P	**P**		**11 59 37.7 +1.1**
	comp=Z,14nm,0.5s,mb5.3						
GUN	**Gumba**	**53.07**	**274**	*e*P	**P**		**11 59 37.0 -0.1**
	comp=Z,15nm,0.5s,mb5.3						
YKA	**Yellowknife Ar**	**53.38**	**35**	P	**P**		**11 59 39.9 +0.6**
	comp=Z,2.8nm,0.7s,mb4.4,baz=298,slow=7.0,SNR=39						
YKA				pP	pP		11 59 53.9 -2.3
	comp=Z,1.8nm,0.6s,baz=300,slow=7.1,SNR=15						
YKA	**Yellowknife Ar**	**53.38**	**35**	P	**P**		**11 59 39.9 +0.6**
YKA				pP	pP		11 59 53.9 -2.3
KKN	**Kakani**	**53.56**	**274**	*e*P	**P**		**11 59 41.9 +1.2**
DMN	**Daman**	**53.80**	**274**	*e*P	**P**		**11 59 43.4 +1.0**
	comp=Z,15nm,0.7s,mb5.1						
GKN	**Gorkha**	**53.89**	**275**	*e*P	**P**		**11 59 43.9 +0.8**
ARU	**Arti**	**54.74**	**317**	⇓*i*P	**P**		**11 59 47.4 -1.9**
ARU				*e*			12 00 46.0
ARU				*e*			12 01 49.9
ARU				*e*PPP			12 03 01.5
ARU				*e*S	**S**		**12 07 21.4 -3.5**
ARU				*e*			12 09 25.8
ARU				*e*SS	SS		12 11 03.6 -5.0
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ARU	**Arti**	**54.74**	**317**	*e*P	**P**		**11 59 48.0 -1.3**
	comp=Z,2.5nm,0.5s,mb4.5						
KOLN	**Koldanda**	**54.76**	**275**	*e*P	**P**		**11 59 50.2 +0.8**
AKTK	**Aktyubinsk**	**58.20**	**311**	P	**P**		**12 00 13.3 -0.6**
AKTO	**Aktyubinsk**	**58.20**	**311**	P	**P**		**12 00 13.3 -0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=61,slow=7.7,SNR=6.4						
AKTO	**Aktyubinsk**	**58.20**	**311**	P	**P**		**12 00 13.3 -0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**58.61**	**340**	LR	LR		12 31 42.4
	comp=Z,50nm,18.4s,baz=77,slow=42						
JOF	**Joensuu**	**61.78**	**333**	*e*p	**P**		**12 00 36.1 -2.3**
	comp=Z,0.5nm,0.3s,mb4.0						
JOF	**Joensuu**	**61.78**	**333**	*e*P	**P**		**12 00 36.1 -2.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**63.95**	**334**	*e*p	**P**		**12 00 49.5 -3.3**
	baz=44,slow=5.7						
FINES	**FINESS Array B**	**64.53**	**334**	P	**P**		**12 00 54.2 -2.4**
	comp=Z,2.0nm,0.5s,mb4.2,baz=41,slow=7.3,SNR=23						
FINES	**FINESS Array B**	**64.53**	**334**	*i*P	**P**		**12 00 54.7 -1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**64.98**	**60**	P	**P**		**12 01 01.1 +1.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=289,slow=8.4,SNR=16						
WRAB	**Tennant Creek**	**66.42**	**196**	*e*P	**P**		**12 01 09.9 +1.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**66.42**	**196**	*e*P	**P**		**12 01 09.9 +1.1**
	comp=Z,3.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**66.43**	**196**	P	**P**		**12 01 09.7 +0.9**
	comp=Z,0.9nm,0.6s,mb3.8,baz=14,slow=6.7,SNR=18						
WRA	**Warramunga Arr**	**66.43**	**196**	*i*P	**P**		**12 01 11.5 +2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**67.31**	**52**	P	**P**		**12 01 15.1 +0.6**
	comp=Z,1.1nm,0.8s,mb3.7,baz=287,slow=2.5,SNR=9.6						
PDAR				pP	pP		12 01 29.9 -2.0
	comp=Z,1.2nm,0.6s,baz=237,slow=1.1,SNR=6.3						
NB2	**NORSAR Subarra**	**68.99**	**340**	P	**P**		**12 01 23.3 -1.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.99**	**340**	P	**P**		**12 01 23.4 -1.5**
	comp=Z,1.0nm,0.8s,mb3.7,baz=33,slow=6.0,SNR=3.4						
NOA				LR	LR		12 34 56.6
	comp=Z,15nm,19.2s,baz=250,slow=39						
NOA	**NORSAR Array B**	**68.99**	**340**	P	**P**		**12 01 23.4 -1.5**
NOA				LR	LR		12 34 56.6
ULM	**Lac du Bonnet**	**69.02**	**39**	P	**P**		**12 01 24.6 -0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=335,slow=6.8,SNR=3.4						
ASAR	**Alice Springs**	**70.14**	**196**	P	**P**		**12 01 33.9 +1.9**
	comp=Z,1.1nm,0.7s,mb3.8,baz=12,slow=6.1,SNR=15						
ASAR				pP	pP		12 01 49.5 0.0
	comp=Z,0.7nm,0.7s,baz=10,slow=5.5,SNR=4.6						
MBWA	**Marble Bar**	**71.64**	**210**	*e*P	**P**		**12 01 42.8 +1.7**
	comp=Z,1.2nm,0.5s,mb4.0						
AKASG	**Malin Array Be**	**71.64**	**325**	P	**P**		**12 01 38.8 -2.4**
	comp=Z,1.6nm,0.4s,mb4.2,baz=37,slow=6.0,SNR=8.4						
AKASG	**Malin Array Be**	**71.64**	**325**	*i*P	**P**		**12 01 40.0 -1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BURAR	**Bucovina Array**	**75.70**	**325**	⇓P	**P**		**12 02 04.4 -0.5**
BURAR	**Bucovina Array**	**75.70**	**325**	⇓P	**P**		**12 02 04.5 -0.4**
STHS	**Stebnicka Huta**	**75.77**	**328**	*e*P	**P**		**12 02 02.7 -2.6**
CFR	**Carcaliu**	**76.41**	**322**	⇑P	**P**		**12 02 09.1 +0.2**
KECS	**Kecovo**	**76.83**	**328**	*e*P	**P**		**12 02 08.0 -3.3**
HARR	**Harsova**	**76.88**	**322**	⇑P	**P**		**12 02 12.1 +0.5**
MLR	**Muntele Rosu**	**77.10**	**323**	⇑P	**P**		**12 02 12.7 -0.1**
MLR	**Muntele Rosu**	**77.10**	**323**	⇑P	**P**		**12 02 12.7 -0.1**
DRGR		**77.37**	**326**	⇓P	**P**		**12 02 14.4 +0.1**
DRGR		**77.37**	**326**	⇓P	**P**		**12 02 14.4 +0.1**
VOIR		**77.52**	**324**	⇓P	**P**		**12 02 16.4 +1.2**
VOIR		**77.52**	**324**	⇓P	**P**		**12 02 16.4 +1.3**
UMR	**Umm Al-Rimmam**	**77.62**	**299**	*e*P	**P**		**12 02 16.1 +0.3**
UMR				AMb	AMB		12 02 16.9
	comp=Z,42nm,0.5s						
MIB	**Mutribah**	**77.67**	**300**	*e*P	**P**		**12 02 16.1 +0.1**
MIB				AMb	AMB		12 02 17.3
	comp=Z,43nm,0.6s,mb5.3						
BRTR	**Keskin Array B**	**78.06**	**315**	P	**P**		**12 02 18.1 -0.1**
	comp=Z,2.0nm,0.8s,mb3.9,baz=89,slow=4.2,SNR=10.0						
BRTR	**Keskin Array B**	**78.06**	**315**	P	**P**		**12 02 18.1 -0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
QRN	**Al-Qurain**	**78.06**	**299**	*e*P	**P**		**12 02 18.4 +0.2**
QRN				AMb	AMB		12 02 19.5
	comp=Z,42nm,0.5s						
NAY	**Al-Naaiem**	**78.12**	**299**	*e*P	**P**		**12 02 18.6 +0.1**
NAY				AMb	AMB		12 02 20.7
	comp=Z,17nm,1.1s,mb4.7						
RDF	**Al-Radifah**	**78.16**	**299**	*e*P	**P**		**12 02 18.9 +0.2**
RDF				AMb	AMB		12 02 20.2
	comp=Z,56nm,0.7s						
KHC	**Kasperske Hory**	**78.69**	**333**	*e*P	**P**		**12 02 21.7 +0.1**
BZS	**Buzias**	**78.77**	**326**	⇑P	**P**		**12 02 21.5 -0.6**
GERES	**GERESS Array B**	**78.89**	**332**	P	**P**		**12 02 21.9 -0.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=40,slow=5.9,SNR=14						
GERES	**GERESS Array B**	**78.89**	**332**	P	**P**		**12 02 21.9 -0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GIVF	**Givet**	**80.39**	**338**	*e*P	**P**		**12 02 29.8 -1.1**
BAIF	**Baives**	**80.59**	**339**	*e*P	**P**		**12 02 31.3 -0.7**
CDF	**Champ du Feu**	**81.26**	**336**	*e*P	**P**		**12 02 35.0 -0.5**
	comp=Z,8.4nm,0.9s,mb4.3						
MEZF	**Maizieres J'vi**	**81.80**	**337**	*e*P	**P**		**12 02 38.1 -0.2**
	comp=Z,11nm,0.8s,mb4.5						
HAU	**Haudompre**	**81.89**	**336**	*e*P	**P**		**12 02 38.8 0.0**
HINF	**Hinteralfeld**	**81.92**	**336**	*e*P	**P**		**12 02 38.3 -0.7**
	comp=Z,2.2nm,0.6s,mb3.9						
FLN	**La Foiniere**	**82.95**	**341**	⇑*i*P	**P**		**12 02 43.9 -0.4**
	comp=Z,5.3nm,0.5s,mb4.3						
LDF	**La Druitiere**	**83.02**	**341**	*e*P	**P**		**12 02 44.1 -0.6**
CABF	**La Chapelle**	**83.23**	**336**	*e*P	**P**		**12 02 45.6 -0.2**
LOR	**Lormes**	**83.25**	**338**	*e*P	**P**		**12 02 45.4 -0.5**
	comp=Z,9.6nm,0.7s,mb4.5						
GRR	**Gorron**	**83.39**	**341**	*e*P	**P**		**12 02 46.4 -0.2**
	comp=Z,21nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**83.53**	**338**	⇑*i*P	**P**		**12 02 46.9 -0.5**
	comp=Z,18nm,1.1s,mb4.5						
HYF	**Humbligny**	**83.57**	**338**	*e*P	**P**		**12 02 47.7 +0.1**
AVF	**Avril sur Loir**	**83.82**	**338**	⇑*i*P	**P**		**12 02 48.6 -0.3**
	comp=Z,5.8nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**83.83**	**337**	⇑*i*P	**P**		**12 02 48.6 -0.3**
	comp=Z,9.4nm,0.7s,mb4.4						
SGMF	**Saint Gilles**	**83.89**	**342**	⇑*i*P	**P**		**12 02 49.1 -0.1**
	comp=Z,12nm,0.7s,mb4.6						
ROSF	**Rostrenen**	**83.97**	**343**	*e*P	**P**		**12 02 49.5 -0.1**
	comp=Z,18nm,0.8s,mb4.7						
LPL	**La Plagne**	**84.03**	**335**	*e*P	**P**		**12 02 50.3 +0.4**
LPG	**La Plagne**	**84.05**	**335**	*e*P	**P**		**12 02 50.5 +0.5**
BGF	**Bois d'Agland**	**84.17**	**338**	⇑*i*P	**P**		**12 02 51.1 +0.5**
	comp=Z,5.5nm,0.6s,mb4.3						
QUIF	**Quistinic**	**84.34**	**342**	*e*P	**P**		**12 02 51.3 -0.2**
TCF	**Toulx Ste Croi**	**84.59**	**338**	⇑*i*P	**P**		**12 02 52.8 +0.1**
	comp=Z,6.7nm,0.8s,mb4.3						
MBDF	**Montbardon**	**84.74**	**335**	*e*P	**P**		**12 02 53.2 -0.3**
	comp=Z,7.7nm,0.7s,mb4.4						
ORIF	**Oris-en-Rattie**	**84.83**	**335**	*e*P	**P**		**12 02 54.3 +0.4**
	comp=Z,8.1nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**84.89**	**340**	⇑*i*P	**P**		**12 02 54.4 +0.1**
	comp=Z,15nm,0.7s,mb4.7						
VIVF	**Saint-Julien-l**	**85.24**	**336**	*e*P	**P**		**12 02 56.1 +0.1**
	comp=Z,6.4nm,0.8s,mb4.3						
RJF	**Les Rejaudoux**	**85.69**	**338**	*e*P	**P**		**12 02 58.5 +0.3**
	comp=Z,16nm,1.0s,mb4.6						
CAF	**Calviac**	**85.89**	**338**	⇑*i*P	**P**		**12 03 00.0 +0.8**
	comp=Z,8.7nm,0.7s,mb4.5						
LASF	**Ste Croix**	**86.18**	**336**	*e*P	**P**		**12 03 01.2 +0.5**
LFF	**La Frestale**	**86.22**	**339**	⇑*i*P	**P**		**12 03 01.4 +0.5**
	comp=Z,12nm,0.6s,mb4.7						
MTLF	**Montolieu**	**87.32**	**337**	*e*P	**P**		**12 03 07.0 +0.8**
	comp=Z,9.3nm,1.0s,mb4.4						
TAU	**Tasmania Unive**	**87.78**	**182**	P	**P**		**12 03 11.0 +2.6**
TAU				pmax	pmax		
	comp=Z,79nm,1.3s						
TAU	**Tasmania Unive**	**87.78**	**182**	P	**P**		**12 03 10.9 +2.5**
	comp=Z,79nm,1.3s						
SJPF	**Ste Jean**	**88.43**	**339**	*e*P	**P**		**12 03 12.5 +1.0**
ETSF	**Etsaut**	**88.47**	**339**	⇑*i*P	**P**		**12 03 12.9 +1.2**
	comp=Z,5.4nm,0.8s,mb4.4						
BDFB	**Brasilia**	**146.78**	**33**	PKPbc	PKPbc		12 10 02.1 +1.0
	comp=Z,3.6nm,0.5s,baz=283,slow=2.9,SNR=7.9						
BDFB	**Brasilia**	**146.78**	**33**	PKP2	PKPab		12 10 02.1 -0.4
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PLCA	**Paso Flores**	**150.11**	**96**	PKPbc	PKPbc		12 10 10.9 +1.1
	comp=Z,4.6nm,0.8s,baz=281,slow=1.8,SNR=11						
PLCA	**Paso Flores**	**150.11**	**96**	PKIKP	PKPdf		12 10 11.0 +6.3
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SNAA	**Sanae**	**150.50**	**197**	PKPbc	PKPbc		12 10 10.7 0.0
	comp=Z,1.3nm,0.7s,baz=309,slow=17,SNR=7.0						
SNAA	**Sanae**	**150.50**	**197**	PKIKP	PKPdf		12 10 10.7 +5.4
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNA2	**Neumayer--Watz**	**151.99**	**196**	*e*PKPdf	PKPdf		12 10 14.5 +6.9
	baz=124,slow=1.3						
VNA2				*e*			12 10 20.2
VNA2				*e*			12 10 29.9
VNA2				*e*			12 10 38.0
VNA2				*e*			12 13 23.9
VNA3	**Neumayer Olymp**	**152.13**	**194**	*e*PKPdf	PKPdf		12 10 14.3 +6.5
VNA3				*e*			12 10 20.4
VNA3				*e*			12 10 30.4
VNA3				*e*			12 10 38.2
VNA3				*e*			12 13 24.2

NEIC ***12*** *12:11:22.6, 1593N×9749W, h25km, MD3.7(MEX), After MEX.*

MEX 12 12:11:22.6±1.2, 1593N×9749W, h25km±54km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.77**	**307**	*e*P	Pb	12 11 34.8	-2.5
PNIG				*i* S	Sb	12 11 44.0	-3.3
HUIG	**Huatulco**	**1.34**	**97**	*i* P	Pn	12 11 44.8	-0.9
HUIG				*i* S	Sn	12 11 59.0	-3.7
VHO	**Vista Hermosa**	**1.35**	**32**	*i* P	Pn	12 11 43.1	-2.7
VHO				*i* S	Sn	12 11 58.5	-4.4
OXX	**Oaxaca**	**1.36**	**33**	*i* P	Pn	12 11 43.7	-2.3
OXX				*i* S	Sn	12 11 59.5	-3.7
UTMO	**Huajuapan**	**1.91**	**351**	*i* P	Pn	12 11 52.6	-0.9
UTMO				*i* S	Sn	12 12 16.1	-0.8
MEIG	**Mezcala**	**2.84**	**315**	*i* P	Pn	12 12 05.2	-1.2
MEIG				*i* S	Sn	12 12 35.4	-4.5
CAIG	**El Cayaco**	**2.89**	**293**	*i* P	Pn	12 12 02.3	-4.7
CAIG				*i* S	Sn	12 12 37.7	-3.1

ISCJB ***12*** *12:14:10.5±0.5, 2219S±004×6591W±007, h268km±7km, mb3.7/7, Error ellipse: s-maj=10.7km s-min=6.7km az=32.2*

IDC ***12*** *12:14:10.9±1.0, 2208S×6583W, h251km±11km, mb3.4/5, mb1 3.5/11, mb1mx3.5/20, mbtmp4.0/11, Error ellipse: s-maj=16.1km s-min=12.4km az=112.0*

NEIC ***12*** *12:14:11.7±0.6, 2211S×6588W, h259km±6km, mb3.9/4, Error ellipse: s-maj=9.8km s-min=8.0km az=85.0*

GUC ***12*** *12:14:12.6±0.8, 2252S×6619W, h275km±20km, ML4.2*

ISC 12 12:14:11.7±0.6, 2213S±005×6591W±007, h258km±7km, n30,σ1°14/39, mb3.7/7, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.82**	**260**	P	**Pn**	**12 15 04.5**	**+1.8**
	16nm,0.3s,baz=78,slow=7.5,SNR=187						
LVC				S	**S**	**12 15 43.1**	**0.0**
	14nm,0.3s,baz=260,slow=21,SNR=39						
LVC	**Limon Verde**	**2.82**	**260**	⇑*i*P	**Pn**	**12 15 04.5**	**+1.7**
LVC				*i* S	**S**	**12 15 44.1**	**+0.9**
LVC				AMP		12 15 45.5	
	comp=E,328nm,0.6s						
LVC	**Limon Verde**	**2.82**	**260**	⇑*i*Pn	**Pn**	**12 15 04.3**	**+1.6**
LVC				S	**S**	**12 15 43.1**	**0.0**
LVC				*e*S	**S**	**12 15 43.2**	**0.0**
CEN1	**Los Morros**	**4.15**	**252**	*e*P	**Pn**	**12 15 20.7**	**+3.1**
CEN1				*i* S	**S**	**12 16 11.6**	**+1.5**
ANCH	**Antofagasta**	**4.43**	**249**	⇑*i*P	**Pn**	**12 15 19.5**	**-1.3**
ANCH				*i* S	**S**	**12 16 11.8**	**-4.2**
CPN1	**Cerro Paranal**	**4.82**	**238**	*e*P	**Pn**	**12 15 26.7**	**+1.2**
CPN1				*i* S	**S**	**12 16 22.9**	**-1.5**
CRCH	**Chaqaral**	**6.01**	**225**	⇓*i*P	**Pn**	**12 15 40.1**	**+0.1**
CRCH				*i* S	**S**	**12 16 47.2**	**-3.7**
LPAZ	**La Paz**	**6.17**	**340**	P	**Pn**	**12 15 43.4**	**+1.3**
	comp=E,1.7nm,0.3s,baz=151,slow=7.5,SNR=24						
LPAZ				S	**S**	**12 16 53.1**	**-1.5**
	comp=E,1.3nm,0.3s,baz=315,slow=17,SNR=14						
CDCH	**Caldera**	**6.65**	**221**	*i* S	**S**	**12 17 00.9**	**-4.6**
SIV	**San Ignacio**	**7.63**	**38**	P	**Pn**	**12 16 00.2**	**-0.1**
	comp=E,2.5nm,0.3s,baz=229,slow=11,SNR=84						
ARE	**Arequipa**	**7.71**	**316**	*e*P	**Pn**	**12 16 00.0**	**-1.3**
ARE				*i* S	**S**	**12 17 22.3**	**-7.4**
CPUP	**Villa Florida**	**8.88**	**120**	*e*P	**Pn**	**12 16 15.9**	**-0.1**
CFAA	**Coronel Fontan**	**9.66**	**192**	P	**Pn**	**12 16 25.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=30,slow=13,SNR=46						
CFAA				S	**S**	**12 18 08.0**	**-6.8**
	comp=E,0.3nm,0.3s,baz=170,slow=17,SNR=4.1						
CFAA	**Coronel Fontan**	**9.66**	**192**	P	**Pn**	**12 16 25.2**	**-0.7**
CFAA				S	**S**	**12 18 08.0**	**-6.8**
SAML	**Samuel**	**13.36**	**12**	*e*P	**Pn**	**12 17 12.4**	**+0.7**
BDFB	**Brasilia**	**18.11**	**72**	P	**P**	**12 18 05.0**	**+0.1**
	comp=E,0.5nm,0.3s,baz=260,slow=14,SNR=7.9						
PLCA	**Paso Flores**	**18.96**	**191**	P	**P**	**12 18 15.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=33,slow=14,SNR=6.1						
PLCA	**Paso Flores**	**18.96**	**191**	*e*P	**P**	**12 18 15.0**	**+1.0**
	comp=E,4.6nm,1.1s						
SDV	**Santo Domingo**	**31.17**	**351**	*e*P	**P**	**12 20 06.9**	**+0.3**
	comp=E,1.3nm,0.4s,mb3.8						
MNTX	**Cornudas Mount**	**65.52**	**323**	*e*P	**P**	**12 24

SPN Mys Shipunski 1.43 188 *i* P **Pn 13 07 25.2 -0.9**
SPN *e*S **Sn 13 07 44.7 -2.1**
KPT Kopyto 1.46 357 *i* P **Pn 13 07 27.5 +1.0**
KPT *e*S **Sn 13 07 49.1 +1.6**
NLC Nalytchevo 1.46 204 P **Pn 13 07 26.8 +0.3**
NLC S **Sn 13 07 46.9 -0.6**
NLC Nalytchevo 1.46 204 *i* P **Pn 13 07 26.7 +0.2**
NLC *e*S **Sn 13 07 46.8 -0.7**
SMAR Somma 1.54 217 *i* P **Pn 13 07 28.5 +1.1**
SMAR *e*S **Sn 13 07 50.6 +1.5**
AVH Avacha 1.56 218 *i* P **Pn 13 07 29.0 +1.4**
AVH *e*S **Sn 13 07 52.1 +2.6**
KOZ Kozyrevsk 1.57 350 *i* P **Pn 13 07 29.2 +1.4**
KOZ *e*S **Sn 13 07 52.4 +2.7**
KOZR Kozyr 1.58 351 PN **Pn 13 07 29.2 +1.4**
KOZR S **Sn 13 07 52.4 +2.5**
KOK Koryaka 1.58 220 *e*P **Pn 13 07 29.1 +1.3**
KOK *e*S **Sn 13 07 52.3 +2.4**
UGLR Uglovaya 1.58 215 *i* P **Pn 13 07 29.0 +1.2**
UGLR *e*S **Sn 13 07 51.4 +1.5**
CIRR Tsirk 1.63 8 *i* P **Pn 13 07 30.1 +1.7**
CIRR *e*S **Sn 13 07 52.4 +1.6**
GNL Ganaly 1.63 241 *i* P **Pn 13 07 30.1 +1.7**
GNL *e*S **Sn 13 07 54.0 +3.1**
ESO Esso 1.70 327 *i* P **Pn 13 07 30.7 +1.5**
ESO *i* S **Sn 13 07 55.2 +2.9**
ESO Smax
2μm,1.7s
PET Petropavlovsk 1.79 215 P **Pn 13 07 31.0 +0.7**
PET S **Sn 13 07 54.9 +0.6**
PET Petropavlovsk 1.79 215 *e*P **Pn 13 07 31.0 +0.7**
PET *e*S **Sn 13 07 54.8 +0.5**
PET Petropavlovsk 1.79 215 *e*P **Pn 13 07 30.7 +0.4**
PET *e*S **Sn 13 07 55.7 +1.4**
KLY Klyuchi 1.82 6 *i* P **Pn 13 07 31.9 +1.3**
KLY *e*S **Sn 13 07 57.2 +2.4**
SRDR Sredinnyy 1.85 349 *i* P **Pn 13 07 32.0 +1.1**
SRDR *e*S **Sn 13 07 57.6 +2.2**
BDR Baidarnaya 2.12 13 *e*P **Pn 13 07 35.5 +1.2**
BDR *e*S **Sn 13 08 02.6 +1.2**
KRMR Karymshinskiy 2.13 219 *i* P **Pn 13 07 35.2 +0.8**
KRMR *e*S **Sn 13 08 01.9 +0.2**
SRKR Sorokina 2.20 12 *e*P **Pn 13 07 36.4 +1.1**
SRKR *e*S **Sn 13 08 04.2 +1.0**
KBG Krutoberegovo 2.21 37 *i* P **Pn 13 07 36.2 +0.8**
KBG *e*S **Sn 13 08 02.7 -0.7**
KBG Smax
3μm,0.5s
KBTR Krutoberegovo 2.21 39 *e*P **Pn 13 07 35.5 +0.1**
KBTR *e*S **Sn 13 08 01.8 -1.7**
RUS Russkaya 2.35 208 P **Pn 13 07 37.2 +0.1**
RUS S **Sn 13 08 05.3 -1.2**
RUS Russkaya 2.35 208 *i* P **Pn 13 07 37.2 +0.1**
RUS *i* S **Sn 13 08 05.2 -1.3**
GRL Gorelyy 2.38 215 *e*P **Pn 13 07 38.7 +1.2**
GRL *e*S **Sn 13 08 09.2 +2.0**
APC Apacha 2.47 231 *i* P **Pn 13 07 38.9 +0.3**
APC *e*S **Sn 13 08 12.3 +3.2**
MIPR Malaya Ipel'ka 3.10 225 *i* P **Pn 13 07 48.1 +1.4**
BKI Bering 3.33 76 *e*P **Pn 13 07 47.6 -2.2**
BKI *e*S **Sn 13 08 23.0 -6.1**
BKI Smax
3μm,0.2s
PAU Pauzhetka 3.72 216 *e*P **Pn 13 07 57.4 +2.5**
PAU Smax
600nm,0.8s
ALID Alaid 4.67 221 *e*P **Pn 13 08 07.8 +0.3**
ALID *e*S **Sn 13 08 57.5 -3.3**
OSSR Ossora 4.98 16 *e*P **Pn 13 08 10.5 -1.2**
OSSR *e*S **Sn 13 09 05.5 -2.9**
MA2 Magadan 7.28 318 *e*PN **Pn 13 08 43.8 +1.2**
MA2 pmax pmax
comp=Z,70nm,0.8s
MA2 pmax pmax
comp=E,20nm,0.6s
MA2 pmax pmax
comp=N,20nm,0.7s
MA2 Magadan 7.28 318 *e*Pn **Pn 13 08 43.8 +1.1**
comp=N,87nm,0.7s
FX1 Attu Island--F 7.79 97 P **Pn 13 08 47.8 -1.7**
comp=N,28nm,0.3s,baz=322,slow=4.2,SNR=30
FX1 S **Sn 13 10 09.5 -6.5**
comp=N,59nm,0.3s,baz=346,slow=22,SNR=12
KAMR Kamenskoye 8.54 19 *e*P **Pn 13 09 01.0 +1.4**
SEY Seymchan 9.40 337 *e*PN **Pn 13 09 13.5 +2.3**
SEY pmax pmax
comp=E,10.0nm,0.9s
SEY pmax pmax
comp=Z,16nm,0.9s
SEY pmax pmax
comp=N,20nm,1.0s
YSS Yuzh-Sakhalins 13.44 243⇓ *e*PN **Pn 13 10 10.9 +6.5**
YSS Yuzh-Sakhalins 13.44 243 *e*Pn **Pn 13 10 06.5 +2.1**
comp=N,9.8nm,0.8s
YSS *e* 13 10 09.8
BILL Bilibino 13.86 9 *e*P **Pn 13 10 10.6 +0.7**
BILL pmax pmax
comp=Z,22nm,0.8s
BILL Bilibino 13.86 9 *e*P **Pn 13 10 10.6 +0.8**
comp=Z,22nm,0.8s
ASAJ Asahikawa 15.51 235 P **Pn 13 10 31.9 +1.3**
comp=Z,1.9nm,0.3s,baz=50,slow=6.9,SNR=19
ASAJ Asahikawa 15.51 235 P **Pn 13 10 31.9 +1.3**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
HABR Khabarovsk 16.81 259⇑ *i*P **Pn 13 10 48.9 +2.3**
YAK Yakutsk 17.65 308 *e*P **Pn 13 10 54.5 -2.2**
YAK *e*S **S 13 14 10.1 -2.3**
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,12nm,0.7s
YAK smax
comp=N,3.0nm,0.8s
YAK smax
comp=E,4.0nm,1.0s
YAK Yakutsk 17.65 308 *e*P **Pn 13 10 54.5 -2.2**
comp=E,104nm,0.7s
KLR Kul'dur 18.35 265 *e*P **P 13 11 00.0 -3.5**
TNA Tin City 19.08 42 *e*P **P 13 11 12.2 +0.8**
comp=E,21nm,0.8s
CLNS Chul'man 19.99 291 *e*P **P 13 11 21.4 +0.2**
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,27nm,0.7s
CLNS pmax pmax
comp=Z,27nm,0.7s
TIXI Tiksi 21.86 334 *e*P **P 13 11 39.7 -1.5**
TIXI pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
MDJ Mudanjiang 22.09 256 P **P 13 11 42.5 -1.2**
MDJ AP 13 12 05.1
MDJ XP sP 13 12 20.2 -3.2
MDJ PCP PcP 13 15 36.1 0.0
MDJ S **S 13 15 38.0 -0.4**
MDJ PCS PcS 13 19 15.3 +0.5
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,125nm,5.6s
MDJ LR LR
comp=N,33nm,22.8s
MDJ LR LR
comp=E,95nm,22.8s
MDJ LR LR
comp=Z,24nm,28.7s
MDJ Mudanjiang 22.09 256 *e*P **P 13 11 41.8 -1.9**
comp=Z,5.6nm,0.7s,mb4.1
MAJO Matsushiro 23.56 229 *e*P **P 13 11 57.8 +0.2**
MAJO pmax pmax
comp=Z,20nm,0.5s,mb4.9
MAJO Matsushiro 23.56 229 *e*P **P 13 11 57.8 +0.2**
comp=Z,20nm,0.5s,mb4.9
MAT Matsushiro 23.56 229 P **P 13 11 57.9 +0.3**
MAT Matsushiro 23.56 229 *e*P **P 13 11 58.0 +0.4**
MAT pmax pmax
comp=Z,17nm,0.5s,mb4.8
MAT Matsushiro 23.56 229 *e*P **P 13 11 58.0 +0.4**
comp=Z,17nm,0.5s,mb4.8
MJAR Matsushiro Arr 23.56 229 P **P 13 11 57.8 +0.2**
comp=Z,7.7nm,0.5s,mb4.5,baz=24,slow=8.8,SNR=49

TTA Tatalina 23.74 52 *e*P **P 13 11 59.5 +0.3**
TTA pmax pmax
comp=Z,75nm,1.1s,mb5.1
TTA Tatalina 23.74 52 *e*P **P 13 11 59.5 +0.3**
comp=Z,75nm,1.1s,mb5.1
IMA2 Indian Mountai 24.90 44 *e*P **P 13 12 09.4 -0.4**
IMA2 *e*pP 13 12 36.0
IMA2 *e*sP sP 13 12 51.4 -0.6
CN2 Changchun 24.95 259 *e*P **P 13 12 08.1 -2.2**
CN2 *e*S **S 13 16 18.7 -5.6**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
CN2 AMB AMB
comp=Z,200nm,4.0s
HIA Hailar 25.33 275 *e*P **P 13 12 11.5 -2.2**
HIA pmax pmax
comp=Z,7.0nm,0.7s
HIA Hailar 25.33 275 *e*P **P 13 12 11.4 -2.2**
comp=Z,6.7nm,0.7s,mb4.3
BOD Bodaibo 25.61 296 *e*P **P 13 12 12.0 -4.3**
BOD *e* pP 13 12 42.8 -0.8
BOD pmax pmax
comp=Z,3.0nm,1.2s,mb3.8
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
KDAK Kodiak Island 26.01 63 P **P 13 12 18.8 -1.1**
comp=Z,12nm,0.8s,mb4.6,baz=357,slow=9.4,SNR=14
COLA College 27.31 47 *e*P **P 13 12 31.1 -0.4**
COLA pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
COLA College 27.31 47 *e*P **P 13 12 31.1 -0.4**
comp=Z,5.8nm,0.5s,mb4.5
ILAR Eielson Array 27.73 47 P **P 13 12 35.0 -0.2**
comp=Z,12nm,0.7s,mb4.7,baz=270,slow=10.0,SNR=284
INK Inuvik 32.67 39 P **P 13 13 18.4 -0.3**
comp=Z,1.4nm,0.3s,mb4.2,baz=272,slow=6.8,SNR=49
SONM Songino Array 33.74 281 P **P 13 13 26.3 -1.7**
comp=Z,0.6nm,0.5s,mb3.6,baz=57,slow=8.6,SNR=3.2
SONM PcP PcP 13 16 04.1 -0.5
comp=Z,2.4nm,0.7s,baz=40,slow=1.6,SNR=10
SONM ScP ScP 13 19 37.8 +0.5
comp=Z,2.4nm,0.8s,baz=57,slow=1.8,SNR=9.4
SONM Songino Array 33.74 281 P **P 13 13 26.3 -1.7**
SONM 13 16 04.1
HHC Hu-ho-hao-te 34.83 267 *e*P **P 13 13 37.7 +0.3**
HHC AP pP 13 14 03.7 -1.9
HHC PCP PcP 13 16 12.0 +4.3
HHC S **S 13 18 59.8 +1.1**
HHC SCP ScP 13 19 43.0 +1.8
HHC XS sS 13 19 44.2 -3.6
HHC SS SS 13 21 16.5 -19
HHC SCS ScS 13 23 45.1 +0.2
HHC AMB AMB
comp=Z,6.0nm,1.1s,mb4.1
HHC AMB AMB
comp=Z,41nm,7.2s
HHC LR LR
comp=N,238nm,14.4s
HHC LR LR
comp=E,106nm,14.4s
HHC LR LR
comp=Z,192nm,12.0s
SSE Sheshan 36.35 246 *e*P **P 13 13 49.1 -1.3**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,115nm,4.2s
NJ2 Nanjing 36.87 250 *e*P **P 13 13 52.3 -2.5**
NJ2 AP pP 13 14 20.2 -3.0
NJ2 XP sP 13 14 34.8 -3.0
NJ2 PP PP 13 15 20.9 -0.4
NJ2 S **S 13 19 31.0 +1.2**
NJ2 XS sS 13 20 20.0 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
NJ2 AMB AMB
comp=Z,80nm,4.2s
NJ2 LR LR
comp=N,1μm,36.0s
NJ2 LR LR
comp=E,760nm,32.0s
NJ2 LR LR
comp=Z,770nm,36.0s
YKA Yellowknife Ar 42.03 44 P **P 13 14 37.7 +0.1**
comp=Z,5.9nm,0.6s,mb4.4,baz=299,slow=8.2,SNR=104
YKA pP pP 13 15 04.9 -1.6
comp=Z,1.2nm,0.7s,baz=299,slow=8.0,SNR=2.5
YKA PcP PcP 13 16 29.9 -0.3
comp=Z,0.6nm,0.5s,baz=307,slow=3.5,SNR=6.5
YKA ScP ScP 13 20 07.8 -0.8
comp=Z,0.3nm,0.6s,baz=303,slow=3.7,SNR=6.3
YKA Yellowknife Ar 42.03 44 P **P 13 14 37.7 +0.1**
YKA *PP pP 13 15 04.9 -1.6
YKA 13 16 29.9
YKA Yellowknife Ar 42.03 44 P **P 13 14 37.7 +0.1**
YKA pP pP 13 15 04.9 -1.6
YKA PcP PcP 13 16 29.9 -0.3
YKA ScP ScP 13 20 07.8 -0.8
NVS Novosibirsk 42.44 303 *e*P **P 13 14 37.2 -3.8**
NVS *e* pP 13 15 09.8 -0.1
GTA Gaotai 42.61 275 *e*P **P 13 14 41.1 -1.2**
GTA AP pP 13 15 10.0 -1.3
GTA XP sP 13 15 23.5 -2.3
GTA PP PP 13 16 24.5 +0.9
GTA PCP PcP 13 16 32.4 +0.3
GTA PPP 13 16 59.8
GTA S **S 13 20 52.5 -3.0**
GTA XS sS 13 21 42.7 -3.0
GTA SS SS 13 23 58.8 -12
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.2
GTA AMB AMB
comp=Z,75nm,6.1s
GTA LR LR
comp=N,83nm,14.8s
GTA LR LR
comp=E,92nm,12.9s
GTA LR LR
comp=Z,98nm,12.9s
CD2 Chengdu 46.27 263 *e*P **P 13 15 11.2 -0.2**
CD2 AP pP 13 15 39.9 -0.8
CD2 XP sP 13 15 54.4 -0.7
CD2 PP PP 13 17 01.3 -0.8
CD2 S **S 13 21 46.4 -2.0**
CD2 XS sS 13 22 36.8 -2.4
CD2 SS SS 13 25 06.6 -8.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,60nm,4.9s
CD2 LR LR
comp=E,80nm,9.6s
CD2 LR LR
comp=Z,80nm,6.0s
WMQ Urumqi 46.65 288 P **P 13 15 13.0 -1.4**
WMQ AP pP 13 15 42.0 -1.8
WMQ XP sP 13 15 56.0 -2.2
WMQ PP PP 13 17 04.0 -1.6
WMQ S **S 13 21 51.0 -2.9**
WMQ SCS ScS 13 24 52.0 -3.9
WMQ SS SS 13 25 12.0 -10
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,121nm,5.0s
WMQ LR LR
comp=N,67nm,8.0s
WMQ LR LR
comp=E,59nm,8.0s
WMQ LR LR
comp=Z,47nm,8.0s
KURK Kurchatov 47.12 301⇑ *i*P **P 13 15 14.8 -3.2**
KURK *e*PP pP 13 15 47.0 -0.5
KURK *i* 13 16 46.5
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
KURK Kurchatov 47.12 301⇑ *i*P **P 13 15 14.8 -3.2**
comp=Z,4.5nm,0.6s,mb4.3
KURK *e*pP pP 13 15 47.0 -0.5
KURK *i* PcP PcP 13 16 46.5 -1.3
MKAR Makanchi Array 47.68 295 P **P 13 15 19.1 -3.2**
comp=Z,2.3nm,0.6s,mb4.0,baz=56,slow=6.5,SNR=51
MKAR PcP PcP 13 16 47.4 -2.3
comp=Z,1.0nm,0.6s,baz=63,slow=5.4,SNR=4.4
MKAR ScP ScP 13 20 31.3 -0.6
comp=Z,0.2nm,0.7s,baz=44,slow=4.6,SNR=4.0
MKAR Makanchi Array 47.68 295 P **P 13 15 19.1 -3.2**
MKAR 13 16 47.4
HAWA Hanford 49.04 65 *e*P **P 13 15 32.6 -0.2**
comp=Z,0.2nm,0.5s
HAWA *e*pP pP 13 16 01.5 -0.9
BVAR Borovoye Array 49.63 308 P **P 13 15 34.6 -2.6**
comp=Z,2.9nm,0.4s,mb4.3,baz=59,slow=7.6,SNR=31
BVAR PcP PcP 13 16 55.8 -1.0
comp=Z,5.9nm,0.4s,baz=79,slow=2.6,SNR=22
BVAR ScP ScP 13 20 39.1 -1.1
comp=Z,1.3nm,0.7s,baz=63,slow=3.3,SNR=8.3
BVAR Borovoye Array 49.63 308 P **P 13 15 34.6 -2.6**
BVAR 13 16 55.8
BRVK Borovoye 49.66 308 *e*P **P 13 15 34.5 -2.9**
BRVK *e*PP pP 13 16 07.7 +0.5
BRVK *e*SP sP 13 16 22.4 +0.9
BRVK *e* 13 16 55.7
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BRVK Borovoye 49.66 308 *e*P **P 13 15 34.5 -3.0**
comp=Z,2.3nm,0.6s,mb4.0
BRVK *e*pP pP 13 16 07.7 +0.6
BRVK *e*sP sP 13 16 22.4 +0.9
BRVK *e*PcP PcP 13 16 55.7 -1.2
HUMO Hull Mountain 49.69 70 *e*P **P 13 15 38.6 +0.9**
comp=Z,3.5nm,0.8s,mb4.0
KMI Kunming 51.22 259 P **P 13 15 49.4 +0.2**
KMI AMB AMB
comp=Z,4.0nm,1.2s,mb3.9
MOD Modoc 51.62 69 *e*P **P 13 15 53.2 +1.0**
comp=Z,6.6nm,0.6s,mb4.4
MOD *e*pP pP 13 16 21.7 -0.4
ARCES ARCESS Array B 51.99 342 P **P 13 15 52.8 -2.1**
comp=Z,3.6nm,0.8s,mb4.1,baz=36,slow=7.4,SNR=14
ARCES PcP PcP 13 17 04.0 -1.6
comp=Z,2.4nm,0.7s,baz=22,slow=4.4,SNR=10
ARU Arti 52.46 317⇑ *i*P **P 13 15 56.0 -2.4**
ARU *e* pP 13 16 29.7 +1.3
ARU *e* 13 17 04.7
ARU *e* 13 17 54.2
ARU *e*PPP 13 19 06.5
ARU *e*S **S 13 23 12.8 -1.9**
ARU *e*SS SS 13 26 56.0 +1.7
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ARU Arti 52.46 317⇑ *e*P **P 13 15 55.8 -2.5**
comp=Z,7.4nm,0.5s,mb4.6
ARU *i* PcP PcP 13 17 06.0 -1.2
ARU *e*pPcP 13 17 27.1
SUMG Summit 52.53 7⇑ *e*P **P 13 15 58.7 -0.3**
comp=Z,26nm,0.6s,mb5.1
OHCM Honcut 52.74 73 *e*P **P 13 16 00.4 0.0**
HRY Holter Researc 52.80 60 *e*P **P 13 16 01.4 +0.6**
HRY *e*pP pP 13 16 30.7 -0.2
HRY *e*sP sP 13 16 45.1 -0.1
MCMT McKenzie Canyo 53.57 62 *e*P **P 13 16 06.6 +0.1**
MCMT *e*pP pP 13 16 35.9 -0.8
MCMT *e*PcP PcP 13 17 12.4 +0.9
QLMT Earthquake Lak 54.30 61 *e*P **P 13 16 12.2 +0.4**
LSA Lhasa 54.50 273 *e*P **P 13 16 12.6 -0.6**
LSA *e*PP pP 13 16 44.8 +1.3
LSA *e* 13 17 16.3
LSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
LSA Lhasa 54.50 273 *e*P **P 13 16 12.6 -0.7**
comp=Z,4.0nm,0.9s,mb4.2
LSA *e*pP pP 13 16 44.8 +1.3
LSA *e*PcP PcP 13 17 16.3 +1.3
LKWY Lake 55.01 61 *e*P **P 13 16 19.3 +2.4**
LKWY *e*PP pP 13 16 48.4 +1.2
LKWY pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
LKWY Lake 55.01 61 *e*P **P 13 16 19.3 +2.4**
comp=Z,5.8nm,0.9s,mb4.3
LKWY *e*pP pP 13 16 48.4 +1.2
NVAR Mina Array Bea 55.13 71 P **P 13 16 19.6 +1.8**
comp=Z,7.3nm,0.8s,mb4.5,baz=290,slow=8.1,SNR=64
NVAR pP pP 13 16 48.6 +0.5
comp=Z,4.9nm,0.8s,baz=289,slow=9.2,SNR=8.2
ELK Elko 55.16 67 *e*P **P 13 16 19.5 +1.5**
ELK *e*PP pP 13 16 48.6 +0.3
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 55.16 67 *e*P **P 13 16 19.5 +1.5**
comp=Z,6.2nm,1.0s,mb4.3
ELK *e*pP pP 13 16 48.6 +0.3
JOF Joensuu 56.34 335 *e*p **P 13 16 25.7 -0.8**
comp=Z,3.0nm,0.4s,mb4.5
JOF Joensuu 56.34 335 *e*P **P 13 16 25.7 -0.8**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
HWUT Hardware Ranch 56.50 64 *e*P **P 13 16 28.9 +1.3**
comp=Z,11nm,0.6s,mb4.8
HWUT *e*pP pP 13 16 58.6 +0.6
HWUT *e*sP sP 13 17 11.9 -0.2
PDAR Pinedale Array 56.72 62 P **P 13 16 30.2 +1.1**
comp=Z,7.4nm,0.8s,mb4.6,baz=327,slow=2.9,SNR=53
PDAR pP pP 13 16 59.3 -0.2
comp=Z,2.6nm,1.1s,baz=315,slow=6.3,SNR=3.3
DUG Dugway 56.85 66 *e*P **P 13 16 31.3 +1.2**
DUG *e*PP pP 13 16 59.7 -0.8
DUG *e*SP sP 13 17 11.0 -3.6
DUG pmax pmax
comp=Z,12nm,1.1s,mb4.6
DUG Dugway 56.85 66 *e*P **P 13 16 31.3 +1.3**
comp=Z,12nm,1.1s,mb4.7
DUG *e*pP pP 13 16 59.7 -0.8
DUG *e*sP sP 13 17 10.9 -3.7
ULM Lac du Bonnet 57.75 47 P **P 13 16 35.8 -0.5**
comp=Z,5.7nm,0.5s,mb4.7,baz=321,slow=6.5,SNR=16
KAF Kangasniemi 58.24 337 *e*p **P 13 16 38.0 -1.8**
comp=Z,3.2nm,0.3s,mb4.6,baz=30,slow=6.6
FINES FINESS Array B 58.88 336 P **P 13 16 42.5 -1.7**
comp=Z,3.6nm,0.3s,mb4.6,baz=34,slow=7.4,SNR=70
FINES PcP PcP 13 17 30.4 -1.7
comp=Z,1.4nm,0.4s,baz=0.0,slow=1.9,SNR=5.2
GUN Gumba 58.90 275 *e*P **P 13 16 42.3 -2.0**
KKN Kakani 59.34 276 *e*P **P 13 16 44.9 -2.4**
comp=Z,11nm,0.7s,mb4.8
KKN Kakani 59.34 276 *e*P **P 13 16 44.9 -2.4**
KKN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GKN Gorkha 59.55 276 *e*P **P 13 16 47.3 -1.5**
DMN Daman 59.58 276 *e*P **P 13 16 47.0 -2.0**
KOLN Koldanda 60.33 277 *e*P **P 13 16 51.8 -2.3**
comp=Z,5.0nm,0.6s,mb4.5
EYMN Ely 61.37 47 *e*P **P 13 17 00.7 -0.5**
comp=Z,6.3nm,0.6s,mb4.6
NB2 NORSAR Subarra 62.22 344 P **P 13 17 05.0 -1.9**
comp=Z,2.4nm,0.5s,mb4.3,baz=20,slow=6.9
NOA NORSAR Array B 62.22 344 P **P 13 17 05.2 -1.6**
comp=Z,2.4nm,0.4s,mb4.3,baz=21,slow=6.7,SNR=19
NOA PcP PcP 13 17 44.4 -1.3
comp=Z,2.2nm,0.8s,baz=21,slow=2.8,SNR=5.2
NOA NORSAR Array B 62.22 344 P **P 13 17 05.2 -1.6**
NOA PcP PcP 13 17 44.4 -1.3
ANMO Albuquerque 64.12 66 *e*P **P 13 17 20.7 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,0.5s
ANMO Albuquerque 64.12 66 *e*P **P 13 17 20.7 +1.3**
comp=Z,4.4nm,0.5s,mb4.5
SCHQ Schefferville 64.33 28 P **P 13 17 19.6 -1.2**
comp=Z,1.9nm,0.5s,mb4.2,baz=280,slow=6.2,SNR=8.9
MNTX Cornudas Mount 67.19 67 *e*P **P 13 17 40.0 +1.0**
comp=Z,2.4nm,0.4s,mb4.4
MNTX *e*pP pP 13 18 10.8 +0.3
AKASG Malin Array Be 67.47 329 P **P 13 17 38.6 -2.2**
comp=Z,2.3nm,0.3s,mb4.4,baz=28,slow=6.7,SNR=16
AKASG PcP PcP 13 18 05.6 -1.7
comp=Z,2.2nm,0.6s,baz=27,slow=4.7,SNR=4.1
AKASG Malin Array Be 67.47 329 P **P 13 17 38.6 -2.2**
AKASG PcP PcP 13 18 05.6 -1.8
WMOK Wichita Mounta 68.28 61 *e*P **P 13 17 46.0 +0.1**
WMOK *e*PP pP 13 18 16.5 -0.9
WMOK *e*SP sP 13 18 29.7 -1.5
WMOK pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
WMOK Wichita Mounta 68.28 61 *e*P **P 13 17 46.0 +0.1**
comp=Z,8.6nm,0.6s,mb4.7
WMOK *e*pP pP 13 18 16.5 -0.9
WMOK *e*sP sP 13 18 29.7 -1.6
CLL Collm 71.08 339⇓ *i*P **P 13 18 02.3 -0.8**

comp=Z,14nm,1.0s,mb4.7
CLL Collm 71.08 339⇓*e*P **P 13 18 02.0 -1.1**
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
CLL Collm 71.08 339⇓*e*P **P 13 18 02.0 -1.1**
comp=Z,14nm,1.0s,mb4.7
JCT Junction City 71.11 64 *e*P **P 13 18 03.7 +0.4**
JCT pmax pmax
comp=Z,14nm,1.0s,mb4.7
JCT Junction City 71.11 64 *e*P **P 13 18 03.6 +0.4**
comp=Z,14nm,1.0s,mb4.6
UPC Upice 71.17 337 *e*P **P 13 18 03.0 -0.6**
DPC Dobruska-Polom 71.25 337 *e*P **P 13 18 04.0 -0.1**
BRG Berggiesshubel 71.29 338 *e*P **P 13 18 03.5 -0.8**
comp=Z,3.8nm,1.1s,mb4.0
BURAR Bucovina Array 71.42 330 ⇓P **P 13 18 04.1 -1.0**
BURAR Bucovina Array 71.42 330 ⇓P **P 13 18 04.1 -1.0**
PSI Prapat 71.45 248 P **P 13 18 03.5 -1.8**
comp=Z,12nm,0.9s,mb4.6,baz=22,slow=3.8,SNR=5.6
PSI Prapat 71.45 248 P **P 13 18 03.5 -1.8**
PRU Pruhonice 71.99 338 *e*P **P 13 18 08.0 -0.6**
DLF Lyons Farm 72.01 352 *e*P **P 13 18 08.1 -0.6**
DCN Croghan 72.03 352 *e*P **P 13 18 08.2 -0.5**
NKC Novy Kostel 72.21 339 *e*P **P 13 18 09.2 -0.7**
CFR Carcaliu 72.71 327 ⇓P **P 13 18 11.4 -1.4**
CFR Carcaliu 72.71 327 ⇓P **P 13 18 11.4 -1.4**
GRA1 Grafenberg Arr 72.98 340 *e*P **P 13 18 14.5 +0.1**
comp=Z,16nm,1.0s,mb4.7
GRF Grafenberg Arr 72.98 340 *e*P **P 13 18 14.5 +0.1**
comp=Z,16nm,1.0s,mb4.7
GRF Grafenberg Arr 72.98 340 *e*P **P 13 18 14.5 +0.1**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.7
GRF Grafenberg Arr 72.98 340 *e*P **P 13 18 14.5 +0.1**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.7
KHC Kasperske Hory 73.01 338 *e*P **P 13 18 14.5 -0.1**
MEM Membach 73.07 343 ⇓P **P 13 18 14.5 -0.5**
MLR Muntele Rosu 73.12 328 ⇓P **P 13 18 14.5 -0.7**
MLR Muntele Rosu 73.12 328 ⇓P **P 13 18 14.5 -0.7**
HARR Harsova 73.21 327 ⇓P **P 13 18 14.8 -1.0**
HARR Harsova 73.21 327 ⇓P **P 13 18 14.8 -1.0**
GERES GERESS Array B 73.26 338 P **P 13 18 14.7 -1.3**
comp=Z,1.9nm,0.7s,mb3.9,baz=34,slow=4.8,SNR=13
TIRR Tirgusor 73.26 326 ⇑P **P 13 18 15.6 -0.5**
TIRR Tirgusor 73.26 326 ⇑P **P 13 18 15.6 -0.4**
SNF Seneffe 73.45 344 ⇑P **P 13 18 16.6 -0.6**
GIVF Givet 73.76 344 *e*P **P 13 18 18.0 -0.9**
comp=Z,12nm,0.7s,mb4.4
DOU Dourbes 73.80 344 P **P 13 18 18.6 -0.6**
BAIF Baives 73.90 344⇑*i*P **P 13 18 19.1 -0.7**
comp=Z,9.7nm,0.6s,mb4.4
LANF Langenberg 74.32 342 *e*P **P 13 18 21.8 -0.4**
WLS Welschbruch 74.95 342 *e*P **P 13 18 25.3 -0.6**
CDF Champ du Feu 74.97 342⇑*i*P **P 13 18 25.4 -0.5**
comp=Z,16nm,0.8s,mb4.4
KBA Koelnbreinsper 75.00 337⇑*i*P **P 13 18 26.5 +0.4**
comp=Z,13nm,0.9s,mb4.5
MOTA Moosalm 75.24 339⇑*i*P **P 13 18 27.3 -0.2**
comp=Z,5.3nm,1.0s,mb4.1
MEZF Maizieres J'vi 75.27 343 *e*P **P 13 18 27.3 -0.4**
comp=Z,13nm,0.5s,mb4.5
SQTA Sankt Quirin 75.33 339⇑*i*P **P 13 18 28.2 +0.2**
comp=Z,4.1nm,0.8s,mb4.1
THEF They Montfort 75.38 343 *e*P **P 13 18 27.6 -0.7**
HAU Haudompre 75.53 342 *e*P **P 13 18 28.5 -0.6**
comp=Z,5.7nm,0.4s,mb4.3
HINF Hinteralfeld 75.62 342 *e*P **P 13 18 28.7 -1.0**
comp=Z,5.0nm,0.6s,mb4.0
BRTR Keskin Array B 75.62 320 P **P 13 18 28.7 -1.0**
comp=Z,1.2nm,0.5s,mb3.8,baz=54,slow=2.9,SNR=9.0
FLN La Foliniere 75.84 347 *e*P **P 13 18 29.9 -1.0**
comp=Z,4.3nm,0.4s,mb4.2
LDF La Druitiere 75.96 347 *e*P **P 13 18 30.7 -0.9**
comp=Z,4.3nm,0.5s,mb4.0
GRR Gorron 76.26 347 *e*P **P 13 18 32.5 -0.8**
comp=Z,22nm,0.6s,mb4.7
SGMF Saint Gilles 76.60 348 *e*P **P 13 18 34.5 -0.7**
comp=Z,14nm,0.6s,mb4.4
ROSF Rostrenen 76.60 349 *e*P **P 13 18 34.6 -0.6**
comp=Z,26nm,0.8s,mb4.6
LOR Lormes 76.66 344⇑*i*P **P 13 18 34.9 -0.7**
comp=Z,16nm,0.6s,mb4.5
HYF Humbligny 76.86 345 *e*P **P 13 18 36.4 -0.3**
CABF La Chapelle 76.92 342 *e*P **P 13 18 36.9 -0.1**
comp=Z,6.4nm,0.7s,mb4.1
SSF Saint Saulge 76.92 344⇑*i*P **P 13 18 36.3 -0.7**
comp=Z,9.6nm,0.6s,mb4.3
QUIF Quistinic 77.00 349⇑*i*P **P 13 18 36.7 -0.8**
comp=Z,8.3nm,0.6s,mb4.3
AVF Avril sur Loir 77.21 344⇑*i*P **P 13 18 38.0 -0.6**
comp=Z,17nm,0.8s,mb4.4
SMF Signal de Mont 77.27 344 *e*P **P 13 18 38.4 -0.6**
WRAB Tennant Creek 77.42 205 *e*P **P 13 18 39.6 -0.2**
WRAB *e* 13 18 47.8
WRAB pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
WRAB Tennant Creek 77.42 205 *e*P **P 13 18 39.6 -0.2**
comp=Z,2.0nm,0.4s,mb4.1
WRAB *e*PcP PcP 13 18 47.8 -2.0
WRA Warramunga Arr 77.43 205 P **P 13 18 39.5 -0.4**
comp=Z,0.7nm,0.3s,mb3.7,baz=21,slow=6.1,SNR=18
WRA pP pP 13 19 11.5 -0.5
comp=Z,1.2nm,0.7s,baz=23,slow=6.3,SNR=2.7
BGF Bois d'Agland 77.52 344 *e*P **P 13 18 40.1 -0.3**
comp=Z,7.5nm,0.5s,mb4.3
LPL La Plagne 77.86 341⇑*i*P **P 13 18 42.9 +0.7**
comp=Z,20nm,0.7s,mb4.5
LPG La Plagne 77.87 341⇑*i*P **P 13 18 43.2 +0.9**
comp=Z,24nm,0.7s,mb4.6
TCF Toulx Ste Croi 77.88 345⇑*i*P **P 13 18 41.9 -0.5**
comp=Z,7.8nm,0.7s,mb4.2
MFF Saint Martin d 77.91 346 *e*P **P 13 18 42.2 -0.4**
comp=Z,10nm,0.6s,mb4.3
AGO Saint Agoulin 77.96 344 *e*P **P 13 18 43.1 +0.3**
PLDF La Plantade 77.96 344 *e*P **P 13 18 46.1 +3.3**
PYM Petit Puy Mans 78.28 344 *e*P **P 13 18 44.6 0.0**
ORIF Oris-en-Rattie 78.59 342⇑*i*P **P 13 18 46.8 +0.5**
comp=Z,7.2nm,0.5s,mb4.2
MBDF Montbardon 78.61 341 *e*P **P 13 18 46.9 +0.5**
comp=Z,12nm,0.8s,mb4.3
LBL Lubilhac 78.74 344 *e*P **P 13 18 47.5 +0.4**
VIVF Saint-Julien-l 78.87 343⇑*i*P **P 13 18 48.0 +0.2**
comp=Z,14nm,0.9s,mb4.3
RJF Les Rejaudoux 78.94 345 *e*P **P 13 18 47.8 -0.4**
comp=Z,7.2nm,0.6s,mb4.2
CAF Calviac 79.23 344 *e*P **P 13 18 50.0 +0.2**
comp=Z,10nm,0.6s,mb4.4
SBF Sospel 79.31 340 *e*P **P 13 18 50.1 -0.1**
comp=Z,10nm,0.4s,mb4.5
LFF La Frestale 79.42 345 *e*P **P 13 18 50.8 0.0**
comp=Z,20nm,0.5s,mb4.7
SMRF Simiane la Rot 79.56 342 *e*P **P 13 18 52.0 +0.4**
FRF La Foret Royal 79.76 341⇑*i*P **P 13 18 52.2 -0.4**
LASF Ste Croix 79.76 343 *e*P **P 13 18 53.2 +0.5**
LMR La Mourre 80.00 341⇑*i*P **P 13 18 53.8 -0.2**
comp=Z,7.0nm,0.4s,mb4.3
PGF Pioggiola 80.26 339 *e*P **P 13 18 54.9 -0.4**
comp=Z,22nm,1.0s,mb4.5
MTLF Montolieu 80.75 344 *e*P **P 13 18 58.4 +0.5**
comp=Z,9.6nm,0.6s,mb4.3
ASAR Alice Springs 81.11 204 P **P 13 19 00.5 +0.6**
comp=Z,1.4nm,0.8s,mb3.7,baz=18,slow=4.9,SNR=8.6
EPF Esparros 81.34 345 *e*P **P 13 19 00.8 -0.3**
comp=Z,9.6nm,0.8s,mb4.2
EALK Alkurruntz 81.42 347 P **P 13 19 02.9 +1.4**
comp=Z,68nm,1.7s,mb5.0
ELIZ Elizondo 81.48 347 P **P 13 19 03.0 +1.2**
ELIZ pmax pmax
comp=Z,25nm,1.2s,mb4.7
ELIZ Elizondo 81.48 347 P **P 13 19 03.0 +1.2**
comp=Z,25nm,1.2s,mb4.7
SJPF Ste Jean 81.48 346 *e*P **P 13 19 02.6 +0.8**
comp=Z,7.2nm,0.5s,mb4.3
ETSF Etsaut 81.60 346⇑*i*P **P 13 19 03.0 +0.5**
comp=Z,10nm,0.6s,mb4.3
ELAN Lanestosa 81.65 348 P **P 13 19 03.1 +0.4**
comp=Z,43nm,1.3s,mb4.9
EBIE Bielsa 81.71 345 P **P 13 19 04.2 +1.1**
comp=Z,90nm,2.5s,mb5.0
EARI Arriondas 81.79 349 P **P 13 19 03.4 0.0**
comp=Z,51nm,1.6s,mb4.9
EPON Pontenova 81.95 351 P **P 13 19 04.0 -0.2**
comp=Z,41nm,1.1s,mb5.0
EGRA Graus 82.17 345 P **P 13 19 06.2 +0.8**
comp=Z,7.9nm,0.7s,mb4.5
STS Santiago 82.52 352 P **P 13 19 06.2 -1.0**
STS pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
STS Santiago 82.52 352 P **P 13 19 06.2 -1.0**
comp=Z,5.9nm,0.9s,mb4.3
ESAC San Caprasio 82.74 346 P **P 13 19 10.0 +1.6**
comp=Z,192nm,2.9s,mb5.3
EPOB Poblet 82.87 344 P **P 13 19 09.6 +0.5**
comp=Z,25nm,1.4s,mb4.8
ERUA La Rua 82.88 351 P **P 13 19 09.1 0.0**
ERUA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ERUA La Rua 82.88 351 P **P 13 19 09.1 0.0**
comp=Z,10nm,0.9s,mb4.5
EZAM Zamans 83.26 352 P **P 13 19 10.8 -0.3**
EZAM pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
EZAM Zamans 83.26 352 P **P 13 19 10.8 -0.3**
comp=Z,8.4nm,0.8s,mb4.5
PBRG Braganca 83.42 350 *e*P **P 13 19 12.2 +0.3**
comp=Z,17nm,1.7s,mb4.5
ELOB Lobios 83.48 351 P **P 13 19 12.5 +0.3**
comp=Z,36nm,1.5s,mb4.9
PVRL Vila Real 84.04 351 *e*P **P 13 19 15.3 +0.3**
comp=Z,26nm,0.8s,mb5.0
EMOS Mosqueruela 84.08 345 P **P 13 19 16.4 +1.2**
comp=Z,38nm,1.0s,mb5.1
PVIS Viseu 84.61 351 *e*P **P 13 19 18.2 +0.3**
comp=Z,17nm,0.8s,mb4.8
MTE Manteigas 84.89 351 *e*P **P 13 19 19.9 +0.6**
comp=Z,21nm,0.7s,mb5.0
ECHE Chera 84.91 346 P **P 13 19 20.3 +0.9**
ECHE pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ECHE Chera 84.91 346 P **P 13 19 20.3 +0.9**
comp=Z,4.4nm,0.6s,mb4.4
ESDC Sonseca Array 85.22 348 P **P 13 19 21.0 0.0**
comp=Z,8.4nm,0.6s,mb4.6,baz=1.4,slow=5.1,SNR=40
ESDC Sonseca Array 85.22 348 P **P 13 19 20.8 -0.2**
comp=Z,15nm,0.8s,mb4.8
PCBR Castelo Branco 85.44 351 *e*P **P 13 19 22.0 -0.1**
comp=Z,12nm,0.5s,mb4.9
ETOB Tobarra 85.92 346 P **P 13 19 25.4 +1.0**
comp=Z,63nm,1.5s,mb5.1
EVIA Vianos 86.06 347 P **P 13 19 26.5 +1.4**
EVIA pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
EVIA Vianos 86.06 347 P **P 13 19 26.5 +1.4**
comp=Z,8.4nm,1.1s,mb4.4
PBEJ Beja 87.28 351 *e*P **P 13 19 31.1 +0.1**
PLCA Paso Flores 143.86 89 PKP PKPdf 13 26 16.1 -2.8
comp=Z,1.3nm,0.6s,baz=276,slow=4.1,SNR=7.2

IDC 12 13:07:50.5±27.0, 2221S×17408W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.1/16, mbtmp4.5/4, Error ellipse: s-maj=504.0km s-min=142.4km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.98**	**266**	P	P	13 15 02.8	+1.3
comp=14nm,0.6s,baz=96,slow=9.8,SNR=34							
STKA	**Stephens Creek**	**40.40**	**247**	P	P	13 15 29.0	-1.2
comp=2.2nm,0.6s,baz=96,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**47.70**	**258**	P	P	13 16 29.4	+0.6
comp=3.2nm,0.5s,baz=94,slow=7.3,SNR=97							
ASPA	**Alice Springs**	**47.71**	**258**	*e*P	P	13 16 29.4	+0.6
WB2	**Warramunga Arr**	**47.98**	**263**	*e*P	P	13 16 31.3	+0.3
WRA	**Warramunga Arr**	**47.99**	**263**	P	P	13 16 31.5	+0.4
comp=4.2nm,0.5s,baz=94,slow=8.5,SNR=178							
KLBR	**Kellerberrin**	**60.66**	**245**	*e*P	P	13 18 05.4	+2.1
comp=16nm,1.1s							

IDC 12 13:19:12.2±1.9, 522S×15128E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML2.9/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/20, Error ellipse: s-maj=125.7km s-min=22.8km az=127.0

ISCJB 12 13:19:13.7±7.2, 53S±06×1513E±06, h21km±54km, mb3.8/4, MS4.1/1, Error ellipse: s-maj=140.5km s-min=18.3km az=82.4

ISC 12 13:19:14.5±6.8, 54S±06×1515E±06, h19km±46km, n8, σ0.38/7, mb3.8/4, MS4.1/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.90**	**227**	Pn	**Pn**	**13 20 41.2**	**+0.3**
1.9nm,0.3s,baz=43,slow=6.8,SNR=13							
PMG				Sn	**Sn**	**13 21 48.0**	**+0.1**
2.7nm,0.3s,baz=139,slow=14,SNR=7.6							
WRA	**Warramunga Arr**	**22.12**	**228**	P	**P**	**13 24 08.2**	**-0.6**
1.0nm,0.5s,mb3.5,baz=53,slow=10,SNR=18							
ASAR	**Alice Springs**	**24.88**	**221**	P	**P**	**13 24 36.0**	**0.0**
1.8nm,0.6s,mb3.8,baz=56,slow=9.2,SNR=29							
ASPA	**Alice Springs**	**24.88**	**221**	*e*P	**P**	**13 24 36.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.27**	**241**	*e*P	**P**	**13 25 06.6**	**0.0**
2.9nm,0.5s,mb4.2							
RAR	**Rarotonga**	**49.73**	**113**	LR	LR	13 47 09.1	
comp=Z,162nm,18.4s,MS4.1,baz=6.0,slow=34							
ILAR	**Eielson Array**	**83.16**	**22**	P	**P**	**13 31 39.5**	**+0.1**
0.6nm,0.7s,mb3.8,baz=247,slow=5.0,SNR=12							
TORD	**Torodi Ar. Bea**	**149.25**	**287**	PKPbc	PKPbc	13 39 03.2	+1.3
0.4nm,0.3s,baz=86,slow=2.4,SNR=12							

NEIC 12 13:23:36.5, 3941S×17441E, h203km, MG4.0(WEL), After WEL.

WEL 12 13:23:36.3±0.4, 3939S×17442E, h206km±3km, ML4.0/17, Error ellipse: s-maj=2.9km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.10**	**351**	PN	Pn	13 24 03.0	-0.3
RAEZ	**Rainy Point**	**0.10**	**351**	P	Pn	13 24 02.9	-0.3
NEZ	**North Egmont**	**0.27**	**295**	PN	Pn	13 24 03.6	+0.1
NEZ	**North Egmont**	**0.27**	**295**	P	Pn	13 24 03.6	+0.1
VRZ	**Vera Road**	**0.37**	**46**	PN	Pn	13 24 03.0	-0.7
VRZ				SN	Sn	13 24 24.3	-0.6
VRZ	**Vera Road**	**0.37**	**46**	P	Pn	13 24 03.0	-0.7
VRZ				S	Sn	13 24 22.4	-2.6
NRZ	**Ngariki Road**	**0.38**	**278**	PN	Pn	13 24 03.6	-0.1
NRZ	**Ngariki Road**	**0.38**	**278**	P	Pn	13 24 03.6	-0.1
PKE	**Pukeiti**	**0.38**	**300**	PN	Pn	13 24 03.6	-0.2
PKE	**Pukeiti**	**0.38**	**300**	P	Pn	13 24 03.6	-0.1
NWEZ	**Newall Road**	**0.44**	**285**	PN	Pn	13 24 03.8	-0.1
WAZ	**Wanganui**	**0.57**	**130**	PN	Pn	13 24 04.7	+0.3
WAZ				SN	Sn	13 24 25.7	-0.5
WAZ	**Wanganui**	**0.57**	**130**	P	Pn	13 24 04.7	+0.3
WAZ				S	Sn	13 24 25.7	-0.5
PKVZ	**Pokaka**	**0.73**	**83**	PN	Pn	13 24 04.8	-0.3
PKVZ				SN	Sn	13 24 26.2	-1.3
MTVZ	**Mangateitei**	**0.82**	**90**	PN	Pn	13 24 05.5	0.0
MTVZ				SN	Sn	13 24 26.9	-1.4
TWVZ	**Taurewa**	**0.85**	**69**	PN	Pn	13 24 05.4	-0.4
TWVZ	**Taurewa**	**0.85**	**69**	P	Pn	13 24 05.4	-0.4
TRVZ	**Turoa**	**0.88**	**85**	PN	Pn	13 24 06.0	0.0
TRVZ				SN	Sn	13 24 27.6	-1.3
FWVZ	**Far West T-bar**	**0.89**	**82**	PN	Pn	13 24 06.0	+0.1
FWVZ				SN	Sn	13 24 27.6	-1.5
FWVZ	**Far West T-bar**	**0.89**	**82**	P	Pn	13 24 06.0	0.0
FWVZ				S	Sn	13 24 27.6	-1.5
WPVZ	**Whakapapa**	**0.90**	**79**	PN	Pn	13 24 05.9	-0.1
WPVZ	**Whakapapa**	**0.90**	**79**	P	Pn	13 24 05.9	-0.1
WNVZ	**Wahianoa**	**0.92**	**87**	PN	Pn	13 24 06.2	+0.1
WNVZ	**Wahianoa**	**0.92**	**87**	P	Pn	13 24 06.2	0.0
HIZ	**Hauiti**	**0.94**	**22**	PN	Pn	13 24 05.6	-0.7
HIZ	**Hauiti**	**0.94**	**22**	P	Pn	13 24 05.6	-0.7
NGZ	**Ngauruhoe**	**0.94**	**77**	PN	Pn	13 24 06.4	+0.1
NGZ	**Ngauruhoe**	**0.94**	**77**	P	Pn	13 24 06.4	+0.1
WTVZ	**West Tongariro**	**0.95**	**74**	PN	Pn	13 24 06.3	0.0
WTVZ	**West Tongariro**	**0.95**	**74**	P	Pn	13 24 06.3	-0.1
TUVZ	**Tukino**	**0.97**	**83**	P	Pn	13 24 06.8	+0.3
OTVZ	**Oturere**	**1.00**	**77**	PN	Pn	13 24 06.9	+0.2
MOVZ	**Moawhango**	**1.04**	**92**	PN	Pn	13 24 06.6	-0.3
MOVZ	**Moawhango**	**1.04**	**92**	P	Pn	13 24 06.6	-0.3
TSZ	**Takapari Road**	**1.37**	**120**	PN	Pn	13 24 09.5	+0.1
TSZ	**Takapari Road**	**1.37**	**120**	P	Pn	13 24 09.5	+0.1
KIW	**Kapiti Island**	**1.52**	**166**	PN	Pn	13 24 10.3	-0.4
KIW	**Kapiti Island**	**1.52**	**166**	P	Pn	13 24 10.3	-0.4
MRZ	**Mangatainoka R**	**1.56**	**145**	P	Pn	13 24 10.7	-0.3
BKZ	**Black Stump Fm**	**1.63**	**83**	P	Pn	13 24 11.3	-0.3
CAW	**Cannon Point**	**1.79**	**164**	PN	Pn	13 24 12.6	-0.5
CAW	**Cannon Point**	**1.79**	**164**	P	Pn	13 24 12.6	-0.6
TCW	**Tory Channel**	**1.83**	**183**	P	Pn	13 24 13.3	-0.2
MRW	**Makara Radio**	**1.85**	**173**	P	Pn	13 24 13.2	-0.6
BFZ	**Birch Farm**	**1.91**	**133**	P	Pn	13 24 13.9	-0.4
WEL	**Wellington**	**1.92**	**172**	PN	Pn	13 24 13.7	-0.7
SNZO	**South Karori**	**1.93**	**174**	PN	Pn	13 24 13.8	-0.8
SNZO	**South Karori**	**1.93**	**174**	P	Pn	13 24 13.8	-0.8
SNZO				*e*Sn	Sn	13 24 41.7	-2.7
MTW	**Mount Morrison**	**1.96**	**155**	P	Pn	13 24 14.0	-0.8
NNZ	**Nelson**	**1.99**	**203**	P	Pn	13 24 14.2	-1.0
PXZ	**Pawanui**	**1.99**	**110**	PN	Pn	13 24 15.2	0.0
QRZ	**Quartz Range**	**2.04**	**225**	*e*P	Pn	13 24 14.0	-1.6
BHW	**Baring Head**	**2.05**	**170**	P	Pn	13 24 13.7	-2.0
TUWZ	**Tuamarina**	**2.07**	**190**	PN	Pn	13 24 15.2	-0.8
MSWZ	**Moikau Station**	**2.12**	**163**	P	Pn	13 24 15.6	-0.9
PAWZ	**Paruwai Farm**	**2.14**	**159**	PN	Pn	13 24 15.8	-0.8
PAWZ	**Paruwai Farm**	**2.14**	**159**	P	Pn	13 24 15.8	-0.8
BSWZ	**Blackbirch Sta**	**2.36**	**190**	PN	Pn	13 24 18.6	-0.4
BSWZ	**Blackbirch Sta**	**2.36**	**190**	P	Pn	13 24 17.6	-1.4
URZ	**Urewera**	**2.39**	**63**	P	Pn	13 24 17.9	-1.4
KNZ	**Kokohu**	**2.56**	**83**	*e*P	Pn	13 24 20.7	-0.5
THZ	**Tophouse**	**2.64**	**205**	P	Pn	13 24 20.6	-1.5
MWZ	**Matawai**	**2.65**	**68**	*e*P	Pn	13 24 21.0	-1.2
DSZ	**Denniston Nort**	**3.08**	**219**	P	Pn	13 24 25.2	-2.0
KHZ	**Kahutara**	**3.10**	**192**	P	Pn	13 24 25.9	-1.5
MXZ	**Matakaoa Point**	**3.56**	**60**	P	Pn	13 24 31.5	-1.3
LTZ	**Lake Taylor**	**3.76**	**205**	P	Pn	13 24 33.4	-1.9
MQZ	**McQueen's Vall**	**4.51**	**196**	*e*P	Pn	13 24 41.3	-3.4
WVZ	**Waitaha Valley**	**4.61**	**216**	*e*P	Pn	13 24 42.9	-3.0
RPZ	**Rata Peaks**	**5.00**	**209**	P	Pn	13 24 47.8	-3.1
FOZ	**Fox Glacier**	**5.48**	**219**	*e*P	Pn	13 24 51.9	-5.0
LBZ	**Lake Benmore**	**5.91**	**211**	*e*P	Pn	13 24 59.0	-3.4
ODZ	**Otahua Downs**	**6.31**	**205**	*e*P	Pn	13 25 04.4	-3.1
JCZ	**Jackson Bay**	**6.31**	**220**	*e*P	Pn	13 25 03.8	-3.8
WKZ	**Wanaka**	**6.75**	**215**	*e*P	Pn	13 25 08.9	-4.4
EAZ	**Earnscleugh**	**6.96**	**211**	*e*P	Pn	13 25 11.2	-4.8
TUZ	**Tuapeka**	**7.45**	**207**	*e*P	Pn	13 25 18.4	-3.9

ISCJB 12 13:59:37.0±0.5, 4677N×002×1108E±004, h10km, Error ellipse: s-maj=4.0km s-min=3.2km az=43.4

ZUR 12 13:59:36.5, 4672N×11.14E, h5km, ML1.3/3

ROM 12 13:59:37.0±0.3, 4676N×11.10E, h10km, Md2.3/4, Ml1.5/4, Error ellipse: s-maj=4.5km s-min=2.4km az=174.0

VIE 12 13:59:37.7±0.3, 4680N×1109E, h8km, mb1.5/1, ML1.6/5, Error ellipse: s-maj=2.2km s-min=1.4km az=163.0 10 km SSE of Obergurgl

ISC 12 13:59:37.6±0.5, 4677N±002×1108E±004, h2km±9km, n12, σ0.39/23, 10C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.31**	**160**	Pg	**Pg**	**13 59 43.7**	**+0.1**
APPI				Sg	**Sg**	**13 59 48.0**	**+0.4**
84nm,0.2s							
BRES	**Bressanone**	**0.46**	**99**	Pg	**Pg**	**13 59 46.1**	**-0.3**
BRES				Sg	**Sg**	**13 59 52.2**	**-0.1**
22nm,0.9s							
SQTA	**Sankt Quirin**	**0.46**	**11**⇑*i*Pg		**Pg**	**13 59 46.6**	**+0.1**
19nm,0.1s							
SQTA			⇑*i*Sg		**Sg**	**13 59 52.7**	**+0.3**
20nm,0.1s							
BRMO	**Bormio**	**0.57**	**239**	Pg	**Pg**	**13 59 48.6**	**+0.1**
BRMO				Sg	**Sg**	**13 59 56.0**	**+0.1**
16nm,0.4s							
MOTA	**Moosalm**	**0.57**	**2**⇑*i*Pg		**Pg**	**13 59 48.6**	**-0.1**
5.8nm,0.1s							
MOTA			⇑*i*Sg		**Sg**	**13 59 56.5**	**+0.4**
3.3nm,0.1s							
FUORN	**Ofenpass**	**0.58**	**255**	*e*Pg	**Pg**	**13 59 49.2**	**+0.4**
22nm,0.4s							
FUORN			*e*Sg		**Sg**	**13 59 49.3**	**-7.0**
22nm,0.4s							
WTTA	**Wattenberg**	**0.62**	**38**⇑*i*Pg		**Pg**	**13 59 49.3**	**-0.4**
2.2nm,0.1s							
WTTA			⇑*i*Sg		**Sg**	**13 59 57.3**	**-0.4**
5.3nm,0.2s							
WATA	**Walderalm**	**0.66**	**31**⇑*i*Pg		**Pg**	**13 59 50.4**	**+0.1**
1.5nm,0.1s							
WATA			⇑*i*Sg		**Sg**	**13 59 58.7**	**-0.2**
2.0nm,0.1s							
BERNI	**Berninapass**	**0.81**	**244**⇑*i*Pg		**Pg**	**13 59 57.3**	**+4.1**
13nm,2.2s							
DAVOX	**Davos**	**0.82**	**271**	*e*Pg	**Pg**	**13 59 52.7**	**-0.7**
19nm,2.0s							
CTI	**Castel Tesino**	**0.82**	**151**	Pg	**Pg**	**13 59 52.9**	**-0.5**
CTI				Sg	**Sg**	**14 00 04.1**	**0.0**
37nm,0.1s							
KBA	**Koelnbreinsper**	**1.58**	**78**⇓*i*Pn		**Pn**	**14 00 06.2**	**-0.5**
0.8nm,0.1s							
KBA			⇑*i*Sn		**Sn**	**14 00 28.1**	**+0.3**
KBA			⇓*i*Sg		**Sg**	**14 00 29.3**	**+0.7**
2.0nm,0.3s							

IDC 12 14:00:26.5±1.1, 3457N×73.19E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/23, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=34.6km s-min=23.7km az=56.0

NEIC 12 14:00:28.7±0.8, 3466N×7336E, h10km, mb4.0/1, Error ellipse: s-maj=24.5km s-min=12.0km az=66.0

ISCJB 12 14:00:30.9±1.0, 3454N±007×7304E±009, h46km±12km, mb3.7/5, Error ellipse: s-maj=15.3km s-min=8.0km az=89.4

ISC 12 14:00:30.0±2.5, 3464N±005×7304E±009, h20km±17km, n19, σ1.28/21, mb3.7/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.99**	**169**	P	**Pb**	**14 00 46.7**	**-1.9**
CEP	**Cherat**	**1.24**	**229**	P	**Pn**	**14 00 54.2**	**+1.9**
CEP				S	**Sb**	**14 01 13.0**	**+4.6**
THW	**Thamme Wali**	**2.13**	**211**	P	**Pn**	**14 01 01.8**	**-2.7**
THN	**Thein Dam**	**3.13**	**134**	*e*P	**Pn**	**14 01 20.3**	**+2.0**
THN				*e*x	x	14 02 04.3	
DLH	**Dalhousie**	**3.21**	**130**	*e*x	x	14 01 29.0	
DLH				*e*S	**Sn**	**14 02 00.0**	**+2.9**
SDNR	**Sundarnagar**	**4.55**	**132**	*e*P	**Pn**	**14 01 38.8**	**+1.1**
SDNR				*e*x	x	14 02 46.4	
KLP	**Kalpa**	**5.36**	**124**	*e*P	**Pn**	**14 01 50.1**	**+1.2**
KLP				*e*S	**Sn**	**14 02 50.1**	**+0.2**
KLP				AML	AML	14 03 18.9	
comp=N,77nm,0.8s							
KLP				AML	AML	14 03 20.6	
comp=E,94nm,0.6s							
DDI	**Dehra Dun**	**6.04**

1.1nm,0.6s,baz=200,slow=6.4,SNR=9.1
YKA Yellowknife Ar 137.08 317 PKP PKPdf 14 36 27.0 -2.3
0.5nm,0.9s,baz=112,slow=2.1,SNR=5.5
SONM Songino Array 149.55 85 PKPbc PKPbc 14 36 55.2 -0.4
0.8nm,0.6s,baz=225,slow=2.0,SNR=4.7
ILAR Eielson Array 151.10 311 PKPbc PKPbc 14 36 57.9 -1.4
1.3nm,0.8s,baz=132,slow=1.9,SNR=15

IDC 12 14:26:07.0±5.4, 2986S×17824W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/12, mbtmp3.2/2, Error ellipse: s-maj=319.9km s-min=75.2km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.93**	**266**	P	P	14 34 07.9	+0.5
	0.1nm,0.3s,baz=108,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	14 34 15.0	0.0
	0.1nm,0.2s,baz=110,slow=8.2,SNR=6.7						
FINES	**FINESS Array B**	**144.57**	**340**	PKP	PKPdf	14 45 44.1	-1.3
	2.7nm,1.1s,baz=49,slow=3.0,SNR=5.7						

*ISCJB **12** 14:27:30.5±3.5, 311S±01×1779W±07, h115km±17km, mb3.9/3, Error ellipse: s-maj=100.7km s-min=8.6km az=19.2*
*IDC **12** 14:27:31.4±9.8, 3087S×17841W, h75km±94km, mb3.7/3, mb1 3.8/4, mb1mx3.7/13, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=77.9km s-min=51.4km az=165.0*

ISC 12 14:27:31.2±3.7, 311S±01×1778W±07, h113km±15km, n12, σ0°28/14, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.83**	**357**	S	**Sn**	**14 28 25.9**	**0.0**
	208nm,0.3s,baz=177,slow=21,SNR=4.3						
PUZ	**Puketiti**	**7.69**	**204**	SN	**Sn**	**14 30 45.6**	**-0.3**
MWZ	**Matawai**	**8.19**	**207**	PN	**Pn**	**14 29 27.6**	**+0.3**
MWZ				SN	**Sn**	**14 30 58.5**	**+0.5**
URZ	**Urewera**	**8.29**	**209**	P	**Pn**	**14 29 28.3**	**-0.3**
	0.2nm,0.3s,baz=142,slow=11,SNR=8.0						
URZ				S	**Sn**	**14 31 00.2**	**-0.3**
	1.1nm,0.3s,baz=138,slow=23,SNR=11						
URZ	**Urewera**	**8.29**	**209**	PN	**Pn**	**14 29 28.2**	**-0.4**
URZ				SN	**Sn**	**14 31 00.3**	**-0.1**
TSZ	**Takapari Road**	**10.29**	**208**	PN	**Pn**	**14 29 51.0**	**-4.7**
BFZ	**Birch Farm**	**10.72**	**205**	SN	**Sn**	**14 31 53.3**	**-6.1**
TCW	**Tory Channel**	**11.95**	**210**	SN	**Sn**	**14 32 20.6**	**-8.7**
STKA	**Stephens Creek**	**34.49**	**258**	P	**P**	**14 34 08.3**	**-0.1**
	2.3nm,0.7s,mb4.1,baz=102,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**43.24**	**268**	P	**P**	**14 35 21.4**	**+0.1**
	0.8nm,0.8s,mb3.5,baz=105,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**44.30**	**273**	P	**P**	**14 35 29.7**	**-0.1**
	0.9nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=59						
FINES	**FINESS Array B**	**145.85**	**340**	PKPbc	PKPbc	14 46 59.4	+2.1
	0.6nm,0.4s,baz=52,slow=5.1,SNR=12						

*CSEM **12** 14:31:10.7±0.1, 4609N×1382E, h15km, ML2.5/3, Error ellipse: s-maj=2.1km s-min=1.1km az=50.0*
*LJU **12** 14:31:10.4, 46.10N×1382E, h16km, ML1.6*
*VIE **12** 14:31:10.8±0.2, 46.10N×1384E, h8km, ML1.8/2, Error ellipse: s-maj=2.2km s-min=1.1km az=30.0 13 km SE of Tolmin*
*ISCJB **12** 14:31:11.0±0.3, 4611N±002×1385E±002, h8km, Error ellipse: s-maj=3.4km s-min=1.9km az=61.6*

ISC 12 14:31:11.4±0.4, 4611N±002×1382E±003, h11km±4km, n34, σ0°75/64, 6C-7D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOJS	**Vojsko**	**0.09**	**151**	*i* Pg	**Pg**	**14 31 13.9**	**+0.1**
VOJS				*i* Sg	**Sg**	**14 31 16.0**	**+0.4**
CADS	**Cadrg**	**0.14**	**334**	*i* Pg	**Pg**	**14 31 14.6**	**0.0**
CADS				*i* Sg	**Sg**	**14 31 17.2**	**+0.4**
CADS	comp=Z,161nm,0.1s						
CADS	**Cadrg**	**0.14**	**334**	*i* Pg	**Pg**	**14 31 14.6**	**0.0**
CADS				*i* Sg	**Sg**	**14 31 17.2**	**+0.4**
	comp=Z,161nm,0.1s						
DRE	**Drenchia**	**0.14**	**298**	*i* Pg	**Pg**	**14 31 14.7**	**0.0**
DRE				*i* Sg	**Sg**	**14 31 17.4**	**+0.4**
GORS	**Gorjuse**	**0.24**	**29**	*i* Pg	**Pg**	**14 31 16.1**	**-0.3**
GORS				*i* Sg	**Sg**	**14 31 20.2**	**+0.5**
GORS	comp=Z,72nm,0.1s						
GORS	**Gorjuse**	**0.24**	**29**	*i* Pg	**Pg**	**14 31 16.1**	**-0.3**
GORS				*i* Sg	**Sg**	**14 31 20.2**	**+0.4**
	comp=Z,72nm,0.1s						
ROBS	**Robic**	**0.26**	**302**	*i* Pg	**Pg**	**14 31 16.3**	**-0.3**
ROBS				*i* Sg	**Sg**	**14 31 20.4**	**+0.2**
ROBS	comp=Z,12nm,0.1s						
ROBS	**Robic**	**0.26**	**302**	*i* Pg	**Pg**	**14 31 16.3**	**-0.4**
ROBS				*i* Sg	**Sg**	**14 31 20.4**	**+0.2**
	comp=Z,12nm,0.1s						
JAVS	**Javornik**	**0.27**	**142**	*i* Pg	**Pg**	**14 31 16.5**	**-0.4**
JAVS				*i* Sg	**Sg**	**14 31 20.9**	**+0.3**
JAVS	comp=Z,24nm,0.1s						
JAVS	**Javornik**	**0.27**	**142**	*i* Pg	**Pg**	**14 31 16.5**	**-0.4**
JAVS				*i* Sg	**Sg**	**14 31 20.9**	**+0.3**
	comp=Z,24nm,0.1s						
COLI	**Coloredo**	**0.31**	**275**	⇑*i* Pg	**Pg**	**14 31 17.5**	**-0.2**
COLI				*i* Sg	**Sg**	**14 31 22.9**	**+1.1**
LSR	**Lussari**	**0.42**	**331**	⇓*e*Pg	**Pg**	**14 31 18.9**	**-0.8**
LSR				*e*Sg	**Sg**	**14 31 25.7**	**+0.4**
BAD	**Bernadia**	**0.42**	**288**	⇑*e*Pg	**Pg**	**14 31 19.1**	**-0.6**
BAD				*e*Sg	**Sg**	**14 31 26.1**	**+0.8**
LJU	**Ljubljana**	**0.49**	**97**	*i* Pg	**Pg**	**14 31 20.9**	**-0.1**
LJU				*e*Sg	**Sg**	**14 31 28.2**	**+0.6**
CEY	**Cerknica**	**0.56**	**131**	*i* Pg	**Pg**	**14 31 21.3**	**-0.9**
CEY				*i* Sg	**Sg**	**14 31 30.1**	**+0.4**
CEY	comp=Z,12nm,0.1s						
CEY	**Cerknica**	**0.56**	**131**	*i* Pg	**Pg**	**14 31 21.3**	**-1.0**
CEY				*i* Sg	**Sg**	**14 31 30.1**	**+0.4**
	comp=Z,12nm,0.1s						
OBKA	**Obir**	**0.65**	**51**	⇑*i* Pg	**Pg**	**14 31 23.7**	**-0.2**
OBKA				⇑*i* Sg	**Sg**	**14 31 32.9**	**+0.5**
	comp=Z,11nm,0.1s						
KNDS	**Knezji Dol**	**0.70**	**146**	*i* Pg	**Pg**	**14 31 24.0**	**-0.9**
KNDS				*i* Sg	**Sg**	**14 31 34.1**	**0.0**
KNDS	comp=Z,8.0nm,0.2s						
KNDS	**Knezji Dol**	**0.70**	**146**	*i* Pg	**Pg**	**14 31 24.0**	**-0.9**
KNDS				*i* Sg	**Sg**	**14 31 34.1**	**+0.1**
	comp=Z,8.0nm,0.2s						
VISS	**Visnje**	**0.77**	**113**	*i* Pg	**Pg**	**14 31 25.7**	**-0.6**
PDKS	**Podkum**	**0.82**	**93**	*i* Pg	**Pg**	**14 31 26.5**	**-0.7**
PDKS				*e*Sg	**Sg**	**14 31 38.2**	**+0.3**
PDKS	comp=Z,10.0nm,0.1s						
PDKS	**Podkum**	**0.82**	**93**	*i* Pg	**Pg**	**14 31 26.5**	**-0.7**
PDKS				*e*Sg	**Sg**	**14 31 38.2**	**+0.3**
	comp=Z,10.0nm,0.1s						
KBA	**Koelnbreinsper**	**1.03**	**341**	⇑*i* Pg	**Pg**	**14 31 31.0**	**-0.2**
KBA				⇓*i* Sg	**Sg**	**14 31 44.7**	**+0.1**
	comp=Z,3.0nm,0.3s						
LEGS	**Legarje**	**1.05**	**98**	*e*Pg	**Pg**	**14 31 31.0**	**-0.7**
LEGS				*i* Sg	**Sg**	**14 31 46.8**	**+1.5**
DOBS	**Dobrina**	**1.15**	**87**	*e*Pg	**Pg**	**14 31 32.2**	**-1.2**
DOBS				*e*Sg	**Sg**	**14 31 49.7**	**+1.4**
BOJS	**Bojanci**	**1.17**	**121**	*i* Pg	**Pg**	**14 31 33.0**	**-0.9**
BOJS				*i* Sg	**Sg**	**14 31 48.8**	**-0.2**
BOJS	comp=Z,2.0nm,0.1s						
BOJS	**Bojanci**	**1.17**	**121**	*i* Pg	**Pg**	**14 31 33.0**	**-0.8**
BOJS				*i* Sg	**Sg**	**14 31 48.8**	**-0.2**
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**1.17**	**103**	*i* Pg	**Pg**	**14 31 33.1**	**-0.9**
GROS	**Grobnik**	**1.22**	**72**	*i* Pg	**Pg**	**14 31 33.4**	**-1.4**
GROS	comp=Z,2.0nm,0.1s						
GROS	**Grobnik**	**1.22**	**72**	*i* Pg	**Pg**	**14 31 33.4**	**-1.4**
	comp=Z,2.0nm,0.1s						
GOLS	**Golise**	**1.26**	**94**	*i* Pg	**Pg**	**14 31 34.6**	**-1.0**
GOLS				*e*Sg	**Sg**	**14 31 53.2**	**+1.3**
GCIS	**Gornji Cirnik**	**1.28**	**100**	*i* Pg	**Pg**	**14 31 35.0**	**-1.0**
GCIS				*e*Sg	**Sg**	**14 31 53.5**	**+0.9**
NVLJ	**Novalja**	**1.71**	**154**	*i* Pn	**Pn**	**14 31 41.8**	**+0.6**
NVLJ				*i* Sn	**Sn**	**14 32 05.2**	**+2.1**
NVLJ	**Novalja**	**1.71**	**154**	*i* Pn	**Pn**	**14 31 41.7**	**+0.5**
NVLJ				*i* Sn	**Sn**	**14 32 05.1**	**+2.1**

*ISCJB **12** 14:41:25.9±0.3, 46.11N±002×1385E±002, h8km, Error ellipse: s-maj=2.9km s-min=1.7km az=55.1*
*CSEM **12** 14:41:25.0±0.1, 46.10N×1381E, h20km, ML2.9/5, Error ellipse: s-maj=1.7km s-min=1.1km az=36.0*
*LJU **12** 14:41:25.3, 46.10N×1383E, h17km, ML1.9*
*ROM **12** 14:41:25.1±0.6, 46.11N×1389E, h10km, Md2.6/4, Ml2.0/2, Error ellipse: s-maj=9.3km s-min=3.6km az=115.0*
*VIE **12** 14:41:25.7±0.3, 46.11N×1386E, h8km, mb1.3/1, ML2.2/2, Error ellipse: s-maj=2.2km s-min=1.3km az=27.0 13 km SE of Tolmin*

ISC 12 14:41:26.3±0.3, 4611N±002×1383E±002, h12km±4km, n47, σ0°79/82, 10C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOJS	**Vojsko**	**0.09**	**156**	*i* Pg	**Pg**	**14 41 28.6**	**-0.2**
VOJS				*i* Sg	**Sg**	**14 41 31.1**	**+0.3**
CADS	**Cadrg**	**0.14**	**331**	*i* Pg	**Pg**	**14 41 29.3**	**-0.3**
CADS				*i* Sg	**Sg**	**14 41 32.1**	**+0.2**
CADS	comp=Z,216nm,0.1s						
CADS	**Cadrg**	**0.14**	**331**	*i* Pg	**Pg**	**14 41 29.3**	**-0.3**
CADS				*i* Sg	**Sg**	**14 41 32.1**	**+0.2**
	comp=Z,216nm,0.1s						
DRE	**Drenchia**	**0.15**	**296**	⇑*i* Pg	**Pg**	**14 41 29.6**	**-0.1**
DRE				*i* Sg	**Sg**	**14 41 32.3**	**+0.1**
DRE	**Drenchia**	**0.15**	**296**	*i* Sg	**Sg**	**14 41 32.3**	**+0.2**
GORS	**Gorjuse**	**0.24**	**29**	*i* Pg	**Pg**	**14 41 31.1**	**-0.2**
GORS				*i* Sg	**Sg**	**14 41 35.2**	**+0.7**
GORS	comp=Z,76nm,0.1s						
GORS	**Gorjuse**	**0.24**	**29**	*i* Pg	**Pg**	**14 41 31.0**	**-0.2**
GORS				*i* Sg	**Sg**	**14 41 35.2**	**+0.6**
	comp=Z,76nm,0.1s						
ROBS	**Robic**	**0.26**	**301**	*i* Pg	**Pg**	**14 41 31.2**	**-0.4**
ROBS				*i* Sg	**Sg**	**14 41 35.6**	**+0.3**
ROBS	comp=Z,37nm,0.1s						
ROBS	**Robic**	**0.26**	**301**	*i* Pg	**Pg**	**14 41 31.2**	**-0.5**
ROBS				*i* Sg	**Sg**	**14 41 35.6**	**+0.3**
	comp=Z,37nm,0.1s						
JAVS	**Javornik**	**0.27**	**143**	*i* Pg	**Pg**	**14 41 31.3**	**-0.5**
JAVS				*i* Sg	**Sg**	**14 41 36.0**	**+0.4**
JAVS	comp=Z,62nm,0.1s						
JAVS	**Javornik**	**0.27**	**143**	*i* Pg	**Pg**	**14 41 31.3**	**-0.5**
JAVS				*i* Sg	**Sg**	**14 41 36.0**	**+0.4**
	comp=Z,62nm,0.1s						
COLI	**Coloredo**	**0.32**	**274**	⇑*e*Pg	**Pg**	**14 41 32.4**	**-0.2**
COLI				*e*Sg	**Sg**	**14 41 37.9**	**+1.0**
COLI	**Coloredo**	**0.32**	**274**	*e*Sg	**Sg**	**14 41 37.9**	**+0.9**
TRI	**Trieste**	**0.40**	**187**	Pg	**Pg**	**14 41 33.5**	**-0.7**
TRI				Sg	**Sg**	**14 41 39.8**	**+0.1**
LSR	**Lussari**	**0.42**	**330**	⇑*i* Pg	**Pg**	**14 41 34.0**	**-0.6**
LSR				*i* Sg	**Sg**	**14 41 40.6**	**+0.3**
LSR	**Lussari**	**0.42**	**330**	*i* Sg	**Sg**	**14 41 40.6**	**+0.3**
BAD	**Bernadia**	**0.43**	**287**	⇑*i* Pg	**Pg**	**14 41 34.0**	**-0.7**
BAD				*i* Sg	**Sg**	**14 41 41.0**	**+0.6**
BAD	**Bernadia**	**0.43**	**287**	*i* Sg	**Sg**	**14 41 41.0**	**+0.6**
GMNA	**Gemona**	**0.45**	**292**	Pg	**Pg**	**14 41 35.6**	**+0.6**
GMNA				Sg	**Sg**	**14 41 43.9**	**+2.9**
GMNA	comp=Z,27nm,0.1s						
GMNA	**Gemona**	**0.45**	**292**	Sg	**Sg**	**14 41 43.9**	**+2.9**
	comp=Z,27nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.45**	**312**	Pg	**Pg**	**14 41 34.8**	**-0.2**
PTCC				Sg	**Sg**	**14 41 41.0**	**0.0**
PTCC	comp=Z,5.0nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.45**	**312**	Sg	**Sg**	**14 41 41.0**	**0.0**
	comp=Z,5.0nm,0.2s						
LJU	**Ljubljana**	**0.49**	**98**	*i* Pg	**Pg**	**14 41 35.5**	**-0.3**
LJU				*e*Sg	**Sg**	**14 41 43.5**	**+1.2**
LJU	**Ljubljana**	**0.49**	**98**	*i* Pg	**Pg**	**14 41 35.5**	**-0.3**
LJU				*e*Sg	**Sg**	**14 41 43.5**	**+1.2**
CEY	**Cerknica**	**0.56**	**132**	*i* Pg	**Pg**	**14 41 36.1**	**-1.0**
CEY				*i* Sg	**Sg**	**14 41 45.0**	**+0.5**
CEY	comp=Z,40nm,0.2s						
CEY	**Cerknica**	**0.56**	**132**	*i* Pg	**Pg**	**14 41 36.1**	**-1.0**
CEY				*i* Sg	**Sg**	**14 41 45.0**	**+0.5**
	comp=Z,40nm,0.2s						
OBKA	**Obir**	**0.64**	**51**	⇑Sg	**Sg**	**14 41 47.6**	**+0.5**
	comp=Z,31nm,0.2s						
OBKA	**Obir**	**0.64**	**51**	⇑*i* Pg	**Pg**	**14 41 38.6**	**-0.1**
OBKA				⇑*i* Sg	**Sg**	**14 41 47.6**	**+0.5**
	comp=Z,31nm,0.2s						
KNDS	**Knezji Dol**	**0.70**	**146**	⇑*i* Pg	**Pg**	**14 41 38.9**	**-0.9**
KNDS				*e*Sg	**Sg**	**14 41 49.2**	**+0.3**
VISS	**Visnje**	**0.77**	**113**	*i* Pg	**Pg**	**14 41 40.6**	**-0.5**
VISS				*e*Sg	**Sg**	**14 41 51.5**	**+0.4**
VISS	comp=Z,9.0nm,0.1s						
VISS	**Visnje**	**0.77**	**113**	*i* Pg	**Pg**	**14 41 40.6**	**-0.5**
VISS				*e*Sg	**Sg**	**14 41 51.5**	**+0.4**
	comp=Z,9.0nm,0.1s						
PDKS	**Podkum**	**0.81**	**93**	*i* Pg	**Pg**	**14 41 41.4**	**-0.6**
PDKS				*e*Sg	**Sg**	**14 41 53.4**	**+0.8**
PDKS	comp=Z,25nm,0.1s						
PDKS	**Podkum**	**0.81**	**93**	*i* Pg	**Pg**	**14 41 41.3**	**-0.7**
PDKS				*e*Sg	**Sg**	**14 41 53.4**	**+0.8**
	comp=Z,25nm,0.1s						
MLNI	**Malnisio**	**0.85**	**273**	⇑*i* Pg	**Pg**	**14 41 42.2**	**-0.5**
MLNI				*i* Sg	**Sg**	**14 41 55.7**	**+1.8**
FVI	**Forni Avoltri**	**0.88**	**304**	Pg	**Pg**	**14 41 43.5**	**+0.3**
	comp=Z,13nm,0.4s						
KBA	**Koelnbreinsper**	**1.03**	**341**	⇓*i* Pg	**Pg**	**14 41 45.8**	**-0.2**
KBA				⇑*i* Sg	**Sg**	**14 41 59.6**	**+0.2**
	comp=Z,10nm,0.3s						
BISS	**Bistriski jare**	**1.05**	**59**	*e*Pg	**Pg**	**14 41 45.5**	**-0.9**
LEGS	**Legarje**	**1.05**	**98**	*i* Pg	**Pg**	**14 41 45.8**	**-0.6**
LEGS				*e*Sg	**Sg**	**14 42 01.1**	**+1.0**
DOBS	**Dobrina**	**1.14**	**87**	*i* Pg	**Pg**	**14 41 47.1**	**-1.1**
BOJS	**Bojanci**	**1.16**	**121**	*i* Pg	**Pg**	**14 41 47.9**	**-0.7**
BOJS				*i* Sg	**Sg**	**14 42 04.0**	**+0.2**
BOJS	comp=Z,4.0nm,0.1s						
BOJS	**Bojanci**	**1.16**	**121**	*i* Pg	**Pg**	**14 41 47.9**	**-0.7**
BOJS				*i* Sg	**Sg**	**14 42 04.0**	**+0.2**
	comp=Z,4.0nm,0.1s						
CRES	**Cresnjev**	**1.17**	**103**	*i* Pg	**Pg**	**14 41 48.0**	**-0.8**
GROS	**Grobnik**	**1.21**	**73**	*i* Pg	**Pg**	**14 41 48.1**	**-1.4**
GOLS	**Golise**	**1.25**	**94**	*e*Pg	**Pg**	**14 41 49.5**	**-0.9**
GOLS				*e*Sg	**Sg**	**14 42 08.3**	**+1.7**
GCIS	**Gornji Cirnik**	**1.27**	**100**	*i* Pg	**Pg**	**14 41 49.9**	**-0.9**
GCIS				*e*Sg	**Sg**	**14 42 08.2**	**+0.9**
CTI	**Castel Tesino**	**1.52**	**268**	Pg	**Pg**	**14 41 54.1**	**-1.3**
CTI				Sg	**Sg**	**14 42 14.2**	**-1.0**
CTI	comp=Z,46nm,0.3s						
NVLJ	**Novalja**	**1.71**	**154**	*i* Pn	**Pn**	**14 41 56.6**	**+0.7**
NVLJ				*i* Sn	**Sn**	**14 42 19.5**	**+1.8**

*MOS **12** 14:51:58.2±0.6, 5105N×16071E, h33km, mb4.5/2, Error ellipse: s-maj=99.9km s-min=26.5km az=110.0*
*ISCJB **12** 14:52:15.7±0.8, 5194N±005×15897E±008, h65km±8km, mb4.2/1, Error ellipse: s-maj=11.2km s-min=4.9km az=91.3*
*KRSC **12** 14:52:15.5±0.6, 5192N×15900E, h39km±5km, ML3.8*

ISC 12 14:52:16.7±0.8, 5193N±005×15898E±008, h49km±14km, n24, σ1°01/40, mb4.2/1, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.58**	**331**	*i* P	**Pn**	**14 52 27.9**	**-1.0**
RUS				*i* S	**Sn**	**14 52 36.5**	**-1.1**
GRL	**Gorelyy**	**0.83**	**319**	*e*P	**Pn**	**14 52 32.1**	**-0.1**
GRL				*e*S	**Sn**	**14 52 44.0**	**+0.5**
KRMR	**Karymshinskiy**	**1.04**	**330**	*i* P	**Pn**	**14 52 34.6**	**-0.4**
KRMR				*e*S	**Sn**	**14 52 48.2**	**-0.2**
PET	**Petropavlovsk**	**1.11**	**350**	*e*P	**Pn**	**14 52 35.2**	**-0.7**
PET				*e*S	**Sn**	**14 52 49.4**	**-0.8**
PET	**Petropavlovsk**	**1.11**	**350**	⇓*i*PN	**Pn**	**14 52 35.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,57nm,0.5s						
NLC	**Nalytchevo**	**1.26**	**10**	*i* P	**Pn**	**14 52 36.5**	**-1.5**
NLC				*i* S	**Sn**	**14 52 51.7**	**-2.1**
UGLR	**Uglovaya**	**1.28**	**356**	*e*P	**Pn**	**14 52 38.0**	**-0.3**
UGLR				*e*S	**Sn**	**14 52 54.6**	**+0.3**
SPN	**Mys Shipunski**	**1.33**	**28**	*e*P	**Pn**	**14 52 39.3**	**+0.4**
SPN				*e*S	**Sn**	**14 52 56.9**	**+1.4**
SMAR	**Somma**	**1.34**	**356**	*e*P	**Pn**	**14 52 38.4**	**-0.6**
SMAR				*e*S	**Sn**	**14 52 55.0**	**-0.7**
AVH	**Avacha**	**1.34**	**354**	*e*P	**Pn**	**14 52 39.0**	**-0.1**
AVH				*e*S	**Sn**	**14 52 55.5**	**-0.3**
KOK	**Koryaka**	**1.38**	**352**	*e*P	**Pn**	**14 52 39.7**	**+0.1**
KOK				*e*S	**Sn**	**14 52 56.2**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.41**	**285**	*i* P	**Pn**	**14 52 40.0**	**0.0**
MIPR				*i* S	**Sn**	**14 52 58.0**	**+0.6**
PAU	**Pauzhetka**	**1.42**	**252**	*e*P	**Pn**	**14 52 40.5**	**+0.3**
PAU				*i* S	**Sn**	**14 52 59.0**	**+1.2**
PAU				Smax			
	comp=Z,360nm,0.3s						
APC	**Apacha**	**1.49**	**313**	*i* P	**Pn**	**14 52 41.2**	**+0.1**
APC				*e*S	**Sn**	**14 53 00.9**	**+1.5**
APC				Smax			
	comp=Z,240nm,0.8s						
GNL	**Ganaly**	**1.88**	**341**	*e*P	**Pn**	**14 52 46.9**	**+0.6**
GNL				*e*S	**Sn**	**14 53 09.8**	**+1.0**
ALID	**Alaid**	**2.39**	**245**	*e*P	**Pn**	**14 52 52.5**	**-1.0**
ALID				*e*S	**Sn**	**14 53 20.7**	**-0.9**
MKZ	**Mys Kozlova**	**3.11**	**31**	*e*P	**Pn**	**14 53 03.3**	**+0.1**
MKZ				*e*S	**Sn**	**14 53 38.6**	**-0.5**
TUMR	**Tumrok**	**3.43**	**11**	*e*P	**Pn**	**14 53 10.2**	**+2.5**
ESO	**Esso**	**4.01**	**358**	*e*P	**Pn**	**14 53 17.3**	**+1.7**
CIRR	**Tsirk**	**4.32**	**13**	*e*P	**Pn**	**14 53 22.5**	**+2.6**
KBTR	**Krutoberegovo**	**4.85**	**26**	*e*P	**Pn**	**14 53 28.2**	**+1.1**
SEY	**Seymchan**	**11.58**	**345**	*e*PN	**Pn**	**14 54 59.6**	**+0.3**
TIXI	**Tiksi**	**23.87**	**337**	*e*P	**P**	**14 57 20.8**	**-4.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**48.05**	**296**	*i* P	**P**	**15 00 48.4**	**-2.7**

MAN 12 14:53:44.5, 1363N×12040E, h50km, mb2.6, ML4.1, MS2.4, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.19**	**305**	*e*P	Pn	14 53 53.9	+1.2
LUBP				*e*S	Sn	14 54 01.1	+2.5
PAZ	**Puerto Azul**	**0.65**	**24**	*e*P	Pn	14 53 59.6	+2.0
LBPH	**Los Banos**	**0.92**	**55**	⇓*e*P	Pn	14 54 01.8	+0.7
NBP	**Mount Natib**	**1.11**	**1**	⇓*e*P	Pn	14 54 04.4	+0.7
BOAC	**Boac**	**1.41**	**97**	*e*P	Pn	14 53 59.4	-8.4
BOAC				*e*S	Sn	14 54 24.2	-1.0
BUSP	**Coron**	**1.63**	**187**	*e*P	Pn	14 54 11.7	+1.0

*NIED **12** 15:11:00, 3960N×14380E, h17km, Mw3.9 Best double couple: M0 9.37000×10^14 NP1:φ0=33.00000°, δ64.00000°, λ100.00000°. NP2:φ0=191.00000°, δ28.00000°, λ70.00000°.*
*JMA **12** 15:11:05.5±0.2, 3957N×14378E, h22km, M4.4*
*ISCJB **12** 15:11:06.2±1.5, 3953N±004×14370E±007, h20km±11km, mb4.1/24, Error ellipse: s-maj=10.1km s-min=5.3km az=70.5*
*BJI **12** 15:11:09.8, 3965N×14324E, h21km, mB4.8, mb4.4*
*MOS **12** 15:11:09.0±1.2, 3958N×14355E, h38km, mb4.4/10, Error ellipse: s-maj=12.9km s-min=8.2km az=81.3*
*IDC **12** 15:11:11.9±3.6, 3950N×14342E, h37km±30km, mb3.5/11, mb1 3.8/14, mb1mx3.7/22, mbtmp3.8/14, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=22.8km s-min=15.7km az=103.0*
*NEIC **12** 15:11:13.0±1.1, 3950N×14338E, h48km±11km, mb4.3/6, Error ellipse: s-maj=11.8km s-min=8.8km az=142.0*
*NAO **12** 15:11:13.6, 4002N×14368E, h33km, mb3.8*

ISC 12 15:11:06.7±2.1, 3957N±004×14358E±006, h6km±14km, n71, σ0°95/73, mb4.1/24, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.36**	**271**	P	**Pn**	**15 11 31.8**	**-0.5**
MIYJ				*e*S	**Sb**	**15 11 51.4**	**+1.1**
JTH	**Tanohata**	**1.37**	**286**	P	**Pn**	**15 11 31.9**	**-0.6**
OFUJ	**Ofunato**	**1.56**	**252**	P	**Pn**	**15 11 34.6**	**-0.5**
JOM	**Ohasama**	**1.77**	**268**	P	**Pn**	**15 11 38.2**	**+0.2**
JANG	**Nango**	**1.78**	**298**	P	**Pn**	**15 11 37.4**	**-0.7**
JMK	**Ichinoseki**	**1.93**	**252**	P	**Pn**	**15 11 40.0**	**-0.2**
JYK	**Kaneyama**	**2.58**	**256**	P	**Pn**	**15 11 49.6**	**+0.5**
JOT	**Ohata**	**2.65**	**314**	P	**Pn**	**15 11 49.9**	**-0.1**
JMM	**Marumori**	**2.77**	**233**	P	**Pn**	**15 11 50.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.78**	**347**	P	**Pn**	**15 11 52.8**	**+1.0**
JKB	**Kayabe**	**3.02**	**321**	P	**Pn**	**15 11 56.0**	**+0.9**
JCH	**Churui**	**3.05**	**357**	P	**Pn**	**15 11 55.3**	**-0.2**
JAK	**Akkeshi**	**3.53**	**13**	P	**Pn**	**15 12 01.5**	**-0.6**
JAR	**Ashorobuto**	**3.73**	**2**	P	**Pn**	**15 12 04.2**	**-0.7**
NEM2	**Nemuro 2**	**4.13**	**22**	P	**Pn**	**15 12 09.4**	**-0.9**
ASAJ	**Asahikawa**	**4.60**	**351**	Pn	**Pn**	**15 12 18.4**	**+1.5**
	2.2nm,0.3s,baz=188,slow=12,SNR=35						
ASAJ				Sn	**Sn**	**15 13 11.0**	**+0.3**
	1.9nm,0.3s,baz=207,slow

BILL Bilibino 31.12 16 *e*P **P 15 17 16.8 -9.3**
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.6
TIXI Tiksi 33.01 352 *e*P **P 15 17 37.3 -5.3**
TIXI pmax pmax
comp=Z,8.0nm,2.5s,mb4.2
CD2 Chengdu 33.43 268 *e*P **P 15 17 45.6 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
GTA Gaotai 33.53 284 *e*P **P 15 17 48.3 +1.1**
GTA AP pP 15 17 57.7 +8.8
GTA XP sP 15 18 02.0 +12
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
MKAR Makanchi Array 44.27 300 P **P 15 19 17.2 +0.1**
comp=Z,2.4nm,0.6s,mb4.1,baz=83,slow=9.4,SNR=29
KURK Kurchatov 45.76 306 *e*P **P 15 19 28.5 -0.5**
KURK Kurchatov 45.76 306 *e*P **P 15 19 28.3 -0.7**
comp=Z,5.0nm,0.8s,mb4.5
ILAR Eielson Array 46.44 34 P **P 15 19 35.7 +1.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=261,slow=6.5,SNR=12
JIRN Jiri 48.51 274 *e*P **P 15 19 51.0 +0.5**
GUN Gumba 48.63 275 *e*P **P 15 19 52.3 +0.9**
comp=Z,14nm,0.4s,mb5.3
KKN Kakani 49.15 275 *e*P **P 15 19 55.2 -0.2**
comp=Z,12nm,0.6s,mb5.1
KKN Kakani 49.15 275 *e*P **P 15 19 55.2 -0.2**
KKN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
PKI Pulchoki 49.16 274 *e*P **P 15 19 54.4 -1.0**
DMN Daman 49.37 275 *e*P **P 15 19 55.6 -1.5**
GKN Gorkha 49.54 275 *e*P **P 15 19 58.7 +0.3**
BRVK Borovoye 50.21 311 *e*P **P 15 20 02.2 -1.3**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BRVK Borovoye 50.21 311 *e*P **P 15 20 02.2 -1.2**
comp=Z,1.2nm,0.6s,mb4.1
KOLN Koldanda 50.45 276 *e*P **P 15 20 04.4 -0.9**
ARU Arti 55.61 318 ⇑*i*P **P 15 20 40.9 -2.4**
ARU *e* 15 22 42.8
ARU *e*PPP 15 23 58.4
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WRA Warramunga Arr 59.83 190 P **P 15 21 12.0 -1.0**
comp=Z,0.3nm,0.6s,mb3.5,baz=8.2,slow=6.9,SNR=7.5
YKA Yellowknife Ar 60.76 31 P **P 15 21 19.8 +0.4**
comp=Z,0.3nm,0.7s,mb3.6,baz=303,slow=6.8,SNR=6.6
YKA Yellowknife Ar 60.76 31 *i*P **P 15 21 20.2 +0.8**
YKA Yellowknife Ar 60.76 31 P **P 15 21 19.8 +0.4**
ASAR Alice Springs 63.55 190 P **P 15 21 38.0 -0.2**
comp=Z,0.2nm,0.5s,mb3.4,baz=2.5,slow=6.3,SNR=7.6
JOF Joensuu 64.53 332 *e*p **P 15 21 38.8 -5.8**
FINES FINESS Array B 67.36 332 P **P 15 22 02.6 -0.1**
comp=Z,1.3nm,0.7s,mb4.0,baz=53,slow=9.5,SNR=6.6
NVAR Mina Array Bea 72.12 55 P **P 15 22 34.3 +2.2**
comp=Z,0.4nm,0.7s,mb3.5,baz=283,slow=5.8,SNR=4.3
NB2 NORSAR Subarra 72.50 338 P **P 15 22 34.4 0.0**
comp=Z,0.8nm,0.8s,mb3.7,baz=36,slow=6.2
NOA NORSAR Array B 72.50 338 P **P 15 22 34.5 +0.1**
comp=Z,1.3nm,0.9s,mb3.9,baz=36,slow=6.0,SNR=4.2
AKASG Malin Array Be 73.33 323 P **P 15 22 38.9 -0.4**
comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=6.1,SNR=4.1
AKASG Malin Array Be 73.33 323 *i*P **P 15 22 48.0 +8.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 74.69 47 P **P 15 22 49.9 +2.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=270,slow=1.5,SNR=3.9

*NEIC **12** 15:12:48.7, 1596N×9829W, h5km, MD3.8(MEX), After MEX.*
MEX 12 15:12:48.7±0.9, 1596N×9829W, h5km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.45**	**20**	*e*P			Pg	15 12 56.1	-1.4
PNIG				*i*S			Sg	15 13 04.1	+0.7
ACX	**Acapulco**	**1.80**	**300**	*e*P			Pn	15 13 16.8	-3.6
VHO	**Vista Hermosa**	**1.86**	**53**	*i*P			Pn	15 13 18.1	-3.1
VHO				*i*S			Sn	15 13 41.1	-3.9
OXX	**Oaxaca**	**1.87**	**53**	*i*P			Pn	15 13 17.5	-3.8
OXX				*i*S			Sn	15 13 41.7	-3.6
UTMO	**Huajuapan**	**1.91**	**14**	*e*P			Pn	15 13 18.0	-3.9
UTMO				*i*S			Sn	15 13 45.0	-1.3
MEIG	**Mezcala**	**2.33**	**327**	*i*P			Pn	15 13 25.2	-2.4
MEIG				*i*S			Sn	15 13 53.1	-3.5
PLIG	**Platanillo**	**2.68**	**335**	*i*P			Pn	15 13 30.5	-2.0
PLIG				*i*S			Sn	15 14 02.4	-2.9
YAIG	**Yautepec**	**2.98**	**346**	*e*P			Pn	15 13 35.5	-1.0
YAIG				*i*S			Sn	15 14 09.2	-3.4
PPM	**Popocatepetl**	**3.10**	**354**	*i*P			Pn	15 13 38.8	+0.5
PPM				*i*S			Sn	15 14 12.5	-3.2

*IDC **12** 15:28:38.1±14.0, 1785S×17849W, h468km±164km, mb3.0/5, mb1 3.3/5, mb1mx3.1/14, mbtmp3.8/5, Error ellipse: s-maj=115.3km s-min=52.8km az=154.0*
*ISCJB **12** 15:28:40.6±1.8, 178S±07×1788W±05, h500km, mb3.4/6, Error ellipse: s-maj=111.3km s-min=19.4km az=115.5*
*NEIC **12** 15:28:41.2±1.5, 1779S×17867W, h500km, mb3.4/1, Error ellipse: s-maj=99.6km s-min=17.6km az=147.0*
ISC 12 15:28:41.7±1.8, 177S±07×1787W±05, h500km, n7, σ1§35/6, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.48**	**241**	P			**P**	**15 35 18.7**	**-1.4**
0.8nm,0.4s,mb3.5,baz=356,slow=20,SNR=5.3									
WRA	**Warramunga Arr**	**44.38**	**259**	P			**P**	**15 36 07.3**	**+0.4**
0.3nm,0.4s,mb3.1,baz=98,slow=7.1,SNR=21									
ASAR	**Alice Springs**	**44.56**	**254**	P			**P**	**15 36 09.6**	**+1.2**
4.4nm,0.6s,mb4.1,baz=90,slow=7.9,SNR=209									
ILAR	**Eielson Array**	**85.74**	**13**	P			**P**	**15 40 26.1**	**-1.3**
0.2nm,0.4s,mb3.1,baz=226,slow=5.3,SNR=9.4									
BW06	**Boulder Array**	**87.40**	**44**	*e*P			**P**	**15 40 35.7**	**+0.5**
0.3nm,0.4s,mb3.4									
PDAR	**Pinedale Array**	**87.40**	**44**	P			**P**	**15 40 35.8**	**+0.5**
0.4nm,0.6s,mb3.3,baz=225,slow=2.1,SNR=3.9									
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc			PKPbc	15 47 28.2	-0.4
0.5nm,0.5s,baz=27,slow=3.0,SNR=6.7									

IDC 12 15:33:55.1±2.1, 325N×12817E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=155.8km s-min=23.5km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.83**	**166**	P			P	15 39 09.3	-0.5
0.5nm,0.5s,baz=345,slow=10,SNR=12									
ASAR	**Alice Springs**	**27.33**	**168**	P			P	15 39 42.5	+0.9
0.4nm,1.0s,baz=354,slow=8.4,SNR=3.4									
MKAR	**Makanchi Array**	**58.77**	**325**	P			P	15 43 55.1	+0.2
0.6nm,0.5s,baz=114,slow=8.0,SNR=16									

*IDC **12** 16:37:14.0±2.4, 2894N×4746E, h0km, mb3.5/7, mb1 3.5/7, mb1mx3.4/23, mbtmp3.6/7, MS3.7/2, Ms1 3.7/2, ms1mx2.8/19, Error ellipse: s-maj=51.7km s-min=26.3km az=148.0*
*KISR **12** 16:37:13.9±0.6, 2897N×4767E, h4km±3km, MD2.2*
*ISCJB **12** 16:37:14.5±1.1, 2888N±006×4766E±008, h19km±7km, mb3.4/7, MS3.7/2, Error ellipse: s-maj=13.1km s-min=8.8km az=104.0*
ISC 12 16:37:15.2±1.0, 2891N±006×4765E±007, h10km±6km, n14, σ0§81/16, mb3.4/7, MS3.7/2, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBD	**Kabd**	**0.27**	**8**	*e*P			**Pg**	**16 37 19.4**	**-1.2**
KBD				*e*S			**Sg**	**16 37 23.7**	**-0.6**
KBD				AML			AML	16 37 26.1	
comp=Z,9μm,0.2s									
QRN	**Al-Qurain**	**0.28**	**125**	*e*P			**Pg**	**16 37 21.5**	**+0.7**
NAY	**Al-Naaiem**	**0.49**	**314**	*e*P			**Pg**	**16 37 24.7**	**-0.1**
NAY				*e*S			**Sg**	**16 37 32.7**	**+1.3**
NAY				AML			AML	16 37 34.2	
comp=Z,313nm,0.3s									
UMR	**Umm Al-Rimmam**	**0.65**	**5**	*e*P			**Pg**	**16 37 26.9**	**-0.7**
UMR				*e*S			**Sg**	**16 37 36.8**	**+0.6**
UMR				AML			AML	16 37 39.4	
comp=Z,1μm,0.3s									
MIB	**Mutribah**	**0.93**	**343**	*e*P			**Pg**	**16 37 32.5**	**-0.6**
MIB				*e*S			**Sg**	**16 37 45.9**	**+0.6**
MIB				AML			AML	16 37 46.2	
comp=Z,388nm,0.5s									
AKTO	**Aktyubinsk**	**22.89**	**17**	P			**P**	**16 42 19.9**	**+1.1**
comp=Z,0.7nm,0.5s,mb3.4,baz=209,slow=11,SNR=3.6									
AKASG	**Malin Array Be**	**25.83**	**333**	P			**P**	**16 42 45.8**	**-0.8**
comp=Z,1.3nm,0.6s,mb3.7,baz=136,slow=9.0,SNR=8.2									
BVAR	**Borovoye Array**	**29.34**	**28**	P			**P**	**16 43 18.8**	**+0.8**
comp=Z,0.3nm,0.5s,mb3.3,baz=225,slow=4.1,SNR=4.3									
KMBO	**Kilima Mbogo**	**31.48**	**200**	LR			LR	16 57 17.7	
comp=Z,38nm,19.8s,MS3.1,baz=94,slow=38									
MKAR	**Makanchi Array**	**32.32**	**47**	P			**P**	**16 43 45.4**	**+1.0**
comp=Z,0.2nm,0.5s,mb3.2,baz=242,slow=7.4,SNR=3.8									
FINES	**FINESS Array B**	**35.56**	**342**	P			**P**	**16 44 11.7**	**-0.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=158,slow=7.5,SNR=4.7									
HFS	**Hagfors**	**38.71**	**333**	P			**P**	**16 44 38.4**	**-0.8**
comp=Z,0.9nm,0.6s,mb3.7,baz=111,slow=12,SNR=5.0									
TORD	**Torodi Ar. Bea**	**45.38**	**260**	P			**P**	**16 45 33.2**	**-0.5**
comp=Z,0.4nm,0.8s,mb3.3,baz=46,slow=10,SNR=2.8									
MJAR	**Matsushiro Arr**	**73.85**	**57**	LR			LR	17 26 41.2	
comp=Z,145nm,18.3s,MS4.3,baz=65,slow=40									

IDC 12 16:42:20.5±6.4, 428S×15019E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, MS3.5/3, Ms1 3.4/3, ms1mx3.0/9, Error ellipse: s-maj=308.2km s-min=52.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.17**	**193**	LR			LR	16 51 40.5	
comp=Z,116nm,20.9s,baz=174,slow=35									
WB2	**Warramunga Arr**	**21.92**	**223**	*e*P			P	16 47 16.9	+1.6
WRA	**Warramunga Arr**	**21.93**	**223**	P			P	16 47 16.1	+0.7
4.3nm,1.1s,baz=45,slow=10.0,SNR=9.1									
ASAR	**Alice Springs**	**24.87**	**218**	P			P	16 47 44.8	+0.1
0.7nm,0.9s,baz=50,slow=8.1,SNR=14									
FITZ	**Fitzroy Crossi**	**27.67**	**238**	*e*P			P	16 48 09.8	-0.2
7.3nm,0.6s									
STKA	**Stephens Creek**	**28.61**	**195**	LR			LR	17 00 08.7	
comp=Z,91nm,19.5s,baz=26,slow=37									
MJAR	**Matsushiro Arr**	**42.12**	**346**	LR			LR	17 04 24.7	
comp=Z,70nm,19.9s,baz=185,slow=32									
TORD	**Torodi Ar. Bea**	**147.67**	**288**	PKPbc			PKPbc	17 02 07.5	+0.5
0.6nm,0.8s,baz=64,slow=3.1,SNR=3.6									

*NAO **12** 16:49:10.6, 3457N×7135E, h33km, mb4.0*
*IDC **12** 16:49:36.9±7.0, 3627N×7089E, h158km±63km, mb3.2/7, mb1 3.3/10, mb1mx3.1/23, mbtmp3.7/10, Error ellipse: s-maj=36.8km s-min=20.6km az=30.0*
*ISCJB **12** 16:49:38.9±0.5, 3650N±003×7098E±007, h184km±7km, mb3.3/7, Error ellipse: s-maj=10.2km s-min=4.9km az=146.7*
*NEIC **12** 16:49:40.7±1.8, 3645N×7098E, h189km±17km, mb4.4/4, Error ellipse: s-maj=23.5km s-min=6.1km az=58.0*
*NNC **12** 16:49:45.8±4.5, 3703N×7075E, h172km±49km, mb2.9, mpv4.2, Error ellipse: s-maj=39.5km s-min=21.7km az=18.0*
ISC 12 16:49:39.8±0.5, 3650N±003×7098E±008, h179km±7km, n42, σ0§89/47, mb3.3/7, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.77**	**164**	⇑P			**Pn**	**16 50 26.8**	**+1.2**
CHCP	**Chirah Chowk**	**3.40**	**146**	P			**Pn**	**16 50 34.4**	**+1.2**
THW	**Thamme Wali**	**3.75**	**170**	P			**Pn**	**16 50 38.2**	**+0.6**
SBDP	**Sheikh Budin**	**4.19**	**182**	⇑P			**Pn**	**16 50 42.7**	**-0.5**
SARP	**Sargodha**	**4.77**	**162**	P			**Pn**	**16 50 50.7**	**-0.1**
DRP	**Derazinda**	**4.78**	**188**	P			**Pn**	**16 50 51.0**	**+0.1**
THN	**Thein Dam**	**5.63**	**135**	*e*P			**Pn**	**16 51 01.9**	**0.0**
THN				*e*S			**Sn**	**16 52 04.5**	**-2.0**
DLH	**Dalhousie**	**5.70**	**132**	*e*S			**Sn**	**16 52 06.0**	**-2.1**
AML	**Almayashu**	**6.01**	**20**	P			**Pn**	**16 51 07.1**	**+0.3**
SNR=21									
UCH	**Uchtor**	**6.34**	**24**	P			**Pn**	**16 51 11.3**	**0.0**
SNR=6.7									
EKS2	**Erkin-Say**	**6.53**	**18**	P			**Pn**	**16 51 14.1**	**+0.4**
SNR=16									
KK31	**Karatay Array**	**6.61**	**357**	P			**Pn**	**16 51 13.7**	**-1.0**
20nm,0.7s,baz=179,slow=13,SNR=243									
KK31				S			**Sn**	**16 52 24.1**	**-5.5**
6.9nm,0.3s,baz=176,slow=19,SNR=15									
AAK	**Ala-Archa**	**6.70**	**23**	P			**Pn**	**16 51 16.5**	**+0.5**
SNR=8.4									
KBK	**Karagaybulak**	**6.87**	**25**	P			**Pn**	**16 51 19.0**	**+0.8**
SNR=5.1									
TKM2	**Tokmak 2**	**7.34**	**28**	P			**Pn**	**16 51 24.5**	**+0.2**
SNR=5.2									
TKM2	**Tokmak 2**	**7.34**	**28**	⇓P			**Pn**	**16 51 24.4**	**+0.1**
11nm,0.9s									
TKM2				⇓S			**Sn**	**16 52 44.1**	**-2.7**
5.3nm,0.7s									
SMLA	**Simla**	**7.43**	**134**	*e*P			**Pn**	**16 51 24.6**	**-0.9**
SMLA				*e*S			**Sn**	**16 52 44.4**	**-4.6**
MK31	**Makanchi Array**	**13.30**	**36**	⇑P			**Pn**	**16 52 45.6**	**+3.8**
1.0nm,0.5s,baz=209,slow=10									
MKAR	**Makanchi Array**	**13.30**	**36**	P			**Pn**	**16 52 42.2**	**+0.4**
0.4nm,0.3s,baz=229,slow=13,SNR=33									
KOLN	**Koldanda**	**13.78**	**126**	*e*P			**Pn**	**16 52 47.4**	**-0.3**
4.6nm,0.3s									
GKN	**Gorkha**	**14.32**	**122**	*e*P			**Pn**	**16 52 54.9**	**+0.5**
22nm,0.4s									
DMN	**Daman**	**14.89**	**123**	*e*P			**Pn**	**16 53 01.0**	**-0.5**
KKN	**Kakani**	**14.89**	**122**	*e*P			**Pn**	**16 53 02.5**	**+1.0**
AB31	**Akbulak array**	**15.08**	**331**	P			**Pn**	**16 53 03.4**	**-0.4**
0.8nm,0.3s,baz=152,slow=12,SNR=56									
AB31				⇓S			**S**	**16 55 41.3**	**-10**
0.5nm,0.5s,baz=160,slow=22,SNR=3.0									
PKI	**Pulchoki**	**15.12**	**122**	*e*P			**Pn**	**16 53 05.1**	**+0.8**
24nm,0.6s									
GUN	**Gumba**	**15.23**	**120**	*e*P			**Pn**	**16 53 07.1**	**+1.4**
JIRN	**Jiri**	**15.60**	**120**	*e*P			**Pn**	**16 53 11.4**	**+1.2**
9.3nm,0.4s									
VOSK	**Vostochnaya**	**16.23**	**0**	⇑P			**Pn**	**16 53 17.0**	**-0.8**
3.1nm,1.4s									
BVA0	**Borovoye Array**	**16.53**	**359**	⇑P			**Pn**	**16 53 23.3**	**+1.8**
0.1nm,0.4s,baz=158,slow=11,SNR=4.5									
BVAR	**Borovoye Array**	**16.53**	**359**	P			**Pn**	**16 53 22.0**	**+0.5**
0.3nm,0.3s,baz=155,slow=7.9,SNR=8.5									
BRVK	**Borovoye**	**16.57**	**359**	P			**Pn**	**16 53 21.4**	**-0.5**
1.0nm,0.8s									
AKTK	**Aktyubinsk**	**16.77**	**330**	P			**Pn**	**16 53 24.1**	**-0.3**
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P			**Pn**	**16 53 24.0**	**-0.3**
0.6nm,1.1s									
AKTO	**Aktyubinsk**	**16.77**	**330**	P			**Pn**	**16 53 24.1**	**-0.3**
0.4nm,0.3s,baz=144,slow=9.9,SNR=7.3									
FINES	**FINESS Array B**	**37.48**	**326**	P			**P**	**16 56 36.0**	**-0.1**
0.6nm,0.6s,mb3.4,baz=112,slow=11,SNR=5.2									
ARCES	**ARCESS Array B**	**41.14**	**338**	P			**P**	**16 57 06.6**	**+0.2**
3.1nm,0.8s,mb4.0,baz=117,slow=7.6,SNR=11									
NB2	**NORSAR Subarra**	**44.37**	**323**	P			**P**	**16 57 31.0**	**-1.4**
comp=Z,1.1nm,0.5s,mb3.7,baz=97,slow=7.9									
NOA	**NORSAR Array B**	**44.37**	**323**	P			**P**	**16 57 31.9**	**-0.4**
comp=Z,1.4nm,0.6s,mb3.8,baz=97,slow=7.7,SNR=6.3									
TORD	**Torodi Ar. Bea**	**65.70**	**269**	P			**P**	**17 00 04.4**	**-0.7**
comp=Z,0.3nm,0.7s,mb3.3,baz=55,slow=5.7,SNR=3.3									
YKA	**Yellowknife Ar**	**81.25**	**3**	P			**P**	**17 01 36.1**	**+0.3**
comp=Z,0.2nm,0.4s,mb3.1,baz=351,slow=5.5,SNR=6.8									
WRA	**Warramunga Arr**	**82.00**	**122**	P			**P**	**17 01 39.1**	**-0.7**
comp=Z,0.1nm,0.3s,mb2.9,baz=326,slow=4.9,SNR=8.4									
ASAR	**Alice Springs**	**84.27**	**125**	P			**P**	**17 01 50.9**	**-0.5**
comp=Z,0.3nm,1.0s,mb3.0,baz=315,slow=4.8,SNR=4.3									

*IDC **12** 17:09:23.5±0.5, 5514N×16552E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.5/25, mbtmp4.4/21, ML4.3/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/24, Error ellipse: s-maj=14.6km s-min=9.7km az=12.0*
*KRSC **12** 17:09:25.3±2.2, 5507N×16560E, h38km±5km, ML4.9*
*ISCJB **12** 17:09:25.5±0.5, 5506N±003×16550E±003, h27km±4km, mb4.5/58, MS4.0/20, Error ellipse: s-maj=4.5km s-min=2.4km az=160.2*
*NAO **12** 17:09:26.2, 5480N×16509E, h33km, mb3.9*
*MOS **12** 17:09:26.5±0.9, 5506N×16556E, h33km, mb4.8/18, Error ellipse: s-maj=8.6km s-min=7.5km az=79.9*
*NEIC **12** 17:09:29.2±0.8, 5506N×16558E, h41km±8km, mb4.8/28, Error ellipse: s-maj=7.8km s-min=4.4km az=165.0*
*BJI **12** 17:09:29.1, 5510N×16560E, h41km, mB5.0, mb4.5, Ms4.6, Msz4.2*

ISC 12 17:09:26.9±0.6, 5507N±003×16550E±003, h25km±4km, h41km±1.8km: pP-P, n165, σ1§16/197, mb4.5/58, MS4.0/20, 3C-3D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**64**	*i*P			**Pb**	**17 09 32.0**	**-1.9**
BKI				*i*S			**Sb**	**17 09 37.0**	**-1.7**
BKI				Smax					
93μm,0.5s									
KBTR	**Krutoberegovo**	**1.90**	**308**	P			**Pn**	**17 09 55.5**	**-2.2**
KBTR				S			**Sn**	**17 10 18.4**	**-2.5**
KBTR	**Krutoberegovo**	**1.90**	**308**	*i*P			**Pn**	**17 09 55.3**	**-2.4**
KBTR				*e*S			**Sn**	**17 10 18.2**	**-2.6**
KBG	**Krutoberegovo**	**1.98**	**308**	*e*P			**Pn**	**17 09 56.9**	**-1.9**
KBG				*i*S			**Sn**	**17 10 21.5**	**-1.3**
KBG				Smax					
3μm,1.0s									
MKZ	**Mys Kozlova**	**2.24**	**258**	P			**Pn**	**17 10 01.5**	**-0.9**
MKZ				S			**Sn**	**17 10 28.3**	**-1.0**
MKZ	**Mys Kozlova**	**2.24**	**258**	*e*P			**Pn**	**17 10 01.5**	**-0.9**
MKZ				*e*S			**Sn**	**17 10 28.0**	**-1.3**
SMKR	**Semkarok**	**2.73**	**305**	*e*P			**Pn**	**17 10 08.9**	**-0.3**
BDR	**Baidarnaya**	**2.85**	**304**	*e*P			**Pn**	**17 10 10.7**	**-0.1**
CIRR	**Tsirk**	**2.89**	**293**	*e*P			**Pn**	**17 10 12.0**	**+0.6**
CIRR				*e*S			**Sn**	**17 10 45.6**	**+0.2**
SRKR	**Sorokina**	**2.91**	**305**	*e*P			**Pn**	**17 10 11.9**	**+0.3**
SRKR				*e*S			**Sn**	**17 10 45.1**	**-0.7**
KLY	**Klyuchi**	**3.01**	**296**	P			**Pn**	**17 10 12.1**	**-0.9**
KLY				S			**Sn**	**17 10 47.3**	**-1.0**
KLY	**Klyuchi**	**3.01**	**296**	*e*P			**Pn**	**17 10 12.1**	**-0.9**
KLY				*e*S			**Sn**	**17 10 45.7**	**-2.6**
KMNR	**Kamenistaya**	**3.08**	**285**	P			**Pn**	**17 10 15.2**	**+1.3**
TUMR	**Tumrok**	**3.08**	**276**	*e*P			**Pn**	**17 10 14.5**	**+0.6**
TUMR				*e*S			**Sn**	**17 10 48.8**	**-1.1**
KPT	**Kopyto**	**3.13**	**289**	*e*P			**Pn**	**17 10 15.7**	**+1.0**
KPT				*e*S			**Sn**	**17 10 51.1**	**-0.2**
KOZR	**Kozyr**	**3.33**	**290**	PN			**Pn**	**17 10 18.9**	**+1.4**
KOZR				S			**Sn**	**17 10 58.2**	**+1.9**
KOZ	**Kozyrevsk**	**3.34**	**289**	P			**Pn**	**17 10 18.9**	**+1.3**
KOZ				S			**Sn**	**17 10 58.2**	**+1.7**
KOZ	**Kozyrevsk**	**3.34**	**289**	*e*P			**Pn**	**17 10 18.9**	**+1.3**
SRDR	**Sredinnyy**	**3.50**	**293**	*e*P			**Pn**	**17 10 21.1**	**+1.3**
SRDR				*e*S			**Sn**	**17 11 01.4**	**+1.0**
KII	**Karymskiy**	**3.67**	**256**	P			**Pn**	**17 10 22.8**	**+0.7**
KII				S			**Sn**	**17 11 06.0**	**+1.4**
KII	**Karymskiy**	**3.67**	**256**	*e*P			**Pn**	**17 10 23.5**	**+1.4**
KII				*e*S			**Sn**	**17 11 04.1**	**-0.5**
SPN	**Mys Shipunski**	**3.78**	**241**	*e*P			**Pn**	**17 10 22.4**	**-1.2**
SPN				*e*S			**Sn**	**17 11 04.5**	**-2.8**
ESO	**Esso**	**3.96**	**285**	*e*P			**Pn**	**17 10 25.8**	**-0.3**
ESO				*e*S			**Sn**	**17 11 13.0**	**+1.3**
NLC	**Nalytchevo**	**4.09**	**245**	P			**Pn**	**17 10 27.2**	**-0.7**
NLC				*e*S			**Sn**	**17 11 12.3**	**-2.6**
NLC	**Nalytchevo**	**4.09**	**245**	*e*P			**Pn**	**17 10 27.1**	**-0.8**
NLC				*e*S			**Sn**	**17 11 12.1**	**-2.8**
SMAR	**Somma**	**4.33**	**248**	*e*P			**Pn**	**17 10 31.9**	**+0.7**
SMAR				*e*S			**Sn**	**17 11 19.0**	**-1.9**
UGLR	**Uglovaya**	**4.35**	**247**	*e*P			**Pn**	**17 10 32.0**	**+0.6**
UGLR				*e*S			**Sn**	**17 11 19.8**	**-1.4**
AVH	**Avacha**	**4.37**	**248**	*e*P			**Pn**	**17 10 31.9**	**+0.3**
AVH				*e*S			**Sn**	**17 11 20.5**	**-1.2**
OSSR	**Ossora**	**4.39**	**343**	*i*P			**Pn**	**17 10 29.5**	**-2.5**
OSSR				*e*S			**Sn**	**17 11 22.0**	**-0.4**
OSSR				Smax					
170nm,0.3s									
KOK	**Koryaka**	**4.41**	**249**	*e*P			**Pn**	**17 10 32.6**	**+0.4**
KOK				*e*S			**Sn**	**17 11 20.8**	**-2.0**
PET	**Petropavlovsk**	**4.53**	**246**	*e*P			**Pn**	**17 10 33.9**	**+0.1**
PET				*e*S			**Sn**	**17 11 22.4**	**-3.3**
PET	**Petropavlovsk**	**4.53**	**246**	*i*PN			**Pn**	**17 10 34.4**	**+0.6**
PET	**Petropavlovsk**	**4.53**	**246**	*e*Pn			**Pn**	**17 10 33.8**	**0.0**
PET				*e*Sn			**Sn**	**17 11 22.4**	**-3.2**
GNL	**Ganaly**	**4.63**	**256**	*e*P			**Pn**	**17 10 36.3**	**+1.0**
KRMR	**Karymshinskiy**	**4.90**	**246**	*e*P			**Pn**	**17 10 39.3**	**+0.3**
KRMR				*e*S			**Sn**	**17 11 31.8**	**-3.0**
RUS	**Russkaya**	**4.92**	**240**	*e*P			**Pn**	**17 10 39.2**	**0.0**
RUS				*e*S			**Sn**	**17 11 31.9**	**-3.4**
FX1	**Attu Island--F**	**5.03**	**113**	Pn			**Pn**	**17 10 39.9**	**-0.8**
87nm,0.3s,baz=330,slow=5.1,SNR=36									
FX1				Sn			**Sn**	**17 11 33.3**	**-4.7**
66nm,0.3s,baz=138,slow=17,SNR=5.8									
FX1	**Attu Island--F**	**5.03**	**113**	PN			**Pn**	**17 10 39.9**	**-0.9**
FX1				pmax			pmax		
comp=Z,87nm,0.3s									
GRL	**Gorelyy**	**5.

MCK McKinley 24.25 51 *eP* **P 17 14 41.1 -0.8**
comp=Z,17nm,1.0s,mb4.4
PMR Palmer 24.26 56 *eP* **P 17 14 40.5 -1.5**
PMR pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
PMR Palmer 24.26 56 *eP* **P 17 14 40.5 -1.5**
comp=Z,7.1nm,0.5s,mb4.3
SML Sawmill 24.62 55 *eP* **P 17 14 44.4 -0.9**
COLA College 24.73 48 ⇓*iP* **P 17 14 46.1 -0.1**
COLA College 24.73 48 *eP* **P 17 14 45.6 -0.6**
comp=Z,18nm,0.7s,mb4.7
MDJ Mudanjiang 25.14 260 P **P 17 14 49.8 -0.1**
MDJ AP pP 17 15 01.9 +4.7
MDJ PCP PcP 17 18 28.1 +4.5
MDJ S **S 17 19 13.8 +0.5**
MDJ SCP ScP 17 22 00.5 -0.6
MDJ PCS PcS 17 22 10.4 +6.5
MDJ AMB AMB
comp=Z,8.0nm,1.5s,mb4.0
MDJ AMB AMB
comp=Z,135nm,5.5s
MDJ LR LR
comp=N,169nm,19.4s,MS3.7
MDJ LR LR
comp=E,157nm,19.9s,MS3.7
MDJ LR LR
comp=Z,235nm,16.7s,MS3.8
ILAR Eielson Array 25.14 48 P **P 17 14 48.8 -1.2**
comp=Z,21nm,0.9s,mb4.7,baz=258,slow=8.6,SNR=128
ILAR LR LR 17 25 11.5
comp=Z,156nm,19.4s,MS3.5,baz=241,slow=38
MAJO Matsushiro 26.29 236 *eP* **P 17 15 01.6 +1.2**
MAJO pmax pmax
comp=Z,19nm,0.8s,mb4.7
MAJO Matsushiro 26.29 236 *eP* **P 17 15 01.6 +1.3**
comp=Z,19nm,0.8s,mb4.7
MAT Matsushiro 26.29 236 P **P 17 15 01.8 +1.4**
MAT Matsushiro 26.29 236 P **P 17 15 02.0 +1.6**
MAT pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
MAT Matsushiro 26.29 236 P **P 17 15 02.0 +1.6**
comp=Z,3.4nm,0.7s,mb4.0
MJAR Matsushiro Arr 26.29 236 P **P 17 15 01.5 +1.2**
comp=Z,1.5nm,0.7s,mb3.6,baz=30,slow=8.1,SNR=5.4
MJAR Matsushiro Arr 26.29 236 P **P 17 15 01.5 +1.1**
CN2 Changchun 27.99 263 *eP* **P 17 15 15.9 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,15.0s,MS4.0
BOD Bodaibo 28.03 297 *eP* **P 17 15 16.0 -0.1**
BOD pmax pmax
comp=Z,4.0nm,1.6s,mb3.8
INK Inuvik 30.33 40 P **P 17 15 36.2 -0.2**
comp=Z,9.2nm,0.5s,mb4.8,baz=287,slow=6.8,SNR=98
ULN Ulaanbaatar 36.15 283 ⇑*eP* **P 17 16 29.1 +1.9**
ULN Ulaanbaatar 36.15 283 *eP* **P 17 16 29.3 +2.1**
comp=Z,10nm,1.4s,mb4.6
SONM Songino Array 36.54 284 P **P 17 16 32.1 +1.7**
comp=Z,2.2nm,0.7s,mb4.1,baz=56,slow=8.7,SNR=9.6
SONM LR LR 17 32 43.9
comp=Z,134nm,18.3s,MS3.8,baz=60,slow=38
MOY Mondy 37.42 292 *eP* **P 17 16 39.7 +1.7**
SSE Sheshan 39.34 251 *eP* **P 17 16 52.8 -1.3**
SSE AP pP 17 17 03.4 +1.9
SSE XP sP 17 17 08.5 +4.0
SSE PCP PcP 17 19 02.2 -0.1
SSE S **S 17 22 49.6 -4.1**
SSE XS sS 17 23 11.8 +5.8
SSE SCS ScS 17 26 58.9 -2.2
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,88nm,5.6s
SSE LR LR
comp=Z,84nm,20.2s,MS3.6
YKA Yellowknife Ar 39.52 46 P **P 17 16 55.2 -0.4**
comp=Z,9.8nm,0.6s,mb4.7,baz=298,slow=8.1,SNR=111
YKA Yellowknife Ar 39.52 46 P **P 17 16 55.2 -0.4**
NJ2 Nanjing 39.89 254 *eP* **P 17 17 00.9 +2.2**
NJ2 AP pP 17 17 10.2 +4.1
NJ2 XP sP 17 17 13.2 +4.1
NJ2 S **S 17 23 04.0 +2.0**
NJ2 XS sS 17 23 21.0 +6.7
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
NJ2 AMB AMB
comp=Z,80nm,5.7s
NJ2 LR LR
comp=N,690nm,30.0s,MS4.4
NJ2 LR LR
comp=E,410nm,25.2s,MS4.4
NJ2 LR LR
comp=Z,520nm,31.0s
NVS Novosibirsk 44.59 305 *eP* **P 17 17 34.8 -2.2**
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=Z,20nm,1.6s,mb4.7
NVS pmax pmax
comp=E,15nm,1.3s
GTA Gaotai 45.51 278 *eP* **P 17 17 45.8 +1.5**
GTA AP pP 17 17 57.6 +5.7
GTA XP sP 17 18 02.6 +7.7
GTA PCP PcP 17 19 22.3 -0.5
GTA PP PP 17 19 34.3 +3.3
GTA PPP 17 20 17.6
GTA S **S 17 24 26.8 +2.1**
GTA XS sS 17 24 44.2 +7.0
GTA SS SS 17 27 42.9 -5.9
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,61nm,6.5s
GTA LR LR
comp=N,189nm,14.1s,MS4.4
GTA LR LR
comp=E,269nm,14.5s,MS4.4
GTA LR LR
comp=Z,288nm,14.8s,MS4.3
HUMO Hull Mountain 46.67 74 *eP* **P 17 17 53.8 +0.4**
comp=Z,5.3nm,0.8s,mb4.5
YBH Yreka Blue Hor 47.39 75 *eP* **P 17 17 59.3 +0.2**
YBH pmax pmax
comp=Z,7.0nm,0.7s
YBH Yreka Blue Hor 47.39 75 *eP* **P 17 17 59.3 +0.2**
comp=Z,7.4nm,0.7s,mb4.7
MOD Modoc 48.61 73 *eP* **P 17 18 08.6 +0.2**
comp=Z,16nm,0.6s,mb5.2
CHMT Chamberlain Mo 49.04 64 *eP* **P 17 18 10.9 -0.9**
WVOR Wild Horse Val 49.16 72 *eP* **P 17 18 12.8 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
WVOR Wild Horse Val 49.16 72 *eP* **P 17 18 12.8 0.0**
comp=Z,7.8nm,1.0s,mb4.7
WMQ Urumqi 49.28 291 P **P 17 18 16.0 +2.4**
WMQ AP pP 17 18 28.0 +6.8
WMQ XP sP 17 18 34.0 +10
WMQ PP PP 17 20 11.0 +3.4
WMQ S **S 17 25 18.0 -0.3**
WMQ SCS ScS 17 28 01.0 -3.0
WMQ SS SS 17 28 47.0 -2.8
WMQ AMB AMB
comp=Z,14nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,97nm,5.0s
WMQ LR LR
comp=N,564nm,10.0s,MS5.0
WMQ LR LR
comp=E,512nm,11.0s,MS5.0
WMQ LR LR
comp=Z,324nm,10.0s,MS4.6
CD2 Chengdu 49.29 267 *eP* **P 17 18 13.7 0.0**
CD2 AP pP 17 18 26.1 +4.8
CD2 XP sP 17 18 31.4 +7.1
CD2 PP PP 17 20 08.1 +0.4
CD2 S **S 17 25 14.9 -3.6**
CD2 XS sS 17 25 36.1 +5.1
CD2 SS SS 17 28 42.4 -7.7
CD2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
CD2 AMB AMB
comp=Z,70nm,10.8s
CD2 LR LR
comp=N,220nm,18.0s
CD2 LR LR
comp=Z,190nm,15.6s,MS4.2
KURK Kurchatov 49.35 303 *eP* **P 17 18 13.9 -0.3**
KURK pmax pmax
comp=Z,26nm,1.4s,mb5.1
KURK Kurchatov 49.35 303 *eP* **P 17 18 13.9 -0.3**
comp=Z,26nm,1.4s,mb5.1
OHCM Honcut 49.70 77 *eP* **P 17 18 16.6 -0.2**
HRY Holter Researc 49.91 63 *eP* **P 17 18 18.5 +0.1**
MKAR Makanchi Array 50.12 297 P **P 17 18 19.6 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=57,slow=5.9,SNR=12
MKAR LR LR 17 40 21.7
comp=Z,94nm,18.0s,MS3.8,baz=184,slow=37
MCMT McKenzie Canyo 50.64 66 *eP* **P 17 18 23.0 -1.0**
GYA Guiyang 51.00 261 P **P 17 18 33.7 +7.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CMB Columbia Colle 51.23 77 *eP* **P 17 18 28.4 0.0**
CMB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CMB Columbia Colle 51.23 77 *eP* **P 17 18 28.4 0.0**
comp=Z,3.3nm,0.6s,mb4.4
QLMT Earthquake Lak 51.38 65 *eP* **P 17 18 29.8 +0.3**
BVAR Borovoye Array 51.61 310 P **P 17 18 31.8 +0.5**
comp=Z,2.1nm,0.8s,mb4.1,baz=52,slow=7.1,SNR=12
GCMT Greycliff 51.63 63 *eP* **P 17 18 30.0 -1.4**
BRVK Borovoye 51.63 310 *eP* **P 17 18 31.7 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BRVK Borovoye 51.63 310 *eP* **P 17 18 31.7 +0.3**
comp=Z,6.9nm,1.1s,mb4.5
YFT Old Faithful 51.95 65 *eP* **P 17 18 35.5 +1.7**
LKWY Lake 52.10 64 *eP* **P 17 18 35.9 +1.0**
LKWY pmax pmax
comp=Z,15nm,0.8s,mb5.0
LKWY Lake 52.10 64 *eP* **P 17 18 35.9 +1.0**
comp=Z,15nm,0.8s,mb5.0
NVAR Mina Array Bea 52.11 75 P **P 17 18 35.7 +0.7**
comp=Z,9.1nm,0.5s,mb4.9,baz=296,slow=7.7,SNR=99
NVAR Mina Array Bea 52.11 75 P **P 17 18 35.7 +0.7**
FLWY Flagg Ranch 52.27 65 *eP* **P 17 18 37.3 +1.1**
comp=Z,23nm,0.8s,mb5.2
ARCES ARCESS Array B 52.35 343 P **P 17 18 35.7 -1.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=39,slow=8.6,SNR=5.5
ARCES LR LR 17 42 30.4
comp=Z,81nm,18.3s,MS3.8,baz=164,slow=38
LOHW Long Hollow 52.65 65 *eP* **P 17 18 39.3 +0.3**
comp=Z,16nm,1.1s,mb4.9
BW06 Boulder Array 53.79 65 *eP* **P 17 18 47.7 +0.3**
comp=Z,15nm,0.9s,mb4.9
PDAR Pinedale Array 53.79 65 P **P 17 18 47.5 +0.1**
comp=Z,11nm,0.8s,mb4.8,baz=322,slow=3.1,SNR=78
DUG Dugway 53.87 70 *eP* **P 17 18 47.6 -0.4**
DUG pmax pmax
comp=Z,14nm,1.1s,mb4.8
DUG Dugway 53.87 70 *eP* **P 17 18 47.6 -0.4**
comp=Z,14nm,1.1s,mb4.8
ARU Arti 54.05 319 ⇓*iP* **P 17 18 50.0 +0.8**
ARU *e* 17 19 51.0
ARU *e* 17 20 47.6
ARU *e*PPP 17 22 01.1
ARU *e*S **S 17 26 25.8 +1.9**
ARU *e*SS SS 17 30 07.8 +2.3
ARU pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.9
ARU MLR MLR
comp=N,80nm,17.0s,MS4.0
ARU MLR MLR
comp=E,90nm,17.0s,MS4.0
KMI Kunming 54.26 263 P **P 17 18 51.5 +0.7**
KMI AP pP 17 19 04.6 +6.1
KMI S **S 17 26 25.3 -1.6**
KMI SS SS 17 30 07.8 -1.1
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
KMI AMB AMB
comp=Z,118nm,3.8s
KMI LR LR
comp=N,244nm,18.3s
KMI LR LR
comp=E,232nm,13.0s
KMI LR LR
comp=Z,181nm,19.2s,MS4.2
ULM Lac du Bonnet 55.12 51 P **P 17 18 56.6 -0.4**
comp=Z,13nm,0.8s,mb5.0,baz=318,slow=7.6,SNR=30
ULM LR LR 17 42 27.0
comp=Z,176nm,21.4s,MS4.1,baz=306,slow=36
TMUT Trail Mountain 55.38 69 *eP* **P 17 18 59.2 +0.3**
RSSD Black Hills 55.66 61 *eP* **P 17 19 00.1 -0.8**
RSSD pmax pmax
comp=Z,14nm,0.8s,mb5.0
RSSD Black Hills 55.66 61 *eP* **P 17 19 00.1 -0.8**
comp=Z,14nm,0.8s,mb5.0
RWWY Rawlins 55.78 65 *eP* **P 17 19 00.8 -1.0**
comp=Z,24nm,1.0s,mb5.2
LDFC Landfair 56.30 76 *eP* **P 17 19 06.0 +0.5**
SMCO Snowmass 57.73 67 *eP* **P 17 19 16.0 +0.5**
comp=Z,14nm,0.9s,mb5.0
WUAZ Wupatki 58.05 73 *eP* **P 17 19 18.7 +0.9**
comp=Z,20nm,1.2s,mb5.0
FINES FINESS Array B 59.50 339 P **P 17 19 26.1 -1.8**
comp=Z,1.4nm,0.7s,mb4.1,baz=53,slow=9.5,SNR=5.3
FINES LR LR 17 48 18.0
comp=Z,74nm,18.6s,MS3.8,baz=341,slow=39
FINES FINESS Array B 59.50 339 *i* P **P 17 19 28.7 +0.7**
FINES pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 61.14 70 ⇑*eP* **P 17 19 39.6 +0.4**
LAZ Ladron 61.19 71 *eP* **P 17 19 40.3 +0.8**
SCHQ Schefferville 62.36 31 P **P 17 19 46.1 -1.3**
comp=Z,4.5nm,0.6s,mb4.8,baz=324,slow=7.2,SNR=22
NB2 NORSAR Subarra 62.46 346 P **P 17 19 47.0 -1.0**
comp=Z,0.9nm,0.6s,mb4.1,baz=17,slow=6.9
NOA NORSAR Array B 62.46 346 P **P 17 19 47.1 -0.9**
comp=Z,1.1nm,0.6s,mb4.2,baz=18,slow=6.7,SNR=5.8
MNTX Cornudas Mount 64.20 71 *eP* **P 17 20 00.0 +0.5**
comp=Z,11nm,1.0s,mb4.8
HNR Honiara 64.43 186 LR LR 17 49 30.2
comp=Z,115nm,18.4s,MS4.1,baz=358,slow=37
STHS Stebnicka Huta 71.66 336 *ep*P pP 17 20 59.0 +4.6
UPC Upice 71.75 340 *ep*P pP 17 20 58.7 +3.8
DPC Dobruska-Polom 71.84 340 *ep*P pP 17 20 57.7 +2.3
KOLS Kolonicke sedl 71.87 335 *ep*P pP 17 21 02.0 +6.4
LRAL Lakeview Retre 72.63 57 *eP* **P 17 20 50.9 -1.4**
comp=Z,5.6nm,0.6s,mb4.7
KECS Kecovo 72.71 336 *e* PcP 17 21 09.3 -0.7
KHC Kasperske Hory 73.53 341 *ep*P pP 17 21 07.1 +1.6
GERES GERESS Array B 73.78 341 P **P 17 20 59.0 -0.1**
comp=Z,0.2nm,0.5s,mb3.3,baz=45,slow=5.7,SNR=5.4
CTA Charters Tower 76.64 199 LR LR 17 51 36.6
comp=Z,52nm,20.1s,MS3.8,baz=46,slow=33
BRTR Keskin Array B 77.01 324 P **P 17 21 18.1 +0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=63,slow=5.5,SNR=3.7
WRAB Tennant Creek 79.29 210 *eP* **P 17 21 29.9 -0.4**
WRAB pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
WRAB Tennant Creek 79.29 210 *eP* **P 17 21 29.9 -0.3**
comp=Z,2.1nm,0.4s,mb4.4
WB2 Warramunga Arr 79.30 210 *eP* **P 17 21 29.7 -0.6**
WRA Warramunga Arr 79.30 210 P **P 17 21 29.8 -0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=24,slow=6.1,SNR=44
WRA Warramunga Arr 79.30 210 *i* P **P 17 21 29.7 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.5s
PPT Papeete 81.78 137 LR LR 17 54 31.0
comp=Z,188nm,18.1s,MS4.5,baz=74,slow=33
ASAR Alice Springs 82.95 209 P **P 17 21 49.2 -0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=19,slow=4.8,SNR=33
ASPA Alice Springs 82.96 209 *eP* **P 17 21 49.7 -0.1**
QSPA South Pole Qui 144.82 180 *e*PKP PKPdf 17 28 57.6 -4.0

PGC 12 17:35:40.5,7091N×13275W,h35km,MLSn2.8/3,
Beaufort Sea.,Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.63**	**186**	Pn	Pn	17 36 19.6	-0.7
INK				Sn	Sn	17 36 48.8	-2.3
INK				Trac		17 36 52.9	
	comp=Z,6.0nm,0.1s						
DAWY	**Dawson**	**7.33**	**203**	Pn	Pn	17 37 22.7	-2.2
DAWY				Sn	Sn	17 38 40.2	-6.6
DAWY				Trac		17 38 43.0	
	comp=Z,2.0nm,0.1s						
YKW3	**Yellowknife Ar**	**10.97**	**131**	Pn	Pn	17 38 12.6	-2.3
YKW3				Sn	Sn	17 40 04.8	-11
YKW3				Trac		17 40 09.7	
	comp=Z,1.0nm,0.3s						

ISCJB ***12*** *17:40:15.7±1.7,495S±007×15159E±0.10,h134km±14km, mb4.4/22, Error ellipse: s-maj=16.6km s-min=11.3km az=46.4*
IDC ***12*** *17:40:18.0±1.8,507S×15159E,h142km±15km,mb3.9/8, mb1 4.1/10,mb1mx4.0/15,mbtmp4.3/10,MS3.0/1, Ms1 3.0/1,ms1mx2.4/19,Error ellipse: s-maj=20.3km s-min=10.6km az=122.0*
NEIC ***12*** *17:40:18.6±2.2,505S×15161E,h150km±20km,mb4.6/12, Error ellipse: s-maj=17.2km s-min=11.7km az=59.0*
ISC 12 17:40:18.5±1.4,512S±007×15164E±009,h145km±11km,
n34,o0°92/37,mb4.4/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.15**	**226**	P	**Pn**	**17 41 47.0**	**-0.2**
	23nm,0.3s,baz=54,slow=6.8,SNR=152						
PMG				S	**Sn**	**17 42 55.3**	**-1.2**
	5.3nm,0.3s,baz=92,slow=6.7,SNR=4.3						
PMG				LR	LR	17 43 58.3	
	comp=Z,124nm,20.5s,baz=51,slow=36						
PMG	**Port Moresby**	**6.15**	**226**	P	**Pn**	**17 41 47.0**	**-0.2**
PMG				S	**Sn**	**17 42 55.3**	**-1.2**
PMG				*e*Sn	**Sn**	**17 42 58.3**	**+1.8**
PMG				LR	LR	17 43 58.3	
CTA	**Charters Tower**	**15.77**	**199**	*eP*	**Pn**	**17 43 55.4**	**+2.8**
	2.2nm,0.5s						
CTA	**Charters Tower**	**15.77**	**199**	P	**Pn**	**17 43 54.5**	**+1.9**
	0.4nm,0.3s,baz=45,slow=12,SNR=5.8						
CTAO	**Charters Tower**	**15.77**	**199**	*eP*	**Pn**	**17 43 55.3**	**+2.7**
	3.1nm,0.6s						
DZM	**Mont Dzumac**	**22.12**	**141**	P	**P**	**17 45 02.5**	**+0.3**
	8.0nm,0.9s,mb4.2,baz=282,slow=24,SNR=8.5						
WRAB	**Tennant Creek**	**22.36**	**227**	*eP*	**P**	**17 45 04.5**	**-0.2**
	25nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**22.36**	**227**	*eP*	**P**	**17 45 04.6**	**-0.1**
WB2				*e*S	**S**	**17 48 57.3**	**-2.2**
WRA	**Warramunga Arr**	**22.37**	**227**	P	**P**	**17 45 04.7**	**-0.1**
	15nm,0.5s,mb4.7,baz=53,slow=9.8,SNR=160						
WRA				PcP	PcP	17 48 55.5	+1.2
	3.9nm,0.7s,baz=48,slow=2.2,SNR=12						
WRA				S	**S**	**17 49 01.0**	**+1.3**
	3.2nm,0.8s,baz=47,slow=18,SNR=15						
ASAR	**Alice Springs**	**25.14**	**221**	P	**P**	**17 45 30.6**	**+0.5**
	3.1nm,0.4s,mb4.2,baz=54,slow=8.8,SNR=239						
ASAR				pP	pP	17 46 00.5	+0.1
	5.7nm,0.7s,baz=54,slow=9.3,SNR=6.0						
ASAR				sP	sP	17 46 13.9	-3.4
	5.7nm,0.7s,baz=56,slow=9.2,SNR=4.5						
ASAR				PcP	PcP	17 49 01.2	+1.1
	1.6nm,0.7s,baz=27,slow=2.5,SNR=9.8						
ASAR				S	**S**	**17 49 45.0**	**+0.9**
	0.5nm,0.7s,baz=48,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**28.23**	**198**	*eP*	**P**	**17 45 55.7**	**-2.0**
	2.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.23**	**198**	P	**P**	**17 45 55.6**	**-2.1**
	2.7nm,0.6s,mb4.2,baz=7.1,slow=9.5,SNR=9.3						
FITZ	**Fitzroy Crossi**	**28.49**	**241**	*eP*	**P**	**17 45 59.8**	**-0.2**
	5.9nm,0.3s,mb4.8						
KLBR	**Kellerberrin**	**41.25**	**226**	*eP*	**P**	**17 47 48.3**	**-0.9**
	25nm,1.2s,mb4.7						
SHL	**Shillong**	**65.47**	**301**	*eP*	**P**	**17 50 46.5**	**+0.6**
ULN	**Ulaanbaatar**	**65.66**	**329**	*eP*	**P**	**17 50 47.2**	**+0.1**
	2.3nm,0.8s,mb4.1						
SONM	**Songino Array**	**65.98**	**328**	P	**P**	**17 50 49.4**	**+0.2**
	3.0nm,0.6s,mb4.3,baz=147,slow=4.7,SNR=20						
LSA	**Lhasa**	**67.47**	**305**	*eP*	**P**	**17 50 59.5**	**+0.9**
	7.5nm,0.7s,mb4.6						
JIRN	**Jiri**	**70.96**	**301**	*eP*	**P**	**17 51 20.5**	**+0.4**
	7.3nm,0.6s,mb4.6						
GUN	**Gumba**	**71.30**	**302**	*eP*	**P**	**17 51 22.8**	**+0.7**
	23nm,0.7s,mb5.0						
PKI	**Pulchoki**	**71.60**	**301**	*eP*	**P**	**17 51 23.9**	**0.0**
KKN	**Kakani**	**71.77**	**301**	*eP*	**P**	**17 51 25.0**	**0.0**
	13nm,0.6s,mb4.8						
DMN	**Daman**	**71.87**	**301**	*eP*	**P**	**17 51 25.9**	**+0.3**
	22nm,0.8s,mb5.0						
GKN	**Gorkha**	**72.38**	**301**	*eP*	**P**	**17 51 28.4**	**-0.2**
	17nm,0.7s,mb4.9						
VNDA	**Vanda**	**72.56**	**178**	P	**P**	**17 51 29.9**	**+0.3**
	1.5nm,0.8s,mb3.8,baz=342,slow=5.4,SNR=6.8						
KOLN	**Koldanda**	**73.20**	**301**	*eP*	**P**	**17 51 33.3**	**-0.1**
	17nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**79.81**	**319**	P	**P**	**17 52 10.3**	**-0.3**
	2.1nm,0.9s,mb3.8,baz=107,slow=6.0,SNR=21						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**17 52 24.5**	**-2.3**
	0.6nm,0.6s,mb3.5,baz=251,slow=5.1,SNR=13						
KURK	**Kurchatov**	**83.31**	**322**	*eP*	**P**	**17 52 25.8**	**-3.2**
	3.1nm,1.0s,mb4.0						
QSPA	**South Pole Qui**	**84.84**	**180**	*eP*	**P**	**17 52 36.7**	**0.0**
	16nm,1.3s,mb4.6						
NVAR	**Mina Array Bea**	**93.19**	**52**	P	**P**	**17 53 17.1**	**+0.8**
	1.0nm,0.7s,mb4.1,baz=257,slow=7.8,SNR=9.1						
GERES	**GERESS Array B**	**123.72**	**328**	PKP	PKPdf	17 58 58.8	-0.1
	1.2nm,0.5s,baz=90,slow=1.3,SNR=19						
SDV	**Santo Domingo**	**137.90**	**82**	*e*PKPdf	PKPdf	17 59 27.2	+1.6
TORD	**Torodi Ar. Bea**	**149.30**	**287**	PKPbc	PKPbc	17 59 50.5	+0.5
	4.2nm,0.6s,baz=116,slow=2.8,SNR=29						

HLW ***12*** *17:44:48.9,3489N×3302E,h29km,Mb3.2*
CSEM ***12*** *17:44:49.9±0.1,3461N×3299E,h30km,Mw3.2,Error ellipse: s-maj=4.6km s-min=2.0km az=95.0*
ISCJB ***12*** *17:44:50.2±0.5,3452N±009×3291E±007,h23km±17km, Error ellipse: s-maj=15.6km s-min=9.5km az=13.4*
NIC ***12*** *17:44:50.1±0.2,3454N×3296E,h21km,ML2.8,MW3.2*
ISC 12 17:44:51.1±0.8,3458N±010×3290E±006,h18km±16km,
n21,o0°61/26,10C-4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.18**	**355**	⇓*iP*	**Pg**	**17 44 55.7**	**0.0**
CSS	**Prodhromos**	**0.52**	**42**	P	**Pg**	**17 45 00.9**	**-0.6**
	16nm,0.2s						
CSS				S	**Sg**	**17 45 08.3**	**-0.3**
PPCY	**Paphos**	**0.55**	**304**	P	**Pg**	**17 45 01.8**	**-0.3**
ALFC	**Alevga**	**0.63**	**337**	P	**Pg**	**17 45 03.6**	**+0.1**
	39nm,0.3s						
ALFC				S	**Sg**	**17 45 13.3**	**+1.3**
MAMC	**Mammari**	**0.65**	**24**	P	**Pg**	**17 45 02.8**	**-1.1**
AKMC	**Akamas**	**0.65**	**314**	P	**Pg**	**17 45 03.7**	**-0.2**
PHNC	**Paralimni**	**1.02**	**65**	P	**Pg**	**17 45 12.2**	**+1.3**
	14nm,0.6s						
PHNC				S	**Sg**	**17 45 29.4**	**+5.0**
AMAG	**Maghara**	**3.93**	**176**	⇑P	**Pn**	**17 45 50.5**	**-0.1**
HHAG	**Hagoal**	**4.66**	**189**	⇑P	**Pn**	**17 46 00.8**	**+0.2**
HNKL	**Nakhl**	**4.72**	**169**	⇑P	**Pn**	**17 46 01.8**	**+0.4**
HNKL				S	**Sn**	**17 46 55.7**	**0.0**
SUZ		**4.72**	**181**	⇑P	**Pn**	**17 46 01.9**	**+0.5**
KOT	**Kottamia**	**4.72**	**191**	⇑P	**Pn**	**17 46 01.9**	**+0.4**
KOT				S	**Sn**	**17 46 55.9**	**+0.1**
GLL	**Jalalah**	**5.09**	**192**	⇑P	**Pn**	**17 46 06.5**	**+0.1**
ZAF		**5.29**	**183**	⇑P	**Pn**	**17 46 09.4**	**+0.3**
ZAF		**5.29**	**183**	P	**Pn**	**17 46 09.4**	**+0.2**
HBST	**Basata**	**5.57**	**163**	⇑P	**Pn**	**17 46 12.7**	**-0.3**
HDHB	**Dhahab**	**6.02**	**165**	⇑P	**Pn**	**17 46 18.7**	**-0.5**
HKAT	**Jabal Katrina**	**6.11**	**171**	⇓P	**Pn**	**17 46 20.1**	**-0.3**
SLUM		**7.15**	**247**	⇑P	**Pn**	**17 46 33.2**	**-1.6**
HFRF	**Wahat Farafira**	**8.39**	**209**	⇓P	**Pn**	**17 46 52.3**	**+0.5**
HDK1	**Dakhla**	**9.50**	**200**	⇓P	**Pn**	**17 47 07.2**	**+0.2**

IDC 12 17:54:50.9±9.4,354S×14539E,h58km±93km,mb3.1/2,
mb1 3.5/4,mb1mx3.3/13,mbtmp3.5/4,ML3.3/2,MS3.1/1,
Ms1 3.1/1,ms1mx2.6/9,Error ellipse: s-maj=63.0km
s-min=35.5km az=145.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**163**	P	Pn	17 56 18.2	+0.1
	0.5nm,0.3s,baz=328,slow=15,SNR=3.5						
PMG				S	Sn	17 57 27.4	+1.0
	0.3nm,0.3s,baz=38,slow=12,SNR=1.9						
HNR	**Honiara**	**15.60**	**113**	LR	LR	18 04 04.6	
	comp=Z,59nm,18.6s,baz=359,slow=36						

WB2	Warramunga Arr	19.54 213	*e*P	Pn	17 59 13.9	-1.4
WRA	Warramunga Arr	19.54 213	P	Pn	17 59 14.0	-1.4
	0.3nm,0.3s,baz=35,slow=11,SNR=31					
ASAR	Alice Springs	22.88 208	P	P	17 59 49.6	+0.2
	0.4nm,0.4s,baz=28,slow=12,SNR=25					
ILAR	Eielson Array	83.88 24	P	P	18 07 14.2	-0.2
	0.3nm,0.8s,baz=266,slow=5.5,SNR=3.7					

ISCJB ***12*** *19:04:13.8±0.5, 4373N±004×10521W±006, h0km, mb4.3/2, Error ellipse: s-maj=6.6km s-min=5.1km az=38.2*
NEIC ***12*** *19:04:14.9±0.4, 4371N×105.16W, h0km, ML3.2, Error ellipse: s-maj=6.0km s-min=4.6km az=144.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
IDC ***12*** *19:04:14.1±1.6, 4371N×10545W, h0km, mb4.2/2, mb1 3.8/6, mb1mx3.5/24, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=45.3km s-min=7.9km az=151.0*

ISC 12 19:04:14.9±0.5, 4372N±004×10515W±006, h0km, n35, σ0°98/49, mb4.3/2, 1C-1D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.90	63	*e*Pg	Pg	19 04 33.6	+1.5
RSSD				*e*S	Sg	19 04 51.2	+7.4
PHWY	Pilot Hill	2.43	185	⇓*e*Pn	Pn	19 04 56.4	+0.5
PHWY				*e*Sn	Sn	19 05 26.1	-0.3
RWWY	Rawlins	2.54	217	⇑*e*Pn	Pn	19 04 57.4	+0.1
RWWY				*e*S	Sn	19 05 30.0	+1.1
LAO	LASA Array	3.06	346	*e*Pn	Pn	19 05 04.5	0.0
PDAR	Pinedale Array	3.36	255	Pn	Pn	19 05 07.8	-0.8
	3.0nm,0.3s,baz=72,slow=11,SNR=45						
PDAR				Pg	Pg	19 05 13.2	-6.1
	16nm,0.3s,baz=67,slow=21,SNR=95						
PDAR				Lg		19 05 53.5	
	14nm,0.3s,baz=71,slow=35,SNR=15						
BW06	Boulder Array	3.36	255	*e*Pn	Pn	19 05 08.0	-0.6
BW06				*e*P		19 05 13.4	
BW06				*e*Sn	Sn	19 05 53.2	+4.0
GCMT	Greycliff	3.82	304	*e*Pn	Pn	19 05 13.9	-1.2
LKWY	Lake	3.87	284	*e*Pn	Pn	19 05 16.4	+0.7
ISCO	Idaho Springs	3.94	185	*e*Pn	Pn	19 05 15.8	-0.7
ISCO				*e*S	Sn	19 06 14.0	+11
LOHW	Long Hollow	3.96	270	*e*Pn	Pn	19 05 17.5	+0.7
LOHW				*e*Pg	Pg	19 05 26.6	-4.2
FLWY	Flagg Ranch	4.03	277	*e*Pn	Pn	19 05 18.1	+0.3
FLWY				*e*Pg	Pg	19 05 27.5	-4.6
MOOW	Moose Ponds	4.05	272	*e*Pn	Pn	19 05 18.3	+0.1
SNOW	Snow King Moun	4.08	268	*e*Pn	Pn	19 05 19.7	+1.2
REDW	Red Top Meadow	4.16	267	*e*Pn	Pn	19 05 20.3	+0.6
YFT	Old Faithful	4.16	282	*e*Pg	Pg	19 05 29.5	-5.1
IMW	Indian Meadow	4.19	274	*e*Pn	Pn	19 05 20.0	-0.1
IMW				*e*Pg	Pg	19 05 29.7	-5.6
AHID	Auburn Hatcher	4.45	260	Pg	Pg	19 05 36.2	-4.1
QLMT	Earthquake Lak	4.64	286	Pn	Pn	19 05 27.3	+1.0
QLMT				*e*Pg	Pg	19 05 38.1	-5.8
SMCO	Snowmass	4.74	197	*e*Pg	Pg	19 05 38.8	-7.0
DGMT	Dagmar	4.79	8	*e*Pn	Pn	19 05 30.4	+2.1
BOZ	Bozeman (W)	5.00	295	*e*Pn	Pn	19 05 30.1	-1.1
	5.6nm,0.4s						
BOZ				*e*Pg	Pg	19 05 46.5	-4.3
BOZ				*e*Sg	Sg	19 06 48.6	-7.1
DLMT	Dillon	5.57	290	*e*Pn	Pn	19 05 39.2	+0.2
	10nm,0.9s						
HRY	Holter Researc	5.58	305	*e*Pn	Pn	19 05 39.3	+0.1
MCMT	McKenzie Canyo	5.64	284	Pn	Pn	19 05 41.4	+1.5
TMUT	Trail Mountain	6.34	228	*e*Pn	Pn	19 05 49.2	-0.4
TMUT				*e*Sg	Sg	19 07 29.6	-9.0
CHMT	Chamberlain Mo	6.54	302	*e*Pn	Pn	19 05 52.6	+0.2
DUG	Dugway	6.71	241	*e*Pn	Pn	19 05 53.7	-1.0
	3.0nm,0.5s						
ELK	Elko	8.05	252	Pn	Pn	19 06 14.2	+1.0
	0.2nm,0.3s,baz=40,slow=16,SNR=2.8						
ELK				Sn	Sn	19 07 44.5	-0.4
	0.3nm,0.3s,baz=104,slow=11,SNR=8.4						
ULM	Lac du Bonnet	9.10	41	Pn	Pn	19 06 26.5	-0.9
	1.4nm,0.3s,baz=234,slow=12,SNR=8.4						
ULM				Lg		19 09 05.3	
	0.6nm,0.3s,baz=283,slow=19,SNR=3.4						
ULM	Lac du Bonnet	9.10	41	Pn	Pn	19 06 26.5	-0.9
ULM				Lg		19 09 05.3	
YKA	Yellowknife Ar	19.60	347	P	Pn	19 08 45.0	-1.0
	baz=156,slow=12,SNR=5.5						
YKA	Yellowknife Ar	19.60	347	P	Pn	19 08 45.0	-1.0
ARCES	ARCESS Array B	61.41	18	P	P	19 14 31.6	-1.3
	4.8nm,0.9s,mb4.6,baz=339,slow=7.7,SNR=5.2						
FINES	FINESS Array B	68.01	23	P	P	19 15 14.8	-1.2
	0.9nm,0.8s,mb4.0,baz=326,slow=6.9,SNR=4.7						
FINES	FINESS Array B	68.01	23	P	P	19 15 14.8	-1.2

OTT 12 19:16:31.3±1.5, 6649N×6465W, h18km, MN2.8/2, 60km northeast from Pangnirtung, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	Frobisher Bay	3.21	213	PN	Pn	19 17 21.0	+0.2
FRB				PG	Pg	19 17 25.4	-7.5
FRB				SN	Sn	19 17 57.2	-1.4
FRB				SG	Sg	19 18 02.8	-12
FRB				Trac		19 18 07.8	
	comp=Z,7.8nm,0.1s						
PINU	Pond Inlet	7.76	329	PN	Pn	19 18 23.4	0.0
PINU				SN	Sn	19 19 44.8	-5.9
PINU				LG		19 20 22.4	
PINU				Trac		19 20 27.9	
	comp=Z,7.3nm,0.4s						
KUQ	Kuujjuuaa	8.59	193	LG		19 20 53.3	
KUQ				Trac		19 20 54.3	
	comp=Z,0.5nm,0.1s						
SCHQ	Schefferville	11.75	186	PN	Pn	19 19 17.2	-0.8
SCHQ				SN	Sn	19 21 21.9	-6.8
RES	Resolute Bay	12.80	323	SN	Sn	19 21 39.7	-15
YOSQ	Ashton Mining	14.17	199	PN	Pn	19 19 46.0	-5.1
YOSQ				SN	Sn	19 22 11.0	-17

ISCJB ***12*** *19:44:28.1±0.7, 5145N±003×1609E±004, h0km, Error ellipse: s-maj=4.9km s-min=3.3km az=35.0*
IPEC ***12*** *19:44:28.6±0.7, 5154N×1621E, h1km±3km, ML1.7/3, Error ellipse: s-maj=4.0km s-min=1.6km az=10.0*
PRU ***12*** *19:44:30.9, 5141N×1611E, h0km*
CSEM ***12*** *19:44:31.8±0.3, 5142N×1612E, h2km±1km, ML2.8/5, Error ellipse: s-maj=3.7km s-min=1.8km az=170.0*
VIE ***12*** *19:44:31.9±0.5, 5131N×1613E, h0km, mb1.7/2, ML2.4/3, Error ellipse: s-maj=3.5km s-min=3.0km az=80.0 66 km WNW of Breslau Suspected Mining incident.*

ISC 12 19:44:28.7±0.6, 5149N±003×1613E±004, h0km, n19, σ0°91/42, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	171	*i* Pgd	Pg	19 44 42.2	+0.8
KSP				*e*Sg	Sg	19 44 50.6	+0.7
KSP	Ksiaz	0.66	171	*e*Pg	Pg	19 44 42.1	+0.7
KSP				*e*Sg	Sg	19 44 50.4	+0.5
UPC	Upice	0.99	184	*e*PG	Pg	19 44 48.1	+0.4
DPC	Dobruska-Polom	1.15	174	*e*PG	Pg	19 44 50.9	+0.1
DPC				*e*SG	Sg	19 45 04.8	-0.9
	16nm,0.6s						
DPC	Dobruska-Polom	1.15	174	*e*Pg	Pg	19 44 50.9	+0.1
DPC				*e*Sg	Sg	19 45 05.8	+0.1
PVCC	Panska Ves	1.38	226	*e*PG	Pn	19 44 55.6	+0.4
PVCC				*e*SG	Sg	19 45 13.5	+0.5
	42nm,0.3s						
PVCC	Panska Ves	1.38	226	*e*Pn	Pn	19 44 55.6	+0.4
PVCC				*e*Sg	Sg	19 45 14.2	+1.1
BRG	Berggiesshubel	1.51	247	PN	Pn	19 44 57.4	+0.4
BRG				PG	Pg	19 44 57.8	+0.1
BRG				SG	Sg	19 45 17.6	+0.4
	13nm,0.3s						
PRU	Pruhonice	1.81	214	*e*PG	Pg	19 45 02.8	-0.7
PRU				*e*SG	Sg	19 45 26.8	-0.2
	11nm,0.4s						
MORC	Moravsky Berou	1.94	152	*e*Pn	Pn	19 45 03.0	+0.1
MORC				*e*Sg	Sg	19 45 30.1	-1.0
	4.8nm,0.2s						
CLL	Collm	1.97	266	*e*Pg	Pg	19 45 06.0	-0.4
CLL				*e*Sg	Sg	19 45 32.0	+0.1
	comp=Z,9.0nm,0.4s						
OKC	Ostrava-Krasne	2.10	141	*e*PG	Pg	19 45 07.5	-1.4
OKC				*e*SG	Sg	19 45 33.4	-2.7
VRAC	Vranov	2.21	172	*e*Pn	Pn	19 45 07.2	+0.6
VRAC				*e*Sg	Sg	19 45 38.9	-0.8
	comp=Z,3.8nm,0.2s						
KRUC	Moravsky	2.44	176	*e*Pn	Pn	19 45 10.2	+0.4
KRUC				*e*Sg	Sg	19 45 46.5	-0.6
	comp=Z,4.1nm,0.3s						
NKC	Novy Kostel	2.65	243	*e*PN	Pn	19 45 13.4	+0.7
NKC				*e*PG	Pg	19 45 19.3	-0.2
NKC				*e*SG	Sg	19 45 54.2	+0.3
	comp=Z,14nm,0.4s						
OJC	Ojcow	2.65	117	*e*Pg	Pg	19 45 21.3	+1.7
OJC				*e*Sg	Sg	19 45 56.0	+2.0
KHC	Kasperske Hory	2.88	216	*e*PN	Pn	19 45 16.1	+0.3
KHC				*e*PG	Pg	19 45 22.1	-1.7
KHC				*e*SN	Sn	19 45 50.5	-0.6
KHC				*e*SG	Sg	19 46 00.3	-0.8
BSD	Bornholm Skovb	3.70	349	*i* P	Pn	19 45 26.2	-0.9
BSD				*i* S	Sn	19 46 06.3	-5.1
BSD				*i* S	Sn	19 46 09.3	-2.1
MOA	Molln	3.84	199	⇑*i* Pn	Pn	19 45 29.8	+0.7
MOA				⇓*i* Sg	Sg	19 46 33.4	+1.2
	comp=Z,5.0nm,0.5s						

NIED ***12*** *19:46:00, 3560N×140.10E, h68km, Mw4.0 Best double couple: M0=9.47000×10^14 NP1:φ=6.00000°, δ=65.00000°, λ=98.00000°. NP2:φ=166.00000°, δ=26.00000°, λ=72.00000°.*
MOS ***12*** *19:46:43.2±0.8, 3540N×14006E, h75km, mb4.6/2, Error ellipse: s-maj=27.9km s-min=11.3km az=126.0*
ISCJB ***12*** *19:46:43.8±0.3, 3551N±003×14009E±004, h76km±2km, mb3.7/14, Error ellipse: s-maj=5.6km s-min=4.7km az=138.5*
JMA ***12*** *19:46:44.1±0.2, 3557N×140.11E, h70km±2km, M3.9*
JMA Felt I J1.
NEIC ***12*** *19:46:44.6±1.2, 3545N×14006E, h67km±9km, mb4.3/3, Error ellipse: s-maj=14.4km s-min=9.7km az=80.0*
IDC ***12*** *19:46:45.3±1.7, 3544N×14008E, h72km±14km, mb3.4/11, mb1 3.6/12, mb1mx3.5/22, mbtmp3.7/12, Error ellipse: s-maj=25.6km s-min=6.7km az=68.0*

ISC 12 19:46:44.7±0.3, 3553N±003×14009E±004, h70km±2km, n39, σ0°76/57, mb3.7/14, 2C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.14	139	⇑P	Pn	19 46 55.1	0.0
JCN				S	Sn	19 47 03.8	+1.1
TOK	Tokyo	0.31	301	P	Pn	19 46 55.8	-0.2
TOK				S	Sn	19 47 04.7	+0.5
JYO	Yokosk	0.46	229	⇓P	Pn	19 46 57.5	+0.3
JYO				S	Sn	19 47 07.3	+1.0
TATJ	Tateyama 2	0.52	198	⇓P	Pn	19 46 58.0	+0.3
TATJ				S	Sn	19 47 08.3	+1.0
CHOJ	Chosi	0.65	74	P	Pn	19 46 58.5	-0.6
CHOJ				S	Sn	19 47 11.0	+1.3
JYT	Yasato	0.70	7	⇑P	Pn	19 46 58.4	-1.3
JYT				S	Sn	19 47 08.5	-2.2
JHU	Hanno	0.73	297	⇓P	Pn	19 46 59.8	-0.2
JHU				S	Sn	19 47 11.7	+0.4
BSO3	Boso 3	0.80	154	P	Pn	19 47 00.4	-0.4
BSO3				S	Sn	19 47 13.5	+0.8
JOD2	Odawara 2	0.86	252	⇓P	Pn	19 47 01.0	-0.5
JOD2				S	Sn	19 47 12.9	-1.0
JIM2	Oshima 3	0.97	214	⇓P	Pn	19 47 01.9	-0.9
JIM2				S	Sn	19 47 15.4	-0.9
JAG	Ashikaga	1.03	330	⇓P	Pn	19 47 03.0	-0.6
JAG				S	Sn	19 47 16.8	-0.9
JRY	Ryogami san	1.08	297	⇓P	Pn	19 47 04.3	+0.1
JRY				S	Sn	19 47 19.1	+0.3
JHO	Hitachi	1.15	20	P	Pn	19 47 04.0	-1.1
JYN	Shimob	1.26	269	⇓P	Pn	19 47 06.4	-0.1
JYN				S	Sn	19 47 23.0	+0.1
JIZS	Izushimoda	1.28	231	⇓P	Pn	19 47 06.3	-0.5
JIZS				S	Sn	19 47 22.4	-0.9
MJAR	Matsushiro Arr	1.83	304	P	Pn	19 47 14.5	+0.4
	27nm,0.3s,baz=197,slow=24,SNR=255						
MJAR				S	Sn	19 47 37.8	+1.5
	26nm,0.3s,baz=135,slow=12,SNR=11						
MAJO	Matsushiro	1.83	304	⇓*i* P	Pn	19 47 14.3	+0.2
MAT	Matsushiro	1.83	304	P	Pn	19 47 14.3	+0.2
MAT				S	Sn	19 47 36.8	+0.4
MAT	Matsushiro	1.83	304	*e*P	Pn	19 47 14.0	-0.1
MAT				*e*S	Sn	19 47 37.0	+0.6
JHJ	Hachijo jima 2	2.42	186	P	Pn	19 47 22.9	+1.0
	36nm,0.3s,baz=47,slow=20,SNR=5.6						
JHJ				S	Sn	19 47 49.1	-1.3
	65nm,0.3s,baz=260,slow=23,SNR=8.4						
ENH	Enshi	26.16	267	*e*P	P	19 52 12.4	-0.1
	3.1nm,0.6s,mb3.9						
SONM	Songino Array	27.78	307	P	P	19 52 27.9	+0.9
	0.5nm,0.6s,mb3.2,baz=103,slow=8.9,SNR=4.3						
ZAL	Zalesovo	42.17	314	P	P	19 54 30.9	+0.6
	1.0nm,0.4s,mb3.9,baz=354,slow=8.0,SNR=6.2						
MKAR	Makanchi Array	44.03	303	P	P	19 54 45.7	+0.3
	1.5nm,0.7s,mb3.9,baz=83,slow=9.6,SNR=30						
MKAR	Makanchi Array	44.03	303	P	P	19 54 45.7	+0.3
KURK	Kurchatov	46.03	309	*e*P	P	19 55 01.0	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KURK	Kurchatov	46.03	309	*e*P	P	19 55 01.0	-0.2
	comp=Z,3.8nm,0.8s,mb4.2						
BVAR	Borovoye Array	50.80	313	P	P	19 55 39.1	+1.2
	comp=Z,0.4nm,0.3s,mb3.9,baz=107,slow=9.8,SNR=8.1						
ILAR	Eielson Array	51.34	32	P	P	19 55 42.5	+0.6
	comp=Z,0.4nm,0.8s,mb3.5,baz=273,slow=7.1,SNR=3.8						
WRAB	Tennant Creek	55.42	187	*e*P	P	19 56 11.1	-0.8
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
WRAB	Tennant Creek	55.42	187	*e*P	P	19 56 11.1	-0.7
	comp=Z,2.0nm,0.5s,mb4.4						
WRA	Warramunga Arr	55.43	187	P	P	19 56 11.2	-0.7
	comp=Z,1.1nm,0.4s,mb4.2,baz=1.9,slow=7.6,SNR=73						
ASAR	Alice Springs	59.16	187	P	P	19 56 39.0	+0.8
	comp=Z,0.2nm,0.5s,mb3.4,baz=19,slow=13,SNR=8.4						
YKA	Yellowknife Ar	65.65	29	P	P	19 57 21.9	+0.4
	comp=Z,0.1nm,0.7s,mb2.8,baz=298,slow=6.4,SNR=4.4						
JOF	Joensuu	66.79	332	*ep*	P	19 57 23.3	-5.5
KAF	Kangasniemi	69.15	333	*ep*	P	19 57 43.0	-0.6
FINES	FINESS Array B	69.64	332	P	P	19 57 46.6	0.0
	comp=Z,1.0nm,0.8s,mb3.7,baz=47,slow=5.6,SNR=7.6						
AKASG	Malin Array Be	74.83	322	P	P	19 58 17.6	0.0
	comp=Z,0.6nm,0.5s,mb3.5,baz=54,slow=5.5,SNR=4.4						
NOA	NORSAR Array B	75.16	337	P	P	19 58 19.4	-0.1
	comp=Z,1.0nm,0.8s,mb3.6,baz=40,slow=8.2,SNR=2.7						

RSPR 12 19:50:01.8, 1890N×6473W, h25km±19km, MD3.1/3, MD3.1/3, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.51	167	⇑*e*P	Pb	19 50 10.7	-1.4
TBVI	Tortola	0.51	167	*e*S	Sb	19 50 18.3	-0.7
TBVI	Tortola	0.51	167	⇑*e*P	Pb	19 50 11.0	-1.1
TBVI	Tortola	0.51	167	*e*S	Sb	19 50 17.8	-1.3
CULB	Culebra	0.82	224	⇑*e*P	Pb	19 50 15.1	-2.2
CULB	Culebra	0.82	224	*e*S	Sb	19 50 25.9	-2.1
CULB	Culebra	0.82	224	⇑*e*P	Pb	19 50 15.1	-2.2
CULB	Culebra	0.82	224	*e*S	Sb	19 50 25.8	-2.1
MTP	Monte Pirata	1.12	224	⇑*e*P	Pn	19 50 19.4	-2.5
MTP	Monte Pirata	1.12	224	*e*S	Sn	19 50 33.5	-3.0
MTP	Monte Pirata	1.12	224	*e*S	Sn	19 50 33.0	-3.6
CBYP	Canovanas	1.24	240	⇑*e*P	Pn	19 50 21.7	-1.8
HUMP	Col San Antoni	1.30	235	⇑*e*P	Pn	19 50 22.1	-2.3
HUMP	Col San Antoni	1.30	235	*e*S	Sn	19 50 38.3	-2.7
HUMP	Col San Antoni	1.30	235	*e*S	Sn	19 50 38.3	-2.7
SJG	San Juan	1.56	240	⇑*e*P	Pn	19 50 25.9	-2.0
SJG	San Juan	1.56	240	*e*S	Sn	19 50 44.4	-2.9
AOPR	Arecibo Observ	1.99	254	⇑*e*P	Pn	19 50 32.0	-1.8
AOPR	Arecibo Observ	1.99	254	⇑*e*P	Pn	19 50 32.1	-1.8

IDC ***12*** *19:52:24.8±1.3, 2873N×6657E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, MS3.5/2, Ms1 3.5/2, ms1mx2.8/27, Error ellipse: s-maj=30.0km s-min=25.7km az=4.0*
ISCJB ***12*** *19:52:25.3±1.7, 2874N±004×6657E±004, h15km±12km, mb3.6/12, MS3.4/2, Error ellipse: s-maj=7.3km s-min=5.1km az=128.0*
NEIC ***12*** *19:52:26.8±0.9, 2883N×6664E, h10km, mb3.8/4, Error ellipse: s-maj=20.2km s-min=7.4km az=206.0*

ISC 12 19:52:29.2±1.7, 2877N±004×6657E±004, h28km±15km, n39, σ1°00/48, mb3.6/12, MS3.4/2, 7C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	Derazinda	4.32	46	⇑P	Pn	19 53 33.7	+0.7
SBDP	Sheikh Budin	5.07	45	⇑P	Pn	19 53 43.4	+0.1
SBDP				S	Sn	19 54 43.0	+2.0
THW	Thamme Wali	5.99	47	⇑P	Pn	19 53 55.4	-0.5
SARP	Sargodha	6.14	58	P	Pn	19 53 58.0	+0.1
BHJ	Bhuj	6.15	153	*e*P	Pn	19 53 59.1	+1.0
BHJ				*e*S	Sn	19 55 08.9	+1.3
BHJ				*e*S	Sn	19 55 09.2	+1.6
BHJ				AML	AML	19 55 12.6	
	comp=E,26nm,0.5s						
BHJ				AML	AML	19 55 15.4	
	comp=N,43nm,0.7s						
CEP	Cherat	6.80	41	P	Pn	19 54 06.2	-0.8
AJM	Ajmer	7.52	106	*e*P	Pn	19 54 18.6	+1.7
AJM				*e*S	Sn	19 55 40.2	-0.9
CHCP	Chirah Chowk	7.52	48	P	Pn	19 54 06.2	-11
THN	Thein Dam	8.69	63	*e*P	Pn	19 54 33.0	+0.1
THN				*e*x	Sn	19 56 17.0	+7.1
WBK	Wadi Bani Khal	9.20	230	⇓P	Pn	19 54 38.6	-1.3
SDNR	Sundarnagar	9.41	71	*e*P	Pn	19 54 42.8	0.0
SDNR				*e*x	Sn	19 56 28.8	+1.2
SMLA	Simla	9.49	73	*e*P	Pn	19 54 45.0	+1.1
SMLA				*e*S	Sn	19 56 23.4	-6.2
SMLA				AML	AML	19 56 31.2	
	comp=E,60nm,0.5s						
SMLA				AML	AML	19 56 31.9	
	comp=N,60nm,0.6s						
SMDO	Samad	9.55	235	⇓P	Pn	19 54 43.4	-1.3
BANOM	Banah	9.56	255	⇑P	Pn	19 54 45.9	+1.0
JMDO	Jabal Madar	9.95	232	⇑P	Pn	19 54 50.1	-0.1
	SNR=12						
ASHO	Ashiyiah	10.24	249	⇓P	Pn	19 54 54.3	+0.1
	SNR=10						
BSY	Bisya	10.36	237	⇑P	Pn	19 54 55.6	-0.2
	SNR=9.0						
ARQ	Araqi	10.53	241	⇑P	Pn	19 54 59.9	+1.7
	SNR=6.7						
BHPL	Bhopal	11.21	117	*e*P	Pn	19 55 07.8	+0.3
BHPL				*e*S	Sn	19 57 09.1	-2.6
KAD	Karad	13.38	147	*e*x	Pn	19 55 41.6	+4.4
GKN	Gorkha	15.92	88	*e*P	Pn	19 56 10.0	-1.2
GKN				*e*S	Sn	19 58 58.3	-8.5
	comp=N,44nm,1.2s						
GKN	Gorkha	15.92	88	*e*P	Pn	19 56 10.0	-1.2
	comp=N,22nm,1.2s						
GKN				*e*S	Sn	19 58 58.3	-8.5
KKN	Kakani	16.52	89	*e*P	Pn	19 56 17.8	-0.9
PKI	Pulchoki	16.66	90	*e*P	Pn	19 56 20.7	+0.1
GUN	Gumba	17.02	88	*e*P	Pn	19 56 24.1	-1.1
JIRN	Jiri	17.33	89	*e*P	Pn	19 56 28.1	-0.9
LSA	Lhasa	21.46	82	*e*P	P	19 57 19.3	+4.0
	comp=N,1.9nm,0.6s,mb3.6						
MKAR	Makanchi Array	21.79	30	P	P	19 57 17.8	-1.0
	comp=N,1.4nm,0.7s,mb3.5,baz=212,slow=8.9,SNR=14						
MKAR				LR	LR	20 07 32.3	
	comp=N,102nm,21.9s,MS3.2,baz=182,slow=42						
KURK	Kurchatov	23.73	19	*e*P	P	19 57 37.0	-2.0
	comp=N,1.8nm,0.9s,mb3.5						
BVAR	Borovoye Array	24.39	6	P	P	19 57 44.6	-0.4
	comp=N,1.4nm,0.6s,mb3.6,baz=173,slow=9.8,SNR=16						
BRVK	Borovoye	24.42	5	*e*P	P	19 57 45.1	-0.1
	comp=N,3.7nm,0.9s,mb3.8						
SONM	Songino Array	36.09	47	P	P	19 59 29.2	+0.8
	comp=N,0.5nm,0.8s,mb3.5,baz=247,slow=11,SNR=2.4						
FINES	FINESS Array B	42.21	332	P	P	20 00 20.6	+1.1
	comp=N,0.8nm,0.6s,mb3.5,baz=127,slow=9.5,SNR=5.5						
GERES	GERESS Array B	44.80	312	P	P	20 00 40.7	+0.3
	comp=N,0.3nm,0.5s,mb3.4,baz=98,slow=7.3,SNR=5.7						
ARCES	ARCESS Array B	47.08	342	LR	LR	20 22 48.4	
	comp=N,68nm,18.2s,MS3.6,baz=171,slow=39						
HFS	Hagfors	47.18	327	P	P	20 00 58.5	-0.7
	comp=N,0.8nm,0.4s,mb4.0,baz=129,slow=9.5,SNR=7.9						
TORD	Torodi Ar. Bea	61.88	270	P	P	20 02 45.9	-0.1
	comp=N,0.7nm,0.7s,mb3.9,baz=53,slow=6.7,SNR=4.6						
ASAR	Alice Springs	83.16	122	P	P	20 04 53.1	+0.5
	comp=N,0.3nm,0.6s,mb3.5,baz=311,slow=4.9,SNR=8.4						
YKA	Yellowknife Ar	89.05	1	P	P	20 05 21.7	+0.1
	comp=N,0.1nm,0.4s,mb3.5,baz=347,slow=4.9,SNR=4.8						

ISCJB ***12*** *19:56:15.2±0.9, 3275N±007×1399E±02, h131km±6km, mb3.2/2, Error ellipse: s-maj=33.0km s-min=10.4km az=156.7*
IDC ***12*** *19:56:16.2±1.6, 3271N×13991E, h117km±18km, mb3.2/2, mb1 3.3/3, mb1mx2.9/20, mbtmp3.4/3, Error ellipse: s-maj=157.0km s-min=39.0km az=76.0*
JMA ***12*** *19:56:16.3±0.2, 3285N×14007E, h125km±1km, M2.9*

ISC 12 19:56:16.6±0.9, 3276N±007×1399E±02, h124km±6km, n14, σ0°42/19, mb3.4/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.35	348	P	Pn	19 56 34.0	-0.2
JHJ2				*e*S	Sn	19 56 47.8	+0.3
JHJ	Hachijo jima 2	0.37	344	P

5.9nm,0.4s,mb4.5
KKN Kakani 44.84 311 *e*P **P 20 18 19.7 0.0**
DMN Daman 44.88 310 *e*P **P 20 18 20.3 +0.3**
GKN Gorkha 45.44 311 *e*P **P 20 18 23.7 -0.7**
6.7nm,0.8s,mb4.3
KOLN Koldanda 46.12 310 *e*P **P 20 18 30.0 +0.3**
3.2nm,0.3s,mb4.4
SONM Songino Array 49.31 346 P **P 20 18 54.0 -0.2**
0.4nm,0.6s,mb3.2,baz=167,slow=8.4,SNR=4.1
MKAR Makanchi Array 58.02 329 P **P 20 19 57.5 -0.1**
0.5nm,0.3s,mb3.8,baz=129,slow=8.6,SNR=9.4
KURK Kurchatov 62.39 330 P **P 20 20 26.9 -0.4**
BRVK Borovoye 67.96 329 *e*P **P 20 21 02.5 -0.7**
0.6nm,0.6s,mb3.5
TORD Torodi Ar. Bea 119.76 285 PKP PKPdf 20 28 50.9 -2.0
0.7nm,1.1s,baz=67,slow=1.2,SNR=4.6

ISCJB ***12*** *20:24:03.7±1.0, 6308N±004×49E±0.1, h10km, Error ellipse: s-maj=8.6km s-min=5.0km az=57.1*
BER ***12*** *20:24:06.5±5.5, 6298N×496E, h0km±20km, MD2.4, ML1.9, ML2.1(NAO)*
NAO ***12*** *20:24:10.6±6.4, 6279N×534E, h21km±40km, ML2.1*
ISC 12 20:24:05.2±1.0, 6303N±004×49E±01, h10km, n15, σ1§14/22, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOL	**Molde**	**1.32**	**109**	*e*P	**Pn**	**20 24 29.8**	**+0.1**
MOL				*e*Sg	**Sg**	**20 24 47.5**	**-0.2**
MOL				AML	AML	20 24 49.0	
	comp=Z,31nm,0.1s						
FOO	**Floro**	**1.44**	**176**	*e*P	**Pn**	**20 24 31.0**	**-0.3**
FOO				*e*Sg	**Sg**	**20 24 48.6**	**-2.9**
HYA	**Hoyanger**	**1.97**	**161**	*e*P	**Pn**	**20 24 41.2**	**+2.6**
HYA				*e*S	**Sn**	**20 25 05.4**	**+2.0**
HYA				AML	AML	20 25 09.9	
	comp=Z,21nm,0.1s						
SUE	**Sulen**	**1.98**	**181**	*e*S	**Sn**	**20 25 04.2**	**+0.6**
DOMB	**Dombas**	**2.19**	**115**	*e*P	**Pn**	**20 24 42.8**	**+1.2**
DOMB				*e*Sg	**Sg**	**20 25 14.7**	**-0.8**
DOMB				AML	AML	20 25 16.9	
	comp=Z,20nm,0.2s						
ASK	**Askoy**	**2.56**	**176**	*e*P	**Pn**	**20 24 46.2**	**-0.5**
ASK				*e*S	**Sn**	**20 25 16.4**	**-1.5**
EGD	**Espegrend**	**2.77**	**176**	*e*P	**Pn**	**20 24 48.8**	**-0.8**
ODD1	**Odda**	**3.24**	**164**	*e*	**Sb**	**20 25 43.6**	**+1.3**
NSS	**Namsos**	**3.50**	**61**	*e*S	**Sn**	**20 25 40.2**	**-0.8**
NB2	**NORSAR Subarra**	**3.60**	**121**	Pn	**Pn**	**20 25 00.7**	**-0.3**
	baz=309,slow=12						
NB2				Lg		20 25 54.7	
	baz=304,slow=37						
STOK	**Stokkvaagen**	**4.82**	**43**	*e*S	**Sn**	**20 26 09.0**	**-4.7**
HFS	**Hagfors**	**5.12**	**121**	Pn	**Pn**	**20 25 21.0**	**-1.0**
	baz=312,slow=14						
HFS				Sn	**Sn**	**20 26 14.1**	**-7.0**
HFS				Lg		20 26 41.9	
	baz=310,slow=37						
MOR8	**Moi Rana**	**5.19**	**48**	*e*S	**Sn**	**20 26 24.1**	**+1.3**
FIA0	**FINESS Array S**	**10.02**	**90**	Pn	**Pn**	**20 26 29.6**	**+0.5**
	baz=329,slow=22						
FIA0				Sn	**Sn**	**20 28 16.3**	**-5.2**
	baz=286,slow=22						
FIA0				Lg		20 29 12.3	
ARA0	**ARCESS Array S**	**10.52**	**43**	Pn	**Pn**	**20 26 35.1**	**-0.9**
	baz=232,slow=14						

ATH ***12*** *20:42:30.8, 3826N×2332E, h24km±1km, MD3.3/13, ML3.0*
ISCJB ***12*** *20:42:31.3±0.6, 3825N±003×2340E±005, h15km±7km, Error ellipse: s-maj=7.5km s-min=3.8km az=112.7*
CSEM ***12*** *20:42:31.3±0.1, 3825N×2333E, h5km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.0km az=70.0*
THE ***12*** *20:42:32.2, 3832N×2334E, h3km, ML3.2*
ISC 12 20:42:31.5±0.5, 3828N±003×2334E±005, h7km±5km, n27, σ1§05/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.33**	**112**	*e*PB	**Pg**	**20 42 38.5**	**+0.5**
ATH	**Athens Observa**	**0.42**	**136**	*e*PB	**Pg**	**20 42 39.7**	**-0.1**
ATH				*e*SB	**Sg**	**20 42 46.6**	**+1.3**
LKR	**Lokris**	**0.46**	**324**	*e*PB	**Pg**	**20 42 39.8**	**-0.6**
LKR				*e*SB	**Sg**	**20 42 48.1**	**+1.6**
PTL	**Penteli**	**0.47**	**119**	*e*PB	**Pg**	**20 42 40.5**	**-0.1**
NAIG	**Nisos Aigina**	**0.53**	**168**	*e*PN	**Pg**	**20 42 40.7**	**-1.1**
KVR	**Kavouri**	**0.56**	**143**	*e*PN	**Pg**	**20 42 42.0**	**-0.4**
KVR				*e*SN	**Sg**	**20 42 50.7**	**+1.0**
AOS	**Alonnisos**	**0.98**	**25**	*e*Pg	**Pg**	**20 42 50.1**	**-0.4**
NEO	**Neokhori**	**1.03**	**355**	*e*Pn	**Pn**	**20 42 53.1**	**+0.7**
AGG	**Agios Georgios**	**1.09**	**313**	*e*Pg	**Pg**	**20 42 50.9**	**-1.5**
	comp=Z,6.5nm,0.2s						
AGG				*e*Sg	**Sg**	**20 43 06.5**	**0.0**
XOR	**Xorichti**	**1.09**	**354**	*e*Pg	**Pg**	**20 42 51.9**	**-0.6**
	comp=Z,14nm,0.2s						
XOR				*e*Sg	**Sg**	**20 43 08.6**	**+1.8**
EVR	**Evrytania**	**1.36**	**298**	*e*PN	**Pn**	**20 42 55.5**	**-1.4**
EVR	**Evrytania**	**1.36**	**298**	*e*Pn	**Pn**	**20 42 57.2**	**+0.3**
EVR				*e*Sn	**Sn**	**20 43 16.7**	**+1.5**
RLS	**Riolos of Patr**	**1.50**	**262**	*e*PN	**Pn**	**20 42 58.7**	**-0.1**
ITM	**Ithomi**	**1.57**	**226**	*e*PN	**Pn**	**20 42 59.0**	**-0.8**
VLI	**Veliai**	**1.59**	**192**	*e*PN	**Pn**	**20 42 59.0**	**-1.1**
VLI	**Veliai**	**1.59**	**192**	*e*Pn	**Pn**	**20 42 59.4**	**-0.7**
PAIG	**Paliouri**	**1.67**	**9**	*e*Pb	**Pb**	**20 43 00.4**	**-2.1**
LIT	**Litokhoron**	**1.94**	**340**	*e*Pb	**Pb**	**20 43 04.4**	**-2.7**
PLG	**Polygyros**	**2.10**	**2**	*e*PN	**Pn**	**20 43 06.6**	**-0.4**
APE	**Apeiranthos**	**2.11**	**124**	*e*PB	**Pb**	**20 43 06.5**	**-3.6**
OUR	**Ouranopolis**	**2.11**	**13**	*e*Pn	**Pn**	**20 43 06.9**	**-0.4**
LKD	**Levkas**	**2.16**	**282**	*e*Pn	**Pn**	**20 43 10.1**	**+2.3**
VLS	**Valsamata**	**2.17**	**268**	*e*PN	**Pn**	**20 43 08.0**	**-0.1**
SOH	**Sokhos**	**2.54**	**0**	*e*Pn	**Pn**	**20 43 13.2**	**+0.1**
SRS	**Serrai**	**2.84**	**4**	*e*Pn	**Pn**	**20 43 17.0**	**-0.2**
KNT	**Kendrikon**	**2.90**	**353**	*e*Pn	**Pn**	**20 43 18.5**	**+0.4**
	comp=Z,1.4nm,0.3s						
KNT				*e*Sn	**Sn**	**20 43 53.5**	**+0.3**
LAST	**Lasithi**	**3.55**	**150**	*e*Pn	**Pn**	**20 43 28.2**	**+1.1**

IDC ***12*** *20:42:46.7±0.9, 0905×1229E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, MS3.8/6, Ms1 3.7/6, ms1mx3.3/29, Error ellipse: s-maj=46.4km s-min=15.9km az=62.0*
ISCJB ***12*** *20:42:54.6±2.0, 087S±009×1232E±0.1, h75km±21km, mb4.3/19, Error ellipse: s-maj=22.2km s-min=8.3km az=106.5*
NEIC ***12*** *20:42:57.2±1.5, 090S×123.13E, h86km±15km, mb4.6/10, Error ellipse: s-maj=17.3km s-min=6.2km az=57.0*
BJI ***12*** *20:42:59.1, 090S×123.10E, h86km, mB4.9, mb4.5*
ISC 12 20:42:56.7±1.4, 087S±009×1233E±01, h77km±15km, n34, σ0§75/31, mb4.3/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**5.67**	**120**	P	**Pn**	**20 44 32.9**	**+15**
	88nm,0.9s						
KKM	**Kota Kinabalu**	**9.83**	**314**	*e*Pn	**Pn**	**20 45 14.9**	**-0.1**
KKM				*e*Sn	**Sn**	**20 46 55.0**	**-8.7**
TLE	**Tual**	**10.58**	**117**	P	**Pn**	**20 45 25.1**	**-0.2**
	92nm,1.4s						
MBWA	**Marble Bar**	**20.46**	**189**	*e*P	**P**	**20 47 28.3**	**+0.3**
	12nm,1.0s						
WRAB	**Tennant Creek**	**21.84**	**151**	*e*P	**P**	**20 47 42.9**	**+0.2**
	27nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**21.84**	**151**	P	**P**	**20 47 41.8**	**-0.9**
	4.0nm,0.7s,mb3.8,baz=332,slow=9.7,SNR=48						
WB2	**Warramunga Arr**	**21.85**	**151**	*e*P	**P**	**20 47 42.9**	**+0.1**
PSI	**Prapat**	**24.60**	**279**	LR	LR	20 58 17.8	
	comp=Z,179nm,19.5s,baz=104,slow=38						
ASAR	**Alice Springs**	**24.91**	**156**	P	**P**	**20 48 13.2**	**+0.8**
	3.6nm,0.7s,mb3.9,baz=327,slow=7.0,SNR=46						
ASAR				PcP	PcP	20 51 49.2	+3.1
	0.6nm,0.7s,baz=352,slow=2.4,SNR=4.4						
PMG	**Port Moresby**	**25.25**	**110**	P	**P**	**20 48 18.4**	**+2.9**
	9.4nm,0.7s,mb4.3,baz=304,slow=3.2,SNR=9.0						
GUMO	**Guam**	**25.79**	**55**	LR	LR	20 58 58.9	
	comp=Z,91nm,18.3s,baz=106,slow=37						
KKTK	**Khon Kaen**	**26.44**	**311**	P	**P**	**20 48 27.0**	**+0.8**
CTA	**Charters Tower**	**29.51**	**132**	LR	LR	21 01 16.2	
	comp=Z,159nm,19.1s,baz=300,slow=37						
CHG	**Chiang Mai**	**30.87**	**311**	P	**P**	**20 49 06.9**	**+1.2**
ENH	**Enshi**	**33.63**	**338**	*e*P	**P**	**20 49 29.7**	**-0.1**
	12nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.37**	**152**	P	**P**	**20 49 43.5**	**-1.3**
	2.2nm,0.7s,mb4.1,baz=323,slow=12,SNR=5.2						
STKA				LR	LR	21 06 21.5	
	comp=Z,159nm,21.1s,baz=241,slow=40						
CD2	**Chengdu**	**36.64**	**331**	*e*P	**P**	**20 49 56.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.0s						
MJAR	**Matsushiro Arr**	**39.73**	**19**	P	**P**	**20 50 21.4**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.1,baz=199,slow=8.1,SNR=3.7						
SHL	**Shillong**	**40.13**	**313**	*e*P	**P**	**20 50 26.0**	**+1.1**
LSA	**Lhasa**	**43.16**	**317**	*e*P	**P**	**20 50 49.9**	**+0.3**
	comp=Z,10nm,1.1s,mb4.5						
GTA	**Gaotai**	**45.48**	**334**	*e*P	**P**	**20 51 09.2**	**+1.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
JIRN	**Jiri**	**45.51**	**311**	*e*P	**P**	**20 51 08.0**	**-0.4**
	comp=Z,12nm,0.7s,mb4.7						
GUN	**Gumba**	**45.88**	**312**	*e*P	**P**	**20 51 10.8**	**-0.5**
	comp=Z,23nm,0.8s,mb5.0						
PKI	**Pulchoki**	**46.05**	**311**	*e*P	**P**	**20 51 12.6**	**-0.1**
KKN	**Kakani**	**46.27**	**311**	*e*P	**P**	**20 51 13.9**	**-0.5**
DMN	**Daman**	**46.30**	**311**	*e*P	**P**	**20 51 14.0**	**-0.7**
	comp=Z,21nm,1.0s,mb4.8						
GKN	**Gorkha**	**46.86**	**311**	*e*P	**P**	**20 51 18.9**	**-0.1**
	comp=Z,23nm,1.0s,mb4.9						
KOLN	**Koldanda**	**47.53**	**310**	*e*P	**P**	**20 51 23.9**	**-0.3**
	comp=Z,13nm,0.8s,mb4.8						
SONM	**Songino Array**	**50.68**	**345**	P	**P**	**20 51 47.3**	**-1.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=162,slow=10.0,SNR=9.8						
SONM				LR	LR	21 13 58.9	
	comp=Z,74nm,20.0s,baz=157,slow=37						
MKAR	**Makanchi Array**	**59.48**	**328**	P	**P**	**20 52 50.7**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=125,slow=8.5,SNR=12						
MKAR				ScP	ScP	20 57 38.5	+6.1
	comp=Z,0.3nm,0.8s,baz=138,slow=4.4,SNR=5.0						
MKAR	**Makanchi Array**	**59.48**	**328**	P	**P**	**20 52 50.7**	**-0.9**
MKAR				ScP	ScP	20 57 38.5	+6.1
KURK	**Kurchatov**	**63.85**	**330**	*e*P	**P**	**20 53 20.8**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**69.35**	**329**	P	**P**	**20 53 56.1**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=146,slow=5.2,SNR=3.1						
BOSA	**Boshof**	**96.61**	**241**	LR	LR	21 36 16.8	
	comp=Z,92nm,18.6s,baz=171,slow=33						

ISCJB ***12*** *20:52:11.6±1.9, 3034S±009×1782W±03, h400km, mb3.3/3, Error ellipse: s-maj=37.1km s-min=11.5km az=178.4*
IDC ***12*** *20:52:22.9±8.4, 3071S×1792W, h429km±99km, mb3.0/3, mb1 3.2/4, mb1mx3.1/13, mbtmp3.9/4, Error ellipse: s-maj=90.0km s-min=38.5km az=5.0*
ISC 12 20:52:16.7±1.8, 3053S±008×1787W±03, h400km, n20, σ0§72/23, mb3.3/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.45**	**199**	*e*PN	**Pn**	**20 54 05.3**	**0.0**
MXZ				SN	**S**	**20 55 34.1**	**-0.1**
PUZ	**Puketiti**	**7.94**	**198**	*e*PN	**Pn**	**20 54 10.1**	**-0.8**
MWZ	**Matawai**	**8.39**	**201**	*e*PN	**Pn**	**20 54 15.9**	**-0.2**
MWZ				SN	**S**	**20 55 53.8**	**-0.1**
URZ	**Urewera**	**8.46**	**203**	P	**P**	**20 54 18.5**	**+1.4**
	5.5nm,0.3s,baz=300,slow=3.6,SNR=55						
URZ				S	**S**	**20 55 56.0**	**+0.5**
	3.3nm,0.3s,baz=288,slow=23,SNR=12						
URZ	**Urewera**	**8.46**	**203**	*e*PN	**Pn**	**20 54 15.7**	**-1.2**
URZ				SN	**S**	**20 55 55.4**	**0.0**
KNZ	**Kokohu**	**8.98**	**199**	*e*PN	**Pn**	**20 54 23.1**	**+0.2**
BKZ	**Black Stump Fm**	**9.48**	**203**	*e*PN	**Pn**	**20 54 29.2**	**+0.5**
WNVZ	**Wahianoa**	**9.95**	**207**	*e*PN	**Pn**	**20 54 33.7**	**-0.4**
MOVZ	**Moawhango**	**9.96**	**206**	*e*PN	**Pn**	**20 54 34.5**	**+0.2**
TSZ	**Takapari Road**	**10.47**	**203**	*e*PN	**Pn**	**20 54 40.5**	**+0.4**
KIW	**Kapiti Island**	**11.55**	**205**	*e*PN	**Pn**	**20 54 52.5**	**0.0**
MTW	**Mount Morrison**	**11.61**	**202**	*e*PN	**Pn**	**20 54 54.0**	**+0.7**
CAW	**Cannon Point**	**11.71**	**204**	*e*PN	**Pn**	**20 54 53.0**	**-1.5**
TCW	**Tory Channel**	**12.09**	**206**	*e*PN	**Pn**	**20 54 57.6**	**-1.2**
THZ	**Tophouse**	**13.10**	**209**	*e*PN	**P**	**20 55 08.8**	**+0.4**
KHZ	**Kahutara**	**13.41**	**206**	*e*PN	**P**	**20 55 13.2**	**+1.5**
STKA	**Stephens Creek**	**33.88**	**257**	P	**P**	**20 58 23.6**	**-0.2**
	1.0nm,0.4s,mb3.5,baz=104,slow=8.3,SNR=2.4						
ASAR	**Alice Springs**	**42.52**	**267**	P	**P**	**20 59 35.4**	**+0.5**
	0.4nm,0.5s,mb3.0,baz=104,slow=6.9,SNR=10						
WRA	**Warramunga Arr**	**43.52**	**273**	P	**P**	**20 59 42.3**	**-0.5**
	1.3nm,0.7s,mb3.4,baz=115,slow=6.6,SNR=24						
FINES	**FINESS Array B**	**145.07**	**339**	PKPbc	PKPbc	21 11 09.4	+1.9
	1.2nm,0.6s,baz=56,slow=3.8,SNR=8.5						

ISCJB ***12*** *21:21:00.0±0.9, 82N±02×944E±03, h23km, mb4.0/13, MS3.7/2, Error ellipse: s-maj=43.3km s-min=10.4km az=116.4*
IDC ***12*** *21:21:01.2±1.2, 806N×9421E, h23km±5km, mb3.2/5, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, MS3.5/3, Ms1 3.5/3, ms1mx2.9/21, Error ellipse: s-maj=49.3km s-min=20.1km az=55.0*
NEIC ***12*** *21:21:01.8±0.7, 8.11N×9429E, mb4.2/9, Error ellipse: s-maj=33.0km s-min=7.0km az=57.0*
ISC 12 21:21:02.5±0.9, 82N±02×944E±03, h24km, h24km±.9km:pP-P, n25, σ0§66/19, mb4.0/13, MS3.7/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.00**	**139**	LR	LR	21 25 55.1	
	comp=Z,181nm,19.0s,baz=225,slow=41						
SHL	**Shillong**	**17.46**	**352**	*e*P	**Pn**	**21 25 03.0**	**-1.3**
JIRN	**Jiri**	**20.87**	**339**	*e*P	**P**	**21 25 43.2**	**+0.5**
	10.0nm,0.7s						
PKI	**Pulchoki**	**21.08**	**337**	*e*P	**P**	**21 25 46.2**	**+1.3**
GUN	**Gumba**	**21.21**	**339**	*e*P	**P**	**21 25 46.0**	**-0.4**
	42nm,1.1s,mb4.7						
DMN	**Daman**	**21.23**	**337**	*e*P	**P**	**21 25 47.2**	**+0.7**
	16nm,0.7s,mb4.4						
KKN	**Kakani**	**21.32**	**337**	*e*P	**P**	**21 25 47.8**	**+0.2**
	20nm,1.2s,mb4.3						
LSA	**Lhasa**	**21.63**	**352**	*e*P	**P**	**21 25 51.8**	**+1.0**
	5.3nm,0.6s,mb4.2						
GKN	**Gorkha**	**21.77**	**336**	*e*P	**P**	**21 25 52.0**	**-0.3**
	26nm,0.9s,mb4.7						
KOLN	**Koldanda**	**22.00**	**334**	*e*P	**P**	**21 25 54.6**	**-0.2**
	61nm,1.6s,mb4.8						
MBWA	**Marble Bar**	**38.34**	**140**	P	**P**	**21 28 21.1**	**-0.2**
MKAR	**Makanchi Array**	**39.85**	**347**	P	**P**	**21 28 33.2**	**-0.8**
	0.6nm,0.8s,mb3.4,baz=162,slow=7.7,SNR=7.7						
MKAR				pP	pP	21 28 40.2	-1.1
	1.8nm,0.8s,baz=166,slow=8.2,SNR=15						
SONM	**Songino Array**	**40.82**	**12**	P	**P**	**21 28 42.1**	**+0.1**
	0.5nm,0.8s,mb3.2,baz=162,slow=4.7,SNR=3.6						
SONM				pP	pP	21 28 49.6	+0.2
	0.4nm,0.7s,baz=190,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**48.24**	**126**	P	**P**	**21 29 40.8**	**-0.5**
	0.2nm,0.7s,mb3.2,baz=302,slow=9.5,SNR=3.2						
WRA				pP	pP	21 29 48.7	-0.2
	0.2nm,0.6s,baz=305,slow=8.6,SNR=2.6						
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**21 29 42.3**	**+1.0**
	1.5nm,0.7s,mb4.1						
JHJ	**Hachijo jima 2**	**48.69**	**53**	LR	LR	21 53 15.5	
	comp=Z,90nm,20.3s,MS3.8,baz=73,slow=40						
BVAR	**Borovoye Array**	**48.78**	**341**	P	**P**	**21 29 45.3**	**-0.2**
	0.1nm,0.5s,mb3.1,baz=158,slow=5.4,SNR=2.1						
BVAR				pP	pP	21 29 51.3	-1.7
	0.8nm,0.8s,baz=135,slow=6.3,SNR=5.0						
MJAR	**Matsushiro Arr**	**48.79**	**48**	LR	LR	21 51 15.7	
	comp=Z,67nm,20.0s,MS3.6,baz=45,slow=37						
BRVK	**Borovoye**	**48.85**	**341**	*e*P	**P**	**21 29 45.4**	**-0.5**
	0.4nm,0.3s,mb3.9						
BRVK				*e*pP	pP	21 29 52.2	-1.2
BRTR	**Keskin Array B**	**62.41**	**311**	pP	pP	21 31 28.9	-2.2
	0.7nm,0.8s,baz=117,slow=5.5,SNR=3.4						
JOF	**Joensuu**	**70.68**	**334**	*e*p	**P**	**21 32 23.2**	**+7.0**
FINES	**FINESS Array B**	**72.56**	**332**	pP	pP	21 32 33.5	-1.8
	0.7nm,0.6s,baz=97,slow=4.8,SNR=2.3						
KAF	**Kangasniemi**	**72.63**	**333**	*e*p	**P**	**21 32 34.0**	**+6.1**
ARCES	**ARCESS Array B**	**75.06**	**340**	pP	pP	21 32 49.1	-1.0
	3.9nm,0.9s,baz=27,slow=2.7,SNR=2.1						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**21 32 57.0**	**-0.4**
	0.6nm,0.8s,mb3.5,baz=104,slow=5.5,SNR=4.5						
GERES				pP	pP	21 33 04.0	-1.3
	1.0nm,0.6s,baz=90,slow=6.7,SNR=7.7						

MAN 12 21:27:28.9, 911N×12669E, h1km, mb2.1, ML3.8, MS5.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.06**	**263**	*e*P	Pg	21 27 49.7	+0.4
BUTP				*e*S	Sg	21 28 06.2	+3.1
SCPH	**Surigao**	**1.36**	**300**	*e*P	Pg	21 27 53.6	-1.3
SCPH				*e*S	Sg	21 28 13.9	+1.4
MSLP	**Maasin**	**2.07**	**300**	*e*P	Pn	21 28 05.9	+1.1
MSLP				*e*S	Sn	21 28 36.7	+5.5

IDC 12 21:41:16.6±1.8, 3816N×3631W, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, MS3.1/1, Ms1 3.1/1, ms1mx2.2/30, Error ellipse: s-maj=45.7km s-min=22.7km az=28.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.14**	**76**	P	P	21 46 44.0	+0.6
	1.0nm,0.8s,baz=276,slow=8.3,SNR=5.4						
SJG	**San Juan**	**32.82**	**241**	LR	LR	21 58 53.9	
	comp=Z,29nm,18.9s,baz=117,slow=32						
TORD	**Torodi Ar. Bea**	**41.91**	**116**	P	P	21 49 08.9	+0.1
	0.6nm,0.7s,baz=312,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**44.34**	**38**	P	P	21 49 28.5	0.0
	1.0nm,0.9s,baz=284,slow=7.9,SNR=4.4						
ARCES	**ARCESS Array B**	**45.01**	**26**	P	P	21 49 33.5	-0.4
	2.3nm,0.8s,baz=260,slow=5.5,SNR=3.0						
AKASG	**Malin Array Be**	**46.96**	**52**	P	P	21 49 48.5	-0.7
	1.0nm,0.7s,baz=280,slow=7.0,SNR=4.8						
YKA	**Yellowknife Ar**	**51.74**	**325**	P	P	21 50 25.2	-0.6
	0.4nm,0.7s,baz=81,slow=7.3,SNR=9.3						
INK	**Inuvik**	**57.70**	**334**	P	P	21 51 08.6	-0.4
	0.9nm,0.6s,baz=31,slow=10.0,SNR=5.7						
BVAR	**Borovoye Array**	**69.30**	**38**	P	P	21 52 25.7	0.0
	0.6nm,0.7s,baz=284,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**79.17**	**38**	P	P	21 53 22.8	-0.6
	0.5nm,0.8s,baz=320,slow=5.8,SNR=6.3						

IDC ***12*** *21:50:45.3±1.2, 923N×9306E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, MS2.7/1, Ms1 2.7/1, ms1mx2.5/17, Error ellipse: s-maj=67.4km s-min=27.0km az=46.0*
ISCJB ***12*** *21:50:48.4±1.0, 90N±02×930E±03, h33km, mb3.5/6, Error ellipse: s-maj=43.2km s-min=17.5km az=122.7*
ISC 12 21:50:50.9±1.0, 90N±02×930E±03, h35km, n12, σ1§15/11, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.52**	**136**	LR	LR	21 56 31.0	
	comp=Z,43nm,19.2s,baz=60,slow=40						
JIRN	**Jiri**	**19.64**	**342**	*e*P	**Pn**	**21 55 17.9**	**-0.1**
GUN	**Gumba**	**19.97**	**341**	*e*P	**Pn**	**21 55 21.3**	**-0.6**
KKN	**Kakani**	**20.05**	**340**	*e*P	**P**	**21 55 22.1**	**+1.1**
	2.7nm,0.4s						
GKN	**Gorkha**	**20.47**	**338**	*e*P	**P**	**21 55 26.7**	**+1.1**
	4.9nm,0.3s						
KOLN	**Koldanda**	**20.66**	**336**	*e*P	**P**	**21 55 29.5**	**+1.9**
	6.3nm,0.7s						
MKAR	**Makanchi Array**	**38.74**	**348**	P	**P**	**21 58 09.7**	**-2.1**
	0.3nm,0.5s,mb3.2,baz=162,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**49.83**	**126**	P	**P**	**21 59 41.0**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=307,slow=8.4,SNR=4.7						
BRTR	**Keskin Array B**	**60.84**	**311**	P	**P**	**22 00 58.9**	**-0.8**
	0.7nm,0.6s,mb3.9,baz=132,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**71.19**	**332**	P	**P**	**22 02 04.7**	**-1.5**
	0.4nm,0.7s,mb3.4,baz=113,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**76.24**	**318**	P	**P**	**22 02 35.3**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=90,slow=2.7,SNR=6.7						
TORD	**Torodi Ar. Bea**	**89.25**	**283**	P	**P**	**22 03 44.2**	**+0.9**
	0.2nm,0.8s,mb3.5,baz=92,slow=3.5,SNR=5.1						

TIF ***12*** *22:00:22.4, 4125N×4381E, h9km±2km*
ISCJB ***12*** *22:00:23.2±0.5, 4122N±003×4378E±003, h9km, Error ellipse: s-maj=5.0km s-min=3.5km az=145.4*
MOS ***12*** *22:00:23.7±0.6, 4124N×4378E, h12km, mb4.0/1, Error ellipse: s-maj=44.4km s-min=11.3km az=80.4*
ISC 12 22:00:23.3±0.5, 4123N±003×4378E±003, h9km, n20, σ0§90/34, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.29**	**310**	P	**Pg**	**22 00 28.5**	**-0.6**
AKH				S	**Sg**	**22 00 32.2**	**-0.7**
DIGO	**Kars**	**0.87**	**201**	*i* P	**Pg**	**22 00

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.28**	**354**	Pg	Pg	22 30 32.9	+0.1
MELF				Sg	Sg	22 30 36.0	-0.5
MELF	**Melles**	**0.28**	**354**	Pg	Pg	22 30 32.9	+0.1
MELF				Lg		22 30 36.8	
CSOR	**Sort**	**0.33**	**131**	Pg	Pg	22 30 33.4	-0.2
CSOR				Lg		22 30 37.9	
	2.8nm,0.1s						
SALF	**Salau**	**0.34**	**59**	Pg	Pg	22 30 33.6	-0.1
SALF				Sg	Sg	22 30 37.6	-0.5
SALF	**Salau**	**0.34**	**59**	Pg	Pg	22 30 33.6	-0.1
SALF				Lg		22 30 37.9	
EBIE	**Bielsa**	**0.49**	**282**	Pg	Pg	22 30 36.4	-0.4
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		22 30 42.8	
	1.1nm,0.1s,SNR=19						
CORG	**Organya**	**0.53**	**133**	Pg	Pg	22 30 36.1	-1.3
CORG				Lg		22 30 43.6	
	0.8nm,0.1s						
EGRA	**Graus**	**0.53**	**222**	Pg	Pg	22 30 37.1	-0.4
	0.2nm,0.1s,SNR=7.9						
EGRA				Lg		22 30 45.4	
	1.0nm,0.4s,SNR=7.9						
EPF	**Esparros**	**0.56**	**323**	*e*Pg	Pg	22 30 37.7	-0.3
EPF				*e*Sg	Sg	22 30 44.9	-0.3
	2.7nm,0.3s						
EPF	**Esparros**	**0.56**	**323**	Pg	Pg	22 30 37.7	-0.3
EPF				Lg		22 30 44.9	
	1.4nm,0.3s						
CAVN	**Les Avellanes**	**0.71**	**183**	Pg	Pg	22 30 40.9	0.0
EMIR	**Miracle**	**0.86**	**141**	Pg	Pg	22 30 43.2	-0.7
	0.4nm,0.2s,SNR=7.9						
EMIR				Lg		22 30 55.4	
	0.3nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.05**	**288**	*e*Pg	Pg	22 30 47.8	+0.4
ETSF				*e*Sg	Sg	22 31 01.2	+0.2
	0.9nm,0.3s						
ETSF	**Etsaut**	**1.05**	**288**	Pg	Pg	22 30 47.8	+0.4
ETSF				Lg		22 31 01.2	
	0.4nm,0.3s						
EPOB	**Poblet**	**1.25**	**170**	Pg	Pg	22 30 50.3	-1.1
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		22 31 06.5	
	1.1nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.28**	**228**	Pg	Pg	22 30 50.7	-1.2
	1.0nm,0.1s,SNR=7.9						
ESAC				Lg		22 31 08.8	
	3.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.28**	**54**	*e*Pg	Pg	22 30 51.0	-0.9
MTLF				*e*Sg	Sg	22 31 07.0	-1.6
	0.5nm,0.2s						
MTLF	**Montolieu**	**1.28**	**54**	Pg	Pg	22 30 51.0	-0.9
MTLF				Lg		22 31 07.0	
	0.2nm,0.2s						
ERTA	**Horta de San J**	**1.67**	**192**	Lg		22 31 19.5	
	1.7nm,0.4s,SNR=7.9						

MAN 12 22:55:19.9, 909N×12677E, h8km, mb3.4, ML4.6, MS7.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.14**	**264**	*e*P	Pg	22 55 41.4	-0.3
BUTP				*e*S	Sg	22 55 59.4	+2.9
BUKP	**Musuan**	**2.07**	**235**	*e*P	Pn	22 55 57.9	+3.0
BUKP				*e*S	Sn	22 56 27.0	+6.0
MSLP	**Maasin**	**2.15**	**299**	*e*P	Pn	22 55 57.7	+1.8
MSLP				*e*S	Sn	22 56 30.6	+7.7
LLP	**Lapu-Lapu**	**3.02**	**294**	*e*P	Pn	22 56 09.7	+1.8
LLP				*e*S	Sn	22 56 36.3	-7.9

ISCJB ***12*** *23:14:44.6±0.6, 69N±0.1×338W±0.1, h10km, mb3.9/11, MS3.8/8, Error ellipse: s-maj=18.5km s-min=12.1km az=85.1*
IDC ***12*** *23:14:45.1±1.0, 698N×3389W, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/24, mbtmp4.0/10, MS3.8/8, Ms1 3.8/8, ms1mx3.6/27, Error ellipse: s-maj=33.7km s-min=18.3km az=154.0*
NEIC ***12*** *23:14:46.9±0.6, 694N×3393W, h10km, mb4.2/1, Error ellipse: s-maj=18.5km s-min=11.0km az=121.0*
ISC 12 23:14:47.0±0.6, 69N±01×338W±01, h10km, n21, σ0§94/15, mb4.0/11, MS3.8/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.83**	**189**	*e*Pn	**Pn**	**23 17 48.6**	**-0.8**
BDFB	**Brasilia**	**26.45**	**212**	LR	LR	23 29 46.2	
	comp=Z,304nm,21.4s,MS3.8,baz=218,slow=34						
DBIC	**Dimbokro**	**28.78**	**89**	LR	LR	23 29 56.6	
	comp=Z,101nm,19.6s,MS3.4,baz=254,slow=32						
SAML	**Samuel**	**33.22**	**242**	*e*P	**P**	**23 21 24.6**	**+0.5**
	2.8nm,0.8s,mb4.2						
SIV	**San Ignacio**	**35.29**	**230**	P	**P**	**23 21 42.7**	**+0.7**
	1.3nm,0.9s,mb3.9,baz=94,slow=12,SNR=5.6						
TORD	**Torodi Ar. Bea**	**35.51**	**77**	P	**P**	**23 21 42.9**	**-1.0**
	4.1nm,0.8s,mb4.4,baz=270,slow=8.6,SNR=16						
SDV	**Santo Domingo**	**36.48**	**276**	P	**P**	**23 21 52.8**	**+0.5**
	1.2nm,0.3s,mb4.3,baz=274,slow=3.9,SNR=3.4						
SDV	**Santo Domingo**	**36.48**	**276**	P	**P**	**23 21 52.8**	**+0.5**
ROSC	**El Rosal**	**40.32**	**269**	LR	LR	23 37 05.6	
	comp=Z,132nm,18.9s,MS3.8,baz=22,slow=33						
LPAZ	**La Paz**	**41.03**	**236**	P	**P**	**23 22 31.1**	**+0.7**
	1.3nm,0.7s,mb3.6,baz=128,slow=5.4,SNR=4.4						
LPAZ				LR	LR	23 38 32.2	
	comp=Z,138nm,18.8s,MS3.8,baz=142,slow=35						
JTS	**JuntasAbangare**	**50.61**	**278**	P	**P**	**23 23 45.4**	**-0.6**
SCHQ	**Schefferville**	**54.59**	**337**	P	**P**	**23 24 15.0**	**-0.5**
	4.0nm,1.0s,mb4.4,baz=140,slow=2.3,SNR=4.8						
GERES	**GERESS Array B**	**57.82**	**35**	P	**P**	**23 24 40.2**	**+1.6**
	0.8nm,0.9s,mb3.8,baz=243,slow=6.0,SNR=5.9						
GERES				LR	LR	23 46 53.4	
	comp=Z,85nm,18.5s,MS3.9,baz=138,slow=33						
NOA	**NORSAR Array B**	**63.52**	**23**	LR	LR	23 48 50.8	
	comp=Z,60nm,20.3s,MS3.8,baz=5.0,slow=32						
AKASG	**Malin Array Be**	**67.77**	**38**	P	**P**	**23 25 45.3**	**+0.4**
	0.1nm,0.2s,mb3.4,baz=252,slow=6.1,SNR=5.2						
BRTR	**Keskin Array B**	**68.32**	**50**	P	**P**	**23 25 49.1**	**+0.8**
	0.8nm,1.0s,mb3.7,baz=164,slow=9.0,SNR=3.7						
FINES	**FINESS Array B**	**69.87**	**26**	LR	LR	23 51 33.2	
	comp=Z,41nm,20.4s,MS3.7,baz=100,slow=32						
KMBO	**Kilima Mbogo**	**71.38**	**94**	LR	LR	23 54 19.6	
	comp=Z,71nm,18.4s,MS4.0,baz=92,slow=33						
PDAR	**Pinedale Array**	**74.85**	**312**	P	**P**	**23 26 27.3**	**-0.4**
	1.7nm,1.1s,mb3.9,baz=90,slow=7.4,SNR=5.7						
YKA	**Yellowknife Ar**	**79.63**	**332**	P	**P**	**23 26 52.2**	**-2.3**
	1.2nm,0.9s,mb3.8,baz=92,slow=5.3,SNR=16						
YKA	**Yellowknife Ar**	**79.63**	**332**	P	**P**	**23 26 52.2**	**-2.3**

IDC ***12*** *23:52:55.2±0.7, 1523S×17340W, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.5/20, mbtmp4.4/12, MS3.8/7, Ms1 3.8/7, ms1mx3.6/22, Error ellipse: s-maj=39.7km s-min=15.2km az=140.0*
NEIC ***12*** *23:52:56.6±0.4, 1535S×17327W, h10km, mb4.7/1, Error ellipse: s-maj=15.7km s-min=8.6km az=149.0*
ISCJB ***12*** *23:52:58.9±0.5, 152S±02×1735W±0.1, h33km, mb4.3/12, MS3.8/6, Error ellipse: s-maj=27.7km s-min=9.6km az=108.5*
ISC 12 23:53:00.3±0.5, 154S±01×17322W±009, h35km, n46, σ1§18/21, mb4.3/11, MS3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**44**	Pn	**Pn**	**23 53 29.6**	**-2.1**
	436nm,0.3s,baz=38,slow=1.4,SNR=224						
AFI				Sn	**Sn**	**23 53 48.7**	**-6.9**
	1μm,0.3s,baz=44,slow=22,SNR=20						
AFI				LR	LR	23 54 10.4	
	comp=Z,2μm,19.3s,baz=172,slow=37						
RAR	**Rarotonga**	**14.03**	**116**	Pn	**Pn**	**23 56 15.5**	**-0.9**
	1.4nm,0.3s,baz=288,slow=6.4,SNR=2.5						
DZM	**Mont Dzumac**	**20.37**	**248**	LR	LR	00 02 35.2	
	comp=Z,106nm,19.8s,MS3.2,baz=194,slow=29						
DZM	**Mont Dzumac**	**20.37**	**248**	*e*P	**P**	**23 57 33.9**	**+0.1**
NOUC	**Port Laguerre**	**20.51**	**248**	*e*P	**P**	**23 57 38.8**	**+3.5**
TBI	**Tubuai**	**23.75**	**113**	*e*LR	LR	00 03 45.3	
	141nm,30.2s						
URZ	**Urewera**	**24.35**	**199**	P	**P**	**23 58 15.7**	**+0.8**
	11nm,0.4s,mb4.6,baz=335,slow=2.5,SNR=13						
URZ				LR	LR	00 06 35.1	
	comp=Z,279nm,21.1s,MS3.7,baz=44,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**36.84**	**108**	*e*LR	LR	00 09 58.9	
	121nm,33.5s						
STKA	**Stephens Creek**	**44.21**	**240**	*e*P	**P**	**00 01 03.7**	**-2.2**
	3.2nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**44.21**	**240**	P	**P**	**00 01 03.9**	**-2.0**
	2.4nm,0.6s,mb4.1,baz=84,slow=8.0,SNR=6.5						
STKA				LR	LR	00 16 50.3	
	comp=Z,176nm,20.1s,MS4.0,baz=28,slow=32						
STKA	**Stephens Creek**	**44.21**	**240**	P	**P**	**00 01 03.9**	**-2.0**
STKA				LR	LR	00 16 50.3	
WB2	**Warramunga Arr**	**50.01**	**257**	*e*P	**P**	**00 01 51.0**	**-0.1**
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P	**P**	**00 01 51.2**	**0.0**
	13nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**00 01 50.4**	**-0.8**
	1.5nm,0.4s,mb4.4,baz=94,slow=6.5,SNR=90						
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**00 01 52.9**	**-0.4**
	3.8nm,0.4s,mb4.7,baz=85,slow=8.6,SNR=48						
MJAR	**Matsushiro Arr**	**69.03**	**320**	LR	LR	00 33 58.5	
	comp=Z,42nm,18.1s,MS3.7,baz=40,slow=36						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**00 04 34.4**	**+1.1**
	1.8nm,0.8s,mb4.0,baz=226,slow=8.7,SNR=10						
ANMO	**Albuquerque**	**80.64**	**50**	P	**P**	**00 05 11.1**	**+1.7**
	4.8nm,1.0s,mb4.4,baz=228,slow=6.8,SNR=10						
QLMT	**Earthquake Lak**	**81.98**	**39**	*e*P	**P**	**00 05 19.0**	**+2.5**
CHMT	**Chamberlain Mo**	**81.99**	**37**	*e*P	**P**	**00 05 17.7**	**+1.1**
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**00 05 17.8**	**+0.5**
	4.0nm,1.1s,mb4.3,baz=207,slow=3.0,SNR=17						
ILAR	**Eielson Array**	**82.38**	**11**	P	**P**	**00 05 17.6**	**-1.0**
	1.0nm,0.8s,mb3.8,baz=231,slow=6.4,SNR=16						
INK	**Inuvik**	**88.19**	**14**	P	**P**	**00 05 47.5**	**-0.2**
	1.3nm,0.9s,mb4.2,baz=213,slow=6.8,SNR=3.7						
YKA	**Yellowknife Ar**	**90.00**	**23**	P	**P**	**00 05 55.6**	**-0.5**
	0.5nm,0.8s,mb3.9,baz=237,slow=4.5,SNR=10						
YKA				LR	LR	00 40 25.6	
	comp=Z,97nm,22.0s,MS4.2,baz=220,slow=32						
LPAZ	**La Paz**	**99.66**	**110**	P	Pdif	00 06 43.4	+3.2
	3.1nm,0.9s,baz=344,slow=5.2,SNR=7.4						
ROSC	**El Rosal**	**99.83**	**88**	LR	LR	00 45 20.3	
	comp=Z,44nm,20.2s,MS4.0,baz=205,slow=32						
DPC	**Dobruska-Polom**	**144.26**	**350**	*e*PKPbc	PKPdf	00 12 32.5	0.0
PRU	**Pruhonice**	**144.90**	**351**	*e*PKPbc	PKPdf	00 12 33.0	-0.6
KMBO	**Kilima Mbogo**	**145.71**	**244**	PKPbc	PKPbc	00 12 37.3	+2.0
	0.5nm,0.3s,baz=66,slow=22,SNR=5.2						
KHC	**Kasperske Hory**	**145.87**	**352**	*e*PKPbc	PKPbc	00 12 37.2	+1.3
KHC				*ex*	x	00 12 44.6	
KHC				*ex*	x	00 12 51.4	
GERES	**GERESS Array B**	**146.13**	**352**	PKPbc	PKPbc	00 12 37.6	+0.9
	1.4nm,0.9s,baz=34,slow=4.8,SNR=8.5						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	PKPbc	00 12 38.2	+1.2
	4.2nm,1.0s,baz=74,slow=2.4,SNR=15						
MEZF	**Maizieres J'vi**	**146.93**	**2**	*e*PKP1	PKPbc	00 12 39.9	+0.9
CDF	**Champ du Feu**	**147.04**	**359**	*e*PKP1	PKPbc	00 12 40.5	+1.2
	14nm,1.1s						
LOR	**Lormes**	**148.10**	**4**	*e*PKP1	PKPbc	00 12 43.1	+0.9
	5.1nm,1.0s						
SSF	**Saint Saulge**	**148.28**	**4**	*e*PKP1	PKPbc	00 12 43.9	+1.2
	3.5nm,1.0s						
AVF	**Avril sur Loir**	**148.54**	**5**	*e*PKP1	PKPbc	00 12 44.7	+1.4
SMF	**Signal de Mont**	**148.72**	**4**	*e*PKP1	PKPbc	00 12 45.0	+1.2
CABF	**La Chapelle**	**148.84**	**1**	*e*PKP1	PKPbc	00 12 45.9	+1.8
LPL	**La Plagne**	**149.94**	**0**	*e*PKP1	PKPbc	00 12 48.6	+1.8
LPG	**La Plagne**	**149.96**	**0**	*e*PKP1	PKPbc	00 12 48.5	+1.6
	0.8nm,0.5s						
ORIF	**Oris-en-Rattie**	**150.53**	**1**	*e*PKP1	PKPbc	00 12 49.8	+1.5
VIVF	**Saint-Julien-l**	**150.55**	**3**	*e*PKP1	PKPbc	00 12 49.6	+1.3
MBDF	**Montbardon**	**150.73**	**0**	*e*PKP1	PKPbc	00 12 50.9	+2.2
	7.8nm,1.0s						
SMRF	**Simiane la Rot**	**151.47**	**2**	*e*PKP1	PKPbc	00 12 51.7	+1.3
	39nm,1.4s						
LMR	**La Mourre**	**152.12**	**0**	*e*PKP1	PKPbc	00 12 53.3	+1.4
	110nm,2.0s						

ISCJB ***12*** *23:58:21.8±1.0, 250S±02×1157W±02, h10km, mb4.1/7, MS4.2/8, Error ellipse: s-maj=33.1km s-min=19.8km az=81.8*
IDC ***12*** *23:58:21.7±1.9, 2498S×11565W, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.0/5, MS4.1/8, Ms1 4.1/8, ms1mx4.0/18, Error ellipse: s-maj=82.4km s-min=26.8km az=52.0*
NEIC ***12*** *23:58:23.0±0.7, 2504S×11583W, h10km, mb4.3/2, Error ellipse: s-maj=26.5km s-min=15.0km az=213.0*
ISC 12 23:58:23.6±1.0, 250S±02×1158W±02, h10km, n21, σ0§79/11, mb4.1/7, MS4.2/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**32.30**	**277**	LR	LR	00 14 02.9	
	comp=Z,730nm,18.7s,MS4.4,baz=102,slow=29						
PLCA	**Paso Flores**	**40.64**	**124**	P	**P**	**00 06 03.6**	**-0.1**
	3.5nm,0.9s,mb4.0,baz=265,slow=9.7,SNR=6.3						
PLCA				LR	LR	00 17 08.6	
	comp=Z,115nm,20.0s,MS3.7,baz=28,slow=28						
ROSC	**El Rosal**	**50.00**	**59**	LR	LR	00 25 36.9	
	comp=Z,124nm,18.4s,MS4.0,baz=6.2,slow=33						
CPUP	**Villa Florida**	**52.29**	**105**	*e*P	**P**	**00 07 35.5**	**+0.3**
	5.3nm,0.6s,mb4.7						
SAML	**Samuel**	**52.42**	**82**	*e*P	**P**	**00 07 37.2**	**+1.0**
	1.3nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**63.12**	**358**	P	**P**	**00 08 52.4**	**+1.1**
	1.0nm,0.7s,mb4.0,baz=187,slow=9.4,SNR=7.8						
NVAR	**Mina Array Bea**	**63.12**	**358**	P	**P**	**00 08 52.4**	**+1.1**
BDFB	**Brasilia**	**63.66**	**96**	P	**P**	**00 08 54.2**	**-0.7**
	2.1nm,0.8s,mb4.2,baz=209,slow=8.3,SNR=4.2						
VNDA	**Vanda**	**64.15**	**194**	LR	LR	00 30 19.7	
	comp=Z,106nm,21.2s,MS4.0,baz=354,slow=30						
PDAR	**Pinedale Array**	**67.65**	**5**	P	**P**	**00 09 20.6**	**0.0**
	0.8nm,0.8s,mb3.8,baz=194,slow=6.1,SNR=6.7						
NEW	**Newport**	**72.91**	**359**	LR	LR	00 33 53.1	
	comp=Z,138nm,21.6s,MS4.2,baz=55,slow=29						
RCBR	**Riachuelo**	**78.38**	**91**	P	**P**	**00 10 24.0**	**-0.3**
STKA	**Stephens Creek**	**87.04**	**236**	LR	LR	00 42 46.1	
	comp=Z,128nm,18.3s,MS4.4,baz=39,slow=31						
YKA	**Yellowknife Ar**	**87.17**	**1**	P	**P**	**00 11 08.2**	**-1.7**
	0.8nm,0.8s,mb4.0,baz=174,slow=4.9,SNR=8.4						
YKA	**Yellowknife Ar**	**87.17**	**1**	P	**P**	**00 11 08.2**	**-1.7**
MAW	**Mawson**	**87.70**	**179**	LR	LR	00 45 51.5	
	comp=Z,190nm,18.2s,MS4.5,baz=242,slow=32						
ILAR	**Eielson Array**	**92.66**	**347**	LR	LR	00 45 12.4	
	comp=Z,116nm,18.5s,MS4.4,baz=355,slow=30						
WRAB	**Tennant Creek**	**98.52**	**243**	*e*P	**P**	**00 12 02.8**	**+0.4**
ZAL	**Zalesovo**	**147.26**	**337**	PKPbc	PKPbc	00 18 06.5	-0.7
	0.7nm,0.4s,baz=143,slow=11,SNR=4.1						
BRTR	**Keskin Array B**	**150.43**	**53**	PKPbc	PKPbc	00 18 14.3	-1.0
	1.5nm,0.9s,baz=262,slow=1.3,SNR=5.8						
MKAR	**Makanchi Array**	**153.89**	**331**	PKPbc	PKPbc	00 18 22.8	-0.3
	0.5nm,0.9s,baz=47,slow=2.6,SNR=4.1						

MOS 13 00:48:04.4±1.9, 4305N×4699E, h17km, mb4.0/1, 1C, Error ellipse: s-maj=48.5km s-min=31.4km az=81.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.12**	**256**	⇑*i*PG	Pg	00 48 08.0	-0.1
KRNR	**Karanay**	**0.23**	**195**	*e*PG	Pg	00 48 09.2	-0.5
BUJR	**Buynaksk**	**0.24**	**159**	*e*PG	Pg	00 48 09.8	-0.1
BUJR				*i* S	Sg	00 48 13.5	-0.1
UNCR	**Uncukul**	**0.36**	**203**	*e*PG	Pg	00 48 11.5	-0.5
UNCR				*i* S	Sg	00 48 16.5	-0.6
UNCR				pmax	pmax		
	comp=Z,29nm,0.2s						
MAK	**Makhachkala**	**0.39**	**103**	*e*PG	Pg	00 48 21.0	+8.6
MAK				pmax	pmax		
	comp=Z,48nm,0.1s						
MAK				pmax	pmax		
	comp=N,116nm,0.3s						
MAK				pmax	pmax		
	comp=E,37nm,0.1s						

IDC 13 00:56:39.7±3.2, 4394N×12882W, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.3/23, mbtmp3.2/6, ML3.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/14, Error ellipse: s-maj=60.0km s-min=18.8km az=47.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**5.00**	**114**	Pn	Pn	00 57 56.6	+0.6
	0.3nm,0.3s,baz=320,slow=12,SNR=4.7						
YBH				Sn	Sn	00 58 56.8	+2.3
	0.2nm,0.3s,baz=75,slow=18,SNR=2.9						
NEW	**Newport**	**9.21**	**58**	LR	LR	01 01 32.4	
	comp=Z,74nm,19.1s,baz=219,slow=32						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**9.65**	**121**	Pn	Pn	00 59 02.0	+2.2
	0.1nm,0.3s,baz=300,slow=14,SNR=3.2						
PDAR	**Pinedale Array**	**10.47**	**88**	Pn	Pn	01 00 03.6	+3.4
	baz=283,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**20.36**	**19**	P	P	01 01 18.4	+0.7
	0.8nm,0.9s,baz=210,slow=10,SNR=8.6						
ULM	**Lac du Bonnet**	**23.17**	**63**	P	P	01 01 47.9	+0.1
	1.0nm,0.5s,baz=274,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**23.21**	**340**	P	P	01 01 47.5	-0.8
	0.6nm,0.9s,baz=152,slow=7.6,SNR=4.9						
SCHQ	**Schefferville**	**40.51**	**52**	LR	LR	01 19 47.8	
	comp=Z,105nm,18.9s,baz=291,slow=34						

IDC ***13*** *01:42:58.4±0.9, 621S×12227E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/19, mbtmp4.2/8, MS3.4/3, Ms1 3.4/3, ms1mx3.1/23, Error ellipse: s-maj=45.6km s-min=16.9km az=52.0*
MOS ***13*** *01:43:00.1±1.1, 637S×12203E, h33km, mb4.6/4, Error ellipse: s-maj=35.3km s-min=14.2km az=122.9*
ISCJB ***13*** *01:43:01.3±0.5, 628S±009×1223E±0.1, h33km, mb4.4/14, MS3.3/2, Error ellipse: s-maj=18.9km s-min=7.8km az=104.8*
NEIC ***13*** *01:43:04.7±4.3, 626S×12235E, h49km±45km, mb4.1/4, Error ellipse: s-maj=24.8km s-min=12.7km az=207.0*
BJI ***13*** *01:43:04.7, 630S×12230E, h49km, mB4.8, mb4.5*
ISC 13 01:43:03.7±0.5, 627S±009×1223E±01, h35km, n30, σ1§15/30, mb4.4/14, MS3.3/2, 4C-2D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.92**	**140**	P	**Pn**	**01 47 09.2**	**-0.9**
	0.2nm,0.3s,baz=317,slow=12,SNR=16						
WRA	**Warramunga Arr**	**17.92**	**140**	*i* P	**Pn**	**01 47 09.1**	**-1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**17.92**	**140**	*e*P	**Pn**	**01 47 10.7**	**+0.6**
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**17.93**	**140**	*e*P	**Pn**	**01 47 09.8**	**-0.4**
ASAR	**Alice Springs**	**20.58**	**148**	P	**P**	**01 47 41.4**	**+1.9**
	comp=Z,5.7nm,0.6s,baz=325,slow=10.0,SNR=84						
ASAR				PcP	PcP	01 51 50.8	+1.3
	comp=Z,1.1nm,0.7s,baz=342,slow=2.4,SNR=7.4						
KULM	**Kulim**	**24.48**	**298**	*e*P	**P**	**01 48 20.4**	**+1.0**
PMG	**Port Moresby**	**24.81**	**99**	P	**P**	**01 48 23.4**	**+1.0**
	comp=Z,2.3nm,0.3s,mb4.1,baz=254,slow=11,SNR=3.6						
PMG	**Port Moresby**	**24.81**	**99**	⇑*e*P	**P**	**01 48 23.8**	**+1.4**
PMG	**Port Moresby**	**24.81**	**99**	*e*P	**P**	**01 48 22.4**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.2						
PSI	**Prapat**	**25.03**	**290**	P	**P**	**01 48 24.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.3,baz=117,slow=6.0,SNR=4.5						
PSI				LR	LR	01 58 33.1	
	comp=Z,62nm,20.6s,MS3.1,baz=121,slow=38						
PSI	**Prapat**	**25.03**	**290**	P	**P**	**01 48 24.3**	**-0.1**
PSI				LR	LR	01 58 33.1	
STKA	**Stephens Creek**	**31.21**	**147**	P	**P**	**01 49 18.7**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=338,slow=11,SNR=3.1						
STKA				LR	LR	02 04 32.2	
	comp=Z,113nm,18.1s,MS3.6,baz=24,slow=41						
SSE	**Sheshan**	**37.17**	**358**	P	**P**	**01 50 13.6**	**+2.4**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,61nm,4.3s						
NJ2	**Nanjing**	**38.25**	**355**	*e*P	**P**	**01 50 22.9**	**+2.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
DGAR	**Diego Garcia**	**49.50**	**266**	P	**P**	**01 51 50.9**	**+0.3**
GTA	**Gaotai**	**49.99**	**337**	*e*P	**P**	**01 51 54.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**55.56**	**348**	⇑*e*P	**P**	**01 52 35.9**	**+0.4**
SONM	**Songino Array**	**55.67**	**347**	P	**P**	**01 52 36.5**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.4,baz=163,slow=7.8,SNR=25						
MKAR	**Makanchi Array**	**63.62**	**330**	P	**P**	**01 53 30.4**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.4,baz=132,slow=7.5,SNR=53						
MKAR	**Makanchi Array**	**63.62**	**330**	⇑*e*P	**P**	**01 53 30.8**	**-0.3**
BOD	**Bodaibo**	**64.23**	**355**	*e*P	**P**	**01 53 32.9**	**-2.2**
ZAL	**Zalesovo**	**67.74**	**337**	P	**P**	**01 53 56.6**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.3,baz=329,slow=4.4,SNR=21						
ZAL	**Zal

comp=N,3.5nm,0.4s,baz=145,slow=22,SNR=7.6
KOLN Koldanda 11.26 125 *e*Pn **Pn 02 03 04.6 -0.6**
KOLN *e*Sn **Sn 02 05 06.3 -4.7**
comp=N,14nm,0.5s
KOLN Koldanda 11.26 125 *e*Pn **Pn 02 03 04.6 -0.6**
comp=N,7.2nm,0.5s
KOLN *e*Sn **Sn 02 05 06.3 -4.7**
GKN Gorkha 11.83 121 *e*Pn **Pn 02 03 10.0 -3.0**
GKN *e*Sn **Sn 02 05 16.0 -9.1**
comp=N,31nm,0.5s
GKN Gorkha 11.83 121 *e*Pn **Pn 02 03 10.0 -3.0**
comp=N,16nm,0.5s
GKN *e*Sn **Sn 02 05 16.0 -9.1**
DMN Daman 12.40 121 *e*Pn **Pn 02 03 19.4 -1.4**
DMN *e*Sn **Sn 02 05 32.3 -6.7**
comp=N,16nm,0.6s
DMN Daman 12.40 121 *e*Pn **Pn 02 03 19.4 -1.4**
comp=N,7.9nm,0.6s
DMN *e*Sn **Sn 02 05 32.3 -6.7**
PKI Pulchoki 12.63 121 *e*Pn **Pn 02 03 23.8 -0.2**
PKI *e*Sn **Sn 02 05 37.2 -7.6**
comp=N,13nm,0.4s
PKI Pulchoki 12.63 121 *e*Pn **Pn 02 03 23.8 -0.2**
comp=N,6.7nm,0.4s
PKI *e*Sn **Sn 02 05 37.2 -7.6**
GUN Gumba 12.78 118 *e*Pn **Pn 02 03 24.5 -1.4**
GUN *e*Sn **Sn 02 05 40.6 -7.6**
comp=N,16nm,0.5s
GUN Gumba 12.78 118 *e*Pn **Pn 02 03 24.5 -1.4**
comp=N,7.9nm,0.5s
GUN *e*Sn **Sn 02 05 40.6 -7.6**
JIRN Jiri 13.14 118 *e*Pn **Pn 02 03 29.5 -1.5**
JIRN *e*Sn **Sn 02 05 48.3 -8.9**
comp=N,19nm,0.5s
JIRN Jiri 13.14 118 *e*Pn **Pn 02 03 29.5 -1.5**
comp=N,9.6nm,0.5s
JIRN *e*Sn **Sn 02 05 48.3 -8.9**
MK31 Makanchi Array 13.96 27 ⇑P **Pn 02 03 42.7 +0.6**
comp=N,0.9nm,0.8s,baz=208,slow=13,SNR=11
MKAR Makanchi Array 13.96 27 Pn **Pn 02 03 42.9 +0.8**
comp=N,0.1nm,0.3s,baz=204,slow=12,SNR=7.0
AB31 Akbulak array 17.56 330 ⇑P **Pn 02 04 27.7 -1.4**
comp=N,0.8nm,0.5s,baz=145,slow=14,SNR=38
AB31 ⇑S **Sn 02 07 32.7 -12**
comp=N,2.2nm,1.1s,baz=154,slow=22,SNR=4.4
VOSK Vostochnaya 18.14 356 ⇓P **Pn 02 04 38.5 +2.3**
comp=N,1.9nm,0.8s
BVA0 Borovoye Array 18.48 355 ⇓P **Pn 02 04 40.6 +0.2**
comp=N,0.1nm,0.4s,baz=158,slow=10,SNR=23
BVAR Borovoye Array 18.48 355 P **Pn 02 04 41.3 +0.9**
comp=N,0.8nm,0.3s,baz=158,slow=9.6,SNR=21
BRVK Borovoye 18.52 355 *e*P **Pn 02 04 41.5 +0.5**
comp=N,1.0nm,0.4s
AKTK Aktyubinsk 19.27 330 P **Pn 02 04 50.0 0.0**
AKTO Aktyubinsk 19.27 330 P **Pn 02 04 50.0 0.0**
comp=N,0.7nm,0.3s,baz=138,slow=11,SNR=21
ZAL Zalesovo 20.96 19 P **P 02 05 07.2 -0.2**
comp=N,4.1nm,0.4s,baz=267,slow=6.2,SNR=17
ARU Arti 23.97 340 *e*P **P 02 05 38.8 0.0**
comp=N,2.7nm,0.6s,mb3.9
SONM Songino Array 28.02 52 LR LR 02 19 11.1
comp=N,61nm,18.9s,MS3.2,baz=236,slow=40
MLR Muntele Rosu 37.24 301 LR LR 02 26 43.4
comp=N,62nm,21.3s,MS3.4,baz=284,slow=42
FINES FINESS Array B 40.00 327 P **P 02 07 59.2 0.0**
comp=N,1.1nm,0.8s,mb3.6,baz=104,slow=7.9,SNR=3.5
ARCES ARCESS Array B 43.53 338 P **P 02 08 28.7 +0.7**
comp=N,2.7nm,0.7s,mb4.1,baz=109,slow=7.5,SNR=16
NOA NORSAR Array B 46.92 324 P **P 02 08 54.6 -0.4**
comp=N,0.3nm,0.5s,mb3.4,baz=96,slow=7.7,SNR=3.0
MDT Midelt 63.11 293 LR LR 02 38 38.6
comp=N,63nm,21.8s,MS3.8,baz=241,slow=36
TORD Torodi Ar. Bea 67.47 271 P **P 02 11 20.1 -0.2**
comp=N,1.1nm,0.5s,mb4.2,baz=48,slow=6.2,SNR=14
ILAR Eielson Array 76.07 17 P **P 02 12 11.6 -0.4**
comp=N,0.2nm,0.7s,mb3.2,baz=310,slow=5.0,SNR=3.8
BOSA Boshof 77.51 222 P **P 02 12 19.6 -0.5**
comp=N,2.7nm,0.7s,mb4.3,baz=21,slow=5.7,SNR=5.7
WRA Warramunga Arr 79.51 123 P **P 02 12 31.4 +0.2**
comp=N,0.9nm,0.6s,mb3.9,baz=323,slow=4.8,SNR=6.9
ASAR Alice Springs 81.74 126 P **P 02 12 42.8 -0.4**
comp=N,0.7nm,0.7s,mb3.7,baz=310,slow=5.5,SNR=7.8
YKA Yellowknife Ar 83.00 4 P **P 02 12 49.1 -0.5**
comp=N,0.3nm,0.5s,mb3.6,baz=348,slow=5.2,SNR=9.4

IDC 13 02:09:49.8±5.9,1371S×17023E,h0km,mb3.8/4,
mb1 4.0/4,mb1mx3.7/14,mbtmp3.8/4,Error ellipse:
s-maj=160.0km s-min=45.4km az=118.0,Vanuatu
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.85**	**231**	P	P	02 16 16.1	-0.2
0.7nm,0.3s,baz=43,slow=9.8,SNR=4.5							
WRA	**Warramunga Arr**	**34.86**	**255**	P	P	02 16 43.2	+0.6
0.2nm,0.4s,baz=84,slow=8.4,SNR=4.5							
ASAR	**Alice Springs**	**35.72**	**248**	P	P	02 16 50.5	+0.4
0.9nm,0.4s,baz=77,slow=9.2,SNR=16							
SONM	**Songino Array**	**83.41**	**323**	P	P	02 22 19.3	+0.3
0.5nm,1.0s,baz=128,slow=3.5,SNR=4.1							

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*NNC **13** 02:35:52.1±3.5,42.15N×7326E,h0km,mb2.7,mpv2.3,*
Error ellipse: s-maj=62.2km s-min=10.1km az=175.0
*ISCJB **13** 02:35:53.8±1.2,42.16N±006×7333E±007,h14km,Error*
ellipse: s-maj=9.3km s-min=7.0km az=41.2
*KNET **13** 02:35:53.9±0.4,42.19N×7344E,h14km±1km,ml1.5,Error*
ellipse: s-maj=2.2km s-min=1.3km az=62.0
ISC 13 02:35:54.5±1.1,4218N±006×7339E±007,h14km,n8,
σ1º00/15,10C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.24**	**102**	P	**Pg**	**02 35 58.5**	**-1.1**
32nm,0.1s,SNR=164							
AML				⇑S	**Sg**	**02 36 02.8**	**-0.2**
156nm,0.2s							
EKS2	**Erkin-Say**	**0.56**	**31**	⇑P	**Pg**	**02 36 04.4**	**-1.1**
2.6nm,0.1s,SNR=15							
EKS2				⇑S	**Sg**	**02 36 12.8**	**-0.2**
18nm,0.1s							
UCH	**Uchtor**	**0.84**	**87**	⇑P	**Pg**	**02 36 09.4**	**-1.4**
2.1nm,0.1s,SNR=8.2							
UCH				⇑S	**Sg**	**02 36 21.6**	**-0.1**
6.3nm,0.1s							
AAK	**Ala-Archa**	**0.94**	**61**	⇓P	**Pb**	**02 36 11.5**	**-1.0**
2.1nm,0.2s,SNR=6.6							
AAK				⇑S	**Sb**	**02 36 25.0**	**+0.1**
7.7nm,0.4s							
USP	**Ospenovka**	**1.36**	**37**	⇓P	**Pn**	**02 36 18.6**	**-0.5**
1.7nm,0.1s,SNR=15							
USP				⇑S	**Sn**	**02 36 37.6**	**+0.7**
13nm,0.3s							
KZA	**Kyzart**	**1.39**	**94**	⇓P	**Pn**	**02 36 19.9**	**+0.4**
2.5nm,0.1s,SNR=11							
KZA				⇓S	**Sn**	**02 36 39.6**	**+1.9**
5.5nm,0.1s							
TKM2	**Tokmak 2**	**1.79**	**65**	⇑P	**Pn**	**02 36 26.5**	**+1.4**
2.3nm,0.6s							
TKM2				⇑S	**Sn**	**02 36 51.0**	**+3.3**
7.3nm,0.5s							
KK31	**Karatay Array**	**2.31**	**294**	⇑Pn	**Pn**	**02 36 32.7**	**+0.6**
0.4nm,0.3s,baz=111,slow=16,SNR=9.0							
KK31				⇓Lg		02 37 03.8	
1.0nm,0.3s,baz=118,slow=28,SNR=9.9							

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*NIED **13** 03:04:00,25.10N×124.00E,h130km,Mw3.9 Best double*
couple: M0:8.85000×10^14 NP1:φs:56.00000°,δ77.00000°,
λ-103.00000°. NP2:φs:280.00000°,δ18.00000°,
λ-47.00000°.
*ISCJB **13** 03:04:43.3±0.4,25.16N±006×12398E±004,h128km±4km,*
mb3.5/9,Error ellipse: s-maj=10.1km s-min=4.9km
az=126.4
*JMA **13** 03:04:45.2±0.2,25.10N×12395E,h117km±3km,M3.5*
*IDC **13** 03:04:48.0±8.7,2524N×12380E,h153km±81km,mb3.4/8,*
mb1 3.5/8,mb1mx3.4/21,mbtmp3.8/8,Error ellipse:
s-maj=48.9km s-min=14.7km az=66.0
*NEIC **13** 03:04:47.3±2.8,2521N×12375E,h148km±24km,*
MG3.5(JMA),Error ellipse: s-maj=46.6km s-min=13.8km
az=67.0
ISC 13 03:04:44.4±0.4,2518N±006×12397E±004,h122km±4km,
n27,σ1º07/40,mb3.6/9,1C,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.83**	**169**	P	**Pn**	**03 05 04.4**	**-0.5**
JIJ				S	**Sn**	**03 05 19.0**	**-1.5**
JTJ	**Tarama**	**0.85**	**129**	P	**Pn**	**03 05 05.4**	**+0.2**
JTJ				S	**Sn**	**03 05 20.9**	**0.0**
IRIF	**Iriomote-Funau**	**0.87**	**195**	P	**Pn**	**03 05 04.8**	**-0.5**
IRIF				S	**Sn**	**03 05 20.7**	**-0.5**
JKRS	**Kuro-shima**	**0.94**	**178**	P	**Pn**	**03 05 05.8**	**-0.1**
JKRS				S	**Sn**	**03 05 21.8**	**-0.5**
YOJ	**Yonaguni jima**	**1.13**	**231**	P	**Pn**	**03 05 08.0**	**+0.2**
YOJ				S	**Sn**	**03 05 25.2**	**-0.4**
HATJ	**Hateruma jima**	**1.13**	**188**	P	**Pn**	**03 05 07.7**	**-0.1**
HATJ				S	**Sn**	**03 05 24.8**	**-0.8**
JMJ	**Miyako jima 2**	**1.25**	**107**	P	**Pn**	**03 05 09.7**	**+0.5**
JMJ				S	**Sn**	**03 05 28.3**	**+0.3**
JOGS	**Gusukube**	**1.37**	**107**	P	**Pn**	**03 05 11.2**	**+0.8**
JOGS				S	**Sn**	**03 05 31.3**	**+1.1**
YHNB	**Yeheng**	**2.41**	**258**	*e*Pn	**Pn**	**03 05 24.9**	**+1.8**
YHNB				*e*Sn	**Sn**	**03 05 54.6**	**+1.8**
JKE	**Kume jima 2**	**2.79**	**65**	P	**Pn**	**03 05 28.7**	**+0.8**
JKE				*e*S	**Sn**	**03 06 03.5**	**+2.1**
JAGN	**Aguni-jima**	**3.27**	**64**	P	**Pn**	**03 05 34.8**	**+0.6**
JAGN				S	**Sn**	**03 06 13.1**	**+0.4**
JIH	**Iheya**	**4.04**	**62**	P	**Pn**	**03 05 47.0**	**+2.5**
JOW	**Kunigami**	**4.21**	**66**	P	**Pn**	**03 05 46.3**	**-0.4**
JOW				*e*S	**Sn**	**03 06 33.1**	**-2.0**
JTK	**Tokunoshima**	**5.16**	**59**	P	**Pn**	**03 05 58.7**	**-0.8**
JAM	**Amami Oshima**	**5.98**	**56**	P	**Pn**	**03 06 08.8**	**-1.7**
JMZ	**Minamidaito 2**	**6.58**	**83**	P	**Pn**	**03 06 16.0**	**-2.7**
JMZ				*e*S	**Sn**	**03 07 25.5**	**-6.8**
SONM	**Songino Array**	**26.54**	**333**	P	**P**	**03 10 10.7**	**+0.1**
0.5nm,0.7s,mb3.2,baz=159,slow=10,SNR=5.5							
SONM				PcP	PcP	03 13 33.0	+0.9
0.4nm,0.9s,baz=117,slow=3.2,SNR=2.9							
MKAR	**Makanchi Array**	**39.43**	**314**	P	**P**	**03 12 02.1**	**-0.2**
0.6nm,0.4s,mb3.7,baz=100,slow=9.4,SNR=22							
ZAL	**Zalesovo**	**40.84**	**325**	P	**P**	**03 12 13.2**	**-0.8**
1.0nm,0.5s,mb3.9,baz=19,slow=6.6,SNR=5.6							
FITZ	**Fitzroy Crossi**	**43.05**	**178**	*e*P	**P**	**03 12 31.9**	**0.0**
7.4nm,1.6s,mb4.2							
WRA	**Warramunga Arr**	**45.97**	**166**	P	**P**	**03 12 56.2**	**+1.1**
0.4nm,0.3s,mb3.6,baz=349,slow=8.7,SNR=6.5							
WB2	**Warramunga Arr**	**45.97**	**166**	⇑*i*P	**P**	**03 12 56.0**	**+0.9**
ASAR	**Alice Springs**	**49.50**	**168**	P	**P**	**03 13 23.9**	**+1.6**
0.7nm,0.5s,mb3.8,baz=353,slow=13,SNR=12							
FINES	**FINESS Array B**	**71.86**	**330**	P	**P**	**03 15 53.2**	**-0.8**
0.3nm,0.5s,mb3.4,baz=45,slow=5.4,SNR=5.6							
FINES	**FINESS Array B**	**71.86**	**330**	P	**P**	**03 15 53.2**	**-0.8**
BRTR	**Keskin Array B**	**74.61**	**307**	P	**P**	**03 16 08.1**	**-2.0**
0.8nm,0.8s,mb3.5,baz=96,slow=5.7,SNR=6.5							
YKA	**Yellowknife Ar**	**81.06**	**24**	P	**P**	**03 16 45.1**	**-0.7**
0.5nm,0.9s,mb3.4,baz=307,slow=5.0,SNR=7.1							

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*IDC **13** 03:19:01.0±1.0,982N×57.18E,h0km,mb3.8/14,*
mb1 3.9/14,mb1mx3.8/22,mbtmp3.8/14,MS3.1/1,
Ms1 3.1/1,ms1mx2.6/25,Error ellipse: s-maj=26.3km
s-min=18.1km az=136.0
*ISCJB **13** 03:19:01.1±0.8,99N±0.1×572E±0.1,h10km,mb3.8/14,*
MS2.9/1,Error ellipse: s-maj=22.8km s-min=13.7km
az=80.4
*NEIC **13** 03:19:02.7±0.6,983N×57.19E,h10km,Error ellipse:*
s-maj=16.8km s-min=10.4km az=129.0
ISC 13 03:19:03.1±0.8,99N±01×572E±01,h10km,n17,σ0º60/17,
mb3.8/14,MS2.9/1,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**22.65**	**242**	P	**P**	**03 24 04.5**	**+0.2**
0.7nm,0.4s,mb3.5,baz=60,slow=15,SNR=4.0							
KMBO				LR	LR	03 31 25.9	
comp=Z,48nm,20.2s,MS2.9,baz=88,slow=33							
BRTR	**Keskin Array B**	**36.37**	**329**	P	**P**	**03 26 07.5**	**+0.1**
0.4nm,0.8s,mb3.4,baz=163,slow=9.6,SNR=4.0							
LSZ	**Lusaka**	**38.07**	**229**	P	**P**	**03 26 22.2**	**+0.4**
1.6nm,0.7s,mb3.9,baz=74,slow=9.9,SNR=3.6							
AKTK	**Aktyubinsk**	**40.44**	**1**	P	**P**	**03 26 42.4**	**+0.8**
AKTO	**Aktyubinsk**	**40.44**	**1**	P	**P**	**03 26 42.4**	**+0.8**
0.9nm,0.7s,mb3.6,baz=145,slow=6.4,SNR=5.7							
MKAR	**Makanchi Array**	**42.54**	**26**	P	**P**	**03 26 59.3**	**+0.5**
1.7nm,0.7s,mb3.9,baz=207,slow=8.6,SNR=20							
BVAR	**Borovoye Array**	**44.33**	**11**	P	**P**	**03 27 12.9**	**-0.4**
0.2nm,0.5s,mb3.1,baz=162,slow=4.6,SNR=3.9							
AKASG	**Malin Array Be**	**46.76**	**336**	P	**P**	**03 27 32.9**	**+0.3**
0.5nm,0.6s,mb3.6,baz=146,slow=6.9,SNR=5.2							
ZAL	**Zalesovo**	**49.18**	**21**	P	**P**	**03 27 51.0**	**-0.2**
1.3nm,0.4s,mb4.3,baz=219,slow=4.5,SNR=7.9							
TORD	**Torodi Ar. Bea**	**54.38**	**279**	P	**P**	**03 28 29.8**	**-0.3**
0.9nm,0.8s,mb3.7,baz=93,slow=6.8,SNR=11							
SONM	**Songino Array**	**55.97**	**38**	P	**P**	**03 28 42.1**	**+0.5**
0.6nm,0.7s,mb3.7,baz=226,slow=7.4,SNR=7.1							
FINES	**FINESS Array B**	**56.30**	**343**	P	**P**	**03 28 42.8**	**-1.2**
1.3nm,0.7s,mb4.1,baz=112,slow=10,SNR=5.6							
ESDC	**Sonseca Array**	**61.61**	**310**	P	**P**	**03 29 21.0**	**+0.2**
1.6nm,0.6s,mb4.3,baz=94,slow=5.8,SNR=5.0							
ARCES	**ARCESS Array B**	**62.97**	**348**	P	**P**	**03 29 28.7**	**-1.2**
2.4nm,0.8s,mb4.3,baz=149,slow=7.1,SNR=6.9							
ARCES	**ARCESS Array B**	**62.97**	**348**	P	**P**	**03 29 28.7**	**-1.2**
WRA	**Warramunga Arr**	**81.48**	**112**	P	**P**	**03 31 20.1**	**-0.5**
0.4nm,0.4s,mb3.8,baz=296,slow=4.4,SNR=4.3							
WRA	**Warramunga Arr**	**81.48**	**112**	P	**P**	**03 31 20.1**	**-0.5**

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*NAO **13** 03:21:31.1,3800N×3025W,h33km,mb3.7*
IDC 13 03:21:06.2±3.6,3682N×3292W,h0km,mb3.8/7,
mb1 3.9/7,mb1mx3.6/26,mbtmp3.8/7,MS3.8/5,Ms1 3.7/5,
ms1mx3.4/28,Error ellipse: s-maj=110.2km
s-min=25.8km az=176.0,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**23.54**	**91**	LR	LR	03 33 10.2	
comp=Z,120nm,19.6s,baz=326,slow=31							
SCHQ	**Schefferville**	**29.31**	**319**	LR	LR	03 37 37.4	
comp=Z,217nm,19.4s,baz=205,slow=34							
NB2	**NORSAR Subarra**	**36.72**	**35**	P	P	03 28 16.0	+1.0
comp=Z,1.0nm,0.8s,baz=247,slow=9.3							
NOA	**NORSAR Array B**	**36.72**	**35**	P	P	03 28 14.9	-0.1
comp=Z,2.6nm,0.9s,baz=250,slow=8.8,SNR=5.3							
DBIC	**Dimbokro**	**39.45**	**133**	LR	LR	03 43 01.5	
comp=Z,104nm,21.1s,baz=263,slow=33							
AKASG	**Malin Array Be**	**45.66**	**52**	P	P	03 29 27.1	-1.4
comp=Z,0.6nm,0.5s,baz=275,slow=7.9,SNR=5.4							
ULM	**Lac du Bonnet**	**46.23**	**308**	LR	LR	03 46 30.1	
comp=Z,97nm,20.2s,baz=34,slow=33							
YKA	**Yellowknife Ar**	**54.38**	**326**	P	P	03 30 34.8	0.0
comp=Z,0.4nm,0.7s,baz=79,slow=6.8,SNR=9.0							
YKA				PcP	PcP	03 31 39.7	+1.0
comp=Z,0.2nm,0.8s,baz=69,slow=4.5,SNR=6.1							
PDAR	**Pinedale Array**	**57.30**	**302**	P	P	03 30 54.6	-1.1
comp=Z,0.3nm,0.8s,baz=96,slow=9.1,SNR=2.2							
PDAR				LR	LR	03 52 34.4	
comp=Z,135nm,20.7s,baz=211,slow=33							
AKTO	**Aktyubinsk**	**63.23**	**46**	P	P	03 31 36.5	+0.2
comp=Z,1.5nm,0.7s,baz=275,slow=2.7,SNR=7.9							
BVAR	**Borovoye Array**	**68.65**	**39**	P	P	03 32 11.1	-0.2
comp=Z,0.6nm,0.7s,baz=270,slow=4.3,SNR=4.1							
MKAR	**Makanchi Array**	**78.53**	**39**	P	P	03 33 09.4	0.0
comp=Z,1.1nm,0.8s,baz=315,slow=5.1,SNR=14							

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*ISCJB **13** 03:23:33.4±0.6,63.1S±0.1×158.7W±02,h10km,mb4.3/8,*
MS4.6/15,Error ellipse: s-maj=15.6km s-min=14.2km
az=57.8
*IDC **13** 03:23:34.3±0.7,6223S×158.19W,h0km,mb4.1/6,*
mb1 4.3/7,mb1mx4.2/12,mbtmp4.1/7,ML4.3/1,MS4.6/16,
Ms1 4.6/16,ms1mx4.6/16,Error ellipse: s-maj=40.3km
s-min=18.1km az=11.0
*NEIC **13** 03:23:35.6±0.5,6221S×158.19W,h10km,mb5.1/2,Error*
ellipse: s-maj=23.4km s-min=12.8km az=9.0
*HRVD **13** 03:23:35.6±0.1,6300S×158.30W,h12km,MW5.4/88,*
Centroid moment Tensor Solution. LP body waves:
s75,c130;Mantle waves: s88,c148; Half duration: 1s2
Moment tensor: Scale 10^17Nm; Mrr-0.22±.02;
Mθθ 1.50±.03; Mφφ-1.29±.02; Mrθ-0.03±.06; Mrφ 0.49±.02;
Mθφ 0.56±.06; Best double couple: M0:1.59100×10^17
NP1:φs:123.00000°,δ73.00000°,λ-14.00000°. NP2:
φs:217.00000°,δ76.00000°,λ-163.00000°. Principal axes:
T 1.5860, Plg2.0000°, Azm350.0000°; N 0.0000,
Plg68.0000°, Azm254.0000°; P -1.5960, Plg22.0000°,

Azm81.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
ISC 13 03:23:35.2±0.6,631S±01×1586W±02,h10km,n42,
σ1º00/14,mb4.3/8,MS4.6/15,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.02**	**205**	P	**Pn**	**03 28 06.8**	**+8.9**
0.9nm,0.3s,baz=71,slow=16,SNR=34							
VNDA				LR	LR	03 33 32.7	
comp=Z,3μm,20.6s,baz=65,slow=30							
RPZ	**Rata Peaks**	**26.10**	**304**	LR	LR	03 37 24.8	
comp=Z,414nm,19.4s,MS4.0,baz=316,slow=32							
URZ	**Urewera**	**28.87**	**318**	LR	LR	03 38 10.0	
comp=Z,1μm,21.9s,MS4.5,baz=196,slow=31							
TBI	**Tubuai**	**40.19**	**13**	*e*S	**S**	**03 37 18.3**	**-0.1**
453nm,28.0s							
TBI				*e*LQ		03 40 16.7	
1μm,34.0s							
TBI				*e*LR	LR	03 41 45.3	
3μm,28.2s,baz=186							
TBI	**Tubuai**	**40.19**	**13**	*e*T		04 13 24.8	
66nm,0.3s							
RKT	**Rikitea**	**42.98**	**33**	*e*S	**S**	**03 37 58.6**	**-1.2**
176nm,29.8s							
RKT				*e*LQ		03 41 11.6	
5μm,30.5s							
RKT				*e*LR	LR	03 43 17.3	
1μm,29.0s,baz=198							
RKT	**Rikitea**	**42.98**	**33**	*e*T		04 16 53.2	
17nm,0.2s							
TVO	**Taravao**	**45.72**	**12**	*e*T		04 20 21.5	
24nm,0.2s							
PAE	**Paea**	**45.80**	**12**	*e*T		04 20 23.7	
37nm,0.3s							
PPT	**Papeete**	**45.90**	**12**	*e*S	**S**	**03 38 41.1**	**-1.1**
658nm,26.2s							
PPT				*e*LQ		03 42 23.2	
3μm,31.5s							
PPT				*e*LR	LR	03 44 21.7	
4μm,28.0s,baz=192							
PPT	**Papeete**	**45.90**	**12**	*e*T		04 20 26.2	
9.6nm,0.3s							
PPT	**Papeete**	**45.90**	**12**	LR	LR	03 46 02.5	
comp=Z,1μm,18.8s,MS4.8,baz=190,slow=30							
MAW	**Mawson**	**46.23**	**201**	LR	LR	03 50 39.2	
comp=Z,816nm,18.3s,MS4.7,baz=42,slow=34							
VAH	**Vaihoa**	**48.40**	**14**	*e*T		04 23 40.8	
267nm,0.2s							
STKA	**Stephens Creek**	**48.49**	**281**	P	**P**	**03 32 17.9**	**-0.2**
1.6nm,0.6s,mb4.2,baz=100,slow=7.2,SNR=4.0							
STKA				LR	LR	03 50 15.7	
comp=Z,452nm,18.1s,MS4.5,baz=144,slow=33							
PMOR	**Pomariorio Ree**	**48.61**	**14**	*e*T		04 23 52.3	
10.0nm,0.3s							
PLCA	**Paso Flores**	**53.80**	**110**	P	**P**	**03 32 58.3**	**+0.3**
4.6nm,1.0s,mb4.3,baz=229,slow=8.7,SNR=6.8							
PLCA				LR	LR	03 50 12.5	
comp=Z,850nm,19.2s,MS4.8,baz=213,slow=30							
HOPE	**Hope Point**	**54.59**	**142**	P	**P**	**03 33 01.5**	**-2.2**
348nm,0.4s,SNR=12							
TAOE	**Nuku Hiva Isla**	**55.75**	**22**	*e*S	**S**	**03 41 01.4**	**+2.7**
841nm,26.7s							
TAOE				*e*LQ		03 46 59.2	
3μm,26.8s							
TAOE				*e*LR	LR	03 49 02.4	
4μm,27.5s,baz=206							
CTA	**Charters Tower**	**56.73**	**293**	LR	LR	03 54 52.5	
comp=Z,374nm,19.6s,MS4.5,baz=346,slow=33							
NWAO	**Narrogin (SRO)**	**58.63**	**259**	LR	LR	03 53 42.0	
comp=Z,399nm,18.0s,MS4.6,baz=13,slow=31							
ASAR	**Alice Springs**	**58.99**	**279**	P	**P**	**03 33 35.2**	**+0.2**
1.6nm,0.8s,mb4.0,baz=152,slow=5.4,SNR=4.7							
WRA	**Warramunga Arr**	**62.04**	**281**	P	**P**	**03 33 56.0**	**+0.2**
0.9nm,0.8s,mb4.0,baz=152,slow=5.4,SNR=4.7							
CFAA	**Coronel Fontan**	**62.49**	**106**	P	**P**	**03 33 58.1**	**-0.7**
0.5nm,1.0s,mb3.6,baz=214,slow=7.2,SNR=6.6							
PMG	**Port Moresby**	**65.98**	**299**	LR	LR	03 58 52.4	
comp=Z,301nm,19.2s,MS4.5,baz=160,slow=32							
LVC	**Limon Verde**	**69.96**	**100**	*e*P	**P**	**03 34 47.7**	**+1.0**
14nm,1.1s,mb4.8							
CPUP	**Villa Florida**	**71.76**	**112**	*e*P	**P**	**03 34 57.7**	**0.0**
19nm,0.9s,mb5.0							
CPUP				*e*PcP	PcP	03 35 15.4	-1.3
LPAZ	**La Paz**	**75.84**	**98**	P	**P**	**03 35 23.1**	**+1.4**
9.2nm,1.1s,mb4.6,baz=138,slow=0.8,SNR=12							
LPAZ				LR	LR	03 59 28.8	
comp=Z,181nm,21.2s,MS4.3,baz=323,slow=28							
BDFB	**Brasilia**	**85.16**	**115**	LR	LR	04 11 14.4	
comp=Z,1μm,18.8s,MS5.3,baz=202,slow=34							
GUMO	**Guam**	**87.92**	**306**	LR	LR	04 12 44.8	
comp=Z,94nm,19.1s,MS4.2,baz=100,slow=34							
BOSA	**Boshof**	**88.57**	**183**	LR	LR	04 11 40.1	
comp=Z,786nm,21.9s,MS5.1,baz=174,slow=32							
ROSC	**El Rosal**	**91.70**	**83**	LR	LR	04 10 06.5	
comp=Z,191nm,19.5s,MS4.5,baz=199,slow=31							
PSI	**Prapat**	**98.13**	**260**	LR	LR	04 12 17.9	
comp=Z,175nm,21.8s,MS4.5,baz=346,slow=30							
ILAR	**Eielson Array**	**127.84**	**6**	PKP	PKPdf	03 42 39.7	-1.3
1.3nm,0.9s,baz=230,slow=1.5,SNR=11							
SONM	**Songino Array**	**133.21**	**293**	PKhKP		03 42 39.9	
0.3nm,0.9s,baz=225,slow=2.1,SNR=3.8							
MKAR	**Makanchi Array**	**143.04**	**273**	PKP	PKPdf	03 43 07.5	-1.7
1.1nm,0.9s,baz=124,slow=4.4,SNR=8.8							
MDT	**Midelt**	**145.56**	**139**	PKPbc	PKPbc	03 43 17.0	+3.2
4.6nm,1.1s,baz=173,slow=6.0,SNR=5.4							
ZAL	**Zalesovo**	**146.99**	**284**	PKPbc	PKPbc	03 43 17.1	-0.

EBAD Lg 03 50 52.3
1.3nm,0.1s,SNR=9.6
EMAZ Mazaricos 2.39 347 Lg 03 51 04.3
1.1nm,0.2s,SNR=7.9
EPON Pontenova 2.82 16 Lg 03 51 17.3
1.0nm,0.4s,SNR=7.9
EMIN Mina Concepcio 3.10 156 Lg 03 51 25.7
0.5nm,0.3s,SNR=7.9
EGRO El Granado 3.14 169 Lg 03 51 27.8
0.5nm,0.3s,SNR=7.9
EADA Adamuz 3.75 130 Lg 03 51 43.9
0.2nm,0.2s,SNR=7.9

IDC 13 03:57:58.2±2.3, 2224S×14809E, h0km, mb1 3.6/3, mb1mx3.5/11, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=30.4km s-min=19.5km az=64.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.74 321**		Pn	Pn	03 58 43.6	+0.2
	3.2nm,0.3s,baz=134,slow=15,SNR=26						
CTA				Pg	Pg	03 58 48.4	-2.3
	13nm,0.3s,baz=136,slow=19,SNR=45						
CTA				Lg		03 59 25.2	
	13nm,0.3s,baz=241,slow=22,SNR=17						
STKA	**Stephens Creek**	**11.20 210**		Pn	Pn	04 00 37.4	-2.1
	baz=20,slow=12						
STKA				Sn	Sn	04 02 38.7	-6.7
	0.1nm,0.3s,baz=122,slow=19,SNR=2.5						
STKA				Lg		04 03 58.0	
	0.1nm,0.3s,baz=288,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**13.04 278**		Pn	Pn	04 01 03.9	-0.7
	0.1nm,0.3s,baz=96,slow=12,SNR=4.0						
WRA				Sn	Sn	04 03 29.5	-0.9
	0.2nm,0.3s,baz=103,slow=24,SNR=4.8						
WRA				Lg		04 04 52.6	
	0.2nm,0.3s,baz=101,slow=25,SNR=7.8						
ASAR	**Alice Springs**	**13.14 261**		Pn	Pn	04 01 07.1	+0.9
	0.1nm,0.3s,baz=80,slow=14,SNR=4.4						
ASAR				Sn	Sn	04 03 32.0	-1.0
	0.1nm,0.3s,baz=79,slow=24,SNR=6.0						
ASAR				Lg		04 04 59.4	
	0.1nm,0.3s,baz=88,slow=30,SNR=5.1						
TORD	**Torodi Ar. Bea**	**146.79 260**		PKPbc	PKPbc	04 17 43.0	+0.8
	1.4nm,0.8s,baz=97,slow=3.3,SNR=8.4						

IDC 13 04:22:17.4±1.2, 5523N×16566E, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/24, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=29.4km s-min=13.4km az=26.0
KRSC 13 04:22:17.9±2.3, 5507N×16561E, h39km±5km, ML4.2
ISCJB 13 04:22:18.1±0.6, 5503N±003×16547E±005, h29km±6km, mb3.7/8, Error ellipse: s-maj=5.2km s-min=4.2km az=130.5
MOS 13 04:22:18.3±0.9, 5497N×16556E, h31km, mb4.1/1, Error ellipse: s-maj=16.1km s-min=14.1km az=154.8

ISC 13 04:22:19.2±0.7, 5507N±003×16551E±005, h25km±6km, n50, σ1°27/89, mb3.7/8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**62**	*i* P	**Pb**	**04 22 24.9**	**-1.4**
BKI				*e*S	**Sb**	**04 22 29.6**	**-1.5**
BKI				Smax			
	44μm,0.2s						
KBTR	**Krutoberegovo**	**1.91 308**		P	**Pn**	**04 22 48.5**	**-1.6**
KBTR				S	**Sn**	**04 23 10.5**	**-2.8**
KBTR	**Krutoberegovo**	**1.91 308**		*i* P	**Pn**	**04 22 48.5**	**-1.6**
KBTR				*e*S	**Sn**	**04 23 11.6**	**-1.7**
KBG	**Krutoberegovo**	**1.98 308**		*e*P	**Pn**	**04 22 49.6**	**-1.6**
KBG				*e*S	**Sn**	**04 23 12.5**	**-2.7**
KBG				Smax			
	500nm,0.6s						
MKZ	**Mys Kozlova**	**2.24 258**		P	**Pn**	**04 22 54.3**	**-0.5**
MKZ				S	**Sn**	**04 23 20.7**	**-0.9**
MKZ	**Mys Kozlova**	**2.24 258**		*e*P	**Pn**	**04 22 54.1**	**-0.7**
MKZ				*e*S	**Sn**	**04 23 20.7**	**-0.9**
SMKR	**Semkarok**	**2.74 305**		*e*P	**Pn**	**04 23 01.4**	**-0.2**
SMKR				*e*S	**Sn**	**04 23 33.1**	**-0.7**
BDR	**Baidarnaya**	**2.85 304**		*e*P	**Pn**	**04 23 03.8**	**+0.6**
BDR				*e*S	**Sn**	**04 23 36.3**	**-0.4**
CIRR	**Tsirk**	**2.90 293**		*e*P	**Pn**	**04 23 04.7**	**+0.9**
CIRR				*e*S	**Sn**	**04 23 38.6**	**+0.8**
SRKR	**Sorokina**	**2.92 305**		*e*P	**Pn**	**04 23 04.6**	**+0.6**
SRKR				*e*S	**Sn**	**04 23 38.4**	**+0.1**
KLY	**Klyuchi**	**3.02 296**		P	**Pn**	**04 23 05.2**	**-0.2**
KLY				S	**Sn**	**04 23 39.2**	**-1.6**
KLY	**Klyuchi**	**3.02 296**		*e*P	**Pn**	**04 23 05.1**	**-0.3**
KLY				*e*S	**Sn**	**04 23 39.2**	**-1.6**
KRSR	**Krestovskiy**	**3.03 294**		*e*P	**Pn**	**04 23 06.8**	**+1.2**
KRSR				*e*S	**Sn**	**04 23 42.6**	**+1.6**
TUMR	**Tumrok**	**3.08 276**		*e*P	**Pn**	**04 23 07.1**	**+0.8**
TUMR				*e*S	**Sn**	**04 23 42.4**	**+0.1**
KPT	**Kopyto**	**3.14 289**		*e*P	**Pn**	**04 23 08.5**	**+1.5**
KPT				*e*S	**Sn**	**04 23 43.9**	**+0.2**
KOZR	**Kozyr**	**3.34 290**		PN	**Pn**	**04 23 12.1**	**+2.3**
KOZR				S	**Sn**	**04 23 51.4**	**+2.7**
KOZ	**Kozyrevsk**	**3.35 290**		P	**Pn**	**04 23 12.1**	**+2.1**
KOZ				S	**Sn**	**04 23 51.4**	**+2.5**
KOZ	**Kozyrevsk**	**3.35 290**		*e*P	**Pn**	**04 23 12.0**	**+2.0**
KOZ				*e*S	**Sn**	**04 23 47.9**	**-1.0**
SRDR	**Sredinnyy**	**3.51 293**		*e*P	**Pn**	**04 23 13.6**	**+1.5**
SRDR				*e*S	**Sn**	**04 23 53.1**	**+0.3**
SPN	**Mys Shipunski**	**3.78 241**		P	**Pn**	**04 23 15.0**	**-0.9**
SPN				S	**Sn**	**04 23 55.7**	**-3.9**
SPN	**Mys Shipunski**	**3.78 241**		*i* P	**Pn**	**04 23 15.4**	**-0.5**
SPN				*e*S	**Sn**	**04 23 57.2**	**-2.4**
ESO	**Esso**	**3.97 285**		*e*P	**Pn**	**04 23 19.0**	**+0.6**
ESO				*e*S	**Sn**	**04 24 04.2**	**+0.1**
NLC	**Nalytchevo**	**4.09 245**		P	**Pn**	**04 23 20.1**	**-0.1**
NLC				S	**Sn**	**04 24 04.7**	**-2.5**
NLC	**Nalytchevo**	**4.09 245**		*e*P	**Pn**	**04 23 20.1**	**-0.1**
NLC				*e*S	**Sn**	**04 24 05.3**	**-1.9**
SMAR	**Somma**	**4.33 248**		*e*P	**Pn**	**04 23 24.5**	**+1.0**
SMAR				*e*S	**Sn**	**04 24 12.5**	**-0.7**
UGLR	**Uglovaya**	**4.35 247**		*e*P	**Pn**	**04 23 24.9**	**+1.2**
UGLR				*e*S	**Sn**	**04 24 12.7**	**-0.8**
AVH	**Avacha**	**4.37 248**		*e*P	**Pn**	**04 23 24.9**	**+1.0**
AVH				*e*S	**Sn**	**04 24 13.2**	**-0.8**
OSSR	**Ossora**	**4.40 343**		*i* P	**Pn**	**04 23 22.4**	**-2.0**
OSSR				*i* S	**Sn**	**04 24 13.4**	**-1.5**
OSSR				Smax			
	170nm,0.4s						
KOK	**Koryaka**	**4.41 249**		*e*P	**Pn**	**04 23 25.8**	**+1.3**
KOK				*e*S	**Sn**	**04 24 14.1**	**-1.0**
PET	**Petropavlovsk**	**4.53 246**		P	**Pn**	**04 23 26.1**	**0.0**
PET				S	**Sn**	**04 24 15.7**	**-2.2**
PET	**Petropavlovsk**	**4.53 246**		*e*P	**Pn**	**04 23 26.1**	**0.0**
PET				*e*S	**Sn**	**04 24 15.8**	**-2.1**
GNL	**Ganaly**	**4.63 256**		*e*P	**Pn**	**04 23 29.1**	**+1.5**
GNL				*e*S	**Sn**	**04 24 19.7**	**-0.8**
KRMR	**Karymshinskiy**	**4.90 246**		*e*P	**Pn**	**04 23 32.3**	**+1.1**
KRMR				*e*S	**Sn**	**04 24 24.9**	**-2.2**
RUS	**Russkaya**	**4.92 240**		P	**Pn**	**04 23 31.3**	**-0.2**
RUS				S	**Sn**	**04 24 24.2**	**-3.3**
RUS	**Russkaya**	**4.92 240**		*e*P	**Pn**	**04 23 30.9**	**-0.6**
RUS				*e*S	**Sn**	**04 24 24.6**	**-2.9**
FX1	**Attu Island--F**	**5.02 113**		Pn	**Pn**	**04 23 32.8**	**-0.1**
	8.2nm,0.3s,baz=29,slow=4.4,SNR=6.5						
FX1				Sn	**Sn**	**04 24 26.6**	**-3.5**
	6.1nm,0.3s,baz=159,slow=18,SNR=3.0						
GRL	**Gorelyy**	**5.07 243**		*e*P	**Pn**	**04 23 34.8**	**+1.2**
GRL				*e*S	**Sn**	**04 24 30.5**	**-0.9**
APC	**Apacha**	**5.37 250**		*e*P	**Pn**	**04 23 39.7**	**+2.0**
APC				*e*S	**Sn**	**04 24 39.1**	**+0.3**
MIPR	**Malaya Ipel'ka**	**5.90 245**		*e*P	**Pn**	**04 23 46.4**	**+1.4**
KAMR	**Kamenskoye**	**7.42 3**		*i* P	**Pn**	**04 24 07.1**	**+1.2**
KAMR				*e*S	**Sn**	**04 25 26.1**	**-3.2**
KDAK	**Kodiak Island**	**23.07 66**		P	**P**	**04 27 21.5**	**-1.3**
	16nm,1.1s,mb4.4,baz=336,slow=16,SNR=5.8						
ILAR	**Eielson Array**	**25.14 48**		P	**P**	**04 27 41.9**	**-0.3**
	1.3nm,0.8s,mb3.5,baz=255,slow=8.7,SNR=7.0						
ILAR	**Eielson Array**	**25.14 48**		P	**P**	**04 27 41.9**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**30.33 40**		P	**P**	**04 28 28.9**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=260,slow=4.7,SNR=5.5						
INK	**Inuvik**	**30.33 40**		P	**P**	**04 28 28.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**36.54 284**		P	**P**	**04 29 24.2**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=69,slow=7.2,SNR=3.9						
YKA	**Yellowknife Ar**	**39.52 46**		P	**P**	**04 29 47.9**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.6,baz=295,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**50.13 297**		P	**P**	**04 31 13.9**	**+1.5**
	comp=Z,0.2nm,0.6s,mb3.4,baz=51,slow=7.0,SNR=3.0						
NVAR	**Mina Array Bea**	**52.11 75**		P	**P**	**04 31 28.6**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=291,slow=9.2,SNR=7.9						
PDAR	**Pinedale Array**	**53.79 65**		P	**P**	**04 31 40.2**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=333,slow=3.3,SNR=6.0						

ISCJB 13 04:58:57.0±1.0, 105N±02×912E±02, h26km, mb3.6/6, Error ellipse: s-maj=43.5km s-min=12.7km az=100.0
IDC 13 04:59:00.1±1.5, 1070N×9153E, h24km±5km, mb3.4/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=63.3km s-min=17.6km az=60.0

ISC 13 04:59:00.3±0.9, 106N±02×914E±02, h28km, h28km±.3km: pP-P, n8, σ0°88/10, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.51 313**		*e*P	**Pn**	**05 01 28.6**	**-0.5**
VIS				*e*P		05 01 31.2	
VIS				*e*S	**Sn**	**05 03 18.6**	**-7.3**
VIS				*e*S	**Sn**	**05 03 20.2**	**-5.7**
VIS				AML	AML	05 03 22.6	
	comp=E,18nm,0.7s						
VIS				AML	AML	05 03 23.5	
	comp=N,16nm,0.3s						
MKAR	**Makanchi Array**	**36.85 350**		P	**P**	**05 06 05.0**	**-1.1**
	comp=N,0.7nm,0.7s,mb3.6,baz=168,slow=8.3,SNR=7.9						
MKAR				pP	pP	05 06 13.0	-1.3
	comp=N,0.5nm,0.7s,baz=169,slow=9.9,SNR=3.0						
SONM	**Songino Array**	**39.16 16**		P	**P**	**05 06 26.3**	**+0.7**
	comp=N,0.1nm,0.4s,mb2.9,baz=217,slow=7.2,SNR=2.1						
FITZ	**Fitzroy Crossi**	**44.26 130**		*e*P	**P**	**05 07 07.2**	**-0.1**
	comp=N,7.0nm,1.4s,mb4.2						
FITZ				*e*	pP	05 07 15.2	-0.5
WRA	**Warramunga Arr**	**52.07 126**		P	**P**	**05 08 07.4**	**-0.2**
	comp=N,1.3nm,0.6s,mb4.0,baz=306,slow=8.5,SNR=15						
WRA				pP	pP	05 08 15.1	-1.0
	comp=N,2.1nm,0.7s,baz=305,slow=8.6,SNR=12						
WB2	**Warramunga Arr**	**52.08 126**		*e*P	**P**	**05 08 07.3**	**-0.4**
WB2				*e*	pP	05 08 15.3	-0.9
ASAR	**Alice Springs**	**53.76 130**		P	**P**	**05 08 20.2**	**+0.1**
	comp=N,0.6nm,0.6s,mb3.7,baz=305,slow=7.3,SNR=7.3						
ASAR				pP	pP	05 08 28.3	-0.3
	comp=N,1.3nm,0.7s,baz=307,slow=7.0,SNR=9.8						
GERES	**GERESS Array B**	**73.96 318**		P	**P**	**05 10 35.0**	**+1.9**
	comp=N,0.3nm,0.5s,mb3.5,baz=90,slow=5.3,SNR=3.7						

MOS 13 05:50:06.0±2.5, 3835N×7142E, h33km, mb4.5/1, Error ellipse: s-maj=28.2km s-min=12.6km az=90.0
NEIC 13 05:50:08.4±2.9, 3833N×7162E, h35km, MG3.2(NNC), Error ellipse: s-maj=41.5km s-min=23.0km az=10.0
NNC 13 05:50:12.5±3.2, 3920N×7110E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=27.5km s-min=19.1km az=28.0
ISCJB 13 05:50:13.2±2.3, 390N±0.1×71.1E±0.1, h56km±17km, mb3.3/4, Error ellipse: s-maj=25.0km s-min=12.2km az=40.2
IDC 13 05:50:21.3±6.3, 3923N×7209E, h109km±50km, mb3.2/4, mb1 3.2/7, mb1mx3.1/24, mbtmp3.5/7, Error ellipse: s-maj=52.9km s-min=26.6km az=177.0

ISC 13 05:50:13.4±2.3, 389N±02×7107E±010, h50km±18km, n24, σ0°95/29, mb3.3/4, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.81**	**31**	P	**Pn**	**05 51 08.8**	**-0.9**
	SNR=24						
KK31	**Karatay Array**	**4.24 354**		⇑Pn	**Pn**	**05 51 16.7**	**+1.2**
	14nm,0.5s,baz=158,slow=12,SNR=252						
KK31				⇑Sn	**Sn**	**05 52 07.5**	**+3.8**
	9.1nm,0.5s,baz=171,slow=23,SNR=4.5						
KKAR	**Karatay Array**	**4.24 354**		PN	**Pn**	**05 51 16.7**	**+1.2**
KKAR						05 52 22.8	
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
UCH	**Uchtor**	**4.25**	**37**	P	**Pn**	**05 51 15.0**	**-0.6**
	SNR=19						
EKS2	**Erkin-Say**	**4.30**	**28**	P	**Pn**	**05 51 16.2**	**-0.1**
	SNR=9.9						
KZA	**Kyzart**	**4.51**	**44**	P	**Pn**	**05 51 19.9**	**+0.7**
	SNR=18						
AAK	**Ala-Archa**	**4.56**	**34**	P	**Pn**	**05 51 19.6**	**-0.3**
	SNR=18						
KBK	**Karagabulak**	**4.79**	**37**	P	**Pn**	**05 51 23.9**	**+0.9**
	SNR=8.0						
CHMS	**Chumysh**	**4.97**	**33**	P	**Pn**	**05 51 25.9**	**+0.4**
	SNR=10						
USP	**Ospenovka**	**5.09**	**30**	P	**Pn**	**05 51 27.0**	**-0.2**
	SNR=17						
TKM2	**Tokmak 2**	**5.30**	**39**	P	**Pn**	**05 51 30.0**	**0.0**
	SNR=12						
TKM2	**Tokmak 2**	**5.30**	**39**	⇓Pn	**Pn**	**05 51 29.7**	**-0.3**
	comp=Z,5.6nm,0.7s						
TKM2				⇑Sn	**Sn**	**05 52 29.7**	**0.0**
	comp=Z,8.9nm,0.9s						
TKM2	**Tokmak 2**	**5.30**	**39**	⇓Pn	**Pn**	**05 51 29.7**	**-0.3**
	comp=Z,5.6nm,0.6s						
TKM2				Sn	**Sn**	**05 52 29.7**	**0.0**
MKAR	**Makanchi Array**	**11.41**	**43**	P	**Pn**	**05 52 51.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=223,slow=12,SNR=5.4						
AB31	**Akbulak array**	**13.08**	**326**	P	**Pn**	**05 53 15.5**	**-1.0**
BVAR	**Borovoye Array**	**14.16**	**358**	P	**Pn**	**05 53 32.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=162,slow=9.1,SNR=4.4						
AKTK	**Aktyubinsk**	**14.80**	**326**	P	**Pn**	**05 53 46.3**	**+6.8**
AKTK				S	**Sn**	**05 56 21.6**	**-0.6**
AKTO	**Aktyubinsk**	**14.80**	**326**	P	**Pn**	**05 53 46.3**	**+6.8**
	comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=7.2						
AKTO				S	**Sn**	**05 56 21.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=139,slow=19,SNR=3.6						
SONM	**Songino Array**	**27.00**	**59**	P	**P**	**05 55 44.9**	**-5.8**
	comp=Z,0.1nm,0.3s,mb2.8,baz=271,slow=17,SNR=2.2						
ARCES	**ARCESS Array B**	**38.98**	**336**	P	**P**	**05 57 36.2**	**+1.4**
	comp=Z,3.8nm,1.0s,mb4.1,baz=108,slow=8.6,SNR=4.4						
ARCES	**ARCESS Array B**	**38.98**	**336**	P	**P**	**05 57 36.2**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.85**	**268**	P	**P**	**06 01 00.7**	**+6.9**
	comp=Z,0.2nm,0.5s,mb3.4,baz=50,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**78.87**	**3**	P	**P**	**06 02 10.4**	**-0.9**
	comp=Z,0.1nm,0.5s,mb3.0,baz=349,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**78.87**	**3**	P	**P**	**06 02 10.4**	**-0.9**

BJI 13 06:23:06.1, 4448N×8683E, h12km, ML2.9, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.91**	**136**	P	Pg	06 23 23.0	-0.6
WMQ				SG	Sg	06 23 42.6	+7.2
WMQ				Smax			
	comp=N,238nm,0.5s						
WMQ				Smax			
	comp=E,214nm,0.5s						
MK31	**Makanchi Array**	**3.94 308**		Pn	Pn	06 24 07.0	+0.7
	comp=E,0.3nm,0.3s,baz=126,slow=14,SNR=37						
MK31				⇑Pg	Pg	06 24 17.3	-4.2
	comp=E,1.3nm,0.6s,baz=124,slow=16,SNR=7.7						
MK31				⇓Sn	Sn	06 25 06.9	+14
	comp=E,3.0nm,0.5s,baz=122,slow=30,SNR=15						

IDC 13 06:37:42.3±2.9, 816N×7510W, h70km±25km, mb3.4/4, mb1 3.6/6, mb1mx3.4/21, mbtmp3.8/6, MS3.1/1, Ms1 3.2/1, ms1mx2.8/14, Error ellipse: s-maj=25.7km s-min=12.8km az=118.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.37 167**		P	Pn	06 38 32.8	+0.4
	6.5nm,0.3s,baz=275,slow=5.4,SNR=28						
ROSC				S	Sn	06 39 12.7	+1.5
	23nm,0.3s,baz=83,slow=22,SNR=7.9						
SDV	**Santo Domingo**	**4.48**	**80**	P	Pn	06 38 48.2	+0.6
	8.8nm,0.3s,baz=289,slow=7.8,SNR=187						
SDV				S	Sn	06 39 39.4	+1.0
	47nm,0.3s,baz=86,slow=22,SNR=14						
LPAZ	**La Paz**	**25.25 164**		P	P	06 43 03.2	+1.5
	0.8nm,0.6s,baz=300,slow=14,SNR=4.0						
LPAZ				LR	LR	06 52 35.7	
	comp=Z,43nm,21.8s,baz=176,slow=35						
SIV	**San Ignacio**	**27.72 150**		P	P	06 43 24.3	+0.3
	0.3nm,0.5s,baz=330,slow=13,SNR=3.5						
YKA	**Yellowknife Ar**	**61.35 340**		P	P	06 47 50.4	-0.2
	0.8nm,0.7s,baz=133,slow=7.1,SNR=17						
YKA				pP	pP	06 48 02.4	-6.6
	0.5nm,0.6s,baz=130,slow=7.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**75.40 79**		P	P	06 49 19.0	+0.7
	0.4nm,0.4s,baz=288,slow=6.6,SNR=10						
ASAR	**Alice Springs**	**148.23 238**		PKPbc	PKPbc	06 57 20.4	+0.2
	0.4nm,0.5s,baz=112,slow=3.3,SNR=6.0						
WRA	**Warramunga Arr**	**149.19 245**		PKPbc	PKPbc	06 57 23.1	+0.5
	0.4nm,0.5s,baz=101,slow=3.5,SNR=3.4						

IDC 13 06:55:55.4±1.6, 806N×9455E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/21, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.6/14, Error ellipse: s-maj=78.3km s-min=23.4km az=56.0
ISCJB 13 06:55:59.3±2.7, 82N±03×945E±04, h41km±29km, mb3.9/9, Error ellipse: s-maj=81.6km s-min=14.7km az=110.1

ISC 13 06:56:02.0±2.1, 82N±03×945E±04, h47km±23km, n11, σ0°82/11, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.94 140**		Pn	**Pn**	**06 57 41.5**	**+0.5**
	baz=338,slow=19,SNR=2.2						
PSI				LR	LR	07 00 52.7	
	comp=Z,144nm,19.7s,baz=247,slow=43						
JIRN	**Jiri**	**20.90 339**		*e*P	**P**	**07 00 40.2**	**-0.1**
	17nm,0.9s						
PKI	**Pulchoki**	**21.11 337**		*e*P	**P**	**07 00 42.7**	**+0.1**
	12nm,0.6s,mb4.4						
DMN	**Daman**	**21.26 337**		*e*P	**P**	**07 00 44.0**	**-0.2**
	15nm,0.9s,mb4.3						
GKN	**Gorkha**	**21.80 336**		*e*P	**P**	**07 00 49.4**	**-0.6**
	14nm,0.8s,mb4.5						
KOLN	**Koldanda**	**22.04 334**		*e*P	**P**	**07 00 51.7**	**-0.7**
	11nm,0.7s,mb4.4						
SONM	**Songino Array**	**40.80 12**		P	**P**	**07 03 39.2**	**+0.5**
	0.2nm,0.6s,mb3.0,baz=214,slow=5.2,SNR=2.2						
WRA	**Warramunga Arr**	**48.17 126**		P	**P**	**07 04 37.9**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=302,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**49.86 130**		P	**P**	**07 04 48.4**	**-2.0**
	0.2nm,0.8s,mb3.2,baz=304,slow=9.0,SNR=4.3						
FINES	**FINESS Array B**	**72.60 332**		P	**P**	**07 07 25.9**	**+1.5**
	0.3nm,0.5s,mb3.5,baz=90,slow=5.6,SNR=2.5						
ARCES	**ARCESS Array B**	**75.09 340**		P	**P**	**07 07 39.3**	**+0.4**
	2.6nm,1.0s,mb4.1,baz=114,slow=8.9,SNR=4.5						

ISCJB 13 06:59:31.3±1.1, 3422N×010×723E±0.1, h10km, Error ellipse: s-maj=19.6km s-min=7.6km az=100.9
NNC 13 06:59:49.6±12.0, 3529N×7125E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=122.8km s-min=100.4km az=117.0

ISC 13 06:59:34.1±0.9, 3410N±007×7227E±010, h10km, n11, σ1°50/19, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.34 119**		*ex*	**Pn**	**07 00 28.0**	**+1.7**
THN				*e*S	**Sn**	**07 01 08.0**	**+2.0**
DLH	**Dalhousie**	**3.47 116**		*ex*	**Pn**	**07 00 29.0**	**+0.9**
DLH				*e*S	**Sn**	**07 01 12.0**	**+2.8**
SDNR	**Sundarnagar**	**4.74 122**		*e*P	**Pn**	**07 00 44.8**	**-0.7**
SDNR				*ex*	**Sb**	**07 01 54.4**	**+0.2**
SMLA	**Simla**	**5.09 124**		*e*P	**Pn**	**07 00 48.4**	**-1.9**
SMLA				*e*P		07 00 48.8	
SMLA				*ex*	**Sn**	**07 01 48.5**	**-0.7**
SMLA				AML	AML	07 02 07.5	
	comp=N,51nm,0.5s						
SMLA				AML	AML	07 02 08.6	
	comp=E,77nm,0.7s						
KLP	**Kalpa**	**5.65 115**		*e*P	**Pn**	**07 00 54.3**	**-3.8**
KLP				*e*S	**Sn**	**07 02 02.6**	**-0.4**
KLP				AML	AML	07 02 30.0	
	comp=E,76nm,0.8s						
KLP				AML	AML	07 02 30.0	
	comp=N,69nm,0.8s						
DDI	**Dehra Dun**	**6.19 126**		*ex*	**Sg**	**07 02 50.5**	**-2.2**
KHET	**Khetri**	**6.73 152**		*e*P	**Pg**	**07 01 42.0**	**-1.0**
KHET				*e*S	**Sg**	**07 03 08.4**	**-1.7**
KHET				AML	AML	07 03 08.6	
	comp=E,8.1nm,0.2s						
KHET				AML	AML	07 03 09.4	
	comp=N,16nm,0.2s						
KUDL	**Kundal**	**6.96 148**		*e*P	**Pn**	**07 01 17.0**	**+1.0**
KUDL				*e*S	**Sn**	**07 02 38.2**	**+3.1**
KUDL				AML	AML	07 02 40.7	
	comp=N,4.9nm,0.1s						
KUDL				AML	AML	07 02 42.2	
	comp=E,6.9nm,0.3s						
SONA	**Sohna**	**7.15 143**		*e*P	**Pn**	**07 01 19.2**	**+0.6**
KK31	**Karatay Array**	**9.09 352**		P	**Pn**	**07 01 43.7**	**-1.6**
	comp=E,0.9nm,0.3s,baz=175,slow=14,SNR=46						
KK31				S	**Sn**	**07 03 15.4**	**-12**
	comp=E,0.5nm,0.3s,baz=176,slow=25,SNR=4.0						
AB31	**Akbulak array**	**17.68 333**		⇑P	**Pn**	**07 03 41.2**	**+0.8**
	comp=E,0.5nm,0.7s,baz=127,slow=11,SNR=8.1						

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*IDC 13 07:00:38.9±3.6, 2239S×7939W, h561km±34km, mb3.7/5, mb1 3.9/5, mb1mx3.6/13, mbtmp4.7/5, Error ellipse: s-maj=55.2km s-min=24.

CMCH				*i* S	Sn	08 07 58.6	+1.9
CMCH				AMP		08 08 00.3	
	comp=E,879nm,0.7s						
JACH	**Jahuel**	**1.16**	**129**	⇓*i* P	Pn	08 07 48.8	+1.7
JACH				*i* S	Sn	08 08 03.9	+2.1
PEL	**Peldehue**	**1.45**	**146**	*e*P	Pn	08 07 52.0	+0.9
PEL				*i* S	Sn	08 08 11.3	+2.4
PEL				AMP		08 08 12.1	
	comp=E,439nm,0.4s						
RCDM	**Rinconada Maip**	**1.70**	**155**	*i* P	Pn	08 07 55.2	+0.7
RCDM				*i* S	Sn	08 08 16.7	+1.7
RCDM				AMP		08 08 26.0	
	comp=N,134nm,0.1s						
FCH	**Farellones**	**1.79**	**140**	*e*P	Pn	08 07 57.4	+1.5
FCH				*i* S	Sn	08 08 20.6	+3.2
FCH				AMP		08 08 22.4	
	comp=E,79nm,0.2s						
TACH	**Talagante**	**1.81**	**161**	⇓*i* P	Pn	08 07 57.3	+1.3
PCH	**Pirque**	**1.93**	**150**	⇑*i* P	Pn	08 07 59.2	+1.5

MDD ***13*** *08:11:47.5±2.1, 36.32N×8.32W, h0km, mbLg2.5/9, Error ellipse: s-maj=17.9km s-min=8.6km az=37.0, PRXIMO*
INMG 13 08:11:48.0±0.6, 36.10N×8.49W, h31km, ML2.2, Error ellipse: s-maj=4.4km s-min=2.2km az=48.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.45**	**353**	*e*P	Pn	08 12 10.4	-1.7
PTEO				S	Sn	08 12 27.9	-2.1
PTEO							
	15nm,0.1s						
EGRO	**El Granado**	**1.64**	**29**	P	Pn	08 12 13.6	-1.1
	1.7nm,0.1s,SNR=5.1						
EGRO				S	Sn	08 12 32.1	-2.6
	20nm,0.1s,SNR=12						
PBEJ	**Beja**	**1.98**	**14**	*e*Sn	Sn	08 12 40.1	-3.1
EMIN	**Mina Concepcio**	**2.21**	**41**	P	Pn	08 12 20.9	-1.6
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 12 45.0	-3.8
	7.5nm,0.1s,SNR=15						
ESPR	**Espera**	**2.26**	**69**	P	Pn	08 12 21.8	-1.4
	0.8nm,0.1s,SNR=7.9						
ESPR				S	Sn	08 12 46.8	-3.2
	14nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.42**	**3**	*e*Sn	Sn	08 12 51.1	-2.8
EBAD	**Badajoz**	**2.90**	**24**	S	Sn	08 13 02.2	-3.5
	3.7nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.51**	**1**	*e*Pn	Pn	08 12 39.5	-0.9
PTOM				*e*Sn	Sn	08 13 16.3	-4.5
PTOM							
	6.9nm,0.2s						
EADA	**Adamuz**	**3.75**	**55**	P	Pn	08 12 41.8	-1.8
	0.2nm,0.0s,SNR=6.9						
EADA				S	Sn	08 13 22.1	-4.6
	4.8nm,0.1s,SNR=9.2						
EBAN	**Banos Encina**	**4.29**	**60**	S	Sn	08 13 35.1	-4.9
	1.3nm,0.1s,SNR=4.0						
EQES	**Quesada**	**4.66**	**67**	P	Pn	08 12 54.0	-2.3
	0.7nm,0.1s,SNR=4.0						
EQES				S	Sn	08 13 45.6	-3.6
	0.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.76**	**3**	S	Sn	08 14 10.3	-6.2
	2.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.08**	**63**	S	Sn	08 14 18.2	-6.1
	0.9nm,0.1s,SNR=7.9						

NIED ***13*** *08:23:00, 38.40N×140.00E, h8km, Mw4.5 Best double couple: M0:6.47000×10^15 NP1:φs.355.00000°, δ57.00000°, λ.82.00000°. NP2:φs.189.00000°, δ34.00000°, λ.102.00000°.*
IDC ***13*** *08:23:16.2±0.4, 38.40N×139.82E, h0km, mb4.6/23, mb1 4.7/27, mb1mx4.7/29, mbtmp4.6/27, ML4.0/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=15.1km s-min=10.3km az=86.0*
BJI ***13*** *08:23:16.4, 38.32N×140.55E, h52km, mB4.9, mb4.7, Ms4.3, Msz4.0*
ISCJB ***13*** *08:23:17.6±0.4, 38.39N±0.02×139.88E±0.03, h18km±2km, mb4.8/119, MS3.8/12, Error ellipse: s-maj=3.9km s-min=3.6km az=33.6*
JMA ***13*** *08:23:18.0, 38.42N×139.93E, h9km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs.184.00000°, δ33.00000°, λ.93.00000°. NP2:φs.1.00000°, δ57.00000°, λ.88.00000°. Principal axes: T Plg78.0000°, Azm265.0000°; N Plg1.0000°, Azm2.0000°; P Plg12.0000°, Azm92.0000°;*
JMA Felt III J1.
MOS ***13*** *08:23:21.5±1.0, 38.38N×139.72E, h48km, mb5.0/55 Error ellipse: s-maj=9.3km s-min=4.8km az=108.3*
SZGRF ***13*** *08:23:22.0, 38.81N×139.01E, h33km, mb4.6, Near west coast of eastern Honshu, Japan*
NEIC ***13*** *08:23:23.6±0.7, 38.35N×139.77E, h52km±6km, mb4.8/45, MW4.5(NIED), Error ellipse: s-maj=5.4km s-min=4.6km az=108.0*
NEIC Recorded [3 JMA] in Niigata and Yamagata; [2 JMA] in Fukushima; [1 JMA] in Akita and Miyagi Prefectures.
NAO ***13*** *08:23:33.1, 40.25N×138.90E, h33km, mb4.8*
ISC 13 08:23:18.1±0.4, 38.41N±0.02×139.91E±0.03, h12km±2km, h42km±1.2km: pP-P, n290, σ0:96/307, mb4.8/119, MS3.8/12, 11C-18D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYS	**Shirataka**	**0.23**	**147**	⇓P	**Pg**	**08 23 22.5**	**-0.4**
JYS				S	**Sg**	**08 23 26.2**	**+0.1**
JYA	**Atsumi**	**0.24**	**320**	P	**Pg**	**08 23 23.0**	**-0.1**
JYA				S	**Sg**	**08 23 27.1**	**+0.6**
JAW	**Awa shima**	**0.52**	**275**	P	**Pg**	**08 23 28.5**	**+0.2**
JAW				S	**Sg**	**08 23 36.5**	**+1.3**
JOU	**Okura**	**0.59**	**94**	⇓P	**Pg**	**08 23 28.8**	**-0.8**
JYK	**Kaneyama**	**0.61**	**35**	⇓P	**Pg**	**08 23 29.6**	**-0.4**
JYK				S	**Sg**	**08 23 37.9**	**-0.2**
JMM	**Marumori**	**0.88**	**128**	⇓P	**Pg**	**08 23 34.2**	**-0.9**
JMM				S	**Sg**	**08 23 45.7**	**-0.9**
JFT	**Otama**	**0.95**	**159**	⇓P	**Pg**	**08 23 36.2**	**-0.2**
MAJO	**Matsushiro**	**2.31**	**217**	*e*P	**Pn**	**08 23 56.6**	**+0.7**
MAT	**Matsushiro**	**2.31**	**217**	P	**Pn**	**08 23 56.3**	**+0.4**
MAT				S	**Sn**	**08 24 27.8**	**+3.6**
MJAR	**Matsushiro Arr**	**2.31**	**216**	Pn	**Pn**	**08 23 56.6**	**+0.8**
	62nm,0.3s,baz=21,slow=15,SNR=189						
MJAR				Sn	**Sn**	**08 24 29.0**	**+4.8**
	151nm,0.3s,baz=309,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**2.31**	**216**	P	**Pn**	**08 23 56.7**	**+0.8**
MJAR						08 24 29.0	
MJAR				pmax	pmax		
	comp=Z,62nm,0.3s						
JHJ	**Hachijo jima 2**	**5.28**	**181**	Pn	**Pn**	**08 24 36.8**	**0.0**
	comp=Z,10nm,0.3s,baz=221,slow=19,SNR=2.4						
JHJ				LR	LR	08 26 18.0	
	comp=Z,431nm,21.6s,baz=4.4,slow=34						
ASAJ	**Asahikawa**	**6.05**	**19**	Pn	**Pn**	**08 24 48.5**	**+1.2**
	comp=Z,5.3nm,0.3s,baz=210,slow=9.1,SNR=17						
ASAJ				LR	LR	08 27 56.1	
	comp=Z,103nm,20.3s,baz=342,slow=46						
ASAJ	**Asahikawa**	**6.05**	**19**	P	**Pn**	**08 24 48.6**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,103nm,20.3s						
YUK	**Yuzh-Kuril'sk**	**7.19**	**37**	P	**Pn**	**08 25 02.5**	**-0.5**
YUK				S	**Sn**	**08 26 22.9**	**-1.6**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=E,250nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.79**	**13**	⇓*i* P	**Pn**	**08 25 30.6**	**+5.7**
YSS				S	**Sn**	**08 27 04.0**	**+0.1**
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,800nm,12.0s						
YSS				MLR	MLR		
	comp=E,800nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.79**	**13**	*e*Pn	**Pn**	**08 25 29.2**	**+4.2**
	comp=E,37nm,0.8s						
KUR	**Kuril'sk**	**9.04**	**39**	*e*P	**Pn**	**08 25 29.0**	**+0.7**
KUR				S	**Sn**	**08 27 08.0**	**-2.0**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR				smax			
	comp=N,20nm,0.5s						
KUR				smax			
	comp=E,60nm,0.5s						
JNU	**Nakatsue**	**9.04**	**237**	Pn	**Pn**	**08 25 32.1**	**+3.7**
	comp=E,0.4nm,0.3s,baz=102,slow=18,SNR=2.7						
MDJ	**Mudanjiang**	**9.91**	**312**	P	**Pn**	**08 25 41.3**	**+1.0**
MDJ				S	**Sn**	**08 27 32.0**	**+0.5**
MDJ				SCP	ScP	08 35 18.3	-6.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,93nm,5.5s						
MDJ				LR	LR		
	comp=N,252nm,21.9s						
MDJ				LR	LR		
	comp=E,273nm,22.6s						
MDJ				LR	LR		
	comp=Z,290nm,26.4s						
MDJ	**Mudanjiang**	**9.91**	**312**	*e*P	**Pn**	**08 25 45.5**	**+5.2**
	comp=Z,9.2nm,0.7s						
HABR	**Khabarovsk**	**10.66**	**342**	*i* P	**Pn**	**08 25 55.9**	**+5.4**
HABR				*i* S	**Sn**	**08 27 56.8**	**+7.0**
CN2	**Changchun**	**12.16**	**301**	*e*P	**Pn**	**08 26 16.3**	**+5.2**
CN2				*e*S	**Sn**	**08 28 29.9**	**+3.3**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,500nm,15.0s						
CN2				LR	LR		
	comp=E,500nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
KLR	**Kul'dur**	**12.31**	**334**	*e*P	**Pn**	**08 26 15.6**	**+2.5**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
SNY	**Shenyang**	**12.96**	**290**	⇑P	**Pn**	**08 26 28.4**	**+6.4**
SNY				AP		08 26 36.6	
SNY				S	**Sn**	**08 28 50.3**	**+4.2**
SNY				AMB	AMB		
	comp=Z,30nm,1.0s						
SNY				AMB	AMB		
	comp=Z,230nm,4.7s						
SNY				LR	LR		
	comp=N,990nm,14.4s						
SNY				LR	LR		
	comp=E,600nm,19.2s						
SNY				LR	LR		
	comp=Z,730nm,15.6s						
DL2	**Dalian**	**14.30**	**278**	*e*P	**Pn**	**08 26 48.9**	**+8.6**
DL2				*e*S	**Sn**	**08 29 28.6**	**+10**
DL2				AMB	AMB		
	comp=Z,60nm,0.9s						
DL2				AMB	AMB		
	comp=Z,210nm,4.9s						
DL2				LR	LR		
	comp=N,210nm,12.6s						
DL2				LR	LR		
	comp=E,230nm,12.0s						
DL2				LR	LR		
	comp=Z,230nm,11.4s						
JOW	**Kunigami**	**15.13**	**224**	Pn	**Pn**	**08 26 50.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=54,slow=13,SNR=5.1						
SSE	**Sheshan**	**17.02**	**250**	P	**Pn**	**08 27 13.3**	**-2.5**
SSE				S	**Sn**	**08 30 20.3**	**-4.6**
SSE				XS	sS	08 30 43.3	+3.2
SSE				PCP	PcP	08 31 59.1	-2.3
SSE				AMB	AMB		
	comp=Z,15nm,0.7s						
SSE				AMB	AMB		
	comp=Z,252nm,6.3s						
SSE				LR	LR		
	comp=N,71nm,15.6s						
SSE				LR	LR		
	comp=E,133nm,15.3s						
SSE				LR	LR		
	comp=Z,115nm,17.1s						
HIA	**Hailar**	**18.09**	**313**	*e*P	**Pn**	**08 27 30.8**	**+1.6**
HIA				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	**Hailar**	**18.09**	**313**	*e*P	**Pn**	**08 27 30.8**	**+1.6**
	comp=Z,19nm,1.1s						
TIA	**Tai'an**	**18.25**	**270**	*e*P	**Pn**	**08 27 32.8**	**+1.6**
NJ2	**Nanjing**	**18.32**	**256**	*e*P	**Pn**	**08 27 33.8**	**+1.8**
NJ2				AP	pP	08 27 43.1	+7.7
NJ2				PP		08 27 49.9	
NJ2				S	**Sn**	**08 30 53.0**	**-3.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,160nm,5.4s						
NJ2				LR	LR		
	comp=N,610nm,19.5s						
NJ2				LR	LR		
	comp=E,810nm,14.1s						
NJ2				LR	LR		
	comp=Z,470nm,20.6s						
BJT	**Baijiatuau**	**18.46**	**282**	*e*P	**Pn**	**08 27 34.4**	**+0.7**
BJT				pmax	pmax		
	comp=Z,37nm,1.1s						
BJT	**Baijiatuau**	**18.46**	**282**	*e*P	**Pn**	**08 27 34.4**	**+0.7**
	comp=Z,37nm,1.1s						
PET	**Petropavlovsk**	**19.53**	**35**	*e*P	**Pn**	**08 27 51.9**	**+5.3**
PET				*e*S	**Sn**	**08 31 27.7**	**+2.1**
PET				smax			
	comp=N,100nm,12.8s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
CLNS	**Chul'man**	**20.95**	**337**	*e*P	**P**	**08 27 58.5**	**-2.2**
CLNS				*e*PPP		08 28 16.8	
CLNS				*e*S	**S**	**08 31 37.8**	**-16**
CLNS				*e*SS		08 32 22.4	
CLNS				*e*		08 32 42.1	
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				pmax	pmax		
	comp=N,23nm,1.1s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,34nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax			
	comp=N,77nm,11.9s						
CLNS				smax			
	comp=Z,38nm,12.0s						
CLNS				smax			
	comp=E,150nm,12.1s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s,MS3.6						
CLNS				MLR	MLR		
	comp=N,90nm,13.0s,MS3.5						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS3.5						
HHC	**Hu-ho-hao-te**	**21.93**	**285**	⇓P	**P**	**08 28 10.5**	**-0.8**
HHC				AP		08 28 20.9	
HHC				XP	sP	08 28 26.9	+11
HHC				PP		08 28 41.9	
HHC				PCP	PcP	08 32 01.8	-8.3
HHC				S	**S**	**08 32 11.8**	**-1.5**
HHC				XS	sS	08 32 28.8	+10
HHC				SS		08 32 55.6	
HHC				SCP	ScP	08 35 34.5	-13
HHC				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.0						
HHC				AMB	AMB		
	comp=Z,132nm,4.0s						
HHC				LR	LR		
	comp=N,480nm,13.0s,MS4.2						
HHC				LR	LR		
	comp=E,486nm,13.0s,MS4.2						
HHC				LR	LR		
	comp=Z,508nm,13.0s,MS4.1						
MA2	**Magadan**	**22.29**	**15***c*	*i*P	**P**	**08 28 14.6**	**-0.6**
MA2				pmax	pmax		
	comp=N,10.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.7						
MA2	**Magadan**	**22.29**	**15**	*e*P	**P**	**08 28 14.3**	**-0.8**
	comp=Z,42nm,0.8s,mb4.9						
WHN	**Wuhan**	**22.44**	**257**	*e*P	**P**	**08 28 20.0**	**+3.3**
CIT	**Chita**	**22.86**	**315**	*e*P	**P**	**08 28 18.4**	**-2.8**
BTO	**Baotou**	**23.12**	**285**	*e*P	**P**	**08 28 20.1**	**-3.8**
YAK	**Yakutsk**	**24.48**	**348**	*i* P	**P**	**08 28 36.6**	**-0.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**25.61**	**302**	*e*P	**P**	**08 28 46.7**	**-0.5**
ULN				*e*		08 32 18.6	
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**25.61**	**302**	*e*P	**P**	**08 28 46.7**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.0						
ULN				*e*PcP	PcP	08 32 18.6	+0.7
SEY	**Seymchan**	**25.70**	**13**	*e*P	**P**	**08 28 49.2**	**+1.2**
SEY				*e**SP	sP	08 29 08.7	+16
SEY				*e*		08 29 30.8	
SEY				*e*S	**S**	**08 33 16.5**	**+0.1**
SEY				*e**SS	sS	08 33 38.0	+16
SEY				SS		09 34 21.6	
SEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.1						
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
SEY				smax			
	comp=N,150nm,7.2s						
SEY				smax			
	comp=E,130nm,5.5s						
SEY				MLR	MLR		
	comp=Z,270nm,18.0s,MS3.8						
SEY				MLR	MLR		
	comp=N,150nm,19.0s						
SEY				MLR	MLR		
	comp=E,12nm,13.0s						
BOD	**Bodaibo**	**25.73**	**327**	*e*P	**P**	**08 28 46.8**	**-1.5**
BOD				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.7						
SONM	**Songino Array**	**26.04**	**302**	P	**P**	**08 28 50.3**	**-0.8**
	comp=Z,1.8nm,0.8s,mb3.7,baz=116,slow=8.5,SNR=14						
SONM				PcP	PcP	08 32 19.1	+0.1
	comp=Z,1.7nm,0.6s,baz=131,slow=2.5,SNR=7.2						
SONM				LR	LR	08 39 18.7	
	comp=Z,86nm,20.4s,MS3.3,baz=259,slow=37						
SONM	**Songino Array**	**26.04**	**302**	P	**P**	**08 28 50.3**	**-0.8**
SONM						08 32 19.1	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,86nm,20.4s						
ENH	**Enshi**	**26.31**	**261**	*e*P	**P**	**08 28 52.5**	**-1.1**
	comp=Z,28nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**28.49**	**307**	*e*P	**P**	**08 29 06.6**	**-6.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.0						
LZH	**Lanzhou**	**28.69**	**277**	*e*P	**P**	**08 29 13.6**	**-1.3**
LZH				AP	pP	08 29 25.0	+6.4
LZH				XP	sP	08 29 31.3	+11
LZH				PP	PP	08 30 06.8	-13
LZH				*e*S	**S**	**08 33 56.8**	**-6.9**
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,87nm,4.8s						
LZH				LR	LR		
	comp=N,675nm,12.3s						
LZH				LR	LR		
	comp=Z,1μm,15.2s,MS4.6						
TGY	**Tagaytay City**	**29.47**	**220**	P	**P**	**08 29 21.0**	**-0.8**
	comp=Z,91nm,0.3s,baz=73,slow=10,SNR=3.3						
TGY	**Tagaytay City**	**29.47**	**220**	P	**P**	**08 29 21.0**	**-0.8**
TGY				pmax	pmax		
	comp=Z,91nm,0.3s						
GYA	**Guiyang**	**30.33**	**257**	⇓*i* P	**P**	**08 29 27.6**	**-1.8**
GYA				AP	pP	08 29 39.5	+6.5
GYA				XP	sP	08 29 47.0	+12
GYA				PP	PP	08 30 25.8	-12
GYA				PCP	PcP	08 32 30.4	+0.9
GYA				S	**S**	**08 34 19.8**	**-10**
GYA				SCP	ScP	08 36 07.4	-4.2
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA				LR	LR		
	comp=N,480nm,16.4s,MS4.4						
GYA				LR	LR		
	comp=E,490nm,17.0s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,16.0s,MS4.3						
CD2	**Chengdu**	**30.52**	**267**	*e*P	**P**	**08 29 29.3**	**-1.8**
CD2				AP	pP	08 29 41.1	+6.3
CD2				XP	sP	08 29 46.5	+10
CD2				PP	PP	08 30 29.4	-11
CD2				S	**S**	**08 34 24.8**	**-7.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,90nm,5.3s						
CD2				LR	LR		
	comp=N,180nm,12.0s						
CD2				LR	LR		
	comp=Z,140nm,15.6s,MS3.7						
GTA	**Gaotai**	**31.04**	**285**	*e*P	**P**	**08 29 35.4**	**-0.3**
GTA				AP	pP	08 29 46.9	+7.5
GTA				XP	sP	08 29 52.3	+11
GTA				PP	PP	08 30 37.8	-8.0
GTA				PPP		08 30 52.3	
GTA				PCP	PcP	08 32 31.9	+0.6
GTA				S	**S**	**08 34 35.0**	**-5.5**
GTA				SCP	ScP	08 36 10.0	-4.0
GTA				PCS	PcS	08 36 15.8	+0.4
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.2						
GTA				AMB	AMB		
	comp=Z,93nm,8.0s						
GTA				LR	LR		
	comp=N,321nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,277nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=Z,234nm,17.5s,MS3.9						
BILL	**Bilibino**	**33.06**	**18**	*i* P	**P**	**08 29 54.8**	**+1.3**
BILL				pmax	pmax		
	comp=Z,14nm,2.6s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.5						
TIXI	**Tiksi**	**33.79**	**354**	*i* P	**P**	**08 29 58.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KMI	**Kunming**	**34.03**	**258**	P	**P**	**08 30 01.8**	**-0.1**
KMI				LR	LR		
	comp=Z,111nm,28.1s,MS3.4						
WMQ	**Urumqi**	**39.17**	**295**	*e*P	**P**	**08 30 47.0**	**+1.3**
WMQ				AP	pP	08 30 59.0	+10
WMQ				XP	sP	08 31 05.0	+14
WMQ				PP	PP	08 32 21.0	+5.5
WMQ				S	**S**	**08 36 43.0**	**-2.5**
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,87nm,4.0s						
WMQ				LR	LR		
	comp=N,327nm,9.0s						
WMQ				LR	LR		
	comp=E,168nm,9.0s						
WMQ				LR	LR		
	comp=Z,149nm,9.0s						
ZAL	**Zalesovo**	**40.12**	**311**	P	**P**	**08 30 53.5**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.0,baz=23,slow=10,SNR=6.9						
ZAL				PcP	PcP	08 32 58.1	0.0
	comp=Z,3.9nm,0.7s,baz=348,slow=3.8,SNR=8.3						
ZAL				LR	LR	08 46 25.1	
	comp=Z,117nm,21.2s,MS3.7,baz=275,slow=35						
ZAL	**Zalesovo**	**40.12**	**311**	P	**P**	**08 30 53.5**	**-0.2**
ZAL						08 32 58.1	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,117nm,21.3s						
MK31	**Makanchi Array**	**42.39**	**301**	*i* P	**P**	**08 31 10.6**	**-1.7**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						

MKAR Makanchi Array 42.39 301 P **P** **08 31 11.1 -1.2**
comp=Z,7.5nm,0.8s,mb4.3,baz=85,slow=9.0,SNR=54
MKAR PcP PcP 08 33 05.2 -0.3
comp=Z,1.9nm,0.9s,baz=68,slow=6.5,SNR=4.1
MKAR Makanchi Array 42.39 301 P **P** **08 31 11.1 -1.2**
MKAR 08 33 05.2
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 44.15 307 *d iP* **P** **08 31 25.7 -0.8**
KURK Kurchatov 44.15 307 *eP* **P** **08 31 25.6 -0.9**
comp=Z,17nm,0.8s,mb4.8
JIRN Jiri 45.73 273 *eP* **P** **08 31 39.4 +0.3**
comp=Z,32nm,1.0s,mb5.2
GUN Gumba 45.86 274 *eP* **P** **08 31 40.4 +0.3**
comp=Z,84nm,1.1s,mb5.6
KKN Kakani 46.38 274 *eP* **P** **08 31 44.3 +0.1**
comp=Z,46nm,0.8s,mb5.5
KKN Kakani 46.38 274 *eP* **P** **08 31 44.3 +0.1**
KKN pmax pmax
comp=Z,23nm,0.8s,mb5.2
PKI Pulchoki 46.38 273 *eP* **P** **08 31 44.3 0.0**
DMN Daman 46.60 274 *eP* **P** **08 31 45.8 -0.2**
comp=Z,20nm,1.0s,mb5.0
GKN Gorkha 46.79 274 *eP* **P** **08 31 47.3 -0.1**
comp=Z,44nm,0.8s,mb5.5
KOLN Koldanda 47.71 275 *eP* **P** **08 31 54.8 +0.2**
comp=Z,42nm,1.1s,mb5.4
BOK Bokaro 47.86 269 *ex* x 08 31 51.7
BOK AMb AMB 08 31 52.8
comp=Z,28nm,1.0s,mb5.2
TKM2 Tokmak 2 47.94 297 P **P** **08 31 57.8 +1.4**
SNR=19
TKM2 Tokmak 2 47.94 297 P **P** **08 31 57.1 +0.7**
TKM2 pmax pmax
comp=Z,31nm,1.1s,mb5.2
PMG Port Moresby 48.05 170 P **P** **08 31 58.0 +0.7**
comp=Z,6.9nm,0.9s,mb4.7,baz=348,slow=10,SNR=6.5
PMG Port Moresby 48.05 170 P **P** **08 31 58.0 +0.8**
PMG pmax pmax
comp=Z,7.0nm,0.9s
PMG Port Moresby 48.05 170 *eP* **P** **08 31 57.7 +0.5**
comp=Z,6.5nm,0.7s,mb4.8
MCK McKinley 48.16 34 *eP* **P** **08 31 58.2 +0.1**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MCK McKinley 48.16 34 *eP* **P** **08 31 58.2 +0.1**
comp=Z,3.8nm,0.8s,mb4.5
KZA Kyzart 48.44 296 P **P** **08 32 02.3 +2.1**
SNR=6.4
KBK Karagaybulak 48.47 297 P **P** **08 32 01.6 +1.1**
SNR=11
VOSK Vostochnaya 48.48 311 P **P** **08 31 59.5 -1.1**
VOSK pmax pmax
comp=Z,48nm,1.6s,mb5.3
COLA College 48.56 33 *i P* **P** **08 32 02.2 +1.0**
COLA College 48.56 33 *eP* **P** **08 32 01.6 +0.4**
comp=Z,5.1nm,0.8s,mb4.6
USP Ospenovka 48.60 298 P **P** **08 32 02.0 +0.5**
SNR=12
FRU Bishkek 48.65 297 *eP* **P** **08 32 02.0 +0.1**
BVA0 Borovoye Array 48.77 311 *i P* **P** **08 32 02.4 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 48.77 311 P **P** **08 32 02.4 -0.4**
comp=Z,7.6nm,0.6s,mb4.9,baz=79,slow=7.4,SNR=58
BVAR PcP PcP 08 33 27.7 +0.1
comp=Z,5.4nm,0.6s,baz=84,slow=2.8,SNR=11
BVAR Borovoye Array 48.77 311 P **P** **08 32 02.4 -0.4**
BVAR 08 33 27.7
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 48.80 297 P **P** **08 32 03.7 +0.7**
SNR=8.0
BRVK Borovoye 48.82 311 *eP* **P** **08 32 02.7 -0.5**
BRVK *e* 08 33 26.4
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 48.82 311 *eP* **P** **08 32 02.6 -0.6**
comp=Z,5.1nm,0.8s,mb4.6
BRVK *e*PcP PcP 08 33 26.4 -1.4
ILAR Eielson Array 48.98 33 P **P** **08 32 04.5 +0.1**
comp=Z,5.8nm,0.7s,mb4.7,baz=268,slow=5.6,SNR=59
ILAR Eielson Array 48.98 33 P **P** **08 32 04.5 +0.1**
ILAR pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 49.29 297 P **P** **08 32 07.1 +0.3**
SNR=5.8
AML Almayashu 49.52 297 P **P** **08 32 10.1 +1.6**
SNR=16
SMLA Simla 51.19 282 *eP* **P** **08 32 19.3 -1.9**
KK31 Karatay Array 51.41 299 *i P* **P** **08 32 22.4 -0.4**
KK31 pmax pmax
comp=Z,25nm,1.0s,mb5.1
KKAR Karatay Array 51.41 299 *i P* **P** **08 32 22.4 -0.4**
KKAR pmax pmax
comp=Z,26nm,1.1s,mb5.1
BLSP Bilaspur 51.68 269 *eP* **P** **08 32 25.2 +0.4**
BLSP AMb AMB 08 32 25.5
comp=Z,25nm,0.8s,mb5.2
NDI New Delhi 52.26 279 *eP* **P** **08 32 27.0 -2.2**
VIS Vishakhapatnam 53.16 264 *eP* **P** **08 32 35.4 -0.5**
VIS AMb AMB 08 32 38.9
comp=Z,27nm,1.5s,mb5.0
ARU Arti 54.54 318 ⇑*iP* **P** **08 32 45.5 -0.4**
ARU *e* 08 33 47.0
ARU *e* 08 34 43.9
ARU *e*PPP 08 35 58.6
ARU *e*S **S** **08 40 24.8 -0.2**
ARU *e*SS SS 08 44 06.7 -0.8
ARU pmax pmax
comp=Z,15nm,0.7s,mb5.1
ARU Arti 54.54 318 *eP* **P** **08 32 45.8 -0.1**
comp=Z,7.4nm,0.4s,mb5.1
NGP Nagpur 54.62 270 *eP* **P** **08 32 45.9 -0.6**
NGP AMb AMB 08 32 46.7
comp=Z,24nm,1.1s,mb5.1
AJM Ajmer 55.32 278 *eP* **P** **08 32 51.6 0.0**
AJM AMb AMB 08 32 52.2
comp=Z,30nm,0.9s,mb5.3
AB31 Akbulak array 56.15 309 *i P* **P** **08 32 57.1 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
AKL Akola 56.46 271 *ex* x 08 32 19.0
AKL AMb AMB 08 32 21.1
comp=Z,45nm,1.0s,mb5.5
AKTK Aktyubinsk 56.87 311 P **P** **08 33 02.6 -0.1**
AKTK PcP PcP 08 33 57.9 -0.3
AKTO Aktyubinsk 56.87 311 P **P** **08 33 02.6 -0.1**
comp=Z,10nm,0.8s,mb4.9,baz=75,slow=14,SNR=28
AKTO PcP PcP 08 33 57.9 -0.3
comp=Z,3.9nm,0.8s,baz=105,slow=5.9,SNR=2.6
AKTO Aktyubinsk 56.87 311 P **P** **08 33 02.6 -0.1**
AKTO 08 33 57.9
AKTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
HYB Hyderabad 57.07 267 *i P* **P** **08 33 04.5 +0.4**
FITZ Fitzroy Crossi 57.79 196 *eP* **P** **08 33 09.9 +0.8**
comp=Z,9.4nm,0.9s,mb4.8
WRAB Tennant Creek 58.27 186 *c iP* **P** **08 33 12.4 -0.1**
WRAB Tennant Creek 58.27 186 *eP* **P** **08 33 12.2 -0.3**
comp=Z,56nm,1.3s,mb5.4
WB2 Warramunga Arr 58.28 186 *eP* **P** **08 33 12.4 -0.2**
WRA Warramunga Arr 58.28 186 P **P** **08 33 12.5 -0.1**
comp=Z,20nm,0.6s,mb5.3,baz=3.3,slow=7.2,SNR=171
WRA PcP PcP 08 34 04.4 +0.7
comp=Z,5.2nm,1.0s,baz=355,slow=4.2,SNR=5.6
WRA Warramunga Arr 58.28 186 P **P** **08 33 12.5 -0.1**
WRA 08 34 04.4
WRA pmax pmax
comp=Z,20nm,0.6s
WRA pmax pmax
comp=Z,5.0nm,1.0s
CTA Charters Tower 58.49 173 *eP* **P** **08 33 15.9 +1.8**
comp=Z,2.6nm,0.6s,mb4.4
CTA Charters Tower 58.49 173 P **P** **08 33 13.1 -0.9**
comp=Z,2.9nm,0.5s,mb4.6,baz=338,slow=7.2,SNR=9.0
CTA LR LR 08 56 05.0
comp=Z,97nm,19.0s,MS3.9,baz=228,slow=34
CTAO Charters Tower 58.49 173 *eP* **P** **08 33 15.8 +1.7**
CTAO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
CTAO Charters Tower 58.49 173 *eP* **P** **08 33 15.8 +1.7**
comp=Z,2.8nm,0.5s,mb4.5
KAD Karad 60.56 269 *eP* **P** **08 33 28.9 +0.5**
KAD AMb AMB 08 33 30.2
comp=Z,38nm,1.1s,mb5.5
APA Apatity 60.94 335 ⇑*iP* **P** **08 33 30.0 -0.9**
APA pmax pmax
comp=Z,30nm,1.1s,mb5.3
KEV Kevo 61.73 339 *ep* **P** **08 33 35.0 -1.3**
comp=Z,0.3nm,0.3s,mb3.9
KLMR Klimovskoe 61.96 327 *eP* **P** **08 33 35.7 -2.1**
KLMR pmax pmax
comp=Z,30nm,2.3s,mb5.0
ASAR Alice Springs 62.01 186 P **P** **08 33 38.4 +0.2**
comp=Z,7.5nm,0.7s,mb4.9,baz=11,slow=5.8,SNR=97
ASAR Alice Springs 62.01 186 P **P** **08 33 38.4 +0.3**
ASAR pmax pmax
comp=Z,8.0nm,0.7s
MBWA Marble Bar 62.21 201 *eP* **P** **08 33 39.3 -0.2**
comp=Z,6.9nm,0.6s,mb5.0
MBWA *e*PcP PcP 08 34 17.4 -2.0
ARCES ARCESS Array B 62.29 339 P **P** **08 33 39.5 -0.6**
comp=Z,5.0nm,0.9s,mb4.6,baz=45,slow=3.4,SNR=12
ARCES PcP PcP 08 34 19.4 -0.3
comp=Z,6.0nm,1.1s,baz=45,slow=1.7,SNR=6.1
ARCES ARCESS Array B 62.29 339 P **P** **08 33 39.5 -0.5**
ARCES 08 34 19.4
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 63.22 30 P **P** **08 33 46.0 -0.2**
comp=Z,2.1nm,0.6s,mb4.4,baz=302,slow=6.6,SNR=48
YKA Yellowknife Ar 63.22 30 P **P** **08 33 46.0 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 63.22 30 P **P** **08 33 46.0 -0.2**
JOF Joensuu 64.19 331 *ep* **P** **08 33 52.1 -0.5**
comp=Z,0.7nm,0.3s,mb4.2
JOF Joensuu 64.19 331 *eP* **P** **08 33 52.1 -0.5**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
DZM Mont Dzumac 65.11 153 P **P** **08 34 00.1 +1.4**
comp=Z,18nm,1.1s,mb5.0,baz=330,slow=8.4,SNR=3.7
OBN Obninsk 66.28 322 *i P* **P** **08 34 05.2 -1.0**
OBN *e*S S 08 42 52.1 -3.3
OBN *e*SS SS 08 47 05.8 -5.7
OBN pmax pmax
comp=Z,52nm,2.0s,mb5.2
KAF Kangasniemi 66.54 332 *ep* **P** **08 34 05.8 -2.0**
comp=Z,0.8nm,0.4s,mb4.1,baz=49,slow=6.1
KAF Kangasniemi 66.54 332 *eP* **P** **08 34 05.8 -2.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 67.04 331 P **P** **08 34 10.5 -0.5**
comp=Z,10nm,0.8s,mb4.9,baz=56,slow=6.9,SNR=35
FINES FINESS Array B 67.04 331 P **P** **08 34 10.5 -0.5**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 67.04 331 P **P** **08 34 10.5 -0.5**
VRSR Storozhevoye 67.10 318 *eP* **P** **08 34 10.8 -0.6**
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,1.0s
GOF Gofitskoye 68.30 311 *eP* **P** **08 34 19.3 +0.3**
GOF pmax pmax
comp=Z,61nm,1.0s,mb5.6
VSU Vasula 68.66 329 *i P* **P** **08 34 21.3 0.0**
ZEI Tsey 69.02 308 *eP* **P** **08 34 22.4 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SUMG Summit 69.31 359 *eP* **P** **08 34 25.7 +0.5**
comp=Z,143nm,1.9s,mb5.6
WBK Wadi Bani Khal 69.46 283 P **P** **08 34 28.1 +1.9**
SNR=5.3
SMDO Samad 69.92 284 ⇑P **P** **08 34 26.1 -2.9**
STKA Stephens Creek 69.94 178 *eP* **P** **08 34 27.4 -1.8**
comp=Z,3.5nm,0.7s,mb4.4
STKA Stephens Creek 69.94 178 P **P** **08 34 27.5 -1.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=339,slow=9.0,SNR=10
STKA Stephens Creek 69.94 178 P **P** **08 34 27.5 -1.7**
NEW Newport 69.97 44 *eP* **P** **08 34 30.1 +0.8**
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 69.97 44 *eP* **P** **08 34 30.1 +0.7**
comp=Z,13nm,1.1s,mb4.8
HOQ Hoqain 70.19 285 P **P** **08 34 31.5 +0.8**
SNR=6.9
JMDO Jabal Madar 70.26 283 ⇓P **P** **08 34 32.1 +0.9**
ASHO Ashiyiah 70.52 286 ⇑P **P** **08 34 33.7 +1.0**
SNR=7.1
ARQ Araqi 70.92 285 P **P** **08 34 36.6 +1.4**
SNR=11
ANN Anapa 71.72 313 *eP* **P** **08 34 30.5 -9.5**
ANN pmax pmax
comp=Z,34nm,1.1s,mb5.2
NB2 NORSAR Subarra 72.46 337 P **P** **08 34 43.8 -0.6**
comp=Z,7.0nm,0.6s,mb4.8,baz=40,slow=6.2
NOA NORSAR Array B 72.46 337 P **P** **08 34 44.0 -0.4**
comp=Z,9.0nm,0.8s,mb4.7,baz=40,slow=6.0,SNR=23
NOA NORSAR Array B 72.46 337 P **P** **08 34 44.0 -0.4**
NOA pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 72.48 321 P **P** **08 34 44.0 -0.6**
comp=Z,15nm,0.6s,mb5.1,baz=47,slow=5.9,SNR=53
AKASG Malin Array Be 72.48 321 P **P** **08 34 44.0 -0.6**
AKASG pmax pmax
comp=Z,15nm,0.6s
WVOR Wild Horse Val 72.51 50 *eP* **P** **08 34 46.4 +1.7**
WVOR pmax pmax
comp=Z,28nm,1.7s,mb4.9
WVOR Wild Horse Val 72.51 50 *eP* **P** **08 34 46.4 +1.7**
comp=Z,28nm,1.7s,mb4.9
CMB Columbia Colle 74.03 54 *eP* **P** **08 34 55.1 +1.4**
CMB pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CMB Columbia Colle 74.03 54 *eP* **P** **08 34 55.1 +1.4**
comp=Z,7.1nm,1.2s,mb4.5
HLID Haley 74.30 47 *eP* **P** **08 34 56.8 +1.5**
comp=Z,5.7nm,1.1s,mb4.4
MALT Malatya 74.99 307 *eP* **P** **08 35 00.1 +0.8**
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MALT Malatya 74.99 307 *eP* **P** **08 35 00.1 +0.8**
comp=Z,7.3nm,0.9s,mb4.6
NVAR Mina Array Bea 75.11 53 P **P** **08 35 02.0 +2.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=293,slow=4.4,SNR=26
ELK Elko 75.56 49 *eP* **P** **08 35 04.2 +1.6**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 75.56 49 *eP* **P** **08 35 04.2 +1.6**
comp=Z,3.0nm,0.9s,mb4.2
KWP Kalwaria 76.32 323 *eP* **P** **08 35 07.5 +0.6**
KWP Kalwaria 76.32 323 *eP* **P** **08 35 07.3 +0.4**
comp=Z,44nm,1.1s,mb5.3
BURAR Bucovina Array 76.49 321 ⇑P **P** **08 35 08.0 +0.1**
BURAR Bucovina Array 76.49 321 ⇑P **P** **08 35 08.0 +0.1**
CFR Carcaliu 76.63 318 ⇓P **P** **08 35 08.5 -0.1**
CFR Carcaliu 76.63 318 ⇓P **P** **08 35 08.5 -0.1**
VRI Vrincioaia 76.91 319 ⇓P **P** **08 35 10.4 +0.2**
VRI Vrincioaia 76.91 319 ⇓P **P** **08 35 10.4 +0.2**
KOLS Kolonicke sedl 77.01 323 *eP* **P** **08 35 10.8 0.0**
BRTR Keskin Array B 77.05 311 P **P** **08 35 11.5 +0.5**
comp=Z,4.7nm,0.7s,mb4.5,baz=101,slow=4.2,SNR=25
BRTR Keskin Array B 77.05 311 P **P** **08 35 11.5 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 77.15 324 *eP* **P** **08 35 12.2 +0.6**
HWUT Hardware Ranch 77.17 47 *eP* **P** **08 35 13.2 +1.5**
comp=Z,21nm,1.6s,mb4.8
OJC Ojcow 77.23 325 *eP* **P** **08 35 11.5 -0.5**
DUG Dugway 77.35 49 *eP* **P** **08 35 14.3 +1.6**
DUG pmax pmax
comp=Z,21nm,1.5s,mb4.8
DUG Dugway 77.35 49 *eP* **P** **08 35 14.3 +1.6**
comp=Z,21nm,1.5s,mb4.8
CRVS Cervenica-Dubn 77.41 324 *eP* **P** **08 35 16.5 +3.5**
BW06 Boulder Array 77.54 45 *eP* **P** **08 35 14.6 +0.8**
comp=Z,4.1nm,0.8s,mb4.4
PDAR Pinedale Array 77.54 45 P **P** **08 35 14.6 +0.8**
comp=Z,3.1nm,0.7s,mb4.3,baz=267,slow=2.1,SNR=27
MLR Muntele Rosu 77.57 319 ⇓P **P** **08 35 14.5 +0.8**
MLR Muntele Rosu 77.57 319 ⇓P **P** **08 35 14.5 +0.6**
NIE Niedzica 77.58 324 *eP* **P** **08 35 15.0 +1.0**
OKC Ostrava-Krasne 78.25 326 *eP* **P** **08 35 16.5 -1.2**
BSEG Bad Segeberg 78.29 332 *eP* **P** **08 35 17.9 0.0**
comp=Z,7.0nm,1.0s,mb4.5
KSP Ksiaz 78.31 327 *eP* **P** **08 35 18.6 +0.6**
KSP Ksiaz 78.31 327 *eP* **P** **08 35 17.9 -0.1**
MORC Moravsky Berou 78.56 326 *eP* **P** **08 35 19.8 +0.4**
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.7
MORC Moravsky Berou 78.56 326 *eP* **P** **08 35 19.8 +0.4**
comp=Z,12nm,1.1s,mb4.7
DPC Dobruska-Polom 78.66 327 *eP* **P** **08 35 20.7 +0.7**
UPC Upice 78.67 327 *eP* **P** **08 35 20.2 +0.1**
PSZ Piszkesteto 78.85 324 *eP* **P** **08 35 20.8 -0.2**
PSZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PSZ Piszkesteto 78.85 324 *eP* **P** **08 35 20.8 -0.2**
comp=Z,9.9nm,0.9s,mb4.7
VYHS Vyhne 78.92 325 *eP* **P** **08 35 20.9 -0.5**
ULM Lac du Bonnet 79.00 33 P **P** **08 35 21.2 -0.6**
comp=Z,6.2nm,0.7s,mb4.7,baz=312,slow=6.9,SNR=18
BRG Berggiesshubel 79.26 329 *eP* **P** **08 35 22.5 -0.8**
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 79.26 329 *eP* **P** **08 35 22.9 -0.3**
comp=Z,3.8nm,0.9s,mb4.3
BRG Berggiesshubel 79.26 329 *eP* **P** **08 35 22.9 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
PVCC Panska Ves 79.27 328 *eP* **P** **08 35 23.6 +0.3**
CLL Collm 79.31 329 *eP* **P** **08 35 22.8 -0.7**
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 79.31 329 ⇑*iP* **P** **08 35 23.0 -0.5**
comp=Z,17nm,1.1s,mb4.9
CLL *i* x x 08 35 27.1
CLL Collm 79.31 329 ⇑*iP* **P** **08 35 23.0 -0.5**
CLL *i* pP 08 35 27.1 -0.4
CLL pmax pmax
comp=Z,17nm,1.1s,mb4.9
BZS Buzias 79.67 321 ⇓P **P** **08 35 25.6 +0.1**
BZS Buzias 79.67 321 ⇓P **P** **08 35 25.6 +0.1**
PRU Pruhonice 79.69 328 *eP* **P** **08 35 25.9 +0.3**
PRU *ex* x 08 35 28.9
CLZ Clausthal 79.92 331 *eP* **P** **08 35 26.8 -0.1**
comp=Z,14nm,1.2s,mb4.8
CLZ Clausthal 79.92 331 *eP* **P** **08 35 26.8 -0.1**
CLZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
WERD Werda 80.25 329 *eP* **P** **08 35 28.2 -0.5**
comp=Z,2.0nm,1.0s,mb4.0
NKC Novy Kostel 80.36 329 *eP* **P** **08 35 29.3 0.0**
MOX Moxa 80.38 330 *eP* **P** **08 35 29.1 -0.2**
comp=Z,10.0nm,1.5s,mb4.5
KHC Kasperske Hory 80.75 328 *eP* **P** **08 35 31.3 0.0**
KHC *ex* x 08 35 34.4
ROTZ Rotzenmuhle 80.82 329 *eP* **P** **08 35 31.9 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
GEC2 GERESS Array S 80.91 327 *eP* **P** **08 35 31.6 -0.6**
comp=Z,5.0nm,0.7s,mb4.5
GEC2 GERESS Array S 80.91 327 *eP* **P** **08 35 31.6 -0.6**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GERES GERESS Array B 80.91 327 P **P** **08 35 32.0 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=39,slow=5.2,SNR=25
GERES GERESS Array B 80.91 327 P **P** **08 35 32.0 -0.2**
GERES pmax pmax
comp=Z,3.0nm,0.6s
WET Wettzell 81.03 328 *eP* **P** **08 35 33.1 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
WET Wettzell 81.03 328 *eP* **P** **08 35 33.1 +0.3**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRA1 Grafenberg Arr 81.28 329 *eP* **P** **08 35 34.6 +0.4**
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 81.28 329 *eP* **P** **08 35 34.6 +0.4**
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 81.28 329 *eP* **P** **08 35 34.6 +0.4**
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 81.28 329 *eP* **P** **08 35 34.6 +0.4**
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
ISCO Idaho Springs 81.74 45 *eP* **P** **08 35 37.6 +1.1**
comp=Z,40nm,2.0s,mb5.0
GROS Grobnik 81.94 325 *eP* **P** **08 35 37.4 -0.2**
TNS Taunus Mts 81.95 331 *eP* **P** **08 35 37.4 -0.3**
comp=Z,3.0nm,0.7s,mb4.3
TNS Taunus Mts 81.95 331 *eP* **P** **08 35 37.4 -0.3**
TNS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PERS Pernice 81.98 325 *eP* **P** **08 35 38.1 +0.3**
GOLS Golise 82.23 324 *eP* **P** **08 35 38.8 -0.3**
FUR Furstenfeldbru 82.46 328 *eP* **P** **08 35 41.0 +0.6**
VISS Visnje 82.74 325 *i P* **P** **08 35 41.4 -0.4**
STU Stuttgart 82.82 330 *eP* **P** **08 35 42.5 +0.3**
SDCO Great Sand Dun 83.22 47 *eP* **P** **08 35 46.0 +1.7**
comp=Z,1.9nm,0.7s,mb4.2
BFO Black Forest 83.52 330 *eP* **P** **08 35 45.4 -0.5**
comp=Z,12nm,1.2s,mb4.9
BFO Black Forest 83.52 330 *eP* **P** **08 35 45.4 -0.5**
BFO pmax pmax
comp=Z,12nm,1.2s,mb4.9
CDF Champ du Feu 83.87 330 *eP* **P** **08 35 47.6 0.0**
comp=Z,25nm,0.9s,mb5.0
SCHQ Schefferville 84.33 15 P **P** **08 35 49.2 -0.8**
comp=Z,3.4nm,0.7s,mb4.6,baz=309,slow=4.2,SNR=6.8
HINF Hinteralfeld 84.52 330 *eP* **P** **08 35 50.2 -0.7**
ANMO Albuquerque 84.60 49 *eP* **P** **08 35 52.9 +1.6**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 84.60 49 *eP* **P** **08 35 52.9 +1.6**
comp=Z,5.6nm,1.0s,mb4.7
CABF La Chapelle 85.80 330 *eP* **P** **08 35 56.9 -0.5**
comp=Z,14nm,0.9s,mb4.9
LOR Lormes 86.11 332 *eP* **P** **08 35 58.3 -0.6**
comp=Z,27nm,0.9s,mb5.2
FLN La Foliniere 86.36 335 *eP* **P** **08 35 59.6 -0.6**
LDF La Druitiere 86.39 335 *eP* **P** **08 35 59.6 -0.7**
comp=Z,13nm,0.6s,mb5.0
SSF Saint Saulge 86.41 332 *eP* **P** **08 35 59.7 -0.7**
comp=Z,24nm,0.9s,mb5.1
LPL La Plagne 86.45 329 *eP* **P** **08 36 00.2 -0.3**
comp=Z,14nm,0.8s,mb5.0
LPG La Plagne 86.45 329 *eP* **P** **08 36 00.4 -0.2**
comp=Z,19nm,0.9s,mb5.0
SMF Signal de Mont 86.64 331 *eP* **P** **08 36 00.6 -0.9**
AVF Avril sur Loir 86.70 332 *eP* **P** **08 36 01.3 -0.5**
comp=Z,44nm,0.8s,mb5.4
MBDF Montbardon 87.08 329 *eP* **P** **08 36 02.9 -0.7**
BGF Bois d'Agland 87.08 332 *eP* **P** **08 36 06.3 +2.6**
ORIF Oris-en-Rattie 87.28 329 *eP* **P** **08 36 04.5 -0.1**
comp=Z,8.9nm,0.8s,mb4.8
SGMF Saint Gilles 87.48 336 *eP* **P** **08 36 05.1 -0.5**
TCF Toulx Ste Croi 87.55 332 *eP* **P** **08 36 05.6 -0.3**
comp=Z,31nm,1.2s,mb5.1
ROSF Rostrenen 87.64 336 *eP* **P** **08 36 05.7 -0.7**
VIVF Saint-Julien-l 87.81 330 *eP* **P** **08 36 06.4 -0.8**
comp=Z,8.3nm,0.6s,mb4.8
PGF Pioggiola 87.90 326 *eP* **P** **08 36 07.9 +0.3**
comp=Z,38nm,1.3s,mb5.2
MFF Saint Martin d 88.12 334 *eP* **P** **08 36 08.6 0.0**
comp=Z,27nm,1.0s,mb5.1
LMR La Mourre 88.33 328 *eP* **P** **08 36 08.9 -0.7**
RJF Les Rejaudoux 88.64 332 *eP* **P** **08 36 11.0 -0.1**
comp=Z,9.6nm,0.9s,mb4.8
CAF Calviac 88.76 332 *eP* **P** **08 36 11.9 +0.3**
LASF Ste Croix 88.78 330 *eP* **P** **08 36 12.3 +0.5**
comp=Z,139nm,1.8s,mb5.7
JCT Junction City 91.71 48 *eP* **P** **08 36 26.2 +0.8**
JCT pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
JCT Junction City 91.71 48 *eP* **P** **08 36 26.2 +0.8**
comp=Z,6.7nm,0.8s,mb5.0
TORD Torodi Ar. Bea 115.52 314 PKP PKPdf 08 41 59.6 -0.4
comp=Z,0.5nm,0.5s,baz=55,slow=1.2,SNR=6.5
TORD PP PP 08 42 52.4 -9.3
comp=Z,0.8nm,0.8s,baz=39,slow=9.5,SNR=4.7
DBIC Dimbokro 124.47 316 PKP PKPdf 08 42 17.3 +0.1
comp=Z,3.1nm,0.8s,baz=126,slow=2.5,SNR=8.1
DBIC Dimbokro 124.47 316 PKIKP PKPdf 08 42 17.3 +0.2
DBIC pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 125.66 260 PKP PKPdf 08 42 19.6 +0.2
comp=Z,2.4nm,0.9s,baz=45,slow=2.9,SNR=3.0
BOSA Boshof 125.66 260 PKIKP PKPdf 08 42 19.6 +0.2
BOSA pmax pmax

comp=Z,2.0nm,0.9s
LPAZ La Paz 146.97 56 PKPbc PKPbc 08 43 00.7 +0.2
comp=Z,4.8nm,0.6s,baz=10,slow=6.5,SNR=20
LPAZ La Paz 146.97 56 PKP2 PKPab 08 43 00.7 -1.3
LPAZ pmax pmax
comp=Z,5.0nm,0.6s
LVC Limon Verde 150.75 66 *e*PKPbc PKPbc 08 43 12.0 +1.8

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*ISCJB **13** 08:27:09.5±1.4, 353N±0.1×713E±0.2, h10km, Error ellipse: s-maj=30.8km s-min=7.0km az=113.4*
*NNC **13** 08:27:13.6±3.7, 3544N×7078E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=64.2km s-min=22.3km az=106.0*

ISC 13 08:27:10.7±1.5, 352N±01×711E±02, h10km, n5, σ0±55/8, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**4.72**	**124**	*e*P	**Pn**	**08 28 22.2**	**+0.3**
THN				*e*S	**Sn**	**08 29 17.0**	**+0.4**
SMLA	**Simla**	**6.49**	**127**	*e*P	**Pn**	**08 28 45.5**	**-0.8**
SMLA				*e*S	**Sn**	**08 29 56.1**	**-4.3**
KK31	**Karatay Array**	**7.91**	**357**	⇑P	**Pn**	**08 29 06.2**	**+0.5**
	1.6nm,0.4s,baz=184,slow=12,SNR=30						
KK31				⇓S	**Sn**	**08 30 35.0**	**-0.3**
	1.3nm,0.6s,baz=181,slow=22,SNR=5.2						
AB31	**Akbulak array**	**16.28**	**333**	P	**Pn**	**08 30 59.9**	**+0.5**
	0.3nm,0.4s,baz=161,slow=12,SNR=16						
AKTO	**Aktyubinsk**	**17.97**	**332**	⇑P	**Pn**	**08 31 20.1**	**-0.4**
	0.6nm,1.2s						

IDC 13 08:33:29.2±4.5, 704S×15526E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.6/14, mbtmp3.4/4, Error ellipse: s-maj=133.3km s-min=29.7km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**236**	P	P	08 38 45.4	-0.2
	1.3nm,1.0s,baz=60,slow=9.4,SNR=4.9						
ASAR	**Alice Springs**	**26.34**	**229**	P	P	08 39 07.6	+0.7
	0.5nm,0.9s,baz=63,slow=8.3,SNR=4.0						
SONM	**Songino Array**	**69.52**	**327**	P	P	08 44 40.5	+0.8
	0.5nm,0.8s,baz=117,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**83.61**	**319**	P	P	08 45 59.1	-0.3
	0.2nm,0.7s,baz=117,slow=3.2,SNR=2.5						

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*IDC **13** 09:05:45.7±6.4, 4656N×15098E, h85km±58km, mb3.5/11, mb1 3.8/12, mb1mx3.6/21, mbtmp3.9/12, ML3.7/1, Error ellipse: s-maj=22.0km s-min=15.6km az=122.0*
*JMA **13** 09:05:45.4±0.8, 4647N×15152E, h30km, M4.6*
*MOS **13** 09:05:48.4±1.9, 4641N×15121E, h136km, mb3.7/8, Error ellipse: s-maj=19.7km s-min=13.7km az=55.2*
*ISCJB **13** 09:05:50.4±1.0, 4609N±009×151.1E±0.1, h165km±10km, mb3.6/12, Error ellipse: s-maj=18.3km s-min=9.4km az=87.2*

ISC 13 09:05:51.7±1.1, 4603N±009×1511E±01, h168km±12km, n46, σ1°33/58, mb3.6/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.39**	**252**	*e*PN	**Pn**	**09 06 29.0**	**-3.5**
KUR				*e*S	**Sn**	**09 07 03.2**	**-0.8**
KUR				pmax	pmax		
	comp=Z,120nm,0.5s						
KUR				smax			
	comp=N,170nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.21**	**244**	*e*PN	**Pn**	**09 06 55.3**	**+0.2**
YUK				*e*S	**Sn**	**09 07 48.5**	**+4.0**
YUK				pmax	pmax		
	comp=Z,430nm,0.2s						
YUK				smax			
	comp=N,320nm,0.4s						
YUK				smax			
	comp=E,250nm,0.4s						
NEM2	**Nemuro 2**	**4.65**	**237**	P	**Pn**	**09 06 59.9**	**-0.9**
NEM2				*e*S	**Sn**	**09 07 54.3**	**-0.5**
JRA	**Rausu**	**4.72**	**246**	P	**Pn**	**09 07 02.4**	**+0.7**
JNK	**Nakash**	**5.14**	**244**	P	**Pn**	**09 07 07.9**	**+0.6**
JNK				*e*S	**Sn**	**09 08 09.5**	**+3.0**
JAK	**Akkeshi**	**5.48**	**239**	P	**Pn**	**09 07 10.9**	**-0.8**
JAK				*e*S	**Sn**	**09 08 13.7**	**-0.7**
JTKR	**Abashiri--Toko**	**5.49**	**251**	P	**Pn**	**09 07 13.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.82**	**282**	*e*PN	**Pn**	**09 07 15.0**	**-1.2**
JAR	**Ashorobuto**	**5.89**	**245**	P	**Pn**	**09 07 18.1**	**+1.0**
JAR				*e*S	**Sn**	**09 08 26.8**	**+2.7**
JOB	**Onbets**	**6.05**	**241**	P	**Pn**	**09 07 19.3**	**0.0**
JOB				*e*S	**Sn**	**09 08 28.8**	**+0.8**
JKK2	**Kamakawa 2**	**6.29**	**253**	P	**Pn**	**09 07 24.4**	**+2.0**
ASAJ	**Asahikawa**	**6.31**	**255**	P	**Pn**	**09 07 25.0**	**+2.4**
	comp=E,0.6nm,0.3s,baz=287,slow=33,SNR=6.1						
ASAJ	**Asahikawa**	**6.31**	**255**	PN	**Pn**	**09 07 25.0**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**6.50**	**241**	P	**Pn**	**09 07 24.8**	**-0.4**
JCH				*e*S	**Sn**	**09 08 38.1**	**-0.6**
JEM	**Erimo**	**6.98**	**238**	P	**Pn**	**09 07 32.7**	**+1.2**
JEM				*e*S	**Sn**	**09 08 52.0**	**+1.9**
JBT2	**Biratori 2**	**7.04**	**246**	P	**Pn**	**09 07 33.0**	**+0.7**
JNBK	**Urakawa-nobuka**	**7.07**	**241**	P	**Pn**	**09 07 31.5**	**-1.1**
JNBK				*e*S	**Sn**	**09 08 51.3**	**-0.8**
JNB	**Noboribetsu**	**8.04**	**247**	P	**Pn**	**09 07 46.3**	**+0.8**
JKB	**Kayabe**	**8.35**	**244**	P	**Pn**	**09 07 48.8**	**-0.8**
JKB				*e*S	**Sn**	**09 09 20.3**	**-2.5**
JYM2	**Yakumo 2**	**8.65**	**247**	P	**Pn**	**09 07 54.0**	**+0.5**
JTM	**Tenmabayashi**	**8.97**	**238**	P	**Pn**	**09 07 56.7**	**-1.2**
JANG	**Nango**	**8.98**	**234**	P	**Pn**	**09 07 56.2**	**-1.8**
OFUJ	**Ofunato**	**9.82**	**228**	P	**Pn**	**09 08 08.3**	**-0.7**
OFUJ				*e*S	**Sn**	**09 09 55.5**	**-2.5**
JRG	**Rokugo**	**10.15**	**233**	P	**Pn**	**09 08 12.7**	**-0.6**
JIO	**Ouri**	**10.45**	**227**	P	**Pn**	**09 08 16.4**	**-0.9**
MJAR	**Matsushiro Arr**	**13.53**	**230**	P	**Pn**	**09 08 58.7**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=5.8						
YAK	**Yakutsk**	**20.20**	**330**	*e*P	**P**	**09 10 14.1**	**+0.6**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
BILL	**Bilibino**	**23.42**	**14**	*e*P	**P**	**09 10 55.7**	**+10**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
ILAR	**Eielson Array**	**37.98**	**38**	P	**P**	**09 12 51.3**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.3,baz=266,slow=6.8,SNR=8.4						
ILAR	**Eielson Array**	**37.98**	**38**	P	**P**	**09 12 51.3**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.02**	**297**	P	**P**	**09 13 58.8**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=61,slow=6.4,SNR=27						
MKAR				PcP	PcP	09 15 34.4	+2.4
	comp=Z,0.3nm,0.4s,baz=62,slow=5.5,SNR=5.5						
MKAR	**Makanchi Array**	**46.02**	**297**	P	**P**	**09 13 58.8**	**+0.5**
MKAR						09 15 34.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**52.34**	**36**	P	**P**	**09 14 45.7**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=298,slow=7.1,SNR=12						
YKA	**Yellowknife Ar**	**52.34**	**36**	P	**P**	**09 14 45.7**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**58.06**	**340**	P	**P**	**09 15 27.1**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.1,baz=40,slow=7.0,SNR=3.3						
ARCES	**ARCESS Array B**	**58.06**	**340**	P	**P**	**09 15 27.1**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**64.01**	**61**	P	**P**	**09 16 09.4**	**+2.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=300,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**64.08**	**334**	P	**P**	**09 16 05.5**	**-2.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=38,slow=7.0,SNR=15						
FINES	**FINESS Array B**	**64.08**	**334**	P	**P**	**09 16 05.5**	**-2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**66.30**	**53**	P	**P**	**09 16 23.8**	**+1.8**
	comp=Z,0.6nm,0.6s,mb3.6,baz=11,slow=1.3,SNR=7.0						
WRA	**Warramunga Arr**	**67.39**	**197**	P	**P**	**09 16 33.1**	**+4.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=15,slow=6.8,SNR=8.5						
NOA	**NORSAR Array B**	**68.44**	**340**	P	**P**	**09 16 33.4**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=30,slow=6.5,SNR=3.7						
NOA	**NORSAR Array B**	**68.44**	**340**	P	**P**	**09 16 33.4**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**71.10**	**197**	P	**P**	**09 16 59.0**	**+7.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=13,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**71.10**	**197**	P	**P**	**09 16 59.1**	**+7.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**74.51**	**22**	P	**P**	**09 17 12.0**	**+0.3**
	comp=Z,2.5nm,0.7s,mb3.9,baz=315,slow=7.1,SNR=14						

WEL 13 09:30:25.9±0.6, 4560S×16638E, h5km, ML3.5/7.1, D, Error ellipse: s-maj=4.7km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.56**	**78**	PG	Pg	09 30 37.4	+0.8
DCZ				SG	Sg	09 30 44.8	+0.9
WHZ	**Wether Hill Ro**	**1.14**	**106**	P*	Pb	09 30 46.9	-1.2
WHZ				S*	Sb	09 31 02.2	-0.9
MLZ	**Mavora Lakes**	**1.29**	**79**	⇓P*	Pb	09 30 49.0	-1.6
MLZ				S*	Sb	09 31 05.6	-1.8
MSZ	**Milford Sound**	**1.43**	**50**	PN	Pn	09 30 51.2	-1.3
WKZ	**Wanaka**	**2.02**	**68**	*e*PN	Pn	09 31 01.0	+0.4
WKZ				SN	Sn	09 31 26.2	0.0
EAZ	**Earnscleugh**	**2.09**	**81**	PN	Pn	09 31 02.2	+0.5
JCZ	**Jackson Bay**	**2.28**	**49**	*e*PN	Pn	09 31 04.1	0.0
TUZ	**Tuapeka**	**2.30**	**100**	PN	Pn	09 31 04.4	-0.1
TUZ				SN	Sn	09 31 33.4	+0.2
LBZ	**Lake Benmore**	**2.96**	**67**	*e*PN	Pn	09 31 13.1	-0.4
ODZ	**Otahua Downs**	**3.06**	**81**	PN	Pn	09 31 14.2	-0.7
FOZ	**Fox Glacier**	**3.12**	**50**	*e*PN	Pn	09 31 15.7	0.0
RPZ	**Rata Peaks**	**3.83**	**62**	*e*PN	Pn	09 31 24.2	-1.2

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*NAO **13** 09:32:00.6, 249N×9840E, h33km, mb5.0*
*SZGRF **13** 09:32:00.4, 210N×9721E, h24km, mb4.9, Northern Sumatera, Indonesia*
*IDC **13** 09:32:04.6±0.6, 284N×9540E, h0km, mb4.5/17, mb1 4.5/18, mb1mx4.5/22, mbtmp4.4/18, ML4.3/1, MS4.7/15, Ms1 4.7/15, ms1mx4.4/24, Error ellipse: s-maj=18.0km s-min=14.3km az=33.0*
*ISCJB **13** 09:32:06.7±0.2, 287N±004×9546E±003, h25km, mb5.0/98, MS5.0/83, Error ellipse: s-maj=5.5km s-min=4.2km az=67.0*
*BJI **13** 09:32:07.1, 269N×9535E, h29km, mB5.3, mb5.3, Ms5.2, Msz5.1*
*MOS **13** 09:32:08.1±1.0, 293N×9550E, h33km, mb5.4/35, MS5.0/12, Error ellipse: s-maj=9.9km s-min=5.9km az=111.5*
*HRVD **13** 09:32:08.6±0.5, 238N×95.19E, h43km±1km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s49,c73;Mantle waves: s60,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.64±.28; $M_{\theta\theta}$-2.45±.19; $M_{\phi\phi}$-0.19±.24; $M_{r\theta}$1.84±.21; $M_{\theta\phi}$3.37±.17; $M_{\phi r}$-1.62±.25; Best double couple: $M_0$4.50300×10^{16} NP1:ϕ_s291.00000°, δ30.00000°, λ69.00000°. NP2: ϕ_s135.00000°, δ62.00000°, λ102.00000°. Principal axes: T 3.4080, Plg70.0000°, Azm70.0000°; N 2.1870, Plg10.0000°, Azm309.0000°; P -5.5990, Plg17.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 09:32:08.6±0.2, 286N×9545E, mb5.2/34, MS4.9/50 Error ellipse: s-maj=6.8km s-min=4.9km az=35.0*
NEIC Felt [IV] at Sinabang.

ISC 13 09:32:09.1±0.2, 290N±004×9544E±003, h26km, h26km±.6km: pP-P, n258, σ1°09/222, mb5.0/98, MS5.0/83, 20C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.59**	**357**	P	**Pn**	**09 32 46.8**	**-2.5**
	682nm,0.8s						
PSI	**Prapat**	**3.48**	**91**	Pn	**Pn**	**09 33 02.5**	**+1.0**
	29nm,0.3s,baz=286,slow=6.3,SNR=152						
PSI				LR	LR	09 34 07.7	
	comp=Z,3μm,19.5s,baz=267,slow=35						
KULM	**Kulim**	**5.72**	**65**	⇑*i*P	**Pn**	**09 33 32.9**	**+0.6**
IPM	**Ipoh**	**5.79**	**74**	P	**Pn**	**09 33 34.0**	**+0.7**
PPI	**Padang Panjang**	**5.97**	**124**	P	**Pn**	**09 33 35.6**	**-0.2**
	230nm,1.4s						
KGM	**Kluang**	**7.92**	**96**	P	**Pn**	**09 34 03.8**	**+1.2**
KSM	**Kuching**	**14.93**	**95**	*e*P	**Pn**	**09 35 44.8**	**+6.4**
KKTK	**Khon Kaen**	**15.20**	**28**	PG	**Pn**	**09 35 47.0**	**+5.0**
PALK	**Pallekele**	**15.30**	**287**	*e*P	**Pn**	**09 35 50.2**	**+6.9**
	52nm,1.0s						
VIS	**Vishakhapatnam**	**18.93**	**322**	*e*P	**Pn**	**09 36 27.2**	**-1.4**
VIS				AMb	AMB	09 36 55.5	
	comp=Z,132nm,1.3s						
VIS				*e*S	**Sn**	**09 40 00.5**	**+0.8**
TRD	**Trivandrum**	**19.21**	**288**	*e*P	**Pn**	**09 36 29.5**	**-2.6**
CAL	**Calcutta**	**20.71**	**341**	*e*P	**P**	**09 36 49.2**	**+1.8**
CAL				*e*S	**S**	**09 40 43.0**	**+5.7**
KKM	**Kota Kinabalu**	**20.95**	**81**	P	**P**	**09 36 50.5**	**+0.6**
KKM	**Kota Kinabalu**	**20.95**	**81**	*e*P	**P**	**09 36 50.6**	**+0.7**
QIZ	**Qiongzhong**	**21.35**	**40**	P	**P**	**09 36 54.0**	**-0.2**
QIZ				AP		09 37 00.4	
QIZ				XP	sP	09 37 04.9	+0.2
QIZ				PP		09 37 18.3	
QIZ				S	**S**	**09 40 45.1**	**-4.8**
QIZ				XS	sS	09 40 57.4	-3.9
QIZ				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.6						
QIZ				LR	LR		
	comp=N,4μm,15.8s						
QIZ				LR	LR		
	comp=Z,4μm,17.0s,MS4.9						
QIZ	**Qiongzhong**	**21.35**	**40**	*e*P	**P**	**09 36 53.9**	**-0.3**
	comp=Z,85nm,1.4s,mb4.9						
QIZ				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
HYB	**Hyderabad**	**21.97**	**312**	*i*P	**P**	**09 37 02.0**	**+1.0**
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e*S	**S**	**09 41 05.0**	**+2.8**
TSM	**Tawau**	**22.43**	**86**	P	**P**	**09 37 06.2**	**+0.4**
MNGI	**Mangalore**	**22.70**	**297**	*ex*	x	09 37 17.3	
MNGI				*e*S	**S**	**09 41 20.6**	**+4.7**
BOK	**Bokaro**	**22.74**	**337**	⇓*i*P	**P**	**09 37 06.8**	**-2.3**
BOK				*e*P		09 37 07.1	
BOK				AMb	AMB	09 37 23.1	
	comp=Z,111nm,0.9s,mb5.3						
BOK				*e*S	**S**	**09 41 15.0**	**-1.4**
SHL	**Shillong**	**22.80**	**352**	*e*P	**P**	**09 37 06.0**	**-3.7**
SHL				*e*S	**S**	**09 41 17.0**	**-0.4**
BLSP	**Bilaspur**	**23.07**	**327**	*e*P	**P**	**09 37 12.3**	**-0.3**
BLSP				AMb	AMB	09 37 23.6	
	comp=Z,120nm,1.2s,mb5.2						
BLSP				*e*S	**S**	**09 41 21.1**	**-0.8**
KMI	**Kunming**	**23.19**	**17**	P	**P**	**09 37 15.1**	**+1.2**
KMI				AP		09 37 21.3	
KMI				XP	sP	09 37 23.9	-0.5
KMI				PP		09 37 46.4	
KMI				PPP		09 37 56.6	
KMI				S	**S**	**09 41 22.3**	**-1.5**
KMI				XS	sS	09 41 32.9	-3.5
KMI				SS		09 42 09.0	
KMI				SSS		09 42 24.4	
KMI				AMB	AMB		
	comp=Z,41nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,748nm,5.2s						
KMI				LR	LR		
	comp=N,6μm,14.1s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,14.6s,MS5.2						
KMI				LR	LR		
	comp=Z,7μm,14.3s,MS5.2						
NGP	**Nagpur**	**24.16**	**320**	*e*P	**P**	**09 37 22.1**	**-1.0**
NGP				AMb	AMB	09 37 34.8	
	comp=Z,85nm,1.8s,mb4.9						
DGAR	**Diego Garcia**	**25.12**	**246**	PFAKE		09 37 40.0	+8.2
DGAR				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
KAD	**Karad**	**25.31**	**306**	*e*P	**P**	**09 37 30.2**	**-3.3**
KAD				AMb	AMB	09 37 46.9	
	comp=Z,74nm,1.7s,mb4.9						
GYA	**Guiyang**	**25.79**	**24**	⇑*i*P	**P**	**09 37 37.6**	**-0.2**
GYA				AP	pP	09 37 43.4	-2.1
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,280nm,5.4s						
GYA				LR	LR		
	comp=N,3μm,15.4s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,15.2s,MS5.0						
GYA				LR	LR		
	comp=Z,4μm,15.6s,MS5.0						
JIRN	**Jiri**	**26.16**	**341**	*e*P	**P**	**09 37 42.3**	**+1.0**
	comp=Z,178nm,0.9s,mb5.6						
PKI	**Pulchoki**	**26.34**	**340**	*e*P	**P**	**09 37 43.4**	**+0.5**
DMN	**Daman**	**26.48**	**339**	*e*P	**P**	**09 37 44.7**	**+0.5**
GUN	**Gumba**	**26.50**	**341**	*e*P	**P**	**09 37 45.3**	**+1.0**
	comp=Z,192nm,0.9s,mb5.6						
GZH	**Guangzhou**	**26.53**	**39**	P	**P**	**09 37 49.9**	**+5.3**
GZH				LR	LR		
	comp=N,3μm,17.0s,MS4.9						
GZH				LR	LR		
	comp=E,1μm,18.2s,MS4.9						
GZH				LR	LR		
	comp=Z,6μm,15.4s,MS5.3						
KKN	**Kakani**	**26.59**	**340**	*e*P	**P**	**09 37 46.7**	**+1.6**
	comp=Z,149nm,0.9s,mb5.5						
KKN	**Kakani**	**26.59**	**340**	*e*P	**P**	**09 37 46.7**	**+1.6**
KKN				pmax	pmax		
	comp=Z,75nm,0.9s,mb5.2						
BHPL	**Bhopal**	**26.71**	**321**	*e*P	**P**	**09 37 45.7**	**-0.5**
BHPL				AMb	AMB	09 37 59.7	
	comp=Z,57nm,1.5s,mb4.9						
BHPL				*e*S	**S**	**09 42 20.8**	**+0.7**
LSA	**Lhasa**	**26.97**	**352**	P	**P**	**09 37 49.6**	**+1.1**
LSA				AP	pP	09 38 03.4	+7.2
LSA				S	**S**	**09 42 21.3**	**-2.9**
LSA				XS	sS	09 42 43.3	+6.5
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
LSA				AMB	AMB		
	comp=Z,310nm,7.0s						
LSA				LR	LR		
	comp=N,910nm,22.0s,MS4.6						
LSA				LR	LR		
	comp=E,1μm,21.0s,MS4.6						
LSA				LR	LR		
	comp=Z,2μm,24.0s,MS4.6						
LSA	**Lhasa**	**26.97**	**352**	*e*P	**P**	**09 37 49.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.1						
LSA				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.6						
LSA	**Lhasa**	**26.97**	**352**	*e*P	**P**	**09 37 49.4**	**+0.9**
	comp=Z,48nm,0.7s,mb5.1						
LSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
GKN	**Gorkha**	**27.01**	**339**	*e*P	**P**	**09 37 49.5**	**+0.6**
	comp=Z,207nm,0.8s,mb5.7						
KOLN	**Koldanda**	**27.20**	**337**	*e*P	**P**	**09 37 51.2**	**+0.6**
	comp=Z,82nm,0.7s,mb5.4						
CD2	**Chengdu**	**28.95**	**15**	⇑*i*P	**P**	**09 38 05.6**	**-0.6**
CD2				AP	pP	09 38 12.8	-1.1
CD2				XP	sP	09 38 16.3	-0.8
CD2				PP	PP	09 39 00.4	-11
CD2				S	**S**	**09 42 55.3**	**-0.1**
CD2				XS	sS	09 43 07.4	-0.7
CD2				SS	SS	09 44 26.1	-32
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
CD2				AMB	AMB		
	comp=Z,150nm,7.0s						
CD2				LR	LR		
	comp=N,2μm,13.7s						
CD2				LR	LR		
	comp=E,2μm,15.6s,MS4.9						
ENH	**Enshi**	**30.30**	**25**	*e*P	**P**	**09 38 17.2**	**-1.0**
	comp=Z,13nm,0.6s,mb4.8						
ENH				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
QZH	**Quanzhou**	**31.27**	**43**	⇑*i*P	**P**	**09 38 27.3**	**+0.5**
QZH				S	**S**	**09 43 38.8**	**+6.9**
QZH				LR	LR		
	comp=N,860nm,11.2s,MS5.2						
QZH				LR	LR		
	comp=E,3μm,11.7s,MS5.2						
QZH				LR	LR		
	comp=Z,4μm,13.2s,MS5.2						
WHN	**Wuhan**	**32.81**	**31**	⇑P	**P**	**09 38 40.5**	**+0.3**
WHN				S	**S**	**09 43 58.0**	**+2.3**
WHN				AMB	AMB		
	comp=Z,146nm,1.5s,mb5.7						
WHN				LR	LR		
	comp=Z,10μm,13.9s,MS5.7						
SMLA	**Simla**	**32.95**	**330**	*e*P	**P**	**09 38 38.8**	**-2.7**
SMLA				AMb	AMB	09 38 56.6	
	comp=Z,51nm,0.5s,mb5.7						
TATO	**Taipei**	**33.34**	**46**	PFAKE		09 39 00.0	+15
TATO				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
MBWA	**Marble Bar**	**33.73**	**136**	*e*P	**P**	**09 38 48.2**	**0.0**
	comp=Z,25nm,1.2s,mb5.0						
MBWA				*e*pP	pP	09 38 56.2	+0.2
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
LZH	**Lanzhou**	**33.93**	**12**	⇑P	**P**	**09 38 49.0**	**-1.0**
LZH				AP	pP	09 38 56.5	-1.3
LZH				XP	sP	09 39 00.3	-0.6
LZH				PP	PP	09 40 04.3	-2.7
LZH				PCP	PcP	09 41 27.5	-0.5
LZH				*e*S	**S**	**09 44 12.3**	**-0.8**
LZH				SCP	ScP	09 45 08.5	-2.6
LZH				PCS	PcS	09 45 11.4	-2.7
LZH				SS	SS	09 46 19.6	-21
LZH				SCS	ScS	09 49 12.0	-0.9
LZH				AMB	AMB		
	comp=Z,65nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,187nm,7.5s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
SWI	**Sorong**	**36.00**	**95**	P	**P**	**09 39 06.9**	**-1.0**
	comp=Z,85nm,1.0s,mb5.6						
FITZ	**Fitzroy Crossi**	**36.34**	**126**	*e*P	**P**	**09 39 09.5**	**-1.3**
	comp=Z,14nm,0.7s,mb5.0						
NJ2	**Nanjing**	**36.41**	**35**	*e*P	**P**	**09 39 11.8**	**+0.4**
NJ2				AP	pP	09 39 19.1	-0.1
NJ2				XP	sP	09 39 22.4	0.0
NJ2				PP	PP	09 40 35.5	+1.1
NJ2				S	**S**	**09 44 54.0**	**+2.7**
NJ2				XS	sS	09 45 05.0	+0.8
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,80nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,19.2s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,18.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,13.3s						
GTA	**Gaotai**	**36.56**

comp=Z,168nm,3.7s
SSE LR LR
comp=N,2μm,14.6s,MS5.0
SSE LR LR
comp=E,1μm,15.3s,MS5.0
SSE LR LR
comp=Z,3μm,14.9s,MS5.2
TIA Tai'an 38.73 29 *e*P **P 09 39 30.8 -0.2**
JOW Kunigami 39.43 50 P **P 09 39 37.4 +0.5**
comp=Z,31nm,0.6s,mb5.2,baz=205,slow=7.1,SNR=21
BTO Baotou 39.78 17 *e*P **P 09 39 39.5 -0.3**
BTO AMB AMB
comp=Z,54nm,1.6s,mb5.0
MUN Mundaring 39.90 152 *e*P **P 09 39 42.1 +1.3**
WBK Wadi Bani Khal 40.41 302 ⇑P pP 09 39 55.7 +2.8
HHC Hu-ho-hao-te 40.49 19 ⇑P **P 09 39 46.8 +1.1**
HHC AP pP 09 39 54.5 +1.0
HHC XP sP 09 39 56.9 +0.2
HHC PP PP 09 41 23.3 +4.2
HHC SCP ScP 09 45 35.0 -0.6
HHC S **S 09 45 55.4 +2.5**
HHC XS sS 09 46 08.6 +2.8
HHC SS SS 09 48 49.3 -3.4
HHC SCS ScS 09 49 49.1 -0.7
HHC AMB AMB
comp=Z,56nm,1.7s,mb5.0
HHC AMB AMB
comp=Z,335nm,7.2s
HHC LR LR
comp=N,4μm,15.6s,MS5.4
HHC LR LR
comp=E,2μm,19.2s,MS5.4
HHC LR LR
comp=Z,3μm,16.8s,MS5.3
KSH Kashi 40.52 337 *e*P **P 09 39 48.0 +2.1**
KSH *e*AP pP 09 39 55.0 +1.3
KSH *e*XP sP 09 39 58.4 +1.5
KSH *e*PP PP 09 41 25.1 +5.7
KSH *e*PCP PcP 09 41 50.1 +2.0
KSH *e*PPP 09 41 53.4
KSH *e*SCP ScP 09 45 36.3 +0.6
KSH *e*PCS PcS 09 45 39.4 +0.7
KSH *e*S **S 09 45 54.8 +1.5**
KSH *e*XS sS 09 46 08.0 +1.8
KSH SS SS 09 48 51.0 -2.3
KSH *e*SCS ScS 09 49 49.3 -0.6
KSH AMB AMB
comp=Z,320nm,8.9s
KSH LR LR
comp=N,400nm,6.2s
KSH LR LR
comp=E,630nm,11.3s
MSEY Mahe Island 40.63 259 PFAKE 09 40 00.0 +13
MSEY LR LR
comp=Z,1μm,19.0s,MS4.7
NWAO Narrogin (SRO) 41.17 152 *e*P **P 09 39 51.9 +0.6**
NWAO *e**PP pP 09 40 00.7 +1.6
NWAO pmax pmax
comp=Z,53nm,1.5s
NWAO MLR MLR
comp=Z,643nm,20.0s
NWAO Narrogin (SRO) 41.17 152 *e*P **P 09 39 51.9 +0.6**
comp=Z,53nm,1.5s,mb5.0
NWAO *e*pP pP 09 40 00.7 +1.5
NWAO LR LR
comp=Z,643nm,20.0s,MS4.5
WMQ Urumqi 41.33 352 P **P 09 39 53.0 +0.4**
WMQ XP sP 09 40 04.0 +0.4
WMQ PP PP 09 41 33.0 +4.8
WMQ S **S 09 46 06.0 +0.7**
WMQ SS SS 09 49 05.0 -4.4
WMQ AMB AMB
comp=Z,64nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,522nm,4.0s
WMQ LR LR
comp=N,568nm,10.0s,MS5.1
WMQ LR LR
comp=E,1μm,11.0s,MS5.1
WMQ LR LR
comp=Z,549nm,10.0s,MS4.7
SMDO Samad 41.37 302 ⇓P pP 09 40 03.1 +2.3
BJT Baijiatuau 41.45 24 *e*P **P 09 39 54.3 +0.7**
BJT *e**PP pP 09 40 02.1 +0.6
BJT pmax pmax
comp=Z,64nm,0.8s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 41.45 24 *e*P **P 09 39 54.3 +0.7**
comp=Z,64nm,0.8s,mb5.3
BJT *e*pP pP 09 40 02.0 +0.6
BJT LR LR
comp=Z,1μm,20.0s,MS4.7
SHAO Shalim 41.80 294 ⇓P pP 09 40 06.1 +1.8
HOQ Hoqain 42.20 303 P pP 09 40 10.1 +2.5
SNR=6.0
ULHL Ulahol 42.78 339 P **P 09 40 04.9 +0.5**
SNR=7.3
KZA Kyzart 43.00 338 P **P 09 40 07.6 +1.4**
SNR=8.1
DL2 Dalian 43.06 30 P **P 09 40 07.8 +1.1**
DL2 AP pP 09 40 14.8 +0.2
DL2 *e*S **S 09 46 32.4 +1.5**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,190nm,4.2s
DL2 LR LR
comp=N,700nm,15.5s,MS4.9
DL2 LR LR
comp=E,840nm,13.8s,MS4.9
DL2 LR LR
comp=Z,1μm,14.8s,MS4.9
UCH Uchtor 43.41 337 P **P 09 40 10.9 +1.4**
SNR=22
TKM2 Tokmak 2 43.60 339 P **P 09 40 12.1 +1.0**
SNR=9.3
KBK Karagaybulak 43.61 338 P **P 09 40 12.6 +1.5**
SNR=9.3
AML Almayashu 43.65 336 P **P 09 40 12.8 +1.4**
SNR=30
ASHO Ashiyiah 43.69 303 P pP 09 40 22.2 +2.6
SNR=5.8
AAK Ala-Archa 43.76 338 P **P 09 40 13.6 +1.3**
SNR=11
ABTO Aybut 43.77 292 P pP 09 40 22.1 +1.8
SNR=5.2
FRU Bishkek 43.89 338 *e*P **P 09 40 14.7 +1.3**
FRU pmax pmax
comp=Z,160nm,2.4s,mb5.3
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.0
EKS2 Erkin-Say 44.06 337 P **P 09 40 15.9 +1.2**
SNR=23
USP Ospenovka 44.30 338 P **P 09 40 17.5 +0.8**
SNR=34
WRA Warramunga Arr 44.42 122 P **P 09 40 17.2 -0.5**
comp=Z,13nm,1.0s,mb4.6,baz=300,slow=9.1,SNR=58
WRAB Tennant Creek 44.43 122 P **P 09 40 17.0 -0.7**
comp=Z,115nm,1.2s,mb5.5,SNR=8.0
WRAB Tennant Creek 44.43 122 *e*P **P 09 40 17.4 -0.3**
WRAB *e**PP pP 09 40 26.2 +0.6
WRAB pmax pmax
comp=Z,32nm,0.9s,mb5.0
WRAB MLR MLR
comp=Z,1μm,21.0s,MS4.8
WRAB Tennant Creek 44.43 122 *e*P **P 09 40 17.4 -0.3**
comp=Z,32nm,0.9s,mb5.0
WRAB *e*pP pP 09 40 26.1 +0.5
WRAB LR LR
comp=Z,1μm,21.0s,MS4.8
WB2 Warramunga Arr 44.43 122 ⇑*i*P **P 09 40 17.2 -0.5**
JNU Nakatsue 44.75 44 LR LR 09 59 54.1
comp=Z,745nm,20.5s,MS4.6,baz=226,slow=37
MKAR Makanchi Array 45.20 347 P **P 09 40 24.4 +0.6**
comp=Z,36nm,0.6s,mb5.3,baz=167,slow=7.4,SNR=528
MKAR LR LR 10 02 17.7
comp=Z,698nm,21.4s,MS4.6,baz=165,slow=40
SONM Songino Array 45.76 10 P **P 09 40 28.1 -0.1**
comp=Z,21nm,0.7s,mb5.2,baz=189,slow=8.6,SNR=183
SONM PcP PcP 09 42 05.9 +0.2
comp=Z,3.8nm,0.6s,baz=193,slow=3.5,SNR=8.0
ASAR Alice Springs 45.82 127 P **P 09 40 28.4 -0.3**
comp=Z,3.7nm,0.9s,mb4.3,baz=302,slow=7.5,SNR=36
ULN Ulaanbaatar 45.91 11 *e*P **P 09 40 29.1 -0.3**
ULN *e**PP pP 09 40 38.7 +1.4
ULN *e* 09 42 06.2
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ULN MLR MLR
comp=Z,934nm,19.0s,MS4.8
ULN Ulaanbaatar 45.91 11 *e*P **P 09 40 29.1 -0.3**
comp=Z,5.3nm,1.1s,mb4.4
ULN *e*pP pP 09 40 38.7 +1.4
ULN *e*PcP PcP 09 42 06.2 0.0
ULN LR LR
comp=Z,934nm,19.0s,MS4.8
ZAK Zakamensk 47.78 7 ⇓*i*P **P 09 40 43.7 -0.4**
ZAK *e* 09 42 10.8
ZAK pmax pmax
comp=Z,43nm,1.9s,mb5.2
ZAK pmax pmax
comp=Z,43nm,1.6s,mb5.2
ZAK pmax pmax
comp=Z,22nm,2.0s,mb4.8
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.4
CN2 Changchun 48.64 29 *e*P **P 09 40 50.1 -0.6**
CN2 *e*S **S 09 47 48.9 -2.3**
CN2 SS SS 09 51 17.9 -3.5
CN2 AMB AMB
comp=Z,40nm,0.7s,mb5.6
CN2 LR LR
comp=N,1μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
CN2 LR LR
comp=Z,1μm,18.0s,MS5.0
MOY Mondy 48.82 5 *e*P **P 09 40 52.3 +0.2**
MOY pmax pmax
comp=Z,41nm,2.7s,mb5.0
KURK Kurchatov 49.72 346 P **P 09 40 59.2 +0.2**
comp=Z,150nm,0.7s,mb6.1,SNR=18
KURK Kurchatov 49.72 346 *e*P **P 09 40 59.2 +0.2**
KURK *e**PP pP 09 41 07.0 0.0
KURK pmax pmax
comp=Z,76nm,1.4s,mb5.5
KURK MLR MLR
comp=Z,825nm,20.0s,MS4.7
KURK Kurchatov 49.72 346 *e*P **P 09 40 59.1 +0.2**
comp=Z,76nm,1.4s,mb5.5
KURK *e*pP pP 09 41 07.0 +0.1
KURK LR LR
comp=Z,825nm,20.0s,MS4.7
IRK Irkutsk 49.73 7 *e*P **P 09 40 57.2 -1.8**
IRK pmax pmax
comp=Z,86nm,1.8s,mb5.5
HIA Hailar 50.64 20 *e*P **P 09 41 06.0 0.0**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 50.64 20 *e*P **P 09 41 06.0 0.0**
comp=Z,11nm,0.8s,mb4.8
HIA LR LR
comp=Z,1μm,20.0s,MS4.8
CIT Chita 51.24 14 *e*P **P 09 41 10.6 +0.1**
CIT *e* 09 41 24.0
CIT *e* 09 42 22.9
CIT pmax pmax
comp=Z,77nm,2.6s,mb5.2
MDJ Mudanjiang 51.29 31 P **P 09 41 12.3 +1.5**
MDJ AP pP 09 41 18.6 -0.2
MDJ XP sP 09 41 21.4 -0.6
MDJ PP PP 09 43 08.0 +0.2
MDJ SCP ScP 09 46 21.3 +1.0
MDJ PCS PcS 09 46 24.3 +1.0
MDJ S **S 09 48 31.4 +3.3**
MDJ AMB AMB
comp=Z,26nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,236nm,6.2s
MDJ LR LR
comp=N,1μm,15.7s,MS5.2
MDJ LR LR
comp=E,936nm,16.3s,MS5.2
MDJ LR LR
comp=Z,897nm,15.1s,MS4.9
MDJ Mudanjiang 51.29 31 *e*P **P 09 41 11.4 +0.6**
comp=Z,6.8nm,0.6s,mb4.8
MDJ *e*pP pP 09 41 18.9 +0.1
MDJ LR LR
comp=Z,898nm,19.0s,MS4.8
ZAL Zalesovo 51.62 352 P **P 09 41 13.8 +0.5**
comp=Z,40nm,0.6s,mb5.5,baz=305,slow=5.6,SNR=186
ZAL Zalesovo 51.62 352 P **P 09 41 13.8 +0.5**
MAT Matsushiro 51.67 44 P **P 09 41 13.0 -0.7**
MAT S **S 09 48 36.4 +3.0**
MAJO Matsushiro 51.67 44 PFAKE 09 41 30.0 +16
MAJO LR LR
comp=Z,1μm,21.0s,MS4.8
MJAR Matsushiro Arr 51.67 44 P **P 09 41 15.0 +1.3**
comp=Z,3.6nm,0.8s,mb4.4,baz=243,slow=9.0,SNR=8.8
MJAR PcP PcP 09 42 27.4 +0.3
comp=Z,4.6nm,0.9s,baz=244,slow=5.4,SNR=5.5
MJAR LR LR 10 06 38.1
comp=Z,706nm,18.2s,MS4.7,baz=240,slow=40
MJAR Matsushiro Arr 51.67 44 P **P 09 41 15.0 +1.3**
MJAR 09 42 27.4
MJAR Matsushiro Arr 51.67 44 P **P 09 41 15.0 +1.3**
MJAR PcP PcP 09 42 27.4 +0.3
MJAR LR LR 10 06 38.1
QRN Al-Qurain 51.95 305 *e*P pP 09 41 23.8 -0.1
QRN AMb AMB 09 41 27.0
comp=Z,106nm,1.4s,mb5.6
OPO Ambohidratompo 52.05 244 P **P 09 41 17.7 +1.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=76,slow=7.3,SNR=7.4
RDF Al-Radifah 52.32 305 *e*P pP 09 41 27.0 +0.5
RDF AMb AMB 09 41 29.8
comp=Z,120nm,1.1s,mb5.8
UMR Umm Al-Rimmam 52.41 306 *e*P pP 09 41 27.4 +0.2
UMR AMb AMB 09 41 30.2
comp=Z,72nm,1.0s,mb5.6
NAY Al-Naaiem 52.68 305 *e*P pP 09 41 29.1 -0.2
NAY AMb AMB 09 41 34.2
comp=Z,55nm,1.6s,mb5.2
NVS Novosibirsk 52.73 351 ⇑*i*P **P 09 41 20.0 -1.5**
NVS *e*S **S 09 48 46.2 -1.7**
NVS pmax pmax
comp=N,44nm,1.5s
NVS pmax pmax
comp=Z,55nm,1.5s,mb5.3
NVS smax
comp=E,123nm,2.2s
PMG Port Moresby 52.96 104 *e*P **P 09 41 23.1 -0.2**
PMG *e**PP pP 09 41 30.2 -1.1
PMG pmax pmax
comp=Z,18nm,1.0s
PMG Port Moresby 52.96 104 *e*P **P 09 41 23.1 -0.2**
comp=Z,18nm,1.0s,mb5.0
PMG *e*pP pP 09 41 30.2 -1.1
BVAR Borovoye Array 54.09 342 P **P 09 41 31.0 -0.5**
baz=148,slow=9.3
BRVK Borovoye 54.15 342 P **P 09 41 31.7 -0.3**
comp=Z,98nm,0.6s,mb5.9,SNR=8.1
BRVK Borovoye 54.15 342 *e*P **P 09 41 31.4 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BRVK MLR MLR
comp=Z,475nm,19.0s,MS4.6
BRVK Borovoye 54.15 342 *e*P **P 09 41 31.4 -0.6**
comp=Z,7.6nm,0.7s,mb4.7
BRVK LR LR
comp=Z,475nm,19.0s,MS4.6
CTA Charters Tower 54.83 117 ⇑*i*P **P 09 41 37.2 +0.2**
comp=Z,7.6nm,0.8s,mb4.8
CTAO Charters Tower 54.83 117 *e*P **P 09 41 36.6 -0.4**
CTAO *e**PP pP 09 41 43.7 -1.3
CTAO pmax pmax
comp=Z,65nm,1.8s,mb5.4
CTAO MLR MLR
comp=Z,1μm,21.0s,MS4.9
CTAO Charters Tower 54.83 117 *e*P **P 09 41 36.6 -0.3**
comp=Z,65nm,1.8s,mb5.4
CTAO *e*pP pP 09 41 43.7 -1.3
CTAO LR LR
comp=Z,1μm,21.0s,MS4.9
KLR Kul'dur 55.56 28 *e*P **P 09 41 39.0 -3.2**
KLR pmax pmax
comp=E,60nm,2.2s
KLR pmax pmax
comp=Z,120nm,2.2s,mb5.5
KLR pmax pmax
comp=Z,800nm,6.5s
KLR MLR MLR
comp=N,2μm,14.0s,MS5.3
KLR MLR MLR
comp=E,1μm,14.0s,MS5.3
KLR MLR MLR
comp=Z,10μm,14.0s,MS6.0
STKA Stephens Creek 55.79 132 ⇑*i*P **P 09 41 41.6 -2.3**
comp=Z,5.2nm,1.5s,mb4.3
STKA Stephens Creek 55.79 132 P **P 09 41 41.7 -2.1**
comp=Z,5.8nm,1.1s,mb4.5,baz=281,slow=9.4,SNR=3.6
STKA LR LR 10 07 07.7
comp=Z,475nm,19.5s,MS4.6,baz=110,slow=38
STKA Stephens Creek 55.79 132 P **P 09 41 41.7 -2.1**
STKA LR LR 10 07 07.7
BHD Baghdad 56.41 309 *e*x x 09 41 40.5
BHD *e*x x 09 41 48.0
BHD *e*x x 09 49 01.5
HABR Khabarovsk 56.67 31 *i* P **P 09 41 49.3 -0.8**
HABR *i* S **S 09 49 40.1 -0.8**
HABR pmax pmax
comp=Z,8.0nm,0.3s,mb5.2
HABR MLR MLR
comp=Z,1μm,16.3s,MS5.2
BOD Bodaibo 56.70 12 *e*P **P 09 41 49.3 -1.0**
BOD pmax pmax
comp=Z,19nm,1.2s,mb5.0
KMBO Kilima Mbogo 58.30 267 P **P 09 42 02.3 +0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=59,slow=21,SNR=4.1
KMBO LR LR 10 04 30.1
comp=Z,1μm,19.0s,MS5.0,baz=278,slow=33
KMBO Kilima Mbogo 58.30 267 *e*P **P 09 42 03.5 +1.9**
KMBO *e**PP pP 09 42 10.3 +0.6
KMBO pmax pmax
comp=Z,11nm,1.5s
KMBO MLR MLR
comp=Z,847nm,19.0s
KMBO Kilima Mbogo 58.30 267 *e*P **P 09 42 03.5 +1.9**
comp=Z,11nm,1.5s,mb4.7
KMBO *e*pP pP 09 42 10.3 +0.5
KMBO LR LR
comp=Z,847nm,19.0s,MS4.9
CLNS Chul'man 58.67 18 *e*P **P 09 42 02.9 -1.3**
CLNS pmax pmax
comp=Z,19nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS MLR MLR
comp=N,600nm,15.0s,MS5.5
CLNS MLR MLR
comp=E,3μm,15.0s,MS5.5
CLNS MLR MLR
comp=Z,4μm,15.0s,MS5.7
YSS Yuzh-Sakhalins 59.97 36 ⇑*i*P **P 09 42 13.5 +0.3**
YSS *e* pP 09 42 21.0 -0.3
YSS *e* 09 42 30.0
YSS pmax pmax
comp=Z,70nm,1.2s,mb5.6
YSS MLR MLR
comp=N,500nm,15.0s,MS5.0
YSS MLR MLR
comp=Z,900nm,15.0s,MS5.0
YSS MLR MLR
comp=E,500nm,13.0s,MS5.0
YSS Yuzh-Sakhalins 59.97 36 *e*P **P 09 42 13.1 -0.1**
comp=E,59nm,1.3s,mb5.5
YSS *e*pP pP 09 42 20.7 -0.6
YSS LR LR
comp=Z,796nm,20.0s,MS4.8
ARU Arti 60.95 338 ⇓*i*P **P 09 42 18.2 -1.7**
ARU *e* 09 44 29.9
ARU *e*S **S 09 50 34.7 -1.7**
ARU *e*SS SS 09 54 31.5 -4.4
ARU pmax pmax
comp=Z,22nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,700nm,17.0s,MS4.9
ARU MLR MLR
comp=N,300nm,18.0s,MS4.8
ARU MLR MLR
comp=E,500nm,19.0s,MS4.8
ARU Arti 60.95 338 *e*P **P 09 42 18.7 -1.1**
comp=E,68nm,1.4s,mb5.6
ARU *e*pP pP 09 42 27.8 -0.2
ARU LR LR
comp=Z,972nm,19.0s,MS5.0
MALT Malatya 62.69 312 *e*P **P 09 42 33.1 +1.5**
MALT *e**PP pP 09 42 41.0 +1.2
MALT pmax pmax
comp=Z,35nm,1.6s,mb5.2
MALT Malatya 62.69 312 *e*P **P 09 42 33.1 +1.5**
comp=Z,35nm,1.6s,mb5.2
MALT *e*pP pP 09 42 41.0 +1.2
YAK Yakutsk 64.31 17 *c i*P **P 09 42 41.2 -1.1**
YAK pmax pmax
comp=Z,43nm,0.6s,mb5.7
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.4
YAK Yakutsk 64.31 17 *e*P **P 09 42 40.7 -1.5**
comp=Z,22nm,0.4s,mb5.5
YAK *e*pP pP 09 42 48.5 -2.0
YAK LR LR
comp=Z,997nm,21.0s,MS5.0
BRTR Keskin Array B 66.67 312 P **P 09 42 57.1 -0.4**
comp=Z,0.9nm,0.8s,baz=140,slow=9.6,SNR=5.3
VRSR Storozhevoye 67.17 325 *e*P **P 09 42 59.2 -1.5**
VRSR pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.9s
ANTO Ankara 67.34 312 PFAKE 09 43 10.0 +8.2
ANTO LR LR
comp=Z,300nm,19.0s,MS4.5
VOR Voronezh 67.39 326 P **P 09 43 03.0 +0.9**
VOR pmax pmax
comp=N,60nm,1.6s
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.5
LSZ Lusaka 68.92 253 *e*P **P 09 43 12.4 +0.7**
LSZ *e**PP pP 09 43 19.2 -0.8
LSZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LSZ MLR MLR
comp=Z,639nm,19.0s,MS4.9
LSZ Lusaka 68.92 253 *e*P **P 09 43 12.4 +0.7**
comp=Z,9.7nm,1.1s,mb4.7
LSZ *e*pP pP 09 43 19.2 -0.8
LSZ LR LR
comp=Z,639nm,19.0s,MS4.9
MOS Moscow 69.98 329 *e*P **P 09 43 16.9 -1.4**
MOS *i* pP 09 43 24.5 -2.0
OBN Obninsk 70.26 328 *i* P **P 09 43 19.2 -0.8**
OBN *e**PP pP 09 43 27.5 -0.7
OBN *e* 09 43 38.8
OBN *e*S S 09 52 29.3 -0.9
OBN pmax pmax
comp=Z,72nm,2.3s,mb5.2
OBN Obninsk 70.26 328 PFAKE 09 43 30.0 +10
OBN LR LR
comp=Z,626nm,22.0s,MS4.8
MA2 Magadan 70.59 26 *c i*P **P 09 43 21.2 -0.8**
MA2 *e* 09 43 47.9
MA2 *e* 09 46 00.0
MA2 *e*S S 09 52 31.6 -2.5
MA2 *e*PS 09 53 05.7
MA2 *e*SS SS 09 57 08.6 +2.9
MA2 pmax pmax
comp=E,10.0nm,1.7s
MA2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
MA2 MLR MLR
comp=Z,900nm,21.0s,MS5.0
MA2 Magadan 70.59 26 *e*P **P 09 43 21.6 -0.4**
comp=Z,86nm,1.6s,mb5.4
MA2 *e*pP pP 09 43 29.4 -0.8
MA2 LR LR
comp=Z,486nm,20.0s,MS4.8
KLMR Klimovskoe 71.47 335 *e*P **P 09 43 24.4 -2.9**
KLMR pmax pmax
comp=Z,60nm,1.4s,mb5.3
TIRR Tirgusor 71.69 316 *e*P **P 09 43 30.7 +2.1**

TIRR				e*PP	pP	09 43 36.3	-0.6
TIRR				e		09 43 45.9	
PET	**Petropavlovsk**	**71.83**	**35**	*e*P	**P**	**09 43 29.1**	**-0.4**
PET				*e*S	S	09 52 46.8	-1.6
PET				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8						
PET				pmax	pmax		
	comp=Z,100nm,14.0s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s,MS5.0						
TIXI	**Tiksi**	**71.84**	**11***c*	*i*P	**P**	**09 43 27.8**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.1						
TIXI	**Tiksi**	**71.84**	**11**	PFAKE		09 43 40.0	+10
TIXI				LR	LR		
	comp=Z,697nm,20.0s,MS4.9						
AKASG	**Malin Array Be**	**72.85 322**		P	**P**	**09 43 34.3**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=93,slow=4.7,SNR=14						
SEY	**Seymchan**	**72.91**	**24**	*e*P	**P**	**09 43 35.5**	**-0.4**
SEY				*e*		09 43 49.8	
SEY				*e*		09 46 21.3	
SEY				PPP		09 48 05.3	
SEY				*e*S	S	09 53 02.4	+1.6
SEY				pmax	pmax		
	comp=E,15nm,1.2s						
SEY				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
SEY				smax			
	comp=N,260nm,19.7s						
SEY				smax			
	comp=E,181nm,21.1s						
SEY				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.4						
SEY				MLR	MLR		
	comp=N,700nm,16.0s,MS5.3						
SEY				MLR	MLR		
	comp=E,1μm,17.0s,MS5.3						
MAW	**Mawson**	**73.97 192**		LR	LR	10 12 41.4	
	comp=E,347nm,18.3s,MS4.7,baz=176,slow=33						
BOSA	**Boshof**	**74.11 239**		P	**P**	**09 43 43.5**	**+0.5**
	comp=E,2.4nm,0.8s,mb4.2,baz=80,slow=2.4,SNR=4.3						
BOSA				LR	LR	10 14 00.9	
	comp=E,753nm,18.3s,MS5.0,baz=76,slow=34						
MNK	**Minsk**	**74.77 326**		*e*P	**P**	**09 43 44.0**	**-2.8**
JOF	**Joensuu**	**75.87 335**		*e*p	**P**	**09 43 51.4**	**-1.8**
	comp=E,0.4nm,0.5s						
KWP	**Kalwaria**	**76.65 320**		*e*P	**P**	**09 43 57.9**	**+0.3**
KWP	**Kalwaria**	**76.65 320**		*e*P	**P**	**09 43 57.6**	**0.0**
KWP				*e**PP	pP	09 44 05.2	-0.7
KWP				pmax	pmax		
	comp=Z,87nm,1.6s,mb5.4						
KWP	**Kalwaria**	**76.65 320**		*e*P	**P**	**09 43 57.6**	**0.0**
	comp=Z,87nm,1.6s,mb5.4						
KWP				*e*pP	pP	09 44 05.2	-0.7
LVZ	**Lovozero**	**76.65 340**		PFAKE		09 44 10.0	+12
LVZ				LR	LR		
	comp=Z,952nm,21.0s,MS5.1						
KOLS	**Kolonicke sedl**	**76.79 320**		*e*P	**P**	**09 43 58.8**	**+0.4**
KOLS				*e*pP	pP	09 44 07.0	+0.3
APA	**Apatity**	**76.93 340**	⇑	*i*P	**P**	**09 43 59.4**	**+0.2**
APA				*i*	pP	09 44 06.0	-1.5
APA				*i*		09 44 13.0	
APA				*e*S	S	09 53 41.0	-4.6
APA				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						
SUW	**Suwalki**	**77.28 325**		*e*P	**P**	**09 44 00.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**77.31 319**		*e*	**P**	**09 44 07.4**	**+6.1**
CRVS				*e*sP	sP	09 44 15.3	+2.6
STHS	**Stebnicka Huta**	**77.55 320**		*e*P	**P**	**09 44 03.7**	**+1.1**
STHS				*e*pP	pP	09 44 11.0	0.0
FINES	**FINESS Array B**	**77.69 333**		P	**P**	**09 44 02.8**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.5,baz=90,slow=5.7,SNR=20						
FINES				LR	LR	10 23 38.5	
	comp=Z,466nm,20.0s,MS4.8,baz=354,slow=40						
KAF	**Kangasniemi**	**77.78 333**		*e*p	**P**	**09 44 02.4**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=103,slow=5.1						
KAF	**Kangasniemi**	**77.78 333**		*e*P	**P**	**09 44 02.4**	**-1.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KECS	**Kecovo**	**77.88 319**		*e*P	**P**	**09 44 04.3**	**-0.2**
KECS				*e*pP	pP	09 44 12.3	-0.5
VYHS	**Vyhne**	**78.96 319**		*e*P	**P**	**09 44 10.4**	**-0.1**
VYHS				*e*pP	pP	09 44 18.0	-0.8
TSUM	**Tsumeb**	**79.50 250**		PFAKE		09 44 30.0	+17
TSUM				LR	LR		
	comp=Z,447nm,19.0s,MS4.8						
OKC	**Ostrava-Krasne**	**79.60 320**		*e*P	**P**	**09 44 11.7**	**-2.2**
OKC				*e*pP	pP	09 44 19.7	-2.6
MORC	**Moravsky Berou**	**79.98 320**		*e*P	**P**	**09 44 16.2**	**+0.2**
MORC				*e**PP	pP	09 44 24.3	-0.1
MORC				pmax	pmax		
	comp=Z,49nm,1.8s,mb5.1						
MORC	**Moravsky Berou**	**79.98 320**		*e*P	**P**	**09 44 16.2**	**+0.2**
	comp=Z,49nm,1.8s,mb5.1						
MORC				*e*pP	pP	09 44 24.3	-0.1
ZST	**Bratislava**	**80.07 318**		*e*P	**P**	**09 44 17.7**	**+1.2**
ZST				*e*pP	pP	09 44 24.8	-0.1
BILL	**Bilibino**	**80.22**	**21**	P	**P**	**09 44 16.7**	**-0.6**
BILL				*e*S	S	09 54 19.8	-1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BILL				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.5						
ARCES	**ARCESS Array B**	**80.36 340**		P	**P**	**09 44 17.2**	**-0.8**
	comp=Z,4.7nm,0.6s,mb4.6,baz=91,slow=4.9,SNR=19						
ARCES				LR	LR	10 25 37.1	
	comp=Z,776nm,20.4s,MS5.0,baz=119,slow=40						
DPC	**Dobruska-Polom**	**80.83 320**		*e*P	**P**	**09 44 21.1**	**+0.5**
DPC				*e*pP	pP	09 44 29.1	+0.1
CRES	**Cresnjev**	**80.94 316**		*e*P	**P**	**09 44 21.6**	**+0.4**
SYO	**Syowa Base**	**81.07 198**	⇑	*e*PcP	PcP	09 44 26.9	-1.3
SYO	**Syowa Base**	**81.07 198**	⇑	*e*sP	sP	09 44 34.9	+1.6
SYO	**Syowa Base**	**81.07 198**	⇑	*e*PP	PP	09 47 27.7	+0.8
PERS	**Pernice**	**81.25 317**		*e*P	**P**	**09 44 23.0**	**+0.1**
PERS				*e*	pP	09 44 30.6	-0.6
LJU	**Ljubljana**	**81.61 316**		*e*P	**P**	**09 44 23.3**	**-1.4**
GEC2	**GERESS Array S**	**82.39 319**		*e*P	**P**	**09 44 29.1**	**+0.3**
	comp=Z,31nm,1.5s,mb5.0						
GEC2	**GERESS Array S**	**82.39 319**		*e*P	**P**	**09 44 29.1**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
GERES	**GERESS Array B**	**82.39 319**		P	**P**	**09 44 29.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=18						
BRG	**Berggiesshubel**	**82.39 321**		*e*P	**P**	**09 44 29.7**	**+0.9**
	comp=Z,15nm,1.8s,mb4.6						
BRG				*e*	pP	09 44 37.1	-0.1
	comp=Z,17nm,1.6s						
BRG	**Berggiesshubel**	**82.39 321**		*e*P	**P**	**09 44 29.7**	**+0.9**
BRG				*e*	pP	09 44 37.1	-0.1
BRG				pmax	pmax		
	comp=Z,15nm,1.8s,mb4.6						
BRG				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.7						
KHC	**Kasperske Hory**	**82.49 319**		*e*P	**P**	**09 44 29.8**	**+0.5**
KHC				pP	pP	09 44 38.5	+0.8
KHC	**Kasperske Hory**	**82.49 319**		*e*P	**P**	**09 44 29.8**	**+0.5**
KHC				*e*	pP	09 44 38.5	+0.8
WET	**Wettzell**	**82.95 319**		*e*P	**P**	**09 44 31.9**	**+0.2**
	comp=Z,12nm,1.5s,mb4.7						
WET	**Wettzell**	**82.95 319**		*e*P	**P**	**09 44 31.9**	**+0.2**
WET				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
CLL	**Collm**	**83.02 321**		*e*P	**P**	**09 44 32.0**	**-0.1**
CLL				*e*pP	pP	09 44 39.0	-1.5
CLL				*e*(sP)	sP	09 44 45.0	+1.5
CLL				*e*x	x	09 44 59.0	
CLL	**Collm**	**83.02 321**		*e*P	**P**	**09 44 32.0**	**-0.1**
CLL				*e*pP	pP	09 44 39.0	-1.5
WERD	**Werda**	**83.40 320**		*e*P	**P**	**09 44 33.9**	**-0.1**
	comp=Z,3.0nm,1.3s,mb4.2						
ROTZ	**Rotzenmuhle**	**83.42 320**		*e*P	**P**	**09 44 33.9**	**-0.3**
	comp=Z,12nm,1.3s,mb4.8						
MOX	**Moxa**	**83.85 320**		*e*P	**P**	**09 44 37.0**	**+0.7**
	comp=Z,18nm,1.8s,mb4.9						
MOX	**Moxa**	**83.85 320**		*e*P	pP	09 44 44.2	-0.6
	comp=Z,31nm,1.8s						
MOX	**Moxa**	**83.85 320**		*e*P	pP	09 44 44.2	-0.6
MOX				pmax	pmax		
	comp=Z,94nm,1.8s,mb5.6						
SNZO	**South Karori**	**83.85 132**		PFAKE		09 44 50.0	+14
SNZO				LR	LR		
	comp=Z,631nm,22.0s,MS5.0						
GRA1	**Grafenberg Arr**	**84.06 319**		*e*P	**P**	**09 44 38.1**	**+0.7**
	comp=Z,18nm,1.1s,mb5.1						
GRA1				*e*pP	pP	09 44 45.2	-0.6
GRF	**Grafenberg Arr**	**84.06 319**		*e*P	**P**	**09 44 38.1**	**+0.7**
	comp=Z,18nm,1.1s,mb5.1						
GRF				*e*pP	pP	09 44 45.2	-0.6
GRF	**Grafenberg Arr**	**84.06 319**		*e*P	**P**	**09 44 38.1**	**+0.7**
GRF				*e**PP	pP	09 44 45.2	-0.6
GRF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
GRF	**Grafenberg Arr**	**84.06 319**		*e*P	**P**	**09 44 38.1**	**+0.7**
GRF				*e**PP	pP	09 44 45.2	-0.6
GRF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
NB2	**NORSAR Subarra**	**84.68 331**		P	**P**	**09 44 39.5**	**-1.0**
	comp=Z,24nm,1.7s,mb5.0,baz=91,slow=5.1						
NOA	**NORSAR Array B**	**84.68 331**		P	**P**	**09 44 39.9**	**-0.6**
	comp=Z,1.1nm,0.7s,mb4.1,baz=95,slow=5.3,SNR=4.8						
NOA				LR	LR	10 25 11.3	
	comp=Z,160nm,18.5s,MS4.4,baz=270,slow=38						
CLZ	**Clausthal**	**84.68 322**		*e*P	**P**	**09 44 40.5**	**-0.1**
	comp=Z,5.0nm,1.2s,mb4.5						
CLZ	**Clausthal**	**84.68 322**		*e*P	**P**	**09 44 40.5**	**-0.1**
CLZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
BSEG	**Bad Segeberg**	**84.80 324**		*e*P	**P**	**09 44 40.6**	**-0.5**
	comp=Z,13nm,1.3s,mb4.9						
LPG	**La Plagne**	**87.03 315**		*e*P	**P**	**09 44 51.3**	**-0.9**
	comp=Z,21nm,0.9s,mb5.0						
QSPA	**South Pole Qui**	**92.83 180**		PFAKE		09 45 30.0	+11
QSPA				LR	LR		
	comp=Z,812nm,19.0s,MS5.2						
TORD	**Torodi Ar. Bea**	**92.99 283**		P	**P**	**09 45 21.2**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=63,slow=3.2,SNR=2.5						
COLA	**College**	**98.41**	**23**	PFAKE		09 46 00.0	+15
COLA				LR	LR		
	comp=Z,435nm,19.0s,MS5.0						
ILAR	**Eielson Array**	**98.83**	**23**	PP	PP	09 49 46.8	-1.4
	comp=Z,0.7nm,0.8s,baz=296,slow=6.6,SNR=4.8						
ILAR				LR	LR	10 39 33.7	
	comp=Z,282nm,18.1s,MS4.8,baz=167,slow=41						
FIB	**Fire Island**	**98.97**	**27**	PFAKE		09 46 00.0	+13
FIB				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
YKA	**Yellowknife Ar**	**110.91**	**14**	PP	PP	09 51 13.3	-4.5
	comp=Z,0.5nm,0.8s,baz=334,slow=7.5,SNR=6.2						
BMO	**Blue Mountains**	**124.21**	**28**	PFAKE		09 51 20.0	+15
BMO				LR	LR		
	comp=Z,349nm,20.0s,MS5.0						
BOZ	**Bozeman (W)**	**126.02**	**23**	PFAKE		09 51 20.0	+11
BOZ				LR	LR		
	comp=Z,406nm,19.0s,MS5.1						
ULM	**Lac du Bonnet**	**126.17**	**9**	PKP	PKPdf	09 51 08.5	-0.6
	comp=Z,1.1nm,0.7s,baz=356,slow=6.5,SNR=3.1						
ULM	**Lac du Bonnet**	**126.17**	**9**	PKP	PKPdf	09 51 08.5	-0.6
LKWY	**Lake**	**127.41**	**23**	PFAKE		09 51 20.0	+8.5
LKWY				LR	LR		
	comp=Z,736nm,19.0s,MS5.4						
BMN	**Battle Mountai**	**127.55**	**31**	PFAKE		09 51 20.0	+8.3
BMN				LR	LR		
	comp=Z,700nm,21.0s,MS5.3						
NVAR	**Mina Array Bea**	**128.41**	**34**	PKP	PKPdf	09 51 15.2	+1.9
	comp=Z,0.5nm,0.7s,baz=265,slow=4.4,SNR=4.4						
MNV	**Mina**	**128.49**	**34**	PFAKE		09 51 30.0	+16
MNV				LR	LR		
	comp=Z,574nm,19.0s,MS5.3						
BW06	**Boulder Array**	**129.24**	**24**	PFAKE		09 51 30.0	+15
BW06				LR	LR		
	comp=Z,451nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**129.25**	**24**	PKP	PKPdf	09 51 15.8	+0.8
	comp=Z,0.5nm,0.5s,baz=129,slow=1.7,SNR=7.5						
HWUT	**Hardware Ranch**	**129.36**	**26**	PFAKE		09 51 30.0	+15
HWUT				LR	LR		
	comp=Z,420nm,19.0s,MS5.2						
DAC	**Darwin (Calif)**	**130.32**	**35**	PFAKE		09 51 30.0	+13
DAC				LR	LR		
	comp=Z,579nm,22.0s,MS5.2						
RCBR	**Riachuelo**	**131.41**	**265**	PFAKE		09 51 30.0	+11
RCBR				LR	LR		
	comp=Z,269nm,19.0s,MS5.0						
ISCO	**Idaho Springs**	**133.32**	**22**	PFAKE		09 51 40.0	+17
ISCO				LR	LR		
	comp=Z,310nm,20.0s,MS5.0						
WES	**Weston**	**133.36**	**347**	PFAKE		09 51 30.0	+7.2
WES				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
WUAZ	**Wupatki**	**134.28**	**31**	PFAKE		09 51 40.0	+16
WUAZ				LR	LR		
	comp=Z,427nm,21.0s,MS5.1						
SDCO	**Great Sand Dun**	**135.14**	**24**	PFAKE		09 51 40.0	+14
SDCO				LR	LR		
	comp=Z,646nm,21.0s,MS5.3						
TUC	**Tucson**	**137.05**	**33**	PFAKE		09 51 40.0	+10
TUC				LR	LR		
	comp=Z,280nm,19.0s,MS5.0						
ANMO	**Albuquerque**	**137.10**	**27**	*i* PKIKP	PKPdf	09 51 36.8	+7.0
TRQA	**Tornquist**	**139.36**	**208**	PFAKE		09 51 50.0	+16
TRQA				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
PLAL	**Pickwick Lake**	**142.18**	**5**	PFAKE		09 51 50.0	+11
PLAL				LR	LR		
	comp=Z,566nm,19.0s,MS5.3						
JCT	**Junction City**	**143.76**	**23**	*e*PKIKP	PKPdf	09 51 39.7	-2.1
JCT				*e*		09 51 53.6	
NATX	**Nacogdoches**	**144.22**	**15**	PFAKE		09 51 50.0	+7.4
NATX				LR	LR		
	comp=Z,607nm,20.0s,MS5.4						
HKT	**Hockley**	**145.61**	**17**	PFAKE		09 52 00.0	+15
HKT				LR	LR		
	comp=Z,528nm,19.0s,MS5.3						
SJG	**San Juan**	**152.34**	**320**	PFAKE		09 52 10.0	+14
SJG				LR	LR		
	comp=Z,315nm,21.0s,MS5.1						
TEIG	**Tepich**	**156.73**	**9**	PFAKE		09 52 10.0	+8.1
TEIG				LR	LR		
	comp=Z,50nm,19.0s,MS4.4						
SDV	**Santo Domingo**	**161.84**	**310**	PFAKE		09 52 20.0	+12
SDV				LR	LR		
	comp=Z,295nm,19.0s						
JTS	**JuntasAbangare**	**166.89**	**2**	PFAKE		09 52 20.0	+7.7
JTS				LR	LR		
	comp=Z,331nm,19.0s						
NNA	**Nana**	**168.16**	**220**	PFAKE		09 52 30.0	+17
NNA				LR	LR		
	comp=Z,360nm,20.0s						

RSPR 13 09:37:37.1,1838N×6786W,h108km±2km,MD3.5/7,
MD3.5/7,8C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.81**	**118** ⇑	*e*P	Pn	09 37 55.3	-0.8
CRPR	**Cabo Rojo, PR**	**0.81**	**118**	*e*S	Sn	09 38 09.8	-0.6
MGP	**Maguayo**	**0.82**	**117**	*e*S	Sn	09 38 09.7	-1.0
AOPR	**Arecibo Observ**	**1.05**	**92** ⇓	*e*P	Pn	09 37 57.9	-0.7
AOPR	**Arecibo Observ**	**1.05**	**92**	*e*S	Sn	09 38 14.9	+0.1
OBIP	**Obispado Ponce**	**1.24**	**106** ⇑	*e*P	Pn	09 38 00.6	0.0
OBIP	**Obispado Ponce**	**1.24**	**106**	*e*S	Sn	09 38 18.9	+0.4
CELP	**Cerrillos**	**1.25**	**104** ⇑	*e*P	Pn	09 38 00.7	-0.1
CELP				*e*S	Sn	09 38 18.7	-0.1
CPD	**Cerro la Pandu**	**1.88**	**100**	*e*S	Sn	09 38 32.2	0.0
CPD	**Cerro la Pandu**	**1.88**	**100** ⇑	*e*P	Pn	09 38 08.1	-0.3
CBYP	**Canovanas**	**1.91**	**93**	*e*S	Sn	09 38 32.6	-0.3
CBYP	**Canovanas**	**1.91**	**93** ⇑	*e*P	Pn	09 38 07.9	-0.8
HUMP	**Col San Antoni**	**1.92**	**97**	*e*S	Sn	09 38 33.4	+0.1
HUMP	**Col San Antoni**	**1.92**	**97** ⇑	*e*P	Pn	09 38 09.2	+0.2
MTP	**Monte Pirata**	**2.21**	**97** ⇑	*e*P	Pn	09 38 12.7	+0.1
MTP	**Monte Pirata**	**2.21**	**97**	*e*S	Sn	09 38 39.7	0.0
CULB	**Culebra**	**2.40**	**91** ⇑	*e*P	Pn	09 38 15.1	0.0
CULB	**Culebra**	**2.40**	**91**	*e*S	Sn	09 38 44.9	+0.6

NAO ***13*** *09:55:24.1,5235N×130.18E,h33km,mb3.8*
ISCJB ***13*** *09:56:10.4±0.4,5727N±004×12085E±004,h10km, mb3.4/7,Error ellipse: s-maj=5.8km s-min=3.1km az=174.9*
IDC ***13*** *09:56:10.8±0.9,5724N×12048E,h0km,mb3.5/8, mb1 3.7/9,mb1mx3.6/22,mbtmp3.5/9,ML3.0/1,Error ellipse: s-maj=25.0km s-min=20.5km az=131.0*
MOS ***13*** *09:56:10.5±1.3,5738N×12055E,h10km,mb3.8/5,Error ellipse: s-maj=14.3km s-min=10.3km az=56.8*
BYKL ***13*** *09:56:11.1±0.3,5739N×12069E*

ISC 13 09:56:12.0±0.3,5726N±003×12075E±004,h10km,n47,
σ1§39/59,mb3.4/7,2C-1D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.54**	**231**	*e*Pg	**Pg**	**09 56 22.4**	**-0.2**
KHNR				*e*Sg	**Sg**	**09 56 30.1**	**+0.4**
CRS	**Chara**	**1.40**	**256** ⇓	*i*Pg	**Pg**	**09 56 37.6**	**-1.3**
CRS				*e*		09 56 39.5	
CRS				*e*		09 56 44.8	
CRS				max		09 56 46.7	
	174nm,0.8s						
CRS				*e*Sg	**Sg**	**09 56 55.4**	**-1.7**
CRS				Smax		09 56 55.9	
	657nm,1.0s						
CRS	**Chara**	**1.40**	**256**	*e*P	**Pn**	**09 56 37.7**	**+0.1**
CRS				*e*		09 56 55.4	
CRS				pmax	pmax		
	comp=Z,189nm,0.5s						
CRS				smax			
	comp=E,657nm,0.7s						
NRGR	**Nerungri**	**2.26**	**104**	*e*P	**Pn**	**09 56 52.1**	**+2.7**
NRGR				S	**Sn**	**09 57 21.2**	**+3.9**
CLNS	**Chul'man**	**2.30**	**99**	*e*Pn	**Pn**	**09 56 52.0**	**+2.0**
CLNS				*e*Pg	**Pg**	**09 56 53.3**	**-2.9**
CLNS				Pmax		09 56 56.2	
	comp=E,82nm,0.1s						
CLNS				*e*Sg	**Sg**	**09 57 24.9**	**-1.1**
CLNS				Smax		09 57 29.2	
	comp=E,449nm,0.1s						
CLNS	**Chul'man**	**2.30**	**99**	*e*P	**Pn**	**09 56 52.4**	**+2.4**
CLNS				*e*S	**Sn**	**09 57 21.5**	**+3.1**
CLNS				pmax	pmax		
	comp=Z,12nm,0.3s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.3s						
CLNS				pmax	pmax		
	comp=N,19nm,0.4s						
CLNS				pmax	pmax		
	comp=E,17nm,0.3s						
CLNS				smax			
	comp=N,19nm,0.3s						
CLNS				smax			
	comp=E,18nm,0.3s						
CLNS				smax			
	comp=Z,17nm,0.3s						
CLNS				smax			
	comp=E,432nm,0.4s						
CLNS				smax			
	comp=Z,256nm,0.4s						
CLNS				smax			
	comp=N,430nm,0.5s						
CLNS				MLR	MLR		
	comp=Z,60nm,13.0s						
IENR	**Ienga**	**2.49**	**113**	*e*Pn	**Pn**	**09 56 54.5**	**+1.9**
IENR				*e*Pg	**Pg**	**09 56 58.3**	**-1.5**
IENR				*e*PgPg		09 57 02.3	
IENR				*e*Sg	**Sg**	**09 57 31.3**	**-0.8**
ALDR	**Aldan**	**2.83**	**60**	*e*Pg	**Pb**	**09 57 00.7**	**-1.9**
ALDR				Pmax		09 57 03.2	
	comp=Z,66nm,0.1s						
ALDR				*e*Sg	Sx	09 57 37.2	
ALDR				Smax		09 57 38.5	
	comp=Z,3μm,0.1s						
NLYR	**Nelyaty**	**2.88**	**257**	*e*Pn	**Pn**	**09 56 58.8**	**+0.9**
NLYR				*e*Pg	**Pb**	**09 57 02.3**	**-1.1**
NLYR				Pmax		09 57 11.5	
	comp=Z,88nm,0.8s						
NLYR				*e*Sg	Sx	09 57 39.5	
NLYR				Smax		09 57 42.5	
	comp=Z,698nm,0.8s						
NLYR				*e*SgSg		09 57 46.7	
NLYR	**Nelyaty**	**2.88**	**257**	*e*P	**Pn**	**09 56 59.1**	**+1.2**
NLYR				*e*		09 57 40.0	
NLYR				pmax	pmax		
	comp=Z,153nm,0.8s						
NLYR				smax			
	comp=N,694nm,0.8s						
TUP	**Tupik**	**2.88**	**189**	*e*Pn	**Pn**	**09 56 59.5**	**+1.6**
TUP				*e*Pg	**Pg**	**09 57 04.8**	**-2.4**
TUP				Pmax		09 57 05.2	
	comp=N,156nm,0.9s						
TUP				*e*Sg	**Sg**	**09 57 42.8**	**-1.7**
TUP				Smax		09 57 46.7	
	comp=N,947nm,0.7s						
TUP				*e*SgSg		09 57 49.4	
TUP	**Tupik**	**2.88**	**189**	*e*P	**Pn**	**09 56 59.6**	**+1.7**
TUP				*e*S	**Sn**	**09 57 34.8**	**+2.2**
TUP				pmax	pmax		
	comp=Z,157nm,0.6s						
TUP				smax			
	comp=E,807nm,0.8s						
BOD	**Bodaibo**	**3.68**	**282**	*e*Pn	**Pn**	**09 57 09.4**	**+0.5**
BOD				Pg	**Pb**	**09 57 16.5**	**-0.6**
BOD				*e*PgPg		09 57 18.7	
BOD				max		09 57 21.7	
	comp=E,17nm,0.4s						
BOD				*e*Sg	Sx	09 58 02.9	
BOD				Smax		09 58 10.2	
	comp=E,257nm,0.7s						
BOD	**Bodaibo**	**3.68**	**282**	*e*P	**Pn**	**09 57 07.9**	**-1.0**
BOD				pmax	pmax		
	comp=Z,26nm,0.6s						
SVKR	**Severomuysk**	**4.13**	**257**	*e*Pn	**Pn**	**09 57 14.4**	**-0.7**
SVKR				*e*Pg	**Pb**	**09 57 24.9**	**+0.1**
SVKR				Pmax		09 57 27.5	
	comp=Z,94nm,0.5s						
SVKR				*e*		09 58 07.8	
SVKR				*e*Sg	Sx	09 58 18.3	
SVKR				Smax		09 58 33.2	
	comp=Z,374nm,1.2s						
UKT	**Uakit**	**4.34**	**249**	*e*Pn	**Pn**	**09 57 19.8**	**+1.8**
UKT				*e*Pg	**Pb**	**09 57 29.2**	**+0.8**
UKT				Pmax		09 57 33.8	
	comp=Z,25nm,0.7s						
UKT				*e*Sg	Sx	09 58 25.6	
UKT				Smax		09 58 36.2	
	comp=Z,123nm,0.9s						
UKT	**Uakit**	**4.34**	**249**	*e*P	**Pb**	**09 57 28.9**	**+0.5**
UKT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KROS	**Kirovskiy**	**4.51**	**126** ⇑	*i*Pn	**Pn**	**09 57 18.9**	**-1.4**
KROS			⇑	*i*Pg	**Pb**	**09 57 32.5**	**+1.3**
KROS				Pmax		09 57 35.3	
	comp=Z,36nm,0.5s						
KROS				*e*Sn	**Sn**	**09 58 12.1**	**-0.7**
KROS

comp=Z,115nm,1.8s
OGRR Ongureny 8.31 250 *e* Px 09 58 43.4
OGRR *e*Sg Px 10 00 28.3
OGRR Smax 10 00 47.9
comp=Z,36nm,2.1s
KPC Khapcheranga 9.06 217 *e*Pn **Pn** **09 58 23.6 +0.7**
KPC *e*Sg Sx 10 00 52.5
KPC Smax 10 01 02.7
comp=Z,111nm,1.1s
TRTB Turuntaevo 9.10 242 *e*Sg Sx 10 00 54.0
TRTB Smax 10 01 00.7
comp=Z,56nm,1.4s
ZRHB Zarechye 9.14 245 *e*Sg Sx 10 00 55.3
ZRHB Smax 10 01 12.3
comp=Z,222nm,1.3s
TRG Tyrgan 9.42 247 *e* Px 09 59 32.7
TRG *e*Sg Sx 10 01 02.1
TRG Smax 10 01 17.0
comp=Z,44nm,2.2s
HRMR Khuramsha 9.81 241 *e*Sg Sx 10 01 16.4
HRMR Smax 10 01 25.6
comp=Z,181nm,1.4s
SONM Songino Array 12.84 229 Pn **Pn** **09 59 13.0 -1.5**
comp=Z,0.1nm,0.3s,baz=32,slow=8.7,SNR=3.2
SONM Lg 10 02 57.1
comp=Z,0.6nm,0.3s,baz=18,slow=30,SNR=12
ZAL Zalesovo 20.43 276 P **P** **10 00 48.0 -1.3**
comp=Z,0.9nm,0.3s,baz=320,slow=18,SNR=2.3
ZAL Zalesovo 20.43 276 P **P** **10 00 48.0 -1.4**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 25.54 262 P **P** **10 01 38.7 -2.1**
comp=Z,0.5nm,0.7s,mb3.2,baz=56,slow=5.2,SNR=3.5
MKAR Makanchi Array 25.54 262 P **P** **10 01 38.7 -2.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 41.51 40 P **P** **10 04 00.0 +0.7**
comp=Z,0.3nm,0.6s,mb3.1,baz=295,slow=4.6,SNR=8.1
FINES FINESS Array B 44.36 317 P **P** **10 04 21.2 -1.3**
comp=Z,1.4nm,0.8s,mb3.8,baz=27,slow=8.5,SNR=7.9
FINES FINESS Array B 44.36 317 P **P** **10 04 21.2 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 49.84 323 P **P** **10 05 05.6 +0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=40,slow=7.4
NOA NORSAR Array B 49.84 323 P **P** **10 05 05.3 +0.1**
comp=Z,0.6nm,0.4s,mb4.0,baz=43,slow=7.8,SNR=3.4
NOA NORSAR Array B 49.84 323 P **P** **10 05 05.3 +0.1**
NOA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 53.12 29 P **P** **10 05 30.3 +0.5**
comp=Z,0.2nm,0.8s,mb3.1,baz=334,slow=6.6,SNR=3.2
WRA Warramunga Arr 77.75 167 P **P** **10 08 09.3 +0.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=352,slow=6.5,SNR=4.9
WRA Warramunga Arr 77.75 167 P **P** **10 08 09.3 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 81.37 168 P **P** **10 08 29.2 +0.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=358,slow=4.4,SNR=6.6

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*ISCJB **13** 10:26:44.7±0.7, 218S±0.1×17382W±0.10, h33km, mb4.5/13, MS3.8/3, Error ellipse: s-maj=17.4km s-min=11.1km az=122.6*
*IDC **13** 10:26:46.1±0.9, 2159S×17441W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/18, mbtmp4.4/11, ML3.9/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/27, Error ellipse: s-maj=32.4km s-min=19.3km az=138.0*
*NEIC **13** 10:26:55.0±4.3, 2173S×17451W, h67km±38km, mb4.6/4, Error ellipse: s-maj=20.2km s-min=18.2km az=177.0*
ISC 13 10:26:47.6±0.7, 217S±01×17385W±009, h35km, n41, σ1§13/24, mb4.5/13, MS3.8/3, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.02**	**15**	Pn	**Pn**	**10 28 41.5**	**-0.1**
	4.9nm,0.3s,baz=197,slow=22,SNR=3.2						
AFI				Sn	**Sn**	**10 29 59.3**	**-12**
	5.6nm,0.3s,baz=71,slow=18,SNR=2.2						
AFI				LR	LR	10 31 16.4	
	comp=Z,364nm,19.9s,baz=247,slow=34						
AFI	**Afiamalu**	**8.02**	**15**	Pn	**Pn**	**10 28 41.5**	**-0.1**
AFI				Sn	**Sn**	**10 29 59.3**	**-12**
AFI				LR	LR	10 31 16.4	
RAR	**Rarotonga**	**13.12**	**90**	Pn	**Pn**	**10 29 50.3**	**-1.0**
	5.5nm,0.3s,baz=271,slow=6.8,SNR=24						
RAR				Sn	**Sn**	**10 32 05.4**	**-10**
	1.8nm,0.3s,baz=225,slow=7.6,SNR=3.5						
RAR				LR	LR	10 34 02.6	
	comp=Z,502nm,19.6s,baz=239,slow=32						
URZ	**Urewera**	**18.23**	**203**	P	**Pn**	**10 30 59.0**	**+1.3**
	0.4nm,0.3s,baz=360,slow=22,SNR=3.7						
URZ				S	S	10 34 01.3	-23
	0.3nm,0.3s,baz=205,slow=12,SNR=3.1						
DZM	**Mont Dzumac**	**18.29**	**265**	P	**Pn**	**10 30 58.2**	**-0.3**
	0.5nm,0.3s,baz=78,slow=18,SNR=8.6						
PPT	**Papeete**	**23.22**	**84**	LR	LR	10 40 15.2	
	comp=Z,334nm,18.7s,MS3.8,baz=16,slow=34						
RPZ	**Rata Peaks**	**25.26**	**206**	P	**P**	**10 32 13.8**	**+3.3**
	11nm,0.5s,mb4.6,baz=7.3,slow=5.9,SNR=10						
HNR	**Honiara**	**27.99**	**292**	LR	LR	10 42 05.6	
	comp=Z,73nm,18.2s,MS3.3,baz=179,slow=34						
CTA	**Charters Tower**	**37.24**	**265**	*e*P	**P**	**10 33 55.3**	**-0.4**
	6.3nm,1.5s,mb4.2						
CTA	**Charters Tower**	**37.24**	**265**	P	**P**	**10 33 55.5**	**-0.2**
	4.2nm,0.6s,mb4.4,baz=91,slow=12,SNR=8.4						
PMG	**Port Moresby**	**39.39**	**282**	P	**P**	**10 34 13.8**	**0.0**
	4.4nm,0.3s,mb4.6,baz=97,slow=8.0,SNR=5.1						
STKA	**Stephens Creek**	**40.79**	**246**	P	**P**	**10 34 21.8**	**-3.6**
	1.6nm,0.5s,mb3.9,baz=89,slow=8.4,SNR=3.8						
STKA				LR	LR	10 50 21.9	
	comp=Z,257nm,18.7s,MS4.1,baz=25,slow=35						
ASAR	**Alice Springs**	**48.02**	**257**	P	**P**	**10 35 22.8**	**-0.5**
	6.2nm,0.9s,mb4.7,baz=101,slow=7.2,SNR=78						
ASAR				PcP	PcP	10 36 54.4	+3.6
	1.0nm,0.6s,baz=106,slow=3.0,SNR=6.3						
WB2	**Warramunga Arr**	**48.26**	**262**	*e*P	**P**	**10 35 24.0**	**-1.1**
WRAB	**Tennant Creek**	**48.27**	**262**	*e*P	**P**	**10 35 23.5**	**-1.6**
	13nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**48.27**	**262**	P	**P**	**10 35 24.2**	**-0.9**
	5.7nm,0.8s,mb4.6,baz=91,slow=5.9,SNR=15						
WRA				PcP	PcP	10 36 55.5	+3.8
	1.0nm,0.6s,baz=100,slow=3.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**56.70**	**262**	||*i*P	**P**	**10 36 28.2**	**+0.6**
	8.9nm,1.1s,mb4.7						
MBWA	**Marble Bar**	**61.37**	**257**	*e*P	**P**	**10 36 59.8**	**-0.1**
	2.5nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**73.53**	**321**	P	**P**	**10 38 18.9**	**+2.1**
	5.0nm,0.6s,mb4.6,baz=159,slow=5.8,SNR=15						
MAJO	**Matsushiro**	**73.54**	**321**	*e*P	**P**	**10 38 17.5**	**+0.7**
	4.5nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**79.32**	**41**	P	PcP	10 38 55.1	-2.6
	0.4nm,0.6s,baz=221,slow=9.1,SNR=5.0						
ANMO	**Albuquerque**	**85.19**	**50**	*e*P	pP	10 39 27.7	-3.6
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**87.25**	**42**	P	PcP	10 39 35.0	+2.5
	0.6nm,0.8s,baz=243,slow=3.3,SNR=5.3						
PSI	**Prapat**	**88.45**	**274**	P	**P**	**10 39 37.7**	**+1.5**
	5.5nm,0.8s,mb4.8,baz=62,slow=2.5,SNR=5.0						
PSI	**Prapat**	**88.45**	**274**	P	**P**	**10 39 37.7**	**+1.5**
YKA	**Yellowknife Ar**	**96.04**	**24**	P	**P**	**10 40 15.1**	**+3.9**
	0.2nm,0.7s,mb3.7,baz=239,slow=4.4,SNR=6.1						
AKASG	**Malin Array Be**	**145.90**	**334**	PKPbc	PKPbc	10 46 26.2	+2.9
	1.7nm,0.4s,baz=35,slow=3.4,SNR=18						
AKASG	**Malin Array Be**	**145.90**	**334**	PKPbc	PKPbc	10 46 26.2	+2.9
CLL	**Collm**	**149.99**	**351**	||*i*P	PKPdf	10 46 34.7	+5.4
CLL				*i* x	x	10 46 37.8	
	comp=Z,53nm,2.0s						
CLL				*i* x	x	10 46 49.9	
	comp=Z,43nm,1.8s						
UPC	**Upice**	**150.25**	**347**	*e*PKPbc	PKPbc	10 46 39.2	+4.3
BRG	**Berggiesshubel**	**150.28**	**350**	*e*P	PKPbc	10 46 39.3	+4.4
	comp=Z,28nm,1.9s						
BRG				*e*		10 46 51.1	
	comp=Z,4.0nm,0.8s						
DPC	**Dobruska-Polom**	**150.33**	**347**	*e*PKPbc	PKPbc	10 46 39.4	+4.3
OKC	**Ostrava-Krasne**	**150.38**	**344**	*e*PKPbc	PKPbc	10 46 37.6	+2.4
PVCC	**Panska Ves**	**150.50**	**349**	*e*PKPbc	PKPbc	10 46 39.9	+4.4
PVCC				epPKP	pPKPdf	10 46 51.7	+10
BRTR	**Keskin Array B**	**150.51**	**314**	PKPbc	PKPbc	10 46 37.9	+2.4
	comp=Z,0.9nm,0.8s,baz=180,slow=4.3,SNR=5.4						
MORC	**Moravsky Berou**	**150.59**	**345**	*e*PKPbc	PKPbc	10 46 40.0	+4.3
MOX	**Moxa**	**150.82**	**353**	*e*P	PKPbc	10 46 40.6	+4.4
	comp=Z,41nm,2.0s						
PRU	**Pruhonice**	**151.03**	**349**	*e*PKPbc	PKPbc	10 46 40.9	+4.2
NKC	**Novy Kostel**	**151.12**	**352**	*e*PKPbc	PKPbc	10 46 40.8	+3.9
KHC	**Kasperske Hory**	**152.02**	**350**	*e*PKPbc	PKPbc	10 46 43.4	+4.4
KHC				*e*pPKP	pPKPdf	10 46 54.4	+10
GERES	**GERESS Array B**	**152.28**	**349**	PKPbc	PKPbc	10 46 43.7	+4.1
	comp=Z,0.3nm,0.4s,baz=0.0,slow=2.7,SNR=4.4						

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*ISCJB **13** 10:36:08.3±0.6, 5763N±007×155.1W±0.1, h75km±12km, mb3.4/1, Error ellipse: s-maj=13.1km s-min=7.1km az=107.5*
*IDC **13** 10:36:09.4±5.0, 5781N×155.14W, h58km±34km, mb3.2/2, mb1 3.6/4, mb1mx3.2/21, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=43.8km s-min=21.4km az=56.0*
*NEIC **13** 10:36:10.7, 5756N×155.10W, h56km, ML2.9(AEIC), After AEIC.*
ISC 13 10:36:09.6±0.6, 5759N±007×1551W±01, h65km±13km, n17, σ0§92/20, mb3.4/1, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.34**	**81**	P	**Pn**	**10 36 31.9**	**-0.3**
	98nm,0.3s,baz=263,slow=10,SNR=286						
KDAK				S	**Sn**	**10 36 49.3**	**+0.1**
	42nm,0.3s,baz=210,slow=20,SNR=12						
KDAK	**Kodiak Island**	**1.34**	**81**	P	**Pn**	**10 36 34.6**	**+2.4**
CHGN	**Chignik**	**2.25**	**236**	P	**Pn**	**10 36 43.5**	**-0.9**
CHGN				S	**Sn**	**10 37 10.8**	**-0.4**
SVW2	**Sparrevohn**	**3.53**	**356**	P	**Pn**	**10 37 02.3**	**+0.4**
SDPT	**Sand Point**	**3.75**	**236**	P	**Pn**	**10 37 05.7**	**+0.7**
SLKM	**Skilak Lake**	**3.85**	**38**	*e*Pn	**Pn**	**10 37 05.7**	**-0.5**
SEW	**Seward**	**3.85**	**47**	P	**Pn**	**10 37 06.6**	**+0.3**
RC01	**Rabbit Creek A**	**4.44**	**36**	P	**Pn**	**10 37 14.4**	**0.0**
PMR	**Palmer**	**5.02**	**34**	P	**Pn**	**10 37 21.8**	**-0.4**
TT01	**Tatalina**	**5.36**	**355**	P	**Pn**	**10 37 28.1**	**+1.2**
TTA	**Tatalina**	**5.38**	**355**	*e*Pn	**Pn**	**10 37 28.1**	**+0.9**
	12nm,0.7s						
ILAR	**Eielson Array**	**8.21**	**25**	P	**Pn**	**10 38 04.4**	**-1.5**
	0.3nm,0.3s,baz=218,slow=14,SNR=14						
ILAR				S	**Sn**	**10 39 31.8**	**-5.3**
	0.1nm,0.3s,baz=184,slow=22,SNR=2.8						
IM3	**Indian Mountai**	**8.45**	**4**	P	**Pn**	**10 38 09.3**	**+0.2**
INK	**Inuvik**	**14.43**	**33**	P	**Pn**	**10 39 27.4**	**-3.0**
	0.0nm,0.3s,baz=204,slow=10,0,SNR=3.0						
YKA	**Yellowknife Ar**	**20.52**	**59**	P	**P**	**10 40 41.9**	**-0.4**
	0.9nm,0.7s,baz=274,slow=10,SNR=21						
YKA	**Yellowknife Ar**	**20.52**	**59**	P	**P**	**10 40 41.9**	**-0.5**
PDAR	**Pinedale Array**	**32.00**	**98**	P	**P**	**10 42 30.6**	**+1.0**
	0.4nm,0.5s,mb3.4,baz=328,slow=6.1,SNR=5.1						

MAN 13 10:38:25.3, 802N×12295E, h36km, mb1.7, ML3.5, MS4.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.43**	**238**	*e*P	Pn	10 38 37.3	+2.3
IPIL				*e*S	Sn	10 38 44.2	+2.4
PAGZ	**Pagadian**	**0.46**	**111**	*e*P	Pn	10 38 37.4	+1.9
PAGZ				*e*S	Sn	10 38 44.7	+2.2
DCPH	**Dipolog City**	**0.69**	**36**	||*e*P	Pn	10 38 40.3	+1.7
DCPH				*i* S	Sn	10 38 49.4	+1.4

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*ISCJB **13** 10:46:02.9±0.3, 638S±004×10473E±005, h32km, mb4.9/62, MS4.2/10, Error ellipse: s-maj=7.2km s-min=5.8km az=107.2*
*MOS **13** 10:46:04.2±0.8, 6.12S×10492E, h33km, mb5.2/16, Error ellipse: s-maj=15.7km s-min=7.8km az=111.9*
*BJI **13** 10:46:04.0, 630S×10480E, h31km, mB5.1, mb4.9, Ms4.7, Msz4.3*
*NEIC **13** 10:46:05.0±0.3, 635S×10480E, mb5.1/13, Error ellipse: s-maj=12.0km s-min=6.5km az=49.0*
*IDC **13** 10:46:08.3±3.1, 627S×10491E, h54km±26km, mb4.5/15, mb1 4.5/16, mb1mx4.4/20, mbtmp4.7/16, ML3.7/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/19, Error ellipse: s-maj=26.6km s-min=11.2km az=45.0*
ISC 13 10:46:05.5±0.3, 635S±004×10477E±005, h34km, h34km±1.4km: pP-P, n124, σ0§90/120, mb4.9/62, MS4.2/10, 7C-4D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**5.00**	**102**	P	**Pn**	**10 47 31.2**	**+13**
	63nm,0.9s						
COCO	**West Island**	**9.75**	**233**	Pn	**Pn**	**10 48 23.9**	**+0.6**
	2μm,0.5s,SNR=7.2						
COCO	**West Island**	**9.75**	**233**	*e*Pn	**Pn**	**10 48 23.3**	**0.0**
	162nm,0.6s						
COCO				*e*Sn	**Sn**	**10 50 10.5**	**-1.0**
PSI	**Prapat**	**10.80**	**327**	P	**Pn**	**10 48 39.4**	**+1.7**
	0.6nm,0.3s,baz=152,slow=6.0,SNR=3.5						
PSI				LR	LR	10 53 25.7	
	comp=Z,248nm,21.1s,baz=257,slow=41						
MBWA	**Marble Bar**	**20.66**	**137**	*e*Pn	**P**	**10 50 43.9**	**+1.6**
	6.9nm,0.6s						
MBWA				*e*pP		10 50 51.4	
MBWA				*e*S	**S**	**10 54 21.9**	**-9.5**
FITZ	**Fitzroy Crossi**	**23.47**	**122**	*e*P	**P**	**10 51 13.1**	**+0.9**
	8.3nm,0.6s,mb4.3						
QIZ	**Qiongzhong**	**25.70**	**11**	*e*P	**P**	**10 51 32.6**	**+0.1**
QIZ				S	**S**	**10 55 50.8**	**-8.2**
QIZ				LR	LR		
	comp=N,311nm,17.1s						
QIZ				LR	LR		
	comp=Z,290nm,16.6s,MS3.9						
KMI	**Kunming**	**31.34**	**356**	P	**P**	**10 52 27.3**	**+4.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KMI				LR	LR		
	comp=Z,175nm,19.5s,MS3.7						
WRA	**Warramunga Arr**	**31.73**	**118**	P	**P**	**10 52 26.8**	**+0.6**
	comp=Z,11nm,0.7s,mb4.8,baz=289,slow=10,SNR=163						
WRA				PcP	PcP	10 55 18.2	+1.0
	comp=Z,2.3nm,0.5s,baz=302,slow=2.1,SNR=12						
WRAB	**Tennant Creek**	**31.74**	**118**	P	**P**	**10 52 27.9**	**+1.6**
	comp=Z,121nm,0.5s,mb6.0,SNR=20						
WRAB	**Tennant Creek**	**31.74**	**118**	*e*P	**P**	**10 52 27.0**	**+0.7**
WRAB				*e**PP	pP	10 52 36.0	0.0
WRAB				*e*		10 55 18.0	
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**31.74**	**118**	*e*P	**P**	**10 52 27.0**	**+0.7**
	comp=Z,16nm,0.6s,mb5.0						
WRAB				*e*pP	pP	10 52 36.0	0.0
WRAB				*e*PcP	PcP	10 55 18.0	+0.8
WB2	**Warramunga Arr**	**31.74**	**118**	||*i*P	**P**	**10 52 27.0**	**+0.7**
VIS	**Vishakhapatnam**	**31.94**	**319**	*e*P	**P**	**10 52 27.8**	**-0.3**
VIS				AMb	AMB	10 52 30.9	
	comp=Z,18nm,0.8s,mb5.0						
VIS				*e*x	x	10 55 51.2	
GYA	**Guiyang**	**32.66**	**3**	||*i*P	**P**	**10 52 36.8**	**+2.5**
GYA				AP	pP	10 52 46.3	+2.2
GYA				XP	sP	10 52 50.4	+2.3
GYA				PP	PP	10 53 46.8	-1.6
GYA				S	**S**	**10 57 50.4**	**+2.2**
GYA				XS	sS	10 58 06.3	+2.0
GYA				SS	SS	10 59 49.8	-20
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,3.8s						
GYA				LR	LR		
	comp=N,590nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=E,870nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,760nm,17.8s,MS4.4						
ASAR	**Alice Springs**	**32.88**	**125**	P	**P**	**10 52 37.1**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.5,baz=296,slow=8.7,SNR=39						
ASAR				PcP	PcP	10 55 21.7	+1.4
	comp=Z,3.5nm,0.8s,baz=301,slow=2.4,SNR=13						
ASAR				S	**S**	**10 57 49.8**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=296,slow=16,SNR=8.2						
BOK	**Bokaro**	**35.17**	**329**	*e*P	**P**	**10 52 56.5**	**+0.3**
BOK				AMb	AMB	10 52 58.5	
	comp=Z,25nm,0.7s,mb5.3						
BLSP	**Bilaspur**	**35.95**	**323**	*e*P	**P**	**10 53 02.8**	**-0.1**
CD2	**Chengdu**	**37.05**	**359**	*e*P	**P**	**10 53 13.9**	**+1.6**
CD2				PP	PP	10 54 41.4	+4.4
CD2				S	**S**	**10 58 58.1**	**+2.2**
CD2				SS	SS	11 01 29.6	-9.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,90nm,5.2s						
CD2				LR	LR		
	comp=E,100nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,9.6s						
NGP	**Nagpur**	**37.20**	**318**	*e*P	**P**	**10 53 13.6**	**+0.1**
LSA	**Lhasa**	**38.15**	**341**	*e*P	**P**	**10 53 22.1**	**+0.6**
JIRN	**Jiri**	**38.28**	**333**	*e*P	**P**	**10 53 23.2**	**+0.6**
	comp=Z,42nm,0.7s,mb5.3						
AKL	**Akola**	**38.29**	**315**	*e*x	x	10 52 44.3	
AKL				AMb	AMB	10 52 44.9	
	comp=Z,20nm,0.3s,mb5.3						
PKI	**Pulchoki**	**38.56**	**332**	*e*P	**P**	**10 53 24.3**	**-0.7**
	comp=Z,12nm,0.4s,mb5.0						
GUN	**Gumba**	**38.63**	**333**	*e*P	**P**	**10 53 25.9**	**+0.3**
	comp=Z,61nm,0.7s,mb5.5						
DMN	**Daman**	**38.74**	**332**	*e*P	**P**	**10 53 26.5**	**0.0**
KKN	**Kakani**	**38.81**	**332**	*e*P	**P**	**10 53 27.2**	**+0.1**
	comp=Z,36nm,0.6s,mb5.3						
KKN	**Kakani**	**38.81**	**332**	*e*P	**P**	**10 53 27.2**	**+0.1**
KKN				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
GKN	**Gorkha**	**39.29**	**331**	*e*P	**P**	**10 53 31.5**	**+0.4**
	comp=Z,34nm,0.3s,mb5.5						
KOLN	**Koldanda**	**39.61**	**330**	*e*P	**P**	**10 53 33.8**	**+0.1**
	comp=Z,48nm,0.7s,mb5.4						
BHPL	**Bhopal**	**39.73**	**319**	*e*P	**P**	**10 53 35.7**	**+1.0**
BHPL				AMb	AMB	10 53 36.6	
	comp=Z,21nm,0.5s,mb5.1						
SSE	**Sheshan**	**40.41**	**22**	P	**P**	**10 53 40.8**	**+0.4**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,133nm,5.3s						
NJ2	**Nanjing**	**40.48**	**19**	*e*P	**P**	**10 53 40.1**	**-0.8**
NJ2				AP	pP	10 53 52.3	+1.5
NJ2				XP	sP	10 53 57.9	+3.1
NJ2				PP	PP	10 55 17.6	+3.2
NJ2				S	**S**	**10 59 45.0**	**-2.4**
NJ2				XS	sS	11 00 06.0	+2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,40nm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,23.0s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,22.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
PMG	**Port Moresby**	**42.08**	**97**	P	**P**	**10 53 55.0**	**+0.8**
	comp=Z,21nm,0.8s,mb4.8,baz=273,slow=4.8,SNR=10						
PMG	**Port Moresby**	**42.08**	**97**	*e*P	**P**	**10 53 54.8**	**+0.7**
PMG				*e**PP	pP	10 54 05.2	+1.2
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PMG	**Port Moresby**	**42.08**	**97**	*e*P	**P**	**10 53 54.8**	**+0.7**
	comp=Z,9.6nm,0.8s,mb4.5						
PMG				*e*pP	pP	10 54 05.2	+1.2
LZH	**Lanzhou**	**42.22**	**359**	*e*P	**P**	**10 53 51.5**	**-3.7**
LZH				AP	pP	10 54 01.3	-3.8
LZH				XP	sP	10 54 05.3	-3.8
LZH				PP	PP	10 55 33.5	+0.2
LZH				*e*S	**S**	**11 00 11.6**	**-1.6**
LZH				XS	sS	11 00 26.4	-3.1
LZH				SS	SS	11 03 13.5	-8.4
LZH				AMB	AMB		
	comp=Z,43nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,206nm,6.5s						
LZH				LR	LR		
	comp=N,745nm,14.3s						
LZH				LR	LR		
	comp=Z,1μm,18.2s,MS4.8						
STKA	**Stephens Creek**	**42.73**	**131**	||*i*P	**P**	**10 53 58.7**	**-0.7**
	comp=Z,5.7nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**42.73**	**131**	P	**P**	**10 53 58.7**	**-0.7**
	comp=Z,9.4nm,0.5s,mb4.8,baz=305,slow=8.1,SNR=33						
STKA				PcP	PcP	10 55 49.5	-1.1
	comp=Z,2.4nm,0.5s,baz=321,slow=1.4,SNR=3.2						
STKA				LR	LR	11 13 06.5	
	comp=Z,152nm,20.0s,MS3.9,baz=209,slow=38						
NDI	**New Delhi**	**43.79**	**324**	*e*P	**P**	**10 54 08.0**	**0.0**
GTA	**Gaotai**	**45.75**	**355**	*e*P	**P**	**10 54 23.9**	**+0.3**
GTA				AP	pP	10 54 33.3	-0.3
GTA				XP	sP	10 54 37.4	-0.2
GTA				PCP	PcP	10 56 01.5	+0.6
GTA				PP	PP	10 56 13.3	+2.2
GTA				PPP		10 56 56.6	
GTA				S	**S**	**11 01 06.6**	**+1.8**
GTA				XS	sS	11 01 21.8	+0.6
GTA				SS	SS	11 04 24.9	-4.5
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,97nm,6.5s						
GTA				LR	LR		
	comp=N,204nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=E,125nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=Z,220nm,13.3s,MS4.3						
HHC	**Hu-ho-hao-te**	**47.38**	**7**	*e*P	**P**	**10 54 40.5**	**+4.2**
HHC				AP	pP	10 54 49.1	+2.8
HHC				XP	sP	10 54 53.9	+3.6
HHC				PCP	PcP	10 56 11.8	+5.2
HHC				PP	PP	10 56 29.8	+2.2
HHC				SCP	ScP	11 00 03.3	+5.2
HHC				S	**S**	**11 01 33.1**	**+5.1**
HHC				XS	sS	11 01 48.8	+4.3
HHC				SCS	ScS	11 04 29.3	+1.7
HHC				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,89nm,6.0s						
HHC				LR	LR		
	comp=N,210nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=E,179nm,13.2s,MS4.4						
HHC				LR	LR		
	comp=Z,223nm,14.4s,MS4.3						
WMQ	**Urumqi**	**52.27**	**344**	*e*P	**P**	**10 55 14.0**	**+0.5**
WMQ				AP	pP	10 55 24.0	+0.4
WMQ				XP	sP	10 55 28.0	+0.4
WMQ				PP	PP	10 57 14.0	+1.9
WMQ				S	**S**	**11 02 36.0**	**-0.2**
WMQ				SS	SS	11 06 12.0	-2.0
WMQ				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
WMQ

MDJ			PCP	PcP	10 56 35.8	-0.8
MDJ			PP	PP	10 57 41.5	+0.9
MDJ			SCP	ScP	11 00 31.8	-1.0
MDJ			PCS	PcS	11 00 36.6	-0.1
MDJ			S	**S**	**11 03 23.0**	**+4.0**
MDJ			SCS	ScS	11 05 22.6	-0.6
MDJ			AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6					
MDJ			LR	LR		
	comp=N,33nm,24.8s,MS3.7					
MDJ			LR	LR		
	comp=E,64nm,23.1s,MS3.7					
MDJ			LR	LR		
	comp=Z,71nm,18.1s,MS3.8					
UCH	**Uchtor**	**55.65 333**	P	**P**	**10 55 39.2**	**+1.0**
	SNR=7.2					
TKM2	**Tokmak 2**	**55.73 334**	P	**P**	**10 55 39.5**	**+0.7**
	SNR=39					
TKM2	**Tokmak 2**	**55.73 334**	P	**P**	**10 55 38.9**	**+0.1**
TKM2			pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.2					
KBK	**Karagaybulak**	**55.80 334**	P	**P**	**10 55 40.4**	**+1.1**
	SNR=13					
AML	**Almayashu**	**55.95 332**	P	**P**	**10 55 41.3**	**+1.0**
	SNR=26					
AAK	**Ala-Archa**	**55.99 333**	P	**P**	**10 55 41.3**	**+0.7**
	SNR=6.9					
EKS2	**Erkin-Say**	**56.33 333**	P	**P**	**10 55 43.6**	**+0.5**
	SNR=8.2					
USP	**Ospenovka**	**56.49 334**	P	**P**	**10 55 43.9**	**-0.3**
	SNR=5.6					
ZAK	**Zakamensk**	**56.51 359**	*e*P	**P**	**10 55 43.5**	**-0.8**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4					
MK31	**Makanchi Array**	**56.55 342**	*i* P	**P**	**10 55 43.9**	**-0.7**
MK31			pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0					
MKAR	**Makanchi Array**	**56.55 342**	P	**P**	**10 55 44.4**	**-0.2**
	comp=Z,11nm,0.4s,mb5.2,baz=150,slow=8.4,SNR=176					
KK31	**Karatay Array**	**58.20 331**	*i* P	**P**	**10 55 55.4**	**-0.8**
KK31			pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.5					
KKAR	**Karatay Array**	**58.20 331**	P	**P**	**10 55 55.4**	**-0.8**
IRK	**Irkutsk**	**58.36 360**	*e*P	**P**	**10 55 54.2**	**-3.2**
IRK			pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3					
KLR	**Kul'dur**	**60.15 20**	*e*P	**P**	**10 56 06.0**	**-3.7**
ASAJ	**Asahikawa**	**60.70 30**	P	**P**	**10 56 13.4**	**-0.1**
	comp=Z,9.2nm,0.6s,mb5.1,baz=225,slow=11,SNR=10.0					
HABR	**Khabarovsk**	**60.71 23**	*i* P	**P**	**10 56 12.8**	**-0.8**
HABR			pmax	pmax		
	comp=Z,23nm,0.5s,mb5.6					
KURK	**Kurchatov**	**61.15 341**	P	**P**	**10 56 16.2**	**-0.4**
	comp=Z,111nm,0.6s,mb6.2,SNR=7.1					
KURK	**Kurchatov**	**61.15 341**	*c i*P	**P**	**10 56 16.1**	**-0.5**
KURK	**Kurchatov**	**61.15 341**	*e*P	**P**	**10 56 16.0**	**-0.6**
	comp=Z,18nm,1.0s,mb5.2					
ZAL	**Zalesovo**	**62.37 347**	P	**P**	**10 56 24.3**	**-0.5**
	comp=Z,15nm,0.4s,mb5.5,baz=332,slow=3.2,SNR=51					
ZAL	**Zalesovo**	**62.37 347**	P	**P**	**10 56 24.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**62.83 28**	*e*P	**P**	**10 56 28.0**	**+0.2**
BOD	**Bodaibo**	**64.39 5**	*e*P	**P**	**10 56 36.5**	**-1.6**
BOD			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7					
BRVK	**Borovoye**	**65.98 338**	P	**P**	**10 56 47.2**	**-1.3**
	comp=Z,114nm,0.5s,mb6.2,SNR=7.4					
BRVK	**Borovoye**	**65.98 338**	*e*P	**P**	**10 56 47.7**	**-0.8**
BRVK			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8					
BRVK	**Borovoye**	**65.98 338**	*e*P	**P**	**10 56 47.7**	**-0.8**
	comp=Z,9.9nm,1.0s,mb4.8					
ZRNK	**Zerenda**	**66.38 337**	*e*P	**P**	**10 56 50.1**	**-0.9**
ZRNK			pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1					
ZRNK	**Zerenda**	**66.38 337**	*e*P	**P**	**10 56 50.1**	**-1.0**
	comp=Z,15nm,0.8s,mb5.1					
AB31	**Akbulak array**	**67.73 330**	P	**P**	**10 56 59.3**	**-0.3**
AB31			pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9					
YAK	**Yakutsk**	**70.84 12**	*c i*P	**P**	**10 57 17.6**	**-1.2**
YAK			pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3					
ARU	**Arti**	**73.09 335**	P	**P**	**10 57 32.9**	**+0.6**
	comp=Z,129nm,0.5s,mb6.1,SNR=5.8					
ARU	**Arti**	**73.09 335**	⇑*i*P	**P**	**10 57 32.2**	**-0.1**
ARU			*e*		11 00 11.2	
ARU			*e*PPP		11 01 57.7	
ARU			*e*S	S	11 06 51.5	-5.9
ARU			*e*SS	SS	11 11 37.9	-0.9
ARU			pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0					
ARU	**Arti**	**73.09 335**	*e*P	**P**	**10 57 32.0**	**-0.3**
	comp=Z,28nm,1.0s,mb5.2					
PET	**Petropavlovsk**	**74.55 30**	⇑*i*P	**P**	**10 57 40.4**	**-0.5**
PET			pmax	pmax		
	comp=Z,57nm,0.5s,mb5.8					
PET	**Petropavlovsk**	**74.55 30**	*e*P	**P**	**10 57 40.2**	**-0.7**
	comp=Z,25nm,0.4s,mb5.5					
MA2	**Magadan**	**75.11 22**	*e*P	**P**	**10 57 43.8**	**-0.3**
MA2			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
SYO	**Syowa Base**	**75.36 200**	⇓*e*pP	pP	10 57 55.1	-0.9
SYO	**Syowa Base**	**75.36 200**	⇓*e*PcP	PcP	10 57 58.1	-0.6
SEY	**Seymchan**	**77.94 20**	*i* P	**P**	**10 58 00.0**	**-0.1**
TIXI	**Tiksi**	**79.44 8**	⇑*i*P	**P**	**10 58 06.7**	**-1.7**
TIXI			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5					
BRTR	**Keskin Array B**	**79.74 312**	P	**P**	**10 58 10.6**	**+0.6**
	comp=Z,5.7nm,0.7s,mb4.6,baz=135,slow=7.1,SNR=30					
VRSR	**Storozhevoye**	**80.03 324**	*e*P	**P**	**10 58 11.3**	**-0.3**
VRSR			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
VRSR			pmax	pmax		
	comp=N,1.0nm,0.6s					
OBN	**Obninsk**	**82.98 327**	*i* P	**P**	**10 58 27.6**	**+0.4**
OBN			*e*		11 01 34.5	
OBN			pmax	pmax		
	comp=Z,17nm,0.5s,mb5.3					
KLMR	**Klimovskoe**	**83.80 333**	*e*P	**P**	**10 58 27.6**	**-3.8**
KLMR			pmax	pmax		
	comp=Z,40nm,2.4s,mb5.1					
BILL	**Bilibino**	**85.60 19**	*i* P	**P**	**10 58 39.4**	**-1.1**
BILL			*e**PP	pP	10 58 57.3	+6.2
BILL			*e*SS	SS	11 14 40.4	-6.0
BILL			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0					
AKASG	**Malin Array Be**	**85.81 322**	P	**P**	**10 58 41.4**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.5,baz=88,slow=4.7,SNR=10					
JOF	**Joensuu**	**88.17 334**	*ep*	**P**	**10 58 51.5**	**-1.5**
	comp=Z,0.8nm,0.3s,mb4.4					
JOF	**Joensuu**	**88.17 334**	*e*P	**P**	**10 58 51.5**	**-1.5**
JOF			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.5					
APA	**Apatity**	**88.82 339**	⇓*e*P	**P**	**10 59 02.8**	**+6.8**
APA			*i*	pP	10 59 11.4	+4.7
APA			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1					
VSU	**Vasula**	**89.14 329**	*i* P	**P**	**10 58 58.1**	**+0.6**
FINES	**FINESS Array B**	**90.15 332**	P	**P**	**10 59 02.5**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.9,baz=104,slow=7.9,SNR=14					
KAF	**Kangasniemi**	**90.19 333**	*ep*	**P**	**10 59 02.1**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.4,baz=97,slow=4.1					
KAF	**Kangasniemi**	**90.19 333**	*e*P	**P**	**10 59 02.1**	**-0.4**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5					
ARCES	**ARCESS Array B**	**92.16 340**	P	**P**	**10 59 11.3**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.9,baz=94,slow=5.5,SNR=18					
ARCES	**ARCESS Array B**	**92.16 340**	P	**P**	**10 59 11.3**	**-0.2**
GERES	**GERESS Array B**	**95.43 318**	P	**P**	**10 59 26.8**	**+0.2**
	comp=Z,0.4nm,0.5s,mb4.1,baz=117,slow=4.4,SNR=3.5					
NOA	**NORSAR Array B**	**97.23 331**	P	**P**	**10 59 34.4**	**-0.4**
	comp=Z,0.6nm,0.7s,mb4.1,baz=114,slow=3.4,SNR=2.7					
NOA	**NORSAR Array B**	**97.23 331**	P	**P**	**10 59 34.4**	**-0.4**
YKA	**Yellowknife Ar**	**117.00 19**	PKP	PKPdf	11 04 46.1	-0.7
	comp=Z,0.4nm,0.6s,baz=330,slow=1.9,SNR=12					
DLMT	**Dillon**	**129.41 34**	*e*PKPdf	PKPdf	11 05 10.7	+0.2
NVAR	**Mina Array Bea**	**129.66 44**	PKP	PKPdf	11 05 13.6	+2.5
	comp=Z,0.5nm,0.5s,baz=270,slow=4.3,SNR=6.8					
ELK	**Elko**	**130.53 40**	PKP	PKPdf	11 05 14.9	+2.2
	comp=Z,1.1nm,0.5s,baz=232,slow=1.3,SNR=7.8					
HWUT	**Hardware Ranch**	**132.31 37**	*e*PKPdf	PKPdf	11 05 16.5	+0.5
PDAR	**Pinedale Array**	**132.75 34**	PKP	PKPdf	11 05 18.6	+1.7
	comp=Z,0.7nm,0.6s,baz=99,slow=1.5,SNR=7.8					
ULM	**Lac du Bonnet**	**132.95 18**	PKP	PKPdf	11 05 17.8	+0.5
	comp=Z,0.8nm,0.4s,baz=306,slow=3.3,SNR=3.6					
WMOK	**Wichita Mounta**	**144.36 34**	*e*PKIKP	PKPdf	11 05 36.3	-1.8
BDFB	**Brasilia**	**145.30 231**	PKPbc	PKPbc	11 05 42.0	+2.4
	comp=Z,5.0nm,0.8s,baz=133,slow=5.6,SNR=5.6					
JCT	**Junction City**	**146.70 41**	*e*PKP2	PKPab	11 05 44.0	-0.9
WVT	**Waverly**	**148.18 20**	*e*PKP2	PKPab	11 05 48.1	-2.7
PLAL	**Pickwick Lake**	**149.14 21**	*e*PKPbc	PKPbc	11 05 49.7	-0.6
LPAZ	**La Paz**	**156.44 197**	PKP	PKPdf	11 05 58.6	+1.8
	comp=Z,0.5nm,0.4s,baz=243,slow=9.0,SNR=3.2					

GUC 13 10:49:22.5±0.8, 3299S×7218W, h10km±23km, MD3.6, ML2.5, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.70**	**133**	⇓*i*P	Pg	10 49 36.5	+0.4
LCCH				*i* S	Sg	10 49 45.6	+0.3
LNV	**Longovilo**	**1.16**	**146**	*e*P	Pb	10 49 42.9	-1.6
LNV				*i* S	Sb	10 49 59.0	-0.5
TACH	**Talagante**	**1.23**	**123**	*e*P	Pn	10 49 44.8	-1.0
TACH				*i* S	Sb	10 50 00.8	-1.0
PEL	**Peldehue**	**1.27**	**97**	*e*P	Pn	10 49 44.6	-1.5
PEL				*i* S	Sb	10 50 02.1	-0.7
PEL				AMP		10 50 07.3	
	comp=E,186nm,0.4s						
JACH	**Jahuel**	**1.37**	**77**	⇓*i*P	Pn	10 49 46.8	-0.9
JACH				*i* S	Sb	10 50 05.5	-0.3
PCH	**Pirque**	**1.53**	**115**	*e*P	Pn	10 49 49.5	-0.3
PCH				*i* S	Sn	10 50 09.3	-0.4
CHCH	**Chadas Angostu**	**1.59**	**127**	*i* P	Pn	10 49 50.0	-0.6
CHCH				*i* S	Sn	10 50 11.5	+0.4
FCH	**Farellones**	**1.62**	**102**	*e*P	Pn	10 49 51.4	+0.3
FCH				*i* S	Sn	10 50 13.6	+1.6
FCH				AMP		10 50 19.1	
	comp=E,90nm,0.3s						
CACH	**El Canelo**	**1.73**	**131**	*e*P	Pn	10 49 53.3	+0.6
SFDO	**San Fernando**	**1.89**	**149**	*e*P	Pn	10 49 54.2	-0.5

*THR **13** 10:51:53.1±0.5, 3015N×5198E, h14km±13km, ML3.3*
*CSEM **13** 10:51:54.1±0.1, 3016N×5201E, h20km, ML3.3, Error ellipse: s-maj=3.4km s-min=3.1km az=30.0*
*ISCJB **13** 10:51:55.9±0.7, 3020N±008×5196E±005, h33km, Error ellipse: s-maj=10.9km s-min=6.3km az=176.1*
*KISR **13** 10:51:55.8±0.3, 3017N×5181E, h34km, ML3.1*

ISC 13 10:51:57.8±0.7, 3017N±008×5196E±005, h35km, n8, σ0§25/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**2.08**	**154**	*e*PG	**Pn**	**10 52 30.6**	**+0.4**
GHIR				AML	AML	10 53 12.8	
	comp=N,334nm,0.7s						
NASN	**Na'in**	**2.72**	**15**	*e*PN	**Pn**	**10 52 38.7**	**-0.2**
NASN				AML	AML	10 53 27.6	
	comp=N,62nm,0.7s						
UMR	**Umm Al-Rimmam**	**3.74**	**262**	*e*P	**Pn**	**10 52 52.9**	**-0.1**
UMR				*e*S	**Sn**	**10 53 35.6**	**-0.2**
RDF	**Al-Radifah**	**4.04**	**253**	*e*P	**Pn**	**10 52 57.2**	**0.0**
KRBR	**Kerman**	**4.16**	**91**	*e*PN	**Pn**	**10 52 58.5**	**-0.3**
KRBR				SN	**Sn**	**10 53 46.2**	**0.0**
NAY	**Al-Naaiem**	**4.21**	**259**	*e*P	**Pn**	**10 52 59.4**	**0.0**
NAY				AML	AML	10 53 50.6	
	comp=Z,22nm,0.5s						
ASAO	**Ashtian**	**4.66**	**340**	*e*PN	**Pn**	**10 53 06.2**	**+0.5**
SNGE	**Sanandaj**	**6.26**	**323**	*e*PN	**Pn**	**10 53 27.7**	**+0.1**

*IDC **13** 10:54:04.1±1.1, 1816N×7318W, h0km, mb3.5/6, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=51.7km s-min=18.2km az=75.0*
*JSN **13** 10:54:05.0±1.2, 1786N×7308W, h15km±999km, MD4.7*
*ISCJB **13** 10:54:06.8±0.4, 1808N±005×7319W±003, h33km, mb3.5/6, Error ellipse: s-maj=6.9km s-min=3.3km az=25.7*
*SSNC **13** 10:54:07.6, 1796N×7316W, h25km, MD3.6, ML4.0*
*RSPR **13** 10:54:11.2, 1842N×7306W, h25km±30km, MD4.8/4, MD4.8/4*

ISC 13 10:54:09.1±0.4, 1813N±005×7323W±003, h35km, n30, σ1§12/36, mb3.5/6, 8C-4D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**2.24**	**335**	*e*P	**Pn**	**10 54 44.0**	**+0.4**
	baz=159						
MASC				*e*		10 55 00.0	
	comp=E,5μm,0.2s						
MASC				*e*S	**Sn**	**10 55 09.5**	**-0.5**
	comp=N,4μm,0.2s						
RCC	**Rio Carpintero**	**2.98**	**309**	*e*P	**Pn**	**10 54 53.3**	**-0.4**
	baz=113						
RCC				*e*		10 55 00.0	
	comp=E,3μm,0.2s						
RCC				*e*S	**Sn**	**10 55 27.9**	**-0.3**
	comp=N,455nm,0.2s						
CMJ	**Castle Mountai**	**2.98**	**271**	⇓*e*P	**Pn**	**10 54 52.6**	**-1.3**
MOAC	**Moa**	**3.00**	**327**	*e*P	**Pn**	**10 54 56.1**	**+2.1**
	baz=122						
MOAC				*e*		10 55 00.0	
	comp=E,10μm,0.3s						
MOAC				*e*S	**Sn**	**10 55 32.2**	**+3.5**
	comp=N,10μm,0.2s						
GWJ	**Greenwich**	**3.32**	**270**	*e*P	**Pn**	**10 54 58.1**	**-0.5**
HOJ	**Hope**	**3.35**	**268**	⇓*i*P	**Pn**	**10 54 58.6**	**-0.2**
STH	**Stony Hill**	**3.40**	**270**	⇓*e*P	**Pn**	**10 54 57.9**	**-1.6**
STH				*e*S	**Sn**	**10 55 39.1**	**+0.4**
PCJ	**Portland Cotta**	**3.75**	**265**	⇑*e*P	**Pn**	**10 55 03.5**	**-0.9**
BBJ	**Bamboo Saint A**	**3.84**	**274**	⇓*e*P	**Pn**	**10 55 05.7**	**+0.1**
LMGC	**Las Mercedes**	**4.05**	**299**	*e*P	**Pn**	**10 55 08.1**	**-0.4**
	baz=121						
LMGC				*e*S	**Sn**	**10 55 52.0**	**-2.7**
	comp=N,993nm,0.2s						
CRPR	**Cabo Rojo, PR**	**5.83**	**90**	⇑*e*P	**Pn**	**10 55 33.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**5.83**	**90**	*e*S	**Sn**	**10 56 37.5**	**-1.0**
MGP	**Maguayo**	**5.85**	**90**	⇑*e*P	**Pn**	**10 55 33.1**	**-0.1**
MGP				*e*S	**Sn**	**10 56 37.8**	**-1.2**
AOPR	**Arecibo Observ**	**6.17**	**87**	⇑*e*P	**Pn**	**10 55 38.3**	**+0.8**
AOPR	**Arecibo Observ**	**6.17**	**87**	*e*S	**Sn**	**10 56 44.9**	**-2.0**
CELP	**Cerrillos**	**6.33**	**89**	⇑*e*P	**Pn**	**10 55 39.9**	**0.0**
SJG	**San Juan**	**6.74**	**89**	Sn	**Sn**	**10 56 57.8**	**-3.1**
	comp=N,2.8nm,0.3s,baz=331,slow=19,SNR=2.2						
CBYP	**Canovanas**	**7.01**	**86**	⇑*e*P	**Pn**	**10 55 50.3**	**+1.0**
MTP	**Monte Pirata**	**7.30**	**89**	⇑*e*P	**Pn**	**10 55 54.0**	**+0.8**
MTP	**Monte Pirata**	**7.30**	**89**	*e*S	**Sn**	**10 57 14.7**	**-0.1**
CULB	**Culebra**	**7.51**	**87**	⇑*e*P	**Pn**	**10 55 57.4**	**+1.3**
SDV	**Santo Domingo**	**9.53**	**164**	Pn	**Pn**	**10 56 23.0**	**-0.8**
	comp=N,2.7nm,0.3s,baz=19,slow=3.7,SNR=27						
SDV				Sn	**Sn**	**10 58 01.4**	**-8.3**
	comp=N,3.5nm,0.3s,baz=220,slow=23,SNR=8.7						
ROSC	**El Rosal**	**13.24**	**185**	Pn	**Pn**	**10 57 15.5**	**+1.0**
	comp=N,2.3nm,0.3s,baz=108,slow=17,SNR=4.5						
LPAZ	**La Paz**	**34.57**	**171**	P	**P**	**11 00 56.4**	**+2.0**
	comp=N,0.9nm,0.9s,mb3.7,baz=286,slow=3.0,SNR=3.2						
SCHQ	**Schefferville**	**36.96**	**6**	P	**P**	**11 01 15.6**	**+0.8**
	comp=N,2.2nm,0.9s,mb4.0,baz=197,slow=14,SNR=2.8						
PDAR	**Pinedale Array**	**39.33**	**317**	P	**P**	**11 01 35.3**	**+0.5**
	comp=N,0.4nm,0.7s,mb3.2,baz=108,slow=8.6,SNR=3.3						
PDAR				PcP	PcP	11 03 42.7	-0.2
	comp=N,0.5nm,0.6s,baz=119,slow=4.9,SNR=4.9						
NVAR	**Mina Array Bea**	**44.03**	**307**	P	**P**	**11 02 15.6**	**+2.3**
	comp=N,0.3nm,0.8s,mb3.1,baz=100,slow=5.5,SNR=3.0						
YKA	**Yellowknife Ar**	**52.75**	**337**	P	**P**	**11 03 20.3**	**-0.1**
	comp=N,0.5nm,0.7s,mb3.6,baz=128,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**66.78**	**333**	P	**P**	**11 04 56.5**	**-0.4**
	comp=N,0.2nm,0.5s,mb3.4,baz=89,slow=5.1,SNR=7.1						
WRA	**Warramunga Arr**	**153.88**	**262**	PKPbc	PKPbc	11 14 05.0	+0.5
	comp=N,0.1nm,0.5s,baz=79,slow=2.7,SNR=4.4						

WEL 13 11:14:20.6±0.5, 3497S×17830E, h33km, ML3.5/3, Error ellipse: s-maj=7.3km s-min=3.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.10**	**181**	PN	Pn	11 15 06.6	-0.6
PUZ				SN	Sn	11 15 40.6	-2.5
PUZ				SN	Sn	11 15 40.7	-2.4
MWZ	**Matawai**	**3.42**	**190**	P*	Pb	11 15 12.2	-8.2
URZ	**Urewera**	**3.42**	**196**	P*	Pb	11 15 12.1	-8.5
URZ				S*	Sb	11 15 51.9	-10

*NNC **13** 11:48:03.2±5.6, 5351N×8039E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=55.6km s-min=20.6km az=39.0*
*ISCJB **13** 11:48:04.7±0.6, 5337N±005×8035E±008, h10km, mb3.7/4, Error ellipse: s-maj=7.9km s-min=6.7km az=21.6*
*IDC **13** 11:48:05.6±0.7, 5335N×8045E, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/24, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=11.5km s-min=9.0km az=1.0*
*MOS **13** 11:48:05.5±1.9, 5334N×8046E, h10km, mb4.0/3, Error ellipse: s-maj=20.5km s-min=17.2km az=95.1*
*NAO **13** 11:48:07.9, 5408N×8166E, h33km, mb3.5*

ISC 13 11:48:06.4±0.5, 5338N±005×8042E±007, h10km, n21, σ1§66/27, mb3.7/4, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVS	**Novosibirsk**	**2.21**	**47**	*e*PN	**Pn**	**11 48 45.0**	**+1.9**
NVS				*e*		11 49 11.4	
ZAL	**Zalesovo**	**2.67**	**76**	Pn	**Pn**	**11 48 52.6**	**+3.3**
	10nm,0.3s,baz=211,slow=10,SNR=72						
ZAL				Lg		11 49 28.5	
	19nm,0.3s,baz=184,slow=4.6,SNR=5.6						
KURK	**Kurchatov**	**2.89**	**203**	⇑Pn	**Pn**	**11 48 54.4**	**+2.0**
	16nm,0.6s						
KURK				⇑Lg		11 49 37.8	
	75nm,0.6s						
ELT	**Yel'tsovka**	**3.49**	**90**	*e*PN	**Pg**	**11 49 11.2**	**-2.1**
UKR	**Ust'-Kan**	**3.63**	**131**	*e*PN	**Pg**	**11 49 15.6**	**-0.3**
UKR				*e*		11 50 02.7	
VOSK	**Vostochnaya**	**5.73**	**267**	⇑Pn	**Pn**	**11 49 33.5**	**+2.0**
	3.2nm,0.5s						
VOSK				⇓Sn	**Sn**	**11 50 34.2**	**-3.2**
	3.3nm,0.4s						
BVA0	**Borovoye Array**	**6.04**	**271**	⇓Pn	**Pn**	**11 49 37.3**	**+1.5**
	0.6nm,0.7s,baz=68,slow=18,SNR=11						
BVA0				⇓Sn	**Sn**	**11 50 40.4**	**-4.6**
	1.7nm,1.1s,baz=71,slow=27,SNR=4.7						
BVAR	**Borovoye Array**	**6.04**	**271**	Pn	**Pn**	**11 49 37.6**	**+1.9**
	1.1nm,0.3s,baz=74,slow=15,SNR=19						
BVAR				Sn	**Sn**	**11 50 42.6**	**-2.4**
	3.0nm,0.3s,baz=70,slow=26,SNR=9.6						
BVAR				Lg		11 51 13.9	
	0.9nm,0.3s,baz=80,slow=25,SNR=3.4						
MK31	**Makanchi Array**	**6.70**	**169**	⇑Pn	**Pn**	**11 49 45.8**	**+1.0**
	0.8nm,0.2s,baz=352,slow=13,SNR=215						
MK31				⇑Sn	**Sn**	**11 51 09.8**	**+8.5**
	1.8nm,0.3s,baz=353,slow=15,SNR=5.0						
MK31				⇓Lg		11 51 34.3	
	34nm,0.8s,baz=359,slow=26,SNR=11						
MKAR	**Makanchi Array**	**6.70**	**169**	Pn	**Pn**	**11 49 45.4**	**+0.5**
	0.9nm,0.3s,baz=350,slow=12,SNR=70						
MKAR				Sn	**Sn**	**11 50 59.6**	**-1.7**
	1.3nm,0.3s,baz=341,slow=18,SNR=3.3						
MKAR	**Makanchi Array**	**6.70**	**169**	PN	**Pn**	**11 49 45.4**	**+0.5**
MKAR						11 50 59.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TKM2	**Tokmak 2**	**10.95**	**199**	⇑Pn	**Pn**	**11 50 41.1**	**-1.9**
	comp=Z,1.6nm,0.9s						
TKM2				⇑Sn	**Sn**	**11 52 49.0**	**+3.4**
	comp=Z,4.0nm,0.9s						
TKM2				⇑Lg		11 53 52.0	
	comp=Z,17nm,1.2s						
SONM	**Songino Array**	**17.34**	**98**	P	**Pn**	**11 52 09.3**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=307,slow=14,SNR=2.2						
NB2	**NORSAR Subarra**	**36.59**	**310**	P	**P**	**11 55 11.3**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=68,slow=8.6						
NOA	**NORSAR Array B**	**36.59**	**310**	P	**P**	**11 55 11.7**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.8,baz=65,slow=7.9,SNR=4.5						
NOA	**NORSAR Array B**	**36.59**	**310**	P	**P**	**11 55 11.7**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**56.68**	**22**	P	**P**	**11 57 49.0**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=318,slow=4.7,SNR=14						
ILAR	**Eielson Array**	**56.68**	**22**	P	**P**	**11 57 49.1**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**63.86**	**8**	P	**P**	**11 58 38.1**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=350,slow=7.3,SNR=11						
YKA	**Yellowknife Ar**	**63.86**	**8**	P	**P**	**11 58 38.1**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**89.58**	**133**	P	**P**	**12 01 02.8**	**-1.4**
	comp=Z,0.3nm,0.9s,mb3.6,baz=338,slow=5.0,SNR=3.3						

MAN 13 12:01:37.1, 850N×12326E, h34km, mb1.7, ML3.5, MS5.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.12**	**48**	⇓*i*P	Pb	12 01 44.1	+1.0
DCPH				*i* S	Sb	12 01 47.9	+0.7
PAGZ	**Pagadian**	**0.66**	**170**	*e*P	Pn	12 01 51.2	+1.1
PAGZ				*e*S	Sn	12 02 00.6	+1

nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NAO **13** 12:05:45.0, 138N×94.06E, h33km, mb4.7*
ISC 13 12:05:43.9±0.2, 247N±004×9623E±003, h28km, h28km±1.1km: pP-P, n228, σ1⇧05/225, mb4.9/105, MS4.8/50, 11C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.71**	**83**	Pn	**Pn**	**12 06 26.2**	**+0.6**
PSI				LR	LR	12 07 46.2	
	comp=Z,8μm,18.5s,baz=261,slow=45						
PSI	**Prapat**	**2.71**	**83**	Pn	**Pn**	**12 06 26.2**	**+0.6**
PSI				LR	LR	12 07 46.2	
PPI	**Padang Panjang**	**5.08**	**125**	P	**Pn**	**12 06 58.5**	**+0.4**
	85nm,0.9s						
KULM	**Kulim**	**5.22**	**57**	*e*Pn	**Pn**	**12 07 01.2**	**+1.1**
NST	**Nakhon Sawan**	**13.67**	**16**	P	**Pn**	**12 09 05.0**	**+9.1**
KSM	**Kuching**	**14.10**	**94**	*e*Pn	**Pn**	**12 09 01.7**	**0.0**
KKTK	**Khon Kaen**	**15.23**	**25**	P	**Pn**	**12 09 21.0**	**+4.1**
	432nm,0.5s						
PALK	**Pallekele**	**16.19**	**288**	P	**Pn**	**12 09 30.1**	**+0.7**
	30nm,0.8s						
CHRT	**Chiangrai**	**17.64**	**11**	⇧P	**Pn**	**12 09 46.0**	**-1.6**
	105nm,0.7s						
VIS	**Vishakhapatnam**	**19.75**	**321**	*e*P	**Pn**	**12 10 11.3**	**-1.9**
VIS				AMb	AMB	12 10 26.2	
	comp=Z,59nm,1.8s						
VIS				*e*S	**Sn**	**12 13 44.1**	**-10**
TRD	**Trivandrum**	**20.09**	**288**	*ex*	x	12 14 12.3	
QIZ	**Qiongzhong**	**21.17**	**38**	P	**P**	**12 10 25.8**	**-1.1**
QIZ				XP	sP	12 10 37.0	-1.0
QIZ				PP		12 10 50.8	
QIZ				PPP		12 11 00.8	
QIZ				*e*S	**S**	**12 14 16.5**	**-4.4**
QIZ				XS	sS	12 14 29.4	-3.6
QIZ				SS		12 14 48.4	
QIZ				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.5						
QIZ				LR	LR		
	comp=N,3μm,18.6s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,15.4s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,12.9s,MS4.9						
BATP	**Bataraza**	**22.35**	**73**	*e*P	**P**	**12 10 39.2**	**-0.3**
HYB	**Hyderabad**	**22.85**	**312**	*i* P	**P**	**12 10 44.5**	**-0.3**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**12 14 56.0**	**+3.3**
SHL	**Shillong**	**23.34**	**350**	*e*P	**P**	**12 10 48.0**	**-2.0**
SHL				*e*P		12 10 48.6	
SHL				*e*S	**S**	**12 15 00.5**	**-0.2**
KMI	**Kunming**	**23.38**	**15**	P	**P**	**12 10 50.9**	**+0.5**
KMI				AP		12 10 59.0	
KMI				XP	sP	12 11 02.5	+1.0
KMI				PP		12 11 24.8	
KMI				PPP		12 11 35.3	
KMI				PCP	PcP	12 14 34.6	-1.7
KMI				S	**S**	**12 15 02.3**	**+1.0**
KMI				XS	sS	12 15 16.3	+1.7
KMI				SCP	ScP	12 18 09.4	-3.0
KMI				PCS	PcS	12 18 12.8	-2.8
KMI				AMB	AMB		
	comp=Z,24nm,1.7s,mb4.3						
KMI				AMB	AMB		
	comp=Z,530nm,5.1s						
KMI				LR	LR		
	comp=N,3μm,13.2s,MS4.9						
KMI				LR	LR		
	comp=E,2μm,14.6s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,13.0s,MS4.9						
BOK	**Bokaro**	**23.45**	**336**	*e*P	**P**	**12 10 50.2**	**-0.9**
BOK				*e*S	**S**	**12 15 00.9**	**-1.5**
PPR	**Puerto Princes**	**23.50**	**71**	⇓*e*P	**P**	**12 10 51.8**	**+0.2**
BLSP	**Bilaspur**	**23.87**	**326**	*e*P	**P**	**12 10 54.8**	**-0.2**
BLSP				AMb	AMB	12 11 07.0	
	comp=Z,78nm,1.6s,mb4.9						
ENPP	**El Nido**	**24.59**	**68**	*e*P	**P**	**12 11 02.5**	**+0.9**
NGP	**Nagpur**	**25.00**	**319**	*e*P	**P**	**12 11 05.3**	**+0.1**
NGP				AMb	AMB	12 11 09.3	
	comp=Z,38nm,1.2s,mb4.8						
NGP				*e*S	**S**	**12 15 24.1**	**-3.4**
GYA	**Guiyang**	**25.87**	**22**	⇧*i*P	**P**	**12 11 12.9**	**-0.3**
GYA				AP	pP	12 11 20.3	-0.9
GYA				XP	sP	12 11 23.8	-0.8
GYA				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,270nm,6.0s						
GYA				LR	LR		
	comp=N,2μm,12.4s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,12.9s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,11.1s,MS4.8						
AKL	**Akola**	**26.07**	**315**	*ex*	x	12 10 33.1	
AKL				*ex*	x	12 15 29.4	
GZH	**Guangzhou**	**26.36**	**38**	P	**P**	**12 11 16.4**	**-1.2**
GZH				S	**S**	**12 15 50.1**	**+1.0**
GZH				LR	LR		
	comp=N,2μm,17.3s,MS4.8						
GZH				LR	LR		
	comp=E,1μm,13.9s,MS4.8						
GZH				LR	LR		
	comp=Z,3μm,17.7s,MS4.9						
ALBI	**Allahabad**	**26.62**	**330**	*e*P	**P**	**12 11 19.0**	**-1.0**
IPIL	**Ipil**	**26.75**	**78**	*e*P	**P**	**12 11 20.4**	**-0.8**
JIRN	**Jiri**	**26.83**	**340**	*e*P	**P**	**12 11 23.2**	**+1.4**
	comp=Z,146nm,0.8s,mb5.6						
PKI	**Pulchoki**	**27.02**	**338**	*e*P	**P**	**12 11 24.9**	**+1.3**
	comp=Z,57nm,0.7s,mb5.2						
PKI	**Pulchoki**	**27.02**	**338**	*e*P	**P**	**12 11 24.9**	**+1.3**
PKI				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.9						
POO	**Poona**	**27.12**	**308**	*ex*	x	12 11 33.0	
POO				*e*PCP	PcP	12 14 30.5	-14
POO				*ex*	x	12 16 36.0	
POO				*i* x	x	12 18 07.0	
POO				*i* x	x	12 18 16.5	
GUN	**Gumba**	**27.16**	**340**	*e*P	**P**	**12 11 26.3**	**+1.4**
	comp=Z,188nm,0.8s,mb5.7						
DMN	**Daman**	**27.17**	**338**	*e*P	**P**	**12 11 25.0**	**+0.1**
	comp=Z,38nm,0.6s,mb5.1						
KKN	**Kakani**	**27.27**	**338**	*e*P	**P**	**12 11 27.0**	**+1.2**
	comp=Z,91nm,0.9s,mb5.3						
KKN	**Kakani**	**27.27**	**338**	*e*P	**P**	**12 11 27.0**	**+1.2**
KKN				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.0						
OTRP	**Odiongan**	**27.36**	**68**	*e*P	**P**	**12 11 27.8**	**+1.2**
GUIM	**Jordan**	**27.39**	**72**	*e*P	**P**	**12 11 27.2**	**+0.3**
LSA	**Lhasa**	**27.51**	**350**	P	**P**	**12 11 28.8**	**+0.9**
LSA				S	**S**	**12 16 06.9**	**-0.2**
LSA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
LSA				AMB	AMB		
	comp=Z,80nm,5.0s						
LSA				LR	LR		
	comp=N,460nm,28.0s,MS4.3						
LSA				LR	LR		
	comp=E,860nm,23.0s,MS4.3						
LSA				LR	LR		
	comp=Z,1μm,23.0s,MS4.4						
LSA	**Lhasa**	**27.51**	**350**	*e*P	**P**	**12 11 29.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
LSA	**Lhasa**	**27.51**	**350**	*e*P	**P**	**12 11 29.0**	**+1.0**
	comp=Z,28nm,0.8s,mb5.0						
BHPL	**Bhopal**	**27.54**	**320**	*e*P	**P**	**12 11 27.5**	**-0.7**
BHPL				AMb	AMB	12 11 42.8	
	comp=Z,64nm,1.1s,mb5.2						
PAGZ	**Pagadian**	**27.55**	**78**	*e*P	**P**	**12 11 29.4**	**+1.1**
GKN	**Gorkha**	**27.70**	**338**	*e*P	**P**	**12 11 30.8**	**+1.1**
	comp=Z,304nm,1.2s,mb5.8						
KOLN	**Koldanda**	**27.91**	**336**	*e*P	**P**	**12 11 32.9**	**+1.4**
	comp=Z,105nm,0.9s,mb5.5						
APYP	**Conner**	**28.91**	**56**	*e*P	**P**	**12 11 42.9**	**+2.5**
CD2	**Chengdu**	**29.17**	**13**	P	**P**	**12 11 42.0**	**-0.7**
CD2				AP	pP	12 11 49.3	-1.5
CD2				XP	sP	12 11 52.6	-1.6
CD2				PP	PP	12 12 36.8	-12
CD2				S	**S**	**12 16 31.8**	**-1.5**
CD2				SS	SS	12 18 02.5	-35
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
CD2				AMB	AMB		
	comp=Z,140nm,7.2s						
CD2				LR	LR		
	comp=E,2μm,15.6s						
CD2				LR	LR		
	comp=Z,1μm,14.4s,MS4.7						
BUKP	**Musuan**	**29.20**	**78**	*e*P	**P**	**12 11 44.1**	**+1.1**
ENH	**Enshi**	**30.37**	**23**	*e*P	**P**	**12 11 51.5**	**-1.8**
	comp=Z,14nm,0.6s,mb4.9						
ENH				*e*pP	pP	12 11 59.0	-2.5
QZH	**Quanzhou**	**31.05**	**42**	⇧*i*P	**P**	**12 11 59.5**	**+0.2**
QZH				*e*S	**S**	**12 17 04.9**	**+2.2**
QZH				LR	LR		
	comp=N,6μm,16.0s,MS5.4						
QZH				LR	LR		
	comp=E,3μm,16.7s,MS5.4						
QZH				LR	LR		
	comp=Z,5μm,14.2s,MS5.3						
SONA	**Sohna**	**31.48**	**326**	*e*P	**P**	**12 12 03.7**	**+0.6**
SONA				AMb	AMB	12 12 04.7	
	comp=Z,37nm,0.7s,mb5.3						
AYAN	**Aya Nagar**	**31.64**	**327**	*e*P	**P**	**12 12 03.6**	**-0.9**
AYAN				AMb	AMB	12 12 16.0	
	comp=Z,33nm,1.2s,mb5.0						
KUDL	**Kundal**	**31.74**	**325**	*e*P	**P**	**12 12 05.8**	**+0.4**
KUDL				AMb	AMB	12 12 16.9	
	comp=Z,31nm,1.2s,mb5.0						
KHET	**Khetri**	**32.07**	**324**	*e*P	**P**	**12 12 08.9**	**+0.6**
KHET				AMb	AMB	12 12 11.5	
	comp=Z,46nm,1.8s,mb5.0						
WHN	**Wuhan**	**32.77**	**30**	⇓P	**P**	**12 12 15.0**	**+0.5**
WHN				LR	LR		
	comp=Z,5μm,14.8s,MS5.3						
MBWA	**Marble Bar**	**32.88**	**137**	*e*P	**P**	**12 12 15.7**	**+0.3**
	comp=Z,19nm,1.2s,mb4.9						
MBWA				*e*pP	pP	12 12 22.4	-1.1
KLP	**Kalpa**	**33.52**	**331**	*e*P	**P**	**12 12 21.6**	**+0.6**
KLP				AMb	AMB	12 12 30.8	
	comp=Z,42nm,1.3s,mb5.2						
XAN	**Xi'an**	**33.57**	**19**	P	**P**	**12 12 20.5**	**-0.9**
XAN				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.3						
XAN				LR	LR		
	comp=N,861nm,16.9s,MS4.7						
XAN				LR	LR		
	comp=E,827nm,17.3s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,15.7s,MS4.8						
SMLA	**Simla**	**33.72**	**330**	*e*P	**P**	**12 12 22.0**	**-0.7**
SMLA				AMb	AMB	12 12 33.8	
	comp=Z,79nm,1.4s,mb5.5						
LZH	**Lanzhou**	**34.18**	**11**	⇧P	**P**	**12 12 26.3**	**-0.5**
LZH				AP	pP	12 12 33.8	-1.2
LZH				XP	sP	12 12 37.3	-1.0
LZH				PP	PP	12 13 41.4	-3.0
LZH				*e*S	**S**	**12 17 50.5**	**-1.0**
LZH				XS	sS	12 18 03.3	-1.7
LZH				SS	SS	12 19 59.6	-20
LZH				AMB	AMB		
	comp=Z,61nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,159nm,5.3s						
LZH				LR	LR		
	comp=N,1μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
FITZ	**Fitzroy Crossi**	**35.45**	**126**	*e*P	**P**	**12 12 36.9**	**-0.8**
	comp=Z,23nm,0.9s,mb5.1						
NJ2	**Nanjing**	**36.32**	**33**	*e*P	**P**	**12 12 46.6**	**+1.4**
NJ2				AP	pP	12 12 53.8	+0.4
NJ2				XP	sP	12 12 57.4	+0.7
NJ2				PP	PP	12 14 09.4	+1.4
NJ2				S	**S**	**12 18 24.0**	**-0.3**
NJ2				XS	sS	12 18 36.0	-1.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,250nm,4.0s						
NJ2				LR	LR		
	comp=N,3μm,18.1s,MS5.3						
NJ2				LR	LR		
	comp=E,4μm,17.5s,MS5.3						
NJ2				LR	LR		
	comp=Z,970nm,22.4s,MS4.5						
GTA	**Gaotai**	**36.91**	**5**	P	**P**	**12 12 50.0**	**-0.2**
GTA				AP	pP	12 12 57.0	-1.4
GTA				XP	sP	12 12 59.6	-2.2
GTA				PP	PP	12 14 16.1	+1.6
GTA				PPP		12 14 37.0	
GTA				PCP	PcP	12 15 12.1	+0.8
GTA				S	**S**	**12 18 33.0**	**-0.4**
GTA				XS	sS	12 18 49.5	+2.6
GTA				SS	SS	12 21 03.3	-12
GTA				AMB	AMB		
	comp=Z,56nm,0.9s,mb5.4						
GTA				AMB	AMB		
	comp=Z,271nm,5.3s						
GTA				LR	LR		
	comp=N,962nm,13.7s,MS4.9						
GTA				LR	LR		
	comp=E,882nm,12.9s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,15.2s,MS4.8						
SSE	**Sheshan**	**36.96**	**37**	P	**P**	**12 12 51.5**	**+0.9**
SSE				AP	pP	12 13 00.3	+1.5
SSE				XP	sP	12 13 04.1	+1.9
SSE				PP	PP	12 14 15.3	+0.3
SSE				PCP	PcP	12 15 13.5	+2.0
SSE				S	**S**	**12 18 35.4**	**+1.3**
SSE				XS	sS	12 18 48.4	+0.7
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,176nm,4.6s						
SSE				LR	LR		
	comp=N,756nm,12.2s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,12.5s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,14.6s,MS5.0						
TIA	**Tai'an**	**38.73**	**27**	*e*P	**P**	**12 13 04.9**	**-0.7**
JOW	**Kunigami**	**39.11**	**49**	P	**P**	**12 13 09.0**	**+0.3**
	comp=Z,13nm,0.7s,mb4.8,baz=253,slow=10.0,SNR=5.9						
JOW				LR	LR	12 31 04.1	
	comp=Z,525nm,19.0s,MS4.4,baz=229,slow=39						
BTO	**Baotou**	**39.96**	**16**	*e*P	**P**	**12 13 15.6**	**-0.2**
BTO				AMB	AMB		
	comp=Z,47nm,1.3s,mb5.1						
NWAO	**Narrogin (SRO)**	**40.42**	**152**	P	**P**	**12 13 20.9**	**+1.2**
	comp=Z,8.8nm,1.1s,mb4.4,baz=315,slow=12,SNR=1.9						
NWAO				LR	LR	12 30 17.6	
	comp=Z,1μm,19.8s,MS4.7,baz=154,slow=36						
HHC	**Hu-ho-hao-te**	**40.64**	**18**	⇧*i*P	**P**	**12 13 22.5**	**+1.0**
HHC				AP	pP	12 13 30.1	+0.4
HHC				XP	sP	12 13 32.5	-0.6
HHC				PP	PP	12 15 01.3	+6.0
HHC				PCP	PcP	12 15 24.0	+1.0
HHC				SCP	ScP	12 19 10.6	+0.1
HHC				S	**S**	**12 19 33.4**	**+3.9**
HHC				SS	SS	12 22 29.6	-0.6
HHC				SCS	ScS	12 23 22.3	-2.7
HHC				AMB	AMB		
	comp=Z,51nm,1.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,241nm,8.4s						
HHC				LR	LR		
	comp=N,2μm,14.4s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,15.6s,MS5.2						
HHC				LR	LR		
	comp=Z,1μm,13.2s,MS5.0						
KSH	**Kashi**	**41.22**	**336**	*e*P	**P**	**12 13 29.0**	**+2.7**
KSH				*e*AP	pP	12 13 36.1	+1.5
KSH				*e*XP	sP	12 13 39.5	+1.6
KSH				*e*PP	PP	12 15 08.3	+6.7
KSH				*e*PCP	PcP	12 15 27.0	+2.1
KSH				*e*PPP		12 15 38.3	
KSH				*e*SCP	ScP	12 19 14.1	+1.3
KSH				*e*PCS	PcS	12 19 17.0	+1.0
KSH				*e*S	**S**	**12 19 40.8**	**+2.6**
KSH				*e*XS	sS	12 19 54.3	+2.4
KSH				*e*SCS	ScS	12 23 29.3	+0.7
KSH				AMB	AMB		
	comp=Z,130nm,6.7s						
KSH				LR	LR		
	comp=N,370nm,10.0s						
KSH				LR	LR		
	comp=E,580nm,6.5s						
BJT	**Baijiatuau**	**41.52**	**23**	*e*P	**P**	**12 13 28.4**	**-0.3**
BJT				pmax	pmax		
	comp=Z,69nm,0.8s						
BJT	**Baijiatuau**	**41.52**	**23**	*e*P	**P**	**12 13 28.4**	**-0.3**
	comp=Z,69nm,0.8s,mb5.3						
WMQ	**Urumqi**	**41.87**	**351**	P	**P**	**12 13 32.0**	**+0.5**
WMQ				XP	sP	12 13 43.0	-0.2
WMQ				PP	PP	12 15 12.0	+3.4
WMQ				S	**S**	**12 19 48.0**	**+0.2**
WMQ				SS	SS	12 22 49.0	-5.6
WMQ				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,487nm,4.0s						
WMQ				LR	LR		
	comp=N,698nm,10.0s,MS5.0						
WMQ				LR	LR		
	comp=E,914nm,12.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,858nm,10.0s,MS4.9						
DL2	**Dalian**	**43.03**	**29**	P	**P**	**12 13 41.8**	**+0.8**
DL2				*e*S	**S**	**12 20 05.9**	**+1.0**
DL2				XS	sS	12 20 24.5	+5.9
DL2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
DL2				LR	LR		
	comp=N,660nm,15.9s,MS4.8						
DL2				LR	LR		
	comp=E,630nm,15.9s,MS4.8						
DL2				LR	LR		
	comp=Z,830nm,14.9s,MS4.8						
WRA	**Warramunga Arr**	**43.52**	**123**	P	**P**	**12 13 44.5**	**-0.5**
	comp=Z,7.9nm,0.8s,mb4.5,baz=301,slow=9.2,SNR=51						
WRAB	**Tennant Creek**	**43.53**	**123**	P	**P**	**12 13 45.0**	**0.0**
	comp=Z,68nm,0.9s,mb5.4,SNR=8.4						
WRAB	**Tennant Creek**	**43.53**	**123**	*e*P	**P**	**12 13 44.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**43.53**	**123**	*e*P	**P**	**12 13 44.6**	**-0.5**
	comp=Z,28nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**43.53**	**123**	⇧*i*P	**P**	**12 13 44.5**	**-0.6**
KZA	**Kyzart**	**43.69**	**337**	P	**P**	**12 13 48.1**	**+1.7**
	SNR=10						
UCH	**Uchtor**	**44.11**	**337**	P	**P**	**12 13 51.3**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**44.29**	**338**	P	**P**	**12 13 52.4**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**44.29**	**338**	P	**P**	**12 13 51.4**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,82nm,1.7s,mb5.2						
KBK	**Karagaybulak**	**44.30**	**337**	P	**P**	**12 13 53.1**	**+1.8**
	SNR=17						
AML	**Almayashu**	**44.36**	**336**	P	**P**	**12 13 53.4**	**+1.7**
	SNR=27						
AAK	**Ala-Archa**	**44.46**	**337**	P	**P**	**12 13 54.5**	**+2.0**
	SNR=9.0						
FRU	**Bishkek**	**44.58**	**337**	*e*P	**P**	**12 13 54.5**	**+1.0**
FRU				*e*		12 15 37.0	
FRU				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.9						
EKS2	**Erkin-Say**	**44.77**	**336**	P	**P**	**12 13 56.1**	**+1.1**
	SNR=11						
ASAR	**Alice Springs**	**44.93**	**127**	P	**P**	**12 13 56.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.2,baz=308,slow=7.9,SNR=34						
ASAR				PcP	PcP	12 15 38.0	+0.7
	comp=Z,2.7nm,0.9s,baz=306,slow=5.4,SNR=5.2						
ASAR				ScP	ScP	12 19 28.5	+0.7
	comp=Z,0.6nm,0.8s,baz=318,slow=3.7,SNR=4.5						
ASAR	**Alice Springs**	**44.93**	**127**	P	**P**	**12 13 56.0**	**-0.2**
ASAR						12 15 38.1	
USP	**Ospenovka**	**45.00**	**338**	P	**P**	**12 13 57.8**	**+1.0**
	SNR=31						
MK31	**Makanchi Array**	**45.79**	**347**	*i* P	**P**	**12 14 02.9**	**-0.1**
MK31				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**45.79**	**347**	P	**P**	**12 14 03.1**	**+0.1**
	comp=Z,27nm,0.7s,mb5.3,baz=165,slow=7.4,SNR=366						
MKAR				LR	LR	12 38 02.4	
	comp=Z,468nm,20.3s,MS4.4,baz=178,slow=42						
SONM	**Songino Array**	**46.04**	**10**	P	**P**	**12 14 05.1**	**+0.1**
	comp=Z,16nm,0.6s,mb5.1,baz=191,slow=9.1,SNR=160						
SONM				PcP	PcP	12 15 41.7	+0.5
	comp=Z,2.2nm,0.6s,baz=187,slow=3.5,SNR=5.0						
SONM				LR	LR	12 35 49.1	
	comp=Z,2μm,18.1s,MS5.1,baz=190,slow=39						
SONM	**Songino Array**	**46.04**	**10**	P	**P**	**12 14 05.1**	**+0.1**
SONM						12 15 41.7	
ULN	**Ulaanbaatar**	**46.18**	**10**	*e*P	**P**	**12 14 05.9**	**-0.2**
ULN				*e**PP	pP	12 14 13.0	-1.5
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**46.18**	**10**	*e*P	**P**	**12 14 05.8**	**-0.3**
	comp=Z,8.8nm,0.6s,mb4.9						
ULN				*e*pP	pP	12 14 13.0	-1.5
SNY	**Shenyang**	**46.23**	**28**	⇓P	**P**	**12 14 06.3**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SNY				AMB	AMB		
	comp=Z,160nm,5.5s						
SNY				LR	LR		
	comp=N,1μm,14.4s,MS5.1						
SNY				LR	LR		
	comp=E,1μm,15.0s,MS5.1						
SNY				LR	LR		
	comp=Z,1μm,14.4s,MS5.0						
KK31	**Karatay Array**	**46.50**	**334**	*i* P	**P**	**12 14 09.1**	**+0.5**
KK31				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
KKAR	**Karatay Array**	**46.50**	**334**	*i* P	**P**	**12 14 09.1**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**48.11**	**6**	*e*P	**P**	**12 14 20.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.2						
CN2	**Changchun**	**48.63**	**28**	*e*P	**P**	**12 14 24.6**	**-0.6**
CN2				*e*S	**S**	**12 21 30.8**	**+5.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS5.1						
CN2				LR	LR		
	comp=E,1μm,14.0s,MS5.1						
CN2				LR	LR		
	comp=Z,1μm,14.0s,MS5.0						
IRK	**Irkutsk**	**50.05**	**6**	*e*P	**P**	**12 14 35.3**	**-0.8**
IRK				pmax	pmax		
	comp=Z,77nm,2.6s,mb5.3						
KURK	**Kurchatov**	**50.33**	**346**	P	**P**	**12 14 38.3**	**+0.2**
	comp=Z,118nm,1.6s,mb5.7,SNR=20						
KURK	**Kurchatov**	**50.33**	**346**	*e*P	**P**	**12 14 38.0**	**-0.1**
KURK				*e**PP	pP	12 14 44.3	-2.3
KURK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
KURK	**Kurchatov**	**50.33**	**346**	*e*P	**P**	**12 14 38.0**	**-0.2**
	comp=Z,18nm,0.9s,mb5.1						
KURK				*e*pP	pP	12 14 44.3	-2.3
HIA	**Hailar**	**50.77**	**20**	*e*P	**P**	**12 14 41.5**	**0.0**
HIA				*e**PP	pP	12 14 50.3	+0.4
HIA				pmax	pmax		
	comp=Z,55nm,1.6s						
HIA	**Hailar**	**50.77**	**20**	*e*P	**P**	**12 14 41.5**	**0.0**
	comp=Z,55nm,1.6s,mb5.2						
HIA				*e*pP	pP	12 14 50.3	+0.4
MDJ	**Mudanjiang**	**51.25**	**30**	P	**P**	**12 14 44.4**	**-0.7**
MDJ				AP	pP	12 14 50.6	-2.9
MDJ				XP	sP	12 14 53.8	-3.1
MDJ				PCP	PcP	12 16 00.1	+0.1
MDJ				SCP	ScP	12 19 55.3	+0.8
MDJ				PCS	PcS	12 19 58.1	+0.4
MDJ				S	**S**	**12 22 03.0**	**+1.0**
MDJ				SCS

MDJ LR LR
comp=Z,333nm,19.7s,MS4.4
MJAR Matsushiro Arr 51.42 44 P **P** **12 14 47.5 +1.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=201,slow=6.1,SNR=6.9
MJAR PcP PcP 12 16 01.4 +0.7
comp=Z,2.5nm,0.8s,baz=247,slow=3.0,SNR=5.5
MJAR LR LR 12 37 21.6
comp=Z,441nm,20.2s,MS4.5,baz=245,slow=37
MJAR Matsushiro Arr 51.42 44 P **P** **12 14 47.5 +1.1**
MJAR 12 16 01.4
CIT Chita 51.46 14 *e*P **P** **12 14 47.6 +0.9**
CIT *e* 12 15 02.8
CIT *e* 12 16 38.7
CIT pmax pmax
comp=Z,73nm,2.0s,mb5.3
PMG Port Moresby 52.09 104 P **P** **12 14 51.4 +0.1**
comp=Z,22nm,0.8s,mb5.1,baz=250,slow=8.6,SNR=12
PMG Port Moresby 52.09 104 *e*P **P** **12 14 51.2 -0.1**
PMG *e**PP pP 12 14 57.2 -2.6
PMG pmax pmax
comp=Z,26nm,0.9s
PMG Port Moresby 52.09 104 *e*P **P** **12 14 51.2 -0.1**
comp=Z,26nm,0.9s,mb5.2
PMG *e*pP pP 12 14 57.2 -2.6
ZAL Zalesovo 52.16 351 P **P** **12 14 51.9 0.0**
comp=Z,19nm,0.5s,mb5.3,baz=311,slow=5.6,SNR=78
ZAL LR LR 12 42 05.4
comp=Z,709nm,19.7s,MS4.7,baz=292,slow=42
ZAL Zalesovo 52.16 351 *i* P **P** **12 14 52.5 +0.7**
ZAL pmax pmax
comp=Z,19nm,0.5s
OPO Ambohidratompo 52.58 244 P **P** **12 14 54.3 -0.8**
comp=Z,2.2nm,0.8s,mb4.1,baz=54,slow=12,SNR=3.2
NVS Novosibirsk 53.27 351 *e*P **P** **12 14 58.2 -1.9**
NVS *e*S **S** **12 22 26.9 -2.8**
NVS pmax pmax
comp=N,19nm,1.0s
NVS pmax pmax
comp=E,17nm,1.0s
NVS pmax pmax
comp=Z,24nm,1.0s,mb5.1
NVS smax
comp=N,24nm,2.0s
NVS smax
comp=E,18nm,2.0s
KRAR Krasnoyarsk 53.45 358 *i* P **P** **12 15 01.6 +0.2**
KRAR pmax pmax
comp=Z,58nm,0.7s,mb5.6
ATD Arta Tunnel 53.67 282 LR LR 12 35 53.6
comp=Z,375nm,18.4s,MS4.5,baz=50,slow=34
CTA Charters Tower 53.93 117 *e*P **P** **12 15 05.4 +0.5**
comp=Z,8.7nm,0.9s,mb4.7
CTA Charters Tower 53.93 117 P **P** **12 15 05.2 +0.3**
comp=Z,11nm,0.8s,mb4.8,baz=286,slow=7.9,SNR=10.0
CTA LR LR 12 38 47.5
comp=Z,602nm,21.3s,MS4.6,baz=36,slow=37
CTA Charters Tower 53.93 117 P **P** **12 15 05.2 +0.3**
CTA LR LR 12 38 47.5
CTAO Charters Tower 53.93 117 *e*P **P** **12 15 02.2 -2.7**
CTAO pmax pmax
comp=Z,16nm,1.1s,mb4.9
CTAO Charters Tower 53.93 117 *e*P **P** **12 15 02.2 -2.7**
comp=Z,16nm,1.1s,mb4.8
VOSK Vostochnaya 54.30 341 P **P** **12 15 06.6 -1.0**
VOSK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BVA0 Borovoye Array 54.74 341 *i* P **P** **12 15 09.7 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 54.80 341 P **P** **12 15 10.0 -1.3**
comp=Z,96nm,0.5s,mb6.1,SNR=9.5
BRVK Borovoye 54.80 341 *e*P **P** **12 15 10.6 -0.7**
BRVK *e**PP pP 12 15 20.0 +0.2
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
BRVK Borovoye 54.80 341 *e*P **P** **12 15 10.6 -0.7**
comp=Z,6.1nm,0.6s,mb4.8
BRVK *e*pP pP 12 15 20.0 +0.2
STKA Stephens Creek 54.92 132 *e*P **P** **12 15 10.4 -1.7**
comp=Z,6.6nm,0.9s,mb4.7
STKA Stephens Creek 54.92 132 P **P** **12 15 10.2 -1.9**
comp=Z,8.0nm,0.8s,mb4.8,baz=308,slow=7.1,SNR=14
STKA LR LR 12 40 39.3
comp=Z,804nm,20.5s,MS4.8,baz=274,slow=38
ZRNK Zerenda 55.14 340 *e*P **P** **12 15 12.9 -0.8**
ZRNK *e**PP pP 12 15 21.4 -0.8
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZRNK Zerenda 55.14 340 *e*P **P** **12 15 12.9 -0.8**
comp=Z,9.6nm,0.9s,mb4.8
ZRNK *e*pP pP 12 15 21.4 -0.8
KLR Kul'dur 55.57 27 ‖ *i* P **P** **12 15 13.9 -2.9**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s,mb5.4
AB31 Akbulak array 55.95 332 *i* P **P** **12 15 18.8 -0.7**
AB31 pmax pmax
comp=Z,19nm,0.8s,mb5.2
HABR Khabarovsk 56.63 30 *i* P **P** **12 15 23.5 -0.9**
HABR pmax pmax
comp=Z,37nm,1.7s,mb5.1
BOD Bodaibo 56.95 11 *e*P **P** **12 15 25.2 -1.5**
BOD pmax pmax
comp=Z,14nm,1.6s,mb4.7
BHD Baghdad 57.29 308 *e*x x 12 15 30.0
AKTO Aktyubinsk 57.66 332 P **P** **12 15 31.3 -0.4**
AKTO pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
ASAJ Asahikawa 58.24 38 LR LR 12 40 20.8
comp=Z,402nm,20.8s,MS4.5,baz=84,slow=36
CLNS Chul'man 58.83 18 *e*P **P** **12 15 38.5 -1.3**
CLNS *e* 12 17 45.5
CLNS *e*PPP 12 19 15.3
CLNS *e*S **S** **12 23 39.5 -4.1**
CLNS *e* 12 25 27.0
CLNS pmax pmax
comp=Z,21nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,8.0nm,0.6s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.6s
CLNS smax
comp=N,70nm,12.3s
CLNS smax
comp=Z,66nm,11.3s
CLNS smax
comp=E,177nm,14.1s
CLNS MLR MLR
comp=N,200nm,12.0s,MS5.2
CLNS MLR MLR
comp=Z,1μm,12.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.2
KMBO Kilima Mbogo 59.08 267 P **P** **12 15 43.1 +1.5**
comp=E,5.2nm,0.7s,mb4.7,baz=58,slow=11,SNR=20
KMBO LR LR 12 39 12.3
comp=E,844nm,18.3s,MS4.9,baz=279,slow=34
KMBO Kilima Mbogo 59.08 267 *e*P **P** **12 15 43.7 +2.2**
KMBO *e**PP pP 12 15 50.5 +0.4
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 59.08 267 *e*P **P** **12 15 43.7 +2.2**
comp=Z,3.4nm,0.8s,mb4.4
KMBO *e*pP pP 12 15 50.5 +0.4
GNI Garni 59.72 316 P **P** **12 15 48.9 +2.9**
comp=Z,2.3nm,0.4s,mb4.5,baz=72,slow=9.6,SNR=3.1
GNI LR LR 12 42 57.1
comp=Z,221nm,20.2s,MS4.3,baz=101,slow=37
YSS Yuzh-Sakhalins 59.86 35 P **P** **12 15 47.5 +0.5**
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.0
YSS MLR MLR
comp=N,400nm,17.0s,MS4.9
YSS MLR MLR
comp=E,600nm,17.0s,MS4.9
ZEI Tsey 61.41 318 *i* P **P** **12 15 54.7 -2.8**
ARU Arti 61.65 337 ‖ *i* P **P** **12 15 58.4 -0.7**
ARU *e* 12 16 34.8
ARU *e*PPP 12 19 39.7
ARU *e*S **S** **12 24 19.6 -0.1**
ARU *e* 12 25 48.3
ARU pmax pmax
comp=Z,14nm,1.1s,mb5.0
ARU MLR MLR
comp=Z,700nm,17.0s,MS4.9
ARU MLR MLR
comp=N,300nm,18.0s,MS4.7
ARU MLR MLR
comp=E,400nm,18.0s,MS4.7
ARU Arti 61.65 337 *e*P **P** **12 15 58.7 -0.4**
comp=E,22nm,1.3s,mb5.1
ARU *e*pP pP 12 16 07.8 +0.1
MALT Malatya 63.57 312 *e*P **P** **12 16 12.6 +0.7**
MALT *e**PP pP 12 16 22.2 +1.6
YAK Yakutsk 64.48 17 *e*P **P** **12 16 17.1 -0.9**
YAK *e* 12 16 51.5
YAK *e* 12 18 41.4
YAK *e*S **S** **12 24 52.5 -2.7**
YAK *e* 12 26 02.2
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK smax
comp=N,7.0nm,1.5s
YAK smax
comp=E,8.0nm,1.6s
YAK Yakutsk 64.48 17 *e*P **P** **12 16 16.9 -1.1**
comp=E,61nm,0.8s,mb5.7
ANN Anapa 66.52 318 *e*P **P** **12 16 31.8 +0.7**
ANN pmax pmax
comp=Z,32nm,1.2s,mb5.2
BRTR Keskin Array B 67.55 312 P **P** **12 16 37.4 -0.3**
comp=Z,0.9nm,0.7s,mb3.9,baz=123,slow=5.6,SNR=6.6
VRSR Storozhevoye 67.97 325 *e*P **P** **12 16 39.2 -1.1**
VRSR pmax pmax
comp=Z,2.0nm,1.9s,mb3.8
VRSR pmax pmax
comp=N,1.0nm,1.0s
LSZ Lusaka 69.56 253 LR LR 12 42 34.5
comp=N,582nm,20.3s,MS4.8,baz=254,slow=32
LSZ Lusaka 69.56 253 P **P** **12 16 51.2 +1.0**
LSZ pmax pmax
comp=Z,15nm,1.5s,mb4.7
LSZ Lusaka 69.56 253 P **P** **12 16 51.2 +1.0**
comp=Z,15nm,1.5s,mb4.7
MA2 Magadan 70.62 26*c* *i* P **P** **12 16 56.4 -0.3**
MA2 *e* 12 17 23.9
MA2 *e* 12 19 32.9
MA2 *e*S S 12 26 07.6 -1.2
MA2 *e*PS 12 26 31.6
MA2 *e* 12 26 53.6
MA2 *e*SS SS 12 30 38.6 -2.0
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 70.62 26 *e*P **P** **12 16 56.0 -0.6**
comp=Z,11nm,0.7s,mb4.9
MOS Moscow 70.75 329 *e*P **P** **12 16 56.1 -1.4**
MOS *i* pP 12 17 05.2 -1.1
OBN Obninsk 71.04 328 *i* P **P** **12 16 58.6 -0.7**
OBN *e* pP 12 17 06.1 -1.9
OBN pmax pmax
comp=Z,71nm,2.7s,mb5.1
PET Petropavlovsk 71.73 34 *e*P **P** **12 17 03.3 -0.1**
PET *e*S S 12 26 20.7 -0.9
PET pmax pmax
comp=Z,25nm,1.0s,mb5.1
PET pmax pmax
comp=Z,100nm,12.2s
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
TIXI Tiksi 72.11 10*c* *i* P **P** **12 17 04.2 -1.5**
TIXI pmax pmax
comp=Z,56nm,1.8s,mb5.2
KLMR Klimovskoe 72.20 335 *e*P **P** **12 17 01.7 -4.5**
KLMR pmax pmax
comp=Z,50nm,1.9s,mb5.1
DZM Mont Dzumac 72.68 114 LR LR 12 48 03.0
comp=Z,289nm,18.9s,MS4.6,baz=0.0,slow=35
SEY Seymchan 72.98 23 *e*P **P** **12 17 10.9 0.0**
SEY 12 19 56.6
SEY *e*PPP 12 21 40.2
SEY *e*S S 12 26 35.0 -1.0
SEY *e* 12 27 18.9
SEY *e*SSS 12 34 32.2
SEY pmax pmax
comp=Z,28nm,1.6s,mb4.9
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,14nm,1.3s
SEY smax
comp=N,240nm,19.9s
SEY smax
comp=E,180nm,21.3s
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.2
SEY MLR MLR
comp=N,1μm,24.0s
SEY MLR MLR
comp=E,794nm,18.0s
AKASG Malin Array Be 73.67 322 P **P** **12 17 13.7 -1.2**
comp=E,1.6nm,0.5s,mb4.2,baz=96,slow=4.3,SNR=11
AKASG Malin Array Be 73.67 322 *i* P **P** **12 17 14.0 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
MAW Mawson 73.73 193 LR LR 12 45 34.2
comp=Z,232nm,19.0s,MS4.5,baz=177,slow=32
MLR Muntele Rosu 74.49 317 P **P** **12 17 18.7 -1.1**
comp=Z,2.0nm,0.4s,mb4.4,baz=154,slow=11,SNR=4.6
BOSA Boshof 74.58 240 LR LR 12 46 46.4
comp=Z,362nm,18.4s,MS4.7,baz=255,slow=33
JOF Joensuu 76.59 335 *e*p **P** **12 17 28.4 -3.4**
comp=Z,0.5nm,0.4s,mb3.8
JOF Joensuu 76.59 335 *e*P **P** **12 17 28.4 -3.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
VSU Vasula 77.27 330 *i* P **P** **12 17 35.3 -0.3**
LVZ Lovozero 77.32 340 P **P** **12 17 39.3 +3.4**
comp=Z,185nm,1.4s,mb5.8,SNR=19
KWP Kalwaria 77.48 320 *e*P **P** **12 17 35.6 -1.2**
APA Apatity 77.61 340 ‖ *e*P **P** **12 17 28.0 -9.5**
APA pmax pmax
comp=Z,85nm,1.6s,mb5.4
APA MLR MLR
comp=Z,1μm,19.0s,MS5.2
KOLS Kolonicke sedl 77.63 320 *e*P **P** **12 17 37.7 +0.1**
KOLS *e*pP pP 12 17 48.6 +2.1
SUW Suwalki 78.09 325 *e*P **P** **12 17 38.3 -1.9**
CRVS Cervenica-Dubn 78.15 319 *e* sP 12 17 58.4 +5.8
STHS Stebnicka Huta 78.38 320 *e*P **P** **12 17 43.2 +1.4**
STHS *e* 12 17 59.8
FINES FINESS Array B 78.43 333 P **P** **12 17 41.9 -0.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=17
FINES LR LR 12 57 07.9
comp=Z,587nm,20.6s,MS4.9,baz=0.7,slow=39
KAF Kangasniemi 78.52 333 *e*p **P** **12 17 41.1 -1.5**
comp=Z,3.0nm,0.7s,mb4.3,baz=102,slow=5.0
KAF Kangasniemi 78.52 333 *e*P **P** **12 17 41.1 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 78.72 319 *e* sP 12 18 00.1 +4.4
OJC Ojcow 79.44 321 *e*P **P** **12 17 48.0 +0.4**
VYHS Vyhne 79.81 319 *e*P **P** **12 17 51.0 +1.4**
VYHS *e* 12 18 22.7
BILL Bilibino 80.33 21 *i* P **P** **12 17 52.1 -0.3**
BILL *e* 12 17 58.1
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
OKC Ostrava-Krasne 80.44 320 *e*pP pP 12 18 02.0 +0.2
SYO Syowa Base 80.91 198 ‖ *e*P **P** **12 17 54.4 -1.1**
SYO Syowa Base 80.91 198 ‖ *e*PcP PcP 12 18 04.3 +2.3
ZST Bratislava 80.92 318 *e*P **P** **12 17 56.0 +0.4**
ARCES ARCESS Array B 81.02 340 P **P** **12 17 56.4 +0.2**
comp=Z,2.1nm,0.4s,mb4.4,baz=97,slow=5.1,SNR=21
ARCES LR LR 12 57 09.9
comp=Z,472nm,19.8s,MS4.8,baz=27,slow=38
DPC Dobruska-Polom 81.66 320 *e*P **P** **12 17 59.9 +0.4**
GOLS Golise 81.70 316 *e*P **P** **12 18 00.1 +0.4**
BOJS Bojanci 81.92 315 *e*P **P** **12 18 00.8 -0.1**
LJU Ljubljana 82.47 316 *e*P **P** **12 18 04.1 +0.4**
BRG Berggiesshubel 83.22 321 *e*P pP 12 18 18.8 +2.2
comp=Z,4.0nm,1.2s
BRG *e* 12 18 25.3
comp=Z,7.5nm,1.4s
BRG Berggiesshubel 83.22 321 *e*P pP 12 18 18.8 +2.3
BRG *e* 12 18 25.3
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
GERES GERESS Array B 83.23 319 P **P** **12 18 07.9 +0.2**
comp=Z,1.6nm,0.7s,mb4.2,baz=104,slow=5.5,SNR=15
KHC Kasperske Hory 83.33 319 *e*P **P** **12 18 08.5 +0.3**
KHC Kasperske Hory 83.33 319 *i* P **P** **12 18 08.6 +0.4**
CLL Collm 83.84 321 *e*P **P** **12 18 08.0 -2.9**
CLL *e*pP pP 12 18 19.0 -0.8
HFS Hagfors 84.15 330 LR LR 13 01 00.4
comp=Z,262nm,19.7s,MS4.6,baz=187,slow=39
GRA1 Grafenberg Arr 84.90 319 *e*P **P** **12 18 16.8 +0.6**
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 84.90 319 *e*P **P** **12 18 16.8 +0.6**
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 84.90 319 *e*P **P** **12 18 16.8 +0.6**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 84.90 319 *e*P **P** **12 18 16.8 +0.6**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 85.43 331 P **P** **12 18 18.3 -0.6**
comp=Z,7.2nm,1.1s,mb4.7,baz=96,slow=5.1
NOA NORSAR Array B 85.43 331 P **P** **12 18 18.7 -0.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=94,slow=5.2,SNR=5.2
NOA LR LR 13 00 46.1
comp=Z,317nm,19.3s,MS4.7,baz=335,slow=39
DAVOX Davos 85.71 317 P **P** **12 18 21.2 +0.9**
comp=Z,5.0nm,0.6s,mb4.9,baz=106,slow=13,SNR=6.1
VNDA Vanda 87.25 169 LR LR 12 56 52.0
comp=Z,439nm,18.4s,MS4.9,baz=188,slow=35
LPG La Plagne 87.89 315 *e*P **P** **12 18 30.1 -0.8**
comp=Z,17nm,1.0s,mb5.0
BEBN Eben Emael 88.46 321 ⇑P **P** **12 18 37.0 +3.4**
JMIC Jan Mayen 92.46 342 LR LR 13 03 11.5
comp=Z,473nm,19.7s,MS4.9,baz=86,slow=37
EKA Eskdalemuir Ar 93.33 326 P **P** **12 18 55.6 -0.6**
comp=Z,1.4nm,0.7s,mb4.5,baz=108,slow=5.3,SNR=5.7
TORD Torodi Ar. Bea 93.86 283 P **P** **12 19 00.1 +1.4**
comp=Z,1.1nm,1.0s,mb4.2,baz=101,slow=2.7,SNR=4.0
MDT Midelt 97.77 303 LR LR 13 05 29.9
comp=Z,200nm,18.9s,MS4.6,baz=84,slow=37
ILAR Eielson Array 98.91 23 P **P** **12 19 20.2 -1.4**
comp=Z,0.6nm,0.9s,mb4.1,baz=288,slow=4.3,SNR=5.7
ILAR PP PP 12 23 18.4 -5.0
comp=Z,0.8nm,1.0s,baz=285,slow=6.1,SNR=4.4
KDAK Kodiak Island 99.05 30 LR LR 13 11 09.3
comp=Z,384nm,19.1s,MS4.9,baz=202,slow=40
YKA Yellowknife Ar 111.12 15 Pdiff Pdif 12 20 16.9 +1.0
comp=Z,0.2nm,0.8s,baz=322,slow=3.9,SNR=5.1
YKA PKiKP PKiKP 12 24 13.5 -1.3
comp=Z,0.1nm,0.6s,baz=315,slow=2.6,SNR=2.8
YKA PP PP 12 24 51.6 -2.3
comp=Z,0.4nm,0.8s,baz=331,slow=7.3,SNR=5.6
YKA Yellowknife Ar 111.12 15 Pdif Pdif 12 20 16.9 +1.0
YKA PKPdf PKiKP 12 24 13.5 -1.3
YKA PP PP 12 24 51.6 -2.3
TBI Tubuai 113.25 114 *e*LR LR 12 58 17.7
comp=Z,276nm,23.8s
PPT Papeete 113.79 108 *e*LR LR 12 58 32.9
comp=Z,254nm,25.5s
ULM Lac du Bonnet 126.46 10 PKP PKPdf 12 24 43.6 -0.6
comp=Z,3.3nm,0.8s,baz=306,slow=1.3,SNR=7.4
NVAR Mina Array Bea 128.31 35 PKP PKPdf 12 24 48.9 +1.1
comp=Z,1.2nm,0.8s,baz=258,slow=1.4,SNR=10
PDAR Pinedale Array 129.31 24 PKP PKPdf 12 24 50.4 +0.7
comp=Z,0.6nm,0.7s,baz=188,slow=1.4,SNR=5.1

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*BJI **13** 12:18:02.4, 160N×9627E, h30km, mB5.0, mb4.8, Ms5.0, Msz4.7*
*ISCJB **13** 12:18:07.8±0.5, 242N±007×9625E±007, h21km, mb4.7/49, MS4.6/1, Error ellipse: s-maj=12.5km s-min=7.1km az=84.7*
*MOS **13** 12:18:09.7±1.3, 253N×9627E, h33km, mb4.9/15, Error ellipse: s-maj=13.0km s-min=8.0km az=104.3*
*NEIC **13** 12:18:11.2±0.4, 241N×9625E, h30km, mb4.8/16, Error ellipse: s-maj=9.8km s-min=5.9km az=216.0*
*IDC **13** 12:18:13.4±3.6, 248N×9632E, h46km±33km, mb4.2/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.4/15, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx3.0/35, Error ellipse: s-maj=27.8km s-min=14.9km az=51.0*

ISC 13 12:18:10.3±0.5, 245N±007×9624E±007, h23km, h23km±2.5km:pP-P, n77, σ1 s22/75, mb4.7/49, MS4.6/1, 4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.71**	**83**	P	**Pn**	**12 18 54.0**	**+1.6**
	24nm,0.3s,baz=271,slow=6.1,SNR=69						
PSI				LR	LR	12 19 36.2	
	comp=Z,292nm,20.8s,baz=69,slow=32						
PSI	**Prapat**	**2.71**	**83**	P	**Pn**	**12 18 54.0**	**+1.6**
PSI				LR	LR	12 19 36.2	
KULM	**Kulim**	**5.23**	**57**	*e*Pn	**Pn**	**12 19 28.6**	**+1.6**
KULM				*e*pPn		12 19 35.9	
KULM				*e*Sg	Sn	12 21 06.3	+40
KKM	**Kota Kinabalu**	**20.24**	**79**	*e*P	**P**	**12 22 44.5**	**+0.8**
SHL	**Shillong**	**23.36**	**350**	*e*P	**P**	**12 23 15.0**	**-2.2**
JIRN	**Jiri**	**26.85**	**340**	*e*P	**P**	**12 23 50.8**	**+1.8**
	73nm,0.8s,mb5.3						
PKI	**Pulchoki**	**27.04**	**338**	*e*P	**P**	**12 23 52.2**	**+1.4**
	22nm,0.5s,mb4.9						
PKI	**Pulchoki**	**27.04**	**338**	*e*P	**P**	**12 23 52.2**	**+1.4**
PKI				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.6						
GUN	**Gumba**	**27.18**	**340**	*e*P	**P**	**12 23 53.7**	**+1.6**
	comp=Z,60nm,0.7s,mb5.2						
DMN	**Daman**	**27.19**	**338**	*e*P	**P**	**12 23 53.5**	**+1.4**
	comp=Z,18nm,0.6s,mb4.8						
KKN	**Kakani**	**27.29**	**338**	*e*P	**P**	**12 23 54.3**	**+1.3**
	comp=Z,47nm,0.8s,mb5.0						
KKN	**Kakani**	**27.29**	**338**	*e*P	**P**	**12 23 54.3**	**+1.3**
KKN				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.53**	**350**	*e*P	**P**	**12 23 56.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**27.53**	**350**	*e*P	**P**	**12 23 56.8**	**+1.7**
	comp=Z,8.4nm,0.6s,mb4.5						
GKN	**Gorkha**	**27.72**	**338**	*e*P	**P**	**12 23 58.2**	**+1.3**
	comp=Z,53nm,0.8s,mb5.2						
KOLN	**Koldanda**	**27.93**	**336**	*e*P	**P**	**12 24 00.3**	**+1.6**
	comp=Z,41nm,0.8s,mb5.1						
CD2	**Chengdu**	**29.19**	**13**	*e*P	**P**	**12 24 11.8**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
ENH	**Enshi**	**30.39**	**23**	*e*P	**P**	**12 24 18.8**	**-1.7**
	comp=Z,6.2nm,0.7s,mb4.5						
ENH				*e*pP	pP	12 24 26.3	-1.0
XAN	**Xi'an**	**33.59**	**19**	P	**P**	**12 24 47.9**	**-0.7**
XAN				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
LZH	**Lanzhou**	**34.20**	**11**	*e*P	**P**	**12 24 54.1**	**+0.1**
LZH				AP	pP	12 25 01.3	+0.5
LZH				XP	sP	12 25 05.3	+1.7
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**35.44**	**126**	*e*P	**P**	**12 25 04.0**	**-0.6**
	comp=Z,8.4nm,0.7s,mb4.8						
NJ2	**Nanjing**	**36.33**	**33**	*e*P	**P**	**12 25 13.3**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,210nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,15.4s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,18.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,530nm,15.4s,MS4.4						
GTA	**Gaotai**	**36.93**	**5**	*e*P	**P**	**12 25 17.8**	**+0.4**

GTA AP pP 12 25 25.6 +1.3
GTA XP sP 12 25 29.9 +2.8
GTA AMB AMB
comp=Z,22nm,0.9s,mb5.0
SSE Sheshan 36.97 37 P **P 12 25 15.6 -2.2**
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,145nm,6.6s
JOW Kunigami 39.12 49 P **P 12 25 35.6 -0.3**
comp=Z,11nm,0.8s,mb4.6,baz=158,slow=11,SNR=3.6
BJT Baijiatuan 41.54 23 *e*P **P 12 25 56.9 +1.0**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT Baijiatuan 41.54 23 *e*P **P 12 25 56.9 +1.0**
comp=Z,26nm,0.8s,mb4.9
WRA Warramunga Arr 43.51 123 P **P 12 26 11.3 -0.6**
comp=Z,1.7nm,0.4s,mb4.2,baz=301,slow=9.2,SNR=36
WRAB Tennant Creek 43.52 123 *i*P **P 12 26 12.2 +0.2**
WRAB Tennant Creek 43.52 123 *e*P **P 12 26 11.8 -0.2**
comp=Z,6.4nm,0.8s,mb4.4
WB2 Warramunga Arr 43.52 123 *e*P **P 12 26 12.0 0.0**
MK31 Makanchi Array 45.81 347 *i*P **P 12 26 30.1 -0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
MKAR Makanchi Array 45.81 347 P **P 12 26 30.6 +0.3**
comp=Z,13nm,0.6s,mb5.0,baz=163,slow=8.0,SNR=117
SONM Songino Array 46.05 9 P **P 12 26 32.5 +0.3**
comp=Z,5.2nm,0.6s,mb4.6,baz=190,slow=8.8,SNR=54
SONM PcP PcP 12 28 08.7 +0.3
comp=Z,2.2nm,0.8s,baz=196,slow=3.2,SNR=5.7
ULN Ulaanbaatar 46.20 10 *e*P **P 12 26 33.1 -0.2**
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ULN Ulaanbaatar 46.20 10 *e*P **P 12 26 33.1 -0.2**
comp=Z,3.0nm,0.6s,mb4.4
ULN pP pP 12 26 37.9 -2.4
ZAK Zakamensk 48.13 6 *e*P **P 12 26 47.1 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
CN2 Changchun 48.65 28 *e*P **P 12 26 52.1 -0.3**
KURK Kurchatov 50.35 346 *e*P **P 12 27 05.6 +0.2**
KURK pmax pmax
comp=Z,13nm,1.1s,mb4.9
KURK Kurchatov 50.35 346 *e*P **P 12 27 05.6 +0.3**
comp=Z,13nm,1.1s,mb4.9
KURK *e*pP pP 12 27 10.3 -2.1
PMG Port Moresby 52.08 104 P **P 12 27 19.2 +0.8**
comp=Z,14nm,1.0s,mb4.8,baz=258,slow=12,SNR=5.0
ZAL Zalesovo 52.18 351 P **P 12 27 19.1 +0.1**
comp=Z,10nm,0.5s,mb5.0,baz=311,slow=5.3,SNR=32
NVS Novosibirsk 53.29 351 *e*P **P 12 27 25.1 -2.2**
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s,mb4.7
CTA Charters Tower 53.92 117 P **P 12 27 32.7 +0.8**
comp=Z,1.4nm,0.3s,mb4.4,baz=263,slow=11,SNR=3.9
CTA Charters Tower 53.92 117 P **P 12 27 32.7 +0.8**
VOSK Vostochnaya 54.32 341 P **P 12 27 34.1 -0.7**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVA0 Borovoye Array 54.76 341 P **P 12 27 35.8 -2.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BRVK Borovoye 54.83 341 *e*P **P 12 27 38.0 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 54.83 341 *e*P **P 12 27 38.0 -0.5**
comp=Z,2.5nm,0.6s,mb4.4
STKA Stephens Creek 54.90 132 *e*P **P 12 27 38.3 -0.8**
comp=Z,3.9nm,0.7s,mb4.5
STKA Stephens Creek 54.90 132 P **P 12 27 38.5 -0.6**
comp=Z,3.9nm,0.8s,mb4.5,baz=300,slow=5.5,SNR=6.8
ZRNK Zerenda 55.16 340 *e*P **P 12 27 40.5 -0.4**
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 55.16 340 *e*P **P 12 27 40.5 -0.4**
comp=Z,5.3nm,0.8s,mb4.6
KLR Kul'dur 55.58 27 *e*P **P 12 27 41.2 -2.8**
AB31 Akbulak array 55.97 332 *i*P **P 12 27 46.7 0.0**
AB31 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
HABR Khabarovsk 56.65 30 *i*P **P 12 27 49.0 -2.6**
BOD Bodaibo 56.97 11 *e*P **P 12 27 51.1 -2.8**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
KMBO Kilima Mbogo 59.08 267 P **P 12 28 10.4 +1.8**
comp=Z,1.1nm,0.5s,mb4.1,baz=45,slow=22,SNR=5.0
KMBO Kilima Mbogo 59.08 267⇑ *e*P **P 12 28 10.8 +2.1**
ARU Arti 61.67 337⇑ *i*P **P 12 28 25.8 -0.5**
ARU *e* 12 30 40.7
ARU *e*PPP 12 32 08.6
ARU *e*S **S 12 36 46.5 -1.0**
ARU *e* 12 38 11.7
ARU *e*SS SS 12 40 47.8 -1.2
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
YAK Yakutsk 64.50 17⇑ *e*P **P 12 28 44.6 -0.6**
YAK pmax pmax
comp=Z,43nm,1.1s,mb5.4
YAK Yakutsk 64.50 17 *e*P **P 12 28 44.3 -0.8**
comp=Z,33nm,1.0s,mb5.3
ANN Anapa 66.53 318 *e*P **P 12 28 54.9 -3.4**
ANN *e*S S 12 37 47.0 -0.8
ANN pmax pmax
comp=Z,33nm,1.2s,mb5.2
MA2 Magadan 70.63 26 *d*i P **P 12 29 24.2 +0.3**
MA2 pmax pmax
comp=Z,18nm,1.5s,mb4.8
TIXI Tiksi 72.13 10 *c*i P **P 12 29 31.6 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.2s,mb4.7
SEY Seymchan 73.00 23 *i*P **P 12 29 36.7 -1.4**
AKASG Malin Array Be 73.69 322 P **P 12 29 41.4 -0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.1,SNR=5.4
AKASG Malin Array Be 73.69 322 P **P 12 29 41.4 -0.7**
FINES FINESS Array B 78.45 333 P **P 12 30 08.8 -0.5**
comp=Z,2.3nm,0.8s,mb4.2,baz=90,slow=9.5,SNR=6.0
FINES FINESS Array B 78.45 333 P **P 12 30 08.8 -0.5**
BILL Bilibino 80.35 21 *e*P **P 12 30 21.6 +2.0**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
ARCES ARCESS Array B 81.04 340 P **P 12 30 23.1 -0.2**
comp=Z,3.2nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=12
GERES GERESS Array B 83.25 319 P **P 12 30 35.7 +0.8**
comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=2.7,SNR=7.3
NOA NORSAR Array B 85.45 331 P **P 12 30 46.3 +0.2**
comp=Z,1.5nm,0.9s,mb4.1,baz=91,slow=5.8,SNR=3.0
ULM Lac du Bonnet 126.48 10 PKP PKPdf 12 37 11.4 0.0
comp=Z,0.4nm,0.3s,baz=20,slow=4.2,SNR=4.2
NVAR Mina Array Bea 128.32 35 PKP PKPdf 12 37 15.7 +0.8
comp=Z,0.2nm,0.5s,baz=297,slow=2.0,SNR=4.3
CFAA Coronel Fontan 147.51 205 PKPbc PKPbc 12 37 54.2 +1.8
comp=Z,0.3nm,0.5s,baz=152,slow=6.5,SNR=4.8

*ISCJB **13** 12:23:37.0±2.4, 167N±0.1×1446E±03, h90km±27km, mb3.4/5, Error ellipse: s-maj=46.7km s-min=23.1km az=177.1*
*IDC **13** 12:23:38.8±3.2, 1677N×14456E, h89km±33km, mb3.2/6, mb1 3.5/7, mb1mx3.3/21, mbtmp3.6/7, Error ellipse: s-maj=38.5km s-min=22.2km az=96.0*
*NEIC **13** 12:23:39.3±1.8, 1674N×14457E, h93km±21km, Error ellipse: s-maj=34.7km s-min=17.3km az=89.0*
ISC 13 12:23:38.8±2.1,**167N**±01×**1447E**±03,**h90**km±25km,**n9, σ0§94/11, mb3.4/5, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.11**	**176**	P	**Pn**	**12 24 26.1**	**+0.3**
	27nm,0.3s,baz=35,slow=20,SNR=20						
GUMO				S	**Sn**	**12 24 58.9**	**-3.2**
	34nm,0.3s,baz=158,slow=23,SNR=11						
GUMO	**Guam**	**3.11**	**176**	*e*Pn	**Pn**	**12 24 26.6**	**+0.8**
GUMO				*e*Sn	**Sn**	**12 24 57.6**	**-4.5**
MJAR	**Matsushiro Arr**	**20.56**	**345**	P	**P**	**12 28 10.9**	**+0.7**
	2.1nm,0.6s,baz=124,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**37.81**	**196**	P	**P**	**12 30 47.5**	**+1.1**
	0.1nm,0.3s,mb3.1,baz=19,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**59.14**	**315**	P	**P**	**12 33 28.7**	**-1.3**
	0.1nm,0.4s,mb3.2,baz=82,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**59.14**	**315**	P	**P**	**12 33 28.7**	**-1.3**
ILAR	**Eielson Array**	**65.85**	**26**	P	**P**	**12 34 14.1**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=248,slow=5.6,SNR=7.7						
INK	**Inuvik**	**71.58**	**23**	P	**P**	**12 34 50.4**	**+0.2**
	1.3nm,0.8s,mb3.8,baz=257,slow=7.7,SNR=5.0						
YKA	**Yellowknife Ar**	**80.20**	**28**	P	**P**	**12 35 39.3**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=288,slow=5.3,SNR=5.7						

*IDC **13** 12:24:08.9±3.0, 163N×10100W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, MS4.0/12, Ms1 4.0/12, ms1mx3.9/28, Error ellipse: s-maj=123.6km s-min=18.1km az=50.0*
*ISCJB **13** 12:24:10.1±0.7, 19N±0.1×1007W±0.1, h10km, mb4.0/11, MS4.0/12, Error ellipse: s-maj=23.3km s-min=13.0km az=101.5*
*NEIC **13** 12:24:11.3±1.9, 176N×10083W, h10km, mb4.4/2, Error ellipse: s-maj=83.3km s-min=11.6km az=53.0*
ISC 13 12:24:12.1±0.7,**19N**±01×**1008W**±01,**h10**km,**n22,** σ1§06/14, **mb4.0**/11,**MS4.0**/12,**Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**26.55**	**83**	LR	LR	12 38 54.1	
	comp=Z,127nm,18.6s,MS3.5,baz=200,slow=33						
SDV	**Santo Domingo**	**30.78**	**76**	LR	LR	12 41 45.6	
	comp=Z,114nm,18.9s,MS3.5,baz=262,slow=34						
ANMO	**Albuquerque**	**33.35**	**351**	LR	LR	12 43 33.2	
	comp=Z,420nm,20.4s,MS4.1,baz=33,slow=35						
LPAZ	**La Paz**	**36.92**	**120**	P	**P**	**12 31 23.1**	**+2.0**
	0.9nm,0.7s,mb3.7,baz=53,slow=13,SNR=4.9						
NVAR	**Mina Array Bea**	**39.79**	**338**	P	**P**	**12 31 46.4**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=146,slow=9.1,SNR=4.0						
NVAR				LR	LR	12 46 46.6	
	comp=Z,77nm,20.9s,MS3.5,baz=180,slow=34						
ELK	**Elko**	**40.87**	**343**	LR	LR	12 46 19.8	
	comp=Z,197nm,18.2s,MS4.0,baz=283,slow=32						
BW06	**Boulder Array**	**41.48**	**350**	*e*P	**P**	**12 32 00.3**	**+1.1**
	2.1nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**41.48**	**350**	P	**P**	**12 32 00.2**	**+1.0**
	1.6nm,0.7s,mb3.8,baz=148,slow=7.7,SNR=17						
PDAR				LR	LR	12 47 43.5	
	comp=Z,178nm,20.8s,MS3.9,baz=310,slow=34						
PDAR	**Pinedale Array**	**41.48**	**350**	P	**P**	**12 32 00.2**	**+1.0**
PDAR				LR	LR	12 47 43.5	
RKT	**Rikitea**	**41.55**	**231**	*e*T		13 15 29.6	
	3.2nm,0.3s						
SIV	**San Ignacio**	**43.03**	**116**	P	**P**	**12 32 11.1**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=236,slow=7.3,SNR=3.5						
YBH	**Yreka Blue Hor**	**44.34**	**336**	LR	LR	12 46 53.8	
	comp=Z,179nm,19.0s,MS4.0,baz=289,slow=31						
ULM	**Lac du Bonnet**	**48.40**	**4**	P	**P**	**12 32 54.1**	**-0.1**
	2.1nm,0.8s,mb4.2,baz=226,slow=11,SNR=4.5						
ULM				LR	LR	12 53 53.7	
	comp=Z,176nm,18.2s,MS4.1,baz=9.5,slow=37						
CPUP	**Villa Florida**	**50.42**	**127**	*e*P	**P**	**12 33 09.7**	**0.0**
	12nm,0.7s,mb5.0						
PLCA	**Paso Flores**	**50.54**	**150**	LR	LR	12 49 25.0	
	comp=Z,216nm,20.2s,MS4.2,baz=217,slow=30						
PPT	**Papeete**	**51.82**	**246**	*e*S	**S**	**12 40 42.6**	**+0.2**
	166nm,23.2s						
PPT				*e*LR	LR	12 48 01.4	
	160nm,25.5s						
BDFB	**Brasilia**	**54.95**	**110**	P	**P**	**12 33 42.6**	**-0.6**
	2.1nm,0.6s,mb4.3,baz=280,slow=10,SNR=3.3						
BDFB				LR	LR	12 55 48.3	
	comp=Z,388nm,19.0s,MS4.5,baz=221,slow=34						
YKA	**Yellowknife Ar**	**61.38**	**353**	P	**P**	**12 34 27.2**	**-0.9**
	1.5nm,0.8s,mb4.2,baz=160,slow=6.5,SNR=15						
INK	**Inuvik**	**69.98**	**348**	P	**P**	**12 35 22.5**	**-1.2**
	2.8nm,0.9s,mb4.2,baz=179,slow=7.5,SNR=5.6						
INK	**Inuvik**	**69.98**	**348**	P	**P**	**12 35 22.5**	**-1.2**
ILAR	**Eielson Array**	**70.98**	**341**	P	**P**	**12 35 28.3**	**-1.5**
	2.3nm,0.7s,mb4.2,baz=150,slow=4.1,SNR=38						
ILAR				LR	LR	13 07 51.9	
	comp=Z,220nm,19.1s,MS4.4,baz=157,slow=37						
AFI	**Afiamalu**	**72.06**	**255**	LR	LR	12 57 13.3	
	comp=Z,143nm,20.3s,MS4.2,baz=33,slow=28						

*IDC **13** 12:29:11.7±1.6, 233N×9605E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/22, mbtmp4.1/8, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/29, Error ellipse: s-maj=54.5km s-min=18.2km az=51.0*
*NEIC **13** 12:29:16.7±0.6, 240N×9620E, h30km, mb4.4/9, Error ellipse: s-maj=13.8km s-min=6.5km az=219.0*
*ISCJB **13** 12:29:19.8±3.6, 26N±02×964E±02, h69km±28km, mb4.3/16, Error ellipse: s-maj=45.0km s-min=11.6km az=104.1*
ISC 13 12:29:21.6±3.5,**26N**±02×**964E**±02,**h66**km±27km,**n24,** σ0§46/24,**mb4.3**/16,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.49**	**85**	Pn	**Pn**	**12 29 59.5**	**-0.3**
	7.1nm,0.3s,baz=278,slow=5.5,SNR=30						
PSI				LR	LR	12 30 41.0	
	comp=Z,416nm,18.2s,baz=287,slow=31						
KULM	**Kulim**	**4.99**	**57**	*e*P	**Pn**	**12 30 33.9**	**0.0**
KULM				*e*		12 30 40.6	
JIRN	**Jiri**	**26.81**	**340**	*e*P	**P**	**12 34 56.1**	**+0.6**
	28nm,0.8s,mb4.8						
PKI	**Pulchoki**	**27.01**	**338**	*e*P	**P**	**12 34 57.4**	**+0.1**
GUN	**Gumba**	**27.14**	**339**	*e*P	**P**	**12 34 58.9**	**+0.3**
	30nm,0.7s,mb4.9						
DMN	**Daman**	**27.16**	**338**	*e*P	**P**	**12 34 58.5**	**-0.2**
	12nm,0.8s,mb4.5						
KKN	**Kakani**	**27.25**	**338**	*e*P	**P**	**12 34 59.7**	**+0.2**
	19nm,0.8s,mb4.7						
LSA	**Lhasa**	**27.45**	**350**	*e*P	**P**	**12 35 02.1**	**+0.9**
GKN	**Gorkha**	**27.69**	**337**	*e*P	**P**	**12 35 03.6**	**+0.2**
	20nm,0.8s,mb4.7						
KOLN	**Koldanda**	**27.90**	**335**	*e*P	**P**	**12 35 05.7**	**+0.4**
	14nm,0.7s,mb4.6						
ENH	**Enshi**	**30.20**	**23**	*e*P	**P**	**12 35 25.4**	**-0.2**
WRA	**Warramunga Arr**	**43.40**	**123**	P	**P**	**12 37 17.8**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=300,slow=9.2,SNR=19						
WRAB	**Tennant Creek**	**43.41**	**123**	*e*P	**P**	**12 37 17.9**	**+0.2**
	2.7nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**43.41**	**123**	*e*P	**P**	**12 37 17.8**	**+0.1**
ASAR	**Alice Springs**	**44.82**	**128**	P	**P**	**12 37 29.1**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=300,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**45.74**	**346**	P	**P**	**12 37 35.9**	**-0.3**
	4.3nm,0.6s,mb4.4,baz=162,slow=7.9,SNR=75						
MKAR	**Makanchi Array**	**45.74**	**346**	P	**P**	**12 37 35.9**	**-0.3**
SONM	**Songino Array**	**45.90**	**9**	P	**P**	**12 37 38.0**	**+0.5**
	2.6nm,0.7s,mb4.0,baz=190,slow=8.8,SNR=25						
ULN	**Ulaanbaatar**	**46.04**	**10**	*e*P	**P**	**12 37 38.7**	**+0.1**
	0.9nm,0.5s,mb3.8						
ZAL	**Zalesovo**	**52.09**	**351**	P	**P**	**12 38 24.8**	**0.0**
	3.1nm,0.5s,mb4.6,baz=293,slow=5.5,SNR=11						
BVAR	**Borovoye Array**	**54.72**	**341**	P	**P**	**12 38 43.0**	**-1.1**
	1.6nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=6.3						
ZRNK	**Zerenda**	**55.11**	**340**	*e*P	**P**	**12 38 45.9**	**-1.1**
	1.6nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**81.00**	**340**	P	**P**	**12 41 28.7**	**-0.5**
	4.2nm,0.9s,mb4.3,baz=104,slow=3.7,SNR=3.7						
ARCES	**ARCESS Array B**	**81.00**	**340**	P	**P**	**12 41 28.7**	**-0.5**

*IDC **13** 12:30:28.1±0.9, 1808N×7820W, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=35.0km s-min=19.7km az=61.0*
*ISCJB **13** 12:30:31.2±0.7, 1819N±004×7815W±004, h30km±4km, mb3.7/7, Error ellipse: s-maj=8.0km s-min=5.3km az=79.3*
*SSNC **13** 12:30:33.9, 1840N×7815W, h3km, MD3.6, ML4.5*
*JSN **13** 12:30:33.1±1.0, 1816N×7807W, h19km±3km, MD4.1, MW4.2, Fault plane solution: NP1:φs158.80000°, δ62.00000°, λ67.20000°.*
ISC 13 12:30:31.8±0.7,**1816N**±004×**7812W**±004,**h24**km±4km,**n31, σ0§92/35, mb3.7/7,1C-10D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	**0.23**	**295⇓**	*e*P	**Pb**	**12 30 39.1**	**+1.5**
MBJ	**Montego Bay**	**0.34**	**44⇓**	*i*P	**Pb**	**12 30 39.0**	**-0.4**
MBJ				*e*S	**Sb**	**12 30 44.5**	**0.0**
MCJ	**Malvern**	**0.47**	**119⇓**	*i*P	**Pb**	**12 30 40.9**	**-0.6**
MCJ				*i* S	**Sb**	**12 30 48.1**	**+0.1**
CVJ	**Coleyville**	**0.56**	**83⇓**	*i*P	**Pb**	**12 30 42.3**	**-0.6**
BBJ	**Bamboo Saint A**	**0.84**	**74⇓**	*i*P	**Pb**	**12 30 47.3**	**-0.4**
PCJ	**Portland Cotta**	**1.00**	**114⇓**	*i*P	**Pn**	**12 30 49.6**	**-0.7**
PCJ				*i* S	**Sb**	**12 31 03.4**	**+0.2**
BNJ	**Bonny Gate**	**1.12**	**81⇑**	*e*P	**Pn**	**12 30 51.5**	**-0.4**
STH	**Stony Hill**	**1.25**	**93⇓**	*e*P	**Pn**	**12 30 53.4**	**-0.3**
HOJ	**Hope**	**1.31**	**96⇓**	*e*P	**Pn**	**12 30 54.6**	**+0.1**
GWJ	**Greenwich**	**1.32**	**93⇓**	*e*P	**Pn**	**12 30 54.8**	**+0.1**
CMJ	**Castle Mountai**	**1.66**	**90⇓**	*e*P	**Pn**	**12 30 59.6**	**+0.2**
LMGC	**Las Mercedes**	**2.17**	**29**	*e*P	**Pn**	**12 31 06.6**	**+0.2**
	baz=187						
LMGC				*e*S	**Sn**	**12 31 28.3**	**-4.2**
	comp=N,11μm,0.1s						
RCC	**Rio Carpintero**	**2.93**	**51**	*e*P	**Pn**	**12 31 16.6**	**-0.3**
	baz=232						
RCC				*e*S	**Sn**	**12 31 50.5**	**-0.8**
	comp=N,4μm,0.1s						
CCCC	**Cccc**	**3.04**	**6**	*e*P	**Pn**	**12 31 19.0**	**+0.5**
	baz=190						
CCCC				*e*S	**Sn**	**12 31 54.6**	**+0.4**
	comp=N,2μm,0.1s						
MOAC	**Moa**	**3.88**	**50**	*e*P	**Pn**	**12 31 32.2**	**+2.2**
	baz=230						
MOAC				*e*		12 32 00.0	
	comp=E,9μm,0.4s						
MOAC				*e*S	**Sn**	**12 32 16.0**	**+1.2**
	comp=N,8μm,0.4s						
MASC	**Masc**	**4.18**	**61**	*e*S	**Sn**	**12 32 18.2**	**-4.1**
	comp=N,2μm,0.1s						
MGV	**Manicaragua**	**4.30**	**336**	*e*P	**Pn**	**12 31 36.2**	**+0.4**
	baz=143						
MGV				*e*		12 32 00.0	
	comp=E,3μm,0.1s						
MGV				*e*S	**Sn**	**12 32 22.9**	**-2.4**
	comp=N,8μm,0.1s						
SOR	**Soroa**	**6.50**	**316**	*e*P	**Pn**	**12 32 05.8**	**-0.2**
	baz=136						
SOR				*e*		12 33 00.0	
	comp=E,2μm,0.6s						
SOR				*e*S	**Sn**	**12 33 17.7**	**-1.7**
	comp=N,3μm,0.6s						
SDV	**Santo Domingo**	**11.74**	**141**	Pn	**Pn**	**12 33 15.6**	**-2.1**
	comp=N,0.2nm,0.3s,baz=26,slow=14,SNR=2.5						
PDAR	**Pinedale Array**	**36.20**	**319**	P	**P**	**12 37 33.2**	**+0.5**
	comp=N,0.3nm,0.5s,mb3.5,baz=122,slow=8.5,SNR=2.9						
SCHQ	**Schefferville**	**37.62**	**11**	P	**P**	**12 37 46.0**	**+1.3**
	comp=N,3.8nm,0.9s,mb4.1,baz=212,slow=9.5,SNR=3.1						
SIV	**San Ignacio**	**37.86**	**153**	P	**P**	**12 37 47.5**	**+0.9**
	comp=N,1.2nm,0.8s,mb3.7,baz=279,slow=2.1,SNR=6.2						
NVAR	**Mina Array Bea**	**40.34**	**308**	PcP	PcP	12 40 12.0	+1.4
	comp=N,0.4nm,0.6s,baz=140,slow=3.5,SNR=4.2						
YKA	**Yellowknife Ar**	**51.01**	**339**	P	**P**	**12 39 31.6**	**-0.1**
	comp=N,0.2nm,0.6s,mb3.2,baz=121,slow=8.3,SNR=5.6						
ILAR	**Eielson Array**	**64.70**	**334**	P	**P**	**12 41 08.0**	**+0.2**
	comp=N,0.4nm,0.7s,mb3.6,baz=115,slow=4.0,SNR=5.0						
RKT	**Rikitea**	**69.04**	**236**	*e*LQ		12 41 35.4	
	comp=N,376nm,30.6s						
RKT				*e*LR	LR	12 43 23.5	
	comp=N,102nm,41.8s						
TORD	**Torodi Ar. Bea**	**76.48**	**80**	P	**P**	**12 42 20.9**	**+1.3**
	comp=N,0.7nm,0.9s,mb3.6,baz=283,slow=3.6,SNR=2.9						
GERES	**GERESS Array B**	**77.72**	**43**	P	pP	12 42 33.9	-0.5
	comp=N,0.8nm,0.8s,baz=281,slow=6.8,SNR=4.5						
ARCES	**ARCESS Array B**	**77.81**	**20**	P	**P**	**12 42 26.9**	**-0.2**
	comp=N,6.3nm,1.1s,mb4.5,baz=284,slow=5.0,SNR=8.0						
WRA	**Warramunga Arr**	**149.30**	**261**	PKPbc	PKPbc	12 50 18.9	+0.4
	comp=N,1.1nm,0.8s,baz=86,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**149.63**	**254**	PKPbc	PKPbc	12 50 19.4	0.0
	comp=N,1.1nm,0.5s,baz=89,slow=2.2,SNR=24						

*IDC **13** 12:34:19.6±1.5, 3405S×17864W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.2/14, mbtmp4.4/5, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx3.0/27, Error ellipse: s-maj=45.7km s-min=27.0km az=135.0*
*NEIC **13** 12:34:26.9±0.9, 3411S×17880W, h50km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=16.3km az=127.0*
*ISCJB **13** 12:34:27.2±1.8, 3421S±007×179±W±03, h33km, mb4.3/4, MS3.9/1, Error ellipse: s-maj=33.3km s-min=7.2km az=22.6*
ISC 13 12:34:26.7±1.8,**3420S**±007×**1790W**±03,**h35**km,**n24,** σ0§98/27,**mb4.3**/4,**MS3.8**/1,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.01**	**213**	PN	**Pn**	**12 35 26.9**	**+1.2**
MXZ				SN	**Sn**	**12 36 15.9**	**+4.4**
PUZ	**Puketiti**	**4.46**	**209**	PN	**Pn**	**12 35 32.7**	**+0.8**
PUZ				SN	**Sn**	**12 36 28.5**	**+6.0**
MWZ	**Matawai**	**5.00**	**213**	PN	**Pn**	**12 35 40.0**	**+0.9**
MWZ				SN	**Sn**	**12 36 42.2**	**+6.5**
URZ	**Urewera**	**5.14**	**217**	Pn	**Pn**	**12 35 43.6**	**+2.5**
	11nm,0.3s,baz=36,slow=5.0,SNR=52						
URZ				Sn	**Sn**	**12 36 45.9**	**+6.8**
	10nm,0.3s,baz=305,slow=21,SNR=13						
URZ				LR	LR	12 37 45.0	
	comp=Z,90nm,21.4s,baz=354,slow=38						
URZ	**Urewera**	**5.14**	**217**	PN	**Pn**	**12 35 41.6**	**+0.5**
URZ				SN	**Sn**	**12 36 45.5**	**+6.3**
PXZ	**Pawanui**	**6.70**	**209**	PN	**Pn**	**12 36 03.1**	**+0.5**
TSZ	**Takapari Road**	**7.11**	**213**	*e*PN	**Pn**	**12 36 06.0**	**-2.2**
TSZ				SN	**Sn**	**12 37 28.7**	**+1.0**
BFZ	**Birch Farm**	**7.50**	**209**	SN	**Sn**	**12 37 37.5**	**+0.2**
MRZ	**Mangatainoka R**	**7.77**	**212**	PN	**Pn**	**12 36 14.9**	**-2.2**
MRZ				SN	**Sn**	**12 37 44.0**	**+0.1**
MTW	**Mount Morrison**	**8.21**	**211**	SN	**Sn**	**12 37 54.6**	**-0.1**
TCW	**Tory Channel**	**8.80**	**215**	SN	**Sn**	**12 38 08.8**	**-0.6**
TUWZ	**Tuamarina**	**9.13**	**216**	SN	**Sn**	**12 38 17.0**	**-0.4**
RPZ	**Rata Peaks**	**12.26**	**216**	Pn	**Pn**	**12 37 17.2**	**-1.4**
	0.5nm,0.3s,baz=9.5,slow=6.1,SNR=3.2						
RPZ				Sn	**Sn**	**12 39 26.0**	**-8.0**
	0.7nm,0.3s,baz=302,slow=19,SNR=8.0						
PPT	**Papeete**	**31.06**	**65**	LR	LR	12 48 12.2	
	comp=Z,249nm,21.6s,MS3.8,baz=254,slow=27						
CTA	**Charters Tower**	**33.80**	**286**	P	**P**	**12 41 06.0**	**+0.7**
	1.2nm,0.3s,mb4.3,baz=98,slow=15,SNR=2.8						
CTA	**Charters Tower**	**33.80**	**286**	P	**P**	**12 41 06.0**	**+0.7**
ASAR	**Alice Springs**	**42.23**	**272**	P	**P**	**12 42 16.5**	**+0.2**
	3.8nm,0.7s,mb4.1,baz=112,slow=7.3,SNR=67						
WB2	**Warramunga Arr**	**43.55**	**277**	*e*P	**P**	**12 42 26.8**	**-0.2**
WRAB	**Tennant Creek**	**43.56**	**277**	*e*P	**P**	**

comp=Z,497nm,0.7s
BBB Bella Bella 1.95 62 *e*Pn **Pn 12 44 21.1 -0.8**
BBB *e*Pg **Pg 12 44 26.0 -0.6**
BBB *e*Sn **Sn 12 44 44.8 -1.3**
MOBC Moresby Island 2.00 343 Pn **Pn 12 44 22.5 0.0**
MOBC Sg **Sg 12 44 56.2 +2.9**
MOBC Trac 12 45 02.4
comp=Z,217nm,0.6s
MOBC Moresby Island 2.00 343 *e*Pn **Pn 12 44 22.5 0.0**
MOBC *e*Sg **Sg 12 44 56.2 +2.9**
VIB Van Inlet 2.20 334 Pn **Pn 12 44 26.0 +0.7**
VIB Sn **Sn 12 44 49.6 -2.7**
comp=Z,40nm,0.3s
VIB Trac 12 45 04.2
comp=Z,40nm,0.3s
VIB Van Inlet 2.20 334 *e*Pn **Pn 12 44 26.0 +0.7**
VIB *e*Sn **Sn 12 44 49.6 -2.7**
BNAB Bonilla 2.21 4 Pn **Pn 12 44 30.4 +5.0**
BNAB Sg **Sg 12 45 07.5 +7.5**
BNAB Trac 12 45 08.5
comp=Z,75nm,0.3s
BNAB Bonilla 2.21 4 *e*Pn **Pn 12 44 30.4 +5.0**
BNAB *e*Sg **Sg 12 45 07.5 +7.5**
PHC Port Hardy 2.27 104 *e*Pn **Pn 12 44 24.5 -1.8**
BPBC Brooks Peninsu 2.30 119 Pn **Pn 12 44 25.2 -1.3**
BPBC Trac 12 45 04.8
comp=Z,157nm,0.4s
MAYB Maynard 2.53 109 Pn **Pn 12 44 29.1 -0.7**
EDB Eliza Dome 2.80 119 *e*Pn **Pn 12 44 32.6 -0.9**
EDB *e*Pg **Pg 12 44 41.2 -1.6**
NDB Naden 2.94 336 Pn **Pn 12 44 35.6 +0.3**
NDB Trac 12 45 38.6
comp=Z,105nm,0.6s
NDB Naden 2.94 336 *e*Pn **Pn 12 44 35.6 +0.3**
WOSB Woss 2.98 111 *e*Pn **Pn 12 44 35.9 -0.1**
RUBB Prince Rupert 3.06 7 Pn **Pn 12 44 37.5 +0.5**
RUBB Pg **Pg 12 44 48.2 +0.4**
RUBB Sg **Sg 12 45 26.4 -1.0**
RUBB Trac 12 45 39.5
comp=Z,379nm,0.8s
RUBB Prince Rupert 3.06 7 Pn **Pn 12 44 37.5 +0.5**
RUBB *e*Pg **Pg 12 44 48.2 +0.4**
RUBB *e*Sg **Sg 12 45 26.4 -1.0**
NCRB Newcastle Ridg 3.20 104 *e*Pn **Pn 12 44 39.4 +0.4**
NCRB *e*Pg **Pg 12 44 47.5 -3.0**
CBB Campbell River 3.75 108 Pn **Pn 12 44 47.5 +1.0**
CBB Trac 12 45 56.0
comp=Z,43nm,0.6s
CBB Campbell River 3.75 108 *e*Pn **Pn 12 44 47.5 +1.0**
BTB Buttle Lake 3.90 116 *e*Pn **Pn 12 44 48.4 -0.3**
ALB Alberni 4.39 115 Trac 12 46 18.6
comp=Z,20nm,0.6s
TXB Texada 4.43 109 Pn **Pn 12 44 52.9 -3.0**
TXB Trac 12 46 14.3
comp=Z,34nm,0.6s
TXB Texada 4.43 109 *e*Pn **Pn 12 44 52.9 -3.0**
MGB Mount Grey 4.61 118 *e*Pn **Pn 12 44 58.0 -0.3**
SHB Sechelt 4.80 108 Pn **Pn 12 45 02.7 +1.6**
SHB Trac 12 46 25.4
comp=Z,50nm,0.7s
SHB Sechelt 4.80 108 *e*Pn **Pn 12 45 02.7 +1.6**
FSB Fort Saint Jam 5.10 49 Pn **Pn 12 45 06.8 +1.7**
FSB Sg **Sg 12 46 26.1 -6.7**
FSB Trac 12 46 48.5
comp=Z,45nm,0.7s
FSB Fort Saint Jam 5.10 49 *e*Pn **Pn 12 45 06.8 +1.7**
FSB *e*Sg **Sg 12 46 26.1 -6.7**
WPB Watts Point 5.18 105 *e*Pn **Pn 12 45 07.2 +0.9**
WSLR Whistler 5.21 100 Pn **Pn 12 45 07.8 +1.2**
WSLR Pg **Pg 12 45 28.5 -0.3**
WSLR Trac 12 46 43.7
comp=Z,14nm,0.7s
WSLR Whistler 5.21 100 *e*Pn **Pn 12 45 07.8 +1.2**
WSLR *e*Pg **Pg 12 45 28.5 -0.3**
BIB Bowen Island 5.22 108 Pn **Pn 12 45 08.2 +1.4**
BIB Pg **Pb 12 45 20.1 -0.1**
BIB Sg **Sb 12 46 24.6 +1.8**
BIB Trac 12 46 39.6
comp=Z,8.0nm,0.6s
BIB Bowen Island 5.22 108 *e*Pn **Pn 12 45 08.2 +1.4**
BIB *e*Pg **Pb 12 45 20.1 -0.1**
BIB *e*Sg **Sb 12 46 24.6 +1.8**
LZB Mount Lazard 5.30 118 *e*Pn **Pn 12 45 12.1 +4.2**
LLLB Lillooet 5.75 93 Pn **Pn 12 45 16.3 +2.3**
LLLB Trac 12 47 24.4
comp=Z,8.0nm,0.6s
LLLB Lillooet 5.75 93 *e*Pn **Pn 12 45 16.3 +2.3**
HOPB Hope 6.37 104 *e*Pn **Pn 12 45 24.8 +2.2**
BMBC Bull Mountain 7.05 44 Pn **Pn 12 45 40.2 +8.3**
BMBC Sg **Sg 12 47 35.5 0.0**
BMBC Trac 12 47 44.3
comp=Z,29nm,0.8s
BMBC Bull Mountain 7.05 44 *e*Pn **Pn 12 45 40.2 +8.3**
BMBC *e*Sg **Sg 12 47 35.5 0.0**
DOWB Downie Slide 7.75 84 Sg Sx 12 47 52.7
DOWB Trac 12 48 09.9
comp=Z,78nm,0.8s
SLEB Sale Mountain 8.02 86 Trac 12 48 27.6
comp=Z,9.0nm,0.9s
FNBB Fort Nelson 8.85 28 Trac 12 48 52.6
comp=Z,6.0nm,0.8s
FNBB Fort Nelson 8.85 28 Sg Sx 12 48 28.9
HAWA Hanford 8.96 119 P **Pn 12 45 56.9 -1.2**
WHY Whitehorse 9.64 348 *e*Pn **Pn 12 46 12.5 +5.0**
YKA Yellowknife Ar 14.27 32 Pn **Pn 12 47 10.4 -0.3**
baz=222,slow=12,SNR=6.8
YKA Yellowknife Ar 14.27 32 Pn **Pn 12 47 10.4 -0.3**
NVAR Mina Array Bea 15.63 141 Pn **Pn 12 47 33.4 +4.4**
0.1nm,0.3s,baz=307,slow=8.7,SNR=4.3
ILAR Eielson Array 15.86 334 Pn **Pn 12 47 40.2 +8.2**
0.0nm,0.3s,baz=186,slow=8.2,SNR=2.6
PDAR Pinedale Array 16.82 112 Pn **Pn 12 47 48.3 +4.0**
0.1nm,0.3s,baz=308,slow=7.8,SNR=14

IDC 13 12:50:40.4±14.0, 1448N×5462E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=290.0km s-min=61.6km az=178.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**35.96**	**4**	P	P	12 57 42.6	-0.1
	1.1nm,0.8s,baz=200,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**39.65**	**30**	P	P	12 58 13.8	0.0
	0.3nm,0.6s,baz=210,slow=7.8,SNR=5.4						
AKASG	**Malin Array Be**	**41.56**	**336**	P	P	12 58 29.4	-0.3
	0.2nm,0.3s,baz=139,slow=8.5,SNR=4.3						
FINES	**FINESS Array B**	**51.18**	**343**	P	P	12 59 45.4	+0.1
	0.9nm,0.6s,baz=153,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**57.98**	**348**	P	P	13 00 34.2	-0.4
	6.2nm,1.0s,baz=150,slow=7.3,SNR=6.4						

NIED ***13*** *12:50:00, 29.10N×142.30E, h8km, Mw5.0 Best double couple: M0 3.10000×10^16 NP1:φs 314.00000°, δ83.00000°, λ88.00000°. NP2:φs 148.00000°, δ7.00000°, λ104.00000°.*
NAO ***13*** *12:50:28.6, 26.63N×143.89E, h33km, mb4.4*
JMA ***13*** *12:50:40.8±0.2, 29.14N×142.34E, h52km, M4.8*
BJI ***13*** *12:50:40.8, 29.15N×142.26E, h27km, mB5.0, mb4.9, Ms4.6, Msz4.4*
MOS ***13*** *12:50:41.4±0.9, 29.15N×142.39E, h33km, mb5.3/33, Error ellipse: s-maj=11.8km s-min=5.5km az=111.0*
ISCJB ***13*** *12:50:42.4±0.2, 29.18N±002×142.31E±004, h41km, mb5.0/98, MS4.3/19, Error ellipse: s-maj=4.9km s-min=3.5km az=155.4*
IDC ***13*** *12:50:42.8±2.5, 29.08N×142.41E, h32km±17km, mb4.5/24, mb1 4.6/27, mb1mx4.5/30, mbtmp4.7/27, ML4.1/3, MS4.2/9, Ms1 4.2/9, ms1mx4.0/24, Error ellipse: s-maj=14.9km s-min=9.7km az=97.0*
NEIC ***13*** *12:50:44.1±0.2, 29.14N×142.39E, mb5.1/27, MW4.9(NIED), Error ellipse: s-maj=6.2km s-min=5.5km az=142.0*
HRVD ***13*** *12:50:44.1±0.8, 28.85N×142.73E, h20km±2km, MW4.8/49, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s49,c73; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.61±.20; Mθθ 0.04±.11; Mφφ -1.66±.14; Mrθ 0.27±.26; Mrφ 0.31±.09; Mθφ 1.29±.25; Best double couple: M0 2.12300×10^16 NP1:φs 157.00000°, δ28.00000°, λ66.00000°. NP2:φs 3.00000°, δ64.00000°, λ102.00000°. Principal axes: T 2.1190, Plg68.0000°,*

Azm297.0000°; N 0.0000, Plg11.0000°, Azm178.0000°; P -2.1270, Plg19.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.

ISC 13 12:50:44.9±0.2, 2926N±002×14230E±004, h43km, h43km±1.3km: pP-P, n201, σ1 11/221, mb5.0/98, MS4.3/19, 12C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**183**	P	**Pn**	**12 51 13.6**	**-4.6**
CBIJ				*e*S	**Sn**	**12 51 37.0**	**-6.7**
CBIJ	**Chichi jima**	**2.15**	**183**	Pn	**Pn**	**12 51 13.2**	**-5.0**
	46nm,0.3s,baz=301,slow=7.7,SNR=12						
JHHJ	**Haha-jima-NKT**	**2.62**	**182**	P	**Pn**	**12 51 20.0**	**-4.6**
JHHJ				S	**Sn**	**12 51 48.9**	**-6.2**
JHJ2	**Mitsune**	**4.39**	**332**	P	**Pn**	**12 51 48.5**	**-0.5**
JHJ2				*e*S	**Sn**	**12 52 39.8**	**+0.9**
JHJ	**Hachijo jima 2**	**4.42**	**331**	Pn	**Pn**	**12 51 48.1**	**-1.2**
	27nm,0.3s,baz=68,slow=19,SNR=4.1						
JHJ				Sn	**Sn**	**12 52 39.1**	**-0.3**
	79nm,0.3s,baz=74,slow=20,SNR=7.2						
JHJ				LR	LR	12 53 35.8	
	comp=Z,3μm,18.9s,baz=16,slow=38						
BSO1	**Boso 1**	**5.50**	**349**	P	**Pn**	**12 52 03.1**	**-1.1**
BSO1				*e*S	**Sn**	**12 53 03.5**	**-2.6**
BSO3	**Boso 3**	**5.74**	**345**	P	**Pn**	**12 52 05.7**	**-1.7**
BSO3				*e*S	**Sn**	**12 53 15.1**	**+3.1**
JOD2	**Odawara 2**	**6.58**	**336**	P	**Pn**	**12 52 19.1**	**+0.1**
JIE	**Ise**	**6.99**	**319**	P	**Pn**	**12 52 23.8**	**-0.9**
JHU	**Hanno**	**7.05**	**340**	P	**Pn**	**12 52 23.6**	**-1.9**
JHU				*e*S	**Sn**	**12 53 43.1**	**-1.3**
JRY	**Ryogami san**	**7.33**	**338**	P	**Pn**	**12 52 29.3**	**0.0**
JRY				S	**Sn**	**12 53 50.8**	**-0.3**
JAG	**Ashikaga**	**7.54**	**342**	P	**Pn**	**12 52 30.4**	**-1.8**
JAG				S	**Sn**	**12 53 52.8**	**-3.6**
MJAR	**Matsushiro Arr**	**8.04**	**336**	Pn	**Pn**	**12 52 38.7**	**-0.3**
	11nm,0.3s,baz=160,slow=11,SNR=175						
MJAR				Sn	**Sn**	**12 54 06.3**	**-2.3**
	baz=144,slow=10,SNR=3.0						
MAJO	**Matsushiro**	**8.04**	**336**	*e*P	**Pn**	**12 52 38.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,78nm,0.6s						
MAJO	**Matsushiro**	**8.04**	**336**	*e*Pn	**Pn**	**12 52 38.9**	**-0.2**
	comp=Z,78nm,0.6s						
MAJO				*e*pPn		12 52 47.4	
MAT	**Matsushiro**	**8.04**	**336**	P	**Pn**	**12 52 38.7**	**-0.4**
MAT				S	**Sn**	**12 54 08.4**	**-0.2**
MAT	**Matsushiro**	**8.04**	**336**	P	**Pn**	**12 52 39.1**	**0.0**
JFK	**Kawauchi**	**8.18**	**352**	P	**Pn**	**12 52 37.4**	**-3.5**
JMK	**Ichinoseki**	**9.71**	**355**	P	**Pn**	**12 52 58.0**	**-4.0**
JNU	**Nakatsue**	**10.51**	**294**	Pn	**Pn**	**12 53 15.0**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=59,slow=14,SNR=2.6						
JNU				LR	LR	12 57 13.6	
	comp=Z,844nm,19.4s,baz=136,slow=37						
JOW	**Kunigami**	**12.62**	**262**	Pn	**Pn**	**12 53 46.2**	**+4.5**
	comp=Z,0.8nm,0.3s,baz=101,slow=19,SNR=4.0						
JOW				LR	LR	12 57 49.3	
	comp=Z,868nm,21.7s,baz=318,slow=34						
ASAJ	**Asahikawa**	**14.84**	**1**	Pn	**Pn**	**12 54 06.5**	**-5.2**
	comp=Z,2.6nm,0.3s,baz=225,slow=13,SNR=18						
ASAJ				Sn	**Sn**	**12 56 44.5**	**-10**
	comp=Z,0.7nm,0.3s,baz=42,slow=32,SNR=6.0						
INCN	**Inchon**	**15.44**	**306**	*e*P	**Pn**	**12 54 22.2**	**+2.6**
	comp=Z,89nm,1.0s						
VLA	**Vladivostok**	**16.17**	**332**	*e*P	**Pn**	**12 54 32.2**	**+3.3**
VLA				pmax	pmax		
	comp=Z,107nm,1.0s						
VLA				pmax	pmax		
	comp=Z,600nm,15.6s						
YSS	**Yuzh-Sakhalins**	**17.67**	**1**	*e*P	**Pn**	**12 54 48.0**	**+0.2**
YSS				S	**S**	**12 57 55.0**	**-14**
YSS				pmax	pmax		
	comp=Z,80nm,1.1s						
YSS				MLR	MLR		
	comp=Z,600nm,12.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**17.67**	**1**	*e*Pn	**Pn**	**12 54 46.0**	**-1.7**
	comp=E,67nm,1.0s						
SSE	**Sheshan**	**18.35**	**281**	P	**Pn**	**12 54 55.4**	**-0.6**
SSE				AP	pP	12 55 05.4	-0.6
SSE				XP	sP	12 55 10.8	-0.7
SSE				S	**S**	**12 58 21.3**	**-1.8**
SSE				PCP	PcP	12 59 23.9	-1.8
SSE				AMB	AMB		
	comp=Z,42nm,0.7s						
SSE				AMB	AMB		
	comp=Z,203nm,5.1s						
SSE				LR	LR		
	comp=N,231nm,17.2s						
SSE				LR	LR		
	comp=E,120nm,17.5s						
SSE				LR	LR		
	comp=Z,172nm,14.8s						
MDJ	**Mudanjiang**	**18.36**	**330**	P	**Pn**	**12 54 56.3**	**+0.2**
MDJ				AP	pP	12 55 05.3	-0.8
MDJ				XP	sP	12 55 11.3	-0.3
MDJ				S	**S**	**12 58 21.4**	**-1.9**
MDJ				PCP	PcP	12 59 24.5	-1.2
MDJ				SCP	ScP	13 02 55.3	-2.3
MDJ				PCS	PcS	13 03 00.1	-2.2
MDJ				SCS	ScS	13 06 35.3	-3.2
MDJ				AMB	AMB		
	comp=Z,24nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,210nm,5.8s						
MDJ				LR	LR		
	comp=N,518nm,18.9s						
MDJ				LR	LR		
	comp=E,575nm,14.3s						
MDJ				LR	LR		
	comp=Z,686nm,18.9s						
TATO	**Taipei**	**19.01**	**262**	*e*P	**Pn**	**12 55 04.9**	**+1.0**
	comp=Z,226nm,1.0s						
NACB	**Ninganchiao**	**19.17**	**260**	*e*P	**Pn**	**12 55 04.2**	**-1.7**
YHNB	**Yeheng**	**19.20**	**261**	*e*P	**Pn**	**12 55 05.5**	**-0.7**
SNY	**Shenyang**	**19.68**	**315**	⇓P	**Pn**	**12 55 10.0**	**-2.0**
SNY				AP	pP	12 55 18.3	-2.4
SNY				XP	sP	12 55 21.8	-4.4
SNY				PP		12 55 27.8	
SNY				S	**S**	**12 58 45.3**	**-4.7**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=N,640nm,14.4s						
SNY				LR	LR		
	comp=E,720nm,13.8s						
SNY				LR	LR		
	comp=Z,680nm,12.6s						
CN2	**Changchun**	**19.80**	**322**	*e*P	**Pn**	**12 55 12.3**	**-1.1**
CN2				*e*XP	sP	12 55 29.1	+1.7
CN2				*e*S	**S**	**12 58 51.1**	**-1.1**
CN2				AMB	AMB		
	comp=Z,40nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,800nm,16.0s						
HABR	**Khabarovsk**	**19.99**	**346**	*i* P	**Pn**	**12 55 14.0**	**-1.6**
HABR				*i* S	**S**	**12 58 58.8**	**+2.8**
HABR				pmax	pmax		
	comp=Z,65nm,1.0s						
NJ2	**Nanjing**	**20.36**	**284**	*e*P	**P**	**12 55 17.8**	**+0.2**
NJ2				AP		12 55 28.4	
NJ2				XP	sP	12 55 34.4	+0.9
NJ2				PP		12 55 39.6	
NJ2				S	**S**	**12 58 58.0**	**-5.4**
NJ2				XS	sS	12 59 14.0	-6.2
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,100nm,4.8s						
NJ2				LR	LR		
	comp=N,900nm,13.4s,MS4.5						
NJ2				LR	LR		
	comp=E,1μm,15.5s,MS4.5						
NJ2				LR	LR		
	comp=Z,670nm,14.8s,MS4.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**21.52**	**341**	*e*P	**P**	**12 55 27.0**	**-3.1**
KLR				*e*		12 55 42.0	
KLR				*e*		12 59 30.5	
KLR				pmax	pmax		
	comp=Z,100μm,1.8s						
KLR				pmax	pmax		
	comp=E,46nm,1.8s						
QZH	**Quanzhou**	**21.53**	**264**	P	**P**	**12 55 30.4**	**+0.1**
QZH				S	**S**	**12 59 24.3**	**-2.1**
QZH				LR	LR		
	comp=Z,1μm,19.0s,MS4.3						
WHN	**Wuhan**	**24.25**	**280**	⇓P	**P**	**12 55 57.5**	**-0.2**
WHN				AMB	AMB		
	comp=Z,67nm,1.2s,mb5.0						
TGY	**Tagaytay City**	**24.86**	**237**	P	**P**	**12 56 03.4**	**+0.1**
	comp=Z,260nm,0.4s,baz=65,slow=3.5,SNR=11						
HHC	**Hu-ho-hao-te**	**27.56**	**303**	⇑P	**P**	**12 56 27.4**	**-0.2**
HHC				AP	pP	12 56 37.8	-1.4
HHC				XP	sP	12 56 43.8	-0.5
HHC				PP		12 57 16.1	
HHC				PCP	PcP	12 59 42.3	-2.4
HHC				S	**S**	**13 01 06.3**	**+0.4**
HHC				XS	sS	13 01 25.4	+0.2
HHC				SCP	ScP	13 03 19.3	-2.4
HHC				SCS	ScS	13 07 09.5	-4.0
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,211nm,6.0s						
HHC				LR	LR		
	comp=N,457nm,15.6s,MS4.4						
HHC				LR	LR		
	comp=E,581nm,15.6s,MS4.4						
HHC				LR	LR		
	comp=Z,628nm,18.0s,MS4.2						
BTO	**Baotou**	**28.63**	**302**	*e*P	**P**	**12 56 37.3**	**+0.1**
BTO				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
XAN	**Xi'an**	**28.74**	**288**	P	**P**	**12 56 36.9**	**-1.3**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
XAN				LR	LR		
	comp=E,510nm,17.3s						
XAN				LR	LR		
	comp=Z,580nm,16.6s,MS4.3						
CLNS	**Chul'man**	**30.18**	**341**	*e*P	**P**	**12 57 00.6**	**+10**
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
MA2	**Magadan**	**30.86**	**8**	*i* P	**P**	**12 56 56.8**	**-0.2**
MA2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
MA2	**Magadan**	**30.86**	**8**	*e*P	**P**	**12 56 56.7**	**-0.3**
	comp=Z,13nm,0.9s,mb4.8						
CIT	**Chita**	**31.16**	**325**	*e*P	**P**	**12 57 00.9**	**+1.3**
CIT				pmax	pmax		
	comp=Z,55nm,1.7s,mb5.1						
QIZ	**Qiongzhong**	**31.23**	**258**	P	**P**	**12 57 01.0**	**+0.8**
QIZ				AP	pP	12 57 13.9	+2.1
QIZ				*e*S	**S**	**13 02 04.4**	**+0.8**
QIZ				AMB	AMB		
	comp=Z,18nm,1.8s,mb4.6						
QIZ				LR	LR		
	comp=Z,280nm,15.3s,MS4.0						
GYA	**Guiyang**	**31.56**	**274**	⇑*i*P	**P**	**12 57 01.9**	**-1.2**
GYA				AP	pP	12 57 13.8	-0.9
GYA				XP	sP	12 57 19.3	-0.5
GYA				PP	PP	12 58 06.8	-8.0
GYA				PPP		12 58 21.9	
GYA				PCP	PcP	12 59 55.6	+0.7
GYA				S	**S**	**13 02 03.8**	**-4.9**
GYA				XS	sS	13 02 24.3	-3.8
GYA				SCP	ScP	13 03 33.8	-0.8
GYA				SCS	ScS	13 07 29.0	-3.4
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,470nm,14.9s,MS4.5						
GYA				LR	LR		
	comp=E,490nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=Z,750nm,15.4s,MS4.5						
ULN	**Ulaanbaatar**	**32.86**	**314**	*c i*P	**P**	**12 57 15.9**	**+1.4**
LZH	**Lanzhou**	**32.92**	**292**	*e*P	**P**	**12 57 14.5**	**-0.6**
LZH				AP	pP	12 57 25.4	-1.3
LZH				XP	sP	12 57 30.8	-1.0
LZH				PP	PP	12 58 25.6	-4.4
LZH				*e*S	**S**	**13 02 28.5**	**-1.5**
LZH				XS	sS	13 02 47.8	-1.6
LZH				SS	SS	13 04 29.8	-23
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,139nm,5.4s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
SONM	**Songino Array**	**33.26**	**314**	P	**P**	**12 57 19.0**	**+0.9**
	comp=Z,26nm,0.8s,mb5.2,baz=118,slow=7.4,SNR=150						
SONM				LR	LR	13 11 36.2	
	comp=Z,438nm,20.1s,MS4.2,baz=26,slow=38						
CD2	**Chengdu**	**33.28**	**283**	⇑*i*P	**P**	**12 57 17.1**	**-1.1**
CD2				AP	pP	12 57 29.1	-0.8
CD2				XP	sP	12 57 34.5	-0.5
CD2				PP	PP	12 58 29.6	-4.4
CD2				S	**S**	**13 02 33.3**	**-2.3**
CD2				XS	sS	13 02 53.5	-1.5
CD2				SS	SS	13 04 37.4	-23
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
CD2				AMB	AMB		
	comp=Z,90nm,9.6s						
CD2				LR	LR		
	comp=N,500nm,14.4s						
CD2				LR	LR		
	comp=Z,300nm,16.8s,MS4.1						
YAK	**Yakutsk**	**33.82**	**349**	*e*P	**P**	**12 57 23.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
SEY	**Seymchan**	**34.32**	**8**	*i* P	**P**	**12 57 27.5**	**+0.3**
KMI	**Kunming**	**35.32**	**273**	P	**P**	**12 57 35.9**	**+0.1**
KMI				AP	pP	12 57 47.1	-0.4
KMI				XP	sP	12 57 51.8	-0.8
KMI				PP	PP	12 58 56.5	0.0
KMI				PPP		12 59 15.8	
KMI				S	**S**	**13 03 07.1**	**+0.2**
KMI				XS	sS	13 03 26.3	-0.2
KMI				SS	SS	13 05 26.3	-15
KMI				SSS		13 05 54.8	
KMI				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
KMI				LR	LR		
	comp=N,264nm,13.0s,MS4.3						
KMI				LR	LR		
	comp=E,304nm,16.8s,MS4.3						
KMI				LR	LR		
	comp=Z,384nm,16.8s,MS4.2						
ZAK	**Zakamensk**	**36.09**	**317**	⇑*i*P	**P**	**12 57 43.9**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,77nm,2.0s,mb5.3						
GTA	**Gaotai**	**36.23**	**298**	*e*P	**P**	**12 57 42.8**	**-0.8**
GTA				AP	pP	12 57 53.8	-1.6
GTA				XP	sP	12 57 57.9	-2.6
GTA				PP	PP	12 59 07.5	+1.0
GTA				PPP		12 59 27.8	
GTA				PCP	PcP	13 00 09.6	+1.4
GTA				S	**S**	**13 03 19.6**	**-1.3**
GTA				XS	sS	13 03 40.5	0.0
GTA				SCP	ScP	13 03 50.3	-0.8
GTA				PCS	PcS	13 03 53.9	-1.9
GTA				SS	SS	13 05 44.1	-16
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,77nm,5.7s						
GTA				LR	LR		
	comp=N,209nm,13.7s,MS4.4						
GTA				LR	LR		

comp=E,363nm,14.1s,MS4.4
GTA LR LR
comp=Z,528nm,14.4s,MS4.5
IRK Irkutsk 36.23 320 *e*P **P 12 57 45.1 +1.5**
IRK pmax pmax
comp=Z,61nm,1.5s,mb5.3
MOY Mondy 37.89 318 *e*P **P 12 57 59.3 +1.6**
PMG Port Moresby 38.72 172 *i* P **P 12 58 04.1 -0.6**
BILL Bilibino 41.34 13 *i* P **P 12 58 25.9 -0.5**
BILL *e* 13 00 01.4
BILL pmax pmax
comp=Z,17nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.1
BILL Bilibino 41.34 13 *e*P **P 12 58 25.7 -0.7**
comp=Z,14nm,0.9s,mb4.6
BILL *e*pP pP 12 58 37.9 -0.4
TIXI Tiksi 43.08 354 *i* P **P 12 58 40.0 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KRAR Krasnoyarsk 43.82 322 *i* P **P 12 58 47.5 +0.9**
KRAR pmax pmax
comp=Z,27nm,0.6s,mb5.2
SHL Shillong 44.64 278 *e*P **P 12 58 53.0 -0.1**
WMQ Urumqi 45.43 304 P **P 12 59 00.0 +0.6**
WMQ AP pP 12 59 13.0 +1.6
WMQ PP PP 13 00 47.0 +0.8
WMQ S **S 13 05 38.0 +0.3**
WMQ SS SS 13 08 54.0 -7.8
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,324nm,4.0s
WMQ LR LR
comp=N,281nm,10.0s,MS4.6
WMQ LR LR
comp=E,253nm,10.0s,MS4.6
WMQ LR LR
comp=Z,272nm,10.0s,MS4.5
KULM Kulim 45.99 247 *e*P **P 12 59 04.2 +0.4**
KULM *e*pP pP 12 59 14.6 -1.2
ZAL Zalesovo 47.96 318 P **P 12 59 19.4 +0.2**
comp=Z,7.6nm,0.7s,mb4.9,baz=13,slow=7.8,SNR=37
ZAL LR LR 13 21 06.9
comp=Z,604nm,19.4s,MS4.6,baz=13,slow=38
ZAL Zalesovo 47.96 318 *i* P **P 12 59 20.3 +1.1**
ZAL pmax pmax
comp=Z,8.0nm,0.7s
PSI Prapat 48.85 246 LR LR 13 19 41.1
comp=Z,216nm,18.3s,MS4.2,baz=243,slow=36
JIRN Jiri 48.95 282 *e*P **P 12 59 27.6 +0.8**
comp=Z,79nm,0.9s,mb5.8
NVS Novosibirsk 48.97 319 *e*P **P 12 59 26.3 -0.7**
NVS pmax pmax
comp=Z,62nm,1.8s,mb5.3
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,32nm,1.3s
GUN Gumba 49.15 283 *e*P **P 12 59 29.0 +0.7**
comp=E,125nm,1.0s,mb5.9
CTA Charters Tower 49.20 175 P **P 12 59 26.9 -1.8**
comp=E,1.4nm,0.3s,mb4.5,baz=347,slow=12,SNR=2.2
CTA Charters Tower 49.20 175 P **P 12 59 26.9 -1.8**
MK31 Makanchi Array 49.20 308 *i* P **P 12 59 29.4 +0.6**
MK31 pmax pmax
comp=Z,13nm,0.6s,mb5.1
MKAR Makanchi Array 49.20 308 P **P 12 59 29.3 +0.5**
comp=Z,15nm,0.7s,mb5.2,baz=90,slow=6.1,SNR=145
MKAR LR LR 13 21 11.7
comp=Z,310nm,19.5s,MS4.3,baz=12,slow=37
MKAR Makanchi Array 49.20 308 *i* P **P 12 59 29.4 +0.6**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 49.20 308 P **P 12 59 29.3 +0.5**
MKAR LR LR 13 21 11.7
WRAB Tennant Creek 49.50 190 P **P 12 59 29.0 -2.0**
comp=Z,250nm,0.8s,SNR=26
WRAB Tennant Creek 49.50 190 *e*P **P 12 59 29.1 -1.9**
comp=Z,101nm,1.1s,mb5.8
WRAB *e*pP pP 12 59 41.4 -1.8
WB2 Warramunga Arr 49.51 190 ⇑*i*P **P 12 59 29.3 -1.8**
WRA Warramunga Arr 49.51 190 P **P 12 59 29.4 -1.7**
comp=Z,27nm,0.8s,mb5.3,baz=11,slow=8.3,SNR=145
WRA PcP PcP 13 00 53.2 +0.7
comp=Z,5.7nm,0.7s,baz=3.2,slow=3.8,SNR=5.9
WRA S **S 13 06 32.4 -3.3**
comp=Z,3.8nm,1.2s,baz=9.4,slow=15,SNR=8.7
PKI Pulchoki 49.64 283 *e*P **P 12 59 32.1 0.0**
KKN Kakani 49.69 283 *e*P **P 12 59 32.7 +0.2**
comp=Z,77nm,0.9s,mb5.7
KKN Kakani 49.69 283 *e*P **P 12 59 32.7 +0.2**
KKN pmax pmax
comp=Z,39nm,0.9s,mb5.4
FITZ Fitzroy Crossi 49.75 201 ⇑*i*P **P 12 59 31.6 -1.3**
comp=Z,16nm,0.6s,mb5.2
DMN Daman 49.89 283 *e*P **P 12 59 34.0 0.0**
comp=Z,43nm,0.9s,mb5.5
GKN Gorkha 50.18 283 *e*P **P 12 59 36.2 0.0**
comp=Z,74nm,1.0s,mb5.7
BOK Bokaro 50.37 278 *e*P **P 12 59 37.8 +0.2**
BOK AMb AMB 12 59 39.2
comp=Z,27nm,1.2s,mb5.2
KOLN Koldanda 51.13 283 *e*P **P 12 59 43.7 +0.4**
comp=Z,103nm,0.9s,mb5.8
KURK Kurchatov 51.57 313 P **P 12 59 47.0 +0.4**
comp=Z,744nm,0.7s,SNR=11
KURK Kurchatov 51.57 313 *c i*P **P 12 59 47.4 +0.8**
KURK Kurchatov 51.57 313 *e*P **P 12 59 47.4 +0.8**
comp=Z,144nm,1.0s,mb5.9
KDAK Kodiak Island 52.59 38 P **P 12 59 53.1 -1.1**
comp=Z,13nm,0.7s,mb4.9,baz=357,slow=5.0,SNR=16
ASAR Alice Springs 53.23 190 P **P 12 59 57.0 -1.9**
comp=Z,1.1nm,0.4s,mb4.1,baz=8.9,slow=7.0,SNR=27
ASAR S **S 13 07 26.8 -0.2**
comp=Z,0.9nm,0.9s,baz=20,slow=18,SNR=7.3
BLSP Bilaspur 54.19 277 *e*x x 12 59 07.2
BLSP AMb AMB 12 59 16.0
comp=Z,22nm,0.2s,mb5.7
TKM2 Tokmak 2 54.29 304 P **P 13 00 08.2 +1.6**
SNR=14
TKM2 Tokmak 2 54.29 304 P **P 13 00 07.8 +1.2**
TKM2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
PMR Palmer 54.57 33 *e*P **P 13 00 08.4 -0.3**
PMR pmax pmax
comp=Z,24nm,1.3s,mb5.1
PMR Palmer 54.57 33 *e*P **P 13 00 08.4 -0.3**
comp=Z,24nm,1.3s,mb5.1
KSH Kashi 54.58 300 *e*P **P 13 00 13.3 +4.5**
KSH *e*AP pP 13 00 24.4 +3.3
KSH *e*PCP PcP 13 01 13.0 +1.5
KSH *e*PP PP 13 02 16.0 +4.6
KSH *e*PPP 13 03 29.3
KSH *e*SCP ScP 13 05 07.0 +0.6
KSH *e*PCS PcS 13 05 12.6 +1.4
KSH *e*S **S 13 07 49.3 +4.0**
KSH PS 13 08 05.3
KSH *e*SCS ScS 13 09 53.1 -1.4
KSH *e*SS SS 13 11 31.3 +3.0
KSH AMB AMB
comp=Z,240nm,4.8s
KSH LR LR
comp=N,300nm,8.3s
KSH LR LR
comp=E,510nm,6.3s
MBWA Marble Bar 54.64 206 *e*P **P 13 00 07.5 -1.7**
comp=E,9.4nm,0.8s,mb4.9
MBWA *e*pP pP 13 00 20.1 -1.3
KZA Kyzart 54.67 303 P **P 13 00 11.8 +2.3**
SNR=16
KBK Karagaybulak 54.80 304 P **P 13 00 11.8 +1.5**
SNR=34
VIS Vishakhapatnam 54.80 272 *e*P **P 13 00 10.9 +0.6**
VIS AMb AMB 13 00 16.0
comp=Z,19nm,1.1s,mb5.0
MCK McKinley 54.81 30 *e*P **P 13 00 10.0 -0.5**
MCK *e**PP pP 13 00 21.9 -0.8
MCK pmax pmax
comp=Z,12nm,1.4s,mb4.7
MCK McKinley 54.81 30 *e*P **P 13 00 09.9 -0.5**
comp=Z,12nm,1.4s,mb4.7
MCK *e*pP pP 13 00 21.9 -0.8
FRU Bishkek 55.01 304 *e*P **P 13 00 13.0 +1.1**
FRU pmax pmax
comp=Z,70nm,2.4s,mb5.3

USP Ospenovka 55.03 304 P **P 13 00 12.8 +0.8**
SNR=17
AAK Ala-Archa 55.13 304 P **P 13 00 13.9 +1.1**
SNR=19
UCH Uchtor 55.19 303 P **P 13 00 15.3 +2.1**
SNR=24
SMLA Simla 55.58 289 AMb AMB 13 00 15.8
comp=Z,60nm,1.1s,mb5.5
SMLA *e*P 13 00 16.1
EKS2 Erkin-Say 55.65 304 P **P 13 00 17.6 +1.1**
SNR=14
ILAR Eielson Array 55.78 29 P **P 13 00 16.2 -1.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=254,slow=6.6,SNR=25
AML Almayashu 55.80 303 P **P 13 00 19.7 +2.1**
SNR=55
VOSK Vostochnaya 56.21 316 P **P 13 00 21.1 +0.6**
VOSK pmax pmax
comp=Z,40nm,0.9s,mb5.5
NDI New Delhi 56.25 287 *e*P **P 13 00 20.0 -0.8**
BVA0 Borovoye Array 56.54 317 *i* P **P 13 00 24.0 +1.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BVAR Borovoye Array 56.54 317 P **P 13 00 23.6 +0.7**
comp=Z,50nm,0.9s,mb5.6,baz=91,slow=7.0,SNR=116
BRVK Borovoye 56.60 317 P **P 13 00 24.8 +1.5**
comp=Z,368nm,1.1s,SNR=25
BRVK Borovoye 56.60 317 *e*P **P 13 00 23.6 +0.3**
BRVK pmax pmax
comp=Z,35nm,0.9s,mb5.4
BRVK Borovoye 56.60 317 *e*P **P 13 00 23.6 +0.3**
comp=Z,35nm,0.9s,mb5.4
NGP Nagpur 57.21 277 *e*P **P 13 00 26.5 -1.1**
NGP AMb AMB 13 00 28.1
comp=Z,32nm,1.3s,mb5.2
ZRNK Zerenda 57.38 317 P **P 13 00 29.6 +0.8**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ZRNK Zerenda 57.38 317 *e*P **P 13 00 29.5 +0.7**
comp=Z,23nm,0.7s,mb5.3
BHPL Bhopal 57.86 280 *e*P **P 13 00 31.0 -1.1**
BHPL AMb AMB 13 00 32.8
comp=Z,26nm,0.8s,mb5.3
KK31 Karatay Array 57.92 305 *i* P **P 13 00 33.5 +0.9**
KK31 pmax pmax
comp=Z,24nm,0.5s,mb5.5
KKAR Karatay Array 57.92 305 *i* P **P 13 00 33.5 +0.9**
KKAR pmax pmax
comp=Z,12nm,0.5s,mb5.2
AKL Akola 59.14 278 *e*x x 13 00 01.3
AKL AMb AMB 13 00 02.4
comp=Z,35nm,0.6s,mb5.5
STKA Stephens Creek 60.80 181 *e*P **P 13 00 48.6 -3.9**
comp=Z,4.1nm,0.6s,mb4.7
STKA Stephens Creek 60.80 181 P **P 13 00 49.0 -3.5**
comp=Z,5.4nm,0.7s,mb4.8,baz=342,slow=7.8,SNR=11
STKA PcP PcP 13 01 34.6 -1.3
comp=Z,4.7nm,0.7s,baz=360,slow=6.6,SNR=3.0
STKA LR LR 13 29 01.8
comp=Z,155nm,18.5s,MS4.2,baz=25,slow=38
STKA Stephens Creek 60.80 181 P **P 13 00 49.0 -3.5**
STKA PcP PcP 13 01 34.6 -1.3
STKA LR LR 13 29 01.8
INK Inuvik 61.03 25 P **P 13 00 53.9 -0.2**
comp=Z,5.7nm,0.6s,mb4.9,baz=276,slow=7.6,SNR=25
POO Poona 62.74 277 *e*x x 13 01 28.8
POO AMb AMB 13 01 40.0
comp=Z,27nm,0.8s,mb5.4
ARU Arti 62.79 322 P **P 13 01 06.7 +0.8**
comp=Z,179nm,0.6s,SNR=13
ARU Arti 62.79 322 ⇑*i*P **P 13 01 06.4 +0.5**
ARU *e* 13 03 21.5
ARU *e*PPP 13 04 52.9
ARU *e*S **S 13 09 34.5 +2.6**
ARU *e* 13 10 58.8
ARU *e*SS SS 13 13 37.4 +0.2
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.4
ARU Arti 62.79 322 *e*P **P 13 01 06.3 +0.4**
comp=Z,32nm,0.9s,mb5.5
ARU *e*pP pP 13 01 17.6 -0.7
KAD Karad 62.94 275 *e*P **P 13 01 06.4 -0.5**
KAD AMb AMB 13 01 07.8
comp=Z,23nm,0.9s,mb5.3
AB31 Akbulak array 63.68 314 *i* P **P 13 01 12.6 +0.9**
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
AKTK Aktyubinsk 64.57 315 P **P 13 01 17.9 +0.3**
AKTO Aktyubinsk 64.57 315 P **P 13 01 17.9 +0.3**
comp=Z,12nm,0.8s,mb4.9,baz=85,slow=7.6,SNR=43
KLBR Kellerberrin 64.86 203 *e*P **P 13 01 18.3 -1.2**
comp=Z,18nm,0.9s,mb5.1
NWAO Narrogin (SRO) 66.25 203 *e*P **P 13 01 27.0 -1.5**
NWAO pmax pmax
comp=Z,22nm,0.8s
NWAO Narrogin (SRO) 66.25 203 *e*P **P 13 01 27.0 -1.5**
comp=Z,22nm,0.8s,mb5.2
APA Apatity 70.10 337 ⇑*i*P pP 13 02 06.0 +0.8
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
YKA Yellowknife Ar 70.20 29 P **P 13 01 52.6 -0.6**
comp=Z,3.2nm,0.6s,mb4.5,baz=296,slow=6.4,SNR=63
KLMR Klimovskoe 70.77 330 *e*P **P 13 01 55.0 -1.7**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.8
ARCES ARCESS Array B 71.55 341 P **P 13 02 00.9 -0.4**
comp=Z,8.3nm,0.9s,mb4.7,baz=58,slow=11,SNR=5.8
ARCES LR LR 13 37 06.8
comp=Z,198nm,20.9s,MS4.3,baz=151,slow=39
JOF Joensuu 73.20 333 *e*p **P 13 02 11.2 0.0**
comp=Z,0.8nm,0.4s,mb4.0
JOF Joensuu 73.20 333 *e*P **P 13 02 11.2 0.0**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MOS Moscow 73.99 325 *e*P **P 13 02 13.5 -2.4**
MOS pmax pmax
comp=Z,50nm,1.0s,mb5.4
HOQ Hoqain 74.73 289 ⇑P **P 13 02 21.5 +1.4**
SNR=5.6
OBN Obninsk 74.82 325 *i* P **P 13 02 21.2 +0.5**
OBN *e*S S 13 11 56.8 +2.4
OBN pmax pmax
comp=Z,43nm,2.1s,mb5.0
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
BSY Bisya 75.18 288 ⇓P **P 13 02 23.0 +0.3**
ASHO Ashiyiah 75.29 290 ⇓P **P 13 02 25.2 +1.9**
VRSR Storozhevoye 75.33 321 *e*P **P 13 02 24.4 +0.8**
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
VRSR pmax pmax
comp=E,3.0nm,0.9s
ARQ Araqi 75.49 289 ⇓P **P 13 02 24.9 +0.4**
SNR=5.8
KAF Kangasniemi 75.58 334 *e*p **P 13 02 24.7 -0.4**
comp=E,2.1nm,0.5s,mb4.3,baz=52,slow=5.3
KAF Kangasniemi 75.58 334 *e*P **P 13 02 24.7 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GOF Gofitskoye 75.92 314 *e*P **P 13 02 27.9 +0.9**
FINES FINESS Array B 76.06 334 P **P 13 02 27.8 -0.1**
comp=Z,5.1nm,0.8s,mb4.5,baz=57,slow=6.1,SNR=12
ZEI Tsey 76.41 311 *i* P **P 13 02 30.1 +0.3**
ZEI *i* *PP pP 13 02 39.8 -2.8
ZEI *i* 13 05 23.0
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VSU Vasula 77.56 331 *i* P **P 13 02 36.6 +0.3**
CMB Columbia Colle 77.85 53 *e*P **P 13 02 38.2 +0.3**
CMB pmax pmax
comp=Z,16nm,1.3s,mb4.8
CMB Columbia Colle 77.85 53 *e*P **P 13 02 38.2 +0.3**
comp=Z,16nm,1.3s,mb4.8
NVAR Mina Array Bea 79.11 52 P **P 13 02 45.5 +0.7**
comp=Z,3.1nm,0.7s,mb4.4,baz=284,slow=7.1,SNR=26
HRY Holter Researc 79.14 42 *e*P **P 13 02 45.7 +0.7**
UMR Umm Al-Rimmam 79.77 298 *e*P **P 13 02 48.9 +0.6**
UMR AMb AMB 13 02 50.4
comp=Z,66nm,0.7s,mb5.7
MIB Mutribah 79.94 298 *e*P **P 13 02 50.0 +0.6**
MIB AMb AMB 13 02 51.3
comp=Z,116nm,0.8s,mb5.9
QRN Al-Qurain 79.98 297 *e*P **P 13 02 50.4 +0.8**
QRN AMb AMB 13 02 51.1
comp=Z,71nm,0.7s,mb5.7

RDF Al-Radifah 80.18 298 *e*P **P 13 02 51.6 +1.0**
RDF AMb AMB 13 02 52.7
comp=Z,102nm,0.7s,mb5.9
NAY Al-Naaiem 80.27 298 *e*P **P 13 02 51.7 +0.6**
NAY AMb AMB 13 02 53.7
comp=Z,81nm,1.1s,mb5.6
ABTO Aybut 80.87 285 P **P 13 02 56.0 +1.7**
SNR=5.6
LKWY Lake 81.13 44 *e*P **P 13 02 58.3 +2.6**
LKWY pmax pmax
comp=Z,11nm,1.0s,mb4.7
LKWY Lake 81.13 44 *e*P **P 13 02 58.3 +2.6**
comp=Z,11nm,1.0s,mb4.7
IMW Indian Meadow 81.16 44 *e*P **P 13 02 56.7 +0.9**
comp=Z,8.2nm,0.8s,mb4.7
FLWY Flagg Ranch 81.20 44 P **P 13 02 55.1 -0.9**
comp=Z,49nm,1.6s,mb5.2
HFS Hagfors 81.49 337 P **P 13 02 57.8 +0.2**
comp=Z,5.6nm,0.8s,mb4.5,baz=63,slow=3.3,SNR=10
NB2 NORSAR Subarra 81.65 338 P **P 13 02 58.3 -0.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=41,slow=5.1
NOA NORSAR Array B 81.65 338 P **P 13 02 57.9 -0.6**
comp=Z,4.2nm,0.7s,mb4.5,baz=41,slow=5.2,SNR=11
SUW Suwalki 81.87 329 *e*P **P 13 03 00.0 +0.4**
DUG Dugway 81.92 48 *e*P **P 13 03 00.3 +0.4**
DUG pmax pmax
comp=Z,13nm,1.2s,mb4.7
DUG Dugway 81.92 48 *e*P **P 13 03 00.3 +0.4**
comp=Z,13nm,1.2s,mb4.7
HWUT Hardware Ranch 81.98 47 *e*P **P 13 03 00.6 +0.4**
comp=Z,23nm,1.4s,mb4.9
PDAR Pinedale Array 82.61 45 P **P 13 03 03.8 +0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=251,slow=1.1,SNR=13
SFJD Kangerlussuaq 83.55 5 P **P 13 03 09.1 +0.8**
comp=Z,5.9nm,0.7s,mb4.8,baz=138,slow=7.8,SNR=3.6
BRTR Keskin Array B 84.62 313 P **P 13 03 15.2 +1.4**
comp=Z,8.5nm,0.8s,mb5.0,baz=100,slow=4.4,SNR=44
KWP Kalwaria 84.91 325 *e*P **P 13 03 16.0 +0.8**
WUAZ Wupatki 85.36 52 *e*P **P 13 03 18.1 +0.6**
comp=Z,1.1nm,1.0s,mb4.9
ULM Lac du Bonnet 85.59 33 P **P 13 03 17.1 -1.6**
comp=Z,0.9nm,0.4s,mb4.3,baz=243,slow=2.3,SNR=2.8
ANMO Albuquerque 89.01 50 P **P 13 03 35.4 +0.3**
comp=Z,0.4nm,0.6s,baz=282,slow=9.3,SNR=2.7
ANMO Albuquerque 89.01 50 P **P 13 03 35.4 +0.3**
KHC Kasperske Hory 89.57 329 *e*P **P 13 03 38.5 +0.7**
GERES GERESS Array B 89.72 329 P **P 13 03 37.8 -0.7**
comp=Z,1.0nm,0.8s,mb4.2,baz=34,slow=4.8,SNR=6.3
RKT Rikitea 95.05 114 *e*LR LR 13 04 22.2
comp=Z,202nm,25.2s
SYO Syowa Base 121.52 204 ⇑*e*Pdiff Pdif 13 06 02.6 +1.5
TORD Torodi Ar. Bea 123.23 312 PKP PKPdf 13 09 37.1 +0.2
comp=Z,2.3nm,0.9s,baz=12,slow=2.0,SNR=10
DBIC Dimbokro 132.31 313 PKP PKPdf 13 09 55.4 +1.1
comp=Z,2.4nm,0.7s,baz=305,slow=2.4,SNR=5.3
LPAZ La Paz 149.22 72 PKPbc PKPbc 13 10 30.2 +1.6
comp=Z,12nm,0.8s,baz=309,slow=4.0,SNR=17
PLCA Paso Flores 150.91 122 PKPbc PKPbc 13 10 33.0 +0.3
comp=Z,6.3nm,0.8s,baz=229,slow=5.9,SNR=12

BJI ***13*** *13:03:18.0,580N×12690E,h40km,mB4.9,mb4.7*
NEIC ***13*** *13:03:23.1±0.4,577N×12686E,h100km,mb4.5/9,Error ellipse: s-maj=17.5km s-min=6.5km az=71.0*
MOS ***13*** *13:03:24.8±0.8,582N×12690E,h132km,mb4.2/7,Error ellipse: s-maj=33.8km s-min=10.5km az=112.5*
ISCJB ***13*** *13:03:25.4±0.9,578N±006×1269E±0.1,h139km±6km, mb4.2/29,Error ellipse: s-maj=17.6km s-min=7.9km az=143.5*
IDC ***13*** *13:03:26.0±2.4,578N×12695E,h126km±21km,mb3.9/12, mb1 3.9/12,mb1mx3.8/21,mbtmp4.3/12,Error ellipse: s-maj=34.0km s-min=10.9km az=76.0*
MAN ***13*** *13:03:26.3,586N×12677E,h2km,mb3.7,ML4.8,MS7.2*
ISC 13 13:03:26.5±0.9,579N±006×1269E±01,h131km±6km,n48, σ0s86/50,mb4.2/29,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.19**	**304**	⇓*e*P	**Pn**	**13 04 02.4**	**-0.4**
KCP				*i* S	**Sn**	**13 04 30.7**	**+2.4**
BIPH	**Bislig**	**2.45**	**347**	⇓*i*P	**Pn**	**13 04 03.7**	**-2.3**
BIPH				*i* S	**Sn**	**13 04 31.3**	**-3.2**
BUKP	**Musuan**	**2.79**	**318**	*e*P	**Pn**	**13 04 09.9**	**-0.4**
BUKP				*e*S	**Sn**	**13 04 43.4**	**+0.8**
BUTP	**Butuan**	**3.42**	**338**	*e*P	**Pn**	**13 04 21.0**	**+2.5**
BUTP				*e*S	**Sn**	**13 05 00.0**	**+2.1**
PAGZ	**Pagadian**	**4.07**	**300**	*e*P	**Pn**	**13 04 27.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.77**	**183**	*e*P	**P**	**13 08 28.3**	**+1.4**
	7.6nm,1.1s,mb4.1						
WRAB	**Tennant Creek**	**26.58**	**164**	*e*P	**P**	**13 08 53.1**	**+0.8**
WRA	**Warramunga Arr**	**26.59**	**164**	P	**P**	**13 08 52.3**	**0.0**
	1.4nm,0.4s,mb4.0,baz=341,slow=10,SNR=42						
WRA				ScP	ScP	13 15 42.4	+1.4
	0.4nm,0.6s,baz=343,slow=3.0,SNR=8.4						
WB2	**Warramunga Arr**	**26.59**	**164**	*e*P	**P**	**13 08 52.2**	**-0.2**
MBWA	**Marble Bar**	**27.69**	**195**	P	**P**	**13 08 59.9**	**-2.3**
ENH	**Enshi**	**29.38**	**328**	*e*P	**P**	**13 09 16.7**	**-0.4**
	3.7nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**30.05**	**167**	P	**P**	**13 09 23.4**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=342,slow=7.1,SNR=29						
ASAR				PcP	PcP	13 12 22.4	+0.5
	0.4nm,0.6s,baz=352,slow=2.5,SNR=6.3						
ASAR				ScP	ScP	13 15 53.1	+1.4
	0.4nm,0.6s,baz=344,slow=2.6,SNR=7.5						
BJT	**Baijiatuau**	**35.43**	**346**	*e*P	**P**	**13 10 10.2**	**+0.3**
LZH	**Lanzhou**	**36.86**	**328**	*e*P	**P**	**13 10 23.3**	**+1.3**
LZH				AP	pP	13 10 35.3	-16
LZH				XP	sP	13 10 40.1	-26
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,87nm,4.2s						
NWAO	**Narrogin (SRO)**	**39.59**	**193**	P	**P**	**13 10 46.4**	**+1.5**
	comp=Z,4.4nm,0.5s,mb4.4,baz=33,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**39.98**	**160**	*e*P	**P**	**13 10 46.9**	**-1.2**
	comp=Z,1.4nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**39.98**	**160**	P	**P**	**13 10 47.0**	**-1.1**
	comp=Z,1.8nm,0.4s,mb4.0,baz=339,slow=7.4,SNR=12						
ASAJ	**Asahikawa**	**40.58**	**17**	P	**P**	**13 10 54.5**	**+1.4**
	comp=Z,10nm,0.9s,mb4.5,baz=167,slow=5.8,SNR=6.7						
GTA	**Gaotai**	**41.46**	**328**	*e*P	**P**	**13 11 01.0**	**+0.7**
GTA				AP	pP	13 11 13.0	-17
GTA				XP	sP	13 11 17.9	-26
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.0						
JIRN	**Jiri**	**44.36**	**304**	*e*P	**P**	**13 11 24.0**	**+0.4**
	comp=Z,7.2nm,0.5s,mb4.5						
GUN	**Gumba**	**44.71**	**304**	*e*P	**P**	**13 11 26.7**	**+0.3**
	comp=Z,6.7nm,0.4s,mb4.6						
KKN	**Kakani**	**45.16**	**304**	*e*P	**P**	**13 11 29.7**	**-0.3**
DMN	**Daman**	**45.24**	**304**	*e*P	**P**	**13 11 30.4**	**-0.2**
ULN	**Ulaanbaatar**	**45.24**	**341**	*e*P	**P**	**13 11 31.1**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**45.24**	**341**	*e*P	**P**	**13 11 31.1**	**+0.5**
	comp=Z,7.3nm,0.8s,mb4.4						
SONM	**Songino Array**	**45.43**	**341**	P	**P**	**13 11 32.9**	**+0.8**
	comp=Z,2.3nm,0.7s,mb3.9,baz=153,slow=7.9,SNR=20						
GKN	**Gorkha**	**45.77**	**304**	*e*P	**P**	**13 11 34.4**	**-0.4**
	comp=Z,3.2nm,0.4s,mb4.3						
KOLN	**Koldanda**	**46.55**	**303**	*e*P	**P**	**13 11 40.9**	**+0.1**
	comp=Z,7.0nm,0.3s,mb4.8						
POO	**Poona**	**53.22**	**289**	*e*x	x	13 11 46.0	
MKAR	**Makanchi Array**	**56.00**	**324**	P	**P**	**13 12 51.6**	**+0.3**
	comp=Z,4.1nm,0.4s,mb4.6,baz=117,slow=7.5,SNR=186						
YAK	**Yakutsk**	**56.16**	**2**	*e*P	**P**	**13 12 52.0**	**-0.4**
TKM2	**Tokmak 2**	**58.36**	**318**	P	**P**	**13 13 08.4**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**58.87**	**332**	P	**P**	**13 13 10.8**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.8,baz=342,slow=9.2,SNR=6.3						
KURK	**Kurchatov**	**60.13**	**327**	*e*P	**P**	**13 13 19.6**	**-0.5**
	comp=Z,8.2nm,0.6s,mb4.7						
KKAR	**Karatay Array**	**61.88**	**316**	*i* P	**P**	**13 13 31.8**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
VOSK	**Vostochnaya**	**65.27**	**326**	P	**P**	**13 13 53.6**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BVA0	**Borovoye Array**	**65.72**	**326**	*i* P	**P**	**13 13 57.1**	**+0.1**
BRVK	**Borovoye**	**65.79**	**326**	*e*P	**P**	**13 13 56.7**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.1						
TIXI	**Tiksi**	**65.80**	**1**	*e*P	**P**	**13 13 56.0**	**-1.5**
TIXI				pmax	pmax		

comp=Z,2.0nm,0.7s,mb4.1
ZRNK Zerenda 66.46 326 *e*P **P 13 14 01.4 -0.3**
comp=Z,3.6nm,0.4s,mb4.5
AB31 Akbulak array 70.70 320 *i* P **P 13 14 28.0 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
AKTK Aktyubinsk 72.19 321 P **P 13 14 37.3 +0.3**
AKTO Aktyubinsk 72.19 321 P **P 13 14 37.3 +0.3**
comp=Z,4.7nm,0.6s,mb4.4,baz=104,slow=8.5,SNR=20
AKTO Aktyubinsk 72.19 321 P **P 13 14 37.1 +0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
ILAR Eielson Array 83.17 26 P **P 13 15 37.8 -0.1**
comp=Z,0.8nm,0.9s,mb3.5,baz=243,slow=4.9,SNR=7.0
ARCES ARCESS Array B 88.60 340 P **P 13 16 03.2 -1.4**
comp=Z,2.5nm,0.9s,mb4.2,baz=82,slow=6.5,SNR=9.0
FINES FINESS Array B 90.12 332 P **P 13 16 11.3 -0.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=63,slow=6.2,SNR=3.3
TORD Torodi Ar. Bea 122.45 289 PKP PKPdf 13 22 06.9 +0.7
comp=Z,0.9nm,0.7s,baz=76,slow=1.7,SNR=6.2

IDC 13 13:17:07.7±11.0, 2070N×14678E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, Error ellipse: s-maj=397.9km s-min=31.2km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.19**	**198**	P	P	13 25 00.7	-1.4
	0.2nm,0.4s,baz=20,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**45.85**	**197**	P	P	13 25 33.0	+1.5
	0.2nm,0.8s,baz=12,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**57.84**	**313**	P	P	13 27 01.1	+0.1
	0.2nm,0.6s,baz=90,slow=8.6,SNR=3.3						

WEL 13 13:33:27.6±0.4, 3863S×17540E, h203km±4km, ML3.6/18, 1C, Error ellipse: s-maj=4.7km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.44**	**176**	PN	Pn	13 33 55.1	+0.2
WTVZ	**West Tongariro**	**0.51**	**163**	PN	Pn	13 33 55.6	+0.4
WTVZ				SN	Sn	13 34 17.0	+0.6
NGZ	**Ngauruhoe**	**0.57**	**164**	PN	Pn	13 33 55.8	+0.4
NGZ				SN	Sn	13 34 16.8	-0.1
WPVZ	**Whakapapa**	**0.59**	**169**	PN	Pn	13 33 55.9	+0.4
WPVZ				SN	Sn	13 34 16.2	-0.8
FWVZ	**Far West T-bar**	**0.64**	**169**	PN	Pn	13 33 56.1	+0.4
PKVZ	**Pokaka**	**0.66**	**183**	PN	Pn	13 33 55.8	+0.1
TUVZ	**Tukino**	**0.67**	**163**	PN	Pn	13 33 56.2	+0.4
WNVZ	**Wahianoa**	**0.71**	**167**	PN	Pn	13 33 56.4	+0.4
MOVZ	**Moawhango**	**0.83**	**160**	PN	Pn	13 33 56.5	-0.1
MOVZ				SN	Sn	13 34 18.2	-0.9
BKZ	**Black Stump Fm**	**1.01**	**122**	PN	Pn	13 33 57.9	+0.1
BKZ				SN	Sn	13 34 20.9	-0.2
WAZ	**Wanganui**	**1.17**	**196**	⇑PN	Pn	13 33 58.6	-0.3
WAZ				SN	Sn	13 34 22.7	-0.5
NEZ	**North Egmont**	**1.20**	**237**	PN	Pn	13 33 58.8	-0.3
PKE	**Pukeiti**	**1.23**	**242**	PN	Pn	13 33 58.7	-0.7
NWEZ	**Newall Road**	**1.35**	**241**	PN	Pn	13 33 59.7	-0.6
URZ	**Urewera**	**1.40**	**75**	PN	Pn	13 34 00.4	-0.3
TSZ	**Takapari Road**	**1.49**	**163**	PN	Pn	13 34 01.1	-0.4
MWZ	**Matawai**	**1.70**	**81**	*e*PN	Pn	13 34 03.2	-0.2
MWZ				SN	Sn	13 34 30.1	-1.2
PXZ	**Pawanui**	**1.80**	**141**	PN	Pn	13 34 03.9	-0.5
PXZ				SN	Sn	13 34 31.6	-1.4
KNZ	**Kokohu**	**1.82**	**103**	PN	Pn	13 34 04.5	-0.1
MRZ	**Mangatainoka R**	**2.04**	**176**	PN	Pn	13 34 05.2	-1.6
MRZ				SN	Sn	13 34 34.4	-2.8
BFZ	**Birch Farm**	**2.15**	**163**	PN	Pn	13 34 06.6	-1.4
KIW	**Kapiti Island**	**2.26**	**189**	PN	Pn	13 34 06.9	-2.2
PUZ	**Puketiti**	**2.32**	**77**	PN	Pn	13 34 09.4	-0.3
DUWZ	**D'Urville Isla**	**2.45**	**207**	PN	Pn	13 34 08.4	-2.7
CAW	**Cannon Point**	**2.49**	**186**	PN	Pn	13 34 09.3	-2.2
MTW	**Mount Morrison**	**2.53**	**178**	PN	Pn	13 34 09.5	-2.5
MRW	**Makara Radio**	**2.65**	**191**	PN	Pn	13 34 10.8	-2.6
WEL	**Wellington**	**2.70**	**190**	PN	Pn	13 34 11.2	-2.7
TCW	**Tory Channel**	**2.72**	**198**	PN	Pn	13 34 11.5	-2.6
SNZO	**South Karori**	**2.73**	**191**	PN	Pn	13 34 11.4	-2.9
MSWZ	**Moikau Station**	**2.79**	**182**	PN	Pn	13 34 12.2	-2.8
BHW	**Baring Head**	**2.81**	**188**	PN	Pn	13 34 12.1	-3.0
TUWZ	**Tuamarina**	**3.01**	**201**	PN	Pn	13 34 14.4	-3.2
NNZ	**Nelson**	**3.02**	**210**	PN	Pn	13 34 13.8	-3.7
QRZ	**Quartz Range**	**3.12**	**224**	PN	Pn	13 34 14.5	-4.2
BSWZ	**Blackbirch Sta**	**3.29**	**200**	PN	Pn	13 34 17.8	-3.1
THZ	**Tophouse**	**3.67**	**211**	PN	Pn	13 34 20.9	-4.5
KHZ	**Kahutara**	**4.04**	**200**	PN	Pn	13 34 26.3	-3.7
DSZ	**Denniston Nort**	**4.16**	**220**	PN	Pn	13 34 26.4	-5.1
LTZ	**Lake Taylor**	**4.78**	**209**	PN	Pn	13 34 34.5	-4.8
MQZ	**McQueen's Vall**	**5.48**	**201**	PN	Pn	13 34 42.1	-6.1
MQZ				SN	Sn	13 35 41.9	-10

IDC 13 13:36:39.8±16.0, 2150N×14323E, h303km±172km, mb3.1/7, mb1 3.3/7, mb1mx3.1/20, mbtmp3.8/7, Error ellipse: s-maj=31.9km s-min=25.5km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.09**	**193**	P	P	13 44 03.1	+0.4
	0.3nm,0.2s,baz=12,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**45.80**	**192**	P	P	13 44 31.6	-0.3
	0.1nm,0.6s,baz=11,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**	**54.86**	**313**	P	P	13 45 39.5	+0.1
	0.4nm,0.6s,baz=89,slow=8.9,SNR=9.3						
ILAR	**Eielson Array**	**62.20**	**27**	P	P	13 46 29.1	-0.6
	0.5nm,0.6s,baz=256,slow=5.8,SNR=9.0						
YKA	**Yellowknife Ar**	**76.62**	**28**	P	P	13 47 57.5	+0.1
	0.8nm,0.6s,baz=291,slow=5.8,SNR=19						
ARCES	**ARCESS Array B**	**79.13**	**342**	P	P	13 48 11.3	+0.2
	5.0nm,1.1s,baz=72,slow=6.7,SNR=9.4						
JOF	**Joensuu**	**80.51**	**334**	*e*p	P	13 48 17.7	-0.8
	0.8nm,0.3s						
FINES	**FINESS Array B**	**83.38**	**335**	P	P	13 48 32.0	-1.3
	0.8nm,0.5s,baz=50,slow=4.6,SNR=6.2						

IDC 13 13:39:37.6±8.6, 4110S×9070E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=272.0km s-min=42.6km az=19.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**39.96**	**78**	P	P	13 47 13.4	-0.3
	1.0nm,1.1s,baz=230,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**42.56**	**74**	P	P	13 47 35.4	+0.3
	1.2nm,0.8s,baz=230,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**87.83**	**354**	P	P	13 52 28.2	-0.6
	0.4nm,0.8s,baz=180,slow=4.3,SNR=3.9						
SONM	**Songino Array**	**89.64**	**11**	P	P	13 52 37.0	-0.3
	1.1nm,1.1s,baz=180,slow=1.4,SNR=5.3						

*NAO **13** 13:49:07.1, 3219S×17865W, h33km, mb3.7*
*ISCJB **13** 13:50:18.6±1.8, 257S±0.1×179.7E±0.1, h513km±21km, mb4.5/9, Error ellipse: s-maj=18.7km s-min=15.1km az=93.3*
*IDC **13** 13:50:18.9±1.9, 2574S×179.71E, h507km±22km, mb3.8/6, mb1 3.8/8, mb1mx3.6/16, mbtmp4.6/8, Error ellipse: s-maj=29.6km s-min=16.5km az=165.0*
*NEIC **13** 13:50:19.4±1.7, 2582S×179.71E, h515km±19km, mb4.6/4, Error ellipse: s-maj=21.9km s-min=13.4km az=204.0*

ISC 13 13:50:19.0±1.6, 258S±01×179.7E±01, h503km±18km, n22, σ0°77/22, mb4.4/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.59**	**189**	P	**P**	**13 53 03.7**	**-0.1**
	0.5nm,0.3s,baz=347,slow=17,SNR=3.5						
URZ				S	**S**	**13 55 19.3**	**-0.2**
	0.3nm,0.3s,baz=307,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**12.71**	**284**	P	**P**	**13 53 05.5**	**+0.5**
	0.6nm,0.3s,baz=90,slow=14,SNR=12						
ARMA	**Armidale**	**25.17**	**253**	*e*P	**P**	**13 55 05.9**	**+2.1**
CTA	**Charters Tower**	**31.29**	**274**	*e*P	**P**	**13 55 57.1**	**-0.1**
	7.4nm,0.7s,mb4.2						
CTA	**Charters Tower**	**31.29**	**274**	P	**P**	**13 55 58.0**	**+0.8**
	7.7nm,0.5s,mb4.4,baz=97,slow=11,SNR=14						
CTAO	**Charters Tower**	**31.29**	**274**	*e*P	**P**	**13 55 57.7**	**+0.5**
	5.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**33.81**	**251**	*e*P	**P**	**13 56 17.5**	**-1.2**
	5.8nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**33.81**	**251**	P	**P**	**13 56 17.7**	**-1.0**
	6.2nm,0.5s,mb4.3,baz=94,slow=10,SNR=24						
STKA	**Stephens Creek**	**33.81**	**251**	P	**P**	**13 56 17.7**	**-1.0**
PMG	**Port Moresby**	**34.94**	**292**	P	**P**	**13 56 26.6**	**-1.5**
	13nm,0.7s,mb4.4,baz=71,slow=4.0,SNR=8.0						
PMG	**Port Moresby**	**34.94**	**292**	*e*P	**P**	**13 56 26.5**	**-1.6**
	13nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**41.51**	**263**	P	**P**	**13 57 21.9**	**+0.2**
	7.3nm,0.5s,mb4.4,baz=91,slow=7.3,SNR=352						
ASAR				S	**S**	**14 03 01.4**	**+0.9**
	0.8nm,0.9s,baz=102,slow=16,SNR=6.0						
WB2	**Warramunga Arr**	**42.06**	**268**	⇓*i*P	**P**	**13 57 25.5**	**-0.5**
WRAB	**Tennant Creek**	**42.06**	**268**	*e*P	**P**	**13 57 25.5**	**-0.5**
	20nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**42.07**	**268**	P	**P**	**13 57 25.9**	**-0.2**
	12nm,0.6s,mb4.5,baz=104,slow=7.8,SNR=180						
WRA				S	**S**	**14 03 07.9**	**-0.5**
	0.8nm,0.9s,baz=103,slow=15,SNR=3.5						
FITZ	**Fitzroy Crossi**	**50.46**	**267**	*e*P	**P**	**13 58 30.5**	**+0.6**
	7.0nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**54.82**	**261**	*e*P	**P**	**13 59 00.9**	**-0.2**
NVAR	**Mina Array Bea**	**86.31**	**44**	P	**P**	**14 02 07.2**	**+0.1**
	0.7nm,0.7s,mb3.4,baz=221,slow=8.4,SNR=8.2						
NNA	**Nana**	**96.63**	**107**	P	**P**	**14 02 55.1**	**+0.4**
	16nm,0.4s,mb5.6						
NB2	**NORSAR Subarra**	**143.94**	**351**	PKPa	PKPdf	14 08 54.1	-2.7
	comp=Z,1.1nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**143.94**	**351**	PKP	PKPdf	14 08 54.2	-2.6
	comp=Z,1.6nm,0.7s,baz=22,slow=3.8,SNR=6.7						
HFS	**Hagfors**	**144.38**	**348**	PKP	PKPdf	14 08 55.6	-1.9
	comp=Z,1.7nm,0.5s,baz=45,slow=4.2,SNR=7.6						

IDC 13 14:05:00.4±2.5, 5140N×17273E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=36.2km s-min=31.9km az=155.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.51**	**10**	Pn	Pn	14 05 26.7	-1.9
	22nm,0.3s,baz=229,slow=3.8,SNR=94						
FX1				Sn	Sn	14 05 43.0	-6.0
	158nm,0.3s,baz=285,slow=20,SNR=46						
KDAK	**Kodiak Island**	**20.91**	**59**	P	P	14 09 44.0	-0.4
	9.8nm,0.9s,baz=288,slow=3.2,SNR=5.2						
ILAR	**Eielson Array**	**24.67**	**42**	P	P	14 10 21.6	-1.2
	0.3nm,0.6s,baz=252,slow=8.9,SNR=6.7						
YKA	**Yellowknife Ar**	**39.01**	**45**	P	P	14 12 28.8	+0.3
	0.3nm,0.6s,baz=288,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**55.74**	**304**	P	P	14 14 38.3	-0.4
	0.3nm,0.9s,baz=66,slow=5.9,SNR=4.4						

*ISCJB **13** 14:26:14.5±1.9, 296N±009×72.1W±0.1, h60km±24km, mb3.3/3, Error ellipse: s-maj=17.5km s-min=14.0km az=32.8*
*IDC **13** 14:26:15.9±2.3, 296N×72.17W, h54km±24km, mb3.1/3, mb1 3.5/5, mb1mx3.3/21, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=19.9km s-min=16.4km az=50.0*
*NEIC **13** 14:26:15.9±1.3, 298N×7208W, h57km±17km, Error ellipse: s-maj=23.6km s-min=13.3km az=69.0*

ISC 13 14:26:15.6±1.5, 290N±008×7215W±010, h51km±20km, n12, σ0°92/15, mb3.3/3, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.92**	**312**	P	**Pn**	**14 27 00.3**	**+0.8**
	17nm,0.3s,baz=111,slow=11,SNR=17						
ROSC				S	**Sn**	**14 27 33.2**	**-0.1**
	50nm,0.3s,baz=102,slow=19,SNR=4.2						
ROSC	**El Rosal**	**2.92**	**312**	*e*Pn	**Pn**	**14 27 00.1**	**+0.6**
ROSC				S	**Sn**	**14 27 33.2**	**-0.1**
SDV	**Santo Domingo**	**6.14**	**14**	P	**Pn**	**14 27 43.3**	**-0.3**
	14nm,0.3s,baz=187,slow=9.5,SNR=56						
SDV				S	**Sn**	**14 28 53.0**	**+0.6**
	14nm,0.3s,baz=313,slow=19,SNR=7.9						
SDV	**Santo Domingo**	**6.14**	**14**	⇓*e*Pn	**Pn**	**14 27 43.1**	**-0.5**
SDV				*e*Sn	**Sn**	**14 28 52.1**	**-0.4**
SAML	**Samuel**	**14.78**	**143**	*e*P	**Pn**	**14 29 37.7**	**-3.7**
	3.5nm,0.4s						
LPAZ	**La Paz**	**19.47**	**168**	P	**Pn**	**14 30 39.9**	**+0.2**
	0.2nm,0.3s,baz=349,slow=17,SNR=7.4						
LPAZ	**La Paz**	**19.47**	**168**	*e*P	**Pn**	**14 30 40.0**	**+0.2**
SIV	**San Ignacio**	**21.73**	**150**	P	**P**	**14 31 02.5**	**-0.1**
	0.4nm,0.4s,mb3.2,baz=279,slow=19,SNR=2.4						
YKA	**Yellowknife Ar**	**67.26**	**340**	P	**P**	**14 37 03.4**	**-1.3**
	0.2nm,0.6s,mb3.3,baz=130,slow=5.9,SNR=7.0						
YKA	**Yellowknife Ar**	**67.26**	**340**	P	**P**	**14 37 03.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**73.61**	**77**	P	**P**	**14 37 45.0**	**+1.5**
	0.2nm,0.4s,mb3.4,baz=286,slow=5.8,SNR=5.1						
WRA	**Warramunga Arr**	**149.09**	**235**	PKPbc	PKPbc	14 45 59.4	+1.3
	0.2nm,0.6s,baz=111,slow=2.7,SNR=5.1						

*NAO **13** 14:31:30.3±9.2, 5972N×475E, h3km±49km, ML2.4*
*CSEM **13** 14:31:31.7±0.4, 5996N×480E, h0km±2km, ML2.0, Error ellipse: s-maj=8.5km s-min=4.9km az=74.0*
*ISCJB **13** 14:31:33.8±0.9, 6002N±004×52E±02, h0km, Error ellipse: s-maj=11.7km s-min=5.5km az=147.4*
*BER **13** 14:31:33.9±4.4, 5997N×472E, h0km, MD2.3, ML2.0, ML2.4(NAO), Explosion*

ISC 13 14:31:33.5±1.1, 6001N±004×50E±02, h0km, n19, σ1°12/25, 1C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.29**	**25**	⇑*i*P	**Pg**	**14 31 40.1**	**+1.0**
BER	**Bergen**	**0.42**	**25**	*e*P	**Pg**	**14 31 42.4**	**+0.9**
BER				*e*P		14 31 42.4	
BER				AML	AML	14 31 54.9	
	comp=Z,83nm,0.4s						
ASK	**Askoy**	**0.49**	**12**	*e*P	**Pg**	**14 31 43.3**	**+0.4**
KMY	**Karmoy**	**0.81**	**170**	*e*P	**Pg**	**14 31 48.7**	**-0.3**
KMY				*e*Pg	**Pg**	**14 31 50.4**	**+1.3**
ODD1	**Odda**	**0.83**	**96**	*e*P	**Pg**	**14 31 49.9**	**+0.4**
BLS5	**Blasjo**	**0.95**	**128**	*e*P	**Pg**	**14 31 53.7**	**+1.9**
HYA	**Hoyanger**	**1.31**	**27**	*e*P	**Pg**	**14 31 58.9**	**+0.3**
HYA				*e*S	**Sg**	**14 32 19.4**	**+3.9**
HYA				AML	AML	14 32 28.0	
	comp=Z,71nm,0.5s						
HYA	**Hoyanger**	**1.31**	**27**	*e*P	**Pg**	**14 31 58.9**	**+0.3**
	SNR=50						
HYA				*e*S	**Sg**	**14 32 19.4**	**+3.9**
	comp=Z,71nm,0.5s,SNR=50						
FOO	**Floro**	**1.60**	**1**	*e*P	**Pn**	**14 32 01.6**	**-1.4**
FOO				*e*S	**Sn**	**14 32 23.5**	**-0.8**
FOO				AML	AML	14 32 27.7	
	comp=Z,23nm,0.2s						
FOO	**Floro**	**1.60**	**1**	*e*P	**Pn**	**14 32 01.6**	**-1.4**
	SNR=50						
FOO				*e*S	**Sn**	**14 32 23.5**	**-0.8**
	comp=Z,23nm,0.2s,SNR=50						
SNART	**Snartemo**	**2.03**	**145**	*e*P	**Pn**	**14 32 08.2**	**-0.7**
DOMB	**Dombas**	**2.85**	**42**	*e*P	**Pn**	**14 32 20.2**	**0.0**
MOL	**Molde**	**2.85**	**25**	*e*P	**Pn**	**14 32 20.9**	**+0.5**
NB2	**NORSAR Subarra**	**3.25**	**69**	Pn	**Pn**	**14 32 25.5**	**-0.2**
	baz=256,slow=14						
NB2				Pg	**Pg**	**14 32 31.9**	**-4.0**
NB2				Lg		14 33 19.9	
	baz=279,slow=28						
NB2	**NORSAR Subarra**	**3.25**	**69**	Pn	**Pn**	**14 32 25.5**	**-0.2**
	baz=256,slow=13,SNR=50						
HFS	**Hagfors**	**4.37**	**85**	Pn	**Pn**	**14 32 38.7**	**-2.4**
	baz=255,slow=12						
HFS				Sn	**Sn**	**14 33 31.3**	**-1.4**
	baz=272,slow=28						
HFS				Lg		14 33 51.4	
	baz=267,slow=28						
HFS	**Hagfors**	**4.37**	**85**	Pn	**Pn**	**14 32 38.7**	**-2.4**
	baz=255,slow=12,SNR=50						
HFS				Sn	**Sn**	**14 33 31.3**	**-1.4**
	baz=272,slow=23,SNR=50						
FIA0	**FINESS Array S**	**10.42**	**73**	Lg		14 37 02.2	
	baz=277,slow=28						
FIA0	**FINESS Array S**	**10.42**	**73**	Lg		14 37 02.2	
	baz=277,slow=28						

*ISCJB **13** 14:31:34.1±1.0, 193S±0.1×177.6W±0.1, h558km±13km, mb4.0/9, Error ellipse: s-maj=24.6km s-min=11.2km az=109.6*
*IDC **13** 14:31:35.4±1.8, 1941S×177.37W, h565km±20km, mb3.3/7, mb1 3.5/10, mb1mx3.4/19, mbtmp4.4/10, Error ellipse: s-maj=24.2km s-min=15.0km az=146.0*
*NEIC **13** 14:31:35.7±0.8, 1928S×177.44W, h566km±10km, mb4.2/3, Error ellipse: s-maj=17.7km s-min=8.5km az=148.0*

ISC 13 14:31:35.3±0.9, 192S±01×1774W±01, h562km±11km, n32, σ1°14/25, mb4.0/9, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**47**	P	**P**	**14 33 30.1**	**+0.9**
	5.7nm,0.3s,baz=217,slow=5.1,SNR=4.6						
AFI				S	**S**	**14 35 01.0**	**-1.5**
	4.0nm,0.3s,baz=233,slow=20,SNR=3.0						
AFI	**Afiamalu**	**7.58**	**47**	*e*P	**P**	**14 33 30.0**	**+0.9**
AFI				S	**S**	**14 35 01.0**	**-1.5**
DZM	**Mont Dzumac**	**15.35**	**257**	P	**P**	**14 34 49.6**	**+1.5**
	0.2nm,0.3s,baz=100,slow=19,SNR=3.8						
URZ	**Urewera**	**19.55**	**193**	P	**P**	**14 35 25.0**	**-1.6**
	1.8nm,0.3s,baz=19,slow=3.3,SNR=12						
CTA	**Charters Tower**	**34.16**	**262**	P	**P**	**14 37 35.2**	**+1.0**
	3.6nm,0.7s,mb4.0,baz=106,slow=12,SNR=5.4						
CTAO	**Charters Tower**	**34.16**	**262**	*e*P	**P**	**14 37 35.2**	**+0.9**
	6.1nm,1.0s,mb4.1						
PMG	**Port Moresby**	**35.60**	**281**	P	**P**	**14 37 47.2**	**+1.0**
	14nm,0.8s,mb4.5,baz=110,slow=5.2,SNR=6.5						
STKA	**Stephens Creek**	**38.83**	**243**	*e*P	**P**	**14 38 11.5**	**-1.1**
	4.9nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**38.83**	**243**	P	**P**	**14 38 11.7**	**-1.0**
	5.6nm,0.9s,mb4.1,baz=80,slow=8.6,SNR=8.2						
STKA	**Stephens Creek**	**38.83**	**243**	*e*P	**P**	**14 38 11.5**	**-1.1**
WB2	**Warramunga Arr**	**45.30**	**261**	*e*P	**P**	**14 39 02.8**	**-0.6**
WRAB	**Tennant Creek**	**45.30**	**261**	*e*P	**P**	**14 39 03.2**	**-0.2**
WRA	**Warramunga Arr**	**45.31**	**261**	P	**P**	**14 39 03.2**	**-0.3**
	1.4nm,0.3s,mb3.9,baz=98,slow=7.5,SNR=115						
WRA				PcP	PcP	14 40 31.5	+0.4
	1.4nm,0.9s,baz=89,slow=3.7,SNR=7.5						
WRA				S	**S**	**14 44 59.9**	**-3.6**
	0.8nm,0.7s,baz=97,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**14 39 04.1**	**+0.4**
	5.5nm,0.7s,mb4.2,baz=87,slow=8.6,SNR=63						
ASAR				PcP	PcP	14 40 31.2	0.0
	2.2nm,0.8s,baz=100,slow=4.0,SNR=12						
ASAR				S	**S**	**14 45 00.9**	**-2.8**
	1.4nm,0.7s,baz=91,slow=16,SNR=20						
QSPA	**South Pole Qui**	**70.84**	**180**	*e*P	**P**	**14 41 56.8**	**+0.9**
	9.8nm,1.0s,mb4.3						
MNTX	**Cornudas Mount**	**85.58**	**54**	*e*P	**P**	**14 43 16.2**	**+1.6**
MCK	**McKinley**	**85.62**	**12**	*e*P	**P**	**14 43 14.1**	**-0.8**
	4.7nm,1.2s,mb4.0						
COLA	**College**	**86.85**	**12**	*e*P	**P**	**14 43 19.6**	**-1.1**
ILAR	**Eielson Array**	**86.96**	**13**	P	**P**	**14 43 20.1**	**-1.1**
	0.4nm,0.6s,mb3.2,baz=236,slow=5.0,SNR=8.1						
BW06	**Boulder Array**	**87.67**	**43**	*e*P	**P**	**14 43 25.5**	**+1.0**
PDAR	**Pinedale Array**	**87.67**	**43**	P	**P**	**14 43 25.8**	**+1.3**
	0.7nm,0.8s,mb3.5,baz=153,slow=3.3,SNR=5.4						
ARCES	**ARCESS Array B**	**127.77**	**350**	PKP	PKPdf	14 49 36.4	-0.9
	3.3nm,0.8s,baz=14,slow=5.0,SNR=4.7						
ARCES	**ARCESS Array B**	**127.77**	**350**	PKP	PKPdf	14 49 36.4	-0.9
AKASG	**Malin Array Be**	**142.15**	**332**	PKhKP		14 49 59.0	
	0.3nm,0.3s,baz=45,slow=4.1,SNR=5.7						
BRTR	**Keskin Array B**	**146.36**	**314**	PKPbc	PKPbc	14 50 13.8	+0.2
	1.6nm,0.7s,baz=145,slow=4.9,SNR=7.6						
CLL	**Collm**	**146.94**	**348**	⇑*i*P	PKPdf	14 50 15.0	+2.8
	comp=Z,10.0nm,1.0s						
DPC	**Dobruska-Polom**	**147.07**	**344**	*e*PKPbc	PKPbc	14 50 16.0	+0.5
BRG	**Berggiesshubel**	**147.16**	**347**	*i* P	PKPdf	14 50 12.2	-0.3
	comp=Z,0.6nm,0.2s						
PRU	**Pruhonice**	**147.85**	**345**	*e*PKPbc	PKPbc	14 50 17.8	+0.3
KHC	**Kasperske Hory**	**148.87**	**346**	*e*PKPbc	PKPbc	14 50 20.1	+0.1
GERES	**GERESS Array B**	**149.11**	**346**	PKPbc	PKPbc	14 50 20.9	+0.3
	comp=Z,1.8nm,0.7s,baz=45,slow=1.9,SNR=14						
TORD	**Torodi Ar. Bea**	**173.30**	**172**	PKP	PKPdf	14 50 40.4	-0.2
	comp=Z,0.6nm,0.9s,baz=207,slow=3.2,SNR=4.4						

*ISCJB **13** 14:35:26.8±0.4, 1428N±006×91.15W±004, h100km±3km, mb4.1/13, Error ellipse: s-maj=11.0km s-min=3.5km az=72.3*
*NEIC **13** 14:35:27.4±0.9, 1421N×9107W, h98km±8km, mb4.4/3, MD4.4(MEX), Error ellipse: s-maj=14.3km s-min=8.8km az=209.0*
*MEX **13** 14:35:27.4±0.8, 1396N×9149W, h97km±13km, MD4.4*
*CASC **13** 14:35:27.1±2.1, 1412N×9126W, h70km±10km, MD4.1, ML5.1, mb4.4(NEIC)*
*IDC **13** 14:35:30.6±5.0, 1443N×9082W, h120km±43km, mb3.8/12, mb1 3.9/12, mb1mx3.7/22, mbtmp4.1/12, MS3.7/1, Ms1 3.6/1, ms1mx2.9/33, Error ellipse: s-maj=31.5km s-min=15.0km az=48.0*

ISC 13 14:35:28.1±0.4, 1431N±005×9116W±004, h95km±3km, n71, σ1°29/73, mb4.1/13, 2C-5D, Guatemala

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

YAIG	Yautepec	8.83	302	eP		Pn	14 37 34.3 +1.5
MEIG	Mezcala	8.89	295	i P		Pn	14 37 34.0 +0.3
PLIG	Platanillo	8.98	298	eP		Pn	14 37 36.2 +1.4
CAIG	El Cayaco	9.19	288	eP		Pn	14 37 36.9 -0.8
LRAL	Lakeview Retre	19.02	11	eP		Pn	14 39 43.0 -1.2
	comp=N,37nm,1.0s						
SDV	Santo Domingo	20.81	103	P		P	14 39 59.3 -2.4
	comp=N,6.5nm,0.6s,baz=301,slow=9.1,SNR=7.0						
SDV	Santo Domingo	20.81	103	eP		P	14 39 59.0 -2.7
MNTX	Cornudas Mount	21.66	325	eP		P	14 40 10.9 0.0
	comp=N,9.0nm,0.8s,mb4.2						
TZTN	Tazewell	23.17	16	eP		P	14 40 26.4 +0.2
SADO	Sadowa	32.04	16	P		P	14 41 44.7 -0.9
	comp=N,3.4nm,0.4s,mb4.4,baz=224,slow=10.0,SNR=5.8						
PDAR	Pinedale Array	32.49	334	P		P	14 41 51.7 +2.2
	comp=N,0.3nm,0.8s,mb3.0,baz=130,slow=7.0,SNR=3.7						
PDAR				PcP		PcP	14 44 33.8 -0.5
	comp=N,0.7nm,0.6s,baz=124,slow=5.7,SNR=8.1						
PDAR				LR		LR	14 57 12.4
	comp=N,126nm,21.6s,baz=294,slow=40						
ELK	Elko	33.69	326	eP		P	14 42 01.8 +1.8
MNV	Mina	33.86	320	eP		P	14 42 03.9 +2.4
	comp=N,6.0nm,1.0s,mb4.4						
NVAR	Mina Array Bea	33.95	320	P		P	14 42 05.2 +2.9
	comp=N,5.8nm,0.7s,mb4.5,baz=142,slow=8.1,SNR=50						
NVAR				PcP		PcP	14 44 39.9 +1.5
	comp=N,2.1nm,0.6s,baz=128,slow=4.4,SNR=12						
NVAR	Mina Array Bea	33.95	320	P		P	14 42 05.2 +2.9
NVAR				PcP		PcP	14 44 39.9 +1.5
HLID	Hailey	35.31	330	eP		P	14 42 16.0 +2.0
ULM	Lac du Bonnet	36.05	355	P		P	14 42 18.1 -2.2
	comp=N,0.9nm,0.3s,mb4.1,baz=157,slow=7.7,SNR=3.4						
YBH	Yreka Blue Hor	38.64	321	P		P	14 42 41.7 -0.4
	comp=N,0.8nm,0.4s,mb3.9,baz=158,slow=11,SNR=3.5						
YBH				PcP		PcP	14 44 52.3 -0.2
	comp=N,1.4nm,0.7s,baz=90,slow=1.0,SNR=4.1						
SIV	San Ignacio	42.31	134	P		P	14 43 11.8 -0.5
	comp=N,3.0nm,0.5s,mb4.2,baz=304,slow=9.4,SNR=8.3						
SCHQ	Schefferville	44.66	20	P		P	14 43 29.9 -1.3
	comp=N,1.1nm,0.3s,mb4.0,baz=227,slow=12,SNR=6.8						
SCHQ				PcP		PcP	14 45 10.8 -1.4
	comp=N,1.5nm,0.7s,baz=242,slow=9.7,SNR=2.6						
SCHQ	Schefferville	44.66	20	P		P	14 43 29.9 -1.3
SCHQ				PcP		PcP	14 45 10.8 -1.5
YKA	Yellowknife Ar	50.92	346	P		P	14 44 18.8 -0.8
	comp=N,1.4nm,0.5s,mb4.2,baz=149,slow=7.5,SNR=35						
YKA				PcP		PcP	14 45 33.3 -1.4
	comp=N,0.4nm,0.4s,baz=150,slow=3.8,SNR=7.8						
YKA	Yellowknife Ar	50.92	346	P		P	14 44 18.8 -0.8
YKA				PcP		PcP	14 45 33.3 -1.4
ILAR	Eielson Array	62.88	337	P		P	14 45 42.7 -1.4
	comp=N,0.8nm,0.6s,mb3.9,baz=172,slow=4.8,SNR=24						
NOA	NORSAR Array B	83.49	29	P		P	14 47 44.0 -1.2
	comp=N,1.0nm,0.8s,mb3.7,baz=289,slow=5.2,SNR=3.5						
ARCES	ARCESS Array B	85.59	18	P		P	14 47 53.6 -2.2
	comp=N,2.5nm,0.9s,mb4.1,baz=284,slow=5.0,SNR=7.5						
SONM	Songino Array	116.19	347	PKP		PKPdf	14 53 59.3 -0.9
	comp=N,0.3nm,0.5s,baz=0.0,slow=0.0,SNR=3.6						
MKAR	Makanchi Array	118.90	5	PKP		PKPdf	14 54 02.9 -2.5
	comp=N,0.4nm,0.6s,baz=330,slow=2.7,SNR=7.2						
MKAR	Makanchi Array	118.90	5	PKP		PKPdf	14 54 02.9 -2.5
BOSA	Boshof	119.74	115	PKP		PKPdf	14 54 06.6 -0.4
	comp=N,3.2nm,0.8s,baz=198,slow=3.2,SNR=4.2						
BOSA	Boshof	119.74	115	PKP		PKPdf	14 54 06.6 -0.5
WRA	Warramunga Arr	136.26	256	PKP		PKPdf	14 54 39.4 +0.9
	comp=N,1.1nm,0.8s,baz=89,slow=3.0,SNR=20						
ASAR	Alice Springs	136.54	251	PKhKP			14 54 30.6
	comp=N,0.4nm,0.7s,baz=108,slow=3.3,SNR=7.5						
ASAR				PKP		PKPdf	14 54 40.5 +1.5
	comp=N,0.7nm,0.7s,baz=88,slow=2.3,SNR=11						

MAN 13 15:00:09.1, 1544N×11985E, h23km, mb2.6, ML4.1, MS1.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.34	11	eP	Pb	15 00 18.9	+2.4
SCZP				eS	Sb	15 00 26.6	+5.0
NBP	Mount Natib	0.89	141	eP	Pb	15 00 25.1	-0.7
NBP	Mount Natib	0.89	141	eP	Pb	15 00 32.2	+6.4
BOLP	Bolinao	0.94	4	eP	Pb	15 00 26.2	-0.5
BOLP				eS	Sb	15 00 39.5	+0.8
BCPH	Baguio City Da	1.17	37⇑	iP	Pn	15 00 31.2	+1.1
BCPH				i S	Sn	15 00 46.4	+1.1
PCPH	Palayan	1.21	84⇓	eP	Pn	15 00 29.8	-0.8
PCPH				eS	Sn	15 00 45.6	-0.7
NZB	Bigte	1.34	115	eP	Pn	15 00 30.3	-2.0
PAZ	Puerto Azul	1.45	146	i P	Pn	15 00 32.6	-1.3
BALP	Baler	1.69	80	eP	Pn	15 00 37.5	+0.3
BALP				eS	Sn	15 00 58.9	+0.7
LUBP	Lubang	1.74	167	eP	Pn	15 00 38.1	+0.2
POLP	Polilio Island	2.14	109	eP	Pn	15 00 45.3	+1.9
POLP				eS	Sn	15 01 10.2	+1.0
ABRA	Dolores	2.35	21	eP	Pn	15 00 46.8	+0.6
ABRA				eS	Sn	15 01 16.0	+1.7
APYP	Conner	2.75	29	eP	Pn	15 00 52.9	+1.1
APYP				eS	Sn	15 01 25.8	+1.4

*ISCJB **13** 15:04:21.5±0.8, 624S±0.1×1583W±0.3, h10km, mb4.2/5, MS4.1/3, Error ellipse: s-maj=20.2km s-min=17.5km az=159.6*
*IDC **13** 15:04:21.7±0.9, 6236S×158.16W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.2/13, mbtmp4.2/6, ML3.8/1, MS3.9/4, Ms1 3.9/4, ms1mx3.4/16, Error ellipse: s-maj=43.5km s-min=22.5km az=9.0*
*NEIC **13** 15:04:23.5±0.6, 6236S×158.19W, h10km, mb4.4/2, Error ellipse: s-maj=17.1km s-min=14.9km az=175.0*
ISC 13 15:04:23.4±0.8, 625S±01×1583W±03, h10km, n19, σ0.59/11, mb4.2/5, MS4.1/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	18.89	202	eP	Pn	15 08 44.6	+0.1
VNDA	Vanda	19.62	205	P	Pn	15 08 53.3	+0.1
	0.3nm,0.3s,baz=74,slow=15,SNR=14						
VNDA				LR	LR	15 14 37.1	
	comp=Z,137nm,21.6s,baz=249,slow=31						
VNDA	Vanda	19.62	205	eP	Pn	15 08 53.6	+0.3
VNDA				LR	LR	15 14 37.1	
TBI	Tubuai	39.57	13	eLR	LR	15 22 30.1	
	176nm,27.5s						
RKT	Rikitea	42.40	33	eLQ		15 22 06.9	
	328nm,30.8s						
RKT				eLR	LR	15 23 50.5	
	121nm,29.8s						
PPT	Papeete	45.28	12	eLR	LR	15 25 08.7	
	196nm,25.2s						
PPT	Papeete	45.28	12	LR	LR	15 27 00.4	
	comp=Z,171nm,18.0s,MS4.0,baz=163,slow=30						
NWAO	Narrogin (SRO)	58.89	258	LR	LR	15 35 18.3	
	comp=Z,116nm,18.5s,MS4.0,baz=244,slow=32						
ASAR	Alice Springs	59.04	278	P		P	15 14 23.0	-0.5
	1.5nm,1.1s,mb4.0,baz=148,slow=6.0,SNR=7.7						
TRQA	Tornquist	59.78	115	eP		P	15 14 28.4	-0.2
WRA	Warramunga Arr	62.07	281	P		P	15 14 43.3	-0.8
	1.0nm,1.0s,mb3.9,baz=157,slow=6.1,SNR=5.0						
PMG	Port Moresby	65.82	298	P		P	15 15 10.0	+1.2
	13nm,1.0s,mb4.9,baz=242,slow=9.4,SNR=3.7						
LVC	Limon Verde	69.93	100	P		P	15 15 35.0	+0.3
	2.8nm,0.9s,mb4.2,baz=307,slow=3.7,SNR=8.9						
LVC	Limon Verde	69.93	100	eP		P	15 15 35.2	+0.5
	3.4nm,0.8s,mb4.3						
LPAZ	La Paz	75.79	98	P		P	15 16 09.0	-0.5
	2.5nm,1.0s,mb4.1,baz=180,slow=2.8,SNR=5.5						
LPAZ	La Paz	75.79	98	eP		P	15 16 09.2	-0.2
	3.6nm,1.3s,mb4.1						
BOSA	Boshof	89.18	183	LR	LR	15 51 02.0	
	comp=Z,106nm,20.1s,MS4.3,baz=262,slow=31						
ILAR	Eielson Array	127.23	6	PKP	PKPdf	15 23 25.9	-2.1
	0.5nm,0.9s,baz=244,slow=1.8,SNR=4.4						
MKAR	Makanchi Array	143.15	274	PKP	PKPdf	15 23 57.1	-0.4
	0.3nm,0.8s,baz=117,slow=2.7,SNR=3.6						

*ISCJB **13** 15:06:53.1±2.2, 621N±0.10×766W±0.1, h120km±22km, mb3.7/5, Error ellipse: s-maj=24.4km s-min=15.5km az=18.6*
*IDC **13** 15:06:53.1±3.5, 621N×767.0W, h99km±36km, mb3.5/5, mb1 3.8/7, mb1mx3.5/22, mbtmp3.9/7, MS3.4/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=37.3km s-min=18.3km az=82.0*

*NEIC **13** 15:06:53.4±3.0, 628N×765.9W, h108km±29km, mb3.8/1, Error ellipse: s-maj=43.2km s-min=15.2km az=72.0*
ISC 13 15:06:53.2±2.4, 622N±009×767W±02, h101km±24km, n13, σ0.72/15, mb3.7/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.75	119	P	Pn	15 07 35.3	-0.3
	18nm,0.3s,baz=93,slow=11,SNR=19						
ROSC				S	Sn	15 08 09.3	+1.1
	15nm,0.3s,baz=79,slow=22,SNR=4.5						
ROSC	El Rosal	2.75	119	eP	Pn	15 07 35.4	-0.2
ROSC				S	Sn	15 08 09.3	+1.1
SDV	Santo Domingo	6.60	66	P	Pn	15 08 26.3	-1.4
	4.0nm,0.3s,baz=257,slow=14,SNR=28						
SDV				S	Sn	15 09 41.9	+0.4
	3.7nm,0.3s,baz=84,slow=20,SNR=3.4						
SDV				LR	LR	15 11 17.6	
	comp=Z,273nm,18.3s,baz=212,slow=40						
SDV	Santo Domingo	6.60	66	eP	Pn	15 08 26.0	-1.6
SDV				S	Sn	15 09 41.9	+0.4
SDV				LR	LR	15 11 17.6	
SAML	Samuel	20.23	138	eP	P	15 11 19.6	-0.6
	4.1nm,0.8s						
SIV	San Ignacio	26.97	145	P	P	15 12 24.8	-0.5
	0.9nm,0.7s,mb3.4,baz=329,slow=8.8,SNR=3.6						
NVAR	Mina Array Bea	49.40	317	P	P	15 15 33.4	+0.8
	0.4nm,0.8s,mb3.4,baz=153,slow=6.0,SNR=3.1						
YKA	Yellowknife Ar	62.64	341	P	P	15 17 06.5	-0.3
	1.7nm,0.6s,mb4.1,baz=131,slow=6.9,SNR=44						
YKA	Yellowknife Ar	62.64	341	P	P	15 17 06.5	-0.3
INK	Inuvik	72.40	341	P	P	15 18 08.7	+0.4
	1.9nm,1.1s,mb3.9,baz=90,slow=9.1,SNR=9.6						
ILAR	Eielson Array	76.00	335	P	P	15 18 29.6	+0.4
	0.9nm,0.9s,mb3.5,baz=115,slow=3.9,SNR=8.5						
ASAR	Alice Springs	145.82	236	PKPbc	PKPbc	15 26 21.4	+0.9
	2.0nm,1.0s,baz=119,slow=3.7,SNR=23						
WRA	Warramunga Arr	146.89	243	PKPbc	PKPbc	15 26 23.9	+0.2
	0.8nm,0.7s,baz=101,slow=3.3,SNR=12						

*ISCJB **13** 15:07:53.7±0.7, 593N±0.1×303W±0.2, h10km, mb3.8/8, MS3.8/2, Error ellipse: s-maj=20.3km s-min=12.3km az=145.1*
*IDC **13** 15:07:54.1±0.9, 5930N×3031W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/27, mbtmp3.8/10, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/35, Error ellipse: s-maj=27.6km s-min=18.8km az=169.0*
*NEIC **13** 15:07:56.0±0.8, 5936N×3040W, h10km, Error ellipse: s-maj=25.0km s-min=13.4km az=151.0*
ISC 13 15:07:55.3±0.7, 593N±01×303W±02, h10km, n15, σ0.57/13, mb3.8/8, MS3.8/2, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.92	34	Pn	Pn	15 09 38.0	+1.2
	1.0nm,0.3s,baz=219,slow=7.7,SNR=4.3						
BORG	Borgarnes	6.92	34	P	Pn	15 09 37.5	+0.6
SCHQ	Schefferville	20.16	273	P	P	15 12 29.4	-0.3
	3.6nm,0.9s,baz=67,slow=13,SNR=2.9						
SADO	Sadowa	32.52	265	LR	LR	15 25 45.1	
	comp=Z,134nm,21.8s,MS3.6,baz=251,slow=33						
ULM	Lac du Bonnet	37.39	286	P	P	15 15 08.6	+0.2
	0.6nm,0.4s,mb3.8,baz=63,slow=10,SNR=3.0						
YKA	Yellowknife Ar	38.38	312	P	P	15 15 15.9	-0.7
	0.5nm,0.7s,mb3.3,baz=56,slow=9.1,SNR=10.0						
YKA	Yellowknife Ar	38.38	312	P	P	15 15 15.9	-0.7
AKTK	Aktyubinsk	47.99	59	P	P	15 16 34.3	0.0
AKTO	Aktyubinsk	47.99	59	P	P	15 16 34.3	0.0
	0.5nm,0.3s,mb4.0,baz=346,slow=9.2,SNR=3.0						
NEW	Newport	48.87	298	LR	LR	15 36 11.1	
	comp=Z,151nm,22.0s,MS3.9,baz=37,slow=35						
PDAR	Pinedale Array	49.36	288	P	P	15 16 45.0	+0.2
	0.6nm,0.8s,mb3.7,baz=45,slow=6.3,SNR=3.8						
BVAR	Borovoye Array	51.23	50	P	P	15 16 58.6	-0.4
	1.0nm,0.8s,mb3.8,baz=315,slow=4.1,SNR=5.0						
TORD	Torodi Ar. Bea	51.84	139	P	P	15 17 03.1	-0.5
	0.7nm,0.9s,mb3.6,baz=332,slow=7.5,SNR=3.5						
MKAR	Makanchi Array	60.80	47	P	P	15 18 07.0	-0.5
	1.9nm,0.9s,mb4.2,baz=333,slow=5.8,SNR=19						
SIV	San Ignacio	79.08	210	P	P	15 20 01.1	+1.2
	1.7nm,0.9s,mb4.0,baz=62,slow=4.8,SNR=5.6						

*ISCJB **13** 15:16:15.0±0.8, 6008N±003×472E±0.10, h0km, Error ellipse: s-maj=7.1km s-min=3.8km az=162.2*
*CSEM **13** 15:16:15.3±0.2, 6008N×475E, h2km, ML2.0, Error ellipse: s-maj=4.4km s-min=2.3km az=78.0*
*BER **13** 15:16:18.0±2.7, 6011N×489E, h0km, MD1.7, ML2.0, ML2.0(NAO), Explosion*
*NAO **13** 15:16:18.2±2.6, 6022N×511E, ML2.0*
ISC 13 15:16:15.3±0.9, 6008N±003×468E±010, h0km, n21, σ0.84/38, 3C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	Espegrend	0.33	54	eP	Pg	15 16 22.1	+0.4
EGD				eS	Sg	15 16 26.1	+0.1
EGD				AML	AML	15 16 31.9	
	comp=Z,305nm,0.6s						
BER	Bergen	0.45	47	eP	Pg	15 16 24.2	+0.3
BER				eP		15 16 24.2	
BER				eS	Sg	15 16 29.4	-0.3
BER				eS	Sg	15 16 29.8	+0.1
BER				AML	AML	15 16 30.9	
	comp=Z,98nm,0.5s						
ASK	Askoy	0.48	32⇑	iP	Pg	15 16 24.8	+0.3
ASK				eS	Sg	15 16 30.7	0.0
ASK				AML	AML	15 16 38.9	
	comp=Z,108nm,0.7s						
RUND	Rundenannen	0.48	45⇑	iP	Pg	15 16 24.8	+0.3
RUND				eS	Sg	15 16 31.0	+0.3
RUND				AML	AML	15 16 38.8	
	comp=Z,257nm,0.7s						
KMY	Karmoy	0.92	161	eP	Pg	15 16 34.1	+1.3
KMY				ePg	Pg	15 16 35.4	+2.5
KMY				AML	AML	15 16 50.1	
	comp=Z,48nm,0.2s						
SUE	Sulen	0.98	2⇑	iP	Pg	15 16 34.4	+0.3
SUE				eS	Sg	15 16 47.0	+0.2
SUE				AML	AML	15 16 50.6	
	comp=Z,54nm,0.4s						
ODD1	Odda	0.99	99	eP	Pg	15 16 33.3	-1.0
ODD1				eS	Sg	15 16 46.8	-0.4
ODD1				AML	AML	15 16 49.9	
	comp=Z,96nm,0.5s						
BLS5	Blasjo	1.11	125	eP	Pg	15 16 37.5	+0.9
BLS5				eS	Sg	15 16 52.8	+1.8
BLS5				AML	AML	15 16 53.8	
	comp=Z,33nm,0.4s						
BLS5	Blasjo	1.11	125	eP	Pg	15 16 37.5	+0.9
	SNR=90						
BLS5				eS	Sg	15 16 52.8	+1.7
	comp=Z,33nm,0.4s,SNR=90						
HYA	Hoyanger	1.32	34	eP	Pg	15 16 40.8	+0.2
HYA				eS	Sg	15 16 58.4	+0.7
HYA				AML	AML	15 17 03.2	
	comp=Z,46nm,0.4s						
HYA	Hoyanger	1.32	34	eP	Pg	15 16 40.8	+0.2
	SNR=70						
HYA				eS	Sg	15 16 58.4	+0.7
	comp=Z,46nm,0.4s,SNR=70						
FOO	Floro	1.54	6	eP	Pn	15 16 43.9	-0.1
FOO				eS	Sn	15 17 03.6	-0.9
FOO				AML	AML	15 17 05.1	
	comp=Z,16nm,0.2s						
FOO	Floro	1.54	6	eP	Pn	15 16 43.8	-0.1
	SNR=50						
FOO				eS	Sn	15 17 03.6	-0.9
	comp=Z,16nm,0.2s,SNR=50						
SNART	Snartemo	2.18	142	eP	Pn	15 16 52.9	+0.2
SNART				eSg	Sg	15 17 23.8	-1.5
SNART				AML	AML	15 17 25.0	
	comp=Z,30nm,0.4s						
DOMB	Dombas	2.90	45	eP	Pn	15 17 02.8	+0.1
NB2	NORSAR Subarra	3.37	71	Pn	Pn	15 17 08.5	-0.6
	baz=258,slow=14						
NB2				Lg		15 17 56.9	
	baz=254,slow=28						
NB2	NORSAR Subarra	3.37	71	Pn	Pn	15 17 08.5	-0.6
	baz=258,slow=13,SNR=50						
HFS	Hagfors	4.51	85	Pn	Pn	15 17 23.3	-1.5
	baz=271,slow=16						
HFS				Sn	Sn	15 18 12.9	-5.1
	baz=282,slow=28						
HFS				Lg		15 18 31.8	
	baz=283,slow=37						
HFS	Hagfors	4.51	85	Pn	Pn	15 17 23.3	-1.5
	baz=271,slow=14,SNR=50						
HFS				Sn	Sn	15 18 12.9	-5.1
	baz=282,slow=28,SNR=50						
FIA0	FINESS Array S	10.54	73	Pn	Pn	15 18 45.9	-1.7
	baz=274,slow=14						
FIA0	FINESS Array S	10.54	73	Pn	Pn	15 18 45.9	-1.7
	baz=274,slow=12,SNR=50						

IDC 13 15:41:01.4±6.3, 2600N×11156W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/22, mbtmp3.4/6, ML3.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/22, Error ellipse: s-maj=89.9km s-min=66.6km az=165.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANMO	Albuquerque	9.94	25	Pn	Pn	15 43 26.1	+0.6
	0.2nm,0.3s,baz=164,slow=4.7,SNR=2.6						
NVAR	Mina Array Bea	13.64	337	Pn	Pn	15 44 19.3	+3.3
	0.1nm,0.3s,baz=153,slow=16,SNR=3.6						
PDAR	Pinedale Array	16.80	5	Pn	Pn	15 44 59.9	+1.9
	0.1nm,0.3s,baz=195,slow=10,SNR=3.1						
YBH	Yreka Blue Hor	18.19	332	LR	LR	15 52 02.9	
	comp=Z,142nm,21.1s,baz=312,slow=36						
NEW	Newport	22.65	350	P	P	15 46 02.4	-1.6
	1.3nm,0.4s,baz=169,slow=14,SNR=2.6						
YKA	Yellowknife Ar	36.54	358	P	P	15 48 09.9	+1.3
	0.2nm,0.9s,baz=171,slow=8.1,SNR=6.1						
YKA				LR	LR	16 03 43.4	
	comp=Z,147nm,18.2s,baz=20,slow=37						
ILAR	Eielson Array	44.88	339	P	P	15 49 16.2	-1.3
	1.0nm,1.1s,baz=188,slow=3.3,SNR=4.6						

*ISCJB **13** 16:07:40.5±1.3, 177S±02×1787W±02, h517km±24km, mb4.1/8, Error ellipse: s-maj=32.3km s-min=17.9km az=121.6*
*IDC **13** 16:07:41.1±2.1, 1770S×17871W, h506km±32km, mb3.5/5, mb1 3.7/7, mb1mx3.4/17, mbtmp4.5/7, Error ellipse: s-maj=31.7km s-min=18.6km az=147.0*
*NEIC **13** 16:07:41.2±1.0, 1774S×17863W, h512km±18km, mb4.2/3, Error ellipse: s-maj=26.5km s-min=14.0km az=154.0*
ISC 13 16:07:41.5±1.2, 178S±02×1786W±01, h512km±21km, n17, σ0.83/17, mb4.1/8, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.62	61	P	P	16 09 34.0	-0.3
	9.6nm,0.3s,baz=120,slow=14,SNR=8.7						
AFI	Afiamalu	7.62	61	eP	P	16 09 33.6	-0.6
DZM	Mont Dzumac	14.68	251	P	P	16 10 49.0	+0.8
	0.8nm,0.3s,baz=70,slow=19,SNR=8.4						
URZ	Urewera	20.77	189	P	P	16 11 46.5	0.0
	2.3nm,0.5s,baz=251,slow=4.7,SNR=3.3						
ARMA	Armidale	29.84	239	eP	P	16 13 08.1	+1.4
CTA	Charters Tower	33.26	260	eP	P	16 13 35.6	-0.4
	4.8nm,0.8s,mb4.1						
CTAO	Charters Tower	33.26	260	eP	P	16 13 35.9	-0.1
	5.4nm,0.8s,mb4.1						
PMG	Port Moresby	34.22	279	eP	P	16 13 44.9	+0.8
	10nm,0.9s,mb4.3						
STKA	Stephens Creek	38.52	241	⇓iP	P	16 14 18.8	-0.8
	6.7nm,0.6s,mb4.3						
STKA	Stephens Creek	38.52	241	P	P	16 14 19.0	-0.6
	6.7nm,0.5s,mb4.5,baz=90,slow=8.5,SNR=51						
STKA	Stephens Creek	38.52	241	eP	P	16 14 18.8	-0.8
WB2	Warramunga Arr	44.44	259	eP	P	16 15 05.1	-1.4
WRAB	Tennant Creek	44.44	259	eP	P	16 15 05.4	-1.1
	3.5nm,0.8s,mb3.9						
WRA	Warramunga Arr	44.45	259	P	P	16 15 05.8	-0.8
	1.2nm,0.3s,mb3.9,baz=92,slow=7.9,SNR=81						
ASAR	Alice Springs	44.63	254	P	P	16 15 08.2	+0.2
	25nm,0.6s,mb4.9,baz=89,slow=7.7,SNR=818						
FITZ	Fitzroy Crossi	52.85	260	eP	P	16 16 09.5	+0.5
	2.6nm,0.4s,mb3.9						
NVAR	Mina Array Bea	79.45	44	P	P	16 18 55.3	+0.9
	0.5nm,0.7s,mb3.0,baz=203,slow=7.5,SNR=4.1						

IDC 13 16:10:37.3±6.6, 1684S×17859W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=301.5km s-min=35.1km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.66	258	P	P	16 18 52.6	+0.9
	0.3nm,0.5s,baz=93,slow=7.9,SNR=7.4						
ASAR	Alice Springs	44.92	253	P	P	16 18 53.7	-0.1
	1.6nm,0.5s,baz=91,slow=8.4,SNR=18						
ILAR	Eielson Array	84.89	13	P	P	16 23 13.6	-0.5
	0.1nm,0.4s,baz=218,slow=5.3,SNR=7.0						
AKASG	Malin Array Be	139.53	333	PKP	PKPdf	16 30 07.2	+0.4
	0.4nm,0.5s,baz=61,slow=1.5,SNR=4.3						

*ISCJB **13** 16:10:41.6±0.8, 520N±0.1×17900E±008, h125km±8km, mb3.7/11, Error ellipse: s-maj=21.3km s-min=7.6km az=3.5*
*IDC **13** 16:10:42.2±2.0, 5195N×17901E, h116km±17km, mb3.4/10, mb1 3.7/12, mb1mx3.5/25, mbtmp3.8/12, Error ellipse: s-maj=24.3km s-min=11.1km az=167.0*
*NEIC **13** 16:10:43.1±0.9, 5194N×17905E, h126km±9km, mb3.7/1, Error ellipse: s-maj=17.1km s-min=8.5km az=168.0*
ISC 13 16:10:42.7±0.8, 520N±01×17901E±008, h123km±7km, n17, σ0.86/20, mb3.7/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	2.67	91	ePn	Pn	16 11 25.1	+0.4
ADK				eSn	Sn	16 11 57.1	0.0
FX1	Attu Island--F	3.69	286	P	Pn	16 11 38.4	+0.3
	2.8nm,0.3s,baz=176,slow=4.4,SNR=26						
FX1				S	Sn	16 12 20.3	-0.7

BJI 13 16:19:35.1,4231N×8520E,h16km,ML2.9,1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.37**	**50**	P	Pn	16 20 17.0	+3.7
WMQ				S	Sn	16 20 47.6	+5.5
WMQ				Smax			
	comp=N,76nm,0.5s						
WMQ				Smax			
	comp=E,98nm,0.5s						
MK31	**Makanchi Array**	**4.94**	**336**	⇑Pn	Pn	16 20 50.7	+2.1
	comp=E,0.3nm,0.3s,baz=150,slow=14,SNR=12						
MK31				⇓Lg		16 22 05.3	
	comp=E,5.5nm,0.6s,baz=143,slow=29,SNR=7.3						

IDC ***13*** *16:23:41.5±1.8,257N×9587E,h0km,mb4.0/6,mb1 4.1/7, mb1mx3.8/21,mbtmp3.9/7,ML2.7/1,Error ellipse: s-maj=60.2km s-min=20.8km az=51.0*
ISCJB ***13*** *16:23:44.9±1.0,26N±01×959E±01,h33km,mb4.3/17, Error ellipse: s-maj=22.6km s-min=10.4km az=67.8*
BJI ***13*** *16:23:45.1,260N×9590E,h30km,mB4.8,mb4.5*
NEIC ***13*** *16:23:46.2±0.7,256N×9594E,h30km,mb4.4/10,Error ellipse: s-maj=15.6km s-min=7.1km az=214.0*

ISC 13 16:23:47.3±1.0,26N±01×960E±01,h35km,n22,σ0§67/22, mb4.3/17,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.95**	**86**	Pn	**Pn**	**16 24 31.2**	**-0.5**
	1.0nm,0.3s,baz=275,slow=4.2,SNR=11						
KULM	**Kulim**	**5.38**	**60**	*e*P	**Pn**	**16 25 06.3**	**+1.2**
JIRN	**Jiri**	**26.62**	**340**	*e*P	**P**	**16 29 23.3**	**+0.8**
	36nm,0.7s,mb5.0						
PKI	**Pulchoki**	**26.81**	**339**	*e*P	**P**	**16 29 24.7**	**+0.5**
DMN	**Daman**	**26.96**	**338**	*e*P	**P**	**16 29 25.9**	**+0.4**
GUN	**Gumba**	**26.96**	**340**	*e*P	**P**	**16 29 26.2**	**+0.7**
	27nm,0.8s,mb4.8						
KKN	**Kakani**	**27.06**	**339**	*e*P	**P**	**16 29 26.6**	**+0.2**
	20nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.34**	**351**	*e*P	**P**	**16 29 29.6**	**+0.7**
	8.3nm,0.9s,mb4.3						
GKN	**Gorkha**	**27.49**	**338**	*e*P	**P**	**16 29 30.6**	**+0.3**
	16nm,0.7s,mb4.7						
KOLN	**Koldanda**	**27.69**	**336**	*e*P	**P**	**16 29 32.4**	**+0.4**
	12nm,0.7s,mb4.7						
ENH	**Enshi**	**30.36**	**24**	P	**P**	**16 29 54.4**	**-1.4**
	2.8nm,0.8s,mb4.0						
GTA	**Gaotai**	**36.81**	**5**	*e*P	**P**	**16 30 51.3**	**-0.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**43.81**	**122**	P	**P**	**16 31 50.0**	**+0.3**
	comp=Z,0.7nm,1.0s,mb3.4,baz=300,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**45.21**	**127**	P	**P**	**16 32 01.3**	**+0.4**
	comp=Z,0.2nm,0.7s,mb3.1,baz=316,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**45.61**	**347**	P	**P**	**16 32 03.7**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=159,slow=8.9,SNR=56						
MKAR	**Makanchi Array**	**45.61**	**347**	P	**P**	**16 32 03.7**	**-0.4**
SONM	**Songino Array**	**45.96**	**10**	P	**P**	**16 32 06.4**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=189,slow=8.6,SNR=20						
ULN	**Ulaanbaatar**	**46.10**	**10**	*e*P	**P**	**16 32 07.9**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9						
KURK	**Kurchatov**	**50.14**	**346**	P	**P**	**16 32 39.1**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**51.99**	**352**	P	**P**	**16 32 52.6**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.3,baz=306,slow=5.1,SNR=9.3						
BRVK	**Borovoye**	**54.60**	**341**	*e*P	**P**	**16 33 11.0**	**-1.3**
	comp=Z,1.8nm,1.1s,mb4.0						
ARCES	**ARCESS Array B**	**80.82**	**340**	P	**P**	**16 35 56.5**	**-0.9**
	comp=Z,8.0nm,1.0s,mb4.6,baz=90,slow=3.6,SNR=4.2						

ISCJB ***13*** *16:27:23.2±3.3,560S±02×283W±04,h120km±30km, mb4.1/6,Error ellipse: s-maj=41.1km s-min=16.2km az=97.1*
IDC ***13*** *16:27:27.0±2.6,5602S×28.16W,h145km±22km,mb3.7/4, mb1 3.8/5,mb1mx3.5/17,mbtmp4.2/5,Error ellipse: s-maj=32.8km s-min=18.8km az=32.0*
NEIC ***13*** *16:27:26.4±3.3,5591S×2826W,h143km±28km,mb4.2/3, Error ellipse: s-maj=52.0km s-min=15.0km az=50.0*

ISC 13 16:27:25.8±2.7,560S±02×284W±03,h131km±24km,n17, σ1§48/12,mb4.0/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.93**	**287**	*e*Pn	**Pn**	**16 28 39.8**	**+1.8**
HOPE				*e*Sn	**Sn**	**16 29 32.8**	**-1.3**
SNAA	**Sanae**	**19.09**	**155**	P	**P**	**16 31 37.3**	**-0.9**
	0.5nm,0.3s,baz=309,slow=11,SNR=16						
TRQA	**Tornquist**	**28.66**	**295**	*e*P	**P**	**16 33 07.3**	**-2.9**
	1.2nm,0.4s,mb4.0						
QSPA	**South Pole Qui**	**34.27**	**180**	*e*P	**P**	**16 34 00.1**	**+0.8**
	3.8nm,0.4s,mb4.5						
CFAA	**Coronel Fontan**	**36.90**	**295**	P	**P**	**16 34 20.8**	**-1.0**
	0.2nm,0.5s,mb3.0,baz=141,slow=12,SNR=4.3						
CFAA	**Coronel Fontan**	**36.90**	**295**	P	**P**	**16 34 20.8**	**-1.0**
LVC	**Limon Verde**	**44.67**	**301**	P	**P**	**16 35 27.2**	**+1.7**
	4.5nm,0.5s,mb4.4,baz=159,slow=5.0,SNR=11						
LVC	**Limon Verde**	**44.67**	**301**	P	**P**	**16 35 27.2**	**+1.7**
LPAZ	**La Paz**	**49.78**	**307**	P	**P**	**16 36 06.9**	**+1.9**
	3.2nm,0.5s,mb4.2,baz=131,slow=6.1,SNR=18						
LPAZ	**La Paz**	**49.78**	**307**	*e*P	**P**	**16 36 06.6**	**+1.5**
	3.2nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**73.35**	**31**	P	**P**	**16 38 42.3**	**-0.9**
	0.7nm,0.3s,mb3.8,baz=199,slow=6.1,SNR=21						
FINES	**FINESS Array B**	**124.65**	**28**	PKP	PKPdf	16 46 06.9	-2.9
	1.9nm,1.1s,baz=285,slow=1.7,SNR=5.8						
FINES	**FINESS Array B**	**124.65**	**28**	PKP	PKPdf	16 46 06.9	-2.9
ARCES	**ARCESS Array B**	**131.14**	**22**	PKP	PKPdf	16 46 19.3	-2.9
	3.6nm,0.9s,baz=225,slow=1.7,SNR=7.3						
YKA	**Yellowknife Ar**	**135.66**	**318**	PKP	PKPdf	16 46 28.0	-2.7
	0.2nm,0.4s,baz=126,slow=2.3,SNR=5.1						
YKA				SKPbc	SKPbc	16 49 45.3	-4.6
	0.4nm,0.6s,baz=126,slow=2.2,SNR=7.2						
ILAR	**Eielson Array**	**149.56**	**312**	PKPbc	PKPbc	16 46 57.6	-2.1
	2.5nm,0.7s,baz=125,slow=1.8,SNR=27						
SONM	**Songino Array**	**151.41**	**87**	PKPbc	PKPbc	16 47 02.1	-2.0
	1.2nm,0.5s,baz=219,slow=4.0,SNR=20						

ISCJB ***13*** *16:46:41.0±1.3,6756N±004×340E±02,h0km,Error ellipse: s-maj=11.7km s-min=5.2km az=139.1*
NAO ***13*** *16:46:42.7±2.1,6762N×3396E,ML2.3*
HEL ***13*** *16:46:43.7±0.4,6765N×3395E,h0km,ML2.3, ML2.3(NAO),Explosion*

ISC 13 16:46:42.8±1.2,6760N±004×339E±02,h0km,n12, σ1§55/30,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.35**	**272**	*i*P	**Pg**	**16 46 50.1**	**+0.6**
APA0				*i*S	**Sg**	**16 46 54.7**	**+0.6**
APA0				*e*RG		16 46 56.7	
APA0	**Apatity Array**	**0.35**	**272**	Pg	**Pg**	**16 46 50.1**	**+0.6**
	baz=93,slow=16						
APA0				Lg		16 46 54.7	
	baz=89,slow=37						
APA0				Rg		16 46 56.7	
	baz=89,slow=37						
KU4	**Liikasenvaara**	**2.10**	**236**	*e*P	**Pn**	**16 47 21.5**	**+2.3**
KU4				*e*S	**Sn**	**16 47 48.8**	**+2.7**
SGF	**Sodankyl**	**2.84**	**270**	*e*P	**Pn**	**16 47 30.7**	**+1.3**
SGF				*e*S	**Sn**	**16 48 05.5**	**+1.2**
KEV	**Kevo**	**3.33**	**314**	*e*P	**Pn**	**16 47 36.7**	**+0.7**
KEV				*e*S	**Sn**	**16 48 15.6**	**-0.7**
KEV				*e*SG	**Sg**	**16 48 24.3**	**-5.4**
KEV				MSG		16 48 27.5	
	comp=Z,9.7nm,0.3s						
ARA0	**ARCESS Array S**	**3.65**	**306**	*e*P	**Pn**	**16 47 41.0**	**+0.5**
ARA0				*e*PG	**Pg**	**16 47 49.7**	**-3.0**
ARA0				*e*S	**Sn**	**16 48 22.2**	**-2.0**
ARA0				*e*SB	**Sb**	**16 48 32.3**	**-0.6**
ARA0	**ARCESS Array S**	**3.65**	**306**	Pn	**Pn**	**16 47 41.0**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pg**	**16 47 49.7**	**-3.0**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**16 48 22.2**	**-2.0**
	baz=123,slow=28						
ARA0				Lg		16 48 32.3	
	baz=113,slow=37						
OUL	**Oulu**	**4.10**	**236**	*e*PG	**Pg**	**16 47 57.0**	**-4.3**
OUL				*e*SG	**Sg**	**16 48 51.1**	**-3.3**
OUL				MSG		16 48 54.2	
	comp=Z,7.0nm,0.3s						
KJN	**Kajaani**	**4.35**	**219**	*e*P	**Pn**	**16 47 51.6**	**+1.5**
KJN				*e*S	**Sn**	**16 48 41.7**	**+0.2**
KJN				*e*SB	**Sb**	**16 48 55.8**	**+2.7**
KJN				MSG		16 48 59.4	
	comp=Z,4.3nm,0.3s						
JOF	**Joensuu**	**4.82**	**194**	*e*P	**Pn**	**16 47 57.6**	**+1.0**
JOF				*e*S	**Sn**	**16 48 52.4**	**-0.8**
JOF				*e*SG	**Sg**	**16 49 14.5**	**-3.2**
FIA0	**FINESS Array S**	**7.03**	**212**	*e*P	**Pn**	**16 48 25.2**	**-1.8**
FIA0				*e*S	**Sn**	**16 49 46.3**	**-1.4**
FIA0				*e*SG	**Sg**	**16 50 19.5**	**-9.2**
FIA0	**FINESS Array S**	**7.03**	**212**	Pn	**Pn**	**16 48 25.2**	**-1.8**
FIA0				Sn	**Sn**	**16 49 46.3**	**-1.4**
	baz=40,slow=22						
FIA0				Lg		16 50 19.5	
	baz=18,slow=28						

ISCJB ***13*** *16:48:31.8±0.3,6701N±002×2103E±006,h0km,Error ellipse: s-maj=3.3km s-min=2.9km az=6.1*
HEL ***13*** *16:48:33.4±0.1,6706N×2094E,h0km,ML1.8,ML2.2(UPP), ML1.6(BER),Explosion*
NAO ***13*** *16:48:33.6±1.3,6704N×2110E,ML2.0*
BER ***13*** *16:48:36.0±4.2,6707N×2104E,h0km,ML1.6, ML2.3(NAO),Suspected explosion*

ISC 13 16:48:32.9±0.3,6703N±002×2100E±006,h0km,n42, σ1§14/61,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.19**	**297**	*i*P	**Pg**	**16 48 35.8**	**-0.8**
MASU	**Masugnsbyn**	**0.57**	**42**	*i*P	**Pg**	**16 48 43.4**	**-0.6**
ERTU	**Ertsjaerv**	**0.67**	**135**	*i*P	**Pg**	**16 48 45.7**	**-0.1**
PAJU	**Pajala**	**0.83**	**90**	*i*P	**Pg**	**16 48 48.2**	**-0.6**
KUA	**Kurravaara**	**0.96**	**345**	*e*P	**Pg**	**16 48 49.6**	**-1.8**
SALU	**Saltoluokta**	**1.03**	**291**	*e*P	**Pg**	**16 48 51.2**	**-1.5**
LANU	**Lannavaara**	**1.09**	**20**	*e*P	**Pg**	**16 48 52.2**	**-1.6**
NIKU	**Nikkaluokta**	**1.13**	**319**	*e*P	**Pg**	**16 48 52.7**	**-1.9**
SJUU	**Sjulsmark**	**1.55**	**171**	*e*P	**Pn**	**16 49 01.3**	**-0.5**
LILU	**Lilltraesk**	**1.82**	**195**	*e*P	**Pn**	**16 49 05.3**	**-0.1**
KIF	**Kilpisjarvi**	**1.98**	**358**	*e*P	**Pn**	**16 49 09.5**	**+1.8**
KIF				*e*S	**Sn**	**16 49 34.3**	**+1.1**
KTK1	**Kautokeino**	**2.16**	**22**	*e*P	**Pn**	**16 49 11.8**	**+1.7**
KTK1				*e*S	**Sn**	**16 49 41.1**	**+3.5**
KTK1	**Kautokeino**	**2.16**	**22**	*e*P	**Pn**	**16 49 11.8**	**+1.7**
KTK1				*e*Sg	**Sg**	**16 49 40.8**	**-1.4**
SGF	**Sodankyl**	**2.19**	**77**	*e*P	**Pn**	**16 49 10.2**	**-0.3**
SGF				*e*S	**Sn**	**16 49 39.7**	**+1.4**
BURU	**Burvik**	**2.47**	**176**	*e*P	**Pn**	**16 49 15.2**	**+0.8**
MOR8	**Moi Rana**	**2.76**	**255**	*e*P	**Pn**	**16 49 18.0**	**-0.4**
MOR8				*e*Sg	**Sg**	**16 49 54.6**	**-7.0**
MOR8				AML	AML	16 49 55.9	
	comp=Z,6.0nm,0.3s						
OUL	**Oulu**	**2.79**	**132**	*e*P	**Pn**	**16 49 19.6**	**+0.7**
OUL				*e*S	**Sn**	**16 49 53.7**	**+0.4**
OUL				MSG		16 50 02.0	
	comp=Z,3.2nm,0.2s						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**16 49 21.9**	**-0.1**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**16 49 59.5**	**+0.7**
	baz=218,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P	**Pn**	**16 49 21.9**	**-0.1**
ARA0				*e*S	**Sn**	**16 49 59.5**	**+0.7**
LOF	**Lofoten**	**3.06**	**294**	*e*P	**Pn**	**16 49 23.2**	**+0.6**
LOF				AML	AML	16 50 12.9	
	comp=Z,5.4nm,0.3s						
UMAU	**Umeaa**	**3.17**	**183**	*e*P	**Pn**	**16 49 24.7**	**+0.7**
STOK	**Stokkvaagen**	**3.25**	**261**	*e*P	**Pn**	**16 49 25.4**	**+0.2**
STOK				*e*S	**Sn**	**16 50 07.7**	**+3.1**
BREU	**Bredtraesk**	**3.31**	**199**	*e*P	**Pn**	**16 49 26.6**	**+0.5**
KU4	**Liikasenvaara**	**3.48**	**97**	*e*P	**Pn**	**16 49 29.6**	**+1.4**
KU4				*e*S	**Sn**	**16 50 10.0**	**-0.1**
KEV	**Kevo**	**3.52**	**36**	*e*P	**Pn**	**16 49 29.5**	**+0.6**
KEV				*e*S	**Sn**	**16 50 10.5**	**-0.8**
HUSU	**Husum**	**3.78**	**192**	*e*P	**Pn**	**16 49 33.1**	**+0.6**
KJN	**Kajaani**	**4.07**	**134**	*e*P	**Pn**	**16 49 38.3**	**+2.0**
KJN				*e*S	**Sn**	**16 50 23.9**	**-0.8**
KJN				MSG		16 50 28.1	
	comp=Z,1.4nm,0.2s						
VAF	**Ylistaro**	**4.07**	**169**	*e*P	**Pn**	**16 49 38.3**	**+1.9**
VAF				*e*S	**Sn**	**16 50 24.8**	**0.0**
NSS	**Namsos**	**4.49**	**240**	*e*S	**Sn**	**16 50 36.0**	**+0.9**
APA0	**Apatity Array**	**4.68**	**77**	Pn	**Pn**	**16 49 44.2**	**-0.5**
	baz=267,slow=11						
APA0				Sn	**Sn**	**16 50 39.8**	**+0.1**
	baz=271,slow=28						
APA0				Lg		16 50 57.4	
	baz=278,slow=37						
APA0	**Apatity Array**	**4.68**	**77**	*e*P	**Pn**	**16 49 44.2**	**-0.5**
APA0				*e*S	**Sn**	**16 50 39.8**	**+0.1**
APA0				*e*SG	**Sg**	**16 50 57.4**	**-5.8**
SUF	**Sumiainen**	**4.86**	**151**	*e*S	**Sn**	**16 50 43.9**	**-0.2**
KEF	**Keuruu**	**5.16**	**159**	*e*S	**Sn**	**16 50 50.6**	**-1.1**
KAF	**Kangasniemi**	**5.44**	**153**	*e*S	**Sn**	**16 50 56.0**	**-2.6**
JOF	**Joensuu**	**6.01**	**129**	*e*P	**Pn**	**16 50 05.1**	**+2.0**
JOF				*e*S	**Sn**	**16 51 10.7**	**-2.0**
FIA0	**FINESS Array S**	**6.03**	**156**	Pn	**Pn**	**16 50 04.8**	**+1.4**
	baz=342,slow=14						
FIA0				Sn	**Sn**	**16 51 11.9**	**-1.2**
	baz=340,slow=28						
FIA0	**FINESS Array S**	**6.03**	**156**	*e*S	**Sn**	**16 51 11.4**	**-1.7**
RAF	**Rauma**	**6.05**	**176**	*e*P	**Pn**	**16 50 03.8**	**+0.2**
RAF				*e*S	**Sn**	**16 51 12.5**	**-1.0**
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**16 50 21.1**	**-0.9**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.38**	**220**	*e*P	**Pn**	**16 50 21.1**	**-0.9**
HFS	**Hagfors**	**7.65**	**209**	Pn	**Pn**	**16 50 24.7**	**-0.9**
	baz=35,slow=14						
HFS	**Hagfors**	**7.65**	**209**	*e*P	**Pn**	**16 50 24.7**	**-0.9**

NIED ***13*** *17:00:00,4240N×143.10E,h56km,Mw4.3 Best double couple: Mo3.39000×10^15 NP1:φs30.00000°,δ63.00000°, λ88.00000°. NP2:φs215.00000°,δ27.00000°,λ95.00000°.*
ISCJB ***13*** *17:00:54.0±0.3,4221N±003×143.13E±004,h54km, mb4.5/69,MS3.7/4,Error ellipse: s-maj=5.2km s-min=3.4km az=91.4*
BJI ***13*** *17:00:54.8,4250N×14337E,h76km,mB4.9,mb4.6,Ms4.0, Msz3.9*
MOS ***13*** *17:00:55.1±1.0,4232N×143.10E,h64km,mb4.5/28,Error ellipse: s-maj=9.4km s-min=6.0km az=103.4*
SKHL ***13*** *17:00:55.6±0.0,4213N×14309E,h71km±5km,mb4.9/7*
IDC ***13*** *17:00:56.1±0.6,4223N×14321E,h58km±4km,mb4.0/20, mb1 4.1/23,mb1mx4.1/28,mbtmp4.3/23,MS3.3/1, Ms1 3.3/1,ms1mx2.5/29,Error ellipse: s-maj=12.5km s-min=7.1km az=90.0*
NEIC ***13*** *17:00:56.0±0.3,4233N×14307E,mb4.7/19,MW4.3(NIED), Error ellipse: s-maj=7.2km s-min=4.7km az=127.0*
NEIC Recorded [2 JMA] in south-central Hokkaido.
JMA ***13*** *17:00:57.5±0.1,4236N×143.12E,h50km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs237.00000°,δ40.00000°,λ128.00000°. NP2: φs12.00000°,δ60.00000°,λ63.00000°. Principal axes: T Plg64.0000°, Azm234.0000°; N Plg23.0000°, Azm26.0000°; P Plg11.0000°, Azm121.0000°;*
JMA Felt II J1.
NAO ***13*** *17:01:01.8,4410N×14388E,h33km,mb4.6*

ISC 13 17:00:56.0±0.2,4231N±003×14313E±004,h56km, h56km±2.6km:pP-P,n163,σ1§06/183,mb4.5/69,MS3.7/4, 9C-8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**264**	⇓P	**Pn**	**17 01 06.3**	**+0.8**
JNBK				*e*S	**Sn**	**17 01 13.3**	**+1.0**
JEM	**Erimo**	**0.29**	**175**	⇑P	**Pn**	**17 01 07.2**	**+1.6**
JEM				*e*S	**Sn**	**17 01 15.0**	**+2.4**
JCH	**Churui**	**0.35**	**30**	⇑P	**Pn**	**17 01 06.5**	**+0.4**
JCH				*e*S	**Sn**	**17 01 13.9**	**+0.5**
JBT2	**Biratori 2**	**0.73**	**310**	⇓P	**Pn**	**17 01 11.3**	**+0.9**
JBT2				*e*S	**Sn**	**17 01 23.0**	**+2.1**
JOB	**Onbets**	**0.79**	**41**	⇑P	**Pn**	**17 01 12.6**	**+1.4**
JFR	**Furan**	**0.94**	**336**	⇓P	**Pn**	**17 01 12.6**	**-0.5**
JFR				*e*S	**Sn**	**17 01 25.0**	**-0.6**
JAR	**Ashorobuto**	**1.09**	**25**	⇑P	**Pn**	**17 01 15.7**	**+0.6**
JAR				*e*S	**Sn**	**17 01 29.4**	**+0.1**
JEW	**Eniwo**	**1.35**	**294**	⇓P	**Pn**	**17 01 19.9**	**+1.4**
JEW				*e*S	**Sn**	**17 01 38.0**	**+2.6**
JAK	**Akkeshi**	**1.35**	**59**	⇓P	**Pn**	**17 01 19.1**	**+0.6**
JAK				*e*S	**Sn**	**17 01 37.1**	**+1.7**
JAB	**Ashibetsu**	**1.36**	**331**	⇓P	**Pn**	**17 01 20.0**	**+1.2**
ASAJ	**Asahikawa**	**1.85**	**348**	P	**Pn**	**17 01 26.8**	**+1.4**
	84nm,0.3s,baz=201,slow=13,SNR=488						
ASAJ				S	**Sn**	**17 01 52.1**	**+4.6**
	68nm,0.3s,baz=30,slow=18,SNR=8.3						
ASAJ				LR	LR	17 02 16.9	
	comp=Z,391nm,20.3s,baz=158,slow=42						
YUK	**Yuzh-Kuril'sk**	**2.64**	**48**	*e*P	**Pn**	**17 01 37.3**	**+1.1**
YUK				AMB	AMB	17 01 39.3	
	130nm,0.1s						
YUK				AMB	AMB	17 01 39.3	
	280nm,0.1s						
YUK				AMB	AMB	17 01 43.4	
	2μm,0.2s						
YUK				AMB	AMB	17 01 43.4	
	700nm,0.3s						
YUK				AMB	AMB	17 01 43.4	
	490nm,0.4s						
YUK				*i*S	**Sn**	**17 02 08.6**	**+1.6**
YUK				A		17 02 15.5	
	4μm,0.5s						
YUK				A		17 02 15.5	
	3μm,0.5s						
YUK				A		17 02 17.2	
	6μm,1.0s						
YUK				A		17 02 17.2	
	4μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**48**	*e*PN	**Pn**	**17 01 37.3**	**+1.1**
YUK				*i*S	**Sn**	**17 02 08.6**	**+1.6**
YUK				pmax	pmax		
	comp=E,130nm,0.2s						
YUK				pmax	pmax		
	comp=Z,280nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=N,700nm,0.4s						
YUK				pmax	pmax		
	comp=E,490nm,0.4s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,3μm,0.5s						
YUK				smax			
	comp=N,6μm,1.0s						
YUK				smax			
	comp=E,4μm,0.7s						
KUR	**Kuril'sk**	**4.51**	**48**	*e*P	**Pn**	**17 02 03.0**	**+1.3**
KUR				AMB	AMB	17 02 08.0	
	comp=E,120nm,0.5s						
KUR				AMB	AMB	17 02 08.0	
	comp=E,80nm,0.5s						
KUR				AMB	AMB	17 02 08.0	
	comp=E,150nm,0.5s						
KUR				*e*S	**Sn**	**17 02 53.5**	**+0.7**
KUR				A		17 03 04.0	
	comp=E,90nm,0.5s						
KUR				A		17 03 04.0	
	comp=E,300nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	⇑*i*P	**Pn**	**17 02 06.7**	**+3.0**
YSS				AMB	AMB	17 02 10.2	
	comp=E,60nm,0.9s						
YSS				*e*S	**Sn**	**17 03 00.0**	**+3.7**
YSS				A		17 03 06.3	
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	⇑*i*PN	**Pn**	**17 02 06.7**	**+3.0**
YSS				S	**Sn**	**17 03 00.0**	**+3.7**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				smax			
	comp=N,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	*e*P	**Pn**	**17 02 06.0**	**+2.3**
UGL	**Uglegorsk**	**6.81**	**354**	*e*P	**Pn**	**17 02 36.0**	**+2.7**
UGL				AMB	AMB	17 02 38.5	
	comp=N,55nm,0.7s						
MAJO	**Matsushiro**	**6.90**	**215**	*e*PN	**Pn**	**17 02 34.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,25nm,0.4s						
MAJO	**Matsushiro**	**6.90**	**215**	*e*P	**Pn**	**17 02 34.3**	**-0.2**
	comp=Z,25nm,0.4s						
MAT	**Matsushiro**	**6.90**	**215**	P	**Pn**	**17 02 35.3**	**+0.8**
MAT				S	**Sn**	**17 03 56.7**	**+5.0**
MJAR	**Matsushiro Arr**	**6.90**	**215**	P	**Pn**	**17 02 35.6**	**+1.1**
	comp=Z,3.8nm,0.3s,baz=27,slow=14,SNR=32						
MJAR				S	**Sn**	**17 03 56.2**	**+4.5**
	baz=50,slow=9.8,SNR=2.7						
MJAR	**Matsushiro Arr**	**6.90**	**215**	PN	**Pn**	**17 02 35.6**	**+1.1**
MJAR				S	**Sn**	**17 03 56.2**	**+4.5**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
VLA	**Vladivostok**	**8.31**	**279**	*e*PN	**Pn**	**17 02 56.2**	**+2.4**
VLA				pmax	pmax		
	comp=Z,61nm,1.6s						
HABR	**Khabarovsk**	**8.38**	**320**	*i*Pn	**Pn**	**17 02 56.4**	**+1.6**
HABR				pmax	pmax		
	comp=Z,19nm,1.2s						
TYV	**Tymovskoe**	**8.56**	**358**	*e*P	**Pn**	**17 03 00.5**	**+3.2**
TYV				AMB	AMB	17 03 02.7	
	comp=Z,8.0nm,0.7s						
TYV				AMB	AMB	17 03 02.7	
	comp=Z,16nm,0.7s						
JHJ	**Hachijo jima 2**	**9.55**	**197**	P	**Pn**	**17 03 08.3**	**-2.4**
	comp=Z,23nm,0.3s,baz=61,slow=19,SNR=4.5						
JHJ				S	**Sn**	**17 04 49.0**	**-7.6**
	comp=Z,28nm,0.3s,baz=73,slow=19,SNR=5.3						
KLR	**Kul'dur**	**10.53**	**315**	*e*PN	**Pn**	**17 03 25.0**	**+0.8**
NKL	**Nikolayevsk**	**10.97**	**352**	*e*P	**Pn**	**17 03 27.3**	**-2.9**
NKL				AMB	AMB	17 03 31.0	
	comp=Z,22nm,1.0s						
CN2	**Changchun**	**13.02**	**283**	*e*P	**Pn**	**17 03 59.0**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
ZEA	**Zeya**	**15.56**	**323**	*e*P	**Pn**	**17 04 31.2**	**-0.6**
Z

ZAK	**Zakamensk**	**28.38**	**300**	*e*P	**P**	**17 06 44.6**	**-0.4**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.0							
BILL	**Bilibino**	**28.60**	**18**	*e*P	**P**	**17 06 44.9**	**-2.0**
BILL				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.7							
BILL				MLR	MLR		
comp=Z,100nm,21.0s,MS3.4							
ENH	**Enshi**	**29.47**	**257**	*e*P	**P**	**17 06 54.6**	**0.0**
comp=Z,6.1nm,0.6s,mb4.5							
MOY	**Mondy**	**29.85**	**303**	*e*P	**P**	**17 06 57.2**	**-0.8**
GTA	**Gaotai**	**32.62**	**280**	*e*P	**P**	**17 07 23.3**	**+0.9**
GTA				AMB	AMB		
comp=Z,11nm,0.8s,mb4.8							
CD2	**Chengdu**	**33.31**	**263**	*e*P	**P**	**17 07 28.6**	**+0.2**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
ZAL	**Zalesovo**	**39.54**	**308**	P	**P**	**17 08 21.3**	**-0.2**
comp=Z,6.9nm,0.7s,mb4.5,baz=25,slow=8.9,SNR=45							
ZAL				PcP	PcP	17 10 28.4	+0.4
comp=Z,1.8nm,0.6s,baz=32,slow=2.1,SNR=5.1							
ZAL	**Zalesovo**	**39.54**	**308**	P	**P**	**17 08 21.3**	**-0.2**
ZAL						17 10 28.4	
ZAL				pmax	pmax		
comp=Z,7.0nm,0.7s							
ZAL				pmax	pmax		
comp=Z,2.0nm,0.6s							
ZAL	**Zalesovo**	**39.54**	**308**	P	**P**	**17 08 21.3**	**-0.2**
ZAL				PcP	PcP	17 10 28.4	+0.4
NVS	**Novosibirsk**	**40.33**	**309**	*e*P	**P**	**17 08 26.3**	**-1.7**
NVS				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
NVS				pmax	pmax		
comp=N,2.0nm,1.0s							
NVS				pmax	pmax		
comp=E,3.0nm,1.0s							
KDAK	**Kodiak Island**	**42.38**	**46**	P	**P**	**17 08 44.2**	**-0.6**
comp=E,6.2nm,0.9s,mb4.2,baz=170,slow=10,SNR=4.4							
MK31	**Makanchi Array**	**42.64**	**298**	*i* P	**P**	**17 08 46.5**	**-0.4**
MK31				pmax	pmax		
comp=Z,6.0nm,0.5s,mb4.6							
MKAR	**Makanchi Array**	**42.64**	**298**	P	**P**	**17 08 46.5**	**-0.4**
comp=Z,5.8nm,0.6s,mb4.5,baz=82,slow=10,SNR=97							
MKAR				PcP	PcP	17 10 37.9	-0.2
comp=Z,1.1nm,0.7s,baz=61,slow=3.7,SNR=3.9							
MKAR	**Makanchi Array**	**42.64**	**298**	P	**P**	**17 08 46.5**	**-0.4**
MKAR						17 10 37.9	
MKAR				pmax	pmax		
comp=Z,6.0nm,0.6s							
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
LSA	**Lhasa**	**43.27**	**271**	*e*P	**P**	**17 08 53.8**	**+1.8**
LSA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.3							
LSA	**Lhasa**	**43.27**	**271**	*e*P	**P**	**17 08 53.8**	**+1.8**
comp=Z,4.6nm,0.8s,mb4.3							
MCK	**McKinley**	**43.57**	**37**	*e*P	**P**	**17 08 55.3**	**+0.9**
MCK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.9							
MCK	**McKinley**	**43.57**	**37**	*e*P	**P**	**17 08 55.3**	**+0.9**
comp=Z,2.4nm,0.8s,mb4.0							
KURK	**Kurchatov**	**43.89**	**304**	*c i*P	**P**	**17 08 56.7**	**-0.3**
KURK	**Kurchatov**	**43.89**	**304**	*e*P	**P**	**17 08 56.4**	**-0.6**
comp=Z,21nm,0.8s,mb4.9							
COLA	**College**	**43.96**	**35**	*e*P	**P**	**17 08 58.5**	**+0.9**
COLA				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.3							
COLA	**College**	**43.96**	**35**	*e*P	**P**	**17 08 58.5**	**+0.9**
comp=Z,3.6nm,0.6s,mb4.3							
ILAR	**Eielson Array**	**44.38**	**35**	P	**P**	**17 09 00.8**	**-0.1**
comp=Z,3.4nm,1.0s,mb4.0,baz=266,slow=6.6,SNR=21							
ILAR				pP	pP	17 09 14.2	-1.3
comp=Z,2.2nm,0.6s,baz=254,slow=5.8,SNR=10							
ILAR	**Eielson Array**	**44.38**	**35**	P	**P**	**17 09 00.9**	**0.0**
ILAR				*PP	pP	17 09 14.2	-1.2
ILAR				pmax	pmax		
comp=Z,3.0nm,1.0s							
ILAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
VOSK	**Vostochnaya**	**47.88**	**309**	P	**P**	**17 09 28.2**	**-0.2**
VOSK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
JIRN	**Jiri**	**48.04**	**271**	*e*P	**P**	**17 09 30.5**	**+0.9**
comp=Z,7.0nm,0.3s,mb5.1							
BVA0	**Borovoye Array**	**48.13**	**309**	*i* P	**P**	**17 09 30.4**	**0.0**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**48.13**	**309**	P	**P**	**17 09 30.4**	**0.0**
comp=Z,8.5nm,0.4s,mb5.1,baz=78,slow=9.1,SNR=147							
BVAR				PcP	PcP	17 10 57.6	+0.5
comp=Z,3.4nm,0.5s,baz=85,slow=3.6,SNR=9.4							
BVAR	**Borovoye Array**	**48.13**	**309**	P	**P**	**17 09 30.4**	**0.0**
BVAR						17 10 57.6	
BVAR				pmax	pmax		
comp=Z,9.0nm,0.4s							
BVAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
GUN	**Gumba**	**48.13**	**272**	*e*P	**P**	**17 09 31.2**	**+0.8**
comp=Z,40nm,0.4s							
BRVK	**Borovoye**	**48.18**	**309**	*e*P	**P**	**17 09 30.6**	**-0.1**
BRVK				*e*		17 10 57.7	
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
BRVK	**Borovoye**	**48.18**	**309**	*e*P	**P**	**17 09 30.6**	**-0.1**
comp=Z,2.0nm,0.6s,mb4.3							
BRVK				*e*PcP	PcP	17 10 57.7	+0.4
TKM2	**Tokmak 2**	**48.45**	**295**	P	**P**	**17 09 33.5**	**+0.7**
TKM2				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
KKN	**Kakani**	**48.64**	**272**	*e*P	**P**	**17 09 34.8**	**+0.5**
comp=Z,23nm,0.8s,mb5.3							
KKN	**Kakani**	**48.64**	**272**	*e*P	**P**	**17 09 34.8**	**+0.5**
KKN				pmax	pmax		
comp=Z,11nm,0.8s,mb4.9							
PKI	**Pulchoki**	**48.66**	**272**	*e*P	**P**	**17 09 34.8**	**+0.3**
comp=Z,5.2nm,0.3s,mb5.0							
PKI	**Pulchoki**	**48.66**	**272**	*e*P	**P**	**17 09 34.8**	**+0.3**
PKI				pmax	pmax		
comp=Z,3.0nm,0.3s,mb4.8							
DMN	**Daman**	**48.87**	**272**	*e*P	**P**	**17 09 36.9**	**+0.9**
comp=Z,10.0nm,0.5s,mb5.1							
ZRNK	**Zerenda**	**48.95**	**309**	*e*P	**P**	**17 09 36.6**	**0.0**
ZRNK				*e*		17 10 59.9	
ZRNK				pmax	pmax		
comp=Z,14nm,0.7s,mb5.1							
ZRNK	**Zerenda**	**48.95**	**309**	*e*P	**P**	**17 09 36.5**	**-0.1**
comp=Z,14nm,0.7s,mb5.1							
ZRNK				*e*PcP	PcP	17 10 59.9	-0.2
GKN	**Gorkha**	**49.00**	**273**	*e*P	**P**	**17 09 37.5**	**+0.5**
comp=Z,10nm,0.4s,mb5.3							
INK	**Inuvik**	**49.12**	**29**	P	**P**	**17 09 37.7**	**-0.2**
comp=Z,1.0nm,0.4s,mb4.2,baz=311,slow=6.3,SNR=18							
INK	**Inuvik**	**49.12**	**29**	P	**P**	**17 09 37.7**	**-0.2**
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
KOLN	**Koldanda**	**49.90**	**273**	*e*P	**P**	**17 09 44.7**	**+0.8**
comp=Z,15nm,0.5s,mb5.2							
ARU	**Arti**	**53.37**	**316**	*i* P	**P**	**17 10 09.2**	**-0.6**
ARU				*e*PPP		17 13 19.7	
ARU				*e*S	**S**	**17 17 27.9**	**-10**
ARU				*e*SSS		17 23 02.3	
ARU				pmax	pmax		
comp=Z,13nm,0.7s,mb5.0							
ARU	**Arti**	**53.37**	**316**	*e*P	**P**	**17 10 09.2**	**-0.6**
comp=Z,17nm,0.9s,mb5.0							
AB31	**Akbulak array**	**55.64**	**308**	*i* P	**P**	**17 10 26.2**	**-0.1**
AB31				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.5							
AKTK	**Aktyubinsk**	**56.22**	**310**	P	**P**	**17 10 29.9**	**-0.5**
AKTO	**Aktyubinsk**	**56.22**	**310**	P	**P**	**17 10 29.9**	**-0.5**
comp=Z,4.4nm,0.7s,mb4.6,baz=69,slow=13,SNR=15							
AKTO	**Aktyubinsk**	**56.22**	**310**	P	**P**	**17 10 29.9**	**-0.5**
AKTO				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
YKA	**Yellowknife Ar**	**58.61**	**32**	P	**P**	**17 10 46.9**	**-0.4**
comp=Z,0.4nm,0.5s,mb3.7,baz=303,slow=6.8,SNR=14							
YKA				pP	pP	17 11 00.8	-1.5
comp=Z,1.1nm,0.7s,baz=305,slow=6.6,SNR=8.7							
YKA	**Yellowknife Ar**	**58.61**	**32**	P	**P**	**17 10 46.9**	**-0.4**
YKA				*PP	pP	17 11 00.8	-1.5
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
KEV	**Kevo**	**59.00**	**339**	*e*p	**P**	**17 10 48.0**	**-1.9**
comp=Z,0.4nm,0.3s,mb3.9							
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**17 10 52.4**	**-1.3**
comp=Z,6.5nm,1.1s,mb4.6,baz=82,slow=8.4,SNR=6.1							
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**17 10 52.4**	**-1.3**
ARCES				pmax	pmax		
comp=Z,7.0nm,1.1s							
ARCES	**ARCESS Array B**	**59.55**	**339**	P	**P**	**17 10 52.4**	**-1.3**
JOF	**Joensuu**	**61.96**	**331**	*e*p	**P**	**17 11 09.1**	**-1.0**
comp=Z,1.0nm,0.4s,mb4.3							
JOF	**Joensuu**	**61.96**	**331**	*e*P	**P**	**17 11 09.1**	**-1.0**
JOF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.3							
WRAB	**Tennant Creek**	**62.46**	**189**	P	**P**	**17 11 14.3**	**+0.9**
WRA	**Warramunga Arr**	**62.47**	**189**	P	**P**	**17 11 13.4**	**-0.1**
comp=Z,0.8nm,0.4s,mb4.2,baz=6.7,slow=6.9,SNR=16							
WRA				pP	pP	17 11 28.0	-0.7
comp=Z,1.9nm,0.6s,baz=6.7,slow=7.1,SNR=11							
WRA	**Warramunga Arr**	**62.47**	**189**	P	**P**	**17 11 13.4**	**-0.1**
WRA				*PP	pP	17 11 28.0	-0.7
WRA				pmax	pmax		
comp=Z,1.0nm,0.4s							
WRA				pmax	pmax		
comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**64.24**	**332**	*e*p	**P**	**17 11 23.7**	**-1.5**
comp=Z,0.7nm,0.4s,mb4.0,baz=46,slow=6.3							
KAF	**Kangasniemi**	**64.24**	**332**	*e*P	**P**	**17 11 23.7**	**-1.5**
KAF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
OBN	**Obninsk**	**64.69**	**322**	*i* P	**P**	**17 11 27.4**	**-0.8**
OBN				*e*PP	sP	17 11 55.7	+6.0
OBN				pmax	pmax		
comp=Z,37nm,2.5s,mb5.0							
OBN				MLR	MLR		
comp=Z,100nm,11.0s,MS4.3							
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**17 11 27.6**	**-1.2**
comp=Z,3.3nm,0.4s,mb4.7,baz=54,slow=7.2,SNR=51							
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**17 11 27.6**	**-1.1**
FINES				pmax	pmax		
comp=Z,3.0nm,0.4s							
ASAR	**Alice Springs**	**66.19**	**189**	P	**P**	**17 11 38.8**	**+0.9**
comp=Z,0.5nm,0.8s,mb3.6,baz=16,slow=6.2,SNR=6.9							
ASAR				pP	pP	17 11 53.4	+0.2
comp=Z,1.4nm,0.8s,baz=12,slow=6.4,SNR=9.8							
ASAR	**Alice Springs**	**66.19**	**189**	P	**P**	**17 11 38.8**	**+0.9**
ASAR				*PP	pP	17 11 53.4	+0.2
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
GOF	**Gofitskoye**	**67.61**	**311**	*e*P	**P**	**17 11 46.6**	**-0.2**
NB2	**NORSAR Subarra**	**69.83**	**337**	P	**P**	**17 11 59.7**	**-1.0**
comp=Z,8.1nm,1.1s,mb4.6,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**69.83**	**337**	P	**P**	**17 11 59.8**	**-1.0**
comp=Z,1.4nm,0.4s,mb4.2,baz=35,slow=6.2,SNR=11							
NOA	**NORSAR Array B**	**69.83**	**337**	P	**P**	**17 11 59.8**	**-0.9**
NOA				pmax	pmax		
comp=Z,1.0nm,0.4s							
NVAR	**Mina Array Bea**	**70.83**	**55**	P	**P**	**17 12 07.7**	**+0.9**
comp=Z,1.7nm,0.6s,mb4.2,baz=315,slow=4.6,SNR=8.4							
AKASG	**Malin Array Be**	**70.94**	**322**	P	**P**	**17 12 06.7**	**-0.8**
comp=Z,1.3nm,0.4s,mb4.2,baz=44,slow=6.0,SNR=13							
AKASG	**Malin Array Be**	**70.94**	**322**	P	**P**	**17 12 06.7**	**-0.8**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**73.07**	**47**	P	**P**	**17 12 21.2**	**+1.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=203,slow=1.0,SNR=6.7							
OJC	**Ojcow**	**75.39**	**326**	*e*P	**P**	**17 12 33.9**	**+0.2**
STHS	**Stebnicka Huta**	**75.40**	**325**	*e*P	**P**	**17 12 34.5**	**+0.7**
BR131	**Keskin Array S**	**76.34**	**312**	*e*P	**P**	**17 12 39.7**	**+0.6**
comp=Z,1.1nm,0.6s,mb4.0							
BRTR	**Keskin Array B**	**76.34**	**312**	P	**P**	**17 12 39.4**	**+0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=71,slow=3.9,SNR=13							
BRTR	**Keskin Array B**	**76.34**	**312**	P	**P**	**17 12 39.4**	**+0.3**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.7s							
KECS	**Kecovo**	**76.44**	**325**	*e*	**P**	**17 12 36.3**	**-3.4**
KECS				*e*	pP	17 12 51.0	-4.3
DPC	**Dobruska-Polom**	**76.69**	**328**	*e*P	**P**	**17 12 41.5**	**+0.4**
CLL	**Collm**	**77.17**	**331**	*i*P	**P**	**17 12 43.5**	**-0.3**
comp=Z,8.0nm,1.0s,mb4.6							
CLL	**Collm**	**77.17**	**331**	*i*P	**P**	**17 12 43.5**	**-0.3**
CLL				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
PRU	**Pruhonice**	**77.67**	**329**	*e*P	**P**	**17 12 46.8**	**+0.2**
KHC	**Kasperske Hory**	**78.73**	**329**	*e*P	**P**	**17 12 52.8**	**+0.4**
KHC				epP	pP	17 13 11.0	+2.9
GERES	**GERESS Array B**	**78.91**	**329**	P	**P**	**17 12 53.5**	**0.0**
comp=Z,0.7nm,0.5s,mb3.9,baz=32,slow=5.7,SNR=9.6							
GERES	**GERESS Array B**	**78.91**	**329**	P	**P**	**17 12 53.5**	**+0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
CDF	**Champ du Feu**	**81.63**	**332**	*e*P	**P**	**17 13 07.1**	**-1.0**
DAVOX	**Davos**	**82.07**	**330**	P	**P**	**17 13 10.8**	**+0.4**
comp=Z,1.7nm,0.3s,mb4.4,baz=16,slow=7.4,SNR=5.8							
CABF	**La Chapelle**	**83.59**	**332**	*e*P	**P**	**17 13 17.6**	**-0.7**
LOR	**Lormes**	**83.78**	**333**	*e*P	**P**	**17 13 18.0**	**-1.2**
comp=Z,6.9nm,0.8s,mb4.5							
FLN	**La Foliniere**	**83.81**	**337**	*e*P	**P**	**17 13 17.6**	**-1.8**
LDF	**La Druitiere**	**83.86**	**336**	*e*P	**P**	**17 13 18.7**	**-0.9**
SSF	**Saint Saulge**	**84.08**	**334**	*e*P	**P**	**17 13 19.8**	**-0.9**
comp=Z,6.0nm,0.8s,mb4.5							
GRR	**Gorron**	**84.26**	**337**	*e*P	**P**	**17 13 20.4**	**-1.3**
LPL	**La Plagne**	**84.30**	**331**	*e*P	**P**	**17 13 21.3**	**-0.6**
comp=Z,3.3nm,0.5s,mb4.4							
LPG	**La Plagne**	**84.31**	**331**	*e*P	**P**	**17 13 21.6**	**-0.3**
comp=Z,5.6nm,0.5s,mb4.6							
SMF	**Signal de Mont**	**84.33**	**333**	*e*P	**P**	**17 13 21.0**	**-1.0**
comp=Z,13nm,1.0s,mb4.7							
AVF	**Avril sur Loir**	**84.37**	**334**	*e*P	**P**	**17 13 21.3**	**-0.9**
comp=Z,10.0nm,0.7s,mb4.8							
BGF	**Bois d'Agland**	**84.74**	**334**	*e*P	**P**	**17 13 22.2**	**-1.9**
MBDF	**Montbardon**	**84.97**	**330**	*e*P	**P**	**17 13 24.7**	**-0.5**
comp=Z,3.4nm,0.5s,mb4.4							
ROSF	**Rostrenen**	**84.99**	**338**	*e*P	**P**	**17 13 24.7**	**-0.7**
ORIF	**Oris-en-Rattie**	**85.12**	**331**	*e*P	**P**	**17 13 25.5**	**-0.5**
TCF	**Toulx Ste Croi**	**85.19**	**334**	*e*P	**P**	**17 13 25.4**	**-0.9**
QUIF	**Quistinic**	**85.34**	**338**	*e*P	**P**	**17 13 26.2**	**-0.9**
SBF	**Sospel**	**85.46**	**330**	*e*P	**P**	**17 13 26.2**	**-1.5**
comp=Z,8.0nm,0.6s,mb4.8							
VIVF	**Saint-Julien-l**	**85.61**	**332**	*e*P	**P**	**17 13 27.8**	**-0.6**
comp=Z,10nm,0.8s,mb4.8							
MFF	**Saint Martin d**	**85.65**	**336**	*e*P	**P**	**17 13 27.8**	**-0.8**
comp=Z,6.6nm,0.7s,mb4.7							
LMR	**La Mourre**	**86.26**	**330**	*e*P	**P**	**17 13 30.5**	**-1.1**
comp=Z,14nm,0.7s,mb5.0							
RJF	**Les Rejaudoux**	**86.28**	**334**	*e*P	**P**	**17 13 31.4**	**-0.3**
CAF	**Calviac**	**86.44**	**333**	*e*P	**P**	**17 13 32.5**	**0.0**
comp=Z,8.0nm,0.6s,mb4.8							
LASF	**Ste Croix**	**86.57**	**332**	*e*P	**P**	**17 13 32.8**	**-0.4**
LFF	**La Frestale**	**86.86**	**334**	*e*P	**P**	**17 13 34.4**	**-0.2**
MTLF	**Montolieu**	**87.79**	**333**	*e*P	**P**	**17 13 38.8**	**-0.2**
comp=Z,7.9nm,0.9s,mb4.7							
EPF	**Esparros**	**88.69**	**334**	*e*P	**P**	**17 13 42.5**	**-0.8**
ETSF	**Etsaut**	**89.10**	**334**	*e*P	**P**	**17 13 45.4**	**+0.1**
comp=Z,11nm,0.7s,mb5.0							
SJPF	**Ste Jean**	**89.12**	**335**	*e*P	**P**	**17 13 45.2**	**-0.1**
comp=Z,15nm,1.1s,mb4.9							

SKO ***13*** *17:44:16.8, 4001N×2170E, h0km*
ATH ***13*** *17:44:17.6, 4025N×2176E, h23km±2km, MD3.2/5*
ISCJB ***13*** *17:44:18.4±0.5, 4017N±002×2180E±004, h6km±4km, Error ellipse: s-maj=4.9km s-min=3.0km az=132.4*
CSEM ***13*** *17:44:19.0±0.1, 4020N×2179E, h15km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.4km az=86.0*
THE ***13*** *17:44:19.4, 4017N×2181E, h4km, ML3.0*
ISC 13 17:44:19.3±0.4, 4016N±002×2181E±004, h11km±4km, n27, σ1§10/45, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.15**	**347**	*i* P	B	**Pg**	**17 44 22.3**	**-0.4**
KZN				*e*S	B	**Sg**	**17 44 24.9**	**-0.1**
LIT	**Litokhoron**	**0.52**	**96**	*e*P	g	**Pg**	**17 44 29.0**	**-0.5**
LIT				*e*S	g	**Sg**	**17 44 37.3**	**+0.9**
MEV	**Metsovon**	**0.59**	**230**	*e*P	g	**Pg**	**17 44 30.7**	**+0.1**
FNA	**Florina**	**0.70**	**332**	*e*P	g	**Pg**	**17 44 31.8**	**-1.2**
FNA				*e*S	g	**Sg**	**17 44 43.0**	**+0.8**
GRG	**Griva**	**0.91**	**29**	*e*P	g	**Pg**	**17 44 36.1**	**-0.8**
GRG				*e*S	g	**Sg**	**17 44 49.5**	**+0.7**
BIA	**Bitola**	**0.93**	**337**	*e*P	g	**Pg**	**17 44 35.7**	**-1.5**
BIA				*e*S	g	**Sg**	**17 44 50.4**	**+1.0**
THE	**Thessaloniki**	**1.00**	**62**	*e*P	g	**Pg**	**17 44 38.3**	**-0.2**
AGG	**Agios Georgios**	**1.21**	**160**	*e*P	g	**Pg**	**17 44 42.0**	**-0.5**
AGG				*e*S	g	**Sg**	**17 45 00.0**	**+1.9**
OHR	**Ohrid**	**1.22**	**321**	*i* Pn		**Pn**	**17 44 40.7**	**-1.6**
OHR				*e*S	g	**Sg**	**17 44 59.0**	**+0.3**
OHR	**Ohrid**	**1.22**	**321**	*i* Pn		**Pn**	**17 44 40.7**	**-1.7**
OHR				*e*S	g	**Sg**	**17 44 58.9**	**+0.2**
EVR	**Evrytania**	**1.24**	**180**	*i* PN		**Pn**	**17 44 42.4**	**-0.2**
EVR				*e*S	N	**Sn**	**17 45 01.7**	**+2.3**
PLG	**Polygyros**	**1.27**	**80**	*e*PN		**Pn**	**17 44 42.0**	**-1.0**
VAY	**Valandovo**	**1.29**	**26**	*e*Pn		**Pn**	**17 44 43.0**	**-0.4**
VAY				*e*S	g	**Sg**	**17 45 02.7**	**+1.8**
VAY	**Valandovo**	**1.29**	**26**	*e*Pn		**Pn**	**17 44 42.9**	**-0.4**
VAY				*e*S	g	**Sg**	**17 45 02.7**	**+1.8**
KNT	**Kendrikon**	**1.30**	**39**	*e*Pg		**Pg**	**17 44 43.3**	**-0.9**
XOR	**Xorichti**	**1.33**	**126**	*e*Pg		**Pg**	**17 44 43.6**	**-1.2**
XOR				*e*S	g	**Sg**	**17 45 03.1**	**+1.1**
SOH	**Sokhos**	**1.35**	**60**	*e*Pg		**Pg**	**17 44 44.1**	**-1.0**
NEO	**Neokhori**	**1.38**	**128**	*e*PN		**Pn**	**17 44 44.2**	**-0.4**
NEO				*e*SN		**Sn**	**17 45 04.4**	**+1.5**
PAIG	**Paliouri**	**1.45**	**99**	*e*Pg		**Pg**	**17 44 45.4**	**-1.8**
STIP	**Stip**	**1.56**	**10**	*e*Pn		**Pn**	**17 44 47.5**	**+0.5**
STIP				*e*S	g	**Sg**	**17 45 12.1**	**+2.7**
STIP	**Stip**	**1.56**	**10**	*e*Pn		**Pn**	**17 44 47.5**	**+0.5**
STIP				*e*S	g	**Sg**	**17 45 12.0**	**+2.6**
SRS	**Serrai**	**1.66**	**54**	*e*Pb		**Pb**	**17 44 48.4**	**-1.5**
SRS				*e*Sb		**Sb**	**17 45 11.0**	**+0.2**
SKO	**Skopje**	**1.83**	**351**	*e*Pn		**Pn**	**17 44 51.1**	**+0.4**
SKO				*e*S	g	**Sg**	**17 45 19.8**	**+1.7**
SKO	**Skopje**	**1.83**	**351**	*e*Pn		**Pn**	**17 44 51.1**	**+0.4**
SKO				*e*S	g	**Sg**	**17 45 19.8**	**+1.7**
NVR	**Nevrokopi**	**1.96**	**52**	*e*PN		**Pn**	**17 44 51.3**	**-1.2**
QSH	**Qafa e Shtames**	**1.98**	**314**	*e*Pn		**Pn**	**17 44 46.7**	**-6.1**
RLS	**Riolos of Patr**	**2.12**	**187**	*e*PN		**Pn**	**17 44 54.7**	**0.0**

IDC ***13*** *17:50:30.9±2.6, 3587N×14147E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=62.4km s-min=26.7km az=60.0*
ISCJB ***13*** *17:50:38.3±0.8, 3564N±004×14087E±007, h55km±5km, mb3.2/3, Error ellipse: s-maj=9.8km s-min=7.0km az=156.9*
JMA ***13*** *17:50:39.4±0.1, 3568N×14074E, h49km±1km, M2.7*
ISC 13 17:50:39.4±0.8, 3565N±004×14085E±007, h47km±6km, n14, σ0§73/22, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**8**	P		**Pn**	**17 50 47.1**	**+0.3**
CHOJ				*e*S		**Sn**	**17 50 52.6**	**+0.6**
JCN	**Nagara**	**0.58**	**246**	P		**Pn**	**17 50 51.4**	**0.0**
JCN				*e*S		**Sn**	**17 51 00.3**	**+0.2**
JYT	**Yasato**	**0.78**	**317**	P		**Pn**	**17 50 53.3**	**-0.8**
JYT				*e*S		**Sn**	**17 51 03.0**	**-1.8**
BSO3	**Boso 3**	**0.89**	**198**	P		**Pn**	**17 50 56.0**	**+0.4**
JHO	**Hitachi**	**0.98**	**347**	P		**Pn**	**17 50 57.0**	**+0.2**
JAG	**Ashikaga**	**1.37**	**305**	P		**Pn**	**17 51 01.2**	**-0.9**
JIM2	**Oshima 3**	**1.49**	**232**	P		**Pn**	**17 51 03.5**	**-0.2**
JIM2				*e*S		**Sn**	**17 51 21.6**	**-0.4**
JOD2	**Odawara 2**	**1.49**	**255**	P		**Pn**	**17 51 02.8**	**-0.9**
JOD2				*e*S		**Sn**	**17 51 22.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.32**	**293**	Pn		**Pn**	**17 51 15.2**	**+0.2**
2.4nm,0.3s,baz=100,slow=14,SNR=27								
MJAR				Sn		**Sn**	**17 51 42.2**	**-0.1**
2.1nm,0.3s,baz=127,slow=25,SNR=6.1								
MAT	**Matsushiro**	**2.32**	**293**	P		**Pn**	**17 51 15.8**	**+0.8**
MAT				*e*S		**Sn**	**17 51 44.0**	**+1.7**
JHJ	**Hachijo jima 2**	**2.67**	**200**	Pn		**Pn**	**17 51 19.9**	**-0.1**
14nm,0.3s,baz=270,slow=16,SNR=5.6								
JHJ				Sn		**Sn**	**17 51 50.1**	**-1.0**
11nm,0.3s,baz=58,slow=19,SNR=3.4								
MKAR	**Makanchi Array**	**44.48**	**303**	P		**P**	**17 58 46.1**	**+0.2**
0.2nm,0.6s,mb3.0,baz=

MEZF	Maizieres J'vi	23.54	103	eP	P	18 04 17.8 +0.3
	11nm,0.7s,mb4.1					
MEZF	Maizieres J'vi	23.54	103	eP	P	18 04 17.8 +0.3
	5.6nm,0.7s,mb4.1					
TCF	Toulx Ste Croi	23.71	110	eP	P	18 04 17.5 -1.5
	6.0nm,0.5s,mb4.0					
TCF	Toulx Ste Croi	23.71	110	eP	P	18 04 17.5 -1.5
	3.0nm,0.5s,mb4.0					
SSF	Saint Saulge	23.78	107	eP	P	18 04 19.2 -0.4
	16nm,1.0s,mb4.1					
SSF	Saint Saulge	23.78	107	eP	P	18 04 19.2 -0.4
	7.8nm,1.0s,mb4.1					
LOR	Lormes	23.81	106	eP	P	18 04 19.5 -0.4
	7.4nm,0.7s,mb3.9					
LOR				eR		
	449nm,21.6s					
LOR	Lormes	23.81	106	eP	P	18 04 19.5 -0.4
	3.7nm,0.7s,mb3.9					
BGF	Bois d'Agland	23.82	109	eP	P	18 04 19.1 -0.9
	16nm,1.0s,mb4.1					
BGF	Bois d'Agland	23.82	109	eP	P	18 04 19.1 -0.9
	8.0nm,1.0s,mb4.1					
AVF	Avril sur Loir	23.90	108	eP	P	18 04 19.7 -1.0
	12nm,1.0s,mb4.0					
AVF	Avril sur Loir	23.90	108	eP	P	18 04 19.7 -1.0
	5.9nm,1.0s,mb4.0					
SMF	Signal de Mont	24.24	107	eP	P	18 04 23.0 -0.8
	60nm,1.6s,mb4.5					
SMF	Signal de Mont	24.24	107	eP	P	18 04 23.0 -0.8
	30nm,1.6s,mb4.5					
HAU	Haudompre	24.52	102	eP	P	18 04 27.6 +1.2
HAU				eR		
	836nm,21.2s					
SJPF	Ste Jean	24.57	120	eP	P	18 04 22.5 -4.3
CDF	Champ du Feu	24.71	100	eP	P	18 04 30.1 +2.0
	12nm,1.0s,mb4.0					
HINF	Hinteralfeld	24.90	102	eP	P	18 04 31.5 +1.7
MOX	Moxa	25.46	92	eP	P	18 04 40.2 +5.2
	28nm,1.7s,mb4.5					
CLL	Collm	25.77	90	e(P)	P	18 04 40.0 +2.3
GRA1	Grafenberg Arr	25.86	94	eP	P	18 04 42.9 +4.4
	12nm,1.4s,mb4.2					
GRF	Grafenberg Arr	25.86	94	eP	P	18 04 42.9 +4.4
	comp=Z,12nm,1.4s,mb4.2					
ESDC	Sonseca Array	26.27	128	P	P	18 04 34.6 -7.7
	comp=Z,1.2nm,0.7s,mb3.5,baz=330,slow=10,SNR=4.0					
LPL	La Plagne	26.45	106	eP	P	18 04 45.1 +1.2
LPG	La Plagne	26.47	106	eP	P	18 04 45.0 +0.9
	comp=Z,5.2nm,0.8s,mb3.8					
LPG	La Plagne	26.47	106	eP	P	18 04 45.0 +0.9
	comp=Z,2.6nm,0.8s,mb3.8					
SMRF	Simiane la Rot	27.03	109	eP	P	18 04 48.9 -0.2
FINES	FINESS Array B	27.22	62	P	P	18 04 47.9 -2.9
	comp=Z,2.1nm,1.0s,mb3.6,baz=281,slow=7.1,SNR=2.6					
PGF	Pioggiola	29.75	107	eP	P	18 05 14.0 +0.7
	comp=Z,10nm,0.9s,mb4.2					
PGF	Pioggiola	29.75	107	eP	P	18 05 14.0 +0.7
	comp=Z,5.2nm,0.9s,mb4.2					
YKA	Yellowknife Ar	37.86	311	P	P	18 06 23.6 -0.1
	comp=Z,1.3nm,0.8s,mb3.7,baz=56,slow=8.9,SNR=6.0					
YKA	Yellowknife Ar	37.86	311	P	P	18 06 23.6 -0.2
ILAR	Eielson Array	46.83	328	P	P	18 07 37.4 +0.6
	comp=Z,0.4nm,0.9s,mb3.3,baz=5.7,slow=9.1,SNR=3.0					
ILAR	Eielson Array	46.83	328	P	P	18 07 37.3 +0.5
AKTK	Aktyubinsk	47.95	59	P	P	18 07 41.2 -4.3
AKTO	Aktyubinsk	47.95	59	P	P	18 07 41.2 -4.3
	comp=Z,0.9nm,0.6s,mb4.0,baz=332,slow=7.3,SNR=3.5					
PDAR	Pinedale Array	48.97	287	P	P	18 07 53.6 +0.2
	comp=Z,1.0nm,0.9s,mb3.9,baz=53,slow=7.4,SNR=6.1					
BVAR	Borovoye Array	51.09	50	P	P	18 08 06.0 -3.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=324,slow=5.8,SNR=5.8					
TORD	Torodi Ar. Bea	52.38	139	P	P	18 08 11.0 -8.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=336,slow=9.1,SNR=3.0					
KURK	Kurchatov	56.02	46	eP	P	18 08 40.8 -4.9
	comp=Z,7.5nm,0.9s,mb4.7					
KURK				e		18 08 52.9
SDV	Santo Domingo	58.92	228	eP	P	18 09 06.9 +0.8
	comp=Z,11nm,0.7s,mb5.0					
MKAR	Makanchi Array	60.63	46	P	P	18 09 14.3 -3.5
	comp=Z,0.9nm,0.5s,mb4.2,baz=344,slow=5.0,SNR=19					
SONM	Songino Array	67.21	30	P	P	18 09 58.4 -2.8
	comp=Z,0.3nm,0.7s,mb3.4,baz=348,slow=6.1,SNR=3.2					
GTA	Gaotai	73.12	38	eP	P	18 10 45.0 +7.6
GTA				AMB	AMB	
	comp=Z,4.0nm,1.5s,mb4.1					
LZH	Lanzhou	77.42	36	eP	P	18 11 10.0 +7.9
LZH				AP	pP	18 11 23.1 +18
LZH				XP	sP	18 11 28.3 +22
LZH				AMB	AMB	
	comp=Z,23nm,1.5s,mb4.9					
ASAR	Alice Springs	142.34	23	PKhKP		18 18 30.9
	comp=Z,0.4nm,0.9s,baz=343,slow=3.3,SNR=4.2					

SZGRF ***13*** *17:59:24.2, 59.61N×28.82W, h33km, mb4.5, Reykjanes Ridge*
ISCJB ***13*** *17:59:29.3±0.7, 59.55N±0.09×30.2W±0.2, h10km, mb3.9/10, Error ellipse: s-maj=14.2km s-min=10.6km az=118.2*
IDC ***13*** *17:59:29.4±1.0, 59.49N×30.20W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/27, mbtmp3.9/11, ML4.0/2, Error ellipse: s-maj=25.6km s-min=18.7km az=18.0*
NEIC ***13*** *17:59:31.4±0.8, 59.57N×30.26W, h10km, mb4.5/1, Error ellipse: s-maj=19.6km s-min=11.6km az=184.0*
ISC 13 17:59:30.6±0.7, 59.49N±0.09×30.3W±0.2, h10km, n15, σ0.9 4/15, mb3.9/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.73	35	Pn	Pn	18 01 10.3	+0.9
	4.5nm,0.3s,baz=258,slow=7.0,SNR=4.0						
BORG				Sn	Sn	18 02 26.1	0.0
	0.4nm,0.3s,baz=301,slow=19,SNR=3.4						
FRB	Frobisher Bay	18.49	300	P	Pn	18 03 46.8	0.0
	0.3nm,0.3s,baz=95,slow=16,SNR=5.0						
ESDC	Sonseca Array	25.85	128	P	P	18 05 04.0	+1.8
	0.2nm,0.3s,mb3.1,baz=329,slow=9.4,SNR=4.1						
FINES	FINESS Array B	27.11	61	P	P	18 05 14.1	+0.5
	4.1nm,1.0s,mb3.9,baz=260,slow=12,SNR=4.1						
FINES	FINESS Array B	27.11	61	P	P	18 05 14.1	+0.5
YKA	Yellowknife Ar	38.28	312	P	P	18 06 51.6	+0.6
	0.8nm,0.6s,mb3.6,baz=56,slow=9.2,SNR=4.8						
ILAR	Eielson Array	47.24	329	P	P	18 08 03.0	-0.7
	0.6nm,0.8s,mb3.5,baz=40,slow=6.9,SNR=4.6						
PDAR	Pinedale Array	49.34	287	P	P	18 08 20.6	+0.6
	1.5nm,0.8s,mb4.1,baz=53,slow=7.4,SNR=6.3						
BVAR	Borovoye Array	51.06	50	P	P	18 08 31.3	-1.7
	1.1nm,0.7s,mb3.9,baz=315,slow=6.3,SNR=5.2						
TORD	Torodi Ar. Bea	51.96	139	P	P	18 08 38.2	-1.5
	0.6nm,0.5s,mb3.8,baz=334,slow=8.3,SNR=4.2						
KURK	Kurchatov	56.02	47	eP	P	18 09 09.0	-0.3
	4.1nm,0.8s,mb4.5						
MKAR	Makanchi Array	60.63	47	P	P	18 09 42.2	+0.6
	2.5nm,0.7s,mb4.5,baz=347,slow=5.0,SNR=9.5						
MKAR	Makanchi Array	60.63	47	P	P	18 09 42.2	+0.6
SONM	Songino Array	67.32	30	P	P	18 10 24.7	-0.9
	0.5nm,0.7s,mb3.6,baz=329,slow=5.7,SNR=4.1						
ASAR	Alice Springs	142.50	24	PKhKP		18 18 58.9	
	0.4nm,0.8s,baz=333,slow=2.3,SNR=3.6						

IDC ***13*** *18:03:33.2±1.6, 70.1S×128.78E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=126.4km s-min=28.9km az=69.0*
ISCJB ***13*** *18:03:36.0±1.1, 7.1S±0.1×128.8E±0.3, h33km, mb3.6/2, Error ellipse: s-maj=40.8km s-min=13.2km az=146.6*
ISC 13 18:03:38.5±1.1, 70S±0.1×129.8E±0.3, h35km, n6, σ0.9 2/6, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.47	196	eP	Pn	18 06 19.8	+0.1
	3.1nm,0.6s						
FITZ				eS	Sx	18 08 12.6	
WRA	Warramunga Arr	13.87	158	Pn	Pn	18 06 51.7	-0.8
	0.4nm,0.3s,baz=342,slow=13,SNR=31						
WRA				Sn	Sx	18 09 13.5	
	1.4nm,0.3s,baz=332,slow=22,SNR=13						
WB2	Warramunga Arr	13.87	158	eP	Pn	18 06 52.8	+0.2
WB2				e		18 07 00.2	
WB2				eS	Sx	18 09 13.1	
ASAR	Alice Springs	17.22	164	P	Pn	18 07 36.8	+0.5
	0.9nm,0.3s,baz=334,slow=9.4,SNR=170						
ASAR				S	Sx	18 10 32.1	
	0.2nm,0.3s,baz=343,slow=25,SNR=5.3						
SONM	Songino Array	58.14	342	P	P	18 13 29.5	+0.8
	0.3nm,0.7s,mb3.4,baz=166,slow=8.7,SNR=3.6						
MKAR	Makanchi Array	67.67	327	P	P	18 14 31.1	-0.9
	0.5nm,0.5s,mb3.8,baz=120,slow=7.6,SNR=18						

ISCJB ***13*** *18:06:30.4±0.4, 59.53N±0.05×30.44W±0.09, h10km, mb4.3/44, Error ellipse: s-maj=8.3km s-min=5.5km az=62.6*
IDC ***13*** *18:06:30.0±0.7, 59.34N×30.44W, h0km, mb3.9/17, mb1 4.1/21, mb1mx4.0/30, mbtmp4.0/21, ML3.8/4, Error ellipse: s-maj=21.1km s-min=12.3km az=12.0*
NEIC ***13*** *18:06:31.5±0.4, 59.34N×30.38W, h10km, mb4.4/7, Error ellipse: s-maj=11.3km s-min=5.8km az=191.0*
BJI ***13*** *18:06:31.5, 59.30N×30.40W, h10km, mb4.9*
CSEM ***13*** *18:06:33.6±0.1, 59.33N×30.67W, h40km, mb4.5/22, Error ellipse: s-maj=4.7km s-min=1.9km az=23.0*
ISC 13 18:06:31.7±0.4, 59.47N±0.05×30.44W±0.09, h10km, n109, σ1.9 00/109, mb4.3/44, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.80	35	Pn	Pn	18 08 12.0	+0.4
	3.5nm,0.3s,baz=210,slow=7.7,SNR=7.7						
BORG				Sn	Sn	18 09 28.4	-0.8
	baz=260,slow=23,SNR=1.6						
SFJD	Kangerlussuaq	11.77	318	Pn	Pn	18 09 21.8	+2.2
	0.6nm,0.3s,baz=100,slow=12,SNR=3.0						
SFJD	Kangerlussuaq	11.77	318	Pn	Pn	18 09 21.8	+2.2
EKA	Eskdalemuir Ar	15.22	94	Pn	Pn	18 10 05.3	-1.4
	0.3nm,0.3s,baz=298,slow=14,SNR=4.0						
FRB	Frobisher Bay	18.41	300	P	Pn	18 10 47.4	+0.3
	0.1nm,0.3s,baz=85,slow=12,SNR=6.6						
FRB	Frobisher Bay	18.41	300	P	Pn	18 10 47.3	+0.2
ROSF	Rostrenen	19.35	113	eP	Pn	18 10 58.3	-0.1
	166nm,1.6s						
ROSF	Rostrenen	19.35	113	eP	Pn	18 10 58.3	-0.1
	83nm,1.6s						
QUIF	Quistinic	19.70	114	eP	Pn	18 11 02.2	-0.3
	153nm,1.5s						
QUIF	Quistinic	19.70	114	eP	Pn	18 11 02.2	-0.3
	76nm,1.5s						
SGMF	Saint Gilles	19.74	112	eP	Pn	18 11 02.3	-0.8
	140nm,1.6s						
SGMF	Saint Gilles	19.74	112	eP	Pn	18 11 02.3	-0.8
	70nm,1.6s						
SCHQ	Schefferville	20.10	273	P	P	18 11 05.5	0.0
	5.6nm,0.8s,baz=233,slow=19,SNR=4.8						
SCHQ	Schefferville	20.10	273	P	P	18 11 05.4	-0.1
FLN	La Foliniere	20.38	108	eP	P	18 11 10.2	+1.6
	88nm,1.2s						
FLN	La Foliniere	20.38	108	eP	P	18 11 10.2	+1.6
	44nm,1.2s						
GRR	Gorron	20.46	110	eP	P	18 11 11.0	+1.6
	56nm,1.1s						
GRR	Gorron	20.46	110	eP	P	18 11 11.0	+1.6
	28nm,1.1s						
NOA	NORSAR Array B	20.48	68	P	P	18 11 09.6	-0.1
	1.7nm,1.0s,baz=281,slow=10,SNR=2.6						
LDF	La Druitiere	20.67	108	eP	P	18 11 13.7	+2.0
	106nm,1.4s						
LDF	La Druitiere	20.67	108	eP	P	18 11 13.7	+2.0
	53nm,1.4s						
MFF	Saint Martin d	22.07	112	eP	P	18 11 26.4	-0.3
	96nm,1.7s,mb4.7						
MFF	Saint Martin d	22.07	112	eP	P	18 11 26.4	-0.3
	48nm,1.7s,mb4.7						
GIVF	Givet	22.14	99	eP	P	18 11 28.3	+0.8
	72nm,1.1s,mb4.7						
GIVF	Givet	22.14	99	eP	P	18 11 28.3	+0.8
	36nm,1.1s,mb4.7						
MEZF	Maizieres J'vi	23.28	102	eP	P	18 11 40.1	+0.5
	57nm,1.0s,mb4.7						
MEZF	Maizieres J'vi	23.28	102	eP	P	18 11 40.1	+0.5
	29nm,1.0s,mb4.7						
TCF	Toulx Ste Croi	23.42	110	eP	P	18 11 40.8	-0.3
SSF	Saint Saulge	23.50	107	eP	P	18 11 41.6	-0.3
	27nm,1.0s,mb4.3						
SSF	Saint Saulge	23.50	107	eP	P	18 11 41.6	-0.3
	13nm,1.0s,mb4.3						
LOR	Lormes	23.53	106	eP	P	18 11 41.6	-0.6
	29nm,1.2s,mb4.3						
LOR	Lormes	23.53	106	eP	P	18 11 41.6	-0.6
	14nm,1.2s,mb4.3						
BGF	Bois d'Agland	23.53	108	eP	P	18 11 42.2	0.0
AVF	Avril sur Loir	23.61	107	eP	P	18 11 42.8	-0.2
	31nm,1.1s,mb4.4						
AVF	Avril sur Loir	23.61	107	eP	P	18 11 42.8	-0.2
	16nm,1.1s,mb4.4						
SMF	Signal de Mont	23.96	107	eP	P	18 11 46.1	0.0
	41nm,1.1s,mb4.5						
SMF	Signal de Mont	23.96	107	eP	P	18 11 46.1	0.0
	21nm,1.1s,mb4.5						
SJPF	Ste Jean	24.24	119	eP	P	18 11 47.0	-1.7
	34nm,1.3s,mb4.3						
SJPF	Ste Jean	24.24	119	eP	P	18 11 47.0	-1.7
	17nm,1.3s,mb4.3						
HAU	Haudompre	24.26	102	eP	P	18 11 49.1	+0.2
	52nm,1.4s,mb4.5						
HAU	Haudompre	24.26	102	eP	P	18 11 49.1	+0.2
	26nm,1.4s,mb4.5						
CDF	Champ du Feu	24.46	100	eP	P	18 11 51.0	+0.3
	36nm,1.2s,mb4.4						
CDF	Champ du Feu	24.46	100	eP	P	18 11 51.0	+0.3
	18nm,1.2s,mb4.4						
HINF	Hinteralfeld	24.64	102	eP	P	18 11 52.9	+0.6
ETSF	Etsaut	24.70	119	eP	P	18 11 51.1	-1.8
	57nm,1.7s,mb4.5						
ETSF	Etsaut	24.70	119	eP	P	18 11 51.1	-1.8
	29nm,1.7s,mb4.5						
EPF	Esparros	25.00	117	eP	P	18 11 55.0	-0.7
	29nm,1.2s,mb4.4						
EPF	Esparros	25.00	117	eP	P	18 11 55.0	-0.7
	14nm,1.2s,mb4.4						
CABF	La Chapelle	25.08	105	eP	P	18 11 57.1	+0.7
	100nm,1.8s,mb4.8						
CABF	La Chapelle	25.08	105	eP	P	18 11 57.1	+0.7
	50nm,1.8s,mb4.8						
MOX	Moxa	25.26	92	eP	P	18 11 56.2	-1.8
MOX				e		18 12 10.3	
	41nm,1.7s						
MOX	Moxa	25.26	92	eP	P	18 11 56.2	-1.8
	41nm,1.7s,mb4.7						
MOX				e		18 12 10.3	
CLL	Collm	25.57	89	eP	P	18 12 04.0	+3.1
	comp=Z,11nm,1.4s,mb4.2						
CLL				i x	x	18 12 14.8	
MTLF	Montolieu	25.62	114	eP	P	18 12 02.3	+1.0
	comp=Z,26nm,1.2s,mb4.3						
MTLF	Montolieu	25.62	114	eP	P	18 12 02.3	+1.0
	comp=Z,13nm,1.2s,mb4.3						
GRA1	Grafenberg Arr	25.64	94	eP	P	18 11 59.9	-1.5
	comp=Z,11nm,1.4s,mb4.2						
GRA1				e		18 12 15.5	
GRF	Grafenberg Arr	25.64	94	eP	P	18 11 59.9	-1.5
	comp=Z,11nm,1.4s,mb4.2						
VIVF	Saint-Julien-l	25.65	109	eP	P	18 12 01.7	+0.2
	comp=Z,37nm,1.4s,mb4.4						
VIVF	Saint-Julien-l	25.65	109	eP	P	18 12 01.7	+0.2
	comp=Z,18nm,1.4s,mb4.4						
LASF	Ste Croix	25.84	111	eP	P	18 12 02.9	-0.3
	comp=Z,45nm,1.4s,mb4.5						
LASF	Ste Croix	25.84	111	eP	P	18 12 02.9	-0.3
	comp=Z,22nm,1.4s,mb4.5						
ESDC	Sonseca Array	25.91	128	P	P	18 12 03.8	-0.1
	comp=Z,1.6nm,0.7s,mb3.6,baz=326,slow=9.4,SNR=5.6						
NKC	Novy Kostel	25.93	92	eP	P	18 12 07.1	+3.0
NKC				ex	x	18 12 18.9	
LPL	La Plagne	26.17	106	eP	P	18 12 07.2	+0.9
ORIF	Oris-en-Rattie	26.19	108	eP	P	18 12 07.0	+0.6
	comp=Z,22nm,1.2s,mb4.3						
ORIF	Oris-en-Rattie	26.19	108	eP	P	18 12 07.0	+0.6
	comp=Z,11nm,1.2s,mb4.3						
LPG	La Plagne	26.20	106	eP	P	18 12 07.5	+1.0
SMRF	Simiane la Rot	26.73	109	eP	P	18 12 11.8	+0.5
	comp=Z,96nm,1.8s,mb4.7						
SMRF	Simiane la Rot	26.73	109	eP	P	18 12 11.8	+0.5
	comp=Z,48nm,1.8s,mb4.7						
MBDF	Montbardon	26.76	107	eP	P	18 12 12.2	+0.6
	comp=Z,43nm,1.5s,mb4.5						
MBDF	Montbardon	26.76	107	eP	P	18 12 12.2	+0.6
	comp=Z,21nm,1.5s,mb4.5						
KHC	Kasperske Hory	27.19	93	eP	P	18 12 15.6	+0.1
KHC				ex	x	18 12 31.0	
FINES	FINESS Array B	27.20	61	P	P	18 12 16.7	+1.1
	comp=Z,3.3nm,0.9s,mb3.9,baz=297,slow=4.3,SNR=6.7						
GERES	GERESS Array B	27.43	93	P	P	18 12 18.2	+0.6
	comp=Z,0.3nm,0.6s,mb3.0,baz=286,slow=35,SNR=2.4						
FRF	La Foret Royal	27.56	109	eP	P	18 12 19.4	+0.6
	comp=Z,42nm,1.4s,mb4.6						
FRF	La Foret Royal	27.56	109	eP	P	18 12 19.4	+0.6
	comp=Z,21nm,1.4s,mb4.6						
UPC	Upice	27.59	88	eP	P	18 12 22.2	+3.2
UPC				ex	x	18 12 33.0	
DPC	Dobruska-Polom	27.84	88	eP	P	18 12 21.8	+0.5
DPC				ex	x	18 12 34.4	
STHS	Stebnicka Huta	30.92	86	epP	pP	18 12 51.7	0.0
STHS				e		18 13 07.4	
KOLS	Kolonicke sedl	31.75	86	e	P	18 13 01.4	+5.5
KOLS				e		18 13 11.6	
AKASG	Malin Array Be	34.15	78	P	P	18 13 15.3	-1.6
	comp=Z,2.5nm,0.8s,mb4.2,baz=298,slow=9.0,SNR=4.7						
AKASG	Malin Array Be	34.15	78	P	P	18 13 15.3	-1.6
ULM	Lac du Bonnet	37.30	286	P	P	18 13 44.0	+0.1
	comp=Z,2.7nm,0.9s,mb4.0,baz=104,slow=1.3,SNR=4.8						
YKA	Yellowknife Ar	38.22	312	P	P	18 13 51.4	-0.3
	comp=Z,1.7nm,0.7s,mb3.9,baz=55,slow=9.0,SNR=23						
YKA	Yellowknife Ar	38.22	312	P	P	18 13 51.4	-0.3
YKA	Yellowknife Ar	38.22	312	P	P	18 13 51.4	-0.3
ARU	Arti	43.96	53	eP	P	18 14 38.4	-0.5
	comp=Z,8.7nm,1.2s,mb4.4						
ARU	Arti	43.96	53	eP	P	18 14 38.4	-0.6
	comp=Z,8.7nm,1.2s,mb4.4						
BRTR	Keskin Array B	43.99	87	P	P	18 14 39.9	+0.7
	comp=Z,0.7nm,0.8s,mb3.4,baz=304,slow=4.5,SNR=3.4						
BRTR	Keskin Array B	43.99	87	P	P	18 14 39.8	+0.6
ILAR	Eielson Array	47.20	328	P	P	18 15 04.8	+0.2
	comp=Z,0.6nm,1.1s,mb3.4,baz=207,slow=3.2,SNR=3.2						
ILAR	Eielson Array	47.20	328	P	P	18 15 04.8	+0.2
AKTK	Aktyubinsk	47.95	59	P	P	18 15 09.7	-0.7
AKTK	Aktyubinsk	47.95	59	P	P	18 15 09.7	-0.7
AKTO	Aktyubinsk	47.95	59	P	P	18 15 09.7	-0.7
	comp=Z,3.4nm,1.0s,mb4.3,baz=308,slow=7.3,SNR=7.3						
PDAR	Pinedale Array	49.25	287	P	P	18 15 19.6	-0.8
	comp=Z,0.8nm,0.8s,mb3.8,baz=63,slow=6.6,SNR=5.0						
PDAR	Pinedale Array	49.25	287	P	P	18 15 19.6	-0.8
GNI	Garni	49.29	78	P	P	18 15 20.6	-0.1
	comp=Z,1.8nm,0.4s,mb4.5,baz=191,slow=18,SNR=3.1						
GNI	Garni	49.29	78	P	P	18 15 20.6	-0.1
BRVK	Borovoye	51.09	50	eP	P	18 15 33.4	-0.9
	comp=Z,3.7nm,1.3s,mb4.2						
BVAR	Borovoye Array	51.15	50	P	P	18 15 31.9	-2.9
	comp=Z,2.0nm,0.8s,mb4.1,baz=333,slow=3.3,SNR=3.4						
TORD	Torodi Ar. Bea	52.01	139	P	P	18 15 39.5	-1.8
	comp=Z,1.8nm,1.1s,mb3.9,baz=336,slow=8.1,SNR=6.2						
KURK	Kurchatov	56.10	46	eP	P	18 16 10.8	-0.4
	comp=Z,5.4nm,0.8s,mb4.6						
MKAR	Makanchi Array	60.72	47	P	P	18 16 42.0	-1.4
	comp=Z,3.8nm,0.8s,mb4.6,baz=331,slow=5.6,SNR=34						
MKAR	Makanchi Array	60.72	47	P	P	18 16 42.0	-1.4
SONM	Songino Array	67.39	30	P	P	18 17 28.1	+0.9
	comp=Z,0.8nm,1.0s,mb3.7,baz=316,slow=6.9,SNR=5.3						
GTA	Gaotai	73.26	38	eP	P	18 18 03.0	-0.1
GTA				AP	pP	18 18 12.8	+6.4
GTA				XP	sP	18 18 17.3	+10
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
BDFB	Brasilia	76.19	197	P	P	18 18 18.9	-1.2
	comp=Z,1.6nm,0.4s,mb4.3,baz=51,slow=1.3,SNR=3.2						
LZH	Lanzhou	77.56	36	eP	P	18 18 28.8	+1.0
LZH				AP	pP	18 18 42.1	+11
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						

SZGRF ***13*** *18:06:43.3, 59.33N×29.16W, h33km, mb4.4, Reykjanes Ridge*
ISCJB ***13*** *18:06:45.6±1.1, 59.6N±0.1×30.1W±0.3, h10km, mb4.1/5, Error ellipse: s-maj=21.7km s-min=17.7km az=103.1*
IDC ***13*** *18:06:46.0±1.3, 59.49N×30.04W, h0km, mb4.2/4, mb1 4.3/6, mb1mx3.9/26, mbtmp4.2/6, ML3.9/2, Error ellipse: s-maj=43.1km s-min=23.0km az=49.0*
ISC 13 18:06:47.2±1.1, 59.5N±0.1×30.1W±0.3, h10km, n8, σ1.9 13/8, mb4.1/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	6.65	34	Pn	Pn	18 08 23.8	-1.1
	3.3nm,0.3s,baz=205,slow=6.2,SNR=7.1						
EKA	Eskdalemuir Ar	15.06	94	Pn	Pn	18 10 19.8	-0.2
	0.2nm,0.3s,baz=282,slow=7.7,SNR=4.2						
GRF	Grafenberg Arr	25.48	94	e	P	18 12 15.5	+0.1
ESDC	Sonseca Array	25.83	129	P	P	18 12 19.8	+1.2
	9.2nm,0.9s,mb4.3,baz=328,slow=9.5,SNR=15						
BRG	Berggiesshubel	26.14	90	eP	P	18 12 23.6	+2.1
	3.4nm,1.0s,mb3.8						
YKA	Yellowknife Ar	38.30	312	P	P	18 14 08.4	+0.7
	2.0nm,0.8s,mb3.9,baz=55,slow=8.7,SNR=7.7						
TORD	Torodi Ar. Bea	51.96	139	P	P	18 15 55.1	-1.2
	1.9nm,0.7s,mb4.2,baz=336,slow=8.1,SNR=7.6						
DBIC	Dimbok

SFJD Pn **Pn** **18 11 37.8 +2.3**
SFJD *i* 18 11 43.0
SFJD Sn **Sn** **18 13 45.3 -1.9**
SFJD *e*S **Sn** **18 13 47.8 +0.7**
SUMG Summit 13.53 349 P **Pn** **18 12 02.5 +3.3**
comp=Z,43nm,0.9s
SUMG *e* 18 12 07.6
DCN Croghan 14.11 106 *e*P **Pn** **18 12 14.0 +6.8**
DLF Lyons Farm 14.50 105 *e*P **Pn** **18 12 14.0 +1.4**
JMIC Jan Mayen 14.57 29 LR LR 18 15 27.8
comp=Z,89nm,21.7s,baz=234,slow=27
EKA Eskdalemuir Ar 15.15 94 Pn **Pn** **18 12 19.7 -1.6**
comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=3.7
FRB Frobisher Bay 18.46 300 P **Pn** **18 13 03.1 0.0**
comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=5.8
FRB LR LR 18 19 12.6
comp=Z,6µm,21.6s,baz=94,slow=34
ROSF Rostrenen 19.30 113 *e*P **Pn** **18 13 12.3 -1.0**
comp=Z,88nm,1.3s
ROSF Rostrenen 19.30 113 *e*P **Pn** **18 13 12.3 -1.0**
comp=Z,44nm,1.3s
QUIF Quistinic 19.65 114 *e*P **Pn** **18 13 15.8 -1.7**
comp=Z,137nm,1.4s
QUIF Quistinic 19.65 114 *e*P **Pn** **18 13 15.8 -1.7**
comp=Z,69nm,1.4s
SGMF Saint Gilles 19.69 113 *e*P **Pn** **18 13 16.8 -1.2**
comp=Z,222nm,1.5s
SGMF Saint Gilles 19.69 113 *e*P **Pn** **18 13 16.8 -1.2**
comp=Z,111nm,1.5s
KONO Kongsberg 20.01 72 *i* P **P** **18 13 23.5 +3.5**
KONO Kongsberg 20.01 72 *e*P **P** **18 13 24.3 +4.3**
comp=Z,66nm,1.3s
KONO *e* 18 13 28.0
SCHQ Schefferville 20.17 273 P **P** **18 13 20.9 -0.9**
comp=Z,9.3nm,0.7s,baz=82,slow=5.7,SNR=12
FLN La Foliniere 20.33 109 *e*P **P** **18 13 24.9 +1.4**
comp=Z,134nm,1.0s
FLN *e*R
comp=Z,3µm,21.9s
FLN La Foliniere 20.33 109 *e*P **P** **18 13 24.9 +1.4**
comp=Z,67nm,1.0s
GRR Gorron 20.40 110 *e*P **P** **18 13 25.8 +1.4**
comp=Z,246nm,1.3s
GRR Gorron 20.40 110 *e*P **P** **18 13 25.8 +1.4**
comp=Z,123nm,1.3s
NB2 NORSAR Subarra 20.41 68 P **P** **18 13 26.3 +1.9**
comp=Z,14nm,1.0s,baz=283,slow=10
NOA NORSAR Array B 20.41 68 P **P** **18 13 24.9 +0.5**
comp=Z,2.2nm,0.8s,baz=188,slow=19,SNR=4.6
NOA NORSAR Array B 20.41 68 P **P** **18 13 24.9 +0.5**
LDF La Druitiere 20.62 109 *e*P **P** **18 13 27.6 +0.9**
comp=Z,374nm,1.8s
LDF La Druitiere 20.62 109 *e*P **P** **18 13 27.6 +0.9**
comp=Z,187nm,1.8s
MUD Monsted U'grnd 20.94 81 *i* P **P** **18 13 38.2 +8.0**
comp=Z,34nm,0.8s
MUD *e*R
comp=Z,1µm,20.0s
MUD Monsted U'grnd 20.94 81 *i* P **P** **18 13 38.2 +8.0**
MUD pmax pmax
comp=Z,34nm,0.8s
MUD MLR MLR
comp=Z,1µm,20.0s,MS4.3
UCC Uccle 21.41 99 ⇑P **P** **18 13 34.9 -0.3**
UCC E 18 13 36.4
UCC AP 18 13 37.2
UCC XP sP 18 13 45.6 +6.2
WIT Witteveen 21.43 92 *e*P **P** **18 13 40.1 +4.7**
SNF Seneffe 21.55 99 AP pP 18 13 38.7 -0.9
SNF XP sP 18 13 44.1 +3.2
SNF E 18 13 47.5
SNF E 18 13 50.5
HFS Hagfors 21.83 69 P **P** **18 13 41.6 +1.8**
comp=Z,8.0nm,0.9s,mb4.2,baz=270,slow=5.9,SNR=8.5
HFS LR LR 18 20 45.5
comp=Z,1µm,20.6s,MS4.3,baz=284,slow=33
WTSB Winterswijk 21.96 94 *e*P **P** **18 13 41.5 +0.3**
comp=Z,78nm,2.4s,mb4.7
DOU Dourbes 21.96 100 ⇑P **P** **18 13 40.5 -0.7**
DOU AP 18 13 43.4
DOU XP sP 18 13 44.4 -0.9
DOU E 18 13 48.2
DOU PNPN 18 14 02.2
DOU Dourbes 21.96 100 P **P** **18 13 40.4 -0.8**
MFF Saint Martin d 22.02 112 *e*P **P** **18 13 41.6 -0.2**
comp=Z,101nm,1.3s,mb4.8
MFF Saint Martin d 22.02 112 *e*P **P** **18 13 41.6 -0.2**
comp=Z,50nm,1.3s,mb4.8
GIVF Givet 22.07 100 *e*P **P** **18 13 42.3 -0.1**
comp=Z,106nm,1.0s,mb4.9
GIVF Givet 22.07 100 *e*P **P** **18 13 42.3 -0.1**
comp=Z,53nm,1.0s,mb4.9
BEBN Eben Emael 22.08 97 P **P** **18 13 41.1 -1.4**
BEBN E 18 13 47.3
BEBN E 18 13 49.2
BEBN Eben Emael 22.08 97 P **P** **18 13 41.0 -1.4**
HGN Heimansgroeve 22.23 97 *e*P **P** **18 13 43.8 -0.2**
comp=Z,61nm,2.3s,mb4.6
EARI Arriondas 22.32 125 P **P** **18 13 47.7 +2.7**
SNR=7.9
MEM Membach 22.36 97 AP pP 18 13 46.6 -1.7
MEM XP sP 18 13 52.8 +3.2
MEM Membach 22.36 97 P **P** **18 13 46.5 +1.1**
ECAL Calabor 22.84 130 P **P** **18 13 53.2 +2.6**
SNR=7.9
WLF Walferdange 23.02 99 P **P** **18 13 49.5 -2.9**
comp=Z,29nm,1.0s,mb4.7
WLF Walferdange 23.02 99 P **P** **18 13 49.5 -2.9**
comp=Z,29nm,1.0s,mb4.7
MEZF Maizieres J'vi 23.22 103 *e*P **P** **18 13 54.4 -0.1**
TCF Toulx Ste Croi 23.36 110 *e*P **P** **18 13 55.1 -1.0**
comp=Z,73nm,1.2s,mb4.7
TCF Toulx Ste Croi 23.36 110 *e*P **P** **18 13 55.1 -1.0**
comp=Z,36nm,1.2s,mb4.7
SSF Saint Saulge 23.44 107 *e*P **P** **18 13 56.3 -0.6**
comp=Z,131nm,1.2s,mb5.0
SSF Saint Saulge 23.44 107 *e*P **P** **18 13 56.3 -0.6**
comp=Z,65nm,1.2s,mb5.0
RUP Ruppelstein 23.45 98 *e*P **P** **18 13 57.8 +0.8**
LOR Lormes 23.47 106 *e*P **P** **18 13 56.5 -0.7**
comp=Z,132nm,1.4s,mb4.9
LOR *e*R
comp=Z,3µm,22.9s
LOR Lormes 23.47 106 *e*P **P** **18 13 56.5 -0.7**
comp=Z,66nm,1.4s,mb4.9
BGF Bois d'Agland 23.48 109 *e*P **P** **18 13 56.4 -0.8**
comp=Z,42nm,0.7s,mb4.7
BGF Bois d'Agland 23.48 109 *e*P **P** **18 13 56.4 -0.8**
comp=Z,21nm,0.7s,mb4.7
AVF Avril sur Loir 23.56 108 *e*P **P** **18 13 57.2 -0.9**
comp=Z,96nm,1.1s,mb4.8
AVF Avril sur Loir 23.56 108 *e*P **P** **18 13 57.2 -0.9**
comp=Z,48nm,1.1s,mb4.8
ABH Alteburg 23.59 97 *e*P **P** **18 14 01.1 +2.8**
LFF La Frestale 23.67 114 *e*P **P** **18 13 57.8 -1.3**
comp=Z,40nm,0.9s,mb4.5
LFF La Frestale 23.67 114 *e*P **P** **18 13 57.8 -1.3**
comp=Z,20nm,0.9s,mb4.5
RJF Les Rejaudoux 23.76 113 *e*P **P** **18 13 58.9 -1.0**
comp=Z,33nm,1.1s,mb4.4
RJF *e*R
comp=Z,3µm,18.9s
RJF Les Rejaudoux 23.76 113 *e*P **P** **18 13 58.9 -1.0**
comp=Z,16nm,1.1s,mb4.4
THEF They Montfort 23.87 102 *e*P **P** **18 14 05.2 +4.3**
SMF Signal de Mont 23.90 107 *e*P **P** **18 14 00.4 -0.8**
comp=Z,54nm,1.0s,mb4.6
SMF Signal de Mont 23.90 107 *e*P **P** **18 14 00.4 -0.8**
comp=Z,27nm,1.0s,mb4.6
AGO Saint Agoulin 23.98 109 *e*P **P** **18 14 02.4 +0.5**
PYM Petit Puy Mans 24.14 110 *e*P **P** **18 14 04.6 +1.2**
SJPF Ste Jean 24.19 120 *e*P **P** **18 14 02.5 -1.3**
comp=Z,54nm,1.3s,mb4.5
SJPF Ste Jean 24.19 120 *e*P **P** **18 14 02.5 -1.3**
comp=Z,27nm,1.3s,mb4.5
HAU Haudompre 24.20 102 *e*P **P** **18 14 04.0 +0.1**
comp=Z,54nm,1.1s,mb4.6
HAU *e*R
comp=Z,5µm,20.9s
HAU Haudompre 24.20 102 *e*P **P** **18 14 04.0 +0.1**
comp=Z,27nm,1.1s,mb4.6
CAF Calviac 24.30 112 *e*P **P** **18 14 04.1 -0.7**
CDF Champ du Feu 24.39 100 *e*P **P** **18 14 06.1 +0.4**
comp=Z,81nm,1.1s,mb4.8
CDF Champ du Feu 24.39 100 *e*P **P** **18 14 06.1 +0.4**
comp=Z,41nm,1.1s,mb4.8

WLS Welschbruch 24.43 100 *e*P **P** **18 14 10.0 +4.0**
ECH Echery 24.46 101 *e*P **P** **18 14 11.2 +4.9**
HINF Hinteralfeld 24.58 102 *e*P **P** **18 14 07.2 -0.2**
comp=Z,40nm,1.1s,mb4.5
HINF Hinteralfeld 24.58 102 *e*P **P** **18 14 07.2 -0.2**
comp=Z,20nm,1.1s,mb4.5
LBL Lubilhac 24.63 110 *e*P **P** **18 14 11.6 +3.7**
ETSF Etsaut 24.66 119 *e*P **P** **18 14 07.2 -0.9**
comp=Z,49nm,1.3s,mb4.6
ETSF Etsaut 24.66 119 *e*P **P** **18 14 07.2 -0.9**
comp=Z,25nm,1.3s,mb4.6
EPF Esparros 24.96 118 *e*P **P** **18 14 09.8 -1.0**
CABF La Chapelle 25.02 105 *e*P **P** **18 14 11.7 +0.3**
comp=Z,68nm,1.1s,mb4.8
CABF La Chapelle 25.02 105 *e*P **P** **18 14 11.7 +0.3**
comp=Z,34nm,1.1s,mb4.8
ARCES ARCESS Array B 25.05 43 P **P** **18 14 10.7 -1.0**
comp=Z,3.3nm,0.6s,mb4.1,baz=281,slow=12,SNR=5.8
ARCES LR LR 18 22 09.9
comp=Z,433nm,18.4s,MS4.0,baz=270,slow=32
FELD Feldberg 25.11 100 *e*P **P** **18 14 15.8 +3.6**
EBIE Bielsa 25.14 118 P **P** **18 14 14.8 +2.3**
SNR=7.9
MOX Moxa 25.19 92 *e*P **P** **18 14 12.3 -0.6**
comp=Z,56nm,1.6s,mb4.8
MOX *e* 18 16 57.6
MOX
comp=Z,2µm,18.0s
MOX Moxa 25.19 92 *e*P **P** **18 14 12.3 -0.6**
MOX pmax pmax
comp=Z,41nm,1.6s
MOX MLR MLR
comp=Z,56µm,18.0s
CLL Collm 25.50 89 *i* P **P** **18 14 17.0 +1.2**
comp=Z,11nm,1.2s,mb4.3
CLL *i* x x 18 14 23.9
CLL *e*x x 18 14 34.0
CLL Collm 25.50 89 *i* P **P** **18 14 17.0 +1.2**
CLL *i* 18 14 23.9
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.3
CLL MLR MLR
comp=Z,3µm,18.9s,MS4.8
CLL Collm 25.50 89 *i* P **P** **18 14 17.0 +1.2**
comp=Z,11nm,1.2s,mb4.3
CLL *i* 18 14 23.9
CLL *e* 18 14 34.0
CLL LR LR
comp=Z,3µm,18.9s,MS4.8
GRA1 Grafenberg Arr 25.57 94 *e*P **P** **18 14 16.2 -0.2**
comp=Z,27nm,1.1s,mb4.7
GRA1 *e* 18 14 23.7
GRF Grafenberg Arr 25.57 94 *e*P **P** **18 14 16.2 -0.2**
comp=Z,27nm,1.1s,mb4.7
GRF *e* 18 14 23.7
GRF Grafenberg Arr 25.57 94 *e*P **P** **18 14 16.2 -0.2**
GRF *e* 18 14 23.7
GRF pmax pmax
comp=Z,27nm,1.1s,mb4.7
MTLF Montolieu 25.57 115 *e*P **P** **18 14 15.8 -0.6**
comp=Z,72nm,1.6s,mb4.7
MTLF Montolieu 25.57 115 *e*P **P** **18 14 15.8 -0.6**
comp=Z,36nm,1.6s,mb4.7
VIVF Saint-Julien-l 25.59 109 *e*P **P** **18 14 16.4 -0.2**
comp=Z,57nm,1.6s,mb4.5
VIVF Saint-Julien-l 25.59 109 *e*P **P** **18 14 16.4 -0.2**
comp=Z,29nm,1.6s,mb4.5
LASF Ste Croix 25.78 111 *e*P **P** **18 14 18.4 +0.1**
comp=Z,97nm,1.8s,mb4.7
LASF Ste Croix 25.78 111 *e*P **P** **18 14 18.4 +0.1**
comp=Z,49nm,1.8s,mb4.7
NKC Novy Kostel 25.86 92 *e*P **P** **18 14 20.1 +1.1**
NKC AMS AMS 18 22 30.0
comp=Z,4µm,24.3s
NKC Novy Kostel 25.86 92 *e*P **P** **18 14 20.1 +1.1**
comp=Z,4µm,24.3s
ESDC Sonseca Array 25.88 128 P **P** **18 14 18.6 -0.5**
comp=Z,4.4nm,0.8s,mb4.0,baz=328,slow=9.3,SNR=11
LPL La Plagne 26.12 106 *e*P **P** **18 14 22.1 +0.8**
ORIF Oris-en-Rattie 26.13 108 *e*P **P** **18 14 21.7 +0.2**
comp=Z,108nm,1.6s,mb4.8
ORIF *e*R
comp=Z,2µm,20.9s
ORIF Oris-en-Rattie 26.13 108 *e*P **P** **18 14 21.7 +0.2**
comp=Z,54nm,1.6s,mb4.8
LPG La Plagne 26.14 106 *e*P **P** **18 14 22.2 +0.7**
comp=Z,51nm,1.4s,mb4.6
LPG La Plagne 26.14 106 *e*P **P** **18 14 22.2 +0.7**
comp=Z,26nm,1.4s,mb4.6
BRG Berggiesshubel 26.24 89 *e*P **P** **18 14 25.3 +2.9**
comp=Z,8.2nm,1.5s,mb4.0
SMRF Simiane la Rot 26.68 110 *e*P **P** **18 14 26.8 +0.4**
MBDF Montbardon 26.70 107 *e*P **P** **18 14 27.1 +0.4**
comp=Z,66nm,1.4s,mb4.7
PVCC Panska Ves 26.77 90 AMS AMS 18 23 50.0
comp=Z,2µm,14.1s
PVCC Panska Ves 26.77 90 *e*P **P** **18 14 17.9 -9.3**
PVCC MLR MLR
comp=Z,2µm,14.1s,MS4.9
DAVOX Davos 26.80 100 LR LR 18 23 56.6
comp=Z,2µm,20.7s,MS4.6,baz=296,slow=34
KAF Kangasniemi 26.99 60 *e*p **P** **18 14 29.5 +0.3**
comp=Z,10nm,0.7s,mb4.5
KAF Kangasniemi 26.99 60 *e*P **P** **18 14 29.5 +0.3**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
PRU Pruhonice 27.08 90 *e*P **P** **18 14 31.4 +1.4**
PRU AMS AMS 18 23 30.0
comp=Z,3µm,22.6s
KHC Kasperske Hory 27.12 93 *e*P **P** **18 14 24.9 -5.5**
KHC *e*pP pP 18 14 37.5 +4.0
KHC AMS AMS 18 23 10.0
comp=Z,3µm,18.5s
FINES FINESS Array B 27.13 61 P **P** **18 14 32.0 +1.6**
comp=Z,5.3nm,0.7s,mb4.2,baz=284,slow=7.9,SNR=7.9
FINES LR LR 18 23 36.9
comp=Z,670nm,19.5s,MS4.2,baz=304,slow=33
GERES GERESS Array B 27.37 93 P **P** **18 14 32.6 0.0**
comp=Z,1.1nm,0.8s,baz=270,slow=6.7,SNR=3.6
GERES LR LR 18 23 48.1
comp=Z,2µm,21.4s,baz=358,slow=33
GERES GERESS Array B 27.37 93 P **P** **18 14 32.6 0.0**
GERES LR LR 18 23 48.1
KSP Ksiaz 27.46 88 *e*P **P** **18 14 34.8 +1.4**
FRF La Foret Royal 27.51 109 *e*P **P** **18 14 33.8 -0.1**
comp=Z,78nm,1.6s,mb4.8
UPC Upice 27.52 88 *e*P **P** **18 14 33.2 -0.7**
LMR La Mourre 27.61 109 *e*P **P** **18 14 35.1 +0.3**
comp=Z,15nm,0.9s,mb4.3
SBF Sospel 27.66 108 *e*P **P** **18 14 35.6 +0.3**
comp=Z,29nm,1.0s,mb4.6
DPC Dobruska-Polom 27.77 88 *e*P **P** **18 14 35.2 -1.0**
VRAC Vranov 28.55 90 P **P** **18 14 44.4 +1.3**
comp=Z,1.5nm,0.5s,mb4.0,baz=300,slow=12,SNR=5.4
VRAC LR LR 18 24 57.2
comp=Z,3µm,18.4s,MS4.8,baz=302,slow=34
VSU Vasula 28.65 67 *i* P **P** **18 14 45.0 +0.9**
JOF Joensuu 28.87 57 *e*p **P** **18 14 45.5 -0.6**
comp=Z,3.4nm,0.8s,mb4.1
JOF Joensuu 28.87 57 *e*P **P** **18 14 45.5 -0.6**
JOF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
OKC Ostrava-Krasne 29.01 88 AMS AMS 18 25 40.0
comp=Z,2µm,13.4s
PGF Pioggiola 29.41 108 *e*P **P** **18 14 51.3 +0.5**
comp=Z,27nm,1.0s,mb4.6
VYHS Vyhne 30.21 89 *e*P **P** **18 14 57.6 -0.3**
STHS Stebnicka Huta 30.85 86 *e*P **P** **18 15 05.5 +1.9**
STHS *e* 18 15 11.5
KECS Kecovo 31.06 88 *e*P **P** **18 15 04.9 -0.5**
KECS *e* 18 15 11.8
CRVS Cervenica-Dubn 31.29 86 *e*P **P** **18 15 10.0 +2.6**
CRVS *e*sP sP 18 15 15.2 +3.5
KOLS Kolonicke sedl 31.68 86 *e*P **P** **18 15 11.5 +0.6**
KOLS *e* 18 15 19.1
SADO Sadowa 32.56 265 P **P** **18 15 18.3 -0.3**
comp=Z,7.8nm,0.9s,mb4.7,baz=41,slow=9.3,SNR=2.0
SADO LR LR 18 26 58.1
comp=Z,4µm,20.3s,MS5.0,baz=71,slow=34
SADO Sadowa 32.56 265 P **P** **18 15 18.3 -0.3**
SADO LR LR 18 26 58.1
AKASG Malin Array Be 34.08 78 P **P** **18 15 31.4 -0.5**
comp=Z,5.9nm,0.9s,mb4.5,baz=306,slow=8.8,SNR=7.8
OBN Obninsk 35.01 67 *i* P **P** **18 15 41.2 +1.3**
OBN pmax pmax
comp=Z,24nm,1.4s,mb4.9

OBN MLR MLR
comp=Z,2µm,26.0s,MS4.7
MLR Muntele Rosu 35.84 87 P **P** **18 15 48.3 +1.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=174,slow=7.2,SNR=3.4
ULM Lac du Bonnet 37.35 286 P **P** **18 15 59.6 -0.3**
comp=Z,4.5nm,0.7s,mb4.4,baz=54,slow=9.5,SNR=9.1
YKA Yellowknife Ar 38.25 312 P **P** **18 16 07.6 0.0**
comp=Z,2.6nm,0.6s,mb4.1,baz=56,slow=8.8,SNR=12
YKA PcP PcP 18 18 20.2 -1.5
comp=Z,0.9nm,0.6s,baz=44,slow=3.2,SNR=10
YKA LR LR 18 31 05.2
comp=Z,1µm,19.7s,MS4.8,baz=60,slow=35
YKA Yellowknife Ar 38.25 312 PcP PcP 18 18 20.2 -1.5
YKA Yellowknife Ar 38.25 312 P **P** **18 16 07.6 0.0**
YKA 18 18 20.3
YKA Yellowknife Ar 38.25 312 P **P** **18 16 07.6 0.0**
YKA PcP PcP 18 18 20.2 -1.5
YKA LR LR 18 31 05.2
INK Inuvik 40.97 326 P **P** **18 16 33.8 +3.6**
comp=Z,1.9nm,0.7s,mb3.9,baz=32,slow=5.4,SNR=4.7
WCI Wyandotte Cave 41.00 264 P **P** **18 16 29.4 -1.0**
WCI Wyandotte Cave 41.00 264 P **P** **18 16 29.4 -1.0**
comp=Z,15nm,0.8s,mb4.7
WCI *e* 18 16 34.6
DGMT Dagmar 42.59 289 P **P** **18 16 46.0 +2.5**
DGMT Dagmar 42.59 289 P **P** **18 16 46.0 +2.5**
comp=Z,26nm,1.0s,mb4.9
DGMT *e* pP 18 16 49.2 +2.6
IDI Anoyia 42.88 99 LR LR 18 34 18.8
comp=Z,421nm,19.1s,MS4.3,baz=320,slow=36
FVM French Village 43.28 268 *e*P **P** **18 16 52.0 +2.9**
comp=Z,17nm,1.0s,mb4.7
FVM French Village 43.28 268 *e*P **P** **18 16 52.0 +2.9**
FVM pmax pmax
comp=Z,17nm,1.0s,mb4.7
FVM French Village 43.28 268 *e*P **P** **18 16 52.0 +2.9**
comp=Z,17nm,1.0s,mb4.7
ARU Arti 43.88 53 *e*P **P** **18 16 52.0 -1.9**
comp=Z,34nm,1.2s,mb5.0
ARU *e*S **S** **18 23 23.2 -1.9**
ARU Arti 43.88 53 ↓*i*P **P** **18 16 54.1 +0.2**
ARU *e* 18 18 33.7
ARU *e* 18 18 41.7
ARU *e*PPP 18 19 13.8
ARU *e*S **S** **18 23 23.2 -1.9**
ARU *e*SSS 18 27 17.8
ARU pmax pmax
comp=Z,26nm,1.2s,mb4.8
ARU Arti 43.88 53 *e*P **P** **18 16 52.0 -1.9**
comp=Z,34nm,1.2s,mb5.0
ARU LR LR
comp=Z,1µm,19.0s,MS4.9
BRTR Keskin Array B 43.92 87 P **P** **18 16 54.5 +0.3**
comp=Z,1.3nm,0.9s,mb3.7,baz=328,slow=3.7,SNR=4.6
BRTR Keskin Array B 43.92 87 *i* P **P** **18 16 57.9 +3.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
LRAL Lakeview Retre 45.41 260 *e*P **P** **18 17 06.8 +0.7**
comp=Z,43nm,1.4s,mb5.1
LRAL Lakeview Retre 45.41 260 *e*P **P** **18 17 06.8 +0.7**
comp=Z,43nm,1.4s,mb5.1
KSU1 Kansas State U 45.59 274 *e*P **P** **18 17 08.8 +1.3**
KSU1 Kansas State U 45.59 274 *e*P **P** **18 17 08.8 +1.3**
ILAR Eielson Array 47.22 329 P **P** **18 17 21.1 +0.8**
comp=Z,5.6nm,1.1s,mb4.4,baz=32,slow=6.2,SNR=7.2
ILAR PcP PcP 18 18 50.8 -0.8
comp=Z,1.1nm,0.9s,baz=359,slow=2.2,SNR=4.3
ILAR Eielson Array 47.22 329 PcP PcP 18 18 50.8 -0.8
COLA College 47.39 329 *i* P **P** **18 17 20.9 -0.7**
MALT Malatya 47.42 85 *e*P **P** **18 17 23.2 +1.3**
comp=Z,15nm,1.2s,mb4.8
MALT Malatya 47.42 85 *e*P **P** **18 17 23.2 +1.3**
MALT pmax pmax
comp=Z,15nm,1.2s,mb4.8
MALT Malatya 47.42 85 *e*P **P** **18 17 23.2 +1.3**
comp=Z,15nm,1.2s,mb4.8
HRY Holter Researc 47.48 293 *e*P **P** **18 17 24.1 +1.7**
HRY Holter Researc 47.48 293 *e*P **P** **18 17 24.1 +1.7**
AKTK Aktyubinsk 47.87 60 P **P** **18 17 24.7 -0.7**
comp=Z,7.0nm,1.4s,mb4.5
AKTK Aktyubinsk 47.87 60 P **P** **18 17 23.6 -1.8**
AKTO Aktyubinsk 47.87 60 P **P** **18 17 23.6 -1.8**
comp=Z,4.4nm,0.8s,mb4.5,baz=305,slow=7.2,SNR=7.9
AKTO Aktyubinsk 47.87 60 P **P** **18 17 24.7 -0.7**
AKTO pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
BOZ Bozeman (W) 48.17 291 *e*P **P** **18 17 32.6 +5.0**
comp=Z,23nm,1.4s,mb5.0
BOZ LR LR
comp=Z,1µm,20.0s,MS5.0
TIXI Tiksi 48.34 9 *i* P **P** **18 17 28.8 -0.2**
comp=Z,19nm,0.8s,mb5.2
TIXI Tiksi 48.34 9 *i* P **P** **18 17 28.8 -0.2**
TIXI pmax pmax
comp=Z,19nm,0.8s,mb5.2
PHWY Pilot Hill 48.39 283 P **P** **18 17 28.3 -1.1**
PHWY Pilot Hill 48.39 283 P **P** **18 17 28.3 -1.2**
QLMT Earthquake Lak 48.67 291 *e*P **P** **18 17 34.9 +3.3**
SJG San Juan 48.77 228 LR LR 18 33 49.0
comp=Z,350nm,21.3s,MS4.3,baz=88,slow=31
DLMT Dillon 48.84 292 P **P** **18 17 37.0 +4.2**
RWWY Rawlins 48.97 285 *e*P **P** **18 17 33.9 0.0**
comp=Z,10nm,0.8s,mb4.9
RWWY Rawlins 48.97 285 *e*P **P** **18 17 33.9 0.0**
comp=Z,10nm,0.8s,mb4.9
IMW Indian Meadow 49.13 289 *e*P **P** **18 17 35.6 +0.5**
IMW Indian Meadow 49.13 289 *e*P **P** **18 17 35.6 +0.5**
GNI Garni 49.21 78 P **P** **18 17 37.2 +1.5**
comp=Z,1.3nm,0.4s,mb4.3,baz=107,slow=20,SNR=3.1
PDAR Pinedale Array 49.31 287 P **P** **18 17 35.5 -1.0**
comp=Z,10nm,0.9s,mb4.8,baz=60,slow=6.7,SNR=12
MCMT McKenzie Canyo 49.35 292 *e*P **P** **18 17 39.4 +2.6**
MCMT McKenzie Canyo 49.35 292 *e*P **P** **18 17 39.4 +2.6**
REDW Red Top Meadow 49.49 289 *e*P **P** **18 17 39.6 +1.7**
comp=Z,16nm,1.0s,mb5.0
REDW Red Top Meadow 49.49 289 *e*P **P** **18 17 39.6 +1.7**
comp=Z,16nm,1.0s,mb5.0
AB31 Akbulak array 49.59 59 *i* P **P** **18 17 38.0 -0.6**
comp=Z,52nm,1.6s,mb5.3
AB31 Akbulak array 49.59 59 *i* P **P** **18 17 38.0 -0.6**
AB31 pmax pmax
comp=Z,52nm,1.6s,mb5.3
ISCO Idaho Springs 49.61 282 *e*P **P** **18 17 40.1 +1.4**
comp=Z,2µm,20.0s
ISCO Idaho Springs 49.61 282 *e*P **P** **18 17 40.1 +1.4**
ISCO pmax pmax
comp=Z,16nm,1.2s,mb4.9
ISCO MLR MLR
comp=Z,2µm,20.0s,MS5.2
ISCO Idaho Springs 49.61 282 *e*P **P** **18 17 40.1 +1.4**
comp=Z,16nm,1.2s,mb4.9
ISCO LR LR
comp=Z,2µm,20.0s,MS5.2
WMOK Wichita Mounta 50.06 272 *e*P **P** **18 17 41.6 -0.6**
comp=Z,971nm,19.0s
WMOK Wichita Mounta 50.06 272 *e*P **P** **18 17 41.6 -0.6**
WMOK pmax pmax
comp=Z,13nm,1.0s,mb4.9
WMOK MLR MLR
comp=Z,971nm,19.0s,MS4.8
WMOK Wichita Mounta 50.06 272 *e*P **P** **18 17 41.6 -0.5**
comp=Z,13nm,1.0s,mb4.9
WMOK LR LR
comp=Z,971nm,19.0s,MS4.8
ZRNK Zerenda 50.59 51 *e*P **P** **18 17 43.3 -2.9**
comp=Z,8.0nm,1.1s,mb4.6
ZRNK Zerenda 50.59 51 *e*P **P** **18 17 43.3 -2.9**
ZRNK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZRNK Zerenda 50.59 51 *e*P **P** **18 17 43.3 -2.9**
comp=Z,8.2nm,1.1s,mb4.6
BRVK Borovoye 51.01 50 *e*P **P** **18 17 48.6 -0.8**
comp=Z,382nm,21.0s
BRVK Borovoye 51.01 50 *e*P **P** **18 17 48.6 -0.8**
BRVK pmax pmax
comp=Z,15nm,1.4s,mb4.7
BRVK MLR MLR
comp=Z,382nm,21.0s,MS4.4
BRVK Borovoye 51.01 50 *e*P **P** **18 17 48.6 -0.7**
comp=Z,15nm,1.4s,mb4.7
BRVK LR LR
comp=Z,382nm,21.0s,MS4.4
BVA0 Borovoye Array 51.08 50 *i* P **P** **18 17 48.4 -1.5**
comp=Z,4.0nm,1.3s,mb4.2
BVA0 Borovoye Array 51.08 50 *i* P **P** **18 17 48.4 -1.5**
BVA0 pmax pmax

comp=Z,4.0nm,1.3s,mb4.2
BVAR Borovoye Array 51.08 50 P **P 18 17 48.6 -1.3**
comp=Z,3.1nm,0.8s,mb4.3,baz=316,slow=6.6,SNR=11
SDCO Great Sand Dun 51.12 280 *e*P **P 18 17 50.2 0.0**
comp=Z,90nm,1.2s,mb5.6
SDCO Great Sand Dun 51.12 280 *e*P **P 18 17 50.2 0.0**
comp=Z,90nm,1.2s,mb5.6
SDCO LR LR
comp=Z,1μm,19.0s,MS5.0
HWUT Hardware Ranch 51.16 288 *e*P **P 18 17 49.5 -1.0**
comp=Z,20nm,1.0s,mb5.0
HWUT Hardware Ranch 51.16 288 *e*P **P 18 17 49.5 -1.0**
comp=Z,20nm,1.0s,mb5.0
HWUT LR LR
comp=Z,2μm,20.0s,MS5.2
TNA Tin City 51.29 339 *e*P **P 18 17 50.9 -0.6**
comp=Z,10nm,1.2s,mb4.6
TNA Tin City 51.29 339 *e*P **P 18 17 50.9 -0.5**
comp=Z,10nm,1.2s,mb4.6
BMO Blue Mountains 51.42 295 *e*P **P 18 17 53.1 +0.7**
VOSK Vostochnaya 51.54 50 P **P 18 17 52.2 -1.1**
comp=Z,37nm,1.5s,mb5.1
VOSK Vostochnaya 51.54 50 P **P 18 17 52.2 -1.1**
VOSK pmax pmax
comp=Z,37nm,1.5s,mb5.1
TORD Torodi Ar. Bea 51.99 139 P **P 18 17 53.4 -3.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=340,slow=7.6,SNR=13
BILL Bilibino 52.19 352 *i* P **P 18 17 58.3 +0.1**
comp=Z,13nm,0.9s,mb4.9
BILL Bilibino 52.19 352 *i* P **P 18 17 58.3 +0.1**
BILL *e**PP pP 18 18 05.9 +4.5
BILL *e* 18 19 54.1
BILL pmax pmax
comp=Z,13nm,0.9s,mb4.9
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.5
BILL Bilibino 52.19 352 *e*P **P 18 17 58.0 -0.3**
comp=Z,20nm,1.1s,mb5.0
HKT Hockley 52.36 266 *e*P **P 18 17 58.3 -1.2**
comp=Z,15nm,1.0s,mb4.9
HKT Hockley 52.36 266 *e*P **P 18 17 58.3 -1.2**
HKT *e* pP 18 18 01.3 -1.3
HKT pmax pmax
comp=Z,15nm,1.0s,mb4.9
HKT Hockley 52.36 266 *e*P **P 18 17 58.3 -1.1**
comp=Z,15nm,1.0s,mb4.9
HKT *e* pP 18 18 01.3 -1.4
DUG Dugway 52.85 288 *e*P **P 18 18 02.9 -0.2**
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.0
DUG Dugway 52.85 288 *e*P **P 18 18 02.9 -0.2**
comp=Z,8.1nm,1.0s,mb4.6
DUG LR LR
comp=Z,2μm,21.0s,MS5.0
ANMO Albuquerque 53.79 279 *i* P **P 18 18 09.3 -0.7**
NVS Novosibirsk 54.29 41 *e*P **P 18 18 11.8 -1.8**
NVS pmax pmax
comp=N,37nm,1.8s
NVS pmax pmax
comp=E,17nm,1.8s
NVS pmax pmax
comp=Z,71nm,1.8s,mb5.3
LPM Los Pinos Moun 54.38 278 *e*P **P 18 18 15.5 +1.2**
BNM Barren Site 54.50 278 P **P 18 18 14.9 -0.3**
LAZ Ladron 54.56 279 *e*P **P 18 18 16.0 +0.4**
MOD Modoc 55.09 294 *e*P **P 18 18 19.2 -0.2**
comp=Z,15nm,1.1s,mb4.9
MOD LR LR
comp=Z,2μm,19.0s,MS5.1
ZAL Zalesovo 55.55 40 P **P 18 18 23.1 +0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=88,slow=3.5,SNR=3.5
ZAL LR LR 18 44 29.2
comp=Z,350nm,18.3s,MS4.5,baz=145,slow=38
ZAL Zalesovo 55.55 40 *i* P **P 18 18 26.2 +3.4**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
WUAZ Wupatki 55.80 283 *e*P **P 18 18 25.2 +0.6**
comp=Z,16nm,0.9s,mb5.0
WUAZ LR LR
comp=Z,1μm,20.0s,MS5.1
KURK Kurchatov 56.03 46 *e*P **P 18 18 24.8 -1.4**
KURK pmax pmax
comp=Z,25nm,0.9s,mb5.2
KURK MLR MLR
comp=Z,527nm,21.0s,MS4.6
KURK Kurchatov 56.03 46 *e*P **P 18 18 24.8 -1.4**
comp=Z,25nm,0.9s,mb5.2
KURK LR LR
comp=Z,527nm,21.0s,MS4.6
DBIC Dimbokro 56.16 149 P **P 18 18 26.9 -0.2**
comp=Z,2.5nm,0.9s,mb4.2,baz=311,slow=3.6,SNR=3.3
NVAR Mina Array Bea 56.88 290 P **P 18 18 33.1 +0.8**
comp=Z,3.1nm,0.8s,mb4.4,baz=60,slow=6.5,SNR=9.5
OHCM Honcut 57.67 293 P **P 18 18 35.8 -2.1**
YAK Yakutsk 57.83 11 *i* P **P 18 18 38.1 -0.8**
YAK pmax pmax
comp=Z,17nm,1.4s,mb4.9
YAK Yakutsk 57.83 11 *e*P **P 18 18 37.9 -1.0**
comp=Z,9.8nm,0.7s,mb5.0
YAK LR LR
comp=Z,308nm,21.0s,MS4.4
SEY Seymchan 57.88 359 *i* P **P 18 18 39.8 +0.5**
DAC Darwin (Calif) 58.25 288 *e*P **P 18 18 43.1 +1.2**
DAC *e* pP 18 18 47.1 +2.0
DAC pmax pmax
comp=Z,21nm,1.2s,mb5.0
DAC Darwin (Calif) 58.25 288 *e*P **P 18 18 43.1 +1.1**
comp=Z,21nm,1.2s,mb5.0
DAC *e* pP 18 18 47.1 +2.0
GSC Goldstone 58.65 287 *e*P **P 18 18 45.5 +0.8**
SDV Santo Domingo 58.91 228 LR LR 18 40 34.5
comp=Z,97nm,21.9s,MS3.9,baz=41,slow=32
SDV Santo Domingo 58.91 228 *e*P **P 18 18 46.6 0.0**
comp=Z,16nm,1.1s,mb5.0
KK31 Karatay Array 58.97 57 *i* P **P 18 18 46.4 -0.5**
KK31 pmax pmax
comp=Z,25nm,1.8s,mb4.9
KKAR Karatay Array 58.97 57 P **P 18 18 46.4 -0.5**
KKAR pmax pmax
comp=Z,44nm,1.8s,mb5.2
BOD Bodaibo 59.68 21 *e*P **P 18 18 50.6 -1.2**
MK31 Makanchi Array 60.64 47 *i* P **P 18 18 56.3 -2.1**
MK31 pmax pmax
comp=Z,55nm,1.7s,mb5.4
MKAR Makanchi Array 60.64 47 P **P 18 18 56.6 -1.9**
comp=Z,4.5nm,0.7s,mb4.7,baz=349,slow=4.4,SNR=17
MKAR LR LR 18 45 28.7
comp=Z,229nm,20.6s,MS4.3,baz=247,slow=36
MKAR Makanchi Array 60.64 47 *i* P **P 18 18 59.2 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 61.26 54 P **P 18 19 03.0 +0.4**
TKM2 pmax pmax
comp=Z,27nm,1.4s,mb5.2
MA2 Magadan 61.27 359 *e*P **P 18 19 03.4 +0.7**
MA2 pmax pmax
comp=Z,6.0nm,2.0s,mb4.4
MA2 Magadan 61.27 359 P **P 18 18 58.9 -3.7**
comp=Z,6.5nm,0.8s,mb4.8
MA2 *e* pP 18 19 03.5 -2.4
MOY Mondy 62.41 32 *e*P **P 18 19 09.2 -1.1**
ZAK Zakamensk 64.18 31 *e*P **P 18 19 22.9 +0.8**
comp=Z,19nm,1.8s,mb4.8
ZAK Zakamensk 64.18 31 *e*P **P 18 19 22.9 +0.8**
ZAK pmax pmax
comp=Z,19nm,1.8s,mb4.8
WMQ Urumqi 65.16 45 P **P 18 19 29.0 +0.5**
WMQ XP sP 18 19 36.0 +3.0
WMQ PP PP 18 21 54.0 +2.2
WMQ S S 18 28 10.0 -1.4
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,328nm,6.0s
WMQ LR LR
comp=N,327nm,14.0s,MS4.9
WMQ LR LR
comp=E,342nm,13.0s,MS4.9
WMQ LR LR
comp=Z,265nm,13.0s,MS4.6
SONM Songino Array 67.33 30 P **P 18 19 42.3 -0.2**
comp=Z,2.1nm,1.1s,mb4.1,baz=330,slow=5.5,SNR=7.1
ULN Ulaanbaatar 67.47 30 *i* P **P 18 19 42.8 -0.5**
GTA Gaotai 73.19 38 *e*P **P 18 20 22.6 +4.3**
GTA AP pP 18 20 27.5 +5.9
GTA XP sP 18 20 29.8 +7.0
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,139nm,4.2s
GTA LR LR
comp=N,233nm,13.5s,MS4.8
GTA LR LR
comp=E,249nm,13.5s,MS4.8
GTA LR LR
comp=Z,264nm,18.9s
YSS Yuzh-Sakhalins 73.76 5 *e*P **P 18 20 22.0 +0.3**
BTO Baotou 75.01 30 *e*P **P 18 20 28.3 -0.6**
BDFB Brasilia 76.25 198 P **P 18 20 33.5 -2.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=56,slow=5.0,SNR=5.9
LZH Lanzhou 77.50 37 *e*P **P 18 20 47.0 +3.9**
LZH AP pP 18 20 50.3 +3.9
LZH XP sP 18 20 53.6 +6.0
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,183nm,7.8s
LZH LR LR
comp=N,614nm,15.2s
LZH LR LR
comp=Z,2μm,18.3s,MS5.5
SIV San Ignacio 79.27 210 P **P 18 20 51.2 -1.7**
comp=Z,4.8nm,0.9s,mb4.4,baz=45,slow=4.7,SNR=10
CD2 Chengdu 82.26 39 *e*P **P 18 21 08.3 -0.6**
CD2 AP pP 18 21 13.0 +0.8
CD2 PP PP 18 24 18.1 +0.8
CD2 S S 18 31 20.8 -3.6
CD2 SS SS 18 36 42.8 -1.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=E,220nm,20.2s
CD2 LR LR
comp=Z,180nm,20.2s,MS4.4
MJAR Matsushiro Arr 83.84 9 P **P 18 21 15.8 -1.3**
comp=Z,1.0nm,0.6s,mb4.1,baz=354,slow=2.6,SNR=2.7
MJAR LR LR 19 01 10.6
comp=Z,156nm,20.1s,MS4.4,baz=35,slow=37
ENH Enshi 84.59 34 *e*P **P 18 21 20.7 -0.1**
comp=Z,4.1nm,0.5s,mb4.8
NJ2 Nanjing 85.28 26 *e*P **P 18 21 23.8 -0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
SSE Sheshan 86.71 24 P **P 18 21 28.6 -2.8**
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,80nm,6.0s
SSE LR LR
comp=N,56nm,25.5s,MS4.2
SSE LR LR
comp=E,126nm,25.5s,MS4.2
SSE LR LR
comp=Z,82nm,23.6s,MS4.1
KMI Kunming 87.28 42 P **P 18 21 33.9 -0.3**
KMI S 18 32 11.1
KMI SS SS 18 37 57.0 -1.3
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb4.6
KMI LR LR
comp=N,185nm,23.9s,MS4.5
KMI LR LR
comp=E,123nm,19.5s,MS4.5
KMI LR LR
comp=Z,242nm,28.8s
LVC Limon Verde 87.73 215 P **P 18 21 36.0 -0.3**
comp=Z,1.9nm,0.6s,mb4.5,baz=67,slow=20,SNR=1.9
LVC Limon Verde 87.73 215 P **P 18 21 36.0 -0.3**
QIZ Qiongzhong 95.27 38 *e*P **P 18 22 15.6 +4.3**
QIZ S 18 33 32.8
QIZ LR LR
comp=E,114nm,23.7s
QIZ LR LR
comp=Z,138nm,27.0s,MS4.3
TAOE Nuku Hiva Isla 107.62 283 *e*LR LR 18 58 57.5
comp=Z,2μm,31.3s
RKT Rikitea 117.05 270 *e*LR LR 19 03 19.2
comp=Z,204nm,29.8s
PPT Papeete 119.73 287 *e*SS SS 18 46 03.7 +39
comp=Z,505nm,26.2s
PPT *e*LR LR 19 04 38.3
comp=Z,476nm,21.2s
TBI Tubuai 124.57 283 *e*LR LR 19 06 50.9
comp=Z,422nm,26.0s

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*ISCJB **13** 18:11:30.2±0.4,59.32N±007×300W±0.1,h10km,mb4.3/37,*
Error ellipse: s-maj=10.6km s-min=6.3km az=59.5
*IDC **13** 18:11:30.5±0.7,5931N×3023W,h0km,mb4.1/13,*
mb1 4.3/15,mb1mx4.1/29,mbtmp4.1/15,ML3.8/2,Error
ellipse: s-maj=19.5km s-min=16.4km az=175.0
*BJI **13** 18:11:30.3,5940N×3020W,h10km,mb5.0*
*NEIC **13** 18:11:32.4±0.4,5939N×3021W,h10km,mb4.6/7,Error*
ellipse: s-maj=11.6km s-min=7.9km az=176.0
*CSEM **13** 18:11:35.3±0.2,5923N×2996W,h57km±1km,mb4.5/21,*
Error ellipse: s-maj=4.4km s-min=2.4km az=42.0
ISC 13 18:11:31.5±0.4,5927N±007×300W±01,h10km,n92,
σ0$97/89,mb4.3/37,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.83**	**33**	Pn	**Pn**	**18 13 12.5**	**+0.8**
	3.5nm,0.3s,baz=200,slow=7.1,SNR=3.3						
BORG	**Borgarnes**	**6.83**	**33**	Pn	**Pn**	**18 13 12.5**	**+0.8**
EKA	**Eskdalemuir Ar**	**14.96**	**94**	Pn	**Pn**	**18 15 06.2**	**+3.1**
	0.2nm,0.3s,baz=12,slow=16,SNR=3.9						
ROSF	**Rostrenen**	**19.05**	**113**	*e*P	**Pn**	**18 15 54.7**	**+0.1**
	38nm,1.0s						
ROSF	**Rostrenen**	**19.05**	**113**	*e*P	**Pn**	**18 15 54.7**	**+0.1**
	19nm,1.0s						
QUIF	**Quistinic**	**19.40**	**114**	*e*P	**Pn**	**18 15 59.6**	**+0.8**
	107nm,1.5s						
QUIF	**Quistinic**	**19.40**	**114**	*e*P	**Pn**	**18 15 59.6**	**+0.8**
	54nm,1.5s						
SGMF	**Saint Gilles**	**19.44**	**112**	*e*P	**Pn**	**18 15 59.5**	**+0.2**
	289nm,1.9s						
SGMF	**Saint Gilles**	**19.44**	**112**	*e*P	**Pn**	**18 15 59.5**	**+0.2**
	144nm,1.9s						
FLN	**La Foliniere**	**20.09**	**109**	*e*P	**P**	**18 16 05.9**	**+0.7**
	57nm,1.3s						
FLN	**La Foliniere**	**20.09**	**109**	*e*P	**P**	**18 16 05.9**	**+0.7**
	28nm,1.3s						
GRR	**Gorron**	**20.16**	**110**	*e*P	**P**	**18 16 07.3**	**+1.3**
	162nm,1.6s						
GRR	**Gorron**	**20.16**	**110**	*e*P	**P**	**18 16 07.3**	**+1.3**
	81nm,1.6s						
LDF	**La Druitiere**	**20.38**	**108**	*e*P	**P**	**18 16 09.5**	**+1.1**
	135nm,1.8s						
LDF	**La Druitiere**	**20.38**	**108**	*e*P	**P**	**18 16 09.5**	**+1.1**
	68nm,1.8s						
HFS	**Hagfors**	**21.75**	**69**	P	**P**	**18 16 24.0**	**+0.9**
	5.0nm,1.0s,mb3.9,baz=202,slow=8.0,SNR=3.6						
GIVF	**Givet**	**21.87**	**99**	*e*P	**P**	**18 16 24.5**	**+0.1**
	61nm,1.2s,mb4.6						
GIVF	**Givet**	**21.87**	**99**	*e*P	**P**	**18 16 24.5**	**+0.1**
	30nm,1.2s,mb4.6						
MEZF	**Maizieres J'vi**	**23.00**	**102**	*e*P	**P**	**18 16 35.1**	**-1.4**
	122nm,1.5s,mb4.8						
MEZF	**Maizieres J'vi**	**23.00**	**102**	*e*P	**P**	**18 16 35.1**	**-1.4**
	61nm,1.5s,mb4.8						
TCF	**Toulx Ste Croi**	**23.12**	**110**	*e*P	**P**	**18 16 37.0**	**-0.8**
SSF	**Saint Saulge**	**23.21**	**107**	*e*P	**P**	**18 16 37.5**	**-1.2**
	43nm,1.3s,mb4.4						
SSF	**Saint Saulge**	**23.21**	**107**	*e*P	**P**	**18 16 37.5**	**-1.2**
	22nm,1.3s,mb4.4						
BGF	**Bois d'Agland**	**23.24**	**109**	*e*P	**P**	**18 16 38.6**	**-0.4**
	49nm,1.2s,mb4.5						
BGF	**Bois d'Agland**	**23.24**	**109**	*e*P	**P**	**18 16 38.6**	**-0.4**
	25nm,1.2s,mb4.5						
LOR	**Lormes**	**23.24**	**106**	*e*P	**P**	**18 16 38.5**	**-0.5**
	7.8nm,0.7s,mb3.9						
LOR	**Lormes**	**23.24**	**106**	*e*P	**P**	**18 16 38.5**	**-0.5**
	3.9nm,0.7s,mb3.9						
AVF	**Avril sur Loir**	**23.32**	**108**	*e*P	**P**	**18 16 38.8**	**-1.1**
	51nm,1.4s,mb4.5						
AVF	**Avril sur Loir**	**23.32**	**108**	*e*P	**P**	**18 16 38.8**	**-1.1**
	25nm,1.4s,mb4.5						
SMF	**Signal de Mont**	**23.67**	**107**	*e*P	**P**	**18 16 42.5**	**-0.8**
	60nm,1.4s,mb4.5						
SMF	**Signal de Mont**	**23.67**	**107**	*e*P	**P**	**18 16 42.5**	**-0.8**
	30nm,1.4s,mb4.5						
SJPF	**Ste Jean**	**23.93**	**120**	*e*P	**P**	**18 16 45.1**	**-0.6**
	30nm,1.3s,mb4.3						
SJPF	**Ste Jean**	**23.93**	**120**	*e*P	**P**	**18 16 45.1**	**-0.6**
	15nm,1.3s,mb4.3						
HAU	**Haudompre**	**23.98**	**102**	*e*P	**P**	**18 16 45.3**	**-0.9**
CAF	**Calviac**	**24.05**	**112**	*e*P	**P**	**18 16 46.0**	**-0.8**
CDF	**Champ du Feu**	**24.18**	**100**	*e*P	**P**	**18 16 47.2**	**-0.8**
	31nm,1.2s,mb4.3						
CDF	**Champ du Feu**	**24.18**	**100**	*e*P	**P**	**18 16 47.2**	**-0.8**
	16nm,1.2s,mb4.3						
HINF	**Hinteralfeld**	**24.36**	**102**	*e*P	**P**	**18 16 48.9**	**-0.7**
ETSF	**Etsaut**	**24.40**	**119**	*e*P	**P**	**18 16 49.8**	**-0.1**
EPF	**Esparros**	**24.70**	**118**	*e*P	**P**	**18 16 52.2**	**-0.5**
CABF	**La Chapelle**	**24.80**	**105**	*e*P	**P**	**18 16 53.4**	**-0.2**
	15nm,0.9s,mb4.2						
CABF	**La Chapelle**	**24.80**	**105**	*e*P	**P**	**18 16 53.4**	**-0.2**
	7.7nm,0.9s,mb4.2						
MTLF	**Montolieu**	**25.32**	**115**	*e*P	**P**	**18 16 57.5**	**-0.9**
	20nm,1.3s,mb4.2						
MTLF	**Montolieu**	**25.32**	**115**	*e*P	**P**	**18 16 57.5**	**-0.9**
	10.0nm,1.3s,mb4.2						
CLL	**Collm**	**25.33**	**89**	*e*(P)	**P**	**18 17 02.0**	**+3.5**
	comp=Z,16nm,1.5s,mb4.3						
LASF	**Ste Croix**	**25.54**	**111**	*e*P	**P**	**18 17 00.2**	**-0.1**
	comp=Z,64nm,1.7s,mb4.6						
LASF	**Ste Croix**	**25.54**	**111**	*e*P	**P**	**18 17 00.2**	**-0.1**
	comp=Z,32nm,1.7s,mb4.6						
ESDC	**Sonseca Array**	**25.60**	**128**	P	**P**	**18 17 02.3**	**+1.4**
	comp=Z,4.6nm,0.8s,mb4.1,baz=329,slow=7.5,SNR=6.3						
ESLA	**Sonseca Array**	**25.60**	**128**	*e*P	**P**	**18 17 04.0**	**+3.1**
	comp=Z,12nm,1.5s,mb4.2						
LPL	**La Plagne**	**25.89**	**106**	*e*P	**P**	**18 17 03.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**25.90**	**108**	*e*P	**P**	**18 17 03.4**	**-0.2**
LPG	**La Plagne**	**25.91**	**106**	*e*P	**P**	**18 17 04.0**	**+0.3**
SMRF	**Simiane la Rot**	**26.44**	**110**	*e*P	**P**	**18 17 07.0**	**-1.5**
	comp=Z,84nm,1.6s,mb4.7						
SMRF	**Simiane la Rot**	**26.44**	**110**	*e*P	**P**	**18 17 07.0**	**-1.5**
	comp=Z,42nm,1.6s,mb4.7						
MBDF	**Montbardon**	**26.47**	**107**	*e*P	**P**	**18 17 09.0**	**+0.2**
	comp=Z,28nm,1.2s,mb4.4						
MBDF	**Montbardon**	**26.47**	**107**	*e*P	**P**	**18 17 09.0**	**+0.2**
	comp=Z,14nm,1.2s,mb4.4						
FINES	**FINESS Array B**	**27.08**	**61**	P	**P**	**18 17 16.1**	**+1.8**
	comp=Z,4.1nm,0.9s,mb4.0,baz=292,slow=10,SNR=4.4						
LMR	**La Mourre**	**27.37**	**109**	*e*P	**P**	**18 17 16.2**	**-0.7**
	comp=Z,51nm,1.5s,mb4.5						
LMR	**La Mourre**	**27.37**	**109**	*e*P	**P**	**18 17 16.2**	**-0.7**
	comp=Z,25nm,1.5s,mb4.5						
AKASG	**Malin Array Be**	**33.95**	**78**	P	**P**	**18 18 15.8**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=303,slow=8.9,SNR=4.9						
YKA	**Yellowknife Ar**	**38.53**	**312**	P	**P**	**18 18 52.5**	**-1.7**
	comp=Z,1.5nm,0.9s,mb3.7,baz=57,slow=8.3,SNR=4.2						
YKA				PcP	PcP	18 21 05.0	-1.8
	comp=Z,0.4nm,0.6s,baz=33,slow=3.1,SNR=3.9						
YKA	**Yelloknife Ar**	**38.53**	**312**	PcP	PcP	18 21 05.0	-1.8
YKA	**Yellowknife Ar**	**38.53**	**312**	P	**P**	**18 18 52.5**	**-1.7**
YKA				PcP	PcP	18 21 05.0	-1.8
ILAR	**Eielson Array**	**47.50**	**329**	P	**P**	**18 20 06.5**	**-0.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=28,slow=7.2,SNR=6.3						
ILAR	**Eielson Array**	**47.50**	**329**	P	**P**	**18 20 06.4**	**-0.3**
PDAR	**Pinedale Array**	**49.55**	**288**	P	**P**	**18 20 22.0**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=64,slow=6.5,SNR=4.7						
ISCO	**Idaho Springs**	**49.82**	**282**	*e*P	**P**	**18 20 25.7**	**+1.1**
	comp=Z,8.8nm,1.2s,mb4.7						
ISCO	**Idaho Springs**	**49.82**	**282**	*e*P	**P**	**18 20 25.7**	**+1.1**
	comp=Z,8.8nm,1.2s,mb4.7						
WMOK	**Wichita Mounta**	**50.24**	**273**	*e*P	**P**	**18 20 28.0**	**+0.2**
	comp=Z,9.8nm,1.2s,mb4.7						
WMOK	**Wichita Mounta**	**50.24**	**273**	*e*P	**P**	**18 20 28.0**	**+0.2**
	comp=Z,9.8nm,1.2s,mb4.7						
ZRNK	**Zerenda**	**50.60**	**51**	*e*P	**P**	**18 20 29.0**	**-1.5**
ZRNK	**Zerenda**	**50.60**	**51**	*e*P	**P**	**18 20 28.9**	**-1.6**
BRVK	**Borovoye**	**51.02**	**50**	*e*P	**P**	**18 20 34.1**	**+0.4**
BRVK	**Borovoye**	**51.02**	**50**	*e*P	**P**	**18 20 34.1**	**+0.4**
BVAR	**Borovoye Array**	**51.09**	**50**	P	**P**	**18 20 34.4**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=307,slow=7.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**51.70**	**139**	P	**P**	**18 20 39.7**	**+0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=325,slow=8.6,SNR=6.6						
KURK	**Kurchatov**	**56.06**	**47**	*e*P	**P**	**18 21 11.0**	**+0.3**
YAK	**Yakutsk**	**58.01**	**11**	*e*P	**P**	**18 21 22.9**	**-1.6**
	comp=Z,6.6nm,0.8s,mb4.7						
YAK	**Yakutsk**	**58.01**	**11**	*e*P	**P**	**18 21 22.9**	**-1.6**
	comp=Z,6.6nm,0.8s,mb4.7						
DAC	**Darwin (Calif)**	**58.49**	**289**	*e*P	**P**	**18 21 28.0**	**+0.2**
	comp=Z,8.1nm,1.3s,mb4.6						
DAC	**Darwin (Calif)**	**58.49**	**289**	*e*P	**P**	**18 21 28.0**	**+0.2**
	comp=Z,8.1nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**60.67**	**47**	P	**P**	**18 21 43.6**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.5,baz=345,slow=4.4,SNR=13						
SONM	**Songino Array**	**67.44**	**30**	P	**P**	**18 22 27.3**	**0.0**
	comp=Z,2.2nm,1.1s,mb4.1,baz=316,slow=4.5,SNR=5.1						
ULN	**Ulaanbaatar**	**67.58**	**30**	*e*P	**P**	**18 22 29.6**	**+1.4**
	comp=Z,14nm,1.5s,mb4.8						
ULN	**Ulaanbaatar**	**67.58**	**30**	*e*P	**P**	**18 22 29.6**	**+1.4**
	comp=Z,14nm,1.5s,mb4.8						
LZH	**Lanzhou**	**77.57**	**37**	*e*P	**P**	**18 23 24.8**	**-2.9**
LZH				AP	pP	18 23 33.5	+2.5
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
SIV	**San Ignacio**	**79.17**	**210**	P	**P**	**18 23 38.1**	**+1.5**
	comp=Z,2.2nm,1.1s,mb4.0,baz=338,slow=4.1,SNR=5.3						
LPAZ	**La Paz**	**81.46**	**217**	P	**P**	**18 23 48.9**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=175,slow=9.8,SNR=8.5						
LPAZ	**La Paz**	**81.46**	**217**	P	**P**	**18 23 48.9**	**+0.1**
ENH	**Enshi**	**84.67**	**34**	*e*P	**P**	**18 24 05.7**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**149.18**	**180**	*e*PKPbc	PKPbc	18 31 17.9	-2.3
QSPA	**South Pole Qui**	**149.18**	**180**	*e*PKPbc	PKPbc	18 31 17.9	-2.3

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*ISCJB **13** 18:12:45.5±0.7,594N±0.1×31.1W±02,h10km,mb3.9/12,*
Error ellipse: s-maj=15.8km s-min=13.4km az=177.1
*IDC **13** 18:12:45.6±0.8,5934N×3119W,h0km,mb3.8/11,*
mb1 3.9/13,mb1mx3.8/28,mbtmp3.9/13,ML3.6/2,Error
ellipse: s-maj=22.5km s-min=19.2km az=176.0
*CSEM **13** 18:12:46.8±0.2,5929N×3114W,h10km,mb4.3/1,Error*
ellipse: s-maj=7.7km s-min=5.8km az=131.0,After NEIC
*NEIC **13** 18:12:46.8±0.7,5929N×3114W,h10km,mb4.3/1,Error*
ellipse: s-maj=16.8km s-min=12.9km az=173.0
ISC 13 18:12:47.0±0.7,594N±01×311W±02,h10km,n17,σ0$81/18,
mb3.9/12,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**7.08**	**36**	Pn	**Pn**	**18 14 29.6**	**-1.0**
	2.6nm,0.3s,baz=236,slow=15,SNR=3.6						
BORG				Sn	**Sn**	**18 15 46.4**	**-4.7**
	0.5nm,0.3s,baz=3.4,slow=12,SNR=2.3						
EKA	**Eskdalemuir Ar**	**15.55**	**93**	Pn	**Pn**	**18 16 24.8**	**-1.5**
	0.1nm,0.3s,baz=248,slow=33,SNR=2.9						
ESDC	**Sonseca Array**	**26.12**	**127**	P	**P**	**18 18 20.8**	**-0.2**
	0.3nm,0.3s,mb3.3,baz=32,slow=42,SNR=3.1						
AKASG	**Malin Array Be**	**34.50**	**77**	P	**P**	**18 19 34.1**	**-1.0**
	0.9nm,0.7s,mb3.8,baz=309,slow=8.8,SNR=4.2						
YKA	**Yellowknife Ar**	**38.03**	**312**	P	**P**	**18 20 04.2**	**-1.2**
	0.6nm,0.9s,mb3.3,baz=56,slow=9.1,SNR=3.3						
BRTR	**Keskin Array B**	**44.33**	**86**	P	**P**	**18 20 58.2**	**+1.1**
	0.6nm,0.9s,mb3.3,baz=356,slow=8.7,SNR=3.6						
AKTK	**Aktyubinsk**	**48.28**	**59**	P	**P**	**18 21 28.4**	**+0.1**
AKTO	**Aktyubinsk**	**48.28**	**59**	P	**P**	**18 21 28.4**	**+0.1**
	3.3nm,1.1s,mb4.3,baz=290,slow=8.6,SNR=3.9						
PDAR	**Pinedale Array**	**48.96**	**287**	P	**P**	**18 21 33.5**	**0.0**
	0.5nm,0.8s,mb3.6,baz=72,slow=5.7,SNR=2.2						
ZRNK	**Zerenda**	**50.98**	**50**	P	**P**	**18 21 49.3**	**+0.5**
	4.4nm,1.2s,mb4.3						
BRVK	**Borovoye**	**51.40**	**49**	*e*P	**P**	**18 21 53.0**	**+1.0**
BVAR	**Borovoye Array**	**51.47**	**49**	P	**P**	**18 21 52.4**	**-0.1**
	1.5nm,0.9s,mb3.9,baz=288,slow=4.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**52.16**	**138**	P	**P**	**18 21 58.1**	**+0.5**
	2.2nm,0.9s,mb4.1,baz=346,slow=8.0,SNR=5.5						
KURK	**Kurchatov**	**56.41**	**46**	*e*P	**P**	**18 22 29.3**	**+0.7**
MKAR	**Makanchi Array**	**61.02**	**46**	P	**P**	**18 23 00.9**	**+0.3**
	1.8nm,0.6s,mb4.4,baz=347,slow=4.6,SNR=12						
SONM	**Songino Array**	**67.64**	**29**	P	**P**	**18 23 45.3**	**+1

ISCJB 13 18:14:28.0±0.7,5985N±006×309.9W±02,h10km,mb4.1/17, Error ellipse: s-maj=11.4km s-min=9.4km az=169.8
NEIC 13 18:14:28.0±0.6,5940N×3036W,h10km,mb4.4/1,Error ellipse: s-maj=13.4km s-min=10.0km az=172.0
CSEM 13 18:14:32.0±0.1,5995N×3080W,h40km,mb4.3/8,Error ellipse: s-maj=5.0km s-min=3.6km az=47.0

ISC 13 18:14:29.2±0.7,5978N±007×309W±02,h10km,n46, σ1°15/48,mb4.1/17,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.70**	**38**	Pn	**Pn**	**18 16 08.0**	**+0.3**
	4.9nm,0.3s,baz=245,slow=7.4,SNR=5.8						
BORG				Sn	**Sn**	**18 17 25.5**	**+1.5**
	2.5nm,0.3s,baz=94,slow=23,SNR=7.9						
BORG	**Borgarnes**	**6.70**	**38**	Pn	**Pn**	**18 16 08.0**	**+0.3**
BORG				Sn	**Sn**	**18 17 25.5**	**+1.5**
EKA	**Eskdalemuir Ar**	**15.50**	**94**	Pn	**Pn**	**18 18 00.7**	**-7.0**
	0.2nm,0.3s,baz=320,slow=11,SNR=3.3						
ROSF	**Rostrenen**	**19.70**	**113**	*eP*	**Pn**	**18 18 59.0**	**-1.1**
	162nm,1.7s						
ROSF	**Rostrenen**	**19.70**	**113**	*eP*	**Pn**	**18 18 59.0**	**-1.1**
	81nm,1.7s						
SGMF	**Saint Gilles**	**20.10**	**112**	*eP*	**P**	**18 19 03.9**	**+1.0**
NOA	**NORSAR Array B**	**20.60**	**68**	P	**P**	**18 19 05.7**	**-2.6**
	1.0nm,0.8s,baz=282,slow=10,SNR=3.5						
NOA	**NORSAR Array B**	**20.60**	**68**	P	**P**	**18 19 05.7**	**-2.7**
FLN	**La Foliniere**	**20.73**	**109**	*eP*	**P**	**18 19 09.9**	**+0.2**
LDF	**La Druitiere**	**21.01**	**108**	*eP*	**P**	**18 19 14.2**	**+1.3**
MFF	**Saint Martin d**	**22.42**	**112**	*eP*	**P**	**18 19 26.7**	**-1.3**
	32nm,1.2s,mb4.3						
MFF	**Saint Martin d**	**22.42**	**112**	*eP*	**P**	**18 19 26.7**	**-1.3**
	16nm,1.2s,mb4.3						
GIVF	**Givet**	**22.44**	**100**	*eP*	**P**	**18 19 29.0**	**+0.8**
MEZF	**Maizieres J'vi**	**23.60**	**102**	*eP*	**P**	**18 19 39.8**	**-0.5**
TCF	**Toulx Ste Croi**	**23.77**	**110**	*eP*	**P**	**18 19 41.5**	**-0.3**
SSF	**Saint Saulge**	**23.83**	**107**	*eP*	**P**	**18 19 42.2**	**-0.3**
	18nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**23.83**	**107**	*eP*	**P**	**18 19 42.2**	**-0.3**
	9.2nm,1.0s,mb4.2						
LOR	**Lormes**	**23.86**	**106**	*eP*	**P**	**18 19 42.3**	**-0.4**
AVF	**Avril sur Loir**	**23.95**	**108**	*eP*	**P**	**18 19 43.5**	**0.0**
	7.5nm,0.9s,mb3.8						
AVF	**Avril sur Loir**	**23.95**	**108**	*eP*	**P**	**18 19 43.5**	**0.0**
	3.8nm,0.9s,mb3.8						
SMF	**Signal de Mont**	**24.29**	**107**	*eP*	**P**	**18 19 46.9**	**+0.3**
	5.9nm,0.7s,mb3.8						
SMF	**Signal de Mont**	**24.29**	**107**	*eP*	**P**	**18 19 46.9**	**+0.3**
	3.0nm,0.7s,mb3.8						
CDF	**Champ du Feu**	**24.76**	**100**	*eP*	**P**	**18 19 51.9**	**+1.0**
	15nm,1.0s,mb4.2						
CDF	**Champ du Feu**	**24.76**	**100**	*eP*	**P**	**18 19 51.9**	**+1.0**
	7.4nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**25.06**	**44**	P	**P**	**18 19 52.7**	**-0.9**
	4.7nm,0.5s,mb4.0,baz=342,slow=3.8,SNR=3.6						
ARCES	**ARCESS Array B**	**25.06**	**44**	P	**P**	**18 19 52.7**	**-1.0**
CABF	**La Chapelle**	**25.41**	**105**	*eP*	**P**	**18 19 58.1**	**+1.3**
	49nm,1.5s,mb4.5						
CABF	**La Chapelle**	**25.41**	**105**	*eP*	**P**	**18 19 58.1**	**+1.3**
	24nm,1.5s,mb4.5						
ESDC	**Sonseca Array**	**26.31**	**128**	P	**P**	**18 19 59.7**	**-5.2**
	0.6nm,0.5s,mb3.4,baz=329,slow=7.5,SNR=4.1						
LPL	**La Plagne**	**26.50**	**106**	*eP*	**P**	**18 20 08.1**	**+1.4**
LPG	**La Plagne**	**26.53**	**106**	*eP*	**P**	**18 20 07.0**	**+0.1**
LMR	**La Mourre**	**28.01**	**109**	*eP*	**P**	**18 20 21.0**	**+0.8**
	57nm,1.6s,mb4.7						
LMR	**La Mourre**	**28.01**	**109**	*eP*	**P**	**18 20 21.0**	**+0.8**
	29nm,1.6s,mb4.7						
SBF	**Sospel**	**28.06**	**107**	*eP*	**P**	**18 20 22.3**	**+1.6**
YKA	**Yellowknife Ar**	**37.82**	**311**	P	**P**	**18 21 47.7**	**+2.0**
	1.4nm,0.9s,mb3.7,baz=57,slow=9.0,SNR=8.3						
YKA	**Yellowknife Ar**	**37.82**	**311**	P	**P**	**18 21 47.7**	**+1.9**
YKA	**Yellowknife Ar**	**37.82**	**311**	P	**P**	**18 21 47.7**	**+1.9**
AKTK	**Aktyubinsk**	**48.01**	**59**	P	**P**	**18 23 06.8**	**-1.5**
AKTO	**Aktyubinsk**	**48.01**	**59**	P	**P**	**18 23 06.8**	**-1.5**
	3.6nm,0.7s,mb4.5,baz=322,slow=7.1,SNR=13						
PDAR	**Pinedale Array**	**48.92**	**287**	P	**P**	**18 23 16.6**	**+1.3**
	0.9nm,0.8s,mb3.9,baz=78,slow=7.4,SNR=4.9						
PDAR	**Pinedale Array**	**48.92**	**287**	P	**P**	**18 23 16.6**	**+1.3**
BVAR	**Borovoye Array**	**51.14**	**50**	P	**P**	**18 23 31.5**	**-0.7**
	1.6nm,0.7s,mb4.0,baz=321,slow=6.8,SNR=9.2						
TORD	**Torodi Ar. Bea**	**52.42**	**138**	P	**P**	**18 23 35.5**	**-6.2**
	1.0nm,0.7s,mb3.9,baz=337,slow=7.2,SNR=4.7						
KURK	**Kurchatov**	**56.07**	**46**	*eP*	**P**	**18 24 06.9**	**-1.5**
	3.6nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**60.68**	**46**	P	**P**	**18 24 39.5**	**-1.1**
	1.9nm,0.7s,mb4.3,baz=333,slow=6.1,SNR=9.4						
SIV	**San Ignacio**	**79.36**	**209**	P	**P**	**18 26 33.1**	**-2.1**
	1.0nm,0.8s,mb3.8,baz=12,slow=8.3,SNR=3.5						

CSEM 13 18:17:09.9±0.1,5945N×3026W,h8km,mb4.6/33,Ms4.1, Error ellipse: s-maj=3.9km s-min=1.8km az=27.0
ISCJB 13 18:17:10.9±0.3,5948N±004×3027W±007,h10km, mb4.5/75,MS3.8/5, Error ellipse: s-maj=5.9km s-min=4.2km az=68.3
BJI 13 18:17:10.3,5902N×3105W,h37km,mB5.4,mb5.1,Ms5.5
MOS 13 18:17:11.5±0.8,5957N×3022W,h10km,mb5.0/16,Error ellipse: s-maj=10.3km s-min=9.0km az=64.8
IDC 13 18:17:11.1±0.5,5940N×3031W,h0km,mb4.1/25, mb1 4.2/29,mb1mx4.2/34,mbtmp4.2/29,ML3.9/3,MS4.1/7, Ms1 4.1/7,ms1mx3.9/32,Error ellipse: s-maj=14.5km s-min=10.5km az=173.0
NEIC 13 18:17:13.1±0.3,5950N×3031W,h10km,mb4.6/21,Error ellipse: s-maj=7.4km s-min=4.8km az=204.0
SZGRF 13 18:17:23.1,5965N×2888W,h33km,mb4.9,Reykjanes Ridge

ISC 13 18:17:12.4±0.3,5944N±004×3023W±007,h10km, (h14km±.3km:pP-P),n196,σ0°96/198,mb4.5/75,MS3.8/5, 1C-3D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.76**	**34**	Pn	**Pn**	**18 18 52.6**	**+0.9**
	5.7nm,0.3s,baz=202,slow=10,SNR=8.1						
BORG				Sn	**Sn**	**18 20 10.4**	**+1.7**
	1.9nm,0.3s,baz=58,slow=23,SNR=6.0						
SFJD	**Kangerlussuaq**	**11.86**	**318**	Pn	**Pn**	**18 20 02.8**	**+1.3**
	0.5nm,0.3s,baz=110,slow=9.0,SNR=3.8						
EKA	**Eskdalemuir Ar**	**15.11**	**94**	Pn	**Pn**	**18 20 47.5**	**+1.6**
	baz=288,slow=11,SNR=7.2						
FRB	**Frobisher Bay**	**18.52**	**300**	P	**Pn**	**18 21 28.6**	**-0.4**
	0.2nm,0.3s,baz=62,slow=13,SNR=4.1						
FRB				LR	LR	18 27 34.7	
	comp=Z,2μm,20.9s,baz=10,slow=34						
FRB	**Frobisher Bay**	**18.52**	**300**	P	**Pn**	**18 21 28.6**	**-0.5**
ROSF	**Rostrenen**	**19.24**	**113**	*eP*	**Pn**	**18 21 36.9**	**-0.9**
	105nm,1.4s						
ROSF	**Rostrenen**	**19.24**	**113**	*eP*	**Pn**	**18 21 36.9**	**-0.9**
	53nm,1.4s						
QUIF	**Quistinic**	**19.59**	**114**	*eP*	**Pn**	**18 21 41.5**	**-0.5**
	63nm,1.3s						
QUIF	**Quistinic**	**19.59**	**114**	*eP*	**Pn**	**18 21 41.5**	**-0.5**
	32nm,1.3s						
SGMF	**Saint Gilles**	**19.63**	**113**	*eP*	**Pn**	**18 21 41.8**	**-0.7**
	253nm,1.9s						
SGMF	**Saint Gilles**	**19.63**	**113**	*eP*	**Pn**	**18 21 41.8**	**-0.7**
	126nm,1.9s						
SCHQ	**Schefferville**	**20.21**	**273**	P	**P**	**18 21 46.0**	**-1.4**
	4.9nm,0.7s,baz=63,slow=9.7,SNR=9.3						
SCHQ	**Schefferville**	**20.21**	**273**	P	**P**	**18 21 46.0**	**-1.4**
FLN	**La Foliniere**	**20.27**	**109**	*eP*	**P**	**18 21 48.7**	**+0.6**
	160nm,1.3s						
FLN				*eR*			
	894nm,17.0s						
FLN	**La Foliniere**	**20.27**	**109**	*eP*	**P**	**18 21 48.7**	**+0.6**
	80nm,1.3s						
GRR	**Gorron**	**20.35**	**110**	*eP*	**P**	**18 21 49.5**	**+0.6**
	202nm,1.4s						
GRR	**Gorron**	**20.35**	**110**	*eP*	**P**	**18 21 49.5**	**+0.6**
	101nm,1.4s						
NOA	**NORSAR Array B**	**20.39**	**68**	P	**P**	**18 21 49.1**	**-0.3**
	0.6nm,0.8s,baz=322,slow=24,SNR=3.0						
LDF	**La Druitiere**	**20.56**	**109**	*eP*	**P**	**18 21 51.6**	**+0.4**
	96nm,1.3s						
LDF	**La Druitiere**	**20.56**	**109**	*eP*	**P**	**18 21 51.6**	**+0.4**
	48nm,1.3s						
STS	**Santiago**	**21.27**	**132**	P	**P**	**18 22 00.2**	**+1.3**
	11nm,0.5s,mb4.5,SNR=7.9						
STS	**Santiago**	**21.27**	**132**	P	**P**	**18 22 00.2**	**+1.3**
STS				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.5						
STS	**Santiago**	**21.27**	**132**	P	**P**	**18 22 00.2**	**+1.2**
	comp=Z,11nm,0.5s,mb4.5						
EPON	**Pontenova**	**21.45**	**129**	P	**P**	**18 22 00.2**	**-0.6**
	comp=Z,25nm,1.0s,mb4.5,SNR=4.3						
EPON	**Pontenova**	**21.45**	**129**	P	**P**	**18 22 00.2**	**-0.6**
	comp=Z,25nm,1.0s,mb4.5						
HFS	**Hagfors**	**21.81**	**69**	P	**P**	**18 22 05.2**	**+0.5**
	comp=Z,6.6nm,1.0s,mb4.0,baz=194,slow=6.1,SNR=5.1						
HFS				LR	LR	18 29 38.4	
	comp=Z,505nm,21.9s,MS3.9,baz=283,slow=34						
MFF	**Saint Martin d**	**21.96**	**112**	*eP*	**P**	**18 22 05.5**	**-0.8**
	comp=Z,103nm,1.4s,mb4.8						
MFF	**Saint Martin d**	**21.96**	**112**	*eP*	**P**	**18 22 05.5**	**-0.8**
	comp=Z,52nm,1.4s,mb4.8						
GIVF	**Givet**	**22.03**	**100**	*eP*	**P**	**18 22 07.1**	**+0.1**
	comp=Z,90nm,1.2s,mb4.8						
GIVF	**Givet**	**22.03**	**100**	*eP*	**P**	**18 22 07.1**	**+0.1**
	comp=Z,45nm,1.2s,mb4.8						
ECAL	**Calabor**	**22.78**	**130**	P	**P**	**18 22 17.5**	**+2.5**
	comp=Z,21nm,0.8s,mb4.6						
HYF	**Humbligny**	**22.82**	**108**	*eP*	**P**	**18 22 14.7**	**-0.8**
ELAN	**Lanestosa**	**23.07**	**123**	P	**P**	**18 22 18.9**	**+0.8**
	comp=Z,6.4nm,0.8s,mb4.1,SNR=4.1						
ELAN	**Lanestosa**	**23.07**	**123**	P	**P**	**18 22 18.9**	**+0.9**
	comp=Z,6.4nm,0.8s,mb4.1						
MEZF	**Maizieres J'vi**	**23.17**	**103**	*eP*	**P**	**18 22 18.2**	**-1.0**
	comp=Z,77nm,1.1s,mb4.8						
MEZF	**Maizieres J'vi**	**23.17**	**103**	*eP*	**P**	**18 22 18.2**	**-1.0**
	comp=Z,38nm,1.1s,mb4.8						
TCF	**Toulx Ste Croi**	**23.31**	**110**	*eP*	**P**	**18 22 19.1**	**-1.5**
	comp=Z,109nm,1.6s,mb4.7						
TCF	**Toulx Ste Croi**	**23.31**	**110**	*eP*	**P**	**18 22 19.1**	**-1.5**
	comp=Z,55nm,1.6s,mb4.7						
SSF	**Saint Saulge**	**23.39**	**107**	*eP*	**P**	**18 22 20.2**	**-1.2**
	comp=Z,34nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**23.39**	**107**	*eP*	**P**	**18 22 20.2**	**-1.2**
	comp=Z,17nm,0.9s,mb4.5						
RUP	**Ruppelstein**	**23.41**	**98**	*eP*	**P**	**18 22 22.7**	**+1.1**
LOR	**Lormes**	**23.42**	**106**	*eP*	**P**	**18 22 20.4**	**-1.3**
	comp=Z,31nm,1.0s,mb4.4						
LOR				*eR*			
	comp=Z,1μm,17.2s						
LOR	**Lormes**	**23.42**	**106**	*eP*	**P**	**18 22 20.4**	**-1.3**
	comp=Z,15nm,1.0s,mb4.4						
BGF	**Bois d'Agland**	**23.42**	**109**	*eP*	**P**	**18 22 20.5**	**-1.3**
	comp=Z,40nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**23.42**	**109**	*eP*	**P**	**18 22 20.5**	**-1.3**
	comp=Z,20nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**23.50**	**108**	*eP*	**P**	**18 22 21.3**	**-1.4**
	comp=Z,52nm,1.3s,mb4.5						
AVF	**Avril sur Loir**	**23.50**	**108**	*eP*	**P**	**18 22 21.3**	**-1.4**
	comp=Z,26nm,1.3s,mb4.5						
ABH	**Alteburg**	**23.54**	**97**	*eP*	**P**	**18 22 24.4**	**+1.4**
LFF	**La Frestale**	**23.61**	**114**	*eP*	**P**	**18 22 22.4**	**-1.3**
	comp=Z,143nm,1.6s,mb4.8						
LFF	**La Frestale**	**23.61**	**114**	*eP*	**P**	**18 22 22.4**	**-1.3**
	comp=Z,72nm,1.6s,mb4.8						
RJF	**Les Rejaudoux**	**23.70**	**113**	*eP*	**P**	**18 22 22.8**	**-1.7**
	comp=Z,36nm,1.3s,mb4.3						
RJF				*eR*			
	comp=Z,1μm,17.0s						
RJF	**Les Rejaudoux**	**23.70**	**113**	*eP*	**P**	**18 22 22.8**	**-1.7**
	comp=Z,18nm,1.3s,mb4.3						
THEF	**They Montfort**	**23.82**	**102**	*eP*	**P**	**18 22 26.3**	**+0.7**
SMF	**Signal de Mont**	**23.84**	**107**	*eP*	**P**	**18 22 24.6**	**-1.2**
	comp=Z,60nm,1.3s,mb4.6						
SMF	**Signal de Mont**	**23.84**	**107**	*eP*	**P**	**18 22 24.6**	**-1.2**
	comp=Z,30nm,1.3s,mb4.6						
EALK	**Alkurruntz**	**23.92**	**120**	P	**P**	**18 22 26.4**	**-0.1**
	SNR=7.9						
EALK	**Alkurruntz**	**23.92**	**120**	P	**P**	**18 22 26.4**	**-0.1**
AGO	**Saint Agoulin**	**23.92**	**109**	*eP*	**P**	**18 22 28.2**	**+1.7**
SJPF	**Ste Jean**	**24.13**	**120**	*eP*	**P**	**18 22 27.1**	**-1.3**
	comp=Z,44nm,1.3s,mb4.4						
SJPF	**Ste Jean**	**24.13**	**120**	*eP*	**P**	**18 22 27.1**	**-1.3**
	comp=Z,22nm,1.3s,mb4.4						
HAU	**Haudompre**	**24.15**	**102**	*eP*	**P**	**18 22 27.8**	**-0.8**
HAU				*eR*			
	comp=Z,2μm,22.0s						
PLDF	**La Plantade**	**24.22**	**109**	*eP*	**P**	**18 22 30.0**	**+0.8**
CAF	**Calviac**	**24.24**	**112**	*eP*	**P**	**18 22 28.0**	**-1.4**
CDF	**Champ du Feu**	**24.34**	**100**	*eP*	**P**	**18 22 29.6**	**-0.8**
	comp=Z,40nm,1.3s,mb4.4						
CDF	**Champ du Feu**	**24.34**	**100**	*eP*	**P**	**18 22 29.6**	**-0.8**
	comp=Z,20nm,1.3s,mb4.4						
TOD	**Tromm**	**24.35**	**96**	*eP*	**P**	**18 22 36.2**	**+5.8**
WLS	**Welschbruch**	**24.38**	**100**	*eP*	**P**	**18 22 31.7**	**+1.0**
ECH	**Echery**	**24.41**	**101**	*eP*	**P**	**18 22 31.8**	**+0.8**
HINF	**Hinteralfeld**	**24.53**	**102**	*eP*	**P**	**18 22 31.3**	**-0.8**
ETSF	**Etsaut**	**24.60**	**119**	*eP*	**P**	**18 22 32.1**	**-0.6**
	comp=Z,49nm,1.5s,mb4.5						
ETSF	**Etsaut**	**24.60**	**119**	*eP*	**P**	**18 22 32.1**	**-0.6**
	comp=Z,25nm,1.5s,mb4.5						
LOMF	**Lomont**	**24.83**	**103**	*eP*	**P**	**18 22 36.9**	**+2.1**
EPF	**Esparros**	**24.90**	**118**	*eP*	**P**	**18 22 34.8**	**-0.6**
	comp=Z,30nm,1.2s,mb4.4						
EPF	**Esparros**	**24.90**	**118**	*eP*	**P**	**18 22 34.8**	**-0.6**
	comp=Z,15nm,1.2s,mb4.4						
GUD	**Guadarrama**	**24.91**	**127**	P	**P**	**18 22 36.2**	**+0.6**
	comp=Z,43nm,1.3s,mb4.8,SNR=9.6						
GUD	**Guadarrama**	**24.91**	**127**	P	**P**	**18 22 36.2**	**+0.6**
GUD				pmax	pmax		
	comp=Z,43nm,1.3s,mb4.8						
GUD	**Guadarrama**	**24.91**	**127**	P	**P**	**18 22 36.2**	**+0.7**
	comp=Z,43nm,1.3s,mb4.8						
CABF	**La Chapelle**	**24.97**	**105**	*eP*	**P**	**18 22 35.6**	**-0.5**
	comp=Z,32nm,1.3s,mb4.4						
CABF	**La Chapelle**	**24.97**	**105**	*eP*	**P**	**18 22 35.6**	**-0.5**
	comp=Z,16nm,1.3s,mb4.4						
ARCES	**ARCESS Array B**	**25.06**	**43**	P	**P**	**18 22 35.2**	**-1.6**
	comp=Z,7.7nm,1.1s,mb4.1,baz=262,slow=8.6,SNR=6.4						
ARCES				LR	LR	18 30 32.1	
	comp=Z,140nm,20.3s,MS3.5,baz=126,slow=32						
EBIE	**Bielsa**	**25.08**	**118**	P	**P**	**18 22 37.3**	**+0.2**
	comp=Z,11nm,1.0s,mb4.4,SNR=7.5						
EBIE	**Bielsa**	**25.08**	**118**	P	**P**	**18 22 37.3**	**+0.2**
	comp=Z,11nm,1.0s,mb4.3						
MOX	**Moxa**	**25.15**	**92**	*eP*	**P**	**18 22 37.8**	**+0.1**
	comp=Z,38nm,1.6s,mb4.7						
MOX				*e*		18 22 51.1	
MOX				*e*		18 24 32.8	
MOX	**Moxa**	**25.15**	**92**	*eP*	**P**	**18 22 37.8**	**+0.1**
MOX				pmax	pmax		
	comp=Z,38nm,1.6s,mb4.7						
EBAD	**Badajoz**	**25.44**	**134**	P	**P**	**18 22 40.8**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.2,SNR=6.8						
EBAD	**Badajoz**	**25.44**	**134**	P	**P**	**18 22 40.8**	**+0.4**
	comp=Z,6.9nm,0.9s,mb4.2						
CLL	**Collm**	**25.46**	**89↓**	*iP*	**P**	**18 22 40.4**	**-0.2**
	comp=Z,25nm,1.5s,mb4.5						
CLL				*ex*	x	18 22 57.0	
CLL				*i* x	x	18 23 02.3	
CLL				*ex*	x	18 24 36.0	
CLL	**Collm**	**25.46**	**89↓**	*iP*	**P**	**18 22 40.4**	**-0.2**
CLL				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.5						
CLL	**Collm**	**25.46**	**89↓**	*iP*	**P**	**18 22 40.4**	**-0.2**
	comp=Z,25nm,1.5s,mb4.5						
CLL				*e*		18 22 57.0	
CLL				*i*		18 23 02.3	
MTLF	**Montolieu**	**25.52**	**115**	*eP*	**P**	**18 22 40.3**	**-0.7**
	comp=Z,36nm,1.3s,mb4.4						
MTLF	**Montolieu**	**25.52**	**115**	*eP*	**P**	**18 22 40.3**	**-0.7**
	comp=Z,18nm,1.3s,mb4.4						
GRA1	**Grafenberg Arr**	**25.53**	**94**	*eP*	**P**	**18 22 42.1**	**+1.0**
	comp=Z,30nm,1.3s,mb4.7						
GRF	**Grafenberg Arr**	**25.53**	**94**	*eP*	**P**	**18 22 42.1**	**+1.0**
	comp=Z,30nm,1.3s,mb4.7						
GRF	**Grafenberg Arr**	**25.53**	**94**	*eP*	**P**	**18 22 42.1**	**+1.0**
GRF				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.7						
GRF	**Grafenberg Arr**	**25.53**	**94**	*eP*	**P**	**18 22 42.1**	**+1.0**
GRF				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.7						
VIVF	**Saint-Julien-l**	**25.54**	**109**	*eP*	**P**	**18 22 40.9**	**-0.3**
	comp=Z,33nm,1.3s,mb4.4						
VIVF	**Saint-Julien-l**	**25.54**	**109**	*eP*	**P**	**18 22 40.9**	**-0.3**
	comp=Z,17nm,1.3s,mb4.4						
EGRA	**Graus**	**25.55**	**119**	P	**P**	**18 22 45.0**	**+3.6**
	comp=Z,9.9nm,1.0s,mb4.3						
LASF	**Ste Croix**	**25.73**	**111**	*eP*	**P**	**18 22 42.4**	**-0.6**
ESDC	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 22 43.2**	**-0.5**
	comp=Z,1.4nm,0.7s,mb3.6,baz=324,slow=10,SNR=8.5						
ESDC	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 22 44.5**	**+0.8**
ESDC	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 22 44.5**	**+0.8**
NKC	**Novy Kostel**	**25.82**	**92**	*eP*	**P**	**18 22 43.7**	**-0.1**
NKC				*ep*P	pP	18 22 47.6	+0.8
LPL	**La Plagne**	**26.06**	**106**	*eP*	**P**	**18 22 45.9**	**-0.1**
ORIF	**Oris-en-Rattie**	**26.08**	**108**	*eP*	**P**	**18 22 46.0**	**-0.1**
ORIF				*eR*			
	comp=Z,1μm,18.5s						
LPG	**La Plagne**	**26.09**	**106**	*eP*	**P**	**18 22 46.1**	**-0.1**
	comp=Z,34nm,1.3s,mb4.4						
LPG	**La Plagne**	**26.09**	**106**	*eP*	**P**	**18 22 46.1**	**-0.1**
	comp=Z,17nm,1.3s,mb4.4						
BRG	**Berggiesshubel**	**26.20**	**89**	*eP*	**P**	**18 22 48.5**	**+1.3**
	comp=Z,20nm,1.8s,mb4.3						
BRG				*e*		18 25 00.7	
	comp=Z,16nm,1.9s						
EMIN	**Mina Concepcio**	**26.44**	**135**	P	**P**	**18 22 50.6**	**+1.3**
	comp=Z,64nm,2.5s,mb4.7						
SMRF	**Simiane la Rot**	**26.62**	**110**	*eP*	**P**	**18 22 50.7**	**-0.4**
MBDF	**Montbardon**	**26.65**	**107**	*eP*	**P**	**18 22 51.3**	**0.0**
	comp=Z,61nm,1.6s,mb4.6						
EMOS	**Mosqueruela**	**26.69**	**122**	P	**P**	**18 22 52.5**	**+0.9**
	comp=Z,16nm,2.8s,mb4.0						
PVCC	**Panska Ves**	**26.73**	**89**	*eP*	**P**	**18 22 52.0**	**0.0**
PVCC				*ep*P	pP	18 22 55.7	+0.7
EADA	**Adamuz**	**26.87**	**131**	P	**P**	**18 22 56.1**	**+2.8**
	comp=Z,7.7nm,1.0s,mb4.2						
PRU	**Pruhonice**	**27.04**	**90**	*eP*	**P**	**18 22 54.9**	**+0.1**
PRU				*ep*P	pP	18 22 58.4	+0.5
KHC	**Kasperske Hory**	**27.08**	**93**	*eP*	**P**	**18 22 55.9**	**+0.7**
FINES	**FINESS Array B**	**27.12**	**61**	P	**P**	**18 22 55.2**	**-0.3**
	comp=Z,3.1nm,0.7s,mb3.9,baz=292,slow=10,SNR=8.9						
FINES				LR	LR	18 32 34.1	
	comp=Z,81nm,18.9s,MS3.3,baz=162,slow=34						
FINES	**FINESS Array B**	**27.12**	**61**	P	**P**	**18 22 55.2**	**-0.3**
FINES				LR	LR	18 32 34.1	
GERES	**GERESS Array B**	**27.32**	**93**	P	**P**	**18 22 58.9**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=301,slow=7.8,SNR=4.8						
GERES				LR	LR	18 33 35.8	
	comp=Z,1μm,19.0s,baz=2.6,slow=36						
KSP	**Ksiaz**	**27.42**	**87**	*eP*	**P**	**18 22 58.8**	**+0.6**
FRF	**La Foret Royal**	**27.45**	**109**	*eP*	**P**	**18 22 58.0**	**-0.5**
UPC	**Upice**	**27.48**	**88**	*eP*	**P**	**18 22 59.0**	**+0.3**
UPC				*ep*P	pP	18 23 02.9	+1.1
ESPR	**Espera**	**27.53**	**134**	P	**P**	**18 23 03.1**	**+3.8**
	comp=Z,11nm,1.1s,mb4.4						
LMR	**La Mourre**	**27.55**	**109**	*eP*	**P**	**18 22 59.1**	**-0.3**
SBF	**Sospel**	**27.61**	**108**	*eP*	**P**	**18 22 59.8**	**-0.1**
ETOB	**Tobarra**	**27.67**	**126**	P	**P**	**18 23 02.3**	**+1.8**
DPC	**Dobruska-Polom**	**27.73**	**88**	*eP*	**P**	**18 23 01.2**	**+0.2**
EQES	**Quesada**	**27.77**	**129**	P	**P**	**18 23 01.8**	**+0.4**
	comp=Z,9.4nm,1.1s,mb4.3						
PGF	**Pioggiola**	**29.35**	**108**	*eP*	**P**	**18 23 15.3**	**-0.1**
	comp=Z,21nm,1.1s,mb4.5						
STHS	**Stebnicka Huta**	**30.81**	**86**	*eP*	**P**	**18 23 28.6**	**+0.2**
KECS	**Kecovo**	**31.02**	**88**	*eP*	**P**	**18 23 28.7**	**-1.5**
KOLS	**Kolonicke sedl**	**31.64**	**86**	*eP*	**P**	**18 23 35.5**	**-0.2**
KOLS				*es*P	sP	18 23 40.3	+0.3
AKASG	**Malin Array Be**	**34.05**	**78**	P	**P**	**18 23 56.2**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.3,baz=303,slow=8.8,SNR=8.9						
AKASG	**Malin Array Be**	**34.05**	**78**	P	**P**	**18 23 56.2**	**-0.6**
OBN	**Obninsk**	**34.99**	**67**	*i* P	**P**	**18 24 04.4**	**-0.5**
OBN				*eS*	**S**	**18 29 34.7**	**-2.0**

TKM2 pmax pmax
comp=Z,21nm,1.6s,mb5.0
ZAK Zakamensk 64.20 31 *eP* **P 18 27 46.3 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,2.1s,mb4.4
ZAK pmax pmax
comp=Z,20nm,1.9s,mb4.8
ZAK pmax pmax
comp=Z,14nm,1.7s,mb4.7
SONM Songino Array 67.36 30 P **P 18 28 07.7 0.0**
comp=Z,1.2nm,0.7s,mb4.0,baz=322,slow=6.4,SNR=9.4
ULN Ulaanbaatar 67.49 30 *eP* **P 18 28 09.4 +0.8**
comp=Z,34nm,1.2s,mb5.2
ULN Ulaanbaatar 67.49 30 *i* P **P 18 28 09.5 +0.9**
ULN Ulaanbaatar 67.49 30 *eP* **P 18 28 09.4 +0.8**
comp=Z,34nm,1.2s,mb5.2
KLR Kul'dur 70.69 12 *eP* **P 18 28 19.8 -8.7**
BDFB Brasilia 76.21 198 P **P 18 29 01.1 +0.1**
comp=Z,3.6nm,0.7s,mb4.4,baz=350,slow=8.0,SNR=6.0
SIV San Ignacio 79.25 210 P **P 18 29 18.4 +0.5**
comp=Z,4.2nm,0.9s,mb4.4,baz=34,slow=5.5,SNR=12
NJ2 Nanjing 85.31 26 *eP* **P 18 29 48.8 -0.8**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.5
SSE Sheshan 86.74 24 P **P 18 29 53.6 -3.1**
SSE AMB AMB
comp=Z,33nm,0.8s
WRA Warramunga Arr 139.01 22 PKP PKPdf 18 36 38.3 -0.9
comp=Z,0.6nm,0.9s,baz=331,slow=2.4,SNR=5.3
ASAR Alice Springs 142.53 24 PKhKP 18 36 39.2
comp=Z,0.4nm,0.6s,baz=332,slow=2.4,SNR=5.3

*CSEM **13** 18:19:05.9±0.1, 5948N×3031W, h10km, mb4.5/25, Error ellipse: s-maj=3.7km s-min=1.6km az=19.0*
*MOS **13** 18:19:06.3±0.5, 5935N×3030W, h10km, mb4.6/6, Error ellipse: s-maj=18.0km s-min=17.3km az=67.3*
*IDC **13** 18:19:06.4±0.6, 5938N×3017W, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/29, mbtmp4.1/19, ML4.1/2, MS4.1/3, Ms1 4.1/3, ms1mx3.6/36, Error ellipse: s-maj=18.3km s-min=12.4km az=3.0*
*ISCJB **13** 18:19:06.6±0.3, 5948N±005×3025W±008, h10km, mb4.3/37, MS4.2/1, Error ellipse: s-maj=7.8km s-min=5.4km az=48.5*
*NEIC **13** 18:19:08.0±0.3, 5937N×3021W, h10km, mb4.5/7, Error ellipse: s-maj=9.4km s-min=5.2km az=184.0*
*SZGRF **13** 18:19:23.1, 5865N×2789W, h33km, mb4.3, North Atlantic Ocean*

ISC 13 18:19:08.0±0.3, 5943N±005×3025W±008, h10km, n107, σ0970/106, mb4.3/37, MS4.2/1, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.78**	**34**	Pn	**Pn**	**18 20 48.2**	**+0.7**
	7.4nm,0.3s,baz=214,slow=12,SNR=10						
BORG				Sn	**Sn**	**18 22 04.2**	**-0.5**
	2.2nm,0.3s,baz=48,slow=20,SNR=6.6						
BORG				LR	LR	18 22 57.6	
	comp=Z,1μm,18.2s,baz=288,slow=34						
BORG	**Borgarnes**	**6.78**	**34**	Pn	**Pn**	**18 20 48.2**	**+0.7**
BORG				Sn	**Sn**	**18 22 04.2**	**-0.5**
BORG				LR	LR	18 22 57.6	
JMIC	**Jan Mayen**	**14.62**	**29**	LR	LR	18 26 43.6	
	comp=Z,408nm,18.1s,baz=213,slow=31						
EKA	**Eskdalemuir Ar**	**15.12**	**94**	Pn	**Pn**	**18 22 41.9**	**+0.3**
	baz=276,slow=25,SNR=3.3						
FRB	**Frobisher Bay**	**18.52**	**300**	P	**Pn**	**18 23 23.7**	**-0.9**
	0.3nm,0.3s,baz=73,slow=12,SNR=4.0						
ROSF	**Rostrenen**	**19.24**	**113**	*eP*	**Pn**	**18 23 33.4**	**+0.1**
	157nm,1.7s						
ROSF	**Rostrenen**	**19.24**	**113**	*eP*	**Pn**	**18 23 33.4**	**+0.1**
	78nm,1.7s						
QUIF	**Quistinic**	**19.59**	**114**	*eP*	**Pn**	**18 23 38.0**	**+0.5**
	121nm,1.6s						
QUIF	**Quistinic**	**19.59**	**114**	*eP*	**Pn**	**18 23 38.0**	**+0.5**
	60nm,1.6s						
SGMF	**Saint Gilles**	**19.64**	**112**	*eP*	**Pn**	**18 23 37.8**	**-0.3**
	115nm,1.5s						
SGMF	**Saint Gilles**	**19.64**	**112**	*eP*	**Pn**	**18 23 37.8**	**-0.3**
	58nm,1.5s						
SCHQ	**Schefferville**	**20.20**	**273**	P	**P**	**18 23 43.4**	**+0.6**
	2.7nm,0.8s,baz=34,slow=19,SNR=4.6						
FLN	**La Foliniere**	**20.28**	**109**	*eP*	**P**	**18 23 44.7**	**+1.0**
	31nm,1.0s						
FLN	**La Foliniere**	**20.28**	**109**	*eP*	**P**	**18 23 44.7**	**+1.0**
	15nm,1.0s						
GRR	**Gorron**	**20.35**	**110**	*eP*	**P**	**18 23 45.8**	**+1.3**
	101nm,1.4s						
GRR	**Gorron**	**20.35**	**110**	*eP*	**P**	**18 23 45.8**	**+1.3**
	50nm,1.4s						
NOA	**NORSAR Array B**	**20.40**	**68**	P	**P**	**18 23 45.1**	**0.0**
	1.5nm,1.0s,baz=282,slow=11,SNR=2.6						
LDF	**La Druitiere**	**20.57**	**108**	*eP*	**P**	**18 23 47.9**	**+1.1**
	62nm,1.2s						
LDF	**La Druitiere**	**20.57**	**108**	*eP*	**P**	**18 23 47.9**	**+1.1**
	31nm,1.2s						
MFF	**Saint Martin d**	**21.96**	**112**	*eP*	**P**	**18 24 01.7**	**-0.1**
	53nm,1.4s,mb4.5						
MFF	**Saint Martin d**	**21.96**	**112**	*eP*	**P**	**18 24 01.7**	**-0.1**
	26nm,1.4s,mb4.5						
GIVF	**Givet**	**22.03**	**100**	*eP*	**P**	**18 24 03.2**	**+0.6**
MEZF	**Maizieres J'vi**	**23.18**	**102**	*eP*	**P**	**18 24 14.2**	**-0.5**
	49nm,1.2s,mb4.5						
MEZF	**Maizieres J'vi**	**23.18**	**102**	*eP*	**P**	**18 24 14.2**	**-0.5**
	25nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**23.31**	**110**	*eP*	**P**	**18 24 15.4**	**-0.8**
	35nm,1.3s,mb4.3						
TCF	**Toulx Ste Croi**	**23.31**	**110**	*eP*	**P**	**18 24 15.4**	**-0.8**
	18nm,1.3s,mb4.3						
SSF	**Saint Saulge**	**23.39**	**107**	*eP*	**P**	**18 24 16.2**	**-0.8**
	18nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**23.39**	**107**	*eP*	**P**	**18 24 16.2**	**-0.8**
	9.2nm,0.9s,mb4.2						
LOR	**Lormes**	**23.42**	**106**	*eP*	**P**	**18 24 16.7**	**-0.6**
	5.2nm,0.6s,mb3.8						
LOR	**Lormes**	**23.42**	**106**	*eP*	**P**	**18 24 16.7**	**-0.6**
	2.6nm,0.6s,mb3.8						
BGF	**Bois d'Agland**	**23.43**	**109**	*eP*	**P**	**18 24 16.5**	**-0.9**
	64nm,1.4s,mb4.5						
BGF	**Bois d'Agland**	**23.43**	**109**	*eP*	**P**	**18 24 16.5**	**-0.9**
	32nm,1.4s,mb4.5						
AVF	**Avril sur Loir**	**23.51**	**108**	*eP*	**P**	**18 24 17.4**	**-0.8**
	44nm,1.3s,mb4.4						
AVF	**Avril sur Loir**	**23.51**	**108**	*eP*	**P**	**18 24 17.4**	**-0.8**
	22nm,1.3s,mb4.4						
SMF	**Signal de Mont**	**23.85**	**107**	*eP*	**P**	**18 24 20.6**	**-0.8**
	27nm,1.1s,mb4.3						
SMF	**Signal de Mont**	**23.85**	**107**	*eP*	**P**	**18 24 20.6**	**-0.8**
	13nm,1.1s,mb4.3						
SJPF	**Ste Jean**	**24.13**	**120**	*eP*	**P**	**18 24 23.3**	**-0.7**
HAU	**Haudompre**	**24.15**	**102**	*eP*	**P**	**18 24 23.8**	**-0.4**
CDF	**Champ du Feu**	**24.35**	**100**	*eP*	**P**	**18 24 25.7**	**-0.3**
	48nm,1.3s,mb4.5						
CDF	**Champ du Feu**	**24.35**	**100**	*eP*	**P**	**18 24 25.7**	**-0.3**
	24nm,1.3s,mb4.5						
ETSF	**Etsaut**	**24.60**	**119**	*eP*	**P**	**18 24 28.3**	**+0.1**
	32nm,1.3s,mb4.4						
ETSF	**Etsaut**	**24.60**	**119**	*eP*	**P**	**18 24 28.3**	**+0.1**
	16nm,1.3s,mb4.4						
EPF	**Esparros**	**24.90**	**118**	*eP*	**P**	**18 24 30.6**	**-0.4**
CABF	**La Chapelle**	**24.98**	**105**	*eP*	**P**	**18 24 32.1**	**+0.4**
	70nm,1.4s,mb4.7						
CABF	**La Chapelle**	**24.98**	**105**	*eP*	**P**	**18 24 32.1**	**+0.4**
	35nm,1.4s,mb4.7						
GRA1	**Grafenberg Arr**	**25.54**	**94**	*eP*	**P**	**18 24 36.7**	**0.0**
	13nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**25.54**	**94**	*eP*	**P**	**18 24 36.7**	**0.0**
	comp=Z,13nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**25.54**	**94**	*eP*	**P**	**18 24 36.7**	**0.0**
GRF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**25.54**	**94**	*eP*	**P**	**18 24 36.7**	**0.0**
GRF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
VIVF	**Saint-Julien-l**	**25.54**	**109**	*eP*	**P**	**18 24 37.1**	**+0.3**
	comp=Z,37nm,1.5s,mb4.4						
VIVF	**Saint-Julien-l**	**25.54**	**109**	*eP*	**P**	**18 24 37.1**	**+0.3**
	comp=Z,18nm,1.5s,mb4.4						
ESDC	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 24 38.6**	**-0.6**
	comp=Z,3.7nm,0.9s,mb3.9,baz=326,slow=9.2,SNR=6.6						
ESLA	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 24 38.1**	**-1.1**
	comp=Z,13nm,1.6s,mb4.2						
ESLA	**Sonseca Array**	**25.81**	**128**	P	**P**	**18 24 38.1**	**-1.2**
	comp=Z,13nm,1.6s,mb4.2						
NKC	**Novy Kostel**	**25.83**	**92**	*eP*	**P**	**18 24 39.8**	**+0.4**
LPL	**La Plagne**	**26.07**	**106**	*eP*	**P**	**18 24 42.3**	**+0.7**
ORIF	**Oris-en-Rattie**	**26.08**	**108**	*eP*	**P**	**18 24 42.1**	**+0.4**
LPG	**La Plagne**	**26.09**	**106**	*eP*	**P**	**18 24 42.5**	**+0.7**
SMRF	**Simiane la Rot**	**26.63**	**109**	*eP*	**P**	**18 24 46.7**	**+0.1**
	comp=Z,23nm,1.3s,mb4.2						
SMRF	**Simiane la Rot**	**26.63**	**109**	*eP*	**P**	**18 24 46.7**	**+0.1**
	comp=Z,11nm,1.3s,mb4.2						
MBDF	**Montbardon**	**26.66**	**107**	*eP*	**P**	**18 24 47.8**	**+0.9**
	comp=Z,48nm,1.7s,mb4.5						
MBDF	**Montbardon**	**26.66**	**107**	*eP*	**P**	**18 24 47.8**	**+0.9**
	comp=Z,24nm,1.7s,mb4.5						
KHC	**Kasperske Hory**	**27.09**	**93**	*eP*	**P**	**18 24 51.4**	**+0.6**
FINES	**FINESS Array B**	**27.13**	**61**	P	**P**	**18 24 50.9**	**-0.3**
	comp=Z,3.5nm,0.9s,mb3.9,baz=297,slow=8.5,SNR=3.7						
FRF	**La Foret Royal**	**27.45**	**109**	*eP*	**P**	**18 24 55.1**	**+1.0**
	comp=Z,40nm,1.4s,mb4.5						
FRF	**La Foret Royal**	**27.45**	**109**	*eP*	**P**	**18 24 55.1**	**+1.0**
	comp=Z,20nm,1.4s,mb4.5						
UPC	**Upice**	**27.49**	**88**	*eP*	**P**	**18 24 54.3**	**-0.1**
LMR	**La Mourre**	**27.56**	**109**	*eP*	**P**	**18 24 55.3**	**+0.3**
SBF	**Sospel**	**27.61**	**107**	*eP*	**P**	**18 24 56.3**	**+0.8**
DPC	**Dobruska-Polom**	**27.74**	**88**	*eP*	**P**	**18 24 57.1**	**+0.5**
PGF	**Pioggiola**	**29.36**	**108**	*eP*	**P**	**18 25 11.5**	**+0.5**
	comp=Z,26nm,1.2s,mb4.5						
PGF	**Pioggiola**	**29.36**	**108**	*eP*	**P**	**18 25 11.5**	**+0.5**
	comp=Z,13nm,1.2s,mb4.5						
AKASG	**Malin Array Be**	**34.06**	**78**	P	**P**	**18 25 50.1**	**-2.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=299,slow=9.0,SNR=6.1						
MLR	**Muntele Rosu**	**35.81**	**87**	LR	LR	18 39 20.4	
	comp=Z,453nm,21.6s,MS4.2,baz=178,slow=34						
ULM	**Lac du Bonnet**	**37.40**	**286**	P	**P**	**18 26 20.8**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=45,slow=9.4,SNR=3.0						
FFC	**Flin Flon**	**37.53**	**295**	P	**P**	**18 26 22.6**	**+0.5**
	comp=Z,5.0nm,1.1s,mb4.2						
FFC	**Flin Flon**	**37.53**	**295**	P	**P**	**18 26 22.6**	**+0.5**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
FFC	**Flin Flon**	**37.53**	**295**	P	**P**	**18 26 22.6**	**+0.5**
	comp=Z,4.8nm,1.1s,mb4.1						
YKA	**Yellowknife Ar**	**38.32**	**312**	P	**P**	**18 26 28.4**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.0,baz=55,slow=8.8,SNR=9.8						
YKA				PcP	PcP	18 28 41.2	-1.3
	comp=Z,1.3nm,1.0s,baz=50,slow=3.2,SNR=6.5						
YKA	**Yellowknife Ar**	**38.32**	**312**	PcP	PcP	18 28 41.2	-1.4
YKA	**Yellowknife Ar**	**38.32**	**312**	P	**P**	**18 26 28.4**	**-0.4**
YKA				PcP	PcP	18 28 41.2	-1.4
BRTR	**Keskin Array B**	**43.89**	**87**	P	**P**	**18 27 15.0**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.4,baz=315,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**43.89**	**87**	P	**P**	**18 27 15.0**	**+0.4**
ARU	**Arti**	**43.90**	**53**	*eP*	**P**	**18 27 14.6**	**-0.1**
	comp=Z,30nm,1.6s,mb4.8						
ARU	**Arti**	**43.90**	**53**	*eP*	**P**	**18 27 14.6**	**-0.1**
	comp=Z,30nm,1.6s,mb4.8						
ILAR	**Eielson Array**	**47.29**	**329**	P	**P**	**18 27 41.6**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=27,slow=6.5,SNR=7.3						
AKTK	**Aktyubinsk**	**47.88**	**60**	P	**P**	**18 27 44.7**	**-1.4**
AKTK	**Aktyubinsk**	**47.88**	**60**	P	**P**	**18 27 44.6**	**-1.5**
AKTO	**Aktyubinsk**	**47.88**	**60**	P	**P**	**18 27 44.6**	**-1.5**
	comp=Z,4.2nm,0.9s,mb4.5,baz=308,slow=9.1,SNR=7.0						
TIXI	**Tiksi**	**48.40**	**9**	*eP*	**P**	**18 27 51.6**	**+1.5**
	comp=Z,7.0nm,0.9s,mb4.7						
TIXI	**Tiksi**	**48.40**	**9**	*eP*	**P**	**18 27 51.6**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**49.36**	**288**	P	**P**	**18 27 57.2**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.2,baz=55,slow=5.3,SNR=6.4						
PDAR	**Pinedale Array**	**49.36**	**288**	P	**P**	**18 27 57.2**	**-0.3**
BRVK	**Borovoye**	**51.03**	**50**	*eP*	**P**	**18 28 10.6**	**+0.4**
	comp=Z,4.0nm,1.2s,mb4.2						
BRVK	**Borovoye**	**51.03**	**50**	*eP*	**P**	**18 28 10.6**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TORD	**Torodi Ar. Bea**	**51.92**	**139**	P	**P**	**18 28 16.1**	**-0.7**
	comp=Z,3.1nm,1.0s,mb4.2,baz=346,slow=8.3,SNR=7.6						
KURK	**Kurchatov**	**56.06**	**46**	*eP*	**P**	**18 28 47.1**	**0.0**
	comp=Z,9.0nm,1.2s,mb4.7						
KURK	**Kurchatov**	**56.06**	**46**	*eP*	**P**	**18 28 47.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
KURK	**Kurchatov**	**56.06**	**46**	*eP*	**P**	**18 28 47.1**	**0.0**
	comp=Z,9.4nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**56.93**	**291**	P	**P**	**18 28 54.5**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=63,slow=8.1,SNR=4.0						
NVAR	**Mina Array Bea**	**56.93**	**291**	P	**P**	**18 28 54.5**	**+1.2**
MK31	**Makanchi Array**	**60.67**	**47**	*i* P	**P**	**18 29 19.4**	**+0.1**
	comp=Z,37nm,0.7s						
MK31	**Makanchi Array**	**60.67**	**47**	*i* P	**P**	**18 29 19.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,37nm,0.7s						
MKAR	**Makanchi Array**	**60.67**	**47**	P	**P**	**18 29 18.9**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.6,baz=344,slow=4.3,SNR=24						
MKAR	**Makanchi Array**	**60.67**	**47**	*i* P	**P**	**18 29 19.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,26nm,0.7s						
BDFB	**Brasilia**	**76.19**	**198**	P	**P**	**18 30 55.9**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.4,baz=17,slow=8.0,SNR=3.1						
SIV	**San Ignacio**	**79.23**	**210**	P	**P**	**18 31 13.0**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=70,slow=6.3,SNR=6.5						

*BJI **13** 18:19:00.9, 728S×12645E, h218km, mB4.8, mb5.0*
*ISCJB **13** 18:19:08.3±0.8, 747S±003×12647E±005, h294km±9km, mb4.9/65, Error ellipse: s-maj=8.5km s-min=4.2km az=148.3*
*IDC **13** 18:19:09.0±2.1, 747S×12647E, h287km±20km, mb4.5/21, mb1 4.6/23, mb1mx4.6/24, mbtmp5.1/23, Error ellipse: s-maj=12.6km s-min=7.3km az=71.0*
*NEIC **13** 18:19:09.2±0.9, 745S×12652E, h291km±9km, mb5.0/24, Error ellipse: s-maj=8.3km s-min=4.6km az=59.0*
*HRVD **13** 18:19:09.2±0.5, 750S×12656E, h290km±3km, MW5.1/48, Centroid moment Tensor Solution. LP body waves: s31,c36;Mantle waves: s48,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.71±.25; $M_{\theta\theta}$-1.87±.26; $M_{\phi\phi}$-3.84±.28; $M_{r\theta}$0.20±.26; $M_{\theta\phi}$3.02±.26; $M_{\phi r}$0.95±.32; Best double couple: $M_0$5.95400×10^{16} NP1:ϕ_s137.00000°, δ42.00000°, λ79.00000°. NP2: ϕ_s331.00000°, δ49.00000°, λ100.00000°. Principal axes: T 5.8400, Plg82.0000°, Azm301.0000°; N 0.2280, Plg7.0000°, Azm145.0000°; P -6.0690, Plg3.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 18:19:09.9±0.7, 755S±003×12652E±005, h299km±8km, n163, σ1907/135, mb4.9/65, 5C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.52**	**185**	⇓*i* P	**Pn**	**18 21 32.6**	**-1.8**
	91nm,0.6s						
FITZ				*e*S	**S**	**18 23 32.2**	**-0.3**
WRAB	**Tennant Creek**	**14.46**	**149**	P	**Pn**	**18 22 21.0**	**-0.9**
	737nm,0.6s,SNR=93						
WRAB	**Tennant Creek**	**14.46**	**149**	*eP*	**Pn**	**18 22 20.9**	**-1.0**
	125nm,0.8s						
WRAB				*e*S	**S**	**18 24 54.6**	**-5.1**
WRA	**Warramunga Arr**	**14.46**	**149**	P	**Pn**	**18 22 20.5**	**-1.5**
	9.9nm,0.3s,baz=325,slow=12,SNR=438						
WRA				S	**S**	**18 24 58.1**	**-1.6**
	2.1nm,0.3s,baz=325,slow=20,SNR=12						
WB2	**Warramunga Arr**	**14.47**	**149**	*eP*	**Pn**	**18 22 20.9**	**-1.1**
WB2				*e*S	**S**	**18 24 59.2**	**-0.7**
MBWA	**Marble Bar**	**15.03**	**205**	*eP*	**Pn**	**18 22 28.1**	**-0.6**
	49nm,0.5s						
MBWA				*e*S	**S**	**18 25 10.6**	**-0.6**
BUKP	**Musuan**	**15.40**	**355**	*eP*	**Pn**	**18 22 32.1**	**-0.9**
PAGZ	**Pagadian**	**15.62**	**348**	*eP*	**Pn**	**18 22 34.7**	**-0.8**
IPIL	**Ipil**	**15.74**	**345**	*eP*	**Pn**	**18 22 38.7**	**+1.8**
KKM	**Kota Kinabalu**	**16.97**	**322**	*eP*	**P**	**18 22 49.2**	**+0.7**
SCPH	**Surigao**	**17.25**	**357**	*eP*	**P**	**18 22 52.7**	**+1.2**
ASAR	**Alice Springs**	**17.52**	**157**	P	**P**	**18 22 56.0**	**+1.6**
	36nm,0.3s,baz=334,slow=11,SNR=3241						
ASAR				S	**S**	**18 26 01.6**	**+0.8**
	baz=338,slow=23,SNR=4.2						
ASAR				PcP	PcP	18 27 19.0	+0.5
	2.2nm,0.3s,baz=341,slow=2.0,SNR=5.4						
MSLP	**Maasin**	**17.65**	**355**	*eP*	**P**	**18 22 56.2**	**+0.4**
BATP	**Bataraza**	**18.42**	**332**	*eP*	**P**	**18 23 07.1**	**+3.1**
GUIM	**Jordan**	**18.48**	**348**	*eP*	**P**	**18 23 04.7**	**+0.1**
KSM	**Kuching**	**18.49**	**298**	*eP*	**P**	**18 23 04.3**	**-0.5**
OCLP	**Ormoc**	**18.58**	**354**	*eP*	**P**	**18 23 08.3**	**+2.6**
CUYO	**Cuyo Island**	**19.08**	**343**	*eP*	**P**	**18 23 12.3**	**+1.2**
ENPP	**El Nido**	**19.93**	**339**	*eP*	**P**	**18 23 20.2**	**+0.2**
OTRP	**Odiongan**	**20.28**	**347**	*eP*	**P**	**18 23 24.5**	**+0.8**
PMG	**Port Moresby**	**20.50**	**97**	P	**P**	**18 23 26.9**	**+0.8**
	68nm,0.6s,baz=341,slow=3.0,SNR=59						
AUQP	**San Andres**	**21.09**	**350**	*eP*	**P**	**18 23 33.9**	**+2.3**
PVCP	**Virac**	**21.14**	**354**	*eP*	**P**	**18 23 34.2**	**+2.1**
LUBP	**Lubang**	**22.05**	**344**	*eP*	**P**	**18 23 39.4**	**-1.0**
TGY	**Tagaytay City**	**22.21**	**346**	P	**P**	**18 23 41.7**	**-0.1**
	105nm,0.4s,baz=171,slow=8.2,SNR=6.9						
POLP	**Polillo Island**	**22.60**	**348**	*eP*	**P**	**18 23 45.2**	**-0.1**
CTA	**Charters Tower**	**22.82**	**125**	*eP*	**P**	**18 23 48.9**	**+1.5**
	19nm,0.5s,mb4.7						
CTA				*e*S	**S**	**18 27 45.5**	**+12**
CTA	**Charters Tower**	**22.82**	**125**	P	**P**	**18 23 48.9**	**+1.5**
	32nm,0.6s,mb4.8,baz=311,slow=9.8,SNR=64						
CTA	**Charters Tower**	**22.82**	**125**	P	**P**	**18 23 48.9**	**+1.5**
CTAO	**Charters Tower**	**22.82**	**125**	*eP*	**P**	**18 23 49.0**	**+1.5**
	27nm,0.6s,mb4.8						
BALP	**Baler**	**23.66**	**348**	*eP*	**P**	**18 23 55.0**	**+0.1**
SCZP	**Santa Cruz**	**24.08**	**344**	*eP*	**P**	**18 23 57.1**	**-1.7**
KLBR	**Kellerberrin**	**25.28**	**198**	⇑*i* P	**P**	**18 24 10.5**	**+1.0**
	44nm,0.8s,mb4.9						
MUN	**Mundaring**	**26.13**	**200**	*eP*	**P**	**18 24 18.1**	**+0.9**
NWAO	**Narrogin (SRO)**	**26.68**	**198**	P	**P**	**18 24 23.0**	**+0.9**
	54nm,0.6s,mb5.1,baz=20,slow=8.0,SNR=67						
NWAO	**Narrogin (SRO)**	**26.68**	**198**	*eP*	**P**	**18 24 22.6**	**+0.6**
STKA	**Stephens Creek**	**27.98**	**152**	*eP*	**P**	**18 24 33.0**	**-0.6**
	39nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**27.98**	**152**	P	**P**	**18 24 33.1**	**-0.5**
	46nm,0.6s,mb5.1,baz=323,slow=9.0,SNR=100						
STKA	**Stephens Creek**	**27.98**	**152**	*eP*	**P**	**18 24 32.9**	**-0.7**
KULM	**Kulim**	**28.79**	**296**	*eP*	**P**	**18 24 40.3**	**-0.4**
PSI	**Prapat**	**29.39**	**289**	P	**P**	**18 24 45.0**	**-1.0**
	35nm,0.8s,mb4.8,baz=345,slow=23,SNR=9.4						
ADE	**Adelaide**	**29.50**	**159**	*eP*	**P**	**18 24 49.6**	**+2.7**
YHNB	**Yeheng**	**32.42**	**351**	*eP*	**P**	**18 25 10.3**	**-2.1**
TOO	**Toolangi**	**34.49**	**153**	*eP*	**P**	**18 25 33.2**	**+3.0**
	23nm,0.5s,mb5.0						
CNB	**Canberra Magne**	**34.68**	**146**	*eP*	**P**	**18 25 34.0**	**+2.2**
	110nm,1.9s,mb5.1						
SSE	**Sheshan**	**38.77**	**353**	P	**P**	**18 26 02.8**	**-3.3**
SSE				AMB	AMB		
	comp=Z,23nm,0.6s,mb4.8						
SSE				AMB	AMB		
	comp=Z,113nm,4.5s						
WHN	**Wuhan**	**39.64**	**343**	⇑P	**P**	**18 26 14.0**	**+0.8**
WHN				AMB	AMB		
	comp=Z,150nm,1.3s,mb5.2						
NJ2	**Nanjing**	**40.05**	**350**	*eP*	**P**	**18 26 16.9**	**+0.2**
NJ2				AP	pP	18 27 00.4	-16
NJ2				PP	PP	18 27 55.4	-0.5
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,200nm,5.6s						
NJ2				LR	LR		
	comp=N,350nm,14.1s						
NJ2				LR	LR		
	comp=E,310nm,19.3s						
NJ2				LR	LR		
	comp=Z,130nm,15.8s						
JNU	**Nakatsue**	**40.66**	**6**	P	**P**	**18 26 21.4**	**-0.2**
	comp=Z,17nm,0.8s,mb4.3,baz=159,slow=8.5,SNR=6.1						
ENH	**Enshi**	**41.01**	**337**	*eP*	**P**	**18 26 24.1**	**-0.3**
	comp=Z,30nm,0.7s,mb4.6						
DZM	**Mont Dzumac**	**41.06**	**115**	P	**P**	**18 26 25.9**	**+1.0**
	comp=Z,8.5nm,0.6s,mb4.2,baz=264,slow=11,SNR=19						
XAN	**Xi'an**	**44.60**	**339**	P	**P**	**18 26 52.1**	**-1.0**
XAN				AMB	AMB		
	comp=Z,47nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**45.21**	**13**	P	**P**	**18 26 56.6**	**-1.3**
	comp=Z,20nm,0.8s,mb4.4,baz=188,slow=8.9,SNR=41						
MJAR				PcP	PcP	18 28 31.9	-0.4
	comp=Z,4.6nm,0.7s,baz=188,slow=4.5,SNR=8.4						
MAJO	**Matsushiro**	**45.21**	**13**	*eP*	**P**	**18 26 56.3**	**-1.5**
	comp=Z,22nm,0.8s,mb4.4						
MAT	**Matsushiro**	**45.21**	**13**	P	**P**	**18 26 56.4**	**-1.5**

KSH AMB AMB
comp=Z,190nm,1.8s,mb5.5
MKAR Makanchi Array 66.84 329 P **P** **18 29 30.1 +0.1**
comp=Z,25nm,0.6s,mb5.2,baz=126,slow=7.3,SNR=129
MKAR PcP PcP 18 29 56.8 +0.5
comp=Z,2.2nm,0.5s,baz=129,slow=9.2,SNR=2.8
KZA Kyzart 68.00 321 P **P** **18 29 38.7 +1.5**
SNR=27
TKM2 Tokmak 2 68.25 322 P **P** **18 29 39.6 +0.8**
SNR=18
KBK Karagaybulak 68.50 322 P **P** **18 29 41.2 +0.8**
SNR=19
UCH Uchtor 68.54 321 P **P** **18 29 42.1 +1.5**
SNR=9.3
AAK Ala-Archa 68.77 321 P **P** **18 29 42.7 +0.7**
SNR=26
CHMS Chumysh 68.81 322 P **P** **18 29 42.6 +0.3**
SNR=10
AML Almayashu 69.00 321 P **P** **18 29 44.8 +1.4**
SNR=28
USP Ospenovka 69.11 322 P **P** **18 29 44.6 +0.5**
SNR=34
EKS2 Erkin-Say 69.23 321 P **P** **18 29 46.0 +1.2**
SNR=18
YAK Yakutsk 69.42 2 *eP* **P** **18 29 45.0 -1.0**
comp=Z,30nm,0.9s,mb5.0
ZAL Zalesovo 70.59 335 P **P** **18 29 52.8 -0.3**
comp=Z,24nm,0.6s,mb5.0,baz=352,slow=4.5,SNR=88
KURK Kurchatov 71.23 330 P **P** **18 29 56.7 -0.2**
comp=Z,291nm,1.3s,mb5.8,SNR=25
KURK Kurchatov 71.23 330 *eP* **P** **18 29 56.7 -0.2**
comp=Z,60nm,1.1s,mb5.1
FX1 Attu Island--F 72.02 28 P **P** **18 30 02.5 +0.9**
comp=Z,37nm,0.8s,mb5.1,baz=3.1,slow=12,SNR=5.9
VNDA Vanda 72.34 172 P **P** **18 30 03.9 +0.5**
comp=Z,6.2nm,0.6s,mb4.4,baz=318,slow=6.9,SNR=38
VNDA Vanda 72.34 172 P **P** **18 30 03.9 +0.5**
MAW Mawson 73.19 201 P **P** **18 30 09.7 +1.3**
comp=Z,38nm,1.0s,mb5.0,baz=86,slow=11,SNR=4.9
BRVK Borovoye 76.79 329 P **P** **18 30 28.9 0.0**
comp=Z,238nm,0.5s,mb6.2,SNR=21
BRVK Borovoye 76.79 329 *eP* **P** **18 30 28.9 0.0**
comp=Z,15nm,0.6s,mb4.9
ZRNK Zerenda 77.39 328 *eP* **P** **18 30 31.9 -0.3**
comp=Z,38nm,0.6s,mb5.3
ABKT Ailbek 77.95 311 P **P** **18 30 36.2 +0.9**
comp=Z,123nm,1.2s,mb5.5,SNR=12
AKTK Aktyubinsk 82.42 323 P **P** **18 30 58.4 -0.5**
AKTO Aktyubinsk 82.42 323 P **P** **18 30 58.4 -0.5**
comp=Z,10.0nm,0.6s,mb4.7,baz=108,slow=6.5,SNR=44
QSPA South Pole Qui 82.43 180 *eP* **P** **18 30 59.6 +0.5**
comp=Z,17nm,0.7s,mb4.9
QRN Al-Qurain 83.71 300 *eP* **P** **18 31 04.8 -0.8**
QRN AMb AMB 18 31 08.0
comp=Z,9.3nm,0.5s,mb4.9
RDF Al-Radifah 84.06 300 *eP* **P** **18 31 07.0 -0.4**
RDF AMb AMB 18 31 09.2
comp=Z,17nm,0.7s,mb5.0
ARU Arti 84.37 329 P **P** **18 31 08.2 -0.6**
comp=Z,121nm,0.7s,mb5.8,SNR=7.7
ARU Arti 84.37 329 *eP* **P** **18 31 08.0 -0.9**
comp=Z,71nm,1.5s,mb5.3
NAY Al-Naaiem 84.39 300 *eP* **P** **18 31 08.5 -0.4**
NAY AMb AMB 18 31 10.8
comp=Z,13nm,1.1s,mb4.7
MIB Mutribah 84.42 301 *eP* **P** **18 31 08.7 -0.4**
MIB AMb AMB 18 31 11.1
comp=Z,23nm,1.1s,mb4.9
KMBO Kilima Mbogo 89.12 269 P **P** **18 31 32.9 +1.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=41,slow=23,SNR=4.1
PMR Palmer 93.90 28 *eP* **P** **18 31 59.5 +5.8**
comp=Z,9.7nm,1.2s,mb4.7
MCK McKinley 94.30 26 *eP* **P** **18 31 53.9 -1.7**
comp=Z,5.0nm,1.1s,mb4.5
SNAA Sanae 94.30 194 P **P** **18 31 56.7 +1.1**
comp=Z,5.1nm,1.0s,mb4.5,baz=149,slow=3.5,SNR=10
ILAR Eielson Array 95.32 25 P **P** **18 31 57.2 -3.0**
comp=Z,0.8nm,0.8s,mb3.9,baz=230,slow=5.4,SNR=11
ILAR PKKPbc PKKPbc 18 48 52.0 +0.6
comp=Z,0.9nm,0.7s,baz=52,slow=2.3,SNR=14
BOSA Boshof 96.20 240 P **P** **18 32 03.6 -0.6**
comp=Z,3.8nm,0.5s,mb4.8,baz=100,slow=4.0,SNR=18
BRTR Keskin Array B 96.98 309 P **P** **18 32 06.8 -1.0**
comp=Z,0.8nm,0.6s,mb4.1,baz=140,slow=5.3,SNR=5.3
AKASG Malin Array Be 100.42 320 PKiKP PKiKP 18 36 48.1 0.0
comp=Z,0.8nm,0.6s,baz=69,slow=2.1,SNR=4.8
INK Inuvik 100.66 22 PKiKP PKiKP 18 36 48.1 -0.5
comp=Z,0.8nm,0.5s,baz=310,slow=2.9,SNR=7.2
INK PKKPbc PKKPbc 18 48 37.2 +0.4
comp=Z,2.5nm,0.7s,baz=71,slow=1.9,SNR=17
ARCES ARCESS Array B 100.89 339 PKKPbc PKKPbc 18 48 34.7 -1.5
comp=Z,2.0nm,0.7s,baz=180,slow=1.2,SNR=11
YKA Yellowknife Ar 109.75 26 PKiKP PKiKP 18 37 05.0 -0.4
comp=Z,0.8nm,0.5s,baz=300,slow=1.9,SNR=22
YKA PKKPbc PKKPbc 18 48 08.4 -1.0
comp=Z,1.7nm,0.5s,baz=114,slow=3.4,SNR=38
YKA PKKPab PKKPab 18 48 21.4 -0.6
comp=Z,1.0nm,0.5s,baz=108,slow=5.1,SNR=14
YKA Yellowknife Ar 109.75 26 PKPdf PKiKP 18 37 05.0 -0.4
YKA PKKPbc PKKPbc 18 48 08.4 -0.9
YKA PKKPab PKKPab 18 48 21.4 -0.6
GERES GERESS Array B 110.61 319 PKiKP PKiKP 18 37 07.4 +0.4
comp=Z,0.7nm,0.6s,baz=0.0,slow=1.3,SNR=8.6
MCMT McKenzie Canyo 116.82 43 *eP* PKPdf 18 37 20.0 +1.1
EKA Eskdalemuir Ar 117.96 330 PKP PKPdf 18 37 20.9 -0.2
comp=Z,1.7nm,0.9s,baz=2.2,slow=2.7,SNR=4.6
DUG Dugway 118.12 48 *eP* PKPdf 18 37 23.0 +1.6
REDW Red Top Meadow 118.64 44 *e*PKPdf PKPdf 18 37 23.9 +1.5
SNOW Snow King Moun 118.67 44 *e*PKPdf PKPdf 18 37 24.7 +2.2
PDAR Pinedale Array 119.72 45 PKP PKPdf 18 37 25.0 +0.5
comp=Z,2.3nm,0.6s,baz=268,slow=0.5,SNR=21
PDAR PKKPbc PKKPbc 18 47 36.4 +1.0
comp=Z,1.3nm,0.5s,baz=98,slow=6.0,SNR=15
SFJD Kangerlussuaq 120.61 359 PKP PKPdf 18 37 24.4 -1.8
comp=Z,4.2nm,0.6s,baz=316,slow=1.4
TUC Tucson 121.53 57 *e*PKPdf PKPdf 18 37 29.7 +1.8
FRB Frobisher Bay 122.87 8 PKP PKPdf 18 37 29.4 -1.1
comp=Z,7.5nm,0.7s,baz=337,slow=3.1,SNR=11
LPM Los Pinos Moun 124.43 53 *e*PKPdf PKPdf 18 37 34.8 +1.3
BNM Barren Site 124.48 54 *e*PKPdf PKPdf 18 37 35.7 +2.1
ULM Lac du Bonnet 124.76 32 PKP PKPdf 18 37 34.0 -0.2
comp=Z,4.7nm,0.5s,baz=329,slow=2.2,SNR=18
ULM Lac du Bonnet 124.76 32 PKP PKPdf 18 37 34.0 -0.2
TORD Torodi Ar. Bea 125.52 281 PKP PKPdf 18 37 36.8 +1.2
comp=Z,3.2nm,0.8s,baz=98,slow=2.4,SNR=20
MNTX Cornudas Mount 126.14 56 *e*PKPdf PKPdf 18 37 37.0 +0.2
PLCA Paso Flores 129.45 163 PKP PKPdf 18 37 43.4 +0.3
comp=Z,1.6nm,0.6s,baz=262,slow=2.8,SNR=7.2
PLCA Paso Flores 129.45 163 PKP PKPdf 18 37 43.4 +0.3
SCHQ Schefferville 131.65 10 PKP PKPdf 18 37 47.9 +0.6
comp=Z,2.4nm,0.5s,baz=264,slow=0.9,SNR=13
DBIC Dimbokro 131.76 272 PKP PKPdf 18 37 48.4 +0.9
comp=Z,2.1nm,0.6s,baz=42,slow=1.6,SNR=7.9
CFAA Coronel Fontan 138.59 161 PKP PKPdf 18 38 01.9 +1.7
comp=Z,0.8nm,0.5s,baz=214,slow=1.5,SNR=7.4
CPUP Villa Florida 146.11 174 *e*PKPdf PKPdf 18 38 15.2 +1.7
CPUP *e*PKPbc PKPbc 18 38 16.9 +1.9
LVC Limon Verde 146.43 154 PKPbc PKPbc 18 38 17.9 +2.0
comp=Z,18nm,0.5s,baz=286,slow=2.4,SNR=26
CAM4 Nova Friburgo 148.41 200 ⇓*i*P PKPdf 18 38 23.8 +6.5
CAM4 *i* 18 38 25.7
CAM4 *i* 18 38 28.8
CAM3 Guarapari 149.14 204 ⇓*i*P PKPdf 18 38 25.0 +6.5
CAM3 *i* 18 38 28.4
LPAZ La Paz 152.23 149 PKP PKPdf 18 38 26.4 +3.2
comp=Z,1.4nm,0.5s,baz=222,slow=1.1,SNR=7.2
LPAZ PKPbc PKPbc 18 38 32.7 +2.5
comp=Z,6.0nm,0.6s,baz=142,slow=2.0,SNR=15
LPAZ PKPab PKPab 18 38 43.6 +2.4
comp=Z,9.8nm,0.6s,baz=98,slow=7.9,SNR=18
LPAZ La Paz 152.23 149 PKP PKPdf 18 38 26.4 +3.2
LPAZ PKPbc PKPbc 18 38 32.7 +2.5
LPAZ PKPab PKPab 18 38 43.6 +2.4
SIV San Ignacio 155.43 162 PKP PKPdf 18 38 29.6 +1.9
comp=Z,1.9nm,0.8s,baz=192,slow=1.8,SNR=11
SIV PKPbc PKPdf 18 38 39.1 +11
comp=Z,1.5nm,0.6s,baz=228,slow=2.1,SNR=6.2
SIV PKPab PKPab 18 38 57.0 +2.0
comp=Z,3.6nm,0.5s,baz=213,slow=5.3,SNR=13
BDFB Brasília 156.33 193 PKPbc PKPdf 18 38 41.4 +12
comp=Z,2.2nm,0.6s,baz=159,slow=6.3,SNR=3.7
BDFB PKPab PKPab 18 39 00.7 +1.9
comp=Z,2.8nm,0.4s,baz=175,slow=3.7,SNR=5.2
SDV Santo Domingo 162.97 84 PKP PKPdf 18 38 37.4 +1.0
comp=Z,3.8nm,0.7s,baz=285,slow=5.9,SNR=5.0
SDV PKPab PKPab 18 39 29.4 +1.6
comp=Z,3.0nm,0.6s,baz=313,slow=2.6,SNR=3.7

NIED ***13*** *18:27:00,3940N×14300E,h23km,Mw4.2 Best double couple: M0=2.03000×1015 NP1:φ=92.00000°,δ=60.00000°, λ=102.00000°. NP2:φ=248.00000°,δ=32.00000°,λ=70.00000°.*
IDC ***13*** *18:27:47.0±0.7,3936N×14286E,h0km,mb4.1/16, mb1 4.2/18,mb1mx4.2/26,mbtmp4.1/18,ML3.9/2,MS4.1/2, Ms1 4.1/2,ms1mx3.4/37,Error ellipse: s-maj=20.6km s-min=16.5km az=102.0*
NEIC ***13*** *18:27:48.9±0.5,3944N×143.12E,h10km,mb4.6/12, MW4.1(NIED),Error ellipse: s-maj=12.9km s-min=8.7km az=140.0*
ISCJB ***13*** *18:27:50.4±0.4,3948N±003×143.13E±004,h33km, mb4.2/36,MS4.9/1,Error ellipse: s-maj=5.7km s-min=3.9km az=88.7*
MOS ***13*** *18:27:50.2±1.1,3948N×143.09E,h33km,mb4.3/17,Error ellipse: s-maj=11.6km s-min=7.8km az=94.6*
NAO ***13*** *18:27:51.9,3852N×140.49E,h33km,mb4.0*
BJI ***13*** *18:27:51.7,3936N×142.18E,h10km,mB5.0,mb4.3*
JMA ***13*** *18:27:52.5±0.1,3944N×142.96E,h42km±3km,M4.1*
ISC 13 18:27:52.4±0.4,3947N±003×14305E±004,h35km, (h26km±9.3km:pP-P),n91,σ1°01/100,mb4.2/36,MS4.9/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.96**	**277**	P	**Pn**	**18 28 09.0**	**-0.4**
MIYJ				*e*S	**Sn**	**18 28 20.7**	**-1.1**
JTH	**Tanohata**	**1.03**	**297**	P	**Pn**	**18 28 10.3**	**0.0**
JTH				*e*S	**Sn**	**18 28 23.4**	**-0.1**
OFUJ	**Ofunato**	**1.14**	**250**	P	**Pn**	**18 28 11.4**	**-0.5**
JOM	**Ohasama**	**1.36**	**271**	P	**Pn**	**18 28 15.1**	**+0.2**
JOM				*e*S	**Sn**	**18 28 31.5**	**-0.3**
JANG	**Nango**	**1.49**	**308**	P	**Pn**	**18 28 16.3**	**-0.3**
JANG				*e*S	**Sn**	**18 28 34.6**	**-0.2**
JMK	**Ichinoseki**	**1.52**	**251**	P	**Pn**	**18 28 16.9**	**-0.1**
JIO	**Ouri**	**1.67**	**233**	P	**Pn**	**18 28 18.5**	**-0.7**
JIO				*e*S	**Sn**	**18 28 37.0**	**-2.4**
JAH	**Hinai**	**1.99**	**292**	P	**Pn**	**18 28 24.3**	**+0.7**
JAH				*e*S	**Sn**	**18 28 48.1**	**+0.8**
JTM	**Tenmabayashi**	**2.01**	**311**	P	**Pn**	**18 28 24.2**	**+0.4**
JYK	**Kaneyama**	**2.17**	**256**	P	**Pn**	**18 28 26.7**	**+0.7**
JOU	**Okura**	**2.17**	**240**	P	**Pn**	**18 28 26.2**	**+0.2**
JMM	**Marumori**	**2.39**	**229**	P	**Pn**	**18 28 28.3**	**-0.7**
ASAJ	**Asahikawa**	**4.65**	**356**	Pn	**Pn**	**18 28 59.5**	**-0.7**
ASAJ	3.9nm,0.3s,baz=226,slow=14,SNR=17			Sn	**Sn**	**18 29 52.9**	**-0.1**
MAJO	**Matsushiro**	**4.81**	**234**	*e*P	**Pn**	**18 29 03.8**	**+1.4**
MAT	**Matsushiro**	**4.81**	**234**	P	**Pn**	**18 29 03.9**	**+1.5**
MAT				*e*S	**Sn**	**18 29 57.2**	**+0.2**
MJAR	**Matsushiro Arr**	**4.81**	**234**	Pn	**Pn**	**18 29 03.5**	**+1.1**
MJAR	4.1nm,0.3s,baz=38,slow=12,SNR=50			Sn	**Sn**	**18 29 52.9**	**-0.1**
MJAR	**Matsushiro Arr**	**4.81**	**234**	P	**Pn**	**18 29 03.5**	**+1.1**
MJAR	4.5nm,0.3s,baz=217,slow=30,SNR=4.5			pmax	pmax		
MJAR	**Matsushiro Arr**	**4.81**	**234**	Pn	**Pn**	**18 29 03.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**5.02**	**24**	*e*P	**Pn**	**18 29 04.3**	**-0.9**
YUK				*e*S	**Sn**	**18 29 57.2**	**-4.8**
YUK	comp=Z,160nm,0.4s			pmax	pmax		
YUK	comp=N,2μm,0.8s			smax			
YUK	comp=E,2μm,0.8s			smax			
YUK	comp=N,850nm,0.4s			smax			
YUK	comp=E,190nm,0.4s			smax			
KUR	**Kuril'sk**	**6.77**	**30**	*e*P	**Pn**	**18 29 27.2**	**-2.1**
KUR				*e*S	**Sn**	**18 30 39.5**	**-5.6**
KUR	comp=Z,70nm,0.6s			pmax	pmax		
KUR	comp=N,90nm,0.4s			smax			
KUR	comp=E,160nm,0.4s			smax			
JHJ	**Hachijo jima 2**	**6.87**	**204**	Pn	**Pn**	**18 29 28.1**	**-2.5**
YSS	**Yuzh-Sakhalins**	**7.48**	**358**	*e*P	**Pn**	**18 29 41.0**	**+2.0**
YSS				S	**Sn**	**18 31 01.6**	**-1.0**
MDJ	**Mudanjiang**	**11.25**	**302**	P	**Pn**	**18 30 33.3**	**+2.6**
HIA	**Hailar**	**19.26**	**308**	P	**Pn**	**18 32 13.5**	**-1.5**
MA2	**Magadan**	**20.71**	**11**	*e*P	**P**	**18 32 30.2**	**+0.6**
MA2	comp=Z,4.0nm,0.8s			pmax	pmax		
MA2	**Magadan**	**20.71**	**11**	*e*P	**P**	**18 32 30.8**	**+1.2**
YAK	**Yakutsk**	**24.02**	**344**	*e*P	**P**	**18 33 03.0**	**-0.9**
BOD	**Bodaibo**	**26.24**	**324**	*e*P	**P**	**18 33 23.7**	**-0.4**
BOD				*e*	pP	18 33 35.0	+0.9
BOD	comp=Z,3.0nm,1.0s,mb3.8			pmax	pmax		
BOD	comp=Z,4.0nm,0.7s,mb4.1			pmax	pmax		
SONM	**Songino Array**	**27.60**	**300**	P	**P**	**18 33 34.4**	**-2.0**
SONM	comp=Z,1.2nm,0.7s,mb3.6,baz=90,slow=8.9,SNR=7.2						
SONM	**Songino Array**	**27.60**	**300**	P	**P**	**18 33 34.4**	**-1.9**
SONM	comp=Z,1.0nm,0.7s			pmax	pmax		
ENH	**Enshi**	**28.89**	**262**	*e*P	**P**	**18 33 47.3**	**-0.5**
LZH	**Lanzhou**	**31.01**	**276**	*e*P	**P**	**18 34 04.1**	**-2.5**
LZH				AP	pP	18 34 08.5	-8.2
LZH				XP	sP	18 34 10.9	-10
LZH	comp=Z,23nm,1.4s,mb4.8			AMB	AMB		
BILL	**Bilibino**	**31.33**	**17**	*e*P	**P**	**18 34 03.8**	**-5.6**
BILL	comp=Z,3.0nm,1.2s,mb4.0			pmax	pmax		
GTA	**Gaotai**	**33.15**	**284**	*e*P	**P**	**18 34 26.6**	**+1.2**
GTA				AP	pP	18 34 34.4	-1.1
GTA				XP	sP	18 34 38.5	-1.2
GTA	comp=Z,4.0nm,0.9s,mb4.3			AMB	AMB		
ZAL	**Zalesovo**	**41.29**	**310**	P	**P**	**18 35 34.1**	**-0.3**
ZAL	comp=Z,1.7nm,0.5s,mb3.9,baz=5.4,slow=9.9,SNR=6.5						
ZAL	**Zalesovo**	**41.29**	**310**	P	**P**	**18 35 34.1**	**-0.3**
ZAL	comp=Z,2.0nm,0.5s			pmax	pmax		
LSA	**Lhasa**	**43.31**	**273**	P	**P**	**18 35 53.0**	**+2.2**
MKAR	**Makanchi Array**	**43.96**	**300**	P	**P**	**18 35 56.0**	**-0.1**
MKAR	comp=Z,2.8nm,0.7s,mb4.1,baz=84,slow=9.7,SNR=17 **Makanchi Array**	**43.96**	**300**	*i* P	**P**	**18 35 56.3**	**+0.2**
KURK	**Kurchatov**	**45.48**	**306**	*e*P	**P**	**18 36 08.5**	**+0.3**
KURK	comp=Z,10.0nm,0.8s,mb4.7			pmax	pmax		
KURK	**Kurchatov**	**45.48**	**306**	*e*P	**P**	**18 36 08.5**	**+0.3**
ILAR	**Eielson Array**	**46.75**	**34**	P	**P**	**18 36 19.5**	**+1.3**
ILAR	**Eielson Array**	**46.75**	**34**	P	**P**	**18 36 19.5**	**+1.3**
ILAR	comp=Z,3.0nm,0.7s			pmax	pmax		
JIRN	**Jiri**	**48.11**	**274**	*e*P	**P**	**18 36 31.0**	**+2.2**
GUN	**Gumba**	**48.23**	**274**	*e*P	**P**	**18 36 30.4**	**+0.7**
KKN	**Kakani**	**48.75**	**275**	*e*P	**P**	**18 36 34.4**	**+0.7**
KKN	**Kakani**	**48.75**	**275**	*e*P	**P**	**18 36 34.4**	**+0.7**
KKN	comp=Z,4.0nm,0.6s,mb4.6			pmax	pmax		
DMN	**Daman**	**48.97**	**274**	*e*P	**P**	**18 36 36.9**	**+1.5**
GKN	**Gorkha**	**49.14**	**275**	*e*P	**P**	**18 36 37.0**	**+0.3**
TKM2	**Tokmak 2**	**49.64**	**297**	P	**P**	**18 36 41.3**	**+0.8**
TKM2	comp=Z,5.0nm,0.8s,mb4.6			pmax	pmax		
VOSK	**Vostochnaya**	**49.65**	**311**	P	**P**	**18 36 40.1**	**-0.4**
VOSK	comp=Z,3.0nm,1.0s,mb4.3			pmax	pmax		
BVA0	**Borovoye Array**	**49.92**	**311**	*i* P	**P**	**18 36 42.8**	**+0.2**
BVA0	comp=Z,1.0nm,1.3s,mb3.7			pmax	pmax		
BRVK	**Borovoye**	**49.97**	**311**	*e*P	**P**	**18 36 43.3**	**+0.3**
BRVK	comp=Z,1.0nm,0.6s,mb4.0			pmax	pmax		
BRVK	**Borovoye**	**49.97**	**311**	*e*P	**P**	**18 36 43.3**	**+0.4**
KOLN	**Koldanda**	**50.05**	**276**	*e*P	**P**	**18 36 44.1**	**+0.5**
	comp=Z,14nm,1.2s,mb4.9						
ZRNK	**Zerenda**	**50.74**	**311**	*e*P	**P**	**18 36 49.1**	**+0.3**
ZRNK	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax		
ZRNK	**Zerenda**	**50.74**	**311**	*e*P	**P**	**18 36 49.1**	**+0.3**
INK	**Inuvik**	**51.63**	**28**	P	**P**	**18 36 56.3**	**+0.8**
INK	**Inuvik**	**51.63**	**28**	P	**P**	**18 36 56.3**	**+0.8**
INK	comp=Z,1.0nm,0.7s			pmax	pmax		
KKAR	**Karatay Array**	**53.05**	**299**	*i* P	**P**	**18 37 05.9**	**-0.1**
ARU	**Arti**	**55.41**	**318**	*e*P	**P**	**18 37 23.5**	**+0.3**
AB31	**Akbulak array**	**57.37**	**309**	*i* P	**P**	**18 37 37.0**	**-0.2**
AB31	comp=Z,2.0nm,0.6s,mb4.3			pmax	pmax		
AKTK	**Aktyubinsk**	**58.02**	**311**	P	**P**	**18 37 41.3**	**-0.4**
AKTO	**Aktyubinsk**	**58.02**	**311**	P	**P**	**18 37 41.3**	**-0.4**
AKTO	comp=Z,3.3nm,0.8s,mb4.4,baz=71,slow=12,SNR=12			pmax	pmax		
AKTO	**Aktyubinsk**	**58.02**	**311**	P	**P**	**18 37 41.3**	**-0.4**
WB2	**Warramunga Arr**	**59.66**	**189**	*e*P	**P**	**18 37 49.0**	**-4.1**
WRA	**Warramunga Arr**	**59.66**	**190**	P	**P**	**18 37 51.5**	**-1.7**
WRA	comp=Z,2.1nm,0.8s,mb4.2,baz=7.0,slow=7.0,SNR=16			pmax	pmax		
WRA	**Warramunga Arr**	**59.66**	**190**	P	**P**	**18 37 51.5**	**-1.6**
YKA	**Yellowknife Ar**	**61.06**	**31**	P	**P**	**18 38 03.1**	**+0.5**
YKA	**Yellowknife Ar**	**61.06**	**31**	P	**P**	**18 38 03.1**	**+0.4**
YKA	comp=Z,1.0nm,0.7s			pmax	pmax		
YKA	**Yellowknife Ar**	**61.06**	**31**	P	**P**	**18 38 03.1**	**+0.5**
ASAR	**Alice Springs**	**63.39**	**189**	P	**P**	**18 38 17.5**	**-0.8**
ASAR	**Alice Springs**	**63.39**	**189**	P	**P**	**18 38 17.5**	**-0.8**
ASAR	comp=Z,1.0nm,0.9s			pmax	pmax		
FINES	**FINESS Array B**	**67.26**	**332**	P	**P**	**18 38 42.5**	**-0.8**
FINES	**FINESS Array B**	**67.26**	**332**	P	**P**	**18 38 42.6**	**-0.7**
FINES	comp=Z,2.0nm,0.7s			pmax	pmax		
HFS	**Hagfors**	**72.39**	**336**	P	**P**	**18 39 14.3**	**-0.7**
HFS	**Hagfors**	**72.39**	**336**	P	**P**	**18 39 14.3**	**-0.6**
HFS	comp=Z,1.0nm,0.4s			pmax	pmax		
NB2	**NORSAR Subarra**	**72.43**	**338**	P	**P**	**18 39 15.2**	**+0.1**
NOA	**NORSAR Array B**	**72.43**	**338**	P	**P**	**18 39 14.7**	**-0.5**
NOA	**NORSAR Array B**	**72.43**	**338**	P	**P**	**18 39 14.7**	**-0.5**
NOA	comp=Z,2.0nm,0.8s			pmax	pmax		
AKASG	**Malin Array Be**	**73.16**	**323**	P	**P**	**18 39 18.6**	**-0.8**
AKASG	**Malin Array Be**	**73.16**	**323**	P	**P**	**18 39 18.6**	**-0.8**
AKASG	comp=Z,1.0nm,0.6s			pmax	pmax		
FRB	**Frobisher Bay**	**74.11**	**14**	P	**P**	**18 39 24.9**	**-0.1**
FRB	**Frobisher Bay**	**74.11**	**14**	P	**P**	**18 39 24.9**	**-0.1**
FRB	comp=Z,1.0nm,0.3s			pmax	pmax		
PDAR	**Pinedale Array**	**75.05**	**47**	P	**P**	**18 39 31.9**	**+1.5**
KHC	**Kasperske Hory**	**81.13**	**329**	*e*P	**P**	**18 40 03.0**	**-1.2**
GERES	**GERESS Array B**	**81.31**	**329**	P	**P**	**18 40 05.8**	**+0.6**
PPT	**Papeete**	**84.60**	**118**	LR	LR	19 13 48.8	
JCT	**Junction City**	**89.16**	**50**	*e*P	**P**	**18 40 45.1**	**+0.8**
JCT	comp=Z,15nm,1.0s,mb5.3			pmax	pmax		
JCT	**Junction City**	**89.16**	**50**	*e*P	**P**	**18 40 45.0**	**+0.7**
SIV	**San Ignacio**	**148.52**	**49**	PKPbc	PKPbc	18 47 35.9	+0.5
	comp=Z,3.3nm,0.8s,baz=313,slow=4.1,SNR=10						

ISCJB ***13*** *18:31:46.8±0.5,3893N±004×12592E±006,h10km,Error ellipse: s-maj=7.5km s-min=3.5km az=103.2*
KMA ***13*** *18:31:51.1±1.0,3867N×12603E,ML3.0*
BJI ***13*** *18:31:51.3,3870N×12599E,h15km,ML3.5*
ISC 13 18:31:48.6±0.5,3885N±004×12599E±005,h10km,n13, σ0°95/19,1C,North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMUS	**Musan**	**1.14**	**147**	P	**Pb**	**18 32 10.0**	**-0.4**
KSMUS				S	**Sb**	**18 32 23.7**	**-1.5**
KSDDC	**Dongducheon**	**1.27**	**138**	P	**Pn**	**18 32 12.2**	**-0.1**
KSDDC				S	**Sb**	**18 32 27.7**	**-1.2**
KSBRD	**Baengnyeongdo**	**1.38**	**231**	P	**Pn**	**18 32 15.3**	**+1.4**
KSCWO	**Cheorwon**	**1.42**	**122**	P	**Pn**	**18 32 15.5**	**+0.9**
KSSEO	**Seoul**	**1.55**	**151**	P	**Pn**	**18 32 17.2**	**+1.1**
KSSEO				S	**Sn**	**18 32 35.8**	**-0.5**
KSSWO	**Suwon**	**1.76**	**154**	P	**Pn**	**18 32 20.9**	**+1.8**
KSICN	**Icheon**	**1.92**	**144**	P	**Pn**	**18 32 21.6**	**+0.2**
KSSES	**Seosan**	**2.09**	**170**	P	**Pn**	**18 32 23.5**	**-0.2**
KSDGY	**Daegwallycong**	**2.41**	**118**	P	**Pn**	**18 32 28.8**	**+0.7**
KSCHJ	**Chungju**	**2.52**	**141**	P	**Pn**	**18 32 30.1**	**+0.5**
DL2	**Dalian**	**3.40**	**272**	PG	**Pg**	**18 32 52.0**	**-1.8**
DL2				SG	**Sg**	**18 33 37.6**	**-0.3**
DL2	comp=N,60nm,0.6s			Smax			
DL2	comp=E,30nm,0.4s			Smax			
SNY	**Shenyang**	**3.50**	**329**	⇑PG	**Pg**	**18 32 55.8**	**+0.2**
SNY				SG	**Sg**	**18 33 41.8**	**+0.9**
SNY	comp=N,100nm,0.4s			Smax			
SNY	comp=E,170nm,0.7s			Smax			
CN2	**Changchun**	**4.96**	**355**	*e*PG	**Pg**	**18 33 22.6**	**-1.1**
CN2				*e*SG	**Sg**	**18 34 27.3**	**-0.7**
CN2	comp=N,100nm,0.6s			Smax			
CN2	comp=E,100nm,0.6s			Smax			

ISCJB ***13*** *18:59:38.8±0.9,5953N±009×304W±02,h10km,mb3.7/6, MS3.8/6,Error ellipse: s-maj=13.3km s-min=12.5km az=170.2*
IDC ***13*** *18:59:38.5±1.6,5940N×30±44W,h0km,mb3.8/6,mb1 4.0/9, mb1mx3.7/28,mbtmp3.9/9,ML3.4/3,MS3.8/7,Ms1 3.8/7, ms1mx3.4/26,Error ellipse: s-maj=33.0km s-min=23.1km az=22.0*
NEIC ***13*** *18:59:39.9±1.0,5936N×3049W,h10km,Error ellipse: s-maj=20.9km s-min=11.4km az=207.0*
ISC 13 18:59:40.0±0.9,5944N±009×304W±02,h10km,n19, σ0°86/13,mb3.7/6,MS3.8/6,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.82**	**35**	Pn	**Pn**	**19 01 21.6**	**+1.5**
BORG	1.6nm,0.3s,baz=208,slow=6.2,SNR=4.5			Sn	**Sn**	**19 02 37.1**	**-0.7**
SFJD	**Kangerlussuaq**	**11.80**	**318**	Pn	**Pn**	**19 02 29.3**	**+1.0**
SFJD	**Kangerlussuaq**	**11.80**	**318**	Pn	**Pn**	**19 02 29.3**	**+1.0**
EKA	**Eskdalemuir Ar**	**15.20**	**94**	Pn	**Pn**	**19 03 15.9**	**+1.2**
FRB	**Frobisher Bay**	**18.44**	**300**	LR	LR	19 10 02.4	
SCHQ	**Schefferville**	**20.12**	**273**	LR	LR	19 10 50.9	
ARCES	**ARCESS Array B**	**25.13**	**43**	P	**P**	**19 05 04.7**	**-0.4**
ESDC	**Sonseca Array**	**25.88**	**128**	P	**P**	**19 05 11.6**	**-0.3**
FINES	**FINESS Array B**	**27.20**	**61**	P	**P**	**19 05 22.6**	**-1.2**
SADO	**Sadowa**	**32.50**	**265**	LR	LR	19 18 36.1	
ULM	**Lac du Bonnet**	**37.32**	**286**	LR	LR	19 20 29.6	
YKA	**Yellowknife Ar**	**38.25**	**312**	P	**P**	**19 06 59.2**	**-1.0**

YKA	**Yellowknife Ar**	**38.25**	**312**	P	**P**	**19 06 59.2**	**-1.0**
ILAR	**Eielson Array**	**47.24**	**328**	LR	LR	19 30 33.9	
	comp=Z,100nm,18.9s,MS3.8,baz=184,slow=39						
AKTK	**Aktyubinsk**	**47.95**	**59**	P	**P**	**19 08 18.4**	**-0.3**
AKTO	**Aktyubinsk**	**47.95**	**59**	P	**P**	**19 08 18.4**	**-0.3**
	1.4nm,0.7s,mb4.1,baz=316,slow=8.3,SNR=7.9						
PDAR	**Pinedale Array**	**49.28**	**287**	LR	LR	19 28 42.6	
	comp=Z,103nm,19.9s,MS3.8,baz=49,slow=35						
NVAR	**Mina Array Bea**	**56.85**	**290**	LR	LR	19 35 31.0	
	comp=Z,162nm,18.1s,MS4.2,baz=325,slow=38						
MKAR	**Makanchi Array**	**60.72**	**47**	P	**P**	**19 09 52.1**	**+0.5**
	0.8nm,0.6s,mb4.0,baz=333,slow=5.8,SNR=13						

IDC 13 19:01:32.5±1.3, 678N×7295W, h161km±18km, mb3.1/1, mb1 3.3/3, mb1mx3.0/21, mbtmp3.5/3, Error ellipse: s-maj=61.4km s-min=14.3km az=129.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.35**	**216**	P	Pn	19 02 12.9	+0.4
	11nm,0.3s,baz=270,slow=24,SNR=23						
ROSC				S	Sn	19 02 40.6	-2.7
	6.4nm,0.3s,baz=110,slow=16,SNR=6.6						
SDV	**Santo Domingo**	**3.10**	**47**	P	Pn	19 02 22.8	+1.2
	3.7nm,0.3s,baz=247,slow=4.3,SNR=17						
SDV				S	Sn	19 03 00.3	+0.6
	7.5nm,0.3s,baz=65,slow=20,SNR=28						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	P	19 11 44.3	-0.2
	0.3nm,0.5s,baz=132,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	19 21 05.6	+0.7
	0.1nm,0.4s,baz=109,slow=2.6,SNR=11						

IGQ 13 19:19:41.6, 424S×8052W, h40km±18km, Mb4.4, Ms4.2, 4C-5D, Error ellipse: s-maj=14.2km s-min=13.0km az=175.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.31**	**35**	⇑P	Pn	19 20 33.0	+2.1
PATA	**Patacocha**	**3.42**	**38**	P	Pn	19 20 33.6	+1.1
CUSU	**Cusua**	**3.44**	**36**	P	Pn	19 20 35.6	+2.9
JUIV	**Juive**	**3.47**	**36**	P	Pn	19 20 35.7	+2.6
ULBA	**Ulba**	**3.48**	**37**	⇓P	Pn	19 20 36.2	+2.9
QIL1	**Quilotoa**	**3.73**	**25**	⇑P	Pn	19 20 37.6	+1.0
QIL1				S	Sn	19 21 19.4	+0.2
CAMI	**Rancho Maria**	**4.07**	**30**	P	Pn	19 20 44.4	+3.0
TAMB	**Tambo**	**4.13**	**31**	P	Pn	19 20 45.4	+3.3
VC1	**Cotopaxi 1**	**4.15**	**31**	P	Pn	19 20 45.6	+3.1
MAG1	**Magdalena**	**4.21**	**10**	P	Pn	19 20 44.9	+1.7
JUA2	**San Juan 2**	**4.43**	**26**	P	Pn	19 20 49.2	+2.9
ANTI	**Antisana**	**4.44**	**32**	⇓P	Pn	19 20 49.1	+2.6
TERV	**Terraza Guagua**	**4.47**	**25**	⇓P	Pn	19 20 50.2	+3.4
GGP	**Refugio Guagua**	**4.47**	**26**	⇓P	Pn	19 20 50.3	+3.4
GGP				S	Sn	19 21 39.0	+1.4
PINO	**Pino**	**4.48**	**25**	⇑P	Pn	19 20 50.0	+3.0
YANA	**Yana**	**4.53**	**25**	⇓P	Pn	19 20 50.4	+2.8
ANGU	**Angureal**	**4.94**	**31**	⇑P	Pn	19 20 56.2	+2.9
COTA	**Cotacachi**	**5.04**	**26**	P	Pn	19 20 57.4	+2.8

*NEIC **13** 19:34:59.0±1.3, 3822S×17879E, h10km, mb4.2/1, Error ellipse: s-maj=30.0km s-min=18.0km az=128.0*
*ISCJB **13** 19:35:00.5±1.5, 3788S±005×1788E±01, h33km±10km, mb4.0/4, Error ellipse: s-maj=17.7km s-min=9.0km az=171.3*
*WEL **13** 19:35:02.6±0.5, 3777S×17855E, h17km±2km, ML4.4/20, Error ellipse: s-maj=5.1km s-min=1.2km az=90.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 4.
*IDC **13** 19:35:05.3±4.3, 3837S×17861E, h52km±30km, mb3.9/3, mb1 4.1/4, mb1mx3.9/11, mbtmp4.1/4, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/24, Error ellipse: s-maj=34.8km s-min=28.4km az=69.0*

ISC 13 19:35:00.7±1.9, 3787S±005×1787E±01, h18km±13km, n49, σ1§17/52, mb4.0/4, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.43**	**241**	⇑P*	**Pb**	**19 35 10.2**	**+0.5**
PUZ				S*	**Sb**	**19 35 15.8**	**0.0**
MXZ	**Matakaoa Point**	**0.45**	**312**	P*	**Pb**	**19 35 08.4**	**-1.6**
MXZ				S*	**Sb**	**19 35 11.9**	**-4.6**
MWZ	**Matawai**	**1.06**	**243**	P*	**Pb**	**19 35 20.6**	**+0.1**
WIZ	**White Island**	**1.27**	**285**	P*	**Pb**	**19 35 23.1**	**-0.9**
URZ	**Urewera**	**1.34**	**252**	P	**Pn**	**19 35 24.4**	**0.0**
	426nm,0.3s,baz=56,slow=2.7,SNR=799						
URZ				S	**Sn**	**19 35 41.0**	**-0.8**
	305nm,0.3s,baz=117,slow=21,SNR=15						
URZ	**Urewera**	**1.34**	**252**	PN	**Pn**	**19 35 24.4**	**0.0**
URZ				SN	**Sn**	**19 35 40.8**	**-0.9**
KNZ	**Kokohu**	**1.42**	**215**	PN	**Pn**	**19 35 26.9**	**+1.3**
MARZ	**Manawahe**	**1.63**	**265**	PN	**Pn**	**19 35 27.6**	**-0.9**
TAZ	**Tarawera**	**1.79**	**257**	PN	**Pn**	**19 35 31.1**	**+0.4**
BKZ	**Black Stump Fm**	**2.19**	**233**	PN	**Pn**	**19 35 37.5**	**+1.4**
PXZ	**Pawanui**	**2.61**	**213**	PN	**Pn**	**19 35 42.1**	**+0.2**
KUZ	**Kuaotunu**	**2.65**	**294**	*e*PN	**Pn**	**19 35 40.5**	**-1.9**
OTVZ	**Oturere**	**2.73**	**241**	PN	**Pn**	**19 35 44.6**	**+1.0**
WTVZ	**West Tongariro**	**2.76**	**242**	PN	**Pn**	**19 35 45.0**	**+1.0**
NGZ	**Ngauruhoe**	**2.78**	**241**	PN	**Pn**	**19 35 45.3**	**+1.0**
TUVZ	**Tukino**	**2.79**	**239**	PN	**Pn**	**19 35 45.5**	**+1.2**
MOVZ	**Moawhango**	**2.80**	**236**	PN	**Pn**	**19 35 45.5**	**+1.0**
WPVZ	**Whakapapa**	**2.83**	**241**	PN	**Pn**	**19 35 46.2**	**+1.2**
FWVZ	**Far West T-bar**	**2.85**	**240**	PN	**Pn**	**19 35 46.4**	**+1.2**
TWVZ	**Taurewa**	**2.85**	**244**	PN	**Pn**	**19 35 46.3**	**+1.1**
WNVZ	**Wahianoa**	**2.86**	**238**	PN	**Pn**	**19 35 46.0**	**+0.7**
TSZ	**Takapari Road**	**3.08**	**224**	PN	**Pn**	**19 35 47.7**	**-0.6**
MTAZ	**Motutapu**	**3.23**	**288**	PN	**Pn**	**19 35 51.1**	**+0.7**
BFZ	**Birch Farm**	**3.41**	**214**	PN	**Pn**	**19 35 52.7**	**-0.2**
WAZ	**Wanganui**	**3.48**	**236**	PN	**Pn**	**19 35 55.3**	**+1.4**
RAEZ	**Rainy Point**	**3.69**	**246**	PN	**Pn**	**19 35 59.0**	**+2.3**
MRZ	**Mangatainoka R**	**3.71**	**220**	PN	**Pn**	**19 35 56.1**	**-1.0**
MRZ				SN	**Sn**	**19 36 39.2**	**-1.2**
NEZ	**North Egmont**	**3.90**	**247**	PN	**Pn**	**19 36 01.7**	**+2.1**
WCZ	**Waipu Caves**	**4.01**	**297**	PN	**Pn**	**19 36 00.4**	**-0.6**
MTW	**Mount Morrison**	**4.13**	**216**	PN	**Pn**	**19 36 01.1**	**-1.7**
KIW	**Kapiti Island**	**4.21**	**224**	PN	**Pn**	**19 36 02.6**	**-1.3**
SNZO	**South Karori**	**4.64**	**221**	*e*P	**Pn**	**19 36 04.0**	**-5.7**
TCW	**Tory Channel**	**4.80**	**224**	*e*PN	**Pn**	**19 36 09.9**	**-2.1**
OUZ	**Omahuta**	**4.90**	**301**	PN	**Pn**	**19 36 13.7**	**+0.3**
TUWZ	**Tuamarina**	**5.13**	**225**	*e*PN	**Pn**	**19 36 15.0**	**-1.6**
QRZ	**Quartz Range**	**5.64**	**236**	*e*PN	**Pn**	**19 36 20.9**	**-2.7**
THZ	**Tophouse**	**5.94**	**227**	*e*PN	**Pn**	**19 36 24.9**	**-2.7**
KHZ	**Kahutara**	**6.04**	**220**	*e*PN	**Pn**	**19 36 29.4**	**+0.3**
MQZ	**McQueen's Vall**	**7.44**	**216**	*e*PN	**Pn**	**19 36 44.4**	**-3.9**
MQZ				SN	**Sn**	**19 38 04.5**	**-7.6**
RPZ	**Rata Peaks**	**8.25**	**222**	P	**Pn**	**19 36 57.4**	**-1.9**
	0.8nm,0.3s,baz=78,slow=4.3,SNR=3.3						
RPZ				S	**Sn**	**19 38 23.9**	**-8.2**
	2.8nm,0.3s,baz=353,slow=20,SNR=8.4						
DZM	**Mont Dzumac**	**18.97**	**323**	LR	LR	19 44 59.9	
	comp=Z,185nm,19.6s,baz=202,slow=31						
STKA	**Stephens Creek**	**30.91**	**270**	P	**P**	**19 41 16.2**	**0.0**
	3.1nm,0.9s,mb4.1,baz=224,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**40.66**	**277**	P	**P**	**19 42 40.2**	**+0.5**
	1.7nm,0.6s,mb3.9,baz=125,slow=8.8,SNR=47						
WB2	**Warramunga Arr**	**42.32**	**282**	*e*P	**P**	**19 42 53.8**	**+0.5**
WRAB	**Tennant Creek**	**42.33**	**282**	*e*P	**P**	**19 42 53.7**	**+0.3**
	3.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**42.33**	**282**	P	**P**	**19 42 53.6**	**+0.2**
	1.8nm,0.6s,mb3.9,baz=122,slow=7.7,SNR=45						
ARCES	**ARCESS Array B**	**145.15**	**344**	PKPbc	PKPbc	19 54 36.0	-0.6
	9.4nm,1.1s,baz=0.0,slow=2.4,SNR=6.2						
FINES	**FINESS Array B**	**150.91**	**333**	PKPbc	PKPbc	19 54 53.4	+1.3
	0.8nm,0.7s,baz=143,slow=38,SNR=3.2						
BRTR	**Keskin Array B**	**152.83**	**285**	PKPbc	PKPbc	19 54 56.0	-0.5
	0.5nm,0.6s,baz=134,slow=5.8,SNR=4.2						

WEL 13 19:41:10.3±0.5, 3778S×17851E, h15km±2km, ML4.0/4, 2C, Error ellipse: s-maj=5.5km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.26**	**323**	P*	Pg	19 41 15.9	-0.1
MXZ				S*	Sg	19 41 19.9	+0.1
PUZ	**Puketiti**	**0.36**	**214**	⇑P*	Pg	19 41 17.6	0.0
PUZ				S*	Sg	19 41 22.8	+0.2
MWZ	**Matawai**	**0.95**	**234**	⇑P*	Pb	19 41 28.0	-0.5
WIZ	**White Island**	**1.07**	**283**	*e*P*	Pb	19 41 30.0	-0.5
URZ	**Urewera**	**1.21**	**246**	PN	Pn	19 41 31.8	-0.7
KNZ	**Kokohu**	**1.41**	**208**	PN	Pn	19 41 34.3	-1.0
MARZ	**Manawahe**	**1.47**	**261**	*e*PN	Pn	19 41 35.4	-0.8
TAZ	**Tarawera**	**1.65**	**253**	*e*PN	Pn	19 41 39.0	+0.4
BKZ	**Black Stump Fm**	**2.11**	**228**	PN	Pn	19 41 44.8	-0.1
OTVZ	**Oturere**	**2.63**	**237**	PN	Pn	19 41 52.5	+0.4
NGZ	**Ngauruhoe**	**2.68**	**238**	PN	Pn	19 41 52.8	+0.1
WNVZ	**Wahianoa**	**2.76**	**235**	PN	Pn	19 41 53.7	-0.2
TSZ	**Takapari Road**	**3.03**	**220**	*e*PN	Pn	19 41 55.0	-2.5
MRZ	**Mangatainoka R**	**3.67**	**217**	*e*PN	Pn	19 42 03.3	-3.2
THZ	**Tophouse**	**5.87**	**226**	PN	Pn	19 42 32.9	-3.8
MQZ	**McQueen's Vall**	**7.41**	**215**	SN	Sn	19 44 12.0	-10

IDC 13 19:49:09.4±7.3, 3078S×17770W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, Error ellipse: s-maj=308.1km s-min=55.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.35**	**267**	P	P	19 57 13.4	+0.2
	0.3nm,0.5s,baz=107,slow=7.5,SNR=9.4						
WB2	**Warramunga Arr**	**44.36**	**272**	*e*P	P	19 57 22.5	+1.1
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	19 57 21.7	+0.2
	0.5nm,0.3s,baz=112,slow=8.0,SNR=27						
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	PKPbc	20 08 48.2	-1.5
	0.9nm,0.8s,baz=72,slow=4.4,SNR=7.7						

*ISCJB **13** 19:55:25.4±0.5, 5138N±003×16.13E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.5km az=37.0*
*NEIC **13** 19:55:25.9±0.5, 5152N×1622E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=8.5km s-min=6.4km az=103.0*
*IPEC **13** 19:55:27.6±0.3, 5141N×1646E, h0km, ML2.3/4, Error ellipse: s-maj=3.1km s-min=1.9km az=95.0*
*CSEM **13** 19:55:27.3±0.1, 5142N×1606E, h1km, ML3.2/6, Error ellipse: s-maj=2.5km s-min=1.8km az=16.0*
*WAR **13** 19:55:27.5, 5145N×1618E, ML2.8, Mining Induced*
*IDC **13** 19:55:27.6±1.0, 5139N×1606E, h0km, mb1 3.4/5, mb1mx3.2/22, mbtmp3.2/5, ML3.0/5, Error ellipse: s-maj=13.7km s-min=8.4km az=118.0*
*PRU **13** 19:55:28.9, 5134N×1612E, h0km*
*VIE **13** 19:55:29.3±0.5, 5123N×1618E, h0km, mb2.3/3, ML2.7/3, Error ellipse: s-maj=3.3km s-min=2.8km az=80.0 60 km WNW of Breslau Suspected Mining induced.*

ISC 13 19:55:25.8±0.4, 5146N±002×1616E±003, h0km, n41, σ1§25/81, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pg**	**19 55 38.5**	**+0.8**
KSP				*e*Sg	**Sg**	**19 55 45.5**	**-0.3**
KSP	**Ksiaz**	**0.62**	**172**	*i* Pgd		19 55 38.7	
KSP				e		19 55 45.5	
KSP				*e*Sg	**Sg**	**19 55 47.1**	**+1.3**
UPC	**Upice**	**0.96**	**186**	*e*PG	**Pg**	**19 55 44.9**	**+0.8**
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG	**Pg**	**19 55 47.5**	**+0.4**
DPC				*e*SG	**Sg**	**19 56 01.0**	**-0.6**
	51nm,0.4s						
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*Pg	**Pg**	**19 55 47.4**	**+0.3**
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	**Pg**	**19 55 52.6**	**+0.6**
BRG	**Berggiesshubel**	**1.51**	**248**	PN	**Pn**	**19 55 53.8**	**-0.4**
BRG				PG	**Pg**	**19 55 55.0**	**+0.2**
BRG				SG	**Sg**	**19 56 15.7**	**+1.2**
	24nm,0.7s						
RUE	**Ruedersdorf**	**1.79**	**306**	*e*P	**Pn**	**19 55 57.6**	**-0.4**
RUE				*e*S	**Sn**	**19 56 25.4**	**+4.0**
RUE	**Ruedersdorf**	**1.79**	**306**	*e*P	**Pn**	**19 55 57.6**	**-0.4**
RUE				*e*S	**Sn**	**19 56 25.4**	**+4.0**
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**19 55 59.9**	**-0.3**
PRU				*e*SG	**Sg**	**19 56 23.7**	**+0.2**
	47nm,0.5s						
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**19 55 59.3**	**-0.1**
MORC				S	**Sn**	**19 56 24.1**	**0.0**
MORC	**Moravsky Berou**	**1.90**	**152**	*e*P	**Pn**	**19 55 59.4**	**-0.1**
MORC				S	**Sn**	**19 56 24.1**	**+0.1**
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pn**	**19 56 00.0**	**-0.6**
CLL				*i* Pg	**Pg**	**19 56 03.2**	**-0.6**
CLL				*i* Sg	**Sg**	**19 56 31.3**	**+1.8**
	comp=Z,22nm,0.6s						
CLL	**Collm**	**1.98**	**267**	*i* Pg	**Pg**	**19 56 03.2**	**-0.6**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*PG	**Pg**	**19 56 03.3**	**-1.9**
OKC				*e*SG	**Sg**	**19 56 28.3**	**-3.6**
	comp=Z,38nm,0.6s						
VRAC	**Vranov**	**2.17**	**172**	Pn	**Pn**	**19 56 02.5**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=340,slow=13,SNR=13						
VRAC				Pg	**Pg**	**19 56 07.0**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=350,slow=15,SNR=12						
VRAC				Sn	**Sn**	**19 56 33.7**	**+3.0**
	comp=Z,4.5nm,0.3s,baz=60,slow=23,SNR=13						
VRAC				Lg		19 56 36.6	
	comp=Z,4.5nm,0.3s,baz=60,slow=23,SNR=11						
VRAC	**Vranov**	**2.17**	**172**	Pg	**Pg**	**19 56 07.0**	**-0.4**
VRAC				*e*Sg	**Sg**	**19 56 34.1**	**-1.4**
	comp=Z,18nm,0.4s						
KRUC	**Moravsky**	**2.40**	**176**	*e*Pn	**Pn**	**19 56 07.7**	**+1.3**
KRUC				*e*Sg	**Sg**	**19 56 41.6**	**-1.4**
	comp=Z,18nm,0.6s						
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**19 56 17.6**	**+1.6**
OJC				*e*Sg	**Sg**	**19 56 51.4**	**+1.5**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**19 56 10.4**	**+0.6**
NKC				*e*PG	**Pg**	**19 56 15.4**	**-1.2**
NKC				*e*SG	**Sg**	**19 56 52.9**	**+1.9**
	comp=Z,32nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**244**	*e*Pg	**Pg**	**19 56 15.4**	**-1.2**
NKC				*e*Sg	**Sg**	**19 56 52.9**	**+1.9**
	comp=Z,32nm,0.4s						
JAVC	**Velka Javorina**	**2.78**	**159**	*e*Sg	**Sg**	**19 56 54.9**	**-0.1**
	comp=Z,17nm,0.6s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**19 56 12.7**	**+0.1**
KHC				*e*PG	**Pg**	**19 56 19.3**	**-1.3**
KHC				*e*SN	**Sn**	**19 56 46.1**	**-1.6**
KHC				*e*SG	**Sg**	**19 56 56.4**	**-1.2**
	comp=Z,17nm,0.8s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pg	**Pg**	**19 56 19.3**	**-1.3**
KHC				*e*Sn	**Sn**	**19 56 46.1**	**-1.6**
KHC				*e*Sg	**Sg**	**19 56 56.4**	**-1.2**
	comp=Z,17nm,0.8s						
MOX	**Moxa**	**2.98**	**256**	*e*PG	**Pg**	**19 56 23.2**	**+0.3**
MOX				*e*SG	**Sg**	**19 57 03.1**	**+1.5**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**19 56 16.8**	**+1.5**
GEC2				*e*Sg	**Sg**	**19 57 01.7**	**-2.3**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**19 56 16.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=22						
GERES				Pg	**Pg**	**19 56 22.5**	**-1.8**
	comp=Z,2.7nm,0.3s,baz=34,slow=17,SNR=44						
GERES				Sn	**Sn**	**19 56 55.5**	**+2.9**
	comp=Z,1.7nm,0.3s,baz=34,slow=26,SNR=6.2						
GERES				Lg		19 57 01.6	
	comp=Z,4.2nm,0.3s,baz=33,slow=27,SNR=8.9						
GERES	**GERESS Array B**	**3.06**	**212**	Pg	**Pg**	**19 56 22.5**	**-1.9**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**19 56 16.0**	**+0.6**
GERES				Pg	**Pg**	**19 56 22.5**	**-1.8**
GERES				Sn	**Sn**	**19 56 55.5**	**+2.9**
GERES				Lg		19 57 01.6	
SMOL	**Smolenice**	**3.06**	**164**	*e*PN	**Pn**	**19 56 20.4**	**+5.0**
SMOL				*e*PG	**Pg**	**19 56 25.2**	**+0.8**
SMOL				*e*SG	**Sg**	**19 57 04.5**	**+0.4**
SMOL	**Smolenice**	**3.06**	**164**	*e*Pg	**Pg**	**19 56 25.2**	**+0.8**
SMOL				*e*Sg	**Sg**	**19 57 04.5**	**+0.4**
WET	**Wettzell**	**3.13**	**224**	*e*Pn	**Pn**	**19 56 17.0**	**+0.7**
WET				*e*Sg	**Sg**	**19 57 06.2**	**-0.1**
ZST	**Bratislava**	**3.32**	**169**	*e*SG	**Sg**	**19 57 10.0**	**-2.5**
BSD	**Bornholm Skovb**	**3.74**	**349**	*i* P	**Pn**	**19 56 24.2**	**-0.5**
BSD				*i* S	**Sn**	**19 57 07.7**	**-1.7**
MOA	**Molln**	**3.82**	**200**	⇑*i*Pn	**Pn**	**19 56 26.5**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**19 57 28.4**	**0.0**
	comp=Z,16nm,0.6s						
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*PN	**Pn**	**19 56 28.3**	**+2.2**
STHS				*e*PG	**Pg**	**19 56 40.9**	**+1.5**
STHS				*e*SG	**Sg**	**19 57 32.4**	**+3.3**
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*Pg	**Pg**	**19 56 40.9**	**+1.5**
STHS				*e*Sg	**Sg**	**19 57 32.4**	**+3.3**
AKASG	**Malin Array Be**	**8.27**	**90**	Pn	**Pn**	**19 57 26.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=281,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**Pn**	**19 58 07.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=211,slow=9.7,SNR=5.7						
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**Pn**	**19 58 07.7**	**-2.1**
ARCES	**ARCESS Array B**	**18.67**	**10**	Pn	**Pn**	**19 59 43.0**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=6.0						

*ISCJB **13** 20:00:10.9±2.8, 424N±0.1×872E±02, h14km±16km, Error ellipse: s-maj=22.7km s-min=15.1km az=98.2*
*BJI **13** 20:00:10.8, 42.18N×8736E, h28km, ML3.4*
*IDC **13** 20:00:12.8±5.3, 4258N×8738E, h0km, mb1 3.7/4, mb1mx3.3/25, mbtmp3.6/4, ML3.3/4, Error ellipse: s-maj=70.9km s-min=31.2km az=22.0*
*NNC **13** 20:00:16.8±2.7, 4256N×8657E, h16km±17km, mb3.6, mpv3.2, Error ellipse: s-maj=128.0km s-min=25.5km az=56.0*

ISC 13 20:00:11.3±3.3, 424N±01×872E±02, h6km±18km, n7, σ1§15/9, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.48**	**14**	⇓*i* PG	**Pg**	**20 00 39.0**	**-0.8**
WMQ				SG	**Sg**	**20 00 59.6**	**+0.6**
WMQ				Smax			
	comp=N,367nm,0.4s						
WMQ				Smax			
	comp=E,415nm,0.4s						
MK31	**Makanchi Array**	**5.63**	**323**	⇑Pn	**Pn**	**20 01 37.0**	**+1.5**
	comp=E,1.0nm,0.3s,baz=142,slow=13,SNR=45						
MK31				Sn	**Sn**	**20 02 40.3**	**-0.1**
	comp=E,1.6nm,0.4s,baz=143,slow=19,SNR=4.4						
MK31				Lg		20 03 04.1	
	comp=E,6.5nm,0.7s,baz=152,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**5.63**	**323**	Pn	**Pn**	**20 01 37.0**	**+1.6**
	comp=E,1.5nm,0.3s,baz=140,slow=14,SNR=56						
MKAR				Sn	**Sn**	**20 02 40.5**	**0.0**
	comp=E,0.9nm,0.3s,baz=143,slow=22,SNR=5.3						
MKAR				Lg		20 03 10.2	
	comp=E,0.9nm,0.3s,baz=141,slow=30,SNR=3.8						
KURK	**Kurchatov**	**10.21**	**328**	⇓Lg		20 05 25.1	
	comp=E,5.2nm,1.6s						
ZAL	**Zalesovo**	**11.67**	**353**	Pn	**Pn**	**20 02 56.2**	**-2.2**
	comp=E,0.4nm,0.3s,baz=306,slow=12,SNR=3.7						
SONM	**Songino Array**	**14.60**	**62**	Pn	**Pn**	**20 03 38.9**	**+0.5**
	comp=E,0.1nm,0.3s,baz=249,slow=12,SNR=4.2						
BVAR	**Borovoye Array**	**15.49**	**319**	Pn	**Pn**	**20 03 48.8**	**-1.4**
	comp=E,0.3nm,0.3s,baz=125,slow=11,SNR=11						

IDC 13 20:04:47.5±2.4, 1682S×17724W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=156.9km s-min=25.6km az=174.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**26.43**	**96**	P	P	20 10 26.2	+0.4
	40nm,0.4s,baz=280,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**40.14**	**240**	P	P	20 12 24.6	-0.5
	0.5nm,0.4s,baz=106,slow=7.4,SNR=3.4						
WRA	**Warramunga Arr**	**45.94**	**258**	P	P	20 13 12.6	+0.6
	0.4nm,0.3s,baz=92,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**46.17**	**253**	P	P	20 13 14.6	+0.7
	2.6nm,0.5s,baz=88,slow=8.5,SNR=61						

*NIED **13** 20:15:00, 2980N×14170E, h32km, Mw4.0 Best double couple: M0 9.65000×10^14 NP1:φ0=273.00000°, δ90.00000°, λ=146.00000°. NP2:φ0=183.00000°, δ56.00000°, λ0.00000°.*
*NAO **13** 20:15:20.6, 2823N×14333E, h33km, mb4.2*
*MOS **13** 20:15:29.9±0.8, 2951N×141.19E, h33km, mb4.2/5, Error ellipse: s-maj=25.0km s-min=9.5km az=108.5*
*ISCJB **13** 20:15:31.6±0.9, 2960N±005×141.1E±01, h43km±8km, mb4.1/24, Error ellipse: s-maj=20.1km s-min=6.1km az=144.3*
*IDC **13** 20:15:33.3±2.4, 2961N×141.17E, h39km±20km, mb3.8/15, mb1 3.9/18, mb1mx3.9/23, mbtmp4.0/18, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/27, Error ellipse: s-maj=21.5km s-min=12.1km az=76.0*
*NEIC **13** 20:15:36.3±1.6, 2967N×14125E, h68km±12km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=11.2km az=105.0*

ISC 13 20:15:33.5±0.8, 2961N±005×1412E±01, h45km±7km, n43, σ0§80/43, mb4.1/24, 1D, Southeast of Honshu

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

RDF	**Al-Radifah**	**79.16**	**297**	*e*P	**P**	**20 27 33.4**	**-0.1**
RDF				AMb	AMB	20 27 34.3	
	comp=Z,9.5nm,0.6s,mb4.9						
NAY	**Al-Naaiem**	**79.25**	**297**	*e*P	**P**	**20 27 33.6**	**-0.3**
NAY				AMb	AMB	20 27 34.7	
	comp=Z,5.3nm,0.5s,mb4.7						
NVAR	**Mina Array Bea**	**79.66**	**52**	P	**P**	**20 27 37.7**	**+1.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=294,slow=5.2,SNR=9.5						
NVAR	**Mina Array Bea**	**79.66**	**52**	P	**P**	**20 27 37.7**	**+1.5**
AKASG	**Malin Array Be**	**80.80**	**323**	P	**P**	**20 27 38.4**	**-0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=52,slow=5.8,SNR=8.9						
NB2	**NORSAR Subarra**	**80.96**	**338**	P	**P**	**20 27 41.9**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**80.96**	**338**	P	**P**	**20 27 43.3**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=42,slow=5.3,SNR=8.9						
BRTR	**Keskin Array B**	**83.67**	**312**	P	**P**	**20 27 58.7**	**+1.4**
	comp=Z,7.6nm,0.7s,mb5.0,baz=102,slow=4.2,SNR=49						
GERES	**GERESS Array B**	**88.92**	**328**	P	**P**	**20 28 22.8**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.9,baz=45,slow=1.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.27**	**312**	PKP	PKPdf	20 34 23.5	+0.1
	comp=Z,0.3nm,0.5s,baz=31,slow=1.4,SNR=7.2						
LPAZ	**La Paz**	**150.02**	**70**	PKPbc	PKPbc	20 35 20.6	+1.6
	comp=Z,0.5nm,0.3s,baz=317,slow=4.5,SNR=4.6						
PLCA	**Paso Flores**	**151.92**	**122**	PKPbc	PKPbc	20 35 24.8	+1.3
	comp=Z,1.0nm,0.6s,baz=231,slow=3.7,SNR=5.5						

IDC 13 20:16:23.1±5.1, 5360N×16231W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.4/24, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=84.1km s-min=37.4km az=88.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**6.92**	**49**	Pn	Pn	20 18 04.1	-1.5
	3.0nm,0.3s,baz=42,slow=10,SNR=64						
KDAK				Sn	Sn	20 19 23.3	-1.8
	baz=230,slow=6.4,SNR=2.1						
ILAR	**Eielson Array**	**13.66**	**29**	Pn	Pn	20 19 36.5	-1.6
	0.0nm,0.3s,baz=222,slow=12,SNR=3.3						
INK	**Inuvik**	**20.02**	**32**	P	P	20 20 55.0	-2.3
	0.6nm,0.5s,baz=236,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**26.19**	**51**	P	P	20 21 59.4	+0.2
	0.2nm,0.5s,baz=270,slow=9.0,SNR=5.3						
NVAR	**Mina Array Bea**	**33.52**	**99**	P	P	20 23 04.4	+0.1
	0.5nm,0.8s,baz=300,slow=8.9,SNR=4.2						

*ISCJB **13** 20:18:18.6±0.9, 3424N±005×264E±0.1, h10km, Error ellipse: s-maj=14.6km s-min=6.0km az=154.9*
*CSEM **13** 20:18:18.6±0.8, 3433N×2654E, h30km, MD3.2, Error ellipse: s-maj=34.8km s-min=9.0km az=68.0*
*ATH **13** 20:18:19.0, 34.17N×261.7E, h45km, MD3.2/3*
*HLW **13** 20:18:21.9, 34.27N×268.3E, h29km, Mb3.0*

ISC 13 20:18:19.0±2.5, 3428N±008×264E±01, h7km±22km, n9, σ1§16/12, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.84**	**315**	*e*P	**Pg**	**20 18 34.5**	**-0.6**
XRY				*e*S	**Sg**	**20 18 46.5**	**+0.4**
NPS	**Neapolis**	**1.18**	**326**	*e*P	**Pb**	**20 18 40.5**	**-1.2**
KARP	**Karpathos**	**1.40**	**26**	*e*P	**Pn**	**20 18 46.0**	**+1.1**
SLUM		**2.96**	**200**	⇑P	**Pn**	**20 19 07.8**	**+1.4**
SLUM				S	**Sn**	**20 19 41.5**	**-0.6**
SWA1		**5.04**	**187**	⇓P	**Pn**	**20 19 35.5**	**+0.7**
SWA1		**5.04**	**187**	P	**Pn**	**20 19 35.5**	**+0.6**
SWA2		**5.09**	**190**	P	**Pn**	**20 19 36.4**	**+0.8**
SWA2				S	**Sn**	**20 20 30.8**	**-3.8**
AMAG	**Maghara**	**6.79**	**120**	P	**Pn**	**20 19 55.1**	**-3.7**
HFRF	**Wahat Farafira**	**7.29**	**167⇑**	*e*P	**Pn**	**20 20 05.3**	**-0.6**

*NDI **13** 20:26:10.3±2.5, 3373N×7307E, h5km, ML2.8*
*ISCJB **13** 20:26:12.0±1.7, 334N±0.1×729E±0.1, h33km, Error ellipse: s-maj=20.6km s-min=10.5km az=98.8*

ISC 13 20:26:11.8±1.7, 3360N±009×729E±02, h35km, n5, σ0§75/9, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.66**	**115**	*e*P	**Pn**	**20 26 52.4**	**+0.3**
THN				*e*S	**Sn**	**20 27 22.9**	**-0.2**
DLH	**Dalhousie**	**2.80**	**111**	*e*P	**Pn**	**20 26 56.0**	**+1.9**
DLH				*e*S	**Sn**	**20 27 27.0**	**+0.3**
KLP	**Kalpa**	**4.99**	**113**	*e*P	**Pn**	**20 27 23.6**	**-0.5**
KLP				*e*S	**Sn**	**20 28 19.8**	**-0.8**
KLP				AML	AML	20 28 36.9	
	comp=E,69nm,0.5s						
KLP				AML	AML	20 28 37.0	
	comp=N,26nm,0.3s						
KUDL	**Kundal**	**6.26**	**149**	*e*S	**Sn**	**20 28 51.6**	**-0.4**
KUDL				AML	AML	20 29 31.8	
	comp=E,5.4nm,0.4s						
KUDL				AML	AML	20 29 32.0	
	comp=N,4.5nm,0.2s						
KK31	**Karatay Array**	**9.66**	**350**	P	**Pn**	**20 28 34.4**	**+6.0**
	comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=16						
KK31				⇑S	**Sn**	**20 30 15.3**	**-0.4**
	comp=N,0.3nm,0.3s,baz=172,slow=23,SNR=5.1						

*IDC **13** 20:36:04.1±3.0, 3368S×178.75W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.7/12, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=70.9km s-min=36.1km az=118.0*
*ISCJB **13** 20:36:05.6±3.1, 338S±02×178.5W±0.5, h33km, mb3.3/2, Error ellipse: s-maj=59.2km s-min=16.1km az=29.2*

ISC 13 20:36:06.8±3.1, 338S±02×178.4W±0.5, h35km, n7, σ0§36/7, mb3.3/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.05**	**212**	P*	**Pn**	**20 37 19.8**	**-0.2**
MWZ	**Matawai**	**5.60**	**215**	*e*PN	**Pn**	**20 37 27.1**	**-0.4**
URZ	**Urewera**	**5.75**	**218**	Pn	**Pn**	**20 37 30.3**	**+0.7**
	1.8nm,0.3s,baz=44,slow=3.6,SNR=14						
URZ				Sn	**Sn**	**20 38 34.2**	**-0.1**
	1.5nm,0.3s,baz=142,slow=22,SNR=6.4						
URZ	**Urewera**	**5.75**	**218**	PN	**Pn**	**20 37 30.3**	**+0.7**
ASAR	**Alice Springs**	**42.73**	**271**	P	**P**	**20 44 00.6**	**+0.1**
	0.2nm,0.6s,mb3.0,baz=111,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**44.03**	**276**	P	**P**	**20 44 10.9**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=117,slow=7.7,SNR=25						
FINES	**FINESS Array B**	**148.22**	**338**	PKPbc	PKPbc	20 55 49.7	+0.6
	0.6nm,0.5s,baz=45,slow=3.9,SNR=6.0						

*MOS **13** 20:52:18.0±0.7, 5605N×164.30E, h15km, mb4.1/1, Error ellipse: s-maj=30.9km s-min=18.8km az=51.3*

KRSC 13 20:52:18.6±1.9, 5613N×16434E, h26km±3km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**276**	P	Pb	20 52 33.5	-1.3
KBTR				S	Sb	20 52 45.2	-0.6
KBTR	**Krutoberegovo**	**0.85**	**276**	*i* P	Pb	20 52 33.6	-1.2
KBTR				*e*S	Sb	20 52 45.3	-0.5
KBG	**Krutoberegovo**	**0.92**	**278**	*i* P	Pn	20 52 34.5	-1.4
KBG				*i* S	Sb	20 52 47.5	-0.3
KBG				Smax			
	4μm,0.4s						
BKI	**Bering**	**1.31**	**134**	*i* P	Pn	20 52 40.1	-1.1
BKI				*i* S	Sn	20 52 56.2	-1.6
BKI				Smax			
	520nm,0.4s						
SMKR	**Semkarok**	**1.66**	**287**	*e*P	Pn	20 52 46.3	+0.3
BDR	**Baidarnaya**	**1.80**	**285**	*i* P	Pn	20 52 49.1	+1.2
BDR				*e*S	Sn	20 53 12.1	+2.2
SRKR	**Sorokina**	**1.84**	**288**	*i* P	Pn	20 52 49.6	+1.1
SRKR				*e*S	Sn	20 53 12.6	+1.7
CIRR	**Tsirk**	**2.01**	**271**	*i* P	Pn	20 52 52.6	+1.8
CIRR				*e*S	Sn	20 53 18.2	+3.1
KLY	**Klyuchi**	**2.07**	**277**	P	Pn	20 52 51.6	0.0
KLY				S	Sn	20 53 16.0	-0.5
KLY	**Klyuchi**	**2.07**	**277**	*i* P	Pn	20 52 51.4	-0.2
KLY				*e*S	Sn	20 53 16.0	-0.5
MKZ	**Mys Kozlova**	**2.17**	**224**	*e*P	Pn	20 52 53.6	+0.6
MKZ				*e*S	Sn	20 53 18.7	-0.4
KPT	**Kopyto**	**2.32**	**268**	*i* P	Pn	20 52 57.3	+2.3
KPT				*e*S	Sn	20 53 22.3	-0.4
KOZR	**Kozyr**	**2.49**	**270**	PN	Pn	20 53 00.1	+2.7
KOZR				S	Sn	20 53 31.6	+4.6
KOZ	**Kozyrevsk**	**2.50**	**270**	P	Pn	20 53 00.1	+2.5
KOZ				S	Sn	20 53 31.6	+4.3
KOZ	**Kozyrevsk**	**2.50**	**270**	*i* P	Pn	20 53 00.4	+2.8
KOZ				*e*S	Sn	20 53 29.4	+2.1
TUMR	**Tumrok**	**2.52**	**252**	*e*P	Pn	20 53 00.3	+2.5
TUMR				*e*S	Sn	20 53 30.6	+2.9
SRDR	**Sredinnyy**	**2.59**	**276**	*i* P	Pn	20 53 00.9	+2.1
SRDR				*e*S	Sn	20 53 32.7	+3.3
ESO	**Esso**	**3.17**	**269**	*e*P	Pn	20 53 10.6	+3.8
ESO				*e*S	Sn	20 53 45.4	+1.6
ESO				Smax			
	50nm,0.8s						
SPN	**Mys Shipunski**	**3.94**	**221**	P	Pn	20 53 17.6	+0.2
SPN				S	Sn	20 54 00.7	-2.0
SPN	**Mys Shipunski**	**3.94**	**221**	*e*P	Pn	20 53 17.5	+0.1
SPN				*e*S	Sn	20 54 00.7	-2.0
NLC	**Nalytchevo**	**4.15**	**226**	P	Pn	20 53 21.3	+1.1
NLC				S	Sn	20 54 07.9	+0.1
NLC	**Nalytchevo**	**4.15**	**226**	*e*P	Pn	20 53 21.3	+1.1
NLC				*e*S	Sn	20 54 07.8	0.0
SMAR	**Somma**	**4.31**	**230**	*e*P	Pn	20 53 24.7	+2.3
SMAR				*e*S	Sn	20 54 12.5	+0.7
AVH	**Avacha**	**4.34**	**231**	*e*P	Pn	20 53 25.5	+2.7
UGLR	**Uglovaya**	**4.34**	**230**	*e*P	Pn	20 53 25.1	+2.3
UGLR				*e*S	Sn	20 54 12.9	+0.4
KOK	**Koryaka**	**4.36**	**232**	*e*P	Pn	20 53 25.6	+2.4
KOK				*e*S	Sn	20 54 12.3	-0.8
GNL	**Ganaly**	**4.42**	**239**	*e*P	Pn	20 53 26.9	+2.9
PET	**Petropavlovsk**	**4.54**	**229**	*e*P	Pn	20 53 27.7	+2.1
KRMR	**Karymshinskiy**	**4.90**	**230**	*e*P	Pn	20 53 33.5	+2.9
KRMR				*e*S	Sn	20 54 25.3	-1.2
RUS	**Russkaya**	**5.04**	**225**	P	Pn	20 53 34.0	+1.6
RUS	**Russkaya**	**5.04**	**225**	*e*P	Pn	20 53 33.7	+1.3
GRL	**Gorelyy**	**5.13**	**228**	*e*P	Pn	20 53 36.4	+2.7
KAMR	**Kamenskoye**	**6.42**	**8**	*i* P	Pn	20 53 52.2	+0.8
KAMR				*e*S	Sn	20 55 02.5	-1.3
KAMR				Smax			
	30nm,1.3s						

WEL 13 21:10:05.4±0.2, 3862S×17578E, h153km±1km, ML4.0/7, 7C, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.51**	**197**	⇑PN	Pn	21 10 27.2	+0.1
TWVZ	**Taurewa**	**0.52**	**211**	⇑PN	Pn	21 10 27.2	+0.1
TWVZ				SN	Sn	21 10 43.2	-0.5
OTVZ	**Oturere**	**0.55**	**189**	PN	Pn	21 10 27.4	+0.1
NGZ	**Ngauruhoe**	**0.57**	**194**	PN	Pn	21 10 27.2	-0.2
WPVZ	**Whakapapa**	**0.61**	**197**	PN	Pn	21 10 27.9	+0.3
TUVZ	**Tukino**	**0.65**	**189**	⇑PN	Pn	21 10 28.2	+0.4
TUVZ				SN	Sn	21 10 45.1	+0.2
FWVZ	**Far West T-bar**	**0.66**	**196**	PN	Pn	21 10 28.0	+0.1
FWVZ				SN	Sn	21 10 45.0	0.0
TRVZ	**Turoa**	**0.70**	**195**	PN	Pn	21 10 28.6	+0.5
WNVZ	**Wahianoa**	**0.72**	**191**	⇑PN	Pn	21 10 28.6	+0.4
HIZ	**Hauiti**	**0.73**	**278**	PN	Pn	21 10 28.0	-0.3
PKVZ	**Pokaka**	**0.75**	**207**	PN	Pn	21 10 28.5	+0.1
BKZ	**Black Stump Fm**	**0.78**	**135**	PN	Pn	21 10 28.8	+0.1
MOVZ	**Moawhango**	**0.78**	**182**	⇑PN	Pn	21 10 28.7	0.0
MTVZ	**Mangateitei**	**0.80**	**197**	PN	Pn	21 10 28.9	+0.1
RAEZ	**Rainy Point**	**1.27**	**238**	PN	Pn	21 10 32.9	+0.1
WAZ	**Wanganui**	**1.29**	**208**	PN	Pn	21 10 32.8	-0.2
MWZ	**Matawai**	**1.40**	**79**	PN	Pn	21 10 33.6	-0.5
TSZ	**Takapari Road**	**1.44**	**174**	⇑PN	Pn	21 10 34.4	-0.1
NEZ	**North Egmont**	**1.46**	**243**	PN	Pn	21 10 34.9	+0.1
PKE	**Pukeiti**	**1.51**	**247**	PN	Pn	21 10 35.0	-0.2
KNZ	**Kokohu**	**1.53**	**106**	PN	Pn	21 10 35.5	+0.1
PXZ	**Pawanui**	**1.64**	**150**	PN	Pn	21 10 36.5	-0.1
PUZ	**Puketiti**	**2.02**	**75**	PN	Pn	21 10 40.2	-0.7
MRZ	**Mangatainoka R**	**2.04**	**184**	PN	Pn	21 10 40.0	-1.1
BFZ	**Birch Farm**	**2.09**	**170**	PN	Pn	21 10 41.0	-0.7
MXZ	**Matakaoa Point**	**2.26**	**63**	PN	Pn	21 10 43.0	-0.7
KIW	**Kapiti Island**	**2.33**	**196**	PN	Pn	21 10 42.9	-1.7
MTW	**Mount Morrison**	**2.54**	**185**	PN	Pn	21 10 45.2	-1.9
CAW	**Cannon Point**	**2.54**	**192**	PN	Pn	21 10 45.3	-1.8
DUWZ	**D'Urville Isla**	**2.61**	**213**	PN	Pn	21 10 45.8	-2.2
MRW	**Makara Radio**	**2.73**	**197**	PN	Pn	21 10 47.4	-2.1
PAWZ	**Paruwai Farm**	**2.77**	**186**	PN	Pn	21 10 47.8	-2.1
TRWZ	**Traveller**	**2.77**	**181**	PN	Pn	21 10 48.0	-2.0
MSWZ	**Moikau Station**	**2.82**	**188**	⇑PN	Pn	21 10 48.3	-2.2
TCW	**Tory Channel**	**2.83**	**204**	PN	Pn	21 10 48.5	-2.2
BHW	**Baring Head**	**2.87**	**194**	PN	Pn	21 10 48.9	-2.3
TUWZ	**Tuamarina**	**3.14**	**206**	PN	Pn	21 10 51.6	-3.0
QRZ	**Quartz Range**	**3.34**	**228**	PN	Pn	21 10 53.9	-3.2
BSWZ	**Blackbirch Sta**	**3.42**	**205**	PN	Pn	21 10 55.3	-2.8
THZ	**Tophouse**	**3.83**	**214**	PN	Pn	21 11 00.1	-3.4
KHZ	**Kahutara**	**4.16**	**204**	PN	Pn	21 11 04.8	-2.9
LTZ	**Lake Taylor**	**4.94**	**212**	PN	Pn	21 11 13.7	-4.3
MQZ	**McQueen's Vall**	**5.60**	**204**	PN	Pn	21 11 21.8	-4.9
MQZ				SN	Sn	21 12 20.9	-9.5
WVZ	**Waitaha Valley**	**5.87**	**219**	SN	Sn	21 12 27.6	-9.1
ODZ	**Otahua Downs**	**7.47**	**209**	PN	Pn	21 11 47.0	-4.7

*IDC **13** 21:11:09.7±0.8, 895S×157.84E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.2/15, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=30.0km s-min=19.2km az=141.0*
*NEIC **13** 21:11:10.9±0.5, 903S×157.84E, h10km, mb4.3/1, Error ellipse: s-maj=18.4km s-min=11.4km az=158.0*
*ISCJB **13** 21:11:13.0±0.6, 9.1S±0.1×157.84E±0.10, h33km, mb3.9/9, Error ellipse: s-maj=21.6km s-min=12.2km az=133.1*

ISC 13 21:11:14.8±0.6, 91S±01×1579E±01, h35km, n14, σ1§00/14, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.06**	**101**	Pn	**Pn**	**21 11 46.4**	**-0.4**
	26nm,0.3s,baz=265,slow=1.6,SNR=8.7						
HNR				Sn	**Sn**	**21 12 20.3**	**+9.1**
	140nm,0.3s,baz=274,slow=15,SNR=4.1						
WRAB	**Tennant Creek**	**25.20**	**242**	*e*P	**P**	**21 16 35.6**	**-1.4**
	6.1nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**25.20**	**242**	*e*P	**P**	**21 16 37.5**	**+0.5**
WRA	**Warramunga Arr**	**25.21**	**242**	P	**P**	**21 16 37.7**	**+0.6**
	2.1nm,0.7s,mb3.8,baz=67,slow=9.4,SNR=26						
ASAR	**Alice Springs**	**27.16**	**235**	P	**P**	**21 16 54.0**	**-0.7**
	1.0nm,0.9s,mb3.3,baz=64,slow=7.9,SNR=8.0						
STKA	**Stephens Creek**	**27.29**	**211**	P	**P**	**21 16 57.0**	**+1.2**
	5.2nm,0.7s,mb4.2,baz=21,slow=12,SNR=14						
STKA	**Stephens Creek**	**27.29**	**211**	*e*P	**P**	**21 16 56.4**	**+0.5**
SONM	**Songino Array**	**72.62**	**326**	P	**P**	**21 22 39.4**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=134,slow=5.0,SNR=5.3						
ILAR	**Eielson Array**	**84.25**	**21**	P	**P**	**21 23 41.8**	**-1.0**
	1.1nm,0.4s,mb4.3,baz=256,slow=5.2,SNR=32						
MKAR	**Makanchi Array**	**86.84**	**318**	P	**P**	**21 23 55.3**	**-0.3**
	0.4nm,0.6s,mb3.8,baz=89,slow=6.0,SNR=8.6						
NVAR	**Mina Array Bea**	**90.75**	**51**	P	**P**	**21 24 16.2**	**+2.1**
	1.7nm,0.8s,mb4.4,baz=247,slow=5.0,SNR=9.3						
YKA	**Yellowknife Ar**	**96.80**	**28**	P	**P**	**21 24 41.0**	**-0.8**
	0.1nm,0.4s,mb3.6,baz=263,slow=4.6,SNR=4.4						
YKA	**Yellowknife Ar**	**96.80**	**28**	P	**P**	**21 24 41.0**	**-0.9**
BDFB	**Brasilia**	**144.49**	**134**	PKP	PKPdf	21 30 48.6	+1.3
	7.5nm,0.8s,baz=230,slow=1.6,SNR=14						

IDC 13 21:19:30.4±2.8, 3365S×17887W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, ML4.2/1, Error ellipse: s-maj=66.7km s-min=34.9km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.64**	**214**	Pn	Pn	21 20 56.0	+0.5
	6.7nm,0.3s,baz=39,slow=6.5,SNR=32						
URZ				Sn	Sn	21 22 00.1	-0.9
	4.3nm,0.3s,baz=151,slow=20,SNR=11						
ASAR	**Alice Springs**	**42.31**	**271**	P	P	21 27 26.0	+0.1
	0.8nm,0.7s,baz=109,slow=7.4,SNR=9.8						
WB2	**Warramunga Arr**	**43.58**	**276**	*e*P	P	21 27 36.5	+0.3
WRA	**Warramunga Arr**	**43.59**	**276**	P	P	21 27 36.6	+0.3
	1.3nm,0.4s,baz=117,slow=7.7,SNR=55						
FINES	**FINESS Array B**	**147.90**	**338**	PKPbc	PKPbc	21 39 15.9	-1.6
	1.0nm,0.5s,baz=43,slow=4.7,SNR=13						

*ISCJB **13** 21:25:13.1±0.4, 5609N±003×164.35E±004, h10km, mb3.7/10, MS3.3/1, Error ellipse: s-maj=4.1km s-min=3.3km az=166.5*

*MOS **13** 21:25:13.4±1.2, 56.17N×164.39E, h20km, mb4.2/5, Error ellipse: s-maj=15.8km s-min=9.5km az=64.4*
*NEIC **13** 21:25:14.4±0.6, 5630N×164.17E, h10km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=8.4km az=147.0*
*KRSC **13** 21:25:15.3±1.2, 56.15N×164.27E, h20km±3km, ML4.2*
*IDC **13** 21:25:16.9±5.9, 56.18N×164.24E, h31km±48km, mb3.5/8, mb1 3.8/10, mb1mx3.6/24, mbtmp3.8/10, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=23.3km s-min=13.4km az=3.0*

ISC 13 21:25:14.2±0.4, 5611N±003×16435E±004, h10km, n56, σ1§32/89, mb3.7/10, MS3.3/1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.86**	**277**	P	**Pg**	**21 25 30.1**	**-0.7**
KBTR				S	**Sg**	**21 25 41.1**	**-0.9**
KBTR	**Krutoberegovo**	**0.86**	**277**	*i* P	**Pg**	**21 25 30.1**	**-0.7**
KBTR				*i* S	**Sg**	**21 25 41.3**	**-0.7**
KBG	**Krutoberegovo**	**0.93**	**280**	*i* P	**Pg**	**21 25 31.1**	**-1.0**
KBG				*i* S	**Sg**	**21 25 43.1**	**-1.1**
KBG				Smax			
	6μm,0.4s						
BKI	**Bering**	**1.29**	**134**	*i* P	**Pn**	**21 25 38.3**	**0.0**
BKI				*i* S	**Sb**	**21 25 54.9**	**-0.4**
BKI				Smax			
	2μm,1.0s						
SMKR	**Semkarok**	**1.67**	**288**	*e*P	**Pn**	**21 25 43.1**	**-0.4**
BDR	**Baidarnaya**	**1.81**	**286**	*i* P	**Pn**	**21 25 45.9**	**+0.5**
BDR				*e*S	**Sn**	**21 26 08.5**	**+0.1**
SRKR	**Sorokina**	**1.85**	**288**	*i* P	**Pn**	**21 25 45.8**	**-0.2**
SRKR				*e*S	**Sn**	**21 26 08.4**	**-1.0**
CIRR	**Tsirk**	**2.02**	**272**	*e*P	**Pn**	**21 25 49.1**	**+0.8**
CIRR				*e*S	**Sn**	**21 26 13.9**	**+0.4**
KLY	**Klyuchi**	**2.08**	**277**	P	**Pn**	**21 25 47.9**	**-1.2**
KLY				S	**Sn**	**21 26 11.8**	**-3.2**
KLY	**Klyuchi**	**2.08**	**277**	*i* P	**Pn**	**21 25 47.9**	**-1.2**
KLY				*e*S	**Sn**	**21 26 11.7**	**-3.3**
MKZ	**Mys Kozlova**	**2.16**	**225**	*e*P	**Pn**	**21 25 50.4**	**+0.2**
MKZ				*e*S	**Sn**	**21 26 16.1**	**-0.9**
KPT	**Kopyto**	**2.32**	**268**	*i* P	**Pn**	**21 25 54.0**	**+1.6**
KPT				*e*S	**Sn**	**21 26 20.1**	**-0.9**
KOZR	**Kozyr**	**2.50**	**271**	PN	**Pn**	**21 25 56.8**	**+1.9**
KOZR				S	**Sn**	**21 26 26.9**	**+1.6**
KOZ	**Kozyrevsk**	**2.51**	**271**	P	**Pn**	**21 25 56.8**	**+1.8**
KOZ				S	**Sn**	**21 26 26.9**	**+1.2**
KOZ	**Kozyrevsk**	**2.51**	**271**	*i* P	**Pn**	**21 25 56.8**	**+1.8**
KOZ				*e*S	**Sn**	**21 26 26.7**	**+1.0**
TUMR	**Tumrok**	**2.52**	**253**	*e*P	**Pn**	**21 25 57.0**	**+1.8**
TUMR				*e*S	**Sn**	**21 26 27.5**	**+1.6**
SRDR	**Sredinnyy**	**2.59**	**277**	*i* P	**Pn**	**21 25 57.4**	**+1.2**
SRDR				*i* S	**Sn**	**21 26 28.8**	**+1.0**
ESO	**Esso**	**3.18**	**269**	*e*P	**Pn**	**21 26 04.6**	**+0.4**
ESO				*e*S	**Sn**	**21 26 40.4**	**-1.7**
SPN	**Mys Shipunski**	**3.93**	**222**	P	**Pn**	**21 26 14.5**	**-0.1**
SPN				S	**Sn**	**21 26 57.3**	**-3.4**
SPN	**Mys Shipunski**	**3.93**	**222**	*e*P	**Pn**	**21 26 14.7**	**+0.1**
SPN				*e*S	**Sn**	**21 26 58.1**	**-2.6**
NLC	**Nalytchevo**	**4.14**	**227**	*e*P	**Pn**	**21 26 18.3**	**+0.9**
NLC				*e*S	**Sn**	**21 27 04.5**	**-1.3**
SMAR	**Somma**	**4.30**	**231**	*e*P	**Pn**	**21 26 21.6**	**+1.9**
SMAR				*e*S	**Sn**	**21 27 09.2**	**-0.7**
AVH	**Avacha**	**4.33**	**231**	*e*P	**Pn**	**21 26 22.0**	**+2.0**
AVH				*e*S	**Sn**	**21 27 09.8**	**-0.7**
UGLR	**Uglovaya**	**4.33**	**230**	*e*P	**Pn**	**21 26 22.0**	**+1.9**
UGLR				*e*S	**Sn**	**21 27 09.8**	**-0.8**
KOK	**Koryaka**	**4.35**	**232**	*e*P	**Pn**	**21 26 21.9**	**+1.5**
KOK				*e*S	**Sn**	**21 27 09.7**	**-1.5**
GNL	**Ganaly**	**4.42**	**239**	*e*P	**Pn**	**21 26 23.7**	**+2.4**
GNL				*e*S	**Sn**	**21 27 12.1**	**-0.7**
PET	**Petropavlovsk**	**4.53**	**229**	P	**Pn**	**21 26 24.5**	**+1.6**
PET				S	**Sn**	**21 27 15.0**	**-0.6**
PET	**Petropavlovsk**	**4.53**	**229**	*e*P	**Pn**	**21 26 24.1**	**+1.2**
PET				*e*S	**Sn**	**21 27 14.8**	**-0.8**
PET	**Petropavlovsk**	**4.53**	**229**	*e*P	**Pn**	**21 26 24.1**	**+1.2**
KRMR	**Karymshinskiy**	**4.89**	**230**	*e*P	**Pn**	**21 26 30.2**	**+2.4**
KRMR				*e*S	**Sn**	**21 27 22.4**	**-2.1**

ISC 13 21:46:54.7±1.0, 3606N±005×709E±01, h135km±12km, n52, σ1°20/63, mb3.5/5, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.39**	**131**	*eP*	**Pn**	**21 48 13.9**	**+0.8**
THN				*eS*	**Sn**	**21 49 14.5**	**+0.3**
DLH	**Dalhousie**	**5.48**	**128**	*eP*	**Pn**	**21 48 15.0**	**+0.8**
DLH				*eS*	**Sn**	**21 49 18.0**	**+1.8**
AML	**Almayashu**	**6.44**	**19**	P	**Pn**	**21 48 27.0**	**-0.1**
SNR=67							
UCH	**Uchtor**	**6.77**	**23**	P	**Pn**	**21 48 31.4**	**-0.2**
SNR=15							
KZA	**Kyzart**	**6.90**	**28**	P	**Pn**	**21 48 34.7**	**+1.4**
SNR=7.8							
EKS2	**Erkin-Say**	**6.96**	**18**	P	**Pn**	**21 48 34.1**	**0.0**
SNR=10							
KK31	**Karatay Array**	**7.04**	**358**	P	**Pn**	**21 48 33.8**	**-1.4**
2.5nm,0.3s,baz=180,slow=13,SNR=89							
KK31				⇑S	**Sn**	**21 49 48.7**	**-5.1**
3.0nm,0.3s,baz=185,slow=26,SNR=7.0							
KKAR	**Karatay Array**	**7.04**	**358**	*eP*	**Pn**	**21 48 33.7**	**-1.5**
KKAR				*eS*	**Sn**	**21 49 48.6**	**-5.2**
KKAR				pmax	pmax		
comp=Z,3.0nm,0.3s							
AAK	**Ala-Archa**	**7.13**	**22**	P	**Pn**	**21 48 36.6**	**+0.2**
SNR=8.0							
SMLA	**Simla**	**7.19**	**131**	*eP*	**Pn**	**21 48 38.1**	**+1.0**
SMLA				*eS*	**Sn**	**21 49 52.2**	**-5.1**
KBK	**Karagaybulak**	**7.30**	**24**	P	**Pn**	**21 48 39.9**	**+1.2**
SNR=9.0							
ULHL	**Ulahol**	**7.44**	**32**	P	**Pn**	**21 48 42.2**	**+1.6**
SNR=7.0							
CHMS	**Chumysh**	**7.54**	**22**	P	**Pn**	**21 48 42.7**	**+0.8**
SNR=7.9							
TKM2	**Tokmak 2**	**7.76**	**27**	P	**Pn**	**21 48 45.9**	**+1.0**
SNR=11							
TKM2	**Tokmak 2**	**7.76**	**27**	⇑P	**Pn**	**21 48 45.5**	**+0.6**
comp=Z,6.5nm,0.7s							
TKM2				⇓S	**Sn**	**21 50 07.8**	**-3.3**
comp=Z,6.9nm,1.0s							
KOLN	**Koldanda**	**13.59**	**124**	*eP*	**Pn**	**21 50 00.2**	**-1.7**
comp=Z,4.8nm,0.3s							
MK31	**Makanchi Array**	**13.70**	**35**	⇓P	**Pn**	**21 50 03.1**	**-0.2**
comp=Z,0.4nm,0.5s,baz=189,slow=22,SNR=2.8							
MKAR	**Makanchi Array**	**13.70**	**35**	P	**Pn**	**21 50 03.3**	**0.0**
comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=6.3							
GKN	**Gorkha**	**14.15**	**121**	*eP*	**Pn**	**21 50 07.6**	**-1.4**
comp=Z,13nm,0.3s							
DMN	**Daman**	**14.72**	**121**	*eP*	**Pn**	**21 50 14.6**	**-1.6**
comp=Z,9.7nm,0.4s							
KKN	**Kakani**	**14.73**	**120**	*eP*	**Pn**	**21 50 15.4**	**-0.9**
comp=Z,11nm,0.5s							
KKN	**Kakani**	**14.73**	**120**	*eP*	**Pn**	**21 50 15.4**	**-0.9**
KKN				pmax	pmax		
comp=Z,6.0nm,0.5s							
PKI	**Pulchoki**	**14.96**	**120**	*eP*	**Pn**	**21 50 18.5**	**-0.6**
comp=Z,14nm,0.5s							
PKI	**Pulchoki**	**14.96**	**120**	*eP*	**Pn**	**21 50 18.5**	**-0.6**
PKI				pmax	pmax		
comp=Z,7.0nm,0.5s							
GUN	**Gumba**	**15.08**	**118**	*eP*	**Pn**	**21 50 19.4**	**-1.3**
comp=Z,6.9nm,0.3s							
AB31	**Akbulak array**	**15.43**	**332**	⇑P	**Pn**	**21 50 23.2**	**-1.8**
comp=Z,2.7nm,0.3s,baz=158,slow=12,SNR=222							
AB31				⇑S	**S**	**21 53 04.3**	**-18**
comp=Z,3.3nm,0.7s							
AB31	**Akbulak array**	**15.43**	**332**	*eP*	**Pn**	**21 50 23.6**	**-1.4**
AB31				pmax	pmax		
comp=Z,2.0nm,0.3s							
JIRN	**Jiri**	**15.45**	**119**	*eP*	**Pn**	**21 50 24.5**	**-0.8**
comp=Z,14nm,0.3s							
VOSK	**Vostochnaya**	**16.66**	**0**	⇑P	**Pn**	**21 50 39.2**	**-0.9**
comp=Z,5.8nm,1.5s							
ZRNK	**Zerenda**	**16.94**	**356**	*eP*	**Pn**	**21 50 43.9**	**+0.4**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**16.94**	**356**	*eP*	**Pn**	**21 50 43.9**	**+0.4**
comp=Z,0.9nm,0.4s							
BVA0	**Borovoye Array**	**16.96**	**359**	P	**Pn**	**21 50 44.5**	**+0.7**
comp=Z,2.0nm,2.1s,baz=167,slow=13,SNR=20							
BVAR	**Borovoye Array**	**16.96**	**359**	P	**Pn**	**21 50 44.1**	**+0.3**
comp=Z,0.5nm,0.3s,baz=164,slow=9.7,SNR=16							
BVAR	**Borovoye Array**	**16.96**	**359**	P	**Pn**	**21 50 44.1**	**+0.3**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**17.00**	**359**	P	**Pn**	**21 50 42.0**	**-2.2**
AKTK	**Aktyubinsk**	**17.12**	**331**	P	**Pn**	**21 50 44.0**	**-1.6**
AKTK				S	**S**	**21 53 46.4**	**-10**
AKTO	**Aktyubinsk**	**17.12**	**331**	⇓P	**Pn**	**21 50 45.6**	**-0.1**
comp=Z,1.2nm,1.2s							
AKTO				⇑S	**S**	**21 53 40.0**	**-16**
comp=Z,1.7nm,1.8s							
AKTO	**Aktyubinsk**	**17.12**	**331**	P	**Pn**	**21 50 44.0**	**-1.6**
comp=Z,0.6nm,0.3s,baz=132,slow=12,SNR=11							
AKTO				S	**S**	**21 53 46.4**	**-10**
comp=Z,0.3nm,0.3s,baz=334,slow=21,SNR=5.0							
AKTO	**Aktyubinsk**	**17.12**	**331**	P	**Pn**	**21 50 44.0**	**-1.7**
AKTO				S	**S**	**21 53 46.4**	**-10**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.34**	**24**	P	**P**	**21 51 21.5**	**+1.3**
comp=Z,2.9nm,0.4s,baz=264,slow=7.9,SNR=16							
ZAL	**Zalesovo**	**20.34**	**24**	P	**P**	**21 51 21.5**	**+1.3**
ZAL				pmax	pmax		
comp=Z,3.0nm,0.4s							
ZAL	**Zalesovo**	**20.34**	**24**	P	**P**	**21 51 21.5**	**+1.3**
ARU	**Arti**	**22.02**	**342**	*eP*	**P**	**21 51 40.8**	**+2.7**
JOF	**Joensuu**	**36.20**	**330**	*ep*	**P**	**21 53 46.2**	**+1.9**
comp=Z,0.4nm,0.3s,mb3.5							
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**21 53 58.9**	**+1.1**
comp=Z,0.6nm,0.3s,mb3.6,baz=124,slow=8.8,SNR=15							
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**21 53 58.9**	**+1.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**21 54 30.1**	**+1.6**
comp=Z,4.4nm,0.9s,mb4.1,baz=124,slow=12,SNR=8.6							
ARCES	**ARCESS Array B**	**41.52**	**338**	P	**P**	**21 54 30.1**	**+1.6**
ARCES				pmax	pmax		
comp=Z,4.0nm,0.9s							
NB2	**NORSAR Subarra**	**44.68**	**323**	P	**P**	**21 54 54.4**	**+0.5**
comp=Z,0.5nm,0.5s,mb3.4,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.68**	**323**	P	**P**	**21 54 53.9**	**0.0**
comp=Z,0.7nm,0.6s,mb3.5,baz=96,slow=7.7,SNR=4.0							
NOA	**NORSAR Array B**	**44.68**	**323**	P	**P**	**21 54 53.9**	**0.0**
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**21 57 24.8**	**+0.7**
comp=Z,0.1nm,0.3s,mb3.1,baz=48,slow=5.6,SNR=7.4							

*ISCJB **13** 21:53:13.9±1.0, 03N±02×1234E±05, h33km, mb3.5/5, Error ellipse: s-maj=78.9km s-min=14.9km az=139.4*
*IDC **13** 21:53:26.0±14.0, 013N×12361E, h141km±147km, mb3.1/5, mb1 3.2/5, mb1mx3.2/17, mbtmp3.5/5, Error ellipse: s-maj=132.5km s-min=26.0km az=67.0*

ISC 13 21:53:16.1±1.0, 03N±02×1237E±05, h35km, n7, σ1°23/7, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.37**	**174**	*eP*	**Pn**	**21 57 28.6**	**+0.6**
1.7nm,0.4s							
WRA	**Warramunga Arr**	**22.67**	**153**	P	**P**	**21 58 14.1**	**-0.2**
1.4nm,0.5s,mb3.7,baz=333,slow=10.0,SNR=33							
WB2	**Warramunga Arr**	**22.67**	**153**	*eP*	**P**	**21 58 14.5**	**+0.2**
ASAR	**Alice Springs**	**25.81**	**158**	P	**P**	**21 58 44.9**	**+0.9**
0.4nm,0.4s,mb3.3,baz=344,slow=16,SNR=4.9							
STKA	**Stephens Creek**	**36.22**	**154**	P	**P**	**22 00 12.8**	**-2.8**
1.6nm,0.7s,mb4.1,baz=320,slow=7.9,SNR=3.7							
SONM	**Songino Array**	**49.68**	**345**	P	**P**	**22 02 06.0**	**+1.5**
0.2nm,0.6s,mb3.3,baz=164,slow=9.2,SNR=3.7							
MKAR	**Makanchi Array**	**58.72**	**328**	P	**P**	**22 03 08.9**	**-1.4**
0.1nm,0.3s,mb3.3,baz=125,slow=8.8,SNR=8.8							
MKAR				PcP	PcP	22 03 57.0	-2.9
0.2nm,0.6s,baz=135,slow=2.0,SNR=5.0							

*ISCJB **13** 22:47:30.5±1.2, 63S±01×15493E±009, h342km±13km, mb3.6/11, Error ellipse: s-maj=18.2km s-min=11.4km az=108.5*
*NEIC **13** 22:47:30.7±1.2, 621S×15498E, h329km±14km, mb4.0/3, Error ellipse: s-maj=15.1km s-min=10.1km az=156.0*
*IDC **13** 22:47:31.9±1.6, 639S×15498E, h347km±17km, mb3.2/8, mb1 3.5/11, mb1mx3.4/17, mbtmp4.0/11, Error ellipse: s-maj=18.5km s-min=11.7km az=129.0*

ISC 13 22:47:31.6±1.1, 632S±010×15498E±009, h341km±13km, n22, σ1°00/23, mb3.6/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.81**	**123**	P	**Pn**	**22 48 59.5**	**-0.3**
13nm,0.3s,baz=260,slow=13,SNR=5.4							
HNR	**Honiara**	**5.81**	**123**	*ePn*	**Pn**	**22 48 59.4**	**-0.5**
PMG	**Port Moresby**	**8.34**	**248**	P	**Pn**	**22 49 29.1**	**-0.4**
1.3nm,0.3s,baz=101,slow=16,SNR=3.1							
CTA	**Charters Tower**	**16.10**	**211**	*eP*	**P**	**22 51 00.7**	**+2.2**
7.2nm,0.8s							
CTA	**Charters Tower**	**16.10**	**211**	P	**P**	**22 51 00.5**	**+1.9**
0.6nm,0.3s,baz=42,slow=12,SNR=11							
CTAO	**Charters Tower**	**16.10**	**211**	*eP*	**P**	**22 51 00.6**	**+2.1**
8.8nm,0.7s							
DZM	**Mont Dzumac**	**19.18**	**146**	P	**P**	**22 51 31.1**	**-0.4**
1.5nm,0.3s,baz=214,slow=11,SNR=14							
WRAB	**Tennant Creek**	**24.18**	**234**	*eP*	**P**	**22 52 19.1**	**+1.0**
2.7nm,0.4s,mb3.8							
WB2	**Warramunga Arr**	**24.19**	**234**	*eP*	**P**	**22 52 18.9**	**+0.7**
WRA	**Warramunga Arr**	**24.20**	**234**	P	**P**	**22 52 19.1**	**+0.9**
1.3nm,0.4s,mb3.5,baz=62,slow=11,SNR=24							
WRA				S	**S**	**22 56 10.4**	**-0.6**
0.8nm,0.8s,baz=60,slow=15,SNR=4.8							
ASAR	**Alice Springs**	**26.61**	**227**	P	**P**	**22 52 40.0**	**+0.2**
1.0nm,0.5s,mb3.3,baz=55,slow=9.5,SNR=12							
ASAR				S	**S**	**22 56 47.9**	**-1.2**
0.4nm,0.9s,baz=59,slow=15,SNR=4.8							
STKA	**Stephens Creek**	**28.34**	**205**	P	**P**	**22 52 52.9**	**-2.2**
1.9nm,0.7s,mb3.4,baz=16,slow=14,SNR=4.4							
FITZ	**Fitzroy Crossi**	**30.92**	**245**	*eP*	**P**	**22 53 17.0**	**-0.7**
8.2nm,0.7s,mb4.1							
MBWA	**Marble Bar**	**37.16**	**243**	*eP*	**P**	**22 54 10.3**	**-0.7**
2.9nm,0.6s,mb3.7							
KKM	**Kota Kinabalu**	**40.59**	**287**	*eP*	**P**	**22 54 39.4**	**+0.3**
MJAR	**Matsushiro Arr**	**45.44**	**341**	P	**P**	**22 55 16.4**	**-1.2**
1.2nm,0.6s,mb3.2,baz=117,slow=1.0,SNR=4.0							
SLKM	**Skilak Lake**	**79.13**	**24**	*eP*	**P**	**22 58 59.3**	**+0.4**
ILAR	**Eielson Array**	**82.75**	**22**	P	**P**	**22 59 16.8**	**-1.1**
0.9nm,0.9s,mb3.6,baz=249,slow=4.6,SNR=7.6							
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**22 59 18.9**	**+0.3**
0.4nm,0.7s,mb3.4,baz=104,slow=5.0,SNR=5.3							
NVAR	**Mina Array Bea**	**91.31**	**52**	P	**P**	**23 00 01.0**	**+2.0**
0.8nm,0.8s,mb3.7,baz=263,slow=11,SNR=3.7							
YKA	**Yellowknife Ar**	**95.75**	**28**	P	**P**	**23 00 19.4**	**+0.1**
0.3nm,0.9s,mb3.4,baz=269,slow=4.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**152.83**	**286**	PKPab	PKPab	23 07 01.6	+0.7
0.2nm,0.5s,baz=88,slow=4.6,SNR=4.7							

*CSEM **13** 23:03:06.7±0.0, 4261N×1327E, h12km, ML2.4/8, Error ellipse: s-maj=1.0km s-min=0.6km az=50.0*
*ISCJB **13** 23:03:07.8±0.2, 4261N±002×1323E±002, h16km±3km, Error ellipse: s-maj=3.4km s-min=2.6km az=90.8*
*NEIC **13** 23:03:07.3, 4260N×1326E, h6km, ML3.0(ROM), After ROM.*
*ROM **13** 23:03:07.3±0.2, 4260N×1326E, h6km±2km, Md3.1/42, Ml3.0/25, Error ellipse: s-maj=2.2km s-min=1.6km az=52.0*
*LDG **13** 23:03:09.2±0.1, 4254N×1330E, h10km, Ml2.7/11, Error ellipse: s-maj=4.5km s-min=2.9km az=70.0*

ISC 13 23:03:07.8±0.2, 4260N±002×1322E±002, h7km±2km, n91, σ1°05/132, 16C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.14**	**272**	⇑*i*Pg	**Pg**	**23 03 11.7**	**+1.0**
LNSS				Sg	**Sg**	**23 03 14.8**	**+2.1**
7μm,0.3s							
CAMP	**Campotosto**	**0.15**	**115**	⇓*i*Pg	**Pg**	**23 03 10.9**	**-0.1**
CAMP				Sg	**Sg**	**23 03 13.3**	**+0.2**
5μm,0.6s							
NRCA	**Norcia**	**0.25**	**341**	⇓*i*Pg	**Pg**	**23 03 13.1**	**+0.4**
AQU	**L'Aquila**	**0.28**	**152**	Pg	**Pg**	**23 03 13.4**	**+0.1**
1μm,0.6s							
TERO	**Teramo**	**0.28**	**85**	⇑*i*Pg	**Pg**	**23 03 12.8**	**-0.6**
TERO				Sg	**Sg**	**23 03 16.6**	**-0.5**
6μm,0.2s							
FIAM	**Fiamignano**	**0.34**	**193**	Pg	**Pg**	**23 03 14.7**	**+0.2**
FIAM				Sg	**Sg**	**23 03 20.5**	**+1.5**
2μm,0.9s							
FAGN	**Fagnano**	**0.43**	**141**	Pg	**Pg**	**23 03 15.6**	**-0.5**
FAGN				Sg	**Sg**	**23 03 23.9**	**+2.2**
3μm,0.4s							
MNS	**Montasola**	**0.46**	**242**	⇑*i*Pg	**Pg**	**23 03 16.9**	**+0.3**
496nm,0.2s							
VCEL	**Villa Celiera**	**0.50**	**114**	Pg	**Pg**	**23 03 17.2**	**-0.3**
VCEL				Sg	**Sg**	**23 03 25.3**	**+1.2**
3μm,0.4s							
PTQR	**Pietraquaria**	**0.59**	**167**	Pg	**Pg**	**23 03 18.6**	**-0.6**
67nm,0.3s							
CERT	**Cerreto**	**0.67**	**195**	Pg	**Pg**	**23 03 20.1**	**-0.7**
610nm,0.4s							
MTCE	**Montecelio**	**0.68**	**212**	Pg	**Pg**	**23 03 20.3**	**-0.6**
641nm,0.6s							
SNTG	**Esanatoglia**	**0.69**	**343**	Pg	**Pg**	**23 03 20.5**	**-0.6**
INTR	**Introdacqua**	**0.78**	**139**	Pg	**Pg**	**23 03 20.3**	**-2.4**
807nm,0.6s							
CING	**Cingoli**	**0.78**	**359**	Pg	**Pg**	**23 03 22.2**	**-0.5**
CING				Sg	**Sg**	**23 03 34.9**	**+2.1**
643nm,0.3s							
VVLD	**Villa Vallelon**	**0.79**	**158**	Pg	**Pg**	**23 03 24.1**	**+1.2**
MURB	**Monte Urbino**	**0.84**	**323**	Pg	**Pg**	**23 03 23.8**	**-0.1**
942nm,0.3s							
ARV	**Arcevia**	**0.92**	**347**	Pg	**Pg**	**23 03 24.8**	**-0.7**
241nm,0.6s							
ARVD	**Arcevia**	**0.92**	**347**	Pg	**Pg**	**23 03 24.8**	**-0.7**
329nm,0.5s							
MA9	**Marino**	**0.93**	**207**	Pg	**Pg**	**23 03 27.3**	**+1.6**
245nm,0.3s							
AOI	**Ancona**	**0.99**	**16**	Pg	**Pg**	**23 03 25.8**	**-1.0**
409nm,0.3s							
SACS	**San Casciano d**	**1.00**	**285**	Pg	**Pg**	**23 03 26.8**	**-0.2**
416nm,0.9s							
LAV9	**Lanuvio**	**1.00**	**203**	Pg	**Pg**	**23 03 27.5**	**+0.5**
396nm,0.3s							
GIUL	**Giuliano Di Ro**	**1.04**	**179**	Pg	**Pg**	**23 03 27.7**	**-0.1**
155nm,0.6s							
TOLF	**Tolfa**	**1.05**	**240**	Pg	**Pg**	**23 03 27.4**	**-0.6**
366nm,0.8s							
PIEI	**Pieia**	**1.06**	**332**	Pg	**Pg**	**23 03 27.7**	**-0.5**
119nm,0.3s							
RNI2	**Rionero Sannit**	**1.13**	**142**	Pg	**Pg**	**23 03 29.5**	**0.0**
FSSB	**Fossombrone**	**1.14**	**344**	Pg	**Pg**	**23 03 29.0**	**-0.7**
117nm,0.3s							
BADI	**Badiali**	**1.16**	**322**	Pg	**Pg**	**23 03 30.2**	**+0.1**
200nm,0.4s							
CII	**Carovilli**	**1.19**	**137**	Pg	**Pg**	**23 03 29.4**	**-1.2**
96nm,0.5s							
MIDA	**Miranda**	**1.23**	**141**	Pg	**Pg**	**23 03 29.8**	**-1.6**
175nm,0.7s							
TRIV	**Trivento**	**1.29**	**130**	Pg	**Pg**	**23 03 31.4**	**-1.2**
ARCI	**Arcidosso**	**1.31**	**282**	Pg	**Pg**	**23 03 32.8**	**-0.2**
PESA	**Pesaro**	**1.37**	**348**	Pg	**Pg**	**23 03 33.9**	**-0.2**
228nm,0.3s							
CRE	**Caprese Michel**	**1.38**	**318**	Pg	**Pg**	**23 03 33.8**	**-0.5**
110nm,0.3s							
RSM	**Repubblica di**	**1.45**	**337**	Pg	**Pg**	**23 03 37.3**	**+1.8**
116nm,0.7s							
SGG	**Gregorio Mates**	**1.49**	**144**	Pg	**Pg**	**23 03 36.9**	**+0.6**
MAON	**Monte Argentar**	**1.56**	**264**	Pg	**Pn**	**23 03 34.7**	**-1.2**
45nm,0.7s							
FG2	**Serracapriola**	**1.64**	**118**	Pg	**Pg**	**23 03 38.0**	**-1.4**
170nm,0.2s							
SFI	**Santa Sofia**	**1.65**	**323**	Pg	**Pg**	**23 03 38.9**	**-0.5**
35nm,0.4s							
GRFL	**Gerfalco**	**1.74**	**289**	Pg	**Pg**	**23 03 39.0**	**-2.2**
5.0nm,0.2s							
VMG	**Vicchio**	**1.83**	**319**	Pg	**Pg**	**23 03 42.5**	**-0.5**
124nm,0.7s							
RGNG	**Rignano Grg**	**1.99**	**117**	Pg	**Pn**	**23 03 42.6**	**+0.8**
FG5	**Orsara di Pugl**	**2.02**	**130**	Pg	**Pg**	**23 03 44.3**	**-2.1**
NVLJ	**Novalja**	**2.30**	**31**	⇑*i*Pn	**Pn**	**23 03 45.4**	**-0.7**
NVLJ				*i* Sn	**Sn**	**23 04 13.9**	**-0.7**
GSCL	**Gusciola**	**2.60**	**313**	Pg	**Pn**	**23 03 51.5**	**+1.3**
10.0nm,0.5s							
PGF	**Pioggiola**	**3.12**	**270**	*ePn*	**Pn**	**23 03 58.1**	**+0.7**
PGF				*eSn*	**Sn**	**23 04 31.9**	**-3.0**
1.6nm,0.3s							
PGF	**Pioggiola**	**3.12**	**270**	*ePn*	**Pn**	**23 03 58.1**	**+0.7**
PGF				*eSn*	**Sn**	**23 04 31.9**	**-3.0**
0.8nm,0.3s							
SG1	**Sgolgore (BA)**	**3.13**	**123**	*ePn*	**Pn**	**23 03 58.3**	**+0.8**
STON	**Ston**	**3.31**	**84**	*i* Pn	**Pn**	**23 03 59.7**	**-0.3**
STON				*i* Sn	**Sn**	**23 04 36.8**	**-2.7**
VOY	**Vojsko**	**3.46**	**8**	*ePn*	**Pn**	**23 04 02.8**	**+0.7**
VOY				*eSn*	**Sn**	**23 04 43.2**	**-0.2**
CTI	**Castel Tesino**	**3.63**	**342**	Pg	**Pn**	**23 04 05.5**	**+1.1**
40nm,0.2s							
OBKA	**Obir**	**4.02**	**13**	⇓*i*Pn	**Pn**	**23 04 09.4**	**-0.3**
OBKA				⇑*i*Sn	**Sn**	**23 04 56.8**	**-0.3**
OBKA	**Obir**	**4.02**	**13**	Pn	**Pn**	**23 04 09.4**	**-0.4**
SBF	**Sospel**	**4.41**	**289**	*ePn*	**Pn**	**23 04 15.8**	**+0.6**
SBF				*eSn*	**Sn**	**23 05 03.3**	**-3.5**
2.5nm,0.3s							
SBF	**Sospel**	**4.41**	**289**	*ePn*	**Pn**	**23 04 15.8**	**+0.6**
SBF				*eSn*	**Sn**	**23 05 03.3**	**-3.5**
1.2nm,0.3s							
KBA	**Koelnbreinsper**	**4.48**	**1**	⇓*i*Pn	**Pn**	**23 04 16.3**	**+0.2**
KBA				⇓*i*Sn	**Sn**	**23 05 08.5**	**+0.1**
SCE	**Schlegeis**	**4.57**	**347**	⇓*i*Pn	**Pn**	**23 04 19.3**	**+2.0**
WTTA	**Wattenberg**	**4.80**	**347**	⇑*i*Pn	**Pn**	**23 04 20.7**	**+0.2**
WTTA				⇑*i*Sn	**Sn**	**23 05 17.0**	**+0.7**
SQTA	**Sankt Quirin**	**4.84**	**343**	⇑*i*Pn	**Pn**	**23 04 21.4**	**+0.4**
SQTA				⇓*i*Sn	**Sn**	**23 05 17.8**	**+0.6**
WATA	**Walderalm**	**4.88**	**347**	⇓*i*Pn	**Pn**	**23 04 22.0**	**+0.4**
WATA				⇓*i*Sn	**Sn**	**23 05 19.0**	**+0.8**
FRF	**La Foret Royal**	**4.91**	**284**	*ePn*	**Pn**	**23 04 21.7**	**-0.3**
FRF				*eSn*	**Sn**	**23 05 14.9**	**-4.2**
0.6nm,0.2s							
FRF	**La Foret Royal**	**4.91**	**284**	*ePn*	**Pn**	**23 04 21.7**	**-0.3**
FRF				*eSn*	**Sn**	**23 05 14.9**	**-4.2**
0.3nm,0.2s							
ARSA	**Arzberg**	**4.93**	**19**	⇑*i*Pn	**Pn**	**23 04 21.6**	**-0.7**
ARSA				⇑*i*Sn	**Sn**	**23 05 16.4**	**-3.1**
MOTA	**Moosalm**	**4.98**	**343**	⇑*i*Pn	**Pn**	**23 04 23.5**	**+0.6**
MOTA				⇑*i*Sn	**Sn**	**23 05 21.8**	**+1.2**
PUK	**Puka**	**4.98**	**94**	*i* Pn	**Pn**	**23 04 24.4**	**+1.5**
PUK				*i* Sn	**Sn**	**23 05 21.0**	**+0.4**
PUK	**Puka**	**4.98**	**94**	*ePn*	**Pn**	**23 04 24.4**	**+1.5**
PUK				*i* Sn	**Sn**	**23 05 21.0**	**+0.4**
LMR	**La Mourre**	**4.98**	**281**	*ePn*	**Pn**	**23 04 22.8**	**-0.2**
LMR				*eSn*	**Sn**	**23 05 16.7**	**-4.1**
0.7nm,0.3s							
LMR	**La Mourre**	**4.98**	**281**	*ePn*	**Pn**	**23 04 22.8**	**-0.2**
LMR				*eSn*	**Sn**	**23 05 16.7**	**-4.1**
0.3nm,0.3s							
BCI	**Bajram Curri**	**5.07**	**90**	*i* Pn	**Pn**	**23 04 26.1**	**+2.0**
BCI	**Bajram Curri**	**5.07**	**90**	*ePn*	**Pn**	**23 04 26.1**	**+2.0**
MBDF	**Montbardon**	**5.14**	**297**	*ePn*	**Pn**	**23 04 25.3**	**+0.2**
MBDF				*eSn*	**Sn**	**23 05 21.1**	**-3.6**
0.6nm,0.3s							
MBDF	**Montbardon**	**5.14**	**297**	*ePn*	**Pn**	**23 04 25.3**	**+0.2**
MBDF				*eSn*	**Sn**	**23 05 21.1**	**-3.6**
0.3nm,0.3s							
DAVA	**Damuels**	**5.25**	**334**	⇑*i*Pn	**Pn**	**23 04 27.4**	**+0.7**
DAVA				⇑*i*Sn	**Sn**	**23 05 28.6**	**+1.2**
MOA	**Molln**	**5.30**	**8**	⇑*i*Pn	**Pn**	**23 04 27.0**	**-0.4**
MOA				⇑*i*Sn	**Sn**	**23 05 28.4**	**-0.2**
KKS	**Kukesi**	**5.35**	**93**	*i* Pn	**Pn**	**23 04 29.9**	**+1.8**
KKS	**Kukesi**	**5.35**	**93**	*ePn*	**Pn**	**23 04 29.9**	**+1.8**
LPG	**La Plagne**	**5.49**	**304**	*ePn*	**Pn**	**23 04 30.2**	**+0.2**
LPG				*eSn*	**Sn**	**23 05 30.0**	**-3.3**
1.0nm,0.2s							
LPG	**La Plagne**	**5.49**	**304**	*ePn*	**Pn**	**23 04 30.2**	**+0.2**
LPG				*eSn*	**Sn**	**23 05 30.0**	**-3.3**
0.5nm,0.2s							
LPL	**La Plagne**	**5.51**	**304**	*ePn*	**Pn**	**23 04 30.6**	**+0.4**
LPL				*eSn*	**Sn**	**23 05 30.0**	**-3.8**
1.6nm,0.3s							
LPL	**La Plagne**	**5.51**	**304**	*ePn*	**Pn**	**23 04 30.6**	**+0.4**
LPL				*eSn*	**Sn**	**23 05 30.0**	**-3.8**
0.8nm,0.3s							
SMRF	**Simiane la Rot**	**5.75**	**286**	*ePn*	**Pn**	**23 04 33.7**	**+0.2**
ORIF	**Oris-en-Rattie**	**5.80**	**296**	*ePn

MURB Sg **Sg** **23 33 28.4 +1.1**
1μm,0.3s
CING Cingoli 0.40 32 Pg **Pg** **23 33 22.9 -0.4**
CING Sg **Sg** **23 33 29.7 +1.1**
435nm,0.2s
LNSS Leonessa 0.44 167 Pg **Pg** **23 33 24.6 +0.5**
LNSS Sg **Sg** **23 33 32.8 +2.8**
279nm,0.6s
ARV Arcevia 0.46 3 Pg **Pg** **23 33 23.6 -0.9**
ARV Sg **Sg** **23 33 31.0 +0.4**
173nm,0.7s
ARVD Arcevia 0.46 3 Pg **Pg** **23 33 23.6 -0.9**
ARVD Sg **Sg** **23 33 30.9 +0.3**
185nm,0.6s
PIEI Pieia 0.57 332 Pg **Pg** **23 33 25.5 -1.0**
PIEI Sg **Sg** **23 33 34.8 +0.9**
56nm,0.2s
CAMP Campotosto 0.62 143 Pg **Pg** **23 33 27.5 0.0**
72nm,0.5s
TERO Teramo 0.66 128 Pg **Pg** **23 33 28.2 -0.1**
121nm,0.7s
FSSB Fossombrone 0.66 352 Pg **Pg** **23 33 27.2 -1.1**
FSSB Sg **Sg** **23 33 37.4 +0.5**
82nm,0.4s
MNS Montasola 0.67 194 Pg **Pg** **23 33 28.6 +0.1**
63nm,0.4s
BADI Badiali 0.68 315 Pg **Pg** **23 33 27.6 -0.9**
BADI Sg **Sg** **23 33 38.5 +1.2**
151nm,0.6s
AOI Ancona 0.72 45 Pg **Pg** **23 33 29.1 -0.4**
59nm,0.3s
SACS San Casciano d 0.75 256 Pg **Pg** **23 33 29.8 -0.2**
101nm,0.8s
AQU L'Aquila 0.77 151 Pg **Pg** **23 33 30.6 +0.2**
90nm,0.8s
FIAM Fiamignano 0.78 168 Pg **Pg** **23 33 30.3 -0.3**
108nm,0.7s
CRE Caprese Michel 0.91 310 Pg **Pg** **23 33 32.3 -0.7**
11nm,0.2s
FAGN Fagnano 0.92 147 Pg **Pg** **23 33 32.5 -0.7**
161nm,0.5s
VCEL Villa Celiera 0.94 133 Pg **Pg** **23 33 33.4 -0.2**
102nm,0.6s
RSM Repubblica di 0.95 340 Pg **Pg** **23 33 33.8 0.0**
31nm,0.5s
OBKA Obir 3.67 18 ⇓*i*Pn **Pn** **23 34 12.5 0.0**
OBKA ⇓*i*Sn **Sn** **23 34 56.3 +0.4**
KBA Koelnbreinsper 4.05 4 ⇓*i*Pn **Pn** **23 34 17.0 -0.9**
KBA ⇓*i*Sn **Sn** **23 35 05.8 +0.2**
MOA Molln 4.91 11 ⇑*i*Pn **Pn** **23 34 29.6 0.0**
MOA ⇓*i*Sn **Sn** **23 35 27.3 +0.7**

GUC 13 23:57:49.1±0.8, 3091S×7148W, h44km±4km, MD3.8, ML3.1, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.49**	**123**	⇓*i*P	Pn	23 57 60.0	+0.1
CMCH				*i* S	Sn	23 58 08.7	+1.2
CMCH				AMP		23 58 09.4	
	comp=E,4μm,0.7s						
ILCH	**Illapel**	**0.78**	**160**	⇑*i*P	Pn	23 58 04.4	+0.8
ILCH				*i* S	Sn	23 58 15.5	+1.4
FCH	**Farellones**	**2.62**	**158**	*e*P	Pn	23 58 30.9	+2.1
FCH				*i* S	Sn	23 59 02.0	+2.6
FCH				AMP		23 59 04.9	
	comp=E,41nm,0.4s						
RCDM	**Rinconada Maip**	**2.64**	**168**	*i* P	Pn	23 58 29.7	+0.5
RCDM				*i* S	Sn	23 59 00.9	+1.0
RCDM				AMP		23 59 15.9	
	comp=E,76nm,0.6s						

IDC ***14*** *00:04:34.5±9.6, 1206N×8672W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=189.5km s-min=76.0km az=170.0*
ISCJB ***14*** *00:04:38.2±1.0, 1150N±010×8684W±007, h75km±8km, mb3.7/5, Error ellipse: s-maj=18.3km s-min=6.7km az=63.7*
CASC ***14*** *00:04:39.4±2.0, 1154N×8690W, h29km±6km, MD4.2, ML3.6*

ISC 14 00:04:38.8±1.0, 1147N±009×8684W±006, h65km±8km, n26, σ0§74/32, mb3.8/5, 11C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.75**	**19**	⇑*e*P	Pn	00 04 53.3	-0.6
TICN	**Ticuantepe**	**0.82**	**47**	⇑*e*P	Pn	00 04 55.0	+0.2
XAVN	**Gruta Xavier**	**0.85**	**37**	⇑*e*P	Pn	00 04 55.0	-0.1
MASN	**Masaya**	**0.85**	**52**	*e*P	Pn	00 04 55.1	-0.1
APON	**Apoyo**	**0.88**	**59**	⇓*e*P	Pn	00 04 55.4	-0.1
MGAN	**Managua**	**0.90**	**41**	⇓*e*P	Pn	00 04 55.5	-0.2
MGAN				*e*S	Sn	00 05 08.8	+0.7
MGAN				*i*		00 05 12.9	
	comp=N,2μm,0.4s						
APYN	**Apoyeque**	**0.91**	**32**	⇑*e*P	Pn	00 04 55.5	-0.3
WILN	**Americas 2**	**0.94**	**43**	⇑*e*P	Pn	00 04 56.5	+0.2
WILN				*e*S	Sn	00 05 10.0	+0.7
LEON	**Leon**	**0.95**	**357**	⇓*e*P	Pn	00 04 55.4	-0.9
MIRN	**Miramar**	**0.98**	**8**	⇑*e*P	Pn	00 04 56.1	-0.6
MOMJ	**Momotombo**	**0.98**	**18**	⇓*e*P	Pn	00 04 56.4	-0.4
MOMJ				*e*S	Sn	00 05 10.5	+0.3
SSNN	**San Juan del S**	**0.99**	**100**	⇑*e*P	Pn	00 04 57.1	+0.2
CNGN	**Cerro Negro**	**1.04**	**8**	⇓*e*P	Pn	00 04 56.8	-0.8
TEL3	**Telica 3**	**1.10**	**360**	⇑*e*P	Pn	00 04 57.8	-0.5
TELN	**Telica**	**1.13**	**1**	⇑*e*P	Pn	00 04 58.2	-0.5
CONN	**Concepcion**	**1.20**	**85**	⇑*e*P	Pn	00 04 59.9	+0.3
CRIN	**San Cristobal**	**1.24**	**351**	⇑*e*P	Pn	00 04 59.9	-0.3
MADN	**Villa Maderas**	**1.29**	**92**	*e*P	Pn	00 05 01.2	+0.4
BLLM	**Bellamira**	**2.39**	**325**	*e*P	Pn	00 05 16.2	+0.6
BLLM				*e*S	Sn	00 05 45.4	+1.6
VSM	**San Miguel**	**2.40**	**325**	*e*P	Pn	00 05 16.7	+1.0
VSM				*e*S	Sn	00 05 44.0	-0.1
SNVI	**San Vicente**	**2.89**	**318**	*e*P	Pn	00 05 22.6	+0.2
SNVI				*e*S	Sn	00 05 55.3	-0.7
PDAR	**Pinedale Array**	**36.92**	**332**	P	**P**	**00 11 43.0**	**+1.7**
	comp=N,0.5nm,0.6s,mb3.6,baz=129,slow=10,SNR=5.5						
ULM	**Lac du Bonnet**	**39.38**	**351**	P	**P**	**00 11 59.6**	**-2.4**
	comp=N,1.1nm,0.5s,mb3.9,baz=158,slow=6.7,SNR=4.1						
SCHQ	**Schefferville**	**46.05**	**16**	P	**P**	**00 12 56.2**	**+0.2**
	comp=N,5.0nm,1.0s,mb4.4,baz=225,slow=13,SNR=4.6						
YKA	**Yellowknife Ar**	**54.71**	**345**	P	**P**	**00 14 00.4**	**-1.0**
	comp=N,0.4nm,0.7s,mb3.5,baz=138,slow=7.6,SNR=9.8						
ILAR	**Eielson Array**	**67.16**	**336**	P	**P**	**00 15 26.7**	**+0.9**
	comp=N,0.3nm,0.6s,mb3.5,baz=149,slow=4.4,SNR=7.8						

DHMR ***14*** *00:12:14.3±1.4, 1247N×4151E, h11km±20km, ML3.6*
ISCJB ***14*** *00:12:15.1±0.8, 1246N±009×4137E±008, h10km, Error ellipse: s-maj=16.6km s-min=4.8km az=94.5*

ISC 14 00:12:18.0±0.8, 1250N±009×4142E±008, h10km, n12, σ1§46/22, 5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DESE	**Dese**	**2.23**	**232**	*e*PN	**Pn**	**00 12 56.3**	**+1.4**
DESE				*e*SG	**Sg**	**00 13 35.2**	**+5.6**
TRBA	**At Turbah**	**2.72**	**74**	⇓*i*P	**Pn**	**00 13 00.1**	**-1.7**
TRBA				*i* S	**Sn**	**00 13 35.4**	**+0.7**
TRBA				AML	AML	00 13 52.8	
	comp=N,416nm,0.7s						
TRBA	**At Turbah**	**2.72**	**74**	⇓*i*P	**Pn**	**00 13 00.1**	**-1.7**
	comp=N,208nm,0.7s						
TRBA				*i* S	**Sn**	**00 13 35.4**	**+0.7**
UDYN	**Al 'Udayn**	**2.87**	**59**	*i* P	**Pn**	**00 13 02.8**	**-1.1**
UDYN				*i* S	**Sn**	**00 13 40.1**	**+1.7**
UDYN				AML	AML	00 13 53.4	
	comp=E,240nm,0.5s						
DHBB	**Dhamar BB**	**3.54**	**54**	⇓*i*P	**Pn**	**00 13 12.0**	**-1.1**
DHBB				*i* S	**Sn**	**00 13 56.9**	**+1.9**
DHBB	**Dhamar BB**	**3.54**	**54**	⇓*i*P	**Pn**	**00 13 12.0**	**-1.0**
DHBB				*i* S	**Sn**	**00 13 56.8**	**+1.8**
HAJJ	**Hajjah**	**3.81**	**33**	⇓*i*P	**Pn**	**00 13 14.9**	**-1.9**
HAJJ				*i* S	**Sn**	**00 14 03.0**	**+1.3**
LBOS		**3.97**	**70**	*i* P	**Pn**	**00 13 16.9**	**-2.0**
LBOS				*i* S	**Sn**	**00 14 05.0**	**-0.4**
BDHA	**Al Bayda'**	**4.29**	**70**	*i* S	**Sn**	**00 14 14.2**	**+0.7**
BDHA				AML	AML	00 14 41.8	
	comp=N,222nm,0.7s						
BDHA	**Al Bayda'**	**4.29**	**70**	*i* S	**Sn**	**00 14 14.2**	**+0.8**
	comp=N,111nm,0.7s						
FURI	**Furi**	**4.49**	**217**	*e*PN	**Pg**	**00 13 41.3**	**-2.6**
FURI				*e*S	**Sg**	**00 14 43.5**	**+1.5**
FURI	**Furi**	**4.49**	**217**	*e*PN	**Pg**	**00 13 41.3**	**-2.6**
FURI				*e*S	**Sg**	**00 14 43.5**	**+1.5**

GUC 14 00:14:35.7±0.7, 3142S×6947W, h152km±17km, MD3.7, ML3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.33**	**280**	*e*P	Pn	00 15 03.9	+0.2
CMCH				*i* S	Sn	00 15 25.9	+0.7
CMCH				AMP		00 15 27.7	
	comp=E,5μm,0.5s						
ILCH	**Illapel**	**1.47**	**261**	*e*P	Pn	00 15 05.8	+0.8
ILCH				*i* S	Sn	00 15 28.0	+0.4
ILCH				AMP		00 15 29.1	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.01**	**211**	*e*P	Pn	00 15 11.6	+0.5
PEL				*i* S	Sn	00 15 39.1	+0.9
PEL				AMP		00 15 44.6	
	comp=N,295nm,0.3s						
FCH	**Farellones**	**2.03**	**200**	*e*P	Pn	00 15 12.7	+1.4
FCH				*i* S	Sn	00 15 40.4	+1.7
FCH				AMP		00 15 45.7	
	comp=N,141nm,0.7s						
RCDM	**Rinconada Maip**	**2.36**	**208**	*e*P	Pn	00 15 15.9	+0.7
RCDM				*i* S	Sn	00 15 46.2	+0.6
RCDM				AMP		00 15 47.6	
	comp=E,202nm,0.8s						
CHCH	**Chadas Angostu**	**2.70**	**201**	*e*P	Pn	00 15 20.0	+0.6
LNV	**Longovilo**	**3.02**	**212**	*e*P	Pn	00 15 23.3	-0.1

ISCJB ***14*** *00:17:12.6±0.6, 6788N±003×20.16E±009, h0km, Error ellipse: s-maj=5.2km s-min=4.7km az=140.6*
CSEM ***14*** *00:17:13.0±0.1, 6779N×2010E, h5km, ML2.5, Error ellipse: s-maj=4.0km s-min=3.5km az=103.0, Mining explosion.*
UPP ***14*** *00:17:13.8, 6784N×2020E, h0km, ML2.5, Mining explosion.*
BER ***14*** *00:17:16.2±2.8, 6790N×2014E, h0km, ML1.6, Suspected explosion*

ISC 14 00:17:13.5±0.6, 6786N±003×2021E±009, h0km, n12, σ0§80/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.45**	**272**	P	**Pg**	**00 17 22.3**	**+0.2**
LANU	**Lannavaara**	**0.70**	**73**	P	**Pg**	**00 17 27.1**	**+0.2**
DUNU	**Dundret**	**0.75**	**169**	P	**Pg**	**00 17 27.6**	**-0.4**
DUNU				S	**Sg**	**00 17 38.2**	**+0.4**
MASU	**Masugnsbyn**	**0.79**	**120**	P	**Pg**	**00 17 28.8**	**0.0**
SALU	**Saltoluokta**	**0.81**	**234**	P	**Pg**	**00 17 28.8**	**-0.3**
PAJU	**Pajala**	**1.40**	**125**	P	**Pn**	**00 17 39.3**	**-1.0**
ERTU	**Ertsjaerv**	**1.52**	**149**	P	**Pn**	**00 17 41.3**	**-0.7**
KTK1	**Kautokeino**	**1.61**	**43**	*e*P	**Pn**	**00 17 44.9**	**+1.7**
KTK1				*e*Sg	**Sg**	**00 18 05.8**	**+0.5**
TRO	**Tromso**	**1.84**	**346**	*e*P	**Pn**	**00 17 46.5**	**+0.1**
TRO				*e*Sg	**Sg**	**00 18 11.1**	**-1.7**
LOF	**Lofoten**	**2.53**	**279**	*e*Sg	**Sg**	**00 18 35.6**	**+0.9**
LOF				AML	AML	00 18 37.6	
	comp=Z,3.8nm,0.4s						
LOF	**Lofoten**	**2.53**	**279**	*e*Sg	**Sg**	**00 18 35.6**	**+0.9**
	comp=Z,3.8nm,0.4s,SNR=90						
MOR8	**Moi Rana**	**2.83**	**236**	*e*Sg	**Sg**	**00 18 37.8**	**-6.6**
MOR8				AML	AML	00 18 40.1	
	comp=Z,9.0nm,0.3s						

BJI ***14*** *00:21:39.5, 4930S×12150E, h10km, mB5.4, mb5.0, Ms5.6, Msz5.2*
IDC ***14*** *00:21:39.6±0.7, 4939S×12164E, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.5/13, mbtmp4.5/10, ML2.9/1, MS4.5/12, Ms1 4.5/12, ms1mx4.3/18, Error ellipse: s-maj=25.4km s-min=17.0km az=116.0*
MOS ***14*** *00:21:40.1±1.2, 4936S×12151E, h10km, mb5.1/7, Error ellipse: s-maj=30.3km s-min=12.2km az=82.9*
ISCJB ***14*** *00:21:40.0±0.3, 4936S±005×1215E±0.1, h10km, mb4.9/32, MS4.7/7, Error ellipse: s-maj=11.9km s-min=6.9km az=21.9*
NEIC ***14*** *00:21:41.5±0.3, 4934S×12148E, h10km, mb5.0/15, Error ellipse: s-maj=13.7km s-min=8.9km az=102.0*
HRVD ***14*** *00:21:41.5±0.5, 4925S×12142E, h12km, MW5.2/40, Centroid moment Tensor Solution. LP body waves: s25,c33;Mantle waves: s40,c64; Half duration: 1§0 Moment tensor: Scale 1016Nm; Mrr=0.18±.29; Mθθ=2.79±.26; Mφφ=2.97±.32; Mrθ=2.74±.73; Mφθ=5.36±.22; Mφr=4.19±.75; Best double couple: M0=7.46400×1016 NP1:φ§18.00000°, δ68.00000°, λ19.00000°. NP2: φ§281.00000°, δ72.00000°, λ157.00000°. Principal axes: T 8.9230, Plg29.0000°, Azm239.0000°; N -2.9220, Plg61.0000°, Azm66.0000°; P -6.0060, Plg3.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 00:21:41.5±0.3, 4937S±005×1214E±01, h10km, (h24km±3.4km: pP-P), n76, σ1§15/58, mb4.9/32, MS4.7/7, 3C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.73**	**348**	Pn	**Pn**	**00 25 37.4**	**+1.5**
	2.3nm,0.3s,baz=173,slow=11,SNR=9.8						
NWAO				LR	LR	00 30 35.8	
	comp=Z,1μm,19.6s,baz=167,slow=32						
NWAO	**Narrogin (SRO)**	**16.73**	**348**	*e*Pn	**Pn**	**00 25 40.1**	**+4.2**
	50nm,1.1s						
MUN	**Mundaring**	**17.81**	**345**	*e*P	**Pn**	**00 25 47.0**	**-2.5**
CASY	**Casey**	**17.87**	**194**	*e*P	**Pn**	**00 25 50.0**	**-0.2**
CASY	**Casey**	**17.87**	**194**	*e*Pn	**Pn**	**00 25 49.8**	**-0.4**
	36nm,0.9s						
KLBR	**Kellerberrin**	**17.98**	**350**	*e*P	**Pn**	**00 25 50.2**	**-1.3**
	83nm,1.8s						
TOO	**Toolangi**	**20.97**	**65**	*e*P	**P**	**00 26 26.6**	**+1.8**
	40nm,0.8s						
STKA	**Stephens Creek**	**23.11**	**48**	*e*P	**P**	**00 26 45.4**	**-2.2**
	27nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**23.11**	**48**	P	**P**	**00 26 45.5**	**-2.1**
	7.0nm,0.8s,mb4.1,baz=204,slow=10,SNR=12						
STKA				LR	LR	00 34 17.0	
	comp=Z,1μm,18.3s,MS4.4,baz=203,slow=33						
STKA	**Stephens Creek**	**23.11**	**48**	*e*P	**P**	**00 26 45.9**	**-1.7**
ASAR	**Alice Springs**	**27.47**	**25**	P	**P**	**00 27 27.4**	**-0.4**
	9.9nm,0.9s,mb4.3,baz=195,slow=9.2,SNR=59						
MBWA	**Marble Bar**	**28.18**	**357**	*e*P	**P**	**00 27 33.8**	**-0.4**
WRA	**Warramunga Arr**	**31.13**	**24**	P	**P**	**00 27 59.1**	**-1.2**
	4.0nm,0.8s,mb4.3,baz=197,slow=8.9,SNR=15						
WB2	**Warramunga Arr**	**31.13**	**24**	*e*P	**P**	**00 27 59.4**	**-0.9**
WRAB	**Tennant Creek**	**31.14**	**24**	*e*P	**P**	**00 27 59.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
WRAB	**Tennant Creek**	**31.14**	**24**	*e*P	**P**	**00 27 59.8**	**-0.6**
	comp=Z,25nm,1.2s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.38**	**8**	⇑*i*P	**P**	**00 28 03.6**	**+1.1**
	comp=Z,17nm,0.8s,mb4.9						
VNDA	**Vanda**	**32.12**	**165**	P	**P**	**00 28 07.9**	**-1.1**
	comp=Z,11nm,1.0s,mb4.6,baz=320,slow=9.5,SNR=17						
VNDA				LR	LR	00 39 54.1	
	comp=Z,1μm,20.5s,MS4.5,baz=319,slow=34						
VNDA	**Vanda**	**32.12**	**165**	*e*P	**P**	**00 28 08.9**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,16nm,1.1s						
VNDA	**Vanda**	**32.12**	**165**	*e*P	**P**	**00 28 08.9**	**-0.1**
	comp=Z,16nm,1.1s,mb4.8						
SBA	**Scott Base**	**33.18**	**164**	P	**P**	**00 28 19.1**	**+0.8**
CTAO	**Charters Tower**	**35.31**	**43**	P	**P**	**00 28 37.4**	**+0.7**
QSPA	**South Pole Qui**	**40.75**	**180**	*e*P	**P**	**00 29 23.8**	**+1.2**
	comp=Z,33nm,0.6s,mb5.1						
URZ	**Urewera**	**40.81**	**96**	P	**P**	**00 29 20.7**	**-2.4**
	comp=Z,2.8nm,0.7s,mb4.0,baz=310,slow=7.8,SNR=2.3						
URZ				LR	LR	00 43 35.6	
	comp=Z,363nm,18.2s,MS4.3,baz=9.4,slow=32						
SYO	**Syowa Base**	**42.32**	**212**	⇑*e*P	**P**	**00 29 34.4**	**-1.1**
NVL	**N'lazarevskaya**	**50.11**	**204**	⇓*i*P	**P**	**00 30 37.0**	**+0.2**
NVL				*e*PP	pP	00 30 44.6	+4.6
NVL				*e*S	**S**	**00 37 45.6**	**-2.6**
NVL				*e*SS	SS	00 41 18.4	-2.9
NVL				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
SNAA	**Sanae**	**53.03**	**199**	P	**P**	**00 30 58.2**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=14						
DGAR	**Diego Garcia**	**58.50**	**299**	P	**P**	**00 31 39.4**	**+1.5**
BOSA	**Boshof**	**72.62**	**246**	P	**P**	**00 33 08.9**	**-0.3**
	comp=Z,6.8nm,1.1s,mb4.5,baz=161,slow=7.5,SNR=4.9						
BOSA				LR	LR	00 59 37.3	
	comp=Z,362nm,18.2s,MS4.7,baz=127,slow=31						
KMI	**Kunming**	**76.01**	**343**	P	**P**	**00 33 30.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
HYB	**Hyderabad**	**76.58**	**318**	*i* P	**P**	**00 33 32.0**	**-0.1**
ENH	**Enshi**	**80.00**	**350**	*e*P	**P**	**00 33 53.2**	**+2.1**
	comp=Z,7.6nm,0.8s,mb4.7						
LSZ	**Lusaka**	**80.65**	**258**	*e*P	**P**	**00 33 54.8**	**+0.2**
LSZ				*e*		00 34 03.8	
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LSZ	**Lusaka**	**80.65**	**258**	*e*P	**P**	**00 33 54.8**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.6						
LSZ				*e*PcP	PcP	00 34 03.8	+2.4
NJ2	**Nanjing**	**81.09**	**358**	*e*P	**P**	**00 33 57.1**	**+0.2**
NJ2				AP	pP	00 34 01.9	+1.6
NJ2				XP	sP	00 34 04.5	+3.1
NJ2				S	S	00 44 03.0	-3.5
NJ2				SKS		00 44 08.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.8s						
NJ2				LR	LR		
	comp=N,550nm,22.0s,MS4.9						
NJ2				LR	LR		
	comp=E,280nm,22.0s,MS4.9						
CD2	**Chengdu**	**81.46**	**345**	*e*P	**P**	**00 33 59.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
JIRN	**Jiri**	**82.87**	**329**	*e*P	**P**	**00 34 06.0**	**-0.3**
	comp=Z,46nm,1.1s,mb5.4						
PKI	**Pulchoki**	**83.06**	**328**	*e*P	**P**	**00 34 06.5**	**-0.8**
	comp=Z,19nm,0.9s,mb5.1						
PKI	**Pulchoki**	**83.06**	**328**	*e*P	**P**	**00 34 06.5**	**-0.8**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
DMN	**Daman**	**83.20**	**328**	*e*P	**P**	**00 34 07.5**	**-0.5**
	comp=Z,24nm,1.0s,mb5.2						
GUN	**Gumba**	**83.21**	**329**	*e*P	**P**	**00 34 08.0**	**0.0**
	comp=Z,44nm,0.8s,mb5.5						
LSA	**Lhasa**	**83.22**	**334**	P	**P**	**00 34 04.4**	**-3.7**
LSA	**Lhasa**	**83.22**	**334**	*e*P	**P**	**00 34 08.4**	**+0.3**
LSA				*e*		00 34 16.5	
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
LSA	**Lhasa**	**83.22**	**334**	*e*P	**P**	**00 34 08.4**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0						
LSA				*e*PcP	PcP	00 34 16.5	+3.9
KKN	**Kakani**	**83.30**	**328**	*e*P	**P**	**00 34 07.7**	**-0.8**
	comp=Z,22nm,0.9s,mb5.2						
KKN	**Kakani**	**83.30**	**328**	*e*P	**P**	**00 34 07.7**	**-0.8**
KKN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
GKN	**Gorkha**	**83.72**	**328**	*e*P	**P**	**00 34 10.0**	**-0.7**
	comp=Z,63nm,1.2s,mb5.6						
KOLN	**Koldanda**	**83.87**	**327**	*e*P	**P**	**00 34 10.6**	**-0.9**
	comp=Z,26nm,0.9s,mb5.4						
KMBO	**Kilima Mbogo**	**85.35**	**274**	P	**P**	**00 34 18.6**	**-0.3**
	comp=Z,1.0nm,0.9s,mb4.0,baz=56,slow=23,SNR=3.4						
LZH	**Lanzhou**	**86.51**	**346**	*e*P	**P**	**00 34 20.6**	**-4.0**
LZH				AP	pP	00 34 30.9	+2.9
LZH				XP	sP	00 34 33.8	+4.6
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,115nm,4.3s						
HHC	**Hu-ho-hao-te**	**90.26**	**353**	*e*P	**P**	**00 34 44.4**	**+1.9**
HHC				AP	pP	00 34 49.3	+3.5
HHC				XP	sP	00 34 52.1	+5.1
HHC				PP	PP	00 38 20.3	+4.1
HHC				SKS		00 45 12.8	
HHC				S		00 45 41.5	
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,219nm,7.2s						
HHC				LR	LR		
	comp=N,610nm,15.6s,MS5.2						
HHC				LR	LR		
	comp=E,349nm,15.6s,MS5.2						
HHC				LR	LR		
	comp=Z,118nm,18.0s,MS4.4						
GTA	**Gaotai**	**90.44**	**343**	*e*P	**P**	**00 34 43.0**	**-0.3**
GTA				AP	pP	00 34 51.5	+4.8
GTA				XP	sP	00 34 55.8	+7.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.8						
CN2	**Changchun**	**92.86**	**3**	*e*P	**P**	**00 34 57.0**	**+2.5**
CN2				*e*XP	sP	00 35 04.0	+4.9
CN2				*e*S		00 46 00.8	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,900nm,13.0s,MS5.5						
CN2				LR	LR		
	comp=E,700nm,13.0s,MS5.5						
CN2				LR	LR		
	comp=Z,800nm,18.0s,MS5.2						
MDJ	**Mudanjiang**	**93.88**	**6**	P	**P**	**00 35 00.8**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,101nm,3.9s						
WMQ	**Urumqi**	**97.39**	**336**	*e*P	**P**	**00 35 16.0**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,13nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**97.65**	**350**	P	**P**	**00 35 18.1**	**+1.7**
SONM	**Songino Array**	**97.69**	**350**	P	**P**	**00 35 15.6**	**-1.0**
	comp=Z,0.4nm,0.8s,mb4.0,baz=207,slow=3.3,SNR=4.1						
AKASG	**Malin Array Be**	**126.88**	**307**	PKP	PKPdf	00 40 44.2	-1.4
	comp=Z,0.4nm,0.5s,baz=270,slow=39,SNR=3.2						
AKASG	**Malin Array Be**	**126.88**	**307**	PKP	PKPdf	00 40 44.2	-1.4
FINES	**FINESS Array B**	**133.87**	**318**	PKP	PKPdf	00 40 56.5	-2.4
	comp=Z,0.9nm,1.0s,baz=328,slow=36,SNR=2.8						
GERES	**GERESS Array B**	**134.40**	**298**	PKP	PKPdf	00 40 58.1	-1.7
	comp=Z,0.3nm,0.7s,baz=145,slow=42,SNR=2.7						
INK	**Inuvik**	**139.96**	**34**	PKP	PKPdf	00 41 06.4	-3.7
	comp=Z,4.0nm,1.3s,baz=251,slow=2.9,SNR=2.8						
NOA	**NORSAR Array B**	**140.45**	**314**	PKP	PKPdf	00 41 10.8	-0.2
	comp=Z,0.7nm,0.8s,baz=154,slow=4.3,SNR=2.8

FINES FINESS Array B 23.64 147 P **P** **00 44 39.5 -0.8**
1.5nm,0.8s,mb3.5,baz=0.0,slow=7.6,SNR=4.7
FRB Frobisher Bay 24.75 259 P **P** **00 44 50.3 -0.1**
3.9nm,0.7s,mb4.1,baz=350,slow=9.3,SNR=10.0
INK Inuvik 26.13 322 P **P** **00 45 02.9 -0.1**
14nm,1.0s,mb4.4,baz=11,slow=12,SNR=15
ILAR Eielson Array 30.39 332 P **P** **00 45 40.0 -1.0**
3.4nm,1.0s,mb4.0,baz=-4.7,slow=6.3,SNR=21
YKA Yellowknife Ar 30.46 303 P **P** **00 45 42.0 +0.4**
0.9nm,0.9s,mb3.5,baz=5.0,slow=8.3,SNR=14
BRG Berggiesshubel 33.69 163 *e*P **P** **00 46 10.8 +0.8**
6.4nm,1.3s,mb4.4
BRG
comp=N,27μm,1.4s
BRG
comp=E,447nm,10.8s
BRG
comp=Z,1μm,20.8s
STHS Stebnicka Huta 35.41 155 *e* **P** **00 46 26.2 +1.3**
KHC Kasperske Hory 35.42 164 *e*P **P** **00 46 25.0 0.0**
ZRNK Zerenda 35.58 103 *e*P **P** **00 46 24.9 -1.5**
comp=Z,2.8nm,1.0s,mb4.2
BVAR Borovoye Array 35.65 101 P **P** **00 46 26.9 0.0**
comp=Z,1.9nm,1.0s,mb4.0,baz=342,slow=4.7,SNR=7.3
GERES GERESS Array B 35.71 164 P **P** **00 46 27.3 -0.2**
comp=Z,1.5nm,0.9s,mb3.9,baz=11,slow=6.8,SNR=10.0
KOLS Kolonicke sedl 35.94 154 *e* **P** **00 46 29.9 +0.5**
VYHS Vyhne 36.24 158 *e* **P** **00 46 32.6 +0.6**
ZST Bratislava 36.47 160 *e* **P** **00 46 34.9 +1.0**
AKTO Aktyubinsk 37.01 115 P **P** **00 46 38.5 -0.1**
comp=Z,2.3nm,1.0s,mb4.0,baz=8.1,slow=6.5,SNR=4.7
KURK Kurchatov 38.76 93 *e*P **P** **00 46 52.8 -0.6**
comp=Z,8.6nm,1.5s,mb4.3
ULM Lac du Bonnet 40.80 282 P **P** **00 47 09.4 -1.0**
comp=Z,0.9nm,0.4s,mb3.7,baz=360,slow=19,SNR=3.2
MKAR Makanchi Array 43.01 91 P **P** **00 47 28.1 -0.3**
comp=Z,1.2nm,0.7s,mb3.7,baz=348,slow=7.8,SNR=15
SONM Songino Array 44.37 67 P **P** **00 47 39.6 +0.2**
comp=Z,3.3nm,0.9s,mb4.1,baz=337,slow=7.6,SNR=25
ULN Ulaanbaatar 44.40 66 *e*P **P** **00 47 40.1 +0.5**
comp=Z,7.2nm,1.0s,mb4.4
BR131 Keskin Array S 45.73 142 *e*P **P** **00 47 51.3 +1.1**
comp=Z,2.6nm,0.9s,mb4.2
BRTR Keskin Array B 45.73 142 P **P** **00 47 49.4 -0.8**
comp=Z,2.5nm,0.9s,mb4.1,baz=0.0,slow=8.6,SNR=12
ESKT Eskisehir 45.77 145 *i* P **P** **00 47 50.5 0.0**
HRY Holter Researc 45.84 296 *e*P **P** **00 47 51.5 +0.5**
ISP Isparta 47.42 146 P **P** **00 48 03.2 -0.2**
MALT Malatya 47.45 138 *e*P **P** **00 48 05.6 +1.9**
comp=Z,12nm,1.2s,mb4.7
GZT Gaziantep 48.34 139 *i* P **P** **00 48 09.9 -0.6**
MOOW Moose Ponds 48.68 295 *e*P **P** **00 48 14.1 +1.0**
comp=Z,6.4nm,1.4s,mb4.5
PDAR Pinedale Array 49.54 294 P **P** **00 48 19.9 +0.2**
comp=Z,0.7nm,0.8s,mb3.8,baz=34,slow=5.3,SNR=5.2
SMCO Snowmass 52.85 291 *e*P **P** **00 48 45.8 +1.2**
comp=Z,7.4nm,1.1s,mb4.5
GKN Gorkha 61.85 91 *e*P **P** **00 49 47.9 -0.2**
comp=Z,411nm,1.3s
KOLN Koldanda 61.97 93 *e*P **P** **00 49 48.6 -0.4**
comp=Z,209nm,1.4s
GUN Gumba 62.07 90 *e*P **P** **00 49 49.8 +0.2**
comp=Z,226nm,1.2s
KKN Kakani 62.13 91 *e*P **P** **00 49 50.3 +0.3**
comp=Z,181nm,1.0s
DMN Daman 62.29 91 *e*P **P** **00 49 51.3 +0.2**
comp=Z,485nm,1.6s
JIRN Jiri 62.35 90 *e*P **P** **00 49 52.0 +0.5**
comp=Z,524nm,1.6s
PKI Pulchoki 62.36 91 *e*P **P** **00 49 51.7 +0.2**
comp=Z,279nm,1.5s
TORD Torodi Ar. Bea 71.10 177 P **P** **00 50 47.0 -0.3**
comp=Z,1.7nm,1.0s,mb3.9,baz=355,slow=6.4,SNR=9.0
PSI Prapat 88.22 80 P **P** **00 52 18.4 -1.7**
comp=Z,3.3nm,0.7s,mb4.7,baz=314,slow=6.9,SNR=3.9

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*IDC **14** 00:39:47.5±0.4, 8423N×0.39W, h0km, mb4.5/30, mb1 4.7/32, mb1mx4.6/33, mbtmp4.6/32, ML4.5/2, MS5.2/5, Ms1 5.1/5, ms1mx4.7/10, Error ellipse: s-maj=13.6km s-min=8.8km az=42.0*
*ISCJB **14** 00:39:47.4±0.9, 8427N±002×03E±02, h8km±5km, mb5.1/163, MS4.9/33, Error ellipse: s-maj=4.3km s-min=3.2km az=124.2*
*MOS **14** 00:39:47.6±1.0, 8425N×031E, h10km, mb5.3/66, Error ellipse: s-maj=52.0km s-min=3.6km az=92.2*
*BJI **14** 00:39:49.5, 8430N×040E, h10km, mB5.5, mb5.2, Ms5.2, Msz4.8*
*NEIC **14** 00:39:49.6±0.1, 8425N×041E, h10km, mb5.3/63, MS4.7/3, Error ellipse: s-maj=4.5km s-min=2.7km az=51.0*
*HRVD **14** 00:39:49.6±0.2, 8425N×0.72E, h12km, MW5.4/97, Centroid moment Tensor Solution. LP body waves: s77,c125;Mantle waves: s97,c213; Half duration: 1s±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32±.03; $M_{\theta\theta}$0.39±.03; $M_{\phi\phi}$0.92±.02; $M_{r\theta}$0.07±.08; $M_{r\phi}$0.71±.02; $M_{\theta\phi}$-0.31±.06; Best double couple: $M_0$1.40900×10^{17} NP1:ϕ_s225.00000°, δ42.00000°, λ-74.00000°. NP2: ϕ_s24.00000°, δ50.00000°, λ-104.00000°. Principal axes: T 1.4380, Plg4.0000°, Azm124.0000°; N -0.0610, Plg10.0000°, Azm33.0000°; P -1.3800, Plg79.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NAO **14** 00:39:55.0±4.6, 8350N×097E, ML3.2*
*SZGRF **14** 00:39:58.5, 8350N×250E, h33km, mb5.0, MS4.6, North of Svalbard*

ISC 14 00:39:48.9±1.0, 8425N±002×04E±02, h9km±6km, h19km±2.4km:pP-P, n431, σ1§11/462, mb5.1/163, MS4.9/33, 12C-20D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.59**	**157**	Pn	**Pn**	**00 41 09.6**	**-2.6**
KBS				Sn	**Sn**	**00 42 08.0**	**-8.6**
SPA0	**Spitsbergen Ar**	**6.53**	**150**	Pn	**Pn**	**00 41 22.8**	**-2.3**
	baz=12,slow=12						
SPA0				Sn	**Sn**	**00 42 29.3**	**-10**
	baz=13,slow=14						
ALE	**Alert**	**7.10**	**289**	Pn	**Pn**	**00 41 28.0**	**-4.9**
	1μm,0.5s,SNR=7.1						
HSP	**Hornsund**	**7.63**	**154**	*e*P	**Pn**	**00 41 37.8**	**-2.5**
HSP				*e*S	**Sn**	**00 42 56.8**	**-10**
HOPEN	**Hopen**	**8.65**	**140**	*e*P	**Pn**	**00 41 51.1**	**-3.1**
HOPEN				*e*S	**Sn**	**00 43 21.0**	**-11**
HOPEN				AML	AML	00 43 26.3	
	comp=N,166nm,0.5s						
SUMG	**Summit**	**13.51**	**234**	*e*Pn	**Pn**	**00 42 57.0**	**-3.7**
TRO	**Tromso**	**15.11**	**155**	*e*Pn	**Pn**	**00 43 22.8**	**+0.2**
KEV	**Kevo**	**15.40**	**144**	*e*p	**Pn**	**00 43 23.0**	**-3.4**
	comp=N,104nm,1.1s						
KEV	**Kevo**	**15.40**	**144**	*e*P	**Pn**	**00 43 25.0**	**-1.4**
KEV				pmax	pmax		
	comp=Z,236nm,1.4s						
KEV	**Kevo**	**15.40**	**144**	*e*Pn	**Pn**	**00 43 25.0**	**-1.3**
	comp=Z,236nm,1.4s						
ARA0	**ARCESS Array S**	**15.53**	**146**	P	**Pn**	**00 43 25.7**	**-2.4**
	baz=358,slow=10						
ARCES	**ARCESS Array B**	**15.53**	**146**	Pn	**Pn**	**00 43 25.4**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=356,slow=7.2,SNR=26						
ARCES				Sn	**Sn**	**00 46 04.2**	**-16**
	comp=Z,0.5nm,0.3s,baz=2.3,slow=23,SNR=3.7						
ARE0	**ARCESS Array S**	**15.53**	**146**	*e*Pn	**Pn**	**00 43 25.9**	**-2.2**
ARE0				*e*S	**Sn**	**00 46 17.8**	**-2.5**
LOF	**Lofoten**	**16.41**	**163**	*e*Pn	**Pn**	**00 43 42.9**	**+3.4**
LVZ	**Lovozero**	**17.73**	**136**	Pn	**Pn**	**00 43 55.7**	**-0.3**
	comp=Z,992nm,1.4s,SNR=7.1						
LVZ	**Lovozero**	**17.73**	**136**	*e*P	**Pn**	**00 43 56.2**	**+0.2**
LVZ				*e*S	**Sn**	**00 47 18.9**	**+5.2**
LVZ				pmax	pmax		
	comp=Z,507nm,1.8s						
LVZ				pmax	pmax		
	comp=N,344nm,1.5s						
LVZ				pmax	pmax		
	comp=E,95nm,1.4s						
LVZ				smax			
	comp=N,752nm,3.7s						
LVZ				smax			
	comp=E,419nm,4.0s						
LVZ				MLR	MLR		
	comp=Z,4μm,14.0s						
LVZ				MLR	MLR		
	comp=N,2μm,12.0s						
LVZ				MLR	MLR		
	comp=E,861nm,14.0s						
LVZ	**Lovozero**	**17.73**	**136**	*i* P	**Pn**	**00 43 56.3**	**+0.3**
APA0	**Apatity Array**	**17.91**	**138**	P	**Pn**	**00 43 57.0**	**-1.2**
	baz=352,slow=14						
APA	**Apatity**	**17.97**	**137⇑**	*i*P	**Pn**	**00 43 53.2**	**-5.8**
APA				pmax	pmax		
	comp=Z,370nm,1.7s						
APA				MLR	MLR		
	comp=Z,7μm,13.0s						
MOR8	**Moi Rana**	**18.40**	**162**	*e*Pn	**Pn**	**00 44 03.6**	**-0.7**
SFJD	**Kangerlussuaq**	**19.99**	**243**	P	**Pn**	**00 44 18.4**	**-4.9**
	comp=Z,3.9nm,0.3s,baz=350,slow=12,SNR=13						
SFJD	**Kangerlussuaq**	**19.99**	**243**	*i* P	**Pn**	**00 44 18.3**	**-5.0**
	comp=Z,98nm,1.1s						
SFJD				*e*S	**Sn**	**00 48 10.0**	**+1.8**
SFJD							
	comp=Z,2μm,20.0s						
SFJD	**Kangerlussuaq**	**19.99**	**243**	P	**Pn**	**00 44 18.4**	**-4.9**
SFJD				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SFJD	**Kangerlussuaq**	**19.99**	**243**	*i* P	**Pn**	**00 44 18.3**	**-5.0**
	comp=Z,98nm,1.1s						
SFJD				*e*S	**Sn**	**00 48 10.0**	**+1.8**
BORG	**Borgarnes**	**20.13**	**208**	LR	LR	00 51 13.9	
	comp=Z,631nm,19.3s,MS4.0,baz=344,slow=35						
JOF	**Joensuu**	**22.45**	**142**	*e*p	**P**	**00 44 49.6**	**+1.4**
TIXI	**Tiksi**	**22.51**	**40**	*e*P	**P**	**00 44 46.2**	**-2.6**
TIXI				*e*		00 45 11.1	
TIXI				*e*S	**S**	**00 48 57.9**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,42nm,1.2s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,460nm,16.0s,MS4.0						
TIXI	**Tiksi**	**22.51**	**40**	*i* Pr		00 44 48.6	
KAF	**Kangasniemi**	**22.96**	**148**	*e*p	**P**	**00 44 53.4**	**-0.2**
	comp=Z,1μm,3.4s,baz=352,slow=11						
KAF	**Kangasniemi**	**22.96**	**148**	*e*P	**P**	**00 44 53.4**	**-0.2**
KAF				pmax	pmax		
	comp=Z,1μm,3.4s						
NB2	**NORSAR Subarra**	**23.46**	**167**	P	**P**	**00 44 57.9**	**-0.9**
	baz=350,slow=8.6						
NB2	**NORSAR Subarra**	**23.46**	**167**	P	**P**	**00 44 57.6**	**-1.2**
	comp=Z,198nm,1.7s,mb5.3,baz=357,slow=11						
NB2	**NORSAR Subarra**	**23.46**	**167**	P	**P**	**00 44 57.6**	**-1.2**
	baz=357,slow=11						
NB2				Pn	**P**	**00 44 57.9**	**-0.9**
	baz=350,slow=8.6						
NOA	**NORSAR Array B**	**23.46**	**167**	P	**P**	**00 44 58.1**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.3,baz=344,slow=8.8,SNR=21						
NOA	**NORSAR Array B**	**23.46**	**167**	P	**P**	**00 44 58.1**	**-0.7**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FIA0	**FINESS Array S**	**23.62**	**149**	P	**P**	**00 45 01.0**	**+0.6**
FINES	**FINESS Array B**	**23.62**	**149**	P	**P**	**00 45 00.1**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.0,baz=3.4,slow=8.5,SNR=16						
FINES				PcP	PcP	00 48 43.8	-1.1
	comp=Z,1.6nm,0.7s,baz=342,slow=4.4,SNR=4.1						
FINES	**FINESS Array B**	**23.62**	**149**	P	**P**	**00 45 00.1**	**-0.3**
FINES						00 48 43.8	
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NAO01	**NORSAR Array S**	**23.65**	**167**	*e*P	**P**	**00 45 00.7**	**+0.1**
	comp=Z,15nm,0.8s,mb4.5						
HFS	**Hagfors**	**24.43**	**164**	P	**P**	**00 45 06.8**	**-0.9**
	baz=16,slow=4.0						
HFS	**Hagfors**	**24.43**	**164**	P	**P**	**00 45 07.1**	**-0.7**
	comp=Z,10nm,0.9s,mb4.2,baz=22,slow=8.0,SNR=9.9						
HFS	**Hagfors**	**24.43**	**164**	P	**P**	**00 45 07.1**	**-0.7**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KONO	**Kongsberg**	**24.82**	**169**	*i* P	**P**	**00 45 11.0**	**-0.3**
KONO	**Kongsberg**	**24.82**	**169**	*e*P	**P**	**00 45 11.0**	**-0.3**
	comp=Z,81nm,1.5s,mb5.0						
FRB	**Frobisher Bay**	**24.88**	**261**	P	**P**	**00 45 10.3**	**-1.6**
	comp=Z,22nm,0.7s,mb4.8,baz=9.3,slow=9.6,SNR=27						
FRB	**Frobisher Bay**	**24.88**	**261**	P	**P**	**00 45 10.4**	**-1.5**
FRB				pmax	pmax		
	comp=Z,22nm,0.7s						
KLMR	**Klimovskoe**	**25.06**	**133***c*	*i*P	**P**	**00 45 15.3**	**+1.8**
KLMR				pmax	pmax		
	comp=Z,270nm,1.6s,mb5.5						
PUL	**Pulkovo**	**25.53**	**144**	*e*P	**P**	**00 45 18.5**	**+0.7**
PUL				*e*S	**S**	**00 49 43.5**	**-1.9**
PUL				pmax	pmax		
	comp=Z,208nm,1.5s,mb5.4						
PUL				MLR	MLR		
	comp=Z,3μm,19.0s,MS4.8						
PUL				MLR	MLR		
	comp=N,2μm,18.0s,MS4.9						
PUL				MLR	MLR		
	comp=E,1μm,13.0s,MS4.9						
INK	**Inuvik**	**26.16**	**323**	P	**P**	**00 45 22.7**	**-0.9**
	comp=E,52nm,0.8s,mb5.1,baz=12,slow=11,SNR=27						
INK				PcP	PcP	00 48 48.8	-1.8
	comp=E,5.4nm,1.1s,baz=37,slow=6.2,SNR=2.9						
INK	**Inuvik**	**26.16**	**323**	P	**P**	**00 45 22.7**	**-0.8**
INK						00 48 48.8	
INK				pmax	pmax		
	comp=Z,52nm,0.8s						
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**26.16**	**323**	P	**P**	**00 45 22.7**	**-0.9**
INK				PcP	PcP	00 48 48.8	-1.8
VSU	**Vasula**	**26.63**	**149**	*i* P	**P**	**00 45 26.5**	**-1.3**
BILL	**Bilibino**	**27.74**	**11**	*i* P	**P**	**00 45 37.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.0						
BILL				MLR	MLR		
	comp=Z,2μm,24.0s,MS4.5						
BILL	**Bilibino**	**27.74**	**11**	*e*P	**P**	**00 45 37.5**	**-0.3**
	comp=Z,63nm,1.4s,mb5.0						
SOKR	**Solikamsk**	**27.77**	**115**	*e*P	**P**	**00 45 42.4**	**+4.4**
SOKR				pmax	pmax		
	comp=Z,150nm,2.8s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.8						
EKA	**Eskdalemuir Ar**	**29.07**	**184**	P	**P**	**00 45 49.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=12,slow=6.5,SNR=3.7						
EKA	**Eskdalemuir Ar**	**29.07**	**184**	P	**P**	**00 45 49.5**	**-0.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PECR	**Pechory**	**29.91**	**130**	*e*P	**P**	**00 45 56.0**	**-1.0**
PECR				MLR	MLR		
	comp=N,2μm,16.0s						
PECR				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.0						
MOS	**Moscow**	**30.01**	**137**	*e*P	**P**	**00 45 57.1**	**-0.8**
MOS				*i*		00 46 53.2	
MOS				*i* S	**S**	**00 50 59.6**	**+3.6**
MOS				MLR	MLR		
	comp=N,3μm,18.0s						
MOS				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.1						
COLA	**College**	**30.34**	**334**	*e*P	**P**	**00 46 01.6**	**+0.7**
COLA				pmax	pmax		
	comp=Z,89nm,1.8s,mb5.2						
COLA	**College**	**30.34**	**334**	*e*P	**P**	**00 46 01.6**	**+0.8**
	comp=Z,89nm,1.8s,mb5.2						
ILAR	**Eielson Array**	**30.40**	**333**	P	**P**	**00 46 01.9**	**+0.5**
	comp=Z,17nm,1.0s,mb4.7,baz=2.2,slow=7.5,SNR=33						
ILAR				PcP	PcP	00 48 58.8	-2.3
	comp=Z,3.0nm,0.8s,baz=334,slow=3.0,SNR=8.3						
ILAR	**Eielson Array**	**30.40**	**333**	P	**P**	**00 46 01.9**	**+0.5**
ILAR						00 48 58.8	
ILAR				pmax	pmax		
	comp=Z,17nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKW3	**Yellowknife Ar**	**30.47**	**304**	*e*P	**P**	**00 46 00.5**	**-1.4**
YKW3				*e*PcP	PcP	00 48 57.2	-4.0
YKA	**Yellowknife Ar**	**30.53**	**304**	P	**P**	**00 46 01.2**	**-1.4**
	comp=Z,6.0nm,1.0s,mb4.4,baz=6.1,slow=8.4,SNR=22						
YKA				PcP	PcP	00 48 59.2	-2.2
	comp=Z,2.1nm,0.7s,baz=0.1,slow=2.6,SNR=11						
YKA	**Yellowknife Ar**	**30.53**	**304**	P	**P**	**00 46 01.2**	**-1.4**
YKA						00 48 59.2	
YKA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BSEG	**Bad Segeberg**	**30.56**	**168**	*e*P	**P**	**00 46 03.0**	**+0.2**
	comp=Z,24nm,1.5s,mb4.8						
BSEG	**Bad Segeberg**	**30.56**	**168**	*e*P	**P**	**00 46 03.0**	**+0.2**
BSEG				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.8						
OBN	**Obninsk**	**30.56**	**138⇓**	*e*P	**P**	**00 46 02.4**	**-0.4**
OBN				*e*		00 46 09.3	
OBN				*e*		00 47 09.7	
OBN				*e*S	**S**	**00 51 05.1**	**+0.5**
OBN				*e*		00 52 41.6	
OBN				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.2						
OBN				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0						
OBN	**Obninsk**	**30.56**	**138**	*e*P	**P**	**00 46 02.0**	**-0.8**
	comp=Z,143nm,1.8s,mb5.5						
OBN				*e*PP	PP	00 47 09.3	-2.4
MNK	**Minsk**	**30.64**	**148**	*e*P	**P**	**00 46 02.0**	**-1.5**
SUW	**Suwalki**	**30.90**	**154**	*e*P	**P**	**00 46 02.5**	**-3.3**
SUW				L		00 57 14.9	
	comp=Z,3.3nm,24.6s						
ARU	**Arti**	**31.04**	**114⇓**	*i*P	**P**	**00 46 06.5**	**-0.5**
ARU				*e*		00 47 05.4	
ARU				*e*PPP		00 47 23.4	
ARU				*e*		00 49 00.0	
ARU				*e*S	**S**	**00 51 11.7**	**-0.4**
ARU				*e*SS	SS	00 52 55.8	-29
ARU				*e*SSS		00 53 24.8	
ARU				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.0						
ARU				MLR	MLR		
	comp=N,2μm,21.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,3μm,21.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,800nm,19.0s,MS4.8						
ARU	**Arti**	**31.04**	**114**	*e*P	**P**	**00 46 07.6**	**+0.7**
	comp=E,50nm,1.4s,mb5.2						
ARU				*e*PcP	PcP	00 49 02.9	+0.2
YAK	**Yakutsk**	**32.08**	**43**	*e*P	**P**	**00 46 15.1**	**-1.1**
YAK				*e**PP	pP	00 46 24.2	+5.4
YAK				*e*		00 49 05.5	
YAK				*e*S	**S**	**00 51 26.2**	**-2.2**
YAK				*e*SS	SS	00 53 13.1	-33
YAK				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.0						
YAK				pmax	pmax		
	comp=N,33nm,1.6s						
YAK				pmax	pmax		
	comp=E,14nm,1.5s						
YAK				smax			
	comp=N,131nm,8.6s						
YAK				MLR	MLR		
	comp=Z,696nm,21.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,645nm,22.0s						
YAK				MLR	MLR		
	comp=E,187nm,15.0s						
YAK	**Yakutsk**	**32.08**	**43**	*e*P	**P**	**00 46 15.6**	**-0.6**
	comp=E,89nm,1.3s,mb5.4						
RUE	**Ruedersdorf**	**32.10**	**165**	*e*P	**P**	**00 46 16.7**	**+0.4**
SEY	**Seymchan**	**32.44**	**24**	*i* P	**P**	**00 46 19.2**	**-0.1**
CLZ	**Clausthal**	**32.66**	**169**	*e*P	**P**	**00 46 21.8**	**+0.6**
	comp=Z,32nm,1.5s,mb5.0						
CLZ	**Clausthal**	**32.66**	**169**	*e*P	**P**	**00 46 21.8**	**+0.6**
CLZ				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.0						
BUG	**Bochum--Univer**	**33.01**	**172**	*e*P	**P**	**00 46 24.6**	**+0.3**
	comp=Z,22nm,1.3s,mb4.9						
CLL	**Collm**	**33.25**	**166**	*e*P	**P**	**00 46 27.0**	**+0.6**
	comp=Z,29nm,1.4s,mb5.0						
CLL				*e*S	**S**	**00 51 58.1**	**+12**
CLL				*e*LR	LR	00 55 49.7	
CLL				*e*L		00 58 11.4	
	comp=Z,1μm,22.0s						
CLL	**Collm**	**33.25**	**166**	*i* P	**P**	**00 46 26.2**	**-0.2**
	comp=Z,49nm,1.4s,mb5.2						
CLL				*i* x	x	00 46 34.3	
CLL				*e*x	x	00 46 45.0	
CLL				*e*S	**S**	**00 51 54.0**	**+7.4**
CLL	**Collm**	**33.25**	**166**	*i* P	**P**	**00 46 26.2**	**-0.2**
CLL				*i*		00 46 34.3	
CLL				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
CLL	**Collm**	**33.25**	**166**	*i* P	**P**	**00 46 26.2**	**-0.2**
	comp=Z,49nm,1.4s,mb5.2						
CLL				*i*		00 46 34.3	
CLL				*e*		00 46 45.0	
SML	**Sawmill**	**33.43**	**333**	*e*P	**P**	**00 46 27.6**	**-0.4**
SCHQ	**Schefferville**	**33.49**	**255**	P	**P**	**00 46 26.9**	**-1.6**
	comp=Z,3.2nm,0.7s,mb4.4,baz=315,slow=6.8,SNR=8.8						
BRG	**Berggiesshubel**	**33.71**	**165**	*e*P	**P**	**00 46 30.2**	**-0.2**
	comp=Z,43nm,1.7s,mb5.1						
BRG	**Berggiesshubel**	**33.71**	**165**	*i* P	**P**	**00 46 29.9**	**-0.6**
BRG				*i*		00 52 07.0	
BRG				LR	LR		
	comp=Z,1μm,20.8s,MS4.6						
BRG	**Berggiesshubel**	**33.71**	**165**	*i*	**P**	**00 46 29.9**	**-0.6**
	comp=Z,46nm,1.8s,mb5.1						
BRG				*i*		00 52 07.0	
KSP	**Ksiaz**	**33.81**	**162**	*e*P	**P**	**00 46 33.4**	**+2.1**
KSP				*e*PP	PP	00 47 46.7	-1.0
KSP				*e*S	**S**	**00 51 49.2**	**-6.0**
KSP				L		00 59 00.5	
	comp=Z,3.5nm,22.7s						
KSP	**Ksiaz**	**33.81**	**162**	*e*P	**P**	**00 46 32.5**	**+1.2**
KSP				*e*S	**S**	**00 51 54.0**	**-1.2**
KSP				MLR	MLR		
	comp=Z,4μm,22.7s,MS5.1						
MOX	**Moxa**	**33.88**	**167**	*e*P	**P**	**00 46 31.4**	**-0.5**
	comp=Z,73nm,1.7s,mb5.3						
MOX							
	comp=Z,1μm,20.0s						
MOX	**Moxa**	**33.88**	**167**	*e*P	**P**	**00 46 31.4**	**-0.5**
MOX				pmax	pmax		
	comp=Z,73nm,1.7s,mb5.3						
MOX				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
PVCC	**Panska Ves**	**34.07**	**164**	*e*P	**P**	**00 46 34.6**	**+1.0**
PVCC				AMS	AMS	00 58 20.0	
	comp=Z,2μm,14.5s						
WERD	**Werda**	**34.09**	**166**	*e*P	**P**	**00 46 34.2**	**+0.4**
	comp=Z,40nm,1.9s,mb5.0						
VOR	**Voronezh**	**34.10**	**136**	P	**P**	**00 46 34.0**	**+0.1**
VOR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
VOR				pmax	pmax		
	comp=N,70nm,1.7s						
VOR				pmax	pmax		
	comp=E,50nm,1.4s						
UPC	**Upice**	**34.13**	**162**	*e*P	**P**	**00 46 34.4**	**+0.3**
TNS	**Taunus Mts**	**34.24**	**171**	*e*P	**P**	**00 46 35.1**	**+0.1**
	comp=Z,22nm,1.5s,mb4.9						
TNS	**Taunus Mts**	**34.24**	**171**	*e*P	**P**	**00 46 35.1**	**+0.1**
TNS				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
DPC	**Dobruska-Polom**	**34.30**	**162**	*e*P	**P**	**00 46 35.5**	**-0.1**
DPC				*e*x	x	00 47 45.3	
DPC				AMS	AMS	00 58 50.0	
	comp=Z,2μm,21.5s						
NKC	**Novy Kostel**	**34.31**	**166**	*e*P	**P**	**00 46 35.9**	**+0.3**
GIVF	**Givet**	**34.32**	**175**	*e*P	**P**	**00 46 34.1**	**-1.6**
AKASG	**Malin Array Be**	**34.51**	**147**	P	**P**	**00 46 35.4**	**-1.9**
	comp=

GRF *eL* 00 58 47.1
comp=Z,1μm,21.7s
OKC Ostrava-Krasne 34.87 160 *eP* **P 00 46 37.6 -2.9**
OKC *eP* pP 00 46 38.6 -4.5
OKC AMS AMS 01 01 00.0
comp=Z,2μm,22.9s
VRHR Novokhopersk 34.91 133 *eP* **P 00 46 40.5 -0.3**
VRHR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR MLR MLR
comp=Z,2μm,16.0s,MS5.0
VRHR MLR MLR
comp=N,2μm,26.0s
VRHR MLR MLR
comp=E,740nm,12.0s
MORC Moravsky Berou 34.91 161 *eP* **P 00 46 41.0 +0.1**
MORC *e* 00 48 00.4
MORC pmax pmax
comp=Z,47nm,1.5s,mb5.2
MORC Moravsky Berou 34.91 161 *eP* **P 00 46 41.0 +0.1**
comp=Z,47nm,1.5s,mb5.2
MORC *e*PP PP 00 48 00.4 +0.4
NVS Novosibirsk 35.03 89⇑*iP* **P 00 46 41.4 -0.4**
NVS *e* 00 47 59.6
NVS *e*S **S 00 52 17.9 +3.8**
NVS pmax pmax
comp=N,46nm,1.7s
NVS pmax pmax
comp=Z,47nm,1.7s,mb5.1
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=N,81nm,2.0s
NVS pmax pmax
comp=E,25nm,2.0s
NVS pmax pmax
comp=Z,49nm,2.0s,mb5.1
NVS smax
comp=N,43nm,2.6s
NVS smax
comp=E,13nm,1.8s
BOD Bodaibo 35.03 59 *eP* **P 00 46 39.8 -2.1**
BOD pmax pmax
comp=Z,35nm,1.8s,mb5.0
KWP Kalwaria 35.26 155 *eP* **P 00 46 43.7 -0.1**
KWP *e*PP PP 00 48 03.5 -0.3
KWP L 00 59 54.3
comp=Z,3.5nm,24.8s
KWP Kalwaria 35.26 155 *eP* **P 00 46 43.7 -0.1**
KWP *e*PP PP 00 48 03.5 -0.3
VRAC Vranov 35.35 162⇓*iP* **P 00 46 45.3 +0.7**
NIE Niedzica 35.37 157 *eP* **P 00 46 45.7 +0.9**
STHS Stebnicka Huta 35.41 156 *eP* **P 00 46 45.4 +0.3**
STHS *e*PP PP 00 48 01.2 -4.3
KHC Kasperske Hory 35.44 165 *eP* **P 00 46 46.2 +0.8**
KHC Kasperske Hory 35.44 165 *i P* **P 00 46 43.7 -1.7**
ZRNK Zerenda 35.47 104 *eP* **P 00 46 46.3 +0.6**
ZRNK *e* 00 49 14.5
ZRNK pmax pmax
comp=Z,28nm,1.3s,mb5.0
ZRNK Zerenda 35.47 104 *eP* **P 00 46 46.3 +0.7**
comp=Z,28nm,1.3s,mb5.0
ZRNK *e*PcP PcP 00 49 14.5 -0.7
BRVK Borovoye 35.49 103 *eP* **P 00 46 46.7 +0.9**
BRVK *e* 00 49 15.0
BRVK pmax pmax
comp=Z,41nm,1.6s,mb5.1
BRVK Borovoye 35.49 103 *eP* **P 00 46 46.7 +0.9**
comp=Z,40nm,1.6s,mb5.1
BRVK *e*PcP PcP 00 49 15.0 -0.1
BVA0 Borovoye Array 35.53 102 *i P* **P 00 46 46.3 +0.1**
BVA0 pmax pmax
comp=Z,16nm,1.8s,mb4.7
BVAR Borovoye Array 35.53 102 P **P 00 46 46.2 0.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=349,slow=7.6,SNR=18
BVAR PcP PcP 00 49 13.6 -1.7
comp=Z,3.5nm,0.8s,baz=333,slow=3.3,SNR=3.6
BVAR Borovoye Array 35.53 102 P **P 00 46 46.2 0.0**
BVAR 00 49 13.6
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.8s
STU Stuttgart 35.71 170 *eP* **P 00 46 48.3 +0.6**
comp=Z,28nm,1.0s,mb5.2
STU Stuttgart 35.71 170 *eP* **P 00 46 47.3 -0.4**
STU pmax pmax
comp=Z,33nm,0.8s,mb5.3
STU Stuttgart 35.71 170 *eP* **P 00 46 47.3 -0.4**
comp=Z,33nm,0.8s,mb5.3
MA2 Magadan 35.73 26 *eP* **P 00 46 47.0 -0.9**
MA2 *e* 00 48 07.9
MA2 *e*PPP 00 48 29.8
MA2 *e*S **S 00 52 23.5 -1.4**
MA2 *e*SS SS 00 54 49.4 -11
MA2 *e*SSS 00 55 13.4
MA2 *e* 00 56 57.6
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 pmax pmax
comp=N,9.0nm,1.1s
MA2 MLR MLR
comp=Z,600nm,31.0s,MS4.2
MA2 Magadan 35.73 26 *eP* **P 00 46 47.6 -0.3**
comp=Z,52nm,1.3s,mb5.3
GEC2 GERESS Array S 35.73 165 *eP* **P 00 46 48.6 +0.7**
comp=Z,98nm,1.7s,mb5.5
GEC2 GERESS Array S 35.73 165 *eP* **P 00 46 48.6 +0.7**
GEC2 pmax pmax
comp=Z,98nm,1.7s,mb5.5
GERES GERESS Array B 35.73 165 P **P 00 46 48.6 +0.7**
comp=Z,12nm,1.1s,mb4.7,baz=0.0,slow=6.7,SNR=17
GERES GERESS Array B 35.73 165 P **P 00 46 48.6 +0.7**
GERES pmax pmax
comp=Z,12nm,1.1s
VOSK Vostochnaya 35.89 102 P **P 00 46 49.3 0.0**
VOSK pmax pmax
comp=Z,55nm,1.6s,mb5.2
MEZF Maizieres J'vi 35.92 175 *eP* **P 00 46 48.5 -1.0**
comp=Z,125nm,1.6s,mb5.3
CRVS Cervenica-Dubn 35.93 156 *e*pP pP 00 46 53.0 +0.7
KOLS Kolonicke sedl 35.94 155 *eP* **P 00 46 49.8 +0.1**
KOLS *e*PP PP 00 48 08.5 -2.8
GRR Gorron 36.02 181 *eP* **P 00 46 48.2 -2.1**
CDF Champ du Feu 36.04 172 *eP* **P 00 46 49.5 -1.0**
comp=Z,50nm,1.4s,mb5.0
BFO Black Forest 36.13 171 *eP* **P 00 46 51.6 +0.3**
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 36.13 171 *eP* **P 00 46 51.6 +0.3**
BFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 36.13 171 *eP* **P 00 46 51.5 +0.1**
SMOL Smolenice 36.17 161 *eP* **P 00 46 53.0 +1.3**
THEF They Montfort 36.21 174 *eP* **P 00 46 52.5 +0.5**
ECH Echery 36.23 172 *eP* **P 00 46 52.5 +0.3**
VYHS Vyhne 36.24 159 *eP* **P 00 46 52.9 +0.6**
KECS Kecovo 36.31 157 *eP* **P 00 46 52.8 -0.1**
KECS *e*PP PP 00 48 15.7 +0.3
FUR Furstenfeldbru 36.35 168 *eP* **P 00 46 53.6 +0.4**
comp=Z,43nm,1.7s,mb5.1
FUR Furstenfeldbru 36.35 168 *eP* **P 00 46 53.6 +0.4**
FUR pmax pmax
comp=Z,43nm,1.7s,mb5.1
HAU Haudompre 36.43 173 *eP* **P 00 46 52.7 -1.2**
comp=Z,77nm,1.4s,mb5.1
HAU *e*R
comp=Z,2μm,18.8s
ZST Bratislava 36.48 161 *eP* **P 00 46 55.1 +0.8**
MOF Molkenrain 36.59 172 *eP* **P 00 46 57.5 +2.2**
HINF Hinteralfeld 36.63 173 *eP* **P 00 46 54.5 -1.0**
MOA Molln 36.74 164⇑*iP* **P 00 46 57.2 +0.7**
comp=Z,42nm,1.5s,mb5.0,SNR=10
PSZ Piszkesteto 36.85 158⇓*eP* **P 00 46 58.1 +0.6**
CLNS Chul'man 36.89 49 *eP* **P 00 46 57.6 -0.2**
CLNS pmax pmax
comp=Z,67nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
AKTK Aktyubinsk 36.92 116 P **P 00 46 58.2 +0.1**
AKTK PcP PcP 00 49 17.3 -2.1
AKTO Aktyubinsk 36.92 116 P **P 00 46 58.2 +0.1**
comp=E,5.6nm,0.8s,mb4.5,baz=350,slow=8.4,SNR=16
AKTO PcP PcP 00 49 17.3 -2.1
comp=E,3.9nm,0.9s,baz=320,slow=7.9,SNR=2.0
AKTO Aktyubinsk 36.92 116 P **P 00 46 58.2 +0.1**
AKTO 00 49 17.3
AKTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AKTO pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SRO1 Iza 36.95 160 *eP* **P 00 46 58.9 +0.6**
SRO1 *e* 01 05 14.5
LOR Lormes 37.15 176 *eP* **P 00 46 58.1 -1.9**
comp=Z,49nm,1.3s,mb4.9
LOR *e*R
comp=Z,796nm,20.5s
DAVA Damuels 37.20 169⇑*iP* **P 00 47 01.4 +1.0**
comp=Z,21nm,1.4s,mb4.8
WTTA Wattenberg 37.26 167⇑*iP* **P 00 47 02.2 +1.2**
comp=Z,23nm,1.3s,mb4.9
SSF Saint Saulge 37.35 177 *eP* **P 00 47 00.1 -1.6**
comp=Z,42nm,1.3s,mb4.8
BURAR Bucovina Array 37.38 152⇑P **P 00 47 01.4 -0.6**
AVF Avril sur Loir 37.62 177 *eP* **P 00 47 02.4 -1.6**
KDAK Kodiak Island 37.63 337 P **P 00 47 03.9 -0.3**
comp=Z,22nm,1.0s,mb4.8,baz=23,slow=6.6,SNR=4.6
DAVOX Davos 37.71 169 P **P 00 47 04.5 -0.3**
comp=Z,3.9nm,0.9s,mb4.1,baz=348,slow=13,SNR=3.5
SMF Signal de Mont 37.77 176 *eP* **P 00 47 03.3 -1.9**
CABF La Chapelle 37.82 174 *eP* **P 00 47 04.5 -1.2**
BGF Bois d'Agland 37.85 177 *eP* **P 00 47 04.4 -1.5**
PERS Pernice 37.98 164 *eP* **P 00 47 07.7 +0.6**
PERS *e* 00 47 12.3
BRMO Bormio 38.02 169 P **P 00 47 09.3 +1.9**
OBKA Obir 38.09 164⇓*iP* **P 00 47 09.3 +1.3**
comp=Z,91nm,1.2s,mb5.4,SNR=11
DRGR 38.09 155⇓P **P 00 47 08.2 +0.2**
TCF Toulx Ste Croi 38.12 178 *eP* **P 00 47 06.5 -1.7**
comp=Z,112nm,1.8s,mb5.0
PTCC Patocco-Chiusa 38.16 166 P **P 00 47 09.5 +0.9**
KIS Kishinev 38.18 148 *eP* **P 00 47 07.0 -1.7**
KIS *e*S **S 00 53 04.0 +1.8**
KIS MLR MLR
comp=N,2μm,15.0s
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.1
KIS MLR MLR
comp=Z,600nm,16.0s
KOGS Kog 38.20 162 *eP* **P 00 47 09.4 +0.5**
AB31 Akbulak array 38.27 114 *i P* **P 00 47 03.0 -6.5**
AB31 pmax pmax
comp=Z,108nm,1.4s,mb5.4
CTI Castel Tesino 38.48 167 P **P 00 47 12.0 +0.8**
CTI pmax pmax
comp=Z,140nm,1.7s,mb5.4
CTI Castel Tesino 38.48 167 P **P 00 47 12.0 +0.8**
comp=Z,140nm,1.7s,mb5.4
PKSM Moragy 38.51 160⇓*iP* **P 00 47 11.6 +0.1**
VOY Vojsko 38.55 165 *eP* **P 00 47 12.1 +0.3**
VOY *e* 00 47 19.4
LJU Ljubljana 38.55 164 *eP* **P 00 47 12.5 +0.6**
VAI Varese 38.60 171 P **P 00 47 12.9 +0.6**
VAI pmax pmax
comp=Z,212nm,2.2s,mb5.5
VAI Varese 38.60 171 P **P 00 47 12.9 +0.6**
comp=Z,212nm,2.2s,mb5.5
KURK Kurchatov 38.64 95 P **P 00 47 13.1 +0.5**
comp=Z,114nm,1.6s,mb5.3,SNR=11
KURK Kurchatov 38.64 95 *eP* **P 00 47 12.9 +0.3**
KURK *e* 00 48 42.0
KURK pmax pmax
comp=Z,94nm,1.8s,mb5.2
KURK Kurchatov 38.64 95 *eP* **P 00 47 12.9 +0.3**
comp=Z,94nm,1.8s,mb5.2
KURK *e*PP PP 00 48 42.0 +1.0
LPL La Plagne 38.92 173 *eP* **P 00 47 14.7 -0.3**
comp=Z,35nm,1.1s,mb4.7
LPG La Plagne 38.94 173 *eP* **P 00 47 15.1 0.0**
comp=Z,50nm,1.2s,mb4.8
RJF Les Rejaudoux 39.10 179 *eP* **P 00 47 14.8 -1.6**
comp=Z,41nm,1.1s,mb4.8
RJF *e*R
comp=Z,989nm,18.0s
BOJS Bojanci 39.11 163 *eP* **P 00 47 17.2 +0.7**
VRI Vrincioaia 39.20 151⇑P **P 00 47 17.3 0.0**
BZS Buzias 39.22 156⇑P **P 00 47 19.7 +2.2**
BZS Buzias 39.22 156⇑P **P 00 47 17.9 +0.4**
BNI Bardonecchia 39.39 173 P **P 00 47 19.6 +0.7**
BNI pmax pmax
comp=Z,46nm,1.8s,mb4.9
BNI Bardonecchia 39.39 173 P **P 00 47 19.6 +0.7**
comp=Z,46nm,1.8s,mb4.9
CAF Calviac 39.48 178 *eP* **P 00 47 18.0 -1.6**
ORIF Oris-en-Rattie 39.51 174 *eP* **P 00 47 18.9 -1.0**
ORIF *e*R
comp=Z,2μm,18.8s
MLR Muntele Rosu 39.54 152⇑P **P 00 47 22.5 +2.4**
VOIR 39.55 153⇓P **P 00 47 24.3 +4.1**
VIVF Saint-Julien-l 39.56 175 *eP* **P 00 47 19.1 -1.2**
IRK Irkutsk 39.67 69 *eP* **P 00 47 20.1 -1.1**
IRK pmax pmax
comp=Z,175nm,1.7s,mb5.5
MOY Mondy 39.93 73 *eP* **P 00 47 24.8 +1.5**
CFR Carcaliu 39.96 149⇓P **P 00 47 23.1 -0.5**
FIN Finale Ligure 40.25 171 P **P 00 47 26.1 +0.1**
VLC Villacollemand 40.34 169 *eP* **P 00 47 27.3 +0.5**
comp=Z,92nm,1.4s,mb5.3
HARR Harsova 40.44 149⇓P **P 00 47 27.0 -0.6**
SMRF Simiane la Rot 40.45 174 *eP* **P 00 47 26.9 -0.8**
comp=Z,53nm,1.7s,mb4.7
SIM Simferopol' 40.53 143 *eP* **P 00 47 29.5 +1.2**
SIM *e*S **S 00 53 40.0 +2.5**
SIM *e*SS SS 00 56 27.0 -10
SIM pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VMG Vicchio 40.56 168 P **P 00 47 30.9 +2.3**
SBF Sospel 40.59 172 *eP* **P 00 47 27.8 -1.0**
comp=Z,186nm,1.4s,mb5.2
RSM Repubblica di 40.61 167 P **P 00 47 30.5 +1.5**
RSM pmax pmax
comp=Z,212nm,1.6s,mb5.5
RSM Repubblica di 40.61 167 P **P 00 47 30.5 +1.5**
comp=Z,212nm,1.6s,mb5.5
SFI Santa Sofia 40.62 167 P **P 00 47 30.6 +1.5**
SFI pmax pmax
comp=Z,48nm,1.2s,mb5.0
SFI Santa Sofia 40.62 167 P **P 00 47 30.6 +1.5**
comp=Z,48nm,1.2s,mb5.0
DIVS Divcibare 40.67 158 *eP* **P 00 47 25.2 -4.3**
TIRR Tirgusor 40.69 149 *eP* **P 00 47 29.6 -0.1**
CIT Chita 40.73 61 *eP* **P 00 47 31.2 +1.2**
CIT pmax pmax
comp=Z,136nm,1.9s,mb5.2
PII Pisa 40.78 169 P **P 00 47 30.2 -0.2**
PII pmax pmax
comp=Z,25nm,1.0s,mb4.8
PII Pisa 40.78 169 P **P 00 47 30.2 -0.2**
comp=Z,25nm,1.0s,mb4.8
FSSB Fossombrone 40.86 166 P **P 00 47 31.8 +0.7**
FRF La Foret Royal 40.88 173 *eP* **P 00 47 30.1 -1.1**
comp=Z,50nm,1.4s,mb4.7
ANN Anapa 40.88 139 *eP* **P 00 47 29.9 -1.4**
ANN *e* 00 49 15.4
ANN *e*S **S 00 53 40.7 -2.1**
ANN pmax pmax
comp=Z,43nm,1.0s,mb5.0
ANN MLR MLR
comp=N,2μm,17.0s
ANN MLR MLR
comp=Z,1μm,17.0s,MS4.8
CRE Caprese Michel 40.91 167 P **P 00 47 33.4 +1.9**
CRE pmax pmax
comp=Z,15nm,0.8s,mb4.7
CRE Caprese Michel 40.91 167 P **P 00 47 33.4 +1.9**
comp=Z,15nm,0.8s,mb4.7
ULM Lac du Bonnet 40.92 283 P **P 00 47 29.5 -2.0**
comp=Z,6.0nm,0.7s,mb4.3,baz=4.6,slow=8.1,SNR=15
ULM LR LR 01 04 43.0
comp=Z,4μm,18.5s,MS5.3,baz=14,slow=37
BOLS Boljevac 41.02 156⇓*iP* **P 00 47 33.5 +1.1**
GOF Gofitskoye 41.02 133 *eP* **P 00 47 30.6 -1.8**
GOF pmax pmax
comp=Z,25nm,0.8s,mb4.9
BADI Badiali 41.03 167 P **P 00 47 34.1 +1.6**
CSNT Castellina Chi 41.05 168 P **P 00 47 32.8 +0.2**
ARV Arcevia 41.06 166 P **P 00 47 33.1 +0.4**
comp=Z,91nm,1.5s,mb5.2
LMR La Mourre 41.10 173 *eP* **P 00 47 32.1 -1.0**
SJPF Ste Jean 41.29 182 *eP* **P 00 47 33.2 -1.4**
SNTG Esanatoglia 41.30 166 P **P 00 47 35.4 +0.7**
GRFL Gerfalco 41.36 168 P **P 00 47 35.6 +0.4**
comp=Z,33nm,1.3s,mb4.8
ZAK Zakamensk 41.42 71⇓*iP* **P 00 47 35.6 0.0**
ZAK *e* 00 49 12.2
ZAK pmax pmax
comp=Z,60nm,1.7s,mb5.0
ZAK pmax pmax
comp=Z,41nm,1.8s,mb4.8
ETSF Etsaut 41.51 181 *eP* **P 00 47 35.7 -0.7**
NRCA Norcia 41.73 166 P **P 00 47 39.1 +0.9**
PGF Pioggiola 41.92 171 *eP* **P 00 47 38.6 -1.2**
comp=Z,82nm,1.5s,mb4.8
AQU L'Aquila 42.21 166 P **P 00 47 43.5 +1.4**
AQU pmax pmax
comp=Z,284nm,2.1s,mb5.5
AQU L'Aquila 42.21 166 P **P 00 47 43.5 +1.4**
comp=Z,284nm,2.1s,mb5.5
SOC Sochi 42.25 137 *eP* **P 00 47 44.9 +2.4**
SOC *e*PPP 00 50 01.8
SOC *e*S **S 00 54 01.8 -1.3**
SOC pmax pmax
comp=Z,29nm,0.9s,mb4.9
SOC MLR MLR
comp=Z,1μm,19.0s,MS4.9
VTS Vitosha 42.31 155⇓P **P 00 47 43.0 +0.1**
PTQR Pietraquaria 42.54 166 P **P 00 47 46.0 +1.2**
INTR Introdacqua 42.57 165 P **P 00 47 47.0 +2.0**
PET Petropavlovsk 42.59 19 *eP* **P 00 47 43.1 -2.1**
PET *e*S **S 00 54 01.0 -7.0**
PET pmax pmax
comp=Z,300nm,9.3s
PET smax
comp=N,200nm,14.4s
PET MLR MLR
comp=Z,700nm,23.0s,MS4.5
RNI2 Rionero Sannit 42.88 165 P **P 00 47 48.6 +1.0**
MK31 Makanchi Array 42.89 92 *i P* **P 00 47 46.5 -1.1**
MKAR Makanchi Array 42.89 92 P **P 00 47 47.5 -0.1**
comp=Z,5.4nm,0.8s,mb4.3,baz=0.0,slow=6.1,SNR=3.6
MKAR LR LR 01 08 53.6
comp=Z,3μm,18.8s,MS5.3,baz=7.3,slow=41
MKAR Makanchi Array 42.89 92 P **P 00 47 47.5 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,3μm,18.8s
MIDA Miranda 42.94 165 P **P 00 47 50.2 +2.1**
CHVG Ch'k'valeri 43.28 134 P **P 00 47 49.9 -1.0**
RFI Roccamonfina 43.28 165 P **P 00 47 51.8 +1.0**
comp=Z,19nm,1.2s,mb4.7
ZEI Tsey 43.36 132 *eP* **P 00 47 55.2 +3.7**
MAK Makhachkala 43.45 129 *eP* **P 00 47 50.3 -1.9**
MAK *e* 00 49 35.9
MAK *e*S **S 00 54 19.7 -0.9**
MAK *e*SS SS 00 57 30.5 -4.2
MAK *e*SSS 00 58 21.8
MAK pmax pmax
comp=Z,155nm,1.3s,mb5.6
MAK MLR MLR
comp=Z,3μm,19.0s,MS5.2
ONI Oni 43.52 133 P **P 00 47 55.3 +2.6**
ONI S PP 00 49 37.5 +3.6
ONI Oni 43.52 133 P **P 00 48 00.7 +8.0**
ONI S PP 00 49 40.4 +6.5
ELBA Catalca 43.99 149 *i P* **P 00 47 47.8 -8.7**
HIA Hailar 44.00 55 *eP* **P 00 47 57.1 +0.5**
HIA pmax pmax
comp=Z,124nm,1.5s
HIA Hailar 44.00 55 *eP* **P 00 47 57.1 +0.5**
comp=Z,124nm,1.5s,mb5.4
DUS Dusheti 44.09 132 P **P 00 47 58.7 +1.3**
SONM Songino Array 44.23 68 P **P 00 47 59.5 +1.0**
comp=Z,39nm,1.1s,mb5.0,baz=339,slow=7.9,SNR=89
SONM Songino Array 44.23 68 P **P 00 47 59.5 +1.0**
SONM pmax pmax
comp=Z,39nm,1.1s
ULN Ulaanbaatar 44.27 68 P **P 00 47 60.0 +1.2**
ULN Ulaanbaatar 44.27 68 *eP* **P 00 47 59.6 +0.8**
ULN *e* 00 49 41.0
ULN pmax pmax
comp=Z,109nm,1.2s,mb5.5
ULN Ulaanbaatar 44.27 68 *eP* **P 00 47 59.6 +0.9**
comp=Z,108nm,1.2s,mb5.5
ULN *e*PP PP 00 49 41.0 -0.9
TBLG Delisi 44.45 132 P **P 00 48 01.3 +1.0**
TBLG S PP 00 49 50.4 +6.5
TBLG Delisi 44.45 132 P **P 00 48 01.4 +1.1**
TBLG S PP 00 49 42.9 -1.0
TBLG Delisi 44.45 132 *eP* **P 00 48 01.3 +1.0**
TBLG *e*S PP 00 49 50.4 +6.5
MTA Mtatsminda 44.50 132 P **P 00 48 03.1 +2.5**
MTA S PP 00 49 52.5 +8.1
AKH Akhalkalaki 44.68 133 P **P 00 48 03.2 +1.1**
AKH S PP 00 49 50.2 +3.9
ESDC Sonseca Array 44.74 185 P **P 00 48 02.3 -0.3**
comp=Z,2.0nm,0.8s,mb4.0,baz=7.3,slow=8.9,SNR=4.1
DGRG David-gareji 44.78 131 P **P 00 48 03.7 +0.8**
DGRG S PP 00 49 55.1 +7.7
DGRG David-gareji 44.78 131 P **P 00 48 04.8 +1.9**
DGRG S PP 00 49 55.7 +8.3
ARTV Artvin 44.79 135 *i P* **P 00 48 04.1 +1.2**
NEW Newport 44.85 303 *eP* **P 00 48 03.7 +0.3**
NEW *e* 00 49 48.5
NEW pmax pmax
comp=Z,65nm,1.6s
NEW Newport 44.85 303 *eP* **P 00 48 03.7 +0.3**
comp=Z,65nm,1.6s,mb5.2
NEW *e*PP PP 00 49 48.5 +0.4
CTKT Corum 44.88 143 *i P* **P 00 47 60.0 -3.7**
MACK Trabzon 44.88 137 *i P* **P 00 48 06.5 +2.8**
ELDT Eldivan 44.93 144 *i P* **P 00 48 04.9 +0.9**
KLR Kul'dur 44.96 44 *eP* **P 00 48 00.0 -4.3**
ULDT Uludag 45.03 149 *i P* **P 00 48 01.9 -3.0**
KK31 Karatay Array 45.37 105 *i P* **P 00 48 07.9 +0.4**
KK31 pmax pmax
comp=Z,64nm,1.8s,mb5.2
KK31 Karatay Array 45.37 105 *i P* **P 00 48 07.0 -0.5**
KKAR Karatay Array 45.37 105 *i P* **P 00 48 07.9 +0.4**
KKAR pmax pmax
comp=Z,119nm,1.9s,mb5.4
LAO LASA Array 45.44 292 *eP* **P 00 48 08.2 +0.1**
comp=Z,38nm,0.9s,mb5.2
TIP Timpagrande 45.48 162 *eP* **P 00 48 07.8 -0.6**
ANTO Ankara 45.51 145 *eP* **P 00 48 10.1 +1.5**
ANTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
ANTO Ankara 45.51 145 *eP* **P 00 48 10.1 +1.5**
comp=Z,14nm,0.8s,mb4.9
KELT Kelkit 45.64 138 *i P* **P 00 48 09.3 -0.4**
DIGO Kars 45.66 133 *i P* **P 00 48 10.6 +0.8**
BR131 Keskin Array S 45.70 144 *eP* **P 00 48 11.1 +1.0**
comp=Z,9.4nm,0.9s,mb4.7
BR131 *e*PP PP 00 49 58.9 +1.8
BRTR Keskin Array B 45.70 144 P **P 00 48 10.3 +0.2**
comp=Z,9.4nm,0.9s,mb4.7,baz=345,slow=6.2,SNR=32
BRTR PcP PcP 00 49 47.9 -0.2
comp=Z,1.9nm,1.1s,baz=45,slow=4.1,SNR=2.2
BRTR Keskin Array B 45.70 144 P **P 00 48 10.4 +0.2**
BRTR 00 49 47.9
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,1.1s
CDAG Cicekdag 45.84 143 *i P* **P 00 48 09.9 -1.4**
CHMT Chamberlain Mo 45.85 299 *eP* **P 00 48 10.4 -0.9**
CHMT *e*PcP PcP 00 49 49.0 +0.4
CHMS Chumysh 45.89 100 P **P 00 48 13.1 +1.5**
SNR=9.0
HRY Holter Researc 45.93 298 *eP* **P 00 48 10.8 -1.2**
HABR Khabarovsk 45.94 41 *i P* **P 00 48 10.1 -1.9**
HABR *e*S **S 00 54 54.0 -2.8**
HABR pmax pmax
comp=Z,49nm,1.2s,mb5.3
HABR MLR MLR
comp=Z,158nm,7.3s
MSO Missoula 46.00 300 *eP* **P 00 48 13.2 +0.7**
comp=Z,42nm,1.4s,mb5.2
MSO *e*PcP PcP 00 49 51.6 +2.5

ERZM	**Erzurum**	**46.02**	**136**	*i* P	**P**	**00 48 14.4**	**+1.7**
GNI	**Garni**	**46.03**	**132**	P	**P**	**00 48 12.1**	**-0.7**
comp=Z,8.7nm,0.8s,mb4.8,baz=334,slow=1.2,SNR=8.1							
GNI	**Garni**	**46.03**	**132**	P	**P**	**00 48 12.1**	**-0.7**
GNI				pmax	pmax		
comp=Z,9.0nm,0.8s							
FRU	**Bishkek**	**46.04**	**101**	⇓*i* P	**P**	**00 48 14.5**	**+1.7**
FRU				*e*		00 55 07.0	
FRU				pmax	pmax		
comp=Z,140nm,1.9s,mb5.6							
TKM2	**Tokmak 2**	**46.05**	**99**	P	**P**	**00 48 14.8**	**+1.8**
SNR=7.7							
GDZ	**Gediz**	**46.10**	**148**	*i* P	**P**	**00 48 07.8**	**-5.6**
AAK	**Ala-Archa**	**46.22**	**101**	P	**P**	**00 48 16.3**	**+2.0**
SNR=9.1							
WMQ	**Urumqi**	**46.37**	**87**	P	**P**	**00 48 16.5**	**+1.0**
WMQ				XP	sP	00 48 23.5	+4.3
WMQ				PP	PP	00 50 06.0	+1.7
WMQ				S	**S**	**00 55 03.0**	**-0.1**
WMQ				SS	SS	00 58 22.0	-6.6
WMQ				AMB	AMB		
comp=Z,35nm,1.1s,mb5.2							
WMQ				AMB	AMB		
comp=Z,1μm,5.0s							
WMQ				LR	LR		
comp=Z,2μm,12.0s,MS5.2							
UCH	**Uchtor**	**46.63**	**101**	P	**P**	**00 48 20.2**	**+2.7**
SNR=8.4							
AML	**Almayashu**	**46.64**	**102**	P	**P**	**00 48 23.6**	**+6.1**
SNR=5.2							
KZA	**Kyzart**	**46.85**	**100**	P	**P**	**00 48 21.3**	**+2.1**
SNR=5.4							
BOZ	**Bozeman (W)**	**46.96**	**297**	*e*P	**P**	**00 48 20.3**	**+0.2**
ISP	**Isparta**	**47.40**	**147**	P	**P**	**00 48 25.5**	**+2.0**
MALT	**Malatya**	**47.41**	**139**	⇓P	**P**	**00 48 25.1**	**+1.5**
MALT	**Malatya**	**47.41**	**139**	*e*P	**P**	**00 48 27.7**	**+4.1**
comp=Z,36nm,1.0s,mb5.3							
MALT				*e*PP	PP	00 50 15.8	+1.0
QLMT	**Earthquake Lak**	**47.76**	**297**	*e*P	**P**	**00 48 26.1**	**-0.2**
RSSD	**Black Hills**	**47.77**	**290**	*e*P	**P**	**00 48 25.8**	**-0.6**
RSSD				*e*		00 49 55.5	
RSSD				pmax	pmax		
comp=Z,22nm,1.1s,mb5.1							
RSSD	**Black Hills**	**47.77**	**290**	*e*P	**P**	**00 48 25.8**	**-0.7**
comp=Z,22nm,1.1s,mb5.1							
RSSD				*e*PcP	PcP	00 49 55.5	+0.1
MCMT	**McKenzie Canyo**	**47.89**	**298**	*e*P	**P**	**00 48 27.4**	**+0.2**
MCMT				*e*PcP	PcP	00 49 59.9	+4.1
YSS	**Yuzh-Sakhalins**	**47.93**	**34**	*e*P	**P**	**00 48 27.5**	**-0.1**
YSS				pmax	pmax		
comp=Z,30nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**47.93**	**34**	⇑*i* P	**P**	**00 48 27.4**	**-0.2**
FLWY	**Flagg Ranch**	**48.43**	**296**	*e*P	**P**	**00 48 32.0**	**+0.5**
comp=Z,110nm,1.7s,mb5.6							
MARD	**Mardin**	**48.56**	**136**	*i* P	**P**	**00 48 31.5**	**-1.0**
IMW	**Indian Meadow**	**48.64**	**296**	*e*P	**P**	**00 48 33.5**	**+0.4**
comp=Z,39nm,1.1s,mb5.3							
MOOW	**Moose Ponds**	**48.77**	**296**	*e*P	**P**	**00 48 33.9**	**-0.2**
comp=Z,29nm,1.2s,mb5.2							
ABKT	**Ailbek**	**49.33**	**118**	P	**P**	**00 48 39.3**	**+0.9**
comp=Z,121nm,1.1s,mb5.8,SNR=8.0							
MDJ	**Mudanjiang**	**49.39**	**47**	P	**P**	**00 48 37.8**	**-1.1**
MDJ				AP	pP	00 48 43.3	+1.7
MDJ				PP	PP	00 50 31.5	-1.4
MDJ				SCP	ScP	00 53 54.8	-2.0
MDJ				S	**S**	**00 55 44.0**	**-1.9**
MDJ				SCS	ScS	00 58 30.3	-0.8
MDJ				SS	SS	00 59 16.3	-1.2
MDJ				AMB	AMB		
comp=Z,57nm,1.1s,mb5.5							
MDJ				AMB	AMB		
comp=Z,312nm,3.5s							
MDJ				LR	LR		
comp=N,131nm,32.2s							
MDJ				LR	LR		
comp=E,288nm,27.2s							
MDJ				LR	LR		
comp=Z,223nm,22.3s							
MDJ	**Mudanjiang**	**49.39**	**47**	*e*P	**P**	**00 48 38.3**	**-0.6**
comp=Z,148nm,1.5s,mb5.8							
PDAR	**Pinedale Array**	**49.63**	**295**	P	**P**	**00 48 39.8**	**-1.0**
comp=Z,8.0nm,0.9s,mb4.7,baz=18,slow=4.7,SNR=20							
PDAR				LR	LR	01 10 17.3	
comp=Z,4μm,18.2s,MS5.4,baz=360,slow=37							
MSL	**Mosul**	**49.74**	**134**	*ex*	x	00 48 40.0	
MSL				*ex*	x	00 50 38.0	
MSL				*ex*	x	00 55 54.0	
CN2	**Changchun**	**49.89**	**51**	*e*P	**P**	**00 48 41.8**	**-0.8**
CN2				*e*XP	sP	00 48 49.9	+3.5
CN2				*e*S	**S**	**00 55 48.8**	**-4.0**
CN2				SS	SS	00 59 17.8	-7.6
CN2				AMB	AMB		
comp=Z,40nm,1.3s,mb5.3							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,1μm,14.0s,MS5.1							
CN2				LR	LR		
comp=E,700nm,14.0s,MS5.1							
CN2				LR	LR		
comp=Z,800nm,15.0s,MS4.8							
HWUT	**Hardware Ranch**	**50.97**	**296**	*e*P	**P**	**00 48 50.7**	**-0.1**
comp=Z,33nm,1.0s,mb5.2							
HWUT				*e*PcP	PcP	00 50 08.6	+1.6
MDT	**Midelt**	**51.59**	**185**	P	**P**	**00 48 55.1**	**-0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=15,slow=8.0,SNR=3.5							
HHC	**Hu-ho-hao-te**	**51.64**	**64**	⇓*i* P	**P**	**00 48 56.6**	**+0.8**
HHC				AP	pP	00 49 01.3	+2.8
HHC				XP	sP	00 49 03.8	+4.2
HHC				PCP	PcP	00 50 08.5	-1.0
HHC				PP	PP	00 50 55.3	+2.0
HHC				SCP	ScP	00 54 03.4	-3.0
HHC				S	**S**	**00 56 17.8**	**+0.7**
HHC				XS	sS	00 56 26.1	+4.6
HHC				PS		00 56 28.5	
HHC				SCS	ScS	00 58 42.8	-3.7
HHC				SS	SS	00 59 51.1	-2.1
HHC				AMB	AMB		
comp=Z,34nm,1.7s,mb5.0							
HHC				AMB	AMB		
comp=Z,429nm,6.0s							
HHC				LR	LR		
comp=Z,5μm,15.6s,MS5.6							
SNY	**Shenyang**	**51.70**	**53**	⇓P	**P**	**00 48 56.3**	**0.0**
SNY				AP	pP	00 49 06.3	+7.3
SNY				XP	sP	00 49 10.6	+11
SNY				PP	PP	00 50 56.5	+2.7
SNY				S	**S**	**00 56 27.8**	**+10**
SNY				SS	SS	00 59 50.4	-3.8
SNY				AMB	AMB		
comp=Z,60nm,1.5s,mb5.3							
SNY				AMB	AMB		
comp=Z,600nm,4.7s							
SNY				LR	LR		
comp=Z,3μm,19.0s,MS5.4							
BTO	**Baotou**	**51.74**	**66**	*e*P	**P**	**00 48 56.8**	**+0.2**
BTO				AMB	AMB		
comp=Z,25nm,0.9s,mb5.1							
GTA	**Gaotai**	**51.95**	**76**	*e*P	**P**	**00 48 58.8**	**+0.6**
GTA				AP	pP	00 49 03.8	+2.9
GTA				XP	sP	00 49 06.5	+4.6
GTA				PCP	PcP	00 50 10.0	-0.7
GTA				PP	PP	00 50 57.9	+1.8
GTA				PPP		00 52 03.3	
GTA				S	**S**	**00 56 21.9**	**+0.5**
GTA				XS	sS	00 56 30.6	+4.8
GTA				PS		00 56 34.1	
GTA				AMB	AMB		
comp=Z,45nm,1.4s,mb5.2							
GTA				AMB	AMB		
comp=Z,593nm,7.2s							
ELK	**Elko**	**52.15**	**300**	*e*P	**P**	**00 49 00.3**	**+0.6**
ELK				pmax	pmax		
comp=Z,20nm,1.4s							
ELK	**Elko**	**52.15**	**300**	*e*P	**P**	**00 49 00.3**	**+0.7**
comp=Z,20nm,1.4s,mb4.8							
DUG	**Dugway**	**52.48**	**297**	*e*P	**P**	**00 49 03.2**	**+1.1**
DUG				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6							
DUG	**Dugway**	**52.48**	**297**	*e*P	**P**	**00 49 03.2**	**+1.1**
comp=Z,7.2nm,0.9s,mb4.6							
BHD	**Baghdad**	**52.84**	**133**	*ex*	x	00 48 57.0	
BHD				*ex*	x	00 56 31.0	
BJT	**Baijiatuau**	**52.87**	**60**	*e*P	**P**	**00 49 06.0**	**+1.0**
BJT				pmax	pmax		
comp=Z,276nm,1.6s							
BJT	**Baijiatuau**	**52.87**	**60**	*e*P	**P**	**00 49 06.0**	**+0.9**
comp=Z,276nm,1.6s,mb5.9							
SMCO	**Snowmass**	**52.95**	**292**	*e*P	**P**	**00 49 05.7**	**+0.1**
comp=Z,69nm,1.3s,mb5.4							
TMUT	**Trail Mountain**	**53.23**	**296**	*e*P	**P**	**00 49 09.4**	**+1.8**
OHCM	**Honcut**	**54.08**	**306**	*e*P	**P**	**00 49 13.9**	**+0.1**
HALT	**Halls**	**54.46**	**274**	*e*P	**P**	**00 49 16.5**	**-0.2**
MNV	**Mina**	**54.70**	**302**	*e*P	**P**	**00 49 19.0**	**+0.6**
MNV				pmax	pmax		
comp=Z,16nm,1.4s,mb4.9							
MNV	**Mina**	**54.70**	**302**	*e*P	**P**	**00 49 19.0**	**+0.7**
comp=Z,16nm,1.4s,mb4.9							
NVAR	**Mina Array Bea**	**54.71**	**302**	P	**P**	**00 49 17.7**	**-0.8**
comp=Z,4.5nm,1.1s,mb4.4,baz=38,slow=3.7,SNR=15							
MYNC	**Murphy**	**54.76**	**269**	*e*P	**P**	**00 49 17.6**	**-1.3**
MYNC				pmax	pmax		
comp=Z,173nm,0.9s,mb6.1							
MYNC	**Murphy**	**54.76**	**269**	*e*P	**P**	**00 49 17.6**	**-1.3**
comp=Z,173nm,0.9s,mb6.1							
LZH	**Lanzhou**	**55.63**	**73**	*e*P	**P**	**00 49 26.0**	**+0.9**
LZH				AP	pP	00 49 31.3	+3.4
LZH				XP	sP	00 49 34.6	+5.7
LZH				PP	PP	00 51 32.0	+2.7
LZH				*e*S	**S**	**00 57 09.0**	**-2.3**
LZH				AMB	AMB		
comp=Z,46nm,1.5s,mb5.3							
LZH				AMB	AMB		
comp=Z,320nm,5.0s							
LZH				LR	LR		
comp=Z,5μm,18.4s,MS5.6							
MIB	**Mutribah**	**56.50**	**130**	*e*P	**P**	**00 49 31.0**	**-0.4**
MIB				AMb	AMB	00 49 32.6	
comp=Z,57nm,0.7s,mb5.7							
WMOK	**Wichita Mounta**	**56.56**	**283**	*e*P	**P**	**00 49 31.5**	**-0.3**
WMOK				*e*		00 50 28.3	
WMOK				pmax	pmax		
comp=Z,35nm,1.4s,mb5.2							
WMOK	**Wichita Mounta**	**56.56**	**283**	*e*P	**P**	**00 49 31.4**	**-0.3**
comp=Z,35nm,1.4s,mb5.2							
WMOK				*e*PcP	PcP	00 50 28.3	0.0
UMR	**Umm Al-Rimmam**	**56.78**	**130**	*e*P	**P**	**00 49 33.6**	**+0.3**
UMR				AMb	AMB	00 49 34.6	
comp=Z,103nm,0.6s,mb6.1							
DAC	**Darwin (Calif)**	**56.79**	**302**	*e*P	**P**	**00 49 34.1**	**+0.7**
DAC				pmax	pmax		
comp=Z,39nm,1.5s,mb5.2							
DAC	**Darwin (Calif)**	**56.79**	**302**	*e*P	**P**	**00 49 34.1**	**+0.8**
comp=Z,39nm,1.5s,mb5.2							
WUAZ	**Wupatki**	**56.99**	**295**	*e*P	**P**	**00 49 35.1**	**+0.3**
comp=Z,39nm,1.2s,mb5.3							
NAY	**Al-Naaiem**	**57.05**	**131**	*e*P	**P**	**00 49 34.6**	**-0.6**
NAY				AMb	AMB	00 49 36.2	
comp=Z,18nm,0.7s,mb5.2							
ANMO	**Albuquerque**	**57.09**	**291**	P	**P**	**00 49 34.5**	**-1.1**
comp=Z,12nm,1.2s,mb4.8,baz=29,slow=5.9,SNR=13							
ANMO	**Albuquerque**	**57.09**	**291**	P	**P**	**00 49 34.5**	**-1.1**
ANMO				pmax	pmax		
comp=Z,12nm,1.2s							
ANMO	**Albuquerque**	**57.09**	**291**	P	**P**	**00 49 34.5**	**-1.1**
KBD	**Kabd**	**57.15**	**130**	*e*P	**P**	**00 49 36.1**	**+0.2**
KBD				AMb	AMB	00 49 41.5	
comp=Z,249nm,1.1s,mb6.1							
RDF	**Al-Radifah**	**57.39**	**130**	*e*P	**P**	**00 49 37.4**	**-0.2**
RDF				AMb	AMB	00 49 43.2	
comp=Z,84nm,1.3s,mb5.6							
LPM	**Los Pinos Moun**	**57.74**	**291**	*e*P	**P**	**00 49 41.6**	**+1.5**
BNM	**Barren Site**	**57.90**	**291**	*e*P	**P**	**00 49 43.4**	**+2.1**
LENM	**Lemitar**	**57.92**	**291**	*e*P	**P**	**00 49 42.8**	**+1.4**
MAT	**Matsushiro**	**58.02**	**40**	P	**P**	**00 49 40.8**	**-1.3**
MAT				S	**S**	**00 57 33.4**	**-9.4**
MJAR	**Matsushiro Arr**	**58.02**	**40**	P	**P**	**00 49 41.3**	**-0.8**
comp=Z,30nm,1.2s,mb5.2,baz=353,slow=6.6,SNR=30							
MJAR	**Matsushiro Arr**	**58.02**	**40**	P	**P**	**00 49 41.3**	**-0.8**
MJAR				pmax	pmax		
comp=Z,30nm,1.2s							
XAN	**Xi'an**	**58.15**	**68**	P	**P**	**00 49 42.3**	**-0.7**
XAN				AP	pP	00 49 50.1	+4.4
XAN				AMB	AMB		
comp=Z,26nm,1.5s,mb5.0							
MWC	**Mount Wilson**	**58.86**	**302**	*e*P	**P**	**00 49 48.0**	**0.0**
NATX	**Nacogdoches**	**59.10**	**279**	*e*P	**P**	**00 49 51.4**	**+1.8**
GDL2	**Guadalupe Moun**	**59.62**	**288**	*e*P	**P**	**00 49 53.5**	**+0.3**
TUC	**Tucson**	**60.11**	**294**	*e*P	**P**	**00 49 56.4**	**-0.2**
TUC				pmax	pmax		
comp=Z,31nm,1.3s,mb5.2							
TUC	**Tucson**	**60.11**	**294**	*e*P	**P**	**00 49 56.4**	**-0.2**
comp=Z,31nm,1.3s,mb5.2							
BAR	**Barrett**	**60.27**	**300**	*e*P	**P**	**00 49 57.7**	**0.0**
LSA	**Lhasa**	**60.70**	**86**	P	**P**	**00 50 02.3**	**+1.7**
LSA	**Lhasa**	**60.70**	**86**	*e*P	**P**	**00 50 01.7**	**+1.1**
LSA				pmax	pmax		
comp=Z,47nm,1.4s,mb5.4							
LSA	**Lhasa**	**60.70**	**86**	*e*P	**P**	**00 50 01.7**	**+1.0**
comp=Z,47nm,1.4s,mb5.4							
CD2	**Chengdu**	**60.75**	**73**	⇓*i* P	**P**	**00 50 01.5**	**+0.5**
CD2				AP	pP	00 50 06.1	+2.4
CD2				XP	sP	00 50 08.5	+3.7
CD2				PP	PP	00 52 17.1	+2.3
CD2				S	**S**	**00 58 15.5**	**-2.7**
CD2				AMB	AMB		
comp=Z,40nm,1.6s,mb5.3							
CD2				AMB	AMB		
comp=Z,350nm,10.3s							
CD2				LR	LR		
comp=N,690nm,16.8s							
CD2				LR	LR		
comp=Z,660nm,20.4s,MS4.8							
JCT	**Junction City**	**60.88**	**283**	*e*P	**P**	**00 50 01.3**	**-0.5**
comp=Z,86nm,1.4s,mb5.7							
NJ2	**Nanjing**	**61.01**	**59**	*e*P	**P**	**00 50 02.5**	**-0.2**
NJ2				AP	pP	00 50 07.8	+2.3
NJ2				XP	sP	00 50 10.1	+3.6
NJ2				PCP	PcP	00 50 44.3	-1.6
NJ2				S	**S**	**00 58 18.0**	**-3.4**
NJ2				XS	sS	00 58 31.0	+5.1
NJ2				AMB	AMB		
comp=Z,20nm,1.0s,mb5.2							
NJ2				AMB	AMB		
comp=Z,280nm,4.4s							
NJ2				LR	LR		
comp=N,360nm,17.0s							
NJ2				LR	LR		
comp=E,630nm,37.5s							
NJ2				LR	LR		
comp=Z,160nm,17.1s,MS4.2							
GKN	**Gorkha**	**61.73**	**93**	*e*P	**P**	**00 50 07.8**	**+0.2**
comp=Z,411nm,1.3s							
KOLN	**Koldanda**	**61.85**	**94**	*e*P	**P**	**00 50 08.5**	**+0.1**
comp=Z,209nm,1.4s							
ENH	**Enshi**	**61.93**	**68**	*e*P	**P**	**00 50 09.2**	**+0.2**
comp=Z,194nm,1.5s,mb6.0							
GUN	**Gumba**	**61.94**	**91**	*e*P	**P**	**00 50 09.7**	**+0.7**
comp=Z,226nm,1.2s,mb6.2							
KKN	**Kakani**	**62.00**	**92**	*e*P	**P**	**00 50 09.9**	**+0.5**
comp=Z,138nm,0.8s,mb6.1							
KKN	**Kakani**	**62.00**	**92**	*e*P	**P**	**00 50 09.9**	**+0.5**
KKN				pmax	pmax		
comp=Z,69nm,0.8s,mb5.8							
WHN	**Wuhan**	**62.11**	**63**	P	**P**	**00 50 09.5**	**-0.6**
SSE	**Sheshan**	**62.16**	**56**	P	**P**	**00 50 10.3**	**-0.2**
SSE				AMB	AMB		
comp=Z,46nm,0.8s,mb5.7							
SSE				AMB	AMB		
comp=Z,272nm,5.1s							
DMN	**Daman**	**62.16**	**92**	*e*P	**P**	**00 50 11.1**	**+0.6**
comp=Z,485nm,1.6s							
JIRN	**Jiri**	**62.22**	**91**	*e*P	**P**	**00 50 11.5**	**+0.6**
PKI	**Pulchoki**	**62.23**	**92**	*e*P	**P**	**00 50 11.4**	**+0.4**
comp=Z,279nm,1.5s							
BHJ	**Bhuj**	**64.94**	**108**	*e*P	**P**	**00 50 30.0**	**+1.1**
BHJ				*ex*	x	00 50 32.6	
GYA	**Guiyang**	**65.44**	**71**	⇓*i* P	**P**	**00 50 32.8**	**+0.7**
GYA				AP	pP	00 50 36.9	+2.0
GYA				XP	sP	00 50 39.8	+3.9
GYA				PP	PP	00 52 58.3	+2.3
GYA				AMB	AMB		
comp=Z,70nm,1.0s,mb5.7							
GYA				AMB	AMB		
comp=Z,530nm,4.5s							
GYA				LR	LR		
comp=N,870nm,17.9s,MS5.1							
GYA				LR	LR		
comp=E,830nm,18.0s,MS5.1							
GYA				LR	LR		
comp=Z,910nm,18.2s,MS5.0							
BHPL	**Bhopal**	**65.72**	**101**	*e*P	**P**	**00 50 33.8**	**-0.1**
BHPL				*ex*	x	00 50 36.2	
BHPL				AMb	AMB	00 50 36.6	
comp=Z,76nm,1.5s,mb5.5							
BOK	**Bokaro**	**66.02**	**92**	*e*P	**P**	**00 50 34.5**	**-1.4**
BOK				*ex*	x	00 50 38.0	
BOK				AMb	AMB	00 50 38.4	
comp=Z,63nm,1.8s,mb5.3							
KMI	**Kunming**	**66.39**	**75**	P	**P**	**00 50 38.0**	**-0.2**
KMI				AMB	AMB		
comp=Z,34nm,1.4s,mb5.2							
BLSP	**Bilaspur**	**67.29**	**96**	*e*P	**P**	**00 50 43.3**	**-0.7**
BLSP				*ex*	x	00 50 45.6	
BLSP				AMb	AMB	00 50 46.1	
comp=Z,64nm,1.6s,mb5.4							
TORD	**Torodi Ar. Bea**	**71.15**	**179**	P	**P**	**00 51 06.5**	**-1.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=353,slow=6.0,SNR=27							
KAD	**Karad**	**71.27**	**104**	*e*P	**P**	**00 51 08.8**	**+0.2**
KAD				*ex*	x	00 51 11.2	
KAD				AMb	AMB	00 51 11.7	
comp=Z,61nm,1.7s,mb5.2							
HYB	**Hyderabad**	**71.59**	**100**	⇓*i* P	**P**	**00 51 10.0**	**-0.5**
comp=Z,150nm,1.4s,mb5.7							
VIS	**Vishakhapatnam**	**71.77**	**95**	*e*P	**P**	**00 51 11.4**	**-0.2**
VIS				*ex*	x	00 51 14.0	
VIS				AMb	AMB	00 51 14.5	
comp=Z,70nm,1.9s,mb5.2							
QIZ	**Qiongzhong**	**73.10**	**69**	P	**P**	**00 51 18.4**	**-1.2**
QIZ				AMB	AMB		
comp=Z,26nm,1.5s,mb4.9							
QIZ				AMB	AMB		
comp=Z,275nm,6.0s							
QIZ				LR	LR		
comp=N,2μm,18.5s,MS5.4							
QIZ				LR	LR		
comp=E,1μm,18.5s,MS5.4							
QIZ	**Qiongzhong**	**73.10**	**69**	*e*P	**P**	**00 51 19.4**	**-0.2**
comp=E,52nm,1.4s,mb5.3							
SDV	**Santo Domingo**	**79.34**	**252**	P	**P**	**00 51 55.0**	**-0.1**
comp=E,3.8nm,0.7s,mb4.5,baz=29,slow=8.9,SNR=10							
TRD	**Trivandrum**	**80.24**	**103**	*e*P	**P**	**00 51 59.8**	**-0.1**
TRD				*ex*	x	00 52 02.5	
ROSC	**El Rosal**	**83.68**	**255**	P	**P**	**00 52 19.3**	**+1.3**
comp=E,7.3nm,0.5s,mb5.1,baz=104,slow=23,SNR=8.3							
KMBO	**Kilima Mbogo**	**86.48**	**143**	P	**P**	**00 52 33.1**	**+1.0**
comp=E,0.4nm,0.6s,baz=340,slow=15,SNR=2.4							
KKM	**Kota Kinabalu**	**86.53**	**64**	*e*P	**P**	**00 52 31.9**	**-0.4**
PSI	**Prapat**	**88.08**	**81**	P	**P**	**00 52 38.2**	**-1.6**
comp=E,22nm,0.7s,mb5.5,baz=331,slow=5.8,SNR=24							
PSI	**Prapat**	**88.08**	**81**	P	**P**	**00 52 38.2**	**-1.6**
PSI				pmax	pmax		
comp=Z,22nm,0.7s,mb5.5							
RKT	**Rikitea**	**117.04**	**313**	*e*LQ		00 55 48.0	
comp=Z,527nm,33.2s							
RKT				*e*LR	LR	00 59 21.0	
comp=Z,280nm,31.5s							
ASAR	**Alice Springs**	**117.44**	**49**	PKP	PKPdf	00 58 33.3	-1.7
comp=Z,0.6nm,0.8s,baz=12,slow=2.0,SNR=5.2							
ASAR	**Alice Springs**	**117.44**	**49**	PKIKP	PKPdf	00 58 33.3	-1.7
ASAR				pmax	pmax		
comp=Z,1.0nm,0.8s							

NAO ***14*** *00:55:02.4,2495N×9105E,h33km,mb5.3*

IDC ***14*** *00:55:19.7±0.4,2730N×8843E,h0km,mb5.2/30, mb1 5.3/30,mb1mx5.3/31,mbtmp5.2/30,MS4.7/15, Ms1 4.7/15,ms1mx4.5/31,Error ellipse: s-maj=15.3km s-min=10.8km az=46.0*

LDG ***14*** *00:55:20.4±0.2,2748N×8826E,h10km,Mb5.5/33,Ms4.7/7, Error ellipse: s-maj=7.7km s-min=6.9km az=145.0*

DMN ***14*** *00:55:20.5±0.7,2745N×8834E,h10km,Ml6.0/6,Error ellipse: s-maj=61.0km s-min=13.4km az=8.0*

SZGRF ***14*** *00:55:20.4,2698N×8852E,h18km,mb5.3,MS5.2, India-Bangladesh border region*

ISCJB ***14*** *00:55:22.5±0.1,2736N±002×8840E±002,h27km, mb5.3/233,MS4.9/70,Error ellipse: s-maj=2.7km s-min=2.2km az=18.6*

BJI ***14*** *00:55:22.8,2739N×8853E,h27km,mB5.3,mb5.3,Ms5.3, Msz5.1*

MOS ***14*** *00:55:23.4±0.8,2734N×8835E,h33km,mb5.6/54, MS4.9/25,Error ellipse: s-maj=7.0km s-min=3.4km az=123.8*

CRAAG ***14*** *00:55:23.8,2744N×8833E,Mb5.5*

NEIC ***14*** *00:55:25.1±0.1,2738N×8839E,mb5.4/95,MS4.8/36, Error ellipse: s-maj=4.4km s-min=2.8km az=13.0*

NEIC Two people killed by landslides at Sherathang. Two people injured in eastern Sikkim. Buildings and roads were damaged in the Gangtok area and at Bardan and Rangpo. Minor damage to buildings at Shiliguri, West Bengal. Felt at Darjiling, Guwahati, Itanagar, Jalpaiguri, Karsiyang, Koch Bihar, Maldah and Shillong. Also felt at Kathmandu, Nepal; at Dinajpur, Nilphamari, Pabna, Rajshahi, Rangpur, Sylhet and Thakurgaon, Bangladesh; and at Paro Chhu, Phuntsholing and Thimphu, Bhutan.

NDI ***14*** *00:55:25.0±6.1,2745N×8828E,h30km,mb5.4,ML5.4, mb5.4(NEIC)*

HRVD ***14*** *00:55:25.1±0.3,2722N×8864E,h19km±1km,MW5.3/85, Centroid moment Tensor Solution. LP body waves: s45,c61;Mantle waves: s85,c168; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.04; $M_{\theta\theta}$-0.98±.03; $M_{\phi\phi}$0.36±.03; $M_{r\theta}$0.70±.06; $M_{\theta\phi}$-0.17±.02; $M_{\phi r}$0.28±.07; Best double couple: $M_0$1.11700×10^{17} NP1:ϕ=287.00000°,δ27.00000°,λ126.00000°. NP2: ϕ=68.00000°,δ68.00000°,λ73.00000°. Principal axes: T 0.9520, Plg63.0000°, Azm311.0000°; N 0.3290, Plg16.0000°, Azm74.0000°; P -1.2810, Plg21.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BGS ***14*** *00:55:50.2,3077N×8599E,h31km,mb5.2*

ISC 14 00:55:24.8±0.1,2739N±002×8842E±002,h29km, h29km±1.2km:pP-P,n789,σ0=93/812,mb5.3/233,MS4.9/70, 107C-21D,Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.19**	**107**	*ex*	**Pb**	**00 55 22.0**	**-8.7**
SLGI	**Shiliguri**	**0.68**	**180**	*e*P	**Pb**	**00 55 39.2**	**+1.0**
SLGI				*e*S	**Sb**	**00 55 46.4**	**-1.0**
JIRN	**Jiri**	**2.00**	**278**	*e*Sn	**Sn**	**00 56 26.0**	**+5.4**
30μm,0.3s							
JIRN	**Jiri**	**2.00**	**278**	*e*Pn	**Pn**	**00 55 57.8**	**+1.2**
JIRN				*e*Sn	**Sn**	**00 56 26.0**	**+5.4**
GUN	**Gumba**	**2.31**	**284**	*e*Sn	**Sn**	**00 56 33.3**	**+4.9**
9μm,0.5s		

KOLN	**Koldanda**	**4.29 276**	*e*Sn		**Sn**	**00 57 19.0 +1.7**
	comp=N,6μm,0.4s					
KOLN	**Koldanda**	**4.29 276**	*e*Pn		**Pn**	**00 56 28.7 +0.5**
KOLN			*e*Sn		**Sn**	**00 57 19.0 +1.7**
CAL	**Calcutta**	**4.83 181**	*e*P		**Pn**	**00 56 37.3 +1.7**
CAL			*e*P			00 56 37.3
CAL			*ex*		**Sn**	**00 57 31.6 +1.1**
ALBI	**Allahabad**	**6.28 252**	*i* P		**Pn**	**00 56 54.0 -1.5**
BWNR	**Bhubaneshwar**	**7.45 199**	*ex*		x	00 57 45.0
BWNR			*ex*		x	00 59 59.0
PTH	**Pithoragarh**	**7.53 289**	*e*P		**Pn**	**00 57 10.0 -2.7**
PTH			*ex*		**Sn**	**00 58 35.0 -2.1**
BLSP	**Bilaspur**	**7.75 229**	*e*P		**Pn**	**00 57 14.9 -0.7**
BLSP			*ex*		**Sn**	**00 58 37.1 -5.3**
BLSP			AML		AML	00 59 38.6
	comp=N,3μm,0.7s					
BLSP			AML		AML	00 59 39.0
	comp=E,3μm,0.4s					
JBP	**Jabalpur**	**8.71 243**	*e*P		**Pn**	**00 57 28.5 -0.4**
JBP			*ex*		**Sn**	**00 59 04.2 -1.9**
NDI	**New Delhi**	**9.98 280**	*i* P		**Pn**	**00 57 44.5 -1.8**
NDI			*ex*		**Sn**	**00 59 29.5 -7.8**
SMLA	**Simla**	**10.51 293**	*e*P		**Pn**	**00 57 52.2 -1.3**
SMLA			*ex*		**Sn**	**00 59 40.9 -9.3**
SMLA			AML		AML	00 59 55.3
	comp=N,1μm,0.2s					
SMLA			AML		AML	00 59 57.5
	comp=E,1μm,0.5s					
NGP	**Nagpur**	**10.56 236**	*e*P		**Pn**	**00 57 53.2 -1.0**
NGP			*ex*		x	00 57 58.6
	comp=Z,743nm,1.8s					
NGP			*e*S		**Sn**	**00 59 39.0 -12**
NGP			AML		AML	01 01 05.4
	comp=N,1μm,0.3s					
NGP			AML		AML	01 01 07.2
	comp=E,1μm,0.5s					
VIS	**Vishakhapatnam**	**10.70 207**	*e*P		**Pn**	**00 57 54.9 -1.3**
VIS			*e*S		**Sn**	**00 59 46.8 -8.2**
BHPL	**Bhopal**	**10.77 250**	*e*P		**Pn**	**00 57 54.9 -2.1**
BHPL			*ex*		**Sn**	**00 59 49.0 -7.5**
SDNR	**Sundarnagar**	**10.79 295**	*e*P		**Pn**	**00 57 53.4 -3.9**
SDNR			*ex*		**Sn**	**00 59 53.2 -3.8**
BHK	**Bhakra**	**11.21 294**	*ex*		**Pn**	**00 58 06.7 +3.6**
DLH	**Dalhousie**	**11.95 298**	*e*P		**Pn**	**00 58 12.0 -1.2**
AJM	**Ajmer**	**12.32 269**	*e*P		**Pn**	**00 58 16.0 -2.3**
CHRT	**Chiangrai**	**12.82 123**	⇑P		**Pn**	**00 58 22.5 -2.6**
	comp=E,905nm,0.7s					
KMI	**Kunming**	**13.05 97**	P		**Pn**	**00 58 26.8 -1.5**
KMI			AP			00 58 30.8
KMI			XP			00 58 34.1
KMI			PP			00 58 36.8
KMI			PPP			00 58 44.3
KMI			S		**Sn**	**01 00 52.5 +0.1**
KMI			XS			01 00 59.1
KMI			SS			01 01 07.8
KMI			AMB		AMB	
	comp=Z,63nm,0.9s					
KMI			LR		LR	
	comp=N,4μm,11.3s					
KMI			LR		LR	
	comp=E,6μm,14.0s					
KMI			LR		LR	
	comp=Z,7μm,14.3s					
HYB	**Hyderabad**	**13.47 225**	⇑*i*P		**Pn**	**00 58 30.0 -4.0**
	comp=Z,277nm,0.8s					
HYB			*e*S		**Sn**	**01 01 03.0 +0.3**
HYB			LR		LR	01 03 44.0
	comp=Z,29nm,12.0s					
CD2	**Chengdu**	**13.86 72**	⇑*i*P		**Pn**	**00 58 37.4 -1.9**
CD2			AP			00 58 41.9
CD2			PP			00 58 48.6
CD2			S		**Sn**	**01 01 12.4 +0.3**
CD2			XS			01 01 19.3
CD2			SS			01 01 28.4
CD2			AMB		AMB	
	comp=Z,70nm,1.2s					
CD2			AMB		AMB	
	comp=Z,250nm,8.4s					
CD2			LR		LR	
	comp=E,6μm,9.4s					
CD2			LR		LR	
	comp=Z,7μm,9.6s					
LATR	**Latur**	**14.10 233**	*e*P		**Pn**	**00 58 40.3 -2.3**
LATR			*ex*		**Sn**	**01 01 09.5 -8.5**
SARP	**Sargodha**	**14.41 292**	⇓P		**Pn**	**00 58 41.0 -5.9**
CHCP	**Chirah Chowk**	**14.47 299**	⇓P		**Pn**	**00 58 43.4 -4.3**
NIL	**Nilore**	**14.48 299**	Pn		**Pn**	**00 58 44.6 -3.1**
	comp=Z,286nm,0.5s,SNR=13					
GTA	**Gaotai**	**15.29 35**	*e*P		**Pn**	**00 58 55.5 -3.1**
GTA			AP		pP	00 59 02.3 -8.5
GTA			XP		sP	00 59 05.3 -9.2
GTA			S		**Sn**	**01 01 41.3 -5.8**
GTA			LG1			01 03 23.3
GTA			LG2			01 03 47.9
GTA			AMB		AMB	
	comp=Z,443nm,4.2s					
GTA			LR		LR	
	comp=N,5μm,17.1s					
GTA			LR		LR	
	comp=E,7μm,14.8s					
GTA			LR		LR	
	comp=Z,9μm,11.0s					
THW	**Thamme Wali**	**15.40 294**	⇓P		**Pn**	**00 58 55.0 -5.0**
CEP	**Cherat**	**15.59 298**	⇑P		**Pn**	**00 58 57.5 -4.9**
CEP			S		**Sn**	**01 01 47.0 -7.2**
LZH	**Lanzhou**	**15.72 53**	*e*P		**Pn**	**00 59 01.3 -2.8**
LZH			AP		pP	00 59 10.6 -4.9
LZH			XP		sP	00 59 14.8 -4.4
LZH			*e*S		**Sn**	**01 01 56.8 -0.6**
LZH			XS		sS	01 02 06.0 -18
LZH			SS			01 02 15.0
LZH			AMB		AMB	
	comp=Z,332nm,1.8s					
LZH			AMB		AMB	
	comp=Z,1μm,5.0s					
LZH			LR		LR	
	comp=N,17μm,9.3s					
LZH			LR		LR	
	comp=Z,17μm,9.8s					
BHV	**Bhavnagar**	**15.83 253**	*ex*		**Pn**	**00 59 01.5 -4.1**
KSH	**Kashi**	**15.92 323**	P		**Pn**	**00 59 04.0 -2.8**
KSH			*e*AP		pP	00 59 12.0 -5.8
KSH			*e*XP		sP	00 59 17.0 -4.5
KSH			*e*S		**Sn**	**01 01 54.1 -8.3**
KSH			AMB		AMB	
	comp=Z,80nm,1.7s					
KSH			LR		LR	
	comp=N,6μm,10.0s					
KSH			LR		LR	
	comp=E,4μm,7.7s					
NST	**Nakhon Sawan**	**15.94 135**	P		**Pn**	**00 59 02.0 -5.1**
	comp=E,162nm,0.9s					
POO	**Poona**	**16.04 240**	*ex*		x	00 59 27.0
POO			AMb		AMB	00 59 43.4
	comp=Z,260nm,1.5s					
POO	**Poona**	**16.04 240**	⇓*i*P		**Pn**	**00 59 04.0 -4.3**
POO			*i* PP			00 59 16.0
POO			*i* LQ			01 01 48.0
POO			*i* S		**Sn**	**01 01 53.0 -12**
POO			*i* SS			01 02 10.0
POO			*i* SSS			01 02 23.0
POO			*i* LR		LR	01 02 30.5
POO			*i* PCP		PcP	01 04 12.5 +8.6
POO			*i* PCS		PcS	01 07 47.0 +7.5
POO			*i* SCS		ScS	01 11 25.0 +10
SBDP	**Sheikh Budin**	**16.04 292**	⇓P		**Pn**	**00 59 03.1 -5.2**
SBDP			S			00 59 03.0
MDRS	**Chennai**	**16.17 210**	*e*P		**Pn**	**00 59 09.1 -0.8**
PBA	**Port Blair**	**16.17 165**	*e*P		**Pn**	**00 59 13.0 +3.1**
PBA			AMb		AMB	00 59 31.1
	comp=Z,737nm,2.0s					
PBA			*e*S		**Sn**	**01 02 12.5 +4.1**
GYA	**Guiyang**	**16.30 89**	⇑*i*P		**Pn**	**00 59 07.8 -3.9**
GYA			AP		pP	00 59 14.5 -7.6
GYA			XP		sP	00 59 16.8 -8.9
GYA			PP			00 59 20.9
GYA			S		**Sn**	**01 02 02.3 -9.4**
GYA			SS			01 02 23.8
GYA			AMB		AMB	
	comp=Z,150nm,1.0s					
GYA			AMB		AMB	
	comp=Z,300nm,4.9s					
GYA			LR		LR	
	comp=N,3μm,13.2s					
GYA			LR		LR	
	comp=E,5μm,11.0s					
GYA			LR		LR	
	comp=Z,6μm,13.2s					
WMQ	**Urumqi**	**16.41 358**	P		**Pn**	**00 59 11.6 -1.4**
WMQ			XP		sP	00 59 20.0 -6.9
WMQ			PP			00 59 25.0
WMQ			S		**Sn**	**01 02 12.0 -2.2**
WMQ			SS			01 02 32.0
WMQ			AMB		AMB	
	comp=Z,188nm,0.8s					
WMQ			LR		LR	
	comp=N,5μm,7.5s					
WMQ			LR		LR	
	comp=E,2μm,6.0s					
WMQ			LR		LR	
	comp=Z,5μm,8.0s					
DRP	**Derazinda**	**16.43 290**	P		**Pn**	**00 59 08.2 -5.1**
KAD	**Karad**	**16.54 236**	*ex*		**Pn**	**00 59 10.1 -4.5**
BOM	**Bombay**	**16.64 243**	*e*P		**Pn**	**00 59 13.1 -2.9**
BOM			*ex*		**Sn**	**01 02 34.0 +14**
BHJ	**Bhuj**	**17.45 261**	*ex*		**Pn**	**00 59 21.2 -4.9**
BHJ			*ex*		x	01 00 03.6
	comp=N,7.1nm,0.1s					
BHJ			*ex*		x	01 00 04.2
	comp=E,3.0nm,0.1s					
BHJ			*ex*		**Sn**	**01 02 24.3 -15**
ULHL	**Ulahol**	**17.85 329**	P		**Pn**	**00 59 33.9 +2.9**
	SNR=15					
NNT	**Nongplab**	**18.14 142**	P		**Pn**	**00 59 34.5 -0.1**
KZA	**Kyzart**	**18.18 327**	P		**Pn**	**00 59 37.9 +2.8**
	SNR=7.1					
SALM	**Salem**	**18.36 213**	*e*P		**Pn**	**00 59 38.0 +0.7**
SALM			*ex*		**Sn**	**01 03 18.0 +17**
AAA	**Alma-Ata**	**18.38 333**	*i* P		**Pn**	**00 59 36.1 -1.3**
AAA			*i* S		**Sn**	**01 03 04.0 +2.2**
AAA			pmax		pmax	
	comp=Z,3μm,5.8s					
AAA			smax			
	comp=N,4μm,11.9s					
AAA			MLR		MLR	
	comp=Z,5μm,9.7s					
UCH	**Uchtor**	**18.66 326**	P		**Pn**	**00 59 42.8 +1.9**
	SNR=38					
TKM2	**Tokmak 2**	**18.67 329**	P		**Pn**	**00 59 41.0 -0.1**
	SNR=42					
TKM2	**Tokmak 2**	**18.67 329**	*i* P		**Pn**	**00 59 41.2 +0.1**
TKM2			pmax		pmax	
	comp=Z,128nm,1.2s					
ENH	**Enshi**	**18.68 76**	*e*P		**Pn**	**00 59 36.9 -4.2**
	comp=Z,192nm,0.7s					
ENH			*e*S		**Sn**	**01 03 10.7 +1.4**
KBK	**Karagaybulak**	**18.77 328**	P		**Pn**	**00 59 43.4 +1.2**
	SNR=40					
XAN	**Xi'an**	**18.82 64**	P		**Pn**	**00 59 39.3 -3.6**
XAN			S		**Sn**	**01 03 04.5 -8.1**
XAN			AMB		AMB	
	comp=Z,35nm,1.2s					
XAN			LR		LR	
	comp=N,2μm,7.9s					
XAN			LR		LR	
	comp=E,3μm,11.4s					
XAN			LR		LR	
	comp=Z,4μm,10.8s					
AAK	**Ala-Archa**	**18.97 327**	P		**Pn**	**00 59 45.8 +1.1**
	SNR=31					
AML	**Almayashu**	**19.00 325**	P		**Pn**	**00 59 43.9 -1.1**
	SNR=68					
FRU	**Bishkek**	**19.06 328**	⇑*i*P		**Pn**	**00 59 45.0 -0.8**
FRU			*e*S		**Sn**	**01 03 22.0 +3.6**
FRU			pmax		pmax	
	comp=Z,840nm,2.5s					
FRU			pmax		pmax	
	comp=Z,3μm,7.0s					
FRU			smax			
	comp=N,3μm,9.0s					
FRU			MLR		MLR	
	comp=Z,3μm,15.0s					
CHMS	**Chumysh**	**19.12 328**	P		**Pn**	**00 59 46.4 -0.1**
	SNR=12					
MNGI	**Mangalore**	**19.19 224**	*e*P		**Pn**	**00 59 44.3 -3.0**
MNGI			*ex*		x	01 03 07.2
MNGI			AMb		AMB	01 03 16.8
	comp=Z,103nm,0.8s					
EKS2	**Erkin-Say**	**19.34 326**	P		**Pn**	**00 59 49.5 +0.4**
	SNR=58					
USP	**Ospenovka**	**19.45 328**	P		**Pn**	**00 59 52.4 +2.0**
	SNR=6.2					
MK31	**Makanchi Array**	**19.97 348**	*i* P		**Pn**	**00 59 54.7 -1.8**
MK31			pmax		pmax	
	comp=Z,38nm,0.4s					
MKAR	**Makanchi Array**	**19.97 348**	P		**Pn**	**00 59 53.8 -2.8**
	comp=Z,46nm,0.5s,baz=163,slow=9.4,SNR=426					
MKAR			PcP		PcP	01 04 09.9 -0.5
	comp=Z,2.6nm,0.4s,baz=195,slow=1.7,SNR=4.5					
MKAR			ScP		ScP	01 07 45.4 +0.8
	comp=Z,2.3nm,0.7s,baz=117,slow=2.7,SNR=3.6					
MKAR			PKiKP		PKiKP	01 11 57.6 -1.7
	comp=Z,0.6nm,0.5s,baz=217,slow=2.0,SNR=12					
MKAR	**Makanchi Array**	**19.97 348**	P		**Pn**	**00 59 53.8 -2.7**
MKAR						01 04 10.0
MKAR	**Makanchi Array**	**19.97 348**	P		**Pn**	**00 59 53.8 -2.7**
MKAR			PcP		PcP	01 04 09.9 -0.5
MKAR			ScP		ScP	01 07 45.4 +0.8
PALK	**Pallekele**	**21.30 202**	Pn		**P**	**01 00 10.9 +1.8**
PALK			LR		LR	
	comp=Z,2μm,19.0s,MS4.5					
QIZ	**Qiongzhong**	**21.36 108**	⇑P		**P**	**01 00 09.3 -0.4**
QIZ			AP			01 00 18.0
QIZ			S		**S**	**01 03 56.8 -8.5**
QIZ			PCP		PcP	01 04 14.8 +1.7
QIZ			AMB		AMB	
	comp=Z,238nm,1.1s,mb5.4					
QIZ			LR		LR	
	comp=E,2μm,13.0s					
QIZ			LR		LR	
	comp=Z,2μm,15.8s,MS4.6					
QIZ	**Qiongzhong**	**21.36 108**	*e*P		**P**	**01 00 09.0 -0.8**
	comp=Z,265nm,1.0s,mb5.5					
QIZ			*e*pP			01 00 17.3
QIZ			LR		LR	
	comp=Z,1μm,20.0s,MS4.3					
KK31	**Karatay Array**	**21.37 322**	*i* P		**P**	**01 00 09.6 -0.3**
KKAR	**Karatay Array**	**21.37 322**	*e*P		**P**	**01 00 09.5 -0.4**
KKAR			pmax		pmax	
	comp=Z,92nm,1.0s,mb5.1					
TRD	**Trivandrum**	**21.68 212**	AMb		AMB	01 00 18.6
	comp=Z,125nm,1.0s,mb5.3					
TRD			*ex*		x	01 00 21.6
TRD	**Trivandrum**	**21.68 212**	*e*P		**P**	**01 00 21.4 +8.1**
TRD			*e*S		**S**	**01 04 29.9 +18**
BTO	**Baotou**	**22.17 48**	*e*P		**P**	**01 00 17.5 -0.9**
BTO			S		**S**	**01 04 16.6 -4.6**
BTO			AMB		AMB	
	comp=Z,90nm,1.3s,mb5.0					
BTO			LR		LR	
	comp=N,861nm,8.8s					
BTO			LR		LR	
	comp=E,2μm,11.6s					
TIY	**Taiyuan**	**22.66 57**	⇑P		**P**	**01 00 18.0 -5.6**
TIY			S		**S**	**01 04 28.0 -2.3**
TIY			LR		LR	
	comp=E,7μm,10.0s					
WHN	**Wuhan**	**22.89 76**	⇓P		**P**	**01 00 25.6 -0.5**
WHN			S		**S**	**01 04 34.0 -0.1**
WHN			LR		LR	
	comp=Z,9μm,14.2s,MS5.3					
GZH	**Guangzhou**	**22.94 95**	P		**P**	**01 00 26.3 -0.3**
GZH			LR		LR	
	comp=N,1μm,12.3s,MS4.8					
GZH			LR		LR	
	comp=E,2μm,12.0s,MS4.8					
GZH			LR		LR	
	comp=Z,3μm,12.3s,MS4.9					
HHC	**Hu-ho-hao-te**	**23.31 49**	⇑P		**P**	**01 00 30.0 -0.6**
HHC			AP			01 00 38.4
HHC			XP		sP	01 00 41.9 -0.1
HHC			PCP		PcP	01 04 12.9 -4.1
HHC			S		**S**	**01 04 41.8 +0.8**
HHC			SCP		ScP	01 07 47.5 -5.5
HHC			AMB		AMB	
	comp=Z,92nm,1.8s,mb4.9					
HHC			AMB		AMB	
	comp=Z,856nm,4.8s					
HHC			LR		LR	
	comp=N,3μm,13.2s,MS5.2					
HHC			LR		LR	
	comp=E,4μm,12.0s,MS5.2					
HHC			LR		LR	
	comp=Z,5μm,13.2s,MS5.1					
KURK	**Kurchatov**	**24.46 345**	P		**P**	**01 00 41.3 +0.1**
	comp=Z,648nm,1.2s,mb5.9,SNR=84					
KURK	**Kurchatov**	**24.46 345**	⇑*e*P		**P**	**01 00 41.0 -0.2**
KURK			*e**PP			01 00 50.3
KURK			pmax		pmax	
	comp=Z,309nm,1.4s,mb5.5					
KURK			MLR		MLR	
	comp=Z,2μm,21.0s,MS4.6					
KURK	**Kurchatov**	**24.46 345**	⇑*e*P		**P**	**01 00 41.0 -0.2**
	comp=Z,309nm,1.4s,mb5.5					
KURK			*e*pP			01 00 50.3
KURK			LR		LR	
	comp=Z,2μm,21.0s,MS4.6					
SONM	**Songino Array**	**24.78 30**	P		**P**	**01 00 45.0 +0.9**
	comp=Z,24nm,0.6s,mb4.9,baz=215,slow=9.9,SNR=84					
SONM			PcP		PcP	01 04 20.4 +0.2
	comp=Z,9.0nm,0.6s,baz=208,slow=2.7,SNR=9.4					
SONM			ScP		ScP	01 07 58.5 +1.5
	comp=Z,10nm,1.1s,baz=232,slow=3.2,SNR=8.8					
SONM			PKiKP		PKiKP	01 12 00.7 -1.0
	comp=Z,0.5nm,0.6s,baz=178,slow=2.4,SNR=5.5					
SONM	**Songino Array**	**24.78 30**	P		**P**	**01 00 45.0 +0.9**
SONM						01 04 20.4
SONM	**Songino Array**	**24.78 30**	P		**P**	**01 00 45.0 +0.9**
SONM			PcP		PcP	01 04 20.4 +0.2
SONM			ScP		ScP	01 07 58.5 +1.5
KULM	**Kulim**	**24.87 150**	*e*P		**P**	**01 00 45.4 +0.5**
KULM			*e*pP			01 00 53.2
ULN	**Ulaanbaatar**	**25.09 30**	P		**P**	**01 00 47.8 +0.8**
ULN			*e**PP		pP	01 00 57.0 +1.7
ULN			MLR		MLR	
	comp=Z,4μm,21.0s,MS4.9					
ZAK	**Zakamensk**	**25.62 22**	⇑*i*P		**P**	**01 00 52.6 +0.9**
ZAK			*e*			01 04 17.5
ZAK			pmax		pmax	
	comp=Z,189nm,18.0s					
ZAK			pmax		pmax	
	comp=Z,37nm,1.6s,mb4.7					
IPM	**Ipoh**	**25.76 150**	P		**P**	**01 00 53.2 +0.1**
TIA	**Tai'an**	**25.86 63**	⇑P		**P**	**01 00 53.8 -0.1**
TIA			S		**S**	**01 05 24.5 +2.6**
TIA			AMB		AMB	
	comp=Z,151nm,1.3s,mb5.4					
TIA			LR		LR	
	comp=N,2μm,12.0s,MS5.0					
TIA			LR		LR	
	comp=E,2μm,12.0s,MS5.0					
MOY	**Mondy**	**26.04 18**	*e*P		**P**	**01 00 57.2 +1.6**
MOY			pmax		pmax	
	comp=Z,137nm,2.2s,mb5.1					
BJT	**Baijiatuau**	**26.18 54**	*e*P		**P**	**01 00 57.9 +1.0**
BJT			pmax		pmax	
	comp=Z,89nm,1.2s					
BJT			MLR		MLR	
	comp=Z,8μm,22.0s					
BJT	**Baijiatuau**	**26.18 54**	*e*P		**P**	**01 00 57.9 +1.0**
	comp=Z,89nm,1.2s,mb5.2					
BJT			LR		LR	
	comp=Z,8μm,22.0s,MS5.2					
PSI	**Prapat**	**26.43 156**	P		**P**	**01 00 59.0 0.0**
	comp=Z,46nm,0.8s,mb5.0,baz=328,slow=7.6,SNR=31					
PSI			ScP		ScP	01 08 05.4 +3.7
	comp=Z,5.1nm,0.8s,baz=351,slow=15,SNR=4.5					
PSI			LR		LR	01 14 41.3
	comp=Z,2μm,18.5s,MS4.6,baz=45,slow=44					
ZAL	**Zalesovo**	**26.66 355**	PKiKP		PKiKP	01 12 01.2 -1.6
	comp=Z,1.5nm,0.4s,baz=93,slow=22,SNR=5.1					
NJ2	**Nanjing**	**26.79 73**	*e*P		**P**	**01 01 02.4 +0.1**
NJ2			AP		pP	01 01 11.3 +0.6
NJ2			XP		sP	01 01 15.3 +1.1
NJ2			PP			01 01 48.3
NJ2			PPP			01 02 01.1
NJ2			S		**S**	**01 05 39.0 +2.4**
NJ2			AMB		AMB	
	comp=Z,70nm,1.0s,mb5.2					
NJ2			AMB		AMB	
	comp=Z,410nm,5.4s					
NJ2			LR		LR	
	comp=N,6μm,21.0s,MS5.2					
NJ2			LR		LR	
	comp=E,4μm,20.1s,MS5.2					
NJ2			LR		LR	
	comp=Z,2μm,19.8s,MS4.7					
QZH	**Quanzhou**	**27.16 88**	⇑*i*P		**P**	**01 01 05.8 +0.1**
QZH			S		**S**	**01 05 41.8 -0.6**
QZH			AMB		AMB	
	comp=Z,110nm,1.0s,mb5.3					
QZH			LR		LR	
	comp=N,6μm,25.5s					
QZH			LR		LR	
	comp=E,8μm,17.3s					
QZH			LR		LR	
	comp=Z,10μm,16.3s					
ABKT	**Ailbek**	**27.48 300**	P		**P**	**01 01 10.6 +2.1**
	comp=Z,319nm,1.4s,mb5.7,SNR=17					
IRK	**Irkutsk**	**27.53 21**	*e*P		**P**	**01 01 09.9 +1.0**
IRK			*e*			01 02 07.4
IRK			*e*			01 04 26.2
IRK			pmax		pmax	
	comp=Z,108nm,1.8s,mb5.2					
NVS	**Novosibirsk**	**27.69 354**	*e*P		**P**	**01 01 08.3 -2.1**
NVS			*e*S		**S**	**01 05 48.7 -2.0**
NVS			pmax		pmax	
	comp=N,28nm,0.7s					
NVS			pmax		pmax	
	comp=Z,22nm,0.7s,mb4.9					
NVS			pmax		pmax	
	comp=E,17nm,1.0s					
NVS			smax			
	comp=N,91nm,2.0s					
NVS			smax			
	comp=E,50nm,2.0s					
VOSK	**Vostochnaya**	**28.46 338**	P		**P**	**01 01 17.0 -0.2**
VOSK			pmax		pmax	
	comp=Z,20nm,0.7s,mb4.9					
SSE	**Sheshan**	**28.77 75**	P		**P**	**01 01 19.9 -0.2**
SSE			AP		pP	01 01 28.8 +0.4
SSE			XP		sP	01 01 32.5 +0.6
SSE			S		**S**	**01 06 08.8 +1.0**
SSE			XS		sS	01 06 23.4 +1.8
SSE			SCP		ScP	01 08 07.6 -1.3
SSE			AMB		AMB	
	comp=Z,72nm,0.9s,mb5.4					
SSE			AMB		AMB	
	comp=Z,216nm,5.3s					
SSE			LR		LR	
	comp=N,1μm,12.3s,MS5.1					
SSE			LR		LR	
	comp=E,3μm,12.3s,MS5.1					
SSE			LR		LR	
	comp=Z,3μm,14.6s,MS5.1					
KRAR	**Krasnoyarsk**	**28.78 5**	*i* P		**P**	**01 01 20.0 -0.1**
KRAR			pmax		pmax	
	comp=Z,116nm,1.2s,mb5.5					
KRAR			MLR		MLR	
	comp=Z,2μm,17.0s,MS4.8					
BVA0	**Borovoye Array**	**28.91 337**	*i* P		**P**	**01 01 20.9 -0.3**
BVA0			pmax		pmax	
	comp=Z,7.0nm,1.4s					
BVAR	**Borovoye Array**	**28.91 337**	P		**P**	**01 01 21.0 -0.3**
	comp=Z,9.9nm,0.4s,mb4.9,baz=142,slow=10,SNR=155					
BVAR			PcP		PcP	01 04 30.4 +0.5
	comp=Z,10nm,0.5s,baz=169,slow=2.4,SNR=13					
BVAR			ScP		ScP	01 08 11.0 +1.7
	comp=Z,3.7nm,0.8s,baz=225,slow=2.1,SNR=4.2					
BVAR			PKiKP		PKiKP	01 12 03.4 -0.7
	comp=Z,0.8nm,0.5s,baz=282,slow=3.1,SNR=5.0					
BVAR	**Borovoye Array**	**28.91 337**	P		**P**	**01 01 21.0 -0.2**
BVAR						01 04 30.4
BVAR	**Borovoye Array**	**28.91 337**	P		**P**	**01 01 21.0 -0.3**
BVAR			PcP		PcP	01 04 30.4 +0.5
BVAR			ScP		ScP	01 08 11.0 +1.7
BRVK	**Borovoye**	**28.97 337**	P		**P**	**01 01 21.8 0.0**
	comp=Z,169nm,0.5s,mb6.0,SNR=10					
BRVK	**Borovoye**	**28.97 337**	*e*P		**P**	**01 01 21.8 0.0**
BRVK			pmax		pmax	
	comp=Z,8.0nm,0.5s,mb4.7					
BRVK			MLR		MLR	
	comp=Z,1μm,20.0s,MS4.6					
BRVK	**Borovoye**	**28.97 337**	*e*P		**P**	**01 01 21.8 -0.1**

comp=Z,8,4nm,0.5s,mb4.7
BRVK LR LR
comp=Z,1μm,20.0s,MS4.6
KGM Kluang 28.99 148 P **P** **01 01 22.8 +0.9**
ZRNK Zerenda 29.34 336 P **P** **01 01 25.2 +0.1**
ZRNK pmax pmax
comp=Z,24nm,0.5s,mb5.2
ZRNK Zerenda 29.34 336 *e*P **P** **01 01 24.9 -0.1**
comp=Z,24nm,0.5s,mb5.2
YHNB Yeheng 29.69 88 *e*P **P** **01 01 28.5 +0.3**
YHNB *e* pP 01 01 37.7 +1.1
TATO Taipei 29.73 87 PFAKE 01 01 40.0 +11
TATO LR LR
comp=Z,3μm,21.0s,MS4.8
DL2 Dalian 29.93 59 *e*P **P** **01 01 29.9 -0.4**
DL2 *e*S **S** **01 06 30.8 +4.9**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
DL2 AMB AMB
comp=Z,330nm,5.1s
DL2 LR LR
comp=N,1μm,15.8s,MS5.0
DL2 LR LR
comp=E,2μm,12.3s,MS5.0
DL2 LR LR
comp=Z,3μm,12.0s,MS5.1
NACB Ninganchiao 30.00 89 *e*P **P** **01 01 33.1 +2.2**
NACB *e*pP pP 01 01 42.6 +3.3
AB31 Akbulak array 30.93 323 *e*P **P** **01 01 39.4 +0.3**
AB31 pmax pmax
comp=Z,19nm,0.5s,mb5.2
SNY Shenyang 32.08 54 ⇑P **P** **01 01 49.6 +0.3**
SNY AP pP 01 01 59.5 +1.8
SNY XP sP 01 02 03.3 +2.1
SNY AMB AMB
comp=Z,40nm,2.1s,mb4.9
SNY LR LR
comp=N,1μm,11.8s,MS5.2
SNY LR LR
comp=E,4μm,16.6s,MS5.2
SNY LR LR
comp=Z,3μm,18.4s,MS5.1
HIA Hailar 32.51 39*c i*P **P** **01 01 54.1 +1.1**
HIA Hailar 32.51 39 *e*P **P** **01 01 54.1 +1.0**
comp=Z,70nm,1.1s,mb5.5
HIA *e*pP pP 01 02 02.8 +1.3
HIA *e*sP sP 01 02 05.8 +0.9
HIA LR LR
comp=Z,1μm,21.0s,MS4.6
KSM Kuching 33.23 137 *e*P **P** **01 02 00.5 +1.2**
KSM *e*pP pP 01 02 05.3 -2.5
PPR Puerto Princes 33.51 116 *e*P **P** **01 02 00.6 -1.1**
INCN Inchon 33.59 63 P **P** **01 02 02.4 0.0**
comp=Z,94nm,1.2s,mb5.6
INCN LR LR
comp=Z,906nm,20.0s,MS4.5
KKM Kota Kinabalu 33.89 124 P **P** **01 02 06.2 +1.1**
KKM Kota Kinabalu 33.89 124 *e*P **P** **01 02 06.4 +1.4**
CN2 Changchun 33.95 51 *e*P **P** **01 02 05.6 0.0**
CN2 *e*XP sP 01 02 14.8 -2.7
CN2 *e*S **S** **01 07 30.0 +1.4**
CN2 SS SS 01 09 32.5 -23
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.4
CN2 LR LR
comp=N,2μm,11.0s,MS5.4
CN2 LR LR
comp=E,3μm,11.0s,MS5.4
CN2 LR LR
comp=Z,5μm,11.0s,MS5.5
BOD Bodaibo 35.34 24 *e*P **P** **01 02 17.3 -0.3**
BOD pmax pmax
comp=Z,49nm,1.5s,mb5.2
KBD Kabd 35.78 283 *e*P **P** **01 02 20.9 -0.5**
KBD AMb AMB 01 02 23.5
comp=Z,87nm,0.6s,mb5.9
RDF Al-Radifah 35.94 282 *e*P **P** **01 02 22.2 -0.5**
RDF AMb AMB 01 02 25.5
comp=Z,60nm,0.5s,mb5.8
ARU Arti 36.01 332 P **P** **01 02 23.5 +0.1**
comp=Z,505nm,0.4s,SNR=28
ARU Arti 36.01 332⇑*i*P **P** **01 02 23.3 -0.1**
ARU *e* 01 03 42.3
ARU *e*PPP 01 04 02.4
ARU *e*S **S** **01 08 02.2 +1.8**
ARU *e* 01 12 36.7
ARU pmax pmax
comp=Z,17nm,0.5s,mb5.2
ARU Arti 36.01 332 P **P** **01 02 23.4 +0.1**
comp=Z,39nm,0.4s,mb5.7
ARU *e*pP pP 01 02 33.0 +1.1
ARU LR LR
comp=Z,513nm,20.0s,MS4.3
MIB Mutribah 36.02 284 *e*P **P** **01 02 23.2 -0.1**
MIB AMb AMB 01 02 24.2
comp=Z,42nm,0.5s,mb5.6
PVCP Virac 36.03 105 *e*P **P** **01 02 27.1 +3.5**
NAY Al-Naaiem 36.16 283 *e*P **P** **01 02 24.1 -0.6**
NAY AMb AMB 01 02 26.0
comp=Z,16nm,0.6s,mb5.2
TSM Tawau 36.28 124 P **P** **01 02 25.4 -0.3**
MDJ Mudanjiang 37.04 51 P **P** **01 02 32.0 -0.1**
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,284nm,4.3s
MDJ LR LR
comp=N,1μm,19.4s,MS4.7
MDJ LR LR
comp=E,423nm,20.9s,MS4.7
MDJ LR LR
comp=Z,1μm,17.9s,MS4.8
MDJ Mudanjiang 37.04 51 *e*P **P** **01 02 32.2 +0.1**
MDJ *e*pP pP 01 02 41.5 +1.0
MDJ LR LR
comp=Z,2μm,19.0s,MS5.0
DGRG David-gareji 37.79 303 P **P** **01 02 41.0 +2.5**
DGRG David-gareji 37.79 303 P **P** **01 02 41.0 +2.5**
SAMG Sameba 38.24 303 P **P** **01 02 43.5 +1.2**
BHD Baghdad 38.25 290 *i* x x 01 02 35.0
BHD *i* x x 01 02 51.0
BHD *e*x x 01 04 09.0
BHD *e*x x 01 08 29.0
BHD *e*x x 01 08 51.0
BHD *e*x x 01 10 45.0
MTA Mtatsminda 38.26 303 P **P** **01 02 43.7 +1.3**
MTA Mtatsminda 38.26 303 P **P** **01 02 42.3 -0.2**
TBLG Delisi 38.30 303 P **P** **01 02 44.0 +1.2**
TBLG Delisi 38.30 303 P **P** **01 02 44.2 +1.4**
TBLG Delisi 38.30 303 *e*P **P** **01 02 44.0 +1.2**
VLA Vladivostok 38.36 54*c i*P **P** **01 02 43.1 -0.2**
VLA pmax pmax
comp=Z,165nm,2.0s,mb5.4
VLA MLR MLR
comp=Z,3μm,18.0s,MS5.1
VLA Vladivostok 38.36 54 *i*P **P** **01 02 43.3 0.0**
DUS Dusheti 38.38 304 P **P** **01 02 45.5 +2.1**
CLDR Caldiran 38.66 299 P **P** **01 02 47.4 +1.6**
SOKR Solikamsk 38.81 335 *e*P **P** **01 02 47.8 +0.7**
SOKR pmax pmax
comp=Z,100nm,1.4s,mb5.3
SOKR MLR MLR
comp=Z,1μm,20.0s,MS4.8
VANB Van 39.04 298 P sP 01 02 59.1 -1.9
ZEI Tsey 39.06 305 *e*P **P** **01 02 49.0 -0.2**
ZEI *i* *PP pP 01 02 55.9 -1.8
ZEI *i* 01 04 16.0
ZEI *e*S **S** **01 08 46.9 +0.2**
ZEI pmax pmax
comp=Z,40nm,0.6s,mb5.3
CLNS Chul'man 39.18 31 *e*P **P** **01 02 50.6 +0.5**
CLNS pmax pmax
comp=Z,38nm,1.3s,mb5.0
CLNS pmax pmax
comp=N,26nm,1.4s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS MLR MLR
comp=Z,3μm,12.0s,MS5.3
CLNS MLR MLR
comp=N,200nm,15.0s,MS5.2
CLNS MLR MLR
comp=E,2μm,12.0s,MS5.2
DIGO Kars 39.18 301 *i* P **P** **01 02 52.2 +2.1**
AKH Akhalkalaki 39.19 303 P **P** **01 02 53.3 +3.0**
ONI Oni 39.37 305 P **P** **01 02 54.0 +2.3**
KLR Kul'dur 39.69 45⇓*i*P **P** **01 02 51.5 -2.9**
KLR *e* 01 04 29.0
KLR *e* 01 04 58.2
KLR *e* 01 11 51.0
KLR pmax pmax
comp=E,220nm,2.2s
KLR pmax pmax
comp=Z,350nm,2.2s,mb5.7
KLR MLR MLR
comp=N,2μm,12.0s,MS5.2
KLR MLR MLR
comp=E,2μm,12.0s,MS5.2
KLR MLR MLR
comp=Z,8μm,12.0s,MS5.8
SIRT Sirnak 39.75 297 P **P** **01 02 56.4 +1.5**
GOF Gofitskoye 40.05 308 *e*P **P** **01 02 57.3 -0.1**
GOF pmax pmax
comp=Z,49nm,1.3s,mb5.1
COCO West Island 40.18 167 PFAKE 01 03 10.0 +12
COCO LR LR
comp=Z,885nm,20.0s,MS4.6
ARTV Artvin 40.34 302 *i* P **P** **01 02 59.2 -0.6**
CHVG Ch'k'valeri 40.38 305 P **P** **01 03 03.6 +3.4**
BTMT Batman 40.52 298 P **P** **01 03 02.2 +0.9**
DAV Davao City (W) 40.60 113 PFAKE 01 03 10.0 +8.0
DAV LR LR
comp=Z,1μm,22.0s,MS4.8
ERZM Erzurum 40.68 300 *i* P **P** **01 03 04.2 +1.6**
EZM Erzurum 40.68 300 P **P** **01 03 03.5 +0.8**
BEST Besiri 40.69 297 *i* P **P** **01 03 04.8 +2.1**
MARD Mardin 41.07 296 *i* P **P** **01 03 06.8 +1.0**
DIY Diyarbakir 41.51 297 P **P** **01 03 05.4 -4.1**
HABR Khabarovsk 41.60 47 *i* P **P** **01 03 09.0 -1.2**
HABR *e*S **S** **01 09 24.4 -0.1**
HABR pmax pmax
comp=Z,71nm,1.8s,mb5.0
MACK Trabzon 41.95 302 *i* P **P** **01 03 14.6 +1.5**
GUMT Gumushane 42.15 301 P **P** **01 03 16.6 +2.0**
SOC Sochi 42.20 306 *e*P **P** **01 03 15.1 0.0**
SOC *e*S **S** **01 09 34.5 +1.1**
SOC pmax pmax
comp=Z,78nm,1.6s,mb5.1
SOC pmax pmax
comp=Z,428nm,2.6s,mb5.6
SOC MLR MLR
comp=Z,2μm,21.0s,MS4.9
KELT Kelkit 42.31 301 *i* P **P** **01 03 16.9 +1.0**
VRHR Novokhopersk 42.35 317 *e*P **P** **01 03 16.0 -0.3**
VRHR *e**PP pP 01 03 22.9 -2.0
VRHR pmax pmax
comp=Z,130nm,0.4s,mb5.9
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.3s
VRHR MLR MLR
comp=Z,3μm,20.0s,MS5.2
VRHR MLR MLR
comp=N,2μm,28.0s
VRHR MLR MLR
comp=E,1μm,13.0s
PECR Pechory 42.75 325 *e*P **P** **01 03 18.4 -1.2**
PECR pmax pmax
comp=Z,1μm,1.6s,mb6.3
MAJO Matsushiro 42.82 65 P **P** **01 03 19.3 -0.8**
MAJO MLR MLR
comp=Z,492nm,20.0s,MS4.4
MAT Matsushiro 42.82 65 P **P** **01 03 19.2 -0.9**
MAT S **S** **01 09 32.0 -10**
MJAR Matsushiro Arr 42.82 65 P **P** **01 03 19.1 -1.0**
comp=Z,16nm,0.9s,mb4.7,baz=279,slow=9.8,SNR=31
MJAR ScP ScP 01 09 02.7 +2.8
comp=Z,4.3nm,0.8s,baz=260,slow=5.3,SNR=8.3
MALT Malatya 42.93 298 P **P** **01 03 22.3 +1.3**
MALT Malatya 42.93 298 P **P** **01 03 23.1 +2.1**
MALT *e**PP pP 01 03 32.1 +2.5
MALT pmax pmax
comp=Z,119nm,1.3s,mb5.5
MALT Malatya 42.93 298 P **P** **01 03 23.1 +2.1**
comp=Z,119nm,1.3s,mb5.5
MALT *e*pP pP 01 03 32.1 +2.5
MYA Malataya 42.93 298 P **P** **01 03 23.1 +2.1**
ATAB Bozova 43.05 297 *i* P **P** **01 03 23.3 +1.3**
GRSN GIRESUNGRSN 43.09 302 *i* P **P** **01 03 21.3 -1.0**
GZT Gaziantep 43.63 296 *i* P **P** **01 03 28.2 +1.5**
VORD Divnogorie 43.74 316 *e*P **P** **01 03 26.6 -1.0**
VORD pmax pmax
comp=Z,40nm,1.3s,mb5.0
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,70nm,1.0s
VRSR Storozhevoye 43.87 317 *e*P **P** **01 03 27.9 -0.7**
VRSR *e**PP pP 01 03 35.0 -2.2
VRSR *e* 01 05 15.1
VRSR *e*S **S** **01 09 57.9 0.0**
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,1.3s
VRSR pmax pmax
comp=E,3.0nm,0.7s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,2.0nm,1.1s
VRSR smax
comp=E,2.0nm,0.8s
VRSR MLR MLR
comp=Z,470nm,17.0s,MS4.5
VRSR MLR MLR
comp=N,100nm,16.0s,MS4.3
VRSR MLR MLR
comp=E,290nm,19.0s,MS4.3
GAZ Gaziantep 43.92 296 P **P** **01 03 30.4 +1.4**
ANN Anapa 43.96 307⇑*i*P **P** **01 03 29.4 +0.1**
ANN *i* 01 03 34.9
ANN *e* 01 05 12.2
ANN *e*S **S** **01 10 01.2 +2.0**
ANN pmax pmax
comp=Z,51nm,0.7s,mb5.4
ANN MLR MLR
comp=N,942nm,18.0s,MS5.1
ANN MLR MLR
comp=E,2μm,18.0s,MS5.1
ANN MLR MLR
comp=Z,1μm,18.0s,MS4.9
VOR Voronezh 43.98 317 *e*P **P** **01 03 29.0 -0.5**
VOR *e* 01 03 34.0
VOR 01 05 12.0
VOR pmax pmax
comp=Z,250nm,1.5s,mb5.7
VOR pmax pmax
comp=N,50nm,1.4s
VOR pmax pmax
comp=E,100nm,1.5s
SVSK Karacayir 44.03 300 *e*P **P** **01 03 32.2 +2.3**
YAK Yakutsk 44.06 27 *e*P **P** **01 03 30.3 +0.2**
YAK pmax pmax
comp=Z,18nm,1.3s,mb4.6
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,21nm,1.8s
YAK MLR MLR
comp=Z,1μm,13.0s,MS5.1
YAK MLR MLR
comp=N,796nm,15.0s,MS5.0
YAK MLR MLR
comp=E,972nm,11.0s,MS5.0
YAK Yakutsk 44.06 27⇑*i*P **P** **01 03 29.0 -1.1**
YAK LR LR
comp=Z,3μm,20.0s,MS5.2
SVST Sivas 44.07 300 *i* P **P** **01 03 31.7 +1.5**
TOKT Tokat 44.38 301 *e*P **P** **01 03 33.8 +1.1**
COBT Iskenderun 44.72 295 *i* P **P** **01 03 36.3 +0.9**
KVT Kavak 44.77 302 *e*P **P** **01 03 36.6 +0.8**
HTY Hatay 44.85 295 *e*P **P** **01 03 37.7 +1.3**
KOZT Kozan 45.01 297 *e*P **P** **01 03 38.9 +1.2**
CEYT Ceyhan 45.10 296 *e*P **P** **01 03 38.7 +0.3**
BHL Bhannes 45.45 292 *e*P **P** **01 03 43.3 +2.1**
ATD Arta Tunnel 45.50 259 P **P** **01 03 42.4 +0.8**
comp=Z,17nm,1.0s,mb4.8,baz=354,slow=8.3,SNR=4.9
ATD Arta Tunnel 45.50 259 P **P** **01 03 42.4 +0.8**
BOYT Boyabat 45.64 302 *i* P **P** **01 03 43.3 +0.7**
KARA Karaisali 45.64 296 *e*P **P** **01 03 40.5 -2.2**
CTKT Corum 45.72 301 *i* P **P** **01 03 43.9 +0.5**
BYBT Boyabat 45.74 302 *e*P **P** **01 03 44.2 +0.7**
NIG Nigde 45.94 298 *e*P **P** **01 03 46.7 +1.6**
MOS Moscow 45.95 322α*i*P **P** **01 03 44.9 -0.3**
MOS *e*S **S** **01 10 25.6 -2.5**
MOS pmax pmax
comp=Z,500nm,2.0s,mb6.1
MOS pmax pmax
comp=Z,181nm,1.7s,mb5.7
MOS MLR MLR
comp=Z,1μm,12.0s,MS5.1
MOS MLR MLR
comp=E,500nm,11.0s
CDAG Cicekdag 46.06 300 *i* P **P** **01 03 45.5 -0.5**
MERS Mersin 46.09 296 *e*P **P** **01 03 47.1 +0.8**
TOS Tosya 46.30 302 *e*P **P** **01 03 48.9 +1.0**
SIM Simferopol' 46.32 307 P **P** **01 03 48.6 +0.5**
OBN Obninsk 46.36 321 P **P** **01 03 48.7 +0.3**
comp=E,740nm,0.4s,SNR=17
OBN Obninsk 46.36 321α*i*P **P** **01 03 47.8 -0.6**
OBN *e* 01 05 25.0
OBN *e* 01 05 33.0
OBN *e*S **S** **01 10 34.3 +0.3**
OBN *e* 01 10 48.4
OBN pmax pmax
comp=Z,171nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,800nm,16.0s,MS4.8
OBN Obninsk 46.36 321 P **P** **01 03 47.9 -0.5**
OBN LR LR
comp=Z,1μm,21.0s,MS4.8
YSS Yuzh-Sakhalins 46.49 50α*i*P **P** **01 03 51.0 +1.6**
YSS S **S** **01 10 47.0 +11**
YSS *e* 01 13 40.0
YSS pmax pmax
comp=Z,180nm,1.1s,mb5.9
YSS pmax pmax
comp=Z,200nm,1.2s,mb5.9
YSS MLR MLR
comp=Z,900nm,16.0s,MS4.8
YSS MLR MLR
comp=N,1μm,14.0s,MS5.1
YSS MLR MLR
comp=E,900nm,12.0s,MS5.1
YSS Yuzh-Sakhalins 46.49 50 *e*P **P** **01 03 50.0 +0.6**
comp=E,193nm,1.1s,mb5.9
YSS *e*pP pP 01 03 57.7 -0.4
YSS LR LR
comp=Z,1μm,19.0s,MS4.8
KAMT Kaman 46.58 299 *e*P **P** **01 03 48.8 -1.3**
CANT Cankiri 46.61 301 *e*P **P** **01 03 51.6 +1.2**
BR131 Keskin Array S 46.62 300 *e*P **P** **01 03 51.0 +0.5**
comp=Z,24nm,0.6s,mb5.3
BRTR Keskin Array B 46.62 300 P **P** **01 03 50.9 +0.4**
comp=Z,20nm,0.6s,mb5.2,baz=122,slow=7.1,SNR=163
BRTR PcP PcP 01 05 24.4 +0.3
comp=Z,3.8nm,0.7s,baz=90,slow=2.9,SNR=3.3
KLMR Klimovskoe 46.75 330*c i*P **P** **01 03 50.9 -0.6**
KLMR pmax pmax
comp=Z,380nm,7.2s
KLMR pmax pmax
comp=Z,500nm,9.8s
KLMR MLR MLR
comp=Z,2μm,16.0s,MS5.2
ELDT Eldivan 46.76 301 *i* P **P** **01 03 52.5 +0.9**
BALT Daday 46.78 302 *i* P **P** **01 03 52.2 +0.6**
CSS Prodhromos 47.23 293 *e*P **P** **01 03 55.7 +0.5**
comp=Z,46nm,0.6s,mb5.6
ANTO Ankara 47.27 300 *e*P **P** **01 03 56.1 +0.7**
ANTO Ankara 47.27 300 *e*P **P** **01 03 56.0 +0.5**
ANTO *e**PP pP 01 04 04.6 +0.4
ANTO pmax pmax
comp=Z,23nm,0.6s,mb5.3
ANTO MLR MLR
comp=Z,518nm,21.0s,MS4.5
ANTO Ankara 47.27 300 *e*P **P** **01 03 56.0 +0.5**
comp=Z,23nm,0.6s,mb5.3
ANTO *e*pP pP 01 04 04.5 +0.4
ANTO LR LR
comp=Z,518nm,21.0s,MS4.5
SAFT Safranbolu 47.31 302 *e*P **P** **01 03 56.6 +0.9**
HDMB Hadim 47.71 296 *e*P **P** **01 03 56.0 -2.9**
KONT Konya--Tatoy 47.72 298 *e*P **P** **01 03 59.7 +0.7**
KIZT Kizilcal 48.03 299 *e*P **P** **01 04 01.2 -0.2**
MDU Mudurnu 48.45 301 *e*P **P** **01 04 05.4 +0.7**
HENT Hendek 48.67 302 *i* P **P** **01 04 06.3 -0.1**
ESKT Eskisehir 48.79 300 *e*P **P** **01 04 06.9 -0.3**
ESKT Eskisehir 48.79 300 *i* P **P** **01 04 07.3 +0.1**
BORA Eskisehir 49.07 300 *i* P **P** **01 04 08.0 -1.3**
ISP Isparta 49.19 298*c i*P **P** **01 04 10.1 -0.2**
ISP Isparta 49.19 298 P **P** **01 04 09.4 -0.9**
comp=Z,26nm,0.4s,mb5.6
TKTP Tekketepe 49.32 298 *i* P **P** **01 04 10.6 -0.7**
ALT Altintas 49.39 299 *e*P **P** **01 04 12.2 +0.3**
TIXI Tiksi 49.59 16 P **P** **01 04 12.4 -0.9**
TIXI Tiksi 49.59 16⇑*i*P **P** **01 04 12.0 -1.3**
HRT Hereke 49.61 302 *e*P **P** **01 04 13.6 +0.1**
ELL Elmali 49.79 296 *e*P **P** **01 04 15.2 +0.4**
IZI Iznik 49.79 301 *e*P **P** **01 04 15.3 +0.4**
YLV Yalova 49.85 301 *e*P **P** **01 04 15.4 0.0**
GDZ Gediz 49.88 299 *i* P **P** **01 04 15.1 -0.5**
KHL Karahalli 49.92 298 *e*P **P** **01 04 15.8 -0.1**
AKASG Malin Array Be 50.01 315 P **P** **01 04 15.6 -0.9**
comp=Z,18nm,0.5s,mb5.4,baz=84,slow=6.7,SNR=77
GOLH Golhisar 50.01 297 *i* P **P** **01 04 15.9 -0.6**
ULDT Uludag 50.06 301 *i* P **P** **01 04 17.1 +0.2**
KIS Kishinev 50.09 310 *e*P **P** **01 04 16.0 -1.2**
KIS *e* 01 06 12.0
KIS *e* 01 11 43.0
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.0
KIS MLR MLR
comp=Z,1μm,16.0s
ORLT Orhaneli 50.25 301 *e*P **P** **01 04 18.9 +0.5**
DNZL Cakiroluk 50.36 298 *i* P **P** **01 04 18.4 -0.9**
TIRR Tirgusor 50.38 306⇑P **P** **01 04 19.3 -0.1**
TIRR Tirgusor 50.38 306 *e*P **P** **01 04 19.3 -0.1**
TIRR *e*pP pP 01 04 25.0 -3.1
ELBA Catalca 50.52 302 *i* P **P** **01 04 19.9 -0.5**
CFR Carcaliu 50.56 307⇑P **P** **01 04 21.0 +0.3**
MANT Manisa 50.66 299 *i* P **P** **01 04 20.9 -0.5**
HARR Harsova 50.72 307⇑P **P** **01 04 22.4 +0.5**
HARR Harsova 50.72 307⇑P **P** **01 04 22.4 +0.5**
PUL Pulkovo 50.77 326 *e*P **P** **01 04 21.3 -1.0**
PUL pmax pmax
comp=Z,90nm,0.5s,mb6.0
PUL Pulkovo 50.77 326 *i* P **P** **01 04 21.3 -1.0**
BTOK Tokmak 50.94 300 *i* P **P** **01 04 23.7 +0.2**
IAS Iasi 50.95 310⇓P **P** **01 04 23.3 -0.4**
IAS Iasi 50.95 310 P **P** **01 04 23.6 -0.1**
IAS Iasi 50.95 310⇓P **P** **01 04 23.3 -0.4**
BALB Balikesir 51.06 300 *e*P **P** **01 04 24.5 0.0**
JOF Joensuu 51.11 330 *e*p **P** **01 04 25.6 +0.7**
comp=Z,15nm,0.3s,mb5.4
JOF Joensuu 51.11 330 *e*P **P** **01 04 25.6 +0.7**
JOF pmax pmax
comp=Z,15nm,0.3s,mb5.4
AKS Akhisar 51.19 299 *e*P **P** **01 04 25.4 -0.1**
MNK Minsk 51.22 319 *e*P **P** **01 04 23.0 -2.7**
MNK pmax pmax
comp=Z,310nm,1.0s,mb6.2
AYDN Tasoluk 51.28 298 *i* P **P** **01 04 25.5 -0.7**
LVZ Lovozero 51.51 337 *e*P **P** **01 04 26.0 -1.8**
LVZ pmax pmax
comp=Z,65nm,1.7s,mb5.3
LVZ Lovozero 51.51 337 PFAKE 01 04 40.0 +12
LVZ LR LR
comp=Z,1μm,19.0s,MS5.0
VRI Vrincioaia 51.54 308⇓P **P** **01 04 29.2 +1.1**
VRI Vrincioaia 51.54 308 P **P** **01 04 29.2 +1.1**
IZM Izmir 51.68 299 *e*P **P** **01 04 29.1 0.0**
ISR Istrita 51.69 307⇓P **P** **01 04 31.2 +2.0**
ISR Istrita 51.69 307⇓P **P** **01 04 31.2 +2.0**
JMB Yambol 51.80 304 *e*P **P** **01 04 31.2 +1.1**
APA Apatity 51.82 336⇑*i*P **P** **01 04 30.0 -0.1**
APA *i* 01 04 43.8
APA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
APA MLR MLR
comp=Z,1μm,19.0s,MS4.9
BUC1 Bucharest 52.09 306 P **P** **01 04 34.1 +1.9**

MLR Muntele Rosu 52.10 308 P **P** **01 04 33.7 +1.4**
comp=Z,65nm,0.7s,mb5.7,baz=61,slow=2.7,SNR=104
MLR LR LR 01 30 16.8
comp=Z,873nm,18.6s,MS4.8,baz=318,slow=40
MLR Muntele Rosu 52.10 308 P **P** **01 04 33.8 +1.5**
MLR Muntele Rosu 52.10 308 ⇑P **P** **01 04 33.7 +1.5**
ALN Alexandroupoli 52.34 302 *e*P **P** **01 04 34.6 +0.6**
VSU Vasula 52.34 324 ⇑*i*P **P** **01 04 33.6 -0.5**
VOIR 52.73 308 ⇑P **P** **01 04 37.4 +0.5**
VOIR 52.73 308 ⇑P **P** **01 04 37.4 +0.4**
MTUR Matau 52.73 307 ⇑P **P** **01 04 38.2 +1.3**
MTUR Matau 52.73 307 P **P** **01 04 37.7 +0.7**
MA2 Magadan 52.85 34 *e*P **P** **01 04 37.7 -0.1**
MA2 *e* 01 05 44.1
MA2 *e*S **S** **01 11 57.5 -7.2**
MA2 *e* 01 15 43.6
MA2 pmax pmax
comp=Z,60nm,1.3s,mb5.4
MA2 pmax pmax
comp=E,40nm,1.6s
MA2 Magadan 52.85 34 P **P** **01 04 38.0 +0.2**
comp=E,172nm,1.4s,mb5.8
MA2 *e*pP pP 01 04 47.7 +1.1
MA2 LR LR
comp=Z,841nm,20.0s,MS4.8
ZKR Zakros 52.99 295 *e*P **P** **01 04 38.7 -0.1**
FINES FINESS Array B 53.16 328 P **P** **01 04 39.6 -0.5**
comp=Z,12nm,0.4s,mb5.1,baz=109,slow=7.9,SNR=316
FINES PKiKP PKiKP 01 12 24.1 -1.4
comp=Z,0.7nm,0.4s,baz=111,slow=4.7,SNR=8.8
FINES LR LR 01 27 52.4
comp=Z,924nm,21.0s,MS4.8,baz=301,slow=37
KAF Kangasniemi 53.17 329 *e*p **P** **01 04 39.5 -0.7**
baz=96,slow=6.7
APE Apeiranthos 53.22 297 ⇑P **P** **01 04 40.1 -0.4**
SANT Santorini 53.38 296 *e*P **P** **01 04 41.2 -0.6**
comp=Z,97nm,0.5s,mb6.0
SANT *e*pP pP 01 04 52.7 +2.2
LAST Lasithi 53.58 295 *e*P **P** **01 04 43.5 +0.3**
SUW Suwalki 53.90 318 *e*P **P** **01 04 44.8 -0.7**
SUW *e*pP pP 01 04 49.6 -4.7
SUW L 01 30 27.5
comp=Z,2.2nm,18.9s
SUW Suwalki 53.90 318 *e*P **P** **01 04 44.8 -0.7**
SUW *e*pP pP 01 04 49.6 -4.7
OUR Ouranopolis 53.96 301 *e*P **P** **01 04 46.4 +0.5**
SIVA Sivas 54.14 295 *e*P **P** **01 04 47.1 -0.2**
SRS Serrai 54.16 302 *e*P **P** **01 04 47.5 +0.1**
KWP Kalwaria 54.16 313 *e*P **P** **01 04 47.7 +0.2**
KWP *e*pP pP 01 04 52.5 -3.7
KWP L 01 29 14.2
comp=Z,1.0nm,26.0s
KWP Kalwaria 54.16 313 *e*P **P** **01 04 47.7 +0.2**
KWP *e*pP pP 01 04 52.5 -3.7
SEY Seymchan 54.17 30 *e*P **P** **01 04 47.5 0.0**
SEY *e* 01 05 53.2
SEY 01 06 56.1
SEY *e*PPP 01 08 06.9
SEY *e*S **S** **01 12 16.4 -6.2**
SEY *e*SS SS 01 16 02.7 -1.7
SEY pmax pmax
comp=E,30nm,1.1s
SEY pmax pmax
comp=Z,60nm,1.1s,mb5.4
SEY smax
comp=N,380nm,18.2s
SEY smax
comp=E,430nm,28.7s
SEY MLR MLR
comp=Z,2μm,21.0s,MS5.2
SEY MLR MLR
comp=N,1μm,25.0s,MS5.0
SEY MLR MLR
comp=E,690nm,21.0s,MS5.0
SEY Seymchan 54.17 30 ⇓*i*P **P** **01 04 48.1 +0.6**
PAIG Paliouri 54.24 301 *e*P **P** **01 04 48.5 +0.4**
VTS Vitosha 54.28 304 *e*P **P** **01 04 49.2 +0.9**
VTS Vitosha 54.28 304 P **P** **01 04 49.4 +1.1**
DRGR 54.28 310 P **P** **01 04 48.9 +0.6**
SOH Sokhos 54.38 302 *e*P **P** **01 04 49.1 +0.1**
KOLS Kolonicke sedl 54.47 312 *i*P **P** **01 04 49.8 +0.1**
KOLS *e* 01 04 54.5
ZAPS Zavoj/Pirot 54.63 305 ⇑*i*P **P** **01 04 51.3 +0.4**
KNT Kendrikon 54.67 303 *e*P **P** **01 04 51.2 0.0**
XOR Xorichti 54.70 300 *e*P **P** **01 04 51.3 0.0**
GVD Gavdhos 54.76 295 *e*P **P** **01 04 51.2 -0.6**
GVD Gavdhos 54.76 295 *e*P **P** **01 04 51.3 -0.5**
comp=E,160nm,1.3s,mb5.9
GVD *e*pP pP 01 04 59.8 -0.8
KEV Kevo 54.76 338 *e*p **P** **01 04 50.6 -1.2**
comp=E,62nm,1.2s,mb5.5
KEV Kevo 54.76 338 *e*P **P** **01 04 50.6 -1.2**
KEV pmax pmax
comp=Z,62nm,1.2s,mb5.5
KEV Kevo 54.76 338 PFAKE 01 05 00.0 +8.2
KEV LR LR
comp=Z,1μm,20.0s,MS5.0
KARN Karanos 54.79 296 *e*P **P** **01 04 51.9 -0.1**
VAY Valandovo 54.90 303 *e*P **P** **01 04 52.3 -0.5**
VAY Valandovo 54.90 303 *e*P **P** **01 04 52.3 -0.5**
CRVS Cervenica-Dubn 55.01 312 *i*P **P** **01 04 54.7 +1.1**
BOLS Boljevac 55.05 306 ⇓*i*P **P** **01 04 54.6 +0.7**
GRG Griva 55.07 302 *e*P **P** **01 04 54.0 -0.1**
STHS Stebnicka Huta 55.12 313 *i*P **P** **01 04 54.4 0.0**
STHS *e* 01 04 58.7
BZS Buzias 55.13 308 P **P** **01 04 55.2 +0.8**
LIT Litokhoron 55.13 301 *e*P **P** **01 04 54.1 -0.3**
STIP Stip 55.14 303 *e*P **P** **01 04 54.3 -0.3**
WAR Warsaw 55.18 316 *e*P **P** **01 04 55.9 +1.1**
WAR *e*pP pP 01 05 00.8 -2.8
WAR L 01 30 30.3
comp=Z,1.5nm,22.0s
ARCES ARCESS Array B 55.20 338 P **P** **01 04 54.4 -0.5**
comp=Z,8.5nm,0.4s,mb5.2,baz=104,slow=6.8,SNR=113
ARCES LR LR 01 30 04.5
comp=Z,851nm,18.5s,MS4.8,baz=113,slow=38
ARCES ARCESS Array B 55.20 338 P **P** **01 04 54.4 -0.5**
ARCES LR LR 01 30 04.5
ARE0 ARCESS Array S 55.20 338 *e*P **P** **01 04 55.3 +0.3**
ARE0 *e*pP pP 01 05 00.0 -3.8
AGG Agios Georgios 55.41 300 *e*P **P** **01 04 55.7 -0.8**
SKO Skopje 55.65 304 *e*P **P** **01 04 58.9 +0.6**
SKO Skopje 55.65 304 *e*P **P** **01 04 58.7 +0.5**
KECS Kecovo 55.68 312 *i*P **P** **01 04 58.6 +0.2**
NIE Niedzica 55.73 313 *e*Pc 01 04 59.7
NIE *e* 01 05 04.3
FNA Florina 55.87 302 *e*P **P** **01 04 59.1 -0.7**
BIA Bitola 55.87 303 *e*P **P** **01 04 58.9 -1.0**
BIA Bitola 55.87 303 *e*P **P** **01 04 58.7 -1.1**
OJC Ojcow 56.02 314 *e*P **P** **01 05 00.6 -0.3**
BEO Belgrade 56.02 307 ⇓*i*P **P** **01 05 00.4 -0.5**
PSZ Piszkesteto 56.11 311 ⇑*e* **P** **01 05 01.9 +0.4**
PSZ Piszkesteto 56.11 311 P **P** **01 05 01.2 -0.3**
PSZ pmax pmax
comp=Z,32nm,1.1s,mb5.3
OHR Ohrid 56.25 303 *e*P **P** **01 05 01.4 -1.1**
OHR Ohrid 56.25 303 *e*P **P** **01 05 01.5 -1.1**
DIVS Divcibare 56.44 306 ⇑*i*P **P** **01 05 03.8 0.0**
PVY Plav 56.65 305 ⇑*i*P **P** **01 05 05.1 -0.2**
IVA Berane 56.66 305 ⇑*i*P **P** **01 05 05.5 +0.1**
KMBO Kilima Mbogo 56.73 249 P **P** **01 05 05.5 -0.4**
comp=Z,9.0nm,1.1s,mb4.7,baz=44,slow=11,SNR=16
KMBO LR LR 01 29 43.0
comp=Z,331nm,19.6s,MS4.4,baz=279,slow=36
KMBO Kilima Mbogo 56.73 249 P **P** **01 05 06.4 +0.5**
KMBO LR LR
comp=Z,347nm,19.0s,MS4.5
LKD Levkas 56.76 300 *e*P **P** **01 05 04.7 -1.4**
VYHS Vyhne 56.77 312 *i*P **P** **01 05 06.2 0.0**
VYHS *e* 01 05 10.7
QSH Qafa e Shtames 56.85 303 *i*p **P** **01 05 05.4 -1.4**
IGT Igoumenitsa 56.86 301 *e*P **P** **01 05 05.4 -1.4**
PET Petropavlovsk 56.89 43 PFAKE 01 05 20.0 +13
PET LR LR
comp=Z,1μm,19.0s,MS5.0
TIR Tirane 56.91 303 P **P** **01 05 06.6 -0.6**
PLE Pljevlja 56.97 306 ⇑*i*P **P** **01 05 08.6 +1.0**
MBWA Marble Bar 56.98 145 P **P** **01 05 08.0 +0.3**
comp=Z,81nm,1.0s,mb5.7
MBWA LR LR
comp=Z,499nm,21.0s,MS4.6
RAC Raciborz 57.06 314 *e*P **P** **01 05 05.4 -2.8**
OKC Ostrava-Krasne 57.11 313 *e*P **P** **01 05 06.8 -1.8**

PKSM Moragy 57.13 309 P **P** **01 05 09.1 +0.3**
PKSM Moragy 57.13 309 ⇑*i*P **P** **01 05 08.8 0.0**
SRO2 Moca 57.13 311 *e*P **P** **01 05 08.6 -0.2**
SRO2 *e* 01 05 14.3
SRO Srobarova 57.18 311 *e*P **P** **01 05 10.2 +1.1**
SRO *e* 01 05 14.7
TTG Podgorica 57.19 305 ⇑*i*P **P** **01 05 08.7 -0.5**
ULC Ulcinj 57.27 304 ⇑*i*P **P** **01 05 09.1 -0.7**
NKY Niksic 57.33 305 ⇑*i*P **P** **01 05 09.7 -0.4**
UPM Unac-Piva 57.33 306 ⇑*i*P **P** **01 05 10.2 0.0**
TRO Tromso 57.48 337 *e*P **P** **01 05 09.6 -1.6**
BUM Brajici-Budva 57.48 304 ⇑*i*P **P** **01 05 10.4 -0.8**
MORC Moravsky Berou 57.50 313 P **P** **01 05 11.8 +0.4**
MORC pmax pmax
comp=Z,71nm,1.3s,mb5.5
MORC Moravsky Berou 57.50 313 P **P** **01 05 11.8 +0.4**
comp=Z,71nm,1.3s,mb5.5
RHK1 Bakonya 57.54 309 ⇓*i*P **P** **01 05 09.9 -1.7**
BRY Bratogost 57.64 305 ⇑*i*P **P** **01 05 11.6 -0.8**
SMOL Smolenice 57.70 312 *e*P **P** **01 05 12.8 0.0**
HCY Herceg Novi 57.75 305 ⇑*i*P **P** **01 05 12.7 -0.4**
FITZ Fitzroy Crossi 57.85 137 ⇑*i*P **P** **01 05 13.6 -0.2**
comp=Z,43nm,0.9s,mb5.5
ZST Bratislava 57.95 312 *e*P **P** **01 05 14.7 +0.2**
ZST *e* 01 05 19.0
VRAC Vranov 58.16 313 ⇓P **P** **01 05 16.3 +0.3**
VRAC Vranov 58.16 313 P **P** **01 05 15.9 -0.1**
KSP Ksiaz 58.20 315 *e*P **P** **01 05 16.5 +0.2**
KSP *e*pP pP 01 05 21.3 -3.9
KSP L 01 32 40.0
comp=Z,3.2nm,19.1s
KSP Ksiaz 58.20 315 *e*P **P** **01 05 16.2 -0.1**
KSP MLR MLR
comp=Z,4μm,19.1s,MS5.5
DPC Dobruska-Polom 58.23 314 *e*P **P** **01 05 16.9 +0.4**
UPC Upice 58.41 314 *e*P **P** **01 05 17.8 0.0**
BSD Bornholm Skovb 58.70 320 *i*P **P** **01 05 18.3 -1.4**
BSD *i* 01 08 57.0
KOGS Kog 58.74 310 *e*P **P** **01 05 20.0 -0.1**
SISC Sisak 58.80 309 *i*P **P** **01 05 20.4 -0.1**
MOR8 Moi Rana 58.81 333 *e*P **P** **01 05 19.2 -1.4**
MOR8 AMb AMB 01 05 22.0
comp=Z,50nm,1.6s,mb5.3
MOR8 Moi Rana 58.81 333 *e*P **P** **01 05 19.2 -1.4**
comp=Z,50nm,1.6s,mb5.3
BRT Bari-Castellan 58.97 303 P **P** **01 05 21.8 +0.1**
BRT pmax pmax
comp=Z,68nm,0.5s,mb5.9
BRT Bari-Castellan 58.97 303 P **P** **01 05 21.8 +0.1**
comp=Z,68nm,0.5s,mb5.9
HFS Hagfors 59.11 326 P **P** **01 05 21.8 -0.8**
comp=Z,40nm,0.5s,mb5.7,baz=104,slow=6.1,SNR=257
HFS LR LR 01 32 42.7
comp=Z,691nm,18.0s,MS4.8,baz=216,slow=38
ARSA Arzberg 59.13 311 *i*P **P** **01 05 22.8 +0.1**
comp=Z,48nm,1.6s,mb5.3,SNR=18
LOF Lofoten 59.26 335 *e*P **P** **01 05 24.3 +0.7**
LOF *e*pP pP 01 05 32.8 +0.3
PVCC Panska Ves 59.33 315 *e*P **P** **01 05 24.5 +0.4**
CRES Cresnjev 59.38 309 *e*P **P** **01 05 24.9 +0.4**
STOK Stokkvaagen 59.40 333 *e*P **P** **01 05 24.1 -0.4**
PRU Pruhonice 59.41 314 *e*P **P** **01 05 24.8 +0.1**
PERS Pernice 59.49 310 *e*P **P** **01 05 25.5 +0.2**
BOJS Bojanci 59.58 309 *i*P **P** **01 05 25.9 +0.1**
RUE Ruedersdorf 59.60 317 *e*P **P** **01 05 25.9 -0.1**
comp=Z,27nm,0.6s,mb5.5
RUE Ruedersdorf 59.60 317 P **P** **01 05 24.8 -1.2**
comp=Z,34nm,0.5s,mb5.6
RGN Rugen 59.66 319 P **P** **01 05 28.0 +1.6**
comp=Z,63nm,0.8s,mb5.7
PDKS Podkum 59.66 309 *i*P **P** **01 05 26.9 +0.5**
BRG Berggiesshubel 59.68 315 *e*P **P** **01 05 26.7 +0.1**
comp=Z,11nm,0.6s,mb5.1
BRG Berggiesshubel 59.68 315 ⇑*i*P **P** **01 05 26.8 +0.2**
comp=Z,12nm,0.6s,mb5.1
BRG
comp=N,535nm,11.5s
BRG
comp=E,887nm,17.1s
BRG
comp=Z,1μm,20.9s
BRG Berggiesshubel 59.68 315 ⇑*i*P **P** **01 05 26.8 +0.2**
BRG pmax pmax
comp=Z,12nm,0.6s,mb5.1
BRG MLR MLR
comp=N,535nm,11.5s
BRG MLR MLR
comp=E,887nm,17.2s
BRG MLR MLR
comp=Z,1μm,20.9s
ORI Oriolo Calabro 59.70 302 P **P** **01 05 27.6 +0.9**
ORI pmax pmax
comp=Z,31nm,0.6s,mb5.5
ORI Oriolo Calabro 59.70 302 P **P** **01 05 27.6 +0.9**
comp=Z,31nm,0.6s,mb5.5
FGMS Monte Sant'Ang 59.74 304 P **P** **01 05 26.8 -0.2**
comp=Z,59nm,0.6s,mb5.8
MOA Molln 59.88 311 *i*P **P** **01 05 27.7 -0.2**
comp=Z,63nm,1.1s,mb5.6,SNR=23
OBKA Obir 59.90 310 *i*P **P** **01 05 28.4 +0.4**
comp=Z,63nm,1.6s,mb5.4,SNR=10
GRI Girifalco 59.98 301 P **P** **01 05 28.8 +0.2**
LJU Ljubljana 59.99 309 *e*P **P** **01 05 29.0 +0.3**
RGNG Rignano Grg 60.02 304 P **P** **01 05 28.5 -0.4**
COP Copenhagen 60.06 321 *i*P **P** **01 05 34.3 +5.1**
comp=Z,32nm,0.9s,mb5.3
COP Copenhagen 60.06 321 *e*P **P** **01 05 34.3 +5.1**
COP pmax pmax
comp=Z,32nm,0.9s,mb5.3
COP Copenhagen 60.06 321 *e*P **P** **01 05 34.3 +5.1**
comp=Z,32nm,0.9s,mb5.3
GEC2 GERESS Array S 60.11 313 *e*P **P** **01 05 29.6 +0.1**
comp=Z,30nm,0.9s,mb5.3
GEC2 GERESS Array S 60.11 313 *e*P **P** **01 05 29.6 +0.1**
GEC2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
GERES GERESS Array B 60.11 313 P **P** **01 05 29.7 +0.2**
comp=Z,12nm,0.6s,mb5.1,baz=85,slow=6.2,SNR=137
GERES PKP2bc 01 35 03.5
comp=Z,0.2nm,0.4s,baz=284,slow=5.5,SNR=4.1
GERES LR LR 01 36 14.2
comp=Z,784nm,19.1s,MS4.9,baz=195,slow=41
GERES GERESS Array B 60.11 313 P **P** **01 05 29.7 +0.2**
GERES ⇑*e* 01 35 03.5
GERES LR LR 01 36 14.2
KHC Kasperske Hory 60.15 313 *e*P **P** **01 05 29.9 +0.1**
KHC pP pP 01 05 34.0 -4.6
KHC Kasperske Hory 60.15 313 ⇑*i*P **P** **01 05 29.9 +0.1**
FG4 Candela 60.18 304 P **P** **01 05 30.2 +0.2**
FG4 pmax pmax
comp=Z,84nm,0.6s,mb6.0
FG4 Candela 60.18 304 P **P** **01 05 30.2 +0.2**
comp=Z,84nm,0.6s,mb5.9
CUC Castrocucco 60.19 302 P **P** **01 05 29.9 -0.1**
CLL Collm 60.22 316 *e*P **P** **01 05 29.4 -0.8**
comp=Z,34nm,1.7s,mb5.1
CLL Collm 60.22 316 ⇑*i*P **P** **01 05 29.5 -0.7**
comp=Z,58nm,1.7s,mb5.3
CLL *i* P(2) 01 05 34.6
comp=Z,32nm,1.4s
CLL *i* pP pP 01 05 41.0 +1.9
CLL Collm 60.22 316 ⇑*i*P **P** **01 05 29.5 -0.7**
CLL *i* 01 05 41.0
CLL pmax pmax
comp=Z,58nm,1.7s,mb5.3
SLCN Sala Consilina 60.24 303 P **P** **01 05 30.8 +0.4**
NB2 NORSAR Subarra 60.29 327 P **P** **01 05 29.5 -1.2**
comp=Z,20nm,0.6s,mb5.3,baz=86,slow=6.9
NOA NORSAR Array B 60.29 327 P **P** **01 05 29.6 -1.2**
comp=Z,17nm,0.5s,mb5.3,baz=86,slow=6.7,SNR=107
NOA LR LR 01 31 24.1
comp=Z,584nm,20.5s,MS4.7,baz=75,slow=36
FG5 Orsara di Pugl 60.33 304 P **P** **01 05 31.7 +0.7**
MGR Morigerati 60.35 303 P **P** **01 05 30.6 -0.6**
comp=Z,14nm,0.5s,mb5.3
BILL Bilibino 60.38 25 *e*P **P** **01 05 31.7 +0.4**
BILL *e*PP pP 01 05 41.2 +1.0
BILL pmax pmax
comp=Z,241nm,1.5s,mb6.0
BILL Bilibino 60.38 25 *e*P **P** **01 05 31.6 +0.3**
comp=Z,241nm,1.5s,mb6.0
BILL *e*pP pP 01 05 41.2 +1.0
SOI Samo 60.42 300 P **P** **01 05 31.7 +0.1**
VOY Vojsko 60.43 309 *e*P **P** **01 05 31.5 -0.2**
VOY *e* 01 06 04.2

VOY *e* 01 06 27.7
SGO Sicignano 60.45 303 P **P** **01 05 31.5 -0.3**
SGO pmax pmax
comp=Z,11nm,0.5s,mb5.1
SGO Sicignano 60.45 303 P **P** **01 05 31.5 -0.3**
comp=Z,11nm,0.5s,mb5.1
NAO01 NORSAR Array S 60.47 327 *e*P **P** **01 05 30.8 -1.2**
comp=Z,14nm,0.4s,mb5.3
CIGN Sant'Elia a Pi 60.52 304 P **P** **01 05 32.6 +0.3**
KBA Koelnbreinsper 60.62 311 *i*P **P** **01 05 32.6 -0.4**
comp=Z,23nm,1.2s,mb5.2,SNR=13
ROBS Robic 60.65 310 *e*P **P** **01 05 32.6 -0.6**
NKC Novy Kostel 60.71 314 *e*P **P** **01 05 33.7 +0.1**
MTTG Motta San Giov 60.72 300 P **P** **01 05 34.2 +0.6**
PTCC Patocco-Chiusa 60.73 310 P **P** **01 05 33.2 -0.5**
WERD Werda 60.77 315 *e*P **P** **01 05 33.8 -0.2**
comp=Z,6.0nm,0.6s,mb4.9
GMNA Gemona 60.83 310 P **P** **01 05 34.5 +0.1**
ROTZ Rotzenmuhle 60.94 314 *e*P **P** **01 05 35.9 +0.8**
comp=Z,90nm,1.5s,mb5.7
MIDA Miranda 61.00 304 P **P** **01 05 35.4 -0.2**
RNI2 Rionero Sannit 61.06 305 P **P** **01 05 36.6 +0.6**
AOI Ancona 61.09 307 P **P** **01 05 36.3 +0.1**
MOX Moxa 61.18 315 *e*P **P** **01 05 36.4 -0.4**
comp=Z,21nm,1.4s,mb5.1
MOX Moxa 61.18 315 *e*P **P** **01 05 36.8 0.0**
comp=Z,118nm,2.2s,mb5.6
MOX Moxa 61.18 315 *e*P **P** **01 05 36.8 0.0**
MOX pmax pmax
comp=Z,118nm,2.2s,mb5.6
KONO Kongsberg 61.20 325 *i*P **P** **01 05 36.9 0.0**
DOMB Dombas 61.25 328 *e*P **P** **01 05 36.5 -0.8**
DOMB AMb AMB 01 05 44.2
comp=Z,46nm,1.6s,mb5.3
DOMB Dombas 61.25 328 *e*P **P** **01 05 36.5 -0.8**
comp=Z,46nm,1.6s,mb5.4
TERO Teramo 61.27 306 P **P** **01 05 37.3 -0.1**
AQU L'Aquila 61.48 305 P **P** **01 05 38.4 -0.4**
BSEG Bad Segeberg 61.48 319 *e*P **P** **01 05 39.2 +0.4**
comp=Z,18nm,0.8s,mb5.2
BSEG Bad Segeberg 61.48 319 *e*P **P** **01 05 39.2 +0.4**
BSEG pmax pmax
comp=Z,18nm,0.8s,mb5.2
PESA Pesaro 61.55 307 P **P** **01 05 39.7 +0.4**
GRF Grafenberg Arr 61.58 314 *e*P **P** **01 05 37.7 -1.8**
comp=Z,64nm,1.2s,mb5.6
GRF *e*pP pP 01 05 44.8 -3.6
GRF *e*L 01 34 51.3
comp=Z,2μm,19.3s
GRF Grafenberg Arr 61.58 314 *e*P **P** **01 05 37.7 -1.8**
GRF *e**PP pP 01 05 44.8 -3.6
GRF pmax pmax
comp=Z,64nm,1.2s,mb5.6
GRF MLR MLR
comp=Z,2μm,19.3s,MS5.2
WTTA Wattenberg 61.74 311 *i*P **P** **01 05 40.0 -0.6**
comp=Z,66nm,1.1s,mb5.7,SNR=18
CLZ Clausthal 61.76 316 *e*P **P** **01 05 40.8 +0.1**
comp=Z,22nm,0.7s,mb5.4
CLZ Clausthal 61.76 316 *e*P **P** **01 05 40.8 +0.1**
CLZ pmax pmax
comp=Z,22nm,0.7s,mb5.4
WATA Walderalm 61.76 311 ⇑*i*P **P** **01 05 39.7 -1.1**
comp=Z,21nm,1.0s,mb5.2,SNR=16
MUD Monsted U'grnd 61.79 322 ⇑*i*P **P** **01 05 41.0 +0.1**
comp=Z,4.4nm,0.4s,mb4.9
MUD *e* 01 05 46.4
MUD *i* 01 05 57.4
MUD Monsted U'grnd 61.79 322 ⇑*i*P **P** **01 05 41.0 +0.1**
MUD *e* 01 05 46.4
MUD *i* 01 05 57.4
MUD pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
FUR Furstenfeldbru 61.81 312 *e*P **P** **01 05 40.9 -0.2**
comp=Z,76nm,1.4s,mb5.6
FUR Furstenfeldbru 61.81 312 *e*P **P** **01 05 40.9 -0.2**
FUR pmax pmax
comp=Z,76nm,1.4s,mb5.6
PIEI Pieia 61.85 307 P **P** **01 05 41.7 +0.4**
MOL Molde 61.91 329 *e*P **P** **01 05 41.8 +0.1**
MOL AMb AMB 01 05 44.7
comp=Z,63nm,1.0s,mb5.7
MOL Molde 61.91 329 *e*P **P** **01 05 41.8 +0.1**
comp=Z,63nm,1.0s,mb5.7
SQTA Sankt Quirin 62.03 311 ⇑*i*P **P** **01 05 41.8 -0.7**
comp=Z,28nm,1.0s,mb5.3,SNR=31
MOTA Moosalm 62.08 311 ⇑*i*P **P** **01 05 42.0 -0.9**
comp=Z,48nm,1.3s,mb5.5,SNR=22
RDP Rocca di Papa 62.10 305 P **P** **01 05 41.9 -1.1**
UBBA Unterbreizbach 62.16 315 *e*P **P** **01 05 43.2 -0.2**
comp=Z,73nm,1.8s,mb5.5
SNART Snartemo 62.59 324 *e*P **P** **01 05 45.7 -0.5**
SNART AMb AMB 01 05 55.6
comp=Z,88nm,1.6s,mb5.7
SNART Snartemo 62.59 324 *e*P **P** **01 05 45.7 -0.5**
comp=Z,88nm,1.6s,mb5.6
BLS5 Blasjo 62.82 325 *e*P **P** **01 05 48.3 +0.5**
BLS5 AMb AMB 01 05 53.7
comp=Z,18nm,1.1s,mb5.1
BLS5 Blasjo 62.82 325 *e*P **P** **01 05 48.4 +0.6**
comp=Z,18nm,1.1s,mb5.1
DAVA Damuels 62.91 311 *i*P **P** **01 05 48.1 -0.3**
comp=Z,82nm,1.3s,mb5.7,SNR=22
DAVOX Davos 63.01 311 LR LR 01 37 44.2
comp=Z,774nm,21.9s,MS4.8,baz=60,slow=40
STU Stuttgart 63.06 313 *e*P **P** **01 05 49.4 0.0**
comp=Z,37nm,1.2s,mb5.4
STU Stuttgart 63.06 313 P **P** **01 05 49.6 +0.2**
STU pmax pmax
comp=Z,56nm,1.2s,mb5.6
STU Stuttgart 63.06 313 P **P** **01 05 49.6 +0.2**
comp=Z,56nm,1.2s,mb5.6
TOD Tromm 63.14 314 *e*P **P** **01 05 49.7 -0.2**
VLC Villacollemand 63.23 308 P **P** **01 05 50.4 -0.1**
comp=Z,91nm,1.2s,mb5.8
TNS Taunus Mts 63.25 315 *e*P **P** **01 05 50.9 +0.3**
comp=Z,18nm,1.0s,mb5.2
TNS Taunus Mts 63.25 315 *e*P **P** **01 05 50.9 +0.3**
TNS pmax pmax
comp=Z,18nm,1.0s,mb5.2
IBBN Ibbenburen 63.27 317 *e*P **P** **01 05 50.6 -0.2**
comp=Z,49nm,1.2s,mb5.5
SPAK Spaichingen 63.46 313 *e*P **P** **01 05 51.7 -0.3**
BFO Black Forest 63.71 313 *e*P **P** **01 05 52.6 -1.1**
comp=Z,8.0nm,1.1s,mb4.7
BFO Black Forest 63.71 313 P **P** **01 05 53.6 -0.1**
BFO Black Forest 63.71 313 *e*P **P** **01 05 53.3 -0.4**
BUG Bochum-Univer 63.74 316 *e*P **P** **01 05 53.9 0.0**
comp=Z,26nm,1.1s,mb5.2
ABH Alteburg 63.88 315 *i*P **P** **01 05 53.8 -1.0**
LANF Langenberg 63.91 314 *e*P **P** **01 05 55.1 +0.1**
WTSB Winterswijk 63.92 317 ⇑*i*P **P** **01 05 55.0 0.0**
comp=Z,71nm,1.8s,mb5.4
FELD Feldberg 64.02 312 *e*P **P** **01 05 54.9 -0.8**
LIBD Limburg 64.22 313 *i*P **P** **01 05 56.6 -0.5**
RUP Ruppelstein 64.23 315 *i*P **P** **01 05 56.4 -0.7**
WLS Welschbruch 64.33 313 *i* **P** **01 05 56.6 -1.2**
CDF Champ du Feu 64.38 313 ⇑*i*P **P** **01 05 57.5 -0.6**
comp=Z,96nm,1.2s,mb5.4
BBS Basel-Blauen 64.44 312 *i*P **P** **01 05 57.3 -1.2**
ECH Echery 64.50 313 *i* **P** **01 05 58.1 -0.8**
CORF Corte 64.55 306 *e*P **P** **01 05 59.6 +0.4**
MOF Molkenrain 64.60 313 *i* **P** **01 05 58.3 -1.2**
PGF Pioggiola 64.60 306 ⇑*i*P **P** **01 05 58.9 -0.6**
comp=Z,55nm,0.8s,mb5.4
MEM Membach 64.69 316 ⇑P **P** **01 06 00.1 0.0**
MEM AP pP 01 06 09.2 +0.1
MEM XP sP 01 06 13.7 +1.3
MUN Mundaring 64.70 154 *e*P **P** **01 05 59.1 -1.1**
HGN Heimansgroeve 64.70 316 *e*P **P** **01 06 00.1 -0.1**
comp=Z,29nm,2.4s,mb4.9
WRA Warramunga Arr 64.74 132 P **P** **01 06 00.5 +0.1**
comp=Z,46nm,0.5s,mb5.8,baz=322,slow=6.7,SNR=183
WRA PKP2bc 01 34 43.3
comp=Z,0.9nm,0.5s,baz=149,slow=2.1,SNR=4.8
WRA Warramunga Arr 64.74 132 P **P** **01 06 00.5 +0.1**
WRA ⇑*e* 01 34 43.3
WRAB Tennant Creek 64.74 132 P **P** **01 06 00.0 -0.4**
comp=Z,1μm,0.7s,SNR=77
WRAB Tennant Creek 64.74 132 P **P** **01 06 00.1 -0.3**
WRAB pmax pmax
comp=Z,200nm,0.8s,mb6.2
WRAB Tennant Creek 64.74 132 *e*P **P** **01 06 00.6 +0.1**
comp=Z,198nm,0.8s,mb6.2
WRAB LR LR

comp=Z,947nm,20.0s,MS5.0
WB2 Warramunga Arr 64.75 132 *e*P **P 01 06 00.1 -0.4**
HINF Hinteralfeld 64.79 313⇑*i*P **P 01 06 00.1 -0.7**
comp=Z,80nm,1.1s,mb5.3
WLF Walferdange 64.81 315 *e*P **P 01 06 01.2 +0.3**
comp=Z,58nm,1.3s,mb5.5
WLF Walferdange 64.81 315 ⇓P **P 01 06 01.5 +0.5**
comp=Z,62nm,2.0s,mb5.3
WLF AP pP 01 06 11.7 +1.8
WLF Walferdange 64.81 315 P **P 01 06 01.3 +0.4**
WLF pmax pmax
comp=Z,118nm,1.4s,mb5.7
WLF Walferdange 64.81 315 P **P 01 06 01.3 +0.4**
comp=Z,118nm,1.4s,mb5.7
BEBN Eben Emael 64.85 316 ⇓P **P 01 06 01.9 +0.7**
BEBN AP pP 01 06 10.9 +0.7
BEBN XP sP 01 06 15.0 +1.5
LOMF Lomont 64.92 312 *i* **P 01 06 00.1 -1.5**
KLBR Kellerberrin 64.98 153 *e*P **P 01 06 00.7 -1.3**
comp=Z,31nm,0.5s,mb5.6
HAU Haudompre 65.08 313⇑*i*P **P 01 06 02.0 -0.6**
comp=Z,44nm,0.7s,mb5.3
HAU *e*R
comp=Z,981nm,20.8s
SAOF Saorge 65.25 308 *i* **P 01 06 03.2 -0.6**
THEF They Montfort 65.26 313 *i* **P 01 06 03.1 -0.7**
AUTN L'Aution 65.34 308 *i* **P 01 06 04.2 -0.2**
SBF Sospel 65.37 308⇑*i*P **P 01 06 04.1 -0.4**
comp=Z,202nm,1.2s,mb5.7
LPG La Plagne 65.42 310⇑*i*P **P 01 06 05.1 +0.2**
comp=Z,141nm,1.0s,mb5.6
LPL La Plagne 65.43 310⇑*i*P **P 01 06 05.0 +0.1**
comp=Z,65nm,0.5s,mb5.6
REVF Revere 65.45 308 *e*P **P 01 06 04.4 -0.7**
GIVF Givet 65.55 315 *e*P **P 01 06 05.3 -0.4**
MVIF Mont Vial 65.56 308 *i* **P 01 06 05.5 -0.3**
BNI Bardonecchia 65.59 310 P **P 01 06 05.6 -0.3**
CABF La Chapelle 65.59 311⇑*i*P **P 01 06 05.7 -0.3**
comp=Z,46nm,0.9s,mb5.2
MBDF Montbardon 65.61 309⇑*i*P **P 01 06 05.1 -1.0**
comp=Z,46nm,0.7s,mb5.3
SURF Saint Ours 65.64 309 *i* **P 01 06 06.2 -0.1**
DOU Dourbes 65.69 315 ⇑P **P 01 06 06.3 -0.3**
comp=Z,21nm,1.9s,mb4.8
DOU AP pP 01 06 16.5 +0.9
SNF Seneffe 65.78 316 ⇓P **P 01 06 07.0 -0.2**
comp=Z,26nm,2.9s,mb4.8
MEZF Maizieres J'vi 65.79 314 *e*P **P 01 06 07.1 -0.2**
GDM Grand'Maison 65.93 310 *e*P **P 01 06 08.0 -0.2**
NWAO Narrogin (SRO) 65.94 154 P **P 01 06 06.4 -1.8**
NWAO pmax pmax
comp=Z,61nm,0.7s
NWAO Narrogin (SRO) 65.94 154 *e*pP pP 01 06 12.6 -4.6
NWAO LR LR
comp=Z,431nm,22.0s,MS4.6
FRF La Foret Royal 66.00 308⇑*i*P **P 01 06 08.0 -0.6**
comp=Z,36nm,0.5s,mb5.3
LMR La Mourre 66.16 308⇑*i*P **P 01 06 09.1 -0.5**
ORIF Oris-en-Rattie 66.17 310⇑*i*P **P 01 06 08.9 -0.8**
comp=Z,25nm,0.4s,mb5.2
ORIF *e*R
comp=Z,924nm,19.5s
GRN Grenoble 66.17 310 *i* **P 01 06 09.6 -0.1**
SMRF Simiane la Rot 66.64 309⇑*i*P **P 01 06 12.7 0.0**
comp=Z,153nm,1.5s,mb5.5
LOR Lormes 66.89 313⇑*i*P **P 01 06 13.4 -0.9**
LOR *e*R
comp=Z,1μm,18.0s
VIVF Saint-Julien-l 67.01 310⇑*i*P **P 01 06 14.6 -0.5**
SMF Signal de Mont 67.07 312⇑*i*P **P 01 06 14.7 -0.8**
comp=Z,54nm,0.9s,mb5.3
ASAR Alice Springs 67.11 135 P **P 01 06 15.8 0.0**
comp=Z,33nm,0.6s,mb5.5,baz=316,slow=6.4,SNR=248
SSF Saint Saulge 67.18 312⇑*i*P **P 01 06 15.4 -0.7**
comp=Z,68nm,0.9s,mb5.4
AVF Avril sur Loir 67.36 312⇑*i*P **P 01 06 16.5 -0.8**
comp=Z,57nm,1.0s,mb5.3
PLDF La Plantade 67.41 311 *i* **P 01 06 17.1 -0.5**
CMAH Djebel Manchou 67.44 301 P **P 01 06 18.0 +0.2**
ABSA Djebel Ababsia 67.50 300 P **P 01 06 19.0 +0.8**
PMG Port Moresby 67.61 114*c i*P **P 01 06 19.4 +0.6**
PMG Port Moresby 67.61 114 P **P 01 06 18.7 -0.1**
comp=Z,97nm,1.3s,mb5.7
PMG LR LR
comp=Z,1μm,19.0s,MS5.1
AGO Saint Agoulin 67.71 311 *e*P **P 01 06 18.8 -0.7**
BGF Bois d'Agland 67.76 312⇑*i*P **P 01 06 19.2 -0.6**
comp=Z,36nm,0.9s,mb5.1
LASF Ste Croix 67.79 309⇑*i*P **P 01 06 19.9 -0.1**
comp=Z,57nm,0.9s,mb5.3
LBL Lubilhac 67.87 311 *e*P **P 01 06 20.2 -0.3**
PYM Petit Puy Mans 67.88 311 *e*P **P 01 06 19.9 -0.7**
CKFL Kef-Lekhel 68.04 301 P **P 01 06 22.0 +0.4**
MCD Coleburn Disti 68.19 325⇑*e*P **P 01 06 22.3 -0.2**
MCD AMb AMB 01 06 30.8
comp=Z,88nm,1.1s,mb5.7
MCD Coleburn Disti 68.19 325⇑*e*P **P 01 06 22.3 -0.2**
MCD AMb AMB 01 06 30.8
comp=Z,88nm,1.1s,mb5.7
TCF Toulx Ste Croi 68.26 312⇑*i*P **P 01 06 22.7 -0.2**
comp=Z,367nm,1.7s,mb5.8
CASM Ain Smara 68.26 301 P **P 01 06 23.0 0.0**
EBL Broad Law 68.61 323 *e*P **P 01 06 25.1 0.0**
EBL AMb AMB 01 06 30.2
comp=Z,48nm,1.4s,mb5.2
EBL Broad Law 68.61 323 *e*P **P 01 06 25.1 0.0**
EBL AMb AMB 01 06 30.2
comp=Z,48nm,1.4s,mb5.2
DFRA Djebel Bou Aff 68.64 301 P **P 01 06 26.0 +0.7**
EDI Edinburgh 68.64 323 *e*P **P 01 06 24.9 -0.4**
EDI Edinburgh 68.64 323 *e*P **P 01 06 24.9 -0.4**
CAF Calviac 68.76 310⇑*i*P **P 01 06 25.9 -0.2**
comp=Z,30nm,0.7s,mb5.0
KWE Weaver Farm 68.77 320 *e*P **P 01 06 25.5 -0.7**
KWE Weaver Farm 68.77 320 *e*P **P 01 06 25.5 -0.7**
MDO Dochfour 68.80 325⇑*e*P **P 01 06 25.6 -0.7**
MDO AMb AMB 01 06 27.9
comp=Z,33nm,1.6s,mb5.0
MDO Dochfour 68.80 325⇑*e*P **P 01 06 25.6 -0.7**
MDO AMb AMB 01 06 27.9
comp=Z,33nm,1.6s,mb5.0
EKA Eskdalemuir Ar 68.81 322 P **P 01 06 26.1 -0.3**
comp=Z,5.1nm,0.4s,mb4.8,baz=76,slow=6.1,SNR=66
EAU Auchinoon 68.81 323 *e*P **P 01 06 26.0 -0.4**
EAU AMb AMB 01 06 33.9
comp=Z,97nm,1.6s,mb5.5
EAU Auchinoon 68.81 323 *e*P **P 01 06 26.0 -0.4**
EAU AMb AMB 01 06 33.9
comp=Z,97nm,1.6s,mb5.5
ESK Eskdalemuir 68.84 322 *e*P **P 01 06 25.6 -1.0**
ESK Eskdalemuir 68.84 322 *e*P **P 01 06 25.6 -1.0**
EJON La Jonquera 68.96 308 P **P 01 06 26.5 -0.9**
comp=Z,2.6nm,0.4s,mb4.5
RJF Les Rejaudoux 69.02 311⇑*i*P **P 01 06 27.7 0.0**
comp=Z,42nm,0.8s,mb5.1
RJF *e*R
comp=Z,486nm,19.2s
LDF La Druitiere 69.07 315⇑*i*P **P 01 06 27.3 -0.7**
comp=Z,32nm,0.6s,mb5.1
SET Setif 69.11 301 P **P 01 06 29.0 +0.7**
MTLF Montolieu 69.15 309⇑*i*P **P 01 06 28.2 -0.3**
comp=Z,117nm,1.4s,mb5.3
EAB Aberfoyle 69.18 323 *e*P **P 01 06 28.2 -0.4**
EAB AMb AMB 01 06 36.9
comp=Z,106nm,1.7s,mb5.5
EAB Aberfoyle 69.18 323 *e*P **P 01 06 28.2 -0.4**
EAB AMb AMB 01 06 36.9
comp=Z,106nm,1.7s,mb5.5
FLN La Foliniere 69.25 315 *e*P **P 01 06 28.1 -1.0**
FLN *e*R
comp=Z,1μm,20.8s
HLM1 Long Mynd 69.52 319 *e*P **P 01 06 31.5 +0.7**
HLM1 Long Mynd 69.52 319 *e*P **P 01 06 31.5 +0.7**
AKF Akfadou 69.61 301 P **P 01 06 27.3 -4.0**
SBD1 Bryn Du 69.61 320 *e*P **P 01 06 32.0 +0.6**
SBD1 Bryn Du 69.61 320 *e*P **P 01 06 32.0 +0.6**
LFF La Frestale 69.65 311⇑*i*P **P 01 06 31.5 -0.1**
comp=Z,38nm,0.7s,mb5.1
MFF Saint Martin d 69.71 313⇑*i*P **P 01 06 31.2 -0.8**
comp=Z,23nm,0.8s,mb4.8
MCH1 Michaelchurch 69.75 319 *e*P **P 01 06 32.8 +0.6**
MCH1 AMb AMB 01 06 40.5
comp=Z,79nm,1.7s,mb5.4
MCH1 Michaelchurch 69.75 319 *e*P **P 01 06 32.8 +0.6**
MCH1 AMb AMB 01 06 40.5
comp=Z,79nm,1.7s,mb5.4
HGH Gray Hill 69.76 318 *e*P **P 01 06 31.9 -0.4**
HGH Gray Hill 69.76 318 *e*P **P 01 06 31.9 -0.4**
RRH Rhenigidale 69.83 326⇑*e*P **P 01 06 32.5 -0.3**
RRH Rhenigidale 69.83 326⇑*e*P **P 01 06 32.5 -0.3**
ETOS Mallorca 69.88 305 P **P 01 06 33.9 +0.9**
comp=Z,19nm,0.7s,mb5.1
HTR Trewern Hill 69.89 319 *e*P **P 01 06 33.3 +0.2**
HTR AMb AMB 01 06 36.4
comp=Z,59nm,2.0s,mb5.2
HTR Trewern Hill 69.89 319 *e*P **P 01 06 33.3 +0.2**
HTR AMb AMB 01 06 36.4
comp=Z,59nm,2.0s,mb5.2
GAMB Gambell 69.99 28 P **P 01 06 34.3 +0.6**
EMIR Miracle 70.09 308 P **P 01 06 34.6 +0.3**
comp=Z,10nm,0.4s,mb5.1
WCB1 Church Bay 70.20 321 *e*P **P 01 06 35.0 0.0**
WCB1 Church Bay 70.20 321 *e*P **P 01 06 35.0 0.0**
EPF Esparros 70.55 309 *e*P **P 01 06 37.9 +0.8**
EPOB Poblet 70.59 307 P **P 01 06 37.3 -0.1**
comp=Z,11nm,0.6s,mb5.0
SGMF Saint Gilles 70.72 315⇑*i*P **P 01 06 37.9 -0.2**
comp=Z,80nm,1.0s,mb5.3
EBIE Bielsa 70.80 309 P **P 01 06 39.3 +0.7**
comp=Z,6.2nm,0.7s,mb4.7
TNA Tin City 70.81 25 P **P 01 06 39.3 +0.7**
comp=Z,102nm,1.5s,mb5.5
EGRA Graus 70.85 308 P **P 01 06 39.3 +0.3**
comp=Z,14nm,0.8s,mb5.0
EMHD Djebel Mahouad 70.98 301 P **P 01 06 40.5 +0.8**
ROSF Rostrenen 71.14 315⇑*i*P **P 01 06 40.2 -0.5**
EBR Ebro Roquetas 71.19 307 *e*P **P 01 06 41.5 +0.5**
EIBI Ibiza 71.20 305 P **P 01 06 41.7 +0.6**
comp=Z,4.7nm,4.7s
QUIF Quistinic 71.21 315 *e*P **P 01 06 40.7 -0.4**
comp=Z,342nm,1.9s,mb5.7
ETSF Etsaut 71.22 309⇑*i*P **P 01 06 41.1 0.0**
comp=Z,26nm,0.7s,mb5.0
ERTA Horta de San J 71.26 307 P **P 01 06 41.4 0.0**
comp=Z,30nm,1.2s,mb5.1
ESAC San Caprasio 71.56 308 P **P 01 06 43.5 +0.3**
comp=Z,14nm,0.6s,mb5.1
SJPF Ste Jean 71.60 309 *e*P **P 01 06 43.5 0.0**
comp=Z,28nm,0.8s,mb4.9
EALK Alkurruntz 71.76 310 P **P 01 06 46.9 +2.5**
comp=Z,12nm,0.6s,mb5.0
EBNR Beni Rached 72.02 302 P **P 01 06 47.0 +1.0**
EMOS Mosqueruela 72.04 307 P **P 01 06 47.0 +0.9**
comp=Z,13nm,0.6s,mb5.0
LSZ Lusaka 72.16 242 P **P 01 06 47.2 +0.4**
LSZ MLR MLR
comp=Z,589nm,22.0s,MS4.8
ECHA Ech Chlef 72.20 302 P **P 01 06 48.0 +1.0**
EANR 'Ain N'Sour 72.47 302 P **P 01 06 48.5 -0.2**
ETRT Tiaret 72.52 301 P **P 01 06 49.0 0.0**
ECRI Cripan 72.66 309 P **P 01 06 51.2 +1.4**
ECRI pmax pmax
comp=Z,174nm,2.6s,mb5.5
ECRI Cripan 72.66 309 P **P 01 06 51.2 +1.4**
comp=Z,174nm,2.6s,mb5.5
ECHE Chera 72.67 306 P **P 01 06 50.6 +0.7**
ECHE pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
ECHE Chera 72.67 306 P **P 01 06 50.6 +0.7**
comp=Z,8.6nm,0.5s,mb4.9
ELAN Lanestosa 73.06 310 P **P 01 06 52.6 +0.4**
comp=Z,108nm,1.5s,mb5.6
CTA Charters Tower 73.22 124 *e*P **P 01 06 53.7 +0.6**
comp=Z,49nm,0.9s,mb5.4
CTAO Charters Tower 73.22 124 P **P 01 06 53.9 +0.8**
CTAO *e**PP pP 01 06 59.1 -3.1
CTAO pmax pmax
comp=Z,118nm,1.1s,mb5.7
CTAO MLR MLR
comp=Z,845nm,19.0s,MS5.0
CTAO Charters Tower 73.22 124 P **P 01 06 53.9 +0.8**
comp=Z,118nm,1.1s,mb5.7
CTAO *e*pP pP 01 06 59.1 -3.1
CTAO LR LR
comp=Z,845nm,19.0s,MS5.0
CART Cartagena 73.44 304 P **P 01 06 54.3 -0.1**
comp=Z,86nm,1.3s,mb5.5
ETOB Tobarra 73.44 305 P **P 01 06 55.2 +0.7**
comp=Z,16nm,0.5s,mb5.2
BORG Borgarnes 73.47 335 P **P 01 06 54.7 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=236,slow=3.6,SNR=3.3
BORG Borgarnes 73.47 335 P **P 01 06 54.7 +0.1**
EMUR La Murta 73.52 304 P **P 01 06 56.2 +1.4**
comp=Z,6.7nm,0.5s,mb4.8
SUMG Summit 74.00 345 *e*P **P 01 06 58.1 +0.4**
comp=Z,45nm,1.3s,mb5.2
SUMG *e*pP pP 01 07 08.1 +1.2
SUMG *e*sP sP 01 07 11.9 +1.7
EVIA Vianos 74.14 306 P **P 01 06 59.0 +0.5**
comp=Z,20nm,0.6s,mb5.2
EARI Arriondas 74.24 311 P **P 01 06 59.3 +0.2**
comp=Z,45nm,3.7s
GUD Guadarrama 74.54 308 P **P 01 07 01.3 +0.5**
comp=Z,14nm,0.5s,mb5.2
ENIJ Nijar 74.56 304 P **P 01 07 01.2 +0.3**
comp=Z,7.8nm,0.6s,mb4.8
ESDC Sonseca Array 74.78 307 P **P 01 07 01.8 -0.5**
comp=Z,3.5nm,0.5s,mb4.5,baz=50,slow=5.8,SNR=23
ESDC Sonseca Array 74.78 307 P **P 01 07 02.3 0.0**
comp=Z,4.3nm,0.6s,mb4.6
ESLA Sonseca Array 74.78 307 *e*P **P 01 07 02.1 -0.2**
comp=Z,10.0nm,1.2s,mb4.6
ESLA *e*sP sP 01 07 16.2 +1.5
EQES Quesada 74.87 305 P **P 01 07 02.9 +0.1**
comp=Z,17nm,0.6s,mb5.1
EBER Berja 75.09 304 P **P 01 07 04.0 0.0**
comp=Z,20nm,0.5s,mb5.3
EBAN Banos Encina 75.25 305 P **P 01 07 05.3 +0.3**
comp=Z,8.6nm,0.5s,mb4.9
ECOG Cogollos-Vega 75.44 305 P **P 01 07 05.4 -0.6**
comp=Z,3.1nm,0.4s,mb4.6
EPON Pontenova 75.53 311 P **P 01 07 06.6 +0.1**
comp=Z,11nm,0.4s,mb5.1
ERON Agron 75.72 304 P **P 01 07 05.7 -1.9**
comp=Z,7.8nm,0.6s,mb4.8
EADA Adamuz 75.82 306 P **P 01 07 08.2 0.0**
comp=Z,5.6nm,0.5s,mb4.8
ELUQ Luque 75.84 305 P **P 01 07 07.9 -0.4**
comp=Z,11nm,0.4s,mb5.1
PBRG Braganca 75.87 310 *e*P **P 01 07 08.4 -0.1**
ELOJ Sierra Loja 75.92 305 P **P 01 07 10.0 +1.2**
comp=Z,3.0nm,0.6s,mb4.4
KWAJ Kwajalein Atol 76.45 87 PFAKE 01 07 20.0 +8.2
KWAJ LR LR
comp=Z,3μm,21.0s,MS5.6
EMIJ Mijas 76.61 304 P **P 01 07 11.3 -1.4**
comp=Z,5.1nm,0.5s,mb4.7
TTA Tatalina 76.63 25 P **P 01 07 14.2 +1.4**
TTA 01 07 27.3
TTA Tatalina 76.63 25 P **P 01 07 14.2 +1.4**
STS Santiago 76.65 311 P **P 01 07 14.1 +1.2**
comp=Z,2μm,3.7s
ELOB Lobios 76.74 310 P **P 01 07 14.6 +1.1**
comp=Z,6.2nm,0.5s,mb4.8
PCAB Cabril 76.79 310 *e*P **P 01 07 14.2 +0.5**
PCAB *e*pP pP 01 07 22.6 -0.2
EMAZ Mazaricos 76.90 312 P **P 01 07 14.1 -0.3**
comp=Z,14nm,2.6s,mb4.4
MTE Manteigas 77.00 309 *e*P **P 01 07 14.8 -0.1**
comp=Z,89nm,1.9s,mb5.4
MTE Manteigas 77.00 309 P **P 01 07 15.7 +0.8**
comp=Z,112nm,1.6s,mb5.5
EZAM Zamans 77.05 311 P **P 01 07 14.8 -0.4**
comp=Z,503nm,3.6s
PVIS Viseu 77.11 309 *e*P **P 01 07 16.0 +0.4**
EJIF Jimena Fronter 77.17 304 P **P 01 07 15.1 -0.8**
comp=Z,2.6nm,0.4s,mb4.5
PCBR Castelo Branco 77.19 308 *e*P **P 01 07 16.4 +0.4**
comp=Z,39nm,1.4s,mb5.2
PCBR *e*pP pP 01 07 24.9 -0.2
ESPR Espera 77.28 305 P **P 01 07 16.4 -0.1**
comp=Z,3.6nm,0.4s,mb4.7
EBAD Badajoz 77.32 307 P **P 01 07 16.7 0.0**
comp=Z,7.5nm,0.5s,mb4.9
EMIN Mina Concepcio 77.49 306 P **P 01 07 17.7 0.0**
comp=Z,11nm,0.4s,mb5.1
STKA Stephens Creek 77.71 136 *e*P **P 01 07 15.9 -3.0**
comp=Z,19nm,0.8s,mb5.1
STKA Stephens Creek 77.71 136 P **P 01 07 16.4 -2.4**
comp=Z,23nm,0.7s,mb5.2,baz=321,slow=6.6,SNR=36
STKA Stephens Creek 77.71 136 *e*P **P 01 07 16.5 -2.4**
PTOM Tomar 77.94 308 *e*P **P 01 07 20.6 +0.4**
ADE Adelaide 78.14 140 *e*P **P 01 07 22.0 +0.7**
RES Resolute Bay 78.16 1 P **P 01 07 21.5 +0.1**
RES pmax pmax
comp=Z,83nm,1.6s,mb5.4
RES Resolute Bay 78.16 1 P **P 01 07 21.5 +0.1**
comp=Z,83nm,1.6s,mb5.4
EGRO El Granado 78.17 306 P **P 01 07 21.7 +0.2**
comp=Z,9.9nm,0.4s,mb5.1
PBEJ Beja 78.24 307 *e*P **P 01 07 22.1 +0.3**
comp=Z,51nm,1.7s,mb5.2
HNR Honiara 78.26 107 P **P 01 07 22.3 +0.3**
comp=Z,34nm,0.4s,mb5.7,baz=264,slow=8.3,SNR=7.2
HNR Honiara 78.26 107 P **P 01 07 22.3 +0.4**
HNR LR LR
comp=Z,632nm,21.0s,MS4.9
COLA College 78.29 21 *e*P **P 01 07 22.6 +0.5**
COLA *e* pP 01 07 30.0 -1.2
COLA pmax pmax
comp=Z,247nm,1.4s,mb6.0
COLA MLR MLR
comp=Z,784nm,20.0s,MS5.0
COLA College 78.29 21 *e*P **P 01 07 22.6 +0.5**
comp=Z,247nm,1.4s,mb6.0
COLA *e*PcP PcP 01 07 30.0 -1.4
COLA LR LR
comp=Z,784nm,20.0s,MS5.0
ILAR Eielson Array 78.67 21 P **P 01 07 23.7 -0.5**
comp=Z,54nm,1.0s,mb5.4,baz=297,slow=4.3,SNR=202
ILAR PP PP 01 10 20.4 -2.0
comp=Z,2.1nm,0.6s,baz=307,slow=6.5,SNR=4.6
MCK McKinley 78.68 22 P **P 01 07 24.8 +0.5**
MCK pmax pmax
comp=Z,70nm,1.1s,mb5.5
MCK McKinley 78.68 22 P **P 01 07 24.8 +0.5**
comp=Z,70nm,1.1s,mb5.5
INK Inuvik 79.70 15 P **P 01 07 30.1 +0.3**
comp=Z,137nm,1.1s,mb5.8,baz=329,slow=6.0,SNR=214
FIB Fire Island 79.89 25 P **P 01 07 31.0 +0.1**
FIB pmax pmax
comp=Z,170nm,1.2s,mb5.8
FIB Fire Island 79.89 25 *e*P **P 01 07 32.1 +1.3**
comp=Z,172nm,1.2s,mb5.9
PMR Palmer 80.00 24 P **P 01 07 32.4 +0.9**
PMR MLR MLR
comp=Z,869nm,19.0s,MS5.1
SML Sawmill 80.15 24 *e*P **P 01 07 33.3 +1.1**
SML *e**PP pP 01 07 42.0 +0.6
SLKM Skilak Lake 80.29 25 P **P 01 07 33.3 +0.3**
SFJD Kangerlussuaq 80.98 345 *i* P **P 01 07 36.3 -0.4**
comp=Z,9.9nm,0.4s,mb5.1
SFJD *e* 01 08 10.9
SFJD Kangerlussuaq 80.98 345 *i* P **P 01 07 36.3 -0.4**
SFJD pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
KDAK Kodiak Island 81.06 28 P **P 01 07 37.0 -0.1**
comp=Z,1μm,0.7s,SNR=74
TORD Torodi Ar. Bea 81.20 280 P **P 01 07 37.8 -0.1**
comp=Z,11nm,0.7s,mb4.9,baz=62,slow=4.6,SNR=192
TORD PKKPbc PKKPbc 01 26 12.9 -0.3
comp=Z,0.5nm,0.5s,baz=312,slow=2.6,SNR=8.9
DAWY Dawson 81.47 19 P **P 01 07 39.8 +0.5**
DIV Divide 81.52 23 P **P 01 07 40.7 +1.1**
BOSA Boshof 82.24 232 P **P 01 07 42.5 -0.9**
comp=Z,11nm,1.0s,mb4.7,baz=47,slow=4.7,SNR=22
BOSA Boshof 82.24 232 *e*P **P 01 07 43.5 +0.1**
comp=Z,30nm,1.0s,mb5.2
BOSA *e*pP pP 01 07 51.7 -0.8
TSUM Tsumeb 82.74 244 P **P 01 07 46.2 +0.2**
TSUM LR LR
comp=Z,685nm,20.0s,MS5.0
ARMA Armidale 83.36 129 *e*P **P 01 07 48.2 -1.0**
TOO Toolangi 83.90 138 *e*P **P 01 07 52.6 +0.6**
comp=Z,27nm,0.6s,mb5.5
FRB Frobisher Bay 87.37 350 P **P 01 08 08.0 -1.2**
comp=Z,14nm,0.7s,mb5.3,baz=27,slow=7.4,SNR=50
FRB Frobisher Bay 87.37 350 P **P 01 08 08.0 -1.2**
YKW3 Yellowknife Ar 88.49 10 *e*P **P 01 08 14.0 -0.5**
YKW3 *e*pP pP 01 08 26.6 +2.8
YKA Yellowknife Ar 88.55 10 P **P 01 08 14.3 -0.5**
comp=Z,5.8nm,0.7s,mb5.0,baz=332,slow=4.4,SNR=34
YKA PKKPbc PKKPbc 01 25 54.2 -1.8
comp=Z,0.5nm,0.5s,baz=163,slow=2.2,SNR=19
YKA LR LR 01 51 13.3
comp=Z,410nm,18.1s,MS4.9,baz=355,slow=38
YKA Yellowknife Ar 88.55 10⇑*e*P **P 01 08 14.3 -0.5**
YKA Yellowknife Ar 88.55 10 P **P 01 08 14.3 -0.5**
YKA PKKPbc PKKPbc 01 25 54.2 -1.8
YKA LR LR 01 51 13.3
DBIC Dimbokro 89.86 277 P **P 01 08 21.4 +0.4**
comp=Z,14nm,0.5s,mb5.5,baz=36,slow=5.3,SNR=81
DBIC LR LR 01 54 18.6
comp=Z,368nm,18.9s,MS4.8,baz=19,slow=39
DBIC Dimbokro 89.86 277 *e*P **P 01 08 21.5 +0.5**
comp=Z,28nm,0.8s,mb5.6
DBIC *e*pP pP 01 08 31.2 +0.9
FCC Fort Churchill 94.16 1 P **P 01 08 40.8 0.0**
FCC pmax pmax
comp=Z,53nm,1.4s,mb5.8
FCC Fort Churchill 94.16 1 P **P 01 08 40.8 -0.1**
comp=Z,53nm,1.4s,mb5.8
SCHQ Schefferville 95.39 346 P **P 01 08 45.9 -0.7**
comp=Z,5.9nm,1.0s,mb5.0,baz=182,slow=2.3,SNR=7.6
SCHQ LR LR 01 59 23.7
comp=Z,393nm,19.7s,MS4.9,baz=12,slow=40
EDM Edmonton 97.53 13 P **P 01 08 56.9 +0.7**
FFC Flin Flon 97.74 6 P **P 01 08 56.3 -0.8**
SYO Syowa Base 102.47 196⇓*e*pPKiKP 01 13 48.4
BMO Blue Mountains 104.37 19 PP PP 01 13 47.0 +1.6
LAO LASA Array 105.09 10 Pdif Pdif 01 09 35.9 +6.0
LAO PKiKP PKiKP 01 13 43.2 -1.2
REDW Red Top Meadow 107.41 15 PKiKP PKiKP 01 13 51.0 +2.3
PDAR Pinedale Array 108.26 14 PKiKP PKiKP 01 13 50.1 -0.1
comp=Z,1.3nm,0.5s,baz=84,slow=2.3,SNR=20
PDAR PKKPbc PKKPbc 01 24 59.5 -1.5
comp=Z,0.4nm,0.5s,baz=155,slow=4.2,SNR=6.8
NVAR Mina Array Bea 109.91 22 PKiKP PKiKP 01 13 54.8 +1.5
comp=Z,1.4nm,0.5s,baz=2.1,slow=1.3,SNR=17
NVAR PKKPbc PKKPbc 01 24 55.5 -0.4
comp=Z,0.2nm,0.5s,baz=228,slow=6.5,SNR=3.9
SRU San Rafael 111.52 16 PP PP 01 14 44.3 +6.7
WUAZ Wupatki 114.70 18 PKiKP PKiKP 01 14 03.9 +1.5
GLA Glamis 115.96 22 PKiKP PKiKP 01 14 06.7 +1.8
GLA PP PP 01 15 11.4 +2.3
ANMO Albuquerque 116.42 14 PKPdf PKPdf 01 14 07.1 +1.3
LENM Lemitar 117.07 14 *e*PKPdf PKPdf 01 14 08.2 +1.2
WMOK Wichita Mounta 117.84 7 PKPdf PKPdf 01 14 08.5 0.0
GDL2 Guadalupe Moun 119.51 12 PKPdf PKPdf 01 14 12.5 +0.8
MNTX Cornudas Mount 119.79 14 PKPdf PKPdf 01 14 13.1 +0.9
NATX Nacogdoches 121.11 3 PP PP 01 15 49.8 +5.1
JCT Junction City 121.93 8 PKPdf PKPdf 01 14 16.8 +0.5
HKT Hockley 122.84 4 *e*PKPdf PKPdf 01 14 19.0 +0.9
HKT *e*pPKPdf pPKPdf 01 14 26.1 -1.5
BDFB Brasilia 138.01 277 PKhKP 01 14 43.8
comp=Z,1.6nm,0.6s,baz=146,slow=7.3,SNR=3.0
SDV Santo Domingo 138.62 328 PKPdf PKPdf 01 14 41.6 -6.3
ROSC El Rosal 143.87 330 PKP PKPdf 01 14 57.3 0.0
comp=Z,32nm,0.8s,baz=55,slow=1.4,SNR=28
SAML Samuel 147.51 299 PKPdf PKPdf 01 15 04.7 +1.2
CPUP Villa Florida 149.48 264 *e*PKPdf PKPdf 01 15 07.1 +0.4
CPUP *e*PKPbc PKPbc 01 15 10.9 -0.3
TRQA Tornquist 153.02 239 PKPdf PKPdf 01 15 05.2 -6.9
TRQA PKPbc PKPbc 01 15 19.1 -0.4
LPAZ La Paz 155.63 292 PKP PKPdf 01 15 15.2 -0.6
comp=Z,4.1nm,1.1s,baz=60,slow=2.5,SNR=9.8
LPAZ PKPab PKPab 01 15 42.4 +0.4
comp=Z,5.5nm,0.8s,baz=47,slow=5.1,SNR=8.5
LPAZ La Paz 155.63 292 *e*PKPdf PKPdf 01 15 17.3 +1.5
LPAZ *e* 01 15 25.9
LVC Limon Verde 158.92 278 PKPdf PKPdf 01 15 21.7 +1.8

WEL 14 01:12:29.4±0.4,3850S×17578E,h162km±3km,ML3.7/16,
Error ellipse: s-maj=3.6km s-min=3.5km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.78**	**187**	PN	Pn	01 12 54.0	+0.4
TUVZ				SN	Sn	01 13 12.8	+0.6
WNVZ	**Wahianoa**	**0.84**	**190**	PN	Pn	01 12 54.4	+0.4
WNVZ				SN	Sn	01 13 13.6	+0.7
MOVZ	**Moawhango**	**0.91**	**181**	PN	Pn	01 12 54.4	-0.1
MOVZ				SN	Sn	01 13 13.1	-0.8
URZ	**Urewera**	**1.07**	**78**	PN	Pn	01 12 55.7	-0.1

URZ				SN	Sn	01 13 16.0	-0.1
MWZ	**Matawai**	**1.38**	**84**	PN	Pn	01 12 58.8	+0.1
MWZ				SN	Sn	01 13 21.2	0.0
WAZ	**Wanganui**	**1.40**	**206**	PN	Pn	01 12 58.5	-0.4
TSZ	**Takapari Road**	**1.57**	**175**	PN	Pn	01 13 00.2	-0.3
KNZ	**Kokohu**	**1.57**	**110**	PN	Pn	01 13 01.1	+0.5
PXZ	**Pawanui**	**1.75**	**152**	PN	Pn	01 13 02.5	0.0
PUZ	**Puketiti**	**2.00**	**79**	PN	Pn	01 13 04.8	-0.4
MRZ	**Mangatainoka R**	**2.17**	**184**	PN	Pn	01 13 05.5	-1.6
MRZ				SN	Sn	01 13 32.8	-3.5
MXZ	**Matakaoa Point**	**2.20**	**66**	PN	Pn	01 13 07.4	-0.1
BFZ	**Birch Farm**	**2.21**	**171**	PN	Pn	01 13 06.6	-1.1

*IDC **14** 01:17:15.1±0.5, 3368S×17863W, h0km, mb4.7/11, mb1 4.9/14, mb1mx4.8/18, mbtmp4.8/14, ML4.7/3, MS4.6/7, Ms1 4.6/7, ms1mx4.2/20, Error ellipse: s-maj=17.9km s-min=15.7km az=118.0*

*ISCJB **14** 01:17:20.0±1.8, 3385S±005×17903W±008, h31km±12km, mb5.0/24, MS4.5/6, Error ellipse: s-maj=11.9km s-min=8.0km az=39.4*

*MOS **14** 01:17:20.9±1.1, 3370S×17899W, h33km, mb5.1/9, Error ellipse: s-maj=15.4km s-min=14.6km az=124.6*

*NEIC **14** 01:17:21.8±0.3, 3370S×17887W, h35km, mb5.0/9, Error ellipse: s-maj=11.0km s-min=10.2km az=61.0*

*BJI **14** 01:17:21.2, 3361S×17833W, h46km, mB5.4, mb5.2, Ms5.1, Msz4.5*

*HRVD **14** 01:17:21.8±0.8, 3388S×17819W, h50km±3km, MW4.9/41, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s41,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.01±.45; $M_{\theta\theta}$0.62±.32; $M_{\phi\phi}$-2.63±.31; $M_{r\theta}$0.05±.23; $M_{\theta\phi}$-1.66±.28; $M_{\phi r}$1.61±.21; Best double couple: $M_0$3.18400×10^{16} NP1:ϕ229.00000°, δ36.00000°, λ129.00000°. NP2:ϕ_{ss}3.00000°, δ63.00000°, λ66.00000°. Principal axes: T 2.6410, Plg63.0000°, Azm233.0000°; N 1.0880, Plg22.0000°, Azm15.0000°; P -3.7270, Plg15.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NAO **14** 01:17:24.0, 3219S×17865W, h33km, mb4.5*

ISC 14 01:17:22.8±1.1, 3389S±006×17901W±008, h39km±8km, h39km±3.0km:pP-P, n159, σ1§27/77, mb5.0/24, MS4.5/6, 12C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.72**	**12**	Pn	**Pn**	**01 18 23.5**	**-7.9**
	136nm,0.3s,baz=27,slow=23,SNR=3.6						
RAO				Sn	**Sn**	**01 19 15.4**	**-9.5**
	173nm,0.3s,baz=98,slow=21,SNR=3.9						
RAO	**Raoul Island**	**4.72**	**12**	*e*Pn	**Pn**	**01 18 23.9**	**-7.5**
WIZ	**White Island**	**4.77**	**219**	*e*PN	**Pn**	**01 18 32.4**	**+0.3**
MWZ	**Matawai**	**5.25**	**211**	PN	**Pn**	**01 18 38.9**	**+0.2**
MWZ				SN	**Sn**	**01 19 43.1**	**+5.3**
URZ	**Urewera**	**5.37**	**215**	Pn	**Pn**	**01 18 39.7**	**-0.7**
	48nm,0.3s,baz=40,slow=6.7,SNR=124						
URZ				Sn	**Sn**	**01 19 45.0**	**+4.0**
	26nm,0.3s,baz=150,slow=21,SNR=13						
URZ	**Urewera**	**5.37**	**215**	PN	**Pn**	**01 18 41.1**	**+0.7**
URZ				SN	**Sn**	**01 19 45.9**	**+4.9**
KNZ	**Kokohu**	**5.77**	**207**	PN	**Pn**	**01 18 45.2**	**-0.7**
BKZ	**Black Stump Fm**	**6.39**	**213**	PN	**Pn**	**01 18 55.3**	**+0.9**
OTVZ	**Oturere**	**6.79**	**218**	*e*PN	**Pn**	**01 19 00.1**	**+0.3**
MOVZ	**Moawhango**	**6.93**	**216**	PN	**Pn**	**01 19 01.3**	**-0.4**
TSZ	**Takapari Road**	**7.35**	**212**	PN	**Pn**	**01 19 07.3**	**-0.3**
TSZ				*e*SN	**Sn**	**01 20 30.6**	**+0.9**
MRZ	**Mangatainoka R**	**8.02**	**211**	*e*SN	**Sn**	**01 20 44.5**	**-1.5**
QRZ	**Quartz Range**	**9.65**	**222**	*e*SN	**Sn**	**01 21 24.9**	**-1.4**
KHZ	**Kahutara**	**10.33**	**212**	PN	**Pn**	**01 19 46.3**	**-2.2**
KHZ				SN	**Sn**	**01 21 37.0**	**-5.9**
RPZ	**Rata Peaks**	**12.49**	**215**	Pn	**Pn**	**01 20 14.1**	**-3.8**
	5.3nm,0.3s,baz=45,slow=4.1,SNR=11						
RPZ				Sn	**Sn**	**01 22 28.3**	**-7.4**
	3.1nm,0.3s,baz=226,slow=18,SNR=7.6						
DZM	**Mont Dzumac**	**17.41**	**309**	P	**Pn**	**01 21 22.5**	**-0.1**
	0.3nm,0.3s,baz=133,slow=17,SNR=8.2						
DZM				LR	LR	01 26 41.6	
	comp=Z,3μm,21.8s,baz=198,slow=32						
NOUC	**Port Laguerre**	**17.48**	**308**	*e*P	**Pn**	**01 21 26.8**	**+3.4**
AFI	**Afiamalu**	**20.95**	**20**	P	**P**	**01 21 55.6**	**-6.6**
	30nm,0.7s,baz=240,slow=17,SNR=3.2						
AFI	**Afiamalu**	**20.95**	**20**	P	**P**	**01 22 00.8**	**-1.4**
RAR	**Rarotonga**	**21.18**	**58**	P	**P**	**01 21 56.7**	**-7.9**
	66nm,1.0s,mb4.9,baz=240,slow=4.5,SNR=7.0						
ARMA	**Armidale**	**25.06**	**270**	*e*P	**P**	**01 22 45.4**	**+2.0**
TAU	**Tasmania Unive**	**27.73**	**241**	P	**P**	**01 23 09.2**	**+1.7**
STKA	**Stephens Creek**	**33.01**	**262**	*e*P	**P**	**01 23 53.9**	**-0.2**
	6.6nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**33.01**	**262**	P	**P**	**01 23 53.2**	**-0.9**
	6.4nm,0.9s,mb4.5,baz=91,slow=9.5,SNR=7.6						
STKA				LR	LR	01 36 49.1	
	comp=Z,2μm,19.0s,MS4.9,baz=32,slow=35						
STKA	**Stephens Creek**	**33.01**	**262**	*e*P	**P**	**01 23 53.6**	**-0.5**
CTA	**Charters Tower**	**33.70**	**285**	*e*P	**P**	**01 24 01.3**	**+1.2**
	29nm,1.0s,mb5.2						
CTA	**Charters Tower**	**33.70**	**285**	P	**P**	**01 24 01.4**	**+1.3**
	36nm,1.0s,mb5.3,baz=108,slow=9.5,SNR=20						
CTA				LR	LR	01 37 06.6	
	comp=Z,676nm,18.9s,MS4.4,baz=168,slow=35						
CTAO	**Charters Tower**	**33.70**	**285**	*e*P	**P**	**01 24 01.4**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,73nm,1.3s,mb5.5						
CTAO	**Charters Tower**	**33.70**	**285**	*e*P	**P**	**01 24 01.4**	**+1.3**
	comp=Z,73nm,1.3s,mb5.5						
PMG	**Port Moresby**	**39.47**	**300**	P	**P**	**01 24 49.5**	**+0.2**
	comp=Z,8.9nm,0.7s,mb4.6,baz=162,slow=13,SNR=4.1						
PMG	**Port Moresby**	**39.47**	**300**	*e*P	**P**	**01 24 49.8**	**+0.5**
PMG				*e*	pP	01 25 02.0	+1.6
PMG				pmax	pmax		
	comp=Z,23nm,0.9s						
PMG	**Port Moresby**	**39.47**	**300**	*e*P	**P**	**01 24 49.8**	**+0.5**
	comp=Z,23nm,0.9s,mb4.9						
PMG				*e*	pP	01 25 02.0	+1.6
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**01 25 12.1**	**+0.3**
	comp=Z,23nm,0.8s,mb4.9,baz=113,slow=7.5,SNR=96						
ASAR				S	**S**	**01 31 27.4**	**-1.8**
	comp=Z,2.1nm,0.9s,baz=113,slow=14,SNR=6.8						
WB2	**Warramunga Arr**	**43.49**	**276**	⇑*i*P	**P**	**01 25 22.1**	**-0.1**
WB2				*e*S	**S**	**01 31 46.8**	**-1.3**
WRAB	**Tennant Creek**	**43.50**	**276**	P	**P**	**01 25 22.9**	**+0.7**
	comp=Z,285nm,0.8s,mb6.0,SNR=24						
WRAB	**Tennant Creek**	**43.50**	**276**	*i* P	**P**	**01 25 22.2**	**0.0**
WRAB	**Tennant Creek**	**43.50**	**276**	*e*P	**P**	**01 25 22.2**	**0.0**
	comp=Z,54nm,0.8s,mb5.3						
WRAB				*e*S	**S**	**01 31 47.2**	**-1.0**
WRA	**Warramunga Arr**	**43.50**	**276**	P	**P**	**01 25 22.2**	**-0.1**
	comp=Z,28nm,0.7s,mb5.1,baz=119,slow=7.6,SNR=78						
WRA				S	**S**	**01 31 44.6**	**-3.7**
	comp=Z,3.6nm,0.9s,baz=116,slow=14,SNR=12						
SBA	**Scott Base**	**44.50**	**184**	P	**P**	**01 25 32.8**	**+2.5**
VNDA	**Vanda**	**44.54**	**186**	P	**P**	**01 25 31.5**	**+0.9**
	comp=Z,3.7nm,1.1s,mb4.1,baz=25,slow=12,SNR=3.0						
VNDA	**Vanda**	**44.54**	**186**	*e*P	**P**	**01 25 32.4**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,22nm,1.5s						
VNDA	**Vanda**	**44.54**	**186**	*e*P	**P**	**01 25 32.4**	**+1.7**
	comp=Z,22nm,1.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.59**	**273**	⇑*i*P	**P**	**01 26 24.5**	**-0.6**
	comp=Z,24nm,0.8s,mb5.2						
CASY	**Casey**	**51.67**	**209**	*e*P	**P**	**01 26 27.4**	**+1.7**
	comp=Z,28nm,1.1s,mb5.1						
NWAO	**Narrogin (SRO)**	**52.44**	**252**	*e*P	**P**	**01 26 32.5**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**52.44**	**252**	*e*P	**P**	**01 26 32.5**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.2						
KLBR	**Kellerberrin**	**52.48**	**254**	*e*P	**P**	**01 26 30.7**	**-1.0**
	comp=Z,40nm,1.2s,mb5.2						
MBWA	**Marble Bar**	**55.07**	**267**	*e*P	**P**	**01 26 49.7**	**-1.0**
	comp=Z,7.9nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**56.23**	**180**	*e*P	**P**	**01 27 00.9**	**+2.0**
	comp=Z,77nm,1.0s,mb5.7						
QSPA				*e*	pP	01 27 11.3	+0.9
MAW	**Mawson**	**68.75**	**201**	P	**P**	**01 28 25.9**	**+3.3**
SYO	**Syowa Base**	**73.53**	**194**	‖*e*pP	pP	01 29 03.2	-0.2
SYO	**Syowa Base**	**73.53**	**194**	‖*e*sP	sP	01 29 06.6	-1.3
SYO	**Syowa Base**	**73.53**	**194**	‖*e*PcP	PcP	01 29 07.7	+0.3
SYO	**Syowa Base**	**73.53**	**194**	‖*e*P	**P**	**01 28 51.3**	**-0.2**
SYO				*e**PP	pP	01 29 03.2	-0.2
SYO				*e**SP	sP	01 29 06.6	-1.3
SYO				*e*		01 29 07.7	
SNAA	**Sanae**	**74.70**	**179**	P	**P**	**01 28 57.9**	**-0.4**
	comp=Z,6.7nm,1.1s,mb4.5,baz=200,slow=6.7,SNR=3.9						
VNA3	**Neumayer Olymp**	**74.89**	**176**	*e*P	**P**	**01 29 06.7**	**+7.3**
VNA2	**Neumayer--Watz**	**75.31**	**177**	*e*P	**P**	**01 29 00.2**	**-1.6**
	baz=171,slow=6.0						
VNA2				*e*		01 29 16.2	
MJAR	**Matsushiro Arr**	**80.64**	**326**	P	**P**	**01 29 30.9**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.2,baz=167,slow=5.6,SNR=5.1						
MJAR				LR	LR	01 59 35.2	
	comp=Z,152nm,21.1s,MS4.3,baz=235,slow=32						
SSE	**Sheshan**	**85.78**	**312**	P	**P**	**01 29 55.8**	**-2.1**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,146nm,7.4s						
YSS	**Yuzh-Sakhalins**	**87.52**	**335**	*e*P	**P**	**01 30 10.5**	**+4.1**
YSS				MLR	MLR		
	comp=N,500nm,20.0s						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.9						
TRQA	**Tornquist**	**87.58**	**135**	*e*P	**P**	**01 30 05.7**	**-1.0**
NJ2	**Nanjing**	**87.88**	**311**	*e*P	**P**	**01 30 06.8**	**-1.3**
NJ2				SKS		01 40 28.0	
NJ2				S		01 40 40.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,270nm,10.0s						
NJ2				LR	LR		
	comp=N,410nm,22.0s						
NJ2				LR	LR		
	comp=E,850nm,30.0s						
NJ2				LR	LR		
	comp=Z,220nm,22.0s,MS4.5						
MDJ	**Mudanjiang**	**91.02**	**326**	P	**P**	**01 30 27.3**	**+4.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,353nm,5.9s						
NVAR	**Mina Array Bea**	**91.37**	**43**	P	**P**	**01 30 22.7**	**-1.8**
	comp=Z,1.5nm,0.9s,mb4.3,baz=230,slow=9.8,SNR=8.5						
CN2	**Changchun**	**92.41**	**323**	*e*P	**P**	**01 30 30.5**	**+1.2**
CN2				*e*XP	sP	01 30 45.0	-0.9
CN2				*e*S		01 41 28.9	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
KMI	**Kunming**	**94.64**	**297**	P	**P**	**01 30 42.0**	**+2.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb5.1						
KMI				LR	LR		
	comp=Z,81nm,21.5s,MS4.2						
MNTX	**Cornudas Mount**	**95.18**	**55**	*e*P	**P**	**01 30 40.5**	**-1.5**
	comp=Z,0.6nm,0.4s,mb4.4						
MA2	**Magadan**	**96.43**	**345**	P	**P**	**01 30 47.8**	**+0.1**
CD2	**Chengdu**	**97.22**	**302**	*e*P	**P**	**01 30 53.3**	**+2.0**
CD2				AP	pP	01 31 03.8	+0.3
CD2				PP	PP	01 34 52.8	+4.9
CD2				SKS		01 41 26.6	
CD2				S		01 42 11.3	
CD2				XS	sS	01 42 29.0	-3.4
CD2				SS	SS	01 48 53.8	+3.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,9.3s						
CD2				LR	LR		
	comp=E,120nm,14.4s						
CD2				LR	LR		
	comp=Z,70nm,24.0s						
SONM	**Songino Array**	**105.15**	**318**	PP	PP	01 35 43.6	-4.1
	comp=Z,0.4nm,0.8s,baz=108,slow=4.6,SNR=3.7						
YKA	**Yellowknife Ar**	**108.95**	**26**	PKKPbc	PKKPbc	01 46 53.8	-1.5
	comp=Z,0.3nm,0.9s,baz=47,slow=4.1,SNR=4.6						
TIXI	**Tiksi**	**111.39**	**344**	*i* PKIKP	PKiKP	01 35 47.8	-4.8
MKAR	**Makanchi Array**	**119.32**	**309**	PKP	PKPdf	01 36 05.6	-2.1
	comp=Z,5.1nm,1.0s,baz=90,slow=2.4,SNR=21						
MKAR				PKKPbc	PKKPbc	01 46 18.7	-1.3
	comp=Z,0.2nm,0.6s,baz=266,slow=3.9,SNR=5.1						
MKAR	**Makanchi Array**	**119.32**	**309**	⇑*i*PKIKP	PKPdf	01 36 05.9	-1.9
ZAL	**Zalesovo**	**120.05**	**317**	PKP	PKPdf	01 36 07.0	-2.2
	comp=Z,0.9nm,0.8s,baz=320,slow=0.7,SNR=3.8						
NVS	**Novosibirsk**	**121.18**	**318**	*e*PKIKP	PKPdf	01 36 07.1	-4.2
KZA	**Kyzart**	**122.59**	**302**	P	PKPdf	01 36 14.1	+0.1
	SNR=6.5						
TKM2	**Tokmak 2**	**122.60**	**303**	P	PKPdf	01 36 13.0	-1.1
	SNR=6.6						
TKM2	**Tokmak 2**	**122.60**	**303**	PKIKP	PKPdf	01 36 12.5	-1.6
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**122.80**	**312**	*i* PKIKP	PKPdf	01 36 12.3	-2.1
KBK	**Karagaybulak**	**122.98**	**302**	P	PKPdf	01 36 13.9	-0.8
	SNR=6.2						
UCH	**Uchtor**	**123.15**	**302**	P	PKPdf	01 36 15.2	+0.1
	SNR=8.9						
CHMS	**Chumysh**	**123.22**	**303**	P	PKPdf	01 36 13.6	-1.6
	SNR=5.6						
AML	**Almayashu**	**123.70**	**301**	P	PKPdf	01 36 15.4	-0.7
	SNR=8.2						
EKS2	**Erkin-Say**	**123.80**	**302**	P	PKPdf	01 36 15.4	-1.0
	SNR=6.4						
LSZ	**Lusaka**	**124.66**	**212**	*e*PKIKP	PKPdf	01 36 18.4	+0.4
KKAR	**Karatay Array**	**126.23**	**302**	*i* PKIKP	PKPdf	01 36 19.7	-1.3
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VOSK	**Vostochnaya**	**127.86**	**314**	PKIKP	PKPdf	01 36 21.8	-2.3
VOSK				pmax	pmax		
	comp=Z,14nm,1.2s						
BVA0	**Borovoye Array**	**128.25**	**314**	*i* PKIKP	PKPdf	01 36 22.8	-2.1
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BVAR	**Borovoye Array**	**128.25**	**314**	PKP	PKPdf	01 36 23.4	-1.5
	comp=Z,7.4nm,1.0s,baz=117,slow=3.3,SNR=22						
BRVK	**Borovoye**	**128.32**	**314**	*e*PKIKP	PKPdf	01 36 23.0	-2.0
FRB	**Frobisher Bay**	**128.79**	**32**	PKP	PKPdf	01 36 22.5	-3.4
	comp=Z,4.4nm,0.9s,baz=273,slow=10,SNR=4.1						
ZRNK	**Zerenda**	**129.07**	**314**	*e*PKIKP	PKPdf	01 36 25.3	-1.1
KMBO	**Kilima Mbogo**	**131.28**	**232**	PKP	PKPdf	01 36 31.1	+0.5
	comp=Z,1.8nm,1.1s,baz=40,slow=7.0,SNR=4.0						
KMBO				SKPbc	SKPbc	01 39 54.7	+2.3
	comp=Z,4.5nm,0.9s,baz=69,slow=4.5,SNR=12						
KMBO	**Kilima Mbogo**	**131.28**	**232**	⇑*i*PKIKP	PKPdf	01 36 32.7	+2.1
AB31	**Akbulak array**	**134.46**	**308**	*i* PKIKP	PKPdf	01 36 34.7	-1.9
AB31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**135.18**	**318**	*i* PKIKP	PKPdf	01 36 36.4	-1.6
ARU	**Arti**	**135.18**	**318**	*e*PKPdf	PKPdf	01 36 36.8	-1.1
AKTK	**Aktyubinsk**	**135.74**	**310**	PKP	PKPdf	01 36 37.0	-2.1
AKTO	**Aktyubinsk**	**135.74**	**310**	PKP	PKPdf	01 36 37.0	-2.1
	comp=Z,3.9nm,0.9s,baz=110,slow=2.2,SNR=12						
KEV	**Kevo**	**141.31**	**346**	*e*pkp		01 36 41.4	
ARCES	**ARCESS Array B**	**141.79**	**346**	PKhKP		01 36 42.8	
	comp=Z,2.8nm,0.8s,baz=34,slow=4.4,SNR=4.6						
KLMR	**Klimovskoe**	**143.38**	**329**	*c* *i* PKHKP		01 36 46.0	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**144.79**	**293**	PKPbc	PKPdf	01 36 53.9	-1.4
	comp=Z,3.9nm,0.8s,baz=184,slow=22,SNR=4.4						
JOF	**Joensuu**	**145.30**	**336**	*e*pkp	PKPdf	01 36 54.1	-2.1
ZEI	**Tsey**	**145.50**	**298**	*i* PKIKP	PKPdf	01 36 55.7	-0.9
MSL	**Mosul**	**145.66**	**286**	*ex*	x	01 36 57.0	
VRHR	**Novokhopersk**	**145.98**	**313**	*e*PKIKP	PKPdf	01 36 55.9	-1.5
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,50nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
GOF	**Gofitskoye**	**146.04**	**302**	*e*PKIKP	PKPdf	01 36 55.2	-2.3
GOF				pmax	pmax		
	comp=Z,47nm,1.3s						
MOS	**Moscow**	**146.64**	**322**	*e*PKIKP	PKPdf	01 36 57.6	-0.9
MOS				pmax	pmax		
	comp=Z,100nm,1.5s						
VOR	**Voronezh**	**147.26**	**315**	PKP2	PKPab	01 37 00.0	-3.7
VOR				pmax	pmax		
	comp=Z,80nm,1.6s						
ERZM	**Erzurum**	**147.36**	**292**	*i* P	PKPdf	01 37 01.7	+2.0
VRSR	**Storozhevoye**	**147.42**	**314**	*e*PKP2	PKPbc	01 37 00.5	-1.8
VRSR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,5.0nm,1.0s						
OBN	**Obninsk**	**147.46**	**322**	*α* *i* PKP2	PKPbc	01 37 00.2	-2.2
OBN				pmax	pmax		
	comp=Z,61nm,1.5s						
KAF	**Kangasniemi**	**147.50**	**338**	*e*pkp	PKPdf	01 36 58.8	-1.2
PUL	**Pulkovo**	**147.75**	**332**	*e*PKP2	PKPab	01 37 02.3	-3.3
PUL				pmax	pmax		
	comp=Z,96nm,0.3s						
FINES	**FINESS Array B**	**148.08**	**337**	PKPbc	PKPbc	01 37 01.4	-2.7
	comp=Z,21nm,0.8s,baz=63,slow=4.3,SNR=56						
FINES	**FINESS Array B**	**148.08**	**337**	⇑*i*PKIKP	PKPdf	01 37 01.3	+0.4
KELT	**Kelkit**	**148.99**	**293**	*i* P	PKPdf	01 37 04.9	+2.5
MALT	**Malatya**	**149.57**	**289**	*e*PKHKP		01 37 03.6	
VSU	**Vasula**	**150.00**	**333**	*c* *i* PKP2	PKPbc	01 37 07.2	-1.8
ANN	**Anapa**	**150.02**	**302**	*i* PKHKP		01 37 07.0	
ANN				pmax	pmax		
	comp=Z,62nm,1.3s						
GZT	**Gaziantep**	**150.19**	**287**	*i* P	PKPdf	01 37 08.0	+3.7
SVST	**Sivas**	**150.76**	**292**	*i* P	PKPdf	01 37 10.7	+5.5
COBT	**Iskenderun**	**151.16**	**285**	*i* P	PKPdf	01 37 10.3	+4.5
NB2	**NORSAR Subarra**	**152.04**	**349**	PKPa		01 37 11.0	
	comp=Z,9.5nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.04**	**349**	PKPbc	PKPbc	01 37 10.1	-3.6
	comp=Z,9.6nm,0.8s,baz=13,slow=4.1,SNR=29						
MNK	**Minsk**	**152.10**	**326**	*e*PKIKP	PKPdf	01 37 10.0	+2.8
BOYT	**Boyabat**	**152.25**	**296**	*i* P	PKPdf	01 37 12.6	+5.1
NAO01	**NORSAR Array S**	**152.28**	**350**	*e*PKPdf	PKPdf	01 37 07.5	0.0
SIM	**Simferopol'**	**152.31**	**303**	*e*PKIKP	PKPdf	01 37 12.0	+4.5
SIM				pmax	pmax		
	comp=Z,20nm,1.0s						
DBIC	**Dimbokro**	**152.38**	**167**	PKP	PKPdf	01 37 07.8	+0.2
	comp=Z,3.6nm,1.0s,baz=248,slow=5.6,SNR=4.0						
DBIC				PKPbc	PKPbc	01 37 13.0	-1.5
	comp=Z,12nm,0.9s,baz=142,slow=2.7,SNR=10						
DBIC	**Dimbokro**	**152.38**	**167**	*e*PKPdf	PKPdf	01 37 08.6	+1.0
CTKT	**Corum**	**152.39**	**294**	*i* P	PKPdf	01 37 13.2	+5.6
HFS	**Hagfors**	**152.46**	**346**	PKPbc	PKPbc	01 37 11.1	-3.5
	comp=Z,12nm,0.8s,baz=153,slow=3.3,SNR=21						
BR131	**Keskin Array S**	**153.31**	**292**	*e*PKP	PKPdf	01 37 13.9	+5.0
BRTR	**Keskin Array B**	**153.31**	**292**	PKPbc	PKPbc	01 37 14.8	-1.8
	comp=Z,8.8nm,0.9s,baz=134,slow=3.7,SNR=40						
BRTR	**Keskin Array B**	**153.31**	**292**	⇑*i*PKIKP	PKPdf	01 37 15.1	+6.1
AKASG	**Malin Array Be**	**153.43**	**318**	PKPbc	PKPbc	01 37 14.6	-2.2
	comp=Z,8.4nm,0.8s,baz=68,slow=2.0,SNR=24						
ANTO	**Ankara**	**153.96**	**293**	*e*PKP	PKPdf	01 37 16.5	+6.6
SUW	**Suwalki**	**154.51**	**329**	*e*PKP	PKPdf	01 37 17.4	+6.7
SUW	**Suwalki**	**154.51**	**329**	*e*PKPdf	PKPdf	01 37 13.2	+2.6
ULDT	**Uludag**	**156.73**	**294**	*i* P	PKPdf	01 37 21.7	+8.0
TORD	**Torodi Ar. Bea**	**159.34**	**182**	PKP	PKPdf	01 37 16.0	-0.9
	comp=Z,2.6nm,1.1s,baz=157,slow=0.1,SNR=6.9						
TORD				PKPab	PKPab	01 37 54.4	-0.1
	comp=Z,6.6nm,0.9s,baz=174,slow=3.6,SNR=14						
CLL	**Collm**	**160.52**	**337**	*i* PKPab	PKPab	01 38 01.5	+1.9
KHC	**Kasperske Hory**	**162.13**	**332**	*e*P	PKPab	01 38 04.0	-2.7
GERES	**GERESS Array B**	**162.31**	**331**	PKPab	PKPab	01 38 07.4	-0.1
	comp=Z,1.0nm,0.9s,baz=63,slow=3.0,SNR=4.9						
CDF	**Champ du Feu**	**164.75**	**344**	*e*PKP2	PKPab	01 38 15.1	-3.1
	comp=Z,29nm,1.4s						
FLN	**La Foiliniere**	**165.10**	**4**	*e*PKP2	PKPab	01 38 18.0	-1.7
	comp=Z,45nm,1.3s						
LDF	**La Druitiere**	**165.29**	**3**	*e*PKP2	PKPab	01 38 18.6	-1.9
	comp=Z,131nm,1.7s						
GRR	**Gorron**	**165.45**	**5**	*e*PKP2	PKPab	01 38 19.8	-1.5
LOR	**Lormes**	**166.46**	**352**	*e*PKP2	PKPab	01 38 22.7	-3.0
SSF	**Saint Saulge**	**166.71**	**353**	*e*PKP2	PKPab	01 38 23.6	-3.2
	comp=Z,20nm,1.1s						
CABF	**La Chapelle**	**166.72**	**345**	*e*PKP2	PKPab	01 38 23.0	-3.8
AVF	**Avril sur Loir**	**166.99**	**353**	*e*P

ISC 14 03:26:18.8±0.3, 2772N±003×13978E±005, h488km±3km, h490km±6.4km; pP-P, n161, σ1°11/193, mb4.1/66, 3C-6D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.23**	**106**	P	**P**	**03 27 24.2**	**+0.3**
CBIJ				S	**S**	**03 28 14.1**	**-2.8**
CBIJ	**Chichi jima**	**2.23**	**106**	P	**P**	**03 27 23.9**	**-0.1**
	145nm,0.3s,baz=89,slow=2.2,SNR=73						
CBIJ				S	**S**	**03 28 14.2**	**-2.7**
	469nm,0.3s,baz=291,slow=22,SNR=38						
JHHJ	**Haha-jima-NKT**	**2.40**	**116**	P	**P**	**03 27 25.6**	**+0.7**
JHHJ				S	**S**	**03 28 17.5**	**-1.2**
JHJ2	**Mitsune**	**5.38**	**0**	P	**P**	**03 27 49.2**	**+0.7**
JHJ2				S	**S**	**03 29 00.7**	**-1.2**
JHJ	**Hachijo jima 2**	**5.38**	**0**	P	**P**	**03 27 49.4**	**+0.8**
	54nm,0.3s,baz=137,slow=4.0,SNR=17						
JHJ				S	**S**	**03 29 00.2**	**-1.8**
	33nm,0.3s,baz=275,slow=23,SNR=6.3						
BSO1	**Boso 1**	**6.99**	**8**	P	**P**	**03 28 05.4**	**+1.0**
BSO1				S	**S**	**03 29 29.3**	**-1.6**
BSO3	**Boso 3**	**7.09**	**5**	P	**P**	**03 28 06.6**	**+1.2**
BSO3				S	**S**	**03 29 30.6**	**-2.2**
JIE	**Ise**	**7.15**	**339**	P	**P**	**03 28 09.3**	**+3.2**
JIE				S	**S**	**03 29 35.8**	**+1.7**
JKN2	**Miekihoku**	**7.16**	**336**	P	**P**	**03 28 09.2**	**+3.0**
JKN2				S	**S**	**03 29 37.1**	**+2.9**
BSO4	**Boso 4**	**7.26**	**4**	P	**P**	**03 28 07.6**	**+0.4**
BSO4				S	**S**	**03 29 33.4**	**-2.7**
JOD2	**Odawara 2**	**7.54**	**356**	P	**P**	**03 28 10.2**	**+0.1**
JOD2				S	**S**	**03 29 39.6**	**-1.8**
JAO	**Obara**	**7.83**	**345**	P	**P**	**03 28 14.8**	**+1.8**
JAO				*e*S	**S**	**03 29 46.6**	**-0.2**
JHU	**Hanno**	**8.12**	**357**	P	**P**	**03 28 16.0**	**-0.1**
JHU				S	**S**	**03 29 46.8**	**-5.6**
JRY	**Ryogami san**	**8.31**	**355**	P	**P**	**03 28 18.7**	**+0.6**
JRY				S	**S**	**03 29 51.7**	**-4.3**
JYT	**Yasato**	**8.49**	**2**	S	**S**	**03 29 55.7**	**-3.8**
JAG	**Ashikaga**	**8.69**	**358**	P	**P**	**03 28 21.5**	**-0.5**
JAG				S	**S**	**03 29 57.4**	**-5.9**
JHO	**Hitachi**	**8.89**	**4**	P	**P**	**03 28 24.3**	**+0.1**
JHO				S	**S**	**03 30 03.7**	**-3.6**
MJAR	**Matsushiro Arr**	**8.90**	**352**	P	**P**	**03 28 24.4**	**+0.2**
	2.0nm,0.3s,baz=176,slow=8.4,SNR=16						
MJAR				S	**S**	**03 30 08.7**	**+1.3**
	1.6nm,0.3s,baz=201,slow=24,SNR=6.4						
MJAR	**Matsushiro Arr**	**8.90**	**352**	P	**P**	**03 28 24.4**	**+0.2**
MJAR				S	**S**	**03 30 08.7**	**+1.3**
MAJO	**Matsushiro**	**8.90**	**352**	P	**P**	**03 28 24.8**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,19nm,0.4s						
MAJO	**Matsushiro**	**8.90**	**352**	P	**P**	**03 28 24.8**	**+0.5**
	comp=Z,19nm,0.4s						
MAT	**Matsushiro**	**8.90**	**352**	P	**P**	**03 28 24.6**	**+0.3**
MAT				S	**S**	**03 30 04.4**	**-3.0**
MAT	**Matsushiro**	**8.90**	**352**	P	**P**	**03 28 24.7**	**+0.4**
MAT				S	**S**	**03 30 02.8**	**-4.6**
JFK	**Kawauchi**	**9.66**	**5**	P	**P**	**03 28 33.4**	**+1.0**
JFK				S	**S**	**03 30 18.6**	**-3.7**
JOW	**Kunigami**	**10.28**	**268**	P	**P**	**03 28 40.5**	**+1.6**
	comp=Z,3.1nm,0.3s,baz=104,slow=11,SNR=10						
JMK	**Ichinoseki**	**11.27**	**6**	P	**P**	**03 28 50.5**	**+1.0**
JMK				*e*S	**S**	**03 30 53.6**	**-0.1**
ASAJ	**Asahikawa**	**16.52**	**7**	P	**P**	**03 29 45.4**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=186,slow=9.8,SNR=7.3						
TATO	**Taipei**	**16.62**	**265**	P	**P**	**03 29 51.1**	**+5.1**
VLA	**Vladivostok**	**16.64**	**339**	*e*P	**P**	**03 29 46.6**	**+0.3**
VLA				pmax	pmax		
	comp=Z,57nm,1.2s						
YHNB	**Yeheng**	**16.80**	**264**	*e*Pn	**P**	**03 29 46.9**	**-1.0**
NJ2	**Nanjing**	**18.65**	**288**	*e*P	**P**	**03 30 06.0**	**+0.4**
NJ2				XP	sP	03 32 08.0	-3.5
NJ2				S	**S**	**03 33 09.0**	**-1.5**
NJ2				PCP	PcP	03 34 10.0	+1.3
NJ2				SCP	ScP	03 36 58.0	+0.3
NJ2				PCS	PcS	03 37 45.0	-0.8
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,80nm,6.0s						
NJ2				LR	LR		
	comp=N,430nm,16.0s						
NJ2				LR	LR		
	comp=E,730nm,16.0s						
NJ2				LR	LR		
	comp=Z,420nm,16.0s						
MDJ	**Mudanjiang**	**18.73**	**337**	P	**P**	**03 30 06.3**	**-0.1**
MDJ				S	**S**	**03 33 12.0**	**0.0**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,183nm,4.0s						
MDJ	**Mudanjiang**	**18.73**	**337**	P	**P**	**03 30 06.7**	**+0.3**
	comp=Z,6.6nm,0.8s						
SNY	**Shenyang**	**19.32**	**321**	||P	**P**	**03 30 13.3**	**+1.5**
SNY				AMB	AMB		
	comp=Z,20nm,1.1s						
YSS	**Yuzh-Sakhalins**	**19.34**	**6**	*i*P	**P**	**03 30 12.5**	**+0.6**
CN2	**Changchun**	**19.77**	**328**	*e*P	**P**	**03 30 17.0**	**+1.2**
CN2				*e*S	**S**	**03 33 27.0**	**-1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**22.35**	**346**	*e*P	**P**	**03 30 36.7**	**-2.5**
HIA	**Hailar**	**26.47**	**330**	P	**P**	**03 31 16.1**	**+0.3**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**26.47**	**330**	P	**P**	**03 31 16.1**	**+0.3**
	comp=Z,8.5nm,0.6s,mb4.3						
ENH	**Enshi**	**26.58**	**283**	P	**P**	**03 31 17.1**	**+0.3**
	comp=Z,9.7nm,0.9s,mb4.2						
HHC	**Hu-ho-hao-te**	**26.61**	**307**	*e*P	**P**	**03 31 17.4**	**+0.3**
HHC				PCP	PcP	03 34 23.8	-1.6
HHC				S	**S**	**03 35 20.1**	**+3.3**
HHC				SCP	ScP	03 37 15.3	-3.4
HHC				SCS	ScS	03 41 07.8	-2.4
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.0						
HHC				AMB	AMB		
	comp=Z,227nm,6.0s						
HHC				LR	LR		
	comp=N,164nm,15.6s						
HHC				LR	LR		
	comp=E,141nm,19.2s						
HHC				LR	LR		
	comp=Z,181nm,13.2s						
CD2	**Chengdu**	**31.49**	**285**	*e*P	**P**	**03 31 59.8**	**+0.3**
CD2				AP		03 33 27.5	
CD2				PP	PP	03 33 30.0	-9.2
CD2				S	**S**	**03 36 31.8**	**-0.7**
CD2				XS	sS	03 39 09.6	+0.5
CD2				SS	SS	03 39 14.1	-4.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
ULN	**Ulaanbaatar**	**32.41**	**317**	*i*P	**P**	**03 32 08.0**	**+0.6**
ULN	**Ulaanbaatar**	**32.41**	**317**	P	**P**	**03 32 07.8**	**+0.4**
MA2	**Magadan**	**32.73**	**10**	*c i*P	**P**	**03 32 10.4**	**+0.2**
MA2				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
MA2	**Magadan**	**32.73**	**10**	P	**P**	**03 32 09.9**	**-0.3**
	comp=Z,14nm,0.8s,mb4.5						
SONM	**Songino Array**	**32.79**	**317**	P	**P**	**03 32 10.8**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.4,baz=123,slow=8.0,SNR=12						
SONM				PcP	PcP	03 34 41.3	-0.3
	comp=Z,0.2nm,0.4s,baz=140,slow=4.1,SNR=4.1						
SONM				ScP	ScP	03 37 37.8	-1.1
	comp=Z,1.6nm,0.6s,baz=147,slow=3.5,SNR=14						
SONM	**Songino Array**	**32.79**	**317**	P	**P**	**03 32 10.8**	**+0.1**
SONM						03 34 41.3	
YAK	**Yakutsk**	**34.96**	**352**	*i*P	**P**	**03 32 28.4**	**-0.6**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
BOD	**Bodaibo**	**35.11**	**336**	*e*P	**P**	**03 32 28.9**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
FX1	**Attu Island--F**	**35.25**	**35**	P	**P**	**03 32 32.9**	**+1.6**
	comp=Z,23nm,0.5s,mb4.8,baz=94,slow=23,SNR=12						
FX1	**Attu Island--F**	**35.25**	**35**	*e*P	**P**	**03 32 33.5**	**+2.2**
SEY	**Seymchan**	**36.17**	**10**	*i*P	**P**	**03 32 39.9**	**+0.8**
BILL	**Bilibino**	**43.35**	**14**	*c i*P	**P**	**03 33 37.3**	**+0.4**
BILL				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.7						
BILL	**Bilibino**	**43.35**	**14**	*e*P	**P**	**03 33 37.0**	**+0.1**
	comp=Z,29nm,0.8s,mb4.8						
TIXI	**Tiksi**	**44.39**	**355**	P	**P**	**03 33 44.3**	**-0.7**
WMQ	**Urumqi**	**44.48**	**305**	P	**P**	**03 33 46.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.6						
JIRN	**Jiri**	**47.13**	**283**	*e*P	**P**	**03 34 07.5**	**+1.6**
	comp=Z,19nm,0.7s,mb4.7						
GUN	**Gumba**	**47.34**	**283**	*e*P	**P**	**03 34 09.0**	**+1.5**
	comp=Z,30nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**47.56**	**198**	*e*P	**P**	**03 34 09.1**	**-0.1**
	comp=Z,11nm,1.4s,mb4.0						
ZAL	**Zalesovo**	**47.63**	**319**	P	**P**	**03 34 09.1**	**-0.6**
	comp=Z,3.0nm,0.4s,mb3.9,baz=357,slow=7.0,SNR=9.5						
ZAL				PcP	PcP	03 35 29.4	-0.6
	comp=Z,1.2nm,0.3s,baz=266,slow=3.4,SNR=3.1						
ZAL				ScP	ScP	03 38 35.1	-1.9
	comp=Z,1.0nm,0.5s,baz=317,slow=3.9,SNR=5.2						
ZAL	**Zalesovo**	**47.63**	**319**	P	**P**	**03 34 09.1**	**-0.6**
ZAL						03 35 29.4	
ZAL	**Zalesovo**	**47.63**	**319**	P	**P**	**03 34 09.1**	**-0.6**
ZAL				PcP	PcP	03 35 29.4	-0.6
ZAL				ScP	ScP	03 38 35.1	-1.9
WRAB	**Tennant Creek**	**47.66**	**187**	||*i*P	**P**	**03 34 09.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,16nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**47.66**	**187**	||*i*P	**P**	**03 34 09.4**	**-0.6**
	comp=Z,16nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**47.67**	**187**	||*i*P	**P**	**03 34 09.4**	**-0.6**
WB2				*e*SCP	ScP	03 38 36.8	-0.5
WB2				*e*S	**S**	**03 40 25.8**	**-3.4**
WRA	**Warramunga Arr**	**47.67**	**187**	P	**P**	**03 34 09.4**	**-0.6**
	comp=Z,12nm,0.4s,mb4.6,baz=3.4,slow=7.7,SNR=230						
WRA				PcP	PcP	03 35 30.2	+0.1
	comp=Z,2.0nm,0.7s,baz=360,slow=3.7,SNR=6.7						
WRA				pP	pP	03 35 41.4	-1.4
	comp=Z,1.2nm,0.7s,baz=4.6,slow=9.1,SNR=3.5						
WRA				ScP	ScP	03 38 36.4	-0.9
	comp=Z,1.6nm,0.7s,baz=358,slow=4.4,SNR=8.7						
WRA				S	**S**	**03 40 24.7**	**-4.5**
	comp=Z,0.8nm,0.8s,baz=6.4,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**47.67**	**187**	P	**P**	**03 34 09.4**	**-0.6**
WRA						03 35 30.2	
WRA				*PP	pP	03 35 41.4	-1.4
WRA				S	**S**	**03 40 24.7**	**-4.5**
PKI	**Pulchoki**	**47.82**	**283**	*e*P	**P**	**03 34 12.1**	**+1.0**
KKN	**Kakani**	**47.88**	**283**	*e*P	**P**	**03 34 12.4**	**+0.8**
CTA	**Charters Tower**	**47.94**	**172**	*e*P	**P**	**03 34 12.2**	**+0.2**
	comp=Z,5.2nm,0.6s,mb4.0						
CTAO	**Charters Tower**	**47.94**	**172**	P	**P**	**03 34 12.3**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**47.94**	**172**	P	**P**	**03 34 12.3**	**+0.3**
	comp=Z,7.6nm,0.7s,mb4.1						
DMN	**Daman**	**48.07**	**283**	*e*P	**P**	**03 34 14.0**	**+1.0**
GKN	**Gorkha**	**48.39**	**284**	*e*P	**P**	**03 34 16.3**	**+0.9**
MK31	**Makanchi Array**	**48.43**	**309**	*i*P	**P**	**03 34 15.9**	**+0.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**03 34 15.4**	**-0.3**
	comp=Z,1.2nm,0.3s,mb3.7,baz=87,slow=11,SNR=49						
MKAR				pP	pP	03 35 48.4	-0.5
	comp=Z,0.2nm,0.5s,baz=79,slow=7.3,SNR=1.3						
MKAR				ScP	ScP	03 38 38.7	-1.8
	comp=Z,1.5nm,0.7s,baz=80,slow=5.2,SNR=14						
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**03 34 15.5**	**-0.2**
MKAR				*PP	pP	03 35 48.4	-0.5
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**03 34 15.4**	**-0.3**
MKAR				pP	pP	03 35 48.4	-0.5
MKAR				ScP	ScP	03 38 38.7	-1.8
KOLN	**Koldanda**	**49.33**	**284**	*e*P	**P**	**03 34 23.4**	**+1.0**
KURK	**Kurchatov**	**51.02**	**314**	*i*P	**P**	**03 34 34.6**	**-0.2**
KURK				*i* *PP	pP	03 36 13.3	+4.0
KURK	**Kurchatov**	**51.02**	**314**	P	**P**	**03 34 34.8**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**51.40**	**187**	P	**P**	**03 34 37.0**	**-0.6**
	comp=Z,5.3nm,0.4s,mb4.2,baz=3.0,slow=6.0,SNR=136						
ASAR				PcP	PcP	03 35 44.0	+0.1
	comp=Z,1.6nm,0.8s,baz=8.0,slow=3.6,SNR=8.2						
ASAR				ScP	ScP	03 38 52.2	-1.1
	comp=Z,0.3nm,0.9s,baz=2.0,slow=4.7,SNR=4.2						
ASAR				S	**S**	**03 41 15.8**	**-4.2**
	comp=Z,0.3nm,0.6s,baz=13,slow=14,SNR=4.5						
ASAR	**Alice Springs**	**51.40**	**187**	P	**P**	**03 34 37.0**	**-0.6**
ASAR						03 35 44.0	
ASAR				S	**S**	**03 41 15.9**	**-4.2**
KDAK	**Kodiak Island**	**55.15**	**37**	P	**P**	**03 35 04.3**	**0.0**
	comp=Z,5.9nm,0.6s,mb4.1,baz=188,slow=6.0,SNR=14						
VOSK	**Vostochnaya**	**55.79**	**317**	P	**P**	**03 35 08.3**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
BVA0	**Borovoye Array**	**56.14**	**317**	*i*P	**P**	**03 35 11.3**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
BRVK	**Borovoye**	**56.20**	**317**	*e*P	**P**	**03 35 11.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**56.20**	**317**	*e*P	**P**	**03 35 11.2**	**-0.4**
	comp=Z,6.9nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**56.98**	**317**	*i*P	**P**	**03 35 16.9**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**56.98**	**317**	P	**P**	**03 35 17.0**	**0.0**
	comp=Z,6.1nm,0.4s,mb4.3						
KK31	**Karatay Array**	**56.98**	**305**	*i*P	**P**	**03 35 17.6**	**+0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
KKAR	**Karatay Array**	**56.98**	**305**	*e*P	**P**	**03 35 17.6**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
PMR	**Palmer**	**57.06**	**33**	*e*P	**P**	**03 35 17.0**	**-0.6**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
PMR	**Palmer**	**57.06**	**33**	*e*P	**P**	**03 35 16.9**	**-0.6**
	comp=Z,3.8nm,0.4s,mb4.1						
MCK	**McKinley**	**57.25**	**30**	*e*P	**P**	**03 35 19.0**	**+0.1**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
MCK	**McKinley**	**57.25**	**30**	*e*P	**P**	**03 35 19.0**	**+0.1**
	comp=Z,10nm,0.9s,mb4.2						
COLA	**College**	**57.79**	**29**	*i*P	**P**	**03 35 23.5**	**+1.0**
COLA	**College**	**57.79**	**29**	*e*P	**P**	**03 35 22.6**	**+0.1**
	comp=Z,22nm,1.5s,mb4.3						
ILAR	**Eielson Array**	**58.20**	**29**	P	**P**	**03 35 24.4**	**-1.0**
	comp=Z,2.9nm,0.7s,mb3.7,baz=246,slow=5.7,SNR=35						
STKA	**Stephens Creek**	**59.29**	**178**	||*i*P	**P**	**03 35 30.2**	**-2.5**
	comp=Z,5.4nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**59.29**	**178**	P	**P**	**03 35 29.8**	**-2.9**
	comp=Z,6.5nm,0.5s,mb4.2,baz=348,slow=6.8,SNR=28						
STKA	**Stephens Creek**	**59.29**	**178**	*e*P	**P**	**03 35 30.4**	**-2.3**
KLBR	**Kellerberrin**	**62.60**	**201**	*e*P	**P**	**03 35 54.0**	**-0.6**
	comp=Z,5.4nm,0.4s,mb4.4						
ARU	**Arti**	**62.62**	**322**	||*i*P	**P**	**03 35 53.2**	**-1.4**
ARU				*e*	pP	03 37 35.8	+1.3
ARU				*e*		03 38 17.3	
ARU				*e*S	**S**	**03 43 41.4**	**-2.8**
ARU				*e*SS	SS	03 47 56.3	-3.4
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
ARU	**Arti**	**62.62**	**322**	*e*P	**P**	**03 35 54.4**	**-0.2**
	comp=Z,5.8nm,0.3s,mb4.6						
AB31	**Akbulak array**	**63.13**	**314**	*e*P	**P**	**03 35 57.6**	**-0.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
INK	**Inuvik**	**63.35**	**25**	P	**P**	**03 35 58.5**	**-0.9**
	comp=Z,1.1nm,0.4s,mb3.8,baz=286,slow=5.1,SNR=19						
INK				PcP	PcP	03 36 30.4	-0.9
	comp=Z,1.4nm,1.0s,baz=235,slow=17,SNR=4.1						
NWAO	**Narrogin (SRO)**	**64.00**	**201**	P	**P**	**03 36 02.8**	**-0.8**
	comp=Z,9.3nm,0.7s,mb4.4,baz=39,slow=6.4,SNR=6.8						
NWAO	**Narrogin (SRO)**	**64.00**	**201**	*e*P	**P**	**03 36 03.2**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**64.00**	**201**	*e*P	**P**	**03 36 03.2**	**-0.4**
	comp=Z,8.9nm,0.8s,mb4.3						
KEV	**Kevo**	**71.68**	**340**	*e*p	**P**	**03 36 48.8**	**-1.7**
	comp=Z,17nm,1.1s,mb4.5						
KEV	**Kevo**	**71.68**	**340**	*e*P	**P**	**03 36 48.8**	**-1.7**
KEV				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
RES	**Resolute Bay**	**71.95**	**13**	P	**P**	**03 36 52.0**	**-0.1**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
RES	**Resolute Bay**	**71.95**	**13**	P	**P**	**03 36 52.0**	**0.0**
	comp=Z,3.5nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**72.25**	**340**	P	**P**	**03 36 53.5**	**-0.3**
	comp=Z,4.2nm,0.5s,mb4.2,baz=70,slow=8.3,SNR=40						
ARE0	**ARCESS Array S**	**72.25**	**340**	*e*P	**P**	**03 36 53.5**	**-0.3**
YKA	**Yellowknife Ar**	**72.60**	**28**	P	**P**	**03 36 55.4**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.1,baz=296,slow=5.8,SNR=64						
YKA	**Yellowknife Ar**	**72.60**	**28**	||*e*P	**P**	**03 36 55.4**	**-0.5**
YKA	**Yellowknife Ar**	**72.60**	**28**	P	**P**	**03 36 55.4**	**-0.4**
JOF	**Joensuu**	**73.57**	**333**	*e*p	**P**	**03 37 00.6**	**-0.8**
	comp=Z,3.4nm,0.5s,mb4.1						
JOF	**Joensuu**	**73.57**	**333**	*e*P	**P**	**03 37 00.6**	**-0.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**75.98**	**334**	*e*p	**P**	**03 37 13.2**	**-1.8**
	comp=Z,4.9nm,0.4s,mb4.4,baz=56,slow=4.6						
KAF	**Kangasniemi**	**75.98**	**334**	*e*P	**P**	**03 37 13.2**	**-1.8**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**76.44**	**333**	P	**P**	**03 37 16.8**	**-0.7**
	comp=Z,7.2nm,0.4s,mb4.6,baz=64,slow=5.5,SNR=112						
FINES	**FINESS Array B**	**76.44**	**333**	P	**P**	**03 37 16.8**	**-0.7**
YBH	**Yreka Blue Hor**	**77.28**	**50**	P	**P**	**03 37 23.1**	**+1.0**
	comp=Z,2.7nm,0.9s,mb3.8,baz=143,slow=6.5,SNR=5.8						
NEW	**Newport**	**77.88**	**42**	P	**P**	**03 37 25.4**	**0.0**
	comp=Z,3.8nm,0.8s,mb3.9,baz=282,slow=5.3,SNR=6.0						
NEW	**Newport**	**77.88**	**42**	*e*P	**P**	**03 37 25.5**	**+0.1**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NEW	**Newport**	**77.88**	**42**	*e*P	**P**	**03 37 25.5**	**+0.1**
	comp=Z,3.4nm,0.7s,mb3.9						
MIB	**Mutribah**	**78.70**	**298**	*e*P	**P**	**03 37 27.0**	**-2.8**
MIB				AMb	AMB	03 37 30.8	
	comp=Z,12nm,0.5s,mb4.7						
RDF	**Al-Radifah**	**78.91**	**297**	*e*P	**P**	**03 37 28.4**	**-2.5**
RDF				AML	AML	03 37 32.8	
	comp=Z,6.7nm,0.6s						
NAY	**Al-Naaiem**	**79.01**	**297**	*e*P	**P**	**03 37 29.2**	**-2.3**
NAY				AMb	AMB	03 37 32.5	
	comp=Z,7.0nm,0.5s,mb4.4						
BMO	**Blue Mountains**	**79.38**	**45**	P	**P**	**03 37 34.4**	**+1.0**
SUMG	**Summit**	**79.97**	**359**	P	**P**	**03 37 36.5**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.0						
CMB	**Columbia Colle**	**80.54**	**52**	*e*P	**P**	**03 37 40.2**	**+0.7**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
CMB	**Columbia Colle**	**80.54**	**52**	*e*P	**P**	**03 37 40.2**	**+0.7**
	comp=Z,2.5nm,0.8s,mb3.8						
AKASG	**Malin Array Be**	**80.84**	**323**	P	**P**	**03 37 40.4**	**-0.7**
	comp=Z,0.9nm,0.3s,mb3.7,baz=52,slow=5.3,SNR=9.1						
AKASG	**Malin Array Be**	**80.84**	**323**	*i* P	**P**	**03 37 40.4**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MALT	**Malatya**	**81.47**	**309**	*e*P	**P**	**03 37 45.7**	**+1.4**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
MALT	**Malatya**	**81.47**	**309**	*e*P	**P**	**03 37 45.7**	**+1.4**
	comp=Z,4.2nm,1.0s,mb3.9						
HRY	**Holter Researc**	**81.76**	**41**	P	**P**	**03 37 47.0**	**+1.2**
NVAR	**Mina Array Bea**	**81.80**	**51**	P	**P**	**03 37 46.7**	**+0.7**
	comp=Z,1.4nm,0.5s,mb3.7,baz=287,slow=6.3,SNR=20						
NVAR				pP	pP	03 39 33.3	+0.5
	comp=Z,0.2nm,0.5s,baz=91,slow=33,SNR=1.7						
HLID	**Hailey**	**81.83**	**45**	P	**P**	**03 37 47.8**	**+1.7**
	comp=Z,2.2nm,0.7s,mb3.8						
NB2	**NORSAR Subarra**	**82.23**	**337**	P	**P**	**03 37 46.8**	**-1.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**82.23**	**337**	P	**P**	**03 37 46.8**	**-1.4**
	comp=Z,4.1nm,0.6s,mb4.2,baz=46,slow=4.9,SNR=14						
ELK	**Elko**	**82.72**	**48**	P	**P**	**03 37 51.5**	**+0.8**
	comp=Z,2.8nm,0.9s,mb3.8,baz=298,slow=4.7,SNR=9.6						
ELK	**Elko**	**82.72**	**48**	*e*P	**P**	**03 37 51.8**	**+1.1**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ELK	**Elko**	**82.72**	**48**	*e*P	**P**	**03 37 51.8**	**+1.1**
	comp=Z,3.7nm,1.1s,mb3.8						
BRTR	**Keskin Array B**	**84.00**	**312**	P	**P**	**03 37 56.8**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.3,baz=81,slow=2.1,SNR=3.9						
DUG	**Dugway**	**84.59**	**47**	*e*P	**P**	**03 38 00.7**	**+0.7**
DUG			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ				S	Sg	04 00 41.8	+1.3
MLZ	**Mavora Lakes**	**0.69**	**67**	P*	Pb	04 00 35.9	-1.4
MLZ				SG	Sg	04 00 44.2	-0.8
MLZ	**Mavora Lakes**	**0.69**	**67**	P	Pg	04 00 35.9	-0.2
MLZ				S	Sg	04 00 45.7	+0.7
MSZ	**Milford Sound**	**1.05**	**26**	P*	Pb	04 00 41.7	-1.8
MSZ				S*	Sb	04 00 56.6	-1.0
MSZ	**Milford Sound**	**1.05**	**26**	P	Pg	04 00 41.4	-1.7
WKZ	**Wanaka**	**1.46**	**58**	PN	Pn	04 00 49.9	0.0
WKZ	**Wanaka**	**1.46**	**58**	P	Pn	04 00 50.0	+0.1
EAZ	**Earnscleugh**	**1.48**	**76**	PN	Pn	04 00 50.0	-0.2
EAZ	**Earnscleugh**	**1.48**	**76**	P	Pn	04 00 50.0	-0.2
TUZ	**Tuapeka**	**1.68**	**102**	PN	Pn	04 00 52.4	-0.6
TUZ	**Tuapeka**	**1.68**	**102**	P	Pn	04 00 52.4	-0.6
JCZ	**Jackson Bay**	**1.87**	**35**	PN	Pn	04 00 55.9	+0.4
JCZ	**Jackson Bay**	**1.87**	**35**	*e*P	Pn	04 00 55.9	+0.4
LBZ	**Lake Benmore**	**2.40**	**60**	*e*P	Pn	04 01 01.8	-1.1
ODZ	**Otahua Downs**	**2.44**	**78**	P	Pn	04 01 02.3	-1.1

*IDC **14** 04:01:38.5±2.3, 3836N×13896E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.2/21, mbtmp3.6/2, Error ellipse: s-maj=44.2km s-min=22.2km az=113.0*
*ISCJB **14** 04:01:41.7±0.5, 3826N±003×13923E±004, h23km±5km, mb3.6/2, Error ellipse: s-maj=5.9km s-min=4.0km az=87.9*
*JMA **14** 04:01:41.7, 3825N×13925E, h19km±1km, M3.4*
ISC 14 04:01:41.6±0.5, 3824N±003×13924E±004, h14km±4km, n15, σ0=59/27, mb3.6/2, 8C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.22**	**1**	⇓P	**Pg**	**04 01 46.6**	**0.0**
JAW				S	**Sg**	**04 01 50.5**	**+0.6**
JNS	**Sasagawa**	**0.42**	**172**	⇑P	**Pg**	**04 01 50.0**	**-0.1**
JNS				S	**Sg**	**04 01 56.1**	**+0.4**
JYA	**Atsumi**	**0.52**	**46**	⇑P	**Pg**	**04 01 51.6**	**-0.2**
JYA				S	**Sg**	**04 01 58.9**	**+0.2**
JYS	**Shiratake**	**0.65**	**91**	⇑P	**Pg**	**04 01 54.2**	**-0.1**
JYS				S	**Sg**	**04 02 03.1**	**+0.2**
JSD	**Sado**	**0.80**	**256**	⇓P	**Pb**	**04 01 56.6**	**-0.7**
JSD				S	**Sg**	**04 02 07.4**	**-0.3**
JIZZ	**Izumozaki**	**0.82**	**211**	P	**Pb**	**04 01 58.0**	**+0.4**
JIZZ				S	**Sb**	**04 02 10.4**	**+1.9**
JFY	**Yanaizu**	**0.90**	**156**	⇑P	**Pb**	**04 01 58.6**	**-0.5**
JFY				S	**Sb**	**04 02 10.7**	**-0.2**
JHK	**Hiroka**	**1.00**	**190**	⇑P	**Pb**	**04 01 59.7**	**-1.0**
JHK				S	**Sb**	**04 02 13.3**	**-0.4**
JYK	**Kaneyama**	**1.11**	**52**	⇑P	**Pb**	**04 02 02.3**	**-0.3**
JYK				S	**Sb**	**04 02 17.0**	**+0.1**
JFT	**Otama**	**1.12**	**129**	⇑P	**Pb**	**04 02 02.8**	**0.0**
JFT				S	**Sb**	**04 02 17.4**	**+0.1**
JOU	**Okura**	**1.13**	**83**	⇑P	**Pb**	**04 02 02.5**	**-0.4**
JOU				S	**Sb**	**04 02 17.7**	**+0.4**
MAT	**Matsushiro**	**1.88**	**206**	P	**Pn**	**04 02 13.4**	**+0.1**
MAT				S	**Sn**	**04 02 37.5**	**+0.7**
MJAR	**Matsushiro Arr**	**1.88**	**206**	Pg	**Pg**	**04 02 14.2**	**-3.5**
	13nm,0.3s,baz=27,slow=16,SNR=65						
MJAR				Lg		04 02 39.0	
	31nm,0.3s,baz=17,slow=30,SNR=26						
WRA	**Warramunga Arr**	**58.05**	**185**	P	**P**	**04 11 33.7**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=0.9,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**61.78**	**186**	P	**P**	**04 11 59.9**	**+0.1**
	0.1nm,0.3s,mb3.4,baz=8.1,slow=6.6,SNR=4.6						

*IDC **14** 05:09:07.5±2.7, 5.13S×148.18E, h142km±26km, mb3.4/1, mb1 3.6/3, mb1mx3.2/14, mbtmp4.0/3, Error ellipse: s-maj=76.8km s-min=19.4km az=114.0*
NEIC 14 05:08:34.1±1.9, 259S×14905E, h35km, mb4.4/3, 1D, Error ellipse: s-maj=74.5km s-min=14.2km az=100.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.03**	**195**	P	Pn	05 10 14.1	-0.4
	7.2nm,0.3s,baz=28,slow=7.5,SNR=25						
PMG				S	Sn	05 11 02.7	-30
	2.2nm,0.3s,baz=342,slow=11,SNR=2.2						
WRAB	**Tennant Creek**	**22.43**	**219**	*e*P	P	05 13 30.2	+0.4
	7.8nm,0.3s						
WRAB				*e*S	S	05 17 05.1	-29
WB2	**Warramunga Arr**	**22.44**	**219**	*e*P	P	05 13 30.1	+0.3
WB2				*e*S	S	05 17 04.9	-30
WRA	**Warramunga Arr**	**22.45**	**219**	P	P	05 13 30.2	+0.2
	1.0nm,0.3s,baz=48,slow=10,SNR=39						
WRA				S	S	05 17 04.5	-30
	0.1nm,0.3s,baz=46,slow=21,SNR=5.8						
ASAR	**Alice Springs**	**25.57**	**214**	P	P	05 14 00.1	+0.4
	1.1nm,0.3s,baz=53,slow=8.3,SNR=20						
ASAR				S	S	05 18 02.5	-23
	0.2nm,0.5s,baz=32,slow=18,SNR=3.0						
FITZ	**Fitzroy Crossi**	**27.65**	**235**	⇓*i*P	P	05 14 25.0	+6.6
	3.5nm,0.3s						
MDJ	**Mudanjiang**	**50.10**	**342**	P	P	05 17 24.3	-1.4
	2.0nm,0.5s						
ZRNK	**Zerenda**	**86.05**	**323**	P	P	05 21 12.3	+1.2
	0.4nm,0.3s						
KMBO	**Kilima Mbogo**	**111.71**	**268**	PKPdf	PKiKP	05 27 07.3	+2.3
TORD	**Torodi Ar. Bea**	**146.05**	**290**	PKPbc	PKPbc	05 28 29.8	+20
	0.4nm,0.6s,baz=87,slow=3.2,SNR=8.0						

*ISCJB **14** 05:26:49.4±2.2, 2305±03×1737W±03, h41km, mb4.7/7, Error ellipse: s-maj=49.4km s-min=24.6km az=76.0*
*NEIC **14** 05:26:50.5±1.6, 2288S×17361W, mb4.9/3, Error ellipse: s-maj=35.7km s-min=18.3km az=39.0*
*IDC **14** 05:27:20.2±3.0, 2316S×17759W, h39km±8km, mb4.4/4, mb1 4.5/4, mb1mx4.0/13, mbtmp4.6/4, Error ellipse: s-maj=100.1km s-min=38.7km az=145.0*
ISC 14 05:26:51.1±2.1, 2305±03×1736W±03, h42km, h42km±.8km: pP-P, n14, σ0=77/12, mb4.7/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**20.78**	**206**	P	**P**	**05 31 28.6**	**+0.1**
	96nm,1.3s						
CTA	**Charters Tower**	**37.41**	**267**	P	**P**	**05 33 59.5**	**-0.5**
	13nm,0.5s,mb5.0,baz=94,slow=11,SNR=29						
CTA				pP	pP	05 34 10.6	-1.0
	3.9nm,0.5s,baz=99,slow=9.5,SNR=3.2						
CTA	**Charters Tower**	**37.41**	**267**	P	**P**	**05 33 59.5**	**-0.5**
CTA				pP	pP	05 34 10.6	-1.0
CTAO	**Charters Tower**	**37.41**	**267**	*e*P	**P**	**05 33 59.7**	**-0.3**
	12nm,0.6s,mb4.9						
CTAO				*e*	pP	05 34 11.0	-0.6
STKA	**Stephens Creek**	**40.55**	**247**	P	**P**	**05 34 25.9**	**-0.3**
	2.4nm,0.5s,mb4.1,baz=96,slow=9.5,SNR=13						
STKA				pP	pP	05 34 37.0	-0.9
	1.1nm,0.5s,baz=80,slow=10,SNR=2.2						
STKA	**Stephens Creek**	**40.55**	**247**	*e*P	**P**	**05 34 26.0**	**-0.2**
STKA				pP	pP	05 34 37.0	-0.9
ASAR	**Alice Springs**	**48.02**	**258**	P	**P**	**05 35 26.2**	**+0.3**
	4.1nm,0.8s,mb4.5,baz=96,slow=7.9,SNR=44						
ASAR				pP	pP	05 35 37.8	-0.1
	1.5nm,0.8s,baz=98,slow=7.5,SNR=5.7						
WB2	**Warramunga Arr**	**48.37**	**263**	*e*P	**P**	**05 35 28.2**	**-0.4**
WB2				*e*	pP	05 35 40.3	-0.3
WRAB	**Tennant Creek**	**48.37**	**263**	*e*P	**P**	**05 35 28.1**	**-0.5**
	4.9nm,0.5s,mb4.8						
WRAB				*e*pP	pP	05 35 40.1	-0.5
WRA	**Warramunga Arr**	**48.38**	**263**	P	**P**	**05 35 28.4**	**-0.4**
	5.2nm,0.6s,mb4.7,baz=102,slow=8.2,SNR=53						
WRA				pP	pP	05 35 39.9	-0.8
	1.6nm,0.4s,baz=93,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**56.80**	**263**	*e*P	**P**	**05 36 33.5**	**+2.5**
	2.6nm,0.6s,mb4.4						
FITZ				*e*	pP	05 36 44.4	+1.2
PMSA	**Palmer Station**	**77.38**	**156**	P	**P**	**05 38 41.4**	**-0.2**
	16nm,0.5s,mb5.2						
AKASG	**Malin Array Be**	**147.11**	**333**	PKPbc		05 46 52.9	
	2.6nm,0.6s,baz=41,slow=3.8,SNR=14						
BRTR	**Keskin Array B**	**151.54**	**312**	PKPbc	pPKPab	05 47 03.9	+1.8
	0.8nm,0.6s,baz=108,slow=4.1,SNR=5.2						

IDC 14 06:00:27.0±7.7, 1798S×17779W, h461km±83km, mb3.2/5, mb1 3.3/5, mb1mx3.2/14, mbtmp4.0/5, Error ellipse: s-maj=44.9km s-min=32.4km az=18.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.69**	**191**	P	P	06 04 34.1	+0.1
	3.6nm,0.3s,baz=305,slow=4.7,SNR=11						
STKA	**Stephens Creek**	**39.11**	**241**	P	P	06 07 12.7	-0.6
	0.7nm,0.4s,baz=67,slow=7.7,SNR=3.1						
WRA	**Warramunga Arr**	**45.20**	**260**	P	P	06 08 01.9	+0.4
	0.7nm,0.6s,baz=96,slow=7.7,SNR=7.6						
WRA				PcP	PcP	06 09 32.1	-0.1
	0.7nm,0.8s,baz=90,slow=3.7,SNR=4.8						
ASAR	**Alice Springs**	**45.34**	**254**	P	P	06 08 03.2	+0.6
	3.0nm,0.5s,baz=87,slow=8.3,SNR=31						
ASAR				PcP	PcP	06 09 33.2	+0.5
	0.8nm,0.4s,baz=100,slow=4.1,SNR=7.4						
ILAR	**Eielson Array**	**85.83**	**13**	P	P	06 12 16.2	-0.6
	0.3nm,0.6s,baz=217,slow=5.4,SNR=5.3						

IDC 14 06:47:16.6±7.8, 1228N×9282E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=174.3km s-min=59.8km az=146.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.53**	**348**	P	P	06 54 15.3	+0.1
	0.7nm,0.7s,baz=160,slow=8.2,SNR=11						
SONM	**Songino Array**	**37.22**	**15**	P	P	06 54 29.8	+0.2
	0.3nm,0.5s,baz=187,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**68.24**	**332**	P	P	06 58 18.5	-0.5
	0.5nm,0.5s,baz=117,slow=8.5,SNR=4.2						
GERES	**GERESS Array B**	**73.71**	**317**	P	P	06 58 52.8	+0.6
	0.7nm,0.7s,baz=90,slow=6.7,SNR=5.3						

IDC 14 07:20:29.9±9.2, 1930S×17813W, h308km±91km, mb3.3/4, mb1 3.6/5, mb1mx3.4/14, mbtmp4.0/5, Error ellipse: s-maj=52.9km s-min=25.1km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.34**	**191**	P	P	07 24 33.3	0.0
	1.3nm,0.3s,baz=78,slow=7.2,SNR=8.0						
WB2	**Warramunga Arr**	**44.64**	**261**	*e*P	P	07 28 12.6	0.0
WB2				*e*		07 28 21.2	
WRA	**Warramunga Arr**	**44.66**	**261**	P	P	07 28 12.8	+0.2
	0.8nm,0.3s,baz=97,slow=7.5,SNR=25						
ASAR	**Alice Springs**	**44.68**	**256**	P	P	07 28 13.2	+0.3
	1.2nm,0.4s,baz=90,slow=7.6,SNR=41						
ASAR				PcP	PcP	07 29 50.4	+1.0
	0.5nm,0.5s,baz=105,slow=4.0,SNR=4.9						
FITZ	**Fitzroy Crossi**	**53.07**	**262**	*e*P	P	07 29 15.5	-0.6
	1.1nm,0.5s						
FITZ				*e*		07 29 23.8	
ILAR	**Eielson Array**	**87.18**	**13**	P	P	07 32 41.2	-0.3
	0.5nm,0.6s,baz=220,slow=5.5,SNR=8.4						
PDAR	**Pinedale Array**	**88.18**	**43**	P	P	07 32 46.8	+0.5
	0.4nm,0.7s,baz=248,slow=4.9,SNR=3.2						
ARCES	**ARCESS Array B**	**127.72**	**350**	PKP	PKPdf	07 38 56.7	-2.1
	3.8nm,0.9s,baz=270,slow=2.4,SNR=5.5						
AKASG	**Malin Array Be**	**141.91**	**332**	PKhKP		07 39 19.9	
	0.6nm,0.4s,baz=40,slow=3.5,SNR=5.2						
BRTR	**Keskin Array B**	**145.94**	**314**	PKPbc	PKPbc	07 39 33.8	+0.3
	1.1nm,0.6s,baz=133,slow=5.5,SNR=5.4						
GERES	**GERESS Array B**	**149.02**	**345**	PKPbc	PKPbc	07 39 41.0	-0.7
	1.1nm,0.7s,baz=18,slow=4.2,SNR=8.5						

IDC 14 07:28:23.4±1.8, 161N×12759E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=86.3km s-min=24.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.68**	**186**	*e*P	Pn	07 32 57.7	+2.4
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**22.42**	**163**	P	P	07 33 25.3	+1.8
	4.7nm,0.9s,baz=341,slow=10,SNR=23						
WB2	**Warramunga Arr**	**22.42**	**163**	*e*P	P	07 33 25.8	+2.2
WB2				*e*		07 33 34.3	
ASAR	**Alice Springs**	**25.86**	**167**	P	P	07 33 57.2	+0.6
	0.4nm,0.6s,baz=350,slow=7.8,SNR=7.5						
NWAO	**Narrogin (SRO)**	**35.72**	**195**	P	P	07 35 23.8	+0.2
	3.2nm,0.5s,baz=0.0,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**35.85**	**159**	P	P	07 35 23.1	-1.7
	0.7nm,0.3s,baz=306,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**59.78**	**326**	P	P	07 38 30.6	+0.4
	0.5nm,0.5s,baz=116,slow=9.2,SNR=5.4						

GUC 14 07:29:39.5±1.0, 3718S×7215W, h121km±7km, MD3.7, ML3.2, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.58**	**6**	⇓*i*P	Pn	07 29 58.2	+0.2
CCHI				*i* S	Sn	07 30 11.8	-0.2
CCHI				AMP		07 30 12.8	
	comp=E,1μm,0.3s						
COCH	**Cobquecura**	**1.16**	**334**	*e*P	Pn	07 30 06.2	+2.9
COCH				*i* S	Sn	07 30 24.1	+2.9
COCH				AMP		07 30 30.4	
	comp=N,80nm,0.4s						
LNCH	**Linares**	**1.40**	**19**	⇓*e*P	Pn	07 30 06.2	+0.4
LNCH				*i* S	Sn	07 30 26.6	+0.8
LNCH				AMP		07 30 31.5	
	comp=N,1μm,0.6s						
CNCO	**Chanco**	**1.47**	**348**	*i* S	Sn	07 30 27.8	+0.5
CNCO				AMP		07 30 39.3	
	comp=N,932nm,0.2s						
SFDO	**San Fernando**	**2.72**	**20**	⇑*i*P	Pn	07 30 22.6	+0.5
SFDO				*i* S	Sn	07 30 55.3	+0.3
VLCH	**Valdivia**	**2.76**	**198**	*e*P	Pn	07 30 20.1	-2.6
VLCH				*i* S	Sn	07 30 53.4	-2.5
CICH	**Cipreses**	**3.18**	**27**	*e*P	Pn	07 30 28.3	+0.2
CACH	**El Canelo**	**3.30**	**23**	⇑*i*P	Pn	07 30 30.4	+0.6
CHCH	**Chadas Angostu**	**3.46**	**21**	⇓*i*P	Pn	07 30 31.9	+0.1
TACH	**Talagante**	**3.65**	**16**	*e*P	Pn	07 30 34.1	-0.3
TACH				*i* S	Sn	07 31 16.0	-0.9
PCH	**Pirque**	**3.79**	**21**	*e*P	Pn	07 30 36.3	+0.1
PCH				*i* S	Sn	07 31 20.8	+0.6
RCDM	**Rinconada Maip**	**3.84**	**17**	*e*P	Pn	07 30 36.7	-0.2
FCH	**Farellones**	**4.13**	**22**	*e*P	Pn	07 30 40.6	-0.2
FCH				*i* S	Sn	07 31 28.1	-0.2

WEL 14 08:19:47.4±0.3, 3748S×17616E, h294km±4km, ML4.1/5, Error ellipse: s-maj=7.4km s-min=6.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.08**	**136**	PN	Pn	08 20 27.3	-0.1
URZ				SN	S	08 20 58.5	-0.8
MWZ	**Matawai**	**1.38**	**129**	PN	Pn	08 20 29.3	+0.2
MWZ				SN	S	08 21 02.3	0.0
WTVZ	**West Tongariro**	**1.69**	**195**	PN	Pn	08 20 31.7	+0.5
WTVZ				SN	S	08 21 05.9	-0.1
BKZ	**Black Stump Fm**	**1.70**	**171**	PN	Pn	08 20 31.5	+0.2
BKZ				SN	S	08 21 04.9	-1.3
MXZ	**Matakaoa Point**	**1.71**	**93**	PN	Pn	08 20 31.6	+0.3
PUZ	**Puketiti**	**1.77**	**110**	PN	Pn	08 20 31.7	0.0
PUZ				SN	S	08 21 05.7	-1.2
WPVZ	**Whakapapa**	**1.79**	**195**	PN	Pn	08 20 32.4	+0.5
WNVZ	**Wahianoa**	**1.90**	**193**	PN	Pn	08 20 33.1	+0.4
KNZ	**Kokohu**	**1.95**	**143**	PN	Pn	08 20 33.0	-0.1
MOVZ	**Moawhango**	**1.95**	**189**	PN	Pn	08 20 33.0	-0.1
WAZ	**Wanganui**	**2.45**	**202**	PN	Pn	08 20 37.3	0.0
TSZ	**Takapari Road**	**2.58**	**183**	PN	Pn	08 20 37.9	-0.7

*ISCJB **14** 08:24:15.9±0.3, 4254N±002×173E±003, h0km, Error ellipse: s-maj=3.0km s-min=2.7km az=172.0*
*LDG **14** 08:24:16.6±0.1, 4246N×174E, h5km, Md2.2/1, Ml2.2/8, Error ellipse: s-maj=2.1km s-min=1.2km az=2.0*
*STR **14** 08:24:16.6±0.4, 4248N×176E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=2.0*
*MDD **14** 08:24:17.4±0.2, 4249N×175E, h0km, mbLg1.7/16, Error ellipse: s-maj=1.9km s-min=1.4km az=10.0, PRXIMO*
ISC 14 08:24:16.5±0.4, 4250N±002×175E±003, h14km±5km, n39, σ0=62/48, 1C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.15**	**279**	Pg	**Pg**	**08 24 20.4**	**0.0**
PAND				Lg		08 24 22.6	
CLLI	**Llivia**	**0.17**	**97**	Pg	**Pg**	**08 24 20.1**	**-0.5**
CLLI				Lg		08 24 22.5	
	24nm,0.1s						
VALF	**Valcebollere**	**0.22**	**116**	Pg	**Pg**	**08 24 21.2**	**-0.2**
VALF				Sg	**Sg**	**08 24 23.9**	**-0.9**
VALF	**Valcebollere**	**0.22**	**116**	Pg	**Pg**	**08 24 21.2**	**-0.3**
VALF				Lg		08 24 24.0	
CARF	**Carcanieres**	**0.34**	**51**	Pg	**Pg**	**08 24 23.8**	**+0.3**
CARF				Sg	**Sg**	**08 24 28.5**	**+0.3**
CARF	**Carcanieres**	**0.34**	**51**	Pg	**Pg**	**08 24 23.9**	**+0.3**
CARF				Lg		08 24 28.6	
GRBF	**Gourbit**	**0.38**	**336**	Pg	**Pg**	**08 24 24.6**	**+0.5**
GRBF				Lg		08 24 29.7	
CORG	**Organya**	**0.42**	**230**	Pg	**Pg**	**08 24 24.6**	**-0.3**
CSOR	**Sort**	**0.47**	**255**	Pg	**Pg**	**08 24 25.8**	**-0.1**
CSOR				Lg		08 24 32.6	
	5.0nm,0.1s						
SALF	**Salau**	**0.49**	**303**	Pg	**Pg**	**08 24 26.2**	**0.0**
SALF				Sg	**Sg**	**08 24 32.8**	**+0.1**
SALF	**Salau**	**0.49**	**303**	Pg	**Pg**	**08 24 26.3**	**+0.1**
SALF				Lg		08 24 32.8	
EMIR	**Miracle**	**0.61**	**196**	⇓Pg	**Pg**	**08 24 28.6**	**+0.2**
	4.2nm,0.1s,SNR=18						
EMIR				Lg		08 24 36.8	
	13nm,0.1s,SNR=7.9						
MLS	**Moulis**	**0.66**	**314**	Pg	**Pg**	**08 24 30.3**	**+0.8**
MLS				Lg		08 24 38.7	
MELF	**Melles**	**0.82**	**297**	Pg	**Pg**	**08 24 33.8**	**+1.4**
MELF				Sg	**Sg**	**08 24 43.3**	**+0.2**
MELF	**Melles**	**0.82**	**297**	Pg	**Pg**	**08 24 33.4**	**+1.0**
MELF				Lg		08 24 43.4	
EJON	**La Jonquera**	**0.85**	**93**	Pg	**Pg**	**08 24 33.7**	**+0.7**
	0.6nm,0.1s,SNR=4.0						
EJON				Lg		08 24 45.1	
	7.4nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**0.90**	**145**	Pg	**Pg**	**08 24 34.2**	**+0.3**
CFON				Lg		08 24 47.0	
	20nm,0.1s						
MTLF	**Montolieu**	**0.91**	**22**	*e*Pg	**Pg**	**08 24 34.7**	**+0.6**
MTLF				*e*Sg	**Sg**	**08 24 47.5**	**+1.5**
	6.5nm,0.2s						
MTLF	**Montolieu**	**0.91**	**22**	Pg	**Pg**	**08 24 34.7**	**+0.6**
MTLF				Lg		08 24 47.5	
	3.2nm,0.2s						
CAVN	**Les Avellanes**	**0.96**	**231**	Pg	**Pg**	**08 24 35.3**	**+0.2**
EGRA	**Graus**	**1.10**	**254**	Pg	**Pg**	**08 24 39.5**	**+1.7**
	0.4nm,0.2s,SNR=7.9						
EGRA				Lg		08 24 53.7	
	2.0nm,0.2s,SNR=5.5						
EPF	**Esparros**	**1.16**	**298**	*e*Pg	**Pg**	**08 24 39.1**	**+0.1**
EPF				*e*Sg	**Sg**	**08 24 53.6**	**-0.5**
	3.0nm,0.2s						
EPF	**Esparros**	**1.16**	**298**	Pg	**Pg**	**08 24 39.1**	**+0.1**
EPF				Lg		08 24 53.6	
	1.5nm,0.2s						
EBIE	**Bielsa**	**1.20**	**279**	Pg	**Pg**	**08 24 40.1**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		08 24 56.1	
	1.7nm,0.1s,SNR=10						
EPOB	**Poblet**	**1.25**	**204**	⇑Pg	**Pg**	**08 24 40.3**	**-0.3**
	0.8nm,0.1s,SNR=18						
EPOB				Lg		08 24 56.5	
	11nm,0.1s,SNR=12						
ETSF	**Etsaut**	**1.75**	**284**	*e*Pg	**Pg**	**08 24 49.3**	**-0.7**
ETSF				*e*Sg	**Sg**	**08 25 12.3**	**-0.4**
	5.3nm,0.3s						
ETSF	**Etsaut**	**1.75**	**284**	Pg	**Pg**	**08 24 49.3**	**-0.7**
ETSF				Lg		08 25 12.3	
	2.7nm,0.3s						
ESAC	**San Caprasio**	**1.82**	**246**	Pg	**Pg**	**08 24 51.6**	**+0.1**
	5.5nm,0.2s,SNR=5.0						
ESAC				Lg		08 25 15.0	
	11nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.87**	**215**	Pn	**Pn**	**08 24 47.8**	**-0.2**
	0.3nm,0.1s,SNR=4.0						
ERTA				Pg	**Pg**	**08 24 51.9**	**-0.5**
	1.3nm,0.1s,SNR=4.0						
ERTA				Lg		08 25 15.5	
	2.7nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**2.20**	**44**	*e*Pg	**Pg**	**08 24 58.3**	**-0.5**
LASF				*e*Sg	**Sg**	**08 25 27.0**	**-0.4**
	1.9nm,0.2s						
LASF	**Ste Croix**	**2.20**	**44**	Pg	**Pg**	**08 24 58.3**	**-0.5**
LASF				Lg		08 25 27.0	
	0.9nm,0.2s						
SJPF	**Ste Jean**	**2.27**	**287**	*e*Sg	**Sg**	**08 25 28.5**	**-1.0**
	1.2nm,0.2s						
SJPF	**Ste Jean**	**2.27**	**287**	Lg		08 25 28.5	
	0.6nm,0.2s						
CAF	**Calviac**	**2.44**	**5**	*e*Pg	**Pg**	**08 25 02.6**	**-0.6**
CAF				*e*Sn	**Sn**	**08 25 25.3**	**-0.1**
CAF				*e*Sg	**Sg**	**08 25 33.7**	**-1.1**
	2.9nm,0.2s						
CAF	**Calviac**	**2.44**	**5**	Pg	**Pg**	**08 25 02.6**	**-0.6**
CAF				Sn	**Sn**	**08 25 25.3**	**-0.1**
CAF				Lg		08 25 33.7	
	1.4nm,0.2s						
LFF	**La Frestale**	**2.55**	**344**	*e*Sg	**Sg**	**08 25 37.8**	**-0.5**
	4.9nm,0.3s						
LFF	**La Frestale**	**2.55**	**344**	Lg		08 25 37.8	
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.81**	**357**	*e*Sg	**Sg**	**08 25 46.6**	**-0.2**
	2.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.81**	**357**	Lg		08 25 46.6	
	1.1nm,0.3s						

WEL 14 08:28:27.2±0.6, 3836S×17604E, h155km±4km, ML3.5/13, Error ellipse: s-maj=3.7km s-min=3.3km az=0.0, North Island

| Code |

PRU *e*PG **Pg** **08 35 34.9 -0.4**
PRU *e*SG **Sg** **08 35 57.7 -0.7**
19nm,0.3s
MORC Moravsky Berou 1.88 151 *e*Pn **Pn** **08 35 34.5 -0.2**
MORC *e*Sg **Sg** **08 36 01.1 -0.7**
CLL Collm 1.98 267 *i* Pg **Pg** **08 35 38.4 -0.8**
CLL *e*Sg **Sg** **08 36 05.0 +0.1**
comp=Z,8.0nm,0.5s
VRAC Vranov 2.15 172 *e*Sg **Sg** **08 36 10.3 -0.1**
NKC Novy Kostel 2.64 244 *e*PN **Pn** **08 35 45.8 +0.7**
NKC *e*PG **Pg** **08 35 51.2 -0.7**
NKC *e*SG **Sg** **08 36 26.2 0.0**
comp=Z,13nm,0.3s
KHC Kasperske Hory 2.84 217 *e*PN **Pn** **08 35 48.2 +0.4**
KHC *e*PG **Pg** **08 35 54.0 -1.7**
KHC *ex* x 08 36 22.5
KHC *e*SG **Sg** **08 36 30.8 -1.7**
MOA Molln 3.80 200⇓*i*Pn **Pn** **08 36 00.1 -0.9**
MOA ⇑*i*Sg **Sg** **08 37 03.1 -0.2**
comp=Z,2.7nm,0.3s

RSPR 14 09:07:07.6, 1915N×6450W, h65km±6km, MD3.6/8, MD3.6/8, 7C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.75**	**188**⇑	*e*P	Pn	09 07 22.1	-0.6
TBVI	**Tortola**	**0.75**	**188**	*e*S	Sn	09 07 33.2	-0.6
CULB	**Culebra**	**1.15**	**223**⇑	*e*P	Pn	09 07 26.4	-1.4
CULB	**Culebra**	**1.15**	**223**	*e*S	Sn	09 07 42.1	-0.8
MTP	**Monte Pirata**	**1.46**	**224**⇑	*e*P	Pn	09 07 31.1	-0.7
CBYP	**Canovanas**	**1.56**	**236**⇑	*e*P	Pn	09 07 32.0	-1.1
CBYP	**Canovanas**	**1.56**	**236**	*e*S	Sn	09 07 52.2	-0.3
HUMP	**Col San Antoni**	**1.63**	**232**⇑	*e*P	Pn	09 07 34.0	-0.1
HUMP	**Col San Antoni**	**1.63**	**232**	*e*S	Sn	09 07 53.3	-0.9
CPD	**Cerro la Pandu**	**1.74**	**231**⇓	*e*P	Pn	09 07 35.5	-0.1
CPD	**Cerro la Pandu**	**1.74**	**231**	*e*S	Sn	09 07 57.4	+0.5
AOPR	**Arecibo Observ**	**2.28**	**250**⇑	*e*P	Pn	09 07 43.2	+0.3
AOPR	**Arecibo Observ**	**2.28**	**250**	*e*S	Sn	09 08 09.0	-0.9
CRPR	**Cabo Rojo, PR**	**2.73**	**246**⇑	*e*P	Pn	09 07 48.7	-0.3
CRPR	**Cabo Rojo, PR**	**2.73**	**246**	*e*S	Sn	09 08 20.9	+0.1

GUC 14 09:15:19.5±0.9, 2637S×7104W, h15km±8km, MD4.1, ML3.8, 1C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.38**	**87**⇑	*i*P	Pg	09 15 25.9	-1.4
CRCH				*i* S	Sg	09 15 30.6	-1.8
CRCH				AMP		09 15 30.9	
comp=E,14μm,0.3s							
CDCH	**Caldera**	**0.73**	**165**⇓	*i*P	Pg	09 15 31.1	-2.6
CDCH				*i* S	Sg	09 15 40.3	-3.0
CDCH				AMP		09 15 40.7	
comp=N,6μm,0.2s							
CPCH	**Copiapo**	**1.16**	**148**⇓	*i*P	Pn	09 15 38.9	-2.3
CPCH				*i* S	Sb	09 15 52.7	-3.4
CPCH				AMP		09 15 53.7	
comp=E,25μm,0.1s							
CPN1	**Cerro Paranal**	**1.83**	**19**	*e*P	Pn	09 15 47.1	-3.2
CPN1				*i* S	Sn	09 16 09.9	-3.3
CPN1				AMP		09 16 15.7	
comp=E,1μm,0.5s							
CEN1	**Los Morros**	**3.06**	**15**	*e*P	Pn	09 16 00.1	-7.2
CEN1				AMP		09 16 53.6	
comp=E,122nm,0.7s							

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*ISCJB **14** 09:36:55.0±0.9, 3083S±004×7192W±009, h43km±10km, mb4.1/6, MS4.0/2, Error ellipse: s-maj=13.3km s-min=6.5km az=171.6*
*IDC **14** 09:36:55.3±1.1, 3079S×7190W, h30km±5km, mb4.2/5, mb1 4.1/8, mb1mx3.9/19, mbtmp4.2/8, ML4.4/3, MS4.0/2, Ms1 3.9/2, ms1mx3.0/24, Error ellipse: s-maj=29.9km s-min=24.4km az=110.0*
*GUC **14** 09:36:55.1±0.8, 3088S×7171W, h22km±5km, ML4.8*
*NEIC **14** 09:36:59.7±2.1, 3076S×7166W, h65km±15km, mb3.7/1, Error ellipse: s-maj=26.9km s-min=11.0km az=76.0*
ISC 14 09:36:56.5±0.9, 3085S±004×7198W±010, h44km±10km, n32, σ0§73/41, mb4.1/6, MS4.0/2, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.90**	**111**⇑	*i*P	**Pn**	**09 37 07.8**	**-4.9**
CMCH				*i* S	**Sn**	**09 37 17.4**	**-7.2**
CMCH				AMP		09 37 18.1	
comp=N,72μm,0.7s							
ILCH	**Illapel**	**1.04**	**139**	*e*P	**Pn**	**09 37 11.3**	**-3.4**
ILCH				*i* S	**Sn**	**09 37 23.2**	**-5.0**
JACH	**Jahuel**	**2.17**	**147**	*e*P	**Pn**	**09 37 29.8**	**-0.4**
JACH				*i* S	**Sn**	**09 37 55.6**	**-0.3**
IHA	**Instituto Hidr**	**2.19**	**173**⇑	*i*P	**Pn**	**09 37 30.0**	**-0.4**
ROCH	**El Roble**	**2.27**	**159**	*e*P	**Pn**	**09 37 31.6**	**+0.1**
PEL	**Peldehue**	**2.54**	**155**	*e*P	**Pn**	**09 37 34.5**	**-0.6**
PEL				*i* S	**Sn**	**09 38 04.4**	**-0.4**
PEL				AMP		09 38 13.8	
comp=N,8μm,0.4s							
LCCH	**Las Cruces**	**2.64**	**173**	*i* P	**Pn**	**09 37 36.3**	**-0.2**
RCDM	**Rinconada Maip**	**2.81**	**160**	*i* P	**Pn**	**09 37 38.5**	**-0.5**
RCDM				*i* S	**Sn**	**09 38 11.0**	**-0.5**
RCDM				AMP		09 38 24.5	
comp=E,3μm,0.4s							
FCH	**Farellones**	**2.85**	**150**	*e*P	**Pn**	**09 37 39.3**	**-0.2**
FCH				*i* S	**Sn**	**09 38 13.0**	**+0.3**
FCH				AMP		09 38 23.3	
comp=N,3μm,0.2s							
TACH	**Talagante**	**2.93**	**163**	*i* P	**Pn**	**09 37 40.6**	**0.0**
ANTU	**Antumapu**	**2.94**	**158**	*i* P	**Pn**	**09 37 41.4**	**+0.7**
ANTU				*i* S	**Sn**	**09 38 14.4**	**-0.3**
ANTU				AMP		09 38 24.5	
comp=E,4μm,0.6s							
PCH	**Pirque**	**3.03**	**156**	*e*P	**Pn**	**09 37 41.9**	**0.0**
CHCH	**Chadas Angostu**	**3.27**	**160**⇓	*i*P	**Pn**	**09 37 45.2**	**-0.1**
CHCH				*i* S	**Sn**	**09 38 23.0**	**+0.1**
CFAA	**Coronel Fontan**	**3.29**	**104**	Pn	**Pn**	**09 37 45.8**	**+0.2**
comp=E,19nm,0.3s,baz=304,slow=12,SNR=322							
CFAA				Sn	**Sn**	**09 38 23.8**	**+0.4**
comp=E,20nm,0.3s,baz=214,slow=23,SNR=11							
LMEL	**Las Melosas**	**3.34**	**154**	*e*P	**Pn**	**09 37 45.9**	**-0.3**
LMEL				*i* S	**Sn**	**09 38 25.2**	**+0.5**
LMEL				AMP		09 38 37.1	
comp=N,3μm,0.3s							
CACH	**El Canelo**	**3.46**	**161**	*e*P	**Pn**	**09 37 48.2**	**+0.4**
CACH				*i* S	**Sn**	**09 38 29.2**	**+1.6**
CICH	**Cipreses**	**3.70**	**160**	*e*P	**Pn**	**09 37 51.5**	**+0.4**
LVC	**Limon Verde**	**8.65**	**19**	Pn	**Pn**	**09 38 59.6**	**+0.6**
comp=N,1.0nm,0.3s,baz=206,slow=11,SNR=8.8							
LVC				Sn	**Sn**	**09 40 47.0**	**+12**
comp=N,3.4nm,0.3s,baz=141,slow=20,SNR=3.6							
LVC	**Limon Verde**	**8.65**	**19**	Pn	**Pn**	**09 38 59.6**	**+0.6**
LVC				Sn	**Sn**	**09 40 47.0**	**+12**
CPUP	**Villa Florida**	**13.63**	**74**	*e*Pn	**Pn**	**09 40 00.5**	**-6.7**
LPAZ	**La Paz**	**14.92**	**15**	Pn	**Pn**	**09 40 26.6**	**+2.2**
comp=N,0.2nm,0.3s,baz=186,slow=6.9,SNR=7.8							
SIV	**San Ignacio**	**17.84**	**36**	P	**Pn**	**09 41 00.6**	**-0.8**
comp=N,0.5nm,0.3s,baz=230,slow=12,SNR=15							
SAML	**Samuel**	**23.29**	**22**	*e*P	**P**	**09 41 59.3**	**-1.2**
comp=N,2.0nm,0.7s,mb3.7							
BDFB	**Brasilia**	**26.64**	**61**	P	**P**	**09 42 29.4**	**-1.5**
comp=N,3.0nm,0.5s,mb4.1,baz=247,slow=5.3,SNR=7.6							
BDFB				LR	LR	09 54 01.6	
comp=N,269nm,20.4s,MS3.8,baz=284,slow=39							
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**09 46 19.7**	**+0.1**
comp=N,1.2nm,0.5s,mb4.0,baz=275,slow=11,SNR=8.3							
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**09 48 28.4**	**+0.1**
comp=N,2.4nm,0.5s,mb4.4,baz=271,slow=3.9,SNR=10							
DBIC				LR	LR	10 18 23.2	
comp=N,108nm,19.8s,MS4.1,baz=342,slow=34							
TSUM	**Tsumeb**	**80.04**	**106**	P	**P**	**09 49 02.3**	**+1.0**
comp=N,1.0nm,0.7s,mb3.9,baz=184,slow=4.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**83.10**	**70**	P	**P**	**09 49 18.0**	**+0.5**
comp=N,1.6nm,0.5s,mb4.3,baz=275,slow=5.6,SNR=40							
TORD				pP	pP	09 49 27.6	-3.0
comp=N,2.1nm,0.7s,baz=255,slow=4.4,SNR=8.3							
WRA	**Warramunga Arr**	**123.52**	**210**	PKP	PKPdf	09 55 50.4	+1.4
comp=N,0.2nm,0.6s,baz=158,slow=1.8,SNR=4.7							
WRA				pPKP	pPKPdf	09 56 00.1	-2.6
comp=N,0.3nm,0.5s,baz=170,slow=1.6,SNR=3.3							
ZAL	**Zalesovo**	**151.50**	**29**	PKPbc	PKPbc	09 56 46.1	+0.4
comp=N,1.6nm,0.3s,baz=269,slow=2.1,SNR=5.6							
ZAL				pPKPbc	pPKPbc	09 56 55.5	-3.8
comp=N,1.5nm,0.3s,baz=158,slow=1.1,SNR=2.1							
ZAL	**Zalesovo**	**151.50**	**29**	PKPbc	PKPbc	09 56 46.1	+0.4
ZAL				pPKPbc	pPKPbc	09 56 55.5	-3.8
MKAR	**Makanchi Array**	**154.56**	**44**	PKPab	PKPab	09 57 06.5	-0.5
comp=N,0.7nm,0.7s,baz=288,slow=3.8,SNR=9.0							

IDC 14 09:41:17.3±3.0, 111N×11413E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=415.2km s-min=28.2km az=56.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.81**	**138**	P	P	09 47 16.1	-1.0
0.2nm,0.5s,baz=307,slow=12,SNR=5.2							
ASAR	**Alice Springs**	**31.24**	**143**	P	P	09 47 39.9	+1.4
0.7nm,0.3s,baz=314,slow=8.9,SNR=22							
MKAR	**Makanchi Array**	**53.31**	**333**	P	P	09 50 38.1	0.0
0.2nm,0.6s,baz=129,slow=7.8,SNR=3.5							

MAN 14 09:42:48.5, 1814N×12068E, h14km, mb2.2, ML3.9, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.20**	**343**⇑	*i*P	Pg	09 42 53.9	+0.9
PIP				*i* S	Sg	09 43 00.1	+4.1
ABRA	**Dolores**	**0.49**	**176**	*e*P	Pg	09 42 58.1	0.0
APYP	**Conner**	**0.60**	**117**	*e*P	Pg	09 43 00.7	+0.4
APYP				*e*S	Sg	09 43 12.1	+3.8
CVP	**Callao Caves**	**1.17**	**111**	*e*P	Pn	09 43 09.0	-1.4
CVP				*i* S	Sb	09 43 27.0	+1.5
CAUP	**Cauayan**	**1.61**	**137**	*e*P	Pn	09 43 17.0	+0.5

IDC 14 09:44:34.9±3.2, 1279S×16667E, h100km±30km, mb3.6/5, mb1 3.9/7, mb1mx3.6/17, mbtmp4.1/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/25, Error ellipse: s-maj=25.7km s-min=22.3km az=13.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.40**	**296**	P	Pn	09 46 19.0	-1.1
9.8nm,0.3s,baz=100,slow=3.6,SNR=3.6							
DZM	**Mont Dzumac**	**9.23**	**181**	P	Pn	09 46 46.6	+1.6
2.3nm,0.3s,baz=189,slow=19,SNR=40							
DZM				S	Sn	09 48 24.2	-2.9
1.2nm,0.3s,baz=283,slow=23,SNR=5.6							
DZM				LR	LR	09 49 58.7	
comp=Z,105nm,19.1s,baz=31,slow=35							
PMG	**Port Moresby**	**19.44**	**278**	LR	LR	09 54 04.1	
comp=Z,37nm,21.4s,baz=354,slow=29							
CTA	**Charters Tower**	**20.87**	**247**	P	P	09 49 10.8	+2.0
3.8nm,0.8s,baz=72,slow=14,SNR=4.1							
RAO	**Raoul Island**	**21.76**	**141**	P	P	09 49 17.6	-0.7
620nm,0.3s,baz=234,slow=21,SNR=4.4							
STKA	**Stephens Creek**	**29.85**	**226**	P	P	09 50 31.9	-0.7
0.8nm,0.5s,baz=37,slow=8.1,SNR=4.4							
WRA	**Warramunga Arr**	**31.79**	**253**	P	P	09 50 50.0	+0.3
1.0nm,0.5s,baz=85,slow=9.4,SNR=19							
ASAR	**Alice Springs**	**32.87**	**246**	P	P	09 50 59.4	+0.2
2.2nm,0.7s,baz=69,slow=9.9,SNR=41							
ILAR	**Eielson Array**	**84.87**	**18**	P	P	09 56 58.5	0.0
0.5nm,0.6s,baz=240,slow=4.8,SNR=13							

NNC 14 09:57:38.1±1.1, 4955N×7292E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=12.3km s-min=9.8km az=51.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**3.41**	**340**⇓	Lg		09 59 27.9	
BVA0	**Borovoye Array**	**3.83**	**336**	Pn	Pn	09 58 38.2	-0.1
baz=133,slow=14,SNR=6.7							
BVA0				⇑Lg		09 59 38.1	
0.1nm,0.7s,baz=145,slow=28,SNR=4.6							
KURK	**Kurchatov**	**3.85**	**70**	⇑Pn	Pn	09 58 38.7	+0.1
KURK				⇑Lg		09 59 39.5	
ZRNK	**Zerenda**	**4.20**	**326**	⇓Lg		09 59 50.7	
KK31	**Karatay Array**	**6.66**	**195**	Pn	Pn	09 59 17.1	-0.1
0.5nm,0.3s,baz=10,slow=12,SNR=16							
KK31				⇓Lg		10 01 08.9	
1.0nm,0.5s,baz=7.3,slow=27,SNR=2.9							
MK31	**Makanchi Array**	**6.84**	**110**	Pn	Pn	09 59 20.4	+0.6
1.0nm,0.4s,baz=294,slow=11,SNR=39							
MK31				⇑Lg		10 01 14.0	
1.0nm,0.5s,baz=314,slow=28							
AB31	**Akbulak array**	**8.47**	**273**	P	Pn	09 59 41.6	-0.5
0.4nm,0.3s,baz=82,slow=8.5,SNR=8.8							

GUC 14 10:02:16.1±0.7, 3291S×6928W, h1km±8km, MD3.8, ML3.0, 6C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.94**	**244**⇓	*i*P	Pg	10 02 34.4	+0.1
FCH				*i* S	Sg	10 02 48.8	+2.3
FCH				AMP		10 02 51.0	
comp=N,567nm,0.7s							
JACH	**Jahuel**	**1.13**	**281**⇓	*i*P	Pg	10 02 37.5	-0.3
JACH				*i* S	Sg	10 02 54.1	+1.7
PEL	**Peldehue**	**1.20**	**258**⇑	*i*P	Pg	10 02 38.6	-0.5
PEL				*i* S	Sg	10 02 55.8	+1.0
PEL				AMP		10 02 56.2	
comp=N,1μm,0.3s							
LMEL	**Las Melosas**	**1.21**	**219**⇑	*i*P	Pg	10 02 39.1	-0.2
LMEL				*i* S	Sg	10 02 56.5	+1.4
LMEL				AMP		10 02 59.1	
comp=N,595nm,0.2s							
PCH	**Pirque**	**1.25**	**235**⇑	*i*P	Pg	10 02 39.9	-0.2
PCH				*i* S	Sg	10 02 57.9	+1.6
SAN	**Santiago**	**1.28**	**245**⇑	*i*P	Pg	10 02 40.7	+0.1
SAN				*i* S	Sg	10 02 57.9	+0.7
SAN				AMP		10 03 04.6	
comp=E,214nm,0.7s							
ANTU	**Antumapu**	**1.31**	**240**	*i* S	Sg	10 02 59.5	+1.3
ANTU				AMP		10 03 01.0	
comp=E,312nm,0.4s							
RCDM	**Rinconada Maip**	**1.40**	**245**⇑	*i*P	Pn	10 02 42.7	-0.2
RCDM				*i* S	Sg	10 03 02.8	+1.5
RCDM				AMP		10 03 04.0	
comp=N,217nm,0.2s							
ROCH	**El Roble**	**1.46**	**267**	*i* P	Pn	10 02 43.6	+0.1
ROCH				*i* S	Sg	10 03 04.4	+1.4
CHCH	**Chadas Angostu**	**1.54**	**228**⇓	*i*P	Pn	10 02 44.9	+0.2
CHCH				*i* S	Sn	10 03 06.5	+1.3
TACH	**Talagante**	**1.57**	**241**⇓	*i*P	Pn	10 02 45.1	-0.1
TACH				*i* S	Sn	10 03 07.4	+1.2
CACH	**El Canelo**	**1.63**	**222**⇑	*i*P	Pn	10 02 46.4	+0.4
CACH				*i* S	Sn	10 03 10.1	+2.5
CICH	**Cipreses**	**1.70**	**214**⇓	*i*P	Pn	10 02 47.7	+0.9
CICH				*i* S	Sn	10 03 11.6	+2.3
SFDO	**San Fernando**	**2.23**	**220**	*i* S	Sn	10 03 27.7	+5.3
CMCH	**Combarbala**	**2.27**	**319**⇓	*i*P	Pn	10 02 54.5	-0.2
CMCH				*i* S	Sn	10 03 25.7	+2.4
CMCH				AMP		10 03 29.2	
comp=E,889nm,0.5s							

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*BJI **14** 10:19:50.6, 2020S×17770W, h482km, mB4.8, mb4.5*
*ISCJB **14** 10:19:51.1±1.1, 2013S±01×1776W±01, h503km±19km, mb4.3/14, Error ellipse: s-maj=23.3km s-min=14.0km az=83.1*
*IDC **14** 10:19:51.3±1.6, 2018S×17770W, h486km±20km, mb3.8/5, mb1 3.9/8, mb1mx3.5/16, mbtmp4.7/8, Error ellipse: s-maj=29.6km s-min=14.5km az=143.0*
*NEIC **14** 10:19:51.7±1.2, 2020S×17771W, h482km±17km, mb4.4/4, Error ellipse: s-maj=22.4km s-min=15.8km az=154.0*
ISC 14 10:19:51.8±1.1, 2013S±01×1776W±01, h497km±17km, n39, σ1§13/26, mb4.3/14, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.29**	**43**	P	**P**	**10 21 52.2**	**+1.1**
3.0nm,0.3s,baz=347,slow=5.7,SNR=3.8							
AFI				S	**S**	**10 23 26.4**	**-2.5**
8.9nm,0.3s,baz=16,slow=20,SNR=10							
DZM	**Mont Dzumac**	**15.04**	**260**	P	**P**	**10 23 03.0**	**+0.6**
1.1nm,0.3s,baz=84,slow=18,SNR=9.5							
URZ	**Urewera**	**18.67**	**193**	P	**P**	**10 23 37.2**	**-1.2**
1.4nm,0.3s,baz=0.6,slow=4.4,SNR=11							
ARMA	**Armidale**	**29.60**	**244**	*e*P	**P**	**10 25 17.0**	**+1.2**
CTA	**Charters Tower**	**33.93**	**264**⇓	*i*P	**P**	**10 25 53.3**	**+0.5**
9.8nm,0.4s,mb4.6							
CTAO	**Charters Tower**	**33.93**	**264**	*e*P	**P**	**10 25 52.8**	**0.0**
14nm,0.9s,mb4.4							
PMG	**Port Moresby**	**35.65**	**282**	P	**P**	**10 26 07.6**	**+0.4**
13nm,0.7s,mb4.5,baz=85,slow=3.5,SNR=6.3							
PMG	**Port Moresby**	**35.65**	**282**	*e*P	**P**	**10 26 07.6**	**+0.4**
9.9nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**38.32**	**244**	*e*P	**P**	**10 26 27.6**	**-1.6**
8.2nm,1.0s,mb4.1							
STKA	**Stephens Creek**	**38.32**	**244**	P	**P**	**10 26 27.9**	**-1.3**
8.1nm,0.8s,mb4.2,baz=82,slow=9.1,SNR=15							
STKA	**Stephens Creek**	**38.32**	**244**	*e*P	**P**	**10 26 27.5**	**-1.7**
ASAR	**Alice Springs**	**45.00**	**256**	P	**P**	**10 27 22.2**	**+0.1**
21nm,0.8s,mb4.6,baz=98,slow=7.8,SNR=271							
ASAR				PcP	PcP	10 28 53.4	+0.6
2.5nm,0.7s,baz=104,slow=2.9,SNR=8.5							
ASAR				S	**S**	**10 33 21.2**	**-2.6**
0.4nm,0.7s,baz=90,slow=18,SNR=4.9							
WB2	**Warramunga Arr**	**45.04**	**262**	*e*P	**P**	**10 27 21.8**	**-0.6**
WRAB	**Tennant Creek**	**45.04**	**262**	*e*P	**P**	**10 27 21.9**	**-0.6**
25nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**45.05**	**262**	P	**P**	**10 27 22.1**	**-0.5**
8.7nm,0.5s,mb4.4,baz=98,slow=8.5,SNR=158							
WRA				PcP	PcP	10 28 53.7	+0.8
1.5nm,0.7s,baz=96,slow=3.4,SNR=4.8							
KAKA	**Kakadu**	**48.37**	**271**⇓	*i*P	**P**	**10 27 48.1**	**+0.5**
14nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.48**	**262**⇓	*i*P	**P**	**10 28 25.0**	**+0.1**
7.0nm,0.6s,mb4.2							
KLBR	**Kellerberrin**	**58.59**	**245**	*e*P	**P**	**10 28 59.9**	**-0.4**
18nm,1.0s,mb4.4							
MUN	**Mundaring**	**59.86**	**244**	*e*P	**P**	**10 29 08.8**	**0.0**
QSPA	**South Pole Qui**	**69.96**	**180**	*e*P	**P**	**10 30 14.3**	**+1.6**
3.8nm,0.8s,mb4.0							
SSE	**Sheshan**	**77.74**	**310**	P	**P**	**10 30 57.3**	**+0.4**
SSE				AMB	AMB		
comp=Z,29nm,0.6s,mb4.9							
SSE				AMB	AMB		
comp=Z,118nm,4.3s							
NJ2	**Nanjing**	**79.94**	**309**	*e*P	**P**	**10 31 11.5**	**+2.9**
NJ2				PP	PP	10 34 24.0	+5.1
NJ2				AMB	AMB		
comp=Z,10.0nm,1.4s,mb4.2							
NJ2				AMB	AMB		
comp=Z,130nm,10.0s							
NJ2				LR	LR		
comp=N,250nm,26.0s							
NJ2				LR	LR		
comp=E,260nm,24.0s							
NJ2				LR	LR		
comp=Z,370nm,28.0s							
MDJ	**Mudanjiang**	**80.42**	**325**	P	**P**	**10 31 08.5**	**-2.7**
MDJ				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
MDJ				AMB	AMB		
comp=Z,128nm,4.0s							
SONM	**Songino Array**	**95.72**	**319**	P	**P**	**10 32 24.6**	**+0.7**
comp=Z,0.3nm,0.7s,mb3.5,baz=73,slow=1.8,SNR=3.5							
AKASG	**Malin Array Be**	**142.86**	**332**	PKhKP		10 38 25.1	
comp=Z,7.9nm,0.8s,baz=44,slow=4.4,SNR=23							
MALT	**Malatya**	**144.00**	**308**	*e*PKPbc	PKPdf	10 38 30.9	+0.6
BR131	**Keskin Array S**	**146.87**	**313**	*e*PKPdf	PKPdf	10 38 37.9	+2.8
BRTR	**Keskin Array B**	**146.87**	**313**	PKPbc	PKPbc	10 38 38.5	+0.6
comp=Z,2.6nm,0.7s,baz=134,slow=5.0,SNR=12							
KOLS	**Kolonicke sedl**	**147.12**	**336**	*e*PKP	PKPab	10 38 43.3	+1.5
CLL	**Collm**	**147.77**	**348**⇑	*i*PKPbc	PKPbc	10 38 41.1	+0.9
comp=Z,11nm,0.8s							
CLL				*i* PKPab	PKPab	10 38 44.6	+0.2
comp=Z,4.0nm,0.7s							
DPC	**Dobruska-Polom**	**147.87**	**343**	*e*PKPbc	PKPbc	10 38 41.5	+1.0
BRG	**Berggiesshubel**	**147.97**	**346**	*e*P	PKPbc	10 38 41.4	+0.6
comp=Z,3.0nm,0.8s							
PVCC	**Panska Ves**	**148.15**	**345**	*e*PKPbc	PKPbc	10 38 42.6	+1.4
KECS	**Kecovo**	**148.16**	**337**	*e*PKP	PKPbc	10 38 42.0	+0.8
PRU	**Pruhonice**	**148.66**	**345**	*e*PKPbc	PKPbc	10 38 43.2	+0.7
VYHS	**Vyhne**	**148.74**	**339**	*e*PKP	PKPbc	10 38 43.8	+1.1
NKC	**Novy Kostel**	**148.90**	**348**	*e*PKPbc	PKPbc	10 38 44.1	+1.0
KHC	**Kasperske Hory**	**149.69**	**345**	*e*PKPbc	PKPbc	10 38 45.8	+0.8
GERES	**GERESS Array B**	**149.93**	**345**	PKPbc	PKPbc	10 38 46.4	+0.9
comp=Z,2.7nm,0.8s,baz=45,slow=1.9,SNR=17							

IDC 14 10:24:06.4±27.0, 2666S×17780W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/12, mbtmp4.0/4, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=494.3km s-min=57.5km az=75.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.58**	**182**	LR	LR	10 25 24.5	
comp=Z,486nm,20.1s,baz=204,slow=30							
URZ	**Urewera**	**12.34**	**199**	Pn	Pn	10 27 02.4	-0.9
1.2nm,0.3s,baz=161,slow=14,SNR=7.0							
URZ				Sn	Sn	10 29 34.1	+13
0.7nm,0.3s,baz=59,slow=18,SNR=5.7							
STKA	**Stephens Creek**	**35.65**	**252**	P	P	10 31 05.1	-1.0
1.2nm,0.8s,baz=90,slow=15,SNR=2.9							
ASAR	**Alice Springs**	**43.61**	**263**	P	P	10 32 12.8	+0.3
0.7nm,0.6s,baz=92,slow=7.2,SNR=9.3							
WRA

CPN1	**Cerro Paranal**	**3.27 263**	⇑*i*P	**Pn**	**11 23 41.6**	**+1.5**
CPN1			*i* S	**Sn**	**11 24 21.9**	**+0.2**
CPN1			AMP		11 24 24.6	
	comp=E,675nm,0.2s					
ANCH	**Antofagasta**	**3.32 280**	⇓*i*P	**Pn**	**11 23 39.5**	**-1.2**
ANCH			*i* S	**Sn**	**11 24 19.4**	**-3.6**
ANCH			AMP		11 24 22.1	
	comp=N,1μm,0.1s					
CRCH	**Chaqaral**	**3.99 238**	*i* S	**Sn**	**11 24 37.9**	**+0.4**
CDCH	**Caldera**	**4.54 232**	⇑*i*P	**Pn**	**11 23 55.9**	**+0.2**
CDCH			*i* S	**Sn**	**11 24 48.5**	**-1.4**
BDFB	**Brasilia**	**19.66 68**	P	**P**	**11 26 60.0**	**-0.1**
	comp=N,0.9nm,0.3s,baz=252,slow=9.8,SNR=7.0					
DBIC	**Dimbokro**	**67.76 71**	P	**P**	**11 33 21.6**	**-0.6**
	comp=N,0.6nm,0.4s,mb3.6,baz=217,slow=5.1,SNR=3.3					
TORD	**Torodi Ar. Bea**	**76.54 69**	P	**P**	**11 34 14.2**	**+0.1**
	comp=N,0.9nm,0.6s,mb3.6,baz=255,slow=5.5,SNR=9.7					
MKAR	**Makanchi Array**	**146.66 40**	PKP	PKPdf	11 42 03.8	+1.7
	comp=N,0.7nm,0.5s,baz=314,slow=2.7,SNR=12					

*ISCJB **14** 11:42:09.4±1.0, 4258N±005×7606E±007, h10km, Error ellipse: s-maj=9.1km s-min=4.6km az=100.4*
*NNC **14** 11:42:09.8±0.2, 4254N×7593E, h0km, mb2.8, mpv2.2, Error ellipse: s-maj=5.7km s-min=1.3km az=59.0*
*KNET **14** 11:42:09.3±0.6, 4255N×7594E, h0km, ml1.6, Error ellipse: s-maj=3.8km s-min=2.6km az=50.0*

ISC 14 11:42:09.7±0.9, 4257N±004×7602E±006, h10km, n11, σ1§01/20, 13C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.36**	**153**	⇓P	**Pg**	**11 42 16.6**	**-0.3**
	37nm,0.3s,SNR=13						
ULHL				⇓S	**Sg**	**11 42 21.5**	**-0.2**
	21nm,0.1s						
TKM2	**Tokmak 2**	**0.47**	**318**	⇑P	**Pg**	**11 42 18.7**	**-0.2**
	9.0nm,0.1s,SNR=53						
TKM2				⇓S	**Sg**	**11 42 25.2**	**0.0**
	126nm,0.1s						
TKM2	**Tokmak 2**	**0.47**	**318**	⇑P	**Pg**	**11 42 18.7**	**-0.2**
	2.2nm,0.3s						
TKM2				⇑S	**Sg**	**11 42 25.1**	**-0.1**
	39nm,0.3s						
KZA	**Kyzart**	**0.75**	**230**	⇑P	**Pg**	**11 42 24.0**	**-0.3**
	2.4nm,0.1s,SNR=10						
KZA				⇓S	**Sg**	**11 42 33.9**	**-0.2**
	16nm,0.2s						
KBK	**Karagaybulak**	**0.80**	**277**	⇑P	**Pg**	**11 42 24.7**	**-0.5**
	6.1nm,0.1s,SNR=5.2						
KBK				⇑S	**Sg**	**11 42 36.4**	**+0.8**
	16nm,0.1s						
CHMS	**Chumysh**	**1.03**	**295**	⇓P	**Pg**	**11 42 28.4**	**-1.2**
	2.0nm,0.1s						
CHMS				⇑S	**Sg**	**11 42 42.0**	**-1.0**
	13nm,0.2s						
AAK	**Ala-Archa**	**1.13**	**274**	⇑P	**Pb**	**11 42 30.3**	**-1.1**
	2.5nm,0.1s,SNR=11						
AAK				⇑S	**Sb**	**11 42 45.4**	**-0.7**
	7.9nm,0.2s						
UCH	**Uchtor**	**1.17**	**254**	⇓P	**Pb**	**11 42 31.2**	**-0.8**
	3.1nm,0.2s						
UCH				⇓S	**Sb**	**11 42 46.9**	**-0.3**
	9.6nm,0.3s						
EKS2	**Erkin-Say**	**1.66**	**274**	⇑P	**Pn**	**11 42 40.5**	**+1.6**
	4.2nm,0.2s,SNR=18						
EKS2				⇓S	**Sn**	**11 43 03.2**	**+2.9**
	5.6nm,0.2s						
AML	**Almayashu**	**1.78**	**257**	⇑P	**Pn**	**11 42 42.6**	**+2.0**
	2.0nm,0.2s,SNR=5.7						
KK31	**Karatay Array**	**4.09**	**279**	⇑Pg	**Pb**	**11 43 23.2**	**+1.4**
	0.5nm,0.6s,baz=99,slow=14,SNR=9.4						
KK31				⇑Lg		11 44 17.6	
	0.6nm,0.4s,baz=96,slow=28,SNR=7.9						

*ISCJB **14** 11:53:29.0±0.5, 623N±004×12375E±004, h10km, mb3.8/7, Error ellipse: s-maj=6.4km s-min=5.3km az=178.3*
*IDC **14** 11:53:29.2±1.1, 627N×12409E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/19, mbtmp3.9/6, Error ellipse: s-maj=143.8km s-min=17.0km az=66.0*
*MAN **14** 11:53:33.6, 653N×12382E, h11km, mb3.6, ML4.7, MS3.0*

ISC 14 11:53:30.9±0.5, 631N±003×12381E±005, h10km, n23, σ1§22/29, mb3.8/7, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.00**	**26**	⇓*i*P	**Pg**	**11 53 49.3**	**-0.9**
CTBH				*i* S	**Sg**	**11 54 02.0**	**-1.3**
KCP	**Kidapawan**	**1.45**	**61**	⇓*e*P	**Pn**	**11 53 56.1**	**-1.0**
KCP				*i* S	**Sn**	**11 54 17.4**	**+1.1**
PAGZ	**Pagadian**	**1.58**	**345**	*e*P	**Pn**	**11 53 58.3**	**-0.6**
PAGZ				*e*S	**Sn**	**11 54 18.0**	**-1.5**
IPIL	**Ipil**	**1.91**	**320**	*e*P	**Pn**	**11 54 03.4**	**-0.1**
IPIL				*e*S	**Sn**	**11 54 25.8**	**-1.8**
BUKP	**Musuan**	**2.00**	**39**	*e*P	**Pn**	**11 54 05.2**	**+0.5**
BUKP				*e*S	**Sn**	**11 54 31.1**	**+1.4**
DCPH	**Dipolog City**	**2.30**	**349**	*e*P	**Pn**	**11 54 09.6**	**+0.7**
CGP	**Cagayan de Oro**	**2.31**	**22**	⇓*e*P	**Pn**	**11 54 11.1**	**+2.2**
CGP				*i* S	**Sg**	**11 54 43.6**	**-1.4**
SNPH	**Sibulan**	**3.06**	**349**	*e*P	**Pg**	**11 54 24.0**	**-5.6**
GUIM	**Jordan**	**4.45**	**344**	*e*P	**Pn**	**11 54 41.0**	**+2.5**
GUIM	**Jordan**	**4.45**	**344**	*e*P	**Pn**	**11 54 41.1**	**+2.7**
CUYO	**Cuyo Island**	**5.29**	**329**	*e*P	**Pn**	**11 54 50.9**	**+1.1**
CUYO	**Cuyo Island**	**5.29**	**329**	*e*P	**Pn**	**11 54 51.0**	**+1.1**
ENPP	**El Nido**	**6.51**	**319**	*e*P	**Pn**	**11 55 07.2**	**+0.5**
KAKA	**Kakadu**	**20.75**	**156**	⇑*i*P	**P**	**11 58 12.0**	**+0.3**
	9.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.32**	**176**	*e*P	**P**	**11 58 48.7**	**+0.1**
	1.3nm,0.3s,mb3.8						
WRA	**Warramunga Arr**	**28.07**	**159**	P	**P**	**11 59 21.6**	**-0.9**
	1.3nm,0.6s,mb3.7,baz=338,slow=9.7,SNR=20						
WB2	**Warramunga Arr**	**28.08**	**159**	*e*P	**P**	**11 59 21.4**	**-1.1**
ASAR	**Alice Springs**	**31.38**	**162**	P	**P**	**11 59 51.2**	**-0.6**
	0.9nm,0.6s,mb3.8,baz=340,slow=7.6,SNR=19						
STKA	**Stephens Creek**	**41.59**	**157**	*e*P	**P**	**12 01 17.0**	**-1.9**
	4.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**41.59**	**157**	P	**P**	**12 01 17.1**	**-1.7**
	5.6nm,0.8s,mb4.2,baz=337,slow=7.9,SNR=9.9						
SONM	**Songino Array**	**43.97**	**343**	P	**P**	**12 01 39.2**	**+1.1**
	1.0nm,0.8s,mb3.6,baz=158,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**53.79**	**326**	P	**P**	**12 02 55.9**	**+2.3**
	0.9nm,0.9s,mb3.7,baz=129,slow=7.9,SNR=7.4						
BVAR	**Borovoye Array**	**63.58**	**327**	P	**P**	**12 04 02.2**	**+0.5**
	1.0nm,1.0s,mb3.8,baz=124,slow=5.2,SNR=3.4						

IDC 14 12:02:26.2±3.2, 5765N×15641W, h140km±31km, mb2.6/2, mb1 2.9/5, mb1mx2.8/22, mbtmp3.2/5, Error ellipse: s-maj=53.9km s-min=37.6km az=179.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.06**	**85**	P	Pn	12 03 02.3	+0.9
	15nm,0.3s,baz=273,slow=8.9,SNR=178						
KDAK				S	Sn	12 03 28.5	+0.2
	12nm,0.3s,baz=146,slow=23,SNR=25						
ILAR	**Eielson Array**	**8.49**	**29**	P	Pn	12 04 26.3	+0.2
	0.1nm,0.3s,baz=217,slow=14,SNR=7.3						
INK	**Inuvik**	**14.79**	**35**	P	Pn	12 05 48.0	-0.3
	0.0nm,0.3s,baz=221,slow=11,SNR=2.9						
YKA	**Yellowknife Ar**	**21.12**	**59**	P	P	12 06 59.6	-0.1
	0.3nm,0.7s,baz=278,slow=8.8,SNR=7.1						
MKAR	**Makanchi Array**	**65.12**	**320**	P	P	12 12 51.3	-0.6
	0.2nm,0.7s,baz=45,slow=4.1,SNR=3.5						

JMA 14 12:39:58.5±0.2, 4399N×14808E, h0km, M3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.81**	**251**	P	Pn	12 40 31.2	+0.3
NEM2				*e*S	Sn	12 40 55.2	+0.7
JRA	**Rausu**	**2.14**	**270**	P	Pn	12 40 36.0	+0.6
JRA				*e*S	Sn	12 41 03.2	+0.6
JNK	**Nakash**	**2.47**	**262**	P	Pn	12 40 40.8	+0.8
JNK				*e*S	Sn	12 41 12.1	+1.3
JAK	**Akkeshi**	**2.66**	**249**	P	Pn	12 40 43.5	+1.0
JAK				*e*S	Sn	12 41 16.4	+1.0
JTKR	**Abashiri--Toko**	**3.01**	**271**	P	Pn	12 40 49.2	+1.8
JAR	**Ashorobuto**	**3.21**	**259**	P	Pn	12 40 52.0	+1.9
JAR				*e*S	Sn	12 41 31.9	+2.9
JCH	**Churui**	**3.71**	**250**	P	Pn	12 40 58.5	+1.5
JCH				*e*S	Sn	12 41 43.2	+1.8
JKK2	**Kamakawa 2**	**3.85**	**270**	P	Pn	12 41 01.6	+2.6
JNBK	**Urakawa-nobuka**	**4.26**	**248**	P	Pn	12 41 06.3	+1.7
JNBK				*e*S	Sn	12 41 55.9	+1.0
JKB	**Kayabe**	**5.58**	**250**	P	Pn	12 41 24.5	+1.7
JKB				*e*S	Sn	12 42 28.7	+1.1
JOT	**Ohata**	**5.80**	**246**	P	Pn	12 41 27.2	+1.4
JOT				*e*S	Sn	12 42 32.6	-0.4

IDC 14 12:48:57.4±7.9, 1088N×9193E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=404.4km s-min=28.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.72**	**349**	P	P	12 56 06.2	0.0
	0.4nm,0.7s,baz=173,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**51.78**	**126**	P	P	12 58 07.1	+0.3
	0.4nm,0.4s,baz=306,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**53.51**	**130**	P	P	12 58 20.2	+0.6
	0.1nm,0.3s,baz=307,slow=6.6,SNR=4.2						

*IDC **14** 12:49:19.5±1.3, 3759N×2142E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=38.4km s-min=20.8km az=115.0*
*ATH **14** 12:49:23.8, 3753N×2138E, h18km, MD3.6/17, ML3.5*
*CSEM **14** 12:49:25.3±0.2, 3758N×2130E, h20km, ML3.5, Error ellipse: s-maj=4.4km s-min=2.3km az=57.0*

ISC 14 12:49:23.1±1.1, 3749N±004×2125E±006, h5km±6km, n39, σ1§02/46, mb3.6/5, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.59**	**17**	⇑*i*PN	**Pg**	**12 49 34.5**	**0.0**
RLS				*e*SN	**Sg**	**12 49 42.1**	**-0.1**
ITM	**Ithomi**	**0.62**	**120**	*e*PN	**Pg**	**12 49 34.5**	**-0.6**
ITM				*e*SN	**Sg**	**12 49 43.1**	**-0.1**
VLS	**Valsamata**	**0.86**	**323**	*e*PN	**Pn**	**12 49 41.3**	**-0.6**
EVR	**Evrytania**	**1.49**	**17**	*e*PN	**Pn**	**12 49 50.7**	**+0.1**
VLI	**Veliai**	**1.55**	**119**	*e*PN	**Pn**	**12 49 52.0**	**+0.6**
VLI				*e*SN	**Sn**	**12 50 12.8**	**+0.9**
AGG	**Agios Georgios**	**1.75**	**29**	*e*P	**Pn**	**12 49 55.1**	**+1.0**
NAIG	**Nisos Aigina**	**1.80**	**81**	*e*PN	**Pn**	**12 49 54.5**	**-0.3**
LKR	**Lokris**	**1.80**	**49**	*e*PN	**Pn**	**12 49 54.3**	**-0.6**
LKR				*e*SN	**Sn**	**12 50 17.9**	**-0.2**
KYTH	**Kithira**	**1.87**	**130**	*e*PN	**Pn**	**12 49 57.0**	**+1.2**
ATH	**Athens Observa**	**2.02**	**75**	*e*PN	**Pn**	**12 49 58.0**	**+0.2**
KVR	**Kavouri**	**2.03**	**80**	*e*PN	**Pn**	**12 49 57.5**	**-0.5**
MPAR	**Parnis Oros**	**2.08**	**71**	*e*PN	**Pn**	**12 49 58.5**	**-0.1**
PTL	**Penteli**	**2.15**	**74**	*e*PN	**Pn**	**12 49 59.0**	**-0.6**
IGT	**Igoumenitsa**	**2.16**	**341**	*e*P	**Pn**	**12 50 02.2**	**+2.4**
JAN	**Janina**	**2.19**	**352**	*e*PN	**Pn**	**12 50 01.2**	**+1.1**
MEV	**Metsovon**	**2.29**	**360**	*e*P	**Pn**	**12 50 03.9**	**+2.3**
NEO	**Neokhori**	**2.39**	**40**	*e*PB	**Pb**	**12 50 02.8**	**-3.8**
KEK	**Kerkira**	**2.49**	**333**	*e*PN	**Pn**	**12 50 06.0**	**+1.6**
LIT	**Litokhoron**	**2.78**	**20**	*e*P	**Pn**	**12 50 09.5**	**+1.2**
KZN	**Kozani**	**2.84**	**8**	*e*PN	**Pn**	**12 50 10.1**	**+1.0**
PAIG	**Paliouri**	**3.09**	**37**	*e*P	**Pn**	**12 50 12.0**	**-0.5**
PLG	**Polygyros**	**3.35**	**30**	*e*PN	**Pn**	**12 50 15.6**	**-0.5**
APE	**Apeiranthos**	**3.44**	**96**	*e*PN	**Pn**	**12 50 18.5**	**+1.1**
BIA	**Bitola**	**3.52**	**1**	*e*Pn	**Pn**	**12 50 18.8**	**+0.3**
OUR	**Ouranopolis**	**3.55**	**36**	*e*P	**Pn**	**12 50 18.4**	**-0.5**
OHR	**Ohrid**	**3.63**	**355**	*e*Pn	**Pn**	**12 50 20.6**	**+0.5**
OHR				*e*Sn	**Sn**	**12 51 03.7**	**+0.4**
OHR	**Ohrid**	**3.63**	**355**	*e*Pn	**Pn**	**12 50 20.5**	**+0.5**
OHR				*e*Sn	**Sn**	**12 51 03.7**	**+0.4**
VAY	**Valandovo**	**3.96**	**15**	*e*Pn	**Pn**	**12 50 25.0**	**+0.5**
QSH	**Qafa e Shtames**	**4.16**	**346**	*e*Pg	**Pn**	**12 50 27.7**	**+0.5**
QSH				*i* Sg	**Sn**	**12 51 14.8**	**-1.4**
MMB	**Musomiste**	**4.52**	**24**	*i* P	**Pn**	**12 50 31.5**	**-0.7**
KKB	**Krupnik**	**4.59**	**17**	*i* P	**Pn**	**12 50 32.2**	**-1.0**
RZN	**Rozhen**	**4.97**	**31**	*i* P	**Pn**	**12 50 38.0**	**-0.5**
KDZ	**Kurdzhali**	**5.26**	**36**	*e*P	**Pn**	**12 50 40.0**	**-2.3**
GERES	**GERESS Array B**	**12.61**	**337**	Pn	**Pn**	**12 52 21.3**	**-1.8**
	0.2nm,0.3s,baz=157,slow=13,SNR=3.9						
FINES	**FINESS Array B**	**24.17**	**6**	P	**P**	**12 54 35.7**	**-4.6**
	0.4nm,0.4s,mb3.2,baz=158,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**29.87**	**221**	P	**P**	**12 55 31.0**	**-0.5**
	0.4nm,0.4s,mb3.5,baz=29,slow=8.9,SNR=4.7						
ARCES	**ARCESS Array B**	**32.19**	**3**	P	**P**	**12 55 48.3**	**-3.7**
	5.1nm,1.0s,mb4.3,baz=190,slow=10,SNR=3.7						
DBIC	**Dimbokro**	**38.79**	**224**	P	**P**	**12 56 46.6**	**-2.1**
	1.3nm,0.8s,mb3.7,baz=359,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**45.17**	**58**	P	**P**	**12 57 36.5**	**-4.3**
	0.3nm,0.4s,mb3.4,baz=270,slow=7.8,SNR=7.5						

IDC 14 12:59:55.5±2.9, 814S×11777E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.4/16, mbtmp3.3/4, Error ellipse: s-maj=181.5km s-min=23.9km az=54.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**128**	P	Pn	13 04 27.5	-2.3
	0.1nm,0.3s,baz=302,slow=13,SNR=7.7						
ASAR	**Alice Springs**	**21.85**	**137**	P	P	13 04 50.8	+1.1
	0.6nm,0.7s,baz=309,slow=8.7,SNR=14						
SONM	**Songino Array**	**56.63**	**351**	P	P	13 09 40.7	+0.4
	0.3nm,0.6s,baz=165,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**63.15**	**333**	P	P	13 10 25.0	-0.1
	0.6nm,0.7s,baz=135,slow=6.9,SNR=4.2						

*NEIC **14** 13:01:58.2±0.8, 7779N×730E, h10km, Error ellipse: s-maj=13.8km s-min=12.9km az=73.0*
*NAO **14** 13:01:58.2±2.4, 7787N×837E, ML2.7*
*IDC **14** 13:01:59.3±1.1, 7764N×779E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/20, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=33.9km s-min=14.7km az=60.0*
*ISCJB **14** 13:01:59.4±0.8, 7777N±004×92E±04, h10km, mb3.5/5, Error ellipse: s-maj=11.0km s-min=6.3km az=170.1*
*CSEM **14** 13:02:00.2±0.2, 7787N×776E, h30km, ML2.7, Error ellipse: s-maj=4.9km s-min=3.8km az=64.0*
*BER **14** 13:02:04.7±2.9, 7782N×929E, h26km±46km, MW2.8, ML2.7(NAO)*

ISC 14 13:02:00.8±0.9, 7783N±005×93E±04, h10km, n21, σ1§38/24, mb3.5/5, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.23**	**25**	Pn	**Pn**	**13 02 22.4**	**-1.6**
KBS				Lg		13 02 38.2	
KBS	**Kingsbay**	**1.23**	**25**	*e*S	**Sb**	**13 02 38.8**	**-1.2**
KBS	**Kingsbay**	**1.23**	**25**	*e*P	**Pn**	**13 02 23.0**	**-1.0**
KBS	**Kingsbay**	**1.23**	**25**	*e*P	**Pn**	**13 02 23.0**	**-1.0**
KBS				*e*S	**Sb**	**13 02 38.8**	**-1.2**
SPA0	**Spitsbergen Ar**	**1.52**	**73**	Pn	**Pn**	**13 02 30.1**	**+2.0**
	baz=267,slow=12						
SPA0				Lg		13 02 51.3	
	baz=252,slow=28						
HSP	**Hornsund**	**1.60**	**118**	*e*P	**Pn**	**13 02 29.4**	**+0.3**
HSP				*e*S	**Sn**	**13 02 47.1**	**-2.7**
HOPEN	**Hopen**	**3.74**	**103**	*e*P	**Pn**	**13 02 59.7**	**+1.1**
ARA0	**ARCESS Array S**	**9.44**	**143**	Pn	**Pn**	**13 04 16.8**	**0.0**
	baz=327,slow=12						
ARA0				Sn	**Sn**	**13 05 56.1**	**-6.8**
	baz=339,slow=22						
ARCES	**ARCESS Array B**	**9.44**	**143**	Pn	**Pn**	**13 04 16.8**	**0.0**
	0.6nm,0.3s,baz=322,slow=11,SNR=19						
ARCES				Sn	**Sn**	**13 05 55.6**	**-7.4**
	1.0nm,0.3s,baz=338,slow=20,SNR=7.9						
SUMG	**Summit**	**12.89**	**271**	*e*Pn	**Pn**	**13 04 55.0**	**-9.0**
	12nm,0.5s						
SUMG	**Summit**	**12.89**	**271**	*e*Pn	**Pn**	**13 04 55.0**	**-9.0**
	12nm,0.5s						
FIA0	**FINESS Array S**	**17.32**	**152**	P	**Pn**	**13 06 01.2**	**-1.4**
	baz=351,slow=16						
FINES	**FINESS Array B**	**17.32**	**152**	P	**Pn**	**13 06 01.9**	**-0.7**
	0.2nm,0.3s,baz=343,slow=14,SNR=4.9						
HFS	**Hagfors**	**17.84**	**173**	P	**Pn**	**13 06 10.0**	**+0.9**
	0.1nm,0.3s,baz=56,slow=10,SNR=3.6						
ILAR	**Eielson Array**	**36.90**	**343**	P	**P**	**13 09 09.9**	**+0.4**
	0.3nm,0.8s,mb3.2,baz=0.0,slow=6.3,SNR=3.0						
ILAR	**Eielson Array**	**36.90**	**343**	P	**P**	**13 09 09.9**	**+0.3**
BRTR	**Keskin Array B**	**39.54**	**150**	P	**P**	**13 09 30.8**	**-1.0**
	1.0nm,0.7s,mb3.6,baz=344,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**41.18**	**94**	P	**P**	**13 09 47.6**	**+2.3**
	0.8nm,0.6s,mb3.5,baz=352,slow=5.7,SNR=17						
SONM	**Songino Array**	**45.22**	**70**	P	**P**	**13 10 20.3**	**+2.3**
	0.4nm,0.7s,mb3.3,baz=309,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**64.80**	**188**	P	**P**	**13 12 37.9**	**-1.7**
	0.7nm,0.5s,mb3.9,baz=1.2,slow=6.1,SNR=5.0						
ASAR	**Alice Springs**	**120.04**	**61**	PKP	PKPdf	13 20 50.2	-1.5
	0.6nm,0.6s,baz=356,slow=1.9,SNR=12						

WEL 14 13:06:23.7±0.2, 3951S×17714E, h33km, ML3.6/17, Error ellipse: s-maj=1.9km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.57**	**202**	PN	Pn	13 06 35.0	-0.5
PXZ				SN	Sn	13 06 43.3	-0.4
PXZ				SN	Sn	13 06 43.7	0.0
BKZ	**Black Stump Fm**	**0.61**	**304**	PN	Pn	13 06 34.4	-1.6
BKZ				SN	Sn	13 06 43.1	-1.6
KNZ	**Kokohu**	**0.64**	**41**	PN	Pn	13 06 36.1	-0.3
KNZ				SN	Sn	13 06 45.5	+0.1
HATZ	**Hinemaiaia**	**1.02**	**307**	PN	Pn	13 06 41.3	-0.4
HATZ				SN	Sn	13 06 54.5	-0.4
TSZ	**Takapari Road**	**1.06**	**238**	PN	Pn	13 06 41.3	-1.0
MOVZ	**Moawhango**	**1.08**	**275**	PN	Pn	13 06 42.2	-0.4
RITZ	**Rihia Road**	**1.13**	**297**	PN	Pn	13 06 43.2	0.0
TUVZ	**Tukino**	**1.18**	**281**	PN	Pn	13 06 44.0	+0.1
OTVZ	**Oturere**	**1.20**	**286**	PN	Pn	13 06 43.9	-0.2
MWZ	**Matawai**	**1.21**	**15**	PN	Pn	13 06 43.7	-0.6
WNVZ	**Wahianoa**	**1.21**	**278**	PN	Pn	13 06 44.3	0.0
KRVZ	**Karewarewa**	**1.23**	**289**	PN	Pn	13 06 44.4	-0.3
NGZ	**Ngauruhoe**	**1.24**	**285**	PN	Pn	13 06 44.5	-0.2
RATZ	**Rangitukua**	**1.24**	**300**	PN	Pn	13 06 44.8	+0.1
URZ	**Urewera**	**1.25**	**359**	PN	Pn	13 06 44.0	-0.8

*NAO **14** 13:09:46.5±2.6, 7789N×825E, ML2.7*
*CSEM **14** 13:09:46.2±0.1, 7784N×765E, h5km, mb4.1/7, Error ellipse: s-maj=2.4km s-min=1.4km az=71.0*
*ISCJB **14** 13:09:47.5±2.5, 7781N±004×87E±02, h12km±16km, mb3.8/12, MS3.8/3, Error ellipse: s-maj=8.7km s-min=7.0km az=148.0*
*IDC **14** 13:09:47.6±0.7, 7769N×782E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.8/22, mbtmp3.8/13, ML3.6/4, MS3.8/8, Ms1 3.8/8, ms1mx3.5/23, Error ellipse: s-maj=25.9km s-min=11.0km az=54.0*
*MOS **14** 13:09:47.4±1.5, 7774N×821E, h10km, mb4.1/6, Error ellipse: s-maj=68.1km s-min=9.2km az=92.5*
*NEIC **14** 13:09:48.9±0.6, 7781N×862E, h10km, mb4.3/2, Error ellipse: s-maj=14.1km s-min=8.5km az=67.0*
*BER **14** 13:09:50.3±3.3, 7786N×860E, h15km±22km, ML3.7, ML2.7(NAO)*

ISC 14 13:09:47.9±3.0, 7785N±005×89E±02, h5km±20km, n47, σ1§24/48, mb3.8/12, MS3.8/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.25**	**28**	Pn	**Pn**	**13 10 10.5**	**-1.5**
KBS				Lg		13 10 26.5	
KBS	**Kingsbay**	**1.25**	**28**	*e*P	**Pn**	**13 10 11.2**	**-0.8**
KBS				*e*S	**Sb**	**13 10 26.8**	**-1.4**
KBS	**Kingsbay**	**1.25**	**28**	*e*P	**Pn**	**13 10 11.4**	**-0.5**
KBS	**Kingsbay**	**1.25**	**28**	*e*Pn	**Pn**	**13 10 11.4**	**-0.6**
SPA0	**Spitsbergen Ar**	**1.59**	**74**	Pn	**Pn**	**13 10 18.4**	**+1.6**
	baz=258,slow=14						
SPA0				Lg		13 10 40.4	
	baz=252,slow=22						
HSP	**Hornsund**	**1.68**	**117**	*e*P	**Pn**	**13 10 17.5**	**-0.4**
HSP				*e*S	**Sn**	**13 10 38.8**	**-1.0**
HOPEN	**Hopen**	**3.83**	**103**	*e*P	**Pn**	**13 10 47.8**	**+0.4**
HOPEN				*e*S	**Sn**	**13 11 31.7**	**-1.1**
HOPEN				AML	AML	13 11 34.8	
	comp=N,385nm,0.9s						
ARA0	**ARCESS Array S**	**9.51**	**143**	Pn	**Pn**	**13 12 04.5**	**-0.9**
	baz=327,slow=11						
ARA0				Sn	**Sn**	**13 13 46.4**	**-6.2**
	baz=341,slow=22						
ARCES	**ARCESS Array B**	**9.51**	**143**	Pn	**Pn**	**13 12 04.2**	**-1.2**
	comp=N,1.2nm,0.3s,baz=318,slow=11,SNR=34						
ARCES				Sn	**Sn**	**13 13 45.0**	**-7.6**
	comp=N,0.7nm,0.3s,baz=342,slow=19,SNR=5.2						
SUMG	**Summit**	**12.80**	**271**	*e*Pn	**Pn**	**13 12 43.7**	**-6.8**
	comp=N,23nm,0.6s						
BORG	**Borgarnes**	**15.98**	**232**	LR	LR	13 17 46.8	
	comp=N,590nm,19.8s,baz=195,slow=30						
NOA	**NORSAR Array B**	**16.91**	**176**	Pn	**Pn**	**

comp=Z,0.2nm,0.2s,mb3.7,baz=345,slow=10,SNR=2.5
NVAR Mina Array Bea 59.72 314 P P 13 19 53.9 +0.4
comp=Z,0.2nm,0.3s,mb3.6,baz=343,slow=4.4,SNR=4.6
TORD Torodi Ar. Bea 64.81 188 P P 13 20 26.6 -1.0
comp=Z,2.3nm,0.9s,mb4.2,baz=6.2,slow=6.8,SNR=9.2
ASAR Alice Springs 120.10 60 PKP PKPdf 13 28 38.1 -1.6
comp=Z,0.8nm,0.7s,baz=5.1,slow=2.1,SNR=11
ASAR Alice Springs 120.10 60 PKIKP PKPdf 13 28 38.2 -1.5
ASAR pmax pmax
comp=Z,1.0nm,0.7s

*IDC **14** 13:13:13.7±2.5, 3122S×6938W, h98km±17km, mb3.4/1, mb1 3.3/3, mb1mx3.2/15, mbtmp3.7/3, Error ellipse: s-maj=44.0km s-min=18.9km az=77.0*
*ISCJB **14** 13:13:14.1±0.6, 3124S±005×6921W±006, h115km±8km, mb3.5/1, Error ellipse: s-maj=9.6km s-min=7.8km az=83.8*
*GUC **14** 13:13:14.5±0.7, 3132S×6950W, h153km±16km, MD3.8, ML3.8*

ISC 14 13:13:15.0±0.6, 3122S±005×6921W±006, h108km±8km, n16, σ0°83/21, mb3.5/1, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.92**	**115**	P	**Pn**	**13 13 35.2**	**+0.1**
	21nm,0.3s,baz=293,slow=10,SNR=1426						
CFAA				S	**Sn**	**13 13 50.6**	**+0.3**
	55nm,0.3s,baz=286,slow=12,SNR=121						
CMCH	**Combarbala**	**1.53**	**271**	⇓*i*P	**Pn**	**13 13 42.7**	**+0.7**
CMCH				*i* S	**Sn**	**13 14 03.8**	**+1.2**
CMCH				AMP		13 14 08.8	
	comp=N,5μm,0.5s						
ILCH	**Illapel**	**1.72**	**256**	*e*P	**Pn**	**13 13 44.4**	**+0.1**
ILCH				*i* S	**Sn**	**13 14 06.8**	**+0.1**
ILCH				AMP		13 14 07.9	
	comp=N,1μm,0.2s						
JACH	**Jahuel**	**1.87**	**218**	*e*P	**Pn**	**13 13 46.7**	**+0.5**
PEL	**Peldehue**	**2.29**	**213**	*e*P	**Pn**	**13 13 50.9**	**-0.7**
PEL				*i* S	**Sn**	**13 14 18.9**	**-0.7**
PEL				AMP		13 14 22.6	
	comp=N,323nm,0.6s						
FCH	**Farellones**	**2.29**	**203**	*e*P	**Pn**	**13 13 52.1**	**+0.5**
FCH				*i* S	**Sn**	**13 14 21.1**	**+1.5**
FCH				AMP		13 14 26.4	
	comp=E,192nm,0.2s						
RCDM	**Rinconada Maip**	**2.63**	**210**	*e*P	**Pn**	**13 13 55.4**	**-0.7**
RCDM				*i* S	**Sn**	**13 14 26.9**	**-0.7**
RCDM				AMP		13 14 30.9	
	comp=E,356nm,0.4s						
PCH	**Pirque**	**2.64**	**204**	*e*P	**Pn**	**13 13 56.0**	**-0.1**
TACH	**Talagante**	**2.83**	**211**	*e*P	**Pn**	**13 13 57.7**	**-1.0**
CHCH	**Chadas Angostu**	**2.97**	**204**	*i* P	**Pn**	**13 14 00.1**	**-0.4**
CACH	**El Canelo**	**3.12**	**202**	*e*P	**Pn**	**13 14 01.7**	**-0.7**
LVC	**Limon Verde**	**8.58**	**2**	P	**Pn**	**13 15 15.9**	**-0.3**
	comp=E,0.4nm,0.3s,baz=175,slow=11,SNR=3.9						
LVC				S	**Sn**	**13 16 49.3**	**-1.9**
	comp=E,0.2nm,0.3s,baz=160,slow=14,SNR=2.0						
SIV	**San Ignacio**	**16.88**	**28**	P	**Pn**	**13 17 06.3**	**+1.6**
	comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**81.00**	**69**	P	**P**	**13 25 18.4**	**+0.7**
	comp=E,0.6nm,0.7s,mb3.5,baz=254,slow=4.9,SNR=4.3						
WRA	**Warramunga Arr**	**124.33**	**207**	PKP	PKPdf	13 32 01.1	-0.1
	comp=E,0.3nm,0.4s,baz=162,slow=1.8,SNR=18						
MKAR	**Makanchi Array**	**153.13**	**47**	PKPbc	PKPbc	13 32 59.9	-0.1
	comp=E,0.3nm,0.6s,baz=328,slow=0.8,SNR=4.2						
MKAR				PKPab	PKPab	13 33 11.8	-0.2
	comp=E,0.3nm,0.5s,baz=306,slow=2.1,SNR=5.6						

IDC 14 13:15:11.4±1.2, 1540S×17494W, h293km±16km, mb3.4/7, mb1 3.6/8, mb1mx3.5/16, mbtmp4.0/8, Error ellipse: s-maj=77.6km s-min=12.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.40**	**65**	P	Pn	13 16 10.6	-0.1
	7.2nm,0.3s,baz=24,slow=22,SNR=7.2						
AFI				S	S	13 16 59.0	+0.8
	14nm,0.3s,baz=181,slow=23,SNR=6.3						
STKA	**Stephens Creek**	**42.75**	**240**	P	P	13 22 39.9	-0.5
	0.6nm,0.5s,baz=71,slow=9.7,SNR=2.6						
WRA	**Warramunga Arr**	**48.40**	**257**	P	P	13 23 24.6	+0.3
	0.1nm,0.3s,baz=100,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**48.70**	**252**	P	P	13 23 27.4	+0.9
	1.4nm,0.4s,baz=91,slow=7.5,SNR=28						
NVAR	**Mina Array Bea**	**75.33**	**43**	P	P	13 26 23.6	+0.9
	1.9nm,0.7s,baz=227,slow=9.3,SNR=13						
ANMO	**Albuquerque**	**81.94**	**51**	P	P	13 26 59.0	+0.5
	1.4nm,0.8s,baz=233,slow=5.0,SNR=3.7						
ILAR	**Eielson Array**	**82.74**	**12**	P	P	13 27 01.4	-1.3
	1.0nm,0.5s,baz=226,slow=5.5,SNR=46						
PDAR	**Pinedale Array**	**83.26**	**42**	P	P	13 27 05.5	+0.2
	1.9nm,0.6s,baz=210,slow=3.5,SNR=17						
ARCES	**ARCESS Array B**	**124.40**	**351**	PKP	PKPdf	13 33 34.3	-1.2
	4.1nm,1.0s,baz=0.0,slow=1.2,SNR=4.6						
FINES	**FINESS Array B**	**131.62**	**347**	PKP	PKPdf	13 33 48.0	-1.2
	1.1nm,0.8s,baz=0.0,slow=1.9,SNR=3.7						
BRTR	**Keskin Array B**	**145.21**	**320**	PKPbc	PKPbc	13 34 14.9	+0.5
	1.5nm,0.7s,baz=72,slow=2.8,SNR=6.2						
GERES	**GERESS Array B**	**145.91**	**350**	PKPbc	PKPbc	13 34 16.5	0.0
	0.6nm,0.5s,baz=0.0,slow=4.0,SNR=5.4						

*NEIC **14** 13:21:34.6, 1670N×9480W, h109km, MD4.0(MEX), After MEX.*

MEX 14 13:21:34.6±0.8, 1670N×9480W, h109km±18km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.37**	**15**	*i* P	Pn	13 21 58.1	-1.7
TUIG				*i* S	Sn	13 22 17.5	-1.4
HUIG	**Huatulco**	**1.56**	**234**	*i* P	Pn	13 22 00.5	-1.6
HUIG				*i* S	Sn	13 22 21.6	-1.4
EVV	**El Vigia**	**1.82**	**343**	*i* P	Pn	13 22 02.8	-2.4
EVV				*i* S	Sn	13 22 28.3	-0.3
OXX	**Oaxaca**	**1.88**	**282**	*i* P	Pn	13 22 05.7	-0.3
OXX				*i* S	Sn	13 22 28.8	-1.2
VHO	**Vista Hermosa**	**1.89**	**281**	*e*P	Pn	13 22 05.7	-0.4
VHO				*i* S	Sn	13 22 28.0	-2.2
CCIG	**Comitan**	**2.59**	**99**	*e*P	Pn	13 22 16.4	+1.3
CCIG				*i* S	Sn	13 22 45.2	-1.0
UTMO	**Huajuapan**	**3.08**	**292**	*i* P	Pn	13 22 21.2	-0.4
UTMO				*i* S	Sn	13 22 54.9	-3.0
PPM	**Popocatepetl**	**4.34**	**303**	*i* P	Pn	13 22 39.3	+0.9
PPM				*i* S	Sn	13 23 28.1	+0.2

*ISCJB **14** 13:41:05.2±0.5, 5696N±004×1104E±006, h0km, Error ellipse: s-maj=5.7km s-min=4.5km az=34.8*
*CSEM **14** 13:41:05.7±0.1, 5691N×11.1E, h1km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.9km az=169.0, Suspected Mining explosion.*
*UPP **14** 13:41:06.9, 5683N×11.7E, h0km, ML2.7, Suspected Mining explosion.*
*NAO **14** 13:41:06.5±2.8, 5691N×1128E, ML2.1*
*BER **14** 13:41:07.3±2.9, 5690N×1101E, h0km±16km, MD2.3, ML2.1(NAO)*

ISC 14 13:41:05.7±0.5, 5691N±004×1096E±006, h0km, n29, σ0°91/37, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.08**	**246**	*i* P	**Pg**	**13 41 29.0**	**+2.5**
MUD				*i* S	**Sg**	**13 41 45.5**	**+5.0**
COP	**Copenhagen**	**1.47**	**146**	*i* P	**Pn**	**13 41 32.9**	**-0.5**
COP				*i* S	**Sg**	**13 41 52.0**	**-1.0**
VXJU	**Vaexsjoe**	**2.18**	**88**	P	**Pn**	**13 41 43.1**	**-0.1**
EKSU	**Eksjoe**	**2.45**	**72**	P	**Pn**	**13 41 47.2**	**+0.3**
SNART	**Snartemo**	**2.48**	**307**	*e*P	**Pn**	**13 41 47.5**	**+0.2**
SNART				*e*S	**Sn**	**13 42 17.9**	**-0.3**
FINU	**Finntorp**	**2.63**	**17**	P	**Pn**	**13 41 51.5**	**+2.1**
BLEU	**Blekinge**	**2.75**	**101**	P	**Pn**	**13 41 50.5**	**-0.5**
LNKU	**Linkoeping**	**2.78**	**60**	P	**Pn**	**13 41 52.0**	**+0.5**
OSKU	**Oskarshamn**	**2.82**	**82**	P	**Pn**	**13 41 51.9**	**-0.1**
BSD	**Bornholm Skovb**	**2.85**	**127**	*i* P	**Pn**	**13 41 50.7**	**-1.8**
BSD				*i*		13 41 54.9	
BSD				*i* S	**Sn**	**13 42 33.1**	**+5.6**
ASKU	**Askersund**	**2.87**	**44**	P	**Pn**	**13 41 53.7**	**+1.0**
VSTU	**Vaestervik**	**3.12**	**74**	P	**Pn**	**13 41 55.9**	**-0.2**
BYXU	**Byxelkrok**	**3.32**	**81**	P	**Pn**	**13 41 59.0**	**+0.1**
NRAU	**Nora**	**3.44**	**37**	P	**Pn**	**13 42 00.8**	**+0.4**
BLS5	**Blasjo**	**3.47**	**319**	*e*P	**Pn**	**13 42 01.6**	**+0.7**
BLS5				*e*Sg	**Sg**	**13 42 56.1**	**-1.2**
HFS	**Hagfors**	**3.54**	**23**	Pn	**Pn**	**13 42 02.9**	**+1.0**
	baz=203,slow=14						
HFS				Pg	**Pg**	**13 42 08.4**	**-5.1**
	baz=192,slow=18						
HFS				Lg		13 42 54.3	
	baz=204,slow=37						
HFS	**Hagfors**	**3.54**	**23**	Pg	**Pg**	**13 42 08.4**	**-5.2**
	SNR=90						
ESKU	**Eskilstuna**	**3.71**	**49**	P	**Pn**	**13 42 04.4**	**+0.2**
ODD1	**Odda**	**3.78**	**325**	*e*P	**Pn**	**13 42 04.4**	**-0.8**
ODD1				*e*Sg	**Sg**	**13 43 05.6**	**-1.6**
KMY	**Karmoy**	**3.82**	**310**	*e*P	**Pn**	**13 42 05.3**	**-0.4**
NB2	**NORSAR Subarra**	**4.15**	**2**	Pn	**Pn**	**13 42 09.6**	**-0.7**
	baz=185,slow=14						
NB2				Lg		13 43 17.0	
	baz=181,slow=37						
NYNU	**Nynaeshamn**	**4.30**	**58**	P	**Pn**	**13 42 12.6**	**+0.2**
FALU	**Falun**	**4.41**	**33**	P	**Pn**	**13 42 13.9**	**+0.1**
OSTU	**Oestervaala**	**4.64**	**42**	P	**Pn**	**13 42 17.2**	**+0.2**
FLYU	**Flymyra**	**4.86**	**45**	P	**Pn**	**13 42 20.1**	**+0.1**
GRAU	**Graesoe**	**5.25**	**46**	P	**Pn**	**13 42 25.3**	**0.0**
ARNU	**Arnoeviken**	**5.82**	**32**	P	**Pn**	**13 42 33.7**	**+0.5**
FIA0	**FINESS Array S**	**8.99**	**53**	Pn	**Pn**	**13 43 15.8**	**-0.9**
	baz=246,slow=12						
FIA0				Sn	**Sn**	**13 44 53.8**	**-4.8**
	baz=244,slow=22						
FIA0				Lg		13 45 44.8	
	baz=247,slow=28						
ARA0	**ARCESS Array S**	**14.21**	**21**	Pn	**Pn**	**13 44 22.0**	**-6.1**
	baz=206,slow=16						

*IDC **14** 13:46:08.6±2.1, 3629N×14032E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, Error ellipse: s-maj=52.5km s-min=22.3km az=46.0*
*ISCJB **14** 13:46:15.5±0.6, 3616N±004×140.11E±006, h59km±5km, mb3.1/4, Error ellipse: s-maj=8.7km s-min=5.8km az=76.2*
*JMA **14** 13:46:16.5±0.1, 3618N×14005E, h52km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=252.00000°, δ19.00000°, λ125.00000°. NP2: φs=36.00000°, δ75.00000°, λ79.00000°. Principal axes: T Plg59.0000°, Azm291.0000°; N Plg11.0000°, Azm39.0000°; P Plg29.0000°, Azm135.0000°;*
JMA Felt II J1.

ISC 14 13:46:16.5±0.6, 3616N±004×14009E±006, h52km±5km, n16, σ0°89/26, mb3.1/4, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.10**	**53**	⇑P	**Pn**	**13 46 24.8**	**+0.2**
JYT				S	**Sn**	**13 46 30.5**	**+0.1**
JAG	**Ashikaga**	**0.58**	**297**	⇓P	**Pn**	**13 46 28.5**	**-0.3**
JAG				S	**Sn**	**13 46 36.7**	**-1.0**
JKT	**Katashina**	**0.91**	**312**	⇓P	**Pn**	**13 46 32.6**	**-0.5**
JKT				S	**Sn**	**13 46 44.7**	**-0.5**
JRY	**Ryogami san**	**0.97**	**262**	⇓P	**Pn**	**13 46 33.7**	**-0.2**
JRY				S	**Sn**	**13 46 46.0**	**-0.8**
JOD2	**Odawara 2**	**1.21**	**223**	P	**Pn**	**13 46 37.8**	**+0.6**
JOD2				S	**Sn**	**13 46 52.3**	**-0.2**
JFY	**Yanaizu**	**1.28**	**346**	⇓P	**Pn**	**13 46 38.2**	**+0.2**
JFY				S	**Sn**	**13 46 54.4**	**+0.3**
JFK	**Kawauchi**	**1.35**	**27**	⇓P	**Pn**	**13 46 39.0**	**-0.1**
JFK				S	**Sn**	**13 46 55.7**	**-0.3**
JFT	**Otama**	**1.37**	**8**	⇓P	**Pn**	**13 46 39.4**	**+0.2**
JFT				S	**Sn**	**13 46 57.1**	**+0.9**
JHK	**Hiroka**	**1.38**	**322**	⇓P	**Pn**	**13 46 39.5**	**0.0**
JYN	**Shimob**	**1.42**	**243**	P	**Pn**	**13 46 41.2**	**+1.2**
MJAR	**Matsushiro Arr**	**1.56**	**284**	Pn	**Pn**	**13 46 39.9**	**-2.0**
	26nm,0.3s,baz=93,slow=8.6,SNR=184						
MJAR				Sn	**Sn**	**13 47 03.0**	**+1.9**
	10nm,0.3s,baz=208,slow=36,SNR=8.5						
MAT	**Matsushiro**	**1.57**	**285**	P	**Pn**	**13 46 41.3**	**-0.7**
MAT				S	**Sn**	**13 47 03.0**	**+1.9**
SONM	**Songino Array**	**27.41**	**306**	P	**P**	**13 51 56.7**	**-0.4**
	0.3nm,0.7s,mb3.0,baz=91,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**43.69**	**303**	P	**P**	**13 54 15.3**	**-0.9**
	0.4nm,0.8s,mb3.2,baz=80,slow=8.2,SNR=5.4						
WRA	**Warramunga Arr**	**56.06**	**187**	P	**P**	**13 55 49.1**	**-1.1**
	0.1nm,0.3s,mb3.3,baz=0.1,slow=7.5,SNR=6.8						
ASAR	**Alice Springs**	**59.79**	**187**	P	**P**	**13 56 18.0**	**+1.8**
	0.1nm,0.6s,mb3.0,baz=3.7,slow=5.1,SNR=4.1						

*CSEM **14** 14:03:08.4±0.2, 4304N×1869E, h15km, ML2.8, Error ellipse: s-maj=4.0km s-min=2.9km az=142.0*
*ISCJB **14** 14:03:09.2±0.5, 4302N±003×1875E±003, h10km, Error ellipse: s-maj=3.7km s-min=3.2km az=128.4*
*NEIC **14** 14:03:09.5, 4301N×1876E, h11km, ML2.8(PDG), After PDG.*
*PDG **14** 14:03:09.5±0.1, 4301N×1876E, h11km±1km*
*TIR **14** 14:03:09.7, 4296N×1881E, h5km*

ISC 14 14:03:09.5±0.5, 4303N±003×1874E±003, h10km, n19, σ1°03/33, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**229**	⇓*i*Pg	**Pg**	**14 03 13.5**	**-0.1**
BRY				*e*Sg	**Sg**	**14 03 16.8**	**+0.5**
UPM	**Unac-Piva**	**0.22**	**35**	⇓*i*Pg	**Pg**	**14 03 14.1**	**0.0**
UPM				*e*Sg	**Sg**	**14 03 17.6**	**+0.6**
NKY	**Niksic**	**0.28**	**138**	⇑*i*Pg	**Pg**	**14 03 14.8**	**-0.5**
NKY				*e*Sg	**Sg**	**14 03 19.3**	**+0.1**
PLE	**Pljevlja**	**0.57**	**57**	⇓*i*Pg	**Pg**	**14 03 20.2**	**-0.3**
PLE				*e*Sg	**Sg**	**14 03 29.0**	**+1.0**
HCY	**Herceg Novi**	**0.60**	**197**	⇑*i*Pg	**Pg**	**14 03 20.7**	**-0.6**
HCY				*e*Sg	**Sg**	**14 03 30.2**	**+1.0**
TTG	**Podgorica**	**0.71**	**147**	⇑*i*Pg	**Pg**	**14 03 21.7**	**-1.5**
TTG				*e*Sg	**Sg**	**14 03 33.0**	**+0.5**
BUM	**Brajici-Budva**	**0.73**	**171**	⇑*i*Pg	**Pg**	**14 03 22.8**	**-1.0**
BUM				*e*Sg	**Sg**	**14 03 34.3**	**+1.0**
STON	**Ston**	**0.78**	**259**	*i* Pg	**Pg**	**14 03 23.3**	**-1.3**
STON				*i* Sg	**Sg**	**14 03 36.0**	**+1.3**
IVA	**Berane**	**0.86**	**100**	*e*Pg	**Pg**	**14 03 25.2**	**-1.0**
IVA				*e*Sg	**Sg**	**14 03 38.4**	**+1.0**
PVY	**Plav**	**1.00**	**115**	*e*Pg	**Pg**	**14 03 27.9**	**-0.9**
PVY				*e*Sg	**Sg**	**14 03 43.3**	**+1.4**
ULC	**Ulcinj**	**1.13**	**160**	*e*Pg	**Pg**	**14 03 29.9**	**-1.3**
ULC				*e*Sg	**Sg**	**14 03 47.7**	**+1.9**
BCI	**Bajram Curri**	**1.18**	**123**	*e*pn?	**Sg**	**14 03 47.8**	**+0.3**
PUK	**Puka**	**1.30**	**139**	*i* Pn	**Pn**	**14 03 33.8**	**+0.1**
PUK				*i* Sn	**Sn**	**14 03 58.7**	**+7.5**
PUK	**Puka**	**1.30**	**139**	*e*Pn	**Pn**	**14 03 33.8**	**+0.1**
QSH	**Qafa e Shtames**	**1.73**	**150**	*i* Pn	**Pg**	**14 03 43.4**	**+0.6**
QSH				*i* Sn	**Sg**	**14 04 11.4**	**+6.1**
SKO	**Skopje**	**2.26**	**117**	*e*Pn	**Pn**	**14 03 52.3**	**+5.4**
OHR	**Ohrid**	**2.45**	**141**	*e*Pn	**Pg**	**14 03 53.7**	**-2.8**
OHR				*e*Sn	**Sg**	**14 04 26.7**	**-1.6**
BOLS	**Boljevac**	**2.48**	**70**	⇓*i*Pn	**Sg**	**14 04 36.5**	**+7.3**
VOY	**Vojsko**	**4.59**	**313**	*e*P	**Pn**	**14 04 22.7**	**+3.8**
VOY				*e*		14 04 38.8	
VOY				*e*		14 05 20.2	
VOY				*e*		14 05 40.0	

*HLW **14** 14:22:10.7, 3543N×2333E, h33km, Mb3.5*
*BJI **14** 14:22:11.8, 3459N×2280E, h39km, mB5.4, mb4.7, Ms5.0, Msz4.5*
*CSEM **14** 14:22:16.8±0.1, 3493N×2375E, h40km, ML3.8, Error ellipse: s-maj=3.1km s-min=1.5km az=67.0*
*MOS **14** 14:22:16.9±1.5, 3497N×2369E, h33km, mb4.2/11, Error ellipse: s-maj=10.9km s-min=4.5km az=88.3*
*NAO **14** 14:22:17.7, 3508N×2447E, h33km, mb3.7*
*ISCJB **14** 14:22:17.1±0.4, 3490N±003×2360E±005, h42km±4km, mb4.2/21, MS4.6/2, Error ellipse: s-maj=7.3km s-min=3.7km az=125.5*
*IDC **14** 14:22:18.3±2.7, 3503N×2342E, h36km±23km, mb3.7/12, mb1 3.8/17, mb1mx3.7/26, mbtmp3.9/17, ML3.8/4, Error ellipse: s-maj=18.0km s-min=14.9km az=156.0*
*NEIC **14** 14:22:18.5±1.1, 3493N×2353E, h39km±8km, mb4.3/4, Error ellipse: s-maj=13.4km s-min=7.4km az=208.0*
*ATH **14** 14:22:21.9, 3546N×2374E, h16km±3km, MD3.8/18, ML3.8*

ISC 14 14:22:18.3±0.8, 3494N±003×2359E±005, h30km±6km, n129, σ1°30/132, mb4.2/21, MS4.6/2, 7C-11D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.42**	**104**	*e*Pn	**Pb**	**14 22 26.5**	**-1.0**
GVD	**Gavdhos**	**0.42**	**104**	*e*Pn	**Pb**	**14 22 26.5**	**-1.0**
GVD				*e*Sn	**Sb**	**14 22 37.6**	**+3.8**
VAM	**Vamos**	**0.68**	**47**	*e*PB	**Pb**	**14 22 29.9**	**-1.9**
VAM	**Vamos**	**0.68**	**47**	P	**Pb**	**14 22 30.5**	**-1.3**
VAM	**Vamos**	**0.68**	**47**	P	**Pb**	**14 22 30.5**	**-1.3**
IDI	**Anoyia**	**1.12**	**72**	Pn	**Pn**	**14 22 38.4**	**+0.5**
	9.1nm,0.3s,baz=260,slow=16,SNR=55						
IDI				Sn	**Sn**	**14 22 57.9**	**+5.6**
	90nm,0.3s,baz=348,slow=22,SNR=11						
KYTH	**Kithira**	**1.41**	**341**	*e*PN	**Pn**	**14 22 40.5**	**-1.5**
NPS	**Neapolis**	**1.69**	**78**	*e*PN	**Pn**	**14 22 50.6**	**+4.9**
XRY	**Khrisi**	**1.73**	**92**	*e*PN	**Pn**	**14 22 52.8**	**+6.5**
VLI	**Veliai**	**1.85**	**344**	*e*PN	**Pn**	**14 22 48.3**	**+0.3**
VLI	**Veliai**	**1.85**	**344**	P	**Pn**	**14 22 49.3**	**+1.3**
VLI	**Veliai**	**1.85**	**344**	P	**Pn**	**14 22 49.3**	**+1.3**
SANT	**Santorini**	**2.09**	**46**	*e*Pn	**Pn**	**14 22 53.2**	**+2.0**
ITM	**Ithomi**	**2.61**	**329**	*e*PN	**Pn**	**14 23 01.0**	**+2.6**
APE	**Apeiranthos**	**2.64**	**36**	*e*PB	**Pb**	**14 22 57.9**	**-7.1**
APE	**Apeiranthos**	**2.64**	**36**	*i* P	**Pn**	**14 22 59.2**	**+0.3**
APE	**Apeiranthos**	**2.64**	**36**	*d* iP	**Pn**	**14 22 59.2**	**+0.3**
NAIG	**Nisos Aigina**	**2.81**	**358**	*e*PN	**Pn**	**14 23 02.3**	**+1.1**
KVR	**Kavouri**	**2.89**	**3**	*e*PN	**Pn**	**14 23 02.5**	**+0.3**
KARP	**Karpathos**	**2.98**	**77**	*e*PN	**Pn**	**14 23 08.0**	**+4.4**
ATH	**Athens Observa**	**3.03**	**2**	*e*PN	**Pn**	**14 23 03.0**	**-1.2**
PTL	**Penteli**	**3.11**	**4**	*e*PB	**Pb**	**14 23 06.0**	**-7.0**
MPAR	**Parnis Oros**	**3.21**	**2**	*e*PB	**Pb**	**14 23 07.8**	**-6.8**
RLS	**Riolos of Patr**	**3.55**	**332**	*e*PN	**Pn**	**14 23 13.6**	**+2.2**
SLUM		**3.70**	**158**	⇓P	**Pn**	**14 23 12.7**	**-0.7**
SLUM				S	**Sn**	**14 23 58.4**	**+2.5**
LKR	**Lokris**	**3.73**	**353**	*e*PN	**Pn**	**14 23 14.9**	**+1.0**
SMG	**Samos**	**3.81**	**43**	*e*PB	**Pb**	**14 23 18.0**	**-6.8**
VLS	**Valsamata**	**4.04**	**324**	*e*PN	**Pn**	**14 23 16.0**	**-2.0**
EVR	**Evrytania**	**4.22**	**341**	*e*PN	**Pn**	**14 23 22.3**	**+1.8**
KEK	**Kerkira**	**5.64**	**329**	*e*PN	**Pn**	**14 23 44.0**	**+3.9**
SWA2		**5.89**	**164**	⇓P	**Pn**	**14 23 43.5**	**0.0**
SWA1		**5.94**	**162**	⇑P	**Pn**	**14 23 44.0**	**-0.1**
SWA1				S	**Sn**	**14 24 52.5**	**+1.4**
ISP	**Isparta**	**6.29**	**61**	*e*P	**Pn**	**14 23 48.0**	**-0.9**
OHR	**Ohrid**	**6.54**	**341**	*e*Pn	**Pn**	**14 23 51.4**	**-1.1**
OHR				*e*Sn	**Sn**	**14 25 06.2**	**+0.1**
MMB	**Musomiste**	**6.64**	**1**	*i* P	**Pn**	**14 23 53.0**	**-0.8**
RZN	**Rozhen**	**6.80**	**7**	*i* P	**Pn**	**14 23 56.5**	**+0.6**
HBRG	**Burj al 'Arab**	**6.83**	**128**	P	**Pn**	**14 23 55.6**	**-0.8**
KKB	**Krupnik**	**6.93**	**357**	*i* P	**Pn**	**14 23 58.0**	**+0.2**
PLD	**Plovdiv**	**7.21**	**7**	*i* P	**Pn**	**14 24 03.0**	**+1.4**
PVL	**Pavlikeni**	**8.38**	**9**	*i* P	**Pn**	**14 24 16.0**	**-1.6**
GLL	**Jalalabad**	**8.71**	**126**	⇓P	**Pn**	**14 24 21.6**	**-0.6**
HFRF	**Wahat Farafira**	**8.76**	**151**	⇓P	**Pn**	**14 24 22.5**	**-0.4**
AMAG	**Maghara**	**9.16**	**115**	⇓P	**Pn**	**14 24 25.9**	**-2.4**
BR131	**Keskin Array S**	**9.32**	**56**	*e*Pn	**Pn**	**14 24 30.9**	**+0.4**
	4.9nm,0.8s						
BR131	**Keskin Array S**	**9.32**	**56**	*e*Pn	**Pn**	**14 24 30.9**	**+0.4**
	4.9nm,0.8s						
BRTR	**Keskin Array B**	**9.32**	**56**	Pn	**Pn**	**14 24 32.9**	**+2.4**
	0.2nm,0.3s,baz=232,slow=14,SNR=10.0						
SUZ		**9.32**	**120**	⇓P	**Pn**	**14 24 30.0**	**-0.5**
HDK1	**Dakhla**	**10.62**	**150**	⇓P	**Pn**	**14 24 48.7**	**+0.3**
MLR	**Muntele Rosu**	**10.69**	**9**	Pn	**Pn**	**14 24 49.3**	**-0.1**
	0.3nm,0.3s,baz=140,slow=18,SNR=1.5						
MLR	**Muntele Rosu**	**10.69**	**9**	⇑P	**Pn**	**14 24 52.2**	**+2.8**
MLR	**Muntele Rosu**	**10.69**	**9**	⇑P	**Pn**	**14 24 52.2**	**+2.8**
BZS	**Buzias**	**10.77**	**353**	⇑P	**Pn**	**14 24 48.5**	**-1.9**
BZS	**Buzias**	**10.77**	**353**	⇑P	**Pn**	**14 24 48.5**	**-2.0**
HHRG	**Al Ghardaqah**	**11.50**	**129**	⇓P	**Pn**	**14 25 00.9**	**+0.5**
BURAR	**Bucovina Array**	**12.72**	**5**	⇓P	**Pn**	**14 25 17.4**	**+0.3**
BURAR	**Bucovina Array**	**12.72**	**5**	⇓P	**Pn**	**14 25 17.4**	**+0.3**
KECS	**Kecovo**	**13.73**	**351**	*e*	Px	14 25 46.4	
VYHS	**Vyhne**	**14.00**	**347**	*e*P	**Pn**	**14 25 40.6**	**+6.1**
KOLS	**Kolonicke sedl**	**14.02**	**356**	*e*P	**Pn**	**14 25 39.4**	**+4.6**
KOLS				*e*		14 25 57.6	
ANN	**Anapa**	**14.47**	**43**	*e*P	**Pn**	**14 25 49.3**	**+8.3**
ANN				pmax	pmax		
	comp=Z,91nm,1.7s						
STHS	**Stebnicka Huta**	**14.57**	**354**	*e*	**Pn**	**14 25 41.3**	**-1.0**
STHS				*e*		14 25 52.3	

ARCES	**ARCESS Array B**	**34.67**	**1**	P	**P**	**14 29 01.6**	**-3.4**
	comp=Z,2.5nm,0.9s,mb4.2,baz=185,slow=9.1,SNR=4.9						
ARCES	**ARCESS Array B**	**34.67**	**1**	P	**P**	**14 29 01.7**	**-3.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**38.44**	**230**	P	**P**	**14 29 36.2**	**-1.0**
	comp=Z,2.3nm,0.9s,mb3.9,baz=30,slow=8.1,SNR=3.3						
DBIC	**Dimbokro**	**38.44**	**230**	*e*P	**P**	**14 29 37.1**	**-0.1**
KURK	**Kurchatov**	**42.32**	**51**	*e*P	**P**	**14 30 08.2**	**-1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
KURK	**Kurchatov**	**42.32**	**51**	*e*P	**P**	**14 30 08.2**	**-1.1**
	comp=Z,1.4nm,0.3s,mb4.1						
MKAR	**Makanchi Array**	**44.97**	**56**	P	**P**	**14 30 30.5**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=267,slow=7.4,SNR=33						
MKAR	**Makanchi Array**	**44.97**	**56**	P	**P**	**14 30 30.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVS	**Novosibirsk**	**45.15**	**45**	*e*P	**P**	**14 30 30.3**	**-1.8**
ZAL	**Zalesovo**	**46.07**	**46**	P	**P**	**14 30 38.5**	**-0.9**
	comp=Z,1.9nm,0.3s,mb4.4						
ZAL	**Zalesovo**	**46.07**	**46**	P	**P**	**14 30 38.5**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KOLN	**Koldanda**	**51.09**	**81**	*e*P	**P**	**14 31 18.5**	**+0.5**
GKN	**Gorkha**	**51.83**	**80**	*e*P	**P**	**14 31 24.2**	**+0.7**
	comp=Z,4.1nm,0.4s,mb4.7						
DMN	**Daman**	**52.37**	**80**	*e*P	**P**	**14 31 28.5**	**+1.0**
	comp=Z,16nm,1.0s,mb4.9						
PKI	**Pulchoki**	**52.63**	**80**	*e*P	**P**	**14 31 29.7**	**+0.2**
GUN	**Gumba**	**52.87**	**79**	*e*P	**P**	**14 31 31.2**	**-0.1**
JIRN	**Jiri**	**53.23**	**79**	*e*P	**P**	**14 31 34.7**	**+0.8**
SONM	**Songino Array**	**60.62**	**50**	P	**P**	**14 32 26.3**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.1,baz=290,slow=6.2,SNR=11						
SONM	**Songino Array**	**60.62**	**50**	P	**P**	**14 32 26.3**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**61.02**	**50**	*e*P	**P**	**14 32 28.5**	**-0.5**
SCHQ	**Schefferville**	**62.52**	**319**	P	**P**	**14 32 37.2**	**-1.9**
	comp=Z,2.4nm,0.8s,mb4.4,baz=56,slow=7.3,SNR=3.1						
SCHQ	**Schefferville**	**62.52**	**319**	P	**P**	**14 32 37.2**	**-1.9**
SNY	**Shenyang**	**74.20**	**50**	⇑P	**P**	**14 33 53.1**	**+1.0**
SNY				AP	pP	14 34 03.8	+2.1
SNY				XP	sP	14 34 08.0	+2.8
SNY				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
SNY				AMB	AMB		
	comp=Z,270nm,5.5s						
SNY				LR	LR		
	comp=N,250nm,19.6s						
SNY				LR	LR		
	comp=Z,160nm,20.4s,MS4.3						
NJ2	**Nanjing**	**76.28**	**61**	*e*P	**P**	**14 34 04.3**	**+0.2**
NJ2				AP	pP	14 34 14.6	+0.9
NJ2				PCP	PcP	14 34 16.1	+0.1
NJ2				XP	sP	14 34 18.4	+1.2
NJ2				S	S	14 43 43.0	-3.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,190nm,8.8s						
NJ2				LR	LR		
	comp=N,710nm,26.3s,MS5.0						
NJ2				LR	LR		
	comp=E,590nm,24.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,370nm,19.3s						
YKA	**Yellowknife Ar**	**77.26**	**342**	P	**P**	**14 34 08.1**	**-1.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=36,slow=5.9,SNR=7.5						
YKA	**Yellowknife Ar**	**77.26**	**342**	P	**P**	**14 34 08.1**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SSE	**Sheshan**	**78.47**	**60**	P	**P**	**14 34 13.4**	**-3.0**
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,93nm,5.1s						
WRA	**Warramunga Arr**	**117.85**	**96**	PKP	PKPdf	14 41 00.9	-0.8
	comp=Z,0.4nm,0.9s,baz=313,slow=1.8,SNR=4.7						
ASAR	**Alice Springs**	**119.28**	**100**	PKP	PKPdf	14 41 03.8	-0.7
	comp=Z,0.3nm,0.7s,baz=301,slow=1.2,SNR=7.1						

DHMR 14 15:09:21.4±1.5, 1174N×4310E, h12km±13km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.78**	**34**	*i* P	Pn	15 09 52.5	+0.5
TRBA				*i* S	Sn	15 10 18.1	+3.6
UDYN	**Al 'Udayn**	**2.37**	**21**	*i* P	Pn	15 10 02.6	+2.6
UDYN				*i* S	Sn	15 10 34.3	+5.3
UDYN				AML	AML	15 10 43.8	
	comp=E,464nm,0.3s						
UDYN	**Al 'Udayn**	**2.37**	**21**	*i* P	Pn	15 10 02.6	+2.6
UDYN				*i* S	Sn	15 10 34.3	+5.3
	comp=E,232nm,0.3s						
LBOS		**2.98**	**45**	*i* P	Pn	15 10 12.4	+4.0
LBOS				*i* S	Sn	15 10 50.6	+6.6
DHBB	**Dhamar BB**	**3.08**	**24**	*i* P	Pn	15 10 12.2	+2.4
DHBB				*i* S	Sn	15 10 54.0	+7.5
DHBB	**Dhamar BB**	**3.08**	**24**	*i* P	Pn	15 10 12.2	+2.4
DHBB				*i* S	Sn	15 10 54.0	+7.5
BDHA	**Al Bayda'**	**3.27**	**47**	*i* P	Pn	15 10 15.4	+2.9
BDHA				*i* S	Sn	15 10 57.1	+5.8
BDHA				AML	AML	15 11 15.4	
	comp=N,373nm,0.5s						
BDHA	**Al Bayda'**	**3.27**	**47**	*i* P	Pn	15 10 15.4	+2.9
BDHA				*i* S	Sn	15 10 57.1	+5.8
	comp=N,186nm,0.5s						
HAJJ	**Hajjah**	**3.96**	**7**	*i* P	Pn	15 10 25.1	+3.1
HAJJ				*i* S	Sn	15 11 13.5	+5.1
HAJJ				AML	AML	15 11 35.0	
	comp=N,235nm,0.5s						
HAJJ	**Hajjah**	**3.96**	**7**	*i* P	Pn	15 10 25.1	+3.1
HAJJ				*i* S	Sn	15 11 13.5	+5.2
	comp=N,118nm,0.5s						

WEL 14 15:22:02.5±0.1, 4005S×17553E, h27km, ML3.7/37, 12C-2D, Error ellipse: s-maj=1.3km s-min=0.4km az=90.0, MM 4., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.33**	**92**	P*	Pb	15 22 10.0	-0.1
TSZ				*e*S*	Sb	15 22 15.2	-0.1
WAZ	**Wanganui**	**0.51**	**305**	⇑P*	Pb	15 22 13.0	+0.1
WAZ				S*	Sb	15 22 20.6	+0.7
MRZ	**Mangatainoka R**	**0.62**	**176**	P*	Pb	15 22 14.4	-0.3
MRZ				S*	Sb	15 22 22.7	-0.3
MOVZ	**Moawhango**	**0.66**	**15**	⇑P*	Pb	15 22 14.6	-0.8
MOVZ				S*	Sb	15 22 23.5	-0.8
MTVZ	**Mangateitei**	**0.66**	**356**	⇑P*	Pb	15 22 15.2	-0.3
MTVZ				S*	Sb	15 22 24.9	+0.7
WNVZ	**Wahianoa**	**0.72**	**4**	⇑P*	Pb	15 22 15.9	-0.5
TRVZ	**Turoa**	**0.75**	**1**	⇑P*	Pb	15 22 16.5	-0.3
TRVZ				S*	Sb	15 22 26.9	+0.2
PKVZ	**Pokaka**	**0.77**	**349**	⇑P*	Pb	15 22 16.8	-0.4
DRZ	**Dome Shelter**	**0.77**	**2**	P*	Pb	15 22 17.0	-0.3
TUVZ	**Tukino**	**0.78**	**7**	⇑P*	Pb	15 22 17.1	-0.4
TUVZ				S*	Sb	15 22 28.3	+0.6
FWVZ	**Far West T-bar**	**0.79**	**1**	⇓P*	Pb	15 22 17.2	-0.5
WPVZ	**Whakapapa**	**0.84**	**1**	⇑PN	Pn	15 22 18.1	-0.5
NGZ	**Ngauruhoe**	**0.87**	**4**	⇑PN	Pn	15 22 18.5	-0.5
OTVZ	**Oturere**	**0.89**	**7**	⇑PN	Pn	15 22 18.7	-0.5
WTVZ	**West Tongariro**	**0.93**	**3**	⇑PN	Pn	15 22 19.5	-0.3
KIW	**Kapiti Island**	**0.94**	**210**	⇑P*	Pb	15 22 18.7	-1.4
TWVZ	**Taurewa**	**0.98**	**356**	PN	Pn	15 22 20.0	-0.4
PXZ	**Pawanui**	**1.02**	**90**	P*	Pb	15 22 21.7	+0.1
KATZ	**Kakaramea**	**1.08**	**7**	PN	Pn	15 22 21.9	+0.1
VRZ	**Vera Road**	**1.10**	**327**	PN	Pn	15 22 21.7	-0.4
RITZ	**Rihia Road**	**1.10**	**14**	PN	Pn	15 22 22.2	+0.1
MTW	**Mount Morrison**	**1.11**	**181**	P*	Pb	15 22 22.2	-0.9
CAW	**Cannon Point**	**1.12**	**198**	P*	Pb	15 22 22.1	-1.0
BKZ	**Black Stump Fm**	**1.15**	**41**	⇓PN	Pn	15 22 23.6	+0.7
RAEZ	**Rainy Point**	**1.16**	**310**	PN	Pn	15 22 23.4	+0.4
HATZ	**Hinemaiaia**	**1.23**	**21**	*e*PN	Pn	15 22 24.2	+0.2
MRW	**Makara Radio**	**1.34**	**208**	*e*P*	Pb	15 22 25.5	-1.4
WATZ	**Wairara**	**1.34**	**7**	*e*PN	Pn	15 22 26.0	+0.5
NEZ	**North Egmont**	**1.35**	**305**	PN	Pn	15 22 26.4	+0.8
WEL	**Wellington**	**1.37**	**205**	PN	Pn	15 22 25.9	+0.1
MSWZ	**Moikau Station**	**1.38**	**189**	PN	Pn	15 22 25.7	-0.3
SNZO	**South Karori**	**1.41**	**206**	PN	Pn	15 22 26.3	-0.1
DUWZ	**D'Urville Isla**	**1.44**	**238**	PN	Pn	15 22 26.3	-0.6
BHW	**Baring Head**	**1.45**	**200**	PN	Pn	15 22 26.6	-0.3
PKE	**Pukeiti**	**1.46**	**305**	*e*PN	Pn	15 22 28.1	+1.0
TCW	**Tory Channel**	**1.50**	**219**	*e*PN	Pn	15 22 27.4	-0.3
HIZ	**Hauiti**	**1.62**	**341**	PN	Pn	15 22 29.2	0.0
TUWZ	**Tuamarina**	**1.83**	**221**	*e*PN	Pn	15 22 32.1	-0.2
NNZ	**Nelson**	**2.01**	**234**	PN	Pn	15 22 34.7	+0.1
BSWZ	**Blackbirch Sta**	**2.08**	**216**	*e*PN	Pn	15 22 35.4	-0.3
URZ	**Urewera**	**2.17**	**35**	*e*PN	Pn	15 22 37.3	+0.4
MWZ	**Matawai**	**2.31**	**43**	PN	Pn	15 22 39.0	+0.2
TOZ	**Tahuroa Road**	**2.31**	**359**	*e*PN	Pn	15 22 41.2	+2.3
QRZ	**Quartz Range**	**2.42**	**250**	PN	Pn	15 22 40.2	-0.1
THZ	**Tophouse**	**2.63**	**228**	*e*PN	Pn	15 22 42.9	-0.2
WCZ	**Waipu Caves**	**4.21**	**347**	*e*PN	Pn	15 23 05.4	+0.5

NIED ***14*** *15:27:00,2170N×14640E, h11km, Mw6.1 Best double couple: M0 1.48000×10^18 NP1:φs=199.00000°, δ80.00000°, λ-131.00000°. NP2:φs=98.00000°, δ42.00000°, λ-15.00000°.*
CRAAG ***14*** *15:27:17.4,2081N×14609E, Mb6.3*
BJI ***14*** *15:27:21.7,2090N×14607E, h28km, mB5.9, mb5.7, Ms5.9, Msz5.7*
MOS ***14*** *15:27:21.0±1.0,2079N×146.13E, h33km, mb6.3/93, MS5.9/61, Error ellipse: s-maj=7.5km s-min=4.2km az=107.2*
ISCJB ***14*** *15:27:22.6±0.5,2088N±002×14621E±002, h43km±4km, mb6.0/246, MS6.0/180, Error ellipse: s-maj=3.2km s-min=3.1km az=99.0*
IDC ***14*** *15:27:23.4±1.6,2080N×14625E, h40km±12km, mb5.7/29, mb1 5.8/34, mb1mx5.8/34, mbtmp5.9/34, ML5.6/5, MS5.9/26, Ms1 5.9/26, ms1mx5.7/32, Error ellipse: s-maj=10.9km s-min=10.2km az=81.0*
NEIC ***14*** *15:27:23.3±0.1,2082N×146.18E, h40km, mb6.2/128, ME6.1, MS6.1/121, MW6.2, Error ellipse: s-maj=3.9km s-min=3.2km az=180.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^18Nm; Mrr-1.04; Mθθ 1.16; Mφφ-0.12; Mrθ-2.02; Mθφ0.75; Mφr1.44; Best double couple: M0 2.70000×10^18 NP1:φs=112.00000°, δ80.00000°, λ-67.00000°. NP2:φs=224.00000°, δ25.00000°, λ-157.00000°. Principal axes: T 2.3600, Plg32.0000°, Azm183.0000°; N 0.7500, Plg22.0000°, Azm288.0000°; P -3.1100, Plg49.0000°, Azm47.0000°; Broadband fault plane solution: P waves. NP1:φs=222.00000°, δ35.00000°, λ-171.00000°. NP2:φs=125.00000°, δ85.00000°, λ-55.00000°. Principal axes: T Plg31.0000°, Azm187.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm67.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***14*** *15:27:23.3±0.1,2092N×146.35E, h41km, MW6.3/104, Centroid moment Tensor Solution. LP body waves: s104,c245;Mantle waves: s99,c393; Half duration: 3±3 Moment tensor: Scale 10^18Nm; Mrr-0.85±.01; Mθθ 1.89±.01; Mφφ-1.03±.01; Mrθ-2.09±.03; Mθφ-0.09±.01; Mφr1.48±.02; Best double couple: M0 3.03100×10^18 NP1:φs=234.00000°, δ27.00000°, λ-158.00000°. NP2: φs=124.00000°, δ80.00000°, λ-64.00000°. Principal axes: T 3.1740, Plg30.0000°, Azm193.0000°; N -0.2810, Plg25.0000°, Azm299.0000°; P -2.8880, Plg49.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
JMA ***14*** *15:27:25.0±0.3,2165N×14641E, h0km, M6.6*
NAO ***14*** *15:27:32.8,2175N×14158E, h33km, mb6.1*
ISC 14 15:27:25.1±0.4, 2093N±002×14621E±002, h49km±3km, h49km±1.8km: pP-P, n828, σ1§07/738, mb6.0/245, MS6.0/180, 50C-80D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**6.77**	**328**	⇑P	**Pn**	**15 29 01.4**	**-0.4**
JHHJ				S	**Sn**	**15 30 15.0**	**-2.5**
CBIJ	**Chichi jima**	**7.15**	**330**	P	**Pn**	**15 29 06.2**	**-0.9**
CBIJ				S	**Sn**	**15 30 23.1**	**-3.9**
CBIJ	**Chichi jima**	**7.15**	**330**	P	**Pn**	**15 29 06.6**	**-0.5**
	533nm,0.3s,baz=168,slow=4.3,SNR=416						
CBIJ				S	**Sn**	**15 30 21.8**	**-5.2**
	1μm,0.3s,baz=117,slow=24,SNR=15						
GUMO	**Guam**	**7.41**	**190**	P	**Pn**	**15 29 10.7**	**+0.1**
	254nm,0.3s,baz=128,slow=2.3,SNR=78						
GUMO				S	**Sn**	**15 30 34.8**	**+1.4**
	417nm,0.3s,baz=162,slow=19,SNR=2.5						
GUMO	**Guam**	**7.41**	**190**	P	**Pn**	**15 29 10.7**	**+0.1**
GUMO				S	**Sn**	**15 30 34.8**	**+1.4**
GUMO				pmax	pmax		
	comp=Z,254nm,0.3s						
GUMO	**Guam**	**7.41**	**190**	*e*Pn	**Pn**	**15 29 11.0**	**+0.4**
	comp=Z,3μm,0.9s						
JHJ2	**Mitsune**	**13.40**	**336**	P	**Pn**	**15 30 30.6**	**-1.8**
JHJ2				S	**Sn**	**15 32 54.1**	**-5.7**
JHJ	**Hachijo jima 2**	**13.42**	**336**	P	**Pn**	**15 30 31.0**	**-1.7**
	comp=Z,75nm,0.3s,baz=209,slow=14,SNR=19						
JHJ				S	**Sn**	**15 32 53.5**	**-6.8**
	comp=Z,104nm,0.3s,baz=270,slow=23,SNR=4.3						
JMY	**Miyakejima3**	**14.37**	**337**	P	**Pn**	**15 30 44.5**	**-1.1**
BSO2	**Boso 2**	**14.58**	**342**	S	**Sn**	**15 33 26.6**	**-2.1**
JMZ	**Minamidaito 2**	**14.60**	**292**	P	**Pn**	**15 30 54.0**	**+5.4**
JKO	**Kozu shima**	**14.61**	**336**	P	**Pn**	**15 30 49.1**	**+0.3**
JKO				S	**Sn**	**15 33 24.6**	**-4.7**
BSO3	**Boso 3**	**14.70**	**341**	P	**Pn**	**15 30 48.3**	**-1.7**
BSO3				S	**Sn**	**15 33 27.3**	**-4.3**
TK04	**Tokai 4**	**15.29**	**333**	P	**Pn**	**15 30 57.8**	**+0.2**
JOD2	**Odawara 2**	**15.59**	**338**	P	**Pn**	**15 30 59.9**	**-1.6**
JOD2				S	**S**	**15 33 46.2**	**-20**
JWZ	**Kozaga**	**15.62**	**326**	P	**Pn**	**15 31 01.6**	**-0.4**
JIE	**Ise**	**15.82**	**330**	P	**Pn**	**15 31 04.3**	**-0.1**
JRY	**Ryogami san**	**16.34**	**338**	P	**Pn**	**15 31 10.6**	**-0.4**
JRY				S	**S**	**15 34 04.8**	**-17**
JHO	**Hitachi**	**16.38**	**344**	P	**Pn**	**15 31 09.7**	**-1.8**
JHE	**Heguri**	**16.52**	**328**	P	**Pn**	**15 31 12.8**	**-0.5**
JAJ2	**Tsuna**	**16.75**	**326**	P	**Pn**	**15 31 16.8**	**+0.6**
JAM	**Amami Oshima**	**16.82**	**300**	P	**Pn**	**15 31 21.7**	**+4.7**
JTO	**Tosashimizu**	**16.84**	**318**	P	**Pn**	**15 31 18.5**	**+1.2**
JGM	**Miyama**	**16.90**	**333**	P	**Pn**	**15 31 17.8**	**-0.3**
JKT	**Katashina**	**16.91**	**340**	P	**Pn**	**15 31 17.2**	**-0.9**
JGK	**Kuni**	**16.92**	**339**	P	**Pn**	**15 31 18.1**	**-0.2**
JFK	**Kawauchi**	**17.02**	**345**	P	**Pn**	**15 31 17.5**	**-2.1**
MJAR	**Matsushiro Arr**	**17.05**	**338**	P	**Pn**	**15 31 18.5**	**-1.4**
	comp=Z,14nm,0.3s,baz=160,slow=10,SNR=208						
MJAR				S	**S**	**15 34 22.4**	**-14**
	comp=Z,6.0nm,0.3s,baz=160,slow=20,SNR=8.4						
MJAR				ScP	ScP	15 39 39.5	+5.8
	comp=Z,0.1nm,0.3s,baz=180,slow=3.4,SNR=5.5						
MAJO	**Matsushiro**	**17.05**	**338**	*e*P	**Pn**	**15 31 18.9**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,587nm,0.9s						
MAJO	**Matsushiro**	**17.05**	**338**	*e*P	**Pn**	**15 31 18.9**	**-1.0**
	comp=Z,587nm,0.9s						
MAT	**Matsushiro**	**17.05**	**338**	P	**Pn**	**15 31 18.9**	**-1.0**
MAT				S	**S**	**15 34 22.8**	**-13**
MAT	**Matsushiro**	**17.05**	**338**	P	**Pn**	**15 31 20.0**	**+0.1**
JGN	**Niukaw**	**17.11**	**335**	P	**Pn**	**15 31 20.5**	**-0.1**
JJS	**Sakaide**	**17.23**	**324**	P	**Pn**	**15 31 22.7**	**+0.5**
JFT	**Otama**	**17.30**	**344**	P	**Pn**	**15 31 22.2**	**-0.8**
JOW	**Kunigami**	**17.42**	**293**	P	**Pn**	**15 31 25.8**	**+1.3**
JOW	**Kunigami**	**17.42**	**293**	P	**Pn**	**15 31 24.6**	**+0.1**
	comp=Z,58nm,0.3s,baz=130,slow=11,SNR=70						
JOW				S	**S**	**15 34 38.5**	**-5.1**
	comp=Z,1.1nm,0.3s,baz=134,slow=15,SNR=1.7						
JOW				LR	LR	15 37 21.6	
	comp=Z,37μm,21.4s,baz=117,slow=34						
JOW	**Kunigami**	**17.42**	**293**	P	**Pn**	**15 31 24.6**	**+0.1**
JOW				S	**S**	**15 34 38.5**	**-5.1**
JOW				LR	LR	15 37 21.6	
JUS	**Usuki**	**17.64**	**316**	P	**Pn**	**15 31 28.5**	**+1.3**
JKI	**Kunimi**	**18.12**	**317**	P	**Pn**	**15 31 34.8**	**+1.7**
JHS	**Saijyo**	**18.14**	**323**	P	**Pn**	**15 31 34.3**	**+0.9**
JSJ	**Shimokoshiki**	**18.23**	**309**	P	**Pn**	**15 31 34.2**	**-0.2**
JNU	**Nakatsue**	**18.25**	**315**	P	**Pn**	**15 31 36.7**	**+2.1**
	comp=Z,7.2nm,0.3s,baz=112,slow=13,SNR=49						
JNU				S	**S**	**15 35 00.6**	**+0.1**
	baz=120,slow=10.0,SNR=2.3						
JSD	**Sado**	**18.38**	**340**	P	**Pn**	**15 31 36.0**	**-0.3**
JMK	**Ichinoseki**	**18.47**	**348**	P	**Pn**	**15 31 36.7**	**-0.6**
JMK				S	**S**	**15 34 47.9**	**-17**
JKE	**Kume jima 2**	**18.58**	**291**	P	**Pn**	**15 31 39.9**	**+1.2**
JFA	**Akaike**	**18.67**	**316**	P	**Pn**	**15 31 40.5**	**+0.8**
NGSJ	**Nagasakinomoza**	**18.69**	**312**	P	**Pn**	**15 31 40.8**	**+0.8**
JFI	**Itaya**	**18.76**	**315**	P	**Pn**	**15 31 41.9**	**+1.1**
JUR	**Ureshino**	**18.86**	**313**	P	**Pn**	**15 31 42.8**	**+0.8**
WAKE	**Wake Island**	**19.27**	**91**	*e*P	**Pn**	**15 31 43.3**	**-3.6**
	comp=Z,801nm,1.1s						
JTU	**Tsushima**	**20.08**	**316**	P	**P**	**15 31 55.5**	**+1.1**
JOT	**Ohata**	**20.85**	**349**	P	**P**	**15 32 04.7**	**+2.0**
CNP	**Catarman**	**22.25**	**251**	*e*P	**P**	**15 32 19.4**	**+1.7**
PVCP	**Virac**	**22.27**	**254**	*e*P	**P**	**15 32 17.5**	**-0.4**
PLP	**Palo**	**22.57**	**248**	*e*P	**P**	**15 32 21.1**	**0.0**
SCPH	**Surigao**	**22.82**	**244**	*e*P	**P**	**15 32 23.8**	**+0.1**
SCPH				*e*S	sP	15 32 42.1	+0.7
KS15	**Wonju Array Si**	**22.88**	**320**	*e*P	**P**	**15 32 23.4**	**-1.0**
NACB	**Ninganchiao**	**22.95**	**283**	*e*P	**P**	**15 32 23.7**	**-1.4**
BIPH	**Bislig**	**22.98**	**239**	⇑*e*P	**P**	**15 32 24.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**23.04**	**359**	⇓*i*P	**P**	**15 32 28.0**	**+2.0**
YUK				*e*		15 33 07.5	
YUK				*i* S	**S**	**15 36 35.0**	**+1.9**
YUK				pmax	pmax		
	comp=E,210nm,0.6s						
YUK				pmax	pmax		
	comp=Z,170nm,0.6s,mb5.7						
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,4μm,3.0s						
YUK				pmax	pmax		
	comp=Z,20μm,3.0s						
YUK				pmax	pmax		
	comp=N,30μm,3.6s						
YUK				smax			
	comp=E,46μm,8.0s						
YUK				smax			
	comp=N,730nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				MLR	MLR		
	comp=Z,17μm,17.0s,MS5.6						
YUK				MLR	MLR		
	comp=N,17μm,14.0s,MS5.7						
YUK				MLR	MLR		
	comp=E,6μm,14.0s,MS5.7						
TATO	**Taipei**	**23.11**	**285**	*e*P	**P**	**15 32 27.1**	**+0.4**
	comp=E,137nm,0.9s,mb5.4						
TATO				LR	LR		
	comp=Z,18μm,21.0s,MS5.5						
BUTP	**Butuan**	**23.14**	**242**	*e*P	**P**	**15 32 28.2**	**+1.1**
MSLP	**Maasin**	**23.17**	**246**	*e*P	**P**	**15 32 27.6**	**+0.2**
YHNB	**Yeheng**	**23.18**	**284**	*e*P	**P**	**15 32 26.1**	**-1.4**
CVP	**Callao Caves**	**23.23**	**266**	*e*P	**P**	**15 32 28.3**	**+0.2**
ASAJ	**Asahikawa**	**23.31**	**353**	P	**P**	**15 32 31.0**	**+2.2**
	comp=Z,455nm,1.1s,mb5.8,baz=221,slow=14,SNR=75						
ASAJ				S	**S**	**15 36 45.8**	**+8.2**
	comp=Z,26nm,0.7s,baz=17,slow=19,SNR=3.6						
ASAJ				LR	LR	15 41 33.0	
	comp=Z,17μm,20.8s,MS5.5,baz=171,slow=36						
CAUP	**Cauayan**	**23.40**	**264**	*e*P	**P**	**15 32 30.9**	**+1.3**
INCN	**Inchon**	**23.67**	**318**	*e*P	**P**	**15 32 32.2**	**+0.1**
	comp=Z,840nm,1.2s,mb6.0						
INCN				LR	LR		
	comp=Z,37μm,20.0s,MS5.8						
GQP	**Guinayangan**	**23.71**	**257**	⇑*e*P	**P**	**15 32 32.5**	**+0.1**
AUQP	**San Andres**	**23.71**	**255**	*e*P	**P**	**15 32 34.9**	**+2.5**
APYP	**Conner**	**23.74**	**267**	*e*P	**P**	**15 32 32.6**	**-0.2**
LLP	**Lapu-Lapu**	**23.85**	**247**	*e*P	**P**	**15 32 34.0**	**+0.2**
POLP	**Politio Island**	**23.90**	**259**	*e*P	**P**	**15 32 34.9**	**+0.7**
KWAJ	**Kwajalein Atol**	**23.91**	**117**	P	**P**	**15 32 31.5**	**-2.7**
KWAJ				LR	LR		
	comp=Z,11μm,20.0s,MS5.3						
BALP	**Baler**	**23.93**	**262**	*e*P	**P**	**15 32 34.8**	**+0.3**
CGP	**Cagayan de Oro**	**24.19**	**242**	⇓*e*P	**P**	**15 32 39.1**	**+2.2**
BUKP	**Musuan**	**24.20**	**241**	*e*P	**P**	**15 32 38.0**	**+1.1**
PIP	**Pasuquin**	**24.24**	**268**	⇓*e*P	**P**	**15 32 36.7**	**-0.5**
TBP	**Tagbilaran**	**24.24**	**246**	*e*P	**P**	**15 32 36.2**	**-1.1**
ABRA	**Dolores**	**24.28**	**267**	*e*P	**P**	**15 32 36.9**	**-0.7**
RCP	**Roxas**	**24.35**	**251**	⇑*e*P	**P**	**15 32 39.6**	**+1.3**
BOAC	**Boac**	**24.41**	**256**	*e*P	**P**	**15 32 38.3**	**-0.6**
PCPH	**Palayan**	**24.43**	**262**	⇓*e*P	**P**	**15 32 40.0**	**+1.0**
SSE	**Sheshan**	**24.61**	**299**	P	**P**	**15 32 40.1**	**-0.6**
SSE				AP		15 32 53.3	
SSE				PCP	PcP	15 36 14.8	-2.5
SSE				S	**S**	**15 37 00.5**	**+2.0**
SSE				AMB	AMB		
	comp=Z,370nm,1.1s,mb5.8						
SSE				AMB	AMB		
	comp=Z,752nm,4.6s						
SSE				LR	LR		
	comp=N,7μm,20.0s,MS5.4						
SSE				LR	LR		
	comp=E,9μm,20.0s,MS5.4						
SSE				LR	LR		
	comp=Z,13μ

NJ2				AMB	AMB	
	comp=Z,2μm,7.6s					
NJ2				LR	LR	
	comp=N,69μm,29.9s					
NJ2				LR	LR	
	comp=E,29μm,20.2s					
NJ2				LR	LR	
	comp=Z,13μm,23.8s					
MDJ	**Mudanjiang**	**27.34**	**334**	P	**P**	**15 33 07.3 +2.0**
MDJ				AP	pP	15 33 18.1 +0.2
MDJ				PP		15 33 57.9
MDJ				S	**S**	**15 37 45.1 +3.5**
MDJ				SS		15 39 03.8
MDJ				AMB	AMB	
	comp=Z,77nm,1.1s,mb5.2					
MDJ				AMB	AMB	
	comp=Z,3μm,6.0s					
MDJ				LR	LR	
	comp=N,22μm,23.5s,MS5.7					
MDJ				LR	LR	
	comp=E,18μm,26.2s,MS5.7					
MDJ				LR	LR	
	comp=Z,36μm,27.6s,MS5.8					
MDJ	**Mudanjiang**	**27.34**	**334**	*e*P	**P**	**15 33 06.0 +0.7**
	comp=Z,172nm,1.0s,mb5.5					
MDJ				LR	LR	
	comp=Z,12μm,20.0s,MS5.5					
ENPP	**El Nido**	**27.45**	**254**	*e*P	**P**	**15 33 06.4 0.0**
DL2	**Dalian**	**27.70**	**316**	P	**P**	**15 33 11.3 +2.8**
DL2				PCP	PcP	15 36 25.1 +0.6
DL2				S	**S**	**15 37 49.9 +2.6**
DL2				XS	sS	15 38 03.1 -5.6
DL2				SS		15 39 05.4
DL2				SCS	ScS	15 43 53.0 -0.1
DL2				AMB	AMB	
	comp=Z,140nm,0.8s,mb5.6					
DL2				AMB	AMB	
	comp=Z,590nm,5.0s					
DL2				LR	LR	
	comp=N,6μm,20.6s,MS5.3					
DL2				LR	LR	
	comp=E,8μm,22.1s,MS5.3					
DL2				LR	LR	
	comp=Z,11μm,23.3s,MS5.4					
SNY	**Shenyang**	**28.26**	**323**	⇑P	**P**	**15 33 13.5 0.0**
SNY				AP	pP	15 33 26.3 +0.1
SNY				XP	sP	15 33 31.3 -0.7
SNY				PP	PP	15 34 06.3 -12
SNY				S	**S**	**15 38 01.5 +5.4**
SNY				SS	SS	15 39 21.3 -36
SNY				AMB	AMB	
	comp=Z,120nm,1.2s,mb5.4					
SNY				AMB	AMB	
	comp=Z,1μm,10.0s					
SNY				LR	LR	
	comp=N,16μm,23.5s,MS5.7					
SNY				LR	LR	
	comp=E,16μm,23.0s,MS5.7					
SNY				LR	LR	
	comp=Z,24μm,30.8s					
CN2	**Changchun**	**28.61**	**328**	⇑P	**P**	**15 33 17.8 +1.1**
CN2				PP	PP	15 34 11.3 -11
CN2				PCP	PcP	15 36 28.1 +1.4
CN2				*e*S	**S**	**15 37 55.9 -5.8**
CN2				AMB	AMB	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,17μm,22.0s,MS5.8					
CN2				LR	LR	
	comp=E,18μm,22.0s,MS5.8					
CN2				LR	LR	
	comp=Z,33μm,21.0s,MS5.9					
PPR	**Puerto Princes**	**28.68**	**251**	⇑*e*P	**P**	**15 33 19.3 +2.1**
HABR	**Khabarovsk**	**28.90**	**345**	⇓*i*P	**P**	**15 33 21.9 +2.6**
HABR				*i* *PP	pP	15 33 34.0 +2.0
HABR				*i* S	**S**	**15 38 11.3 +5.0**
HABR				pmax	pmax	
	comp=Z,343nm,1.7s,mb5.8					
HABR				MLR	MLR	
	comp=Z,17μm,18.8s,MS5.7					
TIA	**Tai'an**	**29.59**	**307**	P	**P**	**15 33 25.6 +0.2**
TIA				S	**S**	**15 38 15.8 -1.3**
TIA				XS	sS	15 38 32.0 -6.5
TIA				SCS	ScS	15 44 01.0 -0.8
TIA				AMB	AMB	
	comp=Z,116nm,1.0s,mb5.6					
TIA				LR	LR	
	comp=N,6μm,8.0s					
TIA				LR	LR	
	comp=E,8μm,8.0s					
HKC	**Hong Kong**	**29.79**	**279**	⇓*e*P	**P**	**15 33 33.0 +5.9**
HKC				*e*S	**S**	**15 38 20.0 -0.2**
BATP	**Bataraza**	**29.93**	**250**	*e*P	**P**	**15 33 29.6 +1.2**
PMG	**Port Moresby**	**30.16**	**178**	S	**S**	**15 38 22.2 -3.8**
	comp=E,19nm,0.9s,baz=220,slow=17,SNR=2.7					
PMG	**Port Moresby**	**30.16**	**178**	*c i*P	**P**	**15 33 27.9 -2.5**
PMG	**Port Moresby**	**30.16**	**178**	*e*P	**P**	**15 33 27.8 -2.6**
	comp=E,627nm,0.8s,mb6.4					
PMG				LR	LR	
	comp=Z,14μm,20.0s,MS5.6					
WHN	**Wuhan**	**30.17**	**295**	P	**P**	**15 33 30.8 +0.3**
WHN				S	**S**	**15 38 21.8 -4.3**
WHN				LR	LR	
	comp=Z,16μm,19.7s,MS5.7					
KLR	**Kul'dur**	**30.50**	**341**	*e*P	**P**	**15 33 31.3 -2.1**
KLR				*e*		15 38 30.5
KLR				*e*		15 44 04.8
KLR				pmax	pmax	
	comp=E,110nm,1.2s					
KLR				pmax	pmax	
	comp=Z,270nm,1.2s,mb6.0					
KLR				pmax	pmax	
	comp=N,1μm,10.0s					
KLR				pmax	pmax	
	comp=E,800nm,10.0s					
KLR				pmax	pmax	
	comp=Z,4μm,10.0s					
GZH	**Guangzhou**	**30.51**	**280**	P	**P**	**15 33 29.9 -3.6**
GZH				S	**S**	**15 38 25.1 -6.5**
GZH				LR	LR	
	comp=N,7μm,19.1s,MS5.4					
GZH				LR	LR	
	comp=E,7μm,20.7s,MS5.4					
GZH				LR	LR	
	comp=Z,13μm,25.3s,MS5.5					
BJT	**Baijiatuau**	**31.90**	**313**	*e*P	**P**	**15 33 45.1 -0.7**
BJT				pmax	pmax	
	comp=Z,46nm,0.8s					
BJT				MLR	MLR	
	comp=Z,23μm,22.0s					
BJT	**Baijiatuau**	**31.90**	**313**	*e*P	**P**	**15 33 45.1 -0.7**
	comp=Z,46nm,0.8s,mb5.4					
BJT				LR	LR	
	comp=Z,23μm,22.0s,MS5.8					
KKM	**Kota Kinabalu**	**32.62**	**247**	P	**P**	**15 33 53.0 +1.0**
KKM	**Kota Kinabalu**	**32.62**	**247**	*e*P	**P**	**15 33 52.6 +0.6**
HNR	**Honiara**	**33.06**	**155**	S	**S**	**15 39 07.6 -3.6**
	comp=Z,24nm,0.7s,baz=94,slow=6.2,SNR=2.5					
HNR	**Honiara**	**33.06**	**155**	P	**P**	**15 33 56.8 +0.9**
HNR				pmax	pmax	
	comp=Z,290nm,1.0s,mb6.2					
HNR	**Honiara**	**33.06**	**155**	*e*P	**P**	**15 33 55.1 -0.8**
	comp=Z,295nm,0.9s,mb6.2					
HNR				LR	LR	
	comp=Z,24μm,21.0s,MS5.9					
PET	**Petropavlovsk**	**33.44**	**14**	⇓*i*P	**P**	**15 33 59.9 +0.7**
PET				*i* *PP	pP	15 34 12.4 +0.4
PET				*e*		15 35 16.9
PET				*e*		15 36 39.0
PET				*i* S	**S**	**15 39 18.9 +1.7**
PET				pmax	pmax	
	comp=N,184nm,1.6s					
PET				pmax	pmax	
	comp=Z,286nm,1.4s,mb6.0					
PET				pmax	pmax	
	comp=Z,5μm,5.9s					
PET				pmax	pmax	
	comp=N,3μm,5.4s					
PET				smax		
	comp=E,4μm,10.6s					
PET				smax		
	comp=E,6μm,20.9s					
PET				MLR	MLR	
	comp=Z,17μm,20.0s,MS5.8					
PET				MLR	MLR	
	comp=Z,13μm,22.0s					
PET	**Petropavlovsk**	**33.44**	**14**	*e*P	**P**	**15 34 00.2 +1.0**
	comp=Z,514nm,1.3s,mb6.3					
PET				LR	LR	
	comp=Z,17μm,20.0s,MS5.8					
TIY	**Taiyuan**	**33.64**	**307**	⇑P	**P**	**15 34 00.0 -0.9**
TIY				LR	LR	
	comp=N,8μm,15.0s					
MIDW	**Midway**	**33.81**	**70**	*e*P	**P**	**15 34 01.1 -1.3**
	comp=N,822nm,1.2s,mb6.5					
MIDW				LR	LR	
	comp=Z,24μm,21.0s,MS5.9					
QIZ	**Qiongzhong**	**34.19**	**273**	P	**P**	**15 34 06.0 +0.3**
QIZ				AP	pP	15 34 18.4 -0.1
QIZ				S	**S**	**15 39 29.3 +0.6**
QIZ				XS	sS	15 39 47.3 -2.9
QIZ				SS	SS	15 41 39.3 -19
QIZ				AMB	AMB	
	comp=Z,709nm,11.9s					
QIZ				LR	LR	
	comp=N,8μm,20.1s,MS5.7					
QIZ				LR	LR	
	comp=E,11μm,21.5s,MS5.7					
QIZ				LR	LR	
	comp=Z,22μm,29.3s					
QIZ	**Qiongzhong**	**34.19**	**273**	*e*P	**P**	**15 34 05.3 -0.3**
	comp=Z,92nm,1.1s,mb5.6					
ENH	**Enshi**	**34.27**	**293**	*e*P	**P**	**15 34 05.4 -1.1**
	comp=Z,58nm,0.6s,mb5.7					
ENH				LR	LR	
	comp=Z,24μm,21.0s,MS5.9					
HIA	**Hailar**	**35.26**	**330**	P	**P**	**15 34 15.8 +0.8**
HIA				PcP	PcP	15 36 45.3 +0.5
HIA	**Hailar**	**35.26**	**330**	*e*P	**P**	**15 34 15.1 +0.1**
HIA				pmax	pmax	
	comp=Z,222nm,1.1s					
HIA				MLR	MLR	
	comp=Z,23μm,22.0s					
HIA	**Hailar**	**35.26**	**330**	*e*P	**P**	**15 34 15.1 +0.2**
	comp=Z,222nm,1.1s,mb6.0					
HIA				LR	LR	
	comp=Z,23μm,22.0s,MS5.9					
XAN	**Xi'an**	**35.37**	**300**	P	**P**	**15 34 15.8 -0.1**
XAN				S	**S**	**15 39 43.2 -3.7**
HHC	**Hu-ho-hao-te**	**35.43**	**312**	⇓P	**P**	**15 34 16.8 +0.4**
HHC				AP	pP	15 34 28.9 -0.4
HHC				XP	sP	15 34 34.8 -0.2
HHC				PP	PP	15 35 38.5 +1.0
HHC				PCP	PcP	15 36 43.3 -2.0
HHC				S	**S**	**15 39 49.0 +1.1**
HHC				XS	sS	15 40 09.4 -0.1
HHC				SCP	ScP	15 40 26.3 -0.7
HHC				SS	SS	15 42 08.1 -15
HHC				SCS	ScS	15 44 29.5 -2.1
HHC				AMB	AMB	
	comp=Z,91nm,1.4s,mb5.5					
HHC				AMB	AMB	
	comp=Z,2μm,9.6s					
HHC				LR	LR	
	comp=N,8μm,18.0s,MS5.7					
HHC				LR	LR	
	comp=E,11μm,21.6s,MS5.7					
HHC				LR	LR	
	comp=Z,14μm,27.6s					
KAKA	**Kakadu**	**36.07**	**203**	⇑*i*P	**P**	**15 34 19.5 -2.4**
	comp=Z,121nm,0.6s,mb6.0					
BTO	**Baotou**	**36.42**	**311**	*e*P	**P**	**15 34 25.3 +0.4**
BTO				AMB	AMB	
	comp=Z,100nm,1.4s,mb5.5					
BTO				LR	LR	
	comp=N,1μm,4.3s					
BTO				LR	LR	
	comp=E,3μm,10.2s					
GYA	**Guiyang**	**36.53**	**286**	⇑*i*P	**P**	**15 34 26.0 +0.2**
GYA				AP	pP	15 34 32.8 -5.9
GYA				XP	sP	15 34 35.3 -9.1
GYA				PP	PP	15 35 45.1 -4.5
GYA				S	**S**	**15 39 57.9 -6.7**
GYA				AMB	AMB	
	comp=Z,110nm,0.7s,mb5.8					
GYA				AMB	AMB	
	comp=Z,1μm,7.1s					
GYA				LR	LR	
	comp=N,8μm,22.4s,MS5.7					
GYA				LR	LR	
	comp=E,11μm,22.1s,MS5.7					
GYA				LR	LR	
	comp=Z,11μm,23.0s,MS5.6					
FX1	**Attu Island--F**	**38.05**	**26**	P	**P**	**15 34 40.3 +1.7**
	comp=Z,443nm,0.8s,mb6.3,baz=169,slow=2.1,SNR=35					
FX1	**Attu Island--F**	**38.05**	**26**	P	**P**	**15 34 40.3 +1.6**
FX1				pmax	pmax	
	comp=Z,443nm,0.8s					
FX1	**Attu Island--F**	**38.05**	**26**	*e*P	**P**	**15 34 39.8 +1.1**
SMY	**Shemya**	**38.33**	**27**	P	**P**	**15 34 42.2 +1.1**
SMY				pmax	pmax	
	comp=Z,450nm,1.1s,mb6.1					
SMY	**Shemya**	**38.33**	**27**	*e*P	**P**	**15 34 41.1 +0.1**
	comp=Z,453nm,1.1s,mb6.1					
MA2	**Magadan**	**38.74**	**4**	*e*P	**P**	**15 34 45.3 +0.8**
MA2				*e*		15 36 16.2
MA2				*e*PPP		15 36 40.1
MA2				*e*		15 36 54.1
MA2				*e*S	**S**	**15 40 38.5 +0.3**
MA2				*e*SS	SS	15 43 28.4 -1.9
MA2				*e*SSS		15 44 01.6
MA2				pmax	pmax	
	comp=Z,300nm,1.3s,mb5.9					
MA2				pmax	pmax	
	comp=N,100nm,1.4s					
MA2				pmax	pmax	
	comp=E,20nm,1.4s					
MA2				MLR	MLR	
	comp=Z,7μm,22.0s,MS5.4					
MA2	**Magadan**	**38.74**	**4**	*e*P	**P**	**15 34 45.3 +0.8**
	comp=Z,486nm,1.2s,mb6.1					
MA2				LR	LR	
	comp=Z,18μm,22.0s,MS5.8					
CLNS	**Chul'man**	**39.16**	**342**	*e*P	**P**	**15 34 50.2 +2.2**
CLNS				*e*PPP		15 36 27.1
CLNS				*e*		15 37 02.1
CLNS				*e*S	**S**	**15 40 43.9 -0.7**
CLNS				*e*SS	SS	15 43 36.7 -2.1
CLNS				pmax	pmax	
	comp=N,154nm,1.2s					
CLNS				pmax	pmax	
	comp=Z,238nm,1.2s,mb5.8					
CLNS				pmax	pmax	
	comp=E,90nm,0.9s					
CLNS				smax		
	comp=N,1μm,11.9s					
CLNS				smax		
	comp=Z,428nm,8.1s					
CLNS				smax		
	comp=E,5μm,13.9s					
CLNS				MLR	MLR	
	comp=Z,7μm,15.0s,MS5.6					
CLNS				MLR	MLR	
	comp=N,1μm,14.0s,MS5.6					
CLNS				MLR	MLR	
	comp=E,6μm,14.0s,MS5.6					
CD2	**Chengdu**	**39.25**	**294**	⇑*i*P	**P**	**15 34 48.4 -0.4**
CD2				AP	pP	15 35 02.1 +0.4
CD2				PP	PP	15 36 23.5 +4.0
CD2				S	**S**	**15 40 41.3 -4.6**
CD2				XS	sS	15 41 05.3 -2.4
CD2				AMB	AMB	
	comp=Z,60nm,1.0s,mb5.3					
CD2				AMB	AMB	
	comp=Z,780nm,7.2s					
CD2				LR	LR	
	comp=N,12μm,21.6s					
CD2				LR	LR	
	comp=Z,9μm,19.2s,MS5.6					
UBT	**Ubonrachathani**	**39.48**	**269**	P	**P**	**15 34 52.5 +1.8**
LZH	**Lanzhou**	**39.85**	**302**	*e*P	**P**	**15 34 55.0 +1.3**
LZH				AP	pP	15 35 01.4 -5.3
LZH				PP	PP	15 36 31.5 +5.5
LZH				PCP	PcP	15 37 02.1 +3.2
LZH				S	**S**	**15 40 54.0 -0.8**
LZH				XS	sS	15 41 10.0 -6.6
LZH				SS	SS	15 43 50.0 -2.5
LZH				AMB	AMB	
	comp=Z,445nm,1.5s,mb6.0					
LZH				AMB	AMB	
	comp=Z,1μm,4.0s					
LZH				LR	LR	
	comp=N,21μm,17.9s					
LZH				LR	LR	
	comp=Z,27μm,20.0s,MS6.1					
KSM	**Kuching**	**40.00**	**246**	*e*P	**P**	**15 34 54.0 -1.0**
CIT	**Chita**	**40.04**	**329**	*e*P	**P**	**15 34 57.0 +1.7**
CIT				*e*	pP	15 35 11.5 +3.2
CIT				*e*		15 44 58.8
CIT				pmax	pmax	
	comp=Z,674nm,2.5s,mb5.9					
KMI	**Kunming**	**40.10**	**284**	P	**P**	**15 34 57.4 +1.6**
KMI				PP	PP	15 36 33.4 +4.7
KMI				PCP	PcP	15 37 03.9 +4.2
KMI				SCP	ScP	15 40 46.6 +2.0
KMI				PCS	PcS	15 40 52.8 +2.8
KMI				S	**S**	**15 40 56.8 -1.8**
KMI				AMB	AMB	
	comp=Z,96nm,0.8s,mb5.6					
KMI				AMB	AMB	
	comp=Z,1μm,8.5s					
KMI				LR	LR	
	comp=N,8μm,24.1s,MS5.5					
KMI				LR	LR	
	comp=E,5μm,25.6s,MS5.5					
KMI				LR	LR	
	comp=Z,10μm,23.5s,MS5.6					
CTA	**Charters Tower**	**40.77**	**180**	⇑*i*P	**P**	**15 34 59.3 -2.0**
	comp=Z,95nm,0.9s,mb5.4					
CTA				*e*PCS	PcS	15 40 49.8 -2.8
CTA				*e*SCS	ScS	15 45 04.2 +2.1
CTAO	**Charters Tower**	**40.77**	**180**	*e*P	**P**	**15 34 59.4 -1.9**
CTAO				pmax	pmax	
	comp=Z,409nm,1.4s,mb5.9					
CTAO				MLR	MLR	
	comp=Z,15μm,21.0s,MS5.8					
CTAO	**Charters Tower**	**40.77**	**180**	*e*P	**P**	**15 34 59.4 -2.0**
	comp=Z,409nm,1.4s,mb5.9					
CTAO				LR	LR	
	comp=Z,15μm,21.0s,MS5.8					
KKTK	**Khon Kaen**	**41.28**	**271**	PN	**P**	**15 35 06.0 +0.5**
ULN	**Ulaanbaatar**	**41.35**	**320**	P	**P**	**15 35 06.8 +0.7**
ULN				pmax	pmax	
	comp=Z,120nm,1.2s,mb5.4					
ULN	**Ulaanbaatar**	**41.35**	**320**	*e*P	**P**	**15 35 05.9 -0.2**
	comp=Z,84nm,1.0s,mb5.3					
ULN				*e*ScP	ScP	15 40 50.5 +0.9
ULN				LR	LR	
	comp=Z,15μm,20.0s,MS5.8					
SONM	**Songino Array**	**41.73**	**320**	P	**P**	**15 35 09.7 +0.4**
	comp=Z,23nm,0.5s,mb5.0,baz=131,slow=8.6,SNR=134					
SONM				PP	PP	15 36 51.4 +5.0
	comp=Z,19nm,0.9s,baz=131,slow=7.3,SNR=2.2					
SONM				PcP	PcP	15 37 05.6 +0.6
	comp=Z,45nm,1.0s,baz=112,slow=2.5,SNR=4.8					
SONM				LR	LR	15 53 46.1
	comp=Z,18μm,19.3s,MS6.0,baz=115,slow=38					
SONM				PKPPKP		16 07 02.6
	comp=Z,1.0nm,0.9s,baz=260,slow=1.2,SNR=4.0					
SONM	**Songino Array**	**41.73**	**320**	P	**P**	**15 35 09.7 +0.4**
SONM						15 36 51.4
SONM						15 37 05.6
SONM				pmax	pmax	
	comp=Z,23nm,0.5s					
SONM				pmax	pmax	
	comp=Z,19nm,0.9s					
SONM				MLR	MLR	
	comp=Z,18μm,19.3s					
SEY	**Seymchan**	**42.18**	**4**	*i* P	**P**	**15 35 13.8 +0.9**
SEY				*PP	pP	15 35 27.1 +1.1
SEY						15 36 52.3
SEY				*e*		15 37 08.7
SEY				*e*S	**S**	**15 41 25.4 -4.1**
SEY				*e*		15 45 10.8
SEY				pmax	pmax	
	comp=N,20nm,0.8s					
SEY				pmax	pmax	
	comp=Z,68nm,0.8s,mb5.3					
SEY				pmax	pmax	
	comp=E,67nm,1.1s					
SEY				smax		
	comp=N,1μm,6.8s					
SEY				smax		
	comp=E,8μm,14.7s					
SEY				MLR	MLR	
	comp=Z,31μm,16.0s,MS6.3					
SEY				MLR	MLR	
	comp=N,11μm,14.0s,MS5.9					
SEY				MLR	MLR	
	comp=E,4μm,15.0s,MS5.9					
ADK	**Adak**	**42.20**	**34**	P	**P**	**15 35 15.7 +2.6**
ADK				pmax	pmax	
	comp=Z,2μm,2.0s,mb6.4					
ADK	**Adak**	**42.20**	**34**	*e*P	**P**	**15 35 13.7 +0.7**
	comp=Z,732nm,1.4s,mb6.1					
ADK				LR	LR	
	comp=Z,29μm,20.0s,MS6.2					
WRAB	**Tennant Creek**	**42.24**	**197**	P	**P**	**15 35 11.0 -2.4**
	comp=Z,3μm,0.9s,mb6.8					
WRAB	**Tennant Creek**	**42.24**	**197**	*e*P	**P**	**15 35 11.0 -2.4**
WRAB				*e*S	**S**	**15 41 29.2 -1.1**
WRAB				pmax	pmax	
	comp=Z,644nm,0.8s,mb6.3					
WRAB				MLR	MLR	
	comp=Z,23μm,22.0s,MS6.0					
WRAB	**Tennant Creek**	**42.24**	**197**	*e*P	**P**	**15 35 11.0 -2.4**
	comp=Z,644nm,0.8s,mb6.3					
WRAB				*e*S	**S**	**15 41 29.2 -1.2**
WRAB				LR	LR	
	comp=Z,23μm,22.0s,MS6.0					
WRA	**Warramunga Arr**	**42.25**	**197**	P	**P**	**15 35 11.6 -1.9**
	comp=Z,157nm,0.6s,mb5.8,baz=11,slow=8.7,SNR=415					
WRA				PcP	PcP	15 37 06.6 -0.1
	comp=Z,49nm,1.1s,baz=14,slow=3.0,SNR=4.5					
WRA				ScP	ScP	15 40 53.5 +0.3
	comp=Z,15nm,1.0s,baz=14,slow=4.4,SNR=5.8					
WRA				S	**S**	**15 41 29.8 -0.7**
	comp=Z,44nm,1.2s,baz=13,slow=15,SNR=4.7					
WRA				PKPPKP		16 07 02.2
	comp=Z,2.1nm,1.0s,baz=156,slow=2.1,SNR=6.4					
WRA	**Warramunga Arr**	**42.25**	**197**	P	**P**	**15 35 11.6 -1.9**
WRA						15 37 06.6
WRA				S	**S**	**15 41 29.8 -0.7**
WRA				pmax	pmax	
	comp=Z,157nm,0.6s					
YAK	**Yakutsk**	**42.63**	**349**	*e*P	**P**	**15 35 16.1 -0.5**
YAK				*i* *PP	pP	15 35 30.3 +0.6
YAK				*e*		15 36 54.5
YAK				*e*		15 37 08.8
YAK				*e*S	**S**	**15 41 33.3 -2.8**
YAK				*e**SS	sS	15 41 51.5 -6.5
YAK				*e*SS	SS	15 44 44.4 -3.2
YAK				*e*		15 45 11.1
YAK				pmax	pmax	
	comp=Z,72nm,1.0s,mb5.4					
YAK				pmax	pmax	
	comp=N,50nm,1.3s					
YAK				pmax	pmax	
	comp=E,29nm,1.7s					
YAK				pmax	pmax	
	comp=Z,41nm,1.1s,mb5.1					
YAK				smax		
	comp=N,892nm,11.8s					
YAK				smax		
	comp=Z,363nm,9.4s					
YAK				smax		
	comp=E,1μm,14.7s					
YAK				MLR	MLR	
	comp=Z,6μm,18.0s,MS5.5					
YAK				MLR	MLR	
	comp=N,4μm,19.0s,MS5.5					
YAK				MLR	MLR	
	comp=E,5μm,20.0s,MS5.5					
YAK	**Yakutsk**	**42.63**	**349**	*e*P	**P**	**15 35 16.2 -0.3**
	comp=E,260nm,0.8s,mb6.0					
CHRT	**Chiangrai**	**43.41**	**277**	⇑P	**P**	**15 35 34.0 +11**
	comp=E,458nm,0.7s,mb6.3					
GTA	**Gaotai**	**43.61**	**306**	⇑*i*P	**P**	**15 35 25.3 +0.8**
GTA				AP	pP	15 35 35.9 -1.7
GTA				XP	sP	15 35 39.9 -3.4
GTA				PP	PP	15 37 09.1 +2.5
GTA				PCP	PcP	15 37 14.8 +3.6
GTA				PPP		15 37 42.8
GTA				SCP	ScP	15 41 03.6 +4.9
GTA				PCS	PcS	15 41 07.3 +3.3
GTA				S	**S**	**15 41 50.4 -0.1**
GTA				XS	sS	15 42 03.8 -8.6

GTA SS SS 15 44 54.0 -13
GTA SCS ScS 15 45 19.5 -0.1
GTA AMB AMB
comp=Z,82nm,1.7s,mb5.2
GTA AMB AMB
comp=Z,774nm,6.6s
GTA LR LR
comp=N,11μm,19.3s,MS5.8
GTA LR LR
comp=E,5μm,22.0s,MS5.8
GTA LR LR
comp=Z,5μm,23.2s,MS5.3
BOD Bodaibo 43.67 336 *e*P **P 15 35 24.8 -0.2**
BOD *e* pP 15 35 36.8 -1.3
BOD *e* 15 45 16.1
BOD pmax pmax
comp=Z,73nm,1.2s,mb5.3
FUNA Funafuti 43.68 129 PFAKE 15 35 40.0 +15
FUNA LR LR
comp=Z,6μm,20.0s,MS5.5
FITZ Fitzroy Crossi 43.72 209 *e*P **P 15 35 24.3 -1.1**
comp=Z,933nm,0.9s,mb6.5
FITZ *e*PCS PcS 15 41 02.6 -1.9
FITZ *e*S **S 15 41 51.9 -0.1**
FITZ *e*SCS ScS 15 45 23.7 +3.4
NST Nakhon Sawan 43.95 271 P **P 15 35 27.0 -0.2**
comp=Z,158nm,0.8s,MS5.8
ZAK Zakamensk 44.68 322 *e*P **P 15 35 33.5 +0.5**
ZAK pmax pmax
comp=Z,170nm,1.5s,mb5.7
IRK Irkutsk 44.96 324 *e*P **P 15 35 35.9 +0.7**
IRK *e* pP 15 35 45.9 -2.5
IRK *e*S **S 15 42 04.7 -5.3**
IRK pmax pmax
comp=Z,963nm,1.5s,mb6.4
TLY Talaya 45.04 323 P **P 15 35 37.9 +2.0**
comp=Z,112nm,1.5s,mb5.5,SNR=9.5
NNT Nongplab 45.14 267 P **P 15 35 37.5 +0.8**
KGM Kluang 45.82 252 P **P 15 35 44.3 +2.2**
ASAR Alice Springs 45.92 196 P **P 15 35 40.8 -2.1**
comp=Z,39nm,0.6s,mb5.5,baz=17,slow=7.4,SNR=430
ASAR ScP ScP 15 41 09.4 +1.2
comp=Z,9.9nm,0.9s,baz=11,slow=4.7,SNR=3.4
ASAR S **S 15 42 21.9 -2.0**
comp=Z,7.7nm,0.7s,baz=20,slow=18,SNR=7.0
ASAR PKPPKP 16 06 54.7
comp=Z,2.3nm,1.0s,baz=170,slow=2.2,SNR=6.0
ASAR Alice Springs 45.92 196 P **P 15 35 40.8 -2.1**
ASAR S **S 15 42 21.9 -2.0**
ASAR pmax pmax
comp=Z,39nm,0.6s
ASAR pmax pmax
comp=N,10.0nm,0.9s
MOY Mondy 46.53 322 *e*P **P 15 35 47.5 -0.1**
MOY pmax pmax
comp=Z,272nm,3.8s
IPM Ipoh 46.81 256 P **P 15 35 51.3 +1.5**
KULM Kulim 46.82 257 *e*P **P 15 35 50.9 +0.9**
NOUC Port Laguerre 47.05 154 *e*P **P 15 35 51.2 -0.6**
DZM Mont Dzumac 47.08 154 *e*P **P 15 35 51.9 -0.1**
UNV Unalaska Valle 48.56 36 *e*P **P 15 36 02.6 -0.8**
comp=Z,2μm,1.2s,mb7.0
BILL Bilibino 48.75 10⇓*i*P **P 15 36 05.0 +0.2**
BILL pmax pmax
comp=Z,344nm,1.1s,mb6.3
BILL Bilibino 48.75 10⇓*i*P **P 15 36 05.0 +0.1**
comp=Z,344nm,1.1s,mb6.3
BILL LR LR
comp=Z,20μm,22.0s,MS6.0
MBWA Marble Bar 49.19 213 *e*P **P 15 36 07.0 -1.2**
comp=Z,537nm,1.0s,mb6.5
MBWA LR LR
comp=Z,5μm,20.0s,MS5.5
PSI Prapat 49.41 255 ScP ScP 15 41 23.1 +0.2
baz=106,slow=1.1
PSI S **S 15 43 14.8 +1.4**
comp=Z,2.4nm,0.8s,baz=189,slow=18,SNR=3.5
PSI LR LR 15 54 26.5
comp=Z,6μm,21.2s,MS5.5,baz=235,slow=33
SHL Shillong 49.85 286 *e*P **P 15 36 13.3 0.0**
SHL AMb AMB 15 36 19.4
comp=Z,1μm,1.6s,mb6.7
SHL *e*x x 15 43 12.0
LSA Lhasa 50.14 292 P **P 15 36 16.4 +0.9**
LSA AP pP 15 36 27.8 -1.0
LSA XP sP 15 36 30.4 -4.1
LSA AMB AMB
comp=Z,180nm,0.8s,mb6.2
LSA AMB AMB
comp=Z,280nm,7.0s
LSA LR LR
comp=N,11μm,33.0s
LSA LR LR
comp=E,7μm,25.0s
LSA LR LR
comp=Z,8μm,25.0s
LSA Lhasa 50.14 292 *e*P **P 15 36 17.8 +2.3**
LSA pmax pmax
comp=Z,181nm,0.8s,mb6.2
LSA MLR MLR
comp=Z,10μm,22.0s,MS5.8
LSA Lhasa 50.14 292 *e*P **P 15 36 17.8 +2.3**
comp=Z,181nm,0.8s,mb6.2
LSA LR LR
comp=Z,10μm,22.0s,MS5.8
AGT Agartala 50.63 284 *i*x x 15 36 26.0
AGT *i*x x 15 37 05.0
TIXI Tiksi 51.72 353 *e*P **P 15 36 21.7 -5.6**
TIXI *e*S **S 15 43 42.3 -3.1**
TIXI *e*SS SS 15 47 21.7 -0.5
TIXI pmax pmax
comp=Z,72nm,1.0s,mb5.6
TIXI smax
comp=N,2μm,13.9s
TIXI smax
comp=E,5μm,19.2s
TIXI MLR MLR
comp=Z,7μm,17.0s,MS5.8
TIXI Tiksi 51.72 353 PFAKE 15 36 40.0 +13
TIXI LR LR
comp=Z,7μm,20.0s,MS5.7
KIP Kipapa 51.77 79 *e*P **P 15 36 28.2 +0.5**
KIP pmax pmax
comp=Z,362nm,0.8s,mb6.4
KIP MLR MLR
comp=Z,8μm,22.0s,MS5.7
KIP Kipapa 51.77 79 *e*P **P 15 36 28.2 +0.5**
comp=Z,362nm,0.8s,mb6.4
KIP LR LR
comp=Z,8μm,22.0s,MS5.7
HON Honolulu 51.80 79 P **P 15 36 28.7 +0.8**
HON Honolulu 51.80 79 *e*P **P 15 36 28.3 +0.4**
GTK Gangtok 52.56 289 *e*P **P 15 36 32.0 -1.6**
KRAR Krasnoyarsk 52.60 325*c*i*P **P 15 36 34.0 +0.1**
STKA Stephens Creek 52.69 185⇑*i*P **P 15 36 30.3 -4.3**
comp=Z,58nm,1.5s,mb5.3
STKA *e*SCP ScP 15 41 36.7 -0.3
STKA *e*S **S 15 43 54.6 -4.2**
STKA *e*SCS ScS 15 46 18.5 -1.5
STKA Stephens Creek 52.69 185 P **P 15 36 30.4 -4.2**
comp=Z,34nm,0.6s,mb5.5,baz=357,slow=7.9,SNR=72
STKA LR LR 15 59 02.3
comp=Z,16μm,21.7s,MS6.0,baz=2.4,slow=36
STKA Stephens Creek 52.69 185 *e*P **P 15 36 30.2 -4.3**
WMQ Urumqi 53.24 310⇑*i*P **P 15 36 39.6 +1.0**
WMQ PP PP 15 38 42.0 +3.0
WMQ SCP ScP 15 41 37.0 -2.4
WMQ AMB AMB
comp=Z,298nm,1.1s,mb6.1
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,12μm,14.0s,MS6.3
WMQ LR LR
comp=E,11μm,12.0s,MS6.3
WMQ LR LR
comp=Z,12μm,11.0s,MS6.2
CAL Calcutta 53.50 283 *e*x x 15 36 50.2
CAL AMP 15 36 52.2
comp=Z,866nm,0.3s
CAL *e*x x 15 41 05.0
TNA Tin City 53.57 22 *e*P **P 15 36 41.5 +0.5**
comp=Z,193nm,1.1s,mb5.9
AFI Afiamalu 53.87 126 *e*P **P 15 36 42.8 -0.4**
AFI pmax pmax
comp=Z,121nm,0.8s,mb5.9
AFI MLR MLR
comp=Z,5μm,21.0s,MS5.6
AFI Afiamalu 53.87 126 *e*P **P 15 36 42.8 -0.4**
comp=Z,121nm,0.8s,mb5.9
AFI LR LR
comp=Z,5μm,21.0s,MS5.6
POHA Pohakuloa 54.37 80 *e*P **P 15 36 47.3 +0.4**
comp=Z,3μm,0.7s
RIV Riverview 54.66 175⇑*i*P **P 15 36 49.8 +0.9**
JIRN Jiri 54.67 290 *e*P **P 15 36 50.4 +1.4**
comp=Z,420nm,0.6s,mb6.6
GUN Gumba 54.91 290 *e*P **P 15 36 52.0 +1.3**
comp=Z,205nm,0.5s,mb6.4
PKI Pulchoki 55.37 290 *e*P **P 15 36 54.7 +0.7**
comp=Z,156nm,0.5s,mb6.3
KKN Kakani 55.45 290 *e*P **P 15 36 55.4 +0.8**
comp=Z,608nm,0.9s,mb6.6
KKN Kakani 55.45 290 *e*P **P 15 36 55.4 +0.8**
KKN pmax pmax
comp=Z,304nm,0.9s,mb6.3
BOK Bokaro 55.50 285⇑*e*P **P 15 36 56.1 +1.1**
BOK AMb AMB 15 36 59.1
comp=Z,319nm,0.8s,mb6.4
BOK *e*S **S 15 44 38.0 +1.4**
DMN Daman 55.63 290 *e*P **P 15 36 56.8 +0.9**
comp=Z,428nm,0.9s,mb6.5
GKN Gorkha 55.99 290 *e*P **P 15 36 59.3 +0.8**
comp=Z,955nm,1.0s,mb6.8
CNB Canberra Magne 56.02 177⇑*i*P **P 15 36 57.4 -1.3**
comp=Z,106nm,1.1s,mb5.8
ZAL Zalesovo 56.57 322 S **S 15 44 50.0 -0.8**
comp=Z,1.4nm,0.3s,baz=209,slow=19,SNR=6.4
KOLN Koldanda 56.93 290 *e*P **P 15 37 06.0 +0.8**
comp=Z,699nm,0.8s,mb6.7
TTA Tatalina 57.05 27 *e*P **P 15 37 06.0 -0.1**
TTA pmax pmax
comp=Z,432nm,1.3s,mb6.3
TTA Tatalina 57.05 27 *e*P **P 15 37 06.0 -0.1**
comp=Z,432nm,1.3s,mb6.3
KDAK Kodiak Island 57.24 34 P **P 15 37 07.6 +0.2**
comp=Z,1μm,1.0s,mb6.9,SNR=19
KDAK Kodiak Island 57.24 34 P **P 15 37 06.7 -0.7**
comp=Z,164nm,0.9s,mb6.0,baz=228,slow=0.6,SNR=26
KDAK LR LR 15 58 23.3
comp=Z,15μm,20.9s,MS6.1,baz=205,slow=32
KDAK Kodiak Island 57.24 34 P **P 15 37 06.7 -0.7**
KDAK LR LR 15 58 23.3
MK31 Makanchi Array 57.29 313 *i*P **P 15 37 08.0 +0.3**
MK31 pmax pmax
comp=Z,117nm,0.7s,mb6.0
MKAR Makanchi Array 57.29 313 P **P 15 37 08.0 +0.2**
comp=Z,30nm,0.5s,mb5.6,baz=86,slow=7.8,SNR=349
MKAR LR LR 16 02 09.0
comp=Z,7μm,22.0s,MS5.7,baz=96,slow=36
MKAR PKPPKP 16 06 52.0
comp=Z,1.9nm,0.9s,baz=270,slow=3.6,SNR=6.3
MKAR PKP2bc 16 07 02.6
comp=Z,3.2nm,0.9s,baz=316,slow=1.7,SNR=7.8
MKAR Makanchi Array 57.29 313 P **P 15 37 08.0 +0.2**
MKAR LR LR 16 02 09.0
MKAR P'P' 16 06 52.0
MKAR ⇑*e* 16 07 02.6
NVS Novosibirsk 57.63 322⇓*i*P **P 15 37 08.9 -1.2**
NVS *i* pP 15 37 22.7 -1.0
NVS *e*S **S 15 44 58.2 -6.6**
NVS *e*PS 15 45 31.0
NVS *e* 15 46 50.7
NVS pmax pmax
comp=Z,300nm,1.5s,mb6.1
NVS pmax pmax
comp=N,70nm,1.4s
NVS pmax pmax
comp=E,230nm,1.4s
NVS smax
comp=N,266nm,2.6s
NVS smax
comp=E,104nm,2.2s
TOO Toolangi 58.19 181⇑*i*P **P 15 37 13.0 -1.1**
comp=E,66nm,1.0s,mb5.6
TOO *e*S **S 15 45 14.3 +2.2**
TOO *e*SCS ScS 15 47 01.6 +2.1
COCO West Island 58.63 240 P **P 15 37 18.8 +1.7**
comp=E,3μm,0.9s,SNR=8.6
COCO West Island 58.63 240 *e*P **P 15 37 17.7 +0.6**
comp=E,480nm,0.8s,mb6.6
COCO LR LR
comp=Z,6μm,22.0s,MS5.7
ALBI Allahabad 58.90 288 *e*P **P 15 37 17.0 -2.0**
ALBI *e*x x 15 37 31.5
KLBR Kellerberrin 58.92 208 *e*P **P 15 37 17.2 -1.9**
comp=Z,702nm,0.7s,mb6.8
KLBR *e*S **S 15 45 17.8 -3.8**
SLKM Skilak Lake 59.03 31 P **P 15 37 19.5 -0.4**
SLKM Skilak Lake 59.03 31 *e*P **P 15 37 19.1 -0.8**
VIS Vishakhapatnam 59.10 279 *e*P **P 15 37 21.2 +0.8**
VIS AMb AMB 15 37 24.5
comp=Z,221nm,1.4s,mb6.0
VIS *i*x x 15 47 04.3
FIB Fire Island 59.20 30 P **P 15 37 21.2 +0.1**
FIB pmax pmax
comp=Z,260nm,0.7s,mb6.4
FIB Fire Island 59.20 30 *e*P **P 15 37 20.4 -0.7**
comp=Z,312nm,0.7s,mb6.5
LGTI Lohaghat 59.61 293 *e*P **P 15 37 25.7 +1.8**
MUN Mundaring 59.95 209 *e*P **P 15 37 24.7 -1.5**
MUN *e*S **S 15 45 31.9 -2.9**
KURK Kurchatov 59.95 317 P **P 15 37 26.9 +0.6**
comp=Z,1μm,1.0s,mb6.9
KURK Kurchatov 59.95 317 P **P 15 37 26.2 -0.1**
KURK pmax pmax
comp=Z,200nm,1.0s,mb6.1
KURK Kurchatov 59.95 317⇓*i*P **P 15 37 26.1 -0.2**
comp=Z,208nm,0.9s,mb6.2
KURK LR LR
comp=Z,18μm,19.0s,MS6.2
SML Sawmill 60.20 30 *e*P **P 15 37 27.5 -0.5**
SML Sawmill 60.20 30 *e*P **P 15 37 27.4 -0.5**
NWAO Narrogin (SRO) 60.29 208 S **S 15 45 36.0 -3.2**
comp=Z,4.3nm,0.9s,baz=317,slow=19,SNR=2.8
NWAO LR LR 16 04 10.1
comp=Z,11μm,21.7s,MS6.0,baz=28,slow=37
NWAO Narrogin (SRO) 60.29 208 P **P 15 37 27.3 -1.3**
NWAO pmax pmax
comp=Z,370nm,0.9s
NWAO Narrogin (SRO) 60.29 208 *e*P **P 15 37 27.2 -1.3**
comp=Z,557nm,1.0s,mb6.5
NWAO LR LR
comp=Z,8μm,22.0s,MS5.8
MCK McKinley 60.34 28 P **P 15 37 28.2 -0.7**
MCK pmax pmax
comp=Z,250nm,1.2s,mb6.1
MCK McKinley 60.34 28⇓*i*P **P 15 37 28.1 -0.8**
comp=Z,130nm,0.8s,mb6.0
RAO Raoul Island 60.70 144 PFAKE 15 37 40.0 +8.6
RAO LR LR
comp=Z,8μm,19.0s,MS5.9
JBP Jabalpur 60.94 286 *e*P **P 15 37 33.4 +0.4**
JBP AMb AMB 15 37 37.3
comp=Z,518nm,0.9s,mb6.7
JBP *e*x x 15 45 36.0
AAA Alma-Ata 61.03 309 *i*P **P 15 37 35.9 +2.3**
AAA *i*S **S 15 45 50.4 +1.7**
AAA pmax pmax
comp=Z,2μm,3.4s
AAA smax
comp=N,5μm,13.6s
AAA MLR MLR
comp=Z,7μm,23.6s,MS5.7
COLA College 61.06 26*d*i*P **P 15 37 34.3 +0.5**
COLA College 61.06 26 *e*P **P 15 37 32.9 -0.9**
comp=Z,320nm,0.9s,mb6.5
COLA LR LR
comp=Z,19μm,22.0s,MS6.2
DIV Divide 61.29 31 *e*P **P 15 37 35.4 0.0**
comp=Z,590nm,0.8s,mb6.8
DDI Dehra Dun 61.37 294 *e*P **P 15 37 34.4 -1.5**
DDI *e*x x 15 45 40.9
ILAR Eielson Array 61.44 27 P **P 15 37 35.0 -1.4**
comp=Z,444nm,0.9s,mb6.6,baz=259,slow=5.6,SNR=367
ILAR LR LR 16 03 12.9
comp=Z,15μm,20.1s,MS6.2,baz=258,slow=35
ILAR PKPPKP 16 06 38.9
comp=Z,1.4nm,0.9s,baz=103,slow=1.9,SNR=7.6
ULHL Ulahol 61.60 308 P **P 15 37 39.5 +2.1**
SNR=8.5
KSH Kashi 61.99 304⇑*i*P **P 15 37 43.1 +3.0**
KSH *e*AP pP 15 37 50.1 -3.7
KSH *e*XP sP 15 37 53.0 -6.4
KSH *e*PCP PcP 15 38 23.1 +2.8
KSH *e*PP PP 15 40 03.0 +6.1
KSH *e*PPP 15 41 33.1
KSH *e*SCP ScP 15 42 22.3 +4.3
KSH *e*PCS PcS 15 42 25.0 +1.6
KSH *e*S **S 15 46 05.3 +4.4**
KSH XS sS 15 46 17.3 -6.5
KSH *e*SCS ScS 15 47 31.1 +3.3
KSH LR LR
comp=N,7μm,16.0s,MS6.0
KSH LR LR
comp=E,5μm,16.8s,MS6.0
SMLA Simla 62.00 295 *e*P **P 15 37 39.0 -1.2**
SMLA *e*P 15 37 39.4
SMLA *e*x x 15 40 01.6
SMLA *e*S **S 15 46 01.6 +0.5**
TKM2 Tokmak 2 62.04 308 P **P 15 37 41.7 +1.3**
SNR=154
SDNR Sundarnagar 62.12 295 *e*P **P 15 37 42.2 +1.3**
SDNR *e*S **S 15 46 02.0 -0.4**
NGP Nagpur 62.22 284 *e*P **P 15 37 41.4 -0.2**
NGP *e*S **S 15 46 04.6 +0.9**
KZA Kyzart 62.34 307 P **P 15 37 44.6 +2.2**
SNR=224
NDI New Delhi 62.35 292 *e*P **P 15 37 41.0 -1.5**
WCZ Waipu Caves 62.52 154 PN **P 15 37 45.2 +1.6**
KBK Karagaybulak 62.53 308 P **P 15 37 44.8 +1.1**
SNR=129
BHK Bhakra 62.59 295 *e*x x 15 37 50.2
BHK *e*x x 15 46 12.0
CHMS Chumysh 62.65 308 P **P 15 37 45.2 +0.7**
SNR=41
FRU Bishkek 62.76 308 *e*P **P 15 37 48.0 +2.8**
FRU *i* pP 15 38 05.5 +6.5
FRU *e* 15 46 13.0
FRU pmax pmax
comp=Z,323nm,1.8s,mb6.2
DLH Dalhousie 62.80 297 *e*P **P 15 37 47.0 +1.5**
DLH *e*x x 15 38 20.0
USP Ospenovka 62.82 309 P **P 15 37 46.5 +0.9**
SNR=22
AAK Ala-Archa 62.86 308 P **P 15 37 46.8 +0.9**
SNR=74
UCH Uchtor 62.88 308 P **P 15 37 47.8 +1.8**
SNR=164
PONG Pong 62.91 296 *e*P **P 15 37 47.0 +0.8**
PONG *e*x x 15 38 40.0
THN Thein Dam 63.03 297 *e*P **P 15 37 46.1 -0.9**
MDRS Chennai 63.20 274 *e*P **P 15 37 45.4 -2.8**
MDRS AMb AMB 15 37 52.0
comp=Z,329nm,0.9s,mb6.5
MDRS *e*x x 15 39 14.0
BHPL Bhopal 63.23 286 *e*P **P 15 37 47.6 -0.7**
BHPL AMb AMB 15 37 51.7
comp=Z,164nm,0.8s,mb6.2
BHPL *e*S **S 15 46 16.9 +0.5**
EKS2 Erkin-Say 63.39 308 P **P 15 37 50.4 +1.0**
SNR=87
AML Almayashu 63.49 308 P **P 15 37 51.6 +1.5**
SNR=153
TAU Tasmania Unive 63.53 179 P **P 15 37 49.4 -0.9**
TAU pmax pmax
comp=Z,140nm,1.2s,mb5.9
TAU Tasmania Unive 63.53 179 *e*P **P 15 37 49.0 -1.4**
comp=Z,113nm,1.0s,mb5.8
HYB Hyderabad 63.58 280⇓*i*P **P 15 37 51.0 +0.3**
comp=Z,290nm,1.0s,mb6.3
HYB *e*S **S 15 46 28.0 +7.2**
HYB *e* 15 47 44.0
HYB LR LR 16 04 40.0
comp=Z,7.7nm,24.0s
HYB Hyderabad 63.58 280⇓*e*P **P 15 37 51.0 +0.3**
comp=Z,290nm,1.0s,mb6.3
HYB *e*S **S 15 46 19.0 -1.8**
HYB *e* 16 04 40.0
AKL Akola 64.17 284 *e*x x 15 37 15.7
AKL AMb AMB 15 37 18.6
comp=Z,538nm,0.3s,mb7.1
AKL *e*x x 15 45 44.7
PALK Pallekele 64.59 268 P **P 15 37 57.8 +0.5**
comp=Z,493nm,1.1s,mb6.5,SNR=9.8
PALK Pallekele 64.59 268 *e*P **P 15 37 58.2 +0.9**
comp=Z,112nm,0.8s,mb5.9
VOSK Vostochnaya 64.73 319 P **P 15 37 58.0 -0.2**
VOSK pmax pmax
comp=Z,100nm,1.6s,mb5.6
NIL Nilore 64.89 298 P **P 15 38 02.2 +3.0**
comp=Z,281nm,0.9s,mb6.3,SNR=8.0
AJM Ajmer 65.01 290⇑*i*P **P 15 38 00.2 +0.2**
AJM AMb AMB 15 38 03.5
comp=Z,280nm,1.6s,mb6.0
AJM *e*S S 15 46 39.5 +1.1
BVA0 Borovoye Array 65.08 320 *i*P **P 15 38 00.5 0.0**
BVA0 pmax pmax
comp=Z,144nm,1.3s,mb5.8
BVAR Borovoye Array 65.08 320 P **P 15 38 00.6 +0.1**
comp=Z,159nm,0.5s,mb6.3,baz=90,slow=7.1,SNR=809
BVAR PKPPKP 16 06 42.1
comp=Z,3.7nm,1.0s,baz=236,slow=5.3,SNR=4.7
BRVK Borovoye 65.14 320 P **P 15 38 01.2 +0.3**
comp=Z,2μm,1.5s,mb6.9
BRVK Borovoye 65.14 320 P **P 15 38 00.5 -0.4**
BRVK pmax pmax
comp=Z,370nm,1.2s,mb6.3
BRVK Borovoye 65.14 320 *e*P **P 15 38 01.1 +0.2**
comp=Z,216nm,0.9s,mb6.2
BRVK LR LR
comp=Z,6μm,19.0s,MS5.8
LATR Latur 65.16 281 *e*P **P 15 38 01.0 0.0**
TAZ Tarawera 65.37 154 PN **P 15 38 04.7 +2.4**
KK31 Karatay Array 65.74 309 *i*P **P 15 38 04.8 +0.1**
KK31 pmax pmax
comp=Z,134nm,0.7s,mb6.1
KKAR Karatay Array 65.74 309 P **P 15 38 04.8 +0.1**
KKAR pmax pmax
comp=Z,94nm,0.7s,mb5.9
MWZ Matawai 65.88 153 PN **P 15 38 04.6 -1.1**
ZRNK Zerenda 65.92 320 P **P 15 38 05.8 -0.1**
ZRNK pmax pmax
comp=Z,330nm,1.1s,mb6.3
ZRNK Zerenda 65.92 320⇓*i*P **P 15 38 05.9 0.0**
comp=Z,330nm,1.0s,mb6.3
QRZ Quartz Range 66.14 158 PN **P 15 38 07.2 -0.1**
SIT Sitka 66.45 36 *e*P **P 15 38 09.9 +0.6**
SIT pmax pmax
comp=Z,225nm,1.0s,mb6.2
SIT Sitka 66.45 36 *e*P **P 15 38 09.9 +0.6**
comp=Z,225nm,1.0s,mb6.2
KNZ Kokohu 66.52 154 PN **P 15 38 11.4 +1.7**
NNZ Nelson 66.78 158 PN **P 15 38 11.0 -0.4**
THZ Tophouse 67.10 159 PN **P 15 38 13.2 -0.3**
SNZO South Karori 67.33 157 *e*P **P 15 38 13.2 -1.7**
comp=Z,176nm,0.8s,mb6.1
SNZO LR LR
comp=Z,5μm,21.0s,MS5.7
POO Poona 67.61 282⇓*i*P **P 15 38 17.0 +0.4**
POO *e*x x 15 38 38.4
POO AMb AMB 15 38 42.0
comp=Z,275nm,1.5s,mb6.1
POO *i* PCP PcP 15 38 45.0 +1.6
POO *i* S S 15 47 10.0 0.0
POO *e*PS 15 47 32.0
POO *e*PPS 15 47 43.0
POO *e*SCS ScS 15 48 12.0 +1.0
POO *e*SS SS 15 51 30.0 -1.3
POO *e*x x 15 55 26.0
POO *e*x x 15 58 38.0
POO *e*PR 16 06 47.0
TRD Trivandrum 67.68 271 *e*P **P 15 38 17.9 +0.8**
TRD AMb AMB 15 38 20.5
comp=Z,303nm,0.5s,mb6.6
TRD *e*x x 15 38 38.3
TRD *e*x x 15 47 22.3
LTZ Lake Taylor 67.80 160 *e*PN **P 15 38 17.0 -0.8**
RPZ Rata Peaks 68.25 161 PN **P 15 38 18.7 -2.0**
MNGI Mangalore 68.29 276 *e*P **P 15 38 21.1 +0.2**
MNGI *e*S S 15 47 15.7 -2.4
BHV Bhavnagar 68.32 286 *e*P **P 15 38 22.0 +0.9**
MLZ Mavora Lakes 68.93 164 PN **P 15 38 24.0 -0.9**
BHJ Bhuj 70.17 288 *e*P **P 15 38 33.9 +1.3**
BHJ AMb AMB 15 38 36.5
comp=Z,236nm,0.9s,mb6.1

ARU Arti 71.54 324 P **P 15 38 40.0 -0.9**
comp=Z,2μm,0.8s,mb7.0
ARU Arti 71.54 324 ⇓*i*P **P 15 38 40.5 -0.4**
ARU *e* 15 39 00.2
ARU *e*PPP 15 43 00.2
ARU *e*S S 15 47 56.6 +0.4
ARU *e* 15 48 32.1
ARU *e*SS SS 15 52 29.4 -2.5
ARU pmax pmax
comp=Z,284nm,0.9s,mb6.2
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.8
ARU MLR MLR
comp=N,2μm,18.0s,MS5.7
ARU MLR MLR
comp=E,4μm,20.0s,MS5.7
ARU Arti 71.54 324 ⇓*i*P **P 15 38 40.5 -0.4**
comp=E,306nm,0.9s,mb6.2
ARU LR LR
comp=Z,5μm,20.0s,MS5.8
SOKR Solikamsk 71.91 328 *e*P **P 15 38 43.2 +0.1**
SOKR S S 15 47 57.7 -2.7
SOKR SS SS 15 52 44.0 +6.5
SOKR pmax pmax
comp=Z,300nm,1.1s,mb6.1
SOKR MLR MLR
comp=Z,18μm,31.0s,MS6.1
AB31 Akbulak array 72.05 317 *i* P **P 15 38 43.4 -0.5**
AB31 pmax pmax
comp=Z,27nm,0.5s,mb5.4
AKTO Aktyubinsk 73.03 318 *i* P **P 15 38 48.8 -1.0**
AKTO pmax pmax
comp=Z,34nm,1.5s,mb5.1
PPT Papeete 73.66 116 *e*P **P 15 38 54.5 +1.0**
comp=Z,138nm,1.3s,mb5.7
PPT Papeete 73.66 116 *e*S S 15 48 20.3 0.0
comp=Z,10μm,29.0s
PPT *e*SS SS 15 53 07.0 +2.8
comp=Z,5μm,27.2s
PPT *e*LQ 15 57 37.1
comp=Z,20μm,34.5s
PPT *e*LR LR 16 00 52.8
comp=Z,23μm,31.5s,baz=305
PPT Papeete 73.66 116 P **P 15 38 54.6 +1.2**
comp=Z,61nm,0.9s,mb5.5,baz=5.4,slow=4.5,SNR=10
PPT LR LR 16 06 12.5
comp=Z,4μm,19.1s,MS5.7,baz=294,slow=32
PAE Paea 73.70 117 *e*P **P 15 38 54.4 +0.7**
comp=Z,152nm,1.2s,mb5.8
PMOR Pomariorio Ree 73.89 113 *e*P **P 15 38 56.4 +1.6**
comp=Z,381nm,1.4s,mb6.1
TVO Taravao 74.03 117 *e*P **P 15 38 56.8 +1.2**
comp=Z,351nm,1.3s,mb6.1
VAH Vaihoa 74.22 113 *e*P **P 15 38 57.4 +0.7**
comp=Z,175nm,1.3s,mb5.8
OCWA Octopus Mounta 74.55 44 *e*P **P 15 39 00.1 +1.5**
comp=Z,436nm,1.1s,mb6.3
OCWA LR LR
comp=Z,15μm,22.0s,MS6.2
KEBM Edson Butte 75.68 49 *e*P **P 15 39 06.4 +1.2**
YKW3 Yellowknife Ar 75.78 28 ⇓*i*P **P 15 39 05.0 -0.7**
YKA Yellowknife Ar 75.80 28 P **P 15 39 05.1 -0.7**
comp=Z,186nm,0.8s,mb6.1,baz=289,slow=5.5,SNR=874
YKA PKKPbc PKKPbc 15 58 19.8 -2.9
comp=Z,0.4nm,0.6s,baz=117,slow=2.3,SNR=4.3
YKA LR LR 16 09 32.7
comp=Z,12μm,22.0s,MS6.2,baz=275,slow=33
YKA Yellowknife Ar 75.80 28 P **P 15 39 05.1 -0.8**
YKA pmax pmax
comp=Z,186nm,0.8s
YKA Yellowknife Ar 75.80 28 P **P 15 39 05.1 -0.7**
YKA PKKPbc PKKPbc 15 58 19.8 -2.9
YKA LR LR 16 09 32.7
ALE Alert 75.86 4 P **P 15 39 06.0 -0.2**
comp=Z,970nm,1.0s,mb6.7,SNR=79
KBO Bosley Butte 75.93 50 *e*P **P 15 39 07.8 +1.2**
COR Corvallis 75.95 47 P **P 15 39 08.3 +1.6**
COR pmax pmax
comp=Z,630nm,1.3s,mb6.4
COR Corvallis 75.95 47 *e*P **P 15 39 07.7 +1.0**
comp=Z,670nm,1.2s,mb6.5
COR LR LR
comp=Z,15μm,22.0s,MS6.3
ABKT Ailbek 75.99 305 P **P 15 39 07.8 +0.8**
comp=Z,799nm,1.0s,mb6.6,SNR=23
LON Longmire 76.37 45 P **P 15 39 09.4 +0.3**
SSOR Sweet Springs 76.45 47 P **P 15 39 10.4 +0.8**
TBI Tubuai 76.57 122 *e*S S 15 48 54.7 +2.0
comp=Z,9μm,32.5s
TBI *e*SS SS 15 53 52.4 +3.9
comp=Z,3μm,32.8s
TBI *e*LQ 15 58 48.8
comp=Z,11μm,32.8s
TBI *e*LR LR 16 02 20.9
comp=Z,5μm,31.8s
KHMM Horse Mountain 76.66 51 *e*P **P 15 39 12.5 +1.8**
HUMO Hull Mountain 76.73 49 ⇓*e*P **P 15 39 11.9 +0.8**
comp=Z,496nm,1.4s,mb6.2
HUMO LR LR
comp=Z,15μm,22.0s,MS6.3
TBM Table Mountain 77.05 44 P **P 15 39 13.6 +0.7**
KCPM Cahto Peak 77.10 52 *e*P **P 15 39 14.3 +1.2**
KIPM Iron Peak 77.14 52 *e*P **P 15 39 14.6 +1.2**
EBG Ellensburg 77.14 45 P **P 15 39 14.3 +0.9**
YBH Yreka Blue Hor 77.15 50 P **P 15 39 14.6 +1.1**
YBH pmax pmax
comp=Z,290nm,1.1s
YBH Yreka Blue Hor 77.15 50 ⇓*i*P **P 15 39 14.6 +1.1**
comp=Z,247nm,1.0s,mb6.1
KBS Kingsbay 77.16 352 *e*P **P 15 39 12.9 -0.6**
KBS AMb AMB 15 39 19.0
comp=Z,117nm,1.6s,mb5.6
KBS *e* 15 41 29.5
KBS *e*S S 15 48 57.7 -1.4
KBS AMS AMS 16 11 46.9
comp=Z,2μm,22.4s,MS5.4
KBS Kingsbay 77.16 352 *e*P **P 15 39 12.9 -0.6**
comp=Z,117nm,1.6s
KBS *e* 15 41 29.5
KBS *i* 15 48 56.0
KBS LR LR
comp=Z,2272μm,22.4s
WTV Waterville 77.31 44 P **P 15 39 14.6 +0.2**
LHEM Herd Peak 77.53 50 P **P 15 39 16.4 +0.8**
WDC Whiskeytown Da 77.61 51 P **P 15 39 16.4 +0.4**
WDC pmax pmax
comp=Z,570nm,1.6s,mb6.2
WDC Whiskeytown Da 77.61 51 *e*P **P 15 39 16.6 +0.5**
comp=Z,144nm,0.9s,mb5.9
WDC LR LR
comp=Z,20μm,22.0s,MS6.4
EPH Ephrata 77.65 44 P **P 15 39 16.4 +0.2**
DGAR Diego Garcia 77.66 257 *e*P **P 15 39 16.3 0.0**
comp=Z,146nm,1.1s,mb5.8
DGAR LR LR
comp=Z,4μm,22.0s,MS5.7
HOPS Hopland 77.67 53 *e*P **P 15 39 16.9 +0.5**
comp=Z,307nm,1.2s,mb6.1
HOPS LR LR
comp=Z,20μm,21.0s,MS6.4
HAWA Hanford 77.98 45 ⇓*i*P **P 15 39 18.7 +0.6**
comp=Z,14nm,0.9s
HAWA LR LR
comp=Z,963nm,21.0s
WRD Warden 78.11 44 P **P 15 39 18.9 +0.1**
TAOE Nuku Hiva Isla 78.12 104 *e*S S 15 49 12.5 +3.0
comp=Z,21μm,33.3s
TAOE *e*LQ 16 00 18.9
comp=Z,10μm,32.6s
TAOE *e*LR LR 16 02 49.1
comp=Z,25μm,23.0s,baz=303
NSHM Saint Helena R 78.16 53 *e*P **P 15 39 19.8 +0.6**
OD2 Odessa Site #2 78.21 44 P **P 15 39 19.4 0.0**
LVZ Lovozero 78.54 339 P **P 15 39 21.7 +0.5**
comp=Z,2μm,1.0s,mb7.1,SNR=20
LVZ Lovozero 78.54 339 *e*P **P 15 39 20.0 -1.2**
LVZ pmax pmax
comp=Z,510nm,1.1s,mb6.4
LVZ pmax pmax
comp=N,59nm,0.9s
LVZ pmax pmax
comp=E,85nm,1.3s
LVZ MLR MLR
comp=Z,8μm,22.0s,MS6.0
LVZ MLR MLR
comp=N,3μm,18.0s
LVZ MLR MLR
comp=E,7μm,25.0s
LVZ Lovozero 78.54 339 PFAKE 15 39 30.0 +8.8
LVZ LR LR
comp=Z,8μm,21.0s,MS6.0
SAC San Andreas 78.58 54 P **P 15 39 22.0 +0.5**
SAC San Andreas 78.58 54 *e*P **P 15 39 21.7 +0.2**
OHCM Honcut 78.75 52 *e*P **P 15 39 22.6 +0.2**
MOD Modoc 78.82 49 ⇓*i*P **P 15 39 23.2 +0.5**
comp=Z,287nm,1.0s,mb6.2
MOD LR LR
comp=Z,11μm,21.0s,MS6.2
NEW Newport 78.95 43 P **P 15 39 23.7 +0.3**
NEW pmax pmax
comp=Z,390nm,1.2s
NEW Newport 78.95 43 *e*P **P 15 39 23.8 +0.3**
comp=Z,290nm,1.1s,mb6.1
BJO Bjornoya 79.00 347 *e*P **P 15 39 23.6 -0.1**
BJO AMS AMS 16 18 10.5
comp=Z,6μm,20.4s,MS5.9
BJO1 Bjornoya 79.04 347 *e*P **P 15 39 19.4 -4.6**
BJO1 LR LR
comp=Z,6050μm,20.4s
APA Apatity 79.11 339 ⇑*i*P **P 15 39 24.0 -0.3**
APA *i* pP 15 39 36.0 -2.5
APA *i* *PP pP 15 39 39.0 +0.5
APA *i* S S 15 49 19.0 -1.1
APA pmax pmax
comp=Z,600nm,1.0s,mb6.5
APA pmax pmax
comp=Z,2μm,6.0s
PECR Pechory 79.31 326 *i* P **P 15 39 25.6 +0.2**
PECR *e* pP 15 39 39.0 -0.6
PECR *e*S S 15 49 16.4 -5.8
PECR *e* 15 49 30.0
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,2μm,5.0s
PECR smax
comp=N,3μm,7.0s
PECR smax
comp=E,1μm,6.0s
PECR MLR MLR
comp=Z,10μm,23.0s,MS6.1
PECR MLR MLR
comp=N,2μm,14.0s
PECR MLR MLR
comp=E,3μm,22.0s
SAO San Andreas Ge 79.57 55 P **P 15 39 27.2 +0.3**
SAO pmax pmax
comp=Z,140nm,1.0s,mb5.8
SAO San Andreas Ge 79.57 55 *e*P **P 15 39 27.1 +0.3**
comp=Z,139nm,0.9s,mb5.9
SAO LR LR
comp=Z,8μm,20.0s,MS6.0
KLMR Klimovskoe 79.73 332 *d*i P **P 15 39 27.2 -0.5**
KLMR *e* 15 42 30.8
KLMR pmax pmax
comp=Z,360nm,1.4s,mb6.1
KLMR MLR MLR
comp=Z,8μm,23.0s,MS6.0
WVOR Wild Horse Val 79.83 49 P **P 15 39 28.8 +0.6**
WVOR pmax pmax
comp=Z,540nm,1.3s,mb6.3
WVOR Wild Horse Val 79.83 49 ⇓*i*P **P 15 39 28.7 +0.5**
comp=Z,234nm,0.8s,mb6.2
BMO Blue Mountains 79.95 46 ⇓*i*P **P 15 39 29.2 +0.3**
BMO pmax pmax
comp=Z,385nm,1.1s,mb6.2
BMO MLR MLR
comp=Z,12μm,21.0s,MS6.2
BMO Blue Mountains 79.95 46 ⇓*i*P **P 15 39 29.2 +0.3**
comp=Z,385nm,1.1s,mb6.2
BMO LR LR
comp=Z,12μm,21.0s,MS6.2
KEV Kevo 79.97 342 *e*p **P 15 39 27.6 -1.4**
comp=Z,172nm,1.1s,mb5.9
KEV Kevo 79.97 342 *e*P **P 15 39 28.6 -0.4**
KEV pmax pmax
comp=Z,275nm,1.1s,mb6.1
KEV MLR MLR
comp=Z,8μm,22.0s,MS6.0
KEV Kevo 79.97 342 *e*P **P 15 39 28.6 -0.4**
comp=Z,275nm,1.1s,mb6.1
KEV LR LR
comp=Z,8μm,22.0s,MS6.0
CMB Columbia Colle 79.97 53 ⇓*e*P **P 15 39 29.5 +0.5**
CMB pmax pmax
comp=Z,343nm,1.0s,mb6.2
CMB MLR MLR
comp=Z,19μm,22.0s,MS6.4
CMB Columbia Colle 79.97 53 ⇓*e*P **P 15 39 29.4 +0.4**
comp=Z,343nm,1.0s,mb6.2
CMB LR LR
comp=Z,19μm,22.0s,MS6.4
LRV Little Rabbit 80.01 55 *e*P **P 15 39 30.1 +0.9**
ARCES ARCESS Array B 80.53 342 P **P 15 39 31.7 -0.3**
comp=Z,332nm,0.9s,mb6.2,baz=58,slow=6.2,SNR=144
ARCES LR LR 16 21 04.8
comp=Z,5μm,19.6s,MS5.9,baz=61,slow=40
ARE0 ARCESS Array S 80.53 342 *e*P **P 15 39 31.5 -0.5**
PTRM Twissleman Ran 80.88 55 *e*P **P 15 39 34.5 +0.6**
NVAR Mina Array Bea 81.39 52 P **P 15 39 37.4 +0.8**
comp=Z,245nm,0.8s,mb6.2,baz=262,slow=7.1,SNR=907
MSO Missoula 81.46 43 *e*P **P 15 39 36.5 -0.5**
comp=Z,37nm,0.9s,mb5.3
MSO LR LR
comp=Z,10μm,21.0s,MS6.1
KTK1 Kautokeino 81.49 342 *e*P **P 15 39 37.0 -0.1**
KTK1 AMb AMB 15 39 40.5
comp=Z,238nm,1.1s,mb6.0
KTK1 Kautokeino 81.49 342 *e*P **P 15 39 37.0 -0.1**
comp=Z,238nm,1.1s,mb6.0
BMN Battle Mountai 81.50 50 P **P 15 39 37.7 +0.5**
BMN pmax pmax
comp=Z,170nm,1.1s,mb5.9
BMN Battle Mountai 81.50 50 ⇓*i*P **P 15 39 37.9 +0.7**
comp=Z,304nm,1.3s,mb6.1
BMN LR LR
comp=Z,11μm,21.0s,MS6.2
MNV Mina 81.50 52 *e*P **P 15 39 37.9 +0.7**
MNV pmax pmax
comp=Z,454nm,1.2s,mb6.3
MNV MLR MLR
comp=Z,15μm,22.0s,MS6.3
MNV Mina 81.50 52 *e*P **P 15 39 37.9 +0.7**
comp=Z,454nm,1.2s,mb6.3
MNV LR LR
comp=Z,15μm,22.0s,MS6.3
CHMT Chamberlain Mo 81.87 43 *e*P **P 15 39 38.7 -0.5**
MAK Makhachkala 82.11 313 *c*i P **P 15 39 41.8 +1.4**
MAK *i* *PP pP 15 39 57.1 +2.5
MAK *e*PPP 15 44 37.0
MAK *i* S S 15 49 53.6 +2.2
MAK pmax pmax
comp=Z,771nm,1.8s,mb6.3
MAK MLR MLR
comp=Z,18μm,23.0s,MS6.4
ISA Isabella 82.20 55 PFAKE 15 39 50.0 +9.1
ISA LR LR
comp=Z,2μm,20.0s,MS5.5
TRO Tromso 82.27 344 *e*P **P 15 39 39.2 -2.0**
TRO AMb AMB 15 39 42.6
comp=Z,196nm,0.8s,mb6.1
TRO AMS AMS 16 18 47.8
comp=Z,3μm,20.0s,MS5.7
TRO Tromso 82.27 344 *e*P **P 15 39 39.2 -2.0**
comp=Z,196nm,0.8s
TRO LR LR
comp=Z,3370μm,20.0s
TPH Tonopah 82.31 52 ⇓*i*P **P 15 39 41.9 +0.4**
TPH pmax pmax
comp=Z,369nm,1.1s,mb6.2
TPH Tonopah 82.31 52 ⇓*i*P **P 15 39 41.9 +0.5**
comp=Z,369nm,1.1s,mb6.2
HLID Hailey 82.35 46 ⇓*i*P **P 15 39 42.0 +0.3**
comp=Z,130nm,1.2s,mb5.7
DAC Darwin (Calif) 82.66 54 ⇓*i*P **P 15 39 43.7 +0.4**
DAC pmax pmax
comp=Z,92nm,1.0s,mb5.8
DAC MLR MLR
comp=Z,12μm,22.0s,MS6.2
DAC Darwin (Calif) 82.66 54 ⇓*i*P **P 15 39 43.7 +0.4**
comp=Z,92nm,1.0s,mb5.8
DAC LR LR
comp=Z,12μm,22.0s,MS6.2
VRHR Novokhopersk 82.69 322 *e*P **P 15 39 42.9 -0.5**
VRHR *e**PP pP 15 39 54.0 -3.7
VRHR *e*S S 15 49 54.4 -3.0
VRHR pmax pmax
comp=Z,130nm,0.8s,mb6.0
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR smax
comp=N,3μm,2.7s
VRHR smax
comp=Z,1μm,5.8s
VRHR smax
comp=E,2μm,2.9s
VRHR MLR MLR
comp=Z,8μm,22.0s,MS6.0
VRHR MLR MLR
comp=N,2μm,15.0s
VRHR MLR MLR
comp=E,4μm,20.0s
ELK Elko 82.80 49 ⇓*i*P **P 15 39 44.7 +0.7**
comp=E,447nm,1.3s,mb6.3
ELK LR LR
comp=Z,10μm,20.0s,MS6.2
HRY Holter Researc 82.85 43 ⇓*i*P **P 15 39 44.5 +0.3**
MOS Moscow 82.85 327 *k*i P **P 15 39 44.2 -0.1**
MOS *e* 15 39 52.6
MOS *e* 15 42 50.2
MOS *e*S S 15 49 56.6 -2.4
MOS pmax pmax
comp=Z,635nm,1.3s,mb6.5
DLMT Dillon 82.88 44 ⇓*i*P **P 15 39 44.4 0.0**
comp=Z,2μm,2.3s,mb6.7
MCMT McKenzie Canyo 82.92 45 ⇓*i*P **P 15 39 44.8 +0.2**
MCMT *e*PP PP 15 42 56.4 +0.9
MWC Mount Wilson 83.02 56 P **P 15 39 44.2 -0.9**
MWC Mount Wilson 83.02 56 *e*P **P 15 39 45.2 +0.1**
BOZ Bozeman (W) 83.40 44 ⇓*i*P **P 15 39 47.4 +0.4**
comp=Z,118nm,1.0s,mb5.9
BOZ LR LR
comp=Z,17μm,22.0s,MS6.4
OBN Obninsk 83.68 327 P **P 15 39 48.8 +0.3**
comp=Z,2μm,1.2s,mb7.1,SNR=22
OBN Obninsk 83.68 327 *k*i P **P 15 39 48.0 -0.5**
OBN *e**PP pP 15 40 03.2 +0.5
OBN *i* 15 50 05.7
OBN *e*SS SS 15 55 43.9 +9.2
OBN pmax pmax
comp=Z,11μm,1.6s
OBN MLR MLR
comp=Z,10μm,19.0s
OBN Obninsk 83.68 327 ⇓*i*P **P 15 39 48.1 -0.4**
comp=Z,822nm,1.3s,mb6.7
OBN LR LR
comp=Z,11μm,21.0s,MS6.2
QLMT Earthquake Lak 83.85 44 *e*P **P 15 39 50.3 +0.9**
VRSR Storozhevoye 84.03 323 *e*P **P 15 39 49.5 -0.8**
VRSR *e**PP pP 15 40 05.2 +0.6
VRSR *e*S 15 50 06.8
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,40nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.5
VRSR smax
comp=N,890nm,4.7s
VRSR smax
comp=Z,110nm,4.4s
VRSR smax
comp=E,50nm,3.5s
VRSR MLR MLR
comp=Z,1μm,22.0s,MS5.2
VRSR MLR MLR
comp=N,300nm,19.0s
VRSR MLR MLR
comp=E,730nm,25.0s
DGRG David-gareji 84.14 312 P **P 15 39 51.4 +0.5**
DGRG S 15 50 15.9
DGRG David-gareji 84.14 312 P **P 15 39 52.0 +1.1**
DGRG S 15 50 10.0
PUL Pulkovo 84.28 333 *e*P **P 15 39 51.1 -0.5**
PUL *e*S 15 50 08.4
PUL *e*SS SS 15 55 46.0 +2.4
PUL *e*SSS 15 59 10.4
PUL pmax pmax
comp=Z,626nm,1.2s,mb6.6
PUL MLR MLR
comp=N,4μm,22.0s,MS6.0
PUL MLR MLR
comp=Z,8μm,22.0s,MS6.0
PUL MLR MLR
comp=E,5μm,19.0s,MS6.0
GOF Gofitskoye 84.29 316 *e*P **P 15 39 41.6 -10**
GOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
DUS Dusheti 84.36 313 P **P 15 39 52.5 +0.6**
YFT Old Faithful 84.39 45 *e*P **P 15 39 54.5 +2.4**
MTA Mtatsminda 84.45 312 P **P 15 39 52.4 0.0**
MTA S 15 50 13.1
MTA Mtatsminda 84.45 312 P **P 15 39 53.4 +1.0**
MTA S 15 50 09.8
PFO Pinyon Flat Ob 84.49 56 P **P 15 39 52.0 -0.6**
comp=Z,684nm,1.5s,mb6.6,SNR=39
IMW Indian Meadow 84.54 45 ⇓*i*P **P 15 39 54.1 +1.2**
comp=Z,209nm,0.9s,mb6.3
KAF Kangasniemi 84.59 336 *e*p **P 15 39 52.0 -1.1**
comp=Z,197nm,0.9s,mb6.2,baz=53,slow=4.8
KAF Kangasniemi 84.59 336 *e*P **P 15 39 52.0 -1.1**
KAF pmax pmax
comp=Z,197nm,0.9s,mb6.2
GCMT Greycliff 84.60 43 *e*P **P 15 39 53.8 +0.6**
FLWY Flagg Ranch 84.63 45 ⇓*i*P **P 15 39 54.5 +1.1**
comp=Z,313nm,0.9s,mb6.4
LKWY Lake 84.63 44 *e*P **P 15 39 45.8 -7.5**
LKWY pmax pmax
comp=Z,21nm,1.0s,mb5.2
LKWY Lake 84.63 44 *e*P **P 15 39 55.8 +2.4**
comp=Z,22nm,1.0s,mb5.2
LKWY LR LR
comp=Z,20μm,20.0s,MS6.5
ZEI Tsey 84.63 314 *e*P **P 15 39 52.9 -0.5**
ZEI *i* *PP pP 15 40 03.6 -4.0
ZEI *i* 15 43 07.1
ZEI pmax pmax
comp=Z,94nm,1.0s,mb5.9
BAR Barrett 84.65 57 *e*P **P 15 39 53.1 -0.3**
DUG Dugway 84.72 49 ⇓*i*P **P 15 39 54.3 +0.5**
DUG *e* 15 43 11.0
DUG pmax pmax
comp=Z,233nm,1.0s,mb6.3
DUG MLR MLR
comp=Z,5μm,19.0s,MS5.9
DUG Dugway 84.72 49 ⇓*i*P **P 15 39 54.3 +0.5**
comp=Z,233nm,1.0s,mb6.3
DUG *e*PP PP 15 43 11.0 +0.8
DUG LR LR
comp=Z,5μm,19.0s,MS5.9
LOF Lofoten 84.73 344 *e*P **P 15 39 54.6 +0.8**
MOOW Moose Ponds 84.73 45 *e*P **P 15 39 54.5 +0.7**
comp=Z,213nm,1.2s,mb6.2
REDW Red Top Meadow 84.82 46 ⇓*i*P **P 15 39 54.9 +0.6**
comp=Z,2μm,2.4s,mb6.8
SNOW Snow King Moun 84.84 45 *e*P **P 15 39 55.2 +0.8**
comp=Z,66nm,0.7s,mb5.9
LOHW Long Hollow 84.88 45 ⇓*e*P **P 15 39 55.3 +0.7**
comp=Z,153nm,1.1s,mb6.0
AHID Auburn Hatcher 84.89 46 *e*P **P 15 39 55.1 +0.4**
comp=Z,337nm,1.3s,mb6.3
AHID LR LR
comp=Z,9μm,21.0s,MS6.1
FFC Flin Flon 84.96 33 P **P 15 39 54.8 -0.2**
comp=Z,2μm,1.0s,mb7.1
FFC Flin Flon 84.96 33 ⇓*i*P **P 15 39 54.8 -0.2**
comp=Z,389nm,1.1s,mb6.5
FFC LR LR
comp=Z,18μm,22.0s,MS6.4
LDFC Landfair 84.98 54 ⇓*i*P **P 15 39 55.4 +0.3**
LDFC *e*PP PP 15 43 10.5 -1.8
ONI Oni 85.01 314 P **P 15 39 57.5 +2.2**
ONI S 15 50 07.0
NOQ North Oquirrh 85.03 48 *e*P **P 15 39 55.6 +0.3**
comp=Z,179nm,1.2s,mb6.1
HWUT Hardware Ranch 85.04 47 ⇓*i*P **P 15 39 55.8 +0.4**

comp=Z,226nm,1.0s,mb6.2
HWUT *e*PP PP 15 43 12.9 +0.2
HWUT LR LR
comp=Z,11µm,20.0s,MS6.3
FINES FINESS Array B 85.07 335 P **P** **15 39 54.2 -1.3**
comp=Z,91nm,0.5s,mb6.2,baz=72,slow=6.0,SNR=403
FINES LR LR 16 20 18.7
comp=Z,7µm,21.1s,MS6.0,baz=58,slow=37
FINES FINESS Array B 85.07 335 P **P** **15 39 54.2 -1.3**
FINES pmax pmax
comp=Z,91nm,0.5s
FINES MLR MLR
comp=Z,7µm,21.1s
FINES FINESS Array B 85.07 335 P **P** **15 39 54.2 -1.3**
FINES LR LR 16 20 18.7
GNI Garni 85.09 311 P **P** **15 39 56.8 +1.2**
GNI pmax pmax
comp=Z,220nm,1.1s
GNI Garni 85.09 311 *e*P **P** **15 39 56.6 +1.0**
comp=Z,351nm,1.3s,mb6.3
GNI LR LR
comp=Z,5µm,22.0s,MS5.9
AKH Akhalkalaki 85.46 313 P **P** **15 39 59.7 +2.2**
MVU Marysvale 85.81 50 PFAKE 15 40 10.0 +11
MVU LR LR
comp=Z,20µm,21.0s,MS6.5
CHVG Ch'k'valeri 85.88 314 P **P** **15 40 01.9 +2.3**
MOR8 Moi Rana 85.90 342 *i* P **P** **15 39 57.5 -2.2**
MOR8 AMb AMB 15 40 00.6
comp=Z,457nm,1.1s,mb6.6
MOR8 Moi Rana 85.90 342 *i* P **P** **15 39 57.5 -2.2**
comp=Z,457nm,1.1s,mb6.6
BW06 Boulder Array 85.92 46⇓*i*P **P** **15 39 59.5 -0.3**
comp=Z,67nm,1.0s,mb5.8
BW06 LR LR
comp=Z,8µm,22.0s,MS6.1
PDAR Pinedale Array 85.93 46 P **P** **15 39 59.6 -0.2**
comp=Z,26nm,0.7s,mb5.6,baz=261,slow=1.9,SNR=146
PDAR PKKPbc PKKPbc 15 57 59.6 -0.2
comp=Z,1.6nm,1.0s,baz=45,slow=2.1,SNR=5.9
PDAR PKPPKP 16 06 05.3
comp=Z,1.8nm,1.2s,baz=104,slow=6.1,SNR=3.8
PDAR LR LR 16 17 52.2
comp=Z,4µm,19.2s,MS5.8,baz=321,slow=35
STOK Stokkvaagen 86.18 343 *e*P **P** **15 39 59.9 -1.2**
STOK AMb AMB 15 40 03.1
comp=Z,332nm,1.1s,mb6.5
STOK Stokkvaagen 86.18 343 *e*P **P** **15 39 59.9 -1.2**
comp=Z,332nm,1.1s,mb6.5
TMUT Trail Mountain 86.21 49⇓*i*P **P** **15 40 01.7 +0.4**
LAO LASA Array 86.37 41⇓*i*P **P** **15 40 02.3 +0.4**
comp=Z,541nm,1.1s,mb6.7
LAO LR LR
comp=Z,19µm,22.0s,MS6.4
VSU Vasula 86.54 333*d i*P **P** **15 40 01.2 -1.6**
SUMG Summit 86.68 1 *e*P **P** **15 40 04.2 +0.7**
comp=Z,350nm,1.1s,mb6.5
DGMT Dagmar 86.76 39 *e*P **P** **15 40 03.4 -0.5**
comp=Z,156nm,1.1s,mb6.2
DGMT LR LR
comp=Z,12µm,22.0s,MS6.3
UMR Umm Al-Rimmam 86.91 300 *e*P **P** **15 40 04.0 -0.7**
UMR AMb AMB 15 40 05.8
comp=Z,164nm,1.1s,mb6.2
QRN Al-Qurain 87.05 300 *e*P **P** **15 40 04.4 -0.9**
QRN AMb AMB 15 40 08.6
comp=Z,232nm,0.8s,mb6.5
KBD Kabd 87.07 300 *e*P **P** **15 40 04.9 -0.5**
KBD AMb AMB 15 40 09.7
comp=Z,520nm,1.3s,mb6.6
SOC Sochi 87.07 316*c i*P **P** **15 40 04.3 -1.1**
SOC *e*PPP 15 45 29.2
SOC *e*S 15 50 26.0
SOC *e*SS SS 15 56 26.6 +2.0
SOC *e*SSS 16 00 01.3
SOC pmax pmax
comp=Z,12nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,10µm,21.0s,MS6.2
MIB Mutribah 87.12 301 *e*P **P** **15 40 05.0 -0.7**
MIB AMb AMB 15 40 09.4
comp=Z,530nm,0.6s,mb6.9
RDF Al-Radifah 87.28 300 *e*P **P** **15 40 05.7 -0.7**
RDF AMb AMB 15 40 11.1
comp=Z,210nm,0.9s,mb6.4
NAY Al-Naaiem 87.40 300 *e*P **P** **15 40 06.2 -0.9**
NAY AMb AMB 15 40 07.8
comp=Z,195nm,0.7s,mb6.5
DRV Dumont d'Urvil 87.45 182 P **P** **15 40 07.0 -0.3**
DRV Dumont d'Urvil 87.45 182 PP PP 15 43 34.0 +1.7
DRV S 15 50 39.0
DRV SS SS 15 56 29.0 -1.2
DRV L 16 04 00.0
WUAZ Wupatki 87.62 53 *e*P **P** **15 40 08.8 +0.7**
comp=Z,276nm,1.2s,mb6.4
WUAZ *e*PP PP 15 43 31.7 -2.0
WUAZ LR LR
comp=Z,11µm,22.0s,MS6.2
NSS Namsos 87.81 342 *e*P **P** **15 40 06.7 -2.3**
NSS AMb AMB 15 40 09.9
comp=Z,248nm,1.2s,mb6.3
NSS AMS AMS 16 16 47.7
comp=Z,3µm,27.7s,MS5.6
NSS Namsos 87.81 342 *e*P **P** **15 40 06.7 -2.3**
comp=Z,248nm,1.2s,mb6.3
MSL Mosul 87.83 308 *ex* x 15 40 08.0
RWWY Rawlins 87.96 46 *e*P **P** **15 40 10.0 +0.3**
comp=Z,553nm,1.5s,mb6.6
ANN Anapa 87.98 318 *e*P **P** **15 40 07.9 -1.9**
ANN *e**PP pP 15 40 26.8 +2.6
ANN *e* 15 50 32.4
ANN *e*SP 15 51 49.4
ANN pmax pmax
comp=Z,116nm,1.1s,mb6.0
ANN MLR MLR
comp=N,10µm,21.0s,MS6.2
ANN MLR MLR
comp=E,5µm,21.0s,MS6.0
ANN MLR MLR
comp=Z,6µm,21.0s,MS6.0
BHD Baghdad 88.09 305 *ex* x 15 40 01.0
BHD *ex* x 15 40 19.0
BHD *ex* x 15 43 38.5
BHD *ex* x 15 50 21.0
BHD *ex* x 15 50 39.5
BHD *ex* x 15 51 51.5
MNK Minsk 88.32 329⇓*i*P **P** **15 40 09.0 -2.4**
MNK *e*S 15 50 49.0
MNK MLR MLR
comp=Z,29µm,24.0s,MS6.6
RKT Rikitea 88.38 115 *e*P **P** **15 40 12.4 +0.7**
comp=Z,65nm,1.1s,mb5.8
SCO Scoresbysund 88.45 356 *i* P **P** **15 40 11.5 -0.5**
comp=Z,64nm,0.9s,mb5.8
SCO Scoresbysund 88.45 356 *i* P **P** **15 40 11.5 -0.5**
SCO pmax pmax
comp=Z,64nm,0.9s,mb5.8
RSSD Black Hills 88.92 43 *e*P **P** **15 40 14.0 -0.2**
RSSD pmax pmax
comp=Z,893nm,2.3s,mb6.7
RSSD MLR MLR
comp=Z,13µm,21.0s,MS6.3
RSSD Black Hills 88.92 43 *e*P **P** **15 40 14.0 -0.3**
comp=Z,892nm,2.3s,mb6.7
RSSD LR LR
comp=Z,13µm,21.0s,MS6.3
SMCO Snowmass 89.24 48 *e*P **P** **15 40 16.6 +0.9**
comp=Z,221nm,1.1s,mb6.4
SMCO *e*PP PP 15 43 45.9 -0.7
PHWY Pilot Hill 89.31 46 *e*P **P** **15 40 16.6 +0.5**
TUC Tucson 89.38 56 P **P** **15 40 17.4 +1.0**
TUC pmax pmax
comp=Z,840nm,2.1s,mb6.7
TUC Tucson 89.38 56 *e*P **P** **15 40 17.2 +0.8**
comp=Z,845nm,2.1s,mb6.7
TUC LR LR
comp=Z,8µm,21.0s,MS6.1
AKASG Malin Array Be 89.75 325 P **P** **15 40 16.4 -1.7**
comp=Z,92nm,1.0s,mb6.1,baz=46,slow=4.7,SNR=82
AKASG PKKPbc PKKPbc 15 57 49.2 -1.4
comp=Z,1.9nm,0.5s,baz=258,slow=2.8,SNR=10
AKASG Malin Array Be 89.75 325 P **P** **15 40 16.4 -1.7**
AKASG PKKPbc PKKPbc 15 57 49.2 -1.4
ISCO Idaho Springs 89.90 47 *e*P **P** **15 40 19.8 +1.0**
ISCO pmax pmax
comp=Z,94nm,1.1s,mb6.0
ISCO MLR MLR
comp=Z,18µm,22.0s,MS6.5
ISCO Idaho Springs 89.90 47 *e*P **P** **15 40 19.8 +1.0**
comp=Z,94nm,1.1s,mb6.0
ISCO LR LR
comp=Z,18µm,22.0s,MS6.5
SIM Simferopol' 89.98 319*de*P **P** **15 40 18.2 -1.0**
SIM *e**PP pP 15 40 29.0 -4.5
SIM *e* 15 50 46.0
SIM *e*S 15 51 04.0
SIM *e*PS PS 15 52 13.0 -7.2
SIM pmax pmax
comp=Z,53nm,0.9s,mb5.9
SIM MLR MLR
comp=Z,7µm,21.0s,MS6.1
MALT Malatya 90.31 311⇑P **P** **15 40 21.4 +0.7**
MALT Malatya 90.31 311 *e*P **P** **15 40 20.9 +0.2**
comp=Z,207nm,1.8s,mb6.2
ULM Lac du Bonnet 90.50 35 P **P** **15 40 21.0 -0.6**
comp=Z,87nm,0.9s,mb6.1,baz=299,slow=5.0,SNR=78
ULM LR LR 16 19 06.4
comp=Z,6µm,21.0s,MS6.0,baz=320,slow=34
HFS Hagfors 90.50 338 P **P** **15 40 19.8 -1.8**
comp=Z,26nm,0.4s,mb5.9,baz=90,slow=4.4,SNR=116
HFS PKKPbc PKKPbc 15 57 47.0 -1.8
comp=Z,2.3nm,0.9s,baz=153,slow=3.3,SNR=4.1
MOL Molde 90.59 342 *e*P **P** **15 40 22.4 +0.4**
NB2 NORSAR Subarra 90.66 340 P **P** **15 40 20.8 -1.5**
comp=Z,129nm,0.9s,mb6.3,baz=45,slow=4.8
NOA NORSAR Array B 90.66 340 P **P** **15 40 20.8 -1.5**
comp=Z,119nm,1.0s,mb6.2,baz=47,slow=4.3,SNR=77
NOA PP PP 15 43 56.5 -1.4
comp=Z,9.6nm,0.9s,baz=39,slow=7.5,SNR=3.5
NOA PKKPbc PKKPbc 15 57 48.2 -0.2
comp=Z,2.3nm,0.9s,baz=254,slow=1.9,SNR=4.4
NOA LR LR 16 24 21.6
comp=Z,6µm,20.4s,MS6.0,baz=50,slow=38
SUW Suwalki 90.80 330 *e*P **P** **15 40 21.8 -1.2**
SUW *e*pP pP 15 40 33.8 -3.6
SUW *e*SKS 15 50 48.4
SUW *e*S 15 51 18.6
SUW L 16 17 32.3
comp=Z,10nm,30.2s
SUW Suwalki 90.80 330 *e*P **P** **15 40 21.8 -1.2**
SUW *e**PP pP 15 40 33.8 -3.6
SUW *e* 15 50 48.4
SUW *e*S 15 51 18.6
SUW Suwalki 90.80 330 *e*P **P** **15 40 21.7 -1.4**
NAO01 NORSAR Array S 90.91 340 *e*P **P** **15 40 21.8 -1.7**
comp=Z,65nm,0.9s,mb6.0
NAO01 LR LR
comp=Z,11µm,19.0s,MS6.3
SDCO Great Sand Dun 90.92 49⇓*i*P **P** **15 40 24.2 +0.6**
comp=Z,113nm,1.1s,mb6.1
CASY Casey 91.01 194 *e*P **P** **15 40 21.9 -2.1**
comp=Z,272nm,2.0s,mb6.2
CASY LR LR
comp=Z,6µm,22.0s,MS6.0
LAZ Ladron 91.25 52 *e*P **P** **15 40 26.2 +1.2**
FRB Frobisher Bay 91.34 15 P **P** **15 40 24.4 -1.2**
comp=Z,63nm,0.9s,mb6.0,baz=345,slow=6.1,SNR=21
FRB Frobisher Bay 91.34 15 P **P** **15 40 24.4 -1.1**
FRB pmax pmax
comp=Z,63nm,0.9s
SFJD Kangerlussuaq 91.44 7 P **P** **15 40 25.3 -0.6**
comp=Z,119nm,0.9s,mb6.2,baz=333,slow=6.0,SNR=25
SFJD LR LR 16 19 17.9
comp=Z,6µm,21.3s,MS6.0,baz=310,slow=34
SFJD Kangerlussuaq 91.44 7 *i* P **P** **15 40 25.3 -0.7**
comp=Z,139nm,1.0s,mb6.2
SFJD
comp=Z,9µm,22.0s
SFJD Kangerlussuaq 91.44 7 P **P** **15 40 25.7 -0.3**
LENM Lemitar 91.47 53⇓*i*P **P** **15 40 27.0 +0.9**
LENM *e* 15 44 20.1
ANMO Albuquerque 91.50 52 *e*P **P** **15 40 27.2 +0.9**
ANMO pmax pmax
comp=Z,190nm,1.5s
ANMO MLR MLR
comp=Z,7µm,22.0s
ANMO Albuquerque 91.50 52 *e*P **P** **15 40 27.2 +0.9**
comp=Z,190nm,1.5s,mb6.2
ANMO LR LR
comp=Z,7µm,22.0s,MS6.0
LPM Los Pinos Moun 91.66 52 *e*P **P** **15 40 27.7 +0.7**
BNM Barren Site 91.74 52 *e*P **P** **15 40 28.2 +0.8**
KIS Kishinev 92.03 323 *e*P **P** **15 40 26.0 -2.7**
KIS *e* 15 50 56.0
KIS *e*S 15 51 21.0
KIS *e*SS SS 15 57 41.0 +4.4
KONO Kongsberg 92.24 340 *e*P **P** **15 40 29.3 -0.4**
KONO Kongsberg 92.24 340 PFAKE 15 40 40.0 +10
KONO LR LR
comp=Z,11µm,21.0s,MS6.3
MSEY Mahe Island 92.33 266 *e*P **P** **15 40 29.9 -0.2**
comp=Z,66nm,1.0s,mb5.9
MSEY LR LR
comp=Z,4µm,21.0s,MS5.8
BR131 Keskin Array S 92.90 315 *e*P **P** **15 40 31.7 -1.0**
comp=Z,15nm,0.8s,mb5.5
BR131 LR LR
comp=Z,3µm,20.0s,MS5.7
BRTR Keskin Array B 92.90 315 P **P** **15 40 31.9 -0.8**
comp=Z,20nm,1.0s,mb5.5,baz=86,slow=3.4,SNR=46
BRTR PKKP PKKPbc 15 57 39.9 -2.7
comp=Z,1.2nm,0.7s,baz=225,slow=1.7,SNR=5.2
WAR Warsaw 92.93 330 *e*P **P** **15 40 33.2 +0.3**
WAR *e*PcP PcP 15 40 35.9 +2.4
WAR *e*SKS 15 51 03.4
WAR *e*S 15 51 32.9
WAR *e*SS SS 15 58 02.6 +13
WAR L 16 16 05.2
comp=Z,8.7nm,34.9s
LVV L'vov 92.97 327 *e*P **P** **15 40 32.2 -0.9**
PTCN Pitcairn Islan 93.24 115 PFAKE 15 40 50.0 +16
PTCN LR LR
comp=Z,5µm,19.0s,MS6.0
ANTO Ankara 93.39 315 *e*P **P** **15 40 34.3 -0.7**
comp=Z,64nm,1.4s,mb5.9
ANTO LR LR
comp=Z,6µm,22.0s,MS6.0
CFR Carcaliu 93.44 321⇑P **P** **15 40 34.1 -1.1**
CFR Carcaliu 93.44 321⇑P **P** **15 40 34.1 -1.2**
BSD Bornholm Skovb 93.66 334⇓*i*P **P** **15 40 34.3 -1.9**
comp=Z,83nm,0.9s,mb6.2
BSD *e* pP 15 40 50.0 -0.6
BSD *i* 15 43 29.3
BSD *i* S 15 51 33.5
BSD *i* 15 53 05.2
BSD
comp=Z,5µm,20.0s
BSD Bornholm Skovb 93.66 334⇓*i*P **P** **15 40 34.3 -1.9**
comp=Z,83nm,0.9s,mb6.2
BSD *e* pP 15 40 50.0 -0.6
BSD *i* 15 43 29.3
BSD *i* S 15 51 33.5
BSD *i* 15 53 05.2
BURAR Bucovina Array 93.68 324⇓P **P** **15 40 35.4 -0.9**
BURAR Bucovina Array 93.68 324⇓P **P** **15 40 35.4 -0.9**
TIRR Tirgusor 93.69 321⇑P **P** **15 40 35.6 -0.7**
TIRR Tirgusor 93.69 321⇑P **P** **15 40 35.6 -0.8**
KWP Kalwaria 93.77 327 *e*P **P** **15 40 36.2 -0.5**
KWP *e*pP pP 15 40 52.4 +1.3
KWP *e*S 15 51 39.7
KWP L 16 21 55.9
comp=Z,11nm,26.7s
KWP Kalwaria 93.77 327 *e*P **P** **15 40 36.2 -0.5**
KWP *e*pP pP 15 40 52.4 +1.3
KWP *e*S 15 51 39.7
MNTX Cornudas Mount 93.78 54 *e*P **P** **15 40 37.4 +0.7**
comp=Z,54nm,0.8s,mb6.0
MNTX LR LR
comp=Z,6µm,21.0s,MS6.0
HARR Harsova 93.84 321⇑P **P** **15 40 36.9 -0.2**
HARR Harsova 93.84 321⇑P **P** **15 40 36.9 -0.2**
BORG Borgarnes 94.06 355 P **P** **15 40 39.2 +1.2**
comp=Z,89nm,1.0s,mb6.1,baz=338,slow=4.9,SNR=6.8
BORG Borgarnes 94.06 355 P **P** **15 40 39.2 +1.2**
BORG LR LR
comp=Z,7µm,20.0s,MS6.1
EYMN Ely 94.18 35 *e*P **P** **15 40 37.1 -1.5**
comp=Z,107nm,1.3s,mb6.1
EYMN LR LR
comp=Z,15µm,22.0s,MS6.4
COP Copenhagen 94.22 336 *i* S 15 51 12.3
COP *i* 15 53 25.9
COP *e* 15 58 02.9
COP *i* 16 05 40.4
COP
comp=Z,5µm,20.0s
COP Copenhagen 94.22 336 *i* P **P** **15 40 39.3 +0.5**
COP *i* S 15 51 12.3
COP pmax pmax
comp=Z,72nm,0.9s,mb6.1
COP MLR MLR
comp=Z,5µm,20.0s,MS5.9
COP Copenhagen 94.22 336 *i* P **P** **15 40 39.3 +0.5**
comp=Z,72nm,0.9s,mb6.1
COP *i* S 15 51 12.3
COP *i* 15 53 25.9
COP *e* 15 58 02.9
COP *i* 16 05 40.4
COP LR LR
comp=Z,5µm,20.0s,MS5.9
GDL2 Guadalupe Moun 94.31 53 *e*P **P** **15 40 40.0 +0.8**
CBKS Cedar Bluff 94.36 46 P **P** **15 40 39.1 -0.3**
CBKS pmax pmax
comp=Z,68nm,1.0s,mb6.0
CBKS Cedar Bluff 94.36 46 *e*P **P** **15 40 39.0 -0.4**
comp=Z,68nm,1.1s,mb6.0
CBKS LR LR
comp=Z,16µm,22.0s,MS6.4
KOLS Kolonicke sedl 94.43 327 *e*P **P** **15 40 38.8 -0.9**
KOLS *e*PP PP 15 44 25.3 -2.2
MLR Muntele Rosu 94.53 322 P **P** **15 40 39.0 -1.2**
comp=Z,4.3nm,0.8s,baz=107,slow=11,SNR=4.7
MLR Muntele Rosu 94.53 322⇑P **P** **15 40 40.5 +0.3**
MLR Muntele Rosu 94.53 322⇑P **P** **15 40 40.5 +0.3**
UZH Uzhgorod 94.61 326 *e*P **P** **15 40 39.0 -1.6**
UZH *e*S 15 51 50.0
STHS Stebnicka Huta 94.64 328 *i* P **P** **15 40 40.3 -0.4**
CLNB Carlsbad 94.65 53 *e*P **P** **15 40 41.5 +0.7**
RGN Rugen 94.70 335 *e*P **P** **15 40 40.1 -0.9**
comp=Z,88nm,0.9s,mb6.2
OJC Ojcow 94.83 329 *e*P **P** **15 40 40.9 -0.7**
OJC *e*PP PP 15 44 24.5 -6.2
OJC *e*SKSac SKSac 15 51 12.2 -0.9
OJC *e*S 15 51 44.4
OJC *e*SP SP 15 53 00.9 -6.9
OJC *e*SS SS 15 58 02.0 -15
OJC L 16 27 06.4
comp=Z,49nm,21.8s
OJC Ojcow 94.83 329 *e*P **P** **15 40 40.9 -0.7**
OJC *e* 15 51 12.2
OJC *e*S 15 51 44.4
OJC MLR MLR
comp=Z,49µm,21.8s,MS6.9
MUD Monsted U'grnd 94.84 338 *i* P **P** **15 40 41.2 -0.4**
comp=Z,24nm,0.9s,mb5.6
MUD *i* 15 44 32.2
MUD
comp=Z,5µm,21.0s
MUD Monsted U'grnd 94.84 338 *i* P **P** **15 40 41.2 -0.4**
comp=Z,24nm,0.9s,mb5.6
MUD *i* 15 44 32.2
CRVS Cervenica-Dubn 94.86 327 *e*P **P** **15 40 41.9 +0.2**
CRVS *e* pP 15 41 00.1 +4.0
CRVS *e* 15 51 05.0
CRVS Cervenica-Dubn 94.86 327 *e*P **P** **15 40 41.9 +0.2**
CRVS *e* pP 15 41 00.1 +4.0
WAL1 Walls 94.97 345 *e*P **P** **15 40 41.2 -1.0**
WAL1 Walls 94.97 345 *e*P **P** **15 40 41.2 -1.0**
PRD Provadia 95.00 320 *e*P **P** **15 40 42.0 -0.4**
VOIR 95.07 323⇓P **P** **15 40 42.3 -0.4**
NIE Niedzica 95.11 328 *e*P **P** **15 40 42.5 -0.3**
DRGR 95.53 325⇓P **P** **15 40 44.2 -0.6**
DRGR 95.53 325⇓P **P** **15 40 44.2 -0.6**
KECS Kecovo 95.62 327 *e*P **P** **15 40 43.6 -1.6**
KECS *e* pP 15 40 54.6 -5.0
KECS *e*PP PP 15 44 37.1 +0.3
RAC Raciborz 95.70 329 *e*P **P** **15 40 45.7 +0.2**
RAC *e* 15 44 38.8
RAC MLR MLR
comp=Z,7µm,21.5s,MS6.1
SZH Strazhica 95.84 321 *e*P **P** **15 40 45.0 -1.2**
OKC Ostrava-Krasne 95.88 329 *e*P **P** **15 40 43.0 -3.4**
OKC *e*pP pP 15 40 53.8 -7.0
OKC AMS AMS 16 30 30.0
comp=Z,5µm,21.0s
ISP Isparta 95.97 314 *e*P **P** **15 40 46.6 -0.2**
RUE Ruedersdorf 96.01 333 *e*PP PP 15 44 42.0 +2.1
KSP Ksiaz 96.06 331 *e*P **P** **15 40 46.5 -0.7**
KSP *e*S 15 51 47.4
KSP *e*SS SS 15 58 54.8 +21
KSP L 16 22 29.5
comp=Z,17nm,26.3s
KSP Ksiaz 96.06 331⇓*e*P **P** **15 40 46.4 -0.8**
KSP *e*PP PP 15 44 39.7 -0.5
KSP *e*SKS 15 51 24.0
KSP *e*SP SP 15 53 22.5 +1.3
KSP *e*SS SS 15 58 34.0 -0.1
KSP LR LR
comp=Z,19µm,26.3s,MS6.5
MORC Moravsky Berou 96.21 329 P **P** **15 40 47.2 -0.7**
MORC pmax pmax
comp=Z,13nm,1.0s,mb5.3
MORC Moravsky Berou 96.21 329 *e*P **P** **15 40 46.1 -1.8**
comp=Z,12nm,0.9s,mb5.3
KSU1 Kansas State U 96.27 44 *e*P **P** **15 40 47.1 -1.0**
PSZ Piszkesteto 96.29 327 P **P** **15 40 48.2 -0.1**
PSZ Piszkesteto 96.29 327 *e*P **P** **15 40 47.8 -0.5**
comp=Z,29nm,1.3s,mb5.5
BSEG Bad Segeberg 96.34 336 *e*P **P** **15 40 47.6 -0.9**
comp=Z,21nm,1.1s,mb5.5
BSEG Bad Segeberg 96.34 336 *e*P **P** **15 40 47.6 -0.9**
BSEG pmax pmax
comp=Z,21nm,1.1s,mb5.5
DPC Dobruska-Polom 96.39 330 *e*P **P** **15 40 48.1 -0.6**
DPC *e*PP PP 15 44 41.9 -0.9
DPC AMS AMS 16 21 20.0
comp=Z,9µm,25.1s
UPC Upice 96.43 331 *e*P **P** **15 40 48.0 -0.9**
UPC *e*pP pP 15 41 03.9 +0.6
UPC *e*PP PP 15 44 43.7 +0.7
VYHS Vyhne 96.45 328 *e*P **P** **15 40 48.2 -0.8**
VYHS *e*PP PP 15 44 44.8 +1.6
VYHS Vyhne 96.45 328⇑*e*SKSp SKSac 15 51 18.1 -3.5
VYHS Vyhne 96.45 328 *e*P **P** **15 40 48.2 -0.8**
VYHS *e*PP PP 15 44 44.8 +1.6
VYHS *e*S 15 51 18.1
BZS Buzias 96.86 324⇑P **P** **15 40 49.6 -1.2**
BZS Buzias 96.86 324⇑P **P** **15 40 49.6 -1.3**
VRAC Vranov 96.99 329⇓P **P** **15 40 49.8 -1.6**
VRAC P 15 40 51.1
PVCC Panska Ves 97.07 331 *e*P **P** **15 40 50.7 -1.1**
PVCC AMS AMS 16 22 20.0
comp=Z,6µm,24.4s
BRG Berggiesshubel 97.10 332 *e*P **P** **15 40 50.7 -1.2**
comp=Z,26nm,1.2s,mb5.5
BRG *e*PP PP 15 44 48.3 +0.1
BRG Berggiesshubel 97.10 332 *i* P **P** **15 40 50.7 -1.2**
comp=Z,25nm,1.2s,mb5.5
BRG *i* pP 15 41 07.0 +0.7
comp=Z,11nm,0.8s
BRG PP PP 15 44 49.0 +0.8
BRG SKS 15 51 27.0
BRG S 15 52 15.0
BRG PS PS 15 53 43.0 +4.3
BRG SS SS 15 58 56.0 +7.3
BRG
comp=N,5µm,28.2s
BRG
comp=E,5µm,23.2s
BRG
comp=Z,5µm,25.5s
BRG Berggiesshubel 97.10 332 *i* P **P** **15 40 50.7 -1.2**
BRG *i* pP 15 41 07.0 +0.7
BRG 15 44 49.0
BRG 15 51 27.0
BRG S 15 52 15.0
BRG pmax pmax
comp=Z,25nm,1.2s,mb5.5
BRG MLR MLR
comp=N,5µm,28.2s,MS6.1
BRG MLR MLR
comp=E,5µm,23.2s,MS6.1
BRG MLR MLR
comp=Z,5µm,25.5s,MS5.8

BRG Berggiesshubel 97.10 332 *i* P **P 15 40 50.7 -1.2**
comp=Z,25nm,1.2s,mb5.5
BRG *i* pP 15 41 07.0 +0.7
BRG PP PP 15 44 49.0 +0.8
BRG SKS 15 51 27.0
BRG S 15 52 15.0
BRG PS PS 15 53 43.0 +4.3
BRG SS SS 15 58 56.0 +7.3
BRG LR LR
comp=Z,5µm,25.5s,MS5.8
WMOK Wichita Mounta 97.12 49 P **P 15 40 51.8 -0.2**
WMOK pmax pmax
comp=Z,24nm,0.8s,mb5.7
WMOK Wichita Mounta 97.12 49 *e*P **P 15 40 51.9 -0.2**
comp=Z,30nm,0.8s,mb5.8
WMOK LR LR
comp=Z,12µm,22.0s,MS6.3
SMOL Smolenice 97.13 329 *e*P **P 15 40 51.7 -0.3**
SMOL *e*PP PP 15 44 50.5 +2.1
CLL Collm 97.20 333 *e*P **P 15 40 50.9 -1.4**
comp=Z,36nm,1.0s,mb5.8
CLL *e*sP sP 15 41 11.2 -1.0
CLL *e*PP PP 15 44 49.2 +0.2
CLL *e*pPP 15 45 02.1
CLL *e*SKSac SKSac 15 51 27.8 +2.4
CLL *e*SKKSac SKKSac 15 51 54.1 +1.5
CLL *e*Sdiff 15 52 13.0
CLL *e*PS PS 15 53 52.9 +13
CLL *e*SS SS 15 58 49.7 -0.4
CLL *e*SSSS 16 06 36.6
CLL *e*LR LR 16 13 43.8
CLL *e*L 16 29 36.6
comp=Z,2µm,22.0s
CLL Collm 97.20 333 *i* P **P 15 40 50.9 -1.4**
comp=Z,60nm,1.0s,mb6.0
CLL *e*sP sP 15 41 11.0 -1.2
CLL *e*x x 15 41 17.0
CLL *e*x x 15 44 10.0
CLL *i* PP PP 15 44 50.4 +1.4
comp=Z,60nm,1.3s
CLL *e*sPP 15 45 06.0
CLL *e*SKKSac SKKSac 15 51 51.0 -1.6
CLL *e*S 15 52 06.0
CLL *e*pS 15 52 28.0
CLL *e*pPS 15 53 51.0
CLL *e*SS SS 15 58 49.0 -1.1
CLL *e*(SSSS) 16 06 33.0
CLL LmV 16 34 00.0
comp=Z,5µm,18.4s
CLL Collm 97.20 333 *i* P **P 15 40 50.9 -1.4**
CLL *e*S 15 52 06.0
CLL pmax pmax
comp=Z,60nm,1.0s,mb6.0
CLL MLR MLR
comp=Z,5µm,18.4s,MS6.0
CLL Collm 97.20 333 *i* P **P 15 40 50.9 -1.4**
comp=Z,60nm,1.0s,mb6.0
CLL *e*pP pP 15 41 11.0 +4.2
CLL *e*SKKS SKKSac 15 51 51.0 -1.6
CLL *e*S 15 52 06.0
CLL LR LR
comp=Z,5µm,18.4s,MS6.0
PRA Prague 97.45 331 P **P 15 40 52.0 -1.5**
PRU Pruhonice 97.46 331 *e*P **P 15 40 52.4 -1.2**
PRU *e*pP pP 15 41 08.9 +0.9
PRU *e*PP PP 15 44 51.3 +0.3
PRU *e*x x 15 51 48.0
PRU AMS AMS 16 21 40.0
comp=Z,7µm,23.9s
PRU Pruhonice 97.46 331 *e*P **P 15 40 52.4 -1.2**
PRU *e* pP 15 41 08.9 +0.9
PRU *e* 15 44 51.3
PRU MLR MLR
comp=Z,7µm,23.9s,MS6.1
RZN Rozhen 97.50 320 *e*P **P 15 40 53.0 -0.7**
ZST Bratislava 97.50 328 *e*P **P 15 40 54.3 +0.6**
ZST *e*PP PP 15 44 52.6 +1.3
RSC Scourie 97.52 345 *e*P **P 15 40 53.8 0.0**
RSC Scourie 97.52 345 *e*P **P 15 40 53.8 0.0**
MVH1 Achvaich 97.66 345 *e*P **P 15 40 53.0 -1.5**
MVH1 Achvaich 97.66 345 *e*P **P 15 40 53.0 -1.5**
RTO Tolsta 97.74 346 *e*P **P 15 40 53.6 -1.2**
RTO Tolsta 97.74 346 *e*P **P 15 40 53.6 -1.2**
REB Eisghbrachaidh 97.76 345 *e*P **P 15 40 53.7 -1.1**
REB Eisghbrachaidh 97.76 345 *e*P **P 15 40 53.7 -1.1**
VTS Vitosha 97.85 321 *e*P **P 15 40 55.0 -0.3**
VTS Vitosha 97.85 321 P **P 15 40 56.1 +0.8**
MME1 Meikle Cairn 97.89 344 *e*P **P 15 40 53.8 -1.7**
MME1 Meikle Cairn 97.89 344 *e*P **P 15 40 53.8 -1.7**
CLZ Clausthal 97.90 334 *e*P **P 15 40 54.6 -0.9**
comp=Z,20nm,1.2s,mb5.5
CLZ *e*PP PP 15 44 55.5 +1.1
CLZ Clausthal 97.90 334 *e*P **P 15 40 54.6 -0.9**
CLZ *e* 15 44 55.5
CLZ pmax pmax
comp=Z,20nm,1.2s,mb5.5
PKSM Moragy 98.06 326 P **P 15 40 55.3 -0.9**
WERD Werda 98.13 332 *e*P **P 15 40 55.4 -1.1**
comp=Z,14nm,1.1s,mb5.4
WERD *e*PP PP 15 44 58.5 +2.4
MMB Musomiste 98.15 320 *e*P **P 15 40 55.0 -1.6**
NKC Novy Kostel 98.22 332 *e*P **P 15 40 55.6 -1.4**
NKC *e*pP pP 15 41 09.0 -2.4
NKC *e*PP PP 15 44 56.4 -0.4
NKC *e*x x 15 51 54.9
NKC AMS AMS 16 27 00.0
comp=Z,7µm,22.3s
NKC Novy Kostel 98.22 332 *e*P **P 15 40 55.6 -1.4**
NKC *e* pP 15 41 09.0 -2.4
NKC *e* 15 44 56.4
NKC MLR MLR
comp=Z,7µm,22.3s,MS6.1
RRH Rhenigidale 98.27 346 *e*P **P 15 40 55.9 -1.2**
RRH Rhenigidale 98.27 346 *e*P **P 15 40 55.9 -1.2**
MOX Moxa 98.28 333 *e*P **P 15 40 56.1 -1.1**
comp=Z,25nm,1.2s,mb5.6
MOX *e*PP PP 15 44 57.1 -0.2
MOX Moxa 98.28 333 *e*P **P 15 40 56.1 -1.1**
comp=Z,44nm,1.5s,mb5.8
MOX *e* 15 44 56.4
MOX
comp=Z,4µm,21.0s
MOX Moxa 98.28 333 *e*P **P 15 40 56.1 -1.1**
MOX *e* 15 44 56.4
MOX pmax pmax
comp=Z,44nm,1.5s,mb5.8
MOX MLR MLR
comp=Z,4µm,21.0s,MS5.9
KKB Krupnik 98.36 321 *e*P **P 15 40 58.0 +0.4**
KHC Kasperske Hory 98.52 331 *e*P **P 15 40 56.9 -1.4**
KHC *e*pP pP 15 41 09.0 -3.7
KHC *e*PP PP 15 44 59.8 +0.7
KHC *e*x x 15 51 54.9
KHC AMS AMS 16 22 10.0
comp=Z,8µm,27.7s
KHC Kasperske Hory 98.52 331 *e*P **P 15 40 56.9 -1.4**
KHC *e* pP 15 41 09.0 -3.7
KHC *e* 15 44 59.8
KHC MLR MLR
comp=Z,8µm,27.7s,MS6.1
JCT Junction City 98.56 53 P **P 15 40 58.2 -0.3**
JCT pmax pmax
comp=Z,130nm,1.2s,mb6.3
JCT Junction City 98.56 53 *e*P **P 15 40 58.5 0.0**
comp=Z,129nm,1.3s,mb6.3
JCT LR LR
comp=Z,7µm,21.0s,MS6.1
IBBN Ibbenburen 98.58 336 *e*P **P 15 40 57.9 -0.7**
comp=Z,10.0nm,0.6s,mb5.5
IBBN *e*PP PP 15 45 00.4 +0.8
GEC2 GERESS Array S 98.66 330 *e*P **P 15 40 58.0 -0.9**
comp=Z,25nm,1.3s,mb5.6
GEC2 *e*PP PP 15 45 01.7 +1.5
GEC2 GERESS Array S 98.66 330 *e*P **P 15 40 58.0 -0.9**
GEC2 *e* 15 45 01.7
GEC2 pmax pmax
comp=Z,25nm,1.3s,mb5.6
GERES GERESS Array B 98.66 330 P **P 15 40 58.0 -1.0**
comp=Z,12nm,1.1s,mb5.4,baz=34,slow=4.8,SNR=20
GERES PP PP 15 45 02.1 +1.8
comp=Z,7.4nm,0.9s,baz=45,slow=7.5,SNR=6.1
GERES LR LR 16 30 47.2
comp=Z,6µm,20.5s,MS6.0,baz=47,slow=38

GERES GERESS Array B 98.66 330 P **P 15 40 58.0 -0.9**
GERES 15 45 02.1
GERES pmax pmax
comp=Z,12nm,1.1s
GERES MLR MLR
comp=Z,6µm,20.5s
ROTZ Rotzenmuhle 98.67 332 *e*P **P 15 40 58.4 -0.6**
comp=Z,63nm,1.5s,mb5.9
VNDA Vanda 98.67 177 P **P 15 40 55.7 -3.3**
comp=Z,5.1nm,1.1s,mb5.0,baz=359,slow=7.2,SNR=6.6
VNDA PP PP 15 44 59.0 -1.3
comp=Z,3.5nm,1.1s,baz=340,slow=7.8,SNR=4.3
VNDA LR LR 16 26 28.8
comp=Z,3µm,19.2s,MS5.8,baz=343,slow=36
VNDA Vanda 98.67 177 P **P 15 40 55.7 -3.3**
VNDA 15 44 59.1
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA MLR MLR
comp=Z,3µm,19.2s
VNDA Vanda 98.67 177 P **P 15 40 55.7 -3.3**
VNDA PP PP 15 44 59.0 -1.3
VNDA LR LR 16 26 28.8
ARSA Arzberg 98.93 328 *i* P **P 15 40 59.6 -0.5**
comp=Z,17nm,1.2s,mb5.5,SNR=7.4
VAY Valandovo 99.00 321 *e*P **P 15 40 59.0 -1.5**
MOA Molln 99.11 330 *i* P **P 15 41 00.4 -0.5**
comp=Z,18nm,1.1s,mb5.5,SNR=7.8
GRF Grafenberg Arr 99.16 332 *e*P **P 15 41 00.2 -0.9**
GRF *e*PP PP 15 45 06.1 +2.1
GRF *e*PPP 15 47 27.0
GRF *e*PPPP 15 49 09.6
GRF *e*SKSac SKSac 15 51 33.3 -2.1
GRF *e*SP SP 15 54 02.1 +7.3
GRF *e*SS SS 15 59 19.5 +1.9
GRF *e*L 16 28 03.4
comp=Z,6µm,21.4s
GRF Grafenberg Arr 99.16 332 *e*P **P 15 41 00.2 -0.9**
GRF *e* 15 45 06.1
GRF *e* 15 51 33.3
GRF *e*SP SP 15 54 02.1 +7.3
GRF *e*SS SS 15 59 19.5 +1.9
GRF MLR MLR
comp=Z,6µm,21.4s,MS6.0
EAB Aberfoyle 99.24 344 *e*P **P 15 41 00.4 -1.1**
EAB AMb AMB 15 41 05.5
comp=Z,112nm,1.6s,mb6.1
EAB Aberfoyle 99.24 344 *e*P **P 15 41 00.4 -1.1**
EAB AMb AMB 15 41 05.5
comp=Z,112nm,1.6s,mb6.1
SBA Scott Base 99.31 176 PFAKE 15 41 10.0 +8.2
SBA LR LR
comp=Z,4µm,22.0s,MS5.9
EAU Auchinoon 99.31 343 *e*P **P 15 41 00.8 -1.0**
EAU AMb AMB 15 41 07.6
comp=Z,133nm,1.6s,mb6.2
EAU Auchinoon 99.31 343 *e*P **P 15 41 00.8 -1.0**
EAU AMb AMB 15 41 07.6
comp=Z,133nm,1.6s,mb6.2
SCHQ Schefferville 99.42 19 P **P 15 41 01.9 -0.4**
comp=Z,14nm,0.9s,mb5.5,baz=332,slow=4.4,SNR=9.9
SCHQ PKKPbc PKKPbc 15 57 23.3 -1.7
comp=Z,2.9nm,0.8s,baz=262,slow=8.4,SNR=4.1
SCHQ LR LR 16 31 42.8
comp=Z,2µm,18.6s,MS5.7,baz=326,slow=39
BUG Bochum--Univer 99.45 335 *e*P **P 15 41 02.7 +0.3**
BUG *e*PP PP 15 45 11.2 +5.0
PERS Pernice 99.56 328 *e*P Pdif 15 41 01.9 -1.0
EKA Eskdalemuir Ar 99.68 343 P Pdif 15 41 02.4 -1.1
comp=Z,7.4nm,0.9s,baz=0.0,slow=3.3,SNR=7.4
EKA PP PP 15 45 06.8 -1.2
comp=Z,18nm,1.0s,baz=23,slow=6.4,SNR=9.2
EKA Eskdalemuir Ar 99.68 343 P Pdif 15 41 02.4 -1.1
EKA 15 45 06.8
EKA pmax pmax
comp=Z,7.0nm,0.9s
ESK Eskdalemuir 99.71 343 PFAKE 15 41 10.0 +6.4
ESK LR LR
comp=Z,4µm,21.0s,MS5.9
TNS Taunus Mts 99.93 334 *e*P Pdif 15 41 04.8 +0.2
comp=Z,22nm,1.3s
TNS *e*PP PP 15 45 12.2 +2.4
TNS Taunus Mts 99.93 334 *e*P Pdif 15 41 04.8 +0.2
TNS *e* 15 45 12.2
TNS pmax pmax
comp=Z,22nm,1.3s,mb5.4
OHR Ohrid 100.18 321 *e*P Pdif 15 41 04.1 -1.6
TOD Tromm 100.25 333 *e*P Pdif 15 41 04.4 -1.6
FUR Furstenfeldbru 100.26 331 *e*P Pdif 15 41 06.7 +0.6
comp=Z,52nm,1.3s
FUR *e*PP PP 15 45 14.0 +1.6
FUR Furstenfeldbru 100.26 331 *e*P Pdif 15 41 06.7 +0.6
FUR *e* 15 45 14.0
FUR pmax pmax
comp=Z,52nm,1.3s
BOJS Bojanci 100.28 327 *e*P Pdif 15 41 05.3 -0.8
ABH Alteburg 100.56 334 *e*P Pdif 15 41 06.2 -1.2
BEBN Eben Emael 100.58 336 ⇑P Pdif 15 41 11.5 +4.1
VOY Vojsko 100.58 328 *e*P Pdif 15 41 05.7 -1.8
JAVS Javornik 100.60 328 *e*P Pdif 15 41 06.0 -1.5
ROBS Robic 100.62 329 *e*P Pdif 15 41 06.2 -1.5
STU Stuttgart 100.72 333 *e*PP PP 15 45 18.6 +2.7
RUP Ruppelstein 100.89 334 *e*P Pdif 15 41 06.6 -2.3
NVLJ Novalja 101.13 327 *i* P Pdif 15 41 08.6 -1.3
LANF Langenberg 101.15 334 *e*P Pdif 15 41 10.9 +0.9
WLF Walferdange 101.29 335 *e*P Pdif 15 41 10.3 -0.3
comp=Z,16nm,1.1s
WLF *e*PP PP 15 45 24.0 +3.9
BFO Black Forest 101.43 333 *e*PP PP 15 45 23.7 +2.5
BFO Black Forest 101.43 333 *e*Pdif Pdif 15 41 10.4 -0.8
GIVF Givet 101.46 336 *e*P Pdif 15 41 09.8 -1.6
DAVA Damuels 101.55 331 ⇑*i*Pdiff Pdif 15 41 11.4 -0.4
comp=Z,29nm,1.1s
DOU Dourbes 101.55 336 ⇓P Pdif 15 41 09.1 -2.7
comp=Z,12nm,2.0s
NATX Nacogdoches 101.63 49 PFAKE 15 41 20.0 +7.9
NATX LR LR
comp=Z,11µm,20.0s,MS6.4
BAIF Baives 101.73 336 *e*P Pdif 15 41 11.5 -1.1
HKT Hockley 101.77 52 PFAKE 15 41 20.0 +7.2
HKT LR LR
comp=Z,8µm,20.0s,MS6.2
WLS Welschbruch 101.78 333 *e*P Pdif 15 41 11.9 -0.9
CDF Champ du Feu 101.81 333 *e*P Pdif 15 41 11.3 -1.7
comp=Z,62nm,1.2s
LIBD Limburg 101.88 333 *e*P Pdif 15 41 13.6 +0.3
FELD Feldberg 101.92 333 *e*P Pdif 15 41 14.1 +0.7
ECH Echery 102.02 333 *e*P Pdif 15 41 13.8 -0.1
AAM Ann Arbor 102.06 35 PFAKE 15 41 30.0 +16
AAM LR LR
comp=Z,11µm,22.0s,MS6.3
MOF Molkenrain 102.31 333 *e*P Pdif 15 41 15.1 -0.1
HAE Alders End 102.38 341 *e*P Pdif 15 41 15.1 -0.3
HAE AMb AMB 15 41 17.9
comp=Z,77nm,1.3s
HAE Alders End 102.38 341 *e*P Pdif 15 41 15.1 -0.3
HAE AMb AMB 15 41 17.9
comp=Z,77nm,1.3s
HINF Hinteralfeld 102.46 333 *e*P Pdif 15 41 14.3 -1.5
HAU Haudompre 102.52 334 *e*P Pdif 15 41 14.7 -1.4
SADO Sadowa 102.63 31 Pdiff Pdif 15 41 18.8 +2.2
comp=Z,4.7nm,0.8s,baz=318,slow=4.4,SNR=3.6
MEZF Maizieres J'vi 102.65 335 *e*P Pdif 15 41 15.1 -1.6
comp=Z,19nm,0.8s
HGH Gray Hill 102.81 341 *e*P Pdif 15 41 16.1 -1.3
HGH AMb AMB 15 41 20.0
comp=Z,57nm,2.3s
HGH Gray Hill 102.81 341 *e*P Pdif 15 41 16.1 -1.3
HGH AMb AMB 15 41 20.0
comp=Z,57nm,2.3s
WCI Wyandotte Cave 103.25 40 PFAKE 15 41 30.0 +11
WCI LR LR
comp=Z,12µm,20.0s,MS6.4
OXF Oxford 103.63 45 PFAKE 15 41 30.0 +9.0
OXF LR LR
comp=Z,10µm,21.0s,MS6.3
CABF La Chapelle 103.73 333 *e*P Pdif 15 41 19.7 -1.8
comp=Z,30nm,1.0s
ACSO Alum Creek Sta 103.84 37 PFAKE 15 41 30.0 +8.0
ACSO LR LR
comp=Z,9µm,21.0s,MS6.3
LOR Lormes 104.12 335 *e*P Pdif 15 41 21.4 -1.8
ERPA Erie 104.13 34 PFAKE 15 41 30.0 +6.8
ERPA LR LR

comp=Z,13µm,22.0s,MS6.4
PLAL Pickwick Lake 104.20 43 PFAKE 15 41 40.0 +16
PLAL LR LR
comp=Z,8µm,20.0s,MS6.2
LPL La Plagne 104.31 332 *e*P Pdif 15 41 22.6 -1.4
comp=Z,6.5nm,0.6s
LPG La Plagne 104.31 332 *e*P Pdif 15 41 22.8 -1.3
SSF Saint Saulge 104.43 335 *e*P Pdif 15 41 23.0 -1.6
comp=Z,30nm,1.1s
FLN La Foliniere 104.52 338 *e*P Pdif 15 41 23.2 -1.8
comp=Z,30nm,0.9s
FLN *e*R
comp=Z,5µm,22.5s
LDF La Druitiere 104.53 338 *e*P Pdif 15 41 23.4 -1.6
SMF Signal de Mont 104.63 334 *e*P Pdif 15 41 23.8 -1.7
comp=Z,60nm,1.4s
AVF Avril sur Loir 104.71 335 *e*P Pdif 15 41 24.3 -1.5
comp=Z,35nm,1.0s
MBDF Montbardon 104.90 331 *e*P Pdif 15 41 25.1 -1.6
GRR Gorron 104.97 338 *e*P Pdif 15 41 25.3 -1.7
comp=Z,87nm,1.2s
BGF Bois d'Agland 105.11 335 *e*P Pdif 15 41 26.0 -1.6
comp=Z,44nm,1.3s
ORIF Oris-en-Rattie 105.15 332 *e*P Pdif 15 41 26.4 -1.4
ORIF *e*R
comp=Z,7µm,20.8s
PLDF La Plantade 105.27 334 *e*P Pdif 15 41 28.0 -0.3
NCB Newcomb 105.55 29 PFAKE 15 45 50.0 +7.3
NCB LR LR
comp=Z,7µm,21.0s,MS6.2
SGMF Saint Gilles 105.67 339 *e*P Pdif 15 41 28.9 -1.2
VIVF Saint-Julien-l 105.72 333 *e*P Pdif 15 41 28.6 -1.7
comp=Z,20nm,1.0s
ROSF Rostrenen 105.83 339 *e*P Pdif 15 41 29.1 -1.7
comp=Z,43nm,0.9s
MCWV Mont Chateau 105.96 35 PFAKE 15 45 50.0 +6.5
MCWV LR LR
comp=Z,19µm,22.0s,MS6.6
LRAL Lakeview Retre 106.12 44 *e*PKiKP PKiKP 15 45 43.3 -0.5
QUIF Quistinic 106.16 339 *e*P Pdif 15 41 29.9 -2.4
MFF Saint Martin d 106.22 337 *e*P Pdif 15 41 30.7 -1.9
VAE Valguarnera 106.29 322 Pdiff Pdif 15 41 37.8 +4.9
comp=Z,16nm,0.4s,baz=45,slow=1.4,SNR=4.2
LBNH Lisbon 106.35 28 PFAKE 15 46 00.0 +16
LBNH LR LR
comp=Z,12µm,22.0s,MS6.4
RJF Les Rejaudoux 106.66 335 *e*P Pdif 15 41 32.3 -2.2
comp=Z,49nm,1.3s
CAF Calviac 106.75 334 *e*P Pdif 15 41 33.0 -1.9
HRV Harvard--Oak R 107.90 28 PFAKE 15 46 00.0 +13
HRV LR LR
comp=Z,6µm,21.0s,MS6.1
KMBO Kilima Mbogo 108.09 276 Pdiff Pdif 15 41 43.0 +2.1
comp=Z,0.8nm,0.6s,baz=59,slow=12,SNR=4.3
KMBO Kilima Mbogo 108.09 276 Pdif Pdif 15 41 43.0 +2.1
KMBO LR LR
comp=Z,2µm,22.0s,MS5.7
CBN Corbin 108.34 35 PFAKE 15 46 00.0 +12
CBN LR LR
comp=Z,23µm,22.0s,MS6.7
ETSF Etsaut 109.50 335 *e*P Pdif 15 41 46.1 -1.0
SJPF Ste Jean 109.58 335 *e*P Pdif 15 41 46.3 -1.2
NHSC New Hope 110.37 40 PFAKE 15 46 00.0 +8.3
NHSC LR LR
comp=Z,14µm,22.0s,MS6.5
QSPA South Pole Qui 110.73 180 *e*P PKiKP 15 45 51.6 -0.8
DWPF Disney 112.95 45 PFAKE 15 46 10.0 +13
DWPF LR LR
comp=Z,13µm,21.0s,MS6.5
ESDC Sonseca Array 113.58 335 PP PP 15 46 50.2 +0.1
comp=Z,21nm,1.0s,baz=31,slow=6.4,SNR=4.9
ESDC PKKPab PKKPab 15 56 49.9 +1.3
comp=Z,2.5nm,0.7s,baz=210,slow=4.0,SNR=6.8
ESLA Sonseca Array 113.58 335 PFAKE 15 46 10.0 +12
ESLA LR LR
comp=Z,46µm,22.0s,MS7.0
MTE Manteigas 114.27 338 *e*PKP PKiKP 15 45 59.4 +0.3
MTE Manteigas 114.27 338 *e*P PKiKP 15 45 58.0 -1.1
EANR 'Ain N'Sour 114.49 329 P PKiKP 15 46 02.0 +2.4
PCBR Castelo Branco 114.74 338 *e*PKP PKiKP 15 46 00.2 +0.1
ETRT Tiaret 114.85 329 P PKiKP 15 46 03.0 +2.7
PTOM Tomar 115.27 339 *e*PKP PKPdf 15 46 01.3 +0.2
SYO Syowa Base 115.32 202⇑*e*PP PP 15 47 00.2 -2.2
SYO Syowa Base 115.32 202⇓*e*PKPdf PKPdf 15 45 59.8 -1.4
SYO ⇑*e*PP PP 15 47 00.2 -2.2
PBEJ Beja 116.49 337 *e*PKP PKPdf 15 46 04.5 +1.1
BBSR BB Station 119.31 30 PFAKE 15 46 20.0 +11
BBSR LR LR
comp=Z,7µm,21.0s,MS6.3
MDT Midelt 119.72 332 PKP PKPdf 15 46 10.6 +1.0
comp=Z,15nm,0.9s,baz=20,slow=3.4,SNR=14
MDT PKKPab PKKPab 15 56 23.5 +1.8
comp=Z,4.7nm,0.8s,baz=138,slow=1.6,SNR=9.0
JTS JuntasAbangare 120.92 63 PFAKE 15 46 20.0 +8.1
JTS LR LR
comp=Z,3µm,22.0s,MS5.9
LSZ Lusaka 121.12 264 *e*PKIKP PKPdf 15 46 13.3 +1.0
LSZ MLR MLR
comp=Z,4µm,22.0s,MS6.0
PAYG Puerto Ayora 121.34 77 PFAKE 15 46 20.0 +7.3
PAYG LR LR
comp=Z,6µm,20.0s,MS6.2
NVL N'lazarevskaya 123.49 196⇑*i*PKIKP PKPdf 15 46 16.6 -0.3
NVL *e* 15 48 01.9
NVL *e*SSS 15 57 49.6
NVL pmax pmax
comp=Z,33nm,1.0s
BOSA Boshof 126.30 249 PKP PKPdf 15 46 22.7 +0.4
comp=Z,25nm,0.8s,baz=101,slow=2.4,SNR=37
BOSA Boshof 126.30 249 *e*PKPdf PKPdf 15 46 22.4 +0.2
BOSA LR LR
comp=Z,2µm,21.0s,MS5.8
VNA2 Neumayer--Watz 127.64 191⇓*i*PKPdf PKPdf 15 46 24.7 -0.1
baz=59,slow=0.6
VNA2 *e* 15 46 27.8
VNA2 *e* 15 46 32.6
VNA2 *e* 15 46 34.5
VNA2 *e* 15 46 40.0
VNA2 *e* 15 46 45.7
VNA2 *e* 15 46 53.9
VNA3 Neumayer Olymp 127.74 190⇓*i*PKPdf PKPdf 15 46 24.6 -0.4
VNA3 *e* 15 46 28.1
VNA3 *e* 15 46 40.5
VNA3 *e* 15 46 46.1
SJG San Juan 129.88 42 PKP PKPdf 15 46 28.9 -0.1
comp=Z,38nm,0.7s,baz=341,slow=16,SNR=8.3
SJG San Juan 129.88 42 *e*P PKPdf 15 46 29.6 +0.5
SJG LR LR
comp=Z,7µm,20.0s,MS6.3
CPD Cerro la Pandu 130.09 41 *e*PKIKP PKPdf 15 46 29.7 +0.2
MTP Monte Pirata 130.26 41 *e*P PKPdf 15 46 28.6 -1.2
TORD Torodi Ar. Bea 131.39 311 PKhKP 15 46 19.3
comp=Z,1.6nm,0.9s,baz=36,slow=3.0,SNR=4.9
TORD PKP PKPdf 15 46 32.4 +0.5
comp=Z,12nm,0.9s,baz=42,slow=2.1,SNR=18
TORD PP PP 15 48 47.7 -3.1
comp=Z,7.7nm,1.0s,baz=43,slow=5.9,SNR=3.9
TORD SKPbc SKPbc 15 49 54.9 +1.9
comp=Z,9.6nm,1.1s,baz=27,slow=1.3,SNR=5.8
TORD SKKPbc 15 59 10.6
comp=Z,5.2nm,0.9s,baz=245,slow=5.0,SNR=5.4
PMSA Palmer Station 131.83 163 PFAKE 15 46 40.0 +7.2
PMSA LR LR
comp=Z,3µm,22.0s,MS6.0
TSUM Tsumeb 131.88 263 *e*PKPdf PKPdf 15 46 33.4 +0.5
ROSC El Rosal 132.69 62 PKP PKPdf 15 46 36.1 +1.7
comp=Z,8.9nm,0.6s,baz=278,slow=17,SNR=8.2
SDV Santo Domingo 133.22 54 PKP PKPdf 15 46 36.2 +0.8
comp=Z,67nm,0.7s,baz=300,slow=4.1,SNR=18
SDV SKPbc SKPbc 15 50 00.0 +0.7
comp=Z,12nm,0.9s,baz=325,slow=5.8,SNR=5.4
NNA Nana 137.87 85 *e*P PKPdf 15 46 40.0 -4.0
NNA LR LR
comp=Z,5µm,20.0s,MS6.2
DBIC Dimbokro 140.50 311 PKhKP 15 46 42.7
comp=Z,19nm,0.8s,baz=34,slow=4.2,SNR=18
DBIC SKPab 15 50 30.9
comp=Z,15nm,0.8s,baz=80,slow=5.3,SNR=3.7
DBIC Dimbokro 140.50 311 *e*PKPpre 15 46 41.3
DBIC LR LR
comp=Z,3µm,20.0s,MS6.0
PLCA Paso Flores 143.13 131 PKP PKPdf 15 46 50.5 -3.1
comp=Z,45nm,1.0s,baz=241,slow=4.3,SNR=37
PLCA Paso Flores 143.13 131 PKIKP PKPdf 15 46 50.5 -3.0
PLCA pmax pmax

comp=Z,45nm,1.0s
PLCA Paso Flores 143.13 131 *e*PKPpre 15 46 50.2
EFI East Falkland 143.91 154 *e*PKPdf PKPdf 15 46 52.3 -2.7
EFI LR LR
comp=Z,3μm,20.0s,MS6.0
ARE Arequipa 144.07 89⇑ *i*P PKPdf 15 46 55.2 0.0
PEL Peldehue 145.13 118⇑ *e*P PKPbc 15 46 57.1 +0.4
CMCH Combarbala 145.19 115⇑ *e*P PKPbc 15 46 57.0 +0.2
FCH Farellones 145.42 119⇓ *e*P PKPdf 15 46 58.5 +0.9
CEN1 Los Morros 146.25 101⇑ *e*P PKPdf 15 47 00.3 +1.3
HOPE Hope Point 146.64 177 *e*PKPdf PKPdf 15 47 00.2 +0.6
HOPE LR LR
comp=Z,6μm,22.0s,MS6.4
LPAZ La Paz 147.17 88 PKPbc PKPbc 15 47 02.7 -0.1
comp=Z,197nm,0.8s,baz=300,slow=2.7,SNR=123
LPAZ La Paz 147.17 88 *e*PKPdf PKPdf 15 47 01.8 +1.3
LPAZ *e*PKPbc PKPbc 15 47 04.8 +2.0
LPAZ LR LR
comp=Z,4μm,22.0s,MS6.1
LVC Limon Verde 147.38 99 PKPbc PKPbc 15 47 02.7 -0.6
comp=Z,102nm,0.7s,baz=268,slow=3.8,SNR=91
LVC Limon Verde 147.38 99 *e*PKPdf PKPdf 15 47 02.7 +1.9
LVC LR LR
comp=Z,3μm,20.0s,MS6.0
CFAA Coronel Fontan 147.46 116 PKPbc PKPbc 15 47 01.5 -2.0
comp=Z,21nm,0.8s,baz=261,slow=2.8,SNR=182
TRQA Tornquist 150.28 131 *e*PKPdf PKPdf 15 47 05.0 -0.5
TRQA *e*PKPbc PKPbc 15 47 10.1 -0.7
TRQA LR LR
comp=Z,3μm,20.0s,MS6.1
SIV San Ignacio 153.68 84 PKP PKPdf 15 47 11.3 +0.7
comp=Z,20nm,0.9s,baz=254,slow=1.1,SNR=53
SIV PKPbc PKPbc 15 47 19.1 +0.7
comp=Z,15nm,0.7s,baz=267,slow=3.2,SNR=14
ASCN Ascension 157.21 302 PFAKE 15 47 30.0 +15
ASCN LR LR
comp=Z,3μm,21.0s,MS6.1
CPUP Villa Florida 157.79 109 *e*PKIKP PKPdf 15 47 15.8 -0.3
CPUP MLR MLR
comp=Z,855nm,22.0s
BDFB Brasilia 165.50 71 PKP PKPdf 15 47 25.2 +1.1
comp=Z,14nm,0.8s,baz=318,slow=1.5,SNR=14
BDFB PKPab PKPab 15 48 23.1 +0.5
comp=Z,23nm,1.0s,baz=223,slow=0.3,SNR=4.0

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*LDG **14** 15:40:40.9±0.4,31.16N×9523E,h10km,Mb4.9/13,Error ellipse: s-maj=15.7km s-min=4.7km az=134.0*
*IDC **14** 15:40:49.9±8.5,3172N×9511E,h33km±64km,mb4.2/20, mb1 4.3/22,mb1mx4.2/29,mbtmp4.3/22,ML3.6/2,Error ellipse: s-maj=20.4km s-min=13.2km az=38.0*
*ISCJB **14** 15:40:49.9±0.8,3170N±004×9494E±004,h49km±8km, mb4.6/38,MS5.0/1,Error ellipse: s-maj=7.4km s-min=4.9km az=158.1*
*MOS **14** 15:40:50.4±1.0,3164N×9504E,h56km,mb4.7/21,Error ellipse: s-maj=10.9km s-min=8.4km az=70.0*
*BJI **14** 15:40:51.7,3173N×9506E,h56km,mB5.4,mb4.6,ML4.4, Ms5.3,Msz4.8*
*NEIC **14** 15:40:52.3±0.9,3167N×9497E,h55km±9km,mb4.5/5, Error ellipse: s-maj=9.7km s-min=7.7km az=161.0*
ISC 14 15:40:52.4±0.6,3175N±005×9493E±004,h53km±7km, n101,σ1§03/107,mb4.6/38,MS5.0/1,1D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.84**	**239**	*e*P	**Pn**	**15 41 50.3**	**+1.3**
LSA	**Lhasa**	**3.84**	**239**	*e*P	**Pn**	**15 41 51.7**	**+2.7**
SHL	**Shillong**	**6.72**	**204**	*e*P	**Pn**	**15 42 27.0**	**-1.4**
SHL				*e*S	**Sn**	**15 43 42.0**	**-1.6**
CD2	**Chengdu**	**7.60**	**94**	*e*P	**Pn**	**15 42 41.1**	**+0.5**
CD2				S	**Sn**	**15 44 06.8**	**+1.5**
JIRN	**Jiri**	**8.62**	**244**	*e*P	**Pn**	**15 42 55.8**	**+1.3**
30nm,0.6s							
GUN	**Gumba**	**8.74**	**246**	*e*P	**Pn**	**15 42 56.5**	**+0.4**
39nm,0.4s							
KKN	**Kakani**	**9.27**	**247**	*e*P	**Pn**	**15 43 02.6**	**-0.7**
34nm,0.5s							
KKN	**Kakani**	**9.27**	**247**	*e*P	**Pn**	**15 43 02.6**	**-0.7**
KKN				pmax	pmax		
comp=Z,17nm,0.5s							
PKI	**Pulchoki**	**9.27**	**246**	*e*P	**Pn**	**15 43 02.8**	**-0.6**
comp=Z,30nm,0.5s							
PKI	**Pulchoki**	**9.27**	**246**	*e*P	**Pn**	**15 43 02.8**	**-0.6**
PKI				pmax	pmax		
comp=Z,15nm,0.5s							
DMN	**Daman**	**9.48**	**247**	*e*P	**Pn**	**15 43 06.1**	**-0.2**
comp=Z,52nm,0.8s							
KMI	**Kunming**	**9.53**	**132**	P	**Pn**	**15 43 10.6**	**+3.6**
KMI				PP		15 43 19.5	
KMI				S	**Sn**	**15 44 54.3**	**+1.7**
KMI				AMB	AMB		
comp=Z,11nm,0.9s							
KMI				LR	LR		
comp=Z,2μm,12.2s							
GKN	**Gorkha**	**9.68**	**250**	*e*P	**Pn**	**15 43 06.9**	**-2.1**
comp=Z,42nm,0.9s							
KOLN	**Koldanda**	**10.61**	**251**	*e*P	**Pn**	**15 43 20.3**	**-1.4**
comp=Z,28nm,0.8s							
ENH	**Enshi**	**12.58**	**93**	P	**Pn**	**15 43 49.7**	**+1.1**
WMQ	**Urumqi**	**13.33**	**337**	*e*P	**Pn**	**15 44 04.0**	**+5.2**
WMQ				AP		15 44 15.0	
WMQ				S	**Sn**	**15 46 32.0**	**+6.6**
WMQ				AMB	AMB		
comp=Z,51nm,1.0s							
WMQ				LR	LR		
comp=N,2μm,6.0s							
WMQ				LR	LR		
comp=E,5μm,6.0s							
WMQ				LR	LR		
comp=Z,2μm,6.0s							
HHC	**Hu-ho-hao-te**	**16.18**	**51**	⇓P	**Pn**	**15 44 35.6**	**-0.5**
HHC				AP	pP	15 44 47.1	-3.2
HHC				PP		15 44 52.5	
HHC				S	**S**	**15 47 30.8**	**-14**
HHC				XS	sS	15 47 48.8	-15
HHC				SS		15 47 52.3	
HHC				PCP	PcP	15 49 31.3	+2.8
HHC				AMB	AMB		
comp=Z,15nm,1.6s							
HHC				AMB	AMB		
comp=Z,3μm,7.2s							
HHC				LR	LR		
comp=N,7μm,17.1s							
HHC				LR	LR		
comp=E,6μm,16.2s							
HHC				LR	LR		
comp=Z,3μm,15.3s							
MK31	**Makanchi Array**	**17.89**	**331**	*e*P	**Pn**	**15 45 00.3**	**+2.9**
MKAR	**Makanchi Array**	**17.89**	**331**	P	**Pn**	**15 44 56.1**	**-1.3**
comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=3.4							
SONM	**Songino Array**	**18.29**	**25**	P	**Pn**	**15 45 00.1**	**-2.1**
comp=Z,0.4nm,0.3s,baz=203,slow=12,SNR=9.2							
QIZ	**Qiongzhong**	**18.47**	**130**	*e*P	**Pn**	**15 45 06.3**	**+1.8**
ULN	**Ulaanbaatar**	**18.56**	**26**	*e*P	**Pn**	**15 45 05.2**	**-0.3**
ULN				pmax	pmax		
comp=Z,4.0nm,0.7s							
ULN	**Ulaanbaatar**	**18.56**	**26**	*e*P	**Pn**	**15 45 05.2**	**-0.3**
comp=Z,4.0nm,0.7s							
BJT	**Baijiatuau**	**19.05**	**58**	P	**Pn**	**15 45 10.4**	**-1.1**
HYB	**Hyderabad**	**20.59**	**230**	*i* P	**P**	**15 45 26.0**	**-0.9**
HYB	**Hyderabad**	**20.59**	**230**	*e*P	**P**	**15 45 26.0**	**-0.9**
HIA	**Hailar**	**25.55**	**40**	*e*P	**P**	**15 46 16.1**	**-0.1**
CN2	**Changchun**	**26.80**	**55**	*e*P	**P**	**15 46 26.5**	**-1.0**
CN2				*e*AP	pP	15 46 44.0	+3.1
CN2				*e*S	**S**	**15 50 54.5**	**-5.4**
CN2				AMB	AMB		
comp=Z,20nm,1.3s,mb4.5							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,3μm,18.0s,MS5.1							
CN2				LR	LR		
comp=E,4μm,18.0s,MS5.1							
CN2				LR	LR		
comp=Z,3μm,19.0s,MS4.8							
BVAR	**Borovoye Array**	**27.69**	**327**	P	**P**	**15 46 36.8**	**+1.4**
comp=Z,14nm,1.0s,mb4.5,baz=100,slow=9.0,SNR=11							
BVAR	**Borovoye Array**	**27.69**	**327**	P	**P**	**15 46 36.8**	**+1.3**
BVAR				pmax	pmax		
comp=Z,14nm,1.0s							
BRVK	**Borovoye**	**27.76**	**327**	*e*P	**P**	**15 46 39.2**	**+3.1**
BRVK				pmax	pmax		
comp=Z,19nm,1.2s,mb4.6							
BRVK	**Borovoye**	**27.76**	**327**	*e*P	**P**	**15 46 39.2**	**+3.1**
comp=Z,19nm,1.2s,mb4.6							
YAK	**Yakutsk**	**37.64**	**26**	*e*P	**P**	**15 48 01.0**	**-1.2**
ASAJ	**Asahikawa**	**39.06**	**58**	P	**P**	**15 48 12.8**	**-1.4**
comp=Z,12nm,0.7s,mb4.7,baz=281,slow=6.1,SNR=11							
ASAJ	**Asahikawa**	**39.06**	**58**	P	**P**	**15 48 12.8**	**-1.4**
ASAJ				pmax	pmax		
comp=Z,12nm,0.7s							
MIB	**Mutribah**	**40.68**	**280**	*e*P	**P**	**15 48 28.7**	**+1.1**
MIB				AMb	AMB	15 48 32.5	
comp=Z,50nm,0.8s,mb5.2							
RDF	**Al-Radifah**	**40.74**	**279**	*e*P	**P**	**15 48 28.9**	**+0.9**
RDF				AMb	AMB	15 48 32.9	
comp=Z,47nm,0.8s,mb5.2							
NAY	**Al-Naaiem**	**40.91**	**279**	*e*P	**P**	**15 48 30.4**	**+0.9**
NAY				AMb	AMB	15 48 34.4	
comp=Z,32nm,0.8s,mb5.0							
BRTR	**Keskin Array B**	**49.53**	**297**	P	**P**	**15 49 38.8**	**+1.0**
comp=Z,2.1nm,0.8s,mb4.2,baz=90,slow=7.4,SNR=5.6							
BRTR	**Keskin Array B**	**49.53**	**297**	P	**P**	**15 49 38.8**	**+1.0**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**51.16**	**312**	P	**P**	**15 49 50.2**	**0.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=74,slow=7.0,SNR=7.8							
AKASG	**Malin Array Be**	**51.16**	**312**	P	**P**	**15 49 50.2**	**+0.1**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**51.16**	**312**	P	**P**	**15 49 50.2**	**0.0**
FINES	**FINESS Array B**	**52.63**	**326**	P	**P**	**15 50 01.5**	**+0.5**
comp=Z,3.9nm,1.1s,mb4.2,baz=76,slow=7.9,SNR=5.0							
FINES	**FINESS Array B**	**52.63**	**326**	P	**P**	**15 50 01.5**	**+0.5**
FINES				pmax	pmax		
comp=Z,4.0nm,1.1s							
ARCES	**ARCESS Array B**	**53.45**	**336**	P	**P**	**15 50 07.3**	**+0.3**
comp=Z,6.0nm,1.0s,mb4.5,baz=56,slow=4.4,SNR=4.6							
ARCES				PcP	PcP	15 51 13.4	-0.2
comp=Z,4.2nm,0.9s,baz=90,slow=6.1,SNR=5.3							
ARCES	**ARCESS Array B**	**53.45**	**336**	P	**P**	**15 50 07.3**	**+0.2**
ARCES						15 51 13.4	
ARCES				pmax	pmax		
comp=Z,6.0nm,1.0s							
ARCES				pmax	pmax		
comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**53.45**	**336**	P	**P**	**15 50 07.3**	**+0.3**
ARCES				PcP	PcP	15 51 13.4	-0.2
MLR	**Muntele Rosu**	**54.05**	**306**	P	**P**	**15 50 13.1**	**+1.6**
comp=Z,9.0nm,0.9s,mb4.7,baz=89,slow=4.5,SNR=5.9							
MLR	**Muntele Rosu**	**54.05**	**306**	P	**P**	**15 50 13.1**	**+1.7**
MLR				pmax	pmax		
comp=Z,9.0nm,0.9s							
IDI	**Anoyia**	**57.38**	**294**	P	**P**	**15 50 35.8**	**+0.5**
comp=Z,4.0nm,0.4s,mb4.8,baz=60,slow=14,SNR=6.4							
NOA	**NORSAR Array B**	**59.81**	**326**	P	**P**	**15 50 51.4**	**-0.8**
comp=Z,1.9nm,0.9s,mb4.1,baz=78,slow=6.8,SNR=3.9							
NOA	**NORSAR Array B**	**59.81**	**326**	P	**P**	**15 50 51.4**	**-0.8**
NOA				pmax	pmax		
comp=Z,2.0nm,0.9s							
NOA	**NORSAR Array B**	**59.81**	**326**	P	**P**	**15 50 51.4**	**-0.8**
CLL	**Collm**	**61.13**	**315**	*e*P	**P**	**15 51 02.0**	**+0.8**
GERES	**GERESS Array B**	**61.38**	**312**	P	**P**	**15 51 03.8**	**+0.9**
comp=Z,1.3nm,0.6s,mb4.2,baz=76,slow=5.5,SNR=6.9							
GERES	**GERESS Array B**	**61.38**	**312**	P	**P**	**15 51 03.8**	**+0.9**
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
KMBO	**Kilima Mbogo**	**63.56**	**251**	P	**P**	**15 51 18.1**	**+0.6**
comp=Z,2.0nm,0.7s,mb4.2,baz=43,slow=5.7,SNR=4.5							
KMBO	**Kilima Mbogo**	**63.56**	**251**	P	**P**	**15 51 18.1**	**+0.6**
KMBO				pmax	pmax		
comp=Z,2.0nm,0.7s							
WRAB	**Tennant Creek**	**63.79**	**138**	*e*P	**P**	**15 51 18.8**	**-0.2**
WRAB				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.4							
WRAB	**Tennant Creek**	**63.79**	**138**	*e*P	**P**	**15 51 18.8**	**-0.2**
comp=Z,4.4nm,1.1s,mb4.4							
WRA	**Warramunga Arr**	**63.79**	**138**	P	**P**	**15 51 18.5**	**-0.4**
comp=Z,4.6nm,0.8s,mb4.5,baz=330,slow=7.3,SNR=23							
WRA	**Warramunga Arr**	**63.79**	**138**	P	**P**	**15 51 18.5**	**-0.5**
WRA				pmax	pmax		
comp=Z,5.0nm,0.8s							
HINF	**Hinteralfeld**	**66.03**	**313**	*e*P	**P**	**15 51 33.8**	**+0.2**
ASAR	**Alice Springs**	**66.53**	**141**	P	**P**	**15 51 36.5**	**-0.2**
comp=Z,3.3nm,0.8s,mb4.4,baz=325,slow=6.5,SNR=41							
ASAR	**Alice Springs**	**66.53**	**141**	P	**P**	**15 51 36.6**	**-0.2**
ASAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
PGF	**Pioggiola**	**66.58**	**307**	*e*P	**P**	**15 51 37.6**	**+0.6**
comp=Z,65nm,1.4s,mb5.2							
LPG	**La Plagne**	**66.96**	**310**	*e*P	**P**	**15 51 40.0**	**+0.5**
comp=Z,17nm,0.7s,mb4.9							
LPL	**La Plagne**	**66.97**	**310**	*e*P	**P**	**15 51 40.0**	**+0.5**
comp=Z,16nm,0.7s,mb4.9							
SBF	**Sospel**	**67.13**	**308**	*e*P	**P**	**15 51 41.1**	**+0.5**
comp=Z,30nm,0.8s,mb5.1							
MBDF	**Montbardon**	**67.24**	**309**	*e*P	**P**	**15 51 41.9**	**+0.6**
comp=Z,6.0nm,0.6s,mb4.5							
ORIF	**Oris-en-Rattie**	**67.75**	**310**	*e*P	**P**	**15 51 44.8**	**+0.3**
comp=Z,8.1nm,0.6s,mb4.6							
SMRF	**Simiane la Rot**	**68.33**	**309**	*e*P	**P**	**15 51 47.7**	**-0.4**
SMF	**Signal de Mont**	**68.38**	**312**	*e*P	**P**	**15 51 48.0**	**-0.4**
SSF	**Saint Saulge**	**68.42**	**313**	*e*P	**P**	**15 51 48.7**	**0.0**
VIVF	**Saint-Julien-l**	**68.57**	**310**	*e*P	**P**	**15 51 49.7**	**+0.1**
AVF	**Avril sur Loir**	**68.63**	**312**	*e*P	**P**	**15 51 49.5**	**-0.5**
comp=Z,13nm,1.1s,mb4.5							
TCF	**Toulx Ste Croi**	**69.56**	**312**	*e*P	**P**	**15 51 55.7**	**0.0**
comp=Z,11nm,0.8s,mb4.5							
CTA	**Charters Tower**	**71.24**	**129**	P	**P**	**15 52 05.7**	**-0.3**
comp=Z,8.0nm,0.9s,mb4.6,baz=254,slow=4.1,SNR=4.0							
CTA	**Charters Tower**	**71.24**	**129**	P	**P**	**15 52 05.7**	**-0.3**
CTA				pmax	pmax		
comp=Z,8.0nm,1.0s							
CTA	**Charters Tower**	**71.24**	**129**	P	**P**	**15 52 05.7**	**-0.3**
SGMF	**Saint Gilles**	**71.61**	**316**	*e*P	**P**	**15 52 08.0**	**-0.2**
ROSF	**Rostrenen**	**72.00**	**316**	*e*P	**P**	**15 52 10.2**	**-0.4**
comp=Z,105nm,1.3s,mb5.3							
COLA	**College**	**72.11**	**24**	*e*P	**P**	**15 52 10.3**	**-0.9**
COLA				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
COLA	**College**	**72.11**	**24**	*e*P	**P**	**15 52 10.3**	**-1.0**
comp=Z,7.1nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**72.50**	**23**	P	**P**	**15 52 12.2**	**-1.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=293,slow=5.5,SNR=23							
ILAR	**Eielson Array**	**72.50**	**23**	P	**P**	**15 52 12.3**	**-1.2**
ILAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
ETSF	**Etsaut**	**72.82**	**310**	*e*P	**P**	**15 52 15.3**	**-0.1**
comp=Z,15nm,0.8s,mb4.7							
PMR	**Palmer**	**73.64**	**27**	*e*P	**P**	**15 52 19.5**	**-0.8**
PMR				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
PMR	**Palmer**	**73.64**	**27**	*e*P	**P**	**15 52 19.5**	**-0.8**
comp=Z,5.6nm,0.7s,mb4.6							
SML	**Sawmill**	**73.81**	**26**	*e*P	**P**	**15 52 21.2**	**-0.1**
INK	**Inuvik**	**73.98**	**17**	P	**P**	**15 52 21.8**	**-0.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=324,slow=5.3,SNR=8.7							
INK	**Inuvik**	**73.98**	**17**	P	**P**	**15 52 21.8**	**-0.4**
INK				pmax	pmax		
comp=Z,3.0nm,0.7s							
INK	**Inuvik**	**73.98**	**17**	P	**P**	**15 52 21.8**	**-0.5**
STKA	**Stephens Creek**	**77.17**	**141**	P	**P**	**15 52 37.9**	**-2.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=33,slow=2.1,SNR=4.8							
YKA	**Yellowknife Ar**	**83.13**	**13**	P	**P**	**15 53 11.7**	**-0.8**
comp=Z,0.9nm,0.7s,mb3.9,baz=328,slow=4.8,SNR=9.0							
YKA	**Yellowknife Ar**	**83.13**	**13**	P	**P**	**15 53 11.7**	**-0.9**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**83.13**	**13**	P	**P**	**15 53 11.7**	**-0.9**
FRB	**Frobisher Bay**	**83.93**	**353**	P	**P**	**15 53 15.8**	**-0.8**
comp=Z,3.3nm,0.7s,mb4.6,baz=46,slow=19,SNR=3.1							
FRB	**Frobisher Bay**	**83.93**	**353**	P	**P**	**15 53 15.9**	**-0.8**
FRB				pmax	pmax		
comp=Z,3.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**85.89**	**283**	P	**P**	**15 53 27.9**	**+1.4**
comp=Z,3.8nm,0.7s,mb4.7,baz=51,slow=4.9,SNR=7.3							

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*ISCJB **14** 15:58:40.3±0.3, 1207N±008×8623W±008, h169km±3km, mb3.8/9, Error ellipse: s-maj=17.5km s-min=4.5km az=87.6*
*NEIC **14** 15:58:40.4±1.6, 1199N×8647W, h162km±14km, mb3.9/3, Error ellipse: s-maj=23.9km s-min=12.3km az=64.0*
*IDC **14** 15:58:42.7±6.7, 1205N×8634W, h180km±64km, mb3.5/8, mb1 3.6/10, mb1mx3.4/23, mbtmp4.1/10, Error ellipse: s-maj=42.2km s-min=12.7km az=73.0*
*CASC **14** 15:58:42.2±2.6, 1187N×8643W, h146km±10km, MD4.1, mb3.9(NEIC)*
ISC 14 15:58:41.5±0.3, 1207N±008×8623W±008, h161km±3km, n52, σ0§97/58, mb3.8/9, 11C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**0.03**	**182⇑**	*e*P	**Pn**	**15 59 02.8**	**-0.1**
MGAN	**Managua**	**0.08**	**348⇑**	*e*P	**Pn**	**15 59 02.8**	**-0.1**
WILN	**Americas 2**	**0.10**	**24⇑**	*e*P	**Pn**	**15 59 02.9**	**+0.1**
MASN	**Masaya**	**0.11**	**135**	*e*P	**Pn**	**15 59 02.1**	**-0.8**
XAVN	**Gruta Xavier**	**0.12**	**311⇑**	*e*P	**Pn**	**15 59 02.6**	**-0.3**
APYN	**Apoyeque**	**0.20**	**325**	*e*P	**Pn**	**15 59 02.9**	**-0.1**
APON	**Apoyo**	**0.22**	**133⇑**	*e*P	**Pn**	**15 59 02.8**	**-0.3**
COPN	**Copaltepe**	**0.37**	**288⇓**	*e*P	**Pn**	**15 59 02.8**	**-0.7**
MOMJ	**Momotombo**	**0.46**	**318⇑**	*e*P	**Pn**	**15 59 03.6**	**-0.3**
MIRN	**Miramar**	**0.60**	**308⇓**	*e*P	**Pn**	**15 59 04.4**	**-0.2**
CNGN	**Cerro Negro**	**0.63**	**313⇑**	*e*P	**Pn**	**15 59 04.6**	**-0.1**
LEON	**Leon**	**0.73**	**298**	*e*P	**Pn**	**15 59 04.4**	**-1.0**
CONN	**Concepcion**	**0.77**	**130⇑**	*e*P	**Pn**	**15 59 05.3**	**-0.3**
TEL3	**Telica 3**	**0.78**	**310⇑**	*e*P	**Pn**	**15 59 05.8**	**+0.2**
TEL3				*i* P		15 59 05.8	
TELN	**Telica**	**0.80**	**312⇓**	*e*P	**Pn**	**15 59 06.1**	**+0.4**
MADN	**Villa Maderas**	**0.94**	**134**	*e*P	**Pn**	**15 59 06.1**	**-0.7**
CRIN	**San Cristobal**	**1.02**	**308⇑**	*e*P	**Pn**	**15 59 07.5**	**+0.1**
VCR	**Vista de Mar**	**2.02**	**163**	*e*P	**Pn**	**15 59 16.9**	**-0.5**
JTS	**JuntasAbangare**	**2.16**	**144**	*e*Pn	**Pn**	**15 59 18.6**	**-0.5**
JTS				*e*Sn	**Sn**	**15 59 45.9**	**-2.3**
VACR	**Volcan Arenal**	**2.20**	**136**	*e*P	**Pn**	**15 59 19.9**	**+0.4**
BLLM	**Bellamira**	**2.39**	**305**	*e*P	**Pn**	**15 59 36.8**	**+15**
BLLM				*e*S	**Sn**	**16 00 08.9**	**+16**
VSM	**San Miguel**	**2.41**	**304**	*e*P	**Pn**	**15 59 38.7**	**+17**
VSM				*e*S	**Sn**	**16 00 09.7**	**+16**
CAO	**Cobano**	**2.60**	**155**	*e*P	**Pn**	**15 59 23.6**	**-0.7**
EPA	**Esparza**	**2.62**	**142⇓**	*e*P	**Pn**	**15 59 25.7**	**+1.2**
CGA2	**Cerro Gallo 2**	**2.67**	**139**	*e*P	**Pn**	**15 59 25.9**	**+0.7**
CGA2				*e*S	**Sn**	**15 59 58.4**	**-0.7**
PRS1	**Puriscal**	**2.80**	**137**	*e*P	**Pn**	**15 59 28.6**	**+1.8**
PRS1				*e*S	**Sn**	**16 00 04.0**	**+2.3**
LAJ	**Bijagual**	**3.01**	**136⇓**	*e*P	**Pn**	**15 59 27.8**	**-1.6**
LCR2	**La Lucha 2**	**3.18**	**136⇓**	*e*P	**Pn**	**15 59 32.1**	**+0.6**
BUS	**Buena Vista**	**3.48**	**136⇑**	*e*P	**Pn**	**15 59 37.3**	**+1.9**
BUS				*e*S	**Sn**	**16 00 18.0**	**+0.9**
SBLS	**San Blas**	**3.75**	**298**	*e*P	**Pn**	**15 59 54.6**	**+16**
SBLS				*e*S	**Sn**	**16 00 36.8**	**+14**
RTR	**El Retiro**	**3.79**	**299**	*e*P	**Pn**	**15 59 55.2**	**+16**
RTR				*e*S	**Sn**	**16 00 38.2**	**+14**
ACR	**Cerro Adams**	**4.54**	**138**	*e*P	**Pn**	**15 59 49.1**	**+0.1**
IXG	**Ixpaco**	**4.62**	**297**	*e*P	**Pn**	**15 59 51.2**	**+1.2**
IXG				*e*S	**Sn**	**16 00 43.1**	**-0.4**
TP2	**Tecpan 2**	**5.39**	**301**	*e*P	**Pn**	**16 00 03.0**	**+2.8**
TP2				*e*S	**Sn**	**16 01 03.2**	**+1.5**
ROSC	**El Rosal**	**13.77**	**120**	P	**Pn**	**16 01 54.0**	**+3.9**
0.5nm,0.3s,baz=107,slow=19,SNR=2.6							
SDV	**Santo Domingo**	**15.66**	**100**	P	**Pn**	**16 02 14.6**	**+1.1**
0.3nm,0.3s,baz=188,slow=1.3,SNR=6.3							
SDV	**Santo Domingo**	**15.66**	**100**	*e*P	**Pn**	**16 02 14.7**	**+1.3**
7.4nm,0.7s							
SAML	**Samuel**	**31.00**	**131**	*e*P	**P**	**16 04 42.5**	**-1.2**
2.5nm,0.8s,mb4.0							
SADO	**Sadowa**	**33.15**	**9**	P	**P**	**16 05 02.9**	**+0.4**
4.2nm,0.5s,mb4.4,baz=211,slow=5.8,SNR=3.5							
LPAZ	**La Paz**	**33.38**	**147**	P	**P**	**16 05 04.7**	**+0.2**
0.8nm,0.6s,mb3.6,baz=15,slow=5.9,SNR=4.3							
LPAZ	**La Paz**	**33.38**	**147**	*e*P	**P**	**16 05 04.6**	**+0.1**
0.9nm,0.6s,mb3.7							
SIV	**San Ignacio**	**37.37**	**138**	P	**P**	**16 05 37.8**	**-0.8**
4.5nm,0.6s,mb4.3,baz=314,slow=8.9,SNR=26							
NVAR	**Mina Array Bea**	**38.78**	**318**	P	**P**	**16 05 49.5**	**-0.8**
0.5nm,0.6s,mb3.3,baz=125,slow=6.4,SNR=3.5							
SCHQ	**Schefferville**	**45.31**	**16**	P	**P**	**16 06 43.1**	**-0.1**
4.3nm,0.8s,mb4.1,baz=263,slow=3.2,SNR=8.7							
CFAA	**Coronel Fontan**	**46.72**	**159**	P	**P**	**16 06 54.1**	**-0.1**
0.2nm,0.4s,mb3.1,baz=333,slow=9.0,SNR=5.5							
YKA	**Yellowknife Ar**	**54.30**	**344**	P	**P**	**16 07 48.6**	**-2.4**
0.2nm,0.6s,mb3.0,baz=136,slow=7.7,SNR=4.8							
YKA				pP	pP	16 08 27.9	+0.1
0.7nm,0.8s,baz=142,slow=7.3,SNR=4.7							
YKA	**Yellowknife Ar**	**54.30**	**344**	P	**P**	**16 07 48.6**	**-2.4**
YKA				pP	pP	16 08 27.9	+0.1
PLCA	**Paso Flores**	**54.50**	**165**	P	**P**	**16 07 52.5**	**0.0**
4.1nm,0.6s,mb4.3,baz=335,slow=8.6,SNR=14							
PMG	**Port Moresby**	**127.54**	**267**	PKP	PKPdf	16 17 26.0	-1.4
4.8nm,0.9s,baz=162,slow=3.2,SNR=3.5							
STKA	**Stephens Creek**	**131.91**	**238**	PKP	PKPdf	16 17 34.7	-0.9
1.7nm,0.6s,baz=110,slow=3.0,SNR=7.8							
**AS

OFUJ	**Ofunato**	**7.26**	**234**	P	**Pn**	**16 08 46.3 +1.1**
OFUJ				*e*S	**Sn**	**16 10 05.0 -1.4**
JOSM	**Okushiri--Mats**	**7.32**	**261**	P	**Pn**	**16 08 46.7 +0.7**
JRG	**Rokugo**	**7.70**	**240**	P	**Pn**	**16 08 53.1 +1.9**
JRG				*e*S	**Sn**	**16 10 18.0 +0.9**
JIO	**Ouri**	**7.87**	**232**	P	**Pn**	**16 08 54.4 +0.9**
JIO				*e*S	**Sn**	**16 10 19.2 -2.1**
JFK	**Kawauchi**	**8.90**	**228**	P	**Pn**	**16 09 08.8 +1.0**
JFK				*e*S	**Sn**	**16 10 46.1 -0.7**
SONM	**Songino Array**	**29.90**	**293**	P	**P**	**16 13 02.6 -3.4**
comp=E,0.5nm,0.4s,mb3.6,baz=81,slow=7.8,SNR=7.2						
SONM	**Songino Array**	**29.90**	**293**	P	**P**	**16 13 02.6 -3.4**
SONM				pmax	pmax	
comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**40.71**	**36**	P	**P**	**16 14 37.1 -1.7**
comp=Z,0.6nm,0.8s,mb3.2,baz=259,slow=5.3,SNR=6.4						
ILAR	**Eielson Array**	**40.71**	**36**	P	**P**	**16 14 37.2 -1.6**
ILAR				pmax	pmax	
comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.97**	**298**	P	**P**	**16 15 16.9 -4.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=72,slow=6.0,SNR=9.3						
MKAR	**Makanchi Array**	**45.97**	**298**	P	**P**	**16 15 16.9 -4.3**
MKAR				pmax	pmax	
comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.66**	**334**	P	**P**	**16 17 36.2 -6.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=27,slow=8.5,SNR=5.6						
FINES	**FINESS Array B**	**65.66**	**334**	P	**P**	**16 17 36.2 -6.1**
FINES				pmax	pmax	
comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**70.25**	**340**	P	**P**	**16 18 04.8 -6.4**
comp=Z,0.7nm,0.5s,mb3.9,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**70.25**	**340**	P	**P**	**16 18 05.5 -5.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=29,slow=6.5,SNR=4.7						
NOA	**NORSAR Array B**	**70.25**	**340**	P	**P**	**16 18 05.5 -5.7**
NOA				pmax	pmax	
comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.56**	**325**	P	**P**	**16 18 19.6 -5.5**
comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=5.6,SNR=6.1						
AKASG	**Malin Array Be**	**72.56**	**325**	P	**P**	**16 18 19.6 -5.5**
AKASG				pmax	pmax	
comp=Z,1.0nm,0.4s						

*CRAAG **14** 16:24:19.8,3677N×343E,Ml3.7*
*CSEM **14** 16:24:20.2±0.2,3686N×345E,h2km,ML3.4/16,Error ellipse: s-maj=6.1km s-min=5.0km az=37.0*
*MDD **14** 16:24:20.5±0.4,3682N×343E,h0km,mb4.3/15,Error ellipse: s-maj=6.7km s-min=4.1km az=36.0,PRXIMO*
*ISCJB **14** 16:24:20.4±0.4,3705N±003×335E±003,h10km,Error ellipse: s-maj=4.4km s-min=3.5km az=68.7*
*NEIC **14** 16:24:22.5,3696N×338E,h0km,MG4.2(MDD),After MDD.*
*LDG **14** 16:24:23.1±0.3,3687N×350E,h10km,Ml3.3/4,Error ellipse: s-maj=6.7km s-min=3.6km az=160.0*

ISC 14 16:24:22.3±0.4,3701N±003×332E±003,h10km,n78,σ1§31/123,7C-3D,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.29**	**154**	P	**Pg**	**16 24 21.5**	**-6.6**
ABA	**Alger-Bouzarea**	**0.31**	**228**	P	**Pg**	**16 24 27.0**	**-1.5**
AKF	**Akfadou**	**1.07**	**110**	P	**Pg**	**16 24 38.0**	**-4.8**
ECHA	**Ech Chlef**	**1.79**	**242**	P	**Pn**	**16 24 56.0**	**+2.7**
ECHF	**Ech Chlef**	**1.81**	**242**	P	**Pn**	**16 24 56.0**	**+2.5**
SET	**Setif**	**1.86**	**115**	P	**Pn**	**16 24 54.0**	**-0.1**
CKHR	**Kef el Ahmar**	**2.02**	**119**	P	**Pn**	**16 24 57.0**	**+0.6**
EANR	**'Ain N'Sour**	**2.08**	**240**	P	**Pn**	**16 24 56.3**	**-0.9**
DFRA	**Djebel Bou Aff**	**2.10**	**102**	P	**Pn**	**16 24 54.0**	**-3.5**
ETRT	**Tiaret**	**2.30**	**226**	P	**Pn**	**16 24 56.6**	**-3.6**
CMER	**Merouana**	**2.50**	**123**	P	**Pn**	**16 25 01.0**	**-2.0**
EIBI	**Ibiza**	**2.55**	**323**	P	**Pn**	**16 25 04.3**	**+0.7**
11nm,0.2s,SNR=29							
EIBI				S	**Sn**	**16 25 34.6**	**-0.1**
79nm,0.3s,SNR=6.5							
EIBI				T		16 27 10.1	
EIBI	**Ibiza**	**2.55**	**323**	Pn	**Pn**	**16 25 04.3**	**+0.7**
11nm,0.2s,SNR=29							
EIBI				Sn	**Sn**	**16 25 35.7**	**+1.1**
EIBI	**Ibiza**	**2.55**	**323**	Pn	**Pn**	**16 25 04.3**	**+0.7**
EIBI				Sn	**Sn**	**16 25 35.7**	**+1.0**
CASM	**Ain Smara**	**2.66**	**106**	P	**Pn**	**16 25 09.0**	**+3.9**
CTEI	**Djebel Teioual**	**2.66**	**110**	P	**Pn**	**16 25 10.0**	**+4.9**
ETOS	**Mallorca**	**2.78**	**352**	⇓P	**Pn**	**16 25 07.4**	**+0.6**
10.0nm,0.2s,SNR=18							
ETOS				S	**Sn**	**16 25 39.6**	**-0.7**
11nm,0.2s,SNR=7.9							
ETOS				T		16 27 10.7	
ETOS	**Mallorca**	**2.78**	**352**	Pn	**Pn**	**16 25 07.4**	**+0.6**
10.0nm,0.2s,SNR=18							
ETOS				Sn	**Sn**	**16 25 40.9**	**+0.5**
EBEN	**Beniarda**	**3.27**	**302**	⇑P	**Pn**	**16 25 14.1**	**+0.5**
2.4nm,0.2s,SNR=18							
EBEN				S	**Sn**	**16 25 50.5**	**-2.1**
17nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**3.27**	**302**	Pn	**Pn**	**16 25 14.1**	**+0.5**
2.4nm,0.2s,SNR=18							
EBEN				Sn	**Sn**	**16 25 51.8**	**-0.8**
EBEN	**Beniarda**	**3.27**	**302**	⇑Pn	**Pn**	**16 25 14.1**	**+0.5**
EBEN				Sn	**Sn**	**16 25 51.8**	**-0.8**
CMAH	**Djebel Manchou**	**3.31**	**96**	P	**Pn**	**16 25 12.0**	**-2.1**
EMUR	**La Murta**	**3.73**	**284**	S	**Sn**	**16 26 02.4**	**-1.3**
7.7nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**3.73**	**284**	Sn	**Sn**	**16 26 02.4**	**-1.3**
7.7nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.18**	**294**	⇓P	**Pn**	**16 25 27.5**	**+1.3**
6.4nm,0.2s,SNR=18							
ETOB				S	**Sn**	**16 26 14.4**	**-0.7**
9.5nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.18**	**294**	Pn	**Pn**	**16 25 27.5**	**+1.4**
6.4nm,0.2s,SNR=18							
ETOB				Sn	**Sn**	**16 26 14.4**	**-0.7**
9.5nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.18**	**294**	⇓Pn	**Pn**	**16 25 27.5**	**+1.3**
ETOB				Sn	**Sn**	**16 26 15.8**	**+0.7**
ECHE	**Chera**	**4.24**	**309**	⇑P	**Pn**	**16 25 28.6**	**+1.7**
12nm,0.2s,SNR=18							
ECHE				S	**Sn**	**16 26 17.1**	**+0.6**
8.8nm,0.4s,SNR=7.9							
ECHE	**Chera**	**4.24**	**309**	⇑Pn	**Pn**	**16 25 28.7**	**+1.8**
ECHE				Sn	**Sn**	**16 26 17.4**	**+0.8**
EBR	**Ebro Roquetas**	**4.39**	**331**	*e*Rs		16 25 58.5	
EBR	**Ebro Roquetas**	**4.39**	**331**	*e*SN	**Sn**	**16 26 24.5**	**+4.3**
ENIJ	**Nijar**	**4.43**	**271**	S	**Sn**	**16 26 18.7**	**-2.4**
6.2nm,0.3s,SNR=4.0							
EMOS	**Mosqueruela**	**4.47**	**320**	⇑P	**Pn**	**16 25 31.1**	**+1.0**
3.8nm,0.3s,SNR=18							
EMOS				S	**Sn**	**16 26 21.5**	**-0.6**
15nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**4.47**	**320**	⇑Pn	**Pn**	**16 25 31.2**	**+1.1**
EMOS				Sn	**Sn**	**16 26 21.5**	**-0.7**
15nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**4.47**	**320**	⇑Pn	**Pn**	**16 25 31.2**	**+1.1**
EMOS				Sn	**Sn**	**16 26 21.6**	**-0.6**
ERTA	**Horta de San J**	**4.57**	**330**	P	**Pn**	**16 25 32.2**	**+0.8**
0.7nm,0.1s,SNR=4.0							
ERTA				S	**Sn**	**16 26 23.2**	**-1.5**
5.6nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.57**	**330**	Pn	**Pn**	**16 25 32.2**	**+0.7**
0.7nm,0.1s,SNR=4.0							
ERTA				Sn	**Sn**	**16 26 23.2**	**-1.5**
5.6nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.67**	**339**	P	**Pn**	**16 25 34.0**	**+1.2**
3.3nm,0.2s,SNR=7.9							
EPOB				S	**Sn**	**16 26 25.8**	**-1.3**
5.0nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.67**	**339**	Pn	**Pn**	**16 25 34.0**	**+1.2**
3.3nm,0.2s,SNR=7.9							
EPOB				Sn	**Sn**	**16 26 26.7**	**-0.3**
EPOB	**Poblet**	**4.67**	**339**	Pn	**Pn**	**16 25 34.0**	**+1.2**
EPOB				Sn	**Sn**	**16 26 26.7**	**-0.4**
EBER	**Berja**	**4.98**	**271**	P	**Pn**	**16 25 35.4**	**-1.6**
2.5nm,0.3s,SNR=4.0							
EBER				S	**Sn**	**16 26 31.8**	**-2.8**
3.6nm,0.3s,SNR=7.9							
EBER	**Berja**	**4.98**	**271**	Pn	**Pn**	**16 25 37.3**	**+0.3**
EBER				Sn	**Sn**	**16 26 31.8**	**-2.8**
3.6nm,0.3s,SNR=7.9							
EBER	**Berja**	**4.98**	**271**	Pn	**Pn**	**16 25 37.3**	**+0.3**
EBER				Sn	**Sn**	**16 26 34.8**	**+0.2**
EMIR	**Miracle**	**5.09**	**345**	P	**Pn**	**16 25 40.3**	**+1.8**
20nm,0.3s,SNR=9.4							
EMIR				S	**Sn**	**16 26 37.3**	**0.0**
21nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**5.09**	**345**	Pn	**Pn**	**16 25 40.3**	**+1.8**
EMIR				Sn	**Sn**	**16 26 37.3**	**0.0**
EQES	**Quesada**	**5.15**	**281**	P	**Pn**	**16 25 39.0**	**-0.4**
5.6nm,0.3s,SNR=4.0							
EQES				S	**Sn**	**16 26 38.6**	**-0.3**
13nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.15**	**281**	Pn	**Pn**	**16 25 40.6**	**+1.2**
EQES				Sn	**Sn**	**16 26 38.6**	**-0.3**
13nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.15**	**281**	Pn	**Pn**	**16 25 40.6**	**+1.2**
EQES				Sn	**Sn**	**16 26 40.1**	**+1.2**
EJON	**La Jonquera**	**5.44**	**357**	P	**Pn**	**16 25 44.5**	**+1.1**
4.2nm,0.2s,SNR=7.9							
EJON				S	**Sn**	**16 26 44.5**	**-1.4**
2.1nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**5.44**	**357**	Pn	**Pn**	**16 25 45.1**	**+1.8**
EJON				Sn	**Sn**	**16 26 43.8**	**-2.2**
2.1nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**5.44**	**357**	Pn	**Pn**	**16 25 45.1**	**+1.8**
ESAC	**San Caprasio**	**5.54**	**329**	P	**Pn**	**16 25 46.3**	**+1.5**
8.4nm,0.3s,SNR=4.0							
ESAC				S	**Sn**	**16 26 48.3**	**-0.3**
25nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**5.54**	**329**	Pn	**Pn**	**16 25 46.3**	**+1.5**
8.4nm,0.3s,SNR=4.0							
ESAC				Sn	**Sn**	**16 26 48.3**	**-0.3**
25nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**5.54**	**329**	Pn	**Pn**	**16 25 47.6**	**+2.8**
EBIE	**Bielsa**	**6.17**	**338**	P	**Pn**	**16 25 55.0**	**+1.6**
1.9nm,0.3s,SNR=7.2							
EBIE				S	**Sn**	**16 27 03.2**	**-0.8**
4.1nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**6.17**	**338**	Pn	**Pn**	**16 25 55.7**	**+2.3**
EBIE				Sn	**Sn**	**16 27 02.4**	**-1.6**
4.1nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**6.17**	**338**	Pn	**Pn**	**16 25 55.7**	**+2.3**
EBIE				Sn	**Sn**	**16 27 03.9**	**-0.1**
ESDC	**Sonseca Array**	**6.31**	**297**	P	**Pn**	**16 25 55.7**	**+0.3**
1.3nm,0.2s,baz=111,slow=14,SNR=4.0							
ESDC	**Sonseca Array**	**6.31**	**297**	Pn	**Pn**	**16 25 55.7**	**+0.3**
1.3nm,0.2s,SNR=4.0							
EPF	**Esparros**	**6.43**	**340**	*e*Pn	**Pn**	**16 25 58.7**	**+1.7**
EPF	**Esparros**	**6.43**	**340**	*e*P	**Pn**	**16 26 03.2**	**+6.2**
EPF				*e*Sn	**Sn**	**16 27 09.6**	**-0.8**
4.8nm,0.3s							
EPF	**Esparros**	**6.43**	**340**	*e*P	**Pn**	**16 26 03.2**	**+6.2**
EPF				*e*Sn	**Sn**	**16 27 09.6**	**-0.8**
2.4nm,0.3s							
FRF	**La Foret Royal**	**7.01**	**20**	*e*Pn	**Pn**	**16 26 04.3**	**-0.7**
FRF				*e*Sn	**Sn**	**16 27 21.1**	**-3.7**
3.7nm,0.2s							
FRF	**La Foret Royal**	**7.01**	**20**	*e*Pn	**Pn**	**16 26 04.3**	**-0.7**
FRF				*e*Sn	**Sn**	**16 27 21.1**	**-3.7**
1.9nm,0.2s							
SJPF	**Ste Jean**	**7.02**	**332**	*e*Pn	**Pn**	**16 26 05.9**	**+0.8**
SJPF				*e*Sn	**Sn**	**16 27 22.7**	**-2.2**
2.9nm,0.3s							
SJPF	**Ste Jean**	**7.02**	**332**	*e*Pn	**Pn**	**16 26 05.9**	**+0.8**
SJPF				*e*Sn	**Sn**	**16 27 22.7**	**-2.2**
1.5nm,0.3s							
PGF	**Pioggiola**	**7.05**	**37**	*e*Pn	**Pn**	**16 26 04.8**	**-0.6**
PGF				*e*Sn	**Sn**	**16 27 18.7**	**-6.9**
2.0nm,0.3s							
PGF	**Pioggiola**	**7.05**	**37**	*e*Pn	**Pn**	**16 26 04.8**	**-0.6**
PGF				*e*Sn	**Sn**	**16 27 18.7**	**-6.9**
1.0nm,0.3s							
EALK	**Alkurruntz**	**7.22**	**331**	P	**Pn**	**16 26 09.6**	**+1.8**
1.0nm,0.2s,SNR=7.9							
EALK				S	**Sn**	**16 27 27.5**	**-2.3**
8.8nm,0.3s,SNR=7.9							
SBF	**Sospel**	**7.53**	**23**	*e*Pn	**Pn**	**16 26 11.4**	**-0.6**
VIVF	**Saint-Julien-l**	**7.90**	**7**	*e*Pn	**Pn**	**16 26 17.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**8.13**	**13**	*e*P	**Pn**	**16 26 25.8**	**+5.5**
MBDF	**Montbardon**	**8.13**	**18**	*e*Pn	**Pn**	**16 26 20.4**	**0.0**
LPG	**La Plagne**	**8.86**	**16**	*e*Pn	**Pn**	**16 26 31.1**	**+0.8**
LPL	**La Plagne**	**8.87**	**16**	*e*Pn	**Pn**	**16 26 30.4**	**-0.1**
BGF	**Bois d'Agland**	**9.54**	**358**	*e*Pn	**Pn**	**16 26 41.1**	**+1.4**
SMF	**Signal de Mont**	**9.63**	**2**	*e*Pn	**Pn**	**16 26 40.4**	**-0.5**

*ISCJB **14** 16:30:39.3±4.9,805N±0.1×30W±05,h14km±33km,mb3.2/5,Error ellipse: s-maj=21.7km s-min=10.7km az=44.0*
*NEIC **14** 16:30:39.8±0.6,8032N×287W,h10km,Error ellipse: s-maj=19.7km s-min=10.3km az=177.0*
*IDC **14** 16:30:39.9±1.0,8069N×250W,h0km,mb3.4/6,mb1 3.6/7,mb1mx3.4/23,mbtmp3.5/7,ML3.3/1,Error ellipse: s-maj=32.5km s-min=19.7km az=52.0*

ISC 14 16:30:40.6±5.8,806N±01×25W±05,h11km±38km,n13,σ1§27/13,mb3.3/6,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.05**	**115**	*e*Pn	**Pn**	**16 31 27.6**	**-1.1**
KBS				Sn	**Sn**	**16 32 03.8**	**-1.4**
SUMG	**Summit**	**11.27**	**245**	*e*Pn	**Pn**	**16 33 19.9**	**-1.7**
22nm,0.6s							
ARCES	**ARCESS Array B**	**12.96**	**133**	Pn	**Pn**	**16 33 46.9**	**+2.3**
0.2nm,0.3s,baz=0.0,slow=9.7,SNR=4.6							
SFJD	**Kangerlussuaq**	**18.15**	**250**	P	**Pn**	**16 34 48.2**	**-4.4**
1.1nm,0.3s,baz=20,slow=9.3,SNR=5.9							
SFJD	**Kangerlussuaq**	**18.15**	**250**	*e*P	**Pn**	**16 34 48.5**	**-4.1**
HFS	**Hagfors**	**21.06**	**157**	P	**P**	**16 35 26.5**	**+1.9**
2.4nm,0.8s,mb3.6,baz=315,slow=8.2,SNR=3.3							
YKA	**Yellowknife Ar**	**32.37**	**307**	P	**P**	**16 37 10.0**	**0.0**
0.1nm,0.5s,mb2.9,baz=21,slow=9.0,SNR=3.9							
YKA	**Yellowknife Ar**	**32.37**	**307**	P	**P**	**16 37 10.0**	**0.0**
ILAR	**Eielson Array**	**33.53**	**333**	P	**P**	**16 37 20.7**	**+0.5**
0.3nm,0.9s,mb3.2,baz=0.0,slow=7.2,SNR=3.1							
MKAR	**Makanchi Array**	**43.37**	**85**	P	**P**	**16 38 43.2**	**+0.3**
0.3nm,0.6s,mb3.2,baz=344,slow=7.8,SNR=4.1							
SONM	**Songino Array**	**46.15**	**62**	P	**P**	**16 39 04.8**	**-0.3**
0.2nm,0.8s,mb3.1,baz=27,slow=3.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**67.46**	**176**	P	**P**	**16 41 37.3**	**+1.0**
0.5nm,0.6s,mb3.8,baz=349,slow=3.8,SNR=4.5							
ASAR	**Alice Springs**	**120.22**	**47**	PKP	PKPdf	16 49 29.6	-2.0
0.2nm,0.7s,baz=345,slow=2.1,SNR=5.0							

IDC 14 16:31:44.9±3.8,062S×13039E,h0km,mb3.9/3,mb1 4.1/4,mb1mx3.7/17,mbtmp3.9/4,ML4.1/1,Error ellipse: s-maj=310.7km s-min=22.6km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.59**	**169**	P	Pn	16 36 13.3	-2.5
0.6nm,0.3s,baz=348,slow=12,SNR=19							
ASAR	**Alice Springs**	**23.17**	**172**	P	P	16 36 54.4	+1.4
6.6nm,0.7s,baz=352,slow=12,SNR=49							
MKAR	**Makanchi Array**	**63.19**	**325**	P	P	16 42 15.0	+0.3
0.4nm,0.6s,baz=117,slow=8.1,SNR=5.9							
BVAR	**Borovoye Array**	**72.93**	**327**	P	P	16 43 15.9	-0.1
0.2nm,0.4s,baz=104,slow=5.9,SNR=4.0							

IDC 14 16:31:51.8±5.4,2394S×17937W,h474km±30km,mb3.3/4,mb1 3.5/4,mb1mx3.3/13,mbtmp4.3/4,Error ellipse: s-maj=109.7km s-min=55.8km az=155.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.05**	**270**	P	P	16 37 39.3	+1.0
4.8nm,0.4s,baz=81,slow=9.3,SNR=19							
STKA	**Stephens Creek**	**35.24**	**248**	P	P	16 38 04.0	-1.3
1.4nm,0.8s,baz=90,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**42.60**	**261**	P	P	16 39 05.5	+0.5
0.7nm,0.3s,baz=97,slow=7.3,SNR=10							
ASAR				ScP	ScP	16 43 51.6	-0.2
0.4nm,0.7s,baz=101,slow=4.8,SNR=5.9							
WRA	**Warramunga Arr**	**42.98**	**266**	P	P	16 39 07.8	-0.2
1.9nm,0.3s,baz=96,slow=8.3,SNR=14							
WRA				ScP	ScP	16 43 53.8	+0.5
0.4nm,0.7s,baz=102,slow=3.7,SNR=5.8							
HFS	**Hagfors**	**142.69**	**349**	PKP	PKPdf	16 50 29.2	-1.0
1.7nm,0.9s,baz=45,slow=2.2,SNR=5.5							

*IDC **14** 16:34:36.1±4.5,3565N×7186E,h0km,mb3.8/4,mb1 3.8/6,mb1mx3.4/24,mbtmp3.6/6,ML3.1/2,MS4.6/1,Ms1 4.6/1,ms1mx3.7/32,Error ellipse: s-maj=83.3km s-min=45.9km az=157.0*
*ISCJB **14** 16:35:05.0±2.3,376N±02×717E±0.1,h152km±18km,mb3.6/4,Error ellipse: s-maj=26.3km s-min=17.9km az=40.3*
*NNC **14** 16:35:06.8±8.5,3771N×7173E,h162km±165km,mb3.1,mpv4.2,Error ellipse: s-maj=96.3km s-min=46.1km az=10.0*

ISC 14 16:35:05.6±2.5,376N±02×717E±02,h150km±18km,n19,σ0§49/20,mb3.6/4,4C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.77**	**18**	P	**Pn**	**16 36 16.0**	**+0.1**
SNR=207							
UCH	**Uchtor**	**5.09**	**24**	P	**Pn**	**16 36 20.3**	**+0.1**
SNR=27							
KZA	**Kyzart**	**5.23**	**30**	P	**Pn**	**16 36 21.5**	**-0.5**
SNR=17							
EKS2	**Erkin-Say**	**5.29**	**17**	P	**Pn**	**16 36 23.2**	**+0.4**
SNR=23							
AAK	**Ala-Archa**	**5.45**	**22**	P	**Pn**	**16 36 25.5**	**+0.5**
SNR=64							
KK31	**Karatay Array**	**5.58**	**351**	P	**Pn**	**16 36 26.6**	**0.0**
8.8nm,0.3s,baz=160,slow=12,SNR=516							
KK31				⇑S	**Sn**	**16 37 29.3**	**-0.6**
9.3nm,0.3s							
KBK	**Karagaybulak**	**5.62**	**25**	P	**Pn**	**16 36 27.6**	**+0.4**
SNR=16							
ULHL	**Ulahol**	**5.79**	**35**	P	**Pn**	**16 36 28.6**	**-0.8**
SNR=15							
CHMS	**Chumysh**	**5.86**	**22**	P	**Pn**	**16 36 30.6**	**+0.2**
SNR=18							
TKM2	**Tokmak 2**	**6.08**	**28**	P	**Pn**	**16 36 33.5**	**+0.2**
SNR=19							
TKM2	**Tokmak 2**	**6.08**	**28**	⇑P	**Pn**	**16 36 33.2**	**-0.1**
12nm,0.6s							
TKM2				⇑S	**Sn**	**16 37 42.3**	**+0.4**
4.2nm,0.7s							
MKAR	**Makanchi Array**	**12.06**	**37**	Pn	**Pn**	**16 37 52.2**	**-0.3**
0.1nm,0.3s,baz=216,slow=12,SNR=8.4							
AB31	**Akbulak array**	**14.44**	**328**	⇑P	**Pn**	**16 38 22.4**	**-0.6**
0.8nm,0.7s,baz=165,slow=11,SNR=11							
BVAR	**Borovoye Array**	**15.45**	**357**	Pn	**Pn**	**16 38 35.9**	**+0.3**
0.1nm,0.3s,baz=156,slow=14,SNR=4.2							
FINES	**FINESS Array B**	**36.91**	**325**	P	**P**	**16 42 00.4**	**+0.6**
0.8nm,0.9s,mb3.3,baz=113,slow=11,SNR=3.8							
ARCES	**ARCESS Array B**	**40.36**	**337**	P	**P**	**16 42 29.2**	**+0.7**
5.1nm,0.9s,mb4.1,baz=113,slow=9.2,SNR=4.9							
HFS	**Hagfors**	**42.57**	**321**	P	**P**	**16 42 46.8**	**+0.2**
0.7nm,0.4s,mb3.6,baz=108,slow=14,SNR=5.3							
JMIC	**Jan Mayen**	**51.82**	**336**	LR	LR	17 09 40.5	
comp=Z,520nm,18.5s,baz=6.5,slow=39							
YKA	**Yellowknife Ar**	**80.12**	**3**	P	**P**	**16 46 57.8**	**-1.1**
0.2nm,0.3s,mb3.2,baz=348,slow=5.5,SNR=5.3							

IDC 14 16:49:29.4±1.1,3424N×8768E,h0km,mb3.4/4,mb1 3.4/6,mb1mx3.3/22,mbtmp3.3/6,ML2.8/2,Error ellipse: s-maj=39.7km s-min=23.3km az=54.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.19**	**344**	Pn	Pn	16 52 36.3	-1.6
0.0nm,0.3s,baz=153,slow=5.4,SNR=4.1							
SONM	**Songino Array**	**19.52**	**40**	P	Pn	16 53 58.2	-1.3
0.0nm,0.3s,baz=229,slow=11,SNR=4.8							
BVAR	**Borovoye Array**	**22.46**	**332**	P	P	16 54 30.4	+0.3
0.6nm,0.7s,baz=149,slow=8.6,SNR=5.6							
WRA	**Warramunga Arr**	**69.82**	**133**	P	P	17 00 42.0	+0.3
0.5nm,0.7s,baz=329,slow=6.2,SNR=7.3							
ASAR	**Alice Springs**	**72.42**	**136**	P	P	17 00 57.8	+0.3
0.2nm,0.7s,baz=311,slow=5.1,SNR=5.2							
TORD	**Torodi Ar. Bea**	**79.45**	**279**	P	P	17 01 37.9	+0.3
0.3nm,0.7s,baz=34,slow=5.2,SNR=2.6							

*SOF **14** 16:50:40.7,4197N×2322E,h13km,MD2.7*
*ISCJB **14** 16:50:40.3±0.5,4198N±002×23.14E±004,h0km±6km,Error ellipse: s-maj=5.2km s-min=3.8km az=3.8*
*NEIC **14** 16:50:41.4±0.9,4200N×2322E,h10km±12km,MD2.7(SOF),Error ellipse: s-maj=9.6km s-min=9.3km az=65.0*
*THE **14** 16:50:41.8,4194N×2319E,h10km,ML3.1*
*SKO **14** 16:50:41.0,4194N×2313E,h15km,M2.0,ML2.3*
*CSEM **14** 16:50:41.0±0.1,4200N×2311E,h15km,MD2.7,Error ellipse: s-maj=2.1km s-min=1.2km az=85.0*
*ATH **14** 16:50:45.8,4164N×2315E,h19km±1km,MD3.2/3*

ISC 14 16:50:41.2±0.4,4197N±002×2316E±004,h7km±6km,n31,σ0§91/41,5C-4D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.12**	**207**	*i*Pg	**Pg**	**16 50 44.5**	**+0.7**
MMB	**Musomiste**	**0.57**	**132**

COP					*e*S		**Sg**	**16 59 26.5**	**-0.3**
VXJU	**Vaexsjoe**	**2.17**	**87**		P		**Pn**	**16 59 18.3**	**0.0**
BLEU	**Blekinge**	**2.73**	**100**		P		**Pn**	**16 59 25.6**	**-0.4**
LNKU	**Linkoeping**	**2.80**	**59**		P		**Pn**	**16 59 27.6**	**+0.7**
BSD	**Bornholm Skovb**	**2.82**	**127**	*i*	P		**Pn**	**16 59 24.9**	**-2.3**
BSD				*i*				16 59 30.3	
BSD				*i*	S		**Sn**	**17 00 06.6**	**+4.8**
BSD	**Bornholm Skovb**	**2.82**	**127**	*e*	P		**Pn**	**16 59 24.9**	**-2.3**
OSKU	**Oskarshamn**	**2.82**	**81**		P		**Pn**	**16 59 27.4**	**+0.2**
ASKU	**Askersund**	**2.90**	**44**		P		**Pn**	**16 59 30.0**	**+1.7**
VSTU	**Vaestervik**	**3.12**	**73**		P		**Pn**	**16 59 31.3**	**-0.1**
BYXU	**Byxelkrok**	**3.32**	**80**		P		**Pn**	**16 59 34.3**	**+0.2**
NRAU	**Nora**	**3.46**	**37**		P		**Pn**	**16 59 36.7**	**+0.6**
HFS	**Hagfors**	**3.58**	**22**		Pn		**Pn**	**16 59 37.7**	**0.0**
	baz=213,slow=12								
HFS					Pg		**Pg**	**16 59 43.9**	**-5.6**
	baz=188,slow=16								
HFS					Lg			17 00 31.6	
	baz=197,slow=37								
HFS	**Hagfors**	**3.58**	**22**		Pg		**Pg**	**16 59 43.9**	**-5.6**
	SNR=90								
ESKU	**Eskilstuna**	**3.73**	**48**		P		**Pn**	**16 59 40.1**	**+0.4**
ODD1	**Odda**	**3.82**	**325**	*e*	P		**Pn**	**16 59 40.3**	**-0.7**
ODD1				*e*	S		**Sn**	**17 00 24.9**	**-1.8**
ODD1					AML		AML	17 00 27.4	
	comp=N,2.3nm,0.2s								
ODD1	**Odda**	**3.82**	**325**	*e*	P		**Pn**	**16 59 40.3**	**-0.7**
	SNR=53								
ODD1				*e*	S		**Sn**	**17 00 24.9**	**-1.8**
	comp=N,2.3nm,0.2s,SNR=53								
NB2	**NORSAR Subarra**	**4.20**	**2**		Pn		**Pn**	**16 59 45.6**	**-0.5**
	baz=183,slow=16								
NB2					Pg		**Pg**	**16 59 57.7**	**-3.6**
NB2					Lg			17 00 52.2	
	baz=191,slow=37								
NYNU	**Nynaeshamn**	**4.32**	**57**		P		**Pn**	**16 59 48.2**	**+0.4**
BACU	**Backbrunna**	**4.41**	**44**		P		**Pn**	**16 59 49.8**	**+0.8**
FALU	**Falun**	**4.44**	**33**		P		**Pn**	**16 59 50.7**	**+1.3**
OSTU	**Oestervaala**	**4.67**	**41**		P		**Pn**	**16 59 53.1**	**+0.5**
FLYU	**Flymyra**	**4.88**	**45**		P		**Pn**	**16 59 55.9**	**+0.3**
NRTU	**Norrtaelje**	**4.93**	**52**		P		**Pn**	**16 59 56.3**	**+0.1**
FIA0	**FINESS Array S**	**9.01**	**53**		Pn		**Pn**	**17 00 51.3**	**-0.9**
	baz=247,slow=12								
FIA0					Lg			17 03 21.6	
	baz=249,slow=28								
ARA0	**ARCESS Array S**	**14.24**	**21**		P		**Pn**	**17 02 01.1**	**-2.7**
	baz=205,slow=11								

IDC 14 17:27:18.6±59.0, 2461S×17765W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.8/3, Error ellipse: s-maj=1076.0km s-min=171.9km az=89.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.46**	**249**	P	P	17 34 24.0	-1.2
	1.0nm,0.7s,baz=81,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**44.04**	**261**	P	P	17 35 28.6	+0.6
	0.6nm,0.5s,baz=92,slow=7.4,SNR=27						
WRA	**Warramunga Arr**	**44.50**	**266**	P	P	17 35 32.5	+0.8
	0.5nm,0.3s,baz=102,slow=8.2,SNR=21						

*UCR **14** 17:29:22.0, 1040N×8832W, h34km, MD4.5*
*IDC **14** 17:29:32.4±2.1, 1136N×8586W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=57.7km s-min=47.2km az=70.0*
*CASC **14** 17:29:35.2±1.9, 1106N×8682W, h0km±8km, MD3.8, mb4.0(NEIC)*
*INET **14** 17:29:35.8, 1100N×8680W, h6km, MD3.5*
*ISCJB **14** 17:29:37.3±1.0, 1107N±006×8689W±009, h57km±10km, mb3.7/6, Error ellipse: s-maj=17.2km s-min=6.2km az=120.2*
*NEIC **14** 17:29:42.8±1.9, 1146N×8594W, h79km±21km, mb4.0/1, Error ellipse: s-maj=44.9km s-min=20.1km az=70.0*
*SSS **14** 17:29:58.0, 1332N×8683W, h267km, MD4.3*

ISC 14 17:29:38.4±1.1, 1110N±006×869W±01, h50km±12km, n36, σ1°19/37, mb3.7/6, 10C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.01**	**79**	⇑*e*P	**Pn**	**17 29 54.4**	**-1.8**
COPN	**Copaltepe**	**1.11**	**14**	⇓*e*P	**Pn**	**17 29 57.3**	**-0.2**
TICN	**Ticuantepe**	**1.11**	**33**	⇓*e*P	**Pn**	**17 29 57.1**	**-0.5**
APON	**Apoyo**	**1.12**	**44**	⇑*e*P	**Pn**	**17 29 56.9**	**-0.9**
XAVN	**Gruta Xavier**	**1.17**	**26**	⇓*e*P	**Pn**	**17 29 58.1**	**-0.2**
MGAN	**Managua**	**1.20**	**30**	⇑*e*P	**Pn**	**17 29 58.1**	**-0.7**
MGAN				*e*S	**Sn**	**17 30 15.8**	**+1.8**
APYN	**Apoyeque**	**1.23**	**24**	⇑*e*P	**Pn**	**17 29 59.0**	**-0.3**
WILN	**Americas 2**	**1.24**	**32**	⇓*e*P	**Pn**	**17 29 58.9**	**-0.5**
WILN				*e*S	**Sn**	**17 30 17.0**	**+1.9**
CONN	**Concepcion**	**1.29**	**69**	⇑*e*P	**Pn**	**17 29 58.4**	**-1.7**
LEON	**Leon**	**1.31**	**358**	⇑*e*P	**Pn**	**17 30 00.4**	**+0.1**
MADN	**Villa Maderas**	**1.33**	**77**	⇑*e*P	**Pn**	**17 29 58.9**	**-1.7**
MOMJ	**Momotombo**	**1.34**	**13**	*e*P	**Pn**	**17 30 00.4**	**-0.3**
MIRN	**Miramar**	**1.34**	**6**	⇓*e*P	**Pn**	**17 30 00.8**	**0.0**
CNGN	**Cerro Negro**	**1.40**	**6**	⇓*e*P	**Pn**	**17 30 01.4**	**-0.2**
TEL3	**Telica 3**	**1.47**	**0**	⇑*e*P	**Pn**	**17 30 02.5**	**+0.1**
TELN	**Telica**	**1.50**	**1**	*e*P	**Pn**	**17 30 03.3**	**+0.4**
CRIN	**San Cristobal**	**1.60**	**353**	⇑*e*P	**Pn**	**17 30 04.8**	**+0.5**
JTS	**JuntasAbangare**	**2.04**	**113**	*e*Pn	**Pn**	**17 30 08.2**	**-2.0**
JTS				*e*Sn	**Sn**	**17 30 40.7**	**+6.3**
CAO	**Cobano**	**2.21**	**129**	*e*P	**Pn**	**17 30 12.2**	**-0.5**
EPA	**Esparza**	**2.48**	**116**	*e*P	**Pn**	**17 30 18.3**	**+2.0**
CGA2	**Cerro Gallo 2**	**2.58**	**114**	*e*P	**Pn**	**17 30 18.1**	**+0.3**
PRS1	**Puriscal**	**2.74**	**114**	*e*P	**Pn**	**17 30 21.2**	**+1.4**
LAJ	**Bijagual**	**2.96**	**114**	*e*P	**Pn**	**17 30 17.5**	**-5.3**
LCR2	**La Lucha 2**	**3.11**	**115**	*e*P	**Pn**	**17 30 25.7**	**+0.7**
URSC	**Urasca**	**3.28**	**112**	*e*P	**Pn**	**17 30 28.7**	**+1.4**
URSC				*e*S	**Sn**	**17 31 08.4**	**+3.5**
WMOK	**Wichita Mounta**	**25.92**	**337**	*e*P	**P**	**17 35 08.7**	**+2.9**
	5.5nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**37.23**	**332**	P	**P**	**17 36 46.5**	**+1.5**
	0.4nm,0.8s,mb3.3,baz=117,slow=9.9,SNR=3.8						
NVAR	**Mina Array Bea**	**39.10**	**319**	P	**P**	**17 37 06.9**	**+6.2**
	0.4nm,0.6s,mb3.3,baz=141,slow=5.8,SNR=2.9						
NVAR				PcP	PcP	17 39 14.2	+4.5
	1.2nm,0.6s,baz=150,slow=4.0,SNR=10						
ULM	**Lac du Bonnet**	**39.74**	**351**	P	**P**	**17 37 04.8**	**-1.2**
	2.3nm,0.9s,mb3.9,baz=159,slow=12,SNR=3.4						
ULM	**Lac du Bonnet**	**39.74**	**351**	P	**P**	**17 37 04.8**	**-1.2**
SCHQ	**Schefferville**	**46.41**	**16**	P	**P**	**17 37 58.2**	**-1.7**
	3.8nm,1.0s,mb4.3,baz=212,slow=9.5,SNR=5.6						
SCHQ	**Schefferville**	**46.41**	**16**	P	**P**	**17 37 58.2**	**-1.7**
YKA	**Yellowknife Ar**	**55.06**	**345**	P	**P**	**17 39 04.8**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=135,slow=7.9,SNR=8.3						
MKAR	**Makanchi Array**	**121.56**	**9**	PKP	PKPdf	17 48 26.0	-0.4
	0.2nm,0.8s,baz=315,slow=4.1,SNR=2.3						
ASAR	**Alice Springs**	**139.29**	**247**	PKP	PKPdf	17 49 03.5	+3.7
	0.3nm,0.6s,baz=142,slow=2.8,SNR=4.4						
WRA	**Warramunga Arr**	**139.44**	**252**	PKP	PKPdf	17 49 04.2	+4.0
	0.3nm,0.7s,baz=96,slow=1.7,SNR=6.0						

*ISCJB **14** 17:30:08.2±1.2, 4132N±006×7471E±006, h10km, Error ellipse: s-maj=9.0km s-min=6.2km az=5.3*
*KNET **14** 17:30:08.8±1.0, 4144N×7471E, h12km±3km, ml2.9, Error ellipse: s-maj=5.5km s-min=3.1km az=2.0*
*NNC **14** 17:30:10.1±0.8, 4148N×7465E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=8.8km s-min=4.0km az=145.0*

ISC 14 17:30:09.3±1.2, 4138N±006×7470E±006, h10km, n15, σ1°15/25, 14C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.81**	**30**	P	**Pg**	**17 30 23.9**	**-1.1**
	212nm,0.2s,SNR=281						
KZA				⇑S	**Sg**	**17 30 35.1**	**-0.6**
	409nm,0.1s						
UCH	**Uchtor**	**0.86**	**351**	⇓P	**Pg**	**17 30 24.9**	**-1.0**
	72nm,0.2s,SNR=221						
UCH				⇑S	**Sg**	**17 30 36.8**	**-0.3**
	232nm,0.2s						
AML	**Almayashu**	**1.06**	**316**	⇓P	**Pg**	**17 30 28.3**	**-1.5**
	42nm,0.2s,SNR=61						
AML				⇓S	**Sg**	**17 30 42.2**	**-1.4**
	95nm,0.2s						
AAK	**Ala-Archa**	**1.27**	**353**	⇑P	**Pn**	**17 30 32.1**	**-0.9**
	38nm,0.2s,SNR=54						
AAK				⇑S	**Sb**	**17 30 49.8**	**+0.3**
	90nm,0.2s						
KBK	**Karagaybulak**	**1.29**	**8**	⇓P	**Pn**	**17 30 32.8**	**-0.6**
	85nm,0.1s,SNR=164						
KBK				⇑S	**Sb**	**17 30 50.4**	**+0.1**
	434nm,0.2s						
ULHL	**Ulahol**	**1.45**	**53**	P	**Pn**	**17 30 34.7**	**-0.8**
	96nm,0.2s,SNR=182						
ULHL				⇓S	**Sn**	**17 30 54.0**	**-0.5**
	172nm,0.2s						
EKS2	**Erkin-Say**	**1.46**	**332**	P	**Pn**	**17 30 35.6**	**0.0**
	28nm,0.2s,SNR=75						
EKS2				⇑S	**Sn**	**17 30 55.5**	**+0.7**
	29nm,0.2s						
CHMS	**Chumysh**	**1.62**	**1**	⇓P	**Pn**	**17 30 38.6**	**+0.6**
	33nm,0.2s,SNR=39						
CHMS				⇓S	**Sn**	**17 31 00.2**	**+1.3**
	70nm,0.2s						
TKM2	**Tokmak 2**	**1.68**	**23**	⇓P	**Pn**	**17 30 39.4**	**+0.7**
	57nm,0.2s,SNR=92						
TKM2				⇑S	**Sn**	**17 31 01.8**	**+1.4**
	171nm,0.1s						
TKM2	**Tokmak 2**	**1.68**	**23**	⇓P	**Pn**	**17 30 39.4**	**+0.7**
	40nm,0.4s						
TKM2				⇓S	**Sn**	**17 31 01.6**	**+1.2**
	139nm,0.5s						
USP	**Ospenovka**	**1.90**	**356**	⇑P	**Pn**	**17 30 43.6**	**+1.9**
	61nm,0.2s,SNR=15						
USP				⇑S	**Sn**	**17 31 09.0**	**+3.4**
	100nm,0.2s						
KNDC	**Almaty**	**2.49**	**42**	⇑Pg	**Pg**	**17 30 54.5**	**-2.6**
	528nm,0.5s						
KNDC				⇑Lg		17 31 27.9	
	3μm,0.5s						
KK31	**Karatay Array**	**3.56**	**300**	⇑Pn	**Pn**	**17 31 05.7**	**+1.2**
	6.7nm,0.6s,baz=111,slow=12,SNR=86						
KK31				⇑Lg		17 31 59.6	
	7.2nm,0.4s,baz=126,slow=28,SNR=7.4						
MK31	**Makanchi Array**	**7.69**	**43**	Pn	**Pn**	**17 32 03.3**	**+2.0**
	1.2nm,0.5s,baz=224,slow=16,SNR=23						
MK31				⇑Lg		17 34 09.9	
	3.2nm,0.6s						
KURK	**Kurchatov**	**9.73**	**15**	⇓Lg		17 35 16.2	
	11nm,1.0s						

*ISCJB **14** 17:43:44.0±0.8, 3517N±003×402W±004, h9km±5km, Error ellipse: s-maj=5.2km s-min=4.4km az=115.5*
*MDD **14** 17:43:44.8±0.5, 3514N×395W, h0km, mbLg2.2/5, Error ellipse: s-maj=5.6km s-min=4.0km az=58.0, PRXIMO*
*CSEM **14** 17:43:44.6±0.1, 3515N×395W, h20km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.5km az=63.0*
*NEIC **14** 17:43:45.6, 3517N×404W, h0km, MG3.1(MDD), After MDD.*
*CNRM **14** 17:43:46.3, 3510N×386W, h0km, MD3.0*

ISC 14 17:43:44.5±0.7, 3515N±003×399W±005, h10km±6km, n27, σ1°13/51, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.09**	**29**	*i*P	**Pg**	**17 43 48.0**	**+1.1**
TOU	**Touzarine**	**0.27**	**134**	P	**Pg**	**17 43 48.5**	**-1.5**
TOU				S	**Sg**	**17 43 52.0**	**-1.7**
EMEL	**Melilla**	**0.86**	**80**	P	**Pg**	**17 44 01.2**	**+0.1**
	43nm,0.1s,SNR=4.0						
EMEL				S	**Sg**	**17 44 13.2**	**+0.9**
	66nm,0.1s,SNR=4.0						
EMLI	**Melilla**	**0.87**	**80**	P	**Pg**	**17 44 01.2**	**0.0**
	43nm,0.1s,SNR=4.0						
EMLI				S	**Sg**	**17 44 13.2**	**+0.7**
	66nm,0.1s,SNR=4.0						
ZAI	**Zaio**	**1.04**	**100**	*i*P	**Pg**	**17 44 03.5**	**-1.0**
ZAI				*e*S	**Sg**	**17 44 16.0**	**-2.0**
TZK	**Tazeka**	**1.07**	**189**	*i*P	**Pg**	**17 44 05.0**	**-0.1**
TZK				*i*S	**Sg**	**17 44 20.0**	**+1.0**
EALB	**Alboran**	**1.11**	**45**	P	**Pb**	**17 44 07.8**	**+2.0**
EALB	**Alboran**	**1.11**	**45**	P	**Pb**	**17 44 07.8**	**+2.0**
EMIJ	**Mijas**	**1.55**	**336**	P	**Pn**	**17 44 12.1**	**-0.1**
	0.7nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**17 44 30.6**	**-1.7**
	5.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.55**	**336**	P	**Pn**	**17 44 12.1**	**-0.1**
	0.7nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**17 44 30.8**	**-1.5**
EMIJ	**Mijas**	**1.55**	**336**	P	**Pn**	**17 44 12.8**	**+0.7**
EMIJ				S	**Sn**	**17 44 30.8**	**-1.5**
EBER	**Berja**	**1.96**	**27**	P	**Pn**	**17 44 17.1**	**-0.7**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 44 43.5**	**+1.0**
	4.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.96**	**27**	P	**Pn**	**17 44 17.1**	**-0.7**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 44 43.5**	**+1.0**
	4.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.96**	**27**	P	**Pn**	**17 44 17.1**	**-0.7**
EBER				S	**Sn**	**17 44 43.7**	**+1.1**
CZD	**Col de Zad**	**2.29**	**203**	*e*P	**Pn**	**17 44 24.0**	**+1.7**
CZD				*i*S	**Sn**	**17 44 51.0**	**+0.5**
EADA	**Adamuz**	**3.05**	**351**	P	**Pn**	**17 44 33.8**	**+1.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**17 45 09.6**	**+0.3**
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.05**	**351**	P	**Pn**	**17 44 33.8**	**+1.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**17 45 10.1**	**+0.7**
EADA	**Adamuz**	**3.05**	**351**	P	**Pn**	**17 44 34.0**	**+1.2**
EADA				S	**Sn**	**17 45 10.1**	**+0.7**
EMIN	**Mina Concepcio**	**3.39**	**321**	P	**Pn**	**17 44 37.8**	**+0.3**
	0.6nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**17 45 16.5**	**-1.3**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.39**	**321**	P	**Pn**	**17 44 37.8**	**+0.3**
	0.6nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**17 45 16.7**	**-1.1**
EMIN	**Mina Concepcio**	**3.39**	**321**	P	**Pn**	**17 44 38.6**	**+1.1**
EMIN				S	**Sn**	**17 45 16.7**	**-1.1**
EGRO	**El Granado**	**3.69**	**311**	P	**Pn**	**17 44 41.7**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 45 23.5**	**-1.6**
	2.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.69**	**311**	P	**Pn**	**17 44 42.1**	**+0.5**
EGRO				S	**Sn**	**17 45 23.8**	**-1.3**
EGRO	**El Granado**	**3.69**	**311**	P	**Pn**	**17 44 42.1**	**+0.5**
EGRO				S	**Sn**	**17 45 23.8**	**-1.4**
EBAD	**Badajoz**	**4.34**	**327**	P	**Pn**	**17 44 51.8**	**+1.3**
	0.3nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**17 45 39.2**	**-2.0**
	2.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.34**	**327**	P	**Pn**	**17 44 51.8**	**+1.3**
	0.3nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**17 45 39.2**	**-1.9**
	2.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.34**	**327**	P	**Pn**	**17 44 50.5**	**-0.1**
EBAD				S	**Sn**	**17 45 39.5**	**-1.6**

JMA 14 18:44:24.6±0.1, 3697N×14306E, h57km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.79**	**283**	P	Pn	18 44 53.9	+0.8
JFK				S	Sn	18 45 15.0	+0.2
ONAJ	**Iwakimizuishiy**	**1.81**	**275**	P	Pn	18 44 54.1	+0.6
ONAJ				S	Sn	18 45 16.1	+0.7
JIO	**Ouri**	**2.01**	**318**	P	Pn	18 44 56.8	+0.7
JMM	**Marumori**	**2.01**	**297**	P	Pn	18 44 57.0	+0.8
JMM				S	Sn	18 45 20.9	+0.7
JHO	**Hitachi**	**2.03**	**261**	P	Pn	18 44 57.0	+0.6
JMK	**Ichinoseki**	**2.46**	**324**	P	Pn	18 45 03.0	+0.8
JOM	**Ohasama**	**2.86**	**331**	P	Pn	18 45 08.4	+0.7
BSO1	**Boso 1**	**2.87**	**217**	P	Pn	18 45 08.2	+0.4
JYK	**Kaneyama**	**2.89**	**313**	P	Pn	18 45 09.7	+1.6
JAG	**Ashikaga**	**2.95**	**260**	P	Pn	18 45 10.3	+1.3
JRY	**Ryogami san**	**3.48**	**255**	P	Pn	18 45 17.3	+1.0
JANG	**Nango**	**3.61**	**341**	P	Pn	18 45 17.6	-0.4
JOD2	**Odawara 2**	**3.64**	**243**	P	Pn	18 45 19.5	+1.1
MAT	**Matsushiro**	**3.92**	**265**	P	Pn	18 45 24.8	+2.5
MAT				S	Sn	18 46 08.8	+1.8
JYN	**Shimob**	**3.94**	**249**	P	Pn	18 45 24.3	+1.8

IDC 14 18:46:52.0±2.7, 842S×11314E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=158.5km s-min=25.4km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**121**	P	P	18 52 02.5	-1.1
	1.0nm,0.7s,baz=295,slow=12,SNR=10						
NWAO	**Narrogin (SRO)**	**24.68**	**172**	LR	LR	19 01 00.5	
	comp=Z,126nm,21.1s,baz=356,slow=34						
ASAR	**Alice Springs**	**25.01**	**130**	P	P	18 52 18.9	+1.4
	1.1nm,0.6s,baz=304,slow=9.4,SNR=42						
MKAR	**Makanchi Array**	**61.45**	**336**	P	P	18 57 10.2	+0.1
	0.4nm,0.7s,baz=155,slow=6.6,SNR=6.9						

*ISCJB **14** 19:12:39.8±2.5, 372N±02×710E±02, h10km, Error ellipse: s-maj=24.6km s-min=18.6km az=19.4*
*NNC **14** 19:12:45.6±2.0, 3748N×7042E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=31.4km s-min=12.5km az=109.0*

ISC 14 19:12:40.9±2.5, 372N±02×709E±02, h10km, n8, σ0°77/9, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.41**	**23**	P	**Pn**	**19 14 01.9**	**+0.3**
	SNR=36						
EKS2	**Erkin-Say**	**5.92**	**21**	P	**Pn**	**19 14 09.4**	**+0.7**
	SNR=7.0						
KZA	**Kyzart**	**5.95**	**33**	P	**Pn**	**19 14 08.0**	**-1.0**
	SNR=7.1						
KK31	**Karatay Array**	**5.95**	**357**	P	**Pn**	**19 14 10.5**	**+1.5**
	1.3nm,0.3s,baz=179,slow=13,SNR=63						
KK31				⇑S	**Sn**	**19 15 16.9**	**-0.3**
	2.4nm,0.3s						
AAK	**Ala-Archa**	**6.12**	**26**	P	**Pn**	**19 14 11.6**	**+0.2**
	SNR=11						
CHMS	**Chumysh**	**6.54**	**26**	P	**Pn**	**19 14 16.4**	**-0.6**
	SNR=6.7						
AB31	**Akbulak array**	**14.48**	**330**	P	**Pn**	**19 16 04.8**	**-1.0**
	0.3nm,0.3s,baz=146,slow=13,SNR=18						
AKTO	**Aktyubinsk**	**16.18**	**329**	⇓P	**Pn**	**19 16 28.5**	**+0.2**
	6.5nm,4.0s						

*NAO **14** 19:17:22.2, 2861N×8044E, h33km, mb4.2*
*IDC **14** 19:17:24.7±0.6, 3018N×8050E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.3/29, mbtmp4.2/24, ML4.0/1, MS3.8/2, Ms1 3.9/2, ms1mx3.3/36, Error ellipse: s-maj=17.4km s-min=13.5km az=53.0*
*LDG **14** 19:17:25.4±0.1, 3034N×8041E, h10km, Mb4.6/18, Error ellipse: s-maj=5.7km s-min=2.1km az=57.0*
*NDI **14** 19:17:26.9±5.3, 3028N×8041E, h1km±13km, ML4.3, mb4.5(NEIC)*
*DMN **14** 19:17:28.2±0.7, 3029N×8073E, h10km, Ml4.9/7, Error ellipse: s-maj=33.6km s-min=12.5km az=32.0*
*BJI **14** 19:17:30.1, 3048N×8038E, h42km, mB4.7, mb4.3, Ms4.5, Msz4.0*
*ISCJB **14** 19:17:30.2±0.4, 3016N×003×8039E±002, h49km±5km, mb4.4/58, MS4.0/5, Error ellipse: s-maj=5.9km s-min=2.9km az=33.9*
*NEIC **14** 19:17:33.3±0.9, 3027N×8053E, h62km±10km, mb4.5/17, Error ellipse: s-maj=9.9km s-min=7.5km az=218.0*
*MOS **14** 19:17:33.1±1.2, 3034N×8069E, h73km, mb4.4/26, Error ellipse: s-maj=9.7km s-min=6.3km az=121.4*

ISC 14 19:17:29.5±1.0, 3029N±003×8041E±002, h22km±7km, n187, σ1°33/222, mb4.4/58, MS4.0/5, 11C-9D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.75**	**193**	*e*P	**Pb**	**19 17 40.5**	**-3.4**
PTH				*e*S	**Sb**	**19 17 50.5**	**-3.3**
LGTI	**Lohaghat**	**0.85**	**190**	*e*P	**Pb**	**19 17 44.5**	**-1.0**
LGTI				*e*S	**Sb**	**19 17 58.0**	**+1.6**
KALG	**Kalgarh**	**1.64**	**242**	*e*P	**Pn**	**19 17 50.9**	**-6.0**
KALG				*e*S	**Sn**	**19 18 11.3**	**-6.0**
KALG				AML	AML	19 18 15.5	
	comp=N,14μm,0.3s						
KALG				AML	AML	19 18 15.7	
	comp=E,12μm,0.4s						
DDI	**Dehra Dun**	**2.04**	**272**	*e*P	**Pn**	**19 18 02.1**	**-0.4**
DDI				*e*S	**Sn**	**19 18 28.5**	**+1.3**
SMLA	**Simla**	**2.92**	**288**	*e*P	**Pn**	**19 18 14.2**	**-0.4**
SMLA				*e*P		19 18 14.6	
SMLA				*e*S	**Sn**	**19 18 51.1**	**+2.2**
SMLA				*e*S	**Sn**	**19 18 51.6**	**+2.6**
SMLA				AML	AML	19 18 58.6	
	comp=N,2μm,0.4s						
SMLA				AML	AML	19 18 59.6	
	comp=E,2μm,0.6s						
SDNR	**Sundarnagar**	**3.20**	**293**	*e*P	**Pn**	**19 18 19.5**	**+1.1**
SDNR				*e*x	**Sn**	**19 19 07.7**	**+12**
NDI	**New Delhi**	**3.21**	**241**	*e*P	**Pn**	**19 18 19.0**	**+0.4**
NDI				*e*x	x	19 18 25.0	
AYAN	**Aya Nagar**	**3.38**	**239**	*e*P	**Pn**	**19 18 22.1**	**+1.2**
AYAN				*e*S	**Sn**	**19 19 01.1**	**+0.6**
BHGR	**Bahadurgarh**	**3.42**	**243**	*e*P	**Pn**	**19 18 21.8**	**+0.3**
BHGR				*e*x	**Sn**	**19 19 08.0**	**+6.7**
SONA	**Sohna**	**3.55**	**236**	*e*x	**Pn**	**19 18 27.0**	**+3.8**
SONA				*e*x	**Sn**	**19 19 13.9**	**+9.4**
SONA				AML	AML	19 19 23.8	
	comp=E,642nm,0.8s						
SONA				AML	AML	19 19 25.4	
	comp=N,584nm,0.1s						
BHK	**Bhakra**	**

BOK eS **Sn** **19 20 51.6 -5.0**
NGP Nagpur 9.18 188 eP **Pn** **19 19 39.2 -1.4**
NGP eS **Sn** **19 21 17.0 -6.2**
LSA Lhasa 9.33 91 P **Pn** **19 19 45.1 +2.5**
LSA Lhasa 9.33 91 eP **Pn** **19 19 44.7 +2.1**
LSA e 19 21 24.1
LSA pmax pmax
comp=Z,16nm,0.4s
LSA Lhasa 9.33 91 ePn **Pn** **19 19 44.7 +2.1**
comp=Z,16nm,0.4s
LSA eSn **Sn** **19 21 24.1 -2.7**
KSH Kashi 9.90 340 eP **Pn** **19 19 48.8 -1.7**
KSH Smax
comp=N,50nm,0.6s
KSH Smax
comp=E,60nm,0.6s
SHL Shillong 11.18 112 eP **Pn** **19 20 06.0 -1.9**
SHL ex x 19 22 25.0
BHV Bhavnagar 11.29 223 eP **Pn** **19 20 08.0 -1.5**
LATR Latur 12.33 197 eP **Pn** **19 20 20.5 -3.1**
LATR eS **Sn** **19 22 31.7 -8.6**
VIS Vishakhapatnam 12.79 167 eP **Pn** **19 20 27.4 -2.6**
HYB Hyderabad 12.92 188 i P **Pn** **19 20 28.0 -3.8**
comp=E,50nm,1.0s
HYB e 19 20 40.0
HYB eS **Sn** **19 22 50.0 -4.9**
HYB Hyderabad 12.92 188 eP **Pn** **19 20 28.0 -3.8**
comp=E,50nm,1.0s
HYB e 19 20 40.0
HYB eS **Sn** **19 22 43.0 -12**
POO Poona 13.14 208 eP **Pn** **19 20 31.0 -3.7**
POO ePP 19 20 41.0
POO ePPP 19 20 48.0
POO eP 19 20 52.9
POO ex x 19 22 42.5
POO i S **Sn** **19 22 52.0 -8.1**
POO eSS 19 23 05.5
POO eS **Sn** **19 23 06.3 +6.1**
POO eSSS 19 23 17.5
POO i x x 19 23 19.0
POO ePCP PcP 19 26 11.0 +5.4
MKAR Makanchi Array 16.55 5 Pn **Pn** **19 21 15.5 -4.6**
comp=E,0.6nm,0.3s,baz=184,slow=14,SNR=25
MKAR Sn **Sn** **19 24 12.6 -11**
comp=E,0.1nm,0.3s,baz=184,slow=22,SNR=3.3
MKAR Makanchi Array 16.55 5 P **Pn** **19 21 15.5 -4.6**
MKAR 19 24 12.6
MKAR pmax pmax
comp=Z,1.0nm,0.3s
CD2 Chengdu 20.10 82 eP **P** **19 22 01.3 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s
CHRT Chiangrai 20.35 116 ⇑P **P** **19 22 06.5 +2.2**
comp=Z,192nm,0.8s
KMI Kunming 20.41 99 P **P** **19 22 07.8 +2.8**
KMI AMB AMB
comp=Z,10.0nm,1.1s
LZH Lanzhou 20.43 67 eP **P** **19 22 09.1 +4.0**
LZH AP 19 22 21.5
LZH XP sP 19 22 26.5 +12
LZH AMB AMB
comp=Z,27nm,1.4s
LZH AMB AMB
comp=Z,120nm,4.0s
KURK Kurchatov 20.45 357 c i P **P** **19 22 03.7 -1.7**
KURK Kurchatov 20.45 357 eP **P** **19 22 03.8 -1.7**
comp=Z,25nm,0.8s
PALK Pallekele 22.90 179 P **P** **19 22 27.6 -4.0**
NST Nakhon Sawan 23.21 124 P **P** **19 22 33.6 -1.3**
ZAL Zalesovo 23.85 6 P **P** **19 22 39.9 -1.2**
comp=Z,5.2nm,0.6s,mb4.1,baz=269,slow=9.3,SNR=20
ZAL Zalesovo 23.85 6 i P **P** **19 22 40.4 -0.7**
ZAL pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 23.88 345 P **P** **19 22 41.3 -0.1**
comp=Z,4.0nm,0.5s,mb4.1,baz=148,slow=10,SNR=26
BVAR Borovoye Array 23.88 345 P **P** **19 22 41.3 -0.1**
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 23.93 345 eP **P** **19 22 40.8 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
BRVK Borovoye 23.93 345 eP **P** **19 22 40.8 -1.1**
comp=Z,4.6nm,0.7s,mb4.0
ZRNK Zerenda 24.14 343 eP **P** **19 22 42.8 -1.0**
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
ZRNK Zerenda 24.14 343 eP **P** **19 22 42.8 -1.0**
comp=Z,8.1nm,0.6s,mb4.3
NVS Novosibirsk 24.62 4 eP **P** **19 22 46.7 -1.5**
NVS pmax pmax
comp=N,14nm,1.7s
NVS pmax pmax
comp=Z,18nm,1.7s,mb4.3
ENH Enshi 25.08 83 eP **P** **19 22 51.8 -0.5**
comp=Z,4.8nm,0.6s,mb4.2
AKTK Aktyubinsk 26.21 327 P **P** **19 23 02.5 -0.1**
AKTK LR LR 19 34 56.3
AKTO Aktyubinsk 26.21 327 P **P** **19 23 02.5 -0.1**
comp=Z,5.7nm,0.6s,mb4.3,baz=125,slow=11,SNR=19
AKTO LR LR 19 34 56.3
comp=Z,91nm,21.1s,MS3.3,baz=0.0,slow=40
AKTO Aktyubinsk 26.21 327 P **P** **19 23 02.5 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
AKTO MLR MLR
comp=Z,91nm,21.1s,MS3.3
ZAK Zakamensk 26.40 34 eP **P** **19 23 07.2 +2.9**
ZAK pmax pmax
comp=Z,4.0nm,2.0s,mb3.6
SONM Songino Array 26.53 41 P **P** **19 23 06.4 +0.9**
comp=Z,2.0nm,0.6s,mb3.9,baz=231,slow=9.6,SNR=9.9
SONM PcP PcP 19 26 28.5 -1.4
comp=Z,0.5nm,0.6s,baz=225,slow=4.7,SNR=3.9
SONM Songino Array 26.53 41 P **P** **19 23 06.4 +0.9**
SONM 19 26 28.5
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 26.93 42 eP **P** **19 23 07.6 -1.5**
ULN pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
ULN Ulaanbaatar 26.93 42 eP **P** **19 23 07.6 -1.4**
comp=Z,3.1nm,1.1s,mb3.8
HHC Hu-ho-hao-te 27.31 59 eP **P** **19 23 13.4 +0.8**
HHC AP pP 19 23 22.8 +3.6
HHC XP sP 19 23 26.8 +4.9
HHC PP 19 24 01.8
HHC PCP PcP 19 26 30.6 -1.1
HHC S **S** **19 27 49.5 -1.4**
HHC XS sS 19 28 04.5 +2.6
HHC SCP ScP 19 30 09.4 -1.3
HHC AMB AMB
comp=Z,16nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,145nm,8.0s
HHC LR LR
comp=N,294nm,14.0s,MS4.1
HHC LR LR
comp=E,229nm,12.0s,MS4.1
HHC LR LR
comp=Z,251nm,12.0s,MS4.0
ARU Arti 30.32 336 eP **P** **19 23 40.3 +1.0**
ARU Arti 30.32 336 eP **P** **19 23 39.5 +0.2**
comp=Z,3.1nm,0.8s,mb4.1
BJT Baijiatuau 30.63 62 P **P** **19 23 41.8 -0.2**
BJT pmax pmax
comp=Z,14nm,1.3s
BJT Baijiatuau 30.63 62 P **P** **19 23 41.8 -0.3**
comp=Z,14nm,1.3s,mb4.7
NJ2 Nanjing 32.83 77 eP **P** **19 24 00.4 -0.9**
NJ2 AP pP 19 24 09.5 +1.5
NJ2 XP sP 19 24 14.6 +3.9
NJ2 PP PP 19 25 09.0 -6.7
NJ2 PPP 19 25 25.5
NJ2 S **S** **19 29 11.0 -6.3**
NJ2 AMB AMB
comp=Z,130nm,5.6s
NJ2 LR LR
comp=N,600nm,21.9s,MS4.3
NJ2 LR LR
comp=E,250nm,20.0s,MS4.3
NJ2 LR LR
comp=Z,210nm,22.0s,MS3.8

MUKL Al Mukalla 32.86 248 i P **P** **19 23 58.0 -3.7**
MUKL e 19 23 58.2
baz=78,slow=6.5
MUKL AML AML 19 24 29.1
comp=N,107nm,0.4s
HIA Hailar 35.17 46 P **P** **19 24 18.4 -3.3**
HIA pmax pmax
comp=Z,4.0nm,0.8s
HIA Hailar 35.17 46 P **P** **19 24 18.4 -3.3**
comp=Z,3.7nm,0.8s,mb4.4
MALT Malatya 35.35 295 eP **P** **19 24 26.3 +3.0**
comp=Z,3.7nm,0.8s,mb4.4
ANN Anapa 36.59 305 eP **P** **19 24 36.2 +2.3**
ANN pmax pmax
comp=Z,83nm,1.7s,mb5.3
BRTR Keskin Array B 39.08 297 P **P** **19 24 54.6 -0.3**
comp=Z,1.8nm,0.6s,mb4.0,baz=106,slow=9.0,SNR=9.0
BRTR Keskin Array B 39.08 297 i P **P** **19 24 56.5 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 39.72 321 P **P** **19 25 00.0 -0.2**
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.2
MDJ Mudanjiang 40.97 56 P **P** **19 25 06.4 -4.1**
comp=Z,23nm,1.3s,mb4.7
KLR Kul'dur 42.85 49 eP **P** **19 25 22.7 -3.2**
AKASG Malin Array Be 42.94 313 P **P** **19 25 25.2 -1.5**
comp=Z,0.9nm,0.4s,mb3.8,baz=82,slow=7.5,SNR=11
AKASG Malin Array Be 42.94 313 i P **P** **19 25 29.2 +2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
CFR Carcaliu 43.19 305 ⇑P **P** **19 25 27.4 -1.3**
CFR Carcaliu 43.19 305 ⇑P **P** **19 25 27.4 -1.3**
VRI Vrincioaia 44.20 306 ⇓P **P** **19 25 39.5 +2.7**
VRI Vrincioaia 44.20 306 ⇓P **P** **19 25 39.5 +2.7**
MLR Muntele Rosu 44.74 306 ⇓P **P** **19 25 44.3 +3.1**
MLR Muntele Rosu 44.74 306 ⇓P **P** **19 25 44.3 +3.1**
YAK Yakutsk 44.88 30 eP **P** **19 25 39.9 -2.3**
YAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
YAK Yakutsk 44.88 30 P **P** **19 25 42.5 +0.2**
comp=Z,7.5nm,0.6s,mb4.7
HABR Khabarovsk 44.95 50 i P **P** **19 25 40.3 -2.5**
HABR eS **S** **19 32 15.4 -4.4**
HABR pmax pmax
comp=Z,44nm,2.3s,mb4.9
BURAR Bucovina Array 45.29 309 ⇑P **P** **19 25 45.8 +0.3**
BURAR Bucovina Array 45.29 309 ⇑P **P** **19 25 45.8 +0.3**
VOIR 45.37 306 ⇑P **P** **19 25 48.2 +2.0**
VOIR 45.37 306 ⇑P **P** **19 25 48.2 +2.1**
VTS Vitosha 46.82 302 ⇓P **P** **19 26 00.1 +2.6**
FINES FINESS Array B 46.97 328 P **P** **19 25 58.0 -0.7**
comp=Z,2.3nm,0.4s,mb4.4,baz=104,slow=7.9,SNR=23
FINES FINESS Array B 46.97 328 i P **P** **19 25 59.4 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
DRGR 46.99 307 ⇓P **P** **19 26 01.5 +2.6**
DRGR 46.99 307 ⇓P **P** **19 26 01.5 +2.7**
KWP Kalwaria 47.02 311 eP **P** **19 25 56.2 -2.9**
comp=Z,34nm,1.1s,mb5.2
KAF Kangasniemi 47.05 329 ep **P** **19 26 03.3 +3.9**
KOLS Kolonicke sedl 47.29 310 epP pP 19 26 16.8 +8.7
BZS Buzias 47.78 306 ⇑P **P** **19 26 07.0 +2.0**
BZS Buzias 47.78 306 ⇑P **P** **19 26 07.0 +1.9**
STHS Stebnicka Huta 47.97 311 eP **P** **19 26 06.5 0.0**
TIXI Tiksi 48.88 18 eP **P** **19 26 10.1 -3.4**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
KEV Kevo 49.47 338 ep **P** **19 26 18.7 +0.7**
ARCES ARCESS Array B 49.86 338 P **P** **19 26 19.3 -1.7**
comp=Z,7.8nm,0.7s,mb4.9,baz=90,slow=4.9,SNR=15
ARCES ARCESS Array B 49.86 338 P **P** **19 26 19.3 -1.7**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
MORC Moravsky Berou 50.37 311 ⇓P **P** **19 26 25.5 +0.6**
MORC Moravsky Berou 50.37 311 eP **P** **19 26 24.5 -0.4**
comp=Z,3.5nm,0.8s,mb4.4
VRAC Vranov 51.01 311 P **P** **19 26 31.1 +1.4**
comp=Z,1.7nm,0.3s,mb4.4,baz=188,slow=2.6,SNR=3.9
VRAC Vranov 51.01 311 ⇑P **P** **19 26 31.5 +1.8**
KMBO Kilima Mbogo 51.61 241 P **P** **19 26 33.1 -1.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=52,slow=13,SNR=5.2
KMBO Kilima Mbogo 51.61 241 i P **P** **19 26 34.7 +0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
BRG Berggiesshubel 52.63 313 eP **P** **19 26 44.0 +2.3**
BRG pmax pmax
comp=Z,12nm,1.6s,mb4.6
BRG Berggiesshubel 52.63 313 eP **P** **19 26 44.0 +2.3**
comp=Z,12nm,1.6s,mb4.6
HFS Hagfors 52.73 325 P **P** **19 26 42.0 -0.6**
comp=Z,6.9nm,0.7s,mb4.7,baz=112,slow=8.0,SNR=13
HFS Hagfors 52.73 325 P **P** **19 26 42.0 -0.5**
HFS pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 52.94 311 P **P** **19 26 44.3 +0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=76,slow=6.3,SNR=8.1
GERES GERESS Array B 52.94 311 P **P** **19 26 44.3 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 53.99 326 P **P** **19 26 52.6 +0.8**
comp=Z,2.2nm,0.7s,mb4.2,baz=93,slow=7.4
NOA NORSAR Array B 53.99 326 P **P** **19 26 51.0 -0.8**
comp=Z,2.8nm,0.7s,mb4.3,baz=92,slow=7.3,SNR=14
NOA LR LR 19 50 58.7
comp=Z,194nm,20.3s,MS4.2,baz=340,slow=37
NOA NORSAR Array B 53.99 326 P **P** **19 26 51.0 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,194nm,20.3s
MA2 Magadan 54.55 36 eP **P** **19 26 54.4 -1.5**
comp=Z,3.2nm,0.5s,mb4.6
SEY Seymchan 55.34 32 ⇓eP **P** **19 27 00.2 -1.4**
DAVOX Davos 55.76 308 P **P** **19 27 05.0 +0.4**
comp=Z,1.9nm,0.5s,mb4.4,baz=75,slow=12,SNR=3.9
DAVOX Davos 55.76 308 P **P** **19 27 05.0 +0.4**
PGF Pioggiola 57.19 304 eP **P** **19 27 15.1 +0.3**
CDF Champ du Feu 57.22 311 eP **P** **19 27 15.1 +0.1**
HINF Hinteralfeld 57.61 310 eP **P** **19 27 18.3 +0.6**
comp=Z,6.6nm,0.8s,mb4.6
HAU Haudompre 57.91 310 eP **P** **19 27 20.2 +0.4**
comp=Z,10nm,0.8s,mb4.6
LPG La Plagne 58.14 307 eP **P** **19 27 21.4 0.0**
comp=Z,20nm,0.7s,mb5.0
LPL La Plagne 58.15 307 eP **P** **19 27 21.6 +0.1**
comp=Z,22nm,0.6s,mb5.0
MBDF Montbardon 58.29 306 eP **P** **19 27 23.1 +0.6**
comp=Z,7.6nm,0.7s,mb4.5
CABF La Chapelle 58.36 309 eP **P** **19 27 23.4 +0.4**
FRF La Foret Royal 58.64 305 eP **P** **19 27 25.0 0.0**
ORIF Oris-en-Rattie 58.87 307 eP **P** **19 27 26.7 +0.2**
BAIF Baives 58.90 313 eP **P** **19 27 26.8 +0.1**
LOR Lormes 59.71 310 eP **P** **19 27 32.6 +0.3**
comp=Z,4.4nm,0.7s,mb4.3
VIVF Saint-Julien-l 59.72 307 eP **P** **19 27 32.6 +0.2**
comp=Z,7.7nm,0.8s,mb4.5
SMF Signal de Mont 59.86 309 eP **P** **19 27 33.7 +0.3**
comp=Z,8.2nm,0.7s,mb4.6
SSF Saint Saulge 59.99 310 eP **P** **19 27 34.8 +0.5**
comp=Z,14nm,1.0s,mb4.6
AVF Avril sur Loir 60.15 309 eP **P** **19 27 35.2 -0.2**
comp=Z,9.6nm,0.9s,mb4.5
BGF Bois d'Agland 60.55 309 eP **P** **19 27 38.2 +0.1**
comp=Z,12nm,0.9s,mb4.7
TCF Toulx Ste Croi 61.04 309 eP **P** **19 27 41.5 +0.1**
comp=Z,47nm,1.2s,mb5.2
CAF Calviac 61.49 308 eP **P** **19 27 44.8 +0.3**
RJF Les Rejaudoux 61.77 308 eP **P** **19 27 46.6 +0.3**
MTLF Montolieu 61.82 306 eP **P** **19 27 47.1 +0.4**
comp=Z,16nm,1.3s,mb4.7
LDF La Drutiere 61.99 312 eP **P** **19 27 47.8 0.0**
FLN La Foliniere 62.17 312 eP **P** **19 27 48.5 -0.6**
LFF La Frestale 62.40 308 eP **P** **19 27 50.2 -0.4**
EPF Esparros 63.22 306 eP **P** **19 27 56.2 +0.1**
SGMF Saint Gilles 63.64 312 eP **P** **19 27 58.8 0.0**
ETSF Etsaut 63.89 306 eP **P** **19 28 00.5 0.0**
comp=Z,8.2nm,0.9s,mb4.5
WRA Warramunga Arr 72.00 127 P **P** **19 28 50.3 -1.2**
comp=Z,1.5nm,0.3s,mb4.3,baz=324,slow=5.9,SNR=36
WRA Warramunga Arr 72.00 127 i P **P** **19 28 50.7 -0.8**
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRAB Tennant Creek 72.00 127 eP **P** **19 28 50.4 -1.1**
WRAB pmax pmax
comp=Z,13nm,1.0s,mb4.8
WRAB Tennant Creek 72.00 127 eP **P** **19 28 50.4 -1.1**
comp=Z,13nm,1.0s,mb4.8
WB2 Warramunga Arr 72.01 127 eP **P** **19 28 49.9 -1.6**
TORD Torodi Ar. Bea 73.84 276 P **P** **19 29 03.0 +0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=48,slow=5.2,SNR=8.9
ASAR Alice Springs 74.24 130 P **P** **19 29 03.9 -0.9**
comp=Z,0.7nm,0.3s,mb4.0,baz=316,slow=6.0,SNR=21
ASAR Alice Springs 74.24 130 P **P** **19 29 03.9 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 78.35 19 P **P** **19 29 26.7 -1.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=321,slow=5.5,SNR=8.2
ILAR Eielson Array 78.35 19 P **P** **19 29 26.7 -1.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 78.52 12 P **P** **19 29 27.2 -1.8**
comp=Z,0.5nm,0.5s,mb3.7,baz=344,slow=5.5,SNR=6.0
INK Inuvik 78.52 12 P **P** **19 29 27.2 -1.8**
INK pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 78.73 227 P **P** **19 29 28.6 -1.6**
comp=Z,3.4nm,0.7s,mb4.4,baz=21,slow=4.7,SNR=7.4
BOSA Boshof 78.73 227 P **P** **19 29 28.6 -1.6**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DBIC Dimbokro 82.60 273 P **P** **19 29 51.0 +0.2**
comp=Z,1.4nm,0.4s,mb4.3,baz=29,slow=4.1,SNR=5.4
DBIC Dimbokro 82.60 273 P **P** **19 29 51.1 +0.2**
DBIC pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 82.60 273 eP **P** **19 29 50.5 -0.4**
comp=Z,10.0nm,1.2s,mb4.7
STKA Stephens Creek 84.78 132 eP **P** **19 29 58.8 -3.2**
comp=Z,1.5nm,0.6s,mb4.3
STKA Stephens Creek 84.78 132 P **P** **19 29 58.7 -3.3**
comp=Z,1.5nm,0.6s,mb4.3,baz=303,slow=3.7,SNR=5.0
STKA Stephens Creek 84.78 132 eP **P** **19 29 58.3 -3.7**
YKA Yellowknife Ar 86.76 7 P **P** **19 30 09.8 -2.0**
comp=Z,0.4nm,0.5s,mb3.9,baz=340,slow=5.2,SNR=6.6
YKA Yellowknife Ar 86.76 7 i P **P** **19 30 10.5 -1.4**
TRQA Tornquist 148.10 246 ePKPbc PKPbc 19 37 12.4 -1.0

*ISCJB **14** 19:20:56.7±0.6, 4378N±004×10520W±007, h0km, mb4.8/1, Error ellipse: s-maj=7.7km s-min=5.8km az=65.2*
*IDC **14** 19:20:57.2±1.9, 4372N×10553W, h0km, mb4.6/1, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=49.2km s-min=7.7km az=150.0*
*NEIC **14** 19:20:58.4±0.5, 4373N×10522W, h0km, ML3.1, Error ellipse: s-maj=7.3km s-min=5.9km az=147.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 14 19:20:58.2±0.6, 4376N±005×10520W±007, h0km, n28, σ1°03/30, mb4.8/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**66**	eP	**Pg**	**19 21 17.2**	**+1.5**
PHWY	**Pilot Hill**	**2.46**	**185**	eP	**Pn**	**19 21 38.9**	**-0.7**
RWWY	**Rawlins**	**2.55**	**216**	eP	**Pn**	**19 21 40.9**	**+0.1**
RWWY				eS	**Sn**	**19 22 12.9**	**+0.5**
LAO	**LASA Array**	**3.02**	**346**	P	**Pn**	**19 21 45.7**	**-1.5**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**19 21 51.1**	**-0.5**
	3.8nm,0.3s,baz=86,slow=12,SNR=87						
PDAR				Pg	**Pg**	**19 21 56.6**	**-5.5**
	8.4nm,0.3s,baz=72,slow=18,SNR=50						
PDAR				Lg		19 22 33.0	
	8.9nm,0.3s,baz=74,slow=28,SNR=11						
GCMT	**Greycliff**	**3.78**	**304**	eP	**Pn**	**19 21 56.9**	**-0.7**
LKWY	**Lake**	**3.83**	**284**	eP	**Pn**	**19 21 59.6**	**+1.2**
LOHW	**Long Hollow**	**3.93**	**270**	eP	**Pn**	**19 21 55.7**	**-4.0**
ISCO	**Idaho Springs**	**3.97**	**185**	eP	**Pn**	**19 22 00.6**	**+0.3**
FLWY	**Flagg Ranch**	**3.99**	**277**	eP	**Pn**	**19 22 02.3**	**+1.7**
MOOW	**Moose Ponds**	**4.02**	**272**	eP	**Pn**	**19 22 01.2**	**+0.2**
SNOW	**Snow King Moun**	**4.05**	**268**	P	**Pn**	**19 21 59.6**	**-1.7**
YFT	**Old Faithful**	**4.12**	**282**	P	**Pn**	**19 22 01.9**	**-0.5**
REDW	**Red Top Meadow**	**4.13**	**266**	P	**Pn**	**19 22 02.7**	**+0.2**
IMW	**Indian Meadow**	**4.16**	**274**	eP	**Pn**	**19 22 03.1**	**+0.2**
AHID	**Auburn Hatcher**	**4.43**	**259**	eP	**Pn**	**19 22 17.1**	**+11**
QLMT	**Earthquake Lak**	**4.60**	**286**	P	**Pn**	**19 22 09.1**	**+0.1**
QLMT				eP		19 22 20.8	
DGMT	**Dagmar**	**4.76**	**8**	P	**Pn**	**19 22 12.8**	**+1.6**
BOZ	**Bozeman (W)**	**4.96**	**295**	eP	**Pn**	**19 22 13.2**	**-0.7**
HWUT	**Hardware Ranch**	**5.16**	**248**	eP	**Pn**	**19 22 15.5**	**-1.2**
	6.2nm,0.4s						
DLMT	**Dillon**	**5.53**	**289**	eP	**Pn**	**19 22 22.7**	**+1.1**
	4.8nm,0.7s						
HRY	**Holter Researc**	**5.54**	**305**	eP	**Pn**	**19 22 22.6**	**+0.7**
MCMT	**McKenzie Canyo**	**5.60**	**284**	P	**Pn**	**19 22 24.2**	**+1.6**
CHMT	**Chamberlain Mo**	**6.50**	**302**	eP	**Pn**	**19 22 35.3**	**+0.3**
DUG	**Dugway**	**6.70**	**240**	eP	**Pn**	**19 22 37.5**	**-0.3**
	2.2nm,0.4s						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 23 10.2**	**-0.4**
	3.2nm,0.3s,baz=230,slow=11,SNR=21						
ULM				Lg		19 25 42.0	
	0.5nm,0.3s,baz=185,slow=19,SNR=2.6						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**Pn**	**19 25 27.2**	**-1.4**
	baz=154,slow=9.0,SNR=4.3						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 31 14.0**	**-2.0**
	8.7nm,1.1s,mb4.8,baz=337,slow=6.9,SNR=6.3						

MOS 14 19:24:41.9±2.5, 4279N×4629E, h19km, mb3.8/1, 1C, Error ellipse: s-maj=26.5km s-min=16.9km az=22.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.14**	**202**	ePG	Pg	19 24 44.0	-2.1
BTLR				pmax	pmax		
	comp=Z,57nm,0.2s						
XNZR	**Khunzakh**	**0.39**	**129**	i PG	Pg	19 24 49.2	-0.9
XNZR				pmax	pmax		
	comp=Z,73nm,0.2s						
DBC	**Dubki**	**0.46**	**60**	ePG	Pg	19 24 50.2	-1.1
DBC				i S	Sg	19 24 57.2	-0.4
BUJR	**Buynaksk**	**0.60**	**86**	ePG	Pg	19 24 52.5	-1.4
BUJR				eS	Sb	19 25 02.0	+0.1
KMKR	**Kumukh**	**0.89**	**137**	⇑iPG	Pg	19 24 57.0	-2.3
KMKR				eS	Sb	19 25 08.0	-2.2
KMKR				pmax	pmax		
	comp=Z,38nm,0.2s						
SNJR	**Sundja**	**1.12**	**285**	ePG	Pg	19 25 10.6	+7.0
BTKR	**Batakoyurt**	**1.41**	**295**	ePG	Pg	19 25 15.2	+6.2
LACR	**Lac**	**1.47**	**272**	i PG	Pg	19 25 14.5	+4.3
ARNR	**Ardon**	**1.53**	**286**	ePG	Pg	19 25 16.3	+4.9
KMSR	**Komsomolskaya**	**1.57**	**292**	ePG	Pg	19 25 17.2	+5.0
ZEI	**Tsey**	**1.76**	**270**	ePN	Pn	19 25 19.2	+7.8
ZEI				e		19 25 44.2	

*UPP **14** 19:30:30.0, 5660N×1060E, h0km, ML2.5, Suspected Mining explosion.*
*ISCJB **14** 19:30:33.4±0.5, 5687N±004×11.16E±008, h0km, Error ellipse: s-maj=6.4km s-min=5.3km az=83.5*
*CSEM **14** 19:30:33.1±0.1, 5684N×1108E, h1km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.6km az=144.0, Suspected Mining explosion.*
*IDC **14** 19:30:37.2±2.5, 5715N×1076E, h0km, mb1 3.1/4, mb1mx2.9/22, mbtmp3.0/4, ML2.6/3, Error ellipse: s-maj=20.9km s-min=20.1km az=28.0*

ISC 14 19:30:34.4±0.5, 5683N±004×1116E±007, h0km, n27, σ0°75/34, 1C, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.16**	**252**	⇑iP	**Pg**	**19 30 55.7**	**-1.0**
MUD				i S	**Sg**	**19 31 12.9**	**+1.2**
COP	**Copenhagen**	**1.35**	**148**	i P	**Pg**	**19 30 59.3**	**-0.9**
COP				i S	**Sg**	**19 31 18.3**	**+0.7**
COP				i		19 31 20.1	
COP	**Copenhagen**	**1.35**	**148**	i P	**Pg**	**19 30 59.3**	**-0.9**
COP				i S	**Sg**	**19 31 18.3**	**+0.7**
VXJU	**Vaexsjoe**	**2.08**	**86**	P	**Pn**	**19 31 10.6**	**+0.2**
BLEU	**Blekinge**	**2.63**	**100**	P	**Pn**	**19 31 18.0**	**0.0**
FINU	**Finntorp**	**2.68**	**15**	P	**Pn**	**19 31 18.1**	**-0.6**
BSD	**Bornholm Skovb**	**2.72**	**128**	i P	**Pn**	**19 31 17.4**	**-1.9**
BSD				i		19 31 22.5	
BSD				eS	**Sn**	**19 31 59.3**	**+6.4**
OSKU	**Oskarshamn**	**2.72**	**80**	P	**Pn**	**19 31 19.8**	**+0.4**
LNKU	**Linkoeping**	**2.73**	**57**	P	**Pn**	**19 31 20.0**	**+0.6**

ASKU	**Askersund**	**2.85**	**42**	P	**Pn**	**19 31 22.4**	**+1.3**
ASPU	**Aespoe**	**3.02**	**76**	P	**Pn**	**19 31 24.0**	**+0.5**
VSTU	**Vaestervik**	**3.04**	**72**	P	**Pn**	**19 31 23.7**	**0.0**
BYXU	**Byxelkrok**	**3.23**	**79**	P	**Pn**	**19 31 26.8**	**+0.5**
NRAU	**Nora**	**3.43**	**35**	P	**Pn**	**19 31 28.9**	**-0.2**
HFS	**Hagfors**	**3.57**	**21**	Pn	**Pn**	**19 31 30.4**	**-0.6**
	0.2nm,0.3s,baz=209,slow=18,SNR=9.7						
HFS				Pg	**Pg**	**19 31 36.2**	**-6.7**
	0.3nm,0.3s,baz=195,slow=13,SNR=20						
HFS				Sn	**Sn**	**19 32 06.8**	**-7.1**
	0.2nm,0.3s,baz=193,slow=25,SNR=2.8						
HFS				Lg		19 32 23.1	
	0.5nm,0.3s,baz=210,slow=23,SNR=4.9						
ESKU	**Eskilstuna**	**3.68**	**47**	P	**Pn**	**19 31 32.5**	**0.0**
GOTU	**Gotland**	**4.11**	**75**	P	**Pn**	**19 31 39.0**	**+0.5**
NOA	**NORSAR Array B**	**4.23**	**0**	Pn	**Pn**	**19 31 36.2**	**-3.8**
	0.2nm,0.3s,baz=184,slow=13,SNR=2.3						
NOA				Lg		19 32 41.1	
	0.5nm,0.3s,baz=213,slow=21,SNR=4.0						
NYNU	**Nynaeshamn**	**4.25**	**56**	P	**Pn**	**19 31 40.7**	**+0.3**
BACU	**Backbrunna**	**4.36**	**43**	P	**Pn**	**19 31 42.2**	**+0.3**
FALU	**Falun**	**4.41**	**32**	P	**Pn**	**19 31 43.3**	**+0.7**
FLYU	**Flymyra**	**4.84**	**44**	P	**Pn**	**19 31 48.3**	**-0.1**
NRTU	**Norrtaelje**	**4.87**	**51**	P	**Pn**	**19 31 48.7**	**-0.2**
GRAU	**Graesoe**	**5.22**	**45**	P	**Pn**	**19 31 53.2**	**-0.5**
ARNU	**Arnoeviken**	**5.83**	**31**	P	**Pn**	**19 32 01.9**	**-0.1**
FINES	**FINESS Array B**	**8.95**	**53**	Pn	**Pn**	**19 32 44.2**	**-0.7**
	0.1nm,0.3s,baz=257,slow=12,SNR=6.8						
FINES				Sn	**Sn**	**19 34 22.1**	**-4.2**
	0.1nm,0.3s,baz=256,slow=23,SNR=3.4						
FINES				Lg		19 35 16.3	
	0.1nm,0.3s,baz=254,slow=25,SNR=2.9						
ARCES	**ARCESS Array B**	**14.24**	**21**	Pn	**Pn**	**19 33 52.4**	**-4.8**
	0.0nm,0.3s,baz=212,slow=14,SNR=2.1						

*NEIC **14** 19:32:07.7±1.2,2384S×17762W,h113km±12km,mb5.1/14, Error ellipse: s-maj=13.6km s-min=9.2km az=117.0*
*BJI **14** 19:32:07.6,2380S×17760W,h112km,mB5.4,mb4.6*
*HRVD **14** 19:32:07.7±0.9,2420S×177.16W,h136km±7km,MW5.0/28, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s28,c35; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.76±.34; $M_{\theta\theta}$-1.10±.39; $M_{\phi\phi}$3.86±.37; $M_{r\theta}$-1.29±.31; $M_{\theta\phi}$2.26±.32; $M_{\phi r}$-0.19±.31; Best double couple: $M_0$4.19600×10^{16} NP1:ϕ_s170.00000°,δ50.00000°,λ-138.00000°. NP2: ϕ_s50.00000°,δ59.00000°,λ-48.00000°. Principal axes: T 4.7910, Plg5.0000°, Azm112.0000°; N -1.1890, Plg35.0000°, Azm205.0000°; P -3.6020, Plg55.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **14** 19:32:13.1±1.7,2376S±007×177.75W±008,h175km±15km, mb4.7/22 Error ellipse: s-maj=12.4km s-min=10.4km az=56.1*
*MOS **14** 19:32:13.3±1.0,2452S×17836W,h126km,mb4.9/8,Error ellipse: s-maj=17.4km s-min=16.3km az=167.3*
*IDC **14** 19:32:23.6±1.9,2370S×17786W,h260km±17km,mb4.1/8, mb1 4.3/8,mb1mx4.0/15,mbtmp4.7/8,Error ellipse: s-maj=18.2km s-min=12.0km az=167.0*

ISC 14 19:32:10.1±1.6,2382S±006×17766W±008,h132km±15km, h130km±7.8km;pP-P,n105,σ1°10/73,mb4.7/22,16C-9D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.41**	**182**	P	**Pn**	**19 33 45.1**	**+16**
	286nm,0.3s,baz=18,slow=20,SNR=4.6						
RAO				S	**Sn**	**19 34 37.3**	**+7.3**
	374nm,0.3s,baz=234,slow=19,SNR=4.6						
RAO	**Raoul Island**	**5.41**	**182**	P	**Pn**	**19 33 45.1**	**+16**
RAO				S	**Sn**	**19 34 37.3**	**+7.3**
RAO	**Raoul Island**	**5.41**	**182**	*e*Pn	**Pn**	**19 33 24.8**	**-3.9**
AFI	**Afiamalu**	**11.32**	**30**	P	**Pn**	**19 34 46.8**	**-1.1**
	10nm,0.3s,baz=5.8,slow=4.7,SNR=12						
AFI				S	**Sn**	**19 36 42.8**	**-10**
	27nm,0.3s,baz=36,slow=22,SNR=14						
AFI	**Afiamalu**	**11.32**	**30**	*e*Pn	**Pn**	**19 34 46.8**	**-1.1**
	117nm,0.9s						
AFI				*e*Sn	**Sn**	**19 36 41.6**	**-11**
DZM	**Mont Dzumac**	**14.75**	**274**	P	**Pn**	**19 35 41.3**	**+9.2**
	1.1nm,0.3s,baz=71,slow=17,SNR=14						
MWZ	**Matawai**	**15.04**	**195**	SN	**Sn**	**19 38 14.7**	**-7.6**
URZ	**Urewera**	**15.07**	**196**	P	**Pn**	**19 35 40.0**	**+3.8**
	9.5nm,0.3s,baz=357,slow=3.3,SNR=28						
URZ				S	**S**	**19 38 20.8**	**-10**
	6.4nm,0.3s,baz=91,slow=22,SNR=9.8						
RAR	**Rarotonga**	**16.73**	**85**	P	**Pn**	**19 35 59.0**	**+2.4**
	1.5nm,0.3s,baz=258,slow=11,SNR=5.6						
BFZ	**Birch Farm**	**17.57**	**196**	SN	**Sn**	**19 39 09.4**	**-14**
MRZ	**Mangatainoka R**	**17.73**	**197**	PN	**Pn**	**19 36 07.7**	**-0.9**
MRZ				SN	**Sn**	**19 39 10.5**	**-16**
SNZO	**South Karori**	**18.57**	**198**	P	**P**	**19 36 15.6**	**-1.3**
	75nm,1.0s						
SNZO				*e*S	**S**	**19 39 31.3**	**-10**
THZ	**Tophouse**	**19.55**	**202**	PN	**Pn**	**19 36 28.8**	**-1.2**
KHZ	**Kahutara**	**19.93**	**199**	PN	**P**	**19 36 33.0**	**+1.4**
WVZ	**Waitaha Valley**	**21.46**	**204**	PN	**P**	**19 36 48.6**	**+0.6**
RPZ	**Rata Peaks**	**21.91**	**202**	P	**P**	**19 36 52.4**	**-0.3**
	17nm,0.4s,mb4.8,baz=328,slow=2.5,SNR=15						
JCZ	**Jackson Bay**	**23.07**	**206**	PN	**P**	**19 37 04.0**	**0.0**
ARMA	**Armidale**	**28.05**	**250**	*e*P	**P**	**19 37 51.9**	**+2.9**
CTA	**Charters Tower**	**33.62**	**269**	*e*P	**P**	**19 38 39.6**	**+1.7**
	25nm,0.5s,mb5.2						
CTA	**Charters Tower**	**33.62**	**269**	P	**P**	**19 38 39.9**	**+2.0**
	27nm,0.4s,mb5.3,baz=89,slow=11,SNR=15						
CTAO	**Charters Tower**	**33.62**	**269**	*e*P	**P**	**19 38 39.7**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,27nm,0.5s,mb5.2						
CTAO	**Charters Tower**	**33.62**	**269**	*e*P	**P**	**19 38 39.6**	**+1.8**
	comp=Z,27nm,0.5s,mb5.2						
PMG	**Port Moresby**	**36.50**	**287**	P	**P**	**19 39 03.6**	**+1.0**
	comp=Z,24nm,0.9s,mb4.8,baz=84,slow=5.6,SNR=14						
PMG	**Port Moresby**	**36.50**	**287**	*e*P	**P**	**19 39 03.8**	**+1.2**
PMG				pmax	pmax		
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**36.50**	**287**	*e*P	**P**	**19 39 03.8**	**+1.2**
	comp=Z,29nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**36.74**	**248**	*e*P	**P**	**19 39 03.8**	**-0.8**
	comp=Z,5.7nm,0.5s,mb4.5						
STKA				*e*PCP	PcP	19 41 21.8	-2.4
STKA	**Stephens Creek**	**36.74**	**248**	P	**P**	**19 39 04.6**	**0.0**
	comp=Z,7.4nm,0.6s,mb4.5,baz=97,slow=10.0,SNR=30						
STKA				PcP	PcP	19 41 21.9	-2.3
	comp=Z,5.4nm,0.7s,baz=76,slow=3.3,SNR=8.3						
STKA	**Stephens Creek**	**36.74**	**248**	*e*P	**P**	**19 39 03.8**	**-0.8**
STKA				*e*PcP	PcP	19 41 21.8	-2.4
ASAR	**Alice Springs**	**44.16**	**260**	P	**P**	**19 40 05.9**	**+0.3**
	comp=Z,9.6nm,0.9s,mb4.4,baz=96,slow=6.6,SNR=43						
ASAR				PcP	PcP	19 41 47.4	-0.9
	comp=Z,3.1nm,0.7s,baz=109,slow=3.8,SNR=11						
ASAR				ScP	ScP	19 45 18.9	-8.9
	comp=Z,1.1nm,0.7s,baz=104,slow=4.1,SNR=6.4						
ASAR				S	**S**	**19 46 18.8**	**-10**
	comp=Z,0.5nm,0.7s,baz=94,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**44.16**	**260**	P	**P**	**19 40 05.9**	**+0.3**
ASAR						19 41 47.4	
ASAR				S	**S**	**19 46 18.9**	**-10**
WB2	**Warramunga Arr**	**44.53**	**265**	⇓*i*P	**P**	**19 40 08.3**	**-0.3**
WB2				*e*S	**S**	**19 46 23.0**	**-11**
WRAB	**Tennant Creek**	**44.54**	**265**	P	**P**	**19 40 08.7**	**+0.1**
	comp=Z,124nm,0.6s,mb5.7,SNR=14						
WRAB	**Tennant Creek**	**44.54**	**265**	*e*P	**P**	**19 40 08.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**44.54**	**265**	*e*P	**P**	**19 40 08.1**	**-0.5**
	comp=Z,18nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**44.55**	**265**	P	**P**	**19 40 07.5**	**-1.2**
	comp=Z,14nm,0.7s,mb4.7,baz=102,slow=8.3,SNR=89						
WRA				PcP	PcP	19 41 48.3	-1.3
	comp=Z,3.4nm,0.8s,baz=103,slow=3.1,SNR=7.5						
WRA				ScP	ScP	19 45 21.0	-8.4
	comp=Z,3.0nm,0.9s,baz=98,slow=4.3,SNR=11						
WRA				S	**S**	**19 46 23.4**	**-11**
	comp=Z,2.0nm,1.0s,baz=99,slow=14,SNR=7.6						
WRA	**Warramunga Arr**	**44.55**	**265**	P	**P**	**19 40 07.5**	**-1.2**
WRA						19 41 48.3	
WRA				S	**S**	**19 46 23.4**	**-11**
KAKA	**Kakadu**	**48.44**	**274**	*e*P	**P**	**19 40 38.3**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.97**	**265**	*e*P	**P**	**19 41 13.4**	**+0.4**
	comp=Z,11nm,0.8s,mb4.7						
SBA	**Scott Base**	**54.59**	**184**	*e*P	**P**	**19 41 25.3**	**+0.5**
SBA				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.1						
SBA	**Scott Base**	**54.59**	**184**	*e*P	**P**	**19 41 25.2**	**+0.4**
	comp=Z,56nm,1.3s,mb5.1						
VNDA	**Vanda**	**54.65**	**185**	P	**P**	**19 41 26.7**	**+1.5**
	comp=Z,2.3nm,0.6s,mb4.1,baz=355,slow=8.6,SNR=15						
VNDA	**Vanda**	**54.65**	**185**	*e*P	**P**	**19 41 26.8**	**+1.7**
	comp=Z,8.2nm,1.1s,mb4.4						
VNDA				*e*pP	pP	19 41 59.1	+3.1
VNDA				*e*PcP	PcP	19 42 25.2	-1.3
NWAO	**Narrogin (SRO)**	**57.21**	**245**	*e*P	**P**	**19 41 43.7**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,16nm,1.3s						
NWAO	**Narrogin (SRO)**	**57.21**	**245**	*e*P	**P**	**19 41 43.7**	**+0.3**
	comp=Z,16nm,1.3s,mb4.7						
MBWA	**Marble Bar**	**57.49**	**259**	*e*P	**P**	**19 41 44.5**	**-0.9**
	comp=Z,30nm,1.4s,mb4.9						
CASY	**Casey**	**61.12**	**206**	*e*P	**P**	**19 42 09.8**	**-0.5**
	comp=Z,29nm,0.9s,mb5.1						
QSPA	**South Pole Qui**	**66.26**	**180**	*e*P	**P**	**19 42 45.2**	**+1.1**
	comp=Z,43nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**73.07**	**324**	P	**P**	**19 43 26.4**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**73.07**	**324**	P	**P**	**19 43 26.4**	**+0.6**
	comp=Z,9.1nm,1.0s,mb4.5						
MAW	**Mawson**	**78.56**	**200**	*e*P	**P**	**19 43 57.2**	**+0.2**
MAW				pmax	pmax		
	comp=Z,21nm,0.7s						
MAW	**Mawson**	**78.56**	**200**	*e*P	**P**	**19 43 57.2**	**+0.2**
	comp=Z,21nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**83.22**	**43**	P	**P**	**19 44 21.8**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=219,slow=8.2,SNR=16						
SYO	**Syowa Base**	**83.57**	**193**⇑	*e*PcP	PcP	19 44 26.8	-0.7
SYO	**Syowa Base**	**83.57**	**193**⇓	*e*pP	pP	19 44 48.8	-8.0
SYO	**Syowa Base**	**83.57**	**193**⇑	*e*P	**P**	**19 44 21.9**	**-1.6**
SYO			⇑	*e*PcP	PcP	19 44 26.8	-0.7
SYO			⇓	*e*pP	pP	19 44 48.8	-8.0
KULM	**Kulim**	**84.55**	**278**	*e*P	**P**	**19 44 27.9**	**-0.5**
VNA3	**Neumayer Olymp**	**84.82**	**176**	*e*	**P**	**19 44 29.0**	**-0.8**
VNA2	**Neumayer--Watz**	**85.27**	**177**	*e*	**P**	**19 44 31.1**	**-0.9**
	baz=179,slow=3.5						
NVL	**N'lazarevskaya**	**85.43**	**183**⇓	*i*P	**P**	**19 44 33.3**	**+0.4**
NVL				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
NVL				MLR	MLR		
	comp=E,120nm,14.5s						
NVL				MLR	MLR		
	comp=Z,292nm,16.9s						
NVL				MLR	MLR		
	comp=N,235nm,18.6s						
PDAR	**Pinedale Array**	**91.16**	**43**	P	**P**	**19 44 58.9**	**-1.2**
	comp=N,1.0nm,0.8s,mb3.9,baz=219,slow=3.8,SNR=8.2						
SDCO	**Great Sand Dun**	**91.29**	**49**	P	**P**	**19 45 00.3**	**-0.3**
	comp=N,1.1nm,0.8s,mb3.9						
HHC	**Hu-ho-hao-te**	**91.89**	**314**	*e*P	**P**	**19 45 05.6**	**+2.2**
HHC				AP	pP	19 45 38.8	+1.7
HHC				XP	sP	19 45 45.8	-5.1
HHC				PP	PP	19 48 47.6	+3.3
HHC				SKS		19 55 25.3	
HHC				S		19 55 55.3	
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,280nm,5.0s						
HHC				LR	LR		
	comp=N,217nm,13.0s						
HHC				LR	LR		
	comp=E,156nm,14.0s						
HHC				LR	LR		
	comp=Z,222nm,13.0s						
BILL	**Bilibino**	**92.36**	**354**	*e*P	**P**	**19 45 02.4**	**-3.2**
MKAR	**Makanchi Array**	**113.68**	**312**	PKiKP	PKiKP	19 50 29.5	-3.4
	comp=Z,0.5nm,0.7s,baz=203,slow=1.6,SNR=6.0						
MKAR				PKKPbc	PKKPbc	20 01 15.0	-1.0
	comp=Z,0.5nm,0.7s,baz=286,slow=2.9,SNR=5.3						
MKAR	**Makanchi Array**	**113.68**	**312**	PKPdf	PKiKP	19 50 29.5	-3.4
MKAR				PKKPbc	PKKPbc	20 01 15.0	-1.1
BOSA	**Boshof**	**123.39**	**204**	PKP	PKPdf	19 50 50.8	-0.8
	comp=Z,2.5nm,0.9s,baz=161,slow=1.2,SNR=4.8						
AKTK	**Aktyubinsk**	**129.72**	**317**	PKP	PKPdf	19 51 01.2	-2.4
AKTO	**Aktyubinsk**	**129.72**	**317**	PKP	PKPdf	19 51 01.2	-2.4
	comp=Z,0.7nm,0.6s,baz=92,slow=8.5,SNR=3.8						
ARCES	**ARCESS Array B**	**132.23**	**349**	PKP	PKPdf	19 51 05.1	-3.3
	comp=Z,2.8nm,0.8s,baz=333,slow=2.7,SNR=3.9						
ARCES	**ARCESS Array B**	**132.23**	**349**	PKP	PKPdf	19 51 05.1	-3.3
FINES	**FINESS Array B**	**139.03**	**343**	PKhKP		19 51 12.2	
	comp=Z,1.4nm,1.0s,baz=90,slow=5.7,SNR=5.8						
NB2	**NORSAR Subarra**	**142.30**	**353**	PKPd	PKPdf	19 51 19.2	-7.8
	comp=Z,1.2nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**142.30**	**353**	PKhKP		19 51 19.0	
	comp=Z,1.0nm,0.6s,baz=39,slow=4.4,SNR=4.0						
HFS	**Hagfors**	**142.85**	**351**	PKhKP		19 51 21.5	
	comp=Z,2.3nm,0.5s,baz=72,slow=4.7,SNR=17						
AKASG	**Malin Array Be**	**146.04**	**329**	PKPbc	PKPbc	19 51 31.1	-3.4
	comp=Z,6.9nm,0.5s,baz=44,slow=3.9,SNR=51						
MALT	**Malatya**	**146.11**	**304**	⇓PKHKP		19 51 34.1	
MALT	**Malatya**	**146.11**	**304**	*e*PKPdf	PKPdf	19 51 33.4	-0.2
EKA	**Eskdalemuir Ar**	**148.27**	**6**	PKPbc	PKPbc	19 51 37.5	-3.2
	comp=Z,2.0nm,0.7s,baz=346,slow=3.4,SNR=4.1						
BR131	**Keskin Array S**	**149.22**	**308**	*e*PKPdf	PKPdf	19 51 39.3	+0.6
BRTR	**Keskin Array B**	**149.22**	**308**	PKPbc	PKPbc	19 51 41.1	-2.0
	comp=Z,4.7nm,0.7s,baz=141,slow=5.1,SNR=24						
KWP	**Kalwaria**	**149.70**	**333**	*e*PKIKP	PKPdf	19 51 39.7	+0.2
KWP				*e*		19 51 42.4	
KWP	**Kalwaria**	**149.70**	**333**	*e*PKPdf	PKPdf	19 51 39.7	+0.2
KWP				*e*PKPbc	PKPbc	19 51 42.4	-1.9
KWP				*e*PKPab	PKPab	19 51 49.4	-0.6
ANTO	**Ankara**	**149.77**	**309**	⇑PKIKP	PKPdf	19 51 43.4	+3.8
BURAR	**Bucovina Array**	**150.07**	**328**	⇓P	PKPdf	19 51 44.6	+4.5
BURAR	**Bucovina Array**	**150.07**	**328**	⇓P	PKPdf	19 51 44.6	+4.5
CFR	**Carcaliu**	**150.12**	**322**	⇑P	PKPdf	19 51 43.7	+3.6
CFR	**Carcaliu**	**150.12**	**322**	⇑P	PKPdf	19 51 43.7	+3.5
TIRR	**Tirgusor**	**150.39**	**320**	⇑P	PKPdf	19 51 43.2	+2.6
TIRR	**Tirgusor**	**150.39**	**320**	⇑P	PKPdf	19 51 43.2	+2.6
HARR	**Harsova**	**150.53**	**321**	⇑P	PKPdf	19 51 44.9	+4.1
HARR	**Harsova**	**150.53**	**321**	⇑P	PKPdf	19 51 44.9	+4.1
NIE	**Niedzica**	**150.81**	**336**	*e*PX	PKPdf	19 51 45.8	+4.6
MLR	**Muntele Rosu**	**151.13**	**324**	PKPbc	PKPbc	19 51 45.1	-2.6
	comp=Z,2.9nm,0.8s,baz=129,slow=11,SNR=3.9						
MLR	**Muntele Rosu**	**151.13**	**324**	⇑P	PKPdf	19 51 45.3	+3.6
MLR	**Muntele Rosu**	**151.13**	**324**	⇑P	PKPdf	19 51 45.3	+3.6
CLL	**Collm**	**151.35**	**346**⇑	*i*P	PKPdf	19 51 46.3	+4.3
	comp=Z,11nm,0.7s						
CLL				*ex*	x	19 52 54.0	
CLL	**Collm**	**151.35**	**346**⇑	*i*PKIKP	PKPdf	19 51 46.3	+4.3
CLL				*e*		20 20 34.0	
CLL				pmax	pmax		
	comp=Z,11nm,0.7s						
BRG	**Berggiesshubel**	**151.54**	**344**	*i* P	PKPdf	19 51 46.6	+4.3
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**151.54**	**344**	*i* PKIKP	PKPdf	19 51 46.7	+4.4
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DRGR		**151.85**	**330**	⇑P	PKPdf	19 51 47.5	+4.7
DRGR		**151.85**	**330**	⇑P	PKPdf	19 51 47.5	+4.7
BZS	**Buzias**	**153.23**	**329**	⇓P	PKPdf	19 51 50.2	+5.4
BZS	**Buzias**	**153.23**	**329**	⇓P	PKPdf	19 51 50.2	+5.4
GERES	**GERESS Array B**	**153.46**	**343**	PKPbc	PKPbc	19 51 49.7	-3.2
	comp=Z,0.6nm,0.7s,baz=0.0,slow=2.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**169.36**	**177**	PKP	PKPdf	19 51 59.5	-2.2
	comp=Z,2.5nm,0.9s,baz=317,slow=0.5,SNR=9.5						
TORD				PKPab	PKPab	19 53 14.0	-1.0
	comp=Z,3.7nm,0.8s,baz=176,slow=3.0,SNR=14						

*ISCJB **14** 20:14:37.7±1.4,115N±0.1×435E±0.2,h10km,Error ellipse: s-maj=25.9km s-min=8.8km az=57.3*
*DHMR **14** 20:14:37.2±0.9,1162N×4340E,h10km±10km,ML3.6*

ISC 14 20:14:38.6±1.5,115N±01×436E±02,h10km,n8,σ0°99/15, 3D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.83**	**16**⇓	*i*P	**Pn**	**20 15 08.7**	**-1.5**
TRBA				*i* S	**Sn**	**20 15 32.7**	**-0.7**
TRBA				AML	AML	20 15 43.0	
	comp=N,578nm,0.4s						
UDYN	**Al 'Udayn**	**2.52**	**8**⇓	*i*P	**Pn**	**20 15 19.2**	**-0.4**
UDYN				*i* S	**Sn**	**20 15 51.1**	**+0.8**
UDYN				AML	AML	20 16 08.5	
	comp=N,477nm,0.7s						
UDYN	**Al 'Udayn**	**2.52**	**8**⇓	*i*P	**Pn**	**20 15 19.2**	**-0.4**
UDYN				*i* S	**Sn**	**20 15 51.1**	**+0.8**
	comp=N,238nm,0.7s						
LBOS		**2.89**	**34**	*i* P	**Pn**	**20 15 26.0**	**+1.3**
DHBB	**Dhamar BB**	**3.19**	**14**	*i* P	**Pn**	**20 15 28.6**	**-0.2**
DHBB				*i* S	**Sn**	**20 16 10.1**	**+3.2**
HAJJ	**Hajjah**	**4.21**	**0**	*i* P	**Pn**	**20 15 41.9**	**-0.9**
HAJJ				*i* S	**Sn**	**20 16 32.2**	**+0.1**
HAJJ				AML	AML	20 16 51.7	
	comp=N,243nm,0.6s						
HAJJ	**Hajjah**	**4.21**	**0**	*i* P	**Pn**	**20 15 41.9**	**-1.0**
HAJJ				*i* S	**Sn**	**20 16 32.2**	**+0.1**
	comp=N,122nm,0.6s						
FURI	**Furi**	**5.46**	**243**	*e*PN	**Pn**	**20 16 00.5**	**+0.5**
FURI				*e*S	**Sn**	**20 17 09.4**	**+6.5**

CASC 14 20:20:53.9±3.8,1377N×9159W,h23km±18km,MD3.7, ML3.8,1C-1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.99**	**47**⇑	*e*P	Pn	20 21 12.0	-0.3
PCG	**Pacaya**	**1.13**	**57**	*e*P	Pn	20 21 15.8	+1.5
PCG				*e*S	Sb	20 21 29.5	+0.4
TP2	**Tecpan 2**	**1.15**	**28**	*e*P	Pn	20 21 13.6	-0.9
TP2				AML	AML	20 21 29.7	
	comp=E,2μm,0.3s						
IXG	**Ixpaco**	**1.17**	**70**	*e*P	Pn	20 21 14.0	-0.8
IXG				*e*S	Sn	20 21 34.6	+4.6
NBG	**Las Nubes**	**1.45**	**56**⇓	*e*P	Pn	20 21 20.2	+1.5
NBG				*e*S	Sn	20 21 40.0	+3.0
RTR	**El Retiro**	**1.89**	**86**	*e*P	Pn	20 21 40.9	+16
RTR				*e*S	Sn	20 22 05.7	+18
SBLS	**San Blas**	**1.91**	**88**	*e*P	Pn	20 21 41.7	+17
SBLS				*e*S	Sn	20 22 05.0	+17
SNJE	**San Jose**	**1.93**	**87**	*e*P	Pn	20 21 42.0	+17
SNJE				*e*S	Sn	20 22 05.8	+17
LFRS	**El Faro**	**2.46**	**93**	*e*P	Pn	20 21 49.8	+17
LFRS				*e*S	Sn	20 22 19.5	+18
LCBS	**La Ceiba**	**2.54**	**92**	*e*P	Pn	20 21 50.0	+16
LCBS				*e*S	Sn	20 22 20.2	+16

*ISCJB **14** 20:47:17.0±5.3,47S±03×1527E±04,h107km±38km, mb3.7/6,Error ellipse: s-maj=72.0km s-min=29.4km az=52.8*
*IDC **14** 20:47:22.6±8.5,473S×15240E,h135km±56km,mb3.3/4, mb1 3.4/5,mb1mx3.3/15,mbtmp3.7/5,MS3.0/2,Ms1 3.0/2, ms1mx2.8/8,Error ellipse: s-maj=99.5km s-min=28.1km az=101.0*

ISC 14 20:47:18.2±4.8,48S±02×1528E±04,h106km±32km,n11, σ0°45/9,mb3.7/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.25**	**230**	P	**Pn**	**20 49 01.2**	**-0.2**
	0.8nm,0.3s,baz=39,slow=18,SNR=3.8						
PMG				S	**Sn**	**20 50 22.3**	**+0.2**
	1.3nm,0.3s,baz=150,slow=20,SNR=3.8						
HNR	**Honiara**	**8.45**	**123**	LR	LR	20 52 27.9	
	comp=Z,104nm,18.2s,baz=359,slow=35						
KAKA	**Kakadu**	**21.61**	**247**	*e*P	**P**	**20 51 59.5**	**0.0**
	7.1nm,0.6s,mb4.2						
DZM	**Mont Dzumac**	**21.67**	**144**	LR	LR	20 58 40.1	
	comp=Z,34nm,20.6s,baz=201,slow=31						
WB2	**Warramunga Arr**	**23.45**	**228**	*e*P	**P**	**20 52 18.3**	**+0.4**
WRA	**Warramunga Arr**	**23.46**	**228**	P	**P**	**20 52 17.3**	**-0.7**
	1.3nm,0.5s,mb3.5,baz=51,slow=9.7,SNR=20						
ASAR	**Alice Springs**	**26.17**	**222**	P	**P**	**20 52 43.2**	**+0.7**
	0.6nm,0.5s,mb3.3,baz=55,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**29.68**	**241**	*e*P	**P**	**20 53 13.1**	**-0.7**
	4.5nm,1.0s,mb4.0						
SONM	**Songino Array**	**66.32**	**328**	P	**P**	**20 57 55.6**	**+0.4**
	0.3nm,0.6s,mb3.3,baz=

BSD				*i*			21 17 49.1	
BSD				*i* S		Sn	21 18 26.6	+6.0
LNKU	Linkoeping	2.84	59	P		Pn	21 17 46.6	+0.5
OSKU	Oskarshamn	2.86	80	P		Pn	21 17 46.4	+0.1
ASKU	Askersund	2.95	44	P		Pn	21 17 48.4	+0.9
ASPU	Aespoe	3.15	77	P		Pn	21 17 50.7	+0.3
VSTU	Vaestervik	3.17	72	P		Pn	21 17 50.4	-0.2
BYXU	Byxelkrok	3.36	79	P		Pn	21 17 53.4	+0.2
NRAU	Nora	3.51	37	P		Pn	21 17 55.8	+0.5
BLS5	Blasjo	3.52	320	*e*P		Pn	21 17 56.9	+1.5
BLS5				*e*S		Sn	21 18 37.4	-0.3
HFS	Hagfors	3.63	23	Pn		Pn	21 17 57.7	+0.8
	baz=218,slow=16							
HFS				Pg		Pg	21 18 03.4	-5.6
	baz=198,slow=16							
HFS				Lg			21 18 50.8	
	baz=243,slow=37							
HFS	Hagfors	3.63	23	Pg		Pg	21 18 03.4	-5.6
	SNR=90							
ESKU	Eskilstuna	3.78	48	P		Pn	21 17 59.0	0.0
ODD1	Odda	3.83	326	*e*P		Pn	21 17 59.0	-0.7
ODD1				*e*S		Sn	21 18 43.5	-2.0
ODD1				AML		AML	21 19 04.2	
	comp=Z,7.1nm,0.7s							
ODD1	Odda	3.83	326	*e*P		Pn	21 17 59.0	-0.7
	SNR=50							
ODD1				*e*S		Sn	21 18 43.5	-2.0
	comp=Z,7.1nm,0.7s,SNR=50							
KMY	Karmoy	3.85	311	*e*P		Pn	21 18 00.2	+0.3
KMY	Karmoy	3.85	311	*e*P		Pn	21 18 00.2	+0.2
	SNR=50							
NB2	NORSAR Subarra	4.23	2	Pn		Pn	21 18 04.9	-0.4
	baz=182,slow=14							
NB2				Pg		Pg	21 18 16.1	-4.5
NB2				Lg			21 19 11.6	
	baz=179,slow=37							
NYNU	Nynaeshamn	4.37	57	P		Pn	21 18 07.3	+0.2
BACU	Backbrunna	4.46	44	P		Pn	21 18 08.7	+0.4
FALU	Falun	4.49	33	P		Pn	21 18 09.9	+1.2
EGD	Espegrend	4.56	322	*e*P		Pn	21 18 09.7	-0.1
BER	Bergen	4.61	323	*e*P		Pn	21 18 10.0	-0.5
OSTU	Oestervaala	4.72	41	P		Pn	21 18 12.2	+0.3
ASK	Askoy	4.73	323	*e*P		Pn	21 18 12.0	-0.1
FLYU	Flymyra	4.93	45	P		Pn	21 18 14.8	-0.1
NRTU	Norrtaelje	4.98	52	P		Pn	21 18 15.3	-0.2
GRAU	Graesoe	5.32	45	P		Pn	21 18 19.9	-0.3
ARNU	Arnoeviken	5.90	31	P		Pn	21 18 28.6	+0.5
FIA0	FINESS Array S	9.06	53	Pn		Pn	21 19 10.4	-1.0
	baz=253,slow=11							
FIA0				Sn		Sn	21 20 49.3	-4.8
	baz=248,slow=22							
FIA0				Lg			21 21 36.8	
	baz=240,slow=22							
ARA0	ARCESS Array S	14.29	21	P		Pn	21 20 19.4	-3.6

IDC ***14*** *21:18:28.3±8.1,3505N×2261E,h0km,mb3.7/3,mb1 3.7/4, mb1mx3.4/22,mbtmp3.6/4,ML2.4/1,Error ellipse: s-maj=149.7km s-min=58.5km az=26.0*
HLW ***14*** *21:18:52.0,3671N×2452E,h33km,Mb3.7*
ISCJB ***14*** *21:18:53.8±0.5,3653N±004×2405E±009,h111km±7km, mb3.5/3,Error ellipse: s-maj=11.4km s-min=6.5km az=165.3*
CSEM ***14*** *21:18:56.1±0.2,3658N×2414E,h64km±7km,MD3.1,Error ellipse: s-maj=3.9km s-min=2.7km az=68.0*
ATH ***14*** *21:18:56.1,3658N×2417E,h41km±8km,MD3.1/12*

ISC 14 21:18:54.6±0.5,3652N±004×2404E±009,h106km±7km, n21,σ1°08/26,mb3.5/3,2C-2D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.85	254	*e*P		Pn	21 19 14.8	+0.8
KYTH				*e*S		Sn	21 19 28.5	0.0
VLI	Veliai	0.91	283	*e*P		Pn	21 19 14.5	-0.1
VAM	Vamos	1.12	173	*e*P		Pn	21 19 17.0	+0.2
NAIG	Nisos Aigina	1.31	340	*e*P		Pn	21 19 19.0	0.0
NAIG				*e*S		Sn	21 19 36.5	-0.9
APE	Apeiranthos	1.31	65	*e*P		Pn	21 19 18.5	-0.5
KVR	Kavouri	1.32	351	*e*P		Pn	21 19 18.5	-0.6
PTL	Penteli	1.53	355	*e*P		Pn	21 19 20.8	-0.8
PTL				*e*S		Sn	21 19 40.0	-2.0
MPAR	Parnis Oros	1.65	352	*e*P		Pn	21 19 23.0	0.0
GVD	Gavdhos	1.68	179	*e*P		Pn	21 19 25.0	+1.6
NPS	Neapolis	1.79	134	*e*P		Pn	21 19 26.0	+1.2
ITM	Ithomi	1.82	292	*e*P		Pn	21 19 27.0	+1.8
LKR	Lokris	2.28	339	*e*P		Pn	21 19 32.4	+1.4
KARP	Karpathos	2.71	110	*e*P		Pn	21 19 37.5	+0.9
SLUM		5.11	169	⇓P		Pn	21 20 08.1	-0.8
SLUM				S		Sn	21 21 03.7	-3.0
SWA2		7.36	170	⇑P		Pn	21 20 39.1	-0.2
SWA1		7.37	169	⇑P		Pn	21 20 39.4	-0.1
SWA1				S		Sn	21 21 58.2	-3.4
BRTR	Keskin Array B	8.21	64	Pn		Pn	21 20 52.8	+1.9
	0.0nm,0.3s,baz=252,slow=16,SNR=3.4							
HFRF	Wahat Farafira	10.02	158	⇓P		Pn	21 21 15.1	-0.5
FINES	FINESS Array B	24.98	2	P		P	21 24 07.5	-0.7
	0.4nm,0.5s,mb3.1,baz=169,slow=9.7,SNR=3.8							
MKAR	Makanchi Array	43.80	58	P		P	21 26 50.1	+0.3
	0.3nm,0.3s,mb3.5,baz=271,slow=8.1,SNR=20							
ZAL	Zalesovo	44.72	47	P		P	21 26 56.9	-0.2
	0.7nm,0.3s,mb3.8,baz=138,slow=12,SNR=4.0							

IDC 14 21:22:49.5±2.4,521N×9419E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/21,mbtmp3.6/4,Error ellipse: s-maj=97.7km s-min=28.8km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.69	348	P		P	21 30 48.8	+0.7
	0.5nm,0.6s,baz=174,slow=7.7,SNR=9.9							
SONM	Songino Array	43.74	12	P		P	21 30 56.1	-0.4
	0.4nm,0.7s,baz=180,slow=5.8,SNR=3.6							
WRA	Warramunga Arr	46.72	124	P		P	21 31 20.7	+0.6
	0.4nm,0.6s,baz=302,slow=9.4,SNR=7.2							
FINES	FINESS Array B	75.08	333	P		P	21 34 32.5	-0.7
	1.7nm,1.1s,baz=104,slow=7.9,SNR=4.0							

ISCJB ***14*** *21:30:42.4±1.5,174S±0.1×1687E±02,h246km±7km, mb3.7/4,Error ellipse: s-maj=33.5km s-min=20.2km az=9.6*
IDC ***14*** *21:30:42.3±7.7,1746S×16878E,h231km±51km,mb3.4/4, mb1 3.5/5,mb1mx3.3/14,mbtmp4.0/5,Error ellipse: s-maj=75.0km s-min=23.8km az=29.0*

ISC 14 21:30:43.5±1.5,175S±01×1688E±02,h240km±7km,n6, σ0°94/8,mb3.7/4,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	0.52	254	⇑*i*P		Pn	21 31 15.4	+0.2
BKM				S		S	21 31 39.9	-0.2
DZM	Mont Dzumac	5.02	205	P		Pn	21 31 58.8	-0.4
	1.8nm,0.3s,baz=57,slow=16,SNR=11							
DZM				S		S	21 32 59.8	+0.4
	2.0nm,0.3s,baz=283,slow=22,SNR=2.7							
URZ	Urewera	21.91	162	P		P	21 35 17.7	+0.2
	3.5nm,0.5s,mb4.2,baz=0.0,slow=1.0,SNR=3.9							
STKA	Stephens Creek	28.42	235	P		P	21 36 14.4	-1.5
	1.5nm,0.5s,mb3.8,baz=60,slow=12,SNR=6.1							
WRA	Warramunga Arr	32.66	260	P		P	21 36 53.4	+0.3
	0.1nm,0.3s,mb2.8,baz=84,slow=8.4,SNR=7.1							
ASAR	Alice Springs	33.14	253	P		P	21 36 58.1	+0.9
	2.9nm,0.5s,mb4.1,baz=82,slow=8.8,SNR=58							

IDC 14 21:33:27.7±2.4,362S×12861E,h0km,mb3.0/2,mb1 3.4/3, mb1mx3.3/17,mbtmp3.2/3,ML3.4/1,Error ellipse: s-maj=171.3km s-min=29.5km az=68.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.16	161	P		Pn	21 37 29.8	+1.0
	0.1nm,0.3s,baz=344,slow=13,SNR=13							
ASAR	Alice Springs	20.57	166	P		P	21 38 08.0	-0.1
	0.3nm,0.4s,baz=346,slow=11,SNR=5.1							
MKAR	Makanchi Array	64.66	327	P		P	21 44 07.5	+0.2
	0.1nm,0.3s,baz=109,slow=7.3,SNR=4.2							

ISCJB ***14*** *21:52:17.7±0.7,2848S±004×6750W±008,h127km±12km, mb4.0/4,Error ellipse: s-maj=11.7km s-min=7.0km az=154.3*
IDC ***14*** *21:52:19.3±1.9,2850S×6729W,h121km±20km,mb3.7/4, mb1 3.5/7,mb1mx3.5/17,mbtmp3.9/7,Error ellipse: s-maj=32.7km s-min=23.9km az=97.0*
NEIC ***14*** *21:52:19.4±0.8,2851S×6731W,h127km±14km,mb4.0/3, Error ellipse: s-maj=17.2km s-min=9.1km az=86.0*
GUC ***14*** *21:52:19.2±1.2,2851S×6759W,h121km±124km,ML4.6*

ISC 14 21:52:18.7±0.6,2848S±004×6748W±007,h119km±11km, n23,σ0°94/32,mb4.0/4,1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	2.78	293	*e*P		Pn	21 53 02.0	-0.1
CPCH				*i* S		Sn	21 53 34.5	-1.0
CPCH				AMP			21 53 37.6	
	comp=E,6μm,0.1s							
CFAA	Coronel Fontan	3.18	192	P		Pn	21 53 08.2	+0.8
	comp=E,1.2nm,0.3s,baz=11,slow=12,SNR=120							
CFAA				S		Sn	21 53 40.7	-4.2
	comp=E,5.6nm,0.3s,baz=352,slow=14,SNR=14							
CFAA	Coronel Fontan	3.18	192	P		Pn	21 53 08.2	+0.8
CFAA				S		Sn	21 53 40.7	-4.2
CDCH	Caldera	3.29	295	⇓*i*P		Pn	21 53 09.1	+0.4
CDCH				*i* S		Sn	21 53 46.2	-1.1
CDCH				AMP			21 53 53.1	
	comp=N,291nm,0.5s							
CRCH	Chaqaral	3.51	307	*e*P		Pn	21 53 13.2	+1.5
CRCH				*i* S		Sn	21 53 52.4	-0.4
CRCH				AMP			21 53 58.7	
	comp=E,243nm,0.5s							
CMCH	Combarbala	4.07	228	*e*P		Pn	21 53 18.9	-0.2
CMCH				*i* S		Sn	21 54 05.0	-1.0
CMCH				AMP			21 54 07.3	
	comp=N,1μm,0.9s							
CPN1	Cerro Paranal	4.65	325	*e*P		Pn	21 53 28.7	+1.8
CPN1				*i* S		Sn	21 54 19.6	-0.3
FCH	Farellones	5.40	206	*e*P		Pn	21 53 38.4	+1.4
CEN1	Los Morros	5.63	334	*e*P		Pn	21 53 39.5	-0.7
CEN1				*i* S		Sn	21 54 38.2	-5.4
LVC	Limon Verde	5.99	347	P		Pn	21 53 47.5	+2.5
	comp=N,1.4nm,0.3s,baz=182,slow=9.4,SNR=17							
LVC				S		Sn	21 54 45.6	-6.6
	comp=N,1.2nm,0.3s,baz=187,slow=10,SNR=4.4							
LVC	Limon Verde	5.99	347	*e*Pn		Pn	21 53 47.2	+2.2
	comp=N,3.1nm,0.4s							
CPUP	Villa Florida	9.27	79	*e*Pn		Pn	21 54 28.4	-1.0
TRQA	Tornquist	10.60	156	*e*Pn		Pn	21 54 46.7	-0.4
LPAZ	La Paz	12.15	357	P		Pn	21 55 13.5	+5.7
	comp=N,0.1nm,0.3s,baz=180,slow=8.1,SNR=2.2							
LPAZ	La Paz	12.15	357	P		Pn	21 55 13.5	+5.7
LPAZ				*e*Pn		Pn	21 55 18.2	+10
SIV	San Ignacio	13.77	27	P		Pn	21 55 28.2	-0.6
	comp=N,0.1nm,0.3s,baz=218,slow=19,SNR=3.0							
SAML	Samuel	19.85	13	*e*P		P	21 56 40.3	+0.1
	comp=N,3.9nm,0.7s							
BDFB	Brasilia	22.07	59	P		P	21 57 02.6	-1.3
	comp=N,1.5nm,0.5s,mb3.6,baz=236,slow=13,SNR=3.1							
DBIC	Dimbokro	69.67	70	P		P	22 03 15.5	+0.1
	comp=N,2.7nm,0.9s,mb4.1,baz=222,slow=6.7,SNR=3.7							
DBIC	Dimbokro	69.67	70	*e*P		P	22 03 15.1	-0.2
	comp=N,12nm,1.2s,mb4.6							
TORD	Torodi Ar. Bea	78.60	68	P		P	22 04 07.3	+0.1
	comp=N,4.4nm,0.7s,mb4.4,baz=254,slow=5.7,SNR=72							
PDAR	Pinedale Array	80.78	330	P		P	22 04 19.5	+0.5
	comp=N,0.4nm,0.5s,mb3.5,baz=135,slow=7.4,SNR=4.1							
MKAR	Makanchi Array	150.14	44	PKPbc	PKPbc	22 11 55.5	0.0
	comp=N,0.5nm,0.7s,baz=300,slow=2.6,SNR=6.0							
MKAR				PKPab	PKPab	22 12 01.6	-0.3
	comp=N,0.5nm,0.7s,baz=288,slow=3.4,SNR=3.6							
MKAR				pPKPbc	pPKPbc	22 12 28.6	+1.1
	comp=N,0.1nm,0.4s,baz=82,slow=32,SNR=4.3							

IDC ***14*** *22:04:46.1±8.5,549S×15149E,h90km±61km,mb3.3/3, mb1 3.5/3,mb1mx3.2/13,mbtmp3.6/3,Error ellipse: s-maj=73.9km s-min=51.0km az=103.0*

NEIC 14 22:04:15.8±2.7,304S×15296E,h35km,mb3.9/1,Error ellipse: s-maj=80.5km s-min=25.4km az=97.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.56	222	P		Pn	22 06 09.9	-7.2
	baz=347,slow=18							
PMG				S		Sn	22 07 15.0	-37
	1.2nm,0.3s,baz=139,slow=20,SNR=2.6							
WRAB	Tennant Creek	24.74	226	*e*P		P	22 09 34.7	+0.9
	2.1nm,0.6s							
WRA	Warramunga Arr	24.75	226	P		P	22 09 33.5	-0.5
	0.6nm,0.6s,baz=52,slow=9.8,SNR=9.7							
ASAR	Alice Springs	27.57	220	P		P	22 10 00.2	+0.8
	0.7nm,0.6s,baz=59,slow=8.6,SNR=11							
STKA	Stephens Creek	30.61	199	P		P	22 10 26.6	+0.1
	3.1nm,0.9s,baz=355,slow=21,SNR=3.5							
MKAR	Makanchi Array	79.12	319	P		P	22 16 16.9	+0.2
TORD	Torodi Ar. Bea	149.87	291	PKPbc	PKPbc	22 24 24.8	+23
	0.6nm,0.6s,baz=80,slow=2.1,SNR=13							

IDC 14 22:06:33.6±8.2,5303N×17618E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.4/22,mbtmp3.3/4,Error ellipse: s-maj=235.4km s-min=27.3km az=167.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	22.03	43	P		P	22 11 27.4	-2.2
	0.3nm,0.5s,baz=251,slow=8.4,SNR=7.7							
YKA	Yellowknife Ar	36.35	47	P		P	22 13 40.2	+0.9
	0.5nm,0.6s,baz=283,slow=8.3,SNR=7.1							
SONM	Songino Array	43.15	292	P		P	22 14 36.0	+0.2
	0.4nm,0.4s,baz=58,slow=8.2,SNR=3.6							
MKAR	Makanchi Array	56.57	305	P		P	22 16 16.9	-1.0
	0.1nm,0.5s,baz=47,slow=6.8,SNR=4.9							

IDC 14 22:10:35.8±3.3,519S×15201E,h0km,mb3.5/2,mb1 3.8/3, mb1mx3.5/15,mbtmp3.6/3,ML2.5/1,MS2.8/1,Ms1 2.8/1, ms1mx2.4/16,Error ellipse: s-maj=152.9km s-min=40.1km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.37	229	Pn		Pn	22 12 12.5	+1.6
	0.7nm,0.3s,baz=37,slow=10,SNR=2.9							
PMG				Sn		Sn	22 13 20.2	-4.1
	1.6nm,0.3s,baz=123,slow=17,SNR=2.6							
PMG				LR		LR	22 14 39.2	
	comp=Z,86nm,19.0s,baz=233,slow=38							
WRA	Warramunga Arr	22.59	228	P		P	22 15 36.3	-1.5
	0.8nm,0.6s,baz=53,slow=9.9,SNR=14							
ASAR	Alice Springs	25.33	222	P		P	22 16 05.2	+1.0
	1.3nm,0.7s,baz=57,slow=9.0,SNR=17							
TORD	Torodi Ar. Bea	149.67	287	PKPbc	PKPbc	22 30 28.3	+0.9
	0.7nm,0.5s,baz=71,slow=2.1,SNR=19							

TIF ***14*** *22:44:48.5,4280N×4613E,h1km±2km*

MOS 14 22:44:50.0±1.4,4267N×4621E,h18km,mb3.9/1,1C, Error ellipse: s-maj=6.1km s-min=0.0km az=132.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.01	127	⇑*i*PG		Pg	22 44 51.7	-1.4
BTLR				pmax	pmax			
	comp=Z,200nm,0.2s							
XNZR	Khunzakh	0.39	109	*i* PG		Pg	22 45 01.0	+2.9
XNZR				*i* S		Sg	22 45 10.0	+6.4
XNZR				pmax	pmax			
	comp=Z,87nm,0.1s							
UNCR	Uncukul	0.44	84	*e*PG		Pg	22 44 59.0	+0.1
UNCR				*i* S		Sg	22 45 07.5	+2.6
UNCR				pmax	pmax			
	comp=Z,72nm,0.2s							
DBC	Dubki	0.57	53	*e*PG		Pg	22 45 00.0	-1.4
DBC				*e*S		Sg	22 45 10.0	+0.8
BUJR	Buynaksk	0.68	77	*e*PG		Pg	22 45 03.6	+0.2
BUJR				*e*S		Sb	22 45 15.6	+3.2
KMKR	Kumukh	0.85	129	*i* PG		Pg	22 45 09.0	+2.3
KMKR				*e*S		Sb	22 45 24.0	+6.6
KMKR				pmax	pmax			
	comp=Z,19nm,0.2s							
SNJR	Sundja	1.10	292	*e*PG		Pg	22 45 10.1	-1.2
DUS	Dusheti	1.26	243	P		Pn	22 45 16.0	+3.3
DUS				S		Sb	22 45 32.9	+3.9
BTKR	Batakoyurt	1.41	300	*e*PG		Pg	22 45 15.5	-1.6
LACR	Lac	1.42	277	*e*PG		Pg	22 45 15.1	-2.2
MTA	Mtatsminda	1.44	228	P		Pn	22 45 18.5	+3.4
MTA				S		Sn	22 45 38.3	+4.8
TBLG	Delisi	1.44	230	P		Pn	22 45 17.6	+2.4
TBLG				S		Sn	22 45 36.9	+3.3
ARNR	Ardon	1.51	291	*e*PG		Pg	22 45 17.0	-2.0
KMSR	Komsomolskaya	1.57	297	*e*PG		Pg	22 45 18.1	-2.1
ZEI	Tsey	1.70	274	*e*PN		Pn	22 45 19.1	+0.3
ZEI				*e*			22 45 20.4	
DIGR	Digorskoe uzhe	1.95	278	*e*PN		Pn	22 45 23.0	+0.9
ONI	Oni	2.04	268	P		Pn	22 45 26.9	+3.5

IDC 14 22:51:14.0±1.2,046N×12276E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.6/18,mbtmp3.6/4,Error ellipse: s-maj=148.8km s-min=20.3km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.23	151	P		P	22 56 22.4	-0.4
	1.0nm,0.4s,baz=326,slow=11,SNR=19							
ASAR	Alice Springs	26.31	156	P		P	22 56 52.2	+0.9
	0.5nm,0.8s,baz=335,slow=9.0,SNR=6.5							
SONM	Songino Array	49.28	345	P		P	23 00 04.0	-0.5
	0.3nm,0.5s,baz=165,slow=9.7,SNR=3.2							
MKAR	Makanchi Array	58.10	328	P		P	23 01 09.8	+0.6
	0.5nm,0.5s,baz=123,slow=8.3,SNR=14							

NEIC ***14*** *22:55:41.0±2.9,1553S×17339W,h10km,mb4.5/1,Error ellipse: s-maj=149.0km s-min=20.1km az=140.0*
IDC ***14*** *22:55:40.2±4.1,1533S×17360W,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.9/14,mbtmp3.8/5,MS3.8/6,Ms1 3.8/6, ms1mx3.6/22,Error ellipse: s-maj=206.5km s-min=25.9km az=139.0*
ISCJB ***14*** *22:55:42.8±3.0,154S±08×1735W±07,h33km,mb3.9/6, MS3.7/5,Error ellipse: s-maj=150.1km s-min=21.4km az=100.4*

ISC 14 22:55:44.0±3.0,155S±08×1733W±07,h35km,n18,σ0°67/7, mb3.9/6,MS3.7/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.15	43	Pn		Px	22 56 11.7	
	93nm,0.3s,baz=32,slow=1.4,SNR=54							
AFI				Sn		Sx	22 56 31.5	
	368nm,0.3s,baz=149,slow=14,SNR=16							
RAR	Rarotonga	14.02	116	LR		LR	23 03 04.7	
	comp=Z,394nm,18.0s,baz=221,slow=31							
DZM	Mont Dzumac	20.27	248	LR		LR	23 06 25.9	
	comp=Z,156nm,19.2s,MS3.4,baz=51,slow=32							
PPT	Papeete	22.81	98	eLR		LR	23 06 04.2	
	203nm,25.2s							
TBI	Tubuai	23.75	113	eLR		LR	23 06 33.3	
	174nm,25.0s							
HNR	Honiara	26.82	280	LR		LR	23 10 38.1	
	comp=Z,120nm,18.1s,MS3.5,baz=169,slow=34							
RKT	Rikitea	36.85	108	eLR		LR	23 12 36.4	
	138nm,24.5s							
PMG	Port Moresby	39.06	274	LR		LR	23 16 53.0	
	comp=Z,78nm,20.2s,MS3.5,baz=79,slow=33							
STKA	Stephens Creek	44.09	240	P		P	23 03 48.5	-0.2
	1.4nm,0.5s,mb3.9,baz=98,slow=11,SNR=3.0							
STKA				LR		LR	23 19 04.8	
	comp=Z,91nm,19.7s,MS3.7,baz=208,slow=32							
STKA	Stephens Creek	44.09	240	P		P	23 03 48.5	-0.2
STKA				LR		LR	23 19 04.8	
WRAB	Tennant Creek	49.93	257	*e*P		P	23 04 35.4	+1.2
	6.8nm,1.2s,mb4.5							
WRA	Warramunga Arr	49.94	257	P		P	23 04 33.3	-1.0
	0.3nm,0.3s,mb3.8,baz=95,slow=6.2,SNR=15							
ASAR	Alice Springs	50.20	252	P		P	23 04 36.3	0.0
	0.9nm,0.4s,mb4.1,baz=85,slow=8.5,SNR=15							
BBB	Bella Bella	77.92	27	LR		LR	23 39 25.7	
	comp=Z,169nm,18.5s,MS4.4,baz=148,slow=34							
ILAR	Eielson Array	82.52	11	P		P	23 08 02.7	-0.4
	0.3nm,0.4s,mb3.6,baz=212,slow=4.7,SNR=7.0							
YKA	Yellowknife Ar	90.14	23	P		P	23 08 40.8	+0.3
	0.2nm,0.7s,mb3.5,baz=238,slow=4.6,SNR=4.9							
GERES	GERESS Array B	146.26	352	PKPbc	PKPbc	23 15 22.6	+1.9
	0.2nm,0.4s,baz=59,slow=7.8,SNR=4.0							
BRTR	Keskin Array B	146.31	321	PKPbc	PKPbc	23 15 23.9	+3.0
	1.5nm,1.1s,baz=88,slow=3.3,SNR=2.8							

NEIC ***14*** *23:07:49.0±0.8,057S×12083E,h35km,mb4.4/1,Error ellipse: s-maj=96.9km s-min=13.3km az=62.0*
ISCJB ***14*** *23:08:04.3±0.8,03S±03×1216E±06,h200km,mb3.8/7, Error ellipse: s-maj=101.3km s-min=13.2km az=126.8*
IDC ***14*** *23:08:13.2±2.4,0.14S×12206E,h275km±21km,mb3.7/4, mb1 3.9/4,mb1mx3.4/15,mbtmp4.2/4,Error ellipse: s-maj=110.1km s-min=13.5km az=66.0*

ISC 14 23:08:06.1±0.8,03S±03×1215E±07,h200km,n9,σ0°72/9, mb3.8/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	23.17	148	*e*P		P	23 12 55.0	+0.2
	5.6nm,0.4s,mb4.5							
WRA	Warramunga Arr	23.18	148	P		P	23 12 54.7	-0.2
	7.2nm,0.5s,mb4.5,baz=326,slow=11,SNR=138							
WRA				ScP	ScP	23 19 46.4	-9.3
	0.3nm,0.4s,baz=322,slow=2.7,SNR=12							
ASAR	Alice Springs	26.12	153	P		P	23 13 22.9	+1.5
	2.7nm,0.5s,mb4.2,baz=343,slow=14,SNR=62							
ASAR				PcP	PcP	23 16 42.2	-1.2
	0.5nm,0.3s,baz=351,slow=2.6,SNR=7.1							
ASAR				ScP	ScP	23 19 54.7	-9.3
	0.4nm,0.4s,baz=343,slow=2.8,SNR=5.4							
STKA	Stephens Creek	36.66	151	P		P	23 14 52.3	-1.2
	3.8nm,0.4s,mb4.2,baz=334,slow=6.5,SNR=12							
SONM	Songino Array	49.76	347	P		P	23 16 38.0	-0.1
	0.2nm,0.7s,mb2.6,baz=163,slow=9.9,SNR=2.3							

WRA	**Warramunga Arr**	**73.39**	**128**	P	**P**	**23 57 40.3**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=322,slow=6.0,SNR=7.3						
WRAB	**Tennant Creek**	**73.39**	**128**	*e*P	**P**	**23 57 40.1**	**-0.4**
	3.3nm,0.9s,mb4.3						
NWAO	**Narrogin (SRO)**	**74.33**	**149**	*e*P	**P**	**23 57 47.1**	**+1.3**
ASAR	**Alice Springs**	**75.80**	**131**	P	**P**	**23 57 54.5**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=320,slow=5.6,SNR=5.9						
CTAO	**Charters Tower**	**81.68**	**121**	*e*P	**P**	**23 58 25.5**	**-1.2**
YKA	**Yellowknife Ar**	**83.31**	**7**	P	**P**	**23 58 34.1**	**-1.0**
	0.3nm,0.5s,mb3.5,baz=340,slow=5.4,SNR=7.0						

GUC 15 00:05:32.9±0.8, 3260S×7155W, h33km±3km, MD4.2, ML4.1, 9C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.11**	**54**	↓*i*P	Pb	00 05 39.4	+0.7
IHA	**Instituto Hidr**	**0.43**	**191**	↓*i*P	Pb	00 05 42.1	-0.3
IHA				*i* S	Sb	00 05 48.8	-0.1
ROCH	**El Roble**	**0.58**	**129**	↑*i*P	Pb	00 05 44.9	+0.1
ROCH				*i* S	Sb	00 05 53.4	+0.5
JACH	**Jahuel**	**0.81**	**96**	↑*i*P	Pn	00 05 48.1	+0.2
LCCH	**Las Cruces**	**0.87**	**181**	↑*i*P	Pn	00 05 48.8	0.0
LCCH				*i* S	Sn	00 06 00.5	+0.2
PEL	**Peldehue**	**0.90**	**127**	↓*i*P	Pn	00 05 49.7	+0.5
PEL				*i* S	Sn	00 06 02.1	+1.0
PEL				AMP		00 06 02.9	
	comp=N,24μm,0.4s						
ILCH	**Illapel**	**1.02**	**18**	*e*P	Pn	00 05 51.5	+0.7
ILCH				*i* S	Sn	00 06 05.2	+1.3
RCDM	**Rinconada Maip**	**1.08**	**145**	*e*P	Pn	00 05 52.1	+0.4
RCDM				*i* S	Sn	00 06 06.7	+1.2
RCDM				AMP		00 06 07.4	
	comp=E,11μm,0.1s						
SAN	**Santiago**	**1.13**	**139**	↑*i*P	Pn	00 05 53.0	+0.7
SAN				*i* S	Sn	00 06 07.8	+1.2
SAN				AMP		00 06 19.1	
	comp=N,6μm,0.8s						
TACH	**Talagante**	**1.16**	**154**	↑*i*P	Pn	00 05 53.6	+0.8
TACH				*i* S	Sn	00 06 09.1	+1.5
FSR	**Penalolen**	**1.22**	**136**	↑*i*P	Pn	00 05 54.6	+1.0
FSR				*i* S	Sn	00 06 10.5	+1.5
FSR				AMP		00 06 13.7	
	comp=N,6μm,0.8s						
ANTU	**Antumapu**	**1.23**	**142**	↑*i*P	Pn	00 05 54.5	+0.7
ANTU				*i* S	Sn	00 06 11.2	+2.0
ANTU				AMP		00 06 14.9	
	comp=E,6μm,0.5s						
FCH	**Farellones**	**1.28**	**125**	↑*i*P	Pn	00 05 55.3	+0.9
FCH				*i* S	Sn	00 06 12.3	+1.9
FCH				AMP		00 06 14.4	
	comp=N,3μm,0.3s						
PCH	**Pirque**	**1.33**	**140**	*e*P	Pn	00 05 56.1	+1.0
LNV	**Longovilo**	**1.35**	**175**	*e*P	Pn	00 05 55.7	+0.3
SJCH	**San Jose de Ma**	**1.44**	**136**	↑*i*P	Pn	00 05 57.1	+0.5
SJCH				*i* S	Sn	00 06 15.4	+1.1
SJCH				AMP		00 06 26.6	
	comp=N,2μm,0.5s						
CMCH	**Combarbala**	**1.50**	**18**	*e*P	Pn	00 05 58.3	+0.9
CMCH				*i* S	Sn	00 06 18.2	+2.4
CMCH				AMP		00 06 21.2	
	comp=E,22μm,0.7s						
CHCH	**Chadas Angostu**	**1.52**	**151**	*e*P	Pn	00 05 59.1	+1.3
CHCH				*i* S	Sn	00 06 19.2	+2.8
CACH	**El Canelo**	**1.70**	**153**	↓*i*P	Pn	00 06 02.5	+2.2
CACH				*i* S	Sn	00 06 25.3	+4.4
CICH	**Cipreses**	**1.95**	**152**	↓*i*P	Pn	00 06 05.7	+2.0
SFDO	**San Fernando**	**2.05**	**168**	*e*P	Pn	00 06 06.5	+1.4

IDC 15 00:18:09.2±2.9, 1719S×6985W, h94km±24km, mb3.6/2, mb1 3.4/5, mb1mx3.2/20, mbtmp3.7/5, MS3.2/1, Ms1 3.1/1, ms1mx2.5/15, Error ellipse: s-maj=43.1km s-min=24.8km az=108.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.88**	**62**	P	Pn	00 18 40.9	+1.0
	23nm,0.3s,baz=255,slow=13,SNR=593						
LPAZ				S	Sn	00 19 11.9	+8.6
	9.1nm,0.3s,baz=120,slow=13,SNR=4.0						
LVC	**Limon Verde**	**5.47**	**171**	P	Pn	00 19 28.0	-0.2
	1.9nm,0.3s,baz=334,slow=8.7,SNR=20						
LVC				S	Sn	00 20 40.5	+11
	0.7nm,0.3s,baz=283,slow=21,SNR=2.1						
SIV	**San Ignacio**	**8.50**	**83**	P	Pn	00 20 09.4	0.0
	0.8nm,0.3s,baz=274,slow=11,SNR=15						
SIV				S	Sn	00 21 53.9	+10
	0.1nm,0.3s,baz=211,slow=21,SNR=2.0						
CFAA	**Coronel Fontan**	**14.43**	**174**	P	Pn	00 21 28.8	+0.1
	0.1nm,0.3s,baz=118,slow=11,SNR=2.1						
BDFB	**Brasilia**	**21.01**	**89**	LR	LR	00 32 24.6	
	comp=Z,67nm,20.0s,baz=51,slow=41						
ULM	**Lac du Bonnet**	**70.95**	**343**	P	P	00 29 16.2	-0.1
	0.9nm,0.4s,baz=178,slow=7.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.80**	**72**	P	P	00 29 50.5	0.0
	0.5nm,0.7s,baz=235,slow=5.9,SNR=2.7						
SONM	**Songino Array**	**149.28**	**5**	PKPbc	PKPbc	00 37 47.7	+0.8
	0.5nm,0.6s,baz=315,slow=2.1,SNR=5.6						

*ISCJB **15** 00:24:43.3±1.0, 7582N±005×96E±04, h10km, mb3.1/3, Error ellipse: s-maj=12.7km s-min=7.4km az=164.7*
*NAO **15** 00:24:45.3±4.9, 7597N×968E, ML2.2*
*IDC **15** 00:24:46.3±1.2, 7645N×1206E, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.3/20, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=47.5km s-min=13.3km az=58.0*
*BER **15** 00:24:46.1±3.2, 7592N×857E, h13km±53km, ML2.2(NAO)*
ISC 15 00:24:45.0±1.0, 7587N±005×95E±04, h10km, n10, σ1§56/15, mb3.1/3, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.82**	**48**	*e*P	**Pn**	**00 25 17.9**	**+1.6**
HSP				*e*S	**Sn**	**00 25 40.2**	**+0.7**
HSP	**Hornsund**	**1.82**	**48**	P	**Pn**	**00 25 17.9**	**+1.5**
HSP				S	**Sn**	**00 25 40.2**	**+0.7**
SPA0	**Spitsbergen Ar**	**2.78**	**30**	Pn	**Pn**	**00 25 30.1**	**+0.5**
	baz=205,slow=12						
SPA0				Sn	**Sn**	**00 26 02.5**	**-0.7**
	baz=216,slow=18						
KBS	**Kingsbay**	**3.12**	**9**	Pn	**Pn**	**00 25 31.4**	**-2.8**
ARA0	**ARCESS Array S**	**7.91**	**135**	Pn	**Pn**	**00 26 42.2**	**+2.2**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**00 28 08.4**	**-1.1**
	baz=328,slow=22						
ARCES	**ARCESS Array B**	**7.91**	**135**	Pn	**Pn**	**00 26 42.5**	**+2.4**
	0.4nm,0.3s,baz=339,slow=10.0,SNR=10.0						
ARCES				Sn	**Sn**	**00 28 08.3**	**-1.3**
	0.7nm,0.3s,baz=331,slow=19,SNR=10						
GERES	**GERESS Array B**	**27.18**	**174**	P	**P**	**00 30 36.2**	**+7.6**
	0.3nm,0.6s,mb3.0,baz=350,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**37.39**	**321**	P	**P**	**00 31 58.9**	**+0.9**
	0.2nm,0.7s,mb3.1,baz=13,slow=8.5,SNR=4.2						
ILAR	**Eielson Array**	**38.80**	**344**	P	**P**	**00 32 08.2**	**-1.7**
	0.4nm,0.9s,mb3.2,baz=356,slow=6.6,SNR=4.9						
MKAR	**Makanchi Array**	**41.03**	**92**	P	**P**	**00 32 26.1**	**-2.3**
	0.0nm,0.3s,baz=322,slow=7.5,SNR=2.5						

*FUNV **15** 00:32:42.6, 1028N×6192W, h25km, MW3.4*
*ISCJB **15** 00:32:44.8±0.7, 1031N±005×6209W±003, h23km±6km, Error ellipse: s-maj=9.2km s-min=4.6km az=4.6*
*NEIC **15** 00:32:44.8, 1040N×6205W, h9km, MD3.4(TRN), After TRN.*
*TRN **15** 00:32:44.8, 1038N×6203W, h10km, MD3.4*
ISC 15 00:32:44.8±0.8, 1030N±005×6208W±003, h19km±5km, n13, σ1§10/25, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.37**	**338**	↓*e*P	**Pg**	**00 32 52.0**	**-0.6**
GUIV				*e*S	**Sg**	**00 32 58.7**	**+0.8**
TPP	**Pointe-a-Pierr**	**0.62**	**88**	*e*P	**Pg**	**00 32 56.0**	**-1.0**
TPP				*e*S	**Sg**	**00 33 06.7**	**+1.2**
TRN	**Trinidad (W)**	**0.75**	**63**	*e*P	**Pb**	**00 32 56.9**	**-2.3**
TRN				*e*S	**Sb**	**00 33 08.3**	**-0.7**
GUNV	**Guanoco**	**0.86**	**261**	↑*e*P	**Pb**	**00 33 01.1**	**+0.1**
GUNV				*e*S	**Sb**	**00 33 15.0**	**+2.8**
TBH	**Brigand Hill**	**1.01**	**80**	*e*P	**Pb**	**00 33 03.4**	**-0.3**
CRUV	**Carupano**	**1.20**	**288**	*e*P	**Pn**	**00 33 04.9**	**-1.5**
CRUV				*e*S	**Sb**	**00 33 21.1**	**-0.7**
ITEV	**Isla Los Testi**	**1.47**	**316**	*e*P	**Pn**	**00 33 08.7**	**-1.6**
ITEV				*e*S	**Sn**	**00 33 28.6**	**-0.3**
TPR	**Prospect**	**1.56**	**55**	*e*P	**Pn**	**00 33 11.5**	**+0.1**
TPR				*e*S	**Sn**	**00 33 32.0**	**+1.1**
BOT	**Bacolet**	**1.59**	**57**	*e*P	**Pn**	**00 33 11.9**	**+0.1**
BOT				*e*S	**Sn**	**00 33 32.1**	**+0.2**
GRW	**Mount Saint Ca**	**1.89**	**13**	*e*P	**Pn**	**00 33 17.7**	**+1.6**
GRW				*e*S	**Sn**	**00 33 38.3**	**-1.0**
GRHS	**Sauteurs**	**1.96**	**13**	*e*P	**Pn**	**00 33 18.6**	**+1.6**
GRHS				*e*S	**Sn**	**00 33 40.6**	**-0.3**
GRSS	**Sisters**	**2.04**	**13**	*e*P	**Pn**	**00 33 17.4**	**-0.7**
GRSS				*e*S	**Sn**	**00 33 43.9**	**+1.0**
GRCU	**Cariacou**	**2.24**	**16**	*e*P	**Pn**	**00 33 21.7**	**+0.8**
GRCU				*e*S	**Sn**	**00 33 48.1**	**+0.1**

*IDC **15** 00:48:46.6±0.5, 984S×11760E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.5/22, mbtmp4.4/18, ML4.3/1, MS4.3/9, Ms1 4.3/9, ms1mx4.1/23, Error ellipse: s-maj=22.4km s-min=13.5km az=55.0*
*ISCJB **15** 00:48:49.7±0.3, 992S±005×11768E±006, h33km, mb4.6/42, MS4.3/12, Error ellipse: s-maj=9.7km s-min=5.1km az=106.8*
*MOS **15** 00:48:50.1±1.2, 983S×11766E, h33km, mb5.0/15, Error ellipse: s-maj=14.6km s-min=8.1km az=126.2*
*BJI **15** 00:48:50.3, 1003S×11748E, h34km, mB5.0, mb4.8, Ms4.5, Msz4.2*
*NEIC **15** 00:48:51.9±0.3, 997S×11757E, mb4.7/11, Error ellipse: s-maj=11.3km s-min=6.2km az=57.0*
ISC 15 00:48:51.9±0.3, 997S±005×11767E±006, h35km, h35km±2.4km: pP-P, n95, σ1§15/97, mb4.6/42, MS4.3/12, 3C-3D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**9.26**	**14**	P	**Pn**	**00 51 13.2**	**+10**
	88nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.18**	**137**	*e*P	**Pn**	**00 51 29.0**	**-0.2**
	78nm,0.4s						
FITZ				*e*S	**Sn**	**00 53 27.3**	**-5.6**
MBWA	**Marble Bar**	**11.30**	**170**	*e*Pn	**Pn**	**00 51 28.3**	**-2.6**
	45nm,0.4s						
MBWA				*e*Sn	**Sn**	**00 53 20.6**	**-15**
KSM	**Kuching**	**13.52**	**327**	Pn	**Pn**	**00 52 02.5**	**+1.4**
KAKA	**Kakadu**	**14.73**	**102**	*e*P	**Pn**	**00 52 18.3**	**+0.6**
	23nm,0.6s						
KKM	**Kota Kinabalu**	**15.97**	**355**	Pn	**Pn**	**00 52 24.6**	**-9.2**
WRA	**Warramunga Arr**	**18.89**	**124**	P	**Pn**	**00 53 10.4**	**+0.3**
	1.0nm,0.3s,baz=299,slow=13,SNR=77						
WRA				S	**S**	**00 56 30.5**	**-11**
	1.2nm,0.3s,baz=296,slow=24,SNR=7.0						
WRAB	**Tennant Creek**	**18.90**	**124**	*e*P	**Pn**	**00 53 12.2**	**+2.1**
WRAB				*e*		00 56 29.4	
WRAB				pmax	pmax		
	comp=Z,19nm,0.6s						
WRAB	**Tennant Creek**	**18.90**	**124**	*e*P	**Pn**	**00 53 12.2**	**+2.1**
	comp=Z,19nm,0.6s						
WRAB				*e*Sn	**Sn**	**00 56 29.4**	**-11**
WB2	**Warramunga Arr**	**18.90**	**124**	*e*P	**Pn**	**00 53 12.1**	**+1.9**
WB2				*e*S	**S**	**00 56 26.8**	**-15**
ASAR	**Alice Springs**	**20.63**	**133**	P	**P**	**00 53 30.6**	**+2.3**
	comp=Z,22nm,0.7s,baz=311,slow=10,SNR=284						
ASAR				S	**S**	**00 57 13.0**	**-3.9**
	comp=Z,5.7nm,0.8s,baz=321,slow=25,SNR=6.6						
KLBR	**Kellerberrin**	**21.52**	**180**	*e*P	**P**	**00 53 44.9**	**+7.1**
	comp=Z,30nm,0.6s,mb4.9						
KLBR				*e*S	**S**	**00 57 19.5**	**-15**
MUN	**Mundaring**	**21.95**	**183**	*e*P	**P**	**00 53 49.6**	**+7.3**
MUN				*e*S	**S**	**00 57 29.4**	**-13**
PSI	**Prapat**	**22.57**	**303**	P	**P**	**00 53 47.9**	**-1.1**
	comp=Z,5.8nm,0.5s,mb4.3,baz=179,slow=10,SNR=12						
PSI				LR	LR	01 04 47.6	
	comp=Z,784nm,19.8s,MS4.1,baz=127,slow=43						
NWAO	**Narrogin (SRO)**	**22.85**	**181**	P	**P**	**00 53 52.3**	**+0.4**
	comp=Z,7.6nm,0.8s,mb4.2,baz=342,slow=7.7,SNR=4.5						
NWAO				S	**S**	**00 57 55.2**	**-4.0**
	comp=Z,45nm,0.5s,baz=217,slow=3.9,SNR=15						
NWAO				LR	LR	01 02 20.7	
	comp=Z,812nm,19.0s,MS4.2,baz=160,slow=35						
NWAO	**Narrogin (SRO)**	**22.85**	**181**	*e*P	**P**	**00 53 53.3**	**+1.3**
NWAO				*e*S	**S**	**00 57 54.7**	**-4.4**
NWAO				S	**S**	**00 57 55.2**	**-3.9**
NWAO				pmax	pmax		
	comp=Z,31nm,0.6s						
NWAO	**Narrogin (SRO)**	**22.85**	**181**	*e*P	**P**	**00 53 53.3**	**+1.3**
	comp=Z,30nm,0.6s,mb4.9						
NWAO				*e*S	**S**	**00 57 54.7**	**-4.4**
NWAO				S	**S**	**00 57 55.2**	**-4.0**
PMG	**Port Moresby**	**29.07**	**91**	*e*P	**P**	**00 54 47.7**	**-1.1**
CTA	**Charters Tower**	**29.33**	**113**	P	**P**	**00 54 52.5**	**+1.3**
	comp=Z,3.4nm,0.7s,mb4.2,baz=268,slow=17,SNR=2.3						
CTA				LR	LR	01 07 14.0	
	comp=Z,497nm,21.6s,MS4.1,baz=121,slow=38						
CTAO	**Charters Tower**	**29.33**	**113**	*e*P	**P**	**00 54 53.7**	**+2.5**
STKA	**Stephens Creek**	**31.08**	**138**	P	**P**	**00 55 07.3**	**+0.7**
	comp=Z,1.3nm,0.4s,mb4.1,baz=323,slow=7.8,SNR=3.8						
STKA				LR	LR	01 08 30.7	
	comp=Z,902nm,20.4s,MS4.4,baz=116,slow=38						
STKA	**Stephens Creek**	**31.08**	**138**	*e*P	**P**	**00 55 07.4**	**+0.8**
STKA				*e*pP	pP	00 55 15.2	-1.5
KMI	**Kunming**	**37.79**	**338**	P	**P**	**00 56 06.4**	**+1.7**
KMI				AP	pP	00 56 16.5	+1.6
KMI				XP	sP	00 56 20.9	+1.7
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,98nm,4.7s						
KMI				LR	LR		
	comp=N,248nm,16.8s,MS4.2						
KMI				LR	LR		
	comp=E,213nm,18.4s,MS4.2						
KMI				LR	LR		
	comp=Z,240nm,21.6s,MS4.0						
ENH	**Enshi**	**40.77**	**349**	*e*P	**P**	**00 56 30.2**	**+0.6**
	comp=Z,18nm,1.0s,mb4.7						
ENH				*e*pP	pP	00 56 40.5	+0.7
SSE	**Sheshan**	**40.97**	**5**	*e*P	**P**	**00 56 35.3**	**+4.2**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,88nm,5.8s						
TAU	**Tasmania Unive**	**41.78**	**147**	*e*P	**P**	**00 56 37.4**	**-0.4**
NJ2	**Nanjing**	**41.79**	**2**	*e*P	**P**	**00 56 39.9**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CD2	**Chengdu**	**42.78**	**342**	*e*P	**P**	**00 56 46.6**	**+0.6**
CD2				AP	pP	00 56 56.5	+0.2
CD2				PP	PP	00 58 29.1	+3.6
CD2				S	**S**	**01 03 09.4**	**+1.9**
CD2				XS	sS	01 03 25.8	+1.2
CD2				SS	SS	01 06 15.5	-3.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=N,260nm,14.4s						
CD2				LR	LR		
	comp=Z,190nm,19.0s,MS4.0						
SHL	**Shillong**	**43.34**	**325**	*e*P	**P**	**00 56 50.0**	**-0.4**
XAN	**Xi'an**	**44.55**	**350**	P	**P**	**00 56 59.4**	**-0.7**
XAN				AP	pP	00 57 08.1	-2.5
XAN				XP	sP	00 57 11.9	-2.9
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
DGAR	**Diego Garcia**	**44.75**	**270**	P	**P**	**00 57 02.8**	**+1.0**
LSA	**Lhasa**	**46.99**	**328**	*e*P	**P**	**00 57 21.0**	**+1.6**
LSA	**Lhasa**	**46.99**	**328**	*e*P	**P**	**00 57 19.8**	**+0.4**
LSA				*e*PP	pP	00 57 30.2	+0.3
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LSA	**Lhasa**	**46.99**	**328**	*e*P	**P**	**00 57 19.8**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.6						
LSA				*e*pP	pP	00 57 30.2	+0.3
LZH	**Lanzhou**	**47.62**	**345**	*e*P	**P**	**00 57 25.0**	**+0.6**
LZH				AP	pP	00 57 40.8	+5.9
LZH				AMB	AMB		
	comp=Z,46nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,6.0s						
LZH				LR	LR		
	comp=E,1μm,17.7s						
LZH				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
MJAR	**Matsushiro Arr**	**50.13**	**22**	P	**P**	**00 57 43.1**	**-0.6**
	comp=Z,8.3nm,0.9s,mb4.8,baz=200,slow=7.8,SNR=14						
MJAR				LR	LR	01 16 56.3	
	comp=Z,238nm,21.1s,MS4.2,baz=20,slow=34						
MDJ	**Mudanjiang**	**55.39**	**10**	P	**P**	**00 58 22.9**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,78nm,4.0s						
MDJ	**Mudanjiang**	**55.39**	**10**	*e*P	**P**	**00 58 22.1**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0						
MDJ				*e*pP	pP	00 58 29.6	-3.5
CASY	**Casey**	**56.45**	**183**	P	**P**	**00 58 29.3**	**-0.7**
ULN	**Ulaanbaatar**	**58.34**	**352**	*e*P	**P**	**00 58 43.2**	**-0.2**
ULN				*e*PP	pP	00 58 51.6	-2.5
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**58.34**	**352**	*e*P	**P**	**00 58 43.2**	**-0.2**
	comp=Z,5.6nm,1.2s,mb4.5						
ULN				*e*pP	pP	00 58 51.5	-2.5
SONM	**Songino Array**	**58.41**	**351**	P	**P**	**00 58 43.7**	**-0.2**
	comp=Z,8.0nm,0.6s,mb4.9,baz=169,slow=8.3,SNR=55						
SONM				LR	LR	01 26 33.2	
	comp=Z,267nm,18.3s,MS4.4,baz=50,slow=39						
KLR	**Kul'dur**	**60.23**	**11**	*e*P	**P**	**00 59 05.0**	**+8.6**
ZAK	**Zakamensk**	**61.39**	**350**	*e*P	**P**	**00 59 03.6**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.6						
MKAR	**Makanchi Array**	**64.73**	**334**	P	**P**	**00 59 24.7**	**-1.8**
	comp=Z,2.3nm,0.5s,mb4.4,baz=152,slow=7.2,SNR=44						
MKAR	**Makanchi Array**	**64.73**	**334**	↑*e*P	**P**	**00 59 25.3**	**-1.2**
MKAR	**Makanchi Array**	**64.73**	**334**	P	**P**	**00 59 24.7**	**-1.8**
BOD	**Bodaibo**	**67.61**	**358**	*e*P	**P**	**00 59 43.2**	**-1.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
OPO	**Ambohidratompo**	**68.49**	**254**	P	**P**	**00 59 52.3**	**+1.8**
	comp=Z,6.9nm,1.1s,mb4.6,baz=104,slow=5.6,SNR=3.3						
KURK	**Kurchatov**	**69.29**	**335**	*e*P	**P**	**00 59 54.5**	**-1.0**
KURK				*e*PP	pP	01 00 05.7	-0.7
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**69.29**	**335**	*e*P	**P**	**00 59 54.5**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.4						
KURK				*e*pP	pP	01 00 05.7	-0.7
VNDA	**Vanda**	**71.25**	**171**	P	**P**	**01 00 07.2**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=323,slow=4.4,SNR=3.6						
VNDA				LR	LR	01 29 54.2	
	comp=Z,178nm,19.5s,MS4.3,baz=294,slow=35						
VNDA	**Vanda**	**71.25**	**171**	*e*P	**P**	**01 00 06.8**	**-0.7**
YAK	**Yakutsk**	**72.38**	**6**	*de*P	**P**	**01 00 14.2**	**-0.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
MA2	**Magadan**	**74.22**	**17**	P	**P**	**01 00 25.3**	**+0.2**
BVAR	**Borovoye Array**	**74.54**	**333**	P	**P**	**01 00 26.1**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=137,slow=8.1,SNR=12						
BRVK	**Borovoye**	**74.61**	**333**	*e*P	**P**	**01 00 26.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**74.61**	**333**	*e*P	**P**	**01 00 26.5**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**75.12**	**332**	*e*P	**P**	**01 00 28.5**	**-1.8**
ZRNK				*PP	pP	01 00 40.3	-1.0
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**75.12**	**332**	*e*P	**P**	**01 00 28.5**	**-1.8**
	comp=Z,3.7nm,0.5s,mb4.6						
ZRNK				pP	pP	01 00 40.3	-1.0
SYO	**Syowa Base**	**76.48**	**201**	↓*e*PcP	PcP	01 00 52.7	+3.1
SYO	**Syowa Base**	**76.48**	**201**	↑*e*P	**P**	**01 00 36.9**	**-1.2**
SYO				*e*		01 00 52.7	
SEY	**Seymchan**	**77.43**	**15**	*e*P	**P**	**01 00 42.9**	**-0.5**
RDF	**Al-Radifah**	**77.83**	**303**	*e*P	**P**	**01 00 45.1**	**-0.5**
RDF				AMb	AMB	01 00 46.8	
	comp=Z,26nm,0.5s,mb5.4						
NAY	**Al-Naaiem**	**78.18**	**303**	*e*P	**P**	**01 00 47.0**	**-0.6**
NAY				AMb	AMB	01 00 48.6	
	comp=Z,12nm,0.7s,mb5.0						
MIB	**Mutribah**	**78.28**	**303**	*e*P	**P**	**01 00 47.6**	**-0.5**
MIB				AMb	AMB	01 00 49.2	
	comp=Z,13nm,0.6s,mb5.0						
AKTK	**Aktyubinsk**	**79.28**	**326**	P	**P**	**01 00 53.4**	**-0.3**
AKTO	**Aktyubinsk**	**79.28**	**326**	P	**P**	**01 00 53.4**	**-0.3**
	comp=Z,4.6nm,0.5s,mb4.6,baz=98,slow=6.3,SNR=18						
KMBO	**Kilima Mbogo**	**80.37**	**271**	P	**P**	**01 00 59.8**	**+0.2**
	comp=Z,4.4nm,1.1s,mb4.3,baz=60,slow=8.1,SNR=8.2						
TIXI	**Tiksi**	**81.78**	**4**	*c i*P	**P**	**01 01 05.2**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
GNI	**Garni**	**83.61**	**312**	P	**P**	**01 01 16.5**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.1,baz=175,slow=18,SNR=4.2						
ZEI	**Tsey**	**85.05**	**315**	*e*P	**P**	**01 01 24.2**	**+0.4**
ZEI				*i*		01 04 42.0	
ZEI				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
GOF	**Gofitskoye**	**86.35**	**317**	*e*P	**P**	**01 01 30.2**	**-0.1**
GOF				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.4						
LSZ	**Lusaka**	**86.93**	**255**	*e

MBWA Marble Bar 11.25 169 *e*Pn **Pn 01 19 40.2 -0.7**
34nm,0.9s
FITZ Fitzroy Crossi 11.27 136 *e*P **Pn 01 19 40.8 -0.4**
66nm,0.4s
FITZ *e*S **Sn 01 21 38.9 -6.9**
WRA Warramunga Arr 19.02 123 P **Pn 01 21 22.3 -0.2**
1.2nm,0.3s,baz=300,slow=13,SNR=104
WRA S **S 01 24 41.9 -14**
0.5nm,0.3s,baz=13,slow=18,SNR=4.8
WRAB Tennant Creek 19.03 123 *e*P **Pn 01 21 22.6 0.0**
15nm,0.6s
WRAB *e*S **S 01 24 46.1 -10**
WB2 Warramunga Arr 19.04 123 *e*P **Pn 01 21 22.4 -0.2**
ASAR Alice Springs 20.73 133 P **P 01 21 42.9 +2.8**
36nm,0.8s,baz=309,slow=10,SNR=367
ASAR S **S 01 25 28.3 -1.4**
1.5nm,0.5s,baz=303,slow=22,SNR=5.6
ASAR Alice Springs 20.73 133 P **P 01 21 42.9 +2.8**
ASAR S **S 01 25 28.3 -1.4**
KLBR Kellerberrin 21.43 179 *e*P **P 01 21 56.5 +8.8**
29nm,0.9s,mb4.6
KLBR *e*S **S 01 25 34.2 -9.2**
MUN Mundaring 21.84 183 *e*P **P 01 22 00.5 +8.4**
MUN *e*S **S 01 25 44.8 -6.7**
PSI Prapat 22.44 304 LR LR 01 30 59.0
comp=Z,213nm,20.7s,MS3.5,baz=129,slow=38
NWAO Narrogin (SRO) 22.76 180 P **P 01 22 12.9 +11**
11nm,0.5s,mb4.5,baz=351,slow=12,SNR=13
NWAO LR LR 01 30 30.0
comp=Z,267nm,20.3s,MS3.7,baz=354,slow=35
CTA Charters Tower 29.50 113 LR LR 01 33 30.1
comp=Z,102nm,19.7s,MS3.5,baz=44,slow=34
CTAO Charters Tower 29.50 113 *e*P **P 01 23 06.9 +3.4**
2.7nm,0.5s,mb4.2
STKA Stephens Creek 31.16 138 P **P 01 23 18.8 +0.6**
2.4nm,0.7s,mb4.2,baz=310,slow=10.0,SNR=5.2
STKA LR LR 01 36 06.8
comp=Z,378nm,21.7s,MS4.0,baz=111,slow=37
STKA Stephens Creek 31.16 138 P **P 01 23 18.8 +0.6**
STKA LR LR 01 36 06.8
JOW Kunigami 38.14 16 P **P 01 24 18.4 -0.1**
7.8nm,0.6s,mb4.6,baz=87,slow=19,SNR=4.1
SSE Sheshan 41.07 5 *e*P **P 01 24 48.5 +5.6**
SSE AP pP 01 24 56.6 +3.5
SSE PP PP 01 26 09.0 -9.0
SSE PCP PcP 01 27 15.9 +34
SSE S S 01 30 24.5 -29
SSE XS sS 01 30 40.9 -29
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,99nm,5.3s
SSE LR LR
comp=N,75nm,21.5s,MS3.9
SSE LR LR
comp=E,140nm,21.6s,MS3.9
SSE LR LR
comp=Z,169nm,21.5s,MS3.9
NJ2 Nanjing 41.89 2 *e*P **P 01 24 43.5 -6.1**
NJ2 AP pP 01 24 52.1 -7.8
NJ2 XP sP 01 24 56.4 -7.6
NJ2 PP PP 01 26 02.5 -24
NJ2 S S 01 30 14.0 -51
NJ2 XS sS 01 30 30.0 -52
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,406nm,4.5s
NJ2 LR LR
comp=N,2μm,20.0s,MS5.1
NJ2 LR LR
comp=E,2μm,20.0s,MS5.1
NJ2 LR LR
comp=Z,2μm,22.0s,MS5.0
LSA Lhasa 46.95 328 *e*P **P 01 25 30.5 +0.5**
comp=Z,3.9nm,0.3s,mb4.8
MJAR Matsushiro Arr 50.30 22 P **P 01 25 55.0 -0.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=202,slow=8.8,SNR=7.3
SNY Shenyang 51.93 6 ⇑P **P 01 26 02.5 -5.5**
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 Changchun 54.09 7 *e*P **P 01 26 21.4 -2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
SONM Songino Array 58.47 351 P **P 01 26 55.1 0.0**
comp=Z,7.0nm,0.6s,mb4.8,baz=168,slow=8.1,SNR=8.9
MKAR Makanchi Array 64.71 334 P **P 01 27 37.2 -0.1**
comp=Z,4.3nm,0.7s,mb4.6,baz=144,slow=8.9,SNR=4.9
ZRNK Zerenda 75.10 332 *e*P **P 01 28 41.1 +0.1**
comp=Z,3.7nm,0.5s,mb4.6
ZRNK *e*PcP PcP 01 28 54.9 +0.4
FX1 Attu Island--F 78.57 31 P **P 01 29 03.0 +2.4**
FINES FINESS Array B 99.41 331 LR LR 02 23 17.5
comp=Z,290nm,18.4s,MS4.8,baz=328,slow=40
ILAR Eielson Array 101.44 26 P Pdif 01 30 50.2 -0.3
comp=Z,0.7nm,0.9s,baz=80,slow=1.1,SNR=6.4
OXF Oxford 145.42 41 *e*PKP PKPdf 01 36 39.3 +2.4
LRAL Lakeview Retre 147.91 41 *e*PKP PKPdf 01 36 46.2 +5.2
BDFB Brasilia 150.69 210 PKPbc PKPbc 01 36 55.0 +3.9
comp=Z,1.7nm,0.7s,baz=195,slow=7.0,SNR=3.7
LPAZ La Paz 153.25 168 PKPbc PKPbc 01 37 01.4 +4.6
comp=Z,0.6nm,0.4s,baz=50,slow=1.8,SNR=5.5

SZGRF ***15*** *01:17:47.1, 4.19N×94.60E, h33km, mb4.8, Off west coast of northern Sumatera, Indonesia*
BJI ***15*** *01:17:49.3, 4.89N×94.46E, h43km, mB5.0, mb5.0, Ms4.1, Msz4.1*
ISCJB ***15*** *01:17:52.9±0.2, 536N±004×9445E±004, h46km, mb4.8/91, MS3.9/11, Error ellipse: s-maj=6.3km s-min=4.7km az=70.9*
MOS ***15*** *01:17:53.6±0.9, 538N×9450E, h55km, mb5.0/28, Error ellipse: s-maj=10.8km s-min=5.2km az=115.6*
NEIC ***15*** *01:17:55.0±0.2, 535N×9444E, mb4.9/24, Error ellipse: s-maj=6.9km s-min=5.2km az=41.0*
NEIC Felt [II] at Banda Aceh.
HRVD ***15*** *01:17:55.0±1.2, 526N×94.18E, h47km±3km, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s31,c40; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr1.04±.31; Mθθ-0.76±.19; Mφφ-0.27±.20; Mrθ0.65±.12; Mrφ1.19±.14; Mθφ-0.33±.14; Best double couple: Mo1.58200×1016 NP1:φs328.00000°, δ34.00000°, λ117.00000°. NP2: φs116.00000°, δ60.00000°, λ73.00000°. Principal axes: T 1.2560, Plg70.0000°, Azm349.0000°; N 0.6520, Plg15.0000°, Azm125.0000°; P -1.9080, Plg14.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***15*** *01:17:56.8±1.7, 528N×9446E, h70km±14km, mb4.4/27, mb1 4.4/28, mb1mx4.4/31, mbtmp4.7/28, MS3.9/9, Ms1 3.9/9, ms1mx3.7/30 Error ellipse: s-maj=16.5km s-min=8.1km az=37.0*
NAO ***15*** *01:18:13.7, 860N×9202E, h33km, mb4.7*
ISC 15 01:17:55.2±0.2, 538N±004×9444E±004, h48km, h48km±2.3km:pP-P,n208,σ0=94/207, mb4.8/91, MS3.9/11, 21C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.16**	**120**	P		**Pn 01 19 10.9**	**+1.1**
	9.8nm,0.3s,baz=301,slow=12,SNR=54						
PSI				S		**Sn 01 20 10.2**	**+2.2**
	4.6nm,0.3s,baz=127,slow=22,SNR=2.0						
PSI				LR		LR 01 21 37.7	
	comp=Z,878nm,18.8s,baz=288,slow=43						
NST	**Nakhon Sawan**	**11.66**	**28**	P		**Pn 01 20 38.4**	**-0.5**
	49nm,0.5s						
KKTK	**Khon Kaen**	**13.65**	**36**	⇑P		**Pn 01 21 16.0**	**+10**
	679nm,0.5s						
CHRT	**Chiangrai**	**15.32**	**19**	⇑P		**Pn 01 21 30.0**	**+1.9**
	118nm,0.6s						
VIS	**Vishakhapatnam**	**16.39**	**319**	*e*P		**Pn 01 21 41.3**	**-0.4**
VIS				*ex*		x 01 24 27.9	
VIS				*ex*		x 01 24 29.8	
HYB	**Hyderabad**	**19.61**	**309**	*i* P		**Pn 01 22 18.0**	**-3.2**
HYB				*e*S		**S 01 25 58.0**	**-0.2**
HYB	**Hyderabad**	**19.61**	**309**	*e*P		**Pn 01 22 18.0**	**-3.2**
HYB				*e*S		**S 01 25 47.0**	**-11**
BOK	**Bokaro**	**20.08**	**337**	*e*P		**P 01 22 25.4**	**+0.8**
BOK				AMb		AMB 01 22 26.6	
	comp=Z,51nm,0.4s						
SHL	**Shillong**	**20.22**	**353**	*e*P		**P 01 22 25.0**	**-1.1**
QIZ	**Qiongzhong**	**20.24**	**47**	P		**P 01 22 28.0**	**+1.7**
QIZ				AP		01 22 36.5	
QIZ				XP		sP 01 22 41.8	-1.8
QIZ				PP		01 22 46.0	
QIZ				*e*S		**S 01 26 02.8**	**-7.9**
QIZ				AMB		AMB	
	comp=Z,23nm,1.0s						
QIZ				AMB		AMB	
	comp=Z,102nm,4.2s						
QIZ				LR		LR	
	comp=N,380nm,18.3s,MS4.0						
QIZ				LR		LR	
	comp=E,344nm,15.5s,MS4.0						
QIZ				LR		LR	
	comp=Z,467nm,17.3s,MS3.9						
QIZ	**Qiongzhong**	**20.24**	**47**	*e*P		**P 01 22 28.8**	**+2.5**
	comp=Z,89nm,1.5s						
QIZ				*e*S		**S 01 26 00.9**	**-10**
KMI	**Kunming**	**21.19**	**21**	P		**P 01 22 38.9**	**+2.4**
KMI				XP		sP 01 22 51.3	-2.6
KMI				AMB		AMB	
	comp=Z,32nm,1.1s,mb4.6						
KMI				AMB		AMB	
	comp=Z,88nm,3.9s						
KMI				LR		LR	
	comp=N,249nm,18.1s,MS3.8						
KMI				LR		LR	
	comp=E,226nm,20.0s,MS3.8						
KMI				LR		LR	
	comp=Z,313nm,24.8s,MS3.6						
NGP	**Nagpur**	**21.65**	**318**	*e*P		**P 01 22 41.1**	**-0.4**
KKM	**Kota Kinabalu**	**21.68**	**87**	P		**P 01 22 40.3**	**-1.5**
AKL	**Akola**	**22.77**	**314**	*ex*		x 01 23 52.7	
JIRN	**Jiri**	**23.51**	**341**	*e*P		**P 01 22 59.6**	**-1.2**
	comp=Z,112nm,0.8s,mb5.4						
PKI	**Pulchoki**	**23.68**	**340**	*e*P		**P 01 23 01.6**	**-0.8**
	comp=Z,40nm,0.5s,mb5.1						
PKI	**Pulchoki**	**23.68**	**340**	*e*P		**P 01 23 01.6**	**-0.8**
PKI				pmax		pmax	
	comp=Z,20nm,0.5s,mb4.8						
DMN	**Daman**	**23.83**	**339**	*e*P		**P 01 23 03.1**	**-0.6**
	comp=Z,22nm,0.5s,mb4.9						
GUN	**Gumba**	**23.84**	**341**	*e*P		**P 01 23 02.9**	**-0.9**
	comp=Z,82nm,0.5s,mb5.4						
KKN	**Kakani**	**23.93**	**340**	*e*P		**P 01 23 03.4**	**-1.3**
	comp=Z,70nm,0.7s,mb5.2						
KKN	**Kakani**	**23.93**	**340**	*e*P		**P 01 23 03.4**	**-1.3**
KKN				pmax		pmax	
	comp=Z,35nm,0.7s,mb4.9						
POO	**Poona**	**23.97**	**305**	*e*P		pP 01 23 21.0	+3.6
GYA	**Guiyang**	**24.00**	**28**	⇑*i*P		**P 01 23 05.6**	**+0.3**
GYA				AMB		AMB	
	comp=Z,80nm,0.7s,mb5.3						
BHPL	**Bhopal**	**24.18**	**319**	*e*P		**P 01 23 08.6**	**+1.7**
BHPL				AMb		AMB 01 23 09.1	
	comp=Z,21nm,0.3s,mb5.0						
GKN	**Gorkha**	**24.35**	**339**	*e*P		**P 01 23 08.7**	**+0.2**
	comp=Z,54nm,0.3s,mb5.4						
LSA	**Lhasa**	**24.39**	**353**	P		**P 01 23 10.0**	**+1.1**
LSA	**Lhasa**	**24.39**	**353**	*e*P		**P 01 23 09.5**	**+0.6**
LSA				pmax		pmax	
	comp=Z,53nm,0.5s,mb5.2						
LSA	**Lhasa**	**24.39**	**353**	*e*P		**P 01 23 09.4**	**+0.6**
	comp=Z,53nm,0.5s,mb5.2						
KOLN	**Koldanda**	**24.54**	**336**	*e*P		**P 01 23 10.7**	**+0.5**
	comp=Z,61nm,0.6s,mb5.3						
DGAR	**Diego Garcia**	**25.35**	**240**	*e*P		**P 01 23 18.2**	**+0.6**
CD2	**Chengdu**	**26.87**	**18**	*e*P		**P 01 23 34.4**	**+3.1**
CD2				AP		pP 01 23 46.1	+2.3
CD2				XP		sP 01 23 51.6	+2.1
CD2				PP		01 24 21.3	
CD2				S		**S 01 28 06.8**	**+2.3**
CD2				XS		sS 01 28 26.8	+1.2
CD2				SS		01 29 22.9	
CD2				AMB		AMB	
	comp=Z,10.0nm,0.9s,mb4.3						
CD2				AMB		AMB	
	comp=Z,60nm,5.9s						
CD2				LR		LR	
	comp=E,150nm,15.5s						
CD2				LR		LR	
	comp=Z,120nm,16.7s,MS3.5						
SONA	**Sohna**	**28.09**	**326**	*e*P		**P 01 23 42.2**	**0.0**
SONA				AMb		AMB 01 23 42.7	
	comp=Z,15nm,0.3s,mb5.0						
AJM	**Ajmer**	**28.24**	**320**	*e*P		**P 01 23 45.0**	**+1.4**
AJM				AMb		AMB 01 23 45.8	
	comp=Z,8.4nm,0.6s,mb4.6						
AYAN	**Aya Nagar**	**28.24**	**326**	*e*P		**P 01 23 43.2**	**-0.3**
AYAN				AMb		AMB 01 23 44.2	
	comp=Z,10nm,0.6s,mb4.6						
KUDL	**Kundal**	**28.34**	**325**	*e*P		**P 01 23 44.0**	**-0.4**
ENH	**Enshi**	**28.54**	**28**	*e*P		**P 01 23 45.5**	**-0.7**
	comp=Z,18nm,0.5s,mb5.0						
KHET	**Khetri**	**28.68**	**324**	*e*P		**P 01 23 48.1**	**+0.6**
KHET				AMb		AMB 01 23 48.8	
	comp=Z,5.7nm,0.5s,mb4.6						
WHN	**Wuhan**	**31.27**	**34**	P		**P 01 24 11.5**	**+1.1**
XAN	**Xi'an**	**31.53**	**23**	P		**P 01 24 12.0**	**-0.7**
XAN				AP		pP 01 24 20.8	-4.4
XAN				XP		sP 01 24 25.6	-5.4
XAN				AMB		AMB	
	comp=Z,53nm,0.7s,mb5.5						
XAN				LR		LR	
	comp=N,230nm,25.4s,MS3.9						
XAN				LR		LR	
	comp=E,186nm,21.9s,MS3.9						
XAN				LR		LR	
	comp=Z,391nm,19.6s,MS4.1						
LZH	**Lanzhou**	**31.76**	**15**	*e*P		**P 01 24 14.1**	**-0.6**
LZH				AP		pP 01 24 28.0	+0.7
LZH				XP		sP 01 24 33.5	+0.5
LZH				AMB		AMB	
	comp=Z,24nm,1.0s,mb5.0						
LZH				AMB		AMB	
	comp=Z,190nm,7.0s						
GTA	**Gaotai**	**34.23**	**7**	*e*P		**P 01 24 36.3**	**+0.1**
GTA				AP		pP 01 24 48.1	-0.8
GTA				XP		sP 01 24 55.5	+0.9
GTA				AMB		AMB	
	comp=Z,21nm,0.9s,mb5.1						
JOW	**Kunigami**	**38.67**	**53**	P		**P 01 25 15.1**	**+1.0**
	comp=Z,14nm,0.4s,mb5.0,baz=235,slow=7.4,SNR=9.8						
WMQ	**Urumqi**	**38.75**	**352**	*e*P		**P 01 25 15.5**	**+0.8**
WMQ				AMB		AMB	
	comp=Z,14nm,1.0s,mb4.7						
BJT	**Baijiatuan**	**39.65**	**26**	*e*P		**P 01 25 23.5**	**+1.2**
BJT				*e*PP		pP 01 25 33.9	-1.2
BJT				pmax		pmax	
	comp=Z,9.0nm,0.4s						
BJT	**Baijiatuan**	**39.65**	**26**	*e*P		**P 01 25 23.5**	**+1.2**
	comp=Z,8.6nm,0.4s,mb4.8						
BJT				*e*		pP 01 25 33.6	-1.5
BJT				*ep*P		pP 01 25 33.9	-1.2
UCH	**Uchtor**	**40.75**	**337**	P		**P 01 25 32.5**	**+1.1**
	SNR=12						
KBK	**Karagaybulak**	**40.95**	**338**	P		**P 01 25 34.4**	**+1.3**
	SNR=34						
AML	**Almayashu**	**40.99**	**336**	P		**P 01 25 34.6**	**+1.2**
	SNR=33						
FRU	**Bishkek**	**41.23**	**338**	*e*P		pP 01 25 49.0	+0.8
EKS2	**Erkin-Say**	**41.41**	**337**	P		**P 01 25 37.8**	**+1.0**
	SNR=18						
USP	**Ospenovka**	**41.65**	**338**	P		**P 01 25 39.1**	**+0.4**
	SNR=6.1						
MK31	**Makanchi Array**	**42.57**	**348**	*i* P		**P 01 25 46.2**	**-0.1**
MK31				pmax		pmax	
	comp=Z,35nm,0.5s,mb5.3						
MKAR	**Makanchi Array**	**42.57**	**348**	P		**P 01 25 46.6**	**+0.3**
	comp=Z,47nm,0.6s,mb5.4,baz=169,slow=7.7,SNR=819						
MKAR				LR		LR 01 46 24.0	
	comp=Z,141nm,19.0s,MS3.9,baz=171,slow=40						
KK31	**Karatay Array**	**43.12**	**334**	*i* P		**P 01 25 50.6**	**-0.1**
KK31				pmax		pmax	
	comp=Z,4.0nm,0.4s,mb4.5						
KKAR	**Karatay Array**	**43.12**	**334**	*e*P		**P 01 25 50.6**	**-0.1**
KKAR				pmax		pmax	
	comp=Z,2.0nm,0.4s,mb4.2						
SONM	**Songino Array**	**43.53**	**12**	P		**P 01 25 53.8**	**-0.2**
	comp=Z,7.8nm,0.7s,mb4.6,baz=192,slow=8.3,SNR=66						
SONM				PcP		PcP 01 27 40.9	-0.2
	comp=Z,4.1nm,0.5s,baz=192,slow=3.8,SNR=9.6						
SONM				ScP		ScP 01 31 27.4	-1.2
	comp=Z,0.9nm,0.8s,baz=180,slow=4.4,SNR=4.9						
SONM				LR		LR 01 46 09.6	
	comp=Z,178nm,19.3s,MS4.0,baz=142,slow=39						
SONM	**Songino Array**	**43.53**	**12**	P		**P 01 25 53.8**	**-0.2**
SONM						01 27 40.9	
ULN	**Ulaanbaatar**	**43.69**	**12**	*e*P		**P 01 25 54.9**	**-0.4**
ULN				pmax		pmax	
	comp=Z,7.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**43.69**	**12**	*e*P		**P 01 25 54.9**	**-0.4**
	comp=Z,7.4nm,0.6s,mb4.6						
JNU	**Nakatsue**	**43.72**	**46**	P		**P 01 25 56.0**	**+0.4**
	comp=Z,6.6nm,0.7s,mb4.5,baz=194,slow=3.9,SNR=3.7						
NWAO	**Narrogin (SRO)**	**43.81**	**152**	P		**P 01 25 58.4**	**+2.1**
	comp=Z,3.2nm,0.4s,mb4.4,baz=315,slow=16,SNR=3.1						
NWAO	**Narrogin (SRO)**	**43.81**	**152**	*e*P		**P 01 25 54.4**	**-1.9**
NWAO				*ep*P		pP 01 26 07.9	-1.4
ZAK	**Zakamensk**	**45.46**	**8**	*e*P		**P 01 26 01.0**	**-8.5**
ZAK				pmax		pmax	
	comp=Z,14nm,1.7s,mb4.5						
WRA	**Warramunga Arr**	**46.61**	**124**	P		**P 01 26 18.1**	**-0.3**
	comp=Z,16nm,0.7s,mb5.1,baz=302,slow=9.1,SNR=25						
WRA				S		**S 01 33 00.5**	**-3.5**
	comp=Z,1.0nm,1.1s,baz=22,slow=4.2,SNR=3.8						
WRAB	**Tennant Creek**	**46.61**	**124**	*e*P		**P 01 26 18.4**	**-0.1**
WRAB				*e**PP		pP 01 26 31.0	-0.5
KURK	**Kurchatov**	**47.09**	**346**	*c i*P		**P 01 26 22.7**	**+0.5**
KURK	**Kurchatov**	**47.09**	**346**	*e*P		**P 01 26 22.5**	**+0.3**
	comp=Z,34nm,0.8s,mb5.3						
KURK				*ep*P		pP 01 26 35.4	+0.1
ASAR	**Alice Springs**	**48.12**	**128**	P		**P 01 26 29.7**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.6,baz=299,slow=7.6,SNR=11						
ASAR				S		**S 01 33 23.3**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=291,slow=17,SNR=6.0						
HIA	**Hailar**	**48.70**	**22**	⇓*i*P		**P 01 26 34.7**	**0.0**
HIA	**Hailar**	**48.70**	**22**	*e*P		**P 01 26 34.7**	**0.0**
	comp=Z,6.2nm,0.6s,mb4.8						
HIA				*ep*P		pP 01 26 46.6	-1.2
ZAL	**Zalesovo**	**49.05**	**352**	P		**P 01 26 37.8**	**+0.5**
	comp=Z,22nm,0.5s,mb5.4,baz=302,slow=5.7,SNR=83						
ZAL				LR		LR 01 51 05.3	
	comp=Z,123nm,21.3s,MS3.9,baz=189,slow=40						
QRN	**Al-Qurain**	**49.75**	**303**	*e*P		**P 01 26 43.8**	**+1.1**
QRN				AMb		AMB 01 26 46.4	
	comp=Z,14nm,0.5s,mb5.2						
RDF	**Al-Radifah**	**50.11**	**303**	*e*P		**P 01 26 46.3**	**+0.9**
RDF				AMb		AMB 01 26 47.8	
	comp=Z,28nm,0.6s,mb5.4						
NVS	**Novosibirsk**	**50.14**	**352**	⇑*i*P		**P 01 26 44.1**	**-1.6**
NVS				*e*S		**S 01 33 52.1**	**-1.8**
NVS				pmax		pmax	
	comp=Z,17nm,0.7s,mb5.2						
NVS				pmax		pmax	
	comp=N,12nm,0.6s						
NVS				pmax		pmax	
	comp=E,8.0nm,0.6s						
NVS				smax			
	comp=N,15nm,1.5s						
NVS				smax			
	comp=E,12nm,1.8s						
CBIJ	**Chichi jima**	**50.28**	**59**	P		**P 01 26 45.8**	**-0.9**
	comp=E,28nm,0.5s,mb5.6,baz=270,slow=20,SNR=5.6						
NAY	**Al-Naaiem**	**50.47**	**304**	*e*P		**P 01 26 48.9**	**+0.8**
NAY				AMb		AMB 01 26 51.0	
	comp=Z,9.9nm,0.5s,mb5.1						
KRAR	**Krasnoyarsk**	**50.51**	**359**	*e*P		**P 01 26 47.4**	**-1.0**
KRAR				pmax		pmax	
	comp=Z,43nm,0.6s,mb5.6						
MIB	**Mutribah**	**50.57**	**304**	*e*P		**P 01 26 48.8**	**-0.1**
MIB				AMb		AMB 01 26 53.7	
	comp=Z,20nm,0.8s,mb5.1						
MJAR	**Matsushiro Arr**	**50.64**	**46**	P		**P 01 26 49.6**	**+0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=242,slow=29,SNR=3.2						
MJAR				LR		LR 01 47 58.2	
	comp=Z,192nm,21.3s,MS4.1,baz=235,slow=36						
VOSK	**Vostochnaya**	**50.99**	**342**	P		**P 01 26 51.6**	**-0.5**
VOSK				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb4.8						
ATD	**Arta Tunnel**	**51.34**	**280**	LR		LR 01 43 41.3	
	comp=Z,89nm,21.4s,MS3.8,baz=186,slow=30						
BVA0	**Borovoye Array**	**51.43**	**342**	*i* P		**P 01 26 54.6**	**-0.8**
BVA0				pmax		pmax	
	comp=Z,2.0nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**51.43**	**342**	P		**P 01 26 55.1**	**-0.3**
	comp=Z,1.1nm,0.6s,mb5.0,baz=144,slow=9.5,SNR=111						
BRVK	**Borovoye**	**51.50**	**342**	*e*P		**P 01 26 55.5**	**-0.4**
BRVK				*e**PP		pP 01 27 08.9	-0.2
BRVK				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb4.8						
BRVK	**Borovoye**	**51.50**	**342**	*e*P		**P 01 26 55.5**	**-0.3**
	comp=Z,8.5nm,0.6s,mb4.8						
BRVK				*ep*P		pP 01 27 08.9	-0.2
ZRNK	**Zerenda**	**51.82**	**341**	*e*P		**P 01 26 57.9**	**-0.3**
ZRNK				*e**PP		pP 01 27 12.9	+1.4
ZRNK				pmax		pmax	
	comp=Z,8.0nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**51.82**	**341**	*e*P		**P 01 26 57.9**	**-0.3**
	comp=Z,7.8nm,0.5s,mb4.9						
ZRNK				*ep*P		pP 01 27 12.9	+1.4
AB31	**Akbulak array**	**52.56**	**332**	*e*P		**P 01 27 03.4**	**-0.3**
AB31				pmax		pmax	
	comp=Z,1.0nm,0.3s,mb4.2						
KLR	**Kul'dur**	**53.88**	**29**	*e*P		**P 01 27 04.7**	**-8.8**
BOD	**Bodaibo**	**54.50**	**13**	*e*P		**P 01 27 17.1**	**-0.9**
BOD				pmax		pmax	
	comp=Z,13nm,1.1s,mb4.9						
PMG	**Port Moresby**	**54.55**	**105**	P		**P 01 27 17.9**	**-0.4**
	comp=Z,3.6nm,0.4s,mb4.7,baz=262,slow=15,SNR=2.9						
PMG	**Port Moresby**	**54.55**	**105**	*e*P		**P 01 27 18.3**	**-0.1**
GNI	**Garni**	**56.40**	**315**	*e*P		**P 01 27 32.2**	**+0.6**
GNI				*e**PP		pP 01 27 46.4	+1.4
GNI				pmax		pmax	
	comp=Z,14nm,1.1s						
GNI	**Garni**	**56.40**	**315**	*e*P		**P 01 27 32.2**	**+0.6**
	comp=Z,14nm,1.1s,mb4.9						
GNI				*ep*P		pP 01 27 46.4	+1.4
KMBO	**Kilima Mbogo**	**57.48**	**265**	P		**P 01 27 40.2**	**+1.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=64,slow=9.2,SNR=4.6						
KMBO				LR		LR 01 47 41.8	
	comp=Z,182nm,20.4s,MS4.2,baz=278,slow=31						
ZEI	**Tsey**	**58.06**	**318**	*i* P		**P 01 27 42.9**	**-0.5**
ZEI				pmax		pmax	
	comp=Z,8.0nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**58.19**	**133**	P		**P 01 27 40.9**	**-3.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=322,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**58.19**	**133**	*e*P		**P 01 27 41.9**	**-2.3**
ARU	**Arti**	**58.29**	**338**	⇑*i*P		**P 01 27 43.1**	**-1.9**
ARU				*e*		01 28 28.7	
ARU				*e*S		**S 01 35 44.0**	**+0.3**
ARU				*e*SS		SS 01 39 36.5	+0.4
ARU				pmax		pmax	
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**58.29**	**338**	*e*P		**P 01 27 44.4**	**-0.6**
	comp=Z,32nm,1.1s,mb5.3						
ARU				*ep*P		pP 01 27 58.1	-0.3
GOF	**Gofitskoye**	**59.61**	**320**	*e*P		**P 01 27 52.0**	**-2.1**
YAK	**Yakutsk**	**62.26**	**18**	⇑*e*P		**P 01 28 11.8**	**-0.3**
ANN	**Anapa**	**63.17**	**318**	*e*P		**P 01 28 20.1**	**+2.0**
ANN				*i*		01 28 49.3	
ANN				*e*S		**S 01 36 54.1**	**+8.2**
ANN				pmax		pmax	
	comp=Z,66nm,1.3s,mb5.6						
BR131	**Keskin Array S**	**64.28**	**312**	*e*P		**P 01 28 24.9**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.6						
BRTR	**Keskin Array B**	**64.28**	**312**	P		**P 01 28 24.4**	**-1.0**
	comp=Z,4.2nm,0.6s,mb4.7,baz=132,slow=7.1,SNR=27						
OBN	**Obninsk**	**67.64**	**328**	*d

comp=Z,25nm,1.3s,mb5.0
HARR Harsova 69.61 316 ⇓P **P 01 28 59.1 -0.2**
HARR Harsova 69.61 316 ⇓P **P 01 28 59.1 -0.2**
AKASG Malin Array Be 70.29 322 P **P 01 29 01.9 -1.6**
comp=Z,4.9nm,0.5s,mb4.7,baz=93,slow=5.4,SNR=29
AKASG Malin Array Be 70.29 322 P **P 01 29 01.9 -1.6**
VRI Vrincioaia 70.70 317 ⇓P **P 01 29 06.6 +0.6**
SEY Seymchan 71.06 24 ⇑*i*P **P 01 29 08.8 +0.6**
MLR Muntele Rosu 71.16 316 P **P 01 29 08.7 0.0**
comp=Z,6.9nm,0.7s,mb4.7,baz=184,slow=0.5,SNR=11
MLR Muntele Rosu 71.16 316 ⇑P **P 01 29 08.9 +0.1**
MLR Muntele Rosu 71.16 316 ⇑P **P 01 29 08.9 +0.1**
VOIR 71.77 316 ⇑P **P 01 29 11.8 -0.6**
VOIR 71.77 316 ⇑P **P 01 29 11.8 -0.6**
BURAR Bucovina Array 72.09 318 ⇑P **P 01 29 14.7 +0.3**
BURAR Bucovina Array 72.09 318 ⇑P **P 01 29 14.7 +0.3**
VTS Vitosha 72.58 313 ⇑P **P 01 29 17.0 -0.3**
DRGR 73.61 317 ⇑P **P 01 29 23.6 +0.2**
DRGR 73.61 317 ⇑P **P 01 29 23.6 +0.2**
VSU Vasula 73.87 330⇑*eP* **P 01 29 24.5 -0.4**
KWP Kalwaria 74.12 320 *eP* **P 01 29 26.4 +0.1**
KOLS Kolonicke sedl 74.27 319 *eP* **P 01 29 27.5 +0.3**
BOSA Boshof 74.53 239 P **P 01 29 28.5 -0.2**
comp=Z,1.7nm,0.5s,mb4.2,baz=81,slow=11,SNR=9.1
BOSA LR LR 02 00 13.6
comp=Z,98nm,18.4s,MS4.1,baz=306,slow=34
SUW Suwalki 74.69 325 *eP* **P 01 29 28.7 -1.0**
CRVS Cervenica-Dubn 74.79 319 *eP* **P 01 29 32.5 +2.2**
STHS Stebnicka Huta 75.02 320 *eP* **P 01 29 32.3 +0.7**
STHS *ep*P pP 01 29 45.6 +0.2
STHS Stebnicka Huta 75.02 320 *eP* **P 01 29 32.3 +0.7**
STHS *e* pP 01 29 45.6 +0.2
FINES FINESS Array B 75.05 332 P **P 01 29 30.7 -1.0**
comp=Z,3.4nm,0.6s,mb4.5,baz=93,slow=6.0,SNR=32
KAF Kangasniemi 75.14 333 *ep* **P 01 29 30.3 -1.9**
KECS Kecovo 75.37 319 *e* **P 01 29 31.4 -2.2**
KECS *ep*P pP 01 29 49.4 +1.9
NIE Niedzica 75.62 320 *eP* **P 01 29 35.5 +0.5**
OJC Ojcow 76.07 320 *eP* **P 01 29 37.7 +0.1**
MAW Mawson 76.17 192 P **P 01 29 36.6 -1.5**
VYHS Vyhne 76.45 318 *eP* **P 01 29 39.7 -0.1**
VYHS *ep*P pP 01 29 55.6 +1.9
OKC Ostrava-Krasne 77.07 320 *eP* **P 01 29 41.2 -2.0**
OKC *ep*P pP 01 29 52.2 -5.0
SMOL Smolenice 77.39 318 *eP* **P 01 29 45.4 +0.4**
MORC Moravsky Berou 77.45 320 *eP* **P 01 29 45.4 0.0**
MORC *e* pP 01 29 55.3 -4.0
MORC pmax pmax
comp=Z,11nm,1.2s,mb4.7
MORC Moravsky Berou 77.45 320 *eP* **P 01 29 45.4 0.0**
comp=Z,11nm,1.2s,mb4.7
MORC *e*PcP PcP 01 29 55.3 -0.3
ZST Bratislava 77.57 318 *eP* **P 01 29 46.6 +0.6**
ARCES ARCESS Array B 77.70 340 P **P 01 29 47.0 +0.2**
comp=Z,2.7nm,0.5s,mb4.4,baz=95,slow=5.6,SNR=25
SISC Sisak 77.82 315 *i* P **P 01 29 49.5 +2.1**
VRAC Vranov 78.02 319 P **P 01 29 48.4 -0.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=162,slow=6.4,SNR=3.6
BILL Bilibino 78.29 21 *eP* **P 01 29 48.6 -1.4**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.5
DPC Dobruska-Polom 78.30 320 *eP* **P 01 29 50.8 +0.7**
DPC *ep*P pP 01 30 04.2 +0.2
KSP Ksiaz 78.36 321 *eP* **P 01 29 51.0 +0.6**
UPC Upice 78.51 320 *eP* **P 01 29 51.5 +0.3**
BOJS Bojanci 78.61 315 *i* P **P 01 29 51.7 -0.1**
PERS Pernice 78.78 316 *i* P **P 01 29 53.1 +0.4**
PDKS Podkum 78.82 316 *i* P **P 01 29 53.1 +0.1**
LJU Ljubljana 79.15 316 *eP* **P 01 29 55.0 +0.3**
PRU Pruhonice 79.41 320 *eP* **P 01 29 56.3 +0.1**
PRU *ep*P pP 01 30 06.4 -3.7
TSUM Tsumeb 79.42 249 P **P 01 29 57.4 +1.2**
PVCC Panska Ves 79.43 320 *eP* **P 01 29 56.7 +0.4**
GORS Gorjuse 79.53 316 *eP* **P 01 29 56.9 0.0**
BRG Berggiesshubel 79.85 321 *eP* **P 01 29 58.6 0.0**
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 79.85 321 *i* P **P 01 29 58.6 +0.1**
comp=Z,5.2nm,0.7s,mb4.6
BRG *e* pP 01 30 08.7 -3.9
comp=Z,2.3nm,0.8s
BRG Berggiesshubel 79.85 321 *i* P **P 01 29 58.6 0.0**
BRG *e* pP 01 30 08.7 -3.9
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
GEC2 GERESS Array S 79.88 319 *eP* **P 01 29 58.5 -0.2**
comp=Z,16nm,0.9s,mb5.0
GEC2 GERESS Array S 79.88 319 *eP* **P 01 29 58.5 -0.2**
GEC2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
GERES GERESS Array B 79.88 319 P **P 01 29 59.1 +0.4**
comp=Z,9.4nm,0.7s,mb4.9,baz=102,slow=5.1,SNR=112
KHC Kasperske Hory 79.97 319 *eP* **P 01 29 59.3 +0.1**
KHC *ep*P pP 01 30 13.6 +0.4
RUE Ruedersdorf 80.07 322 *eP* **P 01 29 59.7 0.0**
comp=Z,17nm,0.6s,mb5.2
CLL Collm 80.47 321 *eP* **P 01 30 01.4 -0.5**
comp=Z,3.0nm,0.7s,mb4.3
CLL Collm 80.47 321 *i* P **P 01 30 01.6 -0.3**
comp=Z,10.0nm,1.2s,mb4.6
CLL Collm 80.47 321 *i* P **P 01 30 01.6 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
HFS Hagfors 80.75 330 P **P 01 30 02.4 -1.0**
comp=Z,2.3nm,0.5s,mb4.3,baz=117,slow=6.6,SNR=24
WERD Werda 80.87 320 *eP* **P 01 30 04.1 +0.1**
comp=Z,3.0nm,1.0s,mb4.2
ROTZ Rotzenmuhle 80.90 319 *eP* **P 01 30 04.6 +0.4**
comp=Z,9.0nm,0.7s,mb4.8
MOX Moxa 81.31 320 *eP* **P 01 30 06.0 -0.4**
comp=Z,3.0nm,0.6s,mb4.4
MOX Moxa 81.31 320 *eP* **P 01 30 06.3 -0.1**
comp=Z,28nm,2.0s,mb4.8
MOX Moxa 81.31 320 *eP* **P 01 30 06.3 -0.1**
MOX pmax pmax
comp=Z,28nm,2.0s,mb4.8
GRF Grafenberg Arr 81.54 319 *eP* **P 01 30 07.9 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 81.54 319 *eP* **P 01 30 07.9 +0.3**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 82.04 331 P **P 01 30 08.9 -1.3**
comp=Z,11nm,1.2s,mb4.7,baz=94,slow=5.6
NOA NORSAR Array B 82.04 331 P **P 01 30 09.7 -0.6**
comp=Z,1.5nm,0.9s,mb3.9,baz=98,slow=5.2,SNR=3.2
CLZ Clausthal 82.13 321 *eP* **P 01 30 10.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
CLZ Clausthal 82.13 321 *eP* **P 01 30 10.8 +0.1**
CLZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BSEG Bad Segeberg 82.22 324 *eP* **P 01 30 11.2 0.0**
comp=Z,5.0nm,0.6s,mb4.6
BSEG Bad Segeberg 82.22 324 *eP* **P 01 30 11.2 0.0**
BSEG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DAVOX Davos 82.39 316 P **P 01 30 12.2 +0.2**
comp=Z,17nm,0.5s,mb5.2
SYO Syowa Base 83.12 197⇓*eP* **P 01 30 15.9 0.0**
BFO Black Forest 83.43 318 *eP* **P 01 30 16.6 -0.8**
comp=Z,4.0nm,0.7s,mb4.6
BFO Black Forest 83.43 318 *eP* **P 01 30 16.6 -0.8**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LPG La Plagne 84.58 315 *eP* **P 01 30 23.5 +0.2**
comp=Z,10nm,0.6s,mb4.8
EKA Eskdalemuir Ar 89.93 326 P **P 01 30 48.9 -0.3**
comp=Z,3.1nm,0.6s,mb4.8,baz=90,slow=5.3,SNR=15
TORD Torodi Ar. Bea 91.45 283 P **P 01 30 57.4 +1.1**
comp=Z,0.8nm,0.9s,mb4.0,baz=94,slow=3.1,SNR=3.5
ESDC Sonseca Array 93.04 310 P **P 01 31 04.5 +1.0**
comp=Z,0.5nm,0.6s,mb4.1,baz=62,slow=4.0,SNR=4.0
ILAR Eielson Array 96.93 22 P **P 01 31 20.4 -1.0**
comp=Z,0.5nm,0.6s,mb4.2,baz=292,slow=4.3,SNR=8.7
TBI Tubuai 116.06 113 *eLR* LR 01 32 25.6
comp=Z,138nm,24.8s
PPT Papeete 116.37 107 *eLR* LR 01 32 51.4
comp=Z,126nm,22.8s
ULM Lac du Bonnet 123.88 8 PKP PKPdf 01 36 46.5 -1.3
comp=Z,1.9nm,0.6s,baz=344,slow=7.4,SNR=4.8
NVAR Mina Array Bea 126.88 32 PKP PKPdf 01 36 55.1 +1.5
comp=Z,1.2nm,0.7s,baz=253,slow=1.7,SNR=6.2
PDAR Pinedale Array 127.36 22 PKP PKPdf 01 36 55.0 +0.5
comp=Z,1.7nm,0.9s,baz=115,slow=0.9,SNR=8.2
RKT Rikitea 129.25 115 *eLR* LR 01 38 27.4
comp=Z,155nm,24.8s
ANMO Albuquerque 135.32 25⇑*i*PKIKP PKPdf 01 37 11.4 +1.9
CPUP Villa Florida 145.92 229 *e*PKP2 PKPab 01 37 29.7 -0.2

IDC ***15*** *01:37:43.3±3.4, 29.11N×7676E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=79.7km s-min=43.2km az=126.0*
ISCJB ***15*** *01:37:45.7±0.3, 29.19N×002×7657E±003, h10km, mb3.7/5, Error ellipse: s-maj=4.4km s-min=3.2km az=134.4*
NDI ***15*** *01:37:45.1±5.1, 29.19N×7661E, h5km±12km, ML3.4*
ISC 15 01:37:45.7±0.6,**2920N**±002×**7660E**±003,**h0**km±5km,**n33,**
σ1⇑**11/51,mb3.8/5,3C,Northern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHGR	**Bahadurgarh**	**0.59**	**150**	*eP*	**Pg**	**01 37 56.1**	**-1.0**
BHGR				*eS*	**Sg**	**01 38 05.0**	**+0.1**
BHGR				AML	AML	01 38 06.4	
	comp=Z,3μm,0.1s						
NDI	**New Delhi**	**0.75**	**134**	*eP*	**Pg**	**01 37 59.0**	**-1.1**
NDI				*eS*	**Sg**	**01 38 09.5**	**-0.3**
AYAN	**Aya Nagar**	**0.85**	**147**	*eP*	**Pg**	**01 38 02.1**	**-0.1**
BISR	**Bishrakh**	**0.97**	**130**	*eP*	**Pg**	**01 38 03.2**	**-1.1**
BISR				*eS*	**Sg**	**01 38 17.4**	**+0.5**
BISR				AML	AML	01 38 19.0	
	comp=Z,56nm,0.1s						
SONA	**Sohna**	**1.04**	**156**	*eP*	**Pg**	**01 38 06.1**	**+0.4**
SONA				AML	AML	01 38 20.2	
	comp=N,406nm,0.1s						
SONA				AML	AML	01 38 21.4	
	comp=E,1μm,0.3s						
KUDL	**Kundal**	**1.06**	**185**	*eP*	**Pg**	**01 38 06.3**	**+0.3**
KUDL				AML	AML	01 38 23.7	
	comp=N,716nm,0.2s						
KHET	**Khetri**	**1.32**	**212**	*eP*	**Pg**	**01 38 11.7**	**+0.5**
KHET				*eS*	**Sg**	**01 38 29.4**	**+1.1**
KHET				AML	AML	01 38 30.2	
	comp=N,555nm,0.2s						
KHET				AML	AML	01 38 30.4	
	comp=E,603nm,0.3s						
DDI	**Dehra Dun**	**1.69**	**48**	*eP*	**Pn**	**01 38 16.9**	**+0.5**
DDI				*ex*	**Sn**	**01 38 37.9**	**-0.8**
KALG	**Kalgarh**	**1.90**	**80**	*eP*	**Pn**	**01 38 14.8**	**-4.6**
KALG				*eS*	**Sn**	**01 38 40.1**	**-4.0**
KALG				AML	AML	01 38 41.4	
	comp=E,1μm,0.4s						
SMLA	**Simla**	**1.98**	**14**	*eP*	**Pn**	**01 38 21.2**	**+0.7**
SMLA				*eP*		01 38 23.3	
SMLA				*eS*	**Sn**	**01 38 47.3**	**+1.3**
SMLA				*eS*	**Sn**	**01 38 48.0**	**+2.0**
SMLA				AML	AML	01 38 55.6	
	comp=E,721nm,0.4s						
SMLA				AML	AML	01 38 56.1	
	comp=N,534nm,0.2s						
BHK	**Bhakra**	**2.21**	**356**	*ex*	**Sn**	**01 38 57.4**	**+5.7**
AGRA	**Agra**	**2.30**	**149**	*eP*	**Pn**	**01 38 26.5**	**+1.7**
AGRA				*eS*	**Sn**	**01 38 53.8**	**0.0**
AGRA				AML	AML	01 38 56.6	
	comp=N,200nm,0.2s						
SDNR	**Sundarnagar**	**2.31**	**8**	*eP*	**Pn**	**01 38 26.1**	**+1.1**
SDNR				*eS*	**Sn**	**01 38 56.3**	**+2.2**
PONG	**Pong**	**2.80**	**349**	*ex*	x	01 38 10.0	
PONG				*ex*	x	01 39 18.0	
PTH	**Pithoragarh**	**3.18**	**83**	*eP*	**Pn**	**01 38 38.0**	**+1.1**
PTH				*ex*	**Sn**	**01 39 23.5**	**+8.0**
LGTI	**Lohaghat**	**3.19**	**85**	*eP*	**Pn**	**01 38 36.5**	**-0.7**
LGTI				*ex*	**Sn**	**01 39 19.0**	**+3.1**
AJM	**Ajmer**	**3.22**	**213**	*i* P	**Pn**	**01 38 38.0**	**+0.5**
AJM				*i* S	**Sn**	**01 39 17.0**	**+0.4**
THN	**Thein Dam**	**3.31**	**347**	*ex*	**Pn**	**01 38 46.2**	**+7.5**
THN				*ex*	**Sn**	**01 39 29.0**	**+10**
DLH	**Dalhousie**	**3.37**	**351**	*eP*	**Pg**	**01 38 51.0**	**+0.6**
DLH				*eS*	**Sg**	**01 39 33.0**	**-1.1**
SARP	**Sargodha**	**4.34**	**310**	P	**Sn**	**01 39 52.0**	**+7.9**
THW	**Thamme Wali**	**5.49**	**312**	⇑P	**Pn**	**01 39 08.8**	**0.0**
THW				S	**Sn**	**01 40 08.0**	**-4.7**
JASL	**Jaisalmer**	**5.52**	**247**	*eP*	**Pn**	**01 39 08.7**	**-0.4**
SBDP	**Sheikh Budin**	**5.86**	**303**	P	**Pn**	**01 39 15.6**	**+1.8**
DRP	**Derazinda**	**6.07**	**296**	⇑P	**Pn**	**01 39 16.9**	**+0.2**
CEP	**Cherat**	**6.10**	**320**	⇑P	**Pn**	**01 39 17.7**	**+0.6**
CEP				S	**Sn**	**01 40 25.0**	**-2.6**
NGP	**Nagpur**	**8.32**	**164**	*eP*	**Pn**	**01 39 46.7**	**-0.9**
NGP				*eS*	**Sn**	**01 41 14.2**	**-8.1**
NGP				*eS*	**Sn**	**01 41 14.2**	**-8.1**
NGP				AML	AML	01 42 11.1	
	comp=E,33nm,0.6s						
NGP				AML	AML	01 42 13.3	
	comp=N,28nm,0.4s						
POO	**Poona**	**10.92**	**194**	*ex*	**Sn**	**01 42 18.0**	**-8.1**
MKAR	**Makanchi Array**	**18.11**	**13**	P	**Pn**	**01 41 55.2**	**-3.5**
	comp=N,0.1nm,0.3s,baz=204,slow=14,SNR=9.0						
AKTO	**Aktyubinsk**	**25.43**	**332**	P	**P**	**01 43 14.8**	**-0.2**
	comp=N,0.9nm,0.5s,mb3.8,baz=139,slow=10,SNR=5.2						
FINES	**FINESS Array B**	**46.15**	**329**	P	**P**	**01 46 10.4**	**-1.5**
	comp=N,0.3nm,0.4s,mb3.7,baz=112,slow=7.5,SNR=5.1						
ARCES	**ARCESS Array B**	**49.65**	**339**	P	**P**	**01 46 37.2**	**-1.8**
	comp=N,3.1nm,0.9s,mb4.2,baz=120,slow=7.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**70.64**	**275**	P	**P**	**01 49 01.4**	**-1.6**
	comp=N,0.3nm,0.7s,mb3.5,baz=62,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**88.18**	**5**	P	**P**	**01 50 37.0**	**-1.6**
	comp=N,0.3nm,0.5s,mb3.9,baz=343,slow=5.0,SNR=5.2						

IDC ***15*** *01:45:59.0±0.6, 981S×1263 0E, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.7/19, mbtmp4.7/14, MS4.1/9, Ms1 4.1/9, ms1mx3.9/20, Error ellipse: s-maj=22.7km s-min=15.5km az=56.0*
MOS ***15*** *01:46:01.9±1.6, 985S×1264 8E, h33km, mb5.1/14, Error ellipse: s-maj=18.8km s-min=9.9km az=107.8*
BJI ***15*** *01:46:01.3, 1002S×1270 5E, h50km, mB5.3, mb5.0, Ms5.3, Msz5.0*
ISCJB ***15*** *01:46:01.4±0.3, 996S±004×1265 4E±007, h35km, mb4.8/39, MS4.0/8, Error ellipse: s-maj=10.4km s-min=5.5km az=162.3*
NEIC ***15*** *01:46:04.1±0.3, 994S×1264 0E, mb4.9/14, Error ellipse: s-maj=11.3km s-min=7.6km az=67.0*
HRVD ***15*** *01:46:04.1±1.1, 963S×1265 7E, h30km±3km, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s8,c9;Mantle waves: s35,c47; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.91±.39; Mθθ 0.97±.28; Mφφ-0.05±.39; Mrθ 0.84±.38; Mrφ 1.43±.13; Mθφ 0.74±.54; Best double couple: M0 1.85000×1016 NP1:φs85.00000°, δ32.00000°, λ-47.00000°. NP2:φs217.00000°, δ67.00000°, λ-113.00000°. Principal axes: T 2.3560, Plg19.0000°, Azm324.0000°; N -1.0130, Plg21.0000°, Azm226.0000°; P -1.3430, Plg61.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 15 01:46:03.4±0.3,**997S**±004×**1266 6E**±007,**h37**km,
h37km±2.9km:**pP-P,n93,**σ1⇑**20/90,mb4.8/39,MS4.0/8,**
6C-5D,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.14**	**187**	*eP*	**Pn**	**01 47 58.8**	**-0.3**
	38nm,0.2s						
FITZ				*eS*	**Sn**	**01 49 22.1**	**-7.8**
WRAB	**Tennant Creek**	**12.38**	**144**	*ePn*	**Pn**	**01 48 56.4**	**-0.6**
	200nm,0.9s						
WRAB				*eSn*	**Sn**	**01 51 07.3**	**-6.3**
WRA	**Warramunga Arr**	**12.38**	**144**	Pn	**Pn**	**01 48 55.7**	**-1.3**
	14nm,0.3s,baz=317,slow=12,SNR=206						
WB2	**Warramunga Arr**	**12.39**	**144**⇑*i*P		**Pn**	**01 48 56.2**	**-1.0**
WB2				*eS*	**Sn**	**01 51 06.3**	**-7.6**
MBWA	**Marble Bar**	**12.97**	**210**	*ePn*	**Pn**	**01 49 03.5**	**-1.6**
	25nm,0.6s						
MBWA				*eSn*	**Sn**	**01 51 15.4**	**-13**
ASAR	**Alice Springs**	**15.28**	**154**	Pn	**Pn**	**01 49 36.0**	**-0.3**
	6.6nm,0.3s,baz=326,slow=10,SNR=209						
CGP	**Cagayan de Oro**	**18.41**	**354**⇑*i*P		**Pn**	**01 50 14.5**	**-1.0**
KKM	**Kota Kinabalu**	**19.01**	**326**	*eP*	**Pn**	**01 50 25.1**	**+2.3**
KSM	**Kuching**	**19.85**	**304**	*eP*	**Pn**	**01 50 29.9**	**-3.0**
PMG	**Port Moresby**	**20.22**	**90**	P	**P**	**01 50 40.6**	**+5.5**
	86nm,1.0s,baz=257,slow=9.3,SNR=21						
PMG				LR	LR	01 59 43.8	
	comp=Z,590nm,19.0s,MS4.0,baz=58,slow=40						
PMG	**Port Moresby**	**20.22**	**90**	*eP*	**P**	**01 50 41.0**	**+5.9**
PMG				pmax	pmax		
	comp=Z,102nm,1.0s						
PMG	**Port Moresby**	**20.22**	**90**	*eP*	**P**	**01 50 41.0**	**+5.9**
	comp=Z,102nm,1.0s						
CTA	**Charters Tower**	**21.41**	**120**	*eP*	**P**	**01 50 55.0**	**+7.0**
	comp=Z,35nm,1.0s,mb4.6						
CTA				*eS*	**S**	**01 54 57.7**	**+14**
CTA	**Charters Tower**	**21.41**	**120**	P	**P**	**01 50 54.5**	**+6.6**
	comp=Z,22nm,0.8s,mb4.5,baz=293,slow=13,SNR=9.7						
CTA				LR	LR	01 59 23.7	
	comp=Z,226nm,19.0s,MS3.6,baz=266,slow=37						
CTAO	**Charters Tower**	**21.41**	**120**	*eP*	**P**	**01 50 54.6**	**+6.7**
	comp=Z,30nm,0.9s,mb4.6						
KLBR	**Kellerberrin**	**23.05**	**200**	*eP*	**P**	**01 51 06.4**	**+1.0**
	comp=Z,88nm,1.2s,mb5.1						
KLBR				*eS*	**S**	**01 55 09.3**	**-4.2**
MUN	**Mundaring**	**23.94**	**202**	*eP*	**P**	**01 51 17.6**	**+3.6**
MUN				*eS*	**S**	**01 55 28.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**24.45**	**199**	P	**P**	**01 51 20.1**	**+1.5**
	comp=Z,12nm,0.7s,mb4.4,baz=355,slow=17,SNR=7.3						
NWAO				LR	LR	02 02 10.1	
	comp=Z,336nm,20.4s,MS3.8,baz=199,slow=40						
NWAO	**Narrogin (SRO)**	**24.45**	**199**	*eP*	**P**	**01 51 20.6**	**+2.0**
NWAO				*ep*P		01 51 30.9	
NWAO				*eS*	**S**	**01 55 33.0**	**-3.1**
STKA	**Stephens Creek**	**25.82**	**150**	*eP*	**P**	**01 51 33.5**	**+2.4**
	comp=Z,23nm,0.9s,mb4.7						
STKA				*eS*	**S**	**01 56 16.8**	**+19**
STKA	**Stephens Creek**	**25.82**	**150**	P	**P**	**01 51 33.3**	**+2.2**
	comp=Z,11nm,0.5s,mb4.7,baz=318,slow=9.2,SNR=31						
STKA				LR	LR	02 03 14.6	
	comp=Z,620nm,18.5s,MS4.2,baz=252,slow=40						
STKA	**Stephens Creek**	**25.82**	**150**	*eP*	**P**	**01 51 33.5**	**+2.5**
STKA				*ep*P	pP	01 51 43.8	+2.3
STKA				S	**S**	**01 56 05.5**	**+7.4**
GUMO	**Guam**	**29.57**	**38**	*eP*	**P**	**01 52 07.9**	**+3.3**
PSI	**Prapat**	**30.39**	**293**	P	**P**	**01 52 09.9**	**-2.0**
	comp=Z,4.6nm,0.4s,mb4.6,baz=118,slow=6.5,SNR=6.5						
PSI				LR	LR	02 06 13.9	
	comp=Z,284nm,18.7s,MS3.9,baz=120,slow=40						
HNR	**Honiara**	**32.81**	**92**	LR	LR	02 07 14.2	
	comp=Z,158nm,18.9s,MS3.7,baz=352,slow=38						
DZM	**Mont Dzumac**	**39.97**	**112**	LR	LR	02 09 41.5	
	comp=Z,184nm,18.5s,MS4.0,baz=173,slow=35						
GYA	**Guiyang**	**41.09**	**332**⇑*i*P		**P**	**01 53 43.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
SSE	**Sheshan**	**41.16**	**353**	*eP*	**P**	**01 53 43.6**	**-0.5**
SSE				PP	PP	01 55 20.8	+1.3
SSE				PCP	PcP	01 55 42.8	-0.1
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,148nm,4.4s						
NJ2	**Nanjing**	**42.44**	**350**	*eP*	**P**	**01 53 53.0**	**-1.6**
NJ2				PP	PP	01 55 33.3	0.0
NJ2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,20.0s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,20.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
ENH	**Enshi**	**43.28**	**338**	*eP*	**P**	**01 54 01.1**	**-0.3**
	comp=Z,7.9nm,0.9s,mb4.4						
ENH				*ep*P	pP	01 54 11.8	-0.3
CD2	**Chengdu**	**46.21**	**332**	*eP*	**P**	**01 54 26.6**	**+2.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**47.52**	**13**	P	**P**	**01 54 33.9**	**-1.1**
	comp=Z,10nm,0.8s,mb4.9,baz=188,slow=9.1,SNR=15						
SNY	**Shenyang**	**51.62**	**357**	⇑P	**P**	**01 55 06.0**	**-0.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
LSA	**Lhasa**	**52.20**	**320**	P	**P**	**01 55 11.8**	**+1.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**52.20**	**320**	*eP*	**P**	**01 55 11.3**	**+0.9**
LSA				*e**PP	pP	01 55 19.9	-1.5
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
LSA	**Lhasa**	**52.20**	**320**	*eP*	**P**	**01 55 11.2**	**+0.8**
	comp=Z,14nm,0.6s,mb5.1						
LSA				*ep*P	pP	01 55 19.9	-1.5
JIRN	**Jiri**	**54.17**	**315**	*eP*	**P**	**01 55 25.7**	**+0.7**
MDJ	**Mudanjiang**	**54.39**	**3**	*eP*	**P**	**01 55 25.6**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.7						
MDJ				*ep*P	pP	01 55 38.4	+0.8
GUN	**Gumba**	**54.54**	**315**	*eP*	**P**	**01 55 28.2**	**+0.5**
	comp=Z,84nm,0.8s,mb5.8						
PKI	**Pulchoki**	**54.67**	**314**	*eP*	**P**	**01 55 28.6**	**0.0**
	comp=Z,52nm,0.5s,mb5.8						
PKI	**Pulchoki**	**54.67**	**314**	*eP*	**P**	**01 55 28.6**	**0.0**
PKI				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.5						
HYB	**Hyderabad**	**54.77**	**300**	*i* P	**P**	**01 55 29.0**	**-0.3**
HYB	**Hyderabad**	**54.77**	**300**	*eP*	**P**	**01 55 29.0**	**-0.3**
KKN	**Kakani**	**54.89**	**314**	*eP*	**P**	**01 55 30.8**	**+0.6**
DMN	**Daman**	**54.91**	**314**	*eP*	**P**	**01 55 30.7**	**+0.4**
GTA	**Gaotai**	**55.10**	**335**	*eP*	**P**	**01 55 31.9**	**+0.2**
GTA				AP	pP	01 55 40.1	-2.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.3						
GKN	**Gorkha**	**55.47**	**314**	*eP*	**P**	**01 55 34.5**	**+0.1**
KOLN	**Koldanda**	**56.08**	**313**	*eP*	**P**	**01 55 38.8**	**+0.1**
	comp=Z,53nm,0.7s,mb5.7						
ULN	**Ulaanbaatar**	**60.15**	**345**	*eP*	**P**	**01 56 05.3**	**-1.9**
ULN				*e**PP	pP	01 56 18.8	+0.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ULN	**Ulaanbaatar**	**60.15**	**345**	*eP*	**P**	**01 56 05.3**	**-1.9**
	comp=Z,4.0nm,0.5s,mb4.7						
ULN				*ep*P	pP	01 56 18.8	+0.5
SONM	**Songino Array**	**60.29**	**344**	P	**P**	**01 56 07.8**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.4,baz=160,slow=8.5,SNR=23						
THW	**Thamme Wali**	**67.40**	**312**	⇓P	**P**	**01 56 56.4**	**+1.4**
BOD	**Bodaibo**	**68.34**	**353**	*eP*	**P**	**01 56 59.2**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
PET	**Petropavlovsk**	**68.43**	**20**	*eP*	**P**	**01 57 02.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**78.92**	**329**	*e*P	**P**	**01 58 03.1**	**+0.1**
BRVK				*e*	pP	01 58 12.2	-2.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**78.92**	**329**	*e*P	**P**	**01 58 03.1**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.2						
BRVK				*e*PcP	PcP	01 58 12.2	+0.6
ZRNK	**Zerenda**	**79.51**	**329**	*e*P	**P**	**01 58 06.1**	**-0.1**
ZRNK				*e**PP	pP	01 58 15.7	-2.0
ZRNK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
ZRNK	**Zerenda**	**79.51**	**329**	*e*P	**P**	**01 58 06.1**	**-0.1**
	comp=Z,15nm,1.2s,mb4.8						
ZRNK				*e*pP	pP	01 58 15.7	-2.0
SYO	**Syowa Base**	**79.71**	**201**	⇓*e*X		01 58 04.5	
QSPA	**South Pole Qui**	**80.03**	**180**	*e*P	**P**	**01 58 11.3**	**+2.3**
	comp=Z,12nm,0.9s,mb4.8						
TIXI	**Tiksi**	**81.45**	**1**	*d e*P	**P**	**01 58 17.1**	**+0.5**
BILL	**Bilibino**	**82.75**	**14**	*e*P	**P**	**01 58 21.0**	**-2.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
AKTK	**Aktyubinsk**	**84.42**	**323**	P	**P**	**01 58 32.1**	**+0.1**
AKTO	**Aktyubinsk**	**84.42**	**323**	P	**P**	**01 58 32.1**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.7,baz=110,slow=7.2,SNR=23						
ARU	**Arti**	**86.49**	**329**	⇓*i*P	**P**	**01 58 42.1**	**-0.2**
ARU				*e*		02 02 04.5	
ARU				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.7						
KMBO	**Kilima Mbogo**	**89.22**	**269**	P	**P**	**01 58 56.6**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.4,baz=141,slow=2.9,SNR=4.4						
ILAR	**Eielson Array**	**97.43**	**26**	P	**P**	**01 59 32.7**	**-0.4**
	comp=Z,0.7nm,0.7s,mb4.2,baz=275,slow=4.1,SNR=9.0						
OBN	**Obninsk**	**98.14**	**325**	P	**P**	**01 59 38.1**	**+1.8**
OBN				pmax	pmax		
	comp=Z,12nm,1.4s,mb5.2						
YKA	**Yellowknife Ar**	**111.85**	**26**	⇑*i*PKIKP	PKiKP	02 04 35.7	+1.4
PDAR	**Pinedale Array**	**121.31**	**46**	PKP	PKPdf	02 04 55.4	+2.9
	comp=Z,1.6nm,0.7s,baz=253,slow=1.1,SNR=17						
ANMO	**Albuquerque**	**125.72**	**54**	PKP	PKPdf	02 05 03.4	+2.5
	comp=Z,1.9nm,1.0s,baz=209,slow=3.5,SNR=3.9						
ANMO	**Albuquerque**	**125.72**	**54**	⇑*i*PKIKP	PKPdf	02 05 04.0	+3.1
TORD	**Torodi Ar. Bea**	**126.07**	**279**	PKP	PKPdf	02 05 03.2	+1.6
	comp=Z,3.0nm,0.7s,baz=58,slow=1.9,SNR=22						
ULM	**Lac du Bonnet**	**126.72**	**33**	PKP	PKPdf	02 05 04.2	+1.3
	comp=Z,1.8nm,0.5s,baz=150,slow=6.5,SNR=5.3						
DBIC	**Dimbokro**	**131.94**	**270**	PKP	PKPdf	02 05 15.3	+2.5
	comp=Z,2.6nm,0.9s,baz=192,slow=0.5,SNR=6.0						
DBIC	**Dimbokro**	**131.94**	**270**	*e*PKPdf	PKPdf	02 05 15.8	+3.0
JSC	**Jenkinsville**	**144.81**	**42**	*e*PKIKP	PKPdf	02 05 34.8	+2.1
LPAZ	**La Paz**	**150.09**	**151**	PKPbc	PKPbc	02 05 54.0	+3.9
	comp=Z,4.7nm,0.8s,baz=166,slow=0.5,SNR=11						

ISCJB ***15*** *01:47:32.4±0.4, 5135N±002×1034E±003, h0km, Error ellipse: s-maj=3.4km s-min=2.6km az=175.5*
LDG ***15*** *01:47:34.6±0.1, 5148N×1038E, h1km, Ml2.9/3, Error ellipse: s-maj=2.1km s-min=1.7km az=176.0, Suspected Mining induced.*
CSEM ***15*** *01:47:34.5±0.1, 5146N×1039E, h0km, ML2.8/2, Error ellipse: s-maj=2.2km s-min=1.3km az=17.0*
BGR ***15*** *01:47:34.5±0.3, 5145N×1043E, h1km, ML2.4, Error ellipse: s-maj=4.4km s-min=3.3km az=79.0*
VIE ***15*** *01:47:35.8±0.6, 5166N×1146E, h0km, ML2.3/1, Error ellipse: s-maj=5.8km s-min=3.6km az=64.0 41 km WNW of Halle Suspected Mining induced.*
PRU ***15*** *01:47:37.0, 5139N×1058E, h0km*

ISC 15 01:47:33.3±0.4, 5143N±002×1036E±003, h0km, n46, σ1§22/74, 4C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTTG	**Gvttingen**	**0.27**	**296**	*e*Pg	**Pg**	**01 47 41.1**	**+2.5**
	SNR=35						
GTTG				*e*Sg	**Sg**	**01 47 46.1**	**+4.0**
CLZ	**Clausthal**	**0.41**	**1**	*e*Pg	**Pg**	**01 47 41.8**	**+0.5**
CLZ				*e*Sg	**Sg**	**01 47 47.3**	**+0.6**
HROE	**Hohe Rhon--Fla**	**0.90**	**188**	⇑*i*Pg	**Pg**	**01 47 53.3**	**+2.7**
HROE				*i* Sg	**Sg**	**01 48 05.9**	**+3.6**
MOX	**Moxa**	**1.12**	**134**	*e*Pg	**Pg**	**01 47 55.7**	**+1.0**
MOX				*e*Sg	**Sg**	**01 48 10.5**	**+1.3**
MOX	**Moxa**	**1.12**	**134**	*e*PG	**Pg**	**01 47 56.6**	**+1.9**
MOX				*e*SG	**Sg**	**01 48 11.4**	**+2.2**
WERD	**Werda**	**1.57**	**128**	*e*Pn	**Pn**	**01 48 02.5**	**-0.1**
WERD				*e*Sg	**Sg**	**01 48 22.2**	**-1.7**
CLL	**Collm**	**1.66**	**93**	*e*Pn	**Pn**	**01 48 04.2**	**+0.5**
CLL				*e*Sg	**Sg**	**01 48 25.5**	**-1.2**
CLL	**Collm**	**1.66**	**93**	*i* Pg	**Pg**	**01 48 04.4**	**-0.8**
CLL				*i* Sg	**Sg**	**01 48 26.2**	**-0.5**
	comp=Z,42nm,0.5s						
VIEL	**Selb-Vielitz**	**1.67**	**138**	⇑*i*Pn	**Pn**	**01 48 04.3**	**+0.5**
TANN	**Tannenbergstha**	**1.67**	**126**	*e*Pn	**Pn**	**01 48 03.9**	**0.0**
TANN				*e*Sg	**Sg**	**01 48 27.2**	**+0.1**
TNS	**Taunus Mts**	**1.71**	**226**	*e*Pn	**Pn**	**01 48 05.0**	**+0.6**
NKC	**Novy Kostel**	**1.79**	**131**	*e*PN	**Pn**	**01 48 05.6**	**+0.2**
NKC				*e*SG	**Sg**	**01 48 27.5**	**-3.2**
	comp=Z,50nm,0.8s						
MANZ	**Manzenberg**	**1.82**	**142**	⇓*i*Pn	**Pn**	**01 48 06.6**	**+0.7**
GRA1	**Grafenberg Arr**	**1.82**	**162**	Pn	**Pn**	**01 48 07.1**	**+1.2**
GRF	**Grafenberg Arr**	**1.82**	**162**	*e*Pn	**Pn**	**01 48 07.1**	**+1.2**
GRF				*e*Sg	**Sg**	**01 48 33.9**	**+2.0**
MGBB	**Grossbuechelbe**	**1.88**	**140**	*e*Pn	**Pn**	**01 48 06.6**	**-0.1**
ROTZ	**Rotzenmuhle**	**2.04**	**144**	*e*Pn	**Pn**	**01 48 09.2**	**+0.3**
ROTZ				*e*Sg	**Sg**	**01 48 39.6**	**+0.7**
BRG	**Berggiesshubel**	**2.33**	**102**	*e*Pg	**Pg**	**01 48 15.4**	**-2.5**
BRG				*e*Sg	**Sg**	**01 48 47.6**	**-0.4**
BRG	**Berggiesshubel**	**2.33**	**102**	PN	**Pn**	**01 48 14.8**	**+1.9**
BRG				*i*		01 48 19.1	
STU	**Stuttgart**	**2.76**	**196**	*e*Sg	**Sg**	**01 49 03.4**	**+1.2**
PVCC	**Panska Ves**	**2.81**	**107**	*e*PN	**Pn**	**01 48 20.6**	**+1.1**
PRU	**Pruhonice**	**3.02**	**117**	*e*PN	**Pn**	**01 48 23.9**	**+1.4**
PRU				*e*PG	**Pg**	**01 48 30.4**	**-0.9**
PRU				*e*SG	**Sg**	**01 49 08.9**	**-1.6**
KHC	**Kasperske Hory**	**3.09**	**137**	*e*PG	**Pg**	**01 48 32.5**	**-0.1**
KHC				*e*SG	**Sg**	**01 49 11.0**	**-1.7**
GEC2	**GERESS Array S**	**3.36**	**139**	*e*Sg	**Sg**	**01 49 20.2**	**-1.2**
BFO	**Black Forest**	**3.37**	**204**	*e*Sg	**Sg**	**01 49 22.6**	**+1.1**
CDF	**Champ du Feu**	**3.62**	**215**	*e*Pn	**Pn**	**01 48 30.3**	**-0.3**
CDF	**Champ du Feu**	**3.62**	**215**	*e*Pg	**Pg**	**01 48 42.2**	**-0.5**
CDF				*e*Sn	**Sn**	**01 49 11.7**	**-2.3**
CDF				*e*Sg	**Sg**	**01 49 29.5**	**0.0**
	comp=Z,4.4nm,0.3s						
CDF	**Champ du Feu**	**3.62**	**215**	*e*Pg	**Pg**	**01 48 42.2**	**-0.5**
CDF				*e*Sn	**Sn**	**01 49 11.7**	**-2.3**
CDF				*e*Sg	**Sg**	**01 49 29.5**	**0.0**
	comp=Z,2.2nm,0.3s						
GIVF	**Givet**	**3.76**	**251**	*e*Pn	**Pn**	**01 48 31.9**	**-0.6**
GIVF	**Givet**	**3.76**	**251**	*e*P	**Pn**	**01 48 35.6**	**+3.1**
GIVF				*e*Sg	**Sg**	**01 49 32.0**	**-2.0**
GIVF	**Givet**	**3.76**	**251**	*e*P	**Pn**	**01 48 35.6**	**+3.1**
GIVF				*e*Sg	**Sg**	**01 49 32.0**	**-2.0**
DPC	**Dobruska-Polom**	**3.93**	**104**	*e*SG	**Sg**	**01 49 38.2**	**-1.3**
BAIF	**Baives**	**4.14**	**253**	*e*Pn	**Pn**	**01 48 37.0**	**-0.8**
BAIF	**Baives**	**4.14**	**253**	*e*Pg	**Pg**	**01 48 51.9**	**-0.8**
BAIF				*e*Sg	**Sg**	**01 49 44.6**	**-1.8**
RFYF	**Reffroy**	**4.21**	**230**	*e*P	**Pn**	**01 48 42.0**	**+3.2**
	baz=57						
HINF	**Hinteralfeld**	**4.27**	**214**	*e*Pn	**Pn**	**01 48 39.7**	**+0.1**
HINF				*e*Sg	**Sg**	**01 49 50.2**	**-0.4**
HAU	**Haudompre**	**4.30**	**219**	*e*Pn	**Pn**	**01 48 40.3**	**+0.3**
HAU				*e*Sg	**Sg**	**01 49 51.5**	**0.0**
MOA	**Molln**	**4.39**	**143**	⇑*i*Pn	**Pn**	**01 48 41.3**	**+0.1**
MOA				⇑*i*Sg	**Sg**	**01 49 56.1**	**+1.7**
	comp=Z,4.7nm,0.6s						
MEZF	**Maizieres J'vi**	**4.51**	**232**	*e*Pn	**Pn**	**01 48 42.2**	**-0.6**
SFTF	**Sexfontaines**	**4.72**	**229**	*e*Pn	**Pn**	**01 48 45.5**	**-0.2**
	baz=43						
LOR	**Lormes**	**5.95**	**228**	*e*Pn	**Pn**	**01 49 02.5**	**-0.1**
LOR				*e*Sn	**Sn**	**01 50 08.2**	**-3.2**
SSF	**Saint Saulge**	**6.26**	**228**	*e*Pn	**Pn**	**01 49 06.2**	**-0.7**
SSF				*e*Sn	**Sn**	**01 50 14.9**	**-4.3**
FLN	**La Foliniere**	**7.47**	**253**	*e*Pn	**Pn**	**01 49 22.5**	**-1.0**
GRR	**Gorron**	**7.86**	**252**	*e*Pn	**Pn**	**01 49 27.9**	**-0.9**
GRR	**Gorron**	**7.86**	**252**	*e*P	**Pn**	**01 49 33.3**	**+4.5**
GRR	**Gorron**	**7.86**	**252**	*e*P	**Pn**	**01 49 33.3**	**+4.5**

GUC 15 01:54:54.9±0.8, 2156S×6887W, h154km±15km, MD3.5, ML3.3, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.04**	**182**	⇓*i*P	Pn	01 55 21.2	+0.8
LVC				*i* S	Sn	01 55 42.0	+2.1
LVC				AMP		01 55 45.2	
	comp=N,352nm,0.3s						
CEN1	**Los Morros**	**2.19**	**214**	*e*P	Pn	01 55 36.6	+4.2
CEN1				*i* S	Sn	01 56 07.7	+6.3
CEN1				AMP		01 56 15.3	
	comp=N,60nm,0.3s						
ANCH	**Antofagasta**	**2.54**	**214**	⇑*i*P	Pn	01 55 35.6	-1.1
ANCH				*i* S	Sn	01 56 07.9	-1.1
CPN1	**Cerro Paranal**	**3.36**	**205**	*i* S	Sn	01 56 30.5	+3.2
CPN1				AMP		01 56 57.5	
	comp=E,70nm,0.2s						

LDG ***15*** *01:54:56.9±0.1, 3365N×8122E, h10km, Mb5.1/37, Ms3.5/1, Error ellipse: s-maj=5.5km s-min=3.5km az=66.0*
IDC ***15*** *01:54:57.0±0.4, 3352N×8131E, h0km, mb4.6/27, mb1 4.7/28, mb1mx4.7/28, mbtmp4.6/28, ML4.3/1, MS4.0/8, Ms1 4.0/8, ms1mx3.7/24, Error ellipse: s-maj=15.4km s-min=11.3km az=44.0*
NDI ***15*** *01:54:59.4±4.5, 3401N×8152E, h33km, mb5.2, mb5.0(NEIC)*
NAO ***15*** *01:55:01.2, 3386N×8205E, h33km, mb4.4*
MOS ***15*** *01:55:01.8±1.2, 3369N×8141E, h36km, mb4.9/43, Error ellipse: s-maj=8.1km s-min=4.4km az=116.4*
ISCJB ***15*** *01:55:01.7±0.5, 3366N±003×8133E±002, h39km±4km, mb4.8/115, MS4.1/19, Error ellipse: s-maj=4.3km s-min=3.1km az=37.5*
BJI ***15*** *01:55:03.3, 3370N×8129E, h56km, mB4.9, mb4.6, ML4.8, Ms4.5, Msz4.3*
HRVD ***15*** *01:55:04.8±0.8, 3370N×8147E, h30km±1km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s37,c54; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.62±.32; Mθθ-1.20±.22; Mφφ2.83±.20; Mrθ0.38±.41; Mrφ0.15±.15; Mθφ-0.22±.22; Best double couple: M=2.35000×10^16 NP1:φ=210.00000°, δ50.00000°, λ-49.00000°. NP2: φ=336.00000°, δ55.00000°, λ-128.00000°. Principal axes: T 2.8450, Plg3.0000°, Azm92.0000°; N -0.9790, Plg31.0000°, Azm0.0000°; P -1.8550, Plg59.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *01:55:04.8±0.7, 3364N×8138E, h49km±7km, mb5.0/13 Error ellipse: s-maj=7.7km s-min=5.0km az=55.0*
SZGRF ***15*** *01:55:05.5, 3389N×8116E, h33km, mb4.9, Xizang*

ISC 15 01:55:04.1±0.3, 3366N±002×8133E±002, h44km±3km, h56km±4.0km: pP-P, n291, σ1§05/309, mb4.8/115, MS4.1/19, 17C-17D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.21**	**193**	*e*P	**Pn**	**01 56 06.8**	**+1.1**
PTH				*ex*	x	01 57 05.0	
LGTI	**Lohaghat**	**4.30**	**193**	*e*P	**Pn**	**01 56 13.5**	**+6.6**
LGTI				*e*S	**Sn**	**01 57 03.0**	**+7.2**
SMLA	**Simla**	**4.33**	**235**	*e*P	**Pn**	**01 56 07.2**	**-0.2**
SMLA				*e*P		01 56 07.8	
SMLA				AMb	AMB	01 56 20.2	
	comp=Z,235nm,2.1s						
SMLA				*e*S	**Sn**	**01 56 58.1**	**+1.5**
SMLA				*e*S	**Sn**	**01 57 02.6**	**+5.9**
DDI	**Dehra Dun**	**4.34**	**221**	*e*P	**Pn**	**01 56 07.9**	**+0.4**
DLH	**Dalhousie**	**4.64**	**258**	*e*P	**Pn**	**01 56 12.0**	**+0.4**
DLH				*ex*	x	01 56 53.0	
KALG	**Kalgarh**	**4.69**	**209**	*ex*	x	01 56 09.8	
KALG				AMb	AMB	01 56 17.2	
	comp=Z,130nm,0.9s						
BHK	**Bhakra**	**4.71**	**243**	*ex*	x	01 56 33.1	
BHK				*ex*	x	01 57 13.1	
PONG	**Pong**	**4.84**	**251**	*e*P	**Pn**	**01 56 14.0**	**-0.4**
PONG				*ex*	x	01 57 44.0	
THN	**Thein Dam**	**4.87**	**257**	*e*P	**Pn**	**01 56 13.8**	**-1.0**
NDI	**New Delhi**	**6.08**	**216**	*ex*	x	01 56 30.5	
NDI				*ex*	x	01 57 07.0	
KOLN	**Koldanda**	**6.19**	**161**	*e*P	**Pn**	**01 56 32.4**	**-0.5**
	comp=Z,318nm,0.9s						
AYAN	**Aya Nagar**	**6.30**	**216**	*e*P	**Pn**	**01 56 36.0**	**+1.7**
AYAN				AMb	AMB	01 56 36.6	
	comp=Z,44nm,0.7s						
GKN	**Gorkha**	**6.32**	**152**	*e*P	**Pn**	**01 56 34.8**	**+0.2**
	comp=Z,114nm,0.3s						
SONA	**Sohna**	**6.51**	**215**	*e*P	**Pn**	**01 56 38.5**	**+1.2**
SONA				AMb	AMB	01 56 39.6	
	comp=Z,51nm,0.5s						
CHCP	**Chirah Chowk**	**6.73**	**272**	P	**Pn**	**01 56 40.0**	**-0.3**
NIL	**Nilore**	**6.74**	**272**	Pn	**Pn**	**01 56 40.9**	**+0.5**
	comp=Z,152nm,0.5s,SNR=6.8						
KKN	**Kakani**	**6.77**	**149**	*e*P	**Pn**	**01 56 40.8**	**0.0**
	comp=Z,196nm,0.6s						
KKN	**Kakani**	**6.77**	**149**	*e*P	**Pn**	**01 56 40.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,98nm,0.6s						
DMN	**Daman**	**6.85**	**151**	*e*P	**Pn**	**01 56 42.3**	**+0.3**
	comp=Z,140nm,0.4s						
KUDL	**Kundal**	**6.89**	**218**	*e*P	**Pn**	**01 56 42.2**	**-0.4**
KUDL				*e*S	**Sn**	**01 57 57.4**	**-2.3**
GUN	**Gumba**	**6.94**	**144**	*e*P	**Pn**	**01 56 43.8**	**+0.6**
	comp=Z,78nm,0.5s						
PKI	**Pulchoki**	**7.01**	**149**	*e*P	**Pn**	**01 56 44.1**	**-0.1**
	comp=Z,188nm,0.7s						
PKI	**Pulchoki**	**7.01**	**149**	*e*P	**Pn**	**01 56 44.1**	**-0.1**
PKI				pmax	pmax		
	comp=Z,94nm,0.7s						
AGRA	**Agra**	**7.04**	**205**	*e*P	**Pn**	**01 56 46.3**	**+1.7**
AGRA				AMb	AMB	01 56 46.8	
	comp=Z,75nm,0.2s						
KSH	**Kashi**	**7.26**	**325**	*e*P	**Pn**	**01 56 51.0**	**+3.4**
KSH				*e*XP		01 57 08.3	
KSH				*e*S	**Sn**	**01 58 10.3**	**+1.6**
KSH				LR	LR		
	comp=N,3μm,7.3s						
KSH				LR	LR		
	comp=E,3μm,3.9s						
JIRN	**Jiri**	**7.30**	**144**	*e*P	**Pn**	**01 56 49.1**	**+1.0**
	comp=E,179nm,0.4s						
KHET	**Khetri**	**7.32**	**222**	*e*P	**Pn**	**01 56 47.5**	**-0.8**
KHET				AMb	AMB	01 56 49.0	
	comp=Z,52nm,0.7s						
SARP	**Sargodha**	**7.49**	**259**	⇑P	**Pn**	**01 56 50.2**	**-0.6**
CEP	**Cherat**	**7.85**	**274**	P	**Pn**	**01 56 54.0**	**-1.7**
CEP				S	**Sn**	**01 58 30.0**	**+6.8**
ALBI	**Allahabad**	**8.33**	**177**	*e*P	**Pn**	**01 57 02.0**	**-0.3**
SBDP	**Sheikh Budin**	**8.94**	**264**	⇑P	**Pn**	**01 57 09.2**	**-1.5**
AJM	**Ajmer**	**9.21**	**221**	*i* P	**Pn**	**01 57 13.0**	**-1.2**
AJM				*e*P		01 57 14.1	
AJM				AMb	AMB	01 57 15.8	
	comp=Z,42nm,1.0s						
AJM				*i* S	**Sn**	**01 58 52.0**	**-4.5**
AJM				*e*S	**Sn**	**01 58 52.2**	**-4.3**
LSA	**Lhasa**	**9.25**	**113**	P	**Pn**	**01 57 17.8**	**+2.9**
LSA				S	**Sn**	**01 58 58.5**	**+0.9**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s						
LSA				LR	LR		
	comp=N,740nm,8.0s						
LSA				LR	LR		
	comp=E,1μm,8.0s						
LSA				LR	LR		
	comp=Z,2μm,8.0s						
LSA	**Lhasa**	**9.25**	**113**	*e*P	**Pn**	**01 57 17.6**	**+2.7**
LSA				pmax	pmax		
	comp=Z,38nm,1.0s						
LSA	**Lhasa**	**9.25**	**113**	*e*Pn	**Pn**	**01 57 17.6**	**+2.7**
	comp=Z,38nm,1.0s						
BOK	**Bokaro**	**10.61**	**157**	*i* P	**Pn**	**01 57 30.9**	**-2.6**
BOK				*e*P		01 57 31.6	
BOK				*i* S	**Sn**	**01 59 22.9**	**-8.0**
BHPL	**Bhopal**	**10.93**	**199**	*e*P	**Pn**	**01 57 37.4**	**-0.5**
BHPL				AMb	AMB	01 57 42.1	
	comp=Z,53nm,1.1s						
JASL	**Jaisalmer**	**11.23**	**236**	*e*P	**Pn**	**01 57 39.5**	**-2.5**
WMQ	**Urumqi**	**11.29**	**24**	P	**Pn**	**01 57 42.0**	**-0.8**
WMQ				XP		01 58 00.0	
WMQ				S	**Sn**	**01 59 47.0**	**-0.6**
WMQ				SS		02 00 04.0	
WMQ				AMB	AMB		
	comp=Z,41nm,0.8s						
WMQ				LR	LR		
	comp=N,478nm,6.0s						
WMQ				LR	LR		
	comp=E,1μm,6.0s						
WMQ				LR	LR		
	comp=Z,348nm,6.0s						
BLSP	**Bilaspur**	**11.51**	**176**	*e*P	**Pn**	**01 57 44.8**	**-1.0**
BLSP				*e*S	**Sn**	**01 59 45.0**	**-7.9**
KK31	**Karatay Array**	**12.67**	**321**	*i* P	**Pn**	**01 58 01.2**	**-0.5**
KK31				pmax	pmax		
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**12.67**	**321**	*i* P	**Pn**	**01 58 01.2**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**13.14**	**3**	*i* P	**Pn**	**01 58 06.8**	**-1.2**
MK31				pmax	pmax		
	comp=Z,14nm,0.4s						
MKAR	**Makanchi Array**	**13.14**	**3**	Pn	**Pn**	**01 58 06.9**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=180,slow=13,SNR=24						
MKAR	**Makanchi Array**	**13.14**	**3**	*i* P	**Pn**	**01 58 07.4**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,18nm,0.7s						
AKL	**Akola**	**13.46**	**198**	*ex*	x	01 57 28.2	
AKL				*ex*	x	01 59 52.3	
GTA	**Gaotai**	**15.92**	**64**	*e*P	**Pn**	**01 58 43.6**	**-1.4**
GTA				AP	pP	01 59 00.4	+2.0
GTA				XP	sP	01 59 07.8	+3.8
GTA				S	**S**	**02 01 45.5**	**-7.3**
GTA				XS	sS	02 01 59.8	-10
GTA				LG1		02 03 24.9	
GTA				LG2		02 03 50.8	
GTA				AMB	AMB		
	comp=Z,45nm,0.8s						
GTA				AMB	AMB		
	comp=Z,147nm,5.7s						
GTA				LR	LR		
	comp=N,2μm,13.7s						
GTA				LR	LR		
	comp=E,914nm,16.0s						
GTA				LR	LR		
	comp=Z,660nm,14.8s						
VIS	**Vishakhapatnam**	**15.97**	**173**	*e*P	**Pn**	**01 58 47.4**	**+1.7**
HYB	**Hyderabad**	**16.37**	**189**	*i* P	**Pn**	**01 58 45.0**	**-5.7**
	comp=Z,140nm,1.0s						
HYB				*e*		01 58 53.0	
HYB				*e*S	**S**	**02 02 00.0**	**-2.0**
HYB	**Hyderabad**	**16.37**	**189**	*e*P	**Pn**	**01 58 45.0**	**-5.7**
	comp=Z,140nm,1.0s						
HYB				*e*S	S	02 01 37.0	-25
POO	**Poona**	**16.49**	**206**	*e*P	**Pn**	**01 58 50.0**	**-2.2**
POO				*e*PP		01 59 04.0	
POO				*e*PPP		01 59 12.0	
POO				*ex*	x	02 01 56.0	
POO				*i* S	**S**	**02 01 58.0**	**-6.5**
POO				*e*SS		02 02 18.0	
POO				*e*SSS		02 02 31.0	
POO				*i* x	x	02 02 43.5	
KURK	**Kurchatov**	**17.16**	**354**	Pn	**Pn**	**01 59 00.8**	**+0.2**
	comp=Z,353nm,0.9s,SNR=11						
KURK	**Kurchatov**	**17.16**	**354**	*d i*P	**Pn**	**01 59 01.4**	**+0.8**
KURK	**Kurchatov**	**17.16**	**354**	Pn	**Pn**	**01 59 01.0**	**+0.4**
LZH	**Lanzhou**	**18.63**	**76**	*e*P	**Pn**	**01 59 19.0**	**+0.4**
LZH				AP	pP	01 59 30.0	+1.6
LZH				PP		01 59 36.4	
LZH				XP	sP	01 59 40.0	+6.1
LZH				*e*S	**S**	**02 02 39.8**	**-7.3**
LZH				XS	sS	02 03 02.0	-2.6
LZH				SS		02 03 06.0	
LZH				PCP	PcP	02 03 48.0	+2.7
LZH				AMB	AMB		
	comp=Z,42nm,1.2s						
LZH				AMB	AMB		
	comp=Z,249nm,6.0s						
LZH				LR	LR		
	comp=E,1μm,8.4s						
LZH				LR	LR		
	comp=Z,1μm,10.1s						
CD2	**Chengdu**	**19.16**	**92**	*e*P	**Pn**	**01 59 25.0**	**+0.1**
CD2				AP	pP	01 59 36.8	+2.6
CD2				PP		01 59 43.6	
CD2				XP	sP	01 59 45.3	+5.6
CD2				S	**S**	**02 02 52.3**	**-6.2**
CD2				XS	sS	02 03 10.3	-5.0
CD2				SS		02 03 19.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
CD2				AMB	AMB		
	comp=Z,220nm,5.9s						
CD2				LR	LR		
	comp=N,470nm,10.8s						
CD2				LR	LR		
	comp=Z,490nm,10.8s						
ABKT	**Ailbek**	**19.29**	**289**	P	**Pn**	**01 59 22.1**	**-4.4**
	comp=Z,153nm,1.2s,SNR=5.0						
ZAL	**Zalesovo**	**20.42**	**6**	P	**P**	**01 59 37.5**	**+0.1**
	comp=Z,14nm,0.8s,baz=278,slow=11,SNR=36						
ZAL	**Zalesovo**	**20.42**	**6**	*i* P	**P**	**01 59 38.2**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,14nm,0.8s						
VOSK	**Vostochnaya**	**20.45**	**342**	P	**P**	**01 59 36.9**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,27nm,0.8s						
KMI	**Kunming**	**20.48**	**109**	P	**P**	**01 59 38.5**	**+0.4**
KMI				S	**S**	**02 03 29.4**	**+4.5**
KMI				AMB	AMB		
	comp=Z,72nm,1.1s						
KMI				AMB	AMB		
	comp=Z,147nm,3.5s						
KMI				LR	LR		
	comp=N,330nm,10.5s						
KMI				LR	LR		
	comp=E,358nm,8.0s						
KMI				LR	LR		
	comp=Z,274nm,8.9s						
BVA0	**Borov

SONM Songino Array 23.55 46 P **P** **02 00 12.0 +1.5**
comp=Z,15nm,0.8s,mb4.5,baz=245,slow=8.9,SNR=101
SONM PcP PcP 02 03 54.3 -0.5
comp=Z,1.2nm,0.8s,baz=225,slow=3.0,SNR=3.9
SONM LR LR 02 10 03.3
comp=Z,251nm,20.2s,MS3.7,baz=233,slow=38
SONM Songino Array 23.55 46 P **P** **02 00 12.0 +1.5**
SONM 02 03 54.3
SONM pmax pmax
comp=Z,15nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,251nm,20.2s
KRAR Krasnoyarsk 23.74 16⇑ *i*P **P** **02 00 12.8 +0.6**
KRAR pmax pmax
comp=Z,17nm,1.3s,mb4.3
BTO Baotou 23.83 65 *e*P **P** **02 00 14.1 +1.0**
BTO AMB AMB
comp=Z,25nm,0.7s,mb4.8
AKTK Aktyubinsk 23.94 321 P **P** **02 00 13.7 -0.4**
AKTK LR LR 02 11 28.4
AKTO Aktyubinsk 23.94 321 P **P** **02 00 13.7 -0.4**
comp=Z,34nm,1.1s,mb4.7,baz=119,slow=10,SNR=21
AKTO LR LR 02 11 28.4
comp=Z,126nm,19.3s,MS3.4,baz=0.0,slow=41
AKTO Aktyubinsk 23.94 321 P **P** **02 00 13.7 -0.4**
AKTO pmax pmax
comp=Z,34nm,1.1s,mb4.7
AKTO MLR MLR
comp=Z,126nm,19.3s,MS3.4
ULN Ulaanbaatar 23.96 46 P **P** **02 00 15.4 +1.1**
ENH Enshi 24.09 90 *e*P **P** **02 00 16.5 +1.0**
comp=Z,42nm,1.1s,mb4.8
HHC Hu-ho-hao-te 25.03 65 *e*P **P** **02 00 25.8 +1.8**
HHC AP pP 02 00 40.1 +4.5
HHC XP sP 02 00 47.3 +6.5
HHC PCP PcP 02 03 53.1 -4.8
HHC S **S** **02 04 48.3 +3.2**
HHC SCP ScP 02 07 27.8 -5.6
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,214nm,9.6s
HHC LR LR
comp=N,613nm,14.4s,MS4.3
HHC LR LR
comp=E,319nm,14.4s,MS4.3
HHC LR LR
comp=Z,452nm,15.6s,MS4.1
ARU Arti 27.63 332⇑ *i*P **P** **02 00 47.7 +0.2**
ARU *e* 02 01 33.8
ARU *e*S **S** **02 05 26.4 +0.2**
ARU *e*SS 02 06 39.6
ARU pmax pmax
comp=Z,20nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,200nm,22.5s,MS3.6
ARU MLR MLR
comp=N,200nm,21.0s
ARU Arti 27.63 332 P **P** **02 00 47.6 +0.2**
WHN Wuhan 28.08 87 *e*P **P** **02 00 51.5 0.0**
UMR Umm Al-Rimmam 28.84 271 *e*P **P** **02 01 01.1 +2.8**
UMR AMb AMB 02 01 08.6
comp=Z,22nm,0.7s,mb5.0
QRN Al-Qurain 28.92 269 *e*P **P** **02 01 00.1 +1.1**
QRN AMb AMB 02 01 06.4
comp=Z,27nm,1.0s,mb4.9
MIB Mutribah 29.09 272 *e*P **P** **02 01 02.7 +2.2**
MIB AMb AMB 02 01 13.7
comp=Z,17nm,0.8s,mb4.8
RDF Al-Radifah 29.17 270 *e*P **P** **02 01 01.4 +0.2**
RDF AMb AMB 02 01 07.4
comp=Z,19nm,0.7s,mb5.0
QIZ Qiongzhong 29.29 113 *e*P **P** **02 01 03.6 +1.3**
QIZ XP sP 02 01 27.3 +8.1
QIZ *e*S **S** **02 05 43.4 -9.0**
QIZ AMB AMB
comp=Z,12nm,1.5s,mb4.4
QIZ AMB AMB
comp=Z,122nm,5.8s
QIZ LR LR
comp=N,314nm,18.0s
QIZ LR LR
comp=Z,323nm,10.8s
NAY Al-Naaiem 29.33 271 *e*P **P** **02 01 02.4 -0.2**
NAY AMb AMB 02 01 08.5
comp=Z,7.2nm,0.8s,mb4.5
GNI Garni 29.81 293 P **P** **02 01 09.2 +2.4**
comp=Z,12nm,1.0s,mb4.6,baz=12,slow=3.7,SNR=17
GNI LR LR 02 15 09.0
comp=Z,233nm,19.6s,MS3.8,baz=139,slow=41
GNI Garni 29.81 293 P **P** **02 01 09.4 +2.6**
ZEI Tsey 30.57 298 *i* P **P** **02 01 17.5 +3.9**
ZEI *i* *PP pP 02 01 26.1 +0.8
ZEI pmax pmax
comp=Z,11nm,1.4s,mb4.5
GOF Gofitskoye 31.45 303 *e*P **P** **02 01 24.4 +3.1**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.0
NJ2 Nanjing 31.45 82 *e*P **P** **02 01 22.4 +1.1**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
HIA Hailar 32.33 50 *e*P **P** **02 01 29.8 +0.7**
BOD Bodaibo 32.67 32 *e*P **P** **02 01 31.2 -0.9**
BOD pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
SSE Sheshan 33.62 83 *e*P **P** **02 01 40.8 +0.5**
SSE AP pP 02 01 56.0 +3.9
SSE XP sP 02 02 02.8 +5.5
SSE PP PP 02 02 58.3 +1.4
SSE PCP PcP 02 04 20.3 +0.6
SSE S **S** **02 06 58.8 -1.1**
SSE XS sS 02 07 25.0 +5.4
SSE AMB AMB
comp=Z,32nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,35nm,4.2s
SSE LR LR
comp=N,99nm,27.1s,MS3.7
SSE LR LR
comp=E,165nm,27.3s,MS3.7
SSE LR LR
comp=Z,221nm,24.2s,MS3.8
MALT Malatya 34.79 290 P **P** **02 01 53.5 +3.0**
MALT pmax pmax
comp=Z,21nm,1.2s,mb4.9
MALT Malatya 34.79 290 P **P** **02 01 53.5 +3.0**
comp=Z,21nm,1.2s,mb4.9
PSI Prapat 34.83 148 PcP PcP 02 04 23.4 +0.2
comp=Z,4.1nm,0.6s,baz=306,slow=2.1,SNR=3.6
VRSR Storozhevoye 35.13 313 *e*P **P** **02 01 55.9 +2.6**
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=E,4.0nm,0.8s
ANN Anapa 35.38 302 *e*P **P** **02 01 58.4 +2.9**
ANN *i* 02 02 16.4
ANN *e*S **S** **02 07 32.5 +5.4**
ANN pmax pmax
comp=Z,55nm,1.0s,mb5.4
CN2 Changchun 35.51 60 *e*P **P** **02 01 57.1 +0.5**
CN2 *e*AP pP 02 02 12.3 +3.9
CN2 *e*S **S** **02 07 26.8 -2.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.3
CN2 LR LR
comp=E,300nm,12.0s,MS4.3
CN2 LR LR
comp=Z,400nm,14.0s,MS4.3
MOS Moscow 37.25 320 *e*P **P** **02 02 13.3 +1.8**
MOS pmax pmax
comp=Z,61nm,1.4s,mb5.2
CLNS Chul'man 37.53 38 *e*P **P** **02 02 12.3 -1.5**
CLNS pmax pmax
comp=Z,15nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,12.0s,MS4.3
CLNS MLR MLR
comp=N,100nm,18.0s
CLNS MLR MLR
comp=E,300nm,12.0s
OBN Obninsk 37.65 319⇓ *e*P **P** **02 02 16.0 +1.2**
OBN *e*'PP pP 02 02 28.1 +1.4
OBN *e*S **S** **02 08 01.9 +0.3**
OBN pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.1
KLMR Klimovskoe 38.24 328 *e*P **P** **02 02 18.6 -1.3**
KLMR pmax pmax
comp=Z,40nm,2.0s,mb4.8
BR131 Keskin Array S 38.36 293 *e*P **P** **02 02 21.8 +1.0**
comp=Z,14nm,1.3s,mb4.5
BRTR Keskin Array B 38.36 293 P **P** **02 02 21.1 +0.2**
comp=Z,2.7nm,0.8s,mb4.0,baz=100,slow=7.5,SNR=15
BRTR Keskin Array B 38.36 293 P **P** **02 02 21.1 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
MDJ Mudanjiang 38.49 59 P **P** **02 02 22.0 0.0**
MDJ AP pP 02 02 36.3 +2.4
MDJ XP sP 02 02 44.4 +5.4
MDJ PP PP 02 03 50.8 +0.2
MDJ S **S** **02 08 12.9 -1.5**
MDJ AMB AMB
comp=Z,10.0nm,2.2s,mb4.2
MDJ AMB AMB
comp=Z,85nm,3.6s
MDJ LR LR
comp=N,254nm,15.3s,MS4.2
MDJ LR LR
comp=E,149nm,16.4s,MS4.2
MDJ LR LR
comp=Z,223nm,6.0s
KLR Kul'dur 40.09 52 *e*P **P** **02 02 33.2 -2.1**
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,1μm,12.0s,MS5.0
AKASG Malin Array Be 41.28 310 P **P** **02 02 44.3 -0.8**
comp=Z,4.3nm,0.6s,mb4.2,baz=80,slow=8.3,SNR=27
AKASG PP PP 02 04 17.0 -3.9
comp=Z,0.1nm,0.3s,baz=85,slow=10,SNR=2.7
YAK Yakutsk 41.60 32⇑ *e*P **P** **02 02 47.7 0.0**
CFR Carcaliu 41.98 302⇑ P **P** **02 02 52.8 +2.0**
CFR Carcaliu 41.98 302⇑ P **P** **02 02 52.8 +2.0**
HABR Khabarovsk 42.25 53 *e*P **P** **02 02 50.7 -2.3**
HABR *e*S **S** **02 09 08.6 -1.9**
HABR MLR MLR
comp=Z,285nm,11.8s,MS4.4
KKM Kota Kinabalu 42.43 123 *e*P **P** **02 02 56.6 +2.1**
MLR Muntele Rosu 43.50 303⇑ P **P** **02 03 04.3 +1.2**
BURAR Bucovina Array 43.87 306⇓ P **P** **02 03 06.7 +0.5**
BURAR Bucovina Array 43.87 306⇓ P **P** **02 03 06.7 +0.5**
FINES FINESS Array B 44.58 326 P **P** **02 03 11.3 -0.5**
comp=Z,7.2nm,0.7s,mb4.6,baz=101,slow=9.7,SNR=24
FINES PP PP 02 04 52.1 -4.3
comp=Z,0.6nm,0.7s,baz=100,slow=16,SNR=2.5
FINES FINESS Array B 44.58 326 P **P** **02 03 11.3 -0.5**
FINES 02 04 52.1
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.7s
KAF Kangasniemi 44.63 327 *e*p **P** **02 03 10.7 -1.5**
TIXI Tiksi 45.44 19 P **P** **02 03 19.0 +0.3**
DRGR 45.63 305⇓ P **P** **02 03 24.4 +4.2**
DRGR 45.63 305⇓ P **P** **02 03 24.4 +4.3**
KOLS Kolonicke sedl 45.77 308 *e*P **P** **02 03 21.6 +0.4**
VTS Vitosha 45.79 299⇑ P **P** **02 03 25.4 +4.0**
MAT Matsushiro 46.05 70 P **P** **02 03 23.3 -0.1**
MJAR Matsushiro Arr 46.05 70 P **P** **02 03 22.7 -0.7**
comp=Z,3.2nm,0.7s,mb4.4,baz=286,slow=10,SNR=7.7
MJAR LR LR 02 23 42.8
comp=Z,160nm,22.0s,MS3.9,baz=230,slow=37
MJAR Matsushiro Arr 46.05 70 P **P** **02 03 22.7 -0.7**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR MLR MLR
comp=Z,160nm,22.0s
STHS Stebnicka Huta 46.41 309 *e*P **P** **02 03 25.8 -0.5**
STHS *e* 02 04 57.3
STHS Stebnicka Huta 46.41 309 *e* **P** **02 03 25.8 -0.5**
STHS *e* 02 04 57.3
BZS Buzias 46.51 303⇓ P **P** **02 03 30.9 +3.8**
BZS Buzias 46.51 303⇓ P **P** **02 03 30.9 +3.8**
KECS Kecovo 46.98 307 *e*P **P** **02 03 33.7 +2.9**
NIE Niedzica 47.02 309 *e*P **P** **02 03 33.3 +2.2**
ARCES ARCESS Array B 47.06 337 P **P** **02 03 31.4 +0.1**
comp=Z,10nm,0.8s,mb4.8,baz=91,slow=7.1,SNR=17
ARCES ARCESS Array B 47.06 337 P **P** **02 03 31.4 0.0**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 47.06 337 P **P** **02 03 31.4 0.0**
VYHS Vyhne 48.07 308 *e*P **P** **02 03 41.5 +2.3**
OKC Ostrava-Krasne 48.39 309 *e*P **P** **02 03 39.8 -1.9**
SRO2 Moca 48.45 307 *e*P **P** **02 03 43.0 +0.8**
SRO Srobarova 48.50 307 *e*P **P** **02 03 43.6 +1.1**
MORC Moravsky Berou 48.78 309⇑ P **P** **02 03 45.7 +1.0**
VRAC Vranov 49.45 309⇑ P **P** **02 03 51.0 +1.2**
DPC Dobruska-Polom 49.51 310 *e*P **P** **02 03 51.3 +1.1**
UPC Upice 49.69 310 *e*P **P** **02 03 50.8 -0.8**
ARSA Arzberg 50.45 306⇓ P **P** **02 04 00.5 +3.1**
comp=Z,12nm,1.4s,mb4.7
ARSA Arzberg 50.45 306⇑ *i*P **P** **02 03 57.1 -0.3**
comp=Z,12nm,1.4s,mb4.7
PRU Pruhonice 50.69 310 *e*P **P** **02 03 58.6 -0.6**
PERS Pernice 50.83 306 *i* P **P** **02 04 00.9 +0.6**
BRG Berggiesshubel 50.95 311 *e*P **P** **02 04 01.6 +0.5**
comp=Z,7.1nm,1.1s,mb4.5
BRG *e* 02 04 04.4
comp=Z,15nm,1.3s
BRG Berggiesshubel 50.95 311 *e*P **P** **02 04 01.6 +0.5**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BRG pmax pmax
comp=Z,15nm,1.3s,mb4.8
MOA Molln 51.19 307⇑ *i*P **P** **02 04 03.5 +0.5**
comp=Z,14nm,1.3s,mb4.7
MA2 Magadan 51.39 38 *d i*P **P** **02 04 04.8 +0.3**
MA2 *e*S **S** **02 11 19.7 -1.2**
MA2 *i* SS SS 02 14 59.7 +2.7
MA2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MA2 MLR MLR
comp=Z,100nm,22.5s,MS3.8
MA2 Magadan 51.39 38 P **P** **02 04 05.3 +0.9**
comp=Z,9.7nm,0.7s,mb4.8
NVLJ Novalja 51.40 303 *i* P **P** **02 04 01.0 -3.5**
GEC2 GERESS Array S 51.40 309 *e*P **P** **02 04 05.2 +0.7**
comp=Z,18nm,1.3s,mb4.8
GEC2 GERESS Array S 51.40 309 *e*P **P** **02 04 05.2 +0.7**
GEC2 pmax pmax
comp=Z,18nm,1.3s,mb4.8
GERES GERESS Array B 51.40 309 P **P** **02 04 04.5 0.0**
comp=Z,5.6nm,1.0s,mb4.5,baz=76,slow=5.5,SNR=24
GERES PP PP 02 05 59.8 -2.0
comp=Z,0.7nm,0.8s,baz=243,slow=3.0,SNR=2.3
GERES LR LR 02 29 02.6
comp=Z,199nm,20.8s,MS4.1,baz=74,slow=40
GERES GERESS Array B 51.40 309 P **P** **02 04 04.5 0.0**
GERES 02 05 59.8
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,199nm,20.8s
KHC Kasperske Hory 51.43 309 *e*P **P** **02 04 05.5 +0.7**
CLL Collm 51.48 312 *e*P **P** **02 04 05.7 +0.6**
comp=Z,11nm,1.4s,mb4.6
CLL Collm 51.48 312⇓ *i*P **P** **02 04 05.6 +0.5**
comp=Z,19nm,1.4s,mb4.8
CLL Collm 51.48 312⇓ *i*P **P** **02 04 05.6 +0.5**
CLL pmax pmax
comp=Z,19nm,1.4s,mb4.8
CLL Collm 51.48 312⇓ *i*P **P** **02 04 05.6 +0.5**
comp=Z,19nm,1.4s,mb4.8
NB2 NORSAR Subarra 51.68 324 P **P** **02 04 05.8 -0.8**
comp=Z,3.7nm,0.7s,mb4.4,baz=88,slow=7.4
NOA NORSAR Array B 51.68 324 P **P** **02 04 06.1 -0.5**
comp=Z,7.0nm,0.8s,mb4.6,baz=88,slow=7.4,SNR=14
NOA LR LR 02 27 17.9
comp=Z,193nm,19.4s,MS4.1,baz=340,slow=38
NOA NORSAR Array B 51.68 324 P **P** **02 04 06.1 -0.5**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,193nm,19.4s
JAVS Javornik 51.69 305 *e*P **P** **02 04 06.9 +0.2**
JAVS *e* 02 05 19.9
CADS Cadrg 51.84 305 *e*P **P** **02 04 07.3 -0.6**
NKC Novy Kostel 51.98 310 *e*P **P** **02 04 10.1 +1.2**
WERD Werda 52.04 311 *e*P **P** **02 04 10.1 +0.8**
comp=Z,8.0nm,1.3s,mb4.5
SEY Seymchan 52.09 33⇑ *e*P **P** **02 04 08.6 -1.0**
ROTZ Rotzenmuhle 52.21 310 *e*P **P** **02 04 11.7 +1.1**
comp=Z,34nm,1.3s,mb5.1
MOX Moxa 52.44 311 *e*P **P** **02 04 12.6 +0.3**
comp=Z,9.0nm,1.2s,mb4.6
MOX Moxa 52.44 311 *e*P **P** **02 04 12.8 +0.5**
comp=Z,26nm,1.4s,mb5.0
MOX Moxa 52.44 311 *e*P **P** **02 04 12.8 +0.5**
MOX pmax pmax
comp=Z,26nm,1.4s,mb5.0
BSEG Bad Segeberg 52.74 315 *e*P **P** **02 04 15.6 +1.1**
comp=Z,13nm,1.0s,mb4.8
BSEG Bad Segeberg 52.74 315 *e*P **P** **02 04 15.6 +1.1**
BSEG pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 52.86 310 *e*P **P** **02 04 16.6 +1.3**
comp=Z,54nm,1.5s,mb5.3
GRF Grafenberg Arr 52.86 310 *e*P **P** **02 04 16.6 +1.3**
GRF pmax pmax
comp=Z,54nm,1.5s,mb5.3
CLZ Clausthal 53.02 313 *e*P **P** **02 04 16.9 +0.3**
comp=Z,27nm,1.5s,mb5.0
CLZ Clausthal 53.02 313 *e*P **P** **02 04 16.9 +0.3**
CLZ pmax pmax
comp=Z,27nm,1.5s,mb5.0
WTTA Wattenberg 53.05 307⇑ *i*P **P** **02 04 17.0 +0.2**
comp=Z,13nm,1.2s,mb4.8
WATA Walderalm 53.08 307⇓ *i*P **P** **02 04 16.7 -0.2**
comp=Z,6.8nm,1.2s,mb4.5
FUR Furstenfeldbru 53.11 308 *e*P **P** **02 04 18.0 +0.8**
comp=Z,35nm,1.2s,mb5.2
FUR Furstenfeldbru 53.11 308 *e*P **P** **02 04 18.0 +0.8**
FUR pmax pmax
comp=Z,35nm,1.2s,mb5.2
SQTA Sankt Quirin 53.35 307⇓ *i*P **P** **02 04 18.7 -0.3**
comp=Z,12nm,1.4s,mb4.6
MOTA Moosalm 53.39 307⇓ *i*P **P** **02 04 18.8 -0.4**
comp=Z,9.5nm,1.1s,mb4.7
KMBO Kilima Mbogo 53.96 239 P **P** **02 04 23.4 -0.1**
comp=Z,8.3nm,1.1s,mb4.6,baz=37,slow=8.6,SNR=12
KMBO Kilima Mbogo 53.96 239 P **P** **02 04 24.7 +1.2**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 53.96 239 P **P** **02 04 24.7 +1.3**
comp=Z,8.7nm,1.1s,mb4.6
DAVA Damuels 54.22 307⇑ *i*P **P** **02 04 25.3 0.0**
comp=Z,32nm,1.3s,mb5.1
STU Stuttgart 54.34 309 *e*P **P** **02 04 26.9 +0.7**
comp=Z,22nm,1.2s,mb5.0
STU Stuttgart 54.34 309 P **P** **02 04 27.1 +0.9**
TNS Taunus Mts 54.51 311 *e*P **P** **02 04 28.2 +0.7**
comp=Z,9.0nm,1.0s,mb4.8
TNS Taunus Mts 54.51 311 *e*P **P** **02 04 28.2 +0.7**
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BUG Bochum-Univer 55.00 313 *e*P **P** **02 04 31.6 +0.6**
comp=Z,16nm,1.2s,mb4.9
CDF Champ du Feu 55.66 309 *e*P **P** **02 04 35.5 -0.3**
comp=Z,19nm,1.0s,mb4.8
MEM Membach 55.95 312⇑ P **P** **02 04 36.9 -0.9**
MEM E 02 04 41.1
PGF Pioggiola 56.03 302 *e*P **P** **02 04 38.2 -0.2**
HINF Hinteralfeld 56.08 309 *e*P **P** **02 04 38.3 -0.5**
comp=Z,48nm,1.0s,mb5.2
WLF Walferdange 56.08 311 *e*P **P** **02 04 39.7 +0.9**
comp=Z,22nm,1.0s,mb5.1
WLF Walferdange 56.08 311 P **P** **02 04 40.1 +1.4**
WLF E 02 04 42.6
comp=Z,22nm,1.2s
WLF XP sP 02 05 02.9 +6.6
comp=Z,11nm,1.3s
WLF Walferdange 56.08 311 *e*P **P** **02 04 40.2 +1.4**
WLF pmax pmax
comp=Z,30nm,1.0s,mb5.3
WLF Walferdange 56.08 311 *e*P **P** **02 04 40.2 +1.4**
comp=Z,30nm,1.0s,mb5.3
HAU Haudompre 56.36 309 *e*P **P** **02 04 40.4 -0.4**
comp=Z,47nm,1.0s,mb5.2
SBF Sospel 56.75 304 *e*P **P** **02 04 43.4 -0.1**
comp=Z,56nm,1.1s,mb5.2
LPG La Plagne 56.76 306 *e*P **P** **02 04 43.9 +0.3**
comp=Z,47nm,1.0s,mb5.2
LPL La Plagne 56.77 306 *e*P **P** **02 04 43.9 +0.3**
comp=Z,56nm,1.1s,mb5.2
GIVF Givet 56.81 312 *e*P **P** **02 04 44.0 +0.1**
comp=Z,52nm,1.1s,mb5.2
CABF La Chapelle 56.90 307 *e*P **P** **02 04 44.3 -0.3**
comp=Z,23nm,0.9s,mb4.9
DOU Dourbes 56.95 312 P **P** **02 04 46.1 +1.1**
MBDF Montbardon 56.96 305 *e*P **P** **02 04 44.1 -0.9**
comp=Z,18nm,1.1s,mb4.7
MEZF Maizieres J'vi 57.07 310 *e*P **P** **02 04 45.7 -0.1**
comp=Z,106nm,1.2s,mb5.5
BAIF Baives 57.21 312 *e*P **P** **02 04 46.7 0.0**
FRF La Foret Royal 57.38 304 *e*P **P** **02 04 47.2 -0.8**
comp=Z,22nm,1.1s,mb4.8
BILL Bilibino 57.40 26 *e*P **P** **02 04 48.4 +0.3**
BILL pmax pmax
comp=Z,12nm,1.6s,mb4.7
ORIF Oris-en-Rattie 57.51 305 *e*P **P** **02 04 48.0 -0.9**
comp=Z,25nm,1.2s,mb4.8
LMR La Mourre 57.55 303 *e*P **P** **02 04 48.6 -0.5**
comp=Z,23nm,1.1s,mb4.8
LOR Lormes 58.18 309 *e*P **P** **02 04 52.6 -1.0**
comp=Z,42nm,1.3s,mb5.0
VIVF Saint-Julien-l 58.35 306 *e*P **P** **02 04 54.4 -0.4**
comp=Z,36nm,1.4s,mb4.9
SMF Signal de Mont 58.38 308 *e*P **P** **02 04 54.2 -0.7**
comp=Z,53nm,0.9s,mb5.2
SSF Saint Saulge 58.47 308 *e*P **P** **02 04 54.9 -0.7**
comp=Z,36nm,0.9s,mb5.1
AVF Avril sur Loir 58.65 308 *e*P **P** **02 04 56.1 -0.8**
comp=Z,53nm,1.1s,mb5.2
HYF Humbligny 58.98 309 *e*P **P** **02 04 58.8 -0.3**
BGF Bois d'Agland 59.06 308 *e*P **P** **02 04 58.9 -0.8**
comp=Z,27nm,1.0s,mb4.9
TCF Toulx Ste Croi 59.56 308 *e*P **P** **02 05 02.9 -0.2**
comp=Z,101nm,1.3s,mb5.4
CAF Calviac 60.09 306 *e*P **P** **02 05 06.6 -0.2**
comp=Z,27nm,1.1s,mb4.9
RJF Les Rejaudoux 60.33 307 *e*P **P** **02 05 08.2 -0.3**
LDF La Druitiere 60.34 311 *e*P **P** **02 05 07.7 -0.8**
comp=Z,106nm,1.1s,mb5.5
FLN La Foliniere 60.51 311 *e*P **P** **02 05 08.8 -0.9**
comp=Z,72nm,1.2s,mb5.4
MTLF Montolieu 60.51 305 *e*P **P** **02 05 09.1 -0.6**
comp=Z,16nm,1.2s,mb4.7
GRR Gorron 60.87 311 *e*P **P** **02 05 11.1 -1.0**
comp=Z,79nm,1.0s,mb5.5
MFF Saint Martin d 61.00 309 *e*P **P** **02 05 11.9 -1.1**
comp=Z,18nm,0.8s,mb4.9
EPF Esparros 61.91 305 *e*P **P** **02 05 17.7 -1.4**
comp=Z,18nm,1.2s,mb4.8
SGMF Saint Gilles 61.98 311 *e*P **P** **02 05 19.1 -0.5**
comp=Z,89nm,1.1s,mb5.5
ROSF Rostrenen 62.40 311 *e*P **P** **02 05 21.8 -0.6**
comp=Z,80nm,1.1s,mb5.4
QUIF Quistinic 62.48 311 *e*P **P** **02 05 22.1 -0.9**
comp=Z,65nm,1.2s,mb5.3
ETSF Etsaut 62.57 305 *e*P **P** **02 05 23.2 -0.4**
comp=Z,35nm,1.3s,mb5.0
SJPF Ste Jean 62.95 305 *e*P **P** **02 05 25.1 -1.0**
comp=Z,36nm,1.2s,mb5.1
ESDC Sonseca Array 66.19 303 P **P** **02 05 47.5 +0.2**
comp=Z,0.5nm,0.4s,mb3.9,baz=68,slow=6.7,SNR=5.0
SUMG Summit 66.34 343 P **P** **02 05 48.5 +0.3**
comp=Z,17nm,1.1s,mb5.0
FITZ Fitzroy Crossi 66.59 134 *e*P **P** **02 05 50.4 +0.6**
comp=Z,10nm,1.0s,mb4.8
KAKA Kakadu 67.02 124 *e*P **P** **02 05 52.7 +0.1**
comp=Z,10nm,0.9s,mb4.8
LSZ Lusaka 70.22 235 P **P** **02 06 12.5 0.0**
MUN Mundaring 73.10 149 *e*P **P** **02 06 28.8 -1.0**
WRA Warramunga Arr 73.44 128 P **P** **02 06 31.9 +0.1**

comp=Z,14nm,0.9s,mb4.9,baz=326,slow=5.8,SNR=69
WRA Warramunga Arr 73.44 128 P **P 02 06 31.9 +0.1**
WRA pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 73.44 128 P **P 02 06 32.9 +1.1**
comp=Z,121nm,1.1s,mb5.7,SNR=10
WRAB Tennant Creek 73.44 128 *eP* **P 02 06 32.6 +0.8**
WRAB pmax pmax
comp=Z,53nm,1.2s,mb5.3
WRAB Tennant Creek 73.44 128 *eP* **P 02 06 32.5 +0.8**
comp=Z,53nm,1.2s,mb5.3
WB2 Warramunga Arr 73.45 128 *eP* **P 02 06 32.1 +0.3**
TORD Torodi Ar. Bea 74.28 275 P **P 02 06 36.5 -0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=48,slow=5.0,SNR=16
NWAO Narrogin (SRO) 74.35 149 P **P 02 06 35.3 -1.9**
comp=Z,22nm,0.8s,mb5.2,baz=357,slow=6.4,SNR=9.7
NWAO Narrogin (SRO) 74.35 149 P **P 02 06 35.3 -1.8**
NWAO pmax pmax
comp=Z,22nm,0.8s
ILAR Eielson Array 74.91 19 P **P 02 06 39.6 -0.7**
comp=Z,3.1nm,0.9s,mb4.2,baz=312,slow=4.7,SNR=27
ILAR PP PP 02 09 19.4 -8.9
comp=Z,0.5nm,0.8s,baz=301,slow=5.3,SNR=3.4
ILAR Eielson Array 74.91 19 P **P 02 06 39.7 -0.7**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 75.07 13 P **P 02 06 40.8 -0.5**
comp=Z,3.7nm,0.7s,mb4.4,baz=3.2,slow=4.6,SNR=19
INK Inuvik 75.07 13 P **P 02 06 40.8 -0.5**
INK pmax pmax
comp=Z,4.0nm,0.7s
PMG Port Moresby 75.68 112 P **P 02 06 44.7 0.0**
comp=Z,21nm,0.9s,mb5.0,baz=284,slow=4.3,SNR=9.3
PMG Port Moresby 75.68 112 P **P 02 06 44.7 -0.1**
PMG pmax pmax
comp=Z,21nm,1.0s
ASAR Alice Springs 75.84 131 P **P 02 06 45.4 -0.3**
comp=Z,6.8nm,0.7s,mb4.7,baz=317,slow=5.9,SNR=82
DAWY Dawson 77.44 17 P **P 02 06 54.6 -0.1**
BOSA Boshof 81.58 228 P **P 02 07 16.1 -1.1**
comp=Z,6.1nm,0.7s,mb4.6,baz=57,slow=5.7,SNR=18
BOSA LR LR 02 40 31.2
comp=Z,137nm,20.1s,MS4.3,baz=306,slow=34
CTA Charters Tower 81.73 121 *eP* **P 02 07 19.0 +1.0**
comp=Z,10nm,0.8s,mb4.8
CTA Charters Tower 81.73 121 P **P 02 07 18.6 +0.6**
comp=Z,15nm,0.9s,mb4.9,baz=317,slow=5.0,SNR=8.9
CTA Charters Tower 81.73 121 P **P 02 07 18.7 +0.7**
CTA pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 83.18 273 P **P 02 07 25.6 0.0**
comp=Z,7.7nm,0.9s,mb4.7,baz=116,slow=5.1,SNR=7.5
DBIC Dimbokro 83.18 273 P **P 02 07 25.6 0.0**
DBIC pmax pmax
comp=Z,8.0nm,1.0s
YKW3 Yellowknife Ar 83.26 7 P **P 02 07 24.8 -1.2**
YKA Yellowknife Ar 83.33 7 P **P 02 07 25.1 -1.2**
comp=Z,9.9nm,0.8s,mb4.9,baz=341,slow=5.2,SNR=109
YKA Yellowknife Ar 83.33 7 *i P* **P 02 07 25.7 -0.6**
YKA pmax pmax
comp=Z,10.0nm,0.8s
STKA Stephens Creek 86.44 132 P **P 02 07 39.6 -2.4**
comp=Z,6.3nm,0.7s,mb5.0,baz=315,slow=5.4,SNR=21
STKA Stephens Creek 86.44 132 *eP* **P 02 07 39.7 -2.3**
SCHQ Schefferville 87.71 342 P **P 02 07 47.5 -0.6**
comp=Z,2.3nm,0.9s,mb4.4,baz=54,slow=15,SNR=3.7
FCC Fort Churchill 87.85 358 P **P 02 07 48.7 -0.1**
FCC pmax pmax
comp=Z,14nm,1.3s,mb5.0
FCC Fort Churchill 87.85 358 P **P 02 07 48.7 -0.1**
comp=Z,14nm,1.3s,mb5.0
ULM Lac du Bonnet 96.42 358 P **P 02 08 27.2 -1.2**
comp=Z,2.2nm,0.8s,mb4.6,baz=308,slow=3.5,SNR=3.6
CPUP Villa Florida 143.64 270 *eP* PKPdf 02 14 30.2 -3.9
LPAZ La Paz 147.53 295 PKPbc PKPbc 02 14 41.5 -2.0
comp=Z,3.8nm,0.9s,baz=57,slow=6.4,SNR=11
LPAZ La Paz 147.53 295 PKIKP PKPdf 02 14 41.5 +0.7
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ La Paz 147.53 295 *eP* PKPdf 02 14 41.4 +0.7
TRQA Tornquist 150.07 251 *e*PKPdf PKPdf 02 14 44.4 -0.5

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*ISCJB **15** 02:02:04.1±2.3, 207S±04×178.0W±04, h600km, mb4.1/9, Error ellipse: s-maj=69.0km s-min=24.9km az=109.1*
*NEIC **15** 02:02:06.0±1.2, 206.4S×178.12W, h600km, mb4.3/1, Error ellipse: s-maj=59.3km s-min=16.6km az=153.0*
*IDC **15** 02:02:12.6±2.5, 202.8S×178.68W, h651km±27km, mb3.3/6, mb1 3.4/7, mb1mx3.2/15, mbtmp4.4/7, Error ellipse: s-maj=59.3km s-min=16.1km az=156.0*
ISC 15 02:02:05.4±2.3, 206S±04×178.0W±04, h600km, n16, σ0$57/13, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.58**	**261**	P	**P**	**02 05 09.8**	**+0.2**
	1.0nm,0.3s,baz=80,slow=19,SNR=8.1						
CTA	**Charters Tower**	**33.49**	**264**	P	**P**	**02 07 56.8**	**+0.3**
	5.7nm,0.4s,mb4.5,baz=90,slow=12,SNR=8.5						
PMG	**Port Moresby**	**35.37**	**283**	P	**P**	**02 08 11.9**	**-0.3**
	2.6nm,0.4s,mb4.2,baz=237,slow=6.7,SNR=3.8						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**02 08 30.9**	**-0.8**
	1.5nm,0.7s,mb3.6,baz=58,slow=9.5,SNR=2.9						
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**02 09 25.8**	**+1.0**
	4.9nm,0.5s,mb4.3,baz=91,slow=7.5,SNR=51						
ASAR				PcP	PcP	02 10 57.2	+2.5
	0.7nm,0.5s,baz=106,slow=3.7,SNR=5.3						
ASAR				S	**S**	**02 15 12.8**	**-4.8**
	0.2nm,0.3s,baz=84,slow=13,SNR=5.2						
WB2	**Warramunga Arr**	**44.58**	**262**	*eP*	**P**	**02 09 25.5**	**0.0**
WRAB	**Tennant Creek**	**44.58**	**262**	*eP*	**P**	**02 09 25.0**	**-0.4**
	3.6nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.59**	**262**	P	**P**	**02 09 24.8**	**-0.7**
	4.0nm,0.3s,mb4.4,baz=97,slow=7.3,SNR=7.4						
WRA				S	**S**	**02 15 12.3**	**-6.6**
	0.7nm,0.9s,baz=98,slow=13,SNR=4.8						
KAKA	**Kakadu**	**47.98**	**271**	*eP*	**P**	**02 09 50.8**	**-0.3**
	3.3nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.02**	**262**	*eP*	**P**	**02 10 28.6**	**+1.0**
	3.0nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**88.41**	**13**	P	**P**	**02 13 54.6**	**0.0**
	0.3nm,0.4s,mb3.3,baz=218,slow=4.9,SNR=6.6						
ZRNK	**Zerenda**	**120.00**	**320**	*eP*	PKPdf	02 19 49.6	+0.8
ARCES	**ARCESS Array B**	**129.02**	**350**	PKP	PKPdf	02 20 06.2	+0.2
	3.4nm,0.9s,baz=45,slow=3.4,SNR=5.5						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	02 20 30.4	-1.5
	2.0nm,0.4s,baz=44,slow=4.2,SNR=16						
BRTR	**Keskin Array B**	**146.91**	**312**	PKPbc	PKPbc	02 20 42.6	+1.2
	0.8nm,0.6s,baz=138,slow=2.6,SNR=14						
GERES	**GERESS Array B**	**150.30**	**344**	PKPbc	PKPbc	02 20 51.8	+2.0
	0.5nm,0.6s,baz=27,slow=3.0,SNR=5.3						

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*LDG **15** 03:07:25.8±0.2, 335.8N×81.40E, h10km, Mb4.5/10, Error ellipse: s-maj=10.8km s-min=6.7km az=72.0*
*ISCJB **15** 03:07:28.5±0.3, 336.7N±004×81.29E±005, h33km, mb4.2/21, Error ellipse: s-maj=6.5km s-min=5.4km az=84.2*
*IDC **15** 03:07:30.8±4.5, 336.5N×81.38E, h46km±43km, mb3.7/15, mb1 3.9/16, mb1mx3.8/24, mbtmp4.0/16, ML3.6/1, Error ellipse: s-maj=21.9km s-min=16.5km az=25.0*
*BJI **15** 03:07:30.4, 337.0N×81.46E, h49km, mB4.9, mb4.4, ML4.1*
*NEIC **15** 03:07:31.7±1.5, 337.2N×81.26E, h47km±19km, mb4.0/3, Error ellipse: s-maj=17.2km s-min=9.3km az=85.0*
*NDI **15** 03:07:33.5±2.6, 34.23N×78.52E, h10km, MD2.6*
ISC 15 03:07:30.8±0.3, 337.0N±004×81.28E±005, h35km, n53, σ1$40/57, mb4.2/21, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**4.34**	**220**	*eP*	**Pn**	**03 08 35.0**	**+0.8**
DDI				*eS*	**Sn**	**03 09 17.5**	**-6.1**
BHK	**Bhakra**	**4.70**	**242**	*eS*	Px	03 09 04.0	
THN	**Thein Dam**	**4.84**	**256**	*ex*	**Pn**	**03 08 39.5**	**-1.6**
NDI	**New Delhi**	**6.09**	**216**	*eP*	**Pn**	**03 08 57.5**	**-0.8**
NDI				*ex*	**Sn**	**03 10 07.5**	**+0.7**
CHCP	**Chirah Chowk**	**6.69**	**272**	P	**Pn**	**03 09 06.0**	**-0.5**
KSH	**Kashi**	**7.21**	**325**	*eP*	**Pn**	**03 09 20.6**	**+7.0**
KSH				*eS*	**Sn**	**03 10 41.3**	**+7.1**
KSH				Smax			
	comp=N,140nm,1.4s						
KSH				Smax			

2006 FEB

comp=E,120nm,1.2s
CEP Cherat 7.81 274 P **Pn 03 09 21.4 -0.5**
CEP S **Sn 03 10 48.0 -1.0**
THW Thamme Wali 8.04 266 P **Pn 03 09 23.2 -1.9**
LSA Lhasa 9.30 113 *e*Pn **Pn 03 09 44.1 +1.8**
comp=E,9.9nm,0.8s
DRP Derazinda 9.54 261 P **Pn 03 09 43.1 -2.5**
WMQ Urumqi 11.27 24 P **Pn 03 10 10.0 +0.6**
WMQ AMB AMB
comp=Z,15nm,1.0s
MKAR Makanchi Array 13.10 3 P **Pn 03 10 33.8 -0.5**
comp=Z,0.4nm,0.3s,baz=183,slow=11,SNR=35
MKAR S **Sn 03 12 57.7 -1.1**
baz=198,slow=18,SNR=2.8
GTA Gaotai 15.94 64 *eP* **Pn 03 11 15.8 +3.5**
GTA AP pP 03 11 25.3 +0.6
GTA XP sP 03 11 29.6 +0.5
GTA AMB AMB
comp=E,13nm,0.8s
HYB Hyderabad 16.40 189 *i P* **Pn 03 11 19.0 +0.8**
HYB Hyderabad 16.40 189 *eP* **Pn 03 11 19.0 +0.8**
KURK Kurchatov 17.12 354 *eP* **Pn 03 11 28.6 +1.4**
comp=Z,11nm,0.9s
LZH Lanzhou 18.66 76 *eP* **Pn 03 11 45.1 -1.0**
LZH AP pP 03 11 56.1 +1.3
LZH XP sP 03 12 01.3 +2.1
LZH AMB AMB
comp=Z,22nm,1.1s
ZAL Zalesovo 20.39 6 P **P 03 12 03.9 -0.6**
comp=Z,3.0nm,0.7s,baz=279,slow=12,SNR=22
ZAL Zalesovo 20.39 6 P **P 03 12 03.9 -0.6**
KMI Kunming 20.52 109 P **P 03 12 05.4 -0.6**
KMI AMB AMB
comp=Z,28nm,0.9s
BVAR Borovoye Array 20.83 341 P **P 03 12 08.7 -0.6**
comp=Z,2.5nm,0.5s,baz=146,slow=9.4,SNR=24
BRVK Borovoye 20.89 341 *eP* **P 03 12 08.8 -1.1**
comp=Z,4.5nm,0.8s
ZRNK Zerenda 21.16 339 *eP* **P 03 12 11.8 -1.0**
comp=Z,11nm,1.0s,mb4.1
SONM Songino Array 23.55 46 P **P 03 12 38.3 +0.2**
comp=Z,3.5nm,0.8s,mb3.9,baz=245,slow=9.0,SNR=28
AKTK Aktyubinsk 23.89 321 P **P 03 12 41.0 -0.1**
AKTO Aktyubinsk 23.89 321 P **P 03 12 41.0 -0.1**
comp=Z,2.2nm,0.6s,mb3.8,baz=107,slow=6.2,SNR=8.0
BRTR Keskin Array B 38.30 293 P **P 03 14 49.3 +1.4**
comp=Z,0.4nm,0.9s,mb3.1,baz=100,slow=8.8,SNR=2.7
FINES FINESS Array B 44.53 326 P **P 03 15 38.1 -0.8**
comp=Z,1.0nm,0.6s,mb3.8,baz=103,slow=10,SNR=8.7
ARCES ARCESS Array B 47.01 337 P **P 03 15 56.5 -2.1**
comp=Z,3.5nm,0.9s,mb4.3,baz=90,slow=7.2,SNR=5.4
ARCES ARCESS Array B 47.01 337 P **P 03 15 56.5 -2.1**
GERES GERESS Array B 51.35 309 P **P 03 16 32.2 +0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=63,slow=6.0,SNR=6.5
NOA NORSAR Array B 51.63 324 P **P 03 16 32.5 -1.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=91,slow=7.2,SNR=3.0
KMBO Kilima Mbogo 53.95 239 P **P 03 16 49.7 -1.3**
comp=Z,1.6nm,1.0s,mb3.9,baz=50,slow=7.9,SNR=3.4
KMBO Kilima Mbogo 53.95 239 P **P 03 16 49.7 -1.3**
CDF Champ du Feu 55.61 309 *eP* **P 03 17 05.6 +2.6**
HINF Hinteralfeld 56.03 308 *eP* **P 03 17 08.3 +2.3**
comp=Z,7.5nm,0.7s,mb4.5
HAU Haudompre 56.31 309 *eP* **P 03 17 10.3 +2.3**
comp=Z,21nm,1.1s,mb4.8
LPG La Plagne 56.70 306 *eP* **P 03 17 11.0 +0.2**
comp=Z,14nm,1.2s,mb4.6
LPL La Plagne 56.70 306 *eP* **P 03 17 11.0 +0.1**
comp=Z,7.5nm,0.8s,mb4.5
GIVF Givet 56.76 312 *eP* **P 03 17 14.0 +2.8**
MEZF Maizieres J'vi 57.02 310 *eP* **P 03 17 15.7 +2.7**
comp=Z,11nm,0.7s,mb4.7
ORIF Oris-en-Rattie 57.46 305 *eP* **P 03 17 18.4 +2.2**
LOR Lorres 58.13 308 *eP* **P 03 17 22.8 +1.9**
SMF Signal de Mont 58.32 308 *eP* **P 03 17 24.1 +1.9**
comp=Z,20nm,1.2s,mb4.7
SSF Saint Saulge 58.42 308 *eP* **P 03 17 25.8 +2.9**
TCF Toulx Ste Croi 59.51 308 *eP* **P 03 17 32.9 +2.5**
comp=Z,24nm,1.3s,mb4.8
GRR Gorron 60.81 311 *eP* **P 03 17 40.3 +0.9**
WRA Warramunga Arr 73.49 128 P **P 03 18 58.1 -1.7**
comp=Z,3.6nm,0.9s,mb4.3,baz=327,slow=5.9,SNR=21
WB2 Warramunga Arr 73.50 128 *eP* **P 03 18 58.6 -1.2**
TORD Torodi Ar. Bea 74.24 275 P **P 03 19 04.0 -0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=49,slow=5.0,SNR=13
ILAR Eielson Array 74.89 19 P **P 03 19 06.3 -1.6**
comp=Z,1.1nm,1.0s,mb3.7,baz=301,slow=4.6,SNR=8.0
ASAR Alice Springs 75.90 131 P **P 03 19 12.3 -1.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=319,slow=5.7,SNR=23
YKA Yellowknife Ar 83.29 7 P **P 03 19 52.0 -1.8**
comp=Z,1.6nm,0.6s,mb4.2,baz=341,slow=5.2,SNR=30

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*IDC **15** 03:17:29.3±0.8, 29.9S×117.97E, h0km, mb4.1/8, mb1 4.1/9, mb1mx4.0/20, mbtmp4.1/9, ML3.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=42.0km s-min=12.4km az=52.0*
*NEIC **15** 03:17:30.9±0.5, 29.25S×118.06E, h10km, mb4.2/3, Error ellipse: s-maj=27.3km s-min=9.3km az=50.0*
*ISCJB **15** 03:17:32.1±0.5, 9.18S±010×118.3E±0.1, h33km, mb4.2/10, MS3.4/3, Error ellipse: s-maj=20.2km s-min=8.3km az=105.3*
ISC 15 03:17:34.2±0.5, 9.24S±009×118.1E±01, h35km, n20, σ0$89/20, mb4.2/10, MS3.4/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**141**	*eP*	**Pn**	**03 20 10.6**	**-4.3**
	8.9nm,0.3s						
FITZ				*eS*	**Sn**	**03 22 09.8**	**-11**
WRA	**Warramunga Arr**	**18.93**	**126**	P	**Pn**	**03 21 52.5**	**-0.3**
	0.2nm,0.3s,baz=299,slow=13,SNR=13						
WRA				S	**S**	**03 25 14.3**	**-11**
	0.1nm,0.3s,baz=297,slow=24,SNR=4.0						
WRAB	**Tennant Creek**	**18.93**	**126**	*eP*	**Pn**	**03 21 52.6**	**-0.3**
	3.3nm,0.6s						
WB2	**Warramunga Arr**	**18.93**	**126**	*eP*	**Pn**	**03 21 52.4**	**-0.5**
ASAR	**Alice Springs**	**20.81**	**135**	P	**P**	**03 22 12.6**	**+0.1**
	4.4nm,0.7s,baz=309,slow=10,SNR=59						
ASAR				S	**S**	**03 26 08.6**	**+5.9**
	0.6nm,0.9s,baz=301,slow=24,SNR=4.2						
KLBR	**Kellerberrin**	**22.24**	**181**	*eP*	**P**	**03 22 27.1**	**-0.8**
	35nm,1.3s,mb4.6						
KLBR				*eS*	Sx	03 26 05.0	
PSI	**Prapat**	**22.58**	**301**	P	**P**	**03 22 29.6**	**-1.9**
	2.3nm,0.4s,mb3.9,baz=135,slow=9.3,SNR=6.0						
MUN	**Mundaring**	**22.70**	**184**	*eP*	**P**	**03 22 33.4**	**+0.7**
MUN				*eS*	Sx	03 26 14.7	
NWAO	**Narrogin (SRO)**	**23.59**	**182**	P	**P**	**03 22 43.2**	**+1.4**
	8.3nm,0.8s,mb4.2,baz=351,slow=12,SNR=5.3						
NWAO				LR	LR	03 32 19.7	
	comp=Z,107nm,19.5s,MS3.3,baz=359,slow=38						
CTA	**Charters Tower**	**29.21**	**115**	LR	LR	03 35 47.2	
	comp=Z,94nm,21.9s,MS3.4,baz=229,slow=37						
STKA	**Stephens Creek**	**31.31**	**139**	LR	LR	03 35 50.2	
	comp=Z,125nm,20.3s,MS3.6,baz=22,slow=35						
SONM	**Songino Array**	**57.77**	**351**	P	**P**	**03 27 24.4**	**+2.6**
	2.6nm,0.6s,mb4.5,baz=171,slow=8.2,SNR=22						
MKAR	**Makanchi Array**	**64.29**	**333**	P	**P**	**03 28 06.4**	**+0.4**
	1.3nm,0.6s,mb4.1,baz=143,slow=7.7,SNR=22						
KURK	**Kurchatov**	**68.84**	**334**	*eP*	**P**	**03 28 35.5**	**+0.4**
	1.8nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**68.96**	**340**	P	**P**	**03 28 35.6**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=323,slow=4.4,SNR=3.1						
BVAR	**Borovoye Array**	**74.11**	**332**	P	**P**	**03 29 06.7**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=141,slow=9.2,SNR=6.9						
ZRNK	**Zerenda**	**74.70**	**332**	*eP*	**P**	**03 29 09.9**	**-0.4**
	1.7nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**78.94**	**326**	P	**P**	**03 29 34.1**	**-0.1**
AKTO	**Aktyubinsk**	**78.94**	**326**	P	**P**	**03 29 34.1**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=100,slow=7.6,SNR=16						
TORD	**Torodi Ar. Bea**	**117.67**	**280**	PKP	PKPdf	03 36 16.5	-0.1
	0.2nm,0.7s,baz=60,slow=2.4,SNR=4.2						

IDC 15 03:30:20.1±2.7, 15.75S×173.02W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/14, mbtmp3.9/5, MS3.8/3, Ms1 3.8/3, ms1mx3.4/24, Error ellipse: s-maj=152.8km s-min=23.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**33**	Pn	Pn	03 30 53.2	-4.5
	45nm,0.3s,baz=198,slow=0.8,SNR=31						
AFI				Sn	Sn	03 31 19.0	-6.5
	40nm,0.3s,baz=81,slow=21,SNR=8.6						
PPT	**Papeete**	**22.53**	**98**	*e*LR	LR	03 40 03.7	
	223nm,25.0s						
PPT	**Papeete**	**22.53**	**98**	LR	LR	03 42 17.1	
	comp=Z,203nm,19.6s,baz=82,slow=32						
TBI	**Tubuai**	**23.43**	**113**	*e*LR	LR	03 40 29.7	
	198nm,28.5s						
HNR	**Honiara**	**27.11**	**280**	LR	LR	03 45 44.3	
	comp=Z,164nm,18.6s,baz=355,slow=34						
STKA	**Stephens Creek**	**44.18**	**240**	*eP*	P	03 38 27.5	-3.2
	3.1nm,0.9s						
STKA	**Stephens Creek**	**44.18**	**240**	P	P	03 38 27.5	-3.2
	4.3nm,0.9s,baz=101,slow=9.2,SNR=7.6						
WRA	**Warramunga Arr**	**50.12**	**257**	P	P	03 39 17.5	+0.4
	0.7nm,0.5s,baz=96,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**50.35**	**252**	P	P	03 39 18.6	-0.2
	4.9nm,0.6s,baz=89,slow=8.5,SNR=61						
CBIJ	**Chichi jima**	**60.86**	**314**	LR	LR	04 04 55.6	
	comp=Z,82nm,19.5s,baz=130,slow=34						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	03 41 58.1	-1.4
	0.7nm,0.8s,baz=234,slow=7.8,SNR=3.7						
PDAR	**Pinedale Array**	**82.28**	**42**	P	P	03 42 45.2	+1.8
	0.2nm,0.5s,baz=329,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**82.72**	**11**	P	P	03 42 44.6	-1.1
	0.7nm,0.6s,baz=221,slow=5.7,SNR=14						
GERES	**GERESS Array B**	**146.54**	**352**	PKPbc	PKPbc	03 50 04.1	+0.7
	1.0nm,1.1s,baz=0.0,slow=6.7,SNR=4.0						
BRTR	**Keskin Array B**	**146.66**	**321**	PKPbc	PKPbc	03 50 04.8	+1.1
	0.4nm,0.5s,baz=108,slow=1.3,SNR=5.4						

JMA 15 03:47:52.9±0.3, 2507N×12261E, h158km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**149**	P	Pn	03 48 16.4	+0.1
YOJ				S	Sn	03 48 34.9	+0.8
IRIF	**Iriomote-Funau**	**1.25**	**125**	P	Pn	03 48 20.6	0.0
IRIF				*e*S	Sn	03 48 42.6	+0.7
HATJ	**Hateruma jima**	**1.48**	**133**	P	Pn	03 48 23.4	+0.5
HATJ				*e*S	Sn	03 48 46.6	+0.7
JKRS	**Kuro-shima**	**1.52**	**123**	P	Pn	03 48 23.9	+0.7
JKRS				*e*S	Sn	03 48 46.8	+0.3
JIJ	**Ishigaki jima**	**1.56**	**116**	P	Pn	03 48 23.7	0.0
JIJ				*e*S	Sn	03 48 46.6	-0.7
JTJ	**Tarama**	**1.95**	**102**	P	Pn	03 48 28.2	+0.3
JTJ				*e*S	Sn	03 48 55.1	+0.3
JMJ	**Miyako jima 2**	**2.45**	**95**	P	Pn	03 48 34.5	+0.7
JOGS	**Gusukube**	**2.56**	**96**	P	Pn	03 48 36.0	+0.9
JOGS				*e*S	Sn	03 49 07.3	-0.4
JKE	**Kume jima 2**	**3.97**	**71**	P	Pn	03 48 52.9	0.0
JKE				*e*S	Sn	03 49 38.9	-0.7
JAGN	**Aguni-jima**	**4.44**	**69**	P	Pn	03 48 59.3	+0.3
JAGN				*e*S	Sn	03 49 49.1	-1.5
JOW	**Kunigami**	**5.39**	**70**	P	Pn	03 49 09.8	-1.8
JOW				*e*S	Sn	03 50 07.9	-5.2

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*IDC **15** 04:01:04.1±0.9, 23.82N×122.63E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/21, mbtmp3.7/11, ML3.1/1, Error ellipse: s-maj=31.2km s-min=20.9km az=61.0*
*NEIC **15** 04:01:05.4±2.3, 23.77N×122.60E, h8km±14km, MG3.2(JMA), Error ellipse: s-maj=17.4km s-min=12.8km az=211.0*
*ISCJB **15** 04:01:09.4±0.9, 23.88N±009×122.49E±004, h44km±7km, mb3.6/10, Error ellipse: s-maj=16.0km s-min=5.6km az=15.8*
*JMA **15** 04:01:10.1±0.3, 24.01N×122.49E, h52km, M3.2*
ISC 15 04:01:07.6±1.2, 23.83N±007×122.48E±004, h18km±8km, n20, σ1$02/25, mb3.6/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.80**	**37**	P	**Pb**	**04 01 23.4**	**+0.4**
YOJ				*e*S	**Sb**	**04 01 33.1**	**-0.3**
NACB	**Ninganchiao**	**0.88**	**293**	*e*Pg	**Pg**	**04 01 24.2**	**-0.6**
NACB				*e*Sg	**Sg**	**04 01 35.8**	**-0.6**
HATJ	**Hateruma jima**	**1.23**	**79**	P	**Pn**	**04 01 31.1**	**+1.1**
HATJ				*e*S	**Sb**	**04 01 45.7**	**-0.3**
IRIF	**Iriomote-Funau**	**1.25**	**66**	P	**Pn**	**04 01 30.4**	**+0.2**
YHNB	**Yeheng**	**1.31**	**310**	*e*Pn	**Pn**	**04 01 32.0**	**+0.9**
JKRS	**Kuro-shima**	**1.46**	**73**	P	**Pn**	**04 01 33.5**	**+0.5**
TATO	**Taipei**	**1.46**	**322**	*e*Pn	**Pn**	**04 01 34.9**	**+1.9**
TATO				*e*Sn	**Sn**	**04 01 51.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.61**	**70**	P	**Pn**	**04 01 35.2**	**+0.1**
JIJ				*e*S	**Sn**	**04 01 54.8**	**-0.7**
JTJ	**Tarama**	**2.19**	**68**	P	**Pn**	**04 01 45.0**	**+2.0**
JOW	**Kunigami**	**6.04**	**59**	Pn	**Pn**	**04 02 34.6**	**-1.4**
	1.2nm,0.3s,baz=196,slow=15,SNR=3.6						
SONM	**Songino Array**	**27.17**	**336**	P	**P**	**04 06 49.5**	**-0.5**
	0.7nm,0.6s,mb3.4,baz=154,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**39.42**	**316**	P	**P**	**04 08 37.2**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=104,slow=10,SNR=17						
ZAL	**Zalesovo**	**41.20**	**327**	P	**P**	**04 08 49.9**	**-1.2**
	0.6nm,0.3s,mb3.8,baz=274,slow=20,SNR=2.5						
ASAR	**Alice Springs**	**48.49**	**166**	P	**P**	**04 09 50.1**	**+0.9**
	0.1nm,0.3s,mb3.3,baz=0.0,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**58.33**	**161**	P	**P**	**04 10 58.6**	**-2.9**
	1.0nm,0.6s,mb4.0,baz=324,slow=8.7,SNR=3.5						
ILAR	**Eielson Array**	**68.99**	**27**	P	**P**	**04 12 10.3**	**-1.5**
	0.2nm,0.6s,mb3.2,baz=248,slow=4.4,SNR=6.5						
FINES	**FINESS Array B**	**72.35**	**330**	P	**P**	**04 12 32.0**	**-0.3**
	3.0nm,1.2s,mb4.1,baz=342,slow=6.0,SNR=3.6						
BRTR	**Keskin Array B**	**74.34**	**307**	P	**P**	**04 12 45.5**	**+1.5**
	0.9nm,0.8s,mb3.7,baz=112,slow=6.7,SNR=4.3						
YKA	**Yellowknife Ar**	**82.84**	**23**	P	**P**	**04 13 30.2**	**-0.6**
	0.3nm,0.5s,mb3.6,baz=307,slow=4.9,SNR=8.0						
GERES	**GERESS Array B**	**83.87**	**321**	P	**P**	**04 13 35.5**	**-0.7**
	0.4nm,0.7s,mb3.7,baz=353,slow=7.9,SNR=2.5						

GUC 15 04:08:02.5±0.9, 2754S×6934W, h95km, MD3.5, ML3.7, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.92**	**281**	⇑*iP*	Pn	04 08 21.8	+0.1
CPCH				*i* S	Sn	04 08 36.5	+0.5
CPCH

VLI	Veliai	2.46	158	*e*P		Pn	04 17 56.5	+1.6
VLI	Veliai	2.46	158	*e*P		Pn	04 17 57.7	+2.8
MMB	Musomiste	2.97	29	P		Pn	04 18 01.0	-0.8
KKB	Krupnik	3.02	19	*e*P		Pn	04 18 02.0	-0.4
RZN	Rozhen	3.48	39	*e*P		Pn	04 18 09.0	+0.2
VTS	Vitosha	3.73	16	*e*P		Pn	04 18 12.8	+0.6
PE1	Pezze di Greco	3.81	299	*e*Pn		Pn	04 18 12.4	-0.9
KDZ	Kurdzhali	3.82	45	*e*P		Pn	04 18 13.0	-0.4
BAI	Bari	4.31	301	*e*Pn		Pn	04 18 19.0	-1.2
SG1	Sgolgore (BA)	4.34	297	*e*Pn		Pn	04 18 19.6	-0.9
BRTR	Keskin Array B	9.20	82	Pn		Pn	04 19 29.4	+2.4
	0.1nm,0.3s,baz=260,slow=11,SNR=4.7							
NOA	NORSAR Array B	23.02	347	P		pP	04 22 33.2	+2.4
	1.3nm,0.9s,baz=147,slow=12,SNR=3.3							
TORD	Torodi Ar. Bea	31.31	220	P		P	04 23 30.4	-0.4
	0.1nm,0.4s,mb2.9,baz=36,slow=9.0,SNR=4.9							

*ISCJB **15** 04:17:51.4±0.6, 1088N±003×6228W±003, h113km±6km, Error ellipse: s-maj=6.0km s-min=4.4km az=106.6*
*FUNV **15** 04:17:52.2, 1096N×6214W, h107km, MW2.9*
*NEIC **15** 04:17:54.3, 1090N×6219W, h94km, MD3.2(TRN), After TRN.*
*TRN **15** 04:17:54.3, 1090N×6219W, h94km, MD3.2*

ISC 15 04:17:52.4±0.6, 1088N±003×6227W±003, h109km±7km, n22, σ1§07/42, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.24	168	*e*P		Pn	04 18 07.7	-0.1
GUIV				*e*S		Sn	04 18 18.1	-1.1
TRN	Trinidad (W)	0.88	105	⇑*i*P		Pn	04 18 13.0	+0.7
TRN				*e*S		Sn	04 18 25.4	-1.9
ITEV	Isla Los Testi	0.97	299	*e*P		Pn	04 18 12.7	-0.4
ITEV				*e*S		Sn	04 18 28.1	-0.7
CRUV	Carupano	0.97	258	*e*P		Pn	04 18 14.2	+1.0
CRUV				*e*S		Sn	04 18 29.6	+0.8
GUNV	Guanoco	0.97	223	*e*P		Pn	04 18 15.2	+2.0
GUNV				*e*S		Sn	04 18 31.1	+2.2
TBH	Brigand Hill	1.25	108	*e*P		Pn	04 18 17.1	+1.0
TBH				*e*S		Sn	04 18 35.4	+1.3
GRW	Mount Saint Ca	1.40	25	*e*P		Pn	04 18 17.4	-0.6
GRW				*e*S		Sn	04 18 35.9	-1.4
GRHS	Sauteurs	1.47	25	*e*P		Pn	04 18 19.6	+0.8
GRHS				*e*S		Sn	04 18 38.4	-0.3
TPR	Prospect	1.50	78	⇑*i*P		Pn	04 18 19.4	+0.3
TPR				*e*S		Sn	04 18 37.9	-1.4
GRIC	Isle de Caille	1.55	26	*e*P		Pn	04 18 21.0	+1.3
GRSS	Sisters	1.55	25	*e*P		Pn	04 18 21.1	+1.5
GRSS				*e*S		Sn	04 18 40.2	-0.3
BOT	Bacolet	1.55	79	*e*P		Pn	04 18 19.8	+0.1
GRCU	Cariacou	1.77	27	*e*P		Pn	04 18 22.6	+0.2
GRCU				*e*S		Sn	04 18 44.7	-0.6
ORIV	Oritupano	2.12	212	*e*P		Pn	04 18 28.1	+1.3
ORIV				*e*S		Sn	04 18 53.5	+0.4
IBAV	Isla La Blanqu	2.45	293	*e*P		Pn	04 18 30.6	-0.4
IBAV				*e*S		Sn	04 19 01.5	+0.8
GURV	El Guri	3.20	195	*e*P		Pn	04 18 41.1	+0.1
GURV				*e*S		Sn	04 19 17.4	-1.1
CUPV	Cœpira	3.56	257	*e*P		Pn	04 18 46.5	+0.9
CUPV				*e*S		Sn	04 19 25.9	-1.0
MERV	Las Mercedes	4.28	248	*e*P		Pn	04 18 56.5	+1.1
MERV				*e*S		Sn	04 19 42.9	-1.6
LUEV	Luepa	5.07	171	*e*P		Pn	04 19 05.5	-0.6
LUEV				*e*S		Sn	04 19 58.8	-4.6
CAOV	Caicara del Or	5.34	229	*e*P		Pn	04 19 09.5	-0.2
CAOV				*e*S		Sn	04 20 06.8	-3.1
BAUV	El Baul	6.00	252	*e*P		Pn	04 19 18.4	-0.3
BAUV				*e*S		Sn	04 20 22.2	-3.8
PAYV	Puerto Ayacuch	7.61	225	*e*P		Pn	04 19 38.9	-1.6
PAYV				*e*S		Sn	04 20 59.1	-5.9

CASC 15 04:38:18.8±2.3, 1293N×8915W, h36km±774km, MD4.0, ML4.1, 3C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBS	La Ceiba	0.74	13	⇓*i*P		Pn	04 38 35.9	+3.1
LCBS				*e*S		Sn	04 38 48.4	+5.6
SNVI	San Vicente	0.75	24	⇓*e*P		Pn	04 38 35.9	+3.1
SNVI				*e*S		Sn	04 38 47.3	+4.3
SNET	Serv Nac Est T	0.76	354	⇓*e*P		Pn	04 38 33.2	+0.2
SNET				*e*S		Sn	04 38 43.6	+0.4
SNET				*i*			04 38 45.2	
	comp=Z,18μm,0.3s							
BOQS	Boqueron	0.81	351	⇑*i*P		Pn	04 38 36.9	+3.2
BOQS				*e*S		Sn	04 38 48.8	+4.2
LBRS	Las Brisas	0.81	8	⇓*i*P		Pn	04 38 37.2	+3.4
LBRS				*e*S		Sn	04 38 49.0	+4.4
VSM	San Miguel	0.99	60	⇓*e*P		Pn	04 38 40.3	+4.1
VSM				*e*S		Sn	04 38 53.6	+4.7
SBLS	San Blas	1.02	333	⇓*e*P		Pn	04 38 39.2	+2.7
SBLS				*e*S		Sn	04 38 52.6	+3.0
BLLM	Bellamira	1.03	60	⇓*e*P		Pn	04 38 40.7	+4.0
BLLM				*e*S		Sn	04 38 55.2	+5.3
SNJE	San Jose	1.03	335	*e*P		Pn	04 38 39.5	+2.7
SNJE				*e*S		Sn	04 38 52.6	+2.6
RTR	El Retiro	1.08	334	⇓*i*P		Pn	04 38 40.3	+2.9
RTR				*e*S		Sn	04 38 55.4	+4.3
CNCH	Conchagua	1.33	75	⇑*e*P		Pn	04 38 45.0	+4.2
CNCH				*e*S		Sn	04 39 03.1	+5.7
IXG	Ixpaco	1.77	315	⇑*e*P		Pn	04 38 46.5	-0.4
IXG					AML	AML	04 39 11.1	
	comp=E,8μm,0.4s							
NBG	Las Nubes	2.02	325	*e*P		Pn	04 38 51.6	+1.3
CRIN	San Cristobal	2.06	96	*e*P		Pn	04 38 52.3	+1.4
CRIN				*e*S		Sn	04 39 17.6	+2.1
FUG	Fuego 3	2.23	313	*e*P		Pn	04 38 54.6	+1.4
FUG				*e*S		Sn	04 39 20.9	+1.3
LEON	Leon	2.26	103	*e*P		Pn	04 38 53.8	+0.1
LEON				*e*S		Sn	04 39 20.7	+0.3
TEL3	Telica 3	2.28	99	*e*P		Pn	04 38 54.8	+0.9
MIRN	Miramar	2.43	101	*e*P		Pn	04 38 56.6	+0.6
MIRN				*e*S		Sn	04 39 23.7	-0.8
CNGN	Cerro Negro	2.43	100	*e*P		Pn	04 38 56.8	+0.8
CNGN				*e*S		Sn	04 39 25.6	+1.1
MOMJ	Momotombo	2.60	101	*e*P		Pn	04 38 59.0	+0.6
MOMJ				*e*S		Sn	04 39 29.2	+0.5
COPN	Copaltepe	2.61	106	*e*P		Pn	04 38 58.7	+0.3
COPN				*e*S		Sn	04 39 28.3	-0.5
APYN	Apoyeque	2.82	104	*e*P		Pn	04 39 02.0	+0.6
APYN				*e*S		Sn	04 39 34.2	0.0
MGAN	Managua	2.94	105	*e*P		Pn	04 39 04.1	+1.1
MGAN				*e*S		Sn	04 39 37.1	+0.1
	comp=N,164nm,0.2s							
TICN	Ticuantepe	2.99	107	*e*P		Pn	04 39 04.6	+0.9
TICN				*e*S		Sn	04 39 38.8	+0.5
WILN	Americas 2	2.99	104	*e*S		Sn	04 39 39.9	+1.5

*ISCJB **15** 04:47:52.3±1.7, 177S±06×1784W±04, h500km, mb3.6/8, Error ellipse: s-maj=97.1km s-min=15.4km az=117.5*
*IDC **15** 04:47:54.5±12.0, 1789S×17820W, h519km±152km, mb3.1/6, mb1 3.5/6, mb1mx3.3/12, mbtmp3.9/6, Error ellipse: s-maj=108.4km s-min=38.9km az=158.0*
*NEIC **15** 04:47:57.0±1.3, 1784S×17834W, h550km, mb3.7/1, Error ellipse: s-maj=84.1km s-min=13.5km az=148.0*

ISC 15 04:47:53.4±1.7, 176S±06×1783W±04, h500km, n11, σ0§79/10, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.85	241	*e*P		P	04 54 33.4	-1.4
	3.4nm,0.9s,mb3.8							
STKA	Stephens Creek	38.85	241	P		P	04 54 33.8	-1.1
	4.9nm,0.8s,mb4.0,baz=80,slow=9.2,SNR=9.8							
WB2	Warramunga Arr	44.76	259	*e*P		P	04 55 22.0	+0.4
WRAB	Tennant Creek	44.76	259	*e*P		P	04 55 21.4	-0.2
	1.3nm,0.6s,mb3.5							
WRA	Warramunga Arr	44.77	259	P		P	04 55 22.2	+0.5
	1.9nm,0.7s,mb3.6,baz=93,slow=7.1,SNR=29							
ASAR	Alice Springs	44.95	254	P		P	04 55 23.9	+0.8
	21nm,0.5s,mb4.8,baz=89,slow=8.2,SNR=287							
NVAR	Mina Array Bea	79.15	44	P		P	04 59 07.0	+1.3
	1.0nm,0.8s,mb3.4,baz=223,slow=9.5,SNR=5.3							
ILAR	Eielson Array	85.58	13	P		P	04 59 37.5	-0.9
	0.2nm,0.4s,mb3.1,baz=217,slow=5.8,SNR=7.2							
PDAR	Pinedale Array	87.08	43	P		P	04 59 45.5	+0.1
	0.5nm,0.7s,mb3.4,baz=180,slow=1.8,SNR=4.4							
YKA	Yellowknife Ar	94.03	25	P		P	05 00 16.9	-0.7
	0.2nm,0.7s,mb3.2,baz=248,slow=4.5,SNR=4.3							
GERES	GERESS Array B	147.35	345	PKPbc		PKPbc	05 06 40.1	-0.4
	0.4nm,0.5s,baz=34,slow=3.5,SNR=4.8							

*NAO **15** 04:53:41.4, 2484S×17773W, h33km, mb3.7*
*ISCJB **15** 04:53:49.7±2.1, 227S±02×1763W±0.1, h57km±20km, mb4.8/13, Error ellipse: s-maj=29.7km s-min=12.3km az=136.3*
*IDC **15** 04:53:51.8±3.7, 2264S×17625W, h61km±29km, mb4.3/6, mb1 4.4/9, mb1mx4.2/17, mbtmp4.6/9, ML2.9/2, Error ellipse: s-maj=49.3km s-min=17.8km az=151.0*
*NEIC **15** 04:53:51.5±1.1, 2271S×17624W, h62km±9km, mb4.8/5, Error ellipse: s-maj=17.5km s-min=6.8km az=160.0*
*BJI **15** 04:53:51.5, 2270S×17620W, h61km, mB5.3, mb4.9*

ISC 15 04:53:52.3±1.8, 226S±02×1762W±01, h68km±17km, n64, σ0§71/25, mb4.7/13, 5C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.65	27	P		Pn	04 56 08.7	+0.3
	2.5nm,0.3s,baz=299,slow=10,SNR=2.7							
AFI				S		Sn	04 57 43.3	-12
	6.1nm,0.3s,baz=53,slow=20,SNR=3.2							
RAR	Rarotonga	15.32	88	P		Pn	04 57 24.4	-0.2
	1.8nm,0.3s,baz=207,slow=2.3,SNR=3.2							
DZM	Mont Dzumac	16.05	269	P		Pn	04 57 33.0	-0.8
	0.1nm,0.3s,baz=5.4,slow=13,SNR=2.6							
ARMA	Armidale	29.72	248	*e*P		P	04 59 55.2	+3.2
CTA	Charters Tower	34.99	267	⇑*i*P		P	05 00 39.5	+1.5
	16nm,0.5s,mb5.1							
CTAO	Charters Tower	34.99	267	*e*P		P	05 00 39.2	+1.2
	8.6nm,0.6s,mb4.8							
PMG	Port Moresby	37.46	285	P		P	05 00 59.5	+0.3
	12nm,0.8s,mb4.9,baz=81,slow=5.2,SNR=7.2							
PMG	Port Moresby	37.46	285	*e*P		P	05 00 59.5	+0.3
	9.6nm,0.8s,mb4.8							
STKA	Stephens Creek	38.42	247	*e*P		P	05 01 06.9	-0.3
	3.1nm,0.6s,mb4.3							
STKA	Stephens Creek	38.42	247	P		P	05 01 07.4	+0.2
	2.7nm,0.5s,mb4.4,baz=99,slow=11,SNR=16							
STKA				PcP		PcP	05 03 18.9	-0.4
	1.3nm,0.6s,baz=340,slow=2.9,SNR=2.8							
STKA	Stephens Creek	38.42	247	*e*P		P	05 01 07.2	0.0
ASAR	Alice Springs	45.69	259	P		P	05 02 06.9	+0.5
	9.4nm,0.7s,mb4.6,baz=93,slow=7.9,SNR=81							
ASAR				PcP		PcP	05 03 44.4	+1.0
	2.7nm,0.7s,baz=105,slow=3.5,SNR=12							
WB2	Warramunga Arr	45.97	264	*e*P		P	05 02 07.9	-0.7
WRAB	Tennant Creek	45.98	264	*e*P		P	05 02 08.1	-0.6
	14nm,0.8s,mb4.7							
WRA	Warramunga Arr	45.98	264	P		P	05 02 08.6	-0.1
	7.8nm,0.6s,mb4.6,baz=100,slow=8.2,SNR=46							
WRA				PcP		PcP	05 03 45.5	+1.1
	3.0nm,0.8s,baz=94,slow=3.7,SNR=8.4							
KAKA	Kakadu	49.70	272	⇑*i*P		P	05 02 36.8	-0.6
	7.0nm,0.3s,mb5.1							
FITZ	Fitzroy Crossi	54.41	263	*e*P		P	05 03 12.9	+0.5
	9.8nm,1.0s,mb4.8							
MBWA	Marble Bar	59.03	258	*e*P		P	05 03 44.4	-0.7
	5.0nm,0.6s,mb4.7							
SYO	Syowa Base	85.01	192	‖*e*X		P	05 06 12.4	-7.9
SYO	Syowa Base	85.01	192	‖*e*PKiKP		PKiKP	05 11 31.7	-0.3
COLA	College	89.94	12	*e*P		P	05 06 43.7	-0.3
	4.5nm,0.8s,mb4.7							
ILAR	Eielson Array	90.03	12	P		P	05 06 44.1	-0.4
	2.1nm,0.8s,mb4.3,baz=218,slow=4.7,SNR=25							
CD2	Chengdu	93.33	302	*e*P		P	05 06 59.9	+0.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.2							
YKA	Yellowknife Ar	97.76	24	P		P	05 07 20.3	+0.4
	comp=Z,0.3nm,0.7s,mb3.9,baz=240,slow=4.7,SNR=6.1							
YKA	Yellowknife Ar	97.76	24	P		P	05 07 20.3	+0.4
MKAR	Makanchi Array	113.86	313	PKiKP		PKiKP	05 12 22.5	-0.8
	comp=Z,0.3nm,0.6s,baz=60,slow=3.1,SNR=4.4							
BVAR	Borovoye Array	121.78	319	PKP		PKPdf	05 12 37.9	-0.6
	comp=Z,0.7nm,0.4s,baz=141,slow=2.1,SNR=6.1							
ARCES	ARCESS Array B	131.31	350	PKP		PKPdf	05 12 56.4	-0.3
	comp=Z,1.7nm,0.6s,baz=33,slow=0.7,SNR=12							
KAF	Kangasniemi	137.65	344	*e*p		PKPdf	05 13 08.3	-0.3
FINES	FINESS Array B	138.28	344	PKhKP			05 12 58.8	
	comp=Z,0.5nm,0.6s,baz=31,slow=3.2,SNR=4.0							
FINES				PKP		PKPdf	05 13 10.4	+0.7
	comp=Z,1.5nm,0.6s,baz=27,slow=4.3,SNR=6.9							
FINES	FINESS Array B	138.28	344	PKP		PKPdf	05 13 10.4	+0.7
NB2	NORSAR Subarra	141.28	354	PKPa			05 13 08.5	
	comp=Z,0.9nm,0.6s,baz=14,slow=3.1							
NOA	NORSAR Array B	141.28	354	PKhKP			05 13 08.8	
	comp=Z,0.9nm,0.6s,baz=7.5,slow=2.3,SNR=4.7							
NOA	NORSAR Array B	141.28	354	PKP			05 13 08.8	
HFS	Hagfors	141.89	352	PKhKP			05 13 09.9	
	comp=Z,1.9nm,0.3s,baz=68,slow=3.9,SNR=21							
AKASG	Malin Array Be	145.68	331	PKPbc		PKPbc	05 13 22.3	-1.1
	comp=Z,9.4nm,0.4s,baz=42,slow=4.1,SNR=87							
MALT	Malatya	146.53	306	*e*PKPbc		PKPbc	05 13 26.4	+0.5
KWP	Kalwaria	149.21	336	*e*PKPbc		PKPbc	05 13 33.5	+0.4
BR131	Keskin Array S	149.50	311	*e*PKPbc		PKPbc	05 13 33.6	-0.1
BRTR	Keskin Array B	149.50	311	PKPbc		PKPbc	05 13 33.9	+0.1
	comp=Z,2.1nm,0.7s,baz=131,slow=4.2,SNR=14							
BURAR	Bucovina Array	149.73	331	⇑P		PKPbc	05 13 36.1	+1.7
STHS	Stebnicka Huta	149.93	337	*e*PKP		PKPbc	05 13 36.4	+1.5
KOLS	Kolonicke sedl	149.94	335	*e*PKP		PKPbc	05 13 36.0	+1.1
ANTO	Ankara	150.02	312	PKPbc		PKPbc	05 13 35.1	0.0
CLL	Collm	150.50	348	*e*PKP		PKPbc	05 13 36.8	+0.6
CLL	Collm	150.50	348	⇑*i*PKPbc		PKPbc	05 13 36.8	+0.6
	comp=Z,10.0nm,0.7s							
CLL				*i* PKPab		PKPab	05 13 42.3	-0.7
	comp=Z,6.0nm,0.7s							
UPC	Upice	150.59	344	*e*PKPbc		PKPbc	05 13 37.8	+1.4
DPC	Dobruska-Polom	150.65	344	*e*PKPbc		PKPbc	05 13 37.5	+0.9
DPC				*e*PKPab		PKPab	05 13 44.0	+0.4
BRG	Berggiesshubel	150.73	347	*e*PKP		PKPbc	05 13 37.4	+0.6
BRG	Berggiesshubel	150.73	347	*e*P		PKPbc	05 13 37.5	+0.7
	comp=Z,3.5nm,0.8s							
MORC	Moravsky Berou	150.83	342	*e*PKPbc		PKPbc	05 13 37.3	+0.3
PVCC	Panska Ves	150.91	346	*e*PKPbc		PKPbc	05 13 37.8	+0.6
MLR	Muntele Rosu	150.91	327	‖P		PKPbc	05 13 38.2	+1.0
KECS	Kecovo	150.98	337	*e*PKP		PKPbc	05 13 38.5	+1.1
MOX	Moxa	151.38	350	*e*PKP		PKPbc	05 13 38.7	+0.4
PRU	Pruhonice	151.42	345	*e*PKPbc		PKPbc	05 13 38.8	+0.4
WERD	Werda	151.45	349	*e*PKP		PKPbc	05 13 40.0	+1.6
VYHS	Vyhne	151.55	339	*e*PKP		PKPbc	05 13 39.9	+1.2
TNS	Taunus Mts	152.23	354	*e*PKP		PKPbc	05 13 42.1	+1.9
GRF	Grafenberg Arr	152.37	350	*e*PKP		PKPbc	05 13 42.7	+2.2
KHC	Kasperske Hory	152.45	346	*e*PKPbc		PKPbc	05 13 39.1	-1.6
KHC				PKPab		PKPab	05 13 51.0	-0.1
GEC2	GERESS Array S	152.69	346	*e*PKP		PKPbc	05 13 41.6	+0.4
GERES	GERESS Array B	152.69	346	PKPbc		PKPbc	05 13 41.7	+0.5
	comp=Z,3.1nm,0.7s,baz=27,slow=3.0,SNR=23							
BZS	Buzias	152.86	332	⇑P		PKPbc	05 13 41.8	+0.2

*NNC **15** 05:02:16.7±2.5, 3962N×7399E, h29km±10km, mb3.7, mpv3.2, Error ellipse: s-maj=22.7km s-min=11.8km az=20.0*
*ISCJB **15** 05:02:18.5±2.7, 397N±02×742E±0.1, h33km, Error ellipse: s-maj=24.8km s-min=13.3km az=2.6*

ISC 15 05:02:18.7±2.8, 396N±02×742E±0.1, h35km, n8, σ0§86/11, 6C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.58	351	P		Pn	05 02 57.4	-0.7
	SNR=63							
KZA	Kyzart	2.61	17	P		Pn	05 02 59.2	+0.8
	SNR=33							
UCH	Uchtor	2.66	4	P		Pn	05 02 58.3	-0.7
	SNR=9.1							
AAK	Ala-Archa	3.06	4	P		Pn	05 03 04.0	-0.6
	SNR=6.6							
ULHL	Ulahol	3.07	29	P		Pn	05 03 06.3	+1.7
	SNR=8.7							
EKS2	Erkin-Say	3.10	354	P		Pn	05 03 09.4	+4.2
	SNR=5.7							
TKM2	Tonak 2	3.49	17	⇑Pn		Pn	05 03 09.6	-0.9
	23nm,0.7s							
TKM2				⇑Sn		Sn	05 03 50.5	-0.2
	14nm,0.6s							
KK31	Karatay Array	4.50	323	⇑Pn		Pn	05 03 24.1	-0.3
	1.3nm,0.6s,baz=134,slow=11,SNR=11							
KK31				⇑Pg		Pn	05 03 35.3	+11
	1.7nm,0.7s,baz=127,slow=9.1,SNR=8.8							
KK31				⇑Sn		Sn	05 04 16.2	+0.7
	1.1nm,0.3s,baz=127,slow=23,SNR=4.0							
KK31				⇑Lg			05 04 36.1	
	2.9nm,0.5s,baz=167,slow=26,SNR=3.8							

*IDC **15** 05:05:11.7±0.7, 628S×147.10E, h0km, mb4.1/6, mb1 4.4/9, mb1mx4.4/14, mbtmp4.2/9, ML3.7/3, MS4.1/7, Ms1 4.1/7, ms1mx3.8/21, Error ellipse: s-maj=30.8km s-min=16.7km az=84.0*
*ISCJB **15** 05:05:14.9±0.6, 634S±006×14687E±009, h33km, mb4.3/10, MS4.2/3, Error ellipse: s-maj=13.5km s-min=8.1km az=0.4*
*NEIC **15** 05:05:19.1±2.0, 647S×14693E, h54km±18km, mb4.6/4, Error ellipse: s-maj=19.6km s-min=15.3km az=91.0*

ISC 15 05:05:16.9±0.6, 639S±006×14691E±010, h35km, n31, σ1§03/27, mb4.2/10, MS4.2/3, 1C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.01	175	Pn	Pn	05 06 02.9	+0.9
	22nm,0.3s,baz=7.7,slow=6.0,SNR=30						
PMG				Sn	Sn	05 06 42.1	+5.3
	67nm,0.3s,baz=183,slow=19,SNR=4.2						
PMG	Port Moresby	3.01	175	‖*e*Pn	Pn	05 06 02.8	+0.8
PMG				*e*Sn	Sn	05 06 36.8	0.0
CTA	Charters Tower	13.63	183	*e*P	Pn	05 08 30.2	+2.5
	12nm,1.1s						
CTA	Charters Tower	13.63	183	Pn	Pn	05 08 28.7	+1.0
	0.3nm,0.3s,baz=7.4,slow=14,SNR=3.3						
CTA				Sn	Sn	05 11 03.8	+5.9
	0.3nm,0.3s,baz=261,slow=14,SNR=2.6						
CTA				LR	LR	05 13 42.0	
	comp=Z,661nm,19.1s,baz=43,slow=37						
CTAO	Charters Tower	13.63	183	*e*P	Pn	05 08 30.1	+2.4
	10.0nm,0.8s						
KAKA	Kakadu	15.59	245	*e*P	Pn	05 08 54.1	+0.2
	22nm,0.6s						
WRAB	Tennant Creek	18.17	221	*e*P	Pn	05 09 25.7	-0.6
	48nm,1.0s						
WB2	Warramunga Arr	18.18	221	*e*P	Pn	05 09 25.8	-0.6
WRA	Warramunga Arr	18.19	221	P	Pn	05 09 26.5	0.0
	0.4nm,0.3s,baz=46,slow=12,SNR=38						
ASAR	Alice Springs	21.25	215	P	P	05 10 01.1	+1.2
	12nm,0.9s,mb4.2,baz=52,slow=8.7,SNR=29						
FITZ	Fitzroy Crossi	23.79	239	*e*P	P	05 10 24.9	-1.4
	25nm,1.0s,mb4.6						
ARMA	Armidale	24.32	170	*e*P	P	05 10 31.6	+0.5
DZM	Mont Dzumac	24.48	132	P	P	05 10 32.1	-0.5
	14nm,1.2s,mb4.3,baz=349,slow=19,SNR=2.5						
DZM				LR	LR	05 18 27.8	
	comp=Z,352nm,21.4s,MS3.8,baz=219,slow=33						
STKA	Stephens Creek	25.84	190	*e*P	P	05 10 42.2	-2.7
	7.4nm,0.9s,mb4.2						
STKA	Stephens Creek	25.84	190	P	P	05 10 43.0	-2.0
	8.7nm,0.8s,mb4.3,baz=348,slow=8.6,SNR=21						
STKA				LR	LR	05 21 39.5	
	comp=Z,604nm,19.8s,MS4.1,baz=24,slow=38						
STKA	Stephens Creek	25.84	190	*e*P	P	05 10 42.6	-2.3
HIA	Hailar	60.28	340	*e*P	P	05 15 22.6	+0.7
SHL	Shillong	62.15	303	*ex*	x	05 15 38.0	
SONM	Songino Array	64.70	331	P	P	05 15 52.8	+1.5
	0.5nm,0.7s,mb3.7,baz=156,slow=7.6,SNR=3.6						
MA2	Magadan	65.82	2	*e*P	P	05 15 58.9	+0.3
	4.2nm,0.8s,mb4.5						
VNDA	Vanda	71.53	177	P	P	05 16 34.5	+0.3
	3.0nm,0.8s,mb4.3,baz=326,slow=6.0,SNR=8.4						
VNDA	Vanda	71.53	177	*e*P	P	05 16 34.1	0.0
	11nm,0.9s,mb4.8						
VNDA				*e*	pP	05 16 41.5	-3.5
MKAR	Makanchi Array	77.74	321	P	P	05 17 10.5	+0.3
	0.4nm,0.6s,mb3.5,baz=103,slow=6.5,SNR=6.9						
QSPA	South Pole Qui	83.58	180	*e*P	P	05 17 40.5	-1.0
	6.9nm,0.9s,mb4.8						
ILAR	Eielson Array	85.87	23	P	P	05 17 51.1	-1.8
	1.1nm,0.8s,mb4.1,baz=260,slow=5.0,SNR=10						
ILAR				LR	LR	05 56 14.5	
	comp=Z,195nm,19.0s,MS4.5,baz=182,slow=36						
SYO	Syowa Base	90.20	200	‖*e*PcP	PcP	05 18 14.8

comp=Z,15nm,0.8s,mb4.6
LSA Lhasa 27.19 351 *e*P **P 05 19 57.2 +0.3**
comp=Z,15nm,0.8s,mb4.6
LSA *e*pP pP 05 20 04.3 -0.6
CD2 Chengdu 28.99 14 *e*P **P 05 20 12.9 -0.1**
CD2 AP pP 05 20 20.1 -1.0
CD2 XP sP 05 20 23.5 -0.9
CD2 PP PP 05 21 07.8 -11
CD2 S **S 05 25 02.6 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 AMB AMB
comp=Z,80nm,4.9s
CD2 LR LR
comp=N,140nm,9.6s
CD2 LR LR
comp=Z,180nm,10.8s,MS4.0
ENH Enshi 30.27 24 *e*P **P 05 20 23.2 -1.0**
comp=Z,5.0nm,0.6s,mb4.4
XAN Xi'an 33.43 20 P **P 05 20 51.1 -1.0**
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
LZH Lanzhou 33.99 12 *e*P **P 05 20 56.6 -0.3**
LZH AP pP 05 21 04.1 -1.0
LZH XP sP 05 21 08.0 -0.4
LZH AMB AMB
comp=Z,25nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,140nm,5.5s
NJ2 Nanjing 36.29 34 *e*P **P 05 21 16.5 -0.2**
NJ2 AP pP 05 21 25.9 +1.0
NJ2 XP sP 05 21 29.5 +1.3
NJ2 PP PP 05 22 39.5 0.0
NJ2 S **S 05 26 55.0 -0.7**
NJ2 XS sS 05 27 11.0 +1.8
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,630nm,4.5s
NJ2 LR LR
comp=N,270nm,12.0s,MS4.2
NJ2 LR LR
comp=E,40nm,16.0s,MS4.2
NJ2 LR LR
comp=Z,2μm,22.0s
GTA Gaotai 36.68 5 *e*P **P 05 21 20.0 0.0**
GTA AP pP 05 21 27.9 -0.3
GTA XP sP 05 21 32.3 +0.7
GTA PP PP 05 22 45.3 +1.6
GTA AMB AMB
comp=Z,13nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,154nm,6.5s
GTA LR LR
comp=N,250nm,11.4s
GTA LR LR
comp=E,383nm,18.6s
GTA LR LR
comp=Z,273nm,8.7s
SSE Sheshan 36.96 38 *e*P **P 05 21 23.6 +1.2**
SSE AP pP 05 21 31.9 +1.3
SSE XP sP 05 21 36.8 +2.8
SSE PP PP 05 22 51.4 +4.6
SSE PCP PcP 05 23 43.5 +0.2
SSE S **S 05 27 08.5 +2.6**
SSE XS sS 05 27 23.9 +4.5
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,91nm,5.6s
SSE LR LR
comp=N,32nm,18.9s,MS3.6
SSE LR LR
comp=E,83nm,19.0s,MS3.6
SSE LR LR
comp=Z,79nm,21.4s,MS3.5
HHC Hu-ho-hao-te 40.49 18 ||P **P 05 21 53.0 +0.9**
HHC AP pP 05 22 00.9 +0.6
HHC XP sP 05 22 04.5 +0.9
HHC PP PP 05 23 30.9 +5.4
HHC PCP PcP 05 23 54.8 +0.5
HHC SCP ScP 05 27 41.4 -0.4
HHC S **S 05 28 03.0 +3.8**
HHC XS sS 05 28 15.0 +2.2
HHC SS SS 05 30 56.8 -2.3
HHC SCS ScS 05 31 54.3 -1.7
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,202nm,7.2s
HHC LR LR
comp=N,139nm,13.2s,MS4.5
HHC LR LR
comp=E,483nm,14.4s,MS4.5
HHC LR LR
comp=Z,167nm,14.4s,MS4.0
BJT Baijiatuan 41.42 24 *e*P **P 05 22 00.5 +0.8**
BJT pmax pmax
comp=Z,36nm,0.8s
BJT Baijiatuan 41.42 24 *e*P **P 05 22 00.5 +0.9**
comp=Z,36nm,0.8s,mb5.1
WMQ Urumqi 41.55 351 P **P 05 22 02.0 +1.2**
WMQ XP sP 05 22 13.0 +0.6
WMQ PP PP 05 23 42.0 +5.0
WMQ S **S 05 28 17.0 +2.1**
WMQ SS SS 05 31 17.0 -3.1
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,125nm,4.0s
WMQ LR LR
comp=N,92nm,9.0s
WMQ LR LR
comp=E,105nm,10.0s
WMQ LR LR
comp=Z,756nm,8.0s
WRAB Tennant Creek 43.96 123 *e*P **P 05 22 20.0 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
WRAB Tennant Creek 43.96 123 *e*P **P 05 22 20.0 -0.3**
comp=Z,6.1nm,0.7s,mb4.4
MK31 Makanchi Array 45.45 347 *i* P **P 05 22 32.5 +0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
MKAR Makanchi Array 45.45 347 P **P 05 22 32.6 +0.5**
comp=Z,6.3nm,0.5s,mb4.7,baz=158,slow=8.4,SNR=107
SONM Songino Array 45.83 10 P **P 05 22 35.6 +0.4**
comp=Z,7.1nm,0.7s,mb4.7,baz=188,slow=8.8,SNR=51
ULN Ulaanbaatar 45.98 10 *e*P **P 05 22 35.1 -1.3**
ULN pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ULN Ulaanbaatar 45.98 10 *e*P **P 05 22 35.1 -1.2**
comp=Z,2.1nm,0.4s,mb4.4
KK31 Karatay Array 46.11 334 *i* P **P 05 22 38.6 +1.2**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KKAR Karatay Array 46.11 334 *i* P **P 05 22 38.6 +1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZAK Zakamensk 47.88 6 *e*P **P 05 22 46.7 -4.6**
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
CN2 Changchun 48.56 28 *e*P **P 05 22 55.8 -0.7**
CN2 *e*XP sP 05 23 10.8 +2.6
CN2 *e*S **S 05 30 00.6 +4.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
KURK Kurchatov 49.98 346 P **P 05 23 07.7 +0.4**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KURK Kurchatov 49.98 346 *e*P **P 05 23 07.6 +0.2**
comp=Z,4.6nm,0.7s,mb4.6
KURK *e*pP pP 05 23 15.9 +0.2
HIA Hailar 50.63 20 *e*P **P 05 23 12.7 +0.4**
HIA pmax pmax
comp=Z,4.0nm,0.5s
HIA Hailar 50.63 20 *e*P **P 05 23 12.7 +0.5**
comp=Z,3.9nm,0.5s,mb4.6
MDJ Mudanjiang 51.20 31 P **P 05 23 18.3 +1.8**
MDJ AP pP 05 23 24.6 -0.3
MDJ XP sP 05 23 27.1 -1.1
MDJ PP PP 05 25 15.5 +2.1
MDJ S **S 05 30 37.4 +4.3**
MDJ XS sS 05 30 47.8 +0.9
MDJ AMB AMB
comp=Z,6.0nm,2.2s,mb4.1
MDJ LR LR
comp=N,46nm,22.5s,MS3.6
MDJ LR LR
comp=E,45nm,19.1s,MS3.6
MDJ LR LR
comp=Z,48nm,24.1s,MS3.4
NVS Novosibirsk 52.95 351 *e*P **P 05 23 27.9 -1.7**
VOSK Vostochnaya 53.94 342 P **P 05 23 36.4 -0.4**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVAR Borovoye Array 54.38 341 P **P 05 23 40.0 0.0**
comp=Z,2.7nm,0.7s,mb4.3,baz=162,slow=9.4,SNR=13
BRVK Borovoye 54.44 341 *e*P **P 05 23 40.0 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 54.44 341 *e*P **P 05 23 40.0 -0.4**
comp=Z,2.1nm,0.6s,mb4.2
ZRNK Zerenda 54.77 340 *e*P **P 05 23 42.0 -0.9**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 54.77 340 *e*P **P 05 23 42.0 -0.8**
comp=Z,2.3nm,0.6s,mb4.4
AB31 Akbulak array 55.55 332 P **P 05 23 48.7 +0.2**
AB31 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOD Bodaibo 56.76 11 *e*P **P 05 23 55.7 -1.4**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
AKTK Aktyubinsk 57.27 332 P **P 05 24 00.9 +0.2**
AKTO Aktyubinsk 57.27 332 P **P 05 24 00.9 +0.2**
comp=Z,4.3nm,0.9s,mb4.5,baz=143,slow=3.4,SNR=14
ARU Arti 61.27 337 ||*i*P **P 05 24 27.2 -1.2**
ARU *e* 05 26 39.8
ARU *e*S **S 05 32 46.3 -0.4**
ARU *e*SS SS 05 36 47.1 -0.1
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
YAK Yakutsk 64.33 17 *e*P **P 05 24 47.7 -1.1**
YAK pmax pmax
comp=Z,20nm,1.0s,mb5.1
YAK Yakutsk 64.33 17 *e*P **P 05 24 46.9 -1.8**
comp=Z,27nm,0.6s,mb5.5
BRTR Keskin Array B 67.11 312 P **P 05 25 06.8 +0.1**
comp=Z,0.9nm,0.9s,mb3.8,baz=117,slow=8.3,SNR=4.7
BRTR Keskin Array B 67.11 312 *i* P **P 05 25 06.9 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
MA2 Magadan 70.53 26 *e*P **P 05 25 26.8 -1.2**
MA2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OBN Obninsk 70.63 328 *e*P **P 05 25 30.1 +1.5**
OBN *e*SS SS 05 39 14.0 +1.4
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.3
TIXI Tiksi 71.92 10 ||*i*P **P 05 25 35.3 -1.1**
TIXI pmax pmax
comp=Z,15nm,1.7s,mb4.7
SEY Seymchan 72.88 24 ||*e*P **P 05 25 41.2 -0.9**
AKASG Malin Array Be 73.25 322 P **P 05 25 43.7 -0.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=92,slow=5.2,SNR=9.1
AKASG Malin Array Be 73.25 322 *i* P **P 05 25 43.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.25 322 P **P 05 25 43.7 -0.6**
FINES FINESS Array B 78.04 333 P **P 05 26 11.3 -0.4**
comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=7.8
FINES FINESS Array B 78.04 333 *i* P **P 05 26 11.3 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
BILL Bilibino 80.21 21 *e*P **P 05 26 23.1 -0.5**
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
ARCES ARCESS Array B 80.66 340 P **P 05 26 25.4 -0.6**
comp=Z,6.4nm,1.0s,mb4.5,baz=90,slow=4.9,SNR=4.8
ARCES ARCESS Array B 80.66 340 P **P 05 26 25.4 -0.6**
GERES GERESS Array B 82.80 319 P **P 05 26 38.8 +1.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=101,slow=6.8,SNR=11
DOU Dourbes 88.75 320 P **P 05 27 07.6 +0.8**
comp=Z,23nm,2.4s,mb5.1
NVAR Mina Array Bea 128.28 34 PKP PKPdf 05 33 21.9 +2.4
comp=Z,0.7nm,0.8s,baz=240,slow=1.2,SNR=4.8
CFAA Coronel Fontan 147.62 206 PKPbc PKPbc 05 33 58.1 +0.7
comp=Z,0.1nm,0.4s,baz=100,slow=4.6,SNR=5.4

*IDC **15** 05:15:48.5±0.6, 644S×147.07E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.5/16, mbtmp4.4/12, ML4.2/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/19, Error ellipse: s-maj=27.6km s-min=14.7km az=86.0*
*ISCJB **15** 05:15:55.0±2.0, 647S±007×14683E±009, h58km±18km, mb4.4/21, MS3.9/1, Error ellipse: s-maj=15.2km s-min=12.4km az=165.8*
*NEIC **15** 05:15:55.7±0.4, 644S×14692E, h50km, mb4.5/9, Error ellipse: s-maj=15.8km s-min=7.6km az=93.0*
*BJI **15** 05:15:55.9, 640S×14690E, h50km, mB5.2, mb4.6*
ISC 15 05:15:57.1±1.7, 651S±008×14687E±009, h62km±16km, n43, σ1°10/39, mb4.4/21, 2C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.90**	**174**	Pn		**Pn**	**05 16 40.5**	**-0.3**
	28nm,0.3s,baz=39,slow=5.4,SNR=65							
PMG					Sn	**Sn**	**05 17 19.7**	**+5.3**
	79nm,0.3s,baz=190,slow=20,SNR=6.4							
PMG	**Port Moresby**	**2.90**	**174**	||*i*Pn	**Pn**	**05 16 40.5**	**-0.3**
CTA	**Charters Tower**	**13.52**	**182**	*e*P		**Pn**	**05 19 06.8**	**+0.9**
	8.2nm,0.6s							
CTA	**Charters Tower**	**13.52**	**182**	Pn		**Pn**	**05 19 06.5**	**+0.6**
	0.7nm,0.3s,baz=9.0,slow=14,SNR=7.5							
CTAO	**Charters Tower**	**13.52**	**182**	*e*P		**Pn**	**05 19 07.2**	**+1.3**
	9.1nm,0.6s							
KAKA	**Kakadu**	**15.50**	**245**	*e*P		**Pn**	**05 19 30.6**	**-1.2**
	59nm,0.6s							
WRAB	**Tennant Creek**	**18.06**	**221**	*e*P		**Pn**	**05 20 02.9**	**-0.7**
	44nm,0.8s							
WB2	**Warramunga Arr**	**18.06**	**221**	||*i*P	**Pn**	**05 20 03.7**	**0.0**
WRA	**Warramunga Arr**	**18.07**	**221**	P		**Pn**	**05 20 03.4**	**-0.3**
	0.8nm,0.3s,baz=46,slow=12,SNR=32							
WRA					PcP	PcP	05 24 37.7	+2.6
	baz=35,slow=1.2,SNR=6.3							
WRA					ScP	ScP	05 28 13.5	+8.5
	0.1nm,0.3s,baz=40,slow=2.5,SNR=11							
ASAR	**Alice Springs**	**21.13**	**215**	P		**P**	**05 20 38.1**	**+1.4**
	9.9nm,0.7s,mb4.2,baz=54,slow=8.9,SNR=49							
FITZ	**Fitzroy Crossi**	**23.70**	**239**	*e*P		**P**	**05 21 02.2**	**-1.0**
	39nm,0.6s,mb5.0							
ARMA	**Armidale**	**24.21**	**170**	*e*P		**P**	**05 21 09.1**	**+1.3**
DZM	**Mont Dzumac**	**24.43**	**131**	P		**P**	**05 21 10.1**	**+0.3**
	8.8nm,1.0s,mb4.2,baz=299,slow=19,SNR=5.1							
STKA	**Stephens Creek**	**25.72**	**190**	*e*P		**P**	**05 21 20.2**	**-1.3**
	8.0nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**25.72**	**190**	P		**P**	**05 21 20.5**	**-1.0**
	8.4nm,0.5s,mb4.5,baz=358,slow=8.6,SNR=27							
STKA					LR	LR	05 32 18.1	
	comp=Z,394nm,21.6s,baz=26,slow=38							
STKA	**Stephens Creek**	**25.72**	**190**	*e*P		**P**	**05 21 19.9**	**-1.6**
MBWA	**Marble Bar**	**30.04**	**238**	*e*P		**P**	**05 22 00.6**	**+0.5**
	9.6nm,1.1s,mb4.4							
JOW	**Kunigami**	**37.72**	**332**	P		**P**	**05 23 06.4**	**-0.3**
	8.5nm,0.5s,mb4.7,baz=157,slow=7.7,SNR=4.8							
NWAO	**Narrogin (SRO)**	**38.07**	**222**	P		**P**	**05 23 10.0**	**+0.4**
	5.3nm,0.7s,mb4.4,baz=111,slow=5.1,SNR=3.8							
MJAR	**Matsushiro Arr**	**43.58**	**350**	P		**P**	**05 23 55.0**	**+0.1**
	0.9nm,0.5s,mb3.8,baz=176,slow=7.9,SNR=3.4							
XAN	**Xi'an**	**53.99**	**321**	P		**P**	**05 25 14.6**	**-0.1**
XAN					AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5							
HIA	**Hailar**	**60.38**	**340**	P		**P**	**05 26 04.0**	**+4.2**
	comp=Z,9.6nm,0.9s,mb4.8							
GTA	**Gaotai**	**63.05**	**320**	*e*P		**P**	**05 26 18.6**	**+0.9**
GTA					AMB	AMB		
	comp=Z,2.0nm,1.4s,mb4.0							
FX1	**Attu Island--F**	**63.23**	**17**	*e*P		**P**	**05 26 19.4**	**+0.5**
ULN	**Ulaanbaatar**	**64.49**	**331**	*e*P		**P**	**05 26 30.8**	**+3.6**
	comp=Z,7.1nm,0.8s,mb4.8							
SONM	**Songino Array**	**64.78**	**331**	P		**P**	**05 26 29.9**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=145,slow=4.4,SNR=5.8							
VNDA	**Vanda**	**71.42**	**177**	P		**P**	**05 27 10.1**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.7,baz=336,slow=7.4,SNR=31							
VNDA	**Vanda**	**71.42**	**177**	*e*P		**P**	**05 27 11.6**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.5							
POO	**Poona**	**76.13**	**291**	*e*P		**P**	**05 27 40.0**	**+1.7**
MKAR	**Makanchi Array**	**77.80**	**321**	P		**P**	**05 27 48.0**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=99,slow=7.7,SNR=9.7							
ZAL	**Zalesovo**	**79.37**	**328**	P		**P**	**05 27 55.7**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=0.7,slow=3.6,SNR=5.3							
ZAL	**Zalesovo**	**79.37**	**328**	P		**P**	**05 27 55.7**	**-0.6**
KURK	**Kurchatov**	**81.54**	**323**	*e*P		**P**	**05 28 10.2**	**+2.3**
	comp=Z,1.9nm,0.8s,mb4.1							
QSPA	**South Pole Qui**	**83.47**	**180**	*e*P		**P**	**05 28 18.3**	**+0.4**
	comp=Z,3.8nm,0.4s,mb4.8							
COLA	**College**	**85.66**	**23**	*e*P		**P**	**05 28 26.5**	**-2.5**
	comp=Z,1.8nm,0.6s,mb4.5							
ILAR	**Eielson Array**	**85.99**	**23**	P		**P**	**05 28 28.5**	**-2.1**
	comp=Z,1.9nm,0.6s,mb4.5,baz=252,slow=4.8,SNR=25							
ZRNK	**Zerenda**	**87.89**	**324**	*e*P		**P**	**05 28 38.7**	**-1.1**
	comp=Z,1.2nm,0.6s,mb4.3							
SYO	**Syowa Base**	**90.08**	**200**	||*e*P	**P**	**05 28 48.2**	**-1.9**
SYO	**Syowa Base**	**90.08**	**200**	||*e*pP	pP	05 29 12.8	+5.2
GERES	**GERESS Array B**	**122.25**	**325**	PKP		PKPdf	05 34 45.1	+0.2
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**145.09**	**284**	PKPbc		PKPbc	05 35 29.4	+2.5
	comp=Z,19nm,0.8s,baz=62,slow=4.1,SNR=137							
DBIC	**Dimbokro**	**151.92**	**272**	PKPbc		PKPbc	05 35 47.1	+2.1
	comp=Z,5.8nm,0.8s,baz=136,slow=4.3,SNR=7.8							
BDFB	**Brasilia**	**153.51**	**146**	PKPbc		PKPbc	05 35 49.2	+0.7
	comp=Z,2.2nm,0.4s,baz=334,slow=0.9,SNR=13							

IDC 15 05:55:51.0±1.2, 1214N×14381E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=43.8km s-min=21.2km az=121.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.77**	**36**	Pn		Pn	05 56 24.5	+1.6
	67nm,0.3s,baz=216,slow=4.5,SNR=14							
GUMO					Sn	Sn	05 56 47.0	+0.9
	67nm,0.3s,baz=354,slow=22,SNR=18							
WRA	**Warramunga Arr**	**33.22**	**196**	P		P	06 02 30.2	+0.6
	0.4nm,0.7s,baz=20,slow=9.7,SNR=3.8							
MKAR	**Makanchi Array**	**61.82**	**317**	P		P	06 06 12.5	+0.8
	0.1nm,0.4s,baz=100,slow=6.0,SNR=4.1							
ILAR	**Eielson Array**	**70.31**	**25**	P		P	06 07 05.0	-1.3
	0.4nm,0.4s,baz=253,slow=5.5,SNR=8.3							
YKA	**Yellowknife Ar**	**84.61**	**27**	P		P	06 08 26.5	+0.2
	0.3nm,0.4s,baz=285,slow=5.0,SNR=6.7							
ARCES	**ARCESS Array B**	**88.14**	**342**	P		P	06 08 43.6	0.0
	2.3nm,0.8s,baz=83,slow=6.5,SNR=10							
FINES	**FINESS Array B**	**92.03**	**335**	P		P	06 09 00.7	-1.1
	0.6nm,0.4s,baz=67,slow=4.0,SNR=8.6							

*IDC **15** 05:59:16.7±1.5, 355S×14025E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/11, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=77.8km s-min=16.6km az=102.0*
*ISCJB **15** 05:59:20.6±1.1, 35S±01×1399E±02, h33km, mb3.5/2, Error ellipse: s-maj=32.3km s-min=10.8km az=44.8*
ISC 15 05:59:22.1±1.1, 36S±01×1402E±02, h35km, n7, σ0°99/10, mb3.5/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.82**	**220**	*e*P		**Pn**	**06 02 07.7**	**-0.4**
	16nm,0.5s							
KAKA					*e*S	**Sn**	**06 04 18.2**	**-0.5**
WB2	**Warramunga Arr**	**17.17**	**199**	*e*P		**Pn**	**06 03 18.6**	**-0.6**
WRA	**Warramunga Arr**	**17.17**	**199**	P		**Pn**	**06 03 18.4**	**-0.8**
	0.7nm,0.3s,baz=24,slow=12,SNR=15							
WRA					S	**S**	**06 06 29.8**	**-7.7**
	0.2nm,0.3s,baz=22,slow=23,SNR=4.8							
FITZ	**Fitzroy Crossi**	**20.22**	**224**	*e*P		**P**	**06 03 55.3**	**+1.3**
	5.4nm,0.7s							
ASAR	**Alice Springs**	**20.81**	**196**	P		**P**	**06 04 03.0**	**+2.6**
	12nm,0.6s,baz=28,slow=9.1,SNR=93							
ASAR					S	**S**	**06 07 55.8**	**+5.2**
	0.9nm,0.9s,baz=18,slow=22,SNR=5.9							
MKAR	**Makanchi Array**	**71.40**	**322**	P		**P**	**06 10 38.7**	**+0.1**
	0.1nm,0.4s,mb3.1,baz=100,slow=5.7,SNR=4.3							
ILAR	**Eielson Array**	**86.07**	**24**	P		**P**	**06 11 58.5**	**-0.7**
	0.5nm,0.8s,mb3.8,baz=270,slow=4.7,SNR=9.7							

IDC 15 06:02:42.6±9.3, 2114N×14538E, h133km±93km, mb3.2/3, mb1 3.5/4, mb1mx3.1/21, mbtmp3.8/4, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=119.1km s-min=21.6km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.61**	**334**	P		Pn	06 04 16.9	-0.4
	6.1nm,0.3s,baz=260,slow=18,SNR=12							
CBIJ					S	Sn	06 05 32.7	+1.3
	11nm,0.3s,baz=275,slow=23,SNR=8.5							
JOW	**Kunigami**	**16.62**	**293**	LR		LR	06 13 04.8	
	comp=Z,44nm,18.6s,baz=129,slow=38							
WRA	**Warramunga Arr**	**42.23**	**196**	P		P	06 10 22.9	+0.3
	0.9nm,0.5s,baz=14,slow=8.7,SNR=7.9							
ASAR	**Alice Springs**	**45.91**	**195**	P		P	06 10 52.0	+0.1
	0.3nm,0.4s,baz=16,slow=6.9,SNR=3.6							
YKA	**Yellowknife Ar**	**75.99**	**28**	P		P	06 14 14.8	-0.2
	0.3nm,0.5s,baz=286,slow=5.8,SNR=5.3							

*ISCJB **15** 06:34:43.7±0.5, 8405N×008×1.1W×06, h10km, mb3.7/14, MS3.9/1, Error ellipse: s-maj=12.5km s-min=8.7km az=48.3*
*IDC **15** 06:34:44.0±0.7, 8414N×054W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/23, mbtmp3.8/15, ML3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/19, Error ellipse: s-maj=21.5km s-min=12.9km az=37.0*
*CSEM **15** 06:34:45.3±0.1, 8405N×086W, h10km±1km, mb4.1/1, Error ellipse: s-maj=5.4km s-min=3.2km az=34.0, After NEIC*
*NEIC **15** 06:34:45.4±0.4, 8405N×086W, h10km, mb4.1/1, Error ellipse: s-maj=11.3km s-min=8.2km az=27.0*
ISC 15 06:34:44.9±0.5, 8405N±008×10W±06, h10km, n27, σ0°98/26, mb3.7/14, MS3.9/1, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUMG	**Summit**	**13.27**	**233**	*e*Pn		**Pn**	**06 37 52.8**	**-0.5**
	14nm,0.7s							
SUMG	**Summit**	**13.27**	**233**	*e*Pn		**Pn**	**06 37 52.8**	**-0.5**
	14nm,0.7s							
ARCES	**ARCESS Array B**	**15.46**	**144**	Pn		**Pn**	**06 38 22.1**	**-0.7**
	0.2nm,0.3s,baz=4.2,slow=7.7,SNR=9.4							
ARCES	**ARCESS Array B**	**15.46**	**144**	Pn		**Pn**	**06 38 22.1**	**-0.8**
SFJD	**Kangerlussuaq**	**19.77**	**242**	P		**Pn**	**06 39 14.6**	**-1.8**
	0.8nm,0.3s,baz=347,slow=11,SNR=4.4							
NOA	**NORSAR Array B**	**23.30**	**165**	P		P	**06 39 53.9**	**+1.0**
	1.5nm,0.8s,mb3.5,baz=355,slow=11,SNR=3.1							
FRB	**Frobisher Bay**	**24.70**	**260**	P		P	**06 40 05.9**	**-0.2**
	5.3nm,0.7s,mb4.2,baz=9.1,slow=11,SNR=9.2							
INK	**Inuvik**	**26.23**	**322**	P		P	**06 40 18.6**	**-1.3**
	6.4nm,1.0s,mb4.1,baz=12,slow=12,SNR=18							
INK	**Inuvik**	**26.23**	**322**	P		P	**06 40 18.5**	**-1.4**
ILAR	**Eielson Array**	**30.51**	**332**	P		P	**06 40 57.9**	**-0.2**
	353nm,0.5s,baz=6.4,slow=7.0,SNR=2.5							
YKA	**Yellowknife Ar**	**30.52**	**303**	P		P	**06 40 57.8**	**-0.4**
	0.6nm,0.8s,mb3.5,baz=6.8,slow=8.3,SNR=12							
YKA					PcP	PcP	06 43 56.3	-0.8
	0.2nm,0.7s,baz=5.0,slow=2.9,SNR=4.8							
YKA	**Yellowknife Ar**	**30.52**	**303**	PcP		PcP	06 43 56.3	-0.8
YKA	**Yellowknife Ar**	**30.52**	**303**	P		P	**06 40 57.8**	**-0.4**
YKA				PcP		PcP	06 43 56.3	-0.8
GERES	**GERESS Array B**	**35.58**	**163**	P		P	**06 41 41.8**	**-0.6**
	0.3nm,0.5s,mb3.5,baz=330,slow=6.5,SNR=2.4							
AKTK	**Aktyubinsk**	**36.97**	**114**	P		P	**06 41 54.3**	**0.0**
AKTK	**Aktyubinsk**	**36.97**	**114**	P		P	**06 41 54.3**	**0.0**
AKTO	**Aktyubinsk**	**36.97**	**114**	P		P	**06 41 54.3**	**0.0**
	1.4nm,0.8s,mb3.8,baz=0.0,slow=8.1,SNR=3.9							
ULM	**Lac du Bonnet**	**40.81**	**282**	P		P	**06 42 27.6**	**+1.1**
	1.4nm,0.8s,mb3.7,baz=30,slow=11,SNR=4.2							
MKAR	**Makanchi Array**	**43.03**	**90**	P		P	**06 42 44.0**	**-0.6**
	0.5nm,0.7s,mb3.4,baz=344,slow=8.8,SNR=5.3							
MKAR	**Makanchi Array**	**43.03**	**90**	P		P	**06 42 44.0**	**-0.6**
SONM	**Songino Array**	**44.45**	**67**	P		P	**06 42 54.8**	**-1.2**
	2.2nm,0.9s,mb3.9,baz=335,slow=8.6,SNR=9.1							
ULN	**Ulaanbaatar**	**44.48**	**66**	*e*P		P	**06 42 56.6**	**+0.4**
	2.4nm,0.9s,mb3.9							
ULN	**Ulaanbaatar**	**44.48**	**66**	*e*P		P	**06 42 56.6**	**+0.3**
	2.4nm,0.9s,mb3.9							

BRTR	**Keskin Array B**	**45.63 142**	P		**P**	**06 43 07.0**	**+1.6**
	1.1nm,0.9s,mb3.8,baz=0.0,slow=7.4,SNR=4.0						
PDAR	**Pinedale Array**	**49.58 293**	P		**P**	**06 43 37.1**	**+1.1**
	0.6nm,0.8s,mb3.7,baz=18,slow=4.7,SNR=5.6						
PDAR			LR		LR	07 05 14.3	
	comp=Z,114nm,20.1s,MS3.9,baz=181,slow=37						
NVAR	**Mina Array Bea**	**54.69 301**	P		**P**	**06 44 16.1**	**+2.1**
	0.3nm,0.6s,mb3.5,baz=54,slow=9.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**70.96 177**	P		**P**	**06 46 03.0**	**+0.6**
	0.5nm,0.8s,mb3.5,baz=348,slow=5.5,SNR=6.4						

*IDC **15** 06:36:26.4±0.9,275S×13863E,h0km,mb4.2/9, mb1 4.3/11,mb1mx4.2/14,mbtmp4.2/11,ML3.8/2,MS4.0/7, Ms1 4.0/7,ms1mx3.7/17,Error ellipse: s-maj=32.4km s-min=12.9km az=85.0*
*ISCJB **15** 06:36:31.1±2.0,286S±006×1388E±01,h53km±20km, mb4.3/15,MS3.9/5,Error ellipse: s-maj=18.0km s-min=9.0km az=29.6*
*NEIC **15** 06:36:32.2±0.7,276S×13881E,h45km,mb4.3/4,Error ellipse: s-maj=20.4km s-min=10.4km az=73.0*
*BJI **15** 06:36:32.2,280S×13880E,h45km,mB4.9,mb4.7*

ISC 15 06:36:35.3±1.7,296S±008×1388E±01,h81km±18km,n27, σ1°10/27,mb4.2/15,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.47**	**128**	Pn	**Pn**	**06 39 01.6**	**-0.9**
	0.7nm,0.3s,baz=72,slow=20,SNR=2.1						
KAKA	**Kakadu**	**11.56**	**213**	*e*P	**Pn**	**06 39 17.7**	**+0.4**
	24nm,0.6s						
WRAB	**Tennant Creek**	**17.42**	**194**	*e*P	**Pn**	**06 40 32.7**	**-0.3**
	18nm,0.8s						
WRAB				*e*S	**S**	**06 43 41.5**	**-8.5**
WB2	**Warramunga Arr**	**17.43**	**194**	*e*P	**Pn**	**06 40 33.8**	**+0.7**
WB2				*e*S	**S**	**06 43 41.5**	**-8.7**
WRA	**Warramunga Arr**	**17.43**	**194**	P	**Pn**	**06 40 32.8**	**-0.3**
	0.9nm,0.3s,baz=19,slow=12,SNR=24						
WRA				S	**S**	**06 43 39.5**	**-11**
	0.1nm,0.3s,baz=13,slow=22,SNR=4.1						
GUMO	**Guam**	**17.51**	**20**	LR	LR	06 45 25.5	
	comp=Z,247nm,21.4s,baz=233,slow=31						
CTA	**Charters Tower**	**18.50**	**157**	LR	LR	06 48 34.5	
	comp=Z,840nm,18.1s,baz=10,slow=39						
FITZ	**Fitzroy Crossi**	**19.83**	**220**	*e*P	**Pn**	**06 41 01.4**	**-0.4**
	14nm,0.9s						
FITZ				*e*S	**S**	**06 44 37.0**	**-1.4**
ASAR	**Alice Springs**	**21.12**	**193**	P	**P**	**06 41 16.7**	**+3.3**
	7.2nm,0.9s,mb4.0,baz=15,slow=9.0,SNR=20						
ASAR				S	**S**	**06 45 12.0**	**+8.2**
	1.6nm,0.8s,baz=11,slow=27,SNR=4.7						
MBWA	**Marble Bar**	**25.93**	**224**	*e*P	**P**	**06 42 03.5**	**+3.6**
	3.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.88**	**175**	P	**P**	**06 42 29.8**	**+3.5**
	1.4nm,0.7s,mb3.7,baz=60,slow=7.0,SNR=3.4						
STKA				LR	LR	06 55 17.1	
	comp=Z,507nm,19.2s,baz=130,slow=39						
STKA	**Stephens Creek**	**28.88**	**175**	P	**P**	**06 42 29.8**	**+3.5**
STKA				LR	LR	06 55 17.1	
CBIJ	**Chichi jima**	**30.06**	**6**	LR	LR	06 51 34.1	
	comp=Z,209nm,20.4s,baz=130,slow=30						
NWAO	**Narrogin (SRO)**	**36.02**	**212**	LR	LR	06 58 21.6	
	comp=Z,150nm,20.4s,baz=193,slow=36						
MJAR	**Matsushiro Arr**	**39.30**	**359**	LR	LR	06 59 05.4	
	comp=Z,93nm,18.9s,baz=350,slow=35						
PSI	**Prapat**	**40.28**	**278**	P	**P**	**06 44 04.8**	**+0.4**
	2.6nm,0.4s,mb4.4,baz=206,slow=3.1,SNR=5.7						
ENH	**Enshi**	**43.32**	**322**	*e*P	**P**	**06 44 29.3**	**+0.1**
	6.1nm,0.7s,mb4.4						
LZH	**Lanzhou**	**50.75**	**323**	*e*P	**P**	**06 45 27.5**	**+0.5**
LZH				AP	pP	06 45 42.0	-5.0
LZH				XP	sP	06 45 48.0	-8.1
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,73nm,4.9s						
GTA	**Gaotai**	**55.33**	**324**	*e*P	**P**	**06 46 01.4**	**+0.7**
GTA				AP	pP	06 46 10.6	-10
GTA				XP	sP	06 46 15.5	-15
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**57.99**	**335**	P	**P**	**06 46 19.0**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=154,slow=8.0,SNR=7.3						
MKAR	**Makanchi Array**	**70.05**	**322**	P	**P**	**06 47 39.0**	**+0.5**
	comp=Z,4.1nm,0.5s,mb4.5,baz=99,slow=8.9,SNR=76						
ZAL	**Zalesovo**	**72.21**	**330**	P	**P**	**06 47 49.8**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.8,baz=328,slow=11,SNR=4.8						
KURK	**Kurchatov**	**73.98**	**325**	*e*P	**P**	**06 48 01.6**	**-0.5**
	comp=Z,5.6nm,1.1s,mb4.2						
VNDA	**Vanda**	**75.52**	**175**	P	**P**	**06 48 13.4**	**+2.5**
	comp=Z,1.4nm,0.9s,mb3.7,baz=320,slow=9.0,SNR=7.1						
VNDA				LR	LR	07 21 54.9	
	comp=Z,140nm,19.5s,baz=50,slow=36						
BVAR	**Borovoye Array**	**79.58**	**325**	P	**P**	**06 48 33.5**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.2,baz=121,slow=8.6,SNR=10						
ILAR	**Eielson Array**	**86.02**	**24**	P	**P**	**06 49 04.8**	**-2.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=268,slow=4.3,SNR=23						
INK	**Inuvik**	**91.86**	**22**	P	**P**	**06 49 36.0**	**+1.5**
	comp=Z,2.2nm,1.3s,mb4.2,baz=315,slow=5.7,SNR=2.6						

IDC 15 06:45:01.4±10.0,1842S×17533W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.7/3,Error ellipse: s-maj=454.1km s-min=37.7km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.42**	**260**	P	P	06 53 37.8	+0.2
	0.3nm,0.3s,baz=97,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**47.47**	**255**	P	P	06 53 38.6	+0.6
	0.3nm,0.6s,baz=89,slow=8.1,SNR=5.9						
ILAR	**Eielson Array**	**85.76**	**12**	P	P	06 57 42.1	-0.4
	1.2nm,1.2s,baz=194,slow=6.1,SNR=3.7						

*ISCJB **15** 06:51:15.0±2.7,386N±02×710E±02,h33km,Error ellipse: s-maj=27.3km s-min=16.6km az=57.9*
*NNC **15** 06:51:18.5±1.2,391N×7120E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=16.5km s-min=7.0km az=111.0*

ISC 15 06:51:16.8±2.8,385N±02×710E±02,h35km,n8,σ0°39/9, 1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.15**	**29**	P	**Pn**	**06 52 16.8**	**-0.8**
	SNR=17						
UCH	**Uchtor**	**4.57**	**35**	P	**Pn**	**06 52 23.2**	**-0.2**
	SNR=6.0						
KK31	**Karatay Array**	**4.60**	**355**	⇓Pn	**Pn**	**06 52 24.2**	**+0.5**
	3.3nm,0.2s,baz=170,slow=13,SNR=170						
KK31				⇑Sn	**Sn**	**06 53 15.9**	**0.0**
	3.3nm,0.3s,baz=169,slow=22,SNR=4.9						
EKS2	**Erkin-Say**	**4.64**	**26**	P	**Pn**	**06 52 24.5**	**+0.1**
	SNR=10						
KZA	**Kyzart**	**4.81**	**41**	P	**Pn**	**06 52 27.3**	**+0.7**
	SNR=16						
AAK	**Ala-Archa**	**4.89**	**32**	P	**Pn**	**06 52 27.7**	**-0.1**
	SNR=11						
CHMS	**Chumysh**	**5.30**	**31**	P	**Pn**	**06 52 33.4**	**0.0**
	SNR=9.4						
AB31	**Akbulak array**	**13.36**	**327**	Pn	**Pn**	**06 54 23.7**	**-0.2**
	0.5nm,0.5s,baz=128,slow=15,SNR=22						

*NEIC **15** 07:01:21.1±5.9,670S×12972E,h139km±59km,mb4.3/2, Error ellipse: s-maj=50.0km s-min=29.4km az=223.0*
*IDC **15** 07:01:23.1±10.0,681S×12961E,h160km±108km,mb3.6/3, mb1 3.8/5,mb1mx3.5/15,mbtmp4.2/5,Error ellipse: s-maj=69.1km s-min=37.4km az=53.0*
*ISCJB **15** 07:01:25.6±2.1,7.1S±0.1×1298E±0.1,h166km±20km, mb3.8/2,Error ellipse: s-maj=19.5km s-min=17.2km az=150.9*

ISC 15 07:01:28.2±2.3,73S±01×1298E±01,h158km±20km,n10, σ1°15/16,mb3.8/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.98**	**155**	*e*P	**Pn**	**07 02 54.6**	**-0.1**
	26nm,0.2s						
KAKA				*e*S	**Sn**	**07 04 03.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.52**	**200**	*e*P	**Pn**	**07 04 07.9**	**-0.1**
	12nm,0.3s						
FITZ				*e*S	**Sn**	**07 06 15.2**	**-0.3**
WRAB	**Tennant Creek**	**13.33**	**161**	*e*Pn	**Pn**	**07 04 32.2**	**+0.9**
	12nm,0.5s						
WRAB				*e*Sn	**Sn**	**07 06 56.5**	**-2.4**
WRA	**Warramunga Arr**	**13.33**	**161**	P	**Pn**	**07 04 31.7**	**+0.3**
	2.0nm,0.3s,baz=340,slow=11,SNR=45						
WRA				S	**Sn**	**07 06 58.3**	**-0.7**
	4.1nm,0.3s,baz=335,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.34**	**161**	*e*P	**Pn**	**07 04 30.9**	**-0.5**
WB2				*e*S	**Sn**	**07 06 58.2**	**-0.9**
ASAR	**Alice Springs**	**16.77**	**167**	P	**Pn**	**07 05 15.6**	**+1.8**
	1.4nm,0.3s,baz=352,slow=11,SNR=104						
ASAR				S	**S**	**07 08 21.9**	**+1.9**
	0.7nm,0.3s,baz=344,slow=23,SNR=7.5						
CTA	**Charters Tower**	**20.38**	**130**	P	**P**	**07 05 53.0**	**+0.4**
	2.1nm,0.3s,baz=295,slow=12,SNR=5.0						
CTAO	**Charters Tower**	**20.38**	**130**	*e*P	**P**	**07 05 51.5**	**-1.1**
	7.6nm,0.9s						
STKA	**Stephens Creek**	**26.83**	**157**	P	**P**	**07 06 52.3**	**-1.5**
	0.8nm,0.3s,mb3.8,baz=329,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**07 12 04.2**	**-8.4**
	1.1nm,0.5s,mb3.8,baz=116,slow=8.2,SNR=25						

*NEIC **15** 07:32:39.8,15.18N×9551W,h16km,MD3.9(MEX),After MEX.*

MEX 15 07:32:39.8±0.3,1518N×9551W,h16km±18km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.83**	**315**	*i* P	Pb	07 32 52.6	-3.2
HUIG				*i* S	Sb	07 33 02.8	-3.9
VHO	**Vista Hermosa**	**2.23**	**328**	*e*P	Pn	07 33 13.1	-2.8
VHO				*i* S	Sn	07 33 38.8	-4.3
CCIG	**Comitan**	**3.42**	**71**	*e*P	Pn	07 33 30.4	-2.1
CCIG				*i* S	Sn	07 34 08.9	-3.8
PPM	**Popocatepetl**	**4.89**	**323**	*i* S	Sn	07 34 46.4	-2.3
TEIG	**Tepich**	**8.52**	**53**	*e*Pn	Pn	07 34 39.0	-3.6

*CSEM **15** 08:26:53.4±0.8,3876N×2899W,h3km±6km,ML2.0,Error ellipse: s-maj=9.1km s-min=3.5km az=53.0,After PDA*
*PDA **15** 08:26:53.4±0.8,3876N×2899W,h3km±6km,MD2.9,ML2.0, Error ellipse: s-maj=9.1km s-min=3.5km az=53.0*

SVSA 15 08:26:53.4±0.8,3876N×2899W,h3km±6km,MD2.9,ML2.0, Error ellipse: s-maj=9.1km s-min=3.5km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.23**	**140**	*i* P	Pg	08 26 58.6	+0.8
PTCA				*e*S	Sg	08 27 01.9	+1.1
PTCA							
	36nm,0.2s						
PTCA	**Ponta do Capel**	**0.23**	**140**	*e*S	Sg	08 27 01.9	+1.1
PCED	**Cedros**	**0.26**	**121**	*i* P	Pg	08 26 58.2	-0.2
PCED				*i* S	Sg	08 27 01.8	+0.1
PCED							
	89nm,0.2s						
PCED	**Cedros**	**0.26**	**121**	*i* S	Sg	08 27 01.8	+0.1
CALA	**Caldeira**	**0.28**	**129**	*e*P	Pg	08 26 58.6	-0.3
CALA				*e*S	Sg	08 27 02.6	0.0
HOR	**Horta**	**0.36**	**130**	*e*P	Pg	08 26 59.6	-0.8
PICO	**Pico**	**0.51**	**120**	*i* P	Pg	08 27 02.5	-0.7
PICO				*e*S	Sg	08 27 09.2	-0.6
PICO	**Pico**	**0.51**	**120**	*e*S	Sg	08 27 09.2	-0.6
ROSA	**Rosais**	**0.58**	**94**	*e*P	Pg	08 27 03.7	-0.9
ROSA				*e*S	Sg	08 27 10.7	-1.4

*ISCJB **15** 08:38:30.3±1.4,337S±02×1799W±04,h322km±18km, Error ellipse: s-maj=59.6km s-min=15.1km az=45.5*
*NEIC **15** 08:38:55.5±9.7,3544S×17901E,h293km±25km,Error ellipse: s-maj=113.4km s-min=35.9km az=213.0*

ISC 15 08:38:34.0±1.3,339S±02×1800E±04,h327km±17km,n56, σ0°74/64,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**4.87**	**203**	*e*PN	**Pn**	**08 39 50.6**	**-0.6**
MWZ				SN	**S**	**08 40 53.3**	**-0.1**
MWZ	**Matawai**	**4.87**	**203**	*e*P	**Pn**	**08 39 51.7**	**+0.5**
URZ	**Urewera**	**4.96**	**207**	PN	**Pn**	**08 39 51.6**	**-0.5**
URZ				SN	**S**	**08 40 54.6**	**-0.4**
URZ	**Urewera**	**4.96**	**207**	*e*P	**Pn**	**08 39 51.8**	**-0.3**
KNZ	**Kokohu**	**5.46**	**199**	PN	**Pn**	**08 39 58.6**	**+0.8**
KNZ				SN	**S**	**08 41 06.4**	**+1.0**
KNZ	**Kokohu**	**5.46**	**199**	*e*P	**Pn**	**08 39 58.4**	**+0.6**
BKZ	**Black Stump Fm**	**5.98**	**207**	PN	**Pn**	**08 40 04.3**	**+0.4**
BKZ	**Black Stump Fm**	**5.98**	**207**	*e*P	**Pn**	**08 40 04.3**	**+0.5**
TUVZ	**Tukino**	**6.41**	**212**	PN	**Pn**	**08 40 09.3**	**+0.4**
MOVZ	**Moawhango**	**6.48**	**210**	PN	**Pn**	**08 40 09.5**	**-0.2**
MOVZ	**Moawhango**	**6.48**	**210**	P	**Pn**	**08 40 09.7**	**0.0**
WNVZ	**Wahianoa**	**6.49**	**212**	PN	**Pn**	**08 40 10.1**	**+0.3**
WNVZ	**Wahianoa**	**6.49**	**212**	P	**Pn**	**08 40 10.4**	**+0.7**
PXZ	**Pawanui**	**6.63**	**201**	PN	**Pn**	**08 40 11.5**	**0.0**
PXZ				SN	**S**	**08 41 30.7**	**+0.2**
TSZ	**Takapari Road**	**6.96**	**206**	PN	**Pn**	**08 40 15.2**	**-0.2**
WAZ	**Wanganui**	**7.11**	**213**	*e*P	**Pn**	**08 40 18.4**	**+1.3**
BFZ	**Birch Farm**	**7.42**	**203**	PN	**Pn**	**08 40 21.2**	**+0.4**
BFZ				SN	**S**	**08 41 47.6**	**+0.1**
BFZ	**Birch Farm**	**7.42**	**203**	*e*P	**Pn**	**08 40 21.2**	**+0.4**
MRZ	**Mangatainoka R**	**7.63**	**206**	PN	**Pn**	**08 40 22.9**	**-0.4**
MRZ				SN	**S**	**08 41 50.0**	**-2.2**
MRZ	**Mangatainoka R**	**7.63**	**206**	P	**Pn**	**08 40 23.3**	**0.0**
KIW	**Kapiti Island**	**8.06**	**209**	PN	**Pn**	**08 40 27.9**	**-0.6**
KIW	**Kapiti Island**	**8.06**	**209**	P	**Pn**	**08 40 27.9**	**-0.6**
MTW	**Mount Morrison**	**8.09**	**205**	PN	**Pn**	**08 40 28.8**	**-0.1**
MTW	**Mount Morrison**	**8.09**	**205**	P	**Pn**	**08 40 28.8**	**-0.1**
CAW	**Cannon Point**	**8.21**	**207**	PN	**Pn**	**08 40 29.7**	**-0.6**
CAW	**Cannon Point**	**8.21**	**207**	P	**Pn**	**08 40 29.7**	**-0.6**
TRWZ	**Traveller**	**8.24**	**203**	PN	**Pn**	**08 40 31.2**	**+0.5**
MSWZ	**Moikau Station**	**8.41**	**205**	PN	**Pn**	**08 40 32.7**	**-0.1**
MSWZ	**Moikau Station**	**8.41**	**205**	P	**Pn**	**08 40 32.7**	**0.0**
DUWZ	**D'Urville Isla**	**8.43**	**213**	PN	**Pn**	**08 40 32.9**	**-0.1**
MRW	**Makara Radio**	**8.45**	**208**	PN	**Pn**	**08 40 32.8**	**-0.5**
MRW	**Makara Radio**	**8.45**	**208**	P	**Pn**	**08 40 32.8**	**-0.5**
SNZO	**South Karori**	**8.52**	**208**	PN	**Pn**	**08 40 33.6**	**-0.5**
SNZO				*e*SN	**S**	**08 42 13.8**	**+1.9**
SNZO	**South Karori**	**8.52**	**208**	P	**Pn**	**08 40 33.6**	**-0.5**
SNZO				*e*Pn	**Pn**	**08 40 33.7**	**-0.4**
BHW	**Baring Head**	**8.54**	**207**	PN	**Pn**	**08 40 33.7**	**-0.6**
BHW	**Baring Head**	**8.54**	**207**	P	**Pn**	**08 40 32.7**	**-1.6**
TCW	**Tory Channel**	**8.61**	**210**	PN	**Pn**	**08 40 34.4**	**-0.8**
TCW	**Tory Channel**	**8.61**	**210**	P	**Pn**	**08 40 34.4**	**-0.8**
TUWZ	**Tuamarina**	**8.93**	**211**	PN	**Pn**	**08 40 38.5**	**-0.6**
NNZ	**Nelson**	**9.01**	**214**	PN	**Pn**	**08 40 39.3**	**-0.7**
NNZ	**Nelson**	**9.01**	**214**	*e*P	**Pn**	**08 40 39.1**	**-0.9**
QRZ	**Quartz Range**	**9.13**	**218**	PN	**Pn**	**08 40 40.9**	**-0.5**
QRZ	**Quartz Range**	**9.13**	**218**	*e*P	**Pn**	**08 40 40.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**9.20**	**210**	PN	**Pn**	**08 40 42.2**	**0.0**
BSWZ	**Blackbirch Sta**	**9.20**	**210**	P	**Pn**	**08 40 41.3**	**-0.9**
THZ	**Tophouse**	**9.66**	**213**	PN	**Pn**	**08 40 47.1**	**-0.7**
THZ	**Tophouse**	**9.66**	**213**	*e*P	**Pn**	**08 40 48.1**	**+0.3**
KHZ	**Kahutara**	**9.92**	**209**	PN	**Pn**	**08 40 50.9**	**-0.1**
KHZ	**Kahutara**	**9.92**	**209**	*e*P	**Pn**	**08 40 50.9**	**-0.1**
DSZ	**Denniston Nort**	**10.18**	**217**	*e*P	**Pn**	**08 40 54.7**	**+0.6**
LTZ	**Lake Taylor**	**10.76**	**212**	PN	**Pn**	**08 41 01.0**	**-0.1**
LTZ	**Lake Taylor**	**10.76**	**212**	*e*P	**Pn**	**08 41 01.0**	**-0.1**
MQZ	**McQueen's Vall**	**11.36**	**208**	SN	**S**	**08 43 14.6**	**-0.5**
MQZ	**McQueen's Vall**	**11.36**	**208**	*e*P	**Pn**	**08 41 08.5**	**+0.2**
RPZ	**Rata Peaks**	**12.04**	**213**	*e*P	**Pn**	**08 41 17.4**	**+0.9**
JCZ	**Jackson Bay**	**13.40**	**217**	*e*P	**Pn**	**08 41 34.8**	**+2.1**

GUC 15 08:45:26.3±0.7,2667S×7070W,h39km±7km,MD4.0, ML3.5,1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.33**	**12**	⇑*i*P	Pn	08 45 35.0	+0.2
CRCH				*i* S	Sn	08 45 40.9	+0.2
CRCH				AMP		08 45 41.1	
	comp=E,10μm,0.2s						
CDCH	**Caldera**	**0.42**	**196**	⇓*i*P	Pn	08 45 36.0	0.0
CDCH				*i* S	Sn	08 45 43.1	+0.3
CDCH				AMP		08 45 44.0	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**0.75**	**156**	*i* P	Pn	08 45 40.5	0.0
CPCH				*i* S	Sn	08 45 51.8	+1.1
CPCH				AMP		08 45 52.4	
	comp=N,13μm,0.1s						
CPN1	**Cerro Paranal**	**2.05**	**7**	*e*P	Pn	08 45 57.9	-0.3
CEN1	**Los Morros**	**3.29**	**8**	*e*P	Pn	08 46 10.4	-5.0
CEN1				*i* S	Sn	08 46 46.1	-7.1
CEN1				AMP		08 47 38.2	
	comp=N,83nm,0.8s						

IDC 15 09:00:09.2±2.0,5213N×3566E,h0km,mb3.3/2,mb1 3.6/6, mb1mx3.5/21,mbtmp3.5/6,ML3.5/5,Error ellipse: s-maj=25.3km s-min=11.8km az=124.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.28**	**253**	Pn	Pn	09 01 13.8	-1.8
	1.0nm,0.3s,baz=55,slow=11,SNR=4.2						
AKASG				Pg	Pg	09 01 24.5	-6.6
	2.2nm,0.3s,baz=57,slow=16,SNR=8.2						
AKASG				Sn	Sn	09 02 05.1	-1.1
	3.5nm,0.3s,baz=61,slow=20,SNR=6.4						
AKASG				Lg		09 02 20.6	
	4.4nm,0.3s,baz=64,slow=29,SNR=7.3						
FINES	**FINESS Array B**	**10.70**	**334**	Pn	Pn	09 02 38.2	-5.5
	0.3nm,0.3s,baz=153,slow=13,SNR=8.8						
FINES				Sn	Sn	09 04 33.7	-11
	0.3nm,0.3s,baz=156,slow=21,SNR=4.1						
FINES				Lg		09 05 36.8	
	0.2nm,0.3s,baz=150,slow=26,SNR=2.8						
HFS	**Hagfors**	**14.58**	**312**	Pn	Pn	09 03 28.8	-7.9
	0.2nm,0.3s,baz=114,slow=15,SNR=2.8						
NOA	**NORSAR Array B**	**16.06**	**313**	Pn	Pn	09 03 47.5	-8.9
	0.1nm,0.3s,baz=112,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**18.10**	**348**	Pn	Pn	09 04 17.6	-4.4
	0.5nm,0.3s,baz=166,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**47.47**	**228**	P	P	09 08 46.4	+0.6
	0.2nm,0.6s,baz=17,slow=9.2,SNR=2.3						
YKA	**Yellowknife Ar**	**63.33**	**345**	P	P	09 10 38.1	-1.9
	0.2nm,0.5s,baz=17,slow=6.6,SNR=5.3						

*CSEM **15** 09:29:58.8±0.4,3840N×2721W,h13km,ML2.1,Error ellipse: s-maj=10.3km s-min=4.0km az=155.0,After PDA*
*PDA **15** 09:29:58.8±1.1,3840N×2721W,h13km±5km,MD3.2, ML2.1,Error ellipse: s-maj=5.8km s-min=2.4km az=125.0*

SVSA 15 09:29:58.8±1.1,3840N×2721W,h13km±5km,MD3.2, ML2.1,Error ellipse: s-maj=5.8km s-min=2.4km az=125.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.26**	**356**	*e*P	Pg	09 30 03.2	-1.1
ADH				*e*S	Sg	09 30 06.9	-1.0
RIB2	**Ribeirinha**	**0.28**	**6**	*i* P	Pg	09 30 04.1	-0.5
RIB2				*e*S	Sg	09 30 07.8	-0.6
RIB2							
	74nm,0.1s						
RIB2	**Ribeirinha**	**0.28**	**6**	*e*S	Sg	09 30 07.8	-0.6
PPAD	**Pico dos Padre**	**0.31**	**349**	*e*P	Pg	09 30 04.6	-0.6
PPAD				*e*S	Sg	09 30 08.9	-0.5
PPAD							
	30nm,0.1s						
PPAD	**Pico dos Padre**	**0.31**	**349**	*e*P	Pg	09 30 04.6	-0.6
PPAD				*e*S	Sg	09 30 08.9	-0.5
PSCM	**Serra do Cume**	**0.31**	**14**	*e*P	Pg	09 30 03.6	-1.6
PSCM				*e*S	Sg	09 30 07.9	-1.6
PSCM							
	139nm,0.2s						
PSCM	**Serra do Cume**	**0.31**	**14**	*e*P	Pg	09 30 03.6	-1.6
PSCM				*e*S	Sg	09 30 07.9	-1.6
PFAV	**Pico das Favas**	**0.33**	**18**	*e*P	Pg	09 30 05.3	-0.2
PFAV				*e*S	Sg	09 30 09.7	-0.3
PFAV							
	86nm,0.1s						
PFAV	**Pico das Favas**	**0.33**	**18**	*e*P	Pg	09 30 05.3	-0.2
PFAV				*e*S	Sg	09 30 09.7	-0.3
ASBA	**Santa Barbara**	**0.34**	**345**	*i* P	Pg	09 30 05.2	-0.4
ASBA				*e*S	Sg	09 30 09.8	-0.4
ASBA							
	168nm,0.2s						
ASBA	**Santa Barbara**	**0.34**	**345**	*e*S	Sg	09 30 09.8	-0.4
PBIS	**Biscoitos**	**0.37**	**355**	*e*P	Pg	09 30 05.1	-1.1
PBIS				*e*S	Sg	09 30 09.9	-1.2
PBIS							
	20nm,0.2s						
PBIS	**Biscoitos**	**0.37**	**355**	*e*P	Pg	09 30 05.1	-1.1
PBIS				*e*S	Sg	09 30 09.9	-1.2
PVNV	**Vila Nova**	**0.37**	**7**	*e*P	Pg	09 30 05.3	-0.9
PVNV				*e*S	Sg	09 30 10.1	-1.1
PVNV							
	54nm,0.1s						
PVNV	**Vila Nova**	**0.37**	**7**	*e*P	Pg	09 30 05.3	-0.9
PVNV				*e*S	Sg	09 30 10.1	-1.1
PSBA	**Serra de Santa**	**0.38**	**347**	*i* P	Pg	09 30 04.8	-1.6
PSBA				*e*S	Sg	09 30 09.6	-2.0
PSBA							
	63nm,0.3s						
PSBA	**Serra de Santa**	**0.38**	**347**	*e*S	Sg	09 30 09.6	-2.0
PMAN	**Manadas**	**0.73**	**289**	*e*S	Sg	09 30 18.7	-3.8
PMAN							
	28nm,0.2s						
ROSA	**Rosais**	**0.87**	**292**	*e*P	Pg	09 30 12.2	-3.

FIA0	FINESS Array S	3.87 215	MSG			10 01 45.1
	comp=Z,3.6nm,0.3s					
FINES	FINESS Array B	3.87 215	Pn	Pn		10 00 41.4 +0.3
	comp=Z,0.1nm,0.3s,baz=38,slow=14,SNR=6.9					
FINES			Pg	Pg		10 00 50.5 -4.1
	comp=Z,0.4nm,0.3s,baz=35,slow=17,SNR=11					
FINES			Sn	Sn		10 01 28.0 +0.7
	comp=Z,0.2nm,0.3s,baz=40,slow=22,SNR=2.9					
FINES			Lg			10 01 42.5
	comp=Z,0.8nm,0.3s,baz=35,slow=29,SNR=16					
VAF	Ylistaro	3.91 249	MSG			10 01 46.1
	comp=Z,2.8nm,0.2s					
ARCES	ARCESS Array B	5.26 340	Pn	Pn		10 00 60.0 -0.2
	comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=14					
ARCES			Sn	Sn		10 02 00.3 -1.2
	comp=Z,0.2nm,0.3s,baz=147,slow=24,SNR=3.8					
ARCES			Lg			10 02 22.3
	comp=Z,0.4nm,0.3s,baz=162,slow=29,SNR=4.5					
HFS	Hagfors	9.09 248	Pn	Pn		10 01 52.5 -0.3
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=6.4					
NOA	NORSAR Array B	9.60 257	Pn	Pn		10 01 60.0 +0.3
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=2.6					

IDC 15 10:04:10.4±1.1, 2548N×4522W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, MS4.0/1, Ms1 4.0/1, ms1mx3.1/22, Error ellipse: s-maj=28.9km s-min=24.1km az=13.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	Dimbokro	42.83	109	LR	LR	10 27 07.2	
	comp=Z,213nm,20.7s,baz=265,slow=32						
TORD	Torodi Ar. Bea	45.73	96	P	P	10 12 32.4	-0.8
	1.4nm,0.9s,baz=293,slow=7.8,SNR=5.6						
ULM	Lac du Bonnet	45.90	316	P	P	10 12 33.7	-0.9
	0.6nm,0.4s,baz=108,slow=3.2						
LPAZ	La Paz	47.13	211	P	P	10 12 45.8	+1.5
	1.1nm,0.7s,baz=9.5,slow=6.1,SNR=5.7						
NOA	NORSAR Array B	51.90	31	P	P	10 13 21.9	+1.1
	1.0nm,0.7s,baz=253,slow=7.8,SNR=4.0						
PDAR	Pinedale Array	54.71	306	P	P	10 13 41.9	+0.5
	0.9nm,0.9s,baz=90,slow=5.9,SNR=5.9						
YKA	Yellowknife Ar	58.21	329	P	P	10 14 05.5	-0.8
	0.7nm,0.8s,baz=97,slow=7.7,SNR=10						
AKASG	Malin Array Be	61.03	44	P	P	10 14 25.9	+0.1
	1.0nm,0.6s,baz=273,slow=5.9,SNR=7.2						
ILAR	Eielson Array	72.04	334	P	P	10 15 36.2	0.0
	1.0nm,0.9s,baz=66,slow=4.1,SNR=11						

*ISCJB **15** 10:05:18.1±0.6, 254N±0.1×455W±0.1, h10km, mb4.0/17, MS3.9/3, Error ellipse: s-maj=16.4km s-min=13.8km az=159.3*
*IDC **15** 10:05:18.1±0.7, 2541N×4552W, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.0/26, mbtmp4.0/16, MS3.8/3, Ms1 3.8/3, ms1mx3.4/25, Error ellipse: s-maj=19.2km s-min=17.5km az=158.0*
*NEIC **15** 10:05:19.8±0.6, 2540N×4548W, h10km, mb4.3/2, Error ellipse: s-maj=18.1km s-min=15.1km az=154.0*
*NAO **15** 10:05:52.3, 2877N×4359W, h33km, mb4.0*
ISC 15 10:05:20.2±0.6, 254N±01×455W±01, h10km, n24, σ1§20/21, mb4.0/17, MS3.9/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	Schefferville	33.32	337	LR	LR	10 23 24.8	
	comp=Z,91nm,20.8s,MS3.5,baz=215,slow=33						
DBIC	Dimbokro	43.02	109	P	P	10 13 19.4	-0.4
	3.3nm,1.0s,mb4.0,baz=270,slow=12,SNR=2.8						
SIV	San Ignacio	43.90	202	P	P	10 13 25.1	-1.8
	1.1nm,0.4s,mb3.9,baz=264,slow=12,SNR=11						
ULM	Lac du Bonnet	45.78	316	P	P	10 13 40.7	-1.2
	2.3nm,1.0s,mb4.0,baz=68,slow=2.1,SNR=2.3						
ULM	Lac du Bonnet	45.78	316	P	P	10 13 40.7	-1.2
TORD	Torodi Ar. Bea	45.94	96	P	P	10 13 42.6	-0.5
	3.8nm,1.0s,mb4.3,baz=303,slow=7.8,SNR=8.8						
WMOK	Wichita Mounta	46.59	295	eP	P	10 13 50.2	+1.9
	2.8nm,1.0s,mb4.2						
LPAZ	La Paz	46.98	210	P	P	10 13 52.8	+1.4
	0.9nm,0.8s,mb3.8,baz=6.5,slow=11,SNR=2.8						
LPAZ	La Paz	46.98	210	eP	P	10 13 52.5	+1.2
	2.4nm,0.9s,mb4.1						
GERES	GERESS Array B	51.18	47	P	P	10 14 22.2	-1.3
	0.7nm,0.8s,mb3.7,baz=270,slow=11,SNR=4.5						
NB2	NORSAR Subarra	52.05	31	P	P	10 14 30.3	+0.3
	comp=Z,1.7nm,0.8s,mb4.0,baz=254,slow=7.9						
NOA	NORSAR Array B	52.05	31	P	P	10 14 30.4	+0.4
	comp=Z,3.1nm,0.8s,mb4.3,baz=253,slow=7.6,SNR=5.9						
PDAR	Pinedale Array	54.55	306	P	P	10 14 48.5	+0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=53,slow=6.1,SNR=2.7						
YKA	Yellowknife Ar	58.14	329	P	P	10 15 13.8	-0.2
	comp=Z,0.9nm,0.8s,mb3.9,baz=95,slow=7.4,SNR=8.2						
FINES	FINESS Array B	59.19	32	P	P	10 15 20.0	-1.3
	comp=Z,3.1nm,1.1s,mb4.3,baz=292,slow=10,SNR=4.1						
AKASG	Malin Array Be	61.22	44	P	P	10 15 34.3	-0.9
	comp=Z,2.4nm,0.7s,mb4.5,baz=273,slow=6.1,SNR=10						
BRTR	Keskin Array B	66.19	56	P	P	10 16 09.3	+1.3
	comp=Z,2.3nm,0.9s,mb4.2,baz=301,slow=7.2,SNR=5.7						
ILAR	Eielson Array	71.99	334	P	P	10 16 41.5	-2.5
	comp=Z,1.2nm,0.8s,mb3.9,baz=75,slow=4.5,SNR=6.9						
GNI	Garni	74.23	53	P	P	10 16 58.8	+1.6
	comp=Z,6.1nm,0.7s,mb4.6,baz=164,slow=7.4,SNR=4.8						
TSUM	Tsumeb	75.66	120	LR	LR	10 42 45.6	
	comp=Z,77nm,20.4s,MS4.0,baz=325,slow=30						
AKTK	Aktyubinsk	78.84	39	P	P	10 17 24.2	+0.9
AKTO	Aktyubinsk	78.84	39	P	P	10 17 24.2	+0.9
	comp=Z,1.1nm,0.9s,mb3.8,baz=318,slow=6.9,SNR=4.0						
KMBO	Kilima Mbogo	83.90	94	LR	LR	10 57 38.0	
	comp=Z,89nm,18.6s,MS4.2,baz=86,slow=37						
BVAR	Borovoye Array	84.13	33	P	P	10 17 52.5	+1.1
	comp=Z,0.9nm,0.8s,mb4.0,baz=298,slow=3.1,SNR=4.6						

MAN 15 10:10:00.2, 1157N×12273E, h96km, MS7.4, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	Roxas	0.02	122	⇑eP	Pn	10 10 14.2	+0.7
RCP				eS	Sn	10 10 23.6	+0.1
KALP	Kalibo	0.40	286	⇓eP	Pn	10 10 17.4	+2.6

*ISCJB **15** 10:15:37.5±2.5, 383N±02×747E±02, h10km, Error ellipse: s-maj=23.1km s-min=17.6km az=166.3*
*NNC **15** 10:15:46.7±6.8, 3885N×7423E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=67.9km s-min=58.8km az=42.0*
ISC 15 10:15:37.9±2.6, 382N±02×747E±02, h10km, n9, σ1§58/11, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	Kyzart	3.88	6	P	Pn	10 16 35.5	-2.1
	SNR=23						
AML	Almayashu	3.99	349	P	Pn	10 16 41.5	+2.4
	SNR=8.7						
UCH	Uchtor	4.01	358	P	Pn	10 16 38.9	-0.5
	SNR=16						
ULHL	Ulahol	4.20	16	P	Pn	10 16 42.8	+0.9
	SNR=13						
AAK	Ala-Archa	4.42	358	P	Pn	10 16 44.7	-0.3
	SNR=16						
KBK	Karagaybulak	4.44	2	P	Pn	10 16 44.5	-0.8
	SNR=6.2						
TKM2	Tokmak 2	4.75	8	⇓Pn	Pn	10 16 47.2	-2.3
	4.1nm,0.3s						
TKM2				⇑Sn	Sn	10 17 46.6	+2.0
	21nm,0.8s						
KK31	Karatay Array	5.83	328	⇑Pn	Pn	10 17 07.3	+2.9
	0.4nm,0.3s,baz=132,slow=13,SNR=7.4						
KK31				⇑Sn	Sn	10 18 09.8	-1.5
	3.0nm,0.4s,baz=140,slow=24,SNR=8.0						
AB31	Akbulak array	15.32	321	⇑Pn	Pn	10 19 14.8	+0.7
	0.8nm,0.8s,baz=125,slow=14,SNR=4.1						

GUC 15 10:22:19.5±0.6, 3178S×7015W, h132km±5km, MD4.1, ML4.3, 6C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILCH	Illapel	0.89	279	eP	Pn	10 22 42.0	+0.5
ILCH				i S	Sn	10 22 58.7	+0.5
ILCH				AMP		10 23 00.1	
	comp=N,5μm,0.2s						
CMCH	Combarbala	0.95	309	⇓iP	Pn	10 22 42.4	+0.3
CMCH				i S	Sn	10 22 59.7	+0.5
CMCH				AMP		10 23 01.5	
	comp=E,15μm,1.0s						
JACH	Jahuel	0.97	203	⇑iP	Pn	10 22 42.6	+0.3
JACH				i S	Sn	10 23 00.2	+0.6
PACH	Papudo	1.33	235	⇑iP	Pn	10 22 46.5	+0.6
ROCH	El Roble	1.40	211	i P	Pn	10 22 47.2	+0.7
ROCH				i S	Sn	10 23 08.1	+1.0
FCH	Farellones	1.55	185	⇑iP	Pn	10 22 49.2	+1.0
FCH				i S	Sn	10 23 12.2	+2.1
FCH				AMP		10 23 15.7	
	comp=E,3μm,0.2s						
IHA	Instituto Hidr	1.77	225	eP	Pn	10 22 52.1	+1.3
RCDM	Rinconada Maip	1.79	198	eP	Pn	10 22 51.5	+0.5
RCDM				i S	Sn	10 23 15.9	+0.8
RCDM				AMP		10 23 17.3	
	comp=E,3μm,0.3s						
ANTU	Antumapu	1.83	193	⇓iP	Pn	10 22 52.2	+0.7
ANTU				i S	Sn	10 23 16.5	+0.6
ANTU				AMP		10 23 17.7	
	comp=E,4μm,0.5s						
PCH	Pirque	1.86	190	⇑iP	Pn	10 22 52.6	+0.8
PCH				i S	Sn	10 23 17.4	+0.8
TACH	Talagante	1.98	199	⇓iP	Pn	10 22 53.5	+0.2
CHCH	Chadas Angostu	2.19	191	⇓iP	Pn	10 22 56.1	+0.3
CACH	El Canelo	2.36	189	⇑iP	Pn	10 22 58.8	+0.8
LNV	Longovilo	2.42	206	⇑iP	Pn	10 22 58.6	-0.1
CICH	Cipreses	2.54	185	eP	Pn	10 23 00.9	+0.6

IDC 15 10:26:32.8±8.7, 1765S×17255W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.0/17, mbtmp4.4/5, Error ellipse: s-maj=165.9km s-min=153.6km az=168.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	20.24	254	P	P	10 31 09.7	+0.2
	14nm,0.6s,baz=74,slow=17,SNR=17						
CTA	Charters Tower	38.99	260	P	P	10 34 01.1	+0.3
	6.6nm,0.5s,baz=89,slow=11,SNR=20						
STKA	Stephens Creek	43.67	242	P	P	10 34 38.7	-0.5
	0.6nm,0.5s,baz=54,slow=8.7,SNR=2.8						
WB2	Warramunga Arr	50.15	258	eP	P	10 35 30.5	+0.6
WRA	Warramunga Arr	50.16	258	P	P	10 35 30.4	+0.5
	1.3nm,0.4s,baz=96,slow=6.8,SNR=38						
ASAR	Alice Springs	50.23	254	P	P	10 35 31.4	+0.9
	3.4nm,0.5s,baz=89,slow=8.1,SNR=45						
KAKA	Kakadu	53.17	267	eP	P	10 35 55.9	+3.4
	6.4nm,0.4s						

*ISCJB **15** 10:40:26.4±1.4, 6768N±005×343E±02, h0km, Error ellipse: s-maj=10.8km s-min=7.1km az=9.6*
*HEL **15** 10:40:29.8±0.3, 6764N×3407E, h0km, ML2.1, ML2.1(NAO), Explosion*
*NAO **15** 10:40:30.8±2.2, 6772N×3388E, ML2.1*
ISC 15 10:40:28.8±1.3, 6771N±005×341E±02, h0km, n14, σ0§97/23, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	Apatity Array	0.43	257	i P	Pg	10 40 37.2	0.0
APA0				i S	Sg	10 40 42.6	-0.1
APA0				eRG		10 40 44.6	
APA0	Apatity Array	0.43	257	Pg	Pg	10 40 37.2	0.0
	baz=88,slow=16						
APA0				Lg		10 40 42.6	
	baz=88,slow=37						
APA0				Rg		10 40 44.6	
	baz=88,slow=37						
KU4	Liikasenvaara	2.23	235	eP	Pn	10 41 07.2	+0.3
KU4				eS	Sn	10 41 34.5	-0.6
SGF	Sodankyl	2.92	268	eP	Pn	10 41 17.9	+1.4
SGF				eS	Sn	10 41 52.5	+0.4
SGF				MSG		10 42 01.9	
	comp=Z,4.6nm,0.2s						
KEV	Kevo	3.30	312	eP	Pn	10 41 23.5	+1.7
KEV				eS	Sn	10 42 02.0	+0.2
ARA0	ARCESS Array S	3.64	304	eP	Pn	10 41 27.3	+0.9
ARA0				ePG	Pg	10 41 35.2	-3.5
ARA0				eS	Sn	10 42 08.9	-1.2
ARA0				eSB		10 42 19.8	
ARA0	ARCESS Array S	3.64	304	Pn	Pn	10 41 27.3	+0.9
	baz=121,slow=14						
ARA0				Pg	Pg	10 41 35.2	-3.5
	baz=116,slow=16						
ARA0				Sn	Sn	10 42 08.9	-1.2
	baz=119,slow=28						
ARA0				Lg		10 42 19.8	
	baz=114,slow=37						
OUL	Oulu	4.22	235	eSG	Sg	10 42 37.8	-6.5
OUL				MSG		10 42 43.4	
	comp=Z,3.9nm,0.3s						
KJN	Kajaani	4.48	219	eSG	Sg	10 42 44.6	-8.1
KJN				MSG		10 42 49.0	
	comp=Z,2.9nm,0.3s						
JOF	Joensuu	4.95	195	eSG	Sg	10 42 59.7	-8.0
FIA0	FINESS Array S	7.17	213	Pn	Pn	10 42 14.1	-0.7
	baz=14,slow=14						
FIA0				Sn	Sn	10 43 36.9	-0.1
	baz=34,slow=28						
FIA0				Lg		10 44 04.3	
	baz=23,slow=37						
FIA0	FINESS Array S	7.17	213	eP	Pn	10 42 14.1	-0.7
FIA0				e		10 43 36.9	
FIA0				eSG		10 44 04.3	
SPA0	Spitsbergen Ar	11.64	342	Pn	Pn	10 43 14.8	-1.5
	baz=150,slow=18						
SPA0	Spitsbergen Ar	11.64	342	eP	Pn	10 43 14.8	-1.5

*NAO **15** 10:41:04.1, 3508N×2447E, h33km, mb3.5*
*BJI **15** 10:41:15.5, 3702N×2242E, h69km, mB5.0, mb4.4, Ms4.6, Msz4.2*
*ISCJB **15** 10:41:16.9±0.3, 3605N±002×2320E±003, h74km±3km, mb4.0/20, Error ellipse: s-maj=4.7km s-min=2.4km az=92.5*
*MOS **15** 10:41:16.8±1.2, 3607N×2310E, h61km, mb4.3/14, Error ellipse: s-maj=8.6km s-min=4.5km az=86.9*
*PDG **15** 10:41:16.4±0.8, 3597N×2313E, h120km±7km*
*CSEM **15** 10:41:17.8±0.1, 3611N×2340E, h87km, mb4.1/11, Error ellipse: s-maj=2.2km s-min=1.1km az=43.0*
*HLW **15** 10:41:18.6, 3607N×2365E, h33km, Mb4.4*
*ATH **15** 10:41:18.5, 3617N×2337E, h64km±2km, ML4.2*
*NEIC **15** 10:41:18.5, 3616N×2337E, h64km, mb3.9/4, MD4.5(PDG), After ATH.*
*IDC **15** 10:41:18.2±2.2, 3620N×2330E, h52km±26km, mb3.7/13, mb1 3.8/15, mb1mx3.6/26, mbtmp3.9/15, ML4.0/2, Error ellipse: s-maj=15.8km s-min=15.6km az=125.0*
*THE **15** 10:41:19.6, 3615N×2335E, h80km, ML4.2*
ISC 15 10:41:18.4±0.2, 3604N±002×2322E±003, h66km±3km, n213, σ1§27/254, mb4.0/20, 17C-18D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	Kithira	0.28	328	eP	Pn	10 41 29.5	+0.5
VLI	Veliai	0.71	341	eP	Pn	10 41 32.9	-0.3
VLI				eS	Sn	10 41 42.8	-1.2
KARN	Karanos	0.85	138	ePg	Pn	10 41 36.5	+1.7
KARN				eSg	Sn	10 41 50.6	+3.7
VAM	Vamos	1.02	128	eP	Pn	10 41 37.8	+0.9
GVD	Gavdhos	1.39	149	ePg	Pn	10 41 43.5	+1.7
GVD	Gavdhos	1.39	149	ePn	Pn	10 41 44.9	+3.1
GVD	Gavdhos	1.39	149	ePn	Pn	10 41 44.9	+3.1
ITM	Ithomi	1.54	318	eP	Pn	10 41 45.4	+1.6
IDI	Anoyia	1.55	119	P	Pn	10 41 44.0	+0.1
	64nm,0.3s,baz=312,slow=14,SNR=210						
IDI				S	Sn	10 42 03.6	+0.5
	330nm,0.3s,baz=80,slow=21,SNR=23						
SIVA	Sivas	1.65	128	ePb	Pn	10 41 47.2	+2.0
SIVA				eSb	Sn	10 42 07.1	+1.7
NAIG	Nisos Aigina	1.73	7	eP	Pn	10 41 45.5	-0.7
SANT	Santorini	1.84	79	ePb	Pn	10 41 47.3	-0.4
SANT				eSb	Sn	10 42 10.1	+0.1
SANT	Santorini	1.84	79	ePb	Pn	10 41 47.3	-0.4
SANT				eSn	Sn	10 42 09.3	-0.7
SANT				eSb	Sn	10 42 10.1	+0.1
SANT	Santorini	1.84	79	ePn	Pn	10 41 47.3	-0.4
SANT				eSn	Sn	10 42 09.3	-0.7
ATH	Athens Observa	1.97	11	eP	Pn	10 41 48.8	-0.7
LAST	Lasithi	2.04	115	ePn	Pn	10 41 51.4	+0.9
LAST	Lasithi	2.04	115	ePn	Pn	10 41 51.3	+0.9
PTL	Penteli	2.07	14	eP	Pn	10 41 50.0	-0.8
PTL				eS	Sn	10 42 13.5	-2.1
NPS	Neapolis	2.10	111	eP	Pn	10 41 52.0	+0.8
NPS				eS	Sn	10 42 15.7	-0.5
APE	Apeiranthos	2.12	60	PN	Pn	10 41 50.1	-1.5
APE	Apeiranthos	2.12	60	ePn	Pn	10 41 50.7	-0.9
APE	Apeiranthos	2.12	60c	iP	Pn	10 41 50.7	-0.9
MPAR	Parnis Oros	2.15	11	eP	Pn	10 41 51.8	-0.1
RLS	Riolos of Patr	2.45	326	eP	Pn	10 41 57.9	+1.8
RLS	Riolos of Patr	2.45	326	P	Pn	10 41 57.9	+1.8
RLS				S	Sn	10 42 27.0	+2.0
ZKR	Zakros	2.61	110	ePn	Pn	10 41 59.6	+1.4
LKR	Lokris	2.61	356	eP	Pn	10 41 58.0	-0.2
LKR				eS	Sn	10 42 27.7	-1.1
VLS	Valsamata	3.00	316	eP	Pn	10 42 04.7	+1.2
AGG	Agios Georgios	3.06	347	ePn	Pn	10 42 05.4	+1.1
AGG				eSn	Sn	10 42 40.3	+0.6
EVR	Evrytania	3.08	339	eP	Pn	10 42 06.6	+2.0
AOS	Alonnisos	3.17	9	ePn	Pn	10 42 05.3	-0.4
AOS	Alonnisos	3.17	9	ePn	Pn	10 42 05.3	-0.5
KARP	Karpathos	3.24	98	eP	Pn	10 42 07.8	+1.0
NEO	Neokhori	3.26	360	eP	Pn	10 42 07.2	+0.2
NEO				eS	Sn	10 42 43.0	-1.6
XOR	Xorichti	3.32	360	ePn	Pn	10 42 08.1	+0.2
SMG	Samos	3.34	59	eP	Pn	10 42 07.5	-0.7
BODT	Bodrum	3.44	72	ePN	Pn	10 42 09.5	0.0
BDRM	Kayabasi	3.55	72	i P	Pn	10 42 10.8	-0.2
URLA	Izmir	3.55	48	i P	Pn	10 42 10.1	-0.9
MLSB	Milas	3.87	70	ePN	Pn	10 42 14.8	-0.5
PAIG	Paliouri	3.90	5	ePn	Pn	10 42 15.6	-0.2
ARG	Arkhangelos	3.97	86	eP	Pn	10 42 16.5	-0.3
KDAG	Bornova	4.00	53	i P	Pn	10 42 16.3	-0.8
PRK	Paraskevi	4.01	36	eP	Pn	10 42 16.3	-1.0
MEV	Metsovon	4.06	338	ePn	Pn	10 42 20.2	+2.3
MEV				eSn	Sn	10 43 05.0	+0.9
AYDN	Tasoluk	4.07	65	i P	Pn	10 42 18.5	+0.4
JAN	Janina	4.07	333	eP	Pn	10 42 19.4	+1.3
JAN				eS	Sn	10 43 03.3	-1.1
LIT	Litokhoron	4.09	352	ePn	Pn	10 42 18.3	-0.2
OUR	Ouranopolis	4.33	8	ePn	Pn	10 42 21.5	-0.2
PLG	Polygyros	4.33	2	eP	Pn	10 42 21.5	-0.2
KZN	Kozani	4.41	345	eP	Pn	10 42 24.8	+2.0
DALT	Dalyan (Mudla)	4.43	79	ePN	Pn	10 42 23.9	+0.9
KEK	Kerkira	4.56	325	P	Pn	10 42 24.6	-0.2
FETY	Fethiye	4.77	81	ePN	Pn	10 42 28.5	+0.8
SOH	Sokhos	4.77	1	ePn	Pn	10 42 28.3	+0.5
SLUM		4.83	159	⇑P	Pn	10 42 28.3	-0.2
SLUM				S	Sn	10 43 19.1	-4.1
MANT	Manisa	4.91	59	i P	Pn	10 42 29.2	-0.4
GRG	Griva	4.95	353	ePn	Pn	10 42 31.0	+0.8
GRG				eSn	Sn	10 43 26.0	0.0
DNZL	Cakiroluk	4.95	69	i P	Pn	10 42 31.4	+1.2
FNA	Florina	4.95	344	ePn	Pn	10 42 30.5	+0.3
FNA				eSn	Sn	10 43 26.0	-0.1
DENT	Denizli	4.96	68	ePN	Pn	10 42 30.4	+0.2
SRS	Serrai	5.08	3	ePn	Pn	10 42 32.5	+0.6
KNT	Kendrikon	5.12	357	ePn	Pn	10 42 33.5	+1.1
BIA	Bitola	5.19	344	ePn	Pn	10 42 33.1	-0.3
BIA				eSg	Sn	10 43 32.2	+0.3
BIA	Bitola	5.19	344	ePn	Pn	10 42 33.0	-0.4
BIA				eSg	Sn	10 43 32.2	+0.3
GOLH	Golhisar	5.23	75	i P	Pn	10 42 36.6	+2.6
VAY	Valandovo	5.30	355	ePn	Pn	10 42 35.7	+0.8
OHR	Ohrid	5.41	340	ePn	Pn	10 42 34.9	-1.5
ELI	Elmali	5.44	81	ePN	Pn	10 42 38.2	+1.4
MMB	Musomiste	5.55	4	i P	Pn	10 42 38.7	+0.3
EDC	Edincik	5.64	39	ePN	Pn	10 42 36.3	-3.3
STIP	Stip	5.70	352	ePn	Pn	10 42 40.9	+0.5
RZN	Rozhen	5.76	11	i P	Pn	10 42 41.5	+0.3
KKB	Krupnik	5.82	359	i P	Pn	10 42 43.0	+1.0
KDZ	Kurdzhali	5.86	16	i P	Pn	10 42 41.5	-1.0
LCI	Lecce	5.88	318	Pn	Pn	10 42 42.9	0.0
	118nm,0.4s						
LCI	Lecce	5.88	318	P	Pn	10 42 42.9	0.0
LCI				pmax	pmax		
	comp=Z,118nm,0.4s						
TIP	Timpagrande	6.01	303	Pn	Pn	10 42 43.9	-0.8
TKTP	Tekketepe	6.02	69	i P	Pn	10 42 46.9	+2.1
SOI	Samo	6.08	292	Pn	Pn	10 42 44.9	-0.7
ISP	Isparta	6.11	71	⇑eP	Pn	10 42 49.4	+3.4
ALT	Altintas	6.24	59	ePN	Pn	10 42 47.4	-0.5
CTT	Catalca	6.53	37	ePN	Pn	10 42 46.7	-5.0
PGB	Panagyurishte	6.54	6	i P	Pn	10 42 53.0	+1.1
VTS	Vitosha	6.54	360	i P	Pn	10 42 53.3	+1.4
DABA	Dabaa	6.56	138	⇑P	Pn	10 42 50.9	-1.2
PE1	Pezze di Greco	6.58	318	ePn	Pn	10 42 51.7	-0.8
SSY	Sortino	6.65	282	Pn	Pn	10 42 51.5	-1.9
	comp=Z,517nm,0.3s						
ULC	Ulcinj	6.67	334	⇑iPn	Pn	10 42 52.8	-1.0
ULC				eSn	Sn	10 44 04.2	-4.1
ESKT	Eskisehir	6.96	58	i P	Pn	10 42 59.4	+1.6
SEYT	Eskypehyr	6.96	58	i P	Pn	10 42 59.4	+1.7
PVY	Plav	7.01	340	⇓iPn	Pn	10 42 57.8	-0.6
PVY				eSn	Sn	10 44 12.3	-4.3
SG1	Sgolgore (BA)	7.02	315	ePn	Pn	10 42 58.0	-0.5
SWA2		7.04	164	⇓P	Pn	10 42 58.6	-0.1
SWA1		7.08	162	⇓P	Pn	10 42 59.4	+0.1
SWA1				S	Sn	10 44 12.9	-5.3
SWA1		7.08	162	P	Pn	10 42 59.3	+0.1
TTG	Podgorica	7.08	335	⇑iPn	Pn	10 42 58.2	-1.1
TTG				eSn	Sn	10 44 14.3	-4.0
BAI	Bari	7.09	317	ePn	Pn	10 42 59.0	-0.4
BUM	Brajici-Budva	7.

VOIR		9.49	8	⇓P	Pn	10 43 32.9	+0.7
VOIR		9.49	8	⇓P	Pn	10 43 32.9	+0.7
HSAF	As Saff	9.49	130	⇑P	Pn	10 43 30.5	-1.7
CDAG	Cicekdag	9.52	65	*i* P	Pn	10 43 35.7	+3.1
HHAG	Hagoal	9.61	127	P	Pn	10 43 31.9	-2.0
GLL	Jalalah	9.62	130	⇑P	Pn	10 43 31.7	-2.3
MLR	Muntele Rosu	9.66	11	P	Pn	10 43 38.0	+3.4
	comp=Z,1.4nm,0.3s,baz=166,slow=9.4,SNR=6.8						
MLR	Muntele Rosu	9.66	11	⇓P	Pn	10 43 38.4	+3.8
MLR	Muntele Rosu	9.66	11	P	Pn	10 43 38.0	+3.4
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	9.66	11	⇓P	Pn	10 43 38.4	+3.8
AMAG	Maghara	9.93	120	⇓P	Pn	10 43 34.6	-3.7
SUZ		10.17	125	P	Pn	10 43 39.5	-2.0
CTKT	Corum	10.17	60	*i* P	Pn	10 43 37.2	-4.3
NRCA	Norcia	10.35	314	Pn	Pn	10 43 45.2	+1.3
ZAF		10.35	128	P	Pn	10 43 41.5	-2.5
ZNM		10.50	127	P	Pn	10 43 44.0	-2.0
HNKL	Nakhl	10.89	121	P	Pn	10 43 49.2	-2.2
BOJS	Bojanci	11.21	330	*e*Pn	Pn	10 43 53.6	-2.1
CRES	Cresnjev	11.40	331	*e*Pn	Pn	10 43 54.8	-3.4
BURAR	Bucovina Array	11.66	7	⇓P	Pn	10 44 03.8	+2.0
BURAR	Bucovina Array	11.66	7	⇓P	Pn	10 44 03.8	+1.9
VOY	Vojsko	12.21	328	*e*Pn	Pn	10 44 08.4	-0.9
VOY				*e*(Sn)	Sn	10 46 10.8	-13
VOY				*e*		10 46 13.2	
VOY				*e*		10 46 18.7	
MALT	Malatya	12.34	75	*e*P	Pn	10 44 12.0	+0.9
	comp=Z,4.0nm,0.7s						
MALT	Malatya	12.34	75	*e*P	Pn	10 44 12.0	+0.9
MALT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MALT	Malatya	12.34	75	*e*Pn	Pn	10 44 12.0	+0.9
	comp=Z,4.1nm,0.7s						
GERES	GERESS Array B	14.58	334	P	Pn	10 44 40.6	-0.4
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=7.7						
DAVOX	Davos	14.65	321	S	Sn	10 47 17.3	-5.8
	comp=Z,0.4nm,0.3s,baz=154,slow=23,SNR=3.7						
KHC	Kasperske Hory	14.87	335	⇑*e*P	Pn	10 44 50.4	+5.6
AKASG	Malin Array Be	15.28	15	P	Pn	10 44 47.6	-2.5
	comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=3.2						
BRG	Berggiesshubel	16.26	339	*e*P	Pn	10 45 05.5	+3.0
	comp=Z,13nm,1.5s						
BRG	Berggiesshubel	16.26	339	*e*P	Pn	10 45 05.6	+3.1
BRG				pmax	pmax		
	comp=Z,13nm,1.5s						
CLL	Collm	16.93	338	*e*P	Pn	10 45 12.0	+1.2
	comp=Z,7.0nm,0.8s						
CLL				*i* pP	pP	10 45 27.7	+2.2
CLL	Collm	16.93	338	*e*P	Pn	10 45 12.0	+1.2
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GNI	Garni	17.42	70	P	Pn	10 45 18.8	+2.0
	comp=Z,0.9nm,0.3s,baz=327,slow=3.5,SNR=3.5						
GNI	Garni	17.42	70	*i* P	Pn	10 45 19.3	+2.4
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRHR	Novokhopersk	20.02	36	*e*P	P	10 45 45.2	-0.5
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.5s						
OBN	Obninsk	21.17	22	*e*P	P	10 45 59.9	+1.8
OBN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s						
MDT	Midelt	23.16	270	P	P	10 46 20.4	+1.3
	comp=Z,1.0nm,0.6s,mb3.3,baz=86,slow=16,SNR=4.4						
HFS	Hagfors	24.88	349	P	P	10 46 34.3	-0.5
	comp=Z,2.7nm,0.4s,mb4.0,baz=157,slow=12,SNR=14						
HFS	Hagfors	24.88	349	P	P	10 46 34.3	-0.6
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	FINESS Array B	25.49	3	P	P	10 46 38.9	-1.4
	comp=Z,0.8nm,0.4s,mb3.5,baz=171,slow=11,SNR=6.7						
FINES	FINESS Array B	25.49	3	*i* P	P	10 46 41.7	+1.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	25.49	3	P	P	10 46 38.9	-1.4
NB2	NORSAR Subarra	26.16	347	P	P	10 46 45.3	-1.2
	comp=Z,0.3nm,0.4s,mb3.1,baz=156,slow=9.3						
NOA	NORSAR Array B	26.16	347	P	P	10 46 45.8	-0.7
	comp=Z,1.1nm,0.6s,mb3.5,baz=157,slow=10,SNR=3.4						
NOA	NORSAR Array B	26.16	347	P	P	10 46 45.8	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	Kangasniemi	26.17	3	*e*p	P	10 46 50.9	+4.4
EKA	Eskdalemuir Ar	26.41	325	P	P	10 46 49.1	+0.4
	comp=Z,4.0nm,0.7s,mb4.0,baz=124,slow=9.0,SNR=7.4						
EKA	Eskdalemuir Ar	26.41	325	P	P	10 46 49.2	+0.5
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TORD	Torodi Ar. Bea	29.91	226	P	P	10 47 22.4	+2.5
	comp=Z,1.4nm,0.5s,mb3.9,baz=35,slow=9.7,SNR=25						
ARCES	ARCESS Array B	33.57	1	P	P	10 47 50.2	-1.8
	comp=Z,1.9nm,0.9s,mb3.9,baz=183,slow=9.8,SNR=3.5						
ARCES	ARCESS Array B	33.57	1	P	P	10 47 50.2	-1.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZRNK	Zerenda	36.06	47	*e*P	P	10 48 12.6	-0.9
	comp=Z,1.5nm,0.6s,mb4.1						
ZRNK	Zerenda	36.06	47	*e*P	P	10 48 12.6	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	36.06	47	*e*P	P	10 48 12.6	-0.9
	comp=Z,1.5nm,0.6s,mb4.1						
DBIC	Dimbokro	38.93	228	P	P	10 48 38.5	+0.7
	comp=Z,1.2nm,0.4s,mb4.0,baz=78,slow=8.5,SNR=4.5						
DBIC	Dimbokro	38.93	228	P	P	10 48 38.5	+0.8
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DBIC	Dimbokro	38.93	228	P	P	10 48 38.5	+0.7
KURK	Kurchatov	41.86	52	*e*P	P	10 49 00.8	-1.1
	comp=Z,1.2nm,0.5s,mb3.9						
KURK	Kurchatov	41.86	52	*e*P	P	10 49 00.8	-1.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KURK	Kurchatov	41.86	52	*e*P	P	10 49 00.8	-1.1
	comp=Z,1.2nm,0.5s,mb3.9						
MK31	Makanchi Array	44.61	57	*i* P	P	10 49 23.3	-0.8
	comp=Z,1.0nm,0.2s,mb4.2						
MK31	Makanchi Array	44.61	57	*i* P	P	10 49 23.3	-0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.2						
MKAR	Makanchi Array	44.61	57	P	P	10 49 23.4	-0.7
	comp=Z,2.9nm,0.5s,mb4.3,baz=270,slow=7.9,SNR=58						
MKAR	Makanchi Array	44.61	57	P	P	10 49 23.4	-0.7
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAL	Zalesovo	45.53	47	P	P	10 49 30.3	-1.1
	comp=Z,2.3nm,0.4s,mb4.3,baz=189,slow=6.0,SNR=7.3						
ZAL	Zalesovo	45.53	47	P	P	10 49 30.3	-1.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WMQ	Urumqi	48.93	60	P	P	10 49 58.0	+0.2
WMQ				XP	sP	10 50 26.0	+3.8
WMQ				PP	PP	10 51 53.0	+1.4
WMQ				S	S	10 56 56.0	-0.8
WMQ				SS	SS	11 00 23.0	-5.2
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,102nm,5.0s						
WMQ				LR	LR		
	comp=N,89nm,8.0s						
WMQ				LR	LR		
	comp=E,81nm,9.0s						
WMQ				LR	LR		
	comp=Z,54nm,8.0s						
SCHQ	Schefferville	61.49	319	P	P	10 51 30.5	+2.4
	comp=Z,1.9nm,0.9s,mb4.1,baz=55,slow=7.7,SNR=2.8						
LZH	Lanzhou	63.22	64	*e*P	P	10 51 40.5	+0.8
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
YAK	Yakutsk	65.90	30	⇑*e*P	P	10 51 58.7	+1.5
YAK				pmax	pmax		
	comp=Z,13nm,0.4s						
HHC	Hu-ho-hao-te	66.45	56	*e*P	P	10 52 00.5	-0.2
HHC				AP	pP	10 52 22.3	+3.9
HHC				PCP	PcP	10 52 28.3	-1.6
HHC				XP	sP	10 52 30.8	+5.1
HHC				PP	PP	10 54 29.4	+1.7
HHC				SCP		10 56 24.5	
HHC				PCS		10 56 31.8	
HHC				AMB	AMB		
	comp=Z,97nm,7.2s						
SEY	Seymchan	73.33	22	⇑*e*P	P	10 52 44.0	+1.1
INK	Inuvik	74.52	351	P	P	10 52 51.0	+1.1
	comp=Z,0.7nm,0.9s,mb3.4,baz=346,slow=4.2,SNR=3.1						
INK	Inuvik	74.52	351	P	P	10 52 51.0	+1.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MA2	Magadan	75.35	25	*e*P	P	10 52 54.5	-0.2
	comp=Z,7.0nm,1.9s,mb4.1						
MA2	Magadan	75.35	25	⇑*e*P	P	10 52 54.5	-0.2
MA2				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.1						
MDJ	Mudanjiang	75.71	45	P	P	10 52 53.8	-2.9
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,139nm,6.3s						
NJ2	Nanjing	76.00	61	*e*P	P	10 53 00.3	+1.9
YKA	Yellowknife Ar	76.12	341	P	P	10 53 01.2	+2.2
	comp=Z,0.1nm,0.5s,baz=32,slow=5.4,SNR=3.9						
SSE	Sheshan	78.19	60	*e*P	P	10 53 08.3	-2.3
SSE				AMB	AMB		
	comp=Z,150nm,6.4s						

IDC 15 10:48:57.1±17.0, 2080S×17867W, h638km±223km, mb3.0/5, mb1 3.2/5, mb1mx3.0/13, mbtmp4.1/5, Error ellipse: s-maj=113.6km s-min=76.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.84	265	P	P	10 54 41.4	+0.6
	2.0nm,0.3s,baz=92,slow=14,SNR=3.7						
STKA	Stephens Creek	37.09	244	P	P	10 55 15.7	-0.2
	0.6nm,0.5s,baz=79,slow=10,SNR=4.6						
ASAR	Alice Springs	43.84	257	P	P	10 56 09.9	+0.8
	1.2nm,0.5s,baz=93,slow=7.5,SNR=36						
WRA	Warramunga Arr	43.94	262	P	P	10 56 09.8	0.0
	1.2nm,0.3s,baz=98,slow=8.4,SNR=13						
PDAR	Pinedale Array	89.61	43	P	P	11 00 48.9	+0.3
	0.3nm,0.7s,baz=247,slow=4.6,SNR=3.9						

*ISCJB **15** 10:57:13.2±3.5, 375N±02×71.1E±02, h185km±35km, Error ellipse: s-maj=46.4km s-min=17.6km az=76.2*
*NNC **15** 10:57:16.5±7.3, 3771N×71.16E, h213km±76km, mb2.6, mpv3.6, Error ellipse: s-maj=89.4km s-min=32.7km az=30.0*

ISC 15 10:57:12.5±4.1, 374N±03×711E±02, h156km±47km, n11, σ0°32/13, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.17	22	P	Pn	10 58 28.3	0.0
	SNR=60						
UCH	Uchtor	5.53	27	P	Pn	10 58 33.0	-0.1
	SNR=8.0						
EKS2	Erkin-Say	5.69	20	P	Pn	10 58 35.7	+0.6
	SNR=19						
KZA	Kyzart	5.70	33	P	Pn	10 58 34.6	-0.7
	SNR=16						
KK31	Karatay Array	5.75	356	⇑P	Pn	10 58 35.9	-0.1
	0.9nm,0.3s,baz=176,slow=12,SNR=60						
KK31				⇓S	Sn	10 59 41.2	-0.1
	1.9nm,0.3s,baz=168,slow=16,SNR=8.6						
AAK	Ala-Archa	5.88	25	P	Pn	10 58 38.1	+0.4
	SNR=10						
CHMS	Chumysh	6.29	25	P	Pn	10 58 43.2	+0.1
	SNR=8.6						
TKM2	Tokmak 2	6.54	30	P	Pn	10 58 46.3	-0.2
	SNR=16						
TKM2	Tokmak 2	6.54	30	⇑P	Pn	10 58 46.2	-0.3
	9.6nm,0.5s						
MK31	Makanchi Array	12.56	38	⇑P	Pn	11 00 05.9	0.0
	1.0nm,0.6s,baz=218,slow=13,SNR=19						
AB31	Akbulak array	14.37	329	⇓P	Pn	11 00 28.7	-0.1
	0.6nm,0.5s						
AB31				⇑S	Sn	11 03 00.3	-8.0
	2.5nm,0.8s,baz=149,slow=23,SNR=5.0						

IDC 15 10:57:46.5±10.0, 347S×12821E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=157.6km s-min=127.5km az=141.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.43	160	P	Pn	11 01 51.4	+0.4
	0.1nm,0.3s,baz=339,slow=12,SNR=8.1						
ASAR	Alice Springs	20.82	165	P	P	11 02 29.9	+0.3
	0.6nm,0.4s,baz=348,slow=12,SNR=20						
STKA	Stephens Creek	30.94	157	P	P	11 04 05.2	+0.2
	1.3nm,0.7s,baz=347,slow=8.4,SNR=3.8						

*MOS **15** 11:28:44.9±2.7, 5733N×12066E, h11km, mb4.4/1, Error ellipse: s-maj=21.7km s-min=13.7km az=142.2*

BYKL 15 11:28:44.0±0.3, 5738N×12071E, h3km±14km, 1C-3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	Khani	0.61	221	⇑*i*Pg	Pg	11 28 55.1	-0.6
KHNR				*e*Sg	Sg	11 29 02.8	-0.8
YKLR	Yuktali	0.94	146	*e*Pg	Pg	11 29 01.3	-0.8
YKLR				Pmax		11 29 06.4	
	3.0nm,0.1s						
YKLR				*e*Sg	Sg	11 29 13.5	-0.9
YKLR				*e*Sb	Sb	11 29 18.8	+2.9
YKLR				max		11 29 20.9	
	1μm,0.2s						
CRS	Chara	1.42	251	⇓*i*Pg	Pg	11 29 10.0	-1.1
CRS				Pmax		11 29 10.7	
	447nm,0.9s						
CRS				*e*Sg	Sg	11 29 28.4	-1.1
CRS				Smax		11 29 29.7	
	894nm,0.4s						
CRS				*e*		11 29 31.3	
CRS	Chara	1.42	251	*e*P	Pn	11 29 10.2	-0.4
CRS				*e*		11 29 28.6	
CRS				pmax	pmax		
	comp=Z,433nm,0.4s						
CRS				smax			
	comp=E,874nm,0.4s						
NRGR	Nerungri	2.31	107	*e*P	Pn	11 29 25.9	+3.0
NRGR				S	Sn	11 29 56.4	+4.5
CLNS	Chul'man	2.35	102	*e*Pg	Pg	11 29 26.4	-2.6
CLNS				Pmax		11 29 28.7	
	comp=E,85nm,0.1s						
CLNS				*e*Sg	Sg	11 29 57.3	-2.1
CLNS				Smax		11 29 59.5	
	comp=E,377nm,0.1s						
CLNS	Chul'man	2.35	102	*e*P	Pn	11 29 26.7	+3.3
CLNS				*e*		11 29 55.8	
CLNS				pmax	pmax		
	comp=Z,25nm,0.3s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.1s						
CLNS				smax			
	comp=E,677nm,0.4s						
CLNS				smax			
	comp=Z,113nm,0.5s						
CLNS				smax			
	comp=N,715nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,100nm,11.0s						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s						
IENR	Iengra	2.56	115	*e*Pn	Pn	11 29 27.1	+0.7
IENR				*e*Pg	Pg	11 29 31.0	-2.1
IENR				*e*Sg	Sg	11 30 03.5	-2.7
ALDR	Aldan	2.79	62	*e*Pg	Pg	11 29 34.1	-3.4
ALDR				Pmax		11 29 35.6	
	comp=E,56nm,0.1s						
ALDR				*e*Sg	Sg	11 30 09.6	-4.0
ALDR				Smax		11 30 11.5	
	comp=E,2μm,0.1s						
NLYR	Nelyaty	2.88	254	*e*Pn	Pn	11 29 31.6	+0.8
NLYR				*e*Pg	Pg	11 29 36.0	-3.3
NLYR				Pmax		11 29 36.5	
	comp=E,379nm,0.8s						
NLYR				*e*		11 29 38.5	
NLYR				*e*Sg	Sg	11 30 12.7	-4.0
NLYR				*e*SgSg		11 30 19.8	
NLYR				max		11 30 24.8	
	comp=E,944nm,1.1s						
NLYR	Nelyaty	2.88	254	*e*P	Pn	11 29 35.8	+5.0
NLYR				*e*		11 30 12.3	
NLYR				pmax	pmax		
	comp=Z,381nm,0.4s						
NLYR				smax			
	comp=E,927nm,1.7s						
TUP	Tupik	2.99	188	*e*Pn	Pn	11 29 31.8	-0.5
TUP				*e*Pg	Pg	11 29 36.6	-4.8
TUP				Pmax		11 29 37.5	
	comp=E,197nm,0.6s						
TUP				*e*Sg	Sg	11 30 15.3	-4.8
TUP				Smax		11 30 16.6	
	comp=E,798nm,1.1s						
TUP				*e*SgSg		11 30 23.1	
TUP	Tupik	2.99	188	*e*P	Pn	11 29 37.8	+5.5
TUP				*e*		11 30 15.3	
TUP				pmax	pmax		
	comp=Z,105nm,0.6s						
TUP				smax			
	comp=E,800nm,0.9s						
BOD	Bodaibo	3.64	280	⇓*i*Pn	Pn	11 29 41.7	+0.5
BOD				*e*Pg	Pg	11 29 49.1	-4.6
BOD				*e*PgPg		11 29 50.9	
BOD				max		11 29 51.3	
	comp=E,64nm,0.7s						
BOD				*e*Sg	Sg	11 30 36.0	-4.8
BOD				Smax		11 30 41.0	
	comp=E,223nm,1.0s						
BOD	Bodaibo	3.64	280	*e*P	Pn	11 29 40.4	-0.8
BOD				*e*		11 30 35.5	
BOD				pmax	pmax		
	comp=Z,66nm,0.7s						
BOD				smax			
	comp=N,197nm,0.8s						
UKT	Uakit	4.37	247	*e*Pn	Pn	11 29 52.0	+0.8
UKT				*e*Pg	Pg	11 30 02.3	-5.3
UKT				Pmax		11 30 03.8	
	comp=N,28nm,0.6s						
UKT				*e*Sg	Sg	11 30 58.6	-5.6
UKT				Smax		11 31 10.7	
	comp=N,159nm,1.4s						
UKT	Uakit	4.37	247	*e*P	Pn	11 30 01.9	+11
UKT				pmax	pmax		
	comp=Z,30nm,0.5s						
KROS	Kirovskiy	4.60	127	*e*Pn	Pn	11 29 51.9	-2.5
KROS				⇓*i*Pg	Pg	11 30 04.8	-7.3
KROS				Pmax		11 30 06.7	
	comp=Z,28nm,0.5s						
KROS				*e*Sn	Sn	11 30 43.5	-4.8
KROS				*e*Sg	Sg	11 31 04.8	-6.9
KROS				Smax		11 31 07.4	
	comp=Z,280nm,0.6s						
YOA	Uoyan	5.10	260	*e*Sg	Sg	11 31 20.4	-7.4
YOA				Smax		11 31 31.2	
	comp=Z,1μm,1.1s						
YOA	Uoyan	5.10	260	*e*P	Pn	11 30 17.3	+16
YOA				pmax	pmax		
	comp=Z,158nm,0.8s						
CGD	Chagda	5.44	71	*e*	Pn	11 30 08.8	+2.9
CGD				max		11 30 22.8	
	comp=Z,73nm,0.1s						
CGD				*e*Sg	Sg	11 31 30.0	-8.6
CGD				Smax		11 31 35.6	
	comp=Z,305nm,0.2s						
KMO	Kumora	5.46	258	*e*Pn	Pn	11 30 07.1	+0.9
KMO				*e*Pg	Pg	11 30 21.5	-7.1
KMO				Pmax		11 30 25.9	
	comp=Z,22nm,0.5s						
KMO				*e*Sg	Sg	11 31 32.6	-6.7
KMO				Smax		11 31 50.9	
	comp=Z,183nm,1.3s						
KMO	Kumora	5.46	258	*e*P	Pn	11 30 06.3	+0.1
KMO				*e*S	Sn	11 31 07.5	-2.0
KMO				pmax	pmax		
	comp=Z,21nm,0.5s						
KMO				smax			
	comp=N,177nm,1.2s						
YLYR	Ulyunkhan	5.90	249	*e*Pn	Pn	11 30 13.0	+0.7
YLYR				*e*Pg	Pg	11 30 29.9	-7.1
YLYR				Pmax		11 30 39.6	
	comp=N,13nm,1.0s						
YLYR				*e*Sg	Sg	11 31 47.0	-6.5
YLYR				Smax		11 32 01.6	
	comp=N,129nm,1.4s						
YLYR	Ulyunkhan	5.90	249	*e*P	Pn	11 30 13.4	+1.1
YAK	Yakutsk	6.50	40	*e*P	Pn	11 30 28.0	+7.4
YAK				*e*		11 31 33.2	
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,4.0s						
YAK				smax			
	comp=N,24nm,1.3s						
YAK				smax			
	comp=Z,13nm,0.8s						
YAK				smax			
	comp=E,12nm,0.9s						
YAK				smax			
	comp=E,55nm,0.7s						
YAK				smax			
	comp=N,69nm,0.6s						
YAK				MLR	MLR		
	comp=Z,29nm,12.0s						
CIT	Chita	6.78	221	*e*	Pn	11 30 46.9	+22
CIT				max		11 30 47.8	
	comp=Z,21nm,1.0s						
CIT				*e*Sg	Sg	11 32 12.8	-9.0
CIT				Smax		11 32 19.3	
	comp=Z,228nm,0.8s						
SYVR	Suvo	7.13	243	*e*	Pn	11 30 53.8	+25
SYVR				max		11 30 54.0	
	comp=Z,2.0nm,0.1s						
SYVR				*e*Sg	Sg	11 32 23.9	-9.1
SYVR				Smax		11 32 33.4	
	comp=Z,245nm,1.3s						
OGRR	Ongureny	8.33	249	*e*Pn	Pn	11 30 47.0	+1.4
OGRR				*e*Pg	Pg	11 31 14.4	-9.1
OGRR				Pmax		11 31 26.8	
	comp=Z,6.0nm,0.8s						
OGRR				*e*Sg	Sg	11 33 02.4	-9.0
OGRR				Smax		11 33 14.2	
	comp=Z,36nm,1.8s						
OGRR	Ongureny	8.33	249	*e*P	Pn	11 30 45.7	+0.1
TRTB	Turuntaevo	9.14	241	*e*Sg	Sn	11 33 27.3	+47
TRTB				Smax		11 33 36.4	
	comp=Z,110nm,1.4s						
KPC	Khapcheranga	9.14	216	*e*Pn	Pn	11 30 57.2	+0.4
KPC				*e*Sn	Sn	11 32 36.0	-4.2
KPC				*e*Sg	Sn	11 33 25.9	+46
KPC				Smax		11 33 35.3	
	comp=Z,143nm,1.2s						
TRG	Tyrgan	9.44	247	*e*Sg	Sn	11 33 36.3	+49
TRG				Smax		11 33 48.0	
	comp=Z,46nm,2.0s						
HRMR	Khuramsha	9.85	240	*e*Sg	Sn	11 33 49.2	+52
HRMR				Smax		11 34 05.0	
	comp=Z,305nm,1.0s						
ARS	Arshan	11.90	250	*e*Sg	Sn	11 34 50.9	+63
ARS				Smax		11 35 21.4	
	comp=Z,60nm,1.0s						

*ISCJB **15** 11:43:22.3±0.4, 4344N±002×561E±002, h5km, Error ellipse: s-maj=3.5km s-min=2.5km az=0.7*
*NEIC **15** 11:43:22.9, 4335N×564E, h1km, ML2.5(STR), After STR.*
*CSEM **15** 11:43:23.6±0.1, 4345N×564E, h5km, ML2.4/8, Error ellipse: s-maj=1.6km s-min=1.1km az=27.0*
*STR **15** 11:43:23.4±0.1, 4343N×562E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 11:43:23.7±0.1, 4342N×562E, h4km, Md2.5/2, Ml2.5/7, Error ellipse: s-maj=2.7km s-min=1.3km az=178.0*

ISC 15 11:43:22.9±0.4, 4342N±003×560E±002, h15km±2km, n33,

σ0.58/67, **Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BERF	**Bertagne**	**0.13**	**149**	Pg	**Pg**	**11 43 26.4**	**-0.2**
BERF				Sg	**Sg**	**11 43 29.5**	**+0.6**
PUYF	**Puyloubier**	**0.13**	**33**	Pg	**Pg**	**11 43 25.7**	**-0.9**
PUYF				Sg	**Sg**	**11 43 28.8**	**-0.2**
GELF	**Grande-Etoile**	**0.13**	**253**	Pg	**Pg**	**11 43 26.5**	**-0.1**
ARBF	**Arbois**	**0.21**	**289**	Pg	**Pg**	**11 43 27.5**	**-0.2**
ARBF				Sg	**Sg**	**11 43 31.9**	**+1.0**
TREF	**Trevaresse**	**0.26**	**322**	Pg	**Pg**	**11 43 28.8**	**+0.3**
TAVF	**Tavernes**	**0.39**	**60**	Pg	**Pg**	**11 43 30.6**	**-0.1**
VILF	**Villemus**	**0.44**	**11**	Pg	**Pg**	**11 43 31.5**	**-0.2**
VILF				Sg	**Sg**	**11 43 38.9**	**+1.3**
PRAF	**Pradon**	**0.49**	**321**	Pg	**Pg**	**11 43 33.0**	**+0.3**
SMRF	**Simiane la Rot**	**0.55**	**358**	*e*Pg	**Pg**	**11 43 34.4**	**+0.6**
SMRF	SNR=1.0			*e*Sg	**Sg**	**11 43 40.9**	**-0.3**
	19nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.55**	**358**	*e*Pg	**Pg**	**11 43 34.4**	**+0.6**
SMRF	SNR=1.0			*e*Sg	**Sg**	**11 43 40.9**	**-0.3**
	9.4nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.67**	**97**	*e*Pg	**Pg**	**11 43 36.1**	**+0.1**
LMR	SNR=1.0			*e*Sg	**Sg**	**11 43 44.7**	**-0.1**
	42nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.67**	**97**	*e*Pg	**Pg**	**11 43 36.1**	**+0.1**
LMR	SNR=1.0			*e*Sg	**Sg**	**11 43 44.7**	**-0.1**
	21nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.77**	**79**	*e*Pg	**Pg**	**11 43 37.7**	**-0.3**
FRF	SNR=1.0			*e*Sg	**Sg**	**11 43 47.8**	**-0.4**
	27nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.77**	**79**	*e*Pg	**Pg**	**11 43 37.7**	**-0.3**
FRF	SNR=1.0			*e*Sg	**Sg**	**11 43 47.8**	**-0.4**
	14nm,0.2s,SNR=1.0						
MVIF	**Mont Vial**	**1.22**	**67**	Pg	**Pg**	**11 43 46.2**	**-0.3**
MVIF				Sg	**Sg**	**11 44 03.2**	**+0.8**
TOUF	**Mont Tournerai**	**1.33**	**63**	Pg	**Pg**	**11 43 48.4**	**-0.2**
TOUF				Sg	**Sg**	**11 44 06.8**	**+0.9**
SBF	**Sospel**	**1.40**	**71**	*e*Pg	**Pg**	**11 43 49.7**	**-0.2**
SBF				*e*Sg	**Sg**	**11 44 07.6**	**-0.6**
	33nm,0.3s,SNR=1.0						
SBF	**Sospel**	**1.40**	**71**	*e*Pg	**Pg**	**11 43 49.7**	**-0.2**
SBF				*e*Sg	**Sg**	**11 44 07.6**	**-0.6**
	16nm,0.3s,SNR=1.0						
AUTN	**L'Aution**	**1.44**	**66**	Pg	**Pg**	**11 43 50.5**	**-0.2**
AUTN				Sg	**Sg**	**11 44 09.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.51**	**8**	*e*Pg	**Pg**	**11 43 52.2**	**+0.3**
ORIF	SNR=1.0			*e*Sn	**Sn**	**11 44 08.7**	**0.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**11 44 11.7**	**+0.1**
	8.1nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.51**	**8**	*e*Pg	**Pg**	**11 43 52.2**	**+0.3**
ORIF	SNR=1.0			*e*Sn	**Sn**	**11 44 08.7**	**0.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**11 44 11.7**	**+0.1**
	4.1nm,0.3s,SNR=1.0						
SAOF	**Saorge**	**1.52**	**68**	Pg	**Pg**	**11 43 51.3**	**-0.9**
SAOF				Sg	**Sg**	**11 44 10.8**	**-1.3**
MBDF	**Montbardon**	**1.55**	**33**	*e*Pg	**Pg**	**11 43 53.2**	**+0.4**
MBDF	SNR=1.0			*e*Sn	**Sn**	**11 44 10.0**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**11 44 12.8**	**-0.2**
	14nm,0.6s						
MBDF	**Montbardon**	**1.55**	**33**	*e*Pg	**Pg**	**11 43 53.2**	**+0.4**
MBDF	SNR=1.0			*e*Sn	**Sn**	**11 44 10.0**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**11 44 12.8**	**-0.2**
	7.2nm,0.6s						
VIVF	**Saint-Julien-l**	**1.58**	**335**	*e*Pn	**Pn**	**11 43 50.4**	**+0.1**
VIVF	SNR=1.0			*e*Sn	**Sn**	**11 44 10.1**	**-0.4**
	2.3nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.58**	**335**	*e*Pn	**Pn**	**11 43 50.4**	**+0.1**
VIVF	SNR=1.0			*e*Sn	**Sn**	**11 44 10.1**	**-0.4**
	1.1nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.47**	**269**	*e*Pn	**Pn**	**11 44 03.1**	**+0.6**
MTLF	**Montolieu**	**2.47**	**269**	*e*Pg	**Pg**	**11 44 09.8**	**-0.4**
MTLF				*e*Sn	**Sn**	**11 44 31.6**	**-0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**11 44 42.4**	**+0.2**
	2.4nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.47**	**269**	*e*Pg	**Pg**	**11 44 09.8**	**-0.4**
MTLF				*e*Sn	**Sn**	**11 44 31.6**	**-0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**11 44 42.4**	**+0.2**
	1.2nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.64**	**108**	*e*Pn	**Pn**	**11 44 06.0**	**+1.1**
PGF				*e*Sn	**Sn**	**11 44 36.9**	**+0.2**
	6.8nm,0.4s,SNR=1.0						
PGF	**Pioggiola**	**2.64**	**108**	*e*Pn	**Pn**	**11 44 06.0**	**+1.1**
PGF				*e*Sn	**Sn**	**11 44 36.9**	**+0.2**
	3.4nm,0.4s,SNR=1.0						
CAF	**Calviac**	**2.96**	**302**	*e*Pn	**Pn**	**11 44 10.0**	**+0.8**
CAF				*e*Sg	**Sg**	**11 44 56.3**	**-1.5**
	2.0nm,0.3s						
CAF	**Calviac**	**2.96**	**302**	*e*Pn	**Pn**	**11 44 10.0**	**+0.8**
CAF				*e*Sg	**Sg**	**11 44 56.3**	**-1.5**
	1.0nm,0.3s						

IDC 15 11:48:54.1±2.8, 452N×12368E, h645km±43km, mb3.0/5, mb1 3.2/5, mb1mx2.8/20, mbtmp4.2/5, Error ellipse: s-maj=188.3km s-min=10.3km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.47**	**157**	P	P	11 53 43.2	+0.3
	4.3nm,0.3s,baz=334,slow=9.7,SNR=89						
WRA				S	S	11 57 34.4	+0.5
	0.3nm,0.6s,baz=336,slow=16,SNR=3.4						
ASAR	**Alice Springs**	**29.73**	**161**	P	P	11 54 12.1	+0.9
	1.5nm,0.4s,baz=340,slow=7.1,SNR=32						
ASAR				S	S	11 58 26.2	+1.9
	0.8nm,0.8s,baz=331,slow=14,SNR=6.1						
STKA	**Stephens Creek**	**40.01**	**156**	P	P	11 55 35.7	0.0
	1.0nm,0.3s,baz=348,slow=7.4,SNR=5.3						
MKAR	**Makanchi Array**	**55.20**	**326**	P	P	11 57 28.2	-0.1
	1.5nm,0.3s,baz=123,slow=7.7,SNR=60						
MKAR				PcP	PcP	11 58 19.7	+0.6
	0.4nm,0.5s,baz=128,slow=4.0,SNR=6.0						
BVAR	**Borovoye Array**	**65.02**	**328**	P	P	11 58 32.8	0.0
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.9						

IDC 15 12:13:36.0±6.4, 725S×15020E, h91km±54km, mb3.0/2, mb1 3.2/4, mb1mx3.1/14, mbtmp3.3/4, ML2.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/6, Error ellipse: s-maj=110.6km s-min=34.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**234**	P	Pn	12 14 30.6	-0.2
	1.9nm,0.3s,baz=16,slow=3.1,SNR=10						
PMG				S	Sn	12 15 14.1	+0.8
	1.7nm,0.3s,baz=350,slow=21,SNR=8.4						
WB2	**Warramunga Arr**	**19.89**	**229**	*e*P	Pn	12 18 00.7	-1.7
WRA	**Warramunga Arr**	**19.89**	**229**	P	Pn	12 18 00.6	-2.0
	0.2nm,0.3s,baz=55,slow=10,SNR=14						
DZM	**Mont Dzumac**	**21.50**	**135**	LR	LR	12 24 50.4	
	comp=Z,150nm,20.3s,baz=201,slow=31						
ASAR	**Alice Springs**	**22.61**	**222**	P	P	12 18 29.3	+0.2
	0.3nm,0.4s,baz=58,slow=9.4,SNR=12						
ILAR	**Eielson Array**	**85.39**	**23**	P	P	12 26 03.1	-0.1
	0.3nm,0.8s,baz=260,slow=5.1,SNR=4.8						

ISCJB ***15*** *12:15:54.3±0.2, 4028S±003×17340E±005, h185km±2km, mb4.8/19, Error ellipse: s-maj=6.3km s-min=3.2km az=63.9*

IDC ***15*** *12:15:54.6±0.7, 4044S×17363E, h186km±4km, mb4.2/6, mb1 4.3/8, mb1mx4.3/10, mbtmp4.8/8, MS4.1/2, Ms1 4.0/2, ms1mx3.4/12, Error ellipse: s-maj=13.8km s-min=11.5km az=118.0*

MOS ***15*** *12:15:55.3±1.2, 4041S×17340E, h194km, mb4.8/3, Error ellipse: s-maj=17.3km s-min=15.2km az=108.5*

NEIC ***15*** *12:15:56.2, 4022S×17340E, h179km, mb4.9/7, After WEL.*

NEIC Felt throughout central New Zealand.

WEL ***15*** *12:15:56.9±0.2, 4021S×17342E, h173km±1km, ML6.0/22, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0*

WEL Felt from Waikato to Canterbury, maximum reported intensity MM 5.

HRVD ***15*** *12:15:56.2±0.7, 4056S×17342E, h185km±5km, MW5.0/33, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s33,c42; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.18±.28; Mθθ-2.05±.39; Mφφ4.23±.32; Mrθ-0.73±.28; Mθφ1.03±.41; Mφr-0.72±.30; Best double couple: M0 3.67400×10^16 NP1:φs152.00000°, δ53.00000°, λ-148.00000°. NP2:φs42.00000°, δ65.00000°, λ-41.00000°. Principal axes: T 4.4990, Plg7.0000°, Azm100.0000°; N -1.6490, Plg43.0000°, Azm196.0000°; P -2.8500, Plg46.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***15*** *12:15:56.2, 4020S×17340E, h179km, mB5.0, mb5.1*

ISC 15 12:15:55.3±0.2, 4027S±003×17342E±004, h180km±2km, h189km±3.6km: pP-P, n237, σ1.05/211, mb4.8/19, 29C-64D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.66**	**144**	⇓PN	**Pn**	**12 16 22.0**	**+1.2**
DUWZ				SN	**Sn**	**12 16 40.8**	**+0.3**
QRZ	**Quartz Range**	**0.88**	**230**	⇑PN	**Pn**	**12 16 23.0**	**+0.8**
QRZ				SN	**Sn**	**12 16 42.3**	**-0.5**
QRZ	**Quartz Range**	**0.88**	**230**	⇓P	**Pn**	**12 16 23.0**	**+0.9**
QRZ				S	**Sn**	**12 16 42.3**	**-0.5**
NNZ	**Nelson**	**0.95**	**182**	⇓PN	**Pn**	**12 16 23.7**	**+1.1**
NNZ				SN	**Sn**	**12 16 43.9**	**+0.2**
NRZ	**Ngariki Road**	**1.01**	**23**	⇑PN	**Pn**	**12 16 23.6**	**+0.5**
NRZ	**Ngariki Road**	**1.01**	**23**	⇑P	**Pn**	**12 16 23.6**	**+0.5**
NWEZ	**Newall Road**	**1.05**	**19**	⇓PN	**Pn**	**12 16 23.8**	**+0.4**
NWEZ	**Newall Road**	**1.05**	**19**	⇓P	**Pn**	**12 16 23.8**	**+0.4**
NEZ	**North Egmont**	**1.13**	**28**	⇑PN	**Pn**	**12 16 24.3**	**+0.3**
NEZ	**North Egmont**	**1.13**	**28**	⇑P	**Pn**	**12 16 24.3**	**+0.3**
TCW	**Tory Channel**	**1.14**	**145**	PN	**Pn**	**12 16 25.8**	**+1.6**
TCW				SN	**Sn**	**12 16 46.6**	**+0.2**
TCW	**Tory Channel**	**1.14**	**145**	⇓P	**Pn**	**12 16 25.8**	**+1.7**
TCW				*e*S	**Sn**	**12 16 46.6**	**+0.2**
PKE	**Pukeiti**	**1.16**	**22**	PN	**Pn**	**12 16 24.5**	**+0.3**
PKE	**Pukeiti**	**1.16**	**22**	⇓P	**Pn**	**12 16 24.5**	**+0.2**
TUWZ	**Tuamarina**	**1.22**	**161**	⇓PN	**Pn**	**12 16 26.2**	**+1.4**
RAEZ	**Rainy Point**	**1.24**	**38**	⇓PN	**Pn**	**12 16 25.4**	**+0.5**
RAEZ	**Rainy Point**	**1.24**	**38**	⇓P	**Pn**	**12 16 25.4**	**+0.5**
KIW	**Kapiti Island**	**1.28**	**118**	⇓PN	**Pn**	**12 16 26.4**	**+1.1**
KIW				SN	**Sn**	**12 16 47.2**	**-1.2**
KIW	**Kapiti Island**	**1.28**	**118**	⇓P	**Pn**	**12 16 26.4**	**+1.1**
WAZ	**Wanganui**	**1.31**	**67**	⇓PN	**Pn**	**12 16 26.5**	**+1.0**
WAZ				SN	**Sn**	**12 16 49.4**	**+0.5**
WAZ	**Wanganui**	**1.31**	**67**	⇑P	**Pn**	**12 16 26.4**	**+0.9**
MRW	**Makara Radio**	**1.37**	**135**	PN	**Pn**	**12 16 27.5**	**+1.4**
MRW				SN	**Sn**	**12 16 48.3**	**-1.5**
MRW	**Makara Radio**	**1.37**	**135**	⇓P	**Pn**	**12 16 27.5**	**+1.5**
SNZO	**South Karori**	**1.43**	**137**	⇓PN	**Pn**	**12 16 27.9**	**+1.3**
SNZO				SN	**Sn**	**12 16 50.2**	**-0.5**
SNZO	**South Karori**	**1.43**	**137**	*e*Pn	**Pn**	**12 16 28.1**	**+1.5**
SNZO				*e*Sn	**Sn**	**12 16 50.5**	**-0.2**
WEL	**Wellington**	**1.44**	**135**	PN	**Pn**	**12 16 28.0**	**+1.3**
WEL				SN	**Sn**	**12 16 50.5**	**-0.4**
WEL	**Wellington**	**1.44**	**135**	P	**Pn**	**12 16 28.0**	**+1.3**
BSWZ	**Blackbirch Sta**	**1.48**	**167**	⇑PN	**Pn**	**12 16 28.7**	**+1.6**
BSWZ				SN	**Sn**	**12 16 52.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.48**	**167**	⇑P	**Pn**	**12 16 27.7**	**+0.6**
CAW	**Cannon Point**	**1.51**	**124**	⇓PN	**Pn**	**12 16 28.6**	**+1.3**
THZ	**Tophouse**	**1.54**	**194**	PN	**Pn**	**12 16 28.7**	**+1.0**
THZ				SN	**Sn**	**12 16 52.8**	**+0.2**
THZ	**Tophouse**	**1.54**	**194**	*e*P	**Pn**	**12 16 28.8**	**+1.2**
VRZ	**Vera Road**	**1.54**	**43**	⇓PN	**Pn**	**12 16 27.5**	**-0.2**
VRZ				SN	**Sn**	**12 16 51.5**	**-1.2**
VRZ	**Vera Road**	**1.54**	**43**	⇑P	**Pn**	**12 16 27.4**	**-0.3**
VRZ				*e*S	**Sn**	**12 16 51.6**	**-1.1**
BHW	**Baring Head**	**1.58**	**136**	⇑PN	**Pn**	**12 16 29.2**	**+1.2**
BHW	**Baring Head**	**1.58**	**136**	⇑P	**Pn**	**12 16 28.2**	**+0.1**
CMWZ	**Cape Campbell**	**1.59**	**158**	PN	**Pn**	**12 16 30.2**	**+2.1**
CMWZ	**Cape Campbell**	**1.59**	**158**	⇑*e*P	**Pn**	**12 16 29.2**	**+1.0**
MRZ	**Mangatainoka R**	**1.69**	**104**	⇓PN	**Pn**	**12 16 30.0**	**+0.8**
MRZ				SN	**Sn**	**12 16 54.2**	**-1.2**
MRZ	**Mangatainoka R**	**1.69**	**104**	⇓P	**Pn**	**12 16 30.0**	**+0.8**
PKVZ	**Pokaka**	**1.78**	**57**	⇓PN	**Pn**	**12 16 30.1**	**0.0**
MSWZ	**Moikau Station**	**1.80**	**130**	⇑PN	**Pn**	**12 16 31.4**	**+1.2**
MTVZ	**Mangateitei**	**1.81**	**61**	PN	**Pn**	**12 16 30.4**	**0.0**
MTW	**Mount Morrison**	**1.82**	**120**	⇑PN	**Pn**	**12 16 31.5**	**+1.1**
MTW	**Mount Morrison**	**1.82**	**120**	⇑P	**Pn**	**12 16 31.5**	**+1.1**
PAWZ	**Paruwai Farm**	**1.89**	**127**	⇑PN	**Pn**	**12 16 32.2**	**+1.1**
TRVZ	**Turoa**	**1.91**	**60**	PN	**Pn**	**12 16 31.4**	**0.0**
DSZ	**Denniston Nort**	**1.91**	**219**	⇑PN	**Pn**	**12 16 32.3**	**+0.9**
DSZ	**Denniston Nort**	**1.91**	**219**	⇑P	**Pn**	**12 16 32.4**	**+1.0**
WNVZ	**Wahianoa**	**1.93**	**61**	⇓PN	**Pn**	**12 16 31.6**	**+0.1**
WNVZ	**Wahianoa**	**1.93**	**61**	⇓P	**Pn**	**12 16 31.6**	**0.0**
DRZ	**Dome Shelter**	**1.93**	**60**	PN	**Pn**	**12 16 31.8**	**+0.2**
DRZ	**Dome Shelter**	**1.93**	**60**	P	**Pn**	**12 16 31.9**	**+0.3**
FWVZ	**Far West T-bar**	**1.93**	**59**	⇑PN	**Pn**	**12 16 31.6**	**-0.1**
FWVZ	**Far West T-bar**	**1.93**	**59**	⇑P	**Pn**	**12 16 31.6**	**-0.1**
WPVZ	**Whakapapa**	**1.96**	**58**	PN	**Pn**	**12 16 31.7**	**-0.2**
WPVZ	**Whakapapa**	**1.96**	**58**	⇓P	**Pn**	**12 16 31.8**	**-0.1**
TSZ	**Takapari Road**	**1.96**	**85**	PN	**Pn**	**12 16 32.4**	**+0.4**
TSZ	**Takapari Road**	**1.96**	**85**	⇓P	**Pn**	**12 16 32.4**	**+0.5**
TWVZ	**Taurewa**	**1.97**	**53**	PN	**Pn**	**12 16 31.6**	**-0.5**
TWVZ	**Taurewa**	**1.97**	**53**	⇓P	**Pn**	**12 16 31.6**	**-0.4**
TUVZ	**Tukino**	**1.99**	**61**	PN	**Pn**	**12 16 32.5**	**+0.2**
TUVZ	**Tukino**	**1.99**	**61**	⇓P	**Pn**	**12 16 32.5**	**+0.2**
MOVZ	**Moawhango**	**2.00**	**65**	⇓PN	**Pn**	**12 16 32.0**	**-0.3**
MOVZ	**Moawhango**	**2.00**	**65**	⇓P	**Pn**	**12 16 32.0**	**-0.3**
NGZ	**Ngauruhoe**	**2.01**	**58**	⇓PN	**Pn**	**12 16 32.3**	**-0.2**
NGZ	**Ngauruhoe**	**2.01**	**58**	⇓P	**Pn**	**12 16 32.3**	**-0.2**
WTVZ	**West Tongariro**	**2.04**	**56**	⇓PN	**Pn**	**12 16 32.5**	**-0.3**
WTVZ	**West Tongariro**	**2.04**	**56**	⇓P	**Pn**	**12 16 32.5**	**-0.2**
OTVZ	**Oturere**	**2.06**	**58**	⇓PN	**Pn**	**12 16 33.0**	**0.0**
TRWZ	**Traveller**	**2.06**	**124**	⇑PN	**Pn**	**12 16 34.0**	**+1.0**
HIZ	**Hauiti**	**2.08**	**33**	⇓PN	**Pn**	**12 16 32.7**	**-0.5**
HIZ	**Hauiti**	**2.08**	**33**	⇑P	**Pn**	**12 16 32.7**	**-0.5**
KRVZ	**Karewarewa**	**2.08**	**56**	PN	**Pn**	**12 16 32.9**	**-0.3**
KHZ	**Kahutara**	**2.15**	**178**	PN	**Pn**	**12 16 35.1**	**+1.2**
KHZ	**Kahutara**	**2.15**	**178**	⇓P	**Pn**	**12 16 35.1**	**+1.1**
KATZ	**Kakaramea**	**2.18**	**54**	PN	**Pn**	**12 16 34.2**	**-0.2**
KATZ	**Kakaramea**	**2.18**	**54**	⇓P	**Pn**	**12 16 34.2**	**-0.2**
BFZ	**Birch Farm**	**2.20**	**102**	⇓PN	**Pn**	**12 16 35.3**	**+0.7**
BFZ	**Birch Farm**	**2.20**	**102**	⇑P	**Pn**	**12 16 35.3**	**+0.8**
RITZ	**Rihia Road**	**2.29**	**56**	PN	**Pn**	**12 16 35.3**	**-0.2**
RITZ	**Rihia Road**	**2.29**	**56**	⇓P	**Pn**	**12 16 35.3**	**-0.2**
RATZ	**Rangitukua**	**2.30**	**53**	PN	**Pn**	**12 16 35.5**	**-0.2**
RATZ	**Rangitukua**	**2.30**	**53**	⇓P	**Pn**	**12 16 35.5**	**-0.2**
WATZ	**Wairara**	**2.38**	**50**	PN	**Pn**	**12 16 36.2**	**-0.4**
HATZ	**Hinemaiaia**	**2.48**	**57**	PN	**Pn**	**12 16 36.8**	**-1.0**
HATZ	**Hinemaiaia**	**2.48**	**57**	⇓P	**Pn**	**12 16 36.8**	**-1.0**
WHTZ	**Whakaora**	**2.54**	**52**	PN	**Pn**	**12 16 38.3**	**-0.1**
BKZ	**Black Stump Fm**	**2.62**	**66**	PN	**Pn**	**12 16 38.7**	**-0.7**
BKZ	**Black Stump Fm**	**2.62**	**66**	⇑P	**Pn**	**12 16 38.7**	**-0.6**
PXZ	**Pawanui**	**2.65**	**86**	PN	**Pn**	**12 16 39.8**	**0.0**
LTZ	**Lake Taylor**	**2.65**	**199**	PN	**Pn**	**12 16 40.4**	**+0.6**
LTZ	**Lake Taylor**	**2.65**	**199**	⇑P	**Pn**	**12 16 40.4**	**+0.6**
UTU	**Utuhina**	**3.00**	**47**	⇓P	**Pn**	**12 16 43.3**	**-0.7**
TAZ	**Tarawera**	**3.15**	**51**	PN	**Pn**	**12 16 44.5**	**-1.2**
TAZ	**Tarawera**	**3.15**	**51**	*e*P	**Pn**	**12 16 44.6**	**-1.1**
TGRZ	**Tauranga**	**3.37**	**42**	PN	**Pn**	**12 16 47.5**	**-0.9**
TGRZ	**Tauranga**	**3.37**	**42**	⇓P	**Pn**	**12 16 47.5**	**-1.0**
WVZ	**Waitaha Valley**	**3.45**	**215**	PN	**Pn**	**12 16 49.3**	**-0.2**
WVZ	**Waitaha Valley**	**3.45**	**215**	⇓*e*P	**Pn**	**12 16 49.3**	**-0.1**
WTAZ	**Waiatarua**	**3.45**	**16**	⇓PN	**Pn**	**12 16 49.8**	**+0.3**
WTAZ	**Waiatarua**	**3.45**	**16**	⇓P	**Pn**	**12 16 49.8**	**+0.3**
MQZ	**McQueen's Vall**	**3.48**	**189**	PN	**Pn**	**12 16 49.1**	**-0.7**
MQZ	**McQueen's Vall**	**3.48**	**189**	*e*P	**Pn**	**12 16 49.2**	**-0.6**
URZ	**Urewera**	**3.50**	**56**	P	**Pn**	**12 16 47.8**	**-2.3**
URZ	190nm,0.3s,baz=244,slow=7.5,SNR=1016			S	**Sn**	**12 17 26.9**	**-6.0**
	2μm,0.3s,baz=264,slow=6.4,SNR=50						
URZ				LR	LR	12 17 57.7	
	comp=Z,1μm,21.0s,baz=186,slow=36						
URZ	**Urewera**	**3.50**	**56**	PN	**Pn**	**12 16 47.7**	**-2.4**
URZ	**Urewera**	**3.50**	**56**	⇓*e*P	**Pn**	**12 16 47.7**	**-2.4**
KNZ	**Kokohu**	**3.52**	**71**	PN	**Pn**	**12 16 49.1**	**-1.2**
KNZ	**Kokohu**	**3.52**	**71**	⇓P	**Pn**	**12 16 49.1**	**-1.2**
OTAZ	**Otara**	**3.52**	**20**	PN	**Pn**	**12 16 50.5**	**+0.2**
OTAZ	**Otara**	**3.52**	**20**	⇓P	**Pn**	**12 16 50.5**	**+0.2**
KAAZ	**Kauri Point**	**3.59**	**17**	PN	**Pn**	**12 16 51.3**	**+0.2**
KAAZ	**Kauri Point**	**3.59**	**17**	⇓P	**Pn**	**12 16 51.3**	**+0.1**
MTAZ	**Motutapu**	**3.67**	**19**	PN	**Pn**	**12 16 52.2**	**-0.1**
MTAZ	**Motutapu**	**3.67**	**19**	⇓P	**Pn**	**12 16 52.2**	**0.0**
MWZ	**Matawai**	**3.73**	**60**	PN	**Pn**	**12 16 50.8**	**-2.1**
MWZ	**Matawai**	**3.73**	**60**	⇓*e*P	**Pn**	**12 16 50.9**	**-2.1**
RPZ	**Rata Peaks**	**3.87**	**206**	P	**Pn**	**12 16 54.9**	**+0.3**
RPZ	95nm,0.3s,baz=339,slow=1.5,SNR=486			S	**Sn**	**12 17 38.3**	**-2.7**
	230nm,0.3s,baz=55,slow=14,SNR=28						
RPZ	**Rata Peaks**	**3.87**	**206**	PN	**Pn**	**12 16 54.1**	**-0.6**
RPZ	**Rata Peaks**	**3.87**	**206**	*e*P	**Pn**	**12 16 54.1**	**-0.6**
KUZ	**Kuaotunu**	**3.96**	**28**	PN	**Pn**	**12 16 55.2**	**-0.7**
KUZ	**Kuaotunu**	**3.96**	**28**	⇓*e*P	**Pn**	**12 16 55.2**	**-0.6**
FOZ	**Fox Glacier**	**4.31**	**219**	PN	**Pn**	**12 16 58.4**	**-1.9**
FOZ	**Fox Glacier**	**4.31**	**219**	*e*P	**Pn**	**12 16 58.4**	**-1.9**
PUZ	**Puketiti**	**4.36**	**61**	PN	**Pn**	**12 16 58.4**	**-2.5**
PUZ	**Puketiti**	**4.36**	**61**	⇓P	**Pn**	**12 16 58.4**	**-2.5**
WCZ	**Waipu Caves**	**4.39**	**10**	⇓PN	**Pn**	**12 17 01.2**	**-0.1**
WCZ	**Waipu Caves**	**4.39**	**10**	⇓P	**Pn**	**12 17 01.3**	**0.0**
MXZ	**Matakaoa Point**	**4.67**	**56**	⇓*e*P	**Pn**	**12 17 02.4**	**-2.6**
LBZ	**Lake Benmore**	**4.76**	**209**	PN	**Pn**	**12 17 04.9**	**-1.2**
LBZ	**Lake Benmore**	**4.76**	**209**	*e*P	**Pn**	**12 17 04.9**	**-1.2**
OUZ	**Omahuta**	**5.04**	**2**	PN	**Pn**	**12 17 09.8**	**0.0**
OUZ	**Omahuta**	**5.04**	**2**	⇑*e*P	**Pn**	**12 17 09.8**	**0.0**
JCZ	**Jackson Bay**	**5.14**	**221**	PN	**Pn**	**12 17 09.6**	**-1.5**
JCZ	**Jackson Bay**	**5.14**	**221**	*e*P	**Pn**	**12 17 09.6**	**-1.4**
ODZ	**Otahua Downs**	**5.19**	**202**	PN	**Pn**	**12 17 10.9**	**-0.8**
ODZ	**Otahua Downs**	**5.19**	**202**	*e*P	**Pn**	**12 17 10.9**	**-0.8**
WKZ	**Wanaka**	**5.59**	**214**	PN	**Pn**	**12 17 14.7**	**-2.2**
WKZ	**Wanaka**	**5.59**	**214**	*e*P	**Pn**	**12 17 14.7**	**-2.2**
EAZ	**Earnscleugh**	**5.81**	**210**	PN	**Pn**	**12 17 17.4**	**-2.4**
EAZ	**Earnscleugh**	**5.81**	**210**	*e*P	**Pn**	**12 17 17.4**	**-2.3**
MSZ	**Milford Sound**	**5.98**	**221**	PN	**Pn**	**12 17 20.6**	**-1.5**
MSZ	**Milford Sound**	**5.98**	**221**	*e*P	**Pn**	**12 17 20.5**	**-1.5**
TUZ	**Tuapeka**	**6.32**	**205**	PN	**Pn**	**12 17 25.2**	**-1.2**
TUZ	**Tuapeka**	**6.32**	**205**	*e*P	**Pn**	**12 17 25.1**	**-1.3**
MLZ	**Mavora Lakes**	**6.37**	**216**	*e*PN	**Pn**	**12 17 25.6**	**-1.5**
WHZ	**Wether Hill Ro**	**6.90**	**214**	PN	**Pn**	**12 17 31.7**	**-2.4**
WHZ	**Wether Hill Ro**	**6.90**	**214**	*e*P	**Pn**	**12 17 31.7**	**-2.3**
DCZ	**Deep Cove**	**6.94**	**219**	PN	**Pn**	**12 17 31.8**	**-2.8**

comp=Z,0.6nm,0.6s,baz=49,slow=4.2,SNR=15
YKA Yellowknife Ar 117.41 30 PKIKP PKPdf 12 34 16.0 -3.3
YKA 12 35 05.3
YKA Yellowknife Ar 117.41 30 PKP PKPdf 12 34 16.0 -3.3
YKA pPKP pPKPdf 12 35 05.3 -1.0
YKA PKKPbc PKKPbc 12 44 39.1 -3.4
MKAR Makanchi Array 118.57 309 PKP PKPdf 12 34 19.1 -2.4
comp=Z,1.3nm,0.5s,baz=209,slow=2.1,SNR=28
MKAR PKKPab PKKPab 12 44 37.2 -4.4
comp=Z,0.3nm,0.7s,baz=344,slow=1.7,SNR=3.3
MKAR Makanchi Array 118.57 309 PKP PKPdf 12 34 19.1 -2.4
MKAR PKKPab PKKPab 12 44 37.2 -4.4
ZAL Zalesovo 120.56 317 PKP PKPdf 12 34 22.5 -2.9
comp=Z,0.7nm,0.5s,baz=228,slow=2.5,SNR=3.8
KURK Kurchatov 122.53 311 *e*PKIKP PKPdf 12 34 26.0 -3.2
BVAR Borovoye Array 128.12 312 PKP PKPdf 12 34 37.5 -2.4
comp=Z,1.5nm,0.6s,baz=131,slow=0.6,SNR=8.5
AKTK Aktyubinsk 134.82 305 PKP PKPdf 12 34 50.6 -1.9
AKTO Aktyubinsk 134.82 305 PKP PKPdf 12 34 50.6 -1.9
comp=Z,1.5nm,0.6s,baz=148,slow=5.0,SNR=4.8
GOF Gofitskoye 143.66 294⇑ *i*PKIKP PKPdf 12 35 05.6 -3.0
GOF pmax pmax
comp=Z,310nm,1.0s
LVZ Lovozero 144.46 335⇑ *i*PKIKP PKPdf 12 35 06.7 -3.3
APA Apatity 145.04 335⇓ *i*PKP2 PKPab 12 35 09.0 -2.0
APA pmax pmax
comp=Z,70nm,0.8s
KLMR Klimovskoe 145.20 322 *d i*PKIKP PKPdf 12 35 09.1 -2.2
KLMR pmax pmax
comp=Z,170nm,1.1s
MALT Malatya 145.39 282 *e*PKP2 PKPab 12 35 12.2 -0.1
KEV Kevo 145.64 340 *e*pkp PKPdf 12 35 09.6 -2.4
ARCES ARCESS Array B 146.17 340 PKPbc PKPbc 12 35 12.2 -2.0
comp=Z,30nm,0.8s,baz=37,slow=2.1,SNR=71
ARCES pPKPbc pPKPbc 12 35 58.9 -1.8
comp=Z,10nm,0.9s,baz=45,slow=3.4,SNR=3.3
DBIC Dimbokro 146.51 183 PKPbc PKPbc 12 35 14.2 -1.0
comp=Z,17nm,0.6s,baz=156,slow=4.3,SNR=47
DBIC Dimbokro 146.51 183 *e*PKPdf PKPdf 12 35 13.9 +0.4
VRSR Storozhevoye 146.75 305 *d i*PKP2 PKPab 12 35 14.0 -3.5
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=N,2.0nm,1.1s
VRSR pmax pmax
comp=E,5.0nm,1.0s
OBN Obninsk 147.96 312 *e*PKP2 PKPab 12 35 21.2 -1.1
OBN pmax pmax
comp=Z,21nm,1.0s
OBN Obninsk 147.96 312 *e*PKPdf PKPdf 12 35 15.8 -0.1
BR131 Keskin Array S 149.36 282 *e*PKPbc PKPbc 12 35 21.7 -1.1
BR131 *e*PKPab PKPab 12 35 28.1 0.0
BRTR Keskin Array B 149.36 282 PKPbc PKPbc 12 35 21.4 -1.4
comp=Z,9.4nm,0.8s,baz=150,slow=5.0,SNR=30
BRTR pPKPbc pPKPbc 12 36 10.2 +0.7
comp=Z,4.1nm,0.8s,baz=126,slow=6.0,SNR=2.6
BRTR Keskin Array B 149.36 282 *i* PKP2 PKPbc 12 35 21.3 -1.5
BRTR pmax pmax
comp=Z,9.0nm,0.9s
ANTO Ankara 150.03 282 *e*PKIKP PKPdf 12 35 23.7 +4.5
KAF Kangasniemi 150.50 329 *e*pkp PKPdf 12 35 21.6 +1.6
baz=51,slow=2.2
FINES FINESS Array B 150.95 328 PKPbc PKPbc 12 35 23.9 -2.7
comp=Z,7.5nm,0.7s,baz=48,slow=4.1,SNR=29
FINES PKPab PKPab 12 35 32.7 -1.9
comp=Z,4.9nm,0.5s,baz=64,slow=4.9,SNR=12
FINES FINESS Array B 150.95 328 *i* PKIKP PKPbc 12 35 24.1 -2.4
FINES pmax pmax
comp=Z,8.0nm,0.7s
TORD Torodi Ar. Bea 152.02 197 PKP PKPdf 12 35 21.1 -1.2
comp=Z,1.0nm,0.7s,baz=189,slow=0.7,SNR=6.8
TORD PKPbc PKPbc 12 35 27.3 -1.7
comp=Z,3.6nm,0.7s,baz=138,slow=1.2,SNR=20
TORD PKPab PKPab 12 35 38.0 -1.1
comp=Z,6.8nm,0.6s,baz=175,slow=4.0,SNR=15
VSU Vasula 152.11 322 *i* PKIKP PKPab 12 35 38.4 -1.0
AKASG Malin Array Be 153.06 305 PKPbc PKPbc 12 35 29.1 -2.1
comp=Z,2.6nm,0.5s,baz=70,slow=2.9,SNR=14
AKASG PKPab PKPab 12 35 42.0 -1.5
comp=Z,5.5nm,0.7s,baz=70,slow=4.4,SNR=8.7
AKASG Malin Array Be 153.06 305 *i* PKIKP PKPbc 12 35 29.2 -2.1
AKASG pmax pmax
comp=Z,3.0nm,0.5s
IDI Anoyia 154.71 269 PKPbc PKPbc 12 35 33.5 -1.4
comp=Z,8.2nm,0.9s,baz=144,slow=3.9,SNR=2.8
IDI PKPab PKPab 12 35 51.0 +0.5
comp=Z,33nm,0.9s,baz=180,slow=4.9,SNR=6.0
MLR Muntele Rosu 155.70 293 PKPab PKPab 12 35 54.1 -0.7
comp=Z,4.0nm,0.7s,baz=120,slow=4.9,SNR=5.5
HFS Hagfors 156.44 334 PKPab PKPab 12 35 56.3 -1.6
comp=Z,4.5nm,0.5s,baz=72,slow=4.7,SNR=22
HFS pPKPab pPKPab 12 36 43.6 +0.4
comp=Z,2.1nm,0.5s,baz=56,slow=5.3,SNR=2.5
NB2 NORSAR Subarra156.50 338 PKPd PKPab 12 35 55.8 -2.4
comp=Z,4.3nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 156.50 338 PKPab PKPab 12 35 56.6 -1.5
comp=Z,5.6nm,0.9s,baz=38,slow=4.6,SNR=6.9
NOA pPKPab pPKPab 12 36 43.2 -0.2
comp=Z,1.6nm,0.7s,baz=39,slow=4.8,SNR=3.0
GERES GERESS Array B 163.23 307 PKPab PKPab 12 36 27.2 -0.3
comp=Z,1.8nm,0.8s,baz=76,slow=5.5,SNR=9.9
EKA Eskdalemuir Ar 164.76 353 PKPab PKPab 12 36 32.4 -1.9
comp=Z,1.1nm,0.7s,baz=342,slow=2.6,SNR=4.1
DAVOX Davos 166.41 304 PKPab PKPab 12 36 42.3 +0.8
comp=Z,4.4nm,0.7s,baz=353,slow=23,SNR=6.0
LPG La Plagne 168.91 302 *e*PKP2 PKPab 12 36 53.1 +0.5
comp=Z,14nm,0.9s
LPL La Plagne 168.92 303 *e*PKP2 PKPab 12 36 52.9 +0.3

GUC 15 12:22:11.7±0.4, 3189S×6986W, h124km±5km, MD3.7, ML3.6, 2C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.01**	**218**	*e*P	Pn	12 22 34.5	+0.5
JACH				*i* S	Sn	12 22 52.0	+1.0
PEL	**Peldehue**	**1.43**	**209**⇑	*i*P	Pn	12 22 38.9	+0.3
PEL				*i* S	Sn	12 22 59.5	+0.5
PEL				AMP		12 23 01.4	
comp=E,2μm,0.3s							
ROCH	**El Roble**	**1.46**	**222**	*i* P	Pn	12 22 39.5	+0.7
ROCH				*i* S	Sn	12 23 00.7	+1.3
FCH	**Farellones**	**1.48**	**194**⇓	*i*P	Pn	12 22 40.1	+1.0
FCH				*i* S	Sn	12 23 01.8	+1.8
FCH				AMP		12 23 06.8	
comp=N,614nm,0.2s							
PACH	**Papudo**	**1.49**	**244**⇑	*i*P	Pn	12 22 39.8	+0.6
RCDM	**Rinconada Maip**	**1.78**	**206**	*e*P	Pn	12 22 43.2	+0.5
RCDM				*i* S	Sn	12 23 07.1	+0.8
RCDM				AMP		12 23 09.0	
comp=E,824nm,0.2s							
ANTU	**Antumapu**	**1.80**	**201**	*i* P	Pn	12 22 43.6	+0.8
ANTU				*i* S	Sn	12 23 07.5	+0.9
ANTU				AMP		12 23 10.0	
comp=E,432nm,0.3s							
PCH	**Pirque**	**1.81**	**198**	*e*P	Pn	12 22 43.5	+0.5
PCH				*i* S	Sn	12 23 07.8	+0.9
TACH	**Talagante**	**1.98**	**207**⇓	*i*P	Pn	12 22 45.5	+0.4
TACH				*i* S	Sn	12 23 11.0	+0.4
LCCH	**Las Cruces**	**2.14**	**222**⇓	*i*P	Pn	12 22 47.3	+0.2
CHCH	**Chadas Angostu**	**2.14**	**198**	*e*P	Pn	12 22 47.6	+0.5
CHCH				*i* S	Sn	12 23 15.0	+0.7
CACH	**El Canelo**	**2.31**	**196**⇓	*i*P	Pn	12 22 50.4	+1.3
CACH				*i* S	Sn	12 23 19.4	+1.6
LNV	**Longovilo**	**2.44**	**212**	*i* P	Pn	12 22 50.2	-0.6
LNV				*i* S	Sn	12 23 20.5	-0.4
SFDO	**San Fernando**	**2.88**	**199**	*e*P	Pn	12 22 56.7	+0.2

MAN 15 13:06:08.8, 1236N×12377E, h1km, mb2.7, ML4.2, MS2.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.14**	**270**	*e*P	Pg	13 06 11.1	-0.5
MMPH				*i* S	Sg	13 06 15.0	+1.5
RCP	**Roxas**	**1.28**	**232**⇑	*e*P	Pg	13 06 32.6	-0.8
RCP				*e*S	Sg	13 06 50.4	+0.5
AUQP	**San Andres**	**1.44**	**312**	*e*P	Pn	13 06 36.4	+0.4
KALP	**Kalibo**	**1.56**	**244**⇓	*e*P	Sn	13 06 56.5	-2.0
PLP	**Palo**	**1.67**	**135**	*i* P	Pn	13 06 39.6	+0.3
PLP				*e*S	Sn	13 07 00.5	-0.8

MOS 15 13:06:37.5±1.2, 4401N×4400E, h13km, mb4.4/1, Error ellipse: s-maj=31.0km s-min=7.4km az=101.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRTR	**Priterechnaya**	**0.33**	**142**	*i* PG	Pg	13 06 44.1	-0.1
KMSR	**Komsomolskaya**	**0.67**	**162**	*e*PG	Pg	13 06 51.0	+0.4
LSNR	**Lesken**	**0.75**	**190**	*e*PG	Pg	13 06 52.3	+0.3
BTKR	**Batakoyurt**	**0.75**	**148**	*e*PG	Pg	13 06 52.5	+0.5
ARNR	**Ardon**	**0.84**	**166**	*i* PG	Pg	13 06 54.1	+0.2
VLKR	**Vladikavkaz**	**1.08**	**153**	*e*PG	Pg	13 06 58.5	+0.1
SNJR	**Sundja**	**1.11**	**148**	*e*PG	Pg	13 06 59.0	+0.1
DIGR	**Digorskoe uzhe**	**1.15**	**196**	*e*PG	Pg	13 06 59.5	-0.2
LACR	**Lac**	**1.20**	**170**	*i* PG	Pg	13 07 00.4	-0.3
ZEI	**Tsey**	**1.24**	**183**	*e*PG	Pg	13 07 00.6	-0.8
ZEI				*e*		13 07 16.7	
ZEI				pmax	pmax		
comp=Z,46nm,0.2s							
ZEI				smax			
comp=N,280nm,0.2s							
GOF	**Gofitskoye**	**1.25**	**327**	*e*PG	Pg	13 07 04.0	+2.4
GOF				*i*		13 07 24.4	
GOF				pmax	pmax		
comp=Z,40nm,0.8s							
GOF				smax			
comp=N,460nm,1.0s							
GOF				smax			
comp=E,340nm,1.0s							

*IDC **15** 13:17:19.0±1.1, 5555N×15363W, h0km, mb4.0/10, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=27.5km s-min=21.6km az=123.0*
*ISCJB **15** 13:17:21.4±2.3, 5613N±009×1536W±01, h7km±15km, mb4.2/12, Error ellipse: s-maj=16.3km s-min=8.3km az=115.4*
*NEIC **15** 13:17:25.4, 5603N×15359W, h25km, mb4.2/2, ML3.8(AEIC), After AEIC.*
ISC 15 13:17:25.3±2.2, 5615N±009×1537W±01, h21km±16km, n35, σ0°85/38, mb4.2/12, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.76**	**20**	Pn	**Pn**	**13 17 54.0**	**-0.4**
31nm,0.3s,baz=224,slow=6.9,SNR=394							
KDAK				Sn	**Sn**	**13 18 14.9**	**-1.2**
37nm,0.3s,baz=172,slow=15,SNR=33							
KDAK				LR	LR	13 18 29.4	
comp=Z,825nm,20.5s,baz=252,slow=30							
KDAK	**Kodiak Island**	**1.76**	**20**	P	**Pn**	**13 17 54.1**	**-0.3**
KDAK				S	**Sn**	**13 18 15.0**	**-1.2**
CHGN	**Chignik**	**2.62**	**275**	P	**Pn**	**13 18 05.8**	**-0.6**
SDPT	**Sand Point**	**3.90**	**261**	P	**Pn**	**13 18 23.3**	**-0.6**
SEW	**Seward**	**4.57**	**28**	P	**Pn**	**13 18 31.6**	**-1.5**
SLKM	**Skilak Lake**	**4.75**	**21**	P	**Pn**	**13 18 35.0**	**-0.5**
PMR	**Palmer**	**5.96**	**22**	*e*Pn	**Pn**	**13 18 53.0**	**+0.8**
39nm,0.9s							
EYAK	**Cordova Ski Ar**	**6.09**	**40**	P	**Pn**	**13 18 53.3**	**-0.7**
BMRM	**Bremner River**	**6.79**	**41**	P	**Pn**	**13 19 02.6**	**-1.0**
TT01	**Tatalina**	**6.88**	**351**	P	**Pn**	**13 19 05.5**	**+0.6**
TTA	**Tatalina**	**6.91**	**351**	*e*Pn	**Pn**	**13 19 08.0**	**+2.8**
36nm,1.0s							
TRF	**Thorofare Moun**	**7.53**	**12**	P	**Pn**	**13 19 14.1**	**+0.3**
KTH	**Kantishna Hill**	**7.56**	**10**	P	**Pn**	**13 19 16.1**	**+1.9**
PAX	**Paxson**	**8.02**	**28**	P	**Pn**	**13 19 20.0**	**-0.5**
PCA	**Pinnacle**	**8.15**	**55**	P	**Pn**	**13 19 22.5**	**+0.2**
PNL	**Peninsula**	**8.40**	**59**	P	**Pn**	**13 19 25.8**	**+0.1**
COLA	**College**	**9.22**	**16**	*e*Pn	**Pn**	**13 19 38.0**	**+1.1**
9.6nm,0.9s							
IL1	**Eielson Array**	**9.28**	**18**	P	**Pn**	**13 19 38.0**	**+0.2**
ILAR	**Eielson Array**	**9.28**	**18**	Pn	**Pn**	**13 19 36.5**	**-1.3**
0.3nm,0.3s,baz=207,slow=13,SNR=39							
ILAR				Sn	**Sn**	**13 21 15.9**	**-5.7**
0.1nm,0.3s,baz=272,slow=27,SNR=3.3							
INK	**Inuvik**	**15.29**	**29**	Pn	**Pn**	**13 21 00.8**	**+1.0**
0.1nm,0.3s,baz=251,slow=9.0,SNR=6.3							
INK	**Inuvik**	**15.29**	**29**	Pn	**Pn**	**13 21 00.8**	**+1.0**
YKA	**Yellowknife Ar**	**20.68**	**56**	P	**P**	**13 22 04.3**	**+0.6**
3.0nm,0.9s,baz=269,slow=11,SNR=29							
YKA	**Yellowknife Ar**	**20.68**	**56**	P	**P**	**13 22 04.3**	**+0.6**
BILL	**Bilibino**	**21.70**	**319**	*e*P	**P**	**13 22 13.4**	**-1.4**
2.2nm,0.6s,mb3.8							
SCHQ	**Schefferville**	**46.09**	**53**	P	**P**	**13 25 48.0**	**+0.3**
2.0nm,0.8s,mb4.1,baz=297,slow=11,SNR=3.8							
ARCES	**ARCESS Array B**	**54.62**	**0**	P	**P**	**13 26 52.0**	**-0.3**
2.8nm,0.8s,mb4.3,baz=14,slow=5.0,SNR=5.5							
SONM	**Songino Array**	**56.79**	**308**	P	**P**	**13 27 08.5**	**+0.7**
3.7nm,0.8s,mb4.5,baz=41,slow=6.6,SNR=32							
ZAL	**Zalesovo**	**60.30**	**325**	P	**P**	**13 27 32.9**	**+0.7**
1.7nm,0.7s,mb4.2,baz=76,slow=9.8,SNR=10							
NOA	**NORSAR Array B**	**62.56**	**8**	P	**P**	**13 27 47.4**	**-0.1**
0.7nm,0.8s,mb3.9,baz=336,slow=8.5,SNR=2.9							
FINES	**FINESS Array B**	**62.75**	**0**	P	**P**	**13 27 48.9**	**+0.1**
2.2nm,1.0s,mb4.2,baz=34,slow=6.9,SNR=3.7							
ZRNK	**Zerenda**	**65.73**	**333**	*e*P	**P**	**13 28 08.0**	**-0.4**
4.2nm,0.7s,mb4.6							
MKAR	**Makanchi Array**	**67.22**	**322**	P	**P**	**13 28 17.9**	**0.0**
0.8nm,0.8s,mb3.8,baz=43,slow=6.3,SNR=8.2							
AKASG	**Malin Array Be**	**73.49**	**358**	P	**P**	**13 28 55.8**	**-0.4**
1.0nm,0.5s,mb4.0,baz=4.8,slow=6.1,SNR=6.1							
PPT	**Papeete**	**73.51**	**176**	P	**P**	**13 28 49.1**	**-7.2**
25nm,0.6s,mb5.3,baz=338,slow=7.7,SNR=4.7							
GERES	**GERESS Array B**	**74.86**	**9**	P	**P**	**13 29 04.9**	**+0.8**
0.4nm,0.5s,mb3.6,baz=346,slow=5.5,SNR=3.5							

*ISCJB **15** 13:17:44.6±0.5, 3023N±009×4227W±0.1, h10km, mb4.1/17, MS3.8/6, Error ellipse: s-maj=14.5km s-min=13.1km az=40.6*
*IDC **15** 13:17:44.8±0.7, 3022N×4263W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.0/28, mbtmp4.0/15, MS3.7/6, Ms1 3.7/6, ms1mx3.4/22, Error ellipse: s-maj=20.4km s-min=16.7km az=96.0*
*NEIC **15** 13:17:45.9±0.5, 3021N×4254W, h10km, mb4.3/4, Error ellipse: s-maj=13.9km s-min=9.2km az=98.0*
ISC 15 13:17:46.7±0.5, 3026N±009×426W±01, h10km, n22, σ0°67/20, mb4.1/17, MS3.8/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**30.06**	**332**	P	**P**	**13 23 56.0**	**+0.1**
7.6nm,0.9s,mb4.4,baz=146,slow=5.8,SNR=9.0							
SCHQ	**Schefferville**	**30.06**	**332**	*e*P	**P**	**13 23 55.7**	**-0.2**
8.7nm,0.8s,mb4.5							
SDV	**Santo Domingo**	**33.71**	**237**	P	**P**	**13 24 28.9**	**+0.9**
1.4nm,0.3s,mb4.3,baz=346,slow=10,SNR=3.6							
DBIC	**Dimbokro**	**42.51**	**116**	LR	LR	13 41 23.4	
comp=Z,62nm,20.8s,MS3.5,baz=320,slow=33							
TORD	**Torodi Ar. Bea**	**44.26**	**103**	P	**P**	**13 25 56.9**	**+0.6**
0.8nm,0.8s,mb3.5,baz=295,slow=6.4,SNR=4.1							
CLL	**Collm**	**45.83**	**46**	*e*P	**P**	**13 26 10.0**	**+1.2**
BDFB	**Brasilia**	**45.92**	**187**	P	**P**	**13 26 09.3**	**-0.3**
2.1nm,0.6s,mb4.3,baz=45,slow=13,SNR=3.9							
BDFB				LR	LR	13 43 03.9	
comp=Z,148nm,18.5s,MS4.0,baz=3.5,slow=33							
SIV	**San Ignacio**	**49.29**	**204**	P	**P**	**13 26 34.5**	**-1.2**
0.9nm,0.6s,mb4.0,baz=39,slow=5.2,SNR=6.5							
LPAZ	**La Paz**	**52.39**	**211**	P	**P**	**13 26 59.3**	**+0.2**
1.7nm,0.7s,mb4.1,baz=17,slow=7.5,SNR=9.0							
LPAZ				LR	LR	13 49 04.1	
comp=Z,46nm,18.1s,MS3.6,baz=88,slow=36							
LPAZ	**La Paz**	**52.39**	**211**	*e*P	**P**	**13 26 58.9**	**-0.1**
2.3nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**53.80**	**34**	P	**P**	**13 27 08.0**	**-1.4**
1.4nm,0.7s,mb4.0,baz=252,slow=6.0,SNR=5.7							
BW06	**Boulder Array**	**53.92**	**303**	*e*P	**P**	**13 27 10.3**	**0.0**
2.7nm,0.8s,mb4.2							
PDAR	**Pinedale Array**	**53.92**	**303**	P	**P**	**13 27 10.3**	**0.0**
2.8nm,0.6s,mb4.4,baz=82,slow=7.6,SNR=30							
YKA	**Yellowknife Ar**	**55.37**	**328**	P	**P**	**13 27 20.2**	**-0.6**
0.5nm,0.6s,mb3.7,baz=88,slow=7.3,SNR=9.0							
YKA				LR	LR	13 51 07.5	
comp=Z,83nm,18.5s,MS3.9,baz=90,slow=36							
HWUT	**Hardware Ranch**	**55.60**	**302**	*e*P	**P**	**13 27 23.1**	**+0.6**
2.9nm,1.0s,mb4.3							
AKASG	**Malin Array Be**	**56.07**	**47**	P	**P**	**13 27 25.1**	**-0.8**
0.3nm,0.2s,mb3.9,baz=278,slow=6.4,SNR=6.0							
NEW	**Newport**	**58.16**	**311**	P	**P**	**13 27 40.4**	**-0.3**
2.8nm,0.4s,mb4.6,baz=70,slow=6.6,SNR=6.3							
NVAR	**Mina Array Bea**	**61.41**	**300**	P	**P**	**13 28 03.3**	**+0.3**
0.4nm,0.5s,mb3.8,baz=64,slow=6.1,SNR=3.2							

INK Inuvik 62.59 335 P **P 13 28 10.9 -0.1**
2.8nm,0.8s,mb4.4,baz=64,slow=9.2,SNR=13
YBH Yreka Blue Hor 63.64 305 LR LR 13 53 43.3
comp=Z,83nm,21.3s,MS3.9,baz=350,slow=34
ILAR Eielson Array 68.80 334 P **P 13 28 51.0 0.0**
0.8nm,0.9s,mb3.6,baz=58,slow=4.4,SNR=7.7
MKAR Makanchi Array 88.63 34 P **P 13 30 40.8 +0.8**
0.5nm,1.0s,mb3.6,baz=323,slow=2.2,SNR=3.7
MKAR LR LR 14 10 02.0
comp=Z,49nm,19.3s,MS3.9,baz=192,slow=35

*ISCJB **15** 13:18:12.5±0.3, 4601N±002×785E±003, h3km±4km, Error ellipse: s-maj=3.3km s-min=2.6km az=39.2*
*CSEM **15** 13:18:12.1±0.1, 4595N×793E, h5km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.7km az=111.0*
*ROM **15** 13:18:12.5±0.1, 4598N×792E, h4km±2km, Md2.0/3, Error ellipse: s-maj=2.1km s-min=1.9km az=14.0*
*ZUR **15** 13:18:13.8, 4603N×793E, h1km±1km, ML2.0/8*
*VIE **15** 13:18:13.7±0.7, 4579N×804E, h10km, ML2.5/1, Error ellipse: s-maj=27.7km s-min=3.9km az=136.0 52 km S of Monte-Rosa Gebirge*
*LDG **15** 13:18:13.5±0.1, 4602N×793E, h2km, Md2.4/2, Ml2.4/7, Error ellipse: s-maj=2.6km s-min=1.5km az=118.0*
*GEN **15** 13:18:13.3, 4598N×791E, h3km, ML2.0*
*STR **15** 13:18:16.9±1.2, 4613N×787E, h2km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 13:18:13.4±0.3, 4599N±002×789E±003, h7km±4km, n39, σ0°81/68, 2C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMK	**Mattmark**	**0.08**	**43**	*i* Sg	**Pg**	**13 18 14.7**	**-0.7**
3μm,0.1s							
MMK	**Mattmark**	**0.08**	**43**⇓	*i*Pg	**Pg**	**13 18 15.6**	**+0.2**
3μm,0.1s							
MMK	**Mattmark**	**0.08**	**43**	Pg	**Pg**	**13 18 14.7**	**-0.7**
MMK				Sg	**Pg**	**13 18 15.6**	**+0.2**
DIX	**Grande Dixence**	**0.34**	**285**	Pg	**Pg**	**13 18 20.8**	**+0.8**
ORO	**Oropa**	**0.37**	**169**	Pg	**Pg**	**13 18 20.6**	**0.0**
ORO				Sg	**Sg**	**13 18 25.9**	**+0.4**
143nm,0.2s							
LKBD	**Leukerbad**	**0.43**	**336**⇑	*i*P	**Pg**	**13 18 22.4**	**+0.6**
36nm,0.4s							
TRAV		**0.49**	**191**	P	**Pg**	**13 18 22.7**	**-0.1**
TRAV				S	**Sg**	**13 18 29.2**	**0.0**
VAI	**Varese**	**0.63**	**101**	Pg	**Pg**	**13 18 25.3**	**-0.2**
VAI				Sg	**Sg**	**13 18 33.9**	**+0.2**
21nm,0.2s							
EMV	**Vieux Emosson**	**0.69**	**276**	*e*P	**Pg**	**13 18 27.1**	**+0.4**
36nm,0.9s							
FUSIO	**Fusio**	**0.71**	**49**⇓	*i*P	**Pg**	**13 18 26.4**	**-0.7**
89nm,3.2s							
HASLI	**Hasliberg**	**0.79**	**13**⇓	*i*P	**Pg**	**13 18 28.0**	**-0.5**
89nm,0.5s							
MUGIO	**Muggio**	**0.81**	**95**	*i* P	**Pg**	**13 18 28.5**	**-0.5**
143nm,0.3s							
MUGIO				*e*S	**Sg**	**13 18 39.6**	**+0.1**
143nm,0.3s							
LPG	**La Plagne**	**0.94**	**238**	*e*Pg	**Pg**	**13 18 30.4**	**-0.9**
LPG				*e*Sg	**Sg**	**13 18 43.4**	**-0.1**
9.8nm,0.2s							
LPG	**La Plagne**	**0.94**	**238**	*e*Pg	**Pg**	**13 18 30.4**	**-0.9**
LPG				*e*Sg	**Sg**	**13 18 43.4**	**-0.1**
4.9nm,0.2s							
LPL	**La Plagne**	**0.94**	**240**	*e*Pg	**Pg**	**13 18 30.2**	**-1.2**
LPL				*e*Sg	**Sg**	**13 18 43.7**	**+0.2**
10.0nm,0.3s							
LPL	**La Plagne**	**0.94**	**240**	*e*Pg	**Pg**	**13 18 30.2**	**-1.2**
LPL				*e*Sg	**Sg**	**13 18 43.7**	**+0.2**
5.0nm,0.3s							
RSP	**Reno Superiore**	**0.95**	**208**	P	**Pg**	**13 18 31.2**	**-0.4**
RSP				S	**Sg**	**13 18 43.2**	**-0.7**
RRL	**Cesana Torines**	**1.32**	**216**	P	**Pn**	**13 18 37.9**	**-0.3**
RRL				S	**Sb**	**13 18 54.8**	**-0.8**
CABF	**La Chapelle**	**1.39**	**297**	*e*Pg	**Pg**	**13 18 39.9**	**-0.2**
CABF	**La Chapelle**	**1.39**	**297**	*e*P	**Pn**	**13 18 40.8**	**+1.6**
CABF				*e*Sg	**Sg**	**13 18 58.5**	**+0.4**
4.6nm,0.2s							
CABF	**La Chapelle**	**1.39**	**297**	*e*P	**Pn**	**13 18 40.8**	**+1.6**
CABF				*e*Sg	**Sg**	**13 18 58.5**	**+0.4**
2.3nm,0.2s							
MBDF	**Montbardon**	**1.49**	**212**	*e*Pn	**Pn**	**13 18 40.4**	**-0.1**
MBDF	**Montbardon**	**1.49**	**212**	*e*Pg	**Pg**	**13 18 42.2**	**+0.3**
MBDF				*e*Sn	**Sn**	**13 18 59.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**13 19 02.5**	**+1.3**
8.9nm,0.3s							
MBDF	**Montbardon**	**1.49**	**212**	*e*Pg	**Pg**	**13 18 42.2**	**+0.3**
MBDF				*e*Sn	**Sn**	**13 18 59.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**13 19 02.5**	**+1.3**
4.4nm,0.3s							
BBS	**Basel-Blauen**	**1.50**	**350**	Pg	**Pg**	**13 18 41.9**	**-0.2**
BBS				Sg	**Sg**	**13 19 02.4**	**0.9**
LOMF	**Lomont**	**1.54**	**332**	Pg	**Pg**	**13 18 44.1**	**+1.2**
LOMF				Sg	**Sg**	**13 19 03.3**	**+0.4**
PZZ	**Prazzo**	**1.59**	**201**	P	**Pn**	**13 18 40.7**	**-1.1**
ORIF	**Oris-en-Rattie**	**1.77**	**233**	*e*P	**Pn**	**13 18 46.5**	**+2.1**
ORIF	**Oris-en-Rattie**	**1.77**	**233**	*e*Pg	**Pg**	**13 18 47.9**	**+0.5**
ORIF				*e*Sg	**Sg**	**13 19 10.5**	**+0.1**
5.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.77**	**233**	*e*Pg	**Pg**	**13 18 47.9**	**+0.5**
ORIF				*e*Sg	**Sg**	**13 19 10.5**	**+0.1**
2.8nm,0.3s							
SLE	**Schleitheim**	**1.82**	**13**	*e*Pn	**Pn**	**13 18 45.7**	**+0.6**
125nm,0.3s							
DAVA	**Damuels**	**1.89**	**46**⇑	*i*Pn	**Pn**	**13 18 48.7**	**+2.7**
D

1.0nm,0.9s,baz=139,slow=5.9,SNR=11
WRA Warramunga Arr 70.42 263 P P 13 48 21.5 0.0
0.6nm,0.8s,baz=143,slow=5.8,SNR=6.7
BDFB Brasilia 79.36 102 LR LR 14 20 15.8
comp=Z,71nm,18.9s,baz=20,slow=33
BOSA Boshof 95.57 169 LR LR 14 30 43.8
comp=Z,56nm,18.9s,baz=328,slow=34
MKAR Makanchi Array 151.48 271 PKPbc PKPbc 13 57 00.1 -1.4
0.3nm,0.9s,baz=114,slow=3.6,SNR=3.1
MKAR PKPab PKPab 13 57 08.8 -1.0
0.8nm,0.9s,baz=124,slow=4.4,SNR=6.0

*NIED **15** 14:07:00,41.70N×144.40E,h23km,Mw3.7 Best double couple: M0=4.26000×10^14 NP1:φs=186.00000°,δ87.00000°, λ22.00000°. NP2:φs=95.00000°,δ68.00000°,λ177.00000°.*
*ISCJB **15** 14:07:17.1±1.7,41.70N±0.06×144.48E±0.10,h22km±11km, mb3.4/3,Error ellipse: s-maj=13.0km s-min=8.9km az=43.0.*
*IDC **15** 14:07:18.4±2.2,41.76N×144.04E,h0km,mb3.5/3, mb1 3.4/5,mb1mx3.3/21,mbtmp3.4/5,ML3.1/1,Error ellipse: s-maj=38.8km s-min=29.7km az=121.0*
*JMA **15** 14:07:18.4±0.3,41.72N×144.42E,h66km±4km,M3.7*
ISC 15 14:07:18.1±2.4,4175N±006×14446E±009,h18km±18km, n13,σ0°78/19,mb3.3/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.01**	**286**	P	**Pb**	**14 07 37.2**	**+0.2**
JCH	**Churui**	**1.19**	**317**	P	**Pn**	**14 07 39.4**	**-0.4**
JCH				*eS*	**Sb**	**14 07 54.3**	**-0.8**
JOB	**Onbets**	**1.25**	**338**	P	**Pn**	**14 07 40.6**	**0.0**
JOB				*eS*	**Sb**	**14 07 57.3**	**+0.6**
JAK	**Akkeshi**	**1.26**	**8**	P	**Pn**	**14 07 41.2**	**+0.4**
JAK				*eS*	**Sb**	**14 07 57.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.38**	**293**	P	**Pn**	**14 07 42.5**	**+0.1**
JNBK				*eS*	**Sn**	**14 08 00.3**	**+0.1**
JAR	**Ashorobuto**	**1.63**	**342**	P	**Pn**	**14 07 45.5**	**-0.4**
JNK	**Nakash**	**1.85**	**6**	P	**Pn**	**14 07 48.5**	**-0.3**
JNK				*eS*	**Sn**	**14 08 09.9**	**-1.8**
JBT2	**Biratori 2**	**1.87**	**304**	P	**Pn**	**14 07 47.6**	**-1.5**
ASAJ	**Asahikawa**	**2.73**	**331**	Pn	**Pn**	**14 08 01.8**	**+0.7**
1.1nm,0.3s,baz=200,slow=17,SNR=17							
ASAJ				Sn	**Sn**	**14 08 34.6**	**+1.0**
8.2nm,0.3s,baz=135,slow=19,SNR=5.6							
MJAR	**Matsushiro Arr**	**7.11**	**225**	Pn	**Pn**	**14 09 01.1**	**-0.1**
0.3nm,0.3s,baz=26,slow=14,SNR=5.0							
SONM	**Songino Array**	**27.48**	**296**	P	**P**	**14 13 04.4**	**+1.2**
0.6nm,0.6s,mb3.3,baz=80,slow=9.8,SNR=5.8							
MKAR	**Makanchi Array**	**43.78**	**299**	P	**P**	**14 15 22.4**	**-0.2**
1.4nm,1.0s,mb3.6,baz=79,slow=7.5,SNR=5.3							
ILAR	**Eielson Array**	**44.27**	**35**	P	**P**	**14 15 30.6**	**+4.1**
0.2nm,0.6s,mb3.0,baz=259,slow=6.0,SNR=3.9							

*IDC **15** 14:09:58.2±1.0,2300N×12325E,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.8/20,mbtmp3.8/8,ML3.5/2,Error ellipse: s-maj=32.8km s-min=20.2km az=76.0*
*NIED **15** 14:10:00,23.10N×123.30E,h20km,Mw3.9 Best double couple: M0=7.11000×10^14 NP1:φs=307.00000°,δ78.00000°, λ-39.00000°. NP2:φs=47.00000°,δ52.00000°, λ-164.00000°.*
*ISCJB **15** 14:10:01.4±1.1,2302N±007×12334E±004,h36km±11km, mb3.6/6,Error ellipse: s-maj=11.5km s-min=6.5km az=153.6*
*NEIC **15** 14:10:01.1±0.6,2300N×12323E,h20km,MG4.1(JMA), Error ellipse: s-maj=13.4km s-min=9.4km az=33.0*
*JMA **15** 14:10:02.2±0.2,2307N×12334E,h67km±4km,M3.9*
ISC 15 14:10:01.9±2.0,2306N±005×12334E±004,h26km±16km, n27,σ0°82/38,mb3.6/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.08**	**23**	P	**Pn**	**14 10 21.6**	**+0.3**
HATJ				*eS*	**Sn**	**14 10 36.0**	**+0.6**
IRIF	**Iriomote-Funau**	**1.32**	**16**	P	**Pn**	**14 10 25.0**	**+0.4**
IRIF				*eS*	**Sn**	**14 10 41.7**	**+0.4**
JKRS	**Kuro-shima**	**1.32**	**28**	P	**Pn**	**14 10 25.1**	**+0.4**
JKRS				*eS*	**Sn**	**14 10 42.0**	**+0.6**
YOJ	**Yonaguni jima**	**1.43**	**348**	P	**Pn**	**14 10 26.3**	**+0.2**
YOJ				*eS*	**Sn**	**14 10 44.4**	**+0.4**
JIJ	**Ishigaki jima**	**1.49**	**29**	P	**Pn**	**14 10 27.0**	**0.0**
JIJ				*eS*	**Sn**	**14 10 45.2**	**-0.4**
NACB	**Ninganchiao**	**1.94**	**305**	*e*Pn	**Pn**	**14 10 31.8**	**-1.4**
NACB				*e*Sn	**Sn**	**14 10 48.4**	**-8.4**
JTJ	**Tarama**	**2.01**	**38**	P	**Pn**	**14 10 34.2**	**+0.1**
JTJ				*eS*	**Sn**	**14 10 58.4**	**0.0**
YHNB	**Yeheng**	**2.41**	**312**	*e*Pn	**Pn**	**14 10 39.8**	**+0.2**
JMJ	**Miyako jima 2**	**2.50**	**45**	*eS*	**Sn**	**14 11 10.5**	**0.0**
JOGS	**Gusukube**	**2.54**	**48**	P	**Pn**	**14 10 41.5**	**+0.1**
JOGS				*eS*	**Sn**	**14 11 12.1**	**+0.7**
TATO	**Taipei**	**2.55**	**319**	*e*Pn	**Pn**	**14 10 41.5**	**-0.1**
TATO				*eS*	**Sn**	**14 11 11.9**	**+0.1**
JKE	**Kume jima 2**	**4.51**	**43**	*eS*	**Sn**	**14 11 59.7**	**-0.5**
JAGN	**Aguni-jima**	**4.99**	**44**	*eS*	**Sn**	**14 12 10.8**	**-1.2**
JIH	**Iheya**	**5.77**	**46**	*eS*	**Sn**	**14 12 28.5**	**-2.6**
JOW	**Kunigami**	**5.84**	**49**	P	**Pn**	**14 11 27.0**	**+0.2**
JOW				*eS*	**Sn**	**14 12 30.8**	**-2.2**
JOW	**Kunigami**	**5.84**	**49**	Pn	**Pn**	**14 11 27.1**	**+0.2**
1.3nm,0.3s,baz=125,slow=26,SNR=10							
JOW				Sn	**Sn**	**14 12 28.7**	**-4.3**
4.8nm,0.3s,baz=121,slow=26,SNR=6.0							
ENH	**Enshi**	**14.31**	**303**	P	**Pn**	**14 13 20.6**	**-2.1**
MAT	**Matsushiro**	**18.59**	**40**	P	**Pn**	**14 14 18.0**	**+0.5**
MJAR	**Matsushiro Arr**	**18.59**	**40**	P	**Pn**	**14 14 19.5**	**+2.0**
0.6nm,0.3s,baz=229,slow=9.3,SNR=22							
SONM	**Songino Array**	**28.18**	**335**	P	**P**	**14 15 52.4**	**+0.1**
3.1nm,0.8s,mb4.0,baz=148,slow=9.6,SNR=21							
MKAR	**Makanchi Array**	**40.51**	**316**	P	**P**	**14 17 39.8**	**+1.1**
0.6nm,0.7s,mb3.3,baz=95,slow=10.0,SNR=6.6							
WRA	**Warramunga Arr**	**44.07**	**165**	P	**P**	**14 18 08.0**	**+0.3**
0.8nm,0.9s,mb3.4,baz=345,slow=9.0,SNR=3.5							
ASAR	**Alice Springs**	**47.57**	**167**	P	**P**	**14 18 35.0**	**-0.3**
0.3nm,0.9s,mb3.3,baz=350,slow=8.7,SNR=4.2							
FINES	**FINESS Array B**	**73.40**	**330**	P	**P**	**14 21 31.3**	**-0.4**
1.5nm,0.8s,mb4.0,baz=0.0,slow=3.8,SNR=4.4							
FINES	**FINESS Array B**	**73.40**	**330**	P	**P**	**14 21 31.3**	**-0.4**
YKA	**Yellowknife Ar**	**83.22**	**23**	P	**P**	**14 22 26.4**	**+0.5**
0.2nm,0.5s,mb3.4,baz=306,slow=4.8,SNR=5.8							
YKA	**Yellowknife Ar**	**83.22**	**23**	P	**P**	**14 22 26.4**	**+0.5**

KRSC 15 14:39:56.1±1.6,5105N×15953E,h39km±18km,ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.52**	**336**	*i* P	Pn	14 40 20.9	+0.1
RUS				*e*S	Sn	14 40 39.3	-0.1
GRL	**Gorelyy**	**1.75**	**330**	*e*P	Pn	14 40 25.0	+1.0
GRL				*e*S	Sn	14 40 46.9	+1.8
PAU	**Pauzhetka**	**1.76**	**285**	*e*P	Pn	14 40 25.5	+1.5
PAU				*e*S	Sn	14 40 46.5	+1.3
PAU				Smax			
860nm,0.3s							
KRMR	**Karymshinskiy**	**1.98**	**335**	*e*P	Pn	14 40 27.7	+0.6
KRMR				*e*S	Sn	14 40 52.7	+2.0
PET	**Petropavlovsk**	**2.05**	**345**	*e*P	Pn	14 40 28.5	+0.4
PET				*e*S	Sn	14 40 52.6	+0.2
SPN	**Mys Shipunski**	**2.07**	**8**	*e*P	Pn	14 40 32.1	+3.7
SPN				*e*S	Sn	14 40 53.3	+0.3
MIPR	**Malaya Ipel'ka**	**2.12**	**307**	*e*P	Pn	14 40 30.0	+1.0
MIPR				*e*S	Sn	14 40 55.3	+1.2
NLC	**Nalytchevo**	**2.13**	**357**	*e*P	Pn	14 40 30.7	+1.6
NLC				*e*S	Sn	14 40 56.9	+2.6
UGLR	**Uglovaya**	**2.21**	**349**	*e*P	Pn	14 40 32.3	+2.1
SMAR	**Somma**	**2.26**	**349**	*e*P	Pn	14 40 33.3	+2.3
AVH	**Avacha**	**2.27**	**348**	*e*P	Pn	14 40 32.2	+1.1
KOK	**Koryaka**	**2.31**	**347**	*e*P	Pn	14 40 34.2	+2.5
APC	**Apacha**	**2.38**	**323**	*e*P	Pn	14 40 34.7	+2.1
APC				*e*S	Sn	14 41 02.4	+1.8
APC				Smax			
50nm,0.8s							
ALID	**Alaid**	**2.52**	**267**	*e*P	Pn	14 40 35.5	+0.9
ALID				*e*S	Sn	14 41 04.9	+0.8
GNL	**Ganaly**	**2.82**	**340**	*e*P	Pn	14 40 41.2	+2.5
GNL				*e*S	Sn	14 41 11.5	+0.1
MKZ	**Mys Kozlova**	**3.76**	**20**	*e*P	Pn	14 40 53.6	+2.1
MKZ				*e*S	Sn	14 41 34.1	-0.4
KBTR	**Krutoberegovo**	**5.53**	**19**	*e*P	Pn	14 41 18.3	+2.5

IDC 15 14:56:46.1±3.6,4979S×11783E,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.9/12,mbtmp4.0/4,ML2.2/1,MS3.8/3, Ms1 3.8/3,ms1mx3.4/17,Error ellipse: s-maj=85.1km s-min=62.5km az=96.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.85**	**358**	Pn	Pn	15 00 45.5	+2.1
0.4nm,0.3s,baz=187,slow=8.1,SNR=3.7							
NWAO				LR	LR	15 04 33.8	
comp=Z,85nm,21.5s,baz=54,slow=28							
STKA	**Stephens Creek**	**25.19**	**54**	P	P	15 02 14.5	+1.2
1.3nm,1.0s,baz=232,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**28.95**	**32**	P	P	15 02 46.7	-0.4
0.8nm,0.8s,baz=202,slow=7.2,SNR=9.3							
VNDA	**Vanda**	**32.37**	**164**	LR	LR	15 14 02.1	
comp=Z,114nm,20.3s,baz=3.8,slow=32							
WRA	**Warramunga Arr**	**32.56**	**30**	P	P	15 03 17.8	-1.1
1.3nm,0.9s,baz=200,slow=9.1,SNR=7.4							
RPZ	**Rata Peaks**	**36.31**	**101**	LR	LR	15 15 06.4	
comp=Z,714nm,19.0s,baz=223,slow=30							
YKA	**Yellowknife Ar**	**149.08**	**46**	PKPbc	PKPbc	15 16 34.4	-1.8
0.2nm,0.5s,baz=276,slow=2.6,SNR=4.9							

GUC 15 15:19:38.0±0.9,2312S×6887W,h100km,MD4.0,ML3.6, 1C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.51**	**355**	⇓*i* P	Pn	15 19 54.9	+1.1
LVC				*i* S	Sn	15 20 06.8	+1.2
LVC				AMP		15 20 07.6	
comp=N,2μm,0.6s							
CEN1	**Los Morros**	**1.26**	**257**	⇑*i* P	Pn	15 20 04.0	+2.7
CEN1				*i* S	Sn	15 20 23.9	+5.0
CEN1				AMP		15 20 25.6	
comp=E,810nm,0.4s							
ANCH	**Antofagasta**	**1.52**	**248**	⇓*i* P	Pn	15 20 03.2	-1.3
ANCH				*i* S	Sn	15 20 23.3	-1.4
ANCH				AMP		15 20 27.4	
comp=N,2μm,0.1s							
CPN1	**Cerro Paranal**	**2.06**	**223**	*e*P	Pn	15 20 12.5	+1.3
CPN1				*i* S	Sn	15 20 39.0	+2.3
CPN1				AMP		15 20 40.5	
comp=N,522nm,0.6s							

GUC 15 15:28:51.7±0.7,3283S×7304W,h23km±5km,ML3.5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.77**	**130**	*i* P	Pn	15 29 21.7	+0.9
LNV				*i* S	Sn	15 29 43.8	+1.2
PEL	**Peldehue**	**2.01**	**99**	*i* S	Sn	15 29 51.6	+3.0
CHCH	**Chadas Angostu**	**2.28**	**119**	*e*P	Pn	15 29 29.5	+1.6
CHCH				*i* S	Sn	15 29 58.3	+3.0
FCH	**Farellones**	**2.36**	**103**	*e*P	Pn	15 29 30.9	+1.8
FCH				*i* S	Sn	15 30 00.8	+3.4
FCH				AMP		15 30 09.5	
comp=E,301nm,0.2s							
CACH	**El Canelo**	**2.41**	**123**	*e*P	Pn	15 29 31.7	+2.0
CACH				*i* S	Sn	15 30 02.5	+4.0

CASC 15 16:03:32.3±1.9,1253N×8931W,h20km±20km,MD3.6,1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.12**	**13**	*e*P	Pn	16 04 00.6	+7.8
LFRS				*e*S	Sb	16 04 15.5	+8.5
SNVI	**San Vicente**	**1.17**	**23**	*e*P	Pn	16 04 01.2	+7.7
SNVI				*e*S	Sb	16 04 17.4	+8.7
BOQS	**Boqueron**	**1.20**	**1**	*e*P	Pn	16 04 02.1	+8.2
BOQS				*e*S	Sb	16 04 18.7	+9.3
SBLS	**San Blas**	**1.34**	**347**	*e*P	Pn	16 04 04.7	+8.8
SBLS				*e*S	Sn	16 04 22.0	+9.0
IXG	**Ixpaco**	**1.98**	**326**	⇑*e*P	Pn	16 04 04.7	+0.1
IXG				*e*S	Sn	16 04 30.5	+1.7

*IDC **15** 16:05:46.0±1.1,9285×12023E,h0km,mb4.0/4,mb1 4.1/6, mb1mx3.9/16,mbtmp4.0/6,ML4.1/2,Error ellipse: s-maj=70.5km s-min=19.1km az=51.0*
*ISCJB **15** 16:05:55.7±2.0,9753±0.1×1201E±0.1,h110km±23km, mb3.9/4,Error ellipse: s-maj=32.1km s-min=9.2km az=93.1*
*NEIC **15** 16:05:55.2±2.1,9625×12004E,h80km±26km,mb3.9/1, Error ellipse: s-maj=32.2km s-min=10.1km az=224.0*
ISC 15 16:05:57.1±2.2,98S±02×1200E±02,h107km±28km,n12, σ1°15/15,mb3.9/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**11.35**	**181**	*e*Pn	**Pn**	**16 08 35.3**	**-0.5**
KSM	**Kuching**	**14.77**	**318**	P	**Pn**	**16 09 19.7**	**-0.8**
WRA	**Warramunga Arr**	**17.13**	**128**	P	**Pn**	**16 09 49.4**	**-0.3**
0.6nm,0.3s,baz=300,slow=13,SNR=38							
WRA				S	**S**	**16 12 48.3**	**-12**
0.8nm,0.3s,baz=302,slow=26,SNR=9.5							
WRAB	**Tennant Creek**	**17.13**	**128**	*e*P	**Pn**	**16 09 50.9**	**+1.2**
4.3nm,0.6s							
WB2	**Warramunga Arr**	**17.14**	**128**	*e*P	**Pn**	**16 09 49.7**	**-0.2**
WB2				*e*S	**S**	**16 12 47.0**	**-14**
ASAR	**Alice Springs**	**19.16**	**138**	P	**P**	**16 10 15.4**	**+3.5**
0.8nm,0.3s,baz=316,slow=11,SNR=60							
ASAR				S	**S**	**16 13 38.7**	**-4.7**
0.3nm,0.3s,baz=313,slow=24,SNR=7.6							
KULM	**Kulim**	**24.42**	**307**	*e*P	**P**	**16 11 06.0**	**+0.4**
PSI	**Prapat**	**24.45**	**300**	P	**P**	**16 11 06.4**	**+0.6**
3.3nm,0.3s,mb4.1,baz=149,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**29.73**	**141**	P	**P**	**16 11 55.2**	**+2.1**
2.1nm,0.5s,mb4.1,baz=316,slow=11,SNR=10							
STKA	**Stephens Creek**	**29.73**	**141**	*e*P	**P**	**16 11 55.0**	**+1.9**
SONM	**Songino Array**	**58.59**	**349**	P	**P**	**16 15 41.6**	**-1.0**
0.4nm,0.5s,mb3.7,baz=164,slow=9.3,SNR=5.7							
MKAR	**Makanchi Array**	**65.59**	**332**	P	**P**	**16 16 29.6**	**+0.2**
0.6nm,0.5s,mb3.7,baz=152,slow=6.8,SNR=11							

IDC 15 16:13:27.4±59.0,2263S×17927W,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.5/11,mbtmp3.4/3,Error ellipse: s-maj=1072.0km s-min=156.9km az=86.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.83**	**247**	P	P	16 20 27.1	-1.4
0.6nm,0.5s,baz=81,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**42.92**	**259**	P	P	16 21 28.6	+0.8
0.2nm,0.5s,baz=97,slow=7.2,SNR=6.3							
WRA	**Warramunga Arr**	**43.18**	**265**	P	P	16 21 30.9	+1.0
0.2nm,0.3s,baz=98,slow=8.3,SNR=10							

*IDC **15** 16:30:28.9±0.7,673N×7298W,h158km±10km,mb3.4/4, mb1 3.6/6,mb1mx3.3/20,mbtmp3.9/6,Error ellipse: s-maj=35.9km s-min=7.5km az=130.0*
*ISCJB **15** 16:30:29.2±0.6,685N±007×7291W±007,h175km±6km, mb3.6/4,Error ellipse: s-maj=13.3km s-min=7.6km az=88.5*
*NEIC **15** 16:30:29.7±1.1,653N×7263W,h180km±11km,Error ellipse: s-maj=28.8km s-min=14.4km az=129.0*
*FUNV **15** 16:30:29.3,669N×7309W,h166km,MW3.8*
ISC 15 16:30:29.9±0.6,681N±006×7292W±007,h166km±6km,n22, σ1°01/32,mb3.6/4,1C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**30**	⇓*i* P	**Pn**	**16 30 58.9**	**+1.0**
CAPV				*e*S	**Sn**	**16 31 20.4**	**+1.0**
ROSC	**El Rosal**	**2.40**	**216**	P	**Pn**	**16 31 10.0**	**-0.7**
86nm,0.3s,baz=333,slow=2.9,SNR=105							
ROSC				S	**Sn**	**16 31 39.2**	**-2.9**
90nm,0.3s,baz=105,slow=15,SNR=11							
ROSC	**El Rosal**	**2.40**	**216**	*e*Pn	**Pn**	**16 31 09.9**	**-0.7**
ROSC				*e*Sn	**Sn**	**16 31 37.5**	**-4.6**
SOCV	**Socops**	**2.51**	**54**	*e*P	**Pn**	**16 31 13.1**	**+1.2**
SOCV				*e*S	**Sn**	**16 31 44.7**	**+0.2**
VIGV	**El Vigia**	**2.53**	**37**	*e*P	**Pn**	**16 31 13.2**	**+1.0**
VIGV				*e*S	**Sn**	**16 31 44.7**	**-0.3**

SDV	**Santo Domingo**	**3.06**	**48**	P	**Pn**	**16 31 20.5**	**+1.8**
22nm,0.3s,baz=249,slow=3.4,SNR=107							
SDV				S	**Sn**	**16 31 57.3**	**+0.9**
43nm,0.3s,baz=104,slow=23,SNR=33							
SDV	**Santo Domingo**	**3.06**	**48**	*e*Pn	**Pn**	**16 31 20.0**	**+1.4**
SDV				*e*Sn	**Sn**	**16 31 57.4**	**+1.0**
VIRV	**Villa del Rosa**	**3.70**	**8**	⇑*i* P	**Pn**	**16 31 25.7**	**-1.0**
VIRV				*e*S	**Sn**	**16 32 09.2**	**-1.8**
QARV	**Quebrada Arrib**	**4.12**	**35**	*e*P	**Pn**	**16 31 33.1**	**+1.0**
QARV				*e*S	**Sn**	**16 32 19.9**	**-0.7**
SANV	**Sanarito**	**4.28**	**51**	*e*P	**Pn**	**16 31 35.4**	**+1.2**
SANV				*e*S	**Sn**	**16 32 23.6**	**-0.7**
CURV	**Curarigua**	**4.32**	**42**	*e*P	**Pn**	**16 31 35.5**	**+0.8**
CURV				*e*S	**Sn**	**16 32 23.7**	**-1.5**
BAUV	**El Baul**	**5.27**	**66**	*e*P	**Pn**	**16 31 46.9**	**-0.2**
BAUV				*e*S	**Sn**	**16 32 45.7**	**-1.9**
IMOV	**Isla Los Monje**	**5.86**	**20**	*e*P	**Pn**	**16 31 54.8**	**-0.1**
CAOV	**Caicara del Or**	**6.56**	**85**	*e*P	**Pn**	**16 32 03.3**	**-0.9**
OTAV	**Otavalo**	**8.55**	**220**	*e*Pn	**Pn**	**16 32 30.8**	**+0.3**
JTS	**JuntasAbangare**	**12.39**	**287**	*e*P	**Pn**	**16 33 26.8**	**+6.1**
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**16 38 46.6**	**-0.4**
1.2nm,0.5s,mb3.8,baz=140,slow=10,SNR=2.9							
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**16 38 53.8**	**+0.8**
1.6nm,0.8s,mb3.7,baz=180,slow=5.1,SNR=3.0							
PDAR	**Pinedale Array**	**48.20**	**324**	P	**P**	**16 38 53.7**	**+0.1**
0.4nm,0.6s,mb3.3,baz=133,slow=8.4,SNR=4.5							
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**16 40 41.1**	**-0.1**
0.8nm,0.5s,mb3.8,baz=130,slow=6.6,SNR=18							
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	PKPbc	16 49 58.9	+0.1
0.6nm,0.6s,baz=118,slow=3.6,SNR=13							
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	PKPbc	16 50 02.2	+0.3
0.6nm,0.4s,baz=108,slow=2.6,SNR=29							

*CSEM **15** 16:33:10.3±0.9,3893N×2929W,h0km,ML2.6,Error ellipse: s-maj=12.2km s-min=5.9km az=55.0,After PDA*
*PDA **15** 16:33:10.3±0.9,3893N×2929W,h0km,MD3.2,ML2.6, Error ellipse: s-maj=12.2km s-min=5.9km az=55.0*
SVSA 15 16:33:10.3±0.9,3893N×2929W,h0km,MD3.2,ML2.6, Error ellipse: s-maj=12.2km s-min=5.9km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.55**	**123**	*e*P	Pg	16 33 20.0	-0.9
PCED				*e*S	Sg	16 33 27.5	-0.5
PCED							
121nm,0.2s							
PCED	**Cedros**	**0.55**	**123**	*e*P	Pg	16 33 20.0	-0.9
PCED				*e*S	Sg	16 33 27.5	-0.5
CALA	**Caldeira**	**0.58**	**127**	*e*S	Sg	16 33 28.4	-0.5
HOR	**Horta**	**0.66**	**128**	*e*P	Pg	16 33 21.6	-1.3
HOR				*e*S	Sg	16 33 30.3	-1.1
PCND	**Candelaria**	**0.80**	**125**	*e*S	Sg	16 33 34.4	-1.5
PCND							
83nm,0.3s							
PICO	**Pico**	**0.80**	**122**	*i* P	Pg	16 33 24.2	-1.5
PICO				*e*S	Sg	16 33 34.6	-1.5
ROSA	**Rosais**	**0.85**	**104**	*e*P	Pg	16 33 24.5	-2.0
ROSA				*e*S	Sg	16 33 35.0	-2.5
PBOI	**Pico dos Bois**	**0.87**	**124**	*e*S	Sg	16 33 35.7	-2.6
PBOI							
56nm,0.2s							

*IDC **15** 16:35:28.2±2.0,3177N×9498E,h0km,mb3.5/3,mb1 3.6/5, mb1mx3.4/21,mbtmp3.4/5,ML3.3/2,Error ellipse: s-maj=78.9km s-min=26.0km az=75.0*
*ISCJB **15** 16:35:34.6±3.3,3180N±009×9488E±03,h71km±40km, mb3.3/3,Error ellipse: s-maj=45.3km s-min=13.8km az=11.3*
ISC 15 16:35:36.4±2.5,3186N±009×9488E±03,h67km±32km,n6, σ1°34/7,mb3.3/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.78**	**203**	*e*P	**Pn**	**16 37 15.0**	**+1.8**
SHL				*e*S	**Sn**	**16 38 27.5**	**-1.4**
MKAR	**Makanchi Array**	**17.75**	**331**	P	**Pn**	**16 39 38.9**	**0.0**
0.1nm,0.3s,baz=146,slow=13,SNR=8.8							
SONM	**Songino Array**	**18.23**	**26**	P	**Pn**	**16 39 43.7**	**-0.9**
0.2nm,0.3s,baz=201,slow=12,SNR=5.7							
WRA	**Warramunga Arr**	**63.93**	**138**	P	**P**	**16 46 02.0**	**-0.2**
0.4nm,0.8s,mb3.3,baz=331,slow=6.9,SNR=4.8							
ASAR	**Alice Springs**	**66.67**	**141**	P	**P**	**16 46 20.2**	**+0.3**
0.5nm,0.8s,mb3.4,baz=325,slow=6.3,SNR=8.4							
ILAR	**Eielson Array**	**72.44**	**23**	P	**P**	**16 46 55.9**	**+0.4**
0.3nm,0.9s,mb3.1,baz=292,slow=7.0,SNR=4.5							

*IDC **15** 16:37:27.1±1.3,1529S×17328W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/16,mbtmp4.2/4,MS3.5/1,Ms1 3.5/1, ms1mx2.8/20,Error ellipse: s-maj=52.8km s-min=23.7km az=136.0*
*NEIC **15** 16:37:28.2±0.8,1523S×17327W,h10km,Error ellipse: s-maj=39.2km s-min=14.0km az=139.0*
*ISCJB **15** 16:37:29.5±0.8,1515±02×1733W±02,h33km,mb4.2/4, MS3.5/1,Error ellipse: s-maj=42.3km s-min=7.2km az=102.7*
ISC 15 16:37:31.3±0.9,152S±02×1731W±02,h35km,n10, σ0°96/10,mb4.2/4,MS3.5/1,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.83**	**46**	Pn	**Pn**	**16 38 01.4**	**+1.2**
58nm,0.3s,baz=204,slow=1.8,SNR=85							
AFI				Sn	**Sn**	**16 38 21.2**	**-0.9**
252nm,0.3s,baz=33,slow=23,SNR=24							
AFI	**Afiamalu**	**1.83**	**46**	⇑*e*P	**Pn**	**16 38 01.2**	**+1.0**
AFI				*e

ANCH AMP 16 43 32.9
comp=N,617nm,0.1s
CFAA Coronel Fontan 7.30 187 P **Pn 16 43 50.5 +0.7**
comp=N,0.0nm,0.3s,baz=359,slow=8.3,SNR=7.6
CFAA S **Sn 16 45 11.1 -0.9**
comp=N,0.1nm,0.3s,baz=239,slow=19,SNR=8.5
CFAA Coronel Fontan 7.30 187 P **Pn 16 43 50.5 +0.7**
CFAA S **Sn 16 45 11.1 -0.9**
LPAZ La Paz 8.04 354 P **Pn 16 44 00.1 +0.4**
comp=N,1.5nm,0.3s,baz=158,slow=7.2,SNR=29
LPAZ S **Sn 16 45 27.3 -2.4**
comp=N,0.1nm,0.3s,baz=218,slow=19,SNR=2.1
LPAZ La Paz 8.04 354 *eP* **Pn 16 43 59.6 0.0**
LPAZ S **Sn 16 45 27.3 -2.4**
CPUP Villa Florida 9.20 105 P **Pn 16 44 14.4 -0.3**
comp=N,6.2nm,0.6s
SIV San Ignacio 10.12 36 P **Pn 16 44 27.4 +0.5**
comp=N,0.4nm,0.3s,baz=231,slow=11,SNR=9.1
TRQA Tornquist 14.40 163 P **Pn 16 45 22.2 +0.6**
PLCA Paso Flores 16.59 189 P **Pn 16 45 47.2 -1.1**
comp=N,0.0nm,0.3s,baz=356,slow=14,SNR=3.1
PLCA Paso Flores 16.59 189 P **Pn 16 45 47.2 -1.1**
BDFB Brasilia 20.02 68 P **P 16 46 25.0 0.0**
comp=N,6.9nm,0.8s,baz=254,slow=10,SNR=8.9
TORD Torodi Ar. Bea 76.90 69 P **P 16 53 39.1 +0.6**
comp=N,0.5nm,0.4s,mb3.5,baz=246,slow=5.9,SNR=7.1

*IDC **15** 17:04:13.9±1.3,092N×9721E,h0km,mb4.0/7,mb1 4.1/8, mb1mx3.9/21,mbtmp4.0/8,ML3.0/1,MS3.7/1,Ms1 3.7/1, ms1mx2.8/25,Error ellipse: s-maj=43.2km s-min=18.5km az=59.0*
*BJI **15** 17:04:17.4,086N×9770E,h44km,mB4.8,mb4.6,Ms3.9, Msz4.0*
*NEIC **15** 17:04:19.9±2.7,099N×9735E,h39km±21km,mb4.2/7, Error ellipse: s-maj=26.1km s-min=6.7km az=50.0*
*ISCJB **15** 17:04:20.2±2.6,1.1N±01×974E±01,h56km±21km, mb4.2/18,MS3.9/1,Error ellipse: s-maj=24.3km s-min=10.9km az=105.8*
ISC 15 17:04:22.8±2.5,11N±01×975E±01,h58km±20km,n28, σ0°72/30,mb4.2/18,MS3.9/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.18**	**40**	P	**Pn**	**17 04 55.8**	**-1.0**
	3.0nm,0.3s,baz=199,slow=5.9,SNR=36						
PSI				Sn	**Sn**	**17 05 22.3**	**-0.3**
	17nm,0.3s,baz=311,slow=18,SNR=9.4						
IPM	**Ipoh**	**4.84**	**46**	P	**Pn**	**17 05 34.0**	**+0.9**
KULM	**Kulim**	**5.19**	**37**	*e*Pn	**Pn**	**17 05 37.2**	**-0.7**
KULM				*e*Sg	**Sn**	**17 06 52.5**	**+16**
KGM	**Kluang**	**5.88**	**81**	P	**Pn**	**17 05 48.2**	**+0.9**
KKM	**Kota Kinabalu**	**19.30**	**75**	*eP*	**Pn**	**17 08 44.7**	**+0.2**
KMI	**Kunming**	**24.38**	**12**	P	**P**	**17 09 37.5**	**+2.0**
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,190nm,5.5s						
KMI				LR	LR		
	comp=N,203nm,17.0s,MS3.8						
KMI				LR	LR		
	comp=E,173nm,17.0s,MS3.8						
KMI				LR	LR		
	comp=Z,290nm,13.9s,MS3.9						
SHL	**Shillong**	**24.89**	**348**	*eP*	**P**	**17 09 40.0**	**-0.1**
JIRN	**Jiri**	**28.52**	**339**	*eP*	**P**	**17 10 13.9**	**+1.1**
	comp=Z,18nm,0.7s,mb4.9						
GUN	**Gumba**	**28.86**	**338**	*eP*	**P**	**17 10 16.1**	**+0.3**
DMN	**Daman**	**28.89**	**337**	*eP*	**P**	**17 10 16.9**	**+0.9**
	comp=Z,4.2nm,0.5s,mb4.4						
KKN	**Kakani**	**28.98**	**337**	*eP*	**P**	**17 10 16.7**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.4						
GKN	**Gorkha**	**29.43**	**336**	*eP*	**P**	**17 10 21.2**	**+0.4**
KOLN	**Koldanda**	**29.65**	**335**	*eP*	**P**	**17 10 22.9**	**+0.1**
	comp=Z,6.7nm,0.7s,mb4.5						
XAN	**Xi'an**	**34.44**	**17**	P	**P**	**17 11 03.6**	**-1.1**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
GTA	**Gaotai**	**38.16**	**3**	*eP*	**P**	**17 11 36.1**	**-0.4**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**41.74**	**122**	P	**P**	**17 12 06.1**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=301,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**41.74**	**122**	*eP*	**P**	**17 12 06.4**	**+0.2**
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**17 12 17.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=307,slow=7.4,SNR=7.9						
SONM	**Songino Array**	**47.16**	**8**	P	**P**	**17 12 49.8**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=191,slow=8.9,SNR=15						
SONM				PcP	PcP	17 14 21.0	+0.8
	comp=Z,1.2nm,0.7s,baz=188,slow=3.2,SNR=5.3						
ULN	**Ulaanbaatar**	**47.28**	**9**	*eP*	**P**	**17 12 50.7**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**17 12 50.6**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.3,baz=156,slow=7.8,SNR=48						
CN2	**Changchun**	**49.23**	**27**	*eP*	**P**	**17 13 05.5**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**51.94**	**345**	*eP*	**P**	**17 13 25.2**	**-0.6**
	comp=Z,3.7nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**53.08**	**132**	P	**P**	**17 13 33.3**	**-0.9**
	comp=Z,1.4nm,0.8s,mb3.9,baz=315,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**53.08**	**132**	*eP*	**P**	**17 13 33.3**	**-0.9**
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**17 13 38.3**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.4,baz=294,slow=6.8,SNR=24						
BRVK	**Borovoye**	**56.48**	**341**	P	**P**	**17 13 57.2**	**-1.5**
	comp=Z,1.6nm,1.0s,mb4.0						
GERES	**GERESS Array B**	**85.07**	**319**	P	**P**	**17 16 52.0**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.6,baz=135,slow=1.9,SNR=3.8						

IDC 15 17:07:13.4±1.8,429S×12520E,h0km,mb3.1/2,mb1 3.3/3, mb1mx3.2/16,mbtmp3.1/3,ML3.0/1,Error ellipse: s-maj=170.0km s-min=27.1km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.93**	**151**	P	Pn	17 11 23.4	-0.8
	0.1nm,0.3s,baz=327,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**21.02**	**157**	P	P	17 11 58.9	+0.3
	0.2nm,0.5s,baz=341,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**63.39**	**328**	P	P	17 17 45.1	+0.4
	0.3nm,0.5s,baz=120,slow=6.6,SNR=5.2						

*IDC **15** 17:41:01.3±1.4,3294N×9059E,h0km,mb3.6/4,mb1 3.7/6, mb1mx3.5/22,mbtmp3.4/6,ML2.7/2,Error ellipse: s-maj=59.9km s-min=22.3km az=64.0*
*ISCJB **15** 17:41:07.1±1.6,3313N±008×902E±01,h70km±21km, mb3.3/4,Error ellipse: s-maj=19.2km s-min=12.8km az=134.7*
*NEIC **15** 17:41:07.8±1.4,3314N×9039E,h44km±20km,Error ellipse: s-maj=18.3km s-min=11.8km az=86.0*
ISC 15 17:41:08.1±1.3,3317N±008×904E±01,h53km±18km,n13, σ0°94/14,mb3.5/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.52**	**169**	*eP*	**Pn**	**17 42 00.9**	**+0.6**
LSA				*e*S	**Sn**	**17 42 41.6**	**+0.9**
GUN	**Gumba**	**6.51**	**218**	*eP*	**Pn**	**17 42 41.6**	**+0.3**
	18nm,0.5s						
KKN	**Kakani**	**6.92**	**221**	*eP*	**Pn**	**17 42 47.4**	**+0.5**
	6.4nm,0.3s						
PKI	**Pulchoki**	**7.03**	**219**	*eP*	**Pn**	**17 42 47.8**	**-0.6**
	12nm,0.4s						
GKN	**Gorkha**	**7.13**	**225**	*eP*	**Pn**	**17 42 49.6**	**-0.1**
	18nm,0.4s						
DMN	**Daman**	**7.16**	**221**	*eP*	**Pn**	**17 42 49.1**	**-1.1**
	8.0nm,0.4s						
KOLN	**Koldanda**	**7.94**	**229**	*eP*	**Pn**	**17 42 56.9**	**-3.9**
	8.2nm,0.6s						
MKAR	**Makanchi Array**	**14.93**	**338**	Pn	**Pn**	**17 44 35.5**	**-0.4**
	0.0nm,0.3s,baz=152,slow=13,SNR=3.0						
SONM	**Songino Array**	**19.00**	**35**	P	**Pn**	**17 45 25.9**	**-0.6**
	0.0nm,0.3s,baz=219,slow=8.9,SNR=6.6						
BVAR	**Borovoye Array**	**24.48**	**330**	P	**P**	**17 46 24.4**	**+2.3**
	0.2nm,0.5s,mb2.8,baz=128,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**67.47**	**135**	P	**P**	**17 51 57.0**	**-1.3**
	1.0nm,0.9s,mb3.8,baz=331,slow=6.7,SNR=5.7						
ASAR	**Alice Springs**	**70.12**	**138**	P	**P**	**17 52 14.2**	**-0.6**
	1.3nm,0.8s,mb3.9,baz=327,slow=6.6,SNR=19						
YKA	**Yellowknife Ar**	**82.57**	**11**	P	**P**	**17 53 26.2**	**+0.9**
	0.1nm,0.3s,mb3.3,baz=330,slow=5.0,SNR=4.3						

*ISCJB **15** 18:13:00.9±0.8,3117N±005×10108E±007,h10km, mb3.3/4,Error ellipse: s-maj=8.5km s-min=6.9km az=177.9*
*IDC **15** 18:13:00.9±1.5,3098N×10103E,h0km,mb3.2/4, mb1 3.5/5,mb1mx3.3/20,mbtmp3.3/5,ML3.1/1,Error ellipse: s-maj=73.7km s-min=23.9km az=67.0*
*BJI **15** 18:13:06.0,3105N×10100E,h17km,mb4.4,ML3.8,Ms3.8, Msz3.8*
ISC 15 18:13:02.9±0.8,3110N±005×10104E±007,h10km,n10, σ0°90/16,mb3.3/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.34**	**94**	P	**Pn**	**18 13 46.3**	**+4.9**
CD2				PG	**Pg**	**18 13 48.0**	**+0.2**
CD2				SG	**Sg**	**18 14 18.4**	**+0.3**
CD2				Smax			
	comp=N,490nm,0.8s						
CD2				Smax			
	comp=E,960nm,0.6s						
LZH	**Lanzhou**	**5.49**	**24**	PG	**Pg**	**18 14 42.8**	**-5.3**
LZH				S	**Sn**	**18 15 26.3**	**-1.7**
LZH				SG	**Sg**	**18 15 59.8**	**+0.5**
LZH				Smax			
	comp=N,116nm,0.9s						
LZH				Smax			
	comp=E,120nm,1.0s						
LZH				LR	LR		
	comp=E,808nm,7.0s						
LZH				LR	LR		
	comp=Z,837nm,7.3s						
KMI	**Kunming**	**6.14**	**165**	P	**Pn**	**18 14 34.3**	**+0.7**
GYA	**Guiyang**	**6.76**	**132**	P	**Pn**	**18 14 49.3**	**+7.1**
GYA				S	**Sn**	**18 16 09.8**	**+11**
GYA				SG	**Sg**	**18 16 36.3**	**-3.7**
GYA				Smax			
	comp=N,60nm,0.9s						
GYA				Smax			
	comp=E,60nm,0.9s						
XAN	**Xi'an**	**7.27**	**64**	P	**Pn**	**18 14 52.9**	**+3.8**
SONM	**Songino Array**	**17.21**	**12**	P	**Pn**	**18 17 04.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=194,slow=11,SNR=12						
MKAR	**Makanchi Array**	**21.32**	**323**	P	**P**	**18 17 50.2**	**+0.3**
	comp=E,0.4nm,0.5s,mb3.0,baz=119,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**59.99**	**143**	P	**P**	**18 23 08.3**	**-1.3**
	comp=E,0.7nm,0.8s,mb3.8,baz=335,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**62.91**	**146**	P	**P**	**18 23 28.9**	**-0.3**
	comp=E,0.2nm,0.6s,mb3.4,baz=333,slow=7.2,SNR=5.1						
YKA	**Yellowknife Ar**	**82.44**	**16**	P	**P**	**18 25 25.6**	**+0.2**
	comp=E,0.1nm,0.4s,mb3.1,baz=333,slow=4.2,SNR=3.2						

IDC 15 18:22:20.5±2.1,141N×12672E,h0km,mb3.1/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,Error ellipse: s-maj=173.9km s-min=26.0km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**161**	P	P	18 27 22.0	+0.5
	0.4nm,0.3s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.88**	**165**	P	P	18 27 54.0	+0.1
	0.2nm,0.5s,baz=347,slow=7.3,SNR=7.2						
MKAR	**Makanchi Array**	**59.45**	**326**	P	P	18 32 25.4	+0.2
	0.1nm,0.5s,baz=124,slow=8.7,SNR=5.0						

MAN 15 18:29:15.5,962N×12195E,h2km,mb7.9,Sulu Sea

*MAN **15** 18:43:33.5,432N×12481E,h41km,mb4.2,ML5.1,MS8.1*
*ISCJB **15** 18:43:34.5±0.4,432N±003×12496E±008,h55km, mb4.3/21,MS3.3/4,Error ellipse: s-maj=11.6km s-min=4.4km az=177.0*
*IDC **15** 18:43:36.2±0.9,438N×12499E,h53km±7km,mb3.8/8, mb1 3.9/8,mb1mx3.7/21,mbtmp4.0/8,MS3.4/4,Ms1 3.4/4, ms1mx3.1/35,Error ellipse: s-maj=39.1km s-min=13.0km az=57.0*
*NEIC **15** 18:43:36.7±0.4,428N×12495E,mb4.5/5,Error ellipse: s-maj=20.4km s-min=7.7km az=59.0*
*BJI **15** 18:43:36.0,430N×12500E,h55km,mb4.3*
*MOS **15** 18:43:51.9±3.1,588N×12272E,h33km,mb4.7/4,Error ellipse: s-maj=26.4km s-min=14.7km az=112.4*
ISC 15 18:43:36.6±0.4,433N±003×12499E±008,h57km, h57km±4.1km:pP-P,n43,σ1°02/40,mb4.3/21,MS3.3/4, 1C-3D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.66**	**2**	⇓*eP*	**Pn**	**18 44 16.3**	**-0.8**
KCP				*e*S	**Sn**	**18 44 48.3**	**+0.2**
DMPH	**Davao City--Mi**	**2.78**	**11**	⇑*iP*	**Pn**	**18 44 18.9**	**+0.2**
DMPH				*i* S	**Sn**	**18 44 53.7**	**+2.7**
CTBH	**Cotabato--PC H**	**2.96**	**346**	*eP*	**Pn**	**18 44 19.3**	**-1.9**
CTBH				*e*S	**Sn**	**18 44 50.6**	**-4.9**
BIPH	**Bislig**	**4.06**	**20**	⇓*iP*	**Pn**	**18 44 35.2**	**-1.0**
BIPH				*i* S	**Sn**	**18 45 23.5**	**+1.0**
CGP	**Cagayan de Oro**	**4.11**	**356**	⇓*eP*	**Pn**	**18 44 36.0**	**-0.9**
CGP				*i* S	**Sn**	**18 45 23.3**	**-0.2**
DCPH	**Dipolog City**	**4.52**	**339**	*eP*	**Pn**	**18 44 39.7**	**-2.9**
SCPH	**Surigao**	**5.44**	**5**	*eP*	**Pn**	**18 44 53.3**	**-1.8**
KAKA	**Kakadu**	**18.48**	**156**	*eP*	**Pn**	**18 47 46.9**	**-1.7**
	9.8nm,0.6s						
GUMO	**Guam**	**21.66**	**64**	LR	LR	18 56 35.1	
	comp=Z,42nm,20.9s,MS2.8,baz=266,slow=36						
FITZ	**Fitzroy Crossi**	**22.30**	**178**	*eP*	**P**	**18 48 30.2**	**+1.0**
	7.6nm,0.6s,mb4.3						
JOW	**Kunigami**	**22.59**	**8**	LR	LR	18 55 50.7	
	comp=Z,107nm,21.7s,MS3.2,baz=162,slow=33						
WRAB	**Tennant Creek**	**25.81**	**159**	*eP*	**P**	**18 49 02.7**	**+0.3**
	22nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**25.82**	**159**	P	**P**	**18 49 02.9**	**+0.4**
	5.6nm,0.9s,mb4.1,baz=341,slow=10.0,SNR=26						
WB2	**Warramunga Arr**	**25.82**	**159**	*eP*	**P**	**18 49 02.7**	**+0.2**
WB2				*e*S	**S**	**18 53 42.5**	**+15**
MBWA	**Marble Bar**	**25.85**	**191**	*eP*	**P**	**18 49 02.1**	**-0.7**
PMG	**Port Moresby**	**25.97**	**122**	P	**P**	**18 49 04.6**	**+0.7**
	11nm,0.7s,mb4.5,baz=14,slow=6.8,SNR=6.7						
PSI	**Prapat**	**26.06**	**268**	P	**P**	**18 49 05.0**	**+0.4**
	1.8nm,0.5s,mb3.9,baz=59,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**29.16**	**163**	P	**P**	**18 49 32.4**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=343,slow=7.8,SNR=10						
ASAR				pP	pP	18 49 47.8	+1.2
	1.4nm,0.6s,baz=343,slow=8.0,SNR=6.4						
ENH	**Enshi**	**29.66**	**332**	*eP*	**P**	**18 49 42.9**	**+6.0**
XAN	**Xi'an**	**33.12**	**335**	P	**P**	**18 50 13.0**	**+5.8**
CD2	**Chengdu**	**33.15**	**325**	*eP*	**P**	**18 50 08.5**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**34.28**	**19**	LR	LR	19 02 13.6	
	comp=Z,82nm,20.1s,MS3.5,baz=325,slow=33						
KLBR	**Kellerberrin**	**36.38**	**190**	*eP*	**P**	**18 50 34.6**	**-0.8**
	comp=Z,32nm,1.3s,mb5.1						
SHL	**Shillong**	**38.12**	**307**	*eP*	**P**	**18 50 51.0**	**+0.9**
STKA	**Stephens Creek**	**39.33**	**157**	*eP*	**P**	**18 51 00.7**	**+0.5**
	comp=Z,4.2nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**39.33**	**157**	P	**P**	**18 51 00.2**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.1,baz=342,slow=8.8,SNR=6.4						
STKA				pP	pP	18 51 14.6	-0.1
	comp=Z,4.8nm,0.9s,baz=360,slow=3.0,SNR=4.9						
STKA	**Stephens Creek**	**39.33**	**157**	*eP*	**P**	**18 50 59.9**	**-0.3**
STKA				pP	pP	18 51 14.6	-0.1
LSA	**Lhasa**	**40.74**	**312**	*eP*	**P**	**18 51 14.6**	**+2.7**
	comp=Z,4.1nm,0.6s,mb4.2						
GTA	**Gaotai**	**41.70**	**330**	*eP*	**P**	**18 51 26.8**	**+7.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.8						
ASAJ	**Asahikawa**	**42.55**	**19**	LR	LR	19 07 48.1	
	comp=Z,76nm,20.3s,MS3.6,baz=172,slow=34						
YSS	**Yuzh-Sakhalins**	**45.15**	**17**	*i P*	pP	18 52 02.5	+0.1
YSS				pmax	pmax		
	comp=Z,46nm,2.5s,mb4.9						
MKAR	**Makanchi Array**	**56.08**	**326**	P	**P**	**18 53 10.2**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=122,slow=8.2,SNR=14						
MKAR				pP	pP	18 53 23.4	-1.7
	comp=Z,3.0nm,0.7s,baz=126,slow=8.3,SNR=15						
YAK	**Yakutsk**	**57.67**	**3**	*i P*	pP	18 53 34.3	-2.1
YAK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
MA2	**Magadan**	**58.56**	**15**	*eP*	pP	18 53 41.0	-1.7
MA2				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
KURK	**Kurchatov**	**60.31**	**328**	*i* P	**P**	**18 53 45.8**	**+6.4**
KURK	**Kurchatov**	**60.31**	**328**	*eP*	**P**	**18 53 38.8**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.8						
SEY	**Seymchan**	**61.85**	**14**	*i* P	pP	18 54 04.5	-0.8
BVAR	**Borovoye Array**	**65.87**	**327**	P	**P**	**18 54 16.3**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2,baz=108,slow=4.7,SNR=3.8						
BRVK	**Borovoye**	**65.95**	**327**	*eP*	**P**	**18 54 17.6**	**+0.9**
	comp=Z,1.6nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**66.59**	**327**	*eP*	**P**	**18 54 20.9**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.4						
TIXI	**Tiksi**	**67.27**	**1**	*i* P	pP	18 54 38.1	-2.7
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
AKTK	**Aktyubinsk**	**72.11**	**322**	P	**P**	**18 54 55.0**	**0.0**
AKTO	**Aktyubinsk**	**72.11**	**322**	P	**P**	**18 54 55.0**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=140,slow=4.7,SNR=2.5						

*NIED **15** 18:46:00,3340N×13220E,h32km,Mw3.9 Best double couple: M0 7.02000×10^14 NP1:φ=217.00000°,δ69.00000°, λ-99.00000°. NP2:φ=61.00000°,δ23.00000°,λ-68.00000°.*
*ISCJB **15** 18:46:28.9±0.4,3336N±004×13224E±004,h55km±4km, mb3.7/7,MS3.3/1,Error ellipse: s-maj=6.6km s-min=5.1km az=170.0*
*NEIC **15** 18:46:29.9,3336N×13223E,h44km,MG4.0(JMA),After JMA.*
NEIC Recorded [2 JMA] in Ehime and Kochi Prefectures. Recorded [1 JMA] in Miyazaki and Oita Prefectures, Kyushu. Also recorded [1 JMA] in Yamaguchi Prefecture, Honshu.
*JMA **15** 18:46:29.8,3336N×13223E,h44km,M3.9 Broadband fault plane solution: P waves. NP1:φ=84.00000°, δ15.00000°,λ-23.00000°. NP2:φ=196.00000°,δ84.00000°, λ-104.00000°. Principal axes: T Plg38.0000°, Azm298.0000°; N Plg14.0000°, Azm197.0000°; P Plg49.0000°, Azm91.0000°;*
JMA Felt II J1.
*IDC **15** 18:46:31.1±1.8,3339N×132.17E,h62km±18km,mb3.4/7, mb1 3.7/9,mb1mx3.5/22,mbtmp3.7/9,MS3.3/2,Ms1 3.3/2, ms1mx2.5/16 Error ellipse: s-maj=23.0km s-min=16.0km az=117.0*
ISC 15 18:46:29.9±0.4,3336N±004×13223E±004,h47km±4km, n25,σ0°75/33,mb3.7/7,MS3.3/1,4C-5D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.29**	**47**	⇑P	**Pn**	**18 46 38.2**	**-0.5**
JNA				*e*S	**Sn**	**18 46 44.0**	**-0.9**
UWA2	**Uwa jima 2**	**0.36**	**113**	⇑P	**Pn**	**18 46 38.9**	**-0.5**
UWA2				S	**Sn**	**18 46 45.6**	**-0.6**
JUS	**Usuki**	**0.49**	**234**	⇓P	**Pn**	**18 46 40.5**	**-0.4**
JUS				S	**Sn**	**18 46 48.0**	**-0.7**
JKI	**Kunimi**	**0.61**	**297**	⇓P	**Pn**	**18 46 42.4**	**0.0**
JKI				S	**Sn**	**18 46 51.3**	**-0.1**
JTO	**Tosashimizu**	**0.69**	**136**	⇑P	**Pn**	**18 46 43.3**	**-0.2**
JTO				S	**Sn**	**18 46 53.1**	**-0.1**
JKU	**Kubokawa**	**0.70**	**94**	⇑P	**Pn**	**18 46 43.4**	**-0.2**
JKU				S	**Sn**	**18 46 54.1**	**+0.7**
JKD	**Kudamatsu**	**0.75**	**337**	⇓P	**Pn**	**18 46 44.1**	**-0.1**
JKD				S	**Sn**	**18 46 54.3**	**-0.3**
JET	**Tanbara**	**0.81**	**58**	⇓P	**Pn**	**18 46 44.8**	**-0.1**
JHM	**Kurahashi**	**0.82**	**18**	⇓P	**Pn**	**18 46 44.9**	**-0.2**
JKIT	**Kitakata**	**0.98**	**222**	P	**Pn**	**18 46 47.5**	**+0.2**
JNU	**Nakatsue**	**1.15**	**259**	P	**Pn**	**18 46 50.5**	**+0.9**
	244nm,0.3s,baz=74,slow=3.3,SNR=692						
JNU				S	**Sn**	**18 47 05.6**	**+1.3**
	228nm,0.3s,baz=331,slow=19,SNR=48						
KS15	**Wonju Array Si**	**5.40**	**320**	*eP*	**Pn**	**18 47 48.4**	**+0.5**
MAT	**Matsushiro**	**5.85**	**55**	P	**Pn**	**18 47 55.1**	**+1.1**
MAT				*e*S	**Sn**	**18 49 01.5**	**+1.7**
MJAR	**Matsushiro Arr**	**5.85**	**55**	P	**Pn**	**18 47 55.5**	**+1.5**
	2.1nm,0.3s,baz=242,slow=14,SNR=35						
JOW	**Kunigami**	**7.35**	**209**	P	**Pn**	**18 48 15.9**	**+1.3**
	0.3nm,0.3s,baz=18,slow=20,SNR=3.1						
CBIJ	**Chichi jima**	**10.63**	**123**	LR	LR	18 52 28.9	
	comp=Z,90nm,20.8s,baz=263,slow=34						
BJT	**Baijiatuau**	**14.49**	**302**	P	**Pn**	**18 49 57.5**	**+5.4**
	9.7nm,0.8s						
SONM	**Songino Array**	**24.22**	**314**	P	**P**	**18 51 41.4**	**-0.7**
	0.6nm,0.7s,mb3.1,baz=126,slow=8.6,SNR=7.3						
SONM				LR	LR	19 02 12.9	
	comp=Z,102nm,18.8s,MS3.3,baz=3.0,slow=39						
WRA	**Warramunga Arr**	**53.04**	**178**	P	**P**	**18 55 41.6**	**-0.6**
	1.7nm,0.9s,mb4.0,baz=353,slow=7.9,SNR=9.9						
ILAR	**Eielson Array**	**56.55**	**30**	P	**P**	**18 56 07.5**	**0.0**
	0.6nm,0.7s,mb3.7,baz=279,slow=7.8,SNR=8.8						
ASAR	**Alice Springs**	**56.73**	**178**	P	**P**	**18 56 09.1**	**+0.2**
	1.3nm,0.6s,mb4.2,baz=12,slow=12,SNR=26						
INK	**Inuvik**	**60.99**	**25**	P	**P**	**18 56 37.0**	**-1.4**
	0.4nm,0.5s,mb3.8,baz=85,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**70.62**	**27**	P	**P**	**18 57 39.2**	**-1.2**
	0.1nm,0.4s,mb3.1,baz=297,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**70.62**	**27**	P	**P**	**18 57 39.2**	**-1.2**
PDAR	**Pinedale Array**	**85.48**	**41**	P	**P**	**18 59 02.2**	**-0.4**
	0.5nm,0.8s,mb3.7,baz=315,slow=2.1,SNR=3.8						

*BJI **15** 19:01:37.5,079S×12486E,h53km,mB5.0,mb5.0,Ms4.5, Msz5.1*
*ISCJB **15** 19:01:49.9±0.8,003S±003×12430E±005,h105km±7km, mb4.8/73,Error ellipse: s-maj=8.4km s-min=5.2km az=151.7*
*IDC **15** 19:01:49.8±2.2,004S×12423E,h87km±19km,mb4.6/30, mb1 4.6/30,mb1mx4.6/32,mbtmp4.9/30,MS3.7/9, Ms1 3.7/9,ms1mx3.4/29,Error ellipse: s-maj=14.5km s-min=7.4km az=70.0*
*MOS **15** 19:01:50.5±1.0,003N×12427E,h109km,mb4.9/16,Error ellipse: s-maj=14.4km s-min=7.4km

comp=Z,24nm,0.6s,mb4.7,baz=331,slow=10.0,SNR=121
WRA S **S** **19 10 34.0 -0.8**
comp=Z,8.9nm,0.9s,baz=339,slow=16,SNR=6.7
WB2 Warramunga Arr 22.08 154 ⇑ *i* P **P** **19 06 36.8 -1.3**
WB2 *e*S **S** **19 10 33.8 -1.1**
QIZ Qiongzhong 23.68 324 P **P** **19 06 55.3 +1.6**
QIZ *e*S **S** **19 11 06.1 +5.2**
QIZ AMB AMB
comp=Z,15nm,1.1s,mb4.2
QIZ LR LR
comp=E,195nm,15.5s
QIZ Qiongzhong 23.68 324 *e*P **P** **19 06 52.8 -0.9**
comp=E,12nm,0.7s,mb4.3
IPM Ipoh 23.69 281 P **P** **19 06 54.7 +1.0**
KULM Kulim 24.21 283 *e*P **P** **19 06 58.7 +0.2**
PMG Port Moresby 24.57 113 P **P** **19 07 02.7 +1.0**
comp=E,8.7nm,0.4s,mb4.5,baz=68,slow=8.0,SNR=15
PMG Port Moresby 24.57 113 *e*P **P** **19 07 02.2 +0.4**
PMG *e* 19 07 21.0
PMG pmax pmax
comp=Z,10.0nm,0.5s
PMG Port Moresby 24.57 113 *e*P **P** **19 07 02.2 +0.5**
comp=Z,9.9nm,0.5s,mb4.5
PMG *e* 19 07 21.0
ASAR Alice Springs 25.26 159 P **P** **19 07 08.7 +0.7**
comp=Z,17nm,0.5s,mb4.7,baz=336,slow=8.3,SNR=306
ASAR PcP PcP 19 10 40.6 +2.1
comp=Z,4.4nm,0.5s,baz=353,slow=2.1,SNR=12
ASAR S **S** **19 11 28.5 +2.5**
comp=Z,2.1nm,0.9s,baz=346,slow=18,SNR=5.1
PSI Prapat 25.53 277 P **P** **19 07 10.4 0.0**
comp=Z,16nm,0.7s,mb4.6,baz=96,slow=4.1,SNR=24
PSI LR LR 19 18 33.0
comp=Z,97nm,20.8s,baz=98,slow=39
JOW Kunigami 27.00 8 P **P** **19 07 24.1 +0.4**
comp=Z,20nm,0.8s,mb4.7,baz=186,slow=10,SNR=4.1
JOW LR LR 19 16 58.4
comp=Z,144nm,21.8s,baz=143,slow=34
CTA Charters Tower 29.30 134 P **P** **19 07 46.0 +1.9**
comp=Z,5.3nm,0.8s,mb4.2,baz=313,slow=9.1,SNR=3.3
SSE Sheshan 31.12 355 *e*P **P** **19 07 59.1 -1.0**
SSE AP pP 19 08 12.0 -11
SSE XP sP 19 08 18.3 -17
SSE PP PP 19 09 09.3 -2.9
SSE PCP PcP 19 10 52.1 -0.9
SSE S **S** **19 13 03.3 +5.2**
SSE XS sS 19 13 25.8 -12
SSE SCS ScS 19 18 24.3 +0.5
SSE AMB AMB
comp=Z,26nm,0.6s,mb5.1
SSE AMB AMB
comp=Z,73nm,3.5s
KLBR Kellerberrin 31.98 191 *e*P **P** **19 08 06.8 -0.9**
comp=Z,88nm,1.5s,mb5.3
CBIJ Chichi jima 32.00 31 P **P** **19 08 07.7 -0.2**
comp=Z,57nm,0.4s,mb5.7,baz=258,slow=7.0,SNR=16
CBIJ LR LR 19 19 25.4
comp=Z,51nm,18.4s,baz=175,slow=33
NJ2 Nanjing 32.34 351 *e*P **P** **19 08 11.9 +1.0**
NJ2 AP pP 19 08 23.3 -11
NJ2 XP sP 19 08 29.3 -17
NJ2 PP PP 19 09 20.4 -5.4
NJ2 S **S** **19 13 23.0 +5.8**
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
NJ2 LR LR
comp=N,40nm,14.0s
NJ2 LR LR
comp=E,210nm,14.0s
NJ2 LR LR
comp=Z,5μm,14.0s
KMI Kunming 32.58 322 P **P** **19 08 16.1 +3.2**
KMI S **S** **19 13 24.3 +3.4**
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
MUN Mundaring 32.67 193 *e*P **P** **19 08 13.7 0.0**
ENH Enshi 33.29 336 *e*P **P** **19 08 19.7 +0.5**
comp=Z,14nm,0.8s,mb4.8
NWAO Narrogin (SRO) 33.37 191 P **P** **19 08 19.9 +0.1**
comp=Z,7.6nm,0.6s,mb4.7,baz=24,slow=6.2,SNR=9.0
NWAO LR LR 19 21 39.3
comp=Z,126nm,21.0s,baz=179,slow=36
NWAO Narrogin (SRO) 33.37 191 *e*P **P** **19 08 20.3 +0.4**
JNU Nakatsue 33.57 10 P **P** **19 08 21.1 -0.5**
comp=Z,12nm,0.6s,mb4.9,baz=77,slow=14,SNR=3.6
STKA Stephens Creek 35.63 154 ⇑ *i*P **P** **19 08 38.4 -0.9**
comp=Z,9.5nm,0.5s,mb5.0
STKA Stephens Creek 35.63 154 P **P** **19 08 38.4 -0.9**
comp=Z,11nm,0.4s,mb5.1,baz=336,slow=7.8,SNR=72
STKA LR LR 19 22 17.3
comp=Z,137nm,21.8s,baz=25,slow=34
STKA Stephens Creek 35.63 154 *e*P **P** **19 08 38.5 -0.8**
CD2 Chengdu 36.45 329 *e*P **P** **19 08 47.6 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,50nm,4.8s
XAN Xi'an 36.85 338 P **P** **19 08 49.3 -0.4**
XAN AP pP 19 09 00.8 -12
XAN AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
MAT Matsushiro 38.63 18 P **P** **19 09 04.0 -0.7**
MAT *e*S **S** **19 14 53.8 +0.4**
MJAR Matsushiro Arr 38.63 18 P **P** **19 09 04.3 -0.3**
comp=Z,18nm,0.6s,mb5.1,baz=192,slow=8.7,SNR=58
MJAR PcP PcP 19 11 16.7 +1.8
comp=Z,3.1nm,0.8s,baz=173,slow=3.6,SNR=4.1
MJAR Matsushiro Arr 38.63 18 P **P** **19 09 04.3 -0.3**
MJAR PcP PcP 19 11 16.7 +1.8
TOO Toolangi 42.15 155 *e*P **P** **19 09 36.3 +2.6**
comp=Z,17nm,1.1s,mb4.7
CNB Canberra Magne 42.15 149 *e*P **P** **19 09 36.3 +2.6**
comp=Z,20nm,1.0s,mb4.8
LSA Lhasa 43.28 316 P **P** **19 09 45.0 +2.2**
LSA AMB AMB
comp=Z,80nm,0.7s,mb5.6
LSA Lhasa 43.28 316 *e*P **P** **19 09 44.8 +2.0**
LSA *e* 19 11 33.1
LSA pmax pmax
comp=Z,12nm,0.6s,mb4.8
LSA Lhasa 43.28 316 *e*P **P** **19 09 44.8 +1.9**
comp=Z,12nm,0.6s,mb4.8
LSA *e* 19 09 53.0
LSA *e*PcP PcP 19 11 33.1 +3.1
VLA Vladivostok 43.51 8 *i* P **P** **19 09 45.6 +0.9**
VLA *e* 19 10 27.2
VLA pmax pmax
comp=Z,28nm,1.1s,mb4.9
MDJ Mudanjiang 44.72 5 P **P** **19 09 54.8 +0.5**
MDJ AMB AMB
comp=Z,17nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,108nm,6.5s
MDJ Mudanjiang 44.72 5 *e*P **P** **19 09 54.4 0.0**
comp=Z,15nm,0.7s,mb4.8
GTA Gaotai 45.21 333 *e*P **P** **19 09 59.3 +1.1**
GTA SCP ScP 19 15 24.9 +5.1
GTA AMB AMB
comp=Z,21nm,0.8s,mb4.9
JIRN Jiri 45.78 310 *e*P **P** **19 10 03.4 +0.7**
comp=Z,35nm,0.6s,mb5.2
GUN Gumba 46.14 310 *e*P **P** **19 10 06.3 +0.8**
comp=Z,43nm,0.5s,mb5.4
PKI Pulchoki 46.33 310 *e*P **P** **19 10 07.7 +0.7**
comp=Z,9.8nm,0.4s,mb4.9
KKN Kakani 46.54 310 *e*P **P** **19 10 08.9 +0.3**
comp=Z,17nm,0.5s,mb5.0
KKN Kakani 46.54 310 *e*P **P** **19 10 08.9 +0.3**
KKN pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
DMN Daman 46.58 309 *e*P **P** **19 10 09.9 +0.9**
comp=Z,25nm,0.8s,mb5.0
ASAJ Asahikawa 46.90 18 P **P** **19 10 12.7 +1.2**
comp=Z,12nm,0.6s,mb4.8,baz=232,slow=9.6,SNR=20
GKN Gorkha 47.14 310 *e*P **P** **19 10 13.9 +0.6**
comp=Z,13nm,0.3s,mb5.1
KOLN Koldanda 47.83 309 *e*P **P** **19 10 19.2 +0.5**
comp=Z,40nm,0.7s,mb5.4
HYB Hyderabad 48.25 294 *i* P **P** **19 10 21.5 -0.4**
comp=Z,50nm,1.0s,mb5.3
HYB Hyderabad 48.25 294 *e*P **P** **19 10 21.5 -0.4**
HABR Khabarovsk 49.22 9 *i* P **P** **19 10 30.3 +1.0**
HABR *i* S **S** **19 17 33.9 +6.6**
HABR pmax pmax
comp=Z,35nm,1.1s,mb5.2
HIA Hailar 49.28 356 *e*P **P** **19 10 29.8 0.0**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 49.28 356 *e*P **P** **19 10 29.8 0.0**
comp=Z,5.7nm,0.6s,mb4.7
KLR Kul'dur 49.51 6 *e*P **P** **19 10 28.3 -3.2**
ULN Ulaanbaatar 50.03 345 ⇓ *e*P **P** **19 10 35.5 +0.1**
SONM Songino Array 50.17 344 P **P** **19 10 36.4 -0.2**
comp=Z,3.4nm,0.5s,mb4.6,baz=158,slow=8.4,SNR=43
SONM ScP ScP 19 15 42.9 +2.2
comp=Z,0.5nm,0.7s,baz=158,slow=1.6,SNR=3.1
SONM LR LR 19 32 29.9
comp=Z,88nm,18.4s,baz=149,slow=37
ZAK Zakamensk 53.35 343 *e*P **P** **19 10 59.5 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
WMQ Urumqi 54.52 328 *e*P **P** **19 11 09.0 +0.4**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.9
MOY Mondy 55.16 343 *e*P **P** **19 11 12.8 -0.5**
BOD Bodaibo 58.28 354 ⇓ *i*P **P** **19 11 34.7 -0.6**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MKAR Makanchi Array 59.35 328 P **P** **19 11 42.3 -0.4**
comp=Z,9.2nm,0.4s,mb5.1,baz=121,slow=8.3,SNR=313
MKAR PcP PcP 19 12 30.4 +0.7
comp=Z,4.9nm,0.7s,baz=135,slow=6.9,SNR=7.4
MKAR LR LR 19 37 32.3
comp=Z,91nm,18.4s,baz=201,slow=36
MKAR Makanchi Array 59.35 328 ⇑ *e*P **P** **19 11 42.2 -0.5**
PET Petropavlovsk 60.13 23 ⇓ *e*P **P** **19 11 49.4 +1.3**
PET pmax pmax
comp=Z,34nm,1.9s,mb5.0
RPZ Rata Peaks 60.17 142 P **P** **19 11 50.6 +2.2**
comp=Z,31nm,0.9s,mb5.3,baz=16,slow=10.0,SNR=7.0
URZ Urewera 61.55 134 P **P** **19 11 58.4 +0.7**
comp=Z,7.8nm,0.4s,mb5.1,baz=244,slow=7.5,SNR=9.8
YAK Yakutsk 62.05 3 *c i*P **P** **19 12 01.0 -0.1**
YAK pmax pmax
comp=Z,123nm,1.0s,mb5.9
YAK MLR MLR
comp=Z,100nm,17.0s
YAK Yakutsk 62.05 3 *e*P **P** **19 12 01.3 +0.2**
comp=Z,96nm,0.7s,mb5.9
ZAL Zalesovo 62.90 335 P **P** **19 12 05.5 -1.2**
comp=Z,5.9nm,0.3s,mb4.9,baz=339,slow=5.4,SNR=21
ZAL Zalesovo 62.90 335 P **P** **19 12 05.5 -1.3**
MA2 Magadan 62.94 15 *e*P **P** **19 12 08.1 +1.1**
MA2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MA2 Magadan 62.94 15 *e*P **P** **19 12 08.1 +1.1**
comp=Z,16nm,0.7s,mb5.0
KURK Kurchatov 63.68 330 *e*P **P** **19 12 11.1 -0.7**
KURK pmax pmax
comp=Z,22nm,0.5s,mb5.2
KURK Kurchatov 63.68 330 *e*P **P** **19 12 11.1 -0.7**
comp=Z,22nm,0.5s,mb5.2
NVS Novosibirsk 64.19 335 *i* P **P** **19 12 12.3 -2.9**
SEY Seymchan 66.24 14 ⇓ *e*P **P** **19 12 29.7 +1.3**
FX1 Attu Island--F 66.55 30 P **P** **19 12 30.3 0.0**
comp=Z,18nm,0.8s,mb4.9,baz=214,slow=17,SNR=2.5
CASY Casey 66.81 186 *e*P **P** **19 12 33.0 +0.9**
BVAR Borovoye Array 69.20 329 P **P** **19 12 46.0 -1.0**
comp=Z,3.9nm,0.5s,mb4.5,baz=136,slow=7.7,SNR=29
BRVK Borovoye 69.27 329 *e*P **P** **19 12 46.6 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
BRVK Borovoye 69.27 329 *e*P **P** **19 12 46.6 -0.9**
comp=Z,3.6nm,0.4s,mb4.5
ZRNK Zerenda 69.89 328 *e*P **P** **19 12 50.3 -1.0**
ZRNK pmax pmax
comp=Z,96nm,0.8s,mb5.7
ZRNK Zerenda 69.89 328 *e*P **P** **19 12 50.3 -1.0**
comp=Z,96nm,0.8s,mb5.7
TIXI Tiksi 71.64 2 *d i*P **P** **19 13 01.3 -0.6**
TIXI pmax pmax
comp=Z,12nm,0.5s,mb5.0
TIXI MLR MLR
comp=Z,100nm,13.0s
BILL Bilibino 73.81 15 *i* P **P** **19 13 19.3 +4.6**
AKTK Aktyubinsk 75.14 323 P **P** **19 13 21.6 -0.7**
AKTK LR LR 19 46 41.5
AKTO Aktyubinsk 75.14 323 P **P** **19 13 21.6 -0.8**
comp=Z,5.7nm,0.5s,mb4.6,baz=109,slow=8.5,SNR=35
AKTO LR LR 19 46 41.5
comp=Z,79nm,20.2s,baz=21,slow=36
ARU Arti 76.85 329 ⇓ *i*P **P** **19 13 30.7 -1.4**
ARU *e* 19 16 23.7
ARU *e*S S 19 23 14.8 +3.5
ARU *e*SS SS 19 28 11.8 +2.2
ARU pmax pmax
comp=Z,10.0nm,1.6s,mb4.3
ARU Arti 76.85 329 *e*P **P** **19 13 30.4 -1.6**
comp=Z,6.2nm,0.6s,mb4.5
QRN Al-Qurain 78.10 299 *e*P **P** **19 13 38.0 -1.1**
QRN AMb AMB 19 13 38.7
comp=Z,26nm,0.3s,mb5.4
RDF Al-Radifah 78.44 299 *e*P **P** **19 13 39.7 -1.2**
RDF AMb AMB 19 13 40.7
comp=Z,13nm,0.6s,mb4.9
MIB Mutribah 78.72 300 *e*P **P** **19 13 41.3 -1.1**
MIB AMb AMB 19 13 42.8
comp=Z,16nm,0.8s,mb4.9
NAY Al-Naaiem 78.74 300 *e*P **P** **19 13 41.3 -1.3**
NAY AMb AMB 19 13 43.5
comp=Z,11nm,0.8s,mb4.7
MAW Mawson 79.39 200 P **P** **19 13 47.6 +1.4**
comp=Z,18nm,0.9s,mb4.9,baz=180,slow=4.8,SNR=3.5
MAW PKKPbc PKKPbc 19 32 36.7 +2.1
comp=Z,58nm,1.0s,baz=214,slow=7.3,SNR=9.4
VNDA Vanda 80.02 172 P **P** **19 13 50.3 +0.8**
comp=Z,3.5nm,0.4s,mb4.5,baz=319,slow=6.3,SNR=42
VNDA Vanda 80.02 172 *e*P **P** **19 13 50.7 +1.2**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 80.02 172 *e*P **P** **19 13 50.7 +1.1**
comp=Z,4.5nm,0.8s,mb4.3
ZEI Tsey 82.98 313 *i* P **P** **19 14 04.6 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
KDAK Kodiak Island 86.36 32 P **P** **19 14 23.6 +1.5**
comp=Z,9.2nm,0.7s,mb4.8,baz=239,slow=5.9,SNR=4.3
KMBO Kilima Mbogo 87.05 269 P **P** **19 14 26.0 +0.5**
comp=Z,2.5nm,0.6s,mb4.3,baz=86,slow=6.8,SNR=11
KMBO Kilima Mbogo 87.05 269 *e*P **P** **19 14 27.4 +1.9**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 87.05 269 *e*P **P** **19 14 27.4 +1.9**
comp=Z,1.8nm,0.6s,mb4.2
KLMR Klimovskoe 87.49 331 *e*P **P** **19 14 26.2 -1.4**
KLMR pmax pmax
comp=Z,70nm,3.8s
SYO Syowa Base 88.05 201 ⇓ *e*PcP PcP 19 14 34.1 +2.2
SYO Syowa Base 88.05 201 ⇓ *e*pP pP 19 14 53.2 -4.0
SYO Syowa Base 88.05 201 ⇓ *e*P **P** **19 14 31.1 +0.9**
SYO ⇓ *e*PcP PcP 19 14 34.1 +2.2
SYO ⇓ *e*pP pP 19 14 53.2 -4.0
ILAR Eielson Array 89.53 25 P **P** **19 14 36.0 -1.2**
comp=Z,0.8nm,0.5s,mb4.1,baz=259,slow=4.5,SNR=16
BRTR Keskin Array B 90.55 310 P **P** **19 14 40.5 -1.4**
comp=Z,1.7nm,0.8s,mb4.2,baz=93,slow=5.5,SNR=8.6
KEV Kevo 92.58 340 *e*p **P** **19 14 49.5 -1.8**
ARCES ARCESS Array B 93.13 340 P **P** **19 14 52.4 -1.5**
comp=Z,1.9nm,0.5s,mb4.7,baz=63,slow=5.4,SNR=16
ARCES ARCESS Array B 93.13 340 P **P** **19 14 52.4 -1.5**
AKASG Malin Array Be 93.27 321 P **P** **19 14 52.7 -1.8**
comp=Z,1.1nm,0.6s,mb4.4,baz=75,slow=4.9,SNR=4.7
AKASG Malin Array Be 93.27 321 *i* P **P** **19 14 52.7 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 93.27 321 P **P** **19 14 52.7 -1.8**
KAF Kangasniemi 93.80 332 *e*p **P** **19 14 54.5 -2.4**
FINES FINESS Array B 93.99 332 P **P** **19 14 56.0 -1.8**
comp=Z,1.7nm,0.7s,mb4.5,baz=90,slow=3.8,SNR=7.8
FINES FINESS Array B 93.99 332 *i* P **P** **19 14 56.2 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 94.54 21 P **P** **19 15 00.2 -0.1**
comp=Z,1.3nm,0.5s,mb4.6,baz=300,slow=5.0,SNR=24
INK PKiKP PKiKP 19 19 43.0 +0.3
comp=Z,0.5nm,0.8s,baz=275,slow=1.4,SNR=4.1
INK PKKP PKKPbc 19 31 59.2 +1.0
INK Inuvik 94.54 21 P **P** **19 15 00.2 -0.1**
LSZ Lusaka 95.89 255 *e*P **P** **19 15 07.9 +1.4**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
LSZ Lusaka 95.89 255 *e*P **P** **19 15 07.9 +1.4**
comp=Z,7.4nm,0.8s,mb5.2
BOSA Boshof 97.92 241 LR LR 19 56 17.4
comp=Z,72nm,19.7s,baz=281,slow=33
GERES GERESS Array B 103.48 321 PKiKP PKiKP 19 19 59.7 +1.0
comp=Z,0.6nm,0.8s,baz=29,slow=2.2,SNR=3.7
YKA Yellowknife Ar 103.92 24 Pdiff Pdif 19 15 42.1 -0.2
comp=Z,0.2nm,0.6s,baz=301,slow=4.7,SNR=5.1
YKA PKiKP PKiKP 19 20 00.1 +0.7
comp=Z,0.4nm,0.5s,baz=313,slow=1.9,SNR=6.4
YKA PKKPbc PKKPbc 19 31 32.0 +0.1
comp=Z,0.5nm,0.6s,baz=115,slow=2.8,SNR=9.7
YKA PKKP PKKPbc 19 31 48.1 +16
comp=Z,0.2nm,0.3s,baz=104,slow=3.7,SNR=4.6
EKA Eskdalemuir Ar 110.38 331 PKKPbc PKKPbc 19 31 12.8 +1.0
comp=Z,5.2nm,1.2s,baz=231,slow=3.4,SNR=3.7
ELK Elko 112.69 45 PKiKP PKiKP 19 20 17.8 +1.9
comp=Z,0.7nm,0.5s,baz=333,slow=2.3,SNR=4.6
PDAR Pinedale Array 115.78 41 PKP PKPdf 19 20 24.7 +2.9
comp=Z,0.4nm,0.5s,baz=90,slow=1.5,SNR=4.2
PDAR PKKPab PKKPab 19 31 00.1 +1.1
comp=Z,1.1nm,0.7s,baz=127,slow=6.8,SNR=5.8
PDAR PKKP PKKPbc 19 31 20.7 +27
comp=Z,0.9nm,0.9s,baz=110,slow=4.1,SNR=2.9
ULM Lac du Bonnet 119.42 28 PKP PKPdf 19 20 28.9 0.0
comp=Z,0.8nm,0.3s,baz=299,slow=3.0,SNR=8.3
ANMO Albuquerque 121.34 48 ⇑ *i*PKiKP PKPdf 19 20 36.7 +4.2
TORD Torodi Ar. Bea 121.68 285 PKP PKPdf 19 20 34.8 +1.7
comp=Z,3.9nm,0.7s,baz=68,slow=1.6,SNR=25
TORD PKKPab PKKPab 19 30 35.9 +2.6
comp=Z,1.8nm,0.8s,baz=285,slow=4.0,SNR=8.6
SCHQ Schefferville 124.64 8 PKP PKPdf 19 20 39.9 +1.1
comp=Z,7.2nm,0.7s,baz=20,slow=2.4,SNR=22
DBIC Dimbokro 128.86 278 PKP PKPdf 19 20 49.1 +2.2
comp=Z,1.2nm,0.4s,baz=96,slow=3.0,SNR=6.8
CPUP Villa Florida 153.73 177 *e*PKPdf PKPdf 19 21 33.5 +3.1
CPUP PKPbc PKPbc 19 21 40.8 +2.4
CPUP *e*PKPab PKPab 19 21 54.3 +2.8
LPAZ La Paz 159.65 144 PKP PKPdf 19 21 41.6 +3.6
comp=Z,0.6nm,0.5s,baz=291,slow=5.6,SNR=3.5
LPAZ PKPab PKPab 19 22 21.6 +4.6
comp=Z,5.3nm,0.6s,baz=208,slow=3.7,SNR=16
BDFB Brasilia 162.66 206 PKPab PKPab 19 22 32.5 +2.3
comp=Z,2.6nm,0.7s,baz=174,slow=1.4,SNR=10

WEL 15 19:02:56.6±0.3, 3513S×17877E, h5km, ML3.5/3, Error ellipse: s-maj=5.4km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.96**	**188**	PN	Pn	19 03 43.7	-0.6
PUZ				SN	Sn	19 04 18.6	-1.6
MWZ	**Matawai**	**3.35**	**197**	P*	Pb	19 03 48.9	-7.6
MWZ				S*	Sb	19 04 27.8	-10
URZ	**Urewera**	**3.40**	**203**	*e*P*	Pb	19 03 49.5	-7.7
URZ				S*	Sb	19 04 29.6	-9.2

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*ISCJB **15** 19:05:55.9±1.2, 539N±0.1×1608W±02, h6km, mb3.8/6, Error ellipse: s-maj=19.3km s-min=8.8km az=92.6*
*IDC **15** 19:06:00.5±3.1, 5439N×16179W, h0km, mb3.9/6, mb1 3.7/9, mb1mx3.6/25, mbtmp3.7/9, ML3.1/2, Error ellipse: s-maj=74.7km s-min=22.8km az=160.0*
*NEIC **15** 19:06:04.8, 5441N×16151W, h6km, ML3.4(AEIC), After AEIC.*

ISC 15 19:05:58.3±1.2, 541N±01×1610W±02, h6km, n12, σ1°14/14, mb3.8/6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.34**	**13**	P	**Pn**	**19 06 25.6**	**+2.0**
SDPT				S	**Sb**	**19 06 41.2**	**-0.1**
UNV	**Unalaska Valle**	**3.25**	**269**	P	**Pn**	**19 06 50.8**	**+1.0**
KDAK	**Kodiak Island**	**6.04**	**48**	Pn	**Pn**	**19 07 32.1**	**+3.9**
0.7nm,0.3s,baz=32,slow=17,SNR=19							
KDAK				Sn	**Sn**	**19 08 38.0**	**+0.5**
0.3nm,0.3s,baz=201,slow=16,SNR=3.5							
ILAR	**Eielson Array**	**12.89**	**28**	Pn	**Pn**	**19 09 00.1**	**-2.0**
0.0nm,0.3s,baz=222,slow=13,SNR=2.7							
INK	**Inuvik**	**19.23**	**31**	P	**Pn**	**19 10 23.5**	**-0.6**
0.1nm,0.3s,baz=236,slow=12,SNR=7.4							
INK	**Inuvik**	**19.23**	**31**	P	**Pn**	**19 10 23.5**	**-0.6**
YKA	**Yellowknife Ar**	**25.30**	**52**	P	**P**	**19 11 30.5**	**+4.9**
0.2nm,0.6s,mb2.8,baz=267,slow=8.5,SNR=5.2							
SONM	**Songino Array**	**54.63**	**304**	P	**P**	**19 15 27.5**	**-0.3**
0.7nm,0.6s,mb3.9,baz=40,slow=6.5,SNR=5.2							
BVAR	**Borovoye Array**	**65.08**	**329**	P	**P**	**19 16 39.3**	**-0.3**
1.7nm,0.8s,mb4.1,baz=38,slow=5.4,SNR=4.7							
AKTO	**Aktyubinsk**	**70.86**	**335**	P	**P**	**19 17 15.4**	**-0.6**
1.6nm,0.8s,mb4.0,baz=23,slow=8.6,SNR=4.9							
AKASG	**Malin Array Be**	**75.27**	**353**	P	**P**	**19 17 41.1**	**-1.0**
0.4nm,0.3s,mb3.8,baz=7.1,slow=5.2,SNR=4.7							
BRTR	**Keskin Array B**	**85.75**	**349**	P	**P**	**19 18 38.9**	**+0.5**
1.8nm,1.1s,mb4.2,baz=342,slow=9.1,SNR=3.1							

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*IDC **15** 19:15:56.5±1.3, 737S×12873E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=102.2km s-min=22.7km az=69.0*
*ISCJB **15** 19:15:59.5±0.8, 73S±0.1×1289E±03, h33km, mb3.8/4, Error ellipse: s-maj=39.4km s-min=8.5km az=141.2*

ISC 15 19:16:01.9±0.9, 73S±01×1289E±03, h35km, n7, σ0°65/9, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.19**	**196**	*e*P	**Pn**	**19 18 39.2**	**-0.1**
6.4nm,0.6s							
WRA	**Warramunga Arr**	**13.62**	**158**	Pn	**Pn**	**19 19 11.4**	**-1.1**
0.4nm,0.3s,baz=342,slow=13,SNR=12							
WRA				Sn	**Sn**	**19 21 42.5**	**0.0**
0.2nm,0.3s,baz=330,slow=22,SNR=7.2							
ASAR	**Alice Springs**	**16.96**	**164**	Pn	**Pn**	**19 19 56.8**	**+0.4**
0.1nm,0.3s,baz=341,slow=9.8,SNR=10.0							
ASAR				Sn	**Sn**	**19 23 04.2**	**+0.6**
0.1nm,0.3s,baz=334,slow=23,SNR=4.0							
SONM	**Songino Array**	**58.40**	**342**	P	**P**	**19 25 54.5**	**+0.7**
0.6nm,0.8s,mb3.7,baz=161,slow=6.0,SNR=4.8							
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**19 26 55.9**	**-1.0**
1.3nm,0.7s,mb4.0,baz=128,slow=7.7,SNR=18							
ZAL	**Zalesovo**	**71.39**	**334**	P	**P**	**19 27 18.1**	**-0.3**
0.6nm,0.4s,mb3.8,baz=354,slow=7.8,SNR=6.5							
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**	**19 27 56.0**	**+0.8**
0.6nm,0.8s,mb3.6,baz=143,slow=7.4,SNR=5.6							

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*NAO **15** 19:24:28.7, 2988N×7391E, h33km, mb3.9*
*ISCJB **15** 19:24:44.4±0.3, 3300N±003×7363E±006, h10km, mb3.8/14, Error ellipse: s-maj=8.4km s-min=2.8km az=125.1*
*IDC **15** 19:24:45.3±0.9, 3310N×7368E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.9/26, mbtmp3.8/16, ML3.7/1, Error ellipse: s-maj=23.7km s-min=18.0km az=43.0*
*NEIC **15** 19:24:46.9±0.5, 3314N×7380E, h10km, mb3.7/4, Error ellipse: s-maj=13.9km s-min=5.0km az=47.0*
*NDI **15** 19:24:47.1±2.6, 3302N×7346E, h10km, MD3.7, ML3.6, mb3.7(NEIC)*
*NNC **15** 19:24:54.7±5.5, 3369N×7354E, h20km±41km, mb3.7, Error ellipse: s-maj=39.8km s-min=30.3km az=168.0*

ISC 15 19:24:46.5±0.3, 3298N±003×7355E±006, h10km, n71, σ1°33/100, mb3.8/14, 7C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**1.91**	**106**	*e*P	**Pn**	**19 25 20.6**	**+1.5**
THN				*e*S	**Sn**	**19 25 46.9**	**+3.8**
DLH	**Dalhousie**	**2.08**	**102**	*e*P	**Pn**	**19 25 25.0**	**+3.5**
DLH				*e*x	**Sn**	**19 25 53.0**	**+5.5**
PONG	**Pong**	**2.27**	**116**	*e*P	**Pn**	**19 25 27.0**	**+2.9**
PONG				*e*S	**Sn**	**19 25 56.0**	**+3.8**
BHK	**Bhakra**	**2.89**	**122**	*e*P	**Pg**	**19 25 49.7**	**+7.8**
BHK				*e*S	**Sg**	**19 26 22.7**	**+3.4**
SDNR	**Sundarnagar**	**3.25**	**116**	*e*P	**Pn**	**19 25 38.8**	**+1.2**
SDNR				*e*S	**Sn**	**19 26 16.8**	**+0.5**
SMLA	**Simla**	**3.58**	**120**	*e*P	**Pn**	**19 25 43.5**	**+1.3**
SMLA				*e*S	**Sn**	**19 26 25.2**	**+0.7**
DDI	**Dehra Dun**	**4.67**	**123**	*e*P	**Pn**	**19 25 59.0**	**+2.0**
DDI				*e*x	**Pg**	**19 26 18.0**	**+2.1**
KHET	**Khetri**	**5.27**	**158**	*e*P	**Pn**	**19 26 06.8**	**+1.6**
KHET				*e*S	**Sn**	**19 27 05.0**	**-1.0**
NDI	**New Delhi**	**5.32**	**143**	*e*P	**Pn**	**19 26 06.0**	**0.0**

NDI				*e*S		**Sn**	**19 27 05.5 -1.8**
AYAN	**Aya Nagar**	**5.44**	**145**	*e*P		**Pn**	**19 26 09.5 +1.8**
AYAN				*e*S		**Sn**	**19 27 08.6 -1.7**
KUDL	**Kundal**	**5.45**	**152**	*e*P		**Pn**	**19 26 08.1 +0.4**
KUDL				*e*S		**Sn**	**19 27 10.1 -0.4**
KUDL				AML		AML	19 27 46.0
	comp=E,64nm,0.4s						
KUDL				AML		AML	19 27 48.8
	comp=N,64nm,0.7s						
SONA	**Sohna**	**5.61**	**146**	*e*P		**Pn**	**19 26 11.2 +1.1**
SONA				*e*S		**Sn**	**19 27 12.7 -1.9**
SONA				AML		AML	19 28 04.0
	comp=N,46nm,0.8s						
SONA				AML		AML	19 28 05.0
	comp=E,103nm,0.5s						
KALG	**Kalgarh**	**5.64**	**127**	*e*P		**Pn**	**19 26 12.1 +1.7**
KALG				*e*x		**Sn**	**19 27 29.5 +14**
AJM	**Ajmer**	**6.55**	**171**	*e*P		**Pn**	**19 26 24.0 +1.1**
LGTI	**Lohaghat**	**6.73**	**120**	*e*x		x	19 26 49.5
LGTI				*e*x		x	19 27 18.3
AGRA	**Agra**	**6.88**	**145**	*e*P		**Pn**	**19 26 27.9 +0.5**
AGRA				*e*S		**Sn**	**19 27 44.6 -1.2**
AGRA				AML		AML	19 28 35.7
	comp=E,90nm,0.6s						
AGRA				AML		AML	19 28 39.3
	comp=N,79nm,0.7s						
AML	**Almayashu**	**9.13**	**1**	P		**Pn**	**19 26 59.8 +1.5**
	SNR=41						
KZA	**Kyzart**	**9.18**	**8**	P		**Pn**	**19 27 00.3 +1.4**
	SNR=49						
UCH	**Uchtor**	**9.26**	**4**	P		**Pn**	**19 27 01.5 +1.5**
	SNR=25						
AAK	**Ala-Archa**	**9.66**	**4**	P		**Pn**	**19 27 06.4 +0.8**
	SNR=17						
EKS2	**Erkin-Say**	**9.66**	**1**	P		**Pn**	**19 27 06.9 +1.3**
	SNR=37						
KBK	**Karagaybulak**	**9.72**	**6**	P		**Pn**	**19 27 08.8 +2.4**
	SNR=15						
CHMS	**Chumysh**	**10.04**	**5**	P		**Pn**	**19 27 11.9 +1.1**
	SNR=14						
TKM2	**Tokmak 2**	**10.05**	**9**	P		**Pn**	**19 27 12.4 +1.5**
	SNR=9.0						
TKM2	**Tokmak 2**	**10.05**	**9**	⇓Pn		**Pn**	**19 27 12.0 +1.1**
TKM2				⇑Sn		**Sn**	**19 28 58.4 -5.3**
	comp=N,11nm,0.8s						
KOLN	**Koldanda**	**10.11**	**118**	*e*Pn		**Pn**	**19 27 11.6 -0.2**
KOLN				*e*Sn		**Sn**	**19 28 59.6 -5.6**
	comp=N,37nm,0.6s						
KOLN	**Koldanda**	**10.11**	**118**	*e*Pn		**Pn**	**19 27 11.6 -0.2**
	comp=N,18nm,0.6s						
KOLN				*e*Sn		**Sn**	**19 28 59.6 -5.6**
KK31	**Karatay Array**	**10.38**	**348**	⇑Pn		**Pn**	**19 27 15.7 +0.2**
	comp=N,6.8nm,0.4s,baz=148,slow=11,SNR=265						
KK31				⇑Sn		**Sn**	**19 29 04.9 -6.9**
	comp=N,8.3nm,0.6s,baz=166,slow=22,SNR=11						
GKN	**Gorkha**	**10.77**	**115**	*e*Pn		**Pn**	**19 27 20.3 -0.5**
GKN				*e*Sn		**Sn**	**19 29 12.8 -8.6**
	comp=N,72nm,0.6s						
GKN	**Gorkha**	**10.77**	**115**	*e*Pn		**Pn**	**19 27 20.3 -0.5**
	comp=N,36nm,0.6s						
GKN				*e*Sn		**Sn**	**19 29 12.8 -8.6**
DMN	**Daman**	**11.33**	**115**	*e*Pn		**Pn**	**19 27 27.2 -1.2**
DMN				*e*Sn		**Sn**	**19 29 26.6 -8.4**
	comp=N,35nm,0.6s						
DMN	**Daman**	**11.33**	**115**	*e*Pn		**Pn**	**19 27 27.2 -1.2**
	comp=N,18nm,0.6s						
DMN				*e*Sn		**Sn**	**19 29 26.6 -8.4**
KKN	**Kakani**	**11.37**	**114**	*e*Pn		**Pn**	**19 27 27.0 -2.0**
KKN				*e*Sn		**Sn**	**19 29 27.0 -9.1**
	comp=N,37nm,0.6s						
KKN	**Kakani**	**11.37**	**114**	*e*Pn		**Pn**	**19 27 27.0 -2.0**
	comp=N,18nm,0.6s						
KKN				*e*Sn		**Sn**	**19 29 27.0 -9.1**
PKI	**Pulchoki**	**11.58**	**115**	*e*Pn		**Pn**	**19 27 30.2 -1.6**
PKI				*e*Sn		**Sn**	**19 29 31.8 -9.4**
	comp=N,38nm,0.6s						
PKI	**Pulchoki**	**11.58**	**115**	*e*Pn		**Pn**	**19 27 30.2 -1.6**
	comp=N,19nm,0.6s						
PKI				*e*Sn		**Sn**	**19 29 31.8 -9.4**
GUN	**Gumba**	**11.78**	**112**	*e*Pn		**Pn**	**19 27 32.6 -1.9**
GUN				*e*Sn		**Sn**	**19 29 35.8 -10**
	comp=N,41nm,0.7s						
GUN	**Gumba**	**11.78**	**112**	*e*Pn		**Pn**	**19 27 32.6 -1.9**
	comp=N,20nm,0.7s						
GUN				*e*Sn		**Sn**	**19 29 35.8 -10**
JIRN	**Jiri**	**12.14**	**113**	*e*Pn		**Pn**	**19 27 37.8 -1.6**
JIRN				*e*Sn		**Sn**	**19 29 45.1 -10**
	comp=N,36nm,0.5s						
JIRN	**Jiri**	**12.14**	**113**	*e*Pn		**Pn**	**19 27 37.8 -1.6**
	comp=N,18nm,0.5s						
JIRN				*e*Sn		**Sn**	**19 29 45.1 -10**
MK31	**Makanchi Array**	**15.32**	**23**	⇑P		**Pn**	**19 28 20.7 -2.1**
	comp=N,0.4nm,0.3s,baz=197,slow=11,SNR=23						
MKAR	**Makanchi Array**	**15.32**	**23**	Pn		**Pn**	**19 28 20.0 -2.8**
	comp=N,0.3nm,0.3s,baz=200,slow=12,SNR=15						
KURK	**Kurchatov**	**18.11**	**10**	⇑P		**Pn**	**19 28 54.2 -3.9**
	comp=N,2.3nm,0.7s						
KURK	**Kurchatov**	**18.11**	**10**	*e*P		**Pn**	**19 28 54.0 -4.1**
	comp=N,3.2nm,0.6s						
AB31	**Akbulak array**	**19.17**	**332**	⇓P		**Pn**	**19 29 09.1 -1.9**
	comp=N,1.7nm,0.7s,baz=151,slow=12,SNR=20						
VOSK	**Vostochnaya**	**19.82**	**355**	⇓P		**Pn**	**19 29 16.8 -1.9**
	comp=N,2.1nm,0.7s						
BVA0	**Borovoye Array**	**20.16**	**354**	⇑P		**P**	**19 29 19.6 -1.4**
	comp=N,0.6nm,0.8s,baz=156,slow=6.6,SNR=26						
BVAR	**Borovoye Array**	**20.16**	**354**	P		**P**	**19 29 20.3 -0.7**
	comp=N,2.0nm,0.5s,baz=154,slow=9.3,SNR=18						
BRVK	**Borovoye**	**20.20**	**354**	*e*P		**P**	**19 29 20.8 -0.7**
	comp=N,1.3nm,0.5s						
ZRNK	**Zerenda**	**20.22**	**352**	⇓P		**P**	**19 29 21.2 -0.4**
	comp=N,2.6nm,0.8s						
ZRNK	**Zerenda**	**20.22**	**352**	*e*P		**P**	**19 29 21.2 -0.4**
	comp=N,2.9nm,0.6s						
AKTK	**Aktyubinsk**	**20.87**	**331**	P		**P**	**19 29 28.7 +0.1**
AKTO	**Aktyubinsk**	**20.87**	**331**	⇑P		**P**	**19 29 28.6 -0.1**
	comp=N,1.6nm,0.8s						
AKTO	**Aktyubinsk**	**20.87**	**331**	P		**P**	**19 29 28.7 +0.1**
	comp=N,8.8nm,0.8s,baz=139,slow=8.8,SNR=37						
ZAL	**Zalesovo**	**22.43**	**18**	P		**P**	**19 29 44.0 -1.4**
	comp=N,3.2nm,0.6s,mb3.9,baz=266,slow=6.3,SNR=19						
SONM	**Songino Array**	**28.82**	**49**	P		**P**	**19 30 44.9 +0.1**
	comp=N,0.6nm,0.8s,mb3.4,baz=249,slow=9.2,SNR=4.5						
MLR	**Muntele Rosu**	**38.40**	**303**	P		**P**	**19 32 09.1 +1.1**
	comp=N,5.0nm,0.9s,mb4.2,baz=123,slow=12,SNR=7.5						
FINES	**FINESS Array B**	**41.57**	**328**	P		**P**	**19 32 34.9 +0.6**
	comp=N,1.1nm,0.9s,mb3.5,baz=127,slow=11,SNR=2.6						
ARCES	**ARCESS Array B**	**45.18**	**338**	P		**P**	**19 33 02.4 -1.1**
	comp=N,1.3nm,0.7s,mb3.9,baz=109,slow=7.9,SNR=7.2						
ARCES	**ARCESS Array B**	**45.18**	**338**	P		**P**	**19 33 02.4 -1.1**
HFS	**Hagfors**	**47.13**	**324**	P		**P**	**19 33 18.2 -0.6**
	comp=N,3.8nm,0.8s,mb4.4,baz=135,slow=6.3,SNR=4.9						
NB2	**NORSAR Subarra**	**48.45**	**325**	P		**P**	**19 33 28.1 -1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**48.45**	**325**	P		**P**	**19 33 28.1 -1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=97,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**67.83**	**272**	P		**P**	**19 35 46.1 +1.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=49,slow=6.3,SNR=11						
INK	**Inuvik**	**77.01**	**10**	P		**P**	**19 36 38.1 -1.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=0.0,slow=4.0,SNR=3.2						
ILAR	**Eielson Array**	**77.56**	**17**	P		**P**	**19 36 41.5 -1.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=302,slow=5.5,SNR=3.6						
WRA	**Warramunga Arr**	**78.33**	**123**	P		**P**	**19 36 47.5 +0.5**
	comp=Z,0.6nm,0.3s,mb3.9,baz=323,slow=5.2,SNR=21						
WRAB	**Tennant Creek**	**78.34**	**123**	*e*P		**P**	**19 36 48.0 +1.1**
	comp=Z,2.0nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**80.51**	**126**	P		**P**	**19 36 59.8 +1.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=306,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**84.63**	**4**	P		**P**	**19 37 19.6 -0.7**
	comp=Z,0.1nm,0.4s,mb3.3,baz=345,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**84.63**	**4**	P		**P**	**19 37 19.6 -0.7**

ISCJB ***15*** *19:27:20.9±0.9, 1294N±009×1447E±02, h94km±8km, mb3.9/12, Error ellipse: s-maj=30.4km s-min=15.3km az=3.6*
IDC ***15*** *19:27:21.7±0.9, 1298N×14470E, h82km±6km, mb3.6/9, mb1 3.8/9, mb1mx3.7/21, mbtmp3.9/9, Error ellipse: s-maj=30.2km s-min=15.1km az=98.0*
BJI ***15*** *19:27:21.0, 1295N×14493E, h106km, mB5.4, mb4.6*
NEIC ***15*** *19:27:22.2±0.9, 1296N×14468E, h88km±8km, mb4.6/2, Error ellipse: s-maj=18.6km s-min=10.0km az=93.0*
ISC 15 19:27:22.3±0.9,**1297N**±009×**1448E**±02,**h90**km±7km,**n19**, σ**0**≤**35**/17,**mb3.9**/12,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.62**	**7**	P	**Pn**	**19 27 38.0**	**0.0**
	772nm,0.3s,baz=188,slow=21,SNR=470						
GUMO				S	**Sn**	**19 27 49.8**	**0.0**
	1μm,0.3s,baz=33,slow=23,SNR=62						
MJAR	**Matsushiro Arr**	**24.20**	**347**	P	**P**	**19 32 30.7**	**+0.3**
	2.4nm,0.8s,mb3.6,baz=168,slow=9.3,SNR=8.7						
WRAB	**Tennant Creek**	**34.27**	**198**	*e*P	**P**	**19 33 59.8**	**+0.1**
	7.2nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**34.29**	**198**	P	**P**	**19 33 59.5**	**-0.2**
	4.5nm,0.9s,mb4.3,baz=22,slow=9.5,SNR=25						
ENH	**Enshi**	**36.86**	**304**	*e*P	**P**	**19 34 21.9**	**0.0**
	9.7nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**37.94**	**196**	P	**P**	**19 34 31.1**	**+0.1**
	1.4nm,0.6s,mb4.0,baz=21,slow=11,SNR=39						
SONM	**Songino Array**	**47.19**	**325**	P	**P**	**19 35 45.9**	**0.0**
	0.4nm,0.6s,mb3.3,baz=145,slow=8.9,SNR=5.4						
SONM				PcP	PcP	19 37 17.4	+1.5
	0.4nm,0.8s,baz=137,slow=6.0,SNR=3.2						
GTA	**Gaotai**	**47.53**	**312**	*e*P	**P**	**19 35 48.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**61.88**	**316**	P	**P**	**19 37 32.2**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=97,slow=8.6,SNR=7.5						
MKAR	**Makanchi Array**	**61.88**	**316**	P	**P**	**19 37 32.2**	**+0.1**
KURK	**Kurchatov**	**65.01**	**320**	*e*P	**P**	**19 37 52.1**	**-0.6**
ILAR	**Eielson Array**	**69.16**	**25**	P	**P**	**19 38 18.3**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=250,slow=5.9,SNR=25						
BVAR	**Borovoye Array**	**70.37**	**322**	P	**P**	**19 38 25.9**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.6,baz=100,slow=7.0,SNR=7.4						
INK	**Inuvik**	**74.96**	**22**	P	**P**	**19 38 53.6**	**0.0**
	comp=Z,1.9nm,1.0s,mb3.8,baz=280,slow=5.8,SNR=5.5						
YKA	**Yellowknife Ar**	**83.44**	**27**	P	**P**	**19 39 40.5**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=290,slow=5.3,SNR=7.4						
YKA	**Yellowknife Ar**	**83.44**	**27**	P	**P**	**19 39 40.5**	**+0.8**
DBIC	**Dimbokro**	**144.09**	**301**	PKP	PKPdf	19 46 47.0	-0.4
	comp=Z,2.0nm,0.8s,baz=40,slow=8.0,SNR=5.6						
DBIC	**Dimbokro**	**144.09**	**301**	PKP	PKPdf	19 46 47.0	-0.4
LPAZ	**La Paz**	**147.99**	**100**	PKPbc	PKPbc	19 47 00.8	+3.6
	comp=Z,1.0nm,0.8s,baz=284,slow=5.0,SNR=4.4						

CSEM ***15*** *19:36:57.4, 1793S×16969E, h33km, mb5.6*
LDG ***15*** *19:37:13.7, 1793S×16898E, h160km*
MOS ***15*** *19:37:25.8±1.2, 1808S×16935E, h286km, mb5.0/16, Error ellipse: s-maj=11.0km s-min=8.6km az=45.0*
ISCJB ***15*** *19:37:26.8±0.5, 1811S±004×16923E±005, h292km±4km, mb4.9/64, Error ellipse: s-maj=7.3km s-min=5.3km az=126.6*
SZGRF ***15*** *19:37:26.2, 1941S×16930E, h33km, Vanuatu Islands*
BJI ***15*** *19:37:26.7, 1745S×16922E, h267km, mB5.3, mb5.0*
NEIC ***15*** *19:37:27.2±0.8, 1809S×16928E, h285km±8km, mb4.8/28, Error ellipse: s-maj=6.6km s-min=5.6km az=197.0*
IDC ***15*** *19:37:27.1±0.9, 1810S×16924E, h283km±7km, mb4.5/17, mb1 4.5/21, mb1mx4.5/22, mbtmp5.2/21, Error ellipse: s-maj=8.8km s-min=8.5km az=13.0*
ISC 15 19:37:27.5±0.5,**1809S**±004×**16930E**±005,**h286**km±4km, **n275**,σ**0**≤**92**/150,**mb4.8**/63,**50C-7D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.09**	**293**	⇓*i*P	**Pn**	**19 38 08.4**	**+1.7**
BKM				S	**S**	**19 38 38.2**	**+0.3**
DZM	**Mont Dzumac**	**4.78**	**214**	P	**Pn**	**19 38 40.9**	**-1.0**
	27nm,0.3s,baz=52,slow=16,SNR=151						
DZM				S	**S**	**19 39 39.1**	**-2.5**
	16nm,0.3s,baz=78,slow=21,SNR=3.9						
DZM	**Mont Dzumac**	**4.78**	**214**	⇑*i*P	**Pn**	**19 38 40.8**	**-1.1**
DZM				*e*S	**S**	**19 39 39.6**	**-1.9**
HNR	**Honiara**	**12.51**	**312**	P	**Pn**	**19 40 16.6**	**+0.1**
	27nm,0.3s,baz=248,slow=0.7,SNR=13						
HNR				S	**S**	**19 42 29.3**	**-6.1**
	6.5nm,0.3s,baz=266,slow=8.5,SNR=2.0						
HNR	**Honiara**	**12.51**	**312**	*e*P	**Pn**	**19 40 16.3**	**-0.2**
HNR				pmax	pmax		
	comp=Z,828nm,0.8s						
HNR	**Honiara**	**12.51**	**312**	*e*Pn	**Pn**	**19 40 16.3**	**-0.1**
	comp=Z,828nm,0.8s						
RAO	**Raoul Island**	**16.12**	**136**	P	**P**	**19 40 58.6**	**+1.0**
	comp=Z,67nm,0.3s,baz=343,slow=23,SNR=2.8						
OUZ	**Omahuta**	**17.48**	**168**	PN	**P**	**19 41 13.8**	**+1.5**
WCZ	**Waipu Caves**	**18.33**	**167**	PN	**P**	**19 41 23.2**	**+1.8**
AFI	**Afiamalu**	**18.66**	**80**	P	**P**	**19 41 24.3**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=331,slow=21,SNR=2.9						
AFI	**Afiamalu**	**18.66**	**80**	P	**P**	**19 41 24.3**	**-0.6**
URZ	**Urewera**	**21.22**	**163**	P	**P**	**19 41 52.0**	**+0.5**
	comp=Z,151nm,0.5s,mb5.6,baz=326,slow=2.7,SNR=113						
URZ				S	**S**	**19 45 29.1**	**+1.4**
	comp=Z,4.0nm,0.6s,baz=350,slow=21,SNR=3.4						
URZ	**Urewera**	**21.22**	**163**	PN	**P**	**19 41 51.9**	**+0.5**
PUZ	**Puketiti**	**21.39**	**160**	PN	**P**	**19 41 52.8**	**-0.2**
PUZ				SN	**S**	**19 45 31.9**	**+1.5**
MWZ	**Matawai**	**21.41**	**162**	PN	**P**	**19 41 53.4**	**+0.2**
CTA	**Charters Tower**	**21.87**	**261**	⇑*i*P	**P**	**19 41 58.5**	**+1.2**
	comp=Z,29nm,0.8s,mb4.7						
CTA	**Charters Tower**	**21.87**	**261**	P	**P**	**19 41 58.3**	**+1.0**
	comp=Z,36nm,0.8s,mb4.8,baz=83,slow=11,SNR=24						
CTA				S	**S**	**19 45 40.2**	**+2.1**
	comp=Z,1.3nm,0.3s,baz=254,slow=20,SNR=2.8						
CTAO	**Charters Tower**	**21.87**	**261**	*e*P	**P**	**19 41 58.5**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,34nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**21.87**	**261**	*e*P	**P**	**19 41 58.5**	**+1.2**
	comp=Z,34nm,0.8s,mb4.7						
BKZ	**Black Stump Fm**	**21.91**	**165**	PN	**P**	**19 41 58.3**	**+0.6**
MRZ	**Mangatainoka R**	**23.14**	**168**	PN	**P**	**19 42 08.7**	**-0.2**
PMG	**Port Moresby**	**23.16**	**289**	P	**P**	**19 42 09.8**	**+0.8**
	comp=Z,49nm,1.0s,mb4.8,baz=91,slow=5.0,SNR=11						
PMG	**Port Moresby**	**23.16**	**289**	⇓*e*P	**P**	**19 42 10.2**	**+1.2**
PMG	**Port Moresby**	**23.16**	**289**	*e*P	**P**	**19 42 09.9**	**+0.9**
	comp=Z,96nm,1.2s,mb5.0						
KIW	**Kapiti Island**	**23.20**	**169**	PN	**P**	**19 42 09.5**	**+0.1**
BFZ	**Birch Farm**	**23.29**	**167**	PN	**P**	**19 42 09.8**	**-0.5**
SNZO	**South Karori**	**23.60**	**170**	*e*P	**P**	**19 42 13.0**	**-0.1**
	comp=Z,104nm,0.8s,mb5.2						
PAWZ	**Paruwai Farm**	**23.80**	**169**	PN	**P**	**19 42 14.5**	**-0.3**
CNB	**Canberra Magne**	**24.65**	**222**	*e*P	**P**	**19 42 23.8**	**+1.3**
	comp=Z,20nm,1.0s,mb4.5						
LTZ	**Lake Taylor**	**24.74**	**175**	PN	**P**	**19 42 23.2**	**-0.2**
RPZ	**Rata Peaks**	**25.59**	**177**	P	**P**	**19 42 30.8**	**-0.2**
	comp=Z,24nm,0.8s,mb4.7,baz=242,slow=1.4,SNR=10						
STKA	**Stephens Creek**	**28.52**	**236**	*e*P	**P**	**19 42 56.0**	**-1.0**
	comp=Z,4.7nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.52**	**236**	P	**P**	**19 42 56.0**	**-0.9**
	comp=Z,5.5nm,0.6s,mb4.2,baz=52,slow=8.3,SNR=28						
STKA				PcP	PcP	19 45 58.5	-2.1
	comp=Z,3.8nm,0.6s,baz=46,slow=2.6,SNR=4.6						
STKA				ScP	ScP	19 49 14.8	+0.6
	comp=Z,6.0nm,0.8s,baz=44,slow=1.3,SNR=9.1						
STKA	**Stephens Creek**	**28.52**	**236**	*e*P	**P**	**19 42 55.4**	**-1.5**
RAR	**Rarotonga**	**29.27**	**101**	P	**P**	**19 43 03.0**	**-0.5**
	comp=Z,19nm,0.7s,mb4.6,baz=47,slow=14,SNR=3.3						
WB2	**Warramunga Arr**	**33.06**	**261**	⇑*i*P	**P**	**19 43 35.4**	**-1.3**
WB2				*e*S	**S**	**19 48 28.2**	**-5.6**
WB2				*e*SCS	ScS	19 53 30.1	-0.3
WRAB	**Tennant Creek**	**33.06**	**261**	*c i*P	**P**	**19 43 35.6**	**-1.1**
WRAB	**Tennant Creek**	**33.06**	**261**	*e*P	**P**	**19 43 35.5**	**-1.1**
	comp=Z,12nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**33.07**	**261**	P	**P**	**19 43 35.6**	**-1.2**
	comp=Z,4.0nm,0.3s,mb4.5,baz=94,slow=7.7,SNR=210						
WRA				PcP	PcP	19 46 12.7	-0.1
	comp=Z,3.2nm,0.8s,baz=90,slow=2.8,SNR=6.2						
WRA				S	**S**	**19 48 30.6**	**-3.4**
	comp=Z,0.8nm,0.8s,baz=101,slow=15,SNR=4.8						
WRA				ScP	ScP	19 49 31.4	+2.0
	comp=Z,1.7nm,0.6s,baz=89,slow=3.7,SNR=8.8						
WRA	**Warramunga Arr**	**33.07**	**261**	P	**P**	**19 43 35.6**	**-1.1**
WRA						19 46 12.7	
WRA				S	**S**	**19 48 30.6**	**-3.4**
ASAR	**Alice Springs**	**33.48**	**254**	P	**P**	**19 43 40.0**	**-0.2**
	comp=Z,42nm,0.5s,mb5.3,baz=82,slow=8.7,SNR=1053						
ASAR				S	**S**	**19 48 39.0**	**-1.3**
	comp=Z,8.3nm,1.0s,baz=81,slow=18,SNR=29						
ASAR				ScP	ScP	19 49 33.0	+2.3
	comp=Z,2.4nm,0.7s,baz=96,slow=3.3,SNR=12						
ASAR	**Alice Springs**	**33.48**	**254**	P	**P**	**19 43 40.1**	**-0.1**
ASAR				S	**S**	**19 48 39.0**	**-1.2**
ASAR	**Alice Springs**	**33.48**	**254**	P	**P**	**19 43 40.0**	**-0.2**
ASAR				S	**S**	**19 48 39.0**	**-1.3**
ASAR				ScP	ScP	19 49 33.0	+2.3
KAKA	**Kakadu**	**35.90**	**273**	*e*P	**P**	**19 44 00.4**	**-0.4**
	comp=Z,8.2nm,0.4s,mb4.6						
TBI	**Tubuai**	**38.83**	**105**	*e*LR	LR	19 54 24.7	
	comp=Z,128nm,38.2s						
PPT	**Papeete**	**39.09**	**96**	*e*LR	LR	19 54 33.5	
	comp=Z,259nm,29.0s						
FITZ	**Fitzroy Crossi**	**41.43**	**263**	⇑*i*P	**P**	**19 44 46.8**	**+0.3**
	comp=Z,41nm,0.9s,mb4.7						
MBWA	**Marble Bar**	**46.65**	**258**	*e*P	**P**	**19 45 28.0**	**+0.3**
	comp=Z,18nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**48.27**	**244**	*e*P	**P**	**19 45 39.7**	**-0.4**
	comp=Z,120nm,1.9s,mb4.9						
BUKP	**Musuan**	**50.72**	**297**	*e*P	**P**	**19 45 59.6**	**+1.0**
BUTP	**Butuan**	**50.82**	**298**	*e*P	**P**	**19 45 50.5**	**-8.7**
MSLP	**Maasin**	**52.07**	**299**	*e*P	**P**	**19 46 08.9**	**+0.4**
OCLP	**Ormoc**	**52.77**	**300**	*e*P	**P**	**19 46 14.4**	**+0.8**
TGY	**Tagaytay City**	**57.42**	**301**	P	**P**	**19 46 47.4**	**+0.7**
	comp=Z,118nm,0.3s,baz=191,slow=5.2,SNR=6.7						
VNDA	**Vanda**	**59.57**	**182**	P	**P**	**19 47 00.9**	**-0.5**
	comp=Z,7.9nm,1.1s,mb4.2,baz=6.0,slow=6.6,SNR=19						
JOW	**Kunigami**	**59.83**	**317**	P	**P**	**19 47 04.2**	**+1.0**
	comp=Z,35nm,0.9s,mb4.9,baz=88,slow=20,SNR=5.7						
KSM	**Kuching**	**61.19**	**282**	*e*P	**P**	**19 47 12.9**	**+0.6**
CASY	**Casey**	**61.20**	**203**	*e*P	**P**	**19 47 11.9**	**-0.5**
	comp=Z,55nm,1.4s,mb4.9						
MJAR	**Matsushiro Arr**	**61.77**	**332**	P	**P**	**19 47 15.8**	**-0.4**
	comp=Z,14nm,0.9s,mb4.6,baz=167,slow=7.1,SNR=26						
MAJO	**Matsushiro**	**61.77**	**332**	*e*P	**P**	**19 47 15.9**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**61.77**	**332**	*e*P	**P**	**19 47 15.9**	**-0.3**
	comp=Z,27nm,1.0s,mb4.8						
MAT	**Matsushiro**	**61.77**	**332**	P	**P**	**19 47 15.9**	**-0.3**
MAT				*e*S	**S**	**19 55 17.6**	**+1.5**
NACB	**Ninganchiao**	**62.68**	**310**	*e*P	**P**	**19 47 21.9**	**-0.3**
JNU	**Nakatsue**	**62.77**	**324**	P	**P**	**19 47 22.1**	**-0.7**
	comp=Z,28nm,0.7s,mb5.0,baz=122,slow=11,SNR=8.5						
YHNB	**Yeheng**	**63.14**	**311**	*e*P	**P**	**19 47 24.8**	**-0.4**
SSE	**Sheshan**	**67.28**	**316**	*e*P	**P**	**19 47 52.1**	**+0.4**
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,77nm,3.5s						
YSS	**Yuzh-Sakhalins**	**69.02**	**341**	⇑*e*P	**P**	**19 48 04.2**	**+1.8**
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**69.02**	**341**	*e*P	**P**	**19 48 03.6**	**+1.2**
	comp=Z,68nm,0.8s,mb5.4						
QIZ	**Qiongzhong**	**69.07**	**299**	⇑P	**P**	**19 48 04.0**	**+1.3**
QIZ				XP	sP	19 49 39.1	+1.0
QIZ				S	S	19 56 47.1	+2.8
QIZ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,138nm,5.8s						
NJ2	**Nanjing**	**69.43**	**316**	*e*P	**P**	**19 48 04.6**	**-0.3**
NJ2				PP	PP	19 50 40.9	-1.6
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0					

COLA College 88.93 17 *eP* **P 19 49 47.9 -1.9**
comp=Z,18nm,1.0s,mb4.9
LSA Lhasa 88.98 302 *eP* **P 19 49 51.1 +1.1**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LSA Lhasa 88.98 302 *eP* **P 19 49 51.0 +1.0**
comp=Z,5.2nm,0.6s,mb4.5
ILAR Eielson Array 89.12 17 P **P 19 49 48.6 -2.0**
comp=Z,8.1nm,0.7s,mb4.7,baz=237,slow=4.7,SNR=57
ILAR S 19 59 50.9
comp=Z,1.1nm,1.2s,baz=211,slow=4.9,SNR=3.1
ZAK Zakamensk 89.41 324⇑ *iP* **P 19 49 52.0 0.0**
ZAK pmax pmax
comp=Z,26nm,1.5s,mb4.8
WPW White Pass 89.48 40 P **P 19 49 53.2 +0.9**
FMW Mount Fremont 89.51 40 P **P 19 49 53.3 +0.8**
GSM Grass Mountain 89.56 40 P **P 19 49 53.7 +1.0**
RMW Rattlesnake Mo 89.67 39 P **P 19 49 54.1 +0.9**
CMW Cultus Mountai 89.93 38 P **P 19 49 55.6 +1.2**
EBG Ellensburg 90.17 40 P **P 19 49 56.6 +1.0**
VNA3 Neumayer Olymp 90.89 180 *eP* **P 19 49 58.0 -0.9**
VNA3 *e* 19 50 01.5
VNA3 *e* 19 50 17.8
VNA3 *e* pP 19 51 02.6 -4.6
DAWY Dawson 90.90 20 *eP* **P 19 49 57.0 -2.0**
VNA2 Neumayer--Watz 91.19 181 *eP* **P 19 49 59.6 -0.7**
baz=185,slow=6.0
VNA2 *e* 19 50 02.9
VNA2 *e* 19 50 18.3
VNA2 *e* pP 19 51 04.3 -4.3
VNA2 *e* 19 51 38.1
MOY Mondy 91.29 325 *eP* **P 19 50 00.7 0.0**
TUC Tucson 91.33 57 *eP* **P 19 49 59.9 -1.0**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
TUC Tucson 91.33 57 *eP* **P 19 49 59.9 -1.0**
comp=Z,3.5nm,0.8s,mb4.2
JIRN Jiri 92.37 298 *eP* **P 19 50 06.1 +0.4**
comp=Z,10nm,0.8s,mb4.8
GUN Gumba 92.71 298 *eP* **P 19 50 07.3 0.0**
comp=Z,18nm,1.0s,mb4.9
PKI Pulchoki 93.00 298 *eP* **P 19 50 08.4 -0.2**
comp=Z,12nm,0.8s,mb4.9
PKI Pulchoki 93.00 298 *eP* **P 19 50 08.4 -0.2**
PKI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KKN Kakani 93.17 298 *eP* **P 19 50 09.3 -0.1**
comp=Z,11nm,0.7s,mb4.9
KKN Kakani 93.17 298 *eP* **P 19 50 09.3 -0.1**
KKN pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
DMN Daman 93.26 298 *eP* **P 19 50 09.9 +0.1**
comp=Z,35nm,1.1s,mb5.2
TIXI Tiksi 93.64 348⇑ *eP* **P 19 50 09.7 -1.8**
TIXI pmax pmax
comp=Z,10.0nm,2.0s,mb4.5
GKN Gorkha 93.78 298 *eP* **P 19 50 11.5 -0.7**
comp=Z,13nm,0.8s,mb5.0
KOLN Koldanda 94.58 298 *eP* **P 19 50 15.0 -0.9**
comp=Z,6.3nm,0.9s,mb4.8
ANMO Albuquerque 95.60 55⇑ *eP* **P 19 50 18.8 -1.7**
PDAR Pinedale Array 95.79 47 P **P 19 50 22.0 +0.6**
comp=Z,0.5nm,0.8s,mb3.7,baz=236,slow=5.3,SNR=4.8
YKA Yellowknife Ar 99.63 27 P Pdif 19 50 38.4 -0.1
comp=Z,4.8nm,0.7s,baz=254,slow=4.7,SNR=91
YKA Yellowknife Ar 99.63 27 P Pdif 19 50 38.4 -0.1
MKAR Makanchi Array 100.96 316 P Pdif 19 50 44.2 -0.3
comp=Z,3.3nm,0.6s,baz=96,slow=6.1,SNR=44
MKAR PP PP 19 54 51.2 -5.3
comp=Z,0.7nm,0.9s,baz=120,slow=7.2,SNR=3.4
MKAR PKKPbc PKKPbc 20 06 53.7 -1.3
comp=Z,0.3nm,0.5s,baz=270,slow=3.5,SNR=7.5
MKAR Makanchi Array 100.96 316 *iP* Pdif 19 50 44.2 -0.3
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 100.96 316 P Pdif 19 50 44.2 -0.3
MKAR PP PP 19 54 51.2 -5.3
MKAR PKKPbc PKKPbc 20 06 53.7 -1.3
ZAL Zalesovo 101.25 323 P Pdif 19 50 45.2 -0.6
comp=Z,1.1nm,0.5s,baz=50,slow=3.0,SNR=9.9
ZAL Zalesovo 101.25 323 P Pdif 19 50 45.2 -0.6
ZRNK Zerenda 110.40 321 *e*PKIKP PKiKP 19 55 24.2 -1.5
FRB Frobisher Bay 120.10 26 PKP PKPdf 19 55 42.6 -1.7
comp=Z,0.8nm,0.3s,baz=257,slow=5.9,SNR=3.9
SDV Santo Domingo 121.22 90 PKP PKPdf 19 55 46.9 +0.5
comp=Z,2.1nm,0.5s,baz=313,slow=5.3,SNR=2.7
ARCES ARCESS Array B 123.98 345 PKP PKPdf 19 55 50.5 -1.2
comp=Z,5.4nm,0.6s,baz=64,slow=2.2,SNR=28
KAF Kangasniemi 129.02 339 *ep* PKPdf 19 55 59.1 -2.3
FINES FINESS Array B 129.55 338 PKP PKPdf 19 56 01.4 -0.9
comp=Z,1.4nm,0.6s,baz=35,slow=2.8,SNR=10
FINES SKPbc 19 58 56.9
comp=Z,15nm,0.9s,baz=66,slow=4.6,SNR=32
FINES FINESS Array B 129.55 338 PKP PKPdf 19 56 01.4 -0.9
FINES SKPbc 19 58 56.9
SOC Sochi 130.73 312 *i* PKIKP PKPdf 19 56 01.6 -3.0
SOC *e* 19 58 21.7
SOC *e*PS SP 20 08 04.4 -2.7
SOC pmax pmax
comp=Z,17nm,0.8s
NOA NORSAR Array B 134.36 345 PKP PKPdf 19 56 11.1 -0.3
comp=Z,1.4nm,0.8s,baz=28,slow=2.0,SNR=3.5
NOA SKP 19 59 18.4
comp=Z,3.9nm,0.9s,baz=28,slow=3.4,SNR=4.9
HFS Hagfors 134.49 343 PKP PKPdf 19 56 09.5 -2.2
comp=Z,2.2nm,0.8s,baz=40,slow=5.6,SNR=3.2
AKASG Malin Array Be 134.59 325 PKP PKPdf 19 56 10.8 -1.0
comp=Z,0.2nm,0.3s,baz=47,slow=2.6,SNR=4.2
AKASG PP PP 19 58 45.6 -2.7
comp=Z,0.1nm,0.3s,baz=48,slow=5.7,SNR=4.7
AKASG SKPbc SKPbc 19 59 14.3 -0.2
comp=Z,5.3nm,0.8s,baz=44,slow=3.8,SNR=14
AKASG SKP 19 59 19.1
comp=Z,4.6nm,0.9s,baz=44,slow=3.5,SNR=7.3
AKASG Malin Array Be 134.59 325 PKIKP PKPdf 19 56 10.9 -1.0
AKASG 19 58 45.6
AKASG Malin Array Be 134.59 325 PKP PKPdf 19 56 10.8 -1.0
AKASG PP PP 19 58 45.6 -2.7
AKASG SKPbc SKPbc 19 59 14.3 -0.2
AKASG SKP 19 59 19.1
BRTR Keskin Array B 136.15 309 PKP PKPdf 19 56 16.0 +1.2
comp=Z,0.8nm,0.9s,baz=54,slow=7.3,SNR=2.9
BRTR SKP 19 59 20.6
comp=Z,1.4nm,0.9s,baz=45,slow=2.2,SNR=3.6
BRTR SKPab 19 59 25.2
comp=Z,2.3nm,1.1s,baz=15,slow=10,SNR=2.3
KOLS Kolonicke sedl 139.31 327 *e*PKP PKPdf 19 56 17.2 -3.4
KOLS *e*SKP 19 59 29.0
STHS Stebnicka Huta 139.54 328 *e*PKP PKPdf 19 56 17.6 -3.4
STHS *e*SKPpB 19 59 34.5
DPC Dobruska-Polom 141.25 332 *e*PKP PKPdf 19 56 18.6 -5.5
UPC Upice 141.27 333 *e*PKP PKPdf 19 56 19.1 -5.0
PRU Pruhonice 142.29 333 *e*PKP PKPdf 19 56 22.5 -3.4
EKA Eskdalemuir Ar 142.38 353 PKhKP 19 56 21.5
comp=Z,2.3nm,0.8s,baz=2.2,slow=2.5,SNR=4.9
EKA PKP PKPdf 19 56 25.7 -0.4
comp=Z,2.4nm,0.8s,baz=35,slow=2.6,SNR=4.5
CLZ Clausthal 142.44 339 *e*PKPbc PKPdf 19 56 22.9 -3.3
WERD Werda 142.85 336 *e*PKPbc PKPdf 19 56 23.6 -3.3
IBBN Ibbenburen 142.90 341 *e*PKPbc PKPdf 19 56 23.9 -3.1
MOX Moxa 142.96 336 *e*PKP PKPdf 19 56 24.1 -3.0
comp=Z,29nm,1.8s
MOX Moxa 142.96 336 *e*PKIKP PKPdf 19 56 24.1 -3.0
MOX pmax pmax
comp=Z,29nm,1.8s
NKC Novy Kostel 142.97 335 *e*PKP PKPdf 19 56 24.3 -2.8
RHK1 Bakonya 143.31 326⇑ *iP* PKPdf 19 56 23.8 -3.9
VAY Valandovo 143.33 316 *e*PKP PKPdf 19 56 24.2 -3.6
KHC Kasperske Hory 143.35 333 *e*PKP PKPdf 19 56 25.2 -2.6
STIP Stip 143.39 317 *e*PKP PKPdf 19 56 24.2 -3.7
UBBA Unterbreizbach 143.42 338 *e*PKPbc PKPdf 19 56 25.9 -2.0
ROTZ Rotzenmuhle 143.43 335 *e*PKPbc PKPdf 19 56 25.7 -2.3
GEC2 GERESS Array S 143.51 333 *e*PKPbc PKPdf 19 56 25.9 -2.2
GERES GERESS Array B 143.51 333 PKP PKPdf 19 56 25.8 -2.3
comp=Z,4.3nm,0.7s,baz=27,slow=3.0,SNR=36
GERES PP PP 19 59 39.4 -3.6
comp=Z,1.2nm,0.9s,baz=50,slow=6.1,SNR=4.5
WET Wettzell 143.63 334 *e*PKPbc PKPdf 19 56 26.1 -2.2
SKO Skopje 143.73 318 *e*PKP PKPdf 19 56 27.5 -1.0
BUG Bochum--Univer 143.81 341 *e*PKPbc PKPdf 19 56 28.1 -0.5
ARSA Arzberg 143.83 329⇑ *iP* PKPdf 19 56 27.0 -1.7
comp=Z,22nm,1.3s,SNR=6.2
GRF Grafenberg Arr 143.88 336 *e*PKPbc PKPdf 19 56 27.0 -1.7
MOA Molln 143.99 331 *iP* PKPdf 19 56 27.6 -1.3
comp=Z,41nm,1.1s,SNR=28

KOGS Kog 144.02 328 *e*PKPbc PKPdf 19 56 27.5 -1.5
BIA Bitola 144.29 317 *e*PKP PKPdf 19 56 27.3 -2.1
PERS Pernice 144.46 329 *e*PKPbc PKPdf 19 56 28.7 -1.1
TNS Taunus Mts 144.46 339 *e*PKPbc PKPdf 19 56 29.0 -0.8
OHR Ohrid 144.59 317 *e*PKP PKPdf 19 56 28.7 -1.3
GOLS Golise 144.64 328 *e*PKPbc PKPdf 19 56 29.3 -0.7
DCN Croghan 144.72 356 *e*P PKPdf 19 56 28.7 -1.5
DLF Lyons Farm 144.72 356 *e*P PKPdf 19 56 28.8 -1.4
CRES Cresnjev 144.85 328 *e*PKPbc PKPdf 19 56 30.2 -0.3
BEBN Eben Emael 144.85 342 PKP PKPdf 19 56 30.6 +0.1
TOD Tromm 144.86 338 PKIKP PKPdf 19 56 30.2 -0.2
MEM Membach 144.92 341 PKP PKPdf 19 56 30.1 -0.5
KBA Koelnbreinsper 144.99 331 *iP* PKPdf 19 56 29.9 -0.8
comp=Z,35nm,1.4s,SNR=7.9
ABH Alteburg 145.06 339 PKP PKPdf 19 56 31.0 +0.2
FUR Furstenfeldbru 145.06 334 *e*PKPbc PKPbc 19 56 31.2 +0.3
LJU Ljubljana 145.17 329 *e*PKPbc PKPbc 19 56 31.1 -0.1
BOJS Bojanci 145.18 327 *e*PKPbc PKPbc 19 56 31.3 +0.1
RUP Ruppelstein 145.38 340 PKP2 PKPab 19 56 32.0 -0.4
STU Stuttgart 145.40 337 *e*PKPbc PKPbc 19 56 32.2 +0.2
VOY Vojsko 145.49 329 *e*PKPbc PKPbc 19 56 30.9 -1.3
VOY *e* 19 56 35.1
VOY *e* 19 56 43.5
SNF Seneffe 145.51 343 PKP PKPdf 19 56 32.3 +0.7
WATA Walderalm 145.58 333⇑ *iP* PKPdf 19 56 32.2 +0.6
comp=Z,8.3nm,0.9s,SNR=10.0
WTTA Wattenberg 145.61 333⇑ *i*PKPab PKPab 19 56 32.6 -0.8
comp=Z,20nm,0.9s
WLF Walferdange 145.70 340 *e*PKPbc PKPbc 19 56 33.1 +0.2
WLF Walferdange 145.70 340 PKP PKPdf 19 56 33.3 +1.5
WLF Walferdange 145.70 340 *e*PKPdf PKPdf 19 56 33.3 +1.4
GIVF Givet 145.72 342⇑ *i*PKP1 PKPbc 19 56 32.8 -0.1
LANF Langenberg 145.74 338 PKP PKPdf 19 56 33.0 +1.1
MOTA Moosalm 145.78 333⇑ *iP* PKPdf 19 56 32.9 +0.9
comp=Z,19nm,0.9s,SNR=19
DOU Dourbes 145.79 342 PKP PKPdf 19 56 33.0 +0.9
SQTA Sankt Quirin 145.83 333⇑ *iP* PKPdf 19 56 33.3 +1.2
comp=Z,20nm,0.9s,SNR=16
BAIF Baives 145.94 343⇑ *i*PKP1 PKPbc 19 56 33.6 +0.1
comp=Z,50nm,1.0s
BFO Black Forest 146.09 337 *e*PKPbc PKPbc 19 56 33.4 -0.6
BFO Black Forest 146.09 337 *e*PKPdf PKPdf 19 56 33.8 +1.2
SPAK Spaichingen 146.11 336 PKP PKPdf 19 56 33.9 +1.3
DAVA Damuels 146.34 334⇑ *i*PKPab PKPab 19 56 34.7 -1.5
comp=Z,43nm,1.2s
WLS Welschbruch 146.38 338 PKP PKPdf 19 56 34.7 +1.7
CDF Champ du Feu 146.41 338⇑ *i*PKP1 PKPbc 19 56 34.9 0.0
comp=Z,62nm,0.9s
ECH Echery 146.61 338 PKP PKPdf 19 56 35.0 +1.6
DAVOX Davos 146.74 334 PKPbc PKPbc 19 56 36.2 +0.4
baz=358,slow=1.6
HINF Hinteralfeld 147.06 338⇑ *i*PKP1 PKPbc 19 56 36.4 -0.3
comp=Z,14nm,0.7s
MEZF Maizieres J'vi 147.07 341⇑ *i*PKP1 PKPbc 19 56 37.1 +0.3
comp=Z,35nm,0.6s
HAU Haudompre 147.08 339⇑ *i*PKP1 PKPbc 19 56 37.6 +0.8
comp=Z,28nm,0.8s
LOMF Lomont 147.47 338 PKP PKPdf 19 56 37.7 +2.9
TIP Timpagrande 148.24 317 *e*PKPbc PKPbc 19 56 40.2 +0.3
AQU L'Aquila 148.30 325 *e*PKP2 PKPbc 19 56 39.5 -0.5
FLN La Foliniere 148.30 347 *e*PKP1 PKPbc 19 56 39.6 -0.4
comp=Z,77nm,0.8s
CABF La Chapelle 148.36 338⇑ *i*PKP1 PKPbc 19 56 40.6 +0.5
comp=Z,72nm,0.8s
LDF La Druitiere 148.38 347 *e*PKP1 PKPbc 19 56 39.8 -0.4
comp=Z,22nm,0.6s
LOR Lormes 148.54 341⇑ *i*PKP1 PKPbc 19 56 40.5 -0.1
comp=Z,66nm,0.8s
GRR Gorron 148.74 347 *e*PKP1 PKPbc 19 56 40.9 -0.2
SSF Saint Saulge 148.83 341 *e*PKP1 PKPbc 19 56 41.4 +0.1
comp=Z,80nm,0.9s
HYF Humbligny 148.91 342 *e*PKP1 PKPbc 19 56 41.8 +0.3
LPL La Plagne 149.04 336⇑ *i*PKP1 PKPbc 19 56 42.4 +0.6
comp=Z,28nm,0.8s
LPG La Plagne 149.05 336⇑ *i*PKP1 PKPbc 19 56 42.5 +0.6
comp=Z,44nm,0.9s
SMF Signal de Mont 149.10 340 *e*PKP1 PKPbc 19 56 41.7 -0.3
comp=Z,43nm,1.0s
AVF Avril sur Loir 149.12 341⇑ *i*PKP1 PKPbc 19 56 41.2 -0.8
comp=Z,56nm,1.3s
SGMF Saint Gilles 149.19 349⇑ *i*PKP1 PKPbc 19 56 41.9 -0.3
comp=Z,28nm,0.6s
ROSF Rostrenen 149.23 350 *e*PKP1 PKPbc 19 56 41.8 -0.5
comp=Z,29nm,0.8s
BNI Bardonecchia 149.45 335 *e*PKP2 PKPbc 19 56 43.4 +0.6
BGF Bois d'Agland 149.49 341⇑ *i*PKP1 PKPbc 19 56 42.8 -0.1
comp=Z,50nm,0.7s
QUIF Quistinic 149.62 350 *e*PKP1 PKPbc 19 56 42.7 -0.6
MBDF Montbardon 149.68 335 *e*PKP1 PKPbc 19 56 43.3 -0.1
comp=Z,21nm,0.8s
AGO Saint Agoulin 149.85 341 PKP PKPbc 19 56 44.2 +0.4
ORIF Oris-en-Rattie 149.87 336⇑ *i*PKP1 PKPbc 19 56 44.0 +0.1
comp=Z,48nm,0.7s
TCF Toulx Ste Croi 149.92 342⇑ *i*PKP1 PKPbc 19 56 43.9 -0.1
comp=Z,84nm,1.1s
SAOF Saorge 149.96 333 PKP PKPbc 19 56 44.4 +0.3
AUTN L'Aution 150.00 333 PKP PKPbc 19 56 44.0 -0.2
TOUF Mont Tournerai 150.07 334 PKP PKPbc 19 56 44.8 +0.5
SBF Sospel 150.11 333 *e*PKP1 PKPbc 19 56 43.9 -0.5
comp=Z,83nm,1.0s
PYM Petit Puy Mans 150.16 341 PKP PKPbc 19 56 45.1 +0.6
MFF Saint Martin d 150.26 345⇑ *i*PKP1 PKPbc 19 56 44.6 -0.2
comp=Z,36nm,0.6s
VIVF Saint-Julien-l 150.38 338⇑ *i*PKP1 PKPbc 19 56 45.1 0.0
comp=Z,37nm,0.9s
PGF Pioggiola 150.43 330⇑ *i*PKP1 PKPbc 19 56 45.1 -0.1
comp=Z,91nm,0.8s
CORF Corte 150.54 329 PKP PKPbc 19 56 45.6 +0.2
LBL Lubilhac 150.54 340 PKP PKPbc 19 56 46.2 +0.8
FRF La Foret Royal 150.69 334⇑ *i*PKP1 PKPbc 19 56 45.4 -0.4
comp=Z,60nm,1.1s
VAE Valguarnera 150.72 316 PKPbc PKPbc 19 56 46.7 +0.9
comp=Z,2.2nm,0.3s,baz=97,slow=5.2,SNR=2.4
VAE PKPab PKPab 19 56 52.9 -1.0
comp=Z,8.6nm,0.6s,baz=240,slow=5.4,SNR=4.6
SMRF Simiane la Rot 150.78 336⇑ *i*PKP1 PKPbc 19 56 46.3 +0.3
comp=Z,43nm,0.9s
LMR La Mourre 150.93 334⇑ *i*PKP1 PKPbc 19 56 46.0 -0.4
comp=Z,61nm,1.0s
RJF Les Rejaudoux 151.02 342⇑ *i*PKP1 PKPbc 19 56 46.4 -0.1
comp=Z,38nm,1.0s
CAF Calviac 151.19 341⇑ *i*PKP1 PKPbc 19 56 47.0 0.0
comp=Z,9.7nm,0.7s
LASF Ste Croix 151.34 338⇑ *i*PKP1 PKPbc 19 56 47.4 +0.1
comp=Z,34nm,0.8s
LFF La Frestale 151.57 343 *e*PKP1 PKPbc 19 56 47.8 0.0
comp=Z,48nm,0.8s
MTLF Montolieu 152.56 339⇑ *i*PKP1 PKPbc 19 56 49.8 -0.2
comp=Z,8.7nm,0.8s
SJPF Ste Jean 153.80 344 *e*PKP1 PKPbc 19 56 52.9 +0.2
comp=Z,22nm,1.0s
ETSF Etsaut 153.82 343 *e*PKP1 PKPbc 19 56 53.1 +0.3
comp=Z,9.0nm,0.8s
ESDC Sonseca Array 157.72 346 PKPab PKPab 19 57 23.3 -0.5
comp=Z,2.1nm,0.6s,baz=20,slow=4.0,SNR=6.8
TORD Torodi Ar. Bea 167.09 249 PKP PKPdf 19 56 58.5 -0.5
comp=Z,1.2nm,0.9s,baz=68,slow=1.5,SNR=6.2
TORD PKPab PKPab 19 58 04.7 -0.3
comp=Z,1.3nm,0.7s,baz=103,slow=3.6,SNR=8.5
DBIC Dimbokro 167.30 207 PKPab PKPab 19 58 06.8 +1.0
comp=Z,3.0nm,0.9s,baz=279,slow=1.1,SNR=4.1

NEIC ***15*** *19:59:45.6, 3926S×17497E, h165km, MG4.0(WEL), After WEL.*
WEL 15 19:59:46.1±0.2, 3926S×17499E, h160km±1km, ML4.0/17, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.23**	**307**	PN	Pn	20 00 07.3	-0.4
VRZ				SN	Sn	20 00 23.5	-0.6
VRZ	**Vera Road**	**0.23**	**307**	P	Pn	20 00 07.3	-0.4
VRZ				S	Sn	20 00 23.5	-0.6
PKVZ	**Pokaka**	**0.28**	**96**	PN	Pn	20 00 07.8	0.0
PKVZ				SN	Sn	20 00 24.0	-0.3
MTVZ	**Mangateitei**	**0.39**	**109**	PN	Pn	20 00 08.2	0.0
MTVZ				SN	Sn	20 00 24.9	-0.1
TWVZ	**Taurewa**	**0.39**	**61**	PN	Pn	20 00 07.9	-0.2
TWVZ	**Taurewa**	**0.39**	**61**	P	Pn	20 00 07.9	-0.3
TRVZ	**Turoa**	**0.43**	**95**	PN	Pn	20 00 08.6	+0.3
TRVZ				SN	Sn	20 00 25.2	-0.1
WPVZ	**Whakapapa**	**0.43**	**83**	PN	Pn	20 00 08.3	0.0
WPVZ				SN	Sn	20 00 25.2	-0.1
WPVZ	**Whakapapa**	**0.43**	**83**	P	Pn	20 00 08.4	+0.1
FWVZ	**Far West T-bar**	**0.43**	**89**	PN	Pn	20 00 08.5	+0.1
FWVZ				SN	Sn	20 00 25.0	-0.3
FWVZ	**Far West T-bar**	**0.43**	**89**	P	Pn	20 00 08.5	+0.2
RAEZ	**Rainy Point**	**0.47**	**267**	PN	Pn	20 00 08.3	-0.1
WNVZ	**Wahianoa**	**0.47**	**98**	PN	Pn	20 00 08.6	+0.1
WNVZ				SN	Sn	20 00 25.3	-0.3
NGZ	**Ngauruhoe**	**0.48**	**80**	PN	Pn	20 00 08.6	+0.1
NGZ				SN	Sn	20 00 24.6	-1.1
NGZ	**Ngauruhoe**	**0.48**	**80**	P	Pn	20 00 08.6	+0.1
WTVZ	**West Tongariro**	**0.48**	**73**	PN	Pn	20 00 08.5	0.0
WTVZ				SN	Sn	20 00 25.2	-0.5
WTVZ	**West Tongariro**	**0.48**	**73**	P	Pn	20 00 08.5	0.0
WAZ	**Wanganui**	**0.49**	**181**	PN	Pn	20 00 09.1	+0.5
WAZ				SN	Sn	20 00 26.0	+0.2
WAZ	**Wanganui**	**0.49**	**181**	P	Pn	20 00 09.1	+0.5
TUVZ	**Tukino**	**0.51**	**91**	PN	Pn	20 00 08.9	+0.2
KRVZ	**Karewarewa**	**0.53**	**72**	PN	Pn	20 00 08.7	-0.1
KRVZ				SN	Sn	20 00 25.5	-0.5
OTVZ	**Oturere**	**0.53**	**80**	PN	Pn	20 00 09.1	+0.4
MOVZ	**Moawhango**	**0.61**	**104**	PN	Pn	20 00 08.9	-0.2
MOVZ				SN	Sn	20 00 25.3	-1.5
MOVZ	**Moawhango**	**0.61**	**104**	P	Pn	20 00 08.9	-0.2
KATZ	**Kakaramea**	**0.62**	**63**	PN	Pn	20 00 08.9	-0.3
KATZ				SN	Sn	20 00 26.6	-0.2
KATZ	**Kakaramea**	**0.62**	**63**	P	Pn	20 00 08.9	-0.3
NEZ	**North Egmont**	**0.70**	**269**	PN	Pn	20 00 09.8	+0.2
NEZ	**North Egmont**	**0.70**	**269**	P	Pn	20 00 09.8	+0.1
HIZ	**Hauiti**	**0.75**	**352**	PN	Pn	20 00 08.9	-1.1
HIZ				SN	Sn	20 00 27.0	-1.3
HIZ	**Hauiti**	**0.75**	**352**	P	Pn	20 00 08.9	-1.1
PKE	**Pukeiti**	**0.78**	**275**	PN	Pn	20 00 09.9	-0.3
WATZ	**Wairara**	**0.80**	**46**	PN	Pn	20 00 10.0	-0.3
WATZ	**Wairara**	**0.80**	**46**	P	Pn	20 00 10.0	-0.3
NRZ	**Ngariki Road**	**0.83**	**264**	PN	Pn	20 00 10.3	-0.2
NRZ	**Ngariki Road**	**0.83**	**264**	P	Pn	20 00 10.2	-0.3
NWEZ	**Newall Road**	**0.88**	**269**	PN	Pn	20 00 10.6	-0.2
NWEZ	**Newall Road**	**0.88**	**269**	P	Pn	20 00 10.6	-0.3
TSZ	**Takapari Road**	**1.09**	**137**	PN	Pn	20 00 12.9	+0.3
TSZ				SN	Sn	20 00 32.3	-0.6
TSZ	**Takapari Road**	**1.09**	**137**	P	Pn	20 00 12.9	+0.3
BKZ	**Black Stump Fm**	**1.17**	**86**	PN	Pn	20 00 12.7	-0.6
BKZ				SN	Sn	20 00 32.1	-2.0
BKZ	**Black Stump Fm**	**1.17**	**86**	P	Pn	20 00 12.7	-0.6
MRZ	**Mangatainoka R**	**1.47**	**162**	PN	Pn	20 00 15.9	-0.2
MRZ	**Mangatainoka R**	**1.47**	**162**	P	Pn	20 00 16.0	-0.1
KIW	**Kapiti Island**	**1.60**	**182**	PN	Pn	20 00 17.1	-0.3
KIW	**Kapiti Island**	**1.60**	**182**	P	Pn	20 00 17.1	-0.4
PXZ	**Pawanui**	**1.64**	**119**	PN	Pn	20 00 17.7	-0.1
PXZ				SN	Sn	20 00 41.1	-1.1
BFZ	**Birch Farm**	**1.71**	**146**	PN	Pn	20 00 18.4	-0.3
BFZ	**Birch Farm**	**1.71**	**146**	P	Pn	20 00 18.4	-0.3
DUWZ	**D'Urville Isla**	**1.75**	**208**	PN	Pn	20 00 18.4	-0.6
DUWZ				SN	Sn	20 00 42.8	-1.5
CAW	**Cannon Point**	**1.85**	**178**	PN	Pn	20 00 19.8	-0.3
CAW	**Cannon Point**	**1.85**	**178**	P	Pn	20 00 19.8	-0.3
URZ	**Urewera**	**1.93**	**60**	PN	Pn	20 00 19.0	-2.0
URZ				SN	Sn	20 00 43.4	-4.6
URZ	**Urewera**	**1.93**	**60**	P	Pn	20 00 19.1	-2.0
MTW	**Mount Morrison**	**1.94**	**169**	PN	Pn	20 00 20.4	-0.7
MTW	**Mount Morrison**	**1.94**	**169**	P	Pn	20 00 20.4	-0.7
MRW	**Makara Radio**	**1.98**	**186**	PN	Pn	20 00 21.1	-0.5
MRW	**Makara Radio**	**1.98**	**186**	P	Pn	20 00 21.1	-0.5
TCW	**Tory Channel**	**2.02**	**196**	PN	Pn	20 00 21.7	-0.4
TCW	**Tory Channel**	**2.02**	**196**	P	Pn	20 00 21.7	-0.4
WEL	**Wellington**	**2.03**	**185**	PN	Pn	20 00 21.5	-0.7
WEL	**Wellington**	**2.03**	**185**	P	Pn	20 00 21.5	-0.7
SNZO	**South Karori**	**2.06**	**186**	PN	Pn	20 00 21.7	-0.7
SNZO	**South Karori**	**2.06**	**186**	P	Pn	20 00 21.8	-0.7
KNZ	**Kokohu**	**2.10**	**84**	PN	Pn	20 00 21.8	-1.2
KNZ	**Kokohu**	**2.10**	**84**	P	Pn	20 00 21.9	-1.0
PAWZ	**Paruwai Farm**	**2.14**	**171**	PN	Pn	20 00 22.6	-0.9
PAWZ	**Paruwai Farm**	**2.14**	**171**	P	Pn	20 00 22.6	-0.9
BHW	**Baring Head**	**2.15**	**182**	PN	Pn	20 00 22.7	-0.8
BHW	**Baring Head**	**2.15**	**182**	P	Pn	20 00 21.7	-1.8
MSWZ	**Moikau Station**	**2.16**	**175**	PN	Pn	20 00 22.8	-0.9
MWZ	**Matawai**	**2.19**	**66**	PN	Pn	20 00 22.2	-1.7
MWZ	**Matawai**	**2.19**	**66**	P	Pn	20 00 22.4	-1.6
TRWZ	**Traveller**	**2.20**	**166**	PN	Pn	20 00 23.3	-0.8
TUWZ	**Tuamarina**	**2.31**	**200**	PN	Pn	20 00 24.5	-0.9
NNZ	**Nelson**	**2.31**	**212**	PN	Pn	20 00 24.3	-1.1
NNZ	**Nelson**	**2.31**	**212**	P	Pn	20 00 24.4	-1.0
QRZ	**Quartz Range**	**2.45**	**230**	PN	Pn	20 00 25.2	-2.0
QRZ	**Quartz Range**	**2.45**	**230**	*eP*	Pn	20 00 25.2	-1.9
PUZ	**Puketiti**	**2.82**	**66**	PN	Pn	20 00 29.4	-2.2
PUZ	**Puketiti**	**2.82**	**66**	P	Pn	20 00 29.4	-2.2
THZ	**Tophouse**	**2.96**	**212**	PN	Pn	20 00 31.9	-1.5
THZ	**Tophouse**	**2.96**	**212**	*eP*	Pn	20 00 32.0	-1.4
MXZ	**Matakaoa Point**	**3.11**	**58**	PN	Pn	20 00 33.1	-2.1
MXZ	**Matakaoa Point**	**3.11**	**58**	P	Pn	20 00 33.1	-2.1
KHZ	**Kahutara**	**3.34**	**199**	PN	Pn	20 00 36.9	-1.2
KHZ	**Kahutara**	**3.34**	**199**	P	Pn	20 00 36.9	-1.2
LTZ	**Lake Taylor**	**4.08**	**209**	*eP*	Pn	20 00 45.3	-2.3
MQZ	**McQueen's Vall**	**4.78**	**201**	PN	Pn	20 00 53.5	-3.2
MQZ	**McQueen's Vall**	**4.78**	**201**	*eP*	Pn	20 00 53.5	-3.2
WVZ	**Waitaha Valley**	**4.98**	**219**	PN	Pn	20 00 57.3	-2.2
RPZ	**Rata Peaks**	**5.34**	**212**	*eP*	Pn	20 01 01.8	-2.4
ODZ	**Otahua Downs**	**6.62**	**208**	PN	Pn	20 01 18.5	-2.6
ODZ	**Otahua Downs**	**6.62**	**208**	*eP*	Pn	20 01 18.5	-2.6
JCZ	**Jackson Bay**	**6.70**	**222**	PN	Pn	20 01 18.6	-3.5
JCZ	**Jackson Bay**	**6.70**	**222**	*eP*	Pn	20 01 18.4	-3.7

IDC ***15*** *21:03:43.5±0.8, 3422N×14164E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/24, mbtmp3.9/14, ML3.8/3, Error ellipse: s-maj=21.4km s-min=14.7km az=88.0*
JMA ***15*** *21:03:44.1±0.3, 3417N×14179E, h33km±3km, M3.4*
ISCJB ***15*** *21:03:45.5±1.2, 3420N±004×14171E±006, h30km±7km, mb3.9/12,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**51.79**	**31**	P	**P**	**21 12 53.2**	**+0.9**
	1.6nm,0.9s,mb4.0,baz=267,slow=6.0,SNR=16						
BVAR	**Borovoye Array**	**52.66**	**314**	P	**P**	**21 12 59.7**	**+0.9**
	0.7nm,0.5s,mb3.8,baz=235,slow=44,SNR=3.1						
ZRNK	**Zerenda**	**53.50**	**314**	*e*P	**P**	**21 13 04.5**	**-0.5**
WRA	**Warramunga Arr**	**54.29**	**189**	P	**P**	**21 13 11.1**	**+0.3**
	0.6nm,0.3s,mb4.0,baz=4.8,slow=7.6,SNR=27						
ASAR	**Alice Springs**	**58.02**	**188**	P	**P**	**21 13 38.3**	**+0.9**
	0.6nm,0.8s,mb3.7,baz=8.9,slow=9.0,SNR=7.0						
AKTK	**Aktyubinsk**	**60.74**	**313**	P	**P**	**21 13 56.2**	**0.0**
AKTO	**Aktyubinsk**	**60.74**	**313**	P	**P**	**21 13 56.2**	**0.0**
	0.8nm,0.7s,mb4.0,baz=83,slow=14,SNR=4.3						
FINES	**FINESS Array B**	**71.42**	**333**	P	**P**	**21 15 05.0**	**+0.2**
	3.5nm,1.1s,mb4.2,baz=62,slow=9.6,SNR=2.8						
HFS	**Hagfors**	**76.76**	**336**	P	**P**	**21 15 35.8**	**-0.2**
	2.1nm,0.9s,mb4.0,baz=38,slow=7.3,SNR=2.8						
NOA	**NORSAR Array B**	**76.88**	**338**	P	**P**	**21 15 36.5**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=40,slow=5.7,SNR=3.2						
LPAZ	**La Paz**	**147.85**	**64**	PKPbc	PKPbc	21 23 32.0	+2.4
	0.9nm,0.7s,baz=21,slow=8.2,SNR=4.0						

ISCJB ***15*** *21:16:42.0±0.9, 177S±02×1784W±02, h595km±37km, mb4.3/7, Error ellipse: s-maj=35.8km s-min=26.7km az=79.1*
IDC ***15*** *21:16:41.5±1.5, 1779S×17862W, h541km±21km, mb3.8/4, mb1 3.8/6, mb1mx3.4/15, mbtmp4.6/6, Error ellipse: s-maj=30.5km s-min=15.1km az=142.0*
NEIC ***15*** *21:16:42.3±0.8, 1780S×17864W, h554km±11km, mb4.1/2, Error ellipse: s-maj=24.0km s-min=11.0km az=150.0*
ISC 15 21:16:42.1±0.9, 177S±02×1785W±02, h559km±29km, n18, σ0§78/16, mb4.3/7, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**61**	P	**P**	**21 18 36.8**	**+1.5**
	5.9nm,0.3s,baz=201,slow=17,SNR=5.1						
AFI				S	**S**	**21 20 07.2**	**-0.9**
	5.1nm,0.3s,baz=46,slow=9.8,SNR=3.1						
AFI	**Afiamalu**	**7.52**	**61**	P	**P**	**21 18 36.8**	**+1.5**
AFI				S	**S**	**21 20 07.2**	**-1.0**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**21 19 48.8**	**-0.4**
	0.7nm,0.3s,baz=104,slow=20,SNR=7.0						
URZ	**Urewera**	**20.81**	**190**	P	**P**	**21 20 44.6**	**-0.3**
	3.6nm,0.3s,baz=254,slow=1.2,SNR=10						
ARMA	**Armidale**	**29.94**	**239**	*e*P	**P**	**21 22 06.8**	**+1.4**
CTAO	**Charters Tower**	**33.37**	**260**	P	**P**	**21 22 34.6**	**0.0**
	2.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.62**	**241**	⇓*i*P	**P**	**21 23 17.1**	**-0.8**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**21 23 17.2**	**-0.7**
	4.7nm,0.4s,mb4.3,baz=91,slow=9.6,SNR=34						
WB2	**Warramunga Arr**	**44.55**	**259**	⇓*i*P	**P**	**21 24 04.1**	**-0.5**
WRAB	**Tennant Creek**	**44.55**	**259**	*e*P	**P**	**21 24 03.8**	**-0.9**
	3.3nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**21 24 04.4**	**-0.3**
	3.5nm,0.5s,mb4.1,baz=95,slow=6.9,SNR=128						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**21 24 06.6**	**+0.5**
	31nm,0.6s,mb5.0,baz=88,slow=8.1,SNR=484						
KAKA	**Kakadu**	**47.48**	**269**	⇓*i*P	**P**	**21 24 26.8**	**0.0**
	5.6nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.96**	**260**	*e*P	**P**	**21 25 07.6**	**+0.8**
	2.2nm,0.4s,mb3.8						
BVAR	**Borovoye Array**	**116.65**	**321**	PKP	PKPdf	21 34 22.9	-0.1
	0.4nm,0.3s,baz=120,slow=2.4,SNR=4.8						
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	PKPdf	21 35 16.9	+1.7
	1.5nm,0.9s,baz=58,slow=3.1,SNR=6.5						
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	PKPbc	21 35 24.8	+1.3
	0.6nm,0.4s,baz=34,slow=2.7,SNR=8.3						
DAVOX	**Davos**	**150.21**	**348**	PKPbc	PKPbc	21 35 31.4	+1.1
	2.4nm,0.5s,baz=350,slow=6.1,SNR=5.7						

IDC 15 21:22:39.4±1.4, 5939N×3020W, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=34.4km s-min=22.6km az=48.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.80**	**34**	Pn	Pn	21 24 21.3	+0.9
	1.3nm,0.3s,baz=332,slow=3.1,SNR=3.3						
SFJD	**Kangerlussuaq**	**11.91**	**318**	Pn	Pn	21 25 30.8	+0.4
	0.5nm,0.3s,baz=142,slow=12,SNR=2.6						
ESDC	**Sonseca Array**	**25.77**	**128**	P	P	21 28 12.8	+1.1
	2.1nm,0.9s,baz=327,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**38.37**	**312**	P	P	21 30 01.6	-0.5
	0.4nm,0.7s,baz=52,slow=10.0,SNR=4.1						
BVAR	**Borovoye Array**	**51.11**	**50**	P	P	21 31 43.5	-0.3
	0.7nm,0.7s,baz=315,slow=8.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**51.87**	**139**	P	P	21 31 48.5	-1.0
	0.8nm,1.1s,baz=335,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**60.68**	**47**	P	P	21 32 51.4	-1.0
	1.2nm,0.6s,baz=339,slow=4.6,SNR=22						
SONM	**Songino Array**	**67.40**	**30**	P	P	21 33 36.1	-0.5
	0.5nm,1.0s,baz=343,slow=8.1,SNR=3.0						

ATH ***15*** *21:50:31.8, 4178N×2279E, h11km±5km, MD3.9/4*
BEO ***15*** *21:50:31.8±0.5, 4177N×2285E, h18km±2km*
SKO ***15*** *21:50:31.7, 4181N×2288E, h24km, M2.8, ML3.1*
ISCJB ***15*** *21:50:31.5±0.4, 4182N±002×2283E±002, h2km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=52.7*
SOF ***15*** *21:50:32.2, 4188N×2293E, h13km, MD3.4*
THE ***15*** *21:50:32.9, 4179N×2286E, h3km, ML3.4*
CSEM ***15*** *21:50:32.0±0.1, 4186N×2279E, h12km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.1km az=82.0*
NEIC ***15*** *21:50:32.9, 4179N×2286E, h4km, MD3.4(SOF), ML3.3(CSEM), After THE.*
ISC 15 21:50:32.5±0.4, 4180N±002×2284E±002, h5km±3km, n78, σ1§12/108, 16C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.19**	**71**	*i* Pg	**Pg**	**21 50 36.0**	**-0.3**
STIP	**Stip**	**0.50**	**258**	*i* Pg	**Pg**	**21 50 42.7**	**+0.5**
STIP				*e*Sg	**Sg**	**21 50 49.8**	**+1.2**
STIP				*e*Lg		21 50 50.0	
	comp=E,1μm,0.3s						
STIP				*e*Lg		21 50 50.2	
	comp=N,1μm,0.2s						
STIP	**Stip**	**0.50**	**258**	*i* Pg	**Pg**	**21 50 42.6**	**+0.5**
STIP				*e*Sg	**Sg**	**21 50 49.8**	**+1.1**
VAY	**Valandovo**	**0.52**	**203**	*e*Pg	**Pg**	**21 50 42.8**	**+0.2**
VAY				*e*Lg		21 50 50.1	
	comp=N,1μm,0.4s						
VAY				*e*Sg	**Sg**	**21 50 50.5**	**+1.2**
VAY				*e*Lg		21 50 50.8	
	comp=E,2μm,0.3s						
VAY	**Valandovo**	**0.52**	**203**	*e*Pg	**Pg**	**21 50 42.8**	**+0.3**
VAY				*e*Sg	**Sg**	**21 50 50.4**	**+1.1**
KNT	**Kendrikon**	**0.64**	**176**	*e*Pg	**Pg**	**21 50 45.1**	**+0.3**
KNT	**Kendrikon**	**0.64**	**176**	P	**Pg**	**21 50 45.3**	**+0.5**
MMB	**Musomiste**	**0.70**	**108**	*i* Pg	**Pg**	**21 50 46.3**	**+0.4**
VTS	**Vitosha**	**0.83**	**19**	*i* Pg	**Pg**	**21 50 48.0**	**-0.5**
VTS	**Vitosha**	**0.83**	**19**	*e*Pg	**Pg**	**21 50 48.4**	**-0.1**
SRS	**Serrai**	**0.89**	**140**	*e*Pg	**Pg**	**21 50 49.1**	**-0.4**
SRS				*e*Sg	**Sg**	**21 51 02.0**	**+1.0**
NVR	**Nevrokopi**	**0.89**	**120**	*e*PB	**Pb**	**21 50 49.2**	**-1.2**
NVR				*e*SB	**Sb**	**21 51 01.1**	**-1.5**
GRG	**Griva**	**0.91**	**201**	*e*Pg	**Pg**	**21 50 50.0**	**+0.1**
GRG				*e*Sg	**Sg**	**21 51 02.5**	**+0.8**
SOH	**Sokhos**	**1.05**	**158**	*e*Pg	**Pg**	**21 50 52.7**	**0.0**
SOH				*e*Sg	**Sg**	**21 51 07.0**	**+0.7**
SKO	**Skopje**	**1.06**	**280**	*e*Pg	**Pg**	**21 50 50.9**	**-1.9**
SKO				*e*Sg	**Sg**	**21 51 06.6**	**+0.1**
SKO	**Skopje**	**1.06**	**280**	*e*Pg	**Pg**	**21 50 54.0**	**+1.2**
SKO				*e*Sg	**Sg**	**21 51 07.1**	**+0.6**
SKO				*e*Lg		21 51 09.8	
	comp=N,423nm,0.7s						
SKO				*e*Lg		21 51 10.9	
	comp=E,306nm,0.7s						
SKO	**Skopje**	**1.06**	**280**	P	**Pg**	**21 50 54.5**	**+1.7**
SKO				*e*Sg	**Sg**	**21 51 07.1**	**+0.5**
SKO	**Skopje**	**1.06**	**280**	P	**Pg**	**21 50 54.5**	**+1.7**
THE	**Thessaloniki**	**1.17**	**175**	*e*Pg	**Pg**	**21 50 54.6**	**-0.4**
THE				*e*Sg	**Sg**	**21 51 11.7**	**+1.4**
THE	**Thessaloniki**	**1.17**	**175**	*e*Pg	**Pg**	**21 50 54.6**	**-0.4**
THE				*e*Sg	**Sg**	**21 51 11.6**	**+1.4**
BELI	**Belica**	**1.18**	**265**	⇓*i*Pn	**Pn**	**21 50 53.8**	**-1.8**
BELI				*i*		21 50 54.4	
BELI				*i* Sn	**Sn**	**21 51 13.7**	**+1.7**
PGB	**Panagyurishte**	**1.24**	**52**	*i* Pg	**Pg**	**21 50 54.7**	**-1.5**
SAMO	**Samokov**	**1.28**	**266**	*i* Pn	**Pn**	**21 50 55.8**	**-1.1**
SAMO				*i*		21 50 56.2	
SAMO				*i* Sn	**Sn**	**21 51 13.4**	**-1.1**
SAMO				*i*		21 51 14.2	
BIA	**Bitola**	**1.38**	**236**	*e*Pg	**Pg**	**21 50 58.6**	**-0.4**
BIA	**Bitola**	**1.38**	**236**	*e*Pn	**Pn**	**21 50 58.4**	**0.0**
BIA				*e*Sn	**Sn**	**21 51 17.3**	**+0.2**
BIA				*e*Lg		21 51 17.8	
	comp=N,166nm,0.4s						
BIA				*e*Lg		21 51 17.8	
	comp=E,157nm,0.5s						
BIA	**Bitola**	**1.38**	**236**	*e*Pg	**Pg**	**21 50 58.6**	**-0.4**
BIA				*e*Sn	**Sn**	**21 51 17.3**	**+0.2**
RZN	**Rozhen**	**1.41**	**94**	*i* P	**Pn**	**21 50 58.5**	**-0.3**
PLD	**Plovdiv**	**1.42**	**77**	*i* P	**Pn**	**21 50 58.0**	**-1.0**
PLG	**Polygyros**	**1.50**	**162**	*e*PG	**Pg**	**21 50 59.8**	**-1.4**
PLG				*e*SB	**Sb**	**21 51 19.6**	**-0.5**
FNA	**Florina**	**1.50**	**228**	*e*Pg	**Pg**	**21 51 00.7**	**-0.6**
FNA				*e*Sg	**Sg**	**21 51 20.3**	**-0.5**
FNA	**Florina**	**1.50**	**228**	*e*Pg	**Pg**	**21 51 00.6**	**-0.7**
FNA				*e*Sg	**Sg**	**21 51 20.3**	**-0.4**
ZAPS	**Zavoj/Pirot**	**1.50**	**354**	⇓*i*Pn	**Pn**	**21 50 59.5**	**-0.6**
ZAPS				Sn	**Sn**	**21 51 20.8**	**+0.8**
OHR	**Ohrid**	**1.68**	**246**	*e*Pn	**Pn**	**21 51 02.5**	**0.0**
OHR				*e*Sn	**Sn**	**21 51 25.6**	**+1.1**
OHR	**Ohrid**	**1.68**	**246**	*e*Pn	**Pn**	**21 51 02.5**	**-0.1**
OHR				*e*Sn	**Sn**	**21 51 25.5**	**+1.0**
KZN	**Kozani**	**1.70**	**209**	*e*PB	**Pb**	**21 51 03.4**	**-0.8**
OUR	**Ouranopolis**	**1.70**	**149**	*e*Pb	**Pb**	**21 51 02.5**	**-1.8**
LIT	**Litokhoron**	**1.72**	**189**	*e*Pb	**Pb**	**21 51 02.3**	**-2.3**
KDZ	**Kurdzhali**	**1.94**	**94**	*i* P	**Pn**	**21 51 07.5**	**+1.5**
PAIG	**Paliouri**	**1.98**	**161**	*e*Pb	**Pb**	**21 51 06.3**	**-2.7**
BOLS	**Boljevac**	**2.13**	**343**	⇑*i*Pn	**Pn**	**21 51 08.0**	**-0.7**
BOLS				Sn	**Sn**	**21 51 33.6**	**-1.9**
RDO	**Rodhopi**	**2.13**	**107**	*e*PN	**Pn**	**21 51 10.4**	**+1.7**
RDO				*e*SN	**Sn**	**21 51 38.9**	**+3.3**
PVL	**Pavlikeni**	**2.32**	**52**	*i* P	**Pn**	**21 51 13.5**	**+2.1**
LSK	**Leskovik**	**2.37**	**227**	*e*Pn	**Pn**	**21 51 13.5**	**+1.5**
XOR	**Xorichti**	**2.45**	**174**	*e*Pn	**Pn**	**21 51 12.9**	**-0.2**
NEO	**Neokhori**	**2.51**	**173**	*e*PB	**Pb**	**21 51 13.6**	**-4.5**
ALN	**Alexandroupoli**	**2.58**	**109**	*e*Pn	**Pn**	**21 51 15.0**	**+0.1**
LIA	**Limnos Island**	**2.60**	**136**	*e*PN	**Pn**	**21 51 14.6**	**-0.6**
GRUS	**Gruza**	**2.60**	**324**	*e*Pn	**Pn**	**21 51 14.8**	**-0.4**
GRUS				*e*Sn	**Sn**	**21 51 47.8**	**+0.6**
ZIMR		**2.63**	**44**	⇑P	**Pn**	**21 51 21.1**	**+5.6**
ZIMR		**2.63**	**44**	⇑P	**Pn**	**21 51 21.1**	**+5.5**
SZH	**Strazhica**	**2.71**	**56**	*e*P	**Pn**	**21 51 18.5**	**+1.8**
AOS	**Alonnisos**	**2.75**	**163**	*e*Pn	**Pn**	**21 51 16.6**	**-0.6**
SVIS	**Svilajnac**	**2.76**	**335**	⇑*i*Pn	**Pn**	**21 51 18.2**	**+0.8**
SVIS				Sn	**Sn**	**21 51 54.2**	**+3.1**
AGG	**Agios Georgios**	**2.81**	**188**	*e*Pn	**Pn**	**21 51 18.2**	**+0.3**
AGG	**Agios Georgios**	**2.81**	**188**	*e*Pn	**Pn**	**21 51 18.2**	**+0.2**
DJES	**Djerdap**	**2.84**	**355**	*e*Pn	**Pn**	**21 51 17.8**	**-0.7**
DJES				*e*Sn	**Sn**	**21 51 53.5**	**+0.5**
DIVS	**Divcibare**	**3.10**	**319**	*e*Pn	**Pn**	**21 51 22.1**	**0.0**
DIVS				*e*Sn	**Sn**	**21 51 57.4**	**-2.2**
DIVS	**Divcibare**	**3.10**	**319**	*e*Pn	**Pn**	**21 51 22.2**	**+0.1**
PRK	**Paraskevi**	**3.66**	**133**	*e*PN	**Pn**	**21 51 30.5**	**+0.8**
BZS	**Buzias**	**3.91**	**347**	⇑P	**Pn**	**21 51 32.8**	**-0.5**
BZS	**Buzias**	**3.91**	**347**	⇑P	**Pn**	**21 51 32.8**	**-0.5**
VOIR		**3.97**	**23**	⇑P	**Pn**	**21 51 34.3**	**+0.3**
VOIR		**3.97**	**23**	⇑P	**Pn**	**21 51 34.3**	**+0.2**
MLR	**Muntele Rosu**	**4.32**	**30**	⇑P	**Pn**	**21 51 42.2**	**+3.4**
MLR	**Muntele Rosu**	**4.32**	**30**	⇑P	**Pn**	**21 51 42.1**	**+3.3**
HARR	**Harsova**	**4.71**	**50**	⇓P	**Pn**	**21 51 45.1**	**+1.0**
HARR	**Harsova**	**4.71**	**50**	⇓P	**Pn**	**21 51 45.1**	**+1.0**
TIRR	**Tirgusor**	**4.87**	**55**	⇑P	**Pn**	**21 51 46.2**	**-0.1**
TIRR	**Tirgusor**	**4.87**	**55**	⇑P	**Pn**	**21 51 46.2**	**-0.1**
VRI	**Vrincioaia**	**4.94**	**33**	⇓P	**Pn**	**21 51 48.8**	**+1.4**
VRI	**Vrincioaia**	**4.94**	**33**	⇓P	**Pn**	**21 51 48.8**	**+1.5**
DRGR		**4.99**	**359**	⇑P	**Pn**	**21 51 45.6**	**-2.4**
CFR	**Carcaliu**	**5.12**	**47**	⇑P	**Pn**	**21 51 52.7**	**+2.9**
CFR	**Carcaliu**	**5.12**	**47**	⇑P	**Pn**	**21 51 52.6**	**+2.8**
PKSM	**Moragy**	**5.35**	**327**	⇓*i*P	**Pn**	**21 51 52.7**	**-0.2**
PKSM				*e*S	**Sn**	**21 52 55.3**	**+0.4**
RHK1	**Bakonya**	**5.50**	**323**	⇓*i*P	**Pn**	**21 51 53.3**	**-1.7**
RHK1				*i*		21 52 52.9	
BURAR	**Bucovina Array**	**6.05**	**15**	⇑P	**Pn**	**21 52 03.6**	**+1.0**
KECS	**Kecovo**	**6.88**	**347**	*e*PN	**Pn**	**21 52 14.1**	**0.0**

ISCJB ***15*** *22:26:16.6±2.7, 187S±02×1750W±02, h83km±28km, mb4.3/8, Error ellipse: s-maj=37.7km s-min=19.7km az=96.0*
IDC ***15*** *22:26:19.2±6.9, 1855S×17500W, h90km±40km, mb3.8/4, mb1 4.1/5, mb1mx3.8/13, mbtmp4.1/5, Error ellipse: s-maj=171.1km s-min=21.4km az=146.0*
NEIC ***15*** *22:26:19.0±1.4, 1859S×17498W, h92km±13km, mb4.8/3, Error ellipse: s-maj=22.1km s-min=10.1km az=135.0*
ISC 15 22:26:19.0±2.4, 187S±02×1749W±02, h91km±24km, n16, σ0§60/15, mb4.3/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.59**	**33**	P	**Pn**	**22 27 39.6**	**0.0**
	6.0nm,0.3s,baz=242,slow=11,SNR=4.1						
AFI				S	**Sn**	**22 28 34.4**	**-8.2**
	6.1nm,0.3s,baz=207,slow=23,SNR=3.8						
AFI	**Afiamalu**	**5.59**	**33**	P	**Pn**	**22 27 39.6**	**0.0**
AFI				S	**Sn**	**22 28 34.4**	**-8.2**
TAU	**Tasmania Unive**	**39.98**	**224**	P	**P**	**22 33 43.9**	**-0.6**
	14nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**41.22**	**243**	*e*P	**P**	**22 33 54.9**	**+0.1**
WRAB	**Tennant Creek**	**47.76**	**260**	*e*P	**P**	**22 34 47.2**	**+0.4**
	2.9nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**47.77**	**260**	P	**P**	**22 34 46.8**	**-0.2**
	1.4nm,0.4s,mb4.2,baz=96,slow=5.5,SNR=38						
ASAR	**Alice Springs**	**47.80**	**255**	P	**P**	**22 34 47.5**	**+0.4**
	3.4nm,0.5s,mb4.4,baz=94,slow=7.6,SNR=57						
VNDA	**Vanda**	**60.01**	**186**	*e*P	**P**	**22 36 16.3**	**+0.3**
MBWA	**Marble Bar**	**61.12**	**256**	*e*P	**P**	**22 36 22.6**	**-1.0**
	19nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**61.80**	**242**	*e*P	**P**	**22 36 29.3**	**+1.2**
	21nm,1.4s,mb5.0						
CASY	**Casey**	**66.86**	**205**	*e*P	**P**	**22 37 00.6**	**-0.6**
PDAR	**Pinedale Array**	**85.64**	**42**	P	**P**	**22 38 48.0**	**+0.6**
	0.1nm,0.5s,mb3.0,baz=224,slow=3.8,SNR=3.8						
ILAR	**Eielson Array**	**85.90**	**12**	P	**P**	**22 38 48.0**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=227,slow=5.9,SNR=26						
BVAR	**Borovoye Array**	**119.52**	**321**	PKP	PKPdf	22 44 57.2	-0.7
	0.6nm,0.5s,baz=166,slow=0.6,SNR=7.9						
BRTR	**Keskin Array B**	**147.64**	**316**	PKPbc	PKPbc	22 45 53.0	+0.1
	1.0nm,0.7s,baz=55,slow=4.0,SNR=3.1						
GERES	**GERESS Array B**	**149.09**	**349**	PKPbc	PKPbc	22 45 56.5	-0.1
	0.9nm,0.6s,baz=27,slow=3.0,SNR=9.8						

NIED ***15*** *22:41:00, 4380N×14670E, h86km, Mw4.1 Best double couple: M0:1.65000×10^15 NP1:φs=20.00000°, δ=88.00000°, λ=-112.00000°. NP2:φs=286.00000°, δ=22.00000°, λ=-5.00000°.*
SZGRF ***15*** *22:41:02.9, 4384N×14745E, h33km, mb4.6, Kuril Islands, Russia*
BJI ***15*** *22:41:06.9, 4380N×14679E, h89km, mB5.2, mb4.7, Ms4.7, Msz4.8*
ISCJB ***15*** *22:41:07.5±0.5, 4384N±004×14681E±005, h93km±3km, mb4.2/31, Error ellipse: s-maj=7.8km s-min=4.8km az=103.0*
MOS ***15*** *22:41:07.5±1.2, 4387N×14676E, h92km, mb4.4/14, Error ellipse: s-maj=11.3km s-min=7.1km az=109.7*
MOS Felt (III) at Malokurilskoe; (II) at Yuzhno-Kuril'sk.
NAO ***15*** *22:41:07.4, 45.13N×14796E, h33km, mb4.5*
SKHL ***15*** *22:41:08.0±1.8, 4384N×14695E, h90km±7km, mb5.5/1, msh5.6/1*
SKHL Felt (III) at Malokyrilskoe, (II) at Yushno-Kurilsk.
CSEM ***15*** *22:41:09.8, 4372N×14645E, h103km, mb5.6*
JMA ***15*** *22:41:09.8±0.1, 4376N×14674E, h82km±2km, M4.2*
NEIC ***15*** *22:41:10.1±1.4, 4383N×14659E, h100km±12km, mb4.2/7, Error ellipse: s-maj=14.7km s-min=9.7km az=136.0*
NEIC Felt [III] at Malokuril'skoye and [II] at Yuzhno-Kuril'sk.
IDC ***15*** *22:41:10.6±2.2, 4394N×14666E, h101km±18km, mb3.9/17, mb1 4.0/18, mb1mx3.9/23, mbtmp4.2/18, Error ellipse: s-maj=17.5km s-min=14.9km az=139.0*
ISC 15 22:41:08.4±0.5, 4385N±004×14682E±005, h87km±3km, n108, σ1§01/129, mb4.2/31, 14C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.71**	**285**	*i* P	**Pn**	**22 41 24.8**	**0.0**
YUK				AMB	AMB	22 41 25.0	
	22μm,0.2s						
YUK				AMB	AMB	22 41 25.0	
	860nm,0.2s						
YUK				AMB	AMB	22 41 25.0	
	1μm,0.2s						
YUK				AMB	AMB	22 41 25.0	
	19μm,0.2s						
YUK				*i* S	**Sn**	**22 41 36.0**	**-1.0**
YUK				A		22 41 36.9	
	42μm,0.4s						
YUK				A		22 41 36.9	
	41μm,0.4s						
YUK				A		22 41 36.9	
	19μm,0.4s						
YUK				A		22 41 36.9	
	28μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.71**	**285**	⇑*i*PN	**Pn**	**22 41 24.8**	**0.0**
YUK				*i* S	**Sn**	**22 41 36.0**	**-1.0**
YUK				pmax	pmax		
	comp=N,860nm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,19μm,0.2s						
YUK				smax			
	comp=N,19μm,0.4s						
YUK				smax			
	comp=E,28μm,0.4s						
YUK				smax			
	comp=N,42μm,0.4s						
YUK				smax			
	comp=E,41μm,0.4s						
NEM2	**Nemuro 2**	**0.92**	**239**	⇑P	**Pn**	**22 41 27.1**	**+0.1**
NEM2				*e*S	**Sn**	**22 41 39.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.93**	**239**	*e*P	**Pn**	**22 41 27.2**	**+0.2**
NMR				*e*S	**Sn**	**22 41 39.8**	**-1.2**
JRA	**Rausu**	**1.23**	**275**	⇑P	**Pn**	**22 41 31.4**	**+0.8**
JRA				*e*S	**Sn**	**22 41 47.7**	**+0.4**
JNK	**Nakash**	**1.54**	**261**	⇑P	**Pn**	**22 41 34.9**	**+0.3**
JNK				*e*S	**Sn**	**22 41 53.3**	**-1.1**
KUR	**Kuril'sk**	**1.57**	**28**	⇓*i*P	**Pn**	**22 41 33.8**	**-1.1**
KUR				⇓*i*P		22 41 33.8	
KUR				AMB	AMB	22 41 34.0	
	comp=E,2μm,1.4s						
KUR				*e*rx	rx	22 41 34.4	
KUR				AMB	AMB	22 41 36.0	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	22 41 36.0	
	comp=E,240nm,0.5s						
KUR				*i* S	**Sn**	**22 41 54.5**	**-0.5**
KUR				A		22 41 56.0	
	comp=E,12μm,1.6s						
KUR				A		22 41 56.0	
	comp=E,11μm,1.6s						
KUR				A		22 41 56.0	
	comp=E,2μm,0.5s						
KUR				A		22 41 56.0	
	comp=E,3μm,0.5s						
KUR	**Kuril'sk**	**1.57**	**28**	⇑*i*PN	**Pn**	**22 41 33.8**	**-1.1**
KUR				*i* S	**Sn**	**22 41 54.5**	**-0.5**
KUR				pmax	pmax		
	comp=Z,2μm,1.4s						
KUR				pmax	pmax		
	comp=N,150nm,0.5s						
KUR				pmax	pmax		
	comp=E,240nm,0.5s						
KUR				pmax	pmax		
	comp=Z,240nm,0.5s						
KUR				smax			
	comp=N,3μm,0.5s						
KUR				smax			
	comp=E,3μm,0.5s						
KUR				smax			
	comp=N,12μm,1.6s						
KUR				smax			
	comp=E,11μm,1.6s						
JAK	**Akkeshi**	**1.77**	**242**	⇑P	**Pn**	**22 41 37.5**	**+0.1**
JAK				*e*S	**Sn**	**22 41 58.3**	**-1.2**
JTKR	**Abashiri--Toko**	**2.11**	**274**	⇑P	**Pn**	**22 41 42.7**	**+0.8**
JTKR				*e*S	**Sn**	**22 42 07.6**	**+0.1**
JAR	**Ashorobuto**	**2.28**	**257**	⇓P	**Pn**	**22 41 45.4**	**+1.2**
JAR				*e*S	**Sn**	**22 42 12.3**	**+0.6**
JOB	**Onbets**	**2.37**	**248**	⇓P	**Pn**	**22 41 46.3**	**+0.9**
JOB				*e*S	**Sn**	**22 42 13.0**	**-0.8**
JMP	**Maruseppu**	**2.50**	**275**	⇓P	**Pn**

NJ2 XP sP 22 46 57.3 +4.6
NJ2 PP 22 47 02.5
NJ2 S **S** **22 50 33.0 -6.6**
NJ2 XS sS 22 51 15.0 +1.3
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
NJ2 LR LR
comp=N,230nm,20.0s
NJ2 LR LR
comp=E,250nm,16.0s
NJ2 LR LR
comp=Z,2μm,16.0s
BTO Baotou 27.30 276 *e*P **P** **22 46 45.5 +0.8**
BTO AMB AMB
comp=Z,14nm,0.5s,mb4.8
ULN Ulaanbaatar 27.77 292⇑*e*P **P** **22 46 49.1 +0.2**
ULN Ulaanbaatar 27.77 292 *e*P **P** **22 46 48.5 -0.4**
comp=Z,2.3nm,0.6s,mb3.9
SONM Songino Array 28.21 292 P **P** **22 46 52.0 -0.8**
comp=Z,2.4nm,0.6s,mb3.9,baz=85,slow=8.5,SNR=29
SONM Songino Array 28.21 292 P **P** **22 46 52.0 -0.8**
SONM pmax pmax
comp=Z,2.0nm,0.6s
ENH Enshi 32.44 258 *e*P **P** **22 47 29.7 -0.5**
comp=Z,3.5nm,0.5s,mb4.3
LZH Lanzhou 33.53 272 *e*P **P** **22 47 40.9 +1.2**
LZH AMB AMB
comp=Z,27nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,298nm,6.6s
GTA Gaotai 35.04 279 *e*P **P** **22 47 53.1 +0.4**
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KDAK Kodiak Island 39.36 47 P **P** **22 48 29.6 +0.4**
comp=Z,4.7nm,0.6s,mb4.5,baz=98,slow=16,SNR=5.3
KMI Kunming 40.30 257 P **P** **22 48 37.5 +0.4**
KMI AMB AMB
comp=Z,5.0nm,1.2s,mb4.2
ILAR Eielson Array 41.55 36 P **P** **22 48 47.9 +0.6**
comp=Z,0.4nm,0.5s,mb3.4,baz=258,slow=5.9,SNR=6.6
MKAR Makanchi Array 44.33 297 P **P** **22 49 08.8 -0.8**
comp=Z,6.0nm,0.7s,mb4.4,baz=79,slow=9.0,SNR=29
MKAR PcP PcP 22 50 52.8 +0.4
comp=Z,1.2nm,0.7s,baz=81,slow=1.8,SNR=3.5
MKAR Makanchi Array 44.33 297 *i*P **P** **22 49 09.5 -0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 45.27 304 *i*P **P** **22 49 16.4 -0.8**
KURK Kurchatov 45.27 304 *e*P **P** **22 49 16.2 -1.0**
LSA Lhasa 45.95 271 *e*P **P** **22 49 25.0 +2.5**
LSA Lhasa 45.95 271 *e*P **P** **22 49 24.2 +1.7**
LSA pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
LSA Lhasa 45.95 271 *e*P **P** **22 49 24.2 +1.7**
comp=Z,10nm,0.7s,mb4.7
INK Inuvik 46.44 30 P **P** **22 49 26.4 0.0**
comp=Z,0.9nm,0.4s,mb3.8,baz=297,slow=9.2,SNR=5.9
INK Inuvik 46.44 30 P **P** **22 49 26.4 0.0**
INK pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.25 309 P **P** **22 49 47.8 -0.3**
comp=Z,0.8nm,0.3s,mb4.1,baz=79,slow=9.5,SNR=9.4
BVAR PcP PcP 22 51 09.9 0.0
comp=Z,1.3nm,0.4s,baz=79,slow=4.0,SNR=8.4
BVAR Borovoye Array 49.25 309 P **P** **22 49 47.8 -0.3**
BVAR 22 51 09.9
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 49.30 309 P **P** **22 49 47.4 -1.1**
ZRNK Zerenda 50.06 310 *e*P **P** **22 49 53.2 -1.0**
YKA Yellowknife Ar 55.85 34 P **P** **22 50 37.1 +0.3**
comp=Z,0.5nm,0.6s,mb3.7,baz=298,slow=6.8,SNR=6.4
YKA Yellowknife Ar 55.85 34⇑*i*P **P** **22 50 37.7 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 59.07 339 P **P** **22 50 59.7 +0.3**
comp=Z,5.9nm,1.0s,mb4.5,baz=79,slow=6.2,SNR=5.0
ARCES ARCESS Array B 59.07 339 P **P** **22 50 59.7 +0.3**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
KAF Kangasniemi 64.12 333 *e*p **P** **22 51 31.0 -2.4**
comp=Z,1.6nm,0.5s,mb4.1,baz=43,slow=6.2
KAF Kangasniemi 64.12 333 *e*P **P** **22 51 31.0 -2.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
WRAB Tennant Creek 64.49 193 P **P** **22 51 37.2 +1.4**
WRA Warramunga Arr 64.50 193 P **P** **22 51 36.2 +0.4**
comp=Z,0.8nm,0.7s,mb3.7,baz=8.7,slow=6.7,SNR=10
WRA Warramunga Arr 64.50 193 *i*P **P** **22 51 36.5 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 64.68 333 P **P** **22 51 35.7 -1.3**
comp=Z,3.6nm,0.5s,mb4.5,baz=45,slow=8.1,SNR=28
FINES FINESS Array B 64.68 333 *i*P **P** **22 51 36.0 -1.0**
FINES pmax pmax
comp=Z,4.0nm,0.5s
OBN Obninsk 65.09 324 *e*P **P** **22 51 38.5 -1.2**
OBN *e* 22 52 11.0
OBN *e*S S 23 00 08.4 -7.0
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
OBN MLR MLR
comp=Z,100nm,19.0s
ASAR Alice Springs 68.22 193 P **P** **22 52 01.3 +1.7**
comp=Z,0.4nm,0.7s,mb3.4,baz=1.5,slow=4.5,SNR=7.3
GOF Gofitskoye 68.60 312 P **P** **22 52 01.7 -0.3**
NB2 NORSAR Subarra 69.42 339 P **P** **22 52 06.1 -1.0**
comp=Z,2.5nm,0.5s,mb4.3,baz=31,slow=6.5
NOA NORSAR Array B 69.42 339 P **P** **22 52 05.7 -1.4**
comp=Z,3.7nm,0.5s,mb4.4,baz=32,slow=6.3,SNR=12
NOA NORSAR Array B 69.42 339 P **P** **22 52 05.7 -1.4**
NOA pmax pmax
comp=Z,4.0nm,0.5s
GNI Garni 70.89 308 P **P** **22 52 17.5 +1.5**
comp=Z,3.4nm,0.8s,mb4.3,baz=205,slow=21,SNR=3.8
GNI Garni 70.89 308 P **P** **22 52 17.5 +1.5**
GNI pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 71.36 324 P **P** **22 52 18.1 -0.8**
comp=Z,1.4nm,0.3s,mb4.2,baz=38,slow=5.9,SNR=17
AKASG Malin Array Be 71.36 324 *i*P **P** **22 52 18.3 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
SRU San Rafael 71.92 53 *e*P **P** **22 52 19.8 -2.4**
SRU pmax pmax
comp=Z,16nm,0.8s,mb4.9
SRU San Rafael 71.92 53 *e*P **P** **22 52 19.8 -2.4**
comp=Z,16nm,0.8s,mb4.9
BURAR Bucovina Array 75.41 323 ⇓P **P** **22 52 42.8 +0.1**
KOLS Kolonicke sedl 75.62 326 *e*P **P** **22 52 44.2 +0.4**
STHS Stebnicka Huta 75.65 327 *e*P **P** **22 52 44.4 +0.4**
CFR Carcaliu 75.97 320 ⇓P **P** **22 52 46.2 +0.4**
HARR Harsova 76.44 320 ⇓P **P** **22 52 49.2 +0.7**
KECS Kecovo 76.69 327 *e*P **P** **22 52 49.4 -0.5**
MLR Muntele Rosu 76.73 322 ⇓P **P** **22 52 51.1 +1.0**
UPC Upice 76.74 330 *e*P **P** **22 52 50.6 +0.4**
DPC Dobruska-Polom 76.76 330 *e*P **P** **22 52 50.7 +0.4**
CLL Collm 77.12 332⇓*i*P **P** **22 52 51.7 -0.6**
comp=Z,15nm,1.0s,mb4.7
CLL *i*x x 22 53 11.8
PVCC Panska Ves 77.23 331 *e*P **P** **22 52 53.4 +0.4**
BRTR Keskin Array B 77.30 313 P **P** **22 52 53.3 0.0**
comp=Z,1.3nm,0.8s,mb3.7,baz=54,slow=5.2,SNR=4.4
BRTR Keskin Array B 77.30 313 P **P** **22 52 53.3 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
PRU Pruhonice 77.69 331 *e*P **P** **22 52 55.7 +0.2**
KHC Kasperske Hory 78.76 331 *e*P **P** **22 53 01.8 +0.4**
KHC Kasperske Hory 78.76 331⇑*e*P **P** **22 53 02.2 +0.8**
GERES GERESS Array B 78.95 331 P **P** **22 53 02.2 -0.3**
comp=Z,0.5nm,0.7s,mb3.5,baz=43,slow=5.9,SNR=3.6
GERES GERESS Array B 78.95 331 P **P** **22 53 02.2 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GRF Grafenberg Arr 79.09 332 *e*P **P** **22 53 03.8 +0.6**
comp=Z,5.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.09 332 *e*P **P** **22 53 03.8 +0.6**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
IDI Anoyia 85.18 316 P **P** **22 53 34.4 -0.7**
comp=Z,5.4nm,0.6s,mb4.7,baz=59,slow=6.4,SNR=7.7
TORD Torodi Ar. Bea 114.97 322 PKP PKiKP 22 59 38.8 -0.4
comp=Z,0.2nm,0.5s,baz=358,slow=1.6,SNR=4.3

MOS ***15*** *22:43:15.4±1.4,3721N×7168E,h96km,mb4.0/5,Error ellipse: s-maj=14.3km s-min=7.8km az=102.3*
BJI ***15*** *22:43:15.2,3780N×7166E,h73km,mb4.4,Ms4.2*
NEIC ***15*** *22:43:15.3±1.0,3727N×7179E,h77km±10km,mb3.8/4, Error ellipse: s-maj=11.6km s-min=5.0km az=55.0*
IDC ***15*** *22:43:16.6±7.1,3733N×7187E,h88km±45km,mb3.6/7, mb1 3.7/11,mb1mx3.5/25,mbtmp3.9/11,Error ellipse: s-maj=72.5km s-min=24.4km az=175.0*
ISCJB ***15*** *22:43:18.8±0.4,3736N±003×7194E±006,h130km±6km, mb3.8/10,Error ellipse: s-maj=8.4km s-min=4.0km az=161.1*
NNC ***15*** *22:43:23.9±6.6,3780N×7138E,h161km±72km,mb3.1, mpv4.1,Error ellipse: s-maj=64.5km s-min=29.6km az=29.0*
ISC 15 22:43:19.9±0.4,3736N±003×7194E±006,h129km±6km, n87,σ1§34/105,mb3.8/10,7C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.53**	**180**	P	**Pn**	**22 44 14.8**	**+1.4**
CHCP	**Chirah Chowk**	**3.85**	**163**	P	**Pn**	**22 44 20.3**	**+2.7**
THW	**Thamme Wali**	**4.56**	**182**	P	**Pn**	**22 44 27.5**	**+0.4**
AML	**Almayashu**	**4.95**	**15**	P	**Pn**	**22 44 32.6**	**+0.3**
SNR=91							
SBDP	**Sheikh Budin**	**5.13**	**191**	P	**Pn**	**22 44 35.1**	**+0.3**
UCH	**Uchtor**	**5.25**	**21**	P	**Pn**	**22 44 37.0**	**+0.7**
SNR=27							
KZA	**Kyzart**	**5.36**	**27**	P	**Pn**	**22 44 38.4**	**+0.6**
SNR=26							
SARP	**Sargodha**	**5.46**	**173**	P	**Pn**	**22 44 39.3**	**+0.2**
EKS2	**Erkin-Say**	**5.48**	**14**	P	**Pn**	**22 44 39.8**	**+0.4**
SNR=36							
AAK	**Ala-Archa**	**5.62**	**20**	P	**Pn**	**22 44 42.1**	**+0.8**
SNR=45							
KBK	**Karagaybulak**	**5.77**	**23**	P	**Pn**	**22 44 44.5**	**+1.2**
SNR=6.5							
DRP	**Derazinda**	**5.78**	**195**	P	**Pn**	**22 44 44.0**	**+0.5**
THN	**Thein Dam**	**5.81**	**147**	*e*P	**Pn**	**22 44 44.6**	**+0.7**
THN				*e*S	**Sn**	**22 45 47.6**	**-1.7**
KK31	**Karatay Array**	**5.84**	**350**	⇓P	**Pn**	**22 44 42.9**	**-1.3**
9.7nm,0.3s,baz=169,slow=12,SNR=588							
KK31				S	**Sn**	**22 45 44.6**	**-5.4**
16nm,0.3s,baz=182,slow=18,SNR=11							
ULHL	**Ulahol**	**5.89**	**33**	P	**Pn**	**22 44 45.8**	**+0.8**
SNR=12							
CHMS	**Chumysh**	**6.03**	**20**	P	**Pn**	**22 44 47.2**	**+0.5**
SNR=35							
USP	**Ospenovka**	**6.21**	**18**	P	**Pn**	**22 44 49.4**	**+0.1**
SNR=8.2							
TKM2	**Tokmak 2**	**6.22**	**26**	P	**Pn**	**22 44 50.0**	**+0.7**
SNR=12							
TKM2	**Tokmak 2**	**6.22**	**26**	⇓P	**Pn**	**22 44 49.9**	**+0.5**
11nm,0.6s							
TKM2				⇑S	**Sn**	**22 45 58.3**	**-0.8**
17nm,0.7s							
PONG	**Pong**	**6.32**	**147**	*e*P	**Pn**	**22 44 52.0**	**+1.2**
PONG				*e*x	**Sn**	**22 46 04.0**	**+2.3**
BHK	**Bhakra**	**6.99**	**147**	*e*x	**Sn**	**22 46 22.9**	**+5.2**
SDNR	**Sundarnagar**	**7.17**	**143**	*e*P	**Pn**	**22 45 04.0**	**+1.8**
SDNR				*e*S	**Sn**	**22 46 17.8**	**-4.3**
SMLA	**Simla**	**7.57**	**144**	*e*P	**Pn**	**22 45 06.0**	**-1.6**
SMLA				*e*S	**Sn**	**22 46 25.3**	**-6.5**
DDI	**Dehra Dun**	**8.66**	**142**	*e*P	**Pn**	**22 45 22.4**	**+0.1**
DDI				*e*S	**Sn**	**22 46 53.4**	**-4.9**
MK31	**Makanchi Array**	**12.15**	**36**	⇓P	**Pn**	**22 46 09.1**	**+0.4**
1.8nm,0.8s,baz=222,slow=13,SNR=22							
MKAR	**Makanchi Array**	**12.15**	**36**	P	**Pn**	**22 46 07.4**	**-1.3**
0.1nm,0.3s,baz=224,slow=14,SNR=21							
MKAR	**Makanchi Array**	**12.15**	**36**	*i*P	**Pn**	**22 46 09.1**	**+0.4**
MKAR				pmax	pmax		
2.0nm,0.8s							
WMQ	**Urumqi**	**13.59**	**57**	*e*P	**Pn**	**22 46 27.6**	**+0.2**
WMQ				AMB	AMB		
comp=Z,15nm,1.0s							
KOLN	**Koldanda**	**13.70**	**131**	*e*Pn	**Pn**	**22 46 26.8**	**-2.0**
KOLN				*e*Sn	**Sn**	**22 48 52.1**	**-7.9**
comp=Z,37nm,0.8s							
KOLN	**Koldanda**	**13.70**	**131**	*e*Pn	**Pn**	**22 46 26.8**	**-2.0**
comp=Z,18nm,0.8s							
KOLN				*e*Sn	**Sn**	**22 48 52.1**	**-7.9**
GKN	**Gorkha**	**14.18**	**127**	*e*Pn	**Pn**	**22 46 33.0**	**-1.8**
GKN				*e*Sn	**Sn**	**22 49 00.6**	**-11**
comp=Z,51nm,0.5s							
GKN	**Gorkha**	**14.18**	**127**	*e*Pn	**Pn**	**22 46 33.0**	**-1.8**
comp=Z,26nm,0.5s							
GKN				*e*Sn	**Sn**	**22 49 00.6**	**-11**
KURK	**Kurchatov**	**14.18**	**18**	⇑P	**Pn**	**22 46 38.8**	**+4.0**
comp=Z,2.1nm,1.0s							
KURK	**Kurchatov**	**14.18**	**18**	*e*P	**Pn**	**22 46 37.7**	**+2.8**
KURK				pmax	pmax		
comp=Z,18nm,0.6s							
KURK	**Kurchatov**	**14.18**	**18**	*e*Pn	**Pn**	**22 46 37.7**	**+2.9**
comp=Z,18nm,0.6s							
AB31	**Akbulak array**	**14.73**	**328**	⇓P	**Pn**	**22 46 38.3**	**-3.5**
comp=Z,1.3nm,0.3s,baz=140,slow=12,SNR=99							
AB31				⇑S	**Sn**	**22 49 05.6**	**-19**
comp=Z,4.4nm,0.5s,baz=153,slow=23,SNR=9.7							
AB31	**Akbulak array**	**14.73**	**328**	*e*P	**Pn**	**22 46 38.2**	**-3.6**
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s							
KKN	**Kakani**	**14.73**	**127**	*e*Pn	**Pn**	**22 46 39.7**	**-2.2**
KKN				*e*Sn	**Sn**	**22 49 14.5**	**-10**
comp=Z,42nm,0.8s							
KKN	**Kakani**	**14.73**	**127**	*e*P	**Pn**	**22 46 39.7**	**-2.2**
KKN				*e*		22 49 14.5	
KKN				pmax	pmax		
comp=Z,21nm,0.8s							
KKN	**Kakani**	**14.73**	**127**	*e*Pn	**Pn**	**22 46 39.7**	**-2.2**
comp=Z,21nm,0.8s							
KKN				*e*Sn	**Sn**	**22 49 14.5**	**-10**
DMN	**Daman**	**14.75**	**127**	*e*Pn	**Pn**	**22 46 40.8**	**-1.2**
DMN				*e*Sn	**Sn**	**22 49 14.7**	**-11**
comp=Z,86nm,0.9s							
DMN	**Daman**	**14.75**	**127**	*e*Pn	**Pn**	**22 46 40.8**	**-1.2**
comp=Z,43nm,0.9s							
DMN				*e*Sn	**Sn**	**22 49 14.7**	**-11**
PKI	**Pulchoki**	**14.97**	**127**	*e*Pn	**Pn**	**22 46 43.3**	**-1.5**
PKI				*e*Sn	**Sn**	**22 49 19.9**	**-11**
comp=Z,36nm,0.8s							
PKI	**Pulchoki**	**14.97**	**127**	*e*P	**Pn**	**22 46 43.3**	**-1.5**
PKI				*e*		22 49 19.9	
PKI				pmax	pmax		
comp=Z,18nm,0.8s							
PKI	**Pulchoki**	**14.97**	**127**	*e*Pn	**Pn**	**22 46 43.3**	**-1.5**
comp=Z,18nm,0.8s							
PKI				*e*Sn	**Sn**	**22 49 19.9**	**-11**
GUN	**Gumba**	**15.04**	**125**	*e*Pn	**Pn**	**22 46 43.7**	**-2.0**
VOSK	**Vostochnaya**	**15.38**	**358**	⇓P	**Pn**	**22 46 47.7**	**-2.2**
comp=Z,4.2nm,1.6s							
JIRN	**Jiri**	**15.41**	**125**	*e*Pn	**Pn**	**22 46 48.7**	**-1.6**
BVA0	**Borovoye Array**	**15.70**	**357**	⇑P	**Pn**	**22 46 52.4**	**-1.6**
comp=Z,1.4nm,2.5s,baz=160,slow=12,SNR=18							
BVA0				⇓S	**S**	**22 49 47.5**	**-6.3**
comp=Z,1.1nm,1.8s,baz=87,slow=9.6,SNR=10							
BVA0	**Borovoye Array**	**15.70**	**357**	*i*P	**Pn**	**22 46 56.2**	**+2.3**
BVA0				pmax	pmax		
comp=Z,2.0nm,2.2s							
BVAR	**Borovoye Array**	**15.70**	**357**	P	**Pn**	**22 46 51.9**	**-2.1**
comp=Z,0.5nm,0.3s,baz=155,slow=9.2,SNR=14							
BVAR	**Borovoye Array**	**15.70**	**357**	P	**Pn**	**22 46 51.9**	**-2.0**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZRNK	**Zerenda**	**15.72**	**353**	⇑P	**Pn**	**22 46 52.5**	**-1.7**
comp=Z,3.2nm,1.0s							
ZRNK	**Zerenda**	**15.72**	**353**	*e*P	**Pn**	**22 46 53.0**	**-1.2**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZRNK	**Zerenda**	**15.72**	**353**	*e*Pn	**Pn**	**22 46 53.0**	**-1.3**
comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**15.74**	**356**	*e*P	**Pn**	**22 46 54.1**	**-0.3**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	**15.74**	**356**	*e*Pn	**Pn**	**22 46 54.1**	**-0.3**
comp=Z,2.9nm,1.0s							
AKTK	**Aktyubinsk**	**16.44**	**327**	P	**Pn**	**22 47 00.6**	**-2.4**
AKTO	**Aktyubinsk**	**16.44**	**327**	⇑P	**Pn**	**22 47 02.1**	**-0.9**
comp=Z,0.5nm,0.3s							
AKTO				⇑S	**S**	**22 49 51.1**	**-15**
comp=Z,1.7nm,1.4s							
AKTO	**Aktyubinsk**	**16.44**	**327**	P	**Pn**	**22 47 00.6**	**-2.4**
comp=Z,1.8nm,0.3s,baz=137,slow=8.7,SNR=40							
AKTO	**Aktyubinsk**	**16.44**	**327**	P	**Pn**	**22 47 00.6**	**-2.4**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
LSA	**Lhasa**	**17.72**	**110**	P	**Pn**	**22 47 21.4**	**+2.9**
LSA				AMB	AMB		
comp=Z,10.0nm,0.9s							
LSA	**Lhasa**	**17.72**	**110**	*e*P	**Pn**	**22 47 21.0**	**+2.5**
LSA				pmax	pmax		
comp=Z,11nm,0.8s							
LSA	**Lhasa**	**17.72**	**110**	*e*P	**Pn**	**22 47 21.0**	**+2.4**
comp=Z,11nm,0.8s							
ZAL	**Zalesovo**	**18.80**	**24**	P	**P**	**22 47 29.9**	**+0.5**
comp=Z,0.8nm,0.3s,baz=241,slow=7.8,SNR=10							
ZAL	**Zalesovo**	**18.80**	**24**	P	**P**	**22 47 29.9**	**+0.5**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
SHL	**Shillong**	**20.63**	**119**	*e*x	x	22 47 51.0	
GNI	**Garni**	**21.36**	**286**	P	**P**	**22 47 56.3**	**-0.6**
comp=Z,3.3nm,0.7s,mb3.8,baz=127,slow=20,SNR=2.1							
GNI	**Garni**	**21.36**	**286**	P	**P**	**22 47 56.3**	**-0.6**
GNI				pmax	pmax		
comp=Z,3.0nm,0.7s							
GTA	**Gaotai**	**21.91**	**76**	*e*P	**P**	**22 48 07.4**	**+4.7**
GTA				AP		22 48 23.8	
GTA				XP	sP	22 48 32.8	-10
GTA				AMB	AMB		
comp=Z,14nm,1.0s,mb4.3							
LZH	**Lanzhou**	**25.54**	**83**	*e*P	**P**	**22 48 40.9**	**+4.4**
LZH				AMB	AMB		
comp=Z,27nm,1.0s,mb4.8							
MALT	**Malatya**	**26.41**	**282**	*e*P	**P**	**22 48 43.7**	**-0.7**
SONM	**Songino Array**	**27.23**	**56**	P	**P**	**22 48 53.5**	**+1.8**
comp=Z,0.5nm,0.8s,mb3.2,baz=270,slow=8.9,SNR=3.7							
SONM	**Songino Array**	**27.23**	**56**	P	**P**	**22 48 53.5**	**+1.8**
SONM				pmax	pmax		
comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**37.20**	**325**	P	**P**	**22 50 19.4**	**+0.8**
comp=Z,0.4nm,0.3s,mb3.5,baz=124,slow=6.9,SNR=4.1							
ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**22 50 48.2**	**+1.0**
comp=Z,1.8nm,0.8s,mb3.8,baz=112,slow=9.8,SNR=3.7							
ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**22 50 48.2**	**+1.0**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.8s							
PSI	**Prapat**	**42.39**	**138**	P	**P**	**22 51 02.3**	**+0.8**
comp=Z,1.6nm,0.3s,mb4.1,baz=166,slow=12,SNR=6.5							
PSI	**Prapat**	**42.39**	**138**	P	**P**	**22 51 02.3**	**+0.8**
PSI				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.2							
INK	**Inuvik**	**72.94**	**10**	P	**P**	**22 54 36.0**	**+0.9**
comp=Z,1.6nm,0.7s,mb3.9,baz=352,slow=4.8,SNR=9.9							
INK	**Inuvik**	**72.94**	**10**	P	**P**	**22 54 36.0**	**+0.9**
INK				pmax	pmax		
comp=Z,2.0nm,0.7s							
ILAR	**Eielson Array**	**73.75**	**16**	P	**P**	**22 54 40.1**	**+0.3**
comp=Z,0.6nm,0.8s,mb3.4,baz=329,slow=4.7,SNR=8.0							
ILAR	**Eielson Array**	**73.75**	**16**	P	**P**	**22 54 40.1**	**+0.3**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**80.35**	**3**	P	**P**	**22 55 18.0**	**+1.3**
comp=Z,1.2nm,0.7s,mb3.6,baz=349,slow=5.4,SNR=20							
WRAB	**Tennant Creek**	**81.81**	**123**	*e*P	**P**	**22 55 26.2**	**+1.7**
CTAO	**Charters Tower**	**90.22**	**115**	*e*P	**P**	**22 56 07.8**	**+2.0**
WCI	**Wyandotte Cave**	**102.15**	**343**	*e*Pdif	Pdif	22 57 04.8	+4.9
comp=Z,5.0nm,0.4s							

IDC ***15*** *22:49:06.5±1.3,1214N×1415E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.7/18,mbtmp3.9/5,MS3.5/1,Ms1 3.5/1, ms1mx2.9/22,Error ellipse: s-maj=63.7km s-min=21.2km az=77.0*
ISCJB ***15*** *22:49:09.0±1.4,1211N±01×1414E±04,h33km,mb4.0/9, Error ellipse: s-maj=52.5km s-min=11.4km az=143.9*
NEIC ***15*** *22:49:11.8±0.7,1208N×1412E,h35km,mb4.2/4,Error ellipse: s-maj=28.5km s-min=8.7km az=70.0*
ISC 15 22:49:11.7±1.3,1211N±01×1413E±03,h35km,n15, σ0§74/14,mb4.0/9,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**22.21**	**305**	P	**P**	**22 54 05.7**	**+0.7**
YHNB	**Yeheng**	**22.63**	**306**	*e*P	**P**	**22 54 09.0**	**-0.4**
CTAO	**Charters Tower**	**32.37**	**171**	P	**P**	**22 55 38.5**	**+0.7**
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P	**P**	**22 55 39.9**	**+0.2**
1.7nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**22 55 40.4**	**+0.6**
1.9nm,0.8s,mb4.1,baz=12,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**36.29**	**192**	P	**P**	**22 56 12.8**	**+1.0**
0.5nm,0.6s,mb3.6,baz=18,slow=13,SNR=6.1							
STKA	**Stephens Creek**	**43.74**	**180**	P	**P**	**22 57 12.3**	**-1.3**
1.4nm,0.6s,mb3.9,baz=330,slow=3.6,SNR=3.4							
STKA	**Stephens Creek**	**43.74**	**180**	P	**P**	**22 57 12.3**	**-1.3**
NWAO	**Narrogin (SRO)**	**50.35**	**206**	*e*P	**P**	**22 58 03.4**	**-1.7**
MKAR	**Makanchi Array**	**60.17**	**317**	P	**P**	**22 59 15.9**	**0.0**
1.0nm,1.0s,mb3.6,baz=106,slow=8.8,SNR=7.5							
KURK	**Kurchatov**	**63.50**	**321**	*e*P	**P**	**22 59 38.4**	**+0.2**
2.9nm,0.7s,mb4.5							
BVAR	**Borovoye Array**	**68.94**	**322**	P	**P**	**23 00 13.0**	**-0.1**
1.6nm,0.6s,mb4.1,baz=105,slow=7.3,SNR=17							
BRVK	**Borovoye**	**69.01**	**322**	*e*P	**P**	**23 00 13.7**	**+0.2**
1.5nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**69.76**	**322**	*e*P	**P**	**23 00 17.8**	**-0.4**
1.0nm,0.7s,mb3.9							
LPAZ	**La Paz**	**151.17**	**102**	PKPbc	PKPbc	23 09 03.5	+2.4
1.0nm,0.6s,baz=265,slow=3.3,SNR=6.5							

NEIC ***15*** *22:51:33.6±6.4,4495S×1539E,h98km±33km,mb4.1/2, Error ellipse: s-maj=89.6km s-min=28.6km az=100.0*
IDC ***15*** *22:51:35.4±9.3,4385S×1536E,h101km±64km,mb3.6/2, mb1 3.9/3,mb1mx3.4/14,mbtmp4.1/3,ML3.8/1,Error ellipse: s-maj=103.0km s-min=53.3km az=114.0*
ISCJB ***15*** *22:51:36.4±5.4,44S±03×1535E±04,h115km±39km, mb3.8/4,Error ellipse: s-maj=65.6km s-min=33.6km az=61.3*
ISC 15 22:51:36.2±5.0,45S±03×1537E±04,h104km±33km,n9, σ0§59/9,mb3.8/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.13**	**232**	P	**Pn**	**22 53 31.6**	**+0.3**
6.7nm,0.3s,baz=36,slow=5.8,SNR=15							
PMG				S	**Sn**	**22 55 01.1**	**-0.4**
1.7nm,0.3s,baz=134,slow=20,SNR=3.9							
WRAB	**Tennant Creek**	**24.31**	**229**	*e*P	**P**	**22 56 44.5**	**+0.5**
5.6nm,0.4s,mb4.2							
WB2	**Warramunga Arr**	**24.32**	**229**	*e*P	**P**	**22 56 44.0**	**0.0**
WRA	**Warramunga Arr**	**24.33**	**229**	P	**P**	**22 56 44.7**	**+0.6**
3.5nm,0.4s,mb4.0,baz=55,slow=10,SNR=59							
ASAR	**Alice Springs**	**26.99**	**223**	P	**P**	**22 57 07.8**	**-0.3**
0.4nm,0.5s,mb3.2,baz=55,slow=9.4,SNR=4.6							
MBWA	**Marble Bar**	**36.90**	**240**	*e*P	**P**	**22 58

JHR	Hokuryu	4.75	84	P	Pn	23 02 24.0	+1.2
JOT	Ohata	4.80	113	P	Pn	23 02 23.5	+0.2
JWK2	Keihoku	5.15	66	P	Pn	23 02 29.2	+2.0
ASAJ	Asahikawa	5.40	80	P	Pn	23 02 30.1	+0.3
	10nm,0.3s,baz=238,slow=7.4,SNR=26						
ASAJ				S	S	23 03 37.5	-0.6
	baz=326,slow=19,SNR=2.2						
JKK2	Kamakawa 2	5.49	83	P	Pn	23 02 31.7	+0.8
JANG	Nango	5.62	121	P	Pn	23 02 32.9	+0.5
JNBK	Urakawa-nobuka	5.67	99	P	Pn	23 02 32.7	-0.2
JCH	Churui	6.04	95	P	Pn	23 02 35.3	-1.8
JCH				eS	S	23 03 43.7	-7.6
JTKR	Abashiri--Toko	6.33	82	P	Pn	23 02 40.4	-0.1
JTKR				eS	S	23 03 51.6	-5.8
JMK	Ichinoseki	6.38	133	eS	S	23 03 54.2	-4.2
YSS	Yuzh-Sakhalins	6.39	54	eP	Pn	23 02 42.1	+1.0
GRNR	Gornyy	7.38	6	eP	Pn	23 02 51.5	-1.0
GRNR				AMB	AMB	23 02 52.1	
	12nm,0.7s						
NEM2	Nemuro 2	7.68	87	P	Pn	23 02 53.8	-2.3
NEM2				eS	S	23 04 16.1	-10
TYV	Tymovskoe	8.99	32	eP	Pn	23 03 13.3	+1.7
TYV				AMB	AMB	23 03 14.9	
	39nm,0.9s						
EKMR	Ekimchan	9.75	352	eP	Pn	23 03 18.2	-2.4
YASR	Yasnyy	10.95	337	eP	Pn	23 03 34.1	-0.8
YASR				AMB	AMB	23 03 34.8	
	2.0nm,0.6s						
MKAR	Makanchi Array	36.90	294	P	P	23 07 44.4	+2.7
	0.2nm,0.6s,mb2.5,baz=84,slow=10,SNR=2.7						
BVAR	Borovoye Array	42.83	306	P	P	23 08 31.0	+1.0
	0.2nm,0.3s,mb2.7,baz=76,slow=10,SNR=4.4						
ILAR	Eielson Array	46.81	35	P	P	23 09 00.6	-0.4
	0.9nm,0.5s,mb3.3,baz=290,slow=8.8,SNR=17						
ARCES	ARCESS Array B	56.28	337	P	P	23 10 10.2	-0.2
	1.8nm,0.7s,mb3.5,baz=51,slow=7.8,SNR=5.8						
ARCES	ARCESS Array B	56.28	337	P	P	23 10 10.2	-0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	Kangasniemi	60.41	329	ep	P	23 10 37.9	-0.7
YKA	Yellowknife Ar	60.65	30	P	P	23 10 40.4	+0.2
	comp=Z,0.4nm,0.5s,mb3.1,baz=307,slow=6.4,SNR=12						
YKA	Yellowknife Ar	60.65	30	P	P	23 10 40.4	+0.1
FINES	FINESS Array B	60.90	329	P	P	23 10 41.9	-0.1
	comp=Z,2.2nm,0.5s,mb3.8,baz=45,slow=8.6,SNR=20						
FINES				PcP	PcP	23 11 20.5	-1.0
	comp=Z,1.7nm,0.9s,baz=45,slow=2.7,SNR=5.4						
FINES	FINESS Array B	60.90	329	P	P	23 10 41.9	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	Warramunga Arr	63.08	181	P	P	23 10 55.0	-1.2
	comp=Z,0.3nm,0.5s,mb3.1,baz=358,slow=7.0,SNR=11						
AKASG	Malin Array Be	66.34	318	P	P	23 11 17.1	-0.1
	comp=Z,0.2nm,0.2s,mb3.4,baz=45,slow=6.2,SNR=5.8						
NB2	NORSAR Subarra	66.39	334	P	P	23 11 17.6	+0.1
	comp=Z,1.0nm,0.5s,mb3.8,baz=37,slow=6.5						
NOA	NORSAR Array B	66.39	334	P	P	23 11 17.3	-0.2
	comp=Z,1.1nm,0.5s,mb3.8,baz=40,slow=6.2,SNR=3.9						
NOA	NORSAR Array B	66.39	334	P	P	23 11 17.3	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	74.75	324	P	P	23 12 08.0	+0.6
	comp=Z,0.6nm,0.5s,mb3.6,baz=45,slow=5.7,SNR=6.5						
GERES	GERESS Array B	74.75	324	P	P	23 12 08.0	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	146.44	43	PKPbc	PKPbc	23 20 06.5	+1.1
	comp=Z,0.3nm,0.4s,baz=13,slow=6.3,SNR=4.4						

*ISCJB **15** 23:22:14.5±1.5, 1634N±008×1460E±0.1, h145km±14km, mb4.2/26, Error ellipse: s-maj=16.8km s-min=13.3km az=157.6*
*IDC **15** 23:22:15.8±1.8, 1633N×1458 5E, h145km±18km, mb3.7/12, mb1 3.9/13, mb1mx3.8/20, mbtmp4.1/13, Error ellipse: s-maj=24.0km s-min=15.4km az=98.0*
*NEIC **15** 23:22:15.7±1.6, 1634N×1459 9E, h140km±15km, mb4.5/14, Error ellipse: s-maj=13.5km s-min=10.7km az=79.0*

ISC 15 23:22:15.1±1.5, 1636N±008×1460E±01, h133km±14km, n32, σ1§12/33, mb4.2/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.98	203	P	Pn	23 23 01.9	+0.3
	43nm,0.3s,baz=354,slow=3.7,SNR=10						
GUMO				S	Sn	23 23 37.0	-0.3
	54nm,0.3s,baz=332,slow=22,SNR=5.5						
YHNB	Yeheng	24.51	294	P	P	23 27 21.1	-1.0
CTAO	Charters Tower	36.22	180	eP	P	23 29 05.8	+0.8
	2.1nm,0.6s,mb3.9						
WRAB	Tennant Creek	37.85	198	eP	P	23 29 19.4	+0.6
	1.1nm,0.4s,mb3.8						
WRA	Warramunga Arr	37.86	198	P	P	23 29 17.8	-1.1
	0.5nm,0.3s,mb3.5,baz=31,slow=9.0,SNR=29						
ASAR	Alice Springs	41.51	197	P	P	23 29 49.5	+0.4
	0.2nm,0.4s,mb3.1,baz=211,slow=26,SNR=3.5						
SONM	Songino Array	45.18	323	P	P	23 30 17.7	-0.9
	0.8nm,0.6s,mb3.5,baz=135,slow=9.0,SNR=8.7						
STKA	Stephens Creek	48.15	185	P	P	23 30 40.2	-1.5
	0.7nm,0.5s,mb3.5,baz=16,slow=3.0,SNR=3.0						
STKA	Stephens Creek	48.15	185	P	P	23 30 40.2	-1.5
LSA	Lhasa	51.80	295	eP	P	23 31 12.0	+2.7
	6.2nm,0.5s,mb4.5						
JIRN	Jiri	56.16	293	eP	P	23 31 42.2	+1.3
	13nm,0.6s,mb4.9						
NWAO	Narrogin (SRO)	56.21	209	eP	P	23 31 40.5	-0.7
GUN	Gumba	56.43	293	eP	P	23 31 44.2	+1.4
	18nm,0.7s,mb5.0						
PKI	Pulchoki	56.85	292	eP	P	23 31 46.7	+0.9
	7.1nm,0.5s,mb4.8						
KKN	Kakani	56.96	293	eP	P	23 31 47.0	+0.5
	8.6nm,0.7s,mb4.7						
DMN	Daman	57.12	293	eP	P	23 31 48.5	+0.8
	10nm,0.5s,mb4.9						
GKN	Gorkha	57.52	293	eP	P	23 31 51.4	+0.9
	14nm,0.5s,mb5.0						
KOLN	Koldanda	58.45	293	eP	P	23 31 57.8	+0.9
	12nm,0.7s,mb4.8						
ZAL	Zalesovo	60.08	323	P	P	23 32 07.2	-0.9
	0.6nm,0.3s,mb3.9,baz=314,slow=9.8,SNR=3.3						
MKAR	Makanchi Array	60.33	315	P	P	23 32 09.2	-0.6
	1.0nm,0.6s,mb3.8,baz=96,slow=8.7,SNR=16						
KDAK	Kodiak Island	61.14	32	P	P	23 32 16.6	+1.3
	10.0nm,1.0s,mb4.6,baz=264,slow=17,SNR=9.8						
KURK	Kurchatov	63.23	319	eP	P	23 32 28.0	-1.3
	1.7nm,0.3s,mb4.3						
ILAR	Eielson Array	65.60	26	P	P	23 32 43.7	-1.0
	1.6nm,0.4s,mb4.2,baz=251,slow=5.8,SNR=39						
BRVK	Borovoye	68.55	321	eP	P	23 33 02.5	-0.8
	0.9nm,0.4s,mb3.9						
DAWY	Dawson	68.67	27	eP	P	23 33 05.1	+1.0
ZRNK	Zerenda	69.32	321	eP	P	23 33 06.8	-1.3
	1.4nm,0.5s,mb4.0						
YKW3	Yellowknife Ar	79.87	28	eP	P	23 34 08.6	-0.4
YKA	Yellowknife Ar	79.90	28	P	P	23 34 08.8	-0.2
	5.6nm,0.6s,mb4.4,baz=288,slow=5.3,SNR=81						
ARCES	ARCESS Array B	84.81	342	P	P	23 34 32.2	-2.4
	1.5nm,0.6s,mb3.9,baz=80,slow=7.4,SNR=7.5						
DUG	Dugway	87.84	49	eP	P	23 34 51.2	+1.8
	3.8nm,0.6s,mb4.4						
FINES	FINESS Array B	89.14	335	P	P	23 34 52.5	-3.0
	0.8nm,0.6s,mb3.8,baz=90,slow=3.8,SNR=7.8						
PDAR	Pinedale Array	89.22	46	P	P	23 34 56.6	+0.7
	0.5nm,0.5s,mb3.8,baz=174,slow=1.6,SNR=8.9						

MAN 15 23:25:14.9, 1238N×12373E, h5km, mb2.9, ML4.3, MS1.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.11	260	eP	Pg	23 25 18.0	+0.8
MMPH				eS	Sg	23 25 22.0	+3.3
RCP	Roxas	1.26	230⇑	eP	Pg	23 25 38.5	-0.6
RCP				eS	Sg	23 25 56.6	+1.0
PVCP	Virac	1.28	19	eP	Pn	23 25 38.6	-0.9
KALP	Kalibo	1.53	243⇓	eP	Sn	23 26 03.3	+0.1
GUIM	Jordan	2.07	213	eP	Pn	23 25 57.0	+6.7
BOAC	Boac	2.13	300	eP	Sn	23 26 09.6	-8.5

*IDC **15** 23:36:03.6±1.4, 3476N×14072E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/19, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=33.8km s-min=19.8km az=98.0*
*JMA **15** 23:36:03.8±0.2, 3502N×141.17E, h45km±3km, M2.6*
*ISCJB **15** 23:36:05.2±1.3, 3487N±006×1410E±0.1, h54km±6km, mb3.5/2, Error ellipse: s-maj=18.3km s-min=7.8km az=126.7*

ISC 15 23:36:08.0±0.8, 3480N±006×14081E±009, h39km±6km, n12, σ1§06/16, mb3.5/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO2	Boso 2	0.07	226	eS	Sn	23 36 21.6	+2.9
BSO1	Boso 1	0.20	137	P	Pn	23 36 13.3	-1.8
BSO1				S	Sn	23 36 19.9	-0.2
BSO3	Boso 3	0.25	271	P	Pn	23 36 15.9	+0.3
BSO3				S	Sn	23 36 25.4	+4.5
BSO4	Boso 4	0.43	296	P	Pn	23 36 17.8	0.0
KTR	Katsuura	0.54	311	eS	Sn	23 36 27.2	+0.1
JCN	Nagara	0.80	321	eS	Sn	23 36 32.6	-0.8
CHOJ	Chosi	0.90	2	P	Pn	23 36 18.0	-6.2
JIM2	Oshima 3	1.14	266	P	Pn	23 36 27.5	0.0
JHJ	Hachijo jima 2	1.88	207	Pn	Pn	23 36 36.2	-1.4
	8.3nm,0.3s,baz=72,slow=20,SNR=2.1						
JHJ				Sn	Sn	23 37 00.5	+0.3
	9.6nm,0.3s,baz=60,slow=20,SNR=4.2						
MJAR	Matsushiro Art	2.74	310	Pn	Pn	23 36 48.4	-1.0
	1.7nm,0.3s,baz=97,slow=15,SNR=6.0						
MJAR				Sn	Sn	23 37 21.6	+0.3
	1.2nm,0.3s,baz=138,slow=16,SNR=4.5						
ILAR	Eielson Array	51.65	31	P	P	23 45 12.2	+1.5
	0.2nm,0.4s,mb3.4,baz=274,slow=8.0,SNR=8.6						
WRA	Warramunga Arr	54.78	187	P	P	23 45 34.5	+0.6
	0.4nm,0.7s,mb3.6,baz=5.1,slow=7.3,SNR=9.7						

*PRE **15** 23:38:29.2±0.7, 2637S×2738E, h2km, ML3.4*
*ISCJB **15** 23:38:30.9±0.5, 2642S±003×2750E±005, h10km, mb4.0/5, Error ellipse: s-maj=6.8km s-min=4.9km az=26.0*
*IDC **15** 23:38:31.4±1.2, 2637S×2760E, h0km, mb4.1/5, mb1 4.3/9, mb1mx3.9/22, mbtmp4.2/9, ML3.4/4, Error ellipse: s-maj=20.9km s-min=17.4km az=43.0*
*NEIC **15** 23:38:31.8±1.0, 2640S×2763E, h5km, Error ellipse: s-maj=19.7km s-min=13.4km az=115.0*

ISC 15 23:38:32.3±0.5, 2642S±003×2755E±005, h10km, n16, σ1§05/27, mb4.0/5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	0.95	44	eP	Pg	23 38 49.2	-1.3
SLR				eS	Sg	23 39 03.1	+0.2
SLR				AML	AML	23 39 08.0	
	comp=Z,327nm,0.8s						
SEK	Senekal	1.90	178	eP	Pn	23 39 03.8	-0.9
SEK				eS	Sn	23 39 29.3	+0.7
SEK				AML	AML	23 39 33.6	
	comp=Z,1μm,0.4s						
LBTB	Lobatse	2.25	308	Pn	Pn	23 39 11.8	+2.3
	comp=Z,49nm,0.3s,baz=146,slow=13,SNR=412						
LBTB				Pg	Pg	23 39 13.1	-2.3
	comp=Z,49nm,0.3s,baz=142,slow=17,SNR=457						
LBTB				Lg		23 39 42.2	
	comp=Z,156nm,0.3s,baz=44,slow=15,SNR=36						
LBTB				Rg		23 39 50.8	
	comp=Z,206nm,0.5s,baz=299,slow=8.4,SNR=6.0						
BOSA	Boshof	2.99	223	Pn	Pn	23 39 20.4	+0.8
	comp=Z,12nm,0.3s,baz=49,slow=14,SNR=184						
BOSA				Pg	Pg	23 39 28.0	-1.5
	comp=Z,15nm,0.3s,baz=50,slow=17,SNR=39						
BOSA				Sn	Sn	23 39 55.0	-0.5
	comp=Z,9.7nm,0.3s,baz=10.0,slow=14,SNR=4.0						
BOSA				Lg		23 40 03.9	
	comp=Z,27nm,0.3s,baz=315,slow=21,SNR=15						
BOSA				Rg		23 40 20.6	
	comp=Z,65nm,0.5s,baz=189,slow=3.6,SNR=2.6						
BOSA	Boshof	2.99	223	Pn	Pn	23 39 20.4	+0.8
BOSA				Pg	Pg	23 39 28.0	-1.5
BOSA				Sn	Sn	23 39 55.0	-0.5
BOSA				Lg		23 40 03.9	
BOSA				Rg		23 40 20.6	
KSD	Kokstad	4.42	159	eP	Pn	23 39 39.6	+0.2
KSD				eS	Sn	23 40 30.6	-0.3
LSZ	Lusaka	11.11	3	Pn	Pn	23 41 10.0	-1.1
	comp=Z,0.8nm,0.3s,baz=182,slow=13,SNR=27						
LSZ				Sn	Sn	23 43 07.9	-7.5
	comp=Z,0.5nm,0.3s,baz=223,slow=18,SNR=5.5						
LSZ				Lg		23 44 15.0	
	comp=Z,0.5nm,0.3s,baz=246,slow=21,SNR=4.2						
LSZ	Lusaka	11.11	3	Pn	Pn	23 41 10.0	-1.1
LSZ				Sn	Sn	23 43 07.9	-7.5
LSZ				Lg		23 44 15.0	
TSUM	Tsumeb	11.66	306	Pn	Pn	23 41 18.8	+0.1
	comp=Z,1.6nm,0.3s,baz=122,slow=10,SNR=69						
TSUM				Sn	Sn	23 43 33.8	+4.8
	comp=Z,0.1nm,0.3s,baz=16,slow=5.3,SNR=2.9						
TSUM				Lg		23 44 32.1	
	comp=Z,0.5nm,0.3s,baz=34,slow=22,SNR=4.4						
TSUM	Tsumeb	11.66	306	ePn	Pn	23 41 18.8	+0.1
TSUM				eLg		23 44 33.7	
TORD	Torodi Ar. Bea	46.68	324	P	P	23 47 01.8	+0.7
	comp=Z,2.3nm,0.7s,mb4.2,baz=138,slow=6.4,SNR=17						
BDFB	Brasília	70.49	262	P	P	23 49 48.4	+1.3
	comp=Z,0.6nm,0.4s,mb3.9,baz=103,slow=11,SNR=3.2						
ESDC	Sonseca Array	72.03	335	P	P	23 49 57.4	+1.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=151,slow=5.8,SNR=5.0						
FINES	FINESS Array B	87.56	359	P	P	23 51 20.1	-0.3
	comp=Z,1.3nm,0.7s,mb4.3,baz=198,slow=6.0,SNR=4.1						
MKAR	Makanchi Array	88.05	34	P	P	23 51 23.4	+0.6
	comp=Z,0.6nm,0.7s,mb3.9,baz=220,slow=4.4,SNR=7.9						
MKAR	Makanchi Array	88.05	34	P	P	23 51 23.4	+0.6

*IDC **15** 23:48:01.9±1.9, 260N×128 44E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=137.8km s-min=22.7km az=67.0*
*ISCJB **15** 23:48:05.5±1.2, 25N±02×128.1E±03, h33km, mb3.8/6, Error ellipse: s-maj=43.4km s-min=14.1km az=107.7*
*NEIC **15** 23:48:07.7±1.2, 247N×128.14E, h35km, mb4.1/2, Error ellipse: s-maj=41.9km s-min=13.1km az=54.0*

ISC 15 23:48:07.9±1.2, 25N±02×1282E±02, h35km, n7, σ0§98/7, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	12.42	287	Pn	Pn	23 51 01.9	-0.2
WRAB	Tennant Creek	23.09	165	eP	P	23 53 12.3	+1.8
	1.5nm,0.4s,mb3.8						
WRA	Warramunga Arr	23.10	165	P	P	23 53 10.6	+0.1
	1.0nm,0.5s,mb3.5,baz=345,slow=10,SNR=16						
ASAR	Alice Springs	26.59	168	P	P	23 53 42.5	-0.2
	0.4nm,0.5s,mb3.2,baz=358,slow=7.9,SNR=7.9						
STKA	Stephens Creek	36.48	161	P	P	23 55 07.5	-2.0
	0.8nm,0.4s,mb4.0,baz=317,slow=13,SNR=3.4						
MKAR	Makanchi Array	59.38	325	P	P	23 58 07.0	+0.4
	0.5nm,0.4s,mb3.9,baz=112,slow=8.7,SNR=11						
KURK	Kurchatov	63.55	327	eP	P	23 58 34.8	0.0
	1.1nm,0.4s,mb4.2						

*ISCJB **15** 23:50:39.7±0.4, 4181N±002×2281E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.4km az=39.1*
*SKO **15** 23:50:39.7, 4180N×2286E, h15km, M1.8, ML2.2*
*NEIC **15** 23:50:40.0, 4183N×2287E, h9km, MD2.7(SOF), After SOF.*
*THE **15** 23:50:40.9, 4179N×2290E, h2km, ML2.9*
*CSEM **15** 23:50:40.1±0.1, 4183N×2282E, h5km, MD2.7, Error ellipse: s-maj=2.1km s-min=2.0km az=103.0*
*SOF **15** 23:50:40.0, 4183N×2287E, h9km, MD2.7*

ISC 15 23:50:40.4±0.4, 4181N±002×2283E±004, h10km, n23, σ0§87/34, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.20	74	i Pg	Pg	23 50 44.8	+0.3
STIP	Stip	0.50	257	i Pg	Pg	23 50 50.1	0.0
STIP				eLg		23 50 57.7	
	comp=E,53nm,0.4s						
STIP				eSg	Sg	23 50 57.9	+1.3
STIP				eLg		23 50 58.0	
	comp=N,142nm,0.2s						
STIP	Stip	0.50	257	i Pg	Pg	23 50 50.0	-0.1
STIP				eSg	Sg	23 50 57.8	+1.2
VAY	Valandovo	0.53	202	ePg	Pg	23 50 51.0	+0.3
VAY	Valandovo	0.53	202	ePg	Pg	23 50 50.5	-0.2
VAY				eSg	Sg	23 50 57.9	+0.3
VAY				eLg		23 50 58.1	
	comp=N,133nm,0.3s						
VAY				eLg		23 50 58.2	
	comp=E,285nm,0.3s						
VAY	Valandovo	0.53	202	ePg	Pg	23 50 50.4	-0.2
VAY				eSg	Sg	23 50 57.8	+0.2
KNT	Kendrikon	0.65	176	ePg	Pg	23 50 52.8	-0.1
KNT				eSg	Sg	23 51 01.4	-0.1
MMB	Musomiste	0.71	108	i P	Pg	23 50 54.0	0.0
VTS	Vitosha	0.83	20	i Pg	Pg	23 50 56.0	-0.4
VTS	Vitosha	0.83	20	ePg	Pg	23 50 56.1	-0.3
SRS	Serrai	0.90	140	ePg	Pg	23 50 56.9	-0.8
SRS				eSg	Sg	23 51 09.4	0.0
GRG	Griva	0.91	201	ePg	Pg	23 50 58.1	+0.2
SOH	Sokhos	1.06	158	ePg	Pg	23 51 00.3	-0.5
SOH				eSg	Sg	23 51 14.6	-0.1
SOH	Sokhos	1.06	158	ePg	Pg	23 51 00.3	-0.5
SOH				eSg	Sg	23 51 14.6	-0.1
PGB	Panagyurishte	1.24	53	eP	Pn	23 51 03.0	-0.7
BIA	Bitola	1.38	236	ePg	Pg	23 51 06.0	-0.9
BIA				eSg	Sg	23 51 25.1	+0.3
BIA				eLg		23 51 25.2	
	comp=E,8.1nm,0.3s						
BIA				eLg		23 51 25.9	
	comp=N,9.2nm,0.3s						
BIA	Bitola	1.38	236	ePg	Pg	23 51 05.9	-1.0
BIA				eSg	Sg	23 51 25.1	+0.2
RZN	Rozhen	1.42	94	eP	Pn	23 51 06.6	+0.4
PLD	Plovdiv	1.43	78	i P	Pn	23 51 07.3	+1.0
ZAPS	Zavoj/Pirot	1.49	354⇑	i Pg	Pg	23 51 08.0	-1.1
ZAPS				Sg	Sg	23 51 27.7	-0.7
OUR	Ouranopolis	1.71	149	ePb	Pb	23 51 10.2	-1.7
KDZ	Kurdzhali	1.94	94	eP	Pn	23 51 15.5	+2.1
PVL	Pavlikeni	2.32	52	eP	Pn	23 51 21.2	+2.6

MAN 15 23:55:00.8, 1391N×12044E, h89km, mb2.0, ML3.7, MS1.5, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	229	eP	Pn	23 55 15.7	+1.8
LUBP				eS	Sn	23 55 26.0	+2.4
PGP	Puerto Galera	0.64	129	i P	Pn	23 55 18.3	+1.8
PGP				eS	Sn	23 55 31.1	+2.8
LBPH	Los Banos	0.76	71⇓	eP	Pn	23 55 19.4	+1.7
NBP	Mount Natib	0.83	358⇑	eP	Pn	23 55 19.8	+1.3
NBP				i S	Sn	23 55 32.9	+1.1
NZB	Bigte	1.15	34⇓	eP	Pn	23 55 22.3	+0.2
POLP	Polillio Island	1.66	60	eP	Pn	23 55 22.6	-5.9
BUSP	Coron	1.91	187	eP	Pn	23 55 32.3	+0.6
ENPP	El Nido	2.86	200	eP	Pn	23 55 45.6	+1.2

IDC 16 00:02:18.6±8.2, 2802S×6667W, h134km±66km, mb3.7/3, mb1 3.6/4, mb1mx3.5/13, mbtmp4.0/4, Error ellipse: s-maj=59.7km s-min=39.0km az=10.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	11.75	353	P	Pn	00 05 02.7	+0.8
	0.3nm,0.3s,baz=168,slow=13,SNR=5.5						
BDFB	Brasília	21.22	58	P	P	00 06 54.1	+0.6
	1.4nm,0.4s,baz=225,slow=6.4,SNR=5.6						
TORD	Torodi Ar. Bea	77.77	68	P	P	00 14 00.8	+0.1
	1.3nm,0.6s,baz=262,slow=5.0,SNR=17						
BOSA	Boshof	78.67	116	P	P	00 14 06.7	+1.0
	3.1nm,0.9s,baz=252,slow=9.6,SNR=3.8						
WRA	Warramunga Arr	128.17	205	PKP	PKPdf	00 21 08.9	+0.1
	0.4nm,1.0s,baz=154,slow=2.0,SNR=8.1						
ZAL	Zalesovo	146.73	31	PKPbc	PKPbc	00 21 43.4	-1.3
	1.1nm,0.5s,baz=182,slow=5.9,SNR=6.3						
MKAR	Makanchi Array	149.31	44	PKPbc	PKPbc	00 21 51.6	+0.1
	0.7nm,0.6s,baz=300,slow=2.7,SNR=12						

*ISCJB **16** 00:32:32.1±0.6, 6931N±006×540W±02, h18km, mb3.5/6, Error ellipse: s-maj=8.9km s-min=7.3km az=87.9*
*IDC **16** 00:32:32.5±0.9, 6931N×5314W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=22.2km s-min=19.4km az=23.0*
*NEIC **16** 00:32:34.2, 6943N×5335W, h18km, ML4.0(OTT), After OTT.*
*OTT **16** 00:32:34.2±0.4, 6943N×5335W, h18km, ML4.0/2, Greenland west coast. Eastern Arctic Background Seismic Zone.*

ISC 16 00:32:34.3±0.6, 6931N±006×538W±02, h18km, n21, σ1§25/35, mb3.5/6, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	Kangerlussuaq	2.61	152	Pn	Pn	00 33 15.2	-0.3
	6.6nm,0.3s,baz=305,slow=13,SNR=36						
SFJD				Sn	Sn	00 33 46.2	-0.5
	28nm,0.3s,baz=19,slow=7.7,SNR=17						
SFJD	Kangerlussuaq	2.61	152	i P	Pn	00 33 15.5	0.0
SFJD				i S	Sn	00 33 47.8	+1.1
SFJD	Kangerlussuaq	2.61	152	PN	Pn	00 33 15.2	-0.3
SFJD				SN	Sn	00 33 46.9	+0.2
SFJD				Trac		00 33 58.3	
	comp=Z,178nm,0.6s						
FRB	Frobisher Bay	8.10	234	Pn	Pn	00 34 31.9	+0.9
	1.2nm,0.3s,baz=38,slow=13,SNR=33						
FRB				Sn	Sn	00 35 58.9	-3.3
	1.5nm,0.3s,baz=339,slow=14,SNR=4.8						
FRB	Frobisher Bay	8.10	234	PN	Pn	00 34 32.1	+1.1
FRB				SN	Sn	00 36 00.2	-1.9
FRB				Trac		00 36 15.4	
	comp=Z,11nm,0.5s						
FRB	Frobisher Bay	8.10	234	Pn	Pn	00 34 31.9	+0.9
FRB				Sn	Sn	00 35 58.9	-3.3
TULEG	Thule	8.46	336	PN	Pn

FITZ	Fitzroy Crossi	2.98	98	eP	Pn	00 46 58.3	+1.8
FITZ				eS	Sn	00 47 31.5	-0.8
14nm,0.3s							
MBWA	Marble Bar	4.31	217	eP	Pn	00 47 16.1	+1.2
MBWA				eS	Sn	00 48 03.6	-1.7
MEEK	Meekatharra	9.57	202	eP	Pn	00 48 30.0	+2.8
MEEK				eS	Sn	00 50 08.5	-6.3
WRA	Warramunga Arr	11.39	103	Pn	Pn	00 48 51.2	-0.8
0.5nm,0.3s,baz=278,slow=14,SNR=51							
WRA				Sn	Sn	00 50 51.8	-7.5
0.3nm,0.3s,baz=272,slow=24,SNR=5.1							
WRA				Lg		00 52 15.0	
baz=284,slow=28,SNR=2.6							
WB2	Warramunga Arr	11.40	103	eP	Pn	00 48 51.9	-0.3
WB2				eS	Sn	00 50 51.6	-8.0
ASAR	Alice Springs	12.16	121	Pn	Pn	00 49 03.5	+0.9
0.3nm,0.3s,baz=298,slow=13,SNR=12							
ASAR				Sn	Sn	00 51 17.5	-0.7
0.2nm,0.3s,baz=298,slow=24,SNR=4.6							
STKA	Stephens Creek	22.25	133	P	P	00 51 06.7	+0.4
1.4nm,0.8s,mb3.4,baz=308,slow=12,SNR=3.7							
MKAR	Makanchi Array	73.75	332	P	P	00 57 42.4	-1.2
0.2nm,0.4s,mb3.4,baz=143,slow=6.1,SNR=4.9							

*IDC **16** 00:47:17.4±1.4, 859N×9388E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML3.2/1, MS3.7/2, Ms1 3.8/2, ms1mx3.1/25, Error ellipse: s-maj=59.1km s-min=21.6km az=56.0*

*ISCJB **16** 00:47:20.1±1.0, 86N±02×940E±02, h30km, mb3.9/9, MS4.1/1, Error ellipse: s-maj=34.6km s-min=8.4km az=98.8*

*NEIC **16** 00:47:22.0±0.6, 857N×9397E, h30km, mb4.3/6, Error ellipse: s-maj=20.2km s-min=5.0km az=50.0*

ISC 16 00:47:23.8±1.8, 86N±02×940E±02, h44km±20km, n18, σ0§47/18, mb3.9/9, MS4.1/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.36	116	ePn	Pn	00 49 08.1	-0.6
KULM				eSn	Sn	00 50 23.9	-7.1
PSI	Prapat	7.55	139	Pn	Pn	00 49 11.4	+0.1
0.3nm,0.3s,baz=322,slow=19,SNR=2.2							
PSI				LR	LR	00 52 35.8	
comp=Z,279nm,19.2s,baz=311,slow=41							
JIRN	Jiri	20.35	340	eP	P	00 51 56.9	+0.4
33nm,1.1s							
PKI	Pulchoki	20.55	338	eP	P	00 51 59.1	+0.5
35nm,1.2s							
DMN	Daman	20.70	337	eP	P	00 52 00.4	+0.1
16nm,0.8s							
KKN	Kakani	20.80	338	eP	P	00 52 01.4	+0.1
LSA	Lhasa	21.17	353	eP	P	00 52 05.3	0.0
5.8nm,0.5s,mb4.2							
GKN	Gorkha	21.24	337	eP	P	00 52 06.0	0.0
35nm,1.0s,mb4.7							
KOLN	Koldanda	21.46	334	eP	P	00 52 08.9	+0.5
17nm,0.7s,mb4.5							
KKM	Kota Kinabalu	22.16	95	eP	P	00 52 16.4	+0.5
MKAR	Makanchi Array	39.36	347	P	P	00 54 48.1	-0.9
0.8nm,0.7s,mb3.6,baz=157,slow=8.2,SNR=14							
SONM	Songino Array	40.49	13	P	P	00 54 58.6	+0.2
0.2nm,0.3s,mb3.3,baz=205,slow=6.4,SNR=3.4							
ZAL	Zalesovo	45.82	352	P	P	00 55 40.8	-0.6
1.0nm,0.5s,mb4.0,baz=270,slow=2.0,SNR=8.6							
BRVK	Borovoye	48.33	341	P	P	00 56 00.6	-0.4
WRA	Warramunga Arr	48.78	126	P	P	00 56 05.0	+0.6
0.2nm,0.6s,mb3.3,baz=306,slow=8.6,SNR=2.8							
FINES	FINESS Array B	72.02	332	P	P	00 58 42.2	-0.9
1.5nm,0.9s,mb3.9,baz=78,slow=7.8,SNR=2.6							
GERES	GERESS Array B	77.21	318	P	P	00 59 13.5	+0.3
0.4nm,0.7s,mb3.5,baz=139,slow=7.7,SNR=3.2							
NOA	NORSAR Array B	79.04	331	LR	LR	01 36 44.3	
comp=Z,90nm,20.8s,MS4.1,baz=275,slow=38							

*IDC **16** 01:02:39.3±3.0, 3195S×17865W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.9/11, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=69.7km s-min=46.0km az=115.0*

*ISCJB **16** 01:02:45.5±6.0, 324S±02×1786W±04, h65km±47km, mb3.9/3, Error ellipse: s-maj=50.2km s-min=33.5km az=153.3*

*NEIC **16** 01:02:47.2±5.6, 3231S×17861W, h68km±41km, mb4.2/1, Error ellipse: s-maj=55.7km s-min=24.6km az=224.0*

ISC 16 01:02:46.8±5.6, 323S±02×1785W±04, h68km±42km, n6, σ0§21/6, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.92	210	Pn	Pn	01 04 25.5	0.0
1.1nm,0.3s,baz=131,slow=12,SNR=11							
URZ				Sn	Sn	01 05 42.8	0.0
1.7nm,0.3s,baz=320,slow=23,SNR=7.4							
ASAR	Alice Springs	42.61	269	P	P	01 10 36.0	-0.2
0.2nm,0.3s,mb3.3,baz=101,slow=8.2,SNR=4.4							
WRAB	Tennant Creek	43.77	274	eP	P	01 10 45.7	+0.1
1.5nm,0.3s,mb4.2							
WRA	Warramunga Arr	43.78	274	P	P	01 10 45.8	+0.1
1.3nm,0.3s,mb4.1,baz=112,slow=8.0,SNR=20							
SBA	Scott Base	46.09	184	P	P	01 11 04.0	0.0
FINES	FINESS Array B	146.79	339	PKPbc	PKPbc	01 22 20.6	-0.5
1.2nm,0.7s,baz=38,slow=2.5,SNR=5.5							

*IDC **16** 01:02:47.6±3.1, 587S×15034E, h112km±23km, mb3.6/5, mb1 3.7/6, mb1mx3.5/14, mbtmp4.0/6, Error ellipse: s-maj=25.8km s-min=23.6km az=99.0*

*ISCJB **16** 01:02:48.1±3.2, 59S±02×1502E±0.1, h128km±25km, mb4.1/6, Error ellipse: s-maj=29.3km s-min=23.4km az=6.0*

*NEIC **16** 01:02:49.1±2.6, 595S×15035E, h123km±21km, mb4.2/2, Error ellipse: s-maj=24.6km s-min=19.3km az=196.0*

ISC 16 01:02:49.1±3.0, 59S±02×1503E±01, h121km±23km, n14, σ0§58/14, mb4.0/6, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.68	222	P	Pn	01 03 57.6	-0.1
8.5nm,0.3s,baz=42,slow=11,SNR=18							
PMG				S	Sn	01 04 51.1	+0.1
22nm,0.3s,baz=265,slow=12,SNR=9.6							
KAKA	Kakadu	18.89	248	eP	P	01 06 59.5	-0.6
17nm,0.4s							
WRAB	Tennant Creek	20.86	227	eP	P	01 07 21.7	+0.4
2.7nm,0.4s							
WB2	Warramunga Arr	20.87	227	⇓iP	P	01 07 21.5	+0.1
WRA	Warramunga Arr	20.88	227	P	P	01 07 21.2	-0.3
2.1nm,0.5s,baz=51,slow=10,SNR=16							
WRA				ScP	ScP	01 14 52.6	+2.2
0.8nm,0.8s,baz=50,slow=2.7,SNR=12							
DZM	Mont Dzumac	22.37	137	P	P	01 07 37.6	+0.3
8.9nm,0.7s,mb4.2,baz=319,slow=11,SNR=9.2							
ASAR	Alice Springs	23.69	220	P	P	01 07 50.8	+1.1
1.3nm,0.5s,mb3.5,baz=55,slow=8.9,SNR=24							
FITZ	Fitzroy Crossi	26.97	241	eP	P	01 08 19.4	+0.1
4.5nm,0.3s,mb4.5							
STKA	Stephens Creek	27.09	196	eP	P	01 08 19.1	-1.2
1.7nm,0.5s,mb3.8							
STKA	Stephens Creek	27.09	196	P	P	01 08 18.8	-1.6
2.2nm,0.6s,mb3.9,baz=37,slow=14,SNR=5.0							
STKA	Stephens Creek	27.09	196	P	P	01 08 18.8	-1.6
MBWA	Marble Bar	33.29	240	eP	P	01 09 15.4	+0.4
3.3nm,0.4s,mb4.5							
SONM	Songino Array	65.99	329	P	P	01 13 22.4	-0.1
0.4nm,0.5s,mb3.5,baz=147,slow=5.9,SNR=6.4							
TORD	Torodi Ar. Bea	148.28	285	PKPbc	PKPbc	01 22 19.9	-1.0
0.3nm,0.4s,baz=52,slow=2.4,SNR=9.9							

*ISCJB **16** 01:32:45.5±2.7, 200S±09×1790W±06, h10km, mb4.2/4, Error ellipse: s-maj=157.8km s-min=16.8km az=118.1*

*IDC **16** 01:32:46.5±61.0, 1972S×179.18W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/11, mbtmp4.2/3, Error ellipse: s-maj=1113.0km s-min=156.7km az=81.0*

*NEIC **16** 01:32:47.7±2.0, 1999S×17907W, h10km, mb4.5/1, Error ellipse: s-maj=119.0km s-min=12.6km az=149.0*

ISC 16 01:32:47.9±2.8, 201S±10×1790W±06, h10km, n5, σ0§08/5, mb4.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.23	50	Pn	Pn	01 35 01.0	0.0
STKA	Stephens Creek	37.13	243	P	P	01 39 58.6	0.0
1.3nm,0.7s,mb3.9,baz=79,slow=10,SNR=3.6							
ASAR	Alice Springs	43.70	256	P	P	01 40 53.0	+0.1
2.7nm,0.6s,mb4.1,baz=93,slow=7.6,SNR=34							
WRAB	Tennant Creek	43.71	262	eP	P	01 40 53.1	0.0
3.3nm,0.4s,mb4.4							
WRA	Warramunga Arr	43.72	262	P	P	01 40 53.1	-0.1
1.6nm,0.3s,mb4.2,baz=96,slow=7.6,SNR=80							

*BJI **16** 01:52:42.9, 2322N×10158E, h15km, mB4.4, mb4.4, ML3.8, Ms4.0, Msz3.7*

*IDC **16** 01:52:45.2±1.5, 2353N×10189E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=88.7km s-min=20.2km az=64.0*

*ISCJB **16** 01:52:47.5±0.9, 2346N±007×1017E±0.1, h33km, mb3.6/5, Error ellipse: s-maj=13.9km s-min=10.5km az=25.2*

ISC 16 01:52:50.1±1.0, 2345N±008×1018E±01, h35km, n9, σ0§85/12, mb3.6/5, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.89	28	⇑PG	Pn	01 53 24.4	+4.6
KMI				SG	Sn	01 53 51.5	+9.1
KMI				Smax			
comp=N,540nm,0.9s							
KMI				Smax			
comp=E,573nm,1.0s							
KMI				LR	LR		
comp=N,2μm,7.5s							
KMI				LR	LR		
comp=E,4μm,6.5s							
KMI				LR	LR		
comp=Z,526nm,5.3s							
GYA	Guiyang	5.35	55	P	Pn	01 54 07.0	-0.5
GYA				Smax			
comp=N,70nm,0.9s							
GYA				Smax			
comp=E,90nm,0.9s							
GYA				LR	LR		
comp=N,3μm,7.8s							
GYA				LR	LR		
comp=E,600nm,6.6s							
GYA				LR	LR		
comp=Z,500nm,6.9s							
CD2	Chengdu	7.64	13	P	Pn	01 54 38.8	-0.1
CD2				S	Sn	01 56 05.0	+0.8
CD2				Smax			
comp=N,20nm,1.4s							
CD2				Smax			
comp=E,30nm,1.4s							
CD2				LR	LR		
comp=N,730nm,9.6s							
CD2				LR	LR		
comp=Z,270nm,9.6s							
NJ2	Nanjing	17.36	57	eP	Pn	01 56 49.1	-0.5
NJ2				PP		01 57 04.0	
NJ2				S	S	02 00 03.0	-6.3
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s							
NJ2				AMB	AMB		
comp=Z,180nm,5.2s							
NJ2				LR	LR		
comp=N,490nm,19.2s							
NJ2				LR	LR		
comp=E,350nm,19.1s							
NJ2				LR	LR		
comp=Z,300nm,20.7s							
SONM	Songino Array	24.61	7	P	P	01 58 06.7	-0.4
comp=Z,0.6nm,0.7s,mb3.2,baz=186,slow=9.4,SNR=8.0							
MKAR	Makanchi Array	28.08	331	P	P	01 58 37.3	-0.9
comp=Z,1.2nm,0.8s,mb3.6,baz=137,slow=9.6,SNR=14							
ZAL	Zalesovo	33.03	342	P	P	01 59 22.5	+0.5
comp=Z,0.6nm,0.4s,mb3.8,baz=306,slow=6.4,SNR=3.7							
WRA	Warramunga Arr	53.55	141	P	P	02 02 06.7	-0.7
comp=Z,0.9nm,0.8s,mb3.7,baz=331,slow=8.0,SNR=7.0							
ASAR	Alice Springs	56.27	144	P	P	02 02 29.1	+2.0
comp=Z,0.9nm,0.9s,mb3.8,baz=323,slow=7.0,SNR=6.7							

CASC 16 01:58:24.2±2.9, 858N×8328W, h3km±6km, MD3.8, ML3.3, MW4.2, 5C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.13	57	⇓iP	Pg	01 58 28.0	+1.2
ACR				eS	Sg	01 58 30.6	+2.0
BRU2	Volcan	0.62	70	⇓iP	Pg	01 58 36.5	+0.3
BRU2				eS	Sg	01 58 47.2	+3.1
BUS	Buena Vista	1.08	334	⇑eP	Pg	01 58 44.2	-0.7
BUS				eS	Sg	01 59 01.2	+2.4
LIO	Limon	1.44	10	eS	Sb	01 59 08.9	-1.3
OCM	Ochomogo	1.47	333	⇑eP	Pn	01 58 51.1	-0.5
OCM				eS	Sb	01 59 11.8	+0.6
OCM				AML	AML	01 59 15.0	
comp=N,1μm,0.0s							
ICR	Volcan Irazu	1.49	339	eP	Pn	01 58 52.3	+0.4
ICR				eS	Sn	01 59 13.6	+1.7
IRZ2	Volcan Irazu 2	1.51	336	eP	Pn	01 58 48.6	-3.5
IRZ2				eS	Sn	01 59 14.5	+2.2
PICA	Picada	1.52	341	eP	Pn	01 58 53.0	+0.8
PICA				eS	Sn	01 59 13.7	+1.1
LAJ	Bijagual	1.52	327	eP	Pn	01 58 54.5	+2.2
PRS1	Puriscal	1.73	324	⇑eP	Pn	01 58 53.7	-1.4
PRS1				eS	Sn	01 59 17.1	-0.5
CGA2	Cerro Gallo 2	1.84	321	⇑eP	Pn	01 58 57.2	+0.5
CGA2				eS	Sn	01 59 21.8	+1.2
EPA	Esparza	1.91	317	⇓eP	Pn	01 58 58.9	+1.2
EPA				eS	Sn	01 59 24.3	+2.1
CAO	Cobano	2.12	302	eP	Pn	01 59 00.2	-0.2
VACR	Volcan Arenal	2.33	324	⇑eP	Pn	01 59 05.8	+2.4
VACR				eS	Sn	01 59 34.9	+2.3
JTS	JuntasAbangare	2.37	316	⇓iP	Pn	01 59 04.9	+0.9

*ISCJB **16** 02:18:38.7±0.4, 6782N±003×2021E±007, h0km, Error ellipse: s-maj=4.0km s-min=3.6km az=76.7*

*CSEM **16** 02:18:38.4±0.1, 6778N×2015E, h2km, ML2.5, Error ellipse: s-maj=2.1km s-min=1.9km az=131.0, Mining explosion.*

*UPP **16** 02:18:39.2, 6784N×2019E, h0km, ML2.5, Suspected Mining explosion.*

*HEL **16** 02:18:39.9±0.1, 6784N×2019E, h0km, ML1.6, ML2.5(UPP), ML1.4(BER), Explosion*

*BER **16** 02:18:43.0±2.7, 6790N×2049E, h0km, ML1.4, Suspected explosion*

ISC 16 02:18:39.2±0.4, 6781N±003×2023E±007, h0km, n22, σ0§73/36, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	15	iP	Pg	02 18 42.0	-0.2
KUA				iS	Sg	02 18 43.8	-0.2
NIKU	Nikkaluokta	0.46	278	iP	Pg	02 18 47.7	-0.4
NIKU				iS	Sg	02 18 53.8	-0.1
DUNU	Dundret	0.70	169	iP	Pg	02 18 52.8	+0.1
LANU	Lannavaara	0.70	69	iP	Pg	02 18 52.5	-0.2
LANU	Lannavaara	0.70	69	P	Pg	02 18 52.5	-0.3
MASU	Masugnsbyn	0.76	117	iP	Pg	02 18 54.2	+0.3
SALU	Saltoluokta	0.79	238	iP	Pg	02 18 54.1	-0.3
KIF	Kilpisjarvi	1.22	10	eP	Pg	02 19 02.9	+0.3
KIF				eS	Sg	02 19 19.4	+1.0
KIF	Kilpisjarvi	1.22	10	P	Pg	02 19 02.8	+0.2
KIF				S	Sg	02 19 19.3	+0.9
PAJU	Pajala	1.36	124	eP	Pg	02 19 04.6	-0.8
PAJU				eS	Sg	02 19 23.3	+0.2
ERTU	Ertsjaerv	1.48	148	eP	Pn	02 19 06.7	-0.4
KTK1	Kautokeino	1.64	41	eP	Pn	02 19 09.0	-0.4
KTK1				eSN	Sn	02 19 30.9	-0.2
comp=Z,6.4nm,0.3s							
KTK1				AML	AML	02 19 34.0	
comp=Z,6.4nm,0.3s							
KTK1	Kautokeino	1.64	41	eP	Pn	02 19 09.0	-0.3
SNR=50							
KTK1				eSg	Sg	02 19 31.0	-1.0
SNR=90							
TRO	Tromso	1.89	346	eP	Pn	02 19 11.9	-0.8
TRO				eS	Sn	02 19 37.5	+0.2
TRO				AML	AML	02 19 40.1	
comp=Z,4.4nm,0.3s							
TRO	Tromso	1.89	346	eP	Pn	02 19 11.9	-0.9
SNR=50							
TRO				eS	Sn	02 19 37.5	+0.2
comp=Z,4.4nm,0.3s,SNR=50							

SJUU	Sjulsmark	2.38	166	eP	Pn	02 19 20.9	+1.5
SGF	Sodankyl	2.44	96	eP	Pn	02 19 21.2	+1.0
SGF				eS	Sn	02 19 51.8	+1.0
SGF				eSG	Sg	02 19 55.4	-2.1
SGF				MSG		02 19 56.6	
comp=Z,2.1nm,0.2s							
SGF	Sodankyl	2.44	96	P	Pn	02 19 21.2	+0.9
SGF				S	Sn	02 19 51.7	+0.9
SGF				Sg	Sg	02 19 55.4	-2.1
comp=Z,2.1nm,0.2s							
MOR8	Moi Rana	2.81	237	eS	Sn	02 19 59.8	-0.2
MOR8				AML	AML	02 20 04.2	
comp=Z,8.6nm,0.4s							
MOR8	Moi Rana	2.81	237	eS	Sn	02 19 59.8	-0.2
comp=Z,8.6nm,0.4s,SNR=50							
KEV	Kevo	3.14	48	eP	Pn	02 19 30.9	+0.9
KEV				eS	Sn	02 20 09.1	+0.9
KEV	Kevo	3.14	48	P	Pn	02 19 30.8	+0.8

*ISCJB **16** 02:20:25.5±0.2, 4735N±001×750E±002, h11km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=153.4*

*ZUR **16** 02:20:27.2, 4737N×759E, h15km, ML2.1/21*

*CSEM **16** 02:20:27.0±0.0, 4736N×761E, h15km, ML2.6/17, Error ellipse: s-maj=0.8km s-min=0.6km az=167.0*

*LEDBW **16** 02:20:27.4±0.2, 4736N×760E, h16km±1km, ML2.4, Error ellipse: s-maj=6.0km s-min=2.0km az=145.0*

*STR **16** 02:20:27.8±0.4, 4740N×758E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **16** 02:20:27.0±0.0, 4735N×760E, h16km, Md2.8/1, Ml2.6/16, Error ellipse: s-maj=1.0km s-min=0.8km az=154.0*

*BGR **16** 02:20:28.2±0.4, 4744N×760E, h10km, ML2.2/2, Error ellipse: s-maj=5.6km s-min=3.3km az=161.0*

ISC 16 02:20:26.4±0.2, 4736N±001×757E±002, h19km±2km, n108, σ1§02/179, 12C-11D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.09	106	eSg	Pg	02 20 30.6	+0.5
3μm,0.2s							
BALST	Balsthal	0.09	106	⇑iPg	Sg	02 20 32.8	+0.2
3μm,0.2s							
BBS	Basel-Blauen	0.11	339	⇓iP	Pg	02 20 31.1	+0.8
BOURR	Bourrignon	0.23	278	ePg	Pg	02 20 33.0	+1.1
SNR=21							
BOURR				eSg	Sg	02 20 36.7	+1.1
BOURR	Bourrignon	0.23	278	⇑iPg	Pg	02 20 33.0	+1.1
259nm,3.1s							
BOURR				i Sg	Sg	02 20 36.8	+1.1
259nm,3.1s							
BOURR	Bourrignon	0.23	278	⇑iPg	Pg	02 20 33.0	+1.1
259nm,3.1s							
BOURR				Sg	Sg	02 20 36.7	+1.0
SULZ	Sulz-Cheisache	0.41	66	ePg	Pg	02 20 35.3	+0.4
SNR=14							
SULZ				eSg	Sg	02 20 40.9	+0.3
SULZ	Sulz-Cheisache	0.41	66	i Sg	Sg	02 20 35.3	-5.3
476nm,0.1s							
SULZ	Sulz-Cheisache	0.41	66	⇑iPg	Pg	02 20 40.9	+6.0
476nm,0.1s							
LOMF	Lomont	0.50	269	⇑iP	Pg	02 20 37.8	+1.2
LOMF				P		02 20 38.7	
LOMF				S	Sg	02 20 45.2	+1.7
LOMF				S	Sg	02 20 46.8	+3.4
LOMF	Lomont	0.50	269	Pg	Pg	02 20 37.7	+1.1
LOMF				Sg	Sg	02 20 45.1	+1.7
MOF	Molkenrain	0.57	329	⇓iP	Pb	02 20 38.9	+1.1
MOF				S	Sb	02 20 46.7	+1.1
MOF	Molkenrain	0.57	329	Pg	Pg	02 20 38.8	+1.0
MOF				Sg	Sg	02 20 46.3	+0.7
FELD	Feldberg	0.59	30	P	Pb	02 20 38.8	+0.6
FELD	Feldberg	0.59	30	Pg	Pg	02 20 38.7	+0.5
FELD				Sg	Sg	02 20 46.5	+0.3
KIZ	Kirchzarten	0.64	22	⇓P	Pb	02 20 39.5	+0.5
KIZ				S	Sb	02 20 47.7	+0.2
HINF	Hinteralfeld	0.67	314	ePg	Pg	02 20 40.2	+0.7
HINF	Hinteralfeld	0.67	314	eP	Pb	02 20 41.3	+1.9
SNR=1.0							
HINF				eSg	Sg	02 20 48.9	+0.4
48nm,0.2s,SNR=1.0							
HINF	Hinteralfeld	0.67	314	eP	Pb	02 20 41.3	+1.9
SNR=1.0							
HINF				eSg	Sg	02 20 48.9	+0.4
24nm,0.2s,SNR=1.0							
FBB	Freiburg	0.67	17	P	Pb	02 20 40.0	+0.6
ZUR	Zurich	0.69	89	ePg	Pg	02 20 40.3	+0.3
SNR=8.7							
ZUR				eSg	Sg	02 20 49.7	+0.5
ZUR	Zurich	0.69	89	⇑iP	Pb	02 20 40.3	+0.5
392nm,0.2s							
WIMIS	Wimmis	0.70	177	eSg	Sg	02 20 40.9	-8.6
94nm,0.4s							
WIMIS	Wimmis	0.70	177	⇓iPg	Pg	02 20 50.3	+10
94nm,0.4s							
HASLI	Hasliberg	0.72	146	⇓iP	Pb	02 20 41.1	+0.7
161nm,0.7s							
SLE	Schleitheim	0.75	57	ePg	Pg	02 20 41.2	+0.1
SNR=52							
SLE				eSg	Sg	02 20 50.8	-0.2
SLE	Schleitheim	0.75	57	i S	Sb	02 20 41.2	-9.4
486nm,0.6s							
SLE	Schleitheim	0.75	57	⇓iP	Pb	02 20 50.9	+10
486nm,0.6s							
BNALP	Bannalp	0.76	130	⇑iP	Pb	02 20 42.7	+1.6
103nm,2.9s							
LIBD	Limburg	0.79	2	⇓P	Pb	02 20 42.7	+1.2
TRULL	Truelliikon	0.81	69	eP	Pb	02 20 42.4	+0.6
121nm,0.3s							
TRULL				eS	Sb	02 20 53.0	+0.7
121nm,0.3s							
BRANT	Les Verrieres	0.86	241	⇑iP	Pb	02 20 43.8	+1.1
121nm,2.9s							
ECH	Echery	0.90	342	Pg	Pg	02 20 43.4	-0.5
ECH				Sg	Sg	02 20 56.2	+0.4
ECH	Echery	0.90	342	P	Pb	02 20 43.6	+0.2
WILA	Wila	0.91	86	ePg	Pg	02 20 44.6	+0.4
SNR=31							
WILA	Wila	0.91	86	eP	Pb	02 20 44.2	+0.6
361nm,0.3s							
WILA	Wila	0.91	86	Pg	Pg	02 20 44.6	+0.4
SNR=31							
STEIN	Stein am Rhein	0.94	70	eP	Pb	02 20 44.7	+0.7
42nm,0.3s							
LKBD	Leukerbad	0.97	178	⇓iP	Pb	02 20 45.9	+1.2
27nm,0.3s							
LKBD				eS	Sb	02 20 58.6	+1.5
27nm,0.3s							
WEIN	Weingarten	0.98	80	⇑iP	Pb	02 20 45.6	+0.9
103nm,0.2s							
SISB	Singen-Sch Ber	1.00	70	P	Pb	02 20 45.3	+0.2
SISB				P		02 20 46.0	
SISB				S	Sb	02 20 58.1	+0.2
SISB				S	Sb	02 20 59.3	+1.4
SENIN	Lac Senin	1.01	191	eP	Pb	02 20 46.8	+1.5
94nm,0.7s							
HAU	Haudompre	1.05	309	ePn	Pn	02 20 46.0	0.0
HAU	Haudompre	1.05	309	ePg	Pg	02 20 47.2	+0.5
HAU				eSn	Sn	02 20 59.5	-0.6
SNR=1.0							
HAU				eSg	Sg	02 21 01.0	+0.5
54nm,0.2s							
HAU	Haudompre	1.05	309	ePg	Pg	02 20 47.2	+0.5
HAU				eSn	Sn	02 20 59.5	-0.6
SNR=1.0							
HAU				eSg	Sg	02 21 01.0	+0.5
27nm,0.2s							
WLS	Welschbruch	1.06	352	P	Pb	02 20 45.7

18nm,0.3s
FUSIO Fusio 1.18 140 *i* S **Pn 02 20 48.4 +0.6**
85nm,0.3s
FUSIO Fusio 1.18 140 *e*P **Pn 02 20 49.0 +1.2**
85nm,0.3s
FUSIO Fusio 1.18 140 *e*P **Pn 02 20 49.0 +1.2**
85nm,0.3s
GIMEL Gimel 1.22 228 *i* Pn **Sn 02 21 05.4 +1.1**
129nm,0.3s
CABF La Chapelle 1.26 234 *e*Pn **Pn 02 20 49.1 +0.1**
SNR=1.0
CABF La Chapelle 1.26 234 *e*Pg **Pg 02 20 51.2 +0.4**
CABF *e*Sn **Sn 02 21 04.8 -0.6**
SNR=1.0
CABF *e*Sg **Sg 02 21 08.1 +0.8**
12nm,0.3s
CABF La Chapelle 1.26 234 *e*Pg **Pg 02 20 51.2 +0.4**
CABF *e*Sn **Sn 02 21 04.8 -0.6**
SNR=1.0
CABF *e*Sg **Sg 02 21 08.1 +0.8**
6.2nm,0.3s
GUT Gutenstein 1.26 55 ⇓P **Pn 02 20 48.0 -1.0**
GUT S **Sn 02 21 03.7 -1.8**
GUT S **Sn 02 21 07.0 +1.5**
LIENZ Alp Oberkamor 1.31 92 *e*Sg **Sg 02 21 09.1 +0.2**
MMK Mattmark 1.34 168 *e*P **Pn 02 20 52.5 +2.5**
TUBL Tuebingen Lnz 1.55 41 P **Pn 02 20 51.9 -1.0**
TUBL S **Sn 02 21 15.6 +3.2**
DAVA Damuels 1.57 92 ⇑*i*Pg **Pg 02 20 56.9 +0.1**
DAVA ⇓*i*Sg **Sg 02 21 15.9 -1.3**
4.0nm,0.2s
DAVA Damuels 1.57 92 Pg **Pg 02 20 56.9 +0.1**
DAVA Sg **Sg 02 21 15.9 -1.4**
4.0nm,0.2s
UBR Uberruh 1.75 79 P **Pn 02 21 00.1 +4.4**
UBR S **Sn 02 21 15.9 -1.6**
UBR S **Sn 02 21 23.5 +6.0**
STU Stuttgart 1.79 37 *e*Sg **Sg 02 21 23.2 -0.7**
RFYF Reffroy 1.89 313 *e*Pg **Pg 02 21 03.1 +0.3**
RFYF *e*Sg **Sg 02 21 27.5 0.0**
11nm,0.2s
RFYF Reffroy 1.89 313 *e*Pg **Pg 02 21 03.1 +0.3**
RFYF *e*Sg **Sg 02 21 27.5 0.0**
5.7nm,0.2s
SFTF Sexfontaines 1.90 297 *e*Pg **Pg 02 21 02.8 -0.2**
baz=128
SFTF *e*Sn **Sn 02 21 19.5 -1.7**
baz=125
SFTF *e*Sg **Sg 02 21 27.6 -0.2**
9.6nm,0.2s
SFTF Sexfontaines 1.90 297 *e*Pg **Pg 02 21 02.8 -0.2**
SFTF *e*Sn **Sn 02 21 19.5 -1.7**
SFTF *e*Sg **Sg 02 21 27.6 -0.2**
4.8nm,0.2s
MEZF Maizieres J'vi 2.04 305 *e*Pn **Pn 02 20 59.6 -0.1**
MEZF Maizieres J'vi 2.04 305 *e*Pg **Pg 02 21 05.3 -0.3**
baz=126
MEZF *e*Sn **Sn 02 21 23.2 -1.4**
baz=122
MEZF *e*Sg **Sg 02 21 32.1 0.0**
7.6nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 2.04 305 *e*Pg **Pg 02 21 05.3 -0.3**
MEZF *e*Sn **Sn 02 21 23.2 -1.4**
MEZF *e*Sg **Sg 02 21 32.1 0.0**
3.8nm,0.3s,SNR=1.0
MOTA Moosalm 2.40 89 ⇑*i*Pg **Pg 02 21 11.9 -0.6**
MOTA ⇑*i*Sg **Sg 02 21 43.5 -0.3**
1.9nm,0.2s
SIND Sindeldorf 2.41 34 S **Sn 02 21 43.2 +9.5**
SQTA Sankt Quirin 2.48 92 ⇓*i*Pg **Pg 02 21 13.6 -0.5**
SQTA ⇑*i*Sg **Sg 02 21 45.7 -0.6**
2.0nm,0.2s
LOR Lormes 2.52 269 *e*Pn **Pn 02 21 06.4 0.0**
baz=89
LOR Lormes 2.52 269 *e*P **Pn 02 21 08.7 +2.3**
baz=90
LOR Lormes 2.52 269 *e*Pg **Pg 02 21 14.3 -0.6**
baz=93,SNR=1.0
LOR *e*Sn **Sn 02 21 35.0 -1.6**
baz=82
LOR *e*Sg **Sg 02 21 46.6 -1.0**
4.8nm,0.2s,SNR=1.0
LOR Lormes 2.52 269 *e*P **Pn 02 21 08.7 +2.3**
LOR Lormes 2.52 269 *e*Pg **Pg 02 21 14.3 -0.6**
SNR=1.0
LOR *e*Sn **Sn 02 21 35.0 -1.6**
LOR *e*Sg **Sg 02 21 46.6 -1.0**
2.4nm,0.2s,SNR=1.0
SMF Signal de Mont 2.65 256 *e*Pn **Pn 02 21 07.8 -0.3**
SMF Signal de Mont 2.65 256 *e*Pg **Pg 02 21 16.7 -0.5**
SMF *e*Sg **Sg 02 21 50.7 -0.9**
3.5nm,0.2s
SMF Signal de Mont 2.65 256 *e*Pg **Pg 02 21 16.7 -0.5**
SMF *e*Sg **Sg 02 21 50.7 -0.9**
1.8nm,0.2s
MBDF Montbardon 2.69 192 *e*Pg **Pg 02 21 16.9 -1.1**
MBDF *e*Sg **Sg 02 21 52.3 -0.7**
1.8nm,0.3s
MBDF Montbardon 2.69 192 *e*Pg **Pg 02 21 16.9 -1.1**
MBDF *e*Sg **Sg 02 21 52.3 -0.7**
0.9nm,0.3s
ORIF Oris-en-Rattie 2.71 206 *e*Pn **Pn 02 21 08.8 -0.1**
ORIF Oris-en-Rattie 2.71 206 *e*Pg **Pg 02 21 18.1 -0.3**
ORIF *e*Sg **Sg 02 21 52.0 -1.5**
6.4nm,0.3s
ORIF Oris-en-Rattie 2.71 206 *e*Pg **Pg 02 21 18.1 -0.3**
ORIF *e*Sg **Sg 02 21 52.0 -1.5**
3.2nm,0.3s
SSF Saint Saulge 2.79 265 *e*P **Pn 02 21 12.5 +2.6**
SSF Saint Saulge 2.79 265 *e*Pg **Pg 02 21 19.5 -0.3**
SSF *e*Sn **Sn 02 21 41.1 -1.9**
SNR=1.0
SSF *e*Sg **Sg 02 21 55.2 -0.7**
3.2nm,0.4s,SNR=1.0
SSF Saint Saulge 2.79 265 *e*Pn **Pn 02 21 09.6 -0.3**
SSF Saint Saulge 2.79 265 *e*P **Pn 02 21 12.5 +2.6**
SSF Saint Saulge 2.79 265 *e*Pg **Pg 02 21 19.5 -0.3**
SSF *e*Sn **Sn 02 21 41.1 -1.9**
SNR=1.0
SSF *e*Sg **Sg 02 21 55.2 -0.7**
1.6nm,0.4s,SNR=1.0
AVF Avril sur Loir 2.94 260 *e*Pn **Pn 02 21 12.1 +0.1**
AVF Avril sur Loir 2.94 260 *e*Pg **Pg 02 21 21.7 -1.0**
AVF *e*Sg **Sg 02 22 00.1 -0.7**
1.1nm,0.2s
AVF Avril sur Loir 2.94 260 *e*Pg **Pg 02 21 21.7 -1.0**
AVF *e*Sg **Sg 02 22 00.1 -0.7**
0.6nm,0.2s
VIVF Saint-Julien-l 3.21 220 *e*Pn **Pn 02 21 14.7 -1.1**
VIVF Saint-Julien-l 3.21 220 *e*Pg **Pg 02 21 26.7 -1.3**
VIVF *e*Sg **Sg 02 22 07.7 -2.0**
5.4nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.21 220 *e*Pg **Pg 02 21 26.7 -1.3**
VIVF *e*Sg **Sg 02 22 07.7 -2.0**
2.7nm,0.3s,SNR=1.0
GRA1 Grafenberg Arr 3.37 45 Sg **Sg 02 22 13.1 -1.5**
GRF Grafenberg Arr 3.37 45 *e*Sg **Sg 02 22 13.1 -1.5**
WET Wettzell 3.97 61 *e*Sg **Sg 02 22 31.8 -2.2**
LASF Ste Croix 4.19 220 *e*Sg **Sg 02 22 38.6 -2.3**
1.2nm,0.3s
LASF Ste Croix 4.19 220 *e*Sg **Sg 02 22 38.6 -2.3**
0.6nm,0.3s
NKC Novy Kostel 4.32 46 *e*SG **Sg 02 22 41.8 -3.3**
KHC Kasperske Hory 4.39 64 *e*PG **Pg 02 21 48.9 -1.6**
KHC *e*SG **Sg 02 22 45.1 -2.2**
WERD Werda 4.39 44 *e*Sg **Sg 02 22 44.2 -3.3**

ISCJB ***16*** *02:41:59.5±0.7, 6936N±006×5460E±0.1, h10km, mb3.4/6, Error ellipse: s-maj=9.1km s-min=6.3km az=78.6*
NEIC ***16*** *02:42:02.0, 6949N×5337W, h18km, ML3.6(OTT), After OTT.*
OTT ***16*** *02:42:02.0±0.7, 6949N×5337W, h18km, ML3.6/2, Greenland west coast. Eastern Arctic Background Seismic Zone.*
IDC ***16*** *02:42:02.4±0.9, 6926N×5316W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=21.7km s-min=19.0km az=23.0*
ISC 16 02:42:01.2±0.6, 6935N±005×543W±01, h10km, n20, σ1§49/33, mb3.4/6, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**2.73**	**148**	Pn	**Pn**	**Pn**	**02 42 44.7**	**-0.3**
	7.4nm,0.3s,baz=316,slow=12,SNR=145							
SFJD				Sn		**Sn**	**02 43 15.9**	**-2.2**
	23nm,0.3s,baz=249,slow=18,SNR=7.1							
SFJD	**Kangerlussuaq**	**2.73**	**148**	*i* P	**Pn**	**Pn**	**02 42 44.7**	**-0.3**
SFJD				*i* S	**Sn**	**Sn**	**02 43 17.0**	**-1.1**
SFJD	**Kangerlussuaq**	**2.73**	**148**	PN	**Pn**	**Pn**	**02 42 44.7**	**-0.3**
SFJD				SN	**Sn**	**Sn**	**02 43 15.7**	**-2.3**
SFJD				Trac			02 43 22.6	
	comp=Z,67nm,0.1s							
FRB	**Frobisher Bay**	**7.99**	**232**	Pn	**Pn**	**Pn**	**02 44 01.4**	**+4.1**
	1.1nm,0.3s,baz=40,slow=13,SNR=19							
FRB				Sn		**Sn**	**02 45 27.3**	**-0.3**
	2.3nm,0.3s,baz=317,slow=17,SNR=5.7							
FRB	**Frobisher Bay**	**7.99**	**232**	PN	**Pn**	**Pn**	**02 44 00.7**	**+3.4**
FRB				SN	**Sn**	**Sn**	**02 45 27.8**	**+0.2**
FRB				Trac			02 45 45.0	
	comp=Z,4.9nm,0.4s							
TULEG	**Thule**	**8.36**	**336**	PN	**Pn**	**Pn**	**02 43 55.0**	**-7.4**
TULEG				SN	**Sn**	**Sn**	**02 45 34.3**	**-2.5**
TULEG				Trac			02 45 36.6	
	comp=Z,0.9nm,0.1s							
TULEG	**Thule**	**8.36**	**336**	Pn	**Pn**	**Pn**	**02 43 55.0**	**-7.4**
TULEG				Sn	**Sn**	**Sn**	**02 45 34.3**	**-2.5**
PINU	**Pond Inlet**	**8.38**	**304**	PN	**Pn**	**Pn**	**02 44 03.5**	**+0.8**
PINU				SN	**Sn**	**Sn**	**02 45 36.2**	**-1.3**
PINU				Trac			02 45 42.9	
	comp=Z,2.4nm,0.2s							
PINU	**Pond Inlet**	**8.38**	**304**	Pn	**Pn**	**Pn**	**02 44 03.5**	**+0.8**
PINU				Sn	**Sn**	**Sn**	**02 45 36.2**	**-1.3**
GIFN	**Gifford Fjord,**	**9.51**	**287**	PN	**Pn**	**Pn**	**02 44 21.0**	**+2.9**
GIFN				SN	**Sn**	**Sn**	**02 46 03.8**	**-1.2**
GIFN				Trac			02 46 21.8	
	comp=Z,2.1nm,0.3s							
GIFN	**Gifford Fjord,**	**9.51**	**287**	Pn	**Pn**	**Pn**	**02 44 21.0**	**+2.9**
GIFN				Sn	**Sn**	**Sn**	**02 46 03.8**	**-1.2**
RES	**Resolute Bay**	**13.37**	**312**	PN	**Pn**	**Pn**	**02 45 13.7**	**+2.7**
RES				SN	**Sn**	**Sn**	**02 47 33.0**	**-6.7**
YOSQ	**Ashton Mining**	**18.53**	**216**	PN	**Pn**	**Pn**	**02 46 18.5**	**+0.6**
YOSQ				SN	**Sn**	**Sn**	**02 49 36.5**	**-8.5**
SILO	**Sutton Inlier**	**20.39**	**239**	**PN**	**P**	**P**	**02 46 42.8**	**+4.7**
YKA	**Yellowknife Ar**	**24.55**	**284**	P	**P**	**P**	**02 47 27.1**	**+6.1**
	0.1nm,0.3s,mb2.9,baz=297,slow=23,SNR=5.2							
ARCES	**ARCESS Array B**	**26.18**	**52**	P	**P**	**P**	**02 47 36.0**	**+0.2**
	1.5nm,0.7s,mb3.6,baz=323,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**33.09**	**308**	P	**P**	**P**	**02 48 42.5**	**+5.3**
	0.4nm,0.9s,mb3.4,baz=39,slow=7.1,SNR=5.6							
PDAR	**Pinedale Array**	**38.62**	**256**	P	**P**	**P**	**02 49 29.9**	**+5.4**
	0.8nm,0.8s,mb3.5,baz=48,slow=7.7,SNR=6.5							
SONM	**Songino Array**	**62.27**	**15**	P	**P**	**P**	**02 52 25.6**	**+2.3**
	0.3nm,0.7s,mb3.6,baz=345,slow=5.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**66.12**	**118**	P	**P**	**P**	**02 52 48.1**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=337,slow=7.2,SNR=7.3							

NAO ***16*** *02:49:18.6, 4490N×2884E, h33km, mb3.3*
BJI ***16*** *02:49:37.3, 4570N×2680E, h131km, mB4.9, mb4.7*
MOS ***16*** *02:49:38.7±0.8, 4572N×2671E, h135km, mb4.0/8, Error ellipse: s-maj=6.5km s-min=4.3km az=101.1*
CSEM ***16*** *02:49:38.6±0.2, 4569N×2684E, h133km, mb3.9/5, Error ellipse: s-maj=1.3km s-min=1.1km az=72.0*
ISCJB ***16*** *02:49:38.6±0.2, 4570N±002×2676E±002, h134km±1km, mb4.2/19, Error ellipse: s-maj=2.6km s-min=2.5km az=45.2*
BUC ***16*** *02:49:39.0±0.5, 4572N×2672E, h138km±5km, MD4.6/5, Error ellipse: s-maj=3.5km s-min=2.8km az=108.0*
IDC ***16*** *02:49:39.9±0.6, 4572N×2658E, h125km±5km, mb3.5/7, mb1 3.4/12, mb1mx3.3/23, mbtmp3.8/12, Error ellipse: s-maj=16.8km s-min=13.1km az=141.0*
SOF ***16*** *02:49:40.7, 4546N×2654E, h10km, MD3.4*
NEIC ***16*** *02:49:40.3, 4570N×2669E, h123km, mb4.6/22, MD4.8(BUC), After BUC.*
ISC 16 02:49:39.6±0.2, 4571N±002×2676E±002, h132km±1km, n220, σ1§00/298, mb4.2/19, 29C-28D, Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.16**	**352**	⇑*i*P	**Pn**	**Pn**	**02 49 57.7**	**+0.1**
VRI				*i* S	**Sn**	**Sn**	**02 50 10.4**	**-0.8**
VRI	**Vrincioaia**	**0.16**	**352**	⇑P	**Pn**	**Pn**	**02 49 57.8**	**+0.2**
VRI				S	**Sn**	**Sn**	**02 50 10.3**	**-0.9**
VRI	**Vrincioaia**	**0.16**	**352**	⇑*i*P	**Pn**	**Pn**	**02 49 57.7**	**+0.1**
VRI				S	**Sn**	**Sn**	**02 50 10.3**	**-0.9**
VRI				*i* S	**Sn**	**Sn**	**02 50 10.4**	**-0.8**
BRD	**Bordesti**	**0.24**	**129**	P	**Pn**	**Pn**	**02 49 58.0**	**+0.2**
BRD	**Bordesti**	**0.24**	**129**	P	**Pn**	**Pn**	**02 49 58.0**	**+0.2**
PETR		**0.33**	**87**	⇑*i*P	**Pn**	**Pn**	**02 49 58.6**	**+0.5**
PETR				*i* S	**Sn**	**Sn**	**02 50 12.6**	**+0.5**
GRER		**0.36**	**155**	⇓*i*P	**Pn**	**Pn**	**02 49 59.4**	**+1.2**
GRER				*i* S	**Sn**	**Sn**	**02 50 13.8**	**+1.5**
GHRR		**0.58**	**52**	⇑*i*P	**Pn**	**Pn**	**02 49 59.8**	**+0.5**
GHRR				*i* S	**Sn**	**Sn**	**02 50 14.5**	**+0.2**
ISR	**Istrita**	**0.60**	**195**	⇓*i*P	**Pn**	**Pn**	**02 50 00.2**	**+0.7**
ISR				*i* S	**Sn**	**Sn**	**02 50 15.9**	**+1.3**
ISR	**Istrita**	**0.60**	**195**	⇓*i*P	**Pn**	**Pn**	**02 50 00.2**	**+0.6**
ISR				*i* S	**Sn**	**Sn**	**02 50 15.9**	**+1.2**
MLR	**Muntele Rosu**	**0.61**	**250**	P	**Pn**	**Pn**	**02 49 59.6**	**0.0**
	223nm,0.3s,baz=124,slow=6.2,SNR=5196							
MLR				S		**Sn**	**02 50 14.1**	**-0.6**
	baz=108,slow=20							
MLR	**Muntele Rosu**	**0.61**	**250**	⇑*i*P	**Pn**	**Pn**	**02 49 59.7**	**+0.1**
MLR				*i* S	**Sn**	**Sn**	**02 50 14.3**	**-0.4**
MLR	**Muntele Rosu**	**0.61**	**250**	P	**Pn**	**Pn**	**02 49 59.8**	**+0.2**
MLR				*i* S	**Sn**	**Sn**	**02 50 14.3**	**-0.4**
MLR	**Muntele Rosu**	**0.61**	**250**	⇑P	**Pn**	**Pn**	**02 49 59.8**	**+0.2**
MLR				S	**Sn**	**Sn**	**02 50 14.1**	**-0.6**
MLR	**Muntele Rosu**	**0.61**	**250**	P	**Pn**	**Pn**	**02 49 59.7**	**+0.1**
MLR				*i* S	**Sn**	**Sn**	**02 50 14.3**	**-0.4**
TUDR		**0.65**	**100**	⇑*i*P	**Pn**	**Pn**	**02 49 59.9**	**+0.1**
TUDR				*i* S	**Sn**	**Sn**	**02 50 15.5**	**+0.4**
VARR		**0.79**	**77**	⇓*i*P	**Pn**	**Pn**	**02 50 01.3**	**+0.4**
VARR				*e*S	**Sn**	**Sn**	**02 50 16.6**	**-0.4**
TESR		**0.81**	**355**	⇑*i*P	**Pn**	**Pn**	**02 50 00.5**	**-0.5**
TESR				*i* S	**Sn**	**Sn**	**02 50 15.1**	**-2.2**
PGOR	**Pogoanele**	**0.81**	**169**	⇓*i*P	**Pn**	**Pn**	**02 50 01.9**	**+0.8**
PGOR				*e*S	**Sn**	**Sn**	**02 50 18.5**	**+1.2**
SECR		**0.83**	**216**	⇑*i*P	**Pn**	**Pn**	**02 50 01.9**	**+0.7**
SECR				*i* S	**Sn**	**Sn**	**02 50 18.1**	**+0.6**
ONCR	**Oncesti**	**0.84**	**25**	⇑*i*P	**Pn**	**Pn**	**02 50 01.2**	**-0.1**
ONCR				*i* S	**Sn**	**Sn**	**02 50 16.7**	**-1.0**
FULR		**0.85**	**195**	⇓*i*P	**Pn**	**Pn**	**02 50 02.0**	**+0.7**
FULR				*i* S	**Sn**	**Sn**	**02 50 18.6**	**+0.8**
SNX	**Sinaia**	**0.94**	**249**	⇑*i*P	**Pn**	**Pn**	**02 50 02.7**	**+0.5**
SNX				*i* S	**Sn**	**Sn**	**02 50 20.6**	**+1.3**
SNX	**Sinaia**	**0.94**	**249**	⇑*i*P	**Pn**	**Pn**	**02 50 02.7**	**+0.6**
SNX				*i* S	**Sn**	**Sn**	**02 50 20.6**	**+1.4**
KGL	**Cahul**	**1.03**	**78**	*i* P	**Pn**	**Pn**	**02 50 06.2**	**+3.3**
	4μm,0.4s							
KGL				*i* S		**Sn**	**02 50 22.8**	**+2.1**
	12μm,0.8s							
SULR		**1.09**	**199**	⇓*i*P	**Pn**	**Pn**	**02 50 04.1**	**+0.6**
SULR				*i* S	**Sn**	**Sn**	**02 50 22.6**	**+0.9**
CFR	**Carcaliu**	**1.10**	**118**	⇑*i*P	**Pn**	**Pn**	**02 50 03.8**	**+0.1**
CFR				*i* S	**Sn**	**Sn**	**02 50 21.6**	**-0.3**
CFR	**Carcaliu**	**1.10**	**118**	⇑*i*P	**Pn**	**Pn**	**02 50 03.9**	**+0.2**
CFR				*i* S	**Sn**	**Sn**	**02 50 21.8**	**-0.1**
CFR	**Carcaliu**	**1.10**	**118**	⇑*i*P	**Pn**	**Pn**	**02 50 03.9**	**+0.2**
AMRR		**1.17**	**159**	⇓*i*P	**Pn**	**Pn**	**02 50 05.0**	**+0.7**
AMRR				*i* S	**Sn**	**Sn**	**02 50 23.5**	**+0.4**
BERR	**Berezeni**	**1.17**	**55**	⇑*i*P	**Pn**	**Pn**	**02 50 04.9**	**+0.6**
BERR				*i* S	**Sn**	**Sn**	**02 50 23.2**	**+0.1**
VOIR		**1.23**	**258**	⇑*i*P	**Pn**	**Pn**	**02 50 04.5**	**-0.4**
VOIR				*i* S	**Sn**	**Sn**	**02 50 22.9**	**-1.3**
VOIR		**1.23**	**258**	P	**Pn**	**Pn**	**02 50 04.6**	**-0.3**
VOIR				S	**Sn**	**Sn**	**02 50 22.6**	**-2.2**
VOIR		**1.23**	**258**	⇑*i*P	**Pn**	**Pn**	**02 50 04.5**	**-0.4**
VOIR				S	**Sn**	**Sn**	**02 50 21.9**	**-2.3**
MTUR	**Matau**	**1.29**	**249**	⇑*i*P	**Pn**	**Pn**	**02 50 05.9**	**+0.4**
MTUR				*i* S	**Sn**	**Sn**	**02 50 26.7**	**+1.5**
CNCR	**Cernica**	**1.31**	**196**	⇓*i*P	**Pn**	**Pn**	**02 50 06.1**	**+0.3**
CNCR				*i* S	**Sn**	**Sn**	**02 50 25.4**	**-0.3**
HARR	**Harsova**	**1.31**	**140**	⇓*i*P	**Pn**	**Pn**	**02 50 06.3**	**+0.5**
HARR				*i* S	**Sn**	**Sn**	**02 50 25.6**	**-0.1**
HARR	**Harsova**	**1.31**	**140**	⇓*i*P	**Pn**	**Pn**	**02 50 06.3**	**+0.6**
BBIR	**Bucharest-INCE**	**1.33**	**199**	⇓*i*P	**Pn**	**Pn**	**02 50 06.2**	**+0.2**
BBIR				*i* S	**Sn**	**Sn**	**02 50 25.5**	**-0.6**
BGMR	**Bucharest-Geol**	**1.34**	**201**	⇓*i*P	**Pn**	**Pn**	**02 50 06.3**	**+0.2**
BSTR	**Bucharest-Scie**	**1.34**	**201**	*e*S	**Sn**	**Sn**	**02 50 25.6**	**-0.7**
BUC	**Bucharest**	**1.37**	**200**	P	**Pn**	**Pn**	**02 50 07.4**	**+1.0**
BUC	**Bucharest**	**1.37**	**200**	P	**Pn**	**Pn**	**02 50 07.4**	**+0.9**
BAPR	**Bucharest-Chil**	**1.38**	**200**	*i* S	**Sn**	**Sn**	**02 50 26.6**	**-0.3**
CIOR	**Ciorogarla**	**1.40**	**207**	⇓*i*P	**Pn**	**Pn**	**02 50 06.9**	**+0.1**
CIOR				*i* S	**Sn**	**Sn**	**02 50 26.8**	**-0.6**
BUC1	**Bucharest**	**1.45**	**201**	P	**Pn**	**Pn**	**02 50 07.4**	**+0.1**
BUC1				*i* S	**Sn**	**Sn**	**02 50 28.0**	**-0.4**
TLCR		**1.54**	**109**	⇓*i*P	**Pn**	**Pn**	**02 50 08.7**	**+0.5**
TLCR				*e*S	**Sn**	**Sn**	**02 50 29.8**	**-0.3**
IAS	**Iasi**	**1.59**	**20**	⇑*i*P	**Pn**	**Pn**	**02 50 08.8**	**0.0**
IAS				*i* S	**Sn**	**Sn**	**02 50 29.5**	**-1.6**
IAS	**Iasi**	**1.59**	**20**	P	**Pn**	**Pn**	**02 50 08.9**	**+0.1**
IAS				*i* S	**Sn**	**Sn**	**02 50 29.4**	**-1.7**
IAS	**Iasi**	**1.59**	**20**	⇑*i*P	**Pn**	**Pn**	**02 50 08.6**	**-0.3**
IAS				*i* S	**Sn**	**Sn**	**02 50 29.4**	**-1.7**
TIRR	**Tirgusor**	**1.71**	**136**	⇓*i*P	**Pn**	**Pn**	**02 50 10.8**	**+0.6**
TIRR				*i* S	**Sn**	**Sn**	**02 50 33.2**	**-0.4**
TIRR	**Tirgusor**	**1.71**	**136**	P	**Pn**	**Pn**	**02 50 10.9**	**+0.7**
TIRR				S	**Sn**	**Sn**	**02 50 33.2**	**-0.4**
TIRR	**Tirgusor**	**1.71**	**136**	⇓*i*P	**Pn**	**Pn**	**02 50 10.8**	**+0.6**
TIRR				*i* S	**Sn**	**Sn**	**02 50 33.2**	**-0.4**
MSAB	**Monastry St. A**	**1.78**	**154**	⇓*i*P	**Pn**	**Pn**	**02 50 11.8**	**+0.7**
MSAB				*i* S	**Sn**	**Sn**	**02 50 34.7**	**-0.4**
KIS	**Kishinev**	**1.93**	**47**	⇑*i*P	**Pn**	**Pn**	**02 50 12.6**	**-0.2**
	979nm,0.6s							
KIS				*i* S		**Sn**	**02 50 36.7**	**-1.5**
	8μm,0.4s							
KIS	**Kishinev**	**1.93**	**47**	⇑*i*P	**Pn**	**Pn**	**02 50 12.6**	**-0.2**
KIS				*i* S	**Sn**	**Sn**	**02 50 36.7**	**-1.5**
KIS				pmax	pmax			
	comp=Z,810nm,0.6s							
KIS				smax				
	comp=N,5μm,0.4s							
KIS				smax				
	comp=E,1μm,0.4s							
BURAR	**Bucovina Array**	**2.19**	**331**	⇑*i*P	**Pn**	**Pn**	**02 50 16.8**	**+0.8**
BURAR				*i* S	**Sn**	**Sn**	**02 50 44.4**	**+0.6**
BURAR	**Bucovina Array**	**2.19**	**331**	⇑*i*P	**Pn**	**Pn**	**02 50 16.8**	**+0.9**
BURAR				S	**Sn**	**Sn**	**02 50 44.1**	**+0.2**
BURAR				*i* S	**Sn**	**Sn**	**02 50 44.4**	**+0.6**
ZIMR		**2.28**	**206**	⇓*i*P	**Pn**	**Pn**	**02 50 17.0**	**-0.1**
ZIMR				*i* S	**Sn**	**Sn**	**02 50 43.9**	**-1.9**
SZH	**Strazhica**	**2.51**	**194**	*i* P	**Pn**	**Pn**	**02 50 20.0**	**0.0**
CRAR	**CRAIOVA**	**2.51**	**238**	⇓*i*P	**Pn**	**Pn**	**02 50 19.3**	**-0.7**
CRAR				*i* S	**Sn**	**Sn**	**02 50 49.3**	**-1.8**
PRD	**Provadia**	**2.55**	**169**	*i* P	**Pn**	**Pn**	**02 50 21.5**	**+1.0**
PVL	**Pavlikeni**	**2.69**	**203**	*i* P	**Pn**	**Pn**	**02 50 24.2**	**+1.9**
DRGR		**3.01**	**293**	⇓*i*P	**Pn**	**Pn**	**02 50 25.4**	**-1.0**
DRGR		**3.01**	**293**	P	**Pn**	**Pn**	**02 50 25.5**	**-0.9**
JMB	**Yambol**	**3.24**	**182**	*i* P	**Pn**	**Pn**	**02 50 29.5**	**+0.1**
JMB	**Yambol**	**3.24**	**182**	*e*P	**Pn**	**Pn**	**02 50 29.1**	**-0.2**
BZS	**Buzias**	**3.61**	**270**	⇓*i*P	**Pn**	**Pn**	**02 50 34.4**	**+0.2**
BZS	**Buzias**	**3.61**	**270**	⇓*i*P	**Pn**	**Pn**	**02 50 34.4**	**+0.2**
PGB	**Panagyurishte**	**3.67**	**212**	*i* P	**Pn**	**Pn**	**02 50 35.0**	**0.0**
DIM	**Dimitrovgrad**	**3.76**	**194**	*i* P	**Pn**	**Pn**	**02 50 36.0**	**-0.2**
ZAPS	**Zavoj/Pirot**	**3.82**	**232**	⇑*i*Pn	**Pn**	**Pn**	**02 50 36.0**	**-1.0**
ZAPS				Sn	**Sn**	**Sn**	**02 51 15.3**	**-6.1**
EDRB	**Edirne**	**3.86**	**180**	P	**Pn**	**Pn**	**02 50 36.3**	**-1.2**
PLD	**Plovdiv**	**3.89**	**203**	*i* P	**Pn**	**Pn**	**02 50 37.5**	**-0.5**
VTS	**Vitosha**	**4.03**	**221**	*e*P	**Pn**	**Pn**	**02 50 39.5**	**-0.2**
VTS	**Vitosha**	**4.03**	**221**	⇓*i*P	**Pn**	**Pn**	**02 50 39.9**	**+0.2**
VTS				*i* S	**Sn**	**Sn**	**02 51 25.8**	**-1.4**
VTS	**Vitosha**	**4.03**	**221**	*i* P	**Pn**	**Pn**	**02 50 40.0**	**+0.3**
VTS				*i* S	**Sn**	**Sn**	**02 51 25.0**	**-1.4**
KDZ	**Kurdzhali**	**4.17**	**194**	*i* P	**Pn**	**Pn**	**02 50 41.9**	**+0.3**
UZH	**Uzhgorod**	**4.22**	**315**	*e*P	**Pn**	**Pn**	**02 50 43.0**	**+0.6**
RZN	**Rozhen**	**4.28**	**201**	*i* P	**Pn**	**Pn**	**02 50 43.3**	**+0.2**
KOLS	**Kolonicke sedl**	**4.44**	**318**	*i* PN	**Pn**	**Pn**	**02 50 45.8**	**+0.5**
LVV	**L'vov**	**4.51**	**337**	*e*P	**Pn**	**Pn**	**02 50 47.0**	**+0.8**
LVV				*e*S	**Sn**	**Sn**	**02 51 38.0**	**+0.1**
MMB	**Musomiste**	**4.67**	**209**	*i* P	**Pn**	**Pn**	**02 50 49.0**	**+0.8**
KKB	**Krupnik**	**4.67**	**216**	*i* P	**Pn**	**Pn**	**02 50 49.0**	**+0.7**
GRUS	**Gruza**	**4.67**	**249**	*e*Pn	**Pn**	**Pn**	**02 50 46.1**	**-2.2**
CTT	**Catalca**	**4.71**	**164**	*e*P	**Pn**	**Pn**	**02 50 47.2**	**-1.7**
ELBA	**Catalca**	**4.71**	**164**	*i* P	**Pn**	**Pn**	**02 50 49.0**	**+0.1**
ELBA	**Catalca**	**4.71**	**164**	*i* P	**Pn**	**Pn**	**02 50 49.0**	**+0.1**
KWP	**Kalwaria**	**4.79**	**327**	*e*Pn	**Pn**	**Pn**	**02 50 50.6**	**+0.7**
KWP				*e*PP

comp=E,50nm,0.5s
EZN Ezine 5.88 183 *e*P **Pn 02 51 04.5 -0.1**
GPA Golpazari 6.00 153 *e*P **Pn 02 51 05.7 -0.5**
BTOK Tokmak 6.01 171 *i* P **Pn 02 51 06.3 0.0**
VYHS Vyhne 6.09 300 *e*PN **Pn 02 51 08.6 -0.5**
BALB Balikesir 6.12 172 *e*P **Pn 02 51 07.6 -0.1**
MDU Mudurnu 6.17 147 *e*P **Pn 02 51 07.7 -0.7**
PAIG Paliouri 6.20 202 *e*P **Pn 02 51 08.6 -0.3**
SAFT Safranbolu 6.21 134 *e*P **Pn 02 51 07.2 -1.7**
FNA Florina 6.29 221 *e*P **Pn 02 51 10.9 +0.9**
BALT Daday 6.36 129 *i* P **Pn 02 51 10.4 -0.6**
LIT Litokhoron 6.42 211 *e*P **Pn 02 51 13.9 +2.2**
OJC Ojcow 6.50 317 *e*P **Pn 02 51 11.2 -1.6**
XOR Xorichti 6.86 204 *e*P **Pn 02 51 18.6 +0.9**
AKS Akhisar 6.87 173 *e*P **Pn 02 51 17.5 -0.2**
AOS Alonnisos 6.87 199 *e*P **Pn 02 51 18.5 +0.7**
ESKT Eskisehir 6.88 153 *e*P **Pn 02 51 17.4 -0.6**
TOS Tosya 7.05 129 *e*P **Pn 02 51 19.0 -1.3**
ALT Altintas 7.09 158 *e*P **Pn 02 51 19.8 -1.0**
OKC Ostrava-Krasne 7.12 309 *e*PN **Pn 02 51 18.0 -3.3**
ELDT Eldivan 7.14 135 *i* P **Pn 02 51 21.9 +0.4**
BYBT Boyabat 7.19 123 *e*P **Pn 02 51 20.7 -1.4**
BOYT Boyabat 7.30 123 *i* P **Pn 02 51 23.6 -0.1**
BOYT Boyabat 7.30 123 *i* P **Pn 02 51 23.5 -0.1**
ANTO Ankara 7.33 141 *e*P **Pn 02 51 23.8 -0.2**
ANN Anapa 7.59 93 *e*P **Pn 02 51 28.2 +0.7**
comp=E,14nm,0.7s
ANN *e*S **Sn 02 52 50.1 -1.8**
ANN Anapa 7.59 93 *e*P **Pn 02 51 28.2 +0.7**
ANN *e*S **Sn 02 52 50.1 -1.8**
ANN pmax pmax
comp=Z,14nm,0.7s
KHL Karahalli 7.66 163 *e*P **Pn 02 51 28.7 +0.2**
VRAC Vranov 7.77 301 P **Pn 02 51 29.2 -0.7**
comp=Z,0.3nm,0.3s,baz=110,slow=12,SNR=4.4
BR131 Keskin Array S 7.83 137 *e*Pn **Pn 02 51 30.7 -0.1**
comp=Z,1.7nm,0.4s
BRTR Keskin Array B 7.83 137 P **Pn 02 51 30.9 +0.2**
comp=Z,0.7nm,0.3s,baz=325,slow=12,SNR=30
BRTR Keskin Array B 7.83 137 P **Pn 02 51 31.0 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.3s
SUW Suwalki 8.63 346 *e*P **Pn 02 51 39.4 -2.1**
SUW *e*Sg Sn 02 54 04.7 +48
BCK Bucak 8.72 159 *e*P **Pn 02 51 42.7 0.0**
GERES GERESS Array B 9.42 294 P **Pn 02 51 52.0 0.0**
comp=Z,0.2nm,0.3s,baz=102,slow=12,SNR=13
SOC Sochi 9.48 98 *e*P **Pn 02 51 53.5 +0.6**
comp=Z,38nm,1.3s
SOC *e*S **Sn 02 53 39.5 +1.9**
comp=Z,192nm,8.0s
SOC Sochi 9.48 98 *e*P **Pn 02 51 53.5 +0.6**
SOC *e* 02 53 39.5
SOC pmax pmax
comp=Z,38nm,1.3s
SOC MLR MLR
comp=Z,192nm,8.0s
SVSK Karacayir 9.49 124 *e*P **Pn 02 51 51.9 -1.1**
KHC Kasperske Hory 9.57 296 *e*PN **Pn 02 51 54.9 +0.8**
KHC Kasperske Hory 9.57 296 *e*P **Pn 02 51 55.3 +1.2**
KHC Kasperske Hory 9.57 296‖ *e*P **Pn 02 51 55.3 +1.2**
VRSR Storozhevoye 9.92 52 *e*P **Pn 02 52 00.9 +2.1**
VRSR *e*S **Sn 02 53 42.3 -6.1**
VRSR pmax pmax
comp=E,1.0nm,0.8s
VRSR smax
comp=N,8.0nm,1.3s
VRSR smax
comp=Z,1.0nm,1.5s
VRSR smax
comp=E,2.0nm,0.8s
VRSR Storozhevoye 9.92 52 *e*P **Pn 02 52 00.9 +2.1**
VRSR *e*S **Sn 02 53 42.3 -6.1**
OBN Obninsk 11.30 30 *e*P **Pn 02 52 15.1 -2.0**
OBN *e*S **Sn 02 54 11.7 -10**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 11.30 30 *e*P **Pn 02 52 15.1 -2.0**
comp=Z,9.0nm,0.8s
OBN *e*S **Sn 02 54 11.7 -10**
GOF Gofitskoye 11.47 87 *e*P **Pn 02 52 29.9 +11**
FINES FINESS Array B 15.78 359 P **Pn 02 53 09.5 -4.9**
comp=Z,0.3nm,0.3s,baz=171,slow=13,SNR=11
FINES S S 02 55 53.8 -21
comp=Z,0.2nm,0.3s,baz=179,slow=24,SNR=2.9
HFS Hagfors 16.41 336 P **Pn 02 53 19.1 -3.1**
comp=Z,0.5nm,0.3s,baz=138,slow=11,SNR=12
KAF Kangasniemi 16.44 359 *e*p **Pn 02 53 18.3 -4.3**
comp=Z,5.0nm,0.7s
KAF Kangasniemi 16.44 359 *e*P **Pn 02 53 18.3 -4.3**
KAF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 17.44 7 *e*p **Pn 02 53 28.1 -6.6**
comp=Z,3.3nm,0.5s
JOF Joensuu 17.44 7 *e*P **Pn 02 53 28.1 -6.6**
JOF pmax pmax
comp=Z,3.0nm,0.5s
NAO01 NORSAR Array S 17.81 334 *e*P **Pn 02 53 36.4 -2.7**
comp=Z,7.5nm,0.8s
NB2 NORSAR Subarra 17.86 335 P **Pn 02 53 39.3 -0.4**
comp=Z,1.1nm,0.6s,baz=139,slow=12
NOA NORSAR Array B 17.86 335 P **Pn 02 53 37.1 -2.7**
comp=Z,0.4nm,0.3s,baz=140,slow=11,SNR=5.5
EKA Eskdalemuir Ar 21.17 308 P **P 02 54 13.4 -0.8**
comp=Z,0.9nm,0.6s,mb3.3,baz=108,slow=11,SNR=3.6
EKA Eskdalemuir Ar 21.17 308 P **P 02 54 13.5 -0.8**
EKA pmax pmax
comp=Z,1.0nm,0.6s
AKTK Aktyubinsk 21.32 66 P **P 02 54 17.2 +1.3**
AKTK Aktyubinsk 21.32 66 P **P 02 54 17.2 +1.3**
AKTO Aktyubinsk 21.32 66 P **P 02 54 17.2 +1.3**
comp=Z,1.2nm,0.6s,mb3.4,baz=279,slow=9.1,SNR=6.7
AKTO Aktyubinsk 21.32 66 P **P 02 54 17.3 +1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.3
APA Apatity 22.20 7⇑ *i*P **P 02 54 27.2 +2.1**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
APA Apatity 22.20 7⇑ *i*P **P 02 54 27.2 +2.1**
comp=Z,10.0nm,0.8s,mb4.3
ARCES ARCESS Array B 23.91 359 P **P 02 54 41.1 0.0**
comp=Z,1.7nm,0.7s,mb3.7,baz=179,slow=12,SNR=12
ARCES ARCESS Array B 23.91 359 P **P 02 54 41.1 0.0**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 34.33 62 P **P 02 56 14.2 +0.7**
comp=Z,1.0nm,0.5s,mb3.8
KURK Kurchatov 34.33 62 P **P 02 56 14.2 +0.7**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MKAR Makanchi Array 37.74 68 P **P 02 56 44.8 +2.3**
comp=Z,0.7nm,0.4s,mb3.6,baz=272,slow=8.0,SNR=14
MKAR Makanchi Array 37.74 68 P **P 02 56 44.8 +2.3**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 38.78 221 P **P 02 56 51.8 +0.6**
comp=Z,1.7nm,0.3s,mb4.1,baz=30,slow=8.6,SNR=82
WMQ Urumqi 42.38 70 *e*P **P 02 57 24.0 +3.2**
WMQ XP sP 02 58 07.0 +1.6
WMQ PP PP 02 59 07.0 +5.4
WMQ S **S 03 03 36.0 +3.8**
WMQ SS SS 03 06 43.0 -3.2
WMQ AMB AMB
comp=Z,18nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,98nm,5.0s
WMQ LR LR
comp=N,98nm,7.0s
WMQ LR LR
comp=E,72nm,8.0s
WMQ LR LR
comp=Z,56nm,7.0s
WMQ Urumqi 42.38 70 *e*P **P 02 57 24.0 +3.2**
comp=Z,18nm,1.0s,mb4.7
WMQ sP sP 02 58 07.0 +1.6
WMQ PP PP 02 59 07.0 +5.4
WMQ S **S 03 03 36.0 +3.8**
WMQ SS SS 03 06 43.0 -3.2
DBIC Dimbokro 47.54 225 P **P 02 58 01.3 -0.2**
comp=Z,2.6nm,0.3s,mb4.3,baz=16,slow=9.2,SNR=26
DBIC Dimbokro 47.54 225 P **P 02 58 01.3 -0.3**
DBIC pmax pmax
comp=Z,3.0nm,0.3s
DBIC Dimbokro 47.54 225 *e*P **P 02 58 00.9 -0.6**
comp=Z,2.8nm,0.3s,mb4.4
TIXI Tiksi 50.94 24 *e*P **P 02 58 33.0 +5.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
TIXI Tiksi 50.94 24 *e*P **P 02 58 33.0 +5.6**
comp=Z,2.0nm,0.6s,mb3.9
SONM Songino Array 52.26 57 P **P 02 58 39.8 +2.6**
comp=Z,0.4nm,0.5s,mb3.3,baz=289,slow=7.3,SNR=4.7
LZH Lanzhou 56.96 70 *e*P **P 02 59 15.5 +4.4**
LZH AP pP 02 59 44.5 +2.2
LZH XP sP 03 00 03.0 +6.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
LZH Lanzhou 56.96 70 *e*P **P 02 59 15.5 +4.4**
comp=Z,10.0nm,1.0s,mb4.6
LZH pP pP 02 59 44.5 +2.2
LZH sP sP 03 00 03.0 +6.2
HHC Hu-ho-hao-te 59.14 62 *e*P **P 02 59 28.4 +2.1**
HHC AP pP 02 59 58.1 +0.4
HHC XP sP 03 00 12.8 +0.6
HHC PCP PcP 03 00 16.1 +2.6
HHC AMB AMB
comp=Z,7.0nm,1.2s,mb4.4
HHC Hu-ho-hao-te 59.14 62 *e*P **P 02 59 28.4 +2.1**
comp=Z,7.0nm,1.2s,mb4.4
HHC pP pP 02 59 58.1 +0.4
HHC sP sP 03 00 12.8 +0.6
HHC PcP PcP 03 00 16.1 +2.6
CD2 Chengdu 59.99 75 *e*P **P 02 59 35.0 +2.9**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,50nm,4.8s
CD2 Chengdu 59.99 75 *e*P **P 02 59 35.0 +2.9**
comp=Z,10.0nm,0.9s,mb4.7
BILL Bilibino 62.58 16‖ *e*P **P 02 59 56.8 +7.3**
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
BILL MLR MLR
comp=Z,100nm,18.0s
BILL Bilibino 62.58 16‖ *e*P **P 02 59 56.8 +7.3**
comp=Z,4.0nm,1.1s,mb4.2
BILL LR LR
comp=Z,100nm,18.0s
CN2 Changchun 65.46 52 *e*P **P 03 00 11.1 +2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 Changchun 65.46 52 *e*P **P 03 00 11.1 +2.8**
comp=Z,10.0nm,0.6s,mb4.8
MDJ Mudanjiang 67.16 49 P **P 03 00 17.3 -1.9**
MDJ AMB AMB
comp=Z,8.0nm,2.0s,mb4.2
MDJ AMB AMB
comp=Z,113nm,5.2s
MDJ Mudanjiang 67.16 49 P **P 03 00 17.3 -1.9**
comp=Z,8.0nm,2.0s,mb4.2
NJ2 Nanjing 69.21 65 *e*P **P 03 00 36.8 +4.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 Nanjing 69.21 65 *e*P **P 03 00 36.8 +4.8**
comp=Z,10.0nm,0.8s,mb4.6
SSE Sheshan 71.32 65 P **P 03 00 44.8 0.0**
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,262nm,3.9s
SSE Sheshan 71.32 65 P **P 03 00 44.8 0.0**
comp=Z,36nm,0.7s,mb5.2

*NEIC **16** 02:57:04.1±3.9, 701S×12980E, h117km±41km, mb4.1/6, Error ellipse: s-maj=26.4km s-min=19.3km az=55.0*
*BJI **16** 02:57:04.0, 700S×12980E, h116km, mB4.9, mb4.6*
*ISCJB **16** 02:57:05.8±2.1, 721S±009×1298E±0.1, h151km±20km, mb4.0/14, Error ellipse: s-maj=26.4km s-min=10.0km az=130.8*
*IDC **16** 02:57:08.6±3.5, 713S×12966E, h159km±30km, mb3.6/7, mb1 3.6/8, mb1mx3.6/16, mbtmp4.1/8, Error ellipse: s-maj=49.7km s-min=18.6km az=63.0*
ISC 16 02:57:08.8±1.9, 737S±009×1298E±02, h167km±19km, n24, σ1°24/30, mb4.0/14, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.39**	**200**	*e*P	**Pn**		**02 59 46.2**	**-0.5**
	7.5nm,0.3s							
FITZ				*e*S	**Sn**		**03 01 46.4**	**-6.6**
WRAB	**Tennant Creek**	**13.25**	**161**	*e*Pn	**Pn**		**03 00 11.6**	**+1.0**
	6.6nm,0.4s							
WRAB				*e*Sn	**Sn**		**03 02 33.5**	**-4.2**
WRA	**Warramunga Arr**	**13.26**	**161**	P	**Pn**		**03 00 11.7**	**+1.0**
	0.5nm,0.3s,baz=347,slow=13,SNR=40							
WRA				S	**Sn**		**03 02 34.0**	**-3.7**
	4.0nm,0.3s,baz=334,slow=22,SNR=15							
WB2	**Warramunga Arr**	**13.26**	**161**	*e*P	**Pn**		**03 00 12.0**	**+1.3**
WB2				*e*S	**Sn**		**03 02 35.9**	**-1.9**
ASAR	**Alice Springs**	**16.68**	**167**	P	**Pn**		**03 00 57.5**	**+4.7**
	0.8nm,0.3s,baz=343,slow=10,SNR=32							
ASAR				S	**S**		**03 03 57.0**	**-1.0**
	0.7nm,0.3s,baz=342,slow=24,SNR=5.1							
ASAR				ScP	ScP		03 08 53.2	+2.7
	0.1nm,0.3s,baz=344,slow=1.7,SNR=9.0							
MBWA	**Marble Bar**	**16.79**	**214**	*e*P	**Pn**		**03 00 56.3**	**+2.2**
	15nm,1.1s							
STKA	**Stephens Creek**	**26.76**	**157**	P	**P**		**03 02 35.1**	**+2.2**
	2.1nm,0.6s,mb3.9,baz=335,slow=7.5,SNR=4.7							
STKA	**Stephens Creek**	**26.76**	**157**	*e*P	**P**		**03 02 34.7**	**+1.8**
PSI	**Prapat**	**32.39**	**287**	P	**P**		**03 03 21.8**	**-0.9**
	2.4nm,0.4s,mb4.3,baz=168,slow=8.0,SNR=7.2							
CD2	**Chengdu**	**45.49**	**328**	*e*P	**P**		**03 05 13.0**	**+1.7**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
CD2				AMB	AMB			
	comp=Z,60nm,4.9s							
HHC	**Hu-ho-hao-te**	**50.82**	**342**	*e*P	**P**		**03 05 53.5**	**+1.3**
HHC				AP	pP		03 06 25.5	-4.4
HHC				PCP	PcP		03 07 07.5	+1.0
HHC				PP	PP		03 07 55.4	+5.4
HHC				SCP	ScP		03 10 49.3	+2.5
HHC				S	**S**		**03 12 57.5**	**+2.3**
HHC				SCS	ScS		03 15 23.8	-1.8
HHC				AMB	AMB			
	comp=Z,9.0nm,1.1s,mb4.3							
HHC				AMB	AMB			
	comp=Z,138nm,8.4s							
HHC				LR	LR			
	comp=N,179nm,16.8s							
HHC				LR	LR			
	comp=E,208nm,14.4s							
HHC				LR	LR			
	comp=Z,166nm,16.8s							
ULN	**Ulaanbaatar**	**58.55**	**342**	*e*P	**P**		**03 06 47.2**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.9							
SONM	**Songino Array**	**58.72**	**342**	P	**P**		**03 06 48.2**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=160,slow=7.0,SNR=4.8							
WMQ	**Urumqi**	**63.58**	**327**	*e*P	**P**		**03 07 23.0**	**+1.4**
WMQ				PP	PP		03 09 46.0	+2.6
WMQ				S	**S**		**03 15 43.0**	**+1.1**
WMQ				AMB	AMB			
	comp=Z,14nm,1.0s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,102nm,5.0s							
WMQ				LR	LR			
	comp=N,104nm,9.0s							
WMQ				LR	LR			
	comp=E,113nm,8.0s							
WMQ				LR	LR			
	comp=Z,78nm,7.0s							
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**		**03 07 52.0**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.0,baz=121,slow=7.8,SNR=27							
ZAL	**Zalesovo**	**71.81**	**334**	P	**P**		**03 08 11.7**	**-1.5**
	comp=Z,1.0nm,0.3s,mb4.0,baz=297,slow=8.2,SNR=6.6							
KURK	**Kurchatov**	**72.71**	**329**	*e*P	**P**		**03 08 17.2**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.8							
BVAR	**Borovoye Array**	**78.25**	**328**	P	**P**		**03 08 48.7**	**-1.3**
	comp=Z,1.0nm,0.7s,mb3.5,baz=146,slow=5.3,SNR=8.3							
BRVK	**Borovoye**	**78.32**	**328**	*e*P	**P**		**03 08 49.4**	**-1.0**
	comp=Z,1.7nm,1.0s,mb3.6							
ZRNK	**Zerenda**	**78.95**	**327**	*e*P	**P**		**03 08 52.7**	**-1.1**
	comp=Z,2.4nm,0.7s,mb3.9							
SYO	**Syowa Base**	**83.23**	**201**‖	*e*P	**P**		**03 09 17.0**	**+0.6**
SYO	**Syowa Base**	**83.23**	**201**‖	*e*PcP	PcP		03 09 20.4	-0.1
AKTK	**Aktyubinsk**	**84.22**	**322**	P	**P**		**03 09 21.0**	**-0.4**
AKTO	**Aktyubinsk**	**84.22**	**322**	P	**P**		**03 09 21.0**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=157,slow=3.8,SNR=4.3							

IDC 16 03:04:16.3±3.3, 1753S×17721W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/12, mbtmp3.8/4, Error ellipse: s-maj=177.8km s-min=28.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**45.81**	**259**	*e*P	P		03 12 40.2	+0.3
WRA	**Warramunga Arr**	**45.83**	**259**	P	P		03 12 40.3	+0.4
	1.1nm,0.4s,baz=97,slow=6.8,SNR=39							
ASAR	**Alice Springs**	**45.99**	**254**	P	P		03 12 41.6	+0.4
	1.9nm,0.6s,baz=86,slow=8.3,SNR=19							
ILAR	**Eielson Array**	**85.27**	**13**	P	P		03 16 53.9	-1.0
	0.1nm,0.4s,baz=216,slow=5.5,SNR=6.7							
PDAR	**Pinedale Array**	**86.29**	**43**	P	P		03 17 01.1	+1.1
	0.4nm,0.7s,baz=235,slow=3.2,SNR=3.9							

*ISCJB **16** 03:19:45.3±2.2, 265S±0.1×1377E±06, h33km, mb3.6/3, Error ellipse: s-maj=84.2km s-min=16.0km az=178.6*
*IDC **16** 03:19:45.0±2.6, 269S×13664E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=110.1km s-min=16.2km az=86.0*
ISC 16 03:19:46.8±4.6, 25S±01×1380E±07, h36km±30km, n6, σ0°94/7, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.49**	**208**	*e*P	**Pn**		**03 22 28.6**	**+0.3**
	6.4nm,0.6s							
WB2	**Warramunga Arr**	**17.65**	**191**	*e*P	**Pn**		**03 23 49.7**	**-0.1**
WRA	**Warramunga Arr**	**17.66**	**191**	P	**Pn**		**03 23 48.8**	**-1.1**
	0.4nm,0.3s,baz=9.4,slow=12,SNR=26							
ASAR	**Alice Springs**	**21.37**	**190**	P	**P**		**03 24 32.1**	**+1.1**
	3.5nm,0.8s,mb3.7,baz=14,slow=10,SNR=36							
ASAR				S	**S**		**03 28 25.9**	**-0.2**
	1.2nm,0.8s,baz=15,slow=22,SNR=6.3							
MKAR	**Makanchi Array**	**69.21**	**323**	P	**P**		**03 30 49.2**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=129,slow=7.8,SNR=5.6							
BVAR	**Borovoye Array**	**78.75**	**325**	P	**P**		**03 31 46.0**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=117,slow=6.6,SNR=4.3							

*IDC **16** 04:14:07.9±2.7, 963S×15990E, h22km±17km, mb4.5/13, mb1 4.6/14, mb1mx4.5/17, mbtmp4.6/14, ML4.0/1, MS4.0/6, Ms1 4.0/6, ms1mx3.8/17, Error ellipse: s-maj=21.5km s-min=7.3km az=107.0*
*BJI **16** 04:14:07.6, 978S×16047E, h46km, mB5.2, mb4.7, Ms5.0, Msz4.7*
*ISCJB **16** 04:14:08.3±2.5, 967S±005×15981E±005, h32km±18km, mb4.8/53, MS4.3/9, Error ellipse: s-maj=9.6km s-min=7.1km az=80.0*
*MOS **16** 04:14:08.4±0.9, 963S×15980E, h33km, mb5.0/16, Error ellipse: s-maj=13.1km s-min=9.2km az=73.2*
*NEIC **16** 04:14:08.7±0.2, 961S×15978E, mb4.8/28, Error ellipse: s-maj=7.7km s-min=6.1km az=127.0*
ISC 16 04:14:09.9±0.7, 963S±005×15985E±006, h30km±4km, h25km±.8km; pP-P, n112, σ1°03/101, mb4.8/53, MS4.3/9, 6C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.21**	**26**	Pn	**Pb**		**04 14 15.6**	**-0.7**
	12μm,0.3s,baz=202,slow=1.2,SNR=1840							
HNR				Sn	**Sb**		**04 14 20.5**	**0.0**
HNR	**Honiara**	**0.21**	**26**‖	*i*Pn	**Pb**		**04 14 15.9**	**-0.4**
BKM	**Butte a Klehm**	**11.42**	**135**	*i* P	**Pn**		**04 16 51.1**	**+0.3**
PMG	**Port Moresby**	**12.52**	**270**	Pn	**Pn**		**04 17 09.2**	**+3.2**
	0.5nm,0.3s,baz=81,slow=6.0,SNR=6.9							
PMG				LR	LR		04 21 44.8	
	comp=Z,1μm,18.3s,baz=285,slow=36							
PMG	**Port Moresby**	**12.52**	**270**	*e*Pn	**Pn**		**04 17 08.7**	**+2.7**
	32nm,1.0s							
DZM	**Mont Dzumac**	**13.90**	**154**	Pn	**Pn**		**04 17 26.7**	**+1.9**
	1.6nm,0.3s,baz=12,slow=22,SNR=12							
DZM				LR	LR		04 22 05.6	
	comp=Z,472nm,19.7s,baz=200,slow=34							
CTA	**Charters Tower**	**16.75**	**230**	*e*P	**Pn**		**04 18 03.1**	**+0.9**
	13nm,0.9s							
CTA	**Charters Tower**	**16.75**	**230**	Pn	**Pn**		**04 18 03.4**	**+1.1**
	0.3nm,0.3s,baz=61,slow=12,SNR=8.8							
CTA				LR	LR		04 22 43.3	
	comp=Z,176nm,20.3s,baz=48,slow=31							
CTAO	**Charters Tower**	**16.75**	**230**	*e*P	**Pn**		**04 18 06.3**	**+4.1**
	42nm,1.4s							
WRAB	**Tennant Creek**	**26.66**	**245**	*i* P	**P**		**04 19 46.1**	**0.0**
WRAB	**Tennant Creek**	**26.66**	**245**	*e*P	**P**		**04 19 45.4**	**-0.6**
	13nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**26.67**	**244**	*e*P	**P**		**04 19 45.6**	**-0.5**
WB2				*e*PCP	PcP		04 23 09.6	+0.3
WB2				*e*PCS	PcS		04 26 50.9	+0.4
WRA	**Warramunga Arr**	**26.68**	**244**	P	**P**		**04 19 45.3**	**-0.8**
	5.7nm,0.6s,mb4.3,baz=72,slow=9.9,SNR=50							
WRA				PcP	PcP		04 23 10.0	+0.7
	2.9nm,0.8s,baz=69,slow=2.3,SNR=10							
KAKA	**Kakadu**	**27.06**	**261**	*e*P	**P**		**04 19 48.5**	**-1.1**
	5.0nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**27.87**	**215**	*e*P	**P**		**04 19 58.7**	**+1.8**
	4.2nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**27.87**	**215**	P	**P**		**04 19 56.8**	**-0.1**
	3.0nm,0.6s,mb4.1,baz=338,slow=12,SNR=3.5							
STKA				LR	LR		04 30 30.8	
	comp=Z,358nm,18.7s,MS4.0,baz=31,slow=35							
STKA	**Stephens Creek**	**27.87**	**215**	*e*P	**P**		**04 19 59.5**	**+2.6**
ASAR	**Alice Springs**	**28.44**	**237**	P	**P**		**04 20 00.2**	**-1.8**
	0.7nm,0.6s,baz=59,slow=9.9,SNR=10							
ASAR				PcP	PcP		04 23 12.1	-1.5
	0.6nm,0.7s,baz=74,slow=1.5,SNR=4.4							
ASAR				ScP	ScP		04 26 53.4	+0.9
	0.8nm,0.9s,baz=67,slow=3.1,SNR=4.8							
ASAR	**Alice Springs**	**28.44**	**237**	P	**P**		**04 20 00.2**	**-1.8**
ASAR							04 23 12.1	
RAO	**Raoul Island**	**28.55**	**136**	P	**P**		**04 20 02.1**	**-0.7**
	272nm,0.4s,baz=336,slow=20,SNR=2.7							
FITZ	**Fitzroy Crossi**	**34.22**	**252**	*e*P	**P**		**04 20 51.9**	**-0.9**
	5.6nm,0.5s,mb4.8							
FITZ				*e*pP	pP		04 21 06.9	+5.3
RPZ	**Rata Peaks**	**35.33**	**166**	P	**P**		**04 21 01.7**	**-0.7**
	7.2nm,0.9s,mb4.6,baz=106,slow=4.5,SNR=3.6							
MBWA	**Marble Bar**	**40.23**	**249**	*e*P	**P**		**04 21 42.9**	**-0.8**
	14nm,1.1s,mb4.6							
MJAR	**Matsushiro Arr**	**50.23**	**337**	P	**P**		**04 23 02.2**	**-0.8**
	2.3nm,0.7s,mb4.3,baz=161,slow=8.6,SNR=4.6							
SSE	**Sheshan**	**54.89**	**319**	P	**P**		**04 23 37.4**	**-0.2**
SSE				AMB	AMB			
	comp=Z,51nm,0.7s,mb5.7							
SSE				AMB	AMB			
	comp=Z,190nm,4.1s							
ASAJ	**Asahikawa**	**55.73**	**345**	P	**P**		**04 23 43.7**	**0.0**
	comp=Z,6.7nm,0.6s,mb4.9,baz=186,slow=15,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**58.35**	**346**⇑	*e*P	**P**		**04 24 03.5**	**+1.3**
MDJ	**Mudanjiang**	**60.52**	**336**	P	**P**		**04 24 18.4**	**+1.2**
MDJ				AMB	AMB			
	comp=Z,11nm,2.0s,mb4.6							
MDJ				AMB	AMB			
	comp=Z,167nm,6.7s							
MDJ				LR	LR			
	comp=N,163nm,30.0s,MS4.0							
MDJ				LR	LR			
	comp=E,83nm,32.6s,MS4.0							
MDJ				LR	LR			
	comp=Z,82nm,25.7s							
CN2	**Changchun**	**61.67**	**332**	*e*P	**P**		**04 24 28.1**	**+3.1**
CN2				*e*XP	sP		04 24 40.0	+2.2
CN2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.9							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
PET	**Petropavlovsk**	**62.41**	**359**	*i* P	**P**		**04 24 30.5**	**+0.6**
FX1	**Attu Island--F**	**63.29**	**9**	*e*P	**P**		**04 24 35.6**	**-0.2**
KLR	**Kul'dur**	**63.59**	**340**	*e*P	**P**		**04 24 34.8**	**-3.0**
KMI	**Kunming**	**65.47**	**303**	P	**P**		**04 24 51.4**	**+1.4**
KMI				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.7							
KMI				LR	LR			
	comp=Z,73nm,23.4s,MS3.8							
HHC	**Hu-ho-hao-te**	**67.08**	**322**	*e*P	**P**		**04 25 01.1**	**+0.8**
HHC				PCP	PcP		04 25 29.9	+1.5
HHC				PP	PP		04 27 29.8	+1.6
HHC				SCP			04 29 30.9	
HHC				S	S		04 33 53.4	+1.1
HHC				SCS	ScS		04 34 52.1	-3.7
HHC				AMB	AMB			

comp=Z,10.0nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,221nm,7.2s
HHC LR LR
comp=N,152nm,18.0s,MS4.7
HHC LR LR
comp=E,371nm,18.0s,MS4.7
HHC LR LR
comp=Z,171nm,14.4s,MS4.4
CD2 Chengdu 67.18 309 P **P** **04 25 01.8 +0.8**
CD2 S S 04 33 55.3 +1.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 LR LR
comp=N,300nm,6.3s
CD2 LR LR
comp=Z,200nm,5.9s
VNDA Vanda 67.88 180 P **P** **04 25 04.5 -0.9**
comp=Z,3.2nm,0.9s,mb4.4,baz=12,slow=3.4,SNR=7.5
VNDA Vanda 67.88 180 *e*P **P** **04 25 05.0 -0.4**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 67.88 180 *e*P **P** **04 25 05.0 -0.5**
comp=Z,3.9nm,0.8s,mb4.5
HIA Hailar 68.38 333 P **P** **04 25 08.5 0.0**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 68.38 333 P **P** **04 25 08.5 -0.1**
comp=Z,3.3nm,0.6s,mb4.5
MA2 Magadan 69.35 355 *c i*P **P** **04 25 14.3 -0.3**
MA2 *e* pP 04 25 21.5 -2.5
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 pmax pmax
comp=N,3.0nm,0.7s
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 69.35 355 *e*P **P** **04 25 13.8 -0.8**
comp=Z,17nm,0.9s,mb5.0
MA2 *e*pP pP 04 25 20.9 -3.1
LZH Lanzhou 69.56 314 *e*P **P** **04 25 17.3 +1.4**
LZH PP PP 04 27 53.0 +3.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,70nm,4.0s
LZH LR LR
comp=E,435nm,16.0s
LZH LR LR
comp=Z,750nm,17.1s,MS5.0
SEY Seymchan 72.57 356⇓ *e*P **P** **04 25 34.3 +0.2**
ULN Ulaanbaatar 73.82 326 *e*P **P** **04 25 42.3 +0.8**
ULN *e**PP pP 04 25 49.7 -1.3
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ULN Ulaanbaatar 73.82 326 *e*P **P** **04 25 42.3 +0.8**
comp=Z,8.5nm,1.0s,mb4.6
ULN *e*pP pP 04 25 49.7 -1.3
GTA Gaotai 73.95 316 P **P** **04 25 43.4 +1.1**
GTA AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
SONM Songino Array 74.17 326 P **P** **04 25 44.2 +0.6**
comp=Z,3.1nm,0.7s,mb4.4,baz=137,slow=5.4,SNR=26
SONM LR LR 04 59 51.2
comp=Z,94nm,18.3s,MS4.1,baz=213,slow=37
YAK Yakutsk 75.20 346 *e*P **P** **04 25 49.4 -0.1**
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
BOD Bodaibo 76.86 337 *e*P **P** **04 25 56.7 -2.3**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ZAK Zakamensk 77.28 327 *e*P **P** **04 25 52.7 -8.6**
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.3
BILL Bilibino 77.60 2⇓ *e*P **P** **04 26 02.9 -0.2**
BILL *e* 04 28 56.5
BILL *e*SS SS 04 40 46.9 -5.5
BILL pmax pmax
comp=Z,23nm,1.1s,mb5.0
BILL Bilibino 77.60 2 *e*P **P** **04 26 03.1 -0.1**
comp=Z,122nm,1.9s,mb5.5
BILL *e*pP pP 04 26 10.3 -2.3
JIRN Jiri 80.25 300 *e*P **P** **04 26 18.7 +1.0**
GUN Gumba 80.58 300 *e*P **P** **04 26 20.5 +1.0**
comp=Z,9.6nm,0.7s,mb4.8
PALK Pallekele 80.61 279 P **P** **04 26 20.6 +1.1**
comp=Z,9.7nm,0.8s,mb4.8
PKI Pulchoki 80.89 300 *e*P **P** **04 26 21.7 +0.6**
DMN Daman 81.16 300 *e*P **P** **04 26 23.5 +1.0**
PMR Palmer 81.33 22 *e*P **P** **04 26 22.6 -0.8**
PMR pmax pmax
comp=Z,26nm,1.0s,mb5.1
PMR Palmer 81.33 22 *e*P **P** **04 26 22.6 -0.8**
comp=Z,26nm,1.0s,mb5.1
GKN Gorkha 81.67 300 *e*P **P** **04 26 25.7 +0.5**
comp=Z,23nm,0.7s,mb5.2
SML Sawmill 81.76 22 *e*P **P** **04 26 25.0 -0.7**
KOLN Koldanda 82.49 300 *e*P **P** **04 26 29.6 +0.1**
comp=Z,11nm,0.7s,mb4.9
MCK McKinley 82.75 20 *e*P **P** **04 26 29.9 -1.0**
MCK pmax pmax
comp=Z,29nm,0.9s,mb5.3
MCK McKinley 82.75 20 *e*P **P** **04 26 29.9 -1.0**
comp=Z,29nm,0.9s,mb5.3
TIXI Tiksi 83.67 351⇑ *e*P **P** **04 26 35.0 -0.6**
TIXI pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
TIXI MLR MLR
comp=Z,100nm,25.0s,MS4.1
COLA College 83.84 20 *c i*P **P** **04 26 35.6 -0.9**
COLA College 83.84 20 *e*P **P** **04 26 35.3 -1.2**
comp=Z,28nm,0.8s,mb5.4
WMQ Urumqi 84.03 316 *e*P **P** **04 26 37.0 -0.4**
WMQ PP PP 04 29 52.0 +0.6
WMQ S 04 36 57.0
WMQ SS SS 04 42 28.0 -0.3
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,101nm,6.0s
WMQ LR LR
comp=N,78nm,10.0s,MS4.5
WMQ LR LR
comp=E,84nm,10.0s,MS4.5
WMQ LR LR
comp=Z,95nm,10.0s,MS4.5
ILAR Eielson Array 84.10 20 P **P** **04 26 36.7 -1.1**
comp=Z,7.8nm,0.6s,mb5.0,baz=248,slow=5.3,SNR=167
DAWY Dawson 86.41 23 *e*P **P** **04 26 49.7 +0.4**
DAWY *e*pP pP 04 26 58.0 -1.0
MKAR Makanchi Array 88.55 318 P **P** **04 26 59.6 -0.1**
comp=Z,5.3nm,0.9s,mb4.9,baz=104,slow=5.7,SNR=41
WVOR Wild Horse Val 90.22 47 *e*P **P** **04 27 08.5 +1.0**
WVOR pmax pmax
comp=Z,19nm,1.5s,mb5.2
WVOR Wild Horse Val 90.22 47 *e*P **P** **04 27 08.5 +1.0**
comp=Z,19nm,1.5s,mb5.2
INK Inuvik 90.50 20 *e*P **P** **04 27 07.8 -1.0**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 90.50 20 *e*P **P** **04 27 07.8 -1.0**
comp=Z,2.8nm,1.0s,mb4.5
BMN Battle Mountai 90.84 49 *e*P **P** **04 27 11.6 +1.2**
BMN pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
BMN Battle Mountai 90.84 49 *e*P **P** **04 27 11.6 +1.3**
comp=Z,4.6nm,0.8s,mb4.9
SYO Syowa Base 91.38 198⇑ *e*P **P** **04 27 11.9 -1.0**
KURK Kurchatov 91.87 321 *i* P **P** **04 27 14.4 -0.8**
KURK Kurchatov 91.87 321 *e*P **P** **04 27 13.4 -1.8**
comp=Z,9.0nm,1.5s,mb4.9
ELK Elko 92.38 49 *e*P **P** **04 27 18.8 +1.3**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 92.38 49 *e*P **P** **04 27 18.8 +1.3**
comp=Z,4.5nm,1.1s,mb4.7
NEW Newport 92.50 42 *e*P **P** **04 27 17.8 -0.2**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 92.50 42 *e*P **P** **04 27 17.8 -0.2**
comp=Z,3.4nm,0.8s,mb4.7
HLID Hailey 93.48 47 *e*P **P** **04 27 23.8 +1.2**
comp=Z,7.2nm,1.3s,mb4.9
HWUT Hardware Ranch 95.25 49 *e*P **P** **04 27 31.7 +1.0**
comp=Z,0.9nm,0.5s,mb4.5
BOZ Bozeman (W) 95.77 45 *e*P **P** **04 27 33.7 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
BOZ Bozeman (W) 95.77 45 *e*P **P** **04 27 33.7 +0.7**
comp=Z,1.6nm,0.7s,mb4.6
MOOW Moose Ponds 96.14 47 *e*P **P** **04 27 35.9 +1.1**
comp=Z,2.7nm,1.0s,mb4.6
YKA Yellowknife Ar 96.40 28 P **P** **04 27 34.8 -1.1**
comp=Z,2.4nm,0.7s,mb4.7,baz=259,slow=4.6,SNR=36
YKA LR LR 05 07 00.4
comp=Z,96nm,21.4s,MS4.2,baz=240,slow=33
YKW3 Yellowknife Ar 96.41 28 *e*P **P** **04 27 35.0 -0.9**
BW06 Boulder Array 96.88 48 *e*P **P** **04 27 38.7 +0.6**
comp=Z,6.5nm,1.4s,mb4.9
PDAR Pinedale Array 96.88 48 P **P** **04 27 37.8 -0.3**
comp=Z,2.1nm,0.9s,mb4.6,baz=270,slow=1.5,SNR=14
BVAR Borovoye Array 97.28 322 P **P** **04 27 38.9 -1.0**
comp=Z,2.1nm,0.8s,mb4.6,baz=90,slow=4.4,SNR=12
BRVK Borovoye 97.35 323 *e*P **P** **04 27 38.8 -1.4**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb4.4
BRVK Borovoye 97.35 323 *e*P **P** **04 27 38.8 -1.5**
comp=Z,1.2nm,0.6s,mb4.5
LENM Lemitar 97.94 57 *e*P **P** **04 27 38.7 -4.2**
ZRNK Zerenda 98.11 322 *e*P **P** **04 27 41.4 -2.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb4.7
ZRNK Zerenda 98.11 322 *e*P **P** **04 27 41.4 -2.2**
comp=Z,1.8nm,0.8s,mb4.7
OBN Obninsk 116.54 328⇑ *e*PKIKP PKPdf 04 32 47.9 -2.9
OBN *e* 04 34 00.3
OBN *e*PS PS 04 43 37.7 -2.9
OBN pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 118.26 337 PKP PKPdf 04 32 53.6 -0.5
comp=Z,2.3nm,1.0s,baz=90,slow=3.8,SNR=3.7
SOC Sochi 118.29 314 *i* PKIKP PKPdf 04 32 51.9 -2.3
SOC *e* 04 34 15.8
SOC *e*PPP 04 36 47.7
SOC *e* 04 39 44.0
SOC *e*SS SS 04 50 22.9 -1.0
SOC *e*SSS 04 54 47.6
SOC pmax pmax
comp=Z,48nm,0.9s
AKASG Malin Array Be 122.45 325 PKP PKPdf 04 33 01.4 -0.8
comp=Z,0.1nm,0.3s,baz=84,slow=2.0,SNR=6.9
NOA NORSAR Array B 123.71 342 PKP PKPdf 04 33 03.3 -1.3
comp=Z,0.9nm,0.7s,baz=356,slow=5.1,SNR=3.5
BRTR Keskin Array B 123.71 312 PKP PKPdf 04 33 03.9 -0.7
comp=Z,0.6nm,0.6s,baz=137,slow=3.7,SNR=4.0
LPAZ La Paz 125.99 118 PKP PKPdf 04 33 08.8 -0.1
comp=Z,0.6nm,0.8s,baz=278,slow=4.7,SNR=5.0
GERES GERESS Array B 131.74 330 PKP PKPdf 04 33 19.6 -0.3
comp=Z,0.5nm,0.6s,baz=63,slow=3.0,SNR=5.9
WLF Walferdange 134.48 336 PKP PKPdf 04 33 27.1 +2.1
BDFB Brasilia 142.69 132 PKhKP 04 33 36.1
comp=Z,1.9nm,0.6s,baz=161,slow=6.0,SNR=4.4
TORD Torodi Ar. Bea 158.31 281 PKP PKPdf 04 34 03.8 -0.2
comp=Z,1.1nm,0.9s,baz=70,slow=1.1,SNR=5.8
TORD PKPab PKPab 04 34 39.5 +1.2
comp=Z,0.8nm,0.8s,baz=37,slow=1.8,SNR=4.5
DBIC Dimbokro 164.58 260 PKPab PKPab 04 35 07.1 +1.3
comp=Z,1.7nm,0.6s,baz=85,slow=7.7,SNR=4.7

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*ISCJB **16** 04:49:32.8±0.7,3154N×0060×9506E±009,h10km,mb3.8/6,*
Error ellipse: s-maj=11.9km s-min=8.1km az=62.6
*IDC **16** 04:49:33.6±1.1,3165N×9520E,h0km,mb3.7/4,mb1 3.7/6,*
mb1mx3.5/22,mbtmp3.6/6,ML3.2/2,Error ellipse:
s-maj=52.4km s-min=20.4km az=54.0
*NEIC **16** 04:49:35.0±0.7,3165N×9511E,h10km,mb4.1/2,Error*
ellipse: s-maj=14.3km s-min=10.2km az=141.0
*BJI **16** 04:49:36.7,3181N×9508E,h11km,ML3.4*
ISC 16 04:49:35.3±5.6,3160N±008×951E±01,h12km±36km,n18,
σ0°92/17,mb3.8/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.89**	**242**	P	**Pn**	**04 50 39.4**	**+4.5**
LSA	**Lhasa**	**3.89**	**242**	*e*Pn	**Pn**	**04 50 39.1**	**+4.2**
SHL	**Shillong**	**6.64**	**206**	*e*S	**Sn**	**04 52 27.0**	**-1.2**
JIRN	**Jiri**	**8.68**	**245**	*e*P	**Pn**	**04 51 42.0**	**+1.3**
6.5nm,0.5s							
GUN	**Gumba**	**8.81**	**248**	*e*P	**Pn**	**04 51 43.1**	**+0.6**
21nm,0.5s							
KKN	**Kakani**	**9.34**	**249**	*e*P	**Pn**	**04 51 49.6**	**-0.1**
9.0nm,0.4s							
DMN	**Daman**	**9.56**	**248**	*e*P	**Pn**	**04 51 52.8**	**+0.1**
9.0nm,0.5s							
GKN	**Gorkha**	**9.76**	**251**	*e*P	**Pn**	**04 51 55.5**	**0.0**
5.4nm,0.3s							
KOLN	**Koldanda**	**10.70**	**252**	*e*P	**Pn**	**04 52 07.2**	**-1.1**
7.8nm,0.6s							
MKAR	**Makanchi Array**	**18.09**	**331**	P	**Pn**	**04 53 44.5**	**-1.9**
0.1nm,0.3s,baz=141,slow=14,SNR=6.2							
SONM	**Songino Array**	**18.37**	**25**	P	**Pn**	**04 53 48.5**	**-1.4**
0.1nm,0.3s,baz=210,slow=12,SNR=4.3							
KURK	**Kurchatov**	**22.68**	**332**	P	**P**	**04 54 37.5**	**+0.9**
1.5nm,0.5s,mb3.7							
POO	**Poona**	**23.17**	**241**	*e*x	x	04 54 53.0	
BVAR	**Borovoye Array**	**27.90**	**327**	P	**P**	**04 55 26.1**	**+1.0**
0.4nm,0.4s,mb3.4,baz=124,slow=7.7,SNR=3.6							
BRTR	**Keskin Array B**	**49.73**	**297**	P	**P**	**04 58 27.8**	**+0.4**
0.7nm,0.9s,mb3.7,baz=97,slow=6.1,SNR=3.7							
WRAB	**Tennant Creek**	**63.58**	**138**	P	**P**	**05 00 06.4**	**+0.5**
1.7nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**63.58**	**138**	P	**P**	**05 00 06.0**	**+0.1**
0.9nm,0.8s,mb3.9,baz=329,slow=7.5,SNR=8.8							
ASAR	**Alice Springs**	**66.33**	**141**	P	**P**	**05 00 24.2**	**+0.5**
0.6nm,0.6s,mb3.8,baz=323,slow=6.2,SNR=9.3							

GUC 16 04:56:12.1±0.9,3503S×7054W,h20km±3km,MD4.0,
ML3.5,8C-8D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.56**	**273**	⇓ *i*P	Pb	04 56 23.0	-0.3
NICH				*i* S	Sb	04 56 30.8	-0.1
SFDO	**San Fernando**	**0.57**	**317**	⇓ *i*P	Pb	04 56 23.0	-0.4
CICH	**Cipreses**	**0.72**	**8**	⇓ *i*P	Pb	04 56 25.6	-0.3
CICH				*i* S	Sb	04 56 35.5	+0.1
CACH	**El Canelo**	**0.92**	**357**	⇑ *i*P	Pb	04 56 28.8	-0.5
CACH				*i* S	Sb	04 56 41.4	+0.3
CHCH	**Chadas Angostu**	**1.10**	**355**	⇑ *i*P	Pn	04 56 32.4	+0.1
CHCH				*i* S	Sb	04 56 47.4	+1.0
LNCH	**Linares**	**1.19**	**226**	⇑ *i*P	Pn	04 56 33.4	-0.2
LNCH				*i* S	Sb	04 56 49.3	+0.5
LNCH				AMP		04 56 50.2	
comp=E,2μm,0.6s							
LMEL	**Las Melosas**	**1.22**	**13**	⇑ *i*P	Pn	04 56 34.5	+0.6
LMEL				*i* S	Sb	04 56 51.0	+1.3
LMEL				AMP		04 56 55.1	
comp=N,741nm,0.2s							
LNV	**Longovilo**	**1.29**	**326**	⇑ *i*P	Pn	04 56 35.2	+0.2
SJCH	**San Jose de Ma**	**1.40**	**6**	*e*P	Pn	04 56 37.0	+0.5
SJCH				*i* S	Sn	04 56 56.3	+2.0
SJCH				AMP		04 56 59.2	
comp=N,547nm,0.3s							
PCH	**Pirque**	**1.41**	**1**	⇓ *i*P	Pn	04 56 37.8	+1.2
PCH				*i* S	Sn	04 56 57.0	+2.4
TACH	**Talagante**	**1.42**	**347**	⇓ *i*P	Pn	04 56 37.5	+0.8
TACH				*i* S	Sn	04 56 56.5	+1.8
ANTU	**Antumapu**	**1.46**	**357**	⇓ *i*P	Pn	04 56 38.8	+1.4
ANTU				*i* S	Sn	04 56 58.4	+2.5
ANTU				AMP		04 57 00.6	
comp=E,851nm,0.2s							
FSR	**Penalolen**	**1.55**	**0**	⇓ *i*P	Pn	04 56 40.3	+1.8
FSR				*i* S	Sn	04 57 01.4	+3.3
FSR				AMP		04 57 02.6	
comp=E,667nm,0.5s							
RCDM	**Rinconada Maip**	**1.56**	**352**	*e*P	Pn	04 56 40.0	+1.4
RCDM				*i* S	Sn	04 57 00.9	+2.7
RCDM				AMP		04 57 01.8	
comp=E,2μm,0.1s							
CTCH	**Constitucion**	**1.56**	**258**	*e*P	Pn	04 56 40.3	+1.6
CTCH				*i* S	Sn	04 57 01.1	+2.8
CTCH				AMP		04 57 03.9	
comp=E,10μm,0.4s							
SAN	**Santiago**	**1.58**	**356**	*i* P	Pn	04 56 40.7	+1.7
SAN				*i* S	Sn	04 57 01.9	+3.1
SAN				AMP		04 57 03.7	
comp=E,830nm,0.9s							
FCH	**Farellones**	**1.71**	**7**	⇑ *i*P	Pn	04 56 43.1	+2.3
FCH				*i* S	Sn	04 57 06.4	+4.3
FCH				AMP		04 57 07.7	
comp=N,702nm,0.2s							
CNCO	**Chanco**	**1.77**	**246**	*i* P	Pn	04 56 42.6	+1.0
CNCO				*i* S	Sn	04 57 06.1	+2.6
CNCO				AMP		04 57 07.1	
comp=E,3μm,0.3s							
LCCH	**Las Cruces**	**1.77**	**331**	⇑ *i*P	Pn	04 56 43.3	+1.7
LCCH				*i* S	Sn	04 57 06.8	+3.2
PEL	**Peldehue**	**1.89**	**356**	⇑ *i*P	Pn	04 56 45.9	+2.7
PEL				*i* S	Sn	04 57 10.9	+4.5
PEL				AMP		04 57 12.2	
comp=N,1μm,0.5s							
CCHI	**Chillan**	**2.00**	**218**	⇓ *i*P	Pn	04 56 47.2	+2.4
CCHI				*i* S	Sn	04 57 13.8	+4.6
CCHI				AMP		04 57 17.6	
comp=E,1μm,0.9s							
ROCH	**El Roble**	**2.09**	**349**	*e*P	Pn	04 56 49.2	+3.1
ROCH				*i* S	Sn	04 57 16.6	+5.1
COCH	**Cobquecura**	**2.13**	**238**	*i* P	Pn	04 56 49.5	+2.9
COCH				*i* S	Sn	04 57 17.2	+4.7
COCH				AMP		04 57 19.8	
comp=E,93nm,0.5s							
JACH	**Jahuel**	**2.34**	**359**	*i* P	Pn	04 56 53.3	+3.8
JACH				*i* S	Sn	04 57 24.2	+6.5

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*SKO **16** 05:47:20.4,4183N×2190E,h15km,M2.9,ML3.3*
*BEO **16** 05:47:20±1.2,4183N×2185E,h9km±3km*
*ISCJB **16** 05:47:21.1±0.2,4182N±001×2192E±002,h2km,Error*
ellipse: s-maj=2.2km s-min=1.8km az=67.6
*PDG **16** 05:47:21.5±0.5,4199N×2199E,h2km±1km*
*THE **16** 05:47:22.4,4178N×2192E,h1km,ML3.3*
*CSEM **16** 05:47:22.6±0.1,4181N×2200E,h2km±1km,ML3.3,Error*
ellipse: s-maj=1.7km s-min=1.4km az=58.0
*SOF **16** 05:47:22.4,4187N×2202E,h10km,MD3.3*
*NEIC **16** 05:47:22.4,4187N×2202E,h10km,MD3.2(PDG),*
MD3.3(SOF),After SOF.
*ATH **16** 05:47:23.6,4171N×2204E,h14km±6km,MD3.7/8*
ISC 16 05:47:21.8±0.2,4182N±001×2192E±002,h2km,n79,
σ1°31/121,18C-12D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.23**	**121**	*i* Pg	**Pg**	**05 47 26.0**	**-0.3**
STIP				*i* Sg	**Sg**	**05 47 29.9**	**+0.6**
STIP				*e*Lg		05 47 30.1	
comp=E,3μm,0.5s							
STIP				*e*Lg		05 47 30.2	
comp=N,5μm,0.3s							
SKO	**Skopje**	**0.39**	**294**	*e*Pg	**Pg**	**05 47 29.1**	**-0.2**
SKO				*e*Sg	**Sg**	**05 47 33.8**	**-0.5**
SKO	**Skopje**	**0.39**	**294**	*i* Pg	**Pg**	**05 47 29.0**	**-0.3**
SKO				*i* Sg	**Sg**	**05 47 34.0**	**-0.4**
SKO				*e*Lg		05 47 34.3	
comp=N,2μm,0.4s							
SKO				*e*Lg		05 47 34.4	
comp=E,2μm,0.3s							
BELI	**Belica**	**0.50**	**255**	*i* Pg	**Pg**	**05 47 30.4**	**-1.1**
BELI				*i*		05 47 30.5	
BELI				*i* Sg	**Sg**	**05 47 38.2**	**+0.3**
KOZJ	**Kozjak Brana**	**0.54**	**277**	*i* Pg	**Pg**	**05 47 30.1**	**-2.1**
KOZJ				*i*		05 47 30.4	
KOZJ				*i* Sg	**Sg**	**05 47 37.2**	**-2.1**
SAMO	**Samokov**	**0.60**	**258**	*i* Pg	**Pg**	**05 47 32.1**	**-1.1**
SAMO				*i* Sg	**Sg**	**05 47 40.2**	**-0.7**
VAY	**Valandovo**	**0.70**	**135**	*i* Pg	**Pg**	**05 47 34.4**	**-0.8**
VAY				*i* Sg	**Sg**	**05 47 45.1**	**+0.9**
VAY				*e*Lg		05 47 45.8	
comp=N,2μm,0.6s							
VAY				*e*Lg		05 47 45.9	
comp=E,1μm,0.5s							
VAY	**Valandovo**	**0.70**	**135**	*e*Pg	**Pg**	**05 47 34.3**	**-0.9**
VAY				*e*Sg	**Sg**	**05 47 45.2**	**+1.0**
KKB	**Krupnik**	**0.87**	**86**	*i* Pg	**Pg**	**05 47 39.0**	**+0.5**
BIA	**Bitola**	**0.91**	**209**	*e*Pg	**Pg**	**05 47 38.6**	**-0.7**
BIA				*e*Sg	**Sg**	**05 47 51.3**	**+0.1**
BIA	**Bitola**	**0.91**	**209**	*i* Pg	**Pg**	**05 47 38.6**	**-0.7**
BIA				*i* Sg	**Sg**	**05 47 51.2**	**0.0**
BIA				*e*Lg		05 47 51.6	
comp=E,694nm,0.3s							
BIA				*e*Lg		05 47 52.0	
comp=N,772nm,0.3s							
GRG	**Griva**	**0.93**	**157**	*e*Pg	**Pg**	**05 47 39.5**	**-0.2**
GRG				*e*Sg	**Sg**	**05 47 51.9**	**+0.1**
KNT	**Kendrikon**	**0.98**	**131**	*e*Pg	**Pg**	**05 47 40.1**	**-0.6**
KNT				*e*Sg	**Sg**	**05 47 54.5**	**+1.0**
OHR	**Ohrid**	**1.10**	**230**	*i* Pg	**Pg**	**05 47 41.5**	**-1.4**
OHR				*i* Sg	**Sg**	**05 47 56.8**	**-0.3**
FNA	**Florina**	**1.11**	**202**	*e*Pg	**Pg**	**05 47 42.8**	**-0.3**
FNA				*e*Sg	**Sg**	**05 47 58.2**	**+0.7**
KKS	**Kukesi**	**1.15**	**283**	*i* Pg	**Pg**	**05 47 42.7**	**-1.2**
KKS				*i* Sg	**Sg**	**05 47 58.4**	**-0.5**
VTS	**Vitosha**	**1.23**	**51**	Pg	**Pg**	**05 47 45.0**	**-0.4**
VTS	**Vitosha**	**1.23**	**51**	*e*Pg	**Pg**	**05 47 45.2**	**-0.2**
VTS				*e*Sg	**Sg**	**05 48 04.1**	**+2.7**
MMB	**Musomiste**	**1.37**	**99**	*i* P	**Pn**	**05 47 48.0**	**0.0**
SOH	**Sokhos**	**1.47**	**132**	*e*Pg	**Pg**	**05 47 48.8**	**-1.2**
SOH				*e*Sg	**Sg**	**05 48 09.0**	**0.0**
KZN	**Kozani**	**1.51**	**184**	*e*PG	**Pg**	**05 47 49.9**	**-0.9**
KZN				*e*SB	**Sb**	**05 48 10.0**	**-0.2**
NVR	**Nevrokopi**	**1.53**	**107**	*e*PG	**Pg**	**05 47 49.9**	**-1.3**
NVR				*e*SB	**Sb**	**05 48 10.6**	**-0.1**
ZAPS	**Zavoj/Pirot**	**1.57**	**19**	⇓ *i*Pn	**Pn**	**05 47 49.6**	**-1.0**
ZAPS				Sn	**Sn**	**05 48 09.7**	**-1.8**
PVY	**Plav**	**1.64**	**299**	⇑ *i*Pn	**Pn**	**05 47 51.6**	**-0.1**
PVY				*e*Sn	**Sn**	**05 48 16.2**	**+2.9**
LIT	**Litokhoron**	**1.77**	**166**	*e*Pb	**Pb**	**05 47 53.3**	**-1.6**
PGB	**Panagyurishte**	**1.82**	**66**	P	**Pn**	**05 47 54.5**	**+0.3**
IVA	**Berane**	**1.83**	**306**	⇑ *i*Pn	**Pn**	**05 47 53.8**	**-0.5**
IVA				*e*Sn	**Sn**	**05 48 20.2**	**+2.2**
PLG	**Polygyros**	**1.85**	**141**	*e*PN	**Pn**	**05 47 54.9**	**+0.4**
LSK	**Leskovik**	**1.94**	**211**	*i* Pn	**Pn**	**05 47 58.2**	**+2.4**
LSK				*i* Sn	**Sn**	**05 48 22.7**	**+2.0**
ULC	**Ulcinj**	**2.00**	**275**	⇑ *i*Pn	**Pn**	**05 47 58.3**	**+1.7**
ULC				*e*Sn	**Sn**	**05 48 26.5**	**+4.4**
BOLS	**Boljevac**	**2.01**	**1**	⇑ *i*Pn	**Pn**	**05 47 55.1**	**-1.7**
BOLS				Sn	**Sn**	**05 48 23.1**	**+0.7**
BOLS	**Boljevac**	**2.01**	**1**	Pn	**Pn**	**05 47 55.1**	**-1.7**
BOLS				Sn	**Sn**	**05 48 23.1**	**+0.6**
TTG	**Podgorica**	**2.07**	**288**	⇑ *i*Pn	**Pn**	**05 47 58.2**	**+0.6**
TTG				*e*Sn	**Sn**	**05 48 27.5**	**+3.6**
PLD	**Plovdiv**	**2.10**	**81**	P	**Pn**	**05 47 58.5**	**+0.6**
RZN	**Rozhen**	**2.10**	**93**	P	**Pn**	**05 47 58.4**	**+0.5**
OUR	**Ouranopolis**	**2.15**	**133**	*e*Pn	**Pn**	**05 47 58.8**	**+0.2**
GRUS	**Gruza**	**2.25**	**337**	*e*Pn	**Pn**	**05 47 58.2**	**-1.9**
GRUS				*e*Sn	**Sn**	**05 48 27.0**	**-1.4**
BUM	**Brajici-Budva**	**2.30**	**283**	⇑ *i*Pn	**Pn**	**05 48 02.2**	**+1.5**
BUM				*e*Sn	**Sn**	**05 48 33.6**	**+4.0**
JAN	**Janina**	**2.31**	**201**	*e*PN	**Pn**	**05 48 03.0**	**+2.2**
PAIG	**Paliouri**	**2.31**	**144**	*e*Pn	**Pn**	**05 48 00.7**	**-0.2**
NKY	**Niksic**	**2.38**	**296**	⇑ *i*Pn	**Pn**	**05 48 02.0**	**+0.1**
NKY				*e*Sn	**Sn**	**05 48 34.5**	**+2.9**
PLE	**Pljevlja**	**2.40**	**310**	⇑ *i*Pn	**Pn**	**05 48 01.7**	**-0.4**
PLE				*e*Sn	**Sn**	**05 48 34.0**	**+1.9**
SVIS	**Svilajnac**	**2.53**	**349**	⇓ *i*Pn	**Pn**	**05 48 01.7**	**-2.2**
SVIS				Sn	**Sn**	**05 48 33.4**	**-1.9**
UPM	**Unac-Piva**	**2.62**	**303**	⇑ *i*Pn	**Pn**	**05 48 05.3**	**+0.1**
UPM				*e*Sn	**Sn**	**05 48 39.5**	**+2.0**
HCY	**Herceg Novi**	**2.62**	**285**	⇑ *i*Pn	**Pn**	**05 48 06.2**	**+1.1**
HCY				*e*Sn	**Sn**	**05 48 41.0**	**+3.5**
KDZ	**Kurdzhali**	**2.62**	**92**	*e*P	**Pn**	**05 48 04.2**	**-1.0**
XOR	**Xorichti**	**2.63**	**158**	*e*Pn	**Pn**	**05 48 05.0**	**-0.3**
KEK	**Kerkira**	**2.65**	**218**	*e*PN	**Pn**	**05 48 08.7**	**+3.2**
DIVS	**Divcibare**	**2.68**	**329**	*i* Pn	**Pn**	**05 48 04.8**	**-1.2**
DIVS				Sn	**Sn**	**05 48 39.0**	**0.0**
DIVS	**Divcibare**	**2.68**	**329**	Pn	**Pn**	**05 48 04.8**	**-1.2**

BZS	Buzias	3.81	357	⇓P		Pn	05 48 19.8	-1.6
VOIR		4.27	31	⇓P		Pn	05 48 29.7	+1.8
VOIR		4.27	31	⇓P		Pn	05 48 29.7	+1.8
MLR	Muntele Rosu	4.69	37	⇓P		Pn	05 48 36.9	+3.3
MLR				S		Sn	05 49 30.7	+2.1
MLR	Muntele Rosu	4.69	37	⇓P		Pn	05 48 36.9	+3.3
MLR				S		Sn	05 49 30.7	+2.1
DRGR		5.01	6	⇑P		Pn	05 48 38.5	+0.6
DRGR		5.01	6	⇑P		Pn	05 48 38.5	+0.6
RHK1	Bakonya	5.10	328	⇑ eP		Pn	05 48 36.1	-3.1
HARR	Harsova	5.25	55	⇓P		Pn	05 48 39.1	-2.1
HARR	Harsova	5.25	55	⇓P		Pn	05 48 39.1	-2.1
VRI	Vrincioaia	5.34	39	⇓P		Pn	05 48 43.4	+0.9
VRI	Vrincioaia	5.34	39	⇓P		Pn	05 48 43.4	+1.0
TIRR	Tirgusor	5.43	59	⇑P		Pn	05 48 46.3	+2.5
TIRR	Tirgusor	5.43	59	⇑P		Pn	05 48 46.3	+2.5
TIRR				S		Sg	05 50 10.3	-6.1
CFR	Carcaliu	5.63	51	⇑P		Pn	05 48 51.0	+4.5
CFR	Carcaliu	5.63	51	⇑P		Pn	05 48 51.0	+4.5
CFR				S		Sg	05 50 15.3	-7.4
PSZ	Piszkesteto	6.27	347	ePn		Pn	05 48 53.8	-1.4
	comp=N,5.9nm,0.6s							
KECS	Kecovo	6.74	352	ePN		Pn	05 49 00.5	-1.3
KECS				e			05 49 07.0	
VYHS	Vyhne	7.02	343	ePN		Pn	05 49 04.9	-0.7
KHC	Kasperske Hory	9.37	324	ePN		Pn	05 49 39.0	+1.2
KHC				x		x	05 49 46.5	
KHC	Kasperske Hory	9.37	324	ePn		Pn	05 49 39.0	+1.2
KHC				e			05 49 46.5	

IDC 16 06:10:48.0±1.2, 1894S×17455W, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML2.3/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/20, Error ellipse: s-maj=45.8km s-min=21.5km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.66	28	Pn	Pn	06 12 14.8	+1.5
	4.6nm,0.3s,baz=109,slow=23,SNR=5.6						
AFI				Sn	Sn	06 13 09.8	-9.3
	6.2nm,0.3s,baz=38,slow=24,SNR=4.4						
RAO	Raoul Island	10.72	196	LR	LR	06 16 19.7	
	comp=Z,324nm,19.4s,baz=96,slow=31						
RAR	Rarotonga	14.07	102	Pn	Pn	06 13 55.8	-13
	1.6nm,0.3s,baz=299,slow=18,SNR=2.7						
URZ	Urewera	20.58	199	P	P	06 15 26.6	-1.8
	4.8nm,0.3s,baz=297,slow=5.3,SNR=11						
RPZ	Rata Peaks	27.51	203	P	P	06 16 37.8	+1.7
	3.3nm,0.4s,baz=49,slow=11,SNR=5.1						
ASAR	Alice Springs	48.05	255	P	P	06 19 29.9	+0.9
	1.1nm,0.7s,baz=91,slow=8.7,SNR=12						
WRA	Warramunga Arr	48.05	260	P	P	06 19 29.0	0.0
	0.4nm,0.3s,baz=97,slow=7.7,SNR=18						
PDAR	Pinedale Array	85.62	42	P	P	06 23 28.4	+0.1
	0.1nm,0.4s,baz=249,slow=2.5,SNR=2.4						
ILAR	Eielson Array	86.11	12	P	P	06 23 29.9	-0.9
	0.4nm,0.7s,baz=224,slow=5.0,SNR=6.0						

*ISCJB **16** 06:10:58.8±0.4, 4661N±002×126E±002, h4km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=42.5*
*CSEM **16** 06:11:01.5±0.0, 4661N×128E, h5km, ML2.5/17, Error ellipse: s-maj=0.9km s-min=0.7km az=29.0*
*LDG **16** 06:11:01.4±0.0, 4661N×128E, h3km, Md2.5/2, Ml2.5/17, Error ellipse: s-maj=0.7km s-min=0.6km az=31.0*
*STR **16** 06:11:04.6±0.6, 4652N×144E, h2km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 16 06:11:00.3±0.3, 4660N±002×127E±002, h12km±3km, n51, σ0§76/101, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.72	115	ePg	Pg	06 11 15.6	+1.4
	SNR=1.0						
TCF	Toulx Ste Croi	0.72	115	ePn	Pn	06 11 16.7	+0.4
TCF				eSg	Sg	06 11 25.1	+1.4
	13nm,0.2s,SNR=1.0						
TCF				eSn	Sg	06 11 27.7	+4.0
	SNR=1.0						
TCF	Toulx Ste Croi	0.72	115	ePn	Pn	06 11 16.7	+0.4
TCF				eSg	Sg	06 11 25.1	+1.4
	6.4nm,0.2s,SNR=1.0						
TCF				eSn	Sg	06 11 27.7	+4.0
	SNR=1.0						
MFF	Saint Martin d	0.98	271	ePg	Pg	06 11 19.8	+0.7
MFF	Saint Martin d	0.98	271	ePn	Pn	06 11 20.4	+0.6
MFF				eSg	Sg	06 11 32.4	+0.6
	21nm,0.2s,SNR=1.0						
MFF	Saint Martin d	0.98	271	ePn	Pn	06 11 20.4	+0.6
MFF				eSg	Sg	06 11 32.4	+0.6
	11nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	1.09	91	ePg	Pg	06 11 21.9	+0.7
	SNR=1.0						
BGF				eSg	Sg	06 11 35.5	+0.1
	58nm,0.3s,SNR=1.0						
BGF				eSn	Sn	06 11 36.7	+0.3
	SNR=1.0						
BGF	Bois d'Agland	1.09	91	ePg	Pg	06 11 21.9	+0.7
	SNR=1.0						
BGF				eSg	Sg	06 11 35.5	+0.1
	29nm,0.3s,SNR=1.0						
BGF				eSn	Sn	06 11 36.7	+0.3
	SNR=1.0						
HYF	Humbligny	1.16	54	ePg	Pg	06 11 22.9	+0.4
HYF				eSg	Sg	06 11 37.8	+0.3
RJF	Les Rejaudoux	1.30	172	ePn	Pn	06 11 25.0	+0.7
RJF	Les Rejaudoux	1.30	172	ePg	Pg	06 11 26.1	+0.8
	SNR=1.0						
RJF				eSn	Sn	06 11 41.5	-0.2
	SNR=1.0						
RJF				eSg	Sg	06 11 43.0	+0.7
	21nm,0.2s						
RJF	Les Rejaudoux	1.30	172	ePg	Pg	06 11 26.1	+0.8
	SNR=1.0						
RJF				eSn	Sn	06 11 41.5	-0.2
	SNR=1.0						
RJF				eSg	Sg	06 11 43.0	+0.7
	11nm,0.2s						
AGO	Saint Agoulin	1.40	112	Pg	Pg	06 11 28.3	+1.1
AGO				Sg	Sg	06 11 46.0	+0.6
AVF	Avril sur Loir	1.45	82	ePn	Pn	06 11 26.9	+0.6
AVF	Avril sur Loir	1.45	82	ePg	Pg	06 11 28.3	+0.2
	SNR=1.0						
AVF				eSn	Sn	06 11 45.1	-0.1
	SNR=1.0						
AVF				eSg	Sg	06 11 46.8	-0.1
	5.2nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	1.45	82	ePg	Pg	06 11 28.3	+0.2
	SNR=1.0						
AVF				eSn	Sn	06 11 45.1	-0.1
	SNR=1.0						
AVF				eSg	Sg	06 11 46.8	-0.1
	2.6nm,0.2s,SNR=1.0						
PYM	Petit Puy Mans	1.48	124	Pg	Pg	06 11 29.4	+0.8
SSF	Saint Saulge	1.60	72	ePg	Pg	06 11 30.8	-0.3
SSF				eSn	Sn	06 11 48.6	-0.5
	SNR=1.0						
SSF				eSg	Sg	06 11 51.7	-0.2
	5.2nm,0.4s						
SSF	Saint Saulge	1.60	72	ePn	Pn	06 11 29.0	+0.5
SSF	Saint Saulge	1.60	72	ePg	Pg	06 11 30.8	-0.3
SSF				eSn	Sn	06 11 48.6	-0.5
	SNR=1.0						
SSF				eSg	Sg	06 11 51.7	-0.2
	2.6nm,0.4s						
LFF	La Frestale	1.70	193	ePn	Pn	06 11 30.4	+0.6
LFF				eSn	Sn	06 11 51.5	+0.1
	SNR=1.0						
LFF				eSg	Sg	06 11 55.1	+0.2
	17nm,0.3s,SNR=1.0						
LFF	La Frestale	1.70	193	ePn	Pn	06 11 30.4	+0.6
LFF				eSn	Sn	06 11 51.5	+0.1
	SNR=1.0						
LFF				eSg	Sg	06 11 55.1	+0.2
	8.6nm,0.3s,SNR=1.0						
PLDF	La Plantade	1.75	110	Pg	Pg	06 11 35.2	+1.4
PLDF				Sg	Sg	06 11 56.9	+0.4
CAF	Calviac	1.76	161	ePn	Pn	06 11 31.2	+0.6
CAF	Calviac	1.76	161	ePg	Pg	06 11 34.3	+0.2
	SNR=1.0						
CAF				eSg	Sg	06 11 56.9	0.0
	6.5nm,0.2s,SNR=1.0						
CAF	Calviac	1.76	161	ePg	Pg	06 11 34.3	+0.2
	SNR=1.0						
CAF				eSg	Sg	06 11 56.9	0.0
	3.2nm,0.2s,SNR=1.0						
SMF	Signal de Mont	1.77	87	ePn	Pn	06 11 31.1	+0.3
SMF	Signal de Mont	1.77	87	ePg	Pg	06 11 34.2	-0.1
	SNR=1.0						
SMF				eSg	Sg	06 11 57.1	-0.2
	4.8nm,0.2s,SNR=1.0						
SMF	Signal de Mont	1.77	87	ePg	Pg	06 11 34.2	-0.1
	SNR=1.0						
SMF				eSg	Sg	06 11 57.1	-0.2
	2.4nm,0.2s,SNR=1.0						
LOR	Lormes	1.90	68	ePn	Pn	06 11 32.6	+0.1
LOR	Lormes	1.90	68	ePg	Pg	06 11 36.0	-0.7
	baz=248						
LOR				eSg	Sg	06 12 00.4	-0.9
	5.0nm,0.2s,SNR=1.0						
LOR	Lormes	1.90	68	ePg	Pg	06 11 36.0	-0.7
	baz=248						
LOR				eSg	Sg	06 12 00.4	-0.9
	2.5nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.21	335	ePn	Pn	06 11 37.0	+0.2
LDF	La Druitiere	2.21	335	ePg	Pg	06 11 41.9	-0.8
LDF				eSg	Sg	06 12 10.6	-0.7
	1.9nm,0.3s						
LDF	La Druitiere	2.21	335	ePg	Pg	06 11 41.9	-0.8
LDF				eSg	Sg	06 12 10.6	-0.7
	0.9nm,0.3s						
GRR	Gorron	2.30	322	ePn	Pn	06 11 38.3	+0.2
GRR	Gorron	2.30	322	ePg	Pg	06 11 44.1	-0.3
GRR				eSn	Sn	06 12 05.0	-1.3
GRR				eSg	Sg	06 12 14.0	-0.3
	10nm,0.5s,SNR=1.0						
GRR	Gorron	2.30	322	ePg	Pg	06 11 44.1	-0.3
GRR				eSn	Sn	06 12 05.0	-1.3
GRR				eSg	Sg	06 12 14.0	-0.3
	5.2nm,0.5s,SNR=1.0						
VIVF	Saint-Julien-l	2.95	125	ePg	Pg	06 11 55.9	-0.9
VIVF				eSg	Sg	06 12 34.0	-1.1
	2.4nm,0.3s						
VIVF	Saint-Julien-l	2.95	125	ePg	Pg	06 11 55.9	-0.9
VIVF				eSg	Sg	06 12 34.0	-1.1
	1.2nm,0.3s						
SGMF	Saint Gilles	3.08	304	ePn	Pn	06 11 49.6	+0.8
LASF	Ste Croix	3.11	143	ePg	Pg	06 11 59.1	-0.8
LASF				eSg	Sg	06 12 39.3	-0.9
	1.3nm,0.3s						
LASF	Ste Croix	3.11	143	ePg	Pg	06 11 59.1	-0.8
LASF				eSg	Sg	06 12 39.3	-0.9
	0.6nm,0.3s						
QUIF	Quistinic	3.30	295	ePn	Pn	06 11 51.8	+0.1
MTLF	Montolieu	3.32	168	ePg	Pg	06 12 03.1	-0.9
MTLF				eSg	Sg	06 12 45.9	-1.1
	2.1nm,0.3s						
MTLF	Montolieu	3.32	168	ePg	Pg	06 12 03.1	-0.9
MTLF				eSg	Sg	06 12 45.9	-1.1
	1.0nm,0.3s						
ROSF	Rostrenen	3.54	301	ePn	Pn	06 11 55.7	+0.6
EPF	Esparros	3.63	191	ePg	Pg	06 12 08.5	-1.3
EPF				eSn	Sn	06 12 37.4	-1.6
EPF				eSg	Sg	06 12 55.5	-1.2
	2.7nm,0.3s						
EPF	Esparros	3.63	191	ePg	Pg	06 12 08.5	-1.3
EPF				eSg	Sg	06 12 55.5	-1.2
	1.4nm,0.3s						
HAU	Haudompre	3.73	66	eSg	Sg	06 12 57.5	-2.6
	1.6nm,0.2s,SNR=1.0						
HAU	Haudompre	3.73	66	eSg	Sg	06 12 57.5	-2.6
	0.8nm,0.2s,SNR=1.0						

*ISCJB **16** 06:27:30.1±0.5, 6930N±005×540W±0.1, h10km, mb3.5/10, Error ellipse: s-maj=7.4km s-min=6.7km az=162.2*
*IDC **16** 06:27:31.9±0.8, 6925N×5308W, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML4.0/2, Error ellipse: s-maj=19.4km s-min=15.7km az=177.0*
*NEIC **16** 06:27:33.4±0.6, 6923N×5320W, h10km, ML3.7(OTT), Error ellipse: s-maj=15.5km s-min=10.9km az=152.0*
*OTT **16** 06:27:33.7±0.7, 6935N×5360W, h18km, ML3.7/2, Greenland west coast. Eastern Arctic Background Seismic Zone.*

ISC 16 06:27:32.3±0.5, 6929N±005×537W±01, h10km, n25, σ1§39/36, mb3.5/10, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	Kangerlussuaq	2.58	152	Pn	Pn	06 28 13.8	-0.3
	19nm,0.3s,baz=318,slow=14,SNR=130						
SFJD				Sn	Sn	06 28 46.3	+0.9
	58nm,0.3s,baz=25,slow=11,SNR=14						
SFJD	Kangerlussuaq	2.58	152	i P	Pn	06 28 14.1	+0.1
SFJD				i S	Sn	06 28 46.8	+1.4
SFJD	Kangerlussuaq	2.58	152	PN	Pn	06 28 14.0	-0.1
SFJD				SN	Sn	06 28 45.7	+0.3
SFJD				Trac		06 28 46.8	
	comp=Z,160nm,0.3s						
SUMG	Summit	5.98	50	ePn	Pn	06 28 59.6	-1.3
	50nm,0.6s						
FRB	Frobisher Bay	8.10	234	Pn	Pn	06 29 29.9	-0.1
	2.7nm,0.3s,baz=36,slow=12,SNR=42						
FRB				Sn	Sn	06 30 58.8	-2.8
	2.0nm,0.3s,baz=320,slow=19,SNR=5.4						
FRB	Frobisher Bay	8.10	234	PN	Pn	06 29 29.9	-0.1
FRB				SN	Sn	06 30 59.2	-2.4
FRB				Trac		06 31 01.8	
	comp=Z,6.8nm,0.8s						
PINU	Pond Inlet	8.58	305	PN	Pn	06 29 36.4	-0.1
PINU				SN	Sn	06 31 07.0	-6.4
PINU				Trac		06 31 08.4	
	comp=Z,1.0nm,0.1s						
GIFN	Gifford Fjord,	9.71	287	PN	Pn	06 29 50.6	-1.5
GIFN				SN	Sn	06 31 31.9	-9.2
GIFN				Trac		06 31 35.8	
	comp=Z,3.5nm,0.5s						
RES	Resolute Bay	13.56	312	PN	Pn	06 30 44.7	0.0
RES				SN	Sn	06 33 05.6	-10
LG4Q	La Grande 4	18.31	221	PN	Pn	06 31 44.4	-2.0
YOSQ	Ashton Mining	18.59	217	PN	Pn	06 31 50.0	+0.2
YOSQ				SN	Sn	06 35 06.1	-12
FCC	Fort Churchill	20.14	259	PN	P	06 32 06.3	-0.2
FCC				SN	S	06 35 42.8	-10
SILO	Sutton Inlier	20.52	240	PN	P	06 32 12.0	+1.3
SILO				SN	S	06 35 51.3	-8.9
VIMO	Victor Mine	21.61	236	PN	P	06 32 23.9	+1.5
YKA	Yellowknife Ar	24.76	284	P	P	06 32 56.4	+2.4
	0.2nm,0.4s,mb3.0,baz=51,slow=43,SNR=3.2						
ARCES	ARCESS Array B	26.07	52	P	P	06 33 05.2	-0.7
	2.3nm,0.7s,mb3.8,baz=309,slow=7.8,SNR=4.9						
ARCES	ARCESS Array B	26.07	52	P	P	06 33 05.2	-0.7
INK	Inuvik	27.00	306	P	P	06 33 17.4	+3.0
	0.8nm,1.0s,mb3.2,baz=44,slow=9.8,SNR=4.9						
ULM	Lac du Bonnet	27.64	248	P	P	06 33 22.9	+2.8
	1.2nm,0.6s,mb3.7,baz=19,slow=11,SNR=2.9						
ILAR	Eielson Array	33.29	309	P	P	06 34 13.1	+3.1
	0.4nm,0.9s,mb3.3,baz=21,slow=7.0,SNR=4.9						
PDAR	Pinedale Array	38.80	257	P	P	06 34 59.8	+2.7
	1.1nm,0.6s,mb3.7,baz=39,slow=7.3,SNR=11						
BRTR	Keskin Array B	52.59	76	P	P	06 36 47.0	+0.8
	0.9nm,0.7s,mb3.8,baz=338,slow=3.5,SNR=3.9						
MKAR	Makanchi Array	59.79	34	P	P	06 37 36.1	-1.5
	0.4nm,0.7s,mb3.5,baz=9.5,slow=7.4,SNR=5.5						
SONM	Songino Array	62.28	15	P	P	06 37 55.4	+0.9
	0.1nm,0.4s,mb3.3,baz=330,slow=7.9,SNR=4.0						
TORD	Torodi Ar. Bea	65.92	119	P	P	06 38 17.2	-1.2
	0.3nm,0.4s,mb3.7,baz=336,slow=7.3,SNR=7.4						

KRSC 16 06:35:18.5±0.3, 5380N×16047E, h92km±4km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.65	292	i P	Pn	06 35 36.2	+1.5
KII				eS	Sn	06 35 48.6	+1.8
SPN	Mys Shipunski	0.75	201	i P	Pn	06 35 36.4	+0.7
SPN				i S	Sn	06 35 49.3	+0.8
NLC	Nalytchevo	0.92	227	i P	Pn	06 35 38.2	+0.8
NLC				i S	Sn	06 35 53.0	+1.4
MKZ	Mys Kozlova	1.06	44	i P	Pn	06 35 40.2	+1.2
MKZ				i S	Sn	06 35 56.0	+1.6
SMAR	Somma	1.13	242	i P	Pn	06 35 41.2	+1.4
UGLR	Uglovaya	1.15	240	i P	Pn	06 35 41.3	+1.3
AVH	Avacha	1.17	243	i P	Pn	06 35 41.8	+1.6
AVH				i S	Sn	06 35 58.5	+1.9
KOK	Koryaka	1.21	246	i P	Pn	06 35 42.1	+1.4
PET	Petropavlovsk	1.34	235	i P	Pn	06 35 43.3	+1.0
PET				i S	Sn	06 36 01.2	+0.9
TUMR	Tumrok	1.50	353	i P	Pn	06 35 46.2	+1.9
GNL	Ganaly	1.50	267	i P	Pn	06 35 45.6	+1.2
GNL				eS	Sn	06 36 05.5	+1.5
KRMR	Karymshinskiy	1.71	236	i P	Pn	06 35 47.7	+0.8
KRMR				i S	Sn	06 36 09.1	+0.5
RUS	Russkaya	1.81	222	eP	Pn	06 35 48.2	0.0
RUS				i S	Sn	06 36 10.2	-0.7
GRL	Gorelyy	1.91	230	i P	Pn	06 35 51.1	+1.5
GRL				i S	Sn	06 36 14.6	+1.4
APC	Apacha	2.17	248	i P	Pn	06 35 54.3	+1.3
APC				i S	Sn	06 36 20.4	+1.1
APC				Smax			
	40nm,1.1s						
KPT	Kopyto	2.18	356	i P	Pn	06 35 54.6	+1.6
KOZ	Kozyrevsk	2.29	352	i P	Pn	06 35 55.9	+1.4
CIRR	Tsirk	2.33	4	i P	Pn	06 35 57.1	+2.1
ESO	Esso	2.36	335	i P	Pn	06 35 56.7	+1.2
ESO				Smax			
	80nm,1.3s						
ESO	Esso	2.36	335	i P	Pn	06 35 56.5	+1.0
ESO				Smax			
	70nm,0.9s						
KLY	Klyuchi	2.52	2	i P	Pn	06 35 59.3	+1.7
KLY				i S	Sn	06 36 29.2	+1.6
SRDR	Sredinnyy	2.56	351	i P	Pn	06 35 59.0	+0.9
MIPR	Malaya Ipel'ka	2.71	237	eP	Pn	06 36 01.0	+0.8
KBTR	Krutoberegovo	2.77	28	i P	Pn	06 36 02.0	+1.1
KBTR				eS	Sn	06 36 34.0	+0.5
KBG	Krutoberegovo	2.78	27	eP	Pn	06 36 02.0	+1.0
KBG				eS	Sn	06 36 34.0	+0.2
KBG				Smax			
	360nm,0.6s						
BDR	Baidarnaya	2.81	8	i P	Pn	06 36 03.1	+1.7
SRKR	Sorokina	2.89	8	i P	Pn	06 36 04.0	+1.5
PAU	Pauzhetka	3.23	225	P	Pn	06 36 09.3	+2.2
BKI	Bering	3.50	64	eS	Sn	06 36 48.4	-2.8
BKI				Smax			
	100nm,0.5s						
KAMR	Kamenskoye	9.19	17	eP	Pn	06 37 30.4	+2.2

*SKO **16** 07:00:57.3, 4182N×2188E, h15km, M2.2, ML2.6*
*ISCJB **16** 07:00:57.4±0.3, 4182N±002×2188E±002, h9km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=20.2*
*CSEM **16** 07:00:58.9±0.3, 4177N×2193E, h30km, ML2.7, Error ellipse: s-maj=5.9km s-min=5.6km az=28.0*
*THE **16** 07:00:59.2, 4178N×2193E, h6km, ML2.7*
*NEIC **16** 07:00:59.2, 4178N×2193E, h7km, MD2.8(SOF), After THE.*
*PDG **16** 07:01:14.3±0.3, 4185N×2013E, h0km±1km*

ISC 16 07:00:58.3±0.3, 4181N±003×2188E±002, h11km±4km, n33, σ0§97/63, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	Stip	0.26	117	i Pg	Pg	07 01 02.9	-0.7
STIP				eSg	Sg	07 01 06.5	-0.7
STIP				eLg		07 01 06.7	
	comp=E,496nm,0.4s						
STIP				eLg		07 01 06.8	
	comp=N,989nm,0.3s						
SKO	Skopje	0.36	296	ePg	Pg	07 01 05.8	+0.3
SKO				eLg		07 01 11.1	
	comp=E,352nm,0.2s						
SKO				i Sg	Sg	07 01 11.1	+0.7
SKO				eLg		07 01 11.2	
	comp=N,506nm,0.3s						
SKO	Skopje	0.36	296	ePg	Pg	07 01 06.2	+0.7
SKO				eSg	Sg	07 01 11.1	+0.7
BELI	Belica	0.47	254	i Pg	Pg	07 01 06.4	-1.1
BELI				i		07 01 06.5	
BELI				i Sg	Sg	07 01 14.3	+0.7
KOZJ	Kozjak Brana	0.51	278	i Pg	Pg	07 01 07.0	-1.3
KOZJ				i		07 01 07.2	
KOZJ				i Sg	Sg	07 01 14.1	-1.0
KOZJ				i		07 01 14.2	
SAMO	Samokov	0.56	258	i Pg	Pg	07 01 09.0	-0.2
SAMO				i Sg	Sg	07 01 17.1	+0.4
VAY	Valandovo	0.71	133	i Pg	Pg	07 01 11.2	-0.9
VAY				eSg	Sg	07 01 20.9	-0.5
VAY				eLg		07 01 21.6	
	comp=E,272nm,0.5s						
VAY				eLg		07 01 21.7	
	comp=N,384nm,0.5s						
VAY	Valandovo	0.71	133	ePg	Pg	07 01 11.1	-1.0
VAY				eSg	Sg	07 01 21.7	+0.2
BIA	Bitola	0.89	208	ePg	Pg	07 01 15.2	-0.3
BIA				i Sg	Sg	07 01 27.9	+0.8
	comp=E,109nm,0.2s						
BIA				eLg		07 01 28.1	
	comp=N,109nm,0.3s						
BIA				eLg		07 01 28.2	
BIA	Bitola	0.89	208	ePg	Pg	07 01 15.4	-0.1
BIA				eSg	Sg	07 01 28.7	+1.6
KKB	Krupnik	0.90	86	Pg	Pg	07 01 16.0	+0.3
GRG	Griva	0.94	155	ePg	Pg	07 01 16.6	+0.2
KNT	Kendrikon	1.00	130	ePg	Pg	07 01 16.9	-0.7
KNT				eSg	Sg	07 01 30.8	+0.1
OHR	Ohrid	1.07	230	ePg	Pg	07 01 18.7	-0.2
OHR				i Sg	Sg	07 01 33.4	+0.7
FNA	Florina	1.09	200	ePg	Pg	07 01 19.5	+0.2
FNA				eSg	Sg	07 01 34.8	+1.3
VTS	Vitosha	1.26	51	ePg	Pn	07 01 21.7	0.0
VTS				eSg	Sg	07 01 40.5	+1.6
VTS	Vitosha	1.26	51	Pg	Pg	07 01 21.8	-0.7
VTS				eSg	Sg	07 01 40.5	+1.6
VTS	Vitosha	1.26	51	P	Pn	07 01 21.7	0.0
VTS				Pg	Pg	07 01 21.8	-0.7
MMB	Musomiste	1.40	98	P	Pn	07 01 25.0	+1.3
PUK	Puka	1.50	280	i Pg	Pn	07 01 21.3	-3.7
PUK				i Sg	Pb	07 01 26.5	+0.5
ZAPS	Zavoj/Pirot	1.58	20⇓	i Pn	Pn	07 01 26.6	+0.4
ZAPS				Sn	Sn	07 01 46.7	+0.1
PVY	Plav	1.62	300	ePg	Pg	07 01 28.4	-0.8
PVY				eSg	Sg	07 01 40.4	-10
LACI	Lac	1.63	265	i Pg	Pn	07 01 21.5	-5.3
LACI				i Sg	Pb	07 01 28.0	-0.3
IVA	Berane	1.81	307	ePg	Pg	07 01 32.9	0.0
IVA				eSg	Sg	07 01 49.7	-6.8
ULC	Ulcinj	1.97	275⇑	i Pg	Pn	07 01 27.3	-4.1
ULC				eSg	Pg	07 01 36.7	+0.7
TTG	Podgorica	2.04	288	ePg	Pn	07 01 30.4	-2.1
TTG				eSg

IMP			*e*S	**Sn**	**07 02 13.4**	**-11**
SHL	**Shillong**	**2.35 302**	*e*P	**Pn**	**07 02 38.0**	**+1.7**
SHL			*e*P		07 02 40.9	
SHL			*e*S	**Sn**	**07 03 05.5**	**+1.1**
SHL			*e*S	**Sn**	**07 03 08.4**	**+4.1**
SHL			AML	AML	07 03 10.7	
	comp=E,19μm,0.3s					
SHL			AML	AML	07 03 11.6	
	comp=N,23μm,0.2s					
AGT	**Agartala**	**2.63 261**	*i* x	x	07 03 01.0	
AGT			*i* x	**Sn**	**07 03 20.0**	**+8.8**
LSA	**Lhasa**	**5.95 335**	P	**Pn**	**07 03 26.3**	**+1.1**
LSA			S	**Sn**	**07 04 29.3**	**-2.7**
LSA			Smax			
	comp=N,70nm,0.6s					
LSA			Smax			
	comp=E,100nm,0.6s					
LSA	**Lhasa**	**5.95 335**	*e*P	**Pn**	**07 03 26.1**	**+0.9**
LSA			pmax	pmax		
	comp=Z,33nm,0.4s					
LSA	**Lhasa**	**5.95 335**	*e*Pn	**Pn**	**07 03 26.1**	**+0.9**
	comp=Z,33nm,0.4s					
LSA			*e*Sn	**Sn**	**07 04 17.8**	**-14**
BOK	**Bokaro**	**7.52 268**	*e*P	**Pn**	**07 03 47.1**	**+0.6**
BOK			*e*S	**Sn**	**07 05 09.1**	**-1.1**
BOK			AML	AML	07 05 15.8	
	comp=N,108nm,0.4s					
BOK			AML	AML	07 05 16.6	
	comp=E,53nm,0.3s					
JIRN	**Jiri**	**7.84 297**	*e*Pn	**Pn**	**07 03 52.0**	**+1.1**
JIRN			*e*Sn	**Sn**	**07 05 17.6**	**-0.5**
	comp=E,153nm,0.3s					
JIRN	**Jiri**	**7.84 297**	*e*Pn	**Pn**	**07 03 52.0**	**+1.1**
	comp=E,76nm,0.3s					
JIRN			*e*Sn	**Sn**	**07 05 17.6**	**-0.5**
GUN	**Gumba**	**8.19 298**	*e*Pn	**Pn**	**07 03 57.5**	**+1.8**
GUN			*e*Sn	**Sn**	**07 05 26.3**	**-0.4**
	comp=E,152nm,0.4s					
GUN	**Gumba**	**8.19 298**	*e*Pn	**Pn**	**07 03 57.5**	**+1.8**
	comp=E,76nm,0.4s					
GUN			*e*Sn	**Sn**	**07 05 26.3**	**-0.4**
PKI	**Pulchoki**	**8.45 294**	*e*Pn	**Pn**	**07 04 00.7**	**+1.4**
PKI			*e*Sn	**Sn**	**07 05 30.5**	**-2.5**
	comp=E,45nm,0.3s					
PKI	**Pulchoki**	**8.45 294**	*e*P	**Pn**	**07 04 00.7**	**+1.4**
PKI			*e*		07 05 30.5	
PKI			pmax	pmax		
	comp=Z,23nm,0.3s					
PKI	**Pulchoki**	**8.45 294**	*e*Pn	**Pn**	**07 04 00.7**	**+1.4**
	comp=Z,22nm,0.3s					
PKI			*e*Sn	**Sn**	**07 05 30.5**	**-2.5**
KKN	**Kakani**	**8.64 295**	*e*Pn	**Pn**	**07 04 03.1**	**+1.3**
KKN			*e*Sn	**Sn**	**07 05 35.5**	**-2.0**
	comp=Z,68nm,0.3s					
KKN	**Kakani**	**8.64 295**	*e*P	**Pn**	**07 04 03.1**	**+1.3**
KKN			*e*		07 05 35.5	
KKN			pmax	pmax		
	comp=Z,34nm,0.3s					
KKN	**Kakani**	**8.64 295**	*e*Pn	**Pn**	**07 04 03.1**	**+1.3**
	comp=Z,34nm,0.3s					
KKN			*e*Sn	**Sn**	**07 05 35.5**	**-2.0**
DMN	**Daman**	**8.72 294**	*e*Pn	**Pn**	**07 04 03.9**	**+1.0**
DMN			*e*Sn	**Sn**	**07 05 37.8**	**-1.7**
	comp=Z,37nm,0.3s					
DMN	**Daman**	**8.72 294**	*e*Pn	**Pn**	**07 04 03.9**	**+1.0**
	comp=Z,18nm,0.3s					
DMN			*e*Sn	**Sn**	**07 05 37.8**	**-1.7**
GKN	**Gorkha**	**9.24 295**	*e*Pn	**Pn**	**07 04 10.9**	**+0.8**
GKN			*e*Sn	**Sn**	**07 05 49.6**	**-2.7**
	comp=Z,145nm,0.3s					
GKN	**Gorkha**	**9.24 295**	*e*Pn	**Pn**	**07 04 10.9**	**+0.8**
	comp=Z,72nm,0.3s					
GKN			*e*Sn	**Sn**	**07 05 49.6**	**-2.7**
KOLN	**Koldanda**	**10.03 292**	*e*Pn	**Pn**	**07 04 21.6**	**+0.8**
KOLN			*e*Sn	**Sn**	**07 06 07.4**	**-4.2**
	comp=Z,65nm,0.4s					
KOLN	**Koldanda**	**10.03 292**	*e*Pn	**Pn**	**07 04 21.6**	**+0.8**
	comp=Z,32nm,0.4s					
KOLN			*e*Sn	**Sn**	**07 06 07.4**	**-4.2**
VIS	**Vishakhapatnam**	**12.01 239**	*e*S	**Sn**	**07 06 53.5**	**-6.1**
NGP	**Nagpur**	**14.23 260**	*ex*	**Sn**	**07 07 41.5**	**-12**
LZH	**Lanzhou**	**14.42 33**	*e*P	**Pn**	**07 05 13.3**	**-6.3**
LZH			AMB	AMB		
	comp=Z,19nm,1.3s					
BHPL	**Bhopal**	**15.30 269**	*e*P	**Pn**	**07 05 34.5**	**+3.7**
BHPL			AMb	AMB	07 05 36.2	
	comp=Z,7.5nm,0.2s					
BHPL			*ex*	**S**	**07 08 11.4**	**-19**
QIZ	**Qiongzhong**	**15.56 107**	*e*Pn	**Pn**	**07 05 33.2**	**-0.9**
SONA	**Sohna**	**15.74 288**	*e*P	**Pn**	**07 05 38.8**	**+2.4**
SONA			AMb	AMB	07 05 40.0	
	comp=Z,8.2nm,0.4s					
SONA			*ex*	**S**	**07 08 19.3**	**-20**
GTA	**Gaotai**	**15.79 16**	P	**Pn**	**07 05 36.9**	**-0.1**
GTA			AMB	AMB		
	comp=Z,4.0nm,0.9s					
KUDL	**Kundal**	**16.24 287**	*e*P	**Pn**	**07 05 45.0**	**+2.4**
KUDL			AMb	AMB	07 05 47.5	
	comp=Z,3.3nm,0.6s					
KUDL			*ex*	**S**	**07 08 30.6**	**-19**
SMLA	**Simla**	**16.43 298**	*e*P	**Pn**	**07 05 47.9**	**+2.9**
SMLA			AMb	AMB	07 05 50.5	
	comp=Z,14nm,0.7s					
SMLA			*ex*	**S**	**07 08 42.1**	**-12**
KHET	**Khetri**	**16.83 287**	*e*P	**Pn**	**07 05 53.6**	**+3.8**
KHET			AMb	AMB	07 05 55.3	
	comp=Z,7.2nm,1.4s					
KHET			*ex*	**S**	**07 08 44.6**	**-17**
KULM	**Kulim**	**19.96 161**	*e*P	**Pn**	**07 06 27.0**	**-0.4**
MKAR	**Makanchi Array**	**24.33 340**	P	**P**	**07 07 10.3**	**+0.9**
	comp=Z,0.7nm,0.4s,mb3.4,baz=150,slow=8.9,SNR=20					
SONM	**Songino Array**	**25.41 20**	P	**P**	**07 07 18.4**	**-0.8**
	comp=Z,3.3nm,0.8s,mb3.8,baz=204,slow=9.9,SNR=22					
ULN	**Ulaanbaatar**	**25.64 20**	*e*P	**P**	**07 07 21.3**	**0.0**
ULN			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8					
ULN	**Ulaanbaatar**	**25.64 20**	*e*P	**P**	**07 07 21.3**	**-0.1**
	comp=Z,3.0nm,0.7s,mb3.8					
MBWA	**Marble Bar**	**51.64 149**	*e*P	**P**	**07 10 57.5**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.4					
FINES	**FINESS Array B**	**58.44 328**	P	**P**	**07 11 48.3**	**+1.7**
	comp=Z,2.3nm,1.0s,mb4.1,baz=93,slow=7.5,SNR=2.8					
WRA	**Warramunga Arr**	**58.93 135**	P	**P**	**07 11 49.1**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.4,baz=325,slow=7.5,SNR=24					
WRAB	**Tennant Creek**	**58.93 135**	*e*P	**P**	**07 11 49.1**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6					
WRAB	**Tennant Creek**	**58.93 135**	*e*P	**P**	**07 11 49.1**	**-0.9**
	comp=Z,2.7nm,0.5s,mb4.5					
NWAO	**Narrogin (SRO)**	**61.07 158**	P	**P**	**07 12 04.9**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.8,baz=357,slow=4.9,SNR=8.7					
NWAO	**Narrogin (SRO)**	**61.07 158**	*e*P	**P**	**07 12 04.4**	**-0.2**
NWAO			pmax	pmax		
	comp=Z,4.0nm,0.5s					
NWAO	**Narrogin (SRO)**	**61.07 158**	*e*P	**P**	**07 12 04.4**	**-0.2**
	comp=Z,3.8nm,0.5s,mb4.7					
ASAR	**Alice Springs**	**61.39 138**	P	**P**	**07 12 05.8**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=318,slow=6.7,SNR=22					
ASAR			PcP	PcP	07 12 47.9	-0.3
	comp=Z,0.6nm,0.4s,baz=326,slow=3.8,SNR=4.4					
GERES	**GERESS Array B**	**65.91 314**	pP	pP	07 12 57.7	-0.4
	comp=Z,0.5nm,0.4s,baz=53,slow=6.7,SNR=3.9					
ILAR	**Eielson Array**	**79.60 22**	P	**P**	**07 13 55.4**	**-2.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=292,slow=4.7,SNR=17					
BOSA	**Boshof**	**84.58 235**	pP	pP	07 14 48.2	+2.2
	comp=Z,2.8nm,0.7s,baz=87,slow=11,SNR=4.1					
TORD	**Torodi Ar. Bea**	**86.82 283**	pP	pP	07 14 59.8	+2.6
	comp=Z,1.1nm,0.8s,baz=50,slow=4.2,SNR=6.9					

*NAO **16** 07:06:22.9,4197N×9221E,h33km,mb3.0*
*BJI **16** 07:06:42.1,4345N×8793E,h31km,mB4.8,mb4.7,ML4.5, Ms4.2,Msz3.9*
*IDC **16** 07:06:43.0±0.6,4303N×8821E,h27km±4km,mb3.7/11, mb1 3.9/14,mb1mx3.8/23,mbtmp3.9/14,ML3.3/3,Error ellipse: s-maj=19.9km s-min=11.7km az=50.0*
*MOS **16** 07:06:42.3±1.0,4311N×8809E,h33km,mb4.3/13,Error ellipse: s-maj=13.4km s-min=7.6km az=121.4*
*ISCJB **16** 07:06:43.6±1.3,4316N±008×88.10E±006,h42km±11km, mb4.2/24,MS3.8/1, Error ellipse: s-maj=14.1km s-min=7.1km az=27.5*
*NNC **16** 07:06:44.3±4.5,4314N×8813E,h31km±27km,mb4.1, mpv4.4,Error ellipse: s-maj=30.3km s-min=18.4km az=68.0*
*NEIC **16** 07:06:45.5±1.2,4319N×8814E,h40km±10km,mb4.3/6, Error ellipse: s-maj=16.0km s-min=8.7km az=188.0*
ISC 16 07:06:46.4±1.0,4327N±007×8812E±006,h48km±8km, h31km±3.0km:pP-P,n71,σ1§09/84,mb4.2/24,MS3.8/1, 14C-15D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**5.40**	**312**	⇑Pn	**Pn**	**07 08 05.8**	**+1.4**
	29nm,0.6s,baz=125,slow=13						
MK02				⇑Sn	**Sn**	**07 09 08.5**	**+3.2**
	60nm,0.6s,baz=128,slow=25						
MK02				⇓Lg		07 09 42.2	
	214nm,0.9s,baz=132,slow=26						
MK02	**Makanchi Array**	**5.40**	**312**	⇑Pn	**Pn**	**07 08 05.8**	**+1.3**
	29nm,0.6s						
MK02				Sn	**Sn**	**07 09 08.5**	**+3.2**
MK02				Lg		07 09 42.2	
MKAR	**Makanchi Array**	**5.43**	**312**	Pn	**Pn**	**07 08 06.1**	**+1.3**
	5.1nm,0.3s,baz=124,slow=14,SNR=58						
MKAR				Sn	**Sn**	**07 09 08.5**	**+2.6**
	15nm,0.3s,baz=127,slow=24,SNR=9.3						
MKAR				Lg		07 09 41.7	
	22nm,0.3s,baz=108,slow=27,SNR=5.3						
TKM2	**Tokmak 2**	**9.17**	**272**	⇑Pn	**Pn**	**07 08 55.5**	**-0.5**
	9.3nm,0.8s						
TKM2				⇓Lg		07 11 34.0	
	33nm,0.9s						
TKM2	**Tokmak 2**	**9.17**	**272**	⇑Pn	**Pn**	**07 08 55.5**	**-0.5**
	9.3nm,0.8s						
TKM2				Lg		07 11 34.0	
KURK	**Kurchatov**	**9.87**	**322**	⇓Pn	**Pn**	**07 09 04.8**	**-0.8**
	7.4nm,1.4s						
KURK				⇑Sn	**Sn**	**07 10 53.4**	**-1.6**
	13nm,0.6s						
KURK				⇑Lg		07 12 00.2	
	51nm,0.8s						
KURK	**Kurchatov**	**9.87**	**322**	P	**Pn**	**07 09 05.9**	**+0.3**
KURK						07 10 53.6	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**9.87**	**322**	⇓Pn	**Pn**	**07 09 04.8**	**-0.8**
KURK				Sn	**Sn**	**07 10 53.4**	**-1.6**
KURK				Lg		07 12 00.2	
ZAL	**Zalesovo**	**10.90**	**350**	Pn	**Pn**	**07 09 19.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=303,slow=12,SNR=12						
ZAL				Sn	**Sn**	**07 11 19.4**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=46,slow=23,SNR=7.4						
ZAL				Lg		07 12 38.3	
	comp=Z,0.9nm,0.3s,baz=205,slow=24,SNR=2.7						
ZAL	**Zalesovo**	**10.90**	**350**	P	**Pn**	**07 09 19.8**	**+0.1**
ZAL						07 11 19.5	
SONM	**Songino Array**	**13.59**	**64**	Pn	**Pn**	**07 09 56.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=3.1						
SONM				Lg		07 13 48.8	
	comp=Z,0.1nm,0.3s,baz=264,slow=27,SNR=3.2						
ULN	**Ulaanbaatar**	**14.03**	**64**	⇑*e*P	**Pn**	**07 10 03.6**	**+1.2**
LZH	**Lanzhou**	**14.06**	**115**	*e*P	**Pn**	**07 10 08.4**	**+5.5**
LZH				AP		07 10 13.0	
LZH				XP		07 10 16.4	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,63nm,4.0s						
VOSK	**Vostochnaya**	**14.83**	**316**	⇓P	**Pn**	**07 10 11.4**	**-1.7**
	comp=Z,13nm,1.1s						
VOSK				⇑S	**Sn**	**07 12 52.4**	**-3.8**
	comp=Z,9.0nm,1.1s						
VOSK				⇓Lg		07 14 37.5	
	comp=Z,33nm,1.6s						
VOSK	**Vostochnaya**	**14.83**	**316**	⇓P	**Pn**	**07 10 11.4**	**-1.7**
	comp=Z,13nm,1.1s						
VOSK				S	**Sn**	**07 12 52.4**	**-3.8**
VOSK				Lg		07 14 37.5	
BVA0	**Borovoye Array**	**15.30**	**316**	P	**Pn**	**07 10 24.1**	**+5.0**
	comp=Z,2.1nm,0.7s,baz=126,slow=12,SNR=5.8						
BVA0				⇑S	**S**	**07 13 01.7**	**-20**
	comp=Z,0.3nm,0.6s,baz=115,slow=22,SNR=5.5						
BVA0	**Borovoye Array**	**15.30**	**316**	*i* P	**Pn**	**07 10 24.1**	**+5.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVA0	**Borovoye Array**	**15.30**	**316**	P	**Pn**	**07 10 24.1**	**+5.0**
	comp=Z,2.1nm,0.6s						
BVA0				S	**S**	**07 13 01.7**	**-20**
BVAR	**Borovoye Array**	**15.30**	**316**	Pn	**Pn**	**07 10 18.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=121,slow=12,SNR=12						
BVAR				Sn	**Sn**	**07 13 04.4**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=115,slow=24,SNR=6.0						
BVAR				Lg		07 14 55.8	
	comp=Z,0.2nm,0.3s,baz=99,slow=27,SNR=2.7						
BVAR	**Borovoye Array**	**15.30**	**316**	P	**Pn**	**07 10 18.5**	**-0.6**
BVAR						07 13 04.4	
BRVK	**Borovoye**	**15.37**	**316**	*e*P	**Pn**	**07 10 19.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	**Borovoye**	**15.37**	**316**	*e*Pn	**Pn**	**07 10 19.7**	**-0.3**
	comp=Z,11nm,0.8s						
ZRNK	**Zerenda**	**15.98**	**314**	⇓P	**Pn**	**07 10 27.2**	**-0.6**
	comp=Z,6.7nm,0.6s						
ZRNK				⇓S	**S**	**07 13 18.5**	**-17**
	comp=Z,10.0nm,1.3s						
ZRNK				⇓Lg		07 15 15.0	
	comp=Z,20nm,1.1s						
ZRNK	**Zerenda**	**15.98**	**314**	*e*P	**Pn**	**07 10 27.3**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,153nm,1.1s						
ZRNK	**Zerenda**	**15.98**	**314**	*e*P	**Pn**	**07 10 27.3**	**-0.5**
	comp=Z,153nm,1.1s						
AB31	**Akbulak array**	**20.31**	**297**	⇓P	**P**	**07 11 18.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=98,slow=11,SNR=23						
AB31	**Akbulak array**	**20.31**	**297**	⇓P	**P**	**07 11 18.2**	**-0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31	**Akbulak array**	**20.31**	**297**	⇓P	**P**	**07 11 18.2**	**-0.1**
	comp=Z,1.6nm,0.5s						
AKTK	**Aktyubinsk**	**21.69**	**300**	⇑P	**P**	**07 11 34.4**	**+1.3**
AKTO	**Aktyubinsk**	**21.69**	**300**	⇑P	**P**	**07 11 34.4**	**+1.3**
	comp=Z,1.4nm,1.4s,mb3.2						
AKTO	**Aktyubinsk**	**21.69**	**300**	P	**P**	**07 11 32.9**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.0,baz=102,slow=16,SNR=11						
AKTO	**Aktyubinsk**	**21.69**	**300**	P	**P**	**07 11 32.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BOD	**Bodaibo**	**21.78**	**39**	*e*P	**P**	**07 11 34.4**	**+0.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
ARU	**Arti**	**22.95**	**315**	⇓*i*P	**P**	**07 11 46.8**	**+0.4**
ARU				*e*PPP		07 12 18.0	
ARU				*e*S	**S**	**07 15 54.3**	**+1.3**
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
ARU	**Arti**	**22.95**	**315**	*e*P	**P**	**07 11 46.3**	**-0.1**
	comp=Z,18nm,0.8s,mb4.6						
NJ2	**Nanjing**	**26.64**	**105**	*e*P	**P**	**07 12 21.9**	**+1.4**
NJ2				AP	pP	07 12 33.0	0.0
NJ2				XP	sP	07 12 37.9	-0.8
NJ2				PP		07 13 08.5	
NJ2				S	**S**	**07 16 52.0**	**-0.1**
NJ2				XS	sS	07 17 12.0	-1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
NJ2				LR	LR		
	comp=N,750nm,21.1s						
NJ2				LR	LR		
	comp=E,440nm,27.8s						
NJ2				LR	LR		
	comp=Z,500nm,31.0s						
HABR	**Khabarovsk**	**32.68**	**64**	*i* P	**P**	**07 13 12.5**	**-1.5**
HABR				*e*S	**S**	**07 18 27.0**	**+0.2**
KLMR	**Klimovskoe**	**33.69**	**319**	*e*P	**P**	**07 13 23.3**	**+0.5**
KLMR				pmax	pmax		
	comp=Z,50nm,2.7s,mb5.0						
TIXI	**Tiksi**	**34.61**	**21**	⇓*e*P	**P**	**07 13 31.5**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
OBN	**Obninsk**	**34.92**	**308**	⇑*e*P	**P**	**07 13 31.7**	**-1.7**
OBN				*e*		07 14 48.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,11.0s,MS3.8						
FINES	**FINESS Array B**	**40.23**	**319**	P	**P**	**07 14 19.3**	**+1.1**
	comp=Z,0.7nm,0.4s,mb3.7,baz=90,slow=7.6,SNR=7.0						
FINES	**FINESS Array B**	**40.23**	**319**	P	**P**	**07 14 19.3**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**40.35**	**284**	P	**P**	**07 14 20.3**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=97,slow=8.4,SNR=6.3						
BRTR	**Keskin Array B**	**40.35**	**284**	P	**P**	**07 14 20.3**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.75**	**331**	P	**P**	**07 14 23.3**	**+0.7**
	comp=Z,2.7nm,0.8s,mb3.9,baz=80,slow=7.4,SNR=9.0						
ARCES	**ARCESS Array B**	**40.75**	**331**	P	**P**	**07 14 23.3**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	**Bilibino**	**46.43**	**31**	⇑*e*P	**P**	**07 15 15.1**	**+6.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
NB2	**NORSAR Subarra**	**47.38**	**320**	P	**P**	**07 15 15.7**	**0.0**
	comp=Z,0.1nm,0.5s,mb3.0,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**47.38**	**320**	P	**P**	**07 15 15.9**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=75,slow=7.6,SNR=4.6						
NOA	**NORSAR Array B**	**47.38**	**320**	P	**P**	**07 15 15.9**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DAV	**Davao City (W)**	**48.78**	**127**	*e*P	**P**	**07 15 25.4**	**-1.1**
	comp=Z,13nm,0.9s,mb5.0						
GERES	**GERESS Array B**	**50.03**	**304**	P	**P**	**07 15 36.1**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=45,slow=7.5,SNR=4.2						
HINF	**Hinteralfeld**	**54.60**	**305**	*e*P	**P**	**07 16 10.9**	**+1.0**
	comp=Z,4.4nm,0.6s,mb4.4						
HAU	**Haudompre**	**54.81**	**306**	*e*P	**P**	**07 16 11.7**	**+0.2**
MBDF	**Montbardon**	**56.13**	**302**	*e*P	**P**	**07 16 23.4**	**+2.5**
	comp=Z,19nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	**56.58**	**302**	*e*P	**P**	**07 16 24.0**	**-0.2**
LOR	**Lormes**	**56.96**	**305**	*e*P	**P**	**07 16 24.4**	**-0.2**
	comp=Z,7.8nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**56.96**	**305**	*e*P	**P**	**07 16 27.1**	**+0.3**
	comp=Z,8.3nm,0.6s,mb4.7						
AVF	**Avril sur Loir**	**57.18**	**305**	*e*P	**P**	**07 16 28.4**	**0.0**
TCF	**Toulx Ste Croi**	**58.11**	**305**	*e*P	**P**	**07 16 35.4**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**64.06**	**23**	P	**P**	**07 17 15.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=318,slow=5.1,SNR=17						
ILAR				pP	pP	07 17 23.8	-5.0
	comp=Z,0.6nm,0.7s,baz=320,slow=4.8,SNR=4.7						
ILAR	**Eielson Array**	**64.06**	**23**	P	**P**	**07 17 15.1**	**-0.1**
ILAR				*PP	pP	07 17 23.8	-5.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**73.02**	**11**	P	**P**	**07 18 11.0**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=336,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**73.02**	**11**	P	**P**	**07 18 11.0**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**75.88**	**136**	P	**P**	**07 18 26.2**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=337,slow=5.4,SNR=12						
WRA				pP	pP	07 18 34.1	-7.6
	comp=Z,1.4nm,0.7s,baz=337,slow=5.8,SNR=10						
WRA	**Warramunga Arr**	**75.88**	**136**	P	**P**	**07 18 26.2**	**-1.6**
WRA				*PP	pP	07 18 34.1	-7.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.54**	**277**	P	**P**	**07 18 41.5**	**-1.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=47,slow=4.0,SNR=3.7						
TORD				pP	pP	07 18 51.4	-5.2
	comp=Z,0.6nm,0.5s,baz=38,slow=4.9,SNR=4.1						
ASAR	**Alice Springs**	**78.79**	**138**	P	**P**	**07 18 41.7**	**-2.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=331,slow=4.8,SNR=6.9						
ASAR				pP	pP	07 18 50.8	-7.2
	comp=Z,0.9nm,0.7s,baz=337,slow=5.8,SNR=6.8						
ASAR	**Alice Springs**	**78.79**	**138**	P	**P**	**07 18 41.7**	**-2.3**
ASAR				*PP	pP	07 18 50.8	-7.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**146.35**	**316**	PKPbc	PKPbc	07 26 22.2	+0.4
	comp=Z,0.6nm,0.5s,baz=29,slow=6.4,SNR=5.0						
LPAZ	**La Paz**	**146.35**	**316**	PKP2	PKPab	07 26 22.3	-0.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **16** 07:11:25.1±1.4,6205×14701E,h0km,mb3.5/2,mb1 3.8/4, mb1mx3.6/13,mbtmp3.6/4,ML2.9/2,Error ellipse: s-maj=46.8km s-min=17.0km az=92.0*
*NEIC **16** 07:11:26.1±0.9,6.13S×14683E,h10km,mb3.7/1,Error ellipse: s-maj=25.9km s-min=12.7km az=104.0*
*ISCJB **16** 07:11:28.0±1.4,6.12S±010×1467E±02,h33km,mb3.5/2, Error ellipse: s-maj=24.7km s-min=13.5km az=161.8*
ISC 16 07:11:29.7±1.5,608S±010×1467E±02,h35km,n7,σ0§78/9, mb3.5/2,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**173**	Pn	**Pn**	**07 12 16.0**	**-3.2**
	4.5nm,0.3s,baz=11,slow=9.0,SNR=9.4						
PMG				Pg	**Pn**	**07 12 23.3**	**+4.1**
	12nm,0.3s,baz=4.4,slow=4.4,SNR=20						
PMG				Sn	**Sn**	**07 12 57.9**	**+0.4**
	6.7nm,0.3s,baz=217,slow=22,SNR=6.8						
PMG				Lg		07 13 06.7	
	8.1nm,0.3s,baz=57,slow=20,SNR=6.7						
PMG	**Port Moresby**	**3.33**	**173**	*e*Pn	**Pn**	**07 12 17.3**	**-1.9**
PMG				*e*Sn	**Sn**	**07 12 58.0**	**+0.5**

JTKR *eS* **S** **07 41 31.3 +0.7**
JMP Maruseppu 4.57 229 P **P** **07 40 30.8 +1.3**
JAK Akkeshi 4.78 212 P **P** **07 40 31.0 -0.4**
JAK *eS* **S** **07 41 36.8 -1.6**
JAR Ashorobuto 4.91 221 P **P** **07 40 33.7 +1.1**
ASAJ Asahikawa 4.91 235 P **P** **07 40 35.5 +2.9**
ASAJ Asahikawa 4.91 235 P **P** **07 40 34.7 +2.1**
comp=Z,2.9nm,0.3s,baz=82,slow=10,SNR=14
ASAJ Asahikawa 4.91 235 PN **P** **07 40 34.7 +2.1**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
JOB Onbets 5.20 218 *eS* **S** **07 41 45.5 -0.2**
JFR Furan 5.57 227 P **P** **07 40 41.2 +2.1**
JCH Churui 5.63 219 P **P** **07 40 40.4 +0.6**
JCH *eS* **S** **07 41 52.3 -1.4**
JBT2 Biratori 2 5.96 226 P **P** **07 40 45.2 +2.1**
JBT2 *eS* **S** **07 41 58.4 -1.4**
JNBK Urakawa-nobuka 6.17 221 P **P** **07 40 45.8 +0.6**
JNBK *eS* **S** **07 42 00.9 -2.7**
JEM Erimo 6.21 217 P **P** **07 40 46.8 +1.1**
JEM *eS* **S** **07 42 01.4 -3.1**
JNB Noboribetsu 6.86 230 P **P** **07 40 54.8 +2.4**
JNB *eS* **S** **07 42 16.6 -0.3**
JKB Kayabe 7.29 227 P **P** **07 40 58.5 +1.6**
JKB *eS* **S** **07 42 24.0 -1.1**
JANG Nango 8.27 218 *eS* **S** **07 42 44.3 -0.2**
JTH Tanohata 8.49 215 *eS* **S** **07 42 50.8 +1.8**
OFUJ Ofunato 9.31 213 *eS* **S** **07 43 05.3 -0.1**
KLR Kul'dur 11.16 287 *ePN* **P** **07 41 37.2 -1.7**
MJAR Matsushiro Arr 12.89 219 P **P** **07 42 07.5 +10**
comp=Z,1.3nm,0.3s,baz=21,slow=11,SNR=12
MJAR Matsushiro Arr 12.89 219 P **P** **07 42 07.5 +10**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MCK McKinley 37.59 41 *eP* **P** **07 45 43.4 -0.5**
comp=Z,0.9nm,0.7s,mb3.3
ILAR Eielson Array 38.40 39 P **P** **07 45 49.5 -1.0**
comp=Z,1.7nm,0.5s,mb3.7,baz=253,slow=6.2,SNR=45
ILAR Eielson Array 38.40 39 P **P** **07 45 49.6 -0.9**
ILAR pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 43.17 32 P **P** **07 46 27.4 -1.4**
comp=Z,0.6nm,0.3s,mb3.5,baz=138,slow=1.3,SNR=15
INK Inuvik 43.17 32 P **P** **07 46 27.4 -1.4**
INK pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 43.17 32 P **P** **07 46 27.4 -1.4**
YKA Yellowknife Ar 52.64 35 P **P** **07 47 39.6 -0.5**
comp=Z,0.6nm,0.4s,mb3.3,baz=302,slow=7.2,SNR=11
YKA Yellowknife Ar 52.64 35 P **P** **07 47 39.6 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 56.35 339 P **P** **07 48 05.3 -1.0**
comp=Z,4.7nm,1.0s,mb3.8,baz=56,slow=4.4,SNR=5.5
ARCES ARCESS Array B 56.35 339 P **P** **07 48 05.3 -1.0**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 62.21 333 P **P** **07 48 45.6 -0.2**
comp=Z,1.7nm,0.5s,mb3.7,baz=39,slow=8.9,SNR=13
FINES FINESS Array B 62.21 333 P **P** **07 48 45.6 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FCC Fort Churchill 62.78 31 *eP* **P** **07 48 49.4 -0.1**
comp=Z,0.9nm,0.4s,mb3.6
NOA NORSAR Array B 66.73 339 P **P** **07 49 14.5 -0.1**
comp=Z,0.7nm,0.4s,mb3.6,baz=28,slow=6.5,SNR=2.8
NOA NORSAR Array B 66.73 339 P **P** **07 49 14.5 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 67.23 51 P **P** **07 49 20.9 +3.2**
comp=Z,1.2nm,0.6s,mb3.7,baz=31,slow=1.2,SNR=12
AKASG Malin Array Be 69.30 323 P **P** **07 49 31.1 +0.8**
comp=Z,1.1nm,0.4s,mb3.7,baz=34,slow=6.4,SNR=5.8
AKASG Malin Array Be 69.30 323 P **P** **07 49 31.1 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s

*IDC **16** 07:40:06.7±0.7, 961N×5775E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.1/18, ML4.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.5/15, Error ellipse: s-maj=18.6km s-min=15.7km az=148.0*
*MOS **16** 07:40:06.8±1.3, 963N×5766E, h10km, mb4.9/1, Error ellipse: s-maj=19.6km s-min=13.6km az=57.5*
*ISCJB **16** 07:40:07.5±0.5, 976N±007×5762E±006, h10km, mb4.2/22, MS3.7/4, Error ellipse: s-maj=9.6km s-min=8.7km az=7.9*
*NEIC **16** 07:40:08.7±0.5, 959N×5763E, h10km, mb4.7/5, Error ellipse: s-maj=13.9km s-min=8.5km az=160.0*
*CSEM **16** 07:40:12.1±0.1, 983N×5753E, h40km, mb4.7/5, Error ellipse: s-maj=3.9km s-min=2.9km az=179.0*
*OMAN **16** 07:40:58.5, 1334N×5716E, h30km, Error ellipse: s-maj=127.4km s-min=7.0km az=342.0*
ISC 16 07:40:09.6±0.5, 972N±007×5763E±006, h10km, n46, σ1§25/42, mb4.2/22, MS3.7/4, 3C-4D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	**Rabkut**	**8.42**	**337**	⇑P	**Pn**	**07 42 12.7**	**+1.0**
SHAO	**Shalim**	**8.48**	**347**	⇓P	**Pn**	**07 42 12.3**	**-0.2**
ABTO	**Aybut**	**8.68**	**331**	⇑P	**Pn**	**07 42 16.5**	**+1.3**
	SNR=10						
WHFO	**Wadi Hawf**	**8.97**	**336**	⇑P	**Pn**	**07 42 20.0**	**+0.9**
	SNR=8.8						
WHFO	**Wadi Hawf**	**8.97**	**336**	P	**Pn**	**07 42 20.0**	**+0.8**
	SNR=8.8						
SMDO	**Samad**	**13.27**	**2**	⇓P	**Pn**	**07 43 17.6**	**-0.4**
HOQ	**Hoqain**	**13.79**	**359**	⇓P	**Pn**	**07 43 23.2**	**-1.9**
ATD	**Arta Tunnel**	**14.64**	**278**	Pn	**Pn**	**07 43 38.6**	**+1.9**
	1.0nm,0.3s,baz=55,slow=22,SNR=2.7						
ATD				LR	LR	07 47 54.5	
	comp=Z,84nm,20.5s,baz=88,slow=32						
ASHO	**Ashiyiah**	**14.96**	**354**	⇓P	**Pn**	**07 43 38.5**	**-2.6**
BANOM	**Banah**	**16.16**	**356**	P	**Pn**	**07 43 54.4**	**-2.4**
	SNR=62						
KMBO	**Kilima Mbogo**	**22.97**	**243**	P	**P**	**07 45 14.1**	**-0.1**
	3.0nm,0.9s,mb3.7,baz=57,slow=15,SNR=8.8						
KMBO				LR	LR	07 52 46.0	
	comp=Z,120nm,20.9s,MS3.3,baz=77,slow=33						
KOLN	**Koldanda**	**30.34**	**50**	*eP*	**P**	**07 46 22.5**	**+1.2**
	21nm,0.9s,mb4.8						
GKN	**Gorkha**	**31.24**	**51**	*eP*	**P**	**07 46 30.4**	**+1.1**
DMN	**Daman**	**31.41**	**52**	*eP*	**P**	**07 46 32.1**	**+1.3**
	18nm,0.9s,mb4.9						
PKI	**Pulchoki**	**31.63**	**52**	*eP*	**P**	**07 46 34.0**	**+1.3**
	19nm,0.9s,mb4.9						
PKI	**Pulchoki**	**31.63**	**52**	*eP*	**P**	**07 46 34.0**	**+1.3**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
KKN	**Kakani**	**31.63**	**52**	*eP*	**P**	**07 46 34.4**	**+1.6**
GUN	**Gumba**	**32.15**	**52**	*eP*	**P**	**07 46 38.8**	**+1.4**
	comp=Z,26nm,0.9s,mb5.0						
JIRN	**Jiri**	**32.28**	**53**	*eP*	**P**	**07 46 39.7**	**+1.3**
	comp=Z,20nm,0.9s,mb4.9						
GNI	**Garni**	**32.40**	**341**	P	**P**	**07 46 40.5**	**+1.1**
	comp=Z,2.8nm,0.5s,mb4.3,baz=26,slow=24,SNR=4.0						
GNI	**Garni**	**32.40**	**341**	P	**P**	**07 46 40.5**	**+1.0**
BRTR	**Keskin Array B**	**36.73**	**328**	P	**P**	**07 47 18.2**	**+1.2**
	comp=Z,1.0nm,0.9s,mb3.7,baz=149,slow=7.2,SNR=4.5						
BRTR				PP	PP	07 48 39.0	-1.6
	comp=Z,0.6nm,0.7s,baz=133,slow=14,SNR=3.1						
BRTR	**Keskin Array B**	**36.73**	**328**	PP	PP	07 48 39.0	-1.6
IDI	**Anoyia**	**39.21**	**316**	P	**P**	**07 47 38.4**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.5,baz=184,slow=20,SNR=3.5						
AKTK	**Aktyubinsk**	**40.59**	**0**	P	**P**	**07 47 49.4**	**0.0**
AKTK	**Aktyubinsk**	**40.59**	**0**	P	**P**	**07 47 49.4**	**0.0**
AKTO	**Aktyubinsk**	**40.59**	**0**	P	**P**	**07 47 49.4**	**0.0**
	comp=Z,4.3nm,0.9s,mb4.1,baz=192,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**42.49**	**25**	P	**P**	**07 48 04.1**	**-0.9**
	comp=Z,1.2nm,0.9s,mb3.5,baz=211,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	**42.49**	**25**	P	**P**	**07 48 04.1**	**-0.9**
BVAR	**Borovoye Array**	**44.40**	**11**	P	**P**	**07 48 19.2**	**-1.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=162,slow=4.7,SNR=6.7						
BVAR				PcP	PcP	07 50 02.5	-1.6
	comp=Z,0.2nm,0.4s,baz=195,slow=4.5,SNR=2.7						
BVAR	**Borovoye Array**	**44.40**	**11**	PcP	PcP	07 50 02.5	-1.6
AKASG	**Malin Array Be**	**47.09**	**336**	P	**P**	**07 48 41.0**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=152,slow=6.9,SNR=5.3						
ZAL	**Zalesovo**	**49.17**	**21**	P	**P**	**07 48 55.7**	**-2.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=248,slow=6.8,SNR=11						
ZAL				LR	LR	08 09 49.0	
	comp=Z,52nm,18.7s,MS3.5,baz=180,slow=36						
ZAL	**Zalesovo**	**49.17**	**21**	P	**P**	**07 48 55.7**	**-2.0**
ZAL				LR	LR	08 09 49.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**49.30**	**218**	P	**P**	**07 48 56.4**	**-2.2**
	comp=Z,2.1nm,0.6s,mb4.4,baz=315,slow=1.4,SNR=4.9						
BOSA				LR	LR	08 06 19.9	
	comp=Z,170nm,20.3s,MS4.0,baz=24,slow=32						
BOSA	**Boshof**	**49.30**	**218**	P	**P**	**07 48 56.4**	**-2.3**
BOSA				LR	LR	08 06 19.9	
TORD	**Torodi Ar. Bea**	**54.84**	**279**	P	**P**	**07 49 40.8**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=92,slow=5.9,SNR=16						
SONM	**Songino Array**	**55.82**	**38**	P	**P**	**07 49 45.8**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=242,slow=7.3,SNR=9.8						
SONM				LR	LR	08 13 45.2	
	comp=Z,78nm,19.8s,MS3.8,baz=243,slow=36						
DBIC	**Dimbokro**	**61.85**	**272**	P	**P**	**07 50 28.5**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.4,baz=78,slow=6.8,SNR=7.5						
ESDC	**Sonseca Array**	**62.05**	**310**	P	**P**	**07 50 29.3**	**-1.0**
	comp=Z,0.5nm,0.4s,mb4.0,baz=96,slow=6.3,SNR=3.7						
MJAR	**Matsushiro Arr**	**76.74**	**55**	P	**P**	**07 51 58.8**	**-2.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=253,slow=1.4,SNR=4.7						
WRA	**Warramunga Arr**	**81.01**	**112**	P	**P**	**07 52 24.0**	**-0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=298,slow=4.1,SNR=8.3						
ASAR	**Alice Springs**	**81.52**	**116**	P	**P**	**07 52 27.1**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=292,slow=5.4,SNR=14						
ASAR	**Alice Springs**	**81.52**	**116**	P	**P**	**07 52 27.0**	**-0.3**
PLCA	**Paso Flores**	**124.90**	**227**	PKP	PKPdf	07 59 08.6	-1.2
	comp=Z,1.8nm,0.9s,baz=324,slow=5.0,SNR=2.9						
PDAR	**Pinedale Array**	**126.47**	**348**	PKP	PKPdf	07 59 12.3	-0.5
	comp=Z,1.0nm,0.8s,baz=63,slow=2.6,SNR=12						

*ISCJB **16** 08:16:49.3±2.0, 164S±02×1743W±02, h99km±22km, mb3.8/7, Error ellipse: s-maj=39.9km s-min=18.8km az=80.8*
*IDC **16** 08:16:51.6±2.8, 1648S×17422W, h109km±28km, mb3.6/6, mb1 3.9/7, mb1mx3.7/15, mbtmp4.0/7, Error ellipse: s-maj=45.4km s-min=17.3km az=135.0*
*NEIC **16** 08:16:51.6±1.5, 1645S×17424W, h108km±16km, mb4.0/1, Error ellipse: s-maj=26.6km s-min=14.0km az=130.0*
ISC 16 08:16:51.1±1.9, 164S±02×1742W±02, h104km±21km, n10, σ0§92/12, mb3.8/7, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.40**	**43**	P	**Pn**	**08 17 44.1**	**+1.8**
	79nm,0.3s,baz=256,slow=4.2,SNR=87						
AFI				S	**Sn**	**08 18 20.3**	**-1.5**
	287nm,0.3s,baz=61,slow=22,SNR=24						
AFI	**Afiamalu**	**3.40**	**43**	⇑*e*Pn	**Pn**	**08 17 43.9**	**+1.7**
AFI				S	**Sn**	**08 18 20.3**	**-1.5**
URZ	**Urewera**	**23.07**	**198**	P	**P**	**08 21 47.4**	**-0.2**
	4.1nm,0.4s,mb4.1,baz=12,slow=9.3,SNR=8.5						
STKA	**Stephens Creek**	**42.90**	**241**	P	**P**	**08 24 37.6**	**-1.6**
	2.1nm,0.5s,mb4.1,baz=84,slow=8.2,SNR=6.6						
STKA	**Stephens Creek**	**42.90**	**241**	*eP*	**P**	**08 24 38.2**	**-1.0**
WRA	**Warramunga Arr**	**48.90**	**258**	P	**P**	**08 25 26.5**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=92,slow=7.5,SNR=8.3						
ASAR	**Alice Springs**	**49.10**	**253**	P	**P**	**08 25 28.4**	**+0.5**
	1.9nm,0.7s,mb4.1,baz=90,slow=8.2,SNR=29						
QSPA	**South Pole Qui**	**73.62**	**180**	*eP*	**P**	**08 28 13.0**	**-0.1**
	2.5nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**83.51**	**42**	P	**P**	**08 29 08.1**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=217,slow=3.6,SNR=9.7						
ILAR	**Eielson Array**	**83.59**	**11**	P	**P**	**08 29 07.6**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=218,slow=5.2,SNR=14						

IDC 16 08:32:10.9±4.3, 1956S×17737W, h0km, mb4.1/4, mb1 4.4/4, mb1mx4.0/13, mbtmp4.1/4, Error ellipse: s-maj=187.5km s-min=32.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.73**	**243**	P	P	08 39 36.3	-0.5
	1.8nm,0.4s,baz=65,slow=10.0,SNR=4.3						
WB2	**Warramunga Arr**	**45.31**	**261**	*eP*	P	08 40 31.3	+0.8
ASAR	**Alice Springs**	**45.32**	**256**	P	P	08 40 31.2	+0.7
	3.4nm,0.6s,baz=97,slow=8.3,SNR=82						
WRA	**Warramunga Arr**	**45.33**	**261**	P	P	08 40 31.1	+0.4
	0.9nm,0.3s,baz=96,slow=7.5,SNR=24						
ILAR	**Eielson Array**	**87.27**	**13**	P	P	08 44 59.0	-0.5
	0.4nm,0.6s,baz=228,slow=5.0,SNR=11						

*ATH **16** 09:03:36.8, 4138N×2006E, h2km, MD3.8/7*
*TIR **16** 09:03:39.6, 4105N×2016E, h12km*
*ISCJB **16** 09:03:40.4±0.4, 4106N±002×2023E±002, h1km±3km, mb3.3/1, Error ellipse: s-maj=3.1km s-min=2.3km az=105.7*
*IDC **16** 09:03:40.2±2.1, 4114N×2035E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.4/22, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=50.5km s-min=19.7km az=50.0*
*SKO **16** 09:03:40.5, 4101N×2014E, h2km, M2.9, ML3.3*
*PDG **16** 09:03:41.2±0.4, 4104N×2018E, h4km±1km*
*CSEM **16** 09:03:41.5±0.1, 4112N×2025E, h5km, ML3.4, Error ellipse: s-maj=1.8km s-min=1.2km az=51.0*
*NEIC **16** 09:03:41.2, 4104N×2018E, h4km, MD3.2(SOF), ML3.4(CSEM), ML3.6(PDG), After PDG.*
*THE **16** 09:03:42.9, 4111N×2039E, h10km, ML3.4*
*SOF **16** 09:03:51.5, 4135N×2135E, h2km, MD3.2*
ISC 16 09:03:41.2±0.4, 4105N±002×2024E±002, h0km±3km, n90, σ1§39/134, mb3.3/1, 8C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.43**	**82**	*e*Pg	**Pg**	**09 03 49.4**	**0.0**
OHR	**Ohrid**	**0.43**	**82**	*i* Pg	**Pg**	**09 03 49.2**	**-0.2**
OHR				*i* Sg	**Sg**	**09 03 57.1**	**+2.1**
KBN	**Korca**	**0.60**	**135**	*i* Pg	**Pg**	**09 03 53.2**	**+0.6**
KBN				*i* Sg	**Sg**	**09 04 03.5**	**+3.1**
LACI	**Lac**	**0.71**	**326**	*i* Pg	**Pg**	**09 03 53.6**	**-1.1**
LACI				*i* Sg	**Sg**	**09 04 05.2**	**+1.3**
LACI	**Lac**	**0.71**	**326**	*i* Sg	**Sg**	**09 04 05.2**	**+1.3**
BIA	**Bitola**	**0.82**	**92**	*e*Pg	**Pg**	**09 03 56.1**	**-0.8**
BIA	**Bitola**	**0.82**	**92**	*i* Pg	**Pg**	**09 03 56.0**	**-0.9**
BIA				*i* Sg	**Sg**	**09 04 08.4**	**+0.7**
BIA				*e*Lg		09 04 08.6	
	comp=N,749nm,0.6s						
BIA				*e*Lg		09 04 09.9	
	comp=E,833nm,0.3s						
FNA	**Florina**	**0.90**	**107**	*e*Pg	**Pg**	**09 03 58.4**	**-0.1**
FNA				*e*Sg	**Sg**	**09 04 10.9**	**+0.7**
SAMO	**Samokov**	**0.94**	**46**	*i* Pg	**Pg**	**09 03 58.3**	**-0.8**
SAMO				*i*		09 03 58.5	
SAMO				*i*		09 03 58.6	
SAMO				*i*		09 03 59.5	
SAMO				*i*		09 04 11.9	
SAMO				*i* Sg	**Sg**	**09 04 12.5**	**+1.3**
LSK	**Leskovik**	**0.94**	**163**	*i* Pg	**Pg**	**09 03 58.3**	**-0.9**
LSK				*i* Sg	**Sg**	**09 04 14.1**	**+2.7**
BELI	**Belica**	**1.01**	**51**	*i* Pg	**Pg**	**09 03 58.9**	**-1.6**
BELI				*i*		09 03 59.2	
BELI				*i*		09 04 00.1	
BELI				*i* Sg	**Sg**	**09 04 17.0**	**+3.5**
BELI				*i*		09 04 18.1	
KKS	**Kukesi**	**1.03**	**7**	*i* Pg	**Pg**	**09 04 00.0**	**-1.0**
KKS				*i* Sg	**Sg**	**09 04 15.2**	**+0.8**
SDA	**Shkodra**	**1.14**	**331**	*i* Pn	**Pn**	**09 04 02.0**	**-2.4**
SDA				*i* Sn	**Sn**	**09 04 20.8**	**0.0**
ULC	**Ulcinj**	**1.18**	**321**	⇓*i* Pg	**Pg**	**09 04 02.3**	**-1.4**
ULC				*e*Sg	**Sg**	**09 04 20.7**	**+1.8**
SKO	**Skopje**	**1.29**	**44**	*e*Pg	**Pg**	**09 04 05.8**	**-0.1**
SKO				*e*Sg	**Sg**	**09 04 23.5**	**+0.8**
SKO	**Skopje**	**1.29**	**44**	*e*Pg	**Pg**	**09 04 05.5**	**-0.5**
SKO				*i* Sg	**Sg**	**09 04 23.4**	**+0.7**
SKO				*e*Lg		09 04 23.7	
	comp=N,1μm,0.3s						
SKO				*e*Lg		09 04 23.7	
	comp=E,960nm,0.8s						
SKO	**Skopje**	**1.29**	**44**	*e*Pg	**Pg**	**09 04 05.8**	**-0.1**
SKO				*e*Sg	**Sg**	**09 04 23.5**	**+0.8**
BCI	**Bajram Curri**	**1.32**	**355**	*i* Pn	**Pn**	**09 04 06.0**	**-0.9**
BCI				*i* Sn	**Sn**	**09 04 25.0**	**-0.2**
KEK	**Kerkira**	**1.38**	**194**	*e*PB	**Pb**	**09 04 08.1**	**+0.3**
KEK				*e*SB	**Sb**	**09 04 31.2**	**+5.3**
KEK	**Kerkira**	**1.38**	**194**	⇓*e*Pn	**Pn**	**09 04 08.2**	**+0.6**
KEK				Sn	**Sn**	**09 04 29.9**	**+3.4**
KZN	**Kozani**	**1.38**	**122**	*e*PG	**Pg**	**09 04 08.3**	**+0.6**
JAN	**Janina**	**1.47**	**161**	*e*PB	**Pb**	**09 04 11.4**	**+2.1**
MEV	**Metsovon**	**1.47**	**149**	*e*Pg	**Pg**	**09 04 09.8**	**+0.4**
IGT	**Igoumenitsa**	**1.52**	**177**	*e*Pg	**Pg**	**09 04 11.1**	**+0.8**
IGT				*e*Sg	**Sg**	**09 04 33.8**	**+3.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**1.56**	**353**	*e*Pg	**Pg**	**09 04 09.2**	**-1.9**
PVY				*e*Sg	**Sg**	**09 04 33.4**	**+2.2**
TTG	**Podgorica**	**1.56**	**332**	⇓*i*Pg	**Pg**	**09 04 08.7**	**-2.4**
TTG				*e*Sg	**Sg**	**09 04 33.3**	**+2.0**
BUM	**Brajici-Budva**	**1.60**	**322**	⇓*i*Pn	**Pn**	**09 04 10.8**	**+0.1**
BUM				*e*Sn	**Sn**	**09 04 35.2**	**+3.2**
STIP	**Stip**	**1.60**	**66**	*e*Pg	**Pg**	**09 04 10.2**	**-1.8**
STIP				*i* Sg	**Sg**	**09 04 33.3**	**+0.6**
STIP				*e*Lg		09 04 33.7	
	comp=E,77nm,0.3s						
STIP				*e*Lg		09 04 34.1	
	comp=N,259nm,0.4s						
GRG	**Griva**	**1.64**	**93**	*e*Pg	**Pg**	**09 04 10.9**	**-1.8**
GRG				*e*Sg	**Sg**	**09 04 31.8**	**-2.1**
VAY	**Valandovo**	**1.78**	**80**	*e*Pb	**Pb**	**09 04 12.3**	**-2.3**
VAY				*e*Sb	**Sb**	**09 04 35.2**	**-2.3**
VAY	**Valandovo**	**1.78**	**80**	*e*Pn	**Pn**	**09 04 12.5**	**-0.7**
VAY				*i* Sg	**Sg**	**09 04 38.7**	**+0.2**
VAY				*e*Lg		09 04 40.2	
	comp=E,115nm,0.5s						
VAY				*e*Lg		09 04 40.8	
	comp=N,167nm,0.5s						
IVA	**Berane**	**1.84**	**352**	*e*Pn	**Pn**	**09 04 14.4**	**+0.4**
IVA				*e*Sn	**Sn**	**09 04 40.8**	**+2.9**
HCY	**Herceg Novi**	**1.91**	**318**	⇓*i*Pn	**Pn**	**09 04 15.1**	**+0.2**
HCY				*e*Sn	**Sn**	**09 04 42.6**	**+3.0**
LIT	**Litokhoron**	**1.96**	**118**	*e*Pb	**Pb**	**09 04 15.5**	**-2.2**
NKY	**Niksic**	**1.99**	**333**	⇓*i*Pn	**Pn**	**09 04 16.5**	**+0.4**
NKY				*e*Sn	**Sn**	**09 04 44.8**	**+3.2**
KNT	**Kendrikon**	**2.02**	**86**	*e*Pb	**Pb**	**09 04 15.6**	**-3.1**
BRY	**Bratogost**	**2.24**	**326**	⇓*i*Pn	**Pn**	**09 04 19.6**	**+0.2**
BRY				*e*Sn	**Sn**	**09 04 50.6**	**+2.8**
KKB	**Krupnik**	**2.29**	**68**	P	**Pn**	**09 04 20.0**	**-0.2**
PLE	**Pljevlja**	**2.36**	**345**	⇑*i*Pn	**Pn**	**09 04 22.0**	**+0.9**
PLE				*e*Sn	**Sn**	**09 04 53.9**	**+3.0**
UPM	**Unac-Piva**	**2.37**	**336**	⇓*i*Pn	**Pn**	**09 04 22.2**	**+1.0**
UPM				*e*Sn	**Sn**	**09 04 54.1**	**+3.2**
SOH	**Sokhos**	**2.37**	**94**	*e*Pn	**Pn**	**09 04 21.3**	**0.0**
EVR	**Evrytania**	**2.45**	**150**	*e*PB	**Pb**	**09 04 25.3**	**-0.8**
PLG	**Polygyros**	**2.53**	**104**	*e*PN	**Pn**	**09 04 24.0**	**+0.5**
AGG	**Agios Georgios**	**2.58**	**141**	*e*Pn	**Pn**	**09 04 25.0**	**+0.8**
AGG				*e*Sn	**Sn**	**09 04 58.3**	**+2.0**
MMB	**Musomiste**	**2.69**	**77**	P	**Pn**	**09 04 25.5**	**-0.1**
MMB				Pg	**Pg**	**09 04 27.0**	**-5.7**
MMB	**Musomiste**	**2.69**	**77**	Pg	**Pg**	**09 04 27.0**	**-5.7**
SG1	**Sgolgore (BA)**	**2.70**	**267**	*e*Pn	**Pn**	**09 04 24.8**	**-1.0**
VTS	**Vitosha**	**2.70**	**54**	*e*Pn	**Pn**	**09 04 25.5**	**-0.3**
VTS	**Vitosha**	**2.70**	**54**	P	**Pn**	**09 04 26.0**	**+0.1**
NVR	**Nevrokopi**	**2.75**	**83**	*e*P	**Pn**	**09 04 26.6**	**+0.1**
XOR	**Xorichti**	**2.82**	**126**	*e*Pn	**Pn**	**09 04 27.7**	**+0.3**
PAIG	**Paliouri**	**2.86**	**112**	*e*Pn	**Pn**	**09 04 27.6**	**-0.4**
ZAPS	**Zavoj/Pirot**	**2.86**	**37**	⇓*i*Pn	**Pn**	**09 04 28.1**	**+0.1**
ZAPS				Sn	**Sn**	**09 05 02.1**	**-0.9**
GRUS	**Gruza**	**2.86**	**7**	P	**Pn**	**09 04 30.3**	**+2.3**
NEO	**Neokhori**	**2.88**	**126**	*e*PN	**Pn**	**09 04 30.1**	**+1.9**
VLS	**Valsamata**	**2.88**	**174**	*e*P	**Pn**	**09 04 28.5**	**+0.2**
BBLS	**Bajina Basta -**	**2.88**	**348**	*e*Pn	**Pn**	**09 04 31.9**	**+3.6**
BBLS				Sn	**Sn**	**09 05 08.0**	**+4.4**
OUR	**Ouranopolis**	**2.94**	**103**	*e*Pn	**Pn**	**09 04 28.9**	**-0.1**
DIVS	**Divcibare**	**3.05**	**357**	*i* Pn	**Pn**	**09 04 31.4**	**+0.8**
DIVS				*e*Sn	**Sn**	**09 05 03.8**	**-4.1**
DIVS	**Divcibare**	**3.05**	**357**	*e*Pn	**Pn**	**09 04 31.7**	**+1.1**
DIVS				Sn	**Sn**	**09 05 03.8**	**-4.1**
BOLS	**Boljevac**	**3.06**	**24**	⇓*i*Pn	**Pn**	**09 04 31.7**	**+0.9**
FGMS	**Monte Sant'Ang**	**3.29**	**283**	Pn	**Pn**	**09 04 32.2**	**-1.7**
PGB	**Panagyurishte**	**3.30**	**62**	P	**Pn**	**09 04 36.0**	**+2.0**
SVIS	**Svilajnac**	**3.33**	**12**	⇑*i*Pn	**Pn**	**09 04 34.9**	**+0.5**
RGNG	**Rignano Grg**	**3.56**	**282**	Pn	**Pn**	**09 04 35.7**	**-1.9**
MGR	**Morigerati**	**3.68**	**257**	Pn	**Pn**	**09 04 39.3**	**0.0**
SGO	**Sicignano**	**3.77**	**264**	Pn	**Pn**	**09 04 39.7**	**-0.8**
DJES	**Djerdap**	**3.96**	**24**	*e*Pn	**Pn**	**09 04 43.3**	**+0.2**
DJES				*e*Sn	**Sn**	**09 05 32.3**	**+2.1**
RDO	**Rodhopi**	**4.01**	**87**	*e*PN	**Pn**	**09 04 41.5**	**-2.3**
SGG	**Gregorio Mates**	**4.43**	**276**	⇓*e*Pn	**Pn**	**09 04 49.4**	**-0.2**

MK31 Makanchi Array 2.53 5 Pn **Pn 09 14 56.4 +1.3**
13nm,0.3s,baz=186,slow=16,SNR=464
MK31 ⇊Lg 09 15 35.1
113nm,0.8s,baz=184,slow=29,SNR=11
MKAR Makanchi Array 2.53 5 Pn **Pn 09 14 57.0 +1.9**
2.1nm,0.3s,baz=188,slow=16,SNR=37
MKAR Pg **Pg 09 15 00.0 -2.5**
13nm,0.3s,baz=187,slow=15,SNR=160
MKAR Lg 09 15 34.0
18nm,0.3s,baz=185,slow=30,SNR=7.2
KNDC Almaty 3.78 256 Lg 09 16 11.2
WMQ Urumqi 4.15 94 *e*P **Pn 09 15 18.5 +1.1**
WMQ S **Sn 09 16 05.5 -0.5**
WMQ Smax
comp=N,98nm,0.5s
WMQ Smax
comp=E,89nm,0.5s
TKM2 Tokmak 2 4.82 256 ⇑Pn **Pn 09 15 30.0 +3.4**
comp=E,14nm,0.5s
TKM2 ⇊Lg 09 16 39.9
comp=E,41nm,0.4s
KURK Kurchatov 6.83 342 ⇑Lg 09 17 50.8
comp=E,26nm,0.8s
KK31 Karatay Array 8.39 266 ⇑Pn **Pn 09 16 15.6 +0.1**
comp=E,0.5nm,0.5s,baz=77,slow=13,SNR=7.2
KK31 Lg 09 18 33.1
comp=E,7.0nm,0.6s,baz=79,slow=29,SNR=7.4
ZAL Zalesovo 9.85 10 Pn **Pn 09 16 36.5 +0.9**
comp=E,0.6nm,0.3s,baz=63,slow=2.3,SNR=2.7
ZAL Lg 09 19 24.4
comp=E,0.2nm,0.3s,baz=48,slow=17,SNR=3.6
VOSK Vostochnaya 11.15 323 ⇑Lg 09 20 05.9
comp=E,7.8nm,0.7s
BVA0 Borovoye Array 11.62 323 ⇊Lg 09 20 21.3
comp=E,4.0nm,1.1s
BVAR Borovoye Array 11.62 323 Pn **Pn 09 16 58.8 -1.1**
comp=E,0.1nm,0.3s,baz=143,slow=10,SNR=2.6
BVAR Lg 09 20 21.5
comp=E,0.7nm,0.3s,baz=114,slow=30,SNR=6.4
ZRNK Zerenda 12.19 320 ⇊Lg 09 20 35.8
comp=E,14nm,1.1s
SONM Songino Array 17.30 70 P **Pn 09 18 14.6 -1.0**
comp=E,0.3nm,0.3s,baz=269,slow=12,SNR=27
SONM Lg 09 23 25.7
comp=E,0.0nm,0.3s,baz=259,slow=22,SNR=3.9
ASAJ Asahikawa 42.58 68 LR LR 09 39 56.1
comp=E,52nm,18.2s,MS3.5,baz=14,slow=36
TORD Torodi Ar. Bea 74.01 273 P **P 09 25 47.3 -2.5**
comp=E,0.1nm,0.3s,mb3.2,baz=50,slow=5.3,SNR=4.4

*IDC **16** 10:06:50.8±1.3,575S×13080E,h0km,mb4.1/4,mb1 4.3/6, mb1mx4.1/13,mbtmp4.1/6,ML4.2/2,MS3.5/2,Ms1 3.5/2, ms1mx2.9/24,Error ellipse: s-maj=114.0km s-min=20.9km az=70.0*
*NEIC **16** 10:06:56.9±3.6,581S×13091E,h47km±37km,mb3.6/1, Error ellipse: s-maj=35.7km s-min=15.0km az=61.0*
*ISCJB **16** 10:07:05.7±2.1,634S±008×1307E±0.1,h165km±23km, mb3.8/4,Error ellipse: s-maj=22.6km s-min=12.9km az=157.9*
ISC 16 10:07:05.8±1.6,**636S**±008×**1305E**±01,**h146**km±16km,**n14**, σ1§**00**/17,**mb3.8**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.59**	**164**	*e*P	**Pn**	**10 08 41.5**	**+1.3**
KAKA	12nm,0.2s			*e*S	**Sn**	**10 09 53.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.61**	**202**	*e*P	**Pn**	**10 10 01.8**	**+1.8**
FITZ	3.7nm,0.2s			*e*S	**Sn**	**10 12 18.9**	**-0.4**
WRA	**Warramunga Arr**	**14.00**	**165**	Pn	**Pn**	**10 10 17.6**	**-0.1**
WRA	0.7nm,0.3s,baz=350,slow=13,SNR=28			Sn	**Sn**	**10 12 48.6**	**-4.1**
WB2	**Warramunga Arr**	**14.00**	**165**	*e*P	**Pn**	**10 10 17.6**	**-0.2**
WB2	2.6nm,0.3s,baz=352,slow=22,SNR=13			*e*S	**Sn**	**10 12 49.2**	**-3.6**
ASAR	**Alice Springs**	**17.51**	**170**	P	**Pn**	**10 11 05.1**	**+4.2**
ASAR	1.6nm,0.3s,baz=345,slow=9.1,SNR=121			S	**S**	**10 14 14.2**	**0.0**
MBWA	**Marble Bar**	**18.05**	**214**	*e*P	**P**	**10 11 11.4**	**+5.7**
KKM	**Kota Kinabalu**	**18.87**	**310**	*e*P	**P**	**10 11 13.2**	**-1.4**
STKA	**Stephens Creek**	**27.41**	**159**	P	**P**	**10 12 41.8**	**+4.2**
NWAO	**Narrogin (SRO)**	**29.19**	**203**	LR	LR	10 26 42.6	
DZM	**Mont Dzumac**	**38.02**	**118**	LR	LR	10 27 07.0	
SONM	**Songino Array**	**58.01**	**341**	P	**P**	**10 16 42.6**	**-0.5**
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**10 17 49.7**	**+0.7**
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**10 17 49.7**	**+0.7**
BVAR	**Borovoye Array**	**77.81**	**328**	P	**P**	**10 18 47.0**	**+0.2**

IDC 16 10:10:01.1±1.4,**251N**×**12688E**,**h0**km,**mb3.9**/5,**mb1 4.1**/5, **mb1mx3.9**/16,**mbtmp3.9**/5,**Error ellipse: s-maj=155.1km s-min=21.3km az=68.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**162**	P	P	10 15 13.1	+0.5
	3.8nm,0.3s,baz=341,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**26.91**	**166**	P	P	10 15 44.4	+0.5
	0.7nm,0.3s,baz=344,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**36.95**	**159**	P	P	10 17 11.7	-0.2
	1.9nm,0.4s,baz=337,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**48.49**	**342**	P	P	10 18 45.6	+0.1
	0.3nm,0.8s,baz=152,slow=9.4,SNR=2.6						
MKAR	**Makanchi Array**	**58.63**	**326**	P	P	10 20 00.1	+0.1
	0.3nm,0.4s,baz=117,slow=7.7,SNR=4.2						

*SOF **16** 10:25:29.2,3929N×2380E,h10km,MD2.7*
*CSEM **16** 10:25:37.9±0.1,3986N×2380E,h15km,ML2.9,Error ellipse: s-maj=2.4km s-min=1.5km az=103.0*
*ISCJB **16** 10:25:37.4±0.5,3984N±003×2371E±005,h13km±4km, Error ellipse: s-maj=6.8km s-min=4.2km az=26.0*
*ATH **16** 10:25:37.2,3986N×2377E,h28km±1km,MD3.4/7*
*THE **16** 10:25:39.0,3984N×2367E,h3km,ML2.9*
*SKO **16** 10:25:42.1,3987N×2339E,h1km*
ISC 16 10:25:37.5±0.6,**3983N**±002×**2380E**±006,**h9**km±4km,**n29**, σ1§**06**/37,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.13**	**316**	*e*Pg	**Pg**	**10 25 40.8**	**+0.5**
PAIG				*e*Sg	**Sg**	**10 25 43.0**	**+0.6**
OUR	**Ouranopolis**	**0.52**	**16**	*e*Pg	**Pg**	**10 25 48.7**	**+1.2**
PLG	**Polygyros**	**0.60**	**334**	*e*PN	**Pg**	**10 25 48.7**	**-0.4**
PLG				*e*SN	**Sg**	**10 25 56.5**	**-0.5**
XOR	**Xorichti**	**0.66**	**225**	*e*Pg	**Pg**	**10 25 51.0**	**+0.7**
AOS	**Alonnisos**	**0.67**	**174**	*e*Pg	**Pg**	**10 25 52.1**	**+1.8**
NEO	**Neokhori**	**0.69**	**220**	*e*PN	**Pn**	**10 25 51.3**	**-2.1**
NEO				*e*SN	**Sg**	**10 26 01.3**	**+1.6**
THE	**Thessaloniki**	**1.02**	**322**	*e*Pg	**Pg**	**10 25 56.5**	**-0.6**
LIT	**Litokhoron**	**1.04**	**285**	*e*Pg	**Pg**	**10 25 56.5**	**-0.9**
SOH	**Sokhos**	**1.04**	**341**	*e*Pg	**Pg**	**10 25 58.0**	**+0.5**
LIA	**Limnos Island**	**1.07**	**86**	*e*PN	**Pn**	**10 25 58.1**	**-0.5**
LKR	**Lokris**	**1.33**	**208**	*e*PB	**Pb**	**10 26 01.3**	**-1.4**
AGG	**Agios Georgios**	**1.40**	**235**	*e*Pg	**Pg**	**10 26 03.2**	**-1.1**
AGG				*e*Sg	**Sg**	**10 26 22.1**	**-0.2**
KNT	**Kendrikon**	**1.49**	**333**	*e*Pg	**Pg**	**10 26 05.4**	**-0.7**
KNT				*e*Sg	**Sg**	**10 26 25.8**	**+0.3**
NVR	**Nevrokopi**	**1.52**	**2**	*e*PN	**Pn**	**10 26 04.7**	**-0.1**
GRG	**Griva**	**1.55**	**317**	*e*Pg	**Pg**	**10 26 05.2**	**-1.9**
GRG				*e*Sg	**Sg**	**10 26 26.5**	**-0.6**
MPAR	**Parnis Oros**	**1.68**	**182**	*e*PN	**Pn**	**10 26 07.0**	**-0.1**
MMB	**Musomiste**	**1.75**	**358**	P	**Pn**	**10 26 08.0**	**-0.1**
VAY	**Valandovo**	**1.75**	**328**	*e*Pb	**Pb**	**10 26 08.8**	**-1.0**
VAY	**Valandovo**	**1.75**	**328**	*e*Pn	**Pn**	**10 26 08.9**	**+0.8**
VAY				*e*Sn	**Sn**	**10 26 33.0**	**+2.5**
EVR	**Evrytania**	**1.79**	**240**	*e*PN	**Pn**	**10 26 08.5**	**-0.1**
RDO	**Rodhopi**	**1.87**	**45**	*e*PB	**Pb**	**10 26 09.3**	**-2.4**
RZN	**Rozhen**	**1.98**	**20**	P	**Pn**	**10 26 11.8**	**+0.6**
FNA	**Florina**	**2.08**	**298**	*e*Pn	**Pn**	**10 26 12.7**	**+0.2**
KKB	**Krupnik**	**2.10**	**345**	P	**Pn**	**10 26 13.0**	**+0.2**
KDZ	**Kurdzhali**	**2.19**	**34**	P	**Pn**	**10 26 13.6**	**-0.5**
STIP	**Stip**	**2.22**	**327**	*e*Pn	**Pn**	**10 26 18.9**	**+4.4**
BIA	**Bitola**	**2.23**	**303**	*e*Pn	**Pn**	**10 26 16.3**	**+1.7**
BIA				*e*Sg	**Sg**	**10 26 42.0**	**-7.0**
PGB	**Panagyurishte**	**2.73**	**6**	P	**Pn**	**10 26 28.0**	**+6.6**
VTS	**Vitosha**	**2.79**	**351**	P	**Pn**	**10 26 24.0**	**+1.7**

*ISCJB **16** 10:28:33.3±0.8,5931N±003×268E±0.1,h0km,Error ellipse: s-maj=10.5km s-min=4.8km az=5.7*
*NAO **16** 10:28:33.9±2.4,5930N×2696E,ML2.0*
*BER **16** 10:28:34.3±3.9,5932N×2721E,h0km,ML2.0(NAO), Suspected explosion*
*HEL **16** 10:28:35.0±0.1,5930N×2708E,h0km,ML1.8, ML2.0(NAO),Explosion*
ISC 16 10:28:33.8±0.8,**5932N**±003×**270E**±01,**h0**km,**n11**, σ1§**10**/16,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.87**	**188**	*i*P	**Pg**	**10 28 50.2**	**-0.2**
VSU				*i*S	**Sg**	**10 29 01.6**	**0.0**
VJF	**Virojoki**	**1.26**	**13**	*e*P	**Pg**	**10 28 57.8**	**-0.1**
VJF				*e*S	**Sg**	**10 29 13.7**	**-0.5**
MEF	**Metsahovi**	**1.58**	**306**	*e*P	**Pn**	**10 29 04.2**	**+1.1**
MEF				*e*S	**Sn**	**10 29 25.1**	**+0.9**
FIA0	**FINESS Array S**	**2.18**	**349**	*e*P	**Pn**	**10 29 12.9**	**+1.7**
FIA0				*e*S	**Sn**	**10 29 39.8**	**+0.9**
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**10 29 11.6**	**+0.4**
FIA0	baz=164,slow=18			Lg		10 29 42.5	
FIA0	baz=169,slow=28			Rg		10 29 54.8	
KAF	**Kangasniemi**	**2.82**	**354**	*e*S	**Sn**	**10 29 56.3**	**+1.5**
KEF	**Keuruu**	**3.04**	**341**	*e*SG	**Sg**	**10 30 09.4**	**-1.9**
KEF				MSG		10 30 13.6	
HFS	**Hagfors**	**6.76**	**283**	*e*S	**Sn**	**10 31 30.9**	**-1.1**
HFS				*e*SG	**Sg**	**10 32 05.5**	**-5.5**
HFS	**Hagfors**	**6.76**	**283**	Sn	**Sn**	**10 31 30.9**	**-1.1**
HFS	baz=118,slow=22			Lg		10 32 05.5	
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**10 31 00.7**	**-1.8**
ARA0	**ARCESS Array S**	**10.28**	**357**	*e*P	**Pn**	**10 31 00.7**	**-1.8**

*ISCJB **16** 10:29:11.7±4.3,199S±03×1776W±02,h539km±57km, mb3.7/6,Error ellipse: s-maj=54.0km s-min=20.4km az=123.2*
*IDC **16** 10:29:12.7±3.5,1989S×17759W,h539km±41km,mb3.2/6, mb1 3.5/7,mb1mx3.4/14,mbtmp4.0/7,Error ellipse: s-maj=42.6km s-min=16.0km az=151.0*
ISC 16 10:29:12.6±4.3,**199S**±03×**1775W**±02,**h543**km±55km,**n13**, σ0§**92**/8,**mb3.7**/6,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.87**	**193**	P	**P**	**10 32 58.4**	**-0.3**
	1.1nm,0.3s,baz=302,slow=4.2,SNR=8.5						
STKA	**Stephens Creek**	**38.47**	**244**	P	**P**	**10 35 48.3**	**+0.1**
	1.3nm,0.6s,mb3.6,baz=76,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**45.12**	**256**	P	**P**	**10 36 41.1**	**+0.6**
	1.2nm,0.6s,mb3.6,baz=87,slow=8.1,SNR=6.3						
ASAR				PcP	PcP	10 38 09.9	+0.4
	0.9nm,0.5s,baz=102,slow=3.8,SNR=4.9						
ASAR				S	**S**	**10 42 40.2**	**-0.1**
	0.3nm,0.7s,baz=89,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**45.15**	**261**	P	**P**	**10 36 40.7**	**-0.2**
	0.6nm,0.3s,mb3.6,baz=97,slow=7.6,SNR=9.8						
ILAR	**Eielson Array**	**87.64**	**13**	P	**P**	**10 41 02.2**	**-1.1**
	1.6nm,0.7s,mb3.8,baz=226,slow=5.5,SNR=31						
PDAR	**Pinedale Array**	**88.21**	**43**	P	**P**	**10 41 07.2**	**+1.2**
	1.1nm,0.6s,mb3.8,baz=216,slow=3.3,SNR=14						
YKA	**Yellowknife Ar**	**95.78**	**25**	P	**P**	**10 41 40.5**	**-0.2**
	0.2nm,0.7s,mb3.5,baz=238,slow=4.3,SNR=3.9						
ARCES	**ARCESS Array B**	**128.43**	**350**	PKP	PKPdf	10 47 17.5	-0.2
	2.4nm,1.0s,baz=0.0,slow=2.4,SNR=8.0						
FINES	**FINESS Array B**	**135.34**	**344**	PKP	PKPdf	10 47 31.8	+1.0
	2.4nm,1.1s,baz=45,slow=2.7,SNR=4.7						
AKASG	**Malin Array Be**	**142.73**	**332**	PKhKP		10 47 40.1	
	1.0nm,0.4s,baz=42,slow=4.1,SNR=8.0						
BRTR	**Keskin Array B**	**146.79**	**313**	PKPbc	PKPbc	10 47 54.0	+0.2
	1.3nm,0.5s,baz=126,slow=3.8,SNR=5.6						
KHC	**Kasperske Hory**	**149.52**	**346**	*e*P	PKPbc	10 48 01.0	+0.2
GERES	**GERESS Array B**	**149.76**	**345**	PKPbc	PKPbc	10 48 01.9	+0.6
	2.1nm,0.6s,baz=45,slow=1.9,SNR=11						

*IDC **16** 10:29:13.1±1.2,272S×13820E,h0km,mb3.8/3,mb1 4.2/5, mb1mx3.9/12,mbtmp4.0/5,ML3.5/2,MS3.2/3,Ms1 3.2/3, ms1mx2.9/19,Error ellipse: s-maj=44.4km s-min=23.9km az=89.0*
*ISCJB **16** 10:29:21.5±3.5,30S±0.1×1384E±02,h88km±35km, mb3.4/2,Error ellipse: s-maj=30.1km s-min=18.8km az=72.8*
ISC 16 10:29:21.1±2.1,**29S**±01×**1384E**±02,**h67**km±21km,**n11**, σ0§**64**/9,**mb3.6**/3,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.88**	**127**	Pn	**Pn**	**10 31 54.2**	**+0.4**
	0.2nm,0.3s,baz=303,slow=17,SNR=3.1						
KAKA	**Kakadu**	**11.38**	**211**	*e*P	**Pn**	**10 32 00.5**	**-0.3**
	11nm,0.5s						
WB2	**Warramunga Arr**	**17.40**	**193**	*e*P	**Pn**	**10 33 19.0**	**-0.2**
WRA	**Warramunga Arr**	**17.40**	**193**	P	**Pn**	**10 33 18.9**	**-0.3**
	0.7nm,0.3s,baz=16,slow=12,SNR=34						
WRA				S	**S**	**10 36 24.1**	**-13**
	0.2nm,0.3s,baz=9.6,slow=24,SNR=4.6						
WRA				Lg		10 38 27.2	
	baz=5.9,slow=29,SNR=2.6						
GUMO	**Guam**	**17.60**	**21**	LR	LR	10 39 38.5	
	comp=Z,51nm,20.7s,baz=104,slow=36						
CTA	**Charters Tower**	**18.75**	**156**	LR	LR	10 40 44.5	
	comp=Z,63nm,20.7s,baz=45,slow=36						
ASAR	**Alice Springs**	**21.10**	**191**	P	**P**	**10 34 00.7**	**+0.6**
	9.0nm,0.7s,mb4.2,baz=20,slow=9.6,SNR=46						
ASAR				S	**S**	**10 37 51.1**	**+0.1**
	1.9nm,0.8s,baz=11,slow=26,SNR=5.1						
NWAO	**Narrogin (SRO)**	**35.85**	**211**	LR	LR	10 52 11.1	
	comp=Z,89nm,21.4s,baz=327,slow=38						
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**10 40 24.8**	**+1.0**
	0.2nm,0.5s,mb3.2,baz=117,slow=7.9,SNR=3.7						
ILAR	**Eielson Array**	**86.14**	**24**	P	**P**	**10 41 53.6**	**-1.2**
	0.4nm,0.6s,mb3.5,baz=272,slow=4.8,SNR=5.1						
LPAZ	**La Paz**	**147.62**	**127**	PKPbc	PKPbc	10 49 01.8	+4.0
	0.9nm,0.8s,baz=239,slow=5.9,SNR=4.3						

IDC 16 10:47:22.2±3.7,**501S**×**13322E**,**h0**km,**mb4.1**/1,**mb1 4.1**/3, **mb1mx3.8**/12,**mbtmp4.0**/3,**ML4.0**/2,**Error ellipse: s-maj=242.4km s-min=29.8km az=76.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.69**	**186**	*e*P	Pn	10 49 16.6	+1.1
	7.5nm,0.1s						
KAKA				*e*S	Sn	10 50 34.2	-9.1
WRA	**Warramunga Arr**	**14.88**	**176**	Pn	Pn	10 50 53.0	-0.8
	0.7nm,0.3s,baz=355,slow=13,SNR=21						
WRA				Sn	Sx	10 53 28.3	
	2.4nm,0.3s,baz=360,slow=24,SNR=10						
WB2	**Warramunga Arr**	**14.89**	**176**	*e*P	Pn	10 50 53.3	-0.6
WB2				*e*S	Sx	10 53 26.3	
FITZ	**Fitzroy Crossi**	**14.98**	**209**	*e*P	Pn	10 50 43.3	-12
	5.9nm,0.3s						
FITZ				*e*S	Sx	10 53 07.3	
ASAR	**Alice Springs**	**18.56**	**178**	P	Pn	10 51 41.4	+0.7
	0.7nm,0.3s,baz=355,slow=10.0,SNR=23						
ASAR				S	Sn	10 54 53.8	-15
	0.5nm,0.3s,baz=359,slow=27,SNR=5.3						
ASAR				ScP	ScP	10 59 46.9	0.0
	0.1nm,0.3s,baz=359,slow=2.0,SNR=4.6						
MKAR	**Makanchi Array**	**68.38**	**325**	P	P	10 58 25.9	+0.3
	2.4nm,0.8s,baz=121,slow=7.9,SNR=12						

*IDC **16** 11:09:25.5±0.6,1603S×17291W,h0km,mb4.5/12, mb1 4.7/12,mb1mx4.6/18,mbtmp4.5/12,MS4.4/24, Ms1 4.4/24,ms1mx4.3/34,Error ellipse: s-maj=25.0km s-min=17.0km az=128.0*
*ISCJB **16** 11:09:27.9±0.2,1611S±006×17289W±006,h24km, mb4.8/65,MS4.6/36,Error ellipse: s-maj=10.8km s-min=5.4km az=97.3*
*NEIC **16** 11:09:29.5±0.2,1605S×17289W,mb4.8/32,Error ellipse: s-maj=10.8km s-min=4.8km az=143.0*
*BJI **16** 11:09:29.5,1600S×17290W,h24km,mB5.3,mb5.0,Ms5.2, Msz4.7*
*MOS **16** 11:09:30.5±1.4,1588S×17299W,h33km,mb5.0/22,Error ellipse: s-maj=13.8km s-min=9.6km az=59.6*
*SZGRF **16** 11:09:30.4,1644S×17184W,h33km,Samoa Islands region*
ISC 16 11:09:30.0±0.2,**1608S**±006×**17286W**±006,**h26**km, **h26**km±.7km:**pP-P**,**n235**,σ0§**91**/140,**mb4.8**/65,**MS4.6**/36, **15C-2D**,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.40**	**26**	Pn	**Pn**	**11 10 02.1**	**-5.5**
	28nm,0.3s,baz=232,slow=3.4,SNR=30						
AFI				Sn	**Sn**	**11 10 25.1**	**-11**
	419nm,0.3s,baz=74,slow=18,SNR=17						
AFI				LR	LR	11 10 27.7	
	comp=Z,1μm,19.3s,baz=195,slow=26						
AFI				T		11 12 21.3	
	129nm,0.3s,baz=182,slow=20,SNR=2.4						
AFI	**Afiamalu**	**2.40**	**26**	*e*Pn	**Pn**	**11 10 02.2**	**-5.3**
RAR	**Rarotonga**	**13.41**	**114**	Pn	**Pn**	**11 12 30.2**	**-8.4**
	4.3nm,0.3s,baz=276,slow=8.5,SNR=3.9						
RAR				T		11 26 35.2	
	25nm,0.3s,baz=119,slow=9.0,SNR=6.5						
DZM	**Mont Dzumac**	**20.44**	**250**	P	**P**	**11 14 05.0**	**-0.4**
	14nm,1.0s,baz=84,slow=19,SNR=4.6						
DZM	**Mont Dzumac**	**20.44**	**250**	*e*P	**P**	**11 14 08.0**	**+2.6**
NOUC	**Port Laguerre**	**20.57**	**250**	*e*P	**P**	**11 14 11.8**	**+4.9**
PPT	**Papeete**	**22.33**	**97**	*e*P	**P**	**11 14 15.4**	**-10**
PPT				*e*LR	LR	11 19 28.3	
	2μm,25.8s,baz=261						
PPT	**Papeete**	**22.33**	**97**	LR	LR	11 20 53.2	
	comp=Z,1μm,19.0s,MS4.4,baz=176,slow=31						
TBI	**Tubuai**	**23.16**	**112**	*e*LQ		11 18 49.8	
	1μm,27.2s						
TBI	**Tubuai**	**23.16**	**112**	*e*P	**P**	**11 14 24.2**	**-10**
TBI				*e*LR	LR	11 19 56.4	
	3μm,26.0s,baz=286						
URZ	**Urewera**	**23.80**	**200**	P	**P**	**11 14 39.7**	**-1.0**
	15nm,0.6s,mb4.6,baz=37,slow=2.6,SNR=11						
HNR	**Honiara**	**27.31**	**281**	LR	LR	11 24 36.6	
	comp=Z,3μm,19.9s,MS4.8,baz=177,slow=33						
QRZ	**Quartz Range**	**27.73**	**204**	PN	**P**	**11 15 17.4**	**+1.2**
THZ	**Tophouse**	**28.39**	**203**	PN	**P**	**11 15 21.9**	**-0.3**
KHZ	**Kahutara**	**28.73**	**201**	PN	**P**	**11 15 25.8**	**+0.6**
LTZ	**Lake Taylor**	**29.50**	**203**	PN	**P**	**11 15 33.3**	**+1.2**
RPZ	**Rata Peaks**	**30.76**	**203**	P	**P**	**11 15 42.2**	**-1.0**
	4.7nm,0.8s,mb4.4,baz=106,slow=3.3,SNR=4.0						
TAOE	**Nuku Hiva Isla**	**32.70**	**81**	*e*LR	LR	11 24 07.8	
	3μm,27.7s						
RKT	**Rikitea**	**36.29**	**107**	*e*LR	LR	11 25 59.5	
	1μm,26.2s,baz=278						
CTA	**Charters Tower**	**39.01**	**258**	*e*P	**P**	**11 16 54.2**	**-0.1**
	3.4nm,0.6s,mb4.2						
CTA	**Charters Tower**	**39.01**	**258**	LR	LR	11 31 24.9	
	comp=Z,929nm,18.0s,MS4.7,baz=46,slow=34						
CTAO	**Charters Tower**	**39.01**	**258**	*e*P	**P**	**11 16 54.3**	**0.0**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**39.01**	**258**	*e*P	**P**	**11 16 54.3**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4						
PMG	**Port Moresby**	**39.51**	**275**	P	**P**	**11 16 58.0**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7,baz=94,slow=7.5,SNR=6.9						
PMG	**Port Moresby**	**39.51**	**275**	*e*P	**P**	**11 16 58.8**	**+0.3**
PMG				*e**SP	sP	11 17 09.0	-0.3
PMG				pmax	pmax		
	comp=Z,43nm,1.4s						
PMG	**Port Moresby**	**39.51**	**275**	*e*P	**P**	**11 16 58.8**	**+0.4**
	comp=Z,43nm,1.4s,mb5.0						
PMG				*es*P	sP	11 17 09.0	-0.3
TOO	**Toolangi**	**42.45**	**231**	*e*P	**P**	**11 17 22.0**	**-0.7**
	comp=Z,9.3nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**44.16**	**241**	⇑*i*P	**P**	**11 17 33.3**	**-3.2**
	comp=Z,12nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**44.16**	**241**	P	**P**	**11 17 33.5**	**-3.0**
	comp=Z,8.7nm,0.5s,mb4.7,baz=90,slow=9.0,SNR=40						
STKA				LR	LR	11 35 21.0	
	comp=Z,533nm,18.6s,MS4.5,baz=291,slow=35						
STKA	**Stephens Creek**	**44.16**	**241**	*e*P	**P**	**11 17 33.1**	**-3.4**
WB2	**Warramunga Arr**	**50.19**	**257**	*e*P	**P**	**11 18 22.7**	**-0.8**
WRAB	**Tennant Creek**	**50.19**	**257**	*e*P	**P**	**11 18 22.6**	**-0.9**
WRAB				*e**PP	pP	11 18 31.1	-0.3
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**50.19**	**257**	*e*P	**P**	**11 18 22.6**	**-0.9**
	comp=Z,12nm,0.6s,mb5.1						
WRAB				*e*pP	pP	11 18 31.1	-0.3
WRA	**Warramunga Arr**	**50.20**	**257**	P	**P**	**11 18 21.8**	**-1.8**
	comp=Z,7.4nm,0.6s,mb4.9,baz=90,slow=6.7,SNR=115						
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**11 18 23.6**	**-1.5**
	comp=Z,16nm,0.5s,mb5.3,baz=87,slow=8.0,SNR=218						
GUMO	**Guam**	**51.14**	**303**	LR	LR	11 38 34.1	
	comp=Z,398nm,18.2s,MS4.5,baz=112,slow=34						
KAKA	**Kakadu**	**52.58**	**266**	*e*P	**P**	**11 18 43.4**	**-0.9**
	comp=Z,15nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**58.58**	**258**	*e*P	**P**	**11 19 24.0**	**-0.5**
	comp=Z,12nm,1.2s,mb4.8						
CBIJ	**Chichi jima**	**61.20**	**314**	LR	LR	11 41 09.7	
	comp=Z,348nm,19.9s,MS4.5,baz=114,slow=31						
VNDA	**Vanda**	**62.76**	**186**	P	**P**	**11 19 53.7**	**+0.7**
	comp=Z,4.3nm,1.0s,mb4.5,baz=330,slow=4.2,SNR=5.6						
VNDA				LR	LR	11 40 24.3	
	comp=Z,294nm,20.8s,MS4.4,baz=355,slow=30						
VNDA	**Vanda**	**62.76**	**186**	P	**P**	**11 19 53.7**	**+0.7**
VNDA				LR	LR	11 40 24.3	
MBWA	**Marble Bar**	**63.67**	**254**	*e*P	**P**	**11 19 58.3**	**-0.8**
	comp=Z,16nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**64.39**	**242**	*e*P	**P**	**11 20 02.9**	**-0.8**
	comp=Z,21nm,0.6s,mb5.3						
NWAO	**Narrogin (SRO)**	**64.75**	**241**

YSS	**Yuzh-Sakhalins**	**74.33**	**330**	⇑*eP*	**P**	**11 21 06.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**74.33**	**330**	*eP*	**P**	**11 21 04.2**	**-1.0**
MNV	**Mina**	**74.58**	**42**	*eP*	**P**	**11 21 06.6**	**-0.1**
MNV				*e**PP	pP	11 21 13.5	-1.4
MNV				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
MNV	**Mina**	**74.58**	**42**	*eP*	**P**	**11 21 06.6**	**-0.1**
	comp=Z,10nm,1.3s,mb4.6						
MNV				*e*pP	pP	11 21 13.5	-1.4
TPH	**Tonopah**	**74.97**	**42**	*eP*	**P**	**11 21 08.3**	**-0.7**
TPH				*e**PP	pP	11 21 16.1	-1.1
TPH				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
TPH	**Tonopah**	**74.97**	**42**	*eP*	**P**	**11 21 08.3**	**-0.7**
	comp=Z,18nm,1.1s,mb4.9						
TPH				*e*pP	pP	11 21 16.1	-1.1
NEN	**Nelson**	**75.22**	**46**	*eP*	**P**	**11 21 09.2**	**-1.2**
NEN				*e*sP	sP	11 21 21.7	+0.1
SHPR	**Sheep Range**	**75.47**	**45**	P	**P**	**11 21 12.2**	**+0.4**
WVOR	**Wild Horse Val**	**76.64**	**38**	*eP*	**P**	**11 21 18.7**	**+0.2**
WVOR				*e**PP	pP	11 21 25.8	-0.9
WVOR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**76.64**	**38**	*eP*	**P**	**11 21 18.7**	**+0.2**
	comp=Z,12nm,1.1s,mb4.8						
WVOR				*e*pP	pP	11 21 25.8	-0.9
VFP	**Flag Point**	**76.81**	**34**	P	**P**	**11 21 19.9**	**+0.4**
ARUT	**Antelope Range**	**77.31**	**44**	*eP*	**P**	**11 21 22.3**	**0.0**
LON	**Longmire**	**77.54**	**33**	P	**P**	**11 21 23.5**	**0.0**
ELK	**Elko**	**77.75**	**41**	*eP*	**P**	**11 21 25.0**	**+0.3**
ELK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ELK	**Elko**	**77.75**	**41**	*eP*	**P**	**11 21 24.9**	**+0.2**
	comp=Z,9.8nm,1.2s,mb4.6						
KSM	**Kuching**	**77.77**	**275**	*eP*	**P**	**11 21 25.8**	**+1.0**
RMW	**Rattlesnake Mo**	**78.00**	**33**	P	**P**	**11 21 26.4**	**+0.3**
HAWA	**Hanford**	**78.53**	**35**	P	**P**	**11 21 29.0**	**0.0**
MSU	**Marysvale**	**78.54**	**44**	*eP*	**P**	**11 21 29.8**	**+0.7**
MSU				*e**PP	pP	11 21 37.1	-0.2
GBL	**Gable Mountain**	**78.70**	**34**	P	**P**	**11 21 30.4**	**+0.4**
SSE	**Sheshan**	**78.78**	**307**	P	**P**	**11 21 30.4**	**0.0**
SSE				AP	pP	11 21 37.0	-1.6
SSE				XP	sP	11 21 39.6	-2.0
SSE				S	S	11 31 26.6	+0.1
SSE				SCS	ScS	11 31 50.1	-0.2
SSE				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,274nm,4.6s						
SSE				LR	LR		
	comp=N,77nm,26.8s,MS4.1						
SSE				LR	LR		
	comp=E,79nm,26.8s,MS4.1						
SSE				LR	LR		
	comp=Z,139nm,22.6s,MS4.2						
BMO	**Blue Mountains**	**78.85**	**37**	*eP*	**P**	**11 21 30.0**	**-0.8**
BMO				*e**SP	sP	11 21 41.9	-0.1
BMO				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BMO	**Blue Mountains**	**78.85**	**37**	*eP*	**P**	**11 21 30.0**	**-0.8**
	comp=Z,5.9nm,1.2s,mb4.4						
BMO				*e*sP	sP	11 21 41.9	-0.1
DUG	**Dugway**	**79.00**	**43**	*eP*	**P**	**11 21 31.8**	**+0.2**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
DUG	**Dugway**	**79.00**	**43**	*eP*	**P**	**11 21 31.8**	**+0.1**
	comp=Z,7.2nm,1.2s,mb4.5						
WTV	**Waterville**	**79.12**	**33**	P	**P**	**11 21 32.1**	**-0.2**
HABR	**Khabarovsk**	**79.18**	**328**	*i* P	**P**	**11 21 32.9**	**+0.3**
HABR				*e*S	S	11 31 31.3	+0.5
HABR				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
HABR				MLR	MLR		
	comp=Z,227nm,14.1s,MS4.7						
OD2	**Odessa Site #2**	**79.59**	**34**	P	**P**	**11 21 34.8**	**-0.1**
TMUT	**Trail Mountain**	**79.59**	**44**	*eP*	**P**	**11 21 35.5**	**+0.7**
TMUT				*e*pP	pP	11 21 43.2	+0.1
HLID	**Hailey**	**79.82**	**39**	*eP*	**P**	**11 21 36.2**	**+0.1**
	comp=Z,7.2nm,1.1s,mb4.5						
HLID				*e*pP	pP	11 21 42.7	-1.7
TTA	**Tatalina**	**79.85**	**8**	*eP*	**P**	**11 21 36.1**	**-0.2**
TTA				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1						
TTA	**Tatalina**	**79.85**	**8**	*eP*	**P**	**11 21 36.1**	**-0.2**
	comp=Z,50nm,1.8s,mb5.2						
MDJ	**Mudanjiang**	**79.88**	**322**	P	**P**	**11 21 36.8**	**+0.4**
MDJ				XP	sP	11 21 46.0	-1.6
MDJ				PP	PP	11 24 36.8	-1.2
MDJ				S	S	11 31 39.0	+0.8
MDJ				XS	sS	11 31 50.3	-1.5
MDJ				SCS	ScS	11 31 58.5	-0.7
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,188nm,6.2s						
MDJ				LR	LR		
	comp=N,159nm,21.8s,MS4.5						
MDJ				LR	LR		
	comp=E,175nm,22.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,279nm,21.8s,MS4.6						
DIV	**Divide**	**79.93**	**13**	*eP*	**P**	**11 21 35.8**	**-0.9**
	comp=Z,24nm,0.6s,mb5.3						
SRU	**San Rafael**	**79.96**	**44**	P	**P**	**11 21 37.1**	**+0.3**
SRU				*PP	pP	11 21 44.5	-0.6
MNTX	**Cornudas Mount**	**80.21**	**53**	P	**P**	**11 21 38.5**	**+0.3**
	comp=Z,6.9nm,1.2s,mb4.5						
TCUT	**Toone Canyon**	**80.39**	**42**	P	**P**	**11 21 39.8**	**+0.6**
HWUT	**Hardware Ranch**	**80.55**	**42**	*eP*	**P**	**11 21 41.5**	**+1.5**
	comp=Z,1.7nm,0.9s,mb4.0						
PV10	**Paradox Valley**	**80.61**	**46**	*eP*	**P**	**11 21 40.3**	**0.0**
PV01	**Paradox Valley**	**80.81**	**46**	*eP*	**P**	**11 21 41.3**	**-0.1**
PV01				*e*pP	pP	11 21 49.4	-0.2
ANMO	**Albuquerque**	**80.84**	**50**	*eP*	**P**	**11 21 42.2**	**+0.6**
ANMO				*e**PP	pP	11 21 48.9	-0.9
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANMO	**Albuquerque**	**80.84**	**50**	*eP*	**P**	**11 21 42.2**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.0						
ANMO				*e*pP	pP	11 21 48.9	-1.0
MA2	**Magadan**	**80.96**	**342**	*eP*	**P**	**11 21 39.4**	**-2.8**
MA2				*e*S	S	11 31 41.6	-8.0
MA2				*e*SSS		11 40 23.5	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
MA2	**Magadan**	**80.96**	**342**	*eP*	**P**	**11 21 41.3**	**-0.9**
	comp=Z,16nm,1.0s,mb4.9						
MA2				*e*PcP	PcP	11 21 47.6	-1.1
NEW	**Newport**	**80.97**	**34**	LR	LR	11 49 40.8	
	comp=Z,236nm,20.1s,MS4.5,baz=23,slow=30						
NEW	**Newport**	**80.97**	**34**	P	**P**	**11 21 41.8**	**-0.5**
NEW				*PP	pP	11 21 51.9	+1.4
NJ2	**Nanjing**	**80.99**	**307**	*eP*	**P**	**11 21 44.9**	**+2.5**
NJ2				AP	pP	11 21 53.9	+3.3
NJ2				XP	sP	11 21 56.1	+2.5
NJ2				PP	PP	11 24 52.4	+5.2
NJ2				S	S	11 31 49.0	-0.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,220nm,7.2s						
NJ2				LR	LR		
	comp=N,950nm,28.1s						
NJ2				LR	LR		
	comp=E,510nm,36.0s						
NJ2				LR	LR		
	comp=Z,450nm,23.6s,MS4.8						
KLR	**Kul'dur**	**81.37**	**327**	*eP*	**P**	**11 21 38.0**	**-6.4**
MCMT	**McKenzie Canyo**	**81.45**	**39**	*eP*	**P**	**11 21 45.0**	**+0.2**
MCK	**McKinley**	**81.69**	**11**	*eP*	**P**	**11 21 44.7**	**-1.4**
MCK				*e**PP	pP	11 21 53.5	-0.8
MCK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MCK	**McKinley**	**81.69**	**11**	*eP*	**P**	**11 21 44.7**	**-1.4**
	comp=Z,7.6nm,0.9s,mb4.6						
MCK				*e*pP	pP	11 21 53.5	-0.9
DLMT	**Dillon**	**81.89**	**38**	*eP*	**P**	**11 21 46.9**	**-0.3**
	comp=Z,13nm,1.2s,mb4.7						
REDW	**Red Top Meadow**	**81.91**	**41**	pP	pP	11 21 53.7	-1.8
MSO	**Missoula**	**81.91**	**36**	P	**P**	**11 21 46.8**	**-0.5**
CN2	**Changchun**	**81.94**	**320**	*eP*	**P**	**11 21 47.5**	**+0.1**
CN2				*e*AP	pP	11 21 55.4	-0.3
CN2				*e*XP	sP	11 21 58.6	-0.1
CN2				*e*S	S	11 31 59.5	-0.2
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.6						
BSMT	**Bassoo Peak**	**82.01**	**35**	P	**P**	**11 21 47.1**	**-0.6**
IMW	**Indian Meadow**	**82.13**	**40**	*eP*	**P**	**11 21 48.6**	**+0.2**
IMW				*e*		11 21 53.4	
MOOW	**Moose Ponds**	**82.17**	**40**	P	**P**	**11 21 49.7**	**+1.1**
QLMT	**Earthquake Lak**	**82.31**	**39**	*eP*	**P**	**11 21 50.2**	**+0.8**
CHMT	**Chamberlain Mo**	**82.35**	**37**	*eP*	**P**	**11 21 48.9**	**-0.7**
FLWY	**Flagg Ranch**	**82.37**	**40**	*eP*	**P**	**11 21 50.2**	**+0.5**
	comp=Z,23nm,1.3s,mb5.0						
BW06	**Boulder Array**	**82.42**	**42**	P	**P**	**11 21 49.8**	**-0.2**
	comp=Z,4.7nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**82.42**	**42**	P	**P**	**11 21 49.1**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=231,slow=2.9,SNR=24						
PDAR				LR	LR	11 53 56.5	
	comp=Z,286nm,18.3s,MS4.7,baz=256,slow=32						
YMR	**Madison River**	**82.51**	**39**	*eP*	**P**	**11 21 51.0**	**+0.6**
	comp=Z,20nm,1.3s,mb5.0						
BOZ	**Bozeman (W)**	**82.62**	**38**	P	**P**	**11 21 50.9**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
BOZ	**Bozeman (W)**	**82.62**	**38**	P	**P**	**11 21 50.9**	**-0.1**
	comp=Z,9.1nm,1.3s,mb4.7						
SDCO	**Great Sand Dun**	**82.78**	**48**	*eP*	**P**	**11 21 52.9**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.3						
COLA	**College**	**82.93**	**10**	*eP*	**P**	**11 21 51.4**	**-1.2**
COLA				*e**SP	sP	11 22 03.3	-0.5
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
COLA	**College**	**82.93**	**10**	*eP*	**P**	**11 21 51.4**	**-1.2**
	comp=Z,11nm,0.8s,mb4.9						
COLA				*e*pP	pP	11 21 59.4	-1.5
COLA				*e*sP	sP	11 22 03.2	-0.6
ILAR	**Eielson Array**	**83.01**	**11**	P	**P**	**11 21 51.4**	**-1.6**
	comp=Z,2.2nm,0.6s,mb4.3,baz=231,slow=6.4,SNR=65						
ILAR				LR	LR	11 50 40.4	
	comp=Z,180nm,20.4s,MS4.4,baz=351,slow=30						
HRY	**Holter Researc**	**83.06**	**37**	*eP*	**P**	**11 21 52.3**	**-1.0**
SEY	**Seymchan**	**83.31**	**345**	*eP*	**P**	**11 21 54.4**	**-0.1**
SEY						11 25 07.8	
SEY				*e*		11 27 07.5	
SEY				*e*S	S	11 32 13.6	0.0
SEY				PS		11 33 13.1	
SEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
SEY				pmax	pmax		
	comp=E,8.0nm,1.3s						
SEY				smax			
	comp=N,90nm,17.4s						
SEY				smax			
	comp=E,120nm,17.4s						
SEY				MLR	MLR		
	comp=N,80nm,18.0s,MS4.3						
SEY				MLR	MLR		
	comp=Z,120nm,18.0s,MS4.3						
SEY				MLR	MLR		
	comp=E,71nm,15.0s,MS4.3						
QIZ	**Qiongzhong**	**83.64**	**292**	*eP*	**P**	**11 22 01.3**	**+5.1**
QIZ				S	S	11 32 15.3	-1.7
QIZ				LR	LR		
	comp=Z,311nm,17.7s,MS4.7						
GCMT	**Greycliff**	**83.87**	**39**	*eP*	**P**	**11 21 57.3**	**-0.1**
BILL	**Bilibino**	**85.25**	**352**⇓	*eP*	**P**	**11 22 03.3**	**-1.1**
BILL				*e*SS	SS	11 38 05.7	-1.7
BILL				pmax	pmax		
	comp=Z,23nm,1.7s,mb5.0						
BILL	**Bilibino**	**85.25**	**352**	*eP*	**P**	**11 22 03.6**	**-0.7**
	comp=Z,8.9nm,1.0s,mb4.8						
RSSD	**Black Hills**	**86.61**	**42**	*eP*	**P**	**11 22 09.9**	**-1.2**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**86.61**	**42**	*eP*	**P**	**11 22 09.9**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.5						
MAW	**Mawson**	**87.32**	**198**	LR	LR	11 59 22.8	
	comp=Z,455nm,20.4s,MS4.9,baz=84,slow=34						
KULM	**Kulim**	**88.09**	**276**	*eP*	**P**	**11 22 18.7**	**+0.5**
PLCA	**Paso Flores**	**88.67**	**132**	LR	LR	11 53 12.2	
	comp=Z,433nm,18.4s,MS4.9,baz=176,slow=30						
INK	**Inuvik**	**88.80**	**14**	P	**P**	**11 22 20.7**	**-0.9**
GYA	**Guiyang**	**88.82**	**298**⇑	*i*P	**P**	**11 22 23.3**	**+1.6**
GYA				AP	pP	11 22 31.4	+1.4
GYA				XP	sP	11 22 34.5	+1.5
GYA				PP	PP	11 25 55.8	+4.9
GYA				SKS		11 32 49.1	
GYA				S		11 33 07.9	
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,430nm,18.9s,MS5.0						
GYA				LR	LR		
	comp=E,380nm,19.0s,MS5.0						
GYA				LR	LR		
	comp=Z,410nm,18.6s,MS4.9						
CLNS	**Chul'man**	**89.08**	**331**	*eP*	**P**	**11 22 21.6**	**-1.3**
CLNS				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.4						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
XAN	**Xi'an**	**89.45**	**306**	P	**P**	**11 22 26.3**	**+1.6**
XAN				AMB	AMB		
	comp=Z,15nm,1.6s,mb5.1						
HHC	**Hu-ho-hao-te**	**89.87**	**313**	⇑P	**P**	**11 22 28.1**	**+1.5**
HHC				AP	pP	11 22 34.3	-0.6
HHC				XP	sP	11 22 36.8	-1.1
HHC				PP	PP	11 26 02.9	+3.6
HHC				SKS		11 32 55.3	
HHC				S		11 33 16.9	
HHC				SS	SS	11 39 15.3	+0.4
HHC				AMB	AMB		
	comp=Z,17nm,1.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,130nm,6.0s						
HHC				LR	LR		
	comp=N,272nm,13.2s,MS5.0						
HHC				LR	LR		
	comp=E,284nm,12.0s,MS5.0						
HHC				LR	LR		
	comp=Z,251nm,12.0s,MS4.9						
YKA	**Yellowknife Ar**	**90.51**	**23**	P	**P**	**11 22 28.1**	**-1.5**
	comp=Z,0.7nm,0.7s,mb4.1,baz=237,slow=4.8,SNR=18						
YKA				LR	LR	11 56 17.5	
	comp=Z,155nm,19.2s,MS4.5,baz=285,slow=31						
BTO	**Baotou**	**90.88**	**312**	*eP*	**P**	**11 22 32.9**	**+1.6**
KMI	**Kunming**	**91.79**	**295**	P	**P**	**11 22 37.3**	**+1.8**
KMI				AP	pP	11 22 45.3	+1.4
KMI				XP	sP	11 22 47.8	+0.9
KMI				PP	PP	11 26 20.1	+5.6
KMI				SKS		11 33 06.1	
KMI				S		11 33 32.3	
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.3						
KMI				AMB	AMB		
	comp=Z,172nm,3.8s						
KMI				LR	LR		
	comp=N,333nm,16.5s						
KMI				LR	LR		
	comp=E,224nm,24.8s						
KMI				LR	LR		
	comp=Z,253nm,17.5s,MS4.7						
CD2	**Chengdu**	**92.61**	**301**	*eP*	**P**	**11 22 40.1**	**+0.8**
CD2				AP	pP	11 22 48.1	+0.4
CD2				PP	PP	11 26 24.8	+3.9
CD2				SKS		11 33 10.4	
CD2				S		11 33 40.8	
CD2				XS	sS	11 33 54.5	-1.6
CD2				SS	SS	11 39 57.9	+3.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,50nm,4.9s						
CD2				LR	LR		
	comp=N,140nm,9.6s						
CD2				LR	LR		
	comp=Z,220nm,9.6s						
CIT	**Chita**	**92.78**	**324**	*eP*	**P**	**11 22 41.1**	**+1.0**
CIT				*e*		11 22 51.8	
CIT				pmax	pmax		
	comp=Z,70nm,2.2s,mb5.7						
LZH	**Lanzhou**	**94.04**	**306**	*eP*	**P**	**11 22 47.8**	**+1.9**
LZH				AP	pP	11 22 55.8	+1.5
LZH				XP	sP	11 22 58.5	+1.2
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,138nm,5.8s						
LZH				LR	LR		
	comp=E,303nm,18.5s						
LZH				LR	LR		
	comp=Z,520nm,19.7s,MS5.0						
ULM	**Lac du Bonnet**	**94.13**	**39**	LR	LR	12 01 01.5	
	comp=Z,206nm,21.5s,MS4.6,baz=266,slow=33						
BOD	**Bodaibo**	**94.78**	**329**	*eP*	**P**	**11 22 41.6**	**-7.7**
ULN	**Ulaanbaatar**	**95.28**	**318**	*eP*	**P**	**11 22 51.8**	**+0.2**
ULN				*e**PP	pP	11 22 59.4	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**95.28**	**318**	*eP*	**P**	**11 22 51.8**	**+0.2**
	comp=Z,1.6nm,1.0s,mb4.4						
ULN				*e*pP	pP	11 22 59.4	-0.5
SONM	**Songino Array**	**95.69**	**318**	P	**P**	**11 22 53.8**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.9,baz=135,slow=3.7,SNR=4.3						
SONM				LR	LR	11 59 26.6	
	comp=Z,247nm,21.9s,MS4.6,baz=111,slow=31						
TIXI	**Tiksi**	**95.79**	**344**	*eP*	**P**	**11 22 51.3**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.8						
GTA	**Gaotai**	**98.01**	**309**	P	**P**	**11 23 04.9**	**+0.9**
GTA				AP	pP	11 23 12.0	-0.3
GTA				XP	sP	11 23 14.8	-0.5
GTA				PP	PP	11 27 04.5	+1.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.6						
ZAK	**Zakamensk**	**98.37**	**320**	*eP*	**P**	**11 22 56.8**	**-8.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.8						
LPAZ	**La Paz**	**99.09**	**110**	LR	LR	11 58 39.6	
	comp=Z,226nm,18.7s,MS4.7,baz=300,slow=30						
ROSC	**El Rosal**	**99.51**	**88**	LR	LR	11 57 53.4	
	comp=Z,135nm,18.4s,MS4.5,baz=242,slow=29						
MKAR	**Makanchi Array**	**111.67**	**314**	PKiKP	PKiKP	11 28 01.1	-1.2
	comp=Z,0.4nm,0.6s,baz=33,slow=0.3,SNR=5.2						
KURK	**Kurchatov**	**113.99**	**319**	*i* PKIKP	PKiKP	11 28 06.6	-0.1
ZRNK	**Zerenda**	**119.57**	**322**	*e*PKIKP	PKPdf	11 28 15.6	-1.8
ARU	**Arti**	**124.19**	**328**	*i* PKIKP	PKPdf	11 28 24.6	-1.7
ARU				*e*		11 35 24.8	
ARU				*e*SS	SS	11 46 55.9	-4.6
ARCES	**ARCESS Array B**	**125.35**	**352**	PKP	PKPdf	11 28 27.4	-1.1
	comp=Z,2.5nm,0.8s,baz=343,slow=1.3,SNR=11						
KLMR	**Klimovskoe**	**129.60**	**340**	*e*PKIKP	PKPdf	11 28 34.0	-2.6
KLMR				pmax	pmax		
	comp=Z,30nm,1.9s						
FINES	**FINESS Array B**	**132.71**	**348**	PKP	PKPdf	11 28 43.1	+0.6
	comp=Z,2.1nm,0.9s,baz=338,slow=2.1,SNR=4.8						
OBN	**Obninsk**	**134.94**	**336**⇓	*i*PKIKP	PKPdf	11 28 44.5	-2.2
OBN				*e*		11 31 17.8	
OBN				*e*		11 35 44.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.9						
OJC	**Ojcow**	**144.44**	**346**	*e*PKP	PKPdf	11 29 02.1	-1.8
CLL	**Collm**	**144.54**	**354**	*e*PKPbc	PKPdf	11 29 04.1	0.0
CLL	**Collm**	**144.54**	**354**	*i* PKPdf	PKPdf	11 29 04.4	+0.3
	comp=Z,7.0nm,0.9s						
CLL				*e*pPKPdf	pPKPdf	11 29 11.0	-1.7
CLL	**Collm**	**144.54**	**354**	*i* PKIKP	PKPdf	11 29 04.4	+0.3
CLL				*e*		11 29 11.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MALT	**Malatya**	**144.71**	**315**	⇑PKIKP	PKPdf	11 29 05.3	+0.9
MALT	**Malatya**	**144.71**	**315**	*e*PKPdf	PKPdf	11 29 05.2	+0.8
STHS	**Stebnicka Huta**	**144.82**	**344**	*e*PKP	PKPdf	11 29 04.5	-0.1
BRG	**Berggiesshubel**	**144.86**	**353**	*i* PKIKP	PKPdf	11 29 04.5	-0.2
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
UPC	**Upice**	**144.92**	**350**	*e*PKP	PKPdf	11 29 05.0	+0.2
KOLS	**Kolonicke sedl**	**144.97**	**343**	*e*PKP	PKPdf	11 29 03.4	-1.5
DPC	**Dobruska-Polom**	**145.02**	**350**	*e*PKP	PKPdf	11 29 04.2	-0.7
NIE	**Niedzica**	**145.06**	**345**	*e*PKP	PKPdf	11 29 05.2	+0.2
PVCC	**Panska Ves**	**145.12**	**352**	*e*PKP	PKPdf	11 29 04.7	-0.4
PVCC				*e*pPKP	pPKPdf	11 29 10.3	-3.4
OKC	**Ostrava-Krasne**	**145.16**	**348**	*e*PKP	PKPdf	11 29 02.7	-2.5
BURAR	**Bucovina Array**	**145.19**	**338**	⇑P	PKPbc	11 29 05.9	+1.0
CRVS	**Cervenica-Dubn**	**145.23**	**343**	*e*PKP	PKPdf	11 29 06.7	+1.4
MOX	**Moxa**	**145.33**	**355**	*e*PKPbc	PKPbc	11 29 04.1	-1.2
MOX	**Moxa**	**145.33**	**355**	*e*PKP	PKPdf	11 29 04.7	-0.8
	comp=Z,43nm,1.8s						
MOX	**Moxa**	**145.33**	**355**	*e*PKIKP	PKPdf	11 29 04.7	-0.8
MOX				pmax	pmax		
	comp=Z,43nm,1.8s						
MORC	**Moravsky Berou**	**145.34**	**348**	*e*PKIKP	PKPdf	11 29 05.6	+0.1
MORC				*e*		11 29 13.5	
WERD	**Werda**	**145.46**	**354**	*e*PKPbc	PKPbc	11 29 05.2	-0.6
PRU	**Pruhonice**	**145.65**	**352**	*e*PKP	PKPdf	11 29 06.0	0.0
PRU				*e*pPKP	pPKPdf	11 29 14.2	-0.4
NKC	**Novy Kostel**	**145.66**	**354**	*e*PKP	PKPdf	11 29 06.2	+0.2
NKC				*e*pPKP	pPKPdf	11 29 15.2	+0.6
KMBO	**Kilima Mbogo**	**145.70**	**243**	PKPbc	PKPbc	11 29 07.8	+1.4
	comp=Z,9.7nm,1.0s,baz=83,slow=3.4,SNR=28						
KMBO	**Kilima Mbogo**	**145.70**	**243**	*e*PKPab	PKPab	11 29 08.9	+2.0
KECS	**Kecovo**	**145.88**	**344**	*e*PKP2	PKPab	11 29 07.5	0.0
KECS				*e*		11 45 00.0	
TNS	**Taunus Mts**	**145.93**	**359**	*e*PKPbc	PKPbc	11 29 07.8	+0.6
GIVF	**Givet**	**146.01**	**3**	*e*PKP1	PKPbc	11 29 10.8	+3.4
BAIF	**Baives**	**146.02**	**3**	*e*PKP1	PKPbc	11 29 11.1	+3.6
VRI	**Vrincioaia**	**146.

```
LFF  La Frestale      150.73  9 ePKP1   PKPbc   11 29 24.0 +4.1
CAF  Calviac          150.93  7 ePKP1   PKPbc   11 29 23.8 +3.5
TORD Torodi Ar. Bea   173.98 118 PKP    PKPdf   11 29 36.5 -0.7
     comp=Z,0.9nm,0.9s,baz=327,slow=1.3,SNR=4.4
TORD                          PKPab   PKPab   11 31 09.1 +0.9
     comp=Z,1.1nm,1.0s,baz=237,slow=4.0,SNR=3.0
```

CSEM ***16*** *11:11:11.2±1.3, 3860N×2845W, h14km±5km, ML1.9, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0, After PDA*
PDA ***16*** *11:11:11.2±1.3, 3860N×2845W, h14km±5km, MD2.8, ML1.9, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0*
SVSA 16 11:11:11.2±1.3, 3860N×2845W, h14km±5km, MD2.8, ML1.9, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0, Azores Islands

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Code  Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PICO  Pico           0.10 169   i P   Pg          11 11 13.5 -0.8
PICO                            eS    Sg          11 11 16.0 -0.5
PICO  Pico           0.10 169   eS    Sg          11 11 16.0 -0.5
PCND  Candelaria     0.13 184   i P   Pg          11 11 14.7 +0.1
PCND                            eS    Sg          11 11 17.2 +0.1
PCND
      62nm,0.1s
HOR   Horta          0.16 242   eP    Pg          11 11 14.3 -0.7
HOR                             eS    Sg          11 11 17.2 -0.5
PBOI  Pico dos Bois  0.17 160   eP    Pg          11 11 14.7 -0.6
PBOI                            eS    Sg          11 11 17.6 -0.5
PBOI
      47nm,0.2s
PPNO  Prainha do Nor 0.20 131   eP    Pg          11 11 14.9 -0.7
PPNO                            eS    Sg          11 11 18.4 -0.3
PPNO
      138nm,0.1s
PPNO  Prainha do Nor 0.20 131   eP    Pg          11 11 14.9 -0.7
PPNO                            eS    Sg          11 11 18.4 -0.3
CALA  Caldeira       0.20 264   eP    Pg          11 11 15.2 -0.4
CALA                            eS    Sg          11 11 18.8 +0.1
PCED  Cedros         0.20 278   eP    Pg          11 11 14.8 -0.9
PCED                            eS    Sg          11 11 18.3 -0.4
PCED
      78nm,0.2s
PCED  Cedros         0.20 278   eP    Pg          11 11 14.8 -0.9
PCED                            eS    Sg          11 11 18.3 -0.4
ROSA  Rosais         0.20  54   i P   Pg          11 11 14.8 -0.9
ROSA                            eS    Sg          11 11 18.3 -0.5
ROSA  Rosais         0.20  54   eS    Sg          11 11 18.3 -0.5
PAMA  Santo Amaro    0.23  70   eP    Pg          11 11 16.0 -0.1
PAMA                            eS    Sg          11 11 19.0 -0.5
PMAN  Manadas        0.28  84   eP    Pg          11 11 16.6 -0.5
PMAN                            eS    Sg          11 11 20.5 -0.6
PMAN
      89nm,0.1s
PMAN  Manadas        0.28  84   eP    Pg          11 11 16.6 -0.5
PMAN                            eS    Sg          11 11 20.5 -0.6
```

ISCJB ***16*** *11:17:42.5±0.3, 3447N±002×561W±003, h10km, Error ellipse: s-maj=3.8km s-min=2.5km az=174.6*
CSEM ***16*** *11:17:45.0±0.1, 3444N×566W, h40km, MD3.5, Error ellipse: s-maj=4.7km s-min=2.6km az=89.0*
CNRM ***16*** *11:17:46.4, 3434N×546W, h8km, MD3.5*
MDD ***16*** *11:17:46.2±1.3, 3441N×548W, h18km±11km, mb3.5/8, Error ellipse: s-maj=5.9km s-min=3.9km az=92.0, PRXIMO*
ISC 16 11:17:43.6±0.3, 3444N±002×553W±003, h10km, n40, σ1§40/74, Morocco

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Code  Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
TSY   Tnine Yamani   0.99 339   P     Pg          11 18 06.0 +3.3
TSY                             S     Sg          11 18 19.5 +3.8
TSY   Tnine Yamani   0.99 339   i P   Pg          11 18 06.0 +3.3
MIF   Mishlifen      1.06 166   P     Pg          11 18 04.0  0.0
MIF                             S     Sg          11 18 16.0 -1.8
MIF   Mishlifen      1.06 166   i P   Pg          11 18 04.0  0.0
TZK   Tazeka         1.17 107   P     Pb          11 18 05.0 -0.8
TZK                             S     Sb          11 18 20.0 -1.0
RTC   Rabat Centre   1.19 248   i P   Pb          11 18 08.0 +1.8
RTC                             i S   Sb          11 18 24.0 +2.3
CZD   Col de Zad     1.46 164   i P   Pn          11 18 11.0 +1.0
CZD                             eS    Sn          11 18 28.5 -0.8
MPAL  Palemas        1.52  59   i P   Pn          11 18 13.5 +2.7
MPAL                            i S   Sn          11 18 32.0 +1.4
TOU   Touzarine      1.55  70   i P   Pn          11 18 13.0 +1.8
TOU                             i S   Sn          11 18 32.0 +0.6
KIB   El Ksiba       1.91 193   i P   Pn          11 18 17.0 +0.8
KIB                             i S   Sn          11 18 38.0 -2.3
AVE   Averroes       1.94 234   P     Pn          11 18 17.0 +0.4
AVE                             S     Sn          11 18 43.5 +2.5
EJIF  Jimena Fronter 2.00   1   P     Pn          11 18 19.3 +1.9
      3.3nm,0.2s,SNR=8.1
EJIF                            S     Sn          11 18 44.4 +1.9
      2.0nm,0.3s,SNR=4.0
EJIF  Jimena Fronter 2.00   1   P     Pn          11 18 19.3 +1.8
      3.3nm,0.2s,SNR=8.1
EJIF                            S     Sn          11 18 38.1 -4.5
      2.0nm,0.3s,SNR=7.9
EMIJ  Mijas          2.20  16   P     Pn          11 18 21.0 +0.8
      3.9nm,0.4s,SNR=7.9
EMIJ                            S     Sn          11 18 47.5  0.0
      7.0nm,0.2s,SNR=7.9
TZC   Tazercounte    2.43 200   i P   Pn          11 18 23.0 -0.3
TZC                             i S   Sn          11 18 51.0 -2.0
ESPR  Espera         2.43 354   P     Pn          11 18 24.1 +0.7
      0.5nm,0.4s,SNR=7.9
ESPR                            S     Sn          11 18 53.5 +0.3
      16nm,0.3s,SNR=7.9
ESPR  Espera         2.43 354   P     Pn          11 18 25.3 +1.9
      0.5nm,0.4s,SNR=7.9
ESPR                            S     Sn          11 18 53.5 +0.3
      16nm,0.3s,SNR=7.9
ZFT   Errachidia     2.60 157   i P   Pn          11 18 26.0 +0.4
ZFT                             i S   Sn          11 18 55.0 -2.2
EGUA  Guajares       2.87  33   P     Pn          11 18 31.4 +2.0
      0.4nm,0.2s,SNR=7.9
EGUA                            S     Sn          11 19 02.1 -1.8
      1.1nm,0.3s,SNR=4.0
ERIP  Rio Piedras    3.24 335   P     Pn          11 18 34.4 -0.1
      1.7nm,0.1s,SNR=7.9
ERIP                            S     Sn          11 19 11.6 -1.5
      20nm,0.1s,SNR=7.9
ERIP  Rio Piedras    3.24 335   P     Pn          11 18 34.1 -0.4
      SNR=7.9
ERIP                            S     Sn          11 19 10.6 -2.5
      20nm,0.1s,SNR=7.9
EBER  Berja          3.26  40   P     Pn          11 18 35.0 +0.3
      0.6nm,0.1s,SNR=7.9
EBER                            S     Sn          11 19 13.6 +0.1
      9.4nm,0.3s,SNR=7.9
EBER  Berja          3.26  40   P     Pn          11 18 35.0 +0.3
      0.6nm,0.1s,SNR=7.9
EBER                            S     Sn          11 19 13.9 +0.4
      9.4nm,0.3s,SNR=7.9
ELUQ  Luque          3.27  18   S     Sn          11 19 14.7 +0.8
      6.7nm,0.2s,SNR=4.0
EMIN  Mina Concepcio 3.44 345   P     Pn          11 18 36.8 -0.5
      0.8nm,0.1s,SNR=13
EMIN                            S     Sn          11 19 16.0 -2.1
      4.8nm,0.1s,SNR=7.9
EMIN  Mina Concepcio 3.44 345   P     Pn          11 18 36.8 -0.5
      0.8nm,0.1s,SNR=13
EMIN                            S     Sn          11 19 16.0 -2.1
      4.8nm,0.1s,SNR=7.9
EGRO  El Granado     3.47 333   P     Pn          11 18 37.6  0.0
      7.4nm,0.1s,SNR=58
EGRO                            S     Sn          11 19 16.9 -1.8
      12nm,0.1s,SNR=5.1
EGRO  El Granado     3.47 333   P     Pn          11 18 37.6  0.0
      7.4nm,0.1s,SNR=58
EGRO                            S     Sn          11 19 16.9 -1.8
      12nm,0.1s,SNR=5.1
EADA  Adamuz         3.79  11   P     Pn          11 18 42.5 +0.4
      SNR=4.0
EADA                            S     Sn          11 19 25.2 -1.6
      3.5nm,0.1s,SNR=5.4
CIA   Chichaoua      3.95 224   i P   Pn          11 18 45.5 +1.3
CIA                             i S   Sn          11 19 30.0 -0.6
EBAN  Banos Encina   3.97  20   P     Pn          11 18 45.3 +0.8
      1.5nm,0.1s,SNR=7.9
EBAN                            S     Sn          11 19 28.9 -2.2
      3.5nm,0.3s,SNR=7.9
PTEO  Sao Teotonio   4.04 321   eSn   Sn          11 19 31.2 -1.5
PTEO
      11nm,0.3s
PTEO  Sao Teotonio   4.04 321   eSn   Sn          11 19 31.2 -1.5
      11nm,0.3s
PBEJ  Beja           4.04 333   ePn   Pn          11 18 46.5 +1.0
PBEJ                            eSn   Sn          11 19 31.0 -1.9
PBEJ
      8.6nm,0.2s
PBEJ  Beja           4.04 333   ePn   Pn          11 18 46.5 +1.0
PBEJ                            eSn   Sn          11 19 31.0 -1.9
      8.6nm,0.2s
EBAD  Badajoz        4.47 345   P     Pn          11 18 51.9 +0.6
      2.1nm,0.1s,SNR=13
EBAD                            S     Sn          11 19 41.4 -2.0
      7.7nm,0.3s,SNR=7.9
EBAD  Badajoz        4.47 345   P     Pn          11 18 51.9 +0.6
      2.1nm,0.1s,SNR=13
EBAD                            S     Sn          11 19 41.4 -1.9
      7.7nm,0.3s,SNR=7.9
MOE   Montemor       4.66 332   ePn   Pn          11 18 55.4 +1.4
MOE                             eSn   Sn          11 19 46.3 -1.9
ESDC  Sonseca Array  5.37  13   P     Pn          11 19 03.7  0.0
      2.3nm,0.2s,baz=197,slow=13,SNR=4.1
ESDC                            S     Sn          11 20 00.8 -4.7
      2.6nm,0.2s,baz=197,slow=24,SNR=4.6
ESDC  Sonseca Array  5.37  13   P     Pn          11 19 03.7  0.0
      2.3nm,0.2s,SNR=4.1
```

ISCJB ***16*** *11:29:58.1±2.7, 66S±02×1278E±04, h375km±32km, mb3.0/3, Error ellipse: s-maj=66.0km s-min=13.3km az=133.0*
IDC ***16*** *11:30:04.9±3.8, 695S×12736E, h444km±50km, mb2.7/3, mb1 2.7/5, mb1mx2.7/14, mbtmp3.5/5, Error ellipse: s-maj=103.9km s-min=16.7km az=68.0*
ISC 16 11:30:04.7±2.4, 69S±02×1275E±04, h440km±34km, n7, σ0§51/9, mb3.0/3, Banda Sea

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Code  Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
FITZ  Fitzroy Crossi 11.31 189   eP    P           11 32 35.7 -0.4
      3.5nm,0.6s
WRA   Warramunga Arr 14.57 154   P     P           11 33 11.5 +0.1
      0.2nm,0.3s,baz=329,slow=12,SNR=11
WRA                             S     S           11 35 44.7 -0.9
      0.3nm,0.3s,baz=327,slow=19,SNR=12
WB2   Warramunga Arr 14.57 154   eP    P           11 33 11.6 +0.2
ASAR  Alice Springs  17.78 161   P     P           11 33 46.1 +0.8
      0.2nm,0.3s,baz=344,slow=12,SNR=13
ASAR                            S     S           11 36 48.3 +0.8
      0.2nm,0.3s,baz=346,slow=27,SNR=7.4
STKA  Stephens Creek 28.12 154   P     P           11 35 18.8 -0.4
      0.9nm,0.5s,mb3.4,baz=331,slow=10,SNR=4.1
SONM  Songino Array  57.59 343   P     P           11 39 11.1 +0.1
      0.2nm,0.6s,mb2.6,baz=170,slow=9.6,SNR=2.4
MKAR  Makanchi Array 66.80 328   P     P           11 40 11.1 -0.2
      0.2nm,0.5s,mb3.0,baz=112,slow=7.4,SNR=2.7
```

IDC ***16*** *11:42:17.5±1.1, 4069N×7789E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.5/3, Error ellipse: s-maj=22.2km s-min=15.5km az=131.0*
MOS ***16*** *11:42:19.8±1.9, 4074N×7803E, h33km, mb4.2/7, Error ellipse: s-maj=14.0km s-min=6.2km az=103.1*
ISCJB ***16*** *11:42:21.9±0.5, 4071N±003×7807E±006, h52km±7km, mb3.8/11, Error ellipse: s-maj=7.3km s-min=4.5km az=158.0*
NEIC ***16*** *11:42:22.2±0.6, 4070N×7796E, h45km, mb3.7/3, Error ellipse: s-maj=17.2km s-min=8.2km az=65.0*
NNC ***16*** *11:42:23.7±2.5, 4104N×7775E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=16.8km s-min=13.8km az=128.0*
BJI ***16*** *11:42:23.1, 4089N×7804E, h36km, mB4.6, mb3.7, ML4.2, Ms4.2, Msz3.9*
NAO ***16*** *11:42:24.0, 41.15N×7820E, h33km, mb4.0*
ISC 16 11:42:23.8±0.4, 4075N±003×7805E±006, h52km±6km, n88, σ1§28/102, mb3.8/11, 18C-10D, Southern Xinjiang

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Code  Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
KSH   Kashi          2.01 233   i P   Pn          11 42 56.8 +1.5
KSH                             S     Sn          11 43 25.0 +5.8
KSH                             Smax
      comp=N,2μm,0.6s
KSH                             Smax
      comp=E,2μm,0.4s
ULHL  Ulahol         2.02 318   P     Pn          11 42 53.4 -2.1
      SNR=155
KZA   Kyzart         2.49 303   P     Pn          11 43 01.0 -0.8
      SNR=561
KNDC  Almaty         2.60 342   ⇑Pn   Pn          11 43 03.8 +0.4
      comp=E,7μm,0.8s
KNDC                            ⇑Lg                11 43 35.5
      comp=E,12μm,0.5s
AAA   Alma-Ata       2.66 342   i PN  Pn          11 43 05.0 +0.9
AAA                             i S   Sn          11 43 34.7 -0.4
AAA                             pmax  pmax
      comp=Z,1.0nm,0.5s
AAA                             smax
      comp=E,1.0nm,0.8s
TKM2  Tokmak 2       2.84 321   P     Pn          11 43 06.5 -0.2
      SNR=40
TKM2  Tokmak 2       2.84 321   ⇓Pn   Pn          11 43 06.4 -0.3
      comp=E,179nm,0.6s
TKM2                            ⇑Lg                11 43 43.3
      comp=E,734nm,0.6s
TKM2  Tokmak 2       2.84 321   PN    Pn          11 43 06.4 -0.3
TKM2                            ⇑Lg                11 43 44.0
TKM2                            pmax  pmax
      comp=Z,107nm,0.6s
TKM2  Tokmak 2       2.84 321   ⇓Pn   Pn          11 43 06.4 -0.3
TKM2                            Lg                 11 43 43.3
KBK   Karagaybulak   3.01 310   P     Pn          11 43 11.7 +2.8
      SNR=179
UCH   Uchtor         3.04 300   P     Pn          11 43 09.2 -0.2
      SNR=18
AAK   Ala-Archa      3.26 307   P     Pn          11 43 15.4 +3.0
      SNR=26
FRU   Bishkek        3.31 310   ⇓PN   Pn          11 43 18.0 +5.0
FRU                             eS    Sn          11 43 59.0 +7.9
FRU                             pmax  pmax
      comp=Z,240nm,1.6s
FRU                             smax
      comp=N,890nm,1.2s
CHMS  Chumysh        3.34 314   P     Pn          11 43 17.1 +3.7
      SNR=11
AML   Almayashu      3.55 294   P     Pn          11 43 16.1 -0.3
      SNR=71
USP   Ospenovka      3.65 315   P     Pn          11 43 22.3 +4.6
      SNR=123
EKS2  Erkin-Say      3.73 302   P     Pn          11 43 19.1 +0.3
      SNR=28
KK31  Karatay Array  6.09 295   ⇓Pn   Pn          11 43 51.9 +0.6
      comp=N,0.5nm,0.3s,baz=121,slow=12,SNR=14
KK31                            ⇑Pg                11 44 06.6 +15
      comp=N,12nm,0.5s,baz=110,slow=16,SNR=61
KK31                            ⇑Lg                11 45 22.8
      comp=N,30nm,0.5s,baz=120,slow=30
KK31  Karatay Array  6.09 295   ⇓PN   Pn          11 43 51.9 +0.6
KK31                            ⇑Lg                11 45 22.8
KK31                            pmax  pmax
      comp=Z,1.0nm,0.3s
KK31  Karatay Array  6.09 295   ⇓Pn   Pn          11 43 51.9 +0.6
      comp=Z,0.5nm,0.3s
KK31                            ⇑Pg                11 44 06.6 +15
KK31                            Lg                 11 45 22.8
KKAR  Karatay Array  6.09 295   ePN   Pn          11 44 06.5 +15
KKAR                            ⇑Lg                11 45 22.8
KKAR                            pmax  pmax
      comp=Z,10.0nm,0.5s
MK31  Makanchi Array 6.78  26   ⇑Pn   Pn          11 44 00.7 +0.1
      comp=Z,14nm,0.7s,baz=205,slow=13,SNR=37
MK31                            ⇓Lg                11 45 49.9
      comp=Z,18nm,0.6s
MK31  Makanchi Array 6.78  26   ⇑Pn   Pn          11 44 00.7 +0.1
      comp=Z,14nm,0.7s
MK31                            Lg                 11 45 49.9
MKAR  Makanchi Array 6.78  26   Pn    Pn          11 44 00.5 -0.2
      comp=Z,1.1nm,0.3s,baz=199,slow=15,SNR=27
MKAR                            Sn    Sn          11 45 17.3 +0.8
      comp=Z,1.9nm,0.3s,baz=206,slow=21,SNR=4.9
MKAR                            Lg                 11 45 56.6
      comp=Z,2.6nm,0.3s,baz=215,slow=29,SNR=5.6
MKAR  Makanchi Array 6.78  26   PN    Pn          11 44 00.7  0.0
MKAR                            pmax  pmax
      comp=Z,1.0nm,0.3s
MKAR  Makanchi Array 6.78  26   Pn    Pn          11 44 00.5 -0.2
MKAR                            Sn    Sn          11 45 17.3 +0.8
MKAR                            Lg                 11 45 56.6
WMQ   Urumqi         7.79  64   eP    Pn          11 44 17.5 +3.1
WMQ                             S     Sn          11 45 46.5 +5.3
WMQ                             Smax
      comp=N,75nm,0.9s
WMQ                             Smax
      comp=E,71nm,0.9s
DLH   Dalhousie      8.36 192   eP    Pn          11 44 24.0 +1.8
THN   Thein Dam      8.50 193   eP    Pn          11 44 24.3  0.0
SMLA  Simla          9.62 185   eP    Pn          11 44 39.9 +0.3
SMLA                            eS    Sn          11 46 20.1 -6.2
KURK  Kurchatov      9.98   2   ⇑Pn   Pn          11 44 42.6 -1.8
      comp=E,4.4nm,1.2s
KURK                            ⇓Lg                11 47 16.4
      comp=E,32nm,1.4s
KURK  Kurchatov      9.98   2   ⇑Pn   Pn          11 44 42.6 -1.8
KURK                            Lg                 11 47 16.4
DDI   Dehra Dun     10.40 180   eP    Pn          11 44 51.0 +0.8
DDI                             ex    x           11 46 44.0
NDI   New Delhi     12.05 183   eS    Sn          11 47 19.0 -6.6
SONA  Sohna         12.49 184   eP    Pn          11 45 18.9 +0.2
SONA                            eS    Sn          11 47 28.9 -7.4
SONA                            AML   AML         11 47 34.3
      comp=E,16nm,0.3s
SONA                            AML   AML         11 47 36.4
      comp=N,9.8nm,0.4s
KUDL  Kundal        12.63 186   eP    Pn          11 45 21.0 +0.2
KUDL                            eS    Sn          11 47 31.1 -8.8
KUDL                            AML   AML         11 47 46.4
      comp=E,8.2nm,0.8s
KUDL                            AML   AML         11 47 46.9
      comp=N,4.6nm,0.5s
KHET  Khetri        12.77 189   eP    Pn          11 45 21.7 -0.9
KHET                            eS    Sn          11 47 34.1 -9.2
KHET                            AML   AML         11 47 42.0
      comp=E,5.9nm,0.6s
KHET                            AML   AML         11 47 45.8
      comp=N,9.5nm,1.0s
VOSK  Vostochnaya   12.92 340   ⇑Pn   Pn          11 45 20.5 -4.0
      comp=N,3.2nm,1.1s
VOSK                            ⇓Lg                11 48 44.9
      comp=N,30nm,1.3s
VOSK  Vostochnaya   12.92 340   ⇑Pn   Pn          11 45 20.5 -4.0
      comp=N,3.2nm,1.0s
VOSK                            Lg                 11 48 44.9
BVA0  Borovoye Array 13.34 340  ⇑P    Pn          11 45 26.6 -3.8
      comp=N,0.9nm,0.8s,baz=148,slow=13,SNR=16
BVA0                            ⇑Lg                11 49 12.6
      comp=N,7.8nm,1.6s,baz=142,slow=26,SNR=3.6
BVA0  Borovoye Array 13.34 340  i P   Pn          11 45 26.6 -3.8
BVA0                            pmax  pmax
      comp=Z,1.0nm,0.9s
BVA0  Borovoye Array 13.34 340  ⇑P    Pn          11 45 26.6 -3.8
      comp=Z,0.9nm,0.8s
BVA0                            Lg                 11 49 12.6
BVAR  Borovoye Array 13.34 340  Pn    Pn          11 45 26.2 -4.1
      comp=Z,0.8nm,0.3s,baz=144,slow=13,SNR=18
BVAR                            Lg                 11 49 15.6
      comp=Z,0.4nm,0.3s,baz=142,slow=26,SNR=5.1
BRVK  Borovoye      13.40 339   eP    Pn          11 45 27.2 -4.0
BRVK                            pmax  pmax
      comp=Z,4.0nm,0.8s
BRVK  Borovoye      13.40 339   ePn   Pn          11 45 27.2 -4.0
      comp=Z,4.0nm,0.8s
AGRA  Agra          13.48 180   eP    Pn          11 45 30.4 -1.8
ZRNK  Zerenda       13.67 336   eP    Pn          11 45 35.7 +0.8
ZRNK                            pmax  pmax
      comp=Z,2.0nm,0.5s
ZRNK  Zerenda       13.67 336   ePn   Pn          11 45 35.6 +0.8
      comp=Z,1.6nm,0.5s
KOLN  Koldanda      13.73 159   eP    Pn          11 45 28.8 -6.8
      comp=Z,9.6nm,0.5s
KOLN                            eS    Sn          11 48 01.1 -5.4
GKN   Gorkha        13.82 155   eP    Pn          11 45 32.4 -4.5
ZAL   Zalesovo      13.96  17   Pn    Pn          11 45 37.6 -1.2
      comp=Z,0.4nm,0.3s,baz=259,slow=15,SNR=7.5
ZAL                             Lg                 11 49 43.0
      comp=Z,0.2nm,0.3s,baz=252,slow=3.5,SNR=3.8
KKN   Kakani        14.23 153   eP    Pn          11 45 39.5 -2.9
GUN   Gumba         14.34 151   eP    Pn          11 45 43.8  0.0
      comp=Z,18nm,0.7s
DMN   Daman         14.34 154   eP    Pn          11 45 40.5 -3.3
      comp=Z,6.1nm,0.4s
PKI   Pulchoki      14.48 153   eP    Pn          11 45 42.8 -2.8
NVS   Novosibirsk   14.52  12   eP    Pn          11 45 51.0 +4.8
JIRN  Jiri          14.68 150   eP    Pn          11 45 49.1 +0.8
      comp=Z,23nm,0.6s
LSA   Lhasa         15.35 132   eP    Pn          11 46 02.2 +5.3
LSA                             pmax  pmax
      comp=Z,4.0nm,0.5s
LSA   Lhasa         15.35 132   eP    Pn          11 46 02.2 +5.3
      comp=Z,3.5nm,0.5s
AB31  Akbulak array 15.35 310   ⇑P    Pn          11 45 54.1 -2.8
      comp=Z,0.9nm,0.5s,baz=113,slow=13,SNR=11
AB31  Akbulak array 15.35 310   ⇑P    Pn          11 45 54.1 -2.9
AB31                            pmax  pmax
      comp=Z,1.0nm,0.5s
AB31  Akbulak array 15.35 310   ⇑P    Pn          11 45 54.1 -2.8
      comp=Z,0.9nm,0.5s
GTA   Gaotai        16.71  87   P     Pn          11 46 14.9 +0.6
GTA                             AMB   AMB         11 49 43.9
      comp=Z,3.0nm,1.1s
AKTK  Aktyubinsk    16.99 311   Pn    Pn          11 46 17.2 -0.6
AKTO  Aktyubinsk    16.99 311   Pn    Pn          11 46 17.2 -0.6
      comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=6.9
ZAK   Zakamensk     20.04  53   eP    P           11 46 49.7 -2.7
ZAK                             e                  11 50 34.5
ZAK                             pmax  pmax
      comp=Z,7.0nm,1.2s
ZAK                             pmax  pmax
      comp=Z,6.0nm,2.1s
SONM  Songino Array 21.41  61   P     P           11 47 09.8 +2.6
      comp=Z,4.2nm,1.1s,mb3.7,baz=264,slow=10,SNR=27
SONM  Songino Array 21.41  61   P     P           11 47 09.8 +2.5
SONM                            pmax  pmax
      comp=Z,4.0nm,1.1s
BR131 Keskin Array S 33.65 283  eP    P           11 49 00.2 +0.8
      comp=Z,0.5nm,0.4s,mb3.8
BRTR  Keskin Array B 33.65 283  P     P           11 48 59.4  0.0
      comp=Z,0.4nm,0.5s,mb3.6,baz=85,slow=8.8,SNR=3.0
NJ2   Nanjing       33.72  92   eP    P           11 49 03.9 +3.8
NJ2                             S     S           11 54 25.0 +5.2
NJ2                             AMB   AMB
      comp=Z,100nm,5.3s
NJ2                             LR    LR
      comp=N,320nm,17.6s
NJ2                             LR    LR
      comp=E,600nm,25.8s
NJ2                             LR    LR
      comp=Z,370nm,26.6s
JOF   Joensuu       35.27 325   ep    P           11 49 13.2 -0.3
      comp=Z,1.4nm,0.5s,mb4.2
JOF   Joensuu       35.27 325   eP    P           11 49 13.2 -0.3
JOF                             pmax  pmax
      comp=Z,1.0nm,0.5s,mb4.0
FINES FINESS Array B 37.34 321  P     P           11 49 31.5 +0.4
      comp=Z,1.8nm,0.6s,mb4.1,baz=99,slow=9.8,SNR=13
FINES FINESS Array B 37.34 321  P     P           11 49 31.5 +0.4
FINES                           pmax  pmax
      comp=Z,2.0nm,0.6s
FINES FINESS Array B 37.34 321  P     P           11 49 31.5 +0.4
ARCES ARCESS Array B 39.54 334  P     P           11 49 49.0 -0.6
      comp=Z,0.9nm,0.7s,mb3.6,baz=98,slow=9.1,SNR=4.2
ARCES ARCESS Array B 39.54 334  P     P           11 49 49.0 -0.6
ARCES                           pmax  pmax
      comp=Z,1.0nm,0.7s
TIXI  Tiksi         39.76  23   ⇓iP   P           11 49 51.2 -0.2
TIXI                            pmax  pmax
      comp=Z,2.0nm,0.8s,mb3.9
NB2   NORSAR Subarra 44.48 320  P     P           11 50 29.7 -0.2
      comp=Z,1.3nm,0.5s,mb3.9,baz=85,slow=8.6
NOA   NORSAR Array B 44.48 320  P     P           11 50 29.7 -0.2
      comp=Z,2.2nm,0.7s,mb4.0,baz=87,slow=8.0,SNR=4.6
NOA   NORSAR Array B 44.48 320  P     P           11 50 29.7 -0.2
NOA                             pmax  pmax
      comp=Z,2.0nm,0.7s
ILAR  Eielson Array  69.09  19   P     P           11 53 24.2 -0.1
      comp=Z,0.4nm,0.7s,mb3.4,baz=315,slow=5.0,SNR=6.2
TORD  Torodi Ar. Bea 71.24 271  P     P           11 53 37.6 +0.1
      comp=Z,0.6nm,0.5s,mb3.8,baz=49,slow=4.6,SNR=4.6
YKA   Yellowknife Ar 76.61   6   P     P           11 54 09.2 +0.4
      comp=Z,0.9nm,0.4s,mb4.0,baz=347,slow=5.6,SNR=21
YKA   Yellowknife Ar 76.61   6   P     P           11 54 09.2 +0.4
```

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**76.61**	**6**	**P**	**P**	**11 54 09.2**	**+0.4**
ASAR	**Alice Springs**	**82.44**	**130**	P	**P**	**11 54 42.5**	**+2.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=319,slow=4.9,SNR=4.2						

IDC 16 11:44:10.0±2.2,366S×12811E,h0km,mb3.5/2,mb1 3.7/3, mb1mx3.5/17,mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=182.3km s-min=27.1km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.28**	**160**	P	Pn	11 48 12.9	+0.2
	0.2nm,0.3s,baz=342,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**20.66**	**165**	P	P	11 48 51.6	+0.3
	1.2nm,0.5s,baz=348,slow=11,SNR=23						
MKAR	**Makanchi Array**	**64.42**	**327**	P	P	11 54 48.2	+0.2
	0.3nm,0.5s,baz=134,slow=8.3,SNR=3.7						

*IDC **16** 11:48:37.8±2.0,2469N×12208E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.6/20,mbtmp3.7/5,Error ellipse: s-maj=153.9km s-min=23.9km az=65.0*
*JMA **16** 11:48:39.9±0.3,2504N×12248E,h30km,M3.1*
*ISCJB **16** 11:48:40.5±0.7,2484N±009×12235E±004,h34km±11km, mb3.6/6,Error ellipse: s-maj=14.7km s-min=6.3km az=17.8*
*NEIC **16** 11:48:41.1±3.2,2479N×12225E,h24km±19km,mb3.8/1, Error ellipse: s-maj=26.1km s-min=12.0km az=85.0*

ISC 16 11:48:40.4±0.9,2479N±007×12233E±004,h23km±8km, n14,σ0°64/17,mb3.6/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.70**	**118**	P	**Pb**	**11 48 54.0**	**0.0**
YOJ				*e*S	**Sb**	**11 49 04.1**	**+0.9**
TATO	**Taipei**	**0.79**	**284**	*e*Pg	**Pb**	**11 48 54.9**	**-0.6**
TATO				*e*Sg	**Sb**	**11 49 05.9**	**+0.2**
YHNB	**Yeheng**	**0.88**	**262**	*e*Pn	**Pn**	**11 48 57.0**	**-0.4**
NACB	**Ninganchiao**	**0.91**	**228**	*e*Pn	**Pn**	**11 48 58.0**	**+0.2**
NACB				*e*Sn	**Sn**	**11 49 10.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.35**	**109**	P	**Pn**	**11 49 02.7**	**-1.1**
HATJ	**Hateruma jima**	**1.53**	**118**	P	**Pn**	**11 49 06.5**	**+0.2**
JKRS	**Kuro-shima**	**1.62**	**109**	P	**Pn**	**11 49 07.0**	**-0.6**
JIJ	**Ishigaki jima**	**1.70**	**104**	P	**Pn**	**11 49 07.9**	**-0.8**
SONM	**Songino Array**	**26.24**	**335**	P	**P**	**11 54 15.1**	**+1.5**
	1.3nm,0.9s,mb3.5,baz=149,slow=9.7,SNR=9.0						
MKAR	**Makanchi Array**	**38.64**	**315**	P	**P**	**11 56 02.4**	**+0.4**
	0.7nm,0.5s,mb3.6,baz=104,slow=10,SNR=6.8						
ZAL	**Zalesovo**	**40.32**	**326**	P	**P**	**11 56 16.0**	**0.0**
	0.7nm,0.6s,mb3.6,baz=340,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**45.97**	**164**	P	**P**	**11 57 02.4**	**+0.8**
	0.9nm,0.8s,mb3.7,baz=348,slow=8.2,SNR=3.6						
BVAR	**Borovoye Array**	**47.88**	**320**	P	**P**	**11 57 16.1**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=108,slow=8.0,SNR=3.7						
ZRNK	**Zerenda**	**48.67**	**320**	*e*P	**P**	**11 57 22.4**	**-0.2**
	0.6nm,0.6s,mb3.8						

*ISCJB **16** 12:28:28.0±0.4,6673N±003×13535W±0.10,h1km, mb4.5/12,MS4.5/2,Error ellipse: s-maj=5.9km s-min=3.5km az=44.3*
*BJI **16** 12:28:29.1,6660N×13551W,h13km,mB5.0,mb4.7,Ms4.7, Msz4.4*
*IDC **16** 12:28:31.5±1.0,6694N×13566W,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.7/21,mbtmp3.8/7,ML3.8/2,MS3.6/2, Ms1 3.6/2,ms1mx3.0/21,Error ellipse: s-maj=18.9km s-min=13.0km az=5.0*
*NEIC **16** 12:28:32.0,6693N×13583W,h1km,mb4.3/1, ML4.3(AEIC),MW4.1(SLM),MW4.1(PGC),After PGC.*
*PGC **16** 12:28:32.3,6693N×13583W,h1km,ML3.9/2,Mw4.2, Northern Yukon - Northwest Territories border.*

ISC 16 12:28:30.9±0.3,6684N±003×13565W±008,h1km,n43, σ1§30/66,mb4.5/12,MS4.5/2,1C-1D,Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.69**	**28**	Pg	**Pg**	**12 29 01.6**	**-1.7**
	201nm,0.3s,baz=213,slow=14,SNR=4588						
INK				Lg		12 29 23.4	
	265nm,0.3s,baz=121,slow=29,SNR=27						
INK	**Inuvik**	**1.69**	**28**	⇑Pn	**Pn**	**12 29 01.9**	**+0.5**
INK				Sg	**Sg**	**12 29 24.3**	**-0.8**
INK				Trac		12 29 25.8	
	comp=Z,827nm,0.2s						
INK				Trac		12 29 25.8	
	comp=Z,827nm,0.2s						
INK	**Inuvik**	**1.69**	**28**	⇓*i*Pn	**Pn**	**12 29 01.5**	**0.0**
INK				*e*Sg	**Sg**	**12 29 25.2**	**+0.1**
DAWY	**Dawson**	**3.19**	**211**	Pn	**Pn**	**12 29 22.6**	**+0.5**
DAWY				Pg	**Pg**	**12 29 30.3**	**-1.7**
DAWY				Sn	**Sn**	**12 30 01.4**	**+0.6**
DAWY				Sg	**Sg**	**12 30 09.5**	**-3.9**
DAWY				Trac		12 30 19.7	
	comp=Z,217nm,0.2s						
DAWY	**Dawson**	**3.19**	**211**	P	**Pn**	**12 29 22.6**	**+0.4**
DAWY				S	**Sn**	**12 30 00.4**	**-0.4**
BM3	**Burnt Mountain**	**3.54**	**284**	P	**Pn**	**12 29 26.5**	**-0.6**
DOT	**Dot Lake**	**4.77**	**232**	P	**Pn**	**12 29 43.6**	**-0.2**
DOT				S	**Sn**	**12 30 40.4**	**+0.7**
IL1	**Eielson Array**	**5.06**	**251**	P	**Pn**	**12 29 47.5**	**-0.4**
ILAR	**Eielson Array**	**5.06**	**251**	Pn	**Pn**	**12 29 47.2**	**-0.7**
	0.8nm,0.3s,baz=60,slow=13,SNR=34						
ILAR				Sn	**Sn**	**12 30 44.6**	**-2.4**
	3.5nm,0.3s,baz=60,slow=17,SNR=5.5						
ILAR				Lg		12 31 07.4	
	9.5nm,0.3s,baz=57,slow=28,SNR=9.8						
MENT	**Mentasta**	**5.21**	**225**	P	**Pn**	**12 29 50.3**	**+0.5**
COLA	**College**	**5.38**	**254**	P	**Pn**	**12 29 52.1**	**-0.1**
PAX	**Paxson**	**5.70**	**232**	P	**Pn**	**12 29 57.0**	**+0.4**
COLD	**Coldfoot**	**5.71**	**281**	P	**Pn**	**12 29 56.7**	**0.0**
HYT	**Haines Junctio**	**6.09**	**189**	Pn	**Pn**	**12 30 03.7**	**+1.7**
HYT				Pg	**Pg**	**12 30 26.7**	**-0.9**
HYT				Sg	**Sg**	**12 31 46.0**	**-0.5**
HYT				Trac		12 31 59.7	
	comp=Z,296nm,1.0s						
WHY	**Whitehorse**	**6.21**	**176**	Pn	**Pn**	**12 30 05.0**	**+1.3**
WHY				Pg	**Pg**	**12 30 29.7**	**-0.2**
WHY				Sg	**Sg**	**12 31 48.7**	**-1.7**
WHY				Trac		12 31 59.6	
	comp=Z,95nm,0.9s						
WHY	**Whitehorse**	**6.21**	**176**	P	**Pn**	**12 30 05.0**	**+1.4**
MCK	**McKinley**	**6.38**	**247**	P	**Pn**	**12 30 06.1**	**+0.2**
PCA	**Pinnacle**	**7.07**	**199**	P	**Pn**	**12 30 17.4**	**+1.9**
IM3	**Indian Mountai**	**7.31**	**272**	P	**Pn**	**12 30 18.3**	**-0.4**
SML	**Sawmill**	**7.46**	**233**	P	**Pn**	**12 30 20.2**	**-0.6**
PMR	**Palmer**	**7.88**	**234**	*e*Pn	**Pn**	**12 30 28.6**	**+2.1**
	10nm,0.8s						
PMR				*e*Sg	**Sg**	**12 32 38.1**	**-5.7**
FIB	**Fire Island**	**8.53**	**235**	P	**Pn**	**12 30 41.0**	**+5.5**
	20nm,0.7s						
FNBB	**Fort Nelson**	**9.82**	**138**	Pn	**Pn**	**12 30 54.7**	**+1.5**
FNBB				Trac		12 34 09.6	
	comp=Z,12nm,0.6s						
FNBB				Trac		12 34 09.6	
	comp=Z,12nm,0.6s						
YKW3	**Yellowknife Ar**	**9.94**	**106**	Pn	**Pn**	**12 30 53.1**	**-1.7**
YKW3				Pn	**Pn**	**12 30 53.3**	**-1.6**
YKW3				Sn	**Sn**	**12 32 37.7**	**-9.4**
YKW3				Sn	**Sn**	**12 32 37.9**	**-9.2**
YKW3				Sg	Sn	12 33 42.1	+55
YKW3				Sg	Sn	12 33 42.3	+55
YKW3				Trac		12 33 49.5	
	comp=Z,90nm,0.8s						
YKW3				Trac		12 33 49.5	
	comp=Z,90nm,0.8s						
YKW3				Trac		12 33 49.8	
	comp=Z,51nm,0.7s						
YKW3				Trac		12 33 49.8	
	comp=Z,51nm,0.7s						
YKW3	**Yellowknife Ar**	**9.94**	**106**	*e*Pn	**Pn**	**12 30 53.5**	**-1.4**
YKW3				*e*Sn	**Sn**	**12 32 39.9**	**-7.3**
YKA	**Yellowknife Ar**	**9.99**	**106**	Pn	**Pn**	**12 30 53.3**	**-2.1**
	baz=304,slow=13,SNR=30						
YKA				Sn	**Sn**	**12 32 39.7**	**-8.4**
	baz=305,slow=22,SNR=10						
YKA				Lg		12 33 44.9	
	baz=306,slow=28,SNR=5.1						
YKA	**Yellowknife Ar**	**9.99**	**106**	Pn	**Pn**	**12 30 53.4**	**-2.1**
YKA				Sn	**Sn**	**12 32 39.7**	**-8.4**
YKA				Lg		12 33 44.9	
BMBC	**Bull Mountain**	**12.57**	**143**	Pn	**Pn**	**12 31 33.7**	**+2.9**
RES	**Resolute Bay**	**15.20**	**41**	Pn	**Pn**	**12 32 02.5**	**-4.1**
RES				Sn	**Sn**	**12 34 42.5**	**-13**
RES				Trac		12 34 50.9	
	comp=Z,9.0nm,0.7s						
RES				Trac		12 34 50.9	
	comp=Z,9.0nm,0.7s						
RES	**Resolute Bay**	**15.20**	**41**	*e*Pn	**Pn**	**12 32 02.3**	**-4.3**
	6.7nm,0.5s						
RES				*e*Sn	**Sn**	**12 34 43.0**	**-13**
EDM	**Edmonton**	**17.46**	**130**	*e*Pn	**Pn**	**12 32 35.1**	**-0.5**
FRB	**Frobisher Bay**	**27.00**	**64**	P	**P**	**12 34 15.3**	**+1.1**
	2.8nm,0.9s,mb4.0,baz=328,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**28.00**	**136**	P	**P**	**12 34 25.5**	**+2.4**
	0.8nm,0.8s,mb3.6,baz=349,slow=6.8,SNR=6.6						
MDJ	**Mudanjiang**	**51.73**	**295**	P	**P**	**12 37 38.4**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,13nm,1.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,123nm,4.9s						
CN2	**Changchun**	**53.90**	**298**	*e*P	**P**	**12 37 56.0**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**55.76**	**332**	P	**P**	**12 38 09.4**	**+0.2**
	comp=Z,0.7nm,0.3s,mb4.1,baz=146,slow=6.7,SNR=3.6						
SONM	**Songino Array**	**56.38**	**314**	P	**P**	**12 38 14.9**	**+1.2**
	comp=Z,0.5nm,1.1s,mb3.5,baz=42,slow=4.5,SNR=2.9						
HHC	**Hu-ho-hao-te**	**61.17**	**307**	*e*P	**P**	**12 38 48.8**	**+1.8**
HHC				PCP	PcP	12 39 31.6	+1.7
HHC				PP	PP	12 41 05.3	+3.7
HHC				SCP	ScP	12 43 32.6	+0.1
HHC				S	**S**	**12 47 04.8**	**-2.7**
HHC				SCS	ScS	12 48 35.9	-3.6
HHC				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,156nm,7.2s						
HHC				LR	LR		
	comp=N,140nm,18.0s,MS4.5						
HHC				LR	LR		
	comp=E,248nm,14.4s,MS4.5						
HHC				LR	LR		
	comp=Z,231nm,16.8s,MS4.4						
AKASG	**Malin Array Be**	**62.23**	**11**	P	**P**	**12 38 52.4**	**-1.8**
	comp=Z,0.7nm,0.4s,mb4.2,baz=355,slow=6.6,SNR=4.8						
WMQ	**Urumqi**	**64.82**	**327**	*e*P	**P**	**12 39 14.0**	**+2.7**
WMQ				PP	PP	12 41 38.0	+4.3
WMQ				S	**S**	**12 47 54.0**	**+0.8**
WMQ				SS	SS	12 52 07.0	+2.7
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,97nm,6.0s						
WMQ				LR	LR		
	comp=N,145nm,8.0s						
WMQ				LR	LR		
	comp=E,158nm,8.0s						
WMQ				LR	LR		
	comp=Z,98nm,7.0s						
NJ2	**Nanjing**	**66.72**	**297**	*e*P	**P**	**12 39 25.5**	**+2.0**
NJ2				AP		12 39 29.4	
NJ2				XP	sP	12 39 32.3	+8.3
NJ2				PP	PP	12 41 55.0	+4.7
NJ2				S	S	12 48 15.0	-1.3
NJ2				XS	sS	12 48 25.0	+8.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,140nm,4.8s						
NJ2				LR	LR		
	comp=N,720nm,34.0s						
NJ2				LR	LR		
	comp=E,780nm,25.2s						
NJ2				LR	LR		
	comp=Z,500nm,34.0s,MS4.5						
LZH	**Lanzhou**	**67.92**	**311**	*e*P	**P**	**12 39 29.0**	**-2.2**
LZH				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,73nm,4.0s						
CD2	**Chengdu**	**72.76**	**309**	*e*P	**P**	**12 40 01.9**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						

*NEIC **16** 12:31:00.9,3607S×17961W,h33km,ML4.0(WEL),After WEL.*

WEL 16 12:30:56.5±0.3,3537S×17903E,h155km±7km,ML4.2/12, Error ellipse: s-maj=6.0km s-min=5.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.27**	**195**	PN	Pn	12 31 35.2	+0.2
MXZ				SN	Sn	12 32 04.9	+0.1
MXZ	**Matakaoa Point**	**2.27**	**195**	P	Pn	12 31 35.4	+0.3
MXZ				S	Sn	12 32 02.9	-1.8
PUZ	**Puketiti**	**2.77**	**193**	PN	Pn	12 31 41.4	+0.2
PUZ				SN	Sn	12 32 14.8	-0.9
PUZ	**Puketiti**	**2.77**	**193**	*e*P	Pn	12 31 41.5	+0.3
PUZ				S	Sn	12 32 14.2	-1.5
MWZ	**Matawai**	**3.19**	**202**	PN	Pn	12 31 47.3	+0.8
MWZ				SN	Sn	12 32 24.6	-0.7
MWZ	**Matawai**	**3.19**	**202**	*e*P	Pn	12 31 47.3	+0.8
MWZ				S	Sn	12 32 24.4	-0.9
URZ	**Urewera**	**3.27**	**207**	PN	Pn	12 31 48.3	+0.9
URZ				SN	Sn	12 32 27.6	+0.7
URZ	**Urewera**	**3.27**	**207**	P	Pn	12 31 48.3	+0.8
TAZ	**Tarawera**	**3.50**	**215**	P	Pn	12 31 56.8	+6.4
KNZ	**Kokohu**	**3.80**	**196**	PN	Pn	12 31 54.3	0.0
KNZ	**Kokohu**	**3.80**	**196**	*e*P	Pn	12 31 54.3	0.0
BKZ	**Black Stump Fm**	**4.30**	**207**	PN	Pn	12 32 01.1	+0.3
BKZ	**Black Stump Fm**	**4.30**	**207**	*e*P	Pn	12 31 59.5	-1.2
FWVZ	**Far West T-bar**	**4.77**	**214**	PN	Pn	12 32 09.5	+2.6
MOVZ	**Moawhango**	**4.80**	**212**	PN	Pn	12 32 08.3	+1.0
MOVZ	**Moawhango**	**4.80**	**212**	P	Pn	12 32 12.4	+5.0
WNVZ	**Wahianoa**	**4.80**	**214**	PN	Pn	12 32 09.5	+2.1
WNVZ	**Wahianoa**	**4.80**	**214**	P	Pn	12 32 10.6	+3.2
PXZ	**Pawanui**	**4.96**	**200**	PN	Pn	12 32 08.6	-0.8
PXZ				SN	Sn	12 33 04.0	-2.4
TSZ	**Takapari Road**	**5.28**	**207**	PN	Pn	12 32 11.7	-2.0
TSZ	**Takapari Road**	**5.28**	**207**	*e*P	Pn	12 32 12.3	-1.3
BFZ	**Birch Farm**	**5.74**	**202**	PN	Pn	12 32 17.9	-1.8
BFZ				SN	Sn	12 33 20.0	-4.9
BFZ	**Birch Farm**	**5.74**	**202**	*e*P	Pn	12 32 17.9	-1.9
BFZ				S	Sn	12 33 21.0	-3.9
MRZ	**Mangatainoka R**	**5.94**	**206**	PN	Pn	12 32 20.3	-2.2
MRZ				SN	Sn	12 33 25.5	-4.2
MRZ	**Mangatainoka R**	**5.94**	**206**	*e*P	Pn	12 32 20.3	-2.2
MRZ				S	Sn	12 33 25.7	-4.1
KIW	**Kapiti Island**	**6.37**	**209**	PN	Pn	12 32 26.3	-1.8
KIW	**Kapiti Island**	**6.37**	**209**	P	Pn	12 32 26.3	-1.9
CAW	**Cannon Point**	**6.52**	**207**	PN	Pn	12 32 27.6	-2.5
CAW	**Cannon Point**	**6.52**	**207**	P	Pn	12 32 27.6	-2.6
TUWZ	**Tuamarina**	**7.25**	**212**	PN	Pn	12 32 37.9	-1.9
QRZ	**Quartz Range**	**7.48**	**221**	PN	Pn	12 32 41.4	-1.4
QRZ	**Quartz Range**	**7.48**	**221**	P	Pn	12 32 41.4	-1.5

*IDC **16** 12:55:42.0±0.9,333S×119.10E,h0km,mb3.7/7,mb1 3.9/7, mb1mx3.8/18,mbtmp3.8/7,Error ellipse: s-maj=55.4km s-min=17.3km az=55.0*
*ISCJB **16** 12:55:44.7±0.8,34S±02×1190E±02,h33km,mb3.8/6, Error ellipse: s-maj=40.8km s-min=13.8km az=103.4*

ISC 16 12:55:47.1±0.8,34S±02×1191E±02,h35km,n8,σ0°58/8, mb3.8/7,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.99**	**157**	*e*P	**Pn**	**12 59 34.9**	**+5.5**
	9.0nm,0.8s						
PSI	**Prapat**	**21.03**	**287**	P	**P**	**13 00 27.9**	**0.0**
	1.9nm,0.3s,mb3.9,baz=108,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**22.22**	**139**	P	**P**	**13 00 41.2**	**+0.7**
	2.1nm,0.7s,mb3.7,baz=315,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**24.76**	**146**	P	**P**	**13 01 05.8**	**+0.4**
	0.8nm,0.8s,mb3.3,baz=321,slow=9.1,SNR=7.7						
ASAR				PcP	PcP	13 04 42.9	+1.5
	0.4nm,0.7s,baz=311,slow=1.9,SNR=4.8						
STKA	**Stephens Creek**	**35.40**	**146**	P	**P**	**13 02 38.3**	**-1.2**
	1.4nm,0.7s,mb4.0,baz=337,slow=13,SNR=3.0						
SONM	**Songino Array**	**52.19**	**349**	P	**P**	**13 04 54.1**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=163,slow=9.1,SNR=7.4						
MKAR	**Makanchi Array**	**59.54**	**332**	P	**P**	**13 05 47.3**	**+0.3**
	0.8nm,0.6s,mb3.9,baz=141,slow=7.8,SNR=7.9						
ZAL	**Zalesovo**	**63.85**	**338**	P	**P**	**13 06 16.0**	**0.0**
	0.6nm,0.5s,mb3.9,baz=143,slow=17,SNR=3.2						

*CSEM **16** 13:06:18.4,3669N×2131E,h24km,MD3.7/10,After ATH*

ATH 16 13:06:18.4,3670N±2131E,h24km±3km,MD3.7/10,1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.69**	**46**	⇓*i*PN	Pn	13 06 32.2	-0.4
VLI	**Veliai**	**1.31**	**89**	*e*PN	Pn	13 06 42.9	+1.8
VLI				*e*SN	Sn	13 07 01.7	+3.9
RLS	**Riolos of Patr**	**1.36**	**5**	*e*PN	Pn	13 06 44.6	+2.7
KYTH	**Kithira**	**1.45**	**106**	*e*PN	Pn	13 06 45.5	+2.4
VLS	**Valsamata**	**1.58**	**339**	*e*PN	Pn	13 06 47.3	+2.4
NAIG	**Nisos Aigina**	**2.04**	**58**	*e*PB	Pb	13 06 52.4	-2.3
EVR	**Evrytania**	**2.25**	**10**	*e*PN	Pn	13 06 56.5	+2.4
EVR	**Evrytania**	**2.25**	**10**	*e*Pb	Pb	13 06 58.3	0.0
LKR	**Lokris**	**2.36**	**34**	*e*PN	Pn	13 06 57.5	+1.8
JAN	**Janina**	**2.97**	**353**	*e*PN	Pn	13 07 06.9	+2.8
KEK	**Kerkira**	**3.23**	**339**	*e*PN	Pn	13 07 09.6	+2.0
BIA	**Bitola**	**4.31**	**0**	*e*Pn	Pn	13 07 26.8	+4.3
VAY	**Valandovo**	**4.72**	**12**	*e*Pn	Pn	13 07 28.0	-0.1

SKO 16 13:42:24.1,4105N×2026E,h1km,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.41**	**81**	*i* Pg	Pg	13 42 30.3	-1.7
OHR				*i* Sg	Sg	13 42 37.8	+0.4
OHR				*e*Lg		13 42 37.9	
	comp=E,182nm,0.4s						
BIA	**Bitola**	**0.81**	**92**	*e*Pg	Pg	13 42 37.7	-1.8
BIA				*i* Sg	Sg	13 42 49.0	-0.9
BIA				*e*Lg		13 42 52.5	
	comp=Z,22nm,0.2s						
BIA				*e*Lg		13 42 52.8	
	comp=N,18nm,0.2s						
BIA				*e*Lg		13 42 52.9	
	comp=E,34nm,0.2s						
BIA	**Bitola**	**0.81**	**92**	*e*Pg	Pg	13 42 38.2	-1.3
BIA				*e*Sg	Sg	13 42 49.1	-0.9
SKO	**Skopje**	**1.28**	**43**	*e*Pg	Pg	13 42 47.8	-0.8
SKO				*i* Sg	Sg	13 43 04.3	-0.9
SKO				*e*Lg		13 43 04.4	
	comp=N,56nm,0.4s						
SKO				*e*Lg		13 43 04.6	
	comp=E,26nm,0.4s						
SKO	**Skopje**	**1.28**	**43**	*e*Pg	Pg	13 42 47.5	-1.0
SKO				*e*Sg	Sg	13 43 04.4	-0.8
STIP	**Stip**	**1.59**	**65**	*e*Pn	Pn	13 42 52.9	-0.5
STIP				*e*Sg	Sg	13 43 13.8	-1.3
VAY	**Valandovo**	**1.76**	**80**	*e*Pn	Pn	13 42 55.6	-0.1
VAY				*e*Sg	Sg	13 43 21.0	+0.2

IDC 16 13:49:23.3±2.1,777S×12639E,h0km,mb3.3/1,mb1 4.3/3, mb1mx3.8/14,mbtmp4.0/3,ML4.1/2,MS3.9/1,Ms1 3.9/1, ms1mx2.7/13,Error ellipse: s-maj=219.5km s-min=32.6km az=61.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.35**	**148**	Pn	Pn	13 52 46.7	-1.0
	0.6nm,0.3s,baz=321,slow=14,SNR=21						
WRA				Sn	Sn	13 55 10.4	-17
	1.6nm,0.3s,baz=327,slow=23,SNR=15						
ASAR	**Alice Springs**	**17.38**	**156**	P	Pn	13 53 28.3	+1.1
	1.6nm,0.3s,baz=337,slow=12,SNR=98						
ASAR				S	Sn	13 56 30.7	-10
	0.4nm,0.3s,baz=328,slow=21,SNR=7.5						
JHJ	**Hachijo jima 2**	**42.61**	**17**	LR	LR	14 12 34.9	
	comp=Z,166nm,20.1s,baz=195,slow=33						
MKAR	**Makanchi Array**	**66.95**	**329**	P	P	14 00 17.8	+0.1
	0.2nm,0.5s,baz=123,slow=6.9,SNR=3.4						

*NIED **16** 14:10:00,3570N×13640E,h17km,Mw4.2 Best double couple: M0=2.39000×10^15 NP1:φs=337.00000°,δ78.00000°, λ22.00000°. NP2:φs242.00000°,δ69.00000°,λ167.00000°.*
*BJI **16** 14:10:35.6,35.17N×13734E,h10km,mB4.7,mb4.5,Ms4.1, Msz4.0*
*IDC **16** 14:10:42.3±0.7,3553N×13637E,h0km,mb3.9/11, mb1 4.1/11,mb1mx4.0/20,mbtmp3.9/11,MS3.3/3, Ms1 3.3/3,ms1mx2.8/28,Error ellipse: s-maj=18.2km s-min=13.0km az=137.0*
*NEIC **16** 14:10:43.9±0.4,3549N×13637E,h10km,mb4.3/15,Error ellipse: s-maj=9.1km s-min=6.8km az=136.0*
NEIC Recorded [4 JMA] in Gifu; [3 JMA] in Fukui and Shiga; [2 JMA] in Aichi, Hyogo, Ishikawa, Kyoto and Nagano; [1 JMA] in Mie, Nara, Okayama, Osaka and Shizuoka Prefectures.
*JMA **16** 14:10:45.4,3569N×13642E,h14km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs242.00000°,δ74.00000°,λ177.00000°. NP2: φs332.00000°,δ87.00000°,λ16.00000°. Principal axes: T Plg13.0000°, Azm198.0000°; N Plg74.0000°, Azm342.0000°; P Plg9.0000°, Azm106.0000°;*
JMA Felt IV J1.
*ISCJB **16** 14:10:45.5±0.4,3564N±003×13642E±003,h23km±3km, mb4.1/28,MS3.6/3 Error ellipse: s-maj=5.8km s-min=4.0km az=123.9*
*MOS **16** 14:10:45.6±1.3,3542N×13630E,h33km,mb4.3/19,Error ellipse: s-maj=14.4km s-min=8.2km az=81.2*

ISC 16 14:10:45.5±0.5,3564N±003×13640E±003,h14km±3km, n73,σ1§27/83,mb4.1/28,MS3.6/3,2C-4D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.26**	**78**	⇓P	**Pg**	**14 10 50.6**	**-0.5**
JGM				S	**Sg**	**14 10 54.1**	**-0.7**
JFM	**Mihama**	**0.36**	**251**	⇓P	**Pg**	**14 10 53.3**	**+0.5**
JFM				S	**Sg**	**14 10 58.8**	**+1.0**
JKG	**Kaga**	**0.63**	**355**	⇑P	**Pg**	**14 10 57.0**	**-0.9**
JKG				S	**Sg**	**14 11 05.1**	**-1.2**
JWT	**Wachi**	**0.89**	**246**	⇓P	**

KLR Kul'dur 14.00 347 *eP* **Pn 14 14 07.0 +3.5**
YHNB Yeheng 16.96 234 P **Pn 14 14 44.5 +2.1**
NACB Ninganchiao 17.17 232 P **Pn 14 14 41.6 -3.3**
HIA Hailar 18.29 323 *eP* **Pn 14 15 00.0 +1.2**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 18.29 323 *eP* **Pn 14 14 60.0 +1.1**
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 20.16 292 *eP* **P 14 15 26.9 +7.5**
HHC AP 14 15 30.9
HHC XP sP 14 15 32.9 +7.8
HHC S **S 14 19 19.8 +14**
HHC PCP PcP 14 19 30.8 -3.1
HHC AMB AMB
comp=Z,9.0nm,1.2s
HHC AMB AMB
comp=Z,211nm,8.0s
HHC LR LR
comp=N,245nm,13.0s,MS3.9
HHC LR LR
comp=E,273nm,15.0s,MS3.9
HHC LR LR
comp=Z,260nm,12.0s,MS3.8
ENH Enshi 23.18 264 *eP* **P 14 15 51.3 -0.5**
comp=Z,12nm,0.8s,mb4.4
GUMO Guam 23.25 159 LR LR 14 23 19.8
comp=Z,72nm,20.4s,MS3.1,baz=153,slow=33
PET Petropavlovsk 23.40 35 *eP* **P 14 15 56.7 +2.5**
PET pmax pmax
comp=Z,14nm,0.9s,mb4.4
PET Petropavlovsk 23.40 35 *eP* **P 14 15 56.7 +2.5**
comp=Z,14nm,0.9s,mb4.4
ULN Ulaanbaatar 24.91 308 *eP* **P 14 16 07.9 -0.2**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
ULN Ulaanbaatar 24.91 308 *eP* **P 14 16 07.9 -0.1**
comp=Z,6.7nm,1.1s,mb4.1
SONM Songino Array 25.32 308 P **P 14 16 12.1 +0.3**
comp=Z,1.3nm,0.8s,mb3.5,baz=111,slow=8.5,SNR=14
SONM Songino Array 25.32 308 P **P 14 16 12.1 +0.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
MA2 Magadan 25.71 17 P **P 14 16 16.7 +1.4**
comp=Z,4.6nm,0.8s,mb4.1
LZH Lanzhou 26.33 281 *eP* **P 14 16 23.9 +3.0**
LZH PP 14 17 09.1
LZH AMB AMB
comp=Z,21nm,1.5s,mb4.5
BOD Bodaibo 26.73 333 *eP* **P 14 16 25.9 +1.3**
CD2 Chengdu 27.62 270 *eP* **P 14 16 31.8 -0.8**
CD2 AP pP 14 16 36.1 -0.6
CD2 XP sP 14 16 38.8 +0.3
CD2 PP 14 17 20.0
CD2 S **S 14 21 11.3 -2.6**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,70nm,4.8s
CD2 LR LR
comp=E,160nm,14.4s
CD2 LR LR
comp=Z,240nm,12.0s,MS4.0
BILL Bilibino 36.56 18 P **P 14 17 50.4 -0.5**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BILL Bilibino 36.56 18 P **P 14 17 50.4 -0.4**
comp=Z,2.6nm,0.9s,mb4.1
WMQ Urumqi 37.88 298 *eP* **P 14 18 02.0 0.0**
WMQ XP sP 14 18 09.0 +1.0
WMQ PP PP 14 19 32.0 +3.4
WMQ S **S 14 23 53.0 0.0**
WMQ AMB AMB
comp=Z,15nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,108nm,5.0s
WMQ LR LR
comp=N,147nm,8.0s
WMQ LR LR
comp=E,245nm,8.0s
WMQ LR LR
comp=Z,102nm,8.0s
MKAR Makanchi Array 41.45 303 P **P 14 18 31.4 -0.4**
comp=Z,0.8nm,0.7s,mb3.5,baz=94,slow=9.9,SNR=11
MKAR Makanchi Array 41.45 303 P **P 14 18 31.4 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 43.62 309 *eP* **P 14 18 48.6 -0.9**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
KURK Kurchatov 43.62 309 *eP* **P 14 18 48.6 -0.9**
comp=Z,5.1nm,1.0s,mb4.2
BRVK Borovoye 48.58 313 *eP* **P 14 19 28.9 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BRVK Borovoye 48.58 313 *eP* **P 14 19 28.9 +0.4**
comp=Z,0.7nm,0.6s,mb3.9
ZRNK Zerenda 49.36 313 *eP* **P 14 19 32.8 -1.7**
ZRNK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ZRNK Zerenda 49.36 313 *eP* **P 14 19 32.8 -1.7**
comp=Z,5.4nm,1.3s,mb4.4
MCK McKinley 52.02 33 *eP* **P 14 19 54.5 0.0**
MCK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MCK McKinley 52.02 33 *eP* **P 14 19 54.5 0.0**
comp=Z,1.5nm,0.9s,mb3.9
ILAR Eielson Array 52.81 32 P **P 14 19 59.5 -1.0**
comp=Z,1.2nm,0.9s,mb3.8,baz=285,slow=7.2,SNR=13
ILAR Eielson Array 52.81 32 P **P 14 19 59.5 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ARU Arti 54.71 318 *eP* **P 14 20 12.4 -1.9**
comp=Z,2.4nm,0.5s,mb4.5
WRAB Tennant Creek 55.31 182 *eP* **P 14 20 16.8 -1.8**
WRAB pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
WRAB Tennant Creek 55.31 182 *eP* **P 14 20 16.8 -1.9**
comp=Z,3.4nm,0.9s,mb4.4
WB2 Warramunga Arr 55.31 182 *eP* **P 14 20 17.7 -1.0**
WRA Warramunga Arr 55.31 182 P **P 14 20 17.3 -1.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=356,slow=7.5,SNR=14
WRA Warramunga Arr 55.31 182 P **P 14 20 17.3 -1.4**
WRA pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 57.44 26 *eP* **P 14 20 36.4 +2.5**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 57.44 26 *eP* **P 14 20 36.4 +2.5**
comp=Z,2.3nm,1.0s,mb4.2
ASAR Alice Springs 59.03 183 P **P 14 20 43.7 -1.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=15,slow=13,SNR=13
ASAR Alice Springs 59.03 183 P **P 14 20 43.7 -1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 64.92 13 *eP* **P 14 21 27.0 +2.5**
RES pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
RES Resolute Bay 64.92 13 *eP* **P 14 21 27.0 +2.4**
comp=Z,6.3nm,1.3s,mb4.5
YKA Yellowknife Ar 67.00 28 P **P 14 21 39.1 +1.2**
comp=Z,0.5nm,0.8s,mb3.6,baz=294,slow=6.2,SNR=8.8
YKA Yellowknife Ar 67.00 28 P **P 14 21 39.1 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 67.34 175 P **P 14 21 36.9 -3.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=350,slow=12,SNR=4.6
STKA Stephens Creek 67.34 175 *eP* **P 14 21 37.2 -2.9**
FINES FINESS Array B 68.11 331 P **P 14 21 43.2 -1.7**
comp=Z,1.4nm,0.8s,mb4.1,baz=75,slow=8.1,SNR=5.7
FINES FINESS Array B 68.11 331 P **P 14 21 43.3 -1.7**
FINES pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.86 321 P **P 14 22 12.4 -1.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=51,slow=5.7,SNR=4.9
AKASG Malin Array Be 72.86 321 P **P 14 22 12.4 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 73.62 334 P **P 14 22 16.7 -1.8**
comp=Z,2.6nm,0.9s,mb4.2,baz=99,slow=9.5,SNR=4.3
HFS Hagfors 73.62 334 P **P 14 22 16.7 -1.8**
HFS pmax pmax
comp=Z,3.0nm,0.9s
FCC Fort Churchill 76.99 24 P **P 14 22 40.1 +2.2**
FCC pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
FCC Fort Churchill 76.99 24 P **P 14 22 40.1 +2.3**
comp=Z,4.2nm,1.1s,mb4.3
PDAR Pinedale Array 81.48 43 P **P 14 23 02.5 +0.1**
comp=Z,1.1nm,1.1s,mb3.7,baz=304,slow=3.4,SNR=4.6

IDC 16 14:19:35.2±2.2,070N×12921E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.5/16,mbtmp3.5/3,Error ellipse: s-maj=135.4km s-min=27.0km az=68.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.12**	**167**	P	P	14 24 21.3	-0.2
	0.5nm,0.5s,baz=347,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**24.65**	**170**	P	P	14 24 58.1	+0.7
	1.6nm,0.8s,baz=350,slow=10,SNR=15						
MKAR	**Makanchi Array**	**61.44**	**325**	P	P	14 29 53.5	+0.1
	0.2nm,0.5s,baz=114,slow=8.6,SNR=4.7						

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*IDC **16** 14:54:36.7±0.5, 1608S×17305W, h0km, mb4.7/18, mb1 4.8/18, mb1mx4.8/22, mbtmp4.7/18, MS5.4/19, Ms1 5.4/19, ms1mx5.2/28, Error ellipse: s-maj=19.6km s-min=11.8km az=127.0*

*SZGRF **16** 14:54:38.9, 1715S×17126W, h33km, mb5.6, Tonga Islands region*

*NEIC **16** 14:54:39.0±0.2, 1598S×17302W, h10km, mb5.4/40, MS5.8/2, MW5.8, Error ellipse: s-maj=11.0km s-min=5.1km az=150.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}6.11; $M_{\theta\theta}$-5.14; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.16; $M_{\theta\phi}$-2.22; $M_{\phi r}$-0.02; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s247.00000°, δ46.00000°, λ91.00000°. NP2: ϕ_s66.00000°, δ44.00000°, λ89.00000°. Principal axes: T 6.1100, Plg89.0000°, Azm185.0000°; N -0.0100, Plg0.0000°, Azm67.0000°; P -6.1100, Plg1.0000°, Azm337.0000°;*

*BJI **16** 14:54:38.9, 1600S×17300W, h10km, mB6.0, mb5.3, Ms5.7, Msz5.4*

*ISCJB **16** 14:54:38.9±0.2, 1609S±005×17303W±005, h20km, mb5.2/88, MS5.4/40, Error ellipse: s-maj=8.7km s-min=4.7km az=104.4*

*HRVD **16** 14:54:39.0±0.1, 1600S×17246W, h15km, MW5.8/98, Centroid moment Tensor Solution. LP body waves: s96,c190;Mantle waves: s98,c286; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.67±.04; $M_{\theta\theta}$0.13±.04; $M_{\phi\phi}$-4.80±.04; $M_{r\theta}$1.42±.14; $M_{\theta\phi}$-0.83±.03; $M_{\phi r}$4.61±.13; Best double couple: $M_0$6.80800×10^{17} NP1:ϕ_s183.00000°, δ23.00000°, λ79.00000°. NP2:ϕ_s15.00000°, δ68.00000°, λ95.00000°. Principal axes: T 6.7000, Plg67.0000°, Azm293.0000°; N 0.2200, Plg4.0000°, Azm193.0000°; P -6.9160, Plg23.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **16** 14:54:41.5±1.1, 1598S×17308W, h33km, mb5.5/30, MS5.4/11 Error ellipse: s-maj=12.3km s-min=8.5km az=58.6*

ISC 16 14:54:40.3±3.0,1609S±005×17300W±005,h17km±18km, h20km±2.3km:pP-P,n428,σ1§20/218,mb5.2/88,MS5.4/40, 34C-23D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.47**	**29**	Pn	**Pn**	**14 55 13.7**	**-6.0**
	76nm,0.3s,baz=140,slow=3.0,SNR=43						
AFI				Sn	**Sn**	**14 55 41.4**	**-8.1**
	538nm,0.3s,baz=120,slow=21,SNR=15						
AFI				T		14 57 53.5	
	92nm,0.3s,baz=81,slow=21,SNR=2.6						
AFI	**Afiamalu**	**2.47**	**29**	*e*Pn	**Pn**	**14 55 12.7**	**-7.0**
RAR	**Rarotonga**	**13.53**	**114**	Pn	**Pn**	**14 57 43.7**	**-7.6**
	8.3nm,0.3s,baz=254,slow=3.8,SNR=6.4						
RAR				T		15 11 46.7	
	9.7nm,0.3s,baz=89,slow=22,SNR=3.7						
DZM	**Mont Dzumac**	**20.31**	**250**	P	**P**	**14 59 13.4**	**-2.0**
	8.6nm,1.1s,baz=52,slow=17,SNR=2.3						
DZM				LR	LR	15 04 21.5	
	comp=Z,2μm,19.2s,MS4.6,baz=80,slow=29						
DZM	**Mont Dzumac**	**20.31**	**250**	*e*P	**P**	**14 59 15.5**	**+0.2**
PAE	**Paea**	**22.46**	**97**	*e*P	**P**	**14 59 49.3**	**+11**
	265nm,1.5s,mb5.5						
PPT	**Papeete**	**22.46**	**97**	*e*P	**P**	**14 59 49.6**	**+11**
	120nm,1.4s,mb5.1						
WCZ	**Waipu Caves**	**22.77**	**207**	P*	**P**	**14 59 42.2**	**+0.5**
TVO	**Taravao**	**22.78**	**98**	*e*P	**P**	**14 59 52.8**	**+11**
	576nm,1.5s,mb5.8						
KUZ	**Kuaotunu**	**22.89**	**204**	P*	**P**	**14 59 41.0**	**-1.9**
URZ	**Urewera**	**23.74**	**200**	P	**P**	**14 59 49.8**	**-1.9**
	8.2nm,0.3s,mb4.6,baz=19,slow=9.2,SNR=18						
URZ				S	**S**	**15 04 06.9**	**+0.8**
	13nm,0.9s,baz=206,slow=16,SNR=6.7						
URZ				LR	LR	15 08 09.0	
	comp=Z,8μm,18.7s,MS5.2,baz=12,slow=34						
URZ	**Urewera**	**23.74**	**200**	P*	**P**	**14 59 49.4**	**-2.3**
PMOR	**Pomariorio Ree**	**24.21**	**91**	*e*P	**P**	**15 00 06.1**	**+10**
	170nm,1.4s,mb5.3						
VAH	**Vaihoa**	**24.44**	**92**	*e*P	**P**	**15 00 08.0**	**+10**
	319nm,1.5s,mb5.5						
SNZO	**South Karori**	**27.29**	**200**	*e*P	**P**	**15 00 16.2**	**-7.7**
	147nm,1.3s,mb5.3						
QRZ	**Quartz Range**	**27.66**	**204**	P*	**P**	**15 00 27.3**	**+0.1**
LTZ	**Lake Taylor**	**29.44**	**202**	P*	**P**	**15 00 44.8**	**+1.8**
RPZ	**Rata Peaks**	**30.70**	**203**	P	**P**	**15 00 57.5**	**+3.4**
	16nm,0.7s,mb5.0,baz=247,slow=19,SNR=12						
RKT	**Rikitea**	**36.42**	**107**	*e*LR	LR	15 11 07.0	
	16μm,26.2s,baz=276						
CNB	**Canberra Magne**	**38.64**	**233**	*e*P	**P**	**15 02 02.4**	**-0.3**
	65nm,1.4s,mb5.2						
CTA	**Charters Tower**	**38.87**	**258**	*e*P	**P**	**15 02 06.7**	**+2.0**
	5.2nm,0.6s,mb4.4						
CTA	**Charters Tower**	**38.87**	**258**	P	**P**	**15 02 04.8**	**+0.1**
	5.9nm,0.7s,mb4.4,baz=104,slow=9.6,SNR=5.3						
CTA				PcP	PcP	15 04 16.8	+1.3
	8.6nm,1.1s,baz=63,slow=2.3,SNR=2.5						
PMG	**Port Moresby**	**39.37**	**275**	P	**P**	**15 02 08.4**	**-0.4**
	8.7nm,0.7s,mb4.6,baz=150,slow=8.6,SNR=5.9						
PMG	**Port Moresby**	**39.37**	**275**	P	**P**	**15 02 10.3**	**+1.4**
PMG				pmax	pmax		
	comp=Z,130nm,1.8s						
PMG	**Port Moresby**	**39.37**	**275**	*e*P	**P**	**15 02 09.7**	**+0.9**
	comp=Z,132nm,1.8s,mb5.4						
KIP	**Kipapa**	**40.07**	**22**	*e*P	**P**	**15 02 21.1**	**+6.4**
TOO	**Toolangi**	**42.34**	**231**	*e*P	**P**	**15 02 32.8**	**-0.5**
	comp=Z,14nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**44.03**	**241**	⇑*i*P	**P**	**15 02 44.4**	**-2.6**
	comp=Z,24nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**44.03**	**241**	P	**P**	**15 02 44.5**	**-2.5**
	comp=Z,21nm,0.8s,mb4.9,baz=80,slow=8.4,SNR=31						
STKA				LR	LR	15 19 29.6	
	comp=Z,5μm,18.0s,MS5.5,baz=74,slow=34						
STKA	**Stephens Creek**	**44.03**	**241**	P	**P**	**15 02 44.5**	**-2.5**
WB2	**Warramunga Arr**	**50.06**	**257**	⇑*i*P	**P**	**15 03 33.2**	**-0.8**
WRAB	**Tennant Creek**	**50.06**	**257**	P	**P**	**15 03 33.6**	**-0.5**
	comp=Z,135nm,1.2s,mb5.8,SNR=9.3						
WRAB	**Tennant Creek**	**50.06**	**257**	P	**P**	**15 03 32.7**	**-1.4**
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**15 03 32.6**	**-1.5**
	comp=Z,15nm,1.1s,mb5.0,baz=93,slow=6.7,SNR=83						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**15 03 34.7**	**-1.0**
	comp=Z,14nm,0.5s,mb5.2,baz=91,slow=7.8,SNR=194						
KAKA	**Kakadu**	**52.84**	**266**	⇑*i*P	**P**	**15 03 54.4**	**-0.4**
	comp=Z,15nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**58.45**	**258**	⇓*i*P	**P**	**15 04 35.8**	**+0.6**
	comp=Z,26nm,1.3s,mb5.1						
DRV	**Dumont d'Urvil**	**59.08**	**200**	P	**P**	**15 04 37.0**	**-2.6**
DRV				S	**S**	**15 12 44.0**	**-1.8**
VNDA	**Vanda**	**62.73**	**186**	P	**P**	**15 05 04.9**	**+0.5**
	comp=Z,13nm,1.1s,mb5.0,baz=38,slow=9.3,SNR=4.6						
VNDA				LR	LR	15 29 49.9	
	comp=Z,2μm,18.8s,MS5.2,baz=12,slow=34						
MBWA	**Marble Bar**	**63.54**	**254**	P	**P**	**15 05 10.2**	**+0.4**
KLBR	**Kellerberrin**	**64.26**	**242**	*e*P	**P**	**15 05 14.6**	**+0.1**
	comp=Z,97nm,1.5s,mb5.6						
MJAR	**Matsushiro Arr**	**69.71**	**320**	P	**P**	**15 05 48.5**	**-0.6**
	comp=Z,4.7nm,0.9s,mb4.4,baz=160,slow=5.0,SNR=7.5						
MJAR				LR	LR	15 30 32.0	
	comp=Z,3μm,21.8s,MS5.5,baz=110,slow=31						
MAT	**Matsushiro**	**69.71**	**320**	P	**P**	**15 05 48.8**	**-0.4**
MAT				S	S	15 15 02.0	+4.7
SAO	**San Andreas Ge**	**71.58**	**42**	P	**P**	**15 06 02.2**	**+1.7**
	comp=Z,4.1nm,1.1s,mb5.3						
KCPM	**Cahto Peak**	**72.09**	**38**	*e*P	**P**	**15 06 05.6**	**+1.9**
ISA	**Isabella**	**72.87**	**44**	P	**P**	**15 06 10.6**	**+2.3**
ISA				pmax	pmax		
	comp=Z,91nm,1.9s,mb5.4						
ISA	**Isabella**	**72.87**	**44**	P	**P**	**15 06 10.6**	**+2.3**
	comp=Z,91nm,1.9s,mb5.4						
CMB	**Columbia Colle**	**73.02**	**41**	P	**P**	**15 06 11.3**	**+2.1**
PET	**Petropavlovsk**	**73.05**	**343**	*e*P	**P**	**15 06 08.4**	**-0.9**
PET				*e*PP	pP	15 06 18.1	+3.3
PET				*e*PPP		15 10 33.5	
PET				*i* S	S	15 15 40.4	+4.6
PET				*e*PPS		15 16 17.5	
PET				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.8						
PET				pmax	pmax		
	comp=Z,1μm,9.3s						
PET				pmax	pmax		
	comp=Z,1μm,10.1s						
PET				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0						
PET				smax			
	comp=N,1μm,15.4s						
PET				smax			
	comp=E,1μm,14.2s						
PET				smax			
	comp=E,1μm,11.5s						
PET				smax			
	comp=N,1μm,10.8s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**73.05**	**343**	P	**P**	**15 06 08.5**	**-0.8**
	comp=Z,62nm,1.5s,mb5.3						
OHCM	**Honcut**	**73.14**	**39**	P	**P**	**15 06 11.8**	**+2.0**
WDC	**Whiskeytown Da**	**73.28**	**38**	P	**P**	**15 06 11.5**	**+0.8**
WDC				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.2						
WDC	**Whiskeytown Da**	**73.28**	**38**	P	**P**	**15 06 11.5**	**+0.8**
	comp=Z,49nm,1.6s,mb5.2						
KKM	**Kota Kinabalu**	**73.39**	**281**	*e*P	**P**	**15 06 11.3**	**0.0**
KEBM	**Edson Butte**	**73.73**	**35**	P	**P**	**15 06 13.3**	**-0.1**
GSC	**Goldstone**	**73.80**	**45**	P	**P**	**15 06 14.1**	**+0.4**
DAC	**Darwin (Calif)**	**73.81**	**44**	P	**P**	**15 06 16.1**	**+2.3**
DAC				pmax	pmax		
	comp=Z,74nm,1.9s,mb5.3						
DAC	**Darwin (Calif)**	**73.81**	**44**	P	**P**	**15 06 16.1**	**+2.3**
	comp=Z,74nm,1.9s,mb5.3						
WAKR	**Walker**	**73.90**	**41**	P	**P**	**15 06 14.2**	**-0.1**
YBH	**Yreka Blue Hor**	**73.91**	**37**	P	**P**	**15 06 14.1**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=168,slow=1.8,SNR=17						
YBH	**Yreka Blue Hor**	**73.91**	**37**	P	**P**	**15 06 14.8**	**+0.4**
QSPA	**South Pole Qui**	**73.96**	**180**	P	**P**	**15 06 15.3**	**+0.6**
YSS	**Yuzh-Sakhalins**	**74.27**	**330**	⇑*i*P	**P**	**15 06 18.0**	**+1.5**
YSS				*e*SP	sP	15 06 26.6	+2.6
YSS				*e*S	S	15 15 53.0	+3.4
YSS				*e*PPS		15 16 31.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
YSS				smax			
	comp=N,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,18.0s,MS5.0						
YSS				MLR	MLR		
	comp=E,500nm,18.0s,MS5.0						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**74.27**	**330**	P	**P**	**15 06 17.8**	**+1.3**
MNV	**Mina**	**74.68**	**42**	P	**P**	**15 06 18.7**	**-0.2**
MNV				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
MNV	**Mina**	**74.68**	**42**	P	**P**	**15 06 18.7**	**-0.1**
	comp=Z,25nm,1.1s,mb5.1						
LDFC	**Landfair**	**74.84**	**46**	*e*P	**P**	**15 06 19.7**	**-0.1**
TPH	**Tonopah**	**75.07**	**42**	P	**P**	**15 06 21.3**	**+0.2**
TPH				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
TPH	**Tonopah**	**75.07**	**42**	*e*P	**P**	**15 06 20.3**	**-0.9**
	comp=Z,22nm,1.0s,mb5.0						
NEN	**Nelson**	**75.33**	**46**	*e*P	**P**	**15 06 22.4**	**-0.2**
KDAK	**Kodiak Island**	**75.52**	**11**	P	**P**	**15 06 22.5**	**-1.2**
	comp=Z,11nm,0.7s,mb4.9,baz=239,slow=3.5,SNR=8.9						
SHPR	**Sheep Range**	**75.57**	**45**	P	**P**	**15 06 24.7**	**+0.7**
BMN	**Battle Mountai**	**76.42**	**40**	P	**P**	**15 06 29.6**	**+0.8**
TUC	**Tucson**	**76.53**	**50**	P	**P**	**15 06 29.6**	**+0.2**
WVOR	**Wild Horse Val**	**76.73**	**38**	*e*P	**P**	**15 06 29.7**	**-0.9**
WVOR				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	**76.73**	**38**	*e*P	**P**	**15 06 29.7**	**-0.9**
	comp=Z,29nm,1.3s,mb5.0						
ARUT	**Antelope Range**	**77.42**	**44**	*e*P	**P**	**15 06 33.8**	**-0.7**
VLA	**Vladivostok**	**77.58**	**322**	⇓*i*P	**P**	**15 06 30.0**	**-5.4**
VLA				*i*	pP	15 06 36.8	-4.1
VLA				*i* S	S	15 16 16.9	-9.2
VLA				*i*		15 16 39.0	
VLA				pmax	pmax		
	comp=Z,62nm,1.8s,mb5.2						
VLA				MLR	MLR		
	comp=Z,1μm,17.6s,MS5.3						
VLA				MLR	MLR		
	comp=Z,4μm,18.6s						
LON	**Longmire**	**77.62**	**33**	P	**P**	**15 06 35.1**	**-0.5**
GNW	**Green Mountain**	**77.62**	**32**	P	**P**	**15 06 36.3**	**+0.7**
KSM	**Kuching**	**77.64**	**275**	*e*P	**P**	**15 06 36.9**	**+1.2**
WUAZ	**Wupatki**	**77.68**	**47**	P	**P**	**15 06 38.4**	**+2.5**
	comp=Z,87nm,1.9s,mb5.4						
ELK	**Elko**	**77.84**	**41**	P	**P**	**15 06 36.7**	**-0.1**
ELK				pmax	pmax		
	comp=Z,35nm,1.4s						
ELK	**Elko**	**77.84**	**41**	P	**P**	**15 06 36.7**	**-0.1**
	comp=Z,35nm,1.4s,mb5.1						
QZH	**Quanzhou**	**78.14**	**300**	⇑*i*P	**P**	**15 06 40.0**	**+1.5**
QZH				*e*S	S	15 16 33.0	+0.9
QZH				LR	LR		
	comp=N,3μm,14.2s,MS6.0						
QZH				LR	LR		
	comp=E,4μm,15.3s,MS6.0						
SLKM	**Skilak Lake**	**78.51**	**11**	*e*P	**P**	**15 06 38.5**	**-2.0**
MVU	**Marysvale**	**78.62**	**44**	*e*P	**P**	**15 06 47.1**	**+6.0**
HAWA	**Hanford**	**78.62**	**35**	P	**P**	**15 06 41.0**	**-0.2**
MSU	**Marysvale**	**78.64**	**44**	P	**P**	**15 06 43.4**	**+2.1**
SSE	**Sheshan**	**78.68**	**307**	P	**P**	**15 06 43.1**	**+1.6**
SSE				AP	pP	15 06 49.8	+2.8
SSE				S	S	15 16 39.9	+2.0
SSE				XS	sS	15 16 51.3	+4.2
SSE				SCS	ScS	15 17 03.1	+1.1
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,862nm,9.6s						
SSE				LR	LR		
	comp=N,694nm,27.3s,MS5.0						
SSE				LR	LR		
	comp=E,731nm,27.4s,MS5.0						
SSE				LR	LR		
	comp=Z,1μm,25.6s,MS5.1						
GBL	**Gable Mountain**	**78.78**	**34**	P	**P**	**15 06 41.8**	**-0.3**
BMO	**Blue Mountains**	**78.94**	**37**	P	**P**	**15 06 42.0**	**-0.9**
ETW	**Entiat**	**78.94**	**33**	P	**P**	**15 06 42.5**	**-0.4**
DUG	**Dugway**	**79.10**	**43**	P	**P**	**15 06 43.7**	**-0.1**
DUG				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
DUG	**Dugway**	**79.10**	**43**	P	**P**	**15 06 43.7**	**-0.1**
	comp=Z,25nm,1.3s,mb5.0						
HABR	**Khabarovsk**	**79.12**	**328**	⇑*i*P	**P**	**15 06 44.5**	**+0.6**
HABR				*i*		15 06 56.5	
HABR				*i* S	S	15 16 43.8	+1.1
HABR				pmax	pmax		
	comp=Z,127nm,1.5s,mb5.6						
HABR				MLR	MLR		
	comp=Z,1μm,19.1s,MS5.2						
WTV	**Waterville**	**79.20**	**33**	P	**P**	**15 06 43.7**	**-0.6**
BGU	**Big Grassy Mou**	**79.35**	**42**	*e*P	**P**	**15 06 46.9**	**+1.8**
TMUT	**Trail Mountain**	**79.69**	**44**	P	**P**	**15 06 47.8**	**+0.8**
PMR	**Palmer**	**79.72**	**11**	P	**P**	**15 06 45.8**	**-1.3**
PMR				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
PMR	**Palmer**	**79.72**	**11**	P	**P**	**15 06 45.8**	**-1.4**
	comp=Z,34nm,1.3s,mb5.1						
MPU	**Maple Canyon**	**79.78**	**43**	P	**P**	**15 06 48.9**	**+1.4**
NOQ	**North Oquirrh**	**79.79**	**42**	*e*P	**P**	**15 06 46.9**	**-0.6**
	comp=Z,55nm,1.4s,mb5.3						
MDJ	**Mudanjiang**	**79.81**	**322**	P	**P**	**15 06 48.

comp=Z,25nm,2.6s,mb4.7
MDJ AMB AMB
comp=Z,1µm,9.7s
MDJ LR LR
comp=N,1µm,25.0s,MS5.4
MDJ LR LR
comp=E,2µm,22.6s,MS5.4
MDJ LR LR
comp=Z,3µm,22.2s,MS5.6
MDJ Mudanjiang 79.81 322 *e*P **P 15 06 48.3 +0.7**
comp=Z,112nm,1.8s,mb5.5
TTA Tatalina 79.88 8 P **P 15 06 49.0 +1.0**
HLID Hailey 79.91 39 *e*P **P 15 06 47.6 -0.6**
comp=Z,20nm,1.0s,mb5.0
HVU Hansel Valley 79.96 41 P **P 15 06 52.0 +3.5**
HVU Hansel Valley 79.96 41 *e*P **P 15 06 47.6 -0.8**
comp=Z,82nm,1.7s,mb5.4
DIV Divide 79.98 13 P **P 15 06 48.0 -0.6**
SRU San Rafael 80.06 44 P **P 15 06 49.1 +0.1**
SML Sawmill 80.07 12 *e*P **P 15 06 47.6 -1.4**
LAZ Ladron 80.20 50 *e*P **P 15 06 49.9 +0.2**
LENM Lemitar 80.21 50 P **P 15 06 52.6 +2.8**
DAU Daniels Canyon 80.23 43 P **P 15 06 50.4 +0.5**
MNTX Cornudas Mount 80.33 53 P **P 15 06 50.2 -0.2**
comp=Z,72nm,1.8s,mb5.3
BNM Barren Site 80.46 50 P **P 15 06 53.2 +2.0**
TCUT Toone Canyon 80.49 42 P **P 15 06 52.2 +0.9**
LPM Los Pinos Moun 80.53 50 P **P 15 06 53.0 +1.5**
HWUT Hardware Ranch 80.64 42 P **P 15 06 52.6 +0.5**
comp=Z,36nm,1.6s,mb5.0
NJ2 Nanjing 80.89 307 *e*P **P 15 06 54.1 +0.7**
NJ2 AP pP 15 06 58.4 -0.6
NJ2 XP sP 15 07 01.3 +0.3
NJ2 PP PP 15 10 01.4 +3.5
NJ2 S S 15 17 01.0 -0.3
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 LR LR
comp=N,1µm,16.1s
NJ2 LR LR
comp=E,2µm,29.2s
NJ2 LR LR
comp=Z,590nm,24.0s
PV01 Paradox Valley 80.92 46 P **P 15 06 53.7 +0.1**
MA2 Magadan 80.94 342 *c i*P **P 15 06 52.3 -1.4**
MA2 *e**SP sP 15 07 09.5 +8.2
MA2 *i* S S 15 17 03.0 +1.2
MA2 *i* PS 15 18 05.3
MA2 pmax pmax
comp=N,10.0nm,1.3s
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 MLR MLR
comp=Z,1µm,17.5s,MS5.3
MA2 Magadan 80.94 342 P **P 15 06 52.5 -1.2**
comp=Z,40nm,1.3s,mb5.2
ANMO Albuquerque 80.95 50 P **P 15 06 53.5 -0.2**
comp=Z,10nm,1.0s,mb4.7,baz=222,slow=5.8,SNR=9.6
ANMO Albuquerque 80.95 50 P **P 15 06 54.1 +0.3**
ANMO pmax pmax
comp=Z,37nm,1.5s
ANMO Albuquerque 80.95 50 P **P 15 06 54.1 +0.3**
comp=Z,37nm,1.5s,mb5.1
NEW Newport 81.06 34 P **P 15 06 54.3 0.0**
KLR Kul'dur 81.30 327 *e*P **P 15 06 52.2 -3.5**
KLR *e*S S 15 17 09.0 +3.4
KLR *e* 15 18 07.5
KLR pmax pmax
comp=E,130nm,2.8s
KLR pmax pmax
comp=Z,260nm,2.8s,mb5.7
KLR pmax pmax
comp=E,800nm,15.0s
KLR pmax pmax
comp=Z,2µm,15.0s
KLR smax
comp=N,2µm,15.0s
KLR smax
comp=E,1µm,15.0s
GDL2 Guadalupe Moun 81.32 53 P **P 15 07 03.4 +7.7**
TNA Tin City 81.49 2 *e*P **P 15 06 55.9 -0.7**
comp=E,62nm,1.6s,mb5.3
AHID Auburn Hatcher 81.54 41 *e*P **P 15 06 54.4 -2.5**
MCMT McKenzie Canyo 81.55 39 *e*P **P 15 06 56.2 -0.8**
MCK McKinley 81.72 11 P **P 15 06 56.8 -1.1**
GZH Guangzhou 81.86 297 P **P 15 07 00.1 +1.5**
GZH S S 15 17 14.9 +3.6
GZH LR LR
comp=N,746nm,15.7s,MS5.3
GZH LR LR
comp=E,792nm,18.8s,MS5.3
GZH LR LR
comp=Z,2µm,18.5s,MS5.4
CN2 Changchun 81.86 320 *e*P **P 15 07 00.9 +2.3**
CN2 *e*AP pP 15 07 05.6 +1.4
CN2 *e*S S 15 17 13.3 +1.9
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1µm,19.0s,MS5.4
CN2 LR LR
comp=E,1µm,19.0s,MS5.4
CN2 LR LR
comp=Z,1µm,21.0s,MS5.3
DL2 Dalian 81.94 314 P **P 15 07 01.8 +2.8**
DL2 XP sP 15 07 13.0 +6.4
DL2 S S 15 17 19.3 +7.2
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,650nm,8.7s
DL2 LR LR
comp=N,450nm,22.3s,MS5.0
DL2 LR LR
comp=E,520nm,23.1s,MS5.0
DL2 LR LR
comp=Z,900nm,24.0s,MS5.0
DLMT Dillon 81.98 38 *e*P **P 15 06 58.0 -1.2**
comp=Z,137nm,2.0s,mb5.5
MSO Missoula 82.00 36 P **P 15 06 58.3 -1.0**
REDW Red Top Meadow 82.00 41 P **P 15 06 59.4 0.0**
SNY Shenyang 82.04 318 ⇑P **P 15 07 00.6 +1.0**
SNY S S 15 17 23.0 +10
SNY AMB AMB
comp=Z,40nm,2.4s,mb4.9
SNY LR LR
comp=E,700nm,16.8s
SNY LR LR
comp=Z,1µm,18.0s,MS5.2
BSMT Bassoo Peak 82.09 35 P **P 15 06 58.9 -0.9**
SNOW Snow King Moun 82.11 41 P **P 15 07 02.3 +2.4**
IMW Indian Meadow 82.22 40 P **P 15 07 00.5 0.0**
MOOW Moose Ponds 82.27 40 P **P 15 07 02.2 +1.5**
LRM Limekiln Ridge 82.32 38 P **P 15 07 00.3 -0.6**
QLMT Earthquake Lak 82.40 39 P **P 15 07 01.6 +0.1**
CHMT Chamberlain Mo 82.44 37 P **P 15 07 00.5 -1.1**
FLWY Flagg Ranch 82.47 40 *e*P **P 15 07 00.8 -0.9**
comp=Z,68nm,1.3s,mb5.4
SMCO Snowmass 82.51 46 *e*P **P 15 07 01.7 -0.3**
comp=Z,92nm,1.5s,mb5.6
BW06 Boulder Array 82.52 42 P **P 15 07 01.3 -0.7**
PDAR Pinedale Array 82.52 42 P **P 15 07 00.9 -1.1**
comp=Z,6.1nm,0.9s,mb4.6,baz=200,slow=2.3,SNR=24
PDAR LR LR 15 38 58.9
comp=Z,2µm,18.1s,MS5.6,baz=251,slow=32
YFT Old Faithful 82.57 40 P **P 15 07 02.2 -0.1**
YMR Madison River 82.60 39 *e*P **P 15 07 00.1 -2.4**
comp=Z,157nm,1.8s,mb5.7
BOZ Bozeman (W) 82.71 38 P **P 15 07 02.7 -0.4**
BOZ pmax pmax
comp=Z,45nm,1.6s,mb5.2
BOZ Bozeman (W) 82.71 38 P **P 15 07 02.7 -0.4**
comp=Z,45nm,1.6s,mb5.2
SDCO Great Sand Dun 82.89 48 P **P 15 07 03.9 0.0**
LKWY Lake 82.90 40 P **P 15 07 05.4 +1.4**
LKWY pmax pmax
comp=Z,15nm,1.0s,mb5.0
LKWY Lake 82.90 40 P **P 15 07 05.4 +1.4**
comp=Z,15nm,1.0s,mb5.0
COLA College 82.96 11 *e*P **P 15 07 02.4 -2.0**
COLA pmax pmax
comp=Z,79nm,1.3s,mb5.6
COLA College 82.96 11 *e*P **P 15 07 02.4 -2.0**
comp=Z,79nm,1.3s,mb5.6
ILAR Eielson Array 83.04 11 P **P 15 07 02.9 -1.9**
comp=Z,5.9nm,0.7s,mb4.7,baz=220,slow=5.9,SNR=59
ILAR LR LR 15 39 42.2
comp=Z,1µm,20.1s,MS5.3,baz=227,slow=33
HRY Holter Researc 83.16 37 P **P 15 07 05.0 -0.4**
SEY Seymchan 83.28 345 *e*P **P 15 07 05.3 -0.7**
SEY *e* 15 07 13.1
SEY 15 10 17.7
SEY *e*S S 15 17 26.4 +0.5
SEY *e*PS 15 18 16.2
SEY pmax pmax
comp=N,20nm,1.3s
SEY pmax pmax
comp=Z,50nm,1.3s,mb5.4
SEY pmax pmax
comp=E,8.0nm,1.0s
SEY smax
comp=N,2µm,15.1s
SEY smax
comp=E,2µm,14.6s
SEY MLR MLR
comp=Z,2µm,20.0s,MS5.4
SEY MLR MLR
comp=N,460nm,19.0s,MS5.2
SEY MLR MLR
comp=E,820nm,19.0s,MS5.2
QIZ Qiongzhong 83.52 292 ⇑*i*P **P 15 07 07.3 +0.1**
QIZ S S 15 17 32.8 +4.5
QIZ AMB AMB
comp=Z,897nm,10.5s
QIZ LR LR
comp=E,824nm,24.9s
QIZ LR LR
comp=Z,2µm,24.0s,MS5.4
RWWY Rawlins 83.52 43 P **P 15 07 06.8 -0.4**
ISCO Idaho Springs 83.73 46 P **P 15 07 08.4 +0.1**
WHN Wuhan 83.80 304 ⇑P **P 15 07 09.0 +0.3**
WHN AMB AMB
comp=Z,2µm,11.0s
WHN LR LR
comp=Z,3µm,14.2s,MS5.8
GCMT Greycliff 83.97 39 *e*P **P 15 07 09.0 -0.5**
DAWY Dawson 83.99 14 P **P 15 07 08.6 -1.0**
PHWY Pilot Hill 84.51 44 *e*P **P 15 07 11.7 -0.6**
BILL Bilibino 85.24 352 *c i*P **P 15 07 14.5 -1.5**
BILL *e* 15 10 28.2
BILL *i* S 15 17 43.2
BILL *e*SS SS 15 23 13.5 -6.1
BILL pmax pmax
comp=Z,30nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,1µm,19.0s,MS5.2
BILL Bilibino 85.24 352 *e*P **P 15 07 14.0 -2.0**
comp=Z,61nm,1.5s,mb5.5
EDM Edmonton 85.87 31 P **P 15 07 17.8 -1.3**
BJT Baijiatuau 86.22 313 *e*P **P 15 07 21.6 +0.8**
BJT pmax pmax
comp=Z,196nm,1.8s
BJT Baijiatuau 86.22 313 *e*P **P 15 07 21.6 +0.8**
comp=Z,196nm,1.8s,mb6.0
LAO LASA Array 86.49 39 P **P 15 07 15.2 -6.9**
WMOK Wichita Mounta 86.61 53 *e*P **P 15 07 21.7 -1.0**
WMOK pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
WMOK Wichita Mounta 86.61 53 *e*P **P 15 07 21.7 -1.0**
comp=Z,7.1nm,1.4s,mb4.7
RSSD Black Hills 86.70 42 *e*P **P 15 07 22.6 -0.6**
RSSD pmax pmax
comp=Z,22nm,1.4s,mb5.2
RSSD Black Hills 86.70 42 *e*P **P 15 07 22.6 -0.6**
comp=Z,22nm,1.4s,mb5.2
HKT Hockley 87.22 58 *e*P **P 15 07 28.1 +2.4**
comp=Z,95nm,2.0s,mb5.7
ENH Enshi 87.61 302 *e*P **P 15 07 28.5 +0.9**
comp=Z,167nm,1.9s,mb5.9
KULM Kulim 87.96 276 *e*P **P 15 07 30.9 +1.7**
HIA Hailar 87.98 323 *c i*P **P 15 07 28.1 -1.2**
HIA Hailar 87.98 323 *e*P **P 15 07 29.2 -0.2**
comp=Z,93nm,1.8s,mb5.7
GYA Guiyang 88.71 298 ⇑*i*P **P 15 07 34.3 +1.5**
GYA AP pP 15 07 38.9 +0.5
GYA XP sP 15 07 41.5 +1.1
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.5
GYA AMB AMB
comp=Z,960nm,5.1s
GYA LR LR
comp=N,950nm,17.9s,MS5.5
GYA LR LR
comp=E,1µm,18.0s,MS5.5
GYA LR LR
comp=Z,1µm,18.2s,MS5.3
PLCA Paso Flores 88.76 132 P **P 15 07 33.1 +0.1**
comp=Z,1.9nm,1.1s,mb4.3,baz=304,slow=3.6,SNR=2.7
PLCA LR LR 15 38 44.5
comp=Z,3µm,20.2s,MS5.8,baz=348,slow=30
PLCA Paso Flores 88.76 132 P **P 15 07 35.1 +2.0**
PLCA pmax pmax
comp=Z,57nm,1.8s
PLCA Paso Flores 88.76 132 P **P 15 07 35.1 +2.0**
comp=Z,57nm,1.8s,mb5.6
INK Inuvik 88.84 14 P **P 15 07 32.2 -1.2**
CLNS Chul'man 89.02 331 *e*P **P 15 07 34.0 -0.3**
CLNS *e**PP pP 15 07 42.5 +2.6
CLNS *e*S 15 18 03.3
CLNS pmax pmax
comp=Z,27nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS smax
comp=N,204nm,13.2s
CLNS smax
comp=Z,109nm,12.1s
CLNS smax
comp=E,397nm,11.5s
CLNS MLR MLR
comp=Z,2µm,18.0s,MS5.6
CLNS MLR MLR
comp=N,400nm,20.0s,MS5.4
CLNS MLR MLR
comp=E,1µm,17.0s,MS5.4
XAN Xi'an 89.35 306 P **P 15 07 36.9 +1.1**
XAN AMB AMB
comp=Z,17nm,1.6s,mb5.1
XAN AMB AMB
comp=Z,648nm,11.2s
XAN LR LR
comp=N,839nm,18.8s,MS5.3
XAN LR LR
comp=E,769nm,21.9s,MS5.3
XAN LR LR
comp=Z,2µm,21.9s,MS5.4
HHC Hu-ho-hao-te 89.78 313 ⇑*i*P **P 15 07 39.3 +1.5**
HHC AP pP 15 07 43.9 +0.5
HHC SKS 15 18 02.5
HHC AMB AMB
comp=Z,33nm,1.6s,mb5.4
HHC AMB AMB
comp=Z,551nm,6.0s
HHC LR LR
comp=N,425nm,28.8s
HHC LR LR
comp=E,375nm,22.8s
HHC LR LR
comp=Z,728nm,14.4s
YAK Yakutsk 89.90 337 *e*P **P 15 07 37.3 -1.1**
YAK *e* 15 18 05.5
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=Z,18nm,1.4s,mb5.2
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,332nm,18.1s
YAK pmax pmax
comp=Z,157nm,18.7s
YAK pmax pmax
comp=E,349nm,22.6s
YAK Yakutsk 89.90 337 *e* **P 15 07 36.2 -2.1**
YKA Yellowknife Ar 90.57 23 P **P 15 07 39.6 -1.9**
comp=E,2.3nm,0.7s,mb4.6,baz=237,slow=5.0,SNR=29
YKA LR LR 15 43 26.8
comp=E,850nm,18.3s,MS5.2,baz=110,slow=32
YKW3 Yellowknife Ar 90.61 23 P **P 15 07 40.5 -1.2**
BTO Baotou 90.78 312 *e*P **P 15 07 42.0 -0.5**
BTO AMB AMB
comp=Z,24nm,2.8s,mb5.0
JTS JuntasAbangare 90.95 80 *d i*P **P 15 07 44.4 +1.1**
JTS JuntasAbangare 90.95 80 *e*P **P 15 07 46.5 +3.2**
comp=Z,97nm,1.4s,mb5.9
KMI Kunming 91.67 296 P **P 15 07 49.3 +2.7**
KMI SKS 15 18 18.4
KMI S 15 18 45.3
KMI AMB AMB
comp=Z,17nm,1.6s,mb5.1
KMI AMB AMB
comp=Z,604nm,5.9s
KMI LR LR
comp=N,784nm,17.8s,MS5.4
KMI LR LR
comp=E,1µm,19.1s,MS5.4
KMI LR LR
comp=Z,2µm,17.8s,MS5.5
SYO Syowa Base 92.00 191 ⇓*e*PcP PcP 15 07 49.6 +0.6
SYO Syowa Base 92.00 191 ⇓*e*P **P 15 07 47.2 -1.0**
SYO ⇓*e*PcP PcP 15 07 49.6 +0.6
FFC Flin Flon 92.46 33 P **P 15 07 48.3 -2.0**
CD2 Chengdu 92.50 301 P **P 15 07 52.6 +2.2**
CD2 XP sP 15 08 00.5 +2.4
CD2 SKS 15 18 28.1
CD2 S 15 18 53.0
CD2 AMB AMB
comp=Z,490nm,9.0s
CD2 LR LR
comp=N,700nm,12.0s
CD2 LR LR
comp=Z,850nm,22.2s
CIT Chita 92.71 324 *e*P **P 15 07 51.5 +0.1**
CIT pmax pmax
comp=Z,168nm,1.4s
LZH Lanzhou 93.94 306 *e*P **P 15 07 57.0 -0.1**
LZH AP pP 15 08 00.3 -2.4
LZH PP PP 15 11 45.0 +2.1
LZH SKS 15 18 32.0
LZH *e*S 15 19 03.0
LZH AMB AMB
comp=Z,52nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,272nm,5.2s
LZH LR LR
comp=E,2µm,16.2s
LZH LR LR
comp=Z,3µm,20.2s,MS5.7
ULM Lac du Bonnet 94.22 39 P **P 15 07 55.9 -2.5**
comp=Z,4.6nm,0.9s,mb4.9,baz=229,slow=4.3,SNR=7.1
ULM LR LR 15 45 34.3
comp=Z,2µm,19.0s,MS5.5,baz=258,slow=32
BOD Bodaibo 94.72 329 *e*P **P 15 07 58.1 -2.6**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
ULN Ulaanbaatar 95.20 318 P **P 15 08 03.8 +0.9**
ULN pmax pmax
comp=Z,16nm,1.6s,mb5.2
ULN Ulaanbaatar 95.20 318 P **P 15 08 03.8 +0.9**
comp=Z,16nm,1.6s,mb5.2
SONM Songino Array 95.61 318 P **P 15 08 04.6 -0.1**
comp=Z,0.8nm,0.8s,mb4.2,baz=130,slow=4.2,SNR=6.5
SONM LR LR 15 46 11.4
comp=Z,975nm,20.6s,MS5.3,baz=120,slow=32
TIXI Tiksi 95.77 344 *e*P **P 15 08 01.1 -4.4**
TIXI *e* 15 11 51.5
TIXI *e*S 15 18 33.9
TIXI *e*PS PS 15 20 35.6 -7.0
TIXI *e*SS SS 15 25 46.4 -5.4
TIXI pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
TIXI Tiksi 95.77 344 P **P 15 08 04.0 -1.5**
GTA Gaotai 97.91 309 P **P 15 08 16.1 +0.9**
GTA AP pP 15 08 24.4 +3.6
GTA XP sP 15 08 27.9 +5.1
GTA PP PP 15 12 20.8 +7.1
GTA SKS 15 18 51.9
GTA S 15 19 42.1
GTA XS sS 15 19 52.0 +1.8
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,308nm,12.2s
GTA LR LR
comp=N,756nm,25.5s,MS5.4
GTA LR LR
comp=E,1µm,22.4s,MS5.4
GTA LR LR
comp=Z,2µm,21.7s,MS5.6
ZAK Zakamensk 98.30 320 ⇑*i*P **P 15 08 16.0 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb5.0
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb5.0
LPAZ La Paz 99.21 110 LR LR 15 43 40.6
comp=Z,2µm,21.1s,MS5.6,baz=284,slow=30
ROSC El Rosal 99.64 88 LR LR 15 43 50.5
comp=Z,1µm,22.0s,MS5.3,baz=203,slow=30
LPA La Plata 100.24 131 *c e*P Pdif 15 08 26.0 +0.4
LPA *e*SKS 15 19 03.0
LPA *e*SKKS SKKSac 15 19 38.0 +0.5
LPA *e*pS 15 20 05.0
WMQ Urumqi 107.61 311 *e*PDIF Pdif 15 08 58.0 -0.3
WMQ PP PP 15 13 29.0 +2.6
WMQ S Sdif 15 20 57.0 -4.9
WMQ PP PP
comp=Z,548nm,7.0s
WMQ LR LR
comp=N,589nm,12.0s,MS5.5
WMQ LR LR
comp=E,488nm,11.0s,MS5.5
WMQ LR LR
comp=Z,599nm,12.0s,MS5.4
TRD Trivandrum 111.49 273 *e*P PP 15 13 59.3 +4.8
MKAR Makanchi Array 111.58 314 PKiKP PKiKP 15 13 12.8 -1.0
comp=Z,0.9nm,0.7s,baz=64,slow=2.8,SNR=7.9
MKAR Makanchi Array 111.58 314 *i* PKIKP PKiKP 15 13 13.0 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 113.91 319 *i* PKIKP PKiKP 15 13 15.4 -2.8
BVAR Borovoye Array 118.66 322 PKP PKPdf 15 13 26.3 -1.1
comp=Z,0.8nm,0.5s,baz=98,slow=3.0,SNR=11
ZRNK Zerenda 119.50 322 PKIKP PKPdf 15 13 28.4 -0.5
ARU Arti 124.13 328 *i* PKIKP PKPdf 15 13 37.7 -0.1
ARU *e* 15 15 19.9
ARU *e* 15 20 38.0
ARU *e*SS SS 15 32 13.8 +1.6
ARU Arti 124.13 328 PKPdf PKPdf 15 13 38.0 +0.2
ARCES ARCESS Array B 125.34 352 PKP PKPdf 15 13 39.0 -1.2
comp=Z,2.7nm,0.9s,baz=45,slow=2.1,SNR=5.0
AKTK Aktyubinsk 126.76 322 PKP PKPdf 15 13 42.4 -0.5
AKTO Aktyubinsk 126.76 322 PKP PKPdf 15 13 42.4 -0.5
comp=Z,1.1nm,0.7s,baz=63,slow=5.3,SNR=4.8
KLMR Klimovskoe 129.57 340 *e*PKIKP PKPdf 15 13 46.6 -1.6
KLMR pmax pmax
comp=Z,30nm,1.3s
FINES FINESS Array B 132.70 348 PKP PKPdf 15 13 54.0 -0.1
comp=Z,1.7nm,0.8s,baz=250,slow=5.5,SNR=4.8
OBN Obninsk 134.90 336 ⇓*i*PKIKP PKPdf 15 13 57.6 -0.7
OBN *e* 15 16 35.0
OBN *e* 15 19 36.6
OBN *e* 15 21 05.5
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,2µm,22.0s,MS5.7
GNI Garni 139.43 314 *i* PKIKP PKPdf 15 14 06.4 -0.3
SOC Sochi 140.99 321 ⇑*i*PKIKP PKPdf 15 14 09.9 +0.4
SOC *e* 15 17 07.1
SOC *e*PPP 15 20 12.0
SOC *e*SS SS 15 35 27.3 -10
SOC pmax pmax
comp=Z,43nm,0.8s
SOC MLR MLR
comp=Z,1µm,21.0s,MS5.7
AKASG Malin Array Be 141.12 337 PKhKP 15 14 02.9

comp=Z,0.6nm,0.5s,baz=46,slow=4.2,SNR=5.7
AKASG PKP PKPdf 15 14 07.9 -1.8
comp=Z,2.0nm,0.7s,baz=38,slow=3.7,SNR=6.2
AKASG PP PP 15 17 05.8 -5.4
comp=Z,0.1nm,0.3s,baz=35,slow=6.1,SNR=4.0
LSZ Lusaka 142.46 215 PKPdf PKPdf 15 14 14.2 +2.1
TSUM Tsumeb 143.42 197 PKPdf PKPdf 15 14 13.3 -0.5
ELZG Elazig 144.15 315 *i* P PKPdf 15 14 15.4 +0.3
KWP Kalwaria 144.19 342 *e*PKP PKPdf 15 14 13.6 -1.6
KIS Kishinev 144.26 334 *e*PKIKP PKPdf 15 14 19.0 +3.7
OJC Ojcow 144.42 346 *e*PKP PKPdf 15 14 13.0 -2.6
KSP Ksiaz 144.54 350 *e*PKP PKPdf 15 14 14.8 -1.0
KSP Ksiaz 144.54 350 *e*PKP PKPdf 15 14 14.2 -1.6
KSP LR LR
comp=Z,3μm,22.3s,MS6.1
CLL Collm 144.54 354 *e*PKPbc PKPdf 15 14 14.5 -1.3
CLL Collm 144.54 354 *e*PKPdf PKPdf 15 14 15.0 -0.8
comp=Z,15nm,0.9s
CLL *i* pPKPdf pPKPdf 15 14 19.4 -2.1
CLL *e*SS SS 15 36 24.0 +5.8
CLL *e*SSS 15 42 06.0
MALT Malatya 144.62 315 ⇑PKIKP PKPdf 15 14 16.5 +0.6
MALT Malatya 144.62 315 *e*PKPdf PKPdf 15 14 16.2 +0.3
SVSK Karacayir 144.72 318 P PKPdf 15 14 16.6 +0.6
BUG Bochum--Univer 144.73 360 *e*PKPbc PKPdf 15 14 14.1 -2.0
URFA Urfa 144.78 313 P PKPdf 15 14 16.8 +0.6
STHS Stebnicka Huta 144.80 344 *i* PKP PKPdf 15 14 15.2 -1.0
STHS *e* 15 14 24.8
BRG Berggiesshubel 144.86 352 *e*PKPbc PKPdf 15 14 15.7 -0.6
BRG Berggiesshubel 144.86 352 *e*PKP PKPdf 15 14 17.1 +0.8
comp=Z,16nm,1.5s
BRG Berggiesshubel 144.86 352 *e*PKIKP PKPdf 15 14 17.1 +0.8
BRG pmax pmax
comp=Z,16nm,1.5s
RAC Raciborz 144.90 347 *e*PKPdf PKPdf 15 14 15.5 -0.9
RAC LR LR
comp=Z,2μm,22.0s,MS5.8
UPC Upice 144.91 350 *e*PKP PKPdf 15 14 15.6 -0.8
KOLS Kolonicke sedl 144.95 342 *e*PKP PKPdf 15 14 15.6 -0.9
KOLS *e* 15 14 21.6
DPC Dobruska-Polom 145.01 350 *e*PKP PKPdf 15 14 15.9 -0.7
DPC AMS AMS 16 17 20.0
comp=Z,2μm,19.0s
NIE Niedzica 145.04 345 *e*PKP PKPdf 15 14 16.0 -0.6
PVCC Panska Ves 145.11 352 *e*PKP PKPdf 15 14 15.6 -1.2
ATAB Bozova 145.13 314 *i* P PKPbc 15 14 17.8 +1.5
BOYT Boyabat 145.13 322 *i* P PKPbc 15 14 17.9 +1.6
OKC Ostrava-Krasne 145.15 347 *e*PKP PKPdf 15 14 14.4 -2.4
BURAR Bucovina Array 145.15 338 ⇓P PKPbc 15 14 17.3 +0.9
BURAR Bucovina Array 145.15 338 ⇓P PKPbc 15 14 17.3 +0.9
BYBT Boyabat 145.18 322 P PKPbc 15 14 18.3 +1.8
CRVS Cervenica-Dubn 145.21 343 *e*PKP PKPdf 15 14 19.2 +2.3
CRVS *e* 15 14 33.3
UBBA Unterbreizbach 145.27 357 *e*PKPbc PKPbc 15 14 14.8 -2.0
UCC Uccle 145.31 3 PKP PKPdf 15 14 16.5 -0.6
MORC Moravsky Berou 145.33 348 ⇑PKIKP PKPdf 15 14 16.7 -0.4
MORC Moravsky Berou 145.33 348 *e*PKPdf PKPdf 15 14 16.3 -0.8
MOX Moxa 145.33 355 *e*PKPbc PKPbc 15 14 15.0 -2.0
MOX Moxa 145.33 355 *e*PKP PKPdf 15 14 16.5 -0.6
comp=Z,120nm,1.8s
MOX Moxa 145.33 355 *e*PKIKP PKPdf 15 14 16.5 -0.6
MOX pmax pmax
comp=Z,120nm,1.8s
HGN Heimansgroeve 145.40 1⇑*e*P PKPbc 15 14 16.3 -0.9
comp=Z,64nm,0.4s
WERD Werda 145.46 354 *e*PKPbc PKPbc 15 14 15.7 -1.7
PRA Prague 145.58 352 PKP PKPdf 15 14 18.0 +0.4
KMBO Kilima Mbogo 145.58 243 PKPbc PKPbc 15 14 18.7 +0.9
comp=Z,39nm,1.2s,baz=89,slow=2.6,SNR=40
KMBO Kilima Mbogo 145.58 243 *e*PKPdf PKPdf 15 14 20.1 +2.6
PRU Pruhonice 145.64 351 *e*PKP PKPdf 15 14 16.7 -1.0
NKC Novy Kostel 145.66 354 *e*PKP PKPdf 15 14 17.2 -0.5
CTKT Corum 145.69 321 *i* P PKPdf 15 14 19.3 +1.5
GZT Gaziantep 145.69 314 *i* P PKPdf 15 14 19.6 +1.8
KECS Kecovo 145.85 344 *i* PKP PKPdf 15 14 18.5 +0.5
TOS Tosya 145.89 322 P PKPdf 15 14 20.5 +2.4
TNS Taunus Mts 145.94 358 *e*PKPbc PKPbc 15 14 17.3 -1.6
BALT Daday 145.94 323 *i* P PKPdf 15 14 15.3 -2.8
VRAC Vranov 145.96 349 ⇓P PKPdf 15 14 19.4 +1.2
CFR Carcaliu 145.99 333 ⇑P PKPdf 15 14 19.7 +1.4
CFR Carcaliu 145.99 333 ⇑P PKPdf 15 14 19.6 +1.4
DOU Dourbes 146.03 3 PKP PKPdf 15 14 18.8 +0.5
DOU E 15 14 58.6
GAZ Gaziantep 146.03 314 P PKPdf 15 14 21.1 +2.7
GIVF Givet 146.03 3 *e*PKP1 PKPbc 15 14 15.8 -3.3
VRI Vrincioaia 146.03 335 ⇓P PKPdf 15 14 17.6 -0.7
VRI Vrincioaia 146.03 335 ⇓P PKPdf 15 14 17.6 -0.7
BAIF Baives 146.04 3 *e*PKP1 PKPbc 15 14 16.1 -3.1
comp=Z,282nm,1.7s
JVM Valle D.L. Mar 146.12 11 *e*P PKPdf 15 14 19.4 +0.9
JVM Valle D.L. Mar 146.12 11 *e*PKP PKPdf 15 14 19.4 +0.9
ROTZ Rotzenmuhle 146.15 354 *e*PKPbc PKPbc 15 14 18.3 -1.2
VYHS Vyhne 146.26 346 *i* PKP PKPdf 15 14 19.7 +1.0
ABH Alteburg 146.29 359 PKP PKPdf 15 14 19.5 +0.7
GRF Grafenberg Arr 146.31 355 *e*PKPbc PKPbc 15 14 18.9 -1.1
GRF *e*L 16 19 34.8
comp=Z,1μm,19.6s
TIRR Tirgusor 146.42 332 ⇓P PKPdf 15 14 20.2 +1.2
TIRR Tirgusor 146.42 332 ⇓P PKPdf 15 14 20.2 +1.2
RUP Ruppelstein 146.48 360 PKP PKPdf 15 14 19.1 0.0
WLF Walferdange 146.51 1 *e*PKPbc PKPbc 15 14 19.5 -1.1
WLF Walferdange 146.51 1 PKP PKPdf 15 14 20.6 +1.4
WLF E 15 15 03.9
WLF Walferdange 146.51 1 *e*PKPdf PKPdf 15 14 20.0 +0.8
PSZ Piszkesteto 146.53 344⇑*e*PKP/p PKPdf 15 14 19.9 +0.7
PSZ Piszkesteto 146.53 344 *e*PKPdf PKPdf 15 14 19.8 +0.7
TOD Tromm 146.54 358 PKP PKPdf 15 14 20.2 +1.0
CDAG Cicekdag 146.54 320 *i* P PKPdf 15 14 19.1 -0.1
SMOL Smolenice 146.55 347 *e*PKP PKPdf 15 14 20.6 +1.4
ELDT Eldivan 146.59 322 *i* P PKPdf 15 14 21.6 +2.4
KHC Kasperske Hory 146.61 352 *e*PKP PKPdf 15 14 20.7 +1.4
KHC *e*pPKP pPKPdf 15 14 25.5 +0.4
MLR Muntele Rosu 146.65 335 ⇑P PKPdf 15 14 20.8 +1.4
MLR Muntele Rosu 146.65 335 ⇑P PKPdf 15 14 20.8 +1.4
WET Wettzell 146.69 353 *e*PKPbc PKPbc 15 14 20.0 -1.1
DRGR 146.72 340 ⇓P PKPdf 15 14 21.0 +1.5
DRGR 146.72 340 ⇓P PKPdf 15 14 21.0 +1.5
KOZT Kozan 146.81 316 *e*P PKPdf 15 14 22.9 +3.3
GEC2 GERESS Array S 146.88 352 *e*PKPbc PKPbc 15 14 20.3 -1.3
GERES GERESS Array B 146.88 352 PKPbc PKPbc 15 14 20.2 -1.4
comp=Z,3.8nm,0.8s,baz=43,slow=2.4,SNR=21
ZST Bratislava 146.92 348 *e*PKP PKPdf 15 14 22.5 +2.7
BR131 Keskin Array S 146.93 321 PKPdf PKPdf 15 14 22.9 +3.1
BRTR Keskin Array B 146.93 321 PKPbc PKPbc 15 14 22.1 +0.3
comp=Z,23nm,0.9s,baz=123,slow=2.1,SNR=70
SRO Srobarova 147.02 346 *e*PKP PKPdf 15 14 23.0 +3.0
COBT Iskenderun 147.02 314 *i* P PKPdf 15 14 23.4 +3.4
VOIR 147.05 336 ⇓P PKPdf 15 14 23.2 +3.1
VOIR 147.05 336 ⇓P PKPdf 15 14 23.2 +3.2
SGKT Sivrigoynuk 147.33 323 *i* P PKPdf 15 14 23.8 +3.3
ANTO Ankara 147.35 322 *e*P PKPdf 15 14 24.2 +3.6
ANTO Ankara 147.35 322 *e*PKPbc PKPbc 15 14 24.0 +1.1
STU Stuttgart 147.36 357 *e*PKPbc PKPbc 15 14 22.2 -0.8
STU Stuttgart 147.36 357 *e*PKPbc PKPbc 15 14 23.0 0.0
LOD Lodumlu 147.36 322 *e*P PKPdf 15 14 24.4 +3.9
KARA Karaisali 147.45 316 P PKPdf 15 14 23.2 +2.5
MEZF Maizieres J'vi 147.64 2 *e*PKP1 PKPbc 15 14 21.1 -2.7
WLS Welschbruch 147.76 360 PKP PKPdf 15 14 23.4 +2.2
CDF Champ du Feu 147.77 360 *e*PKP1 PKPbc 15 14 21.1 -3.0
comp=Z,235nm,1.6s
MOA Molln 147.77 351 ⇓*i* P PKPdf 15 14 23.9 +2.7
comp=Z,30nm,1.4s
FUR Furstenfeldbru 147.82 355 *e*PKPbc PKPbc 15 14 22.9 -1.4
BFO Black Forest 147.83 358 *e*PKPbc PKPbc 15 14 22.8 -1.5
BFO Black Forest 147.83 358 *e*PKPbc PKPbc 15 14 23.9 -0.3
MDU Mudurnu 147.88 324 *e*P PKPdf 15 14 25.3 +3.9
THEF They Montfort 147.94 1 PKP PKPdf 15 14 24.3 +2.8
ECH Echery 147.96 360 PKP PKPdf 15 14 24.3 +2.7
MERS Mersin 148.02 316 *e*P PKPdf 15 14 25.4 +3.7
LIBD Limburg 148.03 359 PKP PKPdf 15 14 24.5 +2.8
BZS Buzias 148.11 340 ⇑P PKPdf 15 14 24.8 +3.0
BZS Buzias 148.11 340 ⇑P PKPdf 15 14 24.8 +3.0
ARSA Arzberg 148.14 349⇑*i* P PKPdf 15 14 24.9 +3.1
comp=Z,25nm,1.3s,SNR=7.1
HAU Haudompre 148.17 1 *e*PKP1 PKPbc 15 14 22.2 -3.0
comp=Z,195nm,1.6s
HAU *e*R
comp=Z,2μm,19.8s
MOF Molkenrain 148.33 360 PKP PKPdf 15 14 27.3 +5.1
HINF Hinteralfeld 148.36 0 *e*PKP1 PKPbc 15 14 22.0 -3.7
PKSM Moragy 148.43 344⇑*i* P PKPdf 15 14 25.5 +3.2
KIZT Kizilcal 148.53 321 *e*P PKPdf 15 14 26.9 +4.4

WATA Walderalm 148.61 354⇓*i* PKiKP PKiKP 15 14 26.6 -1.2
comp=Z,38nm,1.5s
MOTA Moosalm 148.65 355⇑*i* PKPbc PKPbc 15 14 26.2 -0.3
comp=Z,69nm,1.5s
KBA Koelnbreinsper 148.66 352⇑*i* PKPbc PKPbc 15 14 25.5 -1.0
comp=Z,28nm,1.3s
DJES Djerdap 148.67 338 *e*PKP PKPdf 15 14 30.1 +7.3
WTTA Wattenberg 148.68 354⇑*e*P PKPdf 15 14 26.1 +3.3
comp=Z,33nm,1.6s
HYF Humbligny 148.70 6 *e*PKP1 PKPbc 15 14 23.7 -2.9
BORA Eskisehir 148.71 324 *i* P PKPdf 15 14 23.1 +0.3
ESKT Eskisehir 148.72 323 *e*P PKPdf 15 14 26.9 +4.0
ESKT Eskisehir 148.72 323 *i* P PKPdf 15 14 26.6 +3.7
SQTA Sankt Quirin 148.76 354⇓*i* PKiKP PKiKP 15 14 27.2 -1.0
comp=Z,38nm,1.5s
DAVA Damuels 148.80 356⇑*i* PKiKP PKiKP 15 14 26.7 -1.5
comp=Z,34nm,1.1s
LOR Lormes 148.80 4 *e*PKP1 PKPbc 15 14 23.8 -3.0
comp=Z,203nm,1.7s
LOR *e*R
comp=Z,2μm,18.5s
PERS Pernice 148.80 349 *e*PKPdf PKPdf 15 14 26.5 +3.5
KONT Konya--Tatoy 148.81 319 *e*P PKPdf 15 14 27.3 +4.3
ELBA Catalca 148.91 328 *i* P PKPdf 15 14 27.0 +3.9
IKL Isikli 148.93 315 *e*P PKPdf 15 14 27.2 +4.1
SSF Saint Saulge 148.98 5 *e*PKP1 PKPbc 15 14 24.3 -3.0
comp=Z,222nm,1.7s
OBKA Obir 149.03 350⇑*i* PKPbc PKPbc 15 14 25.3 -2.1
comp=Z,25nm,1.7s
BEO Belgrade 149.19 341⇓*i* PKP PKPdf 15 14 28.3 +4.7
DOBS Dobrina 149.21 346 *e*PKPdf PKPdf 15 14 27.1 +3.5
ERMK Ermenek 149.22 317 *i* P PKPdf 15 14 26.5 +2.9
AVF Avril sur Loir 149.24 5 *e*PKP1 PKPbc 15 14 24.8 -3.1
comp=Z,132nm,1.6s
ULDT Uludag 149.26 326 *i* P PKPdf 15 14 28.6 +4.9
SVIS Svilajnac 149.41 340 *e*PKP PKPdf 15 14 28.4 +4.5
SMF Signal de Mont 149.42 4 *e*PKP1 PKPbc 15 14 25.3 -3.1
comp=Z,169nm,1.6s
BGF Bois d'Agland 149.43 6 *e*PKP1 PKPbc 15 14 25.4 -3.0
comp=Z,166nm,1.5s
ALT Altintas 149.46 323 *e*P PKPdf 15 14 29.6 +5.5
LJU Ljubljana 149.48 350 *e*PKPdf PKPdf 15 14 29.4 +5.4
CABF La Chapelle 149.56 1 *e*PKP1 PKPbc 15 14 26.6 -2.1
comp=Z,300nm,1.6s
BOLS Boljevac 149.57 338⇑*i* PKP PKPdf 15 14 27.3 +3.1
TCF Toulx Ste Croi 149.63 7 *e*PKP1 PKPbc 15 14 25.7 -3.2
SISC Sisak 149.67 347 *i* PKP PKPdf 15 14 27.7 +3.4
ZAPS Zavoj/Pirot 149.79 337⇑*i* PKP PKPdf 15 14 28.9 +4.4
PGB Panagyurishte 149.80 334 P PKPdf 15 14 30.0 +5.5
BOJS Bojanci 149.87 348 *e*PKPdf PKPdf 15 14 29.7 +5.0
GRUS Gruza 149.94 340⇓*i* PKP PKPdf 15 14 29.5 +4.8
DIVS Divcibare 149.99 341⇓*i* PKP PKPdf 15 14 29.5 +4.7
TKTP Tekketepe 150.00 321 *i* P PKPdf 15 14 30.1 +5.2
PLDF La Plantade 150.08 5 PKP PKPdf 15 14 30.1 +5.1
BTOK Tokmak 150.13 326 *i* P PKPdf 15 14 30.6 +5.5
VTS Vitosha 150.16 336 P PKPdf 15 14 31.0 +5.9
PYM Petit Puy Mans 150.24 6 PKP PKPdf 15 14 31.9 +6.7
RZN Rozhen 150.27 333 P PKPdf 15 14 28.0 +2.7
BALB Balikesir 150.29 326 *e*P PKPdf 15 14 30.2 +4.9
BBLS Bajina Basta - 150.37 342 *e*PKP PKPdf 15 14 33.8 +8.3
RJF Les Rejaudoux 150.51 8 *e*PKP1 PKPbc 15 14 28.0 -3.0
comp=Z,148nm,1.4s
LPL La Plagne 150.66 0 *e*PKP1 PKPbc 15 14 29.5 -1.9
comp=Z,157nm,1.6s
LPG La Plagne 150.68 0 *e*PKP1 PKPbc 15 14 29.7 -1.7
LFF La Frestale 150.76 9 *e*PKP1 PKPbc 15 14 28.5 -3.1
comp=Z,356nm,1.7s
LBL Lubilhac 150.78 5 PKP PKPdf 15 14 31.7 +5.6
MMB Musomiste 150.78 334 P PKPdf 15 14 31.8 +5.7
KKB Krupnik 150.82 335 P PKPdf 15 14 32.0 +5.9
NVLJ Novalja 150.85 348 *i* PKP PKPdf 15 14 23.7 -2.5
AKS Akhisar 150.88 325 P PKPdf 15 14 34.4 +8.2
CAF Calviac 150.95 7 *e*PKP1 PKPbc 15 14 29.0 -3.1
DNZL Cakiroluk 150.99 322 *i* P PKPdf 15 14 33.4 +7.0
BNI Bardonecchia 151.13 0 PKIKP PKPdf 15 14 34.0 +7.4
BNI Bardonecchia 151.13 0 *e*PKP PKPdf 15 14 29.8 +3.2
ORIF Oris-en-Rattie 151.25 2 *e*PKP1 PKPbc 15 14 30.5 -2.2
ORIF *e*R
comp=Z,2μm,20.8s
VIVF Saint-Julien-l 151.26 3 *e*PKP1 PKPbc 15 14 30.2 -2.6
comp=Z,120nm,1.4s
STIP Stip 151.32 336 *e*PKP PKPdf 15 14 32.8 +5.9
SKO Skopje 151.37 337 *e*PKP PKPdf 15 14 33.3 +6.3
MBDF Montbardon 151.45 0 *e*PKP1 PKPbc 15 14 30.7 -2.5
VAY Valandovo 151.49 335 *e*PKP PKPdf 15 14 32.7 +5.5
BOUT Bodrum 152.43 323 *e*P PKPdf 15 14 26.7 -2.9
ETSF Etsaut 152.51 12 *e*PKP1 PKPbc 15 14 32.9 -2.7
comp=Z,144nm,1.5s
DBIC Dimbokro 165.08 128 PKP PKPdf 15 14 41.4 -2.1
comp=Z,2.3nm,1.0s,baz=284,slow=12,SNR=2.7
DBIC PKPab PKPab 15 15 42.1 +1.7
comp=Z,2.3nm,0.8s,baz=213,slow=17,SNR=2.6
TORD Torodi Ar. Bea 174.09 119 PKP PKPdf 15 14 48.0 -0.9
comp=Z,3.9nm,1.1s,baz=333,slow=1.7,SNR=9.6
TORD PKPab PKPab 15 16 22.0 +1.7
comp=Z,3.6nm,1.0s,baz=277,slow=4.6,SNR=6.5
TORD PP PP 15 20 10.8 -1.4
comp=Z,1.2nm,1.1s,baz=279,slow=3.8,SNR=3.9

IDC 16 15:24:38.6±3.6,3090S×13854E,h0km,mb1 3.1/3,
mb1mx3.1/12,mbtmp2.9/3,ML2.8/3,Error ellipse:
s-maj=69.2km s-min=15.2km az=38.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.79**	**111**	Pn	Pn	15 25 23.9	-0.5
	0.5nm,0.3s,baz=301,slow=16,SNR=13						
STKA				Pg	Pg	15 25 31.0	-1.0
	3.4nm,0.3s,baz=287,slow=14,SNR=42						
STKA				Sn	Sn	15 25 59.5	+0.8
	1.5nm,0.3s,baz=303,slow=17,SNR=3.9						
STKA				Lg		15 26 05.5	
	2.5nm,0.3s,baz=340,slow=15,SNR=4.4						
ASAR	**Alice Springs**	**8.30**	**329**	Pn	Pn	15 26 41.4	+1.2
	0.2nm,0.3s,baz=155,slow=12,SNR=18						
ASAR				Sn	Sn	15 28 13.7	-1.0
	0.2nm,0.3s,baz=153,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**11.55**	**340**	Pn	Pn	15 27 25.2	+0.4
	0.1nm,0.3s,baz=158,slow=15,SNR=2.6						
WRA				Sn	Sn	15 29 33.8	-0.6
	0.1nm,0.3s,baz=168,slow=24,SNR=4.0						

*ISCJB **16** 15:37:49.1±0.6,277N±0.1×44.11W±008,h10km,mb4.3/27,*
MS4.1/1,Error ellipse: s-maj=15.5km s-min=10.6km
az=174.0
*IDC **16** 15:37:49.3±0.8,2767N×44.12W,h0km,mb4.0/15,*
mb1 4.2/15,mb1mx4.1/22,mbtmp4.0/15,MS4.1/1,
Ms1 4.1/1,ms1mx3.6/30,Error ellipse: s-maj=21.5km
s-min=18.5km az=153.0
*NEIC **16** 15:37:50.9±0.5,2770N×4408W,h10km,mb4.6/13,Error*
ellipse: s-maj=14.8km s-min=9.7km az=171.0
*NAO **16** 15:38:10.3,2925N×4276W,h33km,mb4.6*
ISC 16 15:37:51.0±0.6,277N±01×4409W±008,h10km,n46,
σ0°90/43,mb4.3/27,MS4.1/1,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.43**	**249**	P	**P**	**15 43 00.7**	**+11**
MDT	**Midelt**	**34.33**	**72**	LR	LR	15 55 03.4	
	comp=Z,318nm,18.6s,MS4.1,baz=166,slow=30						
ESLA	**Sonseca Array**	**35.17**	**60**	P	**P**	**15 44 40.0**	**-5.1**
	4.7nm,1.2s,mb4.3						
SUMG	**Summit**	**45.01**	**2**	*e*P	**P**	**15 46 12.4**	**+5.8**
	16nm,1.2s,mb4.7						
TORD	**Torodi Ar. Bea**	**45.02**	**99**	P	**P**	**15 46 06.5**	**-0.2**
	1.0nm,0.8s,mb3.7,baz=295,slow=6.6,SNR=4.9						
ULM	**Lac du Bonnet**	**45.03**	**315**	P	**P**	**15 46 06.1**	**-0.7**
	1.7nm,0.6s,mb4.1,baz=97,slow=4.5,SNR=5.4						
ULM	**Lac du Bonnet**	**45.03**	**315**	P	**P**	**15 46 06.1**	**-0.7**
VLC	**Villacollemand**	**46.21**	**54**	P	**P**	**15 46 12.2**	**-4.0**
FCC	**Fort Churchill**	**46.22**	**326**	*e*P	**P**	**15 46 16.4**	**+0.1**
	12nm,1.0s,mb4.8						
FCC				*e*		15 46 22.9	
SIV	**San Ignacio**	**46.47**	**203**	P	**P**	**15 46 18.1**	**0.0**
	1.2nm,0.7s,mb3.9,baz=6.3,slow=9.6,SNR=7.4						
WMOK	**Wichita Mounta**	**46.81**	**293**	*e*P	**P**	**15 46 21.4**	**+0.6**
	8.0nm,1.2s,mb4.5						
WMOK				*e*		15 46 27.8	
CLL	**Collm**	**48.51**	**45**	*e*P	**P**	**15 46 35.0**	**+1.0**
KHC	**Kasperske Hory**	**48.67**	**48**	*e*P	**P**	**15 46 33.0**	**-2.3**

GERES	**GERESS Array B**	**48.74**	**48**	P	**P**	**15 46 36.2**	**+0.4**
	0.4nm,0.6s,mb3.7,baz=243,slow=8.8,SNR=4.1						
RUE	**Ruedersdorf**	**49.12**	**43**	P	**P**	**15 46 36.0**	**-2.7**
	30nm,0.6s,mb5.5						
NB2	**NORSAR Subarra**	**49.47**	**32**	P	**P**	**15 46 42.2**	**+0.8**
	comp=Z,8.9nm,0.9s,mb4.8,baz=253,slow=7.9						
NOA	**NORSAR Array B**	**49.47**	**32**	P	**P**	**15 46 41.9**	**+0.4**
	comp=Z,4.6nm,0.9s,mb4.5,baz=254,slow=7.8,SNR=9.1						
RES	**Resolute Bay**	**53.50**	**345**	*e*P	**P**	**15 47 11.8**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7						
RES				*e*		15 47 18.2	
PDAR	**Pinedale Array**	**54.27**	**304**	P	**P**	**15 47 17.9**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=85,slow=7.7,SNR=22						
BOZ	**Bozeman (W)**	**55.44**	**308**	*e*P	**P**	**15 47 31.0**	**+5.3**
	comp=Z,6.1nm,1.4s,mb4.4						
BOZ				*e*		15 47 38.4	
HWUT	**Hardware Ranch**	**55.90**	**303**	P	**P**	**15 47 30.7**	**+1.7**
EDM	**Edmonton**	**56.05**	**317**	*e*P	**P**	**15 47 29.6**	**-0.5**
FINES	**FINESS Array B**	**56.61**	**33**	P	**P**	**15 47 34.1**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.6,baz=239,slow=3.3,SNR=10						
YKA	**Yellowknife Ar**	**56.84**	**328**	P	**P**	**15 47 35.0**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.9,baz=90,slow=7.4,SNR=14						
YKA	**Yellowknife Ar**	**56.84**	**328**	P	**P**	**15 47 35.0**	**-0.7**
YKW3	**Yellowknife Ar**	**56.84**	**329**	P	**P**	**15 47 34.6**	**-1.2**
YKW3				*e*		15 47 41.2	
YKW3				*e*		15 47 46.2	
DUG	**Dugway**	**57.06**	**302**	*e*P	**P**	**15 47 35.8**	**-1.4**
	comp=Z,4.2nm,0.7s,mb4.6						
DUG				*e*		15 47 44.5	
ARCES	**ARCESS Array B**	**57.19**	**23**	P	**P**	**15 47 38.4**	**+0.2**
	comp=Z,3.7nm,0.9s,mb4.4,baz=289,slow=6.0,SNR=5.8						
HLID	**Hailey**	**57.68**	**306**	P	**P**	**15 47 41.0**	**-0.6**
AKASG	**Malin Array Be**	**58.74**	**45**	P	**P**	**15 47 48.9**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=272,slow=6.5,SNR=12						
AKASG	**Malin Array Be**	**58.74**	**45**	P	**P**	**15 47 48.9**	**-0.1**
NEW	**Newport**	**58.87**	**312**	*e*P	**P**	**15 47 49.4**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.5						
OHCM	**Honcut**	**63.76**	**302**	*e*P	**P**	**15 48 24.8**	**+1.7**
OHCM				*e*		15 48 30.4	
BR131	**Keskin Array S**	**63.90**	**57**	P	**P**	**15 48 24.5**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**63.90**	**57**	P	**P**	**15 48 25.0**	**+1.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=283,slow=4.8,SNR=9.3						
DAWY	**Dawson**	**67.70**	**332**	P	**P**	**15 48 48.1**	**-0.3**
DAWY				*e*		15 48 54.4	
DAWY				*e*		15 48 59.4	
ILAR	**Eielson Array**	**70.50**	**334**	P	**P**	**15 49 05.9**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=65,slow=4.9,SNR=19						
PLCA	**Paso Flores**	**72.40**	**201**	P	**P**	**15 49 16.7**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=352,slow=4.7,SNR=3.8						
PLCA	**Paso Flores**	**72.40**	**201**	P	**P**	**15 49 16.9**	**-0.5**
ZRNK	**Zerenda**	**80.91**	**34**	*e*P	**P**	**15 50 06.5**	**+1.0**
	comp=Z,4.1nm,1.3s,mb4.2						
ZRNK				*e*		15 50 13.8	
ZRNK				*e*		15 50 17.5	
BRVK	**Borovoye**	**81.48**	**34**	*e*P	**P**	**15 50 09.1**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.2						
BILL	**Bilibino**	**81.90**	**349**	*e*P	**P**	**15 50 10.8**	**+0.2**
	comp=Z,10nm,1.5s,mb4.5						
ZAL	**Zalesovo**	**87.47**	**27**	P	**P**	**15 50 38.7**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.2,baz=148,slow=18,SNR=4.3						
MKAR	**Makanchi Array**	**91.44**	**34**	P	**P**	**15 50 58.0**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.7,baz=340,slow=5.7,SNR=4.4						
WRA	**Warramunga Arr**	**172.13**	**11**	PKPab	PKPab	15 59 23.1	-0.4
	comp=Z,1.0nm,0.9s,baz=350,slow=4.9,SNR=6.5						
ASAR	**Alice Springs**	**175.58**	**25**	PKPab	PKPab	15 59 39.3	+0.5
	comp=Z,0.3nm,0.9s,baz=340,slow=4.3,SNR=4.1						

*ISCJB **16** 15:39:48.8±0.6,278N±0.1×440W±0.1,h10km,mb4.0/18,*
MS4.8/1,Error ellipse: s-maj=16.8km s-min=13.1km
az=164.7
*IDC **16** 15:39:49.2±0.8,2777N×4407W,h0km,mb3.9/14,*
mb1 4.1/14,mb1mx4.0/22,mbtmp3.9/14,MS4.8/1,
Ms1 4.8/1,ms1mx3.7/33,Error ellipse: s-maj=23.6km
s-min=20.2km az=151.0
*NEIC **16** 15:39:50.7±0.4,2778N×4403W,h10km,mb4.4/5,Error*
ellipse: s-maj=12.3km s-min=9.0km az=162.0
*NAO **16** 15:40:05.1,2874N×4314W,h33km,mb4.1*
ISC 16 15:39:50.8±0.6,278N±01×440W±01,h10km,n25,σ0°54/23,
mb4.0/18,MS4.8/1,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**39.43**	**356**	LR	LR	16 00 49.4	
	comp=Z,1μm,20.9s,MS4.8,baz=160,slow=32						
SUMG	**Summit**	**44.93**	**2**	P	**P**	**15 48 11.2**	**+5.4**
	3.9nm,0.8s,mb4.3						
TORD	**Torodi Ar. Bea**	**44.98**	**99**	P	**P**	**15 48 06.0**	**-0.3**
	0.8nm,0.8s,mb3.6,baz=300,slow=8.2,SNR=3.7						
ULM	**Lac du Bonnet**	**45.01**	**314**	P	**P**	**15 48 05.2**	**-1.3**
	1.3nm,0.7s,mb3.9,baz=44,slow=10,SNR=3.1						
FCC	**Fort Churchill**	**46.19**	**326**	*e*P	**P**	**15 48 15.9**	**+0.2**
	8.0nm,0.9s,mb4.7						
FCC				*e*		15 48 21.8	
FCC				*e*		15 48 26.4	
SIV	**San Ignacio**	**46.56**	**203**	P	**P**	**15 48 18.6**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=22,slow=8.8,SNR=4.0						
WMOK	**Wichita Mounta**	**46.83**	**293**	P	**P**	**15 48 22.0**	**+1.2**
	4.7nm,1.1s,mb4.3						
WMOK				*e*		15 48 27.6	
WMOK				*e*		15 48 32.8	
GERES	**GERESS Array B**	**48.64**	**48**	P	**P**	**15 48 34.9**	**0.

OXF Oxford 39.11 291 *eP* **P 15 55 11.1 -4.4**
52nm,1.2s,mb5.1
FRB Frobisher Bay 39.27 343 P **P 15 55 16.9 +0.1**
13nm,0.8s,mb4.7,baz=148,slow=9.4,SNR=16
FRB Frobisher Bay 39.27 343 P **P 15 55 16.9 +0.1**
BORG Borgarnes 39.69 15 P **P 15 55 19.3 -1.1**
113nm,1.3s,mb5.4
EYMN Ely 41.72 312 P **P 15 55 41.6 +4.5**
212nm,1.1s
KSU1 Kansas State U 44.70 299 *eP* **P 15 56 02.2 +1.1**
2.3nm,1.1s,mb3.9
SUMG Summit 44.93 2 *eP* **P 15 56 09.6 +6.6**
9.7nm,1.0s,mb4.6
ULM Lac du Bonnet 44.97 314 P **P 15 56 01.8 -1.6**
2.8nm,0.7s,mb4.2,baz=82,slow=8.1,SNR=7.3
TORD Torodi Ar. Bea 45.03 99 P **P 15 56 03.1 -0.7**
1.4nm,0.7s,mb3.9,baz=297,slow=6.7,SNR=10.0
FCC Fort Churchill 46.16 326 *eP* **P 15 56 12.0 -0.7**
FCC *e* 15 56 18.8
FCC pmax pmax
comp=Z,14nm,1.0s,mb4.8
FCC Fort Churchill 46.16 326 *eP* **P 15 56 12.0 -0.7**
comp=Z,14nm,1.0s,mb4.8
FCC *e* 15 56 18.8
FCC *e* 15 56 23.4
SIV San Ignacio 46.54 203 P **P 15 56 15.6 -0.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=23,slow=8.9,SNR=12
WMOK Wichita Mounta 46.78 293 *eP* **P 15 56 17.8 +0.2**
WMOK *e* 15 56 23.8
WMOK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
WMOK Wichita Mounta 46.78 293 *eP* **P 15 56 17.8 +0.1**
comp=Z,9.4nm,1.2s,mb4.6
WMOK *e* 15 56 23.8
WMOK *e* 15 56 28.8
GRF Grafenberg Arr 47.14 47 *eP* **P 15 56 20.5 +0.1**
comp=Z,8.0nm,1.3s,mb4.5
GRF Grafenberg Arr 47.14 47 *eP* **P 15 56 20.5 +0.1**
GRF pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
KONO Kongsberg 48.23 33 *eP* **P 15 56 24.3 -4.6**
KHC Kasperske Hory 48.62 48 *eP* **P 15 56 31.5 -0.4**
GERES GERESS Array B 48.68 48 P **P 15 56 31.9 -0.5**
comp=Z,1.4nm,0.8s,mb4.1,baz=224,slow=5.6,SNR=7.2
NB2 NORSAR Subarra 49.40 32 P **P 15 56 38.7 +0.8**
comp=Z,3.1nm,0.8s,mb4.4,baz=253,slow=7.9
NOA NORSAR Array B 49.40 32 P **P 15 56 39.1 +1.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=254,slow=7.8,SNR=13
LPAZ La Paz 49.64 211 P **P 15 56 39.0 -0.7**
comp=Z,1.5nm,1.0s,mb4.0,baz=359,slow=13,SNR=3.7
HFS Hagfors 50.35 33 P **P 15 56 45.5 +0.4**
baz=266,slow=5.8
SDCO Great Sand Dun 51.77 298 P **P 15 56 53.4 -2.4**
comp=Z,4.6nm,1.0s,mb4.4
ANMO Albuquerque 52.99 294 *eP* **P 15 57 08.0 +3.2**
ANMO Albuquerque 52.99 294 *eP* **P 15 57 06.3 +1.4**
comp=Z,4.8nm,0.9s,mb4.4
RES Resolute Bay 53.42 345 *eP* **P 15 57 08.3 +0.3**
RES pmax pmax
comp=Z,16nm,1.4s,mb4.8
RES Resolute Bay 53.42 345 *eP* **P 15 57 08.3 +0.4**
comp=Z,524nm,1.4s
BZS Buzias 54.10 52 ⇓P **P 15 57 14.9 +1.9**
BZS Buzias 54.10 52 ⇓P **P 15 57 14.9 +2.0**
PV01 Paradox Valley 54.12 299 *eP* **P 15 57 13.8 +0.8**
PDAR Pinedale Array 54.22 304 P **P 15 57 14.3 +0.5**
comp=Z,2.7nm,0.8s,mb4.2,baz=87,slow=7.8,SNR=24
DRGR 54.77 51 ⇑P **P 15 57 18.7 +0.9**
DRGR 54.77 51 ⇑P **P 15 57 18.7 +0.9**
IMW Indian Meadow 55.09 306 *eP* **P 15 57 21.0 +0.8**
comp=Z,15nm,1.3s,mb4.9
QLMT Earthquake Lak 55.34 307 *eP* **P 15 57 23.1 +1.2**
SRU San Rafael 55.46 300 *eP* **P 15 57 22.7 -0.2**
SRU *e* 15 57 28.9
SRU pmax pmax
comp=Z,11nm,0.9s,mb4.9
SRU San Rafael 55.46 300 *eP* **P 15 57 22.6 -0.2**
comp=Z,11nm,0.9s,mb4.9
SRU *e* 15 57 28.9
SRU *e* 15 57 34.2
DAU Daniels Canyon 55.81 302 *eP* **P 15 57 26.3 +1.0**
DAU *e* 15 57 32.9
HWUT Hardware Ranch 55.85 303 *eP* **P 15 57 26.2 +0.5**
comp=Z,4.0nm,0.7s,mb4.6
HWUT *e* 15 57 32.3
HWUT *e* 15 57 37.2
EDM Edmonton 56.00 317 P **P 15 57 26.5 -0.2**
EDM *e* 15 57 32.2
EDM *e* 15 57 36.9
BURAR Bucovina Array 56.39 49 ⇑P **P 15 57 30.9 +1.4**
BURAR Bucovina Array 56.39 49 ⇑P **P 15 57 30.9 +1.4**
FINES FINESS Array B 56.54 33 P **P 15 57 30.6 0.0**
comp=Z,5.7nm,0.7s,mb4.7,baz=291,slow=5.3,SNR=17
KAF Kangasniemi 56.68 32 *ep* **P 15 57 31.0 -0.6**
comp=Z,5.9nm,0.9s,mb4.6
KAF Kangasniemi 56.68 32 *eP* **P 15 57 31.0 -0.6**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YKA Yellowknife Ar 56.77 328 P **P 15 57 31.2 -0.9**
comp=Z,1.0nm,0.8s,mb3.9,baz=91,slow=7.6,SNR=19
YKW3 Yellowknife Ar 56.78 329 *eP* **P 15 57 31.9 -0.3**
comp=Z,0.1nm,1.0s
YKW3 *e* 15 57 37.7
MSU Marysvale 56.84 300 *eP* **P 15 57 32.0 -0.7**
MSU *e* 15 57 39.5
MSU Marysvale 56.84 300 *eP* **P 15 57 32.0 -0.7**
MSU *e* 15 57 39.5
MSU *e* 15 57 45.4
DUG Dugway 57.02 302 *eP* **P 15 57 34.1 +0.1**
DUG *e* 15 57 40.9
DUG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
DUG Dugway 57.02 302 *eP* **P 15 57 34.1 +0.1**
comp=Z,8.9nm,1.0s,mb4.8
DUG *e* 15 57 40.9
DUG *e* 15 57 45.7
ARCES ARCESS Array B 57.12 23 P **P 15 57 35.0 +0.3**
comp=Z,5.0nm,1.0s,mb4.5,baz=270,slow=4.9,SNR=5.1
ARCES ARCESS Array B 57.12 23 P **P 15 57 35.0 +0.3**
MLR Muntele Rosu 57.14 52 ⇑P **P 15 57 36.8 +2.0**
HLID Hailey 57.63 306 *eP* **P 15 57 38.9 +0.6**
comp=Z,4.1nm,1.2s,mb4.3
AKASG Malin Array Be 58.68 45 P **P 15 57 45.0 -0.6**
comp=Z,4.2nm,0.8s,mb4.5,baz=276,slow=6.2,SNR=22
NEW Newport 58.81 312 *eP* **P 15 57 46.7 +0.1**
NEW *e* 15 57 52.4
NEW pmax pmax
comp=Z,14nm,1.0s
NEW Newport 58.81 312 *eP* **P 15 57 46.7 +0.2**
comp=Z,13nm,1.0s,mb4.9
NEW *e* 15 57 52.4
NEW *e* 15 57 57.6
OBN Obninsk 62.46 40⇑*eP* **P 15 58 08.3 -3.1**
OBN *e* 16 00 33.6
OBN pmax pmax
comp=Z,62nm,2.5s,mb5.3
OBN Obninsk 62.46 40⇑*eP* **P 15 58 08.3 -3.1**
comp=Z,62nm,2.5s,mb5.3
OBN *e* 16 00 33.6
KLMR Klimovskoe 63.07 33 *eP* **P 15 58 13.7 -1.8**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.2
OHCM Honcut 63.72 302 *eP* **P 15 58 20.6 +0.8**
OHCM *e* 15 58 26.9
OHCM *e* 15 58 31.1
BRTR Keskin Array B 63.86 57 P **P 15 58 21.4 +0.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=267,slow=5.5,SNR=20
INK Inuvik 64.28 336 *eP* **P 15 58 22.5 -1.0**
INK *e* 15 58 28.6
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 64.28 336 *eP* **P 15 58 22.5 -1.0**
comp=Z,255nm,1.3s
INK *e* 15 58 28.6
DAWY Dawson 67.63 332 *eP* **P 15 58 45.0 -0.1**
DAWY *e* 15 58 50.8
ILAR Eielson Array 70.43 334 P **P 15 59 02.1 -0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=71,slow=4.6,SNR=20
COLA College 70.76 334 *eP* **P 15 59 03.0 -1.5**
COLA College 70.76 334 P **P 15 58 57.7 -6.7**
comp=Z,11nm,1.4s,mb4.6
COLA *e* 15 59 09.8
MCK McKinley 71.67 333 P **P 15 59 07.1 -2.9**
MCK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MCK McKinley 71.67 333 P **P 15 59 07.1 -2.9**
comp=Z,6.9nm,1.1s,mb4.5
PLCA Paso Flores 72.48 201 P **P 15 59 14.5 -0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=23,slow=5.7,SNR=5.3
ARU Arti 73.86 34⇓*iP* **P 15 59 19.7 -3.2**
ARU *e* 15 59 34.1
ARU pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ARU MLR MLR
comp=N,400nm,16.0s,MS4.9
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.8
ARU MLR MLR
comp=E,200nm,15.0s,MS4.9
ARU Arti 73.86 34 *eP* **P 15 59 23.6 +0.6**
comp=E,9.4nm,1.5s,mb4.5
ARU *e* 15 59 34.9
AKTK Aktyubinsk 76.24 40 P **P 15 59 37.3 +0.6**
AKTO Aktyubinsk 76.24 40 P **P 15 59 37.3 +0.6**
comp=E,1.6nm,0.8s,mb4.0,baz=0,slow=0.0
TIXI Tiksi 80.70 2 *eP* **P 16 00 00.4 -0.9**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
TIXI Tiksi 80.70 2 *eP* **P 16 00 00.4 -0.9**
comp=Z,6.0nm,1.1s,mb4.4
BVAR Borovoye Array 81.48 34 P **P 16 00 06.4 +0.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=268,slow=4.3,SNR=5.7
BVAR Borovoye Array 81.48 34 P **P 16 00 06.4 +0.9**
BILL Bilibino 81.82 349⇑*eP* **P 16 00 06.4 -0.9**
BILL pmax pmax
comp=Z,13nm,2.5s,mb4.4
BILL Bilibino 81.82 349⇑*eP* **P 16 00 06.4 -0.9**
comp=Z,13nm,2.5s,mb4.4
KURK Kurchatov 86.91 32 *eP* **P 16 00 31.7 -1.4**
ZAL Zalesovo 87.40 27 P **P 16 00 35.7 +0.2**
comp=Z,0.5nm,0.8s,mb3.8,baz=129,slow=20,SNR=4.8
ZAL Zalesovo 87.40 27 P **P 16 00 35.7 +0.2**
MKAR Makanchi Array 91.37 34 P **P 16 00 54.4 +0.2**
comp=Z,1.4nm,1.2s,mb4.2,baz=306,slow=4.3,SNR=6.2
MKAR Makanchi Array 91.37 34 *iP* **P 16 00 55.2 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,1.2s
BOD Bodaibo 92.75 12 *eP* **P 16 00 59.1 -1.4**
SONM Songino Array 100.17 20 P Pdif 16 01 33.9 -0.3
comp=Z,0.3nm,0.9s,baz=22,slow=1.6,SNR=3.9
WRA Warramunga Arr 172.05 11 PKP PKPdf 16 07 56.6 -0.4
comp=Z,0.4nm,0.7s,baz=321,slow=1.2,SNR=5.7
WRA PKPab PKPab 16 09 19.8 -0.3
comp=Z,1.1nm,0.9s,baz=352,slow=5.2,SNR=7.6

FUNV 16 15:50:14.8, 674N×7304W, h160km, MW3.7, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.32**	**33**⇓	*eP*	Pn	15 50 43.0	-0.4
CAPV				*eS*	Sn	15 51 03.8	-1.5
SOCV	**Socops**	**2.65**	**55**	*eP*	Pn	15 50 57.2	-1.0
SOCV				*eS*	Sn	15 51 28.7	-3.1
VIGV	**El Vigia**	**2.66**	**38**	*eP*	Pn	15 50 57.2	-1.1
VIGV				*eS*	Sn	15 51 28.8	-3.2
ELOV	**Elorza**	**3.54**	**86**	*eP*	Pn	15 51 08.4	-0.9
VIRV	**Villa del Rosa**	**3.79**	**9**	*eP*	Pn	15 51 10.2	-2.3
VIRV				*eS*	Sn	15 51 52.7	-4.7
QARV	**Quebrada Arrib**	**4.25**	**36**	*eP*	Pn	15 51 17.2	-1.2
SANV	**Sanarito**	**4.42**	**51**	*eP*	Pn	15 51 20.0	-0.8
CURV	**Curarigua**	**4.45**	**43**	*eP*	Pn	15 51 19.8	-1.3
DABV	**Dabajuro**	**4.78**	**30**	*eP*	Pn	15 51 24.6	-0.9
TEPV	**Terepaima**	**4.97**	**50**	*eP*	Pn	15 51 26.9	-1.0
SIQV	**Siquisique**	**5.03**	**39**	*eP*	Pn	15 51 26.6	-2.0
BAUV	**El Baul**	**5.41**	**66**	*eP*	Pn	15 51 31.5	-2.3
MONV	**Montecano**	**6.00**	**30**	*eP*	Pn	15 51 40.1	-1.4
TURV	**Turiamo**	**6.32**	**54**	*eP*	Pn	15 51 43.5	-2.3
CAOV	**Caicara del Or**	**6.69**	**85**	*eP*	Pn	15 51 47.8	-2.9
CAOV				*eS*	Sn	15 52 57.6	-8.4
CUPV	**Cœpira**	**7.89**	**65**	*eP*	Pn	15 52 04.7	-1.9

WEL 16 16:08:43.0±0.2, 3797S×17626E, h180km±2km, ML3.7/16, 5C, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.73**	**114**	⇑PN	Pn	16 09 08.9	0.0
URZ				SN	Sn	16 09 28.7	0.0
MWZ	**Matawai**	**1.06**	**110**	PN	Pn	16 09 11.3	+0.2
MWZ				SN	Sn	16 09 32.8	0.0
BKZ	**Black Stump Fm**	**1.21**	**171**	⇑PN	Pn	16 09 12.4	+0.2
BKZ				SN	Sn	16 09 35.0	+0.1
WPVZ	**Whakapapa**	**1.35**	**204**	⇑PN	Pn	16 09 14.0	+0.5
TUVZ	**Tukino**	**1.38**	**200**	PN	Pn	16 09 14.2	+0.5
FWVZ	**Far West T-bar**	**1.40**	**203**	PN	Pn	16 09 14.4	+0.5
WNVZ	**Wahianoa**	**1.45**	**201**	PN	Pn	16 09 14.7	+0.3
MOVZ	**Moawhango**	**1.49**	**195**	PN	Pn	16 09 14.6	-0.2
PKVZ	**Pokaka**	**1.50**	**208**	PN	Pn	16 09 15.0	+0.2
KNZ	**Kokohu**	**1.53**	**134**	⇑PN	Pn	16 09 15.4	+0.3
KNZ				SN	Sn	16 09 39.3	-0.7
MTVZ	**Mangateitei**	**1.54**	**203**	PN	Pn	16 09 15.4	+0.1
PUZ	**Puketiti**	**1.58**	**94**	PN	Pn	16 09 15.6	-0.1
PUZ				SN	Sn	16 09 40.0	-0.9
MXZ	**Matakaoa Point**	**1.67**	**77**	PN	Pn	16 09 16.5	0.0
WAZ	**Wanganui**	**2.04**	**209**	PN	Pn	16 09 20.1	-0.3
TSZ	**Takapari Road**	**2.10**	**186**	PN	Pn	16 09 20.4	-0.7
PXZ	**Pawanui**	**2.11**	**167**	PN	Pn	16 09 20.6	-0.6
BFZ	**Birch Farm**	**2.71**	**180**	PN	Pn	16 09 26.4	-1.7
MRZ	**Mangatainoka R**	**2.74**	**191**	⇑PN	Pn	16 09 26.6	-1.9
MRZ				SN	Sn	16 10 00.5	-3.3
KIW	**Kapiti Island**	**3.07**	**199**	PN	Pn	16 09 30.1	-2.3
MTW	**Mount Morrison**	**3.24**	**190**	PN	Pn	16 09 31.7	-2.8
CAW	**Cannon Point**	**3.27**	**196**	PN	Pn	16 09 32.3	-2.6
DUWZ	**D'Urville Isla**	**3.36**	**212**	PN	Pn	16 09 33.4	-2.6
TRWZ	**Traveller**	**3.45**	**187**	PN	Pn	16 09 33.8	-3.4
MRW	**Makara Radio**	**3.47**	**200**	PN	Pn	16 09 34.5	-2.8
MSWZ	**Moikau Station**	**3.53**	**192**	PN	Pn	16 09 35.1	-3.0
SNZO	**South Karori**	**3.54**	**199**	PN	Pn	16 09 35.2	-3.1
TCW	**Tory Channel**	**3.58**	**205**	PN	Pn	16 09 35.9	-2.9
BHW	**Baring Head**	**3.60**	**197**	PN	Pn	16 09 35.9	-3.0
MQZ	**McQueen's Vall**	**6.35**	**204**	*e*SN	Sn	16 11 16.6	-10

IDC 16 16:15:35.7±4.9, 1652S×17654W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=165.4km s-min=96.4km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.87**	**240**	P	P	16 23 19.4	+0.1
	1.6nm,0.4s,baz=61,slow=7.7,SNR=5.3						
WRA	**Warramunga Arr**	**46.65**	**258**	P	P	16 24 06.1	+0.2
	0.3nm,0.3s,baz=94,slow=7.8,SNR=20						
ASAR	**Alice Springs**	**46.90**	**253**	P	P	16 24 08.4	+0.7
	4.1nm,0.5s,baz=89,slow=7.9,SNR=128						
ASAR				PcP	PcP	16 25 40.8	+0.2
	0.2nm,0.4s,baz=104,slow=3.8,SNR=5.4						

MOS ***16*** *16:34:09.7±0.9, 56.17N×164.38E, h18km, mb4.2/8, Error ellipse: s-maj=14.7km s-min=8.9km az=66.3*
ISCJB ***16*** *16:34:11.0±0.8, 56.15N±003×164.37E±004, h25km±6km, mb3.8/13, Error ellipse: s-maj=5.3km s-min=4.2km az=6.7*
KRSC ***16*** *16:34:11.3±0.6, 56.21N×164.30E, h23km±4km, ML4.2*
IDC ***16*** *16:34:13.4±6.1, 56.16N×164.26E, h29km±48km, mb3.4/8, mb1 3.8/10, mb1mx3.6/23, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=22.6km s-min=12.6km az=7.0*
NEIC ***16*** *16:34:14.0±0.9, 56.14N×164.31E, h36km±10km, mb4.4/5, Error ellipse: s-maj=10.8km s-min=6.7km az=151.0*

ISC 16 16:34:12.0±0.9, 5616N±003×16434E±004, h20km±7km, n73, σ1§19/98, mb3.8/13, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**274**	P	**Pb**	**16 34 26.3**	**-1.8**
KBTR				S	**Sb**	**16 34 37.2**	**-1.9**
KBTR	**Krutoberegovo**	**0.85**	**274**	*i* P	**Pb**	**16 34 26.6**	**-1.5**
KBTR				*i* S	**Sb**	**16 34 37.7**	**-1.4**
KBG	**Krutoberegovo**	**0.92**	**277**	*i* P	**Pb**	**16 34 27.3**	**-1.9**
KBG				*i* S	**Sb**	**16 34 39.3**	**-1.7**
KBG				Smax			
	7μm,0.5s						
BKI	**Bering**	**1.33**	**135**	*i* P	**Pn**	**16 34 34.4**	**-0.9**
BKI				*i* S	**Sn**	**16 34 51.0**	**-1.4**
BKI				Smax			
	2μm,0.4s						
SMKR	**Semkarok**	**1.65**	**286**	*i* P	**Pn**	**16 34 39.4**	**-0.4**
SMKR				*i* S	**Sn**	**16 35 00.1**	**-0.4**
BDR	**Baidarnaya**	**1.79**	**285**	*i* P	**Pn**	**16 34 41.9**	**+0.2**
BDR				*e*S	**Sn**	**16 35 03.7**	**-0.1**
SRKR	**Sorokina**	**1.83**	**287**	*i* P	**Pn**	**16 34 42.0**	**-0.3**
SRKR				*i* S	**Sn**	**16 35 04.3**	**-0.6**
CIRR	**Tsirk**	**2.01**	**270**	*i* P	**Pn**	**16 34 45.5**	**+0.8**
KLY	**Klyuchi**	**2.07**	**276**	P	**Pn**	**16 34 44.2**	**-1.3**
KLY				S	**Sn**	**16 35 08.2**	**-2.4**
KLY	**Klyuchi**	**2.07**	**276**	*i* P	**Pn**	**16 34 44.3**	**-1.2**
KLY				*e*S	**Sn**	**16 35 08.2**	**-2.4**
MKZ	**Mys Kozlova**	**2.19**	**224**	P	**Pn**	**16 34 46.8**	**-0.4**
MKZ				S	**Sn**	**16 35 12.3**	**-1.4**
MKZ	**Mys Kozlova**	**2.19**	**224**	*i* P	**Pn**	**16 34 46.8**	**-0.4**
MKZ				*e*S	**Sn**	**16 35 12.6**	**-1.1**
KPT	**Kopyto**	**2.32**	**267**	*e*P	**Pn**	**16 34 49.7**	**+0.7**
KPT				*e*S	**Sn**	**16 35 16.7**	**-0.1**
KOZR	**Kozyr**	**2.49**	**270**	PN	**Pn**	**16 34 53.0**	**+1.7**
KOZR				S	**Sn**	**16 35 23.3**	**+2.2**
KOZ	**Kozyrevsk**	**2.50**	**270**	P	**Pn**	**16 34 53.0**	**+1.5**
KOZ				S	**Sn**	**16 35 23.3**	**+1.9**
KOZ	**Kozyrevsk**	**2.50**	**270**	*i* P	**Pn**	**16 34 52.8**	**+1.3**
TUMR	**Tumrok**	**2.53**	**251**	*i* P	**Pn**	**16 34 53.1**	**+1.2**
SRDR	**Sredinnyy**	**2.59**	**275**	*i* P	**Pn**	**16 34 53.7**	**+1.1**
SRDR				*e*S	**Sn**	**16 35 23.1**	**-0.4**
ESO	**Esso**	**3.17**	**268**	P	**Pn**	**16 35 01.0**	**+0.3**
ESO				Smax			
	120nm,1.1s						
ESO	**Esso**	**3.17**	**268**	*i* P	**Pn**	**16 35 01.6**	**+0.9**
ESO				Smax			
	90nm,0.8s						
OSSR	**Ossora**	**3.18**	**348**	*i* P	**Pn**	**16 34 56.8**	**-4.0**
OSSR				Smax			
	270nm,0.5s						
SPN	**Mys Shipunski**	**3.96**	**221**	P	**Pn**	**16 35 11.0**	**-0.5**
SPN				S	**Sn**	**16 35 54.3**	**-3.1**
SPN	**Mys Shipunski**	**3.96**	**221**	*i* P	**Pn**	**16 35 11.0**	**-0.5**
NLC	**Nalytchevo**	**4.17**	**226**	P	**Pn**	**16 35 14.5**	**+0.1**
NLC				S	**Sn**	**16 36 00.5**	**-2.0**
NLC	**Nalytchevo**	**4.17**	**226**	*i* P	**Pn**	**16 35 15.0**	**+0.6**
NLC				*i* S	**Sn**	**16 36 02.1**	**-0.4**
SMAR	**Somma**	**4.33**	**230**	*i* P	**Pn**	**16 35 17.9**	**+1.3**
AVH	**Avacha**	**4.35**	**231**	*i* P	**Pn**	**16 35 18.4**	**+1.5**
AVH				*e*S	**Sn**	**16 36 07.5**	**+0.4**
UGLR	**Uglovaya**	**4.36**	**230**	*i* P	**Pn**	**16 35 18.3**	**+1.3**
KOK	**Koryaka**	**4.38**	**231**	*i* P	**Pn**	**16 35 18.6**	**+1.3**
GNL	**Ganaly**	**4.44**	**239**	*i* P	**Pn**	**16 35 19.7**	**+1.6**
PET	**Petropavlovsk**	**4.56**	**229**	*i* P	**Pn**	**16 35 20.7**	**+0.9**
PET				*e*S	**Sn**	**16 36 11.2**	**-0.9**
PET	**Petropavlovsk**	**4.56**	**229**	*e*PN	**Pn**	**16 35 20.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,51nm,0.5s						
PET				pmax	pmax		
	comp=N,27nm,0.4s						
PET				pmax	pmax		
	comp=E,21nm,0.7s						
PET	**Petropavlovsk**	**4.56**	**229**	*e*Pn	**Pn**	**16 35 20.6**	**+0.9**
PET				*e*Sn	**Sn**	**16 36 09.4**	**-2.8**
KRMR	**Karymshinskiy**	**4.92**	**230**	*i* P	**Pn**	**16 35 26.2**	**+1.5**
RUS	**Russkaya**	**5.06**	**225**	P	**Pn**	**16 35 27.2**	**+0.6**
RUS				S	**Sn**	**16 36 22.3**	**-2.1**
RUS	**Russkaya**	**5.06**	**225**	*i* P	**Pn**	**16 35 27.4**	**+0.8**
GRL	**Gorelyy**	**5.14**	**228**	*i* P	**Pn**	**16 35 29.1**	**+1.3**
GRL				*e*S	**Sn**	**16 36 25.6**	**-1.0**
APC	**Apacha**	**5.29**	**235**	*e*P	**Pn**	**16 35 31.7**	**+1.9**
MIPR	**Malaya Ipel'ka**	**5.91**	**232**	*i* P	**Pn**	**16 35 40.6**	**+2.3**
FX1	**Attu Island--F**	**6.09**	**119**	Pn	**Pn**	**16 35 40.6**	**-0.2**
	comp=E,5.2nm,0.3s,baz=20,slow=3.2,SNR=29						
FX1				Sn	**Sn**	**16 36 47.0**	**-2.9**
	comp=E,3.9nm,0.3s,baz=139,slow=23,SNR=6.8						
FX1	**Attu Island--F**	**6.09**	**119**	PN	**Pn**	**16 35 40.6**	**-0.3**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	**Attu Island--F**	**6.09**	**119**	*e*Pn	**Pn**	**16 35 40.5**	**-0.4**
FX1				*e*Sn	**Sn**	**16 36 48.3**	**-1.7**
KAMR	**Kamenskoye**	**6.39**	**8**	*i* P	**Pn**	**16 35 45.5**	**+0.6**
KAMR				Smax			
	comp=Z,70nm,0.9s						
PAU	**Pauzhetka**	**6.47**	**227**	*e*P	**Pn**	**16 35 47.7**	**+1.6**
BILL	**Bilibino**	**11.96**	**4**	*e*PN	**Pn**	**16 37 02.4**	**+1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**11.96**	**4**	*e*P	**Pn**	**16 37 02.4**	**+1.1**
	comp=Z,2.8nm,0.6s						
YSS	**Yuzh-Sakhalins**	**16.22**	**244**	P	**Pn**	**16 37 58.3**	**-0.3**
	comp=Z,35nm,1.4s						
ASAJ	**Asahikawa**	**18.33**	**238**	P	**Pn**	**16 38 24.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=29,slow=8.5,SNR=9.7						
ASAJ	**Asahikawa**	**18.33**	**238**	P	**Pn**	**16 38 24.6**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TIXI	**Tiksi**	**21.49**	**330**	*e*P	**P**	**16 38 58.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
MDJ	**Mudanjiang**	**24.70**	**257**	P	**P**	**16 39 40.4**	**+8.8**
	comp=Z,20nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**24.92**	**50**	P	**P**	**16 39 33.2**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.1,baz=253,slow=7.4,SNR=5.6						
ILAR	**Eielson Array**	**24.92**	**50**	P	**P**	**16 39 33.3**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAJO	**Matsushiro**	**26.38**	**233**	*e*P	**P**	**16 39 46.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
MAJO	**Matsushiro**	**26.38**	**233**	*e*P	**P**	**16 39 46.6**	**-0.2**
	comp=Z,7.5nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**26.38**	**233**	P	**P**	**16 39 47.0**	**+0.1**
	comp=Z,2.2nm,0.6s,mb3.9,baz=40,slow=7.6,SNR=8.6						
MJAR	**Matsushiro Arr**	**26.38**	**233**	P	**P**	**16 39 47.0**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**26.38**	**233**	P	**P**	**16 39 47.0**	**+0.1**
INK	**Inuvik**	**29.93**	**41**	P	**P**	**16 40 18.9**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=208,slow=1.2,SNR=5.4						
INK	**Inuvik**	**29.93**	**41**	P	**P**	**16 40 18.9**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**29.93**	**41**	P	**P**	**16 40 18.4**	**-0.2**
KS15	**Wonju Array Si**	**30.69**	**248**	P	**P**	**16 40 33.0**	**+7.8**
SONM	**Songino Array**	**35.66**	**282**	P	**P**	**16 41 08.1**	**-0.5**
	comp=Z,0.2nm,0.7s,mb3.2,baz=68,slow=7.6,SNR=4.4						
YKA	**Yellowknife Ar**	**39.24**	**46**	P	**P**	**16 41 38.9**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=298,slow=8.2,SNR=4.5						
YKA	**Yellowknife Ar**	**39.24**	**46**	P	**P**	**16 41 38.9**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**49.05**	**296**	P	**P**	**16 42 56.0**	**-1.5**
	comp=Z,0.1nm,0.6s,mb3.0,baz=54,slow=6.3,SNR=4.4						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**16 43 07.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=55,slow=8.7,SNR=9.2						
**BVA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**27.88**	**308**	P	**P**	**16 42 37.8**	**+2.3**
KMI	comp=Z,5.0nm,0.5s,mb4.3			AMB	AMB		
WRAB	**Tennant Creek**	**29.70**	**165**	*e*P	**P**	**16 42 51.2**	**-0.5**
	comp=Z,5.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**29.71**	**165**	P	**P**	**16 42 51.1**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=346,slow=9.2,SNR=4.8						
ASAR	**Alice Springs**	**33.20**	**168**	P	**P**	**16 43 22.6**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=353,slow=7.0,SNR=34						
ASAR				PcP	PcP	16 46 04.7	+2.3
	comp=Z,0.3nm,0.5s,baz=345,slow=3.2,SNR=4.9						
LSA	**Lhasa**	**39.11**	**307**	*e*P	**P**	**16 44 14.8**	**+2.2**
	comp=Z,1.6nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**42.17**	**340**	P	**P**	**16 44 36.3**	**-1.4**
	comp=Z,1.3nm,0.5s,mb3.9						
SONM	**Songino Array**	**42.36**	**340**	P	**P**	**16 44 38.3**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.4,baz=152,slow=8.6,SNR=5.5						
NWAO	**Narrogin (SRO)**	**42.63**	**192**	P	**P**	**16 44 42.6**	**+1.1**
	comp=Z,16nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**43.05**	**161**	P	**P**	**16 44 43.5**	**-1.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=44,slow=6.1,SNR=3.6						
STKA	**Stephens Creek**	**43.05**	**161**	P	**P**	**16 44 40.0**	**-4.8**
WMQ	**Urumqi**	**48.49**	**323**	P	**P**	**16 45 28.0**	**+0.4**
WMQ				AP	pP	16 45 51.0	-3.6
WMQ				XP	sP	16 46 03.0	-4.6
WMQ				PP	PP	16 47 22.0	+0.7
WMQ				S	**S**	**16 52 20.0**	**+0.2**
WMQ				SCS	ScS	16 55 08.0	-0.4
WMQ				SS	SS	16 55 46.0	-5.0
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,87nm,5.0s						
WMQ				LR	LR		
	comp=N,187nm,8.0s						
WMQ				LR	LR		
	comp=E,425nm,9.0s						
WMQ				LR	LR		
	comp=Z,287nm,8.0s						
MKAR	**Makanchi Array**	**53.30**	**323**	P	**P**	**16 46 03.1**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=124,slow=8.2,SNR=19						
MA2	**Magadan**	**53.67**	**15**	*e*P	**P**	**16 46 08.3**	**+2.0**
	comp=Z,4.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**55.95**	**332**	P	**P**	**16 46 22.6**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=67,slow=7.6,SNR=2.7						
KURK	**Kurchatov**	**57.36**	**326**	*e*P	**P**	**16 46 31.6**	**-1.1**
	comp=Z,3.3nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**62.95**	**326**	P	**P**	**16 47 10.3**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=133,slow=7.2,SNR=6.3						
BRVK	**Borovoye**	**63.03**	**326**	*e*P	**P**	**16 47 10.8**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**63.70**	**325**	*e*P	**P**	**16 47 14.4**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.0						
ARU	**Arti**	**70.52**	**327**	*e*P	**P**	**16 47 57.8**	**-1.1**
	comp=Z,3.9nm,0.6s,mb4.4						
MCK	**McKinley**	**79.52**	**27**	P	**P**	**16 48 51.3**	**+0.7**
	comp=Z,6.6nm,1.6s,mb4.2						
ILAR	**Eielson Array**	**80.42**	**26**	P	**P**	**16 48 55.6**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=249,slow=4.7,SNR=7.3						
ARCES	**ARCESS Array B**	**85.54**	**340**	P	**P**	**16 49 22.7**	**+1.0**
	comp=Z,3.8nm,0.8s,mb4.4,baz=81,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	**87.22**	**332**	P	**P**	**16 49 29.7**	**-0.2**
	comp=Z,2.0nm,1.0s,mb4.0,baz=46,slow=5.5,SNR=3.2						
RES	**Resolute Bay**	**92.69**	**10**	*e*P	**P**	**16 49 55.9**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.5						

IDC 16 17:00:32.7±6.5,3423S×17846W,h0^{km},mb3.4/2, mb1 3.7/2,mb1mx3.6/10,mbtmp3.4/2,Error ellipse: s-maj=307.9km s-min=62.1km az=163.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.66**	**271**	P	P	17 08 31.4	+0.4
	0.2nm,0.5s,baz=114,slow=7.6,SNR=5.2						
WRA	**Warramunga Arr**	**43.99**	**276**	P	P	17 08 41.6	-0.2
	0.4nm,0.5s,baz=118,slow=7.2,SNR=6.2						
FINES	**FINESS Array B**	**148.56**	**338**	PKPbc	PKPbc	17 20 20.2	-1.3
	1.2nm,0.7s,baz=48,slow=5.9,SNR=4.0						

*IDC **16** 17:04:34.0±1.5,078N×9687E,h0^{km},mb3.9/6,mb1 4.0/7, mb1mx3.8/20,mbtmp3.8/7,ML3.4/1,MS3.7/1,Ms1 3.7/1, ms1mx2.8/26,Error ellipse: s-maj=51.7km s-min=19.0km az=61.0*

*ISCJB **16** 17:04:36.1±1.0,085N±0.10×969E±0.1,h30^{km},mb4.0/11, MS3.7/1,Error ellipse: s-maj=19.9km s-min=12.6km az=131.9*

*NEIC **16** 17:04:37.6±1.0,082N×9688E,h30^{km},mb4.2/5,Error ellipse: s-maj=21.6km s-min=13.4km az=63.0*

ISC 16 17:04:38.6±1.0,088N±010×970E±01,h30^{km},n16, σ0^{s}89/15,mb4.0/11,MS3.7/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.71**	**45**	Pn	**Pn**	**17 05 20.4**	**+0.3**
	5.8nm,0.3s,baz=216,slow=6.3,SNR=20						
KULM	**Kulim**	**5.70**	**40**	*e*P	**Pn**	**17 06 00.8**	**-0.4**
KKM	**Kota Kinabalu**	**19.85**	**75**	*e*P	**Pn**	**17 09 08.8**	**0.0**
LSA	**Lhasa**	**29.20**	**350**	*e*P	**P**	**17 10 36.7**	**-0.8**
	5.0nm,1.0s,mb4.2						
ENH	**Enshi**	**31.55**	**21**	P	**P**	**17 10 58.3**	**+0.1**
	5.4nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**38.66**	**152**	LR	LR	17 25 39.2	
	comp=Z,114nm,19.2s,MS3.7,baz=325,slow=33						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**17 12 28.0**	**+0.6**
	0.9nm,0.5s,mb3.7,baz=301,slow=9.1,SNR=9.7						
WRAB	**Tennant Creek**	**42.04**	**122**	P	**P**	**17 12 25.1**	**-2.3**
	2.5nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**17 12 39.1**	**+1.0**
	0.5nm,0.6s,mb3.5,baz=297,slow=8.2,SNR=16						
SONM	**Songino Array**	**47.48**	**9**	P	**P**	**17 13 11.1**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=182,slow=9.6,SNR=5.1						
SONM				PcP	PcP	17 14 40.9	+0.3
	0.3nm,0.7s,baz=177,slow=4.8,SNR=4.0						
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**17 13 11.6**	**+0.6**
	0.9nm,0.5s,mb4.1,baz=162,slow=8.9,SNR=22						
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**17 13 11.6**	**+0.6**
ULN	**Ulaanbaatar**	**47.61**	**9**	P	**P**	**17 13 12.3**	**+0.6**
	1.1nm,0.9s,mb3.9						
KURK	**Kurchatov**	**52.05**	**345**	P	**P**	**17 13 42.3**	**-3.2**
	4.1nm,1.2s,mb4.2						
STKA	**Stephens Creek**	**53.29**	**132**	P	**P**	**17 13 54.6**	**0.0**
	0.9nm,0.5s,mb3.9,baz=322,slow=12,SNR=3.1						
ZAL	**Zalesovo**	**53.84**	**351**	P	**P**	**17 13 59.1**	**+0.4**
	2.7nm,0.5s,mb4.5,baz=334,slow=3.4,SNR=11						

*NEIC **16** 17:25:31.9,4150S×17464E,h52^{km},ML4.0(WEL),After WEL.*

WEL 16 17:25:32.4±0.1,4142S×17466E,h53^{km},ML4.0/18,1C-4D, Error ellipse: s-maj=0.8km s-min=0.6km az=0.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.12**	**18**	PN	Pn	17 25 40.5	-0.1
SNZO				SN	Sn	17 25 46.4	-0.1
SNZO	**South Karori**	**0.12**	**18**	P	Pn	17 25 40.5	-0.1
SNZO				S	Sn	17 25 46.4	-0.1
WEL	**Wellington**	**0.16**	**32**	PN	Pn	17 25 40.8	0.0
WEL	**Wellington**	**0.16**	**32**	P	Pn	17 25 40.8	0.0
BHW	**Baring Head**	**0.16**	**86**	PN	Pn	17 25 40.7	-0.1
BHW				SN	Sn	17 25 46.6	-0.2
BHW	**Baring Head**	**0.16**	**86**	P	Pn	17 25 39.7	-1.1
BHW				S	Sn	17 25 45.6	-1.3
MRW	**Makara Radio**	**0.19**	**10**	PN	Pn	17 25 40.9	-0.1
MRW				SN	Sn	17 25 46.9	-0.2
MRW	**Makara Radio**	**0.19**	**10**	P	Pn	17 25 40.9	-0.1
TCW	**Tory Channel**	**0.35**	**306**	⇑PN	Pn	17 25 42.0	-0.3
TCW				SN	Sn	17 25 48.6	-0.8
TCW	**Tory Channel**	**0.35**	**306**	P	Pn	17 25 42.0	-0.3
CAW	**Cannon Point**	**0.44**	**45**	⇓PN	Pn	17 25 43.1	-0.1
CAW				SN	Sn	17 25 51.0	+0.1
CAW	**Cannon Point**	**0.44**	**45**	P	Pn	17 25 43.1	-0.1
MSWZ	**Moikau Station**	**0.45**	**90**	PN	Pn	17 25 43.1	-0.2
MSWZ				SN	Sn	17 25 50.9	-0.2
MSWZ	**Moikau Station**	**0.45**	**90**	P	Pn	17 25 43.1	-0.1
CMWZ	**Cape Campbell**	**0.47**	**225**	PN	Pn	17 25 43.8	+0.3
CMWZ	**Cape Campbell**	**0.47**	**225**	P	Pn	17 25 42.8	-0.7
TUWZ	**Tuamarina**	**0.54**	**269**	⇓PN	Pn	17 25 43.6	-0.6
PAWZ	**Paruwai Farm**	**0.58**	**86**	PN	Pn	17 25 44.4	-0.4
PAWZ				SN	Sn	17 25 53.5	-0.2
PAWZ	**Paruwai Farm**	**0.58**	**86**	P	Pn	17 25 44.4	-0.4
KIW	**Kapiti Island**	**0.59**	**19**	PN	Pn	17 25 44.8	-0.1
KIW				SN	Sn	17 25 53.4	-0.5
KIW	**Kapiti Island**	**0.59**	**19**	P	Pn	17 25 44.8	-0.1
BSWZ	**Blackbirch Sta**	**0.66**	**243**	PN	Pn	17 25 45.4	-0.3
BSWZ				SN	Sn	17 25 55.4	0.0
BSWZ	**Blackbirch Sta**	**0.66**	**243**	P	Pn	17 25 44.4	-1.3
MTW	**Mount Morrison**	**0.69**	**68**	⇓PN	Pn	17 25 45.7	-0.5
MTW				SN	Sn	17 25 55.8	-0.3
MTW	**Mount Morrison**	**0.69**	**68**	P	Pn	17 25 45.7	-0.4
TRWZ	**Traveller**	**0.78**	**89**	PN	Pn	17 25 46.8	-0.4
TRWZ				SN	Sn	17 25 57.6	-0.5
DUWZ	**D'Urville Isla**	**0.83**	**318**	PN	Pn	17 25 47.9	-0.1
NNZ	**Nelson**	**0.98**	**281**	PN	Pn	17 25 49.4	-0.6
NNZ				SN	Sn	17 26 01.6	-1.3
NNZ	**Nelson**	**0.98**	**281**	P	Pn	17 25 49.4	-0.6
MRZ	**Mangatainoka R**	**1.03**	**43**	⇓PN	Pn	17 25 50.0	-0.6
MRZ				SN	Sn	17 26 03.6	-0.5
MRZ	**Mangatainoka R**	**1.03**	**43**	P	Pn	17 25 50.0	-0.6
KHZ	**Kahutara**	**1.30**	**220**	PN	Pn	17 25 53.5	-0.7
KHZ	**Kahutara**	**1.30**	**220**	P	Pn	17 25 53.5	-0.7
THZ	**Tophouse**	**1.36**	**255**	PN	Pn	17 25 54.1	-0.9
THZ	**Tophouse**	**1.36**	**255**	P	Pn	17 25 54.1	-0.9
BFZ	**Birch Farm**	**1.41**	**59**	PN	Pn	17 25 54.3	-1.5
BFZ	**Birch Farm**	**1.41**	**59**	P	Pn	17 25 54.3	-1.4
TSZ	**Takapari Road**	**1.68**	**37**	PN	Pn	17 25 58.4	-1.0
TSZ	**Takapari Road**	**1.68**	**37**	P	Pn	17 25 58.4	-1.0
WAZ	**Wanganui**	**1.68**	**9**	PN	Pn	17 26 00.5	+1.1
WAZ	**Wanganui**	**1.68**	**9**	P	Pn	17 26 00.6	+1.2
QRZ	**Quartz Range**	**1.71**	**290**	PN	Pn	17 26 00.0	+0.2
QRZ				SN	Sn	17 26 20.1	-0.4
QRZ	**Quartz Range**	**1.71**	**290**	P	Pn	17 26 00.0	+0.2
MTVZ	**Mangateitei**	**2.12**	**17**	PN	Pn	17 26 05.9	+0.4
RAEZ	**Rainy Point**	**2.14**	**355**	P	Pn	17 26 07.6	+1.9
NRZ	**Ngariki Road**	**2.15**	**345**	P	Pn	17 26 07.1	+1.3
DSZ	**Denniston Nort**	**2.17**	**260**	PN	Pn	17 26 05.3	-0.7
DSZ	**Denniston Nort**	**2.17**	**260**	P	Pn	17 26 05.3	-0.7
PXZ	**Pawanui**	**2.18**	**51**	PN	Pn	17 26 03.9	-2.2
MOVZ	**Moawhango**	**2.18**	**23**	PN	Pn	17 26 05.7	-0.5
MOVZ	**Moawhango**	**2.18**	**23**	P	Pn	17 26 05.7	-0.5
NEZ	**North Egmont**	**2.19**	**349**	P	Pn	17 26 08.1	+1.8
PKVZ	**Pokaka**	**2.19**	**14**	PN	Pn	17 26 07.1	+0.7
WNVZ	**Wahianoa**	**2.21**	**19**	PN	Pn	17 26 06.9	+0.2
WNVZ	**Wahianoa**	**2.21**	**19**	P	Pn	17 26 06.9	+0.3
NWEZ	**Newall Road**	**2.23**	**344**	P	Pn	17 26 07.9	+1.0
LTZ	**Lake Taylor**	**2.24**	**232**	PN	Pn	17 26 05.8	-1.2
LTZ	**Lake Taylor**	**2.24**	**232**	P	Pn	17 26 05.8	-1.2
FWVZ	**Far West T-bar**	**2.27**	**18**	P	Pn	17 26 07.8	+0.4
TUVZ	**Tukino**	**2.28**	**20**	PN	Pn	17 26 07.9	+0.3
TUVZ	**Tukino**	**2.28**	**20**	P	Pn	17 26 08.0	+0.4
PKE	**Pukeiti**	**2.28**	**347**	P	Pn	17 26 08.6	+1.0
VRZ	**Vera Road**	**2.29**	**2**	PN	Pn	17 26 08.4	+0.6
VRZ	**Vera Road**	**2.29**	**2**	P	Pn	17 26 08.7	+0.9
WPVZ	**Whakapapa**	**2.31**	**17**	P	Pn	17 26 08.5	+0.4
NGZ	**Ngauruhoe**	**2.35**	**18**	PN	Pn	17 26 09.0	+0.4
NGZ	**Ngauruhoe**	**2.35**	**18**	P	Pn	17 26 09.1	+0.5
WTVZ	**West Tongariro**	**2.41**	**18**	P	Pn	17 26 09.7	+0.3
TWVZ	**Taurewa**	**2.42**	**15**	PN	Pn	17 26 09.6	+0.1
KATZ	**Kakaramea**	**2.57**	**18**	P	Pn	17 26 11.6	+0.1
CRLZ	**Canterbury Las**	**2.63**	**214**	*e*P	Pn	17 26 10.3	-2.0
BKZ	**Black Stump Fm**	**2.65**	**33**	PN	Pn	17 26 10.8	-1.9
BKZ	**Black Stump Fm**	**2.65**	**33**	P	Pn	17 26 10.9	-1.8
MQZ	**McQueen's Vall**	**2.72**	**212**	P	Pn	17 26 11.0	-2.6
HIZ	**Hauiti**	**2.91**	**3**	PN	Pn	17 26 16.0	-0.2
HIZ	**Hauiti**	**2.91**	**3**	P	Pn	17 26 17.2	+1.0
KNZ	**Kokohu**	**3.33**	**45**	P	Pn	17 26 18.7	-3.2
WVZ	**Waitaha Valley**	**3.35**	**239**	*e*P	Pn	17 26 20.5	-1.7
RPZ	**Rata Peaks**	**3.51**	**228**	*e*P	Pn	17 26 22.2	-2.3
URZ	**Urewera**	**3.68**	**32**	*e*P	Pn	17 26 23.8	-2.9
MWZ	**Matawai**	**3.79**	**37**	P	Pn	17 26 24.9	-3.4
FOZ	**Fox Glacier**	**4.25**	**238**	*e*P	Pn	17 26 31.3	-3.3
LBZ	**Lake Benmore**	**4.42**	**226**	*e*P	Pn	17 26 34.8	-2.2
ODZ	**Otahua Downs**	**4.66**	**218**	*e*P	Pn	17 26 37.4	-2.8
JCZ	**Jackson Bay**	**5.09**	**237**	*e*P	Pn	17 26 43.1	-3.0
WKZ	**Wanaka**	**5.35**	**229**	*e*P	Pn	17 26 46.2	-3.5
EAZ	**Earnscleugh**	**5.45**	**224**	*e*P	Pn	17 26 48.2	-2.9
TUZ	**Tuapeka**	**5.81**	**217**	*e*P	Pn	17 26 53.4	-2.6
MLZ	**Mavora Lakes**	**6.14**	**228**	*e*P	Pn	17 26 58.3	-2.2

*ISCJB **16** 17:38:57.4±0.2,4404N±001×763E±002,h10^{km},Error ellipse: s-maj=2.1km s-min=1.8km az=134.1*

*CSEM **16** 17:38:57.8±0.1,4400N×771E,h12^{km},ML3.1/14,Error ellipse: s-maj=1.3km s-min=0.9km az=158.0*

*GEN **16** 17:38:58.2,4398N×762E,h10^{km},ML2.0*

*NEIC **16** 17:38:58.4,4401N×764E,h5^{km},MD2.7(ROM), ML3.0(STR),After STR.*

*ROM **16** 17:38:58.3±0.6,4397N×764E,h11^{km},Md2.7/5,Ml2.3/1, Error ellipse: s-maj=10.4km s-min=3.6km az=34.0*

*LDG **16** 17:38:58.5±0.1,4399N×767E,h2^{km},Md3.0/1,Ml3.1/18, Error ellipse: s-maj=2.7km s-min=1.7km az=111.0*

*STR **16** 17:38:58.4±0.5,4401N×764E,h5^{km}±1^{km},Ml3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 16 17:38:57.9±0.2,4403N±001×766E±002,h10^{km},n103, σ0^{s}99/169,9C-8D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONE	**Monesi**	**0.09**	**56**	P	**Pg**	**17 39 01.2**	**+0.9**
SAOF	**Saorge**	**0.09**	**238**	Pg	**Pg**	**17 38 59.8**	**-0.5**
SAOF				Sg	**Sg**	**17 39 00.8**	**-1.2**
AUTN	**L'Aution**	**0.17**	**258**	Pg	**Pg**	**17 39 01.6**	**0.0**
AUTN				Sg	**Sg**	**17 39 04.0**	**-0.1**
NEGI	**Negi**	**0.19**	**170**	P	**Pg**	**17 39 01.8**	**-0.1**
IMI	**Imperia**	**0.21**	**126**	⇓*i*Pg	**Pg**	**17 39 02.8**	**+0.5**
IMI				Sg	**Sg**	**17 39 06.3**	**+1.1**
	330nm,0.2s						
SBF	**Sospel**	**0.23**	**224**	*e*Pg	**Pg**	**17 39 02.7**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 39 05.7**	**-0.2**
	2μm,0.5s						
SBF	**Sospel**	**0.23**	**224**	*e*Pg	**Pg**	**17 39 02.7**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 39 05.7**	**-0.2**
	1μm,0.5s						
ENR	**Entracque**	**0.26**	**319**	P	**Pg**	**17 39 03.9**	**+0.7**
ROB	**Roburent**	**0.30**	**30**	P	**Pg**	**17 39 05.4**	**+1.4**
RORO		**0.31**	**75**	P	**Pg**	**17 39 05.2**	**+1.2**
RORO				S	**Sg**	**17 39 09.9**	**+1.7**
STV	**Sta Anna Valdi**	**0.32**	**312**	P	**Pg**	**17 39 04.9**	**+0.6**
STV2	**Anna di Valdie**	**0.32**	**312**	P	**Pg**	**17 39 04.7**	**+0.4**
REVF	**Revere**	**0.36**	**216**	Pg	**Pg**	**17 39 05.0**	**0.0**
REVF				Sg	**Sg**	**17 39 11.5**	**+1.7**
MVIF	**Mont Vial**	**0.39**	**250**	Pg	**Pg**	**17 39 06.1**	**+0.5**
MVIF				Sg	**Sg**	**17 39 11.4**	**+0.7**
FIN	**Finale Ligure**	**0.43**	**66**	⇑*i*Pg	**Pg**	**17 39 07.5**	**+1.1**
FIN				Sg	**Sg**	**17 39 14.1**	**+1.9**
	182nm,0.4s						
DOI	**San Damiano**	**0.56**	**328**	Pg	**Pg**	**17 39 09.6**	**+0.9**
DOI				Sg	**Sg**	**17 39 17.7**	**+1.6**
	174nm,0.2s						
PZZ	**Prazzo**	**0.62**	**320**	P	**Pg**	**17 39 10.2**	**+0.3**
SURF	**Saint Ours**	**0.76**	**307**	Pg	**Pg**	**17 39 13.0**	**+0.5**
SURF				Sg	**Sg**	**17 39 23.7**	**+1.4**
PCP	**Pian Castagno**	**0.82**	**51**	P	**Pg**	**17 39 14.4**	**+0.7**
PCP				S	**Sg**	**17 39 25.3**	**+1.0**
FRF	**La Foret Royal**	**0.87**	**238**	*e*Pg	**Pg**	**17 39 14.2**	**-0.5**
FRF	**La Foret Royal**	**0.87**	**238**	*e*Pn	**Pn**	**17 39 15.9**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 39 25.9**	**-0.1**
	167nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**0.87**	**238**	*e*Pn	**Pn**	**17 39 15.9**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 39 25.9**	**-0.1**
	84nm,0.4s,SNR=1.0						
OG22	**Abries**	**0.94**	**327**	Pg	**Pg**	**17 39 16.2**	**+0.2**
OG22				Sg	**Sg**	**17 39 28.6**	**+0.3**
MBDF	**Montbardon**	**0.94**	**318**	*e*Pg	**Pg**	**17 39 15.9**	**-0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 39 29.7**	**+1.4**
	228nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**0.94**	**318**	*e*Pg	**Pg**	**17 39 15.9**	**-0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 39 29.7**	**+1.4**
	114nm,0.4s,SNR=1.0						
MONC	**Moncucco Torin**	**1.06**	**10**	Pg	**Pg**	**17 39 20.4**	**+2.1**
FENE	**Fenestrelle**	**1.08**	**337**	P	**Pb**	**17 39 18.0**	**-0.8**
FENE				S	**Sg**	**17 39 32.0**	**-0.9**
RRL	**Cesana Torines**	**1.09**	**325**	P	**Pb**	**17 39 18.4**	**-0.4**
RRL				S	**Sg**	**17 39 32.6**	**-0.3**
RSP	**Reno Superiore**	**1.16**	**346**	P	**Pb**	**17 39 19.3**	**-0.7**
RSP				S	**Sb**	**17 39 33.7**	**-1.3**
TAVF	**Tavernes**	**1.23**	**251**	Pg	**Pg**	**17 39 22.0**	**+0.5**
TAVF				Sg	**Sg**	**17 39 38.9**	**+1.4**
BNI	**Bardonecchia**	**1.24**	**326**	Pg	**Pg**	**17 39 21.7**	**0.0**
	52nm,0.7s						
BNI	**Bardonecchia**	**1.24**	**326**	*e*Pg	**Pg**	**17 39 21.2**	**-0.5**
STOF	**St-Etienne Org**	**1.26**	**269**	Pg	**Pg**	**17 39 24.6**	**+2.4**
STOF				Sg	**Sg**	**17 39 43.9**	**+5.4**
SC2M	**Scurtabr**	**1.40**	**74**	P	**Pn**	**17 39 23.2**	**-0.3**
SC2M				S	**Sn**	**17 39 39.9**	**-2.1**
TRAV		**1.48**	**2**	P	**Pn**	**17 39 23.9**	**-0.7**
PUYF	**Puyloubier**	**1.50**	**251**	Pg	**Pg**	**17 39 25.7**	**-1.1**
PUYF				Sg	**Sg**	**17 39 46.3**	**0.0**
SMRF	**Simiane la Rot**	**1.50**	**269**	*e*Pn	**Pn**	**17 39 25.3**	**+0.4**
	SNR=1.0						
SMRF	**Simiane la Rot**	**1.50**	**269**	*e*Pg	**Pg**	**17 39 26.9**	**+0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 39 46.5**	**+0.2**
	387nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.50**	**269**	*e*Pg	**Pg**	**17 39 26.9**	**+0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 39 46.5**	**+0.2**
	194nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.55**	**305**	*e*Pn	**Pn**	**17 39 26.4**	**+0.8**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.55**	**305**	*e*Pg	**Pg**	**17 39 27.5**	**-0.2**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 39 46.0**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 39 48.7**	**+0.9**
	109nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.55**	**305**	*e*Pg	**Pg**	**17 39 27.5**	**-0.2**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 39 46.0**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 39 48.7**	**+0.9**
	54nm,0.5s,SNR=1.0						
BERF	**Bertagne**	**1.60**	**244**	Pg	**Pg**	**17 39 27.9**	**-0.7**
BERF				Sg	**Sg**	**17 39 49.3**	**0.0**
LPG	**La Plagne**	**1.60**	**337**	*e*Pn	**Pn**	**17 39 27.3**	**+1.0**
	SNR=1.0						
LPG	**La Plagne**	**1.60**	**337**	*e*Pg	**Pg**	**17 39 29.4**	**+0.7**
LPG				*e*Sg	**Sg**	**17 39 50.1**	**+0.7**
	43nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**1.60**	**337**	*e*Pg	**Pg**	**17 39 29.4**	**+0.7**
LPG				*e*Sg	**Sg**	**17 39 50.1**	**+0.7**
	22nm,0.6s,SNR=1.0						
GDM	**Grand'Maison**	**1.61**	**317**	Pg	**Pg**	**17 39 28.9**	**+0.1**
ORO	**Oropa**	**1.61**	**8**	Pg	**Pg**	**17 39 28.9**	**0.0**
	11nm,0.2s						
CODM		**1.62**	**76**	P	**Pn**	**17 39 26.1**	**-0.4**
CODM				S	**Sn**	**17 39 45.0**	**-2.4**
ORX	**Oropa**	**1.62**	**8**	P	**Pn**	**17 39 26.2**	**-0.3**
ORX				S	**Sn**	**17 39 45.4**	**-2.0**
LPL	**La Plagne**	**1.62**	**336**	*e*Pn	**Pn**	**17 39 27.4**	**+0.8**
	SNR=1.0						
LPL	**La Plagne**	**1.62**	**336**	*e*Pg	**Pg**	**17 39 28.9**	**-0.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**17 39 48.0**	**+0.5**
	29nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.62**	**336**	*e*Pg	**Pg**	**17 39 28.9**	**-0.2**
	SNR=1.0						
LPL				*e*Sn

MOTA	**Moosalm**	4.10	35	Sn		Sn	17 40 55.7	+7.1
	1.8nm,0.4s							
CAF	**Calviac**	4.10	285	*e*Pn		Pn	17 40 00.7	+0.1
LOR	**Lormes**	4.19	322	*e*Pn		Pn	17 40 02.3	+0.4
LOR				*e*Sn		Sn	17 40 49.6	-1.3
	6.5nm,0.3s							
LOR	**Lormes**	4.19	322	*e*Pn		Pn	17 40 02.3	+0.4
LOR				*e*Sn		Sn	17 40 49.6	-1.3
	3.2nm,0.3s							
SSF	**Saint Saulge**	4.21	318	*e*Pn		Pn	17 40 02.8	+0.7
SSF				*e*Sn		Sn	17 40 49.9	-1.3
	12nm,0.5s							
SSF	**Saint Saulge**	4.21	318	*e*Pn		Pn	17 40 02.8	+0.7
SSF				*e*Sn		Sn	17 40 49.9	-1.3
	5.8nm,0.5s							
CDF	**Champ du Feu**	4.39	357	*e*Pn		Pn	17 40 05.3	+0.7
CDF				*e*Sn		Sn	17 40 54.5	-1.3
	1.4nm,0.3s							
CDF	**Champ du Feu**	4.39	357	*e*Pn		Pn	17 40 05.3	+0.7
CDF				*e*Sn		Sn	17 40 54.5	-1.3
	0.7nm,0.3s							
EPF	**Esparros**	5.41	262	*e*Pn		Pn	17 40 17.9	-0.8
EPF				*e*Sg		Sg	17 41 47.3	-4.4
	3.1nm,0.4s							
MFF	**Saint Martin d**	6.07	298	*e*Pn		Pn	17 40 27.4	-0.3

IDC 16 17:39:33.4±69.0, 2139S×17758W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/12, mbtmp3.9/3, Error ellipse: s-maj=1271.0km s-min=160.2km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	37.76	245	P	P	17 46 50.6	-0.5
	1.2nm,0.4s,baz=79,slow=12,SNR=6.7						
ASAR	**Alice Springs**	44.70	258	P	P	17 47 48.7	+0.5
	1.1nm,0.7s,baz=88,slow=6.4,SNR=16						
WB2	**Warramunga Arr**	44.86	263	*e*P	P	17 47 50.0	+0.6
WRA	**Warramunga Arr**	44.87	263	P	P	17 47 50.2	+0.7
	0.7nm,0.2s,baz=97,slow=8.2,SNR=44						
FITZ	**Fitzroy Crossi**	53.30	263	*e*P	P	17 48 54.2	+0.1
	1.1nm,0.6s						

*SZGRF **16** 17:41:32.2, 2405S×17962E, h33km, South of Fiji Islands*
*NEIC **16** 17:42:29.4±0.4, 2195S×17948W, h500km, mb4.2/10, Error ellipse: s-maj=13.9km s-min=10.8km az=119.0*
*BJI **16** 17:42:29.3, 2190S×17950W, h500km, mB4.6, mb4.3*
*ISCJB **16** 17:42:35.5±1.6, 2209S±009×1798W±0.1, h580km±20km, mb4.0/16, Error ellipse: s-maj=15.7km s-min=13.1km az=169.1*
*IDC **16** 17:42:37.4±2.3, 2221S×17978W, h584km±25km, mb3.3/5, mb1 3.6/7, mb1mx3.4/15, mbtmp4.4/7, Error ellipse: s-maj=30.9km s-min=15.4km az=157.0*
ISC 16 17:42:35.1±1.6, 2215S±008×1796W±0.1, h569km±18km, n60, σ0§93/33, mb4.0/16, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	12.94	268	P	P	17 45 23.2	0.0
	0.5nm,0.3s,baz=79,slow=20,SNR=5.5						
URZ	**Urewera**	16.30	189	P	P	17 45 55.5	-0.9
	4.7nm,0.3s,baz=354,slow=7.1,SNR=20						
URZ				S	S	17 48 40.6	-0.1
	1.0nm,0.3s,baz=43,slow=21,SNR=8.3						
SNZO	**South Karori**	19.70	193	P	P	17 46 27.4	0.0
	7.8nm,0.6s						
CTA	**Charters Tower**	31.88	267	P	P	17 48 15.6	+1.1
	4.0nm,0.6s,mb4.1,baz=128,slow=9.8,SNR=8.9						
CTA	**Charters Tower**	31.88	267	P	P	17 48 15.6	+1.1
CTAO	**Charters Tower**	31.88	267	*e*P	P	17 48 14.7	+0.2
	12nm,1.1s,mb4.3						
PMG	**Port Moresby**	34.31	286	*e*P	P	17 48 35.2	+0.2
	13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	35.74	246	P	P	17 48 43.5	-3.3
ASAR	**Alice Springs**	42.71	259	P	P	17 49 43.4	+0.6
	3.1nm,0.7s,mb3.9,baz=95,slow=7.8,SNR=30						
ASAR				PcP	PcP	17 51 22.7	+1.6
	0.6nm,0.6s,baz=105,slow=4.1,SNR=5.6						
ASAR				S	S	17 55 24.3	-1.3
	0.7nm,1.0s,baz=87,slow=17,SNR=5.5						
ASAR	**Alice Springs**	42.71	259	P	P	17 49 43.4	+0.6
ASAR				PcP	PcP	17 51 22.7	+1.6
WB2	**Warramunga Arr**	42.91	264	||*e*P	P	17 49 44.3	0.0
WRAB	**Tennant Creek**	42.91	264	*e*P	P	17 49 44.0	-0.3
	6.5nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	42.92	264	P	P	17 49 44.3	-0.1
	3.0nm,0.8s,mb3.9,baz=98,slow=7.0,SNR=29						
WRA				S	S	17 55 26.6	-1.9
	0.5nm,0.9s,baz=98,slow=13,SNR=3.5						
KAKA	**Kakadu**	46.55	273	*e*P	P	17 50 12.4	+0.2
	3.6nm,0.6s,mb4.1						
GUMO	**Guam**	49.75	312	P	P	17 50 35.3	-0.7
	205nm,1.2s						
MIDW	**Midway**	50.12	3	P	P	17 50 35.7	-2.9
	488nm,1.5s						
FITZ	**Fitzroy Crossi**	51.35	264	*e*P	P	17 50 48.3	+0.7
	2.5nm,0.6s,mb3.7						
MBWA	**Marble Bar**	56.05	259	*e*P	P	17 51 20.6	-0.1
	8.5nm,0.8s,mb4.0						
QSPA	**South Pole Qui**	67.92	180	*e*P	P	17 52 38.7	+1.0
	3.8nm,0.6s,mb4.1						
KKM	**Kota Kinabalu**	68.76	286	*e*P	P	17 52 42.9	+0.2
MJAR	**Matsushiro Arr**	70.68	325	P	P	17 52 54.3	+0.2
	2.6nm,0.7s,mb3.9,baz=158,slow=5.5,SNR=6.2						
KSM	**Kuching**	72.18	279	*e*P	P	17 53 02.9	0.0
MDJ	**Mudanjiang**	81.03	326	*e*P	P	17 53 47.3	-3.8
SYO	**Syowa Base**	84.79	193	||*e*P	P	17 54 21.6	+12
ENH	**Enshi**	85.74	305	*e*P	P	17 54 16.2	+1.7
	5.2nm,1.0s,mb4.1						
MCK	**McKinley**	88.91	13	*e*P	P	17 54 28.6	-0.8
	4.2nm,1.1s,mb4.2						
ILAR	**Eielson Array**	90.25	13	P	P	17 54 35.6	0.0
	0.8nm,0.8s,mb3.6,baz=218,slow=4.6,SNR=12						
CD2	**Chengdu**	90.43	303	*e*P	P	17 54 38.4	+2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
BILL	**Bilibino**	90.53	355	*e*P	P	17 54 37.4	+0.5
	comp=Z,2.1nm,0.7s,mb4.2						
INK	**Inuvik**	96.25	16	P	P	17 55 02.2	-0.8
	comp=Z,0.3nm,0.5s,mb3.8						
RES	**Resolute Bay**	109.80	16	*e*P	PKiKP	18 00 01.8	-0.2
MKAR	**Makanchi Array**	111.24	313	PKiKP	PKiKP	18 00 04.8	+0.2
	comp=Z,0.3nm,0.5s,baz=184,slow=0.6,SNR=7.6						
MKAR	**Makanchi Array**	111.24	313	PKPdf	PKiKP	18 00 04.8	+0.2
BVAR	**Borovoye Array**	119.37	319	PKP	PKPdf	18 00 20.5	+0.2
	comp=Z,1.2nm,0.4s,baz=123,slow=2.0,SNR=19						
ARCES	**ARCESS Array B**	130.26	349	PKP	PKPdf	18 00 41.1	+0.1
	comp=Z,2.0nm,0.7s,baz=349,slow=2.5,SNR=8.7						
FINES	**FINESS Array B**	136.91	342	PKP	PKPdf	18 00 53.4	-0.2
	comp=Z,3.7nm,1.0s,baz=302,slow=3.6,SNR=4.3						
AKASG	**Malin Array Be**	143.69	329	PKP	PKPdf	18 01 04.8	-0.9
	comp=Z,2.2nm,0.4s,baz=43,slow=4.1,SNR=34						
AKASG	**Malin Array Be**	143.69	329	PKP	PKPdf	18 01 04.8	-0.9
BR131	**Keskin Array S**	146.79	309	*e*P	PKPdf	18 01 14.4	+3.4
BRTR	**Keskin Array B**	146.79	309	PKPbc	PKPbc	18 01 14.8	+1.0
	comp=Z,1.6nm,0.7s,baz=141,slow=4.4,SNR=11						
KOLS	**Kolonicke sedl**	148.12	332	*e*PKP	PKPbc	18 01 18.9	+1.7
UPC	**Upice**	149.16	340	*e*PKPbc	PKPbc	18 01 21.2	+1.4
DPC	**Dobruska-Polom**	149.20	340	*e*PKPbc	PKPbc	18 01 21.6	+1.7
KECS	**Kecovo**	149.22	333	*e*PKP	PKPab	18 01 28.0	+1.1
CLL	**Collm**	149.29	344	*e*PKPbc	PKPbc	18 01 21.4	+1.3
CLL	**Collm**	149.29	344	||*i*PKPbc	PKPbc	18 01 21.2	+1.1
	comp=Z,12nm,0.8s						
CLL				*e*PKPab	PKPab	18 01 28.0	+0.9
CLZ	**Clausthal**	149.37	348	*e*PKPbc	PKPbc	18 01 21.8	+1.5
BRG	**Berggiesshubel**	149.44	343	*e*PKPbc	PKPbc	18 01 21.9	+1.4
BRG	**Berggiesshubel**	149.44	343	*i* P	PKPbc	18 01 21.8	+1.4
	comp=Z,7.5nm,1.0s						
FBE	**Freiberg**	149.55	344	*e*PKPbc	PKPbc	18 01 22.3	+1.6
PVCC	**Panska Ves**	149.58	342	*e*PKPbc	PKPbc	18 01 22.1	+1.3
PRU	**Pruhonice**	150.07	342	*e*PKPbc	PKPbc	18 01 23.2	+1.3
PRU				*e*PKPab	PKPab	18 01 27.8	-2.6
MOX	**Moxa**	150.24	346	*e*PKPbc	PKPbc	18 01 23.7	+1.4
TANN	**Tannenbergstha**	150.24	344	*e*PKPbc	PKPbc	18 01 23.9	+1.6
WERD	**Werda**	150.25	345	*e*PKPbc	PKPbc	18 01 23.8	+1.4
MANZ	**Manzenberg**	150.73	344	*e*PKPbc	PKPbc	18 01 25.1	+1.6
ROTZ	**Rotzenmuhle**	150.91	344	*e*PKPbc	PKPbc	18 01 25.3	+1.4
KHC	**Kasperske Hory**	151.12	342	*e*PKPbc	PKPbc	18 01 25.6	+1.3
KHC				*e*PKPab	PKPab	18 01 36.5	+1.7
GEC2	**GERESS Array S**	151.34	342	*e*PKPbc	PKPbc	18 01 26.0	+1.2
GERES	**GERESS Array B**	151.34	342	PKPbc	PKPbc	18 01 26.1	+1.3
	comp=Z,0.9nm,0.4s,baz=5.2,slow=1.5,SNR=7.1						

*ISCJB **16** 17:46:03.9±3.3, 2245S±08×1795W±06, h550km, mb3.7/6, Error ellipse: s-maj=120.4km s-min=27.6km az=111.4*
*IDC **16** 17:46:07.2±14.0, 2172S×17988W, h552km±147km, mb3.0/4, mb1 3.2/4, mb1mx3.1/12, mbtmp3.9/4, Error ellipse: s-maj=139.8km s-min=62.0km az=133.0*
ISC 16 17:46:04.1±3.3, 225S±08×1793W±06, h550km, n9, σ0§43/7, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	32.19	268	*e*P	P	17 51 47.5	+0.4
	2.5nm,0.6s,mb3.9						
STKA	**Stephens Creek**	35.89	246	P	P	17 52 18.1	-0.1
	1.4nm,0.7s,mb3.6,baz=58,slow=9.5,SNR=2.9						
ASAR	**Alice Springs**	42.95	259	P	P	17 53 15.3	+0.5
	1.9nm,0.7s,mb3.8,baz=89,slow=8.6,SNR=12						
WB2	**Warramunga Arr**	43.20	264	*e*P	P	17 53 16.0	-0.7
WRA	**Warramunga Arr**	43.21	264	P	P	17 53 16.4	-0.4
	0.9nm,0.3s,mb3.8,baz=95,slow=7.8,SNR=23						
FITZ	**Fitzroy Crossi**	51.64	264	*e*P	P	17 54 20.4	+0.4
	4.9nm,1.4s,mb3.6						
ILAR	**Eielson Array**	90.54	13	P	P	17 58 07.7	0.0
	0.3nm,0.6s,mb3.4,baz=214,slow=4.8,SNR=4.7						
BVAR	**Borovoye Array**	119.86	319	PKP	PKPdf	18 03 52.4	+0.3
	0.3nm,0.3s,baz=133,slow=1.9,SNR=6.7						
AKASG	**Malin Array Be**	144.17	329	PKP	PKPdf	18 04 36.9	-0.6
	0.6nm,0.3s,baz=45,slow=3.6,SNR=8.2						

*ISCJB **16** 17:47:58.0±0.5, 3771N±004×11870W±005, h10km, mb5.0/4, Error ellipse: s-maj=6.6km s-min=3.9km az=86.9*
*NEIC **16** 17:47:59.0, 3799N×11878W, h10km, MW4.1(BRK), After NCEDC.*
NEIC Felt [III] at Benton; [II] at Mammoth Lakes and Sonora. Also felt at Bishop, El Portal, Groveland, June Lake, Lee Vining, Mokelumne Hill, Murphys and Yosemite National Park. Felt at Wellington, Nevada.
*BJI **16** 17:47:59.0, 3800N×11880W, h10km, mB5.1, mb4.6, Ms4.6, Msz4.3*
*IDC **16** 17:48:01.2±2.1, 3806N×11876W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/17, Error ellipse: s-maj=25.2km s-min=10.6km az=179.0*
ISC 16 17:48:00.8±0.5, 3776N±003×11876W±005, h10km, n43, σ1§45/65, mb5.0/4, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	2.92	24	*e*Pn	Pn	17 48 42.9	-4.4
BMN				*e*S	Sn	17 49 25.4	+3.0
NEN	**Nelson**	3.79	123	*e*Pn	Pn	17 49 02.0	+2.9
NEN				*e*Pg	Pg	17 49 11.5	-1.8
NEN				*e*Sn	Sn	17 49 46.6	+2.9
NEN				*e*Sg	Sg	17 50 02.0	-0.4
LDFC	**Landfair**	3.98	131	Pn	Pn	17 48 57.7	-4.1
LDFC				*e*Pg	Pg	17 49 15.3	-1.7
ELK	**Elko**	4.04	41	Pn	Pn	17 49 00.0	-2.7
	1.9nm,0.3s,baz=237,slow=11,SNR=24						
ELK				Pg	Pg	17 49 09.5	-8.7
	16nm,0.3s,baz=226,slow=10,SNR=38						
ELK				Lg		17 50 01.3	
	67nm,0.3s,baz=312,slow=18,SNR=17						
ELK				LR	LR	17 50 55.8	
	comp=Z,157nm,21.4s,baz=62,slow=46						
ELK	**Elko**	4.04	41	*e*Pn	Pn	17 48 59.2	-3.4
ELK				*e*Pg	Pg	17 49 09.9	-8.3
ELK				*e*Sg	Sg	17 50 01.7	-8.9
ARUT	**Antelope Range**	4.21	88	*e*Pn	Pn	17 49 04.2	-0.9
ARUT				*e*Pg	Pg	17 49 19.4	-2.1
ARUT				*e*Sg	Sg	17 50 14.8	-1.3
PFO	**Pinyon Flat Ob**	4.55	155	*e*Pn	Pn	17 49 11.6	+2.0
PFO				*e*Pg	Pg	17 49 27.5	-0.4
WVOR	**Wild Horse Val**	4.67	1	*e*Pn	Pn	17 49 10.2	-1.1
WVOR				*e*Sg	Sb	17 50 17.1	-1.9
KHMM	**Horse Mountain**	4.95	310	*e*Pn	Pn	17 49 15.2	0.0
KHMM				*e*Pb	Pb	17 49 23.0	-4.6
YBH	**Yreka Blue Hor**	5.00	324	Pn	Pn	17 49 15.3	-0.5
	1.1nm,0.3s,baz=147,slow=5.1,SNR=23						
YBH				Lg		17 50 31.2	
	1.6nm,0.3s,baz=139,slow=9.8,SNR=3.5						
YBH				LR	LR	17 51 16.3	
	comp=Z,274nm,18.1s,baz=37,slow=41						
YBH	**Yreka Blue Hor**	5.00	324	*e*Pn	Pn	17 49 09.3	-6.5
YBH				*e*		17 49 15.0	
YBH				Pn	Pn	17 49 15.3	-0.5
YBH				Lg		17 50 31.2	
YBH				LR	LR	17 51 16.3	
MVU	**Marysvale**	5.21	80	*e*Pn	Pn	17 49 23.8	+5.0
	29nm,0.5s						
MVU				*e*Pg	Pg	17 49 41.1	+0.4
DUG	**Dugway**	5.23	60	*e*Pn	Pn	17 49 18.1	-1.0
	71nm,0.8s						
DUG				*e*Pg	Pg	17 49 34.4	-6.6
DUG				*e*Sg	Sg	17 50 42.9	-5.9
MSU	**Marysvale**	5.24	80	*e*Pn	Pn	17 49 21.2	+2.0
BAR	**Barrett**	5.35	161	*e*Pn	Pn	17 49 24.1	+3.5
BGU	**Big Grassy Mou**	5.45	53	*e*Pn	Pn	17 49 22.5	+0.5
HUMO	**Hull Mountain**	5.81	328	*e*Pn	Pn	17 49 26.5	-0.5
	16nm,0.8s						
MPU	**Maple Canyon**	6.00	66	Pn	Pn	17 49 30.6	+1.0
	40nm,0.7s						
MPU				*e*Sg	Sg	17 51 05.2	-8.1
HVU	**Hansel Valley**	6.11	47	*e*Pn	Pn	17 49 30.9	-0.2
	38nm,0.7s						
HVU				*e*Sg	Sg	17 51 07.3	-10
KBO	**Bosley Butte**	6.11	318	*e*Pn	Pn	17 49 33.9	+2.8
TMUT	**Trail Mountain**	6.12	73	*e*Pn	Pn	17 49 34.3	+3.1
TMUT				*e*Sg	Sg	17 51 07.2	-10
WUAZ	**Wupatki**	6.35	108	*e*Pn	Pn	17 49 33.6	-0.7
	41nm,0.7s						
TCUT	**Toone Canyon**	6.60	57	*e*Pn	Pn	17 49 39.3	+1.5
HLID	**Hailey**	6.67	28	Pn	Pn	17 49 36.4	-2.4
	35nm,0.7s						
HLID				*e*Sg	Sb	17 51 19.6	+3.0
HWUT	**Hardware Ranch**	6.75	53	*e*Pn	Pn	17 49 40.2	+0.3
	7.0nm,0.8s						
BMO	**Blue Mountains**	7.17	8	*e*Pn	Pn	17 49 47.0	+1.4
	9.6nm,0.9s						
BMO				*e*Sg	Sb	17 51 36.3	+5.4
MCMT	**McKenzie Canyo**	8.34	30	*e*Pn	Pn	17 50 02.3	+0.6
MCMT				*e*Pb	Pb	17 50 25.7	+0.5
IMW	**Indian Meadow**	8.53	42	*e*Pn	Pn	17 50 09.6	+5.3
	4.0nm,0.8s						
PDAR	**Pinedale Array**	8.63	52	Pn	Pn	17 50 07.5	+1.9
	0.1nm,0.3s,baz=238,slow=12,SNR=17						
PDAR				Lg		17 52 27.0	
	0.2nm,0.3s,baz=232,slow=31,SNR=4.5						
PDAR	**Pinedale Array**	8.63	52	Pn	Pn	17 50 07.5	+1.9
PDAR				Lg		17 52 27.0	
HAWA	**Hanford**	8.64	356	*e*Pn	Pn	17 50 06.5	+0.6
	1.5nm,0.9s						
FLWY	**Flagg Ranch**	8.78	41	*e*Pn	Pn	17 50 09.0	+1.3
	18nm,0.9s						
SMCO	**Snowmass**	9.35	78	*e*Pn	Pn	17 50 17.2	+1.7
RWWY	**Rawlins**	9.72	63	*e*Pn	Pn	17 50 24.5	+3.9
ULM	**Lac du Bonnet**	20.56	45	P	P	17 52 40.1	+0.5
	5.4nm,1.1s,baz=249,slow=8.6,SNR=4.7						
YKA	**Yellowknife Ar**	24.89	5	P	P	17 53 24.1	+0.4
	0.3nm,0.7s,baz=185,slow=9.1,SNR=8.5						
FWV	**Forest Hill**	29.90	79	*e*P	P	17 54 07.5	-1.1
JTS	**JuntasAbangare**	40.86	123	P	P	17 55 42.1	-0.6
	41nm,0.8s,mb5.1						
MDJ	**Mudanjiang**	77.41	317	P	P	17 59 52.8	-3.2
MDJ				AMB	AMB		
	comp=Z,13nm,2.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,92nm,4.0s						
CN2	**Changchun**	80.16	319	*e*P	P	18 00 10.4	-0.7
NJ2	**Nanjing**	92.20	314	*e*P	P	18 01 10.1	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
WMQ	**Urumqi**	95.33	341	*e*P	P	18 01 23.0	-2.1
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.4						
CD2	**Chengdu**	100.98	324	*e*P	Pdif	18 01 47.0	-3.5

IDC 16 18:09:55.7±1.1, 4357S×4049E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/17, mbtmp4.1/6, MS3.6/5, Ms1 3.5/5, ms1mx3.3/20, Error ellipse: s-maj=62.8km s-min=21.5km az=44.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	19.30	316	LR	LR	18 20 15.8	
	comp=Z,73nm,18.2s,baz=218,slow=32						
MAW	**Mawson**	26.88	161	LR	LR	18 23 40.6	
	comp=Z,140nm,21.5s,baz=242,slow=31						
LSZ	**Lusaka**	30.10	336	P	P	18 16 07.1	+0.2
	1.2nm,0.6s,baz=155,slow=9.7,SNR=4.7						
SNAA	**Sanae**	35.03	202	LR	LR	18 28 20.6	
	comp=Z,52nm,20.5s,baz=48,slow=32						
KMBO	**Kilima Mbogo**	42.36	355	P	P	18 17 51.3	-0.2
	0.6nm,0.2s,baz=240,slow=24,SNR=2.4						
KMBO				LR	LR	18 32 29.8	
	comp=Z,117nm,20.9s,baz=89,slow=32						
TORD	**Torodi Ar. Bea**	66.64	318	P	P	18 20 48.7	+0.7
	1.2nm,0.9s,baz=148,slow=5.2,SNR=5.4						
PLCA	**Paso Flores**	75.63	227	LR	LR	18 48 53.5	
	comp=Z,77nm,19.7s,baz=181,slow=31						
STKA	**Stephens Creek**	76.00	121	P	P	18 21 44.3	-0.4
	6.5nm,0.8s,baz=248,slow=3.9,SNR=14						
ASAR	**Alice Springs**	76.44	110	P	P	18 21 47.6	+0.5
	0.8nm,0.8s,baz=224,slow=8.1,SNR=6.5						
WRA	**Warramunga Arr**	79.22	107	P	P	18 22 03.4	+0.8
	1.7nm,1.0s,baz=221,slow=4.4,SNR=11						
ULM	**Lac du Bonnet**	149.80	298	PKPbc	PKPbc	18 29 45.2	-2.4
	2.2nm,0.7s,baz=44,slow=3.7,SNR=5.3						
ANMO	**Albuquerque**	153.14	263	PKPbc	PKPbc	18 29 55.9	+0.6
	0.9nm,0.5s,baz=141,slow=6.5,SNR=3.4						

*NAO **16** 18:10:12.6, 2883S×17989W, h33km, mb3.7*
*IDC **16** 18:10:15.4±2.7, 3442S×17956E, h134km±23km, mb3.8/4, mb1 3.9/6, mb1mx3.8/12, mbtmp4.3/6, Error ellipse: s-maj=25.7km s-min=21.0km az=170.0*
*ISCJB **16** 18:10:20.8±1.0, 3479S±007×1787E±0.1, h156km±10km, mb4.1/6, Error ellipse: s-maj=19.6km s-min=11.3km az=28.7*
*NEIC **16** 18:10:24.5±0.9, 3546S×17945E, h233km±8km, mb4.2/1, Error ellipse: s-maj=16.5km s-min=12.9km az=136.0*
ISC 16 18:10:23.9±1.2, 3500S±010×1788E±01, h172km±11km, n61, σ1§06/62, mb4.1/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.58	188	PN	Pn	18 11 07.4	+0.2
MXZ				SN	Sn	18 11 47.8	+7.3
MXZ	**Matakaoa Point**	2.58	188	*e*P	Pn	18 11 07.4	+0.3
MXZ				S	Sn	18 11 47.8	+7.2
PUZ	**Puketiti**	3.09	187	PN	Pn	18 11 13.3	0.0
PUZ				SN	Sn	18 11 58.9	+7.2
PUZ	**Puketiti**	3.09	187	*e*P	Pn	18 11 13.3	0.0
MWZ	**Matawai**	3.47	196	PN	Pn	18 11 19.0	+1.0
MWZ				SN	Sn	18 12 09.1	+8.9
MWZ	**Matawai**	3.47	196	*e*P	Pn	18 11 19.3	+1.3
MWZ				S	Sn	18 12 09.1	+8.9
URZ	**Urewera**	3.51	202	P	Pn	18 11 19.8	+1.3
	9.2nm,0.3s,baz=285,slow=2.2,SNR=47						
URZ				S	Sn	18 12 09.0	+7.9
	22nm,0.3s,baz=342,slow=22,SNR=8.5						
URZ	**Urewera**	3.51	202	PN	Pn	18 11 19.7	+1.2
URZ				SN	Sn	18 12 09.5	+8.4
URZ	**Urewera**	3.51	202	P	Pn	18 11 20.1	+1.6
KNZ	**Kokohu**	4.11	192	PN	Pn	18 11 25.2	-0.9
KNZ	**Kokohu**	4.11	192	*e*P	Pn	18 11 25.2	-0.9
BKZ	**Black Stump Fm**	4.54	203	PN	Pn	18 11 32.5	+0.9
BKZ	**Black Stump Fm**	4.54	203	*e*P	Pn	18 11 32.5	+0.9
FWVZ	**Far West T-bar**	4.96	210	PN	Pn	18 11 39.4	+2.2
FWVZ	**Far West T-bar**	4.96	210	*e*P	Pn	18 11 39.4	+2.3
WNVZ	**Wahianoa**	5.00	209	PN	Pn	18 11 40.5	+2.8
WNVZ	**Wahianoa**	5.00	209	P	Pn	18 11 40.5	+2.8
MOVZ	**Moawhango**	5.01	208	PN	Pn	18 11 39.7	+1.9
MOVZ	**Moawhango**	5.01	208	P	Pn	18 11 39.7	+1.9
TSZ	**Takapari Road**	5.52	203	PN	Pn	18 11 43.6	-0.8
TSZ	**Takapari Road**	5.52	203	*e*P	Pn	18 11 43.6	-0.8
BFZ	**Birch Farm**	6.01	199	PN	Pn	18 11 49.6	-1.3
BFZ	**Birch Farm**	6.01	199	*e*P	Pn	18 11 49.6	-1.3
MRZ	**Mangatainoka R**	6.18	203	PN	Pn	18 11 52.1	-1.1
MRZ	**Mangatainoka R**	6.18	203	*e*P	Pn	18 11 52.4	-0.8
KIW	**Kapiti Island**	6.59	206	PN	Pn	18 11 58.2	-0.4
KIW	**Kapiti Island**	6.59	206	P	Pn	18 11 58.2	-0.4
MTW	**Mount Morrison**	6.66	202	PN	Pn	18 11 58.7	-0.8
MTW	**Mount Morrison**	6.66	202	P	Pn	18 11 58.7	-0

STKA Stephens Creek 39.75 239 *e*P **P 18 48 05.8 -0.7**
WRAB Tennant Creek 45.06 257 *e*P **P 18 48 47.4 -1.2**
WRA Warramunga Arr 45.07 257 P **P 18 48 48.9 +0.3**
0.8nm,0.6s,mb3.2,baz=85,slow=5.8,SNR=26
ASAR Alice Springs 45.43 252 P **P 18 48 52.4 +0.9**
17nm,0.5s,mb4.6,baz=84,slow=8.5,SNR=618
ASAR S **S 18 54 59.1 -1.2**
0.6nm,0.9s,baz=83,slow=16,SNR=4.7
ILAR Eielson Array 83.68 13 P **P 18 52 54.2 -0.9**
1.1nm,0.6s,mb3.8,baz=228,slow=5.4,SNR=18
PDAR Pinedale Array 85.71 44 P **P 18 53 06.7 +1.6**
1.2nm,0.6s,mb3.8,baz=212,slow=3.4,SNR=6.6
INK Inuvik 89.70 15 *e*P **P 18 53 23.5 -0.4**
BRTR Keskin Array B 143.14 317 PKP PKPdf 18 59 56.6 -0.2
1.0nm,0.9s,baz=0.0,slow=3.0,SNR=4.2

BJI ***16*** *18:41:17.8, 51.16N×159.25E, h9km, mB5.0, mb4.6, Ms4.7, Msz4.5*
ISCJB ***16*** *18:41:18.6±1.1, 51.03N±0.03×159.37E±0.05, h7km±7km, mb4.5/58, MS4.5/16, Error ellipse: s-maj=5.2km s-min=4.3km az=67.0*
MOS ***16*** *18:41:19.0±1.6, 51.09N×159.14E, h12km, mb4.6/25, MS4.3/12, Error ellipse: s-maj=9.8km s-min=4.9km az=92.6*
KRSC ***16*** *18:41:19.6±1.7, 51.00N×159.46E, h20km±7km, ML5.0*
IDC ***16*** *18:41:19.5±0.6, 51.26N×158.98E, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.3/23, mbtmp4.1/20, ML4.1/2, MS4.4/15, Ms1 4.4/15, ms1mx4.0/38, Error ellipse: s-maj=17.9km s-min=11.2km az=164.0*
NEIC ***16*** *18:41:20.1±3.2, 51.24N×159.09E, h3km±20km, mb4.6/17, Error ellipse: s-maj=10.3km s-min=5.7km az=151.0*
SZGRF ***16*** *18:41:30.6, 51.77N×158.81E, h36km, mb4.8, Near east coast of Kamchatka Peninsula, Russia*
NAO ***16*** *18:41:43.3, 53.59N×155.78E, h33km, mb4.2*
ISC 16 18:41:22.7±1.1, 51.11N±0.03×159.26E±0.05, h22km±8km, h27km±4.2km; pP-P, n184, σ19.26/205, mb4.5/58, MS4.5/16, 6C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
RUS	**Russkaya**	**1.41**	**341**	P	**Pn**	**18 41 45.8**	**-1.3**
RUS				S	**Sn**	**18 42 04.0**	**-1.0**
RUS	**Russkaya**	**1.41**	**341**	*e*P	**Pn**	**18 41 46.1**	**-1.0**
PAU	**Pauzhetka**	**1.58**	**284**	*e*P	**Pn**	**18 41 48.7**	**-0.8**
PAU				*e*S	**Sn**	**18 42 11.8**	**+2.5**
PAU				Smax			
8μm,0.8s							
GRL	**Gorelyy**	**1.62**	**333**	*i* P	**Pn**	**18 41 50.2**	**+0.1**
GRL				*e*S	**Sn**	**18 42 12.5**	**+2.2**
KRMR	**Karymshinskiy**	**1.86**	**338**	*i* P	**Pn**	**18 41 53.0**	**-0.3**
MIPR	**Malaya Ipel'ka**	**1.95**	**308**	*i* P	**Pn**	**18 41 55.0**	**+0.5**
MIPR				*i* S	**Sn**	**18 42 20.2**	**+1.8**
PET	**Petropavlovsk**	**1.96**	**349**	P	**Pn**	**18 41 53.6**	**-1.0**
PET				S	**Sn**	**18 42 18.1**	**-0.4**
PET	**Petropavlovsk**	**1.96**	**349**	*e*P	**Pn**	**18 41 53.9**	**-0.7**
PET	**Petropavlovsk**	**1.96**	**349**	⇑*i*PN	**Pn**	**18 41 53.5**	**-1.1**
PET				*e*S	**Sn**	**18 42 17.3**	**-1.2**
PET				pmax	pmax		
comp=Z,92nm,0.6s							
PET				pmax	pmax		
comp=Z,1μm,14.3s							
PET				smax			
comp=N,2μm,1.6s							
PET				smax			
comp=N,4μm,15.4s							
PET				smax			
comp=N,6μm,0.5s							
PET	**Petropavlovsk**	**1.96**	**349**	*e*P	**Pn**	**18 41 53.2**	**-1.5**
PET				*e*S	**Sn**	**18 42 17.4**	**-1.1**
SPN	**Mys Shipunski**	**2.05**	**13**	P	**Pn**	**18 41 55.0**	**-0.9**
SPN				S	**Sn**	**18 42 19.4**	**-1.4**
SPN	**Mys Shipunski**	**2.05**	**13**	*e*P	**Pn**	**18 41 55.0**	**-0.9**
NLC	**Nalytchevo**	**2.07**	**1**	P	**Pn**	**18 41 55.0**	**-1.2**
NLC				S	**Sn**	**18 42 20.9**	**-0.4**
NLC	**Nalytchevo**	**2.07**	**1**	*e*P	**Pn**	**18 41 55.0**	**-1.2**
NLC				*e*S	**Sn**	**18 42 21.7**	**+0.4**
UGLR	**Uglovaya**	**2.12**	**353**	*e*P	**Pn**	**18 41 56.5**	**-0.4**
SMAR	**Somma**	**2.18**	**353**	*e*P	**Pn**	**18 41 58.5**	**+0.8**
AVH	**Avacha**	**2.19**	**352**	*e*P	**Pn**	**18 41 57.4**	**-0.4**
KOK	**Koryaka**	**2.22**	**350**	*e*P	**Pn**	**18 41 58.0**	**-0.3**
APC	**Apacha**	**2.24**	**325**	*e*P	**Pn**	**18 41 59.0**	**+0.5**
APC				Smax			
comp=N,1μm,0.7s							
ALID	**Alaid**	**2.36**	**266**	*e*P	**Pn**	**18 42 01.0**	**+0.8**
ALID				*e*S	**Sn**	**18 42 29.3**	**+0.8**
GNL	**Ganaly**	**2.72**	**343**	*e*P	**Pn**	**18 42 05.2**	**+0.1**
KII	**Karymskiy**	**2.94**	**2**	P	**Pn**	**18 42 09.2**	**+1.1**
KII	**Karymskiy**	**2.94**	**2**	*e*P	**Pn**	**18 42 08.7**	**+0.6**
MKZ	**Mys Kozlova**	**3.77**	**22**	P	**Pn**	**18 42 18.2**	**-1.3**
MKZ				S	**Sn**	**18 42 59.2**	**-3.9**
MKZ	**Mys Kozlova**	**3.77**	**22**	*i* P	**Pn**	**18 42 18.1**	**-1.4**
TUMR	**Tumrok**	**4.22**	**7**	*e*P	**Pn**	**18 42 26.9**	**+1.2**
ESO	**Esso**	**4.84**	**356**	P	**Pn**	**18 42 35.1**	**+0.8**
ESO				Smax			
comp=N,100nm,1.2s							
ESO	**Esso**	**4.84**	**356**	*e*P	**Pn**	**18 42 34.8**	**+0.5**
ESO				Smax			
comp=N,120nm,1.1s							
KPT	**Kopyto**	**4.90**	**6**	*e*P	**Pn**	**18 42 34.9**	**-0.2**
KOZ	**Kozyrevsk**	**4.97**	**4**	P	**Pn**	**18 42 37.6**	**+1.5**
KOZ	**Kozyrevsk**	**4.97**	**4**	*e*P	**Pn**	**18 42 36.6**	**+0.5**
KOZR	**Kozyr**	**4.98**	**4**	PN	**Pn**	**18 42 37.6**	**+1.4**
CIRR	**Tsirk**	**5.09**	**9**	*e*P	**Pn**	**18 42 38.0**	**+0.2**
SRDR	**Sredinnyy**	**5.23**	**3**	*e*P	**Pn**	**18 42 40.8**	**+1.2**
KLY	**Klyuchi**	**5.28**	**8**	P	**Pn**	**18 42 42.4**	**+2.1**
KLY	**Klyuchi**	**5.28**	**8**	*e*P	**Pn**	**18 42 41.2**	**+0.9**
KBTR	**Krutoberegovo**	**5.53**	**21**	P	**Pn**	**18 42 43.5**	**-0.3**
KBTR				S	**Sn**	**18 43 45.1**	**-1.6**
KBTR	**Krutoberegovo**	**5.53**	**21**	*e*P	**Pn**	**18 42 43.3**	**-0.5**
KBG	**Krutoberegovo**	**5.55**	**20**	*e*P	**Pn**	**18 42 44.2**	**+0.2**
KBG				Smax			
comp=N,1μm,0.8s							
BDR	**Baidarnaya**	**5.59**	**11**	*e*P	**Pn**	**18 42 45.8**	**+1.2**
SRKR	**Sorokina**	**5.67**	**11**	*e*P	**Pn**	**18 42 45.3**	**-0.4**
BKI	**Bering**	**5.75**	**42**	*e*P	**Pn**	**18 42 43.0**	**-3.8**
BKI				*e*S	**Sn**	**18 43 44.3**	**-7.9**
BKI				Smax			
comp=N,70nm,1.0s							
OSSR	**Ossora**	**8.44**	**13**	P	**Pn**	**18 43 26.0**	**+2.2**
FX1	**Attu Island--F**	**8.76**	**73**	Pn	**Pn**	**18 43 27.8**	**-0.3**
comp=N,32nm,0.3s,baz=279,slow=6.7,SNR=184							
FX1				Sn	**Sn**	**18 44 58.1**	**-8.1**
comp=N,61nm,0.3s,baz=267,slow=23,SNR=14							
FX1				LR	LR	18 46 30.1	
comp=N,39nm,18.6s,baz=106,slow=35							
FX1	**Attu Island--F**	**8.76**	**73**	PN	**Pn**	**18 43 27.8**	**-0.3**
FX1				pmax	pmax		
comp=Z,32nm,0.3s							
FX1				MLR	MLR		
comp=Z,39nm,18.6s							
FX1	**Attu Island--F**	**8.76**	**73**	*e*P	**Pn**	**18 43 27.3**	**-0.8**
FX1				*e*S	**Sn**	**18 44 55.7**	**-11**
MA2	**Magadan**	**9.76**	**334**	*e*PN	**Pn**	**18 43 45.4**	**+3.6**
MA2				pmax	pmax		
comp=Z,2.0nm,0.7s							
MA2	**Magadan**	**9.76**	**334**	*e*P	**Pn**	**18 43 44.3**	**+2.5**
comp=Z,4.1nm,0.8s							
OKH	**Okha**	**10.29**	**290**	*e*PN	**Pn**	**18 43 47.9**	**-1.2**
OKH				*e*S	**Sn**	**18 45 50.0**	**+6.2**
OKH				smax			
comp=Z,5μm,14.0s							
UGL	**Uglegorsk**	**11.23**	**266**	PN	**Pn**	**18 44 14.0**	**+12**
UGL				*e*		18 46 17.0	
UGL				pmax	pmax		
comp=Z,41nm,0.9s							
UGL				MLR	MLR		
comp=Z,3μm,16.0s							
UGL				MLR	MLR		
comp=N,2μm,13.0s							
UGL				MLR	MLR		
comp=E,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**11.60**	**255**	*e*PN	**Pn**	**18 44 09.7**	**+2.7**
YSS				MLR	MLR		
comp=Z,1μm,13.0s							
YSS				MLR	MLR		
comp=N,900nm,14.0s							
YSS				MLR	MLR		
comp=E,1μm,14.0s							
YSS	**Yuzh-Sakhalins**	**11.60**	**255**	P	**Pn**	**18 44 05.5**	**-1.5**
KAMR	**Kamenskoye**	**11.99**	**16**	*e*P	**Pn**	**18 44 13.8**	**+1.5**
SEY	**Seymchan**	**12.42**	**345**	*i* PN	**Pn**	**18 44 23.7**	**+5.4**
ASAJ	**Asahikawa**	**13.22**	**245**	Pn	**Pn**	**18 44 28.4**	**-0.8**
comp=E,0.3nm,0.3s,baz=30,slow=33,SNR=6.7							
ASAJ				LR	LR	18 50 01.9	
comp=E,528nm,19.3s,baz=126,slow=40							
BILL	**Bilibino**	**17.33**	**9**	⇑*e*P	**Pn**	**18 45 23.4**	**+0.2**
BILL				pmax	pmax		
comp=Z,7.0nm,0.7s							
BILL				MLR	MLR		
comp=Z,2μm,16.0s							
BILL	**Bilibino**	**17.33**	**9**	*e*P	**Pn**	**18 45 22.0**	**-1.2**
comp=Z,8.1nm,0.7s							
KLR	**Kul'dur**	**17.69**	**275**	*e*P	**Pn**	**18 45 27.7**	**0.0**
KLR				*e*S	**Sn**	**18 48 39.5**	**-4.6**
KLR				MLR	MLR		
comp=N,2μm,13.0s							
KLR				MLR	MLR		
comp=Z,7μm,13.0s							
YAK	**Yakutsk**	**19.43**	**316**	*e*P	**Pn**	**18 45 45.4**	**-3.5**
YAK				*e*S	**Sn**	**18 49 25.2**	**-1.0**
YAK				pmax	pmax		
comp=Z,10.0nm,0.8s							
YAK				pmax	pmax		
comp=N,1.0nm,1.2s							
YAK				pmax	pmax		
comp=E,5.0nm,1.4s							
YAK				smax			
comp=N,7.0nm,1.5s							
YAK				smax			
comp=E,6.0nm,1.4s							
YAK				MLR	MLR		
comp=Z,1μm,18.0s							
YAK				MLR	MLR		
comp=N,420nm,14.0s							
YAK				MLR	MLR		
comp=E,791nm,15.0s							
YAK	**Yakutsk**	**19.43**	**316**	*e*P	**Pn**	**18 45 44.6**	**-4.2**
comp=E,28nm,0.7s							
CLNS	**Chul'man**	**20.86**	**299**	*e*P	**P**	**18 46 00.6**	**-2.5**
CLNS				*e**SP	sP	18 46 10.1	-1.9
CLNS				*e*PPP		18 46 23.7	
CLNS				*e*S	**S**	**18 49 45.0**	**-10**
CLNS				*e*		18 50 14.7	
CLNS				*e*SS		18 50 29.6	
CLNS				pmax	pmax		
comp=N,6.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,12nm,0.8s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.9s							
CLNS				pmax	pmax		
comp=Z,12nm,1.1s							
CLNS				pmax	pmax		
comp=N,9.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,11nm,1.1s							
CLNS				smax			
comp=E,110nm,12.4s							
CLNS				smax			
comp=Z,31nm,11.1s							
CLNS				smax			
comp=N,88nm,12.5s							
CLNS				MLR	MLR		
comp=Z,800nm,14.0s,MS4.2							
CLNS				MLR	MLR		
comp=N,200nm,12.0s,MS4.2							
CLNS				MLR	MLR		
comp=E,600nm,14.0s,MS4.2							
MJAR	**Matsushiro Arr**	**20.93**	**234**	P	**P**	**18 46 05.0**	**+1.0**
comp=E,6.0nm,0.8s,baz=26,slow=11,SNR=12							
MJAR				LR	LR	18 56 03.9	
comp=E,378nm,18.1s,MS3.8,baz=15,slow=42							
MJAR	**Matsushiro Arr**	**20.93**	**234**	P	**P**	**18 46 05.0**	**+1.0**
MJAR				pmax	pmax		
comp=Z,6.0nm,0.9s							
MJAR				MLR	MLR		
comp=Z,378nm,18.1s							
MAJO	**Matsushiro**	**20.94**	**234**	*e*P	**P**	**18 46 04.8**	**+0.8**
MAJO				pmax	pmax		
comp=Z,22nm,0.9s							
MAJO	**Matsushiro**	**20.94**	**234**	*e*P	**P**	**18 46 04.8**	**+0.9**
comp=Z,22nm,0.9s							
MAT	**Matsushiro**	**20.94**	**234**	P	**P**	**18 46 04.5**	**+0.5**
MAT				S	**S**	**18 50 02.0**	**+5.7**
CN2	**Changchun**	**23.84**	**265**	*e*P	**P**	**18 46 32.3**	**-2.1**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.3							
CN2				LR	LR		
comp=N,900nm,17.0s,MS4.5							
CN2				LR	LR		
comp=E,1μm,17.0s,MS4.5							
CN2				LR	LR		
comp=Z,1μm,16.0s,MS4.4							
TIXI	**Tiksi**	**24.70**	**337**	*e*P	**P**	**18 46 39.1**	**-3.1**
TIXI				pmax	pmax		
comp=Z,27nm,0.7s,mb4.9							
TIXI				MLR	MLR		
comp=Z,1μm,13.0s,MS4.7							
HIA	**Hailar**	**25.17**	**281**	*e*P	**P**	**18 46 44.4**	**-2.0**
HIA				pmax	pmax		
comp=Z,23nm,0.8s							
HIA	**Hailar**	**25.17**	**281**	*e*P	**P**	**18 46 44.4**	**-2.0**
comp=Z,23nm,0.8s,mb4.8							
BOD	**Bodaibo**	**26.72**	**302**	*e*P	**P**	**18 46 56.9**	**-3.6**
BOD				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.0							
MCK	**McKinley**	**29.70**	**45**	*e*P	**P**	**18 47 26.7**	**-0.4**
MCK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb3.9							
MCK	**McKinley**	**29.70**	**45**	*e*P	**P**	**18 47 26.7**	**-0.4**
comp=Z,1.8nm,0.9s,mb3.8							
SML	**Sawmill**	**30.03**	**49**	*e*P	**P**	**18 47 28.9**	**-1.1**
COLA	**College**	**30.19**	**43**	*e*P	**P**	**18 47 31.2**	**-0.2**
ILAR	**Eielson Array**	**30.60**	**43**	P	**P**	**18 47 34.0**	**-1.1**
comp=Z,1.3nm,0.8s,mb3.8,baz=252,slow=7.3,SNR=18							
ILAR	**Eielson Array**	**30.60**	**43**	P	**P**	**18 47 34.0**	**-1.1**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ULN	**Ulaanbaatar**	**33.49**	**285**	*e*P	**P**	**18 47 56.7**	**-3.7**
DAWY	**Dawson**	**33.89**	**44**	*e*P	**P**	**18 48 03.2**	**-0.7**
SONM	**Songino Array**	**33.90**	**286**	P	**P**	**18 48 02.6**	**-1.4**
comp=Z,0.4nm,0.6s,mb3.6,baz=69,slow=8.2,SNR=6.6							
SONM				LR	LR	19 03 02.5	
comp=Z,1μm,19.4s,MS4.7,baz=49,slow=39							
SSE	**Sheshan**	**34.45**	**249**	P	**P**	**18 48 05.3**	**-3.4**
SSE				AP	pP	18 48 14.0	-1.3
SSE				XP	sP	18 48 18.0	0.0
SSE				PP	PP	18 49 21.8	-5.1
SSE				S	**S**	**18 53 27.4**	**-8.4**
SSE				AMB	AMB		
comp=Z,39nm,0.7s,mb5.5							
SSE				AMB	AMB		
comp=Z,276nm,7.9s							
SSE				LR	LR		
comp=N,177nm,23.3s,MS3.9							
SSE				LR	LR		
comp=E,163nm,23.3s,MS3.9							
SSE				LR	LR		
comp=Z,205nm,18.3s,MS3.9							
ZAK	**Zakamensk**	**34.70**	**291**	*e*P	**P**	**18 48 10.2**	**-0.8**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.6s,mb4.3							
INK	**Inuvik**	**35.77**	**36**	P	**P**	**18 48 19.9**	**-0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=288,slow=6.5,SNR=15							
INK	**Inuvik**	**35.77**	**36**	*e*P	**P**	**18 48 19.9**	**-0.2**
INK				pmax	pmax		
comp=Z,5.0nm,0.9s							
INK	**Inuvik**	**35.77**	**36**	*e*P	**P**	**18 48 19.9**	**-0.2**
comp=Z,5.5nm,0.9s,mb4.5							
KRAR	**Krasnoyarsk**	**38.37**	**304**	⇑*i*P	**P**	**18 48 38.4**	**-3.8**
KRAR				pmax	pmax		
comp=Z,16nm,0.8s,mb4.8							
KRAR				MLR	MLR		
comp=Z,500nm,22.0s,MS4.3							
WHN	**Wuhan**	**38.95**	**256**	*e*P	**P**	**18 48 45.5**	**-1.6**
LZH	**Lanzhou**	**41.84**	**271**	*e*P	**P**	**18 49 13.0**	**+2.0**
LZH				AP	pP	18 49 16.1	-1.6
LZH				XP	sP	18 49 21.0	+0.7
LZH				AMB	AMB		
comp=Z,17nm,1.5s,mb4.5							
LZH				AMB	AMB		
comp=Z,80nm,5.0s							
ENH	**Enshi**	**42.14**	**260**	*e*P	**P**	**18 49 13.2**	**-0.2**
comp=Z,6.1nm,0.8s,mb4.3							
GTA	**Gaotai**	**42.35**	**278**	*e*P	**P**	**18 49 14.5**	**-0.6**
GTA				AP	pP	18 49 21.6	-0.2
GTA				XP	sP	18 49 24.0	-0.5
GTA				AMB	AMB		
comp=Z,2.0nm,0.7s,mb3.9							
ZAL	**Zalesovo**	**43.46**	**304**	P	**P**	**18 49 22.2**	**-2.0**
comp=Z,1.1nm,0.7s,mb3.7,baz=63,slow=8.7,SNR=7.1							
ZAL				LR	LR	19 08 55.2	
comp=Z,400nm,18.5s,MS4.3,baz=69,slow=38							
ZAL	**Zalesovo**	**43.46**	**304**	P	**P**	**18 49 22.2**	**-2.0**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZAL				MLR	MLR		
comp=Z,400nm,18.5s							
NVS	**Novosibirsk**	**43.84**	**306**	*i* P	**P**	**18 49 23.4**	**-3.8**
YKA	**Yellowknife Ar**	**44.99**	**41**	P	**P**	**18 49 36.3**	**-0.1**
comp=Z,1.5nm,0.9s,mb3.8,baz=296,slow=7.8,SNR=16							
YKA				LR	LR	19 09 13.6	
comp=Z,125nm,20.7s,MS3.8,baz=285,slow=37							
YKA	**Yellowknife Ar**	**44.99**	**41**	P	**P**	**18 49 36.3**	**-0.1**
YKA				pmax	pmax		
comp=Z,2.0nm,0.9s							
YKA				MLR	MLR		
comp=Z,125nm,20.7s							
YKA	**Yellowknife Ar**	**44.99**	**41**	P	**P**	**18 49 36.3**	**-0.1**
YKA				LR	LR	19 09 13.6	
RES	**Resolute Bay**	**45.36**	**21**	*e*P	**P**	**18 49 39.6**	**+0.2**
RES				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.2							
RES	**Resolute Bay**	**45.36**	**21**	*e*P	**P**	**18 49 39.6**	**+0.2**
comp=Z,2.5nm,0.8s,mb4.1							
KURK	**Kurchatov**	**48.37**	**303**	*e*P	**P**	**18 49 59.8**	**-3.1**
KURK				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**48.37**	**303**	*e*P	**P**	**18 49 59.8**	**-3.1**
comp=Z,6.9nm,0.8s,mb4.7							
MKAR	**Makanchi Array**	**48.58**	**297**	P	**P**	**18 50 01.7**	**-2.7**
comp=Z,2.3nm,0.6s,mb4.4,baz=49,slow=6.4,SNR=34							
MKAR	**Makanchi Array**	**48.58**	**297**	P	**P**	**18 50 01.7**	**-2.8**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
KMI	**Kunming**	**49.99**	**261**	P	**P**	**18 50 15.6**	**+0.3**
KMI				AP	pP	18 50 22.5	+0.5
KMI				XP	sP	18 50 24.8	+0.1
KMI				S	**S**	**18 57 29.8**	**+5.1**
KMI				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.8							
KMI				AMB	AMB		
comp=Z,96nm,5.0s							
KMI				LR	LR		
comp=N,420nm,16.1s,MS4.7							
KMI				LR	LR		
comp=E,350nm,14.7s,MS4.7							
KMI				LR	LR		
comp=Z,350nm,14.7s,MS4.5							
BVAR	**Borovoye Array**	**51.24**	**309**	P	**P**	**18 50 21.4**	**-3.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=58,slow=7.2,SNR=18							
BVAR	**Borovoye Array**	**51.24**	**309**	P	**P**	**18 50 21.4**	**-3.3**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P	**P**	**18 50 26.9**	**-3.2**
ZRNK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P	**P**	**18 50 26.9**	**-3.2**
comp=Z,2.7nm,0.7s,mb4.3							
ARU	**Arti**	**54.52**	**318**	*e*P	**P**	**18 50 48.1**	**-0.8**
ARU				*e*		18 51 52.2	
ARU				*e*		18 52 48.4	
ARU				*e*S	**S**	**18 58 22.9**	**-4.0**
ARU				*e*SS	SS	19 02 10.3	+0.9
ARU				*e*SSS		19 04 11.1	
ARU				MLR	MLR		
comp=N,600nm,16.0s,MS4.9							
ARU				MLR	MLR		
comp=E,500nm,16.0s,MS4.9							
ARU				MLR	MLR		
comp=Z,1μm,16.0s,MS5.0							
ARCES	**ARCESS Array B**	**55.02**	**342**	P	**P**	**18 50 50.2**	**-2.4**
comp=Z,3.1nm,0.8s,mb4.4,baz=37,slow=7.5,SNR=7.0							
ARCES				LR	LR	19 19 33.3	
comp=Z,408nm,18.8s,MS4.5,baz=318,slow=42							
ARCES	**ARCESS Array B**	**55.02**	**342**	P	**P**	**18 50 50.2**	**-2.4**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.8s							
ARCES				MLR	MLR		
comp=Z,408nm,18.8s							
JIRN	**Jiri**	**58.58**	**276**	*e*P	**P**	**18 51 18.1**	**+0.3**
comp=Z,7.3nm,0.6s,mb4.9							
GUN	**Gumba**	**58.60**	**277**	*e*P	**P**	**18 51 17.9**	**-0.1**
AKTK	**Aktyubinsk**	**58.79**	**313**	P	**P**	**18 51 16.6**	**-2.7**
AKTO	**Aktyubinsk**	**58.79**	**313**	P	**P**	**18 51 16.6**	**-2.7**
comp=Z,0.3nm,0.4s,mb3.7,baz=75,slow=12,SNR=2.6							
PDAR	**Pinedale Array**	**58.96**	**59**	P	**P**	**18 51 20.9**	**+0.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=323,slow=4.2,SNR=11							
KKN	**Kakani**	**59.06**	**277**	*e*P	**P**	**18 51 21.4**	**+0.2**
comp=Z,12nm,0.6s,mb5.1							
KKN	**Kakani**	**59.06**	**277**	*e*P	**P**	**18 51 21.4**	**+0.2**
KKN				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.8							
JOF	**Joensuu**	**59.16**	**335**	*e*p	**P**	**18 51 17.6**	**-4.2**
DMN	**Daman**	**59.30**	**277**	*e*P	**P**	**18 51 23.2**	**+0.4**
comp=Z,13nm,0.7s,mb5.1							
GKN	**Gorkha**	**59.31**	**278**	*e*P	**P**	**18 51 22.8**	**-0.1**
comp=Z,9.8nm,0.7s,mb4.9							
KOLN	**Koldanda**	**60.13**	**278**	*e*P	**P**	**18 51 28.5**	**0.0**
comp=Z,10nm,0.7s,mb5.0							
ULM	**Lac du Bonnet**	**60.57**	**45**	P	**P**	**18 51 31.4**	**-0.2**
comp=Z,1.1nm,0.4s,mb4.3,baz=325,slow=8.0,SNR=3.6							
KAF	**Kangasniemi**	**61.11**	**337**	*e*p	**P**	**18 51 30.3**	**-4.9**
baz=33,slow=6.1							
FINES	**FINESS Array B**	**61.74**	**337**	P	**P**	**18 51 37.6**	**-1.8**
comp=Z,1.6nm,0.5s,mb4.4,baz=34,slow=6.7,SNR=15							
FINES				LR	LR	19 22 22.2	
comp=Z,894nm,18.7s,MS5.0,baz=356,slow=40							
FINES	**FINESS Array B**	**61.74**	**337**	P	**P**	**18 51 37.7**	**-1.8**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
FINES				MLR	MLR		
comp=Z,895nm,18.7s							
OBN	**Obninsk**	**63.92**	**327**	‖*e*P	**P**	**18 51 52.1**	**-1.9**
OBN				pmax	pmax		
comp=Z,11nm,1.0s,mb4.8							
OBN				MLR	MLR		
comp=Z,900nm,16.0s,MS5.0							
NB2	**NORSAR Subarra**	**65.31**	**344**	P	**P**	**18 52 01.6**	**-1.4**
comp=Z,1.6nm,0.6s,mb4.2,baz=23,slow=6.9							
NOA	**NORSAR Array B**	**65.31**	**344**	P	**P**	**18 52 02.0**	**-1.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=21,slow=6.7,SNR=11							
NOA				LR	LR	19 21 46.5	
comp=Z,166nm,19.6s,MS4.2,baz=275,slow=37							
NOA	**NORSAR Array B**	**65.31**	**344**	P	**P**	**18 52 02.0**	**-1.0**
NOA				pmax	pmax		
comp=Z,3.0nm,

comp=Z,10.0nm,1.3s,mb4.6
KECS Kecovo 74.69 333 *e*P **P 18 53 00.5 -0.2**
KECS *e* 18 53 10.8
PRU Pruhonice 74.89 337 *e*P **P 18 53 00.9 -0.9**
PRU *e*x x 18 53 11.8
MOX Moxa 74.96 339 *e*(P) **P 18 53 04.7 +2.5**
VYHS Vyhne 75.15 334 *e*P **P 18 53 04.5 +1.2**
VYHS *e* 18 53 13.5
NKC Novy Kostel 75.16 339 *e*P pP 18 53 12.5 +2.1
KHC Kasperske Hory 75.92 338 *e*P **P 18 53 08.2 +0.5**
KHC *e*PCP PcP 18 53 19.1 -1.0
GRF Grafenberg Arr 75.94 339 *e*P **P 18 53 08.3 +0.5**
comp=Z,11nm,1.1s,mb4.7
GRF *e*pP pP 18 53 18.8 +3.9
GRF Grafenberg Arr 75.94 339 *e*P **P 18 53 08.3 +0.5**
GRF *e**PP pP 18 53 18.8 +3.9
GRF pmax pmax
comp=Z,11nm,1.1s,mb4.7
GERES GERESS Array B 76.16 337 P **P 18 53 08.7 -0.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=30,slow=4.7,SNR=27
GERES LR LR 19 31 41.8
comp=Z,616nm,21.2s,MS4.9,baz=210,slow=40
GERES GERESS Array B 76.16 337 P **P 18 53 08.7 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,616nm,21.2s
GIVF Givet 76.84 343 *e*P **P 18 53 14.0 +1.0**
BAIF Baives 76.99 344 *e*P **P 18 53 15.2 +1.4**
ASAR Alice Springs 77.73 204 P **P 18 53 18.4 +0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=16,slow=5.1,SNR=14
ASAR Alice Springs 77.73 204 P **P 18 53 18.5 +0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 77.82 320 *e*P **P 18 53 18.0 -0.5**
comp=Z,1.0nm,0.6s,mb3.9
BRTR Keskin Array B 77.82 320 P **P 18 53 17.9 -0.6**
comp=Z,1.0nm,0.6s,mb3.9,baz=43,slow=3.7,SNR=7.5
BRTR Keskin Array B 77.82 320 P **P 18 53 17.9 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KBA Koelnbreinsper 77.89 337⇑ *i*P **P 18 53 20.5 +1.7**
comp=Z,35nm,0.8s,mb5.3
CDF Champ du Feu 77.99 341 *e*P **P 18 53 20.6 +1.2**
comp=Z,22nm,1.0s,mb4.7
SQTA Sankt Quirin 78.27 338⇑ *i*P **P 18 53 23.3 +2.3**
comp=Z,4.3nm,0.9s,mb4.4
DAVA Damuels 78.51 339⇑ *i*P **P 18 53 24.4 +2.1**
comp=Z,12nm,1.2s,mb4.7
HAU Haudompre 78.57 342 *e*P **P 18 53 23.7 +1.1**
MIB Mutribah 79.67 305 *e*P **P 18 53 27.7 -0.9**
MIB AMb AMB 18 53 30.0
comp=Z,65nm,0.7s
UMR Umm Al-Rimmam 79.68 305 *e*P **P 18 53 28.6 -0.1**
UMR AMb AMB 18 53 29.3
comp=Z,44nm,0.7s,mb5.5
LOR Lormes 79.75 343 *e*P **P 18 53 29.7 +0.7**
comp=Z,22nm,0.9s,mb4.8
CABF La Chapelle 79.95 342 *e*P **P 18 53 31.7 +1.6**
comp=Z,89nm,1.4s,mb5.2
SSF Saint Saulge 80.01 343 *e*P **P 18 53 31.5 +1.1**
comp=Z,25nm,1.0s,mb4.8
QRN Al-Qurain 80.22 304 *e*P **P 18 53 31.1 -0.5**
QRN AMb AMB 18 53 32.9
comp=Z,68nm,0.8s,mb5.6
RDF Al-Radifah 80.27 304 *e*P **P 18 53 31.8 -0.1**
RDF AMb AMB 18 53 33.2
comp=Z,44nm,0.8s,mb5.5
AVF Avril sur Loir 80.30 343 *e*P **P 18 53 32.8 +0.8**
comp=Z,43nm,1.2s,mb5.0
SMF Signal de Mont 80.35 343 *e*P **P 18 53 33.2 +0.9**
BGF Bois d'Agland 80.61 344 *e*P **P 18 53 35.3 +1.6**
comp=Z,26nm,0.9s,mb4.8
LPL La Plagne 80.87 341 *e*P **P 18 53 36.7 +1.6**
comp=Z,14nm,0.8s,mb4.6
LPG La Plagne 80.88 341 *e*P **P 18 53 36.9 +1.8**
comp=Z,13nm,0.8s,mb4.6
MFF Saint Martin d 81.07 346 *e*P **P 18 53 37.5 +1.4**
MBDF Montbardon 81.62 341 *e*P **P 18 53 40.9 +1.9**
ORIF Oris-en-Rattie 81.62 341 *e*P **P 18 53 40.6 +1.6**
comp=Z,18nm,0.9s,mb4.7
LMR La Mourre 83.00 340 *e*P **P 18 53 47.2 +0.9**
comp=Z,31nm,1.1s,mb4.9
PGF Pioggiola 83.20 338 *e*P **P 18 53 48.6 +1.3**

KRSC 16 18:42:50.0±1.0, 5123N×15854E, h3km±16km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.21**	**359**	*e*P	Pg	18 43 14.0	+0.9
RUS				*e*S	Sg	18 43 31.6	+2.9
GRL	**Gorelyy**	**1.35**	**348**	P	Pn	18 43 16.1	+0.3
MIPR	**Malaya Ipel'ka**	**1.52**	**314**	P	Pn	18 43 18.5	+0.4
KRMR	**Karymshinskiy**	**1.62**	**351**	P	Pn	18 43 21.6	+2.1
PET	**Petropavlovsk**	**1.80**	**2**	*e*P	Pn	18 43 22.9	+1.0
PET				*e*S	Sn	18 43 47.6	+2.4
AVH	**Avacha**	**2.04**	**3**	P	Pn	18 43 26.7	+1.5
SPN	**Mys Shipunski**	**2.08**	**25**	*e*P	Pn	18 43 27.1	+1.3
SPN				*e*S	Sn	18 43 53.4	+1.2
GNL	**Ganaly**	**2.50**	**352**	P	Pn	18 43 32.7	+1.2

GUC 16 19:07:58.2±1.1, 2416S×7050W, h15km±18km, MD3.6, ML2.7, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.47**	**169**⇑	*i*P	Pg	19 08 07.4	-0.1
CPN1				*i* S	Sg	19 08 14.4	+0.5
CPN1				AMP		19 08 15.1
	comp=N,1μm,0.4s					
ANCH	**Antofagasta**	**0.48**	**10**⇓	*i*P	Pg	19 08 05.4	-2.5
ANCH				*i* S	Sg	19 08 12.6	-1.7
ANCH				AMP		19 08 13.1
	comp=N,1μm,0.5s					
CEN1	**Los Morros**	**0.82**	**20**⇑	*i*P	Pg	19 08 09.3	-4.8
CEN1				*i* S	Sg	19 08 16.8	-8.0
CEN1				AMP		19 08 20.5
	comp=E,213nm,0.4s					
LVC	**Limon Verde**	**2.12**	**44**⇑	*i*P	Pn	19 08 34.1	+1.0
LVC				*i* S	Sn	19 09 02.6	+3.3
LVC				AMP		19 09 05.6
	comp=N,150nm,0.2s					

NEIC ***16*** *19:13:57.2, 5008N×17988W, h36km, ML3.3(AEIC), After AEIC.*
ISCJB ***16*** *19:13:58.0±3.5, 505N±04×1799W±0.1, h37km±17km, mb3.6/8, Error ellipse: s-maj=60.8km s-min=9.9km az=12.8*
IDC ***16*** *19:13:58.5±4.9, 5026N×17971W, h34km±30km, mb3.4/8, mb1 3.6/10, mb1mx3.4/25, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=58.6km s-min=16.0km az=7.0*
ISC 16 19:14:00.0±3.2, 506N±04×1798W±01, h39km±16km, n16, σ0°89/17, mb3.6/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**2.38**	**55**	P	**Pn**	19 14 37.9	**+1.5**
ATKA	**Atka Island**	**3.89**	**63**	P	**Pn**	19 14 57.1	**-0.2**
FX1	**Attu Island--F**	**4.95**	**301**	Pn	**Pn**	19 15 11.7	**-0.1**
	3.7nm,0.3s,baz=241,slow=0.7,SNR=23						
FX1				Sn	**Sn**	19 16 07.2	**-0.5**
	2.6nm,0.3s,baz=256,slow=22,SNR=8.5						
FX1	**Attu Island--F**	**4.95**	**301**	*e*P	**Pn**	19 15 12.4	**+0.6**
KDAK	**Kodiak Island**	**17.42**	**55**	P	**Pn**	19 17 58.0	**-2.0**
	0.1nm,0.3s,baz=334,slow=18,SNR=2.4						
ILAR	**Eielson Array**	**22.29**	**38**	P	**P**	19 18 53.3	**-0.5**
	0.1nm,0.4s,mb2.6,baz=247,slow=9.2,SNR=5.8						
YKA	**Yellowknife Ar**	**36.27**	**45**	P	**P**	19 21 00.7	**+1.2**
	0.4nm,0.7s,mb3.5,baz=281,slow=8.0,SNR=7.7						
YKA	**Yellowknife Ar**	**36.27**	**45**	P	**P**	19 21 00.7	**+1.2**
PDAR	**Pinedale Array**	**47.18**	**71**	P	**P**	19 22 27.7	**-1.0**
	0.2nm,0.6s,mb3.2,baz=262,slow=4.5,SNR=3.3						
MKAR	**Makanchi Array**	**60.04**	**308**	P	**P**	19 24 01.9	**-0.9**
	0.2nm,0.4s,mb3.5,baz=48,slow=6.4,SNR=3.7						
BVAR	**Borovoye Array**	**61.10**	**320**	P	**P**	19 24 10.7	**+0.6**
	0.4nm,0.4s,mb4.0,baz=50,slow=6.3,SNR=6.4						
FINES	**FINESS Array B**	**66.44**	**347**	P	**P**	19 24 45.2	**-0.1**
	1.0nm,0.6s,mb4.0,baz=26,slow=6.7,SNR=3.4						
AKTK	**Aktyubinsk**	**67.98**	**324**	P	**P**	19 24 55.5	**+0.4**
AKTO	**Aktyubinsk**	**67.98**	**324**	P	**P**	19 24 55.5	**+0.4**
	0.9nm,0.5s,mb4.0,baz=47,slow=11,SNR=4.7						
HFS	**Hagfors**	**69.13**	**353**	P	**P**	19 25 02.9	**+0.8**
	1.3nm,0.7s,mb4.0,baz=343,slow=9.2,SNR=3.9						
HFS	**Hagfors**	**69.13**	**353**	P	**P**	19 25 02.9	**+0.8**

IDC ***16*** *19:20:52.5±1.2, 678S×10539E, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=62.4km s-min=16.0km az=47.0*
NEIC ***16*** *19:20:54.7±0.8, 689S×10537E, h15km, mb4.3/4, Error ellipse: s-maj=41.0km s-min=8.2km az=48.0*
ISCJB ***16*** *19:20:55.6±0.8, 69S±02×1054E±02, h33km, mb4.2/17, Error ellipse: s-maj=46.0km s-min=8.1km az=92.2*
ISC 16 19:20:58.3±0.9, 68S±02×1054E±02, h35km, n24, σ0°87/24, mb4.2/17, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**19.89**	**137**	*e*P	**Pn**	19 25 24.2	**-4.2**
FITZ	**Fitzroy Crossi**	**22.70**	**121**	*e*P	**P**	19 25 57.5	**+0.8**
	3.3nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**30.96**	**118**	P	**P**	19 27 12.1	**+0.1**
	1.7nm,0.6s,mb4.1,baz=292,slow=8.0,SNR=33						
WRA				PcP	PcP	19 30 08.1	+0.4
	0.3nm,0.5s,baz=305,slow=2.0,SNR=4.8						
WRAB	**Tennant Creek**	**30.97**	**118**	*e*P	**P**	19 27 12.3	**+0.2**
	4.7nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**30.97**	**118**	*e*P	**P**	19 27 12.2	**+0.1**
ASAR	**Alice Springs**	**32.09**	**125**	P	**P**	19 27 22.4	**+0.3**
	2.2nm,1.1s,mb3.9,baz=300,slow=7.7,SNR=10.0						
LSA	**Lhasa**	**38.80**	**340**	P	**P**	19 28 20.6	**+1.0**
JIRN	**Jiri**	**38.98**	**332**	*e*P	**P**	19 28 21.7	**+0.6**
	7.4nm,0.6s,mb4.6						
GUN	**Gumba**	**39.34**	**332**	*e*P	**P**	19 28 24.7	**+0.6**
	3.6nm,0.3s,mb4.6						
DMN	**Daman**	**39.45**	**331**	*e*P	**P**	19 28 26.2	**+1.2**
KKN	**Kakani**	**39.52**	**331**	*e*P	**P**	19 28 25.9	**+0.3**
GKN	**Gorkha**	**40.00**	**331**	*e*P	**P**	19 28 29.1	**-0.5**
	5.3nm,0.3s,mb4.8						
KOLN	**Koldanda**	**40.32**	**329**	*e*P	**P**	19 28 31.7	**-0.6**
	10.0nm,0.6s,mb4.7						
PMG	**Port Moresby**	**41.40**	**96**	P	**P**	19 28 41.6	**+0.4**
	4.6nm,0.7s,mb4.2,baz=256,slow=4.2,SNR=3.9						
STKA	**Stephens Creek**	**41.95**	**131**	P	**P**	19 28 44.3	**-1.4**
	3.1nm,0.4s,mb4.3,baz=299,slow=8.0,SNR=15						
STKA	**Stephens Creek**	**41.95**	**131**	*e*P	**P**	19 28 44.0	**-1.6**
SONM	**Songino Array**	**54.42**	**1**	P	**P**	19 30 21.1	**-0.8**
	0.5nm,0.7s,mb3.5,baz=171,slow=9.8,SNR=5.6						
SONM				PcP	PcP	19 31 25.8	+0.5
	0.3nm,0.4s,baz=188,slow=4.0,SNR=6.1						
MKAR	**Makanchi Array**	**57.19**	**341**	P	**P**	19 30 40.1	**-1.6**
	0.3nm,0.4s,mb3.6,baz=152,slow=9.4,SNR=7.9						
ZAL	**Zalesovo**	**62.96**	**346**	P	**P**	19 31 19.9	**-1.4**
	0.6nm,0.4s,mb4.1,baz=329,slow=13,SNR=3.0						
ZRNK	**Zerenda**	**67.06**	**337**	P	**P**	19 31 49.2	**+1.3**
	0.6nm,0.6s,mb3.8						
AKTK	**Aktyubinsk**	**70.16**	**330**	P	**P**	19 32 06.4	**-0.8**
AKTO	**Aktyubinsk**	**70.16**	**330**	P	**P**	19 32 06.4	**-0.9**
	1.0nm,0.5s,mb4.0,baz=97,slow=5.4,SNR=5.9						
BRTR	**Keskin Array B**	**80.52**	**312**	P	**P**	19 33 07.2	**+0.4**
	0.5nm,0.6s,mb3.6,baz=134,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**90.86**	**332**	P	**P**	19 33 59.1	**+0.9**
	2.9nm,1.1s,mb4.5,baz=93,slow=4.0,SNR=4.4						

ISCJB ***16*** *19:21:43.7±0.7, 5150N±003×16.15E±005, h0km, Error ellipse: s-maj=5.0km s-min=4.3km az=95.1*
CSEM ***16*** *19:21:45.0±0.2, 5153N×1621E, h1km, ML2.5/3, Error ellipse: s-maj=3.4km s-min=2.8km az=41.0, Suspected Mining induced.*
VIE ***16*** *19:21:48.0±0.7, 5126N×1608E, h0km, mb2.2/2, ML2.5/3, Error ellipse: s-maj=4.7km s-min=4.1km az=79.0 67 km WNW of Breslau Suspected Mining induced.*
PRU ***16*** *19:21:47.3, 5142N×1616E, h0km*
WAR ***16*** *19:21:47.2, 5145N×1617E, ML2.5, Mining Induced*
NEIC ***16*** *19:21:49.9±1.6, 5127N×1602E, h5km, MG2.5(WAR), Error ellipse: s-maj=19.6km s-min=7.2km az=215.0*
ISC 16 19:21:44.9±0.7, 5149N±003×1621E±005, h0km, n19, σ0°90/39, 3C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**175**⇑	*i*Pg	**Pg**	19 21 58.4	**+1.1**
KSP				*e*Sg	**Sg**	19 22 06.6	**+0.9**
UPC	**Upice**	**0.99**	**187**	*e*PG	**Pg**	19 22 04.6	**+0.7**
DPC	**Dobruska-Polom**	**1.14**	**176**	*e*PG	**Pg**	19 22 07.2	**+0.4**
DPC				*e*SG	**Sg**	19 22 21.7	**+0.1**
	21nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**228**	*e*SG	**Sg**	19 22 30.8	**+0.5**
	73nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**248**	PG	**Pg**	19 22 14.9	**+0.2**
BRG				SG	**Sg**	19 22 35.0	**+0.2**
	20nm,0.4s						
BRG	**Berggiesshubel**	**1.55**	**248**	Pg	**Pg**	19 22 14.9	**+0.2**
BRG				Sg	**Sg**	19 22 35.0	**+0.2**
BRG	**Berggiesshubel**	**1.55**	**248**	Pg	**Pg**	19 22 14.9	**+0.2**
BRG				Sg	**Sg**	19 22 35.0	**+0.2**
PRU	**Pruhonice**	**1.84**	**216**	*e*PG	**Pg**	19 22 19.7	**-0.4**
PRU				*e*SG	**Sg**	19 22 43.1	**-0.9**
	22nm,0.4s						
CLL	**Collm**	**2.02**	**266**	*e*Pg	**Pg**	19 22 23.0	**-0.6**
CLL				*i* Sg	**Sg**	19 22 50.5	**+0.8**
	comp=Z,13nm,0.6s						
OKC	**Ostrava-Krasne**	**2.06**	**143**	*e*PG	**Pg**	19 22 24.2	**-0.2**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PN	**Pn**	19 22 30.9	**+1.4**
NKC				*e*PG	**Pg**	19 22 36.5	**-0.1**
NKC				*e*SG	**Sg**	19 23 11.1	**-0.4**
	comp=Z,22nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**244**	*e*Pg	**Pg**	19 22 36.5	**-0.1**
NKC				*e*Sg	**Sg**	19 23 11.1	**-0.4**
NKC	**Novy Kostel**	**2.69**	**244**	*e*Pn	**Pn**	19 22 30.9	**+1.4**
NKC				*e*Pg	**Pg**	19 22 36.5	**-0.1**
NKC				*e*Sg	**Sg**	19 23 11.1	**-0.4**
KHC	**Kasperske Hory**	**2.90**	**217**	*e*PN	**Pn**	19 22 33.5	**+1.2**
KHC				*e*PG	**Pg**	19 22 39.1	**-1.4**
KHC				*e*SN	**Sn**	19 23 07.5	**-0.4**
KHC				*e*SG	**Sg**	19 23 16.0	**-2.1**
KHC	**Kasperske Hory**	**2.90**	**217**	*e*Pg	**Pg**	19 22 39.1	**-1.4**
KHC				*e*Sg	**Sg**	19 23 16.0	**-2.1**
MOX	**Moxa**	**3.02**	**256**	*e*PG	**Pg**	19 22 43.5	**+0.7**
MOX				*e*SG	**Sg**	19 23 23.1	**+1.2**
BSD	**Bornholm Skovb**	**3.71**	**348**	*i* P	**Pn**	19 22 43.9	**+0.4**
BSD				*i* S	**Sn**	19 23 26.4	**-1.6**
MOA	**Molln**	**3.85**	**200**⇑	*i*Pn	**Pn**	19 22 44.2	**-1.2**
MOA			⇑	*i*Sg	**Sg**	19 23 47.9	**-0.8**
	comp=Z,4.2nm,0.3s						
MOA	**Molln**	**3.85**	**200**	Pn	**Pn**	19 22 44.2	**-1.2**
MOA				Sg	**Sg**	19 23 47.9	**-0.9**

IDC ***16*** *19:23:31.9±0.8, 5873S×2529W, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.1/16, mbtmp4.1/7, MS3.6/4, Ms1 3.6/4, ms1mx3.4/16, Error ellipse: s-maj=31.0km s-min=23.1km az=52.0*
ISCJB ***16*** *19:23:32.1±0.8, 587S±01×252W±03, h10km, mb4.1/8, MS3.7/3, Error ellipse: s-maj=28.0km s-min=10.4km az=116.0*
NEIC ***16*** *19:23:35.8±4.7, 5871S×25.10W, h27km±32km, mb4.7/1, Error ellipse: s-maj=31.0km s-min=11.1km az=48.0*
ISC 16 19:23:33.7±0.8, 588S±01×252W±03, h10km, n25, σ0°76/13, mb4.1/8, MS3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**14.08**	**159**	*e*P	**Pn**	19 26 53.1	**0.0**
VNA3	**Neumayer Olymp**	**14.08**	**159**	*e*P	**Pn**	19 26 53.1	**0.0**
VNA3				*e*		19 26 56.3	
VNA3				*e*		19 27 01.7	
VNA2	**Neumayer--Watz**	**14.28**	**156**	*e*P	**Pn**	19 26 55.6	**-0.3**
	baz=320,slow=16						
VNA2	**Neumayer--Watz**	**14.28**	**156**	*e*P	**Pn**	19 26 55.6	**-0.3**
	baz=320,slow=15						
VNA2				*e*		19 26 58.7	
VNA2				*e*		19 27 04.2	
SNAA	**Sanae**	**15.83**	**154**	LR	LR	19 31 59.3	
	comp=Z,77nm,21.6s,baz=48,slow=32						
USHA	**Ushuaia**	**23.67**	**261**	LR	LR	19 35 24.9	
	comp=Z,318nm,21.2s,MS3.8,baz=228,slow=30						
TRQA	**Tornquist**	**31.40**	**295**	P	**P**	19 29 55.9	**+1.1**
QSPA	**South Pole Qui**	**31.49**	**180**	*e*P	**P**	19 29 56.5	**+0.9**
	7.9nm,0.6s,mb4.7						
PLCA	**Paso Flores**	**33.57**	**282**	P	**P**	19 30 12.9	**-0.9**
	1.8nm,0.8s,mb4.1,baz=139,slow=9.9,SNR=4.3						
PLCA				LR	LR	19 42 20.7	
	comp=Z,144nm,18.8s,MS3.7,baz=186,slow=34						
CFAA	**Coronel Fontan**	**39.63**	**294**	P	**P**	19 31 04.6	**-0.8**
	0.4nm,0.6s,mb3.3,baz=158,slow=7.9,SNR=7.7						
VNDA	**Vanda**	**43.91**	**182**	P	**P**	19 31 41.0	**+0.6**
	3.6nm,0.6s,mb4.3,baz=176,slow=4.4,SNR=8.2						
BOSA	**Boshof**	**45.71**	**71**	LR	LR	19 46 19.6	
	comp=Z,82nm,18.9s,MS3.7,baz=232,slow=30						
BDFB	**Brasilia**	**46.24**	**329**	P	**P**	19 31 60.0	**+0.9**
	1.1nm,0.3s,mb4.2,baz=165,slow=11,SNR=3.4						
LPAZ	**La Paz**	**52.81**	**305**	P	**P**	19 32 48.8	**-0.3**
	1.0nm,0.6s,mb3.9,baz=208,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**74.94**	**27**	P	**P**	19 35 14.8	**0.0**
	2.3nm,0.9s,mb4.1,baz=193,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**96.08**	**161**	P	**P**	19 37 00.2	**-1.2**
	0.5nm,0.6s,mb4.1,baz=181,slow=4.0,SNR=10						
PDAR	**Pinedale Array**	**122.65**	**300**	PKP	PKPdf	19 42 27.2	-2.3
	0.3nm,0.6s,baz=118,slow=3.1,SNR=3.9						
ARCES	**ARCESS Array B**	**133.06**	**22**	PKP	PKPdf	19 42 48.1	-1.3
	1.7nm,0.7s,baz=240,slow=4.9,SNR=4.6						
YKA	**Yellowknife Ar**	**138.87**	**315**	PKP	PKPdf	19 42 58.0	-2.2
	2.1nm,0.6s,baz=127,slow=2.5,SNR=28						
YKA	**Yellowknife Ar**	**138.87**	**315**	PKP	PKPdf	19 42 58.0	-2.2
YKW3	**Yellowknife Ar**	**138.92**	**315**	*e*PKPdf	PKPdf	19 42 56.9	-3.4
INK	**Inuvik**	**148.55**	**317**	PKPbc	PKPbc	19 43 17.9	-2.8
	baz=86,slow=2.6,SNR=1.2						
DAWY	**Dawson**	**149.35**	**308**	*e*PKPbc	PKPbc	19 43 20.2	-2.6
SONM	**Songino Array**	**149.75**	**90**	PKPbc	PKPbc	19 43 22.1	-1.7
	1.6nm,0.9s,baz=224,slow=2.9,SNR=12						
ILAR	**Eielson Array**	**152.66**	**307**	PKPbc	PKPbc	19 43 28.2	-2.3
	6.3nm,0.8s,baz=144,slow=2.8,SNR=55						

ISCJB ***16*** *19:42:02.2±1.2, 1039S±007×16148E±010, h97km±9km, mb4.0/8, Error ellipse: s-maj=17.6km s-min=10.2km az=123.3*
IDC ***16*** *19:42:02.4±1.0, 1029S×16155E, h85km±7km, mb3.8/6, mb1 4.0/8, mb1mx3.9/15, mbtmp4.2/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=18.1km s-min=11.9km az=30.0*
NEIC ***16*** *19:42:02.7±0.6, 1024S×16154E, mb4.0/1, Error ellipse: s-maj=14.1km s-min=12.2km az=119.0*
ISC 16 19:42:02.4±1.2, 1031S±008×16157E±009, h86km±10km, h86km±3.3km: pP-P, n17, σ0°85/19, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.82**	**299**	P	**Pn**	19 42 32.4	**+0.3**
	118nm,0.3s,baz=184,slow=1.1,SNR=39						
HNR				S	**Sn**	19 42 54.1	**-0.6**
	141nm,0.3s,baz=87,slow=3.3,SNR=6.5						
DZM	**Mont Dzumac**	**12.59**	**159**	P	**Pn**	19 45 00.4	**+2.2**
	1.7nm,0.3s,baz=342,slow=20,SNR=28						
DZM				S	**Sn**	19 47 15.0	**-1.6**
	0.6nm,0.3s,baz=174,slow=21,SNR=4.3						
DZM	**Mont Dzumac**	**12.59**	**159**	*e*P	**Pn**	19 45 00.1	**+1.9**
CTA	**Charters Tower**	**17.67**	**235**	P	**Pn**	19 46 03.0	**+0.2**
	0.4nm,0.3s,baz=56,slow=7.2,SNR=5.8						
CTA				LR	LR	19 51 33.5	
	comp=Z,83nm,20.7s,baz=156,slow=32						
CTAO	**Charters Tower**	**17.67**	**235**	*e*P	**Pn**	19 46 05.5	**+2.6**
WRAB	**Tennant Creek**	**27.92**	**247**	*e*P	**P**	19 47 44.4	**-0.1**
WB2	**Warramunga Arr**	**27.92**	**247**	*e*P	**P**	19 47 44.3	**-0.1**
WRA	**Warramunga Arr**	**27.93**	**247**	P	**P**	19 47 44.2	**-0.3**
	2.0nm,0.7s,mb3.7,baz=76,slow=9.1,SNR=29						
WRA				pP	pP	19 48 05.1	+1.0
	1.1nm,0.7s,baz=75,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**29.53**	**240**	P	**P**	19 47 59.7	**+1.0**
	0.5nm,0.6s,mb3.3,baz=67,slow=9.1,SNR=7.7						
FITZ	**Fitzroy Crossi**	**35.63**	**253**	*e*P	**P**	19 48 51.3	**-0.6**
	3.0nm,0.4s,mb4.6						
MBWA	**Marble Bar**	**41.57**	**250**	P	**P**	19 49 40.9	**-0.7**
SONM	**Songino Array**	**75.69**	**325**	P	**P**	19 53 39.1	**+0.7**
	3.2nm,0.6s,mb4.2,baz=141,slow=5.5,SNR=37						
SONM				pP	pP	19 54 00.2	-0.6
	0.7nm,0.6s,baz=146,slow=6.3,SNR=3.6						
MCK	**McKinley**	**82.81**	**20**	*e*P	**P**	19 54 17.3	**+0.1**
	1.9nm,0.9s,mb3.9						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	19 54 23.9	**-0.2**
	0.8nm,0.7s,mb3.7,baz=241,slow=5.1,SNR=13						
ILAR				pP	pP	19 54 46.5	-0.4
	0.5nm,0.9s,baz=254,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	19 54 52.7	**-0.5**
	0.8nm,0.5s,mb4.1,baz=92,slow=6.4,SNR=14						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	19 54 52.7	**-0.5**
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	19 55 20.6	**-0.3**
	0.7nm,0.7s,mb4.2,baz=261,slow=4.6,SNR=12						

ISCJB ***16*** *19:42:36.5±1.6, 367N±0.1×719E±0.3, h115km±28km, Error ellipse: s-maj=44.3km s-min=7.4km az=123.6*
NNC ***16*** *19:42:44.9±8.0, 3723N×6985E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=81.9km s-min=56.4km az=112.0*
ISC 16 19:42:37.8±1.5, 367N±01×718E±03, h123km±20km, n11, σ0°70/16, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.31**	**142**	*e*P	**Pn**	19 43 55.5	**+0.6**
THN				*e*S	**Sn**	19 44 54.1	**-0.8**
KK31	**Karatay Array**	**6.51**	**352**	P	**Pn**	19 44 12.9	**+1.8**
	2.5

*BJI **16** 20:05:12.0, 8190N×11940E, h10km, mB5.3, mb4.9, Ms4.5*
*ISCJB **16** 20:05:12.4±3.5, 8183N±006×1195E±03, h5km±22km, mb4.2/31, MS3.7/13, Error ellipse: s-maj=9.9km s-min=7.3km az=122.8*
*MOS **16** 20:05:13.0±1.1, 8180N×11970E, h10km, mb4.3/24, Error ellipse: s-maj=55.0km s-min=9.7km az=87.5*
*IDC **16** 20:05:13.4±0.6, 8195N×11955E, h0km, mb4.1/21, mb1 4.3/21, mb1mx4.2/27, mbtmp4.1/21, MS3.8/13, Ms1 3.8/13, ms1mx3.7/24, Error ellipse: s-maj=20.1km s-min=11.3km az=155.0*
*NEIC **16** 20:05:15.1±0.3, 8191N×11940E, h10km, mb4.4/8, Error ellipse: s-maj=8.3km s-min=5.9km az=153.0*
*NAO **16** 20:05:24.1, 8200N×11900E, h10km, mb4.4*

ISC 16 20:05:13.3±3.8, 8185N±005×1195E±03, h2km±24km, n81, σ1§02/82, mb4.2/31, MS3.7/13, 1C-1D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**10.45**	**163**	*e*P	**Pn**	**20 07 42.2**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BILL	**Bilibino**	**17.48**	**114**	*e*P	**Pn**	**20 09 20.8**	**+2.7**
	comp=Z,8.7nm,0.9s						
YAK	**Yakutsk**	**20.10**	**166**	*e*P	**P**	**20 09 48.4**	**+0.3**
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,14nm,1.1s						
YAK	**Yakutsk**	**20.10**	**166**	*e*P	**P**	**20 09 47.6**	**-0.5**
	comp=Z,19nm,0.8s						
SEY	**Seymchan**	**20.78**	**136**	*e*P	**P**	**20 09 55.5**	**0.0**
ARCES	**ARCESS Array B**	**22.63**	**294**	P	**P**	**20 10 14.7**	**-0.7**
	comp=Z,13nm,0.8s,mb4.4,baz=28,slow=6.8,SNR=17						
ARCES	**ARCESS Array B**	**22.63**	**294**	P	**P**	**20 10 14.7**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,13nm,0.9s						
MA2	**Magadan**	**23.92**	**139**	*e*P	**P**	**20 10 28.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb3.9						
MA2	**Magadan**	**23.92**	**139**	*e*P	**P**	**20 10 28.4**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.0						
BOD	**Bodaibo**	**24.20**	**187**	*e*P	**P**	**20 10 29.1**	**-1.9**
BOD				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
INK	**Inuvik**	**25.41**	**56**	P	**P**	**20 10 42.1**	**+0.1**
	comp=Z,11nm,1.1s,mb4.3,baz=358,slow=11,SNR=36						
INK				LR	LR	20 19 06.0	
	comp=Z,137nm,21.6s,MS3.4,baz=160,slow=33						
INK	**Inuvik**	**25.41**	**56**	*e*P	**P**	**20 10 41.8**	**-0.2**
INK					pP	20 10 42.1	-0.7
INK	**Inuvik**	**25.41**	**56**	*e*P	**P**	**20 10 41.8**	**-0.2**
INK				P	pP	20 10 42.1	-0.6
INK				LR	LR	20 19 06.0	
COLA	**College**	**26.85**	**71**	*e*P	**P**	**20 10 56.1**	**+1.0**
ILAR	**Eielson Array**	**27.08**	**70**	P	**P**	**20 10 58.1**	**+0.9**
	comp=Z,3.4nm,0.9s,mb3.9,baz=339,slow=9.1,SNR=47						
ILAR				PcP	PcP	20 14 16.1	-2.1
	comp=Z,0.5nm,0.8s,baz=323,slow=3.0,SNR=4.7						
ILAR				LR	LR	20 21 27.9	
	comp=Z,119nm,21.3s,MS3.4,baz=3.3,slow=36						
ILAR	**Eielson Array**	**27.08**	**70**	P	**P**	**20 10 58.1**	**+0.9**
ILAR						20 14 16.1	
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,119nm,21.3s						
MCK	**McKinley**	**27.79**	**73**	*e*P	**P**	**20 11 03.4**	**-0.2**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
MCK	**McKinley**	**27.79**	**73**	*e*P	**P**	**20 11 03.4**	**-0.2**
	comp=Z,9.9nm,1.3s,mb4.3						
KLMR	**Klimovskoe**	**28.93**	**275**	*e*P	**P**	**20 11 14.6**	**+0.9**
KLMR				pmax	pmax		
	comp=Z,60nm,2.8s,mb4.8						
NVS	**Novosibirsk**	**29.08**	**225**	*e*P	**P**	**20 11 14.4**	**-0.6**
ZAL	**Zalesovo**	**29.82**	**223**	P	**P**	**20 11 23.1**	**+1.5**
	comp=Z,0.9nm,0.3s,mb4.0,baz=132,slow=15,SNR=3.4						
ZAL				PcP	PcP	20 14 23.4	-1.6
	comp=Z,1.3nm,0.3s,baz=218,slow=4.4,SNR=3.1						
ZAL				LR	LR	20 24 31.7	
	comp=Z,173nm,21.9s,MS3.6,baz=135,slow=39						
ZAL	**Zalesovo**	**29.82**	**223**	P	**P**	**20 11 23.1**	**+1.5**
ZAL						20 14 23.4	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,173nm,21.9s						
FINES	**FINESS Array B**	**30.24**	**288**	P	**P**	**20 11 25.6**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=24,slow=11,SNR=4.7						
FINES				LR	LR	20 24 06.6	
	comp=Z,194nm,20.4s,MS3.7,baz=348,slow=38						
FINES	**FINESS Array B**	**30.24**	**288**	*i*P	**P**	**20 11 28.1**	**+2.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**30.51**	**253**	*e*P	**P**	**20 11 27.5**	**-0.2**
ARU				*e*		20 12 22.0	
ARU				*e*		20 14 25.4	
ARU				*e*S	**S**	**20 16 29.2**	**-0.7**
ARU				*e*SS	SS	20 18 10.7	-29
BRVK	**Borovoye**	**32.28**	**239**	*e*P	**P**	**20 11 43.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**32.28**	**239**	*e*P	**P**	**20 11 43.7**	**+0.4**
	comp=Z,4.2nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**32.30**	**239**	P	**P**	**20 11 44.1**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.7,baz=27,slow=7.1,SNR=6.5						
BVAR				PcP	PcP	20 14 30.9	-0.7
	comp=Z,0.9nm,0.6s,baz=316,slow=4.0,SNR=4.0						
BVAR	**Borovoye Array**	**32.30**	**239**	P	**P**	**20 11 44.1**	**+0.6**
BVAR						20 14 30.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**32.55**	**240**	*e*P	**P**	**20 11 45.9**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**32.55**	**240**	*e*P	**P**	**20 11 45.9**	**+0.3**
	comp=Z,5.6nm,1.1s,mb4.4						
NB2	**NORSAR Subarra**	**32.56**	**301**	P	**P**	**20 11 44.9**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.2,baz=13,slow=8.8,SNR=4.5						
NOA	**NORSAR Array B**	**32.56**	**301**	P	**P**	**20 11 45.0**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=13,slow=8.8,SNR=4.5						
NOA	**NORSAR Array B**	**32.56**	**301**	P	**P**	**20 11 45.0**	**-0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**33.10**	**44**	P	**P**	**20 11 48.9**	**-1.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=347,slow=8.3,SNR=16						
YKA				PcP	PcP	20 14 32.3	-1.4
	comp=Z,0.6nm,0.7s,baz=341,slow=3.6,SNR=6.8						
YKA				LR	LR	20 25 22.2	
	comp=Z,182nm,18.6s,MS3.8,baz=315,slow=37						
YKA	**Yellowknife Ar**	**33.10**	**44**	P	**P**	**20 11 48.9**	**-1.6**
YKA						20 14 32.3	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,182nm,18.6s						
YKA	**Yellowknife Ar**	**33.10**	**44**	P	**P**	**20 11 48.9**	**-1.5**
YKA				PcP	PcP	20 14 32.4	-1.4
YKA				LR	LR	20 25 22.2	
HFS	**Hagfors**	**33.13**	**298**	P	**P**	**20 11 49.3**	**-1.4**
	comp=Z,5.2nm,0.9s,mb4.5,baz=72,slow=11,SNR=5.3						
HFS				LR	LR	20 26 05.2	
	comp=Z,260nm,19.2s,MS4.0,baz=49,slow=38						
HFS	**Hagfors**	**33.13**	**298**	P	**P**	**20 11 49.3**	**-1.5**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS				MLR	MLR		
	comp=Z,261nm,19.2s						
KURK	**Kurchatov**	**33.63**	**229**	*e*P	**P**	**20 11 55.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**33.63**	**229**	*e*P	**P**	**20 11 55.0**	**-0.1**
	comp=Z,5.9nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**34.35**	**195**	*e*P	**P**	**20 12 01.0**	**-0.3**
SONM	**Songino Array**	**34.40**	**196**	P	**P**	**20 12 03.0**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=349,slow=8.6,SNR=4.6						
SONM				LR	LR	20 27 15.8	
	comp=Z,90nm,20.6s,MS3.5,baz=265,slow=38						
SONM	**Songino Array**	**34.40**	**196**	P	**P**	**20 12 03.0**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,90nm,20.6s						
FRB	**Frobisher Bay**	**34.55**	**6**	P	**P**	**20 12 00.4**	**-2.7**
	comp=Z,4.7nm,1.0s,mb4.4,baz=5.8,slow=9.6,SNR=3.4						
FRB	**Frobisher Bay**	**34.55**	**6**	P	**P**	**20 12 00.4**	**-2.7**
FRB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN	**Obninsk**	**34.90**	**275**	⇓*e*P	**P**	**20 12 05.0**	**-1.1**
OBN				*e*		20 13 22.2	
OBN				*i* S	**S**	**20 17 32.4**	**-5.6**
OBN				pmax	pmax		
	comp=Z,22nm,2.5s,mb4.6						
AKTK	**Aktyubinsk**	**36.44**	**251**	P	**P**	**20 12 19.3**	**0.0**
AKTK				LR	LR	20 29 46.0	
AKTO	**Aktyubinsk**	**36.44**	**251**	P	**P**	**20 12 19.3**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=21,slow=10.0,SNR=5.8						
AKTO				LR	LR	20 29 46.0	
	comp=Z,115nm,18.4s,MS3.7,baz=0.0,slow=40						
AKTO	**Aktyubinsk**	**36.44**	**251**	P	**P**	**20 12 19.3**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,115nm,18.4s,MS3.7						
MKAR	**Makanchi Array**	**37.13**	**223**	P	**P**	**20 12 24.8**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.1,baz=17,slow=8.9,SNR=15						
MKAR				PcP	PcP	20 14 44.2	-1.3
	comp=Z,0.5nm,0.5s,baz=360,slow=3.5,SNR=5.2						
MKAR				LR	LR	20 27 32.6	
	comp=Z,129nm,18.1s,MS3.8,baz=34,slow=36						
MKAR	**Makanchi Array**	**37.13**	**223**	P	**P**	**20 12 24.8**	**-0.4**
MKAR						20 14 44.2	
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,129nm,18.1s						
MKAR	**Makanchi Array**	**37.13**	**223**	P	**P**	**20 12 24.8**	**-0.4**
MKAR				PcP	PcP	20 14 44.2	-1.3
MKAR				LR	LR	20 27 32.5	
AKASG	**Malin Array Be**	**40.23**	**280**	P	**P**	**20 12 51.0**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.8,baz=14,slow=9.0,SNR=2.8						
AKASG	**Malin Array Be**	**40.23**	**280**	P	**P**	**20 12 51.0**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	**Kasperske Hory**	**43.90**	**294**	*e*P	**P**	**20 13 21.5**	**+0.3**
KHC	**Kasperske Hory**	**43.90**	**294**	*e*P	**P**	**20 13 21.6**	**+0.4**
GERES	**GERESS Array B**	**44.16**	**294**	P	**P**	**20 13 24.0**	**+0.7**
	comp=Z,2.1nm,0.9s,mb3.9,baz=12,slow=7.0,SNR=7.6						
GERES	**GERESS Array B**	**44.16**	**294**	P	**P**	**20 13 24.0**	**+0.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MLR	**Muntele Rosu**	**45.79**	**282**	P	**P**	**20 13 38.0**	**+1.7**
	comp=Z,2.7nm,1.0s,mb4.1,baz=196,slow=10,SNR=2.4						
MLR				LR	LR	20 35 32.3	
	comp=Z,301nm,18.6s,MS4.3,baz=203,slow=40						
MLR	**Muntele Rosu**	**45.79**	**282**	P	**P**	**20 13 38.0**	**+1.7**
MLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MLR				MLR	MLR		
	comp=Z,301nm,18.7s						
NEW	**Newport**	**46.85**	**50**	P	**P**	**20 13 44.6**	**0.0**
	comp=Z,5.9nm,0.8s,mb4.6,baz=353,slow=7.7,SNR=6.0						
NEW	**Newport**	**46.85**	**50**	P	**P**	**20 13 44.6**	**0.0**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BMO	**Blue Mountains**	**50.20**	**51**	*e*P	**P**	**20 14 11.2**	**+0.7**
	comp=Z,6.2nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**50.36**	**273**	P	**P**	**20 14 12.8**	**+1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=31,slow=5.8,SNR=5.3						
BRTR	**Keskin Array B**	**50.36**	**273**	P	**P**	**20 14 12.8**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MCMT	**McKenzie Canyo**	**50.71**	**47**	*e*P	**P**	**20 14 14.9**	**+0.7**
SSE	**Sheshan**	**50.87**	**178**	P	**P**	**20 14 13.0**	**-2.5**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,309nm,5.5s						
SSE				LR	LR		
	comp=N,39nm,16.4s,MS3.6						
SSE				LR	LR		
	comp=E,30nm,16.4s,MS3.6						
PDAR	**Pinedale Array**	**53.08**	**44**	P	**P**	**20 14 31.4**	**-0.5**
	comp=E,1.7nm,0.8s,mb4.1,baz=4.3,slow=5.9,SNR=6.4						
PDAR				LR	LR	20 35 34.0	
	comp=E,109nm,19.1s,MS3.9,baz=42,slow=34						
SADO	**Sadowa**	**53.25**	**17**	LR	LR	20 34 48.5	
	comp=E,105nm,21.2s,MS3.9,baz=53,slow=33						
GUN	**Gumba**	**55.52**	**216**	*e*P	**P**	**20 14 52.3**	**+2.6**
GKN	**Gorkha**	**55.54**	**218**	*e*P	**P**	**20 14 49.5**	**-0.4**
KKN	**Kakani**	**55.69**	**217**	*e*P	**P**	**20 14 52.0**	**+1.0**
JIRN	**Jiri**	**55.74**	**216**	*e*P	**P**	**20 14 51.2**	**-0.1**
KOLN	**Koldanda**	**55.86**	**219**	*e*P	**P**	**20 14 51.5**	**-0.7**
DMN	**Daman**	**55.89**	**217**	*e*P	**P**	**20 14 52.4**	**0.0**
MSU	**Marysvale**	**57.02**	**47**	*e*P	**P**	**20 15 01.2**	**+0.7**
ANMO	**Albuquerque**	**61.13**	**42**	P	**P**	**20 15 27.9**	**-1.0**
	comp=E,2.0nm,0.6s,mb4.4,baz=17,slow=7.5,SNR=4.7						
ANMO	**Albuquerque**	**61.13**	**42**	P	**P**	**20 15 27.9**	**-1.0**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ANMO	**Albuquerque**	**61.13**	**42**	P	**P**	**20 15 27.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**80.86**	**299**	P	**P**	**20 17 28.2**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.4,baz=359,slow=6.3,SNR=23						

*IDC **16** 20:06:17.5±2.2, 4336N×10525W, h0km, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=47.6km s-min=8.7km az=153.0*
*ISCJB **16** 20:06:18.1±0.7, 4359N±006×105.10W±009, h0km, Error ellipse: s-maj=10.6km s-min=7.2km az=93.3*
*NEIC **16** 20:06:20.1±0.8, 4366N×105.11W, h0km, ML3.2, Error ellipse: s-maj=13.1km s-min=7.3km az=155.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 16 20:06:19.6±0.7, 4363N±006×10509W±008, h0km, n23, σ1§15/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**57**	*e*P	**Pg**	**20 06 37.5**	**+0.4**
PDAR	**Pinedale Array**	**3.38**	**257**	Pn	**Pn**	**20 07 13.2**	**-0.4**
	2.0nm,0.3s,baz=87,slow=11,SNR=36						
PDAR				Pg	**Pg**	**20 07 18.6**	**-5.8**
	7.0nm,0.3s,baz=70,slow=18,SNR=67						
PDAR				Lg		20 07 57.4	
	2.4nm,0.3s,baz=83,slow=33,SNR=4.0						
ISCO	**Idaho Springs**	**3.84**	**186**	*e*Pn	**Pn**	**20 07 21.6**	**+1.6**
GCMT	**Greycliff**	**3.92**	**305**	*e*Pn	**Pn**	**20 07 19.9**	**-1.1**
LKWY	**Lake**	**3.94**	**286**	Pn	**Pn**	**20 07 22.5**	**+1.2**
FLWY	**Flagg Ranch**	**4.08**	**278**	*e*Pn	**Pn**	**20 07 23.4**	**+0.1**
MOOW	**Moose Ponds**	**4.10**	**274**	*e*Pn	**Pn**	**20 07 22.5**	**-1.1**
REDW	**Red Top Meadow**	**4.20**	**268**	*e*Pn	**Pn**	**20 07 27.1**	**+2.2**
YFT	**Old Faithful**	**4.22**	**283**	Pn	**Pn**	**20 07 24.7**	**-0.5**
IMW	**Indian Meadow**	**4.24**	**276**	*e*Pn	**Pn**	**20 07 26.2**	**+0.7**
YMR	**Madison River**	**4.35**	**286**	Pn	**Pn**	**20 07 28.6**	**+1.5**
AHID	**Auburn Hatcher**	**4.48**	**261**	*e*Pg	**Pg**	**20 07 41.8**	**-3.7**
SMCO	**Snowmass**	**4.66**	**198**	P	**Pn**	**20 07 43.2**	**+12**
QLMT	**Earthquake Lak**	**4.71**	**287**	P	**Pn**	**20 07 32.4**	**+0.4**
DGMT	**Dagmar**	**4.88**	**7**	*e*P	**Pn**	**20 07 35.9**	**+1.6**
HWUT	**Hardware Ranch**	**5.18**	**249**	*e*Pn	**Pn**	**20 07 38.6**	**+0.2**
	7.8nm,0.7s						
DAU	**Daniels Canyon**	**5.60**	**237**	P	**Pn**	**20 07 44.3**	**+0.1**
SRU	**San Rafael**	**6.08**	**224**	*e*P	**Pn**	**20 07 50.5**	**-0.3**
	9.9nm,0.7s						
TMUT	**Trail Mountain**	**6.31**	**229**	*e*P	**Pn**	**20 07 52.4**	**-1.5**
MSU	**Marysvale**	**7.40**	**229**	P	**Pn**	**20 08 07.7**	**-1.1**
ULM	**Lac du Bonnet**	**9.14**	**40**	Pn	**Pn**	**20 08 31.6**	**-1.1**
	1.1nm,0.3s,baz=233,slow=12,SNR=10						
ULM				Lg		20 11 09.8	
	0.3nm,0.3s,baz=138,slow=14,SNR=3.8						
ULM	**Lac du Bonnet**	**9.14**	**40**	Pn	**Pn**	**20 08 31.6**	**-1.1**
ULM				Lg		20 11 09.8	
YKA	**Yellowknife Ar**	**19.71**	**347**	P	**Pn**	**20 10 49.9**	**-2.0**
	baz=156,slow=12,SNR=4.2						

KRSC 16 20:20:36.4±1.1, 5102N×15928E, h28km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.49**	**342**	*i*P	**Pn**	**20 21 00.7**	**-0.6**
RUS				*i* S	Sn	20 21 19.3	-0.6
PAU	**Pauzhetka**	**1.61**	**287**	*e*P	**Pn**	**20 21 04.6**	**+1.6**
PAU				*e*S	Sn	20 21 24.6	+1.7
PAU				Smax			
	700nm,0.8s						
GRL	**Gorelyy**	**1.71**	**334**	*e*P	Pn	20 21 04.7	+0.4
GRL				*e*S	Sn	20 21 25.1	-0.1
KRMR	**Karymshinskiy**	**1.95**	**339**	*e*P	Pn	20 21 07.7	+0.1
MIPR	**Malaya Ipel'ka**	**2.01**	**310**	*e*P	Pn	20 21 09.5	+1.0
MIPR				*e*S	Sn	20 21 33.2	+0.5
SKR	**Severo-Kuril's**	**2.03**	**262**	*e*P	Pn	20 21 07.5	-1.3
PET	**Petropavlovsk**	**2.04**	**349**	*e*P	Pn	20 21 10.8	+1.9
PET				*e*S	Sn	20 21 35.3	+1.8
SPN	**Mys Shipunski**	**2.13**	**12**	*e*P	Pn	20 21 12.4	+2.3
NLC	**Nalytchevo**	**2.15**	**1**	*e*P	Pn	20 21 11.9	+1.5
NLC				*e*S	Sn	20 21 37.8	+1.6
UGLR	**Uglovaya**	**2.21**	**353**	*e*P	Pn	20 21 12.4	+1.2
SMAR	**Somma**	**2.27**	**353**	*e*P	Pn	20 21 13.6	+1.6
AVH	**Avacha**	**2.27**	**352**	*e*P	Pn	20 21 12.7	+0.6
KOK	**Koryaka**	**2.31**	**350**	*e*P	Pn	20 21 13.6	+1.0
APC	**Apacha**	**2.32**	**326**	*i*P	Pn	20 21 14.4	+1.8
APC				Smax			
	60nm,0.7s						
GNL	**Ganaly**	**2.80**	**343**	*e*P	Pn	20 21 20.6	+1.3
MKZ	**Mys Kozlova**	**3.84**	**22**	S	Sn	20 22 18.8	+1.0
TUMR	**Tumrok**	**4.30**	**7**	P	Pn	20 21 42.1	+2.1
KBTR	**Krutoberegovo**	**5.61**	**21**	*e*P	Pn	20 21 59.1	+1.2
BKI	**Bering**	**5.81**	**41**	*e*S	Sn	20 23 01.1	-5.3

*NEIC **16** 20:27:58.8, 1733N×101.17W, h25km, MD3.8(MEX), After MEX.*

MEX 16 20:27:58.7±1.3, 1733N×10117W, h20km±34km, MD3.8, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.91**	**108**	*i*P	Pb	20 28 11.9	-3.8
CAIG				*i* S	Sb	20 28 24.1	-3.3
CAIG	**El Cayaco**	**0.91**	**108**	⇑*i*P	Pb	20 28 11.9	-3.8
CAIG				*i* S	Sb	20 28 23.9	-3.5
ACX	**Acapulco**	**1.28**	**111**	*i*P	Pn	20 28 20.3	-1.2
ACX				*i* S	Sn	20 28 35.0	-3.1
ACX	**Acapulco**	**1.28**	**111**	*i*P	Pn	20 28 20.0	-1.5
ACX				*i* S	Sn	20 28 34.0	-4.1
MEIG	**Mezcala**	**1.59**	**68**	*i*P	Pn	20 28 22.7	-3.0
MEIG				*i* S	Sn	20 28 41.7	-3.9
PLIG	**Platanillo**	**1.91**	**56**	*i*P	Pn	20 28 27.6	-2.5
PLIG				*i* S	Sn	20 28 50.4	-3.0
MOIG	**Morelia**	**2.33**	**360**	*i*P	Pn	20 28 34.0	-1.9
MOIG				*i* S	Sn	20 29 03.3	-0.7
MOIG	**Morelia**	**2.33**	**360**	*i*P	Pn	20 28 34.0	-1.9
MOIG				*i* S	Sn	20 29 00.4	-3.6
PPM	**Popocatepetl**	**2.97**	**54**	*e*P	Pn	20 28 41.6	-3.0
PPM				*i* S	Sn	20 29 14.5	-5.2
PPM	**Popocatepetl**	**2.97**	**54**	*e*P	Pn	20 28 42.6	-2.0
PPM				*i* S	Sn	20 29 16.9	-2.7

KRSC 16 20:36:27.7±0.9, 5099N×15931E, h56km±46km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.53**	**341**	*i*P	Pn	20 36 52.6	-0.1
RUS				*e*S	Sn	20 37 12.0	+0.5
PAU	**Pauzhetka**	**1.64**	**288**	*e*P	Pn	20 36 56.1	+1.9
PAU				*e*S	Sn	20 37 16.1	+1.9
PAU				Smax			
	1μm,0.6s						
GRL	**Gorelyy**	**1.74**	**334**	*e*P	Pn	20 36 56.6	+1.0
GRL				*e*S	Sn	20 37 17.4	+0.7
KRMR	**Karymshinskiy**	**1.98**	**339**	*i*P	Pn	20 36 59.5	+0.7
KRMR				*e*S	Sn	20 37 22.6	+0.1
MIPR	**Malaya Ipel'ka**	**2.05**	**310**	*i*P	Pn	20 37 01.5	+1.8
PET	**Petropavlovsk**	**2.08**	**349**	*e*P	Pn	20 37 01.1	+1.0
PET				*e*S	Sn	20 37 25.3	+0.5
SPN	**Mys Shipunski**	**2.16**	**12**	*e*P	Pn	20 37 04.1	+2.9
NLC	**Nalytchevo**	**2.19**	**1**	*e*P	Pn	20 37 03.3	+1.7
NLC				*e*S	Sn	20 37 29.8	+2.3
UGLR	**Uglovaya**	**2.24**	**353**	*e*P	Pn	20 37 04.6	+2.2
SMAR	**Somma**	**2.30**	**352**	*e*P	Pn	20 37 04.4	+1.3
AVH	**Avacha**	**2.31**	**351**	*e*P	Pn	20 37 04.7	+1.4
KOK	**Koryaka**	**2.34**	**350**	*e*P	Pn	20 37 05.5	+1.7
APC	**Apacha**	**2.35**	**326**	*e*P	Pn	20 37 06.1	+2.2
APC				Smax			
	80nm,0.5s						
GNL	**Ganaly**	**2.84**	**343**	*e*P	Pn	20 37 12.0	+1.5
ESO	**Esso**	**4.96**	**356**	P	Pn	20 37 41.9	+2.3
KBTR	**Krutoberegovo**	**5.63**	**20**	*e*P	Pn	20 37 51.2	+2.4

*ISCJB **16** 20:40:11.8±0.6, 2127S±004×686W±0.1, h155km±8km, mb4.0/4, Error ellipse: s-maj=16.3km s-min=6.3km az=5.3*
*NEIC **16** 20:40:12.7±0.9, 2114S×6832W, h132km±10km, mb4.0/2, Error ellipse: s-maj=17.7km s-min=

*IDC **16** 21:17:07.9±1.2, 2.17N×12673E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=135.8km s-min=18.5km az=68.0*
*NEIC **16** 21:17:09.3±0.9, 2.15N×12665E, h10km, mb4.5/5, Error ellipse: s-maj=49.6km s-min=9.7km az=59.0*
*ISCJB **16** 21:17:11.0±1.0, 22N±02×1267E±03, h33km, mb4.2/10, Error ellipse: s-maj=48.9km s-min=10.2km az=124.3*
ISC 16 21:17:12.9±1.0, 23N±02×1269E±03, h35km, n16, σ0§73/16, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.89**	**160**	*e*P	**Pn**	**21 21 00.1**	**+6.4**
	2.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.30**	**183**	*e*P	**P**	**21 21 46.6**	**+1.0**
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**23.27**	**162**	P	**P**	**21 22 17.1**	**-0.3**
	2.2nm,0.7s,mb3.7,baz=340,slow=11,SNR=28						
WB2	**Warramunga Arr**	**23.27**	**162**	*e*P	**P**	**21 22 17.5**	**+0.1**
ASAR	**Alice Springs**	**26.68**	**166**	P	**P**	**21 22 49.5**	**+0.9**
	0.3nm,0.4s,mb3.2,baz=342,slow=7.7,SNR=7.4						
STKA	**Stephens Creek**	**36.73**	**159**	P	**P**	**21 24 14.8**	**-1.9**
	2.8nm,1.0s,mb4.1,baz=326,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**36.73**	**159**	P	**P**	**21 24 14.8**	**-1.9**
JIRN	**Jiri**	**46.35**	**307**	*e*P	**P**	**21 25 35.7**	**+0.2**
	4.3nm,0.5s,mb4.7						
GUN	**Gumba**	**46.71**	**307**	*e*P	**P**	**21 25 38.5**	**+0.2**
	6.5nm,0.4s,mb5.0						
PKI	**Pulchoki**	**46.94**	**306**	*e*P	**P**	**21 25 39.7**	**-0.4**
KKN	**Kakani**	**47.14**	**307**	*e*P	**P**	**21 25 41.2**	**-0.5**
	3.1nm,0.4s,mb4.5						
GKN	**Gorkha**	**47.74**	**307**	*e*P	**P**	**21 25 46.0**	**-0.4**
	3.7nm,0.5s,mb4.6						
KOLN	**Koldanda**	**48.48**	**306**	*e*P	**P**	**21 25 51.7**	**-0.4**
	6.1nm,0.6s,mb4.8						
SONM	**Songino Array**	**48.71**	**342**	P	**P**	**21 25 54.8**	**+1.0**
	0.5nm,0.6s,mb3.8,baz=155,slow=8.2,SNR=9.1						
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**21 27 08.1**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=122,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**21 27 08.1**	**+0.3**

NEIC 16 21:35:29.0, 1976N×15611W, h45km, ML3.8(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.54**	**90**	*e*P	Pn	21 35 40.3	-0.1
POHA				*e*S	Sn	21 35 46.3	-2.3
HPO	**Honuapo**	**0.84**	**142**	*e*Pn	Pn	21 35 43.9	-0.6
HPO				*e*S	Sn	21 35 53.9	-1.9
HON	**Honolulu**	**2.36**	**312**	*e*Pn	Pn	21 36 02.4	-2.8
HON				*e*Sn	Sn	21 36 24.2	-8.8
KIP	**Kipapa**	**2.44**	**313**	*e*Pn	Pn	21 36 04.6	-1.6
KIP				*e*Sn	Sn	21 36 26.4	-8.5
WRAB	**Tennant Creek**	**78.71**	**244**	P	P	21 47 26.2	-0.3

*DHMR **16** 21:56:37.3±1.3, 1188N×4322E, h12km±13km, ML3.8*
*ISCJB **16** 21:56:40.4±1.4, 1182N±010×435E±02, h10km, Error ellipse: s-maj=24.5km s-min=8.6km az=57.5*
ISC 16 21:56:41.5±1.4, 1181N±010×436E±02, h10km, n7, σ1§29/14, 2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.49**	**19**	⇓*i*P	**Pn**	**21 57 06.4**	**-1.9**
TRBA				*i* S	**Sn**	**21 57 29.1**	**+1.2**
TRBA				AML	AML	21 57 32.0	
	comp=Z,2μm,0.5s						
UDYN	**Al 'Udayn**	**2.17**	**9**	*i* P	**Pn**	**21 57 16.2**	**-1.4**
UDYN				*i* S	**Sn**	**21 57 44.8**	**+0.3**
UDYN				AML	AML	21 57 59.4	
	comp=N,880nm,0.3s						
LBOS		**2.59**	**38**	⇓*i*P	**Pn**	**21 57 24.6**	**+1.1**
LBOS				*i* S	**Sn**	**21 58 02.2**	**+7.2**
DHBB	**Dhamar BB**	**2.84**	**15**	*i* P	**Pn**	**21 57 26.9**	**0.0**
DHBB				*i* S	**Sn**	**21 58 05.1**	**+3.9**
HAJJ	**Hajjah**	**3.86**	**360**	*i* P	**Pn**	**21 57 38.0**	**-2.9**
HAJJ				*i* S	**Sn**	**21 58 26.7**	**+0.4**
HAJJ				AML	AML	21 58 41.9	
	comp=E,202nm,0.5s						
HAJJ	**Hajjah**	**3.86**	**360**	*i* P	**Pn**	**21 57 38.0**	**-2.9**
HAJJ				*i* S	**Sn**	**21 58 26.7**	**+0.4**
	comp=E,101nm,0.5s						
FURI	**Furi**	**5.65**	**240**	*e*PN	**Pn**	**21 58 06.5**	**+1.0**
FURI				*e*S	**Sn**	**21 59 15.8**	**+5.3**

*ISK **16** 21:59:42.3, 3593N×2748E, h29km, MD3.3*
CSEM 16 21:59:42.3±0.2, 3593N×2748E, h29km, MD3.3, Error ellipse: s-maj=5.3km s-min=2.7km az=14.0, After ISK, Dodecanese Islands

*NEIC **16** 22:00:40.5, 3590N×2761E, h25km, ML3.5(ATH), After ATH.*
*ATH **16** 22:00:40.5, 3590N×2761E, h25km±1km, MD3.5/9*
*ISCJB **16** 22:00:41.6±0.3, 3583N±003×2762E±004, h41km±9km, mb3.6/4, Error ellipse: s-maj=5.7km s-min=4.2km az=44.2*
*CSEM **16** 22:00:41.3±0.1, 3582N×2761E, h40km, MD3.5, Error ellipse: s-maj=2.2km s-min=1.6km az=70.0*
*IDC **16** 22:00:43.7±1.9, 3592N×2747E, h43km±20km, mb3.5/4, mb1 3.5/6, mb1mx3.3/20, mbtmp3.6/6, ML3.0/2, Error ellipse: s-maj=37.4km s-min=10.3km az=149.0*
*HLW **16** 22:00:46.4, 3563N×2778E, h24km, Mb3.4*
ISC 16 22:00:40.7±0.8, 3591N±003×2752E±004, h12km±6km, n48, σ1§14/44, mb3.6/4, 2C-8D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**219**	*e*PN	**Pg**	**22 00 50.6**	**+0.7**
ARG	**Arkhangelos**	**0.58**	**58**	⇑*i*PN	**Pg**	**22 00 51.6**	**-0.4**
ARG				*e*SN	**Sg**	**22 00 59.4**	**-0.2**
NISR	**Nisiros**	**0.77**	**336**	*e*PN	**Pn**	**22 00 57.0**	**-0.4**
BDRM	**Kayabasi**	**1.15**	**357**	*i* P	**Pb**	**22 01 02.8**	**+0.2**
BDRM				*i* S	**Sb**	**22 01 17.6**	**+0.1**
BODT	**Bodrum**	**1.16**	**352**	PN	Px	22 00 02.7	
BODT				SN	Sx	22 00 17.3	
YER	**Yerkesik**	**1.37**	**26**	PN	Px	22 00 06.2	
YER				SN	Sx	22 00 22.8	
MLSB	**Milas**	**1.40**	**8**	PN	Px	22 00 06.0	
MLSB				SN	Sx	22 00 24.2	
FETY	**Fethiye**	**1.45**	**60**	PN	Px	22 00 07.1	
FETY				SN	Sx	22 00 26.0	
NPS	**Neapolis**	**1.69**	**248**	⇑*i*PB	**Pb**	**22 01 10.3**	**-1.3**
KSL	**Kastellorizon**	**1.69**	**81**	*e*PN	**Pn**	**22 01 09.5**	**-0.5**
AYDN	**Tasoluk**	**1.77**	**9**	*i* P	**Pn**	**22 01 11.6**	**+0.4**
AYDN				*i* S	**Sn**	**22 01 33.2**	**-0.4**
XRY	**Khrisi**	**1.82**	**236**	*e*PN	**Pn**	**22 01 14.0**	**+2.2**
SMG	**Samos**	**1.88**	**343**	*e*PB	**Pb**	**22 01 13.0**	**-1.9**
APE	**Apeiranthos**	**1.98**	**306**	*e*PN	Px	22 00 14.2	
APE	**Apeiranthos**	**1.98**	**306**	*e*PB	**Pb**	**22 01 15.5**	**-1.1**
GOLH	**Golhisar**	**2.11**	**51**	*i* P	**Pn**	**22 01 18.7**	**+2.9**
DNZL	**Cakiroluk**	**2.16**	**34**	*i* P	**Pn**	**22 01 19.0**	**+2.5**
DNZL				*i* S	**Sn**	**22 01 43.2**	**+0.1**
DENT	**Denizli**	**2.20**	**33**	*e*PN	Px	22 00 17.8	
IDI	**Anoyia**	**2.23**	**255**	P	**Pn**	**22 01 17.8**	**+0.3**
	12nm,0.3s,baz=68,slow=19,SNR=91						
IDI				S	**Sn**	**22 01 43.9**	**-1.1**
	27nm,0.3s,baz=342,slow=19,SNR=8.5						
BLCB	**Balcova**	**2.50**	**351**	*e*PN	Px	22 00 21.9	
ANTB	**Antalya**	**2.71**	**68**	*e*PN	Px	22 00 25.9	
VAM	**Vamos**	**2.75**	**260**	*e*PN	**Pn**	**22 01 27.0**	**+2.4**
AKS	**Akhisar**	**2.97**	**4**	*e*PN	Px	22 00 28.4	
ISP	**Isparta**	**3.08**	**50**	*e*PN	Px	22 00 30.7	
ISP	**Isparta**	**3.08**	**50**	*e*Pn	**Pn**	**22 01 29.6**	**+0.5**
ISP	**Isparta**	**3.08**	**50**	*e*Pn	**Pn**	**22 01 29.6**	**+0.5**
VLI	**Veliai**	**3.79**	**284**	*e*PN	**Pn**	**22 01 40.2**	**+1.3**
KIZT	**Kizilcal**	**4.56**	**48**	*e*PN	Px	22 00 51.6	
SLUM		**4.81**	**204**	⇓P	**Pn**	**22 01 54.4**	**+1.5**
SLUM				S	**Sn**	**22 02 44.1**	**-4.5**
DABA	**Dabaa**	**4.93**	**172**	⇓P	**Pn**	**22 01 54.0**	**-0.5**
HBRG	**Burj al 'Arab**	**5.67**	**159**	P	**Pn**	**22 02 03.7**	**-1.0**
BRTR	**Keskin Array B**	**6.16**	**50**	P	**Pn**	**22 02 12.9**	**+1.4**
	0.1nm,0.3s,baz=234,slow=15,SNR=6.6						
BRTR				S	**Sn**	**22 03 23.8**	**+2.0**
	0.2nm,0.3s,baz=219,slow=26,SNR=3.1						
SWA1		**6.80**	**193**	⇓P	**Pn**	**22 02 21.1**	**+0.8**
SWA2		**6.87**	**195**	⇓P	**Pn**	**22 02 22.3**	**+1.0**
AMAG	**Maghara**	**7.09**	**136**	⇓P	**Pn**	**22 02 23.1**	**-1.1**
HSAF	**As Saff**	**7.13**	**150**	P	**Pn**	**22 02 24.3**	**-0.6**
GLL	**Jalalah**	**7.23**	**150**	⇓P	**Pn**	**22 02 25.6**	**-0.6**
SUZ		**7.52**	**142**	⇓P	**Pn**	**22 02 29.7**	**-0.5**
AWBH		**7.66**	**171**	P	**Pn**	**22 02 32.0**	**0.0**
HNKL	**Nakhl**	**8.06**	**136**	P	**Pn**	**22 02 37.3**	**-0.3**
HFRF	**Wahat Farafira**	**8.76**	**175**	⇓P	**Pn**	**22 02 47.4**	**+0.2**
HKAT	**Jabal Katrina**	**9.18**	**142**	P	**Pn**	**22 02 52.5**	**-0.5**
FINES	**FINESS Array B**	**25.57**	**358**	P	**P**	**22 06 07.9**	**-1.6**
	1.3nm,0.8s,mb3.5,baz=160,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**32.46**	**232**	P	**P**	**22 07 11.1**	**+0.3**
	0.6nm,0.3s,mb3.9,baz=32,slow=8.7,SNR=28						
ARCES	**ARCESS Array B**	**33.70**	**359**	P	**P**	**22 07 19.6**	**-2.0**
	1.1nm,0.7s,mb3.9,baz=170,slow=7.4,SNR=5.1						
ARCES	**ARCESS Array B**	**33.70**	**359**	P	**P**	**22 07 19.6**	**-2.0**
MKAR	**Makanchi Array**	**41.75**	**57**	P	**P**	**22 08 27.8**	**-1.9**
	0.4nm,0.6s,mb3.2,baz=275,slow=6.2,SNR=5.7						
MKAR	**Makanchi Array**	**41.75**	**57**	P	**P**	**22 08 27.8**	**-1.9**

*ISCJB **16** 22:00:45.4±0.5, 4553N±003×1584E±004, h14km±7km, Error ellipse: s-maj=4.7km s-min=4.3km az=12.6*
*CSEM **16** 22:00:45.5±0.1, 4554N×1586E, h20km, ML2.8/3, Error ellipse: s-maj=1.7km s-min=1.2km az=15.0*
*LJU **16** 22:00:45.9, 4554N×1584E, h7km, ML1.6*
*VIE **16** 22:00:46.8±0.7, 4559N×1582E, h8km, mb2.0/1, ML2.6/1, Error ellipse: s-maj=4.1km s-min=2.9km az=127.0 24 km ENE of Karlovac*
ISC 16 22:00:46.0±0.5, 4553N±003×1585E±004, h13km±7km, n21, σ0§51/41, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISC	**Sisak**	**0.37**	**99**	*i* Pg	**Pg**	**22 00 53.5**	**0.0**
SISC				*i* Sg	**Sg**	**22 00 59.1**	**+0.6**
SISC	**Sisak**	**0.37**	**99**	*i* Pg	**Pg**	**22 00 53.4**	**-0.1**
SISC				*i* Sg	**Sg**	**22 00 59.0**	**+0.5**
GCIS	**Gornji Cirnik**	**0.37**	**335**	*i* Pg	**Pg**	**22 00 53.0**	**-0.6**
GCIS				*i* Sg	**Sg**	**22 00 58.3**	**-0.3**
GCIS							
	comp=Z,31nm,0.1s						
GCIS	**Gornji Cirnik**	**0.37**	**335**	*i* Pg	**Pg**	**22 00 53.0**	**-0.5**
GCIS				*i* Sg	**Sg**	**22 00 58.3**	**-0.3**
	comp=Z,31nm,0.1s						
CRES	**Cresnjev**	**0.41**	**317**	*i* Pg	**Pg**	**22 00 53.8**	**-0.4**
CRES				*e*Sg	**Sg**	**22 00 59.3**	**-0.3**
CRES							
	comp=Z,32nm,0.1s						
CRES	**Cresnjev**	**0.41**	**317**	*i* Pg	**Pg**	**22 00 53.8**	**-0.3**
CRES				*e*Sg	**Sg**	**22 00 59.3**	**-0.3**
	comp=Z,32nm,0.1s						
BOJS	**Bojanci**	**0.42**	**267**	*i* Pg	**Pg**	**22 00 54.3**	**-0.1**
BOJS				*i* Sg	**Sg**	**22 01 00.1**	**0.0**
BOJS							
	comp=Z,27nm,0.1s						
BOJS	**Bojanci**	**0.42**	**267**	*i* Pg	**Pg**	**22 00 54.3**	**-0.2**
BOJS				*i* Sg	**Sg**	**22 01 00.1**	**-0.1**
	comp=Z,27nm,0.1s						
GOLS	**Golise**	**0.51**	**342**	*i* Pg	**Pg**	**22 00 55.6**	**-0.4**
GOLS				*i* Sg	**Sg**	**22 01 03.1**	**+0.4**
GOLS							
	comp=Z,14nm,0.1s						
GOLS	**Golise**	**0.51**	**342**	*i* Pg	**Pg**	**22 00 55.6**	**-0.4**
GOLS				*i* Sg	**Sg**	**22 01 03.1**	**+0.4**
	comp=Z,14nm,0.1s						
LEGS	**Legarje**	**0.56**	**318**	*e*Pg	**Pg**	**22 00 56.8**	**-0.2**
LEGS				*e*Sg	**Sg**	**22 01 04.7**	**+0.2**
DOBS	**Dobrina**	**0.67**	**337**	*i* Pg	**Pg**	**22 00 59.0**	**-0.2**
VISS	**Visnje**	**0.76**	**291**	*i* Pg	**Pg**	**22 01 00.5**	**-0.3**
VISS				*e*Sg	**Sg**	**22 01 11.1**	**+0.3**
VISS							
	comp=Z,8.0nm,0.1s						
VISS	**Visnje**	**0.76**	**291**	*i* Pg	**Pg**	**22 01 00.5**	**-0.3**
VISS				*e*Sg	**Sg**	**22 01 11.1**	**+0.3**
	comp=Z,8.0nm,0.1s						
PDKS	**Podkum**	**0.80**	**312**	*i* Pg	**Pg**	**22 01 01.6**	**+0.1**
PDKS				*e*Sg	**Sg**	**22 01 11.9**	**-0.2**
KOGS	**Kog**	**0.96**	**17**	*i* Pg	**Pg**	**22 01 04.1**	**-0.5**
KOGS				*e*Sg	**Sg**	**22 01 17.9**	**+0.9**
CEY	**Cerknica**	**1.02**	**282**	*e*Pg	**Pg**	**22 01 05.8**	**+0.1**
CEY				*e*Sg	**Sg**	**22 01 20.1**	**+1.0**
CEY							
	comp=Z,7.0nm,0.2s						
CEY	**Cerknica**	**1.02**	**282**	*e*Pg	**Pg**	**22 01 05.8**	**0.0**
CEY				*e*Sg	**Sg**	**22 01 20.1**	**+1.0**
	comp=Z,7.0nm,0.2s						
NVLJ	**Novalja**	**1.19**	**216**	*i* Pg	**Pg**	**22 01 08.0**	**-0.9**
NVLJ				*i* Sg	**Sg**	**22 01 25.3**	**+0.8**
OBKA	**Obir**	**1.33**	**318**	⇑*i*Pg	**Pg**	**22 01 11.9**	**+0.2**
OBKA				⇑*i*Sg	**Sg**	**22 01 29.4**	**+0.4**
	comp=Z,24nm,0.3s						
RHK1	**Bakonya**	**1.65**	**69**	*e*P	**Pn**	**22 01 13.6**	**-1.1**
RHK1				*e*S	**Sn**	**22 01 36.5**	**+0.8**
	comp=Z,0.8nm,0.3s						

MAN 16 22:07:00.2, 1034N×12505E, h5km, mb3.2, ML4.5, MS2.3, Leyte

*SKHL **16** 22:10:59.6±2.9, 4409N×14951E, h39km±3km, mb5.5/5, mbh5.3/3, Ms4.9/6, msh5.0/3*
*IDC **16** 22:10:59.2±0.6, 4426N×14895E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.4/26, ML4.0/2, MS4.5/16, Ms1 4.5/16, ms1mx4.1/41, Error ellipse: s-maj=16.5km s-min=13.3km az=141.0*
*NIED **16** 22:11:00, 4440N×14920E, h23km, Mw5.0 Best double couple: M0:3.32000×10^16 NP1:ϕ0=37.00000°, δ0=60.00000°, λ=106.00000°. NP2:ϕ0=188.00000°, δ0=34.00000°, λ=65.00000°.*
*JMA **16** 22:11:02.0±0.5, 4438N×14918E, h30km, M4.9*
*ISCJB **16** 22:11:03.8±0.2, 4417N±003×14899E±003, h41km, mb4.8/109, MS4.6/28, Error ellipse: s-maj=5.3km s-min=2.6km az=123.1*
*MOS **16** 22:11:03.4±1.0, 4435N×14902E, h33km, mb4.9/42, MS4.5/17, Error ellipse: s-maj=9.0km s-min=5.4km az=109.4*
*BJI **16** 22:11:03.3, 4423N×14901E, h40km, mB5.1, mb4.7, Ms4.8, Msz4.6*
*NEIC **16** 22:11:05.3±0.2, 4427N×14898E, mb4.8/41, Error ellipse: s-maj=7.2km s-min=4.3km az=153.0*
*SZGRF **16** 22:11:07.3, 4439N×14981E, h47km, mb4.4, Kuril Islands, Russia*
*NAO **16** 22:11:07.7, 4491N×14863E, h33km, mb4.6*
ISC 16 22:11:05.8±0.2, 4425N±003×14898E±003, h43km, h43km±1.5km: pP-P, n332, σ1§03/339, mb4.8/109, MS4.6/28, 23C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**321**	*i* P	**Pn**	**22 11 24.4**	**-2.5**
KUR				⇑*i*P		22 11 24.4	
KUR				AMB	AMB	22 11 25.5	
	6μm,2.0s						
KUR				AMB	AMB	22 11 25.5	
	9μm,2.0s						
KUR				AMB	AMB	22 11 25.5	
	15μm,2.0s						
KUR				AMB	AMB	22 11 27.3	
	1μm,0.5s						
KUR				AMB	AMB	22 11 27.3	
	2μm,0.5s						
KUR				AMB	AMB	22 11 27.3	
	6μm,0.5s						
KUR				*e*S	**Sn**	**22 11 43.0**	**+0.3**
KUR				A		22 11 44.0	
	38μm,2.5s						
KUR				A		22 11 44.0	
	32μm,2.5s						
KUR				A		22 11 45.0	
	58μm,2.5s						
KUR				A		22 11 45.0	
	55μm,2.5s						
KUR				A		22 11 46.0	
	5μm,0.5s						
KUR				A		22 11 46.0	
	7μm,0.5s						
KUR	**Kuril'sk**	**1.26**	**321**	*i* PN	**Pn**	**22 11 24.4**	**-2.5**
KUR				S	**Sn**	**22 11 43.0**	**+0.3**
KUR				pmax	pmax		
	comp=N,6μm,1.5s						
KUR				pmax	pmax		
	comp=E,9μm,1.5s						
KUR				pmax	pmax		
	comp=Z,15μm,1.5s						
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,2μm,0.5s						
KUR				pmax	pmax		
	comp=Z,6μm,0.5s						
KUR				smax			
	comp=N,58μm,2.5s						
KUR				smax			
	comp=E,55μm,2.5s						
KUR				smax			
	comp=N,5μm,0.5s						
KUR				smax			
	comp=E,7μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.25**	**266**	*i* P	**Pn**	**22 11 39.5**	**-1.1**
YUK				AMB	AMB	22 11 40.9	
	comp=E,180nm,0.4s						
YUK				AMB	AMB	22 11 40.9	
	comp=E,440nm,0.4s						
YUK				AMB	AMB	22 11 40.9	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	22 11 47.7	
	comp=E,2μm,0.6s						
YUK				*i* S	**Sn**	**22 12 10.0**	**+2.9**
YUK				A		22 12 19.0	
	comp=E,12μm,1.1s						
YUK				A		22 12 19.0	
	comp=E,11μm,1.1s						
YUK				A		22 12 20.5	
	comp=E,5μm,0.5s						
YUK				A		22 12 20.5	
	comp=E,5μm,0.5s						
YUK				AMS	AMS	22 12 44.0	
	comp=E,14μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**2.25**	**266**	⇑*i*PN	**Pn**	**22 11 39.5**	**-1.1**
YUK				*i* S	**Sn**	**22 12 10.0**	**+2.9**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=E,440nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				smax			
	comp=N,12μm,1.2s						
YUK				smax			
	comp=E,11μm,1.0s						
YUK				smax			
	comp=N,5μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				MLR	MLR		
	comp=Z,14μm,14.0s						
NEM2	**Nemuro 2**	**2.50**	**250**	P	**Pn**	**22 11 42.1**	**-1.9**
NEM2				*e*S	**Sn**	**22 12 11.8**	**-1.5**
JRA	**Rausu**	**2.80**	**265**	P	**Pn**	**22 11 48.0**	**0.0**
JRA				*e*S	**Sn**	**22 12 22.8**	**+2.3**
JNK	**Nakash**	**3.15**	**259**	P	**Pn**	**22 11 52.3**	**-0.5**
JNK				*e*S	**Sn**	**22 12 29.7**	**+0.5**
JAK	**Akkeshi**	**3.35**	**250**	P	**Pn**	**22 11 54.1**	**-1.5**
JAK				*e*S	**Sn**	**22 12 33.3**	**-0.9**
JTKR	**Abashiri--Toko**	**3.66**	**267**	P	**Pn**	**22 12 00.5**	**+0.6**
JAR	**Ashorobuto**	**3.89**	**258**	P	**Pn**	**22 12 02.8**	**-0.2**
JOB	**Onbets**	**3.97**	**252**	P	**Pn**	**22 12 03.2**	**-1.0**
JMP	**Maruseppu**	**4.05**	**268**	P	**Pn**	**22 12 06.3**	**+1.1**
JCH	**Churui**	**4.41**	**250**	P	**Pn**	**22 12 09.0**	**-1.1**
JCH				*e*S	**Sn**	**22 12 58.6**	**-1.5**
JKK2	**Kamakawa 2**	**4.51**	**267**	P	**Pn**	**22 12 13.1**	**+1.6**
ASAJ	**Asahikawa**	**4.59**	**271**	P	**Pn**	**22 12 14.6**	**+1.9**
ASAJ	**Asahikawa**	**4.59**	**271**	Pn	**Pn**	**22 12 14.8**	**+2.2**
	comp=Z,6.3nm,0.3s,baz=73,slow=17,SNR=17						
ASAJ				LR	LR	22 14 15.7	
	comp=Z,11μm,18.3s,baz=167,slow=43						
ASAJ	**Asahikawa**	**4.59**	**271**	PN	**Pn**	**22 12 14.9**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,11μm,18.3s						
JFR	**Furan**	**4.76**	**259**	P	**Pn**	**22 12 16.0**	**+1.1**
JEM	**Erimo**	**4.81**	**244**	P	**Pn**	**22 12 15.5**	**-0.1**
JAB	**Ashibetsu**	**4.94**	**264**	P	**Pn**	**22 12 18.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.96**	**249**	P	**Pn**	**22 12 16.4**	**-1.2**
JBT2	**Biratori 2**	**5.03**	**255**	P	**Pn**	**22 12 17.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**5.14**	**304**	⇓*e*P	**Pn**	**22 12 23.3**	**+3.2**
YSS				AMB	AMB	22 12 25.9	
	comp=Z,60nm,0.4s						
YSS				*e*sP		22 12 40.8	
YSS				*e*S	**Sn**	**22 13 26.0**	**+7.9**
YSS				A		22 13 37.7	
	comp=Z,180nm,0.8s						
YSS				AMS	AMS	22 14 31.0	
	comp=Z,4μm,16.0s						
YSS				AMS	AMS	22 14 31.0	
	comp=Z,6μm,16.0s						
YSS				AMS	AMS	22 14 31.0	
	comp=Z,9μm,16.0s						
YSS				AMS	AMS	22 14 32.0	
	comp=Z,3μm,16.0s						
YSS				AMS	AMS	22 14 32.0	
	comp=Z,6μm,16.0s						
YSS				AMS	AMS	22 14 32.0	
	comp=Z,7μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.14**	**304**	⇓*e*PN	**Pn**	**22 12 23.3**	**+3.2**
YSS				*e*S	**Sn**	**22 13 26.0**	**+7.9**
YSS				pmax	pmax		
	comp=Z,60nm,0.4s						
YSS				smax			
	comp=N,180μm,0.8s						
YSS				MLR	MLR		
	comp=N,3μm,16.0s						
YSS				MLR	MLR		
	comp=E,6μm,16.0s						
YSS				MLR	MLR		
	comp=Z,7μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.14**	**304**	*e*Pn	**Pn**	**22 12 20.6**	**+0.5**
	comp=Z,71nm,0.6s						
JEW	**Eniwo**	**5.65**	**258**	P	**Pn**	**22 12 28.4**	**+1.2**
JNB	**Noboribetsu**	**6.06**	**256**	P	**Pn**	**22 12 32.6**	**-0.2**
JKB	**Kayabe**	**6.28**	**251**	P	**Pn**	**22 12 34.1**	**-1.7**
JYM2	**Yakumo 2**	**6.64**	**254**	P	**Pn**	**22 12 40.4**	**-0.4**
JANG	**Nango**	**6.75**	**238**	P	**Pn**	**22 12 38.6**	**-3.7**
UGL	**Uglegorsk**	**6.78**	**318**	*e*P	**Pn**	**22 12 45.0**	**+2.4**
UGL				AMB	AMB	22 12 50.0	
	comp=Z,600nm,4.0s						
UGL				pP		22 12 55.9	
UGL				AMS	AMS	22 15 40.0	
	comp=Z,7μm,16.0s						
UGL				AMS	AMS	22 15 40.0	
	comp=Z,3μm,16.0s						
UGL	**Uglegorsk**	**6.78**	**318**	PN	**Pn**	**22 12 45.0**	**+2.4**
UGL				pmax	pmax		
	comp=Z,600nm,4.0s						
UGL				MLR	MLR		
	comp=N,7μm,16.0s						
UGL				MLR	MLR		
	comp=E,3μm,16.0s						
UGL				M

JRG	**Rokugo**	7.90	235	P	**Pn**	**22 12 55.5 -2.5**
SKR	**Severo-Kuril's**	8.05	34	*e*P	**Pn**	**22 12 54.9 -5.1**
SKR				AMB	AMB	22 12 57.0
	comp=Z,80nm,0.5s					
SKR				AMB	AMB	22 12 57.0
	comp=Z,140nm,0.5s					
SKR				sP		22 13 11.5
SKR				*e*S	**Sn**	**22 14 23.3 -6.4**
SKR				A		22 14 35.0
	comp=Z,200nm,0.9s					
SKR				A		22 14 35.0
	comp=Z,270nm,0.9s					
SKR				A		22 14 35.0
	comp=Z,160nm,0.9s					
SKR				A		22 14 35.0
	comp=Z,3μm,10.0s					
SKR				AMS	AMS	22 16 20.0
	comp=Z,4μm,14.0s					
SKR				AMS	AMS	22 16 20.0
	comp=Z,3μm,14.0s					
SKR				AMS	AMS	22 16 20.0
	comp=Z,5μm,14.0s					
SKR				AMS	AMS	22 16 20.0
	comp=Z,3μm,14.0s					
SKR				AMS	AMS	22 16 20.0
	comp=Z,5μm,14.0s					
JIO	**Ouri**	8.15	227	P	**Pn**	**22 12 56.8 -4.7**
TEY	**Ternei**	8.86	279	*e*P	**Pn**	**22 13 10.0 -1.2**
TEY				AMS	AMS	22 17 10.0
	comp=Z,2μm,16.0s					
TEY				AMS	AMS	22 17 10.0
	comp=Z,3μm,16.0s					
TEY				AMS	AMS	22 17 10.0
	comp=Z,6μm,16.0s					
OKH	**Okha**	10.12	339	*e*P	**Pn**	**22 13 28.0 -0.4**
OKH				⇑*i*P		22 13 28.2
OKH				AMB	AMB	22 13 29.8
	comp=Z,1μm,4.4s					
OKH				AMB	AMB	22 13 29.8
	comp=Z,500nm,5.0s					
OKH				A		22 15 32.0
	comp=Z,900nm,5.6s					
OKH	**Okha**	10.12	339	*i* PN	**Pn**	**22 13 28.2 -0.2**
OKH				*e*S	**Sn**	**22 15 31.8 +11**
OKH				pmax	pmax	
	comp=Z,1μm,4.4s					
OKH				smax		
	comp=N,900nm,5.6s					
OKH				smax		
	comp=Z,3μm,16.0s					
NKL	**Nikolayevsk**	10.45	331	*e*P	**Pn**	**22 13 25.0 -8.0**
NKL				AMB	AMB	22 13 33.0
	comp=Z,600nm,4.0s					
NKL				AMB	AMB	22 13 33.0
	comp=Z,800nm,4.0s					
NKL				AMB	AMB	22 13 33.0
	comp=Z,900nm,4.0s					
NKL				AMB	AMB	22 13 45.3
	comp=Z,22nm,1.0s					
NKL				AMB	AMB	22 13 45.3
	comp=Z,22nm,1.3s					
NKL				AMB	AMB	22 13 45.3
	comp=Z,60nm,1.3s					
NKL				AMB	AMB	22 13 45.3
	comp=Z,130nm,1.3s					
NKL				AMS	AMS	22 17 46.0
	comp=Z,1μm,14.0s					
NKL				AMS	AMS	22 17 46.0
	comp=Z,3μm,17.0s					
NKL				AMS	AMS	22 17 46.0
	comp=Z,3μm,17.0s					
HABR	**Khabarovsk**	10.51	299	*i* PN	**Pn**	**22 13 38.7 +4.9**
GRNR	**Gornyy**	10.70	312	*e*P	**Pn**	**22 13 35.6 -0.8**
GRNR				AMB	AMB	22 13 39.0
	comp=Z,98nm,1.2s					
PET	**Petropavlovsk**	10.85	33	*e*PN	**Pn**	**22 13 43.2 +4.7**
PET				pmax	pmax	
	comp=Z,19nm,0.4s					
PET				MLR	MLR	
	comp=Z,3μm,17.0s					
PET				MLR	MLR	
	comp=Z,3μm,20.0s					
PET	**Petropavlovsk**	10.85	33	*e*P	**Pn**	**22 13 36.3 -2.2**
MJAR	**Matsushiro Arr**	11.25	230	Pn	**Pn**	**22 13 40.9 -3.0**
	comp=Z,1.1nm,0.3s,baz=28,slow=14,SNR=14					
MJAR	**Matsushiro Arr**	11.25	230	PN	**Pn**	**22 13 40.9 -3.0**
MJAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MAJO	**Matsushiro**	11.25	230	*e*PN	**Pn**	**22 13 40.9 -3.0**
MAJO				pmax	pmax	
	comp=Z,16nm,0.6s					
MAJO	**Matsushiro**	11.25	230	*e*P	**Pn**	**22 13 40.9 -3.0**
	comp=Z,16nm,0.6s					
MAT	**Matsushiro**	11.25	230	P	**Pn**	**22 13 40.7 -3.2**
MAT				*e*S	**Sn**	**22 15 49.2 +1.0**
KLR	**Kul'dur**	12.82	299	*e*PN	**Pn**	**22 14 07.0 +1.7**
KLR				pmax	pmax	
	comp=E,37nm,1.6s					
KLR				pmax	pmax	
	comp=Z,45nm,1.6s					
KLR				pmax	pmax	
	comp=E,700nm,11.0s					
KLR				pmax	pmax	
	comp=Z,1μm,11.0s					
KLR				MLR	MLR	
	comp=E,1μm,13.0s					
KLR				MLR	MLR	
	comp=Z,7μm,13.0s					
EKMR	**Ekimchan**	13.76	316	*e*P	**Pn**	**22 14 14.5 -3.7**
EKMR				AMB	AMB	22 14 30.6
	comp=Z,21nm,0.9s					
MDJ	**Mudanjiang**	13.86	278	P	**Pn**	**22 14 19.4 -0.1**
MDJ				AMB	AMB	
	comp=Z,15nm,1.2s					
MDJ				AMB	AMB	
	comp=Z,159nm,5.6s					
MDJ				LR	LR	
	comp=N,1μm,17.3s					
MDJ				LR	LR	
	comp=E,2μm,15.8s					
MDJ				LR	LR	
	comp=Z,3μm,15.8s					
MDJ	**Mudanjiang**	13.86	278	*e*P	**Pn**	**22 14 19.4 -0.2**
	comp=Z,24nm,1.0s					
MA2	**Magadan**	15.39	3	*e*P	**Pn**	**22 14 38.6 -1.2**
MA2				*e*		22 17 35.7
MA2				pmax	pmax	
	comp=Z,5.0nm,0.8s					
MA2	**Magadan**	15.39	3	*e*Pn	**Pn**	**22 14 38.8 -1.1**
	comp=Z,8.4nm,0.6s					
YASR	**Yasnyy**	16.48	311	*e*P	**Pn**	**22 14 53.0 -0.8**
YASR				AMB	AMB	22 15 02.4
	comp=Z,5.0nm,0.7s					
CN2	**Changchun**	16.92	277	*e*P	**Pn**	**22 14 56.3 -3.0**
CN2				*e*AP	pP	22 15 07.0 -4.2
CN2				AMB	AMB	
	comp=Z,10.0nm,1.4s					
CN2				AMB	AMB	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,2μm,18.0s					
CN2				LR	LR	
	comp=E,2μm,18.0s					
CN2				LR	LR	
	comp=Z,3μm,16.0s					
ZEA	**Zeya**	17.07	311	*e*P	**Pn**	**22 15 00.5 -0.6**
ZEA				AMB	AMB	22 15 02.6
	comp=Z,43nm,1.2s					
ZEA				AMB	AMB	22 15 23.0
	comp=Z,500nm,7.0s					
ZEA				A		22 18 30.0
	comp=Z,300nm,9.0s					
KROS	**Kirovskiy**	17.52	313	*e*P	**Pn**	**22 15 04.5 -2.2**
KROS				sP	sP	22 15 19.0 -4.3
JNU	**Nakatsue**	17.94	238	P	**Pn**	**22 15 09.9 -1.9**
	comp=Z,0.3nm,0.3s,baz=81,slow=2.6,SNR=2.2					
CBIJ	**Chichi jima**	17.97	200	LR	LR	22 21 07.2
	comp=Z,310nm,21.7s,baz=278,slow=34					
SNY	**Shenyang**	18.70	271	⇑P	**Pn**	**22 15 20.8 -0.4**
SNY				AMB	AMB	
	comp=Z,20nm,1.0s					
SNY				LR	LR	
	comp=N,940nm,15.3s					
SNY				LR	LR	
	comp=E,1μm,18.0s					
SNY				LR	LR	
	comp=Z,2μm,18.6s					
SEY	**Seymchan**	18.82	5	*e*P	**Pn**	**22 15 20.6 -2.0**
SEY				*e*S	**S**	**22 18 41.9 -11**
SEY				pmax	pmax	
	comp=Z,20nm,0.9s					
SEY				pmax	pmax	
	comp=N,20nm,1.0s					
SEY				smax		
	comp=N,510nm,21.4s					
SEY				smax		
	comp=E,680nm,22.6s					
SEY				MLR	MLR	
	comp=Z,5μm,18.0s					
SEY				MLR	MLR	
	comp=N,3μm,20.0s					
SEY				MLR	MLR	
	comp=E,1μm,20.0s					
CLNS	**Chul'man**	19.69	318	*e*P	**Pn**	**22 15 30.9 -2.1**
CLNS				*e*S	**S**	**22 19 10.4 -0.6**
CLNS				pmax	pmax	
	comp=Z,8.0nm,0.8s					
CLNS				pmax	pmax	
	comp=N,4.0nm,0.9s					
CLNS				pmax	pmax	
	comp=E,5.0nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,6.0nm,0.6s					
CLNS				pmax	pmax	
	comp=N,7.0nm,1.2s					
CLNS				pmax	pmax	
	comp=E,4.0nm,0.9s					
CLNS				smax		
	comp=N,104nm,18.7s					
CLNS				smax		
	comp=Z,338nm,14.0s					
CLNS				smax		
	comp=E,147nm,11.7s					
CLNS				MLR	MLR	
	comp=Z,4μm,15.0s					
CLNS				MLR	MLR	
	comp=N,700nm,16.0s					
CLNS				MLR	MLR	
	comp=E,2μm,15.0s					
HIA	**Hailar**	20.58	294	*e*P	**P**	**22 15 42.1 +1.2**
HIA				pmax	pmax	
	comp=Z,5.0nm,0.5s					
HIA	**Hailar**	20.58	294	*e*P	**P**	**22 15 42.1 +1.2**
	comp=Z,5.4nm,0.5s					
YAK	**Yakutsk**	21.09	334	*e*P	**P**	**22 15 44.4 -2.0**
YAK				*i*		22 15 56.5
YAK				*e*S	**S**	**22 19 30.8 -7.9**
YAK				*i*		22 27 09.9
YAK				pmax	pmax	
	comp=Z,17nm,0.9s,mb4.4					
YAK				pmax	pmax	
	comp=N,4.0nm,1.2s					
YAK				pmax	pmax	
	comp=N,15nm,0.9s					
YAK				smax		
	comp=N,12nm,1.3s					
YAK				smax		
	comp=E,12nm,1.4s					
YAK				MLR	MLR	
	comp=N,938nm,19.0s,MS4.3					
YAK				MLR	MLR	
	comp=Z,1μm,19.0s,MS4.2					
YAK				MLR	MLR	
	comp=E,970nm,21.0s,MS4.3					
YAK	**Yakutsk**	21.09	334	*e*P	**P**	**22 15 44.1 -2.3**
	comp=E,26nm,0.4s,mb4.9					
DL2	**Dalian**	21.10	265	P	**P**	**22 15 46.8 +0.3**
DL2				S	**S**	**22 19 40.6 +1.8**
DL2				AMB	AMB	
	comp=Z,30nm,1.1s,mb4.5					
DL2				AMB	AMB	
	comp=Z,170nm,4.9s					
DL2				LR	LR	
	comp=N,390nm,16.3s,MS4.1					
DL2				LR	LR	
	comp=E,500nm,18.3s,MS4.1					
DL2				LR	LR	
	comp=Z,740nm,17.3s,MS4.1					
BJT	**Baijiatuau**	24.60	272	*e*P	**P**	**22 16 21.6 -0.2**
BJT				pmax	pmax	
	comp=Z,99nm,1.4s					
BJT	**Baijiatuau**	24.60	272	*e*P	**P**	**22 16 21.6 -0.2**
	comp=Z,99nm,1.4s,mb5.2					
SSE	**Sheshan**	25.48	248	P	**P**	**22 16 30.3 +0.5**
SSE				S	**S**	**22 20 49.4 -4.6**
SSE				PCS	PcS	22 23 40.1 -1.1
SSE				AMB	AMB	
	comp=Z,35nm,0.7s,mb5.0					
SSE				AMB	AMB	
	comp=Z,360nm,5.2s					
SSE				LR	LR	
	comp=N,512nm,23.0s,MS4.2					
SSE				LR	LR	
	comp=E,682nm,22.9s,MS4.2					
SSE				LR	LR	
	comp=Z,764nm,20.7s,MS4.2					
TIA	**Tai'an**	25.49	263	*e*P	**P**	**22 16 30.0 +0.1**
BOD	**Bodaibo**	25.50	315	*e*P	**P**	**22 16 24.9 -5.1**
BOD				pmax	pmax	
	comp=Z,5.0nm,1.4s,mb3.9					
BILL	**Bilibino**	25.52	15⇑	*e*P	**P**	**22 16 28.4 -1.8**
BILL				*e*S	**S**	**22 20 55.6 +1.0**
BILL				pmax	pmax	
	comp=Z,7.0nm,1.7s,mb3.9					
BILL				MLR	MLR	
	comp=Z,1μm,18.0s,MS4.5					
BILL	**Bilibino**	25.52	15	*e*P	**P**	**22 16 28.9 -1.3**
	comp=Z,3.9nm,0.6s,mb4.1					
NJ2	**Nanjing**	26.48	253	*e*P	**P**	**22 16 41.6 +2.7**
NJ2				AMB	AMB	
	comp=Z,70nm,1.0s,mb5.2					
NJ2				LR	LR	
	comp=N,4μm,16.0s,MS5.1					
NJ2				LR	LR	
	comp=E,3μm,16.6s,MS5.1					
NJ2				LR	LR	
	comp=Z,2μm,15.8s,MS4.8					
BTO	**Baotou**	28.80	276	*e*P	**P**	**22 17 00.3 +0.7**
ULN	**Ulaanbaatar**	29.06	292	*e*P	**P**	**22 17 02.4 +0.5**
ULN				pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.4					
ULN	**Ulaanbaatar**	29.06	292	*e*P	**P**	**22 17 02.4 +0.5**
	comp=Z,4.5nm,0.6s,mb4.4					
TIXI	**Tiksi**	29.15	347	*e*P	**P**	**22 16 57.4 -5.3**
TIXI				*e*S	**S**	**22 21 51.5 -0.4**
TIXI				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb3.9					
TIXI				MLR	MLR	
	comp=Z,790nm,15.0s,MS4.5					
SONM	**Songino Array**	29.50	292	P	**P**	**22 17 06.2 +0.4**
	comp=Z,2.4nm,0.5s,mb4.2,baz=79,slow=8.7,SNR=27					
SONM				LR	LR	22 30 07.6
	comp=Z,2μm,18.1s,MS4.9,baz=129,slow=39					
SONM	**Songino Array**	29.50	292	P	**P**	**22 17 06.2 +0.4**
SONM				pmax	pmax	
	comp=Z,2.0nm,0.5s					
SONM				MLR	MLR	
	comp=Z,2μm,18.1s					
NACB	**Ninganchiao**	30.01	237	*e*P	**P**	**22 17 13.1 +2.8**
GUMO	**Guam**	30.76	188	LR	LR	22 27 59.9
	comp=Z,275nm,20.0s,MS3.9,baz=11,slow=33					
ZAK	**Zakamensk**	31.18	298	*e*P	**P**	**22 17 20.6 -0.1**
ZAK				*e*		22 18 35.0
ZAK				pmax	pmax	
	comp=Z,12nm,1.8s,mb4.4					
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.7s,mb4.4					
XAN	**Xi'an**	32.41	266	P	**P**	**22 17 31.5 0.0**
XAN				AMB	AMB	
	comp=Z,6.0nm,1.4s,mb4.2					
XAN				LR	LR	
	comp=E,584nm,17.7s					
XAN				LR	LR	
	comp=Z,777nm,17.5s,MS4.5					
ENH	**Enshi**	34.05	259	*e*P	**P**	**22 17 45.4 -0.3**
	comp=Z,5.9nm,0.7s,mb4.6					
LZH	**Lanzhou**	35.07	272	⇑P	**P**	**22 17 55.6 +1.0**
LZH				AP	pP	22 18 03.5 -2.8
LZH				XP	sP	22 18 07.4 -4.1
LZH				PP	PP	22 19 17.3 +2.6
LZH				*e*S	**S**	**22 23 30.0 +5.9**
LZH				XS	sS	22 23 42.0 -1.7
LZH				AMB	AMB	
	comp=Z,94nm,1.5s,mb5.5					
LZH				AMB	AMB	
	comp=Z,346nm,4.5s					
LZH				LR	LR	
	comp=N,2μm,13.9s					
LZH				LR	LR	
	comp=Z,3μm,15.5s,MS5.1					
TTA	**Tatalina**	36.21	39	*e*P	**P**	**22 18 04.2 -0.1**
TTA				*e*	pP	22 18 17.0 +0.9
TTA				pmax	pmax	
	comp=Z,15nm,1.0s,mb4.9					
TTA	**Tatalina**	36.21	39	*e*P	**P**	**22 18 04.2 -0.1**
	comp=Z,15nm,1.0s,mb4.9					
TTA				*e*	pP	22 18 17.0 +0.9
GTA	**Gaotai**	36.51	280	P	**P**	**22 18 07.8 +0.9**
GTA				AP	pP	22 18 14.0 -4.7
GTA				XP	sP	22 18 18.0 -5.8
GTA				AMB	AMB	
	comp=Z,17nm,1.5s,mb4.7					
GTA				AMB	AMB	
	comp=Z,233nm,7.2s					
GTA				LR	LR	
	comp=N,987nm,14.5s,MS5.0					
GTA				LR	LR	
	comp=E,1μm,14.8s,MS5.0					
GTA				LR	LR	
	comp=Z,2μm,13.3s,MS5.0					
CD2	**Chengdu**	37.77	265	P	**P**	**22 18 17.4 -0.2**
CD2				AMB	AMB	
	comp=Z,20nm,0.5s,mb5.1					
CD2				AMB	AMB	
	comp=Z,170nm,5.1s					
CD2				LR	LR	
	comp=N,350nm,12.0s					
CD2				LR	LR	
	comp=Z,410nm,15.6s,MS4.3					
KDAK	**Kodiak Island**	37.94	48	P	**P**	**22 18 18.1 -0.9**
	comp=Z,17nm,0.9s,mb4.8,baz=288,slow=3.9,SNR=12					
MCK	**McKinley**	39.42	38	*e*P	**P**	**22 18 31.0 -0.5**
MCK				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.2					
MCK	**McKinley**	39.42	38	*e*P	**P**	**22 18 30.9 -0.5**
	comp=Z,4.1nm,0.9s,mb4.2					
SML	**Sawmill**	39.77	41	*e*P	**P**	**22 18 34.0 -0.4**
SML				*e**PP	pP	22 18 43.2 -3.1
COLA	**College**	39.89	36	*e*P	**P**	**22 18 36.0 +0.7**
COLA				*e**PP	pP	22 18 45.7 -1.5
COLA				pmax	pmax	
	comp=Z,14nm,0.8s,mb4.7					
COLA	**College**	39.89	36	*e*P	**P**	**22 18 36.0 +0.7**
	comp=Z,14nm,0.8s,mb4.7					
COLA				*e*pP	pP	22 18 45.7 -1.5
ILAR	**Eielson Array**	40.30	37	P	**P**	**22 18 38.0 -0.8**
	comp=Z,5.4nm,1.0s,mb4.2,baz=259,slow=7.6,SNR=29					
ILAR				LR	LR	22 36 42.8
	comp=Z,381nm,19.6s,MS4.2,baz=95,slow=38					
ILAR	**Eielson Array**	40.30	37	P	**P**	**22 18 38.0 -0.7**
ILAR				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ILAR				MLR	MLR	
	comp=Z,381nm,19.6s					
ZAL	**Zalesovo**	41.77	307	P	**P**	**22 18 50.7 -0.1**
	comp=Z,0.9nm,0.3s,mb3.9,baz=31,slow=10,SNR=5.3					
ZAL				PcP	PcP	22 20 46.5 0.0
	comp=Z,1.3nm,0.7s,baz=60,slow=3.7,SNR=4.9					
ZAL				LR	LR	22 37 52.0
	comp=Z,985nm,18.7s,MS4.7,baz=40,slow=39					
ZAL	**Zalesovo**	41.77	307	P	**P**	**22 18 50.7 -0.1**
ZAL						22 20 46.5
ZAL				pmax	pmax	
	comp=Z,1.0nm,0.3s					
ZAL				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ZAL				MLR	MLR	
	comp=Z,985nm,18.7s					
ZAL	**Zalesovo**	41.77	307	P	**P**	**22 18 50.7 -0.1**
ZAL				PcP	PcP	22 20 46.5 0.0
ZAL				LR	LR	22 37 52.0
KMI	**Kunming**	41.91	259	P	**P**	**22 18 51.8 -0.2**
KMI				AP	pP	22 19 02.3 -1.6
KMI				XP	sP	22 19 07.3 -1.7
KMI				PP	PP	22 20 31.5 +2.0
KMI				S	**S**	**22 25 09.8 +2.6**
KMI				XS	sS	22 25 27.3 +0.2
KMI				AMB	AMB	
	comp=Z,16nm,1.2s,mb4.5					
KMI				AMB	AMB	
	comp=Z,129nm,4.9s					
KMI				LR	LR	
	comp=N,589nm,15.3s,MS4.7					
KMI				LR	LR	
	comp=E,596nm,16.5s,MS4.7					
KMI				LR	LR	
	comp=Z,677nm,17.1s,MS4.6					
WMQ	**Urumqi**	43.14	292	P	**P**	**22 19 03.0 +1.1**
WMQ				AMB	AMB	
	comp=Z,18nm,1.0s,mb4.8					
DAWY	**Dawson**	43.60	37	*e*P	**P**	**22 19 05.5 -0.2**
DAWY				*e*pP	pP	22 19 15.8 -1.9
INK	**Inuvik**	45.30	31	P	**P**	**22 19 19.2 0.0**
	comp=Z,12nm,0.9s,mb4.7,baz=294,slow=7.1,SNR=34					
INK	**Inuvik**	45.30	31	P	**P**	**22 19 19.2 0.0**
INK				pmax	pmax	
	comp=Z,12nm,0.9s					
MKAR	**Makanchi Array**	45.52	298	P	**P**	**22 19 21.1 +0.1**
	comp=Z,5.3nm,0.6s,mb4.6,baz=80,slow=9.1,SNR=72					
MKAR				LR	LR	22 39 45.3
	comp=Z,2μm,18.6s,MS5.1,baz=40,slow=38					
MKAR	**Makanchi Array**	45.52	298	P	**P**	**22 19 21.1 +0.1**
MKAR				pmax	pmax	
	comp=Z,5.0nm,0.6s					
MKAR				MLR	MLR	
	comp=Z,2μm,18.6s					
KURK	**Kurchatov**	46.34	304	*e*P	**P**	**22 19 26.4 -1.1**
KURK				pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.6					
KURK	**Kurchatov**	46.34	304	*e*P	**P**	**22 19 26.4 -1.1**
	comp=Z,4.6nm,0.6s,mb4.6					
LSA	**Lhasa**	47.49	272	P	**P**	**22 19 38.3 +1.9**
LSA	**Lhasa**	47.49	272	*e*P	**P**	**22 19 37.7 +1.3**
LSA				pmax	pmax	
	comp=Z,21nm,1.4s,mb4.9					
LSA	**Lhasa**	47.49	272	*e*P	**P**	**22 19 37.7 +1.2**
	comp=Z,21nm,1.4s,mb4.9					
SHL	**Shillong**	49.38	268	*e*P	**P**	**22 19 51.0 0.0**
BRVK	**Borovoye**	50.25	310	*e*P	**P**	**22 19 56.9 -0.7**
ZRNK	**Zerenda**	51.00	310	P	**P**	**22 20 03.6 +0.4**
ZRNK				pmax	pmax	
	comp=Z,15nm,1.9s,mb4.6					
ZRNK	**Zerenda**	51.00	310	*e*P	**P**	**22 20 02.3 -0.9**
	comp=Z,3.3nm,0.6s,mb4.4					
ULHL	**Ulahol**	51.38	295	P	**P**	**22 20 07.0 +0.9**
	SNR=9.3					
TKM2	**Tokmak 2**	51.48	296	P	**P**	**22 20 07.4 +0.6**
	SNR=16					
CHMS	**Chumysh**	51.99	296	P	**P**	**22 20 09.6 -1.0**
	SNR=5.3					
USP	**Ospenovka**	52.02	297	P	**P**	**22 20 11.6 +0.8**
	SNR=23					
KBK	**Karagaybulak**	52.02	296	P	**P**	**22 20 11.9 +1.0**
	SNR=18					
KZA	**Kyzart**	52.11	295	P	**P**	**22 20 13.6 +2.1**
	SNR=17					
FRU	**Bishkek**	52.15	296	*e*P	**P**	**22 20 13.5 +1.7**
FRU				*e*	pP	22 20 27.0 +2.9
FRU				pmax	pmax	
	comp=Z,120nm,2.4s,mb5.4					
FRU				MLR	MLR	
	comp=Z,1μm,15.0s,MS5.0					
FRU				MLR	MLR	
	comp=N,1μm,15.0s					
JIRN	**Jiri**	52.22	274	*e*P	**P**	**22 20 13.2 +0.8**
GUN	**Gumba**	52.30	274	*e*P	**P**	**22 20 13.7 +0.8**
	comp=N,31nm,0.5s,mb5.5					
AAK	**Ala-Archa**	52.33	296	P	**P**	**22 20 13.9 +0.7**
	SNR=10					
EKS2	**Erkin-Say**	52.78	296	P	**P**	**22 20 17.3 +0.8**
	SNR=19					
KKN	**Kakani**	52.80	274	*e*P	**P**	**22 20 17.3 +0.7**
PKI	**Pulchoki**	52.84	274	*e*P	**P**	**22 20 17.4 +0.5**
	comp=N,67nm,1.4s,mb5.4					
PKI	**Pulchoki**	52.84	274	*e*P	**P**	**22 20 17.4 +0.5**
PKI				pmax	pmax	
	comp=Z,34nm,1.4s,mb5.1					
DMN	**Daman**	53.03	274	*e*P	**P**	**22 20 19.1 +0.8**
	comp=Z,55nm,1.1s,mb5.4					

AML	**Almayashu**	53.09	296	P	P	22 20 20.1 +1.3
	SNR=14					
GKN	**Gorkha**	53.14	275	*e*P	P	22 20 19.6 +0.5
	comp=Z,76nm,1.1s,mb5.5					
PMG	**Port Moresby**	53.43	182	LR	LR	22 39 53.0
	comp=Z,152nm,20.3s,MS4.0,baz=63,slow=32					
KOLN	**Koldanda**	54.02	275	*e*P	P	22 20 26.2 +0.7
	comp=Z,35nm,0.9s,mb5.3					
RES	**Resolute Bay**	54.10	17	*e*P	P	22 20 25.4 -0.8
RES				pmax	pmax	
	comp=Z,19nm,0.8s,mb5.1					
RES	**Resolute Bay**	54.10	17	*e*P	P	22 20 25.4 -0.8
	comp=Z,19nm,0.8s,mb5.1					
HNR	**Honiara**	54.35	167	LR	LR	22 40 19.0
	comp=Z,299nm,19.5s,MS4.4,baz=360,slow=32					
YKW3	**Yellowknife Ar**	54.61	34	*e*P	P	22 20 29.6 -0.3
KKAR	**Karatay Array**	54.64	298	*i* P	P	22 20 30.1 0.0
KKAR				pmax	pmax	
	comp=Z,12nm,0.9s,mb4.9					
YKA	**Yellowknife Ar**	54.65	34	P	P	22 20 29.6 -0.5
	comp=Z,4.0nm,0.9s,mb4.4,baz=299,slow=7.1,SNR=30					
YKA	**Yellowknife Ar**	54.65	34	P	P	22 20 29.6 -0.5
YKA				pmax	pmax	
	comp=Z,4.0nm,0.9s					
YKA	**Yellowknife Ar**	54.65	34	P	P	22 20 29.6 -0.5
ARU	**Arti**	54.88	317	⇓*i*P	P	22 20 29.9 -1.9
ARU				*e*		22 21 29.7
ARU				*e*PPP		22 23 43.5
ARU				*e*S	S	22 27 59.7 -10
ARU				*e*SS	SS	22 31 48.9 -4.9
ARU				*e*SSS		22 33 59.2
ARU				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.5					
ARU				MLR	MLR	
	comp=Z,1μm,17.0s,MS5.1					
ARU				MLR	MLR	
	comp=N,600nm,18.0s,MS5.0					
ARU				MLR	MLR	
	comp=E,1μm,17.0s,MS5.0					
ARU	**Arti**	54.88	317	*e*P	P	22 20 30.8 -1.1
	comp=E,3.9nm,0.4s,mb4.8					
DDI	**Dehra Dun**	56.47	281	*e*P	P	22 20 42.0 -1.2
DLH	**Dalhousie**	56.66	285	*e*P	P	22 20 46.0 +1.4
AYAN	**Aya Nagar**	58.20	280	*e*P	P	22 20 55.5 +0.1
AYAN				AMb	AMB	22 20 56.7
	comp=Z,19nm,0.7s,mb5.2					
AKTK	**Aktyubinsk**	58.20	311	P	P	22 20 55.1 -0.4
AKTO	**Aktyubinsk**	58.20	311	P	P	22 20 55.1 -0.4
	comp=Z,1.7nm,0.5s,mb4.3,baz=50,slow=8.8,SNR=8.2					
AKTO	**Aktyubinsk**	58.20	311	P	P	22 20 55.1 -0.4
AKTO				pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.4					
AGRA	**Agra**	58.37	278	*e*P	P	22 20 56.0 -0.6
SONA	**Sohna**	58.37	280	*e*P	P	22 20 57.1 +0.5
SONA				*e*x	x	22 20 57.2
SONA				AMb	AMB	22 20 59.4
	comp=Z,21nm,1.0s,mb5.1					
ARCES	**ARCESS Array B**	59.23	340	P	P	22 21 00.9 -1.7
	comp=Z,1.8nm,0.7s,mb4.2,baz=47,slow=6.7,SNR=18					
ARCES				LR	LR	22 48 03.2
	comp=Z,340nm,21.3s,MS4.5,baz=220,slow=38					
ARCES	**ARCESS Array B**	59.23	340	P	P	22 21 00.9 -1.7
ARCES				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ARCES				MLR	MLR	
	comp=Z,341nm,21.3s					
KHET	**Khetri**	59.38	281	*e*P	P	22 21 03.5 -0.1
KHET				AMb	AMB	22 21 17.8
	comp=Z,8.5nm,0.6s,mb4.9					
KLMR	**Klimovskoe**	60.72	328	*e*P	P	22 21 09.3 -3.5
KLMR				pmax	pmax	
	comp=Z,40nm,2.1s,mb5.2					
BHPL	**Bhopal**	61.19	275	*e*P	P	22 21 15.5 -0.4
BHPL				AMb	AMB	22 21 17.6
	comp=Z,27nm,1.7s,mb5.1					
YBH	**Yreka Blue Hor**	61.51	58	P	P	22 21 19.4 +1.3
	comp=Z,0.9nm,0.5s,mb4.2,baz=157,slow=3.5,SNR=5.1					
YBH	**Yreka Blue Hor**	61.51	58	P	P	22 21 19.4 +1.2
YBH				pmax	pmax	
	comp=Z,1.0nm,0.5s					
JOF	**Joensuu**	62.26	333	*e*p	P	22 21 21.7 -1.5
	comp=Z,2.7nm,0.3s,mb4.8					
JOF	**Joensuu**	62.26	333	*e*P	P	22 21 21.7 -1.5
JOF				pmax	pmax	
	comp=Z,3.0nm,0.3s,mb4.9					
JASL	**Jaisalmer**	63.53	283	*e*P	P	22 21 32.4 +0.8
CHMT	**Chamberlain Mo**	63.92	49	*e*P	P	22 21 34.2 +0.1
CHMT				*e*pP	pP	22 21 46.5 -0.2
HYB	**Hyderabad**	64.11	269	*i* P	P	22 21 35.0 -0.4
HYB	**Hyderabad**	64.11	269	*e*P	P	22 21 35.0 -0.4
KAF	**Kangasniemi**	64.45	334	*e*p	P	22 21 34.9 -2.8
	comp=Z,4.6nm,0.8s,mb4.6					
KAF	**Kangasniemi**	64.45	334	*e*P	P	22 21 34.9 -2.8
KAF				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.6					
FFC	**Flin Flon**	64.51	37	*e*P	P	22 21 37.9 -0.1
FFC				*e**PP	pP	22 21 49.1 -1.5
FFC				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.9					
FFC	**Flin Flon**	64.51	37	*e*P	P	22 21 37.9 -0.1
	comp=Z,11nm,0.9s,mb4.9					
FFC				*e*pP	pP	22 21 49.1 -1.5
FCC	**Fort Churchill**	64.92	31	*e*P	P	22 21 39.8 -1.0
FCC				*e**PP	pP	22 21 51.8 -1.5
FCC				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.7					
FCC	**Fort Churchill**	64.92	31	*e*P	P	22 21 39.8 -1.0
	comp=Z,6.4nm,0.7s,mb4.8					
FCC				*e*pP	pP	22 21 51.8 -1.5
FINES	**FINESS Array B**	65.02	334	P	P	22 21 39.4 -2.0
	comp=Z,4.8nm,0.6s,mb4.7,baz=40,slow=6.1,SNR=31					
FINES				LR	LR	22 51 44.4
	comp=Z,210nm,19.1s,MS4.3,baz=358,slow=38					
FINES	**FINESS Array B**	65.02	334	P	P	22 21 39.4 -2.0
FINES				pmax	pmax	
	comp=Z,5.0nm,0.6s					
FINES				MLR	MLR	
	comp=Z,210nm,19.1s					
WRAB	**Tennant Creek**	65.26	195	*e*P	P	22 21 44.6 +1.7
WRA	**Warramunga Arr**	65.27	195	P	P	22 21 41.4 -1.6
	comp=Z,1.8nm,0.9s,mb4.1,baz=17,slow=6.8,SNR=11					
WRA	**Warramunga Arr**	65.27	195	P	P	22 21 41.4 -1.6
WRA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
HLID	**Hailey**	65.33	53	*e*P	P	22 21 43.7 +0.3
	comp=Z,1.4nm,0.7s,mb4.1					
BOZ	**Bozeman (W)**	65.58	49	*e*P	P	22 21 44.9 -0.1
BOZ				pmax	pmax	
	comp=Z,8.0nm,0.6s,mb4.9					
BOZ	**Bozeman (W)**	65.58	49	*e*P	P	22 21 44.9 -0.1
	comp=Z,8.4nm,0.6s,mb5.0					
OBN	**Obninsk**	65.69	324⇑	*e*P	P	22 21 44.0 -1.7
OBN				pmax	pmax	
	comp=Z,27nm,1.7s,mb5.0					
OBN				MLR	MLR	
	comp=Z,800nm,17.0s,MS5.0					
IMW	**Indian Meadow**	67.08	51	P	P	22 21 56.1 +1.5
	comp=Z,5.3nm,0.4s,mb4.9					
FLWY	**Flagg Ranch**	67.09	50	*e*P	P	22 21 55.0 +0.3
	comp=Z,3.0nm,0.8s,mb4.4					
VRSR	**Storozhevoye**	67.20	320	*e*P	P	22 21 54.9 -0.4
VRSR				pmax	pmax	
	comp=N,2.0nm,0.8s					
VRSR				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.2					
VRSR				pmax	pmax	
	comp=E,2.0nm,0.9s					
MOOW	**Moose Ponds**	67.28	51	*e*P	P	22 21 56.3 +0.5
	comp=E,4.1nm,0.8s,mb4.5					
MOOW				*e*pP	pP	22 22 09.1 +0.6
KAD	**Karad**	67.32	272	*e*P	P	22 21 55.9 -0.2
KAD				AMb	AMB	22 22 25.1
	comp=Z,27nm,1.6s,mb5.0					
SFJD	**Kangerlussuaq**	68.08	8	P	P	22 21 59.9 -1.0
	comp=Z,7.5nm,0.7s,mb4.8,baz=321,slow=5.9,SNR=4.1					
SFJD	**Kangerlussuaq**	68.08	8	P	P	22 21 59.9 -1.0
SFJD				pmax	pmax	
	comp=Z,8.0nm,0.7s,mb4.9					
SFJD	**Kangerlussuaq**	68.08	8	P	P	22 21 59.9 -1.0
FRB	**Frobisher Bay**	68.32	17	P	P	22 22 01.3 -1.1
	comp=Z,22nm,0.7s,mb5.3,baz=344,slow=8.0,SNR=25					
FRB	**Frobisher Bay**	68.32	17	P	P	22 22 01.3 -1.1
FRB				pmax	pmax	
	comp=Z,22nm,0.7s					
DUG	**Dugway**	68.38	55	*e*P	P	22 22 03.1 +0.3
DUG				*e**PP	pP	22 22 15.7 +0.3
DUG				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.5					
DUG	**Dugway**	68.38	55	*e*P	P	22 22 03.1 +0.3
	comp=Z,5.2nm,1.0s,mb4.5					
DUG				*e*pP	pP	22 22 15.7 +0.3
PDAR	**Pinedale Array**	68.57	51	P	P	22 22 03.9 -0.2
	comp=Z,2.8nm,0.8s,mb4.2,baz=279,slow=2.3,SNR=20					
ASAR	**Alice Springs**	68.98	195	P	P	22 22 05.8 -0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=14,slow=5.3,SNR=5.3					
ASAR	**Alice Springs**	68.98	195	P	P	22 22 05.8 -0.7
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
GOF	**Gofitskoye**	69.47	313	*e*P	P	22 22 09.4 -0.2
GOF				*i*	pP	22 22 23.4 +1.1
GOF				pmax	pmax	
	comp=Z,50nm,1.3s,mb5.3					
ARUT	**Antelope Range**	69.56	57	*e*P	P	22 22 11.5 +1.4
NB2	**NORSAR Subarra**	69.60	340	P	P	22 22 08.8 -1.6
	comp=Z,4.2nm,0.6s,mb4.5,baz=31,slow=6.5					
NOA	**NORSAR Array B**	69.60	340	P	P	22 22 08.7 -1.7
	comp=Z,7.8nm,0.8s,mb4.7,baz=32,slow=6.1,SNR=24					
NOA				LR	LR	22 55 47.1
	comp=Z,241nm,18.8s,MS4.5,baz=10.0,slow=39					
NOA	**NORSAR Array B**	69.60	340	P	P	22 22 08.7 -1.7
NOA				pmax	pmax	
	comp=Z,8.0nm,0.8s					
NOA				MLR	MLR	
	comp=Z,241nm,18.8s					
HFS	**Hagfors**	69.73	338	P	P	22 22 09.7 -1.5
	comp=Z,4.0nm,0.3s,mb4.8,baz=23,slow=4.5,SNR=53					
HFS	**Hagfors**	69.73	338	P	P	22 22 09.7 -1.5
HFS				pmax	pmax	
	comp=Z,4.0nm,0.3s					
MSU	**Marysvale**	69.85	56	*e*P	P	22 22 12.4 +0.5
ULM	**Lac du Bonnet**	70.30	38	P	P	22 22 13.8 -0.9
	comp=Z,1.4nm,0.5s,mb4.2,baz=308,slow=5.9,SNR=4.6					
SRU	**San Rafael**	70.42	54	*e*P	P	22 22 15.5 +0.1
SRU				pmax	pmax	
	comp=Z,8.0nm,0.7s,mb4.8					
SRU	**San Rafael**	70.42	54	*e*P	P	22 22 15.5 +0.1
	comp=Z,7.8nm,0.7s,mb4.8					
SUW	**Suwalki**	71.74	330	*e*P	P	22 22 23.5 +0.1
SUW				pmax	pmax	
	comp=Z,22nm,0.9s,mb5.1					
SUW	**Suwalki**	71.74	330	*e*P	P	22 22 23.5 +0.1
	comp=Z,22nm,0.9s,mb5.1					
AKASG	**Malin Array Be**	71.95	325	P	P	22 22 24.0 -0.7
	comp=Z,7.1nm,0.8s,mb4.7,baz=37,slow=6.1,SNR=32					
AKASG	**Malin Array Be**	71.95	325	P	P	22 22 24.0 -0.7
AKASG				pmax	pmax	
	comp=Z,7.0nm,0.8s					
WUAZ	**Wupatki**	72.31	58	*e*P	P	22 22 27.6 +0.9
	comp=Z,5.1nm,0.9s,mb4.5					
SMCO	**Snowmass**	72.43	52	*e*P	P	22 22 27.8 +0.3
	comp=Z,3.7nm,0.6s,mb4.5					
ANN	**Anapa**	72.52	316	*e*P	P	22 22 16.4 -12
ANN				pmax	pmax	
	comp=Z,29nm,1.1s,mb5.1					
KWP	**Kalwaria**	75.41	327	*e*P	P	22 22 45.2 +0.2
KWP				pmax	pmax	
	comp=Z,79nm,1.5s,mb5.4					
KWP	**Kalwaria**	75.41	327	*e*P	P	22 22 45.2 +0.3
	comp=Z,79nm,1.5s,mb5.4					
ANMO	**Albuquerque**	75.63	55	⇓*i*P	P	22 22 46.6 +0.4
BURAR	**Bucovina Array**	76.00	325	⇑P	P	22 22 48.7 +0.4
BURAR	**Bucovina Array**	76.00	325	⇑P	P	22 22 48.7 +0.3
OJC	**Ojcow**	76.04	329	*e*P	P	22 22 48.5 0.0
STKA	**Stephens Creek**	76.06	186	P	P	22 22 50.1 +1.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=339,slow=14,SNR=2.6					
STKA	**Stephens Creek**	76.06	186	P	P	22 22 50.9 +2.2
KOLS	**Kolonicke sedl**	76.14	327	*e*P	P	22 22 47.8 -1.3
KOLS				*e*		22 22 54.7
STHS	**Stebnicka Huta**	76.15	328	*e*P	P	22 22 49.9 +0.7
STHS				*e*pP	pP	22 23 01.5 -0.5
CRVS	**Cervenica-Dubn**	76.48	327	*e*P	P	22 22 52.9 +1.8
NIE	**Niedzica**	76.50	328	*e*P	P	22 22 51.6 +0.4
CFR	**Carcaliu**	76.64	321	⇑P	P	22 22 52.4 +0.4
OKC	**Ostrava-Krasne**	76.96	330	*e*P	P	22 22 52.5 -1.2
OKC				*e*pP	pP	22 23 05.6 -1.0
HARR	**Harsova**	77.11	321	⇑P	P	22 22 56.0 +1.4
HARR	**Harsova**	77.11	321	⇑P	P	22 22 56.0 +1.4
UPC	**Upice**	77.15	331	*e*P	P	22 22 55.3 +0.5
UPC				*e*pP	pP	22 23 07.5 -0.1
DPC	**Dobruska-Polom**	77.17	331	*e*P	P	22 22 54.6 -0.4
DPC				*e*pP	pP	22 23 07.8 0.0
KECS	**Kecovo**	77.20	328	*e*P	P	22 22 55.2 +0.1
KECS				*e*	pP	22 23 08.3 +0.4
KECS	**Kecovo**	77.20	328	*e*P	P	22 22 50.9 -4.2
KECS				*e*		22 23 08.3
MLR	**Muntele Rosu**	77.37	323	LR	LR	23 00 05.4
	comp=Z,496nm,19.1s,MS4.8,baz=218,slow=38					
MLR	**Muntele Rosu**	77.37	323	⇑P	P	22 22 56.8 +0.8
MLR	**Muntele Rosu**	77.37	323	⇑P	P	22 22 56.8 +0.8
CLL	**Collm**	77.47	333	⇑*i*P	P	22 22 56.0 -0.6
	comp=Z,19nm,1.1s,mb4.9					
CLL				*i* x	x	22 23 03.4
CLL				*i* pP	pP	22 23 09.4 0.0
CLL	**Collm**	77.47	333	⇑*i*P	P	22 22 56.0 -0.6
CLL				*i*		22 23 03.4
CLL				*i*	pP	22 23 09.4 0.0
CLL				pmax	pmax	
	comp=Z,19nm,1.1s,mb4.9					
BRG	**Berggiesshubel**	77.54	333	*e*(P)	P	22 22 53.0 -3.9
	comp=Z,3.7nm,1.4s,mb4.1					
BRG	**Berggiesshubel**	77.54	333	*e*P	P	22 22 53.0 -4.0
BRG				pmax	pmax	
	comp=Z,4.0nm,1.4s,mb4.2					
PVCC	**Panska Ves**	77.62	332	*e*P	P	22 22 59.0 +1.5
DRGR		77.69	325	⇓P	P	22 22 57.3 -0.6
DRGR		77.69	325	⇓P	P	22 22 57.3 -0.6
VOIR		77.80	323	⇓P	P	22 22 59.3 +0.9
VOIR		77.80	323	⇓P	P	22 22 59.3 +0.9
VYHS	**Vyhne**	77.82	329	*e*P	P	22 22 58.7 +0.2
PSZ	**Piszkesteto**	77.89	328	*e*P	P	22 22 57.8 -1.2
PSZ				pmax	pmax	
	comp=Z,26nm,1.4s,mb5.0					
PSZ	**Piszkesteto**	77.89	328	*e*P	P	22 22 57.8 -1.1
	comp=Z,26nm,1.4s,mb5.0					
EKA	**Eskdalemuir Ar**	78.02	344	P	P	22 22 58.8 -0.9
	comp=Z,1.9nm,0.7s,mb4.1,baz=18,slow=5.1,SNR=6.4					
EKA	**Eskdalemuir Ar**	78.02	344	P	P	22 22 58.8 -0.8
EKA				pmax	pmax	
	comp=Z,2.0nm,0.7s					
PRU	**Pruhonice**	78.09	332	*e*P	P	22 23 00.2 +0.1
PRU				*e*pP	pP	22 23 13.1 +0.2
BR131	**Keskin Array S**	78.14	315	*e*P	P	22 23 00.5 +0.1
	comp=Z,2.4nm,0.6s,mb4.3					
BRTR	**Keskin Array B**	78.14	315	P	P	22 23 00.9 +0.5
	comp=Z,2.0nm,0.9s,mb4.0,baz=80,slow=4.6,SNR=9.8					
BRTR	**Keskin Array B**	78.14	315	P	P	22 23 00.9 +0.5
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.9s					
SMOL	**Smolenice**	78.32	329	*e*P	P	22 23 02.0 +0.7
ANTO	**Ankara**	78.47	315	*e*P	P	22 23 03.3 +1.2
ANTO				*e*	pP	22 23 15.8 +0.8
ANTO				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.8					
ANTO	**Ankara**	78.47	315	*e*P	P	22 23 03.3 +1.1
	comp=Z,9.9nm,0.8s,mb4.8					
ANTO				*e*	pP	22 23 15.8 +0.8
MOX	**Moxa**	78.48	334	*e*(P)	P	22 23 02.9 +0.7
	comp=Z,43nm,2.0s,mb5.0					
MOX	**Moxa**	78.48	334	*e*P	P	22 23 02.9 +0.7
MOX				pmax	pmax	
	comp=Z,43nm,2.0s,mb5.0					
MNTX	**Cornudas Mount**	78.55	57	*e*P	P	22 23 00.6 -2.0
	comp=Z,2.9nm,0.8s,mb4.3					
NKC	**Novy Kostel**	78.58	333	*e*P	P	22 22 58.0 -4.7
BZS	**Buzias**	79.09	325	⇑P	P	22 23 05.3 -0.3
BZS	**Buzias**	79.09	325	⇑P	P	22 23 05.3 -0.3
KHC	**Kasperske Hory**	79.15	332	*e*P	P	22 23 06.2 +0.3
KHC				*e*pP	pP	22 23 18.4 -0.4
GERES	**GERESS Array B**	79.36	332	P	P	22 23 06.8 -0.2
	comp=Z,1.9nm,0.3s,mb4.5,baz=39,slow=5.2,SNR=31					
GERES	**GERESS Array B**	79.36	332	P	P	22 23 06.8 -0.2
GERES				pmax	pmax	
	comp=Z,2.0nm,0.3s					
GRF	**Grafenberg Arr**	79.44	334	*e*P	P	22 23 07.3 -0.2
	comp=Z,6.0nm,1.2s,mb4.4					
GRF				*e*pP	pP	22 23 21.2 +0.9
GRF	**Grafenberg Arr**	79.44	334	*e*P	P	22 23 07.3 -0.2
GRF				*e**PP	pP	22 23 21.2 +0.9
GRF				pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.4					
GIVF	**Givet**	80.97	338	*e*P	P	22 23 16.1 +0.4
KBA	**Koelnbreinsper**	81.00	331⇑	*i*P	P	22 23 16.7 +0.8
	comp=Z,17nm,0.8s,mb5.0					
BAIF	**Baives**	81.18	338	*e*P	P	22 23 17.6 +0.8
	comp=Z,66nm,1.5s,mb5.0					
WATA	**Walderalm**	81.38	332⇑	*i*P	P	22 23 18.1 +0.2
	comp=Z,13nm,1.2s,mb4.8					
WTTA	**Wattenberg**	81.42	332⇑	*i*P	P	22 23 18.6 +0.5
	comp=Z,23nm,1.3s,mb4.9					
MOTA	**Moosalm**	81.53	333⇑	*i*P	P	22 23 18.9 +0.2
	comp=Z,13nm,1.1s,mb4.8					
SQTA	**Sankt Quirin**	81.60	332⇑	*i*P	P	22 23 19.4 +0.4
	comp=Z,17nm,1.3s,mb4.8					
CDF	**Champ du Feu**	81.79	335	*e*P	P	22 23 20.7 +0.6
NWAO	**Narrogin (SRO)**	82.08	207	*e*P	P	22 23 24.1 +2.5
HINF	**Hinteralfeld**	82.45	335	*e*P	P	22 23 23.7 +0.2
MIAR	**Mount Ida**	83.16	48	*e*P	P	22 23 26.5 -0.7
MIAR				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.8					
MIAR	**Mount Ida**	83.16	48	*e*P	P	22 23 26.5 -0.7
	comp=Z,8.5nm,0.8s,mb4.8					
PPT	**Papeete**	83.16	122	*e*LR	LR	22 49 02.2
	comp=Z,270nm,26.0s					
PPT	**Papeete**	83.16	122	LR	LR	22 52 21.3
	comp=Z,361nm,20.4s,MS4.7,baz=351,slow=30					
FLN	**La Foliniere**	83.58	340	*e*P	P	22 23 29.8 +0.5
	comp=Z,82nm,1.2s,mb5.4					
CABF	**La Chapelle**	83.76	335	*e*P	P	22 23 30.6 +0.3
	comp=Z,122nm,1.6s,mb5.5					
LOR	**Lormes**	83.82	337	*e*P	P	22 23 30.6 0.0
GRR	**Gorron**	84.02	340	*e*P	P	22 23 32.0 +0.4
SSF	**Saint Saulge**	84.11	337	*e*P	P	22 23 32.5 +0.5
	comp=Z,23nm,1.1s,mb4.9					
SMF	**Signal de Mont**	84.39	337	*e*P	P	22 23 33.8 +0.3
AVF	**Avril sur Loir**	84.39	337	*e*P	P	22 23 34.0 +0.5
	comp=Z,30nm,1.0s,mb5.1					
SGMF	**Saint Gilles**	84.55	341	*e*P	P	22 23 34.5 +0.2
LPL	**La Plagne**	84.55	334	*e*P	P	22 23 34.7 +0.4
	comp=Z,14nm,0.8s,mb4.8					
LPG	**La Plagne**	84.56	334	*e*P	P	22 23 34.6 +0.3
	comp=Z,17nm,0.9s,mb4.9					
ROSF	**Rostrenen**	84.63	342	*e*P	P	22 23 35.0 +0.3
QUIF	**Quistinic**	85.00	342	*e*P	P	22 23 36.9 +0.3
TCF	**Toulx Ste Croi**	85.17	338	*e*P	P	22 23 36.9 -0.5
MBDF	**Montbardon**	85.25	334	*e*P	P	22 23 38.2 +0.4
	comp=Z,14nm,0.8s,mb4.8					
ORIF	**Oris-en-Rattie**	85.35	335	*e*P	P	22 23 38.4 +0.1
	comp=Z,37nm,1.1s,mb5.1					
MFF	**Saint Martin d**	85.50	339	*e*P	P	22 23 38.9 -0.2
VIVF	**Saint-Julien-l**	85.77	335	*e*P	P	22 23 40.5 +0.1
	comp=Z,33nm,1.1s,mb5.2					
SBF	**Sospel**	85.81	333	*e*P	P	22 23 41.0 +0.4
	comp=Z,28nm,0.8s,mb5.3					
IDI	**Anoyia**	85.96	317	LR	LR	23 09 45.2
	comp=Z,192nm,18.6s,MS4.5,baz=356,slow=41					
RJF	**Les Rejaudoux**	86.27	338	*e*P	P	22 23 43.0 +0.2
SMRF	**Simiane la Rot**	86.30	334	*e*P	P	22 23 43.4 +0.4
	comp=Z,90nm,1.6s,mb5.5					
FRF	**La Foret Royal**	86.33	334	*e*P	P	22 23 43.4 +0.2
	comp=Z,21nm,1.0s,mb5.0					
PGF	**Pioggiola**	86.46	332	*e*P	P	22 23 44.3 +0.5
CAF	**Calviac**	86.46	337	*e*P	P	22 23 44.0 +0.2
LMR	**La Mourre**	86.58	334	*e*P	P	22 23 44.4 0.0
LASF	**Ste Croix**	86.73	336	*e*P	P	22 23 45.6 +0.5
LFF	**La Frestale**	86.81	338	*e*P	P	22 23 45.9 +0.4
TBI	**Tubuai**	87.68	126	*e*LR	LR	22 51 07.9
	comp=Z,285nm,24.5s					
MTLF	**Montolieu**	87.88	336	*e*P	P	22 23 51.1 +0.4
EPF	**Esparros**	88.69	338	*e*P	P	22 23 55.2 +0.7
	comp=Z,9.6nm,0.9s,mb4.8					
SJPF	**Ste Jean**	89.03	339	*e*P	P	22 23 56.2 +0.1
ETSF	**Etsaut**	89.06	338	*e*P	P	22 23 56.6 +0.4
	comp=Z,185nm,1.9s,mb5.8					
ATD	**Arta Tunnel**	95.30	289	LR	LR	23 11 48.5
	comp=Z,219nm,19.5s,MS4.6,baz=172,slow=39					
RKT	**Rikitea**	96.43	116	*e*LR	LR	22 55 11.5
	comp=Z,193nm,23.5s					
TORD	**Torodi Ar. Bea**	115.58	324	PKP	PKPdf	22 29 42.4 -0.7
	comp=Z,0.3nm,0.3s,baz=21,slow=1.8,SNR=20					
BDFB	**Brasilia**	148.04	32	PKPbc	PKPbc	22 30 46.7 +0.2
	comp=Z,4.8nm,0.8s,baz=285,slow=2.2,SNR=9.2					
BDFB	**Brasilia**	148.04	32	PKP2	PKPab	22 30 46.7 -2.6
BDFB				pmax	pmax	
	comp=Z,5.0nm,0.8s					
PLCA	**Paso Flores**	150.83	97	PKPbc	PKPbc	22 30 53.4 0.0
	comp=Z,1.9nm,0.7s,baz=221,slow=3.2,SNR=5.6					
PLCA	**Paso Flores**	150.83	97	PKIKP	PKPdf	22 30 53.4 +5.6
PLCA				pmax	pmax	
	comp=Z,2.0nm,0.7s					
PLCA	**Paso Flores**	150.83	97	PKPbc	PKPbc	22 30 53.4 0.0

ISK ***16*** *22:11:37.1,3493N×2692E,h51km,MD3.2*
ISCJB ***16*** *22:12:37.2±0.4,3500N±003×27.11E±004,h10km,Error ellipse: s-maj=5.4km s-min=4.0km az=21.0*
CSEM ***16*** *22:12:37.5±0.1,3500N×2720E,h15km,MD3.5,Error ellipse: s-maj=2.9km s-min

STKA Stephens Creek 40.35 241 P **P 22 31 28.2 -0.2**
1.0nm,0.4s,mb3.9,baz=105,slow=12,SNR=4.8
WB2 Warramunga Arr 46.30 259 *e*P **P 22 32 16.2 -0.2**
WRAB Tennant Creek 46.31 259 *e*P **P 22 32 16.7 +0.3**
0.8nm,0.5s,mb3.9
WRA Warramunga Arr 46.31 259 P **P 22 32 16.3 -0.2**
0.7nm,0.4s,mb3.9,baz=96,slow=7.3,SNR=50
ASAR Alice Springs 46.50 254 P **P 22 32 18.4 +0.4**
5.0nm,0.5s,mb4.8,baz=88,slow=8.4,SNR=63
MAW Mawson 85.05 199 P **P 22 36 26.7 +0.5**

IDC 16 22:29:39.4±20.0, 1847N×14528E, h334km±168km, mb2.9/4, mb1 3.1/4, mb1mx2.9/17, mbtmp3.6/4, Error ellipse: s-maj=225.6km s-min=18.6km az=76.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**39.65**	**196**	*e*P	P	22 36 40.4	+0.6
WRA	**Warramunga Arr**	**39.66**	**196**	P	P	22 36 40.1	+0.3
	1.2nm,0.6s,baz=18,slow=8.8,SNR=26						
WRA				PcP	PcP	22 38 39.4	+0.2
	0.1nm,0.4s,baz=12,slow=3.7,SNR=3.1						
FITZ	**Fitzroy Crossi**	**41.16**	**209**	*e*P	P	22 36 52.0	0.0
	2.5nm,1.0s						
SONM	**Songino Array**	**43.07**	**322**	P	P	22 37 07.4	0.0
	0.4nm,0.6s,baz=136,slow=6.1,SNR=3.9						
ASAR	**Alice Springs**	**43.33**	**195**	P	P	22 37 09.2	-0.1
	0.4nm,0.4s,baz=16,slow=6.9,SNR=7.0						
MKAR	**Makanchi Array**	**58.33**	**314**	P	P	22 39 00.2	0.0
	0.2nm,0.5s,baz=95,slow=7.7,SNR=5.4						

*CSEM **16** 22:34:44.6±0.2, 2988N×4987E, h15km, ML3.0, Error ellipse: s-maj=5.4km s-min=2.0km az=138.0*
*KISR **16** 22:34:45.0±1.0, 2980N×4948E, h0km±6km, ML3.0*
*ISCJB **16** 22:34:46.7±0.7, 3013N±005×4962E±004, h10km, Error ellipse: s-maj=7.7km s-min=5.0km az=150.8*
*THR **16** 22:34:55.9±0.5, 3075N×5019E, h14km±4km, ML3.3*
ISC 16 22:34:48.4±0.7, 3014N±005×4954E±004, h10km, n16, σ1§33/29, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMR	**Umm Al-Rimmam**	**1.69**	**250**	*e*P	**Pn**	**22 35 16.5**	**-1.5**
UMR				*e*S	**Sn**	**22 35 41.0**	**+1.4**
UMR				AML	AML	22 35 45.4	
	comp=Z,365nm,0.4s						
UMR	**Umm Al-Rimmam**	**1.69**	**250**	*e*P	**Pn**	**22 35 16.5**	**-1.4**
UMR				*e*S	**Sn**	**22 35 41.0**	**+1.3**
KBD	**Kabd**	**1.88**	**240**	*e*P	**Pn**	**22 35 19.2**	**-1.2**
KBD				*e*S	**Sn**	**22 35 44.2**	**0.0**
KBD				AML	AML	22 35 48.2	
	comp=Z,474nm,0.3s						
KBD	**Kabd**	**1.88**	**240**	*e*P	**Pn**	**22 35 19.2**	**-1.3**
KBD				*e*S	**Sn**	**22 35 44.2**	**0.0**
MIB	**Mutribah**	**1.94**	**261**	*e*P	**Pn**	**22 35 21.8**	**+0.4**
MIB				*e*S	**Sn**	**22 35 48.4**	**+2.6**
MIB				AML	AML	22 35 52.2	
	comp=Z,144nm,0.6s						
MIB	**Mutribah**	**1.94**	**261**	*e*P	**Pn**	**22 35 21.8**	**+0.4**
MIB				*e*S	**Sn**	**22 35 48.4**	**+2.6**
SHGR	**Shooshtar-Gavs**	**2.06**	**342**	*e*PG	**Pg**	**22 35 28.6**	**+0.7**
SHGR				AML	AML	22 36 07.5	
	comp=N,359nm,0.6s						
SHGR				AML	AML	22 36 23.7	
	comp=E,235nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.06**	**342**	*e*Pg	**Pg**	**22 35 28.6**	**+0.7**
	SNR=90						
RDF	**Al-Radifah**	**2.12**	**236**	*e*P	**Pn**	**22 35 21.5**	**-2.3**
RDF				*e*S	**Sn**	**22 35 49.5**	**-0.6**
RDF				AML	AML	22 35 51.1	
	comp=Z,70nm,0.5s						
RDF	**Al-Radifah**	**2.12**	**236**	*e*P	**Pn**	**22 35 21.5**	**-2.3**
RDF				*e*S	**Sn**	**22 35 49.5**	**-0.6**
NAY	**Al-Naaiem**	**2.19**	**247**	*e*P	**Pn**	**22 35 23.8**	**-1.0**
NAY				*e*S	**Sn**	**22 35 53.0**	**+1.0**
NAY				AML	AML	22 35 54.6	
	comp=Z,40nm,0.4s						
NAY	**Al-Naaiem**	**2.19**	**247**	*e*P	**Pn**	**22 35 23.8**	**-1.0**
NAY				*e*S	**Sn**	**22 35 53.0**	**+1.1**
GHIR	**Ghir-Karzin**	**3.53**	**121**	*e*PN	**Pn**	**22 35 51.7**	**+8.4**
GHIR				*e*SG	**Sg**	**22 36 43.3**	**+1.6**
GHIR				AML	AML	22 36 50.3	
	comp=N,56nm,0.6s						
GHIR				AML	AML	22 36 52.6	
	comp=E,80nm,0.7s						
GHIR	**Ghir-Karzin**	**3.53**	**121**	*e*Pn	**Pn**	**22 35 51.7**	**+8.5**
	SNR=52						
GHIR				*e*Sg	**Sg**	**22 36 43.3**	**+1.5**
	comp=E,80nm,0.7s,SNR=90						
NASN	**Na'in**	**3.85**	**46**	*e*PN	**Pn**	**22 35 45.6**	**-2.0**
ASAO	**Ashtian**	**4.41**	**5**	*e*PN	**Pn**	**22 35 56.3**	**+0.9**
ASAO				*e*SG	**Sn**	**22 36 53.9**	**+7.1**

*NEIC **16** 22:39:18.2, 1664N×9434W, h114km, MD4.2(MEX), After MEX.*
MEX 16 22:39:18.2±0.9, 1664N×9434W, h114km±9km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.69**	**311**	*i* P	Pn	22 39 35.7	-1.2
CMIG				*i* S	Sn	22 39 49.4	-1.6
TUIG	**Tuzandepetl**	**1.39**	**357**	*e*P	Pn	22 39 41.9	-2.0
TUIG				*i* S	Sn	22 40 01.4	-2.1
SCX	**San Cristobal**	**1.64**	**86**	*i* P	Pn	22 39 46.7	-0.2
SCX				*i* S	Sn	22 40 07.2	-1.6
HUIG	**Huatulco**	**1.91**	**243**	*i* P	Pn	22 39 47.8	-2.4
HUIG				*e*S	Sn	22 40 13.0	-1.6
EVV	**El Vigia**	**2.05**	**332**	*i* P	Pn	22 39 49.8	-2.1
EVV				*i* S	Sn	22 40 16.5	-1.2
CCIG	**Comitan**	**2.15**	**99**	*e*P	Pn	22 39 52.6	-0.6
CCIG				*i* S	Sn	22 40 18.0	-2.0
OXX	**Oaxaca**	**2.32**	**281**	*i* P	Pn	22 39 55.8	+0.3
OXX				*i* S	Sn	22 40 22.5	-1.5
VHO	**Vista Hermosa**	**2.33**	**281**	*e*P	Pn	22 39 55.5	0.0
VHO				*i* S	Sn	22 40 23.7	-0.5
TPIG	**Tehuac#an**	**3.38**	**302**	*i* P	Pn	22 40 08.8	-0.5
TPIG				*i* S	Sn	22 40 47.5	-1.3
UTMO	**Huajuapan**	**3.51**	**290**	*e*P	Pn	22 40 11.2	+0.1
UTMO				*i* S	Sn	22 40 50.7	-1.3
LVIG	**Laguna Verde**	**3.65**	**328**	*i* P	Pn	22 40 09.4	-3.4
PPM	**Popocatepetl**	**4.74**	**301**	*e*P	Pn	22 40 29.5	+2.0
PPM				*i* S	Sn	22 41 18.2	-3.3
MEIG	**Mezcala**	**5.20**	**285**	*i* S	Sn	22 41 30.8	-1.8
PLIG	**Platanillo**	**5.22**	**290**	*i* P	Pn	22 40 34.7	+0.6

*IDC **16** 22:52:48.5±2.9, 2728N×5593E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/24, mbtmp3.9/7, Error ellipse: s-maj=56.5km s-min=29.3km az=147.0*
*ISCJB **16** 22:52:49.2±2.2, 269N±0.1×565E±0.1, h51km±12km, mb3.9/7, Error ellipse: s-maj=25.6km s-min=13.1km az=109.6*
*CSEM **16** 22:52:51.7±0.4, 2775N×5596E, h12km, mb3.9/1, ML4.2/2, Error ellipse: s-maj=16.8km s-min=11.6km az=52.0*
*NEIC **16** 22:52:55.0, 2764N×5607E, h14km, mb3.6/2, ML3.5(THR), MN3.7(TEH), After THR.*
*THR **16** 22:52:55.0±0.5, 2764N×5607E, h14km±4km, ML3.5*
*TEH **16** 22:52:55.2, 2750N×5558E, h17km, Mn3.7*
ISC 16 22:52:53.7±1.0, 2765N±006×5600E±006, h19km±6km, n24, σ1§27/30, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.29**	**148**	*e*PG	**Pg**	**22 53 00.6**	**+0.4**
BNDS	**Bandar-Abbas**	**0.29**	**148**	*e*Pg	**Pg**	**22 53 00.0**	**-0.3**
KRBR	**Kerman**	**2.42**	**16**	*e*PN	**Pn**	**22 53 36.4**	**+4.2**
KRBR				*e*SG	**Sg**	**22 54 10.9**	**-0.7**
KRBR				AML	AML	22 54 13.1	
	comp=N,200nm,0.7s						
KRBR				AML	AML	22 54 15.6	
	comp=E,171nm,0.6s						
KRBR	**Kerman**	**2.42**	**16**	*e*Pn	**Pn**	**22 53 36.4**	**+4.2**
	SNR=52						
KRBR				*e*Sg	**Sg**	**22 54 10.9**	**-0.7**
	comp=E,171nm,0.6s,SNR=90						
KRBR	**Kerman**	**2.42**	**16**	*e*Pn	**Pn**	**22 53 36.0**	**+3.8**
KRBR				*e*Sg	**Sg**	**22 54 10.0**	**-1.6**
GHIR	**Ghir-Karzin**	**2.74**	**284**	*e*PN	**Pn**	**22 53 41.7**	**+5.2**
GHIR				*e*SG	**Sg**	**22 54 22.6**	**+0.8**
GHIR				AML	AML	22 54 29.4	
	comp=E,237nm,0.4s						
GHIR				AML	AML	22 54 43.5	
	comp=N,294nm,0.6s						
GHIR	**Ghir-Karzin**	**2.74**	**284**	*e*Pn	**Pn**	**22 53 41.7**	**+5.1**
	SNR=52						
GHIR				*e*Sg	**Sg**	**22 54 22.6**	**+0.9**
	comp=N,294nm,0.6s,SNR=90						
GHIR	**Ghir-Karzin**	**2.74**	**284**	*e*Pn	**Pn**	**22 53 41.0**	**+4.4**
GHIR				*e*Sg	**Sg**	**22 54 22.0**	**+0.3**
GNI	**Garni**	**15.56**	**326**	Pn	**Pn**	**22 56 37.9**	**+6.0**
	comp=N,0.4nm,0.3s,baz=169,slow=5.2,SNR=7.3						
MALT	**Malatya**	**18.14**	**310**	*e*P	**Pn**	**22 57 04.5**	**0.0**
	comp=N,1.4nm,0.6s						
MALT	**Malatya**	**18.14**	**310**	*e*P	**Pn**	**22 57 04.5**	**-0.1**
	comp=N,1.4nm,0.6s						
BR131	**Keskin Array S**	**22.10**	**309**	*e*P	**P**	**22 57 46.9**	**-0.8**
	comp=N,4.4nm,0.8s,mb3.9						
BR131	**Keskin Array S**	**22.10**	**309**	*e*P	**P**	**22 57 46.9**	**-0.8**
	comp=N,4.4nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**22.10**	**309**	P	**P**	**22 57 47.0**	**-0.7**
	comp=N,2.9nm,0.9s,mb3.7,baz=110,slow=18,SNR=19						
BRTR	**Keskin Array B**	**22.10**	**309**	P	**P**	**22 57 47.0**	**-0.7**
AKTK	**Aktyubinsk**	**22.81**	**3**	P	**P**	**22 57 56.9**	**+1.6**
AKTK	**Aktyubinsk**	**22.81**	**3**	P	**P**	**22 57 56.9**	**+1.7**
AKTO	**Aktyubinsk**	**22.81**	**3**	P	**P**	**22 57 56.9**	**+1.7**
	comp=N,2.2nm,1.0s,mb3.5,baz=189,slow=11,SNR=5.8						
MLR	**Muntele Rosu**	**29.75**	**315**	P	**P**	**22 59 00.7**	**+1.8**
	comp=N,2.9nm,0.8s,mb4.1,baz=70,slow=20,SNR=4.3						
AKASG	**Malin Array Be**	**30.70**	**326**	P	**P**	**22 59 05.9**	**-1.3**
	comp=N,0.6nm,0.5s,mb3.7,baz=133,slow=8.4,SNR=4.5						
ZAL	**Zalesovo**	**33.71**	**31**	P	**P**	**22 59 34.1**	**+0.5**
	comp=N,0.7nm,0.5s,mb3.8,baz=233,slow=9.9,SNR=5.6						
VRAC	**Vranov**	**37.10**	**316**	P	**P**	**23 00 02.3**	**-0.4**
	comp=N,3.3nm,1.0s,mb4.1,baz=141,slow=6.5,SNR=3.9						
KHC	**Kasperske Hory**	**38.90**	**315**	*e*P	**P**	**23 00 16.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**52.51**	**266**	P	**P**	**23 02 03.0**	**-2.5**
	comp=N,1.6nm,0.8s,mb4.0,baz=50,slow=6.7,SNR=10						

*NAO **16** 22:52:11.8, 1847S×17858W, h33km, mb5.3*
*SZGRF **16** 22:53:16.4, 2077S×17787W, h33km, Fiji Islands region*
*BJI **16** 22:53:16.9, 1980S×178.10W, h535km, mB4.9, mb4.7*
*NEIC **16** 22:53:18.0±0.9, 1982S×17808W, h536km±10km, mb4.8/39, Error ellipse: s-maj=11.1km s-min=5.7km az=150.0*
*ISCJB **16** 22:53:18.1±0.9, 1992S±005×178.14W±005, h552km±12km, mb4.8/67, Error ellipse: s-maj=8.8km s-min=5.2km az=111.5*
*MOS **16** 22:53:19.7±1.0, 1950S×17823W, h558km, mb4.8/17, Error ellipse: s-maj=12.5km s-min=8.8km az=46.8*
*IDC **16** 22:53:20.1±1.3, 1987S×17803W, h568km±14km, mb4.4/18, mb1 4.5/21, mb1mx4.4/25, mbtmp5.3/21, Error ellipse: s-maj=15.2km s-min=9.6km az=148.0*
ISC 16 22:53:20.1±0.8, 1989S±005×17809W±004, h561km±10km, h543km±3.1km; pP-P, n308, σ0§94/215, mb4.8/67, 15C-17D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.48**	**46**	P	**P**	**22 55 21.1**	**-1.6**
	27nm,0.3s,baz=352,slow=3.2,SNR=20						
AFI				S	**S**	**22 56 56.0**	**-7.4**
	19nm,0.3s,baz=42,slow=22,SNR=11						
AFI	**Afiamalu**	**8.48**	**46**	*e*P	**P**	**22 55 21.1**	**-1.7**
AFI				pmax	pmax		
	comp=Z,158nm,0.6s						
AFI	**Afiamalu**	**8.48**	**46**	*e*P	**P**	**22 55 21.1**	**-1.7**
	comp=Z,158nm,0.6s						
BKM	**Butte a Klehm**	**13.13**	**277**	‖ *i*P	**P**	**22 56 12.0**	**+1.9**
DZM	**Mont Dzumac**	**14.61**	**259**	P	**P**	**22 56 26.7**	**+1.4**
	comp=Z,6.7nm,0.3s,baz=78,slow=19,SNR=55						
DZM	**Mont Dzumac**	**14.61**	**259**	*e*P	**P**	**22 56 23.6**	**-1.7**
OUZ	**Omahuta**	**16.94**	**204**	PN	**P**	**22 56 50.4**	**+2.8**
WCZ	**Waipu Caves**	**17.32**	**201**	PN	**P**	**22 56 53.9**	**+2.8**
URZ	**Urewera**	**18.77**	**192**	P	**P**	**22 57 02.9**	**-1.4**
	comp=Z,10nm,0.3s,baz=1.1,slow=5.1,SNR=59						
URZ				S	**S**	**23 00 02.8**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=281,slow=18,SNR=4.3						
URZ	**Urewera**	**18.77**	**192**	PN	**P**	**22 57 02.1**	**-2.2**
BKZ	**Black Stump Fm**	**19.77**	**193**	PN	**P**	**22 57 11.8**	**-1.6**
TSZ	**Takapari Road**	**20.74**	**193**	PN	**P**	**22 57 20.9**	**-1.3**
SNZO	**South Karori**	**22.21**	**194**	P	**P**	**22 57 34.1**	**-1.2**
QRZ	**Quartz Range**	**22.35**	**199**	PN	**P**	**22 57 37.0**	**+0.4**
TUWZ	**Tuamarina**	**22.52**	**196**	PN	**P**	**22 57 37.3**	**-0.7**
THZ	**Tophouse**	**23.10**	**197**	PN	**P**	**22 57 42.6**	**-0.7**
LTZ	**Lake Taylor**	**24.23**	**197**	PN	**P**	**22 57 51.6**	**-1.7**
RPZ	**Rata Peaks**	**25.43**	**199**	P	**P**	**22 58 04.5**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8,baz=14,slow=7.0,SNR=11						
LBZ	**Lake Benmore**	**26.31**	**199**	PN	**P**	**22 58 10.3**	**-1.3**
JCZ	**Jackson Bay**	**26.50**	**202**	PN	**P**	**22 58 13.2**	**-0.1**
CNB	**Canberra Magne**	**32.50**	**235**	*e*P	**P**	**22 59 07.2**	**+2.1**
	comp=Z,13nm,0.8s,mb4.5						
CTA	**Charters Tower**	**33.47**	**263**	‖ *i*P	**P**	**22 59 14.5**	**+1.2**
	comp=Z,130nm,0.5s,mb5.7						
CTA				*e*S	**S**	**23 03 54.9**	**-0.7**
CTA				*e*SCP	ScP	23 04 31.1	+2.0
CTA	**Charters Tower**	**33.47**	**263**	P	**P**	**22 59 14.6**	**+1.3**
	comp=Z,137nm,0.5s,mb5.8,baz=94,slow=10,SNR=292						
CTA				S	**S**	**23 03 55.3**	**-0.3**
	comp=Z,7.6nm,1.1s,baz=204,slow=20,SNR=2.9						
CTA	**Charters Tower**	**33.47**	**263**	P	**P**	**22 59 14.6**	**+1.3**
CTA				S	**S**	**23 03 55.3**	**-0.3**
CTAO	**Charters Tower**	**33.47**	**263**	P	**P**	**22 59 14.4**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,131nm,0.5s,mb5.7						
CTAO	**Charters Tower**	**33.47**	**263**	P	**P**	**22 59 14.4**	**+1.1**
	comp=Z,131nm,0.5s,mb5.7						
PMG	**Port Moresby**	**35.13**	**282**	P	**P**	**22 59 28.3**	**+1.2**
	comp=Z,225nm,0.9s,mb5.7,baz=88,slow=5.4,SNR=85						
PMG	**Port Moresby**	**35.13**	**282**	P	**P**	**22 59 28.2**	**+1.1**
PMG				pmax	pmax		
	comp=Z,234nm,0.9s						
PMG	**Port Moresby**	**35.13**	**282**	P	**P**	**22 59 28.2**	**+1.1**
	comp=Z,234nm,0.9s,mb5.7						
TOO	**Toolangi**	**36.19**	**233**	‖ *i*P	**P**	**22 59 37.6**	**+1.7**
	comp=Z,15nm,0.7s,mb4.6						
TOO				*e*PP	PP	23 01 21.4	+4.1
TOO				*e*S	**S**	**23 04 36.8**	**+0.4**
STKA	**Stephens Creek**	**37.98**	**243**	‖ *i*P	**P**	**22 59 49.9**	**-0.6**
	comp=Z,22nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**37.98**	**243**	P	**P**	**22 59 50.0**	**-0.6**
	comp=Z,22nm,0.9s,mb4.7,baz=90,slow=10.0,SNR=22						
STKA	**Stephens Creek**	**37.98**	**243**	P	**P**	**22 59 50.0**	**-0.5**
ASAR	**Alice Springs**	**44.58**	**256**	P	**P**	**23 00 43.4**	**+0.8**
	comp=Z,91nm,0.8s,mb5.3,baz=86,slow=8.6,SNR=567						
ASAR				ScP	ScP	23 05 12.8	+0.7
	comp=Z,2.1nm,0.8s,baz=97,slow=3.9,SNR=4.8						
ASAR				S	**S**	**23 06 36.5**	**-1.4**
	comp=Z,5.7nm,0.7s,baz=92,slow=16,SNR=17						
WB2	**Warramunga Arr**	**44.59**	**261**	‖ *i*P	**P**	**23 00 42.8**	**0.0**
WB2				*e*S	**S**	**23 06 35.1**	**-3.0**
WB2				*e*SCS	ScS	23 09 38.4	+0.3
WRAB	**Tennant Creek**	**44.59**	**261**	P	**P**	**23 00 42.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,173nm,1.1s,mb5.5						
WRAB	**Tennant Creek**	**44.59**	**261**	P	**P**	**23 00 42.9**	**+0.2**
	comp=Z,173nm,1.1s,mb5.5						
WRA	**Warramunga Arr**	**44.60**	**261**	P	**P**	**23 00 42.7**	**-0.1**
	comp=Z,46nm,0.8s,mb5.1,baz=97,slow=8.3,SNR=444						
WRA				ScP	ScP	23 05 12.0	-0.3
	comp=Z,2.9nm,1.0s,baz=90,slow=5.1,SNR=4.9						
WRA				S	**S**	**23 06 35.6**	**-2.7**
	comp=Z,1.9nm,0.7s,baz=95,slow=14,SNR=7.3						
KAKA	**Kakadu**	**47.88**	**271**	*e*P	**P**	**23 01 07.8**	**+0.2**
	comp=Z,48nm,0.7s,mb5.1						
GUMO	**Guam**	**49.35**	**309**	P	**P**	**23 01 18.7**	**+0.2**
	comp=Z,53nm,0.6s,mb5.3,baz=147,slow=17,SNR=3.7						
FITZ	**Fitzroy Crossi**	**53.03**	**262**	‖ *i*P	**P**	**23 01 45.7**	**+0.6**
	comp=Z,25nm,0.5s,mb4.8						
MBWA	**Marble Bar**	**57.91**	**257**	*e*P	**P**	**23 02 19.0**	**+0.1**
	comp=Z,46nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**58.24**	**245**	*e*P	**P**	**23 02 21.1**	**0.0**
	comp=Z,45nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**58.57**	**243**	P	**P**	**23 02 23.9**	**+0.6**
	comp=Z,19nm,1.0s,mb4.3,baz=119,slow=7.9,SNR=6.9						
NWAO	**Narrogin (SRO)**	**58.57**	**243**	P	**P**	**23 02 23.9**	**+0.6**
DAV	**Davao City (W)**	**61.55**	**290**	P	**P**	**23 02 39.2**	**-3.9**
JHJ	**Hachijo jima 2**	**66.31**	**322**	P	**P**	**23 03 13.2**	**-0.1**
	comp=Z,113nm,0.4s,mb5.8,baz=126,slow=14,SNR=7.3						
KKM	**Kota Kinabalu**	**69.52**	**285**	*e*P	**P**	**23 03 33.4**	**+0.6**
MJAR	**Matsushiro Arr**	**69.67**	**324**	P	**P**	**23 03 32.5**	**-1.2**
	comp=Z,16nm,0.6s,mb4.7,baz=158,slow=5.8,SNR=27						
MAJO	**Matsushiro**	**69.67**	**324**	P	**P**	**23 03 33.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**69.67**	**324**	P	**P**	**23 03 33.3**	**-0.5**
	comp=Z,21nm,0.6s,mb4.8						
MAT	**Matsushiro**	**69.67**	**324**	P	**P**	**23 03 33.1**	**-0.7**
FX1	**Attu Island--F**	**72.86**	**354**	P	**P**	**23 03 50.6**	**-1.8**
KSM	**Kuching**	**73.25**	**278**	*e*P	**P**	**23 03 55.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**75.32**	**333**	‖ *i*P	**P**	**23 04 06.1**	**-0.1**
YSS				pmax	pmax		
	comp=Z,38nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.32**	**333**	P	**P**	**23 04 06.4**	**+0.2**
	comp=Z,32nm,0.9s,mb4.8						
SAO	**San Andreas Ge**	**77.64**	**43**	P	**P**	**23 04 19.7**	**+0.7**
SAO				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
SAO	**San Andreas Ge**	**77.64**	**43**	P	**P**	**23 04 19.7**	**+0.8**
	comp=Z,40nm,0.9s,mb4.8						
LRV	**Little Rabbit**	**77.72**	**44**	P	**P**	**23 04 20.4**	**+1.0**
HOPS	**Hopland**	**77.97**	**41**	P	**P**	**23 04 21.4**	**+0.7**
	comp=Z,39nm,1.0s,mb4.7						
KCPM	**Cahto Peak**	**78.08**	**40**	*e*P	**P**	**23 04 22.1**	**+0.8**
KIPM	**Iron Peak**	**78.22**	**40**	*e*P	**P**	**23 04 22.6**	**+0.6**
MWC	**Mount Wilson**	**78.45**	**47**	P	**P**	**23 04 23.8**	**+0.5**
KHMM	**Horse Mountain**	**78.73**	**39**	P	**P**	**23 04 25.9**	**+1.1**
ISA	**Isabella**	**78.97**	**46**	P	**P**	**23 04 26.5**	**+0.4**
CMB	**Columbia Colle**	**79.08**	**43**	P	**P**	**23 04 26.3**	**-0.3**
CMB				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6						
CMB	**Columbia Colle**	**79.08**	**43**	P	**P**	**23 04 26.2**	**-0.4**
	comp=Z,26nm,0.9s,mb4.6						
OHCM	**Honcut**	**79.15**	**41**	P	**P**	**23 04 27.2**	**+0.2**
PFO	**Pinyon Flat Ob**	**79.24**	**48**	P	**P**	**23 04 25.1**	**-2.4**
WDC	**Whiskeytown Da**	**79.26**	**40**	P	**P**	**23 04 27.4**	**-0.2**
WDC				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.5						
WDC	**Whiskeytown Da**	**79.26**	**40**	P	**P**	**23 04 27.4**	**-0.2**
	comp=Z,26nm,1.0s,mb4.5						
NJ2	**Nanjing**	**79.43**	**310**	*e*P	**P**	**23 04 29.3**	**+0.8**
NJ2				AP	pP	23 06 27.0	-0.3
NJ2				XP	sP	23 07 19.9	-4.7
NJ2				PP	PP	23 07 42.1	+3.2
NJ2				S	S	23 13 47.0	+3.1
NJ2				AMB	AMB		
	comp=Z,430nm,1.2s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,150nm,10.0s						
YBH	**Yreka Blue Hor**	**79.87**	**39**	P	**P**	**23 04 31.3**	**+0.6**
	comp=Z,28nm,0.8s,mb4.6,baz=190,slow=1.4,SNR=68						
YBH	**Yreka Blue Hor**	**79.87**	**39**	P	**P**	**23 04 31.4**	**+0.6**
YBH				pmax	pmax		
	comp=Z,29nm,0.8s						
YBH	**Yreka Blue Hor**	**79.87**	**39**	P	**P**	**23 04 31.4**	**+0.6**
	comp=Z,29nm,0.8s,mb4.7						
HABR	**Khabarovsk**	**79.88**	**330**	*i* P	**P**	**23 04 30.8**	**0.0**
DAC	**Darwin (Calif)**	**79.91**	**46**	P	**P**	**23 04 31.6**	**+0.6**
GSC	**Goldstone**	**79.91**	**47**	P	**P**	**23 04 30.3**	**-0.7**
KGM	**Kluang**	**79.97**	**276**	P	**P**	**23 04 32.8**	**+1.5**
MDJ	**Mudanjiang**	**79.97**	**325**	P	**P**	**23 04 31.8**	**+0.5**
MDJ				AP	pP	23 06 26.8	-3.6
MDJ				XP	sP	23 07 22.8	-4.8
MDJ				S	S	23 13 50.3	+0.8
MDJ				XS	sS	23 17 17.4	-4.3
MDJ				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,120nm,6.4s						
MDJ	**Mudanjiang**	**79.97**	**325**	P	**P**	**23 04 31.7**	**+0.4**
	comp=Z,25nm,0.9s,mb4.5						
GLA	**Glamis**	**80.10**	**50**	P	**P**	**23 04 33.0**	**+1.0**
LHEM	**Herd Peak**	**80.10**	**39**	P	**P**	**23 04 32.3**	**+0.4**
HUMO	**Hull Mountain**	**80.27**	**38**	P	**P**	**23 04 32.6**	**-0.2**
	comp=Z,28nm,1.1s,mb4.5						
MNV	**Mina**	**80.74**	**44**	P	**P**	**23 04 35.5**	**+0.2**
MNV				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.7						
MNV	**Mina**	**80.74**	**44**	P	**P**	**23 04 35.5**	**+0.2**
	comp=Z,35nm,1.0s,mb4.7						
HOG	**Hogback Mounta**	**80.77**	**39**	P	**P**	**23 04 36.2**	**+0.7**
LDFC	**Landfair**	**80.96**	**48**	*e*P	**P**	**23 04 37.0**	**+0.6**
MPOR	**Mary's Peak**	**81.12**	**36**	P	**P**	**23 04 37.9**	**+0.6**
TPH	**Tonopah**	**81.15**	**44**	P	**P**	**23 04 38.2**	**+0.8**
TPH				pmax	pmax		
	comp=Z,32n

MCK McKinley 86.40 13 P P 23 05 01.5 -1.8
MCK pmax pmax
comp=Z,16nm,0.8s,mb4.7
MCK McKinley 86.40 13 P P 23 05 01.5 -1.8
comp=Z,16nm,0.8s,mb4.7
MNTX Cornudas Mount 86.47 55 P P 23 05 04.2 +0.6
comp=Z,29nm,1.1s,mb4.8
TCUT Toone Canyon 86.57 44 P P 23 05 04.7 +0.6
BNM Barren Site 86.61 52 P P 23 05 04.9 +0.6
LPM Los Pinos Moun 86.68 52 P P 23 05 05.0 +0.4
HWUT Hardware Ranch 86.71 44 P P 23 05 03.9 -0.9
NEW Newport 86.93 36 P P 23 05 05.0 -0.8
comp=Z,4.5nm,0.7s,mb4.2,baz=239,slow=6.2,SNR=5.5
ANMO Albuquerque 87.09 51 P P 23 05 06.8 +0.2
comp=Z,8.6nm,0.9s,mb4.4,baz=221,slow=5.4,SNR=16
ANMO Albuquerque 87.09 51 eP P 23 05 06.6 0.0
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 87.09 51 eP P 23 05 06.6 +0.1
comp=Z,8.9nm,0.8s,mb4.5
SYO Syowa Base 87.30 193⇓ePP PP 23 08 39.4 -2.7
SYO Syowa Base 87.30 193⇓eP P 23 05 04.1 -3.4
SYO ⇓ePP PP 23 08 39.4 -2.7
GDL2 Guadalupe Moun 87.47 55 P P 23 05 09.6 +1.3
MCMT McKenzie Canyo 87.55 40 P P 23 05 09.1 +0.4
AHID Auburn Hatcher 87.59 43 P P 23 05 09.3 +0.4
comp=Z,19nm,1.0s,mb4.8
COLA College 87.64 12⇑iP P 23 05 07.0 -2.1
COLA College 87.64 12 eP P 23 05 06.9 -2.2
comp=Z,37nm,0.8s,mb5.2
XAN Xi'an 87.70 307 P P 23 05 09.8 +0.4
XAN AMB AMB
comp=Z,34nm,1.0s,mb5.0
ILAR Eielson Array 87.74 13 P P 23 05 07.4 -2.2
comp=Z,12nm,0.8s,mb4.7,baz=216,slow=5.5,SNR=142
ILAR pP pP 23 07 13.4 +1.9
comp=Z,2.0nm,1.1s,baz=225,slow=5.4,SNR=4.5
ILAR PP PP 23 08 34.5 -11
comp=Z,0.7nm,0.8s,baz=223,slow=6.6,SNR=3.8
ILAR Eielson Array 87.74 13 P P 23 05 07.4 -2.2
ILAR *PP pP 23 07 13.5 +1.9
MSO Missoula 87.95 38 eP P 23 05 09.9 -0.7
comp=Z,4.1nm,0.7s,mb4.3
DLMT Dillon 87.98 40 eP P 23 05 10.3 -0.4
comp=Z,50nm,1.2s,mb5.1
BSMT Bassoo Peak 88.01 37 P P 23 05 10.5 -0.3
REDW Red Top Meadow 88.04 42 P P 23 05 11.2 +0.2
HIA Hailar 88.15 325 iP P 23 05 10.4 -1.1
SNOW Snow King Moun 88.15 42 P P 23 05 12.2 +0.7
IMW Indian Meadow 88.25 42 P P 23 05 12.4 +0.4
LRM Limekiln Ridge 88.30 40 P P 23 05 12.4 +0.2
MOOW Moose Ponds 88.30 42 P P 23 05 12.4 +0.2
CHMT Chamberlain Mo 88.39 38 P P 23 05 12.1 -0.6
QLMT Earthquake Lak 88.42 41 P P 23 05 13.6 +0.9
BILL Bilibino 88.43 354diP P 23 05 11.3 -1.5
BILL eS 23 14 59.6
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BILL Bilibino 88.43 354 eP P 23 05 11.9 -0.9
comp=Z,4.4nm,0.6s,mb4.4
FLWY Flagg Ranch 88.50 42 eP P 23 05 13.9 +0.7
comp=Z,46nm,1.0s,mb5.2
FLWY ePP PP 23 08 49.0 -2.6
BW06 Boulder Array 88.58 43 P P 23 05 13.1 -0.4
comp=Z,17nm,0.9s,mb4.9
PDAR Pinedale Array 88.58 43 P P 23 05 13.0 -0.5
comp=Z,12nm,0.8s,mb4.8,baz=211,slow=3.0,SNR=94
PDAR PP PP 23 08 49.0 -3.2
comp=Z,1.3nm,0.9s,baz=251,slow=4.5,SNR=6.5
YFT Old Faithful 88.59 41 P P 23 05 15.6 +2.0
YMR Madison River 88.62 41 eP P 23 05 14.6 +0.9
comp=Z,20nm,0.9s,mb5.0
SMCO Snowmass 88.63 47 eP P 23 05 14.2 +0.4
comp=Z,21nm,1.2s,mb4.8
BOZ Bozeman (W) 88.70 40 P P 23 05 13.9 -0.2
VNA3 Neumayer Olymp 88.75 176 eP P 23 05 13.9 -0.4
HHC Hu-ho-hao-te 88.87 314 eP P 23 05 15.3 +0.4
HHC AP pP 23 07 15.4 -1.8
HHC PP PP 23 08 57.3 +2.8
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,120nm,6.0s
DAWY Dawson 88.90 16 P P 23 05 14.0 -1.0
LKWY Lake 88.92 41 P P 23 05 17.6 +2.5
KMI Kunming 89.00 297 P P 23 05 15.3 -0.2
KMI AMB AMB
comp=Z,28nm,1.1s,mb5.0
SDCO Great Sand Dun 89.02 49 P P 23 05 15.5 0.0
comp=Z,19nm,1.5s,mb4.7
HRY Holter Researc 89.12 39 P P 23 05 16.0 0.0
VNA2 Neumayer--Watz 89.19 177 eP P 23 05 16.7 +0.3
baz=186,slow=3.3
RWWY Rawlins 89.61 45 eP P 23 05 17.3 -1.0
comp=Z,22nm,0.9s,mb5.0
ISCO Idaho Springs 89.85 47 P P 23 05 19.8 +0.4
GCMT Greycliff 89.97 41 eP P 23 05 20.4 +0.5
JCT Junction City 90.33 58 P P 23 05 21.6 0.0
JCT pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
JCT Junction City 90.33 58 P P 23 05 21.6 0.0
comp=Z,8.5nm,0.7s,mb4.7
CD2 Chengdu 90.39 303 P P 23 05 21.9 0.0
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
PHWY Pilot Hill 90.61 46 P P 23 05 22.9 -0.1
EDM Edmonton 91.65 33 P P 23 05 26.0 -1.7
LZH Lanzhou 92.33 308 eP P 23 05 32.0 +1.1
LZH AP pP 23 07 31.9 -1.7
LZH XP sP 23 08 25.3 -4.5
LZH PP PP 23 09 25.0 +3.6
LZH SKS 23 15 11.0
LZH eS 23 15 45.0
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,255nm,8.0s
RSSD Black Hills 92.78 44 P P 23 05 32.1 -0.8
RSSD pmax pmax
comp=Z,15nm,1.2s,mb4.9
RSSD Black Hills 92.78 44 P P 23 05 32.1 -0.8
comp=Z,15nm,1.2s,mb4.9
INK Inuvik 93.71 15 P P 23 05 35.2 -1.9
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 93.71 15 P P 23 05 35.2 -2.0
comp=Z,8.5nm,0.9s,mb4.9
DGMT Dagmar 94.52 40 P P 23 05 40.6 -0.2
SONM Songino Array 95.24 319 P P 23 05 43.1 -0.9
comp=Z,0.3nm,0.5s,mb3.7,baz=125,slow=3.2,SNR=6.7
SONM PP PP 23 09 33.1 -11
comp=Z,1.1nm,0.9s,baz=117,slow=5.5,SNR=2.9
YKA Yellowknife Ar 96.00 25 P P 23 05 45.7 -1.8
comp=Z,2.3nm,0.8s,mb4.5,baz=245,slow=4.5,SNR=46
YKA PP PP 23 09 37.2 -12
comp=Z,0.2nm,0.6s,baz=242,slow=6.9,SNR=4.4
YKA Yellowknife Ar 96.00 25 P P 23 05 45.7 -1.8
YKA PP PP 23 09 37.2 -12
YKW3 Yellowknife Ar 96.03 25 P P 23 05 46.2 -1.4
GTA Gaotai 96.53 309 P P 23 05 49.6 -0.3
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.4
TIXI Tiksi 98.14 345 iP Pdif 23 05 55.4 -1.7
MKAR Makanchi Array 110.72 314 PKiKP PKiKP 23 10 47.5 -1.9
comp=Z,0.6nm,0.6s,baz=238,slow=0.7,SNR=7.8
BVAR Borovoye Array 118.56 320 PKP PKPdf 23 11 02.4 -2.1
comp=Z,1.5nm,0.4s,baz=134,slow=1.7,SNR=18
BVAR PP PP 23 12 21.3 -10
comp=Z,0.6nm,0.8s,baz=75,slow=6.1,SNR=3.1
ZRNK Zerenda 119.40 320 ePKIKP PKPdf 23 11 04.3 -1.8
ARU Arti 124.66 326 ePKIKP PKPdf 23 11 14.7 -1.4
AKTK Aktyubinsk 126.56 319 PKP PKPdf 23 11 19.2 -0.6
AKTO Aktyubinsk 126.56 319 PKP PKPdf 23 11 19.2 -0.6
comp=Z,0.5nm,0.5s,baz=80,slow=6.0,SNR=4.2
ARCES ARCESS Array B 128.31 350 PKP PKPdf 23 11 21.2 -1.9
comp=Z,2.2nm,0.5s,baz=32,slow=1.3,SNR=25
FINES FINESS Array B 135.17 344 PKhKP 23 11 26.9
comp=Z,1.6nm,0.9s,baz=94,slow=2.5,SNR=7.3
FINES PKP PKPdf 23 11 35.7 -0.4
comp=Z,0.4nm,0.4s,baz=43,slow=2.9,SNR=3.6
FINES FINESS Array B 135.17 344 PKP 23 11 26.9
FINES PKP PKPdf 23 11 35.7 -0.4
OBN Obninsk 136.19 332⇓iPKIKP PKPdf 23 11 37.4 -0.5
OBN e*PP 23 13 43.8
OBN e 23 14 44.5
OBN e 23 17 29.0
OBN eSS SS 23 32 19.7 +37
OBN eSSS 23 36 52.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 136.54 218 PP PP 23 14 24.6 -3.6
comp=Z,3.2nm,1.0s,baz=99,slow=6.9,SNR=4.6
LSZ Lusaka 136.54 218 PP PP 23 14 27.9 -0.2
NB2 NORSAR Subarra138.37 353 PKPd 23 11 30.5
comp=Z,24nm,2.0s,baz=14,slow=1.8
NB2 NORSAR Subarra138.37 353 PKPd 23 11 30.5
baz=14,slow=1.8
NOA NORSAR Array B 138.37 353 PKhKP 23 11 30.0
comp=Z,0.7nm,0.7s,baz=27,slow=6.4,SNR=3.2
NOA PKP PKPdf 23 11 41.4 -0.5
comp=Z,1.2nm,0.6s,baz=14,slow=4.0,SNR=4.0
NOA NORSAR Array B 138.37 353 PKP 23 11 30.0
NOA PKP PKPdf 23 11 41.4 -0.5
KMBO Kilima Mbogo 139.54 243 SKPbc SKPbc 23 14 26.1 -0.9
comp=Z,3.1nm,1.1s,baz=129,slow=5.0,SNR=5.2
SUW Suwalki 142.25 340 ePKP PKPdf 23 11 48.3 -0.6
AKASG Malin Array Be 142.44 331 PKhKP 23 11 44.4
comp=Z,2.2nm,0.3s,baz=42,slow=4.0,SNR=20
AKASG SKPbc SKPbc 23 14 33.5 -1.0
comp=Z,0.4nm,0.4s,baz=38,slow=1.8,SNR=9.3
MALT Malatya 143.49 308 ePKIKP PKPdf 23 11 49.8 -1.3
WAR Warsaw 144.44 340 ePKP PKPdf 23 11 54.0 +1.3
GKP Gorka Klasztor 144.64 344 ePKP PKPdf 23 11 51.9 -1.2
BSEG Bad Segeberg 145.41 351 ePKPbc PKPbc 23 11 54.7 -1.0
KWP Kalwaria 146.00 336 ePKP PKPdf 23 11 57.3 +1.9
RUE Ruedersdorf 146.19 347 ePKPbc PKPbc 23 11 57.4 -0.5
BR131 Keskin Array S 146.37 313 ePKPdf PKPdf 23 11 57.2 +1.2
BRTR Keskin Array B 146.37 313 PKPbc PKPbc 23 11 57.6 -0.7
comp=Z,2.5nm,0.6s,baz=134,slow=3.8,SNR=18
BRTR pPKPbc 23 14 11.1
comp=Z,2.0nm,1.1s,baz=48,slow=1.8,SNR=3.7
BURAR Bucovina Array 146.49 331 ⇑P PKPdf 23 11 58.5 +2.3
BURAR Bucovina Array 146.49 331 ⇑P PKPdf 23 11 58.5 +2.3
OJC Ojcow 146.57 339 ePKP PKPdf 23 11 57.8 +1.5
KOLS Kolonicke sedl 146.73 335 ePKP PKPdf 23 11 59.0 +2.4
KOLS e 23 12 01.8
KOLS e 23 14 12.4
STHS Stebnicka Huta 146.73 337 ePKP PKPdf 23 11 58.8 +2.2
STHS e 23 12 02.9
NIE Niedzica 147.06 338 ePKP PKPdf 23 11 59.8 +2.6
CRVS Cervenica-Dubn 147.07 336 ePKP PKPab 23 12 04.3 +0.6
CRVS e 23 14 20.9
KSP Ksiaz 147.09 343 ePKP PKPbc 23 12 00.2 -0.1
KSP Ksiaz 147.09 343 ePKP PKPbc 23 11 59.7 -0.6
CLZ Clausthal 147.43 350 ePKPbc PKPbc 23 12 00.7 -0.5
OKC Ostrava-Krasne 147.44 340 ePKPbc PKPbc 23 11 58.4 -2.8
CLL Collm 147.46 347 ePKPdf PKPdf 23 11 58.4 +0.6
CLL ⇑iPKPbc PKPbc 23 12 00.5 -0.8
comp=Z,13nm,0.9s
CLL ePKPab PKPab 23 12 04.3 -1.0
CLL epPKPbc pPKPbc 23 14 09.8 -0.5
CLL Collm 147.46 347 e(PKPdf) PKPdf 23 11 59.0 +1.2
CLL ⇑iPKPbc PKPbc 23 12 00.5 -0.8
comp=Z,21nm,0.8s
CLL iPKPab PKPab 23 12 04.3 -1.0
comp=Z,9.0nm,0.8s
CLL ex x 23 12 08.0
CLL epPKPbc pPKPbc 23 14 10.0 -0.3
CLL Collm 147.46 347⇑ePKIKP PKPdf 23 11 59.0 +1.2
CLL i 23 12 04.3
CLL e 23 14 10.0
CLL pmax pmax
comp=Z,21nm,0.8s
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 147.46 347 ePKP PKPdf 23 11 59.0 +1.2
CLL ⇑iPKP PKPdf 23 12 00.5 +2.7
CLL iPKP PKPdf 23 12 04.3 +6.5
CLL epPKP pPKPdf 23 14 10.0 +1.0
UPC Upice 147.47 343 ePKPbc PKPbc 23 12 00.8 -0.5
UPC ePKPab PKPab 23 12 05.0 -0.3
DPC Dobruska-Polom 147.53 343 ePKPbc PKPbc 23 12 01.0 -0.5
DPC ePKPab PKPab 23 12 05.6 0.0
BRG Berggiesshubel 147.66 346 ePKPbc PKPbc 23 12 01.2 -0.6
BRG Berggiesshubel 147.66 346 iP PKPbc 23 12 01.0 -0.8
comp=Z,5.4nm,0.7s
BRG Berggiesshubel 147.66 346 iPKP2 PKPbc 23 12 01.0 -0.8
BRG pmax pmax
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 147.67 328 PKPbc PKPbc 23 12 00.8 -1.0
comp=Z,3.1nm,0.5s,baz=339,slow=8.2,SNR=25
MLR Muntele Rosu 147.67 328 ⇓P PKPdf 23 12 00.7 +2.5
MLR Muntele Rosu 147.67 328 ⇓P PKPdf 23 12 00.7 +2.5
KECS Kecovo 147.78 337 iPKP PKPdf 23 12 01.7 +3.3
KECS e 23 12 05.5
PVCC Panska Ves 147.82 345 ePKPbc PKPbc 23 12 01.9 -0.3
VOIR 148.16 328 ⇓P PKPbc 23 12 03.2 +0.1
VOIR 148.16 328 ⇓P PKPbc 23 12 03.2 +0.1
DRGR 148.24 332 ⇑P PKPbc 23 12 03.5 +0.2
DRGR 148.24 332 ⇑P PKPbc 23 12 03.5 +0.2
PRU Pruhonice 148.33 344 ePKPbc PKPbc 23 12 02.5 -1.0
PRU ePKPab PKPab 23 12 08.7 -0.1
MOX Moxa 148.37 348 ePKPbc PKPbc 23 12 02.8 -0.8
VYHS Vyhne 148.37 338 ePKP PKPdf 23 12 02.7 +3.4
VYHS e 23 14 18.8
VRAC Vranov 148.38 342 PKPbc PKPbc 23 12 03.0 -0.6
comp=Z,3.2nm,0.4s,baz=284,slow=4.2,SNR=4.9
WERD Werda 148.41 347 ePKPbc PKPbc 23 12 03.1 -0.6
NKC Novy Kostel 148.59 347 ePKPbc PKPbc 23 12 03.5 -0.6
NKC ePKPab PKPab 23 12 09.1 -0.8
SMOL Smolenice 148.82 340 ePKP PKPbc 23 12 04.8 +0.1
ROTZ Rotzenmuhle 149.08 347 ePKPbc PKPbc 23 12 05.0 -0.3
SRO Srobarova 149.13 338 ePKP PKPbc 23 12 04.7 -0.7
MEM Membach 149.18 355 PKPbc PKPbc 23 12 04.7 -0.9
TNS Taunus Mts 149.29 352 ePKPbc PKPbc 23 12 05.3 -0.5
GRF Grafenberg Arr 149.35 348 ePKP PKPbc 23 12 05.3 -0.7
KHC Kasperske Hory 149.36 345 ePKPbc PKPbc 23 12 05.5 -0.5
KHC ePKPab PKPab 23 12 12.6 -0.5
WET Wettzell 149.52 346 ePKPbc PKPbc 23 12 05.8 -0.6
GERES GERESS Array B 149.60 345 PKPbc PKPbc 23 12 05.8 -0.8
comp=Z,5.5nm,0.6s,baz=28,slow=2.4,SNR=36
BZS Buzias 149.63 332 ⇓P PKPbc 23 12 05.2 -1.4
GIVF Givet 149.77 356 ePKP1 PKPbc 23 12 06.3 -0.7
comp=Z,58nm,0.9s
DOU Dourbes 149.79 357 PKPbc PKPbc 23 12 06.2 -0.8
DOU PKPab PKPab 23 12 13.7 -1.2
BAIF Baives 149.85 357 ePKP1 PKPbc 23 12 06.5 -0.6
comp=Z,29nm,0.8s
WLF Walferdange 150.10 354 ePKPbc PKPbc 23 12 07.6 -0.1
WLF Walferdange 150.10 354 PKPbc PKPbc 23 12 07.3 -0.5
STU Stuttgart 150.60 350 ePKPbc PKPbc 23 12 08.1 -0.8
FLN La Foliniere 151.13 3 ePKP1 PKPbc 23 12 08.8 -1.3
comp=Z,12nm,0.4s
BFO Black Forest 151.16 351 ePKPbc PKPbc 23 12 09.3 -0.9
PERS Pernice 151.22 341 ePKPbc PKPbc 23 12 08.8 -1.5
CDF Champ du Feu 151.22 353 ePKP1 PKPbc 23 12 09.5 -0.8
comp=Z,13nm,0.6s
ROSF Rostrenen 151.32 7 ePKP1 PKPbc 23 12 09.2 -1.3
KBA Koelnbreinsper 151.32 344⇑iPKPbc PKPbc 23 12 09.9 -0.7
comp=Z,3.2nm,0.5s
LDF La Druitiere 151.32 3 ePKP1 PKPbc 23 12 09.3 -1.2
comp=Z,22nm,0.6s
MEZF Maizieres J'vi 151.35 356 ePKP1 PKPbc 23 12 10.1 -0.5
SGMF Saint Gilles 151.48 6 ePKP1 PKPbc 23 12 09.6 -1.3
comp=Z,31nm,0.7s
GRR Gorron 151.49 4 ePKP1 PKPbc 23 12 09.8 -1.1
comp=Z,42nm,0.7s
WATA Walderalm 151.51 346⇑iPKPbc PKPbc 23 12 09.9 -1.1
comp=Z,4.1nm,1.1s
DOBS Dobrina 151.54 340 ePKPbc PKPbc 23 12 09.7 -1.3
WTTA Wattenberg 151.57 346⇑iPKPbc PKPbc 23 12 10.3 -0.8
comp=Z,13nm,0.9s
MOTA Moosalm 151.61 347⇓iPKPbc PKPbc 23 12 10.3 -0.9
comp=Z,6.2nm,1.0s
HAU Haudompre 151.73 354 ePKP1 PKPbc 23 12 10.5 -0.9
comp=Z,7.5nm,0.6s
HINF Hinteralfeld 151.86 353 ePKP1 PKPbc 23 12 10.6 -1.1
comp=Z,9.9nm,0.8s
BOJS Bojanci 152.18 340 ePKPbc PKPbc 23 12 11.9 -0.6
LOR Lormes 152.65 357 ePKP1 PKPbc 23 12 12.6 -0.9
SSF Saint Saulge 152.87 358 ePKP1 PKPbc 23 12 13.1 -0.8
comp=Z,17nm,1.0s
MFF Saint Martin d 153.31 3 ePKP1 PKPbc 23 12 13.3 -1.6
LPL La Plagne 154.14 352 ePKP1 PKPbc 23 12 15.7 -0.9
comp=Z,13nm,0.5s
TORD Torodi Ar. Bea 173.29 178 PKP PKPdf 23 12 24.1 -1.1
comp=Z,1.7nm,0.9s,baz=334,slow=1.3,SNR=5.9
TORD PKPab PKPab 23 13 56.8 -0.8
comp=Z,0.8nm,0.9s,baz=209,slow=4.9,SNR=5.2

IDC ***16*** *23:00:32.4±2.6, 27.19N×5574E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, ML1.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/22, Error ellipse: s-maj=56.0km s-min=27.9km az=150.0*

ISCJB ***16*** *23:00:35.8±1.2, 2774N±006×5593E±006, h4km±9km, mb3.4/5, MS3.4/1, Error ellipse: s-maj=10.1km s-min=9.0km az=153.5*

CSEM ***16*** *23:00:37.9, 2765N×5604E, h14km, ML3.6, After THR*

THR ***16*** *23:00:37.9±0.6, 2765N×5604E, h14km±5km, ML3.6*

TEH ***16*** *23:00:38.1, 2751N×5555E, h18km, Mn3.6*

ISC 16 23:00:37.5±1.2, 2769N±006×5598E±006, h2km±9km, n12, σ1§59/16, mb3.4/5, MS3.4/1, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.34	150	ePG	Pg	23 00 43.9	-0.1
BNDS				AML	AML	23 00 49.6	
comp=N,18μm,0.4s							
BNDS				AML	AML	23 00 58.1	
comp=E,18μm,0.6s							
KRBR	Kerman	2.38	16	ePn	Pn	23 01 19.4	+1.8
KRBR				eSG	Sg	23 01 53.5	-0.5
KRBR				AML	AML	23 01 57.5	
comp=N,268nm,0.6s							
KRBR				AML	AML	23 02 08.8	
comp=E,312nm,0.7s							
KRBR	Kerman	2.38	16	ePn	Pn	23 01 19.4	+1.9
SNR=52							
KRBR				eSg	Sg	23 01 53.5	-0.5
comp=E,312nm,0.7s,SNR=90							
GHIR	Ghir-Karzin	2.71	283	ePN	Pn	23 01 24.0	+1.9
GHIR				eSG	Sg	23 02 04.5	-0.2
GHIR				AML	AML	23 02 12.7	
comp=N,103nm,0.6s							
GHIR				AML	AML	23 02 28.1	
comp=E,111nm,0.6s							
GHIR	Ghir-Karzin	2.71	283	ePn	Pn	23 01 24.0	+1.9
SNR=52							
GHIR				eSg	Sg	23 02 04.5	-0.2
comp=E,111nm,0.6s,SNR=90							
GNI	Garni	15.52	326	Pn	Pn	23 04 19.3	+1.9
comp=E,0.2nm,0.3s,baz=194,slow=18,SNR=4.1							
BRTR	Keskin Array B	22.06	309	P	Pn	23 05 30.9	-2.7
comp=E,1.5nm,0.8s,mb3.5,baz=129,slow=12,SNR=10							
AKTO	Aktyubinsk	22.76	3	P	P	23 05 39.7	-1.3
comp=E,2.0nm,0.8s,mb3.6,baz=163,slow=12,SNR=3.6							
AKTO				LR	LR	23 15 10.0	
comp=E,149nm,20.8s,MS3.4,baz=0.0,slow=38							
BVAR	Borovoye Array	27.48	19	P	P	23 06 26.9	+1.9
comp=E,0.6nm,0.6s,mb3.3,baz=191,slow=7.0,SNR=3.7							
MKAR	Makanchi Array	28.11	40	P	P	23 06 30.0	-0.7
comp=E,0.2nm,0.5s,mb3.0,baz=238,slow=8.3,SNR=2.8							
KHC	Kasperske Hory	38.86	315	eP	P	23 08 01.5	-2.6
TORD	Torodi Ar. Bea	52.51	265	P	P	23 09 45.6	-6.4
comp=E,0.7nm,0.7s,mb3.7,baz=63,slow=8.1,SNR=7.4							

IDC 16 23:06:03.9±7.5, 525S×15007E, h111km±55km, mb2.9/2, mb1 3.3/4, mb1mx3.1/14, mbtmp3.6/4, Error ellipse: s-maj=91.9km s-min=54.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.04	215	P	Pn	23 07 17.2	0.0
2.6nm,0.3s,baz=29,slow=12,SNR=6.8							
PMG				S	Sn	23 08 14.9	+0.7
11nm,0.3s,baz=186,slow=20,SNR=17							
CTA	Charters Tower	15.21	194	P	Pn	23 09 34.2	+1.5
0.3nm,0.3s,baz=18,slow=6.4,SNR=3.8							
WRA	Warramunga Arr	21.15	225	P	P	23 10 40.3	+0.3
0.5nm,0.5s,baz=52,slow=10,SNR=9.5							
ASAR	Alice Springs	24.04	219	P	P	23 11 08.9	+0.3
0.5nm,0.4s,baz=58,slow=9.3,SNR=6.8							
TORD	Torodi Ar. Bea	147.84	286	PKPbc	PKPbc	23 25 36.3	+0.4
0.3nm,0.5s,baz=85,slow=2.5,SNR=11							

ISCJB ***16*** *23:17:50.9±0.5, 3802N±007×9226E±009, h21km, mb3.5/13, Error ellipse: s-maj=12.3km s-min=7.5km az=86.3*

BJI ***16*** *23:17:51.7, 3800N×9224E, h23km, ML4.0*

IDC ***16*** *23:17:53.1±0.7, 3803N×9242E, h20km±4km, mb3.6/10, mb1 3.7/12, mb1mx3.6/23, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=29.3km s-min=14.0km az=49.0*

NEIC ***16*** *23:17:53.0±0.6, 3796N×9239E, mb3.6/4, Error ellipse: s-maj=15.0km s-min=9.3km az=60.0*

NNC ***16*** *23:17:54.0±32.0, 38.18N×9227E, h22km±255km, mb3.1, Error ellipse: s-maj=211.2km s-min=159.1km az=145.0*

NAO ***16*** *23:18:35.6, 4156N×8681E, h33km, mb3.5*

ISC 16 23:17:53.2±0.5, 3803N±007×9227E±009, h22km, h22km±4km: pP-P, n28, σ1§03/30, mb3.5/13, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	6.06	75	P	Pn	23 19 21.5	+0.1
GTA				Smax			
comp=N,20nm,1.1s							
GTA				Smax			
comp=E,15nm,1.2s							
WMQ	Urumqi	6.74	331	ePG	Px	23 19 54.0	
WMQ				Smax			
comp=N,87nm,0.7s							
WMQ				Smax			
comp=E,79nm,0.7s							
LSA	Lhasa	8.36	187	ePn	Pn	23 19 51.5	-1.5
MK31	Makanchi Array	11.44	323	P	Pn	23 20 35.2	0.0
comp=E,1.3nm,0.3s,baz=135,slow=14,SNR=49							
MK31				S	Sn	23 22 40.0	-2.3
comp=E,1.7nm,0.8s,baz=126,slow=24,SNR=4.2							
MKAR	Makanchi Array	11.44	323	Pn	Pn	23 20 34.7	-0.5
comp=E,0.8nm,0.3s,baz=134,slow=14,SNR=39							
MKAR				Sn	Sn	23 22 42.0	-0.2
comp=E,0.2nm,0.3s,baz=101,slow=16,SNR=3.2							
MKAR				Lg		23 23 51.4	
baz=107,slow=24,SNR=2.7							
MKAR	Makanchi Array	11.44	323	Pn	Pn	23 20 34.7	-0.5
MKAR				Sn	Sn	23 22 42.0	-0.2
MKAR				Lg		23 23 51.4	
TKM2	Tokmak 2	13.60	296	P	Pn	23 21 03.6	-1.1
SONM	Songino Array	14.23	42	Pn	Pn	23 21 12.7	-0.6
comp=E,0.0nm,0.3s,baz=211,slow=13,SNR=2.2							
SONM				Lg		23 25 14.3	
comp=E,0.1nm,0.3s,baz=214,slow=32,SNR=9.1							
ULN	Ulaanbaatar	14.60	43	P	Pn	23 21 24.0	+5.6
KURK	Kurchatov	15.97	327	ePn	Pn	23 21 40.0	+3.7
comp=E,5.2nm,0.8s							
VOSK	Vostochnaya	20.85	322	P	P	23 22 32.6	-0.8
BVA0	Borovoye Array	21.32	322	P	P	23 22 39.7	+1.3
comp=E,0.1nm,0.7s,mb2.3,baz=135,slow=12,SNR=11							
BVAR	Borovoye Array	21.32	322	P	P	23 22 39.6	+1.1
comp=E,1.2nm,0.5s,mb3.5,baz=133,slow=10.0,SNR=13							
BRVK	Borovoye	21.39	322	eP	P	23 22 40.9	+1.7
comp=E,2.0nm,0.7s,mb3.6							
ZRNK	Zerenda	21.96	320	eP	P	23 22 47.1	+1.7
comp=E,0.8nm,0.7s,mb3.3							
AKTK	Aktyubinsk	27.24	308	P	P	23 23 34.7	-0.9
AKTO	Aktyubinsk	27.24	308	P	P	23 23 34.7	-0.9
comp=E,0.4nm,0.5s,mb3.2,baz=118,slow=14,SNR=3.0							
BR131	Keskin Array S	44.96	291	eP	P	23 26 07.9	+1.4
comp=E,0.5nm,0.6s,mb3.5							
BRTR	Keskin Array B	44.96	291	P	P	23 26 08.7	+2.1
comp=E,0.5nm,0.5s,mb3.6,baz=116,slow=6.0,SNR=4.9							
FINES	FINESS Array B	46.27	323	P	P	23 26 17.3	+0.4
comp=E,0.8nm,0.5s,mb3.9,baz=77,slow=5.9,SNR=10							
FINES				pP	pP	23 26 23.8	0.0
comp=E,0.8nm,0.8s,baz=76,slow=8.0,SNR=1.2							
ARCES	ARCESS Array B	46.85	334	P	P	23 26 21.3	-0.1
comp=E,2.2nm,0.9s,mb4.1,baz=101,slow=10.0,SNR=3.9							
ARCES				pP	pP	23 26 28.1	-0.3
comp=E,1.6nm,0.8s,baz=88,slow=8.3,SNR=1.5							
NB2	NORSAR Subarra	53.44	323	P	P	23 27 11.4	0.0
comp=Z,0.4nm,0.5s,mb3.6,baz=78,slow=7.9							
NOA	NORSAR Array B	53.44	323	P	P	23 27 11.5	+0.1
comp=Z,0.8nm,0.5s,mb3.9,baz=76,slow=7.4,SNR=2.8							
NOA				pP	pP	23 27 17.9	-0.5
comp=Z,0.8nm,0.7s,baz=77,slow=7.8,SNR=1.8							
ILAR	Eielson Array	67.62	23	P	P	23 28 47.5	-0.6
comp=Z,0.2nm,0.7s,mb3.2,baz=294,slow=5.4,SNR=4.2							
ILAR				pP	pP	23 28 54.3	-1.1
comp=Z,0.3nm,0.8s,baz=300,slow=5.4,SNR=3.5							

WRAB Tennant Creek 69.91 138 P P 23 29 02.3 -0.2
WRA Warramunga Arr 69.91 138 P P 23 29 02.1 -0.4
comp=Z,0.3nm,0.8s,mb3.2,baz=334,slow=6.5,SNR=6.7
WRA pP pP 23 29 08.7 -0.9
comp=Z,0.4nm,0.5s,baz=335,slow=6.5,SNR=4.2
ASAR Alice Springs 72.77 140 P P 23 29 20.1 +0.3
comp=Z,0.5nm,0.6s,mb3.6,baz=328,slow=5.7,SNR=6.1
ASAR pP pP 23 29 26.4 -0.6
comp=Z,0.6nm,0.6s,baz=318,slow=5.4,SNR=5.2
TORD Torodi Ar. Bea 82.47 281 P P 23 30 15.2 +1.3
comp=Z,0.6nm,0.5s,mb3.8,baz=49,slow=4.7,SNR=15
TORD pP pP 23 30 21.5 +0.3
comp=Z,0.1nm,0.5s,baz=39,slow=4.2,SNR=2.5

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*BJI **16** 23:31:12.8, 53.18N×159.09E, h96km, mB4.4, mb4.4*
*ISCJB **16** 23:31:13.8±0.3, 5296N±003×159.13E±006, h101km±2km, mb4.2/34, Error ellipse: s-maj=7.3km s-min=3.9km az=86.8*
*MOS **16** 23:31:13.3±1.3, 5295N×159.02E, h97km, mb4.3/23, Error ellipse: s-maj=13.0km s-min=6.5km az=90.0*
*NEIC **16** 23:31:14.6±0.3, 5308N×158.97E, mb4.6/7, Error ellipse: s-maj=10.5km s-min=6.5km az=165.0*
*KRSC **16** 23:31:14.3±0.9, 5296N×159.21E, h86km±2km, ML4.6*
*IDC **16** 23:31:15.1±0.8, 53.13N×158.94E, h93km±7km, mb3.9/20, mb1 4.0/22, mb1mx4.0/26, mbtmp4.2/22, Error ellipse: s-maj=15.5km s-min=11.0km az=151.0*
*NAO **16** 23:31:24.9, 5566N×158.87E, h33km, mb4.3*
ISC 16 23:31:14.7±0.3, 5296N±004×15910E±006, h96km±2km, h91km±1.2km: pP-P, n119, σ1§21/139, mb4.2/34, 5C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.26**	**34**	P		**Pn**		**23 31 27.6**	**-1.1**
NLC				S		**Sn**		**23 31 37.3**	**-1.8**
NLC	**Nalytchevo**	**0.26**	**34**	*i* P		**Pn**		**23 31 27.6**	**-1.1**
PET	**Petropavlovsk**	**0.28**	**284**	P		**Pn**		**23 31 28.1**	**-0.7**
PET				S		**Sn**		**23 31 37.9**	**-1.4**
PET	**Petropavlovsk**	**0.28**	**284**	*i* P		**Pn**		**23 31 28.0**	**-0.8**
PET				*i* S		**Sn**		**23 31 37.9**	**-1.4**
PET	**Petropavlovsk**	**0.28**	**284⇑**	*e*PN		**Pn**		**23 31 27.4**	**-1.4**
PET				*e*S		**Sn**		**23 31 38.1**	**-1.2**
PET				pmax	pmax				
	comp=Z,8μm,0.3s								
PET				pmax	pmax				
	comp=Z,10μm,0.7s								
PET				smax					
	comp=N,21μm,0.7s								
PET				smax					
	comp=N,19μm,0.5s								
PET				smax					
	comp=E,15μm,0.3s								
PET	**Petropavlovsk**	**0.28**	**284⇑**	*i* P		**Pn**		**23 31 28.1**	**-0.7**
PET				*i* S		**Sn**		**23 31 38.7**	**-0.5**
UGLR	**Uglovaya**	**0.30**	**327**	*i* P		**Pn**		**23 31 28.5**	**-0.4**
SMAR	**Somma**	**0.36**	**330**	*i* P		**Pn**		**23 31 28.6**	**-0.6**
AVH	**Avacha**	**0.38**	**325**	*i* P		**Pn**		**23 31 29.0**	**-0.3**
KOK	**Koryaka**	**0.44**	**320**	*i* P		**Pn**		**23 31 29.2**	**-0.5**
SPN	**Mys Shipunski**	**0.57**	**75**	P		**Pn**		**23 31 29.3**	**-1.4**
SPN	**Mys Shipunski**	**0.57**	**75**	*i* P		**Pn**		**23 31 29.2**	**-1.5**
KRMR	**Karymshinskiy**	**0.60**	**258**	*i* P		**Pn**		**23 31 30.3**	**-0.6**
KRMR				*i* S		**Sn**		**23 31 42.0**	**-1.0**
RUS	**Russkaya**	**0.64**	**215**	*i* P		**Pn**		**23 31 30.6**	**-0.6**
RUS				*i* S		**Sn**		**23 31 42.6**	**-0.9**
GRL	**Gorelyy**	**0.74**	**237**	*i* P		**Pn**		**23 31 32.7**	**+0.5**
GRL				*i* S		**Sn**		**23 31 46.2**	**+0.9**
GNL	**Ganaly**	**1.02**	**317**	*i* P		**Pn**		**23 31 34.9**	**-0.1**
GNL				*e*S		**Sn**		**23 31 50.6**	**+0.3**
KII	**Karymskiy**	**1.10**	**11**	P		**Pn**		**23 31 35.5**	**-0.5**
KII				S		**Sn**		**23 31 51.3**	**-0.7**
KII	**Karymskiy**	**1.10**	**11**	*i* P		**Pn**		**23 31 35.4**	**-0.6**
APC	**Apacha**	**1.18**	**269**	*i* P		**Pn**		**23 31 37.4**	**+0.5**
APC				Smax					
	comp=E,880nm,1.1s								
MIPR	**Malaya Ipel'ka**	**1.58**	**245**	*i* P		**Pn**		**23 31 43.1**	**+1.3**
MIPR				*i* S		**Sn**		**23 32 04.6**	**+2.2**
PAU	**Pauzhetka**	**2.05**	**224**	*i* P		**Pn**		**23 31 49.7**	**+1.9**
MKZ	**Mys Kozlova**	**2.24**	**43**	P		**Pn**		**23 31 49.5**	**-0.7**
MKZ				S		**Sn**		**23 32 15.6**	**-1.8**
MKZ	**Mys Kozlova**	**2.24**	**43**	*i* P		**Pn**		**23 31 49.3**	**-0.9**
MKZ				*i* S		**Sn**		**23 32 15.6**	**-1.8**
TUMR	**Tumrok**	**2.41**	**14**	*i* P		**Pn**		**23 31 53.6**	**+1.1**
ESO	**Esso**	**2.98**	**356**	P		**Pn**		**23 32 01.0**	**+0.8**
ESO	**Esso**	**2.98**	**356**	*i* P		**Pn**		**23 32 00.9**	**+0.7**
KPT	**Kopyto**	**3.09**	**12**	*i* P		**Pn**		**23 32 02.5**	**+1.0**
KOZ	**Kozyrevsk**	**3.14**	**8**	*i* P		**Pn**		**23 32 03.4**	**+1.2**
KOZR	**Kozyr**	**3.15**	**8**	PN		**Pn**		**23 32 03.4**	**+1.0**
CIRR	**Tsirk**	**3.31**	**16**	*e*P		**Pn**		**23 32 06.4**	**+1.9**
SRDR	**Sredinnyy**	**3.39**	**6**	*i* P		**Pn**		**23 32 06.3**	**+0.7**
KLY	**Klyuchi**	**3.48**	**14**	*e*P		**Pn**		**23 32 09.1**	**+2.3**
KLY				*e*S		**Sn**		**23 32 49.4**	**+2.3**
BDR	**Baidarnaya**	**3.82**	**18**	*i* P		**Pn**		**23 32 13.8**	**+2.4**
SRKR	**Sorokina**	**3.89**	**17**	*i* P		**Pn**		**23 32 14.0**	**+1.6**
KBTR	**Krutoberegovo**	**3.91**	**32**	P		**Pn**		**23 32 13.5**	**+0.9**
KBTR				S		**Sn**		**23 32 55.6**	**-1.9**
KBTR	**Krutoberegovo**	**3.91**	**32**	*e*P		**Pn**		**23 32 13.6**	**+1.0**
KBTR				*e*S		**Sn**		**23 32 57.5**	**0.0**
KBG	**Krutoberegovo**	**3.91**	**31**	P		**Pn**		**23 32 13.2**	**+0.6**
KBG				Smax					
	comp=E,2μm,0.7s								
BKI	**Bering**	**4.63**	**58**	*i* P		**Pn**		**23 32 21.0**	**-1.3**
BKI				*i* S		**Sn**		**23 33 09.2**	**-5.7**
BKI				Smax					
	comp=E,270nm,0.4s								
MA2	**Magadan**	**8.09**	**328**	*e*PN		**Pn**		**23 33 10.1**	**+0.7**
MA2				pmax	pmax				
	comp=Z,2.0nm,0.5s								
FX1	**Attu Island--F**	**8.50**	**85**	P		**Pn**		**23 33 14.8**	**-0.2**
	comp=Z,8.3nm,0.3s,baz=236,slow=21,SNR=88								
FX1				S		**Sn**		**23 34 43.8**	**-5.3**
	comp=Z,55nm,0.3s,baz=81,slow=19,SNR=20								
FX1	**Attu Island--F**	**8.50**	**85**	*e*Pn		**Pn**		**23 33 15.0**	**0.0**
FX1				*e*Sn		**Sn**		**23 34 44.4**	**-4.8**
KAMR	**Kamenskoye**	**10.25**	**19**	*e*P		**Pn**		**23 33 39.6**	**+0.9**
SEY	**Seymchan**	**10.61**	**343**	*e*PN		**Pn**		**23 33 46.1**	**+2.4**
ASAJ	**Asahikawa**	**14.04**	**238**	P		**Pn**		**23 34 31.6**	**+2.4**
	comp=Z,6.6nm,0.3s,baz=104,slow=21,SNR=7.0								
ASAJ	**Asahikawa**	**14.04**	**238**	P		**Pn**		**23 34 31.6**	**+2.4**
ASAJ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
BILL	**Bilibino**	**15.52**	**10⇑**	*i* P		**Pn**		**23 34 49.7**	**+1.6**
BILL				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BILL				MLR	MLR				
	comp=Z,100nm,21.0s								
HABR	**Khabarovsk**	**15.85**	**263**	*i* P		**Pn**		**23 34 47.2**	**-5.0**
HABR				*e*S		**S**		**23 37 39.8**	**-16**
HABR				pmax	pmax				
	comp=Z,43nm,0.7s								
HABR				MLR	MLR				
	comp=Z,287nm,16.8s								
YAK	**Yakutsk**	**18.08**	**312**	*e*P		**Pn**		**23 35 19.1**	**-0.4**
YAK				pmax	pmax				
	comp=Z,32nm,0.8s								
YAK				pmax	pmax				
	comp=E,13nm,1.2s								
YAK	**Yakutsk**	**18.08**	**312**	*e*P		**Pn**		**23 35 19.2**	**-0.3**
	comp=E,64nm,0.6s								
MAT	**Matsushiro**	**22.00**	**230**	P		**P**		**23 36 02.5**	**+1.6**
MJAR	**Matsushiro Arr**	**22.00**	**230**	P		**P**		**23 36 02.4**	**+1.5**
	comp=E,7.0nm,0.8s,mb4.1,baz=23,slow=11,SNR=11								
MJAR	**Matsushiro Arr**	**22.00**	**230**	P		**P**		**23 36 02.4**	**+1.5**
MJAR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**22.96**	**336**	*e*P		**P**		**23 36 10.1**	**-0.8**
TIXI				*e*				23 36 31.4	
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb3.7								
HIA	**Hailar**	**24.77**	**277**	*e*P		**P**		**23 36 27.5**	**+0.2**
HIA				pmax	pmax				
	comp=Z,6.0nm,0.4s								
HIA	**Hailar**	**24.77**	**277**	*e*P		**P**		**23 36 27.5**	**+0.1**
	comp=Z,6.5nm,0.4s,mb4.4								
BOD	**Bodaibo**	**25.69**	**299**	*e*P		**P**		**23 36 35.0**	**-0.7**
BOD				*e*		pP		23 36 54.0	-3.1
BOD				pmax	pmax				
	comp=Z,2.0nm,1.3s,mb3.4								
BOD				pmax	pmax				
	comp=Z,4.0nm,1.4s,mb3.7								
KDAK	**Kodiak Island**	**27.39**	**60**	P		**P**		**23 36 49.8**	**-1.3**
	comp=Z,4.0nm,0.7s,mb4.0,baz=307,slow=15,SNR=6.0								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**28.31**	**237**	P		**P**		**23 36 55.5**	**-3.8**
	comp=Z,32nm,0.6s,mb5.0,baz=45,slow=0.2,SNR=5.0								
JNU				PcP	PcP			23 40 10.3	+0.5
	comp=Z,40nm,1.0s,baz=39,slow=0.6,SNR=4.5								
SML	**Sawmill**	**28.91**	**51**	*e*P		**P**		**23 37 04.6**	**+0.1**
ILAR	**Eielson Array**	**29.34**	**45**	P		**P**		**23 37 07.8**	**-0.4**
	comp=Z,2.3nm,0.7s,mb3.9,baz=264,slow=7.9,SNR=39								
ILAR				pP	pP			23 37 28.1	-1.9
	comp=Z,0.9nm,0.6s,baz=270,slow=10,SNR=4.1								
ILAR	**Eielson Array**	**29.34**	**45**	P		**P**		**23 37 07.9**	**-0.4**
ILAR				*PP	pP			23 37 28.1	-1.9
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
DAWY	**Dawson**	**32.65**	**46**	*e*P		**P**		**23 37 37.7**	**+0.3**
SONM	**Songino Array**	**33.35**	**283**	P		**P**		**23 37 44.2**	**+0.7**
	comp=Z,0.5nm,0.3s,mb3.8,baz=62,slow=7.8,SNR=22								
SONM				PcP	PcP			23 40 24.3	+1.1
	comp=Z,0.3nm,0.7s,baz=42,slow=0.8,SNR=3.6								
SONM				ScP	ScP			23 43 59.5	+0.7
	comp=Z,1.1nm,1.1s,baz=65,slow=3.2,SNR=5.4								
SONM	**Songino Array**	**33.35**	**283**	P		**P**		**23 37 44.2**	**+0.7**
SONM								23 40 24.3	
SONM				pmax	pmax				
	comp=Z,1.0nm,0.3s								
SONM				pmax	pmax				
	comp=N,1.0nm,1.1s								
INK	**Inuvik**	**34.34**	**37**	P		**P**		**23 37 52.3**	**+0.2**
	comp=N,2.9nm,0.6s,mb4.3,baz=297,slow=6.1,SNR=26								
INK				pP	pP			23 38 13.6	-0.5
	comp=N,2.4nm,0.7s,baz=286,slow=8.2,SNR=5.0								
INK	**Inuvik**	**34.34**	**37**	P		**P**		**23 37 52.3**	**+0.2**
INK				*PP	pP			23 38 13.6	-0.5
INK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
INK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NACB	**Ninganchiao**	**40.31**	**239**	*e*P		**P**		**23 38 42.1**	**-0.4**
GTA	**Gaotai**	**42.03**	**276**	P		**P**		**23 38 57.8**	**+1.2**
GTA				AMB	AMB				
	comp=Z,7.0nm,0.8s,mb4.4								
ZAL	**Zalesovo**	**42.36**	**302**	P		**P**		**23 38 58.2**	**-1.1**
	comp=Z,1.0nm,0.4s,mb3.9,baz=4.9,slow=5.0,SNR=4.5								
ZAL	**Zalesovo**	**42.36**	**302**	P		**P**		**23 38 58.2**	**-1.1**
ZAL				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NVS	**Novosibirsk**	**42.70**	**304**	*e*P		**P**		**23 39 00.3**	**-1.7**
YKA	**Yellowknife Ar**	**43.67**	**42**	P		**P**		**23 39 09.8**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.0,baz=297,slow=8.1,SNR=25								
YKA				pP	pP			23 39 31.2	-1.3
	comp=Z,1.1nm,0.7s,baz=298,slow=8.1,SNR=5.1								
YKA	**Yellowknife Ar**	**43.67**	**42⇑**	*e*P		**P**		**23 39 10.0**	**+0.2**
KURK	**Kurchatov**	**47.30**	**301**	*e*P		**P**		**23 39 36.7**	**-1.7**
KURK				pmax	pmax				
	comp=Z,13nm,0.6s,mb4.8								
KURK	**Kurchatov**	**47.30**	**301**	*e*P		**P**		**23 39 36.7**	**-1.7**
	comp=Z,13nm,0.6s,mb4.8								
MKAR	**Makanchi Array**	**47.67**	**295**	P		**P**		**23 39 39.6**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=56,slow=6.2,SNR=42								
MKAR	**Makanchi Array**	**47.67**	**295**	P		**P**		**23 39 39.7**	**-1.7**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**50.00**	**308**	P		**P**		**23 39 57.1**	**-2.0**
	comp=Z,4.4nm,0.5s,mb4.7,baz=58,slow=7.2,SNR=31								
BVAR				PcP	PcP			23 41 17.5	-0.3
	comp=Z,1.2nm,0.4s,baz=68,slow=2.4,SNR=8.9								
BVAR	**Borovoye Array**	**50.00**	**308**	P		**P**		**23 39 57.1**	**-2.1**
BVAR								23 41 17.5	
BVAR				pmax	pmax				
	comp=Z,4.0nm,0.5s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**50.03**	**308**	P		**P**		**23 39 58.2**	**-1.2**
ZRNK	**Zerenda**	**50.71**	**309**	*e*P		**P**		**23 40 02.4**	**-2.1**
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.4s,mb4.7								
ZRNK	**Zerenda**	**50.71**	**309**	*e*P		**P**		**23 40 02.4**	**-2.0**
	comp=Z,2.7nm,0.4s,mb4.6								
ARU	**Arti**	**53.09**	**317⇓**	*i* P		**P**		**23 40 20.4**	**-1.8**
ARU				*e*				23 41 23.3	
ARU				*e*				23 42 20.1	
ARU				*e*S		**S**		**23 47 45.8**	**+0.8**
ARU				*e*				23 49 58.4	
ARU				*e*SSS				23 53 23.6	
ARU				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.3								
ARCES	**ARCESS Array B**	**53.23**	**341**	P		**P**		**23 40 21.9**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=37,slow=8.0,SNR=7.7								
ARCES	**ARCESS Array B**	**53.23**	**341**	P		**P**		**23 40 21.9**	**-1.3**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
JOF	**Joensuu**	**57.44**	**335**	*e*p		**P**		**23 40 52.9**	**-0.5**
	comp=Z,1.2nm,0.3s,mb4.4								
JOF	**Joensuu**	**57.44**	**335**	*e*P		**P**		**23 40 52.9**	**-0.5**
JOF				pmax	pmax				
	comp=Z,1.0nm,0.3s,mb4.3								
AKTK	**Aktyubinsk**	**57.47**	**312**	P		**P**		**23 40 52.2**	**-1.4**
AKTO	**Aktyubinsk**	**57.47**	**312**	P		**P**		**23 40 52.2**	**-1.4**
	comp=Z,1.8nm,0.4s,mb4.4,baz=62,slow=8.1,SNR=12								
AKTO	**Aktyubinsk**	**57.47**	**312**	P		**P**		**23 40 52.2**	**-1.4**
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.5								
PDAR	**Pinedale Array**	**58.11**	**60**	P		**P**		**23 40 59.6**	**+1.5**
	comp=Z,2.9nm,0.6s,mb4.5,baz=326,slow=2.6,SNR=28								
PDAR				pP	pP			23 41 22.2	+0.4
	comp=Z,1.1nm,0.8s,baz=335,slow=3.9,SNR=4.3								
SFJD	**Kangerlussuaq**	**58.29**	**13**	P		**P**		**23 40 59.8**	**+0.4**
	comp=Z,2.1nm,0.3s,mb4.6,baz=274,slow=6.6,SNR=5.3								
SFJD	**Kangerlussuaq**	**58.29**	**13**	P		**P**		**23 40 59.8**	**+0.5**
SFJD				pmax	pmax				
	comp=Z,2.0nm,0.3s,mb4.6								
ULM	**Lac du Bonnet**	**59.35**	**46**	P		**P**		**23 41 06.5**	**-0.2**
	comp=Z,0.7nm,0.4s,mb4.1,baz=306,slow=8.5,SNR=3.0								
KAF	**Kangasniemi**	**59.37**	**336**	*e*p		**P**		**23 41 05.8**	**-1.0**
	comp=Z,2.1nm,0.4s,mb4.5,baz=32,slow=6.2								
KAF	**Kangasniemi**	**59.37**	**336**	*e*P		**P**		**23 41 05.8**	**-1.0**
KAF				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.5								
RSSD	**Black Hills**	**59.98**	**56**	*e*P		**P**		**23 41 12.4**	**+1.4**
RSSD				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.5								
RSSD	**Black Hills**	**59.98**	**56**	*e*P		**P**		**23 41 12.4**	**+1.4**
	comp=Z,2.0nm,0.4s,mb4.5								
FINES	**FINESS Array B**	**60.01**	**336**	P		**P**		**23 41 09.2**	**-1.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=33,slow=7.9,SNR=18								
FINES	**FINESS Array B**	**60.01**	**336**	P		**P**		**23 41 09.3**	**-1.9**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
SRU	**San Rafael**	**60.19**	**64**	*e*P		**P**		**23 41 14.2**	**+1.8**
SRU				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
SRU	**San Rafael**	**60.19**	**64**	*e*P		**P**		**23 41 14.2**	**+1.7**
	comp=Z,3.2nm,0.8s,mb4.4								
OBN	**Obninsk**	**62.31**	**327⇑**	*e*P		**P**		**23 41 22.5**	**-4.2**
OBN				*e*				23 43 44.6	
OBN				*e*S		**S**		**23 49 38.5**	**-6.9**
OBN				*e*SS		SS		23 53 47.3	-3.0
OBN				pmax	pmax				
	comp=Z,17nm,1.9s,mb4.8								
OBN				MLR	MLR				
	comp=Z,200nm,15.0s								
NB2	**NORSAR Subarra**	**63.50**	**343**	P		**P**		**23 41 33.5**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.2,baz=20,slow=6.9								
NOA	**NORSAR Array B**	**63.50**	**343**	P		**P**		**23 41 34.2**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.0,baz=16,slow=5.4,SNR=7.9								
NOA	**NORSAR Array B**	**63.50**	**343**	P		**P**		**23 41 34.2**	**-0.4**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NOA	**NORSAR Array B**	**63.50**	**343**	P		**P**		**23 41 34.2**	**-0.4**
AKASG	**Malin Array Be**	**68.42**	**328**	P		**P**		**23 42 04.0**	**-2.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=30,slow=7.2,SNR=8.0								
AKASG	**Malin Array Be**	**68.42**	**328**	*i* P		**P**		**23 42 05.0**	**-1.1**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GERES	**GERESS Array B**	**74.41**	**337**	P		**P**		**23 42 42.1**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=32,slow=5.8,SNR=2.8								
WRAB	**Tennant Creek**	**75.70**	**204**	*e*P		**P**		**23 42 50.2**	**+0.6**
WRAB				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.2								
WRAB	**Tennant Creek**	**75.70**	**204**	*e*P		**P**		**23 42 50.2**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.2								
WB2	**Warramunga Arr**	**75.70**	**204**	*e*P		**P**		**23 42 50.2**	**+0.6**
WRA	**Warramunga Arr**	**75.71**	**204**	P		**P**		**23 42 50.3**	**+0.7**
	comp=Z,1.3nm,0.7s,mb3.8,baz=20,slow=6.1,SNR=24								
WRA	**Warramunga Arr**	**75.71**	**204**	P		**P**		**23 42 50.3**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**79.39**	**203**	P		**P**		**23 43 11.7**	**+1.5**
	comp=Z,1.2nm,0.6s,mb3.9,baz=15,slow=5.3,SNR=15								
ASAR	**Alice Springs**	**79.39**	**203**	P		**P**		**23 43 11.7**	**+1.6**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PLCA	**Paso Flores**	**144.61**	**90**	PKP	PKPdf			23 50 38.6	-1.3
	comp=Z,2.1nm,0.5s,baz=291,slow=3.6,SNR=5.9								
PLCA	**Paso Flores**	**144.61**	**90**	PKIKP	PKPdf			23 50 38.7	-1.2
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.5s								

IDC 16 23:48:13.8±3.1, 1510S×6685E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=106.8km s-min=33.8km az=55.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**63.15**	**12**	P		P	P	23 58 43.2	-0.1
	0.3nm,0.9s,baz=205,slow=11,SNR=2.8								
ASAR	**Alice Springs**	**63.34**	**109**	P		P	P	23 58 45.5	+0.8
	0.3nm,0.6s,baz=265,slow=5.7,SNR=6.6								
WRA	**Warramunga Arr**	**64.17**	**105**	P		P	P	23 58 50.6	+0.5
	0.8nm,0.6s,baz=269,slow=5.9,SNR=19								
SONM	**Songino Array**	**71.90**	**27**	P		P	P	23 59 39.1	+0.4
	0.8nm,1.0s,baz=227,slow=5.5,SNR=5.1								
PDAR	**Pinedale Array**	**152.25**	**354**	PKPbc	PKPbc			00 08 12.0	+0.5
	0.4nm,0.5s,baz=64,slow=2.1,SNR=4.6								

IDC 16 23:56:12.5±10.0, 267N×9623E, h59km±75km, mb3.5/4, mb1 3.6/5, mb1mx3.3/21, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=133.2km s-min=25.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.69**	**87**	P		P	Pn	23 56 53.7	+0.4
	2.1nm,0.3s,baz=287,slow=6.0,SNR=9.6								
WRA	**Warramunga Arr**	**43.63**	**123**	P		P	P	00 04 11.1	+0.1
	0.2nm,0.5s,baz=302,slow=9.0,SNR=6.3								
MKAR	**Makanchi Array**	**45.60**	**347**	P		P	P	00 04 26.4	-0.3
	1.2nm,0.5s,baz=159,slow=8.3,SNR=24								
SONM	**Songino Array**	**45.84**	**10**	P		P	P	00 04 28.9	+0.2
	0.9nm,0.5s,baz=192,slow=9.6,SNR=14								
SONM				PcP	PcP			00 06 05.7	+0.6
	0.1nm,0.5s,baz=188,slow=2.8,SNR=4.2								
ZAL	**Zalesovo**	**51.96**	**351**	P		P	P	00 05 15.2	-0.3
	1.3nm,0.5s,baz=329,slow=6.5,SNR=6.4								

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*IDC **16** 23:57:35.7±0.8, 683N×77.84W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=26.5km s-min=19.7km az=70.0*
*ISCJB **16** 23:57:41.1±1.1, 681N±006×7776W±006, h50km±12km, mb3.9/9, Error ellipse: s-maj=11.0km s-min=8.2km az=72.1*
*NEIC **16** 23:57:43.4±1.1, 681N×77.78W, h57km±16km, mb4.1/3, Error ellipse: s-maj=14.7km s-min=11.9km az=162.0*
ISC 16 23:57:43.5±0.9, 683N±006×7779W±006, h56km±10km, n23, σ0§98/23, mb3.9/9, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.96**	**119**	Pn		**Pn**		**23 58 43.0**	**+1.3**
	3.7nm,0.3s,baz=81,slow=10,SNR=5.7								
ROSC				Lg				23 59 45.4	
	5.2nm,0.3s,baz=73,slow=24,SNR=6.0								
OTAV	**Otavalo**	**6.58**	**186**	*e*Pn		**Pn**		**23 59 18.4

MFT	Murefte	0.88 327	PG	Pg	00 09 53.3	-0.4
MFT			SG	Sg	00 10 05.8	+0.6
LPK	Lapseki	0.94 290	PG	Pg	00 09 54.2	-0.7
ULDT	Uludag	0.94 84	*i* P	Pb	00 09 54.5	-0.4
ULDT			*i* S	Sg	00 10 07.3	0.0
CTT	Catalca	1.17 20	PN	Pn	00 09 57.7	-1.0
ELBA	Catalca	1.17 20	*i* P	Pn	00 09 57.9	-0.8
ELBA			*i* S	Sb	00 10 14.3	+0.7
AKS	Akhisar	1.17 184	PN	Pn	00 09 58.3	-0.5
AYVA	Ayvalik	1.20 232	*i* P	Pn	00 09 58.3	-0.8
AYVA			*i* S	Sb	00 10 15.2	+0.6
BADT	Buyukada	1.22 49	PN	Pn	00 09 58.8	-0.7
IZI	Iznik	1.23 76	PN	Pn	00 09 59.5	-0.1
YLV	Yalova	1.23 65	PN	Pn	00 09 58.5	-1.1
EZN	Ezine	1.24 260	PN	Pn	00 09 58.6	-1.1
ISK	Istanbul-Kandi	1.34 40	PN	Pn	00 10 00.5	-0.6
PRK	Paraskevi	1.50 238	*e*PG	Pg	00 10 02.7	-2.8
PRK			*e*SB	Sb	00 10 23.0	-0.3
HRT	Hereke	1.55 60	PN	Pn	00 10 03.0	-1.0
GDZ	Gediz	1.55 128	*i* P	Pn	00 10 03.9	0.0
GDZ			*i* S	Sn	00 10 25.5	+1.6
MANT	Manisa	1.64 162	*i* P	Pn	00 10 04.8	-0.4
MANT			*i* S	Sn	00 10 26.8	+0.7
ALN	Alexandroupoli	1.65 301	*e*P	Pn	00 10 05.3	-0.1
ALN	Alexandroupoli	1.65 301	*e*P	Pn	00 10 05.3	-0.1
KDAG	Bornova	1.72 197	*i* P	Pn	00 10 07.3	+1.0
KDAG	Bornova	1.72 197	*i* P	Pn	00 10 07.3	+1.0
GPA	Golpazari	1.85 82	*e*PN	Pn	00 10 08.0	-0.2
BORA	Eskisehir	1.96 94	*i* P	Pn	00 10 09.3	-0.3
BORA			*i* S	Sn	00 10 40.3	+6.2
ALT	Altintas	1.97 120	*e*PN	Pn	00 10 09.8	0.0
EDRB	Edirne	2.00 334	*e*PN	Pn	00 10 09.9	-0.3
LIA	Limnos Island	2.10 267	*e*PN	Pn	00 10 11.8	+0.2
RDO	Rodhopi	2.11 302	*e*PG	Pn	00 10 11.9	+0.2
KHL	Karahalli	2.13 143	*e*PN	Pn	00 10 11.6	-0.4
ESKT	Eskisehir	2.33 102	*i* P	Pn	00 10 14.8	+0.1
ESKT			*i* S	Sn	00 10 49.5	+6.4
ESKT	Eskisehir	2.33 102	*e*Pn	Pn	00 10 14.9	+0.2
SEYT	Eskypehyr	2.33 102	*i* P	Pn	00 10 14.8	+0.1
HENT	Hendek	2.41 70	*i* P	Pn	00 10 15.4	-0.4
SMG	Samos	2.48 200	*e*PN	Pn	00 10 21.3	+4.5
DNZL	Cakiroluk	2.52 159	*i* P	Pn	00 10 16.5	-0.9
MDU	Mudurnu	2.56 80	*e*PN	Pn	00 10 17.9	0.0
JMB	Yambol	2.61 338	*e*P	Pn	00 10 20.1	+1.5
MLSB	Milas	2.75 182	*e*PN	Pn	00 10 20.1	-0.4
YER	Yerkesik	2.93 174	*e*PN	Pn	00 10 23.1	+0.2
ISP	Isparta	2.99 137	*e*PN	Pn	00 10 24.4	+0.6
OUR	Ouranopolis	3.02 277	*e*P	Pn	00 10 23.9	-0.3
SGKT	Sivrigoynuk	3.21 79	*i* P	Pn	00 10 26.3	-0.5
PAIG	Paliouri	3.25 269	*e*P	Pn	00 10 27.1	-0.3
KIZT	Kizilcal	3.29 110	*e*PN	Pn	00 10 28.4	+0.5
NVR	Nevrokopi	3.34 294	*e*PN	Pn	00 10 28.6	0.0
PLG	Polygyros	3.43 277	*e*PN	Pn	00 10 29.8	-0.1
SRS	Serrai	3.46 289	*e*P	Pn	00 10 30.2	0.0
FETY	Fethiye	3.53 164	*e*PN	Pn	00 10 31.7	+0.5
ELL	Elmali	3.65 154	*e*PN	Pn	00 10 33.5	+0.6
ANTO	Ankara	3.76 91	*e*PN	Pn	00 10 35.0	+0.7
SAFT	Safranbolu	3.82 70	*e*PN	Pn	00 10 35.7	+0.4
KNT	Kendrikon	3.97 288	*e*P	Pn	00 10 37.5	+0.2
KONT	Konya--Tatoy	4.05 120	*e*PN	Pn	00 10 39.2	+0.8
VAY	Valandovo	4.25 289	*e*Pn	Pn	00 10 41.9	+0.7
GRG	Griva	4.30 284	*e*P	Pn	00 10 42.6	+0.8
STIP	Stip	4.64 293	*e*Pn	Pn	00 10 46.4	-0.1

*ISCJB **17** 00:15:56.5±0.5, 6782N±003×20.19E±008, h0km, Error ellipse: s-maj=4.6km s-min=3.8km az=114.6*
*CSEM **17** 00:15:56.3±0.1, 6782N×2016E, h1km, ML2.5, Error ellipse: s-maj=3.2km s-min=2.5km az=86.0, Mining explosion.*
*UPP **17** 00:15:57.3, 6784N×2020E, h0km, ML2.5, Suspected Mining explosion.*
*BER **17** 00:15:58.3±2.8, 6786N×2023E, h0km, ML1.7, Suspected explosion*
*HEL **17** 00:15:58.0±0.1, 6784N×2020E, h0km, ML1.8, ML2.5(UPP), ML1.7(BER), Explosion*

ISC 17 00:15:57.0±0.4, 6781N±002×2019E±007, h0km, n26, σ0§96/40, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	21	*i* P	Pg	00 15 59.9	0.0
NIKU	Nikkaluokta	0.44	277	*i* P	Pg	00 16 05.8	+0.3
DUNU	Dundret	0.71	168	*i* P	Pg	00 16 11.1	+0.5
LANU	Lannavaara	0.72	70	*i* P	Pg	00 16 10.6	-0.1
MASU	Masugnsbyn	0.78	117	*i* P	Pg	00 16 12.2	+0.3
SALU	Saltoluokta	0.78	237	*i* P	Pg	00 16 12.4	+0.4
KIF	Kilpisjarvi	1.22	10	*e*P	Pg	00 16 20.9	+0.6
KIF				*e*S	Sg	00 16 37.1	+1.0
PAJU	Pajala	1.38	124	*e*P	Pg	00 16 22.8	-0.6
ERTU	Ertsjaerv	1.49	147	*e*P	Pn	00 16 24.8	-0.1
KTK1	Kautokeino	1.65	42	*e*P	Pn	00 16 26.8	-0.4
KTK1				*e*SG	Sg	00 16 48.2	-1.7
KTK1				AML	AML	00 16 51.3	
	comp=Z,7.8nm,0.2s						
KTK1	Kautokeino	1.65	42	*e*P	Pn	00 16 26.8	-0.4
	SNR=50						
KTK1				*e*Sg	Sg	00 16 48.2	-1.7
	SNR=90						
TRO	Tromso	1.89	346	*e*P	Pn	00 16 29.6	-0.8
TRO				*e*S	Sn	00 16 54.4	-0.5
TRO				AML	AML	00 16 57.5	
	comp=Z,11nm,0.6s						
TRO	Tromso	1.89	346	*e*P	Pn	00 16 29.6	-0.8
	SNR=50						
TRO				*e*Sg	Sg	00 16 54.4	-3.2
	SNR=90						
SJUU	Sjulsmark	2.38	166	*e*P	Pn	00 16 39.0	+1.7
SGF	Sodankyl	2.45	96	*e*P	Pn	00 16 39.2	+1.0
SGF				*e*S	Sn	00 17 09.3	+0.4
SGF	Sodankyl	2.45	96	P	Pn	00 16 39.2	+1.0
SGF				S	Sn	00 17 09.2	+0.3
LOF	Lofoten	2.53	280	*e*SG	Sg	00 17 19.0	+0.7
LOF				AML	AML	00 17 20.9	
	comp=Z,8.9nm,0.3s						
LOF	Lofoten	2.53	280	*e*Sg	Sg	00 17 19.0	+0.8
	comp=Z,8.9nm,0.3s,SNR=90						
MOR8	Moi Rana	2.80	237	*e*SG	Sg	00 17 20.2	-6.7
MOR8				AML	AML	00 17 21.9	
	comp=Z,8.9nm,0.3s						
MOR8	Moi Rana	2.80	237	*e*Sg	Sg	00 17 20.2	-6.7
	comp=Z,8.9nm,0.3s,SNR=90						
KEV	Kevo	3.15	49	*e*P	Pn	00 16 49.1	+1.2
KEV				*e*S	Sn	00 17 26.3	+0.1
KEV				MSG		00 17 33.5	
	comp=Z,1.9nm,0.3s						
KEV	Kevo	3.15	49	P	Pn	00 16 49.0	+1.1
KEV				S	Sn	00 17 26.3	+0.1
	comp=Z,1.9nm,0.3s						
OUL	Oulu	3.57	137	*e*P	Pn	00 16 54.6	+1.0
OUL				*e*S	Sn	00 17 35.8	-0.7
OUL				*e*SG	Sg	00 17 46.6	-5.1
OUL				MSG		00 17 47.5	
	comp=Z,1.8nm,0.3s						
OUL	Oulu	3.57	137	P	Pn	00 16 54.5	+0.9
OUL				S	Sn	00 17 35.8	-0.7
OUL				Sg	Sg	00 17 46.6	-5.1
	comp=Z,1.8nm,0.3s						
NSS	Namsos	4.69	229	*e*SG	Sg	00 18 25.6	-2.1
KJN	Kajaani	4.84	137	*e*S	Sn	00 18 06.2	-1.7
KJN				*e*SB	Sb	00 18 21.6	+0.1

*IDC **17** 01:01:29.4±14.0, 3673N×2150E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=286.4km s-min=43.9km az=30.0*
*CSEM **17** 01:01:32.7±0.1, 3645N×2116E, h20km, ML3.7, Error ellipse: s-maj=3.3km s-min=1.4km az=78.0*
*ISCJB **17** 01:01:33.3±0.7, 3656N±004×2140E±009, h33km, mb3.6/4, Error ellipse: s-maj=10.2km s-min=4.8km az=149.9*
*THE **17** 01:01:35.1, 3664N×2123E, h24km*
*HLW **17** 01:01:38.5, 3669N×2227E, h33km, Mb3.7*
*ATH **17** 01:01:38.7, 3685N×2171E, h37km±4km, MD3.6/12, ML3.5*

ISC 17 01:01:35.0±0.8, 3658N±004×212E±01, h35km, n41, σ1§29/44, mb3.6/4, 2C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.83	43	*e*PB	Pn	01 01 47.6	-2.6
VLI	Veliai	1.40	84	*e*PN	Pn	01 01 58.3	+0.3
RLS	Riolos of Patr	1.49	8	*e*PN	Pn	01 02 01.0	+1.7
KYTH	Kithira	1.50	101	*e*PN	Pn	01 02 00.5	+1.1
KYTH	Kithira	1.50	101	*e*Pn	Pn	01 02 01.0	+1.6
VLS	Valsamata	1.67	343	*e*PB	Pn	01 02 06.3	+4.5
VLS	Valsamata	1.67	343	*e*Pn	Pn	01 02 04.0	+2.2
NAIG	Nisos Aigina	2.17	56	*e*PB	Pn	01 02 08.5	-0.1
NAIG	Nisos Aigina	2.17	56	*e*Pn	Pn	01 02 12.0	+3.4
EVR	Evrytania	2.38	11	*e*PB	Pn	01 02 13.5	+1.9
EVR	Evrytania	2.38	11	*e*Pn	Pn	01 02 14.5	+2.9
KVR	Kavouri	2.40	58	*e*PN	Pn	01 02 09.0	-2.7
KVR	Kavouri	2.40	58	*e*Pn	Pn	01 02 14.0	+2.3
ATH	Athens Observa	2.44	54	*e*PN	Pn	01 02 11.0	-1.3
ATH	Athens Observa	2.44	54	*e*Pb	Pn	01 02 13.4	+1.1
KARN	Karanos	2.49	117	*e*PN	Pn	01 02 14.1	+1.0
LKR	Lokris	2.51	34	*e*PB	Pn	01 02 13.6	+0.3
MPAR	Parnis Oros	2.55	51	*e*PN	Pn	01 02 12.7	-1.2
PTL	Penteli	2.58	54	*e*PN	Pn	01 02 12.0	-2.2
PTL	Penteli	2.58	54	*e*Pn	Pn	01 02 15.0	+0.8
AGG	Agios Georgios	2.60	20	*e*Pn	Pn	01 02 15.2	+0.7
AGG				*e*Sn	Sn	01 02 45.4	+0.5
VAM	Vamos	2.69	115	*e*Pn	Pn	01 02 19.1	+3.3
IGT	Igoumenitsa	3.03	347	*e*Pn	Pn	01 02 20.9	+0.5
IGT				*e*Sn	Sn	01 02 56.0	+0.5
NEO	Neokhori	3.16	30	*e*PN	Pn	01 02 22.5	+0.3
XOR	Xorichti	3.19	29	*e*Pn	Pn	01 02 22.2	-0.5
LIT	Litokhoron	3.66	16	*e*Pn	Pn	01 02 29.2	+0.1
KZN	Kozani	3.75	7	*e*PN	Pn	01 02 30.2	-0.2
KZN	Kozani	3.75	7	*e*Pn	Pn	01 02 31.0	+0.6
VAY	Valandovo	4.86	12	*e*Pn	Pn	01 02 45.0	-0.5
STIP	Stip	5.17	8	*e*Pn	Pn	01 02 49.6	-0.3
STIP	Stip	5.17	8	*e*Pn	Pn	01 02 49.5	-0.3
SLUM		6.06	146	⇑P	Pn	01 03 01.7	-0.4
SWA2		8.14	153	P	Pn	01 03 31.4	+0.8
SWA1		8.21	151	⇓P	Pn	01 03 32.5	+0.9
SWA1				S	Sn	01 04 55.7	-7.5
SWA1		8.21	151	P	Pn	01 03 32.5	+0.8
AWBH		10.48	140	⇑P	Pn	01 04 01.6	-1.2
HFRF	Wahat Farafira	11.16	145	⇓P	Pn	01 04 12.0	-0.1
FINES	FINESS Array B	25.08	6	P	P	01 06 54.0	-2.2
	0.8nm,0.5s,mb3.5,baz=157,slow=10,SNR=7.9						
NOA	NORSAR Array B	25.29	349	P	P	01 06 56.1	-2.0
	1.0nm,0.8s,mb3.4,baz=158,slow=9.4,SNR=3.0						
MKAR	Makanchi Array	45.69	57	P	P	01 09 50.0	-2.4
	0.3nm,0.6s,mb3.4,baz=277,slow=7.6,SNR=6.8						
ZAL	Zalesovo	46.35	47	P	P	01 09 54.2	-3.4
	0.7nm,0.3s,mb4.1,baz=193,slow=6.8,SNR=4.1						

*IDC **17** 01:20:15.9±1.2, 1915N×105.12W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/20, mbtmp4.3/12, MS3.5/6, Ms1 3.5/6, ms1mx3.4/27, Error ellipse: s-maj=40.8km s-min=17.9km az=54.0*
*NEIC **17** 01:20:20.8, 1915N×105.17W, h20km, mb4.4/30, MD4.7(MEX), After MEX.*
*MEX **17** 01:20:20.8±0.8, 1915N×105.17W, h20km±29km, MD4.7*
*ISCJB **17** 01:20:21.1±0.8, 1927N±007×10498W±005, h38km±5km, mb4.3/36, MS3.5/2, Error ellipse: s-maj=13.5km s-min=4.0km az=67.6*

ISC 17 01:20:22.1±0.9, 1929N±006×10501W±005, h30km±4km, n84, σ1§24/92, mb4.3/36, MS3.5/2, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.21	351	*i* P	Pb	01 20 26.8	-1.6
CJM				*i* S	Sb	01 20 32.7	+0.1
COLM	Colima	1.25	95	*i* P	Pn	01 20 42.0	-1.6
SFJM	Santa Fe	2.20	57	*i* P	Pn	01 20 57.5	+0.9
MOIG	Morelia	3.62	83	*e*P	Pn	01 21 16.9	+0.7
MOIG				*i* S	Sn	01 21 58.4	+0.4
MRX	Morelia	3.62	83	*e*P	Pn	01 21 18.0	+1.8
MAIG	Mazatlaan	4.09	341	*i* P	Pn	01 21 21.1	-1.5
CAIG	El Cayaco	5.03	116	*i* S	Sn	01 22 32.1	-0.5
MEIG	Mezcala	5.29	104	*i* P	Pn	01 21 39.0	-0.1
MEIG				*i* S	Sn	01 22 38.9	-0.1
PLIG	Platanillo	5.29	99	*e*P	Pn	01 21 39.1	0.0
PLIG				*i* S	Sn	01 22 40.8	+1.8
ACX	Acapulco	5.41	116	*i* P	Pn	01 21 40.7	-0.1
YAIG	Yautepec	5.64	93	*i* P	Pn	01 21 44.9	+1.1
YAIG				*i* S	Sn	01 22 51.1	+3.5
PPM	Popocatepetl	6.04	91	*e*P	Pn	01 21 51.2	+1.9
PPM				*i* S	Sn	01 22 58.0	+0.5
UTMO	Huajuapan	6.99	101	*e*P	Pn	01 22 02.1	-0.3
VHO	Vista Hermosa	8.17	104	*i* P	Pn	01 22 20.1	+1.5
CMIG	Matias Romero	9.87	101	*i* P	Pn	01 22 42.6	+0.7
CMIG				*i* S	Sn	01 24 30.4	-1.3
CCIG	Comitan	12.62	102	*i* P	Pn	01 23 20.6	+1.0
HKT	Hockley	13.49	36	*e*Pn	Pn	01 23 32.5	+1.0
	30nm,1.3s						
TUC	Tucson	13.96	339	*e*Pn	Pn	01 23 40.9	+3.1
	5.5nm,0.9s						
NATX	Nacogdoches	15.52	35	*e*Pn	Pn	01 23 57.1	-1.7
	42nm,0.8s						
ANMO	Albuquerque	15.65	356	Pn	Pn	01 24 05.0	+4.6
	0.1nm,0.3s,baz=135,slow=14,SNR=3.5						
WUAZ	Wupatki	17.11	342	*e*Pn	Pn	01 24 20.4	+1.4
	15nm,1.0s						
LDFC	Landfair	18.09	332	*e*P	Pn	01 24 34.8	+3.7
NEN	Nelson	18.46	334	*e*P	Pn	01 24 37.9	+2.3
NEN				S	Sn	01 28 02.7	+1.6
PV01	Paradox Valley	19.03	351	*e*P	Pn	01 24 40.2	-2.3
PV10	Paradox Valley	19.34	350	*e*P	Pn	01 24 44.0	-2.2
SMCO	Snowmass	19.89	356	*e*P	Pn	01 24 53.1	+0.3
	21nm,1.4s						
CBKS	Cedar Bluff	19.98	12	*e*P	Pn	01 24 52.0	-1.9
	21nm,0.9s						
MSU	Marysvale	20.14	343	*e*P	P	01 24 55.8	+2.1
MSU				S	S	01 28 38.3	0.0
SRU	San Rafael	20.32	348	*e*P	P	01 24 55.7	0.0
	10nm,1.1s						
ISCO	Idaho Springs	20.44	359	*e*P	P	01 24 56.4	-0.6
	6.7nm,1.0s						
TMUT	Trail Mountain	20.64	346	*e*Pn	P	01 25 01.1	+1.9
KSU1	Kansas State U	21.04	18	*e*P	P	01 25 03.1	-0.3
LRAL	Lakeview Retre	21.14	46	*e*P	P	01 25 04.3	-0.2
	16nm,0.9s,mb4.4						
PLAL	Pickwick Lake	21.66	40	*e*P	P	01 25 09.1	-1.0
	12nm,0.9s,mb4.3						
DAU	Daniels Canyon	21.72	347	*e*P	P	01 25 12.9	+2.1
NOQ	North Squirrh	22.14	346	*e*P	P	01 25 16.3	+1.0
	27nm,1.2s,mb4.5						
MNV	Mina	22.23	332	*e*P	P	01 25 14.1	-2.1
	8.6nm,1.1s,mb4.1						
RWWY	Rawlins	22.40	356	*e*P	P	01 25 20.3	+2.2
	9.7nm,0.8s,mb4.3						
TCUT	Toone Canyon	22.43	347	*e*P	P	01 25 19.0	+0.7
FVM	French Village	22.54	31	*e*P	P	01 25 18.2	-1.3
	8.0nm,0.6s,mb4.3						
BGU	Big Grassy Mou	22.63	344	*e*P	P	01 25 18.9	-1.5
HWUT	Hardware Ranch	22.93	347	*e*P	P	01 25 24.4	+0.7
	15nm,0.8s,mb4.5						
CMB	Columbia Colle	22.98	328	*e*P	P	01 25 25.6	+1.5
	4.5nm,1.0s,mb3.9						
ELK	Elko	23.11	340	P	P	01 25 26.5	+1.0
	2.1nm,0.9s,mb3.6,baz=135,slow=7.1,SNR=9.2						
ELK	Elko	23.11	340	P	P	01 25 26.5	+1.0
SWET	Sewanee	23.16	43	*e*P	P	01 25 24.2	-1.8
HVU	Hansel Valley	23.37	345	*e*P	P	01 25 28.2	-0.1
	15nm,1.0s,mb4.4						
PDAR	Pinedale Array	23.71	352	P	P	01 25 31.5	0.0
	2.4nm,0.6s,mb3.8,baz=161,slow=9.6,SNR=20						
PDAR				LR	LR	01 34 56.9	
	comp=Z,146nm,21.8s,MS3.4,baz=181,slow=37						
AHID	Auburn Hatcher	23.96	349	*e*P	P	01 25 33.1	-0.7
	8.3nm,0.9s,mb4.2						
CPCT	Cooper Cave	24.21	44	*e*P	P	01 25 34.6	-1.4
REDW	Red Top Meadow	24.50	350	*e*P	P	01 25 38.9	+0.3
	33nm,1.0s,mb4.7						
OHCM	Honcut	24.52	328	*e*P	P	01 25 37.3	-1.6
SNOW	Snow King Moun	24.58	350	*e*P	P	01 25 39.3	-0.1
	39nm,1.0s,mb4.9						
MOOW	Moose Ponds	24.85	350	*e*P	P	01 25 42.4	+0.5
	9.8nm,1.0s,mb4.3						
WCI	Wyandotte Cave	24.92	37	*e*P	P	01 25 41.3	-1.2
	25nm,0.9s,mb4.8						
IMW	Indian Meadow	25.03	350	*e*P	P	01 25 43.2	-0.3
	14nm,0.9s,mb4.5						
FLWY	Flagg Ranch	25.17	350	*e*P	P	01 25 45.4	+0.6
	31nm,1.1s,mb4.7						
HLID	Hailey	25.46	344	*e*P	P	01 25 49.2	+1.8
	4.2nm,1.0s,mb3.9						
YFT	Old Faithful	25.55	350	*e*P	P	01 25 49.4	+1.2
YMR	Madison River	25.79	350	*e*P	P	01 25 49.9	-0.5
	14nm,1.1s,mb4.4						
JSC	Jenkinsville	25.84	50	*e*P	P	01 25 49.2	-1.7
QLMT	Earthquake Lak	26.02	350	*e*P	P	01 25 54.3	+1.8
MCMT	McKenzie Canyo	26.29	347	*e*P	P	01 25 57.1	+2.2
BOZ	Bozeman (W)	26.85	350	*e*P	P	01 26 00.9	+1.0
	14nm,1.2s,mb4.4						
BLA	Blacksburg	27.94	45	*e*P	P	01 26 08.5	-1.2
	1.8nm,1.3s,mb3.5						
CHMT	Chamberlain Mo	28.37	348	*e*P	P	01 26 14.6	+1.1
MSO	Missoula	28.43	347	*e*P	P	01 26 14.7	+0.7
	9.0nm,1.1s,mb4.3						
SADO	Sadowa	33.29	34	P	P	01 26 54.9	-2.1
	9.2nm,0.7s,mb4.8,baz=248,slow=8.6,SNR=6.8						
SDV	Santo Domingo	34.84	102	P	P	01 27 11.0	+0.6
	17nm,0.8s,mb5.0,baz=308,slow=4.2,SNR=26						
SDV	Santo Domingo	34.84	102	P	P	01 27 11.0	+0.6
FFC	Flin Flon	35.45	3	*e*P	P	01 27 14.0	-1.7
	5.6nm,0.8s,mb4.5						
YKA	Yellowknife Ar	43.67	354	P	P	01 28 22.7	-1.4
	4.0nm,0.8s,mb4.2,baz=165,slow=7.6,SNR=69						
YKA				PcP	PcP	01 30 09.1	-1.8
	0.6nm,0.8s,baz=161,slow=2.8,SNR=6.8						
YKA				LR	LR	01 46 27.3	
	comp=Z,98nm,21.1s,MS3.7,baz=205,slow=36						
YKW3	Yellowknife Ar	43.74	354	*e*P	P	01 28 23.4	-1.3
DAWY	Dawson	50.38	341	*e*P	P	01 29 15.6	-0.8
LPAZ	La Paz	50.65	132	P	P	01 29 18.3	-0.2
	0.4nm,0.6s,mb3.5,baz=28,slow=5.7,SNR=2.8						
INK	Inuvik	52.16	347	*e*P	P	01 29 21.2	-8.6
	7.1nm,0.9s,mb4.6						
ILAR	Eielson Array	53.26	339	P	P	01 29 37.2	-0.7
	2.7nm,0.9s,mb4.2,baz=152,slow=6.0,SNR=28						
TTA	Tatalina	55.67	334	*e*P	P	01 29 54.3	-1.2
	16nm,1.4s,mb4.9						
BDFB	Brasilia	65.94	118	P	P	01 31 04.5	-0.9
	1.3nm,0.4s,mb4.3,baz=315,slow=9.7,SNR=5.2						
ARCES	ARCESS Array B	84.74	16	P	P	01 32 53.0	-0.3
	2.7nm,0.7s,mb4.5,baz=284,slow=4.9,SNR=5.0						
NOA	NORSAR Array B	85.20	26	P	P	01 32 55.2	-0.4
	2.4nm,0.9s,mb4.3,baz=303,slow=5.3,SNR=5.2						
ESDC	Sonseca Array	86.03	49	P	P	01 32 59.5	-0.3
	2.0nm,0.7s,mb4.5,baz=302,slow=5.3,SNR=8.9						
FINES	FINESS Array B	90.59	21	P	P	01 33 20.1	-1.3
	0.4nm,0.6s,mb3.9,baz=45,slow=4.7,SNR=5.1						
WRA	Warramunga Arr	124.36	259	PKP	PKPdf	01 39 16.2	-1.9
	0.7nm,0.8s,baz=77,slow=2.4,SNR=11						

*IDC **17** 01:22:31.4±1.7, 1912N×15506W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/20, mbtmp4.1/8, MS4.4/1, Ms1 4.3/1, ms1mx3.2/24, Error ellipse: s-maj=55.5km s-min=27.2km az=140.0*
*ISCJB **17** 01:22:32.6±1.2, 1931N±005×15520W±006, h17km±8km, mb4.4/28, MS4.6/3, Error ellipse: s-maj=11.1km s-min=7.8km az=71.2*
*NEIC **17** 01:22:33.0, 1934N×15521W, h10km, mb4.5/13, ML4.6(HVO), After HVO.*
NEIC Felt [IV] at Hilo and Kailua Kona; [III] at Kea'au and Pahoa. Felt in much of the Island.
*BJI **17** 01:22:33.0, 1930N×15520W, h10km, mB5.2, mb4.8, Ms4.9, Msz4.6*

ISC 17 01:22:33.4±1.1, 1933N±005×15522W±006, h10km±7km, h14km±1.3km; pP-P, n56, σ0§92/57, mb4.4/28, MS4.6/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.40	233	*e*Pg	Pg	01 22 41.1	-0.1
HPO				*e*Sg	Sg	01 22 46.8	+0.5
POHA	Pohakuloa	0.52	325	*e*Pg	Pg	01 22 42.7	-0.8
POHA				*e*Sg	Sg	01 22 50.6	+0.6
HON	Honolulu	3.28	308	*e*Pn	Pn	01 23 20.2	-4.7
HON				*e*Sn	Sn	01 23 57.0	-6.9
KIP	Kipapa	3.35	309	*e*Pn	Pn	01 23 21.1	-4.7
KIP				*e*Sn	Sn	01 23 57.8	-7.8
AFI	Afiamalu	36.84	207	T		02 08 31.5	
	12nm,0.3s,baz=68,slow=16,SNR=4.3						
PPT	Papeete	37.09	171	T		02 08 51.5	
	35nm,0.2s,baz=121,slow=19,SNR=13						
KDAK	Kodiak Island	38.45	2	P	P	01 29 57.1	+1.7
	7.0nm,1.0s,mb4.3,baz=197,slow=4.9,SNR=4.5						
ELK	Elko	40.21	49	*e*P	P	01 30 09.2	-0.8
RAR	Rarotonga	40.54	187	T		02 13 11.4	
	22nm,0.3s,baz=345,slow=7.4,SNR=14						
FX1	Attu Island--F	41.49	331	*e*P	P	01 30 22.2	+1.6
DUG	Dugway	41.79	51	*e*P	P	01 30 23.1	+0.1
HLID	Hailey	41.79	45	*e*P	P	01 30 21.4	-1.7
	3.8nm,1.2s,mb3.9

LZH	**Lanzhou**	**87.26 307**	*e*P	**P**	**01 35 19.5**	**-0.7**
LZH			AP	pP	01 35 24.3	+0.8
LZH			XP	sP	01 35 26.6	+2.0
LZH			PP	PP	01 38 45.5	+1.4
LZH			*e*SKS		01 45 43.8	
LZH			*e*S		01 45 56.5	
LZH			AMB	AMB		
	comp=Z,13nm,1.5s,mb4.9					
LZH			AMB	AMB		
	comp=Z,41nm,6.1s					
LZH			LR	LR		
	comp=N,236nm,17.6s					
LZH			LR	LR		
	comp=Z,563nm,18.8s,MS5.0					
GTA	**Gaotai**	**88.90 312**	P	**P**	**01 35 30.0**	**+2.0**
GTA			AP	pP	01 35 33.4	+2.1
GTA			XP	sP	01 35 35.8	+3.4
GTA			AMB	AMB		
	comp=Z,5.0nm,0.7s,mb5.0					
CD2	**Chengdu**	**89.25 302**	*e*P	**P**	**01 35 29.0**	**-0.7**
CD2			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0					
CD2			AMB	AMB		
	comp=Z,60nm,5.9s					
WMQ	**Urumqi**	**94.83 320**	*e*P	**P**	**01 35 55.0**	**-0.5**
WMQ			AMB	AMB		
	comp=Z,18nm,1.0s,mb5.5					
MKAR	**Makanchi Array**	**96.28 324**	P	**P**	**01 36 03.8**	**+1.6**
	comp=Z,0.4nm,0.7s,mb3.9,baz=46,slow=5.9,SNR=5.2					
BRVK	**Borovoye**	**97.88 334**	*e*P	**P**	**01 36 07.4**	**-2.0**
	comp=Z,0.8nm,0.7s,mb4.4					
ZRNK	**Zerenda**	**98.48 335**	P	**P**	**01 36 10.5**	**-1.5**
	comp=Z,0.4nm,0.4s,mb4.3					

IDC 17 01:35:05.8±11.0, 1569S×17305W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, ML1.4/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/12, Error ellipse: s-maj=490.9km s-min=25.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**35**	Pn	Pn	01 35 42.2	-0.8
	6.3nm,0.3s,baz=49,slow=11,SNR=7.2						
AFI				Sn	Sn	01 36 07.0	-3.5
	22nm,0.3s,baz=81,slow=17,SNR=9.3						
AFI				LR	LR	01 36 12.9	
	comp=Z,2μm,20.0s,baz=192,slow=31						
WRA	**Warramunga Arr**	**50.11**	**257**	P	P	01 44 03.3	+0.6
	0.3nm,0.8s,baz=94,slow=7.5,SNR=4.2						
ASAR	**Alice Springs**	**50.34**	**252**	P	P	01 44 04.5	+0.1
	0.8nm,0.6s,baz=86,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**82.67**	**11**	P	P	01 47 31.4	+0.2
	0.3nm,0.6s,baz=207,slow=5.7,SNR=7.8						

WEL 17 01:40:10.6±0.5, 3526S×17899E, h225km±21km, ML3.6/4, Error ellipse: s-maj=16.5km s-min=11.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.36**	**193**	PN	Pn	01 40 54.9	+0.2
MXZ				SN	S	01 41 28.0	-1.3
MXZ				SN	S	01 41 28.2	-1.1
PUZ	**Puketiti**	**2.87**	**192**	PN	Pn	01 41 00.3	+0.2
PUZ				SN	S	01 41 37.8	-1.2
MWZ	**Matawai**	**3.29**	**201**	PN	Pn	01 41 05.5	+0.7
MWZ				*e*SN	S	01 41 47.4	-0.2
URZ	**Urewera**	**3.35**	**206**	PN	Pn	01 41 05.6	0.0
URZ				SN	S	01 41 49.0	0.0
KNZ	**Kokohu**	**3.90**	**195**	*e*PN	Pn	01 41 12.5	+0.4

*ATH **17** 01:43:27.5, 4031N×2055E, h22km, MD3.1/4*
*THE **17** 01:43:30.0, 4016N×2035E, h6km*
*CSEM **17** 01:43:30.4±0.1, 4012N×2036E, h25km, MD3.1, Error ellipse: s-maj=3.3km s-min=1.7km az=117.0*
*ISCJB **17** 01:43:31.0±0.6, 4006N±005×2044E±007, h27km±7km, Error ellipse: s-maj=10.3km s-min=6.2km az=71.1*
*SKO **17** 01:43:31.3, 4005N×2052E, h18km*
ISC 17 01:43:31.2±0.6, 4005N±004×2044E±007, h28km±8km, n16, σ1§11/24, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.37**	**244**	*i* Pg	**Pb**	**01 43 38.4**	**-1.1**
SRN				*i* Sg	**Sb**	**01 43 45.3**	**+0.1**
JAN	**Janina**	**0.50**	**140**	*e*PN	**Pn**	**01 43 41.0**	**-1.5**
IGT	**Igoumenitsa**	**0.52**	**189**	*e*Pg	**Pb**	**01 43 41.9**	**0.0**
IGT				*e*Sg	**Sb**	**01 43 50.6**	**+1.5**
KEK	**Kerkira**	**0.59**	**236**	*e*PN	**Pn**	**01 43 43.6**	**-0.2**
MEV	**Metsovon**	**0.66**	**113**	*e*Pg	**Pb**	**01 43 44.5**	**+0.2**
FNA	**Florina**	**1.03**	**44**	*e*Pg	**Pn**	**01 43 48.9**	**-0.9**
FNA				*e*Sg	**Sb**	**01 44 03.4**	**-0.1**
KZN	**Kozani**	**1.06**	**75**	*e*PN	**Pn**	**01 43 45.7**	**-4.4**
OHR	**Ohrid**	**1.10**	**14**	*e*Pg	**Pn**	**01 43 50.8**	**+0.1**
OHR				*e*Sg	**Sb**	**01 44 07.8**	**+2.3**
OHR	**Ohrid**	**1.10**	**14**	*e*Pg	**Pn**	**01 43 50.7**	**0.0**
OHR				*e*Sg	**Sb**	**01 44 07.8**	**+2.3**
BIA	**Bitola**	**1.18**	**35**	*e*Pg	**Pn**	**01 43 51.1**	**-0.8**
BIA	**Bitola**	**1.18**	**35**	*e*Pg	**Pn**	**01 43 50.9**	**-1.0**
BIA				*e*Sg	**Sn**	**01 44 08.7**	**+1.6**
BIA	**Bitola**	**1.18**	**35**	*e*Pg	**Pn**	**01 43 51.1**	**-0.8**
BIA				*e*Sg	**Sn**	**01 44 08.6**	**+1.5**
EVR	**Evrytania**	**1.55**	**136**	*e*PN	**Pn**	**01 43 58.0**	**+1.1**
GRG	**Griva**	**1.75**	**58**	*e*Pb	**Pb**	**01 44 00.2**	**-2.5**
VAY	**Valandovo**	**2.06**	**51**	*e*Pn	**Pn**	**01 44 04.2**	**+0.2**
VAY				*e*Sg	**Sn**	**01 44 34.9**	**+6.2**
KNT	**Kendrikon**	**2.18**	**59**	*e*Pn	**Pn**	**01 44 05.9**	**+0.3**

IDC 17 02:00:15.9±34.0, 1949S×17863W, h650km±402km, mb2.8/3, mb1 3.1/3, mb1mx2.9/12, mbtmp3.8/3, Error ellipse: s-maj=302.2km s-min=113.7km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**44.15**	**261**	*e*P	P	02 07 30.1	+0.6
WRA	**Warramunga Arr**	**44.16**	**261**	P	P	02 07 30.3	+0.7
	0.6nm,0.3s,baz=97,slow=7.5,SNR=57						
ASAR	**Alice Springs**	**44.18**	**256**	P	P	02 07 29.9	+0.2
	1.1nm,0.5s,baz=94,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**87.47**	**13**	P	P	02 11 56.0	-0.3
	0.3nm,0.9s,baz=210,slow=5.2,SNR=4.6						
AKASG	**Malin Array Be**	**141.84**	**331**	PKP	PKPdf	02 18 33.3	-2.1
	0.5nm,0.4s,baz=44,slow=4.6,SNR=4.8						

*NIED **17** 02:13:00, 2430N×14190E, h160km, Mw5.5 Best double couple: M0=2.00000×10^17 NP1:φs=253.00000°, δ60.00000°, λ128.00000°. NP2:φs=16.00000°, δ47.00000°, λ44.00000°.*
*NAO **17** 02:13:19.2, 2497N×14052E, h33km, mb4.7*
*BJI **17** 02:13:28.1, 2422N×14180E, h169km, mB5.2, mb5.0*
*MOS **17** 02:13:28.1±1.1, 2408N×14136E, h156km, mb5.1/49, Error ellipse: s-maj=10.1km s-min=5.6km az=105.8*
*ISCJB **17** 02:13:28.9±0.1, 2410N±002×14145E±003, h161km, mb4.9/162, Error ellipse: s-maj=3.3km s-min=3.2km az=62.8*
*HRVD **17** 02:13:29.9±0.2, 2410N×14158E, h174km±1km, MW5.6/103, Centroid moment Tensor Solution. LP body waves: s85,c151;Mantle waves: s103,c227; Half duration: 1§6 Moment tensor: Scale 10^17Nm; Mrr1.89±.04; Mθθ-0.46±.06; Mφφ-1.43±.06; Mrθ-1.90±.04; Mθφ-1.95±.05; Mφr0.11±.04; Best double couple: M0=3.21600×10^17 NP1:φs7.00000°, δ43.00000°, λ36.00000°. NP2: φs249.00000°, δ66.00000°, λ127.00000°. Principal axes: T 3.2150, Plg53.0000°, Azm204.0000°; N -0.0020, Plg33.0000°, Azm52.0000°; P -3.2170, Plg13.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 02:13:29.9±0.1, 2402N×14149E, mb5.1/91, MW5.6, MW5.5(NIED) Error ellipse: s-maj=4.3km s-min=3.7km az=127.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17Nm; Mrr2.46; Mθθ-1.71; Mφφ-0.75; Mrθ-2.18; Mθφ-1.24; Mφr0.00; Best double couple: M0=3.30000×10^17 NP1:φs256.00000°, δ66.00000°, λ108.00000°. NP2: φs38.00000°, δ30.00000°, λ56.00000°. Principal axes: T 3.4500, Plg65.0000°, Azm196.0000°; N -0.2700, Plg16.0000°, Azm69.0000°; P -3.1800, Plg19.0000°, Azm333.0000°;*
NEIC Recorded [1 JMA] in Tokyo Prefecture, Honshu.
*IDC **17** 02:13:29.9±0.6, 2418N×14140E, h162km±4km, mb4.1/14, mb1 4.4/18, mb1mx4.4/19, mbtmp4.8/18, MS4.4/11, Ms1 4.5/11, ms1mx4.1/34 Error ellipse: s-maj=14.1km s-min=8.4km az=92.0*
*JMA **17** 02:13:31.6±0.3, 2428N×14187E, h196km, M6.0*
JMA Felt I J1.
ISC 17 02:13:30.9±0.1, 2413N±002×14150E±002, h163km, h163km±.6km: pP-P, n384, σ1§17/409, mb4.9/162, 58C-20D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.56**	**14**	P	**Pn**	**02 14 13.8**	**+0.5**
JHHJ				S	**Sn**	**02 14 47.1**	**+0.9**
CBIJ	**Chichi jima**	**3.02**	**12**	⇑P	**Pn**	**02 14 19.1**	**+0.2**
CBIJ				*e*S	**Sn**	**02 14 55.2**	**-0.9**
CBIJ	**Chichi jima**	**3.02**	**12**	P	**Pn**	**02 14 19.2**	**+0.3**
	417nm,0.3s,baz=172,slow=5.5,SNR=161						
CBIJ				S	**Sn**	**02 14 54.6**	**-1.5**
	2μm,0.3s,baz=233,slow=23,SNR=38						
JHJ2	**Mitsune**	**9.07**	**351**	P	**Pn**	**02 15 37.9**	**-0.3**
JHJ2				*e*S	**Sn**	**02 17 13.0**	**-6.1**
JHJ	**Hachijo jima 2**	**9.08**	**351**	P	**Pn**	**02 15 37.0**	**-1.4**
	97nm,0.3s,baz=226,slow=21,SNR=15						
JHJ				S	**Sn**	**02 17 15.4**	**-3.9**
	153nm,0.3s,baz=248,slow=22,SNR=8.6						
JHJ				LR	LR	02 18 28.3	
	comp=Z,1μm,20.2s,baz=141,slow=33						
TK02	**Tokai 2**	**10.31**	**342**	P	**Pn**	**02 15 55.8**	**+1.2**
BSO1	**Boso 1**	**10.49**	**358**	P	**Pn**	**02 15 54.2**	**-2.8**
BSO1				*e*S	**Sn**	**02 17 45.0**	**-8.3**
GUMO	**Guam**	**10.96**	**162**	P	**Pn**	**02 16 04.0**	**+0.8**
	5.7nm,0.3s,baz=139,slow=4.8,SNR=6.4						
GUMO	**Guam**	**10.96**	**162**	*e*Pn	**Pn**	**02 16 06.0**	**+2.8**
	167nm,0.9s						
JIE	**Ise**	**11.04**	**339**	P	**Pn**	**02 16 05.6**	**+1.4**
JOD2	**Odawara 2**	**11.29**	**350**	P	**Pn**	**02 16 05.4**	**-2.0**
JOD2				S	**Sn**	**02 18 05.7**	**-6.7**
JAM	**Amami Oshima**	**11.49**	**294**	P	**Pn**	**02 16 14.5**	**+4.5**
JTO	**Tosashimizu**	**11.57**	**321**	P	**Pn**	**02 16 14.1**	**+3.0**
JRY	**Ryogami san**	**12.05**	**350**	P	**Pn**	**02 16 14.8**	**-2.6**
JRY				*e*S	**Sn**	**02 18 19.5**	**-11**
JKIT	**Kitakata**	**12.23**	**316**	P	**Pn**	**02 16 23.8**	**+4.2**
JOW	**Kunigami**	**12.24**	**285**	P	**Pn**	**02 16 23.8**	**+4.0**
	2.8nm,0.3s,baz=138,slow=17,SNR=4.7						
JOW				LR	LR	02 21 17.0	
	comp=Z,975nm,18.2s,baz=112,slow=38						
JZO	**Okuchi**	**12.49**	**312**	P	**Pn**	**02 16 26.6**	**+3.7**
JHM	**Kurahashi**	**12.67**	**324**	P	**Pn**	**02 16 33.4**	**+8.1**
MJAR	**Matsushiro Arr**	**12.69**	**348**	P	**Pn**	**02 16 21.4**	**-4.1**
	2.8nm,0.3s,baz=167,slow=11,SNR=14						
MJAR				S	**Sn**	**02 18 40.6**	**-5.4**
	7.0nm,0.3s,baz=252,slow=20,SNR=5.0						
MJAR				LR	LR	02 20 10.0	
	comp=Z,517nm,21.9s,baz=160,slow=32						
MJAR				ScP	ScP	02 25 02.8	-3.6
	0.2nm,0.3s,baz=155,slow=2.2,SNR=4.6						
MAJO	**Matsushiro**	**12.69**	**348**	*e*P	**Pn**	**02 16 25.5**	**0.0**
MAJO				pmax	pmax		
	comp=Z,70nm,0.8s						
MAJO	**Matsushiro**	**12.69**	**348**	*e*Pn	**Pn**	**02 16 25.5**	**0.0**
	comp=Z,70nm,0.8s						
MAT	**Matsushiro**	**12.69**	**348**	P	**Pn**	**02 16 21.7**	**-3.8**
MAT				S	**Sn**	**02 18 42.1**	**-4.0**
JJG	**Jouge**	**12.74**	**327**	P	**Pn**	**02 16 33.5**	**+7.3**
JNU	**Nakatsue**	**12.92**	**316**	P	**Pn**	**02 16 32.6**	**+4.2**
	comp=Z,1.4nm,0.3s,baz=120,slow=10,SNR=9.2						
JHS	**Saijyo**	**13.05**	**328**	P	**Pn**	**02 16 36.4**	**+6.3**
JFA	**Akaike**	**13.37**	**318**	P	**Pn**	**02 16 37.3**	**+3.1**
JKE	**Kume jima 2**	**13.49**	**282**	P	**Pn**	**02 16 42.1**	**+6.3**
JUR	**Ureshino**	**13.50**	**314**	P	**Pn**	**02 16 39.6**	**+3.7**
JTU	**Tsushima**	**14.77**	**317**	P	**Pn**	**02 16 54.7**	**+3.0**
JMK	**Ichinoseki**	**14.78**	**359**	P	**Pn**	**02 16 50.3**	**-1.5**
JMK				*e*S	**Sn**	**02 19 23.6**	**-13**
JOT	**Ohata**	**17.20**	**359**	P	**Pn**	**02 17 20.1**	**-1.3**
KS15	**Wonju Array Si**	**17.66**	**322**	*e*P	**Pn**	**02 17 27.9**	**+1.1**
JKB	**Kayabe**	**17.71**	**359**	P	**Pn**	**02 17 26.5**	**-0.9**
ERM	**Erimo**	**17.89**	**4**	Pn	**Pn**	**02 17 29.2**	**-0.3**
	comp=Z,2μm,1.3s,SNR=5.1						
JOSM	**Okushiri--Mats**	**17.98**	**355**	P	**Pn**	**02 17 29.1**	**-1.5**
JNBK	**Urakawa-nobuka**	**18.13**	**3**	P	**P**	**02 17 32.4**	**+1.9**
YHNB	**Yeheng**	**18.34**	**276**	*e*P	**P**	**02 17 33.1**	**+0.3**
INCN	**Inchon**	**18.41**	**320**	*e*P	**P**	**02 17 34.9**	**+1.3**
	comp=Z,78nm,0.8s						
JCH	**Churui**	**18.50**	**4**	P	**P**	**02 17 36.2**	**+1.7**
JBT2	**Biratori 2**	**18.61**	**2**	P	**P**	**02 17 37.0**	**+1.3**
JFR	**Furan**	**19.00**	**2**	P	**P**	**02 17 41.4**	**+1.4**
JAR	**Ashorobuto**	**19.21**	**5**	P	**P**	**02 17 43.7**	**+1.5**
SSE	**Sheshan**	**19.27**	**296**	P	**P**	**02 17 42.1**	**-0.8**
SSE				AP		02 18 09.8	
SSE				XP	sP	02 18 30.1	-1.4
SSE				S	**S**	**02 21 12.3**	**0.0**
SSE				AMB	AMB		
	comp=Z,211nm,1.0s						
SSE				AMB	AMB		
	comp=Z,2μm,9.0s						
SSE				LR	LR		
	comp=N,722nm,27.8s						
SSE				LR	LR		
	comp=E,916nm,27.8s						
SSE				LR	LR		
	comp=Z,818nm,20.0s						
CVP	**Callao Caves**	**19.45**	**255**	⇑*e*P	**P**	**02 17 47.5**	**+2.7**
	comp=Z,19μm,1.0s						
JKK2	**Kamakawa 2**	**19.72**	**3**	P	**P**	**02 17 49.1**	**+1.4**
JMP	**Maruseppu**	**19.88**	**4**	P	**P**	**02 17 51.2**	**+1.7**
JTKR	**Abashiri--Toko**	**19.89**	**5**	P	**P**	**02 17 51.2**	**+1.7**
APYP	**Conner**	**19.90**	**256**	*e*P	**P**	**02 17 50.8**	**+1.1**
ASAJ	**Asahikawa**	**19.95**	**2**	P	**P**	**02 17 51.7**	**+1.4**
ASAJ	**Asahikawa**	**19.95**	**2**	P	**P**	**02 17 48.4**	**-1.9**
	comp=Z,7.9nm,0.3s,baz=230,slow=14,SNR=34						
ASAJ				S	**S**	**02 21 30.5**	**+4.8**
	comp=Z,1.7nm,0.3s,baz=0.0,slow=20,SNR=4.9						
VLA	**Vladivostok**	**20.53**	**340**	*c i*P	**P**	**02 17 54.4**	**-2.0**
VLA				*i* *SP		02 18 30.6	
VLA				*i* S	**S**	**02 21 38.5**	**+1.6**
VLA				pmax	pmax		
	comp=Z,319nm,2.1s						
VLA				MLR	MLR		
	comp=Z,600nm,13.0s						
QZH	**Quanzhou**	**20.85**	**277**	*e*P	**P**	**02 18 00.5**	**+0.7**
QZH				XP	sP	02 18 51.5	+2.8
QZH				S	**S**	**02 21 43.0**	**-0.2**
QZH				AMB	AMB		
	comp=Z,220nm,1.4s						
NJ2	**Nanjing**	**21.45**	**297**	*e*P	**P**	**02 18 06.0**	**-0.2**
NJ2				AP		02 18 33.3	
NJ2				PP		02 18 37.4	
NJ2				S	**S**	**02 21 48.0**	**-6.1**
NJ2				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,770nm,7.6s						
NJ2				LR	LR		
	comp=N,4μm,19.4s						
NJ2				LR	LR		
	comp=E,4μm,14.2s						
NJ2				LR	LR		
	comp=Z,3μm,16.0s						
TBP	**Tagbilaran**	**22.12**	**232**	*e*P	**P**	**02 18 11.8**	**-1.3**
DL2	**Dalian**	**22.38**	**316**	P	**P**	**02 18 10.3**	**-5.3**
DL2				PP		02 18 46.8	
DL2				S	**S**	**02 22 05.6**	**-3.6**
DL2				SCP	ScP	02 25 22.3	-4.3
DL2				PCS	PcS	02 25 43.8	+0.5
DL2				SCS	ScS	02 29 08.9	-3.0
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
DL2				AMB	AMB		
	comp=Z,300nm,5.9s						
MDJ	**Mudanjiang**	**22.62**	**337**	P	**P**	**02 18 18.6**	**+0.7**
MDJ				AP		02 18 47.4	
MDJ				XP	sP	02 19 06.8	-1.1
MDJ				S	**S**	**02 22 09.4**	**-3.8**
MDJ				SCP	ScP	02 25 23.8	-3.4
MDJ				PCS	PcS	02 25 43.3	-0.6
MDJ				SCS	ScS	02 29 06.5	-6.3
MDJ				LR	LR		
	comp=N,2μm,23.2s						
MDJ				LR	LR		
	comp=E,2μm,27.3s						
MDJ				LR	LR		
	comp=Z,879nm,18.8s						
MDJ	**Mudanjiang**	**22.62**	**337**	*e*P	**P**	**02 18 16.8**	**-1.1**
	comp=Z,139nm,1.6s,mb5.1						
YSS	**Yuzh-Sakhalins**	**22.79**	**2**	*k i*P	**P**	**02 18 20.0**	**+0.6**
YSS				*e*SP		02 18 54.0	
YSS				*e*S	**S**	**02 22 14.0**	**-2.0**
YSS				*e*		02 23 18.0	
YSS				pmax	pmax		
	comp=Z,220nm,0.9s,mb5.6						
YSS				pmax	pmax		
	comp=Z,1μm,5.0s						
YSS				pmax	pmax		
	comp=N,2μm,4.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**22.79**	**2**	*e*P	**P**	**02 18 18.6**	**-0.8**
	comp=E,196nm,0.8s,mb5.6						
DAV	**Davao City (W)**	**22.82**	**225**	P	**P**	**02 18 18.6**	**-1.1**
	comp=E,2.3nm,0.6s						
SNY	**Shenyang**	**23.10**	**324**	⇓P	**P**	**02 18 21.3**	**-0.9**
SNY				AP		02 18 57.3	
SNY				XP	sP	02 19 11.4	-1.6
SNY				S	**S**	**02 22 14.3**	**-6.6**
SNY				AMB	AMB		
	comp=Z,50nm,2.6s,mb4.5						
SNY				AMB	AMB		
	comp=Z,640nm,5.7s						
CN2	**Changchun**	**23.63**	**330**	*e*P	**P**	**02 18 27.8**	**+0.8**
CN2				*e*XP	sP	02 19 19.0	+0.4
CN2				*e*S	**S**	**02 22 28.5**	**-0.9**
CN2				*e*SS		02 23 34.0	
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
TIA	**Tai'an**	**24.19**	**305**	⇓P	**P**	**02 18 32.8**	**+0.6**
TIA				S	**S**	**02 22 43.3**	**+4.8**
TIA				AMB	AMB		
	comp=Z,96nm,0.9s,mb5.3						
TIA				LR	LR		
	comp=N,1μm,14.0s						
TIA				LR	LR		
	comp=E,1μm,14.0s						
HABR	**Khabarovsk**	**24.82**	**350**	⇓*i*P	**P**	**02 18 39.4**	**+1.5**
HABR				pmax	pmax		
	comp=Z,210nm,1.6s,mb5.4						
WHN	**Wuhan**	**24.91**	**291**	*e*P	**P**	**02 18 40.0**	**+1.3**
WHN				S	**S**	**02 22 52.8**	**+3.0**
WHN				LR	LR		
	comp=Z,3μm,9.0s						
KLR	**Kul'dur**	**26.20**	**345**	*e*P	**P**	**02 18 46.0**	**-4.3**
KLR				*e*		02 19 43.0	
KLR				*e*S	**S**	**02 23 04.0**	**-6.1**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,62nm,1.6s,mb5.0						
KLR				MLR	MLR		
	comp=N,700nm,12.0s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s						
BJT	**Baijiatuau**	**26.55**	**313**	*e*P	**P**	**02 18 53.7**	**+0.3**
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
BJT	**Baijiatuau**	**26.55**	**313**	*e*P	**P**	**02 18 53.6**	**+0.3**
	comp=Z,20nm,0.7s,mb4.9						
ENH	**Enshi**	**29.06**	**289**	*e*P	**P**	**02 19 16.0**	**+0.3**
	comp=Z,28nm,1.0s,mb5.0						
ENH				*e*ScP	ScP	02 25 43.7	-2.2
QIZ	**Qiongzhong**	**29.83**	**266**	P	**P**	**02 19 23.1**	**+0.5**
QIZ				S	**S**	**02 24 05.8**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,221nm,8.4s						
XAN	**Xi'an**	**30.02**	**297**	P	**P**	**02 19 24.8**	**+0.6**
XAN				AP	pP	02 20 03.0	+4.7
XAN				S	**S**	**02 24 02.8**	**-7.4**
XAN				XS	sS	02 25 09.5	-0.9
XAN				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.9						
XAN				AMB	AMB		
	comp=Z,170nm,6.5s						
XAN				LR	LR		
	comp=N,1μm,16.2s						
XAN				LR	LR		
	comp=E,631nm,10.6s						
XAN				LR	LR		
	comp=Z,917nm,15.0s						
HHC	**Hu-ho-hao-te**	**30.06**	**311**	⇓P	**P**	**02 19 24.3**	**-0.2**
HHC				AP	pP	02 19 57.9	-0.8
HHC				XP	sP	02 20 17.1	-0.3
HHC				PP	PP	02 20 27.9	-7.7
HHC				PCP	PcP	02 22 21.8	-0.5
HHC				S	**S**	**02 24 09.6**	**-1.2**
HHC				XS	sS	02 25 08.4	-2.5
HHC				SCP	ScP	02 25 47.9	-1.2
HHC				SS	SS	02 25 59.9	-26
HHC				PCS	PcS	02 26 04.8	-1.1
HHC				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,321nm,8.4s						
HHC				LR	LR		
	comp=N,759nm,19.2s						
HHC				LR	LR		
	comp=E,877nm,19.2s						
HHC				LR	LR		
	comp=Z,867nm,18.0s						
KKM	**Kota Kinabalu**	**30.22**	**238**	*e*P	**P**	**02 19 25.6**	**-0.3**
HIA	**Hailar**	**30.34**	**331**	*e*P	**P**	**02 19 26.7**	**-0.3**
BTO	**Baotou**	**31.04**	**310**	*e*P	**P**	**02 19 32.9**	**-0.3**
BTO				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
GYA	**Guiyang**	**31.52**	**282**	⇑*i*P	**P**	**02 19 38.8**	**+1.4**
GYA				AP	pP	02 20 12.6	+0.9
GYA				XP	sP	02 20 31.3	+0.9
GYA				PP	PP	02 20 49.0	-2.9
GYA				S	**S**	**02 24 33.6**	**0.0**
GYA				SCP	ScP	02 25 55.0	+1.0
GYA				SCS	ScS	02 29 51.3	-0.8
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,6.0s						
GYA				LR	LR		
	comp=N,510nm,17.0s						
GYA				LR	LR		
	comp=E,630nm,17.2s						
GYA				LR	LR		
	comp=Z,540nm,17.8s						
PET	**Petropavlovsk**	**31.64**	**20**	*e*P	**P**	**02 19 39.2**	**+0.7**
PET				*e*PP	pP	02 20 13.3	+0.6
PET				*e*		02 22 22.0	
PET				*e*S	**S**	**02 24 34.8**	**-0.7**
PET				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.8						
PET				pmax	pmax		
	comp=Z,300nm,4.7s						
PET				pmax	pmax		
	comp=Z,500nm,3.5s						
PET				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.0						
PET				smax			
	comp=E,1μm,10.3s						
PET				smax			
	comp=E,800nm,13.2s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
PET				MLR	MLR		
	comp=Z,700nm,16.0s						
PMG	**Port Moresby**	**33.79**	**170**	PcP	PcP	02 22 32.3	-0.2
	comp=

CD2	**Chengdu**	**34.02 290**	P	**P**	**02 20 00.0**	**+0.8**
CD2			AP	pP	02 20 35.4	+1.7
CD2			XP	sP	02 20 54.3	+2.0
CD2			PP	PP	02 21 21.0	+1.5
CD2			PCP	PcP	02 22 37.3	+4.1
CD2			S	**S**	**02 25 08.8**	**-3.6**
CD2			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
CD2			AMB	AMB		
	comp=Z,180nm,5.7s					
CD2			LR	LR		
	comp=N,2μm,13.2s					
CD2			LR	LR		
	comp=Z,670nm,13.2s					
LZH	**Lanzhou**	**34.48 299**	⇓P	**P**	**02 20 04.4**	**+1.3**
LZH			AP	pP	02 20 42.9	+5.3
LZH			XP	sP	02 21 04.3	+8.0
LZH			PP	PP	02 21 30.4	+5.8
LZH			PCP	PcP	02 22 38.8	+4.3
LZH			S	**S**	**02 25 19.0**	**-0.4**
LZH			SCP	ScP	02 26 05.0	+0.7
LZH			XS	sS	02 26 21.0	+0.9
LZH			PCS	PcS	02 26 23.0	+1.9
LZH			SS	SS	02 27 38.1	-13
LZH			SCS	ScS	02 30 06.5	-0.9
LZH			AMB	AMB		
	comp=Z,100nm,1.0s,mb5.5					
LZH			AMB	AMB		
	comp=Z,692nm,4.2s					
LZH			LR	LR		
	comp=E,2μm,13.5s					
LZH			LR	LR		
	comp=Z,2μm,17.8s					
CLNS	**Chul'man**	**34.83 344**	*e*P	**P**	**02 20 03.4**	**-2.7**
CLNS			*e*S	**S**	**02 25 21.3**	**-3.4**
CLNS			pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7					
CLNS			pmax	pmax		
	comp=N,19nm,0.9s					
CLNS			pmax	pmax		
	comp=E,7.0nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6					
CLNS			pmax	pmax		
	comp=N,15nm,1.3s					
CLNS			pmax	pmax		
	comp=E,12nm,1.0s					
CLNS			smax			
	comp=N,17nm,1.3s					
CLNS			smax			
	comp=E,11nm,1.1s					
CLNS			smax			
	comp=Z,12nm,1.1s					
CLNS			MLR	MLR		
	comp=N,200nm,13.0s					
CLNS			MLR	MLR		
	comp=E,300nm,13.0s					
CLNS			MLR	MLR		
	comp=Z,500nm,13.0s					
CIT	**Chita**	**35.08 330**	*e*P	**P**	**02 20 07.0**	**-1.2**
CIT			*e*		02 22 34.6	
CIT			*e*		02 25 26.2	
CIT			*e*		02 30 07.6	
CIT			pmax	pmax		
	comp=Z,50nm,2.4s,mb4.7					
KMI	**Kunming**	**35.16 280**	P	**P**	**02 20 10.0**	**+1.0**
KMI			AP	pP	02 20 45.3	+1.7
KMI			XP	sP	02 21 04.5	+2.3
KMI			PP	PP	02 21 35.0	+2.9
KMI			PCP	PcP	02 22 37.4	+0.9
KMI			S	**S**	**02 25 30.6**	**+0.7**
KMI			SCP	ScP	02 26 06.4	-0.3
KMI			PCS	PcS	02 26 23.4	-0.2
KMI			XS	sS	02 26 32.4	+1.7
KMI			SS	SS	02 27 58.9	-8.4
KMI			SCS	ScS	02 30 09.6	-1.5
KMI			AMB	AMB		
	comp=Z,27nm,1.0s,mb4.8					
KMI			AMB	AMB		
	comp=Z,283nm,5.3s					
KMI			LR	LR		
	comp=N,517nm,16.6s					
KMI			LR	LR		
	comp=E,683nm,15.0s					
KMI			LR	LR		
	comp=Z,551nm,14.9s					
MA2	**Magadan**	**36.01 8**	*de*P	**P**	**02 20 16.1**	**-0.1**
MA2			*e**PP	pP	02 20 49.9	-1.1
MA2			*e**SP	sP	02 21 09.4	-0.2
MA2			*e*S	**S**	**02 25 40.6**	**-2.2**
MA2			pmax	pmax		
	comp=N,30nm,1.5s					
MA2			pmax	pmax		
	comp=Z,60nm,1.5s,mb5.0					
MA2			pmax	pmax		
	comp=E,10.0nm,1.6s					
MA2	**Magadan**	**36.01 8**	*e*P	**P**	**02 20 15.9**	**-0.3**
	comp=E,118nm,1.3s,mb5.4					
MA2			*e*pP	pP	02 20 51.2	+0.2
MA2			*e*ScP	ScP	02 26 06.1	-3.7
SONM	**Songino Array**	**36.48 319**	P	**P**	**02 20 18.2**	**-2.0**
	comp=E,3.1nm,0.6s,mb4.1,baz=134,slow=8.9,SNR=16					
SONM			ScP	ScP	02 26 09.7	-1.8
	comp=E,9.3nm,0.7s,baz=133,slow=3.3,SNR=17					
FX1	**Attu Island--F**	**37.38 32**	*e*P	**P**	**02 20 29.8**	**+2.1**
KAKA	**Kakadu**	**37.67 195**	*e*P	**P**	**02 20 28.0**	**-2.2**
	comp=E,9.4nm,0.7s,mb4.5					
GTA	**Gaotai**	**38.22 304**	P	**P**	**02 20 35.3**	**+0.5**
GTA			AP	pP	02 21 11.1	+1.3
GTA			XP	sP	02 21 28.8	+0.5
GTA			PCP	PcP	02 22 46.0	+0.3
GTA			S	**S**	**02 26 14.5**	**-1.6**
GTA			SCP	ScP	02 26 17.1	-1.0
GTA			PCS	PcS	02 26 35.3	+0.3
GTA			SCS	ScS	02 30 25.6	-2.6
GTA			AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8					
GTA			AMB	AMB		
	comp=Z,340nm,11.4s					
GTA			LR	LR		
	comp=N,1μm,18.6s					
GTA			LR	LR		
	comp=E,737nm,17.5s					
GTA			LR	LR		
	comp=Z,891nm,19.0s					
YAK	**Yakutsk**	**38.73 351**	*e*P	**P**	**02 20 37.3**	**-1.7**
YAK			*e*S	**S**	**02 26 17.1**	**-6.7**
YAK			*e*		02 30 24.2	
YAK			pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8					
YAK			pmax	pmax		
	comp=N,9.0nm,1.2s					
YAK			pmax	pmax		
	comp=N,12nm,1.0s					
YAK			pmax	pmax		
	comp=N,10.0nm,1.1s					
YAK			smax			
	comp=N,56nm,2.0s					
YAK			smax			
	comp=E,20nm,1.0s					
YAK			smax			
	comp=Z,16nm,1.0s					
YAK	**Yakutsk**	**38.73 351**	*e*P	**P**	**02 20 36.6**	**-2.4**
	comp=Z,37nm,0.6s,mb5.2					
BOD	**Bodaibo**	**39.00 337**	*e*P	**P**	**02 20 38.4**	**-2.9**
BOD			*e*		02 26 17.8	
BOD			*e*		02 30 26.3	
BOD			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5					
SEY	**Seymchan**	**39.47 8**	*e*P	**P**	**02 20 45.5**	**+0.3**
SEY			*PP	pP	02 21 23.5	+3.1
SEY					02 22 16.7	
SEY			*e*		02 22 53.2	
SEY			*e*S	**S**	**02 26 33.2**	**-1.7**
SEY			SS	SS	02 29 32.1	-4.0
SEY			*e*		02 30 31.9	
SEY			pmax	pmax		
	comp=E,20nm,1.0s					
SEY			pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9					
SEY			pmax	pmax		
	comp=N,20nm,0.9s					
SEY			smax			
	comp=N,260nm,7.8s					
SEY			smax			
	comp=E,160nm,6.2s					
ZAK	**Zakamensk**	**39.48 321**	*e*P	**P**	**02 20 43.4**	**-1.8**
ZAK			*e*	pP	02 21 22.1	+1.6
ZAK			pmax	pmax		
	comp=Z,22nm,1.6s,mb4.5					
ZAK			pmax	pmax		
	comp=Z,39nm,1.6s,mb4.8					
IRK	**Irkutsk**	**39.83 324**	*e*P	**P**	**02 20 47.1**	**-1.1**
IRK			*e*	pP	02 21 24.0	+0.5
IRK			pmax	pmax		
	comp=Z,337nm,0.1s					
ADK	**Adak**	**42.18 38**	*e*P	**P**	**02 21 08.3**	**+1.0**
ADK			pmax	pmax		
	comp=Z,42nm,0.7s,mb5.2					
ADK	**Adak**	**42.18 38**	*e*P	**P**	**02 21 08.3**	**+0.9**
	comp=Z,42nm,0.7s,mb5.2					
KULM	**Kulim**	**43.49 251**	*e*P	**P**	**02 21 17.5**	**-0.5**
CTA	**Charters Tower**	**44.20 174**	⇑*i*P	**P**	**02 21 22.6**	**-0.9**
	comp=Z,43nm,1.1s,mb5.0					
CTA	**Charters Tower**	**44.20 174**	⇑*i*P	**P**	**02 21 22.6**	**-0.9**
CTA			pmax	pmax		
	comp=Z,43nm,1.1s					
CTAO	**Charters Tower**	**44.20 174**	*e*P	**P**	**02 21 21.5**	**-2.0**
CTAO			pmax	pmax		
	comp=Z,109nm,1.2s,mb5.4					
CTAO	**Charters Tower**	**44.20 174**	*e*P	**P**	**02 21 21.5**	**-2.0**
	comp=Z,109nm,1.2s,mb5.4					
WRAB	**Tennant Creek**	**44.35 190**	P	**P**	**02 21 23.0**	**-1.7**
	comp=Z,681nm,0.7s,SNR=65					
WRAB	**Tennant Creek**	**44.35 190**	⇑*i*P	**P**	**02 21 23.5**	**-1.2**
WRAB			*e*S	**S**	**02 27 41.5**	**-5.1**
WRAB			pmax	pmax		
	comp=Z,255nm,1.1s,mb5.8					
WRAB	**Tennant Creek**	**44.35 190**	⇑*i*P	**P**	**02 21 23.5**	**-1.2**
	comp=Z,255nm,1.1s,mb5.8					
WRAB			*e*ScP	ScP	02 26 40.5	-1.9
WRAB			*e*S	**S**	**02 27 41.5**	**-5.1**
WB2	**Warramunga Arr**	**44.36 190**	⇑*i*P	**P**	**02 21 23.6**	**-1.2**
WB2			*e*SCP	ScP	02 26 40.4	-2.1
WB2			*e*S	**S**	**02 27 41.2**	**-5.5**
WB2			*e*SCS	ScS	02 31 04.9	-0.7
WRA	**Warramunga Arr**	**44.36 190**	P	**P**	**02 21 23.6**	**-1.3**
	comp=Z,77nm,0.7s,mb5.4,baz=9.3,slow=8.3,SNR=308					
WRA			PcP	PcP	02 23 05.8	-0.1
	comp=Z,28nm,0.9s,baz=4.6,slow=3.3,SNR=8.0					
WRA			ScP	ScP	02 26 40.2	-2.3
	comp=Z,9.5nm,0.9s,baz=4.3,slow=4.4,SNR=8.5					
WRA			S	**S**	**02 27 41.9**	**-4.9**
	comp=Z,4.0nm,1.1s,baz=5.9,slow=14,SNR=10.0					
WRA			PKiKP	PKiKP	02 30 04.0	-1.6
	comp=Z,1.1nm,1.2s,baz=328,slow=1.5,SNR=5.1					
WRA	**Warramunga Arr**	**44.36 190**	P	**P**	**02 21 23.6**	**-1.2**
WRA					02 23 05.8	
WRA			S	**S**	**02 27 41.9**	**-4.9**
WRA	**Warramunga Arr**	**44.36 190**	P	**P**	**02 21 23.6**	**-1.3**
WRA			PcP	PcP	02 23 05.8	-0.1
WRA			ScP	ScP	02 26 40.2	-2.3
WRA			S	**S**	**02 27 41.9**	**-4.9**
FITZ	**Fitzroy Crossi**	**44.74 202**	⇑*i*P	**P**	**02 21 26.9**	**-0.9**
	comp=Z,46nm,0.8s,mb5.2					
FITZ			*e*SCP	ScP	02 26 41.7	-2.3
SHL	**Shillong**	**44.83 283**	*e*P	**P**	**02 21 29.0**	**+0.4**
SHL			*ex*	x	02 27 51.0	
LSA	**Lhasa**	**44.95 289**	P	**P**	**02 21 31.9**	**+2.4**
LSA			PP	PP	02 23 13.5	-4.3
LSA			S	**S**	**02 27 56.9**	**+1.6**
LSA			SS	SS	02 31 17.3	-2.9
LSA			AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9					
LSA			LR	LR		
	comp=N,860nm,24.2s					
LSA			LR	LR		
	comp=E,140nm,22.1s					
LSA			LR	LR		
	comp=Z,600nm,18.9s					
LSA	**Lhasa**	**44.95 289**	*e*P	**P**	**02 21 31.0**	**+1.5**
LSA			*e*S	**S**	**02 27 57.1**	**+1.8**
LSA			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8					
LSA	**Lhasa**	**44.95 289**	*e*P	**P**	**02 21 31.0**	**+1.5**
	comp=Z,20nm,0.8s,mb4.8					
LSA			*e*ScP	ScP	02 26 44.2	-0.7
LSA			*e*S	**S**	**02 27 57.1**	**+1.8**
PSI	**Prapat**	**46.23 249**	ScP	ScP	02 26 48.5	-1.7
	comp=Z,22nm,0.9s,baz=46,slow=2.0,SNR=20					
PSI			LR	LR	02 37 58.3	
	comp=Z,466nm,22.0s,baz=228,slow=32					
BILL	**Bilibino**	**46.47 13**	⇓*i*P	**P**	**02 21 41.2**	**-0.2**
BILL			*e**PP	pP	02 22 16.2	-1.5
BILL			*e*S	**S**	**02 28 14.6**	**-2.4**
BILL			pmax	pmax		
	comp=Z,88nm,1.2s,mb5.3					
BILL	**Bilibino**	**46.47 13**	⇓*i*P	**P**	**02 21 41.2**	**-0.2**
	comp=Z,88nm,1.2s,mb5.3					
BILL			*e*pP	pP	02 22 16.2	-1.4
BILL			*e*ScP	ScP	02 26 47.7	-3.5
BILL			*e*S	**S**	**02 28 14.6**	**-2.5**
WMQ	**Urumqi**	**47.85 308**	P	**P**	**02 21 52.5**	**+0.4**
WMQ			AP	pP	02 22 28.5	0.0
WMQ			XP	sP	02 22 46.5	-0.2
WMQ			PP	PP	02 23 45.5	+0.1
WMQ			SCP	ScP	02 26 57.0	0.0
WMQ			S	**S**	**02 28 37.0**	**+0.5**
WMQ			SCS	ScS	02 31 26.0	-2.3
WMQ			SS	SS	02 32 05.0	-2.2
WMQ			AMB	AMB		
	comp=Z,48nm,1.0s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,214nm,5.0s					
WMQ			LR	LR		
	comp=N,678nm,10.0s					
WMQ			LR	LR		
	comp=E,785nm,10.0s					
WMQ			LR	LR		
	comp=Z,584nm,10.0s					
ASAR	**Alice Springs**	**48.08 189**	P	**P**	**02 21 52.2**	**-1.6**
	comp=Z,12nm,0.5s,mb4.8,baz=14,slow=14,SNR=161					
ASAR			PcP	PcP	02 23 18.9	-0.1
	comp=Z,7.7nm,0.8s,baz=5.5,slow=3.2,SNR=10					
ASAR			ScP	ScP	02 26 56.0	-2.1
	comp=Z,4.7nm,0.9s,baz=8.3,slow=4.1,SNR=6.9					
ASAR			S	**S**	**02 28 35.5**	**-4.4**
	comp=Z,1.5nm,0.7s,baz=20,slow=20,SNR=8.0					
ASAR	**Alice Springs**	**48.08 189**	P	**P**	**02 21 52.3**	**-1.6**
ASAR					02 23 18.9	
ASAR			S	**S**	**02 28 35.5**	**-4.3**
TIXI	**Tiksi**	**48.09 355**	⇓*i*P	**P**	**02 21 50.6**	**-3.3**
TIXI			*e*		02 23 15.5	
TIXI			*e*		02 23 41.5	
TIXI			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5					
JIRN	**Jiri**	**49.53 287**	⇑*i*P	**P**	**02 22 07.1**	**+2.2**
	comp=Z,99nm,0.8s,mb5.5					
MBWA	**Marble Bar**	**49.75 207**	*e*P	**P**	**02 22 04.3**	**-2.3**
	comp=Z,18nm,1.0s,mb4.7					
GUN	**Gumba**	**49.77 287**	⇑*i*P	**P**	**02 22 08.8**	**+2.1**
	comp=Z,60nm,0.5s,mb5.5					
PKI	**Pulchoki**	**50.23 287**	⇑*i*P	**P**	**02 22 11.6**	**+1.4**
KKN	**Kakani**	**50.31 287**	⇑*i*P	**P**	**02 22 12.3**	**+1.5**
	comp=Z,30nm,0.5s,mb5.2					
KKN	**Kakani**	**50.31 287**	⇑*i*P	**P**	**02 22 12.3**	**+1.5**
KKN			pmax	pmax		
	comp=Z,15nm,0.5s,mb4.9					
DMN	**Daman**	**50.49 287**	⇑*i*P	**P**	**02 22 13.7**	**+1.6**
	comp=Z,48nm,0.7s,mb5.2					
BOK	**Bokaro**	**50.52 282**	*e*P	**P**	**02 22 13.6**	**+1.3**
BOK			AMb	AMB	02 22 15.7	
	comp=Z,97nm,0.9s,mb5.4					
GKN	**Gorkha**	**50.84 287**	⇑*i*P	**P**	**02 22 16.2**	**+1.5**
	comp=Z,50nm,0.7s,mb5.3					
ZAL	**Zalesovo**	**51.36 321**	P	**P**	**02 22 16.6**	**-2.0**
	comp=Z,4.3nm,1.0s,mb4.0,baz=9.5,slow=7.2,SNR=16					
ZAL			ScP	ScP	02 27 09.1	-3.0
	comp=Z,4.3nm,0.5s,baz=351,slow=3.8,SNR=6.3					
ZAL			S	**S**	**02 29 22.4**	**-2.8**
	comp=Z,1.6nm,0.4s,baz=169,slow=17,SNR=6.0					
ZAL	**Zalesovo**	**51.36 321**	P	**P**	**02 22 16.6**	**-2.0**
ZAL			ScP	ScP	02 27 09.1	-3.0
ZAL			S	**S**	**02 29 22.4**	**-2.8**
KOLN	**Koldanda**	**51.78 287**	⇑*i*P	**P**	**02 22 23.3**	**+1.6**
	comp=Z,84nm,0.8s,mb5.4					
NOUC	**Port Laguerre**	**51.90 150**	*e*P	**P**	**02 22 21.5**	**-1.1**
MK31	**Makanchi Array**	**51.92 311**	*i*P	**P**	**02 22 22.6**	**-0.2**
MK31			pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.7					
MKAR	**Makanchi Array**	**51.92 311**	P	**P**	**02 22 22.4**	**-0.4**
	comp=Z,13nm,0.6s,mb4.7,baz=93,slow=8.9,SNR=187					
MKAR			ScP	ScP	02 27 12.1	-2.3
	comp=Z,12nm,0.7s,baz=85,slow=5.4,SNR=18					
MKAR			S	**S**	**02 29 31.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=89,slow=19,SNR=4.2					
DZM	**Mont Dzumac**	**51.94 150**	*e*P	**P**	**02 22 21.9**	**-1.0**
NVS	**Novosibirsk**	**52.44 322**	*e*P	**P**	**02 22 23.5**	**-3.1**
NVS			*i* *PP	pP	02 22 58.3	-5.4
NVS			*i*		02 23 21.4	
NVS			*e*		02 24 34.3	
NVS			*i* S	**S**	**02 29 34.4**	**-5.6**
NVS			*i*		02 31 53.4	
NVS			pmax	pmax		
	comp=N,18nm,2.2s					
NVS			pmax	pmax		
	comp=E,28nm,2.2s					
NVS			pmax	pmax		
	comp=Z,27nm,2.2s,mb4.5					
NVS			pmax	pmax		
	comp=N,11nm,2.0s					
NVS			pmax	pmax		
	comp=Z,24nm,2.0s,mb4.5					
NVS			pmax	pmax		
	comp=E,25nm,1.9s					
NVS			smax			
	comp=N,57nm,2.0s					
VIS	**Vishakhapatnam**	**54.39 275**	*e*P	**P**	**02 22 42.0**	**+1.2**
VIS			AMb	AMB	02 22 43.8	
	comp=Z,66nm,0.8s,mb5.4					
PTH	**Pithoragarh**	**54.41 290**	*e*P	**P**	**02 22 41.9**	**+1.0**
PTH			*ex*	x	02 30 02.9	
KURK	**Kurchatov**	**54.65 316**	P	**P**	**02 22 41.3**	**-1.3**
	comp=Z,174nm,1.3s,mb5.6,SNR=19					
KURK	**Kurchatov**	**54.65 316**	⇓*i*P	**P**	**02 22 41.6**	**-1.0**
KURK	**Kurchatov**	**54.65 316**	⇓*i*P	**P**	**02 22 41.4**	**-1.2**
	comp=Z,21nm,0.9s,mb4.9					
KURK			*e*S	**S**	**02 30 04.4**	**-5.4**
ARMA	**Armidale**	**55.10 169**	*e*P	**P**	**02 22 45.4**	**-0.6**
STKA	**Stephens Creek**	**55.69 180**	⇑*i*P	**P**	**02 22 46.8**	**-3.4**
	comp=Z,13nm,0.6s,mb4.9					
STKA	**Stephens Creek**	**55.69 180**	P	**P**	**02 22 46.9**	**-3.2**
	comp=Z,15nm,0.5s,mb5.0,baz=349,slow=7.3,SNR=42					
ULHL	**Ulahol**	**56.20 306**	P	**P**	**02 22 54.9**	**+1.1**
	SNR=7.1					
TTA	**Tatalina**	**56.32 29**	*e*P	**P**	**02 22 54.0**	**-0.6**
	comp=Z,64nm,1.9s,mb5.1					
TTA			*e*pP	pP	02 23 32.8	+0.6
KSH	**Kashi**	**56.60 303**	*e*P	**P**	**02 22 59.0**	**+2.4**
KSH			*e*AP	pP	02 23 36.0	+1.8
KSH			*e*PCP	PcP	02 23 52.0	+0.9
KSH			*e*XP	sP	02 23 54.1	+2.0
KSH			*e*PP	PP	02 25 08.1	+3.9
KSH			*e*PPP		02 26 31.1	
KSH			*e*SCP	ScP	02 27 35.0	0.0
KSH			*e*PCS	PcS	02 27 52.3	+0.3
KSH			*e*S	**S**	**02 30 35.1**	**-0.6**
KSH			*e*XS	sS	02 31 42.3	+1.4
KSH			*e*SCS	ScS	02 32 28.0	-1.5
KSH			*e*SS	SS	02 34 29.1	+3.4
KSH			AMB	AMB		
	comp=Z,160nm,2.2s,mb5.5					
KSH			LR	LR		
	comp=N,520nm,8.2s					
KSH			LR	LR		
	comp=E,470nm,10.0s					
TKM2	**Tokmak 2**	**56.64 307**	P	**P**	**02 22 58.1**	**+1.2**
	SNR=15					
TKM2	**Tokmak 2**	**56.64 307**	P	**P**	**02 22 58.0**	**+1.1**
TKM2			pmax	pmax		
	comp=Z,26nm,1.2s,mb4.9					
SMLA	**Simla**	**56.73 292**	*e*P	**P**	**02 22 58.6**	**+1.0**
SMLA			AMb	AMB	02 23 39.4	
	comp=Z,89nm,1.9s,mb5.3					
KZA	**Kyzart**	**56.95 306**	P	**P**	**02 23 01.3**	**+2.3**
	SNR=16					
KDAK	**Kodiak Island**	**57.11 36**	P	**P**	**02 23 00.0**	**-0.2**
	comp=Z,116nm,1.1s,mb5.6,SNR=14					
KBK	**Karagaybulak**	**57.13 306**	P	**P**	**02 23 01.4**	**+1.1**
	SNR=14					
CHMS	**Chumysh**	**57.25 307**	P	**P**	**02 23 01.9**	**+0.7**
	SNR=5.2					
NGP	**Nagpur**	**57.29 280**	*e*P	**P**	**02 23 00.7**	**-0.8**
NGP			AMb	AMB	02 23 03.1	
	comp=Z,42nm,1.1s,mb5.2					
FRU	**Bishkek**	**57.36 307**	*e*P	**P**	**02 23 04.0**	**+2.1**
FRU			*i*	pP	02 23 44.0	+4.3
FRU			*e*		02 30 48.0	
FRU			pmax	pmax		
	comp=Z,66nm,2.0s,mb5.1					
FRU			pmax	pmax		
	comp=Z,132nm,2.0s,mb5.4					
USP	**Ospenovka**	**57.42 307**	P	**P**	**02 23 02.9**	**+0.6**
	SNR=6.7					
AAK	**Ala-Archa**	**57.47 306**	P	**P**	**02 23 03.4**	**+0.8**
	SNR=6.7					
UCH	**Uchtor**	**57.48 306**	P	**P**	**02 23 04.6**	**+1.8**
	SNR=17					
EKS2	**Erkin-Say**	**57.99 306**	P	**P**	**02 23 07.1**	**+0.7**
	SNR=12					
AML	**Almayashu**	**58.10 306**	P	**P**	**02 23 08.6**	**+1.5**
	SNR=29					
BHPL	**Bhopal**	**58.20 283**	*e*P	**P**	**02 23 08.7**	**+0.9**
FIB	**Fire Island**	**58.72 32**	P	**P**	**02 23 11.3**	**-0.1**
	comp=Z,15nm,0.8s,mb4.9					
HYB	**Hyderabad**	**58.82 276**	*i*P	**P**	**02 23 12.5**	**+0.4**
HYB			*e*S	**S**	**02 31 04.0**	**-0.6**
HYB	**Hyderabad**	**58.82 276**	*e*P	**P**	**02 23 12.5**	**+0.4**
HYB			*e*S	**S**	**02 31 04.0**	**-0.6**
AKL	**Akola**	**59.24 281**	*ex*	x	02 22 35.1	
AKL			AMb	AMB	02 22 37.5	
	comp=Z,63nm,1.3s,mb5.3					
AFI	**Afiamalu**	**59.27 125**	P	**P**	**02 23 14.2**	**-0.9**
PMR	**Palmer**	**59.27 31**	*e*P	**P**	**02 23 14.5**	**-0.7**
PMR			*e**PP	pP	02 23 52.1	-1.0
PMR			pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9					
PMR	**Palmer**	**59.27 31**	*e*P	**P**	**02 23 14.5**	**-0.7**
	comp=Z,14nm,0.7s,mb4.9					
PMR			*e*pP	pP	02 23 52.1	-1.0
PMR			*e*ScP	ScP	02 27 43.3	-3.5
VOSK	**Vostochnaya**	**59.47 318**	P	**P**	**02 23 15.2**	**-1.3**
VOSK			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7					
MCK	**McKinley**	**59.60 29**	*e*P	**P**	**02 23 17.2**	**-0.2**
MCK			*e**PP	pP	02 23 54.7	-0.7
MCK			pmax	pmax		
	comp=Z,72nm,1.4s,mb5.3					
MCK	**McKinley**	**59.60 29**	*e*P	**P**	**02 23 17.2**	**-0.2**
	comp=Z,72nm,1.4s,mb5.3					
MCK			*e*pP	pP	02 23 54.7	-0.8
SML	**Sawmill**	**59.67 31**	*e*P	**P**	**02 23 17.5**	**-0.4**
SML			*e**PP	pP	02 23 55.7	-0.2
SML			*e*S	**S**	**02 31 15.3**	**-0.2**
SML	**Sawmill**	**59.67 31**	*e*P	**P**	**02 23 17.5**	**-0.4**
SML			*e*pP	pP	02 23 55.7	-0.2
SML			*e*ScP	ScP	02 27 44.4	-4.1
SML			*e*S	**S**	**02 31 15.3**	**-0.2**
BVA0	**Borovoye Array**	**59.82 319**	*i*P	**P**	**02 23 18.2**	**-0.7**
BVA0			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2					
BRVK	**Borovoye**	**59.88 319**	P	**P**	**02 23 18.3**	**-1.1**
	comp=Z,255nm,0.8s,SNR=16					
BRVK	**Borovoye**	**59.88 319**	⇓*i*P	**P**	**02 23 18.4**	**-0.9**
	comp=Z,20nm,0.8s,mb5.0					
KLBR	**Kellerberrin**	**59.88 203**	*e*P	**P**	**02 23 17.9**	**-1.5**
	comp=Z,16nm,0.8s,mb4.9					
COLA	**College**	**60.21 28**	⇑*e*P	**P**	**02 23 22.4**	**+0.8**
KK31	**Karatay Array**	**60.34 307**	*i*P	**P**	**02 23 22.6**	**+0.1**
KK31			pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0					
KKAR	**Karatay Array**	**60.34 307**	*i*P	**P**	**02 23 22.6**	**+0.1**
KKAR			pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8					
PALK	**Pallekele**	**60.44 265**	*e*P	**P**	**02 23 23.3**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.6					
ILAR	**Eielson Array**	**60.61 28**	P	**P**	**02 23 23.1**	**-1.1**
	comp=Z,17nm,1.1s,mb4.8,baz=260,slow=5.3,SNR=72					
ILAR			pP	pP	02 24 00.2	-2.1
	comp=Z,38nm,0.9s,baz=259,slow=5.8,SNR=11					
ILAR			S	**S**	**02 31 26.0**	**-1.4**
	comp=Z,0.8nm,1.0s,baz=267,slow=7.1,SNR=6.1					
ZRNK	**Zerenda**	**60

ZRNK Zerenda 60.66 319⇓ i P P 02 23 23.4 -1.3
comp=Z,21nm,0.8s,mb5.0
ZRNK e P P 02 24 02.7 -0.1
ZRNK e S c P S c P 02 27 49.6 -3.3
DIV Divide 60.85 32 e P P 02 23 26.2 +0.3
comp=Z,6.9nm,0.4s,mb4.8
DIV e P P 02 24 04.1 +0.1
NWAO Narrogin (SRO) 61.28 203 e P P 02 23 26.8 -2.0
comp=Z,15nm,0.8s,mb4.9
TOO Toolangi 61.49 176 e P P 02 23 29.5 -0.7
comp=Z,27nm,1.0s,mb5.0
KAD Karad 62.82 278 e P P 02 23 38.7 -0.3
KAD AMb AMB 02 23 42.0
comp=Z,64nm,1.0s,mb5.4
TRD Trivandrum 63.37 268 e P P 02 23 42.7 0.0
DAWY Dawson 63.83 29⇑ e P P 02 23 46.0 +0.2
DAWY e P P 02 24 23.9 -0.2
DAWY e S S 02 32 05.6 -2.2
INK Inuvik 65.98 24 e P P 02 23 58.9 -0.7
INK e* P P 02 24 37.2 -1.1
INK p max p max
comp=Z,33nm,1.0s
INK Inuvik 65.98 24 e P P 02 23 58.9 -0.7
comp=Z,33nm,1.0s,mb5.1
INK e P P 02 24 37.2 -1.0
ARU Arti 66.39 323 P P 02 24 00.0 -2.2
comp=Z,240nm,0.4s,SNR=11
ARU Arti 66.39 323⇓ i P P 02 24 00.8 -1.4
ARU e P 02 24 39.8 -1.2
ARU e 02 26 26.1
ARU e P P P 02 28 03.6
ARU e S S 02 32 38.1 -0.9
ARU e 02 33 37.8
ARU e S S S S 02 36 58.2 -0.5
ARU p max p max
comp=Z,21nm,0.8s,mb5.0
ARU Arti 66.39 323 e P P 02 24 00.6 -1.6
comp=Z,19nm,0.5s,mb5.2
AB31 Akbulak array 66.73 315 i P P 02 24 03.4 -1.0
AB31 p max p max
comp=Z,11nm,0.8s,mb4.7
RPZ Rata Peaks 72.77 158 P P 02 24 38.1 -3.1
comp=Z,17nm,0.9s,mb4.8,baz=22,slow=6.3,SNR=6.6
APA Apatity 74.54 338⇓ i P P 02 24 51.0 -0.6
APA i 02 24 59.2
APA e S S 02 34 11.0 -2.5
APA p max p max
comp=Z,14nm,0.8s,mb4.6
YKW3 Yellowknife Ar 75.01 28 e P P 02 24 52.5 -1.7
YKW3 e P P P 02 25 32.6 -1.3
YKA Yellowknife Ar 75.04 28 P P 02 24 53.7 -0.8
comp=Z,4.5nm,0.6s,mb4.3,baz=293,slow=5.8,SNR=65
YKA p P p P 02 25 32.6 -1.4
comp=Z,13nm,0.9s,baz=294,slow=5.7,SNR=3.8
YKA S S 02 34 15.2 -3.7
comp=Z,0.5nm,0.9s,baz=294,slow=12,SNR=4.0
YKA Yellowknife Ar 75.04 28 i P P 02 24 53.7 -0.7
YKA p max p max
comp=Z,5.0nm,0.6s
YKA Yellowknife Ar 75.04 28 P P 02 24 53.7 -0.8
YKA p P p P 02 25 32.6 -1.4
YKA S S 02 34 15.2 -3.7
RES Resolute Bay 75.07 13 e P P 02 24 53.5 -1.1
comp=Z,135nm,1.6s,mb5.3
RES e P P P 02 25 33.1 -1.2
OCWA Octopus Mounta 75.31 44 e P P 02 24 57.0 +1.0
comp=Z,29nm,1.0s,mb4.9
OCWA e P P P 02 25 35.8 +0.1
ARCES ARCESS Array B 76.13 341 P P 02 24 59.3 -1.3
comp=Z,5.7nm,1.0s,mb4.2,baz=67,slow=3.8,SNR=15
ARCES LR LR 03 00 16.1
comp=Z,401nm,19.1s,baz=64,slow=37
KEBM Edson Butte 76.89 49 e P P 02 25 06.0 +1.1
COR Corvallis 76.98 47 e P P 02 25 06.2 +0.8
COR p max p max
comp=Z,40nm,1.1s,mb5.0
COR Corvallis 76.98 47 e P P 02 25 06.2 +0.8
comp=Z,40nm,1.1s,mb5.0
JOF Joensuu 77.45 334 e p P 02 25 06.8 -1.3
comp=Z,7.9nm,0.3s,mb4.8
JOF Joensuu 77.45 334 e P P 02 25 06.8 -1.3
JOF p max p max
comp=Z,8.0nm,0.3s,mb4.8
VRHR Novokhopersk 77.48 320 e P P 02 25 06.9 -1.3
VRHR p max p max
comp=Z,10.0nm,0.9s,mb4.5
VRHR p max p max
comp=N,5.0nm,0.4s
VRHR p max p max
comp=E,6.0nm,1.0s
BROR Big Rock Looko 77.67 47 P P 02 25 09.7 +0.4
IRO Indian Ridge 77.90 47 P P 02 25 11.3 +0.7
EBG Ellensburg 77.91 44 P P 02 25 11.5 +0.9
HBO Huckleberry Mo 77.91 47 P P 02 25 11.4 +0.8
FRIS Frissel Point 77.92 47 P P 02 25 11.6 +0.9
HUMO Hull Mountain 77.94 49⇑ i P P 02 25 11.6 +0.8
comp=E,51nm,1.4s,mb5.0
HUMO e p P p P 02 25 51.6 +1.0
YBH Yreka Blue Hor 78.43 49⇑ i P P 02 25 14.2 +0.7
YBH e* P P 02 25 54.7 +1.3
YBH p max p max
comp=Z,64nm,1.4s
YBH Yreka Blue Hor 78.43 49⇑ i P P 02 25 14.2 +0.7
comp=Z,64nm,1.4s,mb5.1
YBH e p P p P 02 25 54.7 +1.3
KCPM Cahto Peak 78.57 52 e P P 02 25 15.1 +0.9
KCPM e p P p P 02 25 55.1 +0.9
DAG Danmarks Havn 78.60 355⇓ i P p P 02 25 57.5 +3.2
comp=Z,12nm,0.5s
KIPM Iron Peak 78.60 52 e P P 02 25 15.1 +0.7
OBN Obninsk 78.61 326⇑ i P P 02 25 13.6 -0.8
OBN e 02 25 21.5
OBN e S S 02 34 56.8 -0.8
OBN p max p max
comp=Z,35nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,500nm,22.0s
VOR Voronezh 78.62 322 P P 02 25 12.0 -2.5
VOR S S 02 34 53.0 -4.8
VOR p max p max
comp=Z,50nm,1.8s,mb4.8
VOR s max
comp=N,40nm,2.0s
VOR s max
comp=E,60nm,2.0s
HAWA Hanford 78.77 44⇑ i P P 02 25 15.7 +0.4
comp=E,4.8nm,1.5s,mb3.9
HAWA e p P p P 02 25 55.9 +0.6
VRSR Storozhevoye 78.84 321 e P P 02 25 14.7 -1.0
VRSR e 02 25 23.4
VRSR e S S 02 34 56.3 -3.8
VRSR e 02 35 19.2
VRSR p max p max
comp=Z,3.0nm,1.0s,mb3.9
VRSR p max p max
comp=N,2.0nm,0.9s
VRSR p max p max
comp=E,3.0nm,0.9s
VRSR s max
comp=N,10.0nm,0.9s
VRSR s max
comp=Z,2.0nm,0.8s
VRSR s max
comp=E,5.0nm,1.7s
OD2 Odessa Site #2 78.89 43 P P 02 25 16.1 +0.2
PPT Papeete 78.97 115 e P P 02 25 17.4 +1.0
comp=E,86nm,1.4s,mb5.2
WDC Whiskeytown Da 78.98 51⇑ i P P 02 25 16.9 +0.4
comp=E,60nm,1.4s,mb5.0
PAE Paea 79.01 115 e P P 02 25 17.7 +1.1
comp=E,141nm,1.4s,mb5.4
PMOR Pomariorio Rec 79.13 112 e P P 02 25 19.0 +1.7
comp=E,133nm,1.3s,mb5.4
ZEI Tsey 79.27 312 e P P 02 25 18.1 0.0
ZEI i 02 25 22.0
ZEI p max p max
comp=Z,23nm,0.9s,mb4.8
TVO Taravao 79.34 115 e P P 02 25 19.9 +1.5
comp=Z,159nm,1.3s,mb5.5
NEW Newport 79.51 42 e P P 02 25 19.5 +0.1
NEW e* P P 02 25 59.0 -0.4
NEW p max p max
comp=Z,57nm,1.4s
NEW Newport 79.51 42 e P P 02 25 19.5 +0.1
comp=Z,57nm,1.4s,mb5.0
NEW e p P p P 02 25 59.0 -0.4
EDM Edmonton 79.56 36 e P P 02 25 19.1 -0.5
EDM e p P p P 02 25 59.1 -0.5
GNI Garni 79.70 309 e P P 02 25 21.6 +1.2
GNI p max p max
comp=Z,9.0nm,0.7s
GNI Garni 79.70 309 e P P 02 25 21.6 +1.2
comp=Z,9.0nm,0.7s,mb4.5
KAF Kangasniemi 79.86 334 e p P 02 25 18.8 -2.4
comp=Z,2.3nm,0.5s,mb4.1,baz=55,slow=4.9
KAF Kangasniemi 79.86 334 e P P 02 25 18.8 -2.4
KAF p max p max
comp=Z,2.0nm,0.5s,mb4.0
MOD Modoc 80.03 49⇑ i P P 02 25 22.5 +0.4
comp=Z,53nm,1.4s,mb5.0
OHCM Honcut 80.21 51 e P P 02 25 22.9 -0.2
OHCM e p P p P 02 26 03.5 +0.3
FINES FINESS Array B 80.32 334 P P 02 25 21.9 -1.8
comp=Z,4.3nm,0.5s,mb4.3,baz=63,slow=6.0,SNR=34
FINES p P p P 02 26 01.6 -2.3
comp=Z,4.2nm,0.5s,baz=68,slow=5.7,SNR=3.1
FINES S S 02 35 11.6 -4.2
comp=Z,1.4nm,0.8s,baz=55,slow=17,SNR=4.9
BMO Blue Mountains 80.82 45⇑ i P P 02 25 26.8 +0.4
comp=Z,60nm,1.4s,mb5.0
BMO e p P p P 02 26 05.7 -0.9
WVOR Wild Horse Val 80.94 48⇑ i P P 02 25 27.3 +0.3
comp=Z,127nm,1.8s,mb5.2
WVOR e p P p P 02 26 06.1 -1.1
CMB Columbia Colle 81.51 52⇑ i P P 02 25 30.3 +0.3
comp=Z,77nm,1.4s,mb5.1
CMB e p P p P 02 26 09.3 -0.9
SOC Sochi 81.73 314 e P P 02 25 24.1 -7.1
SOC e S S 02 35 20.0 -10
SOC e* S S s S 02 36 37.3 -2.8
SOC p max p max
comp=Z,25nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,549nm,18.0s
MIB Mutribah 81.75 299 e P P 02 25 31.2 -0.1
MIB AMb AMB 02 25 32.7
comp=Z,42nm,0.7s,mb5.2
RDF Al-Radifah 81.92 298 e P P 02 25 31.0 -1.1
RDF AMb AMB 02 25 32.3
comp=Z,58nm,1.4s,mb5.0
NAY Al-Naaiem 82.04 298 e P P 02 25 32.2 -0.6
NAY AMb AMB 02 25 34.2
comp=Z,25nm,0.7s,mb4.9
CHMT Chamberlain Mo 82.46 42 e P P 02 25 34.0 -0.9
ANN Anapa 82.68 316 e P P 02 25 34.6 -1.5
ANN e* P P 02 26 12.5 -3.9
ANN e S S 02 35 37.0 -2.9
ANN p max p max
comp=Z,34nm,1.6s,mb4.8
BMN Battle Mountai 82.75 49⇑ i P P 02 25 37.0 +0.6
BMN p max p max
comp=Z,54nm,1.5s,mb5.1
BMN Battle Mountai 82.75 49⇑ i P P 02 25 37.0 +0.6
comp=Z,54nm,1.5s,mb5.1
MNV Mina 82.95 51⇑ i P P 02 25 37.8 +0.3
MNV p max p max
comp=Z,57nm,1.5s,mb5.1
MNV Mina 82.95 51⇑ i P P 02 25 37.8 +0.3
comp=Z,57nm,1.5s,mb5.1
HLID Hailey 83.25 45⇑ i P P 02 25 39.4 +0.3
comp=Z,13nm,1.0s,mb4.6
HLID e p P p P 02 26 20.2 +0.8
HRY Holter Researc 83.42 42 e P P 02 25 40.0 +0.1
SUMG Summit 83.55 360 e P P 02 25 40.3 -0.3
comp=Z,57nm,1.8s,mb5.0
SUMG e p P p P 02 26 20.1 -0.9
MCMT McKenzie Canyo 83.67 44 e P P 02 25 41.0 -0.1
TPH Tonopah 83.76 51 e P P 02 25 42.1 +0.5
TPH p max p max
comp=Z,72nm,1.5s,mb5.2
TPH Tonopah 83.76 51 e P P 02 25 42.1 +0.5
comp=Z,72nm,1.5s,mb5.2
ELK Elko 83.97 48⇑ i P P 02 25 43.3 +0.6
ELK e* P P 02 26 24.3 +1.2
ELK p max p max
comp=Z,78nm,1.5s
ELK Elko 83.97 48⇑ i P P 02 25 43.3 +0.6
comp=Z,78nm,1.5s,mb5.2
ELK e p P p P 02 26 24.3 +1.2
BOZ Bozeman (W) 84.05 42 e P P 02 25 43.3 +0.2
BOZ p max p max
comp=Z,110nm,1.9s,mb5.3
BOZ Bozeman (W) 84.05 42 e P P 02 25 43.3 +0.3
comp=Z,110nm,1.9s,mb5.3
DAC Darwin (Calif) 84.27 53 e P P 02 25 44.3 +0.1
DAC p max p max
comp=Z,55nm,1.6s,mb5.0
DAC Darwin (Calif) 84.27 53 e P P 02 25 44.3 +0.1
comp=Z,56nm,1.6s,mb5.0
QLMT Earthquake Lak 84.56 43 e P P 02 25 46.4 +0.8
FFC Flin Flon 84.58 31 P P 02 25 45.5 -0.2
comp=Z,120nm,1.4s,mb5.4,SNR=13
FFC Flin Flon 84.58 31 e P P 02 25 45.4 -0.4
FFC e p P p P 02 26 25.9 -0.4
AKASG Malin Array Be 84.63 324 P P 02 25 44.7 -1.3
comp=Z,1.9nm,0.4s,mb4.2,baz=52,slow=4.8,SNR=18
AKASG p P p P 02 26 25.8 -0.8
comp=Z,1.6nm,0.4s,baz=54,slow=4.9,SNR=3.0
AKASG Malin Array Be 84.63 324 i P P 02 25 44.7 -1.3
AKASG p max p max
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 84.63 324 P P 02 25 44.7 -1.3
AKASG p P p P 02 26 25.8 -0.8
MALT Malatya 84.92 310 e P P 02 25 48.7 +1.2
comp=Z,4.7nm,0.8s,mb4.3
YMR Madison River 84.93 43⇑ i P P 02 25 48.7 +1.2
comp=Z,108nm,1.4s,mb5.4
YFT Old Faithful 85.12 43⇑ i P P 02 25 50.4 +2.0
YFT e p P p P 02 26 30.3 +1.3
HVU Hansel Valley 85.15 46⇑ e P P 02 25 49.3 +0.8
comp=Z,129nm,1.9s,mb5.3
GCMT Greycliff 85.18 42 e P P 02 25 48.9 +0.1
IMW Indian Meadow 85.32 44⇑ i P P 02 25 50.7 +1.3
comp=Z,45nm,1.3s,mb5.0
IMW e p P p P 02 26 29.3 -0.7
LKWY Lake 85.33 43⇑ i P P 02 25 51.8 +2.3
comp=Z,75nm,1.4s,mb5.2
LKWY e p P p P 02 26 31.4 +1.3
BGU Big Grassy Mou 85.38 47 e P P 02 25 53.3 +3.6
FLWY Flagg Ranch 85.38 44⇑ i P P 02 25 51.0 +1.3
comp=Z,51nm,1.0s,mb5.2
FLWY e p P p P 02 26 31.6 +1.2
MOOW Moose Ponds 85.52 44⇑ i P P 02 25 51.1 +0.7
comp=Z,62nm,1.6s,mb5.1
MOOW e p P p P 02 26 31.9 +0.9
FCC Fort Churchill 85.53 26 e P P 02 25 49.0 -1.5
comp=Z,36nm,1.5s,mb4.9
SPUT South Promonto 85.58 47 e P P 02 25 51.4 +0.7
SPUT e p P p P 02 26 30.8 -0.5
REDW Red Top Meadow 85.64 44 e P P 02 25 51.7 +0.7
comp=Z,56nm,1.5s,mb5.1
REDW e p P p P 02 26 30.9 -0.7
SNOW Snow King Moun 85.65 44 e P P 02 25 52.1 +1.0
comp=Z,23nm,1.3s,mb4.8
AHID Auburn Hatcher 85.77 45 e P P 02 25 52.2 +0.6
comp=Z,17nm,1.1s,mb4.7
AHID e p P p P 02 26 33.1 +0.8
SUW Suwalki 85.85 329 e P P 02 25 50.6 -1.4
DUG Dugway 85.87 48⇑ i P P 02 25 52.4 +0.3
DUG e* P P 02 26 32.2 -0.6
DUG p max p max
comp=Z,53nm,1.3s,mb5.1
DUG Dugway 85.87 48⇑ i P P 02 25 52.4 +0.3
comp=Z,53nm,1.3s,mb5.1
DUG e p P p P 02 26 32.2 -0.5
HWUT Hardware Ranch 86.03 46⇑ i P P 02 25 53.2 +0.3
comp=Z,36nm,1.3s,mb5.0
HWUT e p P p P 02 26 32.9 -0.6
NOQ North Oquirrh 86.11 47 e P P 02 25 53.9 +0.5
comp=Z,37nm,1.1s,mb5.0
NB2 NORSAR Subarra 86.12 338 P P 02 25 50.9 -2.5
comp=Z,7.5nm,1.0s,mb4.4,baz=45,slow=5.1
NOA NORSAR Array B 86.12 338 P P 02 25 51.1 -2.3
comp=Z,3.2nm,0.8s,mb4.1,baz=49,slow=4.8,SNR=6.5
NOA e p P p P 02 26 32.8 -1.3
comp=Z,2.4nm,0.5s,baz=46,slow=4.9,SNR=2.4
NOA L R L R 03 03 26.2
comp=Z,134nm,20.4s,baz=300,slow=35
PFO Pinyon Flat Ob 86.28 55 P P 02 25 54.0 -0.2
comp=Z,171nm,1.6s,mb5.5,SNR=11
PFO Pinyon Flat Ob 86.28 55⇑ i P P 02 25 54.5 +0.3
PFO e* P P p P 02 26 34.9 +0.1
PFO p max p max
comp=Z,96nm,1.5s,mb5.3
PFO Pinyon Flat Ob 86.28 55⇑ i P P 02 25 54.5 +0.3
comp=Z,96nm,1.5s,mb5.3
PFO e p P p P 02 26 34.9 +0.1
TCUT Toone Canyon 86.36 46 e P P 02 25 54.8 +0.2
NLU North Lily Min 86.48 48⇑ i P P 02 25 53.6 -1.5
NLU e p P p P 02 26 35.1 -0.7
BAR Barrett 86.53 56 e P P 02 25 54.7 -0.7
NEN Nelson 86.55 52⇑ i P P 02 25 55.9 +0.4
NEN e p P p P 02 26 35.7 -0.5
ARUT Antelope Range 86.56 50 e P P 02 25 55.4 -0.1
LDFC Landfair 86.62 53⇑ i P P 02 25 56.1 +0.3
MPU Maple Canyon 86.75 47 e P P 02 25 56.7 +0.3
comp=Z,54nm,1.6s,mb5.1
MPU e p P p P 02 26 37.6 +0.5
BW06 Boulder Array 86.75 44 e P P 02 25 56.4 -0.1
comp=Z,7.7nm,1.1s,mb4.5
PDAR Pinedale Array 86.75 44 P P 02 25 56.2 -0.2
comp=Z,2.4nm,0.9s,mb4.0,baz=298,slow=3.2,SNR=18
PDAR p P p P 02 26 36.9 -0.3
comp=Z,6.0nm,1.0s,baz=270,slow=1.5,SNR=5.4
PDAR PKKPbc PKKPbc 02 43 47.6 -2.1
comp=Z,0.6nm,0.9s,baz=115,slow=2.1,SNR=5.4
PDAR L R L R 03 01 11.3
comp=Z,240nm,19.4s,baz=312,slow=33
LAO LASA Array 86.77 40 e P P 02 25 55.9 -0.7
comp=Z,285nm,2.3s,mb5.7
LAO e p P p P 02 26 36.8 -0.4
DAU Daniels Canyon 86.81 47 e P P 02 25 56.6 -0.1
DAU e p P p P 02 26 34.8 -2.6
DGMT Dagmar 86.95 37 e P P 02 25 56.3 -1.2
comp=Z,51nm,1.7s,mb5.1
DGMT e p P p P 02 26 34.4 -3.8
MVU Marysvale 87.08 49 e P P 02 26 04.3 +6.3
comp=Z,31nm,1.4s,mb4.9
MSU Marysvale 87.10 49 e P P 02 25 58.6 +0.5
MSU e* P P p P 02 26 39.1 +0.2
BR131 Keskin Array S 87.55 313 e P P 02 25 59.3 -1.0
comp=Z,5.5nm,0.8s,mb4.4
BRTR Keskin Array B 87.55 313 P P 02 25 59.1 -1.1
comp=Z,4.0nm,0.8s,mb4.3,baz=87,slow=3.8,SNR=17
BRTR Keskin Array B 87.55 313 i P P 02 25 59.7 -0.6
BRTR p max p max
comp=Z,4.0nm,0.8s
GLA Glamis 87.75 55 e P P 02 26 01.4 +0.2
SRU San Rafael 87.94 48 e P P 02 26 01.9 -0.2
comp=Z,61nm,1.6s,mb5.2
SRU e p P p P 02 26 42.8 -0.1
ANTO Ankara 88.05 313 e P P 02 26 03.5 +0.8
comp=Z,5.9nm,0.7s,mb4.5
KWP Kalwaria 88.69 325 e P P 02 26 05.1 -0.6
RWWY Rawlins 88.80 44 e P P 02 26 06.2 0.0
comp=Z,109nm,2.1s,mb5.4
WUAZ Wupatki 89.11 51⇑ i P P 02 26 07.5 -0.1
comp=Z,145nm,2.2s,mb5.5
WUAZ e p P p P 02 26 49.5 +1.0
PV10 Paradox Valley 89.31 48 e P P 02 26 08.7 +0.1
PV10 e p P p P 02 26 48.4 -1.0
RSSD Black Hills 89.45 41 e P P 02 26 09.2 0.0
RSSD p max p max
comp=Z,4.0nm,0.8s,mb4.4
RSSD Black Hills 89.45 41 e P P 02 26 09.2 0.0
comp=Z,4.3nm,0.8s,mb4.4
PV01 Paradox Valley 89.75 48 e P P 02 26 10.6 -0.1
OJC Ojcow 89.82 327 e P P 02 26 09.1 -1.8
NIE Niedzica 90.06 326 e P P 02 26 11.4 -0.7
PHWY Pilot Hill 90.12 44⇑ i P P 02 26 12.7 +0.4
PHWY e p P p P 02 26 53.6 +0.3
ULM Lac du Bonnet 90.26 33 P P 02 26 10.6 -2.4
comp=Z,1.3nm,0.7s,mb4.0,baz=315,slow=2.9,SNR=3.0
ULM Lac du Bonnet 90.26 33 P P 02 26 10.6 -2.4
SMCO Snowmass 90.28 46 e P P 02 26 13.9 +0.9
comp=Z,18nm,1.3s,mb4.8
SMCO e p P p P 02 26 53.4 -0.6
ISCO Idaho Springs 90.83 45 e P P 02 26 16.4 +0.8
comp=Z,43nm,1.7s,mb5.2
TUC Tucson 91.10 54 e P P 02 26 17.6 +0.7
comp=Z,17nm,1.4s,mb4.9
KSP Ksiaz 91.12 329 e P P 02 26 17.4 +0.4
KSP Ksiaz 91.12 329 e P P 02 26 15.9 -1.1
VRAC Vranov 91.99 328 LR LR 03 09 11.3
comp=Z,366nm,21.9s,baz=223,slow=36
SDCO Great Sand Dun 92.02 47⇑ i P P 02 26 21.8 +0.7
comp=Z,73nm,1.8s,mb5.4
SDCO e p P p P 02 27 02.4 +0.3
ANMO Albuquerque 92.86 50⇑ i P P 02 26 25.5 +0.5
ANMO e* P P p P 02 27 06.2 +0.2
ANMO p max p max
comp=Z,26nm,1.4s
ANMO Albuquerque 92.86 50⇑ i P P 02 26 25.5 +0.5
comp=Z,26nm,1.4s,mb5.2
ANMO e p P p P 02 27 06.2 +0.2
LPM Los Pinos Moun 93.07 50 e P P 02 26 26.6 +0.6
BNM Barren Site 93.16 50 e P P 02 26 27.2 +0.8
BNM e p P p P 02 27 07.9 +0.5
KHC Kasperske Hory 93.57 329 e P P 02 26 27.5 -0.8
GERES GERESS Array B 93.71 328 P P 02 26 27.3 -1.6
comp=Z,1.5nm,0.8s,mb4.2,baz=64,slow=6.1,SNR=4.4
GERES PKKP PKKPbc 02 43 26.8 -5.6
comp=Z,0.8nm,0.7s,baz=90,slow=1.2,SNR=2.5
GERES L R L R 03 14 07.2
comp=Z,380nm,20.2s,baz=228,slow=39
GERES GERESS Array B 93.71 328 P P 02 26 27.3 -1.7
GERES PKKP PKKPbc 02 43 26.8 -5.6
GERES L R L R 03 14 07.2
MNTX Cornudas Mount 95.35 52 e P P 02 26 36.5 +0.1
comp=Z,11nm,1.4s,mb4.9
MNTX e p P p P 02 27 17.8 +0.3
DAVOX Davos 96.99 329 L R L R 03 12 50.2
comp=Z,467nm,19.5s,baz=82,slow=37
QSPA South Pole Qui 113.92 180 e PKP PKiKP 02 31 48.5 -1.7
SYO Syowa Base 116.56 203⇓ e P Pdiff 02 28 49.8
SYO Syowa Base 116.56 203⇓ e PKPdf PKPdf 02 31 53.4 -1.9
LSZ Lusaka 117.09 265 e PKPdf PKPdf 02 31 56.6 +0.3
LSZ e S K S K P d f S K P d f 02 35 15.2 -1.2
LBTB Lobatse 122.21 255 e PKPdf PKPdf 02 32 06.1 -0.1
JTS JuntasAbangare 123.19 58 e PKPdf PKPdf 02 32 07.8 -0.2
BOSA Boshof 123.29 251 PKP PKPdf 02 32 07.8 -0.5
comp=Z,3.2nm,0.7s,baz=317,slow=2.5,SNR=7.0
BOSA Boshof 123.29 251 e PKPdf PKPdf 02 32 07.8 -0.5
TORD Torodi Ar. Bea 126.01 309 PKP PKPdf 02 32 12.8 -0.7
comp=Z,3.6nm,0.6s,baz=51,slow=0.9,SNR=55
TORD S K P b c 02 35 15.6
comp=Z,3.5nm,1.1s,baz=15,slow=2.3,SNR=4.1
TSUM Tsumeb 127.93 264 e PKPdf PKPdf 02 32 16.9 -0.2
VNA2 Neumayer--Watz 129.88 193 e PKPdf PKPdf 02 32 19.9 -0.9
baz=50,slow=0.7
VNA2 e 02 32 23.7
VNA2 e 02 32 27.9
VNA2 e 02 32 44.0
VNA2 e 02 35 23.3
VNA2 e 02 35 55.3
VNA3 Neumayer Olymp 130.06 192 e PKPdf PKPdf 02 32 20.3 -0.9
VNA3 e 02 32 24.2
OTAV Otavalo 134.33 64 e PKPdf PKPdf 02 32 29.5 +0.3
SDV Santo Domingo 134.60 48 e PKPdf PKPdf 02 32 29.8 +0.1
SDV e S K P 02 35 41.4
ROSC El Rosal 134.75 55 PKP PKPdf 02 32 31.0 +0.9
comp=Z,3.8nm,0.5s,baz=66,slow=21,SNR=4.1
DBIC Dimbokro 135.12 309 PKP PKPdf 02 32 32.1 +1.4
comp=Z,5.4nm,0.7s,baz=85,slow=5.7,SNR=8.3
DBIC S K P a b 02 35 45.0
comp=Z,26nm,0.7s,baz=28,slow=3.3,SNR=45
DBIC Dimbokro 135.12 309 e PKPdf PKPdf 02 32 30.6 -0.1
DBIC e S K P 02 35 44.5
ARE Arequipa 148.19 82 e PKIKP PKPdf 02 32 55.0 +1.1
PLCA Paso Flores 148.51 129 PKP PKPdf 02 32 54.6 +0.2
comp=Z,29nm,0.8s,baz=227,slow=3.2,SNR=80
PLCA P K P b c P K P b c 02 32 58.4 +0.1
comp=Z,31nm,0.8s,baz=221,slow=4.9,SNR=82
PLCA Paso Flores 148.51 129 e PKPdf PKPdf 02 32 54.3 -0.1
PLCA e P K P b c P K P b c 02 32 58.1 -0.1
CCHI Chillan 148.64 121 e P PKPdf 02 32 53.6 -1.1
EFI East Falkland 148.67 156 e PKP2 PKPab 02 32 57.9 -4.9
HOPE Hope Point 149.85 182 e PKPbc PKPbc 02 33 00.5 -1.1
PEL Peldehue 150.46 115 e P PKPdf 02 32 53.7 -3.9
FCH Farellones 150.75 115 e P PKPdf 02 32 57.2 -0.8
LPAZ La Paz 151.17 80 PKP PKPdf 02 33 00.1 +1.4
comp=Z,2.7nm,0.7s,baz=24,slow=2.3,SNR=15
LPAZ P K P b c P K P b c 02 33 06.0 +1.4
comp=Z,19nm,0.6s,baz=268,slow=3.6,SNR=81

LPAZ	**La Paz**	**151.17**	**80**	*e*PKPdf	PKPdf	02 32 59.4	+0.7
LPAZ				*e*PKPbc	PKPbc	02 33 06.0	+1.4
SAML	**Samuel**	**152.01**	**62**	*e*PKPdf	PKPdf	02 32 59.9	0.0
SAML				*e*PKPbc	PKPbc	02 33 06.4	-0.2
SAML				*e*PKPab	PKPab	02 33 15.9	-0.7
LVC	**Limon Verde**	**152.07**	**93**	*e*PKPbc	PKPbc	02 33 07.8	+1.0
TRQA	**Tornquist**	**155.66**	**130**	*e*PKPdf	PKPdf	02 33 03.8	-1.2
TRQA				*e*PKPab	PKPab	02 33 31.3	-0.8
CPUP	**Villa Florida**	**162.83**	**101**	*e*PKIKP	PKPdf	02 33 12.8	-0.5
CPUP				*e*		02 34 02.7	
BDFB	**Brasilia**	**167.70**	**48**	PKP	PKPdf	02 33 18.2	+0.8
	comp=Z,1.9nm,0.6s,baz=330,slow=1.3,SNR=5.1						
BDFB				PKPab	PKPab	02 34 24.3	-0.5
	comp=Z,2.8nm,0.9s,baz=356,slow=7.8,SNR=4.5						

MDD ***17*** *02:32:34.5±1.6, 3666N×969W, h0km, mbLg2.5/13, Error ellipse: s-maj=12.6km s-min=10.2km az=57.0, PRXIMO*
CSEM ***17*** *02:32:37.1±0.5, 3649N×948W, h40km, ML2.2, Error ellipse: s-maj=8.7km s-min=5.1km az=48.0*
IGIL ***17*** *02:32:37.1, 3670N×970W, h2km, ML2.2*
INMG 17 02:32:36.8±1.0, 3667N×968W, h12km±4km, ML2.2, Error ellipse: s-maj=5.4km s-min=3.0km az=56.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.04**	**52**	*e*P	Pb	02 32 55.6	-1.2
MORF				*e*S	Sb	02 33 09.3	-1.0
MORF				*e*S	Sb	02 33 09.3	-0.9
MORF				AML	AML	02 33 11.3	
	comp=N,41nm,0.1s						
MORF	**Marmelete**	**1.04**	**52**	*e*P	Pb	02 32 55.6	-1.1
MORF				*e*S	Sb	02 33 09.3	-1.0
PTEO	**Sao Teotonio**	**1.16**	**41**	*e*P	Pb	02 32 57.5	-1.3
PTEO				S	Sb	02 33 12.8	-1.0
PTEO							
	comp=N,20nm,0.2s						
EGRO	**El Granado**	**1.96**	**63**	P	Pn	02 33 08.1	-1.6
	comp=N,0.7nm,0.1s,SNR=18						
EGRO				S	Sn	02 33 31.6	-2.6
	comp=N,14nm,0.1s,SNR=4.9						
EGRO	**El Granado**	**1.96**	**63**	P	Pn	02 33 08.1	-1.7
	comp=N,1.8nm,0.1s,SNR=18						
EGRO				S	Sn	02 33 31.6	-2.6
	comp=N,14nm,0.1s,SNR=4.9						
PBEJ	**Beja**	**1.98**	**46**	*e*Pn	Pn	02 33 08.2	-1.9
PBEJ				*e*Sn	Sn	02 33 32.3	-2.5
PBEJ							
	comp=N,5.3nm,0.2s						
PBEJ	**Beja**	**1.98**	**46**	*e*Pn	Pn	02 33 08.2	-1.9
PBEJ				*e*Sn	Sn	02 33 32.3	-2.5
MOE	**Montemor**	**2.13**	**29**	*e*Sn	Sn	02 33 36.0	-2.5
PLOU	**Loures**	**2.25**	**10**	*e*Pn	Pn	02 33 11.7	-2.2
PLOU				*e*Sn	Sn	02 33 38.6	-3.0
PLOU							
	comp=N,18nm,0.1s						
PLOU	**Loures**	**2.25**	**10**	*e*Pn	Pn	02 33 11.7	-2.2
PLOU				*e*Sn	Sn	02 33 38.6	-3.0
EMIN	**Mina Concepcio**	**2.64**	**64**	P	Pn	02 33 17.0	-2.1
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 33 48.0	-3.0
	comp=N,1.7nm,0.1s,SNR=9.4						
EMIN	**Mina Concepcio**	**2.64**	**64**	P	Pn	02 33 17.0	-2.1
	SNR=7.9						
EMIN				S	Sn	02 33 48.0	-3.0
	comp=N,1.7nm,0.1s,SNR=9.4						
EBAD	**Badajoz**	**2.97**	**45**	P	Pn	02 33 21.3	-2.4
	comp=N,0.4nm,0.1s,SNR=6.2						
EBAD				S	Sn	02 33 56.0	-3.2
	comp=N,4.5nm,0.1s,SNR=7.8						
EBAD	**Badajoz**	**2.97**	**45**	P	Pn	02 33 21.3	-2.4
	comp=N,0.1nm,0.0s,SNR=6.2						
EBAD				S	Sn	02 33 55.1	-4.1
	comp=N,4.5nm,0.1s,SNR=7.8						
ESPR	**Espera**	**3.07**	**85**	P	Pn	02 33 23.1	-2.0
	comp=N,1.5nm,0.2s,SNR=4.7						
ESPR				S	Sn	02 33 57.7	-4.1
	comp=N,32nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.07**	**85**	P	Pn	02 33 23.1	-2.0
	comp=N,0.4nm,0.1s,SNR=4.7						
ESPR				S	Sn	02 33 57.7	-4.1
	comp=N,32nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**3.11**	**18**	*e*Sn	Sn	02 33 59.0	-3.7
PTOM							
	comp=N,9.0nm,0.3s						
PTOM	**Tomar**	**3.11**	**18**	S	Sn	02 33 59.0	-3.7
	comp=N,4.5nm,0.3s						
PCBR	**Castelo Branco**	**3.61**	**28**	*e*Pn	Pn	02 33 30.8	-1.7
PCBR				*e*Sn	Sn	02 34 10.9	-4.1
EMIJ	**Mijas**	**3.95**	**90**	S	Sn	02 34 18.5	-4.8
	comp=N,2.8nm,0.3s,SNR=4.0						
MTE	**Manteigas**	**4.08**	**24**	*e*Sn	Sn	02 34 22.2	-4.6
PVIS	**Viseu**	**4.28**	**18**	*e*Pn	Pn	02 33 40.2	-1.5
PVIS				*e*Sn	Sn	02 34 26.5	-5.0
PVIS							
	comp=N,4.1nm,0.1s						
EADA	**Adamuz**	**4.33**	**68**	P	Pn	02 33 40.7	-1.6
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	02 34 27.1	-5.6
	comp=N,3.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.33**	**68**	P	Pn	02 33 40.7	-1.7
	comp=N,0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	02 34 27.1	-5.6
	comp=N,3.0nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.42**	**77**	S	Sn	02 34 30.9	-4.0
	comp=N,1.4nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.85**	**18**	*e*Sn	Sn	02 34 40.3	-5.3
PVRL							
	comp=N,6.9nm,0.1s						
PVRL	**Vila Real**	**4.85**	**18**	S	Sn	02 34 40.3	-5.3
	comp=N,3.5nm,0.1s						
EBAN	**Banos Encina**	**4.92**	**71**	S	Sn	02 34 42.7	-4.7
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.92**	**71**	S	Sn	02 34 40.6	-6.8
	comp=N,0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.39**	**76**	P	Pn	02 33 54.2	-2.8
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	02 34 54.0	-4.9
	comp=N,1.0nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.41**	**55**	P	Pn	02 33 55.3	-2.0
	comp=N,1.6nm,0.2s,baz=240,slow=14,SNR=4.0						
ESDC				S	Sn	02 34 51.7	-7.7
	comp=N,1.4nm,0.2s,baz=237,slow=24,SNR=5.5						
ESDC	**Sonseca Array**	**5.41**	**55**	P	Pn	02 33 55.3	-2.0
	comp=N,1.6nm,0.2s,SNR=4.0						
PBRG	**Braganca**	**5.61**	**23**	*e*Pn	Pn	02 33 58.0	-2.0
PBRG				*e*Sn	Sn	02 35 00.0	-4.4

IDC ***17*** *02:36:27.7±1.1, 1043N×125.32E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, MS3.8/3, Ms1 3.8/3, ms1mx3.4/23, Error ellipse: s-maj=64.6km s-min=23.1km az=75.0*
MAN ***17*** *02:36:28.6, 1033N×125.06E, h3km, mb3.3, MS1.9*
ISCJB ***17*** *02:36:29.9±2.3, 1032N±0.04×125.18E±0.04, h15km±16km, mb3.7/7, MS4.0/2, Error ellipse: s-maj=7.6km s-min=5.8km az=140.3*
NEIC ***17*** *02:36:32.6±0.7, 1037N×125.09E, h35km, mb4.3/2, Error ellipse: s-maj=41.1km s-min=14.3km az=70.0*
NEIC Felt [II PIVS] at Sogod.
ISC 17 02:36:28.2±0.8, 1032N±0.03×12515E±0.04, h2km±6km, n26, σ1$38/27, mb3.7/7, MS4.0/2, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.34**	**236**	*e*P	**Pg**	**02 36 35.2**	**+0.4**
SCPH	**Surigao**	**0.64**	**148**	*e*P	**Pg**	**02 36 41.8**	**+1.4**
SCPH				*e*S	**Sg**	**02 36 46.8**	**-1.8**
PLP	**Palo**	**0.85**	**349**	*e*P	**Pg**	**02 36 43.8**	**-0.7**
PLP				*i* S	**Sg**	**02 36 56.1**	**+0.5**
OCLP	**Ormoc**	**0.90**	**324**	*e*P	**Pg**	**02 36 46.2**	**+0.9**
LLP	**Lapu-Lapu**	**1.16**	**270**	*e*P	**Pg**	**02 36 48.1**	**-2.4**
LLP				*e*S	**Sg**	**02 37 05.2**	**-0.4**
TBP	**Tagbilaran**	**1.41**	**244**	*e*P	**Pn**	**02 36 52.3**	**-2.7**
TBP				*e*S	**Sg**	**02 37 13.5**	**-0.2**
CGP	**Cagayan de Oro**	**1.91**	**194‖**	*e*P	**Pn**	**02 37 01.7**	**-0.1**
	6373μm,0.5s						
SNPH	**Sibulan**	**2.12**	**243**	*e*P	**Pn**	**02 37 06.5**	**+1.8**
CNP	**Cataman**	**2.22**	**348**	*e*P	**Pn**	**02 37 07.4**	**+1.3**
BUKP	**Musuan**	**2.43**	**182**	*e*P	**Pn**	**02 37 11.7**	**+2.7**
DCPH	**Dipolog City**	**2.48**	**226**	*e*P	**Pn**	**02 37 12.8**	**+3.2**
GUIM	**Jordan**	**2.54**	**277**	*e*P	**Pn**	**02 37 13.4**	**+3.0**

RCP	**Roxas**	**2.66**	**298⇑**	*e*P	**Pn**	**02 37 12.0**	**-0.1**
PAGZ	**Pagadian**	**3.02**	**215**	*e*P	**Pn**	**02 37 10.3**	**-6.7**
PVCP	**Virac**	**3.39**	**343**	*e*P	**Pn**	**02 37 25.8**	**+3.6**
MJAR	**Matsushiro Arr**	**28.66**	**22**	LR	LR	02 52 45.3	
	comp=Z,101nm,19.4s,MS3.4,baz=120,slow=34						
WRA	**Warramunga Arr**	**31.41**	**163**	P	**P**	**02 42 50.7**	**+0.1**
	0.3nm,0.8s,mb3.2,baz=358,slow=7.5,SNR=3.9						
ASAR	**Alice Springs**	**34.85**	**166**	P	**P**	**02 43 21.6**	**+0.9**
	0.7nm,0.8s,mb3.6,baz=342,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**51.32**	**323**	P	**P**	**02 45 33.5**	**-0.4**
	0.9nm,0.7s,mb3.8,baz=124,slow=8.0,SNR=10						
KURK	**Kurchatov**	**55.40**	**326**	*e*P	**P**	**02 46 03.3**	**-0.6**
	5.8nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**61.74**	**325**	*e*P	**P**	**02 46 46.0**	**-2.0**
	0.7nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**79.87**	**26**	P	**P**	**02 48 38.1**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=247,slow=3.7,SNR=4.9						
RAR	**Rarotonga**	**80.08**	**114**	LR	LR	03 21 18.1	
	comp=Z,231nm,18.1s,MS4.6,baz=222,slow=34						
PPT	**Papeete**	**88.63**	**108**	*e*LR	LR	02 49 24.7	
	2μm,48.5s						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**02 49 46.7**	**-1.8**
	0.2nm,0.6s,mb3.7,baz=292,slow=4.1,SNR=5.2						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**02 49 46.7**	**-1.8**

IDC ***17*** *02:41:29.2±1.3, 2293S×173.18E, h0km, mb4.4/7, mb1 4.6/9, mb1mx4.5/14, mbtmp4.5/9, ML4.8/2, MS4.3/14, Ms1 4.3/14, ms1mx4.0/23, Error ellipse: s-maj=40.7km s-min=23.6km az=147.0*
BJI ***17*** *02:41:35.3, 23.16S×173.45E, h46km, mB5.3, mb4.9, Ms5.1, Msz4.9*
NEIC ***17*** *02:41:36.8±1.3, 2259S×172.95E, h47km±12km, mb4.8/12, Error ellipse: s-maj=12.5km s-min=9.6km az=162.0*
MOS ***17*** *02:41:38.4±1.4, 2274S×172.32E, h33km, mb5.1/4, Error ellipse: s-maj=20.9km s-min=12.7km az=19.6*
ISCJB ***17*** *02:41:39.8±1.9, 2295S±0.08×1725E±0.1, h60km±14km, mb4.9/22, Error ellipse: s-maj=17.8km s-min=12.9km az=151.4*
ISC 17 02:41:42.3±1.7, 2302S±0.08×1724E±01, h55km±13km, h46km±.7km: pP-P, n68, σ1$30/49, mb4.9/22, MS4.3/13, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.60**	**279**	Pn	**Pn**	**02 43 03.4**	**+0.5**
	4.8nm,0.3s,baz=93,slow=15,SNR=29						
DZM				Sn	**Sn**	**02 44 14.0**	**+8.1**
	24nm,0.3s,baz=194,slow=21,SNR=7.7						
DZM	**Mont Dzumac**	**5.60**	**279**	*e*P	**Pn**	**02 43 03.7**	**+0.8**
DZM				*e*S	**Sn**	**02 44 12.4**	**+6.5**
BKM	**Butte a Klehm**	**6.61**	**323**	*i* P	**Pn**	**02 43 17.0**	**+0.3**
RAO	**Raoul Island**	**10.67**	**128**	LR	LR	02 46 54.0	
	comp=Z,2μm,20.0s,baz=251,slow=32						
URZ	**Urewera**	**15.71**	**166**	Pn	**Pn**	**02 45 19.0**	**-1.0**
	0.3nm,0.3s,baz=32,slow=4.6,SNR=6.0						
AFI	**Afiamalu**	**17.51**	**62**	LR	LR	02 50 59.3	
	comp=Z,591nm,18.4s,baz=228,slow=34						
HNR	**Honiara**	**18.03**	**317**	P	**Pn**	**02 45 48.1**	**-0.8**
	12nm,0.3s,baz=180,slow=1.5,SNR=5.2						
HNR				LR	LR	02 51 49.6	
	comp=Z,662nm,18.6s,baz=177,slow=34						
HNR	**Honiara**	**18.03**	**317**	Pn	**Pn**	**02 45 45.1**	**-3.7**
ARMA	**Armidale**	**19.96**	**244**	*e*P	**Pn**	**02 46 14.5**	**+2.6**
RPZ	**Rata Peaks**	**20.67**	**183**	LR	LR	02 52 59.2	
	comp=Z,1μm,21.9s,MS4.2,baz=2.6,slow=33						
CTA	**Charters Tower**	**24.50**	**272**	*e*P	**P**	**02 46 56.8**	**+0.6**
	7.7nm,1.0s,mb4.1						
CTA	**Charters Tower**	**24.50**	**272**	P	**P**	**02 46 56.8**	**+0.5**
	6.2nm,0.8s,mb4.1,baz=102,slow=12,SNR=6.9						
CTA				LR	LR	02 55 23.2	
	comp=Z,429nm,19.2s,MS4.0,baz=268,slow=33						
CTA	**Charters Tower**	**24.50**	**272**	*e*P	**P**	**02 46 56.8**	**+0.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**24.50**	**272**	*e*P	**P**	**02 46 55.5**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CTAO	**Charters Tower**	**24.50**	**272**	*e*P	**P**	**02 46 55.5**	**-0.7**
	comp=Z,8.9nm,0.8s,mb4.2						
PMG	**Port Moresby**	**27.71**	**295**	LR	LR	02 56 14.5	
	comp=Z,243nm,19.2s,MS3.8,baz=222,slow=31						
PMG	**Port Moresby**	**27.71**	**295**	P	**P**	**02 47 23.0**	**-2.3**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PMG	**Port Moresby**	**27.71**	**295**	P	**P**	**02 47 23.0**	**-2.3**
	comp=Z,6.3nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**28.66**	**245**	*e*P	**P**	**02 47 33.7**	**0.0**
	comp=Z,9.8nm,1.3s,mb4.4						
STKA	**Stephens Creek**	**28.66**	**245**	P	**P**	**02 47 33.6**	**-0.1**
	comp=Z,7.8nm,0.7s,mb4.5,baz=76,slow=8.4,SNR=14						
STKA				LR	LR	02 57 58.2	
	comp=Z,535nm,18.4s,MS4.2,baz=288,slow=34						
ASAR	**Alice Springs**	**35.29**	**261**	P	**P**	**02 48 32.3**	**+0.5**
	comp=Z,20nm,1.1s,mb5.0,baz=87,slow=8.8,SNR=77						
WB2	**Warramunga Arr**	**35.49**	**268**	*e*P	**P**	**02 48 32.6**	**-0.9**
WRAB	**Tennant Creek**	**35.49**	**268**	*e*P	**P**	**02 48 32.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
WRAB	**Tennant Creek**	**35.49**	**268**	*e*P	**P**	**02 48 32.7**	**-0.8**
	comp=Z,18nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**35.50**	**268**	P	**P**	**02 48 32.7**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.3,baz=97,slow=8.3,SNR=25						
KAKA	**Kakadu**	**39.29**	**278**	*e*P	**P**	**02 49 03.9**	**-1.8**
	comp=Z,7.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**43.93**	**267⇑**	*i* P	**P**	**02 49 44.3**	**+0.7**
	comp=Z,28nm,0.8s,mb5.0						
GUMO	**Guam**	**45.29**	**321**	LR	LR	03 06 10.7	
	comp=Z,280nm,20.8s,MS4.2,baz=94,slow=32						
MBWA	**Marble Bar**	**48.63**	**262**	*e*P	**P**	**02 50 20.4**	**-0.1**
	comp=Z,16nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**48.89**	**248**	*e*P	**P**	**02 50 22.9**	**+0.4**
	comp=Z,65nm,1.1s,mb5.6						
NWAO	**Narrogin (SRO)**	**49.25**	**246**	*e*P	**P**	**02 50 26.0**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,32nm,1.2s						
NWAO	**Narrogin (SRO)**	**49.25**	**246**	*e*P	**P**	**02 50 26.0**	**+0.8**
	comp=Z,32nm,1.2s,mb5.2						
MUN	**Mundaring**	**50.18**	**247**	*e*P	**P**	**02 50 33.3**	**+1.0**
VNDA	**Vanda**	**54.79**	**183**	LR	LR	03 09 53.8	
	comp=Z,696nm,21.2s,MS4.7,baz=5.7,slow=31						
CASY	**Casey**	**57.91**	**205**	*e*P	**P**	**02 51 30.9**	**+2.3**
	comp=Z,23nm,1.0s,mb5.2						
KSM	**Kuching**	**65.11**	**283**	*e*P	**P**	**02 52 16.4**	**-0.7**
MJAR	**Matsushiro Arr**	**67.47**	**331**	P	**P**	**02 52 29.0**	**-3.3**
	comp=Z,7.1nm,1.1s,mb4.6,baz=169,slow=7.1,SNR=4.8						
MJAR				LR	LR	03 19 05.7	
	comp=Z,164nm,18.5s,MS4.3,baz=55,slow=33						
ASAJ	**Asahikawa**	**72.18**	**338**	LR	LR	03 26 13.4	
	comp=Z,129nm,18.2s,MS4.2,baz=121,slow=37						
SSE	**Sheshan**	**72.84**	**316**	P	**P**	**02 53 05.4**	**+0.3**
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,293nm,5.1s						
SSE				LR	LR		
	comp=N,46nm,19.6s,MS4.0						
SSE				LR	LR		
	comp=E,59nm,19.7s,MS4.0						
SSE				LR	LR		
	comp=Z,87nm,17.1s,MS4.1						
YSS	**Yuzh-Sakhalins**	**74.62**	**339**	*e*P	**P**	**02 53 16.0**	**+0.4**
NJ2	**Nanjing**	**74.97**	**315**	*e*P	**P**	**02 53 17.5**	**-0.1**
NJ2				AP	pP	02 53 30.6	-2.4
NJ2				XP	sP	02 53 36.0	-3.1
NJ2				PP	PP	02 56 05.9	+0.1
NJ2				S	S	03 02 49.0	-2.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,410nm,5.2s						
NJ2				LR	LR		
	comp=N,650nm,17.3s						
NJ2				LR	LR		
	comp=E,620nm,24.1s						
NJ2				LR	LR		
	comp=Z,480nm,22.6s						
MDJ	**Mudanjiang**	**77.85**	**330**	P	**P**	**02 53 36.1**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,105nm,6.7s						
HABR	**Khabarovsk**	**78.64**	**336**	*i* P	**P**	**02 53 36.3**	**-1.9**
HABR				*e*S	S	03 03 45.3	+14
CN2	**Changchun**	**79.22**	**327**	*e*P	**P**	**02 53 45.8**	**+4.4**

SYO	**Syowa Base**	**82.12**	**195‖**	*e*X	**P**	**02 53 54.3**	**-2.7**
CD2	**Chengdu**	**84.87**	**307**	*e*P	**P**	**02 54 10.3**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,50nm,4.9s						
HHC	**Hu-ho-hao-te**	**85.00**	**318**	*e*P	**P**	**02 54 14.5**	**+2.8**
HHC				AP	pP	02 54 27.3	-0.1
HHC				XP	sP	02 54 32.8	-0.6
HHC				AMB	AMB		
	comp=Z,233nm,7.2s						
KDAK	**Kodiak Island**	**85.64**	**18**	LR	LR	03 28 45.2	
	comp=Z,158nm,19.3s,MS4.4,baz=213,slow=33						
HIA	**Hailar**	**85.86**	**329**	*e*P	**P**	**02 54 15.8**	**-0.2**
LZH	**Lanzhou**	**87.44**	**311**	*e*P	**P**	**02 54 26.0**	**+2.3**
LZH				AP	pP	02 54 39.5	+0.1
LZH				PP	PP	02 57 52.1	+3.3
LZH				*e*S		03 04 59.8	
LZH				XS	sS	03 05 22.1	-4.7
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,71nm,5.5s						
LZH				LR	LR		
	comp=N,356nm,17.9s						
LZH				LR	LR		
	comp=Z,542nm,18.7s,MS5.0						
BILL	**Bilibino**	**90.90**	**358**	*e*P	**P**	**02 54 41.7**	**+1.7**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.8						
YAK	**Yakutsk**	**91.37**	**341**	*e*P	**P**	**02 54 42.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.5						
ULN	**Ulaanbaatar**	**91.65**	**322**	*e*P	**P**	**02 54 43.6**	**+0.2**
SONM	**Songino Array**	**92.01**	**322**	P	**P**	**02 54 41.4**	**-3.7**
	comp=Z,1.7nm,1.1s,mb4.3,baz=139,slow=3.7,SNR=6.2						
SONM				LR	LR	03 30 59.6	
	comp=Z,178nm,19.6s,MS4.5,baz=77,slow=32						
ILAR	**Eielson Array**	**92.98**	**16**	P	**P**	**02 54 41.1**	**-8.5**
	comp=Z,0.9nm,1.0s,mb4.2,baz=230,slow=5.7,SNR=6.4						
PLCA	**Paso Flores**	**93.75**	**137**	LR	LR	03 27 22.4	
	comp=Z,137nm,18.6s,MS4.4,baz=67,slow=30						
WMQ	**Urumqi**	**101.94**	**313**	*e*P	Pdif	02 55 32.0	+2.0
WMQ				AMB	AMB		
	comp=Z,15nm,1.2s						
BRG	**Berggiesshubel**	**147.55**	**334**	*e*PKIKP	PKPdf	03 01 15.0	-2.6
BRG				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRG	**Berggiesshubel**	**147.55**	**334**	*e*PKP	PKPdf	03 01 15.0	-2.5
BRG				*e*		03 01 17.7	
EKA	**Eskdalemuir Ar**	**147.56**	**355**	PKPbc	PKPdf	03 01 13.8	-3.9
	comp=Z,3.8nm,0.9s,baz=4.9,slow=2.7,SNR=5.8						
CLL	**Collm**	**147.57**	**336**	*e*PKPbc	PKPdf	03 01 16.0	-1.6
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**147.57**	**336**	*e*PKIKP	PKPdf	03 01 16.0	-1.6
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VRAC	**Vranov**	**147.57**	**330**	PKPbc	PKPbc	03 01 16.3	-4.0
	comp=Z,2.5nm,0.8s,baz=156,slow=5.0,SNR=3.8						
KHC	**Kasperske Hory**	**149.04**	**333**	*e*PKPbc	PKPbc	03 01 20.0	-4.2
GERES	**GERESS Array B**	**149.21**	**332**	PKPbc	PKPbc	03 01 20.1	-4.5
	comp=Z,2.3nm,1.0s,baz=239,slow=0.8,SNR=8.5						
GRA1	**Grafenberg Arr**	**149.55**	**336**	*e*PKP	PKPdf	03 01 18.7	-2.1
GRF	**Grafenberg Arr**	**149.55**	**336**	*e*PKIKP	PKPdf	03 01 18.7	-2.1
TORD	**Torodi Ar. Bea**	**166.81**	**223**	PKPab	PKPab	03 02 43.6	-1.2
	comp=Z,2.9nm,0.9s,baz=123,slow=3.5,SNR=12						

MOS ***17*** *02:59:58.0±1.2, 5099N×159.12E, h12km, mb4.2/19, Error ellipse: s-maj=14.0km s-min=5.4km az=90.2*
KRSC ***17*** *03:00:00.3±0.3, 5090N×159.48E, h40km±13km, ML4.6*
ISCJB ***17*** *03:00:01.3±0.3, 5098N±0.03×159.34E±0.05, h36km, mb4.2/35, MS3.9/3, Error ellipse: s-maj=4.9km s-min=3.6km az=47.0*
BJI ***17*** *03:00:01.1, 5051N×159.15E, h41km, mB4.8, mb4.3, Ms4.3, Msz4.1*
NEIC ***17*** *03:00:04.0±0.4, 51.13N×159.10E, mb4.2/11, Error ellipse: s-maj=11.4km s-min=7.9km az=142.0*
IDC ***17*** *03:00:04.5±0.7, 51.16N×159.07E, h37km±3km, mb3.8/19, mb1 4.0/19, mb1mx3.9/24, mbtmp4.0/19, ML4.4/1, Error ellipse: s-maj=18.2km s-min=11.3km az=169.0*
NAO ***17*** *03:00:14.9, 5331N×161.41E, h33km, mb4.2*
ISC 17 03:00:03.3±0.3, 5102N±0.03×15926E±0.05, h38km, h38km±.9km: pP-P, n128, σ1$18/139, mb4.2/35, MS3.9/3, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.49**	**342**	P	**Pn**	**03 00 26.0**	**-1.6**
RUS				S	**Sn**	**03 00 44.2**	**-1.7**
RUS	**Russkaya**	**1.49**	**342**	*i* P	**Pn**	**03 00 26.1**	**-1.5**
PAU

MDJ	**Mudanjiang**	**20.84**	**264**	P	**P**	**03 04 40.5**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,87nm,3.9s						
MJAR	**Matsushiro Arr**	**20.88**	**234**	P	**P**	**03 04 43.7**	**+1.6**
	comp=Z,4.8nm,0.9s,baz=28,slow=10,SNR=8.6						
MJAR	**Matsushiro Arr**	**20.88**	**234**	P	**P**	**03 04 43.7**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAJO	**Matsushiro**	**20.88**	**234**	*e*P	**P**	**03 04 44.4**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**20.88**	**234**	*e*P	**P**	**03 04 44.4**	**+2.3**
	comp=Z,13nm,0.9s						
TIXI	**Tiksi**	**24.78**	**338**	*e*P	**P**	**03 05 19.3**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,135nm,13.0s,MS3.6						
HIA	**Hailar**	**25.18**	**282**	*e*P	**P**	**03 05 24.1**	**-1.0**
HIA	**Hailar**	**25.18**	**282**	*e*P	**P**	**03 05 22.9**	**-2.3**
	comp=Z,7.8nm,0.6s,mb4.4						
BOD	**Bodaibo**	**26.77**	**302**	*e*P	**P**	**03 05 37.2**	**-2.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.6						
ILAR	**Eielson Array**	**30.67**	**43**	P	**P**	**03 06 14.0**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.7,baz=251,slow=7.5,SNR=13						
ILAR				pP	pP	03 06 24.5	-0.4
	comp=Z,1.0nm,0.8s,baz=242,slow=6.7,SNR=7.3						
ILAR	**Eielson Array**	**30.67**	**43**	P	**P**	**03 06 14.0**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	**Ulaanbaatar**	**33.51**	**285**	*e*P	**P**	**03 06 38.0**	**-1.1**
SONM	**Songino Array**	**33.92**	**286**	P	**P**	**03 06 42.9**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=78,slow=6.6,SNR=2.9						
HHC	**Hu-ho-hao-te**	**34.15**	**272**	*e*P	**P**	**03 06 45.3**	**+0.7**
HHC				AP	pP	03 06 54.5	-0.9
HHC				XP	sP	03 06 58.9	-1.1
HHC				PP	PP	03 07 58.3	-4.0
HHC				PCP	PcP	03 09 23.4	+2.3
HHC				S	**S**	**03 12 07.6**	**-0.6**
HHC				XS	sS	03 12 23.3	-2.8
HHC				SCP	ScP	03 13 02.8	-0.2
HHC				SCS	ScS	03 17 05.1	-0.1
HHC				AMB	AMB		
	comp=Z,272nm,6.0s						
HHC				LR	LR		
	comp=N,211nm,16.8s,MS4.1						
HHC				LR	LR		
	comp=E,233nm,15.6s,MS4.1						
HHC				LR	LR		
	comp=Z,201nm,15.6s,MS4.0						
SSE	**Sheshan**	**34.41**	**249**	P	**P**	**03 06 41.4**	**-5.5**
SSE				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,292nm,5.1s						
NJ2	**Nanjing**	**35.13**	**253**	*e*P	**P**	**03 06 50.1**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
INK	**Inuvik**	**35.84**	**36**	P	**P**	**03 07 00.3**	**+1.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=291,slow=7.0,SNR=16						
INK	**Inuvik**	**35.84**	**36**	*e*P	**P**	**03 06 59.6**	**+0.3**
INK				*e*	pP	03 07 09.4	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**35.84**	**36**	*e*P	**P**	**03 06 59.6**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
INK				*e*	pP	03 07 09.4	-0.6
GTA	**Gaotai**	**42.36**	**278**	P	**P**	**03 07 53.3**	**-0.4**
GTA				AP	pP	03 08 04.8	+0.2
GTA				XP	sP	03 08 08.5	-0.7
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.6						
YKA	**Yellowknife Ar**	**45.06**	**41**	P	**P**	**03 08 16.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.5,baz=298,slow=7.8,SNR=12						
YKA				pP	pP	03 08 26.8	+0.4
	comp=Z,0.5nm,0.7s,baz=298,slow=7.3,SNR=6.1						
YKA	**Yellowknife Ar**	**45.06**	**41**	P	**P**	**03 08 16.1**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**45.06**	**41**	P	**P**	**03 08 16.1**	**+0.7**
YKA				pP	pP	03 08 26.8	+0.4
CD2	**Chengdu**	**45.27**	**266**	*e*P	**P**	**03 08 17.5**	**+0.4**
CD2				PP	PP	03 10 03.4	0.0
CD2				S	**S**	**03 14 53.5**	**-1.3**
CD2				SS	SS	03 18 06.5	-12
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,70nm,4.9s						
CD2				LR	LR		
	comp=E,140nm,11.2s						
CD2				LR	LR		
	comp=Z,130nm,10.8s,MS4.1						
RES	**Resolute Bay**	**45.45**	**21**	*e*P	**P**	**03 08 18.6**	**+0.1**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
RES	**Resolute Bay**	**45.45**	**21**	*e*P	**P**	**03 08 18.6**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.9						
GYA	**Guiyang**	**46.57**	**259**	P	**P**	**03 08 27.3**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi**	**47.20**	**291**	P	**P**	**03 08 33.0**	**+0.8**
WMQ				XP	sP	03 08 47.0	-0.8
WMQ				PP	PP	03 10 23.0	-0.3
WMQ				S	**S**	**03 15 21.0**	**-1.4**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**48.42**	**303**	⇓*i*P	**P**	**03 08 39.9**	**-1.8**
KURK	**Kurchatov**	**48.42**	**303**	*e*P	**P**	**03 08 38.9**	**-2.8**
	comp=Z,2.9nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**48.62**	**297**	P	**P**	**03 08 41.8**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=61,slow=7.3,SNR=35						
MKAR	**Makanchi Array**	**48.62**	**297**	P	**P**	**03 08 41.8**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.30**	**309**	P	**P**	**03 09 01.5**	**-2.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=58,slow=7.1,SNR=7.7						
BVAR	**Borovoye Array**	**51.30**	**309**	P	**P**	**03 09 01.5**	**-2.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**52.01**	**310**	*e*P	**P**	**03 09 06.7**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**52.01**	**310**	*e*P	**P**	**03 09 06.7**	**-2.2**
	comp=Z,1.2nm,0.8s,mb3.9						
ARU	**Arti**	**54.59**	**318**	*e*P	**P**	**03 09 26.0**	**-1.8**
ARCES	**ARCESS Array B**	**55.11**	**342**	P	**P**	**03 09 30.2**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=45,slow=9.0,SNR=5.2						
ARCES	**ARCESS Array B**	**55.11**	**342**	P	**P**	**03 09 30.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FCC	**Fort Churchill**	**55.44**	**37**	*e*P	**P**	**03 09 34.4**	**+0.5**
FCC				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
FCC	**Fort Churchill**	**55.44**	**37**	*e*P	**P**	**03 09 34.4**	**+0.5**
	comp=Z,5.7nm,0.8s,mb4.7						
FCC				*e*pP	pP	03 09 45.4	+0.2
BW06	**Boulder Array**	**59.01**	**59**	*e*P	**P**	**03 10 00.6**	**+1.4**
	comp=Z,0.7nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**59.01**	**59**	P	**P**	**03 10 00.9**	**+1.8**
	comp=Z,0.6nm,0.7s,mb3.7,baz=317,slow=2.6,SNR=7.0						
PDAR				pP	pP	03 10 11.8	+1.2
	comp=Z,0.6nm,0.8s,baz=307,slow=5.4,SNR=4.2						
JOF	**Joensuu**	**59.24**	**335**	*e*p	**P**	**03 10 00.1**	**-0.6**
KAF	**Kangasniemi**	**61.20**	**337**	*e*p	**P**	**03 10 12.7**	**-1.4**
FINES	**FINESS Array B**	**61.83**	**337**	P	**P**	**03 10 17.5**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.2,baz=77,slow=6.3,SNR=8.7						
FINES	**FINESS Array B**	**61.83**	**337**	P	**P**	**03 10 17.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**65.39**	**344**	P	**P**	**03 10 41.6**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**65.39**	**344**	P	**P**	**03 10 41.9**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=21,slow=6.6,SNR=9.5						
NOA				pP	pP	03 10 52.7	-0.7
	comp=Z,3.2nm,0.7s,baz=21,slow=6.7,SNR=5.4						
NOA	**NORSAR Array B**	**65.39**	**344**	P	**P**	**03 10 41.9**	**0.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**65.77**	**342**	P	**P**	**03 10 43.4**	**-0.9**
	comp=Z,1.9nm,0.5s,mb4.4,baz=46,slow=6.4,SNR=12						
HFS				pP	pP	03 10 54.6	-1.3
	comp=Z,2.6nm,0.5s,baz=46,slow=6.4,SNR=2.9						
HFS	**Hagfors**	**65.77**	**342**	P	**P**	**03 10 43.4**	**-1.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**70.13**	**329**	P	**P**	**03 11 10.9**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=31,slow=6.1,SNR=19						
AKASG				pP	pP	03 11 21.8	-1.6
	comp=Z,2.5nm,0.6s,baz=30,slow=6.2,SNR=7.6						
AKASG	**Malin Array Be**	**70.13**	**329**	P	**P**	**03 11 11.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**73.02**	**350**	P	**P**	**03 11 29.5**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=18,slow=5.1,SNR=4.6						
EKA				pP	pP	03 11 42.0	+1.2
	comp=Z,1.4nm,0.5s,baz=16,slow=5.3,SNR=2.4						
EKA	**Eskdalemuir Ar**	**73.02**	**350**	P	**P**	**03 11 29.5**	**+0.4**
EKA				*PP	pP	03 11 42.0	+1.2
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KWP	**Kalwaria**	**73.10**	**332**	*e*P	**P**	**03 11 30.2**	**+0.6**
KWP				*e*PP	pP	03 11 40.7	-0.5
KWP				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
KWP	**Kalwaria**	**73.10**	**332**	*e*P	**P**	**03 11 30.1**	**+0.6**
	comp=Z,21nm,0.9s,mb5.1						
KWP				*e*pP	pP	03 11 40.7	-0.5
STHS	**Stebnicka Huta**	**73.72**	**333**	*e*P	**P**	**03 11 34.2**	**+1.0**
STHS				*e*pP	pP	03 11 45.3	+0.4
KOLS	**Kolonicke sedl**	**73.85**	**332**	*e*P	**P**	**03 11 34.4**	**+0.4**
KOLS				*e*	pP	03 11 43.9	-1.8
WRAB	**Tennant Creek**	**73.96**	**204**	*e*P	**P**	**03 11 33.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
WRAB	**Tennant Creek**	**73.96**	**204**	*e*P	**P**	**03 11 33.6**	**-1.1**
	comp=Z,10nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**73.97**	**204**	P	**P**	**03 11 36.3**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=17,slow=6.0,SNR=6.5						
WRA	**Warramunga Arr**	**73.97**	**204**	P	**P**	**03 11 36.3**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLL	**Collm**	**74.11**	**339**	*i* P	**P**	**03 11 35.4**	**-0.2**
CLL				*i* pP	pP	03 11 46.4	-0.8
	comp=Z,15nm,1.3s						
UPC	**Upice**	**74.13**	**337**	*e*pP	pP	03 11 47.1	-0.2
UPC				*e*sP	sP	03 11 54.4	+2.7
OKC	**Ostrava-Krasne**	**74.19**	**335**	*e*pP	pP	03 11 45.2	-2.5
DPC	**Dobruska-Polom**	**74.20**	**336**	*e*P	**P**	**03 11 35.0**	**-1.1**
DPC				*e*pP	pP	03 11 47.5	-0.2
KECS	**Kecovo**	**74.77**	**333**	*e*P	**P**	**03 11 37.6**	**-1.8**
KECS				*e*		03 11 43.2	
PRU	**Pruhonice**	**74.97**	**337**	*e*P	**P**	**03 11 40.7**	**+0.1**
PRU				*e*pP	pP	03 11 51.9	-0.3
VYHS	**Vyhne**	**75.23**	**334**	*e*pP	pP	03 11 53.6	-0.1
SMOL	**Smolenice**	**75.59**	**335**	*e*pP	pP	03 11 56.4	+0.6
ZST	**Bratislava**	**75.97**	**335**	*e*pP	pP	03 11 58.5	+0.5
KHC	**Kasperske Hory**	**76.00**	**338**	*e*P	**P**	**03 11 47.4**	**+0.9**
KHC				*e*pP	pP	03 11 58.0	-0.2
GERES	**GERESS Array B**	**76.24**	**337**	P	**P**	**03 11 48.5**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=39,slow=5.7,SNR=12						
GERES				pP	pP	03 11 59.4	-0.1
	comp=Z,1.4nm,0.6s,baz=29,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**76.24**	**337**	P	**P**	**03 11 48.5**	**+0.7**
GERES				*PP	pP	03 11 59.4	-0.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**77.65**	**204**	P	**P**	**03 11 57.0**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=12,slow=5.1,SNR=5.9						
ASAR	**Alice Springs**	**77.65**	**204**	P	**P**	**03 11 57.0**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**77.89**	**320**	P	**P**	**03 11 57.7**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=47,slow=5.5,SNR=3.9						
BRTR				pP	pP	03 12 08.6	-0.2
	comp=Z,0.8nm,0.6s,baz=32,slow=1.8,SNR=3.5						
BRTR	**Keskin Array B**	**77.89**	**320**	P	**P**	**03 11 57.7**	**+0.6**
BRTR				*PP	pP	03 12 08.6	-0.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBA	**Koelnbreinsper**	**77.97**	**337**	⇑*i*P	**P**	**03 11 59.5**	**+1.9**
	comp=Z,7.7nm,0.7s,mb4.8						
DAVOX	**Davos**	**79.07**	**339**	P	**P**	**03 12 04.7**	**+1.1**
	comp=Z,3.3nm,0.6s,mb4.4,baz=30,slow=6.5,SNR=6.1						
DAVOX				pP	pP	03 12 16.9	+1.6
	comp=Z,2.6nm,0.5s,baz=346,slow=8.2,SNR=3.5						
DAVOX	**Davos**	**79.07**	**339**	P	**P**	**03 12 04.7**	**+1.1**
DAVOX				pP	pP	03 12 16.9	+1.6

GUC 17 03:06:33.2±0.8, 3126S×7167W, h28km±4km, MD4.2, ML3.6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.57**	**132**	⇑*i*P	Pb	03 06 44.6	-0.1
ILCH				*i* S	Sb	03 06 52.7	+0.3
ILCH				AMP		03 06 53.1	
	comp=N,6μm,0.2s						
CMCH	**Combarbala**	**0.58**	**82**	⇑*i*P	Pb	03 06 44.6	-0.1
CMCH				*i* S	Sb	03 06 53.1	+0.5
CMCH				AMP		03 06 53.9	
	comp=N,6μm,0.5s						
PACH	**Papudo**	**1.29**	**171**	⇑*i*P	Pn	03 06 55.7	+0.3
JACH	**Jahuel**	**1.69**	**148**	*i* P	Pn	03 07 02.4	+1.6
JACH				*i* S	Sn	03 07 24.1	+2.6
ROCH	**El Roble**	**1.80**	**162**	*i* P	Pn	03 07 04.4	+2.1
PEL	**Peldehue**	**2.06**	**156**	⇑*i*P	Pn	03 07 07.4	+1.5
PEL				*i* S	Sn	03 07 33.3	+2.8
PEL				AMP		03 07 36.9	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**2.34**	**162**	*e*P	Pn	03 07 10.6	+0.8
RCDM				*i* S	Sn	03 07 38.6	+1.0
RCDM				AMP		03 07 48.7	
	comp=E,311nm,0.4s						
FCH	**Farellones**	**2.37**	**151**	*e*P	Pn	03 07 12.0	+1.9
FCH				*i* S	Sn	03 07 42.3	+4.0
FCH				AMP		03 07 50.8	
	comp=E,230nm,0.2s						
TACH	**Talagante**	**2.47**	**166**	*e*P	Pn	03 07 12.7	+1.2
PCH	**Pirque**	**2.55**	**158**	*i* P	Pn	03 07 14.0	+1.4

IDC 17 03:15:53.8±9.7, 2083S×17284E, h45km±64km, mb3.7/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=129.9km s-min=71.6km az=168.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.09**	**257**	P	Pn	03 17 21.3	+0.1
	1.5nm,0.3s,baz=111,slow=19,SNR=13						
DZM				S	Sn	03 18 30.3	+0.8
	3.0nm,0.3s,baz=132,slow=20,SNR=7.0						
STKA	**Stephens Creek**	**29.98**	**242**	P	P	03 21 58.2	+0.3
	2.2nm,0.7s,baz=110,slow=8.0,SNR=3.5						
WRA	**Warramunga Arr**	**36.05**	**264**	P	P	03 22 51.7	+0.9
	0.3nm,0.4s,baz=96,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**36.08**	**258**	P	P	03 22 50.6	-0.5
	1.5nm,0.9s,baz=89,slow=8.6,SNR=5.5						

*ISCJB **17** 03:25:55.6±0.7, 3440N±004×14028E±006, h88km±6km, mb3.5/2, Error ellipse: s-maj=8.0km s-min=5.8km az=135.3*
*JMA **17** 03:25:56.1±0.2, 3439N×14026E, h79km±2km, M3.0*
*IDC **17** 03:25:58.1±3.4, 3432N×14004E, h93km±15km, mb3.1/2, mb1 3.3/3, mb1mx3.0/19, mbtmp3.4/3, Error ellipse: s-maj=82.8km s-min=7.7km az=74.0*
ISC 17 03:25:56.6±0.7, 3439N±004×14027E±005, h82km±6km, n17, σ0§69/28, mb3.5/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.45**	**26**	P	**Pn**	**03 26 09.6**	**-0.5**
BSO3				*e*S	**Sn**	**03 26 20.6**	**+0.5**
BSO4	**Boso 4**	**0.60**	**5**	P	**Pn**	**03 26 11.2**	**-0.2**
BSO1	**Boso 1**	**0.64**	**66**	P	**Pn**	**03 26 11.0**	**-0.8**
BSO1				*e*S	**Sn**	**03 26 23.3**	**+0.2**
TATJ	**Tateyama 2**	**0.71**	**334**	P	**Pn**	**03 26 12.6**	**+0.1**
TATJ				*e*S	**Sn**	**03 26 25.4**	**+1.1**
KTR	**Katsuura**	**0.75**	**3**	*e*S	**Sn**	**03 26 25.0**	**-0.1**
JIM2	**Oshima 3**	**0.77**	**295**	P	**Pn**	**03 26 12.3**	**-0.8**
JIM2				*e*S	**Sn**	**03 26 24.2**	**-1.2**
JKO	**Kozu shima**	**0.96**	**258**	P	**Pn**	**03 26 15.5**	**+0.2**
KTJJ	**Kamata 2**	**1.13**	**298**	P	**Pn**	**03 26 16.6**	**-0.7**
KTJJ				*e*S	**Sn**	**03 26 31.5**	**-1.3**
JIZS	**Izushimoda**	**1.19**	**286**	*e*S	**Sn**	**03 26 34.4**	**+0.2**
JOD2	**Odawara 2**	**1.30**	**312**	P	**Pn**	**03 26 18.9**	**-0.6**
JOD2				*e*S	**Sn**	**03 26 35.8**	**-0.9**
JHJ2	**Mitsune**	**1.33**	**197**	P	**Pn**	**03 26 20.2**	**+0.4**
JHJ2				*e*S	**Sn**	**03 26 38.0**	**+0.6**
JHJ	**Hachijo jima 2**	**1.33**	**198**	P	**Pn**	**03 26 20.1**	**+0.2**
	26nm,0.3s,baz=23,slow=7.7,SNR=12						
JHJ				S	**Sn**	**03 26 37.5**	**+0.1**
	33nm,0.3s,baz=72,slow=20,SNR=16						
JYN	**Shimob**	**1.80**	**308**	P	**Pn**	**03 26 26.6**	**+0.8**
JYN				*e*S	**Sn**	**03 26 49.9**	**+1.9**
MJAR	**Matsushiro Arr**	**2.73**	**322**	P	**Pn**	**03 26 38.1**	**-0.1**
	2.9nm,0.3s,baz=157,slow=10.0,SNR=17						
MJAR				S	**Sn**	**03 27 11.0**	**+0.8**
	4.5nm,0.3s,baz=192,slow=31,SNR=9.6						
MAT	**Matsushiro**	**2.73**	**322**	P	**Pn**	**03 26 39.0**	**+0.8**
MAT				S	**Sn**	**03 27 10.3**	**0.0**
MKAR	**Makanchi Array**	**44.78**	**304**	P	**P**	**03 34 01.6**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=86,slow=8.9,SNR=5.6						
WRA	**Warramunga Arr**	**54.33**	**187**	P	**P**	**03 35 14.3**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=4.3,slow=7.7,SNR=16						

*NNC **17** 03:56:08.9±2.3, 3951N×7003E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=21.4km s-min=18.8km az=16.0*
*ISCJB **17** 03:56:10.1±3.5, 399N±03×699E±02, h10km, Error ellipse: s-maj=41.0km s-min=15.2km az=35.6*
ISC 17 03:56:12.2±3.2, 398N±02×700E±02, h10km, n9, σ1§03/10, 4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.31**	**6**	⇓Pn	**Pn**	**03 57 06.8**	**+2.7**
	3.4nm,0.4s,baz=184,slow=13,SNR=78						
KK31				Pg	**Pg**	**03 57 15.0**	**-0.6**
	6.2nm,0.3s,baz=185,slow=14,SNR=20						
KK31				⇓Lg		03 58 02.5	
	5.4nm,0.3s,baz=182,slow=32,SNR=10						
AML	**Almayashu**	**3.61**	**49**	P	**Pn**	**03 57 06.9**	**-1.2**
	SNR=18						
UCH	**Uchtor**	**4.16**	**53**	P	**Pn**	**03 57 15.8**	**+0.1**
	SNR=7.6						
AAK	**Ala-Archa**	**4.39**	**49**	P	**Pn**	**03 57 17.8**	**-1.0**
	SNR=5.9						
KZA	**Kyzart**	**4.55**	**58**	P	**Pn**	**03 57 21.0**	**-0.1**
	SNR=10						
USP	**Ospenovka**	**4.81**	**43**	P	**Pn**	**03 57 25.4**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**5.21**	**52**	P	**Pn**	**03 57 31.7**	**+1.6**
	SNR=9.7						
TKM2	**Tokmak 2**	**5.21**	**52**	⇓Pn	**Pn**	**03 57 30.5**	**+0.3**
	4.4nm,0.5s						
TKM2				⇓Lg		03 59 00.4	
	5.9nm,0.6s						
AB31	**Akbulak array**	**11.87**	**326**	P	**Pn**	**03 59 01.0**	**-0.5**
	0.5nm,0.3s,baz=162,slow=9.3,SNR=35						

*IDC **17** 03:56:30.5±1.8, 3127S×17699W, h0km, mb3.9/2, mb1 4.2/5, mb1mx4.0/14, mbtmp4.0/5, ML4.0/3, Error ellipse: s-maj=42.1km s-min=25.5km az=98.0*
*NEIC **17** 03:56:30.1±1.9, 3134S×176.76W, h10km, mb4.3/1, Error ellipse: s-maj=39.3km s-min=11.7km az=97.0*
*ISCJB **17** 03:56:33.7±3.3, 3124S±007×177.1W±05, h33km, mb4.0/3, Error ellipse: s-maj=55.9km s-min=8.1km az=12.3*
ISC 17 03:56:30.2±3.5, 314S±01×1763W±05, h35km, n11, σ0§93/10, mb4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.56**	**325**	Pn	**Pn**	**03 57 07.7**	**-1.4**
	111nm,0.3s,baz=90,slow=19,SNR=2.9						
RAO				Sn	**Sn**	**03 57 30.6**	**-8.4**
	404nm,0.3s,baz=117,slow=22,SNR=6.2						
URZ	**Urewera**	**8.78**	**217**	Pn	**Pn**	**03 58 33.4**	**-1.1**
	0.6nm,0.3s,baz=359,slow=17,SNR=4.4						
URZ				Sn	**Sn**	**04 00 12.2**	**0.0**
	3.5nm,0.3s,baz=136,slow=22,SNR=12						
RPZ	**Rata Peaks**	**15.89**	**216**	Pn	**Pn**	**04 00 10.8**	**-0.3**
	0.9nm,0.3s,baz=86,slow=5.1,SNR=4.4						
RPZ	**Rata Peaks**	**15.89**	**216**	Pn	**Pn**	**04 00 10.8**	**-0.3**
ASAR	**Alice Springs**	**44.56**	**267**	P	**P**	**04 04 39.7**	**+1.1**
	1.1nm,0.7s,mb3.8,baz=104,slow=7.3,SNR=13						
WB2	**Warramunga Arr**	**45.63**	**272**	*e*P	**P**	**04 04 48.4**	**+1.3**
WRAB	**Tennant Creek**	**45.64**	**272**	P	**P**	**04 04 46.8**	**-0.4**
	1.1nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**45.64**	**272**	P	**P**	**04 04 48.0**	**+0.8**
	1.3nm,0.5s,mb4.1,baz=111,slow=8.0,SNR=44						
KAF	**Kangasniemi**	**145.96**	**341**	*e*p	PKPdf	04 16 05.1	-0.1
FINES	**FIN

EGRA Lg 05 05 45.3
0.8nm,0.1s,SNR=7.9
SJPF Ste Jean 0.89 276 *e*Pg **Pg 05 05 35.1 0.0**
SJPF *e*Sg **Sg 05 05 46.7 0.0**
SALF Salau 0.93 107 Pg **Pg 05 05 35.9 -0.1**
SALF Sg **Sg 05 05 48.3 +0.1**
SALF Salau 0.93 107 Pg **Pg 05 05 35.5 -0.5**
SALF Lg 05 05 48.2
IUSE Utxeti 1.12 266 Pg **Pg 05 05 39.0 -0.6**
0.6nm,0.1s,SNR=4.0
IUSE Lg 05 05 54.5
0.7nm,0.1s,SNR=4.0
IUSE Utxeti 1.12 266 Pg **Pg 05 05 42.2 +2.6**
0.6nm,0.1s,SNR=4.0
ESAC San Caprasio 1.35 194 Pg **Pg 05 05 44.6 +0.6**
6.7nm,0.2s,SNR=7.9
ESAC Lg 05 06 03.0
14nm,0.2s,SNR=7.9
ESAC San Caprasio 1.35 194 Pg **Pg 05 05 44.6 +0.7**
6.7nm,0.2s,SNR=7.9
EMIR Miracle 1.60 134 Pg **Pg 05 05 48.8 +0.1**
1.0nm,0.1s,SNR=7.9
EMIR Lg 05 06 10.1
4.0nm,0.2s,SNR=7.9
EMIR Miracle 1.60 134 Pg **Pg 05 05 48.8 +0.1**
1.0nm,0.1s,SNR=7.9
MTLF Montolieu 1.67 79 *e*Pg **Pg 05 05 49.9 -0.1**
MTLF *e*Sg **Sg 05 06 11.7 0.0**
2.8nm,0.3s
MTLF Montolieu 1.67 79 *e*Pg **Pg 05 05 49.9 -0.1**
MTLF *e*Sg **Sg 05 06 11.7 0.0**
1.4nm,0.3s
EPOB Poblet 1.87 154 Pg **Pg 05 05 52.9 -0.9**
0.4nm,0.1s,SNR=7.9
EPOB Lg 05 06 17.2
0.9nm,0.1s,SNR=7.9
EPOB Poblet 1.87 154 Pg **Pg 05 05 52.9 -0.9**
0.4nm,0.1s,SNR=7.9
LFF La Frestale 1.99 16 *e*Pg **Pg 05 05 56.0 -0.1**
LFF *e*Sg **Sg 05 06 21.9 0.0**
7.1nm,0.3s
LFF La Frestale 1.99 16 *e*Pg **Pg 05 05 56.0 -0.1**
LFF *e*Sg **Sg 05 06 21.9 0.0**
3.5nm,0.3s
ERTA Horta de San J 2.09 173 Pg **Pg 05 05 57.9 -0.2**
0.2nm,0.1s,SNR=7.9
ERTA Lg 05 06 24.0
1.0nm,0.2s,SNR=7.9
ERTA Horta de San J 2.09 173 Pg **Pg 05 05 57.9 -0.2**
0.2nm,0.1s,SNR=7.9
RJF Les Rejaudoux 2.53 25 *e*Sg **Sg 05 06 38.6 -0.6**
2.6nm,0.2s
RJF Les Rejaudoux 2.53 25 *e*Sg **Sg 05 06 38.6 -0.6**
1.3nm,0.2s
EMOS Mosqueruela 2.69 187 Pg **Pg 05 06 08.5 -0.9**
0.3nm,0.2s,SNR=4.0
EMOS Lg 05 06 41.6
0.3nm,0.2s,SNR=7.9

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*IDC **17** 05:06:20.9±0.9, 2266S×17283E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.3/13, mbtmp4.2/7, ML3.9/1, MS3.9/10, Ms1 3.9/10, ms1mx3.8/18, Error ellipse: s-maj=44.8km s-min=21.7km az=166.0*
*ISCJB **17** 05:06:27.4±2.6, 226S±02×1726E±0.1, h53km±19km, mb4.6/11, MS4.0/7, Error ellipse: s-maj=28.7km s-min=14.5km az=56.2*
*NEIC **17** 05:06:28.0±2.0, 2252S×17275E, h48km±15km, mb4.8/8, Error ellipse: s-maj=19.8km s-min=13.7km az=213.0*

ISC 17 05:06:27.7±2.3, 225S±01×1728E±01, h44km±17km, n34, σ1§09/22, mb4.6/11, MS4.0/7, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.86**	**273**	Pn	**Pn**	**05 07 51.8**	**-0.2**
	3.0nm,0.3s,baz=100,slow=23,SNR=25						
DZM				Sn	**Sn**	**05 08 58.6**	**+0.8**
	1.1nm,0.3s,baz=158,slow=22,SNR=2.5						
DZM	**Mont Dzumac**	**5.86**	**273**	*e*P	**Pn**	**05 07 52.5**	**+0.5**
DZM				*e*S	**Sn**	**05 08 58.9**	**+1.1**
NOUC	**Port Laguerre**	**5.99**	**273**	*e*P	**Pn**	**05 07 54.0**	**+0.2**
NOUC				*e*S	**Sn**	**05 08 58.2**	**-2.8**
RAO	**Raoul Island**	**10.76**	**131**	LR	LR	05 12 06.4	
	comp=Z,430nm,18.9s,baz=73,slow=33						
URZ	**Urewera**	**16.15**	**168**	Pn	**Pn**	**05 10 11.4**	**-0.2**
	0.5nm,0.3s,baz=68,slow=3.8,SNR=7.1						
URZ				LR	LR	05 14 43.0	
	comp=Z,672nm,20.4s,baz=284,slow=31						
AFI	**Afiamalu**	**16.99**	**62**	LR	LR	05 14 12.4	
	comp=Z,70nm,21.5s,baz=249,slow=28						
RPZ	**Rata Peaks**	**21.21**	**183**	LR	LR	05 18 06.2	
	comp=Z,715nm,18.2s,MS4.1,baz=354,slow=34						
CNB	**Canberra Magne**	**24.06**	**233**	*e*P	**P**	**05 11 40.6**	**+1.8**
	36nm,1.1s,mb4.7						
CTA	**Charters Tower**	**24.80**	**271**	*e*P	**P**	**05 11 47.2**	**+1.7**
	5.8nm,0.9s,mb4.1						
CTA	**Charters Tower**	**24.80**	**271**	P	**P**	**05 11 47.2**	**+1.8**
	4.4nm,0.8s,mb4.1,baz=103,slow=12,SNR=7.2						
CTA				LR	LR	05 20 09.7	
	comp=Z,130nm,21.1s,MS3.4,baz=234,slow=33						
CTAO	**Charters Tower**	**24.80**	**271**	*e*P	**P**	**05 11 47.1**	**+1.6**
	10nm,1.0s,mb4.3						
PMG	**Port Moresby**	**27.78**	**294**	LR	LR	05 20 33.9	
	comp=Z,39nm,19.3s,MS3.0,baz=73,slow=31						
STKA	**Stephens Creek**	**29.16**	**245**	*e*P	**P**	**05 12 22.6**	**-2.1**
	4.7nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**29.16**	**245**	P	**P**	**05 12 22.7**	**-2.0**
	3.7nm,0.7s,mb4.2,baz=86,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**35.69**	**260**	P	**P**	**05 13 21.7**	**0.0**
	7.9nm,0.9s,mb4.7,baz=84,slow=8.8,SNR=63						
WB2	**Warramunga Arr**	**35.83**	**267**	*e*P	**P**	**05 13 22.3**	**-0.6**
WRAB	**Tennant Creek**	**35.83**	**267**	*e*P	**P**	**05 13 22.5**	**-0.5**
	13nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**35.84**	**267**	P	**P**	**05 13 21.7**	**-1.4**
	3.1nm,0.7s,mb4.3,baz=103,slow=8.1,SNR=34						
FITZ	**Fitzroy Crossi**	**44.27**	**267**	⇑*i*P	**P**	**05 14 34.0**	**+1.1**
	29nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**49.02**	**261**	*e*P	**P**	**05 15 10.6**	**+0.5**
	34nm,1.3s,mb5.2						
KLBR	**Kellerberrin**	**49.38**	**247**	*e*P	**P**	**05 15 12.4**	**-0.4**
	23nm,1.1s,mb5.1						
VNDA	**Vanda**	**55.33**	**183**	LR	LR	05 34 02.6	
	comp=Z,464nm,20.4s,MS4.5,baz=339,slow=30						
MJAR	**Matsushiro Arr**	**67.17**	**330**	LR	LR	05 44 45.0	
	comp=Z,111nm,19.5s,MS4.1,baz=320,slow=34						
SONM	**Songino Array**	**91.79**	**322**	P	**P**	**05 19 31.4**	**+0.6**
	0.2nm,0.3s,mb3.9,baz=145,slow=5.4,SNR=2.3						
ILAR	**Eielson Array**	**92.39**	**16**	P	**P**	**05 19 32.9**	**-0.7**
	0.8nm,0.8s,mb4.1,baz=237,slow=4.8,SNR=14						
ILAR				LR	LR	05 57 45.2	
	comp=Z,114nm,19.1s,MS4.3,baz=357,slow=33						
PLCA	**Paso Flores**	**93.92**	**137**	LR	LR	05 53 02.9	
	comp=Z,139nm,18.7s,MS4.5,baz=176,slow=30						
BDFB	**Brasilia**	**124.95**	**130**	PKP	PKPdf	05 25 23.2	+0.3
	3.1nm,0.7s,baz=202,slow=3.2,SNR=6.0						
LSZ	**Lusaka**	**128.87**	**226**	PKP	PKPdf	05 25 32.3	+1.9
	1.2nm,0.6s,baz=158,slow=0.8,SNR=4.9						
TSUM	**Tsumeb**	**131.97**	**212**	PKP	PKPdf	05 25 37.8	+1.5
	3.2nm,0.9s,baz=153,slow=2.3,SNR=4.2						
EKA	**Eskdalemuir Ar**	**147.07**	**356**	PKPbc	PKPbc	05 26 05.2	-0.5
	1.3nm,0.6s,baz=5.5,slow=2.6,SNR=6.5						
BRG	**Berggiesshubel**	**147.21**	**335**	*e*P	PKPdf	05 26 11.5	+7.7
CLL	**Collm**	**147.22**	**336**	*e*P	PKPdf	05 26 06.0	+2.2
CLL				*ex*	x	05 26 12.0	
GERES	**GERESS Array B**	**148.89**	**333**	PKPbc	PKPbc	05 26 10.2	-0.4
	1.3nm,0.9s,baz=58,slow=3.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**167.40**	**224**	PKP	PKPdf	05 26 30.1	+1.3
	1.7nm,1.1s,baz=55,slow=0.8,SNR=5.1						
TORD				PKPab	PKPab	05 27 33.7	-0.5
	1.1nm,1.1s,baz=73,slow=2.2,SNR=3.3						

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*IDC **17** 05:21:42.7±2.5, 1585S×173.10W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/16, mbtmp4.0/5, MS3.5/4, Ms1 3.5/4, ms1mx3.3/25, Error ellipse: s-maj=132.0km s-min=22.1km az=141.0*
*NEIC **17** 05:21:44.1±2.1, 1579S×17308W, h10km, mb4.4/2, Error ellipse: s-maj=106.0km s-min=14.7km az=140.0*
*ISCJB **17** 05:21:46.2±2.2, 156S±07×1732W±05, h33km, mb4.2/6, MS3.5/2, Error ellipse: s-maj=121.0km s-min=13.2km az=106.0*

ISC 17 05:21:50.0±2.4, 150S±07×1735W±06, h35km, n16, σ1§18/12, mb4.2/6, MS3.5/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**58**	Pn	**Pn**	**05 22 20.2**	**-1.1**
	21nm,0.3s,baz=211,slow=20,SNR=12						
AFI				Sn	**Sn**	**05 22 42.6**	**-2.5**
	63nm,0.3s,baz=237,slow=23,SNR=16						
AFI				LR	LR	05 22 56.5	
	comp=Z,296nm,21.2s,baz=151,slow=32						
AFI				T		05 24 42.5	
	24nm,0.3s,baz=85,slow=17,SNR=2.5						
AFI	**Afiamalu**	**2.00**	**58**	Pn	**Pn**	**05 22 20.2**	**-1.1**
AFI				Sn	**Sn**	**05 22 42.6**	**-2.5**
AFI				LR	LR	05 22 56.5	
RAR	**Rarotonga**	**14.48**	**117**	LR	LR	05 28 36.6	
	comp=Z,344nm,18.3s,baz=224,slow=30						
DZM	**Mont Dzumac**	**20.25**	**247**	LR	LR	05 32 42.3	
	comp=Z,140nm,21.0s,MS3.3,baz=176,slow=32						
PPT	**Papeete**	**23.14**	**100**	*e*LR	LR	05 31 59.1	
	134nm,26.0s						
TBI	**Tubuai**	**24.19**	**114**	*e*LR	LR	05 32 28.1	
	154nm,24.8s						
HNR	**Honiara**	**26.49**	**279**	LR	LR	05 36 52.8	
	comp=Z,180nm,19.2s,MS3.6,baz=181,slow=34						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**05 29 50.9**	**-4.2**
	2.6nm,0.7s,mb4.1,baz=107,slow=7.6,SNR=5.8						
STKA	**Stephens Creek**	**44.14**	**240**	*e*P	**P**	**05 29 50.5**	**-4.6**
WB2	**Warramunga Arr**	**49.81**	**256**	*e*P	**P**	**05 30 39.2**	**-0.1**
WRAB	**Tennant Creek**	**49.81**	**256**	P	**P**	**05 30 40.3**	**+0.9**
	1.9nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**49.82**	**256**	P	**P**	**05 30 39.3**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=93,slow=7.0,SNR=35						
ASAR	**Alice Springs**	**50.12**	**252**	P	**P**	**05 30 41.3**	**-0.4**
	4.2nm,0.6s,mb4.7,baz=87,slow=8.3,SNR=53						
MBWA	**Marble Bar**	**63.36**	**254**	P	**P**	**05 32 16.0**	**+0.3**
	1.9nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**05 34 07.7**	**+1.1**
	0.5nm,0.9s,mb3.4,baz=247,slow=4.6,SNR=4.0						
BRTR	**Keskin Array B**	**145.74**	**321**	PKPbc	PKPbc	05 41 27.8	+2.6
	2.0nm,0.9s,baz=114,slow=1.9,SNR=11						

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*ISCJB **17** 06:04:23.5±1.5, 1151N±006×62.12W±004, h111km±13km, Error ellipse: s-maj=9.5km s-min=7.0km az=161.0*
*NEIC **17** 06:04:23.2, 1152N×62.17W, h113km, MD3.2(TRN), After TRN.*
*FUNV **17** 06:04:23.0, 1156N×6206W, h119km, MW3.2*
*TRN **17** 06:04:23.2, 1152N×62.17W, h113km, MD3.2*

ISC 17 06:04:23.9±1.5, 1152N±006×6212W±004, h112km±13km, n10, σ0§57/19, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.78**	**35**	*e*P	**Pn**	**06 04 44.2**	**+1.1**
GRW				*e*S	**Sn**	**06 04 56.8**	**-0.7**
GUIV	**Guiria**	**0.87**	**187**	*e*P	**Pn**	**06 04 44.0**	**+0.2**
GUIV				*e*S	**Sn**	**06 04 58.9**	**-0.1**
ITEV	**Isla Los Testi**	**1.00**	**261**	*e*P	**Pn**	**06 04 44.9**	**-0.3**
ITEV				*e*S	**Sn**	**06 05 01.6**	**+0.3**
TRN	**Trinidad (W)**	**1.11**	**141**	*e*P	**Pn**	**06 04 46.5**	**+0.1**
TRN				*e*S	**Sn**	**06 05 02.8**	**-0.6**
TPR	**Prospect**	**1.36**	**104**	*e*P	**Pn**	**06 04 48.5**	**-0.6**
TPR				*e*S	**Sn**	**06 05 09.3**	**+1.1**
TPP	**Pointe-a-Pierr**	**1.36**	**151**	*e*P	**Pn**	**06 04 49.8**	**+0.6**
TPP				*e*S	**Sn**	**06 05 07.7**	**-0.6**
CRUV	**Carupano**	**1.38**	**233**	*e*P	**Pn**	**06 04 49.0**	**-0.3**
CRUV				*e*S	**Sn**	**06 05 08.9**	**+0.3**
BOT	**Bacolet**	**1.42**	**104**	*e*P	**Pn**	**06 04 48.8**	**-1.0**
TBH	**Brigand Hill**	**1.46**	**135**	*e*P	**Pn**	**06 04 50.1**	**-0.1**
TBH				*e*S	**Sn**	**06 05 10.9**	**+0.7**
GUNV	**Guanoco**	**1.57**	**211**	*e*P	**Pn**	**06 04 51.6**	**0.0**
GUNV				*e*S	**Sn**	**06 05 12.5**	**-0.1**

GUC 17 06:26:23.1±1.0, 3140S×7172W, h24km±4km, ML3.8, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.53**	**117**	⇑*i*P	Pb	06 26 33.9	+0.1
ILCH				*i* S	Sb	06 26 41.6	+0.6
CMCH	**Combarbala**	**0.66**	**70**	⇑*i*P	Pb	06 26 35.6	-0.3
CMCH				*i* S	Sb	06 26 44.9	+0.2
CMCH				AMP		06 26 46.3	
	comp=E,8μm,0.6s						
JACH	**Jahuel**	**1.60**	**143**	⇓*i*P	Pn	06 26 51.5	+1.7
JACH				*i* S	Sn	06 27 12.5	+2.7
IHA	**Instituto Hidr**	**1.63**	**178**	*i* P	Pn	06 26 50.4	+0.2
ROCH	**El Roble**	**1.68**	**159**	⇑*i*P	Pn	06 26 52.2	+1.2
PEL	**Peldehue**	**1.95**	**153**	*e*P	Pn	06 26 55.5	+0.8
PEL				*i* S	Sn	06 27 21.2	+2.8
PEL				AMP		06 27 25.6	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.23**	**160**	*e*P	Pn	06 26 59.4	+0.9
RCDM				*i* S	Sn	06 27 27.0	+1.8
RCDM				AMP		06 27 38.1	
	comp=E,526nm,0.6s						
FCH	**Farellones**	**2.28**	**148**	*e*P	Pn	06 27 00.8	+1.6
FCH				*i* S	Sn	06 27 30.3	+3.9
FCH				AMP		06 27 37.0	
	comp=E,428nm,0.2s						
TACH	**Talagante**	**2.35**	**164**	⇑*i*P	Pn	06 27 01.5	+1.4
ANTU	**Antumapu**	**2.35**	**157**	*i* P	Pn	06 27 01.9	+1.6
ANTU				*i* S	Sn	06 27 30.3	+2.0
ANTU				AMP		06 27 39.0	
	comp=E,559nm,0.6s						
PCH	**Pirque**	**2.44**	**156**	⇓*i*P	Pn	06 27 03.2	+1.7
CHCH	**Chadas Angostu**	**2.69**	**161**	*e*P	Pn	06 27 06.3	+1.5
CHCH				*i* S	Sn	06 27 39.3	+2.7
LMEL	**Las Melosas**	**2.76**	**153**	*i* P	Pn	06 27 07.8	+2.0
LMEL				*i* S	Sn	06 27 41.3	+2.9
LMEL				AMP		06 27 52.1	
	comp=N,431nm,0.6s						
CICH	**Cipreses**	**3.12**	**160**	*i* P	Pn	06 27 12.6	+2.0

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*NIED **17** 06:45:00, 4340N×14680E, h44km, Mw4.2 Best double couple: M0=2.59000×10^15 NP1:φ0=71.00000°, δ76.00000°, λ124.00000°. NP2:φ0=181.00000°, δ37.00000°, λ24.00000°.*
*ISCJB **17** 06:45:39.7±0.8, 4342N±005×14694E±007, h49km±7km, mb4.1/20, Error ellipse: s-maj=10.1km s-min=6.4km az=99.8*
*MOS **17** 06:45:40.8±1.1, 4354N×14679E, h55km, mb4.5/15, Error ellipse: s-maj=17.3km s-min=11.2km az=87.9*
*SKHL **17** 06:45:40.2±0.0, 4342N×14707E, h47km±8km, mb4.9/3*
*JMA **17** 06:45:40.7±0.2, 4335N×14683E, h40km±3km, M4.3*
*IDC **17** 06:45:44.6±3.1, 4354N×14677E, h74km±28km, mb3.8/15, mb1 4.0/17, mb1mx3.9/23, mbtmp4.2/17, MS3.0/1, Ms1 3.0/1, ms1mx2.7/27, Error ellipse: s-maj=18.4km s-min=14.5km az=145.0*
*NAO **17** 06:45:44.0, 4411N×14640E, h33km, mb4.3*
*BJI **17** 06:45:44.7, 4345N×14709E, h136km, mB4.7, mb4.6*
*NEIC **17** 06:45:48.8±1.7, 4350N×14690E, h114km±18km, mb4.5/4, Error ellipse: s-maj=15.9km s-min=10.0km az=153.0*

ISC 17 06:45:40.6±0.8, 4346N±006×14695E±006, h41km±7km, n66, σ1§12/77, mb4.1/20, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.88**	**264**	P	**Pn**	**06 45 55.6**	**-0.9**
NEM2				*e*S	**Sn**	**06 46 06.7**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**0.97**	**306**	⇓*i*P	**Pn**	**06 45 57.5**	**-0.2**
YUK				AMB	AMB	06 45 58.2	
	8μm,0.6s						
YUK				AMB	AMB	06 45 58.4	
	1μm,0.4s						
YUK				AMB	AMB	06 45 58.4	
	2μm,0.4s						
YUK				AMB	AMB	06 45 58.4	
	6μm,0.4s						
YUK				*e*S	**Sn**	**06 46 10.5**	**+0.2**
YUK				A		06 46 15.8	
	11μm,0.4s						
YUK				A		06 46 15.8	
	6μm,0.4s						
YUK				A		06 46 20.0	
	18μm,0.8s						
YUK				A		06 46 20.0	
	12μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**306**	*i* PN	**Pn**	**06 45 57.5**	**-0.2**
YUK				*e*S	**Sn**	**06 46 10.5**	**+0.2**
YUK				pmax	pmax		
	comp=Z,8μm,0.6s						
YUK				pmax	pmax		
	comp=Z,6μm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				smax			
	comp=N,11μm,0.4s						
YUK				smax			
	comp=E,6μm,0.5s						
YUK				smax			
	comp=N,18μm,0.8s						
YUK				smax			
	comp=E,12μm,0.8s						
JRA	**Rausu**	**1.40**	**290**	P	**Pn**	**06 46 04.0**	**+0.3**
AKK	**Akkeshi**	**1.60**	**255**	*e*P	**Pn**	**06 46 05.5**	**-0.8**
JNK	**Nakash**	**1.62**	**275**	P	**Pn**	**06 46 06.2**	**-0.5**
JNK				*e*S	**Sn**	**06 46 25.4**	**-0.9**
JAK	**Akkeshi**	**1.71**	**255**	P	**Pn**	**06 46 07.2**	**-0.6**
JAK				*e*S	**Sn**	**06 46 26.2**	**-2.2**
KUR	**Kuril'sk**	**1.89**	**20**	*i* P	**Pn**	**06 46 09.5**	**-0.8**
KUR				*ex*	rx	06 46 09.7	
KUR				AMB	AMB	06 46 11.6	
	comp=E,70nm,0.5s						
KUR				AMB	AMB	06 46 11.6	
	comp=E,90nm,0.5s						
KUR				AMB	AMB	06 46 11.6	
	comp=E,230nm,0.5s						
KUR				*e*S	**Sn**	**06 46 31.5**	**-1.4**
KUR				A		06 46 34.9	
	comp=E,730nm,0.4s						
KUR				A		06 46 34.9	
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**1.89**	**20**	⇓*i*PN	**Pn**	**06 46 09.5**	**-0.8**
KUR				*e*S	**Sn**	**06 46 31.5**	**-1.4**
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,730nm,0.4s						
KUR				smax			
	comp=E,1μm,0.4s						
JTKR	**Abashiri--Toko**	**2.26**	**284**	P	**Pn**	**06 46 16.6**	**+1.2**
JTKR				*e*S	**Sn**	**06 46 43.9**	**+1.9**
JAR	**Ashorobuto**	**2.32**	**267**	P	**Pn**	**06 46 16.5**	**+0.3**
JAR				*e*S	**Sn**	**06 46 42.6**	**-0.9**
JOB	**Onbets**	**2.34**	**257**	P	**Pn**	**06 46 16.8**	**+0.3**
KNP	**Kunneppu**	**2.37**	**278**	*e*P	**Pn**	**06 46 17.8**	**+0.9**
JMP	**Maruseppu**	**2.66**	**283**	P	**Pn**	**06 46 22.0**	**+1.2**
JCH	**Churui**	**2.76**	**253**	P	**Pn**	**06 46 22.7**	**+0.4**
MYR	**Moyori**	**2.93**	**248**	*e*P	**Pn**	**06 46 25.7**	**+1.0**
ASAJ	**Asahikawa**	**3.21**	**283**	P	**Pn**	**06 46 30.4**	**+1.9**
	comp=E,6.3nm,0.3s,baz=92,slow=19,SNR=14						
ASAJ				S	**Sn**	**06 47 14.8**	**+9.2**
	comp=E,14nm,0.3s,baz=314,slow=17,SNR=6.2						
ASAJ				LR	LR	06 48 04.6	
	comp=E,225nm,19.3s,baz=323,slow=46						
YSS	**Yuzh-Sakhalins**	**4.58**	**321**	⇓*e*P	**Pn**	**06 46 50.0**	**+2.8**
YSS				*ex*	rx	06 47 10.0	
YSS				*ex*	rx	06 47 19.0	
YSS				*e*S	**Sn**	**06 47 42.8**	**+3.7**
YSS				A		06 47 47.5	
	comp=E,30nm,0.7s						
SKR	**Severo-Kuril's**	**9.55**	**38**	*e*P	**Pn**	**06 47 53.4**	**-2.1**
MAJO	**Matsushiro**	**9.62**	**227**	*e*PN	**Pn**	**06 48 04.0**	**+7.5**
FX1	**Attu Island--F**	**19.76**	**52**	P	**Pn**	**06 50 10.3**	**+1.6**
	comp=E,4.3nm,0.3s,baz=11,slow=0.9,SNR=15						
FX1	**Attu Island--F**	**19.76**	**52**	P	**Pn**	**06 50 10.3**	**+1.5**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	**Attu Island--F**	**19.76**	**52**	*e*P	**Pn**	**06 50 10.4**	**+1.7**
ULN	**Ulaanbaatar**	**28.00**	**293**	P	**P**	**06 51 30.5**	**+3.0**
ULN				pmax	pmax		
	comp=E,5.0nm,1.2s,mb4.0						
ULN	**Ulaanbaatar**	**28.00**	**293**	P	**P**	**06 51 30.5**	**+3.0**
	comp=Z,4.8nm,1.2s,mb4.0						
SONM	**Songino Array**	**28.45**	**293**	P	**P**	**06 51 31.6**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=86,slow=8.9,SNR=12						
SONM	**Songino Array**	**28.45**	**293**	P	**P**	**06 51 31.6**	**+0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**29.61**	**349**	*e*P	**P**	**06 51 45.7**	**+3.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
CD2	**Chengdu**	**36.23**	**264**	*e*P	**P**	**06 52 39.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
TTA	**Tatalina**	**37.75**	**39**	*e*P	**P**	**06 52 53.8**	**+1.4**
TTA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
TTA	**Tatalina**	**37.75**	**39**	*e*P	**P**	**06 52 53.8**	**+1.4**
	comp=Z,6.0nm,0.9s,mb4.3						
KDAK	**Kodiak Island**	**39.55**	**47**	P	**P**	**06 53 07.5**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.2,baz=256,slow=7.4,SNR=4.6						
KDAK	**Kodiak Island**	**39.55**	**47**	P	**P**	**06 53 07.5**	**0.0**
COLA	**College**	**41.39**	**36**	P	**P**	**06 53 24.1**	**+1.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
COLA	**College**	**41.39**	**36**	P	**P**	**06 53 24.1**	**+1.4**
	comp=Z,8.7nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**41.81**	**36**	P	**P**	**06 53 25.6**	**-0.5**
	comp=Z,2.3nm,0.8s,mb3.9,baz=264,slow=6.2,SNR=30						
ILAR	**Eielson Array**	**41.81**	**36**	P	**P**	**06 53 25.6**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**06 53 48.0**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=80,slow=8.9,SNR=17						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**06 53 48.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**06 53 48.0**	**-0.6**
INK	**Inuvik**	**46.73**	**30**	P	**P**	**06 54 06.2**	**+0.8**
	comp=Z,4.5nm,0.4s,mb4.8,baz=290,slow=6.7,SNR=115						
INK	**Inuvik**	**46.73**	**30**	P	**P**	**06 54 06.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
INK	**Inuvik**	**46.73**	**30**	*e*P	**P**	**06 54 06.3**	**+0.9**
	comp=Z,7.3nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**56.12**	**34**	P	**P**	**06 55 16.3**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=298,slow=6.8,SNR=38						
YKA	**Yellowknife Ar**	**56.12**	**34**	P	**P**	**06 55 16.3**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**56.12**	**34**	P	**P**	**06 55 16.3**	**+0.6**
**ARCES

KHC	Kasperske Hory	79.14 331	eP	P	06 57 41.0 +0.2

CSEM ***17*** *07:09:43.0, 3621N×2316E, h3km, MD3.5/4, After ATH*
NEIC ***17*** *07:09:43.0, 3621N×2316E, h3km, MD3.5(ATH), After ATH.*

ATH 17 07:09:43.0, 3621N×2316E, h3km, MD3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.12	305	ePG	Pg	07 09 45.5	+0.1
VLI	Veliai	0.54	341	ePG	Pg	07 09 53.5	+0.2
VLI				eSG	Sg	07 10 00.7	+0.4
VAM	Vamos	1.17	133	ePN	Pn	07 10 06.1	-0.1
VAM				eSB	Sb	07 10 20.7	-0.6
ITM	Ithomi	1.39	315	ePB	Pb	07 10 09.1	-0.4

IDC ***17*** *07:19:45.4±1.4, 204N×129.19E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, Error ellipse: s-maj=131.4km s-min=19.0km az=70.0*
ISCJB ***17*** *07:19:49.5±0.9, 19N±02×1287E±04, h33km, mb4.2/6, Error ellipse: s-maj=56.6km s-min=14.0km az=144.0*
NEIC ***17*** *07:19:49.7±0.8, 193N×12892E, mb4.2/2, Error ellipse: s-maj=50.2km s-min=12.6km az=72.0*

ISC 17 07:19:51.8±0.9, 18N±01×1286E±03, h35km, n11, σ0§84/11, mb4.2/6, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.99	188	eP	Pn	07 24 22.5	-0.5
	3.1nm,0.6s						
WRAB	Tennant Creek	22.33	166	eP	P	07 24 47.2	+0.9
	18nm,0.7s,mb4.6						
WRAB				epP		07 24 52.6	
WRA	Warramunga Arr	22.33	166	P	P	07 24 46.8	+0.4
	11nm,0.7s,mb4.4,baz=345,slow=10.0,SNR=86						
WB2	Warramunga Arr	22.34	166	eP	P	07 24 47.1	+0.7
ASAR	Alice Springs	25.84	169	P	P	07 25 20.1	+0.2
	1.6nm,0.7s,mb3.7,baz=11,slow=10.0,SNR=20						
STKA	Stephens Creek	35.69	161	∥iP	P	07 26 44.3	-2.4
	6.5nm,0.5s,mb4.8						
STKA	Stephens Creek	35.69	161	P	P	07 26 44.0	-2.7
	11nm,0.6s,mb5.0,baz=339,slow=8.2,SNR=28						
STKA	Stephens Creek	35.69	161	∥iP	P	07 26 44.3	-2.4
STKA				epP	pP	07 26 52.3	-4.6
ARMA	Armidale	38.85	147	eP	P	07 27 13.3	-0.2
SONM	Songino Array	49.72	341	P	P	07 28 40.3	-0.1
	0.6nm,0.9s,mb3.6,baz=152,slow=8.2,SNR=4.0						
MKAR	Makanchi Array	60.19	325	P	P	07 29 56.4	+0.3
	0.7nm,0.5s,mb4.0,baz=116,slow=8.4,SNR=7.9						

IDC ***17*** *07:24:03.5±1.5, 520S×15277E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/15, mbtmp3.9/8, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=61.0km s-min=21.4km az=124.0*
ISCJB ***17*** *07:24:08.6±4.6, 52S±02×1525E±03, h39km±39km, mb3.9/8, Error ellipse: s-maj=58.9km s-min=24.2km az=76.3*
NEIC ***17*** *07:24:10.5±3.6, 528S×15267E, h47km±30km, mb4.2/1, Error ellipse: s-maj=49.1km s-min=22.3km az=120.0*

ISC 17 07:24:10.2±4.1, 53S±02×1527E±03, h44km±36km, n11, σ0§76/10, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.83	233	Pn	Pn	07 25 48.2	+0.4
	1.4nm,0.3s,baz=72,slow=9.2,SNR=3.9						
PMG				Sn	Sn	07 27 03.6	-0.6
	1.3nm,0.3s,baz=96,slow=3.3,SNR=5.2						
CTA	Charters Tower	16.00	202	LR	LR	07 32 58.8	
	comp=Z,84nm,20.4s,baz=220,slow=33						
WRA	Warramunga Arr	23.03	229	P	P	07 29 10.9	-0.6
	1.4nm,0.9s,mb3.4,baz=53,slow=9.8,SNR=6.3						
ASAR	Alice Springs	25.71	223	P	P	07 29 37.5	+1.2
	0.9nm,0.8s,mb3.4,baz=60,slow=8.1,SNR=9.5						
SONM	Songino Array	66.63	328	P	P	07 34 56.5	+0.4
	0.4nm,0.5s,mb3.7,baz=148,slow=5.3,SNR=4.5						
BILL	Bilibino	73.76	5	eP	P	07 35 40.1	+0.3
	2.4nm,0.7s,mb4.2						
MKAR	Makanchi Array	80.57	319	P	P	07 36 19.0	+1.1
	0.9nm,0.8s,mb3.7,baz=103,slow=5.2,SNR=7.4						
ILAR	Eielson Array	82.64	22	P	P	07 36 27.8	-1.1
	1.8nm,0.9s,mb4.1,baz=247,slow=5.3,SNR=23						
BVAR	Borovoye Array	89.52	323	P	P	07 37 01.7	-1.1
	0.9nm,0.5s,mb4.4,baz=106,slow=5.3,SNR=8.6						
YKA	Yellowknife Ar	95.90	28	P	P	07 37 32.1	-0.1
	0.3nm,0.7s,mb3.9,baz=271,slow=4.9,SNR=11						
TORD	Torodi Ar. Bea	150.31	287	PKPbc	PKPbc	07 43 57.0	+0.5
	0.9nm,0.9s,baz=20,slow=4.9,SNR=3.8						

IDC ***17*** *07:37:44.8±1.4, 3659N×352E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, ML4.5/1, Error ellipse: s-maj=33.7km s-min=28.5km az=112.0*
CRAAG ***17*** *07:37:45.6, 3655N×350E, Ml4.0*
CSEM ***17*** *07:37:45.6±0.1, 3666N×352E, h15km, ML3.7/7, Error ellipse: s-maj=2.3km s-min=1.7km az=12.0*
ISCJB ***17*** *07:37:46.4±0.3, 3686N±002×348E±002, h10km, mb3.3/3, Error ellipse: s-maj=3.3km s-min=2.8km az=39.6*
MDD ***17*** *07:37:46.5±0.3, 3659N×356E, h0km, mb4.5/25, Error ellipse: s-maj=4.2km s-min=3.8km az=29.0, PRXIMO*
NEIC ***17*** *07:37:48.8, 3679N×348E, h0km, MG4.5(MDD), After MDD.*
SFS ***17*** *07:37:48.0, 3679N×348E, h0km, ML4.5*
LDG ***17*** *07:37:50.5±0.3, 3666N×356E, h20km, Ml3.6/13, Error ellipse: s-maj=6.4km s-min=3.1km az=150.0*

ISC 17 07:37:47.8±0.3, 3682N±002×351E±002, h10km, n124, σ1§57/184, mb3.3/3, 1C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.07	197	P	Pg	07 37 50.3	+0.3
ABA	Alger-Bouzarea	0.38	267	P	Pg	07 37 55.2	-0.1
ADJB	Djebel Djouab	0.67	185	P	Pg	07 37 54.2	-6.5
EMHD	Djebel Mahouad	0.76	216	P	Pg	07 37 57.2	-5.3
AKF	Akfadou	0.87	102	P	Pg	07 38 01.7	-2.9
SET	Setif	1.65	112	P	Pn	07 38 14.0	-2.7
EBNR	Beni Rached	1.68	252	P	Pn	07 38 17.0	-0.2
CKHR	Kef el Ahmar	1.81	116	P	Pn	07 38 16.7	-2.2
ECHA	Ech Chlef	1.85	249	P	Pn	07 38 20.0	+0.4
ECHF	Ech Chlef	1.87	250	P	Pn	07 38 20.0	+0.2
DFRA	Djebel Bou Aff	1.93	98	P	Pn	07 38 18.4	-2.2
EANR	'Ain N'Sour	2.13	247	P	Pn	07 38 21.5	-1.9
CMER	Merouana	2.28	121	P	Pn	07 38 27.0	+1.6
ETRT	Tiaret	2.29	232	P	Pn	07 38 23.0	-2.6
CTEI	Djebel Teioual	2.46	107	P	Pn	07 38 29.0	+1.1
CASM	Ain Smara	2.47	102	P	Pn	07 38 32.5	+4.5
CKFL	Kef-Lekhel	2.62	98	P	Pn	07 38 34.0	+3.9
CAEH	'Ain El Ouahch	2.68	90	P	Pn	07 38 29.0	-2.0
EIBI	Ibiza	2.79	323	P	Pn	07 38 33.3	+0.9
	32nm,0.2s,SNR=22						
EIBI				S	Sn	07 39 05.7	-0.4
	79nm,0.3s						
EIBI				T		07 40 39.0	
	SNR=4.0						
EIBI	Ibiza	2.79	323	P	Pn	07 38 33.3	+0.8
	32nm,0.2s,SNR=22						
EIBI				S	Sn	07 39 05.9	-0.2
EIBI	Ibiza	2.79	323	P	Pn	07 38 33.5	+1.1
EIBI				S	Sn	07 39 05.9	-0.2
ETOS	Mallorca	2.99	350	P	Pn	07 38 36.3	+1.1
	21nm,0.4s,SNR=29						
ETOS				S	Sn	07 39 11.9	+0.7
	31nm,0.3s						
ETOS				T		07 40 50.4	
	SNR=4.0						
ETOS	Mallorca	2.99	350	P	Pn	07 38 36.2	+1.0
ETOS				S	Sn	07 39 11.9	+0.7
	31nm,0.3s						
ETOS	Mallorca	2.99	350	P	Pn	07 38 36.2	+1.0
ETOS				S	Sn	07 39 10.7	-0.4
MAHO	Mahon	3.13	11	P	Pn	07 38 37.8	+0.7
MAHO				S	Sn	07 39 13.0	-1.5
MAHO	Mahon	3.13	11	eP	Pn	07 38 37.8	+0.7
MAHO				eS	Sn	07 39 13.0	-1.5
CMAH	Djebel Manchou	3.15	92	P	Pn	07 38 35.5	-1.9
ABSA	Djebel Ababsia	3.24	99	P	Pn	07 38 36.5	-2.2
CABS	Djebel Ababsia	3.24	99	P	Pn	07 38 36.5	-2.2
EBEN	Beniarda	3.50	304	P	Pn	07 38 42.5	+0.2
	5.5nm,0.2s,SNR=15						
EBEN				S	Sn	07 39 23.4	-0.4
	21nm,0.4s,SNR=7.9						
EBEN				T		07 41 05.8	
	SNR=4.0						
EBEN	Beniarda	3.50	304	P	Pn	07 38 42.5	+0.2
	5.5nm,0.2s,SNR=15						
EBEN				S	Sn	07 39 23.4	-0.4
	21nm,0.4s,SNR=7.9						
CART	Cartagena	3.68	283	ePn	Pn	07 38 42.6	-2.1
CART	Cartagena	3.68	283	ePn	Pn	07 38 42.6	-2.1
EMUR	La Murta	3.92	286	P	Pn	07 38 48.6	+0.6
	29nm,0.5s,SNR=5.2						
EMUR				S	Sn	07 39 32.8	-1.3
	17nm,0.4s						
EMUR	La Murta	3.92	286	P	Pn	07 38 48.6	+0.6
	29nm,0.5s,SNR=5.2						
EMUR				S	Sn	07 39 32.8	-1.2
	17nm,0.4s						
ETOB	Tobarra	4.40	296	P	Pn	07 38 55.7	+1.1
	68nm,0.4s,SNR=42						
ETOB				S	Sn	07 39 45.2	-0.7
	33nm,0.4s,SNR=5.2						
ETOB	Tobarra	4.40	296	P	Pn	07 38 55.7	+1.1
	68nm,0.4s,SNR=42						
ETOB				S	Sn	07 39 45.2	-0.7
	33nm,0.4s,SNR=5.2						
ECHE	Chera	4.48	309	⇑P	Pn	07 38 57.5	+1.8
	26nm,0.3s,SNR=18						
ECHE				S	Sn	07 39 48.9	+1.1
	10nm,0.6s						
ECHE	Chera	4.48	309	P	Pn	07 38 57.5	+1.8
	26nm,0.3s,SNR=18						
ECHE				S	Sn	07 39 46.8	-1.1
	10nm,0.6s						
EBR	Ebro Roquetas	4.63	330	ePG	Pg	07 39 17.5	+0.9
EBR				eSNSN		07 40 06.0	
EBR				eS*	Sb	07 40 10.0	+5.0
EMOS	Mosqueruela	4.71	320	∥P	Pn	07 38 60.0	+1.1
	17nm,0.2s,SNR=18						
EMOS				S	Sn	07 39 53.3	-0.3
	25nm,0.5s						
EMOS	Mosqueruela	4.71	320	P	Pn	07 39 00.0	+1.1
	17nm,0.2s,SNR=18						
EMOS				S	Sn	07 39 53.3	-0.4
	25nm,0.5s						
ERTA	Horta de San J	4.81	330	P	Pn	07 39 01.4	+1.1
	11nm,0.4s,SNR=7.9						
ERTA				S	Sn	07 39 54.9	-1.2
	6.4nm,0.2s,SNR=7.9						
ERTA	Horta de San J	4.81	330	P	Pn	07 39 01.5	+1.2
ERTA	Horta de San J	4.81	330	P	Pn	07 39 01.5	+1.2
EPOB	Poblet	4.90	338	P	Pn	07 39 02.1	+0.6
	6.9nm,0.3s,SNR=11						
EPOB				S	Sn	07 39 57.0	-1.3
	6.9nm,0.3s						
EPOB	Poblet	4.90	338	P	Pn	07 39 02.1	+0.6
	6.9nm,0.3s,SNR=11						
EHUE	Huescar	4.96	283	P	Pn	07 39 02.6	+0.2
	4.9nm,0.4s,SNR=7.9						
EHUE				S	Sn	07 39 58.9	-0.9
	4.7nm,0.3s,SNR=7.9						
EVIA	Vianos	5.10	293	P	Pn	07 39 04.6	+0.4
	18nm,0.6s,SNR=7.9						
EVIA				S	Sn	07 40 01.6	-1.5
	9.9nm,0.4s,SNR=7.9						
EBER	Berja	5.13	273	P	Pn	07 39 04.3	-0.3
	2.7nm,0.2s,SNR=6.2						
EBER				S	Sn	07 40 01.5	-2.4
	4.0nm,0.3s						
EBER	Berja	5.13	273	P	Pn	07 39 04.3	-0.3
	2.7nm,0.2s,SNR=6.2						
EBER				S	Sn	07 40 01.5	-2.4
	4.0nm,0.3s						
EMIR	Miracle	5.31	344	P	Pn	07 39 09.5	+2.4
	39nm,0.4s,SNR=28						
EMIR				S	Sn	07 40 08.0	-0.4
	38nm,0.3s						
EMIR	Miracle	5.31	344	P	Pn	07 39 09.5	+2.4
	39nm,0.4s,SNR=28						
EQES	Quesada	5.33	283	P	Pn	07 39 08.7	+1.2
	21nm,0.4s,SNR=9.4						
EQES				S	Sn	07 40 07.5	-1.5
	14nm,0.3s,SNR=7.9						
EQES	Quesada	5.33	283	P	Pn	07 39 08.7	+1.2
	21nm,0.4s,SNR=9.4						
EQES				S	Sn	07 40 07.5	-1.4
	14nm,0.3s,SNR=7.9						
EQUE	Quentar	5.57	276	P	Pn	07 39 11.7	+1.0
	3.4nm,0.3s,SNR=8.0						
EQUE				S	Sn	07 40 13.3	-1.6
	6.6nm,0.3s,SNR=7.9						
EJON	La Jonquera	5.64	355	P	Pn	07 39 13.9	+2.3
	20nm,0.3s,SNR=19						
EJON				S	Sn	07 40 15.1	-1.3
	22nm,0.4s						
EJON	La Jonquera	5.64	355	P	Pn	07 39 13.9	+2.2
	20nm,0.3s,SNR=19						
EJON	La Jonquera	5.64	355	P	Pn	07 39 14.0	+2.3
ECOG	Cogollos-Vega	5.68	277	P	Pn	07 39 13.4	+1.2
	4.9nm,0.4s,SNR=7.9						
ECOG				S	Sn	07 40 15.3	-2.1
	5.6nm,0.4s,SNR=7.9						
ECOG	Cogollos-Vega	5.68	277	P	Pn	07 39 13.9	+1.7
	4.9nm,0.4s,SNR=7.9						
ESAC	San Caprasio	5.78	329	P	Pn	07 39 15.0	+1.4
	31nm,0.3s,SNR=7.9						
ESAC				S	Sn	07 40 20.0	0.0
	37nm,0.3s,SNR=7.9						
ESAC	San Caprasio	5.78	329	P	Pn	07 39 15.0	+1.4
	31nm,0.3s,SNR=7.9						
EGRA	Graus	5.91	336	P	Pn	07 39 17.3	+2.0
	3.6nm,0.3s,SNR=7.9						
EGRA				S	Sn	07 40 22.3	-0.8
	3.5nm,0.4s,SNR=7.9						
EBIE	Bielsa	6.40	337	P	Pn	07 39 24.2	+2.0
	6.8nm,0.4s,SNR=7.8						
EBIE				S	Sn	07 40 34.9	-0.4
	3.0nm,0.3s						
EBIE	Bielsa	6.40	337	P	Pn	07 39 24.2	+2.0
	6.8nm,0.4s,SNR=7.8						
ESDC	Sonseca Array	6.53	298	Pn	Pn	07 39 24.4	+0.5
	3.5nm,0.3s,baz=112,slow=13,SNR=6.6						
ESDC				Sn	Sn	07 40 46.3	+7.8
	1.7nm,0.3s,baz=114,slow=24,SNR=3.4						
ESDC	Sonseca Array	6.53	298	P	Pn	07 39 24.1	+0.2
	8.7nm,0.3s,baz=113,slow=13,SNR=7.9						
ESDC				S	Sn	07 40 35.8	-2.7
	4.2nm,0.5s,baz=114,slow=24,SNR=7.9						
ESDC	Sonseca Array	6.53	298	P	Pn	07 39 24.1	+0.2
	8.7nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	6.53	298	Pn	Pn	07 39 24.4	+0.5
ESLA	Sonseca Array	6.53	298	ePn	Pn	07 39 23.2	-0.7
ESLA	Sonseca Array	6.53	298	ePn	Pn	07 39 23.2	-0.7
EADA	Adamuz	6.57	284	P	Pn	07 39 23.7	-0.7
	1.2nm,0.2s,SNR=7.9						
EADA				S	Sn	07 40 35.6	-3.7
	7.0nm,0.4s,SNR=4.0						
EADA	Adamuz	6.57	284	P	Pn	07 39 23.7	-0.7
	1.2nm,0.2s,SNR=7.9						
MTLF	Montolieu	6.59	352	ePn	Pn	07 39 26.6	+2.0
MTLF				eSn	Sn	07 40 37.6	-2.2
	2.9nm,0.3s						
MTLF	Montolieu	6.59	352	P	Pn	07 39 26.6	+2.0
MTLF				S	Sn	07 40 37.6	-2.2
	1.4nm,0.3s						
EPF	Esparros	6.66	340	ePn	Pn	07 39 28.4	+2.7
EPF				eSn	Sn	07 40 39.3	-2.3
	9.2nm,0.4s						
EPF	Esparros	6.66	340	ePn	Pn	07 39 28.4	+2.7
EPF				eSn	Sn	07 40 39.3	-2.3
	4.6nm,0.4s						
ETSF	Etsaut	6.83	334	ePn	Pn	07 39 29.6	+1.6
ETSF				eSn	Sn	07 40 43.1	-2.6
	6.4nm,0.4s						
ETSF	Etsaut	6.83	334	ePn	Pn	07 39 29.6	+1.6
ETSF				eSn	Sn	07 40 43.1	-2.6
	3.2nm,0.4s						
LMR	La Mourre	6.90	19	ePn	Pn	07 39 29.0	+0.1
LMR				eSn	Sn	07 40 44.9	-2.6
	6.3nm,0.2s						
LMR	La Mourre	6.90	19	ePn	Pn	07 39 29.0	+0.1
LMR				eSn	Sn	07 40 44.9	-2.6
	3.2nm,0.2s						
GUD	Guadarrama	7.10	305	P	Pn	07 39 33.1	+1.4
	2.7nm,0.3s,SNR=7.9						
PGF	Pioggiola	7.12	35	ePn	Pn	07 39 31.9	0.0
PGF				eSn	Sn	07 40 48.0	-4.8
	16nm,0.4s						
PGF	Pioggiola	7.12	35	P	Pn	07 39 31.9	0.0
PGF				S	Sn	07 40 48.0	-4.8
	7.8nm,0.4s						
FRF	La Foret Royal	7.15	19	ePn	Pn	07 39 32.4	+0.1
FRF				eSn	Sn	07 40 50.6	-3.0
	15nm,0.3s						
FRF	La Foret Royal	7.15	19	ePn	Pn	07 39 32.4	+0.1
FRF				eSn	Sn	07 40 50.6	-3.0
	7.5nm,0.3s						
LASF	Ste Croix	7.25	2	ePn	Pn	07 39 35.0	+1.2
LASF				eSn	Sn	07 40 53.1	-3.1
	8.8nm,0.3s						
LASF	Ste Croix	7.25	2	P	Pn	07 39 35.0	+1.2
LASF				S	Sn	07 40 53.1	-3.1
	4.4nm,0.3s						
SJPF	Ste Jean	7.26	331	ePn	Pn	07 39 36.8	+2.9
SJPF				eSn	Sn	07 40 54.3	-2.0
	5.6nm,0.4s						
SJPF	Ste Jean	7.26	331	P	Pn	07 39 36.8	+2.9
SJPF				S	Sn	07 40 54.3	-2.0
	2.8nm,0.4s						
SMRF	Simiane la Rot	7.32	12	ePn	Pn	07 39 36.6	+1.9
SMRF				eSn	Sn	07 40 56.0	-1.8
	6.3nm,0.4s						
SMRF	Simiane la Rot	7.32	12	P	Pn	07 39 36.6	+1.9
SMRF				S	Sn	07 40 56.0	-1.8
	6.3nm,0.4s						
ECRI	Cripan	7.41	323	P	Pn	07 39 38.4	+2.4
	8.0nm,0.3s,SNR=7.9						
ELIZ	Elizondo	7.42	330	P	Pn	07 39 38.1	+2.1
	3.8nm,0.3s,SNR=7.9						
EALK	Alkurruntz	7.46	331	P	Pn	07 39 39.3	+2.7
	6.5nm,0.3s,SNR=7.9						
EALK				S	Sn	07 40 59.9	-1.3
	20nm,0.4s,SNR=7.9						
SBF	Sospel	7.64	22	eSn	Sn	07 41 02.9	-2.9
	9.0nm,0.2s						
SBF	Sospel	7.64	22	eSn	Sn	07 41 02.9	-2.9
	4.5nm,0.2s						
MDT	Midelt	7.78	241	Pn	Pn	07 39 38.3	-2.7
	0.2nm,0.3s,baz=79,slow=20,SNR=9.3						
VIVF	Saint-Julien-l	8.07	6	ePn	Pn	07 39 46.6	+1.5
VIVF				eSn	Sn	07 41 13.6	-2.8
	3.0nm,0.3s						
VIVF	Saint-Julien-l	8.07	6	P	Pn	07 39 46.6	+1.5
VIVF				S	Sn	07 41 13.6	-2.8
	1.5nm,0.3s						
CAF	Calviac	8.17	353	ePn	Pn	07 39 49.3	+2.9
EMIN	Mina Concepcio	8.17	280	P	Pn	07 39 46.9	+0.5
	1.4nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	8.17	280	P	Pn	07 39 46.9	+0.5
	1.4nm,0.4s,SNR=7.9						
MBDF	Montbardon	8.28	16	ePn	Pn	07 39 50.5	+2.7
MBDF				eSn	Sn	07 41 19.4	-1.9
	5.5nm,0.5s						
MBDF	Montbardon	8.28	16	P	Pn	07 39 50.5	+2.7
MBDF				S	Sn	07 41 19.4	-1.9
	2.8nm,0.5s						
ORIF	Oris-en-Rattie	8.29	12	eSn	Sn	07 41 18.7	-2.9
	2.5nm,0.3s						
ORIF	Oris-en-Rattie	8.29	12	S	Sn	07 41 18.7	-2.9
	1.2nm,0.3s						
ELAN	Lanestosa	8.32	322	P	Pn	07 39 50.5	+2.0
	2.7nm,0.3s,SNR=7.9						
ELAN	Lanestosa	8.32	322	P	Pn	07 39 49.0	+0.5
	2.7nm,0.3s,SNR=7.9						
EGRO	El Granado	8.80	278	P	Pn	07 39 53.6	-1.4
	1.3nm,0.3s,SNR=7.9						
LPL	La Plagne	9.02	15	ePn	Pn	07 39 59.8	+1.8
EARI	Arriondas	9.30	317	P	Pn	07 40 05.0	+3.2
	2.7nm,0.4s,SNR=14						
PBRG	Braganca	9.37	305	ePn	Pn	07 40 04.3	+1.5
ECAL	Calabor	9.43	306	P	Pn	07 40 04.9	+1.2
	34nm,0.4s,SNR=7.0						
TCF	Toulx Ste Croi	9.51	355	ePn	Pn	07 40 06.6	+1.9
BGF	Bois d'Agland	9.74	357	ePn	Pn	07 40 10.6	+2.7
AVF	Avril sur Loir	9.96	359	ePn	Pn	07 40 13.2	+2.2
ELOB	Lobios	10.28	303	P	Pn	07 40 16.9	+1.6
	1.4nm,0.3s,SNR=7.9						
QUIF	Quistinic	12.13	338	ePn	Pn	07 40 41.8	+1.2
ROSF	Rostrenen	12.54	339	ePn	Pn	07 40 47.2	+1.0
TORD	Torodi Ar. Bea	23.63	184	P	P	07 42 55.1	-4.1
	0.7nm,0.7s,mb3.2,baz=3.6,slow=9.6,SNR=4.5						
MKAR	Makanchi Array	57.26	53	P	P	07 47 35.3	-0.2
	0.3nm,0.6s,mb3.5,baz=288,slow=5.0,SNR=3.7						
YKA	Yellowknife Ar	69.33	334	P	P	07 48 54.6	-0.8
	0.2nm,0.6s,mb3.2,baz=51,slow=6.2,SNR=6.9						

ISCJB ***17*** *07:46:53.6±2.2, 2233N±009×1436E±01, h106km±18km, mb4.0/18, Error ellipse: s-maj=22.5km s-min=14.7km az=0.5*
MOS ***17*** *07:46:54.8±0.8, 2234N×14359E, h118km, mb4.3/3, Error ellipse: s-maj=31.2km s-min=15.4km az=105.6*
NEIC ***17*** *07:46:55.5±0.4, 2229N×14359E, mb4.1/3, Error ellipse: s-maj=15.2km s-min=11.2km az=90.0*
IDC ***17*** *07:46:56.4±0.8, 2240N×14353E, h112km±6km, mb3.7/15, mb1 3.9/16, mb1mx3.8/21, mbtmp4.1/16, MS3.9/2, Ms1 3.9/2, ms1mx2.9/31, Error ellipse: s-maj=17.6km s-min=12.1km az=85.0*

ISC 17 07:46:55.6±1.9, 2235N±009×1436E±01, h109km±15km, h112km±.5km: pP-P, n35, σ0§94/31, mb4.0/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.89	345	P	Pn	07 48 08.2	+1.4
	22nm,0.3s,baz=275,slow=19,SNR=15						
CBIJ				S	Sn	07 49 00.9	-1.5
	87nm,0.3s,baz=286,slow=23,SNR=14						
JNU	Nakatsue	15.53	316	LR	LR	07 56 05.6	
	comp=Z,798nm,20.7s,baz=175,slow=36						
HNR	Honiara	35.43	151	LR	LR	08 07 29.0	
	comp=Z,113nm,19.4s,baz=183,slow=35						
SONM	Songino Array	39.07	320	P	P	07 54 13.0	+1.1
	0.5nm,0.5s,mb3.6,baz=136,slow=6.9,SNR=6.3						
WRA	Warramunga Arr	42.99	193	P	P	07 54 44.1	+0.1
	0.4nm,0.3s,mb3.6,baz=12,slow=8.3,SNR=11						
ASAR	Alice Springs	46.69	192	P	P	07 55 13.7	+0.3
	0.3nm,0.4s,mb3.4,baz=11,slow=8.2,SNR=12						
STKA	Stephens Creek	53.95	182	P	P	07 56 06.0	-1.9
	0.9nm,0.5s,mb4.0,baz=29,slow=10,SNR=2.8						
MKAR	Makanchi Array	54.53

comp=Z,2.7nm,0.8s,mb4.0,baz=71,slow=9.1,SNR=6.8
ARCES ARCESS Array B 78.42 342 P P 07 58 44.4 +0.2
JOF Joensuu 79.89 335 ep P 07 58 52.9 +0.7
KAF Kangasniemi 82.29 335 ep P 07 59 00.3 -4.6
NVAR Mina Array Bea 82.46 52 P P 07 59 07.3 +1.5
comp=Z,1.8nm,0.7s,mb4.0,baz=278,slow=4.1,SNR=18
CHMT Chamberlain Mo 82.50 42 eP P 07 59 05.0 -1.0
FINES FINESS Array B 82.75 335 P P 07 59 06.3 -1.0
comp=Z,1.0nm,0.3s,mb4.1,baz=61,slow=4.7,SNR=19
FINES FINESS Array B 82.75 335 P P 07 59 06.3 -1.0
PDAR Pinedale Array 86.68 45 P P 07 59 28.1 +1.1
comp=Z,0.5nm,0.7s,mb3.6,baz=186,slow=0.4,SNR=5.9
AKASG Malin Array Be 87.19 325 P P 07 59 28.6 -0.9
comp=Z,0.6nm,0.4s,mb3.9,baz=49,slow=5.5,SNR=6.6
HFS Hagfors 88.27 337 P P 07 59 33.2 -1.5
comp=Z,2.0nm,0.8s,mb4.2,baz=72,slow=4.8,SNR=7.0
TORD Torodi Ar. Bea 128.61 310 PKP PKPdf 08 05 51.1 +1.3
comp=Z,1.0nm,1.2s,baz=144,slow=1.3,SNR=5.6
PLCA Paso Flores 145.91 130 PKPbc PKPbc 08 06 23.6 +1.3
comp=Z,1.7nm,0.6s,baz=216,slow=5.1,SNR=7.2
LPAZ La Paz 149.52 84 PKPbc PKPbc 08 06 34.5 +2.4
comp=Z,1.6nm,0.5s,baz=45,slow=0.9,SNR=9.5

*IDC **17** 07:46:43.7±5.0,3573N×7051E,h0km,mb3.6/2,mb1 3.7/4, mb1mx3.4/21,mbtmp3.7/4,ML3.6/2,MS3.0/1,Ms1 3.0/1, ms1mx2.6/24,Error ellipse: s-maj=86.4km s-min=40.8km az=6.0*
*NEIC **17** 07:46:57.5±1.8,3628N×7076E,h83km±24km,mb3.4/3, Error ellipse: s-maj=22.2km s-min=6.7km az=59.0*
*ISCJB **17** 07:47:00.2±1.0,3635N±005×709E±0.1,h136km±15km, mb3.4/2,Error ellipse: s-maj=15.9km s-min=4.7km az=130.7*
*NNC **17** 07:47:09.3±3.9,3695N×7065E,h146km±37km,mb3.2, mpv4.5,Error ellipse: s-maj=30.2km s-min=17.4km az=14.0*

ISC 17 07:47:01.3±1.0,3635N±005×709E±01,h134km±13km,n34, σ1°00/45,mb3.4/2,3C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.56**	**133**	*eP*	**Pn**	**07 48 21.9**	**0.0**
THN				*eS*	**Sn**	**07 49 24.1**	**-0.6**
DLH	**Dalhousie**	**5.63**	**131**	*eP*	**Pn**	**07 48 25.0**	**+2.1**
DLH				*eS*	**Sn**	**07 49 28.0**	**+1.5**
AML	**Almayashu** SNR=181	**6.16**	**20**	P	**Pn**	**07 48 30.1**	**+0.2**
UCH	**Uchtor** SNR=22	**6.50**	**24**	P	**Pn**	**07 48 34.5**	**0.0**
EKS2	**Erkin-Say** SNR=16	**6.68**	**18**	P	**Pn**	**07 48 37.2**	**+0.3**
KK31	**Karatay Array** 17nm,0.3s,baz=177,slow=12,SNR=421	**6.75**	**357**	⇓P	**Pn**	**07 48 37.4**	**-0.6**
KK31	3.5nm,0.3s,baz=182,slow=21,SNR=6.9			⇓S	**Sn**	**07 49 48.9**	**-4.6**
AAK	**Ala-Archa** SNR=13	**6.86**	**23**	P	**Pn**	**07 48 40.7**	**+1.4**
SDNR	**Sundarnagar**	**6.97**	**132**	*eP*	**Pn**	**07 48 41.5**	**+0.7**
SDNR				*eS*	**Sn**	**07 49 57.5**	**-1.2**
ULHL	**Ulahol** SNR=5.2	**7.19**	**33**	P	**Pn**	**07 48 44.4**	**+0.7**
CHMS	**Chumysh** SNR=9.5	**7.27**	**23**	P	**Pn**	**07 48 46.0**	**+1.2**
SMLA	**Simla**	**7.35**	**133**	*eP*	**Pn**	**07 48 46.2**	**+0.2**
SMLA				*eS*	**Sn**	**07 50 05.5**	**-2.5**
USP	**Ospenovka** SNR=7.5	**7.44**	**21**	P	**Pn**	**07 48 47.3**	**+0.2**
TKM2	**Tokmak 2** SNR=14	**7.49**	**27**	P	**Pn**	**07 48 47.7**	**-0.1**
TKM2	**Tokmak 2**	**7.49**	**27**	⇑S	**Sn**	**07 50 09.3**	**-1.8**
MK31	**Makanchi Array** 2.0nm,0.9s,baz=216,slow=11,SNR=13	**13.45**	**36**	P	**Pn**	**07 50 11.4**	**+4.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=218,slow=14,SNR=9.5	**13.45**	**36**	Pn	**Pn**	**07 50 05.4**	**-1.3**
KOLN	**Koldanda** 6.0nm,0.3s	**13.72**	**125**	*eP*	**Pn**	**07 50 09.5**	**-0.7**
KOLN				*eS*	**Sn**	**07 52 32.9**	**-8.9**
GKN	**Gorkha** 17nm,0.5s	**14.27**	**122**	*eP*	**Pn**	**07 50 16.5**	**-0.7**
GKN				*eS*	**Sn**	**07 52 45.2**	**-10**
DMN	**Daman** 5.0nm,0.3s	**14.84**	**122**	*eP*	**Pn**	**07 50 24.0**	**-0.4**
KKN	**Kakani**	**14.85**	**121**	*eP*	**Pn**	**07 50 24.5**	**0.0**
PKI	**Pulchoki**	**15.07**	**121**	*eP*	**Pn**	**07 50 27.8**	**+0.5**
AB31	**Akbulak array** 2.6nm,0.4s,baz=167,slow=11,SNR=166	**15.19**	**332**	⇑P	**Pn**	**07 50 28.1**	**-0.6**
AB31	4.2nm,0.8s,baz=150,slow=23,SNR=5.8			⇓S	**S**	**07 53 08.2**	**-16**
KURK	**Kurchatov** 1.9nm,0.6s	**15.39**	**19**	*e*Pn	**Pn**	**07 50 32.5**	**+1.2**
VOSK	**Vostochnaya** 7.5nm,2.0s	**16.37**	**0**	⇓P	**Pn**	**07 50 42.3**	**-1.0**
ZRNK	**Zerenda** 2.0nm,1.0s	**16.66**	**356**	⇓P	**Pn**	**07 50 45.8**	**-0.9**
ZRNK	**Zerenda** 1.1nm,0.5s	**16.66**	**356**	*eP*	**Pn**	**07 50 45.7**	**-1.0**
BVA0	**Borovoye Array** 1.6nm,2.6s,baz=167,slow=12,SNR=18	**16.68**	**359**	⇑P	**Pn**	**07 50 47.7**	**+0.6**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=169,slow=10,SNR=12	**16.68**	**359**	P	**Pn**	**07 50 47.4**	**+0.3**
BRVK	**Borovoye** 1.1nm,0.4s	**16.71**	**359**	*eP*	**Pn**	**07 50 46.8**	**-0.7**
AKTK	**Aktyubinsk**	**16.88**	**331**	Pn	**Pn**	**07 50 48.8**	**-0.7**
AKTK				Sn	**Sn**	**07 53 51.0**	**-6.8**
AKTO	**Aktyubinsk** 2.6nm,2.3s	**16.88**	**331**	⇓P	**Pn**	**07 50 50.2**	**+0.7**
AKTO	0.6nm,0.9s			⇓S	**S**	**07 53 49.9**	**-7.6**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=132,slow=12,SNR=9.3	**16.88**	**331**	Pn	**Pn**	**07 50 48.8**	**-0.7**
AKTO	0.3nm,0.3s,baz=172,slow=22,SNR=4.4			Sn	**Sn**	**07 53 51.0**	**-6.8**
SONM	**Songino Array** 0.1nm,0.4s,mb2.9,baz=260,slow=8.6,SNR=2.8	**28.47**	**55**	P	**P**	**07 52 46.4**	**+2.8**
ARCES	**ARCESS Array B** 2.1nm,0.9s,mb3.8,baz=110,slow=8.3,SNR=16	**41.26**	**338**	P	**P**	**07 54 33.5**	**+0.3**

*ISCJB **17** 07:50:20.4±1.6,3370S±004×17952W±0.09,h10km±10km, mb4.8/18,MS3.4/5,Error ellipse: s-maj=13.7km s-min=5.3km az=38.4*
*NAO **17** 07:50:20.6,32.19S×17865W,h33km,mb4.4*
*NEIC **17** 07:50:21.6±0.5,3370S×17945W,h10km,mb4.8/13,Error ellipse: s-maj=13.7km s-min=6.3km az=109.0*
*BJI **17** 07:50:21.6,3370S×17940W,h10km,mB5.4,mb5.2,Ms4.9, Msz4.7*
*IDC **17** 07:50:24.4±5.7,3355S×17952W,h32km±40km,mb4.3/6, mb1 4.6/8,mb1mx4.4/14,mbtmp4.5/8,ML4.9/2,MS3.9/8, Ms1 3.9/8,ms1mx3.5/23,Error ellipse: s-maj=23.6km s-min=19.4km az=138.0*

ISC 17 07:50:21.1±1.8,3368S±004×17944W±009,h5km±11km, n103,σ1°48/100,mb4.8/18,MS3.4/5,4C-3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.29**	**205**	PN	**Pn**	**07 51 28.1**	**+1.2**
MXZ				*e*SN	**Sn**	**07 52 22.9**	**+5.6**
MXZ				T		07 55 07.5	
MXZ	**Matakaoa Point**	**4.29**	**205**	*eP*	**Pn**	**07 51 28.1**	**+1.2**
MXZ				S	**Sn**	**07 52 22.4**	**+5.2**
RAO	**Raoul Island** 167nm,0.3s,baz=332,slow=20,SNR=3.5	**4.61**	**17**	Pn	**Pn**	**07 51 28.3**	**-3.0**
RAO	136nm,0.3s,baz=81,slow=22,SNR=2.4			Sn	**Sn**	**07 52 22.2**	**-2.9**
RAO	**Raoul Island**	**4.61**	**17**	Pn	**Pn**	**07 51 29.6**	**-1.7**
WIZ	**White Island**	**4.72**	**215**	*e*PN	**Pn**	**07 51 35.4**	**+2.6**
PUZ	**Puketiti**	**4.76**	**202**	PN	**Pn**	**07 51 33.9**	**+0.4**
PUZ				*e*SN	**Sn**	**07 52 29.4**	**+0.4**
PUZ	**Puketiti**	**4.76**	**202**	*eP*	**Pn**	**07 51 34.5**	**+1.0**
PUZ				S	**Sn**	**07 52 29.7**	**+0.7**
MWZ	**Matawai**	**5.25**	**207**	PN	**Pn**	**07 51 41.4**	**+1.2**
MWZ				*e*SN	**Sn**	**07 52 41.8**	**+0.7**
MWZ	**Matawai**	**5.25**	**207**	*eP*	**Pn**	**07 51 41.7**	**+1.5**
MWZ				S	**Sn**	**07 52 41.8**	**+0.7**
URZ	**Urewera** 13nm,0.3s,baz=54,slow=7.7,SNR=58	**5.36**	**210**	Pn	**Pn**	**07 51 42.0**	**+0.4**
URZ	22nm,0.3s,baz=273,slow=19,SNR=3.0			Sn	**Sn**	**07 52 44.8**	**+1.1**
URZ	**Urewera**	**5.36**	**210**	PN	**Pn**	**07 51 42.6**	**+0.9**
URZ				*e*SN	**Sn**	**07 52 43.2**	**-0.5**
URZ	**Urewera**	**5.36**	**210**	P	**Pn**	**07 51 42.7**	**+1.1**
WCZ	**Waipu Caves**	**5.58**	**244**	PN	**Pn**	**07 51 50.2**	**+5.4**
WCZ	**Waipu Caves**	**5.58**	**244**	*eP*	**Pn**	**07 51 50.1**	**+5.3**
KNZ	**Kokohu**	**5.81**	**203**	*e*PN	**Pn**	**07 51 47.6**	**-0.3**
KNZ				*e*SN	**Sn**	**07 52 53.5**	**-1.5**
KNZ	**Kokohu**	**5.81**	**203**	*eP*	**Pn**	**07 51 47.9**	**0.0**
OUZ	**Omahuta**	**5.95**	**253**	PN	**Pn**	**07 51 54.7**	**+4.8**
OUZ				*e*SN	**Sn**	**07 53 01.5**	**+3.1**
OUZ	**Omahuta**	**5.95**	**253**	*eP*	**Pn**	**07 51 54.7**	**+4.9**
BKZ	**Black Stump Fm**	**6.38**	**210**	*e*PN	**Pn**	**07 51 56.5**	**+0.8**
BKZ				*e*SN	**Sn**	**07 53 07.6**	**-1.3**
BKZ	**Black Stump Fm**	**6.38**	**210**	*eP*	**Pn**	**07 51 56.3**	**+0.6**
KRVZ	**Karewarewa**	**6.70**	**215**	*e*PN	**Pn**	**07 52 02.0**	**+1.9**
OTVZ	**Oturere**	**6.74**	**214**	*e*PN	**Pn**	**07 52 02.7**	**+2.0**
NGZ	**Ngauruhoe**	**6.78**	**215**	PN	**Pn**	**07 52 03.4**	**+2.2**
NGZ	**Ngauruhoe**	**6.78**	**215**	P	**Pn**	**07 52 03.4**	**+2.2**
WPVZ	**Whakapapa**	**6.83**	**215**	P	**Pn**	**07 52 07.0**	**+5.1**
MOVZ	**Moawhango**	**6.90**	**213**	PN	**Pn**	**07 52 03.5**	**+0.7**
MOVZ	**Moawhango**	**6.90**	**213**	P	**Pn**	**07 52 04.3**	**+1.5**
WNVZ	**Wahianoa**	**6.91**	**214**	P	**Pn**	**07 52 07.0**	**+4.1**
TSZ	**Takapari Road**	**7.35**	**209**	*e*PN	**Pn**	**07 52 08.7**	**-0.3**
TSZ	**Takapari Road**	**7.35**	**209**	*eP*	**Pn**	**07 52 10.6**	**+1.5**
BFZ	**Birch Farm**	**7.79**	**205**	SN	**Sn**	**07 53 37.9**	**-5.6**
MRZ	**Mangatainoka R**	**8.02**	**208**	PN	**Pn**	**07 52 16.3**	**-1.9**
MRZ				*e*SN	**Sn**	**07 53 43.0**	**-6.2**
MRZ	**Mangatainoka R**	**8.02**	**208**	*eP*	**Pn**	**07 52 16.7**	**-1.5**
MRZ				S	**Sn**	**07 53 45.3**	**-3.9**
KIW	**Kapiti Island**	**8.46**	**210**	*e*PN	**Pn**	**07 52 22.6**	**-1.7**
KIW	**Kapiti Island**	**8.46**	**210**	P	**Pn**	**07 52 22.8**	**-1.5**
MTW	**Mount Morrison**	**8.48**	**207**	*e*PN	**Pn**	**07 52 22.0**	**-2.5**
MTW	**Mount Morrison**	**8.48**	**207**	P	**Pn**	**07 52 23.0**	**-1.5**
CAW	**Cannon Point**	**8.60**	**209**	*e*PN	**Pn**	**07 52 23.2**	**-3.0**
CAW	**Cannon Point**	**8.60**	**209**	P	**Pn**	**07 52 23.5**	**-2.7**
PAWZ	**Paruwai Farm**	**8.70**	**206**	SN	**Sn**	**07 54 02.1**	**-3.8**
MSWZ	**Moikau Station**	**8.79**	**207**	*e*PN	**Pn**	**07 52 30.9**	**+2.1**
SNZO	**South Karori**	**8.92**	**210**	PN	**Pn**	**07 52 28.1**	**-2.5**
SNZO	**South Karori**	**8.92**	**210**	*eP*	**Pn**	**07 52 28.4**	**-2.2**
TCW	**Tory Channel**	**9.02**	**212**	*e*PN	**Pn**	**07 52 29.8**	**-2.2**
TCW				*e*SN	**Sn**	**07 54 07.6**	**-6.3**
TCW	**Tory Channel**	**9.02**	**212**	P	**Pn**	**07 52 30.4**	**-1.6**
TUWZ	**Tuamarina**	**9.35**	**212**	*e*PN	**Pn**	**07 52 34.3**	**-2.1**
NNZ	**Nelson**	**9.44**	**215**	PN	**Pn**	**07 52 36.2**	**-1.5**
NNZ				*e*SN	**Sn**	**07 54 18.2**	**-5.9**
NNZ	**Nelson**	**9.44**	**215**	*eP*	**Pn**	**07 52 36.0**	**-1.7**
QRZ	**Quartz Range**	**9.58**	**220**	*e*PN	**Pn**	**07 52 42.5**	**+2.9**
THZ	**Tophouse**	**10.09**	**215**	*e*PN	**Pn**	**07 52 44.6**	**-2.0**
THZ	**Tophouse**	**10.09**	**215**	*eP*	**Pn**	**07 52 47.5**	**+1.0**
KHZ	**Kahutara**	**10.32**	**210**	*e*PN	**Pn**	**07 52 47.5**	**-2.3**
KHZ	**Kahutara**	**10.32**	**210**	*eP*	**Pn**	**07 52 47.5**	**-2.3**
DSZ	**Denniston Nort**	**10.62**	**218**	SN	**Sn**	**07 54 45.1**	**-8.0**
LTZ	**Lake Taylor**	**11.17**	**213**	*eP*	**Pn**	**07 53 00.0**	**-1.5**
RPZ	**Rata Peaks**	**12.46**	**214**	Pn	**Pn**	**07 53 13.6**	**-5.4**
RPZ	0.6nm,0.3s,baz=21,slow=8.6,SNR=3.7			Sn	**Sn**	**07 55 26.1**	**-12**
AFI	**Afiamalu** comp=Z,130nm,19.8s,MS3.3,baz=176,slow=34	**20.88**	**21**	LR	LR	08 02 04.7	
AFI	**Afiamalu** 7.0nm,0.6s	**20.88**	**21**	P	**P**	**07 55 04.2**	**+0.1**
HNR	**Honiara** 69nm,0.7s,mb5.6	**30.69**	**317**	*eP*	**P**	**07 56 35.8**	**-0.9**
PPT	**Papeete** comp=Z,3.6nm,22.0s,MS2.0,baz=205,slow=30	**31.20**	**67**	LR	LR	08 06 10.5	
STKA	**Stephens Creek** 10nm,3.5s	**32.68**	**262**	*eP*	**P**	**07 56 54.1**	**-0.1**
STKA	**Stephens Creek** 3.2nm,0.9s,mb4.3,baz=79,slow=12,SNR=3.9	**32.68**	**262**	P	**P**	**07 56 53.8**	**-0.4**
STKA				LR	LR	08 09 10.0	
CTA	**Charters Tower** 7.7nm,0.7s,mb4.7	**33.29**	**285**	*eP*	**P**	**07 57 01.5**	**+2.0**
CTA	**Charters Tower** 7.2nm,0.6s,mb4.8,baz=113,slow=10,SNR=10	**33.29**	**285**	P	**P**	**07 56 59.2**	**-0.3**
CTA	comp=Z,128nm,19.2s,MS3.6,baz=59,slow=33			LR	LR	08 08 25.5	
CTAO	**Charters Tower** 9.2nm,0.8s,mb4.8	**33.29**	**285**	*eP*	**P**	**07 57 01.5**	**+1.9**
PMG	**Port Moresby** 14nm,0.9s,mb4.7	**39.05**	**300**	P	**P**	**07 57 49.4**	**+0.6**
ASAR	**Alice Springs** 4.3nm,0.6s,mb4.2,baz=113,slow=7.5,SNR=56	**41.83**	**271**	P	**P**	**07 58 11.1**	**-0.7**
ASAR	0.9nm,0.5s,baz=108,slow=4.0,SNR=3.5			PcP	PcP	08 00 05.3	-2.5
WB2	**Warramunga Arr**	**43.11**	**276**	*eP*	**P**	**07 58 22.4**	**+0.2**
WRAB	**Tennant Creek** 11nm,0.8s,mb4.6	**43.11**	**276**	*eP*	**P**	**07 58 22.1**	**-0.1**
WRA	**Warramunga Arr** 7.5nm,0.7s,mb4.5,baz=117,slow=7.6,SNR=36	**43.12**	**276**	P	**P**	**07 58 22.0**	**-0.3**
FITZ	**Fitzroy Crossi** 6.7nm,0.7s,mb4.7	**51.22**	**273**	*eP*	**P**	**07 59 25.3**	**-0.2**
CASY	**Casey** 74nm,1.7s,mb5.3	**51.68**	**209**	*eP*	**P**	**07 59 27.2**	**-1.7**
QSPA	**South Pole Qui** 18nm,1.0s,mb5.1	**56.44**	**180**	*eP*	**P**	**08 00 04.7**	**+1.0**
SYO	**Syowa Base**	**73.65**	**194**	⇓*e*PcP	PcP	08 02 08.4	-3.0
SYO	**Syowa Base**	**73.65**	**194**	⇑*e*PP	PP	08 04 38.5	-1.2
SYO	**Syowa Base**	**73.65**	**194**	⇓*eP*	**P**	**08 01 53.4**	**-2.2**
SYO				⇓*e*PcP	PcP	08 02 08.4	-3.0
SYO				⇑*e*PP	PP	08 04 38.5	-1.2
VNA3	**Neumayer Olymp**	**75.12**	**177**	⇑*i*	**P**	**08 02 07.5**	**+3.4**
VNA3				*e*		08 02 15.4	
VNA2	**Neumayer--Watz** baz=175,slow=4.7	**75.53**	**177**	⇑*i*	**P**	**08 02 10.0**	**+3.5**
VNA2				*e*		08 02 18.9	
PLCA	**Paso Flores** 2.5nm,0.9s,mb4.1,baz=214,slow=6.9,SNR=6.2	**81.16**	**133**	P	**P**	**08 02 38.7**	**+1.0**
PLCA	**Paso Flores** 2.9nm,0.9s,mb4.2	**81.16**	**133**	*eP*	**P**	**08 02 38.3**	**+0.6**
TRQA	**Tornquist** 8.3nm,1.2s,mb4.8	**87.98**	**136**	*eP*	**P**	**08 03 11.8**	**-0.4**
ISA	**Isabella** 1.5nm,0.2s,mb5.0	**89.48**	**45**	*eP*	**P**	**08 03 20.2**	**+1.0**
CMB	**Columbia Colle** 2.0nm,0.2s,mb5.1	**90.01**	**43**	*eP*	**P**	**08 03 22.4**	**+0.8**
MDJ	**Mudanjiang**	**90.65**	**326**	P	**P**	**08 03 25.9**	**+1.3**
MDJ	comp=Z,5.0nm,0.8s,mb4.9			AMB	AMB		
MDJ	comp=Z,81nm,4.8s			AMB	AMB		
NVAR	**Mina Array Bea** 0.1nm,0.8s,mb4.5,baz=204,slow=6.6,SNR=16	**91.47**	**43**	P	**P**	**08 03 29.0**	**+0.6**
KMI	**Kunming**	**94.22**	**297**	P	**P**	**08 03 43.8**	**+2.7**
KMI	comp=Z,10.0nm,1.0s,mb5.2			AMB	AMB		
KMI	comp=Z,59nm,28.4s,MS3.9			LR	LR		
CD2	**Chengdu**	**96.80**	**303**	*eP*	**P**	**08 03 52.0**	**-0.9**
CD2	comp=Z,10.0nm,0.8s,mb5.3			AMB	AMB		
ILAR	**Eielson Array** 2.0nm,0.7s,baz=231,slow=6.9,SNR=4.8	**101.39**	**14**	P	Pdif	08 04 11.4	-2.0
ILAR	comp=Z,0.4nm,0.6s,baz=296,slow=3.0,SNR=8.0			PKiKP	PKiKP	08 08 35.2	-2.5
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=256,slow=1.5,SNR=7.5	**108.92**	**26**	PKiKP	PKiKP	08 08 49.1	-2.4
YKA	comp=Z,0.5nm,0.8s,baz=42,slow=3.4,SNR=12			PKKPbc	PKKPbc	08 19 56.5	-2.6
YKA	**Yellowknife Ar**	**108.92**	**26**	PKPdf	PKiKP	08 08 49.1	-2.4
YKA				PKKPbc	PKKPbc	08 19 56.5	-2.6
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=95,slow=0.8,SNR=5.8	**118.91**	**309**	PKP	PKPdf	08 09 07.3	-3.3
ARCES	**ARCESS Array B** 2.1nm,0.8s,baz=19,slow=2.0,SNR=13	**141.50**	**346**	PKhKP		08 09 45.6	
JOF	**Joensuu**	**144.96**	**336**	*ep*	PKPdf	08 09 54.2	-5.1
KAF	**Kangasniemi**	**147.17**	**338**	*ep*	PKPdf	08 10 02.0	-1.1
FINES	**FINESS Array B** comp=Z,6.9nm,0.7s,baz=46,slow=4.0,SNR=29	**147.75**	**337**	PKPbc	PKPbc	08 10 03.7	-3.1
MALT	**Malatya**	**149.16**	**290**	*e*PKPbc	PKPbc	08 10 09.8	-0.7
NB2	**NORSAR Subarra** comp=Z,9.4nm,1.2s,baz=17,slow=2.6	**151.77**	**349**	PKPa		08 10 07.6	
NOA	**NORSAR Array B** comp=Z,2.9nm,0.8s,baz=14,slow=3.8,SNR=5.0	**151.77**	**349**	PKP	PKPdf	08 10 07.7	-2.7
NOA				PKPbc	PKPbc	08 10 14.7	-2.0
DBIC	**Dimbokro** comp=Z,5.7nm,0.6s,baz=14,slow=4.1,SNR=9.0	**152.66**	**168**	PKPbc	PKPbc	08 10 18.4	-0.4
BRTR	**Keskin Array B** comp=Z,1.9nm,0.7s,baz=204,slow=1.5,SNR=4.5	**152.90**	**292**	PKPbc	PKPbc	08 10 17.1	-2.2
AKASG	**Malin Array Be** comp=Z,1.3nm,0.5s,baz=143,slow=3.3,SNR=7.3	**153.03**	**318**	PKPbc	PKPbc	08 10 16.4	-3.2
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.6s,baz=54,slow=1.9,SNR=8.2	**159.53**	**183**	PKP	PKPdf	08 10 20.1	-0.7
TORD	comp=Z,1.3nm,0.8s,baz=352,slow=1.4,SNR=7.2			PKPab	PKPab	08 10 58.1	-0.7
GERES	**GERESS Array B** comp=Z,0.9nm,0.7s,baz=286,slow=4.9,SNR=3.6	**161.96**	**331**	PKP	PKPdf	08 10 21.4	-2.0

*ISCJB **17** 07:50:41.8±1.8,436N±0.1×149.1E±0.2,h73km±15km, mb3.4/3,Error ellipse: s-maj=28.5km s-min=11.5km az=109.4*
*IDC **17** 07:50:49.8±29.0,4222N×14847E,h153km±101km, mb3.0/3,mb1 3.1/4,mb1mx2.9/19,mbtmp3.5/4,MS3.0/1, Ms1 3.0/1,ms1mx2.5/31,Error ellipse: s-maj=550.2km s-min=29.8km az=168.0*

ISC 17 07:50:43.1±1.8,437N±02×1491E±02,h63km±16km,n18, σ0°76/24,mb3.5/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.47**	**263**	P	**Pn**	**07 51 19.8**	**-1.1**
NEM2				*e*S	**Sn**	**07 51 49.0**	**-0.9**
JRA	**Rausu**	**2.89**	**276**	P	**Pn**	**07 51 26.1**	**-0.6**
JNK	**Nakash**	**3.19**	**269**	P	**Pn**	**07 51 30.0**	**-0.7**
JAK	**Akkeshi**	**3.29**	**259**	P	**Pn**	**07 51 31.8**	**-0.4**
JAK				*e*S	**Sn**	**07 52 10.4**	**+0.3**
JTKR	**Abashiri--Toko**	**3.77**	**276**	P	**Pn**	**07 51 38.5**	**-0.2**
JAR	**Ashorobuto**	**3.90**	**266**	P	**Pn**	**07 51 41.1**	**+0.6**
JOB	**Onbets**	**3.93**	**260**	P	**Pn**	**07 51 41.2**	**+0.3**
JOB				*e*S	**Sn**	**07 52 26.6**	**+0.9**
JCH	**Churui**	**4.34**	**258**	P	**Pn**	**07 51 47.5**	**+1.0**
JCH				*e*S	**Sn**	**07 52 36.6**	**+0.8**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=135,slow=12,SNR=6.1	**4.72**	**277**	P	**Pn**	**07 51 59.1**	**+7.4**
ASAJ				LR	LR	07 53 55.4	
JNBK	**Urakawa-nobuka** comp=Z,179nm,19.9s,baz=128,slow=40	**4.87**	**255**	P	**Pn**	**07 51 54.3**	**+0.5**
JNBK				*e*S	**Sn**	**07 52 50.0**	**+1.2**
JBT2	**Biratori 2**	**5.01**	**262**	P	**Pn**	**07 51 56.2**	**+0.5**
JKB	**Kayabe**	**6.21**	**256**	P	**Pn**	**07 52 12.5**	**+0.4**
JKB				*e*S	**Sn**	**07 53 20.7**	**-0.9**
JANG	**Nango**	**6.55**	**242**	*e*S	**Sn**	**07 53 28.6**	**-1.5**
JTM	**Tenmabayashi**	**6.64**	**247**	*e*S	**Sn**	**07 53 31.3**	**-0.8**
JRG	**Rokugo**	**7.67**	**239**	*e*S	**Sn**	**07 53 58.1**	**+0.6**
SONM	**Songino Array** 0.3nm,0.7s,mb3.2,baz=67,slow=5.6,SNR=4.0	**29.80**	**293**	P	**P**	**07 56 44.1**	**+0.2**
MKAR	**Makanchi Array** 1.2nm,0.8s,mb3.9,baz=75,slow=7.1,SNR=8.1	**45.86**	**298**	P	**P**	**07 58 58.6**	**-0.3**
YKA	**Yellowknife Ar** 0.2nm,0.6s,mb3.3,baz=298,slow=6.7,SNR=2.3	**55.05**	**34**	P	**P**	**08 00 15.6**	**+7.4**

*ISCJB **17** 07:57:05.3±1.1,0.1N±0.3×1268E±0.7,h33km,mb4.3/7, Error ellipse: s-maj=113.0km s-min=13.0km az=130.0*
*NEIC **17** 07:57:05.2±0.9,002S×12657E,h15km,mb4.8/2,Error ellipse: s-maj=96.4km s-min=10.7km az=65.0*
*IDC **17** 07:57:09.5±9.8,0.14N×127.14E,h55km±94km,mb3.9/5, mb1 4.1/5,mb1mx3.8/15,mbtmp4.2/5,Error ellipse: s-maj=122.7km s-min=21.1km az=68.0*

ISC 17 07:57:07.9±1.1,00N±04×1267E±07,h35km,n8,σ0°72/8, mb4.3/7,Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek** 9.1nm,0.3s,mb4.6	**21.18**	**160**	*eP*	**P**	**08 01 50.1**	**-0.1**
WRA	**Warramunga Arr** 2.9nm,0.3s,mb4.1,baz=340,slow=11,SNR=37	**21.18**	**160**	P	**P**	**08 01 50.6**	**+0.4**
ASAR	**Alice Springs** 3.2nm,0.4s,mb4.2,baz=344,slow=10,SNR=43	**24.54**	**164**	P	**P**	**08 02 25.2**	**+1.0**
ASAR	0.4nm,0.6s,baz=358,slow=2.1,SNR=4.7			PcP	PcP	08 06 01.6	-0.1
QIZ	**Qiongzhong** 36nm,1.2s,mb4.8	**25.13**	**320**	*eP*	**P**	**08 02 29.2**	**-0.4**
STKA	**Stephens Creek** 1.8nm,0.4s,mb4.3	**34.70**	**157**	*eP*	**P**	**08 03 52.8**	**-1.5**
STKA	**Stephens Creek** 2.1nm,0.3s,mb4.5,baz=325,slow=9.6,SNR=13	**34.70**	**157**	P	**P**	**08 03 52.8**	**-1.5**
SONM	**Songino Array** 0.7nm,0.7s,mb3.7,baz=159,slow=9.1,SNR=6.0	**50.81**	**342**	P	**P**	**08 06 05.2**	**+0.4**
MKAR	**Makanchi Array** 0.9nm,0.4s,mb4.3,baz=121,slow=7.7,SNR=38	**60.61**	**326**	P	**P**	**08 07 15.2**	**+0.1**

*NEIC **17** 08:06:02.9,1709N×9522W,h118km,MD3.8(MEX),After MEX.*

MEX 17 08:06:02.9±0.9,1709N×9522W,h118km±8km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**90**	*i* P	Pn	08 06 18.3	-1.3
CMIG				*i* S	Sn	08 06 30.4	-1.9
OXX	**Oaxaca**	**1.44**	**270**	*i* P	Pn	08 06 28.5	-0.9
OXX				*i* S	Sn	08 06 48.5	-1.1
VHO	**Vista Hermosa**	**1.45**	**269**	*i* P	Pn	08 06 28.6	-1.0
VHO				*i* S	Sn	08 06 48.4	-1.4
HUIG	**Huatulco**	**1.57**	**213**	*i* P	Pn	08 06 28.9	-2.1
HUIG				*i* S	Sn	08 06 51.1	-1.3
TPIG	**Tehuac#an**	**2.43**	**303**	*i* P	Pn	08 06 39.9	-1.8
TPIG				*i* S	Sn	08 07 08.6	-2.8
CCIG	**Comitan**	**3.06**	**105**	*i* P	Pn	08 06 50.2	+0.3
CCIG				*i* S	Sn	08 07 25.2	-1.0
PPM	**

az=28.8
MOS ***17*** *08:21:14.5±0.9, 3672N×14140E, h50km, mb4.0/6, Error ellipse: s-maj=18.0km s-min=14.8km az=105.7*
IDC ***17*** *08:21:15.8±2.7, 3660N×14135E, h39km±25km, mb3.6/8, mb1 3.9/12, mb1mx3.7/23, mbtmp3.9/12, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=22.3km s-min=15.5km az=92.0*
JMA ***17*** *08:21:15.3±0.1, 3665N×14128E, h47km±2km, M4.2*
JMA Felt I J1.
NEIC ***17*** *08:21:17.6±1.6, 3662N×14128E, h56km±14km, mb4.9/2, MW4.1(NIED), Error ellipse: s-maj=15.1km s-min=11.8km az=117.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi Prefectures.
BJI ***17*** *08:21:21.4, 3654N×14036E, h56km, mB4.5, mb4.6*
NAO ***17*** *08:21:32.2, 3759N×141.10E, h33km, mb4.0*

ISC 17 08:21:13.6±1.1, 3664N±004×14144E±006, h25km±7km, n37, σ0°97/42, mb4.0/12, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.69**	**312**	⇓P	**Pb**	**08 21 27.3**	**+0.3**
ONAJ				S	**Sb**	**08 21 35.5**	**-0.7**
JHO	**Hitachi**	**0.70**	**268**	⇓P	**Pb**	**08 21 27.2**	**-0.1**
JHO				S	**Sb**	**08 21 35.8**	**-0.7**
JFK	**Kawauchi**	**0.85**	**328**	⇓P	**Pb**	**08 21 29.8**	**0.0**
JYT	**Yasato**	**1.09**	**248**	⇓P	**Pn**	**08 21 32.8**	**-0.5**
JFT	**Otama**	**1.24**	**315**	⇓P	**Pn**	**08 21 36.3**	**+0.9**
JMM	**Marumori**	**1.32**	**337**	⇓P	**Pn**	**08 21 36.6**	**+0.1**
JAG	**Ashikaga**	**1.62**	**263**	P	**Pn**	**08 21 40.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.60**	**269**	Pn	**Pn**	**08 21 55.2**	**+1.1**
	34nm,0.3s,baz=106,slow=9.9,SNR=164						
MJAR				Sn	**Sn**	**08 22 27.2**	**+2.3**
	43nm,0.3s,baz=97,slow=17,SNR=7.9						
MJAR				LR	LR	08 23 04.8	
	comp=Z,581nm,21.9s,baz=105,slow=44						
MJAR	**Matsushiro Arr**	**2.60**	**269**	P	**Pn**	**08 21 55.2**	**+1.1**
MJAR						08 22 27.2	
MJAR				pmax	pmax		
	comp=Z,34nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,581nm,21.9s						
MAJO	**Matsushiro**	**2.61**	**269**	*e*P	**Pn**	**08 21 55.7**	**+1.6**
MAJO				*e*Sn	**Sn**	**08 22 22.6**	**-2.4**
MAT	**Matsushiro**	**2.61**	**269**	P	**Pn**	**08 21 55.5**	**+1.4**
MAT				S	**Sn**	**08 22 25.7**	**+0.8**
JHJ	**Hachijo jima 2**	**3.77**	**202**	Pn	**Pn**	**08 22 11.1**	**+0.9**
	comp=Z,36nm,0.3s,baz=58,slow=16,SNR=12						
JHJ				Sn	**Sn**	**08 22 52.4**	**-1.3**
	comp=Z,74nm,0.3s,baz=54,slow=22,SNR=6.5						
ASAJ	**Asahikawa**	**7.52**	**6**	Pn	**Pn**	**08 23 02.0**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=196,slow=17,SNR=5.3						
ASAJ				Sn	**Sn**	**08 24 24.6**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=240,slow=20,SNR=2.2						
ASAJ	**Asahikawa**	**7.52**	**6**	P	**Pn**	**08 23 02.1**	**+0.5**
ASAJ						08 24 24.6	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JNU	**Nakatsue**	**9.36**	**251**	LR	LR	08 26 55.8	
	comp=Z,103nm,21.8s,baz=44,slow=37						
CBIJ	**Chichi jima**	**9.54**	**176**	Pn	**Pn**	**08 23 28.6**	**-0.8**
	comp=Z,8.3nm,0.3s,baz=302,slow=19,SNR=5.8						
TATO	**Taipei**	**20.67**	**241**	*e*P	**P**	**08 25 52.1**	**+0.6**
	comp=Z,175nm,1.2s						
ENH	**Enshi**	**27.32**	**266**	*e*P	**P**	**08 26 55.7**	**-0.7**
	comp=Z,4.7nm,0.3s,mb4.5						
BOD	**Bodaibo**	**27.87**	**328**	*e*P	**P**	**08 27 00.3**	**-1.0**
BOD				*e*		08 27 11.2	
BOD				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
SONM	**Songino Array**	**28.02**	**305**	P	**P**	**08 27 02.3**	**-0.3**
	comp=Z,4.1nm,0.6s,mb4.2,baz=100,slow=7.1,SNR=30						
SONM	**Songino Array**	**28.02**	**305**	P	**P**	**08 27 02.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GYA	**Guiyang**	**31.18**	**261**	P	**P**	**08 27 30.5**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2	**Chengdu**	**31.70**	**271**	*e*P	**P**	**08 27 33.4**	**-1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NVS	**Novosibirsk**	**43.13**	**314**	*e*P	**P**	**08 29 10.8**	**-1.1**
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**08 29 21.8**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=81,slow=12,SNR=9.8						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**08 29 21.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**08 30 05.0**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=262,slow=6.1,SNR=9.4						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**08 30 05.0**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.85**	**313**	P	**P**	**08 30 11.6**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=95,slow=3.6,SNR=4.0						
BVAR	**Borovoye Array**	**50.85**	**313**	P	**P**	**08 30 11.6**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**56.68**	**188**	P	**P**	**08 30 54.4**	**-0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=6.1,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**56.68**	**188**	P	**P**	**08 30 54.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**60.41**	**188**	P	**P**	**08 31 20.9**	**+0.1**
	comp=Z,0.9nm,0.9s,mb3.8,baz=7.7,slow=6.5,SNR=8.5						
ASAR	**Alice Springs**	**60.41**	**188**	P	**P**	**08 31 20.9**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**64.13**	**30**	P	**P**	**08 31 46.1**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.5,baz=299,slow=6.5,SNR=9.9						
NB2	**NORSAR Subarra**	**74.56**	**337**	P	pP	08 33 01.7	+3.4
	comp=Z,1.1nm,0.7s,baz=40,slow=6.2						
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**08 32 55.8**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=293,slow=4.5,SNR=4.7						

IDC 17 08:39:08.5±6.9, 050S×13229E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.4/16, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=450.6km s-min=25.8km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.43**	**174**	P	Pn	08 43 36.9	-0.5
	0.1nm,0.3s,baz=355,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**23.08**	**176**	P	P	08 44 16.0	+0.2
	0.5nm,0.5s,baz=355,slow=10,SNR=19						
MKAR	**Makanchi Array**	**64.19**	**324**	P	P	08 49 45.2	+0.2
	0.2nm,0.7s,baz=125,slow=7.2,SNR=3.0						

NNC ***17*** *09:15:53.7±3.6, 4339N×7525E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=66.0km s-min=16.3km az=52.0*
KNET ***17*** *09:15:53.8±0.5, 4302N×7490E, h17km±2km, ml1.9, Error ellipse: s-maj=3.4km s-min=2.7km az=12.0*
ISCJB ***17*** *09:15:54.5±0.7, 4304N±004×7492E±004, h5km±6km, Error ellipse: s-maj=6.8km s-min=4.8km az=28.5*

ISC 17 09:15:54.6±0.7, 4305N±004×7492E±004, h9km±6km, n12, σ0°53/21, 14C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**246**	⇑P	**Pg**	**09 15 57.1**	**-0.5**
	124nm,0.2s,SNR=321						
CHMS				⇑S	**Sg**	**09 15 59.1**	**-0.6**
	372nm,0.3s						
USP	**Ospenovka**	**0.37**	**305**	⇑P	**Pg**	**09 16 02.0**	**0.0**
	35nm,0.1s,SNR=158						
USP				⇑S	**Sg**	**09 16 07.4**	**+0.5**
	127nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**177**	P	**Pg**	**09 16 02.6**	**+0.2**
	191nm,0.3s,SNR=75						
KBK				⇑S	**Sg**	**09 16 08.7**	**+1.1**
	339nm,0.3s						
TKM2	**Tokmak 2**	**0.51**	**105**	⇑P	**Pg**	**09 16 04.4**	**-0.2**
	18nm,0.1s,SNR=75						
TKM2				⇓S	**Sg**	**09 16 11.7**	**+0.4**
	59nm,0.2s						
TKM2	**Tokmak 2**	**0.51**	**105**	⇓P	**Pg**	**09 16 04.3**	**-0.3**
	20nm,0.5s						
TKM2				⇓S	**Sg**	**09 16 11.6**	**+0.3**
	38nm,0.5s						
AAK	**Ala-Archa**	**0.52**	**217**	⇑P	**Pg**	**09 16 04.5**	**-0.2**
	7.6nm,0.1s,SNR=44						
AAK				⇑S	**Sg**	**09 16 11.8**	**+0.1**
	91nm,0.3s						
UCH	**Uchtor**	**0.88**	**200**	⇑P	**Pg**	**09 16 11.1**	**-0.4**
	8.1nm,0.3s,SNR=12						
UCH				⇑S	**Sg**	**09 16 22.8**	**-0.1**
	12nm,0.2s						
EKS2	**Erkin-Say**	**0.93**	**245**	⇑P	**Pg**	**09 16 12.2**	**-0.3**
	7.2nm,0.1s,SNR=36						
EKS2				⇓S	**Sg**	**09 16 25.1**	**+0.6**
	16nm,0.3s						
KZA	**Kyzart**	**1.00**	**166**	⇓P	**Pg**	**09 16 13.7**	**-0.3**
	11nm,0.2s,SNR=6.2						
ULHL	**Ulahol**	**1.27**	**129**	⇑P	**Pn**	**09 16 18.0**	**-0.5**
	6.1nm,0.3s,SNR=13						
AML	**Almayashu**	**1.29**	**225**	⇓P	**Pn**	**09 16 18.8**	**-0.1**
	6.0nm,0.3s,SNR=11						
AML				⇑S	**Sb**	**09 16 35.6**	**-0.2**
	18nm,0.2s						
KK31	**Karatay Array**	**3.23**	**272**	⇓Pn	**Pn**	**09 16 49.2**	**+3.6**
	0.5nm,0.3s,baz=90,slow=16,SNR=19						
KK31				⇑Lg		09 17 42.9	
	1.4nm,0.3s,baz=79,slow=30,SNR=4.6						

IDC 17 09:23:45.0±2.6, 512S×15351E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=98.0km s-min=34.8km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.77**	**230**	*e*P	P	09 29 08.8	+10
WRA	**Warramunga Arr**	**23.77**	**230**	P	P	09 28 59.8	+0.5
	0.7nm,0.7s,baz=54,slow=9.8,SNR=5.5						
ASAR	**Alice Springs**	**26.40**	**224**	P	P	09 29 23.3	+0.2
	0.2nm,0.4s,baz=56,slow=9.2,SNR=6.8						
ASAR				PcP	PcP	09 32 49.3	+0.6
	0.3nm,1.0s,baz=37,slow=1.6,SNR=4.2						
MKAR	**Makanchi Array**	**81.03**	**319**	P	P	09 36 02.4	+0.7
	0.4nm,0.7s,baz=109,slow=5.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**151.08**	**288**	PKPbc	PKPbc	09 43 40.0	+0.1
	0.2nm,0.4s,baz=65,slow=3.1,SNR=5.0						

ISCJB ***17*** *09:27:58.7±0.4, 2542N±008×12246E±005, h224km±5km, mb3.4/10, Error ellipse: s-maj=13.8km s-min=7.0km az=150.6*
IDC ***17*** *09:27:59.5±2.3, 2534N×12237E, h220km±22km, mb3.3/10, mb1 3.4/12, mb1mx3.3/22, mbtmp3.8/12, Error ellipse: s-maj=23.9km s-min=13.1km az=64.0*
NEIC ***17*** *09:27:59.7±0.6, 2537N×12245E, h223km±6km, MG4.1(JMA), Error ellipse: s-maj=14.1km s-min=12.5km az=55.0*
JMA ***17*** *09:28:02.3±0.2, 2529N×12251E, h210km, M4.1*

ISC 17 09:27:59.7±0.4, 2543N±008×12245E±005, h218km±5km, n29, σ0°89/40, mb3.4/10, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.09**	**152**	P	**Pn**	**09 28 32.9**	**+1.0**
YOJ				*e*S	**S**	**09 28 56.5**	**-0.5**
YHNB	**Yeheng**	**1.24**	**232**	⇓*i*Pn	**Pn**	**09 28 33.4**	**+0.5**
YHNB				*e*S	**S**	**09 28 57.8**	**-1.0**
NACB	**Ninganchiao**	**1.48**	**212**	*e*Pn	**Pn**	**09 28 34.7**	**-0.1**
NACB				*e*Sn	**S**	**09 28 56.6**	**-5.6**
IRIF	**Iriomote-Funau**	**1.59**	**133**	P	**Pn**	**09 28 36.3**	**+0.5**
IRIF				S	**S**	**09 29 03.7**	**-0.3**
HATJ	**Hateruma jima**	**1.84**	**138**	P	**Pn**	**09 28 39.0**	**+1.0**
HATJ				S	**S**	**09 29 07.6**	**-0.4**
JKRS	**Kuro-shima**	**1.85**	**130**	P	**Pn**	**09 28 39.1**	**+1.0**
JKRS				S	**S**	**09 29 07.4**	**-0.7**
JIJ	**Ishigaki jima**	**1.87**	**124**	P	**Pn**	**09 28 38.8**	**+0.5**
JIJ				S	**S**	**09 29 06.8**	**-1.7**
JTJ	**Tarama**	**2.19**	**111**	P	**Pn**	**09 28 42.7**	**+1.3**
JTJ				S	**S**	**09 29 13.9**	**-0.2**
JMJ	**Miyako jima 2**	**2.65**	**103**	P	**Pn**	**09 28 48.1**	**+1.8**
JMJ				S	**S**	**09 29 22.7**	**-0.2**
JOGS	**Gusukube**	**2.76**	**103**	P	**Pn**	**09 28 49.3**	**+1.8**
JOGS				*e*S	**S**	**09 29 25.1**	**0.0**
JKE	**Kume jima 2**	**4.00**	**76**	*e*S	**S**	**09 29 51.4**	**-0.1**
JAGN	**Aguni-jima**	**4.46**	**74**	*e*S	**S**	**09 30 00.2**	**-1.4**
JIH	**Iheya**	**5.21**	**71**	*e*S	**S**	**09 30 15.1**	**-3.3**
JOW	**Kunigami**	**5.42**	**74**	*e*S	**S**	**09 30 18.4**	**-4.9**
JOW	**Kunigami**	**5.42**	**74**	P	**Pn**	**09 29 20.1**	**+0.4**
	4.7nm,0.3s,baz=114,slow=23,SNR=8.5						
JOW				S	**S**	**09 30 18.6**	**-4.7**
	18nm,0.3s,baz=135,slow=27,SNR=18						
MJAR	**Matsushiro Arr**	**17.44**	**47**	P	**P**	**09 31 48.8**	**+0.6**
	0.2nm,0.3s,baz=242,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**25.70**	**335**	P	**P**	**09 33 10.3**	**+0.5**
	2.8nm,0.7s,mb4.0,baz=150,slow=8.6,SNR=26						
MKAR	**Makanchi Array**	**38.27**	**314**	P	**P**	**09 34 58.8**	**-0.1**
	1.2nm,0.5s,mb3.7,baz=100,slow=10.0,SNR=31						
MKAR				ScP	ScP	09 40 32.7	-2.3
	3.3nm,1.4s,baz=99,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**38.27**	**314**	P	**P**	**09 34 58.8**	**-0.1**
MKAR				ScP	ScP	09 40 32.7	-2.3
ZAL	**Zalesovo**	**39.85**	**326**	P	**P**	**09 35 11.6**	**-0.4**
	1.5nm,0.5s,mb3.6,baz=15,slow=6.9,SNR=5.8						
WRA	**Warramunga Arr**	**46.56**	**165**	P	**P**	**09 36 04.6**	**-1.0**
	0.3nm,0.5s,mb2.9,baz=346,slow=8.4,SNR=3.7						
ASAR	**Alice Springs**	**50.05**	**166**	P	**P**	**09 36 31.9**	**-0.3**
	0.2nm,0.4s,mb2.8,baz=350,slow=6.5,SNR=6.1						
ILAR	**Eielson Array**	**67.58**	**28**	P	**P**	**09 38 34.1**	**+1.5**
	0.1nm,0.5s,mb2.7,baz=295,slow=8.6,SNR=5.2						
JOF	**Joensuu**	**68.19**	**330**	*ep*	**P**	**09 38 36.5**	**0.0**
ARCES	**ARCESS Array B**	**68.82**	**338**	P	**P**	**09 38 39.6**	**-0.7**
	2.4nm,1.0s,mb3.8,baz=29,slow=2.8,SNR=3.6						
KAF	**Kangasniemi**	**70.64**	**330**	*ep*	**P**	**09 38 50.3**	**-1.2**
FINES	**FINESS Array B**	**70.95**	**330**	P	**P**	**09 38 53.0**	**-0.3**
	1.7nm,0.4s,mb4.0,baz=56,slow=6.0,SNR=27						
NOA	**NORSAR Array B**	**77.66**	**332**	P	**P**	**09 39 31.0**	**-1.0**
	0.8nm,0.8s,mb3.4,baz=60,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**81.38**	**23**	P	**P**	**09 39 52.0**	**+0.1**
	0.1nm,0.5s,mb2.7,baz=311,slow=5.2,SNR=4.2						

CASC 17 09:33:54.2±2.7, 1375N×9076W, h87km±14km, MD3.8, ML4.5, 1C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.51**	**35**	⇓*e*P	Pn	09 34 08.2	-0.5
IXG				*e*S	Sn	09 34 20.1	+0.7
IXG				AML	AML	09 34 22.4	
	comp=E,15μm,0.3s						
PCG	**Pacaya**	**0.65**	**13**	⇑*e*P	Pn	09 34 10.7	+0.7
PCG				*e*S	Sn	09 34 23.6	+1.9
FUG	**Fuego 3**	**0.69**	**353**	⇓*e*P	Pn	09 34 10.8	+0.4
JAT	**Jato**	**1.02**	**303**	⇓*e*P	Pn	09 34 15.6	+1.7
RTR	**El Retiro**	**1.09**	**82**	*e*P	Pn	09 34 39.9	+25
RTR				*e*S	Sn	09 34 58.2	+28
SBLS	**San Blas**	**1.11**	**85**	*e*P	Pn	09 34 39.9	+25
SBLS				*e*S	Sn	09 34 56.7	+26
SNJE	**San Jose**	**1.13**	**84**	*e*P	Pn	09 34 40.0	+25
SNJE				*e*S	Sn	09 34 56.9	+26
BOQS	**Boqueron**	**1.44**	**91**	*e*P	Pn	09 34 43.8	+25
BOQS				*e*S	Sn	09 35 03.5	+26
SNET	**Serv Nac Est T**	**1.49**	**92**	*e*P	Pn	09 34 20.3	+0.7
SNET				*e*S	Sn	09 34 39.6	+0.8
MTO2	**Montecristo 2**	**1.50**	**64**	*e*P	Pn	09 34 44.2	+24
MTO2				*e*S	Sn	09 35 04.5	+25
LFRS	**El Faro**	**1.66**	**94**	*e*P	Pn	09 34 46.8	+25
LFRS				*e*S	Sn	09 35 09.5	+27
LBRS	**Las Brisas**	**1.67**	**90**	*e*P	Pn	09 34 46.8	+25
LBRS				*e*S	Sn	09 35 09.5	+27
LCBS	**La Ceiba**	**1.73**	**93**	*e*P	Pn	09 34 47.8	+25
LCBS				*e*S	Sn	09 35 10.5	+26
SNVI	**San Vicente**	**1.87**	**94**	*e*P	Pn	09 34 50.5	+26
SNVI				*e*S	Sn	09 35 15.4	+28

ISCJB ***17*** *10:01:57.0±0.7, 217S±0.1×1750W±0.1, h33km, mb4.3/13, MS3.9/3, Error ellipse: s-maj=17.1km s-min=11.2km az=111.8*
IDC ***17*** *10:01:56.9±0.7, 2168S×17540W, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.3/18, mbtmp4.2/11, ML3.5/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=33.6km s-min=17.0km az=135.0*
NEIC ***17*** *10:01:59.1±0.5, 2160S×17541W, h15km, mb4.6/4, Error ellipse: s-maj=19.1km s-min=10.9km az=129.0*

ISC 17 10:02:00.1±0.6, 218S±01×17505W±010, h35km, n30, σ1°33/26, mb4.3/13, MS3.9/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.40**	**22**	Pn	**Pn**	**10 03 58.9**	**-0.4**
	5.0nm,0.3s,baz=179,slow=22,SNR=6.9						
AFI				Sn	**Sn**	**10 05 25.3**	**-7.5**
	6.0nm,0.3s,baz=18,slow=20,SNR=2.9						
AFI	**Afiamalu**	**8.40**	**22**	*e*Pn	**Pn**	**10 03 57.7**	**-1.6**
AFI				Sn	**Sn**	**10 05 25.3**	**-7.5**
RAR	**Rarotonga**	**14.23**	**91**	Pn	**Pn**	**10 05 17.4**	**-1.6**
	1.9nm,0.3s,baz=278,slow=7.1,SNR=3.1						
RAR				Sn	**Sn**	**10 07 40.4**	**-15**
	6.1nm,0.3s,baz=180,slow=18,SNR=4.3						
RAR				LR	LR	10 09 12.4	
	comp=Z,615nm,20.8s,baz=36,slow=30						
RAR				T		10 19 52.5	
	17nm,0.3s,baz=170,slow=5.8,SNR=7.3						
RAR	**Rarotonga**	**14.23**	**91**	Pn	**Pn**	**10 05 17.4**	**-1.6**
RAR				Sn	**Sn**	**10 07 40.5**	**-15**
RAR				LR	LR	10 09 12.4	
URZ	**Urewera**	**17.78**	**201**	P	**Pn**	**10 06 04.6**	**-0.2**
	1.0nm,0.3s,baz=276,slow=5.1,SNR=7.4						
RPZ	**Rata Peaks**	**24.76**	**205**	P	**P**	**10 07 20.1**	**+1.8**
	1.4nm,0.4s,mb3.9,baz=272,slow=20,SNR=5.2						
CTA	**Charters Tower**	**36.12**	**265**	*e*P	**P**	**10 09 00.3**	**+1.6**
	6.5nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**39.76**	**246**	P	**P**	**10 09 28.1**	**-1.3**
	3.6nm,0.8s,mb4.2,baz=97,slow=12,SNR=4.4						
STKA				LR	LR	10 22 42.3	
	comp=Z,112nm,20.6s,MS3.7,baz=193,slow=32						
ASAR	**Alice Springs**	**46.93**	**257**	P	**P**	**10 10 27.4**	**+0.1**
	7.9nm,1.0s,mb4.6,baz=91,slow=8.0,SNR=40						
ASAR				PcP	PcP	10 12 00.9	+1.5
	1.0nm,0.8s,baz=91,slow=4.5,SNR=4.2						
ASAR				ScP	ScP	10 15 54.8	+4.3
	0.8nm,0.9s,baz=84,slow=4.0,SNR=4.1						
WB2	**Warramunga Arr**	**47.15**	**263**	*e*P	**P**	**10 10 28.7**	**-0.3**
WRAB	**Tennant Creek**	**47.16**	**263**	*e*P	**P**	**10 10 27.8**	**-1.2**
	7.1nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**47.16**	**263**	P	**P**	**10 10 28.5**	**-0.5**
	1.2nm,0.3s,mb4.3,baz=92,slow=7.9,SNR=39						
WRA				PcP	PcP	10 12 02.3	+2.0
	0.5nm,0.5s,baz=92,slow=3.9,SNR=5.6						
WRA				ScP	ScP	10 15 58.1	+6.7
	0.9nm,0.8s,baz=97,slow=4.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**55.59**	**262**	*e*P	**P**	**10 11 31.5**	**-0.7**
	6.2nm,1.0s,mb4.6						
MBWA	**Marble Bar**	**60.27**	**257**	*e*P	**P**	**10 12 04.0**	**-1.0**
CBIJ	**Chichi jima**	**63.80**	**318**	LR	LR	10 35 56.9	
	comp=Z,39nm,21.4s,MS3.6,baz=95,slow=32						
QSPA	**South Pole Qui**	**68.32**	**180**	*e*P	**P**	**10 13 01.7**	**+4.0**
	18nm,1.0s,mb5.1						
NVAR	**Mina Array Bea**	**80.08**	**42**	P	**P**	**10 14 10.0**	**+3.8**
	1.4nm,0.8s,mb4.0,baz=221,slow=8.1,SNR=12						
NVAR	**Mina Array Bea**	**80.08**	**42**	P	**P**	**10 14 10.0**	**+3.8**
PLCA	**Paso Flores**	**86.41**	**133**	P	**P**	**10 14 42.7**	**+3.9**
	2.2nm,1.1s,mb4.3,baz=235,slow=5.1,SNR=3.9						
PLCA				LR	LR	10 44 52.7	
	comp=Z,141nm,20.2s,MS4.4,baz=186,slow=30						
PLCA	**Paso Flores**	**86.41**	**133**	P	**P**	**10 14 42.7**	**+3.9**
PLCA				LR	LR	10 44 52.7	
PDAR	**Pinedale Array**	**88.01**	**42**	P	**P**	**10 14 49.5**	**+2.9**
	0.5nm,1.0s,mb3.7,baz=185,slow=7.0,SNR=4.7						
ILAR	**Eielson Array**	**88.95**	**12**	P	**P**	**10 14 52.6**	**+1.6**
	0.6nm,0.9s,mb3.9,baz=224,slow=5.7,SNR=9.3						
YKA	**Yellowknife Ar**	**96.51**	**24**	P	**P**	**10 15 28.0**	**+2.1**
	0.3nm,0.8s,mb3.8,baz=242,slow=4.5,SNR=8.9						
BVAR	**Borovoye Array**	**121.81**	**320**	PKP	PKPdf	10 20 52.0	+1.6
	0.4nm,0.3s,baz=129,slow=4.7,SNR=4.0						
ARCES	**ARCESS Array B**	**130.62**	**351**	PKP	PKPdf	10 21 08.2	+1.0
	2.4nm,0.8s,baz=33,slow=2.9,SNR=4.2						
AKASG	**Malin Array Be**	**145.41**	**333**	PKPbc	PKPbc	10 21 35.7	+1.4
	3.8nm,0.5s,baz=40,slow=4.2,SNR=31						
BRTR	**Keskin Array B**	**149.71**	**313**	PKPbc	PKPbc	10 21 48.5	+2.3
	2.1nm,0.8s,baz=139,slow=2.4,SNR=7.4						
CLL	**Collm**	**149.84**	**350**	*e*P	PKPbc	10 21 50.0	+3.6
CLL				*ex*	x	10 22 04.0	
BRG	**Berggiesshubel**	**150.09**	**349**	*e*P	PKPbc	10 21 50.3	+3.2
BRG				*e*		10 21 59.7	
GERES	**GERESS Array B**	**152.08**	**348**	PKPbc	PKPbc	10 21 55.5	+3.8
	0.9nm,0.8s,baz=270,slow=6.7,SNR=3.5						

ISCJB ***17*** *10:38:41.7±0.7, 95N±0.1×404W±0.1, h10km, mb3.8/8, MS3.7/10, Error ellipse: s-maj=22.0km s-min=16.7km az=104.6*
IDC ***17*** *10:38:41.6±0.8, 959N×4041W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/21, mbtmp3.9/8, MS3.8/10, Ms1 3.8/10, ms1mx3.6/31, Error ellipse: s-maj=25.9km s-min=

ASAR	Alice Springs	23.20	136	P	P	11 00 46.0	-0.3
	0.2nm,0.6s,baz=315,slow=8.8,SNR=6.0						
MKAR	Makanchi Array	62.05	334	P	P	11 06 00.3	+0.1
	0.5nm,0.7s,baz=143,slow=8.5,SNR=5.9						

*ISCJB **17** 11:05:18.5±1.6,2401S∧008×17996W±0.10,h484km±21km, mb4.0/13,Error ellipse: s-maj=14.6km s-min=11.6km az=52.3*
*IDC **17** 11:05:19.0±1.8,2407S×17989W,h480km±18km,mb3.3/8, mb1 3.6/11,mb1mx3.5/17,mbtmp4.2/11,Error ellipse: s-maj=23.6km s-min=15.2km az=142.0*
*NEIC **17** 11:05:19.6±1.0,2406S×17988W,h491km±11km,mb4.3/8, Error ellipse: s-maj=13.1km s-min=9.1km az=150.0*

ISC 17 11:05:19.3±1.3,2411S∧008×17986W±010,h483km±17km, n31,σ0§78/24,mb4.0/13,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.70	38	P	P	11 08 04.9	-0.5
	2.4nm,0.3s,baz=7.1,slow=16,SNR=5.4						
DZM	Mont Dzumac	12.77	276	P	P	11 08 06.8	+0.7
	0.2nm,0.3s,baz=124,slow=16,SNR=2.7						
URZ	Urewera	14.34	190	P	P	11 08 22.8	0.0
	1.4nm,0.3s,baz=28,slow=5.1,SNR=11						
URZ				S	S	11 10 53.8	-0.4
	0.8nm,0.3s,baz=226,slow=22,SNR=17						
RPZ	Rata Peaks	20.93	199	P	P	11 09 27.2	-0.1
	3.9nm,0.4s,baz=314,slow=5.8,SNR=6.9						
CTA	Charters Tower	31.61	271	*i*P	P	11 11 02.8	+1.3
	15nm,0.4s,mb4.8						
CTAO	Charters Tower	31.61	271	*e*P	P	11 11 02.4	+0.9
	16nm,0.5s,mb4.7						
PMG	Port Moresby	34.68	289	P	P	11 11 27.7	+0.1
STKA	Stephens Creek	34.76	248	*e*P	P	11 11 27.3	-0.9
	2.2nm,0.7s,mb3.7						
STKA	Stephens Creek	34.76	248	P	P	11 11 27.4	-0.9
	3.3nm,0.6s,mb4.0,baz=105,slow=9.9,SNR=11						
ASAR	Alice Springs	42.13	261	P	P	11 12 28.8	+0.6
	3.1nm,0.4s,mb4.1,baz=96,slow=7.3,SNR=127						
ASAR				ScP	ScP	11 17 16.2	+0.3
	1.7nm,0.7s,baz=110,slow=4.3,SNR=14						
WB2	Warramunga Arr	42.51	266	⇓*i*P	P	11 12 31.1	-0.2
WRAB	Tennant Creek	42.51	266	*e*P	P	11 12 30.7	-0.6
	18nm,1.0s,mb4.5						
WRA	Warramunga Arr	42.52	266	P	P	11 12 31.2	-0.2
	9.7nm,0.6s,mb4.4,baz=103,slow=8.1,SNR=102						
WRA				ScP	ScP	11 17 18.2	+0.7
	1.8nm,1.0s,baz=100,slow=3.9,SNR=9.3						
KAKA	Kakadu	46.46	275	*e*P	P	11 13 01.4	-0.4
	12nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	50.94	266	*e*P	P	11 13 35.9	+0.7
	8.6nm,0.7s,mb4.2						
NWAO	Narrogin (SRO)	55.27	246	*e*P	P	11 14 05.0	-1.1
MBWA	Marble Bar	55.46	260	*e*P	P	11 14 07.3	-0.2
	9.5nm,1.0s,mb4.1						
QSPA	South Pole Qui	65.97	180	*e*P	P	11 15 18.5	+1.5
	4.4nm,0.8s,mb4.1						
NVAR	Mina Array Bea	84.81	44	P	P	11 17 03.4	+1.2
	0.3nm,0.6s,mb3.1,baz=211,slow=6.9,SNR=4.3						
ELK	Elko	88.08	43	P	P	11 17 17.2	-0.5
	0.8nm,0.8s,mb3.5,baz=228,slow=4.5,SNR=4.4						
ELK	Elko	88.08	43	P	P	11 17 17.2	-0.5
ILAR	Eielson Array	92.20	13	P	P	11 17 35.0	-1.7
	0.2nm,0.7s,mb3.2,baz=227,slow=6.2,SNR=4.9						
PDAR	Pinedale Array	92.75	44	P	P	11 17 40.1	+0.8
	0.5nm,0.8s,mb3.6,baz=212,slow=1.9,SNR=5.5						
MKAR	Makanchi Array	112.39	313	PKiKP	PKiKP	11 22 58.4	-1.4
	0.2nm,0.9s,baz=89,slow=2.4,SNR=4.1						
BVAR	Borovoye Array	120.68	319	PKP	PKPdf	11 23 14.6	-1.1
	0.7nm,0.5s,baz=17,slow=1.5,SNR=5.4						
ZRNK	Zerenda	121.52	319	*e*P	PKPdf	11 23 15.9	-1.5
HFS	Hagfors	142.78	349	PKhKP		11 23 52.9	
	3.1nm,0.5s,baz=35,slow=3.6,SNR=19						
AKASG	Malin Array Be	145.22	327	PKPbc	PKPbc	11 24 00.8	-1.4
	1.2nm,0.5s,baz=44,slow=3.9,SNR=8.2						
AKASG	Malin Array Be	145.22	327	PKPbc	PKPbc	11 24 00.8	-1.4
BRTR	Keskin Array B	147.81	307	PKPbc	PKPbc	11 24 08.0	-1.3
	0.7nm,0.6s,baz=120,slow=4.4,SNR=4.1						
TORD	Torodi Ar. Bea	169.00	188	PKPab	PKPab	11 25 45.7	+0.6
	0.7nm,0.7s,baz=170,slow=3.9,SNR=4.4						

*ISCJB **17** 11:05:48.7±0.6,3806N∧002×2025E±003,h12km±3km, mb3.6/10,Error ellipse: s-maj=4.6km s-min=3.3km az=94.9*
*CSEM **17** 11:05:48.5±0.1,3788N×2046E,h2km,ML4.0,Error ellipse: s-maj=2.3km s-min=1.7km az=62.0*
*IDC **17** 11:05:49.4±1.2,3826N×2049E,h0km,mb3.6/10, mb1 3.8/12,mb1mx3.7/23,mbtmp3.7/12,ML3.8/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/33,Error ellipse: s-maj=25.8km s-min=20.1km az=60.0*
*ATH **17** 11:05:50.7,38.12N×2039E,h11km±1km,MD3.9/13,ML4.0*
*NEIC **17** 11:05:50.8,38.12N×2039E,h11km,MD4.0(PDG), ML4.0(ATH),After ATH.*
*PDG **17** 11:05:51.9±0.6,3825N×2038E,h11km±2km*
*HLW **17** 11:05:51.7,3840N×2146E,h33km,Mb4.1*
*THE **17** 11:05:53.1,3824N×2045E,h10km,ML3.9*
*NAO **17** 11:06:02.3,4008N×2560E,h33km,mb3.6*

ISC 17 11:05:50.0±0.6,3806N±002×2034E±003,h9km±3km,n98, σ1§30/128,mb3.6/10,2C-23D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	59	*e*PG	Pg	11 05 55.2	+0.5
VLS				*e*SG	Sg	11 05 57.8	-0.1
LKD	Levkas	0.69	21	*e*Pg	Pg	11 06 02.6	-0.8
RLS	Riolos of Patr	0.89	90	*e*PG	Pg	11 06 06.6	-0.6
RLS				*e*SB	Sb	11 06 18.8	-0.8
EVR	Evrytania	1.44	53	*e*PG	Pg	11 06 16.1	-1.5
EVR				*e*SB	Sb	11 06 35.5	+0.2
IGT	Igoumenitsa	1.47	360	*e*Pg	Pg	11 06 17.6	-0.7
IGT				*e*Sg	Sg	11 06 36.3	-1.1
ITM	Ithomi	1.54	124	*e*PB	Pb	11 06 19.8	+1.2
JAN	Janina	1.65	14	*e*PB	Pb	11 06 20.2	-0.3
JAN				*e*SB	Sb	11 06 42.2	+0.9
KEK	Kerkira	1.71	346	*e*PG	Pg	11 06 20.9	-1.9
KEK				*e*SB	Sb	11 06 45.1	+2.1
KEK	Kerkira	1.71	346	*e*Sb	Sb	11 06 45.1	+2.1
AGG	Agios Georgios	1.83	58	*e*Pb	Pb	11 06 23.2	-0.5
AGG				*e*Sb	Sb	11 06 46.5	-0.2
MEV	Metsovon	1.86	22	*e*Pb	Pb	11 06 23.5	-0.6
LKR	Lokris	2.17	73	*e*PN	Pn	11 06 27.8	+1.5
VLI	Veliai	2.46	122	*e*PN	Pn	11 06 34.0	+3.7
KZN	Kozani	2.51	26	*e*PN	Pn	11 06 32.6	+1.7
NAIG	Nisos Aigina	2.51	96	*e*PN	Pn	11 06 33.5	+2.6
NAIG	Nisos Aigina	2.51	96	*e*Pn	Pn	11 06 35.0	+4.1
NEO	Neokhori	2.58	60	*e*PB	Pb	11 06 33.2	-3.2
XOR	Xorichti	2.58	59	*e*Pn	Pn	11 06 33.0	+1.0
XOR	Xorichti	2.58	59	*e*Pn	Pn	11 06 33.0	+1.0
LIT	Litokhoron	2.64	39	*e*Pn	Pn	11 06 33.7	+1.0
LIT				*e*Sn	Sn	11 07 05.0	+0.2
ATH	Athens Observa	2.67	91	*e*PN	Pn	11 06 35.9	+2.8
MPAR	Parnis Oros	2.68	87	*e*PN	Pn	11 06 36.5	+3.2
PTL	Penteli	2.78	89	*e*PB	Pb	11 06 37.0	-2.9
KYTH	Kithira	2.79	129	*e*PB	Pb	11 06 38.5	-1.5
FNA	Florina	2.84	16	*e*Pn	Pn	11 06 36.8	+1.4
FNA				*e*Sn	Sn	11 07 10.5	+0.7
TIP	Timpagrande	3.02	293	Pn	Pn	11 06 39.7	+1.7
BIA	Bitola	3.05	14	*e*Pn	Pn	11 06 39.1	+0.7
BIA				*e*Sn	Sn	11 07 17.6	+2.5
BIA				*e*Lg		11 07 33.3	
	comp=E,106nm,0.6s						
BIA				*e*Lg		11 07 33.5	
	comp=N,118nm,0.8s						
BIA	Bitola	3.05	14	*e*Pn	Pn	11 06 39.0	+0.6
BIA				*e*Sn	Sn	11 07 17.6	+2.5
OHR	Ohrid	3.07	6	*e*Pn	Pn	11 06 40.1	+1.5
OHR				*e*Lg		11 07 28.5	
	comp=E,1μm,1.8s						
PLG	Polygyros	3.34	45	*e*PN	Pn	11 06 42.3	-0.1
PLG	Polygyros	3.34	45	*e*Pn	Pn	11 06 42.6	+0.2
PE1	Pezze di Greco	3.55	321	*e*Pn	Pn	11 06 46.3	+1.0
OUR	Ouranopolis	3.63	50	*e*Pn	Pn	11 06 47.0	+0.6
ORI	Oriolo Calabro	3.63	305	Pn	Pn	11 06 51.6	+5.2
KNT	Kendrikon	3.68	32	*e*Pn	Pn	11 06 47.8	+0.8
VAY	Valandovo	3.69	27	*e*Pn	Pn	11 06 48.2	+1.1
VAY				*e*Lg		11 07 48.9	
	comp=E,86nm,0.7s						
VAY				*e*Lg		11 07 49.4	
	comp=N,80nm,0.8s						
BRT	Bari-Castellan	3.72	320	Pn	Pn	11 06 49.2	+1.6
ATN	Antennamare	3.85	273	Pn	Pn	11 06 52.8	+3.5
STIP	Stip	3.90	21	*e*Pn	Pn	11 06 51.1	+1.1
SG1	Sgolgore (BA)	3.97	316	*e*Pn	Pn	11 06 52.8	+1.8
ULC	Ulcinj	3.99	348	⇓*i*Pn	Pn	11 06 51.5	+0.2
ULC				*e*Sn	Sn	11 07 37.7	-0.4
SKO	Skopje	4.00	12	*e*Pn	Pn	11 06 52.6	+1.2
BAI	Bari	4.05	320	*e*Pn	Pn	11 06 53.5	+1.3
NVR	Nevrokopi	4.26	38	*e*PN	Pn	11 06 57.3	+2.2
KKB	Krupnik	4.35	28	*i* P	Pn	11 06 57.0	+0.8
CDT	Castel del Mon	4.36	315	*e*Pn	Pn	11 06 58.0	+1.6
BUM	Brajici-Budva	4.38	346	⇓*i*Pn	Pn	11 06 57.1	+0.4
BUM				*e*Sn	Sn	11 07 46.7	-1.1
MMB	Musomiste	4.39	35	*i* P	Pn	11 06 57.0	+0.2
PZI	Palazzolo	4.40	259	Pn	Pn	11 06 55.5	-1.4
TTG	Podgorica	4.44	350	⇓*i*Pn	Pn	11 06 57.8	+0.3
TTG				*e*Sn	Sn	11 07 48.0	-1.4
PVY	Plav	4.54	357	⇓*i*Pn	Pn	11 06 59.9	+1.1
PVY				*e*Sn	Sn	11 07 51.0	-0.7
IDI	Anoyia	4.58	126	Pn	Pn	11 07 02.2	+2.7
	comp=N,0.8nm,0.3s,baz=318,slow=16,SNR=11						
IDI				Sn	Sn	11 07 52.6	-0.3
	comp=N,4.4nm,0.3s,baz=318,slow=22,SNR=15						
IDI				LR	LR	11 09 14.0	
	comp=N,100nm,18.8s,baz=69,slow=44						
HCY	Herceg Novi	4.61	343	⇓*i*Pn	Pn	11 06 59.8	0.0
HCY				*e*Sn	Sn	11 07 52.1	-1.3
SGO	Sicignano	4.63	304	Pn	Pn	11 06 56.8	-3.4
VAE	Valguarnera	4.73	265	Sn	Sn	11 08 03.5	+7.0
	comp=N,4.1nm,0.3s,baz=219,slow=12,SNR=4.5						
IVA	Berane	4.82	356	*e*Pn	Pn	11 07 03.1	+0.4
IVA				*e*Sn	Sn	11 07 57.6	-1.1
NKY	Niksic	4.86	348	⇓*i*Pn	Pn	11 07 04.2	+0.9
NKY				*e*Sn	Sn	11 07 58.1	-1.5
RZN	Rozhen	4.95	42	*i* P	Pn	11 07 05.0	+0.5
CSSN	Cassano Irpino	4.97	306	Pn	Pn	11 07 10.3	+5.4
BRY	Bratogost	5.03	345	⇓*i*Pn	Pn	11 07 05.6	+0.1
BRY				*e*Sn	Sn	11 08 02.7	-1.0
VTS	Vitosha	5.03	25	*e*P	Pn	11 07 03.0	-2.6
STON	Ston	5.21	338	*i* Pn	Pn	11 07 07.6	-0.5
STON				*i* Sn	Sn	11 08 03.6	-4.7
UPM	Unac-Piva	5.25	349	⇓*i*Pn	Pn	11 07 09.9	+1.2
UPM				*e*Sn	Sn	11 08 08.2	-1.1
PLE	Pljevlja	5.32	353	*e*Pn	Pn	11 07 10.8	+1.3
PLE				*e*Sn	Sn	11 08 09.1	-1.7
CII	Carovilli	5.91	310	Pn	Pn	11 07 23.4	+5.7
MTCE	Montecelio	7.04	307	Pn	Pn	11 07 32.8	-0.5
	comp=N,577nm,0.5s						
NRCA	Norcia	7.29	313	Pn	Pn	11 07 40.1	+3.5
SLUM		7.68	147	⇓P	Pn	11 07 40.0	-1.9
MLR	Muntele Rosu	8.52	28	Pn	Pn	11 07 56.8	+3.2
	comp=N,0.3nm,0.3s,baz=158,slow=5.5,SNR=6.3						
VOY	Vojsko	9.29	331	*e*Pn	Pn	11 08 04.3	+0.1
VOY				*e*Sn	Sn	11 09 44.6	-4.2
OBKA	Obir	9.47	335	⇓Sn	Sn	11 09 47.8	-5.3
OBKA	Obir	9.47	335	⇓*i*Pn	Pn	11 08 06.6	+0.1
OBKA				⇓*i*Sn	Sn	11 09 47.8	-5.3
OBKA	Obir	9.47	335	⇓Pn	Pn	11 08 06.6	+0.1
OBKA				Sn	Sn	11 09 47.8	-5.3
SWA2		9.77	153	⇓*i*P	Pn	11 08 10.0	-0.7
PTCC	Patocco-Chiusa	9.81	330	Pn	Pn	11 08 11.8	+0.5
ARSA	Arzberg	9.85	340	⇓Sn	Sn	11 09 55.6	-6.7
ARSA	Arzberg	9.85	340	⇓*i*Pn	Pn	11 08 10.8	-0.9
ARSA				⇑*i*Sn	Sn	11 10 03.5	+1.2
ARSA	Arzberg	9.85	340	⇓Pn	Pn	11 08 10.8	-0.9
ARSA				Sn	Sn	11 09 55.6	-6.7
SWA1		9.85	151	⇓*e*P	Pn	11 08 11.1	-0.6
SWA1				S	Sn	11 09 52.8	-10
BRTR	Keskin Array B	10.50	77	Pn	Pn	11 08 24.5	+3.8
	comp=N,0.2nm,0.3s,baz=258,slow=12,SNR=5.4						
MOA	Molln	10.75	338	⇓Sn	Sn	11 10 18.4	-6.0
MOA	Molln	10.75	338	⇓*i*Pn	Pn	11 08 23.3	-0.8
MOA				⇓*i*Sn	Sn	11 10 18.4	-6.0
DAVOX	Davos	11.64	322	Sn	Sn	11 10 43.9	-2.4
	comp=N,0.2nm,0.3s,baz=319,slow=19,SNR=2.9						
GERES	GERESS Array B	11.80	338	Pn	Pn	11 08 38.0	-0.5
	comp=N,0.6nm,0.3s,baz=157,slow=14,SNR=5.0						
AWBH		12.06	141	⇑P	Pn	11 08 39.5	-2.6
HFRF	Wahat Farafira	12.78	146	⇓P	Pn	11 08 50.2	-1.7
HDK1	Dakhla	14.65	146	⇓P	Pn	11 09 16.2	-1.2
HFS	Hagfors	22.50	351	P	P	11 10 48.8	-0.9
	comp=N,1.8nm,0.5s,mb3.8,baz=169,slow=8.8,SNR=15						
FINES	FINESS Array B	23.68	7	P	P	11 11 00.1	-1.9
	comp=N,1.0nm,0.4s,mb3.6,baz=166,slow=12,SNR=12						
NB2	NORSAR Subarra	23.71	349	P	P	11 11 01.0	-1.3
	comp=Z,1.6nm,0.6s,mb3.6,baz=150,slow=10						
NOA	NORSAR Array B	23.71	349	P	P	11 11 01.5	-0.8
	comp=Z,1.1nm,0.6s,mb3.5,baz=150,slow=9.8,SNR=4.4						
TORD	Torodi Ar. Bea	29.85	219	P	P	11 11 59.9	+2.3
	comp=Z,0.8nm,0.8s,mb3.5,baz=33,slow=9.4,SNR=3.7						
ARCES	ARCESS Array B	31.66	3	P	P	11 12 12.1	-1.5
	comp=Z,1.8nm,1.0s,mb3.9,baz=193,slow=10.0,SNR=5.5						
BVAR	Borovoye Array	37.30	50	P	P	11 13 01.3	-1.0
	comp=Z,0.4nm,0.6s,mb3.5,baz=251,slow=4.4,SNR=3.0						
MKAR	Makanchi Array	45.49	58	P	P	11 14 08.1	-1.4
	comp=Z,0.8nm,0.4s,mb3.9,baz=274,slow=7.6,SNR=34						
ZAL	Zalesovo	45.87	48	P	P	11 14 11.1	-1.5
	comp=Z,1.4nm,0.5s,mb4.2,baz=236,slow=5.4,SNR=5.7						
SONM	Songino Array	60.65	50	P	P	11 15 59.9	-1.4
	comp=Z,0.3nm,0.6s,mb3.6,baz=286,slow=10,SNR=3.6						
YKA	Yellowknife Ar	73.45	340	P	P	11 17 23.2	+0.5
	comp=Z,0.1nm,0.5s,mb3.0,baz=32,slow=5.9,SNR=3.6						

IDC 17 11:25:10.0±3.4,1660S×17520W,h170km±56km,mb3.1/3, mb1 3.4/4,mb1mx3.2/15,mbtmp3.7/4,MS3.3/1,Ms1 3.3/1, ms1mx2.9/10,Error ellipse: s-maj=334.7km s-min=23.3km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.25	52	P	Pn	11 26 16.0	+2.0
	1.8nm,0.3s,baz=170,slow=17,SNR=2.9						
AFI				S	Sn	11 27 03.7	-0.3
	9.5nm,0.3s,baz=67,slow=21,SNR=6.7						
HNR	Honiara	25.22	283	LR	LR	11 38 22.7	
	comp=Z,63nm,19.2s,baz=359,slow=31						
WRA	Warramunga Arr	47.89	258	P	P	11 33 31.0	+0.1
	0.1nm,0.4s,baz=96,slow=6.7,SNR=7.8						
ASAR	Alice Springs	48.10	253	P	P	11 33 32.8	+0.3
	1.3nm,0.6s,baz=89,slow=8.5,SNR=43						
ILAR	Eielson Array	83.95	12	P	P	11 37 20.8	-0.2
	0.2nm,0.5s,baz=218,slow=5.3,SNR=8.0						

GUC 17 11:25:58.1±0.9,2319S×6985W,h60km,MD3.6,ML3.3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	0.38	238	*e*P	Pn	11 26 11.7	+2.8
CEN1				*i* S	Sn	11 26 21.1	+4.4
CEN1				AMP		11 26 22.0	
	comp=N,3μm,0.9s						
ANCH	Antofagasta	0.71	226	*e*P	Pn	11 26 11.3	-1.2
ANCH				*i* S	Sn	11 26 21.8	-1.3
ANCH				AMP		11 26 22.5	
	comp=N,3μm,0.1s						
LVC	Limon Verde	1.03	57	*e*P	Pn	11 26 17.9	+1.3
LVC				*i* S	Sn	11 26 32.0	+1.7
LVC				AMP		11 26 34.2	
	comp=N,741nm,0.6s						
CPN1	Cerro Paranal	1.52	199	*e*P	Pn	11 26 26.9	+3.9
CPN1				*i* S	Sn	11 26 47.2	+5.4
CPN1				AMP		11 26 49.7	
	comp=E,853nm,0.8s						

*IDC **17** 11:43:31.9±0.9,4012N×1982E,h0km,mb3.9/13, mb1 4.0/18,mb1mx4.0/27,mbtmp3.9/18,ML3.9/5,MS2.9/1, Ms1 2.9/1,ms1mx2.5/25,Error ellipse: s-maj=17.3km s-min=13.1km az=48.0*
*ISCJB **17** 11:43:32.6±0.4,4013N∧002×1972E±002,h10km±3km, mb3.8/13,Error ellipse: s-maj=3.2km s-min=2.4km az=99.7*
*MOS **17** 11:43:32.5±1.4,4012N×1970E,h10km,mb4.1/12,Error ellipse: s-maj=6.5km s-min=3.6km az=90.0*
*NEIC **17** 11:43:33.0,4013N×1974E,h16km,ML4.2(PDG), ML4.3(ATH),After ATH.*
*ATH **17** 11:43:33.0,4013N×1974E,h16km±1km,MD4.0/11,ML4.3*
*PDG **17** 11:43:33.9±0.5,4012N×1971E,h5km±2km*
*HLW **17** 11:43:33.4,4010N×2025E,h33km,Mb4.3*
*SKO **17** 11:43:33.8,4014N×1980E,h2km,M3.4*
*TIR **17** 11:43:34.1,4012N×1995E,h13km*
*THE **17** 11:43:34.9,4008N×1985E,h10km,ML3.9*
*CSEM **17** 11:43:34.9±0.1,4007N×1982E,h5km,ML4.3,Error ellipse: s-maj=1.8km s-min=1.2km az=23.0*
*LDG **17** 11:43:35.1±0.1,4016N×1945E,h10km,Ml4.0/6,Error ellipse: s-maj=5.2km s-min=2.7km az=25.0*
*NAO **17** 11:43:47.1,41.19N×2014E,h33km,mb3.7*

ISC 17 11:43:34.4±0.3,4008N±002×1979E±002,h11km±2km, n228,σ1§40/288,mb3.9/13,27C-40D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.25	141	*i* Pg	Pg	11 43 39.2	-0.5
SRN				*i* Sg	Sg	11 43 43.9	+0.7
TPE	Tepelena	0.27	37	*i* Pg	Pg	11 43 38.1	-1.9
TPE				*i* Sg	Sg	11 43 41.0	-2.8
KEK	Kerkira	0.36	179	*e*PB	Pg	11 43 41.9	+0.2
KEK				*e*SB	Sg	11 43 48.0	+1.4
VLO	Vlora	0.45	330	*i* Pg	Pg	11 43 44.6	+1.3
VLO				*i* Sg	Sg	11 43 52.0	+2.7
LSK	Leskovik	0.62	83	*i* Pg	Pg	11 43 45.1	-1.4
LSK				*i* Sg	Sg	11 43 54.3	-0.4
IGT	Igoumenitsa	0.69	143	*e*Pg	Pg	11 43 47.1	-0.6
JAN	Janina	0.92	117	*e*PN	Pn	11 43 51.3	-1.9
JAN				*e*SN	Sn	11 44 04.9	-1.4
KBN	Korca	0.93	54	*i* Pg	Pg	11 43 50.5	-1.9
KBN				*i* Sg	Sg	11 44 05.6	+1.0
MEV	Metsovon	1.14	104	*e*Pg	Pg	11 43 55.6	-0.8
TIR	Tirane	1.27	2	⇓*e*Pn	Pn	11 43 58.6	+0.6
OHR	Ohrid	1.28	36	*i* Pn	Pn	11 43 57.3	-0.9
OHR				*i* Sn	Sn	11 44 18.7	+3.3
OHR				*e*Lg		11 44 20.3	
	comp=E,2μm,0.5s						
OHR	Ohrid	1.28	36	*i* Pn	Pn	11 43 57.2	-1.0
OHR				*i* Sn	Sn	11 44 18.7	+3.3
LCI	Lecce	1.31	282	Pn	Pn	11 43 58.5	-0.1
FNA	Florina	1.40	59	*e*Pg	Pg	11 43 59.7	-1.5
BIA	Bitola	1.50	51	*i* Pn	Pn	11 44 00.2	-0.9
BIA				*i* Sn	Sn	11 44 23.8	+3.2
BIA				*e*Lg		11 44 24.5	
	comp=E,1μm,0.6s						
BIA				*e*Lg		11 44 26.4	
	comp=N,1μm,0.7s						
BIA	Bitola	1.50	51	*i* Pn	Pn	11 44 00.2	-1.0
BIA				*i* Sn	Sn	11 44 23.8	+3.1
LKD	Levkas	1.52	154	*e*Pg	Pg	11 44 02.1	-1.5
LKD				*e*Sg	Sg	11 44 23.8	+0.4
KZN	Kozani	1.53	81	*e*PN	Pn	11 44 02.4	+0.8
KZN				*e*SN	Sn	11 44 24.0	+2.5
LACI	Lac	1.56	358	*i* Pn	Pn	11 44 02.9	+0.9
LACI				*i* Sn	Sn	11 44 26.0	+3.9
SAMO	Samokov	1.91	32	*i* Pn	Pn	11 44 08.0	+1.2
SAMO				*i*		11 44 09.3	
SAMO				*i* Sn	Sn	11 44 35.2	+4.4
ULC	Ulcinj	1.93	348	⇓*i*Pn	Pn	11 44 07.0	-0.1
ULC				*e*Sn	Sn	11 44 34.5	+3.2
EVR	Evrytania	1.94	126	*e*PN	Pn	11 44 09.0	+1.7
EVR				*e*SN	Sn	11 44 34.9	+3.3
PE1	Pezze di Greco	1.95	293	*e*Pn	Pn	11 44 07.6	+0.2
BELI	Belica	1.96	35	*e*Pn	Pn	11 44 05.8	-1.7
BELI				*i*		11 44 06.8	
BELI				*i*		11 44 08.2	
BELI				*i* Sn	Sn	11 44 39.6	+7.7
VLS	Valsamata	2.00	162	*e*PB	Pb	11 44 08.9	-1.8
LIT	Litokhoron	2.07	89	*e*Pn	Pn	11 44 10.2	+1.2
BRT	Bari-Castellan	2.13	293	Pn	Pn	11 44 11.6	+1.7
GRG	Griva	2.17	65	*e*Pn	Pn	11 44 10.9	+0.5
AGG	Agios Georgios	2.23	117	*e*Pn	Pn	11 44 12.6	+1.4
AGG				*e*Sn	Sn	11 44 40.9	+2.2
SKO	Skopje	2.27	33	*i* Pn	Pn	11 44 12.9	+1.2
SKO				*i* Sn	Sn	11 44 45.0	+5.4
SKO				*e*Lg		11 44 48.7	
	comp=E,1μm,0.8s						
SKO				*e*Lg		11 44 53.5	
	comp=N,938nm,0.6s						
SKO	Skopje	2.27	33	*e*Pn	Pn	11 44 13.4	+1.7
BCI	Bajram Curri	2.30	5	*i* Pn	Pn	11 44 13.5	+1.4
BUM	Brajici-Budva	2.32	343	⇓*i*Pn	Pn	11 44 12.6	+0.1
BUM				*e*Sn	Sn	11 44 40.0	+3.0
TTG	Podgorica	2.38	350	⇓*i*Pn	Pn	11 44 13.7	+0.3
TTG				*e*Sn	Sn	11 44 45.4	+2.9

comp=N,7.6nm,0.3s,baz=321,slow=19,SNR=7.6
BOJS Bojanci 6.37 330 *i* Pn **Pn 11 45 08.3 +0.2**
GCIS Gornji Cirnik 6.54 334 *e*Pn **Pn 11 45 09.8 -0.7**
VOIR 6.61 34 ⇑P **Pn 11 45 11.7 +0.3**
VOIR 6.61 34 ⇑P **Pn 11 45 11.7 +0.3**
MLR Muntele Rosu 7.05 38 Pn **Pn 11 45 18.8 +1.3**
comp=N,0.5nm,0.3s,baz=179,slow=14,SNR=5.8
MLR LR LR 11 47 22.7
comp=N,95nm,21.4s,baz=295,slow=33
MLR Muntele Rosu 7.05 38 ⇓P **Pn 11 45 21.9 +4.4**
MLR Muntele Rosu 7.05 38 Pn **Pn 11 45 18.8 +1.3**
MLR ⇓P 11 45 21.9
MLR LR LR 11 47 22.7
ISR Istrita 7.08 42 ⇓P **Pn 11 45 22.0 +4.1**
ISR Istrita 7.08 42 ⇓P **Pn 11 45 22.0 +4.1**
LJU Ljubljana 7.10 329 *e*Pn **Pn 11 45 17.6 -0.6**
LJU *e*Sn **Sn 11 46 38.5 -0.3**
VOY Vojsko 7.35 326 *e*Pn **Pn 11 45 20.8 -0.8**
VOY *e*Sn **Sn 11 46 42.6 -2.4**
PERS Pernice 7.39 334 *i* Pn **Pn 11 45 21.2 -0.9**
OBKA Obir 7.48 331 ⇑Sn **Sn 11 46 40.4 -7.8**
OBKA Obir 7.48 331 ⇑*i*Pn **Pn 11 45 23.0 -0.3**
SNR=14
OBKA ⇑*i*Sn **Sn 11 46 40.4 -7.8**
OBKA Obir 7.48 331 ⇑*i*Pn **Pn 11 45 23.0 -0.3**
OBKA Sn **Sn 11 46 40.4 -7.8**
HARR Harsova 7.58 50 ⇓P **Pn 11 45 28.1 +3.3**
HARR Harsova 7.58 50 ⇓P **Pn 11 45 28.1 +3.3**
VRI Vrincioaia 7.70 39 ⇑P **Pn 11 45 30.6 +4.2**
TIRR Tirgusor 7.75 53 ⇑P **Pn 11 45 20.8 -6.2**
ARSA Arzberg 7.81 338 ⇑Sn **Sn 11 46 51.6 -4.6**
ARSA Arzberg 7.81 338 ⇑*i*Pn **Pn 11 45 27.5 -0.4**
SNR=9.7
ARSA ⇑*i*Sn **Sn 11 46 51.6 -4.6**
ARSA Arzberg 7.81 338 ⇑*i*Pn **Pn 11 45 27.5 -0.4**
ARSA Sn **Sn 11 46 51.6 -4.6**
PSZ Piszkesteto 7.84 0 *e*Pn **Pn 11 45 27.7 -0.6**
comp=N,13nm,0.9s
PSZ Piszkesteto 7.84 0 *e*P **Pn 11 45 27.7 -0.6**
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 7.84 0 *e*Pn **Pn 11 45 27.7 -0.6**
comp=Z,13nm,0.9s
CFR Carcaliu 7.99 48 ⇓P **Pn 11 45 32.4 +2.1**
KBA Koelnbreinsper 8.42 328 ⇓Sn **Sn 11 47 03.4 -7.8**
KBA Koelnbreinsper 8.42 328 ⇓*i*Pn **Pn 11 45 35.7 -0.5**
SNR=7.3
KBA ⇓*i*Sn **Sn 11 47 03.4 -7.8**
KECS Kecovo 8.42 3 *e*PN **Pn 11 45 38.7 +2.4**
CTI Castel Tesino 8.43 318 Pn **Pn 11 45 35.8 -0.6**
VYHS Vyhne 8.44 356 *e*PN **Pn 11 45 37.0 +0.4**
BURAR Bucovina Array 8.49 26 ⇑P **Pn 11 45 38.6 +1.4**
BURAR Bucovina Array 8.49 26 ⇑P **Pn 11 45 38.6 +1.4**
PGF Pioggiola 8.49 290 *e*Pn **Pn 11 45 31.6 -5.7**
PGF *e*Sn **Sn 11 47 00.7 -12**
comp=Z,7.8nm,0.6s
MOA Molln 8.73 335 ⇑Sn **Sn 11 47 12.3 -6.6**
MOA Molln 8.73 335 *i* Pn **Pn 11 45 40.6 0.0**
SNR=10
MOA ⇑*i*Sn **Sn 11 47 12.3 -6.6**
MOA Molln 8.73 335 *i* Pn **Pn 11 45 40.5 0.0**
MOA Sn **Sn 11 47 12.3 -6.6**
CRVS Cervenica-Dubn 8.90 7 *e*PN **Pn 11 45 42.4 -0.5**
KOLS Kolonicke sedl 9.03 13 *e*PN **Pn 11 45 45.1 +0.5**
WTTA Wattenberg 9.30 323 ⇑Sn **Sn 11 47 24.0 -8.8**
WTTA Wattenberg 9.30 323 ⇑*i*Pn **Pn 11 45 46.2 -2.1**
WTTA ⇓*i*Sn **Sn 11 47 29.5 -3.4**
WTTA Wattenberg 9.30 323 Pn **Pn 11 45 46.2 -2.1**
WTTA Sn **Sn 11 47 24.0 -8.8**
WATA Walderalm 9.38 323 ⇓Sn **Sn 11 47 25.0 -10**
WATA Walderalm 9.38 323 ⇓*i*Pn **Pn 11 45 48.0 -1.4**
WATA ⇓*i*Sn **Sn 11 47 25.0 -10**
SQTA Sankt Quirin 9.47 322 ⇓Sn **Sn 11 47 27.7 -9.2**
SQTA Sankt Quirin 9.47 322 ⇓*i*Pn **Pn 11 45 49.3 -1.4**
SNR=6.9
SQTA ⇓*i*Sn **Sn 11 47 27.7 -9.2**
SQTA Sankt Quirin 9.47 322 ⇓*i*Pn **Pn 11 45 49.3 -1.4**
SQTA Sn **Sn 11 47 27.7 -9.2**
MOTA Moosalm 9.61 322 ⇑Sn **Sn 11 47 32.7 -7.7**
MOTA Moosalm 9.61 322 ⇑*i*Pn **Pn 11 45 52.0 -0.5**
SNR=11
MOTA ⇓*i*Sn **Sn 11 47 39.3 -1.1**
MOTA Moosalm 9.61 322 ⇑*i*Pn **Pn 11 45 52.0 -0.5**
MOTA Sn **Sn 11 47 32.7 -7.7**
SLUM 9.63 151 ⇓P **Pn 11 45 48.8 -4.0**
GERES GERESS Array B 9.78 336 Pn **Pn 11 45 53.7 -1.3**
comp=Z,1.3nm,0.3s,baz=157,slow=13,SNR=19
GERES Sn **Sn 11 47 43.3 -1.5**
comp=Z,0.6nm,0.3s,baz=157,slow=26,SNR=4.4
GERES GERESS Array B 9.78 336 P **Pn 11 45 53.7 -1.3**
GERES 11 47 43.3
GERES pmax pmax
comp=Z,1.0nm,0.3s
DAVOX Davos 9.84 316 Pn **Pn 11 45 55.8 +0.1**
comp=Z,0.9nm,0.3s,baz=159,slow=18,SNR=7.1
DAVOX Sn **Sn 11 47 44.7 -1.4**
comp=Z,0.6nm,0.3s,baz=37,slow=20,SNR=2.3
SBF Sospel 9.95 296 *e*Pn **Pn 11 45 52.3 -4.9**
KHC Kasperske Hory 10.07 336 *e*P **Pn 11 45 57.5 -1.4**
KHC Kasperske Hory 10.07 336 ⇓*i*P **Pn 11 45 57.7 -1.2**
PRU Pruhonice 10.58 341 *e*P **Pn 11 46 08.3 +2.4**
MBDF Montbardon 10.69 300 *e*Pn **Pn 11 46 02.3 -5.1**
MBDF Montbardon 10.69 300 *e*P **Pn 11 46 08.1 +0.7**
MBDF *e*Sn **Sn 11 47 53.2 -14**
comp=Z,7.5nm,0.7s
MBDF Montbardon 10.69 300 *e*P **Pn 11 46 08.1 +0.7**
LPG La Plagne 11.01 304 *e*Pn **Pn 11 46 06.8 -4.9**
LPG La Plagne 11.01 304 *e*P **Pn 11 46 12.6 +0.9**
LPG *e*Sn **Sn 11 48 00.9 -14**
comp=Z,11nm,0.7s
LPG La Plagne 11.01 304 *e*P **Pn 11 46 12.6 +0.9**
LPL La Plagne 11.03 304 *e*Pn **Pn 11 46 05.9 -6.1**
LPL *e*Sn **Sn 11 48 01.1 -14**
comp=Z,15nm,0.6s
SMRF Simiane la Rot 11.27 295 *e*Pn **Pn 11 46 09.8 -5.5**
ORIF Oris-en-Rattie 11.35 300 *e*Sn **Sn 11 48 08.3 -15**
comp=Z,7.1nm,0.7s
DABA Dabaa 11.38 140 P **Pn 11 46 12.2 -4.7**
BRG Berggiesshubel 11.54 341 P **Pn 11 46 20.5 +1.4**
SWA2 11.77 155 ⇓P **Pn 11 46 18.9 -3.2**
SWA1 11.83 154 ⇓P **Pn 11 46 19.4 -3.7**
CABF La Chapelle 11.92 308 *e*Pn **Pn 11 46 19.4 -4.8**
CABF La Chapelle 11.92 308 *e*P **Pn 11 46 24.7 +0.5**
CABF La Chapelle 11.92 308 *e*P **Pn 11 46 24.7 +0.5**
HINF Hinteralfeld 12.11 314 *e*Pn **Pn 11 46 22.1 -4.7**
HINF *e*Sn **Sn 11 48 27.2 -14**
comp=Z,4.3nm,0.3s
CLL Collm 12.19 339 P **Pn 11 46 26.1 -1.7**
HAU Haudompre 12.49 314 *e*Pn **Pn 11 46 26.8 -5.2**
HAU Haudompre 12.49 314 *e*P **Pn 11 46 32.4 +0.4**
HAU Haudompre 12.49 314 *e*P **Pn 11 46 32.4 +0.4**
AKASG Malin Array Be 12.51 29 Pn **Pn 11 46 31.6 -0.6**
comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=3.1
AKASG Malin Array Be 12.51 29 P **Pn 11 46 31.6 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
HBRG Burj al 'Arab 12.53 136 ⇓P **Pn 11 46 27.8 -4.7**
HBRG S **Sn 11 48 35.5 -16**
SMF Signal de Mont 13.32 305 *e*Pn **Pn 11 46 36.2 -7.2**
LOR Lormes 13.58 307 *e*Pn **Pn 11 46 41.3 -5.5**
LOR Lormes 13.58 307 *e*P **Pn 11 46 46.8 0.0**
LOR Lormes 13.58 307 *e*P **Pn 11 46 46.8 0.0**
AWBH 13.93 145⇑*e*P **Pn 11 46 47.8 -3.9**
GLL Jalalah 14.32 133 P **Pn 11 46 52.4 -4.6**
HFRF Wahat Farafira 14.71 149 P **Pn 11 46 58.9 -3.4**
SUZ 14.77 130 ⇓P **Pn 11 46 59.0 -4.1**
SOC Sochi 15.26 70 *e*P **Pn 11 47 08.7 -0.9**
comp=Z,15nm,0.9s
SOC *e*S **Sn 11 49 58.0 -0.6**
comp=Z,586nm,18.0s
SOC Sochi 15.26 70 *e*P **Pn 11 47 08.7 -0.9**
SOC *e* 11 49 58.0
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,586nm,18.0s
HDK1 Dakhla 16.57 148⇓*e*P **Pn 11 47 25.2 -1.5**
HHRG Al Ghardaqah 17.18 134 ⇓P **Pn 11 47 32.4 -1.8**
OBN Obninsk 18.74 31 *e*P **Pn 11 47 52.7 -0.9**
comp=Z,12nm,0.6s
OBN Obninsk 18.74 31 *e*P **Pn 11 47 52.7 -0.9**
OBN pmax pmax
comp=Z,12nm,0.6s
VSU Vasula 18.93 11 *i* P **Pn 11 47 54.0 -1.8**
GNI Garni 19.07 82 *e*P **Pn 11 47 57.4 -0.1**
comp=Z,100nm,17.0s
GNI Garni 19.07 82 *e*P **Pn 11 47 57.4 -0.1**
GNI pmax pmax
comp=Z,6.0nm,1.1s
GNI MLR MLR
comp=Z,100nm,17.0s
HFS Hagfors 20.44 351 P **P 11 48 10.5 -1.2**
comp=Z,3.1nm,0.5s,baz=163,slow=11,SNR=10
HFS Hagfors 20.44 351 P **P 11 48 10.5 -1.2**
HFS pmax pmax
comp=Z,3.0nm,0.5s
EKA Eskdalemuir Ar 21.56 323 P **P 11 48 23.2 -0.6**
comp=Z,2.8nm,0.7s,mb3.8,baz=123,slow=9.1,SNR=7.0
EKA Eskdalemuir Ar 21.56 323 P **P 11 48 23.2 -0.6**
EKA pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 21.65 349 P **P 11 48 23.2 -1.5**
comp=Z,2.7nm,0.6s,mb3.9,baz=161,slow=11
NOA NORSAR Array B 21.65 349 P **P 11 48 23.7 -1.0**
comp=Z,3.8nm,0.6s,mb4.0,baz=160,slow=9.7,SNR=9.3
NOA NORSAR Array B 21.65 349 P **P 11 48 23.7 -1.0**
NOA pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 21.74 8 P **P 11 48 23.1 -2.6**
comp=Z,2.0nm,0.5s,mb3.9,baz=184,slow=11,SNR=17
FINES FINESS Array B 21.74 8 P **P 11 48 23.1 -2.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 22.42 8 *e*p **P 11 48 30.6 -2.3**
JOF Joensuu 23.89 13 *e*p **P 11 48 46.0 -2.0**
AKTK Aktyubinsk 28.54 56 P **P 11 49 27.8 -2.2**
AKTO Aktyubinsk 28.54 56 P **P 11 49 27.8 -2.2**
comp=Z,0.6nm,0.3s,mb3.8,baz=280,slow=6.1,SNR=4.7
AKTO Aktyubinsk 28.54 56 P **P 11 49 27.8 -2.2**
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ARCES ARCESS Array B 29.68 4 P **P 11 49 37.4 -2.6**
comp=Z,2.4nm,0.8s,mb4.0,baz=188,slow=11,SNR=14
ARCES ARCESS Array B 29.68 4 P **P 11 49 37.4 -2.7**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 29.68 4 P **P 11 49 37.4 -2.7**
TORD Torodi Ar. Bea 31.20 216 P **P 11 49 54.3 +0.8**
comp=Z,0.4nm,0.7s,mb3.4,baz=16,slow=10.0,SNR=3.6
AAK Ala-Archa 40.54 68 *e*P **P 11 51 12.4 -1.1**
comp=Z,4.0nm,1.7s,mb3.8
AAK Ala-Archa 40.54 68⇑*e*P **P 11 51 12.4 -1.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s,mb3.8
KURK Kurchatov 41.62 55⇓*e*P **P 11 51 23.6 +1.1**
MKAR Makanchi Array 44.81 60 P **P 11 51 46.4 -1.8**
comp=Z,3.1nm,0.5s,mb4.4,baz=280,slow=6.8,SNR=32
MKAR Makanchi Array 44.81 60 P **P 11 51 46.4 -1.8**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
ZAL Zalesovo 44.86 49 P **P 11 51 46.5 -2.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=189,slow=7.6,SNR=4.8
ZAL Zalesovo 44.86 49 P **P 11 51 46.5 -2.1**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 44.86 49 P **P 11 51 46.5 -2.1**
SONM Songino Array 59.70 51 P **P 11 53 37.7 -1.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=285,slow=6.0,SNR=7.0
SONM Songino Array 59.70 51 P **P 11 53 37.7 -1.2**
SONM pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 71.42 340 P **P 11 54 53.4 -1.1**
comp=Z,0.6nm,0.7s,mb3.6,baz=36,slow=5.3,SNR=18
YKA Yellowknife Ar 71.42 340 P **P 11 54 53.4 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 71.42 340 P **P 11 54 53.4 -1.1**
ULM Lac du Bonnet 73.84 323 P **P 11 55 08.3 -0.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=18,slow=3.2,SNR=4.5
HABR Khabarovsk 74.88 39 *i* P **P 11 55 08.7 -6.4**
ILAR Eielson Array 74.97 354 P **P 11 55 14.9 -0.7**
comp=Z,0.6nm,0.9s,mb3.5,baz=2.9,slow=3.5,SNR=5.9
ILAR Eielson Array 74.97 354 P **P 11 55 14.9 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 122.91 95 PKP PKPdf 12 02 29.1 -1.4
comp=Z,0.9nm,1.0s,baz=254,slow=2.3,SNR=4.8
ASAR Alice Springs 122.91 95 PKIKP PKPdf 12 02 29.2 -1.4
ASAR pmax pmax
comp=Z,1.0nm,1.0s

*NEIC **17** 11:44:03.9, 1796N×10196W, h5km, MD4.0(MEX), After MEX.*

MEX 17 11:44:03.9±0.9, 1796N×10196W, h5km±21km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.85**	**119**	*e*P	Pn	11 44 32.3	-4.0
CAIG				*i* S	Sn	11 44 55.7	-4.4
MOIG	**Morelia**	**1.86**	**23**	*i* P	Pn	11 44 33.4	-3.1
MOIG				*i* S	Sn	11 44 55.9	-4.5
MEIG	**Mezcala**	**2.23**	**90**	*e*P	Pn	11 44 37.7	-3.8
MEIG				*i* S	Sn	11 45 05.0	-4.4
ACX	**Acapulco**	**2.23**	**119**	*i* P	Pn	11 44 39.2	-2.3
PLIG	**Platanillo**	**2.38**	**79**	*e*P	Pn	11 44 41.2	-2.4
PLIG				*i* S	Sn	11 45 08.7	-4.4
SFJM	**Santa Fe**	**2.71**	**338**	*i* P	Pn	11 44 50.7	+2.5
PPM	**Popocatepetl**	**3.35**	**70**	*i* P	Pn	11 44 54.7	-2.2
PPM				*i* S	Sn	11 45 35.9	-1.2

CASC 17 11:54:00.0±1.6, 1150N×8589W, h168km±6km, MD3.5, ML3.1, 10C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.21**	**170**	*e*P	Pn	11 54 22.6	+0.1
CONN	**Concepcion**	**0.27**	**76**⇑	*e*P	Pn	11 54 22.9	+0.4
MADN	**Villa Maderas**	**0.36**	**105**⇑	*e*P	Pn	11 54 23.2	+0.3
APON	**Apoyo**	**0.45**	**337**⇑	*e*P	Pn	11 54 23.9	+0.8
TICN	**Ticuantepe**	**0.63**	**328**⇑	*e*P	Pn	11 54 24.3	+0.3
WILN	**Americas 2**	**0.72**	**336**	*e*S	Sn	11 54 45.1	+1.8
MGAN	**Managua**	**0.73**	**331**⇓	*e*P	Pn	11 54 24.8	+0.2
MGAN				*e*S	Sn	11 54 44.2	+0.7
MGAN				*i*		11 54 44.7	
comp=N,205nm,0.3s							
XAVN	**Gruta Xavier**	**0.77**	**326**	*e*P	Pn	11 54 25.2	+0.3
APYN	**Apoyeque**	**0.86**	**328**	*e*P	Pn	11 54 25.7	+0.3
COPN	**Copaltepe**	**0.96**	**314**⇑	*e*P	Pn	11 54 25.9	-0.3
LIM1	**Limonal**	**1.01**	**142**	*i* P	Pn	11 54 26.9	+0.3
LIM1				*i* S	Sn	11 54 47.5	+0.5
MOMJ	**Momotombo**	**1.10**	**325**⇑	*e*P	Pn	11 54 27.2	-0.2
MIRN	**Miramar**	**1.23**	**319**⇑	*e*P	Pn	11 54 28.5	+0.1
CNGN	**Cerro Negro**	**1.27**	**321**	*e*P	Pn	11 54 28.7	-0.1
LEON	**Leon**	**1.34**	**313**⇑	*e*P	Pn	11 54 29.1	-0.2
VCR	**Vista de Mar**	**1.39**	**170**⇑	*e*P	Pn	11 54 30.3	+0.5
TEL3	**Telica 3**	**1.42**	**319**⇑	*e*P	Pn	11 54 30.1	0.0
TELN	**Telica**	**1.43**	**320**	*e*P	Pn	11 54 30.4	+0.1
CRIN	**San Cristobal**	**1.65**	**316**	*e*P	Pn	11 54 31.9	-0.5
CGA2	**Cerro Gallo 2**	**2.03**	**136**⇑	*e*P	Pn	11 54 37.9	+1.3
CGA2				*e*S	Sn	11 55 06.2	+1.4
PRS1	**Puriscal**	**2.16**	**134**⇑	*e*P	Pn	11 54 40.3	+2.3
PRS1				*e*S	Sn	11 55 08.3	+0.9
LAJ	**Bijagual**	**2.38**	**133**⇑	*e*P	Pn	11 54 39.5	-1.0
BUS	**Buena Vista**	**2.85**	**133**	*e*P	Pn	11 54 47.8	+1.6

IDC 17 11:59:37.3±3.5, 1507S×17547E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.7/4, MS3.7/2, Ms1 3.7/2, ms1mx3.2/21, Error ellipse: s-maj=192.6km s-min=28.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**33.61**	**99**	*e*LR	LR	12 14 16.5	
137nm,26.2s							
STKA	**Stephens Creek**	**35.10**	**236**	LR	LR	12 19 08.7	
comp=Z,133nm,18.3s,baz=192,slow=33							
WRA	**Warramunga Arr**	**39.46**	**257**	P	P	12 07 09.6	+0.4
0.7nm,0.8s,baz=90,slow=8.7,SNR=7.4							
WRA				ScP	ScP	12 13 09.1	+2.1
0.2nm,0.5s,baz=97,slow=2.4,SNR=4.6							
ASAR	**Alice Springs**	**40.02**	**251**	P	P	12 07 14.3	+0.4
1.2nm,1.0s,baz=82,slow=9.2,SNR=6.7							
ASAR				ScP	ScP	12 13 08.9	-0.4
0.2nm,0.5s,baz=85,slow=2.3,SNR=4.8							
RKT	**Rikitea**	**47.33**	**108**	*e*LR	LR	12 20 34.4	
100nm,32.2s							
NVAR	**Mina Array Bea**	**81.60**	**47**	LR	LR	12 42 01.5	
comp=Z,44nm,21.8s,baz=105,slow=31							
ILAR	**Eielson Array**	**84.58**	**15**	P	P	12 12 11.2	-1.2
0.7nm,0.8s,baz=232,slow=5.0,SNR=7.4							
YKA	**Yellowknife Ar**	**94.29**	**26**	P	P	12 12 59.1	+0.5
0.3nm,0.9s,baz=250,slow=4.9,SNR=3.4							
GERES	**GERESS Array B**	**143.14**	**340**	PKP	PKPdf	12 19 13.0	-0.3
1.3nm,0.8s,baz=8.5,slow=2.0,SNR=3.4							

IDC 17 12:02:27.7±73.0, 839S×12886E, h542km±232km, mb2.9/1, mb1 3.3/3, mb1mx2.9/14, mbtmp4.1/3, Error ellipse: s-maj=912.6km s-min=104.8km az=155.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.65**	**156**	P	P	12 05 12.5	-0.3
0.6nm,0.3s,baz=334,slow=11,SNR=64							
WB2	**Warramunga Arr**	**12.65**	**156**	*e*P	P	12 05 13.0	+0.1
ASAR	**Alice Springs**	**15.94**	**163**	P	P	12 05 47.6	+0.9
0.6nm,0.3s,baz=343,slow=12,SNR=68							
STKA	**Stephens Creek**	**26.20**	**155**	P	P	12 07 18.9	-0.4
0.8nm,0.5s,baz=346,slow=8.3,SNR=3.3							

*MOS **17** 12:18:22.6±0.9, 5607S×2759W, h104km, mb5.1/2, Error ellipse: s-maj=30.3km s-min=14.6km az=100.0*
*ISCJB **17** 12:18:25.2±1.6, 5607S±008×276W±02, h130km±16km, mb4.6/19, Error ellipse: s-maj=16.4km s-min=9.8km az=106.7*
*BJI **17** 12:18:25.8, 5622S×2770W, h130km, mB5.5*
*NEIC **17** 12:18:26.3±0.3, 5608S×2770W, mb5.2/6, Error ellipse: s-maj=11.8km s-min=7.5km az=48.0*
*IDC **17** 12:18:26.2±0.6, 5609S×2768W, h125km±4km, mb4.4/15, mb1 4.5/16, mb1mx4.4/19, mbtmp4.8/16, MS3.8/2, Ms1 3.8/2, ms1mx3.2/16, Error ellipse: s-maj=13.6km s-min=10.9km az=25.0*
*HRVD **17** 12:18:26.3±0.5, 5615S×27.13W, h123km±7km, MW4.9/55, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s55,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.36±.14; $M_{\theta\theta}$-2.44±.32; $M_{\phi\phi}$0.08±.30; $M_{r\theta}$-0.25±.18; $M_{\theta\phi}$1.32±.16; $M_{\phi r}$-0.83±.14; Best double couple: $M_0$2.86300×10^{16} NP1:ϕ_S272.00000°, δ48.00000°, λ59.00000°. NP2: ϕ_S134.00000°, δ50.00000°, λ120.00000°. Principal axes: T 2.7200, Plg67.0000°, Azm111.0000°; N 0.2880, Plg23.0000°, Azm294.0000°; P -3.0060, Plg1.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 12:18:27.0±1.5, 5614S±008×277W±02, h134km±15km, h129km±3.1km: pP-P, n81, σ0.992/36, mb4.6/19, 11C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.35**	**287**	Pn	**Pn**	**12 19 45.3**	**+0.6**
602nm,0.8s,SNR=14							
HOPE	**Hope Point**	**5.35**	**287**	*e*Pn	**Pn**	**12 19 43.9**	**-0.8**
240nm,0.4s							
HOPE				*e*Sn	**Sn**	**12 20 40.0**	**-5.4**
VNA3	**Neumayer Olymp**	**17.01**	**160**⇑	*i*P	**Pn**	**12 22 17.0**	**+0.3**
VNA3				*e*		12 22 21.3	
VNA3				*e*		12 22 24.6	
VNA3				*e*		12 22 32.0	
VNA2	**Neumayer--Watz**	**17.22**	**157**⇑	*i*P	**Pn**	**12 22 19.4**	**+0.1**
baz=313,slow=13							
VNA2				*e*		12 22 23.4	
VNA2				*e*		12 22 26.6	
VNA2				*e*		12 22 50.0	
SNAA	**Sanae**	**18.78**	**156**	P	**P**	**12 22 36.3**	**+0.5**
7.4nm,0.3s,baz=314,slow=10,SNR=218							
SNAA	**Sanae**	**18.78**	**156**	*e*P	**P**	**12 22 36.0**	**+0.2**
SNAA				pmax	pmax		
comp=Z,48nm,0.4s							
SNAA	**Sanae**	**18.78**	**156**	*e*P	**P**	**12 22 36.0**	**+0.1**
comp=Z,48nm,0.4s							
SYO	**Syowa Base**	**31.71**	**141**⇑	*e*pP	pP	12 25 02.5	-4.2
SYO	**Syowa Base**	**31.71**	**141**⇓	*e*P	**P**	**12 24 34.4**	**-3.5**
SYO				*e*PP	pP	12 25 02.5	-4.2
SYO				*e*		12 25 48.1	
PLCA	**Paso Flores**	**31.72**	**281**	PcP	PcP	12 27 25.9	-0.5
comp=Z,2.7nm,0.9s,baz=175,slow=4.2,SNR=4.8							
PLCA				ScP	ScP	12 30 56.2	-1.0
comp=Z,2.5nm,0.8s,baz=142,slow=3.0,SNR=7.6							
PLCA				LR	LR	12 35 56.8	
comp=Z,117nm,20.4s,baz=137,slow=33							
CPUP	**Villa Florida**	**36.64**	**312**	*e*P	**P**	**12 25 19.6**	**-0.8**
CPUP				pmax	pmax		
comp=Z,10.0nm,0.7s							
CPUP	**Villa Florida**	**36.64**	**312**	*e*P	**P**	**12 25 19.6**	**-0.8**
comp=Z,9.6nm,0.7s,mb4.5							
CFAA	**Coronel Fontan**	**37.32**	**294**	P	**P**	**12 25 24.8**	**-1.4**
comp=Z,0.4nm,0.5s,baz=115,slow=7.5,SNR=7.7							
CFAA				pP	pP	12 25 54.6	-0.9
comp=Z,0.5nm,0.7s,baz=148,slow=7.2,SNR=2.5							
CFAA				PcP	PcP	12 27 42.4	-0.2
comp=Z,0.8nm,0.8s,baz=155,slow=3.0,SNR=5.7							
CFAA	**Coronel Fontan**	**37.32**	**294**	P	**P**	**12 25 24.8**	**-1.4**
CFAA				pP	pP	12 25 54.6	-0.9
CFAA				PcP	PcP	12 27 42.4	-0.2
MAW	**Mawson**	**40.26**	**144**	P	**P**	**12 25 50.5**	**-0.1**
comp=Z,20nm,0.9s,mb4.8,baz=232,slow=8.0,SNR=3.8							
MAW				PcP	PcP	12 27 50.6	-1.2
comp=Z,21nm,0.9s,baz=225,slow=7.1,SNR=3.3							
BDFB	**Brasilia**	**43.29**	**331**	P	**P**	**12 26 16.1**	**+0.7**
comp=Z,4.8nm,0.7s,mb4.3,baz=167,slow=3.0,SNR=6.6							
LVC	**Limon Verde**	**45.08**	**301**	P	**P**	**12 26 30.6**	**+1.0**
comp=Z,5.5nm,0.3s,mb4.6,baz=161,slow=3.8,SNR=17							
BOSA	**Boshof**	**46.29**	**76**	P	**P**	**12 26 37.9**	**-1.1**
comp=Z,4.9nm,0.9s,mb4.1,baz=198,slow=6.8,SNR=5.5							
BOSA				PcP	PcP	12 28 12.9	+0.7
comp=Z,8.2nm,1.0s,baz=248,slow=3.2,SNR=5.2							
BOSA				LR	LR	12 43 08.7	
comp=Z,184nm,18.6s,baz=191,slow=32							
BOSA	**Boshof**	**46.29**	**76**	P	**P**	**12 26 37.9**	**-1.1**
BOSA						12 28 12.9	
VNDA	**Vanda**	**46.47**	**183**	P	**P**	**12 26 41.0**	**+0.6**
comp=Z,21nm,0.8s,mb4.8,baz=189,slow=5.6,SNR=19							
LBTB	**Lobatse**	**49.33**	**74**	P	**P**	**12 27 01.5**	**-1.0**
comp=Z,11nm,0.8s,mb4.5,baz=227,slow=7.2,SNR=18							
LBTB				PcP	PcP	12 28 23.9	+0.8
comp=Z,2.9nm,0.7s,baz=274,slow=5.5,SNR=2.7							
LPAZ	**La Paz**	**50.18**	**306**	P	**P**	**12 27 10.3**	**+1.5**
comp=Z,4.2nm,0.5s,mb4.3,baz=155,slow=6.4,SNR=21							
LPAZ				pP	pP	12 27 39.2	-0.6
comp=Z,8.5nm,0.8s,baz=182,slow=4.1,SNR=5.0							
LPAZ				PcP	PcP	12 28 28.0	+1.8
comp=Z,3.8nm,0.6s,baz=191,slow=5.2,SNR=3.0							
LPAZ	**La Paz**	**50.18**	**306**⇑	*e*P	**P**	**12 27 10.0**	**+1.1**
LPAZ				*e*		12 27 50.3	
LPAZ				pmax	pmax		
comp=Z,23nm,1.3s							
LPAZ	**La Paz**	**50.18**	**306**

comp=Z,4.8nm,0.9s,mb5.0,baz=189,slow=3.9,SNR=44
ASAR PP PP 12 35 52.2 -3.7
comp=Z,2.6nm,1.1s,baz=184,slow=8.3,SNR=8.6
WRA Warramunga Arr 102.71 163 P Pdif 12 32 08.3 -0.6
comp=Z,0.4nm,0.5s,baz=200,slow=4.3,SNR=6.2
WRA PP PP 12 36 22.6 -1.3
comp=Z,2.7nm,1.0s,baz=190,slow=6.7,SNR=9.5
KONO Kongsberg 119.20 21 ⇑*i*PKIKP PKPdf 12 37 05.4 +5.3
ULM Lac du Bonnet 120.10 316 PKP PKPdf 12 36 59.2 -2.6
comp=Z,2.6nm,0.7s,baz=142,slow=2.1,SNR=6.5
PDAR Pinedale Array 120.13 303 PKP PKPdf 12 37 00.1 -1.8
comp=Z,0.9nm,0.8s,baz=152,slow=4.1,SNR=8.6
NOA NORSAR Array B 120.80 21 PKP PKPdf 12 37 00.9 -2.3
comp=Z,1.1nm,0.8s,baz=141,slow=3.5,SNR=2.8
NVAR Mina Array Bea 121.15 293 PKP PKPdf 12 37 03.8 0.0
comp=Z,1.5nm,0.6s,baz=137,slow=3.8,SNR=16
KOLN Koldanda 124.37 91 *e*P PKPdf 12 37 09.1 -0.9
comp=Z,16nm,0.8s
FINES FINESS Array B 124.61 28 PKP PKPdf 12 37 08.0 -2.4
comp=Z,3.9nm,0.7s,baz=207,slow=0.9,SNR=12
FINES FINESS Array B 124.61 28 PKP PKPdf 12 37 08.0 -2.4
DMN Daman 125.09 92 *e*P PKPdf 12 37 10.8 -0.6
GKN Gorkha 125.13 91 *e*P PKPdf 12 37 10.4 -1.1
KAF Kangasniemi 125.23 28 *e*p PKPdf 12 37 08.9 -2.8
PKI Pulchoki 125.23 92 *e*P PKPdf 12 37 10.8 -0.9
KKN Kakani 125.33 92 *e*P PKPdf 12 37 11.0 -0.8
JIRN Jiri 125.73 93 *e*P PKPdf 12 37 12.0 -0.6
comp=Z,24nm,0.8s
GUN Gumba 125.75 92 *e*P PKPdf 12 37 12.2 -0.5
comp=Z,14nm,0.8s
JOF Joensuu 127.23 30 *e*p PKPdf 12 37 14.1 -1.4
AAK Ala-Archa 130.29 71 *d i*PKIKP PKPdf 12 37 19.9 -1.4
ARCES ARCESS Array B 131.14 22 PKP PKPdf 12 37 20.8 -2.1
comp=Z,2.5nm,0.6s,baz=197,slow=2.5,SNR=13
ARU Arti 131.99 48 ⇑*i*PKIKP PKPdf 12 37 23.2 -1.3
YKA Yellowknife Ar 136.03 318 PKhKP 12 37 16.1
comp=Z,0.4nm,0.7s,baz=120,slow=3.1,SNR=9.1
YKA PKP PKPdf 12 37 29.8 -2.3
comp=Z,4.9nm,0.7s,baz=127,slow=2.3,SNR=52
YKA pPKP pPKPdf 12 38 04.2 -3.7
comp=Z,1.0nm,0.7s,baz=127,slow=2.4,SNR=2.7
YKA PP PP 12 40 10.4 -2.4
comp=Z,0.4nm,0.9s,baz=117,slow=6.7,SNR=5.0
YKA SKPbc SKPbc 12 40 49.6 -1.9
comp=Z,0.8nm,0.6s,baz=130,slow=3.5,SNR=11
YKA Yellowknife Ar 136.03 318 PKIKP PKPdf 12 37 29.8 -2.3
YKA 12 38 04.2
YKA 12 40 10.4
YKA Yellowknife Ar 136.03 318 PKP PKPdf 12 37 29.8 -2.3
YKA pPKP pPKPdf 12 38 04.2 -3.7
YKA PP PP 12 40 10.4 -2.4
YKA SKPbc SKPbc 12 40 49.6 -1.9
MKAR Makanchi Array 137.21 72 PKhKP 12 37 20.9
comp=Z,0.5nm,0.7s,baz=242,slow=2.6,SNR=4.6
MKAR PKP PKPdf 12 37 32.5 -1.7
comp=Z,1.5nm,0.7s,baz=290,slow=3.5,SNR=11
MKAR SKPbc SKPbc 12 40 52.1 -2.9
comp=Z,0.6nm,0.8s,baz=252,slow=3.8,SNR=2.9
MKAR Makanchi Array 137.21 72 PKP PKPdf 12 37 32.5 -1.7
MKAR SKPbc SKPbc 12 40 52.1 -2.9
KURK Kurchatov 137.72 65 ⇑*i*PKIKP PKPdf 12 37 34.0 -1.2
CD2 Chengdu 137.93 106 *e*PKP PKPdf 12 37 40.1 +4.5
GTA Gaotai 142.02 93 PKP PKPdf 12 37 38.4 -4.6
NVS Novosibirsk 142.36 62 *e*PKHKP 12 37 37.1
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s
ZAL Zalesovo 142.67 64 PKhKP 12 37 38.4
comp=Z,1.9nm,0.4s,baz=246,slow=1.7,SNR=11
ZAL PP PP 12 40 54.0 +0.3
comp=Z,0.8nm,0.6s,baz=37,slow=7.0,SNR=3.0
INK Inuvik 145.68 321 PKPbc PKPbc 12 37 48.5 -1.5
comp=Z,41nm,0.7s,baz=98,slow=3.1,SNR=245
INK SKPbc SKPbc 12 41 13.4 -3.3
comp=Z,4.5nm,1.0s,baz=92,slow=5.4,SNR=3.8
INK Inuvik 145.68 321 PKPbc PKPbc 12 37 48.5 -1.5
INK SKPbc SKPbc 12 41 13.4 -3.3
BTO Baotou 148.51 102 *e*PKP PKPdf 12 37 57.0 +2.9
ILAR Eielson Array 149.95 312 PKP PKPdf 12 37 51.5 -4.9
comp=Z,2.0nm,0.8s,baz=313,slow=1.4,SNR=20
ILAR PKPbc PKPbc 12 37 59.7 -1.8
comp=Z,54nm,0.8s,baz=132,slow=1.9,SNR=320
ILAR pPKPbc pPKPbc 12 38 31.9 -5.2
comp=Z,12nm,0.9s,baz=127,slow=1.4,SNR=4.0
MOY Mondy 150.05 77 *e*PKHKP 12 37 55.4
MOY pmax pmax
comp=Z,45nm,1.5s
COLA College 150.37 312 *ce*PKIKP PKPdf 12 38 00.5 +3.4
KDAK Kodiak Island 150.58 296 PKPbc PKPbc 12 38 01.9 -1.0
comp=Z,43nm,0.7s,baz=100,slow=2.1,SNR=33
KDAK pPKPbc pPKPbc 12 38 33.8 -4.8
comp=Z,7.0nm,0.6s,baz=180,slow=3.0,SNR=1.4
ZAK Zakamensk 150.66 80 ⇑*i*PKIKP PKPbc 12 38 02.1 -1.1
ZAK pmax pmax
comp=Z,40nm,1.3s
SONM Songino Array 151.04 87 PKP PKPdf 12 37 56.8 -1.4
comp=Z,1.4nm,0.9s,baz=231,slow=1.1,SNR=11
SONM PKPbc PKPbc 12 38 02.9 -1.1
comp=Z,26nm,0.7s,baz=230,slow=2.9,SNR=182
SONM PKPab PKPab 12 38 10.7 -1.3
comp=Z,2.5nm,0.7s,baz=174,slow=1.4,SNR=3.5
ULN Ulaanbaatar 151.42 88 *c i*PKIKP PKPbc 12 38 03.4 -1.5
TTA Tatalina 153.57 306 *e*PKIKP PKPbc 12 38 08.6 -1.1
MJAR Matsushiro Arr 158.21 148 PKPab PKPab 12 38 42.1 -0.5
comp=Z,4.2nm,0.9s,baz=197,slow=5.7,SNR=7.8
BOD Bodaibo 159.26 69 *e*PKIKP PKPdf 12 38 06.0 -3.3
BOD *e* 12 38 45.6
BOD pmax pmax
comp=Z,4.0nm,2.0s
BOD pmax pmax
comp=Z,6.0nm,0.8s
MDJ Mudanjiang 161.60 119 PKP PKPdf 12 38 12.4 +0.6

IDC 17 12:23:59.3±9.0, 1894S×17762W, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.0/3, Error ellipse: s-maj=398.8km s-min=34.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.19**	**260**	P	P	12 32 18.3	+0.4
1.8nm,0.7s,baz=96,slow=8.1,SNR=9.7							
ASAR	**Alice Springs**	**45.24**	**255**	P	P	12 32 18.6	+0.3
2.6nm,0.8s,baz=92,slow=7.9,SNR=26							
ILAR	**Eielson Array**	**86.72**	**13**	P	P	12 36 44.7	-0.4
0.9nm,0.9s,baz=224,slow=5.8,SNR=12							

*KNET **17** 12:40:11.7±0.3, 44.11N×7462E, h12km±1km, ml1.7, Error ellipse: s-maj=2.7km s-min=1.4km az=126.0*
*NNC **17** 12:40:12.7±3.6, 44.25N×7495E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=41.7km s-min=14.7km az=37.0*
*ISCJB **17** 12:40:13.2±1.9, 44.10N±009×75.0E±0.1, h10km, Error ellipse: s-maj=14.0km s-min=10.8km az=96.5*

ISC 17 12:40:14.5±1.8, 4402N±009×750E±01, h10km, n7, σ1$40/13, 6C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.84**	**206**	⇓P	**Pg**	**12 40 27.9**	**-2.7**
1.7nm,0.1s,SNR=8.6							
USP				⇑S	**Sg**	**12 40 40.9**	**-0.7**
5.2nm,0.2s							
TKM2	**Tokmak 2**	**1.18**	**158**	⇓P	**Pb**	**12 40 37.8**	**+0.9**
3.7nm,0.2s,SNR=6.6							
TKM2	**Tokmak 2**	**1.18**	**158**	⇓P	**Pb**	**12 40 38.4**	**+1.5**
4.5nm,0.7s							
TKM2				⇑S	**Sb**	**12 40 59.0**	**+6.8**
7.1nm,0.8s							
AAK	**Ala-Archa**	**1.43**	**195**	⇑P	**Pn**	**12 40 39.6**	**-1.0**
2.3nm,0.2s,SNR=6.7							
AAK				⇑S	**Sn**	**12 41 01.1**	**+1.6**
6.3nm,0.3s							
EKS2	**Erkin-Say**	**1.63**	**214**	⇑P	**Pn**	**12 40 40.8**	**-2.4**
1.4nm,0.1s,SNR=9.6							
EKS2				⇓S	**Sn**	**12 41 03.7**	**-0.5**
6.8nm,0.2s							
AML	**Almayashu**	**2.12**	**207**	⇓P	**Pn**	**12 40 50.0**	**0.0**
1.9nm,0.2s,SNR=5.2							
AML				⇓S	**Sn**	**12 41 19.5**	**+3.2**
16nm,0.7s							
KK31	**Karatay Array**	**3.39**	**256**	⇑Pn	**Pn**	**12 41 08.1**	**+0.6**
0.2nm,0.2s,baz=70,slow=15,SNR=11							
KK31				⇓Sn	**Sn**	**12 41 48.7**	**+0.9**
1.5nm,0.6s,baz=70,slow=28,SNR=4.7							

*BER **17** 13:07:49.9±4.8, 61.17N×29.12E, h0km, ML2.2(NAO), Suspected explosion*
*NAO **17** 13:07:49.3±2.4, 61.26N×29.11E, ML2.2*

HEL 17 13:07:50.2±0.6, 6114N×2898E, h0km, ML2.2(NAO), Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**1.44**	**284**	*e*P	Pn	13 08 15.5	-2.0
FIA0				*e*SB	Sb	13 08 34.9	-1.7
FIA0				*e*RG		13 08 44.7	
FIA0	**FINESS Array S**	**1.44**	**284**	Pn	Pn	13 08 15.8	-1.7
baz=110,slow=18							
FIA0				Lg		13 08 36.2	
baz=110,slow=37							
FIA0				Rg		13 08 42.9	
baz=120,slow=37							
HFS	**Hagfors**	**7.58**	**269**	Pn	Pn	13 09 40.6	-1.4
baz=84,slow=12							
HFS				Lg		13 11 49.1	
baz=65,slow=28							
HFS	**Hagfors**	**7.58**	**269**	*e*P	Pn	13 09 40.6	-1.4
HFS				*e*		13 11 49.1	
ARA0	**ARCESS Array S**	**8.56**	**352**	Pn	Pn	13 09 53.9	-1.4
baz=166,slow=14							
ARA0				Sn	Sn	13 11 26.7	-5.9
baz=170,slow=22							
ARA0				Lg		13 12 09.0	
baz=167,slow=37							
ARA0	**ARCESS Array S**	**8.56**	**352**	*e*P	Pn	13 09 53.9	-1.4
ARA0				*e*S	Sn	13 11 26.7	-5.9
ARA0				*e*		13 12 09.0	
NB2	**NORSAR Subarra**	**8.61**	**277**	Pn	Pn	13 09 54.3	-1.7
baz=85,slow=14							
NB2	**NORSAR Subarra**	**8.61**	**277**	*e*P	Pn	13 09 54.3	-1.7

*IDC **17** 13:13:33.7±2.1, 199N×96.92E, h0km, mb3.1/4, mb1 3.2/5, mb1mx3.2/21, mbtmp3.0/5, Error ellipse: s-maj=53.6km s-min=26.9km az=56.0*
*ISCJB **17** 13:13:36.7±1.6, 20.N±02×96.9E±02, h33km, mb3.1/4, Error ellipse: s-maj=31.9km s-min=21.7km az=103.7*
*NEIC **17** 13:13:38.2±1.3, 2.03N×96.98E, h30km, Error ellipse: s-maj=28.8km s-min=18.0km az=51.0*

ISC 17 13:13:39.5±1.6, 21N±02×971E±02, h35km, n6, σ0$61/6, mb3.1/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.00**	**69**	Pn	**Pn**	**13 14 11.0**	**+0.2**
2.2nm,0.3s,baz=153,slow=13,SNR=7.7							
PSI	**Prapat**	**2.00**	**69**	Pn	**Pn**	**13 14 11.0**	**+0.1**
WRA	**Warramunga Arr**	**42.64**	**123**	P	**P**	**13 21 32.7**	**+0.3**
0.3nm,0.5s,mb3.3,baz=300,slow=9.2,SNR=3.4							
ASAR	**Alice Springs**	**44.05**	**128**	P	**P**	**13 21 43.6**	**-0.3**
0.2nm,0.8s,mb2.9,baz=298,slow=7.8,SNR=4.1							
SONM	**Songino Array**	**46.28**	**9**	P	**P**	**13 22 00.9**	**-0.7**
0.2nm,0.7s,mb3.2,baz=156,slow=7.9,SNR=2.1							
MKAR	**Makanchi Array**	**46.35**	**346**	P	**P**	**13 22 02.6**	**+0.6**
0.2nm,0.6s,mb3.2,baz=163,slow=9.2,SNR=4.2							

MAN 17 13:14:12.5, 1618N×11989E, h31km, mb1.9, ML3.7, MS1.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.20**	**6**	*e*P	Pb	13 14 20.2	+1.3
SCZP	**Santa Cruz**	**0.40**	**177**	*e*P	Pb	13 14 22.8	+1.3
BCPH	**Baguio City Da**	**0.69**	**73**	⇑*i*P	Pb	13 14 27.0	+0.9
BCPH				*i* S	Sb	13 14 37.7	+2.3

*ISCJB **17** 13:19:53.4±1.9, 2394S±008×1799E±0.1, h473km±30km, mb4.0/10, Error ellipse: s-maj=21.1km s-min=12.0km az=26.1*
*NEIC **17** 13:19:53.8±1.3, 2401S×17999E, h466km±23km, mb4.0/6, Error ellipse: s-maj=18.8km s-min=11.6km az=122.0*
*IDC **17** 13:19:54.5±2.0, 2405S×17997E, h475km±20km, mb3.4/5, mb1 3.7/7, mb1mx3.5/15, mbtmp4.4/7, Error ellipse: s-maj=25.7km s-min=21.3km az=131.0*

ISC 17 13:19:54.6±1.5, 2407S±008×1800E±02, h476km±25km, n24, σ0$76/27, mb4.0/9, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.75**	**39**	P	**P**	**13 22 39.9**	**-1.2**
3.3nm,0.3s,baz=195,slow=12,SNR=4.6							
AFI	**Afiamalu**	**12.75**	**39**	*e*P	**P**	**13 22 40.0**	**-1.2**
URZ	**Urewera**	**14.36**	**189**	P	**P**	**13 22 59.0**	**+0.6**
5.6nm,0.3s,baz=24,slow=4.9,SNR=39							
URZ				S	**S**	**13 25 29.3**	**-0.8**
0.4nm,0.3s,baz=1.1,slow=16,SNR=5.3							
URZ	**Urewera**	**14.36**	**189**	*e*PN	**P**	**13 22 58.7**	**+0.3**
MWZ	**Matawai**	**14.38**	**188**	*e*PN	**P**	**13 22 59.4**	**+0.9**
SNZO	**South Karori**	**17.75**	**193**	*e*P	**P**	**13 23 33.4**	**-0.5**
QRZ	**Quartz Range**	**17.85**	**199**	PN	**P**	**13 23 35.8**	**+1.1**
NNZ	**Nelson**	**17.98**	**196**	*e*PN	**P**	**13 23 35.5**	**-0.4**
LTZ	**Lake Taylor**	**19.73**	**197**	*e*PN	**P**	**13 23 51.4**	**-0.5**
RPZ	**Rata Peaks**	**20.93**	**198**	P	**P**	**13 24 02.6**	**-0.3**
11nm,0.5s,baz=19,slow=2.8,SNR=21							
CTA	**Charters Tower**	**31.47**	**271**	⇓*i*P	**P**	**13 25 37.5**	**+1.5**
7.0nm,0.3s,mb4.6							
CTAO	**Charters Tower**	**31.47**	**271**	*e*P	**P**	**13 25 37.3**	**+1.3**
TAU	**Tasmania Unive**	**32.82**	**227**	*e*P	**P**	**13 25 48.4**	**+0.9**
STKA	**Stephens Creek**	**34.66**	**248**	*e*P	**P**	**13 26 02.1**	**-1.0**
1.7nm,0.5s,mb3.7							
STKA	**Stephens Creek**	**34.66**	**248**	P	**P**	**13 26 02.3**	**-0.8**
1.9nm,0.5s,mb3.8,baz=99,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**13 27 03.5**	**+0.4**
2.2nm,0.5s,mb3.8,baz=96,slow=7.4,SNR=68							
ASAR				ScP	ScP	13 31 51.2	-0.7
1.0nm,0.8s,baz=111,slow=4.5,SNR=9.7							
ASAR				S	**S**	**13 32 45.0**	**-1.7**
0.2nm,0.7s,baz=104,slow=16,SNR=3.4							
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**13 27 03.5**	**+0.4**
ASAR				ScP	ScP	13 31 51.2	-0.7
ASAR				S	**S**	**13 32 45.0**	**-1.7**
WB2	**Warramunga Arr**	**42.38**	**266**	⇓*i*P	**P**	**13 27 05.9**	**-0.1**
WRAB	**Tennant Creek**	**42.38**	**266**	*e*P	**P**	**13 27 05.7**	**-0.4**
4.9nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	**13 27 06.0**	**0.0**
3.2nm,0.3s,mb4.2,baz=96,slow=8.3,SNR=61							
WRA				ScP	ScP	13 31 53.1	-0.4
1.0nm,0.6s,baz=100,slow=3.8,SNR=11							
KAKA	**Kakadu**	**46.32**	**275**	*e*P	**P**	**13 27 36.0**	**-0.6**
3.7nm,0.8s,mb3.9							
FITZ	**Fitzroy Crossi**	**50.81**	**266**	*e*P	**P**	**13 28 10.7**	**+0.6**
4.5nm,0.8s,mb3.9							
KLBR	**Kellerberrin**	**54.92**	**247**	*e*P	**P**	**13 28 39.2**	**-0.3**
36nm,1.3s,mb4.5							
NVAR	**Mina Array Bea**	**84.87**	**44**	P	**P**	**13 31 39.4**	**+1.0**
0.4nm,0.7s,mb3.2,baz=225,slow=10.0,SNR=4.2							

*IDC **17** 13:24:00.4±0.5, 131S×15.18W, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/26, mbtmp4.3/21, MS5.0/18, Ms1 5.0/18, ms1mx5.0/20, Error ellipse: s-maj=17.2km s-min=13.7km az=145.0*
*SZGRF **17** 13:24:01.7, 206S×153.1W, h33km, mb4.9, MS5.0, North of Ascension Island*
*BJI **17** 13:24:01.0, 222S×15.16W, h10km, mB5.5, mb5.1, Ms5.5, Msz5.2*
*ISCJB **17** 13:24:01.3±1.9, 163S±005×15.11W±006, h12km±12km, mb4.9/71, MS5.1/28, Error ellipse: s-maj=11.0km s-min=7.2km az=70.0*
*MOS **17** 13:24:01.9±2.6, 167S×15.12W, h10km, mb5.1/23, Error ellipse: s-maj=14.6km s-min=6.8km az=60.2*
*NAO **17** 13:24:02.9, 200S×1500W, h10km, mb4.6*
*NEIC **17** 13:24:02.0±0.3, 148S×15.10W, h10km, mb5.0/28, MS5.1/4, MW5.6, Error ellipse: s-maj=9.6km s-min=6.8km az=130.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr0.16; Mθθ2.53; Mφφ-2.70; Mrθ-0.23; Mrφ-1.41; Mθφ1.09; Best double couple: Mo3.20000×10^17 NP1: φs149.00000°, δ86.00000°, λ-19.00000°. NP2: φs240.00000°, δ71.00000°, λ-176.00000°. Principal axes: T 2.9800, Plg10.0000°, Azm196.0000°; N 0.3600, Plg71.0000°, Azm318.0000°; P -3.3400, Plg16.0000°, Azm103.0000°;*
*HRVD **17** 13:24:02.0±0.1, 1.16S×15.13W, h19km, MW5.8/103, Centroid moment Tensor Solution. LP body waves: s86,c193; Mantle waves: s103,c219; Half duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-0.24±.06; Mθθ2.24±.06; Mφφ-2.00±.07; Mrθ-0.33±.13; Mθφ-4.67±.06; Mrφ1.54±.16; Best double couple: Mo5.36600×10^17 NP1: φs258.00000°, δ73.00000°, λ-179.00000°. NP2: φs168.00000°, δ89.00000°, λ-17.00000°. Principal axes: T 5.4690, Plg11.0000°, Azm214.0000°; N -0.2080, Plg73.0000°, Azm344.0000°; P -5.2630, Plg13.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **17** 13:24:07.6, 189S×15.11W, h40km, ML5.7*

ISC 17 13:24:04.4±2.4, 162S±005×1510W±006, h17km±14km, n189, σ1$34/174, mb4.9/71, MS5.1/28, 26C-12D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**6.32**	**173**	Pn	**Pn**	**13 25 37.0**	**+0.3**
787nm,0.5s,SNR=6.3							
ASCN	**Ascension**	**6.32**	**173**	*e*Pn	**Pn**	**13 25 34.8**	**-1.9**
100nm,0.5s							
ASCN				*e*Sn	**Sn**	**13 26 42.3**	**-6.1**
DBIC	**Dimbokro**	**13.13**	**51**	Pn	**Pn**	**13 26 59.0**	**-11**
0.9nm,0.3s,baz=219,slow=14,SNR=12							
DBIC				Sn	**Sn**	**13 29 26.4**	**-9.3**
4.6nm,0.3s,baz=149,slow=18,SNR=4.0							
DBIC				LR	LR	13 31 13.5	
comp=Z,12μm,19.4s,baz=215,slow=33							
DBIC				T		13 37 51.6	
1.6nm,0.3s,baz=305,slow=14,SNR=3.7							
DBIC	**Dimbokro**	**13.13**	**51**	*e*P	**Pn**	**13 26 59.1**	**-11**
303nm,1.5s							
RCBR	**Riachuelo**	**21.17**	**258**	*e*P	**P**	**13 28 49.7**	**+1.0**
97nm,1.3s,mb5.0							
RCBR				*e*S	**S**	**13 32 33.8**	**-10**
TORD	**Torodi Ar. Bea**	**22.20**	**48**	P	**P**	**13 28 51.2**	**-8.6**
23nm,1.2s,mb4.5,baz=235,slow=11,SNR=14							
TORD				S	**S**	**13 32 57.1**	**-6.6**
3.9nm,0.7s,baz=228,slow=21,SNR=3.0							
BDFB	**Brasilia**	**35.31**	**245**	P	**P**	**13 30 57.6**	**-0.9**
20nm,0.8s,mb5.1,baz=75,slow=7.7,SNR=14							
BDFB				LR	LR	13 42 12.9	
comp=Z,3μm,21.9s,MS5.0,baz=76,slow=31							
MDT	**Midelt**	**35.65**	**15**	P	**P**	**13 30 59.1**	**-2.4**
3.2nm,0.7s,mb4.4,baz=214,slow=3.8,SNR=5.4							
TSUM	**Tsumeb**	**36.46**	**121**	P	**P**	**13 31 09.4**	**+1.1**
7.8nm,1.1s,mb4.6,baz=287,slow=7.2,SNR=5.0							
TSUM	**Tsumeb**	**36.46**	**121**	P	**P**	**13 31 05.7**	**-2.7**
43nm,1.3s,mb5.2							
LSZ	**Lusaka**	**44.80**	**110**	P	**P**	**13 32 17.6**	**+0.4**
22nm,0.6s,mb5.2,baz=312,slow=5.1,SNR=8.2							
LBTB	**Lobatse**	**45.62**	**124**	P	**P**	**13 32 24.9**	**+1.2**
14nm,0.7s,mb5.0,baz=302,slow=7.9,SNR=19							
LBTB				LR	LR	13 48 22.3	
comp=Z,1μm,21.0s,MS4.7,baz=295,slow=32							
LBTB	**Lobatse**	**45.62**	**124**	*e*P	**P**	**13 32 23.6**	**-0.2**
LBTB				pmax	pmax		
comp=Z,31nm,0.8s,mb5.3							
LBTB	**Lobatse**	**45.62**	**124**	*e*P	**P**	**13 32 23.6**	**-0.1**
comp=Z,31nm,0.8s,mb5.3							
ETSF	**Etsaut**	**46.21**	**15**	*e*P	**P**	**13 32 28.1**	**-0.3**
comp=Z,122nm,1.5s,mb5.3							
SJPF	**Ste Jean**	**46.25**	**14**	*e*P	**P**	**13 32 27.0**	**-1.7**
comp=Z,458nm,1.9s,mb5.8							
EPF	**Esparros**	**46.57**	**16**	*e*P	**P**	**13 32 31.9**	**+0.7**
comp=Z,69nm,1.3s,mb5.1							
BOSA	**Boshof**	**46.91**	**129**	P	**P**	**13 32 35.0**	**+1.0**
comp=Z,19nm,0.7s,mb5.1,baz=300,slow=8.1,SNR=22							
BOSA				LR	LR	13 48 27.3	
comp=Z,741nm,21.6s,MS4.6,baz=295,slow=31							
BOSA	**Boshof**	**46.91**	**129**	*e*P	**P**	**13 32 34.1**	**+0.2**
BOSA				pmax	pmax		
comp=Z,42nm,0.6s,mb5.5							
BOSA	**Boshof**	**46.91**	**129**	*e*P	**P**	**13 32 34.0**	**+0.1**
comp=Z,42nm,0.6s,mb5.5							
MTLF	**Montolieu**	**47.39**	**17**	*e*P	**P**	**13 32 38.1**	**+0.5**
comp=Z,114nm,1.7s,mb5.2							
CPUP	**Villa Florida**	**47.42**	**235**	*e*P	**P**	**13 32 38.8**	**+0.9**
CPUP				pmax	pmax		
comp=Z,67nm,0.9s							
CPUP	**Villa Florida**	**47.42**	**235**	*e*P	**P**	**13 32 38.8**	**+0.9**
comp=Z,67nm,0.9s,mb5.6							
SIV	**San Ignacio**	**47.48**	**250**	P	**P**	**13 32 37.7**	**-0.7**
comp=Z,11nm,1.0s,mb4.8,baz=88,slow=8.5,SNR=17							
SAML	**Samuel**	**48.39**	**260**	*e*P	**P**	**13 32 43.7**	**-1.7**
comp=Z,30nm,0.8s,mb5.4							
LASF	**Ste Croix**	**48.55**	**18**	*e*P	**P**	**13 32 47.0**	**+0.4**
comp=Z,37nm,1.1s,mb5.0							
LMR	**La Mourre**	**48.78**	**21**	*e*P	**P**	**13 32 48.6**	**+0.2**
comp=Z,52nm,1.0s,mb5.2							
CAF	**Calviac**	**48.80**	**16**	*e*P	**P**	**13 32 48.8**	**+0.3**
SMRF	**Simiane la Rot**	**49.02**	**20**	*e*P	**P**	**13 32 48.7**	**-1.5**
FRF	**La Foret Royal**	**49.03**	**21**	*e*P	**P**	**13 32 49.9**	**-0.4**
SBF	**Sospel**	**49.57**	**21**	*e*P	**P**	**13 32 54.7**	**+0.2**
ORIF	**Oris-en-Rattie**	**49.95**	**19**	*e*P	**P**	**13 32 57.0**	**-0.4**
ORIF				*e*R			
comp=Z,4μm,20.5s							
MBDF	**Montbardon**	**50.09**	**20**	*e*P	**P**	**13 32 58.7**	**+0.3**
comp=Z,35nm,0.9s,mb5.1							
TCF	**Toulx Ste Croi**	**50.09**	**16**	*e*P	**P**	**13 32 58.6**	**+0.2**
BNI	**Bardonecchia**	**50.34**	**20**	*e*P	**P**	**13 32 59.5**	**-0.8**
BNI				pmax	pmax		
comp=Z,14nm,0.9s,mb5.0							
BNI	**Bardonecchia**	**50.34**	**20**	*e*P	**P**	**13 32 59.5**	**-0.8**
comp=Z,14nm,0.9s,mb5.0							
QUIF	**Quistinic**	**50.42**	**10**	*e*P	**P**	**13 33 00.7**	**-0.2**
comp=Z,592nm,1.9s							
BGF	**Bois d'Agland**	**50.51**	**16**	*e*P	**P**	**13 33 02.5**	**+0.9**
LPG	**La Plagne**	**50.76**	**20**	*e*P	**P**	**13 33 04.0**	**+0.6**
comp=Z,28nm,0.9s,mb4.9							
LPL	**La Plagne**	**50.77**	**20**	*e*P	**P**	**13 33 03.7**	**+0.2**
SGMF	**Saint Gilles**	**50.86**	**11**	*e*P	**P**	**13 33 05.1**	**+0.9**
comp=Z,296nm,1.6s,mb5.7							
AVF	**Avril sur Loir**	**50.87**	**16**	*e*P	**P**	**13 33 04.3**	**+0.1**
SSF	**Saint Saulge**	**51.16**	**16**	*e*P	**P**	**13 33 06.6**	**+0.2**
comp=Z,49nm,1.3s,mb5.0							
LOR	**Lormes**	**51.44**	**16**	*e*P	**P**	**13 33 09.3**	**+0.7**
comp=Z,24nm,1.0s,mb4.8							
LOR				*e*R			
comp=Z,3μm,22.0s							
CABF	**La Chapelle**	**51.52**	**19**	*e*P	**P**	**13 33 09.5**	**+0.3**
comp=Z,116nm,1.4s,mb5.3							
KMBO	**Kilima Mbogo**	**52.34**	**90**	P	**P**	**

comp=Z,23nm,1.0s,mb5.0
WTTA Wattenberg 54.02 22 ⇑P P 13 33 26.2 -1.4
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.1
BAIF Baives 54.08 15 *e*P **P 13 33 28.5 +0.4**
comp=Z,125nm,1.4s,mb5.4
LPAZ La Paz 54.19 251 P **P 13 33 29.6 +0.7**
comp=Z,5.1nm,0.7s,mb4.5,baz=83,slow=11,SNR=14
LPAZ LR LR 13 55 38.1
comp=Z,3μm,18.9s,MS5.4,baz=280,slow=35
LPAZ La Paz 54.19 251 *e*P **P 13 33 29.5 +0.6**
LPAZ pmax pmax
comp=Z,23nm,1.4s
LPAZ La Paz 54.19 251 *e*P **P 13 33 29.5 +0.6**
comp=Z,23nm,1.4s,mb4.9
GIVF Givet 54.29 16 *e*P **P 13 33 29.2 -0.4**
comp=Z,82nm,1.3s,mb5.2
KBA Koelnbreinsper 54.53 24 ⇑P **P 13 33 34.5 +3.1**
comp=Z,8.6nm,1.1s,mb4.7
KBA Koelnbreinsper 54.53 24 ⇓*i*P **P 13 33 31.3 -0.1**
comp=Z,8.6nm,1.1s,mb4.7
OBKA Obir 54.57 25 ⇓*i*P **P 13 33 27.4 -4.3**
comp=Z,15nm,1.2s,mb4.9
MOA Molln 55.52 24 ⇑*i*P **P 13 33 41.5 +2.9**
comp=Z,10nm,0.9s,mb4.8
ARSA Arzberg 55.56 25 ⇑*e*P **P 13 33 41.5 +2.7**
comp=Z,9.0nm,1.4s,mb4.6
GRA1 Grafenberg Arr 55.91 20 *e*P **P 13 33 41.4 +0.1**
comp=Z,15nm,1.1s,mb4.9
GRA1 *e*S **S 13 41 24.2 -4.0**
GRA1 LR LR
comp=Z,1μm,19.9s,MS5.0
GRF Grafenberg Arr 55.91 20 *e*P **P 13 33 41.4 +0.1**
comp=Z,15nm,1.1s,mb4.9
GRF *e*S **S 13 41 24.2 -4.0**
GRF *e*L 13 57 18.5
comp=Z,1μm,19.9s
GRF Grafenberg Arr 55.91 20 *e*P **P 13 33 41.4 +0.1**
GRF *e*S **S 13 41 24.2 -4.0**
GRF pmax pmax
comp=Z,15nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,1μm,19.9s,MS5.0
GERES GERESS Array B 56.11 23 P **P 13 33 40.0 -2.7**
comp=Z,5.4nm,0.9s,mb4.6,baz=216,slow=6.6,SNR=13
GERES LR LR 13 59 00.9
comp=Z,1μm,18.4s,MS5.1,baz=22,slow=38
LVC Limon Verde 56.21 244 P **P 13 33 44.6 +1.1**
comp=Z,3.7nm,0.6s,mb4.6,baz=66,slow=8.5,SNR=5.3
KHC Kasperske Hory 56.30 22 P **P 13 33 43.5 -0.6**
KHC *e*x x 13 33 53.0
KHC *e*S **S 13 41 31.8 -1.6**
KHC Kasperske Hory 56.30 22 ⇑*i*P **P 13 33 47.5 +3.4**
KHC Kasperske Hory 56.30 22 *e* **P 13 33 43.5 -0.6**
KHC *e* 13 33 53.0
KHC *e*S **S 13 41 31.8 -1.6**
SDV Santo Domingo 56.31 282 *e*P **P 13 33 43.5 -0.7**
comp=Z,10nm,0.9s,mb4.9
NKC Novy Kostel 56.79 21 *e*P **P 13 33 45.3 -2.3**
MOX Moxa 56.85 20 *e*P **P 13 33 50.9 +2.9**
comp=Z,15nm,1.3s,mb4.9
MOX
comp=Z,1μm,22.0s
MOX Moxa 56.85 20 *e*P **P 13 33 50.9 +2.9**
MOX pmax pmax
comp=Z,15nm,1.3s,mb4.9
MOX MLR MLR
comp=Z,1μm,22.0s,MS5.0
BZS Buzias 57.15 30 ⇑P **P 13 33 53.7 +3.5**
BZS Buzias 57.15 30 ⇑P **P 13 33 53.7 +3.5**
PRU Pruhonice 57.36 22 *e*S **S 13 41 46.7 -0.7**
PRU AMS AMS 13 57 40.0
comp=Z,2μm,15.3s
BRG Berggiesshubel 57.86 21 *e*P **P 13 33 58.7 +3.6**
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
BRG MLR MLR
comp=N,1μm,21.2s
BRG MLR MLR
comp=E,923nm,14.1s
BRG MLR MLR
comp=Z,1μm,12.3s
BRG Berggiesshubel 57.86 21 *e*P **P 13 33 58.7 +3.6**
comp=Z,5.6nm,1.3s,mb4.4
BRG LR LR
comp=Z,1μm,12.3s,MS5.2
CLL Collm 57.88 20 *e*P **P 13 33 59.0 +3.7**
CLL *e*S **S 13 42 01.0 +6.7**
CLL LmV 14 00 00.0
comp=Z,2μm,20.9s
VYHS Vyhne 57.95 26 *es*P sP 13 33 58.8 -4.5
VYHS *e* 13 34 18.4
DPC Dobruska-Polom 58.34 23 *e*P **P 13 34 01.4 +2.9**
DPC *e*S **S 13 42 01.8 +1.6**
UPC Upice 58.34 23 *e*P **P 13 34 00.2 +1.7**
DRGR 58.52 30 ⇓P **P 13 33 58.2 -1.5**
DRGR 58.52 30 ⇓P **P 13 33 58.2 -1.6**
KECS Kecovo 58.67 27 *e*pP pP 13 34 03.4 -2.9
KECS *e* 13 34 24.1
VOIR 58.80 32 ⇑P **P 13 34 00.6 -1.1**
VOIR 58.80 32 ⇑P **P 13 34 00.6 -1.1**
NIE Niedzica 59.28 26 *e*P **P 13 34 09.5 +4.4**
MLR Muntele Rosu 59.31 32 ⇑P **P 13 34 03.6 -1.7**
MLR Muntele Rosu 59.31 32 ⇑P **P 13 34 03.6 -1.6**
CRVS Cervenica-Dubn 59.42 27 *e* **P 13 34 13.4 +7.4**
OJC Ojcow 59.66 25 *e*P **P 13 34 14.0 +6.4**
OJC *e*S **S 13 42 23.0 +5.7**
OJC L 14 01 42.1
comp=Z,4.9nm,19.0s
KOLS Kolonicke sedl 59.82 28 *es*P sP 13 34 12.1 -4.3
KOLS *e* 13 34 32.4
VRI Vrincioaia 59.97 33 ⇓P **P 13 34 07.7 -2.1**
VRI Vrincioaia 59.97 33 ⇓P **P 13 34 07.7 -2.1**
BURAR Bucovina Array 60.33 30 ⇓P **P 13 34 11.9 -0.3**
BURAR Bucovina Array 60.33 30 ⇓P **P 13 34 11.9 -0.3**
BR131 Keskin Array S 60.62 42 *e*P **P 13 34 12.6 -1.6**
comp=Z,8.2nm,0.9s,mb4.9
BRTR Keskin Array B 60.62 42 P **P 13 34 11.8 -2.4**
comp=Z,6.6nm,0.8s,mb4.8,baz=224,slow=6.6,SNR=11
BRTR Keskin Array B 60.62 42 *i*P **P 13 34 15.5 +1.2**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
KIS Kishinev 61.81 33 *e*P **P 13 34 28.0 +5.7**
KIS MLR MLR
comp=Z,1μm,15.0s,MS5.2
KIS MLR MLR
comp=Z,1μm,16.0s
MALT Malatya 63.25 45 *e*P **P 13 34 31.1 -0.8**
MALT pmax pmax
comp=Z,19nm,1.3s,mb5.1
MALT Malatya 63.25 45 *e*P **P 13 34 31.1 -0.8**
comp=Z,19nm,1.3s,mb5.1
PLCA Paso Flores 63.32 224 P **P 13 34 32.1 -0.3**
comp=Z,1.3nm,0.9s,mb4.1,baz=284,slow=4.2,SNR=3.4
PLCA LR LR 13 58 25.2
comp=Z,2μm,18.9s,MS5.2,baz=61,slow=32
AKASG Malin Array Be 64.33 30 P **P 13 34 36.3 -2.8**
comp=Z,3.4nm,0.7s,mb4.5,baz=230,slow=6.8,SNR=8.5
ANN Anapa 65.59 38 *e*P **P 13 34 55.2 +7.9**
ANN pmax pmax
comp=Z,124nm,1.3s,mb5.8
NB2 NORSAR Subarra 65.69 14 P **P 13 34 47.1 -0.8**
comp=Z,6.3nm,0.9s,mb4.7,baz=209,slow=6.5
NOA NORSAR Array B 65.69 14 P **P 13 34 43.9 -4.0**
comp=Z,0.9nm,0.8s,mb3.9,baz=17,slow=5.7,SNR=2.9
NOA LR LR 14 04 51.5
comp=Z,936nm,18.5s,MS5.0,baz=215,slow=38
SOC Sochi 66.47 40 *e*P **P 13 34 56.7 +3.8**
SOC *e* 13 35 23.1
SOC *e*PPP 13 38 59.7
SOC *e*S S 13 43 46.2 +3.7
SOC *e* 13 44 54.0
SOC *e*SS SS 13 48 02.6 +3.2
SOC pmax pmax
comp=Z,22nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,670nm,23.0s,MS4.8
VSU Vasula 68.43 22 *i*P **P 13 35 09.4 +4.1**
GNI Garni 68.47 45 ⇑*i*P **P 13 35 10.2 +4.6**
GNI pmax pmax
comp=Z,23nm,2.7s
VNA2 Neumayer--Watz 69.38 177 *e*P **P 13 35 11.1 -0.1**
VNA2 *e* pP 13 35 15.9 -0.9
VNA2 *e* 13 35 21.9
VNA2 *e* 13 35 25.0
VNA2 *e* 13 35 28.2
VNA2 *e* 13 35 30.7
VNA2 *e* 13 35 33.7
VNA2 *e* 13 35 49.6
VNA3 Neumayer Olymp 69.61 178 *e*P **P 13 35 12.6 0.0**
VNA3 *e* pP 13 35 19.4 +1.2
VNA3 *e* 13 35 23.5
VRSR Storozhevoye 69.81 33 *e*P **P 13 35 13.4 -0.4**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VRSR pmax pmax
comp=N,3.0nm,1.1s
FINES FINESS Array B 70.31 20 P **P 13 35 14.3 -2.6**
comp=N,1.6nm,0.6s,mb4.1,baz=228,slow=4.0,SNR=8.0
FINES LR LR 14 07 06.1
comp=N,752nm,19.0s,MS5.0,baz=75,slow=37
OBN Obninsk 70.53 29 *e*P **P 13 35 25.7 +7.4**
OBN *e*S S 13 44 25.3 -5.6
OBN pmax pmax
comp=Z,23nm,1.7s,mb4.8
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.2
KAF Kangasniemi 70.87 19 *e*p **P 13 35 22.8 +2.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=222,slow=6.0
KAF Kangasniemi 70.87 19 *e*P **P 13 35 22.8 +2.5**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MOS Moscow 71.38 28 *e*P **P 13 35 29.9 +6.5**
JOF Joensuu 73.11 20 *e*p **P 13 35 37.0 +3.2**
comp=Z,3.3nm,0.7s,mb4.4
JOF Joensuu 73.11 20 *e*P **P 13 35 37.0 +3.2**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KLMR Klimovskoe 75.00 24 *e*P **P 13 35 50.8 +6.0**
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.1
KLMR MLR MLR
comp=Z,2μm,16.0s,MS5.5
SWET Sewanee 75.37 307 *e*P **P 13 35 44.2 -2.7**
ARCES ARCESS Array B 76.08 14 P **P 13 35 47.4 -3.5**
comp=Z,1.7nm,0.8s,mb4.0,baz=215,slow=5.9,SNR=5.8
ARCES LR LR 14 10 30.4
comp=Z,2μm,18.8s,MS5.4,baz=217,slow=37
ARCES ARCESS Array B 76.08 14 P **P 13 35 47.4 -3.6**
ARCES LR LR 14 10 30.4
SYO Syowa Base 76.45 162 ⇓*e*pP pP 13 35 56.2 -2.6
SYO Syowa Base 76.45 162 ⇓*e*PcP PcP 13 36 03.0 -1.8
SYO Syowa Base 76.45 162 ⇓*e*PP PP 13 38 39.4 -5.5
SYO Syowa Base 76.45 162 ⇑*e*PKiKP PKiKP 13 41 33.2 -4.3
APA Apatity 76.81 17 ⇓*e*P **P 13 35 56.0 +0.9**
APA pmax pmax
comp=Z,43nm,1.4s,mb5.2
APA MLR MLR
comp=Z,2μm,18.0s,MS5.3
WVT Waverly 77.07 308 P **P 13 35 57.3 +0.7**
comp=Z,9.3nm,1.0s,mb4.7
FVM French Village 79.46 309 *e*P **P 13 36 08.8 -1.1**
comp=Z,19nm,1.1s,mb4.9
SOKR Solikamsk 82.30 29 *e*P **P 13 36 26.8 +1.8**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ARU Arti 82.36 33 ⇑*i*P **P 13 36 28.7 +3.4**
ARU *e* 13 39 37.5
ARU *e*PPP 13 41 22.7
ARU *e*S S 13 46 40.4 -0.2
ARU *e*SS SS 13 52 02.9 +1.8
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.2
ARU MLR MLR
comp=N,200nm,19.0s,MS5.2
ARU MLR MLR
comp=E,1μm,19.0s,MS5.2
ARU Arti 82.36 33 *e*P **P 13 36 27.0 +1.7**
comp=E,15nm,1.0s,mb4.9
MAW Mawson 83.93 158 LR LR 14 07 04.3
comp=E,590nm,19.1s,MS5.0,baz=290,slow=31
ULM Lac du Bonnet 85.33 321 P **P 13 36 37.0 -3.5**
comp=E,0.7nm,0.3s,mb4.2,baz=9.5,slow=6.1,SNR=2.9
ULM LR LR 14 12 23.7
comp=E,603nm,18.2s,MS5.0,baz=291,slow=34
ULM Lac du Bonnet 85.33 321 P **P 13 36 37.0 -3.5**
ULM LR LR 14 12 23.7
WMOK Wichita Mounta 85.72 305 P **P 13 36 42.0 -0.4**
WMOK pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
WMOK Wichita Mounta 85.72 305 P **P 13 36 42.0 -0.4**
comp=Z,9.9nm,1.1s,mb5.0
JCT Junction City 86.24 301 *e*P **P 13 36 46.0 +1.0**
JCT pmax pmax
comp=Z,17nm,0.9s,mb5.3
JCT Junction City 86.24 301 *e*P **P 13 36 46.0 +0.9**
comp=Z,17nm,0.9s,mb5.3
BRVK Borovoye 88.50 37 *e*P **P 13 36 54.6 -1.3**
BRVK pmax pmax
comp=Z,3.0nm,1.2s,mb4.4
BRVK Borovoye 88.50 37 *e*P **P 13 36 54.6 -1.3**
comp=Z,3.0nm,1.2s,mb4.4
BVAR Borovoye Array 88.56 37 P **P 13 36 52.6 -3.6**
comp=Z,0.4nm,0.6s,mb3.9,baz=231,slow=40,SNR=2.9
BVAR PP PP 13 40 24.2 -0.2
comp=Z,2.0nm,1.0s,baz=259,slow=5.6,SNR=4.4
RSSD Black Hills 90.35 314 *e*P **P 13 37 07.0 +2.4**
comp=Z,2.8nm,0.8s,mb4.6
AAK Ala-Archa 90.78 48 ⇑*i*P **P 13 37 11.1 +4.5**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
AAK Ala-Archa 90.78 48 P **P 13 37 07.9 +1.3**
comp=Z,14nm,1.4s,mb5.1
FRU Bishkek 90.88 47 *e*P **P 13 37 16.0 +9.0**
FRU *e* 13 37 25.0
ANMO Albuquerque 92.03 305 ⇑*e*P **P 13 37 14.2 +1.8**
KURK Kurchatov 93.61 39 ⇑*e*P **P 13 37 22.7 +3.1**
PDAR Pinedale Array 94.37 313 P **P 13 37 21.0 -2.1**
comp=Z,0.1nm,0.4s,baz=128,slow=29,SNR=3.2
PDAR LR LR 14 13 48.6
comp=Z,773nm,20.8s,MS5.2,baz=99,slow=32
PDAR Pinedale Array 94.37 313 P **P 13 37 21.0 -2.1**
PDAR LR LR 14 13 48.6
YKA Yellowknife Ar 95.83 333 P **P 13 37 27.4 -2.4**
comp=Z,0.0nm,0.3s,baz=150,slow=7.3,SNR=2.7
YKA LR LR 14 19 40.3
comp=Z,678nm,19.7s,MS5.1,baz=95,slow=35
YKA Yellowknife Ar 95.83 333 *i*P **P 13 37 32.7 +2.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 96.24 43 P **P 13 37 31.7 0.0**
comp=Z,1.0nm,0.9s,mb4.2,baz=264,slow=3.5,SNR=5.5
MKAR PP PP 13 41 26.2 +1.3
comp=Z,1.7nm,1.1s,baz=306,slow=4.2,SNR=5.6
MKAR LR LR 14 29 03.8
comp=Z,517nm,19.2s,MS5.0,baz=276,slow=41
MKAR Makanchi Array 96.24 43 P **P 13 37 31.7 0.0**
MKAR 13 41 26.2
WMQ Urumqi 100.35 46 P Pdif 13 37 52.0 +1.9
WMQ PP PP 13 42 02.0 +5.7
WMQ SKS 13 48 29.0
WMQ S Sdif 13 49 24.0 -1.4
WMQ SS SS 13 56 24.0 +3.8
WMQ PP PP
comp=Z,87nm,8.0s
WMQ LR LR
comp=N,1μm,16.0s,MS5.6
WMQ LR LR
comp=E,875nm,16.0s,MS5.6
WMQ LR LR
comp=Z,642nm,14.0s,MS5.3
CD2 Chengdu 115.40 56 *e*PKP PKPdf 13 42 48.0 +2.8
CD2 PP PP 13 43 54.8 +8.4
CD2 SKS SKSdf 13 49 59.0 +2.5
CD2 SKKS SKKSac 13 50 46.5 -0.6
CD2 SS SS 13 59 48.0 +4.0
CD2 PP PP
comp=Z,90nm,12.5s
CD2 LR LR
comp=E,230nm,16.8s
CD2 LR LR
comp=Z,260nm,22.8s
RKT Rikitea 116.58 243 *e*PS PS 13 53 37.4 +0.2
comp=Z,219nm,28.0s
RKT Rikitea 116.58 243 *e*SS SS 13 59 54.9 -4.4
comp=Z,1μm,31.5s
RKT *e*LR LR 14 18 03.4
comp=Z,975nm,37.2s
CN2 Changchun 125.33 34 *e*PKP PKPdf 13 43 01.6 -2.6
CN2 *e*PP PP 13 44 56.1 +1.7
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,800nm,23.0s,MS5.4
CN2 LR LR
comp=E,600nm,23.0s,MS5.4
CN2 LR LR
comp=Z,900nm,21.0s,MS5.4
MDJ Mudanjiang 127.03 31 PKP PKPdf 13 43 08.0 +0.5
MDJ PP PP 13 45 06.5 +0.8
MDJ SS SS 14 02 15.9 +3.2
MDJ PP PP
comp=Z,102nm,4.9s
MDJ LR LR
comp=N,537nm,29.6s,MS5.2
MDJ LR LR
comp=E,521nm,26.1s,MS5.2
MDJ LR LR
comp=Z,781nm,33.2s
NJ2 Nanjing 127.16 50 *e*PKP PKPdf 13 43 05.3 -2.4
NJ2 PP PP 13 45 08.0 +1.5
NJ2 PKS 13 46 43.0
NJ2 SKKS SKKSac 13 51 57.0 -6.6
NJ2 LR LR
comp=N,530nm,30.4s,MS5.2
NJ2 LR LR
comp=E,530nm,28.1s,MS5.2
NJ2 LR LR
comp=Z,450nm,35.2s
TBI Tubuai 129.15 238 *e*SS SS 14 02 41.7 +2.8
comp=Z,933nm,28.8s
TBI *e*LR LR 14 23 54.5
comp=Z,1μm,30.0s
SSE Sheshan 129.36 50 PKP PKPdf 13 43 14.0 +2.1
SSE PP PP 13 45 27.4 +6.4
SSE SS SS 14 02 47.3 +5.7
SSE PP PP
comp=Z,41nm,12.0s
SSE LR LR
comp=N,237nm,22.9s,MS5.1
SSE LR LR
comp=E,359nm,22.9s,MS5.1
SSE LR LR
comp=Z,535nm,11.6s
PPT Papeete 131.27 245 *e*SS SS 14 03 07.5 +2.4
comp=Z,1μm,28.5s
PPT *e*LQ 14 18 53.8
comp=Z,2μm,27.8s
PPT *e*LR LR 14 24 52.8
comp=Z,959nm,23.8s
FITZ Fitzroy Crossi 136.68 119 *e*P PKPdf 13 43 31.9 +6.2
comp=Z,5.9nm,1.1s
ASAR Alice Springs 140.76 132 PKhKP 13 43 26.0
comp=Z,1.9nm,0.8s,baz=221,slow=2.4,SNR=20
WRA Warramunga Arr 143.16 127 PKP PKPdf 13 43 38.6 +1.1
comp=Z,2.2nm,0.6s,baz=244,slow=2.5,SNR=30
WB2 Warramunga Arr 143.16 127 *e*PKP PKPdf 13 43 34.0 -3.5
WRAB Tennant Creek 143.17 127 ⇑*i*PKIKP PKPdf 13 43 41.8 +4.3
WRAB Tennant Creek 143.17 127 *e*PKPpre 13 43 33.9
KAKA Kakadu 144.78 115 *e*P PKPdf 13 43 37.4 -2.9
comp=Z,29nm,0.8s
CTA Charters Tower 151.72 141 *e*PKP PKPdf 13 44 02.1 +10
comp=Z,10nm,0.9s
CTAO Charters Tower 151.72 141 *e*PKIKP PKPdf 13 43 59.2 +7.6

IDC 17 13:36:17.6±61.0, 2341S×17693W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1131.0km s-min=175.0km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.52**	**248**	P	P		13 43 33.7	+0.5
	0.7nm,0.4s,baz=80,slow=6.1,SNR=3.4							
ASAR	**Alice Springs**	**44.90**	**259**	P	P		13 44 34.5	+0.6
	1.4nm,0.8s,baz=98,slow=7.4,SNR=13							
WRA	**Warramunga Arr**	**45.26**	**265**	P	P		13 44 36.5	-0.2
	1.0nm,0.4s,baz=105,slow=8.3,SNR=18							

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*IDC **17** 13:53:01.4±1.1, 128S×15.15W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/24, mbtmp4.2/11, ML4.6/1, MS4.3/12, Ms1 4.3/12, ms1mx4.2/21, Error ellipse: s-maj=27.1km s-min=22.2km az=85.0*

*NEIC **17** 13:53:03.1±0.6, 127S×15.12W, h10km, mb4.7/1, Error ellipse: s-maj=16.2km s-min=13.8km az=117.0*

*SZGRF **17** 13:53:04.9, 203S×1502W, h33km, mb4.8, North of Ascension Island*

*ISCJB **17** 13:53:07.8±1.0, 14S±0.1×142W±0.1, h10km, mb4.5/17, MS4.3/11, Error ellipse: s-maj=21.5km s-min=13.7km az=141.7*

*NAO **17** 13:53:38.0, 2.11N×1251W, h33km, mb4.2*

ISC 17 13:53:10.8±0.7, 132S±009×1412W±010, h10km, n46, σ0§87/36, mb4.5/17, MS4.3/11, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.18**	**49**	Pn	**Pn**		**13 56 06.1**	**+1.7**
	3.4nm,0.3s,baz=222,slow=15,SNR=79							
DBIC				Sn	**Sn**		**13 58 20.0**	**-0.2**
	2.7nm,0.3s,baz=320,slow=21,SNR=4.0							
DBIC				LR	LR		14 00 10.4	
	comp=Z,1μm,19.8s,baz=219,slow=33							
DBIC				T			14 06 17.7	
	0.9nm,0.3s,baz=122,slow=20,SNR=5.7							
DBIC	**Dimbokro**	**12.18**	**49**	Pn	**Pn**		**13 56 06.1**	**+1.7**
DBIC				Sn	**Sn**		**13 58 20.0**	**-0.2**
DBIC				LR	LR		14 00 10.4	
TORD	**Torodi Ar. Bea**	**21.27**	**47**	P	**P**		**13 57 57.6**	**+0.3**
	30nm,1.1s,mb4.5,baz=234,slow=10,SNR=43							
TORD				S	**S**		**14 01 51.6**	**-2.0**
	3.5nm,0.7s,baz=234,slow=22,SNR=3.2							
MDT	**Midelt**	**35.12**	**14**	LR	LR		14 13 45.0	
	comp=Z,544nm,18.3s,MS4.3,baz=76,slow=35							
TSUM	**Tsumeb**	**35.77**	**122**	P	**P**		**14 00 10.6**	**+0.6**
	1.6nm,0.3s,mb4.4,baz=27,slow=7.2,SNR=5.2							
BDFB	**Brasilia**	**36.33**	**245**	LR	LR		14 12 23.8	
	comp=Z,303nm,19.9s,MS4.1,baz=99,slow=33							
LSZ	**Lusaka**	**43.98**	**111**	P	**P**		**14 01 18.8**	**+0.6**
	4.9nm,0.8s,mb4.3,baz=269,slow=9.2,SNR=4.0							
ETSF	**Etsaut**	**45.68**	**14**	*e*P	**P**		**14 01 31.6**	**-0.1**
EPF	**Esparros**	**46.03**	**15**	*e*P	**P**		**14 01 34.8**	**+0.4**
	31nm,1.1s,mb4.8							
BOSA	**Boshof**	**46.34**	**130**	P	**P**		**14 01 35.8**	**-1.1**
	8.0nm,0.7s,mb4.8,baz=302,slow=8.2,SNR=19							
LMR	**La Mourre**	**48.16**	**20**	*e*P	**P**		**14 01 51.6**	**+0.5**
SBF	**Sospel**	**48.95**	**21**	*e*P	**P**		**14 01 57.6**	**+0.5**
ORIF	**Oris-en-Rattie**	**49.35**	**19**	*e*P	**P**		**14 02 00.5**	**+0.2**
ORIF				*e*R				
	484nm,20.0s							
MBDF	**Montbardon**	**49.48**	**20**	*e*P	**P**		**14 02 01.8**	**+0.6**
	28nm,1.0s,mb4.9							
TCF	**Toulx Ste Croi**	**49.55**	**15**	*e*P	**P**		**14 02 02.0**	**+0.3**
BGF	**Bois d'Agland**	**49.96**	**15**	*e*P	**P**		**14 02 05.5**	**+0.6**
LPG	**La Plagne**	**50.15**	**19**	*e*P	**P**		**14 02 07.0**	**+0.7**
	37nm,1.2s,mb5.0							
LPL	**La Plagne**	**50.16**	**19**	*e*P	**P**		**14 02 06.9**	**+0.5**
SSF	**Saint Saulge**	**50.60**	**16**	*e*P	**P**		**14 02 09.6**	**-0.1**
LOR	**Lormes**	**50.89**	**16**	*e*P	**P**		**14 02 12.0**	**+0.1**
	14nm,0.8s,mb4.7							
LOR				*e*R				
	592nm,18.0s							
CABF	**La Chapelle**	**50.93**	**18**	*e*P	**P**		**14 02 10.7**	**-1.5**
	53nm,1.2s,mb5.0							
KMBO	**Kilima Mbogo**	**51.36**	**90**	LR	LR		14 21 58.5	
	comp=Z,426nm,20.7s,MS4.5,baz=276,slow=33							
HAU	**Haudompre**	**52.26**	**17**	*e*P	**P**		**14 02 23.2**	**+1.0**
	14nm,0.8s,mb4.7							
HAU				*e*R				
	408nm,17.2s							
DAVOX	**Davos**	**52.33**	**21**	LR	LR		14 25 30.3	
	comp=Z,253nm,20.8s,MS4.2,baz=267,slow=37							
CDF	**Champ du Feu**	**52.91**	**18**	*e*P	**P**		**14 02 25.6**	**-1.3**
GIVF	**Givet**	**53.74**	**15**	*e*P	**P**		**14 02 33.8**	**+0.7**
LPAZ	**La Paz**	**55.21**	**251**	LR	LR		14 23 32.8	
	comp=Z,342nm,18.8s,MS4.5,baz=298,slow=34							
GRA1	**Grafenberg Arr**	**55.29**	**20**	*e*P	**P**		**14 02 43.6**	**-0.8**
	8.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**55.29**	**20**	*e*P	**P**		**14 02 43.6**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.8							
GERES	**GERESS Array B**	**55.46**	**22**	P	**P**		**14 02 40.9**	**-4.7**
	comp=Z,4.6nm,0.9s,mb4.5,baz=194,slow=5.0,SNR=17							

KHC	Kasperske Hory	55.65	22	eP	P		14 02 46.5	-0.5
MLR	Muntele Rosu	58.54	32	LR	LR		14 27 19.7	
comp=Z,255nm,19.5s,MS4.3,baz=278,slow=35								
BR131	Keskin Array S	59.75	41	eP	P		14 03 14.4	-1.3
BRTR	Keskin Array B	59.75	41	P	P		14 03 13.8	-2.0
comp=Z,2.1nm,1.0s,mb4.1,baz=268,slow=3.7,SNR=6.4								
ROSC	El Rosal	60.46	276	LR	LR		14 25 19.6	
comp=Z,199nm,20.9s,MS4.2,baz=27,slow=33								
AKASG	Malin Array Be	63.59	29	P	P		14 03 37.3	-4.4
comp=Z,0.6nm,0.4s,mb4.0,baz=233,slow=7.9,SNR=7.4								
PLCA	Paso Flores	64.22	225	LR	LR		14 27 06.3	
comp=Z,238nm,18.9s,MS4.4,baz=265,slow=32								
NB2	NORSAR Subarra	65.18	13	P	P		14 03 50.8	-1.3
comp=Z,2.4nm,0.8s,mb4.3,baz=207,slow=6.9								
NOA	NORSAR Array B	65.18	13	LR	LR		14 33 49.1	
comp=Z,156nm,19.0s,MS4.2,baz=265,slow=37								
FINES	FINESS Array B	69.70	19	P	P		14 04 14.0	-6.7
comp=Z,1.9nm,0.7s,mb4.2,baz=242,slow=4.1,SNR=3.3								
KAF	Kangasniemi	70.27	19	ep	P		14 04 19.2	-5.0
ARCES	ARCESS Array B	75.56	13	P	P		14 04 47.8	-7.7
comp=Z,2.3nm,0.9s,mb4.1,baz=284,slow=3.6,SNR=2.3								
ARCES				LR	LR		14 36 45.6	
comp=Z,218nm,20.9s,MS4.4,baz=197,slow=35								
MAW	Mawson	83.83	158	LR	LR		14 34 31.1	
comp=Z,258nm,19.6s,MS4.6,baz=68,slow=30								
ASAR	Alice Springs	140.21	131	PKhKP			14 12 26.4	
comp=Z,0.3nm,0.8s,baz=227,slow=3.4,SNR=4.9								
WRA	Warramunga Arr	142.54	126	PKhKP			14 12 34.6	
comp=Z,0.4nm,0.6s,baz=235,slow=2.7,SNR=6.2								
WB2	Warramunga Arr	142.55	126	eP			14 12 39.2	

NEIC ***17*** *13:54:50.0, 37.44S×176.11E, h284km, MG3.7(WEL), After WEL.*

WEL 17 13:54:50.1±0.2, 37.75S×176.11E, h284km±3km, ML3.7/15, 3C-1D, Error ellipse: s-maj=5.1km s-min=4.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	1.12	135	⇓PN		Pn	13 55 29.4	0.0
URZ				SN		S	13 56 00.4	-0.1
URZ	Urewera	1.12	135	eP		Pn	13 55 29.4	0.0
MWZ	Matawai	1.42	128	PN		Pn	13 55 31.4	+0.2
MWZ				SN		S	13 56 03.0	-0.7
MWZ	Matawai	1.42	128	eP		Pn	13 55 31.4	+0.3
BKZ	Black Stump Fm	1.72	170	⇑PN		Pn	13 55 33.5	+0.2
BKZ				SN		S	13 56 06.8	-0.7
BKZ	Black Stump Fm	1.72	170	P		Pn	13 55 33.5	+0.2
BKZ				S		S	13 56 06.8	-0.7
WPVZ	Whakapapa	1.79	194	PN		Pn	13 55 34.3	+0.5
WPVZ	Whakapapa	1.79	194	eP		Pn	13 55 34.5	+0.7
PUZ	Puketiti	1.81	110	PN		Pn	13 55 34.1	+0.2
PUZ				SN		S	13 56 07.8	-0.9
PUZ	Puketiti	1.81	110	eP		Pn	13 55 34.1	+0.2
PUZ				S		S	13 56 07.9	-0.8
TUVZ	Tukino	1.83	191	PN		Pn	13 55 34.7	+0.6
WNVZ	Wahianoa	1.90	192	PN		Pn	13 55 35.1	+0.5
WNVZ	Wahianoa	1.90	192	P		Pn	13 55 35.2	+0.6
MOVZ	Moawhango	1.96	188	PN		Pn	13 55 35.1	0.0
MOVZ	Moawhango	1.96	188	P		Pn	13 55 35.1	0.0
WAZ	Wanganui	2.45	201	PN		Pn	13 55 39.5	+0.1
WAZ	Wanganui	2.45	201	eP		Pn	13 55 39.5	+0.1
TSZ	Takapari Road	2.59	182	⇑PN		Pn	13 55 40.0	-0.7
TSZ				SN		S	13 56 19.2	-1.7
TSZ	Takapari Road	2.59	182	P		Pn	13 55 40.0	-0.7
BFZ	Birch Farm	3.21	178	PN		Pn	13 55 45.9	-1.0
BFZ				eSN		S	13 56 30.3	-1.8
BFZ	Birch Farm	3.21	178	eP		Pn	13 55 45.7	-1.2
MRZ	Mangatainoka R	3.21	187	⇑PN		Pn	13 55 45.5	-1.5
MRZ				eSN		S	13 56 29.6	-2.7
MRZ	Mangatainoka R	3.21	187	P		Pn	13 55 45.4	-1.6
MRZ				S		S	13 56 29.6	-2.7
KIW	Kapiti Island	3.51	195	PN		Pn	13 55 48.3	-1.8
KIW	Kapiti Island	3.51	195	P		Pn	13 55 48.4	-1.7
MTW	Mount Morrison	3.71	187	PN		Pn	13 55 50.2	-2.1
MTW	Mount Morrison	3.71	187	P		Pn	13 55 50.2	-2.1
CAW	Cannon Point	3.72	192	PN		Pn	13 55 50.4	-2.0
CAW	Cannon Point	3.72	192	P		Pn	13 55 50.4	-2.0
DUWZ	D'Urville Isla	3.74	206	PN		Pn	13 55 50.8	-1.7
MRW	Makara Radio	3.91	196	PN		Pn	13 55 52.7	-1.8
MRW				eSN		S	13 56 42.4	-3.5
MRW	Makara Radio	3.91	196	P		Pn	13 55 52.7	-1.8
SNZO	South Karori	3.99	195	P		Pn	13 55 53.3	-2.0
TCW	Tory Channel	4.00	200	P		Pn	13 55 53.4	-2.1
QRZ	Quartz Range	4.36	219	PN		Pn	13 55 56.9	-2.6
THZ	Tophouse	4.95	209	eP		Pn	13 56 03.3	-3.1
KHZ	Kahutara	5.32	201	eP		Pn	13 56 08.1	-2.7
DSZ	Denniston Nort	5.41	217	eP		Pn	13 56 08.3	-3.6
LTZ	Lake Taylor	6.07	208	eP		Pn	13 56 16.3	-3.5

NIED ***17*** *14:01:00, 44.30N×149.10E, h35km, Mw4.1 Best double couple: M0=1.62000×10^15 NP1:φs=33.00000°, δ=64.00000°, λ=94.00000°. NP2:φs=204.00000°, δ=26.00000°, λ=82.00000°.*
MOS ***17*** *14:01:10.0±3.3, 44.20N×150.00E, h41km, mb4.3/1, Error ellipse: s-maj=45.0km s-min=26.0km az=25.3*
ISCJB ***17*** *14:01:11.0±0.9, 43.49N±0.08×149.28E±0.07, h33km, mb3.3/4, Error ellipse: s-maj=12.4km s-min=5.9km az=127.7*
JMA ***17*** *14:01:12.9±0.5, 44.35N×149.12E, h30km, M4.0*
IDC ***17*** *14:01:17.5±4.2, 45.65N×148.55E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.4/5, ML3.0/1, MS3.8/2, Ms1 3.8/2, ms1mx2.8/24, Error ellipse: s-maj=122.3km s-min=23.6km az=160.0*

ISC 17 14:01:13.1±0.9, 43.65N±0.09×149.26E±0.08, h35km, n30, σ1°25/40, mb3.3/4, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	Kuril'sk	1.88	328	⇑iPN		Pn	14 01 34.6	-8.0
KUR				pmax		pmax		
comp=N,80nm,0.5s								
KUR				pmax		pmax		
comp=E,150nm,0.5s								
KUR				pmax		pmax		
comp=Z,300nm,0.5s								
YUK	Yuzh-Kuril'sk	2.49	280	ePN		Pn	14 01 49.5	-1.6
NEM2	Nemuro 2	2.58	265	P		Pn	14 01 52.2	-0.1
NEM2				eS		Sn	14 02 20.9	-1.4
JRA	Rausu	3.01	277	P		Pn	14 01 58.6	+0.3
JRA				eS		Sn	14 02 32.8	-0.3
JNK	Nakash	3.30	270	P		Pn	14 02 02.2	0.0
JNK				eS		Sn	14 02 39.3	-0.9
JAK	Akkeshi	3.40	261	P		Pn	14 02 04.3	+0.8
JAK				eS		Sn	14 02 43.5	+1.0
JTKR	Abashiri--Toko	3.89	277	P		Pn	14 02 10.6	+0.3
JAR	Ashorobuto	4.01	267	P		Pn	14 02 12.9	+0.9
JAR				eS		Sn	14 02 57.9	+0.1
JOB	Onbets	4.03	261	P		Pn	14 02 12.9	+0.6
JOB				eS		Sn	14 02 58.3	0.0
JCH	Churui	4.44	259	P		Pn	14 02 19.6	+1.7
JCH				eS		Sn	14 03 09.3	+1.0
JEM	Erimo	4.78	252	P		Pn	14 02 25.9	+3.4
ASAJ	Asahikawa	4.84	278	Pn		Pn	14 02 27.1	+3.8
ASAJ				LR		LR	14 04 45.0	
comp=Z,474nm,18.1s,baz=93,slow=46								
ASAJ	Asahikawa	4.84	278	PN		Pn	14 02 27.2	+3.8
ASAJ				pmax		pmax		
comp=Z,1.0nm,0.3s								
ASAJ				MLR		MLR		
comp=Z,474nm,18.1s								
JNBK	Urakawa-nobuka	4.97	256	P		Pn	14 02 26.8	+1.7
JNBK				eS		Sn	14 03 21.7	+0.3
JBT2	Biratori 2	5.12	263	P		Pn	14 02 28.8	+1.6
YSS	Yuzh-Sakhalins	5.66	308	ePN		Pn	14 02 39.0	+4.4
JNB	Noboribetsu	6.14	262	P		Pn	14 02 42.7	+1.5
JNB				eS		Sn	14 03 50.7	+0.5
JKB	Kayabe	6.31	257	P		Pn	14 02 44.8	+1.3
JKB				eS		Sn	14 03 52.7	-1.6
JANG	Nango	6.63	243	eS		Sn	14 03 59.9	-2.4
JTH	Tanohata	6.66	239	eS		Sn	14 04 00.6	-2.3
JYM2	Yakumo 2	6.71	260	P		Pn	14 02 50.6	+1.5
JTM	Tenmabayashi	6.72	248	eS		Sn	14 04 02.1	-2.4
OFUJ	Ofunato	7.31	234	eS		Sn	14 04 18.8	-0.2
JRG	Rokugo	7.74	240	eS		Sn	14 04 30.0	+0.4
SONM	Songino Array	29.92	293	P		P	14 07 16.5	-1.2
comp=Z,0.3nm,0.6s,mb3.2,baz=80,slow=7.5,SNR=3.4								
ILAR	Eielson Array	40.67	36	P		P	14 08 48.6	-1.3
comp=Z,0.5nm,0.9s,mb3.1,baz=264,slow=8.0,SNR=5.4								
ILAR	Eielson Array	40.67	36	P		P	14 08 48.6	-1.3
ILAR				pmax		pmax		
comp=Z,1.0nm,0.9s								
MKAR	Makanchi Array	45.99	298	P		P	14 09 30.9	-1.9
comp=Z,0.4nm,0.3s,mb3.8,baz=79,slow=7.5,SNR=8.3								
YKA	Yellowknife Ar	55.03	34	P		P	14 10 40.1	-0.9
comp=Z,0.1nm,0.4s,mb3.2,baz=298,slow=8.1,SNR=7.1								
YKA	Yellowknife Ar	55.03	34	P		P	14 10 40.1	-1.0

ISCJB ***17*** *14:15:26.9±1.0, 179S±02×178.6W±0.1, h537km±15km, mb4.0/17, Error ellipse: s-maj=28.7km s-min=11.8km az=128.5*
NEIC ***17*** *14:15:27.6±1.1, 178.3S×178.52W, h539km±13km, mb4.0/8, Error ellipse: s-maj=23.1km s-min=10.1km az=153.0*
IDC ***17*** *14:15:28.3±1.6, 178.9S×178.48W, h547km±19km, mb3.4/8, mb1 3.6/9, mb1mx3.4/17, mbtmp4.3/9, Error ellipse: s-maj=53.2km s-min=12.4km az=153.0*

ISC 17 14:15:27.8±1.0, 179.5S±02×178.5W±01, h535km±14km, n28, σ0°65/27, mb4.0/17, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	Afiamalu	7.61	59	P		P	14 17 21.3	+0.2
3.3nm,0.3s,baz=112,slow=11,SNR=4.0								
AFI				S		S	14 18 55.1	+1.1
2.1nm,0.3s,baz=156,slow=19,SNR=2.6								
AFI	Afiamalu	7.61	59	eP		P	14 17 20.4	-0.7
AFI				eS		S	14 18 53.2	-0.8
CTA	Charters Tower	33.34	261	P		P	14 21 21.7	+0.2
3.9nm,0.7s,mb4.0,baz=97,slow=14,SNR=5.5								
CTAO	Charters Tower	33.34	261	eP		P	14 21 21.6	+0.1
4.9nm,0.8s,mb4.1								
PMG	Port Moresby	34.36	280	P		P	14 21 30.9	+0.9
14nm,0.9s,mb4.5,baz=76,slow=5.0,SNR=5.9								
PMG	Port Moresby	34.36	280	P		P	14 21 30.9	+0.9
PMG				eP			14 21 31.3	
STKA	Stephens Creek	38.54	241	eP		P	14 22 04.1	-0.4
4.2nm,0.6s,mb4.2								
STKA	Stephens Creek	38.54	241	P		P	14 22 04.3	-0.2
5.2nm,0.5s,mb4.4,baz=93,slow=11,SNR=13								
STKA	Stephens Creek	38.54	241	eP		P	14 22 04.0	-0.5
WB2	Warramunga Arr	44.52	260	⇓iP		P	14 22 51.2	-0.6
WRAB	Tennant Creek	44.52	260	eP		P	14 22 51.6	-0.2
3.7nm,0.8s,mb4.0								
WRA	Warramunga Arr	44.53	260	P		P	14 22 51.6	-0.3
3.1nm,0.7s,mb4.0,baz=91,slow=6.9,SNR=71								
WRA				PcP		PcP	14 24 23.3	-0.2
0.4nm,0.4s,baz=92,slow=3.5,SNR=4.0								
ASAR	Alice Springs	44.69	254	P		P	14 22 53.7	+0.6
29nm,0.6s,mb5.0,baz=89,slow=7.9,SNR=962								
ASAR				PcP		PcP	14 24 24.2	+0.2
0.7nm,0.5s,baz=99,slow=3.9,SNR=4.8								
KAKA	Kakadu	47.48	269	⇓iP		P	14 23 14.3	0.0
4.5nm,0.3s,mb4.5								
FITZ	Fitzroy Crossi	52.92	261	eP		P	14 23 54.8	+0.7
1.5nm,0.3s,mb3.8								
MBWA	Marble Bar	57.97	256	eP		P	14 24 28.9	-0.2
4.4nm,0.7s,mb3.8								
NWAO	Narrogin (SRO)	59.12	242	P		P	14 24 35.4	-1.5
13nm,1.2s,mb4.0								
CASY	Casey	66.09	205	P		P	14 25 22.1	+0.2
9.9nm,0.8s,mb4.4								
QSPA	South Pole Qui	72.14	180	eP		P	14 25 58.8	+0.5
2.7nm,0.9s,mb3.7								
KSM	Kuching	72.58	277	eP		P	14 26 01.0	+0.3
CMB	Columbia Colle	77.91	43	eP		P	14 26 30.8	+0.3
2.5nm,0.9s,mb3.5								
NVAR	Mina Array Bea	79.50	44	P		P	14 26 39.1	+0.1
0.8nm,0.7s,mb3.2,baz=215,slow=7.5,SNR=5.5								
ENH	Enshi	84.19	304	P		P	14 27 03.2	+0.4
8.6nm,1.0s,mb4.2								
ILAR	Eielson Array	85.91	13	P		P	14 27 09.5	-1.7
0.1nm,0.4s,mb2.8,baz=224,slow=4.5,SNR=4.9								
PDAR	Pinedale Array	87.42	43	P		P	14 27 18.8	+0.4
0.6nm,0.6s,mb3.4,baz=214,slow=2.9,SNR=5.6								
MKAR	Makanchi Array	109.06	314	PKiKP		PKiKP	14 32 55.1	-1.6
0.2nm,0.5s,baz=71,slow=0.5,SNR=4.9								
BRTR	Keskin Array B	144.71	315	PKP		PKPdf	14 34 02.9	-0.8
1.0nm,0.6s,baz=108,slow=3.3,SNR=6.6								
GERES	GERESS Array B	147.59	345	PKPbc		PKPbc	14 34 09.1	-2.9
0.6nm,0.6s,baz=20,slow=4.3,SNR=4.4								

ISCJB ***17*** *14:19:10.7±2.8, 15.1S±02×167.1E±03, h155km±44km, mb3.9/4, Error ellipse: s-maj=58.2km s-min=23.5km az=43.6*
IDC ***17*** *14:19:10.4±5.7, 15.12S×167.27E, h148km±51km, mb3.6/5, mb1 3.8/6, mb1mx3.6/16, mbtmp4.2/6, Error ellipse: s-maj=44.0km s-min=33.8km az=172.0*

ISC 17 14:19:12.8±2.4, 152S±02×167.3E±03, h169km±39km, n9, σ0°77/10, mb3.9/4, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKM	Butte a Klehm	2.62	159	⇑iP		Pn	14 19 55.6	-0.6
BKM				S		Sn	14 20 30.8	+0.9
DZM	Mont Dzumac	6.88	186	P		Pn	14 20 49.7	-1.4
12nm,0.3s,baz=166,slow=12,SNR=168								
DZM				S		Sn	14 22 08.9	+0.3
6.9nm,0.3s,baz=131,slow=20,SNR=8.9								
CTA	Charters Tower	20.61	253	eP		P	14 23 40.2	+1.4
3.2nm,0.6s								
CTA	Charters Tower	20.61	253	P		P	14 23 39.6	+0.8
4.9nm,0.8s,baz=84,slow=12,SNR=5.6								
STKA	Stephens Creek	28.70	230	P		P	14 24 54.0	0.0
5.3nm,0.6s,mb4.5,baz=58,slow=7.4,SNR=10.0								
WRA	Warramunga Arr	31.72	257	P		P	14 25 19.9	-0.6
0.8nm,0.6s,mb3.6,baz=85,slow=9.2,SNR=8.8								
ASAR	Alice Springs	32.52	250	P		P	14 25 27.2	-0.3
3.2nm,0.7s,mb4.2,baz=76,slow=9.4,SNR=18								
ASAR				PcP		PcP	14 28 11.5	+1.3
0.2nm,0.5s,baz=77,slow=2.2,SNR=4.7								
SONM	Songino Array	82.88	324	P		P	14 31 18.9	+0.5
0.2nm,0.4s,mb3.2,baz=138,slow=5.1,SNR=5.6								
ARCES	ARCESS Array B	120.71	345	PKP		PKPdf	14 37 42.8	-1.8
4.4nm,1.0s,baz=33,slow=2.9,SNR=5.3								

ISCJB ***17*** *14:33:35.6±0.6, 23.23S±0.06×66.67W±0.09, h210km±13km, mb3.8/1, Error ellipse: s-maj=14.6km s-min=8.7km az=40.0*
IDC ***17*** *14:33:36.6±1.4, 23.16S×66.56W, h189km±21km, mb1 3.0/6, mb1mx2.9/18, mbtmp3.4/6, Error ellipse: s-maj=27.1km s-min=16.0km az=108.0*
NEIC ***17*** *14:33:36.8±0.7, 23.20S×66.61W, h202km±12km, mb3.9/2, Error ellipse: s-maj=15.2km s-min=10.9km az=109.0*
GUC ***17*** *14:33:37.1±0.8, 23.20S×67.25W, h240km, ML3.7*

ISC 17 14:33:36.6±0.6, 23.20S±0.06×66.67W±0.10, h203km±14km, n16, σ1°30/25, mb3.8/1, 1C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	Limon Verde	2.15	285	P		Pn	14 34 18.2	+1.3
24nm,0.3s,baz=118,slow=8.3,SNR=107								
LVC				S		Sn	14 34 48.9	+0.7
15nm,0.3s,baz=287,slow=20,SNR=21								
LVC	Limon Verde	2.15	285	⇓iP		Pn	14 34 17.2	+0.4
LVC				i S		Sn	14 34 48.4	+0.2
LVC				AMP			14 34 50.9	
comp=E,90nm,0.8s								
LVC	Limon Verde	2.15	285	P		Pn	14 34 18.1	+1.3
LVC				eSn		Sn	14 34 47.8	-0.3
LVC				S		Sn	14 34 48.9	+0.7
CEN1	Los Morros	3.25	266	⇓iP		Pn	14 34 31.6	+2.2
CEN1				i S		Sn	14 35 11.4	+0.8
CEN1				AMP			14 35 12.8	
comp=N,102nm,0.3s								
ANCH	Antofagasta	3.47	261	⇑iP		Pn	14 34 29.9	-2.0
ANCH				i S		Sn	14 35 10.3	-5.0
CPN1	Cerro Paranal	3.70	247	eP		Pn	14 34 34.7	-0.1
CPN1				i S		Sn	14 35 17.9	-2.4
CPN1				AMP			14 35 19.8	
comp=E,172nm,0.3s								
LPAZ	La Paz	7.01	348	P		Pn	14 35 18.4	+1.4
comp=E,0.4nm,0.3s,baz=174,slow=9.2,SNR=6.0								
LPAZ				S		Sn	14 36 35.8	-1.0
comp=E,0.1nm,0.3s,baz=17,slow=19,SNR=3.3								
CFAA	Coronel Fontan	8.48	189	P		Pn	14 35 35.8	-0.3
comp=E,0.1nm,0.3s,baz=40,slow=10.0,SNR=2.3								
CFAA				S		Sn	14 37 05.6	-5.9
comp=E,0.1nm,0.3s,baz=282,slow=22,SNR=7.8								
CFAA	Coronel Fontan	8.48	189	P		Pn	14 35 35.8	-0.3
CFAA				S		Sn	14 37 05.6	-5.9
SIV	San Ignacio	8.90	37	P		Pn	14 35 40.1	-1.5
comp=E,0.3nm,0.3s,baz=212,slow=13,SNR=6.3								
CPUP	Villa Florida	9.04	112	ePn		Pn	14 35 43.3	0.0
PLCA	Paso Flores	17.78	190	P		P	14 37 31.6	+1.8
comp=E,0.1nm,0.3s,baz=13,slow=14,SNR=2.8								
PLCA	Paso Flores	17.78	190	P		P	14 37 31.4	+1.5
comp=E,6.3nm,1.4s								
BDFB	Brasilia	19.12	70	P		P	14 37 45.1	+0.7
comp=E,0.3nm,0.3s,baz=245,slow=11,SNR=4.6								
QSPA	South Pole Qui	67.00	180	P		P	14 44 06.5	-1.2
comp=E,3.0nm,1.1s,mb3.8								
MKAR	Makanchi Array	145.72	39	PKPbc		PKPbc	14 52 52.0	+0.4
comp=E,0.6nm,0.7s,baz=319,slow=2.9,SNR=8.3								

ISCJB ***17*** *15:05:59.4±2.7, 15.5N±0.1×16.1E±02, h0km, Error ellipse: s-maj=22.8km s-min=6.4km az=80.3*
PRU ***17*** *15:06:01.5, 51.42N×16.16E, h0km*
VIE ***17*** *15:06:29.5±0.4, 49.34N×14.61E, h0km, mb1.8/2, ML2.3/2, Error ellipse: s-maj=3.5km s-min=1.6km az=8.0 55 km NW of Litschau Suspected Mining explosion.*

ISC 17 15:05:59.5±3.0, 15.5N±01×16.2E±02, h0km, n5, σ0°41/9, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	Ksiaz	0.65	175	ePg		Pg	15 06 12.6	+0.6
KSP				eSg		Sg	15 06 20.6	+0.2
UPC	Upice	0.99	187	ePG		Pg	15 06 18.9	+0.4
DPC	Dobruska-Polom	1.14	176	ePG		Pg	15 06 21.4	0.0
DPC				eSG		Sg	15 06 35.7	-0.6
CLL	Collm	2.01	266	i Pg		Pg	15 06 37.8	-0.3
CLL				i Sg		Sg	15 07 04.4	+0.2
MOA	Moln	3.85	200	⇑iPg		Pn	15 06 59.5	-0.6
MOA				⇓iSg		Pg	15 07 19.8	+6.4
8.6nm,0.4s								

NAO ***17*** *15:12:17.5, 35.74S×177.23W, h33km, mb3.2*
ISCJB ***17*** *15:12:22.5±1.9, 31.80S±0.07×177.5W±0.3, h33km, mb4.7/5, Error ellipse: s-maj=38.9km s-min=6.9km az=22.5*
IDC ***17*** *15:12:22.0±1.4, 31.70S×177.88W, h0km, mb4.6/3, mb1 4.6/6, mb1mx4.4/15, mbtmp4.4/6, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=44.7km s-min=22.0km az=126.0*
NEIC ***17*** *15:12:23.0±3.9, 31.62S×177.82W, h8km±23km, mb4.9/4, Error ellipse: s-maj=20.3km s-min=10.4km az=110.0*

ISC 17 15:12:24.3±1.9, 31.74S±0.07×177.4W±0.3, h35km, n34, σ0°98/31, mb4.7/5, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	Raoul Island	2.51	350	Pn		Pn	15 13 03.7	+1.1
137nm,0.3s,baz=86,slow=22,SNR=3.5								
RAO				Sn		Sn	15 13 26.6	-5.4
507nm,0.3s,baz=64,slow=21,SNR=6.5								
RAO	Raoul Island	2.51	350	ePn		Pn	15 13 01.8	-0.8
RAO				Sn		Sn	15 13 26.6	-5.4
PUZ	Puketiti	7.24	208	ePN		Pn	15 14 08.8	+1.2
PUZ				SN		Sn	15 15 29.8	+1.2
MWZ	Matawai	7.77	211	ePN		Pn	15 14 15.7	+0.8
MWZ				eSN		Sn	15 15 41.5	-0.1
URZ	Urewera	7.90	213	Pn		Pn	15 14 16.6	-0.1
1.7nm,0.3s,baz=210,slow=2.3,SNR=16								
URZ				Sn		Sn	15 15 43.7	-1.0
2.3nm,0.3s,baz=198,slow=17,SNR=7.4								
URZ	Urewera	7.90	213	ePN		Pn	15 14 17.2	+0.6
URZ				SN		Sn	15 15 44.6	-0.1
OUZ	Omahuta	8.26	243	PN		Pn	15 14 25.5	+3.9
BKZ	Black Stump Fm	8.91	212	ePN		Pn	15 14 28.9	-1.6
MRZ	Mangatainoka R	10.54	210	ePN		Pn	15 14 51.3	-1.6
MRZ				eSN		Sn	15 16 42.2	-7.4
SNZO	South Karori	11.45	211	eSn		Sn	15 17 03.6	-8.3
TCW	Tory Channel	11.57	213	SN		Sn	15 17 05.8	-8.9
THZ	Tophouse	12.64	215	ePN		Pn	15 15 20.4	-1.3
THZ				eSN		Sn	15 17 32.4	-8.8
MQZ	McQueen's Vall	14.28	210	eSN		Sn	15 18 07.1	-14
RPZ	Rata Peaks	15.01	214	Pn		Pn	15 15 55.1	+1.3
0.4nm,0.3s,baz=62,slow=16,SNR=4.1								
CTA	Charters Tower	34.50	281	⇓iP		P	15 19 10.2	+1.1
7.3nm,0.7s,mb4.7								
CTAO	Charters Tower	34.50	281	eP		P	15 19 10.1	+1.0
16nm,1.0s,mb4.9								
STKA	Stephens Creek	34.67	259	eP		P	15 19 09.7	-0.8
STKA	Stephens Creek	34.67	259	P		P	15 19 09.9	-0.5
1.3nm,0.3s,mb4.3,baz=102,slow=15,SNR=12								
STKA	Stephens Creek	34.67	259	eP		P	15 19 08.8	-1.7
ASAR	Alice Springs	43.53	268	P		P	15 20 24.6	0.0

CTA	Charters Tower	22.88 269	P		P	15 37 26.1 +0.9
	4.5nm,0.5s,mb4.2,baz=94,slow=10,SNR=11					
CTAO	Charters Tower	22.88 269	eP		P	15 37 26.6 +1.4
	16nm,1.1s,mb4.5					
CNB	Canberra Magne	23.11 229	eP		P	15 37 28.5 +1.2
	55nm,0.9s,mb5.1					
CNB			eS		S	15 41 29.8 +6.1
PMG	Port Moresby	25.68 295	P		P	15 37 51.6 +1.0
	8.0nm,0.7s,mb4.5,baz=97,slow=9.2,SNR=9.3					
PMG	Port Moresby	25.68 295	i P		P	15 37 51.7 +1.1
PMG	Port Moresby	25.68 295	eP		P	15 37 50.8 +0.2
	13nm,0.7s,mb4.7					
STKA	Stephens Creek	27.83 242	‖ i P		P	15 38 08.6 -1.2
	11nm,0.8s,mb4.5					
STKA	Stephens Creek	27.83 242	P		P	15 38 08.8 -1.0
	13nm,0.8s,mb4.6,baz=86,slow=10,SNR=25					
ASAR	Alice Springs	33.95 259	P		P	15 39 03.4 0.0
	12nm,0.7s,mb4.6,baz=85,slow=9.3,SNR=257					
ASAR			S		S	15 44 12.9 -0.7
	1.7nm,0.7s,baz=89,slow=17,SNR=12					
ASAR			ScP		ScP	15 45 07.3 +4.0
	1.0nm,0.7s,baz=107,slow=4.2,SNR=11					
WB2	Warramunga Arr	33.97 266 ⇑ i P			P	15 39 03.0 -0.5
WB2			eS		S	15 44 12.6 -1.3
WRAB	Tennant Creek	33.97 266 ⇑ eP			P	15 39 03.1 -0.4
WRAB	Tennant Creek	33.97 266	eP		P	15 39 02.7 -0.9
	9.0nm,0.9s,mb4.3					
WRA	Warramunga Arr	33.98 266	P		P	15 39 03.3 -0.3
	2.2nm,0.5s,mb3.9,baz=101,slow=8.3,SNR=6.3					
WRA			S		S	15 44 13.1 -1.0
	4.4nm,1.0s,baz=100,slow=15,SNR=4.5					
FITZ	Fitzroy Crossi	42.41 267	eP		P	15 40 14.9 +1.0
	10nm,0.8s,mb4.3					
FITZ			eS		S	15 46 21.5 +0.9
MBWA	Marble Bar	47.27 261	eP		P	15 40 52.6 +0.3
	15nm,0.7s,mb4.4					
KLBR	Kellerberrin	47.96 246	eP		P	15 40 57.4 -0.2
	29nm,0.6s,mb4.8					
NWAO	Narrogin (SRO)	48.38 245	eP		P	15 41 00.3 -0.4
	26nm,0.7s,mb4.7					
MUN	Mundaring	49.27 246	eP		P	15 41 07.6 +0.1
CASY	Casey	58.50 204	eP		P	15 42 13.2 -1.1
	17nm,0.9s,mb4.7					
KKM	Kota Kinabalu	60.05 291	eP		P	15 42 25.8 +0.8
KSM	Kuching	63.24 283	eP		P	15 42 47.3 +1.1
MJAR	Matsushiro Arr	65.50 332	P		P	15 43 00.4 -0.5
	3.6nm,0.6s,mb4.2,baz=173,slow=7.9,SNR=10					
MAJO	Matsushiro	65.50 332	eP		P	15 43 00.2 -0.7
	17nm,1.0s,mb4.6					
QSPA	South Pole Qui	68.43 180	eP		P	15 43 18.9 -0.4
	8.6nm,1.0s,mb4.3					
SSE	Sheshan	70.73 316	P		P	15 43 32.4 -1.1
SSE			AMB		AMB	
	comp=Z,16nm,0.7s,mb4.8					
SSE			AMB		AMB	
	comp=Z,264nm,4.9s					
YSS	Yuzh-Sakhalins	72.78 340	P		P	15 43 46.0 +0.4
	comp=Z,42nm,1.4s,mb4.9					
NJ2	Nanjing	72.87 316	eP		P	15 43 46.8 +0.6
NJ2			AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.6					
KULM	Kulim	73.58 283	eP		P	15 43 51.2 +0.9
MDJ	Mudanjiang	75.87 331	P		P	15 44 03.7 +0.2
	comp=Z,11nm,1.2s,mb4.3					
ENH	Enshi	78.24 309	eP		P	15 44 16.6 0.0
	comp=Z,12nm,1.0s,mb4.5					
BJT	Baijiatuan	79.64 321	P		P	15 44 22.8 -1.5
	comp=Z,12nm,0.9s,mb4.5					
MA2	Magadan	82.55 350	eP		P	15 44 38.2 -1.4
	comp=Z,7.7nm,1.2s,mb4.3					
CD2	Chengdu	82.76 307	eP		P	15 44 40.0 -0.7
CD2			PP		PP	15 47 55.0 +1.5
CD2			S		S	15 54 37.8 -4.4
CD2			AMB		AMB	
	comp=Z,10.0nm,0.9s,mb4.5					
CD2			AMB		AMB	
	comp=Z,70nm,8.2s					
HHC	Hu-ho-hao-te	82.91 319	eP		P	15 44 42.3 +0.8
HHC			PP		PP	15 47 57.9 +3.2
HHC			SKS			15 54 38.3
HHC			S		S	15 54 43.1 -0.7
HHC			AMB		AMB	
	comp=Z,147nm,7.2s					
HHC			LR		LR	
	comp=N,128nm,16.8s					
HHC			LR		LR	
	comp=E,132nm,19.2s					
HHC			LR		LR	
	comp=Z,130nm,18.0s					
SYO	Syowa Base	83.02 196 ‖ e PcP			PcP	15 44 48.8 +2.6
SYO	Syowa Base	83.02 196 ‖ e pP			pP	15 45 31.9 +2.5
SYO	Syowa Base	83.02 196 ‖ e sP			sP	15 45 54.7 +4.8
SYO	Syowa Base	83.02 196 ‖ e P			P	15 44 41.3 -0.7
SYO		‖ e PcP			PcP	15 44 48.8 +2.6
SYO		‖ e pP			pP	15 45 31.9 +2.5
SYO		‖ e sP			sP	15 45 54.7 +4.8
PMSA	Palmer Station	84.20 159	P		P	15 44 49.6 +1.5
	comp=Z,169nm,1.5s,mb5.5					
LZH	Lanzhou	85.33 312	eP		P	15 44 55.5 +1.8
LZH			AMB		AMB	
	comp=Z,30nm,1.5s,mb4.8					
LZH			AMB		AMB	
	comp=Z,105nm,4.2s					
SEY	Seymchan	85.52 352 ‖ i P			P	15 44 52.8 -1.8
CMB	Columbia Colle	87.75 48	eP		P	15 45 00.1 -5.3
	comp=Z,5.1nm,1.3s,mb4.2					
NVAR	Mina Array Bea	89.38 48	P		P	15 45 14.1 +1.0
	comp=Z,1.4nm,0.8s,mb3.9,baz=213,slow=7.6,SNR=11					
BILL	Bilibino	89.47 358 c i P			P	15 45 12.8 -0.7
BILL			pmax		pmax	
	comp=Z,13nm,1.7s,mb4.5					
BILL	Bilibino	89.47 358	eP		P	15 45 12.6 -0.9
	comp=Z,9.8nm,1.5s,mb4.4					
YAK	Yakutsk	89.56 342 ⇑ i P			P	15 45 13.1 -0.8
YAK			pmax		pmax	
	comp=Z,8.0nm,1.0s,mb4.5					
ULN	Ulaanbaatar	89.59 323	eP		P	15 45 14.2 +0.1
	comp=Z,14nm,1.5s,mb4.6					
GTA	Gaotai	89.75 313	P		P	15 45 16.3 +1.5
GTA			AMB		AMB	
	comp=Z,4.0nm,1.0s,mb4.2					
SONM	Songino Array	89.94 323	P		P	15 45 16.1 +0.4
	comp=Z,3.7nm,0.9s,mb4.2,baz=138,slow=5.5,SNR=22					
LSA	Lhasa	91.93 301	eP		P	15 45 25.6 +0.7
	comp=Z,3.7nm,0.8s,mb4.4					
ILAR	Eielson Array	92.11 17	P		P	15 45 24.1 -1.7
	comp=Z,0.8nm,0.7s,mb3.8,baz=240,slow=5.1,SNR=13					
ZAK	Zakamensk	93.03 324	eP		P	15 45 29.7 -0.2
ZAK			pmax		pmax	
	comp=Z,7.0nm,1.5s,mb4.5					
PLCA	Paso Flores	95.85 138	P		P	15 45 32.7 -10
SMCO	Snowmass	97.71 51	P		P	15 45 47.3 -4.0
	comp=Z,23nm,0.9s,mb5.5					
WMQ	Urumqi	99.83 313	eP		Pdif	15 46 01.0 +0.3
WMQ			AMB		AMB	
	comp=Z,14nm,1.0s,mb5.3					
YKA	Yellowknife Ar	102.16 27	P		Pdif	15 46 09.9 -1.1
	comp=Z,0.1nm,0.6s,baz=250,slow=4.3,SNR=4.7					
YKA	Yellowknife Ar	102.16 27	P		Pdif	15 46 09.9 -1.1
AKTK	Aktyubinsk	120.74 317	PKP		PKPdf	15 51 07.0 -0.3
AKTO	Aktyubinsk	120.74 317	PKP		PKPdf	15 51 07.0 -0.3
	comp=Z,0.8nm,0.6s,baz=90,slow=6.1,SNR=5.4					
ARCES	ARCESS Array B 127.72 345	PKP			PKPdf	15 51 20.0 -0.7
	comp=Z,2.5nm,0.8s,baz=48,slow=1.9,SNR=10					
ARCES	ARCESS Array B 127.72 345	PKiKP			PKiKP	15 51 20.1 -0.6
FINES	FINESS Array B	133.31 338	PKP		PKPdf	15 51 32.3 +1.0
	comp=Z,0.3nm,0.3s,baz=103,slow=1.3,SNR=7.0					
VSU	Vasula	135.01 334 ‖ i PKiKP			PKPdf	15 51 37.9 +3.4
AKASG	Malin Array Be	138.22 324	SKPbc		SKPbc	15 54 57.8 +1.5
	comp=Z,0.2nm,0.3s,baz=52,slow=2.7,SNR=5.9					
KOLS	Kolonicke sedl	142.96 325	ePKP		PKPdf	15 51 46.7 -2.3
KECS	Kecovo	144.18 326	i PKP		PKPdf	15 51 50.5 -0.6
BSEG	Bad Segeberg	144.47 340	ePKPbc		PKPdf	15 51 50.6 -1.0
OKC	Ostrava-Krasne	144.48 329	ePKP		PKPdf	15 51 49.0 -2.6
KSP	Ksiaz	144.63 332	ePKiKP		PKPdf	15 51 51.5 -0.4
DPC	Dobruska-Polom	144.97 331	ePKP		PKPdf	15 51 52.7 +0.2
UPC	Upice	145.00 332	ePKP		PKPdf	15 51 52.7 +0.2
VYHS	Vyhne	145.03 327	i PKP		PKPdf	15 51 53.0 +0.4
VRAC	Vranov	145.58 330	PKPbc		PKPbc	15 51 54.3 +0.2
	comp=Z,4.4nm,0.6s,baz=67,slow=2.0,SNR=7.2					
BRG	Berggiesshubel	145.61 334	ePKiKP		PKPdf	15 51 54.4 +0.8
BRG			pmax		pmax	
	comp=Z,7.0nm,0.8s					
BRG	Berggiesshubel	145.61 334	ePKP		PKPdf	15 51 54.4 +0.8
CLL	Collm	145.65 335	ePKPbc		PKPbc	15 51 54.2 -0.1
CLL	Collm	145.65 335 ⇑ i PKPbc			PKPbc	15 51 54.3 0.0
	comp=Z,14nm,0.9s					
CLL	Collm	145.65 335 ⇑ i PKiKP			PKPdf	15 51 54.3 +0.7
CLL			pmax		pmax	
	comp=Z,14nm,0.9s					
PRU	Pruhonice	146.02 332	ePKP		PKPdf	15 51 55.9 +1.6
EKA	Eskdalemuir Ar	146.04 354	PKPbc		PKPbc	15 51 54.8 -0.7
	comp=Z,5.2nm,0.6s,baz=350,slow=2.1,SNR=26					
CLZ	Clausthal	146.20 338	ePKPbc		PKPbc	15 51 56.5 +0.5
WERD	Werda	146.60 335	ePKPbc		PKPbc	15 51 57.4 +0.3
IBBN	Ibbenburen	146.66 341	ePKPbc		PKPbc	15 51 57.5 +0.2
NKC	Novy Kostel	146.71 334	ePKP		PKPdf	15 51 57.7 +2.3
KHC	Kasperske Hory	147.08 332	ePKP		PKPdf	15 51 58.7 +2.7
KHC	Kasperske Hory	147.08 332 ⇑ ePKP2			PKPab	15 51 58.8 -1.7
ROTZ	Rotzenmuhle	147.17 334	ePKPbc		PKPbc	15 51 59.2 +0.5
IDI	Anoyia	147.18 302	PKPbc		PKPbc	15 52 00.4 +1.7
	comp=Z,11nm,0.8s,baz=82,slow=5.2,SNR=5.7					
GEC2	GERESS Array S	147.24 331	ePKPbc		PKPbc	15 51 59.1 +0.2
GERES	GERESS Array B	147.24 331	PKPbc		PKPbc	15 51 59.3 +0.4
	comp=Z,3.8nm,0.7s,baz=39,slow=2.8,SNR=36					
GERES			PP		PP	15 55 21.0 -4.7
	comp=Z,0.3nm,0.5s,baz=25,slow=4.4,SNR=3.5					
WET	Wettzell	147.37 333	ePKPbc		PKPbc	15 51 59.9 +0.7
GRA1	Grafenberg Arr	147.63 335	ePKPbc		PKPbc	15 52 00.4 +0.5
GRF	Grafenberg Arr	147.63 335	ePKPbc		PKPbc	15 52 00.4 +0.5
CRES	Cresnjev	148.52 326	i PKPbc		PKPbc	15 52 02.5 +0.3
MEM	Membach	148.68 341	PKPbc		PKPbc	15 52 02.9 +0.3
LJU	Ljubljana	148.85 327	i PKPbc		PKPbc	15 52 03.6 +0.5
SNF	Seneffe	149.26 343	PKPbc		PKPbc	15 52 04.2 0.0
WLF	Walferdange	149.46 340	ePKPbc		PKPbc	15 52 05.3 +0.7
WLF	Walferdange	149.46 340	PKPbc		PKPbc	15 52 05.5 +0.9
WLF			APKP			15 52 50.3
WLF			APKPbc			15 52 55.8
GIVF	Givet	149.48 342	ePKP1		PKPbc	15 52 04.8 +0.2
	comp=Z,35nm,0.9s					
DOU	Dourbes	149.55 342	PKPbc		PKPbc	15 52 04.9 +0.1
DOU			APKPbc			15 53 00.6
BFO	Black Forest	149.85 336	ePKPbc		PKPbc	15 52 05.5 0.0
CDF	Champ du Feu	150.16 338	ePKP1		PKPbc	15 52 06.3 0.0
	comp=Z,22nm,0.9s					
DAVOS	Davos	150.47 333	PKHKP			15 52 07.4
DAVOX	Davos	150.48 333	PKPbc		PKPbc	15 52 07.4 +0.4
	comp=Z,7.1nm,0.3s,baz=69,slow=2.1,SNR=18					
HINF	Hinteralfeld	150.82 337	ePKP1		PKPbc	15 52 07.7 -0.1
	comp=Z,30nm,1.0s					
MEZF	Maizieres J'vi	150.83 340	ePKP1		PKPbc	15 52 08.4 +0.5
	comp=Z,41nm,0.8s					
HAU	Haudompre	150.84 338	ePKP1		PKPbc	15 52 08.9 +1.0
	comp=Z,17nm,0.7s					
FLN	La Foliniere	152.03 347	ePKP1		PKPbc	15 52 11.4 +0.8
LOR	Lormes	152.30 341	ePKP1		PKPbc	15 52 12.5 +1.3
LPL	La Plagne	152.79 335	ePKP1		PKPbc	15 52 12.7 +0.4
LPG	La Plagne	152.80 335	ePKP1		PKPbc	15 52 13.0 +0.7
	comp=Z,8.0nm,0.8s					
ORIF	Oris-en-Rattie	153.62 335	ePKP1		PKPbc	15 52 14.8 +0.7
	comp=Z,13nm,0.9s					
SBF	Sospel	153.84 332	ePKP1		PKPbc	15 52 14.9 +0.3

*ISCJB **17** 15:44:44.2±0.9, 3990N±007×2368E±009, h20km±6km, Error ellipse: s-maj=13.2km s-min=10.1km az=84.4*
*CSEM **17** 15:44:44.3±0.1, 3987N×2380E, h12km, ML2.9, Error ellipse: s-maj=2.9km s-min=2.7km az=33.0*
*ATH **17** 15:44:44.1, 3987N×2376E, h24km±1km, MD3.0/3*
*THE **17** 15:44:45.2, 3983N×2377E, h1km, ML2.9*
ISC 17 15:44:44.4±0.9, 3985N±006×238E±01, h13km±9km, n7, σ0§45/10, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.10	321	ePg	Pg	15 44 47.2	-0.1
PAIG				eSg	Sg	15 44 49.3	-0.1
OUR	Ouranopolis	0.51	19	ePg	Pg	15 44 55.1	+0.7
PLG	Polygyros	0.57	335	ePN	Pg	15 44 55.0	-0.6
PLG				eSN	Sg	15 45 02.8	-0.4
XOR	Xorichti	0.65	222	ePg	Pg	15 44 57.4	+0.2
SOH	Sokhos	1.02	342	ePg	Pg	15 45 04.8	+0.7
LIA	Limnos Island	1.10	87	ePN	Pn	15 45 04.9	-0.5
LIA				eSN	Sn	15 45 20.3	-0.1
NVR	Nevrokopi	1.50	3	ePN	Pn	15 45 11.3	+0.4

*NAO **17** 15:49:35.4, 1847S×17858W, h33km, mb4.4*
*SZGRF **17** 15:49:36.6, 1823S×17781W, h33km, Fiji Islands region*
*ISCJB **17** 15:50:37.5±0.7, 1821S±008×17842W±007, h591km±9km, mb4.2/33, Error ellipse: s-maj=14.7km s-min=7.9km az=105.2*
*IDC **17** 15:50:37.8±1.2, 1826S×17827W, h586km±15km, mb3.6/13, mb1 3.8/14, mb1mx3.7/19, mbtmp4.5/14, Error ellipse: s-maj=18.8km s-min=10.7km az=141.0*
*NEIC **17** 15:50:38.0±0.7, 1815S×17836W, h583km±8km, mb4.2/18, Error ellipse: s-maj=12.2km s-min=7.3km az=137.0*
*BJI **17** 15:50:38.0, 1820S×17840W, h582km, mB4.7, mb4.5*
ISC 17 15:50:38.3±0.7, 1817S±008×17835W±007, h586km±8km, n115, σ1§14/56, mb4.2/33, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.61	57	P	P	15 52 33.6	+0.2
	7.0nm,0.3s,baz=52,slow=2.3,SNR=8.8						
AFI				S	S	15 54 07.4	-0.2
	1.9nm,0.3s,baz=203,slow=22,SNR=3.2						
AFI	Afiamalu	7.61	57	P	P	15 52 33.6	+0.2
AFI				S	S	15 54 07.4	-0.2
FUNA	Funafuti	9.88	346	ePn	P	15 52 55.4	-0.1
URZ	Urewera	20.41	190	P	P	15 54 34.5	-1.8
	13nm,0.7s,baz=7.3,slow=2.4,SNR=12						
SNZO	South Karori	23.82	193	eP	P	15 55 06.2	-0.5
RPZ	Rata Peaks	26.99	197	P	P	15 55 33.5	-1.1
	3.9nm,0.6s,mb4.2,baz=253,slow=6.0,SNR=6.9						
ARMA	Armidale	29.86	240	eP	P	15 56 01.2	+1.7
CTA	Charters Tower	33.46	261	eP	P	15 56 30.2	+0.2
	2.0nm,0.4s,mb4.1						
CTA	Charters Tower	33.46	261	P	P	15 56 30.6	+0.6
	1.9nm,0.4s,mb4.1,baz=100,slow=11,SNR=13						
CTAO	Charters Tower	33.46	261	eP	P	15 56 30.2	+0.2
	6.0nm,1.1s,mb4.1						
PMG	Port Moresby	34.56	280	P	P	15 56 40.4	+1.3
	11nm,1.0s,mb4.5,baz=253,slow=13,SNR=3.9						
PMG	Port Moresby	34.56	280	eP	P	15 56 41.0	+1.9
STKA	Stephens Creek	38.55	241	eP	P	15 57 11.3	-0.6
	4.3nm,0.9s,mb4.0						
STKA	Stephens Creek	38.55	241	P	P	15 57 11.2	-0.7
	4.4nm,0.7s,mb4.1,baz=93,slow=7.7,SNR=9.2						
STKA	Stephens Creek	38.55	241	eP	P	15 57 10.9	-1.0
WB2	Warramunga Arr	44.63	260	eP	P	15 57 59.7	+0.1
WRA	Warramunga Arr	44.64	260	P	P	15 57 59.9	+0.2
	2.0nm,0.4s,mb4.0,baz=96,slow=7.2,SNR=7.6						
ASAR	Alice Springs	44.77	254	P	P	15 58 01.4	+0.6
	6.3nm,0.5s,mb4.5,baz=87,slow=8.9,SNR=305						
ASAR				PcP	PcP	15 59 29.9	0.0
	1.4nm,0.5s,baz=104,slow=3.7,SNR=11						
ASAR				ScP	ScP	16 02 28.1	+1.3
	0.5nm,0.7s,baz=95,slow=4.1,SNR=4.1						
ASAR				S	S	16 03 53.9	-2.1
	2.2nm,1.0s,baz=87,slow=14,SNR=14						
KAKA	Kakadu	47.63	269	eP	P	15 58 22.4	+0.1
	2.4nm,0.3s,mb4.2						
MJAR	Matsushiro Arr	68.14	323	P	P	16 00 40.2	-0.6
	4.0nm,0.6s,mb4.0,baz=154,slow=6.5,SNR=9.8						
MJAR	Matsushiro Arr	68.14	323	P	P	16 00 40.2	-0.7
QSPA	South Pole Qui	71.89	180	eP	P	16 01 04.0	+1.1
	2.3nm,0.7s,mb3.8						
KSM	Kuching	72.77	277	eP	P	16 01 08.8	+0.7
ISA	Isabella	77.96	46	eP	P	16 01 37.4	+0.6
	7.4nm,0.9s,mb4.1						
CMB	Columbia Colle	77.99	43	eP	P	16 01 37.9	+0.9
	2.3nm,0.7s,mb3.7						
NJ2	Nanjing	78.14	309	eP	P	16 01 36.5	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
MDJ	Mudanjiang	78.43	325	P	P	16 01 39.9	+0.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,44nm,4.7s						
MDJ	Mudanjiang	78.43	325	eP	P	16 01 39.7	+0.4
	comp=Z,5.0nm,0.8s,mb4.0						
NVAR	Mina Array Bea	79.57	44	P	P	16 01 46.3	+1.0
	comp=Z,3.9nm,0.7s,mb3.9,baz=216,slow=7.6,SNR=31						
LDFC	Landfair	79.99	48	eP	P	16 01 48.9	+1.4
MOD	Modoc	80.25	40	eP	P	16 01 49.9	+1.0
	comp=Z,5.8nm,0.6s,mb4.1						
MA2	Magadan	81.46	345	eP	P	16 01 53.0	-2.1
	comp=Z,3.7nm,0.8s,mb3.9						
WVOR	Wild Horse Val	81.57	40	eP	P	16 01 56.3	+0.7
	comp=Z,11nm,1.0s,mb4.3						
TTA	Tatalina	82.72	10	eP	P	16 02 00.6	-0.8
	comp=Z,12nm,0.9s,mb4.4						
PMR	Palmer	82.84	14	eP	P	16 02 00.4	-1.7
	comp=Z,7.2nm,0.6s,mb4.4						
ENH	Enshi	84.46	304	eP	P	16 02 11.0	+0.9
	comp=Z,30nm,1.3s,mb4.7						
MCK	McKinley	84.78	13	eP	P	16 02 10.1	-1.6
	comp=Z,2.4nm,0.6s,mb4.0						
NEW	Newport	85.69	36	eP	P	16 02 15.5	-0.5
	comp=Z,4.2nm,0.7s,mb4.2						
ILAR	Eielson Array	86.13	13	P	P	16 02 16.0	-2.1
	comp=Z,2.7nm,0.4s,mb4.2,baz=221,slow=4.8,SNR=130						
MCMT	McKenzie Canyo	86.40	40	eP	P	16 02 20.2	+0.9
BILL	Bilibino	86.69	354	P	P	16 02 18.2	-2.5
	comp=Z,3.6nm,0.8s,mb4.2						
IMW	Indian Meadow	87.14	42	eP	P	16 02 24.0	+1.1
	comp=Z,8.6nm,1.0s,mb4.4						
QLMT	Earthquake Lak	87.28	41	eP	P	16 02 24.4	+0.9
FLWY	Flagg Ranch	87.38	42	eP	P	16 02 25.1	+1.2
	comp=Z,12nm,1.1s,mb4.5						
HHC	Hu-ho-hao-te	87.49	314	eP	P	16 02 24.6	+0.1
HHC				AMB	AMB		
	comp=Z,134nm,7.2s						
PDAR	Pinedale Array	87.50	43	P	P	16 02 24.7	+0.2
	comp=Z,3.6nm,0.6s,mb4.3,baz=220,slow=3.1,SNR=45						
BOZ	Bozeman (W)	87.55	40	eP	P	16 02 24.3	-0.5
	comp=Z,2.1nm,1.0s,mb3.8						
SYO	Syowa Base	88.92	193 ‖	eP	P	16 02 40.4	+9.3
CD2	Chengdu	89.25	303	eP	P	16 02 36.0	+3.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,7.5s						
LZH	Lanzhou	91.09	308	eP	P	16 02 44.1	+2.9
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
INK	Inuvik	92.12	15	eP	P	16 02 44.1	-1.8
	comp=Z,5.8nm,1.1s,mb4.5						
SONM	Songino Array	93.78	319	P	P	16 02 53.8	+0.3
	comp=Z,0.4nm,0.5s,mb3.8,baz=131,slow=3.9,SNR=5.0						
YKA	Yellowknife Ar	94.54	25	P	P	16 02 55.6	-1.4
	comp=Z,0.8nm,0.5s,mb4.1,baz=242,slow=4.4,SNR=22						
MKAR	Makanchi Array	109.35	314	PKiKP	PKiKP	16 08 01.0	-1.6
	comp=Z,0.5nm,0.5s,baz=158,slow=0.6,SNR=11						
MKAR	Makanchi Array	109.35	314	PKPdf	PKiKP	16 08 01.0	-1.6
ARCES	ARCESS Array B	126.58	350	PKP	PKPdf	16 08 33.8	-1.9
	comp=Z,2.0nm,0.5s,baz=86,slow=0.9,SNR=18						
JOF	Joensuu	130.82	343	ep	PKPdf	16 08 42.9	-0.8
KAF	Kangasniemi	132.83	344	ep	PKPdf	16 08 45.2	-2.3
FINES	FINESS Array B	133.45	344	PKP	PKPdf	16 08 47.6	-1.1
	comp=Z,0.9nm,0.5s,baz=42,slow=3.1,SNR=7.2						
NB2	NORSAR Subarra	136.64	353	PKPa	PKPdf	16 08 54.8	+0.2
	comp=Z,0.8nm,0.5s,baz=17,slow=2.4						
NB2	NORSAR Subarra	136.64	353	PKPd	PKPdf	16 08 54.1	-0.5
	comp=Z,1.4nm,0.8s,baz=14,slow=1.8						
NOA	NORSAR Array B	136.64	353	PKP	PKPdf	16 08 53.3	-1.3
	comp=Z,1.0nm,0.6s,baz=13,slow=4.1,SNR=3.6						
BSEG	Bad Segeberg	143.68	351	ePKPbc	PKPdf	16 09 05.4	-1.8
KWP	Kalwaria	144.33	336	ePKPdf	PKPdf	16 09 07.8	-0.5
BURAR	Bucovina Array	144.87	332	⇑ P	PKPdf	16 09 10.5	+1.2
OJC	Ojcow	144.87	340	ePX	PKPdf	16 09 09.4	+0.1
BR131	Keskin Array S	145.00	315	ePKPdf	PKPdf	16 09 10.0	+0.4
BRTR	Keskin Array B	145.00	315	PKPbc	PKPbc	16 09 10.0	-0.4
	comp=Z,2.6nm,0.7s,baz=144,slow=4.9,SNR=15						
STHS	Stebnicka Huta	145.05	338	ePKP	PKPdf	16 09 10.4	+0.8
KOLS	Kolonicke sedl	145.06	336	ePKP	PKPdf	16 09 10.1	+0.5
KOLS				e		16 09 15.9	
KSP	Ksiaz	145.37	344	ePKP	PKPdf	16 09 11.2	+1.1
NIE	Niedzica	145.38	338	ePX	PKPdf	16 09 11.5	+1.3
CRVS	Cervenica-Dubn	145.40	337	ePKP	PKPdf	16 09 11.3	+1.1
CLZ	Clausthal	145.70	350	ePKPbc	PKPbc	16 09 12.1	-0.3
CLL	Collm	145.73	347	ePKPbc	PKPbc	16 09 11.8	-0.7
CLL	Collm	145.73	347 ⇑ i PKPbc		PKPbc	16 09 11.8	-0.7
	comp=Z,27nm,0.7s						
OKC	Ostrava-Krasne	145.74	341	ePKP	PKPdf	16 09 09.9	-0.9
UPC	Upice	145.75	344	ePKP	PKPdf	16 09 12.3	+1.5
DPC	Dobruska-Polom	145.81	343	ePKP	PKPdf	16 09 12.7	+1.8
BRG	Berggiesshubel	145.93	346	ePKPbc	PKPbc	16 09 12.6	-0.4
BRG	Berggiesshubel	145.93	346	i PKP	PKPdf

LPAZ La Paz 49.41 211 P **P 16 41 16.9 +1.1**
0.8nm,0.6s,mb3.9,baz=53,slow=4.7,SNR=4.1
LPAZ La Paz 49.41 211 P **P 16 41 13.9 -1.9**
1.8nm,1.0s,mb4.1
NB2 NORSAR Subarra 49.63 32 P **P 16 41 18.4 +0.9**
comp=Z,2.9nm,0.9s,mb4.3,baz=253,slow=7.9
NOA NORSAR Array B 49.63 32 P **P 16 41 17.0 -0.5**
comp=Z,1.8nm,0.9s,mb4.1,baz=273,slow=7.1,SNR=3.7
PDAR Pinedale Array 54.01 304 P **P 16 41 52.1 +2.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=105,slow=9.3,SNR=5.5
PDAR LR LR 17 02 30.6
comp=Z,94nm,19.4s,MS3.9,baz=72,slow=33
YKA Yellowknife Ar 56.67 328 P **P 16 42 09.5 +0.2**
comp=Z,0.4nm,0.9s,mb3.5,baz=89,slow=7.7,SNR=6.2
YKA LR LR 17 05 40.9
comp=Z,101nm,18.5s,MS4.0,baz=80,slow=35
YKA Yellowknife Ar 56.67 328 P **P 16 42 09.5 +0.2**
YKA LR LR 17 05 40.9
FINES FINESS Array B 56.77 33 P **P 16 42 09.1 -0.9**
comp=Z,1.9nm,0.8s,mb4.2,baz=234,slow=6.4,SNR=5.7
AKASG Malin Array Be 58.95 45 P **P 16 42 25.2 -0.2**
comp=Z,1.8nm,0.9s,mb4.1,baz=275,slow=5.9,SNR=4.0
AKASG Malin Array Be 58.95 45 P **P 16 42 25.2 -0.2**
BRTR Keskin Array B 64.16 57 P **P 16 43 01.4 +0.9**
comp=Z,0.7nm,0.8s,mb3.8,baz=297,slow=5.4,SNR=4.0
ILAR Eielson Array 70.36 334 P **P 16 43 40.4 +0.5**
comp=Z,0.7nm,1.0s,mb3.5,baz=61,slow=5.0,SNR=6.9
ILAR LR LR 17 13 02.1
comp=Z,48nm,18.3s,MS3.8,baz=179,slow=35
KMBO Kilima Mbogo 83.16 95 LR LR 17 20 49.4
comp=Z,67nm,18.2s,MS4.0,baz=88,slow=35

*ISCJB **17** 17:07:50.1±2.4,35.13N±0.06×222E±0.3,h10km, Error ellipse: s-maj=32.3km s-min=8.4km az=169.1*
*HLW **17** 17:07:57.7,35.84N×24.12E,h33km,Mb3.1*
*CSEM **17** 17:08:05.2,36.04N×23.60E,h10km,MD3.0/3,After ATH*
*ATH **17** 17:08:05.2,36.04N×23.60E,h10km,MD3.0/3*
ISC 17 17:07:54.1±1.9,3525N±0.06×225E±0.3,h10km,n8,σ1$05/9, 4D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.10**	**21**	*e*PG		**Pg**		**17 08 15.0**	**-0.3**
VAM	**Vamos**	**1.37**	**83**	*e*PB		**Pb**		**17 08 20.5**	**+0.7**
VLI	**Veliai**	**1.50**	**12**	*e*PB		**Pb**		**17 08 21.6**	**-0.4**
SLUM		**4.37**	**148**	⇓P		**Pn**		**17 09 02.8**	**+2.4**
SLUM				S		**Sn**		**17 09 50.2**	**-1.2**
AWBH		**8.78**	**140**	⇓*e*P		**Pn**		**17 09 59.9**	**-1.2**
AWBH		**8.78**	**140**	P		**Pn**		**17 09 59.8**	**-1.2**
HFRF	**Wahat Farafira**	**9.47**	**147**	⇓*e*P		**Pn**		**17 10 11.4**	**+0.9**
AKRG	**Al Kharijah**	**11.90**	**143**	⇓P		**Pn**		**17 10 43.3**	**-0.4**

IDC 17 17:14:12.9±4.0,099N×9712E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.4/20,mbtmp3.5/4,MS4.3/1,Ms1 4.3/1, ms1mx3.3/22,Error ellipse: s-maj=168.7km s-min=29.7km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.33**	**127**	P		P		17 22 17.1	+0.4
0.3nm,0.8s,baz=300,slow=7.7,SNR=4.4									
SONM	**Songino Array**	**47.34**	**8**	P		P		17 22 48.6	+0.1
0.5nm,0.5s,baz=186,slow=9.4,SNR=6.8									
MKAR	**Makanchi Array**	**47.42**	**346**	P		P		17 22 49.0	-0.1
0.6nm,0.7s,baz=155,slow=7.8,SNR=8.4									
MJAR	**Matsushiro Arr**	**51.89**	**42**	LR		LR		17 43 30.5	
comp=Z,296nm,21.9s,baz=180,slow=34									
ZAL	**Zalesovo**	**53.74**	**351**	P		P		17 23 36.9	0.0
0.5nm,0.6s,baz=300,slow=5.5,SNR=3.4									

*BJI **17** 17:28:23.6,34.44N×72.99E,h10km,mb3.5,ML3.5*
*IDC **17** 17:28:25.5±1.2,34.68N×72.96E,h0km,mb3.8/7, mb1 4.0/10,mb1mx3.7/24,mbtmp3.9/10,ML4.1/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/24,Error ellipse: s-maj=30.5km s-min=25.1km az=73.0*
*ISCJB **17** 17:28:26.0±0.4,34.79N±0.03×73.09E±0.06,h10km,mb3.8/8, Error ellipse: s-maj=7.8km s-min=4.0km az=136.6*
*NEIC **17** 17:28:27.1±1.0,34.71N×73.07E,h10km,mb3.8/4,Error ellipse: s-maj=20.5km s-min=11.4km az=50.0*
*NNC **17** 17:28:39.1±2.1,35.17N×72.69E,h80km±20km,mb3.4, mpv4.0,Error ellipse: s-maj=16.5km s-min=13.0km az=31.0*
ISC 17 17:28:27.5±0.4,3477N±0.03×7299E±0.06,h10km,n38, σ1$08/44,mb3.8/8,5C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.13**	**168**	P		**Pb**		**17 28 47.6**	**-1.5**
THW	**Thamme Wali**	**2.23**	**208**	P		**Pn**		**17 29 05.3**	**+0.9**
SARP	**Sargodha**	**2.85**	**185**	P		**Pn**		**17 29 12.8**	**-0.2**
DLH	**Dalhousie**	**3.33**	**131**	*e*P		**Pn**		**17 29 24.0**	**+4.4**
DLH				*e*S		**Sn**		**17 30 03.0**	**+3.8**
DRP	**Derazinda**	**3.82**	**219**	P		**Pn**		**17 29 26.5**	**+0.2**
SDNR	**Sundarnagar**	**4.67**	**133**	*e*P		**Pn**		**17 29 38.7**	**+0.8**
SDNR				*e*S		**Sn**		**17 30 30.3**	**-1.8**
SMLA	**Simla**	**5.05**	**135**	*e*P		**Pn**		**17 29 44.2**	**+1.0**
SMLA				*e*S		**Sn**		**17 30 41.2**	**-0.4**
KSH	**Kashi**	**5.30**	**26**	*e*P		**Pn**		**17 29 51.9**	**+5.2**
KSH				S		**Sn**		**17 30 55.4**	**+7.6**
KSH				Smax					
comp=N,30nm,0.3s									
KSH				Smax					
comp=E,20nm,0.3s									
DDI	**Dehra Dun**	**6.16**	**135**	*e*S		**Sn**		**17 31 10.2**	**+1.3**
NDI	**New Delhi**	**7.05**	**148**	*ex*		x		17 31 26.0	
AAK	**Ala-Archa**	**7.94**	**8**	*e*P		**Pn**		**17 30 25.5**	**+2.6**
comp=E,1.9nm,0.4s									
TKM2	**Tokmak 2**	**8.39**	**13**	⇓P		**Pn**		**17 30 33.8**	**+4.8**
comp=E,2.3nm,0.7s									
TKM2				⇑S		**Sn**		**17 32 03.6**	**-0.2**
comp=E,2.2nm,0.8s									
KK31	**Karatay Array**	**8.54**	**348**	P		**Pn**		**17 30 33.8**	**+2.6**
comp=E,6.9nm,0.4s,baz=158,slow=11,SNR=284									
KK31				⇑S		**Sn**		**17 32 05.2**	**-2.3**
comp=E,1.8nm,0.4s,baz=164,slow=24,SNR=7.6									
MK31	**Makanchi Array**	**13.91**	**28**	⇑P		**Pn**		**17 31 50.0**	**+5.4**
comp=E,0.6nm,0.6s,baz=206,slow=13,SNR=13									
MKAR	**Makanchi Array**	**13.91**	**28**	Pn		**Pn**		**17 31 46.1**	**+1.5**
comp=E,0.2nm,0.3s,baz=214,slow=13,SNR=5.8									
MKAR				LR		LR		17 37 16.6	
comp=E,65nm,20.6s,baz=3.8,slow=38									
LSA	**Lhasa**	**16.17**	**103**	Pn		**Pn**		**17 32 12.7**	**-2.1**
KURK	**Kurchatov**	**16.45**	**13**	Pn		**Pn**		**17 32 16.1**	**-2.3**
comp=E,2.2nm,0.8s									
AB31	**Akbulak array**	**17.38**	**330**	⇑P		**Pn**		**17 32 29.6**	**-0.5**
comp=E,0.7nm,0.4s,baz=134,slow=13,SNR=29									
AB31				⇓S		**Sn**		**17 35 38.1**	**-5.4**
comp=E,0.8nm,0.7s									
VOSK	**Vostochnaya**	**18.00**	**356**	⇓P		**Pn**		**17 32 37.7**	**-0.1**
comp=E,5.3nm,1.6s									
BVA0	**Borovoye Array**	**18.34**	**355**	P		**Pn**		**17 32 42.6**	**+0.6**
comp=E,0.5nm,0.5s,baz=154,slow=9.3,SNR=40									
BVAR	**Borovoye Array**	**18.34**	**355**	P		**Pn**		**17 32 41.2**	**-0.7**
comp=E,2.1nm,0.3s,baz=157,slow=9.9,SNR=46									
BVAR	**Borovoye Array**	**18.34**	**355**	P		**Pn**		**17 32 41.2**	**-0.7**
BRVK	**Borovoye**	**18.38**	**355**	*e*Pn		**Pn**		**17 32 42.9**	**+0.5**
comp=E,2.6nm,0.5s									
ZRNK	**Zerenda**	**18.40**	**352**	⇓P		**Pn**		**17 32 43.0**	**+0.4**
comp=E,2.9nm,0.6s									
ZRNK	**Zerenda**	**18.40**	**352**	*e*Pn		**Pn**		**17 32 42.0**	**-0.6**
comp=E,4.5nm,0.6s									
AKTK	**Aktyubinsk**	**19.09**	**330**	P		**Pn**		**17 32 51.1**	**+0.2**
AKTO	**Aktyubinsk**	**19.09**	**330**	⇑P		**Pn**		**17 32 50.7**	**-0.2**
comp=E,1.2nm,0.8s									
AKTO	**Aktyubinsk**	**19.09**	**330**	P		**Pn**		**17 32 51.1**	**+0.2**
comp=E,0.9nm,0.3s,baz=133,slow=10,SNR=30									
ZAL	**Zalesovo**	**20.89**	**20**	P		**P**		**17 33 09.7**	**0.0**
comp=E,3.4nm,0.4s,baz=262,slow=6.8,SNR=15									
GTA	**Gaotai**	**21.86**	**70**	*e*P		**P**		**17 33 20.4**	**+0.2**
GTA				AP				17 33 26.3	
GTA				XP		sP		17 33 28.4	+4.0
GTA				AMB		AMB			
comp=Z,2.0nm,1.1s,mb3.5									
ARU	**Arti**	**23.80**	**340**	*e*P		**P**		**17 33 40.6**	**+0.2**
ENH	**Enshi**	**30.99**	**88**	P		**P**		**17 34 45.1**	**+0.2**
comp=Z,4.9nm,1.1s,mb4.2									
FINES	**FINESS Array B**	**39.82**	**327**	P		**P**		**17 36 01.0**	**+0.1**
comp=Z,1.7nm,0.9s,mb3.8,baz=126,slow=14,SNR=2.9									
ARCES	**ARCESS Array B**	**43.36**	**338**	P		**P**		**17 36 30.1**	**+0.3**
comp=Z,2.4nm,0.8s,mb4.0,baz=118,slow=8.1,SNR=18									
TORD	**Torodi Ar. Bea**	**67.33**	**271**	P		**P**		**17 39 21.9**	**-0.7**
comp=Z,0.3nm,0.4s,mb3.7,baz=46,slow=6.2,SNR=6.0									
INK	**Inuvik**	**75.34**	**10**	P		**P**		**17 40 10.8**	**-0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=340,slow=4.0,SNR=4.1									
ASAR	**Alice Springs**	**81.93**	**126**	P		**P**		**17 40 47.6**	**+0.3**
comp=Z,0.3nm,0.5s,mb3.5,baz=324,slow=5.1,SNR=9.3									
YKA	**Yellowknife Ar**	**82.88**	**4**	P		**P**		**17 40 51.3**	**-0.9**
comp=Z,0.2nm,0.4s,mb3.5,baz=351,slow=5.4,SNR=7.3									

*MOS **17** 17:30:11.6±0.8, 1255N×144.55E, h33km, mb4.7/13, Error ellipse: s-maj=16.7km s-min=12.1km az=99.9*
*ISCJB **17** 17:30:14.2±1.0, 1243N±0.05×144.56E±0.08, h57km±9km, mb4.5/40, MS4.1/9, Error ellipse: s-maj=13.7km s-min=8.6km az=9.5*
*NEIC **17** 17:30:15.4±1.3, 1249N×144.56E, h52km±12km, mb4.6/23, Error ellipse: s-maj=10.7km s-min=7.4km az=102.0*
*IDC **17** 17:30:16.7±1.5, 1250N×144.60E, h61km±12km, mb3.8/11, mb1 4.0/11, mb1mx3.9/23, mbtmp4.1/11, MS4.0/7, Ms1 4.0/7, ms1mx3.6/27, Error ellipse: s-maj=25.6km s-min=14.2km az=108.0*
*BJI **17** 17:30:20.5, 1290N×143.71E, h52km, mB5.1, mb4.6, Ms4.7, Msz4.2*
ISC 17 17:30:16.2±1.0,1248N±0.05×14464E±0.08,h58km±9km, h48km±3.5km;pP-P,n75,σ0$85/73,mb4.5/40,MS4.1/9, 3C-1D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.12**	**11**	P		**Pn**		**17 30 34.7**	**-1.1**
135nm,0.3s,baz=176,slow=12,SNR=63									
GUMO				S		**Sn**		**17 30 51.2**	**+0.9**
257nm,0.3s,baz=351,slow=20,SNR=16									
GUMO	**Guam**	**1.12**	**11**	*e*Pg		**Pn**		**17 30 34.7**	**-1.1**
CBIJ	**Chichi jima**	**14.72**	**351**	LR		LR		17 38 25.2	
comp=Z,311nm,19.0s,baz=145,slow=33									
PMG	**Port Moresby**	**21.89**	**173**	LR		LR		17 43 09.7	
comp=Z,201nm,18.0s,MS3.6,baz=204,slow=35									
KAKA	**Kakadu**	**27.80**	**206**	*e*P		**P**		**17 35 59.8**	**+0.1**
9.0nm,0.7s,mb4.5									
NJ2	**Nanjing**	**30.66**	**314**	*e*P		**P**		**17 36 20.4**	**-4.7**
NJ2				PP		PP		17 37 21.8	-13
NJ2				S		**S**		**17 41 17.0**	**-6.4**
NJ2				XS		sS		17 41 39.0	-9.0
NJ2				AMB		AMB			
comp=Z,10.0nm,0.6s,mb4.8									
NJ2				AMB		AMB			
comp=Z,230nm,8.2s									
NJ2				LR		LR			
comp=N,940nm,15.0s									
NJ2				LR		LR			
comp=E,480nm,21.1s									
NJ2				LR		LR			
comp=Z,280nm,15.0s,MS4.0									
CTA	**Charters Tower**	**32.40**	**177**	LR		LR		17 48 39.9	
comp=Z,130nm,18.7s,MS3.6,baz=270,slow=34									
CTAO	**Charters Tower**	**32.40**	**177**	*e*P		**P**		**17 36 41.3**	**+0.9**
CTAO				pmax		pmax			
comp=Z,8.0nm,1.0s,mb4.5									
CTAO	**Charters Tower**	**32.40**	**177**	*e*P		**P**		**17 36 41.2**	**+0.9**
comp=Z,7.7nm,1.0s,mb4.5									
WRAB	**Tennant Creek**	**33.77**	**198**	*e*P		**P**		**17 36 52.2**	**0.0**
WRAB				pmax		pmax			
comp=Z,20nm,0.8s,mb5.1									
WRAB	**Tennant Creek**	**33.77**	**198**	*e*P		**P**		**17 36 52.2**	**-0.1**
comp=Z,20nm,0.8s,mb5.1									
WRA	**Warramunga Arr**	**33.78**	**198**	P		**P**		**17 36 53.2**	**+0.9**
comp=Z,9.9nm,0.9s,mb4.8,baz=21,slow=9.6,SNR=20									
WRA	**Warramunga Arr**	**33.78**	**198**	*i* P		**P**		**17 36 53.2**	**+0.9**
WRA				pmax		pmax			
comp=Z,10.0nm,0.9s									
MDJ	**Mudanjiang**	**34.52**	**341**	P		**P**		**17 36 59.3**	**+0.5**
MDJ				AMB		AMB			
comp=Z,3.0nm,0.9s,mb4.2									
MDJ				AMB		AMB			
comp=Z,81nm,5.5s									
KSM	**Kuching**	**35.73**	**255**	*e*P		**P**		**17 37 08.7**	**-0.5**
KSM				*e*		pP		17 37 20.8	-3.1
ENH	**Enshi**	**37.01**	**304**	*e*P		**P**		**17 37 19.0**	**-1.1**
comp=Z,12nm,1.0s,mb4.7									
ASAR	**Alice Springs**	**37.43**	**196**	P		**P**		**17 37 24.6**	**+0.9**
comp=Z,2.4nm,0.8s,mb4.1,baz=14,slow=4.5,SNR=26									
HHC	**Hu-ho-hao-te**	**40.47**	**320**	*e*P		**P**		**17 37 49.0**	**0.0**
HHC				AP		pP		17 38 01.3	-2.6
HHC				XP		sP		17 38 06.9	-3.7
HHC				PP		PP		17 39 26.5	+3.4
HHC				PCP		PcP		17 39 52.8	+2.0
HHC				SCP		ScP		17 43 35.8	+0.6
HHC				S		**S**		**17 43 54.9**	**+1.3**
HHC				XS		sS		17 44 15.4	-3.2
HHC				SCS		ScS		17 47 47.5	-1.9
HHC				AMB		AMB			
comp=Z,120nm,7.2s									
HHC				LR		LR			
comp=N,290nm,21.6s,MS4.3									
HHC				LR		LR			
comp=E,260nm,18.0s,MS4.3									
HHC				LR		LR			
comp=Z,315nm,20.4s,MS4.2									
MBWA	**Marble Bar**	**41.43**	**216**	*e*P		**P**		**17 37 56.6**	**-0.4**
comp=Z,16nm,1.3s,mb4.5									
CD2	**Chengdu**	**41.89**	**303**	P		**P**		**17 38 00.3**	**-0.4**
CD2				AMB		AMB			
comp=Z,10.0nm,1.1s,mb4.4									
LZH	**Lanzhou**	**43.55**	**310**	*e*P		**P**		**17 38 14.5**	**+0.4**
LZH				AP		pP		17 38 22.0	-7.1
LZH				XP		sP		17 38 28.5	-7.3
LZH				PP		PP		17 39 58.5	+2.2
LZH				*e*S		**S**		**17 44 39.5**	**+0.6**
LZH				XS		sS		17 45 00.5	-3.7
LZH				AMB		AMB			
comp=Z,30nm,1.4s,mb4.8									
LZH				AMB		AMB			
comp=Z,105nm,4.2s									
LZH				LR		LR			
comp=N,356nm,14.6s									
LZH				LR		LR			
comp=Z,532nm,15.3s,MS4.6									
KULM	**Kulim**	**44.00**	**265**	*e*P		**P**		**17 38 18.9**	**+1.2**
STKA	**Stephens Creek**	**44.20**	**184**	P		**P**		**17 38 16.7**	**-2.7**
PSI	**Prapat**	**46.25**	**262**	P		**P**		**17 38 36.1**	**+0.5**
comp=Z,17nm,0.8s,mb5.0,baz=95,slow=2.9,SNR=11									
ULN	**Ulaanbaatar**	**47.16**	**326**	⇑*i* P		**P**		**17 38 49.5**	**+6.7**
ULN	**Ulaanbaatar**	**47.16**	**326**	*e*P		**P**		**17 38 44.8**	**+2.1**
comp=Z,3.8nm,1.2s,mb4.2									
SONM	**Songino Array**	**47.51**	**326**	P		**P**		**17 38 46.8**	**+1.4**
comp=Z,0.7nm,0.5s,mb3.9,baz=154,slow=9.8,SNR=8.6									
SONM				LR		LR		17 58 59.6	
comp=Z,205nm,18.9s,MS4.1,baz=142,slow=36									
GTA	**Gaotai**	**47.74**	**312**	P		**P**		**17 38 47.8**	**+0.5**
GTA				AP		pP		17 39 02.0	-0.4
GTA				XP		sP		17 39 07.1	-2.0
GTA				PCP		PcP		17 40 17.5	+1.9
GTA				PP		PP		17 40 40.0	+0.7
GTA				AMB		AMB			
comp=Z,5.0nm,1.1s,mb4.5									
YAK	**Yakutsk**	**50.64**	**351**	⇑*e*P		**P**		**17 39 05.3**	**-4.0**
YAK				pmax		pmax			
comp=Z,4.0nm,0.9s,mb4.3									
SHL	**Shillong**	**51.24**	**293**	*e*P		**P**		**17 39 13.5**	**-0.4**
LSA	**Lhasa**	**52.31**	**298**	P		**P**		**17 39 22.4**	**+0.6**
LSA	**Lhasa**	**52.31**	**298**	*e*P		**P**		**17 39 21.7**	**-0.1**
LSA				pmax		pmax			
comp=Z,4.0nm,0.7s,mb4.5									
LSA	**Lhasa**	**52.31**	**298**	*e*P		**P**		**17 39 21.7**	**-0.1**
comp=Z,4.0nm,0.7s,mb4.5									
JIRN	**Jiri**	**56.47**	**295**	*e*P		**P**		**17 39 52.4**	**+0.4**
comp=Z,22nm,1.0s,mb5.1									
GUN	**Gumba**	**56.75**	**295**	*e*P		**P**		**17 39 54.5**	**+0.4**
comp=Z,25nm,0.8s,mb5.3									
PKI	**Pulchoki**	**57.15**	**295**	*e*P		**P**		**17 39 56.5**	**-0.4**
KKN	**Kakani**	**57.28**	**295**	*e*P		**P**		**17 39 57.6**	**-0.2**
comp=Z,8.5nm,0.8s,mb4.8									
KKN	**Kakani**	**57.28**	**295**	*e*P		**P**		**17 39 57.6**	**-0.2**
KKN				pmax		pmax			
comp=Z,4.0nm,0.8s,mb4.5									
BILL	**Bilibino**	**57.28**	**9**	*e*P		**P**		**17 39 57.3**	**-0.5**
BILL				pmax		pmax			
comp=Z,7.0nm,1.2s,mb4.6									
BILL	**Bilibino**	**57.28**	**9**	*e*P		**P**		**17 39 57.3**	**-0.5**
comp=Z,6.8nm,1.2s,mb4.5									
DMN	**Daman**	**57.42**	**295**	*e*P		**P**		**17 39 58.8**	**0.0**
comp=Z,21nm,1.0s,mb5.1									
WMQ	**Urumqi**	**57.74**	**314**	P		**P**		**17 40 01.5**	**+0.5**
WMQ				AP		pP		17 40 14.0	-2.6
WMQ				XP		sP		17 40 20.0	-3.1
WMQ				PP		PP		17 42 11.5	+2.0
WMQ				S		**S**		**17 47 55.0**	**-0.6**
WMQ				AMB		AMB			
comp=Z,12nm,1.0s,mb4.9									
WMQ				AMB		AMB			
comp=Z,105nm,5.0s									
WMQ				LR		LR			
comp=N,108nm,9.0s									
WMQ				LR		LR			
comp=E,234nm,10.0s									
WMQ				LR		LR			
comp=Z,87nm,8.0s									
GKN	**Gorkha**	**57.86**	**295**	*e*P		**P**		**17 40 01.7**	**-0.1**
comp=Z,32nm,1.0s,mb5.3									
KOLN	**Koldanda**	**58.76**	**295**	*e*P		**P**		**17 40 07.0**	**-1.2**
comp=Z,14nm,0.9s,mb5.0									
MKAR	**Makanchi Array**	**62.13**	**316**	P		**P**		**17 40 31.4**	**+0.3**
comp=Z,1.0nm,0.5s,mb4.2,baz=89,slow=8.2,SNR=22									
MKAR	**Makanchi Array**	**62.13**	**316**	P		**P**		**17 40 31.4**	**+0.3**
PALK	**Pallekele**	**63.08**	**272**	P		**P**		**17 40 36.4**	**-1.1**
comp=Z,11nm,1.2s,mb4.9									
HYB	**Hyderabad**	**63.78**	**283**	*i* P		**P**		**17 40 43.0**	**+1.0**
HYB	**Hyderabad**	**63.78**	**283**	*e*P		**P**		**17 40 43.0**	**+1.0**
KURK	**Kurchatov**	**65.28**	**320**	⇑*i* P		**P**		**17 40 51.9**	**0.0**
KURK	**Kurchatov**	**65.28**	**320**	P		**P**		**17 40 51.0**	**-0.8**
comp=Z,7.4nm,0.9s,mb4.7									
KURK				*e*		pP		17 41 05.5	-2.1
AAK	**Ala-Archa**	**67.06**	**311**	*d i* P		**P**		**17 41 02.7**	**-0.6**
AAK				pmax		pmax			
comp=Z,5.0nm,1.7s,mb4.3									
AAK	**Ala-Archa**	**67.06**	**311**	*e*P		**P**		**17 41 02.1**	**-1.2**
comp=Z,7.2nm,1.5s,mb4.5									
PMR	**Palmer**	**67.86**	**28**	P		**P**		**17 41 08.2**	**-0.1**
PMR				pmax		pmax			
comp=Z,6.0nm,0.9s,mb4.6									
PMR	**Palmer**	**67.86**	**28**	P		**P**		**17 41 08.2**	**-0.1**
comp=Z,6.0nm,0.9s,mb4.6									
MCK	**McKinley**	**68.52**	**26**	P		**P**		**17 41 11.9**	**-0.5**
MCK				pmax		pmax			
comp=Z,4.0nm,1.4s,mb4.2									
MCK	**McKinley**	**68.52**	**26**	P		**P**		**17 41 11.9**	**-0.5**
comp=Z,4.1nm,1.4s,mb4.2									
ILAR	**Eielson Array**	**69.66**	**25**	P		**P**		**17 41 18.8**	**-0.7**
comp=Z,0.6nm,0.5s,mb3.8,baz=250,slow=5.9,SNR=11									
BVAR	**Borovoye Array**	**70.66**	**322**	P		**P**		**17 41 25.7**	**+0.2**
comp=Z,1.6nm,0.4s,mb4.3,baz=102,slow=7.8,SNR=8.9									
BRVK	**Borovoye**	**70.72**	**322**	P		**P**		**17 41 21.4**	**-4.6**
comp=Z,2.3nm,0.7s,mb4.2									
PPT	**Papeete**	**71.47**	**113**	LR		LR		18 07 59.6	
comp=Z,125nm,20.6s,MS4.2,baz=328,slow=32									
ZRNK	**Zerenda**	**71.48**	**322**	*e*P		**P**		**17 41 29.0**	**-1.6**
ZRNK				pmax		pmax			
comp=Z,4.0nm,1.0s,mb4.3									
ZRNK	**Zerenda**	**71.48**	**322**	*e*P		**P**		**17 41 29.0**	**-1.6**
comp=Z,3.6nm,1.0s,mb4.3									
INK	**Inuvik**	**75.47**	**22**	P		**P**		**17 41 53.6**	**-0.4**
comp=Z,1.9nm,1.0s,mb4.0,baz=251,slow=7.0,SNR=4.3									
INK	**Inuvik**	**75.47**	**22**	*e*P		**P**		**17 41 53.4**	**-0.6**
INK				pmax		pmax			
comp=Z,6.0nm,1.2s									
INK	**Inuvik**	**75.47**	**22**	*e*P		**P**		**17 41 53.4**	**-0.6**
comp=Z,6.3nm,1.2s,mb4.4									
YKA	**Yellowknife Ar**	**83.94**	**27**	P		**P**		**17 42 40.3**	**+0.5**
comp=Z,0.3nm,0.6s,mb3.6,baz=288,slow=5.3,SNR=7.2									
YKA				LR		LR		18 25 02.6	
comp=Z,88nm,18.1s,MS4.2,baz=275,slow=39									
RES	**Resolute Bay**	**85.67**	**13**	*e*P		**P**		**17 42 48.8**	**+0.2**
RES				pmax		pmax			
comp=Z,4.0nm,1.0s,mb4.6									
RES	**Resolute Bay**	**85.67**	**13**	*e*P		**P**		**17 42 48.8**	**+0.2**
comp=Z,3.8nm,1.0s,mb4.6									
NVAR	**Mina Array Bea**	**87.78**	**51**	P		**P**		**17 43 01.0**	**+2.2**
comp=Z,0.8nm,0.7s,mb4.0,baz=263,slow=4.8,SNR=6.4									
NVAR	**Mina Array Bea**	**87.78**	**51**	P		**P**		**17 43 01.0**	**+2.2**
VNDA	**Vanda**	**90.38**	**176**	LR		LR		18 21 22.9	
comp=Z,158nm,19.3s,MS4.5,baz=33,slow=34									
FINES	**FINESS Array B**	**92.07**	**335**	P		**P**		**17 43 17.5**	**-1.4**
comp=Z,2.4nm,0.9s,mb4.5,baz=69,slow=3.2,SNR=8.7									
DBIC	**Dimbokro**	**144.20**	**300**	PKP		PKPdf		17 49 45.2	-0.1
comp=Z,2.0nm,0.6s,baz=67,slow=3.9,SNR=3.2

ILAR Eielson Array 69.68 25 P P 17 49 56.1 -1.5
comp=Z,0.5nm,0.4s,mb3.8,baz=250,slow=6.1,SNR=21
BVAR Borovoye Array 70.61 322 P P 17 50 03.3 -0.1
comp=Z,0.8nm,0.4s,mb4.0,baz=105,slow=7.7,SNR=7.2
ZRNK Zerenda 71.44 322 *e*P **P 17 50 08.5 +0.1**
comp=Z,2.5nm,1.0s,mb4.1
INK Inuvik 75.49 22 P P 17 50 32.8 +0.6
comp=Z,1.1nm,0.8s,mb3.8,baz=245,slow=7.8,SNR=3.6
INK Inuvik 75.49 22 *e*P **P 17 50 31.8 -0.4**
comp=Z,4.0nm,1.1s,mb4.3
CASY Casey 82.47 193 *e*P **P 17 51 10.1 -0.3**
comp=Z,33nm,0.7s,mb5.4
YBH Yreka Blue Hor 83.81 49 P P 17 51 18.5 +1.2
comp=Z,1.8nm,0.6s,mb4.4,baz=302,slow=3.2,SNR=4.4
YKA Yellowknife Ar 83.97 27 P P 17 51 18.5 +0.5
comp=Z,0.4nm,0.6s,mb3.8,baz=288,slow=5.3,SNR=7.2
RES Resolute Bay 85.68 13 *e*P **P 17 51 26.1 -0.6**
comp=Z,2.5nm,0.9s,mb4.4
NVAR Mina Array Bea 87.83 51 P P 17 51 39.7 +2.5
comp=Z,0.8nm,0.6s,mb4.1,baz=267,slow=5.0,SNR=7.4
NVAR Mina Array Bea 87.83 51 P P 17 51 39.7 +2.5
ARCES ARCESS Array B 88.04 342 P P 17 51 38.4 +0.2
comp=Z,3.1nm,1.0s,mb4.5,baz=54,slow=9.1,SNR=4.7
FINES FINESS Array B 92.03 335 P P 17 51 55.4 -1.4
comp=Z,0.7nm,0.5s,mb4.2,baz=67,slow=5.8,SNR=9.5
FCC Fort Churchill 94.67 27 *e*P **P 17 52 05.4 -3.6**
comp=Z,12nm,1.6s,mb5.1
DBIC Dimbokro 144.14 300 PKP PKPdf 17 58 22.9 -0.4
comp=Z,2.2nm,0.6s,baz=48,slow=8.3,SNR=6.7
LPAZ La Paz 148.12 101 PKPbc PKPbc 17 58 36.6 +3.2
comp=Z,0.6nm,0.4s,baz=115,slow=6.8,SNR=3.1

IDC 17 17:43:22.1±2.1, 153N×9696E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=51.6km s-min=28.4km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.33**	**57**	Pn	Pn	17 44 01.3	-0.4
	2.0nm,0.3s,baz=182,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**43.78**	**127**	P	P	17 51 29.8	+0.4
	0.2nm,0.7s,baz=299,slow=7.9,SNR=4.5						
SONM	**Songino Array**	**46.84**	**9**	P	P	17 51 53.5	-0.2
	0.9nm,0.7s,baz=192,slow=9.3,SNR=9.4						
MKAR	**Makanchi Array**	**46.87**	**346**	P	P	17 51 54.2	+0.3
	0.9nm,0.5s,baz=157,slow=8.7,SNR=12						
ZAL	**Zalesovo**	**53.19**	**351**	P	P	17 52 41.7	-0.2
	1.0nm,0.4s,baz=317,slow=6.5,SNR=5.0						

*ISCJB **17** 17:46:14.8±0.9, 3632N±006×5451E±004, h6km±6km, Error ellipse: s-maj=9.9km s-min=4.9km az=149.8*
*CSEM **17** 17:46:15.0±0.1, 3642N×5445E, h14km, ML3.6, Error ellipse: s-maj=3.6km s-min=1.3km az=156.0*
*TEH **17** 17:46:16.4, 3642N×5444E, h5km, Mn3.6*
*THR **17** 17:46:21.4±0.5, 3589N×5421E, h14km±7km, ML3.1*

ISC 17 17:46:15.4±0.9, 3636N±006×5448E±004, h3km±6km, n24, σ1§06/34, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.66**	**257**	*e*Pg	**Pg**	**17 46 27.5**	**-0.5**
IANJ	**Anjiloo**	**1.00**	**207**	*e*Pg	**Pg**	**17 46 35.4**	**+0.8**
ISHM	**Shahmirzad**	**1.10**	**241**	*e*Pg	**Pg**	**17 46 36.5**	**-0.1**
IFIR	**Firoozkooh**	**1.57**	**243**	*e*Pn	**Pn**	**17 46 44.0**	**-0.2**
IFIR				*e*Sn	**Sn**	**17 47 06.0**	**+0.9**
DAMV	**Damavand**	**2.16**	**251**	*e*PG	**Pg**	**17 46 55.0**	**-1.8**
DAMV				*e*SG	**Sg**	**17 47 19.6**	**-5.1**
DAMV				AML	AML	17 47 28.1	
	comp=E,298nm,0.4s						
DAMV				AML	AML	17 47 32.1	
	comp=N,211nm,0.5s						
DAMV	**Damavand**	**2.16**	**251**	*e*Pg	**Pg**	**17 46 55.0**	**-1.8**
	SNR=90						
DAMV				*e*Sg	**Sg**	**17 47 19.6**	**-5.1**
	comp=N,211nm,0.5s,SNR=90						
IVRN	**Varamin**	**2.62**	**240**	*e*Pn	**Pn**	**17 46 59.5**	**+0.9**
IVRN				*e*Sn	**Sn**	**17 47 30.9**	**0.0**
CHTH	**Charan**	**2.75**	**262**	*e*PN	**Pn**	**17 47 03.8**	**+3.4**
CHTH				AML	AML	17 47 50.8	
	comp=E,43nm,0.6s						
CHTH				AML	AML	17 47 53.6	
	comp=N,42nm,0.6s						
ISFR	**Esferayen**	**2.91**	**75**	*e*Pn	**Pn**	**17 47 03.4**	**+0.7**
ISFR				*e*Sn	**Sn**	**17 47 37.9**	**-0.3**
THKV	**Tehran--Karaj**	**2.94**	**262**	*e*PN	**Pn**	**17 47 06.8**	**+3.7**
THKV				AML	AML	17 47 53.4	
	comp=N,113nm,0.5s						
THKV				AML	AML	17 47 58.0	
	comp=E,161nm,0.6s						
IMHD	**Mahdasht**	**3.16**	**259**	*e*Sn	**Sn**	**17 47 43.0**	**-1.3**
IQOM	**Qom**	**3.16**	**242**	*e*Pn	**Pn**	**17 47 07.1**	**+1.0**
IQOM				*e*Sn	**Sn**	**17 47 43.6**	**-0.7**
NASN	**Na'in**	**3.81**	**202**	*e*PN	**Pn**	**17 47 14.9**	**-0.1**
IRAZ	**Razeghan**	**3.81**	**257**	*e*Pn	**Pg**	**17 47 27.6**	**-0.9**
IKLH	**Kalahroud**	**3.85**	**219**	*e*Pn	**Pn**	**17 47 16.3**	**+0.7**
IZEF	**Zefreh**	**3.88**	**208**	*e*Pn	**Pn**	**17 47 15.2**	**-0.8**
ASAO	**Ashtian**	**4.06**	**245**	*e*PN	**Pn**	**17 47 20.0**	**+1.6**
ASAO				*e*SG	**Sg**	**17 48 16.0**	**-10**
ASAO				AML	AML	17 48 34.7	
	comp=N,25nm,0.6s						
ASAO				AML	AML	17 48 44.2	
	comp=E,30nm,0.7s						
ASAO	**Ashtian**	**4.06**	**245**	*e*Pn	**Pn**	**17 47 20.0**	**+1.6**
	SNR=52						
ASAO				*e*Sg	**Sg**	**17 48 16.0**	**-10**
	comp=E,30nm,0.7s,SNR=90						
ISAD	**Sadrabad**	**4.48**	**189**	*e*Sn	**Sn**	**17 48 16.3**	**-0.6**
IGAR	**Garneh**	**4.51**	**205**	*e*Pn	**Pn**	**17 47 22.6**	**-2.1**
IMYA	**Miamay**	**4.54**	**89**	*e*Pn	**Pn**	**17 47 25.3**	**+0.2**
IMYA				*e*Sn	**Sn**	**17 48 16.9**	**-1.5**
IPIR	**Pirpir**	**4.71**	**220**	*e*Pn	**Pn**	**17 47 28.0**	**+0.6**
IBAF	**Bafgh**	**4.84**	**169**	*e*Pn	**Pn**	**17 47 30.2**	**+1.0**
IBAF				*e*Sn	**Sn**	**17 48 25.0**	**-0.8**
IMEH	**Mehriz**	**4.96**	**179**	*e*Pn	**Pn**	**17 47 32.8**	**+2.0**

*MOS **17** 17:51:09.9±0.8, 4941N×658E, h10km, mb4.0/1, Error ellipse: s-maj=10.3km s-min=8.8km az=137.2*
*ISCJB **17** 17:51:10.9±0.1, 49366N±0009×683E±002, h0km, Error ellipse: s-maj=1.4km s-min=1.3km az=30.5*
*UCC **17** 17:51:12.5±0.6, 4934N×692E, h1km±3km, ML3.1*
*PRU **17** 17:51:12.4, 4937N×684E, h0km*
*CSEM **17** 17:51:12.8±0.0, 4938N×695E, h1km, ML3.9/27, Error ellipse: s-maj=0.8km s-min=0.6km az=149.0*
*STR **17** 17:51:13.1±0.2, 4938N×681E, h1km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 17:51:13.3±0.0, 4936N×693E, h1km, Md3.7/3, Ml3.9/35, Error ellipse: s-maj=1.0km s-min=0.9km az=112.0, Suspected Mining induced.*
*LEDBW **17** 17:51:13.5±0.1, 4938N×691E, h1km, ML3.3, Error ellipse: s-maj=4.0km s-min=2.0km az=93.0*
*NEIC **17** 17:51:13.1, 4938N×681E, h1km, ML3.2(STR), ML3.3(SZGRF), After STR.*
*BGR **17** 17:51:13.8±0.4, 4939N×692E, h1km, ML3.3/9, Error ellipse: s-maj=5.6km s-min=3.3km az=98.0*
*BNS **17** 17:51:13.4±0.8, 4937N×697E, h1km, ML3.4*

ISC 17 17:51:11.9±0.1, 49367N±0008×682E±001, h0km, n223, σ1§32/423, 25C-22D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**25**	⇓*iP**	**Pg**	**17 51 20.1**	**+1.0**
RUP				*e*Pg	**Pg**	**17 51 20.1**	**+1.1**
	SNR=204						
RUP	**Ruppelstein**	**0.37**	**25**	Pg	**Pg**	**17 51 20.0**	**+0.9**
WLF	**Walferdange**	**0.53**	**305**	*e*Pg	**Pg**	**17 51 23.9**	**+1.9**
WLF				*e*Sg	**Sg**	**17 51 32.2**	**+3.3**
WLF	**Walferdange**	**0.53**	**305**	⇓P	**Pg**	**17 51 24.3**	**+2.3**
WLF				S	**Sg**	**17 51 29.8**	**+0.9**
ABH	**Alteburg**	**0.70**	**42**	⇓*eP**	**Pg**	**17 51 25.6**	**+0.3**
ABH				*e*Pg	**Pg**	**17 51 25.7**	**+0.4**
	SNR=68						
ABH	**Alteburg**	**0.70**	**42**	Pg	**Pg**	**17 51 25.7**	**+0.3**
	SNR=68						
ABH				Sg	**Sg**	**17 51 35.4**	**+0.9**
ABH	**Alteburg**	**0.70**	**42**	Pg	**Pg**	**17 51 25.8**	**+0.4**
ABH				Sg	**Sg**	**17 51 35.4**	**+0.9**
LANF	**Langenberg**	**0.75**	**120**	*e*Pg	**Pg**	**17 51 27.0**	**+0.6**
	SNR=96						
LANF				P*	**Pb**	**17 51 27.0**	**-1.0**
LANF	**Langenberg**	**0.75**	**120**	Pg	**Pg**	**17 51 26.9**	**+0.5**
KTD	**Kalmit**	**0.83**	**93**	*e*Pg	**Pg**	**17 51 28.3**	**+0.5**
	SNR=68						
KTD				P*	**Pb**	**17 51 28.7**	**-0.5**
KTD	**Kalmit**	**0.83**	**93**	Pg	**Pg**	**17 51 28.3**	**+0.5**
	SNR=68						
KTD				Sg	**Sg**	**17 51 41.3**	**+2.7**
KTD	**Kalmit**	**0.83**	**93**	Pg	**Pg**	**17 51 28.5**	**+0.7**
KTD				Sg	**Sg**	**17 51 41.3**	**+2.7**
BGG	**Burgeitz**	**0.91**	**22**	*e*Pg	**Pg**	**17 51 29.8**	**+0.5**
BGG				*e*Sg	**Sg**	**17 51 42.1**	**+1.1**
	594nm,0.4s						
HILG	**Hillesheim**	**0.93**	**354**	*e*Pg	**Pg**	**17 51 31.4**	**+1.6**
HILG				*e*Sg	**Sg**	**17 51 44.5**	**+2.6**
	670nm,0.4s						
STR	**Strasbourg**	**1.00**	**141**	*e*Pg	**Pg**	**17 51 33.4**	**+2.3**
	SNR=3.5						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**17 51 31.8**	**+0.6**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**17 51 32.7**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**17 51 44.4**	**+0.3**
	364nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**17 51 32.7**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**17 51 44.4**	**+0.3**
	182nm,0.3s,SNR=1.0						
WLS	**Welschbruch**	**1.02**	**160**	Pg	**Pg**	**17 51 32.5**	**+1.1**
WLS				Sg	**Sg**	**17 51 46.6**	**+2.0**
WLS	**Welschbruch**	**1.02**	**160**	*e*Pg	**Pg**	**17 51 32.3**	**+0.8**
	SNR=72						
WLS				Pn	**Pn**	**17 51 32.3**	**-1.2**
WLS	**Welschbruch**	**1.02**	**160**	P	**Pg**	**17 51 32.3**	**+0.9**
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**17 51 36.0**	**+1.9**
	baz=49						
RFYF				*e*Sg	**Sg**	**17 51 51.8**	**+2.8**
	799nm,0.3s,baz=50						
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**17 51 36.0**	**+1.9**
RFYF				*e*Sg	**Sg**	**17 51 51.8**	**+2.8**
	400nm,0.3s						
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**17 51 35.7**	**+1.3**
ECH				Sg	**Sg**	**17 51 51.5**	**+1.8**
ECH	**Echery**	**1.17**	**169**	*e*Pg	**Pg**	**17 51 35.2**	**+0.8**
	SNR=104						
ECH				Pn	**Pn**	**17 51 35.3**	**-0.3**
ECH	**Echery**	**1.17**	**169**	P	**Pn**	**17 51 35.3**	**-0.3**
STB	**Steinbach**	**1.23**	**1**	*e*Pg	**Pg**	**17 51 35.8**	**+0.3**
STB				*e*Sg	**Sg**	**17 51 52.4**	**+1.0**
	368nm,0.5s						
SWS	**Schriesheim**	**1.23**	**84**	Pn	**Pn**	**17 51 35.2**	**-1.2**
THEF	**They Montfort**	**1.27**	**206**	Pg	**Pg**	**17 51 37.1**	**+0.9**
THEF				Sg	**Sg**	**17 51 54.7**	**+2.0**
THEF	**They Montfort**	**1.27**	**206**	P	**Pg**	**17 51 37.3**	**+1.1**
TOD	**Tromm**	**1.32**	**79**	*e*Pg	**Pg**	**17 51 36.3**	**-0.9**
	SNR=73						
TOD				P		17 51 36.4	
TOD	**Tromm**	**1.32**	**79**	P	**Pg**	**17 51 36.4**	**-0.8**
KLL	**Kalltalsperre**	**1.32**	**346**	*e*Pg	**Pg**	**17 51 37.4**	**+0.1**
KLL				*e*Sg	**Sg**	**17 51 56.0**	**+1.6**
	243nm,0.3s						
LIBD	**Limburg**	**1.32**	**157**	Pn	**Pn**	**17 51 39.0**	**+1.3**
LIBD	**Limburg**	**1.32**	**157**	Pg	**Pg**	**17 51 38.8**	**+1.5**
LIBD				Sg	**Sg**	**17 51 56.4**	**+1.9**
MEM	**Membach**	**1.35**	**337**	⇓P	**Pg**	**17 51 38.1**	**+0.3**
MEM				S	**Sg**	**17 51 57.0**	**+1.7**
MEM	**Membach**	**1.35**	**337**	P	**Pg**	**17 51 38.0**	**+0.2**
MEM				S	**Sg**	**17 51 57.0**	**+1.7**
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pn	**Pn**	**17 51 37.1**	**-1.0**
	SNR=11						
TNS				*e*Sg	**Sg**	**17 51 56.5**	**+0.8**
TNS	**Taunus Mts**	**1.36**	**50**	P	**Pg**	**17 51 37.1**	**-0.9**
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pn	**Pn**	**17 51 37.0**	**-1.2**
TNS				*e*Sg	**Sg**	**17 51 56.7**	**+1.1**
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**17 51 39.6**	**+0.9**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**17 51 56.3**	**-1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**17 51 58.1**	**+1.2**
	364nm,0.2s						
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**17 51 39.6**	**+0.9**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**17 51 56.3**	**-1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**17 51 58.1**	**+1.2**
	182nm,0.2s						
BFO	**Black Forest**	**1.44**	**136**	*e*Pn	**Pn**	**17 51 38.7**	**-0.5**
	SNR=5.8						
BFO				*e*Pg	**Pg**	**17 51 40.7**	**+1.1**
	SNR=56						
BFO				*e*Sg	**Sg**	**17 51 58.7**	**+0.5**
BFO	**Black Forest**	**1.44**	**136**	P	**Pn**	**17 51 38.7**	**-0.6**
BFO	**Black Forest**	**1.44**	**136**	*e*Pn	**Pn**	**17 51 38.5**	**-0.8**
BFO				*e*S	**Sg**	**17 51 58.7**	**+0.5**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pn	**Pn**	**17 51 39.6**	**+0.2**
	baz=54,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**17 51 41.1**	**+1.3**
	baz=53						
MEZF				*e*Sn	**Sn**	**17 51 57.8**	**-1.4**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**17 52 00.9**	**+2.3**
	367nm,0.4s						
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**17 51 41.1**	**+1.3**
MEZF				*e*Sg	**Sg**	**17 52 00.9**	**+2.3**
	184nm,0.4s						
LBG	**Lerchenberg**	**1.48**	**118**	Pn	**Pn**	**17 51 39.4**	**-0.4**
LBG	**Lerchenberg**	**1.48**	**118**	P	**Pn**	**17 51 39.2**	**-0.6**
GIVF	**Givet**	**1.49**	**300**	*e*Pn	**Pn**	**17 51 40.8**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**17 51 59.3**	**-0.8**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**17 52 02.1**	**+2.3**
	480nm,0.4s						
GIVF	**Givet**	**1.49**	**300**	*e*Pn	**Pn**	**17 51 40.8**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**17 51 59.3**	**-0.8**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**17 52 02.1**	**+2.3**
	240nm,0.4s						
HGN	**Heimansgroeve**	**1.51**	**338**	*e*Pn	**Pn**	**17 51 40.4**	**+0.2**
	53nm,0.1s						
HGN				*i* Pg	**Pg**	**17 51 41.6**	**+0.7**
	71nm,0.1s						
HGN				*e*Sg	**Sg**	**17 52 01.0**	**+0.5**
HGN				*e*Rg		17 52 21.9	
HGN	**Heimansgroeve**	**1.51**	**338**	*i* Pg	**Pg**	**17 51 41.6**	**+0.7**
	71nm,0.1s						
HGN				*e*Sg	**Sg**	**17 52 01.0**	**+0.5**
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**17 51 42.1**	**+0.8**
MOF				Sg	**Sg**	**17 52 02.8**	**+1.7**
MOF	**Molkenrain**	**1.53**	**172**	Pn	**Pn**	**17 51 42.1**	**+1.6**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pn	**Pn**	**17 51 40.2**	**-0.6**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**17 51 42.1**	**+0.4**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**17 51 59.7**	**-1.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**17 52 02.5**	**+0.7**
	1μm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**17 51 42.1**	**+0.4**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**17 51 59.7**	**-1.9**
	SNR=1.0						
JUE	**Julich**	**1.57**	**350**	*e*Pg	**Pg**	**17 51 40.9**	**-1.1**
JUE				*e*Sg	**Sg**	**17 52 01.8**	**-0.6**
	569nm,0.5s						
KIZ	**Kirchzarten**	**1.59**	**152**	Pn	**Pn**	**17 51 40.9**	**-0.4**
BEBN	**Eben Emael**	**1.61**	**333**	⇑P	**Pn**	**17 51 42.2**	**+0.6**
BEBN				S	**Sn**	**17 52 04.7**	**+1.6**
BEBN	**Eben Emael**	**1.61**	**333**	P	**Pn**	**17 51 42.1**	**+0.5**
BEBN				S	**Sn**	**17 52 04.6**	**+1.5**
BNS	**Bensberg**	**1.62**	**8**	*e*Pg	**Pg**	**17 51 41.5**	**-1.4**
BNS				*e*Sg	**Sg**	**17 52 02.6**	**-1.2**
	517nm,0.5s						
DOU	**Dourbes**	**1.62**	**298**	⇓P	**Pn**	**17 51 42.5**	**+0.8**
DOU				S	**Sn**	**17 52 04.5**	**+1.2**
	comp=N,176nm,0.6s						
DOU	**Dourbes**	**1.62**	**298**	P	**Pn**	**17 51 42.5**	**+0.8**
DOU				S	**Sn**	**17 52 04.4**	**+1.1**
	comp=N,176nm,0.6s						
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	**Pg**	**17 51 41.7**	**-1.9**
HOBG				*e*Sg	**Sg**	**17 52 03.3**	**-1.7**
	comp=N,716nm,0.9s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Pn	**Pn**	**17 51 42.8**	**+0.6**
	baz=48						
SFTF				*e*Sn	**Sn**	**17 52 03.6**	**-0.6**
	baz=50						
SFTF				*e*Sg	**Sg**	**17 52 07.3**	**+2.2**
	comp=N,265nm,0.4s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Pn	**Pn**	**17 51 42.8**	**+0.6**
SFTF				*e*Sn	**Sn**	**17 52 03.6**	**-0.6**
SFTF				*e*Sg	**Sg**	**17 52 07.3**	**+2.2**
	comp=N,133nm,0.4s						
STU	**Stuttgart**	**1.67**	**110**	*e*Pn	**Pn**	**17 51 42.6**	**+0.2**
	SNR=2.0						
STU	**Stuttgart**	**1.67**	**110**	*e*Pn	**Pn**	**17 51 42.1**	**-0.4**
FELD	**Feldberg**	**1.69**	**152**	Pg	**Pg**	**17 51 45.2**	**+0.9**
SIND	**Sindeldorf**	**1.82**	**90**	Pn	**Pn**	**17 51 43.3**	**-1.2**
RODG	**Roetgen-Dahlhe**	**1.83**	**347**	*e*Sg	**Sg**	**17 52 07.4**	**-3.2**
	comp=N,1μm,0.6s						
BAIF	**Baives**	**1.83**	**293**	*e*Pn	**Pn**	**17 51 45.6**	**+0.9**
	SNR=1.0						
BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**17 51 48.5**	**+1.4**
BAIF				*e*Sn	**Sn**	**17 52 07.8**	**-0.7**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**17 52 12.9**	**+2.1**
	comp=N,194nm,0.4s,SNR=1.0						
BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**17 51 48.5**	**+1.4**
BAIF				*e*Sn	**Sn**	**17 52 07.8**	**-0.7**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**17 52 12.9**	**+2.1**
	comp=N,97nm,0.4s,SNR=1.0						
BBS	**Basel-Blauen**	**1.96**	**166**	Pn	**Pn**	**17 51 46.9**	**+0.5**
LAUG	**Laupendahl**	**1.99**	**2**	*e*Pg	**Pg**	**17 51 46.5**	**-3.6**
LAUG				*e*Sg	**Sg**	**17 52 11.3**	**-4.5**
	comp=N,147nm,0.5s						
SNF	**Seneffe**	**2.00**	**306**	⇑P	**Pn**	**17 51 48.5**	**+1.6**
GUT	**Gutenstein**	**2.00**	**130**	Pn	**Pn**	**17 51 47.5**	**+0.5**
GUT	**Gutenstein**	**2.00**	**130**	P	**Pn**	**17 51 46.9**	**-0.1**
LOMF	**Lomont**	**2.02**	**180**	Pg	**Pg**	**17 51 51.7**	**+1.1**
LOMF	**Lomont**	**2.02**	**180**	P	**Pn**	**17 51 47.8**	**+0.6**
LOMF	**Lomont**	**2.02**	**180**	Pn	**Pn**	**17 51 47.3**	**+0.1**
LOMF				Pg	**Pg**	**17 51 51.7**	**+1.1**
BUG	**Bochum--Univer**	**2.10**	**8**	*e*Pn	**Pn**	**17 51 48.8**	**+0.5**
	SNR=3.8						
BUG				*e*Sg	**Sg**	**17 52 18.9**	**-0.5**
BUG	**Bochum--Univer**	**2.10**	**8**	*e*Pn	**Pn**	**17 51 48.2**	**-0.1**
BUG				*e*Sg	**Sg**	**17 52 18.3**	**-1.0**
UCC	**Uccle**	**2.14**	**313**	P	**Pn**	**17 51 50.0**	**+1.2**
SISB	**Singen-Sch Ber**	**2.21**	**139**	Pn	**Pn**	**17 51 54.3**	**+4.5**
SISB	**Singen-Sch Ber**	**2.21**	**139**	P	**Pn**	**17 51 54.2**	**+4.5**
HDH	**Heidenheim**	**2.37**	**108**	Pn	**Pn**	**17 51 51.2**	**-0.8**
HROE	**Hohe Rhon--Fla**	**2.45**	**60**	⇓*iPn*	**Pn**	**17 51 53.2**	**0.0**
UBBA	**Unterbreizbach**	**2.51**	**53**	*e*Pg	**Pg**	**17 51 59.9**	**-0.3**
	SNR=3.6						
UBBA				*e*Sg	**Sg**	**17 52 31.1**	**-1.5**
WTSB	**Winterswijk**	**2.60**	**360**	*e*Pn	**Pn**	**17 51 56.5**	**+1.3**
WTSB				*e*Pg	**Pg**	**17 52 00.9**	**-0.9**
WTSB				*e*Sg	**Sg**	**17 52 33.0**	**-2.6**
WTSB	**Winterswijk**	**2.60**	**360**	*e*Pg	**Pg**	**17 52 00.9**	**-1.0**
WTSB				*e*Sg	**Sg**	**17 52 33.0**	**-2.6**
UBR	**Uberruh**	**2.76**	**126**	Pn	**Pn**	**17 51 58.9**	**+1.5**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**17 51 58.2**	**+0.2**
	SNR=1.0						
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**17 51 58.9**	**-0.2**
	baz=42,SNR=1.0						
LOR	**Lormes**	**2.88**	**224**	*e*Pg	**Pg**	**17 52 07.8**	**+0.6**
	baz=45,SNR=1.0						
LOR				*e*Sn	**Sn**	**17 52 32.8**	**-1.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**17 52 44.8**	**+0.2**
	comp=N,141nm,0.4s,SNR=1.0						
LOR	**Lormes**	**2.88**	**224**	*e*Pg	**Pg**	**17 52 07.8**	**+0.6**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**17 52 32.8**	**-1.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**17 52 44.8**	**+0.2**
	comp=N,70nm,0.4s,SNR=1.0						
GRA1	**Grafenberg Arr**	**2.89**	**82**	*e*Pg	**Pg**	**17 52 04.6**	**-2.7**
GRA1				*e*Sg	**Sg**	**17 52 45.5**	**+0.8**
GRF	**Grafenberg Arr**	**2.89**	**82**	*e*Pg	**Pg**	**17 52 06.8**	**-0.4**
	SNR=15						
GRF				*e*Sg	**Sg**	**17 52 43.4**	**-1.3**
GRF	**Grafenberg Arr**	**2.89**	**82**	*e*P	**Pg**	**17 52 04.6**	**-2.7**
GRF				*e*		17 52 45.5	
DAVA	**Damuels**	**2.92**	**134**	⇓Sn	**Sn**	**17 52 33.6**	**-1.7**
DAVA	**Damuels**	**2.92**	**134**	⇑*e*Pn	**Pn**	**17 52 01.1**	**+1.5**
	SNR=8.2						
DAVA				⇓*i*Sn	**Sn**	**17 52 33.6**	**-1.7**
DAVA				⇓*i*Sg	**Sg**	**17 52 48.5**	**+2.8**
DAVA	**Damuels**	**2.92**	**134**	⇑*e*Pn	**Pn**	**17 52 01.1**	**+1.5**
DAVA				Sn	**Sn**	**17 52 33.6**	**-1.7**
GTTG	**Gvttingen**	**2.97**	**41**	*e*Sg	**Sg**	**17 52 46.8**	**-0.4**
SSF	**Saint Saulge**	**3.20**	**225**	*e*Pg	**Pg**	**17 52 13.3**	**0.0**
SSF				*e*Sn	**Sn**	**17 52 40.4**	**-1.9**
	SNR=1.0						
SSF				*e*Sg

SNR=5.1
VAI Varese 3.74 159 Pn **Pn 17 52 13.0 +2.1**
NKC Novy Kostel 3.75 74 *e*PN **Pn 17 52 12.3 +1.3**
NKC *e*SG **Sg 17 53 08.3 -4.1**
comp=N,55nm,0.5s
BRMO Bormio 3.75 139 Pn **Pn 17 52 14.5 +3.4**
WATA Walderalm 3.77 121 ⇑Sn **Sn 17 52 53.7 -2.6**
WATA Walderalm 3.77 121 ⇑*i*Pn **Pn 17 52 12.4 +1.1**
WATA ⇑*i*Sn **Sn 17 52 56.1 -0.2**
WATA ⇑*i*Sg **Sg 17 53 14.8 +1.8**
WATA Walderalm 3.77 121 Pn **Pn 17 52 12.4 +1.1**
WATA Sn **Sn 17 52 53.7 -2.6**
WATA Sg **Sg 17 53 14.8 +1.8**
WATA Walderalm 3.77 121 Pn **Pn 17 52 12.4 +1.1**
WATA Sn **Sn 17 52 53.7 -2.6**
TANN Tannenbergstha 3.80 72 *e*Pn **Pn 17 52 12.5 +0.8**
SNR=4.0
TANN *e*Sg **Sg 17 53 11.4 -2.5**
ORO Oropa 3.82 168 Pn **Pn 17 52 15.0 +3.0**
WTTA Wattenberg 3.84 121 ⇓Sn **Sn 17 52 55.9 -2.3**
WTTA Wattenberg 3.84 121 ⇑*i*Pn **Pn 17 52 13.2 +0.9**
WTTA ⇑*i*Sn **Sn 17 52 59.5 +1.3**
WTTA ⇓*i*Sg **Sg 17 53 17.3 +1.9**
WTTA Wattenberg 3.84 121 Pn **Pn 17 52 13.2 +0.9**
WTTA Sn **Sn 17 52 55.9 -2.3**
LPL La Plagne 3.85 181 *e*Pn **Pn 17 52 13.8 +1.3**
LPL *e*Sg **Sg 17 53 15.0 -0.7**
comp=N,28nm,0.5s
LPL La Plagne 3.85 181 *e*Pn **Pn 17 52 13.8 +1.3**
LPL *e*Sg **Sg 17 53 15.0 -0.7**
comp=N,14nm,0.5s
LPG La Plagne 3.87 181 *e*Pn **Pn 17 52 14.1 +1.4**
LPG *e*Sg **Sg 17 53 15.8 -0.5**
comp=N,24nm,0.3s
LPG La Plagne 3.87 181 *e*Pn **Pn 17 52 14.1 +1.4**
LPG *e*Sg **Sg 17 53 15.8 -0.5**
comp=N,12nm,0.3s
BGF Bois d'Agland 3.88 225 *e*Pn **Pn 17 52 12.5 -0.3**
SNR=1.0
BGF *e*Sn **Sn 17 52 56.5 -2.5**
SNR=1.0
BGF *e*Sg **Sg 17 53 16.9 +0.4**
comp=N,359nm,0.6s
BGF Bois d'Agland 3.88 225 *e*Pn **Pn 17 52 12.5 -0.3**
SNR=1.0
BGF *e*Sn **Sn 17 52 56.5 -2.5**
SNR=1.0
BGF *e*Sg **Sg 17 53 16.9 +0.4**
comp=N,180nm,0.6s
WET Wettzell 3.98 91 *e*Pn **Pn 17 52 14.5 +0.4**
SNR=31
WET Wettzell 3.98 91 *e*Pn **Pn 17 52 14.4 +0.3**
WET *e*S **Sn 17 52 59.4 -2.0**
TCF Toulx Ste Croi 4.37 227 *e*Pn **Pn 17 52 19.4 -0.2**
SNR=1.0
TCF Toulx Ste Croi 4.37 227 *e*Pg **Pg 17 52 35.4 -0.4**
SNR=1.0
TCF *e*Sn **Sn 17 53 08.6 -2.6**
TCF *e*Sg **Sg 17 53 32.1 -0.3**
comp=N,55nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 4.37 227 *e*Pg **Pg 17 52 35.4 -0.4**
SNR=1.0
TCF *e*Sn **Sn 17 53 08.6 -2.6**
TCF *e*Sg **Sg 17 53 32.1 -0.3**
comp=N,28nm,0.5s,SNR=1.0
CLL Collm 4.41 62 *i* Pn **Pn 17 52 11.3 -8.8**
CLL *i* Pg **Pg 17 52 33.3 -3.2**
CLL *i* Sg **Sg 17 53 33.5 -0.2**
CLL Collm 4.41 62 *i* Pn **Pn 17 52 11.3 -8.8**
CLL *i* (Pb) **Pb 17 52 22.5 -7.8**
CLL *i* Pg **Pg 17 52 33.3 -3.2**
CLL *e*Sb **Sb 17 53 19.0 -5.0**
CLL *i* Sg **Sg 17 53 33.5 -0.2**
comp=Z,39nm,0.8s
CLL Collm 4.41 62 *i* Pg **Pg 17 52 33.3 -3.2**
KHC Kasperske Hory 4.43 90 *e*PN **Pn 17 52 20.8 +0.4**
KHC *e*PG **Pg 17 52 37.5 +0.6**
KHC *e*SN **Sn 17 53 09.0 -3.8**
KHC *e*SG **Sg 17 53 29.6 -4.8**
comp=Z,20nm,0.6s
ORIF Oris-en-Rattie 4.50 189 *e*Pn **Pn 17 52 21.4 +0.1**
SNR=1.0
ORIF *e*Sn **Sn 17 53 09.7 -4.6**
ORIF *e*Sg **Sg 17 53 34.0 -2.4**
comp=Z,51nm,0.6s
ORIF Oris-en-Rattie 4.50 189 *e*Pn **Pn 17 52 21.4 +0.1**
SNR=1.0
ORIF *e*Sn **Sn 17 53 09.7 -4.6**
ORIF *e*Sg **Sg 17 53 34.0 -2.4**
comp=Z,25nm,0.6s
GEC2 GERESS Array S 4.55 94 *e*Pn **Pn 17 52 22.6 +0.6**
SNR=79
GEC2 GERESS Array S 4.55 94 *e*Pn **Pn 17 52 22.5 +0.4**
GEC2 *e*S **Sn 17 53 13.5 -2.2**
LDF La Druitiere 4.64 263 *e*Pn **Pn 17 52 23.6 +0.4**
SNR=1.0
LDF La Druitiere 4.64 263 *e*Pg **Pg 17 52 40.2 -0.6**
SNR=1.0
LDF *e*Sn **Sn 17 53 14.4 -3.3**
LDF *e*Sg **Sg 17 53 40.6 -0.3**
comp=Z,98nm,0.6s
LDF La Druitiere 4.64 263 *e*Pg **Pg 17 52 40.2 -0.6**
SNR=1.0
LDF *e*Sn **Sn 17 53 14.4 -3.3**
LDF *e*Sg **Sg 17 53 40.6 -0.3**
comp=Z,49nm,0.6s
MBDF Montbardon 4.64 180 *e*Pn **Pn 17 52 24.4 +1.1**
SNR=1.0
MBDF Montbardon 4.64 180 *e*Pg **Pg 17 52 39.1 -1.8**
SNR=1.0
MBDF *e*Sn **Sn 17 53 13.3 -4.6**
MBDF *e*Sg **Sg 17 53 38.9 -2.2**
comp=Z,53nm,0.8s
MBDF Montbardon 4.64 180 *e*Pg **Pg 17 52 39.1 -1.8**
SNR=1.0
MBDF *e*Sn **Sn 17 53 13.3 -4.6**
MBDF *e*Sg **Sg 17 53 38.9 -2.2**
comp=Z,27nm,0.8s
VIVF Saint-Julien-l 4.74 199 *e*Pn **Pn 17 52 24.1 -0.6**
VIVF *e*Sn **Sn 17 53 16.6 -3.8**
SNR=1.0
VIVF *e*Sg **Sg 17 53 42.1 -2.3**
comp=Z,29nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 4.74 199 *e*Pn **Pn 17 52 24.1 -0.6**
VIVF *e*Sn **Sn 17 53 16.6 -3.8**
SNR=1.0
VIVF *e*Sg **Sg 17 53 42.1 -2.3**
comp=Z,14nm,0.4s,SNR=1.0
BRG Berggiesshubel 4.83 69 *e*Pg **Pg 17 52 41.8 -2.6**
BRG *e*Sg **Sg 17 53 43.9 -3.1**
BRG Berggiesshubel 4.83 69 Pn **Pn 17 52 26.5 +0.7**
BRG Berggiesshubel 4.83 69 Pg **Pg 17 52 41.6 -2.8**
BRG Berggiesshubel 4.83 69 Pn **Pn 17 52 26.4 +0.6**
BRG Pg **Pg 17 52 41.6 -2.8**
BRG Sg **Sg 17 53 45.1 -1.9**
FLN La Foliniere 4.84 266 *e*Pn **Pn 17 52 26.8 +0.8**
baz=88,SNR=1.0
FLN La Foliniere 4.84 266 *e*Pg **Pg 17 52 44.4 -0.3**
baz=82,SNR=1.0
FLN *e*Sn **Sn 17 53 19.1 -3.6**
baz=83,SNR=1.0
FLN *e*Sg **Sg 17 53 46.9 -0.5**
comp=Z,89nm,0.5s
FLN La Foliniere 4.84 266 *e*Pg **Pg 17 52 44.4 -0.3**
SNR=1.0
FLN *e*Sn **Sn 17 53 19.1 -3.6**
SNR=1.0
FLN *e*Sg **Sg 17 53 46.9 -0.5**
comp=Z,44nm,0.5s
KBA Koelnbreinsper 4.93 115 ⇑Sn **Sn 17 53 21.8 -3.1**
KBA Koelnbreinsper 4.93 115 ⇓*i*Pn **Pn 17 52 28.0 +0.8**
SNR=21
KBA ⇑*i*Sn **Sn 17 53 21.8 -3.1**
PRU Pruhonice 5.05 80 *e*PN **Pn 17 52 29.7 +0.8**
GRR Gorron 5.16 262 *e*Pn **Pn 17 52 30.8 +0.4**
SNR=1.0
GRR Gorron 5.16 262 *e*Pg **Pg 17 52 50.5 -0.3**
SNR=1.0
GRR *e*Sn **Sn 17 53 27.1 -3.6**
SNR=1.0
GRR *e*Sg **Sg 17 53 56.5 -1.2**
comp=Z,56nm,0.6s,SNR=1.0
GRR Gorron 5.16 262 *e*Pg **Pg 17 52 50.5 -0.3**
SNR=1.0
GRR *e*Sn **Sn 17 53 27.1 -3.6**
SNR=1.0
GRR *e*Sg **Sg 17 53 56.5 -1.2**
comp=Z,28nm,0.6s,SNR=1.0
MOA Molln 5.17 104 ⇑Sn **Sn 17 53 27.4 -3.5**
MOA Molln 5.17 104 ⇑*i*Pn **Pn 17 52 31.3 +0.8**
SNR=42
MOA ⇓*i*Sn **Sn 17 53 29.8 -1.1**
MOA Molln 5.17 104 ⇑*i*Pn **Pn 17 52 31.3 +0.8**
MOA Sn **Sn 17 53 27.4 -3.5**
MOA Molln 5.17 104 ⇑*i*Pn **Pn 17 52 31.3 +0.8**
MOA Sn **Sn 17 53 27.4 -3.5**
PTCC Patocco-Chiusa 5.30 122 Pn **Pn 17 52 37.0 +4.7**
RJF Les Rejaudoux 5.43 224 *e*Pn **Pn 17 52 33.6 -0.5**
RJF *e*Sn **Sn 17 53 34.1 -3.2**
SNR=1.0
RJF *e*Sg **Sg 17 54 05.6 -0.8**
comp=Z,64nm,0.6s
RJF Les Rejaudoux 5.43 224 *e*Pn **Pn 17 52 33.6 -0.5**
RJF *e*Sn **Sn 17 53 34.1 -3.2**
SNR=1.0
RJF *e*Sg **Sg 17 54 05.6 -0.8**
comp=Z,32nm,0.6s
MFF Saint Martin d 5.43 242 *e*Pn **Pn 17 52 34.2 0.0**
SNR=1.0
MFF *e*Sn **Sn 17 53 33.9 -3.5**
MFF Saint Martin d 5.43 242 *e*Sg **Sg 17 54 05.6 -0.9**
comp=Z,64nm,0.8s
MFF Saint Martin d 5.43 242 *e*Pn **Pn 17 52 34.2 0.0**
SNR=1.0
MFF *e*Sn **Sn 17 53 33.9 -3.5**
MFF *e*Sg **Sg 17 54 05.6 -0.9**
comp=Z,32nm,0.8s
CAF Calviac 5.50 218 *e*Sn **Sn 17 53 35.1 -3.9**
CAF Calviac 5.50 218 *e*Sg **Sg 17 54 06.6 -2.0**
comp=Z,30nm,0.5s
CAF Calviac 5.50 218 *e*Pn **Pn 17 52 34.2 -0.9**
SNR=1.0
CAF *e*Sn **Sn 17 53 35.1 -3.9**
CAF *e*Sg **Sg 17 54 06.6 -2.0**
comp=Z,15nm,0.5s
SBF Sospel 5.52 175 *e*Sn **Sn 17 53 34.8 -4.8**
comp=Z,27nm,0.6s
SBF Sospel 5.52 175 *e*Sn **Sn 17 53 34.8 -4.8**
comp=Z,13nm,0.6s
LASF Ste Croix 5.67 202 *e*Sn **Sn 17 53 39.3 -3.9**
LASF *e*Sg **Sg 17 54 11.2 -2.9**
comp=Z,61nm,0.7s
LASF Ste Croix 5.67 202 *e*Sn **Sn 17 53 39.3 -3.9**
LASF *e*Sg **Sg 17 54 11.2 -2.9**
comp=Z,31nm,0.7s
FRF La Foret Royal 5.81 181 *e*Sn **Sn 17 53 41.4 -5.3**
comp=Z,4.6nm,0.5s
FRF La Foret Royal 5.81 181 *e*Sn **Sn 17 53 41.4 -5.3**
comp=Z,2.3nm,0.5s
LFF La Frestale 6.07 225 *e*Pn **Pn 17 52 42.2 -0.7**
LFF *e*Sn **Sn 17 53 48.4 -4.6**
LFF *e*Sg **Sg 17 54 24.8 -2.0**
comp=Z,98nm,0.7s
LFF La Frestale 6.07 225 *e*Pn **Pn 17 52 42.2 -0.7**
LFF *e*Sn **Sn 17 53 48.4 -4.6**
LFF *e*Sg **Sg 17 54 24.8 -2.0**
comp=Z,49nm,0.7s
ARSA Arzberg 6.18 107 ⇓Sn **Sn 17 53 52.5 -3.3**
ARSA Arzberg 6.18 107 ⇑*i*Pn **Pn 17 52 45.5 +1.1**
SNR=10
ARSA ⇓*i*Sn **Sn 17 53 52.5 -3.3**
ARSA Arzberg 6.18 107 ⇑*i*Pn **Pn 17 52 45.5 +1.1**
ARSA Sn **Sn 17 53 52.5 -3.3**
SGMF Saint Gilles 6.29 263 *e*Pn **Pn 17 52 46.0 0.0**
SNR=1.0
SGMF *e*Sn **Sn 17 53 53.2 -5.4**
SGMF *e*Sg **Sg 17 54 32.6 -1.5**
comp=Z,35nm,0.5s
SGMF Saint Gilles 6.29 263 *e*Pn **Pn 17 52 46.0 0.0**
SNR=1.0
SGMF *e*Sn **Sn 17 53 53.2 -5.4**
SGMF *e*Sg **Sg 17 54 32.6 -1.5**
comp=Z,18nm,0.5s
ROSF Rostrenen 6.74 265 *e*Pn **Pn 17 52 51.9 -0.2**
ROSF *e*Sn **Sn 17 54 05.1 -4.5**
QUIF Quistinic 6.77 261 *e*Pn **Pn 17 52 52.1 -0.5**
SNR=1.0
QUIF *e*Sn **Sn 17 54 04.1 -6.3**
comp=Z,14nm,0.4s,SNR=1.0
QUIF Quistinic 6.77 261 *e*Pn **Pn 17 52 52.1 -0.5**
SNR=1.0
QUIF *e*Sn **Sn 17 54 04.1 -6.3**
comp=Z,6.8nm,0.4s,SNR=1.0
MTLF Montolieu 6.81 210 *e*Sg **Sg 17 54 47.9 -2.9**
comp=Z,23nm,0.7s
MTLF Montolieu 6.81 210 *e*Sg **Sg 17 54 47.9 -2.9**
comp=Z,12nm,0.7s
EPF Esparros 7.77 218 *e*Pn **Pn 17 53 05.4 -0.8**
EPF *e*Sg **Sg 17 55 17.6 -3.7**
comp=Z,21nm,0.8s
VYHS Vyhne 7.96 92 *e*PN **Pn 17 53 08.8 -0.1**
KONO Kongsberg 10.43 8 ⇓*i*P **Pn 17 53 40.9 -1.8**
APE Apeiranthos 18.30 125 *i* P **Pn 17 55 28.8 +1.6**
AAK Ala-Archa 46.06 71 *i* P **P 17 59 35.5 -1.9**
MKAR Makanchi Array 48.51 63 *i* P **P 17 59 48.5 -8.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s

NEIC ***17*** *18:24:16.1,3088S×7163W,h4km,ML3.4(GUC),After GUC.*
GUC 17 18:24:16.1±0.6,3088S×7163W,h4km±7km,MD4.0,ML3.4,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.61**	**119**	*e*P	Pg	18 24 28.4	+0.6
CMCH				*i* S	Sg	18 24 38.4	+2.6
CMCH				AMP		18 24 39.4	
comp=N,4μm,0.2s							
CMCH	**Combarbala**	**0.61**	**119**	*e*P	Pg	18 24 28.4	+0.6
CMCH				*i* S	Sg	18 24 38.4	+2.6
ILCH	**Illapel**	**0.85**	**153**	*e*P	Pg	18 24 32.9	+0.5
ILCH				*i* S	Sg	18 24 45.5	+2.2
JACH	**Jahuel**	**2.00**	**154**	*i* P	Pn	18 24 51.0	+0.3
JACH				*i* S	Sn	18 25 17.5	+1.3
PEL	**Peldehue**	**2.39**	**161**	*i* P	Pn	18 24 57.6	+1.5
PEL				*i* S	Sn	18 25 28.6	+2.7
PEL				AMP		18 25 37.4	
comp=N,426nm,0.3s							
PEL	**Peldehue**	**2.39**	**161**	*i* P	Pn	18 24 57.6	+1.5
PEL				*i* S	Sn	18 25 28.6	+2.7
FCH	**Farellones**	**2.69**	**155**	⇓*i*P	Pn	18 25 02.1	+1.9
FCH				*i* S	Sn	18 25 37.0	+3.7
FCH				AMP		18 25 46.5	
comp=E,134nm,0.6s							
TACH	**Talagante**	**2.82**	**168**	*i* P	Pn	18 25 00.6	-1.5

ISCJB ***17*** *18:45:01.0±0.3,4127N±003×14047E±006,h141km±2km, mb3.9/14,Error ellipse: s-maj=7.4km s-min=5.4km az=13.0*
MOS ***17*** *18:45:01.9±1.1,4146N×14035E,h145km,mb3.8/7,Error ellipse: s-maj=21.2km s-min=18.4km az=100.0*
JMA ***17*** *18:45:02.5±0.1,4128N×14050E,h134km±1km,M2.9*
IDC ***17*** *18:45:03.5±1.7,4146N×14036E,h140km±13km,mb3.3/9, mb1 3.5/11,mb1mx3.3/22,mbtmp3.7/11,Error ellipse: s-maj=24.4km s-min=13.8km az=146.0*
NEIC ***17*** *18:45:04.0±1.9,4144N×14031E,h147km±25km,mb4.1/3, Error ellipse: s-maj=25.4km s-min=10.0km az=165.0*
ISC 17 18:45:02.1±0.3,4127N±003×14049E±006,h138km±2km,n46,σ0§70/61,mb3.9/14,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.23**	**196**	P	Pn	18 45 21.1	+0.2
JSI2				S	Sn	18 45 35.0	-0.2
JSR	**Shiriuchi**	**0.26**	**348**	P	Pn	18 45 21.0	0.0
JSR				S	Sn	18 45 34.7	-0.7
JOT	**Ohata**	**0.43**	**75**	P	Pn	18 45 21.8	+0.1
JOT				*e*S	Sn	18 45 36.8	+0.2
JTM	**Tenmabayashi**	**0.65**	**138**	P	Pn	18 45 23.1	+0.2
JTM				*e*S	Sn	18 45 38.6	-0.2
JKB	**Kayabe**	**0.73**	**33**	P	Pn	18 45 23.7	+0.2
JKB				*e*S	Sn	18 45 39.9	+0.1
JIW	**Iwasaki**	**0.77**	**209**	P	Pn	18 45 24.2	+0.4
JIW				*e*S	Sn	18 45 39.9	-0.4
JYM2	**Yakumo 2**	**0.85**	**354**	P	Pn	18 45 24.6	+0.2
JYM2				*e*S	Sn	18 45 41.4	+0.1
JAH	**Hinai**	**1.09**	**174**	*e*S	Sn	18 45 45.8	+0.7
JOSM	**Okushiri--Mats**	**1.11**	**317**	P	Pn	18 45 26.6	-0.1
JOSM				*e*S	Sn	18 45 44.5	-1.0
JANG	**Nango**	**1.19**	**139**	P	Pn	18 45 27.2	-0.3
JANG				*e*S	Sn	18 45 46.1	-0.7
JNB	**Noboribetsu**	**1.26**	**19**	P	Pn	18 45 28.3	+0.1
JSH	**Shimam**	**1.41**	**346**	P	Pn	18 45 30.0	+0.3
JSH				*e*S	Sn	18 45 51.1	+0.3
JEW	**Eniwo**	**1.72**	**24**	P	Pn	18 45 33.9	+0.7
JEW				*e*S	Sn	18 45 59.0	+2.0
JOM	**Ohasama**	**1.90**	**161**	P	Pn	18 45 35.2	-0.1
JOM				*e*S	Sn	18 46 00.3	-0.4
JNBK	**Urakawa-nobuka**	**1.97**	**59**	P	Pn	18 45 36.0	-0.1
JNBK				*e*S	Sn	18 46 02.4	+0.3
ASAJ	**Asahikawa**	**3.24**	**28**	P	Pn	18 45 52.7	+0.7
2.1nm,0.3s,baz=293,slow=26,SNR=19							
ASAJ				S	Sn	18 46 29.8	-0.8
2.3nm,0.3s,baz=283,slow=32,SNR=8.1							
YUK	**Yuzh-Kuril'sk**	**4.83**	**53**	*e*P	Pn	18 46 12.5	-0.4
YUK				*e*S	Sn	18 47 05.0	-3.1
YUK				smax			
comp=N,380nm,0.5s							
YUK				smax			
comp=E,300nm,0.5s							
MJAR	**Matsushiro Arr**	**5.05**	**201**	P	Pn	18 46 19.5	+3.5
comp=E,0.3nm,0.3s,baz=5.4,slow=14,SNR=3.5							
SONM	**Songino Array**	**25.02**	**297**	P	P	18 50 12.2	-0.9
comp=E,0.4nm,0.5s,mb3.2,baz=90,slow=8.1,SNR=8.9							
ZAL	**Zalesovo**	**38.63**	**309**	P	P	18 52 11.8	-0.1
comp=E,1.0nm,0.6s,mb3.6,baz=3.9,slow=8.0,SNR=6.8							
ZAL	**Zalesovo**	**38.63**	**309**	P	P	18 52 11.8	-0.1
ZAL				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**38.63**	**309**	P	P	18 52 11.8	-0.1
MKAR	**Makanchi Array**	**41.38**	**298**	P	P	18 52 34.4	-0.2
comp=Z,2.3nm,0.7s,mb3.9,baz=84,slow=11,SNR=28							
MKAR	**Makanchi Array**	**41.38**	**298**	P	P	18 52 34.4	-0.1
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**42.85**	**304**	*e*P	P	18 52 45.6	-0.8
KURK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1							
KURK	**Kurchatov**	**42.85**	**304**	*e*P	P	18 52 45.6	-0.8
comp=Z,2.7nm,0.6s,mb4.0							
JIRN	**Jiri**	**46.09**	**271**	*e*P	P	18 53 13.1	+1.0
comp=Z,5.2nm,0.4s,mb4.5							
GUN	**Gumba**	**46.19**	**271**	*e*P	P	18 53 13.4	+0.5
comp=Z,25nm,0.4s,mb5.2							
ILAR	**Eielson Array**	**46.35**	**34**	P	P	18 53 14.4	+0.2
comp=Z,0.7nm,0.7s,mb3.4,baz=267,slow=5.9,SNR=8.3							
ILAR	**Eielson Array**	**46.35**	**34**	P	P	18 53 14.4	+0.2
ILAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
KKN	**Kakani**	**46.70**	**271**	*e*P	P	18 53 17.6	+0.7
DMN	**Daman**	**46.93**	**271**	*e*P	P	18 53 19.3	+0.6
comp=Z,2.3nm,0.3s,mb4.3							
GKN	**Gorkha**	**47.08**	**272**	*e*P	P	18 53 19.9	+0.1
comp=Z,3.3nm,0.3s,mb4.4							
KOLN	**Koldanda**	**47.98**	**272**	*e*P	P	18 53 27.4	+0.6
ZRNK	**Zerenda**	**48.09**	**310**	P	P	18 53 25.6	-2.0
INK	**Inuvik**	**50.98**	**29**	P	P	18 53 50.0	+0.4
comp=Z,0.5nm,0.3s,mb3.6,baz=317,slow=4.3,SNR=7.1							
INK	**Inuvik**	**50.98**	**29**	P	P	18 53 50.0	+0.5
INK				pmax	pmax		
comp=Z,1.0nm,0.3s							
INK	**Inuvik**	**50.98**	**29**	P	P	18 53 50.0	+0.4
YKA	**Yellowknife Ar**	**60.53**	**31**	P	P	18 54 57.9	+0.3
comp=Z,0.2nm,0.6s,mb3.1,baz=306,slow=6.1,SNR=6.7							
YKA	**Yellowknife Ar**	**60.53**	**31**	P	P	18 54 57.9	+0.3
FINES	**FINESS Array B**	**64.75**	**331**	P	P	18 55 24.8	-0.8
comp=Z,0.9nm,0.7s,mb3.7,baz=33,slow=7.7,SNR=4.6							
FINES	**FINESS Array B**	**64.75**	**331**	P	P	18 55 24.8	-0.8
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.75**	**331**	P	P	18 55 24.8	-0.8
NOA	**NORSAR Array B**	**70.01**	**336**	P	P	18 55 57.8	-0.9
comp=Z,0.9nm,0.9s,mb3.5,baz=30,slow=7.7,SNR=3.0							
NOA	**NORSAR Array B**	**70.01**	**336**	P	P	18 55 57.8	-0.9
NOA				pmax	pmax		
comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**75.22**	**46**	P	P	18 56 30.1	+0.6
comp=Z,0.7nm,0.4s,mb3.6,baz=16,slow=0.9,SNR=12							

IDC 17 18:56:07.4±1.2,223N×12676E,h0km,mb3.7/5,mb1 3.9/5,mb1mx3.7/16,mbtmp3.7/5,Error ellipse: s-maj=138.2km s-min=18.6km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**162**	P	P	19 01 17.4	+0.9
2.1nm,0.6s,baz=340,slow=11,SNR=7.0							
WB2	**Warramunga Arr**	**23.26**	**162**	*e*P	P	19 01 17.8	+1.3
ASAR	**Alice Springs**	**26.66**	**165**	P	P	19 01 49.1	+1.2
0.4nm,0.5s,baz=347,slow=12,SNR=11							
STKA	**Stephens Creek**	**36.73**	**159**	*e*P	P	19 03 15.8	-0.5
2.8nm,0.7s							
STKA	**Stephens Creek**	**36.73**	**159**	P	P	19 03 15.2	-1.1
3.5nm,0.7s,baz=339,slow=7.0,SNR=11							
SONM	**Songino Array**	**48.72**	**342**	P	P	19 04 54.1	+0.5
0.3nm,0.5s,baz=158,slow=7.0,SNR=4.8							
MKAR	**Makanchi Array**	**58.80**	**326**	P	P	19 06 07.3	-0.1
0.3nm,0.3s,baz=120,slow=7.4,SNR=14							

ISCJB ***17*** *19:54:09.5±0.4,1832N±003×10258W±003,h42km, mb4.3/24,MS3.8/2,Error ellipse: s-maj=5.3km s-min=3.1km az=51.2*
IDC ***17*** *19:54:11.6±0.8,1842N×10245W,h42km±5km,mb3.9/13, mb1 4.1/13,mb1mx4.0/21,mbtmp4.2/13,MS3.7/4, Ms1 3.7/4,ms1mx3.4/21,Error ellipse: s-maj=29.5km s-min=12.7km az=60.0*
NEIC ***17*** *19:54:14.0,1836N×10251W,h37km,mb4.3/17, MD4.3(MEX),After MEX.*
MEX ***17*** *19:54:14.0±0.8,1836N×10250W,h37km±23km,MD4.3*
ISC 17 19:54:11.7±0.4,1835N±004×10257W±003,h44km,h44km±,9km:pP-P,n68,σ1§13/82,mb4.3/23,MS3.8/2,1C,Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.85**	**44**	⇑*i*P	Pn	19 54 42.1	+1.2
MOIG				*i* S	Sn	19 55 01.6	-1.6
MRX	**Morelia**	**1.87**	**44**	*i* P	Pn	19 54 41.8	+0.6
MRX				*i* S	Sn	19 55 03.3	-0.2
SFJM	**Santa Fe**	**2.17**	**348**	*i* P	Pn	19 54 46.4	+1.1
SFJM				*i* S	Sn	19 55 11.5	+0.6
CAIG	**El Cayaco**	**2.55**	**120**	*i* P	Pn	19 54 49.5	-1.0
CAIG				*i* S	Sn	19 55 18.2	-2.1
MEIG	**Mezcala**	**2.83**	**98**	*e*P	Pn	19 54 54.4	0.0
MEIG				*i* S	Sn	19 55 27.1	-0.1
PLIG	**Platanillo**	**2.91**	**89**	*i* P	Pn	19 54 56.0	+0.5
PLIG				*i* S	Sn	19 55 29.4	+0.3
ACX	**Acapulco**	**2.93**	**120**	*e*P	Pn	19 54 57.0	+1.3
ACX				*i* S	Sn	19 55 29.6	0.0
SZVM	**Salazar**	**3.17**	**72**	*e*P	Pn	19 55 00.0	+1.0
SZVM				*i* S	Sn	19 55 37.0	+1.5
CHVM	**Chichinautzin**	**3.32**	**77**	*e*P	Pn	19 55 01.2	+0.1
CHVM				*i* S	Sn	19 55 41.0	+1.8
UNM	**Universidad Na**	**3.35**	**73**	*i* P	Pn	19 55 01.5	0.0
UNM				*e*P		19 55 02.1	
UNM				*e*P		19 55 03.3	
UNM				*i* S	Sn	19 55 39.3	-0.7
UNM				*i* S	Sn	19 55 40.5	+0.5
UNM				*i* S	Sn	19 55 42.3	+2.2
YAIG	**Yautepec**	**3.35**	**81**	*i* P	Pn	19 55 02.4	+0.9
YAIG				*i* S	Sn	19 55 38.8	-1.4
CIVM	**Cilcuayo**	**3.47**	**77**	*e*P	Pn	19 55 03.9	+0.7
CIVM				*i* S	Sn	19 55 43.7	+0.7
PTVM	**Pico Tres Padr**	**3.49**	**69**	*e*P	Pn	19 55 04.0	+0.6
PTVM				*i* S	Sn	19 55 41.2	-2.3
PPM	**Popocatepetl**	**3.80**	**79**	*e*P	Pn	19 55 06.6	-1.1
PPM				*e*P		19 55 08.6	
PPM				*e*P		19 55 08.8	
PPM				*i* S	Sn	19 55 50.3	-0.8
PPM	**Popocatepetl**	**3.80**	**79**	*e*P	Pn	19 55 06.6	-1.1
PPM				*e*P		19 55 08.6	
PPM				*e*P		19 55 08.8	
PPM				*i* S	Sn	19 55 50.3	-0.8
UTMO	**Huajuapan**	**4.56**	**96**	*e*P	Pn	19 55 19.3	+1.2

UTMO				*i* S	Sn	19 56 08.3	-1.5
PNIG	**Pinotepa**	**4.67**	**114**	*e*P	**Pn**	19 55 18.1	-1.5
VHO	**Vista Hermosa**	**5.70**	**102**	*i* P	**Pn**	19 55 35.7	+1.9
VHO				*i* S	Sn	19 56 39.4	+1.4
OXX	**Oaxaca**	**5.71**	**102**	*e*P	**Pn**	19 55 37.4	+3.5
OXX				*i* S	Sn	19 56 38.3	+0.2
LVIG	**Laguna Verde**	**5.97**	**76**	*e*P	**Pn**	19 55 39.2	+1.7
LVIG				*i* S	Sn	19 56 45.1	+0.5
JCT	**Junction City** 35nm,1.2s	**12.33**	**11**	*e*P	**Pn**	19 57 05.2	+0.6
MNTX	**Cornudas Mount** 26nm,1.2s	**13.53**	**350**	*e*P	**Pn**	19 57 26.2	+5.2
TUC	**Tucson** 17nm,1.3s	**15.75**	**334**	*e*P	**Pn**	19 57 49.9	-0.5
TUC				*e*pP	pP	19 58 09.5	+5.4
BNM	**Barren Site**	**16.14**	**348**	P	**Pn**	19 57 58.2	+2.8
LPM	**Los Pinos Moun**	**16.30**	**348**	P	**Pn**	19 58 02.6	+5.2
LAZ	**Ladron**	**16.50**	**347**	P	**Pn**	19 58 00.7	+0.8
WMOK	**Wichita Mounta** 10nm,0.6s	**16.66**	**11**	*e*P	**Pn**	19 58 02.0	0.0
MIAR	**Mount Ida** 12nm,0.9s	**18.01**	**25**	*e*P	**Pn**	19 58 17.8	-0.8
OXF	**Oxford** 50nm,1.2s	**19.91**	**33**	*e*P	**Pn**	19 58 37.8	-3.7
LRAL	**Lakeview Retre** 8.8nm,0.6s	**20.22**	**41**	*e*P	**P**	19 58 41.2	-1.7
PLAL	**Pickwick Lake** 22nm,1.0s	**20.98**	**35**	*e*P	**P**	19 58 49.0	-2.1
KSU1	**Kansas State U**	**21.31**	**13**	P	**P**	19 58 54.6	0.0
ISCO	**Idaho Springs** 6.9nm,0.9s,mb4.1	**21.53**	**354**	P	**P**	19 58 57.5	+0.5
SRU	**San Rafael** 6.3nm,0.8s,mb4.1	**21.81**	**343**	*e*P	**P**	19 59 00.4	+0.4
MNV	**Mina** 9.8nm,1.1s,mb4.2	**24.19**	**329**	*e*P	**P**	19 59 25.8	+2.0
NVAR	**Mina Array Bea** 3.0nm,0.6s,mb3.9,baz=143,slow=12,SNR=18	**24.26**	**329**	P	**P**	19 59 26.6	+2.1
WCI	**Wyandotte Cave** 44nm,0.8s,mb4.9	**24.37**	**32**	*e*P	**P**	19 59 24.0	-1.6
PDAR	**Pinedale Array** 1.0nm,0.6s,mb3.5,baz=148,slow=8.7,SNR=8.9	**25.05**	**348**	P	**P**	19 59 31.6	-0.1
PDAR				PcP	PcP	20 03 05.8	+0.3
ULM	**Lac du Bonnet** 0.9nm,0.9s,baz=129,slow=2.1,SNR=4.4	**32.27**	**8**	P	**P**	20 00 34.2	-1.8
ULM				PcP	PcP	20 03 22.9	-0.6
SDV	**Santo Domingo** 1.1nm,0.5s,baz=216,slow=6.6,SNR=3.0	**32.38**	**103**	P	**P**	20 00 36.6	-0.4
ULM				LR	LR	20 13 35.0	
FCC	**Fort Churchill** 2.1nm,0.6s,mb4.2,baz=349,slow=5.7,SNR=4.2	**40.83**	**7**	*e*P	**P**	20 01 47.2	-1.7
YKA	**Yellowknife Ar** 2.8nm,0.6s,mb4.1	**44.89**	**352**	P	**P**	20 02 20.4	-1.4
YKA				pP	pP	20 02 31.2	-2.8
YKA				PcP	PcP	20 04 02.7	-0.1
YKW3	**Yellowknife Ar** 1.7nm,0.7s,mb4.0,baz=161,slow=7.6,SNR=34	**44.95**	**352**	*e*P	**P**	20 02 20.4	-1.4
YKA				pP	pP	20 02 31.2	-2.8
YKA				PcP	PcP	20 04 02.7	-0.1
YKA				LR	LR	20 22 37.8	
SAML	**Samuel** 11nm,1.1s,mb4.7	**47.40**	**122**	*e*P	**P**	20 02 40.0	-1.5
SAML				*e*pP	pP	20 02 51.8	-2.0
LPAZ	**La Paz** 1.0nm,0.4s,mb4.2,baz=326,slow=9.6,SNR=7.3	**48.31**	**133**	P	**P**	20 02 49.4	+0.8
LPAZ				pP	pP	20 03 01.6	+0.6
LPAZ	**La Paz** 3.2nm,1.3s,mb4.2	**48.31**	**133**	*e*P	**P**	20 02 49.1	+0.5
LPAZ				*e*pP	pP	20 03 00.9	-0.1
LPAZ				pP	pP	20 03 01.6	+0.6
FRB	**Frobisher Bay** 1.5nm,0.4s,mb4.3,baz=207,slow=11,SNR=3.9	**50.92**	**19**	P	**P**	20 03 07.2	-1.2
FRB				pP	pP	20 03 19.4	-1.4
FRB	**Frobisher Bay** 1.9nm,0.5s,baz=224,slow=13,SNR=5.9	**50.92**	**19**	P	**P**	20 03 07.2	-1.2
FRB				pP	pP	20 03 19.4	-1.4
INK	**Inuvik** 1.2nm,0.4s,mb4.2	**53.60**	**346**	*e*P	**P**	20 03 27.8	-0.6
INK				*e*pP	pP	20 03 39.7	-1.2
ILAR	**Eielson Array** 3.3nm,0.8s,mb4.4,baz=146,slow=6.0,SNR=44	**54.97**	**339**	P	**P**	20 03 38.5	+0.2
ILAR				pP	pP	20 03 50.5	-0.3
ILAR				PcP	PcP	20 04 39.7	0.0
RES	**Resolute Bay** 0.8nm,0.6s,baz=152,slow=2.3,SNR=6.2	**56.50**	**2**	P	**P**	20 03 47.9	-1.4
TTA	**Tatalina** 2.2nm,0.7s,mb4.3,baz=321,slow=7.6,SNR=3.2	**57.51**	**334**	P	**P**	20 03 56.3	-0.1
TTA				*e*pP	pP	20 04 08.1	-0.9
CPUP	**Villa Florida** 4.8nm,0.7s,mb4.7	**62.47**	**134**	*e*P	**P**	20 04 30.2	-0.2
CPUP				*e*pP	pP	20 04 42.1	-1.1
BDFB	**Brasilia** 3.6nm,0.6s,baz=277,slow=9.8,SNR=6.5	**63.46**	**119**	P	**P**	20 04 36.6	-0.3
BDFB				pP	pP	20 04 49.9	+0.2
PLCA	**Paso Flores** 2.2nm,0.7s,mb4.3,baz=321,slow=7.6,SNR=3.2	**65.89**	**154**	P	**P**	20 04 53.6	+0.8
TRQA	**Tornquist** 7.6nm,0.9s,mb4.7	**67.84**	**146**	*e*P	**P**	20 05 05.5	+0.3
BILL	**Bilibino** 2.8nm,1.2s,mb4.1	**73.58**	**337**	P	**P**	20 05 39.4	-0.7
BILL				*e*pP	pP	20 05 52.8	-0.3
ARCES	**ARCESS Array B** 1.6nm,0.7s,mb4.3,baz=317,slow=7.0,SNR=5.1	**85.01**	**16**	P	**P**	20 06 42.3	-0.1
MDT	**Midelt** 1.4nm,0.7s,mb4.3,baz=325,slow=3.6,SNR=4.6	**86.66**	**57**	P	**P**	20 06 51.9	+1.3
MDT				pP	pP	20 07 04.3	+0.5
GERES	**GERESS Array B** 4.3nm,1.0s,baz=292,slow=7.6,SNR=5.0	**92.45**	**36**	P	**P**	20 07 18.0	+0.2
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=50,slow=1.9,SNR=5.1	**115.01**	**356**	PKP	PKiKP	20 12 47.2	-0.5
MKAR	**Makanchi Array**	**115.01**	**356**	PKP	PKiKP	20 12 47.2	-0.5
STKA	**Stephens Creek** 1.7nm,0.9s,baz=34,slow=19,SNR=3.4	**121.11**	**243**	PKP	PKPdf	20 12 58.0	-1.5
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=81,slow=11,SNR=12	**126.44**	**258**	PKP	PKPdf	20 13 10.6	+0.8
ASAR	**Alice Springs** 1.3nm,0.8s,baz=97,slow=2.6,SNR=15	**127.30**	**254**	PKP	PKPdf	20 13 12.3	+1.0
HYB	**Hyderabad**	**144.44**	**358**	*i* PKP	PKPdf	20 13 41.5	-1.5
HYB	**Hyderabad**	**144.44**	**358**	*e*P	PKPdf	20 13 41.5	-1.5

IDC 17 20:32:11.1±5.0,**1255N**×**14570E**,**h59**km±31km,**mb3.4**/5, **mb1 3.6**/5,**mb1mx3.4**/20,**mbtmp3.7**/5,**Error ellipse: s-maj=89.7km s-min=18.5km az=75.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 52nm,0.3s,baz=116,slow=5.7,SNR=18	**1.31**	**322**	P	Pn	20 32 33.1	-0.1
GUMO				S	Sn	20 32 49.8	0.0
WRA	**Warramunga Arr** 1.6nm,0.8s,baz=21,slow=9.9,SNR=18	**34.17**	**199**	P	P	20 38 50.3	-0.4
ASAR	**Alice Springs** 0.7nm,0.6s,baz=19,slow=10,SNR=18	**37.80**	**198**	P	P	20 39 23.5	+1.8
STKA	**Stephens Creek** 3.4nm,1.1s,baz=9.5,slow=7.9,SNR=4.2	**44.35**	**185**	P	P	20 40 14.0	-1.5
SONM	**Songino Array** 0.2nm,0.6s,baz=146,slow=9.3,SNR=2.8	**48.04**	**325**	P	P	20 40 45.4	+1.0
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=95,slow=7.2,SNR=6.8	**62.79**	**316**	P	P	20 42 30.2	-0.3

*MOS **17** 20:44:01.2±0.7, 434N×12461E, h324km, mb4.1/15, Error ellipse: s-maj=18.1km s-min=6.9km az=112.9*
*BJI **17** 20:44:02.0, 481N×12479E, h298km, mB4.8, mb4.2*
*ISCJB **17** 20:44:03.5±0.6, 434N±004×12473E±006, h351km±6km, mb4.1/49, Error ellipse: s-maj=10.1km s-min=5.8km az=145.4*
*IDC **17** 20:44:03.3±2.1, 430N×12460E, h328km±21km, mb3.9/16, mb1 4.0/16, mb1mx3.9/23, mbtmp4.6/16, Error ellipse: s-maj=21.5km s-min=8.8km az=73.0*
*NEIC **17** 20:44:03.4±1.3, 430N×12460E, h331km±14km, mb4.3/19, Error ellipse: s-maj=11.4km s-min=4.8km az=61.0*

ISC 17 20:44:05.1±0.6,**436N**±004×**12475E**±006,**h350**km±6km, **n106**,σ0°96/107,**mb4.1**/49,**7C-8D**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**2.81**	**15**⇑	*e*P	**Pn**	**20 45 04.2**	**+1.5**
DMPH				*e*S	**S**	**20 45 54.3**	**+5.1**
BIPH	**Bislig**	**4.13**	**23**	*i* S	**S**	**20 46 07.6**	**-4.4**
BIPH	**Bislig**	**4.13**	**23**⇑	*i*P	**S**	**20 46 04.7**	**-7.4**
MSLP	**Maasin**	**5.74**	**1**	*e*P	**Pn**	**20 45 30.7**	**-2.2**
TSM	**Tawau**	**6.86**	**270**	P	**Pn**	**20 45 46.6**	**+0.8**
KKM	**Kota Kinabalu**	**8.67**	**282**	P	**Pn**	**20 46 03.1**	**-4.0**
KKM	**Kota Kinabalu**	**8.67**	**282**	*e*P	**Pn**	**20 46 02.7**	**-4.4**
PVCP	**Virac**	**9.20**	**356**	*e*P	**Pn**	**20 46 12.7**	**-0.8**
LUBP	**Lubang**	**10.32**	**335**	*e*P	**Pn**	**20 46 26.8**	**-0.1**
APYP	**Conner**	**13.86**	**346**	*e*P	**Pn**	**20 47 07.8**	**-0.8**
KSM	**Kuching**	**14.71**	**259**	*e*P	**P**	**20 47 15.7**	**-0.7**
KAKA	**Kakadu** 83nm,0.5s	**18.60**	**156**⇓	*i*P	**P**	**20 47 57.7**	**-0.6**
KGM	**Kluang**	**21.52**	**264**	P	**P**	**20 48 27.4**	**+0.5**
FITZ	**Fitzroy Crossi** 18nm,0.6s,mb4.5	**22.33**	**178**⇓	*i*P	**P**	**20 48 33.7**	**-0.5**
IPM	**Ipoh**	**23.66**	**271**	P	**P**	**20 48 46.7**	**+0.5**
MBWA	**Marble Bar**	**25.83**	**191**	*e*P	**P**	**20 49 04.2**	**-1.5**
WRAB	**Tennant Creek**	**25.91**	**159**	*d*P	**P**	**20 49 05.8**	**-0.6**
WRAB	**Tennant Creek** 32nm,0.6s,mb4.7	**25.91**	**159**	*e*P	**P**	**20 49 05.8**	**-0.6**
WRA	**Warramunga Arr** 12nm,0.4s,mb4.5,baz=336,slow=10,SNR=208	**25.92**	**159**	P	**P**	**20 49 05.9**	**-0.5**
WRA	**Warramunga Arr**	**25.92**	**159**	*i* P	**P**	**20 49 05.9**	**-0.6**
WRA	comp=Z,13nm,0.4s			pmax	pmax		
WB2	**Warramunga Arr**	**25.92**	**159**⇓	*i*P	**P**	**20 49 05.9**	**-0.6**
PMG	**Port Moresby** comp=Z,8.2nm,0.6s,mb4.1,baz=350,slow=7.7,SNR=4.2	**26.18**	**122**	P	**P**	**20 49 10.3**	**+1.5**
PMG	**Port Moresby**	**26.18**	**122**⇓	*i*P	**P**	**20 49 10.8**	**+2.0**
SSE	**Sheshan**	**26.81**	**353**	P	**P**	**20 49 14.0**	**-0.4**
SSE	comp=Z,31nm,0.8s,mb4.6			AMB	AMB		
SSE	comp=Z,232nm,4.8s			AMB	AMB		
SSE	comp=N,50nm,20.6s			LR	LR		
SSE	comp=E,53nm,20.6s			LR	LR		
SSE	comp=Z,66nm,16.2s			LR	LR		
NJ2	**Nanjing**	**28.10**	**349**	*e*P	**P**	**20 49 23.4**	**-2.4**
NJ2				XP	sP	20 50 59.0	-13
NJ2				S	**S**	**20 53 42.0**	**-2.5**
NJ2	comp=Z,10.0nm,1.1s,mb4.0			AMB	AMB		
NJ2	comp=Z,160nm,5.3s			AMB	AMB		
NJ2	comp=N,370nm,17.3s			LR	LR		
NJ2	comp=E,700nm,13.4s			LR	LR		
NJ2	comp=Z,220nm,15.3s			LR	LR		
ASAR	**Alice Springs** comp=Z,4.9nm,0.4s,mb4.0,baz=340,slow=7.1,SNR=135	**29.25**	**163**	P	**P**	**20 49 35.9**	**+0.1**
ENH	**Enshi** comp=Z,11nm,0.8s,mb4.2	**29.54**	**332**	*e*P	**P**	**20 49 38.3**	**-0.1**
CTA	**Charters Tower** comp=Z,5.8nm,0.6s,mb4.0	**32.19**	**140**	*e*P	**P**	**20 50 03.1**	**+1.6**
CTA	**Charters Tower** comp=Z,8.0nm,0.7s,mb4.1,baz=324,slow=11,SNR=15	**32.19**	**140**	P	**P**	**20 50 03.4**	**+1.9**
CTA	**Charters Tower**	**32.19**	**140**	*e*P	**P**	**20 50 03.1**	**+1.6**
CTA	comp=Z,6.0nm,0.6s			pmax	pmax		
CTAO	**Charters Tower**	**32.19**	**140**	*e*P	**P**	**20 50 02.6**	**+1.1**
CTAO	comp=Z,8.0nm,0.7s,mb4.1			pmax	pmax		
CTAO	**Charters Tower** comp=Z,8.5nm,0.7s,mb4.1	**32.19**	**140**	*e*P	**P**	**20 50 02.6**	**+1.1**
XAN	**Xi'an**	**33.00**	**335**	P	**P**	**20 50 08.1**	**-0.4**
XAN	comp=Z,24nm,0.6s,mb4.6			AMB	AMB		
MJAR	**Matsushiro Arr** comp=Z,5.8nm,0.7s,mb3.9,baz=193,slow=9.4,SNR=13	**34.34**	**19**	P	**P**	**20 50 19.9**	**0.0**
BJT	**Baijiatuau**	**36.34**	**349**	*e*P	**P**	**20 50 37.0**	**+0.2**
KLBR	**Kellerberrin** comp=Z,8.1nm,0.4s,mb4.3	**36.39**	**190**	*e*P	**P**	**20 50 36.0**	**-1.0**
LZH	**Lanzhou**	**36.99**	**331**	*e*P	**P**	**20 50 43.1**	**+0.9**
LZH	comp=Z,21nm,1.4s,mb4.2			AMB	AMB		
MUN	**Mundaring**	**37.03**	**192**	*e*P	**P**	**20 50 41.6**	**-1.0**
NWAO	**Narrogin (SRO)** comp=Z,8.1nm,0.5s,mb4.2,baz=15,slow=8.1,SNR=15	**37.76**	**190**	P	**P**	**20 50 48.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.76**	**190**	*e*P	**P**	**20 50 47.8**	**-0.8**
STKA	**Stephens Creek** comp=Z,22nm,0.3s,mb4.9	**39.44**	**157**⇓	*i*P	**P**	**20 51 01.8**	**-0.6**
STKA	**Stephens Creek** comp=Z,32nm,0.4s,mb4.9,baz=336,slow=7.7,SNR=148	**39.44**	**157**	P	**P**	**20 51 01.9**	**-0.6**
STKA	**Stephens Creek**	**39.44**	**157**	*e*P	**P**	**20 51 01.4**	**-1.1**
LSA	**Lhasa**	**40.55**	**312**	*e*P	**P**	**20 51 13.3**	**+1.8**
LSA	comp=Z,6.0nm,0.6s,mb4.0			pmax	pmax		
LSA	**Lhasa** comp=Z,5.7nm,0.6s,mb4.0	**40.55**	**312**	*e*P	**P**	**20 51 13.3**	**+1.8**
GTA	**Gaotai**	**41.57**	**331**	P	**P**	**20 51 20.1**	**+0.4**
GTA	comp=Z,6.0nm,0.5s,mb4.0			AMB	AMB		
ASAJ	**Asahikawa** comp=Z,7.5nm,0.4s,mb4.1,baz=138,slow=25,SNR=5.4	**42.61**	**19**	P	**P**	**20 51 29.8**	**+1.7**
ARMA	**Armidale**	**43.09**	**145**	*e*P	**P**	**20 51 34.2**	**+2.4**
JIRN	**Jiri** comp=Z,13nm,0.3s,mb4.5	**43.41**	**306**	*e*P	**P**	**20 51 34.7**	**+0.3**
GUN	**Gumba** comp=Z,21nm,0.4s,mb4.6	**43.77**	**307**	*e*P	**P**	**20 51 37.7**	**+0.5**
PKI	**Pulchoki**	**44.00**	**306**	*e*P	**P**	**20 51 39.8**	**+0.8**
KKN	**Kakani** comp=Z,9.3nm,0.4s,mb4.2	**44.20**	**306**	*e*P	**P**	**20 51 40.2**	**-0.4**
KKN	**Kakani**	**44.20**	**306**	*e*P	**P**	**20 51 40.2**	**-0.4**
KKN	comp=Z,5.0nm,0.4s,mb4.0			pmax	pmax		
DMN	**Daman** comp=Z,3.7nm,0.4s,mb3.9	**44.26**	**306**	*e*P	**P**	**20 51 41.8**	**+0.7**
GKN	**Gorkha** comp=Z,10nm,0.4s,mb4.3	**44.80**	**306**	*e*P	**P**	**20 51 45.2**	**-0.1**
HIA	**Hailar**	**44.95**	**355**	*e*P	**P**	**20 51 46.3**	**-0.2**
HIA	comp=Z,2.0nm,0.6s			pmax	pmax		
HIA	**Hailar** comp=Z,2.3nm,0.6s,mb3.5	**44.95**	**355**	*e*P	**P**	**20 51 46.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**45.20**	**17**	*i* P	**P**	**20 51 48.0**	**-0.4**
KOLN	**Koldanda** comp=Z,17nm,0.3s,mb4.6	**45.55**	**305**	*e*P	**P**	**20 51 51.3**	**+0.2**
ULN	**Ulaanbaatar**	**45.94**	**343**⇓	*i*P	**P**	**20 51 53.8**	**-0.3**
ULN	**Ulaanbaatar** comp=Z,7.2nm,0.9s,mb3.8	**45.94**	**343**	*e*P	**P**	**20 51 55.1**	**+1.0**
TOO	**Toolangi** comp=Z,9.8nm,0.7s,mb4.0	**45.96**	**157**	*e*P	**P**	**20 51 56.3**	**+2.0**
TOO	**Toolangi**	**45.96**	**157**	*e*P	**P**	**20 51 56.3**	**+2.0**
TOO	comp=Z,10.0nm,0.7s,mb4.0			pmax	pmax		
SONM	**Songino Array** comp=Z,3.7nm,0.7s,mb3.7,baz=160,slow=8.0,SNR=39	**46.10**	**343**	P	**P**	**20 51 56.3**	**+0.9**
SONM				PcP	PcP	20 53 27.2	+2.3
SONM	comp=Z,0.6nm,0.6s,baz=171,slow=3.2,SNR=4.6			ScP	ScP	20 56 47.4	+3.4
SONM	**Songino Array** comp=Z,0.4nm,0.9s,baz=152,slow=4.2,SNR=3.8	**46.10**	**343**	P	**P**	**20 51 56.3**	**+0.9**
SONM				PcP	PcP	20 53 27.2	
MOY	**Mondy**	**51.14**	**341**	*e*P	**P**	**20 52 34.6**	**+1.3**
MOY	comp=Z,2.0nm,1.9s			pmax	pmax		
BOD	**Bodaibo**	**53.98**	**353**	*e*P	**P**	**20 52 53.4**	**-0.6**
BOD	comp=Z,4.0nm,0.7s,mb3.9			pmax	pmax		
MK31	**Makanchi Array**	**55.93**	**326**	*i* P	**P**	**20 53 07.7**	**-0.1**
MK31	comp=Z,7.0nm,0.5s,mb4.2			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,6.1nm,0.4s,mb4.3,baz=120,slow=7.8,SNR=248	**55.93**	**326**	P	**P**	**20 53 07.8**	**+0.1**
MKAR				PcP	PcP	20 54 03.0	+1.4
MKAR	comp=Z,0.9nm,0.5s,baz=129,slow=3.5,SNR=5.1			ScP	ScP	20 57 28.5	+2.1
MKAR	**Makanchi Array** comp=Z,0.9nm,0.5s,baz=105,slow=6.0,SNR=10	**55.93**	**326**	*i* P	**P**	**20 53 07.9**	**+0.1**
MKAR	comp=Z,6.0nm,0.4s			pmax	pmax		
MKAR	**Makanchi Array**	**55.93**	**326**	P	**P**	**20 53 07.8**	**+0.1**
MKAR				PcP	PcP	20 54 03.0	+1.4
MKAR				ScP	ScP	20 57 28.5	+2.1
YAK	**Yakutsk**	**57.66**	**3**c	*i*P	**P**	**20 53 19.4**	**-0.4**
YAK	comp=Z,8.0nm,0.7s,mb4.2			pmax	pmax		
KZA	**Kyzart** SNR=6.4	**57.83**	**318**	P	**P**	**20 53 22.9**	**+1.9**
TKM2	**Tokmak 2** SNR=6.2	**57.98**	**319**	P	**P**	**20 53 23.0**	**+1.0**
AAK	**Ala-Archa**	**58.58**	**318**⇑	*e*P	**P**	**20 53 26.1**	**0.0**
AAK	comp=Z,3.0nm,1.7s,mb3.5			pmax	pmax		
MA2	**Magadan**	**58.60**	**15**c	*i*P	**P**	**20 53 27.8**	**+1.5**
MA2	comp=E,1.0nm,0.7s			pmax	pmax		
MA2	comp=Z,7.0nm,0.7s,mb4.2			pmax	pmax		
MA2	comp=N,3.0nm,0.6s			pmax	pmax		
MA2	**Magadan** comp=N,11nm,0.7s,mb4.4	**58.60**	**15**	*e*P	**P**	**20 53 27.8**	**+1.5**
USP	**Ospenovka** SNR=7.2	**58.85**	**319**	P	**P**	**20 53 28.6**	**+0.7**
AML	**Almayashu** SNR=7.4	**58.89**	**317**	P	**P**	**20 53 29.6**	**+1.3**
EKS2	**Erkin-Say** SNR=7.6	**59.06**	**318**	P	**P**	**20 53 30.7**	**+1.3**
ZAL	**Zalesovo** comp=N,1.6nm,0.5s,mb3.7,baz=338,slow=6.0,SNR=7.1	**59.15**	**334**	P	**P**	**20 53 29.8**	**-0.2**
KURK	**Kurchatov**	**60.16**	**328**c	*i*P	**P**	**20 53 36.9**	**0.0**
KURK	**Kurchatov** comp=N,13nm,0.6s,mb4.5	**60.16**	**328**	*e*P	**P**	**20 53 36.4**	**-0.5**
NVS	**Novosibirsk**	**60.44**	**334**	*e*P	**P**	**20 53 36.2**	**-2.5**
KK31	**Karatay Array**	**61.44**	**317**	*i* P	**P**	**20 53 45.1**	**-0.2**
KK31	comp=Z,1.0nm,0.4s,mb3.6			pmax	pmax		
KKAR	**Karatay Array**	**61.44**	**317**	*i* P	**P**	**20 53 45.1**	**-0.2**
BVA0	**Borovoye Array**	**65.73**	**327**	*i* P	**P**	**20 54 13.0**	**-0.2**
BVA0	comp=Z,1.0nm,0.9s,mb3.5			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,1.0nm,0.4s,mb3.9,baz=139,slow=10,SNR=16	**65.73**	**327**	P	**P**	**20 54 13.1**	**-0.1**
BRVK	**Borovoye**	**65.80**	**327**	*e*P	**P**	**20 54 13.2**	**-0.4**
BRVK	comp=Z,6.0nm,1.3s,mb4.2			pmax	pmax		
BRVK	**Borovoye** comp=Z,6.1nm,1.3s,mb4.2	**65.80**	**327**	*e*P	**P**	**20 54 13.2**	**-0.4**
ZRNK	**Zerenda**	**66.44**	**327**	*e*P	**P**	**20 54 16.9**	**-0.8**
ZRNK	comp=Z,4.0nm,0.6s,mb4.3			pmax	pmax		
ZRNK	**Zerenda** comp=Z,3.8nm,0.6s,mb4.3	**66.44**	**327**	*e*P	**P**	**20 54 16.9**	**-0.7**
TIXI	**Tiksi**	**67.26**	**1**⇑	*i*P	**P**	**20 54 22.0**	**-0.8**
TIXI	comp=Z,2.0nm,0.5s,mb4.1			pmax	pmax		
AB31	**Akbulak array**	**70.42**	**321**	*e*P	**P**	**20 54 41.9**	**-0.2**
AB31	comp=Z,3.0nm,0.8s,mb4.1			pmax	pmax		
ARU	**Arti**	**73.36**	**328**⇑	*i*P	**P**	**20 54 58.8**	**-0.6**
ARU				*e*		20 57 45.2	
ARU				*e*PPP		20 59 36.0	
ARU				*e*S	S	21 03 59.2	+0.2
ARU				*e*		21 04 35.0	
ARU				*e*SS	SS	21 08 48.8	-0.5
ARU	comp=Z,5.0nm,0.8s,mb4.3			pmax	pmax		
ARU	**Arti** comp=Z,6.2nm,0.6s,mb4.5	**73.36**	**328**	*e*P	**P**	**20 54 57.5**	**-1.8**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,mb3.4,baz=252,slow=4.6,SNR=6.4	**85.39**	**25**	P	**P**	**20 56 03.6**	**-0.1**
OBN	**Obninsk**	**85.42**	**325**	*e*P	**P**	**20 56 03.4**	**-0.4**
OBN				*e*PP	pP	20 57 20.9	-4.0
OBN	comp=Z,8.0nm,0.5s,mb4.8			pmax	pmax		
JOF	**Joensuu**	**87.73**	**333**	*e*p	**P**	**20 56 14.3**	**-0.6**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.7s,mb3.6,baz=120,slow=4.6,SNR=6.6	**88.10**	**310**	P	**P**	**20 56 17.0**	**+0.4**
BRTR	**Keskin Array B**	**88.10**	**310**	*i* P	**P**	**20 56 16.8**	**+0.2**
BRTR	comp=Z,1.0nm,0.7s			pmax	pmax		
BRTR	**Keskin Array B**	**88.10**	**310**	P	**P**	**20 56 17.0**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,2.5nm,0.7s,mb4.2,baz=72,slow=5.8,SNR=7.5	**89.18**	**340**	P	**P**	**20 56 20.5**	**-1.2**
KAF	**Kangasniemi**	**90.13**	**332**	*e*p	**P**	**20 56 24.9**	**-1.2**
FINES	**FINESS Array B** comp=Z,1.6nm,0.6s,mb4.2,baz=44,slow=6.0,SNR=16	**90.35**	**332**	P	**P**	**20 56 27.1**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=56,slow=1.6,SNR=3.7	**120.85**	**288**	PKP	PKPdf	21 02 17.1	+1.1

*ISCJB **17** 21:44:43.8±0.3, 1419N±005×12067E±009, h241km±3km, mb3.7/16, Error ellipse: s-maj=14.8km s-min=7.0km az=142.7*
*IDC **17** 21:44:44.9±0.5, 1422N×12086E, h234km±4km, mb3.4/9, mb1 3.5/9, mb1mx3.3/20, mbtmp3.9/9, Error ellipse: s-maj=99.1km s-min=10.8km az=66.0*
*NEIC **17** 21:44:45.0±0.6, 1416N×12083E, h240km±6km, mb3.8/5, Error ellipse: s-maj=34.2km s-min=6.3km az=66.0*
*MAN **17** 21:44:46.4, 1426N×12054E, h206km, mb2.8, ML4.2, MS3.3*

ISC 17 21:44:44.9±0.3,**1420N**±005×**12068E**±009,**h234**km±3km, **n42**,σ0°98/45,**mb3.7**/16,**2C-2D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAZ	**Puerto Azul**	**0.03**	**357**⇓	*e*P	**Pn**	**21 45 15.0**	**-0.1**
TGY	**Tagaytay City** 166nm,0.3s,baz=205,slow=2.2,SNR=16	**0.27**	**111**	P	**Pn**	**21 45 16.1**	**+0.8**
TGY	179nm,0.3s,baz=221,slow=22,SNR=8.0			S	**S**	**21 45 39.7**	**+0.6**
QVPH	**Quezon City--P**	**0.58**	**39**⇓	*e*P	**Pn**	**21 45 16.3**	**+0.1**
LUBP	**Lubang**	**0.62**	**222**	*e*P	**Pn**	**21 45 14.8**	**-1.5**
LUBP				*e*S	**S**	**21 45 37.4**	**-3.5**
PGP	**Puerto Galera**	**0.74**	**159**⇑	*i*P	**Pn**	**21 45 16.7**	**-0.1**
POLP	**Polillo Island**	**1.33**	**67**	*e*P	**Pn**	**21 45 21.6**	**+1.2**
BOAC	**Boac**	**1.35**	**123**	*e*P	**Pn**	**21 45 20.4**	**-0.1**
SCZP	**Santa Cruz**	**1.73**	**335**	*e*P	**Pn**	**21 45 22.5**	**-1.1**
SJMP	**San Jose**	**1.78**	**166**	*e*P	**Pn**	**21 45 24.9**	**+0.9**
BCPH	**Baguio City Da**	**2.17**	**358**⇑	*i*P	**Pn**	**21 45 27.5**	**-0.2**
BCPH				*i* S	**S**	**21 45 59.1**	**-2.1**
BUSP	**Coron**	**2.23**	**192**	*e*P	**P

2.6nm,0.8s,mb3.9,baz=79,slow=6.3,SNR=5.9
ARCES **ARCESS Array B 78.61 339** P **P 21 56 20.5 -0.3**
FINES **FINESS Array B 79.84 331** P **P 21 56 26.7 -0.7**
0.7nm,0.7s,mb3.4,baz=23,slow=4.5,SNR=3.5

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*ISCJB **17** 21:45:49.2±0.8, 4312N±004×033W±004, h11km±14km, Error ellipse: s-maj=7.1km s-min=4.6km az=177.7*
*MDD **17** 21:45:50.7±0.4, 4310N×036W, h0km, mbLg1.2/7, Error ellipse: s-maj=3.5km s-min=1.6km az=9.0, PRXIMO*
*LDG **17** 21:45:50.5±0.1, 4306N×036W, h2km, Md1.5/2, Ml1.6/2, Error ellipse: s-maj=4.9km s-min=2.4km az=165.0*

ISC 17 21:45:50.3±0.6, 4309N±004×034W±004, h6km±16km, n21, σ0§74/20, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.04**	**236**	Pg	**Pg**	**21 45 51.8**	**+0.2**
REYF				Lg		21 45 53.1	
ETSF	**Etsaut**	**0.25**	**219**	*e*Pg	**Pg**	**21 45 54.7**	**-0.6**
ETSF				*e*Sg	**Sg**	**21 45 58.0**	**-0.6**
9.3nm,0.2s							
ETSF	**Etsaut**	**0.25**	**219**	Pg	**Pg**	**21 45 54.7**	**-0.6**
ETSF				Lg		21 45 58.0	
4.7nm,0.2s							
ATE	**Arette**	**0.26**	**268**	Pg	**Pg**	**21 45 54.6**	**-0.9**
ATE				Lg		21 45 58.1	
VIEF	**Viey**	**0.34**	**128**	Pg	**Pg**	**21 45 57.1**	**+0.2**
VIEF				Lg		21 46 02.2	
EPF	**Esparros**	**0.50**	**97**	*e*Pg	**Pg**	**21 46 00.6**	**+0.6**
EPF				*e*Sg	**Sg**	**21 46 07.6**	**+1.0**
4.6nm,0.3s							
EPF	**Esparros**	**0.50**	**97**	Pg	**Pg**	**21 46 00.6**	**+0.6**
EPF				Lg		21 46 07.6	
2.3nm,0.3s							
EBIE	**Bielsa**	**0.54**	**139**	⇓Pg	**Pg**	**21 46 00.8**	**0.0**
0.4nm,0.1s,SNR=18							
EBIE				Lg		21 46 08.2	
6.3nm,0.1s,SNR=25							
SJPF	**Ste Jean**	**0.65**	**272**	*e*Pg	**Pg**	**21 46 02.8**	**0.0**
SJPF				*e*Sg	**Sg**	**21 46 11.0**	**-0.2**
3.3nm,0.2s							
SJPF	**Ste Jean**	**0.65**	**272**	Pg	**Pg**	**21 46 02.8**	**0.0**
SJPF				Lg		21 46 11.0	
1.6nm,0.2s							
EALK	**Alkurruntz**	**0.86**	**279**	Pg	**Pg**	**21 46 07.3**	**+0.4**
0.8nm,0.1s,SNR=4.0							
EALK				Lg		21 46 18.2	
1.1nm,0.1s,SNR=4.0							
ELIZ	**Elizondo**	**0.87**	**275**	Pg	**Pg**	**21 46 09.4**	**+2.3**
0.9nm,0.2s,SNR=4.0							
ELIZ				Lg		21 46 18.7	
0.8nm,0.1s,SNR=4.0							
IUSE	**Utxeti**	**0.90**	**261**	Lg		21 46 19.0	
0.6nm,0.1s,SNR=4.0							
EGRA	**Graus**	**1.02**	**151**	Pg	**Pg**	**21 46 10.4**	**+0.5**
0.3nm,0.1s,SNR=7.9							
EGRA				Lg		21 46 24.7	
0.4nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.38**	**184**	Pg	**Pg**	**21 46 16.3**	**-0.4**
4.0nm,0.1s,SNR=4.0							
ESAC				Lg		21 46 35.1	
5.9nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**1.82**	**130**	Pg	**Pg**	**21 46 25.0**	**-0.2**
0.3nm,0.1s,SNR=4.0							
EMIR				Lg		21 46 49.3	
2.0nm,0.1s,SNR=4.0							
MTLF	**Montolieu**	**1.89**	**82**	*e*Sg	**Sg**	**21 46 49.7**	**-1.3**
0.3nm,0.2s							
MTLF	**Montolieu**	**1.89**	**82**	Lg		21 46 49.7	
0.2nm,0.2s							
LFF	**La Frestale**	**2.00**	**23**	*e*Sg	**Sg**	**21 46 54.2**	**-0.5**
1.3nm,0.2s							
LFF	**La Frestale**	**2.00**	**23**	Lg		21 46 54.2	
0.6nm,0.2s							
ERTA	**Horta de San J**	**2.19**	**167**	Lg		21 46 59.2	
0.6nm,0.2s,SNR=7.9							

NNC 17 21:50:09.4±1.5, 3780N×7322E, h280km±13km, mb2.0, mpv3.1, 3C, Error ellipse: s-maj=19.9km s-min=10.0km az=17.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**340**	P	Pn	21 51 34.4	-0.1
0.7nm,0.3s,baz=156,slow=11,SNR=49							
KK31				⇑S	S	21 52 43.0	+0.4
1.9nm,0.5s,baz=184,slow=16,SNR=20							
MK31	**Makanchi Array**	**11.21**	**34**	P	Pn	21 52 42.6	0.0
0.9nm,0.7s,baz=117,slow=9.2,SNR=11							
AB31	**Akbulak array**	**14.94**	**324**	⇑P	Pn	21 53 26.6	-1.1
0.3nm,0.5s,baz=148,slow=11,SNR=6.3							
AKTO	**Aktyubinsk**	**16.65**	**324**	⇑P	P	21 53 45.5	0.0
0.1nm,0.3s							

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*NEIC **17** 21:56:13.9, 3735S×17782E, h107km, MG3.8(WEL), After WEL.*

WEL 17 21:56:14.0±0.2, 3736S×17781E, h107km±2km, ML3.7/11, 3C-3D, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.45**	**118**	⇑PN	Pn	21 56 30.0	-0.1
MXZ				SN	Sn	21 56 42.4	+0.2
MXZ	**Matakaoa Point**	**0.45**	**118**	P	Pn	21 56 30.0	-0.1
MXZ				S	Sn	21 56 42.4	+0.2
PUZ	**Puketiti**	**0.80**	**154**	⇑PN	Pn	21 56 32.9	0.0
PUZ				SN	Sn	21 56 47.3	+0.2
PUZ	**Puketiti**	**0.80**	**154**	P	Pn	21 56 32.9	0.0
PUZ				S	Sn	21 56 47.3	+0.2
MWZ	**Matawai**	**1.00**	**193**	PN	Pn	21 56 35.1	+0.2
MWZ				SN	Sn	21 56 50.7	0.0
MWZ	**Matawai**	**1.00**	**193**	P	Pn	21 56 35.1	+0.2
URZ	**Urewera**	**1.06**	**211**	⇓PN	Pn	21 56 35.4	-0.1
URZ				SN	Sn	21 56 52.0	+0.3
URZ	**Urewera**	**1.06**	**211**	P	Pn	21 56 35.4	-0.1
MARZ	**Manawahe**	**1.10**	**235**	⇓PN	Pn	21 56 36.0	+0.1
MARZ				*e*SN	Sn	21 56 52.5	0.0
MARZ	**Manawahe**	**1.10**	**235**	P	Pn	21 56 36.0	+0.1
MARZ				S	Sn	21 56 52.9	+0.4
KNZ	**Kokohu**	**1.67**	**184**	⇑PN	Pn	21 56 42.4	-0.2
KNZ				SN	Sn	21 57 03.9	-0.5
KUZ	**Kuaotunu**	**1.78**	**289**	⇓PN	Pn	21 56 44.1	+0.2
KUZ	**Kuaotunu**	**1.78**	**289**	*e*P	Pn	21 56 44.1	+0.1
BKZ	**Black Stump Fm**	**2.08**	**209**	PN	Pn	21 56 47.6	-0.2
BKZ	**Black Stump Fm**	**2.08**	**209**	*e*P	Pn	21 56 47.6	-0.3
KATZ	**Kakaramea**	**2.32**	**225**	PN	Pn	21 56 51.8	+0.9
KRVZ	**Karewarewa**	**2.43**	**224**	PN	Pn	21 56 53.0	+0.6
WTVZ	**West Tongariro**	**2.48**	**224**	PN	Pn	21 56 53.5	+0.5
NGZ	**Ngauruhoe**	**2.51**	**223**	PN	Pn	21 56 53.8	+0.4
NGZ	**Ngauruhoe**	**2.51**	**223**	P	Pn	21 56 53.8	+0.4
TWVZ	**Taurewa**	**2.53**	**227**	PN	Pn	21 56 54.1	+0.4
TWVZ	**Taurewa**	**2.53**	**227**	P	Pn	21 56 54.1	+0.4
TUVZ	**Tukino**	**2.55**	**221**	PN	Pn	21 56 53.8	-0.1
TUVZ	**Tukino**	**2.55**	**221**	P	Pn	21 56 53.7	-0.2
FWVZ	**Far West T-bar**	**2.60**	**222**	*e*PN	Pn	21 56 54.5	0.0
MOVZ	**Moawhango**	**2.61**	**218**	PN	Pn	21 56 54.0	-0.7
MOVZ	**Moawhango**	**2.61**	**218**	P	Pn	21 56 54.0	-0.7
WNVZ	**Wahianoa**	**2.62**	**221**	PN	Pn	21 56 54.7	-0.2
WNVZ	**Wahianoa**	**2.62**	**221**	P	Pn	21 56 54.8	-0.1
PXZ	**Pawanui**	**2.77**	**195**	PN	Pn	21 56 54.9	-1.9
TSZ	**Takapari Road**	**3.06**	**208**	*e*P	Pn	21 56 58.6	-2.1
WAZ	**Wanganui**	**3.26**	**222**	*e*P	Pn	21 57 03.2	-0.1
BFZ	**Birch Farm**	**3.54**	**200**	*e*P	Pn	21 57 04.4	-2.6
MRZ	**Mangatainoka R**	**3.73**	**207**	*e*P	Pn	21 57 06.9	-2.7
MTW	**Mount Morrison**	**4.20**	**205**	P	Pn	21 57 12.4	-3.5

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*LDG **17** 22:01:56.2±0.5, 4306N×168W, h2km, Md2.1/2, Ml2.1/1*

MDD 17 22:01:57.6±0.3, 4307N×163W, h0km, mbLg1.7/11, 1C-1D, Error ellipse: s-maj=3.2km s-min=0.9km az=99.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.12**	**39**	⇑Pg	Pg	22 01 59.8	-0.2
20nm,0.1s,SNR=18							
ELIZ				Lg		22 02 02.1	
48nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.14**	**153**	⇓Pg	Pg	22 02 00.1	-0.1
16nm,0.1s,SNR=18							
IUSE				Lg		22 02 02.5	
47nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**0.18**	**31**	Pg	Pg	22 02 00.6	-0.4
5.8nm,0.1s,SNR=7.9							
EALK				Lg		22 02 03.5	
33nm,0.2s,SNR=34							
EARA	**Aranguren**	**0.30**	**172**	Pg	Pg	22 02 03.1	-0.3
1.0nm,0.0s,SNR=4.0							
EARA				Lg		22 02 07.5	
63nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.30**	**81**	*e*Pg	Pg	22 02 02.8	-0.6
SJPF				*e*Sg	Sg	22 02 06.7	-0.6
114nm,0.3s							
SJPF	**Ste Jean**	**0.30**	**81**	Pg	Pg	22 02 02.8	-0.6
SJPF				Lg		22 02 06.7	
57nm,0.3s							
IUNC	**Unciti**	**0.33**	**162**	Pg	Pg	22 02 03.5	-0.4
2.5nm,0.1s,SNR=7.9							
IUNC				Lg		22 02 08.3	
7.6nm,0.1s,SNR=7.9							
OSSF	**Osses**	**0.33**	**55**	Pg	Pg	22 02 03.3	-0.6
OSSF				Lg		22 02 07.9	
IPRE	**Itoiz**	**0.33**	**142**	Pg	Pg	22 02 03.8	-0.2
1.2nm,0.1s,SNR=7.9							
IPRE				Lg		22 02 08.7	
11nm,0.2s,SNR=8.5							
ECRI	**Cripan**	**0.79**	**235**	Pg	Pg	22 02 12.6	-0.2
1.7nm,0.1s,SNR=4.0							
ECRI				Lg		22 02 22.7	
1.3nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.81**	**102**	*e*Pg	Pg	22 02 11.8	-1.3
ETSF				*e*Sg	Sg	22 02 23.2	-0.3
7.0nm,0.3s							
ETSF	**Etsaut**	**0.81**	**102**	Pg	Pg	22 02 11.8	-1.3
ETSF				Lg		22 02 23.2	
3.5nm,0.3s							
EBIE	**Bielsa**	**1.36**	**106**	Pg	Pg	22 02 23.1	-0.6
0.9nm,0.1s,SNR=22							
EBIE				Lg		22 02 41.2	
3.0nm,0.1s,SNR=11							
EPF	**Esparros**	**1.45**	**91**	*e*Pg	Pg	22 02 23.9	-1.5
EPF				*e*Sg	Sg	22 02 43.1	-1.0
3.3nm,0.3s							
EPF	**Esparros**	**1.45**	**91**	Pg	Pg	22 02 23.9	-1.5
EPF				Lg		22 02 43.1	
1.6nm,0.3s							
ESAC	**San Caprasio**	**1.60**	**147**	Lg		22 02 48.6	
9.7nm,0.2s,SNR=5.1							
EGRA	**Graus**	**1.68**	**121**	Pg	Pg	22 02 28.9	-0.9
0.5nm,0.2s,SNR=7.9							
EGRA				Lg		22 02 51.9	
0.6nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.57**	**145**	Lg		22 03 20.3	
0.6nm,0.1s,SNR=4.0							

SKHL 17 22:13:32.8±0.0, 5300N×14280E, h10km, mb3.9/2, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.56**	**8**	⇓*i*Pg	Pg	22 13 45.0	+1.4
OKH				AMB	AMB	22 13 45.1	
200nm,0.5s							
OKH				*e*rx	rx	22 13 47.1	
OKH				*i* Sg	Sg	22 13 53.4	+2.5
OKH				A		22 13 55.0	
1μm,0.5s							
OKH				A		22 13 55.0	
2μm,0.5s							
NKL	**Nikolayevsk**	**1.29**	**278**	*i* Pg	Pg	22 13 58.0	+0.5
NKL				AMB	AMB	22 13 59.6	
20nm,0.3s							
NKL				*e*Sg	Sg	22 14 15.5	+1.2
NKL				A		22 14 19.0	
250nm,0.5s							
NKL				A		22 14 19.0	
200nm,0.5s							
TYV	**Tymovskoe**	**2.14**	**182**	*e*rx	rx	22 14 20.3	
TYV				*e*Sn	Sn	22 14 36.8	+1.6
TYV				*e*Sg	Sg	22 14 45.2	+3.6
TYV				A		22 14 47.1	
9.0nm,0.6s							
EKMR	**Ekimchan**	**5.94**	**275**	*e*Pg	Pg	22 15 30.0	+3.4
EKMR				*e*Sg	Sg	22 16 51.0	+7.4
EKMR				A		22 16 53.1	
8.0nm,0.5s							

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*JMA **17** 22:56:27.8±0.9, 4665N×15289E, h30km, M4.4*
*ISCJB **17** 22:56:30.6±1.5, 462N±02×1527E±02, h82km±14km, mb4.3/9, Error ellipse: s-maj=35.3km s-min=12.4km az=120.1*
*NAO **17** 22:56:31.6, 4654N×14988E, h33km, mb4.1*
*MOS **17** 22:56:33.8±3.0, 4759N×15046E, h3km, mb4.4/1, Error ellipse: s-maj=27.8km s-min=18.2km az=73.3*
*NEIC **17** 22:57:16.6±5.0, 4781N×15035E, h390km±52km, mb3.9/4, Error ellipse: s-maj=30.0km s-min=10.4km az=158.0*
*IDC **17** 22:57:16.9±6.9, 4788N×15036E, h388km±66km, mb3.0/8, mb1 3.1/8, mb1mx3.0/20, mbtmp3.7/8, Error ellipse: s-maj=59.6km s-min=20.5km az=169.0*

ISC 17 22:56:31.5±1.4, 464N±02×1527E±02, h66km±14km, n36, σ1§40/41, mb4.3/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.56**	**253**	*e*PN	**Pn**	**22 57 22.4**	**-1.9**
KUR				S	**Sn**	**22 58 05.0**	**-0.1**
KUR				pmax	pmax		
comp=N,50nm,0.4s							
KUR				pmax	pmax		
comp=E,60nm,0.4s							
KUR				pmax	pmax		
comp=Z,110nm,0.4s							
KUR				smax			
comp=N,80nm,0.5s							
KUR				smax			
comp=E,210nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.36**	**247**	PN	**Pn**	**22 57 48.5**	**-0.4**
YUK				*e*S	**Sn**	**22 58 55.0**	**+5.8**
YUK				smax			
comp=N,360nm,0.5s							
YUK				smax			
comp=E,280nm,0.5s							
NEM2	**Nemuro 2**	**5.78**	**241**	P	**Pn**	**22 57 54.1**	**-0.5**
NEM2				*e*S	**Sn**	**22 58 57.9**	**-1.6**
JRA	**Rausu**	**5.88**	**248**	P	**Pn**	**22 57 57.8**	**+1.8**
JNK	**Nakash**	**6.30**	**247**	P	**Pn**	**22 58 03.1**	**+1.3**
JNK				*e*S	**Sn**	**22 59 12.7**	**+0.4**
JAK	**Akkeshi**	**6.62**	**242**	P	**Pn**	**22 58 05.8**	**-0.3**
JAK				*e*S	**Sn**	**22 59 18.8**	**-1.3**
JTKR	**Abashiri--Toko**	**6.65**	**252**	P	**Pn**	**22 58 08.8**	**+2.2**
JAR	**Ashorobuto**	**7.04**	**247**	P	**Pn**	**22 58 13.4**	**+1.5**
JAR				*e*S	**Sn**	**22 59 32.8**	**+2.3**
JOB	**Onbets**	**7.20**	**244**	P	**Pn**	**22 58 14.3**	**+0.2**
JOB				*e*S	**Sn**	**22 59 33.5**	**-0.9**
JKK2	**Kamakawa 2**	**7.46**	**254**	P	**Pn**	**22 58 20.0**	**+2.4**
ASAJ	**Asahikawa**	**7.47**	**256**	P	**Pn**	**22 58 21.2**	**+3.4**
JCH	**Churui**	**7.65**	**244**	P	**Pn**	**22 58 20.2**	**0.0**
JCH				*e*S	**Sn**	**22 59 43.7**	**-1.7**
JBT2	**Biratori 2**	**8.20**	**248**	P	**Pn**	**22 58 28.6**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.21**	**244**	P	**Pn**	**22 58 27.7**	**-0.2**
JKB	**Kayabe**	**9.50**	**246**	P	**Pn**	**22 58 45.1**	**-0.4**
JYM2	**Yakumo 2**	**9.80**	**249**	P	**Pn**	**22 58 49.6**	**-0.1**
JANG	**Nango**	**10.10**	**238**	P	**Pn**	**22 58 51.2**	**-2.5**
JTM	**Tenmabayashi**	**10.10**	**241**	P	**Pn**	**22 58 51.7**	**-2.1**
OFUJ	**Ofunato**	**10.89**	**232**	*e*S	**Sn**	**23 00 56.2**	**-8.4**
SONM	**Songino Array**	**31.19**	**290**	P	**P**	**23 02 43.7**	**-0.6**
comp=E,0.3nm,0.8s,baz=94,slow=9.1,SNR=2.8							
ILAR	**Eielson Array**	**37.03**	**38**	P	pP	23 03 49.6	-1.5
comp=E,0.3nm,0.7s,baz=252,slow=6.8,SNR=3.2							
MKAR	**Makanchi Array**	**46.86**	**297**	P	**P**	**23 04 53.8**	**-1.2**
comp=E,0.5nm,0.5s,mb3.5,baz=60,slow=6.6,SNR=9.1							
MKAR				PcP	PcP	23 06 27.3	+0.4
comp=E,0.2nm,0.4s,baz=69,slow=2.1,SNR=5.1							
BVAR	**Borovoye Array**	**50.88**	**310**	P	**P**	**23 05 23.8**	**-1.9**
comp=E,0.4nm,0.4s,mb3.8,baz=44,slow=8.0,SNR=6.9							
BVAR				PcP	PcP	23 06 41.6	+0.1
comp=E,0.4nm,0.5s,baz=104,slow=2.1,SNR=4.8							
JIRN	**Jiri**	**54.68**	**275**	*e*P	**P**	**23 05 55.6**	**+1.8**
comp=E,11nm,0.7s,mb5.0							
GUN	**Gumba**	**54.74**	**275**	*e*P	**P**	**23 05 55.3**	**+1.1**
KKN	**Kakani**	**55.23**	**275**	*e*P	**P**	**23 05 59.3**	**+1.6**
comp=E,6.7nm,0.6s,mb4.8							
KKN	**Kakani**	**55.23**	**275**	*e*P	**P**	**23 05 59.3**	**+1.6**
KKN				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
DMN	**Daman**	**55.46**	**275**	*e*P	**P**	**23 06 01.0**	**+1.6**
GKN	**Gorkha**	**55.54**	**276**	*e*P	**P**	**23 06 01.4**	**+1.4**
comp=Z,7.9nm,0.6s,mb5.0							
KOLN	**Koldanda**	**56.40**	**276**	*e*P	**P**	**23 06 07.3**	**+1.2**
comp=Z,9.4nm,0.7s,mb4.9							
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**23 06 58.1**	**-1.6**
comp=Z,1.5nm,0.6s,mb4.0,baz=31,slow=9.0,SNR=14							
PDAR	**Pinedale Array**	**65.21**	**53**	P	pP	23 07 20.6	-2.9
comp=Z,0.1nm,0.3s,baz=38,slow=2.6,SNR=3.7							
NB2	**NORSAR Subarra**	**68.50**	**341**	P	**P**	**23 07 25.0**	**-1.8**
comp=Z,1.2nm,0.6s,mb3.9,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.50**	**341**	P	**P**	**23 07 25.2**	**-1.6**
comp=Z,1.3nm,0.6s,mb3.9,baz=27,slow=6.2,SNR=5.0							
AKASG	**Malin Array Be**	**71.70**	**326**	P	**P**	**23 07 44.8**	**-1.6**
comp=Z,1.3nm,0.3s,mb4.2,baz=34,slow=6.1,SNR=6.9							
CBN	**Corbin**	**84.60**	**37**	P	PcP	23 09 06.1	+5.0
comp=Z,76nm,0.8s							

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*MAN **17** 23:12:04.5, 483N×12552E, h84km, mb4.3, ML5.2, MS5.7*
*NEIC **17** 23:12:12.8±0.3, 554N×12538E, h35km, mb4.4/22, Error ellipse: s-maj=12.5km s-min=5.6km az=64.0*
*ISCJB **17** 23:12:14.0±0.8, 549N±004×12537E±007, h64km±7km, mb4.3/30, Error ellipse: s-maj=12.4km s-min=6.7km az=141.8*
*IDC **17** 23:12:16.8±3.3, 546N×12524E, h75km±28km, mb4.0/12, mb1 4.2/12, mb1mx3.9/22, mbtmp4.3/12, MS3.8/3, Ms1 3.8/3, ms1mx3.1/34, Error ellipse: s-maj=37.5km s-min=10.7km az=69.0*

ISC 17 23:12:15.8±0.8, 550N±005×12543E±007, h64km±7km, n53, σ1§12/60, mb4.3/30, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.53**	**347**	⇓*i*P	**Pn**	**23 12 42.5**	**+1.5**
DAV	**Davao City (W)**	**1.56**	**5**	Pn	**Pn**	**23 12 39.3**	**-2.2**
DMPH	**Davao City--Mi**	**1.57**	**3**	*e*P	**Pn**	**23 12 39.7**	**-1.8**
DMPH				*i* S	**Sn**	**23 13 07.5**	**+6.6**
BUKP	**Musuan**	**2.39**	**351**	*e*P	**Pn**	**23 12 52.1**	**-0.4**
BUKP				*e*S	**Sn**	**23 13 27.5**	**+6.8**
BIPH	**Bislig**	**2.82**	**19**	⇓*e*P	**Pn**	**23 12 57.2**	**-1.2**
BIPH				*i* S	**Sn**	**23 13 31.2**	**0.0**
CGP	**Cagayan de Oro**	**3.02**	**346**	⇓*e*P	**Pn**	**23 13 04.1**	**+2.9**
CGP				*i* S	**Sn**	**23 13 46.0**	**+10**
PAGZ	**Pagadian**	**3.09**	**319**	*e*P	**Pn**	**23 13 00.3**	**-1.9**
SCPH	**Surigao**	**4.25**	**1**	*e*P	**Pn**	**23 13 18.9**	**+0.9**
SCPH				*e*S	**Sn**	**23 14 08.6**	**+2.3**
KAKA	**Kakadu**	**19.39**	**159**	*e*P	**Pn**	**23 16 37.2**	**-0.9**
17nm,0.6s							
QIZ	**Qiongzhong**	**20.29**	**313**	P	**P**	**23 16 46.1**	**-0.1**
204nm,1.7s							
FITZ	**Fitzroy Crossi**	**23.46**	**180**	⇑*i*P	**P**	**23 17 19.0**	**-0.5**
3.6nm,0.3s,mb4.3							
PMG	**Port Moresby**	**26.23**	**124**	P	**P**	**23 17 46.8**	**+2.1**
7.2nm,0.7s,mb4.3,baz=330,slow=8.4,SNR=4.0							
PMG				LR	LR	23 28 16.8	
comp=Z,41nm,21.0s,baz=247,slow=36							
PMG	**Port Moresby**	**26.23**	**124**	*e*P	**P**	**23 17 45.9**	**+1.2**
8.9nm,0.6s,mb4.5							
PMG				LR	LR	23 28 16.8	
WRAB	**Tennant Creek**	**26.76**	**161**	*e*P	**P**	**23 17 49.3**	**-0.1**
6.7nm,0.4s,mb4.5							
WRAB				*e*		23 20 55.6	
WRA	**Warramunga Arr**	**26.76**	**161**	P	**P**	**23 17 49.6**	**+0.2**
3.6nm,0.4s,mb4.3,baz=341,slow=10,SNR=30							
WRA				S	**S**	**23 22 20.9**	**+0.2**
0.8nm,1.0s,baz=343,slow=17,SNR=2.9							
WB2	**Warramunga Arr**	**26.77**	**161**	*e*P	**P**	**23 17 49.5**	**0.0**
WB2				*e*S	**S**	**23 22 18.1**	**-2.6**
MBWA	**Marble Bar**	**27.08**	**192**	*e*P	**P**	**23 17 52.1**	**-0.3**
8.6nm,0.8s,mb4.3							
ENH	**Enshi**	**28.86**	**330**	P	**P**	**23 18 07.0**	**-1.1**
2.2nm,0.4s,mb4.2							
ASAR	**Alice Springs**	**30.15**	**164**	P	**P**	**23 18 20.1**	**+0.5**
1.8nm,0.3s,mb4.2,baz=340,slow=6.9,SNR=63							
ASAR				PcP	PcP	23 21 20.5	+1.0
0.9nm,0.3s,baz=342,slow=2.5,SNR=8.5							
ASAR				S	**S**	**23 23 15.2**	**+1.2**
0.5nm,1.0s,baz=334,slow=14,SNR=4.0							
CTA	**Charters Tower**	**32.65**	**142**	*e*P	**P**	**23 18 43.8**	**+2.2**
1.5nm,0.5s,mb4.2							
CTA	**Charters Tower**	**32.65**	**142**	P	**P**	**23 18 43.8**	**+2.2**
1.8nm,0.4s,mb4.3,baz=316,slow=11,SNR=5.7							
CTAO	**Charters Tower**	**32.65**	**142**	*e*P	**P**	**23 18 43.7**	**+2.1**
1.9nm,0.6s,mb4.2							
BJT	**Baijiatuau**	**35.36**	**348**	P	**P**	**23 19 05.7**	**+0.6**
5.2nm,0.5s,mb4.7							
STKA	**Stephens Creek**	**40.24**	**158**	*e*P	**P**	**23 19 45.2**	**-1.0**
8.6nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**40.24**	**158**	P	**P**	**23 19 45.6**	**-0.6**
9.0nm,0.6s,mb4.7,baz=332,slow=7.6,SNR=27							
STKA	**Stephens Creek**	**40.24**	**158**	*e*P	**P**	**23 19 45.6**	**-0.6**
LSA	**Lhasa**	**40.30**	**311**	*e*P	**P**	**23 19 47.4**	**+0.7**
JIRN	**Jiri**	**43.29**	**305**	*e*P	**P**	**23 20 12.1**	**+1.0**
4.2nm,0.5s,mb4.4							
GUN	**Gumba**	**43.65**	**305**	*e*P	**P**	**23 20 15.5**	**+1.6**
8.2nm,0.5s,mb4.7							
PKI	**Pulchoki**	**43.90**	**305**	*e*P	**P**	**23 20 16.9**	**+0.9**
KKN	**Kakani**	**44.09**	**305**	*e*P	**P**	**23 20 18.2**	**+0.7**
GKN	**Gorkha**	**44.69**	**305**	*e*P	**P**	**23 20 23.4**	**+1.1**
2.7nm,0.4s,mb4.4							
SONM	**Songino Array**	**45.22**	**342**	P	**P**	**23 20 26.0**	**-0.5**
0.2nm,0.6s,mb3.2,baz=153,slow=6.9,SNR=3.5						

1.0nm,0.4s,mb4.1
WRA Warramunga Arr 48.74 257 P **P 23 25 13.3 +0.1**
0.4nm,0.4s,mb3.7,baz=96,slow=6.7,SNR=6.3
ASAR Alice Springs 49.03 252 P **P 23 25 15.6 +0.2**
2.0nm,0.7s,mb4.2,baz=84,slow=8.3,SNR=19
NVAR Mina Array Bea 75.16 42 P **P 23 28 10.3 +0.5**
0.8nm,0.7s,mb3.6,baz=230,slow=10,SNR=7.1
NVAR Mina Array Bea 75.16 42 P **P 23 28 10.3 +0.5**
ILAR Eielson Array 82.78 12 P **P 23 28 51.6 +0.3**
0.5nm,0.5s,mb3.6,baz=203,slow=5.5,SNR=11
PDAR Pinedale Array 83.09 42 P **P 23 28 52.5 -0.5**
1.3nm,0.6s,mb4.0,baz=192,slow=2.6,SNR=16
MIV Mineville/With 108.48 48 PKPdf PKiKP 23 34 53.5 -1.5
ARCES ARCESS Array B 124.57 352 PKP PKPdf 23 35 24.6 -1.3
3.1nm,0.9s,baz=14,slow=5.4,SNR=3.7
BRTR Keskin Array B 145.55 320 PKPbc PKPbc 23 36 06.8 +1.7
0.6nm,0.7s,baz=119,slow=4.4,SNR=4.2

*ISCJB **17** 23:25:37.8±0.8, 3499N±008×234E±02, h92km±17km, Error ellipse: s-maj=23.5km s-min=8.6km az=126.8*
*CSEM **17** 23:25:37.2±0.1, 3492N×2323E, h22km, MD3.4, Error ellipse: s-maj=5.6km s-min=2.5km az=76.0*
*HLW **17** 23:25:38.3, 3515N×2365E, h20km, Mb3.2*
*NEIC **17** 23:25:38.9, 3510N×2322E, h34km, MD3.4(ATH), After ATH.*
*ATH **17** 23:25:38.9, 3510N×2322E, h34km±8km, MD3.4/5*
ISC 17 23:25:39.1±0.8, 3498N±007×233E±01, h74km±24km, n12, σ1º02/15, 1C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.65**	**102**	*e*PN	**Pn**	**23 25 54.2**	**+0.5**
VAM	**Vamos**	**0.84**	**59**	*e*Pn	**Pn**	**23 25 55.3**	**-0.6**
VAM				*e*SN	**Sn**	**23 26 08.3**	**0.0**
KYTH	**Kithira**	**1.32**	**350**	*e*Pn	**Pn**	**23 26 01.5**	**-0.3**
VLI	**Veliai**	**1.77**	**350**	*e*PN	**Pn**	**23 26 06.9**	**-0.8**
NPS	**Neapolis**	**1.90**	**81**	*e*PN	**Pn**	**23 26 11.5**	**+2.0**
ITM	**Ithomi**	**2.47**	**333**	*e*PN	**Pn**	**23 26 17.0**	**-0.1**
SLUM		**3.82**	**155**	||P	**Pn**	**23 26 36.2**	**+0.7**
SLUM				S	**Sn**	**23 27 18.2**	**-1.0**
DABA	**Dabaa**	**5.75**	**132**	P	**Pn**	**23 27 01.0**	**-0.8**
SWA2		**6.00**	**162**	P	**Pn**	**23 27 06.7**	**+1.5**
SWA1		**6.05**	**160**	P	**Pn**	**23 27 07.2**	**+1.3**
SWA1				S	**Sn**	**23 28 12.1**	**-1.6**
HFRF	**Wahat Farafira**	**8.90**	**150**	||P	**Pn**	**23 27 45.7**	**+0.8**
AMAG	**Maghara**	**9.38**	**115**	||||P	**Pn**	**23 27 50.1**	**-1.3**

*CSEM **17** 23:47:58.4±0.1, 3403N×4845E, h2km, ML4.0, Error ellipse: s-maj=3.4km s-min=2.3km az=31.0*
*ISCJB **17** 23:48:00.1±0.4, 3393N±003×4844E±003, h10km, Error ellipse: s-maj=4.7km s-min=3.3km az=42.9*
*THR **17** 23:48:00.2±0.4, 3408N×4849E, h14km±3km, ML3.6*
*TEH **17** 23:48:01.6, 3391N×4843E, h5km, Mn4.0*
ISC 17 23:48:01.2±0.4, 3395N±003×4842E±003, h10km, n29, σ1º14/39, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.78**	**287**	*e*Pg	**Pg**	**23 48 14.3**	**-2.0**
IKOM				*e*Sg	**Sg**	**23 48 26.5**	**0.0**
SNGE	**Sanandaj**	**1.44**	**322**	*e*PG	**Pn**	**23 48 25.7**	**-1.6**
SNGE				*e*SG	**Sn**	**23 48 44.5**	**-1.8**
SNGE				AML	AML	23 48 49.8
	comp=N,824nm,0.6s					
SNGE				AML	AML	23 48 53.9
	comp=E,818nm,0.5s					
SNGE	**Sanandaj**	**1.44**	**322**	*e*Pg	**Pn**	**23 48 25.7**	**-1.6**
	SNR=90					
SNGE				*e*Sg	**Sn**	**23 48 44.5**	**-1.8**
	SNR=90					
ASAO	**Ashtian**	**1.46**	**66**	*e*PG	**Pn**	**23 48 25.2**	**-2.4**
ASAO				*e*SG	**Sn**	**23 48 43.5**	**-3.2**
ASAO				AML	AML	23 48 48.7
	comp=N,1μm,0.6s					
ASAO				AML	AML	23 48 49.7
	comp=E,1μm,0.4s					
ASAO	**Ashtian**	**1.46**	**66**	*e*Pg	**Pn**	**23 48 25.2**	**-2.4**
	SNR=90					
ASAO				*e*Sg	**Sn**	**23 48 43.5**	**-3.3**
	SNR=90					
IDHR	**Dehrash**	**1.84**	**294**	*e*Pn	**Pn**	**23 48 33.9**	**+1.1**
IDHR				*e*Sn	**Sn**	**23 48 58.0**	**+1.9**
SHGR	**Shooshtar-Gavs**	**1.87**	**170**	*e*PG	**Pg**	**23 48 36.5**	**-0.5**
SHGR				*e*SG	**Sg**	**23 49 02.5**	**+1.2**
SHGR				AML	AML	23 49 06.3
	comp=N,446nm,0.4s					
SHGR				AML	AML	23 49 18.0
	comp=E,627nm,0.6s					
SHGR	**Shooshtar-Gavs**	**1.87**	**170**	*e*Pg	**Pg**	**23 48 36.5**	**-0.5**
	SNR=90					
SHGR				*e*Sg	**Sg**	**23 49 02.5**	**+1.2**
	SNR=90					
IRAZ	**Razeghan**	**1.91**	**40**	*e*Pn	**Pn**	**23 48 35.1**	**+1.3**
IRAZ				*e*Sn	**Sn**	**23 48 59.3**	**+1.4**
IQOM	**Qom**	**2.37**	**67**	*e*Pn	**Pn**	**23 48 40.9**	**+0.8**
IQOM				*e*Sn	**Sn**	**23 49 10.2**	**+1.0**
IPIR	**Pirpir**	**2.43**	**121**	*e*Pn	**Pn**	**23 48 41.0**	**+0.1**
IMHD	**Mahdasht**	**2.53**	**46**	*e*Pn	**Pn**	**23 48 43.5**	**+1.1**
IKLH	**Kalahroud**	**2.71**	**103**	*e*Pn	**Pn**	**23 48 45.3**	**+0.5**
IVRN	**Varamin**	**2.93**	**68**	*e*Pn	**Pn**	**23 48 48.3**	**+0.5**
IVRN				*e*Sn	**Sn**	**23 49 23.0**	**0.0**
CHTH	**Charan**	**2.96**	**48**	*e*Pn	**Pn**	**23 48 47.2**	**-1.1**
DAMV	**Damavand**	**3.37**	**59**	*e*PN	**Pn**	**23 48 53.1**	**-0.8**
DAMV				AML	AML	23 49 50.8
	comp=E,105nm,0.8s					
DAMV				AML	AML	23 49 56.4
	comp=N,131nm,0.5s					
BHD	**Baghdad**	**3.44**	**260**	*e*x	x	23 48 56.0
BHD				*e*x	x	23 49 03.0
BHD				*e*x	x	23 49 09.0
BHD				*e*x	x	23 49 38.5
BHD				*e*x	x	23 49 47.5
BHD				*e*x	x	23 49 54.0
IGAR	**Garneh**	**3.60**	**117**	*e*Pn	**Pn**	**23 48 54.6**	**-2.5**
NASN	**Na'in**	**3.85**	**106**	*e*PN	**Pn**	**23 49 01.2**	**+0.7**
IBST	**Bostanabad**	**3.94**	**342**	*e*Pn	**Pn**	**23 49 02.4**	**+0.7**
IFIR	**Firoozkooh**	**3.95**	**64**	*e*Pn	**Pn**	**23 49 02.4**	**+0.6**
IFIR				*e*Sn	**Sn**	**23 49 47.5**	**-0.6**
IAZR	**Azarshahr**	**4.21**	**333**	*e*Pn	**Pb**	**23 49 15.8**	**+0.4**
GRMI	**Germi**	**4.87**	**355**	*e*PN	**Pn**	**23 49 13.6**	**-0.8**
ISAD	**Sadrabad**	**4.87**	**113**	*e*Pn	**Pn**	**23 49 14.4**	**-0.2**
MSL	**Mosul**	**4.95**	**300**	*e*x	x	23 48 33.0
IMRD	**Marand**	**5.23**	**336**	*e*Pn	**Pn**	**23 49 21.1**	**+1.6**
ICHK	**Chekchek**	**5.31**	**107**	*e*Pn	**Pn**	**23 49 20.4**	**-0.1**
IMEH	**Mehriz**	**5.82**	**114**	*e*Pn	**Pn**	**23 49 27.2**	**-0.3**
IBAF	**Bafgh**	**6.47**	**109**	*e*Pn	**Pn**	**23 49 35.9**	**-0.5**

*MOS **18** 00:24:07.6±1.3, 5111N×15937E, h33km, mb4.1/1, Error ellipse: s-maj=79.3km s-min=14.4km az=88.2*
KRSC 18 00:24:06.7±0.8, 5099N×15950E, h40km±35km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.57**	**337**	P	Pn	00 24 31.9	-0.2
RUS				S	Sn	00 24 49.8	-1.4
RUS	**Russkaya**	**1.57**	**337**	*i* P	Pn	00 24 31.6	-0.5
RUS				*i* S	Sn	00 24 50.5	-0.7
PAU	**Pauzhetka**	**1.76**	**287**	*e*P	Pn	00 24 35.7	+1.1
PAU				*e*S	Sn	00 24 56.5	+0.7
GRL	**Gorelyy**	**1.80**	**331**	*e*P	Pn	00 24 35.7	+0.5
GRL				*e*S	Sn	00 24 56.5	-0.3
KRMR	**Karymshinskiy**	**2.03**	**336**	*e*P	Pn	00 24 38.7	+0.3
KRMR				*e*S	Sn	00 25 02.0	-0.5
PET	**Petropavlovsk**	**2.10**	**346**	P	Pn	00 24 40.8	+1.4
PET				S	Sn	00 25 04.5	+0.2
PET	**Petropavlovsk**	**2.10**	**346**	*e*P	Pn	00 24 40.6	+1.2
PET				*e*S	Sn	00 25 04.8	+0.5
PET	**Petropavlovsk**	**2.10**	**346**	*e*PN	Pn	00 24 40.8	+1.4
PET				*e*S	Sn	00 25 03.1	-1.2
PET				pmax	pmax	
	comp=Z,75nm,0.4s					
PET				smax		
	comp=N,440nm,0.5s					
PET				smax		
	comp=E,324nm,0.5s					
SPN	**Mys Shipunski**	**2.14**	**8**	P	Pn	00 24 42.4	+2.6
SPN				S	Sn	00 25 08.4	+3.3
SPN	**Mys Shipunski**	**2.14**	**8**	*e*P	Pn	00 24 40.9	+1.1
MIPR	**Malaya Ipel'ka**	**2.14**	**308**	*i* P	Pn	00 24 40.6	+0.7
MIPR				*e*S	Sn	00 25 04.8	-0.4
NLC	**Nalytchevo**	**2.19**	**358**	*e*P	Pn	00 24 41.5	+1.0
NLC				*e*S	Sn	00 25 06.6	+0.2
UGLR	**Uglovaya**	**2.26**	**350**	*e*P	Pn	00 24 42.9	+1.3
SMAR	**Somma**	**2.32**	**350**	*e*P	Pn	00 24 43.3	+1.0
AVH	**Avacha**	**2.33**	**349**	*e*P	Pn	00 24 43.5	+1.0
KOK	**Koryaka**	**2.37**	**347**	*e*P	Pn	00 24 43.8	+0.8
APC	**Apacha**	**2.42**	**324**	*i* P	Pn	00 24 45.4	+1.7
APC				Smax		
	comp=E,120nm,0.8s					
ALID	**Alaid**	**2.50**	**269**	*e*P	Pn	00 24 46.2	+1.3
GNL	**Ganaly**	**2.87**	**341**	*e*P	Pn	00 24 51.2	+1.2
GNL				*e*S	Sn	00 25 23.3	0.0
MKZ	**Mys Kozlova**	**3.82**	**20**	P	Pn	00 25 04.0	+1.0
MKZ				S	Sn	00 25 45.1	-1.5
MKZ	**Mys Kozlova**	**3.82**	**20**	*e*P	Pn	00 25 04.0	+1.0
ZLN	**Zelenaya**	**5.10**	**8**	*e*P	Pn	00 25 23.9	+3.4
CIRR	**Tsirk**	**5.19**	**8**	P	Pn	00 25 25.2	+3.4
KBTR	**Krutoberegovo**	**5.59**	**19**	P	Pn	00 25 29.4	+2.1
KBTR	**Krutoberegovo**	**5.59**	**19**	*e*P	Pn	00 25 29.1	+1.8
BKI	**Bering**	**5.75**	**40**	S	Sn	00 26 28.7	-5.3

*ISCJB **18** 00:24:54.5±2.0, 1252N±010×1443E±02, h47km±21km, mb3.8/8, Error ellipse: s-maj=30.3km s-min=15.5km az=23.8*
*IDC **18** 00:24:55.7±2.2, 1248N×1445E, h43km±23km, mb3.3/5, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, MS3.4/3, Ms1 3.4/3, ms1mx2.9/12, Error ellipse: s-maj=44.9km s-min=17.0km az=105.0*
*NEIC **18** 00:24:56.1±0.5, 1255N×1444E, mb4.3/3, Error ellipse: s-maj=18.7km s-min=9.3km az=103.0*
ISC 18 00:24:56.1±1.8, 1254N±009×1444E±02, h45km±20km, n11, σ0º61/13, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.14**	**24**	P	**Pn**	**00 25 14.9**	**-0.8**
	56nm,0.3s,baz=54,slow=20,SNR=20						
GUMO				S	**Sn**	**00 25 30.0**	**-0.2**
	187nm,0.3s,baz=313,slow=23,SNR=12						
GUMO	**Guam**	**1.14**	**24**	*e*Pn	**Pn**	**00 25 15.2**	**-0.5**
GUMO				*e*Sn	**Sn**	**00 25 31.4**	**+1.2**
PMG	**Port Moresby**	**21.98**	**173**	P	**P**	**00 29 46.5**	**+0.4**
	3.5nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**33.75**	**197**	P	**P**	**00 31 33.2**	**-0.1**
	3.7nm,0.7s,mb4.4						
WRAB				pP	pP	00 31 45.7	+0.4
WRA	**Warramunga Arr**	**33.76**	**197**	P	**P**	**00 31 33.5**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=21,slow=9.9,SNR=12						
QIZ	**Qiongzhong**	**33.81**	**285**	P	**P**	**00 31 33.6**	**-0.2**
	3.6nm,0.6s,mb4.5						
QIZ				pP	pP	00 31 46.6	+0.6
ASAR	**Alice Springs**	**37.42**	**196**	P	**P**	**00 32 04.6**	**-0.2**
	0.6nm,0.7s,mb3.5,baz=15,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**61.91**	**317**	P	**P**	**00 35 11.8**	**+0.8**
	0.1nm,0.3s,mb3.5,baz=107,slow=4.8,SNR=7.7						
MKAR	**Makanchi Array**	**61.91**	**317**	P	**P**	**00 35 11.8**	**+0.8**
YKA	**Yellowknife Ar**	**84.00**	**27**	P	**P**	**00 37 20.5**	**-1.2**
	0.2nm,0.8s,mb3.3,baz=286,slow=5.2,SNR=4.1						
NVAR	**Mina Array Bea**	**87.94**	**51**	P	**P**	**00 37 41.6**	**+0.5**
	0.1nm,0.3s,mb3.5,baz=251,slow=8.3,SNR=3.1						

IDC 18 00:31:15.1±6.8, 1763S×17588E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=300.7km s-min=36.3km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.33**	**260**	P	P	00 38 46.7	+0.7
	0.7nm,0.6s,baz=90,slow=8.3,SNR=18						
ASAR	**Alice Springs**	**39.63**	**254**	P	P	00 38 48.5	-0.1
	1.5nm,0.7s,baz=85,slow=8.7,SNR=19						
ILAR	**Eielson Array**	**86.94**	**15**	P	P	00 44 01.6	-0.4
	0.5nm,0.8s,baz=219,slow=5.0,SNR=4.9						

*NEIC **18** 00:38:23.8, 1498N×9228W, h135km, mb4.1/3, MD4.1(MEX), After MEX.*
MEX 18 00:38:23.8±0.6, 1498N×9228W, h135km±28km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.30**	**6**	*i* P	Pn	00 38 48.8	-1.3
CCIG				*i* S	Sn	00 39 09.0	-1.1
HUIG	**Huatulco**	**3.77**	**282**	*i* P	Pn	00 39 19.6	-1.1
HUIG				*i* S	Sn	00 40 02.8	-1.9
VHO	**Vista Hermosa**	**4.76**	**297**	*i* P	Pn	00 39 33.9	+0.2
VHO				*i* S	Sn	00 40 25.7	-2.3
PPM	**Popocatepetl**	**7.30**	**305**	*i* P	Pn	00 40 08.4	+0.6
PPM				*i* S	Sn	00 41 29.8	+0.6
YAIG	**Yautepec**	**7.55**	**302**	*i* P	Pn	00 40 10.9	-0.3
MEIG	**Mezcala**	**7.62**	**294**	*i* P	Pn	00 40 12.6	+0.4
MEIG				*i* S	Sn	00 41 35.3	-1.7
JTS	**JuntasAbangare**	**8.54**	**122**	Pn	Pn	00 40 22.3	-2.2
	5.4nm,0.3s						
PV10	**Paradox Valley**	**27.60**	**331**	P	P	00 43 57.5	-0.9
ISA	**Isabella**	**31.21**	**316**	*e*P	P	00 44 30.4	+0.2
	1.3nm,0.3s						
LPAZ	**La Paz**	**39.17**	**142**	*e*P	P	00 45 35.7	-2.6
	0.8nm,0.5s						

*TIF **18** 01:01:35.6, 4295N×4464E, h6km±1km*
*ISCJB **18** 01:01:36.4±0.4, 4298N±002×4465E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.9km az=82.4*
*CSEM **18** 01:01:36.0±0.2, 4307N×4454E, h32km, mb4.0, Error ellipse: s-maj=3.6km s-min=3.1km az=2.0, After OBN*
*MOS **18** 01:01:36.0±0.9, 4307N×4454E, h32km, mb4.0/1, Error ellipse: s-maj=18.8km s-min=14.6km az=130.5*
ISC 18 01:01:36.7±0.4, 4297N±002×4465E±003, h10km, n26, σ1º09/46, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.08**	**13**	*i* Pg	**Pg**	**01 01 38.3**	**-0.7**
SNJR	**Sundja**	**0.15**	**49**	*i* Pg	**Pg**	**01 01 39.4**	**-0.7**
LACR	**Lac**	**0.30**	**242**	*e*Pg	**Pg**	**01 01 41.3**	**-1.3**
ARNR	**Ardon**	**0.35**	**309**	*i* PG	**Pg**	**01 01 43.5**	**-0.1**
ARNR				*e*S	**Sg**	**01 01 49.5**	**+1.2**
BTKR	**Batakoyurt**	**0.41**	**349**	*e*Pg	**Pg**	**01 01 45.1**	**+0.4**
BTKR				*e*Sg	**Sg**	**01 01 51.5**	**+1.3**
KMSR	**Komsomolskaya**	**0.48**	**327**	*e*Pg	**Pg**	**01 01 45.9**	**-0.1**
KMSR				*i* Sg	**Sg**	**01 01 53.8**	**+1.4**
ZEI	**Tsey**	**0.59**	**251**	*i* Pg	**Pg**	**01 01 46.8**	**-1.3**
	73nm,0.1s						
ZEI				*e*Sg	**Sg**	**01 01 54.8**	**-1.0**
ZEI	**Tsey**	**0.59**	**251**	*i* PG	**Pg**	**01 01 46.8**	**-1.3**
ZEI				*e*		01 01 54.8	
ZEI				pmax	pmax	
	comp=Z,73nm,0.1s						
ZEI				smax		
	comp=E,247nm,0.2s						
LSNR	**Lesken**	**0.68**	**297**	*e*Pg	**Pg**	**01 01 49.6**	**-0.3**
LSNR				*e*Sg	**Sg**	**01 02 00.1**	**+1.3**
DIGR	**Digorskoe uzhe**	**0.79**	**265**	*e*Pg	**Pg**	**01 01 59.8**	**+7.9**
DIGR				*e*Sg	**Sg**	**01 02 01.9**	**-0.3**
DUS	**Dusheti**	**0.88**	**178**	P	**Pg**	**01 01 52.7**	**-0.8**
DUS				S	**Sg**	**01 02 06.6**	**+1.6**
ONI	**Oni**	**0.97**	**247**	P	**Pg**	**01 01 53.9**	**-1.3**
ONI				S	**Sg**	**01 02 07.8**	**0.0**
TBLG	**Delisi**	**1.24**	**177**	P	**Pn**	**01 01 59.6**	**-0.4**
TBLG				S	**Sb**	**01 02 20.9**	**+4.8**
TBLG	**Delisi**	**1.24**	**177**	*e*Pg	**Pg**	**01 01 59.6**	**-0.8**
TBLG				*e*Sg	**Sg**	**01 02 20.9**	**+4.4**
MTA	**Mtatsminda**	**1.28**	**175**	P	**Pn**	**01 02 00.3**	**-0.2**
MTA				S	**Sb**	**01 02 22.4**	**+5.2**
MTA	**Mtatsminda**	**1.28**	**175**	P	**Pn**	**01 02 00.3**	**-0.2**
MTA				S	**Sb**	**01 02 19.2**	**+1.9**
DLMR	**Dylym**	**1.46**	**85**	*e*Pg	**Pg**	**01 02 00.5**	**-4.1**
	comp=E,123nm,0.4s						
DLMR				*e*Sg	**Sn**	**01 02 22.5**	**+0.4**
DLMR	**Dylym**	**1.46**	**85**	*e*PG	**Pg**	**01 02 00.5**	**-4.1**
DLMR				*e*S	**Sn**	**01 02 22.5**	**+0.4**
DLMR				pmax	pmax	
	comp=Z,123nm,0.4s						
UNCR	**Uncukul**	**1.60**	**98**	*e*Pn	**Pn**	**01 02 04.3**	**-0.6**
	comp=Z,57nm,0.2s						
UNCR				*e*Sg	**Sg**	**01 02 28.3**	**+0.3**
UNCR	**Uncukul**	**1.60**	**98**	*e*PN	**Pn**	**01 02 04.3**	**-0.6**
UNCR				*e*S	**Sg**	**01 02 28.3**	**+0.3**
UNCR				pmax	pmax	
	comp=Z,57nm,0.2s						
DBC	**Dubki**	**1.60**	**87**	*i* Pn	**Pn**	**01 02 03.5**	**-1.5**
DGRG	**David-gareji**	**1.61**	**160**	P	**Pn**	**01 02 06.6**	**+1.5**
DGRG				S	**Sn**	**01 02 31.7**	**+5.9**
DGRG	**David-gareji**	**1.61**	**160**	P	**Pn**	**01 02 06.6**	**+1.6**
DGRG				S	**Sn**	**01 02 31.7**	**+5.8**
AKH	**Akhalkalaki**	**1.78**	**209**	P	**Pn**	**01 02 09.1**	**+1.7**
AKH				S	**Sn**	**01 02 33.7**	**+3.6**
MAK	**Makhachkala**	**2.10**	**89**	*e*Pn	**Pn**	**01 02 20.3**	**+8.5**
GOF	**Gofitskoye**	**2.39**	**331**	*e*Pn	**Pn**	**01 02 24.3**	**+8.4**
GOF				*e*Sg	**Sg**	**01 02 52.2**	**-1.4**

*BJI **18** 01:09:41.0, 0.19S×12641E, h54km, mB5.1, mb4.9, Ms4.9, Msz4.5*
*IDC **18** 01:09:46.0±5.0, 074N×12605E, h20km±31km, mb4.5/22, mb1 4.6/22, mb1mx4.5/27, mbtmp4.7/22, Error ellipse: s-maj=19.6km s-min=10.2km az=67.0*
*MOS **18** 01:09:45.9±1.0, 072N×12596E, h33km, mb5.0/24, Error ellipse: s-maj=14.7km s-min=6.8km az=113.1*
*ISCJB **18** 01:09:47.8±0.2, 068N±004×12604E±006, h50km, mb4.8/65, MS4.2/7, Error ellipse: s-maj=8.9km s-min=4.9km az=142.0*
*NEIC **18** 01:09:49.8±0.3, 072N×12614E, mb4.8/20, Error ellipse: s-maj=10.9km s-min=5.9km az=64.0*
ISC 18 01:09:49.9±0.2, 067N±004×12608E±006, h52km, h52km±2.9km: pP-P, n119, σ1º10/125, mb4.8/65, MS4.2/7, 6C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.20**	**299**	*e*Pn	**Pn**	**01 12 30.6**	**+3.3**
KAKA	**Kakadu**	**14.71**	**155**	*e*P	**Pn**	**01 13 12.5**	**-2.4**
	15nm,0.6s						
KSM	**Kuching**	**15.79**	**273**	*e*P	**Pn**	**01 13 32.4**	**+3.6**
KSM				*e*pP	pP	01 13 55.7	+12
FITZ	**Fitzroy Crossi**	**18.66**	**181**	*e*P	**Pn**	**01 14 04.4**	**+0.2**
	8.5nm,0.8s						
WRAB	**Tennant Creek**	**22.02**	**159**	*e*P	**P**	**01 14 40.3**	**+0.5**
WRAB				*e**PP		01 14 53.6	
WRAB				pmax	pmax	
	comp=Z,64nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**22.02**	**159**	*e*P	**P**	**01 14 40.3**	**+0.5**
	comp=Z,64nm,0.9s,mb5.0						
WRAB				*e*pP		01 14 53.5	
WRA	**Warramunga Arr**	**22.02**	**159**	P	**P**	**01 14 39.8**	**-0.1**
	comp=Z,18nm,0.6s,mb4.7,baz=338,slow=11,SNR=162						
WRA				S	**S**	**01 18 43.7**	**+3.9**
	comp=Z,1.3nm,0.9s,baz=334,slow=21,SNR=4.0						
WB2	**Warramunga Arr**	**22.03**	**159**	*e*P	**P**	**01 14 39.9**	**0.0**
WB2				*e*S	**S**	**01 18 44.2**	**+4.2**
MBWA	**Marble Bar**	**22.56**	**196**	*e*P	**P**	**01 14 47.0**	**+1.4**
MBWA				*e*pP		01 15 01.0	
PMG	**Port Moresby**	**23.26**	**116**	P	**P**	**01 14 53.3**	**+0.5**
	comp=Z,12nm,0.8s,mb4.4,baz=328,slow=5.5,SNR=4.0						
PMG	**Port Moresby**	**23.26**	**116**	*e*P	**P**	**01 14 53.0**	**+0.1**
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**23.26**	**116**	*e*P	**P**	**01 14 53.0**	**+0.1**
	comp=Z,18nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**25.36**	**163**	P	**P**	**01 15 13.2**	**+1.2**
	comp=Z,7.3nm,0.6s,mb4.4,baz=336,slow=8.0,SNR=72						
ASAR				PcP	PcP	01 18 45.5	+2.0
	comp=Z,1.3nm,0.7s,baz=1.1,slow=2.7,SNR=6.5						
KULM	**Kulim**	**25.80**	**281**	*e*P	**P**	**01 15 16.0**	**0.0**
JOW	**Kunigami**	**26.10**	**4**	P	**P**	**01 15 18.6**	**-0.2**
	comp=Z,34nm,0.8s,mb4.9,baz=174,slow=12,SNR=4.4						
PSI	**Prapat**	**27.22**	**275**	P	**P**	**01 15 28.6**	**-0.2**
	comp=Z,14nm,0.7s,mb4.6,baz=73,slow=5.1,SNR=11						
CTA	**Charters Tower**	**28.57**	**137**	P	**P**	**01 15 41.6**	**+0.8**
	comp=Z,4.6nm,1.0s,mb4.2,baz=3.6,slow=11,SNR=3.4						
SSE	**Sheshan**	**30.61**	**352**	P	**P**	**01 16 02.1**	**+3.1**
SSE				AP	pP	01 16 16.9	+4.6
SSE				XP	sP	01 16 24.3	+5.8
SSE				S	**S**	**01 21 00.0**	**+2.6**
SSE				XS	sS	01 21 25.6	+5.6
SSE				AMB	AMB	
	comp=Z,32nm,0.7s,mb5.3						
SSE				AMB	AMB	
	comp=Z,125nm,3.8s						
NJ2	**Nanjing**	**31.95**	**348**	*e*P	**P**	**01 16 13.5**	**+2.8**
NJ2				AP	pP	01 16 24.3	+0.2
NJ2				XP	sP	01 16 30.6	+0.3
NJ2				PP	PP	01 17 19.1	-4.5
NJ2				S	**S**	**01 21 19.0**	**+0.7**
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB	
	comp=Z,110nm,6.4s						
NJ2				LR	LR	
	comp=N,490nm,20.7s,MS4.3						
NJ2				LR	LR	
	comp=E,360nm,19.6s,MS4.3						
NJ2				LR	LR	
	comp=Z,380nm,23.2s,MS4.0						
JNU	**Nakatsue**	**32.60**	**7**	P	**P**	**01 16 16.0**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8,baz=209,slow=9.8,SNR=3.7						
ENH	**Enshi**	**33.40**	**333**	*e*P	**P**	**01 16 22.8**	**-0.6**
	comp=Z,9.5nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**34.44**	**193**	P	**P**	**01 16 31.4**	**-1.0**
STKA	**Stephens Creek**	**35.55**	**157**	||/P	**P**	**01 16 41.2**	**-0.8**
	comp=Z,9.3nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**35.55**	**157**	P	**P**	**01 16 41.2**	**-0.8**
	comp=Z,11nm,0.7s,mb4.9,baz=324,slow=6.7,SNR=28			

CN2 eXP sP 01 18 07.0 +3.5
CN2 eS **S** **01 24 08.0 +3.0**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,18.0s,MS4.8
CN2 LR LR
comp=E,600nm,18.0s,MS4.8
CN2 LR LR
comp=Z,900nm,19.0s,MS4.7
MDJ Mudanjiang 43.87 4 P **P** **01 17 51.3 +0.2**
MDJ AP pP 01 18 03.4 -1.5
MDJ XP sP 01 18 10.9 -0.1
MDJ S **S** **01 24 20.8 +2.3**
MDJ SS SS 01 27 36.8 +0.6
MDJ AMB AMB
comp=Z,28nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,57nm,3.5s
MDJ LR LR
comp=Z,59nm,18.6s,MS3.5
MDJ Mudanjiang 43.87 4 eP **P** **01 17 51.6 +0.5**
comp=Z,27nm,0.9s,mb5.0
MDJ e pP 01 18 01.6 -3.4
LSA Lhasa 44.03 314 P **P** **01 17 54.0 +1.6**
LSA Lhasa 44.03 314 eP **P** **01 17 53.9 +1.5**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
LSA Lhasa 44.03 314 eP **P** **01 17 53.9 +1.6**
comp=Z,9.1nm,0.6s,mb4.7
GTA Gaotai 45.41 331 P **P** **01 18 03.1 -0.3**
GTA AP pP 01 18 17.6 +0.4
GTA XP sP 01 18 23.8 +0.5
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
ASAJ Asahikawa 45.69 17 P **P** **01 18 06.0 +0.5**
comp=Z,7.5nm,0.6s,mb4.8,baz=177,slow=19,SNR=3.9
JIRN Jiri 46.69 309 eP **P** **01 18 13.0 -0.5**
comp=Z,11nm,0.6s,mb5.0
GUN Gumba 47.05 309 eP **P** **01 18 15.5 -0.8**
comp=Z,26nm,0.7s,mb5.3
PKI Pulchoki 47.27 308 eP **P** **01 18 16.8 -1.1**
DMN Daman 47.52 308 eP **P** **01 18 19.9 0.0**
GKN Gorkha 48.07 308 eP **P** **01 18 23.2 -0.9**
HABR Khabarovsk 48.25 8 eP **P** **01 18 24.2 -1.3**
HABR eS **S** **01 25 22.0 +0.7**
YSS Yuzh-Sakhalins 48.35 15⇓eP **P** **01 18 25.4 -0.9**
YSS pmax pmax
comp=Z,35nm,1.7s,mb5.1
HIA Hailar 48.72 354d iP **P** **01 18 29.8 +0.7**
KOLN Koldanda 48.79 307 eP **P** **01 18 29.0 -0.7**
comp=Z,25nm,0.8s,mb5.3
HYB Hyderabad 49.60 292 i P **P** **01 18 35.0 -0.9**
HYB Hyderabad 49.60 292 eP **P** **01 18 35.0 -0.9**
ULN Ulaanbaatar 49.83 343 P **P** **01 18 37.5 -0.1**
ULN e pP 01 18 48.5 -3.1
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.8
ULN Ulaanbaatar 49.83 343 P **P** **01 18 37.5 -0.1**
comp=Z,11nm,1.0s,mb4.8
ULN e pP 01 18 48.5 -3.1
ULN e 01 18 56.6
SONM Songino Array 49.99 343 P **P** **01 18 38.6 -0.3**
comp=Z,3.8nm,0.8s,mb4.5,baz=156,slow=7.9,SNR=33
CIT Chita 52.24 350 eP **P** **01 18 56.6 +0.9**
CIT e 01 20 06.7
CIT pmax pmax
comp=Z,56nm,1.6s,mb5.2
WMQ Urumqi 54.88 327 eP **P** **01 19 15.0 0.0**
WMQ AP pP 01 19 31.0 +1.8
WMQ XP sP 01 19 38.0 +2.8
WMQ PP PP 01 21 20.0 +1.8
WMQ S **S** **01 26 50.0 -2.5**
WMQ AMB AMB
comp=Z,15nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,102nm,5.0s
WMQ LR LR
comp=N,102nm,10.0s,MS4.5
WMQ LR LR
comp=E,185nm,10.0s,MS4.5
WMQ LR LR
comp=Z,78nm,9.0s
BOD Bodaibo 57.79 352 eP **P** **01 19 35.7 0.0**
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MKAR Makanchi Array 59.71 327 P **P** **01 19 48.3 -0.8**
comp=Z,4.3nm,0.4s,mb4.8,baz=122,slow=7.7,SNR=114
YAK Yakutsk 61.27 2 eP **P** **01 19 59.5 -0.2**
YAK pmax pmax
comp=Z,22nm,1.0s,mb5.2
KZA Kyzart 61.45 319 P **P** **01 20 01.8 +0.8**
SNR=5.0
TKM2 Tokmak 2 61.62 320 P **P** **01 20 03.6 +1.5**
SNR=5.1
MA2 Magadan 61.81 14c iP **P** **01 20 04.2 +0.8**
MA2 pmax pmax
comp=Z,12nm,1.3s,mb4.9
MA2 Magadan 61.81 14 eP **P** **01 20 04.0 +0.6**
comp=Z,9.1nm,0.9s,mb4.9
MA2 e 01 20 46.5
UCH Uchtor 62.00 319 P **P** **01 20 06.8 +2.2**
SNR=6.9
AAK Ala-Archa 62.20 319 eP **P** **01 20 04.3 -1.7**
AAK e pP 01 20 16.9 -3.6
AAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
AAK Ala-Archa 62.20 319 eP **P** **01 20 04.3 -1.7**
comp=Z,5.5nm,1.1s,mb4.6
AAK e pP 01 20 16.9 -3.5
USP Ospenovka 62.49 320 P **P** **01 20 07.3 -0.6**
SNR=7.2
AML Almayashu 62.50 318 P **P** **01 20 10.1 +2.1**
SNR=8.4
EKS2 Erkin-Say 62.69 319 P **P** **01 20 11.0 +1.8**
SNR=6.4
ZAL Zalesovo 63.02 334 P **P** **01 20 10.4 -1.1**
comp=Z,2.2nm,0.4s,mb4.6,baz=353,slow=6.9,SNR=9.9
KURK Kurchatov 63.98 329 eP **P** **01 20 16.9 -0.9**
KURK *PP pP 01 20 32.6 +0.3
KURK pmax pmax
comp=Z,22nm,0.8s,mb5.2
KURK Kurchatov 63.98 329 eP **P** **01 20 16.9 -0.9**
comp=Z,22nm,0.8s,mb5.2
KURK pP pP 01 20 32.6 +0.3
NVS Novosibirsk 64.31 334 eP **P** **01 20 16.4 -3.5**
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
KK31 Karatay Array 65.04 318 i P **P** **01 20 24.1 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KKAR Karatay Array 65.04 318 i P **P** **01 20 24.1 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
FX1 Attu Island--F 65.05 29 P **P** **01 20 24.7 -0.1**
comp=Z,18nm,0.7s,mb5.2,baz=75,slow=15,SNR=5.3
SEY Seymchan 65.14 13⇑eP **P** **01 20 25.0 -0.4**
VOSK Vostochnaya 69.07 328 P **P** **01 20 49.1 -1.2**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVA0 Borovoye Array 69.53 328 i P **P** **01 20 52.7 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
BVAR Borovoye Array 69.53 328 P **P** **01 20 52.1 -1.0**
comp=Z,2.1nm,0.5s,mb4.3,baz=123,slow=4.7,SNR=13
BRVK Borovoye 69.60 328 P **P** **01 20 53.2 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 69.60 328 P **P** **01 20 53.2 -0.4**
comp=Z,3.8nm,0.6s,mb4.5
ZRNK Zerenda 70.24 327 P **P** **01 20 56.8 -0.7**
ZRNK e 01 21 16.6
ZRNK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ZRNK Zerenda 70.24 327 P **P** **01 20 56.8 -0.6**
comp=Z,6.2nm,0.5s,mb4.8
ZRNK e 01 21 16.6
TIXI Tiksi 70.89 1d iP **P** **01 21 01.1 -0.3**
TIXI pmax pmax
comp=Z,23nm,1.6s,mb4.9
TIXI Tiksi 70.89 1 P **P** **01 21 00.2 -1.2**

AB31 Akbulak array 74.11 321 eP **P** **01 21 19.6 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
AKTK Aktyubinsk 75.65 322 P **P** **01 21 28.4 -1.1**
AKTO Aktyubinsk 75.65 322 P **P** **01 21 28.4 -1.1**
comp=Z,4.4nm,0.6s,mb4.6,baz=104,slow=6.6,SNR=12
ARU Arti 77.17 328⇑iP **P** **01 21 37.2 -0.9**
ARU e 01 21 45.8
ARU e 01 24 32.0
ARU ePPP 01 26 21.3
ARU eS S 01 31 26.9 +3.5
ARU eSS SS 01 36 20.0 -1.8
ARU pmax pmax
comp=Z,13nm,0.7s,mb5.0
ARU Arti 77.17 328 eP **P** **01 21 37.3 -0.7**
comp=Z,12nm,0.6s,mb5.0
ARU e 01 21 46.2
ARU pP pP 01 21 51.1 -1.8
QRN Al-Qurain 79.30 299 eP **P** **01 21 50.0 +0.2**
QRN AMb AMB 01 21 52.0
comp=Z,94nm,1.1s,mb5.6
RDF Al-Radifah 79.64 299 eP **P** **01 21 51.7 +0.1**
RDF AMb AMB 01 21 55.9
comp=Z,73nm,1.2s,mb5.5
MIB Mutribah 79.90 300 eP **P** **01 21 52.6 -0.4**
MIB AMb AMB 01 21 55.1
comp=Z,27nm,0.7s,mb5.3
NAY Al-Naaiem 79.93 299 eP **P** **01 21 53.0 -0.3**
NAY AMb AMB 01 21 55.3
comp=Z,25nm,0.9s,mb5.1
VNDA Vanda 80.49 173 P **P** **01 21 57.2 +1.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=329,slow=6.7,SNR=6.3
ATD Arta Tunnel 83.23 281 P **P** **01 22 13.3 +2.6**
comp=Z,10nm,0.7s,mb5.0,baz=291,slow=20,SNR=10
ZEI Tsey 83.80 313 eP **P** **01 22 13.8 +0.2**
ZEI i *PP pP 01 22 21.3 -7.3
ZEI pmax pmax
comp=Z,14nm,0.9s,mb5.1
TTA Tatalina 83.91 27 eP **P** **01 22 15.1 +0.9**
TTA pmax pmax
comp=Z,6.0nm,0.4s,mb5.1
TTA Tatalina 83.91 27 eP **P** **01 22 15.1 +1.0**
comp=Z,5.6nm,0.4s,mb5.0
VRHR Novokhopersk 85.99 321 eP **P** **01 22 24.1 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VRSR Storozhevoye 87.53 321 eP **P** **01 22 32.4 +0.3**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,1.7s
MALT Malatya 87.74 308 P **P** **01 22 34.4 +1.3**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
MALT Malatya 87.74 308 P **P** **01 22 34.4 +1.3**
comp=Z,3.3nm,0.9s,mb4.6
ILAR Eielson Array 88.13 25 P **P** **01 22 33.6 -1.4**
comp=Z,0.9nm,0.6s,mb4.2,baz=237,slow=5.4,SNR=12
KMBO Kilima Mbogo 88.84 269 P **P** **01 22 39.0 +0.7**
comp=Z,2.1nm,0.8s,mb4.5,baz=49,slow=8.7,SNR=7.3
KMBO Kilima Mbogo 88.84 269 eP **P** **01 22 41.4 +3.1**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 88.84 269 eP **P** **01 22 41.4 +3.1**
comp=Z,1.9nm,0.9s,mb4.4
OBN Obninsk 89.17 325⇑eP **P** **01 22 39.8 -0.1**
OBN pmax pmax
comp=Z,44nm,2.5s,mb5.3
SYO Syowa Base 89.35 201⇓ePP pP 01 22 54.1 -1.8
SYO Syowa Base 89.35 201⇑eP **P** **01 22 39.2 -1.5**
SYO e*PP pP 01 22 54.1 -1.8
BRTR Keskin Array B 91.46 310 P **P** **01 22 50.8 +0.2**
comp=Z,1.3nm,0.7s,mb4.4,baz=121,slow=5.5,SNR=8.2
ARCES ARCESS Array B 93.08 340 P **P** **01 22 57.3 -0.7**
comp=Z,4.6nm,1.0s,mb4.9,baz=78,slow=5.1,SNR=3.8
YKA Yellowknife Ar 102.54 25 P Pdif 01 23 41.0 +0.4
comp=Z,0.4nm,0.7s,baz=299,slow=4.6,SNR=7.3
YKA Yellowknife Ar 102.54 25 P Pdif 01 23 41.0 +0.4
TORD Torodi Ar. Bea 123.19 286 PKP PKPdf 01 28 42.7 +2.0
comp=Z,1.0nm,0.7s,baz=64,slow=1.7,SNR=18
TORD PKKPbc PKKPbc 01 38 33.7 +2.7
comp=Z,1.4nm,0.7s,baz=279,slow=3.5,SNR=9.1
DBIC Dimbokro 130.50 279 PKP PKPdf 01 28 57.3 +2.6
comp=Z,2.6nm,1.0s,baz=146,slow=3.6,SNR=3.4

NAO ***18*** *01:09:49.2, 35.92N×139.34E, h33km, mb3.9*
ISCJB ***18*** *01:09:52.8±0.6, 36.11N±005×140.06E±007, h79km±4km, mb3.7/8, Error ellipse: s-maj=10.3km s-min=7.4km az=110.4*
NEIC ***18*** *01:09:54.1, 36.09N×140.02E, h68km, MG3.3(JMA), After JMA.*
JMA ***18*** *01:09:54.0±0.1, 36.09N×140.02E, h68km±1km, M3.4*
JMA Felt I J1.
IDC ***18*** *01:09:56.1±1.9, 36.02N×139.85E, h90km±16km, mb3.3/6, mb1 3.5/7, mb1mx3.3/20, mbtmp3.7/7, Error ellipse: s-maj=30.8km s-min=8.9km az=64.0*
NIED ***18*** *01:10:00, 36.10N×140.00E, h89km, Mw3.6 Best double couple: M0=2.73000×10^14 NP1:φ=355.00000°, δ=81.00000°, λ=86.00000°. NP2:φ=198.00000°, δ=10.00000°, λ=113.00000°.*
ISC 18 01:09:53.8±0.6, 3612N±005×14005E±007, h74km±4km, n17, σ0§70/26, mb3.7/8, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.16**	**48**	⇑P	**Pn**	**01 10 04.5**	**-0.2**
JYT				S	**Sn**	**01 10 12.1**	**-0.5**
JAG	**Ashikaga**	**0.57**	**302**	⇓P	**Pn**	**01 10 07.5**	**-0.1**
JAG				S	**Sn**	**01 10 17.3**	**-0.4**
JKT	**Katashina**	**0.91**	**315**	⇓P	**Pn**	**01 10 11.5**	**+0.1**
JKT				S	**Sn**	**01 10 24.7**	**+0.2**
JRY	**Ryogami san**	**0.94**	**264**	⇓P	**Pn**	**01 10 11.5**	**-0.2**
JRY				S	**Sn**	**01 10 24.5**	**-0.5**
JOD2	**Odawara 2**	**1.16**	**223**	P	**Pn**	**01 10 13.9**	**-0.6**
MJAR	**Matsushiro Arr**	**1.54**	**286**	P	**Pn**	**01 10 19.6**	**+0.1**
	33nm,0.3s,baz=91,slow=8.4,SNR=159						
MJAR				S	**Sn**	**01 10 39.3**	**+0.5**
	21nm,0.3s,baz=137,slow=17,SNR=13						
MAJO	**Matsushiro**	**1.55**	**286**	⇓iPn	**Pn**	**01 10 20.1**	**+0.6**
MAJO				eSn	**Sn**	**01 10 39.2**	**+0.3**
MAT	**Matsushiro**	**1.55**	**286**	P	**Pn**	**01 10 19.8**	**+0.3**
MAT				S	**Sn**	**01 10 39.5**	**+0.6**
JHJ	**Hachijo jima 2**	**3.00**	**184**	P	**Pn**	**01 10 39.8**	**+0.7**
	18nm,0.3s,baz=72,slow=20,SNR=3.4						
JHJ				S	**Sn**	**01 11 14.2**	**+0.2**
	49nm,0.3s,baz=67,slow=22,SNR=4.7						
SONM	**Songino Array**	**27.40**	**306**	P	**P**	**01 15 31.6**	**-0.7**
	0.4nm,0.6s,mb3.1,baz=106,slow=8.3,SNR=5.3						
KMI	**Kunming**	**33.74**	**262**	P	**P**	**01 16 26.4**	**-1.8**
KMI				AP	pP	01 16 40.8	-4.9
KMI				XP	sP	01 16 47.0	-7.3
KMI				PP	PP	01 17 38.1	-7.6
KMI				S	**S**	**01 21 39.9**	**-6.4**
KMI				XS	sS	01 22 04.6	-12
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,129nm,5.1s						
KMI				LR	LR		
	comp=N,184nm,6.3s						
KMI				LR	LR		
	comp=E,204nm,5.2s						
KMI				LR	LR		
	comp=Z,144nm,5.0s						
ZAL	**Zalesovo**	**41.74**	**313**	P	**P**	**01 17 35.8**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=47,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**43.68**	**303**	P	**P**	**01 17 51.0**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.1,baz=84,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**50.85**	**32**	P	**P**	**01 18 49.1**	**+2.1**
	comp=Z,0.6nm,1.0s,mb3.6,baz=271,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	**56.02**	**186**	P	**P**	**01 19 25.7**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=3.9,slow=7.7,SNR=3.9						
FINES	**FINESS Array B**	**69.11**	**332**	P	**P**	**01 20 51.0**	**-1.1**
	comp=Z,1.4nm,0.9s,mb3.8,baz=75,slow=8.1,SNR=3.9						
NB2	**NORSAR Subarra**	**74.60**	**337**	P	**P**	**01 21 24.4**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.6,baz=42,slow=5.9						

OMAN ***18*** *01:14:00.2±0.1, 27.68N×54.44E, h43km±9km, Error ellipse: s-maj=6.9km s-min=3.3km az=347.0*
IDC ***18*** *01:14:01.1±2.1, 27.17N×55.00E, h0km, mb4.0/10, mb1 4.0/11, mb1mx3.8/26, mbtmp4.0/11, ML1.5/1, Error ellipse: s-maj=44.8km s-min=21.0km az=140.0*
ISCJB ***18*** *01:14:02.1±0.8, 27.36N±003×54.86E±004, h5km±6km, mb3.9/13, Error ellipse: s-maj=6.5km s-min=4.3km az=91.0*
CSEM ***18*** *01:14:03.5±0.1, 27.36N×54.89E, h16km, mb3.8/4, Error ellipse: s-maj=2.3km s-min=1.6km az=43.0*
THR ***18*** *01:14:04.4±0.4, 27.37N×54.92E, h18km±3km, ML3.5*
NEIC ***18*** *01:14:04.4, 27.37N×54.92E, h18km, mb3.8/4, ML3.5(THR), MN3.5(TEH), After THR.*
TEH ***18*** *01:14:06.4, 27.27N×55.39E, h18km, Mn3.5*
ISC 18 01:14:03.2±0.8, 2736N±003×5487E±003, h2km±6km, n50, σ1§21/63, mb3.9/13, 4C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.16**	**88**	ePG	**Pg**	**01 14 25.4**	**0.0**
BNDS				eSG	**Sg**	**01 14 40.6**	**+0.2**
BNDS				AML	AML	01 14 48.4	
	comp=N,2μm,0.5s						
BNDS				AML	AML	01 14 49.4	
	comp=E,1μm,0.5s						
BNDS	**Bandar-Abbas**	**1.16**	**88**	ePg	**Pg**	**01 14 25.0**	**-0.4**
BNDS				eSg	**Sg**	**01 14 40.6**	**+0.2**
	SNR=93						
BNDS	**Bandar-Abbas**	**1.16**	**88**	ePg	**Pg**	**01 14 25.0**	**-0.4**
BNDS				eSg	**Sg**	**01 14 40.0**	**-0.4**
GHIR	**Ghir-Karzin**	**1.91**	**299**	ePG	**Pg**	**01 14 39.7**	**-0.1**
GHIR				eSG	**Sg**	**01 15 05.8**	**+1.3**
GHIR				AML	AML	01 15 21.8	
	comp=N,298nm,0.6s						
GHIR				AML	AML	01 15 23.0	
	comp=E,342nm,0.5s						
GHIR	**Ghir-Karzin**	**1.91**	**299**	ePg	**Pg**	**01 14 39.0**	**-0.8**
GHIR				eSg	**Sg**	**01 15 05.0**	**+0.5**
BANOM	**Banah**	**1.92**	**138**	⇑P	**Pn**	**01 14 36.3**	**-0.6**
	SNR=32						
BANOM				⇓S	**Sn**	**01 15 04.1**	**+2.6**
ASHO	**Ashiyiah**	**2.87**	**158**	⇑P	**Pn**	**01 14 49.7**	**-0.2**
	SNR=26						
IPAR	**Pars**	**2.95**	**328**	ePn	**Pn**	**01 14 50.8**	**-0.3**
KRBR	**Kerman**	**3.10**	**32**	ePN	**Pn**	**01 14 54.4**	**+1.3**
KRBR				eSG	**Sg**	**01 15 40.4**	**-2.4**
KRBR				AML	AML	01 15 58.9	
	comp=N,129nm,0.6s						
KRBR	**Kerman**	**3.10**	**32**	ePn	**Pn**	**01 14 54.0**	**+0.9**
KRBR				eSg	**Sg**	**01 15 40.4**	**-2.4**
	SNR=91						
KRBR	**Kerman**	**3.10**	**32**	ePn	**Pn**	**01 14 54.0**	**+0.9**
KRBR				eSg	**Sg**	**01 15 40.0**	**-2.8**
IMEH	**Mehriz**	**4.03**	**357**	ePn	**Pn**	**01 15 08.5**	**+2.6**
IBAF	**Bafgh**	**4.26**	**8**	ePn	**Pn**	**01 15 10.5**	**+1.4**
IBAF				eSn	**Sn**	**01 15 58.2**	**-1.3**
ARQ	**Araqi**	**4.27**	**159**	⇓P	**Pn**	**01 15 10.3**	**+1.1**
HOQ	**Hoqain**	**4.36**	**149**	⇓P	**Pn**	**01 15 11.6**	**+1.2**
ICHK	**Chekchek**	**4.89**	**355**	ePn	**Pn**	**01 15 20.6**	**+2.9**
ICHK				eSn	**Sn**	**01 16 15.3**	**+0.4**
BSY	**Bisya**	**5.05**	**155**	⇓P	**Pn**	**01 15 21.1**	**+1.1**
BSYO	**Bisya**	**5.08**	**154**	P	**Pn**	**01 15 21.1**	**+0.7**
SMDO	**Samad**	**5.16**	**145**	P	**Pn**	**01 15 21.9**	**+0.5**
	SNR=11						
NASN	**Na'in**	**5.71**	**342**	ePN	**Pn**	**01 15 30.9**	**+1.8**
NASN	**Na'in**	**5.71**	**342**	ePn	**Pn**	**01 15 30.0**	**+1.0**
JMDO	**Jabal Madar**	**5.77**	**149**	⇑P	**Pn**	**01 15 29.3**	**-0.5**
WBK	**Wadi Bani Khal**	**6.01**	**141**	⇓P	**Pn**	**01 15 32.8**	**-0.4**
RDF	**Al-Radifah**	**6.65**	**285**	eP	**Pn**	**01 15 44.3**	**+2.3**
RDF				AMb	AMB	01 15 48.8	
	comp=Z,57nm,0.6s						
NAY	**Al-Naaiem**	**6.99**	**287**	eP	**Pn**	**01 15 46.5**	**0.0**
NAY				AMb	AMB	01 15 50.3	
	comp=Z,54nm,0.4s						
MIB	**Mutribah**	**7.06**	**292**	eP	**Pn**	**01 15 46.1**	**-1.4**
MIB				AMb	AMB	01 15 52.0	
	comp=Z,35nm,0.5s						
WHFO	**Wadi Hawf**	**9.45**	**186**	⇓P	**Pn**	**01 16 17.6**	**-2.7**
RBK	**Rabkut**	**9.82**	**184**	⇑P	**Pn**	**01 16 23.4**	**-2.1**
ABTO	**Aybut**	**10.06**	**189**	P	**Pn**	**01 16 26.1**	**-2.5**
	SNR=20						
GNI	**Garni**	**15.27**	**329**	Pn	**Pn**	**01 17 45.6**	**+5.8**
	comp=Z,0.5nm,0.3s,baz=280,slow=8.1,SNR=5.1						
BR131	**Keskin Array S**	**21.51**	**310**	eP	**P**	**01 18 54.2**	**+0.8**
	comp=Z,1.7nm,0.8s,mb3.5						
BR131				eS	**S**	**01 22 49.7**	**-2.8**
BR131	**Keskin Array S**	**21.51**	**310**	eP	**P**	**01 18 54.2**	**+0.8**
	comp=Z,1.7nm,0.8s,mb3.5						
BR131				eS	**S**	**01 22 49.7**	**-2.8**
BRTR	**Keskin Array B**	**21.51**	**310**	P	**P**	**01 18 54.3**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.4,baz=129,slow=13,SNR=8.3						
AAK	**Ala-Archa**	**22.07**	**41**	eP	**P**	**01 18 59.1**	**-0.3**
	comp=Z,2.4nm,0.8s,mb3.7						
AAK	**Ala-Archa**	**22.07**	**41**	eP	**P**	**01 18 59.1**	**-0.3**
	comp=Z,2.4nm,0.8s,mb3.7						
AKTK	**Aktyubinsk**	**23.17**	**5**	P	**P**	**01 19 11.2**	**+0.1**
AKTK	**Aktyubinsk**	**23.17**	**5**	P	**P**	**01 19 11.2**	**+0.1**
AKTO	**Aktyubinsk**	**23.17**	**5**	P	**P**	**01 19 11.2**	**+0.1**
	comp=Z,1.2nm,0.3s,mb3.8,baz=174,slow=12,SNR=10						
IDI	**Anoyia**	**26.73**	**295**	P	**P**	**01 19 44.5**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.1,baz=76,slow=8.3,SNR=3.2						
ZRNK	**Zerenda**	**27.65**	**19**	eP	**P**	**01 19 52.2**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**27.65**	**19**	eP	**P**	**01 19 52.2**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.8						
BRVK	**Borovoye**	**28.12**	**20**	eP	**P**	**01 19 56.5**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0						
BRVK	**Borovoye**	**28.12**	**20**	eP	**P**	**01 19 56.5**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**28.12**	**20**	P	**P**	**01 19 56.1**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.2,baz=210,slow=6.8,SNR=24						
ZAL	**Zalesovo**	**34.47**	**31**	P	**P**	**01 20 51.3**	**-1.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=218,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**39.16**	**338**	P	**P**	**01 21 32.1**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.8,baz=138,slow=8.8,SNR=15						
HFS	**Hagfors**	**43.05**	**331**	P	**P**	**01 22 03.9**	**-0.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=122,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**44.56**	**331**	P	**P**	**01 22 15.1**	**-1.4**
	comp=Z,1.3nm,0.9s,mb3.8,baz=132,slow=7.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**51.49**	**265**	P	**P**	**01 23 08.2**	**-1.9**
	comp=Z,0.7nm,0.6s,mb3.8,baz=63,slow=7.1,SNR=10						
DBIC	**Dimbokro**	**60.12**	**262**	P	**P**	**01 24 12.6**	**+0.5**
	comp=Z,1.5nm,0.9s,mb4.0,baz=80,slow=6.1,SNR=3.7						

IDC 18 01:24:48.9±9.2, 1233N×9120E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=476.1km s-min=30.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.17**	**349**	P	P	01 31 44.5	0.0
	0.1nm,0.4s,baz=164,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**53.21**	**127**	P	P	01 34 08.9	-0.1
	0.2nm,0.5s,baz=307,slow=8.1,SNR=6.3						
ASAR	**Alice Springs**	**54.98**	**131**	P	P	01 34 22.8	+0.8
	0.4nm,0.3s,baz=306,slow=6.6,SNR=7.5						

NAO ***18*** *01:30:51.9, 52.02N×156.00E, h33km, mb4.3*
ISCJB ***18*** *01:30:57.5±0.2, 53.36N±002×160.66E±004, h56km, mb4.3/63, MS3.6/3, Error ellipse: s-maj=4.4km s-min=2.3km az=86.2*
IDC ***18*** *01:30:57.1±3.5, 53.54N×160.15E, h33km±28km, mb4.0/24, mb1 4.2/26, mb1mx4.2/29, mbtmp4.2/26, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=14.0km s-min=12.2km az=139.0*
MOS ***18*** *01:30:57.9±1.3, 53.50N×160.30E, h62km, mb4.6/17, Error ellipse: s-maj=10.3km s-min=5.9km az=88.2*
BJI ***18*** *01:30:57.2, 53.46N×160.76E, h85km, mB4.7, mb4.7, Ms4.7, Msz4.6*
KRSC ***18*** *01:30:58.2±0.8, 53.38N×160.63E, h50km±8km, ML4.8*
NEIC ***18*** *01:30:59.4±0.2, 53.54N×160.23E, mb4.4/28, Error ellipse: s-maj=6.4km s-min=4.6km az=152.0*
ISC 18 01:30:59.0±0.2, 5339N±002×16055E±004, h58km, h58km±2.9km: pP-P, n168, σ1§23/196, mb4.3/63, MS3.6/3, 8C-10D, Near east coast of Kamchatka Peninsula

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

SPN Mys Shipunski 0.43 227 P **Pn 01 31 09.7 -0.4**
SPN S **Sn 01 31 18.7 +0.6**
SPN Mys Shipunski 0.43 227 *i* P **Pn 01 31 09.7 -0.4**
NLC Nalytchevo 0.76 254 P **Pn 01 31 13.5 -0.3**
NLC S **Sn 01 31 24.9 +0.2**
NLC Nalytchevo 0.76 254 *i* P **Pn 01 31 13.5 -0.3**
KII Karymskiy 0.92 315 *i* P **Pn 01 31 15.4 -0.5**
UGLR Uglovaya 1.05 261 *i* P **Pn 01 31 18.1 +0.5**
SMAR Somma 1.06 264 *i* P **Pn 01 31 17.8 +0.1**
AVH Avacha 1.09 264 *i* P **Pn 01 31 18.6 +0.4**
AVH *e*S **Sn 01 31 33.9 +1.5**
KOK Koryaka 1.15 266 *i* P **Pn 01 31 19.2 +0.2**
PET Petropavlovsk 1.20 253 *i* P **Pn 01 31 19.7 +0.1**
PET *e*S **Sn 01 31 35.5 +0.6**
PET Petropavlovsk 1.20 253⇓*i*PN **Pn 01 31 19.7 +0.1**
PET *i* S **Sn 01 31 35.3 +0.4**
PET pmax pmax
comp=Z,1μm,0.4s
PET smax
comp=N,4μm,0.4s
PET smax
comp=N,6μm,0.4s
PET smax
comp=E,4μm,0.5s
PET smax
comp=E,4μm,0.5s
PET Petropavlovsk 1.20 253⇓*i*Pn **Pn 01 31 19.7 +0.1**
PET *e*Sn **Sn 01 31 35.3 +0.4**
MKZ Mys Kozlova 1.36 30 P **Pn 01 31 20.8 -1.0**
MKZ S **Sn 01 31 37.1 -1.7**
MKZ Mys Kozlova 1.36 30 *i* P **Pn 01 31 20.7 -1.1**
MKZ *e*S **Sn 01 31 37.8 -1.0**
KRMR Karymshinskiy 1.56 250 *i* P **Pn 01 31 25.1 +0.6**
KRMR *i* S **Sn 01 31 45.1 +1.4**
RUS Russkaya 1.56 233 P **Pn 01 31 24.7 +0.2**
RUS S **Sn 01 31 44.1 +0.4**
RUS Russkaya 1.56 233 *i* P **Pn 01 31 24.5 0.0**
RUS *e*S **Sn 01 31 44.1 +0.4**
GNL Ganaly 1.58 282 *i* P **Pn 01 31 25.3 +0.5**
GNL *i* S **Sn 01 31 45.4 +1.2**
GRL Gorelyy 1.72 242 *i* P **Pn 01 31 27.7 +1.1**
GRL *e*S **Sn 01 31 48.7 +1.3**
TUMR Tumrok 1.91 353 *i* P **Pn 01 31 30.1 +0.9**
APC Apacha 2.10 258 *i* P **Pn 01 31 33.2 +1.5**
APC *e*S **Sn 01 31 58.2 +1.6**
APC Smax
comp=E,1μm,0.7s
MIPR Malaya Ipel'ka 2.56 246 *i* P **Pn 01 31 39.8 +1.8**
KPT Kopyto 2.59 356 *e*P **Pn 01 31 39.6 +1.1**
KPT *e*S **Sn 01 32 09.9 +1.2**
ZLN Zelenaya 2.63 3 *i* P **Pn 01 31 40.9 +1.8**
ZLN *e*S **Sn 01 32 11.1 +1.2**
KOZ Kozyrevsk 2.70 352 P **Pn 01 31 41.1 +1.1**
KOZ S **Sn 01 32 12.9 +1.4**
KOZ Kozyrevsk 2.70 352 *i* P **Pn 01 31 41.0 +1.0**
KOZ *e*S **Sn 01 32 12.9 +1.4**
KOZR Kozyr 2.71 352 PN **Pn 01 31 41.1 +1.0**
KOZR S **Sn 01 32 12.9 +1.3**
CIRR Tsirk 2.73 2 *e*P **Pn 01 31 42.2 +1.8**
ESO Esso 2.76 338 *i* P **Pn 01 31 41.9 +1.1**
ESO Esso 2.76 338 *i* P **Pn 01 31 41.4 +0.6**
ESO Smax
comp=E,380nm,0.6s
KLY Klyuchi 2.93 1 *i* P **Pn 01 31 44.5 +1.4**
KLY *e*S **Sn 01 32 18.7 +1.6**
SRDR Sredinnyy 2.97 351 *e*P **Pn 01 31 44.7 +1.0**
PAU Pauzhetka 2.99 231 *i* P **Pn 01 31 46.7 +2.7**
KBTR Krutoberegovo 3.11 24 *i* P **Pn 01 31 45.8 +0.2**
KBTR *e*S **Sn 01 32 21.8 +0.2**
KBG Krutoberegovo 3.13 23 *i* P **Pn 01 31 46.3 +0.4**
KBG *i* S **Sn 01 32 21.3 -0.7**
KBG Smax
comp=E,5μm,1.2s
BDR Baidarnaya 3.21 7 *i* P **Pn 01 31 48.6 +1.7**
SMKR Semkarok 3.24 9 *e*P **Pn 01 31 48.9 +1.5**
SRKR Sorokina 3.29 6 *e*P **Pn 01 31 49.8 +1.7**
BKI Bering 3.66 58 *i* P **Pn 01 31 52.7 -0.4**
BKI *i* S **Sn 01 32 30.7 -4.3**
BKI Smax
comp=E,340nm,0.4s
ALID Alaid 3.98 233 *e*P **Pn 01 31 59.9 +2.3**
OSSR Ossora 6.04 12 P **Pn 01 32 25.1 -0.6**
FX1 Attu Island--F 7.61 89 Pn **Pn 01 32 47.7 +0.5**
comp=E,11nm,0.3s,baz=303,slow=23,SNR=69
FX1 Sn **Sn 01 34 07.1 -4.9**
comp=E,12nm,0.3s,baz=240,slow=24,SNR=4.7
FX1 Attu Island--F 7.61 89 *e*Pn **Pn 01 32 47.6 +0.4**
FX1 *e*Sn **Sn 01 34 06.0 -5.9**
MA2 Magadan 8.22 323 *e*PN **Pn 01 32 56.2 +0.6**
MA2 S **Sn 01 34 26.2 -0.8**
MA2 pmax pmax
comp=Z,3.0nm,0.8s
MA2 Magadan 8.22 323 *e*Pn **Pn 01 32 53.1 -2.5**
comp=Z,3.9nm,0.6s
KAMR Kamenskoye 9.57 16 *e*P **Pn 01 33 15.6 +1.5**
BILL Bilibino 14.95 8 *e*P **Pn 01 34 25.6 -1.2**
BILL pmax pmax
comp=Z,2.0nm,0.3s
BILL Bilibino 14.95 8 *e*Pn **Pn 01 34 25.6 -1.2**
comp=Z,1.9nm,0.3s
ASAJ Asahikawa 15.01 239 Pn **Pn 01 34 26.5 -1.1**
comp=Z,1.5nm,0.3s,baz=78,slow=11,SNR=9.0
ASAJ LR LR 01 39 49.3
comp=Z,160nm,18.4s,baz=108,slow=36
ASAJ Asahikawa 15.01 239 P **Pn 01 34 26.5 -1.1**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,160nm,18.5s
HABR Khabarovsk 16.77 263 *i* P **Pn 01 34 45.7 -4.2**
HABR *e*S **S 01 37 48.4 -15**
HABR pmax pmax
comp=Z,12nm,0.3s
YAK Yakutsk 18.45 310 *e*P **Pn 01 35 08.6 -2.0**
YAK pmax pmax
comp=Z,22nm,0.7s
YAK pmax pmax
comp=E,1.0nm,1.0s
YAK Yakutsk 18.45 310 *e*Pn **Pn 01 35 07.5 -3.0**
comp=E,72nm,0.6s
TNA Tin City 19.85 40⇓*e*P **Pn 01 35 26.3 -0.9**
comp=E,2.7nm,0.6s
TIXI Tiksi 22.93 335⇑*e*P **P 01 35 55.9 -2.2**
MAJO Matsushiro 22.95 232 *e*P **P 01 35 58.3 0.0**
MAJO pmax pmax
comp=Z,12nm,0.6s,mb4.5
MAJO Matsushiro 22.95 232 *e*P **P 01 35 58.3 -0.1**
comp=Z,12nm,0.6s,mb4.5
MAT Matsushiro 22.95 232 P **P 01 35 59.0 +0.7**
MJAR Matsushiro Arr 22.95 232 P **P 01 35 58.7 +0.4**
comp=Z,9.5nm,0.6s,mb4.4,baz=24,slow=11,SNR=29
MJAR LR LR 01 44 11.6
comp=Z,146nm,19.6s,MS3.4,baz=85,slow=35
TTA Tatalina 24.35 50 *e*P **P 01 36 12.6 +1.1**
TTA pmax pmax
comp=Z,14nm,0.7s,mb4.5
TTA Tatalina 24.35 50 *e*P **P 01 36 12.6 +1.2**
comp=Z,14nm,0.7s,mb4.5
HIA Hailar 25.57 277 *d i*P **P 01 36 21.0 -1.6**
HIA Hailar 25.57 277 *e*P **P 01 36 20.7 -1.8**
comp=Z,8.3nm,0.6s,mb4.4
BOD Bodaibo 26.24 299 *e*P **P 01 36 26.2 -2.4**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
MCK McKinley 27.55 48 *e*P **P 01 36 39.9 -0.5**
MCK pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
MCK McKinley 27.55 48 *e*P **P 01 36 39.9 -0.5**
comp=Z,1.8nm,0.9s,mb3.7
COLA College 28.00 45 *e*P **P 01 36 44.6 +0.3**
ILAR Eielson Array 28.41 46 P **P 01 36 48.1 +0.1**
comp=Z,2.2nm,0.8s,mb3.8,baz=263,slow=8.3,SNR=28
ILAR LR LR 01 48 04.5
comp=Z,59nm,19.1s,MS3.2,baz=357,slow=36
INK Inuvik 33.47 38 P **P 01 37 33.0 +0.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=309,slow=4.9,SNR=9.1
INK PcP PcP 01 40 12.6 +0.1
comp=Z,2.2nm,1.3s,baz=279,slow=2.1,SNR=6.6
INK Inuvik 33.47 38 *e*P **P 01 37 32.9 +0.3**
INK 01 40 12.6
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 33.47 38 *e*P **P 01 37 32.9 +0.4**
comp=Z,1.8nm,0.7s,mb4.1
INK PcP PcP 01 40 12.6 +0.1
ULN Ulaanbaatar 33.70 283⇑*e*P **P 01 37 34.0 -0.6**
ULN Ulaanbaatar 33.70 283 *e*P **P 01 37 32.4 -2.2**
comp=Z,2.4nm,0.5s,mb4.4
SONM Songino Array 34.10 283 P **P 01 37 36.9 -1.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=60,slow=7.6,SNR=14
SONM PcP PcP 01 40 14.5 +0.2
comp=Z,1.2nm,0.6s,baz=63,slow=1.7,SNR=13
SSE Sheshan 36.02 248 P **P 01 37 52.8 -1.8**
SSE AMB AMB
comp=Z,37nm,0.7s
SSE AMB AMB
comp=Z,133nm,4.3s
NJ2 Nanjing 36.61 251 *e*P **P 01 37 59.6 0.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
KRAR Krasnoyarsk 37.78 302⇓*e*P **P 01 38 07.4 -2.1**
KRAR pmax pmax
comp=Z,33nm,0.5s
KRAR MLR MLR
comp=Z,400nm,20.0s,MS4.2
YKA Yellowknife Ar 42.76 43 P **P 01 38 51.3 +0.6**
comp=Z,0.6nm,0.6s,mb3.5,baz=299,slow=7.9,SNR=12
YKA Yellowknife Ar 42.76 43 P **P 01 38 51.3 +0.6**
GTA Gaotai 42.85 276 P **P 01 38 50.9 -0.5**
GTA AMB AMB
comp=Z,8.0nm,0.8s,mb4.5
ZAL Zalesovo 42.86 303 P **P 01 38 50.3 -1.3**
comp=Z,1.4nm,0.2s,mb4.2,baz=82,slow=5.2,SNR=3.2
RES Resolute Bay 42.95 22 *e*P **P 01 38 51.5 -0.7**
RES pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
RES Resolute Bay 42.95 22 *e*P **P 01 38 51.5 -0.7**
comp=Z,1.2nm,0.8s,mb3.7
NVS Novosibirsk 43.17 304 *e*P **P 01 38 50.7 -3.3**
NVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
NVS pmax pmax
comp=E,7.0nm,0.8s
ENH Enshi 43.34 259 P **P 01 38 54.2 -1.1**
comp=E,3.6nm,0.4s,mb4.5
KURK Kurchatov 47.81 302 *e*P **P 01 39 27.7 -3.0**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KURK Kurchatov 47.81 302 *e*P **P 01 39 27.7 -3.0**
comp=Z,4.9nm,0.6s,mb4.7
MKAR Makanchi Array 48.27 296 P **P 01 39 32.1 -2.1**
comp=Z,2.5nm,0.5s,mb4.5,baz=58,slow=6.7,SNR=28
MKAR PcP PcP 01 41 00.3 -0.1
comp=Z,0.6nm,0.6s,baz=67,slow=4.6,SNR=3.2
BVAR Borovoye Array 50.42 308 P **P 01 39 47.2 -3.5**
comp=Z,1.9nm,0.5s,mb4.4,baz=60,slow=7.3,SNR=11
BRVK Borovoye 50.45 308 *e*P **P 01 39 47.8 -3.0**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 50.45 308 *e*P **P 01 39 47.8 -3.0**
comp=Z,2.3nm,0.6s,mb4.4
ZRNK Zerenda 51.11 309 *e*P **P 01 39 52.3 -3.5**
ZRNK *PP pP 01 40 08.2 -2.8
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ZRNK Zerenda 51.11 309 *e*P **P 01 39 52.3 -3.5**
comp=Z,1.4nm,0.6s,mb4.1
ZRNK pP pP 01 40 08.2 -2.8
FCC Fort Churchill 53.08 39 *e*P **P 01 40 10.7 +0.3**
FCC *e*PP pP 01 40 24.3 -1.4
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FCC Fort Churchill 53.08 39 *e*P **P 01 40 10.7 +0.3**
comp=Z,1.5nm,0.5s,mb4.2
FCC *e*pP pP 01 40 24.2 -1.5
ARCES ARCESS Array B 53.09 342 P **P 01 40 07.8 -2.8**
comp=Z,2.7nm,0.7s,mb4.3,baz=52,slow=8.8,SNR=6.2
ARU Arti 53.36 317⇓*i*P **P 01 40 09.9 -2.6**
ARU *e* 01 41 17.5
ARU *e* 01 42 10.9
ARU *e*S **S 01 47 35.9 -4.3**
ARU *e*SS SS 01 51 19.2 -1.5
ARU pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ARU Arti 53.36 317 *e*P **P 01 40 10.3 -2.3**
comp=Z,2.1nm,0.5s,mb4.3
ARU *e*pP pP 01 40 26.1 -1.7
ARU sP sP 01 40 32.1 -2.3
AAK Ala-Archa 55.19 296 *e*P **P 01 40 23.7 -2.1**
AAK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AAK Ala-Archa 55.19 296 *e*P **P 01 40 23.7 -2.1**
comp=Z,1.1nm,0.4s,mb4.2
NVAR Mina Array Bea 55.38 71 P **P 01 40 29.3 +2.1**
comp=Z,0.4nm,0.5s,mb3.7,baz=299,slow=7.9,SNR=4.9
LAO LASA Array 56.11 56 *e*P **P 01 40 30.0 -2.3**
comp=Z,32nm,0.5s
LAO *e*pP pP 01 40 47.6 -0.2
HWUT Hardware Ranch 56.89 63 P **P 01 40 39.1 +1.2**
comp=Z,1.8nm,0.5s,mb4.4
BW06 Boulder Array 57.14 61 P **P 01 40 41.1 +1.4**
comp=Z,3.4nm,1.2s,mb4.2
PDAR Pinedale Array 57.14 61 P **P 01 40 41.9 +2.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=329,slow=2.4,SNR=8.6
JOF Joensuu 57.41 335 *e*p **P 01 40 39.3 -2.3**
comp=Z,1.8nm,0.6s,mb4.3
JOF Joensuu 57.41 335 *e*P **P 01 40 39.3 -2.3**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AKTK Aktyubinsk 57.82 312 P **P 01 40 41.6 -2.9**
AKTO Aktyubinsk 57.82 312 P **P 01 40 41.6 -2.9**
baz=355,slow=12
RSSD Black Hills 59.01 57 *e*P **P 01 40 54.2 +1.4**
RSSD *e*PP pP 01 41 08.9 +0.6
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RSSD Black Hills 59.01 57 *e*P **P 01 40 54.2 +1.4**
comp=Z,2.9nm,0.8s,mb4.4
RSSD *e*pP pP 01 41 08.9 +0.6
GUN Gumba 59.14 276 *e*P **P 01 40 52.7 -1.0**
comp=Z,7.1nm,0.4s,mb5.0
KAF Kangasniemi 59.32 337 *e*p **P 01 40 53.1 -1.8**
comp=Z,2.3nm,0.5s,mb4.5,baz=30,slow=6.3
KAF Kangasniemi 59.32 337 *e*P **P 01 40 53.1 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KKN Kakani 59.58 276 *e*P **P 01 40 55.6 -1.1**
PKI Pulchoki 59.67 276 *e*P **P 01 40 55.9 -1.4**
comp=Z,7.4nm,0.5s,mb4.9
PKI Pulchoki 59.67 276 *e*P **P 01 40 55.9 -1.4**
PKI pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
GKN Gorkha 59.81 277 *e*P **P 01 40 57.4 -0.9**
DMN Daman 59.82 276 *e*P **P 01 40 57.6 -0.8**
comp=Z,8.0nm,0.6s,mb4.9
FINES FINESS Array B 59.96 337 P **P 01 40 57.7 -1.6**
comp=Z,2.9nm,0.5s,mb4.5,baz=40,slow=8.1,SNR=28
KOLN Koldanda 60.59 278 *e*P **P 01 41 02.3 -1.4**
comp=Z,3.8nm,0.5s,mb4.8
NB2 NORSAR Subarra 63.33 344 P **P 01 41 20.3 -1.7**
comp=Z,2.0nm,0.5s,mb4.5,baz=23,slow=6.9
NOA NORSAR Array B 63.33 344 P **P 01 41 20.9 -1.2**
comp=Z,2.9nm,0.6s,mb4.6,baz=21,slow=6.7,SNR=14
PMG Port Moresby 63.58 195 P **P 01 41 25.8 +2.1**
PMG *e*PP pP 01 41 40.7 +1.3
PMG *SP sP 01 41 45.8 0.0
PMG pmax pmax
comp=Z,14nm,1.0s
PMG Port Moresby 63.58 195 P **P 01 41 25.8 +2.1**
comp=Z,14nm,1.0s,mb4.9
PMG *e*pP pP 01 41 40.7 +1.4
PMG sP sP 01 41 45.8 0.0
HFS Hagfors 63.75 342 P **P 01 41 23.3 -1.5**
comp=Z,4.1nm,0.5s,mb4.7,baz=29,slow=4.2,SNR=29
AKASG Malin Array Be 68.50 329 P **P 01 41 53.1 -2.1**
comp=Z,0.5nm,0.4s,mb3.9,baz=28,slow=6.9,SNR=7.0
EKA Eskdalemuir Ar 70.81 350 P **P 01 42 09.1 -0.4**
comp=Z,2.9nm,0.4s,mb4.5,baz=18,slow=5.4,SNR=24
BURAR Bucovina Array 72.45 330⇓P **P 01 42 18.2 -1.1**
BURAR Bucovina Array 72.45 330⇓P **P 01 42 18.2 -1.1**
DRGR 73.93 331⇓P **P 01 42 27.8 -0.2**
DRGR 73.93 331⇓P **P 01 42 27.8 -0.2**
KHC Kasperske Hory 74.10 338⇑*i*P **P 01 42 29.6 +0.6**
MLR Muntele Rosu 74.14 329 P **P 01 42 29.2 -0.1**
comp=Z,3.2nm,0.7s,mb4.3,baz=176,slow=7.0,SNR=5.1
CTA Charters Tower 74.21 194 P **P 01 42 30.3 +0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=345,slow=12,SNR=4.9
CTAO Charters Tower 74.21 194 *e*P **P 01 42 30.1 +0.4**
CTAO *e* pP 01 42 43.7 -2.0
CTAO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CTAO Charters Tower 74.21 194 *e*P **P 01 42 30.1 +0.4**
comp=Z,8.3nm,1.2s,mb4.5
CTAO *e*PcP PcP 01 42 43.7 -0.7
HARR Harsova 74.22 327⇑P **P 01 42 27.9 -1.8**
HARR Harsova 74.22 327⇑P **P 01 42 27.9 -1.8**
GERES GERESS Array B 74.34 338 P **P 01 42 30.1 -0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=28,slow=6.0,SNR=9.6
GIVF Givet 74.87 344 *e*P **P 01 42 33.8 +0.3**
BAIF Baives 75.01 344 *e*P **P 01 42 34.0 -0.3**
comp=Z,5.6nm,0.6s,mb4.3
BZS Buzias 75.32 332⇑P **P 01 42 35.9 -0.1**
BZS Buzias 75.32 332⇑P **P 01 42 35.9 -0.1**
CDF Champ du Feu 76.07 342 *e*P **P 01 42 40.2 -0.2**
comp=Z,8.4nm,0.7s,mb4.5
MEZF Maizieres J'vi 76.38 344 *e*P **P 01 42 42.0 -0.1**
comp=Z,6.6nm,0.5s,mb4.5
WRAB Tennant Creek 76.45 205 P **P 01 42 43.0 +0.5**
WRAB pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WRAB Tennant Creek 76.45 205 P **P 01 42 43.0 +0.5**
comp=Z,3.0nm,0.8s,mb4.3
WB2 Warramunga Arr 76.46 205 *e*P **P 01 42 43.2 +0.6**
WRA Warramunga Arr 76.47 205 P **P 01 42 43.1 +0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=24,slow=6.3,SNR=20
BRTR Keskin Array B 76.56 321 P **P 01 42 43.0 -0.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=39,slow=3.2,SNR=5.7
HAU Haudompre 76.63 343 *e*P **P 01 42 43.1 -0.4**
comp=Z,6.2nm,0.6s,mb4.4
HINF Hinteralfeld 76.72 342 *e*P **P 01 42 43.5 -0.5**
DAVOX Davos 77.12 340 P **P 01 42 46.6 +0.3**
comp=Z,4.0nm,0.6s,mb4.5,baz=352,slow=2.1,SNR=9.2
FITZ Fitzroy Crossi 77.30 214 *e*P **P 01 42 48.0 +0.7**
comp=Z,2.5nm,0.6s,mb4.3
LOR Lormes 77.77 344 *e*P **P 01 42 49.7 -0.2**
comp=Z,9.0nm,0.7s,mb4.5
CABF La Chapelle 78.02 342 *e*P **P 01 42 52.1 +0.8**
SSF Saint Saulge 78.03 344 *e*P **P 01 42 51.1 -0.3**
PALK Pallekele 78.14 266⇑*e*P **P 01 42 51.5 -0.5**
comp=Z,18nm,1.3s,mb4.8
AVF Avril sur Loir 78.32 344 *e*P **P 01 42 52.8 -0.2**
LPL La Plagne 78.96 342 *e*P **P 01 42 57.5 +1.0**
comp=Z,20nm,0.8s,mb4.8
LPG La Plagne 78.97 342 *e*P **P 01 42 57.7 +1.2**
comp=Z,17nm,0.9s,mb4.7
ORIF Oris-en-Rattie 79.69 342 *e*P **P 01 43 01.3 +0.8**
comp=Z,12nm,0.9s,mb4.5
MBDF Montbardon 79.71 341 *e*P **P 01 43 01.9 +1.3**
comp=Z,7.6nm,0.6s,mb4.5
ASAR Alice Springs 80.14 205 P **P 01 43 04.0 +1.1**
comp=Z,1.9nm,0.8s,mb4.1,baz=12,slow=5.0,SNR=16
SMRF Simiane la Rot 80.66 342 *e*P **P 01 43 06.4 +0.7**
STKA Stephens Creek 86.50 196 P **P 01 43 34.9 -0.7**
comp=Z,2.2nm,0.7s,mb4.5,baz=356,slow=4.5,SNR=4.4
STKA Stephens Creek 86.50 196 P **P 01 43 34.5 -1.0**

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*JMA **18** 01:38:22.9±0.2,3779N×14227E,h36km±3km,M3.2*
*ISCJB **18** 01:38:23.1±1.7,3777N±008×1423E±0.1,h39km±15km, mb3.2/3, Error ellipse: s-maj=17.0km s-min=12.0km az=61.7*
*IDC **18** 01:38:51.1±5.3,3667N×13960E,h199km±16km,mb2.8/3, mb1 3.0/3,mb1mx2.7/19,mbtmp3.3/3,Error ellipse: s-maj=138.0km s-min=21.5km az=66.0*
ISC 18 01:38:21.1±1.7,3775N±006×14224E±009,h6km±7km,n12, σ0°47/17,mb3.2/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.00**	**315**	P	**Pg**	**01 38 40.6**	**+0.3**
JIO				S	**Sg**	**01 38 53.0**	**-0.2**
JFK	**Kawauchi**	**1.15**	**251**	P	**Pg**	**01 38 43.2**	**-0.1**
JFK				*e*S	**Sg**	**01 38 58.4**	**+0.1**
JMM	**Marumori**	**1.16**	**276**	P	**Pg**	**01 38 43.3**	**0.0**
JMM				S	**Sg**	**01 38 57.7**	**-0.6**
JOU	**Okura**	**1.39**	**297**	P	**Pn**	**01 38 47.1**	**+0.1**
JMK	**Ichinoseki**	**1.45**	**326**	P	**Pn**	**01 38 47.3**	**-0.5**
JFT	**Otama**	**1.53**	**262**	P	**Pn**	**01 38 49.7**	**+0.7**
JFT				S	**Sn**	**01 39 09.2**	**0.0**
JYS	**Shiratake**	**1.79**	**286**	P	**Pn**	**01 38 53.5**	**+1.1**
JYS				*e*S	**Sn**	**01 39 15.1**	**-0.3**
JYK	**Kaneyama**	**1.89**	**309**	P	**Pn**	**01 38 54.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.44**	**251**	P	**Pn**	**01 39 21.4**	**+6.2**
	0.7nm,0.3s,baz=84,slow=15,SNR=4.5						
SONM	**Songino Array**	**27.95**	**303**	P	**P**	**01 44 12.3**	**+0.1**
	0.4nm,0.8s,mb3.1,baz=96,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**44.30**	**302**	P	**P**	**01 46 31.4**	**-0.3**
	0.2nm,0.8s,mb2.9,baz=84,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**57.86**	**189**	P	**P**	**01 48 12.7**	**-0.9**
	0.3nm,0.6s,mb3.5,baz=6.3,slow=7.2,SNR=5.8						

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*MOS **18** 01:52:16.2±1.1,5020N×10550E,h10km,mb4.5/22,Error ellipse: s-maj=7.2km s-min=5.1km az=92.5*
MOS Felt (IV) at Zakamensk; (II) at Irkutsk.
*BYKL **18** 01:52:17.3±0.4,5026N×10537E,h8km±14km,FELT I=IV-V MSK at Naushki, IV at Oyer,Nizhniy Torey,Chikoy,Zakamensk; III-IV at Shartikey,Huldat,Ulekchin,Ust-Kiran,Holtoson; III at Irkutsk.*
*IDC **18** 01:52:18.6±3.3,5014N×10547E,h16km±22km,mb3.8/19, mb1 4.0/21,mb1mx4.0/26,mbtmp3.9/21,ML3.0/3,MS3.7/7, Ms1 3.7/7,ms1mx3.4/29,Error ellipse: s-maj=18.3km s-min=11.6km az=39.0*
*NAO **18** 01:52:18.3,4989N×10527E,h33km,mb4.3*
*BJI **18** 01:52:19.8,5014N×10566E,h25km,mB4.8,mb4.6,Ms4.6, Msz4.2*
*ISCJB **18** 01:52:19.9±0.2,5019N±002×10544E±003,h33km, mb4.2/49,MS3.9/11,Error ellipse: s-maj=3.1km s-min=2.7km az=38.2*
*NEIC **18** 01:52:20.4±0.3,5016N×10551E,mb4.4/24,Error ellipse: s-maj=7.7km s-min=5.5km az=205.0*
NEIC Felt [IV] at Zakamensk and [II] at Irkutsk.
ISC 18 01:52:17.9±0.8,5027N±002×10549E±003,h8km±4km, h27km±1.6km:pP-P,n169,σ1°28/220,mb4.2/49,MS3.9/11, 13C-14D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**1.42**	**275**⇓	*i*Pg	**Pn**	**01 52 41.8**	**-2.2**
ZAK				Pmax		01 52 43.8	
	1μm,0.2s						
ZAK				*e*Sg	**Sn**	**01 52 59.8**	**-3.1**
ZAK				Smax		01 53 04.9	
	13μm,0.5s						
ZAK	**Zakamensk**	**1.42**	**275**	*e*PG	**Pn**	**01 52 41.2**	**-2.8**
ZAK				*e*		01 52 59.4	
ZAK				pmax	pmax		
	comp=Z,2μm,0.2s						
BTMB	**Babushkin**	**1.45**	**8**⇑	*i*Pg	**Pn**	**01 52 43.3**	**-1.1**
BTMB				Pmax		01 52 43.9	
	comp=Z,4μm,0.4s						
BTMB				*e*Pb	**Pb**	**01 52 45.6**	**+0.5**
BTMB				*e*Sg	**Sg**	**01 53 03.3**	**-1.3**
BTMB				Smax		01 53 10.8	
	comp=Z,25μm,0.9s						
HRMR	**Khuramsha**	**1.65**	**34**⇑	*i*Pn	**Pn**	**01 52 47.7**	**+0.6**
HRMR				*e*Pg	**Pg**	**01 52 48.5**	**-1.0**
HRMR				Pmax		01 52 53.0	
	comp=Z,4μm,0.5s						
HRMR				*e*Sg	**Sg**	**01 53 11.0**	**+0.2**
HRMR				Smax		01 53 13.3	
	comp=Z,78μm,0.8s						
LSTR	**Listvyanka**	**1.66**	**346**⇑	*i*Pg	**Pn**	**01 52 47.2**	**0.0**
LSTR				Pmax		01 52 51.8	
	comp=Z,4μm,1.0s						
LSTR				*e*Sg	**Sn**	**01 53 08.9**	**+0.2**
LSTR				Smax		01 53 15.9	
	comp=Z,15μm,1.2s						
TLY	**Talaya**	**1.84**	**321**⇑	*i*Pg	**Pn**	**01 52 49.3**	**-0.4**
	comp=Z,2μm,0.9s						
TLY				⇓*i*Pg	**Pn**	**01 52 49.3**	**-0.4**
	comp=Z,956nm,0.9s						
TLY				⇑*i*Pg	**Pn**	**01 52 49.3**	**-0.4**
	comp=Z,2μm,0.9s						
TLY				*e*		01 52 50.4	
TLY				max		01 52 50.6	
	comp=Z,3μm,0.3s						
TLY				*e*Sg	**Sn**	**01 53 13.0**	**-0.1**
TLY				*e*		01 53 15.6	
TLY				*e*Smax		01 53 19.3	

comp=Z,14μm,1.0s
TLY Talaya 1.84 321 ⇑*i*PN **Pn 01 52 49.3 -0.4**
TLY *e* 01 53 13.4
TLY pmax pmax
comp=Z,3μm,0.4s
KAB Kabansk 1.93 22 *e*Pg **Pn 01 52 52.2 +1.2**
KAB Pmax 01 52 56.4
comp=Z,4μm,1.3s
KAB *e*Sg **Sg 01 53 18.6 -1.3**
KAB Smax 01 53 31.1
comp=Z,46μm,1.7s
KAB Kabansk 1.93 22 *e*PN **Pn 01 52 52.4 +1.4**
KAB *e* 01 53 20.1
KAB pmax pmax
comp=Z,5μm,1.4s
FFNB Fofonovo 1.95 24 *e*Pn **Pn 01 52 52.1 +0.8**
FFNB *e*Pg **Pg 01 52 52.9 -2.5**
FFNB Pmax 01 52 54.8
comp=Z,1μm,0.1s
FFNB *e*Sg **Sg 01 53 19.2 -1.5**
FFNB Smax 01 53 22.8
comp=Z,36μm,0.4s
IRK Irkutsk 2.12 339 *e*Pn **Pn 01 52 53.9 +0.3**
IRK *e*Pg **Pg 01 52 55.2 -3.4**
IRK Pmax 01 52 57.1
comp=Z,7μm,0.5s
IRK *e*Sg **Sg 01 53 23.6 -2.5**
IRK Smax 01 53 27.8
comp=Z,36μm,0.6s
IRK Irkutsk 2.12 339 *e*PN **Pn 01 52 55.3 +1.7**
IRK *e* 01 53 23.6
IRK pmax pmax
comp=Z,9μm,0.8s
TRTB Turuntaevo 2.38 34 *e*Pn **Pn 01 52 58.3 +1.1**
TRTB ⇑*i*Pg **Pg 01 53 00.0 -3.5**
TRTB Pmax 01 53 01.5
comp=Z,2μm,0.7s
TRTB *e*Sg **Sg 01 53 33.0 -1.4**
TRTB Smax 01 53 34.2
comp=Z,15μm,0.7s
TRTB *e* 01 53 37.0
SONM Songino Array 2.51 166 Pn **Pn 01 52 58.0 -0.9**
comp=Z,16nm,0.3s,baz=341,slow=6.8,SNR=465
SONM Pg **Pg 01 53 01.7 -4.3**
comp=Z,766nm,0.3s,baz=339,slow=16,SNR=1022
SONM Lg 01 53 34.4
comp=Z,3μm,0.3s,baz=348,slow=27,SNR=30
ZRHB Zarechye 2.51 24 ⇓*i*Pg **Pg 01 53 02.6 -3.5**
ZRHB Pmax 01 53 10.0
comp=Z,6μm,0.8s
ZRHB *e*Sg **Sg 01 53 37.3 -1.4**
ZRHB Smax 01 53 39.1
comp=Z,60μm,1.7s
ARS Arshan 2.55 312 ⇑*i*Pn **Pn 01 52 59.1 -0.4**
ARS *e*Pg **Pg 01 53 02.1 -4.6**
ARS Pmax 01 53 02.3
comp=Z,740nm,0.6s
ARS *e*Sg **Sg 01 53 35.1 -4.6**
ARS Smax 01 53 39.0
comp=Z,20μm,1.4s
ARS Arshan 2.55 312 *e*PN **Pn 01 52 59.1 -0.4**
ARS *e* 01 53 01.8
ARS *e* 01 53 35.1
ARS pmax pmax
comp=Z,1μm,0.5s
TRG Tyrgan 2.55 12 *e*Pn **Pn 01 52 59.2 -0.4**
TRG *e*Pg **Pg 01 53 02.7 -4.1**
TRG Pmax 01 53 10.2
comp=Z,932nm,0.7s
TRG *e*Sg **Sg 01 53 36.8 -3.1**
TRG Smax 01 53 39.1
comp=Z,5μm,0.5s
TRG *e* 01 53 44.6
TRG Tyrgan 2.55 12 *e*PN **Pn 01 52 59.2 -0.4**
TRG *e* 01 53 03.2
TRG *e*S **Sn 01 53 30.5 -0.3**
TRG *e* 01 53 36.7
TRG pmax pmax
comp=Z,958nm,0.4s
TRG smax
comp=E,5μm,0.2s
ULN Ulaanbaatar 2.61 156 *e*Pn **Pn 01 53 00.6 +0.2**
ULN *e*Pg **Pg 01 53 04.2 -3.8**
ULN *e*Sn **Sn 01 53 39.2 +6.9**
KELR Kotokel 2.97 32 *e*Pn **Pn 01 53 06.7 +1.4**
KELR *e*Pg **Pg 01 53 10.8 -4.1**
KELR Pmax 01 53 12.0
comp=E,1μm,0.5s
KELR *e*Sg **Sg 01 53 51.4 -2.0**
KELR Smax 01 53 54.5
comp=E,19μm,0.8s
MOY Mondy 3.17 298 *e*Pn **Pn 01 53 07.4 -0.7**
MOY *e* 01 53 11.8
MOY *e*Pg **Pg 01 53 13.8 -4.9**
MOY Pmax 01 53 18.9
comp=E,558nm,0.5s
MOY *e*Sg **Sg 01 53 54.2 -5.6**
MOY Smax 01 54 05.3
comp=E,16μm,1.5s
MOY Mondy 3.17 298 *e*PN **Pn 01 53 11.8 +3.7**
MOY *e* 01 53 54.3
MOY pmax pmax
comp=Z,556nm,0.4s
MOY smax
comp=N,16μm,1.5s
MXMB Maximikha 3.62 33 *e*Pg **Pg 01 53 21.6 -5.6**
MXMB Pmax 01 53 31.4
comp=N,587nm,0.7s
MXMB *e*Sg **Sg 01 54 10.3 -3.8**
MXMB Smax 01 54 21.7
comp=N,25μm,1.1s
OGRR Ongureny 3.62 20 *e*Pn **Pn 01 53 15.0 +0.7**
OGRR *e*Pg **Pg 01 53 23.0 -4.3**
OGRR *e* 01 53 27.9
OGRR max 01 53 29.0
comp=N,551nm,0.8s
OGRR *e*Sg **Sg 01 54 10.5 -3.8**
OGRR Smax 01 54 14.9
comp=N,4μm,1.2s
OGRR Ongureny 3.62 20 *e*PN **Pn 01 53 15.5 +1.2**
OGRR *e* 01 53 24.2
OGRR *e* 01 54 12.0
OGRR pmax pmax
comp=Z,546nm,0.8s
OGRR smax
comp=E,4μm,1.2s
ORL Orlik 4.22 305 *e* **Pn 01 53 23.1 +0.6**
ORL ⇓*i*Pg **Pg 01 53 31.1 -7.7**
comp=E,56nm,1.2s
ORL ⇑*i*Pg **Pg 01 53 31.1 -7.7**
comp=E,130nm,1.2s
ORL ⇓*i*Pg **Pg 01 53 31.1 -7.7**
comp=E,112nm,1.2s
ORL Pmax 01 53 39.0
comp=E,368nm,0.9s
ORL *e*Sg **Sg 01 54 24.7 -8.8**
ORL Smax 01 54 36.0
comp=E,5μm,0.9s
ORL Orlik 4.22 305 *e*PN **Pn 01 53 31.0 +8.5**
ORL *e* 01 54 25.2
ORL pmax pmax
comp=Z,539nm,0.7s
ORL smax
comp=N,5μm,1.1s
SYVR Suvo 4.39 38 ⇓*i*Pn **Pn 01 53 25.7 +0.9**
SYVR *e* 01 53 30.0
SYVR *e*Pg **Pg 01 53 37.2 -4.8**
SYVR Pmax 01 53 41.5
comp=N,309nm,0.6s
SYVR *e*Sn **Sn 01 54 16.0 -0.2**
SYVR *e*Sg **Sg 01 54 35.7 -3.2**
SYVR Smax 01 54 43.0
comp=N,6μm,1.7s
SYVR Suvo 4.39 38 *e*PN **Pn 01 53 25.9 +1.1**
SYVR *e* 01 53 36.0
SYVR *e* 01 54 35.7
SYVR pmax pmax
comp=Z,312nm,0.5s
SYVR smax
comp=N,3μm,0.8s
KPC Khapcheranga 4.48 95 ⇓*i*Pn **Pn 01 53 25.7 -0.3**
KPC *e*Pg **Pg 01 53 39.4 -4.3**
KPC Pmax 01 53 40.3
comp=N,700nm,0.8s
KPC *e*Sg **Sg 01 54 38.3 -3.4**
KPC Smax 01 54 45.1
comp=N,6μm,1.4s
KPC Khapcheranga 4.48 95 *e*PN **Pn 01 53 25.6 -0.4**
KPC *e* 01 53 38.3
KPC *e* 01 54 38.2
KPC pmax pmax
comp=Z,708nm,0.7s
KPC smax
comp=N,6μm,1.3s
CIT Chita 5.37 68 ⇓*i*Pn **Pn 01 53 38.2 -0.1**
CIT *e*Pg **Pg 01 53 54.1 -6.6**
CIT Pmax 01 54 00.1
comp=N,588nm,1.0s
CIT *e*Sg Sg 01 55 06.0 -4.3
CIT Smax 01 55 15.1
comp=N,4μm,1.5s
CIT Chita 5.37 68 *e*PN **Pn 01 53 38.1 -0.2**
CIT *e* 01 53 54.1
CIT *e*S **Sn 01 54 39.1 -1.1**
CIT *e* 01 55 05.0
CIT pmax pmax
comp=Z,589nm,0.7s
CIT smax
comp=N,4μm,1.3s
YLYR Ulyunkhan 5.76 35 ⇓*i*Pn **Pn 01 53 44.2 +0.5**
YLYR *e*Pg **Pg 01 54 01.8 -6.5**
YLYR Pmax 01 54 06.2
comp=N,93nm,1.1s
YLYR *e*Sg Sg 01 55 17.7 -5.3
YLYR Smax 01 55 25.6
comp=N,3μm,1.8s
YLYR Ulyunkhan 5.76 35 *e*PN **Pn 01 53 44.5 +0.8**
YLYR *e* 01 54 01.2
YLYR *e* 01 55 15.0
YLYR pmax pmax
comp=Z,106nm,0.7s
YLYR smax
comp=N,3μm,1.4s
NIZ Nizh Angarsk 6.03 22 *e*PN **Pn 01 53 47.9 +0.5**
NIZ *e* 01 54 04.9
NIZ *e*S **Sn 01 54 53.9 -2.7**
NIZ *e* 01 55 23.0
NIZ pmax pmax
comp=Z,84nm,0.9s
NIZ smax
comp=N,1μm,1.5s
KMO Kumora 6.59 29 *e*Pn **Pn 01 53 56.7 +1.6**
KMO *e*Pg **Pg 01 54 17.0 -7.2**
KMO Pmax 01 54 23.3
comp=N,120nm,0.8s
KMO *e*Sg Sg 01 55 42.4 -7.2
KMO Smax 01 55 57.6
comp=N,2μm,1.6s
KMO Kumora 6.59 29 *e*PN **Pn 01 53 57.0 +1.9**
KMO *e* 01 54 17.6
KMO *e* 01 55 41.9
KMO pmax pmax
comp=Z,119nm,0.5s
KMO smax
comp=N,2μm,1.2s
YOA Uoyan 6.96 30 *e*Sg Sx 01 55 55.9
YOA Smax 01 56 25.7
comp=N,9μm,1.6s
YOA Uoyan 6.96 30 *e*PG Px 01 54 24.6
YOA *e* 01 55 56.1
YOA pmax pmax
comp=Z,254nm,0.8s
YOA smax
comp=E,9μm,1.3s
UKT Uakit 7.18 40 ⇓*i*Pn **Pn 01 54 03.9 +0.8**
UKT *e*Pg Pn 01 54 27.7 +25
UKT Pmax 01 54 43.3
comp=E,59nm,1.0s
UKT *e*Sn **Sn 01 55 22.2 -2.6**
UKT *e*Sg Sn 01 56 02.1 +37
UKT Smax 01 56 10.1
comp=E,4μm,1.9s
UKT Uakit 7.18 40 *e*PG Px 01 54 27.6
UKT *e* 01 56 02.7
UKT pmax pmax
comp=Z,97nm,0.9s
UKT smax
comp=N,4μm,2.5s
NLYR Nelyaty 8.72 40 *e*Pn **Pn 01 54 24.7 +0.5**
NLYR *e*Pg Pn 01 54 55.9 +32
NLYR Pmax 01 55 03.9
comp=N,87nm,1.0s
NLYR *e* 01 55 21.3
NLYR *e*Sg Sn 01 56 50.0 +47
NLYR Smax 01 57 04.0
comp=N,6μm,1.4s
NLYR Nelyaty 8.72 40 *e*PN **Pn 01 54 24.3 +0.1**
NLYR *e* 01 54 55.3
NLYR *e* 01 56 48.7
NLYR pmax pmax
comp=Z,87nm,0.9s
NLYR smax
comp=E,6μm,1.3s
BOD Bodaibo 9.06 30 *e*Pn **Pn 01 54 31.3 +2.3**
BOD *e*Pg Pn 01 55 01.4 +32
BOD Pmax 01 55 09.6
comp=E,9.0nm,0.4s
BOD *e*Sg Sn 01 56 58.4 +47
BOD Smax 01 57 21.7
comp=E,994nm,1.7s
BOD Bodaibo 9.06 30 *e*P **Pn 01 54 27.7 -1.3**
BOD pmax pmax
comp=Z,10.0nm,0.4s
HIA Hailar 9.28 91 *e*P **Pn 01 54 30.7 -1.2**
HIA pmax pmax
comp=Z,36nm,0.7s
HIA Hailar 9.28 91 *e*Pn **Pn 01 54 30.7 -1.2**
comp=Z,36nm,0.7s
HIA *e* 01 55 08.1
HIA *e* 01 57 09.3
TUP Tupik 9.78 59 *e*P **Pn 01 54 38.4 -0.4**
CRS Chara 10.08 44 ⇓*i*Pn **Pn 01 54 43.7 +0.8**
CRS *e*Pg Pn 01 55 21.7 +39
CRS Pmax 01 55 29.2
comp=Z,42nm,1.1s
CRS *e*Sg Sn 01 57 31.7 +56
CRS Smax 01 57 47.0
comp=Z,2μm,2.0s
BTO Baotou 10.17 160 *e*P **Pn 01 54 43.9 -0.3**
BTO Smax
comp=N,156nm,1.7s
BTO Smax
comp=E,167nm,1.6s
HHC Hu-ho-hao-te 10.33 153 ⇓P **Pn 01 54 44.1 -2.3**
HHC AP 01 54 49.9
HHC PP 01 54 52.3
HHC XP 01 54 53.5
HHC S **Sn 01 56 36.6 -5.7**
HHC SS 01 56 49.8
HHC AMB AMB
comp=Z,32nm,1.2s
HHC AMB AMB
comp=Z,123nm,2.8s
HHC LR LR
comp=N,2μm,6.4s
HHC LR LR
comp=E,4μm,6.8s
HHC LR LR
comp=Z,1μm,7.2s
GTA Gaotai 11.57 202 ⇓P **Pn 01 55 03.6 +0.2**
GTA AP 01 55 07.4
GTA PP 01 55 12.8
GTA S **Sn 01 57 08.9 -3.9**
GTA PCP PcP 02 00 58.4 +3.8
GTA SCP ScP 02 04 25.8 -1.7
GTA PCS PcS 02 04 30.0 +1.5
GTA AMB AMB
comp=Z,12nm,1.0s
GTA AMB AMB
comp=Z,101nm,7.6s
GTA LR LR
comp=N,2μm,8.7s
GTA LR LR
comp=E,4μm,9.9s
GTA LR LR
comp=Z,662nm,8.0s
BJT Baijiatuau 12.71 140 *e*P **Pn 01 55 18.8 0.0**
BJT pmax pmax
comp=Z,10.0nm,0.5s
BJT Baijiatuau 12.71 140 *e*Pn **Pn 01 55 18.8 -0.1**
comp=Z,9.8nm,0.5s
BJT *e* 01 58 55.6
ZAL Zalesovo 13.23 294 Pn **Pn 01 55 28.7 +2.7**
comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=5.2
ZAL Lg 01 59 07.8
comp=Z,0.9nm,0.3s,baz=351,slow=16,SNR=5.2
ZAL LR LR 02 00 47.1
comp=Z,421nm,19.2s,baz=186,slow=38
ZAL Zalesovo 13.23 294 *i*P **Pn 01 55 30.1 +4.1**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 13.23 294 Pn **Pn 01 55 28.7 +2.7**
ZAL Lg 01 59 07.8
ZAL LR LR 02 00 47.1
CLNS Chul'man 13.25 53 *e*P Px 01 55 41.4
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,600nm,12.0s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=E,400nm,10.0s
WMQ Urumqi 13.73 249 *e*P **Pn 01 55 34.3 +1.5**
WMQ XP 01 55 44.3
WMQ PP 01 55 45.3
WMQ S **Sn 01 58 06.3 +0.9**
WMQ SS 01 58 22.3
WMQ AMB AMB
comp=Z,15nm,1.0s
WMQ AMB AMB
comp=Z,112nm,3.0s
WMQ LR LR
comp=N,674nm,6.0s
WMQ LR LR
comp=E,557nm,6.0s
WMQ LR LR
comp=Z,489nm,6.0s
LZH Lanzhou 14.22 185 *e*P **Pn 01 55 40.8 +1.2**
LZH AP pP 01 55 46.0 -3.4
LZH XP sP 01 55 49.3 -1.1
LZH PP 01 55 52.0
LZH *e*S **Sn 01 58 20.3 +2.7**
LZH XS 01 58 27.0
LZH *e*SS 01 58 37.0
LZH AMB AMB
comp=Z,30nm,1.0s
LZH AMB AMB
comp=Z,145nm,4.2s
LZH LR LR
comp=E,1μm,12.0s
LZH LR LR
comp=Z,2μm,13.2s
CN2 Changchun 15.04 108 *e*P **Pn 01 55 53.8 +3.1**
CN2 *e*XP sP 01 56 04.0 +4.5
CN2 *e*S **Sn 01 58 40.0 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.5s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,2μm,12.0s
CN2 LR LR
comp=Z,1μm,11.0s
MK31 Makanchi Array 15.74 266 *i*P **Pn 01 55 59.0 -0.9**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 15.74 266 *e*Pn **Pn 01 56 00.3 +0.4**
MKAR Makanchi Array 15.74 266 Pn **Pn 01 55 59.5 -0.4**
comp=Z,0.1nm,0.3s,baz=84,slow=11,SNR=19
MKAR Lg 02 00 27.9
comp=Z,0.2nm,0.3s,baz=70,slow=21,SNR=4.1
MKAR Makanchi Array 15.74 266 *i*P **Pn 01 56 00.7 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
XAN Xi'an 16.41 170 P **Pn 01 56 11.6 +3.1**
XAN LG2 02 00 57.4
XAN AMB AMB
comp=Z,16nm,1.1s
XAN LR LR
comp=E,410nm,10.7s
XAN LR LR
comp=Z,617nm,12.3s
KLR Kul'dur 16.98 83 *e*P **Pn 01 56 14.8 -0.9**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,45nm,1.6s
KLR MLR MLR
comp=E,2μm,8.0s
KLR MLR MLR
comp=Z,3μm,8.0s
KURK Kurchatov 17.08 282 P **Pn 01 56 17.3 +0.3**
KURK pmax pmax
comp=Z,29nm,1.2s
KURK Kurchatov 17.08 282 *e*Pn **Pn 01 56 18.5 +1.5**
comp=Z,35nm,0.9s
MDJ Mudanjiang 17.22 100 P **Pn 01 56 21.1 +2.4**
MDJ AMB AMB
comp=Z,13nm,1.0s
MDJ LR LR
comp=N,530nm,17.1s
MDJ LR LR
comp=E,277nm,17.7s
MDJ LR LR
comp=Z,205nm,16.5s
MDJ Mudanjiang 17.22 100 Pn **Pn 01 56 17.4 -1.3**
comp=Z,7.5nm,0.7s
YAK Yakutsk 17.76 39 *e*P **Pn 01 56 25.9 +0.4**
YAK pmax pmax
comp=Z,5.0nm,0.8s
HABR Khabarovsk 19.28 84 *i*P **Pn 01 56 45.1 +1.2**
HABR *i*S **Sn 02 00 20.4 +0.3**
HABR pmax pmax
comp=Z,50nm,1.6s
HABR MLR MLR
comp=Z,359nm,15.1s
CD2 Chengdu 19.38 185 P **Pn 01 56 44.9 -0.3**
CD2 XP sP 01 56 56.3 +8.8
CD2 PP 01 57 00.1
CD2 S **Sn 02 00 13.6 -9.1**
CD2 XS sS 02 00 25.3 -1.7
CD2 SS 02 00 42.9
CD2 AMB AMB
comp=Z,10.0nm,1.1s
CD2 LR LR
comp=N,730nm,12.6s
CD2 LR LR
comp=Z,250nm,5.1s
NJ2 Nanjing 20.73 146 *e*P **P 01 56 59.0 +0.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s
VOSK Vostochnaya 21.51 290 P **P 01 57 05.4 -1.8**
VOSK pmax pmax
comp=Z,50nm,1.9s,mb4.6
ULHL Ulahol 21.65 260 P **P 01 57 06.7 -2.0**
SNR=20
TKM2 Tokmak 2 21.71 262 P **P 01 57 11.3 +1.9**
SNR=15
BVAR Borovoye Array 21.82 291 P **P 01 57 09.5 -1.1**
comp=Z,4.4nm,0.8s,mb4.0,baz=90,slow=10,SNR=17
BRVK Borovoye 21.89 291 *e*P **P 01 57 12.0 +0.8**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
BRVK Borovoye 21.89 291 *e*P **P 01 57 12.0 +0.8**
comp=Z,10nm,0.9s,mb4.3
CHMS Chumysh 22.21 263 P **P 01 57 17.2 +2.5**
SNR=7.1
USP Ospenovka 22.24 264 P **P 01 57 18.8 +3.8**
SNR=13
KBK Karagaybulak 22.26 262 P **P 01 57 19.1 +3.8**
SNR=26

KZA Kyzart 22.37 260 P **P** **01 57 21.5 +5.1**
SNR=42
FRU Bishkek 22.38 263 *e*P **P** **01 57 16.5 0.0**
SSE Sheshan 22.46 143 P **P** **01 57 17.9 +0.5**
SSE XP sP 01 57 30.1 +9.3
SSE S **S** **02 01 17.4 -6.9**
SSE XS sS 02 01 30.4 +2.3
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,145nm,5.1s
SSE LR LR
comp=N,189nm,19.9s,MS4.0
SSE LR LR
comp=E,479nm,19.9s,MS4.0
SSE LR LR
comp=Z,104nm,18.2s,MS3.3
AAK Ala-Archa 22.56 262 P **P** **01 57 21.6 +3.2**
SNR=10
AAK Ala-Archa 22.56 262 *e*P **P** **01 57 20.6 +2.2**
AAK *e**PP 01 57 26.4
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
AAK Ala-Archa 22.56 262 *e*P **P** **01 57 20.6 +2.2**
comp=Z,8.5nm,0.8s,mb4.2
AAK *e*pP 01 57 26.4
ZRNK Zerenda 22.66 291 *e*P **P** **01 57 18.7 -0.8**
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
ZRNK Zerenda 22.66 291 *e*P **P** **01 57 18.7 -0.8**
comp=Z,9.6nm,0.9s,mb4.2
UCH Uchtor 22.75 261 P **P** **01 57 21.3 +0.8**
SNR=10
EKS2 Erkin-Say 23.00 263 P **P** **01 57 25.3 +2.2**
SNR=7.1
LSA Lhasa 23.22 213 P **P** **01 57 31.5 +6.1**
comp=Z,6.4nm,0.8s,mb4.1
LSA *e*pP 01 57 39.7
GYA Guiyang 23.79 177 P **P** **01 57 32.0 +0.9**
GYA AP 01 57 39.4
GYA XP sP 01 57 42.5 +7.9
GYA PP 01 58 05.8
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
GYA LR LR
comp=N,340nm,14.5s,MS4.1
GYA LR LR
comp=E,410nm,15.4s,MS4.1
GYA LR LR
comp=Z,460nm,15.6s,MS4.0
TIXI Tiksi 23.93 18⇓ *i*P **P** **01 57 31.4 -1.0**
TIXI pmax pmax
comp=Z,16nm,1.7s,mb4.2
TIXI MLR MLR
comp=Z,200nm,17.0s,MS3.7
YSS Yuzh-Sakhalins 24.69 83⇑ *e*P **P** **01 57 41.4 +2.1**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.8
YSS MLR MLR
comp=Z,500nm,11.0s,MS4.3
KK31 Karatay Array 24.87 267 *i*P **P** **01 57 41.7 +0.8**
KK31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
KKAR Karatay Array 24.87 267 *i*P **P** **01 57 41.7 +0.8**
KKAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
KMI Kunming 25.19 186 P **P** **01 57 45.8 +1.9**
KMI S **S** **02 02 06.0 -3.2**
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.5
KMI LR LR
comp=Z,150nm,22.6s,MS3.5
MA2 Magadan 27.13 52⇑ *e*P **P** **01 58 00.7 -0.6**
MA2 pmax pmax
comp=Z,15nm,2.5s,mb4.1
MA2 MLR MLR
comp=Z,200nm,20.0s,MS3.7
MAT Matsushiro 27.19 108 S **S** **02 02 58.2 +17**
SEY Seymchan 28.04 45⇑ *e*P **P** **01 58 08.2 -1.4**
ARU Arti 28.22 301 *e*P **P** **01 58 09.9 -1.2**
ARU *e* 01 58 56.8
ARU *e*PPP 01 59 12.0
ARU *e* 02 01 21.3
ARU *e*S **S** **02 02 57.3 +0.3**
ARU *e*SS 02 04 18.0
ARU *e* 02 08 54.3
ARU MLR MLR
comp=Z,200nm,15.0s,MS3.8
ARU MLR MLR
comp=E,70nm,13.0s
KLMR Klimovskoe 37.19 312*c i*P **P** **01 59 28.4 -1.1**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.7
OBN Obninsk 40.51 304 P **P** **02 00 01.0 +3.7**
OBN 02 01 37.0
OBN pmax pmax
comp=Z,17nm,2.6s,mb4.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.0
FINES FINESS Array B 43.18 316 P **P** **02 00 18.5 -0.7**
comp=Z,0.9nm,0.5s,mb3.8,baz=78,slow=7.3,SNR=7.2
AKASG Malin Array Be 46.47 302 P **P** **02 00 44.8 -0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=52,slow=8.6,SNR=3.3
MALT Malatya 47.92 283 P **P** **02 00 54.7 -1.9**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MALT Malatya 47.92 283 P **P** **02 00 54.7 -1.9**
comp=Z,1.7nm,0.8s,mb4.1
HFS Hagfors 49.17 319 P **P** **02 01 04.5 -1.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=75,slow=12,SNR=4.0
NB2 NORSAR Subarra 49.71 320 P **P** **02 01 08.1 -2.3**
comp=Z,5.6nm,1.1s,mb4.5,baz=58,slow=7.9
NOA NORSAR Array B 49.71 320 P **P** **02 01 09.4 -1.0**
comp=Z,1.3nm,1.0s,mb3.9,baz=60,slow=8.8,SNR=3.7
NOA LR LR 02 22 07.0
comp=Z,112nm,19.8s,MS3.9,baz=355,slow=36
BR131 Keskin Array S 50.03 287 *e*P **P** **02 01 12.8 0.0**
comp=Z,1.2nm,0.7s,mb4.0
BR131 *e*pP pP 02 01 20.3 +4.8
BRTR Keskin Array B 50.03 287 P **P** **02 01 12.7 -0.2**
comp=Z,0.3nm,0.4s,mb3.7,baz=106,slow=11,SNR=5.0
KONO Kongsberg 51.16 320 *e*P **P** **02 01 21.8 +0.4**
MLR Muntele Rosu 51.17 297 P **P** **02 01 21.8 +0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=149,slow=16,SNR=3.7
COLA College 52.05 31 *e*P **P** **02 01 28.5 +0.5**
COLA *e* 02 01 35.2
COLA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
COLA College 52.05 31 *e*P **P** **02 01 28.5 +0.4**
comp=Z,7.8nm,1.0s,mb4.6
COLA *e* 02 01 35.2
ILAR Eielson Array 52.44 31 P **P** **02 01 31.1 +0.2**
comp=Z,3.5nm,0.8s,mb4.3,baz=305,slow=6.0,SNR=20
ILAR LR LR 02 25 38.2
comp=Z,70nm,20.3s,MS3.7,baz=354,slow=38
INK Inuvik 53.91 23 P **P** **02 01 41.8 0.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=342,slow=9.2,SNR=12
INK Inuvik 53.91 23 *e*P **P** **02 01 41.5 -0.2**
INK *e**PP pP 02 01 49.2 +4.8
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 53.91 23 *e*P **P** **02 01 41.5 -0.2**
comp=Z,6.1nm,1.2s,mb4.4
INK *e*pP pP 02 01 49.2 +4.9
CLL Collm 54.59 310 *e*P **P** **02 01 49.0 +2.3**
RES Resolute Bay 54.59 7 P **P** **02 01 46.9 +0.2**
RES pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
RES Resolute Bay 54.59 7 P **P** **02 01 46.9 +0.2**
comp=Z,0.9nm,0.6s,mb4.0
KHC Kasperske Hory 55.66 307 *e*P **P** **02 01 54.0 -0.4**
GERES GERESS Array B 55.77 307 P **P** **02 01 54.8 -0.4**
comp=Z,0.2nm,0.5s,mb3.4,baz=30,slow=8.0,SNR=3.9
GERES LR LR 02 27 41.7
comp=Z,231nm,21.1s,MS4.2,baz=84,slow=38
YKW3 Yellowknife Ar 63.11 20 *e*P **P** **02 02 45.1 -0.9**
YKA Yellowknife Ar 63.17 20 P **P** **02 02 45.4 -1.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=331,slow=6.3,SNR=23
YKA Yellowknife Ar 63.17 20 *i*P **P** **02 02 48.0 +1.6**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KAKA Kakadu 67.01 151 *e*P **P** **02 03 10.4 -0.9**
comp=Z,5.2nm,0.8s,mb4.6
FCC Fort Churchill 70.16 11 *e*P **P** **02 03 31.4 +0.4**
FCC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FCC Fort Churchill 70.16 11 *e*P **P** **02 03 31.4 +0.5**
comp=Z,4.7nm,0.9s,mb4.4
FITZ Fitzroy Crossi 70.35 160 *e*P **P** **02 03 31.2 -1.0**
comp=Z,4.2nm,0.6s,mb4.5
FFC Flin Flon 72.88 16 *e*P **P** **02 03 48.1 +0.7**
FFC pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
FFC Flin Flon 72.88 16 *e*P **P** **02 03 48.1 +0.7**
comp=Z,1.1nm,0.6s,mb4.0
WRAB Tennant Creek 74.40 152 *e*P **P** **02 03 55.3 -1.0**
WRAB *e**PP pP 02 04 04.5 +5.5
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
WRAB Tennant Creek 74.40 152 *e*P **P** **02 03 55.3 -1.0**
comp=Z,3.4nm,0.6s,mb4.5
WRAB *e*pP pP 02 04 04.5 +5.5
WRA Warramunga Arr 74.41 152 P **P** **02 03 55.3 -1.0**
comp=Z,1.7nm,0.8s,mb4.1,baz=345,slow=6.7,SNR=22
WB2 Warramunga Arr 74.41 152 *e*P **P** **02 03 55.3 -1.1**
CHMT Chamberlain Mo 77.57 26 *e*P **P** **02 04 17.9 +3.5**
ASAR Alice Springs 77.79 153 P **P** **02 04 14.9 -0.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=348,slow=5.7,SNR=21
ULM Lac du Bonnet 78.21 14 P **P** **02 04 17.7 -0.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=28,slow=3.1,SNR=3.0
ULM Lac du Bonnet 78.21 14 P **P** **02 04 17.7 -0.3**
DLMT Dillon 79.18 26 *e*P **P** **02 04 23.4 +0.1**
comp=Z,15nm,1.4s,mb4.7
BOZ Bozeman (W) 79.19 26 *e*P **P** **02 04 24.1 +0.8**
BOZ pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BOZ Bozeman (W) 79.19 26 *e*P **P** **02 04 24.1 +0.8**
comp=Z,8.4nm,1.5s,mb4.5
GCMT Greycliff 79.58 24 *e*P **P** **02 04 27.0 +1.5**
MCMT McKenzie Canyo 79.59 27 *e*P **P** **02 04 28.5 +3.0**
HLID Hailey 80.28 28 *e*P **P** **02 04 30.8 +1.5**
comp=Z,1.4nm,0.8s,mb3.9
MOOW Moose Ponds 81.18 26 *e*P **P** **02 04 35.0 +0.9**
comp=Z,12nm,1.5s,mb4.6
MOOW *e*PcP PcP 02 04 39.5 -0.9
PDAR Pinedale Array 82.42 25 P **P** **02 04 41.0 +0.5**
comp=Z,0.3nm,0.7s,mb3.3,baz=20,slow=4.7,SNR=3.6
RSSD Black Hills 82.54 21 *e*P **P** **02 04 41.2 0.0**
RSSD pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
RSSD Black Hills 82.54 21 *e*P **P** **02 04 41.2 0.0**
comp=Z,10.0nm,1.5s,mb4.6
ELK Elko 82.58 30 P **P** **02 04 42.5 +1.1**
comp=Z,0.7nm,0.6s,mb3.9,baz=344,slow=11,SNR=3.9
ELK Elko 82.58 30 P **P** **02 04 42.2 +0.8**
ELK *e**PP pP 02 04 49.9 +5.7
ELK pmax pmax
comp=Z,1.0nm,0.8s
ELK Elko 82.58 30 P **P** **02 04 42.2 +0.8**
comp=Z,1.3nm,0.8s,mb4.0
ELK *e*pP pP 02 04 49.9 +5.7
HWUT Hardware Ranch 82.92 27 *e*P **P** **02 04 44.0 +0.8**
comp=Z,4.9nm,0.8s,mb4.6
NVAR Mina Array Bea 83.63 33 P **P** **02 04 47.6 +0.7**
comp=Z,0.5nm,0.5s,mb3.9,baz=37,slow=1.9,SNR=5.0
SMCO Snowmass 86.46 25 *e*P **P** **02 04 59.5 -1.6**
comp=Z,5.0nm,1.0s,mb4.7
STKA Stephens Creek 87.82 150 P **P** **02 05 04.5 -3.2**
comp=Z,1.3nm,0.8s,mb4.2,baz=341,slow=23,SNR=3.0
STKA Stephens Creek 87.82 150 P **P** **02 05 04.5 -3.2**
TORD Torodi Ar. Bea 88.61 289 P **P** **02 05 10.2 -1.3**
comp=Z,0.4nm,1.0s,mb3.7,baz=18,slow=5.6,SNR=4.1
LPAZ La Paz 145.72 349 PKPbc PKPbc 02 11 56.8 -0.6
comp=Z,0.5nm,0.5s,baz=52,slow=6.2,SNR=3.4
LPAZ La Paz 145.72 349 PKPbc PKPbc 02 11 56.8 -0.6
LPAZ *e*PKPdf PKPdf 02 11 57.3 +0.4

NIED ***18*** *02:19:00,32.10N×14120E,h38km,Mw4.1 Best double couple: M0:1.42000×10¹⁵ NP1:φ=356.00000°,δ=51.00000°, λ=97.00000° NP2:φ=165.00000°,δ=39.00000°,λ=82.00000°.*
NAO ***18*** *02:19:04.6,2996N×14325E,h33km,mb4.0*
ISCJB ***18*** *02:19:18.0±0.7,3180N±004×14106E±007,h51km±6km, mb4.2/35,Error ellipse: s-maj=10.0km s-min=6.1km az=145.0*
JMA ***18*** *02:19:18.4±0.2,3212N×141.18E,h5km,M4.5*
IDC ***18*** *02:19:20.0±1.5,3183N×14101E,h48km±12km,mb3.9/18, mb1 4.1/20,mb1mx4.0/23,mbtmp4.2/20,ML4.0/2,MS2.9/1, Ms1 2.9/1,ms1mx2.4/28,Error ellipse: s-maj=16.6km s-min=10.4km az=67.0*
MOS ***18*** *02:19:19.5±0.7,3178N×14096E,h65km,mb4.4/14,Error ellipse: s-maj=17.9km s-min=8.5km az=111.5*
NEIC ***18*** *02:19:22.3±1.1,3183N×14095E,h71km±9km,mb4.3/16, Error ellipse: s-maj=7.8km s-min=6.6km az=145.0*
ISC 18 02:19:19.5±0.6,3181N±004×14107E±007,h48km±5km, n83,σ0=90/86,mb4.2/35,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.68**	**321**	P	**Pn**	**02 19 46.3**	**-0.2**
JHJ2				*e*S	**Sn**	**02 20 06.4**	**-0.4**
JHJ	**Hachijo jima 2**	**1.71**	**321**	P	**Pn**	**02 19 46.5**	**-0.3**
	110nm,0.3s,baz=231,slow=23,SNR=30						
JHJ				S	**Sn**	**02 20 06.0**	**-1.4**
	608nm,0.3s,baz=80,slow=22,SNR=14						
BSO1	**Boso 1**	**2.84**	**358**	*e*S	**Sn**	**02 20 33.0**	**-2.4**
JKO	**Kozu shima**	**2.88**	**326**	P	**Pn**	**02 20 04.0**	**+1.1**
JKO				S	**Sn**	**02 20 37.2**	**+0.9**
BSO3	**Boso 3**	**3.03**	**351**	*e*S	**Sn**	**02 20 37.6**	**-2.3**
JIM2	**Oshima 3**	**3.21**	**335**	P	**Pn**	**02 20 07.2**	**-0.3**
BSO4	**Boso 4**	**3.24**	**349**	P	**Pn**	**02 20 07.0**	**-0.8**
JOD2	**Odawara 2**	**3.83**	**335**	P	**Pn**	**02 20 16.2**	**+0.3**
JYN	**Shimob**	**4.24**	**331**	P	**Pn**	**02 20 23.4**	**+1.8**
JHU	**Hanno**	**4.30**	**340**	P	**Pn**	**02 20 22.6**	**+0.2**
JRY	**Ryogami san**	**4.57**	**337**	P	**Pn**	**02 20 27.4**	**+1.3**
JKN2	**Miekihoku**	**4.71**	**302**	P	**Pn**	**02 20 28.1**	**+0.1**
CBIJ	**Chichi jima**	**4.79**	**168**	P	**Pn**	**02 20 28.8**	**-0.3**
	13nm,0.3s,baz=285,slow=18,SNR=15						
CBIJ				S	**Sn**	**02 21 21.4**	**-2.0**
	33nm,0.3s,baz=265,slow=23,SNR=7.5						
JAG	**Ashikaga**	**4.80**	**344**	P	**Pn**	**02 20 29.4**	**+0.1**
JHO	**Hitachi**	**4.81**	**355**	P	**Pn**	**02 20 28.4**	**-1.0**
MJAR	**Matsushiro Arr**	**5.29**	**334**	P	**Pn**	**02 20 37.3**	**+1.4**
	4.5nm,0.3s,baz=161,slow=14,SNR=38						
MJAR				S	**Sn**	**02 21 36.0**	**+0.4**
	3.6nm,0.3s,baz=294,slow=22,SNR=6.7						
MAJO	**Matsushiro**	**5.29**	**334**	*e*P	**Pn**	**02 20 38.6**	**+2.6**
MAJO				pmax	pmax		
	comp=Z,23nm,0.6s						
MAJO	**Matsushiro**	**5.29**	**334**	*e*Pn	**Pn**	**02 20 38.6**	**+2.6**
	comp=Z,23nm,0.6s						
MAT	**Matsushiro**	**5.29**	**334**	P	**Pn**	**02 20 38.4**	**+2.4**
MAT				S	**Sn**	**02 21 35.6**	**0.0**
JOW	**Kunigami**	**12.21**	**249**	LR	LR	02 25 18.7	
	comp=Z,56nm,21.5s,baz=300,slow=30						
ENH	**Enshi**	**27.06**	**275**	*e*P	**P**	**02 24 56.4**	**-1.0**
	comp=Z,4.4nm,0.6s,mb4.2						
SONM	**Songino Array**	**30.76**	**311**	P	**P**	**02 25 30.7**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.9,baz=112,slow=8.9,SNR=7.0						
BOD	**Bodaibo**	**31.92**	**333**	*e*P	**P**	**02 25 45.2**	**+4.7**
ZAL	**Zalesovo**	**45.38**	**316**	P	**P**	**02 27 33.3**	**+0.1**
	comp=Z,1.1nm,0.3s,mb4.2,baz=27,slow=9.6,SNR=5.3						
MKAR	**Makanchi Array**	**46.82**	**306**	P	**P**	**02 27 44.3**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=86,slow=9.9,SNR=62						
MKAR				ScP	ScP	02 33 05.6	-1.1
	comp=Z,0.1nm,0.5s,baz=90,slow=3.6,SNR=4.1						
JIRN	**Jiri**	**47.42**	**280**	*e*P	**P**	**02 27 49.5**	**+0.3**
	comp=Z,12nm,0.4s,mb5.2						
GUN	**Gumba**	**47.60**	**280**	*e*P	**P**	**02 27 50.9**	**+0.3**
	comp=Z,9.8nm,0.5s,mb5.1						
GKN	**Gorkha**	**48.61**	**281**	*e*P	**P**	**02 27 57.4**	**-1.0**
KURK	**Kurchatov**	**49.07**	**312**	*e*P	**P**	**02 28 01.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**49.07**	**312**	*e*P	**P**	**02 28 01.2**	**-0.7**
	comp=Z,4.6nm,0.8s,mb4.6						
KOLN	**Koldanda**	**49.55**	**281**	*e*P	**P**	**02 28 05.9**	**+0.3**
KDAK	**Kodiak Island**	**51.25**	**39**	P	**P**	**02 28 18.4**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8,baz=90,slow=18,SNR=7.0						
WRAB	**Tennant Creek**	**51.84**	**188**	*e*P	**P**	**02 28 23.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**51.84**	**188**	*e*P	**P**	**02 28 23.1**	**+0.3**
	comp=Z,5.2nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**51.85**	**188**	P	**P**	**02 28 23.1**	**+0.1**
	comp=Z,3.3nm,0.3s,mb4.7,baz=5.4,slow=7.6,SNR=66						
AAK	**Ala-Archa**	**52.87**	**302**	*e*P	**P**	**02 28 29.1**	**-1.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**52.87**	**302**	*e*P	**P**	**02 28 29.1**	**-1.4**
	comp=Z,1.1nm,0.7s,mb3.9						
MCK	**McKinley**	**53.18**	**31**	P	**P**	**02 28 32.8**	**+0.1**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MCK	**McKinley**	**53.18**	**31**	P	**P**	**02 28 32.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1						
VOSK	**Vostochnaya**	**53.66**	**315**	P	**P**	**02 28 35.8**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,25nm,2.1s,mb4.8						
COLA	**College**	**53.69**	**30**	*e*P	**P**	**02 28 36.6**	**+0.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
COLA	**College**	**53.69**	**30**	*e*P	**P**	**02 28 36.6**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.4						
BVA0	**Borovoye Array**	**53.98**	**315**	*e*P	**P**	**02 28 38.7**	**+0.1**
BVAR	**Borovoye Array**	**53.98**	**315**	P	**P**	**02 28 38.8**	**+0.2**
	comp=Z,2.0nm,0.3s,mb4.5,baz=103,slow=9.0,SNR=31						
BVAR				PcP	PcP	02 29 43.6	+0.3
	comp=Z,0.9nm,0.6s,baz=102,slow=2.8,SNR=4.4						
BRVK	**Borovoye**	**54.04**	**315**	*e*P	**P**	**02 28 39.7**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**54.04**	**315**	*e*P	**P**	**02 28 39.7**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**54.10**	**30**	P	**P**	**02 28 39.1**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=267,slow=6.4,SNR=43						
ZRNK	**Zerenda**	**54.82**	**315**	*e*P	**P**	**02 28 44.6**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**54.82**	**315**	*e*P	**P**	**02 28 44.6**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**55.58**	**188**	P	**P**	**02 28 50.5**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=16,slow=13,SNR=18						
KKAR	**Karatay Array**	**55.62**	**303**	*i*P	**P**	**02 28 50.4**	**-0.1**
INK	**Inuvik**	**59.19**	**26**	P	**P**	**02 29 15.6**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.4,baz=295,slow=6.0,SNR=20						
INK	**Inuvik**	**59.19**	**26**	P	**P**	**02 29 15.6**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**59.19**	**26**	*e*P	**P**	**02 29 15.4**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.4						
ARU	**Arti**	**60.15**	**321**	*e*P	**P**	**02 29 22.4**	**+0.2**
AB31	**Akbulak array**	**61.17**	**312**	*e*P	**P**	**02 29 29.0**	**-0.2**
STKA	**Stephens Creek**	**63.34**	**180**	P	**P**	**02 29 45.3**	**+1.7**
	comp=Z,1.2nm,0.7s,mb4.2,baz=4.8,slow=12,SNR=4.1						
RES	**Resolute Bay**	**67.73**	**14**	*e*P	**P**	**02 30 11.2**	**-0.8**
RES				*e*	pP	02 30 28.0	+2.4
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RES	**Resolute Bay**	**67.73**	**14**	*e*P	**P**	**02 30 11.2**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.5						
RES				*e*	pP	02 30 28.0	+2.4
YKA	**Yellowknife Ar**	**68.49**	**29**	P	**P**	**02 30 16.1**	**-0.7**
	comp=Z,0.5nm,0.8s,mb3.6,baz=296,slow=6.0,SNR=8.9						
YKA	**Yellowknife Ar**	**68.49**	**29**	P	**P**	**02 30 16.1**	**-0.7**
ARCES	**ARCESS Array B**	**68.80**	**340**	P	**P**	**02 30 18.1**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.3,baz=55,slow=7.8,SNR=5.1						
JOF	**Joensuu**	**70.45**	**333**	*e*p	**P**	**02 30 28.4**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9						
JOF	**Joensuu**	**70.45**	**333**	*e*P	**P**	**02 30 28.4**	**-0.5**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
KAF	**Kangasniemi**	**72.83**	**333**	*e*p	**P**	**02 30 42.4**	**-0.8**
	comp=Z,1.4nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**72.83**	**333**	*e*P	**P**	**02 30 42.4**	**-0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**73.32**	**333**	P	**P**	**02 30 45.2**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=47,slow=6.5,SNR=14						
FFC	**Flin Flon**	**78.27**	**32**	*e*P	**P**	**02 31 14.1**	**-0.2**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FFC	**Flin Flon**	**78.27**	**32**	*e*P	**P**	**02 31 14.1**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1						
AKASG	**Malin Array Be**	**78.27**	**323**	P	**P**	**02 31 14.3**	**-0.1**
	comp=Z,0.9nm,0.3s,mb4.2,baz=51,slow=5.4,SNR=4.6						
AKASG	**Malin Array Be**	**78.27**	**323**	P	**P**	**02 31 14.3**	**-0.1**
NVAR	**Mina Array Bea**	**78.38**	**52**	P	**P**	**02 31 16.3**	**+1.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=286,slow=5.2,SNR=18						
NB2	**NORSAR Subarra**	**78.90**	**338**	P	**P**	**02 31 17.3**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**78.90**	**338**	P	**P**	**02 31 17.2**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=41,slow=5.4,SNR=4.3						
ELK	**Elko**	**79.17**	**49**	*e*P	**P**	**02 31 20.4**	**+1.1**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELK	**Elko**	**79.17**	**49**	*e*P	**P**	**02 31 20.4**	**+1.1**
	comp=Z,1.1nm,0.6s,mb4.0						
DUG	**Dugway**	**81.02**	**48**	*e*P	**P**	**02 31 30.6**	**+1.4**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
DUG	**Dugway**	**81.02**	**48**	*e*P	**P**	**02 31 30.6**	**+1.3**
	comp=Z,1.7nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**81.55**	**45**	P	**P**	**02 31 33.0**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.6,baz=290,slow=2.0,SNR=4.6						
BR131	**Keskin Array S**	**82.12**	**312**	*e*P	**P**	**02 31 34.0**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**82.12**	**312**	P	**P**	**02 31 36.1**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=115,slow=4.0,SNR=8.7						
TORD	**Torodi Ar. Bea**	**120.73**	**312**	PKP	PKPdf	02 38 06.5	+0.4
	comp=Z,0.4nm,0.5s,baz=29,slow=1.7,SNR=12						
LPAZ	**La Paz**	**149.31**	**67**	PKPbc	PKPbc	02 39 05.2	+2.2
	comp=Z,1.6nm,0.8s,baz=32,slow=6.3,SNR=7.0						

ISCJB ***18*** *02:42:44.3±1.6,140N±0.1×1453E±04,h124km±9km, mb3.5/6,Error ellipse: s-maj=62.4km s-min=22.7km az=12.0*
IDC ***18*** *02:42:45.3±1.3,1402N×14523E,h114km±7km,mb3.1/5, mb1 3.3/5,mb1mx3.2/19,mbtmp3.5/5,Error ellipse: s-maj=49.6km s-min=19.8km az=97.0*
NEIC ***18*** *02:42:45.6±1.4,1400N×14542E,h121km±10km,mb3.7/1, Error ellipse: s-maj=43.8km s-min=15.3km az=95.0*
ISC 18 02:42:45.2±1.9,140N±01×1454E±04,h115km±12km,n9, σ0=53/11,mb3.5/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.68**	**231**	P	**Pn**	**02 43 04.9**	**+1.0**
	311nm,0.3s,baz=78,slow=1.9,SNR=251						
GUMO				S	**Sn**	**02 43 17.3**	**-0.7**
	203nm,0.3s,baz=285,slow=20,SNR=27						
GUMO	**Guam**	**0.68**	**231**	P	**Pn**	**02 43 04.9**	**+1.0**
GUMO				S	**Sn**	**02 43 17.3**	**-0.7**
WRAB	**Tennant Creek**	**35.45**	**198**	*e*P	**P**	**02 49 30.6**	**+0.2**
	0.7nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**35.47**	**198**	P	**P**	**02 49 30.6**	**+0.2**
	0.7nm,0.6s,mb3.7,baz=17,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**39.11**	**197**	P	**P**	**02 50 01.6**	**+0.3**
	0.2nm,0.4s,mb3.3,baz=16,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**45.78**	**185**	P	**P**	**02 50 54.5**	**-0.7**
	0.8nm,0.6s,mb3.6,baz=5.1,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**45.78**	**185**	P	**P**	**02 50 54.5**	**-0.7**
MKAR	**Makanchi Array**	**61.55**	**316**	P	**P**	**02 52 50.0**	**0.0**
	0.1nm,0.3s,mb3.3,baz=96,slow=8.3,SNR=5.5						
ILAR	**Eielson Array**	**67.95**	**25**	P	**P**	**02 53 31.4**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=250,slow=5.6,SNR=5.8						

ISCJB ***18*** *02:47:12.0±0.2,9.16N±002×12700E±002,h10km, mb4.8/91,MS4.2/35,Error ellipse: s-maj

$M_{\phi\phi}$-3.41±.15; M_{Θ}0.19±.17; $M_{\theta\theta}$0.67±.09; M_{θ}2.40±.23; Best double couple: M_{ϕ}4.19400×10^16 NP1:ϕ_{ϕ}160.00000°, δ29.00000°,λ74.00000°. NP2:ϕ_{ϕ}358.00000°,δ63.00000°, λ98.00000°. Principal axes: T 4.1340, Plg71.0000°, Azm287.0000°; N 0.1180, Plg8.0000°, Azm174.0000°; P -4.2540, Plg17.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 18 02:47:13.9±0.2,916N±002×12693E±002,h10km, (h29km±5.1km:pP-P),n221,σ1$26/216,mb4.8/91,MS4.2/35, 17C-9D,Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.12**	**210⇑**	*e*P	**Pb**	**02 47 34.9**	**-0.5**
BIPH				*i* S	**Sb**	**02 47 49.3**	**-0.8**
BUTP	**Butuan**	**1.31**	**262**	*e*P	**Pn**	**02 47 37.8**	**-0.5**
BUTP				*e*S	**Sb**	**02 47 56.3**	**+0.9**
SCPH	**Surigao**	**1.55**	**294⇑**	*i*P	**Pn**	**02 47 41.5**	**-0.1**
SCPH				*i* S	**Sn**	**02 48 04.0**	**+2.2**
BUKP	**Musuan**	**2.25**	**236**	*e*P	**Pn**	**02 47 53.2**	**+2.1**
BUKP				*e*S	**Sg**	**02 48 24.3**	**-1.7**
MSLP	**Maasin**	**2.26**	**296**	*e*P	**Pn**	**02 47 52.9**	**+1.5**
CGP	**Cagayan de Oro**	**2.32**	**253⇓**	*e*P	**Pn**	**02 47 53.6**	**+1.5**
CGP				*e*S	**Sn**	**02 48 24.7**	**+4.0**
DMPH	**Davao City--Mi**	**2.50**	**214⇓**	*e*P	**Pn**	**02 47 58.0**	**+3.4**
DMPH				*e*S	**Sg**	**02 48 38.1**	**+3.9**
PLP	**Palo**	**2.77**	**316**	*e*P	**Pn**	**02 47 59.4**	**+1.1**
PLP				*i* S	**Sn**	**02 48 29.4**	**-2.3**
KCP	**Kidapawan**	**2.81**	**221⇓**	*e*P	**Pg**	**02 48 06.9**	**-0.9**
KCP				*i* S	**Sg**	**02 48 43.9**	**-0.3**
OCLP	**Ormoc**	**2.96**	**310**	*e*P	**Pn**	**02 48 02.9**	**+2.0**
TBP	**Tagbilaran**	**3.07**	**280**	*e*P	**Pn**	**02 48 03.6**	**+1.1**
TBP				*e*S	**Sn**	**02 48 39.7**	**+0.4**
LLP	**Lapu-Lapu**	**3.14**	**292⇓**	*i*P	**Pn**	**02 48 05.7**	**+2.2**
LLP				*i* S	**Sn**	**02 48 43.9**	**+2.9**
DCPH	**Dipolog City**	**3.58**	**261⇑**	*e*P	**Pn**	**02 48 10.8**	**+1.3**
SNPH	**Sibulan**	**3.65**	**273⇑**	*e*P	**Pn**	**02 48 12.0**	**+1.5**
SNPH				*e*S	**Sg**	**02 49 10.5**	**-0.7**
PAGZ	**Pagadian**	**3.75**	**250**	*e*P	**Pn**	**02 48 14.3**	**+2.5**
CNP	**Catarman**	**4.00**	**326**	*e*P	**Pn**	**02 48 16.4**	**+1.1**
GUIM	**Jordan**	**4.52**	**289**	*e*P	**Pn**	**02 48 25.3**	**+2.9**
RCP	**Roxas**	**4.76**	**300⇑**	*e*P	**Pn**	**02 48 27.2**	**+1.5**
PVCP	**Virac**	**5.18**	**329**	*e*P	**Pn**	**02 48 33.4**	**+2.0**
OTRP	**Odiongan**	**5.78**	**304**	*e*P	**Pn**	**02 48 43.8**	**+4.1**
SJMP	**San Jose**	**6.58**	**300**	*e*P	**Pn**	**02 48 42.7**	**-8.1**
TGY	**Tagaytay City**	**7.65**	**310**	Pn	**Pn**	**02 49 08.4**	**+3.0**
	132nm,0.3s,baz=140,slow=9.1,SNR=3.9						
TSM	**Tawau**	**10.21**	**242**	P	**Pn**	**02 49 46.9**	**+6.4**
KKM	**Kota Kinabalu**	**11.06**	**255**	P	**Pn**	**02 49 58.0**	**+5.9**
KKM	**Kota Kinabalu**	**11.06**	**255**	Pn	**Pn**	**02 49 57.0**	**+4.8**
JOW	**Kunigami**	**17.62**	**4**	LR	LR	02 57 37.6	
	comp=Z,724nm,19.0s,baz=212,slow=35						
GUMO	**Guam**	**18.12**	**74**	LR	LR	02 58 46.3	
	comp=Z,939nm,18.1s,baz=246,slow=38						
KSM	**Kuching**	**18.22**	**246**	*e*P	**Pn**	**02 51 28.0**	**+1.2**
QIZ	**Qiongzhong**	**19.24**	**302**	P	**Pn**	**02 51 41.5**	**+2.2**
QIZ				S	**Sn**	**02 55 14.3**	**-0.6**
QIZ				LR	LR		
	comp=E,1μm,15.7s						
QIZ				LR	LR		
	comp=Z,1μm,15.7s						
KAKA	**Kakadu**	**22.41**	**166**	*e*P	**P**	**02 52 12.6**	**+0.1**
	comp=Z,51nm,0.7s,mb5.1						
SSE	**Sheshan**	**22.47**	**347**	P	**P**	**02 52 14.3**	**+1.1**
SSE				XP	sP	02 52 30.1	+13
SSE				S	**S**	**02 56 14.3**	**-5.8**
SSE				XS	sS	02 56 30.9	+6.2
SSE				AMB	AMB		
	comp=Z,69nm,1.3s,mb4.9						
SSE				AMB	AMB		
	comp=Z,239nm,7.8s						
SSE				LR	LR		
	comp=N,203nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=E,196nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=Z,381nm,17.3s,MS3.9						
CBIJ	**Chichi jima**	**22.94**	**37**	LR	LR	03 00 01.2	
	comp=Z,343nm,20.9s,MS3.8,baz=291,slow=33						
NJ2	**Nanjing**	**23.98**	**343**	*e*P	**P**	**02 52 29.6**	**+1.1**
NJ2				AP		02 52 38.9	
NJ2				XP	sP	02 52 43.5	+11
NJ2				PP		02 53 04.8	
NJ2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,330nm,5.1s						
NJ2				LR	LR		
	comp=N,520nm,17.4s,MS4.3						
NJ2				LR	LR		
	comp=E,710nm,18.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,340nm,16.0s,MS3.9						
WHN	**Wuhan**	**24.30**	**333**	*e*P	**P**	**02 52 31.3**	**-0.2**
KGM	**Kluang**	**24.53**	**255**	P	**P**	**02 52 35.0**	**+1.4**
IPM	**Ipoh**	**26.13**	**261**	P	**P**	**02 52 49.2**	**+1.1**
KULM	**Kulim**	**26.35**	**263**	*e*P	**P**	**02 52 50.7**	**+0.7**
JHJ	**Hachijo jima 2**	**26.63**	**25**	LR	LR	03 02 12.8	
	comp=Z,459nm,18.1s,MS4.1,baz=332,slow=34						
FITZ	**Fitzroy Crossi**	**27.12**	**183**	*e*P	**P**	**02 52 56.7**	**-0.3**
	comp=Z,53nm,1.1s,mb5.0						
PMG	**Port Moresby**	**27.31**	**132⇑**	*e*P	**P**	**02 53 00.6**	**+1.9**
KMI	**Kunming**	**27.96**	**308**	P	**P**	**02 53 05.0**	**+0.4**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
KMI				LR	LR		
	comp=Z,317nm,19.3s,MS3.9						
TIA	**Tai'an**	**28.37**	**343**	P	**P**	**02 53 08.8**	**+0.6**
TIA				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.8						
PSI	**Prapat**	**28.55**	**259**	P	**P**	**02 53 08.9**	**-0.9**
	comp=Z,21nm,0.9s,mb4.9,baz=61,slow=2.7,SNR=20						
MJAR	**Matsushiro Arr**	**29.12**	**19**	P	**P**	**02 53 14.6**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.2,baz=194,slow=9.7,SNR=6.3						
MJAR				PcP	PcP	02 56 23.6	+1.0
	comp=Z,0.5nm,0.3s,baz=219,slow=1.8,SNR=4.5						
MAT	**Matsushiro**	**29.12**	**19**	P	**P**	**02 53 15.4**	**+0.5**
MAT				S	**S**	**02 58 05.4**	**-1.3**
XAN	**Xi'an**	**29.79**	**329**	P	**P**	**02 53 18.3**	**-2.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
XAN				LR	LR		
	comp=N,398nm,14.7s,MS4.3						
XAN				LR	LR		
	comp=E,398nm,15.8s,MS4.3						
XAN				LR	LR		
	comp=Z,715nm,15.8s,MS4.4						
WRAB	**Tennant Creek**	**29.82**	**166**	P	**P**	**02 53 20.0**	**-1.1**
	comp=Z,70nm,1.3s,mb5.2,SNR=8.0						
WRAB	**Tennant Creek**	**29.82**	**166***c*	*i*P	**P**	**02 53 20.4**	**-0.7**
WRAB	**Tennant Creek**	**29.82**	**166**	*e*P	**P**	**02 53 19.5**	**-1.6**
	comp=Z,20nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**29.82**	**166**	P	**P**	**02 53 20.6**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.3,baz=348,slow=9.3,SNR=40						
WB2	**Warramunga Arr**	**29.83**	**166⇑**	*i*P	**P**	**02 53 20.6**	**-0.5**
CD2	**Chengdu**	**30.57**	**318**	*e*P	**P**	**02 53 30.0**	**+2.3**
CD2				AP	pP	02 53 39.5	+8.8
CD2				PP	PP	02 54 30.8	-5.8
CD2				S	**S**	**02 58 28.6**	**-0.8**
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
CD2				AMB	AMB		
	comp=Z,150nm,5.3s						
CD2				LR	LR		
	comp=N,560nm,16.8s						
CD2				LR	LR		
	comp=Z,620nm,18.0s,MS4.3						
MBWA	**Marble Bar**	**30.95**	**193**	*e*P	**P**	**02 53 30.5**	**-0.5**
	comp=Z,10.0nm,0.7s,mb4.8						
BJT	**Baijiatuau**	**32.19**	**344**	*e*P	**P**	**02 53 41.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,83nm,1.4s						
BJT	**Baijiatuau**	**32.19**	**344**	*e*P	**P**	**02 53 41.2**	**-0.7**
	comp=Z,83nm,1.4s,mb5.4						
ASAR	**Alice Springs**	**33.33**	**168**	P	**P**	**02 53 52.0**	**0.0**
	comp=Z,3.2nm,0.3s,mb4.7,baz=353,slow=6.8,SNR=79						
ASAR				PcP	PcP	02 56 34.5	+0.7
	comp=Z,1.8nm,0.6s,baz=344,slow=2.8,SNR=6.0						
VLA	**Vladivostok**	**34.10**	**6**	*i* P	**P**	**02 53 59.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**34.38**	**339**	*e*P	**P**	**02 54 02.8**	**+1.7**
HHC				PP	PP	02 55 20.0	+1.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,138nm,5.8s						
HHC				LR	LR		
	comp=N,497nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,156nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=Z,419nm,16.7s,MS4.2						
CN2	**Changchun**	**34.53**	**358**	*e*P	**P**	**02 54 05.0**	**+2.6**
CN2				*e*XP	sP	02 54 19.0	+12
CN2				*e*S	**S**	**02 59 31.8**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=E,900nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1μm,18.0s,MS4.6						
CTA	**Charters Tower**	**34.73**	**147**	P	**P**	**02 54 06.4**	**+2.3**
	comp=Z,2.3nm,0.3s,mb4.6,baz=304,slow=6.9,SNR=3.6						
MDJ	**Mudanjiang**	**35.40**	**3**	P	**P**	**02 54 11.3**	**+1.4**
MDJ				PP	PP	02 55 32.8	+2.6
MDJ				S	**S**	**02 59 44.6**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,141nm,3.2s						
MDJ				LR	LR		
	comp=N,210nm,17.7s,MS3.9						
MDJ				LR	LR		
	comp=E,107nm,22.4s,MS3.9						
MDJ				LR	LR		
	comp=Z,180nm,17.7s,MS3.9						
MDJ	**Mudanjiang**	**35.40**	**3**	*e*P	**P**	**02 54 11.6**	**+1.7**
	comp=Z,76nm,1.4s,mb5.4						
SHL	**Shillong**	**37.06**	**301**	*e*P	**P**	**02 54 22.5**	**-1.6**
ASAJ	**Asahikawa**	**37.39**	**19**	P	**P**	**02 54 28.9**	**+2.1**
	comp=Z,18nm,1.0s,mb4.9,baz=261,slow=19,SNR=4.6						
HNR	**Honiara**	**37.70**	**118**	LR	LR	03 08 38.6	
	comp=Z,269nm,20.1s,MS4.0,baz=357,slow=34						
GTA	**Gaotai**	**38.66**	**326**	P	**P**	**02 54 36.5**	**-1.1**
GTA				PP	PP	02 56 09.5	+3.5
GTA				PCP	PcP	02 56 48.3	-1.3
GTA				S	**S**	**03 00 31.9**	**-2.2**
GTA				SCS	ScS	03 04 41.1	-7.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
GTA				AMB	AMB		
	comp=Z,172nm,11.4s						
GTA				LR	LR		
	comp=N,539nm,16.3s,MS4.6						
GTA				LR	LR		
	comp=E,604nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=Z,960nm,18.6s,MS4.7						
LSA	**Lhasa**	**39.20**	**306**	P	**P**	**02 54 41.8**	**-0.3**
LSA	**Lhasa**	**39.20**	**306**	*e*P	**P**	**02 54 42.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**39.20**	**306**	*e*P	**P**	**02 54 42.3**	**+0.2**
	comp=Z,9.8nm,0.8s,mb4.6						
HABR	**Khabarovsk**	**39.77**	**8**	*i* P	**P**	**02 54 47.5**	**+0.6**
HABR				*e*S	**S**	**03 00 50.9**	**0.0**
HABR				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.0						
HABR				MLR	MLR		
	comp=Z,398nm,19.9s,MS4.3						
YSS	**Yuzh-Sakhalins**	**40.00**	**17⇓**	*e*P	**P**	**02 54 48.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
YSS				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.0						
KLR	**Kul'dur**	**40.14**	**5**	*e*P	**P**	**02 54 48.0**	**-2.0**
KLR				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.0						
HIA	**Hailar**	**40.43**	**353***c*	*i*P	**P**	**02 54 53.0**	**+0.7**
HIA	**Hailar**	**40.43**	**353**	*e*P	**P**	**02 54 52.4**	**0.0**
	comp=Z,50nm,1.4s,mb5.1						
KLBR	**Kellerberrin**	**41.46**	**192**	*e*P	**P**	**02 55 01.0**	**+0.2**
	comp=Z,938nm,4.3s						
ULN	**Ulaanbaatar**	**42.08**	**340**	*e*P	**P**	**02 55 05.4**	**-0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**42.08**	**340**	*e*P	**P**	**02 55 05.4**	**-0.5**
	comp=Z,6.6nm,0.6s,mb4.4						
MUN	**Mundaring**	**42.17**	**194**	*e*P	**P**	**02 55 07.0**	**+0.3**
SONM	**Songino Array**	**42.28**	**339**	P	**P**	**02 55 07.6**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.0,baz=160,slow=9.5,SNR=21						
SONM				LR	LR	03 12 52.8	
	comp=Z,278nm,20.0s,MS4.1,baz=169,slow=36						
JIRN	**Jiri**	**42.55**	**301**	*e*P	**P**	**02 55 08.8**	**-1.0**
	comp=Z,42nm,0.6s,mb5.3						
NWAO	**Narrogin (SRO)**	**42.86**	**192**	P	**P**	**02 55 11.2**	**-1.1**
	comp=Z,13nm,0.7s,mb4.8,baz=32,slow=7.3,SNR=13						
NWAO	**Narrogin (SRO)**	**42.86**	**192**	*e*P	**P**	**02 55 11.2**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,74nm,1.4s						
NWAO	**Narrogin (SRO)**	**42.86**	**192**	*e*P	**P**	**02 55 11.2**	**-1.0**
	comp=Z,74nm,1.4s,mb5.2						
GUN	**Gumba**	**42.89**	**301**	*e*P	**P**	**02 55 11.5**	**-1.0**
	comp=Z,76nm,1.0s,mb5.4						
STKA	**Stephens Creek**	**43.15**	**162⇑**	*i*P	**P**	**02 55 13.1**	**-1.5**
	comp=Z,8.5nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**43.15**	**162**	P	**P**	**02 55 13.2**	**-1.4**
	comp=Z,12nm,0.9s,mb4.6,baz=334,slow=8.8,SNR=18						
STKA				LR	LR	03 15 39.7	
	comp=Z,101nm,20.1s,MS3.7,baz=24,slow=40						
PKI	**Pulchoki**	**43.19**	**301**	*e*P	**P**	**02 55 13.4**	**-1.5**
	comp=Z,17nm,0.7s,mb4.9						
PKI	**Pulchoki**	**43.19**	**301**	*e*P	**P**	**02 55 13.4**	**-1.5**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
KKN	**Kakani**	**43.36**	**301**	*e*P	**P**	**02 55 14.4**	**-1.9**
DMN	**Daman**	**43.46**	**301**	*e*P	**P**	**02 55 15.7**	**-1.4**
GKN	**Gorkha**	**43.97**	**301**	*e*P	**P**	**02 55 19.6**	**-1.6**
	comp=Z,16nm,0.5s,mb5.0						
CIT	**Chita**	**44.11**	**348**	*e*P	**P**	**02 55 23.7**	**+1.3**
CIT				pmax	pmax		
	comp=Z,115nm,1.4s,mb5.4						
KOLN	**Koldanda**	**44.78**	**300**	*e*P	**P**	**02 55 26.4**	**-1.3**
	comp=Z,61nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**45.53**	**339**	*e*P	**P**	**02 55 31.9**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.3						
ARMA	**Armidale**	**45.95**	**150**	*e*P	**P**	**02 55 39.1**	**+2.1**
IRK	**Irkutsk**	**46.76**	**341**	*e*P	**P**	**02 55 43.3**	**-0.1**
CLNS	**Chul'man**	**47.59**	**358**	*e*P	**P**	**02 55 50.0**	**+0.2**
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,100nm,15.0s,MS4.3						
CLNS				MLR	MLR		
	comp=E,200nm,14.0s,MS4.3						
HYB	**Hyderabad**	**47.69**	**285**	*i* P	**P**	**02 55 50.0**	**-0.6**
HYB	**Hyderabad**	**47.69**	**285**	*e*P	**P**	**02 55 50.0**	**-0.6**
WMQ	**Urumqi**	**48.49**	**322**	*e*P	**P**	**02 55 56.5**	**-0.3**
WMQ				PP	PP	02 57 49.5	0.0
WMQ				S	**S**	**03 02 55.0**	**-2.9**
WMQ				SS	SS	03 06 19.0	-8.7
WMQ				AMB	AMB		
	comp=Z,15nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,104nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,7.0s						
WMQ				LR	LR		
	comp=E,985nm,7.0s						
WMQ				LR	LR		
	comp=Z,1μm,7.0s						
BOD	**Bodaibo**	**49.56**	**351⇓**	*i*P	**P**	**02 56 05.3**	**+0.3**
BOD				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
DZM	**Mont Dzumac**	**49.64**	**129**	P	**P**	**02 56 07.8**	**+2.1**
	comp=Z,6.8nm,0.8s,mb4.7,baz=238,slow=14,SNR=3.0						
PET	**Petropavlovsk**	**50.70**	**24**	*e*P	**P**	**02 56 16.2**	**+2.6**
PET				*e*S	**S**	**03 03 27.5**	**-1.3**
PET				*e*SS	SS	03 07 04.7	+1.6
PET				*e*SSS		03 08 34.6	
PET				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.3						
YAK	**Yakutsk**	**52.81**	**2**	*e*P	**P**	**02 56 30.0**	**+0.6**
YAK				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
YAK				pmax	pmax		
	comp=N,11nm,1.3s						
MK31	**Makanchi Array**	**53.30**	**323**	*i* P	**P**	**02 56 32.0**	**-1.0**
MK31				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**53.30**	**323**	P	**P**	**02 56 32.2**	**-0.8**
	comp=Z,13nm,0.7s,mb5.0,baz=122,slow=8.2,SNR=183						
MKAR	**Makanchi Array**	**53.30**	**323**	P	**P**	**02 56 32.2**	**-0.8**
MKAR	**Makanchi Array**	**53.30**	**323**	LR	LR	03 23 21.2	
	comp=Z,314nm,20.3s,MS4.4,baz=126,slow=36						
MA2	**Magadan**	**53.43**	**15***c*	*i*P	**P**	**02 56 35.0**	**+1.1**
MA2				S	**S**	**03 04 04.1**	**-2.2**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MA2				pmax	pmax		
	comp=N,3.0nm,0.8s						
MA2				MLR	MLR		
	comp=Z,300nm,24.0s,MS4.3						
MA2	**Magadan**	**53.43**	**15**	*e*P	**P**	**02 56 34.8**	**+0.8**
	comp=Z,14nm,1.1s,mb4.8						
KRAR	**Krasnoyarsk**	**53.82**	**337**	*e*P	**P**	**02 56 33.3**	**-3.5**
KRAR				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.4						
KSH	**Kashi**	**54.45**	**312**	*e*P	**P**	**02 56 45.1**	**+3.7**
KSH				*e*AP	pP	02 56 55.1	+10
KSH				*e*XP	sP	02 56 59.3	+13
KSH				*e*PCP	PcP	02 57 47.3	+2.3
KSH				*e*PP	PP	02 58 49.3	+5.7
KSH				*e*PCS	PcS	03 01 45.5	+1.0
KSH				*e*S	**S**	**03 04 20.3**	**+0.2**
KSH				*e*PS		03 04 37.3	
KSH				AMB	AMB		
	comp=Z,60nm,3.0s						
KSH				LR	LR		
	comp=N,300nm,5.9s						
KSH				LR	LR		
	comp=E,530nm,10.5s						
ULHL	**Ulahol**	**55.22**	**316**	P	**P**	**02 56 46.7**	**-0.3**
	SNR=22						
KZA	**Kyzart**	**55.85**	**315**	P	**P**	**02 56 51.9**	**+0.4**
	SNR=22						
TKM2	**Tokmak 2**	**55.91**	**316**	P	**P**	**02 56 51.6**	**-0.4**
	SNR=9.1						
KBK	**Karagaybulak**	**56.26**	**316**	P	**P**	**02 56 54.3**	**-0.2**
	SNR=9.0						
UCH	**Uchtor**	**56.41**	**315**	P	**P**	**02 56 56.0**	**+0.5**
	SNR=25						
CHMS	**Chumysh**	**56.52**	**316**	P	**P**	**02 56 55.5**	**-0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**56.57**	**315**	*e*P	**P**	**02 56 54.8**	**-1.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**56.57**	**315**	*e*P	**P**	**02 56 54.8**	**-1.9**
	comp=Z,2.8nm,0.6s,mb4.5						
SEY	**Seymchan**	**56.73**	**14**	*e*P	**P**	**02 57 00.4**	**+2.6**
SEY				*e*		02 57 58.6	
SEY				*e*S	**S**	**03 04 50.7**	**+0.1**
SEY				SS	SS	03 08 36.3	-2.0
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SEY				pmax	pmax		
	comp=E,5.0nm,0.6s						
SEY				smax			
	comp=N,70nm,14.6s						
SEY				smax			
	comp=E,90nm,19.0s						
SEY				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.4						
SEY				MLR	MLR		
	comp=N,190nm,20.0s,MS4.3						
SEY				MLR	MLR		
	comp=E,150nm,18.0s,MS4.3						
USP	**Ospenovka**	**56.78**	**316**	P	**P**	**02 56 57.3**	**-0.8**
	SNR=14						
AML	**Almayashu**	**56.95**	**315**	P	**P**	**02 56 59.2**	**-0.1**
	SNR=22						
EKS2	**Erkin-Say**	**57.07**	**315**	P	**P**	**02 56 60.0**	**-0.3**
	SNR=16						
NVS	**Novosibirsk**	**57.18**	**332**	*e*P	**P**	**02 56 58.4**	**-2.6**
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
FX1	**Attu Island--F**	**57.33**	**31**	P	**P**	**02 57 04.1**	**+2.0**
	comp=E,40nm,0.9s,mb5.5,baz=346,slow=1.6,SNR=4.0						
KURK	**Kurchatov**	**57.34**	**326**	P	**P**	**02 57 01.7**	**-0.5**
	comp=E,188nm,1.1s,SNR=16						
KURK	**Kurchatov**	**57.34**	**326**	*e*P	**P**	**02 57 00.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
KURK	**Kurchatov**	**57.34**	**326**	*e*P	**P**	**02 57 00.8**	**-1.4**
	comp=Z,30nm,0.9s,mb5.3						
KK31	**Karatay Array**	**59.49**	**315**	*i* P	**P**	**02 57 15.8**	**-1.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
KKAR	**Karatay Array**	**59.49**	**315**	*i* P	**P**	**02 57 15.8**	**-1.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TIXI	**Tiksi**	**62.45**	**1***c*	*i*P	**P**	**02 57 37.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.5						
VOSK	**Vostochnaya**	**62.50**	**325**	P	**P**	**02 57 35.9**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
BVA0	**Borovoye Array**	**62.94**	**326**	*i* P	**P**	**02 57 39.6**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.5						
BVAR	**Borovoye Array**	**62.94**	**326**	P	**P**	**02 57 39.3**	**-1.2**
	comp=Z,7.0nm,0.7s,mb4.9,baz=120,slow=8.8,SNR=47						
BRVK	**Borovoye**	**63.01**	**326**	P	**P**	**02 57 40.7**	**-0.3**
	comp=Z,125nm,0.8s,SNR=18						
BRVK	**

KDAK	Kodiak Island	77.23	33	P	P	02 59 09.5	+1.3
	comp=Z,16nm,0.9s,mb4.9,baz=338,slow=13,SNR=4.9						
KDAK	Kodiak Island	77.23	33	P	P	02 59 09.5	+1.3
GNI	Garni	78.20	309	LR	LR	03 40 52.8	
	comp=Z,101nm,18.2s,MS4.2,baz=315,slow=41						
GNI	Garni	78.20	309	*e*P	P	02 59 15.4	+1.8
ZEI	Tsey	78.74	312	*e*P	P	02 59 16.0	-0.6
ZEI				*i* *PP	pP	02 59 21.1	+1.2
ZEI				*i*		03 02 07.9	
ZEI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
PMR	Palmer	79.12	29	*e*P	P	02 59 19.2	+0.5
PMR				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
PMR	Palmer	79.12	29	*e*P	P	02 59 19.2	+0.6
	comp=Z,19nm,1.2s,mb4.9						
MCK	McKinley	79.25	27	*e*P	P	02 59 20.5	+1.1
MCK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
MCK	McKinley	79.25	27	*e*P	P	02 59 20.5	+1.1
	comp=Z,22nm,1.2s,mb5.0						
SML	Sawmill	79.50	29	*e*P	P	02 59 21.7	+1.0
COLA	College	79.74	26	*e*P	P	02 59 22.8	+0.8
ILAR	Eielson Array	80.15	26	P	P	02 59 24.4	+0.1
	comp=Z,1.9nm,0.7s,mb4.1,baz=250,slow=4.9,SNR=28						
ILAR				LR	LR	03 35 25.0	
	comp=Z,69nm,19.0s,MS4.0,baz=179,slow=36						
DIV	Divide	80.74	29	*e*P	P	02 59 27.8	+0.3
	comp=Z,90nm,1.3s,mb5.5						
KLMR	Klimovskoe	80.81	330	*c* *i*P	P	02 59 26.8	-1.0
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
SOC	Sochi	81.75	313	*e*P	P	02 59 28.8	-4.0
SOC				*e*		03 02 37.1	
SOC				*e*PPP		03 04 30.1	
SOC				*e*S	S	03 09 38.6	-7.1
SOC				*e*SS	SS	03 14 57.6	-5.7
SOC				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
ATD	Arta Tunnel	82.46	280	P	P	02 59 36.6	+0.1
	comp=Z,2.5nm,0.3s,mb4.6,baz=263,slow=22,SNR=6.1						
OBN	Obninsk	82.77	325⇑	*e*P	P	02 59 36.6	-1.5
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
MALT	Malatya	83.23	308	*e*P	P	02 59 40.5	0.0
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MALT	Malatya	83.23	308	*e*P	P	02 59 40.5	0.0
	comp=Z,5.0nm,0.9s,mb4.5						
OPO	Ambohidratompo	83.30	250	P	P	02 59 40.1	-0.7
	comp=Z,1.2nm,0.3s,mb4.4,baz=92,slow=9.8,SNR=9.9						
JOF	Joensuu	84.47	333	*e*p	P	02 59 46.0	-0.9
	comp=Z,6.7nm,0.8s,mb4.8						
JOF	Joensuu	84.47	333	*e*P	P	02 59 46.0	-0.9
JOF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KEV	Kevo	84.89	340	*e*p	P	02 59 46.3	-2.7
	comp=Z,8.2nm,1.0s,mb4.8						
KEV	Kevo	84.89	340	*e*P	P	02 59 46.3	-2.7
KEV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
INK	Inuvik	85.07	22	P	P	02 59 50.6	+0.7
	comp=Z,10nm,1.1s,mb4.9,baz=276,slow=5.7,SNR=22						
INK	Inuvik	85.07	22	*e*P	P	02 59 50.5	+0.6
INK				pmax	pmax		
	comp=Z,17nm,1.2s						
INK	Inuvik	85.07	22	*e*P	P	02 59 50.5	+0.6
	comp=Z,17nm,1.2s,mb5.0						
ARCES	ARCESS Array B	85.45	340	P	P	02 59 51.3	-0.5
	comp=Z,5.3nm,0.6s,mb4.8,baz=81,slow=6.7,SNR=34						
ARCES				LR	LR	03 39 50.6	
	comp=Z,173nm,20.8s,MS4.4,baz=18,slow=37						
ARE0	ARCESS Array S	85.45	340	*e*P	P	02 59 51.3	-0.5
PPT	Papeete	86.60	108	*e*LR	LR	03 27 20.5	
	comp=Z,184nm,29.0s						
BR131	Keskin Array S	86.73	310	P	P	02 59 57.6	-0.6
	comp=Z,0.9nm,0.7s,mb4.1						
BRTR	Keskin Array B	86.73	310	P	P	02 59 57.0	-1.1
	comp=Z,0.7nm,0.8s,mb3.9,baz=103,slow=4.3,SNR=6.7						
KAF	Kangasniemi	86.91	332	*e*p	P	02 59 56.9	-2.1
	comp=Z,1.5nm,0.5s,mb4.5						
KAF	Kangasniemi	86.91	332	*e*P	P	02 59 56.9	-2.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.6						
FINES	FINESS Array B	87.17	332	P	P	02 59 59.3	-0.9
	comp=Z,1.7nm,0.5s,mb4.5,baz=74,slow=6.1,SNR=26						
FINES				LR	LR	03 39 23.9	
	comp=Z,187nm,18.9s,MS4.5,baz=41,slow=36						
TBI	Tubuai	87.78	114	*e*LR	LR	03 27 52.6	
	comp=Z,174nm,28.0s						
AKASG	Malin Array Be	87.83	321	P	P	03 00 01.5	-1.9
	comp=Z,0.2nm,0.3s,mb3.8,baz=73,slow=3.2,SNR=8.3						
AKASG	Malin Array Be	87.83	321	P	P	03 00 01.5	-1.9
ALE	Alert	88.35	1	P	P	03 00 01.7	-4.2
	comp=Z,59nm,1.1s,mb5.7,SNR=6.0						
VNDA	Vanda	88.75	173	LR	LR	03 44 20.0	
	comp=Z,186nm,20.0s,MS4.5,baz=217,slow=36						
KMBO	Kilima Mbogo	89.86	269	P	P	03 00 12.3	-0.7
	comp=Z,3.9nm,1.1s,mb4.7,baz=49,slow=7.9,SNR=6.7						
KMBO				LR	LR	03 44 06.0	
	comp=Z,74nm,18.1s,MS4.2,baz=190,slow=38						
KMBO	Kilima Mbogo	89.86	269	*e*P	P	03 00 13.0	0.0
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	Kilima Mbogo	89.86	269	*e*P	P	03 00 13.0	0.0
	comp=Z,3.4nm,1.1s,mb4.6						
DAG	Danmarks Havn	91.93	353⇓	*i*P	P	03 00 22.1	-0.5
	comp=Z,29nm,1.1s,mb5.5						
DAG	Danmarks Havn	91.93	353⇓	*i*P	P	03 00 22.1	-0.5
DAG				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.5						
RES	Resolute Bay	92.47	10	*e*P	P	03 00 25.5	+0.4
RES				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.3						
RES	Resolute Bay	92.47	10	*e*P	P	03 00 25.4	+0.4
	comp=Z,20nm,1.3s,mb5.3						
NB2	NORSAR Subarra	94.03	334	P	P	03 00 30.6	-1.7
	comp=Z,2.2nm,1.0s,mb4.5,baz=61,slow=4.6						
NOA	NORSAR Array B	94.03	334	P	P	03 00 30.4	-1.9
	comp=Z,1.2nm,0.8s,mb4.4,baz=64,slow=4.5,SNR=4.0						
NOA				LR	LR	03 49 03.5	
	comp=Z,131nm,18.0s,MS4.4,baz=5.0,slow=40						
YKW3	Yellowknife Ar	94.46	24	*e*P	P	03 00 34.8	+0.5
YKA	Yellowknife Ar	94.50	24	P	P	03 00 35.4	+1.0
	comp=Z,2.1nm,0.8s,mb4.7,baz=300,slow=4.7,SNR=50						
YKA				LR	LR	03 40 39.6	
	comp=Z,69nm,19.5s,MS4.1,baz=115,slow=34						
YKA	Yellowknife Ar	94.50	24	P	P	03 00 35.4	+1.0
YKA				LR	LR	03 40 39.6	
SYO	Syowa Base	97.53	201⇓	*e*X		03 00 55.0	
GERES	GERESS Array B	97.96	322	P	P	03 00 49.1	-1.1
	comp=Z,0.4nm,0.8s,mb4.0,baz=219,slow=0.9,SNR=4.4						
RKT	Rikitea	100.94	112	*e*LR	LR	03 33 58.7	
	comp=Z,159nm,35.2s						
PDAR	Pinedale Array	107.12	40	PKKP	PKKPab	03 17 10.5	-1.2
	comp=Z,0.6nm,0.8s,baz=108,slow=4.8,SNR=5.9						
JCT	Junction City	120.29	47	*e*PKPdf	PKPdf	03 06 07.0	+1.7
TORD	Torodi Ar. Bea	121.28	291	PKP	PKPdf	03 06 07.0	-0.2
	comp=Z,1.8nm,0.9s,baz=44,slow=2.6,SNR=18						
TORD				PKKPbc	PKKPbc	03 16 10.8	+2.5
	comp=Z,1.1nm,1.1s,baz=261,slow=3.2,SNR=3.5						
WVT	Waverly	124.32	34	*e*PKPdf	PKPdf	03 06 14.1	+1.1
LRAL	Lakeview Retre	127.04	36	*e*PKPdf	PKPdf	03 06 18.9	+0.7
PLCA	Paso Flores	144.94	157	PKPbc	PKPdf	03 06 51.6	+0.4
	comp=Z,7.3nm,1.0s,baz=208,slow=1.4,SNR=6.8						
PLCA	Paso Flores	144.94	157	*e*PKPdf	PKPdf	03 06 51.9	+0.6
TRQA	Tornquist	150.13	166	*e*PKPbc	PKPbc	03 07 05.4	+0.5
CPD	Cerro la Pandu	150.15	25	*e*PKPbc	PKPbc	03 07 06.0	+1.0
MTP	Monte Pirata	150.24	24	*e*PKPbc	PKPbc	03 07 06.5	+1.3
ROSC	El Rosal	154.64	58	PKP	PKPdf	03 07 09.1	+2.6
	comp=Z,4.8nm,0.8s,baz=110,slow=23,SNR=4.1						
LPAZ	La Paz	163.70	117	PKP	PKPdf	03 07 20.3	+3.2
	comp=Z,1.7nm,0.9s,baz=342,slow=5.3,SNR=4.1						
LPAZ				PKPab	PKPab	03 08 12.7	+3.6
	comp=Z,3.8nm,1.1s,baz=43,slow=2.6,SNR=4.6						
LPAZ	La Paz	163.70	117	PKP	PKPdf	03 07 20.3	+3.2
LPAZ				PKPab	PKPab	03 08 12.7	+3.6
SIV	San Ignacio	169.65	132	PKP	PKPdf	03 07 23.0	+1.3
	comp=Z,0.8nm,0.7s,baz=166,slow=4.2,SNR=2.9						
BDFB	Brasilia	171.89	217	PKPab	PKPab	03 08 45.7	+0.4
	comp=Z,2.8nm,1.0s,baz=130,slow=5.4,SNR=3.5						

*IDC **18** 02:51:27.1±2.1, 884N×12609E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.7/3, MS4.4/2, Ms1 4.4/2, ms1mx3.6/30, Error ellipse: s-maj=231.0km s-min=27.6km az=71.0*

*ISCJB **18** 02:51:30.1±4.0, 92N±02×1270E±0.3, h42km±36km, mb3.6/3, Error ellipse: s-maj=53.3km s-min=17.8km az=129.6*

ISC 18 02:51:31.2±5.7, 92N±01×1269E±01, h32km±43km, n7, σ1°51/8, mb3.6/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.32	260	*e*P	Pn	02 51 51.9	-1.5
SCPH	Surigao	1.55	292	*e*P	Pn	02 51 55.4	-1.1
SCPH				*e*S	Sn	02 52 15.7	+0.1
MSLP	Maasin	2.25	295	*e*P	Pn	02 52 07.2	+0.9
BUKP	Musuan	2.27	235	*e*P	Pn	02 52 08.2	+1.7
ASAR	Alice Springs	33.36	168	P	P	02 58 06.0	-0.5
	0.5nm,0.4s,mb3.8,baz=355,slow=7.2,SNR=5.4						
SONM	Songino Array	42.25	339	P	P	02 59 22.6	+1.1
	0.4nm,0.7s,mb3.2,baz=152,slow=6.5,SNR=2.4						
MKAR	Makanchi Array	53.28	323	P	P	03 00 46.2	-0.7
	0.8nm,0.7s,mb3.8,baz=132,slow=7.3,SNR=4.3						
MKAR				PcP	PcP	03 01 54.0	-0.4
	0.7nm,0.8s,baz=131,slow=3.4,SNR=3.6						

KRSC 18 02:52:16.1±0.9, 4981N×15620E, h116km±13km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.88	357	*e*P	Pn	02 52 36.9	+0.3
SKR				*e*S	Sn	02 52 52.5	+0.5
ALID	Alaid	1.14	339	*e*P	Pn	02 52 40.1	+0.9
PAU	Pauzhetka	1.70	13	*i* P	Pn	02 52 47.9	+2.2
PAU				*e*S	Sn	02 53 12.0	+3.8
PAU				Smax			
	200nm,0.2s						
MIPR	Malaya Ipel'ka	2.50	8	*e*P	Pn	02 52 56.9	+1.3
GRL	Gorelyy	2.99	23	P	Pn	02 53 03.7	+1.6
RUS	Russkaya	3.00	28	*i* P	Pn	02 53 03.9	+1.6
RUS				*e*S	Sn	02 53 38.6	+0.7
UGLR	Uglovaya	3.78	25	*i* P	Pn	02 53 15.5	+2.9
KOK	Koryaka	3.80	23	*i* P	Pn	02 53 16.2	+3.3
AVH	Avacha	3.81	24	*e*P	Pn	02 53 15.7	+2.8
AVH				*e*S	Sn	02 53 59.0	+2.1
SMAR	Somma	3.82	24	*e*P	Pn	02 53 15.1	+2.0
GNL	Ganaly	4.04	15	*e*P	Pn	02 53 18.1	+2.1
SPN	Mys Shipunski	4.07	35	*i* P	Pn	02 53 18.5	+2.1
SPN				*e*S	Sn	02 54 03.3	+0.1
MKZ	Mys Kozlova	5.84	33	*e*P	Pn	02 53 41.5	+1.2

*IDC **18** 03:02:03.6±1.6, 2411S×6679W, h178km±15km, mb3.4/2, mb1 3.4/5, mb1mx3.2/15, mbtmp3.7/5, Error ellipse: s-maj=28.1km s-min=14.0km az=99.0*

*ISCJB **18** 03:02:04.5±1.1, 2407S±006×668W±02, h196km±17km, mb3.4/2, Error ellipse: s-maj=26.7km s-min=10.3km az=175.9*

*NEIC **18** 03:02:05.2±0.9, 2403S×6682W, h193km±10km, mb3.8/1, Error ellipse: s-maj=19.6km s-min=9.3km az=98.0*

ISC 18 03:02:05.4±1.0, 2404S±007×668W±02, h193km±16km, n13, σ0°69/12, mb3.4/2, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.64	189	P	Pn	03 03 53.2	-0.7
	0.1nm,0.3s,baz=2.6,slow=12,SNR=21						
CFAA				S	Sn	03 05 14.1	-5.9
	0.4nm,0.3s,baz=231,slow=15,SNR=14						
LPAZ	La Paz	7.81	351	P	Pn	03 03 57.2	+1.1
	0.6nm,0.3s,baz=134,slow=7.9,SNR=19						
LPAZ				S	Sn	03 05 22.9	-1.1
	0.2nm,0.3s,baz=258,slow=22,SNR=4.5						
LPAZ	La Paz	7.81	351	*e*Pn	Pn	03 03 57.0	+0.8
	3.1nm,0.6s						
LPAZ				*e*Sn	Sn	03 05 24.8	+0.7
SIV	San Ignacio	9.66	35	P	Pn	03 04 19.7	-0.7
	0.4nm,0.3s,baz=226,slow=12,SNR=6.7						
TRQA	Tornquist	14.57	165	Pn	Pn	03 05 23.4	+0.8
BDFB	Brasilia	19.56	68	P	P	03 06 18.7	+0.2
	0.2nm,0.3s,baz=246,slow=8.7,SNR=3.8						
TORD	Torodi Ar. Bea	76.44	69	P	P	03 13 33.7	-0.1
	0.3nm,0.4s,mb3.3,baz=259,slow=5.9,SNR=16						
YKA	Yellowknife Ar	94.22	340	P	P	03 15 02.1	-0.3
	0.3nm,0.5s,mb3.5,baz=135,slow=4.7,SNR=11						
YKA	Yellowknife Ar	94.22	340	P	P	03 15 02.1	-0.3
ASAR	Alice Springs	128.48	204	PKP	PKPdf	03 20 50.0	+0.8
	0.2nm,0.7s,baz=89,slow=2.0,SNR=4.3						
WRA	Warramunga Arr	131.66	207	PKP	PKPdf	03 20 56.2	+1.0
	0.2nm,0.3s,baz=153,slow=1.9,SNR=7.9						
ZAL	Zalesovo	143.36	28	PKP	PKPdf	03 21 15.2	-1.6
	0.7nm,0.3s,baz=144,slow=23,SNR=3.2						
MKAR	Makanchi Array	146.46	40	PKPbc	PKPbc	03 21 22.9	-0.9
	1.0nm,0.6s,baz=303,slow=3.2,SNR=14						

*ISCJB **18** 03:02:48.1±0.6, 4040N±003×2389E±005, h11km±5km, Error ellipse: s-maj=6.8km s-min=5.0km az=140.3*

*CSEM **18** 03:02:48.8±0.1, 4040N×2392E, h2km, ML2.5, Error ellipse: s-maj=1.7km s-min=1.3km az=51.0*

*THE **18** 03:02:48.7, 4039N×2391E, h1km, ML2.5*

*NEIC **18** 03:02:48.7, 4042N×2387E, h21km, MD3.0(ATH), After ATH.*

*ATH **18** 03:02:48.7, 4042N×2387E, h21km±1km, MD3.0/3*

ISC 18 03:02:48.5±0.6, 4040N±003×2392E±006, h12km±6km, n14, σ0°73/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.08	143	*e*Pg	Pg	03 02 50.3	-0.8
PLG	Polygyros	0.36	266	*e*PB	Pg	03 02 55.6	-0.1
PLG				*e*SB	Sg	03 03 00.4	-0.2
PAIG	Paliouri	0.51	201	*e*Pg	Pg	03 02 58.4	0.0
PAIG				*e*Sg	Sg	03 03 05.4	+0.3
PAIG	Paliouri	0.51	201	*e*Pg	Pg	03 02 58.3	-0.1
PAIG				*e*Sg	Sg	03 03 05.4	+0.3
SOH	Sokhos	0.60	315	*e*Pg	Pg	03 03 00.2	0.0
SRS	Serrai	0.76	341	*e*Pg	Pg	03 03 03.2	0.0
SRS				*e*Sg	Sg	03 03 14.2	+1.1
THE	Thessaloniki	0.76	288	*e*Pg	Pg	03 03 02.9	-0.3
NVR	Nevrokopi	0.95	357	*e*PN	Pn	03 03 07.0	-0.6
NVR				*e*SN	Sn	03 03 19.5	-1.6
LOS	Limnos	1.00	117	*e*Pg	Pg	03 03 07.5	-0.3
KNT	Kendrikon	1.09	315	*e*Pg	Pg	03 03 08.6	-0.8
KNT				*e*Sg	Sg	03 03 24.7	+1.2
LIA	Limnos Island	1.09	117	*e*PN	Pn	03 03 10.1	+0.5
NEO	Neokhori	1.22	206	*e*PN	Pn	03 03 11.8	+0.5
GRG	Griva	1.28	296	*e*Pg	Pg	03 03 12.9	-0.2
RDO	Rodhopi	1.44	58	*e*PN	Pn	03 03 15.8	+1.5

*NEIC **18** 03:04:13.6, 3867S×17536E, h236km, MG4.2(WEL), After WEL.*

WEL 18 03:04:15.8±0.3, 3864S×17539E, h213km±2km, ML4.2/13, 11C-2D, Error ellipse: s-maj=3.8km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.42	145	PN	Pn	03 04 44.6	+0.4
HIZ	Hauiti	0.43	286	PN	Pn	03 04 44.4	+0.2
HIZ	Hauiti	0.43	286	P	Pn	03 04 44.4	+0.2
TWVZ	Taurewa	0.44	175	PN	Pn	03 04 44.4	+0.2
TWVZ				*e*SN	S	03 05 06.2	-0.1
TWVZ				SN	S	03 05 06.3	0.0
TWVZ	Taurewa	0.44	175	P	Pn	03 04 44.4	+0.2
TWVZ				S	S	03 05 06.3	0.0
KRVZ	Karewarewa	0.50	157	PN	Pn	03 04 44.8	+0.4
KRVZ				*e*SN	S	03 05 06.5	-0.1
WTVZ	West Tongariro	0.51	162	PN	Pn	03 04 44.8	+0.4
WTVZ				SN	S	03 05 06.6	-0.1
WTVZ	West Tongariro	0.51	162	P	Pn	03 04 44.7	+0.3
NGZ	Ngauruhoe	0.57	163	⇑PN	Pn	03 04 45.1	+0.5
NGZ				SN	S	03 05 07.0	-0.1
NGZ	Ngauruhoe	0.57	163	P	Pn	03 04 45.1	+0.4
NGZ				S	S	03 05 07.0	-0.1
OTVZ	Oturere	0.57	158	PN	Pn	03 04 45.2	+0.5
WPVZ	Whakapapa	0.58	168	PN	Pn	03 04 45.1	+0.4
WPVZ	Whakapapa	0.58	168	P	Pn	03 04 45.1	+0.4
FWVZ	Far West T-bar	0.63	168	PN	Pn	03 04 45.3	+0.3
FWVZ				SN	S	03 05 07.7	+0.1
FWVZ	Far West T-bar	0.63	168	P	Pn	03 04 45.3	+0.4
PKVZ	Pokaka	0.66	183	⇑PN	Pn	03 04 45.1	+0.1
PKVZ				SN	S	03 05 07.4	-0.4
TUVZ	Tukino	0.67	162	⇑PN	Pn	03 04 45.5	+0.4
TUVZ				SN	S	03 05 07.7	-0.2
TUVZ	Tukino	0.67	162	P	Pn	03 04 45.5	+0.4
TRVZ	Turoa	0.68	169	⇑PN	Pn	03 04 45.5	+0.4
VRZ	Vera Road	0.69	225	⇑PN	Pn	03 04 45.0	-0.3
VRZ				SN	S	03 05 07.3	-0.7
VRZ	Vera Road	0.69	225	P	Pn	03 04 45.0	-0.2
WNVZ	Wahianoa	0.71	167	PN	Pn	03 04 45.5	+0.2
MTVZ	Mangateitei	0.75	175	PN	Pn	03 04 45.6	+0.1
MOVZ	Moawhango	0.82	160	⇑PN	Pn	03 04 45.7	-0.2
MOVZ				SN	S	03 05 07.5	-1.7
MOVZ	Moawhango	0.82	160	P	Pn	03 04 45.7	-0.2
RAEZ	Rainy Point	1.01	230	PN	Pn	03 04 46.6	-0.4
BKZ	Black Stump Fm	1.01	122	⇓PN	Pn	03 04 47.1	+0.1
BKZ	Black Stump Fm	1.01	122	P	Pn	03 04 47.1	+0.1
WAZ	Wanganui	1.16	195	⇑PN	Pn	03 04 47.7	-0.3
WAZ	Wanganui	1.16	195	P	Pn	03 04 47.8	-0.2
NEZ	North Egmont	1.19	237	PN	Pn	03 04 48.0	-0.2
NEZ	North Egmont	1.19	237	P	Pn	03 04 48.1	-0.1
PKE	Pukeiti	1.23	242	PN	Pn	03 04 48.1	-0.4
PKE	Pukeiti	1.23	242	P	Pn	03 04 48.1	-0.4
NRZ	Ngariki Road	1.33	238	PN	Pn	03 04 48.8	-0.4
NRZ	Ngariki Road	1.33	238	P	Pn	03 04 48.8	-0.5
NWEZ	Newall Road	1.34	241	PN	Pn	03 04 49.0	-0.4
NWEZ	Newall Road	1.34	241	P	Pn	03 04 49.0	-0.4
URZ	Urewera	1.41	75	⇓PN	Pn	03 04 49.4	-0.4
URZ				SN	S	03 05 15.0	-1.5
URZ	Urewera	1.41	75	P	Pn	03 04 49.5	-0.4
TSZ	Takapari Road	1.49	163	PN	Pn	03 04 50.2	-0.4
TSZ	Takapari Road	1.49	163	P	Pn	03 04 50.2	-0.4
MWZ	Matawai	1.71	81	PN	Pn	03 04 52.3	-0.2
MWZ				*e*SN	S	03 05 19.1	-2.0
MWZ	Matawai	1.71	81	*e*P	Pn	03 04 52.4	-0.1
PXZ	Pawanui	1.81	141	PN	Pn	03 04 53.0	-0.4
PXZ				SN	S	03 05 21.2	-1.5
KNZ	Kokohu	1.83	103	PN	Pn	03 04 53.8	+0.2
KNZ	Kokohu	1.83	103	*e*P	Pn	03 04 53.8	+0.2
MRZ	Mangatainoka R	2.03	176	⇑PN	Pn	03 04 54.1	-1.5
MRZ				SN	S	03 05 23.2	-3.5
MRZ	Mangatainoka R	2.03	176	P	Pn	03 04 54.2	-1.4
BFZ	Birch Farm	2.15	162	⇑PN	Pn	03 04 55.4	-1.3
BFZ	Birch Farm	2.15	162	*e*P	Pn	03 04 55.4	-1.4
KIW	Kapiti Island	2.25	189	⇑PN	Pn	03 04 56.0	-1.9
KIW				SN	S	03 05 26.2	-4.6
KIW	Kapiti Island	2.25	189	P	Pn	03 04 56.0	-1.9
PUZ	Puketiti	2.33	77	PN	Pn	03 04 58.2	-0.4
PUZ				SN	S	03 05 29.2	-3.0
PUZ	Puketiti	2.33	77	P	Pn	03 04 58.3	-0.3
DUWZ	D'Urville Isla	2.44	207	⇑PN	Pn	03 04 57.6	-2.2
CAW	Cannon Point	2.48	186	P	Pn	03 04 58.3	-2.0
MTW	Mount Morrison	2.52	178	P	Pn	03 04 58.5	-2.3
MXZ	Matakaoa Point	2.54	66	P	Pn	03 05 00.8	-0.2
MRW	Makara Radio	2.64	191	P	Pn	03 04 59.8	-2.3
WEL	Wellington	2.69	190	P	Pn	03 05 00.2	-2.4
TCW	Tory Channel	2.71	198	P	Pn	03 05 00.7	-2.1
SNZO	South Karori	2.72	191	P	Pn	03 05 00.5	-2.5
PAWZ	Paruwai Farm	2.74	179	P	Pn	03 05 00.8	-2.4
MSWZ	Moikau Station	2.78	182	P	Pn	03 05 01.1	-2.5
BHW	Baring Head	2.80	188	P	Pn	03 05 00.2	-3.6
NNZ	Nelson	3.01	210	P	Pn	03 05 03.1	-3.1
QRZ	Quartz Range	3.10	224	P	Pn	03 05 03.7	-3.6
CMWZ	Cape Campbell	3.24	196	P	Pn	03 05 05.9	-3.0
BSWZ	Blackbirch Sta	3.29	200	P	Pn	03 05 05.8	-3.7
THZ	Tophouse	3.66	211	P	Pn	03 05 10.2	-3.7
KHZ	Kahutara	4.03	200	P	Pn	03 05 15.3	-3.1
DSZ	Denniston Nort	4.14	220	P	Pn	03 05 15.4	-4.4
LTZ	Lake Taylor	4.77	209	P	Pn	03 05 23.5	-4.1
CRLZ	Canterbury Las	5.36	202	P	Pn	03 05 30.2	-4.9
MQZ	McQueen's Vall	5.47	201	P	Pn	03 05 31.3	-5.2
WVZ	Waitaha Valley	5.67	217	*e*P	Pn	03 05 33.1	-5.9
RPZ	Rata Peaks	6.04	211	*e*P	Pn	03 05 38.3	-5.4
FOZ	Fox Glacier	6.54	219	P	Pn	03 05 43.3	-6.8
LBZ	Lake Benmore	6.95	213	*e*P	Pn	03 05 49.3	-6.1
ODZ	Otahua Downs	7.32	207	*e*P	Pn	03 05 55.6	-4.6
JCZ	Jackson Bay	7.37	220	*e*P	Pn	03 05 55.2	-5.7
EAZ	Earnscleugh	8.00	213	*e*P	Pn	03 06 03.0

WTTA				⇑*i*Sn		Sg	03 27 21.4	-0.4
	30nm,0.2s							
WTTA	**Wattenberg**	**1.48**	**14**	⇑*e*Pg		**Pg**	03 27 01.9	-0.7
WTTA				Sn		**Sn**	03 27 21.4	+1.6
	30nm,0.2s							
WTTA	**Wattenberg**	**1.48**	**14**	⇑*e*Pg		**Pg**	03 27 01.9	-0.8
WTTA				Sg		**Sg**	03 27 21.4	-0.4
MOTA	**Moosalm**	**1.52**	**360**	⇓Sg		**Sg**	03 27 22.9	-0.1
	comp=Z,14nm,0.2s							
MOTA	**Moosalm**	**1.52**	**360**	⇓*e*Pg		**Pg**	03 27 02.8	-0.5
MOTA				⇓*i*Sg		**Sg**	03 27 22.9	-0.1
	14nm,0.2s							
MOTA	**Moosalm**	**1.52**	**360**	⇓*e*Pg		**Pg**	03 27 02.8	-0.5
MOTA				Sg		**Sg**	03 27 22.9	-0.1
WATA	**Walderalm**	**1.54**	**12**	⇓Sg		**Sg**	03 27 23.4	-0.4
	comp=Z,12nm,0.1s							
WATA	**Walderalm**	**1.54**	**12**	*e*Pg		**Pg**	03 27 02.9	-0.8
	SNR=16							
WATA				⇓*i*Sg		**Sg**	03 27 23.4	-0.4
	12nm,0.1s							
PLRO	**Paularo**	**1.59**	**62**	*e*Pg		**Pg**	03 27 03.4	-1.3
PLRO				*e*Sg		**Sg**	03 27 26.4	+1.0
VAI	**Varese**	**1.64**	**272**	Pg		**Pg**	03 27 02.7	-2.8
	18nm,0.4s							
PTCC	**Patocco-Chiusa**	**1.67**	**69**	Pn		**Pn**	03 27 04.4	+1.3
	9.0nm,0.2s							
DAVA	**Damuels**	**1.69**	**330**	⇑Sg		**Sg**	03 27 28.0	-0.4
	comp=N,9.8nm,0.3s							
DAVA	**Damuels**	**1.69**	**330**	⇓*i*Pg		**Pg**	03 27 05.8	-0.7
DAVA				⇑*i*Sg		**Sg**	03 27 28.0	-0.4
	9.8nm,0.3s							
CADS	**Cadrg**	**1.88**	**77**	*i*Pn		**Pn**	03 27 05.6	-0.4
CADS				*i*Sn		**Sn**	03 27 30.6	+1.0
CADS								
	comp=Z,7.0nm,0.2s							
VOJS	**Vojsko**	**1.95**	**83**	*i*Pn		**Pn**	03 27 06.7	-0.3
VOJS				*i*Sn		**Sn**	03 27 31.5	+0.2
KBA	**Koelnbreinsper**	**1.99**	**50**	⇓Pn		**Pn**	03 27 09.0	+1.5
KBA				⇓Pg		**Pg**	03 27 11.8	-0.5
KBA	**Koelnbreinsper**	**1.99**	**50**	⇑Sn		**Sn**	03 27 33.6	+1.2
KBA				⇑Sg		**Sg**	03 27 38.9	+0.8
	comp=Z,6.3nm,0.2s							
KBA	**Koelnbreinsper**	**1.99**	**50**	⇓*i*Pn		**Pn**	03 27 09.0	+1.5
KBA				⇓*i*Pg		**Pg**	03 27 11.8	-0.5
KBA				⇑*i*Sn		**Sn**	03 27 33.6	+1.2
KBA				⇑*i*Sg		**Sg**	03 27 38.9	+0.8
	comp=Z,6.3nm,0.2s							
KBA	**Koelnbreinsper**	**1.99**	**50**	⇓Pg		**Pg**	03 27 11.8	-0.5
KBA				Sn		**Sn**	03 27 33.6	+1.3
KBA				Sg		**Sg**	03 27 38.9	+0.8
	comp=Z,6.3nm,0.2s							
KBA	**Koelnbreinsper**	**1.99**	**50**	⇓Pn		**Pn**	03 27 09.0	+1.5
KBA				⇓Pg		**Pg**	03 27 11.8	-0.5
KBA				Sn		**Sn**	03 27 33.6	+1.2
KBA				Sg		**Sg**	03 27 38.9	+0.8
KNDS	**Knezji Dol**	**2.31**	**96**	*e*Pn		**Pn**	03 27 11.7	-0.3
KNDS				*i*Sn		**Sn**	03 27 40.2	-0.2
CEY	**Cerknica**	**2.33**	**91**	*i*Sn		**Sn**	03 27 39.9	-0.8
NVLJ	**Novalja**	**2.95**	**114**	*i*Pn		**Pn**	03 27 20.3	-0.5
NVLJ				*i*Sn		**Sn**	03 27 53.6	-2.4
NVLJ	**Novalja**	**2.95**	**114**	*i*Pn		**Pn**	03 27 20.2	-0.5
NVLJ				*i*Sn		**Sn**	03 27 53.5	-2.5
KHC	**Kasperske Hory**	**3.70**	**26**	*e*PN		**Pn**	03 27 31.7	+0.6
KHC				*e*PG		**Pg**	03 27 46.0	+0.9
KHC				*e*SN		**Sn**	03 28 15.0	+0.3
KHC				*e*SG		**Sg**	03 28 30.5	-2.6
NKC	**Novy Kostel**	**4.50**	**11**	*e*SN		**Sn**	03 28 33.3	-0.9
PRU	**Pruhonice**	**4.76**	**28**	*e*SN		**Sn**	03 28 38.9	-1.8

IDC 18 03:33:18.3±2.1, 113S×12802E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=152.2km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.69**	**162**	P	Pn	03 37 49.5	-0.9
	0.2nm,0.3s,baz=341,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.12**	**166**	P	P	03 38 26.1	+0.2
	0.8nm,0.5s,baz=341,slow=10,SNR=14						
MKAR	**Makanchi Array**	**62.27**	**326**	P	P	03 43 42.1	+0.1
	0.3nm,0.3s,baz=117,slow=7.7,SNR=6.2						

NIED ***18*** *03:39:00, 4280N×13770E, h23km, Mw3.8 Best double couple: M0:6.16000×1014 NP1:φ=130.00000°, δ76.00000°, λ-26.00000°. NP2:φ=227.00000°, δ65.00000°, λ-165.00000°.*
ISCJB ***18*** *03:39:57.9±1.5, 4280N±007×1374.9E±0.10, h33km±15km, mb3.4/9, Error ellipse: s-maj=12.3km s-min=11.5km az=67.1*
JMA ***18*** *03:39:58.9±0.3, 4281N×13770E, h18km, M3.6*
IDC ***18*** *03:39:59.3±0.9, 4281N×13726E, h24km±5km, mb3.2/7, mb1 3.6/7, mb1mx3.4/20, mbtmp3.3/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/13, Error ellipse: s-maj=26.5km s-min=20.2km az=131.0*
NEIC ***18*** *03:39:59.4±0.7, 4285N×13728E, mb3.8/2, Error ellipse: s-maj=19.9km s-min=13.4km az=171.0*
ISC 18 03:39:58.3±2.8, 4277N±007×13753E±006, h22km±22km, h27km±.7km: pP-P, n18, σ1§00/21, mb3.4/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.60**	**115**	P	**Pn**	03 40 25.3	0.0
JOSM				*e*S	**Sn**	03 40 44.2	-1.0
JSH	**Shimam**	**1.86**	**93**	P	**Pn**	03 40 28.4	-0.5
JSH				*e*S	**Sn**	03 40 49.7	-2.0
JYM2	**Yakumo 2**	**2.20**	**106**	P	**Pn**	03 40 34.6	+1.0
JSK	**Shakotan**	**2.24**	**74**	P	**Pn**	03 40 33.3	-0.8
JOT	**Ohata**	**2.97**	**117**	P	**Pn**	03 40 44.9	+0.8
JOT				*e*S	**Sn**	03 41 19.1	+0.1
JHR	**Hokuryu**	**3.22**	**71**	P	**Pn**	03 40 48.0	+0.5
JHR				*e*S	**Sn**	03 41 25.5	+0.3
ASAJ	**Asahikawa**	**3.93**	**68**	LR	LR	03 42 21.3	
	comp=Z,90nm,18.7s,baz=315,slow=35						
JWK2	**Keihoku**	**4.05**	**50**	*e*S	**Sn**	03 41 45.7	0.0
SONM	**Songino Array**	**22.38**	**294**	P	**P**	03 44 54.6	-0.5
	0.6nm,0.9s,mb3.0,baz=95,slow=8.9,SNR=5.3						
MKAR	**Makanchi Array**	**38.73**	**296**	P	**P**	03 47 19.1	-1.7
	0.2nm,0.6s,mb3.0,baz=83,slow=9.6,SNR=3.3						
ZRNK	**Zerenda**	**45.43**	**308**	*e*P	**P**	03 48 13.9	-1.5
	0.7nm,0.6s,mb3.7						
ILAR	**Eielson Array**	**46.38**	**35**	P	**P**	03 48 23.5	+0.6
	0.3nm,0.8s,mb3.3,baz=292,slow=10,SNR=4.7						
ILAR				pP	pP	03 48 31.5	+1.7
	0.3nm,0.8s,baz=282,slow=7.5,SNR=3.0						
INK	**Inuvik**	**50.72**	**29**	*e*P	**P**	03 48 55.8	-0.5
	0.5nm,0.4s,mb3.8						
YKA	**Yellowknife Ar**	**60.37**	**31**	P	**P**	03 50 06.1	+0.4
	0.3nm,0.6s,mb3.5,baz=306,slow=6.3,SNR=9.8						
YKA				pP	pP	03 50 13.8	+1.1
	0.3nm,0.6s,baz=307,slow=6.4,SNR=5.9						
YKA	**Yellowknife Ar**	**60.37**	**31**	P	**P**	03 50 06.1	+0.4
YKA				pP	pP	03 50 13.8	+1.1
WRA	**Warramunga Arr**	**62.47**	**183**	P	**P**	03 50 20.7	+0.8
	0.4nm,0.6s,mb3.7,baz=358,slow=7.0,SNR=6.0						
WRA				pP	pP	03 50 28.3	+1.4
	0.5nm,0.9s,baz=0.1,slow=6.7,SNR=2.8						
NVAR	**Mina Array Bea**	**73.91**	**52**	P	**P**	03 51 33.6	+2.0
	0.3nm,0.7s,mb3.3,baz=303,slow=5.3,SNR=2.9						
PDAR	**Pinedale Array**	**75.72**	**44**	P	**P**	03 51 43.8	+1.7
	0.3nm,0.7s,mb3.3,baz=240,slow=2.9,SNR=3.7						

RSPR 18 03:48:27.6, 1869N×6865W, h43km±16km, MD3.6/4, MD3.6/4, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.61**	**115**	⇑*e*P	Pn	03 48 52.2	-1.3
CRPR				*e*S	Sn	03 49 12.3	-0.7
AOPR	**Arecibo Observ**	**1.83**	**100**	⇑*e*P	Pn	03 48 55.4	-1.1
AOPR	**Arecibo Observ**	**1.83**	**100**	*e*S	Sn	03 49 17.3	-1.3
CBYP	**Canovanas**	**2.68**	**98**	*e*S	Sn	03 49 39.0	-0.4
CBYP	**Canovanas**	**2.68**	**98**	⇑*e*P	Pn	03 49 08.0	-0.3
HUMP	**Col San Antoni**	**2.71**	**101**	*e*S	Sn	03 49 39.5	-0.7
HUMP	**Col San Antoni**	**2.71**	**101**	⇑*e*P	Pn	03 49 08.1	-0.5
MTP	**Monte Pirata**	**3.00**	**101**	⇑*e*P	Pn	03 49 11.9	-0.6
MTP				*e*S	Sn	03 49 46.4	-0.8

ISCJB ***18*** *04:15:19.3±0.3, 5149N±002×16.12E±003, h0km, Error ellipse: s-maj=2.9km s-min=2.2km az=127.6*
IPEC ***18*** *04:15:20.8±0.3, 5155N×1629E, h0km, ML2.2/3, Error ellipse: s-maj=2.4km s-min=1.1km az=40.0*
CSEM ***18*** *04:15:21.4±0.1, 5161N×1618E, h1km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.3km az=86.0*
IDC ***18*** *04:15:22.3±0.7, 5138N×1617E, h0km, mb1 3.5/5, mb1mx3.2/21, mbtmp3.4/5, ML2.9/5, Error ellipse: s-maj=16.4km s-min=5.8km az=99.0*
WAR ***18*** *04:15:23, 5144N×1612E, ML2.6, Mining Induced*
PRU ***18*** *04:15:24.3, 5137N×1603E, h0km*
VIE ***18*** *04:15:24.7±0.3, 5123N×1616E, h0km, mb2.4/3, ML2.6/3, Error ellipse: s-maj=2.5km s-min=2.2km az=80.0 61 km WNW of Breslau Suspected Mining induced.*
UPP ***18*** *04:15:38.6, 5267N×1584E, h0km, ML2.1, Suspected Mining explosion.*
ISC 18 04:15:21.4±0.3, 5148N±002×1608E±003, h0km, n45, σ1§02/74, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**168**	*i*Pgd	**Pg**	04 15 34.4	+0.5
KSP				*e*Sg	**Sg**	04 15 41.5	-0.9
KSP	**Ksiaz**	**0.65**	**168**	*e*Pg	**Pg**	04 15 34.4	+0.5
KSP				*e*Sg	**Sg**	04 15 41.5	-0.9
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	04 15 40.2	+0.1
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	04 15 43.2	-0.1
DPC				*e*SG	**Sg**	04 15 56.7	-1.4
	37nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*Pg	**Pg**	04 15 43.1	-0.2
DPC				*e*Sg	**Sg**	04 15 56.7	-1.4
	37nm,0.3s						
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	**Pn**	04 15 53.5	0.0
PRU				*e*PG	**Pg**	04 15 55.1	-0.6
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	04 15 56.0	+0.4
CLL				*i*Pg	**Pg**	04 15 58.6	+0.1
CLL				*i*x	x	04 16 03.1	
CLL				*i*x	x	04 16 13.5	
CLL				*i*Sg	**Sg**	04 16 25.7	+2.0
	comp=Z,18nm,0.7s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	04 15 55.9	+0.3
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	04 15 55.3	-0.3
MORC				*e*Sg	**Sg**	04 16 21.8	-2.1
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PN	**Pn**	04 15 58.3	+0.4
OKC				*e*SN	**Sn**	04 16 25.1	+0.3
VRAC	**Vranov**	**2.20**	**171**	Pg	**Pg**	04 16 00.3	-3.3
	comp=Z,1.5nm,0.3s,baz=335,slow=14,SNR=20						
VRAC				Lg		04 16 31.7	
	comp=Z,5.0nm,0.3s,baz=77,slow=23,SNR=8.9						
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn	**Pn**	04 16 03.2	+0.9
KRUC				*e*Sg	**Sg**	04 16 38.8	-0.7
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	04 16 05.8	+0.8
NKC				*e*SG	**Sg**	04 16 46.9	+1.3
	comp=Z,24nm,0.4s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	04 16 13.1	+0.5
OJC				*e*Sg	**Sg**	04 16 47.4	+0.1
JAVC	**Velka Javorina**	**2.82**	**158**	*e*Sg	**Sg**	04 16 53.4	+1.5
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	04 16 08.7	+0.6
KHC				*e*PG	**Pg**	04 16 14.8	-1.2
KHC				*ex*	x	04 16 39.5	
KHC				*e*SG	**Sg**	04 16 51.9	-1.1
MOX	**Moxa**	**2.94**	**255**	*e*Pn	**Pn**	04 16 11.1	+1.8
MOX				*e*Sg	**Sg**	04 16 57.7	+1.8
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	04 16 10.2	+0.9
MOX				*e*PG	**Pg**	04 16 18.2	+0.4
MOX				*e*SG	**Sg**	04 16 58.1	+2.2
GERES	**GERESS Array B**	**3.05**	**211**	Pn	**Pn**	04 16 12.2	+1.4
	comp=Z,0.7nm,0.3s,baz=32,slow=13,SNR=19						
GERES				Pg	**Pg**	04 16 17.8	-2.1
	comp=Z,3.4nm,0.3s,baz=30,slow=17,SNR=56						
GERES				Sn	**Sn**	04 16 45.6	-2.5
	comp=Z,1.4nm,0.3s,baz=52,slow=24,SNR=7.4						
GERES				Lg		04 16 56.6	
	comp=Z,3.3nm,0.3s,baz=33,slow=27,SNR=7.5						
SMOL	**Smolenice**	**3.10**	**163**	*e*PG	**Pg**	04 16 20.5	-0.2
SMOL				*e*SG	**Sg**	04 17 00.9	0.0
ZST	**Bratislava**	**3.35**	**168**	*e*PG	**Pg**	04 16 25.5	-0.2
ZST				*e*SG	**Sg**	04 17 06.5	-2.7
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	04 16 27.0	+0.4
NIE				*e*S	**Sg**	04 17 12.7	+2.0
BSD	**Bornholm Skovb**	**3.71**	**350**	*i*P	**Pn**	04 16 20.0	+0.1
BSD				*i*		04 16 25.8	
BSD				*i*S	**Sn**	04 17 02.8	-1.4
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	**Pn**	04 16 21.7	+0.3
MOA				⇓*i*Sg	**Sg**	04 17 23.8	-0.5
	comp=Z,11nm,0.6s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*	**Pn**	04 16 22.9	+0.5
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PG	**Pg**	04 16 36.2	+0.2
STHS				*e*SG	**Sg**	04 17 31.2	+4.8
KECS	**Kecovo**	**4.13**	**135**	*e*PG	**Pg**	04 16 41.4	+0.8
KECS				*e*SG	**Sg**	04 17 34.4	+0.2
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PG	**Pg**	04 16 44.7	+0.6
CRVS				*e*SG	**Sg**	04 17 41.8	+1.8
BLEU	**Blekinge**	**4.83**	**358**	P	**Pn**	04 16 35.3	-0.1
VXJU	**Vaexsjoe**	**5.49**	**353**	P	**Pn**	04 16 44.4	0.0
OSKU	**Oskarshamn**	**5.72**	**0**	P	**Pn**	04 16 47.7	+0.1
BYXU	**Byxelkrok**	**5.84**	**5**	P	**Pn**	04 16 49.5	+0.2
ASPU	**Aespoe**	**5.96**	**3**	P	**Pn**	04 16 51.4	+0.6
EKSU	**Eksjoe**	**6.12**	**356**	P	**Pn**	04 16 53.2	+0.2
VSTU	**Vaestervik**	**6.20**	**2**	P	**Pn**	04 16 54.4	+0.3
GOTU	**Gotland**	**6.38**	**12**	P	**Pn**	04 16 55.5	-1.1
LNKU	**Linkoeping**	**6.76**	**357**	P	**Pn**	04 17 01.7	-0.2
ASKU	**Askersund**	**7.46**	**355**	P	**Pn**	04 17 12.5	+1.0
ESKU	**Eskilstuna**	**7.77**	**1**	P	**Pn**	04 17 15.8	+0.1
BACU	**Backbrunna**	**8.41**	**4**	P	**Pn**	04 17 24.5	0.0
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	04 17 29.1	-0.3
	comp=Z,0.2nm,0.3s,baz=176,slow=16,SNR=5.3						
HFS				Sn	**Sn**	04 19 06.8	-2.3
	comp=Z,0.1nm,0.3s,baz=180,slow=22,SNR=3.5						
OSTU	**Oestervaala**	**8.79**	**3**	P	**Pn**	04 17 29.3	-0.4
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	04 17 44.4	-1.3
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**11.39**	**25**	Pn	**Pn**	04 18 03.7	-1.7
	comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=6.6						
FINES				Sn	**Sn**	04 20 06.2	-7.2
	comp=Z,0.1nm,0.3s,baz=197,slow=23,SNR=3.8						
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn	**Pn**	04 19 36.7	-4.2
	comp=Z,0.1nm,0.3s,baz=195,slow=8.8,SNR=4.8						

IDC 18 04:15:25.9±2.9, 3301S×17809W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.8/13, mbtmp3.7/4, ML4.2/2, Error ellipse: s-maj=63.1km s-min=24.1km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.75**	**2**	Pn	Pn	04 16 23.8	-1.3
	182nm,0.3s,baz=162,slow=20,SNR=4.6						
RAO				Sn	Sn	04 17 09.5	-0.3
	171nm,0.3s,baz=72,slow=20,SNR=3.7						
URZ	**Urewera**	**6.53**	**215**	Pn	Pn	04 17 01.4	-1.9
	0.5nm,0.3s,baz=41,slow=9.3,SNR=2.1						
URZ				Sn	Sn	04 18 18.9	+0.4
	2.5nm,0.3s,baz=258,slow=18,SNR=8.4						
CTA	**Charters Tower**	**34.23**	**283**	P	P	04 22 14.7	+1.4
	1.1nm,0.5s,baz=122,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**42.96**	**270**	P	P	04 23 26.6	0.0
	0.2nm,0.5s,baz=105,slow=8.2,SNR=5.0						
WRA	**Warramunga Arr**	**44.18**	**275**	P	P	04 23 36.3	-0.2
	0.6nm,0.4s,baz=115,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	PKPbc	04 35 11.3	-0.8
	1.7nm,1.0s,baz=47,slow=3.4,SNR=6.2						

IDC ***18*** *04:31:04.8±2.6, 3400N×9745E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=151.6km s-min=20.1km az=54.0*
ISCJB ***18*** *04:31:05.9±1.0, 30N±01×970E±02, h30km, mb3.6/7, Error ellipse: s-maj=26.9km s-min=15.8km az=97.4*
NEIC ***18*** *04:31:07.8±0.8, 303N×9698E, h30km, mb3.9/1, Error ellipse: s-maj=21.6km s-min=12.3km az=49.0*
ISC 18 04:31:08.1±1.0, 31N±02×970E±02, h30km, n8, σ0§51/8, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.28**	**59**	*e*Pn	**Pn**	04 32 11.3	+0.1
WRA	**Warramunga Arr**	**43.23**	**124**	P	**P**	04 39 06.1	-0.4
	0.7nm,0.5s,mb3.6,baz=304,slow=9.4,SNR=10						
WRAB	**Tennant Creek**	**43.23**	**124**	*e*P	**P**	04 39 06.1	-0.4
	1.1nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**44.71**	**128**	P	**P**	04 39 19.0	+0.7
	0.2nm,0.7s,mb3.0,baz=303,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**45.39**	**346**	P	**P**	04 39 24.4	+0.6
	0.1nm,0.3s,mb3.1,baz=150,slow=8.6,SNR=8.6						
ZAL	**Zalesovo**	**51.69**	**351**	P	**P**	04 40 11.4	-0.8
	0.9nm,0.3s,mb4.1,baz=18,slow=3.2,SNR=2.6						
BVAR	**Borovoye Array**	**54.43**	**341**	P	**P**	04 40 32.2	-0.3
	0.5nm,0.5s,mb3.7,baz=152,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**78.25**	**332**	P	**P**	04 43 05.4	+0.5
	0.4nm,0.5s,mb3.6,baz=90,slow=4.8,SNR=4.8						

IDC 18 05:04:01.9±2.4, 1034S×11415E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=103.6km s-min=22.0km az=50.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**118**	P	P	05 08 54.6	+0.5
	1.1nm,0.5s,baz=292,slow=12,SNR=16						
WRA				S	S	05 12 44.4	-11
	0.4nm,0.8s,baz=294,slow=20,SNR=3.4						
WB2	**Warramunga Arr**	**21.69**	**118**	*e*P	P	05 08 57.3	+3.0
ASAR	**Alice Springs**	**23.04**	**128**	P	P	05 09 08.8	+0.2
	0.4nm,0.5s,baz=303,slow=9.7,SNR=15						
SONM	**Songino Array**	**58.33**	**354**	P	P	05 13 58.9	+0.3
	0.8nm,0.7s,baz=171,slow=7.0,SNR=7.5						
MKAR	**Makanchi Array**	**63.60**	**336**	P	P	05 14 34.5	0.0
	0.7nm,0.5s,baz=150,slow=7.5,SNR=11						

NEIC 18 05:49:41.5±0.5, 3567N×10179W, h5km, ML3.5, Error ellipse: s-maj=7.1km s-min=6.3km az=111.0, Northwestern Texas-Oklahoma border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMOK	**Wichita Mounta**	**2.64**	**110**	*e*Pn	Pn	05 50 25.3	+0.7
WMOK				*e*S	Sn	05 51 00.2	+3.2
CBKS	**Cedar Bluff**	**3.54**	**27**	*e*Pn	Pn	05 50 36.7	-0.4
CBKS				*e*Pg	Pg	05 50 46.8	-2.5
SDCO	**Great Sand Dun**	**3.63**	**306**	*e*Pn	Pn	05 50 39.4	+1.1
SDCO				*e*Pg	Pg	05 50 47.6	-3.3
ANMO	**Albuquerque**	**3.88**	**261**	*e*Pn	Pn	05 50 42.6	+0.8
GDL2	**Guadalupe Moun**	**4.07**	**212**	*e*Pn	Pn	05 50 44.7	+0.4
LPM	**Los Pinos Moun**	**4.20**	**253**	Pn	Pn	05 50 45.2	-0.8
LPM				*e*Pg	Pg	05 50 58.2	-3.6
LPM				Sg	Sg	05 51 48.3	-7.9
BNM	**Barren Site**	**4.25**	**250**	*e*Pn	Pn	05 50 46.9	+0.1
BNM				*e*Pb	Pb	05 50 53.0	-3.7
BNM				*e*Pg	Pg	05 50 57.3	-5.6
LENM	**Lemitar**	**4.51**	**252**	*e*Pg	Pg	05 51 04.9	-3.1
MNTX	**Cornudas Mount**	**4.96**	**218**	*e*Pn	Pn	05 50 56.8	+0.1
MNTX				*e*Pg	Pg	05 51 10.3	-6.3
MNTX				*e*Sn	Sn	05 51 52.2	-2.2
MNTX				*e*Sg	Sg	05 52 16.7	-4.2
ISCO	**Idaho Springs**	**5.11**	**325**	Pn	Pn	05 51 00.2	+1.5
ISCO				*e*Sg	Sg	05 52 20.5	-5.1
KSU1	**Kansas State U**	**5.36**	**49**	Pn	Pn	05 51 01.9	-0.2
SMCO	**Snowmass**	**5.41**	**312**	*e*Pn	Pn	05 51 02.8	+0.1
	9.5nm,0.6s						
SMCO				*e*Pg	Pg	05 51 20.5	-4.5
JCT	**Junction City**	**5.44**	**162**	*e*Pn	Pn	05 51 02.9	-0.3
	24nm,0.4s						
PV01	**Paradox Valley**	**5.96**	**296**	Pn	Pn	05 51 16.0	+5.7
PV01				*e*Pg	Pg	05 51 32.0	-3.6
PHWY	**Pilot Hill**	**6.31**	**334**	Pn	Pn	05 51 13.9	-1.3
RWWY	**Rawlins**	**7.35**	**326**	*e*Pg	Pg	05 51 56.3	-5.9
	7.4nm,0.5s						
RSSD	**Black Hills**	**8.61**	**349**	*e*Pn	Pn	05 51 47.5	+0.7

CASC 18 05:52:05.1±2.0, 1298N×9110W, h20km±66km, MD3.7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.34**	**28**	*e*P	Pn	05 52 28.2	-0.5
IXG				*e*S	Sn	05 52 48.5	+2.6
JAT	**Jato**	**1.43**	**339**	*e*P	Pn	05 52 30.5	+0.7
JAT				*e*S	Sn	05 52 48.6	+0.6
FUG	**Fuego 3**	**1.48**	**10**	⇑*e*P	Pn	05

FITZ Fitzroy Crossi 37.65 128 *e*P **P 06 17 07.5 -1.0**
comp=Z,3.0nm,0.6s,mb4.2
BJT Baijiatuau 39.89 25 *e*P **P 06 17 28.7 +1.4**
BJT pmax pmax
comp=Z,11nm,0.7s
BJT Baijiatuau 39.89 25 *e*P **P 06 17 28.7 +1.4**
comp=Z,11nm,0.7s,mb4.7
ULHL Ulahol 40.98 338 P **P 06 17 37.3 +1.0**
SNR=8.2
UCH Uchtor 41.62 337 P **P 06 17 43.3 +1.7**
SNR=15
TKM2 Tokmak 2 41.80 338 P **P 06 17 44.1 +1.1**
SNR=6.1
KBK Karagaybulak 41.82 337 P **P 06 17 45.0 +1.8**
SNR=21
AML Almayashu 41.87 336 P **P 06 17 45.2 +1.6**
SNR=22
AAK Ala-Archa 41.97 337 P **P 06 17 47.0 +2.6**
SNR=11
AAK Ala-Archa 41.97 337 *c i*P **P 06 17 44.6 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
AAK Ala-Archa 41.97 337 *e*P **P 06 17 45.0 +0.5**
comp=Z,6.1nm,0.6s,mb4.4
EKS2 Erkin-Say 42.28 336 P **P 06 17 48.4 +1.5**
SNR=15
USP Ospenovka 42.51 338 P **P 06 17 49.9 +1.1**
SNR=22
MK31 Makanchi Array 43.35 347 *i*P **P 06 17 55.2 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MKAR Makanchi Array 43.35 347 P **P 06 17 55.2 -0.4**
comp=Z,4.4nm,0.6s,mb4.4,baz=170,slow=7.6,SNR=90
MKAR PcP PcP 06 19 43.5 -0.1
comp=Z,0.6nm,0.6s,baz=147,slow=2.9,SNR=3.5
SONM Songino Array 44.00 11 P **P 06 18 00.3 -0.5**
comp=Z,0.7nm,0.8s,mb3.4,baz=191,slow=8.8,SNR=4.8
SONM sP sP 06 18 22.8 +3.1
comp=Z,0.6nm,0.6s,baz=201,slow=6.0,SNR=3.2
SONM PcP PcP 06 19 45.7 0.0
comp=Z,1.3nm,0.5s,baz=200,slow=3.6,SNR=9.8
KK31 Karatay Array 44.01 334 *i*P **P 06 18 01.5 +0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
KKAR Karatay Array 44.01 334 *i*P **P 06 18 01.5 +0.6**
WRA Warramunga Arr 45.63 124 P **P 06 18 13.3 -0.6**
comp=Z,10nm,0.7s,mb4.8,baz=302,slow=9.1,SNR=68
WRAB Tennant Creek 45.64 124 *e*P **P 06 18 13.5 -0.4**
WRAB *PP pP 06 18 25.8 -1.3
WRAB pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 45.64 124 *e*P **P 06 18 13.5 -0.4**
comp=Z,16nm,0.9s,mb5.0
WRAB pP pP 06 18 25.8 -1.3
WB2 Warramunga Arr 45.64 124⇑*i*P **P 06 18 13.9 0.0**
ASAR Alice Springs 47.14 129 P **P 06 18 25.0 -0.6**
comp=Z,1.9nm,0.6s,mb4.2,baz=298,slow=7.9,SNR=42
ASAR pP pP 06 18 39.4 +0.5
comp=Z,1.6nm,0.6s,baz=303,slow=8.3,SNR=7.1
KURK Kurchatov 47.88 346 *e*P **P 06 18 30.7 -0.7**
KURK pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KURK Kurchatov 47.88 346 *e*P **P 06 18 30.7 -0.7**
comp=Z,1.5nm,0.3s,mb4.5
HIA Hailar 49.01 21 *e*P **P 06 18 39.6 -0.5**
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA Hailar 49.01 21 *e*P **P 06 18 39.5 -0.5**
comp=Z,4.7nm,0.4s,mb4.9
ZAL Zalesovo 49.77 352 P **P 06 18 45.5 -0.3**
comp=Z,3.3nm,0.6s,mb4.6,baz=306,slow=6.6,SNR=15
ZAL Zalesovo 49.77 352 *i*P **P 06 18 45.7 -0.2**
ZAL pmax pmax
comp=Z,3.0nm,0.6s
VOSK Vostochnaya 51.82 342 P **P 06 19 00.8 -0.5**
VOSK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BVA0 Borovoye Array 52.27 341 *i*P **P 06 19 04.1 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 52.27 341 P **P 06 19 04.5 -0.1**
comp=Z,5.7nm,0.6s,mb4.7,baz=144,slow=8.5,SNR=36
BVAR pP pP 06 19 17.3 -0.8
comp=Z,2.0nm,0.6s,baz=139,slow=9.9,SNR=4.6
BRVK Borovoye 52.33 341 *e*P **P 06 19 03.9 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 52.33 341 *e*P **P 06 19 03.9 -1.2**
comp=Z,2.5nm,0.6s,mb4.3
ZRNK Zerenda 52.66 340 *e*P **P 06 19 07.1 -0.4**
ZRNK *PP pP 06 19 17.7 -3.3
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ZRNK Zerenda 52.66 340 *e*P **P 06 19 07.1 -0.4**
comp=Z,5.1nm,0.7s,mb4.6
ZRNK pP pP 06 19 17.7 -3.3
AB31 Akbulak array 53.46 332 *i*P **P 06 19 13.3 -0.1**
AKTK Aktyubinsk 55.18 332 P **P 06 19 25.6 -0.3**
AKTK pP pP 06 19 39.0 -0.5
AKTO Aktyubinsk 55.18 332 P **P 06 19 25.6 -0.3**
comp=Z,0.7nm,0.3s,mb4.1,baz=118,slow=7.2,SNR=4.3
AKTO pP pP 06 19 39.0 -0.5
comp=Z,1.7nm,0.5s,baz=107,slow=5.6,SNR=5.1
HABR Khabarovsk 55.22 31 *e*P **P 06 19 20.6 -5.6**
HABR *e*S **S 06 27 03.3 -2.8**
CLNS Chul'man 57.02 19 *e*P **P 06 19 35.5 -3.5**
KMBO Kilima Mbogo 58.17 266 LR LR 06 43 20.7
comp=Z,64nm,19.2s,MS3.8,baz=94,slow=34
ARU Arti 59.16 337⇓*i*P **P 06 19 53.2 -0.8**
ARU *e* 06 21 59.7
ARU *e*PPP 06 23 24.8
ARU *e*S **S 06 28 02.5 +4.6**
ARU *e*SS SS 06 32 01.3 +8.6
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BR131 Keskin Array S 65.26 312 *e*P **P 06 20 33.5 -1.4**
comp=Z,1.5nm,0.5s,mb4.3
BRTR Keskin Array B 65.26 312 P **P 06 20 34.1 -0.8**
comp=Z,1.8nm,0.6s,mb4.3,baz=125,slow=6.8,SNR=13
BRTR Keskin Array B 65.26 312⇑*e*P **P 06 20 34.5 -0.4**
LSZ Lusaka 69.25 252 *e*P **P 06 20 55.4 -4.7**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 69.25 252 *e*P **P 06 20 55.4 -4.7**
comp=Z,5.7nm,0.8s,mb4.5
TIXI Tiksi 70.08 11 *i*P **P 06 21 02.7 -2.5**
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AKASG Malin Array Be 71.25 322 P **P 06 21 10.6 -1.7**
comp=Z,1.4nm,0.4s,mb4.3,baz=84,slow=4.8,SNR=14
AKASG pP pP 06 21 24.6 -1.8
comp=Z,0.6nm,0.5s,baz=81,slow=4.6,SNR=2.9
JOF Joensuu 74.11 335 *e*p **P 06 21 29.1 -0.2**
comp=Z,1.7nm,0.5s,mb4.2
JOF Joensuu 74.11 335 *e*P **P 06 21 29.1 -0.2**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 75.95 332 P **P 06 21 39.1 -0.8**
comp=Z,3.0nm,0.7s,mb4.3,baz=102,slow=5.4,SNR=24
KAF Kangasniemi 76.03 333 *e*p **P 06 21 39.1 -1.3**
comp=Z,2.4nm,0.6s,mb4.3
KAF Kangasniemi 76.03 333 *e*P **P 06 21 39.1 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ARCES ARCESS Array B 78.55 340 P **P 06 21 54.0 -0.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=99,slow=6.7,SNR=29
ARCES pP pP 06 22 09.1 +0.4
comp=Z,1.6nm,0.5s,baz=96,slow=7.4,SNR=1.8
FX1 Attu Island--F 78.98 37 P **P 06 21 57.0 +0.2**
comp=Z,7.2nm,0.3s,mb5.0,baz=272,slow=7.7,SNR=13
FX1 Attu Island--F 78.98 37 P **P 06 21 56.9 +0.1**
GERES GERESS Array B 80.84 319 P **P 06 22 07.0 +0.1**
comp=Z,0.9nm,0.5s,mb3.9,baz=119,slow=5.0,SNR=12
GERES pP pP 06 22 22.6 +1.4
comp=Z,0.9nm,0.8s,baz=121,slow=5.4,SNR=3.2

*BJI **18** 06:31:34.5, 13.16N×145.05E, h125km, mB5.1, mb5.2*
*ISCJB **18** 06:31:39.6±0.2, 1349N±003×14449E±003, h126km, mb5.1/124, Error ellipse: s-maj=4.2km s-min=4.0km az=168.9*
*MOS **18** 06:31:40.3±1.1, 1354N×14432E, h134km, mb5.0/29, Error ellipse: s-maj=11.6km s-min=6.0km az=100.1*
*IDC **18** 06:31:40.4±0.3, 1349N×14449E, h125km±3km, mb4.7/24, mb1 4.8/25, mb1mx4.8/29, mbtmp5.1/25, MS3.8/8,*
Ms1 3.9/8, ms1mx3.5/28, Error ellipse: s-maj=12.1km s-min=8.0km az=78.0
*NEIC **18** 06:31:40.9±0.1, 1350N×14448E, mb5.1/69, Error ellipse: s-maj=4.7km s-min=3.8km az=106.0*
NEIC Felt [IV] at Santa Rita and [III] at Barrigada and Yigo. Also felt at Åsan, Hagatna, Inarajan and Mangil.
*HRVD **18** 06:31:40.9±0.4, 1322N×14455E, h137km±4km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s17,c18;Mantle waves: s66,c96; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.31±.28; Mθθ-1.72±.28; Mφφ 1.41±.28; Mrθ2.45±.15; Mθφ-0.60±.29; Mφr2.27±.16; Best double couple: M0 3.72000×10^16^ NP1:φs306.00000°, δ25.00000°, λ171.00000°. NP2: φs44.00000°, δ86.00000°, λ65.00000°. Principal axes: T 3.4590, Plg43.0000°, Azm290.0000°; N 0.5210, Plg25.0000°, Azm45.0000°; P -3.9800, Plg36.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 06:31:41.5±0.2, 1350N±003×14454E±003, h128km, h128km±1.7km: pP-P, n284, σ1.9 06/275, mb4.9/124, 33C-16D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.34**	**75**	P		**Pn**		**06 31 59.5**	**0.0**
17μm,0.3s,baz=272,slow=0.9,SNR=4589									
GUMO				S		**Sn**		**06 32 12.5**	**-0.6**
13μm,0.3s,baz=16,slow=18,SNR=64									
GUMO	**Guam**	**0.34**	**75**	*e*Pn		**Pn**		**06 31 59.8**	**+0.3**
GUMO				*e*Sn		**Sn**		**06 32 09.8**	**-3.3**
CBIJ	**Chichi jima**	**13.70**	**351**	P		**Pn**		**06 34 52.6**	**+2.3**
28nm,0.3s,baz=180,slow=9.3,SNR=10									
CBIJ				LR		LR		06 38 26.2	
comp=Z,131nm,20.9s,baz=148,slow=30									
MSLP	**Maasin**	**19.55**	**262**	*e*P		**P**		**06 36 01.3**	**+2.3**
PVCP	**Virac**	**19.82**	**273**	*e*P		**P**		**06 36 04.2**	**+2.3**
BUKP	**Musuan**	**19.93**	**256**	*e*P		**P**		**06 36 04.4**	**+1.3**
JHJ	**Hachijo jima 2**	**20.00**	**348**	P		**P**		**06 36 04.0**	**+0.1**
60nm,0.3s,baz=237,slow=22,SNR=9.6									
JOW	**Kunigami**	**20.19**	**314**	P		**P**		**06 36 06.5**	**+0.6**
88nm,0.5s,baz=139,slow=12,SNR=20									
TBP	**Tagbilaran**	**20.60**	**262**⇑	*e*P		**P**		**06 36 09.7**	**-0.7**
RCP	**Roxas**	**21.36**	**267**⇑	*e*P		**P**		**06 36 19.1**	**+0.7**
PAGZ	**Pagadian**	**21.52**	**257**	*e*P		**P**		**06 36 21.2**	**+1.0**
GUIM	**Jordan**	**21.65**	**265**	*e*P		**P**		**06 36 22.8**	**+1.3**
BOAC	**Boac**	**22.07**	**273**	*e*P		**P**		**06 36 26.2**	**+0.3**
APYP	**Conner**	**22.83**	**284**	*e*P		**P**		**06 36 33.5**	**0.0**
SJMP	**San Jose**	**22.84**	**270**	*e*P		**P**		**06 36 34.5**	**+0.9**
PMG	**Port Moresby**	**22.91**	**173**	P		**P**		**06 36 33.0**	**-1.2**
40nm,0.6s,mb5.0,baz=356,slow=7.4,SNR=14									
PMG	**Port Moresby**	**22.91**	**173**	*d i*P		**P**		**06 36 33.5**	**-0.7**
PMG	**Port Moresby**	**22.91**	**173**	*e*P		**P**		**06 36 32.8**	**-1.4**
85nm,1.0s,mb5.1									
TGY	**Tagaytay City**	**22.92**	**274**	P		**P**		**06 36 34.8**	**+0.4**
473nm,0.6s,baz=135,slow=5.3,SNR=13									
JNU	**Nakatsue**	**23.16**	**330**	P		**P**		**06 36 36.7**	**+0.1**
166nm,0.9s,mb5.5,baz=127,slow=6.6,SNR=44									
LUBP	**Lubang**	**23.61**	**273**	*e*P		**P**		**06 36 40.1**	**-0.5**
MJAR	**Matsushiro Arr**	**23.63**	**347**	P		**P**		**06 36 39.8**	**-1.1**
100nm,0.8s,mb5.4,baz=167,slow=9.0,SNR=160									
MJAR				PcP		PcP		06 40 21.8	-0.1
4.5nm,0.7s,baz=167,slow=3.8,SNR=4.8									
MJAR				ScP		ScP		06 43 47.5	-0.7
2.4nm,0.7s,baz=167,slow=5.0,SNR=4.3									
MJAR				LR		LR		06 44 46.4	
comp=Z,195nm,19.5s,baz=175,slow=33									
MJAR	**Matsushiro Arr**	**23.63**	**347**	P		**P**		**06 36 39.8**	**-1.0**
MJAR								06 40 21.8	
MJAR	**Matsushiro Arr**	**23.63**	**347**	P		**P**		**06 36 39.8**	**-1.1**
MJAR				PcP		PcP		06 40 21.8	-0.1
MJAR				ScP		ScP		06 43 47.5	-0.7
MJAR				LR		LR		06 44 46.4	
MAJO	**Matsushiro**	**23.64**	**347**	*e*P		**P**		**06 36 40.1**	**-0.8**
MAJO				pmax		pmax			
comp=Z,151nm,0.7s,mb5.6									
MAJO	**Matsushiro**	**23.64**	**347**	*e*P		**P**		**06 36 40.1**	**-0.7**
comp=Z,150nm,0.7s,mb5.6									
MAT	**Matsushiro**	**23.64**	**347**	P		**P**		**06 36 39.9**	**-1.0**
MAT				*e*S		**S**		**06 40 47.8**	**+1.9**
YHNB	**Yeheng**	**24.50**	**300**	*e*P		**P**		**06 36 49.7**	**+1.0**
SSE	**Sheshan**	**27.71**	**313**	P		**P**		**06 37 17.8**	**+0.2**
SSE				XP		sP		06 38 01.3	+1.4
SSE				PCP		PcP		06 40 33.3	+2.1
SSE				S		**S**		**06 41 48.3**	**-2.1**
SSE				XS		sS		06 42 37.8	-0.9
SSE				AMB		AMB			
comp=Z,36nm,0.8s,mb5.2									
SSE				AMB		AMB			
comp=Z,90nm,4.0s									
SSE				LR		LR			
comp=N,55nm,26.9s									
SSE				LR		LR			
comp=E,40nm,26.9s									
SSE				LR		LR			
comp=Z,119nm,24.0s									
KS15	**Wonju Array Si**	**28.09**	**331**	*e*P		**P**		**06 37 20.7**	**-0.3**
KAKA	**Kakadu**	**28.67**	**205**⇓	*i*P		**P**		**06 37 25.3**	**-0.8**
comp=Z,22nm,0.6s,mb5.1									
KKM	**Kota Kinabalu**	**28.85**	**258**	*e*P		**P**		**06 37 28.5**	**+0.8**
NJ2	**Nanjing**	**29.90**	**312**	*e*P		**P**		**06 37 37.1**	**+0.1**
NJ2				AP		pP		06 38 06.5	+1.9
NJ2				XP		sP		06 38 22.0	+2.6
NJ2				PP		PP		06 38 39.3	-7.5
NJ2				S		**S**		**06 42 22.0**	**-2.7**
NJ2				AMB		AMB			
comp=Z,20nm,1.0s,mb4.8									
NJ2				AMB		AMB			
comp=Z,200nm,5.0s									
NJ2				LR		LR			
comp=N,660nm,12.9s									
NJ2				LR		LR			
comp=E,490nm,16.8s									
NJ2				LR		LR			
comp=Z,210nm,16.2s									
DL2	**Dalian**	**32.41**	**325**⇓	*i*P		**P**		**06 38 00.3**	**+1.2**
DL2				AP		pP		06 38 32.3	+5.4
DL2				*e*S		**S**		**06 43 05.8**	**+1.8**
DL2				AMB		AMB			
comp=Z,60nm,0.7s,mb5.4									
YSS	**Yuzh-Sakhalins**	**33.38**	**358**⇑	*e*P		**P**		**06 38 07.9**	**+0.4**
YSS				*e*				06 38 56.1	
YSS				pmax		pmax			
comp=Z,50nm,0.6s,mb5.4									
YSS	**Yuzh-Sakhalins**	**33.38**	**358**	*e*P		**P**		**06 38 07.3**	**-0.2**
comp=Z,29nm,0.5s,mb5.3									
CTA	**Charters Tower**	**33.42**	**177**⇓	*i*P		**P**		**06 38 08.2**	**+0.4**
comp=Z,14nm,0.6s,mb4.9									
CTA	**Charters Tower**	**33.42**	**177**⇓	*i*P		**P**		**06 38 08.2**	**+0.4**
CTA				pmax		pmax			
comp=Z,14nm,0.6s									
CTAO	**Charters Tower**	**33.42**	**177**	*e*P		**P**		**06 38 07.9**	**+0.1**
CTAO				pmax		pmax			
comp=Z,13nm,0.6s,mb4.8									
CTAO	**Charters Tower**	**33.42**	**177**	*e*P		**P**		**06 38 07.9**	**+0.1**
comp=Z,13nm,0.6s,mb4.8									
MDJ	**Mudanjiang**	**33.53**	**341**	P		**P**		**06 38 09.3**	**+0.5**
MDJ				AP		pP		06 38 38.3	+1.6
MDJ				XP		sP		06 38 50.3	-1.1
MDJ				PP		PP		06 39 28.8	+1.7
MDJ				S		**S**		**06 43 24.4**	**+3.1**
MDJ				XS		sS		06 44 15.5	+5.4
MDJ				AMB		AMB			
comp=Z,37nm,0.8s,mb5.2									
MDJ				AMB		AMB			
comp=Z,124nm,3.5s									
MDJ				LR		LR			
comp=N,104nm,23.2s									
MDJ				LR		LR			
comp=E,112nm,22.0s									
MDJ				LR		LR			
comp=Z,141nm,25.7s									
MDJ	**Mudanjiang**	**33.53**	**341**	*e*P		**P**		**06 38 09.1**	**+0.3**
comp=Z,27nm,0.8s,mb5.0									
QIZ	**Qiongzhong**	**33.72**	**284**	P		**P**		**06 38 11.6**	**+1.2**
QIZ				XP		sP		06 38 57.3	+4.3
QIZ				AMB		AMB			
comp=Z,56nm,1.7s,mb5.0									
CN2	**Changchun**	**34.35**	**335**	⇑P		**P**		**06 38 15.8**	**-0.1**
CN2				*e*AP		pP		06 38 44.8	+0.9
CN2				*e*S		**S**		**06 43 33.4**	**-0.5**
CN2				AMB		AMB			
comp=Z,20nm,0.8s,mb4.9									
CN2				AMB		AMB			
comp=Z,200nm,5.0s									
WRAB Tennant Creek 34.70 197				P		**P**		**06 38 18.0**	**-0.9**
comp=Z,458nm,1.0s,SNR=30									
WRAB Tennant Creek 34.70 197⇓				*e*P		**P**		**06 38 18.7**	**-0.2**
WRAB				pmax		pmax			
comp=Z,84nm,0.8s,mb5.4									
WRAB Tennant Creek 34.70 197⇓				*e*P		**P**		**06 38 18.7**	**-0.2**
comp=Z,84nm,0.8s,mb5.4									
WB2 Warramunga Arr 34.71 197⇓				*i*P		**P**		**06 38 18.8**	**-0.2**
WB2				*e*S		**S**		**06 43 37.1**	**-2.4**
WB2				*e*SCP		ScP		06 44 22.6	-0.8
WRA Warramunga Arr 34.72 197				P		**P**		**06 38 18.1**	**-0.9**
comp=Z,46nm,0.7s,mb5.2,baz=19,slow=9.7,SNR=158									
WRA				S		**S**		**06 43 37.5**	**-2.0**
comp=Z,3.3nm,1.1s,baz=19,slow=16,SNR=4.7									
WRA				ScP		ScP		06 44 21.7	-1.7
comp=Z,6.0nm,0.9s,baz=12,slow=3.6,SNR=14									
WRA				PKIKP		PKiKP		06 48 11.8	-0.5
comp=Z,1.3nm,0.5s,baz=324,slow=1.3,SNR=14									
WRA Warramunga Arr 34.72 197				P		**P**		**06 38 18.1**	**-0.9**
WRA				S		**S**		**06 43 37.5**	**-2.0**
WRA Warramunga Arr 34.72 197				P		**P**		**06 38 18.1**	**-0.9**
WRA				S		**S**		**06 43 37.5**	**-2.0**
WRA				ScP		ScP		06 44 21.7	-1.7
HABR Khabarovsk 35.74 349				*i*P		**P**		**06 38 27.4**	**-0.4**
HABR				pmax		pmax			
comp=Z,21nm,1.0s,mb4.7									
BJT Baijiatuau 36.30 322⇑				*i*P		**P**		**06 38 32.9**	**+0.3**
BJT				pmax		pmax			
comp=Z,148nm,1.1s									
BJT Baijiatuau 36.30 322⇑				*i*P		**P**		**06 38 32.9**	**+0.3**
comp=Z,148nm,1.1s,mb5.5									
ENH Enshi 36.36 303⇑				*i*P		**P**		**06 38 33.8**	**+0.7**
comp=Z,52nm,0.7s,mb5.3									
ENH				*e*PcP		PcP		06 40 55.2	+0.4
FITZ Fitzroy Crossi 36.52 211⇓				*i*P		**P**		**06 38 34.4**	**0.0**
comp=Z,22nm,0.6s,mb5.0									
FITZ				*e*PCP		PcP		06 40 56.4	+1.1
FITZ				*e*S		**S**		**06 44 05.0**	**-2.1**
FITZ				*e*SCP		ScP		06 44 30.4	+0.4
FITZ				*e*SCS		ScS		06 48 37.6	+0.9
KLR Kul'dur 37.15 346				*e*P		**P**		**06 38 36.7**	**-3.1**
KLR				*e*		pP		06 39 05.0	-3.1
KLR				pmax		pmax			
comp=Z,32nm,1.2s,mb4.8									
GYA Guiyang 37.71 296⇑				*i*P		**P**		**06 38 46.1**	**+1.6**
GYA				AP		pP		06 39 14.3	+1.5
GYA				XP		sP		06 39 28.9	+1.5
GYA				PP		PP		06 40 19.3	+6.2
GYA				PCP		PcP		06 41 00.3	+1.4
GYA				S		**S**		**06 44 27.3**	**+2.2**
GYA				SCP		ScP		06 44 34.4	0.0
GYA				AMB		AMB			
comp=Z,30nm,1.0s,mb4.9									
GYA				AMB		AMB			
comp=Z,140nm,3.8s									
GYA				LR		LR			
comp=N,690nm,17.8s									
GYA				LR		LR			
comp=E,740nm,18.0s									
GYA				LR		LR			
comp=Z,760nm,18.2s									
XAN Xi'an 38.19 309				P		**P**		**06 38 48.8**	**+0.3**
XAN				AMB		AMB			
comp=Z,33nm,0.6s,mb5.1									
ASAR Alice Springs 38.37 196				P		**P**		**06 38 49.8**	**-0.2**
comp=Z,16nm,0.6s,mb4.8,baz=20,slow=12,SNR=293									
ASAR				pP		pP		06 39 17.0	-1.4
comp=Z,2.9nm,0.5s,baz=14,slow=13,SNR=1.8									
ASAR				PP		PP		06 40 18.4	-1.9
comp=Z,8.9nm,0.9s,baz=14,slow=12,SNR=8.2									
ASAR				ScP		ScP		06 44 35.8	-1.2
comp=Z,5.0nm,0.8s,baz=19,slow=4.0,SNR=17									
ASAR				PKIKP		PKiKP		06 48 14.8	-0.4
comp=Z,0.6nm,0.7s,baz=7.4,slow=1.6,SNR=4.8									
ASAR				P3KPbc				07 08 55.6	
comp=Z,0.2nm,0.4s,baz=188,slow=3.7,SNR=7.9									
ASAR				P4KPbc				07 16 57.0	
comp=Z,0.2nm,0.3s,baz=246,slow=4.6,SNR=4.1									
ASAR Alice Springs 38.37 196				P		**P**		**06 38 49.8**	**-0.2**
ASAR				pP		pP		06 39 17.0	-1.4
ASAR				PP		PP		06 40 18.4	-1.9
ASAR				ScP		ScP		06 44 35.8	-1.2
HHC Hu-ho-hao-te 39.63 320				⇑P		**P**		**06 39 01.3**	**+0.8**
HHC				AP		pP		06 39 30.1	+1.1
HHC				XP		sP		06 39 43.3	-0.3
HHC				PP		PP		06 40 37.3	+3.3
HHC				SCP		ScP		06 44 43.0	+1.2
HHC				S		**S**		**06 44 53.8**	**-0.1**
HHC				XS		sS		06 45 42.9	-0.7
HHC				SCS		ScS		06 48 52.3	-2.3
HHC				AMB		AMB			
comp=Z,42nm,1.0s,mb5.0									
HHC				AMB		AMB			
comp=Z,118nm,10.8s									
HHC				LR		LR			
comp=N,142nm,18.0s									
HHC				LR		LR			
comp=E,294nm,18.0s									
HHC				LR		LR			
comp=Z,138nm,20.4s									
BTO Baotou 40.48 318				*e*P		**P**		**06 39 08.3**	**+0.8**
BTO				AMB		AMB			
comp=Z,58nm,0.8s,mb5.3									
KMI Kunming 40.95 293				P		**P**		**06 39 12.8**	**+1.5**
KMI				AP		pP		06 39 40.8	+0.8
KMI				PP		PP		06 40 52.0	+3.7
KMI				S		**S**		**06 45 13.8**	**+0.2**
KMI				XS		sS		06 46 02.8	-0.6
KMI				AMB		AMB			
comp=Z,25nm,0.9s,mb4.8									
KMI				LR		LR			
comp=N,423nm,12.5s									
KMI				LR		LR			
comp=E,245nm,11.5s									
KMI				LR		LR			
comp=Z,357nm,12.5s									
PET Petropavlovsk 41.00 13				*i*P		**P**		**06 39 12.0**	**+0.2**
PET				pmax		pmax			
comp=Z,63nm,2.3s,mb4.8									
PET Petropavlovsk 41.00 13				P		**P**		**06 39 12.2**	**+0.5**
HIA Hailar 41.08 335c				*i*P		**P**		**06 39 12.9**	**+0.4**
HIA Hailar 41.08 335⇑				*i*P		**P**		**06 39 12.8**	**+0.4**
comp=Z,80nm,0.6s,mb5.5									
CD2 Chengdu 41.26 302				P		**P**		**06 39 14.1**	**+0.2**
CD2				AP		pP		06 39 44.1	+1.4
CD2				XP		sP		06 39 56.1	-1.1
CD2				PP		PP		06 40 51.3	-0.4
CD2				PCP		PcP		06 41 09.5	-0.8
CD2				S		**S**		**06 45 17.0**	**-1.3**
CD2				XS		sS		06 46 09.0	+0.9
CD2				AMB		AMB			
comp=Z,40nm,0.6s,mb5.2									
CD2				AMB		AMB			
comp=Z,80nm,4.2s									
CD2				LR		LR			
comp=N,230nm,9.0s									
CD2				LR		LR			
comp=Z,160nm,8.1s									
NOUC Port Laguerre 41.32 149				*e*P		**P**		**06 39 15.3**	**+0.9**
MBWA Marble Bar 42.19 216				*e*P		**P**		**06 39 21.4**	**-0.1**
comp=Z,25nm,0.6s,mb5.0									
LZH Lanzhou 42.82 309				⇑P		**P**		**06 39 27.5**	**+0.9**
LZH				AP		pP		06 39 55.0	-0.5
LZH				XP		sP		06 40 11.5	+1.5
LZH				*e*S		**S**		**06 45 41.8**	**+0.6**
LZH

CLNS Chul'man 45.79 345 *e*P **P 06 39 48.7 -1.5**
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=Z,17nm,0.9s,mb4.7
CLNS pmax pmax
comp=E,6.0nm,1.0s
MA2 Magadan 46.23 4*c i*P **P 06 39 53.0 -0.6**
MA2 pmax pmax
comp=N,7.0nm,0.7s
MA2 pmax pmax
comp=Z,20nm,0.7s,mb4.9
MA2 Magadan 46.23 4 *e*P **P 06 39 52.5 -1.1**
comp=Z,27nm,0.6s,mb5.0
ULN Ulaanbaatar 46.27 325⇑*i*P **P 06 39 54.5 +0.6**
PSI Prapat 46.30 261 P **P 06 39 54.3 +0.1**
comp=Z,24nm,0.6s,mb5.0,baz=76,slow=5.3,SNR=30
SONM Songino Array 46.62 325 P **P 06 39 56.9 +0.2**
comp=Z,17nm,0.6s,mb4.9,baz=140,slow=7.8,SNR=177
SONM PcP PcP 06 41 28.7 +0.2
comp=Z,1.9nm,0.5s,baz=148,slow=3.5,SNR=4.3
SONM ScP ScP 06 45 08.7 -1.4
comp=Z,2.2nm,0.6s,baz=138,slow=3.7,SNR=10
SONM Songino Array 46.62 325 P **P 06 39 56.9 +0.3**
SONM 06 41 28.7
GTA Gaotai 46.99 312⇑*i*P **P 06 40 00.3 +0.8**
GTA AP pP 06 40 29.4 +0.5
GTA XP sP 06 40 41.8 -1.5
GTA PCP PcP 06 41 29.3 -0.5
GTA PP PP 06 41 51.4 +0.1
GTA SCP ScP 06 45 10.8 -0.8
GTA PCS PcS 06 45 23.4 -1.6
GTA S **S 06 46 43.0 +1.8**
GTA XS sS 06 47 34.4 +2.4
GTA SCS ScS 06 49 39.8 -0.9
GTA SS SS 06 50 07.3 -2.3
GTA AMB AMB
comp=Z,26nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,196nm,10.3s
GTA LR LR
comp=N,118nm,13.7s
GTA LR LR
comp=E,189nm,14.4s
GTA LR LR
comp=Z,118nm,13.7s
ADE Adelaide 48.52 186 *e*P **P 06 40 11.9 +0.6**
YAK Yakutsk 49.62 351 *e*P **P 06 40 18.7 -1.0**
YAK *e*S **S 06 47 15.2 -3.0**
YAK pmax pmax
comp=Z,35nm,0.6s,mb5.2
YAK pmax pmax
comp=N,20nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.6s
YAK smax
comp=N,6.0nm,1.7s
YAK smax
comp=E,6.0nm,1.3s
YAK Yakutsk 49.62 351⇑*e*P **P 06 40 18.6 -1.1**
comp=E,104nm,0.6s,mb5.6
SEY Seymchan 49.68 5 *e*P **P 06 40 20.4 +0.3**
SEY *e**PP pP 06 41 04.2 +14
SEY *e* 06 42 19.8
SEY *e*S **S 06 47 17.2 -1.8**
SEY 06 49 50.3
SEY SS SS 06 50 54.6 +1.8
SEY pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SEY smax
comp=N,110nm,19.9s
SEY smax
comp=E,40nm,21.0s
ZAK Zakamensk 49.73 326⇓*i*P **P 06 40 20.3 -0.3**
ZAK *e* pP 06 40 46.4 -3.8
ZAK pmax pmax
comp=Z,29nm,1.0s,mb4.9
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.4
BOD Bodaibo 49.88 339 *e*P **P 06 40 20.7 -1.0**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
SHL Shillong 50.76 292⇑*i*P **P 06 40 28.5 +0.2**
TOO Toolangi 50.81 179⇓*i*P **P 06 40 29.9 +1.2**
comp=Z,35nm,0.6s,mb5.2
TOO Toolangi 50.81 179⇓*i*P **P 06 40 29.9 +1.2**
TOO pmax pmax
comp=Z,35nm,0.6s,mb5.2
MOY Mondy 51.64 327 *e*P **P 06 40 32.3 -2.6**
MOY pmax pmax
comp=Z,36nm,3.9s
KLBR Kellerberrin 51.67 209 *e*P **P 06 40 34.5 -0.6**
comp=Z,36nm,1.3s,mb4.8
LSA Lhasa 51.75 297 P **P 06 40 37.0 +1.3**
LSA AMB AMB
comp=Z,60nm,0.7s,mb5.3
MUN Mundaring 52.74 210 *e*P **P 06 40 42.1 -0.9**
NWAO Narrogin (SRO) 53.03 209 PcP PcP 06 41 52.1 +0.1
comp=Z,3.5nm,0.5s,baz=48,slow=13,SNR=3.0
JIRN Jiri 55.95 294 *e*P **P 06 41 06.6 +0.4**
comp=Z,38nm,0.3s,mb5.8
GUN Gumba 56.23 295 *e*P **P 06 41 08.6 +0.4**
comp=Z,72nm,0.4s,mb5.9
BILL Bilibino 56.30 10*αe*P **P 06 41 07.9 -0.8**
BILL pmax pmax
comp=Z,47nm,0.9s,mb5.3
BILL Bilibino 56.30 10 *e*P **P 06 41 07.3 -1.4**
comp=Z,45nm,0.8s,mb5.3
PKI Pulchoki 56.64 294 *e*P **P 06 41 10.9 -0.2**
comp=Z,26nm,0.3s,mb5.5
KKN Kakani 56.76 294 *e*P **P 06 41 11.7 -0.3**
comp=Z,43nm,0.7s,mb5.4
KKN Kakani 56.76 294 *e*P **P 06 41 11.7 -0.3**
KKN pmax pmax
comp=Z,22nm,0.7s,mb5.1
DMN Daman 56.91 294 *e*P **P 06 41 13.0 0.0**
comp=Z,52nm,0.6s,mb5.5
WMQ Urumqi 56.96 314⇑*i*P **P 06 41 14.0 +0.6**
WMQ AP pP 06 41 44.0 +0.2
WMQ XP sP 06 41 58.0 +0.1
WMQ PP PP 06 43 24.0 +2.7
WMQ S **S 06 48 56.0 -1.5**
WMQ SS SS 06 52 48.0 +0.2
WMQ AMB AMB
comp=Z,38nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,127nm,6.0s
WMQ LR LR
comp=N,68nm,10.0s
WMQ LR LR
comp=E,124nm,11.0s
WMQ LR LR
comp=Z,568nm,9.0s
GKN Gorkha 57.34 295 *e*P **P 06 41 15.9 -0.1**
comp=Z,56nm,0.4s,mb5.7
KOLN Koldanda 58.25 294 *e*P **P 06 41 22.3 -0.1**
TIXI Tiksi 58.89 354 *i*P **P 06 41 25.2 -1.6**
TIXI pmax pmax
comp=Z,13nm,1.0s,mb4.7
URZ Urewera 59.85 151 P **P 06 41 33.0 -0.4**
comp=Z,17nm,0.6s,mb5.0,baz=14,slow=6.0,SNR=11
MK31 Makanchi Array 61.33 316 *i*P **P 06 41 43.4 0.0**
MK31 pmax pmax
comp=Z,11nm,0.4s,mb5.0
MKAR Makanchi Array 61.33 316 P **P 06 41 43.5 0.0**
comp=Z,11nm,0.4s,mb5.0,baz=91,slow=8.5,SNR=337
MKAR pP pP 06 42 13.0 -1.2
comp=Z,4.3nm,0.6s,baz=96,slow=9.9,SNR=2.1
MKAR PKP2bc 07 11 04.7
comp=Z,0.4nm,0.8s,baz=242,slow=2.6,SNR=4.8
MKAR Makanchi Array 61.33 316 P **P 06 41 43.5 +0.1**
MKAR *PP pP 06 42 13.0 -1.2
MKAR Makanchi Array 61.33 316 P **P 06 41 43.5 0.0**
MKAR pP pP 06 42 13.0 -1.2
MKAR ⇑*e* 07 11 04.7
ZAL Zalesovo 61.51 324 P **P 06 41 43.6 -1.0**
comp=Z,4.3nm,0.6s,mb4.5,baz=7.3,slow=5.4,SNR=29
ZAL pP pP 06 42 16.1 +0.6
comp=Z,2.4nm,0.6s,baz=64,slow=7.6,SNR=2.4
ZAL LR LR 07 08 09.5
comp=Z,102nm,18.4s,baz=190,slow=36
ZAL Zalesovo 61.51 324 P **P 06 41 43.7 -1.0**
ZAL *PP pP 06 42 16.2 +0.7
ZAL Zalesovo 61.51 324 P **P 06 41 43.6 -1.0**
ZAL pP pP 06 42 16.1 +0.6
ZAL LR LR 07 08 09.5
RPZ Rata Peaks 61.88 158 P **P 06 41 46.0 -1.2**
comp=Z,18nm,0.8s,mb5.0,baz=271,slow=1.7,SNR=4.3
NVS Novosibirsk 62.65 325 *e*P **P 06 41 50.0 -2.3**
NVS *e* pP 06 42 20.1 -3.1
NVS pmax pmax
comp=Z,21nm,1.1s,mb4.9
NVS pmax pmax
comp=E,16nm,1.2s
PALK Pallekele 62.95 271 P **P 06 41 54.1 -0.2**
comp=E,221nm,0.9s,mb6.0,SNR=5.6
PALK Pallekele 62.95 271 *e*P **P 06 41 54.6 +0.3**
comp=E,47nm,1.1s,mb5.2
HYB Hyderabad 63.45 283⇑*i*P **P 06 41 56.0 -1.6**
comp=E,100nm,1.0s,mb5.6
HYB *e*S **S 06 50 19.0 -1.3**
HYB Hyderabad 63.45 283⇑*e*P **P 06 41 57.5 -0.1**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.6
HYB Hyderabad 63.45 283⇑*e*P **P 06 41 57.5 -0.1**
comp=Z,100nm,1.0s,mb5.6
TTA Tatalina 64.38 26 P **P 06 42 02.2 -1.4**
TTA pmax pmax
comp=Z,11nm,0.6s,mb4.9
TTA Tatalina 64.38 26 P **P 06 42 02.2 -1.4**
comp=Z,11nm,0.6s,mb4.9
KURK Kurchatov 64.44 320 P **P 06 42 03.5 -0.5**
comp=Z,349nm,0.8s
KURK Kurchatov 64.44 320*c i*P **P 06 42 03.3 -0.7**
KURK Kurchatov 64.44 320 *e*P **P 06 42 03.2 -0.9**
comp=Z,28nm,0.4s,mb5.5
KSH Kashi 65.04 307 *e*P **P 06 42 05.0 -2.9**
KSH *e*AP pP 06 42 35.3 -3.7
KSH *e*PCP PcP 06 42 38.0 -1.8
KSH *e*XP sP 06 42 49.3 -3.6
KSH *e*PPP 06 46 04.3
KSH *e*SCP 06 46 27.3
KSH *e*PCS 06 46 40.6
KSH *e*SCS ScS 06 51 43.3 -7.4
KSH AMB AMB
comp=Z,200nm,5.4s
KSH LR LR
comp=N,400nm,7.3s
KSH LR LR
comp=E,310nm,6.3s
TKM2 Tokmak 2 65.53 311 P **P 06 42 11.6 +0.5**
SNR=8.1
KBK Karagaybulak 65.99 311 P **P 06 42 14.5 +0.4**
SNR=7.7
SLKM Skilak Lake 66.22 29 *e*P **P 06 42 14.5 -1.1**
UCH Uchtor 66.29 310 P **P 06 42 17.0 +1.1**
SNR=6.8
AAK Ala-Archa 66.32 311*c i*P **P 06 42 15.0 -1.2**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AAK Ala-Archa 66.32 311 *e*P **P 06 42 15.3 -0.8**
comp=Z,5.7nm,1.0s,mb4.4
USP Ospenovka 66.36 311 P **P 06 42 16.1 -0.3**
SNR=5.6
AML Almayashu 66.89 310 P **P 06 42 20.5 +0.7**
SNR=7.8
PMR Palmer 67.02 28 *e*P **P 06 42 19.1 -1.5**
comp=Z,16nm,0.6s,mb5.0
SML Sawmill 67.44 28 *e*P **P 06 42 22.0 -1.2**
COLA College 68.41 25 *i*P **P 06 42 27.8 -1.5**
DIV Divide 68.49 29⇑*e*P **P 06 42 28.4 -1.4**
comp=Z,34nm,0.5s,mb5.3
ILAR Eielson Array 68.78 25 P **P 06 42 29.2 -2.4**
comp=Z,17nm,0.5s,mb5.0,baz=251,slow=5.9,SNR=175
KK31 Karatay Array 69.27 311 *i*P **P 06 42 34.0 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
KKAR Karatay Array 69.27 311 *i*P **P 06 42 34.0 -0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BVA0 Borovoye Array 69.79 322 *e*P **P 06 42 36.9 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 69.79 322 P **P 06 42 36.9 -1.0**
comp=Z,10nm,0.3s,mb5.0,baz=104,slow=7.7,SNR=9.3
BRVK Borovoye 69.86 322 P **P 06 42 37.1 -1.1**
comp=Z,9.3nm,0.6s,mb4.7
BRVK Borovoye 69.86 322 *e*P **P 06 42 37.3 -1.0**
comp=Z,9.3nm,0.6s,mb4.7
ZRNK Zerenda 70.62 322 *e*P **P 06 42 41.7 -1.2**
comp=Z,18nm,0.9s,mb4.8
ZRNK *e*pP pP 06 43 13.5 -0.9
DAWY Dawson 71.86 27 *e*P **P 06 42 49.6 -0.7**
DGAR Diego Garcia 74.51 258 P PcP 06 43 21.0 +1.2
comp=Z,3μm,0.3s,SNR=12
INK Inuvik 74.57 22 *e*P **P 06 43 05.1 -1.2**
INK pmax pmax
comp=Z,38nm,0.9s
INK Inuvik 74.57 22 *e*P **P 06 43 05.1 -1.1**
comp=Z,38nm,0.9s,mb5.0
AB31 Akbulak array 76.39 318 P **P 06 43 15.2 -1.4**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ARU Arti 76.65 325⇓*i*P **P 06 43 16.4 -1.7**
ARU *e* 06 46 11.3
ARU *e*PPP 06 47 58.3
ARU *e*S S 06 52 46.3 -7.9
ARU *e*SS SS 06 57 51.5 -0.7
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
ARU Arti 76.65 325 *e*P **P 06 43 14.6 -3.5**
comp=Z,6.1nm,0.4s,mb4.6
AKTK Aktyubinsk 77.52 319 P **P 06 43 22.7 -0.3**
AKTO Aktyubinsk 77.52 319 P **P 06 43 22.7 -0.3**
comp=Z,2.1nm,0.5s,mb4.0,baz=89,slow=7.2,SNR=4.9
KEBM Edson Butte 81.77 48 *e*P **P 06 43 47.3 +1.4**
KHMM Horse Mountain 82.59 50 *e*P **P 06 43 51.0 +0.8**
HUMO Hull Mountain 82.82 48 *e*P **P 06 43 52.3 +0.9**
comp=Z,20nm,0.9s,mb4.9
YKW3 Yellowknife Ar 83.06 27⇓*e*P **P 06 43 51.9 -0.7**
YKW3 *e*pP pP 06 44 24.4 -0.7
YKA Yellowknife Ar 83.09 27 P **P 06 43 52.0 -0.7**
comp=Z,12nm,0.4s,mb4.9,baz=286,slow=5.1,SNR=265
YKA pP pP 06 44 23.6 -1.6
comp=Z,1.7nm,0.5s,baz=286,slow=5.0,SNR=1.6
YKA PKiKP PKiKP 06 49 09.4 -1.2
comp=Z,0.6nm,0.7s,baz=284,slow=1.4,SNR=7.5
YKA PKKPbc PKKPbc 07 02 11.8 -1.4
comp=Z,0.1nm,0.4s,baz=114,slow=2.2,SNR=5.8
YKA Yellowknife Ar 83.09 27 P **P 06 43 52.0 -0.8**
YKA pP pP 06 44 23.6 -1.6
YBH Yreka Blue Hor 83.17 49 *e*P **P 06 43 54.3 +1.1**
YBH pmax pmax
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 83.17 49 *e*P **P 06 43 54.2 +1.1**
comp=Z,24nm,0.9s,mb4.9
ALE Alert 83.34 3 P **P 06 43 54.0 0.0**
comp=Z,377nm,0.6s,SNR=22
TBM Table Mountain 83.50 43 P **P 06 43 55.6 +0.7**
WDC Whiskeytown Da 83.54 50 *e*P **P 06 43 55.7 +0.7**
comp=Z,9.2nm,0.8s,mb4.6
LBCM Butte Creek Ri 84.37 50 P **P 06 44 00.0 +0.8**
HAWA Hanford 84.38 44⇑*e*P **P 06 43 59.4 0.0**
comp=Z,1.5nm,0.7s
WRD Warden 84.55 43 P **P 06 44 00.5 +0.4**
OHCM Honcut 84.60 51 *e*P **P 06 44 00.6 +0.2**
OD2 Odessa Site #2 84.69 43 P **P 06 44 01.2 +0.3**
RES Resolute Bay 84.71 13 *e*P **P 06 44 00.0 -1.0**
comp=Z,42nm,0.8s,mb5.2
MOD Modoc 84.89 48 *e*P **P 06 44 02.6 +0.7**
comp=Z,17nm,1.1s,mb4.7
APA Apatity 85.43 339⇓*i*P **P 06 44 03.0 -1.6**
NEW Newport 85.51 42 *e*P **P 06 44 05.2 +0.2**
NEW pmax pmax
comp=Z,70nm,0.8s
NEW Newport 85.51 42 *e*P **P 06 44 05.2 +0.2**
comp=Z,70nm,0.8s,mb5.4
CMB Columbia Colle 85.74 52 *e*P **P 06 44 06.6 +0.5**
CMB pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
CMB Columbia Colle 85.74 52 *e*P **P 06 44 06.6 +0.5**
comp=Z,3.9nm,0.6s,mb4.3
WVOR Wild Horse Val 85.97 47 *e*P **P 06 44 07.8 +0.6**
WVOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
WVOR Wild Horse Val 85.97 47 *e*P **P 06 44 07.8 +0.6**
comp=Z,7.8nm,0.8s,mb4.5
BMO Blue Mountains 86.28 45 *e*P **P 06 44 09.2 +0.4**
BMO pmax pmax
comp=Z,43nm,0.8s,mb5.2
BMO Blue Mountains 86.28 45 *e*P **P 06 44 09.2 +0.4**
comp=Z,43nm,0.8s,mb5.2
ARCES ARCESS Array B 87.07 342 P **P 06 44 10.0 -2.6**
comp=Z,14nm,1.0s,mb4.7,baz=64,slow=5.5,SNR=22
ARCES LR LR 07 24 02.2
comp=Z,111nm,21.9s,baz=180,slow=36
ARCES ARCESS Array B 87.07 342 P **P 06 44 10.0 -2.6**
ARCES LR LR 07 24 02.2
NVAR Mina Array Bea 87.23 51 P **P 06 44 14.5 +1.1**
comp=Z,8.9nm,0.7s,mb4.7,baz=260,slow=5.8,SNR=88
NVAR pP pP 06 44 45.0 -1.1
comp=Z,2.8nm,0.7s,baz=270,slow=4.6,SNR=2.4
NVAR PKKPbc PKKPbc 07 02 05.2 +1.8
comp=Z,0.3nm,0.5s,baz=124,slow=2.7,SNR=4.9
NVAR Mina Array Bea 87.23 51 P **P 06 44 14.5 +1.1**
NVAR pP pP 06 44 45.0 -1.1
NVAR PKKPbc PKKPbc 07 02 05.2 +1.7
MNV Mina 87.34 51 *e*P **P 06 44 14.5 +0.6**
comp=Z,14nm,1.0s,mb4.8
BMN Battle Mountai 87.51 49 *e*P **P 06 44 15.8 +1.1**
comp=Z,4.8nm,0.7s,mb4.4
MSO Missoula 87.98 42 *e*P **P 06 44 16.9 0.0**
comp=Z,4.2nm,0.9s,mb4.3
JOF Joensuu 88.24 335 *e*p **P 06 44 15.8 -2.4**
comp=Z,2.7nm,0.5s,mb4.3
JOF Joensuu 88.24 335 *e*P **P 06 44 15.8 -2.4**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
CHMT Chamberlain Mo 88.41 42 *e*P **P 06 44 18.9 -0.1**
HLID Hailey 88.64 46 *e*P **P 06 44 20.9 +0.8**
comp=Z,18nm,0.9s,mb5.0
ELK Elko 88.88 48⇑*e*P **P 06 44 22.1 +0.9**
comp=Z,24nm,0.7s,mb5.2
OBN Obninsk 89.00 327 P **P 06 44 26.0 +4.3**
DLMT Dillon 89.32 43 *e*P **P 06 44 21.9 -1.3**
comp=Z,20nm,1.3s,mb4.9
MCMT McKenzie Canyo 89.32 44 *e*P **P 06 44 23.9 +0.6**
DAG Danmarks Havn 89.35 356⇑*i*P **P 06 44 22.0 -1.4**
comp=Z,9.6nm,0.7s,mb4.8
DAG Danmarks Havn 89.35 356⇑*e*P **P 06 44 22.0 -1.4**
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DAG Danmarks Havn 89.35 356⇑*e*P **P 06 44 22.0 -1.4**
comp=Z,9.6nm,0.7s,mb4.8
BOZ Bozeman (W) 89.88 43 *e*P **P 06 44 26.1 +0.2**
comp=Z,10nm,1.1s,mb4.7
QLMT Earthquake Lak 90.28 44 *e*P **P 06 44 28.6 +0.9**
LDFC Landfair 90.61 54 *e*P **P 06 44 30.4 +1.1**
YMR Madison River 90.64 44 *e*P **P 06 44 31.0 +1.6**
comp=Z,40nm,1.2s,mb5.3
NEN Nelson 90.65 53 *e*P **P 06 44 30.6 +1.2**
KAF Kangasniemi 90.66 336 *e*p **P 06 44 26.9 -2.6**
comp=Z,1.7nm,0.4s,mb4.4
KAF Kangasniemi 90.66 336 *e*P **P 06 44 26.9 -2.6**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
YFT Old Faithful 90.81 44 *e*P **P 06 44 33.3 +3.1**
DUG Dugway 90.81 48 *e*P **P 06 44 30.7 +0.5**
DUG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DUG Dugway 90.81 48 *e*P **P 06 44 30.7 +0.5**
comp=Z,3.8nm,0.6s,mb4.6
IMW Indian Meadow 90.92 44 *e*P **P 06 44 31.9 +1.2**
comp=Z,9.9nm,0.8s,mb4.9
FLWY Flagg Ranch 91.02 44 *e*P **P 06 44 32.7 +1.5**
comp=Z,50nm,1.4s,mb5.4
LKWY Lake 91.06 44 *e*P **P 06 44 33.9 +2.6**
LKWY pmax pmax
comp=Z,21nm,1.0s,mb5.1
LKWY Lake 91.06 44 *e*P **P 06 44 33.9 +2.6**
comp=Z,21nm,1.0s,mb5.1
ARUT Antelope Range 91.09 51 *e*P **P 06 44 32.9 +1.4**
MOOW Moose Ponds 91.10 45 *e*P **P 06 44 32.4 +0.9**
comp=Z,15nm,1.3s,mb4.9
FINES FINESS Array B 91.11 335 P **P 06 44 28.7 -2.8**
comp=Z,3.7nm,0.4s,mb4.7,baz=66,slow=5.1,SNR=30
FINES LR LR 07 30 36.1
comp=Z,101nm,20.8s,baz=355,slow=39
FINES FINESS Array B 91.11 335 *i*P **P 06 44 31.8 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.4s
GCMT Greycliff 91.12 42 *e*P **P 06 44 32.6 +1.0**
REDW Red Top Meadow 91.16 45 *e*P **P 06 44 32.6 +0.8**
comp=Z,6.0nm,0.9s,mb4.6
AHID Auburn Hatcher 91.19 46 *e*P **P 06 44 32.4 +0.5**
comp=Z,22nm,1.3s,mb5.0
AHID *e*pP pP 06 45 06.7 +1.9
SNOW Snow King Moun 91.19 45 *e*P **P 06 44 33.4 +1.4**
comp=Z,3.5nm,0.5s,mb4.7
LOHW Long Hollow 91.25 45 *e*P **P 06 44 33.0 +0.8**
comp=Z,14nm,1.3s,mb4.8
HWUT Hardware Ranch 91.25 47 *e*P **P 06 44 32.5 +0.3**
comp=Z,5.5nm,0.5s,mb4.8
VNDA Vanda 91.40 176 *e*P **P 06 44 31.8 -1.2**
comp=Z,22nm,1.3s,mb5.0
TCUT Toone Canyon 91.52 47 *e*P **P 06 44 34.4 +0.9**
MVU Marysvale 91.78 50 *e*P **P 06 44 41.9 +7.2**
comp=Z,3.0nm,0.7s,mb4.4
MSU Marysvale 91.81 50 *e*P **P 06 44 35.9 +1.1**
FFC Flin Flon 92.06 32 *e*P **P 06 44 35.2 -0.8**
FFC pmax pmax
comp=Z,16nm,1.2s,mb4.9
FFC Flin Flon 92.06 32 *e*P **P 06 44 35.2 -0.7**
comp=Z,16nm,1.2s,mb4.9
BW06 Boulder Array 92.26 45 *e*P **P 06 44 36.8 -0.1**
comp=Z,2.1nm,0.8s,mb4.2
PDAR Pinedale Array 92.26 45 P **P 06 44 37.0 +0.1**
comp=Z,2.6nm,0.7s,mb4.4,baz=219,slow=2.1,SNR=36
TMUT Trail Mountain 92.27 49 *e*P **P 06 44 38.0 +1.0**
SRU San Rafael 92.83 49 *e*P **P 06 44 39.9 +0.4**
comp=Z,7.2nm,0.6s,mb5.0
LAO LASA Array 93.00 41 *e*P **P 06 44 40.6 +0.2**
comp=Z,52nm,1.0s,mb5.6
FCC Fort Churchill 93.78 26 *e*P **P 06 44 42.1 -1.8**
FCC pmax pmax
comp=Z,19nm,1.1s,mb5.1
FCC Fort Churchill 93.78 26 *e*P **P 06 44 42.1 -1.8**
comp=Z,19nm,1.1s,mb5.2
PV10 Paradox Valley 94.17 49 *e*P **P 06 44 46.5 +0.8**
TUC Tucson 94.90 55 *e*P **P 06 44 50.6 +1.6**
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
TUC Tucson 94.90 55 *e*P **P 06 44 50.6 +1.6**
comp=Z,1.9nm,0.9s,mb4.3
RSSD Black Hills 95.45 42 *e*P **P 06 44 51.3 -0.2**
RSSD pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
RSSD Black Hills 95.45 42 *e*P **P 06 44 51.3 -0.2**
comp=Z,7.8nm,1.1s,mb4.8
BRTR Keskin Array B 96.89 313 P **P 06 44 56.9 -1.1**
comp=Z,0.5nm,0.6s,mb4.0,baz=83,slow=3.6,SNR=3.6
NOA NORSAR Array B 97.02 339 P **P 06 44 57.2 -1.5**
comp=Z,0.7nm,0.7s,mb4.1,baz=46,slow=4.8,SNR=2.9
NOA PP PP 06 48 52.5 -3.3
comp=Z,0.8nm,0.8s,baz=78,slow=6.4,SNR=4.0
NOA LR LR 07 29 47.5
comp=Z,69nm,21.8s,baz=285,slow=36
NOA NORSAR Array B 97.02 339 P **P 06 44 57.2 -1.4**
NOA 06 48 52.5
ULM Lac du Bonnet 97.50 34 P **P 06 44 58.9 -1.9**
comp=Z,3.5nm,0.6s,mb4.8,baz=337,slow=3.5,SNR=8.7
ULM Lac du Bonnet 97.50 34 P **P 06 44 58.9 -1.9**
MNTX Cornudas Mount 99.41 54 *e*Pdif Pdif 06 45 10.2 +0.8
GERES GERESS Array B 104.24 329 PKiKP PKiKP 06 49 46.9 -0.1
comp=Z,1.0nm,0.6s,baz=71,slow=1.0,SNR=8.3
TIP Timpagrande 108.49 320 *e*PKPdf PKiKP 06 49 54.9 +0.1
WCI Wyandotte Cave 109.93 41 *e*PKPdf PKiKP 06 49 57.6 0.0
WVT Waverly 110.16 43 *e*PKIKP PKiKP 06 49 57.6 -0.4
TEIG Tepich 118.19 58 *e*PKPdf PKPdf 06 50 14.0 +0.7
LSZ Lusaka 118.51 260 *e*PKPdf PKPdf 06 50 14.8 +0.8
SNAA Sanae 118.64 191 PKP PKPdf 06 50 12.6 -1.6
comp=Z,1.5nm,0.6s,baz=288,slow=22,SNR=5.3
VNA2 Neumayer--Watz 120.08 190 *e*PKPdf PKPdf 06 50 16.0 -1.0
baz=309,slow=0.6
VNA2 *e* 06 50 19.5
VNA2 *e* 06 50 26.3
VNA2 *e* 06 50 51.3
VNA2 *e* 06 51 05.8
VNA2 *e* 06 53 34.5
VNA2 *e* 06 53 37.1
VNA2 *e* 06 53 46.1
VNA3 Neumayer Olymp 120.19 189 *e*PKPdf PKPdf 06 50 15.9 -1.3
VNA3 *e* 06 50 49.4
VNA3 *e* 06 51 03.0
VNA3 *e* 06 53 37.7
VNA3 *e* 06 53 40.0
VNA3 *e* 06 53 45.2

VNA3			*e*			06 53 48.4	
MTE	**Manteigas**	**120.44 335**	*e*PKPdf	PKPdf		06 50 18.4	+0.8
PCBR	**Castelo Branco**	**120.89 335**	*e*PKPdf	PKPdf		06 50 18.9	+0.4
PTOM	**Tomar**	**121.45 336**	*e*PKPdf	PKPdf		06 50 20.3	+0.7
LBTB	**Lobatse**	**121.64 249**	*e*PKIKP	PKPdf		06 50 20.8	+0.8
BOSA	**Boshof**	**121.92 245**	PKP	PKPdf		06 50 20.9	+0.5
	comp=Z,4.9nm,0.4s,baz=131,slow=2.4,SNR=17						
BOSA	**Boshof**	**121.92 245**	*e*PKPdf	PKPdf		06 50 20.5	0.0
PBEJ	**Beja**	**122.58 334**	*e*PKPdf	PKPdf		06 50 22.7	+0.9
MGV	**Manicaragua**	**123.81 51**	*e*P	PKPdf		06 50 25.9	+1.8
TORD	**Torodi Ar. Bea**	**134.65 304**	PKhKP			06 50 29.2	
	comp=Z,0.7nm,0.8s,baz=72,slow=2.3,SNR=6.1						
TORD			PKP	PKPdf		06 50 45.2	+0.6
	comp=Z,8.0nm,0.7s,baz=26,slow=2.1,SNR=56						
TORD			PP	PP		06 53 18.0	-1.2
	comp=Z,1.1nm,0.7s,baz=43,slow=4.8,SNR=4.4						
TORD			SKPbc	SKPbc		06 54 02.2	-0.8
	comp=Z,11nm,0.8s,baz=41,slow=3.3,SNR=32						
ROSC	**El Rosal**	**137.32 67**	PKhKP			06 50 47.1	
	comp=Z,2.2nm,0.5s,baz=104,slow=19,SNR=2.5						
ROSC			SKPbc	SKPbc		06 54 13.0	+1.9
	comp=Z,3.7nm,0.7s,baz=119,slow=22,SNR=4.0						
PLCA	**Paso Flores**	**139.08 138**	PKP	PKPdf		06 50 52.9	0.0
	comp=Z,1.3nm,0.5s,baz=71,slow=0.5,SNR=7.1						
PLCA			SKPbc	SKPbc		06 54 16.1	0.0
	comp=Z,1.0nm,0.5s,baz=238,slow=9.5,SNR=3.4						
PLCA	**Paso Flores**	**139.08 138**	*e*PKPdf	PKPdf		06 50 53.6	+0.7
DBIC	**Dimbokro**	**143.59 302**	PKP	PKPdf		06 50 58.9	-2.1
	comp=Z,34nm,0.4s,baz=40,slow=3.6,SNR=143						
DBIC			SKPbc	SKPbc		06 54 27.8	+0.1
	comp=Z,4.2nm,0.6s,baz=357,slow=4.1,SNR=4.1						
DBIC	**Dimbokro**	**143.59 302**	*e*PKPdf	PKPdf		06 50 58.4	-2.6
CFAA	**Coronel Fontan**	**144.97 126**	PKPbc	PKPdf		06 51 03.7	+0.3
	comp=Z,1.3nm,0.6s,baz=238,slow=3.5,SNR=41						
CFAA			pPKPbc			06 51 35.2	
	comp=Z,3.5nm,0.8s,baz=248,slow=3.8,SNR=8.4						
CFAA			SKPbc	SKPbc		06 54 30.4	-0.6
	comp=Z,0.1nm,0.3s,baz=238,slow=1.3,SNR=3.4						
CFAA	**Coronel Fontan**	**144.97 126**	PKPbc	PKPdf		06 51 03.7	+0.3
CFAA			pPKPbc			06 51 35.2	
CFAA			SKPbc	SKPbc		06 54 30.4	-0.6
TRQA	**Tornquist**	**146.05 141**	*e*PKPdf	PKPdf		06 51 06.6	+1.4
LPAZ	**La Paz**	**148.33 99**	PKP	PKPdf		06 51 11.3	+2.3
	comp=Z,4.4nm,0.5s,baz=309,slow=2.3,SNR=11						
LPAZ			PKPbc	PKPbc		06 51 15.5	+2.9
	comp=Z,6.4nm,0.4s,baz=354,slow=5.6,SNR=29						
LPAZ			pPKPbc	pPKPbc		06 51 47.1	+0.4
	comp=Z,7.5nm,0.7s,baz=322,slow=4.7,SNR=3.6						
LPAZ	**La Paz**	**148.33 99**	*e*PKPdf	PKPdf		06 51 11.6	+2.6
LPAZ			*e*PKPbc	PKPbc		06 51 15.6	+3.0
CPUP	**Villa Florida**	**155.85 125**	*e*PKP2	PKPab		06 51 48.6	+1.0
BDFB	**Brasilia**	**167.67 101**	PKP	PKPdf		06 51 34.0	+1.7
	comp=Z,3.1nm,0.6s,baz=306,slow=1.7,SNR=8.7						
BDFB			PKPab	PKPab		06 52 40.5	+1.2
	comp=Z,1.2nm,0.6s,baz=209,slow=9.4,SNR=3.1						

*ISCJB **18** 06:39:05.8±5.4, 27N±01×9528E±0.10, h24km±37km, mb4.0/13, Error ellipse: s-maj=25.0km s-min=11.7km az=62.5*
*IDC **18** 06:39:08.4±0.9, 274N×95.33E, h25km±3km, mb3.9/10, mb1 4.0/11, mb1mx3.8/24, mbtmp4.0/11, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=36.0km s-min=13.2km az=48.0*
*NEIC **18** 06:39:08.1±0.7, 272N×9531E, mb4.1/3, Error ellipse: s-maj=18.5km s-min=9.0km az=216.0*

ISC 18 06:39:08.0±5.5, 27N±01×9528E±009, h24km±38km, h28km±.7km: pP-P, n20, σ0§68/22, mb4.0/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.64**	**89**	Pn	**Pn**	**06 40 03.1**	**+0.3**
	15nm,0.3s,baz=256,slow=6.0,SNR=13						
PSI				Sn	**Sn**	**06 40 45.1**	**+0.2**
	2.8nm,0.3s,baz=330,slow=23,SNR=3.5						
PSI				LR	LR	06 41 44.5	
	comp=Z,464nm,20.2s,baz=216,slow=43						
PSI	**Prapat**	**3.64**	**89**	Pn	**Pn**	**06 40 03.1**	**+0.3**
PSI				Sn	**Sn**	**06 40 45.1**	**+0.2**
PSI				LR	LR	06 41 44.5	
KULM	**Kulim**	**5.92**	**65**	*e*Pn	**Pn**	**06 40 34.0**	**-0.1**
WRA	**Warramunga Arr**	**44.47**	**122**	P	**P**	**06 47 16.6**	**-0.6**
	0.9nm,0.4s,mb3.8,baz=299,slow=9.2,SNR=7.4						
WRA				pP	pP	06 47 26.5	+1.9
	0.8nm,0.4s,baz=301,slow=9.1,SNR=6.2						
WRAB	**Tennant Creek**	**44.48**	**122**	*e*P	**P**	**06 47 17.4**	**+0.1**
	1.3nm,0.4s,mb4.0						
MKAR	**Makanchi Array**	**45.31**	**347**	P	**P**	**06 47 24.6**	**+0.7**
	2.8nm,0.5s,mb4.4,baz=163,slow=8.4,SNR=47						
MKAR				pP	pP	06 47 32.0	+0.7
	1.5nm,0.3s,baz=163,slow=8.1,SNR=8.8						
ASAR	**Alice Springs**	**45.85**	**127**	P	**P**	**06 47 28.1**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=299,slow=7.8,SNR=6.4						
ASAR				pP	pP	06 47 36.2	+0.7
	1.6nm,1.1s,baz=301,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**45.93**	**10**	P	**P**	**06 47 28.5**	**-0.3**
	1.8nm,0.5s,mb4.3,baz=194,slow=8.5,SNR=13						
SONM				pP	pP	06 47 36.4	+0.2
	2.1nm,0.8s,baz=190,slow=8.8,SNR=6.5						
SONM				PcP	PcP	06 49 06.7	+1.2
	0.5nm,0.5s,baz=204,slow=3.6,SNR=4.5						
ULN	**Ulaanbaatar**	**46.08**	**11**	*e*P	**P**	**06 47 29.5**	**-0.5**
	1.6nm,0.8s,mb4.0						
KURK	**Kurchatov**	**49.83**	**346**	*e*P	**P**	**06 47 59.4**	**+0.4**
ZAL	**Zalesovo**	**51.75**	**352**	P	**P**	**06 48 14.2**	**+0.7**
	4.6nm,0.6s,mb4.6,baz=300,slow=5.2,SNR=16						
ZAL				pP	pP	06 48 21.6	+0.6
	2.5nm,0.6s,baz=311,slow=7.0,SNR=5.1						
BVAR	**Borovoye Array**	**54.18**	**342**	P	**P**	**06 48 31.6**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=132,slow=6.2,SNR=5.2						
BVAR				pP	pP	06 48 39.5	+0.6
	1.1nm,0.5s,baz=168,slow=15,SNR=3.6						
BRVK	**Borovoye**	**54.24**	**342**	*e*P	**P**	**06 48 29.4**	**-2.5**
	14μm,3.3s						
ZRNK	**Zerenda**	**54.56**	**341**	*e*P	**P**	**06 48 33.9**	**-0.3**
	1.2nm,0.4s,mb4.3						
ZRNK				*e*pP	pP	06 48 41.6	-0.1
AKTK	**Aktyubinsk**	**56.98**	**332**	P	**P**	**06 48 51.5**	**-0.1**
AKTK				pP	pP	06 48 59.3	+0.2
AKTO	**Aktyubinsk**	**56.98**	**332**	P	**P**	**06 48 51.5**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=117,slow=15,SNR=3.3						
AKTO				pP	pP	06 48 59.3	+0.2
	0.9nm,0.6s,baz=154,slow=2.5,SNR=2.9						
FINES	**FINESS Array B**	**77.76**	**333**	P	**P**	**06 51 02.7**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=104,slow=6.1,SNR=6.6						
FINES				pP	pP	06 51 10.8	0.0
	0.4nm,0.4s,baz=107,slow=6.6,SNR=1.3						
FINES	**FINESS Array B**	**77.76**	**333**	P	**P**	**06 51 02.7**	**-0.3**
FINES				pP	pP	06 51 10.8	0.0
ARCES	**ARCESS Array B**	**80.45**	**340**	P	**P**	**06 51 18.0**	**+0.2**
	3.3nm,0.9s,mb4.3,baz=90,slow=6.3,SNR=6.3						
ARCES				pP	pP	06 51 26.0	+0.4
	4.7nm,0.9s,baz=88,slow=6.2,SNR=2.5						
GERES	**GERESS Array B**	**82.40**	**319**	P	**P**	**06 51 29.5**	**+1.5**
	0.2nm,0.4s,mb3.4,baz=108,slow=5.3,SNR=2.9						

*NEIC **18** 06:41:20.0, 1782N×9428W, h81km, MD4.1(MEX), After MEX.*

MEX 18 06:41:20.0±1.1, 1782N×9428W, h81km±12km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.25**	**328**	*i*P	Pn	06 41 30.8	-1.3
TUIG				*i*S	Sn	06 41 39.2	-1.9
EVV	**El Vigia**	**1.20**	**302**	*i*P	Pn	06 41 50.0	+8.5
EVV				*i*S	Sn	06 41 56.0	-1.6
SCX	**San Cristobal**	**1.91**	**124**	*e*P	Pn	06 41 52.0	+1.3
SCX				*i*S	Sn	06 42 17.0	+3.0
VHO	**Vista Hermosa**	**2.45**	**253**	*i*P	Pn	06 41 57.7	-0.2
VHO				*i*S	Sn	06 42 24.4	-2.6
CCIG	**Comitan**	**2.56**	**126**	*i*P	Pn	06 41 58.4	-0.9
CCIG				*i*S	Sn	06 42 27.3	-2.3
PPM	**Popocatepetl**	**4.30**	**287**	*i*P	Pn	06 42 26.4	+3.3
TEIG	**Tepich**	**6.17**	**66**	*i*P	Pn	06 42 49.1	+0.7
TEIG				*i*S	Sn	06 43 54.6	-2.9

*NEIC **18** 06:43:59.2, 1658N×100.19W, h7km, MD4.1(MEX), After MEX.*

MEX 18 06:43:59.2±0.8, 1658N×10020W, h7km±4km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.39**	**43**	*i*P	Pg	06 44 07.0	+0.2
ACX				*i*S	Sg	06 44 12.0	0.0
CAIG	**El Cayaco**	**0.47**	**352**	*i*P	Pg	06 44 07.9	-0.4
CAIG				*i*S	Sg	06 44 14.7	+0.2
MEIG	**Mezcala**	**1.45**	**22**	*i*P	Pn	06 44 22.3	-3.5
MEIG				*i*S	Sn	06 44 40.9	-4.1
PLIG	**Platanillo**	**1.92**	**20**	*i*P	Pn	06 44 29.9	-2.4
PLIG				*i*S	Sn	06 44 52.0	-4.7
YAIG	**Yautepec**	**2.51**	**25**	*i*P	Pn	06 44 37.3	-3.2
YAIG				*i*S	Sn	06 45 07.3	-4.0
UTMO	**Huajuapan**	**2.60**	**61**	*i*P	Pn	06 44 38.2	-3.5
UTMO				*i*S	Sn	06 45 09.4	-4.1
PPM	**Popocatepetl**	**2.89**	**31**	*e*P	Pn	06 44 42.4	-3.2
PPM				*i*S	Sn	06 45 19.4	-1.2
PPM	**Popocatepetl**	**2.89**	**31**	*e*P	Pn	06 44 41.5	-4.1
PPM				*e*P		06 44 42.4	
PPM				*i*S	Sn	06 45 19.4	-1.2
MOIG	**Morelia**	**3.22**	**343**	*e*P	Pn	06 44 49.5	-0.7
MOIG				*i*S	Sn	06 45 26.2	-2.7
VHO	**Vista Hermosa**	**3.35**	**81**	*i*P	Pn	06 44 48.9	-3.0
VHO				*i*S	Sn	06 45 24.9	-7.1
VHO	**Vista Hermosa**	**3.35**	**81**	*i*P	Pn	06 44 48.9	-3.0
VHO				*i*S	Sn	06 45 26.6	-5.4
OXX	**Oaxaca**	**3.36**	**81**	*e*P	Pn	06 44 49.0	-3.1

*ISCJB **18** 06:44:21.7±0.4, 3799S×004×17624E±007, h216km±3km, mb4.5/11, Error ellipse: s-maj=8.9km s-min=5.6km az=18.5*
*IDC **18** 06:44:22.2±0.5, 38.12S×176.12E, h193km±8km, mb3.9/4, mb1 4.0/6, mb1mx3.9/13, mbtmp4.5/6, Error ellipse: s-maj=23.2km s-min=17.4km az=132.0*
*NEIC **18** 06:44:22.6, 3782S×17632E, h205km, mb4.0/2, After WEL.*
*BJI **18** 06:44:22.6, 3780S×17630E, h205km, mB5.3, mb5.0*
*WEL **18** 06:44:23.5±0.3, 3781S×17632E, h194km±2km, ML5.1/21, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0*

ISC 18 06:44:22.5±0.4, 3800S±004×17626E±007, h211km±3km, n128, σ1§27/135, mb4.5/11, 16C-10D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.30**	**140**	⇓PN	**Pn**	**06 44 50.4**	**+0.1**
TAZ	**Tarawera**	**0.30**	**140**	⇓P	**Pn**	**06 44 50.4**	**+0.1**
TOZ	**Tahuroa Road**	**0.66**	**294**	⇓PN	**Pn**	**06 44 50.8**	**-0.7**
TOZ				SN	**S**	**06 45 12.0**	**-2.0**
TOZ	**Tahuroa Road**	**0.66**	**294**	⇓P	**Pn**	**06 44 50.8**	**-0.7**
URZ	**Urewera**	**0.72**	**112**	P	**Pn**	**06 44 51.0**	**-0.7**
	316nm,0.3s,baz=262,slow=4.2,SNR=1539						
URZ				S	**S**	**06 45 11.7**	**-2.8**
	542nm,0.3s,baz=184,slow=22,SNR=90						
URZ	**Urewera**	**0.72**	**112**	⇓PN	**Pn**	**06 44 51.0**	**-0.8**
URZ				SN	**S**	**06 45 11.7**	**-2.9**
WIZ	**White Island**	**0.87**	**58**	PN	**Pn**	**06 44 51.0**	**-1.6**
WIZ	**White Island**	**0.87**	**58**	P	**Pn**	**06 44 51.0**	**-1.6**
HATZ	**Hinemaiaia**	**0.90**	**188**	⇑PN	**Pn**	**06 44 53.4**	**+0.7**
HATZ				SN	**S**	**06 45 15.9**	**-0.5**
HATZ	**Hinemaiaia**	**0.90**	**188**	P	**Pn**	**06 44 53.4**	**+0.6**
HATZ				S	**S**	**06 45 15.9**	**-0.4**
RATZ	**Rangitukua**	**0.95**	**204**	⇑PN	**Pn**	**06 44 54.0**	**+0.9**
RATZ	**Rangitukua**	**0.95**	**204**	P	**Pn**	**06 44 53.9**	**+0.8**
RITZ	**Rihia Road**	**1.03**	**198**	PN	**Pn**	**06 44 54.7**	**+1.1**
RITZ	**Rihia Road**	**1.03**	**198**	P	**Pn**	**06 44 54.9**	**+1.3**
MWZ	**Matawai**	**1.05**	**109**	⇓PN	**Pn**	**06 44 53.3**	**-0.5**
MWZ	**Matawai**	**1.05**	**109**	P	**Pn**	**06 44 53.3**	**-0.4**
KATZ	**Kakaramea**	**1.07**	**204**	⇑PN	**Pn**	**06 44 54.9**	**+1.0**
KATZ	**Kakaramea**	**1.07**	**204**	P	**Pn**	**06 44 54.9**	**+1.0**
BKZ	**Black Stump Fm**	**1.18**	**171**	⇑PN	**Pn**	**06 44 55.4**	**+0.8**
BKZ				SN	**S**	**06 45 19.1**	**-0.5**
KRVZ	**Karewarewa**	**1.20**	**204**	⇑PN	**Pn**	**06 44 55.7**	**+1.0**
HIZ	**Hauiti**	**1.22**	**245**	⇑PN	**Pn**	**06 44 55.5**	**+0.6**
HIZ	**Hauiti**	**1.22**	**245**	P	**Pn**	**06 44 55.5**	**+0.6**
WTVZ	**West Tongariro**	**1.23**	**205**	⇑PN	**Pn**	**06 44 56.1**	**+1.0**
WTVZ	**West Tongariro**	**1.23**	**205**	P	**Pn**	**06 44 56.1**	**+1.1**
TWVZ	**Taurewa**	**1.25**	**211**	⇑PN	**Pn**	**06 44 56.3**	**+1.2**
TWVZ				SN	**S**	**06 45 21.7**	**+1.1**
OTVZ	**Oturere**	**1.25**	**202**	PN	**Pn**	**06 44 56.6**	**+1.4**
NGZ	**Ngauruhoe**	**1.28**	**204**	⇑PN	**Pn**	**06 44 56.4**	**+1.0**
NGZ	**Ngauruhoe**	**1.28**	**204**	P	**Pn**	**06 44 56.4**	**+1.0**
KUZ	**Kuaotunu**	**1.32**	**341**	⇑PN	**Pn**	**06 44 53.4**	**-2.3**
KUZ	**Kuaotunu**	**1.32**	**341**	P	**Pn**	**06 44 53.4**	**-2.3**
WPVZ	**Whakapapa**	**1.33**	**205**	PN	**Pn**	**06 44 56.7**	**+1.0**
WPVZ	**Whakapapa**	**1.33**	**205**	P	**Pn**	**06 44 56.7**	**+1.0**
TUVZ	**Tukino**	**1.35**	**200**	PN	**Pn**	**06 44 57.2**	**+1.3**
TUVZ	**Tukino**	**1.35**	**200**	P	**Pn**	**06 44 57.2**	**+1.3**
FWVZ	**Far West T-bar**	**1.37**	**204**	PN	**Pn**	**06 44 57.1**	**+1.0**
FWVZ	**Far West T-bar**	**1.37**	**204**	P	**Pn**	**06 44 57.1**	**+1.0**
DRZ	**Dome Shelter**	**1.39**	**203**	PN	**Pn**	**06 44 57.5**	**+1.3**
DRZ	**Dome Shelter**	**1.39**	**203**	P	**Pn**	**06 44 58.0**	**+1.8**
TRVZ	**Turoa**	**1.41**	**203**	PN	**Pn**	**06 44 57.7**	**+1.3**
WNVZ	**Wahianoa**	**1.43**	**201**	⇑PN	**Pn**	**06 44 57.8**	**+1.2**
WNVZ				SN	**S**	**06 45 24.3**	**+1.3**
WNVZ	**Wahianoa**	**1.43**	**201**	P	**Pn**	**06 44 57.8**	**+1.3**
MOVZ	**Moawhango**	**1.46**	**196**	⇑PN	**Pn**	**06 44 57.6**	**+0.8**
MOVZ				SN	**S**	**06 45 24.1**	**+0.5**
PKVZ	**Pokaka**	**1.48**	**209**	⇑PN	**Pn**	**06 44 58.1**	**+1.1**
OTAZ	**Otara**	**1.49**	**314**	PN	**Pn**	**06 44 55.8**	**-1.3**
OTAZ	**Otara**	**1.49**	**314**	P	**Pn**	**06 44 55.8**	**-1.3**
KNZ	**Kokohu**	**1.51**	**133**	PN	**Pn**	**06 44 58.2**	**+1.0**
KNZ				SN	**S**	**06 45 23.2**	**-1.1**
KNZ	**Kokohu**	**1.51**	**133**	P	**Pn**	**06 44 58.2**	**+1.0**
KNZ				S	**S**	**06 45 23.8**	**-0.5**
MTVZ	**Mangateitei**	**1.52**	**204**	PN	**Pn**	**06 44 58.5**	**+1.2**
PUZ	**Puketiti**	**1.58**	**93**	⇓PN	**Pn**	**06 44 57.0**	**-0.9**
PUZ	**Puketiti**	**1.58**	**93**	P	**Pn**	**06 44 57.0**	**-0.8**
MTAZ	**Motutapu**	**1.62**	**318**	⇓PN	**Pn**	**06 44 56.7**	**-1.5**
MTAZ	**Motutapu**	**1.62**	**318**	P	**Pn**	**06 44 56.7**	**-1.5**
VRZ	**Vera Road**	**1.63**	**226**	PN	**Pn**	**06 44 59.8**	**+1.5**
VRZ	**Vera Road**	**1.63**	**226**	P	**Pn**	**06 44 59.8**	**+1.5**
MXZ	**Matakaoa Point**	**1.68**	**76**	PN	**Pn**	**06 44 57.4**	**-1.3**
MXZ	**Matakaoa Point**	**1.68**	**76**	P	**Pn**	**06 44 57.7**	**-1.0**
KAAZ	**Kauri Point**	**1.71**	**313**	PN	**Pn**	**06 44 57.1**	**-1.9**
KAAZ	**Kauri Point**	**1.71**	**313**	P	**Pn**	**06 44 57.1**	**-1.9**
WTAZ	**Waiatarua**	**1.71**	**308**	⇓PN	**Pn**	**06 44 57.8**	**-1.2**
WTAZ	**Waiatarua**	**1.71**	**308**	P	**Pn**	**06 44 57.8**	**-1.2**
RAEZ	**Rainy Point**	**1.95**	**228**	PN	**Pn**	**06 45 03.1**	**+1.8**
RAEZ	**Rainy Point**	**1.95**	**228**	P	**Pn**	**06 45 03.4**	**+2.1**
WAZ	**Wanganui**	**2.02**	**209**	PN	**Pn**	**06 45 03.1**	**+1.1**
WAZ	**Wanganui**	**2.02**	**209**	P	**Pn**	**06 45 03.1**	**+1.1**
TSZ	**Takapari Road**	**2.07**	**186**	⇑PN	**Pn**	**06 45 03.6**	**+1.1**
PXZ	**Pawanui**	**2.08**	**167**	⇑PN	**Pn**	**06 45 04.0**	**+1.3**
NEZ	**North Egmont**	**2.12**	**232**	PN	**Pn**	**06 45 05.0**	**+2.0**
NEZ	**North Egmont**	**2.12**	**232**	P	**Pn**	**06 45 05.1**	**+2.1**
PKE	**Pukeiti**	**2.15**	**235**	⇑PN	**Pn**	**06 45 05.2**	**+1.9**
PKE	**Pukeiti**	**2.15**	**235**	P	**Pn**	**06 45 05.2**	**+1.9**
NRZ	**Ngariki Road**	**2.26**	**233**	PN	**Pn**	**06 45 06.0**	**+1.5**
NRZ	**Ngariki Road**	**2.26**	**233**	P	**Pn**	**06 45 06.1**	**+1.5**
NWEZ	**Newall Road**	**2.27**	**235**	PN	**Pn**	**06 45 06.6**	**+2.0**
NWEZ	**Newall Road**	**2.27**	**235**	P	**Pn**	**06 45 06.6**	**+2.1**
WCZ	**Waipu Caves**	**2.56**	**323**	⇓PN	**Pn**	**06 45 06.0**	**-1.8**
WCZ	**Waipu Caves**	**2.56**	**323**	*e*P	**Pn**	**06 45 06.0**	**-1.7**
BFZ	**Birch Farm**	**2.68**	**180**	*e*P	**Pn**	**06 45 09.7**	**+0.7**
MRZ	**Mangatainoka R**	**2.71**	**191**	P	**Pn**	**06 45 09.8**	**+0.4**
KIW	**Kapiti Island**	**3.04**	**200**	P	**Pn**	**06 45 13.1**	**-0.1**
MTW	**Mount Morrison**	**3.21**	**190**	P	**Pn**	**06 45 14.9**	**-0.2**
PAWZ	**Paruwai Farm**	**3.44**	**191**	P	**Pn**	**06 45 17.6**	**-0.3**
MRW	**Makara Radio**	**3.44**	**200**	P	**Pn**	**06 45 17.6**	**-0.3**
WEL	**Wellington**	**3.48**	**199**	P	**Pn**	**06 45 18.1**	**-0.2**
MSWZ	**Moikau Station**	**3.50**	**193**	P	**Pn**	**06 45 18.2**	**-0.4**
SNZO	**South Karori**	**3.52**	**199**	P	**Pn**	**06 45 18.3**	**-0.5**
TCW	**Tory Channel**	**3.56**	**205**	P	**Pn**	**06 45 18.8**	**-0.5**
BHW	**Baring Head**	**3.57**	**197**	P	**Pn**	**06 45 18.0**	**-1.4**
NNZ	**Nelson**	**3.91**	**214**	P	**Pn**	**06 45 22.6**	**-0.9**
QRZ	**Quartz Range**	**4.04**	**224**	*e*P	**Pn**	**06 45 23.8**	**-1.4**
CMWZ	**Cape Campbell**	**4.06**	**202**	P	**Pn**	**06 45 24.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**4.14**	**206**	P	**Pn**	**06 45 24.9**	**-1.5**
THZ	**Tophouse**	**4.56**	**213**	*e*P	**Pn**	**06 45 30.7**	**-0.9**
KHZ	**Kahutara**	**4.88**	**204**	P	**Pn**	**06 45 35.0**	**-0.6**
DSZ	**Denniston Nort**	**5.08**	**221**	*e*P	**Pn**	**06 45 35.8**	**-2.3**
LTZ	**Lake Taylor**	**5.67**	**211**	*e*P	**Pn**	**06 45 44.2**	**-1.4**
CRLZ	**Canterbury Las**	**6.22**	**205**	P	**Pn**	**06 45 50.8**	**-1.9**
MQZ	**McQueen's Vall**	**6.33**	**204**	P	**Pn**	**06 45 51.9**	**-2.1**
WVZ	**Waitaha Valley**	**6.59**	**218**	*e*P	**Pn**	**06 45 55.5**	**-2.0**
RPZ	**Rata Peaks**	**6.94**	**213**	P	**Pn**	**06 46 00.8**	**-1.2**
	22nm,0.3s,baz=341,slow=0.7,SNR=61						
RPZ				S	**S**	**06 47 15.8**	**-5.4**
	45nm,0.3s,baz=37,slow=2.8,SNR=22						
RPZ	**Rata Peaks**	**6.94**	**213**	P	**Pn**	**06 46 00.7**	**-1.3**
FOZ	**Fox Glacier**	**7.47**	**220**	*e*P	**Pn**	**06 46 06.0**	**-2.8**
LBZ	**Lake Benmore**	**7.85**	**214**	*e*P	**Pn**	**06 46 12.2**	**-1.6**
ODZ	**Otahua Downs**	**8.20**	**209**	*e*P	**Pn**	**06 46 17.5**	**-0.8**
JCZ	**Jackson Bay**	**8.30**	**221**	*e*P	**Pn**	**06 46 16.0**	**-3.6**
WKZ	**Wanaka**	**8.72**	**216**	*e*P	**Pn**	**06 46 22.8**	**-2.3**
EAZ	**Earnscleugh**	**8.90**	**214**	P	**Pn**	**06 46 25.8**	**-1.6**
MSZ	**Milford Sound**	**9.15**	**221**	*e*P	**Pn**	**06 46 29.0**	**-1.5**
TUZ	**Tuapeka**	**9.36**	**210**	*e*P	**Pn**	**06 46 33.3**	**+0.1**
MLZ	**Mavora Lakes**	**9.51**	**217**	*e*P	**Pn**	**06 46 34.2**	**-1.0**
DZM	**Mont Dzumac**	**17.99**	**329**	P	**P**	**06 48 17.7**	**+0.4**
	0.5nm,0.3s,baz=171,slow=13,SNR=5.4						
STKA	**Stephens Creek**	**28.95**	**272**	P	**P**	**06 50 02.3**	**+0.1**
	3.3nm,0.8s,mb4.0,baz=120,slow=8.7,SNR=6.6						
STKA	**Stephens Creek**	**28.95**	**272**	*e*P	**P**	**06 50 03.0**	**+0.9**
CTA	**Charters Tower**	**31.53**	**296**	P	**P**	**06 50 25.6**	**+0.8**
	5.3nm,1.0s,mb4.0,baz=119,slow=5.4,SNR=4.3						
CTAO	**Charters Tower**	**31.53**	**296**	*e*P	**P**	**06 50 26.1**	**+1.3**
	3.4nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**38.74**	**279**	P	**P**	**06 51 27.4**	**+1.1**
	4.0nm,0.6s,mb4.2,baz=123,slow=8.6,SNR=73						
WB2	**Warramunga Arr**	**40.45**	**284**	*e*P	**P**	**06 51 41.1**	**+0.7**
WRA	**Warramunga Arr**	**40.46**	**284**	P	**P**	**06 51 41.2**	**+0.8**
	2.0nm,0.4s,mb3.9,baz=121,slow=8.6,SNR=38						
FITZ	**Fitzroy Crossi**	**48.24**	**280**	*e*P	**P**	**06 52 43.1**	**+1.1**
	2.8nm,0.6s,mb3.8						
NJ2	**Nanjing**	**87.84**	**314**	*e*P	**P**	**06 56 49.6**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
MDJ	**Mudanjiang**	**92.40**	**329**	P	**P**	**06 57 11.5**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,39nm,3.2s						
KMI	**Kunming**	**93.19**	**299**	P	**P**	**06 57 17.3**	**+4.6**
KMI				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
CD2	**Chengdu**	**96.27**	**304**	*e*P	**P**	**06 57 28.6**	**+1.8**
CD2				AP	pP	06 58 19.4	+0.6
CD2				XP	sP	06 58 40.8	0.0
CD2				PP	PP	07 01 27.5	+4.6
CD2				S

*IDC **18** 07:21:12.3±0.9, 3609N×13629E, h0km, mb3.2/6, mb1 3.5/6, mb1mx3.4/20, mbtmp3.2/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/12 Error ellipse: s-maj=22.3km s-min=12.5km az=165.0*
*NEIC **18** 07:21:14.2±0.7, 3615N×13640E, h15km, mb4.0/3, Error ellipse: s-maj=18.2km s-min=11.6km az=183.0*
NEIC Recorded [4 JMA] in Gifu; [2 JMA] in Aichi, Fukui and Shiga; [1 JMA] in Hyogo, Ishikawa, Mie, Osaka and Shizuoka Prefectures.

ISC 18 07:21:10.9±0.7, 3569N±005×13642E±004, h5km±5km, n16, σ0°96/23, mb3.5/9, 1C-2D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.24**	**88**	⇓P	**Pg**	**07 21 15.8**	**+0.1**
JGM				S	**Sg**	**07 21 19.3**	**+0.4**
JFM	**Mihama**	**0.39**	**246**	⇓P	**Pg**	**07 21 18.4**	**0.0**
JFM				S	**Sg**	**07 21 23.9**	**+0.4**
JKG	**Kaga**	**0.59**	**353**	⇑P	**Pg**	**07 21 22.2**	**0.0**
JKG				S	**Sg**	**07 21 30.3**	**+0.5**
MAJO	**Matsushiro**	**1.68**	**59**	*e*Pn	**Pn**	**07 21 40.0**	**-0.9**
MAJO				*e*Sg	**Sg**	**07 22 04.1**	**-0.8**
MAT	**Matsushiro**	**1.68**	**59**	P	**Pn**	**07 21 40.0**	**-0.9**
MAT				S	**Sn**	**07 22 04.3**	**+1.5**
MJAR	**Matsushiro Arr**	**1.68**	**59**	Pn	**Pn**	**07 21 40.6**	**-0.3**
	84nm,0.3s,baz=237,slow=12,SNR=88						
MJAR				Pg	**Pg**	**07 21 43.0**	**-0.1**
	85nm,0.3s,baz=245,slow=16,SNR=158						
MJAR				Lg		07 22 03.2	
	157nm,0.3s,baz=235,slow=33,SNR=29						
MJAR	**Matsushiro Arr**	**1.68**	**59**	Pn	**Pn**	**07 21 40.6**	**-0.3**
MJAR				Pg	**Pg**	**07 21 43.0**	**-0.1**
MJAR				Lg		07 22 03.2	
SONM	**Songino Array**	**25.30**	**308**	P	**P**	**07 26 37.3**	**-1.0**
	0.3nm,0.6s,mb3.0,baz=108,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**41.43**	**303**	P	**P**	**07 28 56.8**	**-1.5**
	0.4nm,0.6s,mb3.2,baz=91,slow=10,SNR=6.9						
KURK	**Kurchatov**	**43.60**	**309**	P	**P**	**07 29 14.6**	**-1.5**
	2.9nm,1.1s,mb3.9						
BRVK	**Borovoye**	**48.56**	**313**	P	**P**	**07 29 55.6**	**+0.5**
	1.8nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**49.34**	**313**	P	**P**	**07 30 03.5**	**+2.5**
	1.5nm,1.0s,mb4.0						
ILAR	**Eielson Array**	**52.77**	**32**	P	**P**	**07 30 28.2**	**+1.3**
	0.3nm,0.9s,mb3.2,baz=282,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**55.36**	**182**	P	**P**	**07 30 51.1**	**+5.3**
	0.2nm,0.3s,mb3.6,baz=358,slow=7.6,SNR=3.7						
ASAR	**Alice Springs**	**59.08**	**183**	P	**P**	**07 31 17.1**	**+5.0**
	0.1nm,0.4s,mb3.2,baz=353,slow=6.5,SNR=2.8						
YKA	**Yellowknife Ar**	**66.95**	**28**	P	**P**	**07 32 04.8**	**+0.4**
	0.2nm,0.8s,mb3.2,baz=297,slow=5.5,SNR=2.8						

*ISCJB **18** 07:38:15.3±0.5, 2720N×0094E×1268E±02, h10km, mb4.5/21, Error ellipse: s-maj=25.8km s-min=7.2km az=132.0*
*IDC **18** 07:38:15.3±0.7, 2720N×12689E, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/19, mbtmp4.3/11, Error ellipse: s-maj=51.3km s-min=14.3km az=73.0*
*NEIC **18** 07:38:16.8±7.5, 2730N×12683E, h10km±47km, mb4.7/12, Error ellipse: s-maj=18.4km s-min=7.0km az=60.0*

ISC 18 07:38:16.9±0.5, 276N±008×1269E±02, h10km, n31, σ0°52/30, mb4.5/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.32**	**160**	*e*P	**Pn**	**07 42 05.9**	**-0.3**
	25nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.76**	**183**	*e*P	**P**	**07 42 58.2**	**+0.2**
	14nm,0.4s						
WRAB	**Tennant Creek**	**23.70**	**162**	*e*P	**P**	**07 43 29.2**	**+0.1**
	36nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**	**07 43 29.2**	**0.0**
	10nm,0.6s,mb4.5,baz=342,slow=11,SNR=31						
WB2	**Warramunga Arr**	**23.71**	**162**	*e*P	**P**	**07 43 29.3**	**+0.1**
ASAR	**Alice Springs**	**27.13**	**166**	P	**P**	**07 44 00.5**	**+0.2**
	2.8nm,0.5s,mb4.0,baz=349,slow=7.3,SNR=63						
KLBR	**Kellerberrin**	**35.25**	**194**	*e*P	**P**	**07 45 12.1**	**+0.4**
	5.6nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**36.65**	**194**	P	**P**	**07 45 24.1**	**+0.5**
	4.5nm,0.4s,mb4.6,baz=7.2,slow=12,SNR=6.3						
STKA	**Stephens Creek**	**37.16**	**159**	*e*P	**P**	**07 45 27.2**	**-0.8**
	4.7nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**37.16**	**159**	P	**P**	**07 45 26.8**	**-1.2**
	5.5nm,0.5s,mb4.6,baz=328,slow=7.7,SNR=14						
STKA	**Stephens Creek**	**37.16**	**159**	*e*P	**P**	**07 45 26.8**	**-1.2**
SHL	**Shillong**	**40.59**	**307**	*e*P	**P**	**07 45 55.5**	**-1.3**
LSA	**Lhasa**	**43.21**	**312**	*e*P	**P**	**07 46 19.0**	**+0.8**
	4.1nm,0.6s,mb4.3						
JIRN	**Jiri**	**46.08**	**307**	*e*P	**P**	**07 46 40.5**	**-0.6**
	14nm,0.6s,mb5.0						
GUN	**Gumba**	**46.44**	**307**	*e*P	**P**	**07 46 43.6**	**-0.3**
	27nm,0.6s,mb5.3						
KKN	**Kakani**	**46.87**	**306**	*e*P	**P**	**07 46 47.8**	**+0.5**
DMN	**Daman**	**46.93**	**306**	*e*P	**P**	**07 46 47.5**	**-0.3**
GKN	**Gorkha**	**47.47**	**306**	*e*P	**P**	**07 46 52.2**	**+0.2**
	9.0nm,0.6s,mb4.9						
KOLN	**Koldanda**	**48.22**	**305**	*e*P	**P**	**07 46 58.2**	**+0.4**
	11nm,0.5s,mb5.1						
SONM	**Songino Array**	**48.27**	**342**	P	**P**	**07 46 59.0**	**+0.8**
	1.3nm,0.5s,mb4.2,baz=158,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**58.45**	**326**	P	**P**	**07 48 13.0**	**0.0**
	1.4nm,0.4s,mb4.4,baz=117,slow=7.2,SNR=41						
ZAL	**Zalesovo**	**61.53**	**333**	P	**P**	**07 48 34.1**	**0.0**
	1.3nm,0.3s,mb4.5,baz=318,slow=7.4,SNR=3.5						
KURK	**Kurchatov**	**62.65**	**328**	*e*P	**P**	**07 48 41.3**	**-0.4**
	5.0nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**68.22**	**327**	P	**P**	**07 49 18.2**	**+0.4**
	0.8nm,0.3s,mb4.2,baz=147,slow=9.8,SNR=7.7						
BRVK	**Borovoye**	**68.30**	**327**	*e*P	**P**	**07 49 18.6**	**+0.4**
	1.7nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**68.95**	**327**	*e*P	**P**	**07 49 21.7**	**-0.6**
	2.4nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**85.90**	**25**	P	**P**	**07 50 57.2**	**+0.1**
	0.3nm,0.5s,mb3.8,baz=253,slow=5.0,SNR=12						
BRTR	**Keskin Array B**	**90.77**	**310**	P	**P**	**07 51 19.6**	**-0.7**
	0.8nm,0.8s,mb4.1,baz=114,slow=7.7,SNR=3.4						
BRTR	**Keskin Array B**	**90.77**	**310**	P	**P**	**07 51 19.6**	**-0.8**
ARCES	**ARCESS Array B**	**91.42**	**340**	P	**P**	**07 51 23.8**	**+0.5**
	3.1nm,0.8s,mb4.7,baz=69,slow=6.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.38**	**288**	PKP	PKPdf	07 57 14.8	+0.5
	0.7nm,0.7s,baz=54,slow=1.6,SNR=4.0						

IDC 18 07:39:40.4±1.8, 335N×12893E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/16, mbtmp4.3/4, Error ellipse: s-maj=198.5km s-min=18.6km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**167**	P	P	07 44 53.8	-0.5
	7.3nm,0.4s,baz=337,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**27.29**	**170**	P	P	07 45 27.4	+0.9
	4.7nm,0.3s,baz=346,slow=12,SNR=17						
STKA	**Stephens Creek**	**37.04**	**162**	P	P	07 46 51.8	-0.1
	1.6nm,0.3s,baz=336,slow=11,SNR=4.0						
SONM	**Songino Array**	**48.38**	**340**	P	P	07 48 24.3	+0.3
	0.1nm,0.3s,baz=140,slow=5.6,SNR=2.5						
MKAR	**Makanchi Array**	**59.13**	**324**	P	P	07 49 42.3	-0.4
	0.7nm,0.5s,baz=122,slow=7.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**125.12**	**289**	PKP	PKPdf	07 58 44.4	+1.7
	0.2nm,0.5s,baz=72,slow=0.7,SNR=2.8						

*NEIC **18** 07:54:22.0, 1594N×6124W, h97km, MD3.0(FDF), MD3.6(TRN), After TRN.*

TRN 18 07:54:22.0, 1594N×6125W, h98km, MD3.6, M3.2(FDF), Md3.0(FDF), 5C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.07**	**255**	*e*P	Pn	07 54 37.2	+1.5
MGG				*e*S	Sn	07 54 47.1	+1.3
SFG	**Saint Francois**	**0.32**	**9**	*e*P	Pn	07 54 37.9	+1.5
DOG	**Dongo Capester**	**0.37**	**285**	⇓*e*P	Pn	07 54 37.9	+1.2
DWS	**Wesley**	**0.37**	**190**	⇓*e*P	Pn	07 54 38.8	+2.1
DWS				*e*S	Sn	07 54 49.8	+2.1
PHG	**Guadaloupe-2**	**0.39**	**281**	⇓*e*P	Pn	07 54 38.1	+1.3
TBG	**Guadaloupe-3**	**0.39**	**258**	*e*P	Pn	07 54 37.8	+0.9
DEG	**La Desirade**	**0.41**	**26**	⇓*e*P	Pn	07 54 38.0	+1.0
DEG				*e*S	Sn	07 54 49.4	+1.2
SCG	**Saint Claude**	**0.43**	**282**	⇓*e*P	Pn	07 54 38.2	+1.2
SCG				*e*S	Sn	07 54 49.8	+1.6
BBL	**Barber's Block**	**0.46**	**208**	*e*P	Pn	07 54 38.6	+1.4
BBL				*e*S	Sn	07 54 50.4	+1.7
SEG	**Port Louis**	**0.53**	**332**	⇓*e*P	Pn	07 54 39.0	+1.2
SEG	**Port Louis**	**0.53**	**332**	⇓*e*P	Pn	07 54 40.0	+2.2
LZG	**Guadaloupe-1**	**0.55**	**292**	*e*P	Pn	07 54 39.1	+1.2
MDN	**Morne-Daniel**	**0.63**	**193**	⇑*e*P	Pn	07 54 40.2	+1.6
MDN				*e*S	Sn	07 54 53.2	+2.2
DBCT	**Belle View Cho**	**0.67**	**188**	*e*P	Pn	07 54 40.7	+1.8
DBCT				*e*S	Sn	07 54 53.8	+2.2
DSHT	**Scott's Head**	**0.73**	**190**	*e*P	Pn	07 54 41.0	+1.6
DSHT				*e*S	Sn	07 54 54.0	+1.4
FDF	**Fort de France**	**1.20**	**176**	⇑*i*P	Pn	07 54 45.7	+1.2
FDF				*e*S	Sn	07 55 02.7	+1.2
CRM	**Caravelle**	**1.22**	**165**	⇑*i*P	Pn	07 54 45.8	+1.0
CRM				*e*S	Sn	07 55 03.1	+1.2
BPA	**Boggy Peak**	**1.25**	**332**	*e*P	Pn	07 54 47.4	+2.4
BPA				*e*S	Sn	07 55 04.1	+1.6
ZAM	**Aeronautique**	**1.37**	**171**	⇑*i*P	Pn	07 54 47.6	+1.1
ZAM				*e*S	Sn	07 55 06.4	+1.2
TRMF	**Trois Ilets**	**1.41**	**172**	*e*P	Pn	07 54 48.1	+1.2
TRMF				*e*S	Sn	07 55 07.4	+1.6
BIM	**Bigot**	**1.42**	**173**	⇑*e*P	Pn	07 54 48.6	+1.4
BIM				*e*S	Sn	07 55 08.7	+2.5
CPB	**Codrington**	**1.78**	**342**	*e*P	Pn	07 54 53.8	+2.1
CPB				*e*S	Sn	07 55 14.9	+0.7
STAT	**Sint Eustatius**	**2.27**	**313**	*e*P	Pn	07 54 58.3	+0.3
STAT				*e*S	Sn	07 55 26.9	+1.4

*IDC **18** 07:54:19.2±3.5, 3434N×7365E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/22, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=93.8km s-min=31.2km az=131.0*
*ISCJB **18** 07:54:23.4±0.8, 3486N±008×7331E±01, h10km, mb3.9/2, Error ellipse: s-maj=20.5km s-min=4.7km az=113.4*
*NNC **18** 07:54:30.4±39.0, 3498N×7219E, h0km, mb3.7, mpv3.9, Error ellipse: s-maj=418.5km s-min=323.5km az=105.0*

ISC 18 07:54:24.7±0.8, 3479N±008×731E±01, h10km, n12, σ1°28/15, mb3.9/2, 2C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.20**	**136**	*ex*	**Pn**	**07 55 18.1**	**+3.0**
THN				*ex*	**Sn**	**07 56 00.0**	**+6.7**
DLH	**Dalhousie**	**3.27**	**132**	*ex*	**Sb**	**07 56 02.0**	**-0.7**
SDNR	**Sundarnagar**	**4.61**	**134**	*e*P	**Pn**	**07 55 32.9**	**-1.5**
SDNR				*e*S	**Sb**	**07 56 42.9**	**+1.7**
SMLA	**Simla**	**5.00**	**136**	*ex*	**Sb**	**07 56 52.4**	**+0.1**
KK31	**Karatay Array**	**8.55**	**347**	⇑P	**Pn**	**07 56 30.9**	**+2.5**
	2.1nm,0.3s,baz=159,slow=12,SNR=60						
KK31				⇓S	**Sn**	**07 58 05.6**	**+0.6**
	2.5nm,0.6s,baz=174,slow=24,SNR=4.6						
MKAR	**Makanchi Array**	**13.85**	**27**	Pn	**Pn**	**07 57 39.7**	**-1.4**
	0.0nm,0.3s,baz=203,slow=9.8,SNR=2.4						
AB31	**Akbulak array**	**17.42**	**330**	⇑P	**Pn**	**07 58 27.6**	**-0.1**
	0.2nm,0.3s,baz=149,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	**18.34**	**355**	P	**Pn**	**07 58 40.2**	**+1.1**
	0.2nm,0.3s,baz=165,slow=9.1,SNR=4.0						
ZAL	**Zalesovo**	**20.84**	**20**	P	**P**	**07 59 05.6**	**-0.9**
	0.7nm,0.3s,baz=226,slow=3.5,SNR=4.1						
ARCES	**ARCESS Array B**	**43.38**	**338**	P	**P**	**08 02 27.6**	**+0.3**
	3.3nm,0.9s,mb4.0,baz=109,slow=7.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**67.42**	**271**	P	**P**	**08 05 19.7**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=55,slow=5.7,SNR=5.9						
YKA	**Yellowknife Ar**	**82.86**	**4**	P	**P**	**08 06 47.6**	**-1.8**
	0.0nm,0.5s,baz=346,slow=5.2,SNR=3.0						

IDC 18 07:54:26.6±4.5, 3275S×17823W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=177.4km s-min=55.1km az=164.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.05**	**283**	P	P	08 01 14.0	+1.6
	1.4nm,0.5s,baz=104,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**42.84**	**270**	P	P	08 02 26.1	-0.3
	0.9nm,0.7s,baz=107,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**44.04**	**275**	P	P	08 02 35.6	-0.5
	1.6nm,0.6s,baz=115,slow=7.6,SNR=19						
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	PKPbc	08 14 10.6	-1.4
	0.5nm,0.4s,baz=42,slow=4.3,SNR=5.8						

*DHMR **18** 08:00:44.5±1.0, 1161N×4311E, h10km±8km, ML4.1*
*ISCJB **18** 08:00:46.5±1.0, 1152N±007×4317E±006, h10km, Error ellipse: s-maj=12.8km s-min=4.9km az=103.9*

ISC 18 08:00:46.1±1.2, 1142N±008×4321E±007, h10km, n12, σ1°27/23, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.01**	**26**	⇑*i*P	**Pn**	**08 01 17.9**	**-2.2**
TRBA				*i* S	**Sn**	**08 01 44.3**	**-1.0**
TRBA				AML	AML	08 01 51.6	
	comp=Z,1μm,0.5s						
ADEN	**Aden**	**2.20**	**52**	*i* P	**Pn**	**08 01 22.8**	**0.0**
ADEN				*i* S	**Sn**	**08 01 51.7**	**+1.6**
UDYN	**Al 'Udayn**	**2.64**	**16**	*i* P	**Pn**	**08 01 27.9**	**-0.9**
UDYN				*i* S	**Sn**	**08 02 00.9**	**0.0**
UDYN				AML	AML	08 02 11.9	
	comp=N,2μm,0.6s						
UDYN	**Al 'Udayn**	**2.64**	**16**	*i* P	**Pn**	**08 01 28.0**	**-0.8**
UDYN				*i* S	**Sn**	**08 02 00.9**	**0.0**
LBOS		**3.15**	**39**	*i* P	**Pn**	**08 01 35.9**	**+0.1**
LBOS				*i* S	**Sn**	**08 02 16.2**	**+2.8**
DHBB	**Dhamar BB**	**3.34**	**20**	⇓*i*P	**Pn**	**08 01 37.8**	**-0.6**
DHBB				*i* S	**Sn**	**08 02 19.4**	**+1.3**
DESE	**Dese**	**3.52**	**265**	*e*PN	**Pn**	**08 01 40.1**	**-0.7**
DESE				*e*S	**Sn**	**08 02 24.5**	**+2.0**
SANA	**San'a**	**4.06**	**14**	*i* S	**Sn**	**08 02 36.1**	**+0.1**
HAJJ	**Hajjah**	**4.27**	**5**	*i* P	**Pn**	**08 01 49.2**	**-2.0**
HAJJ				*i* S	**Sn**	**08 02 41.3**	**+0.1**
HAJJ				AML	AML	08 02 59.8	
	comp=N,969nm,0.7s						
HAJJ	**Hajjah**	**4.27**	**5**	*i* P	**Pn**	**08 01 49.2**	**-2.0**
HAJJ				*i* S	**Sn**	**08 02 41.3**	**+0.1**
FURI	**Furi**	**5.11**	**241**	*i* PN	**Pn**	**08 02 13.1**	**+10**
FURI				*e*S	**Sn**	**08 03 08.2**	**+6.3**
FURI	**Furi**	**5.11**	**241**	*i* PN	**Pn**	**08 02 13.1**	**+10**
FURI				*e*S	**Sn**	**08 03 08.2**	**+6.3**

IDC 18 08:07:18.3±5.1, 1499S×6918W, h151km±48km, mb3.6/3, mb1 3.4/4, mb1mx3.1/18, mbtmp4.0/4, Error ellipse: s-maj=92.3km s-min=35.4km az=171.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.64**	**142**	P	Pn	08 07 49.8	+0.5
	90nm,0.3s,baz=259,slow=5.9,SNR=2490						
LPAZ				S	Sn	08 08 14.4	+1.4
	4.0nm,0.3s,baz=107,slow=13,SNR=7.2						
SIV	**San Ignacio**	**7.88**	**98**	P	Pn	08 09 10.4	+0.4
	0.6nm,0.3s,baz=274,slow=12,SNR=22						
SIV				S	Sn	08 10 38.2	+0.4
	0.3nm,0.3s,baz=190,slow=23,SNR=11						
BDFB	**Brasilia**	**20.43**	**95**	P	P	08 11 44.4	+0.8
	1.9nm,0.5s,baz=244,slow=9.6,SNR=4.8						
DBIC	**Dimbokro**	**67.28**	**76**	P	P	08 17 57.0	+0.4
	1.3nm,0.5s,baz=229,slow=12,SNR=5.8						
TORD	**Torodi Ar. Bea**	**75.50**	**72**	P	P	08 18 46.8	+0.9
	1.4nm,0.6s,baz=254,slow=5.9,SNR=7.1						

*FUNV **18** 08:07:40.8, 1022N×6028W, h35km, MW2.6*
*ISCJB **18** 08:07:43.6±1.9, 1060N±01×6070W±01, h91km±9km, Error ellipse: s-maj=25.6km s-min=11.7km az=106.3*
*NEIC **18** 08:07:46.4, 1052N×6056W, h56km, MD3.1(TRN), After TRN.*
*TRN **18** 08:07:46.4, 1052N×6056W, h56km, MD3.1*

ISC 18 08:07:43.8±1.7, 105N±01×6060W±010, h85km±11km, n10, σ1°08/19, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.46**	**266**	*e*P	**Pn**	**08 07 57.8**	**+0.1**
TBH				*e*S	**Sn**	**08 08 07.6**	**-0.3**
BOT	**Bacolet**	**0.66**	**350**	*e*P	**Pn**	**08 07 59.8**	**+0.4**
BOT				*e*S	**Sn**	**08 08 10.0**	**-1.0**
TPR	**Prospect**	**0.69**	**345**	*e*P	**Pn**	**08 08 01.1**	**+1.4**
TPR				*e*S	**Sn**	**08 08 10.4**	**-1.2**
TRN	**Trinidad (W)**	**0.80**	**280**	*e*P	**Pn**	**08 08 01.4**	**+0.5**
TRN				*e*S	**Sn**	**08 08 13.8**	**+0.2**
GUIV	**Guiria**	**1.60**	**275**	⇑*e*P	**Pn**	**08 08 10.7**	**+0.1**
GUIV				*e*S	**Sn**	**08 08 32.0**	**+1.1**
GRW	**Mount Saint Ca**	**1.94**	**328**	*e*P	**Pn**	**08 08 18.4**	**+3.4**
GUNV	**Guanoco**	**2.33**	**262**	⇓*e*P	**Pn**	**08 08 20.8**	**+0.6**
GUNV				*e*S	**Sn**	**08 08 48.9**	**+0.8**
BIRV	**Birongo**	**5.58**	**270**	*e*P	**Pn**	**08 09 04.3**	**+0.1**
BIRV				*e*S	**Sn**	**08 10 05.7**	**-1.3**
CAOV	**Caicara del Or**	**6.48**	**241**	*e*P	**Pn**	**08 09 12.7**	**-3.9**
CAOV				*e*S	**Sn**	**08 10 22.4**	**-6.6**
BAUV	**El Baul**	**7.50**	**259**	*e*P	**Pn**	**08 09 28.5**	**-2.0**
BAUV				*e*S	**Sn**	**08 10 48.8**	**-5.1**

*ISCJB **18** 08:14:18.4±0.7, 6810N±006×7301W±007, h173km±8km, mb2.9/1, Error ellipse: s-maj=12.4km s-min=7.1km az=79.3*
*FUNV **18** 08:14:18.3, 6670N×7318W, h169km, MW3.1*
*IDC **18** 08:14:19.1±0.8, 6790N×7305W, h160km±13km, mb2.7/1, mb1 3.2/3, mb1mx2.9/20, mbtmp3.5/3, Error ellipse: s-maj=62.0km s-min=8.0km az=131.0*

ISC 18 08:14:19.5±0.8, 681N±006×7300W±006, h168km±8km, n16, σ0°77/22, mb2.9/1, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**33**	⇑*e*P	**Pn**	**08 14 48.9**	**+0.8**
CAPV				*e*S	**Sn**	**08 15 10.7**	**+0.6**
ROSC	**El Rosal**	**2.35**	**214**	P	**Pn**	**08 15 00.6**	**+0.9**
	22nm,0.3s,baz=278,slow=4.6,SNR=196						
ROSC				S	**Sn**	**08 15 29.6**	**-1.2**
	26nm,0.3s,baz=85,slow=18,SNR=7.6						
SOCV	**Socops**	**2.58**	**55**	⇑*e*P	**Pn**	**08 15 03.0**	**+0.6**
SOCV				*e*S	**Sn**	**08 15 35.0**	**-0.8**
VIGV	**El Vigia**	**2.59**	**39**	*e*P	**Pn**	**08 15 03.0**	**+0.5**
VIGV				*e*S	**Sn**	**08 15 36.2**	**+0.3**
SDV	**Santo Domingo**	**3.12**	**49**	P	**Pn**	**08 15 10.2**	**+1.1**
	8.2nm,0.3s,baz=242,slow=6.8,SNR=133						
SDV				S	**Sn**	**08 15 48.2**	**+0.6**
	19nm,0.3s,baz=248,slow=24,SNR=30						
ELOV	**Elorza**	**3.50**	**87**	*e*P	**Pn**	**08 15 14.2**	**+0.4**
ELOV				*e*S	**Sn**	**08 15 55.3**	**-0.7**
VIRV	**Villa del Rosa**	**3.72**	**9**	*e*P	**Pn**	**08 15 15.8**	**-0.8**
VIRV				*e*S	**Sn**	**08 15 59.4**	**-1.6**
QARV	**Quebrada Arrib**	**4.17**	**36**	*e*P	**Pn**	**08 15 22.3**	**-0.1**
SANV	**Sanarito**	**4.35**	**52**	*e*P	**Pn**	**08 15 25.2**	**+0.5**
CURV	**Curarigua**	**4.38**	**43**	*e*P	**Pn**	**08 15 25.5**	**+0.4**
CURV				*e*S	**Sn**	**08 16 15.7**	**-0.7**
TEPV	**Terepaima**	**4.90**	**50**	*e*P	**Pn**	**08 15 32.4**	**+0.5**
BAUV	**El Baul**	**5.35**	**66**	*e*P	**Pn**	**08 15 37.4**	**-0.4**
CAOV	**Caicara del Or**	**6.65**	**85**	*e*P	**Pn**	**08 15 53.6**	**-1.3**
YKA	**Yellowknife Ar**	**63.32**	**340**	P	**P**	**08 24 30.5**	**+0.1**
	0.1nm,0.5s,mb2.9,baz=128,slow=6.4,SNR=4.5						
YKA				pP	pP	08 25 08.5	-1.4
	0.1nm,0.5s,baz=131,slow=7.0,SNR=3.7						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	08 33 48.8	+0.8
	0.6nm,0.7s,baz=117,slow=3.5,SNR=10						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	08 33 52.4	+1.4
	0.5nm,0.5s,baz=112,slow=2.3,SNR=6.8						

*MOS **18** 08:22:34.2±1.5, 5730N×12080E, h15km, mb4.1/1, Error ellipse: s-maj=32.9km s-min=24.1km az=146.1*

BYKL 18 08:22:32.6±0.4, 5739N×12085E, h2km±14km, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.67**	**226**	⇓*i*Pg	Pg	08 22 44.7	-0.7
KHNR				*e*Sg	Sg	08 22 53.1	-1.0
YKLR	**Yuktali**	**0.91**	**151**	*e*Pg	Pg	08 22 49.4	-0.7
YKLR				*e*Sg	Sg	08 23 01.6	-0.4
YKLR				*e*Sb	Sb	08 23 05.8	+2.0
YKLR				max			
	1μm,0.2s						
CRS	**Chara**	**1.49**	**252**	⇓*i*Pg	Pg	08 22 59.7	-1.5
CRS				*e*		08 23 01.2	
CRS				*e*Sg	Sg	08 23 19.4	-1.1
CRS				*e*Sb	Sb	08 23 21.0	+0.7
CRS				Pmax			
	226nm,1.0s						
CRS				max			
	242nm,0.8s						
CRS	**Chara**	**1.49**	**252**	*e*P	Pn	08 22 59.6	-0.8
CRS				*e*		08 23 19.4	
CRS				pmax	pmax		
	comp=Z,224nm,0.4s						
CRS				smax			
	comp=E,242nm,0.4s						
NRGR	**Nerungri**	**2.24**	**108**	*e*P	Pn	08 23

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BOD                                  Pmax
     comp=E,19nm,0.6s
BOD                                  Smax
     comp=E,135nm,1.0s
UKT  Uakit          4.44 248 ePn     Pn      08 23 41.6 +0.7
UKT                          ePg     Pg      08 23 52.1 -5.6
UKT                          eSg     Sg      08 24 49.5 -5.7
UKT                                  Pmax
     comp=E,8.0nm,0.6s
UKT                                  Smax
     comp=E,35nm,1.3s
KROS Kirovskiy      4.54 128 ePn     Pn      08 23 39.9 -2.5
KROS                         ePg     Pg      08 23 52.6 -7.1
KROS                         eSn     Sn      08 24 31.0 -4.7
KROS                         i Sg    Sg      08 24 50.6 -7.9
KROS                                 Pmax
     comp=E,4.0nm,0.6s
KROS                                 Smax
     comp=E,100nm,0.5s
YOA  Uoyan          5.18 260 eSg     Sg      08 25 11.9 -7.0
YOA                                  Smax
     comp=E,241nm,1.7s
CGD  Chagda         5.36  71 e       Pn      08 23 56.8 +3.2
CGD                          eSg     Sg      08 25 16.6 -8.2
CGD                                  Smax
     comp=E,512nm,0.2s
KMO  Kumora         5.54 258 ePg     Pg      08 24 12.2 -6.5
KMO                          e               08 24 16.7
KMO                          eSg     Sg      08 25 24.0 -6.4
KMO                                  max
     comp=E,9.0nm,0.5s
KMO                                  Smax
     comp=E,70nm,1.1s
KMO  Kumora         5.54 258 ePn     Pn      08 23 54.5 -1.5
KMO                          eS      Sn      08 24 57.8 -2.4
KMO                                  pmax    pmax
     comp=Z,9.0nm,0.4s
KMO                                  smax
     comp=N,70nm,1.0s
YLYR Ulyunkhan      5.97 249 ePn     Pn      08 24 03.1 +1.1
YLYR                         e               08 24 12.8
YLYR                         ePg     Pg      08 24 20.5 -6.6
YLYR                         eSg     Sg      08 25 37.4 -7.1
YLYR                                 Pmax
     comp=N,4.0nm,0.5s
YLYR                                 Smax
     comp=N,47nm,2.0s
YLYR Ulyunkhan      5.97 249 eP      Px      08 24 21.9
YLYR                                 pmax    pmax
     comp=Z,9.0nm,0.6s
NIZ  Nizh Angarsk   6.46 260 ePn     Pn      08 24 08.9 +0.3
NIZ                          eSg     Sg      08 25 51.7 -8.2
NIZ                                  Smax
     comp=Z,21nm,1.1s
CIT  Chita          6.84 221 eSg     Sg      08 26 02.0  -10
CIT                                  Smax
     comp=Z,110nm,1.0s
SYVR Suvo           7.20 243 ePg     Pg      08 24 42.9 -7.7
SYVR                         eSg     Sg      08 26 16.0 -7.9
SYVR                                 Pmax
     comp=Z,2.0nm,0.6s
SYVR                                 Smax
     comp=Z,69nm,1.6s
TRTB Turuntaevo     9.21 241 eSg     Sx      08 27 16.7
TRTB                                 Smax
     comp=Z,39nm,1.3s
HRMR Khuramsha      9.92 240 eSg     Sx      08 27 41.1
HRMR                                 Smax
     comp=Z,66nm,1.0s
```

*IDC **18** 09:00:00.0±8.5, 78.32N×29.38W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/22, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=155.2km s-min=68.7km az=49.0*

*ISCJB **18** 09:00:20.5±2.0, 79.1N±0.1×164.4W±0.7, h10km, mb3.2/2, Error ellipse: s-maj=28.2km s-min=7.1km az=94.3*

*NAO **18** 09:00:22.6±8.3, 81.55N×15.82W, ML2.1*

ISC 18 09:00:20.4±2.0, 79.2N±0.1×173.3W±0.7, h10km, n8, σ0°.86/11, mb3.2/2, 1C, Eastern Kalaallit Nunaat

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
DAG  Danmarks Havn       2.50 187⇑ iP            Pn  09 01 00.3 -0.8
     140nm,0.3s
DAG                              i                   09 01 31.9
KBS  Kingsbay            5.52  79  Pn            Pn  09 01 43.9 +1.2
KBS                                Sn            Sn  09 02 45.8 -0.4
SPA0 Spitsbergen Ar      6.62  82  Pn            Pn  09 01 58.1 +0.4
     baz=298,slow=12
SPA0                               Sn            Sn  09 03 12.8 -0.5
     baz=272,slow=14
SCO  Scoresbysund        8.88 190  i P           Pn  09 02 27.2 -1.6
SCO                                eS            Sn  09 04 10.2 +1.3
ARA0 ARCESS Array S     14.55 108  Pn            Pn  09 03 53.4 +7.1
     baz=336,slow=10
ARCES ARCESS Array B    14.55 108  Pn            Pn  09 03 53.8 +7.5
     0.2nm,0.3s,baz=328,slow=10.0,SNR=5.8
FINES FINESS Array B    22.03 118  P             P   09 05 15.0  0.0
     0.7nm,0.5s,mb3.4,baz=345,slow=9.3,SNR=8.9
MKAR Makanchi Array     46.20  70  P             P   09 08 45.7 +0.3
     0.1nm,0.4s,mb3.1,baz=354,slow=5.4,SNR=4.2
```

*ISCJB **18** 09:13:24.4±3.0, 31.68N±0.05×95.02E±0.06, h9km±19km, mb3.9/17, MS3.5/1, Error ellipse: s-maj=9.5km s-min=8.5km az=97.9*

*IDC **18** 09:13:25.1±0.6, 31.74N×95.10E, h0km, mb3.9/16, mb1 4.0/18, mb1mx3.9/26, mbtmp3.8/18, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=26.3km s-min=13.7km az=54.0*

*BJI **18** 09:13:30.2, 31.81N×95.11E, h45km, mB4.7, mb4.2, ML3.8, Ms4.0, Msz4.0*

*NEIC **18** 09:13:31.6±1.6, 31.81N×95.14E, h46km±16km, mb3.7/3, Error ellipse: s-maj=12.5km s-min=9.4km az=71.0*

ISC 18 09:13:30.7±0.9, 31.81N±0.06×95.10E±0.08, h37km±10km, n32, σ0°.99/35, mb3.9/17, MS3.5/1, Xizang

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
LSA  Lhasa               4.00 239  P             Pn  09 14 31.8 +2.4
LSA                                S             Sn  09 15 20.4 +5.3
LSA                                Smax
     comp=N,40nm,1.0s
LSA                                Smax
     comp=E,50nm,1.0s
LSA  Lhasa               4.00 239  ePn           Pn  09 14 31.8 +2.3
SHL  Shillong            6.83 205  eP            Pn  09 15 07.0 -1.4
SHL                                eS            Sn  09 16 19.5 -5.4
LZH  Lanzhou             8.42  57  eP            Pn  09 15 32.1 +2.0
LZH                                AP                09 15 38.1
LZH                                eS            Sn  09 17 10.0 +6.1
LZH                                XS                09 17 17.0
LZH                                AMB   AMB
     comp=Z,50nm,1.4s
LZH                                AMB   AMB
     comp=Z,190nm,5.3s
LZH                                LR    LR
     comp=E,1μm,7.0s
LZH                                LR    LR
     comp=Z,1μm,8.0s
GTA  Gaotai              8.50  26  eP            Pn  09 15 30.0 -1.2
GTA                                AP                09 15 37.4
GTA                                AMB   AMB
     comp=Z,2.0nm,0.8s
GYA  Guiyang            11.43 115  P             Pn  09 16 10.8 -0.5
GYA                                AMB   AMB
     comp=Z,10.0nm,0.8s
MKAR Makanchi Array     17.91 330  P             Pn  09 17 37.0 +0.2
     comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=10
MKAR Makanchi Array     17.91 330  P             Pn  09 17 37.0 +0.1
SONM Songino Array      18.17  25  P             Pn  09 17 39.3 -0.6
     comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=12
ULN  Ulaanbaatar        18.44  26  eP            Pn  09 17 43.9 +0.6
     comp=Z,1.6nm,0.7s
AAK  Ala-Archa          19.60 309  eP            Pn  09 17 56.0 -1.2
     comp=Z,10nm,1.1s
ZAL  Zalesovo           23.32 345  P             P   09 18 35.2 -0.3
     comp=Z,0.7nm,0.8s,mb3.1,baz=297,slow=17,SNR=4.6
BVAR Borovoye Array     27.72 327  P             P   09 19 15.6 +0.1
     comp=Z,1.4nm,0.8s,mb3.7,baz=138,slow=11,SNR=7.3
BRVK Borovoye           27.79 327  eP            P   09 19 19.0 +2.9
     comp=Z,1.3nm,0.6s,mb3.7
AKTK Aktyubinsk         33.11 315  P             P   09 20 01.7 -1.4
```

```
AKTK                                 LR    LR      09 35 27.2
AKTO Aktyubinsk         33.11 315  P             P   09 20 01.7 -1.4
     comp=Z,0.8nm,0.7s,mb3.7,baz=99,slow=13,SNR=2.5
AKTO                                 LR    LR      09 35 27.2
     comp=Z,94nm,18.3s,MS3.5,baz=204,slow=40
BRTR Keskin Array B     49.64 297  P             P   09 22 18.9 +0.3
     comp=Z,1.1nm,0.8s,mb4.0,baz=73,slow=8.2,SNR=6.4
AKASG Malin Array Be    51.24 312  P             P   09 22 30.5  0.0
     comp=Z,1.1nm,0.6s,mb4.0,baz=75,slow=6.5,SNR=5.5
AKASG Malin Array Be    51.24 312  P             P   09 22 30.5 -0.1
FINES FINESS Array B    52.67 326  P             P   09 22 41.2  0.0
     comp=Z,1.1nm,0.8s,mb3.8,baz=90,slow=3.8,SNR=4.4
ARCES ARCESS Array B    53.46 336  P             P   09 22 47.2 +0.2
     comp=Z,1.9nm,0.9s,mb4.0,baz=66,slow=9.0,SNR=2.9
IDI  Anoyia             57.49 294  P             P   09 23 16.0  0.0
     comp=Z,4.4nm,0.7s,mb4.6,baz=72,slow=6.4,SNR=3.6
GERES GERESS Array B    61.45 312  P             P   09 23 44.9 +1.6
     comp=Z,0.3nm,0.4s,mb3.7,baz=64,slow=6.1,SNR=4.9
WRA  Warramunga Arr     63.73 138  P             P   09 23 58.9 +0.4
     comp=Z,2.1nm,0.8s,mb4.2,baz=332,slow=7.2,SNR=18
WB2  Warramunga Arr     63.74 138  eP            P   09 23 58.8 +0.2
ASAR Alice Springs      66.49 141  P             P   09 24 16.7 +0.3
     comp=Z,1.8nm,0.8s,mb4.2,baz=328,slow=6.5,SNR=24
NWAO Narrogin (SRO)     67.70 160  P             P   09 24 22.8 -1.3
     comp=Z,7.3nm,0.8s,mb4.8,baz=152,slow=7.3,SNR=4.9
ILAR Eielson Array      72.39  23  P             P   09 24 52.9  0.0
     comp=Z,0.7nm,0.8s,mb3.6,baz=300,slow=6.6,SNR=9.4
INK  Inuvik             73.88  17  P             P   09 25 01.9 +0.2
     comp=Z,1.1nm,0.9s,mb3.8,baz=323,slow=12,SNR=4.3
YKA  Yellowknife Ar     83.04  13  P             P   09 25 51.7 -0.4
     comp=Z,0.3nm,0.8s,mb3.4,baz=328,slow=5.3,SNR=4.2
YKA  Yellowknife Ar     83.04  13  P             P   09 25 51.7 -0.4
TORD Torodi Ar. Bea     86.03 283  P             P   09 26 08.1 +0.8
     comp=Z,1.2nm,0.8s,mb4.2,baz=52,slow=4.8,SNR=7.0
```

IDC 18 09:16:33.0±10.0, 740S×1066W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/21, Error ellipse: s-maj=408.6km s-min=133.6km az=138.0, Ascension Island region

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
DBIC Dimbokro           15.12  23  LR            LR  09 24 25.9
     comp=Z,89nm,18.8s,baz=101,slow=31
TORD Torodi Ar. Bea     23.81  31  P             P   09 21 47.9 +0.3
     2.4nm,1.0s,baz=212,slow=10,SNR=8.0
TSUM Tsumeb             29.83 116  LR            LR  09 32 33.8
     comp=Z,97nm,18.6s,baz=145,slow=32
LBTB Lobtse             38.79 121  LR            LR  09 38 49.1
     comp=Z,54nm,19.0s,baz=78,slow=34
GERES GERESS Array B    59.94  18  P             P   09 26 41.0 +0.1
     1.0nm,0.8s,baz=193,slow=8.1,SNR=6.8
AKASG Malin Array Be    67.34  26  P             P   09 27 29.8  0.0
     0.1nm,0.3s,baz=222,slow=6.0,SNR=5.4
```

*DHMR **18** 09:20:25.8±1.1, 11.71N×43.05E, h13km±10km, ML4.3*

*ISCJB **18** 09:20:26.6±0.6, 11.59N±0.06×43.02E±0.05, h10km, mb4.1/15, MS3.9/7, Error ellipse: s-maj=10.5km s-min=4.5km az=100.1*

*IDC **18** 09:20:26.2±1.0, 11.46N×42.91E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, MS3.9/8, Ms1 3.9/8, ms1mx3.7/20, Error ellipse: s-maj=20.0km s-min=8.0km az=37.0*

*CSEM **18** 09:20:26.7±0.3, 11.75N×43.02E, h0km±1km, mb4.5/5, Error ellipse: s-maj=4.9km s-min=3.7km az=156.0*

*NEIC **18** 09:20:28.1±0.6, 11.52N×42.83E, h10km, mb4.5/6, ML4.4(DHMR), Error ellipse: s-maj=20.4km s-min=12.0km az=123.0*

ISC 18 09:20:28.6±0.5, 11.62N±0.06×43.06E±0.05, h10km, n46, σ1°.44/53, mb4.1/15, MS3.9/7, 3C, Ethiopia

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
ATD  Arta Tunnel        0.22 247  Pg            Pg  09 20 28.0 -5.2
     15μm,0.3s,baz=245,slow=19,SNR=929
ATD  Arta Tunnel        0.22 247  Pg            Pg  09 20 28.0 -5.2
TRBA At Turbah          1.91  33⇑ eP            Pn  09 20 58.4 -2.8
TRBA                               i S           Sn  09 21 23.2 -2.1
TRBA                                 AML         AML 09 21 33.4
     comp=N,3μm,0.6s
TRBA At Turbah          1.91  33⇑ eP            Pn  09 20 58.4 -2.8
TRBA                               i S           Sn  09 21 23.2 -2.1
     comp=N,2μm,0.6s
ADEN Aden               2.21  58  i P           Pn  09 21 03.0 -2.4
ADEN                               i S           Sn  09 21 32.3 -0.4
ADEN                                 AML         AML 09 21 44.1
     comp=E,2μm,0.5s
ADEN Aden               2.21  58  i P           Pn  09 21 03.0 -2.3
ADEN                               i S           Sn  09 21 32.3 -0.3
     comp=E,1μm,0.5s
UDYN Al 'Udayn          2.50  21  eP            Pn  09 21 07.8 -1.5
UDYN                               i S           Sn  09 21 40.5 +0.7
UDYN                                 AML         AML 09 21 51.2
     comp=N,5μm,0.7s
LBOS                    3.10  43  i P           Pn  09 21 16.3 -1.3
LBOS                               i S           Sn  09 21 57.1 +2.5
DHBB Dhamar BB          3.21  24⇑ eP            Pn  09 21 18.0 -1.1
DHBB                               i S           Sn  09 21 58.3 +0.9
DESE Dese               3.39 262  ePN           Pn  09 21 19.8 -1.8
DESE                               eS            Sn  09 22 02.5 +0.6
HAJJ Hajjah             4.09   7  i P           Pn  09 21 29.6 -1.6
HAJJ                               i S           Sn  09 22 18.7 -0.5
HAJJ Hajjah             4.09   7  i P           Pn  09 21 29.6 -1.6
HAJJ                               i S           Sn  09 22 18.7 -0.5
FURI Furi               5.09 238  ePN           Pn  09 21 50.1 +5.2
FURI                               eS            Sb  09 23 00.1 +1.2
FURI Furi               5.09 238  ePN           Pn  09 21 50.1 +5.2
FURI                               eS            Sb  09 23 00.1 +1.2
KMBO Kilima Mbogo      13.91 205  Pn            Pn  09 23 43.6 -2.2
     baz=30,slow=16,SNR=3.9
KMBO                                 LR          LR  09 28 59.9
     comp=N,1μm,19.0s,baz=275,slow=38
KMBO Kilima Mbogo      13.91 205  ePn           Pn  09 23 44.2 -1.6
KMBO Kilima Mbogo      13.91 205  ePn           Pn  09 23 44.2 -1.6
KMBO                                 LR          LR  09 28 59.9
BHD  Baghdad           21.59   3  ex            x   09 25 12.0
BHD                               ex            x   09 29 22.0
BHD                               ex            x   09 32 19.0
BHD                               ex            x   09 34 10.0
BHD                               ex            x   09 36 01.0
GNI  Garni             28.46   3  LR            LR  09 38 18.7
     comp=N,167nm,20.8s,MS3.6,baz=0.1,slow=38
BRTR Keskin Array B    29.21 345  P             P   09 26 30.9 +0.5
     comp=N,1.2nm,1.1s,mb3.5,baz=140,slow=7.0,SNR=5.7
TORD Torodi Ar. Bea    40.40 277  P             P   09 28 05.0 -1.8
     comp=N,4.4nm,1.1s,mb4.1,baz=94,slow=8.0,SNR=16
AKASG Malin Array Be   40.59 346  P             P   09 28 08.3  0.0
     comp=N,0.2nm,0.4s,mb3.1,baz=170,slow=7.4,SNR=5.4
AKTK Aktyubinsk        40.61  15  P             P   09 28 10.4 +1.8
AKTK Aktyubinsk        40.61  15  P             P   09 28 10.4 +1.9
AKTO Aktyubinsk        40.61  15  P             P   09 28 10.4 +1.9
     comp=N,4.4nm,1.0s,mb4.0,baz=217,slow=9.9,SNR=13
AAK  Ala-Archa         41.24  36  eP            P   09 28 15.3 +1.5
     comp=N,6.9nm,1.5s,mb4.1
AAK  Ala-Archa         41.24  36  eP            P   09 28 15.3 +1.6
     comp=N,6.9nm,1.5s,mb4.1
BOSA Boshof            43.54 203  LR            LR  09 46 13.7
     comp=N,72nm,19.4s,MS3.6,baz=36,slow=36
GERES GERESS Array B   44.41 332  P             P   09 28 39.8 +0.3
     comp=N,2.2nm,1.0s,mb3.9,baz=152,slow=6.0,SNR=13
ARU  Arti              46.30  12  P             P   09 28 55.3 +0.8
     comp=N,6.4nm,0.8s,mb4.6
ARU  Arti              46.30  12  P             P   09 28 55.3 +0.8
     comp=N,6.4nm,0.8s,mb4.6
BRVK Borovoye          46.73  22  eP            P   09 28 58.9 +1.0
     comp=N,2.6nm,1.2s,mb4.0
BVAR Borovoye Array    46.75  22  P             P   09 28 58.3 +0.3
     comp=N,2.8nm,0.8s,mb4.2,baz=216,slow=7.3,SNR=16
DBIC Dimbokro          47.52 268  P             P   09 29 02.1 -1.8
     comp=N,3.2nm,1.0s,mb4.3,baz=59,slow=12,SNR=2.5
DBIC Dimbokro          47.52 268  P             P   09 29 00.5 -3.4
     comp=N,3.0nm,0.9s,mb4.3
LSA  Lhasa             48.09  60  eP            P   09 29 11.2 +2.8
     comp=N,3.3nm,0.6s,mb4.5
LSA  Lhasa             48.09  60  eP            P   09 29 11.2 +2.8
     comp=N,3.3nm,0.6s,mb4.5
MKAR Makanchi Array    48.18  36  P             P   09 29 09.8 +0.7
     comp=N,4.7nm,0.9s,mb4.5,baz=228,slow=4.8,SNR=35
MKAR                                 LR          LR  09 52 35.4
     comp=N,113nm,19.1s,MS3.9,baz=88,slow=40
KURK Kurchatov         48.61  30  eP            P   09 29 14.6 +2.1
     comp=N,15nm,1.5s,mb4.8
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```
KURK Kurchatov         48.61  30  eP            P   09 29 14.6 +2.2
     comp=N,15nm,1.5s,mb4.8
ZAL  Zalesovo          53.59  29  P             P   09 29 48.9 -0.9
     comp=N,1.8nm,0.9s,mb4.0,baz=247,slow=8.9,SNR=11
ZAL                                  LR          LR  09 56 44.2
     comp=N,442nm,19.1s,MS4.5,baz=233,slow=40
ZAL  Zalesovo          53.59  29  P             P   09 29 48.9 -0.9
ZAL                                  LR          LR  09 56 44.2
NOA  NORSAR Array B    54.56 342  LR            LR  09 54 35.5
     comp=N,57nm,20.6s,MS3.6,baz=260,slow=38
ARCES ARCESS Array B   58.95 353  LR            LR  09 55 40.9
     comp=N,136nm,20.1s,MS4.1,baz=190,slow=36
SONM Songino Array     63.64  42  P             P   09 31 01.3 +1.5
     comp=N,3.3nm,1.1s,mb4.3,baz=256,slow=7.0,SNR=18
SONM                                 LR          LR  09 59 55.5
     comp=N,79nm,20.3s,MS3.9,baz=338,slow=37
```

*IDC **18** 09:27:14.0±0.8, 15.39S×172.91W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/19, mbtmp4.1/9, MS3.6/5, Ms1 3.6/5, ms1mx3.3/25, Error ellipse: s-maj=42.2km s-min=15.2km az=130.0*

*NEIC **18** 09:27:15.7±0.5, 15.37S×172.83W, h10km, Error ellipse: s-maj=29.9km s-min=10.0km az=129.0*

*ISCJB **18** 09:27:17.6±0.6, 15.4S±0.2×172.9W±0.2, h33km, mb4.0/9, MS3.6/5, Error ellipse: s-maj=34.2km s-min=10.9km az=78.7*

ISC 18 09:27:19.4±0.6, 15.3S±0.2×172.8W±0.2, h35km, n25, σ1°.26/16, mb4.1/9, MS3.6/5, Samoa Islands region

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
AFI  Afiamalu           1.71  36  Pn            Pn  09 27 46.0 -0.6
     612nm,0.3s,baz=9.5,slow=6.1,SNR=599
AFI                                  Sn            Sn  09 28 05.1 -2.2
     1μm,0.3s,baz=30,slow=22,SNR=11
AFI                                  LR            LR  09 28 25.9
     comp=Z,620nm,20.4s,baz=110,slow=39
AFI  Afiamalu           1.71  36  ePn           Pn  09 27 45.5 -1.1
AFI                               eSn           Sn  09 28 05.1 -2.1
PPT  Papeete           22.40  99  eLR           LR  09 37 18.7
     44nm,22.0s
TBI  Tubuai            23.42 114  eLR           LR  09 37 48.7
     68nm,26.0s
URZ  Urewera           24.54 199  P             P   09 32 33.9 -1.8
     14nm,0.5s,mb4.7,baz=12,slow=2.6,SNR=19
URZ                                  LR            LR  09 39 49.9
     comp=Z,73nm,18.7s,MS3.2,baz=14,slow=31
URZ  Urewera           24.54 199  P             P   09 32 33.9 -1.8
URZ                                  LR            LR  09 39 49.9
RPZ  Rata Peaks        31.49 203  P             P   09 33 37.6 -0.3
     5.0nm,0.9s,mb4.3,baz=22,slow=18,SNR=2.7
RKT  Rikitea           36.49 108  eLR           LR  09 43 51.3
     82nm,29.5s
RKT  Rikitea           36.49 108  eT                10 12 43.3
     3.7nm,0.3s
STKA Stephens Creek    44.58 240  P             P   09 35 25.2 -2.8
     0.7nm,0.4s,mb3.9,baz=68,slow=13,SNR=2.9
STKA Stephens Creek    44.58 240  eP            P   09 35 29.2 +1.2
WRA  Warramunga Arr    50.42 257  P             P   09 36 13.2 -0.2
     0.5nm,0.7s,mb3.7,baz=92,slow=7.5,SNR=5.8
ASAR Alice Springs     50.68 252  P             P   09 36 14.8 -0.5
     1.6nm,0.5s,mb4.2,baz=86,slow=7.7,SNR=68
RPN  Rapa Nui          59.80 113  LR            LR  09 57 00.0
     comp=Z,12nm,18.2s,MS3.1,baz=286,slow=30
YBH  Yreka Blue Hor    73.18  37  LR            LR  10 04 47.7
     comp=Z,75nm,20.2s,MS4.0,baz=164,slow=31
NVAR Mina Array Bea    73.87  42  P             P   09 38 52.0 +1.4
     1.4nm,0.8s,mb4.0,baz=217,slow=8.5,SNR=14
TMUT Trail Mountain    79.00  44  eP            P   09 39 21.7 +2.0
NEW  Newport           80.31  34  LR            LR  10 07 11.7
     comp=Z,66nm,20.4s,MS4.0,baz=80,slow=30
PDAR Pinedale Array    81.81  42  P             P   09 39 36.0 +1.3
     0.5nm,0.7s,mb3.6,baz=221,slow=3.5,SNR=4.2
PDAR                                 LR            LR  10 09 52.3
     comp=Z,67nm,19.4s,MS4.0,baz=161,slow=31
ILAR Eielson Array     82.24  11  P             P   09 39 37.4 +0.4
     1.3nm,0.7s,mb4.0,baz=224,slow=5.8,SNR=25
INK  Inuvik            88.04  14  P             P   09 40 06.6 +0.6
     1.9nm,1.0s,mb4.3,baz=187,slow=7.8,SNR=6.4
ARCES ARCESS Array B   124.59 352  PKP           PKPdf 09 46 13.2 -1.8
     2.5nm,1.0s,baz=331,slow=9.2,SNR=4.1
FINES FINESS Array B   131.97 348  PKP           PKPdf 09 46 29.2 +0.1
     0.7nm,0.8s,baz=128,slow=3.1,SNR=4.3
FINES FINESS Array B   131.97 348  PKP           PKPdf 09 46 29.2 +0.1
BRTR Keskin Array B    146.43 322  PKPbc         PKPbc 09 46 58.1 +1.5
     2.0nm,0.7s,baz=111,slow=1.5,SNR=9.1
```

IDC 18 09:47:19.0±2.1, 589N×127.26E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=186.8km s-min=27.0km az=66.0, Philippine Islands region

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
WRA  Warramunga Arr    26.59 165  P             P   09 52 59.4 +0.6
     0.9nm,0.5s,baz=344,slow=10,SNR=7.3
ASAR Alice Springs     30.08 168  P             P   09 53 31.4 +1.4
     0.2nm,0.3s,baz=346,slow=6.9,SNR=4.6
ASAR                                 PcP           PcP 09 56 30.2 -1.6
     0.3nm,0.4s,baz=343,slow=2.5,SNR=8.4
MKAR Makanchi Array    56.11 324  P             P   09 57 00.9 +0.8
     0.2nm,0.4s,baz=129,slow=6.3,SNR=5.9
```

IDC 18 10:01:57.3±3.5, 233.1N×142.10E, h57km±34km, mb3.1/4, mb1 3.4/5, mb1mx3.1/19, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=83.5km s-min=18.7km az=98.0, Volcano Islands region

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
CBIJ Chichi jima        3.77   1  P             Pn  10 02 54.5 +1.6
     10.0nm,0.3s,baz=276,slow=22,SNR=6.0
CBIJ                                 S             Sn  10 03 36.1 +0.2
     7.2nm,0.3s,baz=296,slow=20,SNR=3.8
WRA  Warramunga Arr    43.65 191  P             P   10 09 55.8 -0.4
     2.0nm,0.8s,baz=12,slow=8.4,SNR=12
ASAR Alice Springs     47.37 190  P             P   10 10 26.0 +0.4
     0.2nm,0.7s,baz=14,slow=9.2,SNR=3.5
YKA  Yellowknife Ar    75.50  28  P             P   10 13 35.3  0.0
     0.1nm,0.4s,baz=290,slow=5.8,SNR=3.7
FINES FINESS Array B   81.30 334  P             P   10 14 07.3 -0.1
     4.3nm,1.3s,baz=64,slow=4.4,SNR=3.7
```

DHMR 18 10:13:28.8±1.0, 116.4N×43.16E, h7km±9km, ML3.7, Ethiopia

```
Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
TRBA At Turbah          1.84  30  i P           Pn  10 14 01.8 +1.0
TRBA                               i S           Sn  10 14 27.9 +3.7
TRBA                                 AML         AML 10 14 36.2
     comp=N,783nm,0.6s
UDYN Al 'Udayn          2.44  19  i P           Pn  10 14 12.1 +3.0
UDYN                               i S           Sn  10 14 44.3 +5.0
UDYN                                 AML         AML 10 14 58.1
     comp=N,690nm,0.6s
UDYN Al 'Udayn          2.44  19  i P           Pn  10 14 12.1 +3.0
UDYN                               i S           Sn  10 14 44.3 +5.0
     comp=N,345nm,0.6s
LBOS                    3.01  42  i P           Pn  10 14 19.8 +2.9
LBOS                               i S           Sn  10 15 00.1 +6.8
DHBB Dhamar BB          3.15  22  i P           Pn  10 14 21.6 +2.7
DHBB                               i S           Sn  10 15 03.5 +6.8
HAJJ Hajjah             4.06   6  i P           Pn  10 14 34.1 +2.8
HAJJ                               i S           Sn  10 15 24.8 +5.7
```

*ISCJB **18** 10:20:22.4±1.2, 86S±0.2×115.7E±0.3, h10km, mb3.4/5, Error ellipse: s-maj=48.9km s-min=15.9km az=122.7*

*IDC **18** 10:20:23.5±3.2, 84.3S×115.90E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.4/16, mbtmp3.3/4, Error ellipse: s-maj=170.7km s-min=22.6km az=53.0*

*NEIC **18** 10:20:24.7±0.9, 85.3S×115.78E, h10km, mb3.7/1, Error ellipse: s-maj=34.2km s-min=11.4km az=61.0*

NEIC Felt [IV] at Mataram, Lombok.

ISC 18 10:20:24.8±1.2, 85S±0.2×115.8E±0.3, h10km, n6, σ0°.26/6, mb3.4/5, Bali region

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

MBWA	Marble Bar	13.13	163	*e*Pn	Pn	10 23 31.3	0.0
WRA	Warramunga Arr	21.26	124	P	P	10 25 10.9	-0.3
	0.8nm,0.7s,mb3.2,baz=301,slow=12,SNR=7.1						
WRAB	Tennant Creek	21.27	124	*e*P	P	10 25 11.5	+0.2
	2.7nm,0.7s,mb3.7						
ASAR	Alice Springs	22.99	133	P	P	10 25 29.8	+0.2
	0.5nm,0.6s,mb3.1,baz=309,slow=9.4,SNR=14						
SONM	Songino Array	56.73	352	P	P	10 30 08.7	-0.1
	0.7nm,0.7s,mb3.8,baz=174,slow=8.4,SNR=8.0						
MKAR	Makanchi Array	62.62	335	P	P	10 30 49.4	+0.1
	0.1nm,0.4s,mb3.3,baz=150,slow=6.7,SNR=5.0						

*IDC **18** 10:34:27.2±3.3,5322N×15925E,h47km±37km,mb3.2/9, mb1 3.5/9,mb1mx3.4/20,mbtmp3.5/9,ML3.9/1,Error ellipse: s-maj=28.4km s-min=16.0km az=156.0*
*MOS **18** 10:34:27.8±1.2,5291N×15943E,h70km,mb4.2/4,Error ellipse: s-maj=19.4km s-min=8.6km az=78.0*
*ISCJB **18** 10:34:28.8±0.4,5293N±003×15953E±006,h76km±3km, mb3.5/13,Error ellipse: s-maj=7.8km s-min=3.4km az=80.3*
*NEIC **18** 10:34:29.7±0.8,5320N×15921E,h71km±9km,mb4.0/4, Error ellipse: s-maj=18.9km s-min=9.1km az=162.0*
*KRSC **18** 10:34:29.3±0.9,5297N×15952E,h67km±2km,ML4.3*

ISC 18 10:34:29.7±0.4,5292N±003×15953E±006,h71km±3km, n60,σ1§01/85,mb3.5/13,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.28	336	P	Pn	10 34 40.3	-0.5
NLC				S	Sn	10 34 48.2	-0.7
NLC	Nalytchevo	0.28	336	*i* P	Pn	10 34 40.3	-0.5
NLC				*i* S	Sn	10 34 48.3	-0.6
SPN	Mys Shipunski	0.35	59	P	Pn	10 34 40.9	-0.4
SPN				S	Sn	10 34 49.1	-0.7
SPN	Mys Shipunski	0.35	59	*i* P	Pn	10 34 40.9	-0.4
SPN				*i* S	Sn	10 34 49.2	-0.6
UGLR	Uglovaya	0.52	305	*i* P	Pn	10 34 42.7	0.0
PET	Petropavlovsk	0.54	282	*i* P	Pn	10 34 42.6	-0.4
PET				*i* S	Sn	10 34 52.0	-0.7
PET	Petropavlovsk	0.54	282	||*i* PN	Pn	10 34 41.8	-1.2
PET				*i* S	Sn	10 34 51.9	-0.8
PET				pmax	pmax		
	comp=Z,4μm,0.4s						
PET				pmax	pmax		
	comp=Z,4μm,0.3s						
PET				smax			
	comp=E,5μm,0.6s						
PET				smax			
	comp=N,7μm,0.8s						
PET				smax			
	comp=N,8μm,0.6s						
PET				smax			
	comp=E,6μm,0.5s						
PET	Petropavlovsk	0.54	282	*e*Pn	Pn	10 34 41.9	-1.1
PET				*e*Sn	Sn	10 34 51.6	-1.1
SMAR	Somma	0.56	308	*i* P	Pn	10 34 42.8	-0.4
AVH	Avacha	0.59	306	*i* P	Pn	10 34 43.6	+0.1
AVH				*i* S	Sn	10 34 54.2	+0.6
KOK	Koryaka	0.66	305	*i* P	Pn	10 34 44.1	-0.1
RUS	Russkaya	0.79	232	P	Pn	10 34 45.5	-0.2
RUS				S	Sn	10 34 56.9	-0.5
RUS	Russkaya	0.79	232	*i* P	Pn	10 34 45.5	-0.2
RUS				*i* S	Sn	10 34 57.2	-0.2
KRMR	Karymshinskiy	0.85	265	*i* P	Pn	10 34 46.0	-0.4
KRMR				*i* S	Sn	10 34 58.3	-0.5
GRL	Gorelyy	0.96	248	*i* P	Pn	10 34 48.3	+0.6
GRL				*e*S	Sn	10 35 01.8	+0.7
KII	Karymskiy	1.12	358	P	Pn	10 34 49.3	-0.5
KII				S	Sn	10 35 04.2	-0.5
KII	Karymskiy	1.12	358	*i* P	Pn	10 34 49.1	-0.7
KII				*e*S	Sn	10 35 04.2	-0.5
GNL	Ganaly	1.23	310	*i* P	Pn	10 34 50.5	-0.6
GNL				*e*S	Sn	10 35 05.9	-1.3
APC	Apacha	1.44	271	*i* P	Pn	10 34 53.8	0.0
APC				*i* S	Sn	10 35 12.4	+0.4
APC				Smax			
	comp=E,410nm,0.6s						
MIPR	Malaya Ipel'ka	1.81	250	*i* P	Pn	10 34 59.6	+0.8
MKZ	Mys Kozlova	2.10	38	*e*P	Pn	10 35 01.8	-0.9
MKZ				*e*S	Sn	10 35 26.3	-1.5
PAU	Pauzhetka	2.22	230	*i* P	Pn	10 35 07.2	+2.9
PAU				*e*S	Sn	10 35 32.7	+2.0
PAU				Smax			
	comp=E,580nm,0.7s						
TUMR	Tumrok	2.40	8	*i* P	Pn	10 35 07.2	+0.5
ESO	Esso	3.05	351	*i* P	Pn	10 35 15.3	-0.3
ESO				Smax			
	comp=E,60nm,1.0s						
ESO	Esso	3.05	351	*i* P	Pn	10 35 15.3	-0.3
ESO				Smax			
	comp=E,80nm,0.6s						
KPT	Kopyto	3.08	7	*i* P	Pn	10 35 16.5	+0.5
SKR	Severo-Kuril's	3.08	225	*e*P	Pn	10 35 15.9	-0.1
SKR				*e*S	Sn	10 35 50.5	-1.2
KOZ	Kozyrevsk	3.15	4	P	Pn	10 35 17.6	+0.6
KOZR	Kozyr	3.16	4	PN	Pn	10 35 17.6	+0.5
ZLN	Zelenaya	3.19	13	*i* P	Pn	10 35 19.0	+1.5
ZLN				*e*S	Sn	10 35 55.0	+0.6
ALID	Alaid	3.21	232	*e*P	Pn	10 35 18.6	+0.9
CIRR	Tsirk	3.28	12	*i* P	Pn	10 35 20.0	+1.3
SRDR	Sredinnyy	3.41	2	*e*P	Pn	10 35 20.7	+0.2
KLY	Klyuchi	3.46	10	P	Pn	10 35 22.6	+1.4
KLY				S	Sn	10 36 00.6	-0.5
KLY	Klyuchi	3.46	10	*e*P	Pn	10 35 22.5	+1.3
BDR	Baidarnaya	3.79	14	*i* P	Pn	10 35 27.4	+1.8
KBTR	Krutoberegovo	3.81	29	*i* P	Pn	10 35 27.3	+1.3
KBTR				*e*S	Sn	10 36 11.1	+1.5
KBG	Krutoberegovo	3.82	28	*e*S	Sn	10 36 09.2	-0.6
KBG				Smax			
	comp=E,860nm,0.9s						
SRKR	Sorokina	3.86	14	*i* P	Pn	10 35 28.1	+1.4
SRKR				*e*S	Sn	10 36 11.2	+0.4
BKI	Bering	4.43	56	*i* P	Pn	10 35 34.1	-0.4
BKI				*e*S	Sn	10 36 19.3	-5.5
BKI				Smax			
	comp=E,100nm,0.3s						
FX1	Attu Island--F	8.25	85	P	Pn	10 36 27.6	+1.0
	comp=E,5.4nm,0.3s,baz=201,slow=1.1,SNR=47						
FX1				S	Sn	10 37 55.3	-2.9
	comp=E,8.6nm,0.3s,baz=301,slow=22,SNR=11						
FX1	Attu Island--P	8.25	85	*e*Pn	Pn	10 36 27.5	+0.9
MJAR	Matsushiro Arr	22.17	231	P	P	10 39 20.7	+0.9
	comp=E,1.4nm,0.6s,mb3.5,baz=23,slow=11,SNR=7.2						
MJAR	Matsushiro Arr	22.17	231	P	P	10 39 20.7	+0.9
MCK	McKinley	28.32	47	P	P	10 40 16.6	-0.1
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
MCK	McKinley	28.32	47	P	P	10 40 16.6	-0.2
	comp=Z,1.0nm,0.6s,mb3.5						
ILAR	Eielson Array	29.18	45	P	P	10 40 23.6	-0.7
	comp=Z,0.2nm,0.6s,mb2.9,baz=267,slow=8.2,SNR=5.7						
SONM	Songino Array	33.61	283	P	P	10 41 02.1	-1.2
	comp=Z,0.1nm,0.3s,mb3.1,baz=63,slow=9.6,SNR=2.3						
INK	Inuvik	34.22	37	P	P	10 41 08.0	-0.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	34.22	37	P	P	10 41 08.0	-0.5
	comp=Z,1.1nm,0.7s,mb3.8						
YKA	Yellowknife Ar	43.52	42	P	P	10 42 25.7	-0.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=300,slow=7.3,SNR=7.5						
KURK	Kurchatov	47.54	302	*e*P	P	10 42 54.4	-3.5
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
KURK	Kurchatov	47.54	302	*e*P	P	10 42 54.4	-3.5
	comp=Z,2.2nm,0.6s,mb4.2						
MKAR	Makanchi Array	47.92	295	P	P	10 42 57.2	-3.7
	comp=Z,0.3nm,0.4s,mb3.5,baz=58,slow=5.9,SNR=18						
BRVK	Borovoye	50.26	308	*e*P	P	10 43 16.1	-2.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	Borovoye	50.26	308	*e*P	P	10 43 16.1	-2.7
	comp=Z,1.4nm,0.6s,mb4.1						
PDAR	Pinedale Array	57.91	60	P	P	10 44 15.3	+0.9
	comp=Z,0.9nm,0.8s,mb3.9,baz=306,slow=2.7,SNR=7.4						
FINES	FINESS Array B	60.15	336	P	P	10 44 26.4	-3.5
	comp=Z,0.5nm,0.4s,mb3.9,baz=46,slow=8.2,SNR=6.2						
NOA	NORSAR Array B	63.61	343	P	P	10 44 49.2	-3.9
	comp=Z,0.2nm,0.4s,mb3.3,baz=14,slow=5.6,SNR=2.5						
ASAR	Alice Springs	79.46	204	P	P	10 46 28.6	+0.1
	comp=Z,0.3nm,0.6s,mb3.3,baz=23,slow=6.0,SNR=5.2						

*ISCJB **18** 10:40:50.0±0.9,1809S×0.10×6962W±009,h124km±9km, mb4.1/7,Error ellipse: s-maj=18.8km s-min=9.6km az=71.4*
*NEIC **18** 10:40:51.2±0.8,1820S×6973W,mb4.4/3,Error ellipse: s-maj=18.5km s-min=11.3km az=219.0*
*IDC **18** 10:40:53.8±0.7,1802S×6955W,h136km±5km,mb3.9/8, mb1 4.0/10,mb1mx3.9/17,mbtmp4.3/10,Error ellipse: s-maj=16.7km s-min=11.2km az=143.0*

ISC 18 10:40:51.1±0.8,1807S±008×6960W±007,h116km±9km, h133km±2.6km:pP-P,n24,σ1§31/26,mb4.1/7,1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.26	39	P	Pn	10 41 32.7	+5.1
	67nm,0.3s,baz=224,slow=4.9,SNR=1539						
LPAZ				S	Sn	10 42 00.2	+4.7
	3.3nm,0.3s,baz=166,slow=25,SNR=3.0						
LPAZ	La Paz	2.26	39	*e*Pn	Pn	10 41 33.1	+5.5
LPAZ				*e*Sn	Sn	10 41 51.7	-3.9
ARE	Arequipa	2.41	311	||*i* P	Pn	10 41 31.2	+1.6
ARE				*i* S	Sn	10 41 59.4	+0.2
SIV	San Ignacio	8.41	77	P	Pn	10 42 50.9	+0.7
	3.5nm,0.3s,baz=270,slow=11,SNR=57						
SIV				S	Sn	10 44 20.8	-2.5
	0.9nm,0.3s,baz=180,slow=22,SNR=7.1						
NNA	Nana	9.25	310	*e*Pn	Pn	10 42 60.0	-1.5
	37nm,0.3s						
CFAA	Coronel Fontan	13.53	175	P	Pn	10 43 56.0	-2.4
	0.1nm,0.3s,baz=352,slow=12,SNR=7.8						
CFAA				S	Sn	10 46 15.2	-12
	0.0nm,0.3s,baz=276,slow=9.3,SNR=3.7						
CPUP	Villa Florida	14.02	128	*e*Pn	Pn	10 44 04.7	+0.2
	15nm,0.6s						
OTAV	Otavalo	20.17	333	*e*P	P	10 45 15.0	-1.2
	3.5nm,0.8s						
BDFB	Brasilia	20.80	87	P	P	10 45 23.2	+0.2
	4.5nm,0.4s,baz=267,slow=8.4,SNR=7.3						
PLCA	Paso Flores	22.60	182	P	P	10 45 44.2	+2.0
	3.3nm,1.0s,mb3.6,baz=8.1,slow=12,SNR=7.0						
PLCA	Paso Flores	22.60	182	P	P	10 45 44.2	+2.0
SWET	Sewanee	55.21	344	*e*P	P	10 50 09.5	-2.4
DBIC	Dimbokro	68.43	75	P	P	10 51 41.2	+0.8
	14nm,0.8s,mb4.8,baz=215,slow=5.4,SNR=23						
DBIC	Dimbokro	68.43	75	*e*P	P	10 51 40.6	+0.2
	18nm,0.9s,mb4.9						
PDAR	Pinedale Array	70.83	330	P	P	10 51 54.9	-0.3
	0.4nm,0.7s,mb3.3,baz=131,slow=2.7,SNR=3.4						
PDAR				pP	pP	10 52 27.4	+3.3
	0.8nm,1.1s,baz=270,slow=2.2,SNR=3.9						
NVAR	Mina Array Bea	72.41	322	P	P	10 52 06.7	+2.0
	1.1nm,0.9s,mb3.7,baz=140,slow=7.9,SNR=8.2						
NVAR				pP	pP	10 52 37.8	+4.2
	1.1nm,0.8s,baz=136,slow=7.4,SNR=6.1						
TORD	Torodi Ar. Bea	76.85	71	P	P	10 52 30.6	+0.4
	8.7nm,0.8s,mb4.5,baz=256,slow=5.3,SNR=27						
TORD				pP	pP	10 53 05.1	+5.6
	5.1nm,0.9s,baz=257,slow=5.5,SNR=4.6						
SYO	Syowa Base	79.93	160	||*e*P	P	10 52 51.9	+4.7
SYO	Syowa Base	79.93	160	||*e*pP	pP	10 53 15.4	-1.2
BOSA	Boshof	85.64	119	P	P	10 53 17.0	+0.3
	3.5nm,0.9s,mb4.3,baz=154,slow=5.4,SNR=4.2						
YKA	Yellowknife Ar	87.75	341	P	P	10 53 26.9	0.0
	1.8nm,0.8s,mb4.1,baz=134,slow=4.8,SNR=38						
YKA				pP	pP	10 54 00.3	+3.5
	3.0nm,0.8s,baz=135,slow=4.8,SNR=12						
YKA	Yellowknife Ar	87.75	341	P	P	10 53 26.9	0.0
YKA				pP	pP	10 54 00.3	+3.5
WRA	Warramunga Arr	135.52	213	PKP	PKPdf	10 59 59.5	+2.0
	0.5nm,1.1s,baz=154,slow=2.0,SNR=5.7						
WRA				pPKP	pPKPdf	11 00 35.5	+6.7
	0.6nm,0.8s,baz=171,slow=1.4,SNR=4.0						
SONM	Songino Array	150.13	5	PKPbc	PKPbc	11 00 29.1	+0.8
	1.1nm,0.7s,baz=332,slow=2.5,SNR=8.8						
SONM				pPKPbc	pPKPbc	11 01 06.1	+6.6
	1.6nm,1.0s,baz=350,slow=1.9,SNR=4.8						

IDC 18 10:50:10.6±13.0,200N×9622E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.5/21,mbtmp3.8/4,Error ellipse: s-maj=281.6km s-min=40.5km az=13.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.82	73	Pn	Pn	10 50 56.8	-0.1
	baz=225,slow=20,SNR=3.2						
MKAR	Makanchi Array	46.24	347	P	P	10 58 37.9	+0.4
	1.4nm,0.7s,baz=162,slow=7.9,SNR=19						
SONM	Songino Array	46.50	9	P	P	10 58 39.3	-0.3
	0.3nm,0.8s,baz=189,slow=9.6,SNR=5.1						
ZAL	Zalesovo	52.62	352	P	P	10 59 26.4	+0.1
	1.4nm,0.6s,baz=304,slow=5.6,SNR=7.2						
BVAR	Borovoye Array	55.18	341	P	P	10 59 44.5	-0.5
	0.5nm,0.7s,baz=139,slow=7.9,SNR=5.2						

*BJI **18** 11:03:27.1,3006N×5493E,h14km,mB5.1,mb4.8,Ms4.5, Msz4.2*
*NAO **18** 11:03:27.6,2961N×5561E,h33km,mb4.4*
*ISCJB **18** 11:03:30.2±0.2,3057N±002×5565E±002,h10km, mb4.6/94,MS4.0/13,Error ellipse: s-maj=3.2km s-min=2.4km az=66.4*
*IDC **18** 11:03:30.7±0.6,3067N×5558E,h0km,mb4.2/19, mb1 4.4/20,mb1mx4.3/23,mbtmp4.2/20,ML4.3/1,MS3.9/12, Ms1 3.9/12,ms1mx3.6/28,Error ellipse: s-maj=16.1km s-min=14.0km az=126.0*
*SZGRF **18** 11:03:30.5,3049N×5641E,h33km,mb4.5,Northern and central Iran*
*THR **18** 11:03:31.5±0.9,3075N×5589E,h14km±7km,ML5.0*
*NEIC **18** 11:03:31.5,3075N×5589E,h14km,mb4.7/39, ML5.0(THR),After THR.*
*CSEM **18** 11:03:33.1±0.1,3059N×5576E,h35km,mb4.6/29,Ms3.7, Error ellipse: s-maj=2.1km s-min=1.8km az=75.0*
*MOS **18** 11:03:34.4±1.2,3076N×5560E,h33km,mb4.9/30,Error ellipse: s-maj=7.6km s-min=4.8km az=114.3*
*TEH **18** 11:03:35.8,3080N×5567E,h4km,Mn5.1*
*OMAN **18** 11:03:42.8±5.6,2979N×5528E,h20km,Error ellipse: s-maj=5.4km s-min=2.5km az=339.0*

ISC 18 11:03:32.1±0.2,3062N±002×5569E±002,h10km,n387, σ1§42/400,mb4.6/94,MS4.0/13,33C-16D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	0.97	354	*e*Pg	Pb	11 03 49.5	-1.5
IBAF				*e*Sg	Sb	11 04 01.4	-2.5
KRBR	Kerman	1.12	124	*e*PG	Pb	11 03 51.6	-1.9
KRBR				*e*SG	Sb	11 04 06.4	-1.7
KRBR				AML	AML	11 04 09.8	
	comp=N,78μm,0.4s						
KRBR	Kerman	1.12	124	*e*Pg	Pb	11 03 51.0	-2.5
KRBR				*e*Sg	Sb	11 04 06.0	-2.2
IMEH	Mehriz	1.20	310	*e*Pg	Pg	11 03 55.2	0.0
IMEH	Mehriz	1.20	310	*e*Pg	Pg	11 03 54.9	-0.3
ICHK	Chekchek	1.96	326	*e*Pn	Pn	11 04 07.5	+2.2
ISAD	Sadrabad	2.15	307	*e*Pn	Pn	11 04 10.7	+2.8
IPAR	Pars	2.42	252	*e*Pn	Pn	11 04 16.8	+5.2
SHI	Shiraz	2.92	251	*e*Pn	Pn	11 04 23.6	+5.0
IMOK	Mook	3.03	240	*e*Pn	Pn	11 04 25.4	+5.4
BNDS	Bandar-Abbas	3.24	172	*e*PN	Pn	11 04 25.9	+3.0
BNDS				AML	AML	11 05 21.9	
	comp=N,3μm,0.7s						
BNDS				AML	AML	11 05 26.7	
	comp=E,3μm,0.5s						
BNDS	Bandar-Abbas	3.24	172	*e*Pn	Pn	11 04 25.0	+2.1
NASN	Na'in	3.28	312	*e*PN	Pn	11 04 25.5	+2.0
NASN				*e*SG	Sg	11 05 15.3	-2.1
NASN				AML	AML	11 05 27.9	
	comp=E,3μm,0.4s						
NASN	Na'in	3.28	312	*e*Pn	Pn	11 04 25.0	+1.5
NASN				*e*Sg	Sg	11 05 15.0	-2.4
GHIR	Ghir-Karzin	3.31	226	*e*PN	Pn	11 04 28.0	+4.0
GHIR				AML	AML	11 05 33.0	
	comp=E,3μm,0.5s						
GHIR				AML	AML	11 05 33.4	
	comp=N,3μm,0.6s						
GHIR	Ghir-Karzin	3.31	226	*e*Pn	Pn	11 04 28.0	+4.0
IGAR	Garneh	3.40	299	*e*Pn	Pn	11 04 29.8	+4.7
IZEF	Zefreh	3.65	309	*e*Pn	Pn	11 04 30.5	+1.9
IZEF				*e*Lg		11 05 25.9	
IKLH	Kalahroud	4.41	309	*e*Pn	Pn	11 04 40.9	+1.8
ZHSF	Zahedan	4.52	102	*e*PN	Pn	11 04 39.5	-1.0
ZHSF				AML	AML	11 05 57.4	
	comp=N,1μm,0.6s						
ZHSF				AML	AML	11 06 07.4	
	comp=E,870nm,0.7s						
ZHSF	Zahedan	4.52	102	*e*Pn	Pn	11 04 38.0	-2.5
IPIR	Pirpir	4.58	298	*e*Pn	Pn	11 04 43.9	+2.5
BANOM	Banah	4.71	173	||P	Pn	11 04 45.8	+2.7
	SNR=76						
BANOM				||S	Sn	11 05 42.9	+5.0
IANJ	Anjiloo	5.06	343	*e*Pn	Pn	11 04 48.8	+0.8
IANJ				*e*Lg		11 06 07.6	
ILAS	Lasjerd	5.27	335	*e*Pn	Pn	11 04 52.9	+2.0
ILAS	Lasjerd	5.27	335	*e*Pn	Pn	11 04 52.6	+1.7
IVRN	Varamin	5.49	324	*e*Pn	Pn	11 04 55.5	+1.6
ISHM	Shahmirzad	5.55	339	*e*Pn	Pn	11 04 56.1	+1.4
ISHM				*e*Lg		11 06 22.9	
IFIR	Firoozkooh	5.58	335	*e*Pn	Pn	11 04 56.2	+1.1
IFIR				*e*Sn	Sn	11 05 55.2	-4.1
IQOM	Qom	5.74	318	*e*Pn	Pn	11 04 58.8	+1.6
IQOM				*e*Sn	Sn	11 05 59.3	-3.8
IKIA	Kiasar	5.82	344	*e*Pn	Pn	11 04 59.5	+1.1
DAMV	Damavand	5.89	329	*e*PN	Pn	11 05 01.0	+1.6
DAMV				AML	AML	11 06 57.0	
	comp=E,877nm,0.6s						
DAMV				AML	AML	11 07 01.2	
	comp=N,900nm,0.8s						
DAMV	Damavand	5.89	329	*e*Pn	Pn	11 05 00.0	+0.6
ASHO	Ashiyiah	5.92	177	||P	Pn	11 05 02.1	+2.2
	SNR=226						
IGLO	Galoogah	5.96	343	*e*Pn	Pn	11 05 03.2	+2.8
SHGR	Shooshtar-Gavs	6.08	286	*e*PN	Pn	11 05 04.3	+2.3
SHGR				AML	AML	11 07 13.2	
	comp=N,378nm,0.9s						
SHGR				AML	AML	11 07 21.5	
	comp=E,261nm,0.7s						
SHGR	Shooshtar-Gavs	6.08	286	*e*Pn	Pn	11 05 04.0	+2.0
IMOG	Moghan	6.26	28	*e*Pn	Pn	11 05 05.1	+0.6
IMOG				*e*Pn	Pn	11 05 06.1	+1.6
IMOG				*e*Lg		11 06 46.7	
IMOG	Moghan	6.26	28	*e*Pn	Pn	11 05 05.7	+1.2
IPRN	Paran-Amol	6.30	334	*e*Pn	Pn	11 05 06.8	+1.7
MHI	Mashhad	6.49	28	*e*Pn	Pn	11 05 09.6	+2.0
CHTH	Charan	6.51	325	*e*PN	Pn	11 05 09.8	+1.9
IKRD	Kardeh	6.57	20	*e*Pn	Pn	11 05 15.0	+6.3
IMHD	Mahdasht	6.58	321	*e*Pn	Pn	11 05 10.6	+1.8
IMHD	Mahdasht	6.58	321	*e*Pn	Pn	11 05 10.3	+1.5
IMHD				*e*Sn	Sn	11 06 19.0	-4.8
THKV	Tehran--Karaj	6.64	324	*e*PN	Pn	11 05 11.6	+1.9
THKV	Tehran--Karaj	6.64	324	*e*Pn	Pn	11 05 11.0	+1.3
IMYA	Miamay	6.79	32	*e*Pn	Pn	11 05 13.2	+1.5
IRAZ	Razeghan	6.79	316	*e*Pn	Pn	11 05 16.3	+4.5
UMR	Umm Al-Rimmam	6.99	263	*e*P	Pn	11 05 16.7	+2.2
UMR				AML	AML	11 06 35.6	
	comp=Z,190nm,0.5s						
UMR	Umm Al-Rimmam	6.99	263	*e*P	Pn	11 05 16.7	+2.2
UMR				*e*S	Sn	11 06 32.8	-1.3
QRN	Al-Qurain	7.02	256	*e*P	Pn	11 05 17.5	+2.7
QRN				AML	AML	11 06 33.8	
	comp=Z,140nm,0.6s						
KBD	Kabd	7.09	260	*e*P	Pn	11 05 18.0	+2.1
KBD				AML	AML	11 06 40.2	
	comp=Z,626nm,0.5s						
KBD	Kabd	7.09	260	*e*P	Pn	11 05 18.0	+2.1
KBD				*e*S	Sn	11 06 34.8	-1.7
HOQ	Hoqain	7.16	168	||P	Pn	11 05 16.8	+0.1
	SNR=20						
RDF	Al-Radifah	7.28	259	*e*P	Pn	11 05 21.1	+2.7
RDF				AML	AML	11 06 45.0	
	comp=Z,216nm,0.5s						
RDF	Al-Radifah	7.28	259	*e*P	Pn	11 05 21.1	+2.7
RDF				*e*S	Sn	11 06 38.4	-2.7
ARQ	Araqi	7.29	174	||P	Pn	11 05 20.4	+1.8
	SNR=16						
BIDO	Bidbid	7.40	162	||P	Pn	11 05 19.8	-0.2
	SNR=36						
IKOM	Komasi	7.77	299	*e*Pn	Pn	11 05 23.7	-1.5
SMDO	Samad	7.82	164	P	Pn	11 05 26.7	+0.8
	SNR=47						
JMDO	Jabal Madar	8.49	165	||P	Pn	11 05 36.3	+1.1
	SNR=27						
WBK	Wadi Bani Khal	8.50	159	||P	Pn	11 05 35.6	+0.4
	SNR=29						
IDHR	Dehrash	8.84	300	*e*Pn	Pn	11 05 41.0	+1.2
BHD	Baghdad	9.97	288	*ex*	x	11 06 01.0	
BHD				*ex*	x	11 06 27.0	
BHD				*ex*	x	11 06 54.0	
BHD				*ex*	x	11 07 48.0	
BHD				*ex*	x	11 08 56.0	
IBST	Bostanabad	10.15	316	*e*Pn	Pn	11 05 58.9	+1.1
MSL	Mosul	11.94	302	*ex*	x	11 06 11.0	
SHAO	Shalim	12.54	180	||P	Pn	11 06 29.6	-1.0
WHFO	Wadi Hawf	12.77	188	P	Pn	11 06 32.2	-1.4
GNI	Garni	13.03	320	Pn	Pn	11 06 43.6	+6.3
	comp=Z,0.6nm,0.3s,baz=62,slow=9.2,SNR=5.2						
GNI				Lg		11 10 30.0	
	comp=Z,0.3nm,0.3s,baz=330,slow=22,SNR=1.5						
GNI				LR	LR	11 11 27.1	
	comp=Z,355nm,18.2s,baz=119,slow=37						
RBK	Rabkut	13.13	186	||P	Pn	11 06 36.3	-2.2
	SNR=24						
ABTO	Aybut	13.39	190	||P	Pn	11 06 40.2	-1.9
	SNR=55						
ABTO				||S	Sn	11 08 59.6	-11
JASL	Jaisalmer	13.84	102	*e*P	Pn	11 06 46.9	-1.4
MARD	Mardin	14.05	302	*i* P	Pn	11 06 49.8	-1.4
ZEI	Tsey	15

KSH eXS sS 11 11 40.1 +10
KSH ePCP PcP 11 12 19.1 +0.5
KSH AMB AMB
comp=Z,170nm,4.1s
KSH LR LR
comp=N,1µm,10.5s
KSH LR LR
comp=E,1µm,8.4s
EKS2 Erkin-Say 18.80 45 P **Pn 11 07 54.1 +2.0**
SNR=15
AB31 Akbulak array 18.89 9 *i* P **Pn 11 07 51.9 -1.3**
comp=E,26nm,1.0s
AB31 Akbulak array 18.89 9 *i* P **Pn 11 07 51.9 -1.3**
AB31 pmax pmax
comp=Z,26nm,1.0s
MEST Erdemli 18.89 294 *i* P **Pn 11 07 55.6 +2.3**
UCH Uchtor 19.02 47 P **Pn 11 07 58.1 +3.3**
SNR=7.6
IKL Isikli 19.19 293 *e*P **Pn 11 07 57.2 +0.4**
AAK Ala-Archa 19.22 46 P **Pn 11 08 02.6 +5.4**
SNR=5.2
AAK Ala-Archa 19.22 46 *e*P **Pn 11 07 56.0 -1.2**
comp=Z,10.0nm,0.9s
AAK Ala-Archa 19.22 46 *e*P **Pn 11 07 56.0 -1.2**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 19.22 46 *e*P **Pn 11 07 56.0 -1.2**
comp=Z,10nm,0.9s
LBOS 19.25 212 *e*P **Pn 11 07 57.0 -0.5**
CSS Prodhromos 19.28 289 *e*P **Pn 11 07 57.8 -0.1**
comp=Z,23nm,0.7s
CSS Prodhromos 19.28 289 *e*P **Pn 11 07 57.8 -0.1**
comp=Z,23nm,0.7s
KLP Kalpa 19.34 81 *e*P **Pn 11 07 52.6 -6.0**
KLP AMb AMB 11 08 04.3
comp=Z,30nm,0.9s
KLP *ex* x 11 08 08.3
FRU Bishkek 19.41 46 *e*P **Pn 11 08 03.5 +4.1**
comp=Z,42nm,1.6s
FRU Bishkek 19.41 46 *e*P **Pn 11 08 03.5 +4.1**
FRU pmax pmax
comp=Z,42nm,1.6s
KBK Karagaybulak 19.52 47 P **Pn 11 08 04.8 +4.1**
SNR=5.3
CDAG Cicekdag 19.58 303 *i* P **Pn 11 08 04.9 +3.4**
AGRA Agra 19.76 94 *e*P **Pn 11 07 57.8 -5.9**
AGRA AMb AMB 11 08 00.9
comp=Z,60nm,0.4s
AKTK Aktyubinsk 19.87 4 P **Pn 11 08 03.8 -1.1**
AKTK Aktyubinsk 19.87 4 P **Pn 11 08 03.8 -1.2**
AKTK LR LR 11 17 40.2
AKTO Aktyubinsk 19.87 4 P **Pn 11 08 03.8 -1.2**
comp=Z,0.9nm,0.3s,baz=186,slow=11,SNR=21
AKTO LR LR 11 17 40.2
comp=Z,124nm,21.0s,baz=0.0,slow=43
AKTO Aktyubinsk 19.87 4 P **Pn 11 08 03.8 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,124nm,21.0s
ERMK Ermenek 19.88 294 *i* P **Pn 11 08 05.7 +0.7**
BOYT Boyabat 19.92 308 *i* P **Pn 11 08 05.1 -0.5**
TKM2 Tokmak 2 20.07 47 P **P 11 08 13.6 +8.1**
SNR=6.1
BR131 Keskin Array S 20.15 303 *e*P **P 11 08 08.1 +1.7**
comp=Z,7.2nm,0.5s
BR131 Keskin Array S 20.15 303 *e*P **P 11 08 08.1 +1.7**
comp=Z,7.2nm,0.5s
BRTR Keskin Array B 20.15 303 P **P 11 08 08.0 +1.6**
comp=Z,17nm,0.9s,baz=129,slow=14,SNR=56
ANN Anapa 20.16 320 *e*S **S 11 11 42.5 -10**
ANN Anapa 20.16 320 *e*P **P 11 08 00.3 -6.2**
ANN *e*PP 11 08 17.4
ANN *e* 11 11 42.5
ANN pmax pmax
comp=Z,112nm,1.0s
TOS Tosya 20.36 307 *e*P **P 11 08 07.6 -1.1**
POO Poona 20.40 122 *e*P **P 11 08 09.0 -0.1**
BHPL Bhopal 20.70 106 *e*P **P 11 08 09.9 -2.5**
BHPL AMb AMB 11 08 20.6
comp=Z,61nm,1.2s
ANTO Ankara 20.81 303 *e*P **P 11 08 12.0 -1.5**
ANTO Ankara 20.81 303 *i* P **P 11 08 14.8 +1.3**
comp=Z,38nm,0.7s
ANTO Ankara 20.81 303⇑ *i*P **P 11 08 14.8 +1.3**
ANTO pmax pmax
comp=Z,38nm,0.7s
ANTO Ankara 20.81 303⇑ *i*P **P 11 08 14.8 +1.2**
comp=Z,38nm,0.7s
BALT Daday 21.00 307 *i* P **P 11 08 17.0 +1.3**
KIZT Kizilcal 21.19 299 *e*P **P 11 08 19.2 +1.6**
PTH Pithoragarh 21.24 87 *ex* **P 11 08 22.0 +3.8**
KAD Karad 21.43 124 *e*P **P 11 08 19.1 -1.2**
SGKT Sivrigoynuk 21.58 304 *i* P **P 11 08 23.7 +1.9**
ISP Isparta 21.99 296 *e*P **P 11 08 24.9 -1.3**
ISP Isparta 21.99 296⇑ *e*P **P 11 08 27.8 +1.5**
ISP pmax pmax
comp=Z,53nm,1.0s,mb4.9
ISP Isparta 21.99 296⇑ *e*P **P 11 08 27.8 +1.5**
comp=Z,52nm,1.0s,mb4.9
ESKT Eskisehir 22.13 300 *e*P **P 11 08 29.2 +1.4**
ESKT Eskisehir 22.13 300 *i* P **P 11 08 29.3 +1.6**
SEYT Eskypehyr 22.13 300 *i* P **P 11 08 29.3 +1.5**
TKTP Tekketepe 22.18 296 *i* P **P 11 08 30.5 +2.2**
ELL Elmali 22.27 293 *e*P **P 11 08 29.4 +0.2**
ATD Arta Tunnel 22.42 215 LR LR 11 17 50.7
comp=Z,257nm,21.7s,MS3.6,baz=17,slow=38
BORA Eskisehir 22.53 301 *i* P **P 11 08 33.0 +1.1**
GOLH Golhisar 22.62 294 *i* P **P 11 08 34.9 +1.9**
VRHR Novokhopersk 22.98 337 *e*P **P 11 08 36.9 +0.1**
comp=Z,30nm,0.7s,mb4.8
VRHR Novokhopersk 22.98 337 *e*P **P 11 08 36.9 +0.1**
VRHR pmax pmax
comp=Z,50nm,0.6s,mb5.1
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.9s
DNZL Cakiroluk 23.10 295 *i* P **P 11 08 40.0 +1.9**
ULDT Uludag 23.57 301 *i* P **P 11 08 42.5 -0.4**
VRSR Storozhevoye 23.95 334 *e*P **P 11 08 45.8 -0.6**
comp=E,50nm,38.0s
VRSR Storozhevoye 23.95 334 *e*P **P 11 08 45.8 -0.6**
VRSR pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,9.0nm,0.8s
VRSR MLR MLR
comp=Z,30nm,19.0s
VRSR MLR MLR
comp=N,50nm,38.0s
VRSR MLR MLR
comp=E,30nm,23.0s
AYDN Tasoluk 24.01 294 *i* P **P 11 08 48.5 +1.5**
BDRM Kayabasi 24.27 293 *i* P **P 11 08 48.2 -1.2**
AKS Akhisar 24.27 297 *e*P **P 11 08 49.7 +0.3**
VOR Voronezh 24.36 335 *e*P **P 11 08 49.0 -1.2**
comp=E,100nm,1.7s,mb5.0
VOR Voronezh 24.36 335 *e*P **P 11 08 49.0 -1.2**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.0
VOR pmax pmax
comp=N,100nm,1.6s
VOR pmax pmax
comp=E,70nm,1.6s
KOLN Koldanda 24.50 90 *e*P **P 11 08 54.8 +3.3**
comp=E,136nm,1.4s,mb5.3
KDAG Bornova 24.61 296 *i* P **P 11 08 53.1 +0.7**
HYB Hyderabad 24.61 117 *i* P **P 11 08 57.0 +4.6**
HYB Hyderabad 24.61 117 *e*P **P 11 08 57.0 +4.6**
BRVK Borovoye 24.82 21 *e*P **P 11 08 53.7 -0.7**
comp=E,8.0nm,1.0s,mb4.2
BRVK Borovoye 24.82 21 *e*P **P 11 08 53.7 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
BRVK Borovoye 24.82 21 *e*P **P 11 08 53.7 -0.6**
comp=Z,8.2nm,1.0s,mb4.2
BVA0 Borovoye Array 24.82 21 *i* P **P 11 08 54.3 -0.1**
comp=Z,2.0nm,0.9s,mb3.6
BVA0 Borovoye Array 24.82 21 *i* P **P 11 08 54.3 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
BVAR Borovoye Array 24.82 21 P **P 11 08 54.5 +0.1**
comp=Z,7.7nm,0.7s,mb4.3,baz=209,slow=7.9,SNR=59
GKN Gorkha 25.34 89 *e*P **P 11 09 02.9 +3.8**
comp=Z,109nm,1.0s,mb5.3
SANT Santorini 25.80 291 *e*P **P 11 09 03.7 +0.5**
comp=Z,239nm,0.6s
SANT Santorini 25.80 291 *e*P **P 11 09 03.7 +0.5**
comp=Z,239nm,0.6s
DMN Daman 25.84 89 *e*P **P 11 09 07.5 +3.9**
comp=Z,89nm,1.2s,mb5.2
ARU Arti 25.88 4 *i* P **P 11 09 03.4 -0.6**
comp=Z,12nm,1.3s,mb4.3
ARU Arti 25.88 4⇑ *i*P **P 11 09 03.4 -0.6**
ARU *e* 11 09 41.7
ARU *e*S **S 11 13 26.0 -7.8**
ARU *e*SS 11 14 27.1
ARU pmax pmax
comp=Z,12nm,1.3s,mb4.3
ARU Arti 25.88 4 *e*P **P 11 09 03.7 -0.3**
comp=Z,13nm,0.8s,mb4.5
HARR Harsova 25.93 311 ⇑P **P 11 09 05.5 +1.1**
HARR Harsova 25.93 311 ⇑P **P 11 09 05.5 +1.1**
KKN Kakani 25.95 89 *e*P **P 11 09 08.5 +3.9**
comp=Z,92nm,1.0s,mb5.2
KKN Kakani 25.95 89 *e*P **P 11 09 08.5 +3.9**
KKN pmax pmax
comp=Z,46nm,1.0s,mb5.0
CFR Carcaliu 26.00 312 ⇑P **P 11 09 03.9 -1.1**
PKI Pulchoki 26.11 89 *e*P **P 11 09 09.7 +3.6**
comp=Z,167nm,1.1s,mb5.5
PKI Pulchoki 26.11 89 *e*P **P 11 09 09.7 +3.6**
PKI pmax pmax
comp=Z,84nm,1.1s,mb5.2
MK31 Makanchi Array 26.12 44 *i* P **P 11 09 05.9 -0.3**
comp=Z,13nm,0.8s,mb4.5
MK31 Makanchi Array 26.12 44 *i* P **P 11 09 05.9 -0.3**
MK31 pmax pmax
comp=Z,13nm,0.8s,mb4.5
MKAR Makanchi Array 26.12 44 P **P 11 09 06.3 +0.1**
comp=Z,6.7nm,0.7s,mb4.3,baz=228,slow=8.7,SNR=18
MKAR LR LR 11 20 08.5
comp=Z,216nm,18.1s,MS3.7,baz=232,slow=38
MKAR Makanchi Array 26.12 44 *i* P **P 11 09 05.9 -0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 26.20 288 P **P 11 09 08.9 +2.0**
comp=Z,28nm,0.7s,mb4.9,baz=85,slow=19,SNR=18
KURK Kurchatov 26.37 34 *i* P **P 11 09 09.0 +0.6**
KURK Kurchatov 26.37 34 *e*P **P 11 09 10.9 +2.5**
comp=Z,13nm,0.9s,mb4.5
GUN Gumba 26.44 88 *e*P **P 11 09 13.0 +4.0**
comp=Z,93nm,1.0s,mb5.3
JIRN Jiri 26.76 89 *e*P **P 11 09 15.6 +3.7**
comp=Z,35nm,0.8s,mb5.0
VRI Vrincioaia 27.18 312 ⇑P **P 11 09 16.6 +0.9**
VRI Vrincioaia 27.18 312 ⇑P **P 11 09 16.6 +0.9**
MLR Muntele Rosu 27.54 311 P **P 11 09 20.1 +1.2**
comp=Z,5.4nm,0.6s,mb4.4,baz=92,slow=22,SNR=6.1
MLR LR LR 11 22 16.5
comp=Z,223nm,19.3s,MS3.8,baz=112,slow=41
MLR Muntele Rosu 27.54 311 ⇑P **P 11 09 21.4 +2.5**
MLR Muntele Rosu 27.54 311 P **P 11 09 20.1 +1.2**
MLR pmax pmax
comp=Z,5.0nm,0.6s
MLR MLR MLR
comp=Z,223nm,19.3s
BOK Bokaro 27.64 97 *e*P **P 11 09 15.7 -4.2**
BOK AMb AMB 11 09 25.1
comp=Z,25nm,1.7s,mb4.6
OBN Obninsk 28.02 336 *e*P **P 11 09 23.8 +0.5**
comp=Z,34nm,1.5s,mb4.8
OBN Obninsk 28.02 336⇓ *e*P **P 11 09 23.8 +0.5**
OBN 11 10 12.0
OBN *e* 11 10 32.0
OBN pmax pmax
comp=Z,34nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,100nm,12.0s,MS3.6
OBN Obninsk 28.02 336 *e*P **P 11 09 22.0 -1.2**
comp=Z,72nm,1.3s,mb5.1
VOIR 28.10 310 ⇓P **P 11 09 24.3 +0.3**
VOIR 28.10 310 ⇓P **P 11 09 24.3 +0.4**
AKASG Malin Array Be 28.13 323 P **P 11 09 23.6 -0.6**
comp=Z,3.8nm,0.7s,mb4.2,baz=129,slow=8.5,SNR=25
WMQ Urumqi 28.50 54 *e*P **P 11 09 37.0 +10**
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.4
VAY Valandovo 28.70 301 *i* P **P 11 09 28.8 -0.4**
STIP Stip 29.05 302 *i* P **P 11 09 33.5 +1.1**
BIA Bitola 29.57 300 *i* P **P 11 09 36.9 -0.1**
BIA Bitola 29.57 300 *i* P **P 11 09 36.8 -0.2**
SKO Skopje 29.66 302 *i* P **P 11 09 37.8 +0.1**
OHR Ohrid 29.98 300 *i* P **P 11 09 40.0 -0.6**
OHR Ohrid 29.98 300 *i* P **P 11 09 40.0 -0.6**
KOLS Kolonicke sedl 31.19 315 *i* P **P 11 09 52.0 +0.7**
KWP Kalwaria 31.21 317 *e*P **P 11 09 49.7 -1.9**
comp=Z,13nm,0.9s,mb4.8
KWP Kalwaria 31.21 317 *e*P **P 11 09 49.7 -1.9**
KWP pmax pmax
comp=Z,13nm,0.9s,mb4.8
KWP Kalwaria 31.21 317 *e*P **P 11 09 49.7 -1.8**
comp=Z,13nm,0.9s,mb4.8
ZAL Zalesovo 31.34 34 P **P 11 09 52.0 -0.6**
comp=Z,2.8nm,0.7s,mb4.2,baz=224,slow=7.7,SNR=8.0
ZAL LR LR 11 24 48.7
comp=Z,370nm,18.2s,MS4.1,baz=238,slow=41
CRVS Cervenica-Dubn 31.67 315 *e*P **P 11 09 55.3 -0.2**
STHS Stebnicka Huta 32.00 316 *e*P **P 11 09 58.3 -0.1**
KLMR Klimovskoe 32.09 345 *e*P **P 11 09 56.9 -2.3**
comp=Z,30nm,1.5s,mb4.9
KLMR Klimovskoe 32.09 345 *e*P **P 11 09 56.9 -2.3**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb4.9
KECS Kecovo 32.11 314 *e*P **P 11 09 59.4 -0.1**
PSZ Piszkesteto 32.29 313 P **P 11 09 58.0 -3.0**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
PSZ Piszkesteto 32.29 313 P **P 11 09 58.0 -3.0**
comp=Z,6.5nm,0.8s,mb4.5
TIP Timpagrande 32.85 296 *e*P **P 11 10 05.8 -0.1**
OJC Ojcow 33.17 317 *e*P **P 11 10 08.5 -0.2**
VSU Vasula 34.15 333 *i* P **P 11 10 15.9 -1.3**
MORC Moravsky Berou 34.37 315 *e*P **P 11 10 18.3 -0.9**
comp=Z,5.3nm,0.7s,mb4.6
MORC Moravsky Berou 34.37 315 *e*P **P 11 10 18.3 -0.9**
MORC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MORC Moravsky Berou 34.37 315 *e*P **P 11 10 18.3 -0.9**
comp=Z,5.3nm,0.7s,mb4.6
DPC Dobruska-Polom 35.30 315 *e*P **P 11 10 26.5 -0.7**
UPC Upice 35.54 315 *e*P **P 11 10 28.6 -0.7**
AQU L'Aquila 35.62 301 *e*P **P 11 10 29.9 0.0**
comp=Z,39nm,0.9s,mb5.3
AQU L'Aquila 35.62 301 *e*P **P 11 10 29.9 0.0**
AQU pmax pmax
comp=Z,39nm,0.9s,mb5.3
AQU L'Aquila 35.62 301 *e*P **P 11 10 29.9 -0.1**
comp=Z,39nm,0.9s,mb5.3
JOF Joensuu 35.91 341 *e*p **P 11 10 31.8 -0.6**
comp=Z,9.8nm,1.0s,mb4.7
JOF Joensuu 35.91 341 *e*P **P 11 10 31.8 -0.6**
JOF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MOA Molln 35.91 311⇑ *i*P **P 11 10 31.6 -0.8**
comp=Z,5.5nm,0.8s,mb4.5
MOA Molln 35.91 311 ⇑P **P 11 10 31.6 -0.8**
comp=Z,5.5nm,0.8s,mb4.5
KMBO Kilima Mbogo 36.12 212 P **P 11 10 38.1 +3.8**
comp=Z,0.5nm,0.3s,mb3.9,baz=41,slow=12,SNR=2.8
KMBO LR LR 11 25 19.8
comp=Z,214nm,18.4s,MS4.0,baz=99,slow=36
FINES FINESS Array B 36.43 336 P **P 11 10 36.5 -0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=125,slow=12,SNR=18
FINES LR LR 11 29 44.3
comp=Z,170nm,18.5s,MS3.9,baz=349,slow=43
GERES GERESS Array B 36.51 312 P **P 11 10 37.0 -0.6**
comp=Z,2.0nm,0.5s,mb4.2,baz=90,slow=7.3,SNR=20
KHC Kasperske Hory 36.66 312 *e*P **P 11 10 38.0 -0.8**
KHC *ex* x 11 10 47.0
GTA Gaotai 36.88 64 ⇓P **P 11 10 45.3 +4.6**
GTA PP PP 11 12 15.8 +11
GTA PCP PcP 11 13 04.5 +2.2
GTA AMB AMB
comp=Z,48nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,176nm,7.6s
GTA LR LR
comp=N,284nm,15.2s,MS4.3
GTA LR LR
comp=E,228nm,13.3s,MS4.3
GTA LR LR
comp=Z,242nm,14.1s,MS4.1
BRG Berggiesshubel 36.91 315 P **P 11 10 40.1 -0.8**
comp=Z,1.6nm,0.7s,mb4.0
BRG Berggiesshubel 36.91 315 *e*P **P 11 10 40.1 -0.8**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BRG Berggiesshubel 36.91 315 P **P 11 10 40.1 -0.8**
comp=Z,1.6nm,0.7s,mb4.0
WTTA Wattenberg 37.53 309⇑ *i*P **P 11 10 45.1 -1.1**
comp=Z,13nm,0.5s,mb4.9
WTTA Wattenberg 37.53 309 ⇑P **P 11 10 45.1 -1.1**
WTTA pmax pmax
comp=Z,13nm,0.5s,mb4.9
WATA Walderalm 37.58 309⇓ *i*P **P 11 10 45.5 -1.2**
comp=Z,5.9nm,0.9s,mb4.3
WATA Walderalm 37.58 309 ⇓P **P 11 10 45.5 -1.2**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
WATA Walderalm 37.58 309 ⇓P **P 11 10 45.5 -1.2**
comp=Z,5.9nm,0.9s,mb4.3
CLL Collm 37.60 316 *e*P **P 11 10 47.0 +0.2**
NKC Novy Kostel 37.65 314 *e*P **P 11 10 46.4 -0.8**
SQTA Sankt Quirin 37.81 309⇓ *i*P **P 11 10 47.2 -1.3**
comp=Z,4.6nm,0.6s,mb4.4
SQTA Sankt Quirin 37.81 309 P **P 11 10 47.2 -1.4**
comp=Z,5.0nm,0.6s,mb4.4
SQTA Sankt Quirin 37.81 309 ⇓P **P 11 10 47.2 -1.4**
SQTA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SQTA Sankt Quirin 37.81 309 ⇓P **P 11 10 47.2 -1.3**
comp=Z,4.6nm,0.6s,mb4.4
BSD Bornholm Skovb 37.83 322⇑ *i*P **P 11 10 47.4 -1.3**
MOTA Moosalm 37.90 309⇑ *i*P **P 11 10 47.7 -1.7**
comp=Z,5.4nm,0.7s,mb4.4
MOTA Moosalm 37.90 309 ⇑P **P 11 10 47.7 -1.7**
MOTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
MOTA Moosalm 37.90 309 ⇑P **P 11 10 47.7 -1.7**
comp=Z,5.4nm,0.7s,mb4.4
GRA1 Grafenberg Arr 38.29 313 *e*P **P 11 10 52.1 -0.5**
comp=Z,9.0nm,0.8s,mb4.5
GRF Grafenberg Arr 38.29 313 *e*P **P 11 10 52.1 -0.5**
comp=Z,9.0nm,0.8s,mb4.5
GRF Grafenberg Arr 38.29 313 *e*P **P 11 10 52.1 -0.5**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
DAVOX Davos 38.64 308 P **P 11 10 54.6 -1.0**
baz=104,slow=8.3
DAVA Damuels 38.71 309⇓ *i*P **P 11 10 54.5 -1.7**
comp=Z,20nm,0.7s,mb5.0
DAVA Damuels 38.71 309 ⇓P **P 11 10 54.5 -1.7**
comp=Z,20nm,0.6s,mb5.0
PGF Pioggiola 38.89 301 *e*P **P 11 10 56.2 -1.4**
comp=Z,47nm,1.1s,mb4.8
PGF Pioggiola 38.89 301 *e*P **P 11 10 56.2 -1.4**
comp=Z,24nm,1.1s,mb4.8
SBF Sospel 40.08 303 *e*P **P 11 11 06.3 -1.3**
comp=Z,59nm,1.0s,mb5.0
SBF Sospel 40.08 303 *e*P **P 11 11 06.3 -1.3**
comp=Z,30nm,1.0s,mb5.0
LZH Lanzhou 40.27 69 *e*P **P 11 11 13.5 +4.4**
LZH AP pP 11 11 22.5 +10
LZH AMB AMB
comp=Z,32nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,116nm,4.5s
ZAK Zakamensk 40.40 47 *e*P **P 11 11 07.9 -2.3**
comp=Z,7.0nm,1.7s,mb4.1
ZAK Zakamensk 40.40 47 *e*P **P 11 11 07.9 -2.3**
ZAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.0
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.1
MBDF Montbardon 40.60 304 *e*P **P 11 11 10.4 -1.5**
comp=Z,13nm,0.8s,mb4.3
MBDF Montbardon 40.60 304 *e*P **P 11 11 10.4 -1.5**
comp=Z,6.6nm,0.8s,mb4.3
CDF Champ du Feu 40.61 310 *e*P **P 11 11 09.6 -2.4**
LPG La Plagne 40.67 306 *e*P **P 11 11 11.1 -1.4**
comp=Z,16nm,0.7s,mb4.5
LPG La Plagne 40.67 306 *e*P **P 11 11 11.1 -1.4**
comp=Z,8.2nm,0.7s,mb4.5
LPL La Plagne 40.68 306 *e*P **P 11 11 11.1 -1.5**
comp=Z,27nm,0.9s,mb4.5
LPL La Plagne 40.68 306 *e*P **P 11 11 11.1 -1.5**
comp=Z,13nm,0.9s,mb4.5
LMR La Mourre 40.74 302 *e*P **P 11 11 12.1 -1.0**
HINF Hinteralfeld 40.82 309 *e*P **P 11 11 12.1 -1.6**
CD2 Chengdu 41.04 77 *e*P **P 11 11 16.6 +1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
HAU Haudompre 41.18 309 *e*P **P 11 11 15.7 -1.0**
HAU *e*R
comp=Z,220nm,17.2s
CABF La Chapelle 41.21 307 *e*P **P 11 11 15.7 -1.3**
comp=Z,188nm,1.5s,mb5.2
CABF La Chapelle 41.21 307 *e*P **P 11 11 15.7 -1.3**
comp=Z,94nm,1.5s,mb5.2
ORIF Oris-en-Rattie 41.25 305 *e*P **P 11 11 16.8 -0.4**
comp=Z,6.6nm,0.7s,mb4.1
ORIF *e*R
comp=Z,236nm,19.5s
ORIF Oris-en-Rattie 41.25 305 *e*P **P 11 11 16.8 -0.4**
comp=Z,3.3nm,0.7s,mb4.1
WLF Walferdange 41.52 312 ⇑P **P 11 11 18.7 -0.8**
MEM Membach 41.76 313 ⇓P **P 11 11 21.7 +0.3**
SONM Songino Array 42.07 51 P **P 11 11 26.0 +2.0**
comp=Z,1.4nm,0.9s,mb3.6,baz=274,slow=11,SNR=10
SONM LR LR 11 29 19.5
comp=Z,158nm,18.6s,MS3.9,baz=308,slow=37
NB2 NORSAR Subarra 42.09 329 P **P 11 11 22.7 -1.4**
comp=Z,5.7nm,0.9s,mb4.2,baz=116,slow=8.6
NOA NORSAR Array B 42.09 329 P **P 11 11 23.2 -1.0**
comp=Z,2.1nm,0.6s,mb3.9,baz=116,slow=8.0,SNR=14
NOA NORSAR Array B 42.09 329 P **P 11 11 23.2 -1.0**
GIVF Givet 42.43 312 *e*P **P 11 11 26.6 -0.3**
comp=Z,36nm,0.8s,mb4.8
GIVF Givet 42.43 312 *e*P **P 11 11 26.6 -0.3**
comp=Z,18nm,0.8s,mb4.8
ULN Ulaanbaatar 42.51 51 *e*P **P 11 11 29.2 +1.6**
ULN Ulaanbaatar 42.51 51 *e*P **P 11 11 30.2 +2.6**
comp=Z,3.5nm,0.9s,mb4.1
ARCES ARCESS Array B 42.56 345 P **P 11 11 27.5 -0.5**
comp=Z,2.6nm,0.8s,mb4.0,baz=128,slow=5.8,SNR=2.8
ARCES LR LR 11 32 08.0
comp=Z,174nm,19.9s,MS4.0,baz=182,slow=40
ARCES ARCESS Array B 42.56 345 P **P 11 11 27.5 -0.5**
ARCES LR LR 11 32 08.0
DOU Dourbes 42.58 312 ⇓P **P 11 11 28.4 +0.2**
comp=Z,11nm,0.7s,mb4.7
DOU E 11 11 33.4
DOU Dourbes 42.58 312 P **P 11 11 28.3 +0.2**
SMF Signal de Mont 42.76 307 *e*P **P 11 11 28.0 -1.6**
comp=Z,44nm,1.1s,mb4.8
SMF Signal de Mont 42.76 307 *e*P **P 11 11 28.0 -1.6**
comp=Z,22nm,1.1s,mb4.8
LOR Lormes 42.79 308 *e*P **P 11 11 28.0 -1.8**
comp=Z,21nm,0.9s,mb4.6
LOR *e*R
comp=Z,201nm,22.8s
LOR Lormes 42.79 308 *e*P **P 11 11 28.0 -1.8**
comp=Z,10nm,0.9s,mb4.6
BAIF Baives 42.82 312 *e*P **P 11 11 29.9 -0.2**
comp=Z,60nm,1.2s,mb4.9
BAIF Baives 42.82 312 *e*P **P 11 11 29.9 -0.2**
comp=Z,30nm,1.2s,mb4.9
SNF Seneffe 42.83 313 P **P 11 11 30.3 +0.1**
comp=Z,7.6nm,1.4s,mb4.2
SSF Saint Saulge 43.01 308 *e*P **P 11 11 30.1 -1.6**
comp=Z,30nm,0.9s,mb4.7
SSF Saint Saulge 43.01 308 *e*P **P 11 11 30.1 -1.6**
comp=Z,15nm,0.9s,mb4.7
AVF Avril sur Loir 43.10 307 *e*P **P 11 11 30.8 -1.6**
TCF Toulx Ste Croi 43.87 306 *e*P **P 11 11 37.3 -1.3**
CAF Calviac 43.96 305 *e*P **P 11 11 37.9 -1.4**
RJF Les Rejaudoux 44.34 305 *e*P **P 11 11 40.4 -2.0**
GYA Guiyang 44.66 82 P **P 11 11 50.8 +5.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
XAN Xi'an 44.69 71 P **P 11 11 48.8 +3.6**
XAN AP pP 11 11 55.9 +7.6
XAN AMB AMB
comp=Z,17nm,1.1s,mb4.8

LFF	La Frestale	44.90	305	eP	P	11 11 45.7	-1.1
	comp=Z,34nm,0.8s,mb5.0						
LFF	La Frestale	44.90	305	eP	P	11 11 45.7	-1.1
	comp=Z,17nm,0.8s,mb5.0						
LDF	La Druitiere	45.53	310	eP	P	11 11 49.7	-2.1
	comp=Z,9.1nm,0.5s,mb4.6						
LDF	La Druitiere	45.53	310	eP	P	11 11 49.7	-2.1
	comp=Z,4.6nm,0.5s,mb4.7						
FLN	La Foliniere	45.77	310	eP	P	11 11 51.6	-2.1
	comp=Z,15nm,0.7s,mb4.7						
FLN				eR			
	comp=Z,191nm,21.8s						
FLN	La Foliniere	45.77	310	eP	P	11 11 51.6	-2.1
	comp=Z,7.7nm,0.7s,mb4.7						
ENH	Enshi	45.99	76	eP	P	11 11 57.8	+2.3
	comp=Z,6.9nm,0.9s,mb4.6						
ENH	Enshi	45.99	76	eP	P	11 11 57.8	+2.3
	comp=Z,6.9nm,0.9s,mb4.6						
GRR	Gorron	46.01	309	eP	P	11 11 53.7	-1.9
	comp=Z,28nm,0.9s,mb4.9						
GRR	Gorron	46.01	309	eP	P	11 11 53.7	-1.9
	comp=Z,14nm,0.9s,mb4.9						
SGMF	Saint Gilles	47.14	309	eP	P	11 12 02.8	-1.7
	comp=Z,39nm,0.8s,mb5.1						
SGMF	Saint Gilles	47.14	309	eP	P	11 12 02.8	-1.7
	comp=Z,20nm,0.8s,mb5.1						
ROSF	Rostrenen	47.62	309	eP	P	11 12 07.1	-1.1
BOD	Bodaibo	47.90	38	eP	P	11 12 08.6	-1.8
	comp=Z,6.0nm,1.0s,mb4.6						
BOD	Bodaibo	47.90	38	eP	P	11 12 08.6	-1.8
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ESDC	Sonseca Array	48.82	298	P	P	11 12 16.7	-0.8
	comp=Z,2.1nm,0.5s,mb4.4,baz=72,slow=7.7,SNR=8.7						
ESLA	Sonseca Array	48.82	298	eP	P	11 12 16.2	-1.3
	comp=Z,8.2nm,1.4s,mb4.6						
ESLA	Sonseca Array	48.82	298	eP	P	11 12 16.2	-1.3
	comp=Z,8.3nm,1.4s,mb4.6						
BJT	Baijiatuau	49.39	62	P	P	11 12 23.4	+1.5
BJT	Baijiatuau	49.39	62	P	P	11 12 23.4	+1.5
OPO	Ambohidratompo	49.59	191	P	P	11 12 25.6	+2.3
	comp=Z,3.3nm,0.8s,mb4.4,baz=56,slow=11,SNR=4.2						
HIA	Hailar	50.95	49	P	P	11 12 35.3	+1.6
	comp=Z,6.0nm,0.8s,mb4.6						
HIA	Hailar	50.95	49	P	P	11 12 35.3	+1.6
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	Hailar	50.95	49	P	P	11 12 35.3	+1.7
	comp=Z,6.0nm,0.8s,mb4.6						
TORD	Torodi Ar. Bea	52.54	263	P	P	11 12 45.4	-0.1
	comp=Z,27nm,0.7s,mb5.3,baz=57,slow=7.4,SNR=202						
LSZ	Lusaka	52.75	214	P	P	11 12 47.4	+0.2
	comp=Z,1.1nm,0.5s,mb4.0,baz=53,slow=10,SNR=3.1						
NJ2	Nanjing	53.26	71	eP	P	11 12 53.1	+2.2
NJ2				PCP	PcP	11 13 59.3	+0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,150nm,7.5s						
NJ2				LR	LR		
	comp=N,780nm,20.8s,MS4.8						
NJ2				LR	LR		
	comp=E,550nm,24.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,230nm,19.4s						
SSE	Sheshan	55.45	71	P	P	11 13 06.5	-0.3
SSE				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,154nm,5.4s						
SSE				LR	LR		
	comp=N,91nm,25.6s,MS3.8						
SSE				LR	LR		
	comp=E,55nm,25.7s,MS3.8						
SSE				LR	LR		
	comp=Z,72nm,28.2s,MS3.6						
TIXI	Tiksi	55.96	21	iP	P	11 13 10.2	-0.3
	comp=Z,7.0nm,2.1s,mb4.3						
TIXI	Tiksi	55.96	21	⇑iP	P	11 13 10.2	-0.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.1s,mb4.3						
DBIC	Dimbokro	61.35	260	P	P	11 13 47.8	-0.2
	comp=Z,12nm,0.9s,mb5.0,baz=39,slow=9.1,SNR=13						
DBIC				LR	LR	11 41 52.1	
	comp=Z,192nm,19.3s,MS4.3,baz=141,slow=38						
DBIC	Dimbokro	61.35	260	P	P	11 13 47.8	-0.2
DBIC				pmax	pmax		
	comp=Z,12nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,192nm,19.3s						
DBIC	Dimbokro	61.35	260	eP	P	11 13 47.5	-0.5
	comp=Z,20nm,1.1s,mb5.2						
TSUM	Tsumeb	61.62	222	eP	P	11 13 49.6	-0.2
	comp=Z,10nm,1.6s,mb4.7						
TSUM	Tsumeb	61.62	222	eP	P	11 13 49.6	-0.2
	comp=Z,10nm,1.6s,mb4.7						
LBTB	Lobatse	62.38	211	eP	P	11 13 54.9	-0.1
	comp=Z,11nm,1.1s,mb4.9						
LBTB	Lobatse	62.38	211	eP	P	11 13 54.9	-0.1
LBTB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
LBTB	Lobatse	62.38	211	eP	P	11 13 54.9	0.0
	comp=Z,11nm,1.1s,mb4.9						
BOSA	Boshof	65.67	209	P	P	11 14 16.5	-0.1
	comp=Z,2.1nm,0.5s,mb4.4,baz=31,slow=6.3,SNR=5.4						
SEY	Seymchan	66.13	30	iP	P	11 14 18.9	-0.6
YSS	Yuzh-Sakhalins	66.45	48	P	P	11 14 23.2	+1.6
	comp=Z,12nm,0.8s,mb5.0						
YSS	Yuzh-Sakhalins	66.45	48	P	P	11 14 23.2	+1.6
	comp=Z,12nm,0.8s,mb5.0						
MAJO	Matsushiro	66.99	60	P	P	11 14 28.6	+3.6
	comp=Z,7.0nm,0.9s,mb4.7						
MAJO	Matsushiro	66.99	60	P	P	11 14 28.6	+3.6
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MAJO	Matsushiro	66.99	60	P	P	11 14 28.6	+3.6
	comp=Z,7.2nm,0.9s,mb4.7						
BILL	Bilibino	69.17	22	iP	P	11 14 37.8	-0.9
	comp=Z,2.0nm,0.8s,mb4.1						
BILL	Bilibino	69.17	22	iP	P	11 14 37.8	-0.9
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
COLA	College	83.06	10	iP	P	11 15 55.6	-2.2
ILAR	Eielson Array	83.30	10	P	P	11 15 57.1	-1.9
	comp=Z,0.5nm,0.7s,mb3.6,baz=315,slow=4.3,SNR=7.2						
MCK	McKinley	83.96	11	P	P	11 15 59.0	-3.4
	comp=Z,3.0nm,1.0s,mb4.4						
MCK	McKinley	83.96	11	P	P	11 15 59.0	-3.4
MCK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
MCK	McKinley	83.96	11	P	P	11 15 59.0	-3.4
	comp=Z,2.9nm,1.0s,mb4.4						
YKA	Yellowknife Ar	86.89	356	P	P	11 16 16.3	-0.7
	comp=Z,0.5nm,0.8s,mb3.8,baz=3.1,slow=5.0,SNR=13						
YKA	Yellowknife Ar	86.89	356	iP	P	11 16 16.2	-0.8
	comp=Z,1.0nm,0.8s,mb4.1						
YKA	Yellowknife Ar	86.89	356	iP	P	11 16 16.2	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	86.89	356	P	P	11 16 16.3	-0.7
WRA	Warramunga Arr	90.70	113	P	P	11 16 37.2	+2.1
	comp=Z,0.8nm,0.8s,mb4.1,baz=316,slow=4.0,SNR=9.0						
ASAR	Alice Springs	92.34	116	P	P	11 16 42.9	+0.2
	comp=Z,0.5nm,0.7s,mb4.0,baz=310,slow=4.8,SNR=11						

IDC 18 11:05:51.5±1.4,6480S×17704E,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.9/10,mbtmp3.9/3,ML3.4/1,MS4.2/12, Ms1 4.1/12,ms1mx4.0/16,Error ellipse: s-maj=62.4km s-min=35.9km az=42.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.60	194	Pn	Pn	11 09 06.7	+1.0
	0.2nm,0.3s,baz=26,slow=16,SNR=5.7						
VNDA				LR	LR	11 12 48.5	
	comp=Z,718nm,21.8s,baz=41,slow=31						
RPZ	Rata Peaks	21.39	348	LR	LR	11 17 35.1	
	comp=Z,641nm,19.1s,baz=202,slow=33						
URZ	Urewera	26.58	0	LR	LR	11 19 33.8	
	comp=Z,611nm,20.3s,baz=324,slow=31						
STKA	Stephens Creek	39.49	309	LR	LR	11 28 08.4	
	comp=Z,239nm,21.4s,baz=42,slow=34						
MAW	Mawson	39.86	213	LR	LR	11 30 04.9	
	comp=Z,323nm,21.7s,baz=126,slow=36						
TBI	Tubuai	46.82	44	eLR	LR	11 26 59.7	
	188nm,30.0s						
TBI	Tubuai	46.82	44	eT		12 04 05.9	
	10nm,0.3s						
ASAR	Alice Springs	49.67	305	P	P	11 14 45.1	+0.1
	0.7nm,1.0s,baz=158,slow=6.7,SNR=5.7						
RKT	Rikitea	51.93	60	eLR	LR	11 29 32.2	
	261nm,33.8s						
RKT	Rikitea	51.93	60	eT		12 10 28.7	
	6.0nm,0.3s						
PPT	Papeete	52.26	42	LR	LR	11 33 30.5	
	comp=Z,166nm,19.8s,baz=174,slow=32						
PMG	Port Moresby	59.13	325	LR	LR	11 36 41.9	
	comp=Z,310nm,18.8s,baz=351,slow=31						
PLCA	Paso Flores	62.40	128	LR	LR	11 36 31.9	
	comp=Z,161nm,20.4s,baz=180,slow=30						
BOSA	Boshof	84.33	205	LR	LR	11 51 43.7	
	comp=Z,172nm,19.4s,baz=179,slow=33						
LPAZ	La Paz	85.46	119	P	P	11 18 31.9	+0.8
	1.3nm,0.8s,baz=207,slow=6.8,SNR=2.7						
LPAZ				LR	LR	11 47 43.6	
	comp=Z,89nm,21.2s,baz=124,slow=29						
BDFB	Brasilia	92.82	137	LR	LR	11 58 56.7	
	comp=Z,69nm,18.7s,baz=4.0,slow=34						
JOW	Kunigami	98.83	317	LR	LR	12 04 16.9	
	comp=Z,111nm,18.4s,baz=99,slow=36						
AKTO	Aktyubinsk	145.85	275	PKPbc	PKPbc	11 25 31.1	-1.7
	1.3nm,0.8s,baz=136,slow=4.1,SNR=6.1						
BRTR	Keskin Array B	147.18	238	PKPbc	PKPbc	11 25 33.5	-3.1
	2.9nm,1.1s,baz=162,slow=4.8,SNR=6.2						

WEL 18 11:33:52.6±0.1,3777S×17757E,h47km±2km,ML3.7/5,5D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.39	309	P*	Pn	11 34 02.0	-0.3
WIZ				eS*	Sn	11 34 09.8	+0.6
MWZ	Matawai	0.56	183	⇓P*	Pn	11 34 04.0	-0.4
MWZ				S*	Sn	11 34 12.5	-0.4
URZ	Urewera	0.60	216	⇓P*	Pn	11 34 04.7	-0.3
URZ				S*	Sn	11 34 13.5	-0.4
MXZ	Matakaoa Point	0.62	71	P*	Pn	11 34 04.8	-0.4
MXZ				S*	Sn	11 34 14.3	0.0
PUZ	Puketiti	0.62	119	⇓PN	Pn	11 34 05.3	+0.1
MARZ	Manawahe	0.74	253	P*	Pn	11 34 06.3	-0.4
MKRZ	Makatiti	0.94	247	P*	Pn	11 34 09.7	+0.2
TAZ	Tarawera	0.95	241	P*	Pn	11 34 09.7	0.0
LIRZ	Lichensteins R	0.96	256	P*	Pn	11 34 09.8	+0.1
TGRZ	Tauranga	1.03	272	⇓P*	Pn	11 34 10.3	-0.5
KNZ	Kokohu	1.25	176	PN	Pn	11 34 13.3	-0.4
BKZ	Black Stump Fm	1.63	211	P*	Pn	11 34 18.4	-0.5
KUZ	Kuaotunu	1.79	304	⇓PN	Pn	11 34 20.2	-0.9
KUZ				SN	Sn	11 34 41.5	-1.2
RITZ	Rihia Road	1.80	228	P*	Pn	11 34 21.6	+0.3
KATZ	Kakaramea	1.90	230	P*	Pn	11 34 23.2	+0.6
OTVZ	Oturere	2.04	226	P*	Pn	11 34 24.7	+0.3
WTVZ	West Tongariro	2.05	229	P*	Pn	11 34 25.0	+0.4
NGZ	Ngauruhoe	2.08	227	P*	Pn	11 34 25.4	+0.3
TUVZ	Tukino	2.12	225	P*	Pn	11 34 25.6	+0.1
WPVZ	Whakapapa	2.13	227	P*	Pn	11 34 26.1	+0.3
MOVZ	Moawhango	2.16	220	P*	Pn	11 34 25.8	-0.4
WNVZ	Wahianoa	2.19	224	P*	Pn	11 34 26.4	-0.1
TRVZ	Turoa	2.20	225	P*	Pn	11 34 28.4	+1.7
OTAZ	Otara	2.26	290	PN	Pn	11 34 27.6	+0.1
HIZ	Hauiti	2.26	250	PN	Pn	11 34 28.1	+0.6
PKVZ	Pokaka	2.31	228	P*	Pn	11 34 28.7	+0.6
PXZ	Pawanui	2.32	193	PN	Pn	11 34 26.4	-1.9
MTAZ	Motutapu	2.33	294	PN	Pn	11 34 28.8	+0.3
KAAZ	Kauri Point	2.47	292	PN	Pn	11 34 31.3	+0.9
VRZ	Vera Road	2.58	238	P*	Pn	11 34 32.9	+1.0
TSZ	Takapari Road	2.60	208	ePN	Pn	11 34 31.1	-1.1

*ISCJB **18** 11:36:57.6±1.3,4562N±005×2656E±007,h144km±10km, Error ellipse: s-maj=9.9km s-min=7.1km az=75.0*
*CSEM **18** 11:36:57.4±0.2,4564N×2654E,h148km±2km,MD3.8/4, Error ellipse: s-maj=2.4km s-min=1.3km az=52.0,After BUC*
*BUC **18** 11:36:57.0±0.8,4563N×2653E,h152km±7km,MD3.8/4, Error ellipse: s-maj=6.8km s-min=4.2km az=38.0*
*NEIC **18** 11:36:58.0,4560N×2654E,h144km,MD3.8(BUC),After BUC.*

ISC 18 11:36:57.7±1.3,4561N±006×2656E±007,h148km±9km, n19,σ0°32/38,13C-5D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.28	25	⇑iP	Pn	11 37 17.7	-0.2
VRI				i S	Sn	11 37 32.8	-0.5
VRI	Vrincioaia	0.28	25	⇑iP	Pn	11 37 17.7	-0.2
VRI				i S	Sn	11 37 33.3	0.0
VRI	Vrincioaia	0.28	25	⇑iP	Pn	11 37 17.7	-0.2
VRI				i S	Sn	11 37 33.4	+0.1
MLR	Muntele Rosu	0.45	254	⇑iP	Pn	11 37 18.4	-0.1
MLR				i S	Sn	11 37 34.7	+0.3
MLR	Muntele Rosu	0.45	254	⇑iP	Pn	11 37 18.4	-0.1
MLR				i S	Sn	11 37 34.7	+0.3
ISR	Istrita	0.49	181	i S	Sn	11 37 35.6	+0.8
ISR				i S	Sn	11 37 42.0	+7.2
VARR		0.95	73	⇓iP	Pn	11 37 22.0	+0.2
VARR				i S	Sn	11 37 40.1	-0.1
VOIR		1.07	261	⇑iP	Pn	11 37 22.2	-0.7
VOIR				i S	Sn	11 37 42.0	-0.1
VOIR		1.07	261	⇑iP	Pn	11 37 22.2	-0.7
VOIR				i S	Sn	11 37 42.0	-0.1
CFR	Carcaliu	1.20	111	⇑iP	Pn	11 37 24.0	0.0
CFR				i S	Sn	11 37 44.1	0.0
CFR	Carcaliu	1.20	111	⇑iP	Pn	11 37 24.1	+0.1
CFR				i S	Sn	11 37 44.0	-0.1
CFR	Carcaliu	1.20	111	⇑iP	Pn	11 37 24.1	+0.1
CFR				i S	Sn	11 37 44.0	-0.1
BUC1	Bucharest	1.32	197	⇑iP	Pn	11 37 25.4	+0.2
BUC1				i S	Sn	11 37 46.2	-0.1
HARR	Harsova	1.34	133	⇓iP	Pn	11 37 25.8	+0.4
HARR				i S	Sn	11 37 46.6	0.0
HARR	Harsova	1.34	133	⇓iP	Pn	11 37 25.8	+0.4
HARR				i S	Sn	11 37 46.6	0.0
TIRR	Tirgusor	1.75	131	⇓iP	Pn	11 37 30.1	+0.3
TIRR				i S	Sn	11 37 53.7	-0.7
TIRR	Tirgusor	1.75	131	⇓iP	Pn	11 37 30.1	+0.3
TIRR				i S	Sn	11 37 53.7	-0.7
BURAR	Bucovina Array	2.21	336	⇑iP	Pn	11 37 35.2	+0.1
BURAR				i S	Sn	11 38 03.8	0.0
BURAR	Bucovina Array	2.21	336	⇑iP	Pn	11 37 35.2	+0.2
BURAR				i S	Sn	11 38 03.8	-0.1

*NEIC **18** 12:04:05.6,3186S×6852W,h150km,MD3.4(GUC),After GUC.*

GUC 18 12:04:05.6±0.6,3186S×6852W,h150km,MD3.4,ML3.5, 4C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.94	244	⇑iP	Pn	12 04 41.0	+1.1
JACH				i S	Sn	12 05 07.7	+1.3
FCH	Farellones	2.09	225	⇑iP	Pn	12 04 42.9	+1.2
FCH				i S	Sn	12 05 11.7	+2.1
FCH				AMP		12 05 14.2	
	comp=N,104nm,0.3s						
CMCH	Combarbala	2.23	287	⇓iP	Pn	12 04 44.1	+0.8
CMCH				i S	Sn	12 05 13.1	+0.7
CMCH				AMP		12 05 17.0	
	comp=E,479nm,0.7s						
CMCH	Combarbala	2.23	287	⇓iP	Pn	12 04 44.1	+0.8
CMCH				i S	Sn	12 05 13.1	+0.7
PEL	Peldehue	2.23	234	⇑iP	Pn	12 04 44.1	+0.6
PEL				i S	Sn	12 05 12.9	+0.3
PEL				AMP		12 05 14.6	
	comp=E,288nm,0.3s						
PEL	Peldehue	2.23	234	⇑iP	Pn	12 04 44.1	+0.6
PEL				i S	Sn	12 05 12.9	+0.3
ROCH	El Roble	2.38	242	iP	Pn	12 04 45.9	+0.7
PCH	Pirque	2.43	223	eP	Pn	12 04 46.7	+0.9
PCH				i S	Sn	12 05 18.0	+1.2
RCDM	Rinconada Maip	2.52	229	iP	Pn	12 04 47.8	+0.9
RCDM				i S	Sn	12 05 19.6	+0.7
RCDM				AMP		12 05 23.0	
	comp=E,253nm,0.1s						
RCDM	Rinconada Maip	2.52	229	iP	Pn	12 04 47.8	+0.9
RCDM				i S	Sn	12 05 19.6	+0.7
TACH	Talagante	2.71	228	⇓iP	Pn	12 04 49.8	+0.5
CHCH	Chadas Angostu	2.74	220	eP	Pn	12 04 50.5	+0.9
CHCH				i S	Sn	12 05 24.3	+0.7
SFDO	San Fernando	3.45	217	eP	Pn	12 04 58.9	+0.3

*BJI **18** 13:01:30.7,6630N×14230W,h15km,mB4.9,mb4.5,Ms4.5, Msz4.2*
*ISCJB **18** 13:01:33.5±0.3,6630N±003×14227W±007,h10km, mb4.1/27,MS3.4/1,Error ellipse: s-maj=4.6km s-min=3.9km az=14.4*
*IDC **18** 13:01:34.5±0.7,6637N×14218W,h0km,mb4.1/5, mb1 4.5/8,mb1mx4.1/19,mbtmp4.2/8,ML4.3/3,MS3.2/4, Ms1 3.1/4,ms1mx2.7/33,Error ellipse: s-maj=15.7km s-min=10.0km az=156.0*
*NEIC **18** 13:01:35.8,6628N×14230W,h16km,mb4.2/21, ML4.5(AEIC),MW4.1(SLM),MW4.4(PGC),After AEIC.*
NEIC Felt at Chalkyitsik.
*PGC **18** 13:01:35.5,6632N×14207W,h5km,ML4.4/2,Mw4.4, Eastern Alaska.*

ISC 18 13:01:34.9±0.3,6633N±003×14226W±007,h10km,n82, σ1°25/101,mb4.1/27,MS3.4/1,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	1.43	321	P	Pn	13 02 00.9	-0.1
BM3				S	Sn	13 02 22.2	+2.4
IL1	Eielson Array	2.48	233	P	Pn	13 02 14.7	-0.7
ILAR	Eielson Array	2.48	233	Pn	Pn	13 02 14.5	-0.9
	25nm,0.3s,baz=44,slow=14,SNR=1271						
ILAR				Pg	Pg	13 02 20.1	-2.5
	87nm,0.3s,baz=38,slow=17,SNR=120						
ILAR				Lg		13 02 49.4	
	528nm,0.3s,baz=47,slow=30,SNR=31						
DAWY	Dawson	2.58	151	Pn	Pn	13 02 15.7	-1.0
DAWY				Pg	Pg	13 02 21.5	-2.8
DAWY				Sn	Sn	13 02 45.7	-2.4
DAWY				Sg	Sg	13 02 53.2	-4.5
DAWY				Trac		13 02 59.8	
	comp=Z,861nm,0.5s						
DAWY	Dawson	2.58	151	P	Pn	13 02 15.7	-1.0
DAWY				S	Sn	13 02 46.4	-1.7
COLA	College	2.74	240	P	Pn	13 02 18.3	-0.7
DOT	Dot Lake	2.80	197	P	Pn	13 02 19.3	-0.5
COLD	Coldfoot	3.27	290	P	Pn	13 02 27.1	+0.8
MENT	Mentasta	3.47	191	P	Pn	13 02 28.2	-0.7
PAX	Paxson	3.65	204	P	Pn	13 02 31.7	+0.3
MCK	McKinley	3.85	230	P	Pn	13 02 33.7	-0.5
INK	Inuvik	3.92	56	Pn	Pn	13 02 35.3	+0.1
	17nm,0.3s,baz=228,slow=15,SNR=288						
INK				Sn	Sn	13 03 20.6	-0.7
	34nm,0.3s,baz=190,slow=9.2,SNR=11						
INK				Lg		13 03 35.2	
	48nm,0.3s,baz=170,slow=14,SNR=8.3						
INK				LR	LR	13 04 25.9	
	comp=Z,112nm,19.4s,baz=66,slow=44						
INK	Inuvik	3.92	56	Pn	Pn	13 02 35.3	+0.1
INK				Pg	Pg	13 02 46.7	-3.4
INK				Sn	Sn	13 03 18.5	-2.8
INK				Trac		13 03 46.1	
	comp=Z,341nm,0.5s						
INK	Inuvik	3.92	56	ePn	Pn	13 02 35.2	0.0
TRF	Thorofare Moun	4.48	233	P	Pn	13 02 42.5	-0.3
KTH	Kantishna Hill	4.62	237	P	Pn	13 02 43.9	-0.9
IM3	Indian Mountai	4.68	271	P	Pn	13 02 44.4	-1.2
SML	Sawmill	5.26	213	P	Pn	13 02 54.9	+1.3
DIV	Divide	5.45	198	ePn	Pn	13 02 57.1	+0.9
	872nm,0.2s						
BMRM	Bremner River	5.49	192	P	Pn	13 02 57.5	+0.8
PMR	Palmer	5.64	216	eP	Pn	13 03 00.3	+1.6
HYT	Haines Junctio	5.92	157	Pn	Pn	13 03 02.3	-0.3
HYT				Sg	Sg	13 04 39.6	-5.4
HYT				Trac		13 04 51.3	
	comp=Z,232nm,0.6s						
HYT	Haines Junctio	5.92	157	Pn	Pn	13 03 02.3	-0.3
HYT				eSg	Sg	13 04 39.6	-5.4
EYAK	Cordova Ski Ar	6.01	197	P	Pn	13 03 05.7	+1.8
WHY	Whitehorse	6.58	146	Pn	Pn	13 03 10.2	-1.5
WHY				Sg	Sg	13 04 58.8	-7.3
WHY				Trac		13 05 13.6	
	comp=Z,94nm,0.7s						
WHY	Whitehorse	6.58	146	P	Pn	13 03 10.0	-1.7
WHY				Pn	Pn	13 03 10.2	-1.5
WHY				eSg	Sg	13 04 58.8	-7.3
PNL	Peninsula	6.81	168	P	Pn	13 03 15.3	+0.4
TTA	Tatalina	6.82	246	eP	Pn	13 03 13.8	-1.2
TT01	Tatalina	6.83	246	P	Pn	13 03 13.3	-1.9
SLKM	Skilak Lake	6.84	215	ePn	Pn	13 03 16.8	+1.4
SVW2	Sparrevohn	7.90	235	P	Pn	13 03 29.4	-0.3
BESE	Bessie Mountai	8.50	153	P	Pn	13 03 38.5	+0.5
KDAK	Kodiak Island	9.84	214	Pn	Pn	13 03 56.6	+0.3
	0.4nm,0.3s,baz=126,slow=21,SNR=7.6						
SIT	Sitka	9.87	157	ePn	Pn	13 03 57.4	+0.6
FNBB	Fort Nelson	11.54	121	Pn	Pn	13 04 19.2	-0.4
FNBB				Sg	Sx	13 07 31.9	
FNBB				Trac		13 07 51.4	
	comp=Z,17nm,1.1s						
FNBB	Fort Nelson	11.54	121	Pn	Pn	13 04 19.2	-0.4
FNBB				Sg	Sx	13 07 31.9	
YKW3	Yellowknife Ar	12.46	95	Pn	Pn	13 04 28.1	-4.1
YKW3				Pn	Pn	13 04 28.1	-4.1
YKW3				Sn	Sn	13 06 38.8	-12
YKW3				Sn	Sn	13 06 38.9	-12
YKW3				Trac		13 07 21.6	
	comp=Z,22nm,0.5s						
YKW3				Trac		13 07 21.7	
	comp=Z,24nm,0.5s						
YKW3	Yellowknife Ar	12.46	95	ePn	Pn	13 04 28.1	-4.1
YKA	Yellowknife Ar	12.49	95	Pn	Pn	13 04 28.5	-4.3
	baz=295,slow=13,SNR=103						
YKA				Sn	Sn	13 06 39.8	-12
	baz=294,slow=22,SNR=6.5						
YKA				Lg		13 08 03.7	
	baz=312,slow=22,SNR=2.3						
YKA				LR	LR	13 09 34.7	
	comp=Z,90nm,18.9s,baz=275,slow=38						
BMBC	Bull Mountain

ELK LR LR 13 19 45.1
comp=Z,83nm,20.3s,MS3.4,baz=209,slow=37
ELK Elko 29.76 136 *eP* **P 13 07 41.9 +0.3**
1.3nm,0.8s,mb3.7
DUG Dugway 30.97 133 *eP* **P 13 07 51.5 -0.7**
4.5nm,0.9s,mb4.3
NVAR Mina Array Bea 31.12 142 P **P 13 07 55.5 +1.9**
2.0nm,0.6s,mb4.1,baz=337,slow=7.5,SNR=29
SRU San Rafael 32.66 131 *eP* **P 13 08 08.5 +1.4**
3.1nm,0.6s,mb4.4
ARUT Antelope Range 33.02 136 P **P 13 08 11.8 +1.5**
PV10 Paradox Valley 33.79 129 *eP* **P 13 08 18.1 +1.2**
SDCO Great Sand Dun 35.50 125 *eP* **P 13 08 32.4 +0.6**
1.0nm,0.5s,mb4.0
CBKS Cedar Bluff 36.53 117 *eP* **P 13 08 41.4 +0.8**
8.0nm,0.8s,mb4.6
ANMO Albuquerque 37.75 128 *eP* **P 13 08 52.6 +1.7**
2.9nm,0.9s,mb4.0
WMOK Wichita Mounta 40.52 119 *eP* **P 13 09 14.5 +0.4**
1.7nm,0.6s,mb3.9
WVT Waverly 43.35 106 *eP* **P 13 09 36.9 -0.4**
1.8nm,0.4s,mb4.2
ARCES ARCESS Array B 44.14 6 P **P 13 09 44.4 +0.8**
3.9nm,0.9s,mb4.1,baz=2.2,slow=9.2,SNR=4.4
OXF Oxford 44.17 109 *eP* **P 13 09 44.5 +0.6**
35nm,1.0s,mb5.0
MDJ Mudanjiang 49.48 290 P **P 13 10 21.1 -4.3**
MDJ AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,49nm,3.3s
CN2 Changchun 51.73 293 *eP* **P 13 10 40.3 -2.1**
FINES FINESS Array B 52.24 7 P **P 13 10 46.3 +0.1**
comp=Z,1.0nm,0.4s,mb4.1,baz=4.1,slow=8.4,SNR=29
SONM Songino Array 54.76 310 P **P 13 11 06.5 +1.9**
comp=Z,0.2nm,0.6s,mb3.3,baz=34,slow=5.1,SNR=3.6
ZRNK Zerenda 58.70 338 P **P 13 11 31.3 -1.3**
comp=Z,0.8nm,0.8s,mb3.8
MKAR Makanchi Array 62.16 327 P **P 13 11 55.6 -0.7**
comp=Z,0.1nm,0.5s,mb3.2,baz=45,slow=8.1,SNR=6.1
NJ2 Nanjing 64.52 292 *eP* **P 13 12 12.6 +0.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 Chengdu 70.94 304 *eP* **P 13 12 51.3 -1.1**

IDC 18 13:17:49.4±2.4, 643N×12748E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=178.3km s-min=24.3km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.06**	**166**	P	P	13 23 33.7	+0.2
	0.5nm,0.4s,baz=346,slow=11,SNR=10						
ASAR	**Alice Springs**	**30.56**	**168**	P	P	13 24 05.1	+0.5
	0.4nm,0.3s,baz=348,slow=7.4,SNR=8.6						
MKAR	**Makanchi Array**	**55.81**	**324**	P	P	13 27 28.4	+0.1
	0.6nm,0.5s,baz=113,slow=7.3,SNR=25						

IDC 18 13:21:08.7±6.4, 631S×1130W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, MS3.7/3, Ms1 3.7/3, ms1mx3.3/21, Error ellipse: s-maj=205.5km s-min=97.9km az=145.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**23.24**	**34**	P	P	13 26 17.6	0.0
	4.5nm,1.1s,baz=220,slow=9.6,SNR=12						
MDT	**Midelt**	**39.42**	**9**	P	P	13 28 44.2	+3.9
	2.6nm,0.8s,baz=247,slow=12,SNR=4.5						
KMBO	**Kilima Mbogo**	**48.70**	**86**	LR	LR	13 49 28.1	
	comp=Z,51nm,18.9s,baz=86,slow=35						
LPAZ	**La Paz**	**56.45**	**255**	LR	LR	13 53 18.2	
	comp=Z,41nm,18.2s,baz=40,slow=34						
GERES	**GERESS Array B**	**59.12**	**19**	P	P	13 31 11.6	+0.7
	1.0nm,0.7s,baz=187,slow=6.5,SNR=7.5						
GERES				LR	LR	13 55 35.0	
	comp=Z,127nm,18.2s,baz=270,slow=35						
BRTR	**Keskin Array B**	**61.75**	**38**	P	P	13 31 29.6	+0.6
	0.5nm,0.5s,baz=242,slow=6.9,SNR=3.6						
AKASG	**Malin Array Be**	**66.65**	**27**	P	P	13 32 00.9	-0.2
	0.8nm,0.7s,baz=226,slow=7.0,SNR=6.7						
FINES	**FINESS Array B**	**73.51**	**18**	P	P	13 32 42.6	-0.6
	1.0nm,0.6s,baz=229,slow=8.8,SNR=5.8						

IDC 18 13:25:36.3±1.9, 680S×12902E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.7/13, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=114.3km s-min=30.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.04**	**159**	Pn	Pn	13 28 56.6	0.0
	0.3nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	13 31 19.3	-14
	0.8nm,0.3s,baz=330,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**17.41**	**165**	P	Pn	13 29 41.0	+0.3
	0.4nm,0.3s,baz=340,slow=11,SNR=46						
ASAR				S	Sn	13 32 41.8	-13
	0.2nm,0.3s,baz=315,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	13 36 34.5	+0.2
	0.7nm,0.5s,baz=116,slow=8.1,SNR=19						

IDC 18 13:32:55.3±5.8, 1910N×14739E, h65km±55km, mb3.1/4, mb1 3.3/4, mb1mx3.2/17, mbtmp3.4/4, ML4.2/1, Error ellipse: s-maj=49.8km s-min=28.9km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.99**	**204**	P	Pn	13 34 20.5	-0.8
	6.2nm,0.3s,baz=50,slow=7.9,SNR=3.3						
GUMO				S	Sn	13 35 30.2	+1.7
	5.1nm,0.3s,baz=50,slow=23,SNR=1.8						
WRA	**Warramunga Arr**	**40.85**	**199**	P	P	13 40 30.5	-0.2
	0.4nm,0.6s,baz=22,slow=8.4,SNR=5.2						
SONM	**Songino Array**	**43.84**	**320**	P	P	13 40 54.8	-0.2
	0.2nm,0.4s,baz=132,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**59.34**	**314**	P	P	13 42 50.8	+0.2
	0.3nm,0.6s,baz=90,slow=8.5,SNR=8.2						
YKA	**Yellowknife Ar**	**76.89**	**28**	P	P	13 44 40.6	+0.2
	0.2nm,0.5s,baz=288,slow=5.3,SNR=4.2						

*LDG **18** 13:35:04.4±0.1, 4398N×748E, h3km, Md2.0/1, Ml1.8/6, Error ellipse: s-maj=2.4km s-min=1.4km az=72.0*

STR 18 13:35:05.1±0.1, 4398N×742E, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.02**	**19**	Pg	Pg	13 35 05.8	+0.2
AUTN				Sg	Sg	13 35 06.6	+0.7
SAOF	**Saorge**	**0.10**	**86**	Pg	Pg	13 35 06.9	-0.1
SAOF				Sg	Sg	13 35 08.7	+0.4
SBF	**Sospel**	**0.12**	**175**	*e*Pg	Pg	13 35 07.3	-0.1
SBF				*e*Sg	Sg	13 35 09.4	+0.5
	115nm,0.2s						
MVIF	**Mont Vial**	**0.21**	**247**	Pg	Pg	13 35 09.2	0.0
MVIF				Sg	Sg	13 35 12.1	+0.2
REVF	**Revere**	**0.24**	**189**	Pg	Pg	13 35 10.4	+0.6
FRF	**La Foret Royal**	**0.70**	**233**	*e*Pg	Pg	13 35 18.2	-0.3
FRF				*e*Sg	Sg	13 35 27.7	+0.1
	4.5nm,0.2s						
MBDF	**Montbardon**	**0.88**	**328**	*e*Pg	Pg	13 35 21.6	-0.4
MBDF				*e*Sg	Sg	13 35 33.2	-0.2
	5.4nm,0.4s						
LMR	**La Mourre**	**0.92**	**226**	*e*Pg	Pg	13 35 22.1	-0.7
LMR				*e*Sg	Sg	13 35 34.2	-0.6
	5.8nm,0.2s						
SMRF	**Simiane la Rot**	**1.33**	**270**	*e*Sg	Sg	13 35 47.5	-0.4
	4.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.45**	**311**	*e*Pg	Pg	13 35 32.3	-0.6
ORIF				*e*Sg	Sg	13 35 50.9	-0.7
	1.5nm,0.3s						
LPG	**La Plagne**	**1.59**	**343**	*e*Sg	Sg	13 35 55.3	-0.9
	0.5nm,0.2s						
PGF	**Pioggiola**	**1.84**	**141**	*e*Pn	Pn	13 35 34.4	-3.3
PGF				*e*Sn	Sn	13 35 56.8	-4.7
VIVF	**Saint-Julien-l**	**2.15**	**295**	*e*Pn	Pn	13 35 40.4	-1.6
VIVF				*e*Sn	Sn	13 36 06.4	-2.9
	0.6nm,0.2s						

IDC 18 13:36:31.1±25.0, 1663S×17312W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/17, mbtmp4.3/4, Error ellipse: s-maj=478.1km s-min=163.9km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.65**	**259**	P	P	13 43 56.5	+0.3
	2.0nm,0.6s,baz=108,slow=6.4,SNR=4.7						
STKA	**Stephens Creek**	**43.67**	**241**	P	P	13 44 37.9	+0.4
	2.0nm,0.4s,baz=107,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**49.84**	**258**	P	P	13 45 26.1	+0.2
	1.1nm,0.5s,baz=96,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**50.00**	**253**	P	P	13 45 27.7	+0.6
	10nm,0.6s,baz=88,slow=8.4,SNR=250						

FUNV 18 13:39:19.5, 907N×7020W, h0km, MW3.7, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.78**	**56**	⇑*i*P	Pg	13 39 34.4	-0.1
SANV				*e*S	Sg	13 39 45.0	+0.4
SOCV	**Socops**	**1.02**	**220**	*e*P	Pg	13 39 38.5	-0.5
SOCV				*e*S	Sg	13 39 53.1	+0.9
VIGV	**El Vigia**	**1.18**	**259**	⇑*i*P	Pg	13 39 41.8	-0.3
VIGV				*e*S	Sg	13 39 57.2	-0.1
QARV	**Quebrada Arrib**	**1.18**	**344**	*e*P	Pg	13 39 42.0	0.0
QARV				*e*S	Sg	13 39 58.1	+0.8
TEPV	**Terepaima**	**1.33**	**48**	*e*P	Pg	13 39 44.0	-1.0
TEPV				*e*S	Sg	13 40 03.0	+0.7
SIQV	**Siquisique**	**1.62**	**14**	*e*P	Pn	13 39 49.5	+0.3
SIQV				*e*S	Sn	13 40 10.7	-0.1
BAUV	**El Baul**	**2.13**	**93**	*e*P	Pn	13 39 55.5	-0.8
BAUV				*e*S	Sn	13 40 22.6	-0.8
ELOV	**Elorza**	**2.17**	**161**	*e*P	Pn	13 39 57.2	+0.3
ELOV				*e*S	Sn	13 40 23.6	-0.8
VIRV	**Villa del Rosa**	**2.60**	**303**	*e*P	Pn	13 40 02.0	-0.8
VIRV				*e*S	Sn	13 40 34.0	-1.2
MONV	**Montecano**	**2.88**	**4**	*e*S	Sn	13 40 40.3	-1.6
CAOV	**Caicara del Or**	**4.21**	**114**	*e*P	Pn	13 40 22.9	-1.9
PAYV	**Puerto Ayacuch**	**4.41**	**145**	*e*P	Pn	13 40 26.5	-1.2
PAYV				*e*S	Sn	13 41 15.9	-3.9
LUEV	**Luepa**	**9.23**	**110**	*e*P	Pn	13 41 31.6	-2.3

*NEIC **18** 13:44:49.3, 3884N×2166E, h35km, MD3.3(ATH), After ATH.*
*ATH **18** 13:44:49.3, 3884N×2166E, h35km±3km, MD3.3/4*
*ISCJB **18** 13:44:50.6±0.8, 3893N±005×2149E±004, h14km±7km, Error ellipse: s-maj=8.4km s-min=4.9km az=16.5*
*CSEM **18** 13:44:51.6±0.1, 3893N×2148E, h15km, ML2.7, Error ellipse: s-maj=2.7km s-min=1.6km az=175.0*
*THE **18** 13:44:52.0, 3896N×2149E, h2km, ML2.7*
ISC 18 13:44:51.0±0.7, 3892N±005×2150E±005, h20km±7km, n12, σ0°64/17, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.24**	**90**	⇑*i*PB	**Pg**	**13 44 56.0**	**-0.7**
EVR				*e*SB	**Sg**	**13 45 00.6**	**0.0**
AGG	**Agios Georgios**	**0.66**	**80**	*e*Pg	**Pg**	**13 45 04.7**	**+0.7**
AGG				*e*Sg	**Sg**	**13 45 13.9**	**+1.1**
LKD	**Levkas**	**0.70**	**253**	*e*Pg	**Pg**	**13 45 05.5**	**+0.2**
LKD	**Levkas**	**0.70**	**253**	*e*Pg	**Pg**	**13 45 04.9**	**+0.2**
MEV	**Metsovon**	**0.89**	**346**	*e*Pg	**Pg**	**13 45 08.2**	**-0.3**
MEV				*e*Sg	**Sg**	**13 45 20.3**	**0.0**
JAN	**Janina**	**0.90**	**326**	*e*PN	**Pn**	**13 45 08.8**	**+0.3**
VLS	**Valsamata**	**1.03**	**224**	⇑*i*PN	**Pn**	**13 45 09.8**	**-0.5**
IGT	**Igoumenitsa**	**1.10**	**305**	*e*Pg	**Pg**	**13 45 11.9**	**-0.4**
IGT				*e*Sg	**Sg**	**13 45 27.5**	**+0.8**
XOR	**Xorichti**	**1.39**	**71**	*e*Pg	**Pg**	**13 45 17.6**	**-0.3**
LIT	**Litokhoron**	**1.41**	**33**	*e*Pg	**Pg**	**13 45 17.1**	**-1.2**
LIT				*e*Sg	**Sg**	**13 45 37.0**	**+0.4**
KEK	**Kerkira**	**1.54**	**302**	*e*PN	**Pn**	**13 45 18.3**	**+0.9**
FNA	**Florina**	**1.87**	**357**	*e*Pb	**Pb**	**13 45 23.6**	**-0.9**

*PGC **18** 13:48:20.1, 6639N×14278W, h1km, ML3.8/2, Eastern Alaska.*
*ISCJB **18** 13:48:21.3±0.4, 6629N±004×142.17W±009, h10km, mb3.5/3, Error ellipse: s-maj=5.6km s-min=4.9km az=92.2*
*IDC **18** 13:48:21.5±1.1, 6637N×14237W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/20, mbtmp3.6/6, ML2.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=20.0km s-min=10.7km az=153.0*
*NEIC **18** 13:48:23.6, 6624N×14225W, h21km, ML3.8(PGC), ML4.0(AEIC), After AEIC.*
ISC 18 13:48:22.4±0.4, 6632N±003×14216W±008, h10km, n35, σ1°11/50, mb3.5/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.46**	**320**	P	**Pn**	**13 48 48.7**	**-0.1**
BM3				S	**Sn**	**13 49 08.3**	**+0.3**
IL1	**Eielson Array**	**2.51**	**234**	P	**Pn**	**13 49 02.4**	**-0.8**
IL1				S	**Sn**	**13 49 32.5**	**-1.3**
ILAR	**Eielson Array**	**2.51**	**234**	Pn	**Pn**	**13 49 02.4**	**-0.8**
	3.1nm,0.3s,baz=44,slow=14,SNR=165						
ILAR				Lg		13 49 37.6	
	62nm,0.3s,baz=47,slow=30,SNR=27						
DAWY	**Dawson**	**2.55**	**151**	Pn	**Pn**	**13 49 03.5**	**-0.2**
DAWY				Sn	**Sn**	**13 49 38.1**	**+3.2**
DAWY				Trac		13 49 48.0	
	comp=Z,193nm,0.5s						
DAWY	**Dawson**	**2.55**	**151**	**Pn**	**Pn**	**13 49 03.5**	**-0.2**
DAWY				*e*Sn	**Sn**	**13 49 38.1**	**+3.2**
COLA	**College**	**2.77**	**241**	P	**Pn**	**13 49 06.5**	**-0.4**
DOT	**Dot Lake**	**2.81**	**198**	P	**Pn**	**13 49 07.1**	**-0.1**
COLD	**Coldfoot**	**3.31**	**290**	P	**Pn**	**13 49 15.2**	**+0.9**
MENT	**Mentasta**	**3.46**	**192**	P	**Pn**	**13 49 16.5**	**+0.1**
PAX	**Paxson**	**3.65**	**204**	P	**Pn**	**13 49 19.5**	**+0.5**
MCK	**McKinley**	**3.87**	**231**	P	**Pn**	**13 49 21.3**	**-0.7**
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**13 49 22.8**	**+0.5**
	2.6nm,0.3s,baz=243,slow=14,SNR=55						
INK				Sn	**Sn**	**13 50 08.3**	**+0.3**
	5.3nm,0.3s,baz=252,slow=4.3,SNR=5.7						
INK				Lg		13 50 24.9	
	6.5nm,0.3s,baz=160,slow=18,SNR=5.2						
INK	**Inuvik**	**3.90**	**55**	Pn	**Pn**	**13 49 23.0**	**+0.7**
INK				Sn	**Sn**	**13 50 08.1**	**+0.1**
INK				Sg	**Sg**	**13 50 24.9**	**-2.5**
INK				Trac		13 50 31.6	
	comp=Z,95nm,0.8s						
INK	**Inuvik**	**3.90**	**55**	*e*Pn	**Pn**	**13 49 22.9**	**+0.7**
INK				*e*Sn	**Sn**	**13 50 08.0**	**-0.1**
TRF	**Thorofare Moun**	**4.50**	**234**	P	**Pn**	**13 49 30.4**	**-0.2**
KTH	**Kantishna Hill**	**4.65**	**237**	P	**Pn**	**13 49 31.8**	**-0.9**
IM3	**Indian Mountai**	**4.72**	**271**	P	**Pn**	**13 49 32.4**	**-1.2**
SML	**Sawmill**	**5.28**	**214**	*e*Pn	**Pn**	**13 49 42.8**	**+1.5**
DIV	**Divide**	**5.46**	**199**	*e*Pn	**Pn**	**13 49 43.7**	**0.0**
BMRM	**Bremner River**	**5.49**	**193**	P	**Pn**	**13 49 45.7**	**+1.6**
PMR	**Palmer**	**5.65**	**216**	*e*P	**Pn**	**13 49 50.5**	**+4.1**
HYT	**Haines Junctio**	**5.90**	**157**	Pn	**Pn**	**13 49 50.2**	**+0.4**
HYT				Sg	**Sg**	**13 51 27.0**	**-4.7**
HYT				Trac		13 51 36.1	
	comp=Z,56nm,0.8s						
HYT	**Haines Junctio**	**5.90**	**157**	**Pn**	**Pn**	**13 49 50.2**	**+0.4**
HYT				*e*Sg	**Sg**	**13 51 27.0**	**-4.7**
WHY	**Whitehorse**	**6.55**	**147**	Pn	**Pn**	**13 49 58.5**	**-0.2**
WHY				Sg	**Sg**	**13 51 51.1**	**-1.5**
WHY				Trac		13 51 54.9	
	comp=Z,11nm,0.5s						
WHY	**Whitehorse**	**6.55**	**147**	Pn	**Pn**	**13 49 58.5**	**-0.2**
WHY				*e*Sg	**Sg**	**13 51 51.1**	**-1.5**
SLKM	**Skilak Lake**	**6.86**	**215**	*e*Pn	**Pn**	**13 50 03.3**	**+0.3**
YKW3	**Yellowknife Ar**	**12.41**	**95**	Pn	**Pn**	**13 51 15.6**	**-3.6**
YKW3				Pn	**Pn**	**13 51 18.4**	**-0.7**
YKW3				Trac		13 53 30.9	
	comp=Z,3.0nm,0.5s						
YKW3				Trac		13 54 09.3	
	comp=Z,4.0nm,0.5s						
YKW3	**Yellowknife Ar**	**12.41**	**95**	*e*Pn	**Pn**	**13 51 18.4**	**-0.7**
YKA	**Yellowknife Ar**	**12.45**	**95**	Pn	**Pn**	**13 51 16.2**	**-3.4**
	baz=298,slow=13,SNR=4.9						
YKA				Sn	**Sn**	**13 53 29.1**	**-9.3**
	baz=293,slow=23,SNR=7.0						
YKA	**Yellowknife Ar**	**12.45**	**95**	Pn	**Pn**	**13 51 16.2**	**-3.4**
YKA				Sn	**Sn**	**13 53 29.1**	**-9.3**
RES	**Resolute Bay**	**17.30**	**41**	Pn	**Pn**	**13 52 26.8**	**+2.8**
RES				Trac		13 55 32.7	
RES	**Resolute Bay**	**17.30**	**41**	*e*Pn	**Pn**	**13 52 26.8**	**+2.8**
PDAR	**Pinedale Array**	**29.61**	**127**	P	**P**	**13 54 29.2**	**+1.6**
	0.6nm,0.8s,mb3.4,baz=352,slow=6.4,SNR=4.9						
NVAR	**Mina Array Bea**	**31.09**	**142**	P	**P**	**13 54 42.8**	**+2.0**
	0.4nm,0.6s,mb3.4,baz=336,slow=7.9,SNR=3.4						
FINES	**FINESS Array B**	**52.24**	**7**	P	**P**	**13 57 33.7**	**0.0**
	1.3nm,1.0s,mb3.8,baz=349,slow=14,SNR=4.1						

CASC 18 13:51:45.6±1.9, 1106N×8818W, h35km±999km, MD4.0, ML3.5, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.85**	**43**	⇑*e*P	Pn	13 52 15.6	+0.8
COPN	**Copaltepe**	**1.92**	**54**	⇓*e*P	Pn	13 52 16.3	+0.6
COPN				*e*S	Sn	13 52 39.8	+1.2
CRIN	**San Cristobal**	**1.97**	**34**	⇑*e*P	Pn	13 52 15.5	-1.0
MIRN	**Miramar**	**1.99**	**46**	*e*P	Pn	13 52 17.4	+0.7
MIRN				*e*S	Sn	13 52 39.5	-0.9
TEL3	**Telica 3**	**2.00**	**41**	⇑*e*P	Pn	13 52 17.2	+0.4
TELN	**Telica**	**2.03**	**40**	*e*P	Pn	13 52 17.5	+0.2
TELN				*e*S	Sn	13 52 42.9	+1.6
CNGN	**Cerro Negro**	**2.04**	**45**	*e*P	Pn	13 52 17.6	+0.2
CNGN				*e*S	Sn	13 52 41.5	-0.1
MOMJ	**Momotombo**	**2.09**	**50**	*e*P	Pn	13 52 19.5	+1.4
APYN	**Apoyeque**	**2.14**	**57**	*e*P	Pn	13 52 19.6	+0.8
MGAN	**Managua**	**2.18**	**60**	*e*S	Sn	13 52 46.3	+1.2
	comp=N,445nm,0.4s						
WILN	**Americas 2**	**2.24**	**60**	*e*S	Sn	13 52 47.7	+1.1
APON	**Apoyo**	**2.24**	**67**	*e*P	Pn	13 52 19.8	-0.4
PRS1	**Puriscal**	**3.95**	**105**	*e*P	Pn	13 52 43.5	-0.2
LAJ	**Bijagual**	**4.16**	**106**	*e*P	Pn	13 52 42.0	-4.6
BUS	**Buena Vista**	**4.60**	**109**	*e*P	Pn	13 52 53.6	+1.0

*ISCJB **18** 13:56:20.9±0.8, 7442N±004×103E±03, h10km, mb3.3/3, Error ellipse: s-maj=13.2km s-min=5.1km az=169.2*
*IDC **18** 13:56:21.2±1.6, 7421N×863E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/19, mbtmp3.4/5, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/18, Error ellipse: s-maj=38.8km s-min=20.1km az=51.0*
*HEL **18** 13:56:24.0±0.3, 7449N×965E, h10km, ML3.2(BER), ML2.4(NAO)*
*BER **18** 13:56:25.2±6.8, 7442N×1067E, h0km±70km, MD2.8, ML2.4, ML2.4(NAO)*
*NAO **18** 13:56:27.1±4.8, 7445N×1060E, h37km±80km, ML2.4*
ISC 18 13:56:22.5±0.8, 7443N±004×100E±03, h10km, n21, σ1°20/30, mb3.3/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**2.94**	**25**	*e*P	**Pn**	**13 57 09.4**	**+0.3**
HSP				*e*S	**Sn**	**13 57 39.8**	**-4.7**
HSP	**Hornsund**	**2.94**	**25**	P	**Pn**	**13 57 09.4**	**+0.2**
HSP				S	**Sn**	**13 57 39.8**	**-4.7**
SPA0	**Spitsbergen Ar**	**4.06**	**19**	Pn	**Pn**	**13 57 25.8**	**+1.1**
	baz=199,slow=14						
SPA0				Sn	**Sn**	**13 58 11.6**	**-0.6**
	baz=165,slow=18						
SPA0	**Spitsbergen Ar**	**4.06**	**19**	*e*P	**Pn**	**13 57 25.8**	**+1.1**
SPA0				*e*S	**Sn**	**13 58 11.6**	**-0.6**
HOPEN	**Hopen**	**4.31**	**54**	*e*P	**Pn**	**13 57 29.4**	**+1.4**
HOPEN				*e*S	**Sn**	**13 58 16.9**	**-1.5**
HOPEN				AML	AML	13 58 22.4	
	comp=N,112nm,0.2s						
KBS	**Kingsbay**	**4.55**	**5**	*e*P	**Pn**	**13 57 32.1**	**+0.8**
KBS				*e*S	**Sn**	**13 58 22.8**	**-1.4**
KBS	**Kingsbay**	**4.55**	**5**	*e*P	**Pn**	**13 57 32.1**	**+0.8**
KBS				*e*S	**Sn**	**13 58 23.4**	**-0.8**
KBS				AML	AML	13 58 27.8	
	comp=Z,2.8nm,0.5s						
KIF	**Kilpisjarvi**	**6.41**	**143**	*e*P	**Pn**	**13 57 59.0**	**+2.1**
ARA0	**ARCESS Array S**	**6.85**	**128**	Pn	**Pn**	**13 58 02.5**	**-0.4**
	baz=326,slow=12						
ARA0				Sn	**Sn**	**13 59 15.2**	**-5.8**
	baz=333,slow=28						
ARA0	**ARCESS Array S**	**6.85**	**128**	*e*P	**Pn**	**13 58 02.5**	**-0.4**
ARA0				*e*		13 59 15.2	
ARCES	**ARCESS Array B**	**6.85**	**128**	Pn	**Pn**	**13 58 03.9**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=325,slow=11,SNR=24						
ARCES				Sn	**Sn**	**13 59 13.6**	**-7.4**
	comp=Z,0.2nm,0.3s,baz=318,slow=20,SNR=2.4						
ARCES				LR	LR	14 00 42.1	
	comp=Z,108nm,21.6s,baz=194,slow=37						
KEV	**Kevo**	**7.01**	**123**	*e*P	**Pn**	**13 58 04.6**	**-0.4**
SGF	**Sodankyl**	**8.81**	**134**	*e*P	**Pn**	**13 58 30.3**	**+0.5**
KU4	**Liikasenvaara**	**10.35**	**131**	*e*P	**Pn**	**13 58 50.5**	**-0.5**
KJN	**Kajaani**	**12.05**	**140**	*e*P	**Pn**	**13 59 14.3**	**+0.1**
NB2	**NORSAR Subarra**	**13.46**	**177**	*e*P	**Pn**	**13 59 31.1**	**-2.3**
JOF	**Joensuu**	**13.77**	**136**	*e*P	**Pn**	**13 59 36.6**	**-1.2**
FINES	**FINESS Array B**	**14.28**	**147**	Pn	**Pn**	**13 59 44.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=5.6						
ILAR	**Eielson Array**	**40.23**	**345**	P	**P**	**14 03 59.9**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.2,baz=360,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**40.88**	**90**	P	**P**	**14 04 07.5**	**+2.8**
	comp=Z,0.4nm,0.9s,mb3.0,baz=4.3,slow=5.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**61.44**	**189**	P	**P**	**14 06 36.7**	**-2.3**
	comp=Z,0.2nm,0.5s,mb3.5,baz=4.2,slow=5.9,SNR=3.1						

DHMR 18 13:57:17.5±1.1, 1163N×4320E, h8km±10km, ML3.6, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.82**	**29**	⇑*i*P	Pn	13 57 50.5	+1.3
TRBA				*i* S	Sn	13 58 16.1	+3.5
TRBA				AML	AML	13 58 31.2	
	comp=N,641nm,0.5s						
TRBA	**At Turbah**	**1.82**	**29**

*NEIC **18** 14:22:11.5±1.6, 2376N×12161E, h9km±8km, mb3.8/5, ML4.5(TAP), Error ellipse: s-maj=13.2km s-min=10.0km az=219.0*
NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in Nan-t'ou and T'ai-chung; [1 TAP] in Chang-hua, I-lan and T'ai-tung Counties.
*ISCJB **18** 14:22:12.4±1.2, 2382N±006×12145E±003, h21km±7km, mb3.8/12, Error ellipse: s-maj=9.7km s-min=4.2km az=18.9*
*JMA **18** 14:22:13.9±0.4, 2400N×12142E, h84km, M3.5*
*BJI **18** 14:22:14.8, 2404N×121.19E, h4km, mB4.5, mb4.1, ML3.8, Ms3.9*
*IDC **18** 14:22:16.9±4.5, 2381N×12175E, h50km±47km, mb3.5/7, mb1 3.7/8, mb1mx3.5/22, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=42.1km s-min=17.6km az=62.0*

ISC 18 14:22:12.3±1.3, 2382N±006×12147E±003, h10km±6km, n30, σ1§09/42, mb3.8/12, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	Ninganchiao	0.37	18	ePg	Pg	14 22 20.6	+0.9
NACB				eSg	Sg	14 22 24.6	0.0
YHNB	Yeheng	0.85	354	ePg	Pg	14 22 28.9	+0.2
YHNB				eSg	Sg	14 22 38.6	-1.3
TATO	Taipei	1.15	1	ePg	Pg	14 22 34.1	-0.4
TATO				eSg	Sg	14 22 46.4	-3.0
YOJ	Yonaguni jima	1.55	65	P	Pn	14 22 40.0	+0.1
YOJ				eS	Sn	14 23 00.3	+0.3
IRIF	Iriomote-Funau	2.13	76	P	Pn	14 22 48.2	+0.3
IRIF				eS	Sn	14 23 14.1	-0.3
HATJ	Hateruma jima	2.15	83	P	Pn	14 22 48.9	+0.7
HATJ				eS	Sn	14 23 15.0	+0.1
JKRS	Kuro-shima	2.36	79	P	Pn	14 22 52.2	+1.1
JKRS				eS	Sn	14 23 21.0	+0.9
JIJ	Ishigaki jima	2.50	77	P	Pn	14 22 53.2	+0.2
JIJ				eS	Sn	14 23 21.9	-1.7
QZH	Quanzhou	2.85	294	P	Pn	14 22 57.8	0.0
QZH				S	Sn	14 23 29.9	-2.3
QZH				Smax			
	comp=N,700nm,0.8s						
QZH				Smax			
	comp=E,410nm,0.8s						
JTJ	Tarama	3.06	74	P	Pn	14 23 01.2	+0.5
JTJ				eS	Sn	14 23 37.8	+0.4
JMJ	Miyako jima 2	3.63	73	eS	Sn	14 23 50.1	-1.2
JOGS	Gusukube	3.71	75	P	Pn	14 23 11.1	+1.4
JOGS				eS	Sn	14 23 52.9	-0.5
JKE	Kume jima 2	5.43	62	P	Pn	14 23 34.0	+0.7
JOW	Kunigami	6.85	63	P	Pn	14 23 51.9	-0.9
	comp=E,4.6nm,0.3s,baz=226,slow=11,SNR=13						
NJ2	Nanjing	8.52	345	eP	Pn	14 24 19.3	+3.6
NJ2				AP		14 24 23.5	
NJ2				XP		14 24 25.4	
NJ2				S	Sn	14 25 54.8	+2.9
NJ2				XS		14 25 58.5	
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				Smax			
	comp=N,170nm,0.8s						
NJ2				Smax			
	comp=E,130nm,0.8s						
NJ2				LR	LR		
	comp=N,560nm,13.2s						
NJ2				LR	LR		
	comp=E,410nm,6.3s						
KS15	Wonju Array Si	14.65	21	eP	Pn	14 25 39.7	+0.2
ULN	Ulaanbaatar	26.60	338	P	P	14 27 51.3	+0.6
	comp=E,1.2nm,0.7s,mb3.5						
SONM	Songino Array	26.80	337	P	P	14 27 53.8	+1.2
	comp=E,1.0nm,0.8s,mb3.4,baz=154,slow=8.6,SNR=8.7						
MKAR	Makanchi Array	38.78	316	P	P	14 29 38.1	+1.1
	comp=E,1.7nm,0.7s,mb3.9,baz=108,slow=9.8,SNR=26						
ZAL	Zalesovo	40.70	327	P	P	14 29 52.5	-0.4
	comp=E,1.1nm,0.7s,mb3.6,baz=355,slow=6.9,SNR=6.8						
AAK	Ala-Archa	42.93	308	P	P	14 30 13.0	+1.7
	comp=E,1.5nm,0.8s,mb3.8						
WRA	Warramunga Arr	45.27	163	P	P	14 30 29.5	-0.5
	comp=E,0.3nm,0.4s,mb3.5,baz=345,slow=8.8,SNR=4.5						
BVAR	Borovoye Array	48.12	321	P	P	14 30 53.5	+1.2
	comp=E,0.9nm,0.5s,mb4.0,baz=97,slow=8.9,SNR=9.0						
BRVK	Borovoye	48.19	321	P	P	14 30 52.6	-0.3
ASAR	Alice Springs	48.72	165	P	P	14 30 55.2	-1.7
	comp=E,0.3nm,0.3s,mb3.8,baz=341,slow=7.1,SNR=4.3						
ZRNK	Zerenda	48.90	320	eP	P	14 30 58.4	+0.1
	comp=E,1.3nm,0.7s,mb4.1						
ARU	Arti	55.55	323	P	P	14 31 48.0	+0.2
PMR	Palmer	69.07	31	eP	P	14 33 16.0	-2.3
	comp=E,2.7nm,0.8s,mb4.2						
INK	Inuvik	73.47	22	eP	P	14 33 43.5	-1.5
	comp=E,0.6nm,0.8s,mb3.6						
YKA	Yellowknife Ar	83.20	23	P	P	14 34 37.1	-1.6
	comp=E,0.5nm,0.8s,mb3.6,baz=315,slow=5.0,SNR=12						

*IDC **18** 14:33:22.9±1.9, 256N×9539E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/31, Error ellipse: s-maj=64.6km s-min=19.6km az=52.0*
*NEIC **18** 14:33:27.2±1.1, 267N×9546E, h30km, mb3.9/2, Error ellipse: s-maj=25.2km s-min=12.9km az=215.0*
*ISCJB **18** 14:33:29.6±5.0, 28N±02×957E±03, h62km±37km, mb3.8/8, Error ellipse: s-maj=60.1km s-min=19.7km az=115.8*

ISC 18 14:33:31.2±5.0, 28N±02×957E±03, h57km±38km, n12, σ0§84/12, mb3.8/8, MS3.4/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	3.27	90	Pn	Pn	14 34 19.8	0.0
	baz=303,slow=12						
KULM	Kulim	5.56	63	ePn	Pn	14 34 51.3	0.0
KSM	Kuching	14.70	95	P	Pn	14 36 50.9	-4.9
WRA	Warramunga Arr	44.19	122	P	P	14 41 34.3	-0.2
	0.6nm,0.6s,mb3.5,baz=299,slow=9.1,SNR=4.2						
MKAR	Makanchi Array	45.33	347	P	P	14 41 44.1	+0.6
	1.8nm,0.7s,mb4.0,baz=161,slow=8.0,SNR=29						
KS15	Wonju Array Si	45.42	37	P	P	14 41 43.3	-0.9
ASAR	Alice Springs	45.59	127	P	P	14 41 45.9	+0.4
	0.2nm,0.6s,mb3.2,baz=296,slow=7.9,SNR=6.6						
SONM	Songino Array	45.81	10	P	P	14 41 48.2	+0.9
	0.3nm,0.4s,mb3.5,baz=186,slow=8.5,SNR=5.3						
SONM				LR	LR	15 01 06.3	
	comp=Z,40nm,19.1s,MS3.4,baz=134,slow=36						
ZAL	Zalesovo	51.74	352	P	P	14 42 33.8	+1.0
	1.0nm,0.4s,mb4.1,baz=305,slow=7.6,SNR=5.8						
BVAR	Borovoye Array	54.24	341	P	P	14 42 51.5	+0.3
	0.8nm,0.5s,mb3.9,baz=146,slow=9.7,SNR=11						
BRVK	Borovoye	54.31	341	P	P	14 42 49.2	-2.4
	0.7nm,0.6s,mb3.8						
ZRNK	Zerenda	54.63	341	eP	P	14 42 53.5	-0.4
	1.2nm,0.7s,mb4.0						

*SZGRF **18** 14:55:53.8, 188S×1495W, h33km, mb4.6, North of Ascension Island*

IDC 18 14:55:25.6±8.8, 685S×1079W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, MS4.2/13, Ms1 4.2/13, ms1mx4.0/27, Error ellipse: s-maj=311.6km s-min=93.8km az=144.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	23.42	32	P	P	15 00 36.7	+0.3
	4.1nm,1.0s,baz=220,slow=10,SNR=15						
BDFB	Brasilia	37.49	253	LR	LR	15 15 30.6	
	comp=Z,316nm,18.0s,baz=102,slow=32						
LBTB	Lobatse	39.19	122	LR	LR	15 17 02.4	
	comp=Z,282nm,18.9s,baz=297,slow=33						
MDT	Midelt	39.88	8	LR	LR	15 18 10.4	
	comp=Z,293nm,21.3s,baz=168,slow=34						
BOSA	Boshof	40.33	127	LR	LR	15 17 14.3	
	comp=Z,126nm,18.8s,baz=298,slow=32						
KMBO	Kilima Mbogo	48.23	85	LR	LR	15 25 05.0	
	comp=Z,409nm,18.4s,baz=97,slow=37						
VAE	Valguarnera	49.98	26	LR	LR	15 27 52.4	
	comp=Z,499nm,18.0s,baz=300,slow=39						
DAVOX	Davos	56.47	17	LR	LR	15 29 10.3	
	comp=Z,236nm,21.5s,baz=258,slow=36						
LPAZ	La Paz	56.80	255	LR	LR	15 26 20.0	
	comp=Z,145nm,20.6s,baz=264,slow=33						
GERES	GERESS Array B	59.47	19	P	P	15 05 29.9	-0.4
	1.3nm,0.8s,baz=193,slow=4.1,SNR=8.7						
GRF	Grafenberg Arr	59.48	16	eP	P	15 05 31.3	+0.9
	comp=Z,9.0nm,1.4s						
KECS	Kecovo	61.56	23	eP	P	15 05 47.1	+2.5
CRVS	Cervenica-Dubn	62.28	23	eP	P	15 05 54.0	+4.6
STHS	Stebnicka Huta	62.61	23	eP	P	15 05 57.4	+5.8
PLCA	Paso Flores	62.81	228	LR	LR	15 29 29.2	
	comp=Z,148nm,20.2s,baz=284,slow=32						
ROSC	El Rosal	64.48	279	LR	LR	15 33 37.6	
	comp=Z,257nm,19.3s,baz=287,slow=36						
AKASG	Malin Array Be	66.91	26	P	P	15 06 19.8	+0.1
	comp=Z,1.1nm,0.7s,baz=227,slow=7.5,SNR=8.3						
HFS	Hagfors	69.53	13	P	P	15 06 36.7	+0.6
	comp=Z,2.1nm,0.8s,baz=224,slow=12,SNR=4.1						
NOA	NORSAR Array B	69.84	11	LR	LR	15 37 05.4	
	comp=Z,69nm,18.6s,baz=350,slow=36						
FINES	FINESS Array B	73.87	17	P	P	15 07 01.4	-0.8
	comp=Z,1.9nm,1.0s,baz=197,slow=4.4,SNR=4.6						
FINES				LR	LR	15 39 12.6	
	comp=Z,110nm,19.6s,baz=168,slow=36						
ARCES	ARCESS Array B	80.18	12	LR	LR	15 46 43.1	
	comp=Z,119nm,18.6s,baz=8.4,slow=38						

*IDC **18** 14:59:03.0±1.3, 674S×1088W, h0km, mb4.2/12, mb1 4.2/13, mb1mx4.1/26, mbtmp4.2/13, ML3.4/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/23, Error ellipse: s-maj=66.5km s-min=17.2km az=130.0*
*ISCJB **18** 14:59:03.0±0.5, 649S±010×11.1W±0.1, h10km, mb4.5/24, Error ellipse: s-maj=18.3km s-min=10.2km az=76.4*
*NEIC **18** 14:59:05.0±0.5, 655S×1106W, h10km, mb4.9/12, Error ellipse: s-maj=17.3km s-min=9.8km az=127.0*
*HRVD **18** 14:59:04.9±0.5, 605S×1136W, h12km, MW5.0/52, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s52,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.17; $M_{\theta\theta}$-1.04±.18; $M_{\phi\phi}$2.16±.14; $M_{r\theta}$3.37±.58; $M_{\theta\phi}$-1.32±.14; $M_{\phi r}$0.34±.55; Best double couple: $M_0$3.83400×10^{16} NP1:ϕ_s189.00000°, δ39.00000°, λ-18.00000°. NP2: ϕ_s293.00000°, δ78.00000°, λ-128.00000°. Principal axes: T 3.0140, Plg24.0000°, Azm52.0000°; N 1.6400, Plg37.0000°, Azm302.0000°; P -4.6540, Plg44.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **18** 14:59:29.5, 185S×1507W, h33km, mb4.8, North of Ascension Island*

ISC 18 14:59:05.3±0.5, 649S±009×111W±01, h10km, n41, σ1§07/38, mb4.5/24, 1C-1D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	Dimbokro	14.46	25	Pn	Pn	15 02 30.3	+0.2
	0.2nm,0.3s,baz=164,slow=11,SNR=4.5						
DBIC	Dimbokro	14.46	25	Pn	Pn	15 02 29.1	-0.9
TORD	Torodi Ar. Bea	23.26	33	P	P	15 04 12.4	-0.5
	14nm,1.1s,mb4.3,baz=217,slow=7.0,SNR=22						
LSZ	Lusaka	39.45	106	P	P	15 06 36.2	+0.6
	6.5nm,1.3s,mb4.2						
MDT	Midelt	39.57	9	P	P	15 06 39.0	+2.4
	3.3nm,1.0s,mb4.0,baz=178,slow=8.8,SNR=3.6						
LBTB	Lobatse	39.59	122	eP	P	15 06 37.3	+0.4
CPUP	Villa Florida	48.25	240	eP	P	15 07 45.4	-1.0
	37nm,2.0s,mb5.1						
SIV	San Ignacio	49.85	255	P	P	15 07 59.5	+0.9
	0.7nm,0.4s,mb4.0,baz=117,slow=2.3,SNR=4.5						
TIP	Timpagrande	52.23	27	eP	P	15 08 13.6	-2.9
AQU	L'Aquila	53.48	22	eP	P	15 08 23.6	-2.1
	94nm,1.6s,mb5.5						
DAVOX	Davos	56.20	17	P	P	15 08 46.2	+0.7
	2.5nm,0.5s,mb4.5,baz=219,slow=14,SNR=3.5						
WLF	Walferdange	57.90	13	P	P	15 09 02.2	+4.7
	15nm,1.1s,mb5.0						
CFAA	Coronel Fontan	58.80	237	P	P	15 09 03.2	-0.6
	0.2nm,0.5s,mb3.5,baz=80,slow=4.2,SNR=4.3						
CFAA	Coronel Fontan	58.80	237	P	P	15 09 03.2	-0.6
GERES	GERESS Array B	59.22	19	P	P	15 09 07.4	+0.8
	3.0nm,0.7s,mb4.4,baz=190,slow=6.8,SNR=20						
GRA1	Grafenberg Arr	59.22	17	eP	P	15 09 07.2	+0.5
	15nm,1.4s,mb4.8						
GRF	Grafenberg Arr	59.22	17	eP	P	15 09 07.2	+0.5
	comp=Z,15nm,1.4s,mb4.8						
NKC	Novy Kostel	60.06	17	eP	P	15 09 11.4	-1.1
MOX	Moxa	60.19	16	eP	P	15 09 14.1	+0.7
	comp=Z,14nm,1.5s,mb4.8						
PRU	Pruhonice	60.48	19	eP	P	15 09 15.3	-0.1
PSZ	Piszkesteto	60.65	23	eP	P	15 09 15.9	-0.6
	comp=Z,8.7nm,1.0s,mb4.8						
MORC	Moravsky Berou	61.31	21	P	P	15 09 20.0	-1.0
	comp=Z,36nm,1.9s,mb5.2						
SDV	Santo Domingo	61.32	284	P	P	15 09 26.4	+5.3
	comp=Z,5.1nm,1.0s,mb4.6						
DPC	Dobruska-Polom	61.38	20	eP	P	15 09 20.7	-0.8
UPC	Upice	61.41	19	eP	P	15 09 23.2	+1.5
OKC	Ostrava-Krasne	61.57	21	eP	P	15 09 21.2	-1.6
BRTR	Keskin Array B	61.75	38	P	P	15 09 25.6	+1.6
	comp=Z,1.1nm,0.7s,mb4.1,baz=216,slow=4.4,SNR=6.3						
EKA	Eskdalemuir Ar	61.95	5	P	P	15 09 25.2	-0.1
	comp=Z,1.9nm,1.0s,mb4.2,baz=189,slow=4.8,SNR=4.7						
CRVS	Cervenica-Dubn	62.06	24	eP	P	15 09 26.9	+0.8
PLCA	Paso Flores	62.85	227	P	P	15 09 30.4	-0.9
	comp=Z,3.2nm,1.1s,mb4.4,baz=313,slow=2.8,SNR=3.2						
PLCA	Paso Flores	62.85	227	P	P	15 09 29.6	-1.8
	comp=Z,7.7nm,1.3s,mb4.7						
AKASG	Malin Array Be	66.71	27	P	P	15 09 56.1	-0.4
	comp=Z,1.3nm,0.5s,mb4.2,baz=226,slow=7.2,SNR=16						
SUW	Suwalki	66.78	21	P	P	15 09 57.4	+0.4
	comp=Z,29nm,1.2s,mb5.2						
OTAV	Otavalo	67.58	273	P	P	15 10 04.0	+1.9
	comp=Z,2.7nm,1.1s,mb4.2						
HFS	Hagfors	69.24	13	P	P	15 10 12.5	+0.1
	comp=Z,3.3nm,0.6s,mb4.4,baz=192,slow=5.5,SNR=12						
SYO	Syowa Base	70.62	163	‖ ePP	pP	15 10 22.2	-2.0
SYO	Syowa Base	70.62	163	‖ eSP	sP	15 10 27.4	+2.0
FINES	FINESS Array B	73.61	18	P	P	15 10 39.2	+0.4
	comp=Z,2.9nm,0.7s,mb4.3,baz=205,slow=3.6,SNR=17						
FINES	FINESS Array B	73.61	18	P	P	15 10 39.2	+0.3
KAF	Kangasniemi	74.20	17	ep	P	15 10 41.9	-0.4
	comp=Z,3.2nm,0.8s,mb4.3						
ASAR	Alice Springs	134.51	132	PKhKP		15 18 14.6	
	comp=Z,0.3nm,0.8s,baz=240,slow=1.5,SNR=5.9						
ASAR				PKP	PKPdf	15 18 23.2	-0.6
	comp=Z,0.4nm,0.9s,baz=208,slow=1.8,SNR=3.8						

*IDC **18** 15:27:15.8±3.0, 3295S×17895W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=70.6km s-min=45.4km az=118.0*
*ISCJB **18** 15:27:18.0±1.6, 3336S±009×1789W±0.1, h33km, mb3.4/2, Error ellipse: s-maj=17.8km s-min=12.5km az=9.3*

ISC 18 15:27:20.9±1.6, 3345S±008×1789W±01, h35km, n14, σ1§61/18, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	5.18	206	PN	Pn	15 28 38.3	+2.4
PUZ				SN	Sn	15 29 38.5	+4.2
MWZ	Matawai	5.69	210	PN	Pn	15 28 44.3	+1.3
MWZ				eSN	Sn	15 29 49.4	+2.3
URZ	Urewera	5.81	213	Pn	Pn	15 28 47.9	+3.3
	1.9nm,0.3s,baz=329,slow=3.4,SNR=14						
URZ				Sn	Sn	15 29 54.7	+4.6
	2.9nm,0.3s,baz=283,slow=21,SNR=9.6						
URZ	Urewera	5.81	213	PN	Pn	15 28 45.9	+1.3
OUZ	Omahuta	6.50	252	ePN	Pn	15 28 57.3	+3.3
OUZ				eSN	Sn	15 30 07.2	+0.3
BKZ	Black Stump Fm	6.83	212	ePN	Pn	15 28 57.6	-1.0
BFZ	Birch Farm	8.21	207	eSN	Sn	15 30 47.8	-1.2
MRZ	Mangatainoka R	8.46	210	ePN	Pn	15 29 20.2	-0.7
MRZ				eSN	Sn	15 30 53.4	-1.8
THZ	Tophouse	10.56	216	ePN	Pn	15 29 48.2	-1.6
KHZ	Kahutara	10.78	212	eSN	Sn	15 31 49.4	-2.6
LTZ	Lake Taylor	11.64	214	eSN	Sn	15 32 06.7	-6.5
ASAR	Alice Springs	42.33	271	P	P	15 35 10.9	-0.4
	0.7nm,0.8s,mb3.3,baz=106,slow=8.1,SNR=7.0						
WRA	Warramunga Arr	43.59	276	P	P	15 35 20.8	-0.8
	0.8nm,0.8s,mb3.5,baz=115,slow=7.8,SNR=5.4						
FINES	FINESS Array B	147.72	338	PKPbc	PKPbc	15 46 59.5	-2.3
	3.0nm,1.1s,baz=64,slow=3.2,SNR=6.2						

*IDC **18** 15:39:43.8±1.2, 3536S×17971E, h0km, mb4.1/2, mb1 4.4/3, mb1mx4.0/11, mbtmp4.2/3, ML4.6/1, Error ellipse: s-maj=40.7km s-min=35.7km az=1.0*
*WEL **18** 15:39:52.6±1.0, 3567S×17955E, h33km, ML4.4/16, Error ellipse: s-maj=8.9km s-min=6.2km az=90.0*
*ISCJB **18** 15:39:54.5±1.0, 3620S±005×17963E±009, h100km, mb4.0/2, Error ellipse: s-maj=10.7km s-min=7.4km az=11.0*
*NEIC **18** 15:39:54.2, 3589S×17946E, h12km, ML4.5(WEL), After WEL.*

ISC 18 15:39:55.4±0.9, 3617S±005×17963E±009, h100km, n90, σ1§38/104, mb4.0/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.76	217	P*	Pn	15 40 25.8	+0.9
MXZ				eS*	Sn	15 40 53.9	+6.6
MXZ	Matakaoa Point	1.76	217	P	Pn	15 40 26.0	+1.1
PUZ	Puketiti	2.20	210	PN	Pn	15 40 32.5	+1.9
PUZ				eSN	Sn	15 41 02.6	+5.1
PUZ	Puketiti	2.20	210	P	Pn	15 40 32.7	+2.1
WIZ	White Island	2.39	235	P*	Pn	15 40 32.6	-0.4
WIZ	White Island	2.39	235	P	Pn	15 40 32.6	-0.4
MWZ	Matawai	2.74	217	P*	Pn	15 40 39.2	+1.5
MWZ				eS*	Sn	15 41 14.2	+4.0
URZ	Urewera	2.90	223	Pn	Pn	15 40 40.9	+1.0
	55nm,0.3s,baz=36,slow=3.8,SNR=273						
URZ				Sn	Sn	15 41 17.4	+3.4
	22nm,0.3s,baz=147,slow=23,SNR=8.8						
URZ	Urewera	2.90	223	P*	Pn	15 40 40.7	+0.9
URZ				eS*	Sn	15 41 15.9	+1.8
URZ	Urewera	2.90	223	P	Pn	15 40 40.9	+1.0
MARZ	Manawahe	2.98	232	P*	Pn	15 40 41.6	+0.7
MARZ	Manawahe	2.98	232	P	Pn	15 40 41.6	+0.7
TGRZ	Tauranga	3.12	239	P*	Pn	15 40 43.1	+0.3
TGRZ	Tauranga	3.12	239	P	Pn	15 40 43.1	+0.3
LIRZ	Lichensteins R	3.18	234	P*	Pn	15 40 44.8	+1.2
LIRZ	Lichensteins R	3.18	234	P	Pn	15 40 45.0	+1.4
KUZ	Kuaotunu	3.21	258	PN	Pn	15 40 42.2	-1.8
KUZ	Kuaotunu	3.21	258	P	Pn	15 40 42.3	-1.6
KUZ				S	Sn	15 41 21.0	-0.4
MKRZ	Makatiti	3.21	231	P*	Pn	15 40 46.0	+2.0
MKRZ	Makatiti	3.21	231	P	Pn	15 40 46.0	+2.1
TAZ	Tarawera	3.24	229	eP*	Pn	15 40 44.2	-0.1
KNZ	Kokohu	3.25	208	ePN	Pn	15 40 45.0	+0.5
KNZ				eSN	Sn	15 41 26.5	+4.1
KNZ	Kokohu	3.25	208	P	Pn	15 40 45.0	+0.5
KNZ				S	Sn	15 41 27.8	+5.5
TOZ	Tahuroa Road	3.66	244	P*	Pn	15 40 50.4	+0.4
TOZ				eS*	Sn	15 41 32.5	+0.2
TOZ	Tahuroa Road	3.66	244	P	Pn	15 40 50.4	+0.4
TOZ				S	Sn	15 41 32.9	+0.7
MTAZ	Motutapu	3.86	259	P	Pn	15 40 52.2	-0.5
OTAZ	Otara	3.87	257	PN	Pn	15 40 52.7	-0.2
OTAZ	Otara	3.87	257	P	Pn	15 40 52.7	-0.1
BKZ	Black Stump Fm	3.90	219	P*	Pn	15 40 53.2	0.0
BKZ				S*	Sn	15 41 41.5	+3.6
BKZ	Black Stump Fm	3.90	219	eP	Pn	15 40 53.4	+0.2
BKZ				S	Sn	15 41 41.5	+3.5
KAAZ	Kauri Point	4.03	259	P	Pn	15 40 55.4	+0.5
RITZ	Rihia Road	4.11	226	P*	Pn	15 40 57.2	+1.1
RITZ	Rihia Road	4.11	226	P	Pn	15 40 57.2	+1.2
WTAZ	Waiatarua	4.15	258	P	Pn	15 40 56.7	+0.2
WCZ	Waipu Caves	4.29	271	PN	Pn	15 40 56.1	-2.4
WCZ	Waipu Caves	4.29	271	eP	Pn	15 40 56.3	-2.2
KRVZ	Karewarewa	4.31	226	P*	Pn	15 41 00.0	+1.2
OTVZ	Oturere	4.34	225	P*	Pn	15 40 59.5	+0.3
NGZ	Ngauruhoe	4.39	226	P*	Pn	15 41 00.3	+0.5
NGZ	Ngauruhoe	4.39	226	P	Pn	15 41 00.6	+0.8
TWVZ	Taurewa	4.42	228	P*	Pn	15 41 01.5	+1.3
TWVZ	Taurewa	4.42	228	P	Pn	15 41 01.5	+1.3
TUVZ	Tukino	4.42	224	P*	Pn	15 41 01.3	+1.0
TUVZ	Tukino	4.42	224	P	Pn	15 41 01.4	+1.1
WPVZ	Whakapapa	4.44	226	P*	Pn	15 41 01.4	+0.9
WPVZ	Whakapapa	4.44	226	eP	Pn	15 41 01.7	+1.2
MOVZ	Moawhango	4.46	222	P*	Pn	15 41 00.1	-0.7
MOVZ	Moawhango	4.46	222	P	Pn	15 41 00.3	-0.6
FWVZ	Far West T-bar	4.47	225	P*	Pn	15 41 02.9	+1.9
FWVZ	Far West T-bar	4.47	225	eP	Pn	15 41 02.9	+2.0
HIZ	Hauiti	4.47	237	PN	Pn	15 41 02.6	+1.6
HIZ	Hauiti	4.47	237	eP	Pn	15 41 02.6	+1.6
WNVZ	Wahianoa	4.50	224	P*	Pn	15 41 01.3	0.0
WNVZ	Wahianoa	4.50	224	P	Pn	15 41 01.8	+0.5
TSZ	Takapari Road	4.85	216	PN	Pn	15 41 04.6	-1.5
TSZ				eSN	Sn	15 42 02.5	+1.5
TSZ	Takapari Road	4.85	216	eP	Pn	15 41 05.0	-1.0
OUZ	Omahuta	5.00	279	PN	Pn	15 41 04.9	-3.2
OUZ	Omahuta	5.00	279	eP	Pn	15 41 04.9	-3.3
WAZ	Wanganui	5.13	224	PN	Pn	15 41 09.5	-0.4
WAZ				eSN	Sn	15 42 08.4	+0.5
WAZ	Wanganui	5.13	224	eP	Pn	15 41 09.8	-0.1
BFZ	Birch Farm	5.24	210	ePN	Pn	15 41 09.7	-1.6
BFZ				eSN	Sn	15 42 11.0	+0.7
BFZ	Birch Farm	5.24	210	eP	Pn	15 41 09.8	-1.5
NEZ	North Egmont	5.38	233	P	Pn	15 41 17.3	+4.1
PKE	Pukeiti	5.40	234	P	Pn	15 41 16.5	+2.9
MRZ	Mangatainoka R	5.50	214	PN	Pn	15 41 12.4	-2.5
MRZ				SN	Sn	15 42

Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*LDG **18** 15:53:34.0±0.1, 1681S×16645E, h10km, Mb5.4/4 Error ellipse: s-maj=16.8km s-min=4.3km az=83.0*
*BJI **18** 15:53:34.8, 1631S×16728E, h22km, mB5.6, mb5.3, Ms6.0, Ms25.8*
*NEIC **18** 15:53:34.6±1.7, 1680S×16721E, h22km±12km, mb5.4/46, Error ellipse: s-maj=5.2km s-min=4.3km az=60.0*
*MOS **18** 15:53:35.6±1.3, 1668S×16708E, h33km, mb5.6/34, MS5.9/5, Error ellipse: s-maj=8.4km s-min=7.4km az=113.1*
*CSEM **18** 15:53:37.8, 1725S×16677E, h33km, mb5.6*
*NAO **18** 15:53:43.6, 1445S×167.15E, h100km, mb4.8*
ISC 18 15:53:35.3±1.6, 1684S±003×16724E±004, h25km±10km, h35km±1.9km: pP-P, n413, σ1§09/234, mb5.3/86, MS5.8/19, 9C-27D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.26**	**188**	Pn		**Pn**	**15 54 50.1**	**-2.1**
	229nm,0.3s,baz=37,slow=14,SNR=1803							
DZM				Sn		**Sn**	**15 55 49.3**	**-2.8**
	baz=141,slow=20							
HNR	**Honiara**	**10.23**	**315**	Pn		**Pn**	**15 55 59.9**	**-0.6**
	114nm,0.3s,baz=181,slow=0.8,SNR=78							
HNR				Sn		**Sn**	**15 57 53.5**	**-0.9**
	39nm,0.3s,baz=86,slow=19,SNR=3.9							
HNR				LR		LR	15 58 31.7	
	comp=Z,5μm,20.7s,baz=179,slow=29							
HNR	**Honiara**	**10.23**	**315**	P		**Pn**	**15 55 59.9**	**-0.6**
HNR							15 57 53.5	
HNR				pmax		pmax		
	comp=Z,114nm,0.3s							
HNR				MLR		MLR		
	comp=Z,5μm,20.7s							
HNR	**Honiara**	**10.23**	**315**	*e*Pn		**Pn**	**15 55 59.6**	**-0.9**
	comp=Z,1μm,0.8s							
FUNA	**Funafuti**	**14.29**	**56**	*e*Pn		**Pn**	**15 56 56.4**	**+0.5**
OUZ	**Omahuta**	**19.16**	**164**	PN		**Pn**	**15 57 58.0**	**+0.2**
	comp=Z,107nm,0.5s							
OUZ	**Omahuta**	**19.16**	**164**	P		**Pn**	**15 57 57.4**	**-0.4**
ARMA	**Armidale**	**19.65**	**224**	⇓*i*P		**Pn**	**15 58 03.9**	**+0.3**
ARMA				*e*S		**Sn**	**16 01 55.3**	**+12**
WCZ	**Waipu Caves**	**20.04**	**163**	PN		**P**	**15 58 07.9**	**+1.4**
	comp=Z,127nm,0.5s							
WCZ	**Waipu Caves**	**20.04**	**163**	*e*P		**P**	**15 58 07.9**	**+1.4**
CTA	**Charters Tower**	**20.17**	**258**	*e*P		**P**	**15 58 09.0**	**+1.2**
	comp=Z,59nm,0.9s							
CTA				*i*S		**S**	**16 01 58.1**	**+5.1**
CTA	**Charters Tower**	**20.17**	**258**	P		**P**	**15 58 08.4**	**+0.6**
	comp=Z,45nm,0.9s,baz=85,slow=12,SNR=50							
CTA	**Charters Tower**	**20.17**	**258**	*e*P		**P**	**15 58 09.0**	**+1.2**
CTA				pmax		pmax		
	comp=Z,59nm,0.9s							
CTAO	**Charters Tower**	**20.17**	**258**	P		**P**	**15 58 09.3**	**+1.5**
CTAO				pmax		pmax		
	comp=Z,53nm,0.9s							
CTAO	**Charters Tower**	**20.17**	**258**	Pn		**P**	**15 58 09.3**	**+1.5**
	comp=Z,52nm,0.9s							
AFI	**Afiamalu**	**20.44**	**85**	P		**P**	**15 58 10.6**	**-0.1**
	comp=Z,58nm,0.9s,baz=261,slow=5.5,SNR=8.8							
AFI	**Afiamalu**	**20.44**	**85**	*e*P		**P**	**15 58 10.1**	**-0.6**
AFI				pmax		pmax		
	comp=Z,100nm,0.9s							
AFI	**Afiamalu**	**20.44**	**85**	*e*P		**P**	**15 58 10.1**	**-0.6**
	comp=Z,100nm,0.9s							
PMG	**Port Moresby**	**20.90**	**288**	P		**P**	**15 58 17.8**	**+2.1**
	comp=Z,183nm,1.0s,baz=107,slow=6.1,SNR=60							
PMG				LR		LR	16 04 04.2	
	comp=Z,119μm,19.0s,MS6.3,baz=338,slow=30							
PMG	**Port Moresby**	**20.90**	**288**	Pn		**P**	**15 58 17.3**	**+1.6**
	comp=Z,275nm,1.1s							
KAAZ	**Kauri Point**	**20.97**	**163**	*e*PN		**P**	**15 58 17.4**	**+0.9**
KAAZ	**Kauri Point**	**20.97**	**163**	P		**P**	**15 58 18.2**	**+1.7**
MTAZ	**Motutapu**	**21.00**	**163**	PN		**P**	**15 58 17.8**	**+1.1**
MTAZ	**Motutapu**	**21.00**	**163**	P		**P**	**15 58 17.8**	**+1.0**
WTAZ	**Waiatarua**	**21.04**	**163**	*e*P		**P**	**15 58 18.6**	**+1.4**
OTAZ	**Otara**	**21.15**	**163**	P		**P**	**15 58 19.7**	**+1.2**
RIV	**Riverview**	**22.25**	**218**	*e*P		**P**	**15 58 31.3**	**+1.1**
HIZ	**Hauiti**	**22.60**	**164**	*e*PN		**P**	**15 58 35.0**	**+1.1**
HIZ	**Hauiti**	**22.60**	**164**	*e*P		**P**	**15 58 32.1**	**-1.8**
URZ	**Urewera**	**23.03**	**160**	P		**P**	**15 58 37.4**	**-1.1**
	comp=Z,90nm,0.6s,mb5.4,baz=350,slow=3.9,SNR=64							
URZ				LR		LR	16 06 13.0	
	comp=Z,13μm,18.3s,MS5.4,baz=352,slow=33							
URZ	**Urewera**	**23.03**	**160**	PN		**P**	**15 58 38.6**	**+0.1**
	comp=Z,94nm,0.6s,mb5.4							
URZ	**Urewera**	**23.03**	**160**	*e*P		**P**	**15 58 39.3**	**+0.8**
MWZ	**Matawai**	**23.24**	**159**	PN		**P**	**15 58 40.6**	**-0.1**
MWZ	**Matawai**	**23.24**	**159**	*e*P		**P**	**15 58 40.6**	**-0.1**
PUZ	**Puketiti**	**23.26**	**158**	*e*PN		**P**	**15 58 40.0**	**-0.9**
PUZ	**Puketiti**	**23.26**	**158**	*e*P		**P**	**15 58 37.9**	**-3.0**
BKZ	**Black Stump Fm**	**23.67**	**162**	PN		**P**	**15 58 44.8**	**-0.1**
BKZ	**Black Stump Fm**	**23.67**	**162**	*e*P		**P**	**15 58 45.4**	**+0.5**
QRZ	**Quartz Range**	**24.34**	**170**	PN		**P**	**15 58 52.5**	**+1.5**
QRZ	**Quartz Range**	**24.34**	**170**	*e*P		**P**	**15 58 52.7**	**+1.7**
TSZ	**Takapari Road**	**24.34**	**164**	*e*PN		**P**	**15 58 50.7**	**-0.3**
TSZ	**Takapari Road**	**24.34**	**164**	*e*P		**P**	**15 58 51.4**	**+0.3**
CNB	**Canberra Magne**	**24.35**	**218**	⇓*i*P		**P**	**15 58 51.7**	**+0.6**
	comp=Z,310nm,0.8s,mb5.8							
MRZ	**Mangatainoka R**	**24.81**	**165**	PN		**P**	**15 58 54.3**	**-1.0**
MRZ	**Mangatainoka R**	**24.81**	**165**	*e*P		**P**	**15 58 55.2**	**-0.1**
SNZO	**South Karori**	**25.22**	**167**	P		**P**	**15 58 59.2**	**+0.1**
	comp=Z,99nm,0.8s,mb5.4							
THZ	**Tophouse**	**25.31**	**170**	PN		**P**	**15 59 00.2**	**+0.4**
	comp=Z,99nm,0.6s,mb5.5							
THZ	**Tophouse**	**25.31**	**170**	*e*P		**P**	**15 59 00.4**	**+0.5**
KHZ	**Kahutara**	**26.05**	**169**	*e*PN		**P**	**15 59 06.8**	**+0.2**
KHZ	**Kahutara**	**26.05**	**169**	*e*P		**P**	**15 59 06.3**	**-0.3**
LTZ	**Lake Taylor**	**26.21**	**172**	PN		**P**	**15 59 08.0**	**0.0**
LTZ	**Lake Taylor**	**26.21**	**172**	*e*P		**P**	**15 59 10.2**	**+2.2**
FOZ	**Fox Glacier**	**26.72**	**176**	*e*PN		**P**	**15 59 12.5**	**-0.1**
FOZ	**Fox Glacier**	**26.72**	**176**	*e*P		**P**	**15 59 10.7**	**-1.9**
RPZ	**Rata Peaks**	**26.98**	**174**	P		**P**	**15 59 15.0**	**0.0**
	comp=Z,57nm,0.9s,mb5.1,baz=0.0,slow=0.0							
RPZ	**Rata Peaks**	**26.98**	**174**	PN		**P**	**15 59 15.0**	**0.0**
RPZ	**Rata Peaks**	**26.98**	**174**	*e*P		**P**	**15 59 11.9**	**-3.1**
JCZ	**Jackson Bay**	**27.18**	**178**	PN		**P**	**15 59 17.9**	**+1.2**
JCZ	**Jackson Bay**	**27.18**	**178**	*e*P		**P**	**15 59 17.9**	**+1.2**
STKA	**Stephens Creek**	**27.65**	**233**	⇓*i*P		**P**	**15 59 19.3**	**-1.7**
	comp=Z,120nm,0.8s,mb5.6							
STKA				*e*S		**S**	**16 03 58.0**	**-3.4**
STKA	**Stephens Creek**	**27.65**	**233**	P		**P**	**15 59 19.5**	**-1.5**
	comp=Z,127nm,0.7s,mb5.7,baz=56,slow=7.0,SNR=176							
TOO	**Toolangi**	**28.17**	**219**	*e*P		**P**	**15 59 26.0**	**+0.4**
	comp=Z,36nm,0.9s,mb5.0							
TOO				*e*S		**S**	**16 04 09.6**	**+0.1**
TOO	**Toolangi**	**28.17**	**219**	*e*P		**P**	**15 59 26.0**	**+0.4**
TOO				*e*S		**S**	**16 04 09.6**	**+0.1**
TOO				pmax		pmax		
	comp=Z,36nm,0.9s,mb5.0							
TUZ	**Tuapeka**	**29.10**	**177**	PN		**P**	**15 59 34.0**	**+0.1**
TUZ	**Tuapeka**	**29.10**	**177**	*e*P		**P**	**15 59 34.0**	**+0.1**
TAU	**Tasmania Unive**	**31.04**	**209**	*e*P		**P**	**15 59 49.0**	**-2.0**
TAU				pmax		pmax		
	comp=Z,73nm,1.3s,mb5.3							
TAU	**Tasmania Unive**	**31.04**	**209**	*e*P		**P**	**15 59 49.0**	**-2.1**
	comp=Z,73nm,1.3s,mb5.3							
ADE	**Adelaide**	**31.21**	**229**	*e*P		**P**	**15 59 52.7**	**+0.1**
WB2	**Warramunga Arr**	**31.34**	**259**	⇓*i*P		**P**	**15 59 52.7**	**-1.0**
WRAB	**Tennant Creek**	**31.34**	**259**	P		**P**	**15 59 52.0**	**-1.7**
	comp=Z,291nm,0.9s,mb6.1,SNR=22							
WRAB	**Tennant Creek**	**31.34**	**259**	*e*P		**P**	**15 59 52.2**	**-1.4**
	comp=Z,332nm,1.6s,mb5.9							
WRA	**Warramunga Arr**	**31.35**	**259**	P		**P**	**15 59 52.8**	**-1.0**
	comp=Z,34nm,0.9s,mb5.2,baz=88,slow=8.1,SNR=126							
RAR	**Rarotonga**	**31.45**	**103**	P		**P**	**15 59 53.1**	**-1.5**
	comp=Z,15nm,0.8s,mb4.9,baz=0.0,slow=0.0							
RAR				LR		LR	16 10 31.1	
	comp=Z,3μm,18.4s,MS4.9,baz=44,slow=32							
ASAR	**Alice Springs**	**31.95**	**252**	P		**P**	**15 59 58.5**	**-0.5**
	comp=Z,200nm,0.7s,mb6.0,baz=78,slow=8.3,SNR=1332							
KAKA	**Kakadu**	**33.88**	**272**	⇓*i*P		**P**	**16 00 15.0**	**-0.9**
	comp=Z,23nm,0.5s,mb5.4							
GUMO	**Guam**	**37.45**	**323**	*e*P		**P**	**16 00 45.0**	**-1.6**
GUMO				pmax		pmax		
	comp=Z,228nm,1.1s,mb5.9							
GUMO	**Guam**	**37.45**	**323**	*e*P		**P**	**16 00 45.0**	**-1.6**
	comp=Z,228nm,1.1s,mb5.9							
FITZ	**Fitzroy Crossi**	**39.65**	**262**	⇓*i*P		**P**	**16 01 04.8**	**-0.2**
	comp=Z,115nm,1.0s,mb5.6							
TBI	**Tubuai**	**41.05**	**106**	*e*S		**S**	**16 07 28.0**	**+0.3**
	comp=Z,2μm,29.8s							
TBI				*e*LQ			16 10 54.4	
	comp=Z,21μm,29.0s							
TBI				*e*LR		LR	16 12 44.8	
	comp=Z,9μm,29.8s							
PPT	**Papeete**	**41.19**	**98**	LR		LR	16 14 49.8	
	comp=Z,4μm,21.1s,MS5.2,baz=263,slow=31							
MBWA	**Marble Bar**	**45.00**	**257**	P		**P**	**16 01 49.1**	**+0.4**
	comp=Z,154nm,1.1s,mb5.7							
KLBR	**Kellerberrin**	**47.08**	**242**	⇓*i*P		**P**	**16 02 04.1**	**-0.9**
	comp=Z,71nm,0.6s,mb5.8							
NWAO	**Narrogin (SRO)**	**47.67**	**241**	P		**P**	**16 02 09.1**	**-0.5**
	comp=Z,90nm,0.9s,mb5.8,baz=89,slow=7.5,SNR=40							
NWAO	**Narrogin (SRO)**	**47.67**	**241**	P		**P**	**16 02 09.1**	**-0.5**
NWAO				pmax		pmax		
	comp=Z,90nm,0.9s							
NWAO	**Narrogin (SRO)**	**47.67**	**241**	P		**P**	**16 02 09.0**	**-0.6**
MUN	**Mundaring**	**48.43**	**242**	*e*P		**P**	**16 02 14.5**	**-0.9**
MSLP	**Maasin**	**49.75**	**300**	*e*P		**P**	**16 02 27.3**	**+1.8**
PAGZ	**Pagadian**	**49.83**	**296**	*e*P		**P**	**16 02 27.3**	**+1.1**
CBIJ	**Chichi jima**	**49.99**	**330**	P		**P**	**16 02 25.6**	**-1.8**
	comp=Z,70nm,0.7s,mb5.8,baz=282,slow=20,SNR=3.7							
TBP	**Tagbilaran**	**50.35**	**298**	*e*P		**P**	**16 02 19.9**	**-10**
TAOE	**Nuku Hiva Isla**	**51.77**	**88**	*e*S		**S**	**16 10 01.4**	**+0.1**
	comp=Z,5μm,25.7s							
TAOE				*e*LR		LR	16 17 41.2	
	comp=Z,20μm,25.9s							
RKT	**Rikitea**	**54.38**	**107**	*e*S		**S**	**16 10 37.4**	**+0.7**
	comp=Z,1μm,33.5s							
RKT				*e*LQ			16 16 34.5	
	comp=Z,4μm,31.0s							
RKT				*e*LR		LR	16 18 52.8	
	comp=Z,6μm,29.2s							
ENPP	**El Nido**	**54.88**	**297**	*e*P		**P**	**16 03 04.3**	**+0.7**
TGY	**Tagaytay City**	**55.10**	**301**	P		**P**	**16 03 03.7**	**-1.6**
	comp=Z,23nm,0.3s,baz=90,slow=20,SNR=2.1							
BATP	**Bataraza**	**55.13**	**294**	*e*P		**P**	**16 03 06.3**	**+0.9**
KKM	**Kota Kinabalu**	**55.33**	**290**	P		**P**	**16 03 07.4**	**+0.5**
KKM	**Kota Kinabalu**	**55.33**	**290**	*e*P		**P**	**16 03 07.2**	**+0.4**
KSM	**Kuching**	**59.01**	**282**	*e*P		**P**	**16 03 33.0**	**+0.2**
MJAR	**Matsushiro Arr**	**59.76**	**333**	P		**P**	**16 03 37.5**	**-0.6**
	comp=Z,37nm,1.0s,mb5.4,baz=163,slow=7.2,SNR=30							
MJAR				PKP2ab			16 33 25.6	
	comp=Z,2.1nm,1.1s,baz=22,slow=1.3,SNR=4.3							
MAJO	**Matsushiro**	**59.76**	**333**	P		**P**	**16 03 37.7**	**-0.4**
MAT	**Matsushiro**	**59.76**	**333**	P		**P**	**16 03 37.4**	**-0.7**
JNU	**Nakatsue**	**60.62**	**325**	P		**P**	**16 03 44.9**	**+0.9**
	comp=Z,30nm,0.8s,mb5.5,baz=112,slow=7.8,SNR=3.8							
VNDA	**Vanda**	**60.76**	**181**	P		**P**	**16 03 44.4**	**-0.6**
	comp=Z,6.3nm,1.0s,mb4.7,baz=346,slow=8.3,SNR=9.0							
VNDA	**Vanda**	**60.76**	**181**	P		**P**	**16 03 46.1**	**+1.2**
VNDA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VNDA	**Vanda**	**60.76**	**181**	P		**P**	**16 03 46.1**	**+1.2**
	comp=Z,10nm,0.9s,mb5.0							
YHNB	**Yeheng**	**60.85**	**312**	*e*P		**P**	**16 03 46.2**	**+0.7**
SBA	**Scott Base**	**61.04**	**180**	*e*P		**P**	**16 03 45.0**	**-1.8**
SBA				pmax		pmax		
	comp=Z,58nm,0.9s,mb5.7							
SBA	**Scott Base**	**61.04**	**180**	*e*P		**P**	**16 03 45.0**	**-1.8**
	comp=Z,58nm,0.9s,mb5.7							
CASY	**Casey**	**61.58**	**203**	*e*P		**P**	**16 03 49.5**	**-0.9**
ASAJ	**Asahikawa**	**64.71**	**341**	P		**P**	**16 04 12.8**	**+1.5**
	comp=Z,36nm,1.0s,mb5.4,baz=218,slow=6.3,SNR=6.8							
ASAJ	**Asahikawa**	**64.71**	**341**	P		**P**	**16 04 12.8**	**+1.6**
ASAJ				pmax		pmax		
	comp=Z,36nm,1.0s							
SSE	**Sheshan**	**65.03**	**317**	P		**P**	**16 04 14.3**	**+1.0**
SSE				AMB		AMB		
	comp=Z,61nm,0.8s,mb5.7							
SSE				AMB		AMB		
	comp=Z,200nm,5.6s							
SSE				LR		LR		
	comp=N,7μm,22.4s,MS6.1							
SSE				LR		LR		
	comp=E,11μm,22.4s,MS6.1							
SSE				LR		LR		
	comp=Z,17μm,20.6s,MS6.2							
KS15	**Wonju Array Si**	**65.48**	**326**	P		**P**	**16 04 16.9**	**+0.7**
INCN	**Inchon**	**66.18**	**326**	P		**P**	**16 04 22.0**	**+1.2**
QIZ	**Qiongzhong**	**66.75**	**300**	*e*P		**P**	**16 04 27.8**	**+3.4**
QIZ				AMB		AMB		
	comp=Z,50nm,1.8s,mb5.2							
NJ2	**Nanjing**	**67.17**	**316**	*e*P		**P**	**16 04 28.1**	**+1.0**
NJ2				PCP		PcP	16 04 56.4	+1.4
NJ2				AMB		AMB		
	comp=Z,60nm,1.2s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,500nm,10.8s							
NJ2				LR		LR		
	comp=N,39μm,23.6s							
NJ2				LR		LR		
	comp=E,41μm,32.5s							
NJ2				LR		LR		
	comp=Z,18μm,31.2s							
YSS	**Yuzh-Sakhalins**	**67.22**	**342**	α *i*P		**P**	**16 04 29.2**	**+1.8**
YSS				*e**PP		pP	16 04 44.0	+8.7
YSS				*e*			16 04 56.5	
YSS				*e*S		S	16 13 21.0	+0.4
YSS				*e*PS			16 13 36.0	
YSS				*e**SS		sS	16 13 44.0	+10
YSS				*e*			16 14 14.0	
YSS				pmax		pmax		
	comp=Z,50nm,0.9s,mb5.5							
YSS				pmax		pmax		
	comp=Z,1μm,7.0s							
YSS				smax				
	comp=N,2μm,6.0s							
YSS				smax				
	comp=E,500nm,5.0s							
YSS				MLR		MLR		
	comp=N,2μm,17.0s,MS5.6							
YSS				MLR		MLR		
	comp=Z,4μm,17.0s,MS5.7							
YSS				MLR		MLR		
	comp=E,3μm,19.0s,MS5.6							
YSS	**Yuzh-Sakhalins**	**67.22**	**342**	P		**P**	**16 04 28.4**	**+1.1**
	comp=E,67nm,1.0s,mb5.6							
VLA	**Vladivostok**	**67.92**	**333**	*i* P		**P**	**16 04 32.4**	**+0.6**
VLA				pmax		pmax		
	comp=Z,110nm,2.2s,mb5.5							
IPM	**Ipoh**	**68.74**	**282**	P		**P**	**16 04 36.5**	**-0.4**
WHN	**Wuhan**	**69.34**	**313**	*e*P		**P**	**16 04 41.3**	**+0.7**
WHN				AP		pP	16 04 50.5	+1.9
WHN				AMB		AMB		
	comp=Z,68nm,1.2s,mb5.5							
KULM	**Kulim**	**69.36**	**282**	*e*P		**P**	**16 04 41.3**	**+0.5**
FX1	**Attu Island--F**	**69.62**	**4**	P		**P**	**16 04 42.1**	**-0.3**
DL2	**Dalian**	**69.97**	**324**	P		**P**	**16 04 45.5**	**+1.0**
DL2				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.4							
DL2				AMB		AMB		
	comp=Z,290nm,5.8s							
DL2				LR		LR		
	comp=N,3μm,20.7s,MS5.6							
DL2				LR		LR		
	comp=E,2μm,20.4s,MS5.6							
DL2				LR		LR		
	comp=Z,3μm,20.1s,MS5.6							
PET	**Petropavlovsk**	**69.97**	**354**	P		**P**	**16 04 43.9**	**-0.6**
PET				pmax		pmax		
	comp=Z,27nm,0.9s,mb5.2							
PET	**Petropavlovsk**	**69.97**	**354**	P		**P**	**16 04 43.9**	**-0.6**
	comp=Z,27nm,0.9s,mb5.2							
MDJ	**Mudanjiang**	**70.13**	**332**	P		**P**	**16 04 45.8**	**+0.3**
MDJ				AP		pP	16 04 57.8	+4.3
MDJ				PP		PP	16 07 22.3	+1.5
MDJ				AMB		AMB		
	comp=Z,61nm,1.0s,mb5.5							
MDJ				AMB		AMB		
	comp=Z,204nm,3.9s							
MDJ				LR		LR		
	comp=N,10μm,26.9s							
MDJ				LR		LR		
	comp=Z,13μm,24.7s,MS6.1							
MDJ	**Mudanjiang**	**70.13**	**332**	*e*P		**P**	**16 04 45.0**	**-0.5**
	comp=Z,113nm,1.1s,mb5.7							
PSI	**Prapat**	**70.16**	**279**	P		**P**	**16 04 45.4**	**-0.4**
	comp=Z,26nm,0.9s,mb5.1,baz=135,slow=3.2,SNR=23							
PSI				LR		LR	16 32 42.2	
	comp=Z,4μm,20.0s,MS5.6,baz=227,slow=34							
TIA	**Tai'an**	**70.90**	**319**	*e*P		**P**	**16 04 50.4**	**+0.2**
SNY	**Shenyang**	**70.95**	**327**	⇓P		**P**	**16 04 51.0**	**+0.5**
SNY				AMB		AMB		
	comp=Z,990nm,10.0s							
SNY				LR		LR		
	comp=N,8μm,19.0s							
HABR	**Khabarovsk**	**71.07**	**338**	⇑*i*P		**P**	**16 04 52.6**	**+1.3**
HABR				*i*			16 05 03.4	
HABR				*i* S		S	16 14 08.8	+2.7
HABR				pmax		pmax		
	comp=Z,109nm,1.5s,mb5.6							
CN2	**Changchun**	**71.44**	**329**	*e*P		**P**	**16 04 54.3**	**+0.8**
CN2				AMB		AMB		
	comp=Z,50nm,0.9s,mb5.4							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,9μm,23.0s,MS6.0							
CN2				LR		LR		
	comp=E,6μm,23.0s,MS6.0							
CN2				LR		LR		
	comp=Z,8μm,21.0s,MS6.0							
ENH	**Enshi**	**72.69**	**310**	*e*P		**P**	**16 05 00.8**	**-0.2**
	comp=Z,136nm,1.2s,mb5.8							
GYA	**Guiyang**	**72.90**	**305**	P		**P**	**16 05 04.3**	**+2.1**
GYA				PP		PP	16 07 50.0	+5.5
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.0							
GYA				AMB		AMB		
	comp=Z,140nm,3.8s							
GYA				LR		LR		
	comp=N,670nm,18.7s,MS5.2							
GYA				LR		LR		
	comp=E,840nm,18.6s,MS5.2							
GYA				LR		LR		
	comp=Z,830nm,19.0s,MS5.0							
KLR	**Kul'dur**	**72.92**	**337**	*e*P		**P**	**16 05 00.0**	**-2.3**
KLR				pmax		pmax		
	comp=E,63nm,2.0s							
KLR				pmax		pmax		
	comp=Z,200nm,2.0s,mb5.7							
KLR				pmax		pmax		
	comp=Z,1μm,12.0s							
QSPA	**South Pole Qui**	**73.20**	**180**	⇓*i*P		**P**	**16 05 04.1**	**+0.1**
	comp=Z,17nm,1.1s,mb4.9							
BJT	**Baijiatuau**	**73.88**	**322**	*e*P		**P**	**16 05 08.5**	**+0.5**
BJT				pmax		pmax		
	comp=Z,114nm,1.1s							
BJT	**Baijiatuau**	**73.88**	**322**	*e*P		**P**	**16 05 08.5**	**+0.5**
	comp=Z,114nm,1.1s,mb5.7							
TIY	**Taiyuan**	**74.79**	**318**	*e*P		**P**	**16 05 12.0**	**-1.3**
TIY				S		S	16 14 53.0	+4.5
TIY				LR		LR		
	comp=N,11μm,19.0s							
XAN	**Xi'an**	**75.10**	**313**	P		**P**	**16 05 15.5**	**+0.4**
XAN				AP		pP	16 05 24.6	+1.5
XAN				AMB		AMB		
	comp=Z,46nm,1.3s,mb5.2							
KMI	**Kunming**	**75.40**	**302**	P		**P**	**16 05 18.3**	**+1.5**
KMI				PCP		PcP	16 05 31.8	+1.9
KMI				PP		PP	16 08 09.5	+3.7
KMI				AMB		AMB		
	comp=Z,42nm,1.2s,mb5.2							
KMI				AMB		AMB		
	comp=Z,233nm,4.2s							
KMI				LR		LR		
	comp=N,1μm,14.1s,MS5.9							
KMI				LR		LR		
	comp=E,4μm,17.7s,MS5.9							
KMI				LR		LR		
	comp=Z,5μm,18.8s,MS5.9							
HHC	**Hu-ho-hao-te**	**77.17**	**320**	⇓*e*P		**P**	**16 05 28.3**	**+1.4**
HHC				AP		pP	16 05 37.8	+2.9
HHC				XP		sP	16 05 42.8	+4.9
HHC				AMB		AMB		
	comp=Z,27nm,1.0s,mb5.1							
HHC				AMB		AMB		
	comp=Z,685nm,7.9s							
CD2	**Chengdu**	**77.28**	**308**	P		**P**	**16 05 27.3**	**-0.1**
CD2				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
CD2				AMB		AMB		
	comp=Z,340nm,10.2s							
CD2				LR		LR		
	comp=N,3μm,18.0s							
CD2				LR		LR		
	comp=Z,6μm,39.6s							
MA2	**Magadan**	**77.32**	**351**	*e*P		**P**	**16 05 26.0**	**-1.7**
MA2				*e*S		S	16 15 15.0	-1.2
MA2				*e*PS			16 15 59.0	
MA2				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.0							
MA2	**Magadan**	**77.32**	**351**	P		**P**	**16 05 26.0**	**-1.7**
	comp=Z,23nm,1.0s,mb5.1							
BTO	**Baotou**	**77.99**	**319**	*e*P		**P**	**16 05 32.8**	**+1.4**
BTO				AMB		AMB		
	comp=Z,33nm,1.2s,mb5.1							
HIA	**Hailar**	**78.10**	**330**	*e*P		**P**	**16 05 29.9**	**-2.1**
HIA				pmax		pmax		
	comp=Z,46nm,1.0s							
HIA	**Hailar**	**78.10**	**330**	*e*P		**P**	**16 05 29.9**	**-2.1**
	comp=Z,46nm,1.0s,mb5.4							
LZH	**Lanzhou**	**79.72**	**313**	*e*P		**P**	**16 05 43.0**	**+2.1**
LZH				AP		pP	16 05 55.3	+6.3
LZH	

comp=Z,5µm,19.4s,MS5.9
SONM Songino Array 84.17 324 P **P** **16 06 03.4 -0.9**
comp=Z,5.9nm,0.8s,mb4.8,baz=149,slow=4.7,SNR=38
SONM PKPPKP 16 32 16.0
comp=Z,0.4nm,0.7s,baz=332,slow=2.2,SNR=4.0
TNA Tin City 84.28 10 P **P** **16 06 05.0 +0.1**
comp=Z,49nm,1.7s,mb5.4
SLKM Skilak Lake 84.32 20 P **P** **16 06 03.4 -1.7**
TTA Tatalina 84.55 16 *e*P **P** **16 06 05.9 -0.3**
TTA pmax pmax
comp=Z,53nm,1.4s,mb5.5
TTA Tatalina 84.55 16 *e*P **P** **16 06 05.9 -0.3**
comp=Z,53nm,1.4s,mb5.5
BILL Biiibino 84.64 360κ*e*P **P** **16 06 04.9 -1.8**
BILL *e* 16 06 10.0
BILL *e* 16 06 17.5
BILL *e* 16 09 24.0
BILL *e* 16 16 30.6
BILL pmax pmax
comp=Z,135nm,1.2s,mb6.0
BILL MLR MLR
comp=Z,6µm,21.0s,MS5.9
BILL Biiibino 84.64 360 *e*P **P** **16 06 05.3 -1.4**
comp=Z,82nm,2.5s,mb5.4
PMR Palmer 85.49 19 *e*P **P** **16 06 09.3 -1.7**
PMR pmax pmax
comp=Z,16nm,1.0s,mb5.1
PMR Palmer 85.49 19 *e*P **P** **16 06 09.3 -1.7**
comp=Z,16nm,1.0s,mb5.1
BOD Bodaibo 86.36 335⇓*i*P **P** **16 06 14.0 -1.3**
BOD pmax pmax
comp=Z,15nm,1.8s,mb4.9
LSA Lhasa 86.66 302 P **P** **16 06 17.6 +0.9**
LSA Lhasa 86.66 302 *e*P **P** **16 06 17.7 +1.0**
LSA pmax pmax
comp=Z,32nm,1.3s,mb5.4
LSA Lhasa 86.66 302 *e*P **P** **16 06 17.7 +1.0**
comp=Z,32nm,1.3s,mb5.4
SYO Syowa Base 86.69 197⇓*e*PcP PcP 16 06 15.6 -3.6
SYO Syowa Base 86.69 197⇓*e*pP pP 16 06 26.2 +1.2
SYO Syowa Base 86.69 197⇓*e*PP PP 16 09 37.7 -1.4
SYO Syowa Base 86.69 197⇓*e*P **P** **16 06 12.8 -4.1**
SYO ⇓*e*PcP PcP 16 06 15.6 -3.6
SYO ⇑*e*pP pP 16 06 26.2 +1.2
SYO ⇓*e*PP PP 16 09 37.7 -1.4
OHCM Honcut 86.75 47 *e*P **P** **16 06 16.9 -0.3**
CMB Columbia Colle 87.00 49 *e*P **P** **16 06 17.9 -0.5**
MCK McKinley 87.16 18 *e*P **P** **16 06 21.4 +2.2**
comp=Z,8.5nm,1.0s,mb4.9
MCK *e* 16 06 32.8
ZAK Zakamensk 87.25 325⇓*i*P **P** **16 06 19.0 -0.6**
ZAK pmax pmax
comp=Z,73nm,1.7s,mb5.6
ISA Isabella 87.47 52 P **P** **16 06 20.3 -0.4**
ISA pmax pmax
comp=Z,11nm,1.1s,mb5.0
ISA Isabella 87.47 52 P **P** **16 06 20.3 -0.4**
comp=Z,11nm,1.1s,mb5.0
IRK Irkutsk 87.68 327 *e*P **P** **16 06 18.0 -3.7**
IRK pmax pmax
comp=Z,47nm,2.4s,mb5.3
WAKR Walker 87.87 49 P **P** **16 06 23.8 +1.2**
COLA College 88.33 18 *i*P **P** **16 06 22.4 -2.3**
COLA College 88.33 18 *e*P **P** **16 06 20.5 -4.2**
comp=Z,7.2nm,0.8s,mb5.0
DAC Darwin (Calif) 88.36 51 P **P** **16 06 25.5 +0.6**
ILAR Eielson Array 88.53 18 P **P** **16 06 23.1 -2.6**
comp=Z,2.1nm,0.7s,mb4.6,baz=240,slow=4.8,SNR=48
GSC Goldstone 88.59 53 P **P** **16 06 27.1 +1.1**
MOD Modoc 88.63 45 *e*P **P** **16 06 27.0 +0.8**
comp=Z,10.0nm,1.0s,mb5.1
NVAR Mina Array Bea 88.66 49 P **P** **16 06 26.2 -0.1**
comp=Z,2.3nm,0.8s,mb4.5,baz=216,slow=6.3,SNR=20
PALK Pallekele 88.79 278 P **P** **16 06 28.4 +1.4**
comp=Z,18nm,0.9s,mb5.4
MOY Mondy 89.14 325 *e*P **P** **16 06 27.8 -0.8**
MOY pmax pmax
comp=Z,52nm,2.6s,mb5.4
TPH Tonopah 89.31 50 P **P** **16 06 28.0 -1.4**
TPH pmax pmax
comp=Z,30nm,1.7s,mb5.3
TPH Tonopah 89.31 50 P **P** **16 06 28.0 -1.4**
comp=Z,30nm,1.7s,mb5.3
PMSA Palmer Station 89.80 160 *e*P **P** **16 06 32.9 +1.2**
comp=Z,108nm,1.1s,mb6.1
WVOR Wild Horse Val 89.97 45 P **P** **16 06 26.5 -6.0**
comp=Z,59nm,1.7s,mb5.6
JIRN Jiri 90.05 299 *e*P **P** **16 06 32.2 -0.6**
BMN Battle Mountai 90.19 48 P **P** **16 06 32.8 -0.7**
BMN *e* pP 16 06 42.3 +0.6
NEN Nelson 90.21 53 *e*P **P** **16 06 30.6 -3.0**
SHPR Sheep Range 90.28 52 P **P** **16 06 34.8 +0.9**
GUN Gumba 90.39 299 *e*P **P** **16 06 33.7 -0.7**
PKI Pulchoki 90.68 299 *e*P **P** **16 06 35.5 -0.3**
comp=Z,26nm,1.1s,mb5.5
PKI Pulchoki 90.68 299 *e*P **P** **16 06 35.5 -0.3**
PKI pmax pmax
comp=Z,13nm,1.1s,mb5.2
KKN Kakani 90.86 299 *e*P **P** **16 06 36.3 -0.3**
comp=Z,21nm,0.9s,mb5.5
KKN Kakani 90.86 299 *e*P **P** **16 06 36.3 -0.3**
KKN pmax pmax
comp=Z,11nm,0.9s,mb5.2
DMN Daman 90.94 298 *e*P **P** **16 06 36.8 -0.2**
NVL N'lazarevskaya 90.97 188⇑*i*P **P** **16 06 37.7 +0.6**
NVL *i* *PP pP 16 06 47.0 +1.7
NVL *i* *SP sP 16 06 50.7 +2.5
NVL *e* 16 17 29.8
NVL pmax pmax
comp=Z,57nm,1.2s,mb5.8
NVL MLR MLR
comp=Z,2µm,17.7s,MS5.6
SNAA Sanae 91.45 183 P **P** **16 06 38.9 -0.5**
comp=Z,7.1nm,0.8s,mb5.0,baz=192,slow=9.0
GKN Gorkha 91.46 299 *e*P **P** **16 06 40.1 +0.7**
ELK Elko 91.72 48 P **P** **16 06 41.4 +0.8**
BMO Blue Mountains 91.79 44 pP pP 16 06 56.6 +7.5
ARUT Antelope Range 92.01 51 P **P** **16 06 41.2 -0.7**
TIXI Tiksi 92.02 349 *e*P **P** **16 06 39.3 -2.7**
TIXI *e*S 16 17 13.8
TIXI pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
TIXI Tiksi 92.02 349 P **P** **16 06 40.2 -1.8**
VNA3 Neumayer Olymp 92.11 181 *e*P **P** **16 06 42.1 -0.3**
VNA3 *e* 16 06 43.6
VNA3 *e* pP 16 06 51.3 +0.7
VNA3 *e* 16 07 01.6
VNA3 *e* 16 07 25.0
KOLN Koldanda 92.26 298 *e*P **P** **16 06 44.5 +1.4**
comp=Z,17nm,0.9s,mb5.3
TUC Tucson 92.29 57 *e*P **P** **16 06 42.5 -0.7**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
TUC Tucson 92.29 57 *e*P **P** **16 06 42.5 -0.7**
comp=Z,3.0nm,0.8s,mb4.7
VNA2 Neumayer--Watz 92.38 182 *e*P **P** **16 06 43.3 -0.4**
VNA2 *e* 16 06 45.0
VNA2 *e* pP 16 06 52.8 +1.0
VNA2 *e* 16 06 57.9
VNA2 *e* 16 07 03.5
VNA2 *e* 16 07 08.2
VNA2 *e* 16 07 17.5
VNA2 *e* 16 07 26.6
VNA2 *e* 16 11 36.8
MVU Marysvale 93.16 51 pP pP 16 07 04.0 +8.6
HLID Hailey 93.27 45 P **P** **16 06 49.6 +1.9**
HYB Hyderabad 93.71 287 *i*P **P** **16 06 50.0 +0.2**
HYB Hyderabad 93.71 287 *e*P **P** **16 06 50.0 +0.2**
WMQ Urumqi 94.18 314 P **P** **16 06 52.0 0.0**
WMQ PP PP 16 10 41.0 +2.4
WMQ AMB AMB
comp=Z,49nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,108nm,6.0s
WMQ LR LR
comp=N,2µm,10.0s,MS6.0
WMQ LR LR
comp=E,2µm,10.0s,MS6.0
WMQ LR LR
comp=Z,2µm,10.0s,MS6.0
INK Inuvik 94.89 19 P **P** **16 06 57.0 +1.8**
comp=Z,6.7nm,1.3s,mb4.9
PDAR Pinedale Array 96.39 47 P **P** **16 07 01.8 -0.2**
comp=Z,0.2nm,0.6s,baz=272,slow=2.6,SNR=2.5
PDAR PKKPbc PKKPbc 16 23 45.2 -1.7
comp=Z,0.9nm,0.8s,baz=72,slow=6.4,SNR=4.1
MKAR Makanchi Array 98.70 316 P **P** **16 07 12.2 -0.2**
comp=Z,1.1nm,0.6s,mb4.6,baz=89,slow=5.9,SNR=13
MKAR PP PP 16 11 10.6 -3.0
comp=Z,4.9nm,1.1s,baz=108,slow=7.8,SNR=5.8
MKAR PKKPbc PKKPbc 16 23 39.4 -1.1
comp=Z,1.1nm,0.8s,baz=343,slow=1.5,SNR=3.3
MKAR Makanchi Array 98.70 316 P **P** **16 07 12.2 -0.3**
MKAR 16 11 10.6
MKAR Makanchi Array 98.70 316 P **P** **16 07 12.2 -0.2**
MKAR PP PP 16 11 10.6 -3.0
MKAR PKKPbc PKKPbc 16 23 39.4 -1.1
ZAL Zalesovo 99.08 324 P **P** **16 07 14.1 0.0**
comp=Z,1.0nm,0.8s,mb4.4,baz=308,slow=6.9,SNR=8.2
YKA Yellowknife Ar 99.42 27 P **P** **16 07 13.9 -1.8**
comp=Z,0.6nm,0.7s,baz=256,slow=4.4,SNR=10
YKA PKiKP PKiKP 16 11 43.1 -1.9
comp=Z,0.2nm,0.5s,baz=240,slow=1.4,SNR=3.6
YKA PKKPbc PKKPbc 16 23 37.0 -1.4
comp=Z,0.4nm,0.9s,baz=70,slow=3.2,SNR=3.6
NVS Novosibirsk 100.20 324 *e*P Pdif 16 07 15.4 -3.7
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,15nm,1.6s
NVS pmax pmax
comp=Z,28nm,1.6s
KURK Kurchatov 101.98 319 *e*P Pdif 16 07 25.6 -1.5
TKM2 Tokmak 2 102.45 311 P PKiKP 16 11 51.7 +1.2
SNR=18
KZA Kyzart 102.54 310 P PKiKP 16 11 49.1 -1.6
SNR=27
CHMS Chumysh 103.08 311 P PKiKP 16 11 54.6 +2.9
SNR=21
UCH Uchtor 103.10 310 P PKiKP 16 11 56.0 +4.3
SNR=12
USP Ospenovka 103.31 311 P PKiKP 16 11 51.5 -0.6
SNR=40
AML Almayashu 103.68 310 P PKiKP 16 11 53.2 +0.4
SNR=22
EKS2 Erkin-Say 103.72 311 P PKiKP 16 11 53.9 +1.1
SNR=26
BVAR Borovoye Array 107.37 321 Pdiff Pdif 16 07 51.5 +0.5
comp=Z,0.2nm,0.5s,baz=108,slow=9.3,SNR=2.6
ARU Arti 114.19 325 *i*PKIKP PKiKP 16 12 17.6 +5.1
ARU Arti 114.19 325 *e*PKPdf PKiKP 16 12 11.8 -0.7
LPAZ La Paz 116.25 118 PKP PKPdf 16 12 17.9 +1.4
comp=Z,0.9nm,0.9s,baz=270,slow=2.0,SNR=2.8
CPUP Villa Florida 119.03 134 PKIKP PKPdf 16 12 22.2 +0.4
APA Apatity 121.36 341⇓*i*PKIKP PKPdf 16 12 33.9 +7.6
APA pmax pmax
comp=Z,59nm,1.4s
APA MLR MLR
comp=Z,5µm,20.0s,MS6.2
BOSA Boshof 121.75 220 PKP PKPdf 16 12 27.7 +0.7
comp=Z,3.9nm,0.9s,baz=70,slow=4.8,SNR=7.7
ARCES ARCESS Array B 122.28 345 PKP PKPdf 16 12 26.8 -1.2
comp=Z,2.0nm,0.5s,baz=67,slow=2.0,SNR=20
ARCES PKKPbc PKKPbc 16 22 30.2 +6.7
comp=Z,4.4nm,0.9s,baz=278,slow=3.6,SNR=4.3
ARCES ARCESS Array B 122.28 345 PKP PKPdf 16 12 26.8 -1.2
ARCES PKKPbc PKKPbc 16 22 30.2 +6.7
SDV Santo Domingo 123.19 90 *e*PKPdf PKPdf 16 12 28.0 -1.7
LBTB Lobatse 124.08 223 PKP PKPdf 16 12 32.1 +0.7
comp=Z,4.3nm,0.7s,baz=134,slow=1.4,SNR=8.0
JOF Joensuu 124.82 337 *e*p PKPdf 16 12 32.6 -0.3
comp=Z,14nm,0.9s
JOF Joensuu 124.82 337 *e*PKIKP PKPdf 16 12 32.6 -0.3
JOF pmax pmax
comp=Z,14nm,0.9s
GNI Garni 125.40 308 PKP PKPdf 16 12 36.0 +2.0
comp=Z,2.4nm,0.4s,baz=104,slow=8.3,SNR=3.2
GNI Garni 125.40 308 *e*PKPdf PKPdf 16 12 35.4 +1.4
ZEI Tsey 125.62 311 *i*PKIKP PKPdf 16 12 36.8 +2.4
ZEI *i* 16 14 23.8
MOS Moscow 125.65 328 *e*PKIKP PKPdf 16 12 44.7 +10
MOS *e* 16 14 25.7
MOS pmax pmax
comp=Z,59nm,1.1s
MOS MLR MLR
comp=N,3µm,21.0s,MS6.1
MOS MLR MLR
comp=E,3µm,21.0s,MS6.1
MOS MLR MLR
comp=Z,8µm,21.0s,MS6.4
VOR Voronezh 126.34 323 PKIKP PKPdf 16 12 33.0 -2.8
VOR pmax pmax
comp=Z,90nm,1.9s
OBN Obninsk 126.46 327⇓*i*PKIKP PKPdf 16 12 35.3 -0.7
OBN *e* 16 12 45.1
OBN 16 19 39.0
OBN pmax pmax
comp=Z,43nm,2.2s
VRSR Storozhevoye 126.52 322 *e*PKIKP PKPdf 16 12 31.9 -4.2
VRSR *e* 16 14 30.7
VRSR pmax pmax
comp=Z,30nm,4.2s
VRSR pmax pmax
comp=N,10.0nm,3.3s
KAF Kangasniemi 127.14 338 *e*p PKPdf 16 12 36.1 -1.2
comp=N,6.5nm,1.0s
KAF Kangasniemi 127.14 338 *e*PKIKP PKPdf 16 12 36.1 -1.2
KAF pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 127.57 255 PKP PKPdf 16 12 39.1 +0.9
comp=Z,1.4nm,0.7s,baz=43,slow=24,SNR=6.2
KMBO Kilima Mbogo 127.57 255 *e*PKPdf PKPdf 16 12 40.0 +1.9
FINES FINESS Array B 127.66 338 PKP PKPdf 16 12 37.2 -1.1
comp=Z,0.7nm,0.5s,baz=42,slow=2.6,SNR=10
LSZ Lusaka 128.52 234 PKP PKPdf 16 12 41.5 +1.6
comp=Z,2.2nm,0.7s,baz=143,slow=2.4,SNR=7.0
LSZ PP PP 16 14 42.8 -2.4
comp=Z,2.3nm,0.7s,baz=124,slow=4.3,SNR=3.4
LSZ Lusaka 128.52 234 PKIKP PKPdf 16 12 41.5 +1.6
LSZ 16 14 42.8
LSZ pmax pmax
comp=Z,2.0nm,0.7s
LSZ pmax pmax
comp=Z,2.0nm,0.7s
LSZ Lusaka 128.52 234 *e*PKPdf PKPdf 16 12 40.1 +0.2
LSZ *e*PP PP 16 14 41.7 -3.5
SJG San Juan 129.20 80 *e*PKIKP PKPdf 16 12 40.5 -0.8
MALT Malatya 130.54 306 *e*PKIKP PKPdf 16 12 43.6 -0.2
BORG Borgarnes 131.78 5 PKP PKPdf 16 12 51.6 +5.4
AKASG Malin Array Be 132.45 325 PKP PKPdf 16 12 46.8 -0.6
comp=Z,0.3nm,0.4s,baz=71,slow=1.3,SNR=10
AKASG PP PP 16 15 07.8 -3.0
comp=Z,2.2nm,0.8s,baz=50,slow=6.2,SNR=6.9
AKASG SKPbc SKPbc 16 16 14.8 +2.2
comp=Z,2.8nm,0.8s,baz=49,slow=4.3,SNR=4.6
AKASG Malin Array Be 132.45 325 PKIKP PKPdf 16 12 46.8 -0.6
AKASG 16 15 07.8
NB2 NORSAR Subarra132.64 344 PKPd PKPdf 16 12 50.2 +2.4
comp=Z,3.8nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 132.64 344 PKP PKPdf 16 12 48.1 +0.3
comp=Z,1.9nm,0.6s,baz=36,slow=2.1,SNR=6.2
NOA SKPbc SKPbc 16 16 15.1 +1.9
comp=Z,5.5nm,0.9s,baz=34,slow=2.9,SNR=7.9
BRTR Keskin Array B 133.84 309 PKP PKPdf 16 12 50.6 +0.6
comp=Z,1.1nm,0.9s,baz=14,slow=3.0,SNR=3.3
BRTR PP PP 16 15 21.7 +2.1
comp=Z,2.6nm,1.1s,baz=92,slow=7.5,SNR=3.6
BURAR Bucovina Array 136.29 323 ⇑P PKPdf 16 12 47.5 -7.1
KOLS Kolonicke sedl 137.19 326 *e*PKP PKPdf 16 13 05.5 +9.2
STHS Stebnicka Huta 137.44 327 *e*PKP PKPdf 16 12 57.0 +0.3
STHS *e* 16 13 06.9
CRVS Cervenica-Dubn 137.64 327 *e*PKP PKPdf 16 13 05.8 +8.7
CRVS *e*PKSDF 16 16 35.8
OJC Ojcow 137.66 329 *e*PKP PKPdf 16 12 54.5 -2.6
KECS Kecovo 138.41 327 *e*PKP pPKPdf 16 13 09.2 +2.3
OKC Ostrava-Krasne 138.72 330 *e*PKPdf PKPdf 16 12 58.9 -0.2
OKC AMS AMS 17 11 10.0
comp=Z,13µm,21.1s
KSP Ksiaz 138.89 332 *e*PKIKP PKPdf 16 13 00.7 +1.3
KSP *e* 16 15 54.7
MORC Moravsky Berou 139.05 330 *e*PKPdf PKPdf 16 12 56.5 -3.2
PSZ Piszkesteto 139.06 326 *e*PKIKP PKPdf 16 13 00.0 +0.3
DPC Dobruska-Polom 139.22 332 *e*PKPdf PKPdf 16 13 01.3 +1.3
DPC AMS AMS 17 12 40.0
comp=Z,9µm,21.5s
UPC Upice 139.25 332 *e*PKPdf PKPdf 16 13 01.2 +1.1
BZS Buzias 139.45 322 ⇓P PKPdf 16 13 00.5 +0.1
BZS Buzias 139.45 322 ⇓P PKPdf 16 13 00.5 +0.1
VRAC Vranov 139.82 330 PKP PKPdf 16 13 02.5 +1.4
comp=Z,0.8nm,0.3s,baz=329,slow=5.7,SNR=4.2
BRG Berggiesshubel 139.89 334 *e*PKIKP pPKPdf 16 13 12.6 +3.0
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.2s
BRG Berggiesshubel 139.89 334 *e*PKP pPKPdf 16 13 12.6 +3.0
BRG *e* 16 13 14.0
BRG *e* 16 16 30.0
CLL Collm 139.96 335⇓*i*PKPdf PKPdf 16 13 00.8 -0.5
comp=Z,52nm,2.0s
CLL *i* pPKPdf pPKPdf 16 13 12.7 +3.0
CLL *e*(PP) 16 16 08.0
CLL Collm 139.96 335⇓*i*PKIKP PKPdf 16 13 00.8 -0.5
CLL *i* 16 13 12.7
CLL pmax pmax
comp=Z,52nm,2.0s
CLL Collm 139.96 335⇓*i*PKP PKPdf 16 13 00.8 -0.5
CLL *i* pPKP pPKPdf 16 13 12.7 +3.0
SRO Srobarova 139.96 327 *e*PKP pPKPdf 16 13 12.5 +2.8
PRU Pruhonice 140.28 332 *e*PKPdf PKPdf 16 13 02.7 +0.8
PRU *ex* x 16 16 04.4
PRU AMS AMS 17 14 00.0
comp=Z,6µm,20.8s
PRU Pruhonice 140.28 332 *e*PKP PKPdf 16 13 02.7 +0.8
PRU *e* 16 16 04.4
ZST Bratislava 140.32 329 *e*PKP PKPdf 16 13 03.5 +1.5
ZST *e* 16 13 10.5
PKSM Moragy 140.79 325⇑*i*PKIKP PKPdf 16 13 01.2 -1.6
NKC Novy Kostel 141.00 334 *e*PKPdf PKPdf 16 13 04.4 +1.2
NKC *ex* x 16 18 16.3
NKC AMS AMS 17 13 40.0
comp=Z,8µm,19.4s
NKC Novy Kostel 141.00 334 *e*PKP PKPdf 16 13 04.4 +1.2
NKC *e* 16 18 16.3
MOX Moxa 141.03 335 *e*(PKP) 16 13 02.2
MOX *e* 16 14 44.8
KHC Kasperske Hory 141.34 332 *e*PKPdf PKPdf 16 13 05.5 +1.7
KHC *e*pPKP pPKPdf 16 13 18.5 +6.3
KHC *ex* x 16 15 46.5
KHC *e*PP PP 16 16 13.0 +6.7
KHC AMS AMS 17 14 50.0
comp=Z,13µm,22.4s
KHC Kasperske Hory 141.34 332 *e*PKIKP PKPdf 16 13 05.5 +1.7
KHC *e* 16 13 18.5
KHC *e* 16 13 13.0
KHC Kasperske Hory 141.34 332 *e*PKP PKPdf 16 13 05.5 +1.7
KHC *e* 16 13 18.5
KHC *e* 16 15 46.5
KHC *e* 16 16 13.0
GERES GERESS Array B 141.49 332 PKhKP 16 12 58.3
comp=Z,0.8nm,0.6s,baz=14,slow=2.8,SNR=6.0
GERES SKP 16 16 39.5
comp=Z,2.1nm,1.0s,baz=161,slow=3.6,SNR=3.0
GERES GERESS Array B 141.49 332 PKHKP 16 12 58.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=N,2.0nm,1.0s
GRA1 Grafenberg Arr 141.93 335 *e*PKPdf PKPdf 16 13 04.7 -0.2
GRF Grafenberg Arr 141.93 335 *e*PKPdf PKPdf 16 13 04.7 -0.2
PERS Pernice 142.37 328 *e*PKPdf PKPdf 16 13 11.5 +5.8
PERS *e*PKPbc pPKPdf 16 13 18.8 +4.7
SISC Sisak 142.49 326 *i*PKP PKPdf 16 13 03.0 -2.8
BOJS Bojanci 143.06 327 *e*PKPdf PKPdf 16 13 03.7 -3.2
BOJS *e*PKPbc PKPdf 16 13 13.4 +6.5
LJU Ljubljana 143.08 328 *e*PKPbc PKPdf 16 13 14.6 +7.7
MEM Membach 143.10 340 PKP PKPdf 16 13 04.7 -2.3
MEM APKP 16 13 18.8
DLF Lyons Farm 143.30 354 *e*P pPKPdf 16 13 20.0 +4.3
DCN Croghan 143.32 354 *e*P pPKPdf 16 13 21.0 +5.2
VOY Vojsko 143.40 328 *e*PKPdf PKPdf 16 13 05.1 -2.4
VOY *e* 16 13 10.7
ROBS Robic 143.45 329 *e*PKPdf PKPdf 16 13 05.4 -2.2
ROBS *e*PKPbc PKPdf 16 13 14.8 +7.2
STU Stuttgart 143.47 335 *e*PKPdf PKPdf 16 13 10.8 +3.1
RUP Ruppelstein 143.51 338 PKIKP PKPdf 16 13 05.7 -2.0
WTTA Wattenberg 143.60 332 *i*P PKPdf 16 13 06.0 -1.8
comp=N,27nm,1.0s,SNR=6.8
SNF Seneffe 143.73 342 PKP PKPdf 16 13 09.0 +0.9
SNF PKiKP PKiKP 16 13 14.2 +2.7
SNF APKP 16 13 21.1
MOTA Moosalm 143.78 332 *i*P PKPdf 16 13 06.2 -2.0
comp=N,31nm,1.1s,SNR=10
SQTA Sankt Quirin 143.82 332 *i*P PKPdf 16 13 06.6 -1.6
comp=N,72nm,1.6s,SNR=8.7
SQTA Sankt Quirin 143.82 332 *i*P PKPdf 16 13 06.6 -1.6
LANF Langenberg 143.84 337 PKP PKPdf 16 13 09.2 +0.9
WLF Walferdange 143.86 339 PKP PKPdf 16 13 07.5 -0.8
WLF APKP 16 13 19.9
WLF Walferdange 143.86 339 *e*PKPdf PKPdf 16 13 03.7 -4.6
GIVF Givet 143.92 341 *e*PKP1 PKPdf 16 13 05.9 -2.5
DOU Dourbes 144.00 341 PKP PKPdf 16 13 05.4 -3.1
DOU APKP 16 13 19.1
DOU XPKP 16 13 25.0
BAIF Baives 144.15 341 *e*PKP1 PKPdf 16 13 06.8 -2.0
comp=N,101nm,1.4s
BFO Black Forest 144.17 336 *e*PKIKP PKPdf 16 13 07.0 -1.8
DAVA Damuels 144.36 333⇑*i*PKPdf PKPdf 16 13 08.7 -0.5
comp=N,65nm,1.1s
WLS Welschbruch 144.47 337 PKP PKPdf 16 13 08.5 -0.9
CDF Champ du Feu 144.50 337 *e*PKP1 PKPdf 16 13 07.8 -1.6
comp=N,320nm,1.3s
LIBD Limburg 144.60 336 PKIKP PKPdf 16 13 09.2 -0.4
FELD Feldberg 144.66 336 PKP PKPdf 16 13 09.2 -0.5
ECH Echery 144.71 337 PKP PKPdf 16 13 09.0 -0.8
DAVOX Davos 144.75 333 PKP PKPdf 16 13 09.4 -0.5
comp=N,43nm,0.8s,baz=234,slow=0.4,SNR=49
MOF Molkenrain 145.02 336 PKP PKPdf 16 13 09.7 -0.6
THEF They Montfort 145.13 338 PKP PKPdf 16 13 10.7 +0.2
HINF Hinteralfeld 145.16 337 *e*PKP1 PKPbc 16 13 09.8 -0.3
comp=N,185nm,1.1s
HAU Haudompre 145.19 337 *e*PKP1 PKPbc 16 13 11.0 +0.8
comp=N,606nm,1.2s
BBS Basel-Blauen 145.19 336 PKIKP PKPdf 16 13 10.9 +0.3
MEZF Maizieres J'vi 145.23 339 *e*PKP1 PKPbc 16 13 10.7 +0.3
comp=N,709nm,1.2s
LOMF Lomont 145.55 336 PKP PKPdf 16 13 12.3 +1.1
TIP Timpagrande 145.99 317 *e*PKPdf PKPdf 16 13 12.3 +0.3
AQU L'Aquila 146.14 324 *e*PKP2 PKPab 16 13 12.2 -1.7
OG01 Vacheresse 146.45 335 PKP PKPdf 16 13 15.0 +2.2
CABF La Chapelle 146.45 336 *e*PKP1 PKPbc 16 13 14.5 +0.4
comp=N,1µm,1.7s
FLN La Foiniere 146.62 345 *e*PKP1 PKPbc 16 13 14.4 -0.2
comp=N,399nm,1.1s
LDF La Drutiere 146.69 345 *e*PKP1 PKPbc 16 13 14.6 -0.2
comp=N,344nm,1.3s
LOR Lormes 146.70 339 *e*PKP1 PKPbc 16 13 15.2 +0.3
comp=N,458nm,1.2s
SSF Saint Saulge 147.00 339 *e*PKP1 PKPbc 16 13 15.8 +0.1
comp=N,219nm,1.0s
GRR Gorron 147.06 345 *e*PKP1 PKPbc 16 13 15.8 -0.1
comp=N,362nm,1.2s
LPL La Plagne 147.09 334 *e*PKP1 PKPbc 16 13 16.3 +0.3
comp=N,147nm,1.0s
LPG La Plagne 147.09 334 *e*PKP1 PKPbc 16 13 16.5 +0.5
comp=N,216nm,1.1s
HYF Humbligny 147.10 341 *e*PKP1 PKPbc 16 13 16.4 +0.4
OG05 Jujurieux 147.16 336 PKP PKPdf 16 13 17.2 +3.2
SMF Signal de Mont 147.25 339 *e*PKP1 PKPbc 16 13 16.2 -0.2
comp=N,326nm,1.4s
AVF Avril sur Loir 147.29 339 *e*PKP1 PKPbc 16 13 16.6 +0.1
comp=N,180nm,1.2s
BNI Bardonecchia 147.49 334 *e*PKP2 PKPbc 16 13 15.7 -1.4
SGMF Saint Gilles 147.57 347 *e*PKP1 PKPbc 16 13 16.6 -0.7
comp=N,326nm,1.2s
ROSF Rostrenen 147.64 348 *e*PKP1 PKPbc 16 13 16.1 -1.4
comp=N,224nm,1.2s
BGF Bois d'Agland 147.66 340 *e*PKP1 PKPbc 16 13 17.5 0.0
comp=N,252nm,1.0s
MBDF Montbardon 147.71 334 *e*PKP1 PKPbc 16 13 17.7 0.0
GRN Grenoble 147.71 335 PKP PKPbc 16 13 19.4 +1.7
GRN Grenoble 147.71 335 PKP PKPbc 16 13 19.1 +1.4
GRN PKP PKPdf 16 13 19.4 +4.5
PLDF La Plantade 147.90 338 PKP PKPbc 16 13 19.9 +1.7
ORIF Oris-en-Rattie 147.93 335 *e*PKP1 PKPbc 16 13 18.3 0.0
SAOF Saorge 147.95 332 PKP PKPbc 16 13 18.7 +0.4
AUTN L'Aution 148.00 332 PKP PKPbc 16 13 19.6 +1.1
AGO Saint Agoulin 148.00 339 PKP PKPbc 16 13 19.4 +0.9
QUIF Quistinic 148.02 348 *e*PKP1 PKPbc 16 13 18.5 0.0
comp=N,195nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**148.10**	**332**	*e*PKP1	PKPbc	16 13 18.4	-0.3
	comp=N,498nm,1.4s						
TCF	**Toulx Ste Croi**	**148.11**	**340**	*e*PKP1	PKPbc	16 13 19.0	+0.3
	comp=N,223nm,1.3s						
MVIF	**Mont Vial**	**148.20**	**332**	PKP	PKPbc	16 13 20.0	+1.0
REVF	**Revere**	**148.22**	**332**	PKP	PKPbc	16 13 22.0	+2.9
COLF	**Collangettes**	**148.27**	**338**	PKP	PKPbc	16 13 20.5	+1.3
PYM	**Petit Puy Mans**	**148.31**	**339**	PKP	PKPbc	16 13 20.6	+1.3
PGF	**Pioggiola**	**148.35**	**329**	*e*PKP1	PKPbc	16 13 19.3	-0.1
	comp=N,218nm,1.0s						
VIVF	**Saint-Julien-l**	**148.46**	**336**	*e*PKP1	PKPbc	16 13 20.2	+0.5
	comp=N,468nm,1.8s						
MFF	**Saint Martin d**	**148.53**	**343**	*e*PKP1	PKPbc	16 13 20.0	+0.2
	comp=N,202nm,1.1s						
LBL	**Lubilhac**	**148.67**	**338**	PKP	PKPbc	16 13 22.0	+1.8
FRF	**La Foret Royal**	**148.69**	**332**	*e*PKP1	PKPbc	16 13 20.1	-0.2
	comp=N,436nm,1.7s						
SMRF	**Simiane la Rot**	**148.82**	**334**	*e*PKP1	PKPbc	16 13 21.0	+0.4
	comp=N,608nm,1.7s						
VILF	**Villemus**	**148.86**	**334**	PKP	PKPbc	16 13 21.7	+1.0
LMR	**La Mourre**	**148.93**	**332**	*e*PKP1	PKPbc	16 13 20.8	-0.1
	comp=N,596nm,1.8s						
PRAF	**Pradon**	**149.13**	**334**	PKP	PKPbc	16 13 23.1	+1.7
TREF	**Trevaresse**	**149.19**	**334**	PKP	PKPbc	16 13 24.8	+3.3
RJF	**Les Rejaudoux**	**149.20**	**340**	*e*PKP1	PKPbc	16 13 21.9	+0.3
CAF	**Calviac**	**149.35**	**339**	*e*PKP1	PKPbc	16 13 22.3	+0.4
	comp=N,150nm,1.2s						
LASF	**Ste Croix**	**149.43**	**336**	*e*PKP1	PKPbc	16 13 22.2	+0.1
	comp=N,782nm,1.9s						
LFF	**La Frestale**	**149.78**	**341**	*e*PKP1	PKPbc	16 13 23.4	+0.4
	comp=N,217nm,1.2s						
MTLF	**Montolieu**	**150.68**	**337**	*e*PKP1	PKPbc	16 13 25.2	+0.1
	comp=N,156nm,1.1s						
EPF	**Esparros**	**151.61**	**340**	*e*PKP1	PKPbc	16 13 27.5	+0.2
ETSF	**Etsaut**	**152.02**	**341**	*e*PKP1	PKPbc	16 13 29.0	+0.8
	comp=N,74nm,0.9s						
SJPF	**Ste Jean**	**152.03**	**342**	*e*PKP1	PKPbc	16 13 27.6	-0.7
CMAH	**Djebel Manchou**	**153.40**	**322**	P	PKPab	16 13 41.0	-2.5
ABSA	**Djebel Ababsia**	**153.60**	**321**	P	PKPdf	16 13 34.0	+10
CKFL	**Kef-Lekhel**	**153.97**	**322**	P	PKPdf	16 13 34.0	+9.5
DFRA	**Djebel Bou Aff**	**154.35**	**324**	P	PKPab	16 13 45.0	-2.5
SET	**Setif**	**154.87**	**324**	P	PKPab	16 13 45.0	-4.7
AKF	**Akfadou**	**155.02**	**325**	P	PKPdf	16 13 31.9	+5.9
ESDC	**Sonseca Array**	**156.00**	**343**	PKPab	PKPab	16 13 55.1	+0.6
	comp=N,2.0nm,0.6s,baz=17,slow=4.0,SNR=4.8						
MDT	**Midelt**	**162.47**	**337**	PKPab	PKPab	16 14 24.8	+2.1
	comp=N,2.8nm,0.8s,baz=31,slow=5.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.57**	**257**	PKP	PKPdf	16 13 38.1	+0.5
	comp=N,2.4nm,0.8s,baz=339,slow=1.7,SNR=14						
TORD				PKPab	PKPab	16 14 36.6	+0.3
	comp=N,8.1nm,0.8s,baz=103,slow=3.9,SNR=12						
DBIC	**Dimbokro**	**167.28**	**218**	PKP	PKPdf	16 13 41.6	+2.7
	comp=N,2.8nm,0.8s,baz=90,slow=3.0,SNR=2.6						
DBIC				PKPab	PKPab	16 14 44.0	+0.2
	comp=N,7.4nm,0.8s,baz=130,slow=5.4,SNR=9.4						
DBIC	**Dimbokro**	**167.28**	**218**	*e*PKPdf	PKPdf	16 13 39.4	+0.5

CRAAG ***18*** *15:59:19.5,5.14S×15205E,Mb6.1*
MOS ***18*** *15:59:19.8±1.4,5.13S×15205E,h33km,mb6.5/42, MS6.1/42,Error ellipse: s-maj=7.1km s-min=5.2km az=82.4*
NAO ***18*** *15:59:19.1,5.49S×15253E,h33km,mb5.0*
ISCJB ***18*** *15:59:21.9±0.1,5.24S±002×15206E±002,h54km, mb5.8/140,MS6.1/168,Error ellipse: s-maj=3.5km s-min=3.0km az=114.9*
BJI ***18*** *15:59:22.0,5.20S×152.10E,h44km,mB6.1,mb5.4,Ms6.1, Msz5.9*
NEIC ***18*** *15:59:22.1±0.9,5.19S×15205E,h44km±7km,mb5.9/70, ME5.9,MS6.2/115,MW6.2,Error ellipse: s-maj=3.9km s-min=3.6km az=91.0,Moment Tensor Solution. s31 Moment tensor: Scale 1018Nm; Mrr1.13; Mθθ-1.06; Mφφ-0.07; Mrθ-1.84; Mθφ1.53; Mφr-0.37; Best double couple: M0≏2.70000×1018 NP1:φs≏271.00000°,δ74.00000°, λ54.00000°. NP2:φs≏161.00000°,δ39.00000°,λ154.00000°. Principal axes: T 2.6500, Plg48.0000°, Azm143.0000°; N 0.0100, Plg34.0000°, Azm283.0000°; P -2.6700, Plg21.0000°, Azm28.0000°; Broadband fault plane solution: P waves. NP1:φs≏100.00000°,δ15.00000°, λ90.00000°. NP2:φs≏280.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm190.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm10.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
HRVD ***18*** *15:59:22.1±0.1,527S×152.13E,h46km,MW6.2/107, Centroid moment Tensor Solution. LP body waves: s102,c224;Mantle waves: s107,c392; Half duration: 3∓1 Moment tensor: Scale 1018Nm; Mrr1.50±.02; Mθθ-1.65±.01; Mφφ0.14±.01; Mrθ-1.92±.02; Mθφ0.44±.01; Mφr0.18±.02; Best double couple: M0≏2.52400×1018 NP1:φs≏111.00000°,δ21.00000°,λ103.00000°. NP2: φs≏277.00000°,δ70.00000°,λ85.00000°. Principal axes: T 2.4090, Plg65.0000°, Azm179.0000°; N 0.2250, Plg5.0000°, Azm279.0000°; P -2.6400, Plg25.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***18*** *15:59:24.4,451S×15382E,h33km,mb6.2,New Ireland, Papua New Guinea, region*
IDC ***18*** *15:59:24.9±1.4,523S×15206E,h71km±11km,mb5.4/26, mb1 5.5/29,mb1mx5.5/30,mbtmp5.7/29,MS5.9/25, Ms1 5.9/25,ms1mx5.8/27,Error ellipse: s-maj=9.6km s-min=7.2km az=70.0*
ISC 18 15:59:24.0±0.1,524S±002×15211E±002,h56km, h56km±2.5km:pP-P,n806,σ1∓17/451,mb5.8/138,MS6.1/168, 27C-18D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.42**	**230**	P	**Pn**	**16 00 57.6**	**+1.7**
	76nm,0.3s,baz=39,slow=7.5,SNR=118						
PMG				S	**Sn**	**16 02 08.1**	**+0.4**
	173nm,0.3s,baz=90,slow=7.4,SNR=3.2						
PMG	**Port Moresby**	**6.42**	**230**	*i* P	**Pn**	**16 00 56.0**	**+0.1**
PMG	**Port Moresby**	**6.42**	**230**	*e*Pn	**Pn**	**16 00 57.5**	**+1.6**
PMG				*e*Sn	**Sn**	**16 02 10.4**	**+2.6**
HNR	**Honiara**	**8.82**	**119**	P	**Pn**	**16 01 29.3**	**+0.6**
	51nm,0.3s,baz=268,slow=2.6,SNR=29						
HNR	**Honiara**	**8.82**	**119**	*e*Pn	**Pn**	**16 01 29.2**	**+0.4**
	2μm,1.0s						
CTA	**Charters Tower**	**15.82**	**201**	*e*P	**Pn**	**16 03 04.1**	**+1.1**
	205nm,0.9s						
CTA	**Charters Tower**	**15.82**	**201**	P	**Pn**	**16 03 04.5**	**+1.4**
	6.1nm,0.3s,baz=31,slow=14,SNR=17						
CTA				S	**S**	**16 06 00.4**	**-8.8**
	0.4nm,0.3s,baz=72,slow=20,SNR=1.7						
CTA				LR	LR	16 08 26.2	
	comp=Z,105μm,21.4s,baz=12,slow=34						
CTA	**Charters Tower**	**15.82**	**201**	*e*P	**Pn**	**16 03 04.1**	**+1.1**
CTA				pmax	pmax		
	comp=Z,205nm,0.9s						
CTAO	**Charters Tower**	**15.82**	**201**	*e*P	**Pn**	**16 03 03.8**	**+0.8**
	comp=Z,457nm,1.0s						
GUMO	**Guam**	**20.04**	**339**	P	**P**	**16 03 53.4**	**+1.2**
	comp=Z,3μm,1.1s,baz=167,slow=8.5,SNR=17						
GUMO				S	**S**	**16 07 36.3**	**+2.0**
	comp=Z,49nm,0.5s,baz=66,slow=19,SNR=1.5						
GUMO				LR	LR	16 10 38.2	
	comp=Z,16μm,20.7s,MS5.3,baz=158,slow=34						
GUMO	**Guam**	**20.04**	**339**	Pn	**P**	**16 03 53.1**	**+0.9**
KAKA	**Kakadu**	**20.78**	**248**	⇑*i*P	**P**	**16 03 59.6**	**-0.7**
KAKA				*e*S	**S**	**16 07 49.5**	**+0.4**
KWAJ	**Kwajalein Atol**	**20.82**	**48**	P	**P**	**16 04 00.6**	**-0.1**
	comp=Z,12μm,0.9s,SNR=9.3						
KWAJ	**Kwajalein Atol**	**20.82**	**48**	Pn	**P**	**16 04 00.1**	**-0.6**
KWAJ				LR	LR		
	comp=Z,67μm,20.0s,MS6.0						
DZM	**Mont Dzumac**	**21.74**	**142**	P	**P**	**16 04 10.6**	**+0.1**
	comp=Z,604nm,1.0s,mb6.0,baz=1.3,slow=8.4,SNR=72						
DZM				S	**S**	**16 08 08.3**	**+0.5**
	comp=Z,33nm,1.2s,baz=73,slow=19,SNR=1.9						
DZM				LR	LR	16 11 23.7	
	comp=Z,77μm,20.6s,MS6.1,baz=316,slow=33						
WRAB	**Tennant Creek**	**22.62**	**228**	P	**P**	**16 04 19.9**	**-0.1**
	comp=Z,11μm,0.9s,SNR=94						
WRAB	**Tennant Creek**	**22.62**	**228**	*e*P	**P**	**16 04 18.8**	**-1.2**
WRAB				*e*S	**S**	**16 08 23.1**	**-0.9**
WB2	**Warramunga Arr**	**22.63**	**228**	⇑*i*P	**P**	**16 04 19.4**	**-0.6**
WB2				*e*S	**S**	**16 08 25.1**	**+1.0**
WB2				*e*		16 15 55.6	
WRA	**Warramunga Arr**	**22.64**	**228**	P	**P**	**16 04 19.4**	**-0.8**
	comp=Z,1μm,0.9s,mb6.3,baz=54,slow=9.8,SNR=138						
WRA				S	**S**	**16 08 23.9**	**-0.3**
	comp=Z,286nm,1.2s,baz=56,slow=18,SNR=12						
WRA				P3KPbc		16 37 57.0	
	comp=Z,2.0nm,1.1s,baz=236,slow=2.5,SNR=5.4						
WRA	**Warramunga Arr**	**22.64**	**228**	*i* P	**P**	**16 04 19.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1μm,0.9s						
WRA	**Warramunga Arr**	**22.64**	**228**	P	**P**	**16 04 19.4**	**-0.8**
WRA				S	**S**	**16 08 23.9**	**-0.3**
ARMA	**Armidale**	**25.05**	**181**	*e*P	**P**	**16 04 42.7**	**-0.2**
ASAR	**Alice Springs**	**25.36**	**222**	P	**P**	**16 04 45.3**	**-0.4**
	comp=Z,421nm,0.8s,mb6.0,baz=56,slow=9.1,SNR=150						
ASAR				S	**S**	**16 09 16.2**	**+8.1**
	comp=Z,24nm,1.1s,baz=43,slow=18,SNR=2.8						
ASAR				P3KPbc		16 37 42.5	
	comp=Z,0.9nm,0.7s,baz=210,slow=3.5,SNR=6.6						
ASAR	**Alice Springs**	**25.36**	**222**	P	**P**	**16 04 45.3**	**-0.4**
ASAR				S	**S**	**16 09 16.2**	**+8.1**
ASAR	**Alice Springs**	**25.36**	**222**	P	**P**	**16 04 45.3**	**-0.4**
ASAR				S	**S**	**16 09 16.2**	**+8.1**
ASAR				*e*		16 37 42.5	
FUNA	**Funafuti**	**27.09**	**98**	*e*P	**P**	**16 05 00.9**	**-0.4**
FUNA				LR	LR		
	comp=Z,18μm,21.0s,MS5.6						
WAKE	**Wake Island**	**28.26**	**30**	PFAKE		16 05 20.0	+8.2
WAKE				LR	LR		
	comp=Z,32μm,20.0s,MS5.9						
STKA	**Stephens Creek**	**28.27**	**199**	*e*P	**P**	**16 05 08.6**	**-3.3**
	comp=Z,340nm,0.8s,mb6.0						
STKA	**Stephens Creek**	**28.27**	**199**	P	**P**	**16 05 08.7**	**-3.1**
	comp=Z,330nm,0.7s,mb6.1,baz=6.2,slow=8.7,SNR=53						
STKA				S	**S**	**16 10 06.8**	**+13**
	comp=Z,9.3nm,0.7s,baz=197,slow=19,SNR=1.7						
STKA				LR	LR	16 16 36.7	
	comp=Z,50μm,19.8s,MS6.1,baz=11,slow=36						
RIV	**Riverview**	**28.46**	**182**	*e*P	**P**	**16 05 13.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.84**	**241**	⇑*i*P	**P**	**16 05 15.9**	**-1.1**
	comp=Z,1μm,1.0s,mb6.6						
FITZ				*e*		16 15 58.0	
BUKP	**Musuan**	**29.96**	**296**	*e*P	**P**	**16 05 29.1**	**+2.3**
CNB	**Canberra Magne**	**30.04**	**184**	*e*P	**P**	**16 05 27.6**	**+0.1**
	comp=Z,187nm,0.9s,mb5.8						
SCPH	**Surigao**	**30.43**	**299**	*e*P	**P**	**16 05 32.8**	**+1.8**
MSLP	**Maasin**	**31.14**	**299**	*e*P	**P**	**16 05 37.8**	**+0.6**
PAGZ	**Pagadian**	**31.46**	**294**	*e*P	**P**	**16 05 43.1**	**+3.0**
OCLP	**Ormoc**	**31.79**	**301**	*e*P	**P**	**16 05 44.8**	**+1.8**
TBP	**Tagbilaran**	**31.81**	**298**	*e*P	**P**	**16 05 42.6**	**-0.5**
SNPH	**Sibulan**	**32.21**	**297**	*e*P	**P**	**16 05 51.5**	**+4.8**
TOO	**Toolangi**	**32.75**	**190**	*e*P	**P**	**16 05 51.5**	**+0.2**
	comp=Z,39nm,0.9s,mb5.3						
TOO	**Toolangi**	**32.75**	**190**	*e*P	**P**	**16 05 51.5**	**+0.2**
TOO				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.3						
GUIM	**Jordan**	**33.35**	**298**	*e*P	**P**	**16 05 58.5**	**+1.9**
CBIJ	**Chichi jima**	**33.54**	**344**	P	**P**	**16 05 57.8**	**-0.5**
	comp=Z,102nm,0.6s,mb5.9,baz=225,slow=16,SNR=4.5						
RCP	**Roxas**	**33.64**	**300**	⇑*e*P	**P**	**16 06 02.1**	**+3.0**
CUYO	**Cuyo Island**	**34.83**	**297**	*e*P	**P**	**16 06 11.3**	**+1.9**
MBWA	**Marble Bar**	**35.16**	**240**	P	**P**	**16 06 11.5**	**-0.8**
MBWA				LR	LR		
	comp=Z,39μm,20.0s,MS6.2						
SJMP	**San Jose**	**35.46**	**300**	*e*P	**P**	**16 06 17.8**	**+2.9**
TSM	**Tawau**	**35.48**	**285**	P	pP	16 06 29.2	-0.1
OUZ	**Omahuta**	**35.83**	**149**	PN	**P**	**16 06 19.2**	**+1.2**
OUZ				PcP	PcP	16 08 46.6	+2.1
OUZ	**Omahuta**	**35.83**	**149**	P	**P**	**16 06 19.6**	**+1.6**
BUSP	**Coron**	**36.06**	**299**	*e*P	**P**	**16 06 22.0**	**+2.1**
PGP	**Puerto Galera**	**36.10**	**301**	*e*P	**P**	**16 06 20.0**	**-0.3**
ENPP	**El Nido**	**36.39**	**297**	*e*P	**P**	**16 06 25.0**	**+2.2**
TGY	**Tagaytay City**	**36.41**	**302**	P	**P**	**16 06 25.4**	**+2.4**
	comp=Z,463nm,1.0s,baz=166,slow=6.8,SNR=14						
TGY				LR	LR	16 18 59.1	
	comp=Z,52nm,18.8s,baz=117,slow=32						
AFI	**Afiamalu**	**36.60**	**106**	P	**P**	**16 06 24.6**	**+0.1**
	comp=Z,52nm,1.0s,mb5.3,baz=291,slow=7.1,SNR=7.6						
AFI				LR	LR	16 20 29.7	
	comp=Z,11μm,18.6s,MS5.7,baz=274,slow=34						
AFI	**Afiamalu**	**36.60**	**106**	*e*P	**P**	**16 06 23.2**	**-1.3**
	comp=Z,125nm,0.9s,mb5.7						
AFI				LR	LR		
	comp=Z,12μm,20.0s,MS5.7						
LUBP	**Lubang**	**36.81**	**301**	*e*P	**P**	**16 06 25.2**	**-1.2**
BATP	**Bataraza**	**36.93**	**292**	*e*P	**P**	**16 06 29.8**	**+2.3**
RAO	**Raoul Island**	**37.07**	**134**	P	**P**	**16 06 28.4**	**-0.2**
	comp=Z,752nm,0.7s,mb6.6,baz=118,slow=19,SNR=8.4						
RAO				LR	LR	16 19 20.6	
	comp=Z,22μm,21.7s,MS5.9,baz=112,slow=32						
RAO	**Raoul Island**	**37.07**	**134**	*e*P	**P**	**16 06 28.3**	**-0.2**
	comp=Z,2μm,1.2s,mb6.8						
RAO				LR	LR		
	comp=Z,25μm,22.0s,MS6.0						
KKM	**Kota Kinabalu**	**37.54**	**287**	*e*P	**P**	**16 06 32.0**	**-0.6**
KAAZ	**Kauri Point**	**37.64**	**150**	P	**P**	**16 06 34.9**	**+1.5**
WTAZ	**Waiatarua**	**37.66**	**150**	PN	**P**	**16 06 34.1**	**+0.5**
WTAZ	**Waiatarua**	**37.66**	**150**	*e*P	**P**	**16 06 34.1**	**+0.5**
MTAZ	**Motutapu**	**37.72**	**149**	PN	**P**	**16 06 35.6**	**+1.5**
MTAZ	**Motutapu**	**37.72**	**149**	P	**P**	**16 06 35.6**	**+1.5**
TAU	**Tasmania Unive**	**37.76**	**186**	P	**P**	**16 06 34.3**	**-0.1**
	comp=Z,2μm,1.2s,mb6.6,SNR=28						
TAU	**Tasmania Unive**	**37.76**	**186**	P	**P**	**16 06 34.7**	**+0.3**
TAU				pmax	pmax		
	comp=Z,493nm,1.3s,mb6.1						
TAU				MLR	MLR		
	comp=Z,36μm,22.0s,MS6.1						
TAU	**Tasmania Unive**	**37.76**	**186**	P	**P**	**16 06 34.7**	**+0.3**
	comp=Z,493nm,1.3s,mb6.1						
TAU				LR	LR		
	comp=Z,36μm,22.0s,MS6.1						
APYP	**Conner**	**38.14**	**308**	*e*P	**P**	**16 06 41.3**	**+3.7**
ABRA	**Dolores**	**38.44**	**307**	*e*P	**P**	**16 06 45.2**	**+5.0**
HIZ	**Hauiti**	**39.04**	**151**	PN	**P**	**16 06 46.2**	**+1.0**
HIZ				PcP	PcP	16 08 55.4	+1.1
HIZ	**Hauiti**	**39.04**	**151**	*e*P	**P**	**16 06 45.9**	**+0.7**
JOW	**Kunigami**	**39.35**	**325**	P	**P**	**16 06 47.9**	**+0.2**
	comp=Z,242nm,0.8s,mb6.0,baz=147,slow=6.0,SNR=13						
JOW				LR	LR	16 20 04.4	
	comp=Z,17μm,20.4s,MS5.9,baz=150,slow=32						
QRZ	**Quartz Range**	**39.89**	**156**	PN	**P**	**16 06 52.8**	**+0.5**
	comp=Z,86nm,0.6s,mb5.7						
QRZ				PcP	PcP	16 08 56.2	-0.8
QRZ	**Quartz Range**	**39.89**	**156**	*e*P	**P**	**16 06 52.6**	**+0.3**
JHJ	**Hachijo jima 2**	**39.90**	**344**	LR	LR	16 20 38.2	
	comp=Z,12μm,21.3s,MS5.7,baz=145,slow=32						
URZ	**Urewera**	**39.97**	**149**	P	**P**	**16 06 53.1**	**+0.2**
	comp=Z,85nm,0.8s,mb5.5,baz=15,slow=5.2,SNR=25						
URZ				LR	LR	16 20 51.7	
	comp=Z,16μm,21.1s,MS5.8,baz=134,slow=32						
URZ	**Urewera**	**39.97**	**149**	PN	**P**	**16 06 53.1**	**+0.3**
URZ				PcP	PcP	16 08 54.9	-2.4
URZ	**Urewera**	**39.97**	**149**	*e*P	**P**	**16 06 53.1**	**+0.2**
MWZ	**Matawai**	**40.24**	**148**	PN	**P**	**16 06 56.1**	**+1.0**
MWZ	**Matawai**	**40.24**	**148**	*e*P	**P**	**16 06 54.8**	**-0.3**
BKZ	**Black Stump Fm**	**40.35**	**150**	PN	**P**	**16 06 55.8**	**-0.2**
BKZ				PcP	PcP	16 08 58.5	+0.1
BKZ	**Black Stump Fm**	**40.35**	**150**	*e*P	**P**	**16 06 55.8**	**-0.2**
DSZ	**Denniston Nort**	**40.38**	**157**	PN	**P**	**16 06 56.6**	**+0.3**
PUZ	**Puketiti**	**40.43**	**148**	PN	**P**	**16 06 56.5**	**-0.3**
PUZ	**Puketiti**	**40.43**	**148**	*e*P	**P**	**16 06 57.4**	**+0.7**
NNZ	**Nelson**	**40.57**	**155**	PN	**P**	**16 06 57.7**	**-0.2**
NNZ	**Nelson**	**40.57**	**155**	*e*P	**P**	**16 06 57.7**	**-0.2**
TSZ	**Takapari Road**	**40.79**	**152**	PN	**P**	**16 06 59.2**	**-0.4**
TSZ	**Takapari Road**	**40.79**	**152**	*e*P	**P**	**16 06 59.2**	**-0.4**
THZ	**Tophouse**	**40.83**	**156**	PN	**P**	**16 06 59.3**	**-0.8**
THZ	**Tophouse**	**40.83**	**156**	*e*P	**P**	**16 06 59.8**	**-0.2**
MRZ	**Mangatainoka R**	**41.09**	**153**	*e*PN	**P**	**16 07 01.1**	**-1.0**
MRZ				PcP	PcP	16 09 01.1	+0.3
MRZ	**Mangatainoka R**	**41.09**	**153**	*e*P	**P**	**16 07 01.7**	**-0.4**
WVZ	**Waitaha Valley**	**41.13**	**159**	PN	**P**	**16 07 01.1**	**-1.4**
WVZ	**Waitaha Valley**	**41.13**	**159**	*e*P	**P**	**16 06 59.3**	**-3.2**
FOZ	**Fox Glacier**	**41.21**	**161**	PN	**P**	**16 07 03.2**	**+0.1**
FOZ	**Fox Glacier**	**41.21**	**161**	*e*P	**P**	**16 07 03.2**	**+0.1**
SNZO	**South Karori**	**41.22**	**154**	P	**P**	**16 07 02.4**	**-0.7**
	comp=Z,503nm,1.4s,mb6.0						
SNZO				LR	LR		
	comp=Z,40μm,20.0s,MS6.3						
JCZ	**Jackson Bay**	**41.36**	**162**	PN	**P**	**16 07 04.1**	**-0.3**
JCZ	**Jackson Bay**	**41.36**	**162**	*e*P	**P**	**16 07 04.1**	**-0.3**
BFZ	**Birch Farm**	**41.41**	**152**	*e*PN	**P**	**16 07 04.3**	**-0.5**
BFZ	**Birch Farm**	**41.41**	**152**	*e*P	**P**	**16 07 04.3**	**-0.5**
LTZ	**Lake Taylor**	**41.45**	**157**	PN	**P**	**16 07 04.8**	**-0.3**
LTZ	**Lake Taylor**	**41.45**	**157**	*e*P	**P**	**16 07 04.8**	**-0.3**
KLBR	**Kellerberrin**	**41.51**	**227**	*e*P	**P**	**16 07 03.9**	**-1.6**
	comp=Z,564nm,1.1s,mb6.1						
KHZ	**Kahutara**	**41.64**	**156**	PN	**P**	**16 07 05.6**	**-1.0**
KHZ	**Kahutara**	**41.64**	**156**	*e*P	**P**	**16 07 05.4**	**-1.2**
NACB	**Ninganchiao**	**41.69**	**316**	*e*P	**P**	**16 07 08.7**	**+1.7**
RPZ	**Rata Peaks**	**41.81**	**159**	P	**P**	**16 07 07.7**	**-0.3**
	comp=Z,306nm,0.9s,mb5.9,baz=3.8,slow=2.9,SNR=56						
RPZ				LR	LR	16 22 02.5	
	comp=Z,72μm,21.5s,MS6.5,baz=333,slow=32						
RPZ	**Rata Peaks**	**41.81**	**159**	PN	**P**	**16 07 07.6**	**-0.4**
RPZ	**Rata Peaks**	**41.81**	**159**	P	**P**	**16 07 07.6**	**-0.4**
LBZ	**Lake Benmore**	**42.10**	**161**	PN	**P**	**16 07 09.7**	**-0.7**
LBZ	**Lake Benmore**	**42.10**	**161**	*e*P	**P**	**16 07 09.7**	**-0.7**
WKZ	**Wanaka**	**42.12**	**162**	*e*PN	**P**	**16 07 09.4**	**-1.2**
WKZ	**Wanaka**	**42.12**	**162**	*e*P	**P**	**16 07 09.1**	**-1.5**
YHNB	**Yeheng**	**42.17**	**316**	*e*P	**P**	**16 07 12.4**	**+1.4**
DCZ	**Deep Cove**	**42.18**	**164**	PN	**P**	**16 07 11.0**	**0.0**
DCZ	**Deep Cove**	**42.18**	**164**	*e*P	**P**	**16 07 10.8**	**-0.2**
KSM	**Kuching**	**42.28**	**278**	*e*P	**P**	**16 07 12.0**	**+0.1**
TATO	**Taipei**	**42.29**	**317**	P	**P**	**16 07 15.5**	**+3.5**
	comp=Z,386nm,1.1s,mb5.9						
TATO				LR	LR		
	comp=Z,30μm,21.0s,MS6.2						
MLZ	**Mavora Lakes**	**42.34**	**163**	PN	**P**	**16 07 11.8**	**-0.6**
MLZ	**Mavora Lakes**	**42.34**	**163**	*e*P	**P**	**16 07 12.1**	**-0.3**
MQZ	**McQueen's Vall**	**42.38**	**158**	PN	**P**	**16 07 12.8**	**+0.1**
MQZ	**McQueen's Vall**	**42.38**	**158**	*e*P	**P**	**16 07 12.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**42.59**	**225**	P	**P**	**16 07 13.2**	**-1.2**
	comp=Z,72nm,0.7s,mb5.5,baz=54,slow=7.0,SNR=24						
NWAO				PP	PP	16 08 49.7	-4.3
	comp=Z,36nm,0.6s,baz=68,slow=11,SNR=4.5						
NWAO				LR	LR	16 25 32.0	
	comp=Z,38μm,20.0s,MS6.3,baz=72,slow=37						
NWAO	**Narrogin (SRO)**	**42.59**	**225**	P	**P**	**16 07 12.8**	**-1.6**
NWAO				LR	LR		
	comp=Z,30μm,20.0s,MS6.2						
MUN	**Mundaring**	**42.83**	**227**	*e*P	**P**	**16 07 15.1**	**-1.2**
ODZ	**Otahua Downs**	**42.84**	**161**	PN	**P**	**16 07 15.4**	**-1.0**
ODZ	**Otahua Downs**	**42.84**	**161**	*e*P	**P**	**16 07 16.5**	**+0.1**
JNU	**Nakatsue**	**43.13**	**334**	P	**P**	**16 07 20.6**	**+1.8**
	comp=Z,217nm,0.8s,mb5.9,baz=113,slow=6.0,SNR=16						
JNU				LR	LR	16 23 12.9	
	comp=Z,6μm,21.3s,MS5.5,baz=310,slow=33						
TUZ	**Tuapeka**	**43.33**	**162**	PN	**P**	**16 07 18.9**	**-1.4**
TUZ	**Tuapeka**	**43.33**	**162**	*e*P	**P**	**16 07 19.8**	**-0.5**
MJAR	**Matsushiro Arr**	**43.55**	**344**	P	**P**	**16 07 19.5**	**-2.6**
	comp=Z,8.3nm,0.5s,baz=168,slow=8.0,SNR=20						
MJAR				PcP	PcP	16 09 08.2	-0.8
	comp=Z,10nm,0.7s,baz=174,slow=4.3,SNR=3.8						
MJAR				ScP	ScP	16 12 57.0	+1.4
	comp=Z,16nm,1.0s,baz=169,slow=4.6,SNR=11						
MJAR	**Matsushiro Arr**	**43.55**	**344**	P	**P**	**16 07 19.5**	**-2.6**
MJAR						16 09 08.2	
MJAR	**Matsushiro Arr**	**43.55**	**344**	P	**P**	**16 07 19.5**	**-2.6**
MJAR				PcP	PcP	16 09 08.2	-0.8
MJAR				ScP	ScP	16 12 57.0	+1.4
MAJO	**Matsushiro**	**43.55**	**344**	P	**P**	**16 07 22.5**	**+0.4**
MAJO	**Matsushiro**	**43.55**	**344**	*e*

YSS	**Yuzh-Sakhalins**	**52.62 352**	*de*P	**P**	**16 08 31.0**	**-1.1**
YSS			*e*		16 09 40.0	
YSS			*i* S	**S**	**16 15 54.0**	**-1.2**
YSS			*e*PS		16 16 10.0	
YSS			smax			
	comp=N,2μm,12.0s					
YSS			smax			
	comp=E,1μm,9.0s					
YSS			MLR	MLR		
	comp=N,5μm,19.0s					
YSS			MLR	MLR		
	comp=Z,6μm,19.0s,MS5.6					
YSS			MLR	MLR		
	comp=Z,6μm,18.0s					
YSS			MLR	MLR		
	comp=N,5μm,17.0s					
YSS	**Yuzh-Sakhalins**	**52.62 352**	P	**P**	**16 08 32.0**	**-0.1**
TIA	**Tai'an**	**52.66 324**	P	**P**	**16 08 31.0**	**-1.4**
TIA			LR	LR		
	comp=N,5μm,19.0s,MS5.9					
TIA			LR	LR		
	comp=E,10μm,19.0s,MS5.9					
KKTK	**Khon Kaen**	**53.24 295**	P	**P**	**16 08 45.0**	**+8.3**
	comp=E,679nm,0.5s,mb6.8					
MDJ	**Mudanjiang**	**53.59 340**	P	**P**	**16 08 40.0**	**+0.8**
MDJ			AP	pP	16 08 56.0	+1.7
MDJ			PP	PP	16 10 41.6	+1.3
MDJ			S	**S**	**16 16 04.8**	**-3.6**
MDJ			XS	sS	16 16 33.8	+0.1
MDJ			SS	SS	16 19 51.8	+2.4
MDJ			AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4					
MDJ			AMB	AMB		
	comp=Z,883nm,6.0s					
MDJ			LR	LR		
	comp=N,10μm,26.1s,MS5.9					
MDJ			LR	LR		
	comp=E,11μm,24.3s,MS5.9					
MDJ			LR	LR		
	comp=Z,18μm,29.9s					
MDJ	**Mudanjiang**	**53.59 340**	*e*P	**P**	**16 08 38.0**	**-1.3**
	comp=Z,37nm,0.8s,mb5.4					
MDJ			LR	LR		
	comp=Z,6μm,20.0s,MS5.7					
PSI	**Prapat**	**53.72 277**	P	**P**	**16 08 38.9**	**-1.3**
	comp=Z,69nm,0.8s,mb5.6,baz=124,slow=5.0,SNR=35					
PSI			ScP	ScP	16 13 39.5	+0.8
	comp=Z,32nm,1.1s,baz=89,slow=7.2,SNR=5.6					
PSI			S	**S**	**16 16 05.2**	**-5.1**
	comp=Z,0.9nm,0.4s,baz=62,slow=15,SNR=2.7					
ENH	**Enshi**	**53.95 314**	*e*P	**P**	**16 08 41.3**	**-0.6**
	comp=Z,215nm,1.0s,mb6.0					
ENH			LR	LR		
	comp=Z,14μm,22.0s,MS6.0					
GYA	**Guiyang**	**54.11 308** ⇑	*i*P	**P**	**16 08 44.6**	**+1.5**
GYA			AP	pP	16 09 02.4	+4.3
GYA			PP	PP	16 10 46.5	+1.5
GYA			AMB	AMB		
	comp=Z,100nm,1.2s,mb5.6					
GYA			AMB	AMB		
	comp=Z,2μm,9.9s					
GYA			LR	LR		
	comp=N,4μm,18.9s,MS5.9					
GYA			LR	LR		
	comp=E,10μm,19.5s,MS5.9					
GYA			LR	LR		
	comp=Z,12μm,20.1s,MS6.0					
CN2	**Changchun**	**54.41 336**	*e*P	**P**	**16 08 46.5**	**+1.2**
CN2			*e*S	**S**	**16 16 24.0**	**+4.4**
CN2			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0					
CN2			AMB	AMB		
	comp=Z,200nm,8.0s					
CN2			LR	LR		
	comp=N,6μm,18.0s,MS5.8					
CN2			LR	LR		
	comp=E,4μm,18.0s,MS5.8					
CN2			LR	LR		
	comp=Z,5μm,19.0s,MS5.6					
COCO	**West Island**	**54.99 259**	P	**P**	**16 08 49.4**	**0.0**
COCO			LR	LR		
	comp=Z,10μm,21.0s,MS5.9					
NST	**Nakhon Sawan**	**55.48 293**	P	**P**	**16 08 54.0**	**+1.0**
	comp=Z,67nm,0.7s,mb5.8					
HABR	**Khabarovsk**	**55.53 346** ⇑	*i*P	**P**	**16 08 56.3**	**+3.0**
HABR			*i* S	**S**	**16 16 34.6**	**0.0**
HABR			*i*		16 18 37.0	
HABR			pmax	pmax		
	comp=Z,112nm,1.2s,mb5.8					
HABR			MLR	MLR		
	comp=Z,3μm,16.2s,MS5.5					
HON	**Honolulu**	**55.57 60**	P	**P**	**16 08 54.3**	**+0.7**
KIP	**Kipapa**	**55.60 60**	P	**P**	**16 08 54.1**	**+0.3**
KIP			pmax	pmax		
	comp=Z,226nm,1.2s,mb6.1					
KIP			MLR	MLR		
	comp=Z,15μm,22.0s,MS6.0					
KIP	**Kipapa**	**55.60 60**	P	**P**	**16 08 54.1**	**+0.3**
	comp=Z,226nm,1.2s,mb6.1					
KIP			LR	LR		
	comp=Z,15μm,22.0s,MS6.0					
BJT	**Baijiatuau**	**55.86 327**	*e*P	**P**	**16 08 56.9**	**+1.2**
BJT			pmax	pmax		
	comp=Z,63nm,0.9s					
BJT			MLR	MLR		
	comp=Z,15μm,21.0s					
BJT	**Baijiatuau**	**55.86 327**	*e*P	**P**	**16 08 56.9**	**+1.2**
	comp=Z,63nm,0.9s,mb5.6					
BJT			LR	LR		
	comp=Z,15μm,21.0s,MS6.1					
XAN	**Xi'an**	**56.46 317**	P	**P**	**16 08 58.8**	**-1.2**
XAN			AMB	AMB		
	comp=Z,34nm,0.6s,mb5.5					
XAN			AMB	AMB		
	comp=Z,2μm,9.2s					
XAN			LR	LR		
	comp=N,6μm,24.7s,MS5.9					
XAN			LR	LR		
	comp=E,10μm,27.8s,MS5.9					
XAN			LR	LR		
	comp=Z,17μm,25.0s,MS6.0					
KMI	**Kunming**	**56.66 305**	P	**P**	**16 09 03.4**	**+2.0**
KMI			AP	pP	16 09 17.5	+1.0
KMI			XP	sP	16 09 24.9	+2.0
KMI			PP	PP	16 11 11.8	+4.0
KMI			AMB	AMB		
	comp=Z,69nm,0.9s,mb5.7					
KMI			AMB	AMB		
	comp=Z,2μm,9.3s					
KMI			LR	LR		
	comp=N,4μm,20.5s,MS5.8					
KMI			LR	LR		
	comp=E,8μm,22.2s,MS5.8					
KMI			LR	LR		
	comp=Z,14μm,23.0s,MS6.0					
KLR	**Kul'dur**	**57.07 344**	*e*P	**P**	**16 09 02.0**	**-2.3**
KLR			*e*S	**S**	**16 16 45.0**	**-10**
KLR			*e*		16 20 38.0	
KLR			pmax	pmax		
	comp=E,48nm,1.4s					
KLR			pmax	pmax		
	comp=Z,120nm,1.4s,mb5.7					
KLR			MLR	MLR		
	comp=E,4μm,14.0s					
KLR			MLR	MLR		
	comp=Z,6μm,14.0s,MS5.8					
PPT	**Papeete**	**58.26 107**	*e*P	**P**	**16 09 14.7**	**+2.1**
	comp=Z,86nm,1.4s,mb5.6					
PPT	**Papeete**	**58.26 107**	*e*S	**S**	**16 17 10.9**	**+0.5**
	comp=Z,19μm,28.0s					
PPT			*e*SS	SS	16 21 03.8	+0.9
	comp=Z,2μm,28.0s					
PPT			*e*LQ		16 23 54.8	
	comp=Z,14μm,29.2s					
PPT			*e*LR	LR	16 26 15.6	
	comp=Z,6μm,24.2s					
PAE	**Paea**	**58.26 107**	*e*P	**P**	**16 09 14.3**	**+1.7**
	comp=Z,209nm,1.2s,mb6.0					
PET	**Petropavlovsk**	**58.30 5**	*e*P	**P**	**16 09 11.8**	**-1.1**
PET			*e**PP	pP	16 09 20.9	-7.3
PET			*e*S	**S**	**16 17 08.1**	**-3.0**
PET			*e*SS	SS	16 21 00.8	-2.8
PET			pmax	pmax		
	comp=Z,1μm,9.1s					
PET			pmax	pmax		
	comp=Z,26nm,0.7s,mb5.4					
PET			smax			
	comp=E,2μm,15.0s					
PET			smax			
	comp=N,4μm,16.9s					
PET			smax			
	comp=N,6μm,22.2s					
PET			MLR	MLR		
	comp=E,5μm,21.0s,MS5.9					
PET			MLR	MLR		
	comp=N,6μm,17.0s,MS5.9					
PET			MLR	MLR		
	comp=Z,6μm,19.0s,MS5.7					
PET	**Petropavlovsk**	**58.30 5**	P	**P**	**16 09 13.6**	**+0.7**
CD2	**Chengdu**	**58.50 311** ⇓	*i*P	**P**	**16 09 14.8**	**+0.5**
CD2			AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6					
CD2			AMB	AMB		
	comp=Z,2μm,9.6s					
CD2			LR	LR		
	comp=N,7μm,22.8s					
CD2			LR	LR		
	comp=Z,9μm,21.0s,MS5.9					
TVO	**Taravao**	**58.58 108**	*e*P	**P**	**16 09 16.7**	**+1.8**
	comp=Z,524nm,1.5s,mb6.3					
HHC	**Hu-ho-hao-te**	**59.00 325**	*e*P	**P**	**16 09 17.3**	**-0.5**
HHC			PCP	PcP	16 10 05.8	-0.5
HHC			PP	PP	16 11 28.6	0.0
HHC			SCP	ScP	16 14 03.3	+1.3
HHC			S	**S**	**16 17 22.3**	**+2.2**
HHC			SCS	ScS	16 19 01.8	-1.0
HHC			AMB	AMB		
	comp=Z,45nm,1.3s,mb5.3					
HHC			AMB	AMB		
	comp=Z,1μm,8.4s					
HHC			LR	LR		
	comp=N,5μm,18.0s,MS5.8					
HHC			LR	LR		
	comp=E,6μm,19.2s,MS5.8					
HHC			LR	LR		
	comp=Z,7μm,19.2s,MS5.8					
TBI	**Tubuai**	**59.01 114**	*e*P	**P**	**16 09 19.6**	**+1.7**
	comp=Z,200nm,1.1s,mb6.1					
TBI	**Tubuai**	**59.01 114**	*e*S	**S**	**16 17 20.8**	**+0.5**
	comp=Z,11μm,30.5s					
TBI			*e*SS	SS	16 21 15.4	+0.6
	comp=Z,4μm,27.8s					
TBI			*e*LR	LR	16 26 48.7	
	comp=Z,29μm,29.8s					
PMOR	**Pomariorio Ree**	**59.70 104**	*e*P	**P**	**16 09 25.0**	**+2.4**
	comp=Z,172nm,1.1s,mb6.0					
VAH	**Vaihoa**	**59.97 104**	*e*P	**P**	**16 09 26.6**	**+2.1**
	comp=Z,120nm,1.1s,mb5.8					
FX1	**Attu Island--F**	**60.59 14**	P	**P**	**16 09 28.1**	**-0.6**
LZH	**Lanzhou**	**61.06 316**	*e*P	**P**	**16 09 33.3**	**+1.4**
LZH			AP	pP	16 09 47.6	+0.4
LZH			XP	sP	16 09 54.1	+0.5
LZH			PP	PP	16 11 47.3	+0.5
LZH			S	**S**	**16 17 46.0**	**-0.6**
LZH			XS	sS	16 18 14.0	+1.7
LZH			AMB	AMB		
	comp=Z,300nm,1.6s,mb6.2					
LZH			AMB	AMB		
	comp=Z,720nm,5.9s					
LZH			LR	LR		
	comp=E,25μm,15.1s					
LZH			LR	LR		
	comp=Z,30μm,16.0s,MS6.5					
HIA	**Hailar**	**61.15 336**	*i* P	**P**	**16 09 31.9**	**-0.6**
HIA	**Hailar**	**61.15 336**	*e*P	**P**	**16 09 31.1**	**-1.4**
	comp=Z,87nm,0.9s,mb5.9					
HIA			LR	LR		
	comp=Z,9μm,22.0s,MS5.9					
DRV	**Dumont d'Urvil**	**61.90 185**	P	**P**	**16 09 37.0**	**-0.5**
DRV	**Dumont d'Urvil**	**61.90 185**	PP	PP	16 11 59.0	+4.8
DRV			S	**S**	**16 17 56.0**	**-1.2**
ADK	**Adak**	**62.82 21**	PFAKE		16 10 00.0	+16
ADK			LR	LR		
	comp=Z,11μm,22.0s,MS6.0					
MA2	**Magadan**	**64.62 359**	*e*P	**P**	**16 09 53.8**	**-1.7**
MA2			*e*		16 12 21.2	
MA2			*e*S	**S**	**16 18 28.4**	**-2.7**
MA2			*e*		16 19 41.5	
MA2			pmax	pmax		
	comp=N,10.0nm,0.8s					
MA2			pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4					
MA2			MLR	MLR		
	comp=Z,20μm,21.0s,MS6.3					
MA2	**Magadan**	**64.62 359**	P	**P**	**16 09 52.3**	**-3.2**
GTA	**Gaotai**	**65.51 318**	P	**P**	**16 10 01.1**	**-0.2**
GTA			AP	pP	16 10 16.5	-0.3
GTA			XP	sP	16 10 22.0	-1.1
GTA			PCP	PcP	16 10 31.0	-1.7
GTA			PP	PP	16 12 28.8	+2.9
GTA			SCP		16 14 32.4	
GTA			S	S	16 18 42.0	0.0
GTA			SCS	ScS	16 19 54.8	+2.8
GTA			AMB	AMB		
	comp=Z,18nm,1.5s,mb4.9					
GTA			AMB	AMB		
	comp=Z,1μm,12.0s					
GTA			LR	LR		
	comp=N,5μm,22.4s,MS5.9					
GTA			LR	LR		
	comp=E,9μm,25.9s,MS5.9					
GTA			LR	LR		
	comp=Z,13μm,26.6s,MS6.0					
CLNS	**Chul'man**	**65.73 344**	*e*P	**P**	**16 10 02.6**	**-0.1**
CLNS			*e*		16 10 32.3	
CLNS			*e*		16 12 24.8	
CLNS			*e*S	S	16 18 46.2	+1.5
CLNS			*e*		16 19 47.9	
CLNS			*e*SS	SS	16 22 56.4	-3.4
CLNS			pmax	pmax		
	comp=Z,43nm,1.1s,mb5.4					
CLNS			pmax	pmax		
	comp=N,15nm,0.8s					
CLNS			pmax	pmax		
	comp=E,11nm,0.8s					
CLNS			pmax	pmax		
	comp=N,31nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0					
CLNS			pmax	pmax		
	comp=E,13nm,0.9s					
CLNS			smax			
	comp=N,284nm,10.5s					
CLNS			smax			
	comp=Z,1μm,15.8s					
CLNS			smax			
	comp=E,525nm,10.2s					
CIT	**Chita**	**65.80 335**	*e*P	**P**	**16 10 04.5**	**+1.3**
CIT			*e*	pP	16 10 18.1	-0.5
CIT			*e*		16 10 34.2	
CIT			*e*		16 12 35.4	
CIT			*e*		16 18 46.7	
CIT			pmax	pmax		
	comp=Z,151nm,1.4s,mb5.8					
SHL	**Shillong**	**65.93 301**	*e*P	**P**	**16 10 04.2**	**+0.2**
SHL			*e*P		16 10 04.6	
SHL			AMb	AMB	16 10 24.1	
	comp=Z,1μm,0.8s					
SHL			*e*x	x	16 18 48.0	
AGT	**Agartala**	**65.95 299**	*i* x	x	16 10 11.0	
AGT			*i* x	x	16 11 08.0	
ULN	**Ulaanbaatar**	**66.00 329**	*i* P	**P**	**16 10 03.6**	**-0.9**
ULN	**Ulaanbaatar**	**66.00 329**	*e*P	**P**	**16 10 03.3**	**-1.2**
	comp=Z,68nm,0.9s,mb5.7					
ULN			LR	LR		
	comp=Z,11μm,21.0s,MS6.0					
SONM	**Songino Array**	**66.33 328**	P	**P**	**16 10 06.0**	**-0.6**
	comp=Z,14nm,0.6s,mb5.2,baz=144,slow=4.7,SNR=37					
SONM			LR	LR	16 37 40.9	
	comp=Z,13μm,20.8s,MS6.1,baz=136,slow=35					
SONM			PKPPKP		16 38 26.4	
	comp=Z,0.8nm,0.9s,baz=334,slow=3.4,SNR=4.6					
CASY	**Casey**	**67.40 197** ⇑	*i*P	**P**	**16 10 12.4**	**-1.0**
LSA	**Lhasa**	**67.92 305**	P	**P**	**16 10 17.3**	**+0.7**
LSA			PCP	PcP	16 10 42.9	+0.2
LSA			PP	PP	16 12 48.6	+1.7
LSA			SCS	ScS	16 20 13.9	+3.2
LSA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4					
LSA			AMB	AMB		
	comp=Z,2μm,10.6s					
LSA			LR	LR		
	comp=N,3μm,27.9s,MS5.8					
LSA			LR	LR		
	comp=E,7μm,27.1s,MS5.8					
LSA			LR	LR		
	comp=Z,10μm,26.1s,MS5.9					
LSA	**Lhasa**	**67.92 305**	*e*P	**P**	**16 10 17.4**	**+0.8**
LSA			pmax	pmax		
	comp=Z,87nm,1.1s,mb5.7					
LSA			MLR	MLR		
	comp=Z,9μm,22.0s,MS6.0					
LSA	**Lhasa**	**67.92 305**	*e*P	**P**	**16 10 17.4**	**+0.7**
	comp=Z,87nm,1.1s,mb5.7					
LSA			LR	LR		
	comp=Z,9μm,22.0s,MS6.0					
SEY	**Seymchan**	**67.98 0**	*i* P	**P**	**16 10 16.4**	**-0.6**
UNV	**Unalaska Valle**	**68.30 25**	*e*P	**P**	**16 10 16.4**	**-2.6**
	comp=Z,327nm,1.0s,mb6.3					
UNV			LR	LR		
	comp=Z,20μm,20.0s,MS6.3					
YAK	**Yakutsk**	**69.26 349**	*i* P	**P**	**16 10 24.9**	**-0.1**
YAK			pmax	pmax		
	comp=Z,108nm,1.2s,mb5.7					
YAK			MLR	MLR		
	comp=Z,5μm,19.0s,MS5.8					
YAK	**Yakutsk**	**69.26 349**	P	**P**	**16 10 25.6**	**+0.6**
	comp=Z,118nm,1.1s,mb5.7					
ZAK	**Zakamensk**	**69.50 329**	*e*P	**P**	**16 10 25.8**	**-0.7**
ZAK			*e*		16 10 52.3	
ZAK			pmax	pmax		
	comp=Z,152nm,1.4s,mb5.7					
BOD	**Bodaibo**	**69.95 339**	*e*P	**P**	**16 10 26.2**	**-3.1**
BOD			*e*		16 10 47.9	
BOD			pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2					
IRK	**Irkutsk**	**70.15 331**	*e*P	**P**	**16 10 28.3**	**-2.2**
IRK			*e*		16 13 05.2	
IRK			*e*S	S	16 19 41.4	+3.9
IRK			*e*		16 20 07.3	
IRK			pmax	pmax		
	comp=Z,129nm,2.0s,mb5.5					
BOK	**Bokaro**	**70.64 297**	*e*P	**P**	**16 10 32.4**	**-1.1**
JIRN	**Jiri**	**71.42 301**	*e*P	**P**	**16 10 38.6**	**+0.4**
	comp=Z,59nm,0.8s,mb5.6					
VIS	**Vishakhapatnam**	**71.57 291**	*e*P	**P**	**16 10 39.4**	**+0.3**
GUN	**Gumba**	**71.75 301**	*e*P	**P**	**16 10 40.5**	**+0.3**
	comp=Z,163nm,0.8s,mb6.0					
SDPT	**Sand Point**	**71.91 26**	*e*P	**P**	**16 10 39.2**	**-2.0**
	comp=Z,243nm,1.0s,mb6.1					
PKI	**Pulchoki**	**72.06 301**	*e*P	**P**	**16 10 42.1**	**0.0**
KKN	**Kakani**	**72.23 301**	*e*P	**P**	**16 10 42.8**	**-0.3**
	comp=Z,96nm,0.7s,mb5.8					
KKN	**Kakani**	**72.23 301**	*e*P	**P**	**16 10 42.8**	**-0.3**
KKN			pmax	pmax		
	comp=Z,48nm,0.7s,mb5.5					
RKT	**Rikitea**	**72.26 112**	*e*P	**P**	**16 10 44.6**	**+1.3**
	comp=Z,566nm,1.1s,mb6.4					
RKT			*e*pP	pP	16 11 01.3	+2.4
	comp=Z,434nm,1.1s					
RKT	**Rikitea**	**72.26 112**	*e*S	S	16 20 02.1	+0.2
	comp=Z,7μm,29.5s					
RKT			*e*SS	SS	16 24 39.4	-1.1
	comp=Z,5μm,31.8s					
RKT			*e*LQ		16 30 10.4	
	comp=Z,4μm,38.8s					
RKT			*e*LR	LR	16 32 57.3	
	comp=Z,14μm,32.0s					
PALK	**Pallekele**	**72.32 279**	P	**P**	**16 10 45.4**	**+1.8**
	comp=Z,157nm,0.7s,mb6.0,SNR=5.3					
PALK	**Pallekele**	**72.32 279**	P	**P**	**16 10 44.9**	**+1.3**
DMN	**Daman**	**72.33 301**	*e*P	**P**	**16 10 43.1**	**-0.6**
	comp=Z,297nm,1.1s,mb6.1					
VNDA	**Vanda**	**72.42 178**	P	**P**	**16 10 43.5**	**-0.7**
	comp=Z,173nm,0.9s,mb6.0,baz=329,slow=6.7,SNR=87					
VNDA			LR	LR	16 38 15.0	
	comp=Z,6μm,19.4s,MS5.9,baz=346,slow=32					
VNDA	**Vanda**	**72.42 178**	P	**P**	**16 10 43.9**	**-0.3**
VNDA			pmax	pmax		
	comp=Z,154nm,0.8s					
VNDA	**Vanda**	**72.42 178**	P	**P**	**16 10 43.9**	**-0.3**
	comp=Z,154nm,0.8s,mb6.0					
GKN	**Gorkha**	**72.84 301**	*e*P	**P**	**16 10 46.6**	**-0.1**
SBA	**Scott Base**	**72.98 177**	P	**P**	**16 10 48.9**	**+1.4**
	comp=Z,170nm,1.0s,mb5.9					
SBA			LR	LR		
	comp=Z,6μm,22.0s,MS5.8					
MIR	**Mirnyy**	**73.27 201**	*e*P	**P**	**16 10 50.0**	**+0.7**
MIR			pmax	pmax		
	comp=Z,4μm,14.0s					
MIR			MLR	MLR		
	comp=N,4μm,20.0s,MS5.9					
MIR			MLR	MLR		
	comp=E,4μm,20.0s,MS5.9					
MIR			MLR	MLR		
	comp=Z,11μm,20.0s,MS6.1					
KOLN	**Koldanda**	**73.66 301**	*e*P	**P**	**16 10 50.9**	**-0.6**
BILL	**Bilibino**	**73.79 6**	*d i* P	**P**	**16 10 51.7**	**-0.6**
BILL			*e*	pP	16 11 10.3	+2.3
BILL			*i* S	S	16 20 16.0	-3.2
BILL			*i*		16 20 51.4	
BILL			*i* SS	SS	16 25 12.1	+8.3
BILL			pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4					
BILL			MLR	MLR		
	comp=Z,6μm,21.0s,MS5.8					
BILL	**Bilibino**	**73.79 6**	*e*P	**P**	**16 10 50.9**	**-1.4**
	comp=Z,70nm,0.9s,mb5.6					
BILL			LR	LR		
	comp=Z,2μm,19.0s,MS5.5					
ALBI	**Allahabad**	**74.61 298**	*e*P	**P**	**16 10 55.0**	**-2.1**
WMQ	**Urumqi**	**75.59 318** ⇓	*i*P	**P**	**16 11 03.0**	**+0.3**
WMQ			PP	PP	16 13 55.0	+2.3
WMQ			S	S	16 20 42.0	+2.7
WMQ			SCS	ScS	16 21 13.0	+1.4
WMQ			SS	SS	16 25 36.0	+4.8
WMQ			AMB	AMB		
	comp=Z,65nm,1.2s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,237nm,5.0s					
WMQ			LR	LR		
	comp=N,7μm,13.0s,MS6.3					
WMQ			LR	LR		
	comp=E,7μm,13.0s,MS6.3					
WMQ			LR	LR		
	comp=Z,10μm,14.0s,MS6.2					
HYB	**Hyderabad**	**75.98 289**	*i* P	**P**	**16 11 04.0**	**-0.9**
	comp=Z,60nm,1.0s,mb5.5					
HYB			*e*pP	pP	16 11 17.0	-3.7
HYB			*e*		16 11 28.0	
HYB			*e*S	S	16 20 44.0	+0.4
HYB	**Hyderabad**	**75.98 289**	*e*P	**P**	**16 11 05.5**	**+0.6**
HYB			*e*	pP	16 11 18.5	-2.2
HYB			*e*S	S	16 20 40.0	-3.6
HYB			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5					
HYB	**Hyderabad**	**75.98 289**	*e*P	**P**	**16 11 05.5**	**+0.6**
	comp=Z,60nm,1.0s,mb5.5					
HYB			*e*	pP	16 11 18.5	-2.2
HYB			*e*		16 11 28.0	
HYB			*e*S	S	16 20 40.0	-3.6
TRD	**Trivandrum**	**76.16 280**	*e*P	**P**	**16 11 06.2**	**+0.2**
TRD			AMb	AMB	16 11 25.0	
	comp=Z,193nm,1.2s,mb5.9					
NGP	**Nagpur**	**76.21 293**	*e*P	**P**	**16 11 04.1**	**-2.2**
NGP			*e*S	S	16 20 43.9	-2.2
TNA	**Tin City**	**76.40 16**	P	**P**	**16 11 06.5**	**-0.8**
TNA			LR	LR		
	comp=Z,11μm,20.0s,MS6.2					
PTCN	**Pitcairn Islan**	**76.76 114**	PFAKE		16 11 20.0	+11
PTCN			LR	LR		
	comp=Z,4μm,21.0s,MS5.7					
KDAK	**Kodiak Island**	**76.88 27**	P	**P**	**16 11 08.0**	**-2.0**
	comp=Z,1μm,0.8s,mb6.8,SNR=30					
KDAK	**Kodiak Island**	**76.88 27**	P	**P**	**16 11 08.8**	**-1.2**
	comp=Z,157nm,0.9s,mb6.0,baz=213,slow=3.4,SNR=47					
KDAK	**Kodiak Island**	**76.88 27**	P	**P**	**16 11 08.8**	**-1.2**
KRAR	**Krasnoyarsk**	**77.81 330**	*i* P	**P**	**16 11 15.7**	**+0.5**
KRAR			pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2					
KRAR			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.5					
BHPL	**Bhopal**	**78.09 295**	*e*P	**P**	**16 11 16.0**	**-0.7**
TIXI	**Tiksi**	**78.24 353** ⇓	*i*P	**P**	**16 11 16.2**	**-1.4**
TIXI			*e*		16 14 09.9	
TIXI			*e*S	S	16 20 59.3	-8.8

TIXI e*SS sS 16 21 34.5 -0.3
TIXI eSSS 16 29 36.2
TIXI pmax pmax
comp=Z,18nm,0.9s,mb5.0
TIXI pmax pmax
comp=Z,393nm,11.9s
TIXI pmax pmax
comp=N,97nm,11.0s
TIXI pmax pmax
comp=E,72nm,14.0s
TIXI Tiksi 78.24 353 P **P** **16 11 14.8 -2.8**
AGRA Agra 78.42 299 eP **P** **16 11 18.4 -0.1**
AGRA AMb AMB 16 11 21.9
comp=Z,85nm,0.4s,mb6.0
TTA Tatalina 78.42 22 P **P** **16 11 17.3 -1.3**
TTA pmax pmax
comp=Z,354nm,1.0s,mb6.2
TTA Tatalina 78.42 22 P **P** **16 11 17.3 -1.3**
comp=Z,354nm,1.0s,mb6.2
KLP Kalpa 79.09 303 eP **P** **16 11 23.8 +1.5**
KLP AMb AMB 16 11 26.7
comp=Z,109nm,1.2s,mb5.7
DGAR Diego Garcia 79.11 263 P **P** **16 11 23.2 +0.8**
comp=Z,1μm,1.1s,mb6.7,SNR=5.3
DGAR Diego Garcia 79.11 263 i P **P** **16 11 22.4 0.0**
DGAR Diego Garcia 79.11 263 P **P** **16 11 22.7 +0.4**
DGAR LR LR
comp=Z,4μm,20.0s,MS5.8
SLKM Skilak Lake 79.35 25 P **P** **16 11 22.2 -1.5**
SONA Sohna 79.38 300 eP **P** **16 11 23.3 -0.5**
AYAN Aya Nagar 79.39 300 eP **P** **16 11 23.8 -0.1**
FIB Fire Island 79.72 25 P **P** **16 11 25.0 -0.7**
FIB MLR MLR
comp=Z,2μm,20.0s,MS5.5
KUDL Kundal 79.87 300 eP **P** **16 11 26.5 0.0**
SMLA Simla 79.90 303 eP **P** **16 11 25.9 -0.8**
KAD Karad 80.08 289 eP **P** **16 11 27.0 -0.7**
KAD AMb AMB 16 11 43.5
comp=Z,88nm,0.9s,mb5.7
MK31 Makanchi Array 80.20 319 i P **P** **16 11 27.2 -1.1**
MK31 pmax pmax
comp=Z,71nm,1.1s,mb5.5
MKAR Makanchi Array 80.20 319 P **P** **16 11 27.2 -1.1**
comp=Z,6.4nm,0.5s,mb4.8,baz=98,slow=8.7,SNR=5.0
MKAR S S 16 21 26.8 -2.1
comp=Z,0.6nm,1.0s,baz=46,slow=4.2,SNR=2.3
MKAR PKKP PKKPbc 16 29 57.1 -14
comp=Z,0.9nm,0.9s,baz=338,slow=2.9,SNR=4.1
MKAR PKKPbc PKKPbc 16 30 11.9 +0.9
comp=Z,2.5nm,0.9s,baz=288,slow=1.2,SNR=9.9
MKAR PKPPKP 16 38 00.3
comp=Z,0.4nm,0.8s,baz=318,slow=1.9,SNR=4.1
MKAR LR LR 16 45 34.1
comp=Z,7μm,21.7s,MS6.0,baz=104,slow=34
MKAR Makanchi Array 80.20 319 P **P** **16 11 27.2 -1.1**
MKAR S S 16 21 26.8 -2.1
MKAR 16 30 11.9
PMR Palmer 80.36 25 eP **P** **16 11 27.2 -2.0**
PMR pmax pmax
comp=Z,217nm,0.7s,mb6.2
PMR Palmer 80.36 25 eP **P** **16 11 27.2 -2.0**
comp=Z,217nm,0.7s,mb6.2
KHET Khetri 80.44 299 eP **P** **16 11 29.7 +0.1**
POO Poona 80.58 290 ⇓iP **P** **16 11 31.0 +0.7**
POO ePCP PcP 16 11 39.5 +2.5
POO ePP PP 16 14 34.0 -0.4
POO eS S 16 21 32.0 -0.9
SML Sawmill 80.80 25 eP **P** **16 11 30.0 -1.5**
ZAL Zalesovo 81.14 326 P **P** **16 11 30.8 -2.5**
comp=Z,8.3nm,0.6s,mb4.9,baz=348,slow=6.4,SNR=31
ZAL S S 16 21 34.3 -4.5
comp=Z,3.6nm,1.1s,baz=197,slow=18,SNR=8.9
ZAL PKKPbc PKKPbc 16 30 10.1 +1.1
comp=Z,1.2nm,0.7s,baz=216,slow=3.2,SNR=5.4
ZAL PKPPKP 16 38 01.6
comp=Z,0.6nm,0.6s,baz=251,slow=5.9,SNR=3.9
ZAL Zalesovo 81.14 326 P **P** **16 11 30.8 -2.5**
ZAL S S 16 21 34.3 -4.4
ZAL Zalesovo 81.14 326 P **P** **16 11 30.8 -2.5**
ZAL S S 16 21 34.3 -4.5
ZAL PKKPbc PKKPbc 16 30 10.1 +1.1
ZAL P'P' 16 38 01.6
AJM Ajmer 81.17 298 i P **P** **16 11 31.0 -2.5**
MCK McKinley 81.53 23 P **P** **16 11 33.2 -2.2**
MCK pmax pmax
comp=Z,365nm,1.0s,mb6.3
MCK MLR MLR
comp=Z,7μm,21.0s,MS6.0
MCK McKinley 81.53 23 P **P** **16 11 33.2 -2.2**
comp=Z,365nm,1.0s,mb6.3
MCK LR LR
comp=Z,7μm,21.0s,MS6.0
DIV Divide 81.56 26 P **P** **16 11 33.5 -2.1**
DIV LR LR
comp=Z,24μm,22.0s,MS6.5
BOM Bombay 81.61 290 ex x 16 11 46.3
BOM AMb AMB 16 11 52.9
comp=Z,98nm,1.5s,mb5.5
NVS Novosibirsk 82.32 327 eP **P** **16 11 31.5 -8.0**
NVS eS S 16 21 44.8 -6.1
NVS pmax pmax
comp=N,35nm,1.4s
NVS pmax pmax
comp=E,71nm,1.4s
NVS pmax pmax
comp=Z,89nm,1.4s,mb5.5
NVS smax
comp=N,36nm,2.2s
NVS smax
comp=E,153nm,3.4s
COLA College 82.51 22 eP **P** **16 11 37.7 -2.8**
COLA pmax pmax
comp=Z,296nm,0.9s,mb6.3
COLA MLR MLR
comp=Z,9μm,20.0s,MS6.1
COLA College 82.51 22 eP **P** **16 11 37.7 -2.8**
comp=Z,296nm,0.9s,mb6.3
COLA LR LR
comp=Z,9μm,20.0s,MS6.1
KSH Kashi 82.69 311 ⇑iP **P** **16 11 44.3 +2.8**
KSH S S 16 22 01.6 +6.9
KSH AMB AMB
comp=Z,160nm,1.5s,mb5.8
KSH LR LR
comp=N,2μm,14.5s
KSH LR LR
comp=E,5μm,22.2s
ILAR Eielson Array 82.82 22 P **P** **16 11 38.9 -3.3**
comp=E,136nm,0.7s,mb6.1,baz=250,slow=4.7,SNR=259
ILAR PKKPbc PKKPbc 16 30 05.1 0.0
comp=E,2.9nm,0.6s,baz=352,slow=1.3,SNR=26
ILAR PKPPKP 16 38 00.2
comp=E,1.6nm,1.1s,baz=15,slow=2.5,SNR=7.9
ILAR LR LR 16 45 54.1
comp=E,12μm,19.9s,MS6.3,baz=247,slow=34
AAA Alma-Ata 82.85 315 i P **P** **16 11 46.6 +4.3**
AAA i S S 16 21 59.7 +3.3
AAA pmax pmax
comp=Z,3μm,9.7s
AAA smax
comp=E,4μm,16.7s
KURK Kurchatov 83.69 322 P **P** **16 11 45.0 -1.6**
comp=E,446nm,0.9s,mb6.6,SNR=14
KURK Kurchatov 83.69 322 eP **P** **16 11 43.8 -2.8**
KURK pmax pmax
comp=Z,99nm,1.0s,mb5.9
KURK MLR MLR
comp=Z,8μm,20.0s,MS6.1
KURK Kurchatov 83.69 322 eP **P** **16 11 43.8 -2.8**
comp=Z,99nm,1.0s,mb5.9
KURK LR LR
comp=Z,8μm,20.0s,MS6.1
KBK Karagaybulak 84.14 314 P **P** **16 11 49.1 +0.2**
SNR=16
FRU Bishkek 84.42 314 eP **P** **16 11 52.5 +2.2**
FRU i 16 11 58.5
FRU i pP 16 12 06.0 -0.3
FRU e 16 22 08.0
FRU pmax pmax
comp=Z,86nm,1.5s,mb5.7
AAK Ala-Archa 84.46 314 P **P** **16 11 51.1 +0.6**
SNR=32
AAK Ala-Archa 84.46 314 P **P** **16 11 50.1 -0.4**
comp=Z,330nm,0.8s,mb6.5,SNR=14
AAK Ala-Archa 84.46 314 P **P** **16 11 48.7 -1.8**
AAK pmax pmax
comp=Z,44nm,0.8s,mb5.6
AAK MLR MLR
comp=Z,7μm,21.0s,MS6.0
AAK Ala-Archa 84.46 314 P **P** **16 11 48.7 -1.9**
comp=Z,44nm,0.8s,mb5.6
AAK LR LR
comp=Z,7μm,21.0s,MS6.0
QSPA South Pole Qui 84.73 180 eP **P** **16 11 51.0 -0.9**
comp=Z,6.2nm,0.9s
MAW Mawson 84.90 203 eP **P** **16 11 52.0 -0.8**
comp=Z,199nm,0.7s,mb6.3
MAW Mawson 84.90 203 P **P** **16 11 51.3 -1.5**
comp=Z,286nm,0.9s,mb6.4,baz=82,slow=5.2,SNR=34
MAW LR LR 16 46 21.3
comp=Z,15μm,21.9s,MS6.3,baz=95,slow=33
MAW Mawson 84.90 203 eP **P** **16 11 52.0 -0.8**
MAW pmax pmax
comp=Z,199nm,0.7s
SIT Sitka 85.00 32 P **P** **16 11 52.5 -0.8**
BHJ Bhuj 85.14 294 eP **P** **16 11 54.4 +0.5**
BHJ AMb AMB 16 11 57.3
comp=Z,90nm,1.0s,mb5.8
DAWY Dawson 85.47 24 P **P** **16 11 54.5 -1.0**
CRAG Craig 85.73 33 eP **P** **16 11 56.8 -0.1**
comp=Z,232nm,1.8s,mb6.1
KK31 Karatay Array 87.43 314 i P **P** **16 12 04.3 -0.9**
KK31 pmax pmax
comp=Z,122nm,1.6s,mb5.9
KKAR Karatay Array 87.43 314 i P **P** **16 12 04.3 -0.9**
KKAR pmax pmax
comp=Z,202nm,1.7s,mb6.1
KBO Bosley Butte 88.80 48 P **P** **16 12 13.8 +2.1**
KEBM Edson Butte 88.82 47 P **P** **16 12 13.0 +1.3**
KCPM Cahto Peak 88.94 50 eP **P** **16 12 12.4 +0.1**
KHMM Horse Mountain 88.99 49 P **P** **16 12 14.2 +1.7**
KIPM Iron Peak 89.03 50 eP **P** **16 12 13.5 +0.7**
INK Inuvik 89.11 21 P **P** **16 12 11.2 -1.9**
INK pmax pmax
comp=Z,107nm,1.1s
INK Inuvik 89.11 21 P **P** **16 12 11.2 -2.0**
comp=Z,107nm,1.1s,mb6.1
BVA0 Borovoye Array 89.17 323 i P **P** **16 12 10.7 -2.7**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
BVAR Borovoye Array 89.17 323 P **P** **16 12 11.1 -2.4**
comp=Z,10nm,0.6s,mb5.3,baz=106,slow=6.2,SNR=21
BRVK Borovoye 89.24 323 P **P** **16 12 13.0 -0.8**
comp=Z,129nm,1.1s,mb6.2,SNR=6.9
BRVK Borovoye 89.24 323 P **P** **16 12 13.1 -0.7**
BRVK Borovoye 89.24 323 ePdif **P** **16 12 05.9 -7.9**
BRVK LR LR
comp=Z,4μm,20.0s,MS5.9
HOPS Hopland 89.24 51 PFAKE 16 12 30.0 +16
HOPS LR LR
comp=Z,19μm,20.0s,MS6.5
OOW Octopus West 89.61 42 P **P** **16 12 16.1 +0.6**
OCWA Octopus Mounta 89.62 42 P **P** **16 12 16.4 +0.8**
comp=Z,129nm,0.8s,mb6.3
HUMO Hull Mountain 89.79 47 P **P** **16 12 16.7 +0.4**
comp=Z,136nm,0.9s,mb6.3
HUMO LR LR
comp=Z,12μm,20.0s,MS6.3
COR Corvallis 89.79 45 eP **P** **16 12 16.1 -0.2**
COR pmax pmax
comp=Z,82nm,0.9s,mb6.1
COR MLR MLR
comp=Z,16μm,20.0s,MS6.4
COR Corvallis 89.79 45 eP **P** **16 12 16.1 -0.2**
comp=Z,82nm,0.9s,mb6.1
COR LR LR
comp=Z,16μm,20.0s,MS6.4
WDC Whiskeytown Da 89.84 49 P **P** **16 12 17.1 +0.5**
YBH Yreka Blue Hor 89.86 48 PP PP 16 15 53.6 +3.9
comp=Z,15nm,1.1s,baz=210,slow=0.6,SNR=3.7
YBH Yreka Blue Hor 89.86 48 P **P** **16 12 16.9 +0.3**
YBH pmax pmax
comp=Z,86nm,1.1s
YBH Yreka Blue Hor 89.86 48 P **P** **16 12 16.9 +0.3**
comp=Z,86nm,1.1s,mb6.0
ZRNK Zerenda 89.99 323 eP **P** **16 12 13.5 -3.8**
comp=Z,20nm,0.9s,mb5.5
BBOR Butler Butte 90.02 47 P **P** **16 12 18.0 +0.5**
PGC Sidney 90.22 41 P **P** **16 12 18.4 0.0**
SAO San Andreas Ge 90.26 53 PFAKE 16 12 30.0 +12
SAO LR LR
comp=Z,16μm,20.0s,MS6.5
BUOR Burton Butte 90.27 48 P **P** **16 12 19.1 +0.6**
HDW Hoodsport 90.36 42 P **P** **16 12 19.2 +0.3**
GNW Green Mountain 90.50 42 P **P** **16 12 19.9 +0.3**
GNW PP PP 16 16 01.4 +6.5
OHCM Honcut 90.51 51 P **P** **16 12 20.7 +1.0**
OHCM PP PP 16 15 55.3 +0.5
LRV Little Rabbit 90.56 54 eP **P** **16 12 18.9 -1.0**
FRIS Frissel Point 90.60 46 P **P** **16 12 20.1 0.0**
BKCOR Black Crater 90.90 46 P **P** **16 12 21.7 +0.2**
PTRM Twissleman Ran 91.14 54 eP **P** **16 12 23.6 +1.0**
JCW Jim Creek 91.17 42 P **P** **16 12 22.5 -0.2**
CMB Columbia Colle 91.23 52 P **P** **16 12 23.5 +0.5**
comp=Z,57nm,1.4s,mb5.7
CMB LR LR
comp=Z,20μm,20.0s,MS6.5
MBW Mount Baker 91.26 41 P **P** **16 12 22.8 -0.4**
MOD Modoc 91.67 48 P **P** **16 12 25.1 0.0**
MOD LR LR
comp=Z,13μm,22.0s,MS6.3
TBM Table Mountain 91.96 43 P **P** **16 12 26.4 0.0**
WAKR Walker 92.02 52 P **P** **16 12 27.3 +0.7**
WAKR PP PP 16 16 13.1 +6.4
ETW Entiat 92.18 43 P **P** **16 12 27.2 -0.3**
ISA Isabella 92.55 55 P **P** **16 12 29.8 +0.7**
ISA pmax pmax
comp=Z,29nm,0.9s,mb5.7
ISA MLR MLR
comp=Z,4μm,22.0s,MS5.8
ISA Isabella 92.55 55 P **P** **16 12 29.8 +0.7**
comp=Z,29nm,0.9s,mb5.7
ISA LR LR
comp=Z,4μm,22.0s,MS5.8
HAWA Hanford 92.62 44 P **P** **16 12 29.2 -0.2**
HAWA LR LR
comp=Z,1μm,22.0s,MS5.3
MWC Mount Wilson 92.77 56 P **P** **16 12 30.5 +0.3**
MWC 16 16 12.1
NVAR Mina Array Bea 92.90 52 P **P** **16 12 31.1 +0.4**
comp=Z,71nm,0.9s,mb6.1,baz=246,slow=3.9,SNR=129
NVAR PP PP 16 16 18.8 +5.1
comp=Z,17nm,1.1s,baz=254,slow=6.7,SNR=5.2
NVAR PKKP PKKPbc 16 29 39.8 -0.9
comp=Z,0.4nm,0.6s,baz=73,slow=1.9,SNR=3.0
WVOR Wild Horse Val 92.94 48 eP **P** **16 12 30.6 -0.4**
WVOR pmax pmax
comp=Z,140nm,1.0s,mb6.3
WVOR Wild Horse Val 92.94 48 eP **P** **16 12 30.6 -0.4**
comp=Z,140nm,1.0s,mb6.3
WVOR ePP PP 16 16 04.0 -10
MNV Mina 93.01 52 P **P** **16 12 31.6 +0.3**
MNV pmax pmax
comp=Z,82nm,0.9s,mb6.2
MNV MLR MLR
comp=Z,16μm,20.0s,MS6.5
MNV Mina 93.01 52 P **P** **16 12 31.6 +0.3**
comp=Z,82nm,0.9s,mb6.2
MNV LR LR
comp=Z,16μm,20.0s,MS6.5
SYO Syowa Base 93.03 199 ⇓iPcP PcP 16 12 30.6 -1.3
SYO Syowa Base 93.03 199 ⇑ipP pP 16 12 46.0 -1.5
SYO Syowa Base 93.03 199 ⇓esP sP 16 12 51.1 -2.6
SYO Syowa Base 93.03 199 ⇓eP **P** **16 12 29.0 -2.3**
SYO i *PP pP 16 12 46.0 -1.5
SYO Syowa Base 93.03 199 ⇓eP **P** **16 12 29.0 -2.3**
SYO ⇓iPcP PcP 16 12 30.6 -1.3
SYO ⇑ipP pP 16 12 46.0 -1.5
SYO ⇓esP sP 16 12 51.1 -2.6
DAC Darwin (Calif) 93.30 54 P **P** **16 12 32.7 +0.1**
DAC MLR MLR
comp=Z,17μm,21.0s,MS6.5
TPH Tonopah 93.72 52 eP **P** **16 12 34.8 +0.3**
TPH e 16 16 18.5
TPH pmax pmax
comp=Z,41nm,0.8s,mb5.9
TPH Tonopah 93.72 52 eP **P** **16 12 34.8 +0.3**
comp=Z,41nm,0.8s,mb5.9
TPH ePP PP 16 16 18.5 -1.7
BAR Barrett 93.82 58 P **P** **16 12 35.9 +0.9**
BMN Battle Mountai 93.87 50 P **P** **16 12 35.4 +0.2**
BMN pmax pmax
comp=Z,51nm,1.1s,mb5.9
BMN MLR MLR
comp=Z,15μm,21.0s,MS6.4
BMN Battle Mountai 93.87 50 P **P** **16 12 35.4 +0.1**
comp=Z,51nm,1.1s,mb5.9
BMN LR LR
comp=Z,15μm,21.0s,MS6.4
GSC Goldstone 93.88 55 P **P** **16 12 34.8 -0.4**
PFO Pinyon Flat Ob 94.06 57 P **P** **16 12 37.4 +1.3**
comp=Z,259nm,0.9s,mb6.7,SNR=12
PFO Pinyon Flat Ob 94.06 57 P **P** **16 12 36.8 +0.7**
PFO pmax pmax
comp=Z,43nm,0.9s,mb5.9
PFO Pinyon Flat Ob 94.06 57 P **P** **16 12 36.8 +0.7**
comp=Z,43nm,0.9s,mb5.9
BMO Blue Mountains 94.07 45 P **P** **16 12 35.6 -0.5**
BMO pmax pmax
comp=Z,96nm,1.1s,mb6.1
BMO MLR MLR
comp=Z,17μm,22.0s,MS6.5
BMO Blue Mountains 94.07 45 P **P** **16 12 35.6 -0.6**
comp=Z,96nm,1.1s,mb6.1
BMO LR LR
comp=Z,17μm,22.0s,MS6.5
NEW Newport 94.38 42 P **P** **16 12 37.0 -0.5**
comp=Z,59nm,1.0s,mb6.0,baz=242,slow=3.5,SNR=5.3
NEW PP PP 16 16 25.2 -0.1
comp=Z,23nm,1.1s,baz=283,slow=4.4,SNR=5.0
NEW Newport 94.38 42 P **P** **16 12 36.8 -0.8**
NEW pmax pmax
comp=Z,65nm,1.0s
NEW Newport 94.38 42 P **P** **16 12 36.8 -0.8**
comp=Z,65nm,1.0s,mb6.0
LDFC Landfair 95.25 55 eP **P** **16 12 42.0 +0.5**
SHPR Sheep Range 95.28 54 P **P** **16 12 42.8 +1.1**
GLA Glamis 95.39 57 P **P** **16 12 43.5 +1.3**
ELK Elko 95.39 50 P **P** **16 12 42.1 -0.1**
comp=Z,16nm,1.0s,mb5.4,baz=252,slow=2.8,SNR=13
ELK LR LR 16 49 47.4
comp=Z,13μm,20.1s,MS6.4,baz=285,slow=32
ELK Elko 95.39 50 P **P** **16 12 42.3 +0.1**
ELK pmax pmax
comp=Z,23nm,0.9s
ELK MLR MLR
comp=Z,14μm,20.0s
ELK Elko 95.39 50 P **P** **16 12 42.3 +0.2**
comp=Z,23nm,0.9s,mb5.6
ELK LR LR
comp=Z,14μm,20.0s,MS6.4
NEN Nelson 95.50 55 eP **P** **16 12 42.9 +0.3**
BSMT Bassoo Peak 95.93 43 P **P** **16 12 44.2 -0.4**
HLID Hailey 96.10 47 P **P** **16 12 44.5 -0.9**
comp=Z,43nm,0.9s,mb5.9
HLID PP PP 16 16 29.6 -9.0
YKW3 Yellowknife Ar 96.13 28 P **P** **16 12 43.3 -2.2**
YKA Yellowknife Ar 96.13 28 P **P** **16 12 44.0 -1.6**
comp=Z,12nm,0.7s,mb5.5,baz=273,slow=4.8,SNR=81
YKA PKiKP PKiKP 16 17 23.6 -0.1
comp=Z,1.4nm,0.6s,baz=263,slow=1.3,SNR=8.8
YKA PKKPbc PKKPbc 16 29 31.4 -0.7
comp=Z,4.1nm,0.6s,baz=86,slow=2.8,SNR=41
YKA PKPPKP 16 37 44.7
comp=Z,1.3nm,1.1s,baz=66,slow=2.3,SNR=5.2
YKA LR LR 16 52 13.2
comp=Z,10μm,21.1s,MS6.3,baz=270,slow=33
YKA Yellowknife Ar 96.13 28 P **P** **16 12 44.0 -1.6**
ARU Arti 96.29 326 i P **P** **16 12 45.6 -0.7**
ARU pmax pmax
comp=Z,19nm,1.4s,mb5.3
ARU MLR MLR
comp=Z,17μm,25.0s,MS6.4
ARU Arti 96.29 326 P **P** **16 12 46.0 -0.2**
ARU LR LR
comp=Z,13μm,20.0s,MS6.4
MSO Missoula 96.49 44 P **P** **16 12 46.7 -0.4**
MSO LR LR
comp=Z,6μm,20.0s,MS6.1
AKTK Aktyubinsk 96.61 320 P **P** **16 12 46.9 -0.8**
AKTK PKKP PKKPbc 16 29 32.6 +1.8
AKTK LR LR 16 58 47.3
AKTO Aktyubinsk 96.61 320 P **P** **16 12 46.9 -0.8**
comp=Z,3.9nm,0.8s,mb4.9,baz=72,slow=7.9,SNR=4.0
AKTO PKKP PKKPbc 16 29 32.6 +1.8
comp=Z,1.8nm,0.7s,baz=346,slow=1.1,SNR=4.5
AKTO LR LR 16 58 47.3
comp=Z,6μm,20.6s,MS6.0,baz=274,slow=37
ARUT Antelope Range 96.69 53 eP **P** **16 12 48.4 +0.3**
EDM Edmonton 96.89 37 P **P** **16 12 47.5 -1.5**
CHMT Chamberlain Mo 96.96 44 P **P** **16 12 48.7 -0.6**
CHMT PP PP 16 16 43.9 -1.4
BGU Big Grassy Mou 97.07 50 eP **P** **16 12 52.7 +2.9**
DUG Dugway 97.23 50 P **P** **16 12 50.2 -0.3**
DUG pmax pmax
comp=Z,25nm,1.2s,mb5.5
DUG MLR MLR
comp=Z,12μm,22.0s,MS6.3
DUG Dugway 97.23 50 P **P** **16 12 50.2 -0.3**
comp=Z,25nm,1.2s,mb5.5
DUG ePP PP 16 16 31.2 -16
DUG LR LR
comp=Z,12μm,22.0s,MS6.3
MCMT McKenzie Canyo 97.24 46 eP **P** **16 12 49.9 -0.6**
MCMT ePP PP 16 16 37.3 -10
HVU Hansel Valley 97.28 49 P **P** **16 12 52.7 +2.0**
DLMT Dillon 97.42 45 eP **P** **16 12 50.7 -0.7**
comp=Z,27nm,1.0s,mb5.6
DLMT ePP PP 16 16 31.3 -18
SPUT South Promonto 97.52 49 P **P** **16 12 51.6 -0.2**
LRM Limekiln Ridge 97.52 45 P **P** **16 12 51.7 -0.1**
LRM PP PP 16 16 45.9 -3.7
MVU Marysvale 97.68 52 P **P** **16 12 54.4 +1.8**
MVU LR LR
comp=Z,17μm,21.0s,MS6.5
MSU Marysvale 97.70 52 P **P** **16 12 53.1 +0.4**
MSU 16 16 49.3
NLU North Lily Min 97.79 51 P **P** **16 12 51.2 -1.9**
NLU PP PP 16 16 45.8 -5.9
HRY Holter Researc 97.94 44 P **P** **16 12 54.1 +0.4**
BOZ Bozeman (W) 98.10 45 P **P** **16 12 54.3 -0.1**
BOZ pmax pmax
comp=Z,23nm,0.8s,mb5.8
BOZ MLR MLR
comp=Z,14μm,22.0s,MS6.4
BOZ Bozeman (W) 98.10 45 P **P** **16 12 54.3 -0.2**
comp=Z,23nm,0.8s,mb5.8
BOZ PP PP 16 16 47.5 -6.6
BOZ LR LR
comp=Z,14μm,22.0s,MS6.4
MPU Maple Canyon 98.13 50 P **P** **16 12 55.2 +0.7**
MPU LR LR
comp=Z,14μm,20.0s,MS6.5
HWUT Hardware Ranch 98.18 49 eP **P** **16 12 53.8 -1.0**
comp=Z,39nm,1.1s,mb5.8
HWUT LR LR
comp=Z,12μm,22.0s,MS6.3
QLMT Earthquake Lak 98.25 46 P **P** **16 12 56.0 +0.9**
QLMT PP PP 16 16 57.3 +2.1
TCUT Toone Canyon 98.30 49 P **P** **16 12 55.8 +0.4**
TCUT PP PP 16 16 47.6 -8.0
WUAZ Wupatki 98.32 55 P **P** **16 12 57.8 +2.4**
TMUT Trail Mountain 98.46 51 P **P** **16 12 57.2 +1.2**
AHID Auburn Hatcher 98.52 48 P **P** **16 12 56.5 +0.2**
comp=Z,50nm,1.0s,mb6.0
AHID PP PP 16 16 56.5 -0.7
AHID LR LR
comp=Z,14μm,21.0s,MS6.4
YMR Madison River 98.58 46 eP **P** **16 12 57.3 +0.7**
comp=Z,49nm,0.9s,mb6.0
IMW Indian Meadow 98.62 47 P **P** **16 12 57.2 +0.5**
YFT Old Faithful 98.68 46 P **P** **16 12 59.2 +2.2**
YFT PP PP 16 16 53.9 -4.6
REDW Red Top Meadow 98.69 47 P **P** **16 12 57.5 +0.4**
REDW PP PP 16 16 58.6 0.0
SNOW Snow King Moun 98.76 47 P **P** **16 12 58.1 +0.7**
SNOW PP PP 16 16 58.1 -0.9
MOOW Moose Ponds 98.76 47 P **P** **16 12 57.6 +0.2**
MOOW PP PP 16 16 49.0 -10
TUC Tucson 98.78 58 P **P** **16 12 59.1 +1.6**
TUC MLR MLR
comp=Z,8μm,19.0s,MS6.2
FLWY Flagg Ranch 98.79 46 eP **P** **16 12 56.9 -0.6**
comp=Z,47nm,0.8s,mb6.1
FLWY ePP PP 16 16 55.5 -3.8
LOHW Long Hollow 98.86 47 P **P** **16 12 58.1 +0.2**

LOHW				PP	PP	16 17 05.2	+5.3
LKWY	**Lake**	**98.99**	**46**	P	**P**	**16 13 00.7**	**+2.3**
	comp=Z,38nm,0.9s,mb5.9						
LKWY				LR	LR		
	comp=Z,22µm,20.0s,MS6.7						
SRU	**San Rafael**	**99.00**	**51**	P	**P**	**16 12 59.0**	**+0.6**
GCMT	**Greycliff**	**99.47**	**45**	*e*Pdif	**P**	**16 13 01.1**	**+0.5**
BW06	**Boulder Array**	**99.65**	**48**	P	Pdif	16 13 00.7	-0.6
	comp=Z,45nm,1.0s						
BW06				LR	LR		
	comp=Z,16µm,22.0s,MS6.5						
PDAR	**Pinedale Array**	**99.65**	**48**	P	Pdif	16 13 00.3	-1.1
	comp=Z,37nm,0.9s,baz=246,slow=1.9,SNR=78						
PDAR				PP	PP	16 17 05.9	0.0
	comp=Z,6.8nm,1.1s,baz=270,slow=5.9,SNR=5.3						
PDAR				PKKP	PKKPbc	16 29 31.9	+10
	comp=Z,0.7nm,0.5s,baz=101,slow=5.6,SNR=5.1						
PDAR				PKPPKP		16 37 35.4	
	comp=Z,0.6nm,1.0s,baz=64,slow=6.8,SNR=3.9						
PDAR				LR	LR	16 52 55.8	
	comp=Z,12µm,20.0s,MS6.4,baz=275,slow=32						
PV10	**Paradox Valley**	**100.17**	**52**	*e*Pdif	Pdif	16 13 03.9	+0.3
PV10				*e*PP	PP	16 17 11.0	+1.2
PV01	**Paradox Valley**	**100.54**	**52**	Pdif	Pdif	16 13 06.1	+0.8
PV01				PP	PP	16 17 12.2	-0.5
RES	**Resolute Bay**	**101.00**	**14**	P	Pdif	16 13 06.3	-1.1
RWWY	**Rawlins**	**101.44**	**49**	Pdif	Pdif	16 13 09.7	+0.4
RWWY				PP	PP	16 17 15.8	-3.6
SNAA	**Sanae**	**101.50**	**188**	P	Pdif	16 13 07.5	-2.1
	comp=Z,2.1nm,0.9s,baz=186,slow=16,SNR=3.1						
SMCO	**Snowmass**	**101.75**	**51**	*e*Pdif	Pdif	16 13 11.0	+0.3
	comp=Z,42nm,0.9s						
LAO	**LASA Array**	**101.80**	**44**	Pdif	Pdif	16 13 11.5	+0.6
LAO				LR	LR		
	comp=Z,9µm,20.0s,MS6.3						
ANMO	**Albuquerque**	**102.35**	**56**	Pdiff	Pdif	16 13 15.9	+2.5
	comp=Z,8.4nm,0.9s,baz=271,slow=5.6,SNR=12						
ANMO	**Albuquerque**	**102.35**	**56**	Pdif	Pdif	16 13 14.8	+1.4
ANMO				LR	LR		
	comp=Z,7µm,22.0s,MS6.1						
VNA3	**Neumayer Olymp**	**102.72**	**186**	*e*Pdiff	Pdif	16 13 14.8	-0.2
VNA3				*e*		16 13 16.5	
VNA3				*e*		16 13 18.4	
ISCO	**Idaho Springs**	**102.77**	**51**	Pdif	Pdif	16 13 16.3	+1.1
ISCO				*e*PP	PP	16 17 12.8	-17
ISCO				LR	LR		
	comp=Z,15µm,22.0s,MS6.5						
VNA2	**Neumayer--Watz**	**102.77**	**187**	*e*Pdiff	Pdif	16 13 14.8	-0.4
VNA2				*e*		16 13 16.4	
VNA2				*e*		16 13 18.5	
VNA2				*e*		16 13 20.1	
VNA2				*e*		16 13 24.6	
VNA2				*e*		16 13 27.0	
VNA2				*e*		16 13 50.4	
VNA2				*e*		16 13 54.0	
VNA2				*e*		16 17 39.2	
PHWY	**Pilot Hill**	**102.78**	**49**	Pdif	Pdif	16 13 16.6	+1.4
DGMT	**Dagmar**	**102.98**	**42**	Pdif	Pdif	16 13 17.9	+1.8
DGMT				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
SDCO	**Great Sand Dun**	**102.98**	**53**	Pdif	Pdif	16 13 17.9	+1.7
MNTX	**Cornudas Mount**	**103.37**	**59**	*e*Pdif	Pdif	16 13 19.5	+1.6
	comp=Z,9.4nm,1.0s						
MNTX				LR	LR		
	comp=Z,7µm,22.0s,MS6.2						
FFC	**Flin Flon**	**103.43**	**35**	Pdif	Pdif	16 13 20.3	+2.1
FFC				LR	LR		
	comp=Z,6µm,19.0s,MS6.2						
RSSD	**Black Hills**	**103.57**	**46**	P	Pdif	16 13 18.6	-0.2
RSSD				MLR	MLR		
	comp=Z,8µm,20.0s,MS6.2						
KBS	**Kingsbay**	**103.70**	**353**	*e*PP	PP	16 17 30.1	-6.2
KBS				*e*		16 19 52.0	
KBS				*i*		16 26 40.5	
KBS				AMS	AMS	16 55 55.5	
	comp=Z,2µm,23.9s,MS5.6						
MAK	**Makhachkala**	**104.23**	**313**	*e*P	Pdif	16 13 19.4	-2.3
MAK				*i*		16 17 38.0	
MAK				*e*PPP		16 19 49.3	
MAK				*e*		16 24 43.3	
LVZ	**Lovozero**	**104.93**	**340**	PFAKE		16 13 40.0	+15
LVZ				LR	LR		
	comp=Z,5µm,22.0s,MS6.0						
PMSA	**Palmer Station**	**105.23**	**165**	PFAKE		16 17 50.0	+10
PMSA				LR	LR		
	comp=Z,4µm,21.0s,MS5.9						
APA	**Apatity**	**105.50**	**340**	⇑*i*P	Pdif	16 13 29.5	+2.1
APA				*e*		16 17 58.0	
APA				*e*PPP		16 20 05.0	
APA				*i*		16 24 06.0	
APA				*i*		16 24 46.0	
APA				*i* S	Sdif	16 25 11.0	-7.9
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,4µm,24.0s,MS5.8						
BJO	**Bjornoya**	**105.64**	**348**	*i*	SP	16 27 04.5	+3.7
BJO				AMS	AMS	17 01 14.0	
	comp=Z,6µm,22.9s,MS6.1						
KEV	**Kevo**	**106.52**	**343**	PFAKE		16 17 50.0	+7.5
KEV				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
GNI	**Garni**	**106.62**	**310**	PFAKE		16 17 50.0	+7.3
GNI				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
FCC	**Fort Churchill**	**106.67**	**30**	⇓P	Pdif	16 13 33.9	+1.3
ARCES	**ARCESS Array B**	**107.08**	**343**	PKiKP	PKiKP	16 17 41.9	-1.6
	comp=Z,9.3nm,0.6s,baz=116,slow=0.6,SNR=15						
CBKS	**Cedar Bluff**	**107.40**	**51**	PFAKE		16 18 00.0	+16
CBKS				LR	LR		
	comp=Z,20µm,22.0s,MS6.6						
BHD	**Baghdad**	**107.67**	**303**	*ex*	x	16 18 11.5	
ULM	**Lac du Bonnet**	**108.01**	**39**	Pdiff	Pdif	16 13 38.4	-0.2
	comp=Z,6.3nm,0.8s,baz=297,slow=5.0,SNR=8.2						
ULM				PKiKP	PKiKP	16 17 43.8	-1.5
	comp=Z,3.2nm,0.7s,baz=18,slow=2.4,SNR=3.9						
ULM				PKKPbc	PKKPbc	16 29 08.9	+12
	comp=Z,1.5nm,0.7s,baz=141,slow=5.9,SNR=3.9						
JCT	**Junction City**	**108.22**	**60**	*e*Pdif	Pdif	16 13 43.4	+3.9
	comp=Z,6.3nm,0.8s						
JCT				LR	LR		
	comp=Z,12µm,20.0s,MS6.5						
JOF	**Joensuu**	**108.30**	**336**	*ep*	Pdif	16 13 39.2	-0.6
	comp=Z,7.3nm,0.8s						
JOF	**Joensuu**	**108.30**	**336**	*ep*	PKiKP	16 17 41.9	-3.9
	comp=Z,2.0nm,0.6s						
JOF	**Joensuu**	**108.30**	**336**	*e*P	Pdif	16 13 39.2	-0.6
JOF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VRSR	**Storozhevoye**	**108.32**	**322**	*e*P	Pdif	16 13 41.6	+1.7
VRSR				*e*		16 18 08.0	
VRSR				pmax	pmax		
	comp=Z,20nm,18.5s						
VRSR				pmax	pmax		
	comp=N,10.0nm,17.8s						
VRSR				pmax	pmax		
	comp=E,30nm,27.5s						
VRSR				MLR	MLR		
	comp=N,320nm,21.0s,MS5.1						
VRSR				MLR	MLR		
	comp=E,520nm,26.0s,MS5.1						
DAG	**Danmarks Havn**	**108.34**	**358**	*i* P	PKiKP	16 17 38.0	-7.9
	comp=E,2.7nm,0.7s						
DAG							
	comp=Z,5µm,23.0s						
DAG	**Danmarks Havn**	**108.34**	**358**	*e*P	PKiKP	16 17 38.0	-7.9
DAG				LR	LR		
	comp=Z,5µm,23.0s,MS6.0						
MSL	**Mosul**	**108.39**	**306**	*ex*	x	16 18 28.0	
MSL				*ex*	x	16 28 03.0	
WMOK	**Wichita Mounta**	**108.66**	**55**	⇓P	Pdif	16 13 45.8	+4.4
OBN	**Obninsk**	**108.71**	**327**	P	Pdif	16 13 43.0	+1.3
OBN				*e*		16 24 23.7	
OBN				MLR	MLR		
	comp=Z,9µm,21.0s,MS6.3						
TRO	**Tromso**	**108.87**	**344**	*e*PP	PP	16 18 06.6	-7.8
TRO				*i*		16 27 25.7	
TRO				AMS	AMS	17 05 47.0	
	comp=Z,4µm,21.6s,MS5.9						
KSU1	**Kansas State U**	**109.77**	**50**	Pdif	Pdif	16 13 49.0	+2.7
KAF	**Kangasniemi**	**110.73**	**336**	*ep*	Pdif	16 13 48.9	-1.7
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**110.73**	**336**	*ep*	PKiKP	16 17 49.1	-1.3
	comp=Z,4.1nm,0.9s						
KAF	**Kangasniemi**	**110.73**	**336**	*e*PKIKP	PKiKP	16 17 49.1	-1.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANN	**Anapa**	**111.08**	**316**	*i* PKIKP	PKiKP	16 18 03.2	+12
ANN				*e*		16 18 32.4	
ANN				*e*PS	PS	16 27 51.7	-10
ANN				*e*SP	SP	16 28 02.3	+7.1
ANN				MLR	MLR		
	comp=N,10µm,23.0s,MS6.4						
ANN				MLR	MLR		
	comp=E,5µm,23.0s,MS6.4						
FINES	**FINESS Array B**	**111.16**	**335**	Pdiff	Pdif	16 13 51.5	-1.0
	comp=E,3.0nm,0.5s,baz=64,slow=6.3,SNR=2.6						
FINES				PKiKP	PKiKP	16 17 49.6	-1.6
	comp=E,4.8nm,0.7s,baz=112,slow=4.4,SNR=11						
FINES				PKKPbc	PKKPbc	16 28 46.6	-0.7
	comp=E,0.7nm,0.7s,baz=327,slow=0.9,SNR=3.9						
FINES	**FINESS Array B**	**111.16**	**335**	P	Pdif	16 13 51.6	-0.9
FINES						16 17 49.6	
EYMN	**Ely**	**111.39**	**40**	PFAKE		16 18 00.0	+8.4
EYMN				LR	LR		
	comp=Z,8µm,21.0s,MS6.3						
HKT	**Hockley**	**111.69**	**60**	PFAKE		16 18 00.0	+7.8
HKT				LR	LR		
	comp=Z,16µm,20.0s,MS6.6						
MALT	**Malatya**	**111.75**	**309**	*e*PKIKP	PKiKP	16 17 50.7	-1.6
NATX	**Nacogdoches**	**112.47**	**58**	PFAKE		16 18 10.0	+16
NATX				LR	LR		
	comp=Z,7µm,22.0s,MS6.2						
MIAR	**Mount Ida**	**112.94**	**55**	PFAKE		16 18 10.0	+15
MIAR				LR	LR		
	comp=Z,11µm,20.0s,MS6.4						
SIM	**Simferopol'**	**113.31**	**317**	P	Pdif	16 14 20.7	+19
SIM				*e*		16 18 43.0	
SIM				pmax	pmax		
	comp=Z,500nm,11.0s						
SIM				MLR	MLR		
	comp=Z,4µm,22.0s,MS6.0						
UALR	**University of**	**113.89**	**54**	*e*PKPdf	PKiKP	16 17 56.6	+0.2
CCM	**Cathedral Cave**	**114.10**	**51**	PFAKE		16 18 10.0	+13
CCM				LR	LR		
	comp=Z,17µm,21.0s,MS6.6						
NSS	**Namsos**	**114.35**	**342**	*e*PKPd	PKiKP	16 17 55.4	-1.9
NSS				*i*		16 28 17.3	
NSS				AMS	AMS	17 06 10.8	
	comp=Z,9µm,22.8s,MS6.3						
NSS	**Namsos**	**114.35**	**342**	*e*P	PKiKP	16 17 54.2	-3.1
NSS				*i*		16 28 17.3	
AKASG	**Malin Array Be**	**114.44**	**324**	PKP	PKiKP	16 17 55.8	-1.7
	comp=Z,4.8nm,0.5s,baz=56,slow=2.6,SNR=20						
AKASG				PKKPbc	PKKPbc	16 28 35.5	-0.9
	comp=Z,3.2nm,0.7s,baz=258,slow=4.1,SNR=18						
KMBO	**Kilima Mbogo**	**114.63**	**266**	PKP	PKiKP	16 17 59.4	+1.6
	comp=Z,2.0nm,0.7s,baz=51,slow=19,SNR=4.8						
KMBO	**Kilima Mbogo**	**114.63**	**266**	*e*PKPdf	PKiKP	16 18 00.2	+2.4
KMBO				*e*		16 18 13.2	
KMBO				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
BR131	**Keskin Array S**	**115.07**	**312**	*e*PKPdf	PKiKP	16 17 59.5	+0.9
BR131				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BRTR	**Keskin Array B**	**115.07**	**312**	PKP	PKiKP	16 17 59.0	+0.4
	comp=Z,3.4nm,0.8s,baz=146,slow=4.6,SNR=11						
BRTR				PKKPbc	PKKPbc	16 28 36.6	+2.5
	comp=Z,3.1nm,0.7s,baz=220,slow=3.9,SNR=13						
ANTO	**Ankara**	**115.67**	**312**	PFAKE		16 18 10.0	+10
ANTO				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
SFJD	**Kangerlussuaq**	**116.38**	**10**	PKP	PKPdf	16 18 00.8	-0.4
	comp=Z,11nm,0.7s,baz=266,slow=3.2,SNR=6.1						
SFJD	**Kangerlussuaq**	**116.38**	**10**	*i* P	Pdif	16 14 30.3	+15
SFJD				*i*		16 24 45.6	
SFJD				*i*		16 28 37.3	
SFJD							
	comp=Z,4µm,22.0s						
SFJD	**Kangerlussuaq**	**116.38**	**10**	*e*P	Pdif	16 14 30.3	+15
SFJD				PKP	PKPdf	16 18 00.8	-0.4
SFJD				*i*		16 24 45.6	
SFJD				*i*		16 28 37.3	
SFJD				LR	LR		
	comp=Z,4µm,22.0s,MS6.0						
CSS	**Prodhromos**	**116.45**	**306**	*e*PKPdf	PKPdf	16 18 01.0	-0.3
NB2	**NORSAR Subarra**	**117.08**	**340**	PKPd	PKPdf	16 18 01.5	-1.0
	comp=Z,3.4nm,0.7s,baz=44,slow=1.9						
NB2	**NORSAR Subarra**	**117.08**	**340**	PKPd	PKPdf	16 18 01.5	-1.0
	baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.08**	**340**	PKP	PKPdf	16 18 01.8	-0.8
	comp=Z,10nm,0.7s,baz=48,slow=1.9,SNR=35						
NOA				PKKPbc	PKKPbc	16 28 28.6	+1.4
	comp=Z,1.7nm,0.9s,baz=43,slow=3.5,SNR=4.0						
PLAL	**Pickwick Lake**	**117.28**	**53**	PFAKE		16 18 10.0	+7.1
PLAL				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
TIRR	**Tirgusor**	**117.32**	**318**	⇑P	PKPdf	16 18 05.5	+2.5
TIRR	**Tirgusor**	**117.32**	**318**	⇑P	PKPdf	16 18 05.5	+2.5
NAO01	**NORSAR Array S**	**117.34**	**340**	*e*PKPdf	PKPdf	16 18 00.0	-3.0
NAO01				LR	LR		
	comp=Z,6µm,19.0s,MS6.2						
BLO	**Bloomington**	**117.39**	**48**	*e*PKIKP	PKPdf	16 18 03.5	+0.4
PAYG	**Puerto Ayora**	**117.42**	**93**	PFAKE		16 18 20.0	+17
PAYG				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
EFI	**East Falkland**	**117.72**	**159**	PFAKE		16 18 20.0	+16
EFI				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
WCI	**Wyandotte Cave**	**117.83**	**49**	*e*PKIKP	PKPdf	16 18 03.1	-0.9
BURAR	**Bucovina Array**	**118.11**	**322**	⇑P	PKPdf	16 18 06.6	+2.1
BURAR	**Bucovina Array**	**118.11**	**322**	⇑P	PKPdf	16 18 06.5	+2.0
AAM	**Ann Arbor**	**118.45**	**44**	PFAKE		16 18 20.0	+15
AAM				LR	LR		
	comp=Z,10µm,21.0s,MS6.4						
MLR	**Muntele Rosu**	**118.54**	**320**	PKP	PKPdf	16 18 05.0	-0.3
	comp=Z,6.7nm,0.7s,baz=36,slow=2.0,SNR=4.9						
MLR				PKKPab	PKKPab	16 28 24.5	-0.4
	comp=Z,7.1nm,0.6s,baz=184,slow=8.3,SNR=11						
MLR	**Muntele Rosu**	**118.54**	**320**	⇑P	PKPdf	16 18 05.9	+0.6
MLR	**Muntele Rosu**	**118.54**	**320**	⇑P	PKPdf	16 18 05.9	+0.5
LRAL	**Lakeview Retre**	**118.60**	**55**	*e*PKPdf	PKPdf	16 18 05.2	-0.2
LRAL				LR	LR		
	comp=Z,8µm,20.0s,MS6.4						
FOO	**Floro**	**118.64**	**343**	*e*P	PKPdf	16 18 04.3	-1.2
FOO				AMb	AMB	16 18 05.5	
	comp=Z,16nm,1.1s						
FOO				⇑*e*		16 20 55.8	
KONO	**Kongsberg**	**118.64**	**339**	PFAKE		16 18 20.0	+14
KONO				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
KWP	**Kalwaria**	**118.68**	**325**	*e*PKIKP	PKPdf	16 18 04.5	-1.1
BOSA	**Boshof**	**118.81**	**233**	PKP	PKPdf	16 18 05.9	+0.1
	comp=Z,8.4nm,0.8s,baz=247,slow=1.5,SNR=13						
BOSA				PKKPab	PKKPab	16 28 23.4	-0.3
	comp=Z,6.9nm,0.9s,baz=303,slow=5.9,SNR=7.7						
BOSA	**Boshof**	**118.81**	**233**	*e*PKPdf	PKPdf	16 18 04.0	-1.9
BOSA				LR	LR		
	comp=Z,7µm,20.0s,MS6.3						
KOLS	**Kolonicke sedl**	**119.26**	**325**	*e*PKP	PKPdf	16 18 07.7	+1.0
KOLS				*e*		16 18 22.1	
BER	**Bergen**	**119.50**	**342**	*e*PP	PP	16 19 23.4	-6.2
BER				*i*		16 29 15.0	
STHS	**Stebnicka Huta**	**119.61**	**325**	*e*PKP	PKPdf	16 18 07.2	-0.2
STHS				*e*		16 18 29.2	
ACSO	**Alum Creek Sta**	**119.65**	**46**	*e*PKPdf	PKPdf	16 18 07.2	-0.3
ACSO				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
CRVS	**Cervenica-Dubn**	**119.75**	**325**	*e*PKP	PKPdf	16 18 08.8	+1.1
CRVS				*e*		16 18 25.7	
PLCA	**Paso Flores**	**119.84**	**144**	PKP	PKPdf	16 18 08.0	+0.1
	comp=Z,10nm,0.9s,baz=208,slow=2.6,SNR=17						
PLCA	**Paso Flores**	**119.84**	**144**	*e*PKPdf	PKPdf	16 18 07.9	0.0
BLS5	**Blasjo**	**119.88**	**341**	*e*P	PKPdf	16 18 08.2	+0.3
LBTB	**Lobatse**	**119.96**	**237**	PKP	PKPdf	16 18 07.8	-0.3
	comp=Z,7.1nm,0.6s,baz=163,slow=1.7,SNR=12						
LBTB				PKKPab	PKKPab	16 28 20.8	+2.1
	comp=Z,5.1nm,0.8s,baz=290,slow=7.4,SNR=7.1						
LBTB	**Lobatse**	**119.96**	**237**	*e*PKPdf	PKPdf	16 18 07.5	-0.6
LBTB				LR	LR		
	comp=Z,5µm,20.0s,MS6.2						
OJC	**Ojcow**	**120.01**	**327**	*e*Pdiff	Pdif	16 14 24.4	-7.5
OJC				*e*PKPdf	PKPdf	16 17 57.1	-11
OJC				*e*PP	PP	16 19 27.3	-5.8
OJC				*e*SKSac	SKSac	16 24 54.4	-5.8
OJC				*e*SP	SP	16 29 15.7	-0.8
OJC				*e*SS	SS	16 35 54.0	-1.0
OJC				L		17 10 44.0	
	comp=Z,52nm,22.2s						
DRGR		**120.01**	**322**	⇑P	PKPdf	16 18 08.8	+0.6
DRGR		**120.01**	**322**	⇑P	PKPdf	16 18 08.8	+0.7
NIE	**Niedzica**	**120.14**	**326**	*e*PKP	PKPdf	16 18 09.6	+1.2
HOPE	**Hope Point**	**120.26**	**174**	PFAKE		16 18 20.0	+11
HOPE				LR	LR		
	comp=Z,8µm,20.0s,MS6.4						
BORG	**Borgarnes**	**120.42**	**357**	PFAKE		16 18 20.0	+11
BORG				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
SADO	**Sadowa**	**120.51**	**40**	PKP	PKPdf	16 18 09.3	+0.2
	comp=Z,15nm,0.8s,baz=249,slow=1.8,SNR=9.6						
KECS	**Kecovo**	**120.52**	**325**	*e*PKP	PKPdf	16 18 10.1	+1.0
KECS				*e*		16 18 34.9	
RGN	**Rugen**	**120.67**	**333**	*e*PP	PP	16 19 40.1	+2.5
RGN				*e*SP	SP	16 29 27.9	+5.4
LSZ	**Lusaka**	**120.84**	**249**	PKP	PKPdf	16 18 10.9	+1.1
	comp=Z,15nm,0.7s,baz=108,slow=2.4,SNR=20						
LSZ				PKKPab	PKKPab	16 28 17.2	+2.3
	comp=Z,4.8nm,0.8s,baz=276,slow=2.8,SNR=7.9						
LSZ	**Lusaka**	**120.84**	**249**	*e*PKPdf	PKPdf	16 18 10.2	+0.5
LSZ				*e*		16 18 26.3	
LSZ				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
ERPA	**Erie**	**121.05**	**43**	PFAKE		16 18 20.0	+10
ERPA				LR	LR		
	comp=Z,9µm,22.0s,MS6.3						
OKC	**Ostrava-Krasne**	**121.11**	**327**	*e*PKPdf	PKPdf	16 18 09.5	-0.8
OKC				*ep*PKP	pPKPdf	16 18 22.8	-4.2
PSZ	**Piszkesteto**	**121.14**	**324**	*e*PKPdf	PKPdf	16 18 10.9	+0.5
BZS	**Buzias**	**121.23**	**321**	⇓P	PKPdf	16 18 10.7	+0.2
BZS	**Buzias**	**121.23**	**321**	⇓P	PKPdf	16 18 10.7	+0.2
MORC	**Moravsky Berou**	**121.47**	**327**	*e*PKIKP	PKPdf	16 18 10.5	-0.5
KSP	**Ksiaz**	**121.52**	**329**	*e*PKIKP	PKPdf	16 18 11.9	+0.8
KSP				*e*		16 19 43.0	
KSP				*e*SP	SP	16 29 34.0	+3.9
KSP				*e*SS	SS	16 36 14.0	-0.4
KSP				MLR	MLR		
	comp=Z,17µm,23.8s,MS6.6						
VTS	**Vitosha**	**121.53**	**318**	*e*P	PKPdf	16 18 11.5	+0.5
LRW	**Lerwick**	**121.58**	**345**	*e*P	PKPdf	16 18 09.7	-1.5
LRW	**Lerwick**	**121.58**	**345**	*e*P	PKPdf	16 18 09.7	-1.5
WAL1	**Walls**	**121.59**	**345**	*e*P	PKPdf	16 18 10.6	-0.6
WAL1	**Walls**	**121.59**	**345**	*e*P	PKPdf	16 18 10.6	-0.6
ZAPS	**Zavoj/Pirot**	**121.62**	**319**	⇑*i*P	PKPdf	16 18 10.7	-0.6
RUE	**Ruedersdorf**	**121.78**	**331**	*e*PKPdf	PKPdf	16 18 12.4	+0.8
RUE				*e*PP	PP	16 19 49.8	+4.6
RUE				*e*SP	SP	16 29 39.0	+6.6
DPC	**Dobruska-Polom**	**121.79**	**328**	*e*PKPdf	PKPdf	16 18 13.4	+1.8
DPC				*ep*PKP	pPKPdf	16 18 27.0	-1.3
UPC	**Upice**	**121.86**	**329**	*e*PKPdf	PKPdf	16 18 12.2	+0.5
UPC				*ep*PKP	pPKPdf	16 18 26.6	-1.8
SRO2	**Moca**	**122.09**	**325**	*e*PKP	PKPdf	16 18 12.6	+0.4
SRO2				*e*		16 18 32.3	
MCWV	**Mont Chateau**	**122.10**	**46**	*e*PKPdf	PKPdf	16 18 11.1	-1.1
MCWV				*e*		16 18 28.0	
MCWV				LR	LR		
	comp=Z,8µm,22.0s,MS6.3						
SRO	**Srobarova**	**122.11**	**325**	*e*PKP	PKPdf	16 18 13.5	+1.3
SRO				*e*		16 18 28.6	
FWV	**Forest Hill**	**122.15**	**48**	*e*PKPdf	PKPdf	16 18 11.7	-0.6
SANT	**Santorini**	**122.23**	**310**	*e*PKPdf	PKPdf	16 18 10.8	-1.6
VRAC	**Vranov**	**122.25**	**327**	PKP	PKPdf	16 18 11.3	-1.1
	comp=Z,8.8nm,1.1s,baz=54,slow=8.7,SNR=3.2						
VRAC	**Vranov**	**122.25**	**327**	⇑P	PKPdf	16 18 13.5	+1.0
ELN	**Prospectdale**	**122.31**	**49**	*e*PKPdf	PKPdf	16 18 13.1	+0.5
BSEG	**Bad Segeberg**	**122.40**	**334**	*e*PKPdf	PKPdf	16 18 13.7	+0.9
BSEG				*e*PP	PP	16 19 51.0	+1.6
BSEG				*e*SP	SP	16 29 39.0	+1.2
BSEG	**Bad Segeberg**	**122.40**	**334**	*e*PKIKP	PKPdf	16 18 13.7	+0.9
BSEG				*e*		16 19 51.0	
VAY	**Valandovo**	**122.49**	**316**	*e*P	PKPdf	16 18 12.5	-0.4
VAY	**Valandovo**	**122.49**	**316**	*i* PKP	PKPdf	16 18 12.4	-0.6
VAY				*i*		16 18 26.3	
ZST	**Bratislava**	**122.58**	**326**	*e*PKP	PKPdf	16 18 14.0	+0.9
ZST				*e*		16 18 39.8	
GRUS	**Gruza**	**122.59**	**320**	*e*P	PKPdf	16 18 12.1	-1.0
LAST	**Lasithi**	**122.60**	**309**	*e*P	PKPdf	16 18 13.8	+0.7
BRG	**Berggiesshubel**	**122.70**	**330**	*e*PKPdf	PKPdf	16 18 14.1	+0.8
BRG				*e*PP	PP	16 19 56.1	+4.7
BRG				*e*SP	SP	16 29 42.7	+2.2
BRG	**Berggiesshubel**	**122.70**	**330**	*i* PKIKP	PKPdf	16 18 14.1	+0.8
BRG				*i*		16 18 28.1	
BRG				SS	SS	16 36 30.0	+0.6
BRG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**122.70**	**330**	*i* PKP	PKPdf	16 18 14.1	+0.7
BRG				*i*		16 18 28.1

NKC *e*PKP pPKPdf 16 18 30.2 -2.0
KHC Kasperske Hory 123.95 328 *e*PKPdf PKPdf 16 18 15.9 +0.2
KHC *e*pPKP pPKPdf 16 18 30.1 -2.3
KHC *ex* x 16 18 42.0
KHC *e*PKKS 16 31 49.0
KHC x x 16 32 02.5
KHC Kasperske Hory 123.95 328 *e*PKIKP PKPdf 16 18 15.9 +0.2
KHC *e* 16 18 30.1
KHC Kasperske Hory 123.95 328 *e*PKP PKPdf 16 18 15.9 +0.2
KHC *e* 16 18 30.1
KHC *e* 16 18 42.0
FRNY Flat Rock 123.96 38 *e*PKPdf PKPdf 16 18 14.2 -1.6
MOX Moxa 123.99 331 *e*PP PP 16 20 05.2 +5.1
MOX *e*SP SP 16 29 52.0 +0.1
MOX Moxa 123.99 331 *e*PKP PKPdf 16 18 17.1 +1.3
comp=Z,21nm,1.4s
MOX
comp=Z,5µm,22.0s
MOX Moxa 123.99 331 *e*PKIKP PKPdf 16 18 17.1 +1.3
MOX pmax pmax
comp=Z,21nm,1.4s
MOX MLR MLR
comp=Z,5µm,22.0s,MS6.1
NCB Newcomb 124.00 39 PFAKE 16 18 30.0 +14
NCB LR LR
comp=Z,6µm,20.0s,MS6.3
GEC2 GERESS Array S 124.06 328 *e*PKPdf PKPdf 16 18 16.7 +0.8
GEC2 *e*PP PP 16 20 05.8 +5.2
GEC2 *e*SP SP 16 29 53.9 +1.4
GEC2 GERESS Array S 124.06 328 *e*PKIKP PKPdf 16 18 16.7 +0.8
GEC2 *e* 16 20 05.8
GERES GERESS Array B 124.06 328 PKP PKPdf 16 18 15.2 -0.7
comp=Z,12nm,0.5s,baz=76,slow=1.5,SNR=36
GERES PKKPbc PKKPbc 16 28 01.4 +0.3
comp=Z,3.1nm,1.1s,baz=200,slow=3.5,SNR=6.8
GERES PKKP PKKPbc 16 28 31.2 +30
comp=Z,0.8nm,0.7s,baz=198,slow=3.8,SNR=3.6
NHSC New Hope 124.10 53 PFAKE 16 18 30.0 +14
NHSC LR LR
comp=Z,5µm,20.0s,MS6.2
ROTZ Rotzenmuhle 124.26 330 *e*PKPdf PKPdf 16 18 17.2 +0.9
ROTZ *e*PP PP 16 20 05.8 +3.9
ROTZ *e*SP SP 16 29 53.9 -0.4
MVH1 Achvaich 124.28 345 *e*P PKPdf 16 18 15.1 -1.3
MVH1 Achvaich 124.28 345 *e*P PKPdf 16 18 15.1 -1.3
WET Wettzell 124.31 329 *e*PKPdf PKPdf 16 18 17.4 +1.0
WET *e*PP PP 16 20 06.9 +4.7
WET *e*SP SP 16 30 01.3 +6.6
MCD Coleburn Disti 124.33 344 *e*P PKPdf 16 18 14.8 -1.6
MCD Coleburn Disti 124.33 344 *e*P PKPdf 16 18 14.8 -1.6
MIV Mineville/With 124.38 39 *e*PKPdf PKPdf 16 18 16.8 +0.3
REB Eisghbrachaidh 124.38 346 *e*P PKPdf 16 18 16.2 -0.4
REB Eisghbrachaidh 124.38 346 *e*P PKPdf 16 18 16.2 -0.4
DWPF Disney 124.42 59 *e*PKPdf PKPdf 16 18 16.9 +0.3
DWPF LR LR
comp=Z,8µm,20.0s,MS6.4
CBN Corbin 124.44 47 PFAKE 16 18 30.0 +13
CBN LR LR
comp=Z,9µm,20.0s,MS6.4
MME1 Meikle Cairn 124.48 344 *e*P PKPdf 16 18 14.6 -2.1
MME1 Meikle Cairn 124.48 344 *e*P PKPdf 16 18 14.6 -2.1
PERS Pernice 124.58 325 *e*PKPdf PKPdf 16 18 17.1 +0.2
IBBN Ibbenburen 124.64 334 *e*PKPdf PKPdf 16 18 18.0 +0.9
IBBN *e*PP PP 16 20 09.2 +4.7
IBBN *e*SP SP 16 29 55.7 -1.9
UBBA Unterbreizbach 124.65 332 *e*PP PP 16 20 09.2 +4.7
UBBA *e*SP SP 16 29 57.6 -0.1
MDO Dochfour 124.75 345 *e*P PKPdf 16 18 14.8 -2.4
MDO Dochfour 124.75 345 *e*P PKPdf 16 18 14.8 -2.4
GRA1 Grafenberg Arr 124.80 330 *e*PKPdf PKPdf 16 18 18.3 +0.9
GRA1 *e*pPKPdf pPKPdf 16 18 32.4 -1.7
GRA1 *e*PP PP 16 20 10.9 +5.4
GRA1 *e*SP SP 16 29 57.6 -1.5
GRA1 *e*SS SS 16 37 08.4 +12
GRA1 LR LR
comp=Z,6µm,20.7s,MS6.2
GRF Grafenberg Arr 124.80 330 *e*PKPdf PKPdf 16 18 18.3 +0.9
GRF *e*pPKPdf pPKPdf 16 18 32.4 -1.7
GRF *e*PP PP 16 20 10.9 +5.4
GRF *e*SP SP 16 29 57.6 -1.5
GRF *e*SS SS 16 37 08.4 +12
GRF *e*L 17 16 03.7
comp=Z,6µm,20.7s
GRF Grafenberg Arr 124.80 330 *e*PKIKP PKPdf 16 18 18.3 +0.9
GRF *e* 16 18 32.4
GRF *e* 16 20 10.9
GRF MLR MLR
comp=Z,6µm,20.7s,MS6.2
GRFO Grafenberg 124.80 330 *e*PP PP 16 20 12.0 +6.5
GRFO *e*SP SP 16 29 59.4 +0.3
BOJS Bojanci 125.13 324 *e*PKPdf PKPdf 16 18 17.6 -0.3
VISS Visnje 125.20 324 *e*PKPdf PKPdf 16 18 19.0 +0.9
LJU Ljubljana 125.25 325 *e*PKPdf PKPdf 16 18 19.1 +0.9
LJU *e* 16 18 26.8
LJU *e* 16 18 33.6
LBNH Lisbon 125.29 38 *e*PKPdf PKPdf 16 18 19.3 +1.0
LBNH LR LR
comp=Z,14µm,21.0s,MS6.6
BUG Bochum--Univer 125.47 334 *e*PKPdf PKPdf 16 18 19.4 +0.8
BUG *e*PP PP 16 20 14.3 +4.3
BUG *e*SP SP 16 30 03.1 -1.8
VOY Vojsko 125.62 325 *e*PKPdf PKPdf 16 18 18.9 0.0
PAL Palisades 125.64 42 *e*PKPdf PKPdf 16 18 19.6 +0.6
FUR Furstenfeldbru 125.75 329 *e*PKPdf PKPdf 16 18 20.0 +0.8
FUR *e*PP PP 16 20 16.0 +4.2
FUR *e*SP SP 16 30 14.3 +6.9
TNS Taunus Mts 125.79 332 *e*PKPdf PKPdf 16 18 20.2 +1.0
TNS *e*PP PP 16 20 17.1 +5.0
TNS *e*SP SP 16 30 08.7 +1.0
EBL Broad Law 125.83 343 *e*P PKPdf 16 18 18.5 -0.8
EBL Broad Law 125.83 343 *e*P PKPdf 16 18 18.5 -0.8
EAU Auchinoon 125.89 343 *e*P PKPdf 16 18 18.6 -0.9
EAU AMb AMB 16 18 22.1
comp=Z,86nm,1.8s
EAU Auchinoon 125.89 343 *e*P PKPdf 16 18 18.6 -0.9
EAU AMb AMB 16 18 22.1
comp=Z,86nm,1.8s
TOD Tromm 126.04 331 PKP PKPdf 16 18 20.1 +0.4
WATA Walderalm 126.11 328⇑ *i*PKiKP PKiKP 16 18 19.8 -0.5
comp=Z,18nm,1.3s
WTTA Wattenberg 126.12 328⇑ *i*PKiKP PKiKP 16 18 19.6 -0.7
comp=Z,28nm,0.9s
ESK Eskdalemuir 126.27 343 *e*PKPdf PKPdf 16 18 18.1 -2.1
ESK LR LR
comp=Z,6µm,20.0s,MS6.2
MOTA Moosalm 126.36 328⇓ *i*PKPdf PKPdf 16 18 19.6 -0.8
comp=Z,12nm,0.8s
MOTA Moosalm 126.36 328⇓ P PKPdf 16 18 19.6 -0.8
SQTA Sankt Quirin 126.38 328⇑ *i*PKiKP PKiKP 16 18 19.9 -0.9
comp=Z,23nm,1.3s
SQTA Sankt Quirin 126.38 328⇑ P PKPdf 16 18 19.9 -0.4
STU Stuttgart 126.41 330 *e*PKPdf PKPdf 16 18 21.2 +0.8
STU *e*PP PP 16 20 20.0 +3.8
STU *e*SP SP 16 30 19.8 +6.6
HRV Harvard--Oak R 126.42 39 PFAKE 16 18 30.0 +10
HRV LR LR
comp=Z,7µm,19.0s,MS6.3
ABH Alteburg 126.44 332 PKP PKPdf 16 18 20.8 +0.3
HGN Heimansgroeve 126.54 334 *e*PKP PKPdf 16 18 15.2 -5.5
TRQA Tornquist 126.55 147 *e*PKPdf PKPdf 16 18 20.0 -0.7
MEM Membach 126.62 334 PKP PKPdf 16 18 21.4 +0.6
MEM PKiKP PKiKP 16 18 28.0 +6.7
MEM APKP 16 18 35.9
MEM XPKP 16 18 43.2
MEM XPKiKP 16 18 49.6
BEBN Eben Emael 126.63 334 APKP 16 18 35.4
RUP Ruppelstein 126.79 332 PKP PKPdf 16 18 21.5 +0.3
CFAA Coronel Fontan 126.90 136 PKP PKPdf 16 18 21.6 +0.2
comp=Z,3.7nm,0.7s,baz=226,slow=2.1,SNR=51
CFAA PP PP 16 20 19.1 -0.4
comp=Z,2.7nm,1.0s,baz=260,slow=4.5,SNR=4.3
LANF Langenberg 126.94 331 PKP PKPdf 16 18 22.1 +0.6
BFO Black Forest 127.13 330 *e*PP PP 16 20 25.7 +4.7
BFO *e*SP SP 16 30 29.1 +10
WLF Walferdange 127.23 333 *e*PKPdf PKPdf 16 18 23.6 +1.6
WLF *e*PP PP 16 20 26.8 +5.1
WLF *e*SP SP 16 30 29.1 +8.7
WLF Walferdange 127.23 333 PKP PKPdf 16 18 24.0 +1.9
WLF APKP 16 18 37.5
WLF E 16 18 51.0
DAVOX Davos 127.36 328 PKP PKPdf 16 18 21.8 -0.5
comp=Z,16nm,0.6s,baz=220,slow=3.9,SNR=19

TIP Timpagrande 127.42 317 *e*PKPdf PKPdf 16 18 22.8 +0.4
SNF Seneffe 127.44 335 PKP PKPdf 16 18 23.9 +1.5
SNF APKP 16 18 37.6
GIVF Givet 127.51 334 *e*PKIKP PKPdf 16 18 21.5 -1.0
comp=Z,56nm,1.0s
CDF Champ du Feu 127.59 331 *e*PKIKP PKPdf 16 18 21.7 -1.0
FELD Feldberg 127.60 330 PKP PKPdf 16 18 23.4 +0.7
DOU Dourbes 127.61 334 PKP PKPdf 16 18 24.4 +1.6
DOU APKP 16 18 37.9
WIM Isle of Man 127.71 343 *e*P PKPdf 16 18 22.7 -0.2
WIM AMb AMB 16 18 25.8
comp=Z,64nm,1.6s
WIM Isle of Man 127.71 343 *e*P PKPdf 16 18 22.7 -0.2
WIM AMb AMB 16 18 25.8
comp=Z,64nm,1.6s
ECH Echery 127.78 331 PKP PKPdf 16 18 24.5 +1.4
KWE Weaver Farm 127.79 340 *e*P PKPdf 16 18 23.8 +0.8
KWE Weaver Farm 127.79 340 *e*P PKPdf 16 18 23.8 +0.8
BAIF Baives 127.81 334 *e*PKIKP PKPdf 16 18 21.9 -1.2
comp=Z,42nm,1.1s
MOF Molkenrain 128.04 331 PKP PKPdf 16 18 24.3 +0.7
HINF Hinteralfeld 128.21 331 *e*PKIKP PKPdf 16 18 22.7 -1.2
comp=Z,55nm,1.1s
HAU Haudompre 128.32 331 *e*PKIKP PKPdf 16 18 23.1 -1.0
comp=Z,42nm,0.9s
HAU *e*R
comp=Z,3µm,19.0s
WCB1 Church Bay 128.34 342 *e*P PKPdf 16 18 23.4 -0.8
WCB1 AMb AMB 16 18 26.7
comp=Z,47nm,1.6s
WCB1 Church Bay 128.34 342 *e*P PKPdf 16 18 23.4 -0.8
WCB1 AMb AMB 16 18 26.7
comp=Z,47nm,1.6s
SBD1 Bryn Du 128.35 341 *e*P PKPdf 16 18 24.6 +0.5
SBD1 Bryn Du 128.35 341 *e*P PKPdf 16 18 24.6 +0.5
WLF1 Llynfaes 128.38 342 *e*P PKPdf 16 18 23.1 -1.1
WLF1 AMb AMB 16 18 25.8
comp=Z,49nm,1.0s
WLF1 Llynfaes 128.38 342 *e*P PKPdf 16 18 23.1 -1.1
WLF1 AMb AMB 16 18 25.8
comp=Z,49nm,1.0s
NNA Nana 128.41 110 *e*PKPdf PKPdf 16 18 25.3 +1.0
NNA LR LR
comp=Z,2µm,19.0s,MS5.7
HLM1 Long Mynd 128.55 341 *e*P PKPdf 16 18 24.4 -0.1
HLM1 AMb AMB 16 18 26.9
comp=Z,57nm,1.8s
HLM1 Long Mynd 128.55 341 *e*P PKPdf 16 18 24.4 -0.1
HLM1 AMb AMB 16 18 26.9
comp=Z,57nm,1.8s
MEZF Maizieres J'vi 128.57 332 *e*PKIKP PKPdf 16 18 23.3 -1.3
comp=Z,27nm,0.6s
SSP1 Stoney Pound 128.72 341 *e*P PKPdf 16 18 25.2 +0.4
SSP1 Stoney Pound 128.72 341 *e*P PKPdf 16 18 25.2 +0.4
DLF Lyons Farm 128.99 344 *e*P PKPdf 16 18 24.4 -1.0
MCH1 Michaelchurch 129.03 340 *e*P PKPdf 16 18 26.2 +0.8
MCH1 Michaelchurch 129.03 340 *e*P PKPdf 16 18 26.2 +0.8
HTR Trewern Hill 129.05 341 *e*P PKPdf 16 18 25.0 -0.4
HTR AMb AMB 16 18 26.9
comp=Z,107nm,1.6s
HTR Trewern Hill 129.05 341 *e*P PKPdf 16 18 25.0 -0.4
HTR AMb AMB 16 18 26.9
comp=Z,107nm,1.6s
TSUM Tsumeb 129.07 240 PKP PKPdf 16 18 27.1 +1.6
comp=Z,22nm,0.9s,baz=124,slow=3.5,SNR=24
TSUM Tsumeb 129.07 240 *e*PKPdf PKPdf 16 18 26.4 +0.9
TSUM *e*SKP 16 21 43.9
DCN Croghan 129.16 344 *e*P PKPdf 16 18 23.3 -2.4
HGH Gray Hill 129.27 340 *e*P PKPdf 16 18 25.4 -0.5
HGH AMb AMB 16 18 29.3
comp=Z,82nm,1.4s
HGH Gray Hill 129.27 340 *e*P PKPdf 16 18 25.4 -0.5
HGH AMb AMB 16 18 29.3
comp=Z,82nm,1.4s
OTAV Otavalo 129.28 94 *e*PKPdf PKPdf 16 18 28.4 +2.5
OTAV LR LR
comp=Z,2µm,20.0s,MS5.8
CABF La Chapelle 129.42 330 *e*PKIKP PKPdf 16 18 25.3 -0.9
LPL La Plagne 129.84 329 *e*PKIKP PKPdf 16 18 25.2 -1.8
comp=Z,24nm,0.6s
LPG La Plagne 129.84 329 *e*PKIKP PKPdf 16 18 25.3 -1.7
comp=Z,20nm,0.6s
LOR Lormes 130.02 332 *e*PKIKP PKPdf 16 18 26.2 -1.1
LOR *e*R
comp=Z,3µm,20.2s
HEX Exmoor 130.09 340 *e*P PKPdf 16 18 28.5 +1.0
HEX Exmoor 130.09 340 *e*P PKPdf 16 18 28.5 +1.0
BNI Bardonecchia 130.18 328 *e*PKPdf PKPdf 16 18 28.4 +0.8
BNI *e*SKP 16 21 45.0
SSF Saint Saulge 130.34 332 *e*PKIKP PKPdf 16 18 26.6 -1.3
comp=Z,26nm,0.8s
MBDF Montbardon 130.35 328 *e*PKIKP PKPdf 16 18 26.5 -1.4
comp=Z,18nm,0.7s
AUTN L'Aution 130.48 327 PKP PKPdf 16 18 30.9 +2.7
SMF Signal de Mont 130.48 332 *e*PKIKP PKPdf 16 18 27.4 -0.8
PGF Pioggiola 130.51 324 *e*PKIKP PKPdf 16 18 26.9 -1.4
comp=Z,44nm,0.7s
SBF Sospel 130.56 327 *e*PKIKP PKPdf 16 18 26.9 -1.4
AVF Avril sur Loir 130.61 332 *e*PKIKP PKPdf 16 18 27.0 -1.4
comp=Z,100nm,1.7s
ORIF Oris-en-Rattie 130.69 329 *e*PKIKP PKPdf 16 18 27.4 -1.2
comp=Z,26nm,0.6s
ORIF *e*R
comp=Z,5µm,22.0s
LDF La Druitiere 130.75 336 *e*PKIKP PKPdf 16 18 27.2 -1.5
comp=Z,23nm,0.8s
FLN La Foliniere 130.76 336 *e*PKIKP PKPdf 16 18 27.3 -1.4
comp=Z,37nm,0.7s
FLN *e*R
comp=Z,5µm,22.5s
BGF Bois d'Agland 131.02 332 *e*PKIKP PKPdf 16 18 28.5 -0.7
comp=Z,35nm,0.7s
PLDF La Plantade 131.08 331 PKP PKPdf 16 18 29.9 +0.6
FRF La Foret Royal 131.19 327 *e*PKIKP PKPdf 16 18 28.1 -1.4
comp=Z,50nm,0.9s
GRR Gorron 131.21 336 *e*PKIKP PKPdf 16 18 28.1 -1.5
comp=Z,44nm,0.9s
VIVF Saint-Julien-l 131.35 329 *e*PKIKP PKPdf 16 18 28.2 -1.6
LMR La Mourre 131.42 327 *e*PKIKP PKPdf 16 18 28.5 -1.5
SMRF Simiane la Rot 131.49 328 *e*PKIKP PKPdf 16 18 28.0 -2.1
TCF Toulx Ste Croi 131.51 332 *e*PKIKP PKPdf 16 18 29.0 -1.1
comp=Z,26nm,0.6s
LBL Lubilhac 131.79 331 PKP PKPdf 16 18 30.1 -0.6
ARE Arequipa 131.80 117 P PKPdf 16 18 34.0 +3.3
SGMF Saint Gilles 131.99 337 *e*PKIKP PKPdf 16 18 30.5 -0.5
comp=Z,21nm,0.6s
LASF Ste Croix 132.31 329 *e*PKIKP PKPdf 16 18 30.0 -1.7
comp=Z,26nm,0.8s
QUIF Quistinic 132.50 338 *e*PKIKP PKPdf 16 18 31.0 -1.0
MTLF Montolieu 133.67 330 *e*PKIKP PKPdf 16 18 32.9 -1.3
ROSC El Rosal 133.75 88 PKP PKPdf 16 18 35.6 +1.3
comp=Z,27nm,0.8s,baz=287,slow=3.5,SNR=11
LPAZ La Paz 134.82 119 PKhKP 16 18 23.9
comp=Z,5.6nm,1.1s,baz=244,slow=3.5,SNR=9.4
LPAZ PKP PKPdf 16 18 37.4 +1.1
comp=Z,29nm,0.9s,baz=350,slow=2.2,SNR=25
LPAZ La Paz 134.82 119 *e*PKPpre 16 18 23.7
LPAZ PKP PKPdf 16 18 37.4 +1.1
LPAZ *e*PKPdf PKPdf 16 18 38.5 +2.1
LPAZ *e*SKP 16 22 03.5
LPAZ LR LR
comp=Z,2µm,20.0s,MS5.8
EPF Esparros 134.83 331 *e*PKIKP PKPdf 16 18 34.9 -1.5
CMAH Djebel Manchou 135.04 319 P 16 22 03.0
ABSA Djebel Ababsia 135.20 318 P 16 22 04.0
CAEH 'Ain El Ouahch 135.32 319 P 16 22 05.0
ETSF Etsaut 135.36 331 *e*PKIKP PKPdf 16 18 36.3 -1.1
comp=Z,12nm,0.8s
TRIS Tristan da Cun 135.47 198 *e*PKPdf PKPdf 16 18 36.5 -1.1
SJPF Ste Jean 135.51 332 *e*PKIKP PKPdf 16 18 36.2 -1.5
CKFL Kef-Lekhel 135.63 319 P 16 22 05.0
CASM Ain Smara 135.86 319 P 16 22 06.0
DFRA Djebel Bou Aff 136.09 320 P 16 22 07.0
BBSR BB Station 136.31 47 PFAKE 16 18 50.0 +11
BBSR LR LR
comp=Z,13µm,22.0s,MS6.6
EBR Ebro Roquetas 136.38 328 *e*Ts 16 18 52.5
SET Setif 136.60 320 P 16 22 07.0
CMER Merouana 136.62 319 P 16 22 11.0
AKF Akfadou 136.87 321 P 16 22 10.5
SDV Santo Domingo 137.45 83 *e*PKPpre 16 18 30.1
SDV *e*PKPdf PKPdf 16 18 43.1 +1.8
SDV LR LR
comp=Z,3µm,20.0s,MS6.0

CPUP Villa Florida 137.59 139 *e*PKPpre 16 18 30.9
CPUP *e*PKPdf PKPdf 16 18 43.0 +1.5
CPUP LR LR
comp=Z,690nm,22.0s,MS5.3
ADJB Djebel Djouab 137.87 321 P 16 22 12.2
ESDC Sonseca Array 139.48 331 PKhKP 16 18 40.0
comp=Z,0.8nm,0.5s,baz=18,slow=3.5,SNR=3.2
ESDC PKP PKPdf 16 18 43.9 -1.1
comp=Z,1.7nm,0.6s,baz=52,slow=2.7,SNR=4.2
ESDC PP PP 16 21 44.6 +4.8
comp=Z,6.4nm,1.0s,baz=34,slow=6.5,SNR=5.3
ESLA Sonseca Array 139.48 331 *e*PKPdf PKPdf 16 18 44.7 -0.3
ESLA LR LR
comp=Z,39µm,22.0s,MS7.1
PVRL Vila Real 139.83 336 *e*PKPdf PKPdf 16 18 44.8 -0.8
MTE Manteigas 140.50 335 *e*PKP PKPdf 16 18 47.5 +0.7
MTE Manteigas 140.50 335 *e*PKPdf PKPdf 16 18 46.1 -0.7
SJG San Juan 140.51 68 PKP PKPdf 16 18 45.3 -1.5
comp=Z,74nm,0.7s,baz=59,slow=2.0,SNR=12
SJG San Juan 140.51 68 *e*PKPpre 16 18 43.4
SJG LR LR
comp=Z,3µm,22.0s,MS6.1
CPD Cerro la Pandu 140.75 68 *e*PKPdf PKPdf 16 18 49.6 +2.4
PCBR Castelo Branco 140.94 335 *e*PKP PKPdf 16 18 50.2 +2.6
SIV San Ignacio 140.97 123 PKhKP 16 18 40.7
comp=Z,7.5nm,0.5s,baz=236,slow=3.4,SNR=33
MTP Monte Pirata 141.06 68 *e*PKPdf PKPdf 16 18 44.9 -2.9
PTOM Tomar 141.51 336 *e*PKP PKPdf 16 18 49.2 +0.5
PBEJ Beja 142.61 334 *e*PKP PKPdf 16 18 49.3 -1.3
MDT Midelt 145.01 325 PKP PKPdf 16 18 53.7 -1.1
comp=Z,19nm,1.0s,baz=76,slow=3.3,SNR=23
LZG Guadaloupe-1 145.05 69 *e*P PKPbc 16 18 55.3 +0.9
SEG Port Louis 145.24 69 *e*P PKPbc 16 18 51.1 -3.8
TBG Guadaloupe-3 145.24 70 *e*P PKPbc 16 18 55.9 +0.9
BBL Barber's Block 145.48 70 *e*P PKPdf 16 18 56.7 +1.1
GRW Mount Saint Ca 145.95 76 *e*P PKPdf 16 18 56.0 -0.4
GRW Mount Saint Ca 145.95 76 *e* pPKPdf 16 19 09.7 -3.5
FDF Fort de France 145.96 71⇑ *e*P PKPdf 16 18 59.1 +2.7
BIM Bigot 146.08 72 *e*P PKPdf 16 18 59.5 +2.8
SVB Belmont 146.16 74 *e*P PKPdf 16 18 58.2 +1.5
SVB Belmont 146.16 74 *e* pPKPdf 16 19 14.2 +0.7
CRM Caravelle 146.18 71 *e*P PKPdf 16 18 58.3 +1.5
TPP Pointe-a-Pierr 146.39 79 *e*P PKPdf 16 19 00.9 +3.7
TRN Trinidad (W) 146.40 79 *e*S 16 19 00.0
TRN Trinidad (W) 146.40 79 *e* pPKPdf 16 19 13.1 -0.9
ADH Angra Heroismo 146.73 359 *e*PKP pPKPdf 16 19 20.0 +5.5
TBH Brigand Hill 146.75 79 *e*P PKPdf 16 19 02.5 +4.7
TBH Brigand Hill 146.75 79 *e* pPKPdf 16 19 18.3 +3.8
TPR Prospect 146.94 78 *e*P PKPdf 16 19 02.0 +3.9
TPR Prospect 146.94 78 *e* pPKPdf 16 19 16.2 +1.4
BOT Bacolet 147.00 78 *e*P PKPdf 16 19 03.3 +5.1
CAM4 Nova Friburgo 149.05 153 *e*P PKPdf 16 19 03.9 +2.3
CAM4 *i* 16 19 07.4
CAM4 *i* 16 19 11.7
CAM4 *i* 16 19 23.8
CAM4 *i* 16 19 32.6
CAM4 *i* 16 19 45.8
TORD Torodi Ar. Bea 149.78 287 PKPbc PKPbc 16 19 07.0 -0.5
comp=Z,158nm,0.6s,baz=95,slow=1.8,SNR=179
CAM3 Guarapari 151.37 155 *e*P PKPdf 16 19 12.0 +6.8
CAM3 *i* 16 19 20.7
CAM3 *i* 16 19 24.8
CAM3 *i* 16 19 35.5
DBIC Dimbokro 157.04 275 PKP PKPdf 16 19 14.4 +1.3
comp=Z,5.6nm,1.1s,baz=278,slow=1.4,SNR=3.0
DBIC Dimbokro 157.04 275 PKP PKPdf 16 19 14.4 +1.3
DBIC *e*PKPdf PKPdf 16 19 26.2 +13
DBIC LR LR
comp=Z,6µm,21.0s,MS6.4
ASCN Ascension 161.20 226 PFAKE 16 19 30.0 +12
ASCN LR LR
comp=Z,6µm,22.0s

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*MOS **18** 16:05:13.0±0.8, 520S×15234E, h33km, mb5.2/11, Error ellipse: s-maj=14.5km s-min=9.9km az=64.2*
*ISCJB **18** 16:05:17.0±1.9, 520S±006×15215E±007, h69km±17km, mb4.8/31, Error ellipse: s-maj=12.2km s-min=9.6km az=40.7*
*NEIC **18** 16:05:17.9±1.4, 524S×15225E, h65km±13km, mb5.1/18, Error ellipse: s-maj=10.5km s-min=7.8km az=120.0*
*BJI **18** 16:05:17.9, 520S×15220E, h64km, mb4.9*
*IDC **18** 16:05:19.1±2.7, 522S×15220E, h73km±25km, mb4.6/15, mb1 4.7/18, mb1mx4.6/23, mbtmp4.9/18, Error ellipse: s-maj=18.4km s-min=15.7km az=97.0*

ISC 18 16:05:19.2±1.5, 525S±006×15219E±007, h76km±13km, n72, σ1°18/69, mb4.8/31, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**230**	P		**Pn**		**16 06 51.7**	**-0.2**
	33nm,0.3s,baz=25,slow=9.8,SNR=21								
PMG				S		**Sn**		**16 08 02.0**	**-2.4**
	48nm,0.3s,baz=324,slow=12,SNR=3.6								
PMG	**Port Moresby**	**6.48**	**230**	*e*Pn		**Pn**		**16 06 52.0**	**+0.1**
PMG				*e*Sn		**Sn**		**16 08 00.7**	**-3.7**
HNR	**Honiara**	**8.74**	**119**	P		**Pn**		**16 07 23.3**	**+0.5**
	11nm,0.3s,baz=270,slow=5.8,SNR=4.3								
HNR	**Honiara**	**8.74**	**119**	Pn		**Pn**		**16 07 19.5**	**-3.3**
CTA	**Charters Tower**	**15.84**	**201**	P		**Pn**		**16 08 59.7**	**+2.0**
	0.7nm,0.3s,baz=39,slow=11,SNR=3.2								
CTA	**Charters Tower**	**15.84**	**201**	P		**Pn**		**16 08 59.7**	**+2.0**
GUMO	**Guam**	**20.08**	**339**	P		**P**		**16 09 47.2**	**+0.7**
	181nm,0.9s,baz=1.3,slow=5.9,SNR=2.5								
GUMO	**Guam**	**20.08**	**339**	*e*P		**P**		**16 09 47.6**	**+1.1**
GUMO				pmax		pmax			
	comp=Z,253nm,1.0s								
GUMO	**Guam**	**20.08**	**339**	*e*P		**P**		**16 09 47.6**	**+1.1**
	comp=Z,253nm,1.0s								
KAKA	**Kakadu**	**20.86**	**248**	*e*P		**P**		**16 09 53.6**	**-1.3**
	comp=Z,242nm,0.6s								
DZM	**Mont Dzumac**	**21.68**	**142**	P		**P**		**16 10 03.8**	**+0.1**
	comp=Z,32nm,0.5s,mb4.9,baz=319,slow=8.7,SNR=22								
WRAB	**Tennant Creek**	**22.68**	**228**	*e*P		**P**		**16 10 14.0**	**-0.3**
WRAB				*e*				16 10 26.3	
WB2	**Warramunga Arr**	**22.69**	**228**	*e*P		**P**		**16 10 15.2**	**+0.8**
WRA	**Warramunga Arr**	**22.70**	**228**	P		**P**		**16 10 13.8**	**-0.7**
	comp=Z,66nm,0.7s,mb5.1,baz=53,slow=10,SNR=8.6								
ARMA	**Armidale**	**25.04**	**181**	*e*P		**P**		**16 10 38.3**	**+2.0**
ASAR	**Alice Springs**	**25.41**	**222**	P		**P**		**16 10 41.1**	**+1.5**
	comp=Z,57nm,0.7s,mb5.1,baz=60,slow=8.9,SNR=15								
STKA	**Stephens Creek**	**28.29**	**199**	*e*P		**P**		**16 11 02.9**	**-2.6**
	comp=Z,19nm,0.6s,mb4.8								
STKA	**Stephens Creek**	**28.29**	**199**	P		**P**		**16 11 03.2**	**-2.3**
	comp=Z,22nm,0.6s,mb4.8,baz=354,slow=10,SNR=6.3								
STKA	**Stephens Creek**	**28.29**	**199**	*e*P		**P**		**16 11 02.8**	**-2.7**
MBWA	**Marble Bar**	**35.22**	**240**	P		**P**		**16 12 05.7**	**-0.5**
TAU	**Tasmania Unive**	**37.75**	**186**	*e*P		**P**		**16 12 28.4**	**+0.7**
TAU				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.7								
TAU	**Tasmania Unive**	**37.75**	**186**	*e*P		**P**		**16 12 28.4**	**+0.7**
	comp=Z,7.3nm,0.6s,mb4.7								
KLBR	**Kellerberrin**	**41.56**	**227**	*e*P		**P**		**16 12 58.0**	**-1.4**
	comp=Z,180nm,1.6s,mb5.5								
RPZ	**Rata Peaks**	**41.76**	**159**	P		**P**		**16 13 01.3**	**+0.3**
	comp=Z,12nm,0.7s,mb4.8,baz=318,slow=3.1,SNR=6.6								
NWAO	**Narrogin (SRO)**	**42.64**	**225**	P		**P**		**16 13 09.1**	**+0.9**
NWAO				pmax		pmax			
	comp=Z,37nm,0.9s								
NWAO	**Narrogin (SRO)**	**42.64**	**225**	P		**P**		**16 13 09.1**	**+0.9**
	comp=Z,37nm,0.9s,mb5.1								
KULM	**Kulim**	**52.52**	**281**	*e*P		**P**		**16 14 23.2**	**-1.5**
KMI	**Kunming**	**56.74**	**305**	P		**P**		**16 14 57.0**	**+1.8**
KMI				AMB		AMB			
	comp=Z,6.0nm,0.9s,mb4.6								
CD2	**Chengdu**	**58.57**	**311**	*e*P		**P**		**16 15 09.6**	**+1.6**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
HIA	**Hailar**	**61.20**	**336**	*e*P		**P**		**16 15 27.7**	**+1.7**
HIA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
HIA	**Hailar**	**61.20**	**336**	*e*P		**P**		**16 15 27.7**	**+1.7**
	comp=Z,8.0nm,0.8s,mb4.8								
MA2	**Magadan**	**64.63**	**359**	*e*P		**P**		**16 15 47.5**	**-1.3**
	comp=Z,4.4nm,0.6s,mb4.5								
ULN	**Ulaanbaatar**	**66.06**	**329**	P		**P**		**16 15 59.7**	**+1.7**
ULN				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
ULN	**Ulaanbaatar**	**66.06**	**329**	P		**P**		**16 15 59.7**	**+1.7**
	comp=Z,7.7nm,1.0s,mb4.5								
SONM	**Songino Array**	**66.38**	**328**	P		**P**		**16 16 00.1**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=142,slow=5.3,SNR=4.3								
CASY	**Casey**	**67.41**	**197**	*e*P		**P**		**16 16 06.6**	**0.0**

CASY	Casey	67.41	197	eP	P		16 16 06.8	+0.1
	comp=Z,15nm,0.6s,mb5.0							
VNDA	Vanda	72.41	178	P	P		16 16 37.3	+0.1
	comp=Z,7.5nm,0.7s,mb4.6,baz=334,slow=6.3,SNR=8.3							
VNDA	Vanda	72.41	178	eP	P		16 16 37.5	+0.2
VNDA				pmax	pmax			
	comp=Z,11nm,0.8s							
VNDA	Vanda	72.41	178	eP	P		16 16 37.5	+0.3
	comp=Z,11nm,0.8s,mb4.7							
BILL	Bilibino	73.79	5	eP	P		16 16 45.7	+0.3
BILL				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
BILL	Bilibino	73.79	5	eP	P		16 16 45.7	+0.3
	comp=Z,5.2nm,0.7s,mb4.4							
KDAK	Kodiak Island	76.85	27	P	P		16 17 02.5	-0.4
	comp=Z,9.2nm,0.6s,mb4.7,baz=255,slow=8.4,SNR=6.7							
SLKM	Skilak Lake	79.33	25	eP	P		16 17 16.0	-0.7
MKAR	Makanchi Array	80.27	319	P	P		16 17 23.6	+1.9
	comp=Z,2.6nm,0.8s,mb4.1,baz=93,slow=6.7,SNR=5.5							
PMR	Palmer	80.34	24	eP	P		16 17 21.1	-1.0
PMR				pmax	pmax			
	comp=Z,11nm,0.5s,mb4.9							
PMR	Palmer	80.34	24	eP	P		16 17 21.1	-1.0
	comp=Z,11nm,0.5s,mb4.9							
SML	Sawmill	80.78	24	eP	P		16 17 24.1	-0.4
MCK	McKinley	81.51	23	eP	P		16 17 27.1	-1.2
DIV	Divide	81.54	26	eP	P		16 17 27.5	-1.0
	comp=Z,72nm,0.7s,mb5.6							
COLA	College	82.49	22	eP	P		16 17 31.8	-1.7
COLA				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.0							
COLA	College	82.49	22	eP	P		16 17 31.8	-1.7
	comp=Z,18nm,0.8s,mb4.9							
COLA				e	pP		16 17 52.2	-1.6
ILAR	Eielson Array	82.80	22	P	P		16 17 33.4	-1.8
	comp=Z,11nm,0.7s,mb4.8,baz=246,slow=5.5,SNR=26							
QSPA	South Pole Qui	84.71	180	eP	P		16 17 45.0	+0.1
	comp=Z,11nm,0.7s,mb4.9							
MAW	Mawson	84.92	203	eP	P		16 17 45.7	-0.2
MAW				pmax	pmax			
	comp=Z,66nm,1.1s							
MAW	Mawson	84.92	203	eP	P		16 17 45.7	-0.2
	comp=Z,66nm,1.1s,mb5.5							
SIT	Sitka	84.97	32	eP	P		16 17 46.7	+0.5
SIT				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.0							
SIT	Sitka	84.97	32	eP	P		16 17 46.7	+0.5
	comp=Z,16nm,0.8s,mb5.0							
BBB	Bella Bella	87.82	37	P	P		16 18 00.6	+0.5
	comp=Z,3.6nm,0.5s,mb4.6,baz=289,slow=22,SNR=5.1							
INK	Inuvik	89.09	21	P	P		16 18 05.6	-0.5
	comp=Z,3.5nm,0.8s,mb4.4,baz=195,slow=5.2,SNR=4.5							
INK	Inuvik	89.09	21	eP	P		16 18 04.0	-2.1
INK				pmax	pmax			
	comp=Z,18nm,1.4s							
INK	Inuvik	89.09	21	eP	P		16 18 04.0	-2.0
	comp=Z,18nm,1.4s,mb4.9							
YBH	Yreka Blue Hor	89.80	48	P	P		16 18 11.0	+1.6
	comp=Z,2.2nm,0.5s,mb4.5,baz=162,slow=3.4,SNR=6.2							
NVAR	Mina Array Bea	92.84	52	P	P		16 18 24.8	+1.3
	comp=Z,3.3nm,0.7s,mb4.8,baz=235,slow=5.5,SNR=7.9							
SYO	Syowa Base	93.05	199	⇓ep	pP		16 18 42.6	-2.5
SYO	Syowa Base	93.05	199	⇓eP	P		16 18 23.3	-1.1
SYO				⇓epP	pP		16 18 42.6	-2.5
YKA	Yellowknife Ar	96.10	28	P	P		16 18 38.0	-0.4
YKA				PKKPbc	PKKPbc		16 35 23.7	-1.4
	comp=Z,0.5nm,0.6s,baz=88,slow=2.8,SNR=8.8							
YKA	Yellowknife Ar	96.10	28	P	P		16 18 38.0	-0.4
YKA				PKKPbc	PKKPbc		16 35 23.7	-1.4
NOA	NORSAR Array B	117.12	340	PKP	PKPdf		16 23 55.3	-0.2
	comp=Z,0.8nm,0.7s,baz=47,slow=2.0,SNR=3.6							
GERES	GERESS Array B	124.12	328	PKP	PKPdf		16 24 09.1	+0.1
	comp=Z,0.9nm,0.6s,baz=75,slow=1.8,SNR=5.2							
SDV	Santo Domingo	137.37	83	PKP	PKPdf		16 24 35.9	+1.9
	comp=Z,6.5nm,0.7s,baz=306,slow=13,SNR=4.9							
TORD	Torodi Ar. Bea	149.87	287	PKPbc	PKPbc		16 25 00.8	+0.1
	comp=Z,5.5nm,0.4s,baz=105,slow=2.5,SNR=40							

*OMAN **18** 16:06:15.1±4.8, 29.26N×54.07E, h20km, Error ellipse: s-maj=53.1km s-min=7.9km az=167.0*
*ISCJB **18** 16:06:40.4±0.6, 27.20N±007.0×54.69E±007, h10km, Error ellipse: s-maj=11.8km s-min=5.3km az=75.2*
*KISR **18** 16:06:40.6±1.0, 27.51N×54.78E, h24km±999km, ML3.2*
*THR **18** 16:06:41.3±0.3, 27.24N×54.86E, h15km, ML3.2*
*CSEM **18** 16:06:42.4±0.2, 27.30N×54.89E, h20km, ML3.2, Error ellipse: s-maj=6.1km s-min=4.5km az=49.0*

ISC 18 16:06:41.8±0.6, 27.27N±006×54.81E±006, h10km, n13, σ0.95/95, 1C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.21	84	ePG		Pg	16 07 03.2	-1.9
BNDS				AML		AML	16 07 26.1	
	comp=E,941nm,0.6s							
BANOM	Banah	1.89	135	⇓P		Pn	16 07 13.9	-0.3
	SNR=11							
GHIR	Ghir-Karzin	1.91	302	ePG		Pg	16 07 17.1	-1.3
GHIR				AML		AML	16 07 52.9	
	comp=E,249nm,0.6s							
GHIR				AML		AML	16 07 53.6	
	comp=N,226nm,0.7s							
ASHO	Ashiyiah	2.81	156	⇓P		Pn	16 07 27.6	+0.8
	SNR=12							
KRBR	Kerman	3.19	32	ePN		Pn	16 07 33.4	+1.3
KRBR				AML		AML	16 08 16.3	
	comp=E,47nm,0.6s							
KRBR				AML		AML	16 08 27.0	
	comp=N,37nm,0.6s							
ARQ	Araqi	4.21	158	⇓P		Pn	16 07 47.3	+1.2
SMDO	Samad	5.12	144	⇑P		Pn	16 07 58.6	+0.1
	SNR=10							
RDF	Al-Radifah	6.62	286	eP		Pn	16 08 19.6	+0.4
RDF				AML		AML	16 09 46.6	
	comp=Z,4.2nm,0.3s							
UMR	Umm Al-Rimmam	6.65	292	eP		Pn	16 08 20.1	+0.5
UMR				AML		AML	16 09 38.9	
	comp=Z,9.0nm,0.4s							
NAY	Al-Naaiem	6.96	288	eP		Pn	16 08 24.6	+0.8
NAY				eS		Sn	16 09 43.0	0.0
NAY				AML		AML	16 09 43.5	
	comp=Z,2.6nm,0.6s							
MIB	Mutribah	7.04	293	eP		Pn	16 08 25.9	+0.9
MIB				eS		Sn	16 09 43.9	-1.1
MIB				AML		AML	16 09 44.1	
	comp=Z,5.2nm,0.6s							
WHFO	Wadi Hawf	9.36	186	⇓P		Pn	16 08 56.1	-0.6
ABTO	Aybut	9.97	188	⇓P		Pn	16 09 04.1	-1.0

*ISCJB **18** 16:08:09.0±3.8, 50S±02×15.19E±02, h67km±33km, mb4.7/8, Error ellipse: s-maj=51.5km s-min=20.9km az=98.3*
*IDC **18** 16:08:10.3±5.3, 49.2S×151.87E, h68km±48km, mb4.5/6, mb1 4.8/7, mb1mx4.4/15, mbtmp4.8/7, ML3.5/1, Error ellipse: s-maj=108.9km s-min=28.4km az=133.0*
*NEIC **18** 16:08:11.1±2.1, 50.8S×152.00E, h78km±19km, mb5.2/3, Error ellipse: s-maj=30.3km s-min=12.6km az=141.0*

ISC 18 16:08:10.8±3.3, 51.3S±03×152.0E±02, h72km±29km, n15, σ0.54/15, mb4.7/7, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.47	228	P		Pn	16 09 43.5	+0.2
	6.1nm,0.3s,baz=45,slow=10.0,SNR=3.6							
PMG				S		Sn	16 10 55.4	-0.2
	18nm,0.3s,baz=166,slow=21,SNR=4.0							
PMG	Port Moresby	6.47	228	P		Pn	16 09 43.5	+0.2
PMG				e			16 09 53.7	
PMG				S		Sn	16 10 55.5	-0.2
KAKA	Kakadu	20.78	247	⇑iP		P	16 12 46.2	+0.4
	123nm,0.6s							
WRAB	Tennant Creek	22.68	228	eP		P	16 13 05.6	-0.5
	87nm,0.8s,mb5.1							
WB2	Warramunga Arr	22.68	228	eP		P	16 13 05.8	-0.3
WRA	Warramunga Arr	22.69	228	P		P	16 13 06.0	-0.1
	48nm,0.7s,mb4.9,baz=52,slow=9.8,SNR=8.5							
ASAR	Alice Springs	25.43	222	P		P	16 13 31.9	+0.2
	24nm,0.7s,mb4.8,baz=56,slow=8.8,SNR=9.6							
MBWA	Marble Bar	35.17	240	eP		P	16 14 57.9	+0.3
	16nm,0.7s,mb5.0							
KULM	Kulim	52.34	281	eP		P	16 17 15.5	+0.3
ILAR	Eielson Array	82.71	22	P		P	16 20 25.6	-0.9
	6.5nm,0.7s,mb4.6,baz=246,slow=5.5,SNR=26							
NVAR	Mina Array Bea	92.86	52	P		P	16 21 16.7	+1.2
	2.4nm,0.8s,mb4.6,baz=251,slow=4.4,SNR=8.4							
NVAR	Mina Array Bea	92.86	52	P		P	16 21 16.7	+1.2
YKA	Yellowknife Ar	96.03	28	P		P	16 21 29.4	-0.6
	0.8nm,0.7s,mb4.3,baz=271,slow=5.3,SNR=5.1							
PDAR	Pinedale Array	99.60	48	P		Pdif	16 21 46.4	+0.4
	1.2nm,0.9s,baz=240,slow=3.0,SNR=4.2							
TORD	Torodi Ar. Bea	149.67	287	PKPbc		PKPbc	16 27 52.9	+0.8
	4.0nm,0.5s,baz=102,slow=3.0,SNR=12							

IDC 18 16:27:05.3±2.2, 307.9N×96.61E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=72.8km s-min=20.5km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	Prapat	2.33	97	P		Pn	16 27 44.9	+0.1
	1.8nm,0.3s,baz=264,slow=7.6,SNR=14							
WRA	Warramunga Arr	43.53	123	P		P	16 35 11.5	+0.8
	0.5nm,0.5s,baz=302,slow=9.1,SNR=5.2							
ASAR	Alice Springs	45.00	128	P		P	16 35 22.4	0.0
	1.0nm,1.1s,baz=306,slow=7.8,SNR=4.1							
MKAR	Makanchi Array	45.30	346	P		P	16 35 24.3	-0.5
	2.1nm,0.8s,baz=177,slow=9.7,SNR=17							
SONM	Songino Array	45.39	9	P		P	16 35 25.9	+0.4
	0.7nm,0.7s,baz=190,slow=8.0,SNR=6.0							
ZAL	Zalesovo	51.62	351	P		P	16 36 13.7	+0.1
	1.3nm,0.6s,baz=298,slow=8.3,SNR=7.5							

IDC 18 16:40:35.4±5.7, 760S×15048E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=164.9km s-min=36.2km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.88	230	P		Pn	16 45 09.7	0.0
	0.1nm,0.3s,baz=55,slow=10,SNR=6.8							
ASAR	Alice Springs	22.54	223	P		P	16 45 36.3	-0.5
	0.4nm,0.3s,baz=56,slow=9.5,SNR=25							
MKAR	Makanchi Array	80.93	320	P		P	16 52 51.9	+0.3
	0.2nm,0.5s,baz=126,slow=7.4,SNR=6.0							

*NNC **18** 16:57:48.8±20.0, 37.81N×73.27E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=196.7km s-min=134.0km az=19.0*
*ISCJB **18** 16:58:01.0±3.0, 37.8N±02×71.4E±02, h33km, Error ellipse: s-maj=29.7km s-min=19.5km az=68.9*

ISC 18 16:58:02.1±3.0, 37.7N±02×71.4E±02, h35km, n8, σ0.41/8, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	Almayashu	4.78	21	P		Pn	16 59 11.5	-0.1
	SNR=17							
UCH	Uchtor	5.13	27	P		Pn	16 59 16.6	+0.1
	SNR=6.6							
EKS2	Erkin-Say	5.29	20	P		Pn	16 59 18.0	-0.7
	SNR=20							
KZA	Kyzart	5.30	33	P		Pn	16 59 19.6	+0.8
	SNR=6.6							
KK31	Karatay Array	5.43	354	⇑P		Pn	16 59 14.8	-5.8
	1.9nm,0.6s,baz=171,slow=13,SNR=26							
KK31				⇓S		Sn	17 00 22.0	+0.1
	0.9nm,0.4s,baz=153,slow=27							
AAK	Ala-Archa	5.48	25	P		Pn	16 59 20.9	-0.3
	SNR=13							
TKM2	Tokmak 2	6.14	31	⇑P		Px	16 59 11.1	
	3.2nm,0.6s							
AB31	Akbulak array	14.19	328	⇑P		Pn	17 01 20.6	+0.1
	0.2nm,0.4s,baz=153,slow=9.2,SNR=5.4							

*ISCJB **18** 17:21:44.9±0.3, 53.00N±003×160.13E±004, h52km, mb4.3/48, MS4.5/3, Error ellipse: s-maj=5.1km s-min=2.8km az=106.1*
*NAO **18** 17:21:44.5, 53.32N×159.24E, h33km, mb4.2*
*MOS **18** 17:21:46.0±1.2, 53.23N×159.74E, h71km, mb4.5/16, Error ellipse: s-maj=12.3km s-min=6.9km az=82.5*
*IDC **18** 17:21:47.5±3.1, 53.32N×159.62E, h63km±29km, mb3.8/19, mb1 4.0/20, mb1mx4.0/24, mbtmp4.1/20, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/26, Error ellipse: s-maj=17.0km s-min=11.8km az=157.0*
*NEIC **18** 17:21:47.8±0.8, 53.26N×159.64E, h71km±7km, mb4.4/19, Error ellipse: s-maj=8.9km s-min=6.1km az=162.0*
*KRSC **18** 17:21:47.2±0.9, 53.15N×159.95E, h52km±3km, ML4.7*
*BJI **18** 17:21:47.8, 53.30N×159.60E, h70km, mB4.9, mb4.5, Ms4.5, Msz4.3*

ISC 18 17:21:46.2±0.3, 53.02N±003×160.05E±005, h52km, (h67km±7.3km:pP-P), n137, σ1.61/162, mb4.3/48, MS4.5/3, 3C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.08	347	iP		Pn	17 21 55.6	+1.4
NLC	Nalytchevo	0.45	290	iP		Pn	17 21 57.7	+0.7
UGLR	Uglovaya	0.77	285	iP		Pn	17 22 01.7	+0.8
SMAR	Somma	0.79	289	iP		Pn	17 22 01.6	+0.4
AVH	Avacha	0.83	288	iP		Pn	17 22 02.4	+0.7
AVH				eS		Sn	17 22 13.9	+0.9
PET	Petropavlovsk	0.85	271	P		Pn	17 22 02.6	+0.7
PET				S		Sn	17 22 13.8	+0.4
PET	Petropavlovsk	0.85	271	iP		Pn	17 22 02.5	+0.6
PET				iS		Sn	17 22 13.8	+0.4
PET	Petropavlovsk	0.85	271	⇑iPN		Pn	17 22 02.0	+0.1
PET				eS		Sn	17 22 13.7	+0.3
PET				pmax		pmax		
	comp=Z,2μm,0.3s							
PET				pmax		pmax		
	comp=Z,2μm,0.3s							
PET				smax				
	comp=E,10μm,0.5s							
PET				smax				
	comp=E,12μm,0.4s							
PET	Petropavlovsk	0.85	271	ePn		Pn	17 22 01.9	0.0
PET				eSn		Sn	17 22 12.3	-1.1
KOK	Koryaka	0.90	288	iP		Pn	17 22 03.0	+0.4
KII	Karymskiy	1.08	341	P		Pn	17 22 04.8	-0.3
KII	Karymskiy	1.08	341	iP		Pn	17 22 04.7	-0.4
RUS	Russkaya	1.10	239	P		Pn	17 22 06.6	+1.2
RUS				S		Sn	17 22 21.1	+1.5
RUS	Russkaya	1.10	239	iP		Pn	17 22 06.6	+1.2
RUS				iS		Sn	17 22 21.2	+1.6
KRMR	Karymshinskiy	1.18	262	iP		Pn	17 22 07.3	+0.9
KRMR				iS		Sn	17 22 22.3	+0.9
GRL	Gorelyy	1.29	250	iP		Pn	17 22 09.8	+1.9
GRL				iS		Sn	17 22 26.3	+2.3
GNL	Ganaly	1.44	299	iP		Pn	17 22 10.0	+0.2
GNL				iS		Sn	17 22 26.7	-0.9
APC	Apacha	1.75	268	iP		Pn	17 22 15.8	+1.6
APC				eS		Sn	17 22 36.7	+1.4
APC				Smax				
	comp=E,2μm,0.8s							
MKZ	Mys Kozlova	1.83	32	P		Pn	17 22 14.7	-0.6
MKZ				S		Sn	17 22 34.9	-2.4
MKZ	Mys Kozlova	1.83	32	eP		Pn	17 22 15.3	0.0
MKZ				eS		Sn	17 22 36.6	-0.7
MIPR	Malaya Ipel'ka	2.14	251	iP		Pn	17 22 21.9	+2.4
TUMR	Tumrok	2.27	1	iP		Pn	17 22 22.0	+0.8
PAU	Pauzhetka	2.53	233	iP		Pn	17 22 28.2	+3.5
PAU				eS		Sn	17 22 57.7	+3.4
PAU				Smax				
	comp=E,1μm,0.5s							
KPT	Kopyto	2.96	2	iP		Pn	17 22 31.5	+0.9
ESO	Esso	3.02	345	iP		Pn	17 22 31.4	-0.1
ESO				Smax				
	comp=E,180nm,0.8s							
ESO	Esso	3.02	345	iP		Pn	17 22 31.6	+0.1
ESO				Smax				
	comp=E,210nm,1.0s							
ZLN	Zelenaya	3.04	8	eP		Pn	17 22 33.7	+2.0
KOZ	Kozyrevsk	3.05	358	iP		Pn	17 22 32.6	+0.7
KOZR	Kozyr	3.06	358	PN		Pn	17 22 32.6	+0.6
CIRR	Tsirk	3.13	7	eP		Pn	17 22 34.7	+1.7
CIRR				eS		Sn	17 23 09.3	+0.1
SRDR	Sredinnyy	3.31	357	eP		Pn	17 22 35.6	+0.1
KLY	Klyuchi	3.32	6	P		Pn	17 22 37.0	+1.4
KLY				S		Sn	17 23 15.0	+1.2
KLY	Klyuchi	3.32	6	eP		Pn	17 22 37.0	+1.4
KLY				eS		Sn	17 23 13.7	-0.1
ALID	Alaid	3.52	234	eP		Pn	17 22 41.8	+3.4
KBTR	Krutoberegovo	3.58	26	P		Pn	17 22 40.5	+1.3
KBTR				S		Sn	17 23 20.3	+0.1
KBTR	Krutoberegovo	3.58	26	eP		Pn	17 22 40.8	+1.6
KBG	Krutoberegovo	3.59	24	eP		Pn	17 22 41.5	+2.2
KBG				eS		Sn	17 23 22.3	+1.8
KBG				Smax				
	comp=E,2μm,0.7s							
BDR	Baidarnaya	3.62	10	iP		Pn	17 22 41.3	+1.6
SMKR	Semkarok	3.67	12	eP		Pn	17 22 41.6	+1.3
SRKR	Sorokina	3.70	10	eP		Pn	17 22 42.5	+1.7
BKI	Bering	4.11	55	iP		Pn	17 22 47.3	+0.8
BKI				iS		Sn	17 23 29.4	-3.9
BKI				Smax				
	comp=E,350nm,0.2s							
OSSR	Ossora	6.47	14	P		Pn	17 23 20.1	+1.3
FX1	Attu Island--F	7.92	86	P		Pn	17 23 41.2	+2.5
	comp=E,27nm,0.3s,baz=299,slow=3.1,SNR=674							
FX1				S		Sn	17 25 03.5	-3.5
	comp=E,54nm,0.3s,baz=304,slow=23,SNR=13							
FX1	Attu Island--F	7.92	86	ePn		Pn	17 23 40.9	+2.1
FX1				eSn		Sn	17 25 01.9	-5.1
MA2	Magadan	8.35	326	iPN		Pn	17 23 46.0	+1.4
MA2				pmax		pmax		
	comp=Z,17nm,1.9s							
MA2	Magadan	8.35	326	ePn		Pn	17 23 43.7	-0.9
	comp=Z,3.4nm,0.6s							
KAMR	Kamenskoye	10.01	17	eP		Pn	17 24 10.4	+3.1
SEY	Seymchan	10.73	341	iPN		Pn	17 24 19.1	+1.9
YSS	Yuzh-Sakhalins	12.66	248	iPN		Pn	17 24 37.0	-6.5
YSS				pmax		pmax		
	comp=Z,18nm,2.1s							
ASAJ	Asahikawa	14.56	239	P		Pn	17 25 10.3	+1.2
	comp=Z,0.7nm,0.3s,baz=130,slow=11,SNR=7.4							
ASAJ				LR		LR	17 29 58.1	
	comp=Z,385nm,20.4s,baz=165,slow=34							
ASAJ	Asahikawa	14.56	239	P		Pn	17 25 10.3	+1.2
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,385nm,20.4s							
BILL	Bilibino	15.37	9	P		Pn	17 25 22.0	+2.4
BILL				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BILL	Bilibino	15.37	9	ePn		Pn	17 25 20.8	+1.2
	comp=Z,2.8nm,0.4s							
HABR	Khabarovsk	16.43	264	eP		Pn	17 25 26.6	-6.5
HABR				eS		S	17 28 26.7	-18
YAK	Yakutsk	18.47	311	⇑iP		Pn	17 25 55.6	-2.7
YAK				pmax		pmax		
	comp=Z,22nm,1.0s							
YAK	Yakutsk	18.47	311	eP		Pn	17 25 54.3	-4.0
	comp=Z,15nm,0.6s							
MDJ	Mudanjiang	21.61	259	P		P	17 26 29.0	-2.8
MDJ				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.1							
MDJ				AMB		AMB		
	comp=Z,443nm,10.2s							
MJAR	Matsushiro Arr	22.48	232	P		P	17 26 41.9	+0.9
	comp=Z,9.7nm,0.6s,mb4.5,baz=9.3,slow=14,SNR=69							
MJAR	Matsushiro Arr	22.48	232	P		P	17 26 41.9	+0.9
MAJO	Matsushiro	22.48	232	eP		P	17 26 41.8	+0.8
MAJO				pmax		pmax		
	comp=Z,22nm,0.6s,mb4.8							
MAJO	Matsushiro	22.48	232	eP		P	17 26 41.8	+0.8
	comp=Z,22nm,0.6s,mb4.8							
MAT	Matsushiro	22.48	232	P		P	17 26 41.7	+0.7
TIXI	Tiksi	23.14	335	iP		P	17 26 44.0	-4.0
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.3s,mb3.4							
HIA	Hailar	25.33	278	eP		P	17 27 04.8	-3.2
HIA				pmax		pmax		
	comp=Z,12nm,0.9s							
HIA	Hailar	25.33	278	eP		P	17 27 04.8	-3.3
	comp=Z,12nm,0.9s,mb4.4							
BOD	Bodaibo	26.16	299	eP		P	17 27 09.0	-6.6
BOD				e			17 27 28.3	
BOD				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb3.8							
BOD				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.9							
MCK	McKinley	28.02	47	eP		P	17 27 32.3	0.0
MCK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb3.8							
MCK	McKinley	28.02	47	eP		P	17 27 32.3	+0.1
	comp=Z,3.2nm,1.1s,mb3.9							
ILAR	Eielson Array	28.89	45	P		P	17 27 39.2	-0.7
	comp=Z,1.1nm,0.7s,mb3.7,baz=263,slow=8.1,SNR=20							
SONM	Songino Array	33.90	283	P		P	17 28 21.5	-2.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=74,slow=7.7,SNR=7.7							
SONM				PcP		PcP	17 31 00.8	-0.8
	comp=Z,0.9nm,0.6s,baz=46,slow=1.3,SNR=8.3							
INK	Inuvik	33.95	38	P		P	17 28 23.8	-0.6
	comp=Z,1.3nm,0.3s,mb4.3,baz=291,slow=8.1,SNR=21							
INK	Inuvik	33.95	38	eP		P	17 28 23.8	-0.6
INK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
INK	Inuvik	33.95	38	eP		P	17 28 23.8	-0.6
	comp=Z,3.4nm,0.8s,mb4.3							
HHC	Hu-ho-hao-te	34.62	269	eP		P	17 28 25.9	-4.4
HHC				AP		pP	17 28 43.6	-0.1
HHC				XP		sP	17 28 53.3	+3.5
HHC				PCP		PcP	17 31 00.3	-3.4
HHC				S		S	17 33 46.9	-9.1
HHC				SCP		ScP	17 34 37.3	-7.2
HHC				SCS		ScS	17 38 39.4	-8.2
HHC				AMB		AMB		
	comp=Z,11nm,0.8s,mb4.8							
HHC				AMB		AMB		
	comp=Z,440nm,9.6s							
HHC				LR		LR		
	comp=N,437nm,18.0s,MS4.4							
HHC				LR		LR		
	comp=E,369nm,16.8s,MS4.4							
HHC				LR		LR		
	comp=Z,528nm,21.6s,MS4.2							
LZH	Lanzhou	42.31	270	eP		P	17 29 32.5	-2.3
LZH				AP		pP	17 29 50.9	+2.4
LZH				XP		sP	17 30 00.1	+5.5
LZH				PP		PP	17 31 14.5	+0.9
LZH				AMB

MKAR Makanchi Array 48.17 296 P **P 17 30 17.8 -3.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=52,slow=6.3,SNR=25
EDM Edmonton 48.83 53 *e*P **P 17 30 26.7 +0.4**
BVAR Borovoye Array 50.42 308 P **P 17 30 34.5 -3.9**
comp=Z,1.4nm,0.5s,mb4.3,baz=54,slow=8.2,SNR=18
BVAR PcP PcP 17 31 53.0 -3.1
comp=Z,0.8nm,0.5s,baz=59,slow=3.4,SNR=4.3
BRVK Borovoye 50.45 308 *e*P **P 17 30 34.4 -4.2**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BRVK Borovoye 50.45 308 *e*P **P 17 30 34.4 -4.2**
comp=Z,1.0nm,0.5s,mb4.1
ZRNK Zerenda 51.12 309 *e*P **P 17 30 38.8 -4.8**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZRNK Zerenda 51.12 309 *e*P **P 17 30 38.8 -4.9**
comp=Z,1.0nm,0.5s,mb4.0
ARCES ARCESS Array B 53.35 342 P **P 17 30 57.6 -2.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=28,slow=10,SNR=10
ARCES PcP PcP 17 32 03.5 -3.6
comp=Z,2.0nm,0.6s,baz=34,slow=4.5,SNR=9.4
ARU Arti 53.44 317⇑*i*P **P 17 30 57.2 -3.6**
ARU *e* 17 32 56.6
ARU *e*S **S 17 38 25.8 -3.6**
ARU *e*SS SS 17 42 08.7 -1.3
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ARU MLR MLR
comp=Z,600nm,20.5s,MS4.6
ARU MLR MLR
comp=N,400nm,19.0s,MS4.6
ARU MLR MLR
comp=E,300nm,21.0s,MS4.6
ARU Arti 53.44 317 *e*P **P 17 30 56.9 -3.9**
comp=E,3.3nm,0.4s,mb4.6
FCC Fort Churchill 53.56 39 *e*P **P 17 31 00.5 -1.2**
FCC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
FCC Fort Churchill 53.56 39 *e*P **P 17 31 00.5 -1.2**
comp=Z,6.0nm,1.1s,mb4.4
SUMG Summit 54.04 7 *e*P **P 17 31 03.7 -1.5**
comp=Z,9.9nm,0.9s,mb4.7
AAK Ala-Archa 55.09 296 P **P 17 31 07.9 -5.0**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AAK Ala-Archa 55.09 296 P **P 17 31 07.9 -5.0**
comp=Z,2.0nm,0.7s,mb4.3
NVAR Mina Array Bea 55.79 70 P **P 17 31 19.5 +1.6**
comp=Z,1.2nm,0.6s,mb4.1,baz=304,slow=5.8,SNR=13
NVAR Mina Array Bea 55.79 70 P **P 17 31 19.5 +1.6**
PDAR Pinedale Array 57.58 61 P **P 17 31 32.0 +1.5**
comp=Z,2.0nm,0.7s,mb4.3,baz=319,slow=2.6,SNR=22
JOF Joensuu 57.63 335 *e*p **P 17 31 28.2 -2.7**
comp=Z,0.5nm,0.3s,mb4.0
JOF Joensuu 57.63 335 *e*P **P 17 31 28.2 -2.7**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
JIRN Jiri 58.88 276 *e*P **P 17 31 37.1 -2.5**
GUN Gumba 58.88 276 *e*P **P 17 31 37.6 -2.0**
comp=Z,6.8nm,0.4s,mb5.1
ULM Lac du Bonnet 58.89 47 P **P 17 31 38.9 -0.9**
comp=Z,3.2nm,0.4s,mb4.7,baz=321,slow=7.0,SNR=11
KKN Kakani 59.33 276 *e*P **P 17 31 40.7 -2.0**
comp=Z,9.6nm,0.4s,mb5.2
RSSD Black Hills 59.47 56 *e*P **P 17 31 44.6 +0.9**
RSSD *e**PP pP 17 31 59.2 +1.2
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
RSSD Black Hills 59.47 56 *e*P **P 17 31 44.6 +0.9**
comp=Z,9.8nm,0.8s,mb4.9
RSSD *e*pP pP 17 31 59.2 +1.2
KAF Kangasniemi 59.55 337 *e*p **P 17 31 40.6 -3.7**
comp=Z,1.3nm,0.5s,mb4.2
KAF Kangasniemi 59.55 337 *e*P **P 17 31 40.6 -3.7**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
GKN Gorkha 59.56 277 *e*P **P 17 31 41.9 -2.4**
comp=Z,4.2nm,0.3s,mb4.9
DMN Daman 59.56 276 *e*P **P 17 31 42.3 -2.1**
SRU San Rafael 59.64 64 P **P 17 31 46.0 +1.1**
SRU *e**PP pP 17 31 59.5 +0.3
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SRU San Rafael 59.64 64 P **P 17 31 46.0 +1.1**
comp=Z,3.6nm,0.8s,mb4.5
SRU *e*pP pP 17 31 59.5 +0.3
FINES FINESS Array B 60.18 337 P **P 17 31 44.7 -3.9**
comp=Z,0.7nm,0.3s,mb4.2,baz=31,slow=7.5,SNR=20
FINES PcP PcP 17 32 30.6 -3.2
comp=Z,0.9nm,0.6s,baz=40,slow=4.6,SNR=3.7
FINES FINESS Array B 60.18 337 *e*P **P 17 31 45.6 -3.0**
FINES FINESS Array B 60.18 337 P **P 17 31 44.7 -3.9**
FINES PcP PcP 17 32 30.6 -3.2
KOLN Koldanda 60.35 278 *e*P **P 17 31 47.0 -2.8**
comp=Z,3.1nm,0.3s,mb4.8
NB2 NORSAR Subarra 63.61 344 P **P 17 32 08.6 -3.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=21,slow=6.9
NOA NORSAR Array B 63.61 344 P **P 17 32 08.9 -2.7**
comp=Z,2.0nm,0.6s,mb4.4,baz=21,slow=6.7,SNR=12
AKASG Malin Array Be 68.67 329 P **P 17 32 40.6 -3.5**
comp=Z,0.7nm,0.3s,mb4.0,baz=29,slow=6.7,SNR=10
CLL Collm 72.42 339 *e*P **P 17 33 05.0 -1.9**
CTA Charters Tower 73.78 194 P **P 17 33 16.0 +1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=24,slow=10.0,SNR=4.7
CTAO Charters Tower 73.78 194 P **P 17 33 15.3 +0.4**
CTAO pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
CTAO Charters Tower 73.78 194 P **P 17 33 15.2 +0.3**
comp=Z,1.4nm,0.7s,mb4.0
GERES GERESS Array B 74.58 338 P **P 17 33 17.7 -1.8**
comp=Z,0.6nm,0.6s,mb3.7,baz=31,slow=5.5,SNR=6.8
WRAB Tennant Creek 75.99 205 P **P 17 33 28.4 +0.7**
WRAB pmax pmax
comp=Z,12nm,1.3s,mb4.7
WRAB Tennant Creek 75.99 205 P **P 17 33 28.4 +0.7**
comp=Z,12nm,1.3s,mb4.7
ASAR Alice Springs 79.68 204 P **P 17 33 48.9 +0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=16,slow=4.8,SNR=7.3
ESDC Sonseca Array 86.65 348 P **P 17 34 22.9 -1.3**
comp=Z,1.6nm,0.4s,mb4.6,baz=2.8,slow=4.4,SNR=7.3
PLCA Paso Flores 144.03 91 PKP PKPdf 17 41 13.7 -2.2
comp=Z,1.5nm,0.7s,baz=266,slow=4.5,SNR=5.6

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*IDC **18** 17:26:34.5±1.4, 552S×15260E, h54km±9km, mb3.7/7, mb1 3.9/8, mb1mx3.8/15, mbtmp4.0/8, Error ellipse: s-maj=44.9km s-min=17.7km az=117.0*
*NEIC **18** 17:26:34.4±0.8, 554S×15254E, mb4.3/5, Error ellipse: s-maj=32.2km s-min=11.8km az=127.0*
*ISCJB **18** 17:26:36.5±3.8, 55S±02×1524E±02, h81km±32km, mb3.9/11, Error ellipse: s-maj=37.4km s-min=20.9km az=63.8*
ISC 18 17:26:38.3±3.2, 56S±02×1524E±02, h84km±27km, n18, σ0°98/19, mb3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**233**	P	**Pn**	**17 28 11.5**	**+0.9**
	1.4nm,0.3s,baz=50,slow=10,SNR=6.7						
PMG				S	**Sn**	**17 29 21.8**	**-0.8**
	3.1nm,0.3s,baz=156,slow=21,SNR=8.6						
PMG	**Port Moresby**	**6.45**	**233**	*e*Pn	**Pn**	**17 28 10.8**	**+0.2**
	20nm,0.8s						
PMG				*e*Sn	**Sn**	**17 29 17.9**	**-4.7**
KAKA	**Kakadu**	**20.93**	**249**	*e*P	**P**	**17 31 12.8**	**-1.3**
	13nm,0.5s						
WRAB	**Tennant Creek**	**22.63**	**229**	*e*P	**P**	**17 31 32.4**	**+0.2**
	13nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**22.63**	**229**	*e*P	**P**	**17 31 32.6**	**+0.3**
WRA	**Warramunga Arr**	**22.64**	**229**	P	**P**	**17 31 32.9**	**+0.6**
	5.5nm,0.7s,mb4.0,baz=54,slow=9.7,SNR=18						
WRA				pP		17 31 45.2	
	3.1nm,0.6s,baz=52,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**25.32**	**223**	P	**P**	**17 31 58.0**	**+0.9**
	3.1nm,0.4s,mb4.1,baz=57,slow=9.3,SNR=89						
ASAR				pP	pP	17 32 11.3	-4.9
	3.1nm,0.6s,baz=53,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**28.07**	**200**	P	**P**	**17 32 22.0**	**+0.2**
	1.4nm,0.7s,mb3.6,baz=9.7,slow=18,SNR=3.9						
STKA	**Stephens Creek**	**28.07**	**200**	P	**P**	**17 32 20.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**28.95**	**242**	*e*P	**P**	**17 32 28.8**	**-0.8**
	5.0nm,0.7s,mb4.2						
SONM	**Songino Array**	**66.74**	**328**	P	**P**	**17 37 21.1**	**+0.5**
	0.2nm,0.7s,mb3.1,baz=122,slow=4.9,SNR=4.3						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**17 38 42.7**	**+1.0**
	0.5nm,0.8s,mb3.4,baz=110,slow=5.2,SNR=5.6						
MKAR				pP	pP	17 38 57.6	-6.3
	0.4nm,0.8s,baz=119,slow=5.6,SNR=2.9						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**17 38 42.7**	**+1.0**
MKAR				pP	pP	17 38 57.6	-6.3
MCK	**McKinley**	**81.71**	**23**	P	**P**	**17 38 46.4**	**-1.2**
	2.7nm,1.1s,mb4.0						
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**17 38 52.1**	**-2.1**
	1.0nm,0.8s,mb3.7,baz=251,slow=5.6,SNR=10						
KURK	**Kurchatov**	**84.11**	**322**	P	**P**	**17 39 00.6**	**+0.7**
	2.8nm,1.2s,mb4.0						
NVAR	**Mina Array Bea**	**92.87**	**52**	P	**P**	**17 39 43.0**	**+1.3**
	0.5nm,0.7s,mb4.0,baz=241,slow=4.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc	PKPbc	17 46 20.0	+0.6
	2.8nm,0.7s,baz=64,slow=2.6,SNR=17						

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*CASC **18** 17:34:23.8±1.6, 1440N×9355W, h125km±59km, MD4.8, mb4.6(NEIC)*
*ISCJB **18** 17:34:32.3±0.8, 1426N±005×9308W±004, h62km±6km, mb4.3/23, Error ellipse: s-maj=9.7km s-min=5.2km az=51.1*
*MEX **18** 17:34:33.5±0.8, 1416N×9306W, h38km±76km, MD4.6*
*NEIC **18** 17:34:36.5±1.0, 1453N×9298W, h71km±7km, mb4.3/18, MD4.6(MEX), Error ellipse: s-maj=15.9km s-min=8.0km az=215.0*
*IDC **18** 17:34:37.7±5.4, 1455N×9281W, h82km±49km, mb3.8/12, mb1 4.0/12, mb1mx3.8/20, mbtmp4.1/12, Error ellipse: s-maj=46.9km s-min=14.7km az=44.0*
*NAO **18** 17:34:37.4, 16.19N×9432W, h33km, mb3.9*
ISC 18 17:34:33.5±0.8, 1424N±006×9302W±004, h58km±6km, n58, σ1°03/68, mb4.3/23, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.34**	**87**	⇓*e*P	**Pn**	**17 34 56.6**	**+0.6**
TP2	**Tecpan 2**	**2.01**	**74**	*e*P	**Pn**	**17 35 05.4**	**+0.3**
TP2				*e*S	**Sn**	**17 35 36.5**	**+7.5**
FUG	**Fuego 3**	**2.12**	**84**	*e*P	**Pn**	**17 35 06.2**	**-0.4**
CCIG	**Comitan**	**2.20**	**23**	*i* P	**Pn**	**17 35 08.1**	**+0.4**
CCIG				*i* S	**Sn**	**17 35 33.4**	**-0.3**
IXG	**Ixpaco**	**2.49**	**91**	*e*P	**Pn**	**17 35 10.4**	**-1.2**
IXG				*e*S	**Sn**	**17 35 48.2**	**+7.5**
SCX	**San Cristobal**	**2.51**	**8**	*i* P	**Pn**	**17 35 12.0**	**+0.2**
SCX				*i* S	**Sn**	**17 35 43.0**	**+1.8**
TUIG	**Tuzandepetl**	**4.00**	**340**	*i* P	**Pn**	**17 35 30.7**	**-1.6**
TUIG				*i* S	**Sn**	**17 36 18.4**	**+0.4**
OXX	**Oaxaca**	**4.55**	**309**	*e*P	**Pn**	**17 35 40.0**	**+0.2**
VHO	**Vista Hermosa**	**4.55**	**309**	*i* P	**Pn**	**17 35 39.9**	**0.0**
VHO				*i* S	**Sn**	**17 36 30.6**	**-0.8**
EVV	**El Vigia**	**4.75**	**332**	*e*P	**Pn**	**17 35 43.0**	**+0.4**
SCIG		**5.02**	**20**	*i* P	**Pn**	**17 35 46.0**	**-0.2**
SCIG				*i* S	**Sn**	**17 36 43.9**	**+1.1**
UTMO	**Huajuapan**	**5.82**	**308**	*i* S	**Sn**	**17 37 02.3**	**-0.4**
TPIG	**Tehuac#an**	**5.89**	**315**	*i* P	**Pn**	**17 35 58.3**	**+0.2**
TPIG				*i* S	**Sn**	**17 37 03.1**	**-1.1**
PPM	**Popocatepetl**	**7.21**	**313**	*i* P	**Pn**	**17 36 15.8**	**-0.4**
PPM				*e*P		17 36 16.5	
PPM				*i* S	**Sn**	**17 37 38.1**	**+1.6**
TEIG	**Tepich**	**7.48**	**37**	*e*Pn	**Pn**	**17 36 17.9**	**-2.0**
	10nm,0.5s						
JTS	**JuntasAbangare**	**8.80**	**116**	Pn	**Pn**	**17 36 46.2**	**+8.1**
	23nm,0.8s						
JCT	**Junction City**	**17.33**	**340**	*e*P	**Pn**	**17 38 33.2**	**+1.9**
	17nm,1.0s						
LRAL	**Lakeview Retre**	**19.50**	**15**	P	**Pn**	**17 38 57.0**	**-0.5**
	8.5nm,1.0s						
MIAR	**Mount Ida**	**20.22**	**359**	*e*P	**P**	**17 39 02.3**	**-1.3**
	19nm,0.9s						
MIAR				*e*S	**S**	**17 42 29.2**	**-18**
OXF	**Oxford**	**20.44**	**9**	*e*P	**P**	**17 39 02.6**	**-3.4**
ROSC	**El Rosal**	**20.64**	**115**	P	**P**	**17 39 12.2**	**+4.1**
	4.1nm,0.4s,baz=94,slow=23,SNR=6.1						
MNTX	**Cornudas Mount**	**20.74**	**329**	*e*P	**P**	**17 39 10.1**	**+0.8**
	8.6nm,0.8s						
WMOK	**Wichita Mounta**	**21.06**	**347**	*e*P	**P**	**17 39 11.9**	**-0.8**
SWET	**Sewanee**	**21.84**	**16**	*e*P	**P**	**17 39 25.1**	**+4.1**
WVT	**Waverly**	**22.29**	**11**	P	**P**	**17 39 25.4**	**-0.4**
	7.6nm,1.0s,mb4.1						
SDV	**Santo Domingo**	**22.56**	**101**	P	**P**	**17 39 30.8**	**+2.1**
	7.0nm,0.7s,mb4.2,baz=288,slow=6.1,SNR=13						
SDV	**Santo Domingo**	**22.56**	**101**	*e*P	**P**	**17 39 29.5**	**+0.8**
	5.6nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**23.92**	**332**	P	**P**	**17 39 43.0**	**+1.0**
	2.7nm,0.8s,mb3.7,baz=131,slow=10,SNR=4.8						
ANMO	**Albuquerque**	**23.92**	**332**	P	**P**	**17 39 42.3**	**+0.3**
	10.0nm,1.3s,mb4.1						
KSU1	**Kansas State U**	**24.96**	**353**	*e*P	**P**	**17 39 50.4**	**-1.1**
SDCO	**Great Sand Dun**	**25.91**	**337**	*e*P	**P**	**17 40 01.0**	**+1.0**
	13nm,1.1s,mb4.4						
SDCO				*e*		17 40 07.9	
PV01	**Paradox Valley**	**27.50**	**333**	*e*P	**P**	**17 40 15.0**	**+0.7**
RWWY	**Rawlins**	**30.00**	**338**	*e*P	**P**	**17 40 38.5**	**+2.0**
	16nm,1.1s,mb4.7						
RSSD	**Black Hills**	**31.23**	**345**	*e*P	**P**	**17 40 47.1**	**-0.3**
HWUT	**Hardware Ranch**	**31.67**	**333**	P	**P**	**17 40 51.8**	**+0.5**
	4.7nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**31.80**	**337**	P	**P**	**17 40 52.4**	**0.0**
	1.0nm,0.9s,mb3.6,baz=139,slow=7.9,SNR=8.3						
PDAR				PcP	PcP	17 43 43.0	+0.7
	0.3nm,0.6s,baz=141,slow=5.8,SNR=2.4						
NVAR	**Mina Array Bea**	**32.87**	**322**	P	**P**	**17 41 04.0**	**+2.2**
	3.0nm,0.8s,mb4.2,baz=128,slow=9.6,SNR=25						
NVAR				PcP	PcP	17 43 47.1	+1.8
	0.5nm,0.7s,baz=134,slow=2.6,SNR=3.9						
FLWY	**Flagg Ranch**	**33.35**	**337**	*e*P	**P**	**17 41 06.7**	**+0.7**
	6.0nm,0.9s,mb4.5						
CMB	**Columbia Colle**	**33.90**	**319**	P	**P**	**17 41 09.2**	**-1.6**
	4.4nm,1.3s,mb4.2						
QLMT	**Earthquake Lak**	**34.27**	**336**	*e*P	**P**	**17 41 15.1**	**+1.1**
HLID	**Hailey**	**34.49**	**332**	*e*P	**P**	**17 41 16.5**	**+0.6**
	3.4nm,0.9s,mb4.3						
ULM	**Lac du Bonnet**	**35.98**	**357**	P	**P**	**17 41 26.5**	**-2.2**
	2.5nm,0.7s,mb4.2,baz=182,slow=8.3,SNR=5.4						
ULM	**Lac du Bonnet**	**35.98**	**357**	P	**P**	**17 41 26.5**	**-2.2**
EDM	**Edmonton**	**42.09**	**342**	*e*P	**P**	**17 42 18.1**	**-1.6**
EDM				*e*		17 42 25.5	
SIV	**San Ignacio**	**43.58**	**132**	P	**P**	**17 42 33.0**	**+1.3**
	1.0nm,0.8s,mb3.6,baz=325,slow=7.2,SNR=6.3						
FCC	**Fort Churchill**	**44.45**	**359**	*e*P	**P**	**17 42 37.5**	**-1.2**
	3.8nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**50.57**	**347**	P	**P**	**17 43 26.1**	**-0.1**
	8.6nm,0.7s,mb4.8,baz=152,slow=7.4,SNR=180						
YKA				PcP	PcP	17 44 43.4	+0.2
	0.7nm,0.7s,baz=146,slow=3.6,SNR=6.2						
YKA	**Yellowknife Ar**	**50.57**	**347**	P	**P**	**17 43 26.1**	**-0.1**
YKA				PcP	PcP	17 44 43.4	+0.2
YKW3	**Yellowknife Ar**	**50.63**	**347**	*e*P	**P**	**17 43 26.2**	**-0.4**
INK	**Inuvik**	**59.93**	**344**	*e*P	**P**	**17 44 33.5**	**-0.1**
	5.8nm,0.9s,mb4.6						
RES	**Resolute Bay**	**60.45**	**359**	*e*P	**P**	**17 44 36.4**	**-0.7**
	3.5nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**62.23**	**337**	P	**P**	**17 44 49.0**	**-0.1**
	2.2nm,0.9s,mb4.3,baz=134,slow=4.6,SNR=19						
MCK	**McKinley**	**62.57**	**335**	*e*P	**P**	**17 44 50.4**	**-0.9**
	3.4nm,1.1s,mb4.4						
ESDC	**Sonseca Array**	**80.34**	**52**	P	**P**	**17 46 37.4**	**-0.9**
	3.5nm,0.8s,mb4.4,baz=289,slow=5.8,SNR=4.1						
BILL	**Bilibino**	**80.87**	**338**	*e*P	**P**	**17 46 41.5**	**+0.3**
	12nm,1.4s,mb4.6						
NB2	**NORSAR Subarra**	**84.40**	**28**	P	**P**	**17 47 00.4**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.0,baz=291,slow=5.3						
NOA	**NORSAR Array B**	**84.40**	**28**	P	**P**	**17 47 00.4**	**+0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=291,slow=5.2,SNR=4.3						
FINES	**FINESS Array B**	**90.70**	**25**	P	**P**	**17 47 29.8**	**-0.1**
	comp=Z,1.0nm,0.8s,mb4.2,baz=298,slow=4.1,SNR=5.0						

NNC 18 17:50:06.5±3.5, 3784N×7082E, h13km±29km, mb3.3, mpv3.0, 4C-3D, Error ellipse: s-maj=38.6km s-min=32.6km az=117.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.27**	**358**	⇓Pn	Pn	17 51 27.4	+2.5
	0.4nm,0.3s,baz=176,slow=13,SNR=13						
KK31				⇓Sn	Sn	17 52 31.7	+6.2
	0.8nm,0.4s,baz=183,slow=24,SNR=4.5						
KK31				⇓Lg		17 52 58.0	
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**6.25**	**34**	⇑Pn	Pn	17 51 39.8	+1.4
	1.3nm,0.6s						
TKM2				⇑Lg		17 53 21.0	
	3.8nm,1.1s						
AB31	**Akbulak array**	**13.86**	**329**	⇑Pn	Pn	17 53 22.5	-0.1
	0.6nm,0.8s,baz=145,slow=14,SNR=4.2						
AB31				⇑Sn	Sn	17 55 57.6	+1.3
	0.3nm,0.5s						

IDC 18 18:01:40.3±4.4, 525S×15280E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/14, mbtmp3.5/2, Error ellipse: s-maj=223.4km s-min=48.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**229**	P	P	18 06 47.6	-0.6
	0.9nm,0.6s,baz=54,slow=9.7,SNR=5.7						
ASAR	**Alice Springs**	**25.82**	**223**	P	P	18 07 13.9	+0.8
	0.5nm,0.3s,baz=57,slow=9.3,SNR=23						
TORD	**Torodi Ar. Bea**	**150.44**	**287**	PKPbc	PKPbc	18 21 34.8	+1.0
	0.3nm,0.5s,baz=76,slow=3.0,SNR=5.8						

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*ISCJB **18** 18:24:02.8±0.5, 2032S±004×6653W±005, h237km±5km, mb4.6/68, Error ellipse: s-maj=7.4km s-min=6.3km az=110.0*
*NEIC **18** 18:24:04.0±0.6, 2026S×6653W, h230km±6km, mb4.5/45, Error ellipse: s-maj=9.3km s-min=6.3km az=225.0*
*LDG **18** 18:24:03.4, 1996S×6632W, h230km*
*BJI **18** 18:24:03.9, 2030S×6650W, h230km, mB5.0*
*IDC **18** 18:24:04.6±1.2, 2014S×6638W, h235km±9km, mb4.2/11, mb1 4.3/13, mb1mx4.2/18, mbtmp4.8/13, Error ellipse: s-maj=17.2km s-min=11.4km az=61.0*
ISC 18 18:24:03.7±0.5, 2031S±004×6647W±005, h231km±5km, n150, σ1°07/137, mb4.6/68, 5C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.30**	**338**	P	**Pn**	**18 25 12.2**	**+2.0**
	13nm,0.3s,baz=162,slow=8.6,SNR=510						
LPAZ				S	**S**	**18 26 03.9**	**+0.9**
	8.6nm,0.3s,baz=206,slow=22,SNR=13						
LPAZ	**La Paz**	**4.30**	**338**	⇓*i*Pn	**Pn**	**18 25 12.4**	**+2.2**
LPAZ				*e*S	**S**	**18 26 02.6**	**-0.3**
CEN1	**Los Morros**	**4.63**	**228**	*e*P	**Pn**	**18 25 16.7**	**+2.4**
CEN1				*i* S	**S**	**18 26 10.6**	**+0.3**
ANCH	**Antofagasta**	**4.96**	**227**	*i* P	**Pn**	**18 25 15.7**	**-2.8**
ANCH				*i* S	**S**	**18 26 09.6**	**-8.3**
CPN1	**Cerro Paranal**	**5.63**	**220**	*e*P	**Pn**	**18 25 26.5**	**-0.3**
CPN1				*i* S	**S**	**18 26 28.4**	**-4.5**
ARE	**Arequipa**	**6.11**	**308**	⇓*i*P	**Pn**	**18 25 31.6**	**-1.3**
ARE				*e*S	**S**	**18 26 35.0**	**-8.9**
SIV	**San Ignacio**	**6.69**	**51**	P	**Pn**	**18 25 41.6**	**+1.4**
	18nm,0.3s,baz=247,slow=10,SNR=567						
SIV				S	**S**	**18 26 52.4**	**-4.9**
	baz=243,slow=16,SNR=3.8						
CRCH	**Chaqaral**	**7.12**	**212**	*i* P	**Pn**	**18 25 44.6**	**-1.0**
CRCH				*i* S	**S**	**18 27 00.5**	**-6.7**
CRCH	**Chaqaral**	**7.12**	**212**	*i* P	**Pn**	**18 25 44.6**	**-1.0**
CRCH				*i* S	**S**	**18 27 00.5**	**-6.7**
CDCH	**Caldera**	**7.83**	**210**	*i* P	**Pn**	**18 25 52.2**	**-2.6**
CDCH				*i* S	**S**	**18 27 15.6**	**-8.3**
CDCH	**Caldera**	**7.83**	**210**	*i* P	**Pn**	**18 25 52.2**	**-2.6**
CDCH				*i* S	**S**	**18 27 15.6**	**-8.3**
CPUP	**Villa Florida**	**10.32**	**127**	*e*Pn	**Pn**	**18 26 28.8**	**+2.3**
	111nm,0.6s						
CFAA	**Coronel Fontan**	**11.36**	**188**	P	**Pn**	**18 26 39.6**	**-0.1**
	0.7nm,0.3s,baz=26,slow=14,SNR=100						
NNA	**Nana**	**12.94**	**308**	*e*Pn	**Pn**	**18 26 58.0**	**-1.4**
	185nm,0.9s						
NNA				*e*		18 27 02.7	
TRQA	**Tornquist**	**18.11**	**169**	*e*P	**P**	**18 27 57.8**	**-0.9**
	9.2nm,0.8s						
BDFB	**Brasilia**	**18.16**	**78**	P	**P**	**18 27 59.6**	**+0.5**
	1.8nm,0.3s,baz=264,slow=11,SNR=21						
PLCA	**Paso Flores**	**20.66**	**189**	P	**P**	**18 28 28.1**	**+2.2**
	3.5nm,0.6s,baz=4.7,slow=10,SNR=12						
PLCA	**Paso Flores**	**20.66**	**189**	*e*P	**P**	**18 28 27.4**	**+1.5**
	3.4nm,0.6s						
CAM4	**Nova Friburgo**	**22.36**	**100**	⇑*i*P	**P**	**18 28 43.6**	**+1.2**
CAM4				*i*		18 28 47.9	
CAM4				*i*		18 28 51.4	
OTAV	**Otavalo**	**23.55**	**329**	*e*P	**P**	**18 28 54.7**	**+1.4**
	9.1nm,0.7s,mb4.5						
CAM3	**Guarapari**	**24.30**	**96**	⇑*i*P	**P**	**18 29 01.2**	**+1.1**
CAM3				*i*		18 29 04.5	
CAM3				*i*		18 29 08.5	
SDV	**Santo Domingo**	**29.30**	**352**	P	**P**	**18 29 42.9**	**-1.8**
	9.6nm,1.0s,mb4.4,baz=218,slow=7.7,SNR=8.2						
SDV	**Santo Domingo**	**29.30**	**352**	*e*P	**P**	**18 29 42.9**	**-1.8**
	13nm,1.1s,mb4.5						
PAYG	**Puerto Ayora**	**30.38**	**307**	*e*P	**P**	**18 29 55.5**	**+1.3**
JTS	**JuntasAbangare**	**35.43**	**327**	*e*P	**P**	**18 30 39.2**	**+1.3**
	34nm,1.2s,mb4.8						
SJG	**San Juan**	**38.18**	**0**	P	**P**	**18 30 58.8**	**-2.2**
	32nm,0.8s,mb4.9,baz=216,slow=3.9,SNR=13						
SJG	**San Juan**	**38.18**	**0**	*e*P	**P**	**18 30 58.9**	**-2.1**
	42nm,1.0s,mb4.9						
TEIG	**Tepich**	**45.59**	**331**	*e*P	**P**	**18 31 59.6**	**-1.2**
	5.4nm,1.0s,mb3.8						
HKT	**Hockley**	**57.41**	**330**	*e*P	**P**	**18 33 28.5**	**+0.3**
NATX	**Nacogdoches**	**58.40**	**332**	*e*P	**P**	**18 33 35.5**	**+0.5**
	36nm,0.6s,mb5.2						
OXF	**Oxford**	**58.72**	**338**	P	**P**	**18 33 35.5**	**-1.8**
	9.7nm,0.6s,mb4.6						
WVT	**Waverly**	**59.66**	**340**	*e*P	**P**	**18 33 41.8**	**-1.8**
	13nm,0.8s,mb4.6						
JCT	**Junction City**	**59.81**	**327**	*e*P	**P**	**18 33 44.3**	**-0.4**
	9.2nm,0.7s,mb4.5						
MIAR	**Mount Ida**	**60.33**	**334**	*e*P	**P**	**18 33 47.4**

SNOW Snow King Moun 75.36 328 *eP* **P 18 35 22.9 +1.1**
14nm,0.9s,mb4.6
LOHW Long Hollow 75.39 328 *eP* **P 18 35 22.4 +0.5**
3.4nm,0.6s,mb4.2
MOOW Moose Ponds 75.56 329 *eP* **P 18 35 23.2 +0.3**
1.9nm,0.6s,mb3.9
IMW Indian Meadow 75.77 329 *eP* **P 18 35 24.8 +0.7**
16nm,0.9s,mb4.7
ELK Elko 75.77 324 *eP* **P 18 35 25.0 +0.9**
5.7nm,0.9s,mb4.2
FLWY Flagg Ranch 75.79 329 *eP* **P 18 35 25.3 +1.1**
9.7nm,0.6s,mb4.6
NVAR Mina Array Bea 76.00 320 P **P 18 35 26.4 +1.1**
4.5nm,0.9s,mb4.1,baz=138,slow=8.0,SNR=28
CMB Columbia Colle 77.00 319 *eP* **P 18 35 31.5 +0.5**
7.7nm,1.3s,mb4.2
BOZ Bozeman (W) 77.38 329 *eP* **P 18 35 32.7 -0.4**
1.5nm,0.7s,mb3.7
MCMT McKenzie Canyo 77.38 328 *eP* **P 18 35 34.5 +1.4**
TSUM Tsumeb 78.19 106⇑*iP* **P 18 35 39.5 +2.0**
30nm,0.7s,mb5.0
WVOR Wild Horse Val 78.80 323 P **P 18 35 39.8 -1.0**
BMO Blue Mountains 79.68 326 *eP* **P 18 35 46.7 +1.1**
16nm,1.3s,mb4.5
PBEJ Beja 79.95 43 *eP* **P 18 35 48.5 +1.4**
PTOM Tomar 80.53 42 *eP* **P 18 35 51.1 +0.9**
MTE Manteigas 81.53 41 *eP* **P 18 35 56.5 +1.1**
BOSA Boshof 81.98 117 P **P 18 35 58.8 +1.0**
15nm,0.8s,mb4.7,baz=258,slow=6.8,SNR=39
BOSA Boshof 81.98 117 *eP* **P 18 35 59.8 +2.0**
17nm,0.8s,mb4.7
FCC Fort Churchill 82.01 346 *eP* **P 18 35 57.3 -0.7**
PBRG Braganca 82.84 41 *eP* **P 18 36 03.3 +1.1**
105nm,1.7s,mb5.3
ESDC Sonseca Array 83.39 44 P **P 18 36 05.6 +0.6**
11nm,0.9s,mb4.6,baz=247,slow=5.5,SNR=15
ESLA Sonseca Array 83.39 44 *eP* **P 18 36 04.6 -0.4**
7.0nm,1.1s,mb4.3
LBTB Lobatse 83.43 114⇑*iP* **P 18 36 07.0 +1.8**
21nm,0.7s,mb5.0
SJPF Ste Jean 86.97 42 *eP* **P 18 36 22.7 0.0**
ETSF Etsaut 87.28 42 *eP* **P 18 36 24.2 0.0**
20nm,0.8s,mb4.6
EPF Esparros 87.91 42 *eP* **P 18 36 26.9 -0.3**
QUIF Quistinic 88.37 37 *eP* **P 18 36 28.6 -0.7**
ROSF Rostrenen 88.54 37 *eP* **P 18 36 29.2 -0.9**
179nm,1.5s,mb5.4
SGMF Saint Gilles 88.90 37 *eP* **P 18 36 30.9 -0.9**
LSZ Lusaka 89.04 106 *eP* **P 18 36 35.7 +3.2**
13nm,1.3s,mb4.6
LFF La Frestale 89.12 41 *eP* **P 18 36 31.6 -1.2**
37nm,0.7s,mb5.0
MTLF Montolieu 89.26 43 *eP* **P 18 36 32.8 -0.7**
MFF Saint Martin d 89.43 39 *eP* **P 18 36 33.9 -0.4**
60nm,0.9s,mb5.1
RJF Les Rejaudoux 89.78 41 *eP* **P 18 36 35.0 -0.9**
CAF Calviac 89.93 41 *eP* **P 18 36 35.8 -0.8**
5.8nm,0.6s,mb4.3
GRR Gorron 89.93 37 *eP* **P 18 36 35.7 -0.9**
26nm,0.8s,mb4.8
FLN La Foliniere 90.34 37 *eP* **P 18 36 37.8 -0.7**
LDF La Druitiere 90.46 37 *eP* **P 18 36 38.2 -0.9**
42nm,1.0s,mb4.9
LASF Ste Croix 90.65 43 *eP* **P 18 36 39.1 -0.9**
TCF Toulx Ste Croi 90.68 40 *eP* **P 18 36 39.5 -0.6**
YKA Yellowknife Ar 90.84 340 P **P 18 36 40.3 -0.6**
1.1nm,0.6s,mb4.0,baz=129,slow=4.6,SNR=33
YKA pP pP 18 37 41.6 +4.4
1.2nm,0.8s,baz=128,slow=4.6,SNR=3.4
BGF Bois d'Agland 91.20 40 *eP* **P 18 36 42.4 -0.1**
45nm,1.0s,mb5.1
HYF Humbligny 91.41 40 *eP* **P 18 36 42.7 -0.8**
AVF Avril sur Loir 91.61 40 *eP* **P 18 36 43.7 -0.7**
SMRF Simiane la Rot 91.71 43 *eP* **P 18 36 44.4 -0.5**
31nm,1.2s,mb4.8
SSF Saint Saulge 91.84 40 *eP* **P 18 36 44.0 -1.5**
15nm,0.9s,mb4.6
SMF Signal de Mont 91.84 40 *eP* **P 18 36 44.8 -0.7**
64nm,1.2s,mb5.1
LMR La Mourre 92.03 44 *eP* **P 18 36 45.7 -0.7**
31nm,0.9s,mb4.9
LOR Lormes 92.14 40 *eP* **P 18 36 45.5 -1.4**
15nm,0.9s,mb4.6
FRF La Foret Royal 92.22 44 *eP* **P 18 36 46.4 -0.8**
27nm,1.0s,mb4.8
ORIF Oris-en-Rattie 92.33 43 *eP* **P 18 36 47.2 -0.5**
22nm,1.1s,mb4.7
MBDF Montbardon 92.81 43 *eP* **P 18 36 49.3 -0.6**
20nm,1.1s,mb4.8
SBF Sospel 92.86 44 *eP* **P 18 36 49.0 -1.2**
126nm,1.2s,mb5.5
LPL La Plagne 93.13 42 *eP* **P 18 36 51.1 -0.3**
LPG La Plagne 93.13 42 *eP* **P 18 36 51.2 -0.2**
20nm,1.1s,mb4.8
CABF La Chapelle 93.21 41 *eP* **P 18 36 51.4 -0.4**
52nm,1.4s,mb5.0
PGF Pioggiola 93.35 46 *eP* **P 18 36 51.2 -1.2**
17nm,0.8s,mb4.8
CDF Champ du Feu 94.72 40 *eP* **P 18 36 58.1 -0.6**
ARU Arti 125.89 34 *e*PKPdf PKPdf 18 42 38.3 +0.3
MUN Mundaring 127.95 183 *e*S PKPdf 18 42 50.3 +8.4
ASAR Alice Springs 132.00 205 SKPbc SKPbc 18 45 54.6 +0.8
1.5nm,0.5s,baz=147,slow=3.8,SNR=15
ZRNK Zerenda 132.81 35 *e*PKPdf PKPdf 18 42 51.4 +0.2
BVAR Borovoye Array 133.52 35 PKP PKPdf 18 42 52.2 -0.3
0.6nm,0.7s,baz=250,slow=3.0,SNR=4.7
BVAR SKPbc SKPbc 18 45 58.7 -0.2
1.5nm,0.8s,baz=316,slow=4.1,SNR=9.8
WRA Warramunga Arr 135.11 208 SKPbc SKPbc 18 46 03.8 -0.3
1.4nm,0.8s,baz=152,slow=2.8,SNR=7.1
KURK Kurchatov 139.08 34 *e*PKPpre 18 42 57.2
KURK *e*PKPdf PKPdf 18 43 03.9 +1.1
ZAL Zalesovo 139.90 26 PKP PKPdf 18 43 04.0 -0.3
2.2nm,0.7s,baz=182,slow=3.2,SNR=13
ZAL SKPbc SKPbc 18 46 16.6 -1.4
1.7nm,0.7s,baz=154,slow=3.6,SNR=11
AAK Ala-Archa 140.43 47 *e*PKPdf PKPdf 18 43 05.7 +0.5
MKAR Makanchi Array 143.33 37 PKhKP 18 43 07.9
1.7nm,0.7s,baz=315,slow=3.2,SNR=18
MKAR SKPbc SKPbc 18 46 26.1 -0.6
2.5nm,0.8s,baz=330,slow=2.8,SNR=13
WMQ Urumqi 148.16 37 *e*PKP PKPdf 18 43 21.0 +2.4
KOLN Koldanda 151.72 69 *e*P PKPbc 18 43 31.6 +0.9
SONM Songino Array 151.94 10 PKP PKPdf 18 43 24.6 +0.2
0.8nm,0.9s,baz=326,slow=1.7,SNR=6.7
SONM PKPbc PKPbc 18 43 31.6 +0.4
1.5nm,0.4s,baz=301,slow=1.4,SNR=31
ULN Ulaanbaatar 152.01 9 *e*PKPbc PKPbc 18 43 30.9 -0.4
ULN *e*PKPab PKPab 18 43 39.4 -2.3
GKN Gorkha 152.59 68 *e*P PKPbc 18 43 33.7 +1.1
7.6nm,0.5s
MAJO Matsushiro 153.05 312 *e*PKPab PKPab 18 43 46.4 +0.4
DMN Daman 153.07 69 *e*P PKPbc 18 43 35.3 +1.6
16nm,0.8s
KKN Kakani 153.19 68 *e*P PKPbc 18 43 35.0 +1.0
3.4nm,0.3s
GUN Gumba 153.69 68 *e*P PKPbc 18 43 36.8 +1.8
JIRN Jiri 154.01 68 *e*P PKPbc 18 43 38.1 +2.4
LSA Lhasa 157.70 61 *e*PKPab PKPab 18 44 07.4 +1.4
HHC Hu-ho-hao-te 159.45 4 *e*PKP PKPdf 18 43 35.0 +0.6
HHC PP PP 18 47 58.5 +2.9
HHC PP PP
comp=Z,418nm,14.4s
LZH Lanzhou 162.13 26 *e*PKP PKPdf 18 43 39.4 +2.1
LZH XPKP 18 44 59.8
LZH LR LR
comp=N,126nm,18.5s
LZH LR LR
comp=Z,336nm,19.2s
CD2 Chengdu 166.25 38 *e*PKP PKPdf 18 43 35.9 -5.1

ISCJB ***18*** *18:33:33.6±0.8, 2130S×008×17932W±007, h604km±12km, mb4.3/23, Error ellipse: s-maj=13.7km s-min=8.9km az=118.0*
NEIC ***18*** *18:33:33.6±1.0, 2124S×17925W, h588km±12km, mb4.5/13, Error ellipse: s-maj=13.2km s-min=9.3km az=197.0*
IDC ***18*** *18:33:35.5±1.2, 2134S×17938W, h612km±14km, mb3.7/12, mb1 3.8/15, mb1mx3.7/19, mbtmp4.6/15, Error ellipse: s-maj=15.0km s-min=10.1km az=172.0*
ISC 18 18:33:33.8±0.8, 2124S×008×**17923W**±007, **h592**km±11km, **n59**, σ0°**88**/46, **mb4.3**/23, **5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.06**	**172**	P	**P**	**18 35 33.4**	**0.0**
	199nm,0.3s,baz=90,slow=12,SNR=4.9						
RAO	**Raoul Island**	**8.06**	**172**	P	**P**	**18 35 33.1**	**-0.3**
AFI	**Afiamalu**	**10.18**	**45**	S	**S**	**18 37 49.2**	**-0.2**
	3.8nm,0.3s,baz=46,slow=22,SNR=3.7						
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**18 36 26.8**	**+0.8**
	0.8nm,0.3s,baz=292,slow=22,SNR=9.9						
URZ	**Urewera**	**17.25**	**190**	P	**P**	**18 37 01.2**	**-1.7**
	2.2nm,0.3s,baz=331,slow=4.5,SNR=17						
URZ				S	**S**	**18 39 45.4**	**-7.5**
	0.9nm,0.3s,baz=31,slow=23,SNR=6.8						
RAR	**Rarotonga**	**18.14**	**93**	P	**P**	**18 37 11.4**	**+0.4**
	2.4nm,0.3s,baz=67,slow=10,SNR=3.2						
HNR	**Honiara**	**23.23**	**297**	*e*P	**P**	**18 37 55.0**	**-1.7**
ARMA	**Armidale**	**27.71**	**245**	⇓*iP*	**P**	**18 38 37.6**	**+1.5**
CNB	**Canberra Magne**	**30.86**	**236**	*e*P	**P**	**18 39 04.2**	**+1.0**
	9.1nm,0.6s,mb4.6						
CTA	**Charters Tower**	**32.28**	**266**	⇓*iP*	**P**	**18 39 16.3**	**+1.0**
	17nm,0.4s,mb5.0						
CTA	**Charters Tower**	**32.28**	**266**	P	**P**	**18 39 15.9**	**+0.7**
	21nm,0.4s,mb5.1,baz=93,slow=10,SNR=92						
CTAO	**Charters Tower**	**32.28**	**266**	*e*P	**P**	**18 39 16.1**	**+0.8**
	20nm,0.4s,mb5.1						
PMG	**Port Moresby**	**34.40**	**285**	P	**P**	**18 39 33.9**	**+0.8**
	26nm,0.7s,mb5.0,baz=89,slow=5.8,SNR=21						
PMG	**Port Moresby**	**34.40**	**285**	*e*P	**P**	**18 39 33.8**	**+0.7**
	31nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**36.43**	**245**	⇓*iP*	**P**	**18 39 48.5**	**-1.4**
	5.6nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**36.43**	**245**	P	**P**	**18 39 48.6**	**-1.2**
	5.9nm,0.4s,mb4.5,baz=86,slow=9.3,SNR=30						
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**18 40 44.4**	**+0.3**
	17nm,0.5s,mb4.8,baz=92,slow=7.8,SNR=617						
ASAR				PcP	PcP	18 42 19.6	0.0
	1.4nm,0.5s,baz=94,slow=4.0,SNR=5.5						
ASAR				ScP	ScP	18 45 14.5	-0.5
	2.1nm,0.8s,baz=102,slow=4.5,SNR=11						
ASAR				S	**S**	**18 46 25.6**	**-3.5**
	1.8nm,0.8s,baz=94,slow=16,SNR=11						
WB2	**Warramunga Arr**	**43.35**	**263**	⇓*iP*	**P**	**18 40 44.8**	**-0.2**
WRAB	**Tennant Creek**	**43.35**	**263**	*e*P	**P**	**18 40 44.5**	**-0.5**
	25nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.36**	**263**	P	**P**	**18 40 44.8**	**-0.3**
	8.9nm,0.3s,mb4.8,baz=97,slow=7.3,SNR=574						
WRA				ScP	ScP	18 45 15.3	-0.3
	1.4nm,0.8s,baz=93,slow=4.0,SNR=7.8						
WRA				S	**S**	**18 46 25.9**	**-5.1**
	0.7nm,0.8s,baz=101,slow=19,SNR=4.5						
KAKA	**Kakadu**	**46.84**	**272**	⇓*iP*	**P**	**18 41 11.7**	**+0.1**
	16nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.79**	**263**	*e*P	**P**	**18 41 48.1**	**+0.2**
	9.4nm,0.3s,mb4.6						
MBWA	**Marble Bar**	**56.57**	**258**	*e*P	**P**	**18 42 20.8**	**-0.5**
	13nm,0.8s,mb4.2						
KLBR	**Kellerberrin**	**56.70**	**245**	*e*P	**P**	**18 42 21.5**	**-0.7**
	9.0nm,0.4s,mb4.3						
VNDA	**Vanda**	**57.08**	**185**	P	**P**	**18 42 25.1**	**+0.3**
	1.4nm,0.5s,mb3.4,baz=124,slow=3.2,SNR=8.7						
VNDA	**Vanda**	**57.08**	**185**	*e*P	**P**	**18 42 24.2**	**-0.6**
MUN	**Mundaring**	**57.97**	**245**	*e*P	**P**	**18 42 30.9**	**+0.1**
QSPA	**South Pole Qui**	**68.83**	**180**	*e*P	**P**	**18 43 40.0**	**0.0**
	2.4nm,0.7s,mb3.7						
KKM	**Kota Kinabalu**	**68.84**	**286**	*e*P	**P**	**18 43 41.0**	**+0.9**
MJAR	**Matsushiro Arr**	**70.13**	**325**	P	**P**	**18 43 47.6**	**-0.2**
	4.8nm,0.6s,mb4.1,baz=153,slow=5.7,SNR=33						
KSM	**Kuching**	**72.38**	**279**	*e*P	**P**	**18 44 01.5**	**+0.7**
NVAR	**Mina Array Bea**	**82.35**	**44**	P	**P**	**18 44 56.7**	**+2.0**
	0.7nm,0.6s,mb3.4,baz=231,slow=9.2,SNR=7.4						
KULM	**Kulim**	**82.74**	**279**	*e*P	**P**	**18 44 57.4**	**+0.8**
PSI	**Prapat**	**83.41**	**276**	P	**P**	**18 44 59.0**	**-1.0**
	4.9nm,0.5s,mb4.3,baz=313,slow=9.5,SNR=5.6						
MA2	**Magadan**	**84.19**	**345**	*e*P	**P**	**18 45 03.0**	**-0.8**
	2.6nm,0.7s,mb3.9						
ENH	**Enshi**	**85.51**	**305**	*e*P	**P**	**18 45 11.1**	**+0.9**
	12nm,0.9s,mb4.5						
PV01	**Paradox Valley**	**88.73**	**48**	*e*P	**P**	**18 45 32.8**	**+7.5**
COLA	**College**	**89.18**	**13**	*e*P	**P**	**18 45 26.5**	**-0.9**
	2.5nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**89.29**	**13**	P	**P**	**18 45 26.4**	**-1.6**
	0.7nm,0.5s,mb3.7,baz=216,slow=5.0,SNR=19						
PLCA	**Paso Flores**	**89.60**	**134**	P	**P**	**18 45 29.9**	**+0.6**
	6.5nm,1.2s,mb4.3,baz=214,slow=3.7,SNR=6.6						
PLCA	**Paso Flores**	**89.60**	**134**	*e*P	**P**	**18 45 30.1**	**+0.8**
	2.1nm,0.6s,mb4.1						
BILL	**Bilibino**	**89.66**	**355**	*e*P	**P**	**18 45 29.2**	**-0.4**
	3.3nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**90.29**	**44**	P	**P**	**18 45 33.2**	**+0.7**
	0.4nm,0.8s,mb3.3,baz=200,slow=2.9,SNR=5.5						
MKAR	**Makanchi Array**	**110.87**	**313**	PKiKP	PKiKP	18 50 58.3	-2.2
	0.2nm,0.4s,baz=176,slow=0.7,SNR=9.4						
BVAR	**Borovoye Array**	**118.90**	**320**	PKP	PKPdf	18 51 14.2	-1.7
	1.2nm,0.3s,baz=125,slow=2.4,SNR=15						
ARCES	**ARCESS Array B**	**129.43**	**349**	PKP	PKPdf	18 51 35.1	-0.9
	1.7nm,0.7s,baz=80,slow=1.5,SNR=9.2						
FINES	**FINESS Array B**	**136.15**	**343**	PKhKP		18 51 36.9	
	0.3nm,0.6s,baz=49,slow=5.8,SNR=5.1						
FINES				PKP	PKPdf	18 51 48.6	0.0
	0.4nm,0.4s,baz=98,slow=2.9,SNR=10						
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	PKPdf	18 51 58.2	-3.0
	9.7nm,0.5s,baz=43,slow=4.2,SNR=83						
MALT	**Malatya**	**143.45**	**306**	*e*PKPdf	PKPdf	18 52 01.5	-0.3
BR131	**Keskin Array S**	**146.47**	**311**	*e*PKPdf	PKPdf	18 52 09.2	+2.3
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc	PKPbc	18 52 09.2	-0.3
	2.2nm,0.6s,baz=132,slow=3.9,SNR=15						
KOLS	**Kolonicke sedl**	**147.47**	**333**	*e*PKP	PKPdf	18 52 12.6	+4.0
STHS	**Stebnicka Huta**	**147.51**	**335**	*e*PKP	PKPdf	18 52 12.5	+3.8
CRVS	**Cervenica-Dubn**	**147.83**	**334**	*e*PKP	PKPdf	18 52 12.8	+3.6
CLL	**Collm**	**148.50**	**345**	*i* PKPbc	PKPbc	18 52 14.5	-0.3
	comp=Z,9.0nm,1.1s						
CLL				*i* PKPab	PKPab	18 52 20.5	-0.1
	comp=Z,6.0nm,0.8s						
KECS	**Kecovo**	**148.56**	**335**	*e*PKP	PKPdf	18 52 11.5	+1.1
GERES	**GERESS Array B**	**150.58**	**342**	PKPbc	PKPbc	18 52 19.2	-0.4
	comp=Z,1.3nm,0.6s,baz=38,slow=2.4,SNR=8.5						
SNF	**Seneffe**	**150.66**	**355**	PKP	PKPdf	18 52 10.4	-3.3
DBIC	**Dimbokro**	**164.53**	**159**	PKPab	PKPab	18 53 29.1	-0.6
	comp=Z,1.5nm,0.6s,baz=171,slow=6.6,SNR=4.1						

ISCJB ***18*** *18:59:05.5±0.4, 922N±004×127.15E±004, h10km, mb4.3/26, Error ellipse: s-maj=5.7km s-min=5.4km az=69.1*
IDC ***18*** *18:59:06.1±0.8, 9.12N×12690E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, Error ellipse: s-maj=38.2km s-min=14.1km az=75.0*
MAN ***18*** *18:59:11.3, 9.17N×12680E, h13km, mb3.9, ML4.9, MS5.9*
NEIC ***18*** *18:59:12.6±4.6, 9.11N×12678E, h46km±45km, mb4.4/14, Error ellipse: s-maj=14.2km s-min=6.7km az=66.0*
ISC 18 18:59:07.8±0.4, **921N**±004×**12706E**±004, **h10**km, **n49,** σ1°**20**/56, **mb4.3**/26, **3C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.23**	**214**⇑	*e*P	**Pn**	**18 59 29.1**	**-2.1**
BIPH				*e*S	**Sb**	**18 59 42.9**	**-4.3**
BUTP	**Butuan**	**1.44**	**260**	*e*P	**Pn**	**18 59 32.0**	**-2.0**
SCPH	**Surigao**	**1.65**	**290**	*e*P	**Pn**	**18 59 36.3**	**-0.6**
SCPH				*e*S	**Sn**	**18 59 55.5**	**-2.7**
MSLP	**Maasin**	**2.36**	**293**	*e*P	**Pn**	**18 59 47.7**	**+1.2**
BUKP	**Musuan**	**2.38**	**236**	*e*P	**Pn**	**18 59 47.6**	**+0.7**
BUKP				*e*S	**Sn**	**19 00 17.6**	**+1.5**
CGP	**Cagayan de Oro**	**2.46**	**252**	⇓*e*P	**Pn**	**18 59 48.1**	**+0.1**
CGP				*e*S	**Sn**	**19 00 18.1**	**+0.1**
KCP	**Kidapawan**	**2.93**	**222**	⇓*e*P	**Pn**	**19 00 02.0**	**+7.5**
KCP				*i* S	**Sn**	**19 00 32.9**	**+3.1**
OCLP	**Ormoc**	**3.03**	**307**	*e*P	**Pn**	**18 59 57.6**	**+1.9**
TBP	**Tagbilaran**	**3.19**	**279**	*e*P	**Pn**	**18 59 58.0**	**0.0**
TBP				*e*S	**Sn**	**19 00 35.2**	**-1.0**
LLP	**Lapu-Lapu**	**3.24**	**290**	⇑*e*P	**Pn**	**18 59 59.9**	**+1.1**
LLP				*i* S	**Sn**	**19 00 42.2**	**+4.9**
DCPH	**Dipolog City**	**3.72**	**261**	⇑*e*P	**Pn**	**19 00 05.5**	**+0.2**
SNPH	**Sibulan**	**3.78**	**272**	*e*P	**Pn**	**19 00 08.5**	**+2.4**
PAGZ	**Pagadian**	**3.88**	**250**	*e*P	**Pn**	**19 00 09.0**	**+1.4**
GUIM	**Jordan**	**4.62**	**288**	*e*P	**Pn**	**19 00 18.5**	**+0.7**
RCP	**Roxas**	**4.84**	**299**	⇓*e*P	**Pn**	**19 00 22.5**	**+1.7**
PVCP	**Virac**	**5.21**	**327**	*e*P	**Pn**	**19 00 29.2**	**+3.5**
JNU	**Nakatsue**	**24.05**	**8**	P	**P**	**19 04 24.8**	**+1.6**
	12nm,0.9s,mb4.3,baz=107,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.18**	**183**	*e*P	**P**	**19 04 51.6**	**+0.2**
	7.5nm,0.8s,mb4.3						
PMG	**Port Moresby**	**27.25**	**132**	P	**P**	**19 04 54.3**	**+2.2**
	22nm,1.4s,mb4.5						
PSI	**Prapat**	**28.68**	**259**	P	**P**	**19 05 04.8**	**-0.1**
	3.2nm,0.5s,mb4.3,baz=99,slow=6.9,SNR=5.5						
WRAB	**Tennant Creek**	**29.84**	**166**	*e*P	**P**	**19 05 15.5**	**+0.4**
	5.0nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**29.84**	**166**	P	**P**	**19 05 14.7**	**-0.5**
	1.6nm,0.6s,mb3.9,baz=348,slow=9.3,SNR=19						
WB2	**Warramunga Arr**	**29.85**	**166**	*e*P	**P**	**19 05 16.1**	**+0.9**
MBWA	**Marble Bar**	**31.03**	**193**	*e*P	**P**	**19 05 25.3**	**-0.4**
BJT	**Baijiatuau**	**32.18**	**344**	P	**P**	**19 05 35.8**	**0.0**
	8.8nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**33.35**	**169**	P	**P**	**19 05 46.1**	**0.0**
	1.3nm,0.5s,mb4.1,baz=356,slow=7.5,SNR=30						
ASAR				PcP	PcP	19 08 28.8	+1.0
	0.4nm,0.6s,baz=349,slow=2.0,SNR=4.5						
ULN	**Ulaanbaatar**	**42.08**	**340**	*e*P	**P**	**19 07 00.9**	**+1.1**
	2.7nm,1.0s,mb3.8						
SONM	**Songino Array**	**42.28**	**339**	P	**P**	**19 07 02.4**	**+0.9**
	0.6nm,0.7s,mb3.4,baz=154,slow=9.3,SNR=6.9						
JIRN	**Jiri**	**42.64**	**301**	*e*P	**P**	**19 07 03.8**	**-0.6**
	13nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**42.94**	**192**	P	**P**	**19 07 05.2**	**-1.6**
	11nm,1.2s,mb4.5,baz=165,slow=13,SNR=2.4						
GUN	**Gumba**	**42.98**	**301**	*e*P	**P**	**19 07 06.3**	**-0.8**
	18nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**43.16**	**162**	*e*P	**P**	**19 07 07.6**	**-1.0**
	1.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**43.16**	**162**	P	**P**	**19 07 07.8**	**-0.8**
	2.1nm,0.7s,mb4.0,baz=5.1,slow=7.1,SNR=5.2						
STKA	**Stephens Creek**	**43.16**	**162**	*e*P	**P**	**19 07 07.0**	**-1.6**
KKN	**Kakani**	**43.45**	**301**	*e*P	**P**	**19 07 10.1**	**-0.8**
DMN	**Daman**	**43.54**	**301**	*e*P	**P**	**19 07 11.3**	**-0.4**
GKN	**Gorkha**	**44.05**	**301**	*e*P	**P**	**19 07 13.9**	**-1.9**
	2.4nm,0.4s,mb4.2						
KOLN	**Koldanda**	**44.87**	**300**	*e*P	**P**	**19 07 21.3**	**-1.0**
	10nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**53.34**	**323**	P	**P**	**19 08 26.4**	**-0.8**
	3.1nm,0.7s,mb4.3,baz=122,slow=8.4,SNR=45						
MKAR	**Makanchi Array**	**53.34**	**323**	P	**P**	**19 08 26.4**	**-0.8**
ZAL	**Zalesovo**	**55.92**	**331**	P	**P**	**19 08 44.9**	**-1.1**
	0.6nm,0.7s,mb3.7,baz=357,slow=8.4,SNR=5.0						
KURK	**Kurchatov**	**57.37**	**326**	*e*P	**P**	**19 08 55.9**	**-0.4**
	5.3nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**62.97**	**325**	P	**P**	**19 09 34.6**	**0.0**
	1.7nm,0.7s,mb4.3,baz=126,slow=9.8,SNR=13						
BRVK	**Borovoye**	**63.04**	**325**	*e*P	**P**	**19 09 34.8**	**-0.4**
	2.9nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**63.72**	**325**	*e*P	**P**	**19 09 38.8**	**-0.9**
	3.5nm,0.8s,mb4.4						
ZRNK				*e*		19 09 49.9	
ARU	**Arti**	**70.53**	**327**	*e*P	**P**	**19 10 21.7**	**-1.2**
	2.4nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**85.45**	**340**	P	**P**	**19 11 46.1**	**+0.4**
	0.9nm,0.6s,mb4.1,baz=76,slow=10,SNR=4.3						
FINES	**FINESS Array B**	**87.19**	**332**	P	**P**	**19 11 52.1**	**-2.1**
	1.0nm,0.8s,mb4.1,baz=299,slow=2.0,SNR=3.7						
RES	**Resolute Bay**	**92.39**	**10**	*e*P	**P**	**19 12 20.6**	**+1.9**
	2.8nm,1.0s,mb4.5						

NEIC ***18*** *19:21:53.3, 3459S×7037W, h5km, ML2.7(GUC), After GUC.*
GUC 18 19:21:53.3±0.9, **3459S**×**7037W, h5**km±2km, **MD3.5, ML2.7, 7C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.27**	**351**	⇓*iP*	Pg	19 21 59.3	+0.7
CICH				*i* S	Sg	19 22 03.6	+1.5
CACH	**El Canelo**	**0.51**	**338**	⇑*iP*	Pg	19 22 03.4	+0.4
CACH				*i* S	Sg	19 22 10.8	+1.1
SFDO	**San Fernando**	**0.53**	**267**	⇑*iP*	Pg	19 22 04.3	+0.7
SFDO				*i* S	Sg	19 22 12.1	+1.6
CHCH	**Chadas Angostu**	**0.69**	**340**	*e*P	Pg	19 22 06.8	+0.2
LMEL	**Las Melosas**	**0.75**	**11**	⇑*iP*	Pg	19 22 07.5	-0.2
LMEL				*i* S	Sg	19 22 18.2	+0.8
LMEL				AMP		19 22 20.2	
	comp=N,476nm,0.2s						
LMEL	**Las Melosas**	**0.75**	**11**	⇑*iP*	Pg	19 22 07.5	-0.2
LMEL				*i* S	Sg	19 22 18.2	+0.8
PCH	**Pirque**	**0.97**	**353**	⇓*iP*	Pg	19 22 11.6	-0.3
PCH				*i* S	Sg	19 22 25.4	+0.9
ANTU	**Antumapu**	**1.04**	**348**	⇓*iP*	Pg	19 22 12.9	-0.3
ANTU				*i* S	Sg	19 22 27.7	+1.0
ANTU				AMP		19 22 28.8	
	comp=E,288nm,0.2s						
ANTU	**Antumapu**	**1.04**	**348**	⇓*iP*	Pg	19 22 12.9	-0.3
ANTU				*i* S	Sg	19 22 27.7	+1.0
TACH	**Talagante**	**1.04**	**333**	⇓*iP*	Pg	19 22 13.1	-0.3
TACH				*i* S	Sg	19 22 27.7	+0.8
LNV	**Longovilo**	**1.07**	**306**	⇓*iP*	Pg	19 22 13.3	-0.5
LNV				*i* S	Sg	19 22 28.4	+0.7
RCDM	**Rinconada Maip**	**1.15**	**341**	⇓*iP*	Pg	19 22 14

DPC				*e*SG	**Sg**	**19 42 14.0**	**-0.5**
	34nm,0.9s						
PRU	**Pruhonice**	**1.81**	**215**	*e*PG	**Pg**	**19 42 12.0**	**-0.6**
PRU				*e*SG	**Sg**	**19 42 34.9**	**-1.2**
	20nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**19 42 11.8**	**0.0**
CLL	**Collm**	**1.98**	**266**	*e*Pg	**Pg**	**19 42 16.0**	**+0.2**
CLL				*i* Sg	**Sg**	**19 42 42.7**	**+1.2**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pg**	**19 42 16.1**	**-1.6**
OJC	**Ojcow**	**2.63**	**117**	*e*Pg	**Pg**	**19 42 28.3**	**0.0**
OJC				*e*Sg	**Sg**	**19 43 03.1**	**+0.6**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**19 42 22.9**	**+1.0**
NKC				*e*SG	**Sg**	**19 43 03.6**	**+0.3**
	18nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**19 42 24.9**	**0.0**
KHC				*e*PG	**Pg**	**19 42 31.4**	**-1.6**
KHC				*e*SN	**Sn**	**19 42 59.0**	**-1.2**
KHC				*e*SG	**Sg**	**19 43 08.1**	**-2.2**
MOX	**Moxa**	**2.98**	**255**	*e*PG	**Pg**	**19 42 35.6**	**+0.6**
MOX				*e*SG	**Sg**	**19 43 15.5**	**+1.8**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**19 42 35.9**	**-0.5**
BSD				*e*S	**Sn**	**19 43 19.1**	**-1.7**
MOA	**Molln**	**3.84**	**199**	⇓*i*Pn	**Pn**	**19 42 38.9**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**19 43 42.6**	**+1.4**
	5.7nm,0.5s						
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*PG	**Pg**	**19 42 53.7**	**+2.0**
STHS				*e*SG	**Sg**	**19 43 45.6**	**+3.9**

IGQ ***18*** *19:51:57.8, 206S×7724W, h173km±5km, Mb4.4, Ms4.2, Error ellipse: s-maj=7.2km s-min=2.6km az=34.6*
ISCJB ***18*** *19:51:59.2±0.5, 201S±005×7737W±007, h180km±4km, mb3.9/16, Error ellipse: s-maj=12.1km s-min=8.4km az=165.4*
IDC ***18*** *19:51:60.0±0.9, 192S×7720W, h172km±7km, mb3.5/10, mb1 3.6/13, mb1mx3.6/21, mbtmp4.0/13, MS3.8/1, Ms1 3.8/1, ms1mx2.9/13, Error ellipse: s-maj=22.0km s-min=12.4km az=60.0*
NEIC ***18*** *19:51:59.7±0.9, 198S×7734W, h168km±10km, mb4.3/13, Error ellipse: s-maj=16.3km s-min=8.2km az=73.0*

ISC 18 19:52:00.1±0.4, 201S±005×7734W±007, h173km±4km, h171km±1.1km: pP-P, n63, σ0°89/56, mb3.9/16, 3C-12D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.20**	**294**	P	**Pn**	**19 52 27.7**	**-1.0**
ULBA	**Ulba**	**1.20**	**297**	⇓P	**Pn**	**19 52 28.1**	**-0.6**
ULBA				S	**Sn**	**19 52 50.0**	**-0.6**
RETU	**Refugio**	**1.24**	**296**	P	**Pn**	**19 52 28.1**	**-0.8**
JUIV	**Juive**	**1.27**	**297**	⇓P	**Pn**	**19 52 28.7**	**-0.5**
CUSU	**Cusua**	**1.27**	**296**	⇑P	**Pn**	**19 52 29.1**	**-0.2**
IGUA	**Igualata**	**1.40**	**291**	⇑P	**Pn**	**19 52 30.7**	**+0.3**
IGUA				S	**Sn**	**19 52 54.6**	**+0.8**
PISA	**Pisayambo**	**1.41**	**312**	⇓P	**Pn**	**19 52 30.6**	**+0.1**
TAMB	**Tambo**	**1.66**	**322**	P	**Pn**	**19 52 33.2**	**+0.2**
VC1	**Cotopaxi 1**	**1.72**	**322**	P	**Pn**	**19 52 34.3**	**+0.7**
ANTI	**Antisana**	**1.75**	**332**	⇓P	**Pn**	**19 52 34.4**	**+0.5**
CAMI	**Rancho Maria**	**1.76**	**318**	P	**Pn**	**19 52 34.5**	**+0.5**
LAV3	**Lava3-Reventad**	**1.92**	**351**	⇓P	**Pn**	**19 52 35.3**	**-0.4**
CONE	**Cono NE Rev Vo**	**1.95**	**351**	⇓P	**Pn**	**19 52 35.9**	**-0.1**
CONE				S	**Sn**	**19 53 01.0**	**-2.7**
QIL1	**Quilotoa**	**1.97**	**306**	P	**Pn**	**19 52 36.8**	**+0.6**
CAYR	**Refugio Cayamb**	**2.12**	**342**	⇓P	**Pn**	**19 52 38.8**	**+0.9**
ANGU	**Angureal**	**2.15**	**342**	⇓P	**Pn**	**19 52 39.1**	**+0.9**
JUA2	**San Juan 2**	**2.19**	**325**	⇓P	**Pn**	**19 52 38.9**	**+0.3**
GGP	**Refugio Guagua**	**2.21**	**325**	P	**Pn**	**19 52 39.1**	**+0.2**
TERV	**Terraza Guagua**	**2.22**	**325**	⇓P	**Pn**	**19 52 39.5**	**+0.5**
PINO	**Pino**	**2.23**	**325**	⇓P	**Pn**	**19 52 39.7**	**+0.5**
YANA	**Yana**	**2.24**	**327**	⇓P	**Pn**	**19 52 39.7**	**+0.4**
OTAV	**Otavalo**	**2.49**	**333**	*e*Pn	**Pn**	**19 52 42.0**	**-0.2**
COTA	**Cotacachi**	**2.53**	**337**	⇑P	**Pn**	**19 52 43.3**	**+0.6**
SALI	**Salinas**	**3.66**	**267**	P	**Pn**	**19 52 55.3**	**-1.2**
ROSC	**El Rosal**	**7.45**	**24**	P	**Pn**	**19 53 46.4**	**+0.4**
	0.5nm,0.3s,baz=250,slow=21,SNR=4.4						
NNA	**Nana**	**9.93**	**177**	*e*Pn	**Pn**	**19 54 17.6**	**-1.0**
	17nm,0.3s						
SDV	**Santo Domingo**	**12.72**	**32**	P	**Pn**	**19 54 53.7**	**-1.1**
	0.4nm,0.3s,baz=250,slow=13,SNR=7.0						
SDV	**Santo Domingo**	**12.72**	**32**	*e*Pn	**Pn**	**19 54 54.2**	**-0.5**
	9.6nm,0.9s						
JTS	**JuntasAbangare**	**14.38**	**328**	Pn	**Pn**	**19 55 15.6**	**-0.1**
	26nm,1.2s						
LPAZ	**La Paz**	**16.84**	**148**	P	**Pn**	**19 55 47.8**	**+2.0**
	0.5nm,0.3s,baz=337,slow=16,SNR=11						
LPAZ				S	**S**	**19 58 51.5**	**-0.3**
	0.1nm,0.3s,baz=191,slow=12,SNR=2.7						
LPAZ	**La Paz**	**16.84**	**148**	*e*P	**Pn**	**19 55 48.1**	**+2.4**
	2.3nm,0.6s						
SIV	**San Ignacio**	**21.21**	**132**	P	**P**	**19 56 32.0**	**-0.2**
	1.9nm,0.5s,mb3.6,baz=317,slow=13,SNR=12						
SJG	**San Juan**	**22.82**	**28**	P	**P**	**19 56 47.7**	**-0.4**
	3.0nm,0.3s,mb4.2,baz=313,slow=15,SNR=4.4						
SJG	**San Juan**	**22.82**	**28**	*e*P	**P**	**19 56 47.9**	**-0.2**
	14nm,0.7s,mb4.5						
TEIG	**Tepich**	**24.56**	**335**	P	**P**	**19 57 05.3**	**+1.4**
	2.9nm,1.2s,mb3.7						
PLCA	**Paso Flores**	**39.04**	**172**	P	**P**	**19 59 10.8**	**+0.9**
	2.4nm,0.8s,mb3.9,baz=355,slow=12,SNR=7.2						
PLCA	**Paso Flores**	**39.04**	**172**	*e*P	**P**	**19 59 10.7**	**+0.8**
	2.3nm,0.8s,mb3.9						
RPN	**Rapa Nui**	**39.54**	**228**	LR	LR	20 12 43.2	
	comp=Z,145nm,20.1s,baz=243,slow=31						
WMOK	**Wichita Mounta**	**41.72**	**333**	*e*P	**P**	**19 59 32.4**	**+0.4**
	3.7nm,0.9s,mb4.0						
KSU1	**Kansas State U**	**44.58**	**339**	P	**P**	**19 59 52.8**	**-2.0**
SDCO	**Great Sand Dun**	**47.37**	**329**	P	**P**	**20 00 16.9**	**+0.2**
	7.8nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**53.19**	**331**	P	**P**	**20 01 00.7**	**+0.3**
	0.4nm,0.7s,mb3.3,baz=111,slow=8.1,SNR=4.8						
ULM	**Lac du Bonnet**	**54.43**	**345**	P	**P**	**20 01 07.8**	**-1.6**
	1.6nm,0.5s,mb4.0,baz=159,slow=6.4,SNR=5.4						
NVAR	**Mina Array Bea**	**55.17**	**321**	P	**P**	**20 01 16.4**	**+1.8**
	0.4nm,0.5s,mb3.4,baz=128,slow=8.9,SNR=5.7						
NVAR				pP	pP	20 01 55.6	+1.6
	1.4nm,1.1s,baz=126,slow=5.9,SNR=3.1						
NVAR				PcP	PcP	20 02 14.3	+0.7
	0.6nm,0.8s,baz=131,slow=5.5,SNR=3.9						
NVAR	**Mina Array Bea**	**55.17**	**321**	P	**P**	**20 01 16.4**	**+1.8**
NVAR				pP	pP	20 01 55.6	+1.6
NVAR				PcP	PcP	20 02 14.3	+0.7
YKA	**Yellowknife Ar**	**70.22**	**343**	P	**P**	**20 02 53.0**	**-1.1**
	0.2nm,0.7s,mb3.0,baz=141,slow=5.5,SNR=6.4						
YKA				pP	pP	20 03 34.1	-1.3
	0.2nm,0.7s,baz=134,slow=5.5,SNR=2.8						
DBIC	**Dimbokro**	**72.85**	**82**	P	**P**	**20 03 10.3**	**+0.3**
	2.1nm,0.7s,mb4.0,baz=266,slow=7.8,SNR=5.7						
DBIC	**Dimbokro**	**72.85**	**82**	P	**P**	**20 03 10.6**	**+0.7**
	2.8nm,0.7s,mb4.1						
TORD	**Torodi Ar. Bea**	**79.78**	**76**	P	**P**	**20 03 48.3**	**-0.6**
	0.5nm,0.4s,mb3.5,baz=281,slow=5.9,SNR=22						
INK	**Inuvik**	**79.95**	**342**	*e*P	**P**	**20 03 49.9**	**+0.1**
	7.1nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**83.21**	**336**	P	**P**	**20 04 06.5**	**-0.4**
	1.3nm,0.9s,mb3.7,baz=121,slow=3.7,SNR=15						
ILAR				pP	pP	20 04 48.0	-1.4
	0.7nm,0.8s,baz=124,slow=3.7,SNR=5.2						
QSPA	**South Pole Qui**	**88.06**	**180**	*e*P	**P**	**20 04 32.5**	**+1.7**
	15nm,0.9s,mb4.8						
VNDA	**Vanda**	**94.44**	**191**	*e*P	**P**	**20 04 58.5**	**-1.9**
	7.8nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**131.99**	**19**	PKP	PKPdf	20 10 53.1	+0.2
	0.9nm,1.0s,baz=347,slow=2.4,SNR=4.7						
ASAR	**Alice Springs**	**140.32**	**228**	PKhKP		20 11 02.8	
	0.8nm,0.8s,baz=121,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**142.03**	**233**	PKhKP		20 11 08.0	
	1.4nm,0.9s,baz=124,slow=2.6,SNR=16						
KOLN	**Koldanda**	**148.55**	**34**	*e*P	PKPbc	20 11 27.4	+1.0
GKN	**Gorkha**	**148.93**	**32**	*e*P	PKPbc	20 11 28.1	+0.7
	10nm,0.9s						
KKN	**Kakani**	**149.44**	**31**	*e*P	PKPbc	20 11 29.3	+0.7
	8.5nm,0.6s						
DMN	**Daman**	**149.50**	**32**	*e*P	PKPbc	20 11 30.5	+1.7
GUN	**Gumba**	**149.65**	**30**	*e*P	PKPbc	20 11 30.2	+1.1
	29nm,1.3s						
PKI	**Pulchoki**	**149.68**	**31**	*e*P	PKPbc	20 11 30.7	+1.5
JIRN	**Jiri**	**150.01**	**30**	*e*P	PKPbc	20 11 31.5	+1.5
	2.9nm,0.6s						

KRSC ***18*** *20:00:13.7±0.6, 5139N×15991E, h40km±40km, ML4.0*
ISCJB ***18*** *20:00:14.8±0.9, 5144N±006×15989E±008, h45km±9km, mb3.8/7, Error ellipse: s-maj=10.2km s-min=7.4km az=132.6*
MOS ***18*** *20:00:15.7±0.9, 5156N×15984E, h49km, mb4.1/5, Error ellipse: s-maj=26.2km s-min=10.0km az=92.2*
IDC ***18*** *20:00:18.0±1.6, 5221N×15789E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/20, mbtmp3.7/6, Error ellipse: s-maj=44.1km s-min=31.5km az=150.0*

ISC 18 20:00:16.3±0.9, 5147N±006×15984E±007, h44km±9km, n46, σ0°99/55, mb3.7/6, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.27**	**320**	*i* P	**Pn**	**20 00 36.3**	**-1.3**
RUS				*e*S	**Sn**	**20 00 52.6**	**-0.8**
GRL	**Gorelyy**	**1.54**	**316**	*e*P	**Pn**	**20 00 41.1**	**-0.2**
GRL				*e*S	**Sn**	**20 01 01.1**	**+1.0**
SPN	**Mys Shipunski**	**1.64**	**4**	P	**Pn**	**20 00 42.9**	**+0.3**
SPN				S	**Sn**	**20 01 03.6**	**+1.1**
SPN	**Mys Shipunski**	**1.64**	**4**	*e*P	**Pn**	**20 00 42.9**	**+0.3**
PET	**Petropavlovsk**	**1.72**	**335**	P	**Pn**	**20 00 42.9**	**-0.9**
PET				S	**Sn**	**20 01 04.3**	**-0.2**
PET	**Petropavlovsk**	**1.72**	**335**	*e*P	**Pn**	**20 00 42.9**	**-0.9**
PET				*e*S	**Sn**	**20 01 05.1**	**+0.6**
KRMR	**Karymshinskiy**	**1.72**	**323**	*i* P	**Pn**	**20 00 43.1**	**-0.7**
KRMR				*i* S	**Sn**	**20 01 04.3**	**-0.3**
NLC	**Nalytchevo**	**1.73**	**350**	P	**Pn**	**20 00 43.3**	**-0.6**
NLC				S	**Sn**	**20 01 05.3**	**+0.5**
NLC	**Nalytchevo**	**1.73**	**350**	*e*P	**Pn**	**20 00 43.3**	**-0.6**
UGLR	**Uglovaya**	**1.85**	**341**	*e*P	**Pn**	**20 00 45.6**	**0.0**
PAU	**Pauzhetka**	**1.89**	**271**	*e*P	**Pn**	**20 00 44.9**	**-1.2**
PAU				Smax			
	400nm,0.9s						
SMAR	**Somma**	**1.91**	**341**	*e*P	**Pn**	**20 00 46.8**	**+0.5**
AVH	**Avacha**	**1.92**	**340**	*e*P	**Pn**	**20 00 46.9**	**+0.4**
KOK	**Koryaka**	**1.97**	**339**	*e*P	**Pn**	**20 00 48.0**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.07**	**294**	*i* P	**Pn**	**20 00 48.5**	**-0.1**
MIPR				*e*S	**Sn**	**20 01 14.0**	**+0.8**
APC	**Apacha**	**2.20**	**313**	*i* P	**Pn**	**20 00 50.9**	**+0.5**
APC				Smax			
	100nm,0.7s						
GNL	**Ganaly**	**2.51**	**333**	*e*P	**Pn**	**20 00 54.8**	**+0.2**
KII	**Karymskiy**	**2.58**	**355**	*e*P	**Pn**	**20 00 54.8**	**-0.8**
ALID	**Alaid**	**2.77**	**259**	*i* P	**Pn**	**20 00 57.5**	**-0.6**
MKZ	**Mys Kozlova**	**3.30**	**20**	P	**Pn**	**20 01 04.2**	**-1.2**
MKZ				S	**Sn**	**20 01 40.5**	**-2.9**
MKZ	**Mys Kozlova**	**3.30**	**20**	*e*P	**Pn**	**20 01 04.7**	**-0.7**
TUMR	**Tumrok**	**3.83**	**3**	*e*P	**Pn**	**20 01 13.8**	**+1.1**
KPT	**Kopyto**	**4.51**	**3**	*e*P	**Pn**	**20 01 23.9**	**+1.8**
ESO	**Esso**	**4.52**	**352**	*e*P	**Pn**	**20 01 23.2**	**+1.0**
ZLN	**Zelenaya**	**4.59**	**7**	*e*P	**Pn**	**20 01 22.1**	**-1.1**
CIRR	**Tsirk**	**4.69**	**6**	*e*P	**Pn**	**20 01 24.2**	**-0.3**
KBTR	**Krutoberegovo**	**5.07**	**19**	P	**Pn**	**20 01 30.1**	**+0.4**
KBTR	**Krutoberegovo**	**5.07**	**19**	*e*P	**Pn**	**20 01 30.4**	**+0.7**
BKI	**Bering**	**5.24**	**42**	*e*S	**Sn**	**20 02 24.4**	**-6.9**
FX1	**Attu Island--F**	**8.31**	**75**	Pn	**Pn**	**20 02 15.9**	**+1.7**
	4.1nm,0.3s,baz=212,slow=2.3,SNR=22						
FX1				Sn	**Sn**	**20 03 42.7**	**-4.1**
	6.0nm,0.3s,baz=131,slow=21,SNR=11						
FX1	**Attu Island--F**	**8.31**	**75**	PN	**Pn**	**20 02 15.9**	**+1.6**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YAK	**Yakutsk**	**19.43**	**315**	⇑*e*P	**Pn**	**20 04 36.4**	**-4.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLNS	**Chul'man**	**21.00**	**299**	*e*P	**P**	**20 04 47.9**	**-8.0**
CLNS				*e*		20 05 18.8	
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.4s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**21.44**	**234**	P	**P**	**20 05 01.9**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.1,baz=30,slow=10,SNR=5.3						
MJAR	**Matsushiro Arr**	**21.44**	**234**	P	**P**	**20 05 01.9**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**24.51**	**337**	⇑*e*P	**P**	**20 05 30.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
ULN	**Ulaanbaatar**	**33.74**	**285**	*i* P	**P**	**20 06 47.6**	**-6.0**
PDAR	**Pinedale Array**	**58.47**	**60**	P	pP	20 10 20.4	+0.1
	comp=Z,0.3nm,0.9s,baz=319,slow=4.8,SNR=2.6						
FINES	**FINESS Array B**	**61.55**	**337**	P	**P**	**20 10 28.1**	**-0.8**
	comp=Z,0.3nm,0.4s,mpd3.8,baz=42,slow=8.8,SNR=7.0						
NB2	**NORSAR Subarra**	**65.06**	**344**	P	**P**	**20 10 52.0**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**65.06**	**344**	P	**P**	**20 10 52.4**	**+0.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=21,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**65.06**	**344**	P	**P**	**20 10 52.4**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**69.93**	**329**	P	**P**	**20 11 22.0**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=31,slow=5.8,SNR=6.6						
AKASG	**Malin Array Be**	**69.93**	**329**	P	**P**	**20 11 22.0**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**77.78**	**320**	P	**P**	**20 12 10.8**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=15,slow=6.3,SNR=3.4						
BRTR	**Keskin Array B**	**77.78**	**320**	P	**P**	**20 12 10.8**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 18 20:08:05.4±5.1, 1842S×17229W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/16, mbtmp3.9/4, Error ellipse: s-maj=220.6km s-min=35.7km az=138.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.54**	**243**	P	P	20 16 10.8	0.0
	0.8nm,0.6s,baz=69,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**50.26**	**254**	P	P	20 17 04.2	+0.9
	4.1nm,0.8s,baz=93,slow=8.2,SNR=64						
WRA	**Warramunga Arr**	**50.26**	**259**	P	P	20 17 03.5	+0.1
	1.4nm,0.7s,baz=97,slow=8.5,SNR=26						
ILAR	**Eielson Array**	**85.19**	**11**	P	P	20 20 43.1	-0.5
	0.2nm,0.7s,baz=223,slow=6.2,SNR=5.5						

WEL 18 20:11:49.6±0.2, 3798S×17615E, h161km±2km, ML3.5/11, 1C, Error ellipse: s-maj=2.7km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**110**	PN	Pn	20 12 14.1	+0.1
URZ				SN	Sn	20 12 32.7	+0.1
MWZ	**Matawai**	**1.15**	**108**	PN	Pn	20 12 16.8	+0.2
MWZ				SN	Sn	20 12 37.7	+0.4
BKZ	**Black Stump Fm**	**1.22**	**167**	⇑PN	Pn	20 12 17.6	+0.4
BKZ				SN	Sn	20 12 38.3	-0.2
KNZ	**Kokohu**	**1.59**	**131**	PN	Pn	20 12 20.9	0.0
KNZ				SN	Sn	20 12 44.3	-0.6
PUZ	**Puketiti**	**1.67**	**94**	PN	Pn	20 12 21.4	-0.4
PUZ				SN	Sn	20 12 46.1	-0.3
TSZ	**Takapari Road**	**2.08**	**184**	PN	Pn	20 12 25.8	-0.4
TSZ				SN	Sn	20 12 53.2	-1.3
BFZ	**Birch Farm**	**2.70**	**178**	PN	Pn	20 12 32.4	-1.2
KIW	**Kapiti Island**	**3.03**	**198**	PN	Pn	20 12 35.8	-2.0
MTW	**Mount Morrison**	**3.21**	**189**	PN	Pn	20 12 37.6	-2.4
CAW	**Cannon Point**	**3.23**	**195**	PN	Pn	20 12 38.1	-2.2
MSWZ	**Moikau Station**	**3.50**	**191**	PN	Pn	20 12 40.9	-2.8
TCW	**Tory Channel**	**3.54**	**204**	PN	Pn	20 12 41.6	-2.6
TCW				SN	Sn	20 13 22.0	-4.5
TUWZ	**Tuamarina**	**3.84**	**206**	PN	Pn	20 12 45.0	-3.0
NNZ	**Nelson**	**3.88**	**213**	PN	Pn	20 12 45.5	-3.0
QRZ	**Quartz Range**	**3.99**	**223**	PN	Pn	20 12 46.6	-3.4
THZ	**Tophouse**	**4.53**	**212**	PN	Pn	20 12 53.8	-3.2
LTZ	**Lake Taylor**	**5.63**	**210**	PN	Pn	20 13 07.3	-4.2

ISCJB ***18*** *20:18:38.2±0.8, 3777N±003×2661E±004, h6km±5km, Error ellipse: s-maj=5.8km s-min=4.6km az=170.4*
CSEM ***18*** *20:18:38.1±0.2, 3782N×2663E, h15km, MD2.8, Error ellipse: s-maj=5.5km s-min=4.1km az=105.0*
NEIC ***18*** *20:18:38.8, 3771N×2669E, h20km, MD3.1(ATH), After ATH.*
ISK ***18*** *20:18:38.8, 3787N×2661E, h39km, MD2.8*
ATH ***18*** *20:18:38.8, 3771N×2669E, h20km±1km, MD3.1/3*

ISC 18 20:18:38.6±0.7, 3778N±003×2659E±005, h8km±6km, n18, σ1°17/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.21**	**110**	*e*PB	**Pg**	**20 18 43.2**	**+0.3**
SMG				*e*SB	**Sg**	**20 18 46.0**	**+0.2**
URLA	**Izmir**	**0.58**	**1**	*i* P	**Pg**	**20 18 50.0**	**+0.2**
URLA				*i* S	**Sg**	**20 18 58.3**	**+0.9**
BLCB	**Balcova**	**0.70**	**31**	PG	**Pg**	**20 18 52.0**	**-0.2**
IZM	**Izmir**	**0.82**	**41**	PG	**Pg**	**20 18 53.4**	**-0.9**
IZM				SG	**Sg**	**20 19 03.5**	**-1.4**
KDAG	**Bornova**	**0.82**	**41**	*i* P	**Pg**	**20 18 53.9**	**-0.6**
KDAG				*i* S	**Sg**	**20 19 05.2**	**+0.1**
BODT	**Bodrum**	**0.92**	**141**	PG	**Pg**	**20 18 57.1**	**+0.8**
BODT				SG	**Sg**	**20 19 09.4**	**+1.1**
BDRM	**Kayabasi**	**0.99**	**136**	*i* P	**Pg**	**20 18 58.3**	**+0.7**
BDRM				*i* S	**Sg**	**20 19 11.5**	**+1.1**
AYDN	**Tasoluk**	**1.03**	**96**	*i* P	**Pg**	**20 18 57.4**	**-1.1**
AYDN				*i* S	**Sg**	**20 19 10.3**	**-1.6**
AYDN	**Tasoluk**	**1.03**	**96**	*i* P	**Pg**	**20 18 57.3**	**-1.2**
AYDN				*i* S	**Sg**	**20 19 10.3**	**-1.6**
MLSB	**Milas**	**1.06**	**117**	PN	**Pn**	**20 18 58.0**	**-1.8**
APE	**Apeiranthos**	**1.10**	**230**	PN	**Pn**	**20 18 58.7**	**-1.6**
APE				SN	**Sn**	**20 19 14.7**	**-0.9**
APE	**Apeiranthos**	**1.10**	**230**	*e*Pn	**Pn**	**20 19 00.2**	**-0.1**
APE				*e*Sn	**Sn**	**20 19 14.7**	**-0.9**
PRK	**Paraskevi**	**1.48**	**351**	*e*PN	**Pn**	**20 19 07.8**	**+2.2**
PRK				*e*SN	**Sn**	**20 19 28.5**	**+3.4**
SANT	**Santorini**	**1.67**	**213**	*e*Pn	**Pn**	**20 19 06.9**	**-1.2**
SANT	**Santorini**	**1.67**	**213**	*e*Pn	**Pn**	**20 19 06.9**	**-1.2**
MANT	**Manisa**	**1.71**	**65**	*i* P	**Pn**	**20 19 10.9**	**+2.2**
MANT				*i* S	**Sn**	**20 19 30.8**	**+0.2**
MANT	**Manisa**	**1.71**	**65**	*i* S	**Sn**	**20 19 30.8**	**+0.1**
DNZL	**Cakiroluk**	**1.95**	**92**	*i* P	**Pn**	**20 19 15.3**	**+3.3**

CASC 18 20:20:43.4±2.4, 1314N×8714W, h0km±9km, MD3.7, ML2.8, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.44**	**169**	*e*P	Pg	20 20 52.7	+0.8
CRIN				*e*S	Sg	20 21 01.4	+3.7
TELN	**Telica**	**0.61**	**150**	*e*P	Pg	20 20 55.1	+0.1
TEL3	**Telica 3**	**0.63**	**153**	*e*P	Pg	20 20 55.8	+0.3
TEL3				*e*S	Sg	20 21 07.7	+4.0
CNCH	**Conchagua**	**0.69**	**282**	*e*P	Pg	20 20 57.1	+0.4
LEON	**Leon**	**0.76**	**161**	⇑*e*P	Pg	20 20 57.5	-0.4
LEON				*e*S	Sg	20 21 08.9	+1.2
LEON				*i*		20 21 13.2	
	comp=Z,340nm,0.6s						
MIRN	**Miramar**	**0.81**	**149**	*e*P	Pg	20 20 58.7	-0.2
MIRN				*e*S	Sg	20 21 14.0	+4.6
MOMJ	**Momotombo**	**0.93**	**141**	*e*P	Pg	20 21 01.5	+0.2
COPN	**Copaltepe**	**1.09**	**151**	*e*S	Sg	20 21 21.7	+3.3
BLLM	**Bellamira**	**1.11**	**286**	*e*P	Pg	20 21 04.8	+0.1
VSM	**San Miguel**	**1.14**	**285**	*e*P	Pg	20 21 05.6	+0.3
APYN	**Apoyeque**	**1.18**	**139**	*e*P	Pg	20 21 04.5	-1.5
APYN				*e*S	Sg	20 21 24.7	+3.3
CAHU	**Cacacuatique**	**1.22**	**301**	*e*P	Pg	20 21 07.4	+0.7
TICN	**Ticuantepe**	**1.41**	**141**	*e*P	Pn	20 21 09.0	-1.3
SNVI	**San Vicente**	**1.72**	**286**	*e*P	Pn	20 21 15.2	+0.6
LCBS	**La Ceiba**	**1.86**	**286**	*e*P	Pn	20 21 17.1	+0.6
LFRS	**El Faro**	**1.93**	**285**	*e*P	Pn	20 21 18.2	+0.7

ISCJB ***18*** *20:24:16.1±1.6, 38S±02×1506E±04, h33km, mb3.6/4, Error ellipse: s-maj=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.50	172	eP	Pg	20 46 25.7	-0.3
CRIN				eS	Sg	20 46 36.5	+4.0
TEL3	Telica 3	0.68	156	eP	Pg	20 46 28.8	-0.7
TEL3				eS	Sg	20 46 41.6	+3.4
CNCH	Conchagua	0.70	277	eP	Pg	20 46 30.5	+0.6
CNGN	Cerro Negro	0.81	149	eP	Pg	20 46 31.6	-0.3
CNGN				eS	Sg	20 46 47.2	+4.9
LEON	Leon	0.81	164	eP	Pg	20 46 33.5	+1.5
LEON				eS	Sg	20 46 44.0	+1.7
MIRN	Miramar	0.85	152	eP	Pg	20 46 32.2	-0.6
MIRN				eS	Sg	20 46 47.0	+3.2
MOMJ	Momotombo	0.97	144	eP	Pg	20 46 34.5	-0.5
BLLM	Bellamira	1.11	283	eP	Pg	20 46 38.0	+0.2
VSM	San Miguel	1.14	282	eP	Pg	20 46 38.5	+0.1
APYN	Apoyeque	1.22	142	eP	Pg	20 46 39.4	-0.4
APYN				eS	Sg	20 46 58.8	+3.2
MGAN	Managua	1.35	140	i	Pg	20 47 05.2	+23
	comp=N,250nm,0.4s						
SNVI	San Vicente	1.72	284	eP	Pn	20 46 48.5	+0.9
LCBS	La Ceiba	1.86	284	eP	Pn	20 46 50.5	+0.9
LFRS	El Faro	1.93	283	eP	Pn	20 46 51.5	+0.9

*CASC **18** 20:51:25.4±2.8, 1329N×8740W, h0km±4km, MD4.4, ML4.0, mb4.2(NEIC)*
*ISCJB **18** 20:51:29.2±0.5, 1291N±008×8768W±007, h33km, mb4.1/13, MS3.8/2, Error ellipse: s-maj=15.3km s-min=3.5km az=78.4*
*NEIC **18** 20:51:34.6±1.5, 1336N×8738W, h35km, mb4.2/7, Error ellipse: s-maj=61.5km s-min=11.9km az=37.0*
*IDC **18** 20:51:43.9±6.5, 1360N×8690W, h148km±69km, mb3.5/6, mb1 3.8/8, mb1mx3.5/19, mbtmp4.0/8, MS3.7/3, Ms1 3.7/3, ms1mx3.3/16, Error ellipse: s-maj=77.3km s-min=28.6km az=37.0*

ISC 18 20:51:30.9±0.5, 1292N±010×8761W±009, h35km, n53, σ1°65/54, mb4.1/13, MS3.8/2, 7C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.42	329	⇑iP	Px	20 51 45.7	
CNCH				eS	Sx	20 51 54.1	
CRIN	San Cristobal	0.59	112	⇑eP	Pn	20 51 39.6	-3.1
CRIN				eS	Sn	20 51 50.2	-0.8
BLLM	Bellamira	0.80	311	eP	Px	20 51 53.0	
BLLM				eS	Sx	20 52 06.7	
TELN	Telica	0.82	112	eS	Sn	20 51 57.8	+1.0
TEL3	Telica 3	0.82	115	⇑eP	Pn	20 51 43.0	-3.0
TEL3				eS	Sn	20 51 56.7	-0.1
LEON	Leon	0.86	125	⇑eP	Pn	20 51 44.0	-2.5
LEON				eS	Sn	20 51 58.6	+0.8
CNGN	Cerro Negro	0.98	115	⇑eP	Pn	20 51 45.6	-2.5
MIRN	Miramar	1.00	118	⇓eP	Pn	20 51 46.1	-2.2
MIRN				eS	Sn	20 52 01.5	+0.3
CAHU	Cacacuatique	1.03	326	eP	Px	20 51 56.3	
CAHU				eS	Sx	20 52 10.1	
MOMJ	Momotombo	1.16	116	⇓eP	Pn	20 51 48.4	-2.2
MOMJ				eS	Sn	20 52 05.1	-0.1
COPN	Copaltepe	1.24	126	⇓eP	Pn	20 51 50.2	-1.4
COPN				eS	Sn	20 52 08.8	+1.7
APYN	Apoyeque	1.41	119	⇑eP	Pn	20 51 53.1	-0.9
APYN				eS	Sn	20 52 15.2	+3.9
XAVN	Gruta Xavier	1.47	121	⇑eP	Pn	20 51 53.0	-1.8
XAVN				eS	Sn	20 52 16.7	+3.9
MGAN	Managua	1.54	120	eP	Pn	20 51 53.6	-2.1
MGAN				eS	Sn	20 52 15.6	+1.1
MGAN				i		20 52 20.4	
	comp=N,2μm,0.5s						
WILN	Americas 2	1.58	118	⇓eP	Pn	20 51 55.5	-0.9
WILN				eS	Sn	20 52 18.3	+2.7
TICN	Ticuantepe	1.61	123	eP	Pn	20 51 57.9	+1.2
TICN				eS	Sn	20 52 22.5	+6.2
LBRS	Las Brisas	1.61	300	⇓eP	Px	20 52 06.6	
LBRS				eS	Sx	20 52 29.8	
LFU	La Fuente	1.68	300	eP	Px	20 52 08.7	
LFU				eS	Sx	20 52 33.5	
MASN	Masaya	1.70	123	eP	Pn	20 51 57.6	-0.4
MASN				eS	Sn	20 52 22.5	+4.0
APON	Apoyo	1.81	123	eP	Pn	20 51 57.2	-2.3
APON				eS	Sn	20 52 26.7	+5.5
BOQS	Boqueron	1.82	297	eP	Px	20 52 10.9	
BOQS				eS	Sx	20 52 36.3	
SBLS	San Blas	2.16	295	⇓eP	Px	20 52 16.9	
SBLS				eS	Sx	20 52 47.7	
RTR	El Retiro	2.21	296	eP	Px	20 52 16.2	
RTR				eS	Sx	20 52 45.4	
MTO2	Montecristo 2	2.25	311	⇓eP	Px	20 52 17.1	
MTO2				eS	Sx	20 52 46.5	
VCR	Vista de Mar	3.39	145	eP	Pn	20 52 22.1	+0.9
JTS	JuntasAbangare	3.69	135	ePn	Pn	20 52 26.2	+0.9
JTS				eSn	Sn	20 53 11.7	+4.1
PRS1	Puriscal	4.36	132	eP	Pn	20 52 35.2	+0.7
LAJ	Bijagual	4.57	131	eP	Pn	20 52 35.5	-2.0
URSC	Ursasca	4.85	129	eP	Pn	20 52 41.7	+0.4
BUS	Buena Vista	5.04	131	eP	Pn	20 52 44.5	+0.5
TEIG	Tepich	7.29	355	ePn	Pn	20 53 17.9	+3.0
	comp=N,6.1nm,0.9s						
ROSC	El Rosal	15.37	120	P	Pn	20 55 10.7	+5.8
	comp=N,0.6nm,0.3s,baz=256,slow=23,SNR=2.8						
ROSC				LR	LR	21 01 26.6	
	comp=N,126nm,18.8s,baz=185,slow=38						
SDV	Santo Domingo	17.14	102	P	Pn	20 55 28.7	+1.0
	comp=N,0.1nm,0.3s,baz=323,slow=7.4,SNR=3.7						
SDV	Santo Domingo	17.14	102	eP	Pn	20 55 29.1	+1.5
	comp=N,14nm,1.0s						
SJG	San Juan	21.31	73	LR	LR	21 04 43.6	
	comp=N,389nm,19.1s,MS3.8,baz=275,slow=38						
MIAR	Mount Ida	22.20	347	eP	P	20 56 25.0	+1.0
	comp=N,16nm,1.2s,mb4.3						
MIAR				epP		20 56 33.3	
WMOK	Wichita Mounta	23.97	337	eP	P	20 56 39.7	-2.2
	comp=N,8.9nm,1.0s,mb4.2						
MNTX	Cornudas Mount	24.82	322	eP	P	20 56 51.3	+1.6
	comp=N,12nm,1.3s,mb4.3						
ANMO	Albuquerque	27.79	325	P	P	20 57 18.8	+2.3
	comp=N,2.9nm,0.8s,mb4.0,baz=147,slow=7.3,SNR=6.3						
PDAR	Pinedale Array	35.29	332	P	P	20 58 21.8	-0.5
	comp=N,0.4nm,0.7s,mb3.5,baz=141,slow=8.8,SNR=5.3						
REDW	Red Top Meadow	36.35	331	eP	P	20 58 32.5	+1.1
	comp=N,10nm,1.1s,mb4.7						
ELK	Elko	36.80	324	eP	P	20 58 38.5	+3.2
	comp=N,4.7nm,1.6s,mb4.1						
NVAR	Mina Array Bea	37.25	319	P	P	20 58 41.2	+2.2
	comp=N,1.8nm,0.9s,mb3.9,baz=134,slow=6.4,SNR=11						
NVAR	Mina Array Bea	37.25	319	P	P	20 58 41.2	+2.2
MCMT	McKenzie Canyo	38.40	331	eP	P	20 58 52.9	+4.0
WVOR	Wild Horse Val	39.84	323	eP	P	20 59 02.9	+2.1
	comp=N,2.6nm,0.7s,mb4.1						
YBH	Yreka Blue Hor	41.89	320	LR	LR	21 19 22.3	
	comp=N,134nm,18.2s,MS3.9,baz=154,slow=40						
YKA	Yellowknife Ar	53.12	345	P	P	21 00 42.4	-2.6
	comp=N,1.7nm,0.7s,mb4.1,baz=136,slow=8.1,SNR=36						
INK	Inuvik	62.71	343	P	P	21 01 50.9	-1.3
	comp=N,3.0nm,1.0s,mb4.4,baz=138,slow=7.9,SNR=8.0						
ILAR	Eielson Array	65.53	336	P	P	21 02 07.8	-2.9
	comp=N,1.3nm,0.9s,mb4.0,baz=131,slow=4.6,SNR=10						
NOA	NORSAR Array B	83.04	29	P	P	21 03 53.4	+0.8
	comp=N,0.7nm,0.7s,mb3.8,baz=286,slow=4.7,SNR=3.6						
WRA	Warramunga Arr	139.25	254	PKP	PKPdf	21 10 55.0	+0.9
	comp=N,0.3nm,0.8s,baz=91,slow=2.3,SNR=3.1						
ASAR	Alice Springs	139.29	249	PKP	PKPdf	21 10 56.2	+2.0
	comp=N,0.5nm,0.6s,baz=101,slow=2.3,SNR=4.7						

*ISCJB **18** 21:07:14.0±1.3, 3961N±008×1429E±0.1, h30km, mb3.3/3, Error ellipse: s-maj=13.7km s-min=11.3km az=136.8*
*IDC **18** 21:07:14.9±10.0, 3990N×14248E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=193.2km s-min=45.1km az=102.0*
*NEIC **18** 21:07:14.0, 3953N×14291E, h30km, MG3.2(JMA), After JMA.*
*JMA **18** 21:07:14.0±0.2, 3953N×14291E, h30km±2km, M3.2*

ISC 18 21:07:15.9±1.3, 3965N±008×1428E±01, h30km, n13, σ0°92/15, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.79	265	P	Pn	21 07 29.6	-1.3
JTH	Tanohata	0.80	291	P	Pn	21 07 30.7	-0.4
JTH				eS	Sb	21 07 42.4	+0.6
OFUJ	Ofunato	1.07	238	P	Pn	21 07 32.8	-2.0
JOM	Ohasama	1.20	262	P	Pn	21 07 36.2	-0.5
JOM				eS	Sn	21 07 52.2	+0.2
JKZ	Kuzumaki	1.21	287	P	Pn	21 07 36.9	+0.2
JANG	Nango	1.24	306	P	Pn	21 07 37.0	-0.2
JMK	Ichinoseki	1.43	241	P	Pn	21 07 38.6	-1.2
MAJO	Matsushiro	4.79	231	ePn	Pn	21 08 27.1	+1.1
MAT	Matsushiro	4.79	231	P	Pn	21 08 27.0	+1.0
MJAR	Matsushiro Arr	4.79	231	Pn	Pn	21 08 27.3	+1.4
	1.0nm,0.3s,baz=37,slow=12,SNR=24						
SONM	Songino Array	27.36	299	P	P	21 12 59.2	+0.8
	0.2nm,0.5s,mb3.0,baz=86,slow=9.0,SNR=4.8						
MKAR	Makanchi Array	43.73	300	P	P	21 15 18.6	+0.2
	0.5nm,0.8s,mb3.3,baz=87,slow=9.5,SNR=9.1						
BVAR	Borovoye Array	49.67	311	P	P	21 16 04.8	-0.1
	0.3nm,0.5s,mb3.6,baz=74,slow=8.2,SNR=4.0						

*ISCJB **18** 21:07:25.9±0.3, 4415±003×7961W±006, h93km, mb4.3/32, Error ellipse: s-maj=8.3km s-min=4.0km az=169.8*
*BJI **18** 21:07:26.5, 3445×7956W, h75km, mB5.3, Ms4.9, Msz4.5*
*NEIC **18** 21:07:27.8±0.2, 4275×7938W, mb4.5/24, MD5.0(IGQ), Error ellipse: s-maj=9.9km s-min=4.4km az=64.0*
*IGQ **18** 21:07:27.8, 4205×7961W, h123km±21km, Mb5.0, Ms4.9, Error ellipse: s-maj=7.4km s-min=5.4km az=104.5*
*IDC **18** 21:07:28.4±0.5, 4215×7933W, h95km±3km, mb4.0/15, mb1 4.1/17, mb1mx4.1/23, mbtmp4.3/17, Error ellipse: s-maj=21.5km s-min=10.0km az=52.0*

ISC 18 21:07:28.1±0.3, 4375±003×7954W±006, h95km, h95km±.9km:pP-P, n100, σ0°92/79, mb4.3/32, 3C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	2.61	326	P	Pn	21 08 08.7	+0.2
SALI				S	Sn	21 08 33.7	-5.7
IGUA	Igualata	2.99	17	P	Pn	21 08 15.0	+1.4
PATA	Patacocha	3.05	21	P	Pn	21 08 15.8	+1.5
CUSU	Cusua	3.09	20	⇑P	Pn	21 08 15.2	+0.3
RETU	Refugio	3.09	21	P	Pn	21 08 15.2	+0.3
ULBA	Ulba	3.11	21	P	Pn	21 08 14.3	-0.8
JUIV	Juive	3.11	20	P	Pn	21 08 14.9	-0.3
PISA	Pisayambo	3.48	19	P	Pn	21 08 20.4	+0.3
QIL1	Quilotoa	3.55	10	P	Pn	21 08 21.3	+0.3
QIL1				S	Sn	21 09 00.7	-1.3
CAMI	Rancho Maria	3.81	16	P	Pn	21 08 24.8	+0.2
TAMB	Tambo	3.83	18	P	Pn	21 08 25.4	+0.6
VC1	Cotopaxi 1	3.87	17	P	Pn	21 08 26.0	+0.6
ANTI	Antisana	4.12	19	⇑P	Pn	21 08 28.5	-0.4
JAMA	Jama	4.13	351	P	Pn	21 08 27.4	-1.5
JAMA				S	Sn	21 09 10.5	-5.6
JUA2	San Juan 2	4.23	13	P	Pn	21 08 32.1	+1.8
TERV	Terraza Guagua	4.26	13	P	Pn	21 08 31.7	+0.9
GGP	Refugio Guagua	4.27	13	P	Pn	21 08 31.7	+0.9
MAG1	Magdalena	4.27	357	P	Pn	21 08 29.4	-1.5
PINO	Pino	4.28	13	⇓P	Pn	21 08 31.4	+0.4
YANA	Yana	4.33	13	P	Pn	21 08 31.4	-0.2
CAYR	Refugio Cayamb	4.61	19	P	Pn	21 08 35.8	+0.4
ANGU	Angureal	4.64	19	P	Pn	21 08 35.9	+0.1
LAV3	Lava3-Reventad	4.65	24	P	Pn	21 08 36.9	+1.0
CONE	Cono NE Rev Vo	4.67	24	P	Pn	21 08 36.6	+0.4
OTAV	Otavalo	4.70	13	ePn	Pn	21 08 36.2	-0.4
COTA	Cotacachi	4.82	14	P	Pn	21 08 38.0	-0.2
NNA	Nana	8.03	161	ePn	Pn	21 09 22.3	+0.4
	53nm,0.6s						
NNA				eSn	Sn	21 10 49.8	-1.2
ARE	Arequipa	14.38	147	eP	Pn	21 10 51.0	+3.9
SDV	Santo Domingo	15.88	34	P	Pn	21 11 03.8	-2.2
	0.9nm,0.3s,baz=244,slow=13,SNR=9.9						
SDV	Santo Domingo	15.88	34	eP	Pn	21 11 03.2	-2.7
	9.0nm,0.8s						
LPAZ	La Paz	16.30	137	P	Pn	21 11 11.3	0.0
	0.2nm,0.3s,baz=340,slow=14,SNR=15						
LPAZ	La Paz	16.30	137	eP	Pn	21 11 10.8	-0.4
	66nm,1.3s						
SIV	San Ignacio	21.51	124	P	P	21 12 08.8	-0.4
	5.5nm,0.8s,mb4.0,baz=309,slow=9.7,SNR=17						
SJG	San Juan	25.94	30	P	P	21 12 49.8	-1.7
	9.6nm,0.6s,mb4.4,baz=329,slow=17,SNR=4.7						
SJG	San Juan	25.94	30	eP	P	21 12 50.5	-1.0
	32nm,1.1s,mb4.7						
CFAA	Coronel Fontan	29.10	160	P	P	21 13 20.6	+1.0
	0.4nm,0.8s,mb3.1,baz=356,slow=10,SNR=8.0						
CPUP	Villa Florida	30.48	138	eP	P	21 13 31.9	0.0
	12nm,0.8s,mb4.6						
BDFB	Brasilia	32.95	112	P	P	21 13 53.5	0.0
	7.0nm,0.8s,mb4.5,baz=278,slow=12,SNR=11						
BDFB				sP	sP	21 14 26.8	+0.6
	6.5nm,0.8s,baz=285,slow=9.5,SNR=4.6						
PLCA	Paso Flores	37.10	169	P	P	21 14 31.2	+2.0
	4.5nm,0.6s,mb4.6,baz=338,slow=9.2,SNR=16						
PLCA	Paso Flores	37.10	169	eP	P	21 14 30.4	+1.3
	26nm,1.4s,mb5.0						
TRQA	Tornquist	37.17	157	eP	P	21 14 29.2	-0.5
	3.0nm,0.8s,mb4.3						
WVT	Waverly	41.02	350	eP	P	21 15 00.1	-1.7
	3.5nm,0.7s,mb4.3						
WMOK	Wichita Mounta	42.91	337	eP	P	21 15 17.6	+0.4
	3.8nm,1.0s,mb4.1						
FVM	French Village	43.33	347	eP	P	21 15 19.4	-1.2
	2.3nm,0.7s,mb4.0						
MNTX	Cornudas Mount	43.50	327	P	P	21 15 21.8	-0.1
MNTX				epP	pP	21 15 45.4	+1.0
KSU1	Kansas State U	46.04	341	eP	P	21 15 42.0	0.0
ANMO	Albuquerque	46.59	329	P	P	21 15 48.2	+1.8
	4.6nm,0.8s,mb4.2,baz=156,slow=8.4,SNR=9.1						
ANMO				pP	pP	21 16 10.6	+1.5
	6.7nm,1.0s,baz=142,slow=10,SNR=6.0						
ANMO	Albuquerque	46.59	329	eP	P	21 15 47.8	+1.4
	2.8nm,0.8s,mb4.0						
ANMO				epP	pP	21 16 10.2	+1.1
ANMO				esP	sP	21 16 22.5	+2.6
SDCO	Great Sand Dun	48.35	332	P	P	21 15 57.1	-2.9
	19nm,0.8s,mb5.0						
PDAR	Pinedale Array	54.22	333	P	P	21 16 44.0	+0.1
	1.2nm,0.9s,mb3.9,baz=133,slow=7.2,SNR=11						
PDAR				pP	pP	21 17 07.0	-0.1
	0.7nm,0.7s,baz=131,slow=6.1,SNR=3.7						
HWUT	Hardware Ranch	54.27	331	eP	P	21 16 44.2	0.0
	7.0nm,1.3s,mb4.5						
LOHW	Long Hollow	55.36	333	P	P	21 16 53.1	+1.0
	3.3nm,1.2s,mb4.2						
ELK	Elko	55.52	327	eP	P	21 16 53.9	+0.7
	1.7nm,0.9s,mb4.1						
MNV	Mina	55.59	324	eP	P	21 16 54.1	+0.3
	1.4nm,0.7s,mb4.1						
NVAR	Mina Array Bea	55.68	323	P	P	21 16 56.8	+2.4
	1.6nm,0.7s,mb4.1,baz=126,slow=8.8,SNR=14						
NVAR				pP	pP	21 17 19.5	+1.8
	2.1nm,1.0s,baz=120,slow=8.5,SNR=5.4						
ULM	Lac du Bonnet	56.20	347	P	P	21 16 57.2	-0.9
	6.2nm,0.8s,mb4.7,baz=152,slow=8.3,SNR=12						
ULM				pP	pP	21 17 19.5	-2.0
	3.5nm,0.9s,baz=161,slow=5.0,SNR=3.6						
ULM	Lac du Bonnet	56.20	347	P		21 16 57.2	-0.9
ULM				pP	pP	21 17 19.5	-2.0
HLID	Hailey	57.13	330	eP	P	21 17 05.6	+0.9
	1.9nm,0.9s,mb4.1						
BOZ	Bozeman (W)	57.40	334	eP	P	21 17 05.4	-1.2
	2.7nm,1.0s,mb4.2						
WVOR	Wild Horse Val	58.53	327	eP	P	21 17 14.9	+0.4
	5.0nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	60.38	324	P	P	21 17 27.5	+0.3
	1.7nm,0.7s,mb4.2,baz=177,slow=17,SNR=4.2						
FCC	Fort Churchill	63.99	352	eP	P	21 17 50.1	-1.2
	7.9nm,1.0s,mb4.5						
YKA	Yellowknife Ar	71.82	344	P	P	21 18 39.3	-1.0
	1.0nm,0.7s,mb3.7,baz=135,slow=6.0,SNR=25						
YKA				PcP	PcP	21 18 58.1	-0.7
	0.8nm,0.7s,baz=140,slow=4.4,SNR=11						
YKA				pP	pP	21 19 03.1	-1.6
	1.1nm,0.9s,baz=140,slow=5.2,SNR=6.4						
YKA	Yellowknife Ar	71.82	344	P	P	21 18 39.4	-1.0
YKA				PcP	PcP	21 18 58.1	-0.7
YKA				pP	pP	21 19 03.1	-1.6
DBIC	Dimbokro	75.35	82	P	P	21 19 01.3	+0.3
	2.8nm,0.4s,mb4.4,baz=256,slow=4.7,SNR=16						
DBIC				pP	pP	21 19 25.9	+0.3
	2.3nm,0.7s,baz=241,slow=3.7,SNR=3.1						
DBIC	Dimbokro	75.35	82	eP	P	21 19 00.9	-0.1
	19nm,1.3s,mb4.7						
VNA3	Neumayer Olymp	79.48	162	eP	P	21 19 24.4	+0.3
VNA2	Neumayer--Watz	80.10	161	eP	P	21 19 27.1	-0.3
SUMG	Summit	81.12	12	eP	P	21 19 32.1	-0.8
	11nm,0.9s,mb4.7						
SUMG				epP	pP	21 19 56.8	-1.0
INK	Inuvik	81.50	342	P	P	21 19 34.5	-0.3
	4.6nm,0.9s,mb4.3,baz=137,slow=7.5,SNR=11						
INK				pP	pP	21 19 58.9	-0.8
	5.5nm,1.1s,baz=126,slow=4.3,SNR=5.2						
INK	Inuvik	81.50	342	eP	P	21 19 34.0	-0.9
	5.3nm,1.0s,mb4.3						
INK				epP	pP	21 19 58.7	-1.1
TORD	Torodi Ar. Bea	82.47	76	P	P	21 19 39.7	-0.2
	4.1nm,0.9s,mb4.3,baz=278,slow=5.7,SNR=25						
TORD				pP	pP	21 20 05.3	+0.4
	4.0nm,1.0s,baz=287,slow=5.3,SNR=7.1						
ILAR	Eielson Array	84.47	337	P	P	21 19 49.6	-0.6
	1.7nm,0.9s,mb3.9,baz=136,slow=3.5,SNR=12						
ILAR				pP	pP	21 20 14.2	-1.0
	2.4nm,0.8s,baz=132,slow=3.7,SNR=13						
WLF	Walferdange	90.50	40	eP	P	21 20 18.8	-0.4
	14nm,1.0s,mb5.0						
TSUM	Tsumeb	95.28	110	eP	P	21 20 42.3	+1.1
	6.3nm,1.2s,mb4.9						
SYO	Syowa Base	95.99	162	⇑esP	sP	21 21 19.0	-0.9
BVAR	Borovoye Array	125.56	22	PKP	PKPdf	21 26 18.2	+0.1
	1.2nm,0.6s,baz=254,slow=1.8,SNR=11						
STKA	Stephens Creek	126.81	224	PKP	PKPdf	21 26 19.5	-1.0
	2.1nm,0.7s,baz=270,slow=4.1,SNR=4.3						
STKA	Stephens Creek	126.81	224	ePKPdf	PKPdf	21 26 20.0	-0.6
ZAL	Zalesovo	128.95	12	PKP	PKPdf	21 26 24.8	+0.1
	3.4nm,0.9s,baz=175,slow=1.8,SNR=23						
ZAL				pPKP	pPKPdf	21 26 50.2	-0.8
	1.6nm,0.8s,baz=168,slow=2.1,SNR=4.8						
KURK	Kurchatov	130.30	18	ePKPdf	PKPdf	21 26 27.3	+0.2
MAJO	Matsushiro	132.83	318	PKPdf	PKPdf	21 26 32.2	+0.3
MKAR	Makanchi Array	134.90	18	PKP	PKPdf	21 26 35.8	-0.1
	1.1nm,0.7s,baz=9.5,slow=2.5,SNR=19						
MKAR				pPKP	pPKPdf	21 27 02.3	+0.1
	0.1nm,0.4s,baz=308,slow=2.3,SNR=1.7						
AAK	Ala-Archa	135.44	27	ePKPdf	PKPdf	21 26 37.1	+0.2
ULN	Ulaanbaatar	136.29	354	ePKPdf	PKPdf	21 26 38.7	+0.2
SONM	Songino Array	136.39	354	PKP	PKPdf	21 26 39.1	+0.5
	2.1nm,1.1s,baz=339,slow=1.9,SNR=11						
SONM				pPKP	pPKPdf	21 27 05.3	+0.3
	0.9nm,0.9s,baz=340,slow=0.3,SNR=3.8						
ASAR	Alice Springs	137.12	228	PKhKP		21 26 33.7	
	0.7nm,0.7s,baz=130,slow=4.0,SNR=6.2						
ASAR				PKP	PKPdf	21 26 41.1	+1.1
	1.6nm,1.0s,baz=148,slow=2.7,SNR=9.7						
WRA	Warramunga Arr	138.87	233	PKP	PKPdf	21 26 44.6	+1.4
	1.9nm,1.0s,baz=118,slow=2.2,SNR=4.9						
WMQ	Urumqi	139.12	14	ePKP	PKPdf	21 26 42.0	-1.6
HHC	Hu-ho-hao-te	142.33	346	ePKP	PKPdf	21 26 47.8	-1.6
GTA	Gaotai	145.11	1	PKP	PKPdf	21 26 54.3	0.0
GTA				PKP2	PKPab	21 26 56.1	+2.0
GTA				APKP		21 27 19.8	
GTA				PP	PP	21 30 17.6	+4.0
GTA				SKS	SKSdf	21 33 52.1	-2.7
GTA				SKKS	SKKSac	21 36 57.1	0.0
GTA				PP	PP		
	comp=Z,60nm,12.6s						
GTA				LR	LR		
	comp=N,66nm,18.7s						
GTA				LR	LR		
	comp=E,83nm,16.8s						
GTA				LR	LR		
	comp=Z,109nm,26.0s						
LZH	Lanzhou	148.28	355	ePKP	PKPbc	21 27 04.0	+0.9
LZH				LR	LR		
	comp=N,563nm,19.8s						
LZH				LR	LR		
	comp=Z,763nm,20.8s						
XAN	Xi'an	149.44	346	PKP	PKPbc	21 27 06.1	+0.1
KOLN	Koldanda	151.72	33	eP	PKPbc	21 27 11.8	+0.4
	comp=Z,13nm,0.8s						
GKN	Gorkha	152.08	31	eP	PKPbc	21 27 12.9	+0.7
	comp=Z,38nm,0.9s						
KKN	Kakani	152.58	30	eP	PKPbc	21 27 13.0	-0.4
	comp=Z,10nm,0.7s						
DMN	Daman	152.64	31	eP	PKPbc	21 27 13.8	+0.3
GUN	Gumba	152.78	29	eP	PKPbc	21 27 13.8	0.0
ENH	Enshi	152.86	343	ePKPdf	PKPdf	21 27 06.5	-0.2
ENH				ePKPbc	PKPbc	21 27 14.5	+0.5
JIRN	Jiri	153.13	29	eP	PKPbc	21 27 15.1	+0.5

*CSEM **18** 21:25:01.9±0.5, 3725N×2459W, h15km, ML2.5, Error ellipse: s-maj=17.6km s-min=4.3km az=80.0, After PDA*
*PDA **18** 21:25:01.9±0.5, 3725N×2459W, h15km, MD2.5, ML2.5, Error ellipse: s-maj=4.7km s-min=1.7km az=84.0*

SVSA 18 21:25:01.9±0.5, 3725N×2459W, h15km, MD2.5, ML2.5, Error ellipse: s-maj=4.7km s-min=1.7km az=84.0, Azores Islands region

| Code | Station Name | Δ° | AZ

MTO2				eS	Sn	21 29 18.9	+19

CASC 18 21:37:34.6±3.3, 1307N×8757W, h3km±8km, MD3.5, ML3.0, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.63	126	eP	Pg	21 37 47.3	+0.7
CRIN				eS	Sg	21 37 58.9	+4.1
BLLM	Bellamira	0.75	300⇑	eP	Pg	21 38 00.9	+12
BLLM				eS	Sg	21 38 11.3	+13
VSM	San Miguel	0.77	297	eP	Pg	21 38 01.5	+12
VSM				eS	Sg	21 38 13.7	+14
TELN	Telica	0.86	123⇑	i/P	Pg	21 37 50.8	-0.3
TELN				eS	Sg	21 38 04.5	+2.4
TEL3	Telica 3	0.86	125	eP	Pg	21 37 50.3	-0.9
TEL3				eS	Sg	21 38 03.3	+0.9
LEON	Leon	0.93	134	eP	Pg	21 37 51.4	-1.0
LEON				eS	Sg	21 38 05.5	+1.1
LEON				i		21 38 08.0	
	comp=Z,348nm,0.4s						
CNGN	Cerro Negro	1.02	124	eP	Pg	21 37 56.7	+2.4
MIRN	Miramar	1.05	127	eP	Pg	21 37 53.8	-0.9
MIRN				eS	Sg	21 38 08.6	+0.3
MOMJ	Momotombo	1.20	123	eP	Pg	21 37 56.4	-1.3
COPN	Copaltepe	1.30	133	eP	Pg	21 37 57.5	-2.1
COPN				eS	Sg	21 38 16.7	+0.2
SNVI	San Vicente	1.35	294	eP	Pn	21 38 09.5	+9.2
SNVI				eS	Sg	21 38 31.0	+13
APYN	Apoyeque	1.45	125	eP	Pn	21 38 00.2	-1.5
APYN				eS	Sb	21 38 21.4	+0.3
LCBS	La Ceiba	1.49	293⇑	eP	Pn	21 38 13.3	+11
LCBS				eS	Sn	21 38 33.0	+11
LFRS	El Faro	1.55	291	eP	Pn	21 38 14.4	+11
LFRS				eS	Sn	21 38 36.0	+12
LBRS	Las Brisas	1.58	295	eP	Pn	21 38 15.6	+12
LBRS				eS	Sn	21 38 37.2	+13
TICN	Ticuantepe	1.67	128	eP	Pn	21 38 05.9	+1.2
TICN				eS	Sn	21 38 27.1	+0.6
BOQS	Boqueron	1.79	292	eP	Pn	21 38 18.5	+12
BOQS				eS	Sn	21 38 44.9	+15
SBLS	San Blas	2.14	291	eP	Pn	21 38 24.5	+13
SBLS				eS	Sn	21 38 52.9	+15
MTO2	Montecristo 2	2.19	307	eP	Pn	21 38 26.0	+14
MTO2				eS	Sn	21 38 54.6	+15

CASC 18 21:44:52.8±2.0, 1313N×8759W, h4km±4km, MD3.8, ML3.4, 9C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.28	302⇓	eP	Pg	21 45 13.0	+15
CNCH				eS	Sg	21 45 17.6	+16
CRIN	San Cristobal	0.67	129⇑	eP	Pg	21 45 06.7	+1.0
CRIN				eS	Sg	21 45 17.4	+3.0
BLLM	Bellamira	0.71	296⇑	eP	Pg	21 45 20.3	+14
BLLM				eS	Sg	21 45 30.7	+15
VSM	San Miguel	0.73	294	eP	Pg	21 45 21.2	+14
VSM				eS	Sg	21 45 32.6	+16
CAHU	Cacacuatique	0.88	317	eP	Pg	21 45 23.3	+14
CAHU				eS	Sg	21 45 36.8	+16
TELN	Telica	0.90	125⇓	eP	Pg	21 45 09.7	-0.4
TELN				eS	Sg	21 45 24.1	+2.3
TEL3	Telica 3	0.91	127⇓	eP	Pg	21 45 09.8	-0.5
TEL3				eS	Sg	21 45 23.5	+1.6
LEON	Leon	0.98	136⇓	eP	Pg	21 45 10.9	-0.7
LEON				eS	Sg	21 45 25.6	+1.4
LEON				i		21 45 27.8	
	comp=Z,1μm,0.6s						
CNGN	Cerro Negro	1.06	126	eP	Pg	21 45 12.3	-0.9
CNGN				eS	Sg	21 45 29.1	+2.0
MIRN	Miramar	1.09	129⇑	eP	Pg	21 45 12.8	-1.0
MIRN				eS	Sg	21 45 29.6	+1.7
MOMJ	Momotombo	1.24	125⇑	eP	Pg	21 45 15.4	-1.2
MOMJ				eS	Sg	21 45 33.1	+0.3
SNVI	San Vicente	1.31	292	eP	Pn	21 45 31.1	+13
SNVI				eS	Sg	21 45 49.6	+15
COPN	Copaltepe	1.35	134⇑	eP	Pn	21 45 16.9	-1.5
COPN				eS	Sg	21 45 35.3	-0.9
LCBS	La Ceiba	1.45	291⇑	eP	Pn	21 45 32.9	+13
LCBS				eS	Sb	21 45 53.0	+14
APYN	Apoyeque	1.50	126	eP	Pn	21 45 19.9	-0.5
APYN				eS	Sn	21 45 39.2	-1.2
LFRS	El Faro	1.52	289⇓	eP	Pn	21 45 33.9	+13
LFRS				eS	Sn	21 45 55.0	+14
LBRS	Las Brisas	1.54	293⇑	i/P	Pn	21 45 35.0	+14
LBRS				eS	Sn	21 45 57.9	+16
XAVN	Gruta Xavier	1.57	128	eP	Pn	21 45 21.0	-0.4
XAVN				eS	Sn	21 45 42.2	+0.1
MGAN	Managua	1.63	127	eP	Pn	21 45 22.6	+0.3
MGAN				eS	Sn	21 45 43.7	0.0
WILN	Americas 2	1.67	125	eP	Pn	21 45 21.5	-1.3
WILN				eS	Sn	21 45 45.7	+1.0
TICN	Ticuantepe	1.71	129	eP	Pn	21 45 23.1	-0.3
APON	Apoyo	1.91	129⇑	eP	Pn	21 45 26.6	+0.5
SBLS	San Blas	2.11	290	eP	Pn	21 45 43.5	+15
SBLS				eS	Sn	21 45 12.0	+17
MTO2	Montecristo 2	2.14	306⇑	eP	Pn	21 45 44.0	+15
MTO2				eS	Sn	21 46 14.1	+18

IDC 18 21:58:16.8±1.3, 1246N×1444E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, Error ellipse: s-maj=58.4km s-min=16.9km az=107.0
ISCJB 18 21:58:19.7±7.5, 124N±0.1×1443E±03, h33km±58km, mb3.4/4, Error ellipse: s-maj=60.6km s-min=13.0km az=40.8
NEIC 18 21:58:21.4±0.9, 1245N×1445E, h35km, mb3.7/1, Error ellipse: s-maj=50.5km s-min=12.3km az=102.0

ISC 18 21:58:19.3±7.5, 125N±01×1444E±04, h16km±48km, n6, σ0§45/8, mb3.4/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.21	21	Pn	Pn	21 58 41.6	0.0
	31nm,0.3s,baz=21,slow=23,SNR=14						
GUMO				Sn	Sn	21 58 57.6	0.0
	45nm,0.3s,baz=359,slow=21,SNR=6.6						
GUMO	Guam	1.21	21	Pn	Pn	21 58 41.6	0.0
GUMO				Sn	Sn	21 58 57.6	0.0
WRAB	Tennant Creek	33.68	197	P	P	22 04 59.1	-0.4
	0.6nm,0.6s,mb3.7						
WRA	Warramunga Arr	33.69	197	P	P	22 04 59.3	-0.3
	0.4nm,0.6s,mb3.5,baz=20,slow=9.9,SNR=6.7						
ASAR	Alice Springs	37.34	196	P	P	22 05 31.6	+0.6
	0.4nm,1.0s,mb3.2,baz=30,slow=7.6,SNR=3.2						
MKAR	Makanchi Array	62.01	317	P	P	22 08 38.8	0.0
	0.1nm,0.5s,mb3.2,baz=87,slow=8.6,SNR=5.0						

CASC 18 22:15:43.2±3.1, 1320N×8755W, h2km±7km, MD3.8, ML3.3, 4C-7D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.28	285⇓	eP	Pg	22 16 03.4	+15
CNCH				eS	Sg	22 16 08.0	+16
CRIN	San Cristobal	0.70	135	eP	Pg	22 15 57.3	+0.6
BLLM	Bellamira	0.71	290	eP	Pg	22 16 10.9	+14
BLLM				eS	Sg	22 16 20.9	+15
CAHU	Cacacuatique	0.85	312	eP	Pg	22 16 13.4	+14
CAHU				eS	Sg	22 16 25.0	+14
TELN	Telica	0.92	130⇓	eP	Pg	22 16 00.8	-0.1
TELN				eS	Sg	22 16 15.9	+3.0
TEL3	Telica 3	0.93	132⇓	eP	Pg	22 16 01.0	-0.1
TEL3				eS	Sg	22 16 14.9	+1.7
TEL3				i		22 16 20.0	
	comp=Z,874nm,0.5s						
LEON	Leon	1.01	140⇓	eP	Pg	22 16 02.0	-0.6
LEON				eS	Sg	22 16 16.8	+1.0
CNGN	Cerro Negro	1.09	130	eP	Pg	22 16 04.0	-0.1
CNGN				eS	Sg	22 16 20.1	+1.9
MIRN	Miramar	1.12	133⇓	eP	Pg	22 16 04.2	-0.4
MOMJ	Momotombo	1.27	128	eP	Pg	22 16 06.5	-0.9
SNVI	San Vicente	1.31	288	eP	Pg	22 16 21.4	+13
SNVI				eS	Sg	22 16 40.4	+15
COPN	Copaltepe	1.38	137⇑	eP	Pn	22 16 08.2	-1.3
COPN				eS	Sg	22 16 27.1	-0.5
LCBS	La Ceiba	1.46	288	eP	Pn	22 16 23.2	+13
LCBS				eS	Sg	22 16 43.2	+13
APYN	Apoyeque	1.52	129⇓	eP	Pn	22 16 11.9	+0.5
APYN				eS	Sn	22 16 32.6	+0.9
LFRS	El Faro	1.52	286	eP	Pn	22 16 24.3	+13
LFRS				eS	Sn	22 16 46.6	+15
LBRS	Las Brisas	1.54	290⇑	eP	Pn	22 16 25.6	+14
LBRS				eS	Sn	22 16 48.7	+16
MGAN	Managua	1.65	129	eP	Pn	22 16 08.9	-4.4
MGAN				eS	Sn	22 16 34.6	-0.4
WILN	Americas 2	1.69	128	eP	Pn	22 16 13.5	-0.2
WILN				eS	Sn	22 16 36.5	+0.5
TICN	Ticuantepe	1.74	132⇑	eP	Pn	22 16 12.7	-1.7
TICN				eS	Sn	22 16 39.1	+2.0
BOQS	Boqueron	1.76	288	eP	Pn	22 16 29.1	+14
BOQS				eS	Sn	22 16 53.2	+15
SNJE	San Jose	2.10	289⇓	eP	Pn	22 16 36.7	+17
SNJE				eS	Sn	22 17 06.8	+21
SBLS	San Blas	2.11	288⇑	eP	Pn	22 16 34.4	+15
SBLS				eS	Sn	22 17 05.5	+19
MTO2	Montecristo 2	2.12	304	eP	Pn	22 16 34.0	+14
MTO2				eS	Sn	22 17 03.4	+17

ISCJB 18 22:27:32.2±0.6, 455N±0.1×1435E±0.1, h356km±10km, mb2.9/3, Error ellipse: s-maj=18.1km s-min=13.9km az=107.8
IDC 18 22:27:33.0±2.4, 4547N×143.15E, h362km±129km, mb2.7/3, mb1 2.9/3, mb1mx2.6/18, mbtmp3.4/3, Error ellipse: s-maj=320.3km s-min=39.2km az=175.0
JMA 18 22:27:33.6±0.2, 4574N×1434E, h330km, M3.2

ISC 18 22:27:32.9±0.6, 455N±01×1434E±01, h355km±10km, n19, σ1§19/25, mb2.9/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	1.09	263	P	Pn	22 28 18.1	-1.4
ASAJ	Asahikawa	1.48	204	P	Pn	22 28 21.8	+0.4
ASAJ	Asahikawa	1.48	204	P	Pn	22 28 22.0	+0.6
	5.4nm,0.3s,baz=24,slow=5.3,SNR=16						
JTKR	Abashiri--Toko	1.53	167	P	Pn	22 28 22.3	+0.6
JRR	Rishiri	1.53	258	P	Pn	22 28 20.3	-1.4
JKK2	Kamakawa 2	1.67	197	P	Pn	22 28 23.4	+0.9
JRA	Rausu	1.94	141	P	Pn	22 28 25.0	+0.8
JHR	Hokuryu	2.11	216	P	Pn	22 28 26.1	+0.7
JAR	Ashorobuto	2.18	174	P	Pn	22 28 27.5	+1.6
JAK	Akkeshi	2.63	159	P	Pn	22 28 30.0	+0.6
JAK				eS	S	22 29 14.3	-0.5
NEM2	Nemuro 2	2.67	141	P	Pn	22 28 29.6	-0.2
NEM2				eS	S	22 29 12.7	-2.8
JCH	Churui	2.85	181	P	Pn	22 28 31.9	+0.6
JCH				eS	S	22 29 16.2	-2.0
JEW	Eniwo	2.99	209	P	Pn	22 28 34.6	+2.1
JNBK	Urakawa-nobuka	3.22	189	P	Pn	22 28 36.1	+1.5
JNBK				eS	S	22 29 23.6	-0.7
JKB	Kayabe	3.98	207	P	Pn	22 28 43.0	+1.1
JKB				eS	S	22 29 36.9	-0.7
JOT	Ohata	4.44	204	P	Pn	22 28 48.0	+1.3
JOT				eS	S	22 29 44.7	-1.5
ILAR	Eielson Array	41.70	37	P	P	22 34 47.8	-0.4
	0.1nm,0.3s,mb2.4,baz=260,slow=6.4,SNR=5.5						
YKA	Yellowknife Ar	55.84	33	P	P	22 36 34.3	-0.2
	0.4nm,0.5s,mb3.0,baz=305,slow=6.8,SNR=10						
FINES	FINESS Array B	62.12	331	P	P	22 37 15.4	-1.9
	0.5nm,0.7s,mb3.2,baz=46,slow=8.2,SNR=4.9						

ISCJB 18 23:16:21.6±3.5, 5.1S±02×152.1E±0.1, h81km±32km, mb4.0/10, Error ellipse: s-maj=27.3km s-min=20.4km az=122.4
IDC 18 23:16:22.7±4.9, 523S×152.16E, h76km±45km, mb3.8/7, mb1 4.0/8, mb1mx3.8/15, mbtmp4.1/8, ML2.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=34.6km s-min=24.9km az=143.0
NEIC 18 23:16:23.4±2.7, 5.10S×15206E, h92km±25km, mb4.1/5, Error ellipse: s-maj=21.1km s-min=16.6km az=137.0

ISC 18 23:16:23.4±2.8, 51S±01×1521E±01, h88km±26km, n17, σ1§04/16, mb4.0/10, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.49	229	P	Pn	23 17 56.2	0.0
	1.4nm,0.3s,baz=39,slow=9.3,SNR=11						
PMG				S	Sn	23 19 03.1	-5.6
	0.4nm,0.3s,baz=166,slow=15,SNR=2.6						
PMG				LR	LR	23 20 01.7	
	comp=Z,91nm,20.2s,baz=47,slow=34						
CTAO	Charters Tower	15.93	200	eP	Pn	23 20 03.1	+0.7
	4.6nm,0.9s						
CTAO				e		23 20 18.4	
KAKA	Kakadu	20.81	247	i/P	P	23 20 58.1	+0.5
	9.9nm,0.5s						
DZM	Mont Dzumac	21.86	142	P	P	23 21 08.4	-0.4
	8.2nm,0.8s,mb4.1,baz=324,slow=18,SNR=4.5						
WRAB	Tennant Creek	22.69	228	eP	P	23 21 17.5	-0.2
	14nm,0.8s,mb4.3						
WRAB				epP		23 21 30.8	
WB2	Warramunga Arr	22.70	228	eP	P	23 21 17.4	-0.3
WRA	Warramunga Arr	22.71	228	P	P	23 21 17.8	0.0
	3.1nm,0.4s,mb4.0,baz=53,slow=10,SNR=37						
ASAR	Alice Springs	25.44	222	P	P	23 21 43.7	+0.7
	2.9nm,0.4s,mb4.0,baz=58,slow=8.7,SNR=45						
STKA	Stephens Creek	28.39	199	P	P	23 22 07.3	-2.1
	1.1nm,0.5s,mb3.6,baz=20,slow=13,SNR=2.9						
FITZ	Fitzroy Crossi	28.89	241	eP	P	23 22 14.0	+0.2
	6.1nm,1.2s,mb4.1						
MA2	Magadan	64.49	359	P	P	23 26 47.3	-3.4
BILL	Bilibino	73.66	6	P	P	23 27 46.1	-1.3
	0.8nm,0.3s,mb3.9						
ILAR	Eielson Array	82.71	22	P	P	23 28 37.1	-0.2
	1.4nm,0.7s,mb3.9,baz=246,slow=5.5,SNR=22						
NVAR	Mina Array Bea	92.84	52	P	P	23 29 28.2	+2.0
	0.5nm,0.8s,mb3.9,baz=244,slow=8.1,SNR=3.7						
YKA	Yellowknife Ar	96.03	28	P	P	23 29 42.1	+1.2
	0.2nm,0.6s,mb3.7,baz=273,slow=4.8,SNR=5.6						
KMBO	Kilima Mbogo	114.61	266	PKPdf	PKiKP	23 34 53.7	+0.3
TORD	Torodi Ar. Bea	149.72	287	PKPbc	PKPbc	23 36 05.8	+2.8
	0.5nm,0.7s,baz=60,slow=2.2,SNR=10						

NEIC 18 23:17:28.9, 1780N×9825W, h56km, MD3.9(MEX), After MEX.

MEX 18 23:17:28.9±0.9, 1780N×9825W, h56km±10km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	Huajuapan	0.43	86	i P	Pn	23 17 38.5	-1.3
UTMO				i S	Sn	23 17 46.0	-1.6
TPIG	Tehuac#an	1.04	54	i P	Pn	23 17 46.1	-1.3
TPIG				i S	Sn	23 17 59.5	-1.5
PPM	Popocatepetl	1.31	344	i P	Pn	23 17 50.0	-0.9
PPM				i P		23 17 50.0	
PPM				i S	Sn	23 18 06.0	-1.3
YAIG	Yautepec	1.31	324	i P	Pn	23 17 49.5	-1.3
YAIG				i S	Sn	23 18 05.0	-2.3
MEIG	Mezcala	1.31	276	i P	Pn	23 17 49.8	-1.0
MEIG				i S	Sn	23 18 06.1	-1.2
PLIG	Platanillo	1.33	296	i P	Pn	23 17 49.9	-1.2
PLIG				i S	Sn	23 18 07.0	-0.8
VHO	Vista Hermosa	1.62	116	i P	Pn	23 17 54.7	-0.4
VHO				i S	Sn	23 18 13.7	-1.3
OXX	Oaxaca	1.63	116	eP	Pn	23 17 54.5	-0.7
ACX	Acapulco	1.84	240	i P	Pn	23 17 55.0	-3.1
ACX				i S	Sn	23 18 18.0	-2.3
CAIG	El Cayaco	2.06	249	i P	Pn	23 17 58.7	-2.5
CAIG				i S	Sn	23 18 23.6	-2.2

NAO 18 23:29:33.2, 3350N×2537E, h33km, mb3.8
ISCJB 18 23:29:53.5±0.4, 3528N±003×2265E±005, h76km±6km, mb3.6/12, Error ellipse: s-maj=8.0km s-min=3.7km az=110.8
CSEM 18 23:29:54.0±0.1, 3533N×2272E, h80km, ML3.8, Error ellipse: s-maj=2.3km s-min=1.3km az=60.0
ATH 18 23:29:54.8, 3539N×2279E, h82km±5km, ML3.8
NEIC 18 23:29:54.6, 3537N×2277E, h84km, mb3.9/1, After ATH.
HLW 18 23:29:55.1, 3552N×2325E, h27km, Mb3.6
IDC 18 23:29:57.0±2.1, 3551N×2278E, h56km±21km, mb3.5/11, mb1 3.5/16, mb1mx3.4/25, mbtmp3.7/16, ML3.2/5, Error ellipse: s-maj=19.5km s-min=14.4km az=140.0
THE 18 23:29:57.1, 3546N×2278E, h22km, ML3.2

ISC 18 23:29:55.2±0.4, 3531N±003×2273E±005, h60km±6km, n100, σ1§24/111, mb3.6/12, 3C-2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	Karanos	0.98	84	ePg	Pn	23 30 13.1	+0.2
KYTH	Kithira	1.00	15	eP	Pn	23 30 13.0	-0.2
VAM	Vamos	1.21	85	eP	Pn	23 30 16.8	+0.8
GVD	Gavdhos	1.21	113	eP	Pn	23 30 17.1	+1.1
GVD	Gavdhos	1.21	113	ePg	Pn	23 30 17.6	+1.6
VLI	Veliai	1.41	7	eP	Pn	23 30 19.7	+1.0
SIVA	Sivas	1.73	99	ePb	Pn	23 30 24.6	+1.6
IDI	Anoyia	1.77	90	P	Pn	23 30 25.1	+1.6
	18nm,0.3s,baz=276,slow=13,SNR=207						
ITM	Ithomi	1.97	341	eP	Pn	23 30 26.6	+0.3
LAST	Lasithi	2.26	93	ePn	Pn	23 30 31.5	+1.3
NPS	Neapolis	2.36	90	eP	Pn	23 30 32.6	+1.0
SANT	Santorini	2.46	64	ePn	Pn	23 30 33.1	+0.2
SANT	Santorini	2.46	64	eP	Pn	23 30 33.1	+0.2
NAIG	Nisos Aigina	2.52	14	eP	Pn	23 30 35.0	+1.3
ATH	Athens Observa	2.77	16	eP	Pn	23 30 38.1	+0.9
APE	Apeiranthos	2.87	52	ePG	Pn	23 30 39.0	+0.5
APE				eSG	Sn	23 31 06.9	-4.8
APE	Apeiranthos	2.87	52	eP	Pn	23 30 38.3	-0.2
APE	Apeiranthos	2.87	52	ePg	Pn	23 30 39.0	+0.5
APE				eSg	Sn	23 31 06.9	-4.8
PTL	Penteli	2.88	18	eP	Pn	23 30 38.5	-0.1
RLS	Riolos of Patr	2.92	340	eP	Pn	23 30 41.0	+1.8
MPAR	Parnis Oros	2.95	16	eP	Pn	23 30 40.0	+0.4
VLS	Valsamata	3.33	330⇓	i/P	Pn	23 30 45.0	+0.1
LKR	Lokris	3.34	4	eP	Pn	23 30 45.2	+0.3
EVR	Evrytania	3.67	349	eP	Pn	23 30 51.5	+2.0
EVR	Evrytania	3.67	349	eP	Pn	23 30 52.0	+2.5
AGG	Agios Georgios	3.71	355	ePn	Pn	23 30 50.8	+0.7
AGG				eSn	Sn	23 31 31.8	-0.8
LKD	Levkas	3.77	334	ePn	Pn	23 30 52.2	+1.3
LKD				eSn	Sn	23 31 34.1	+0.1
NEO	Neokhori	4.01	6	eP	Pn	23 30 54.4	+0.3
XOR	Xorichti	4.06	5	ePn	Pn	23 30 55.7	+0.9
SLUM		4.34	151	⇑P	Pn	23 30 59.6	+1.0
ARG	Arkhangelos	4.48	77	eP	Pn	23 31 01.2	+0.6
IGT	Igoumenitsa	4.62	336	ePn	Pn	23 31 02.1	-0.4
PAIG	Paliouri	4.67	9	ePn	Pn	23 31 03.3	+0.2
LIT	Litokhoron	4.78	358	ePn	Pn	23 31 05.4	+0.7
KEK	Kerkira	4.97	333	eP	Pn	23 31 07.5	+0.2
KEK	Kerkira	4.97	333	eP	Pn	23 31 06.5	-0.8
PLG	Polygyros	5.08	6	eP	Pn	23 31 09.1	+0.3
OUR	Ouranopolis	5.11	11	ePn	Pn	23 31 09.5	+0.4
SOH	Sokhos	5.52	5	ePn	Pn	23 31 15.5	+0.7
BIA	Bitola	5.80	349	ePn	Pn	23 31 18.7	0.0
BIA				i Sn	Sn	23 32 20.7	-3.1
BIA	Bitola	5.80	349	ePn	Pn	23 31 18.6	-0.1
BIA				i Sn	Sn	23 32 20.6	-3.2
OHR	Ohrid	5.98	346	i Pn	Pn	23 31 21.0	-0.1
OHR				i Sn	Sn	23 32 25.8	-2.5
OHR	Ohrid	5.98	346	i Pn	Pn	23 31 21.0	-0.1
OHR				i Sn	Sn	23 32 25.7	-2.6
ELL	Elmali	5.99	74	ePN	Pn	23 31 20.8	-0.5
VAY	Valandovo	6.00	359	i Pn	Pn	23 31 20.6	-0.7
VAY				i Sn	Sn	23 32 22.4	-6.3
TIP	Timpagrande	6.13	311	ePn	Pn	23 31 22.5	-0.6
TIP	Timpagrande	6.13	311	ePn	Pn	23 31 22.5	-0.6
TIP				eSn	Sn	23 32 24.4	-7.4
LCI	Lecce	6.20	325	Pn	Pn	23 31 23.5	-0.6
CEL	Celeste	6.22	300	Pn	Pn	23 31 23.8	-0.6
RDO	Rodhopi	6.23	20	eP	Pn	23 31 24.5	0.0
DABA	Dabaa	6.33	131	P	Pn	23 31 23.6	-2.3
STIP	Stip	6.38	356	i Pn	Pn	23 31 26.5	-0.1
STIP				i Sn	Sn	23 32 36.7	-1.4
SWA2		6.48	158⇓	eP	Pn	23 31 28.8	+0.9
SWA1		6.54	156⇑	eP	Pn	23 31 29.5	+0.8
SKO	Skopje	6.72	352	i Pn	Pn	23 31 30.0	-1.3
SKO	Skopje	6.72	352	i Pn	Pn	23 31 29.9	-1.4
PE1	Pezze di Greco	6.89	324	ePn	Pn	23 31 38.9	-3.7
SG1	Sgolgore (BA)	7.29	321	ePn	Pn	23 31 37.7	-1.3
HBRG	Burj al 'Arab	7.62	126	P	Pn	23 31 41.3	-2.2
CDT	Castel del Mon	7.68	321	ePn	Pn	23 31 43.2	-1.1
AWBH		8.73	141	P	Pn	23 31 58.3	-0.4
FYM	Al Fayyum	8.98	126	P	Pn	23 32 00.6	-1.6
ANTO	Ankara	9.19	57	ePn	Pn	23 32 08.9	+3.9
	2.6nm,0.5s						
ANTO	Ankara	9.19	57	ePn	Pn	23 32 08.9	+3.9
	2.6nm,0.5s						
KOT	Kottamia	9.37	122	P	Pn	23 32 04.7	-2.7
HFRF	Wahat Farafira	9.44	148	P	Pn	23 32 09.1	+0.7
GLL	Jalalah	9.50	125	P	Pn	23 32 07.2	-2.1
BR131	Keskin Array S	9.72	60	ePn	Pn	23 32 14.0	+1.7
	0.8nm,0.5s						
BRTR	Keskin Array B	9.72	60	P	Pn	23 32 14.2	+1.9
	0.1nm,0.3s,baz=235,slow=14,SNR=13						
AMAG	Maghara	9.96	115	P	Pn	23 32 12.6	-2.9
SUZ		10.12	120	P	Pn	23 32 15.7	-2.1
TIRR	Tirgusor	10.12	24	ePn	Pn	23 32 18.3	+0.6
TIRR	Tirgusor	10.12	24	ePn	Pn	23 32 18.3	+0.5
MLR	Muntele Rosu	10.46	13	P	Pn	23 32 21.8	-0.5
	0.1nm,0.3s,baz=71,slow=23,SNR=2.9						
HNKL	Nakhl	10.90	116	P	Pn	23 32 25.4	-3.0
GRB	Gharib	11.06	127	P	Pn	23 32 29.0	-1.7
HDK1	Dakhla	11.31	148	⇑P	Pn	23 32 35.1	+1.1
TR2		11.62	123	P	Pn	23 32 36.0	-2.2
TR1		12.02	124	P	Pn	23 32 42.0	-1.6
GERES	GERESS Array B	15.07	337	P	Pn	23 33 23.3	-1.2
	0.1nm,0.3s,baz=162,slow=13,SNR=3.2						
KHC	Kasperske Hory	15.36	337	eP	Pn	23 33 34.0	+5.7
AKASG	Malin Array Be	16.09	15	P	Pn	23 33 35.1	-2.4
	0.6nm,0.3s,baz=206,slow=12,SNR=4.1						
GNI	Garni	18.06	68	P	Pn	23

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.12**	**277**	⇓*iP*	**Pn**	**23 43 21.5**	**+1.4**
CEN1				*i* S	**Sn**	**23 43 46.2**	**+0.5**
CEN1				AMP		23 43 51.4	
	comp=N,720nm,0.5s						
ANCH	**Antofagasta**	**2.29**	**269**	⇑*iP*	**Pn**	**23 43 19.9**	**-2.5**
ANCH				*i* S	**Sn**	**23 43 44.8**	**-5.1**
ANCH				AMP		23 43 49.7	
	comp=N,1μm,0.1s						
ANCH	**Antofagasta**	**2.29**	**269**	⇑*iP*	**Pn**	**23 43 19.9**	**-2.5**
ANCH				*i* S	**Sn**	**23 43 44.8**	**-5.1**
CPN1	**Cerro Paranal**	**2.47**	**247**	⇑*iP*	**Pn**	**23 43 25.8**	**+0.9**
CPN1				*i* S	**Sn**	**23 43 54.0**	**-0.3**
CPN1				AMP		23 43 55.4	
	comp=N,747nm,0.4s						
CRCH	**Chaqaral**	**3.63**	**222**	⇑*iP*	**Pn**	**23 43 41.5**	**+1.0**
CRCH				*i* S	**Sn**	**23 44 21.9**	**-0.4**
CRCH				AMP		23 44 27.2	
	comp=E,352nm,0.5s						
CRCH	**Chaqaral**	**3.63**	**222**	⇑*iP*	**Pn**	**23 43 41.5**	**+1.0**
CRCH				*i* S	**Sn**	**23 44 21.9**	**-0.4**
CDCH	**Caldera**	**4.30**	**217**	⇑*iP*	**Pn**	**23 43 49.5**	**-0.2**
CDCH				*i* S	**Sn**	**23 44 35.9**	**-2.7**
LPAZ	**La Paz**	**7.34**	**358**	P	**Pn**	**23 44 31.2**	**+0.2**
	comp=E,5.1nm,0.3s,baz=186,slow=7.4,SNR=54						
LPAZ	**La Paz**	**7.34**	**358**	*e*Pn	**Pn**	**23 44 31.2**	**+0.3**
	comp=E,14nm,0.3s						
CFAA	**Coronel Fontan**	**7.92**	**182**	P	**Pn**	**23 44 41.1**	**+2.2**
	comp=E,0.6nm,0.3s,baz=356,slow=12,SNR=36						
CFAA				S	**Sn**	**23 46 06.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=252,slow=21,SNR=6.5						
SIV	**San Ignacio**	**9.98**	**41**	P	**Pn**	**23 45 06.4**	**-0.6**
	comp=E,4.4nm,0.3s,baz=248,slow=9.7,SNR=87						
SIV				S	**Sn**	**23 46 53.9**	**-3.2**
	comp=E,0.6nm,0.3s,baz=311,slow=24,SNR=3.3						
TRQA	**Tornquist**	**15.22**	**162**	*e*Pn	**Pn**	**23 46 21.0**	**+4.3**
	comp=E,6.2nm,0.8s						
BDFB	**Brasilia**	**20.35**	**71**	P	**P**	**23 47 17.2**	**+1.1**
	comp=E,5.2nm,0.4s,baz=251,slow=11,SNR=13						
BDFB				LR	LR	23 57 00.2	
	comp=E,27nm,18.3s,baz=235,slow=42						
DBIC	**Dimbokro**	**68.49**	**72**	P	**P**	**23 53 38.9**	**-0.8**
	comp=E,1.2nm,0.4s,mb4.1,baz=231,slow=2.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**77.23**	**69**	P	**P**	**23 54 30.2**	**-1.1**
	comp=E,5.0nm,0.7s,mb4.3,baz=259,slow=5.6,SNR=95						
TSUM	**Tsumeb**	**78.55**	**106**	*e*P	**P**	**23 54 39.8**	**+1.2**
	comp=E,1.1nm,0.7s,mb3.8						
TSUM				*e*		23 54 46.5	
ASAR	**Alice Springs**	**128.41**	**206**	PKP	PKPdf	00 01 42.1	-1.1
	comp=E,0.6nm,0.7s,baz=137,slow=1.8,SNR=8.6						
WRA	**Warramunga Arr**	**131.54**	**208**	PKP	PKPdf	00 01 48.0	-1.2
	comp=E,0.6nm,0.6s,baz=151,slow=1.6,SNR=14						
MKAR	**Makanchi Array**	**146.79**	**39**	PKPbc	PKPbc	00 02 17.0	-1.7
	comp=E,0.1nm,0.4s,baz=318,slow=2.4,SNR=5.7						

IDC 19 00:10:53.9±8.2, 524S×15243E, h58km±61km, mb3.3/2, mb1 3.6/3, mb1mx3.3/14, mbtmp3.7/3, ML2.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/21, Error ellipse: s-maj=117.9km s-min=50.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.67**	**231**	P	Pn	00 12 30.2	+1.0
	0.6nm,0.3s,baz=65,slow=15,SNR=6.3						
PMG				S	Sn	00 13 44.4	+0.7
	0.5nm,0.3s,baz=110,slow=15,SNR=7.1						
KAKA	**Kakadu**	**21.08**	**248**	*e*P	P	00 15 31.8	-1.6
	6.5nm,0.6s						
WB2	**Warramunga Arr**	**22.87**	**229**	*e*P	P	00 15 52.7	+0.3
WRA	**Warramunga Arr**	**22.88**	**229**	P	P	00 15 51.6	-0.8
	2.0nm,0.8s,baz=54,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**25.58**	**222**	P	P	00 16 18.4	+1.0
	0.6nm,0.5s,baz=56,slow=8.4,SNR=12						
JOW	**Kunigami**	**39.54**	**325**	LR	LR	00 31 57.8	
	comp=Z,94nm,21.7s,baz=285,slow=32						
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPbc	PKPbc	00 30 39.1	+1.0
	0.5nm,0.8s,baz=62,slow=2.1,SNR=4.2						

IDC 19 00:19:43.2±1.0, 368N×12701E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.2/19, mbtmp4.3/9, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=128.0km s-min=12.5km az=69.0
ISCJB 19 00:19:46.1±0.5, 377N±008×1274E±02, h33km, mb4.4/17, Error ellipse: s-maj=32.4km s-min=7.9km az=147.2
NEIC 19 00:19:47.3±0.4, 376N×12732E, h30km, mb4.4/10, Error ellipse: s-maj=25.1km s-min=6.2km az=74.0

ISC 19 00:19:48.2±0.5, 378N±008×1274E±02, h35km, n25, σ0°81/23, mb4.4/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.12**	**163**	*e*P	**Pn**	**00 23 44.0**	**-0.6**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.81**	**185**	*e*P	**P**	**00 24 36.0**	**-1.2**
	8.4nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**24.52**	**164**	*e*P	**P**	**00 25 05.1**	**+0.8**
	64nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**24.53**	**164**	P	**P**	**00 25 05.0**	**+0.7**
	34nm,0.7s,mb5.0,baz=344,slow=10,SNR=194						
WRA				S	**S**	**00 29 28.8**	**+6.2**
	0.8nm,0.9s,baz=331,slow=22,SNR=3.9						
WB2	**Warramunga Arr**	**24.53**	**164**	*e*P	**P**	**00 25 04.9**	**+0.5**
MBWA	**Marble Bar**	**25.91**	**197**	*e*P	**P**	**00 25 17.0**	**+0.2**
	5.3nm,0.7s,mb4.2						
CBIJ	**Chichi jima**	**27.14**	**30**	LR	LR	00 34 14.8	
	comp=Z,52nm,19.6s,baz=122,slow=32						
ASAR	**Alice Springs**	**28.00**	**167**	P	**P**	**00 25 36.0**	**+0.4**
	1.6nm,0.5s,mb3.9,baz=338,slow=6.3,SNR=34						
ASAR				PcP	PcP	00 28 52.0	+2.0
	0.8nm,0.7s,baz=338,slow=3.0,SNR=4.1						
KS15	**Wonju Array Si**	**33.51**	**1**	P	**P**	**00 26 24.4**	**+0.2**
MJAR	**Matsushiro Arr**	**34.08**	**16**	LR	LR	00 38 54.8	
	comp=Z,94nm,18.7s,baz=155,slow=34						
BJT	**Baijiatuan**	**37.49**	**346**	*e*P	**P**	**00 26 57.7**	**-0.7**
	8.2nm,0.6s,mb4.7						
BJT				*e*pP	pP	00 27 09.1	+0.5
STKA	**Stephens Creek**	**37.93**	**160**	*e*P	**P**	**00 27 01.4**	**-0.7**
	6.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.93**	**160**	P	**P**	**00 27 01.3**	**-0.8**
	9.4nm,0.7s,mb4.6,baz=337,slow=7.9,SNR=17						
LSA	**Lhasa**	**42.94**	**311**	*e*P	**P**	**00 27 43.6**	**+0.1**
	3.1nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**47.29**	**341**	*e*P	**P**	**00 28 18.7**	**+0.6**
	3.4nm,0.9s,mb4.3						
SONM	**Songino Array**	**47.48**	**341**	P	**P**	**00 28 20.4**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=156,slow=8.7,SNR=11						
SONM				PcP	PcP	00 29 50.9	+1.4
	0.7nm,0.8s,baz=150,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**57.92**	**325**	P	**P**	**00 29 34.7**	**-2.0**
	1.1nm,0.5s,mb4.1,baz=109,slow=5.7,SNR=20						
MKAR				ScP	ScP	00 34 34.6	+8.5
	0.6nm,0.7s,baz=108,slow=4.7,SNR=5.9						
AKTK	**Aktyubinsk**	**74.06**	**321**	P	**P**	**00 31 21.3**	**+0.8**
AKTO	**Aktyubinsk**	**74.06**	**321**	P	**P**	**00 31 21.3**	**+0.8**
	1.0nm,0.4s,mb4.1,baz=98,slow=14,SNR=5.2						
ARU	**Arti**	**75.27**	**328**	*e*P	**P**	**00 31 27.3**	**-0.2**
	2.5nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	**90.26**	**269**	*e*P	**P**	**00 32 46.1**	**+0.9**
	2.3nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**90.65**	**340**	P	**P**	**00 32 46.6**	**-0.4**
	3.4nm,0.9s,mb4.7,baz=70,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**92.12**	**332**	P	**P**	**00 32 52.4**	**-1.5**
	0.8nm,0.8s,mb4.1,baz=106,slow=10,SNR=3.5						
MLR	**Muntele Rosu**	**95.35**	**316**	P	**P**	**00 33 08.8**	**+0.1**
	1.2nm,0.7s,mb4.5,baz=160,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**123.57**	**288**	PKP	PKPdf	00 38 43.0	+1.2
	0.6nm,0.8s,baz=44,slow=2.4,SNR=4.4						

MOS 19 00:20:04.7±1.0, 6762N×16740W, h10km, mb4.5/5, Error ellipse: s-maj=27.1km s-min=12.4km az=106.3
NEIC 19 00:20:04.0, 6790N×16806W, h10km, mb4.4/3, ML4.1(AEIC), After AEIC.
ISCJB 19 00:20:05.7±0.3, 6773N±005×16741W±009, h10km, mb4.0/18, MS3.4/3, Error ellipse: s-maj=7.9km s-min=4.3km az=40.7
IDC 19 00:20:06.8±0.9, 6781N×16756W, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/22, mbtmp4.0/12, MS3.4/3, Ms1 3.4/3, ms1mx2.8/35, Error ellipse: s-maj=28.1km s-min=15.6km az=30.0

ISC 19 00:20:07.1±0.3, 6775N±005×16760W±008, h10km, n46, σ1°19/55, mb4.0/18, MS3.4/3, 4C-4D, Bering Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.21**	**184**	*e*Pn	**Pn**	**00 20 42.9**	**-0.9**
TNA				*e*Pg	**Pg**	**00 20 47.6**	**-1.8**
TNA				*e*S	**Sn**	**00 21 15.9**	**+4.8**
IM3	**Indian Mountai**	**5.74**	**102**	P	**Pn**	**00 21 31.1**	**-1.2**
IM3				S	**Sn**	**00 22 40.4**	**+2.1**
COLD	**Coldfoot**	**6.70**	**86**	P	**Pn**	**00 21 43.8**	**-1.7**
COLD				S	**Sn**	**00 23 02.6**	**+0.7**
TT01	**Tatalina**	**6.86**	**130**	P	**Pn**	**00 21 47.0**	**-0.7**
KTH	**Kantishna Hill**	**8.06**	**114**	P	**Pn**	**00 22 04.2**	**0.0**
KTH				S	**Sn**	**00 23 36.8**	**+1.3**
COLA	**College**	**8.44**	**101**	P	**Pn**	**00 22 08.8**	**-0.7**
MCK	**McKinley**	**8.66**	**109**	*e*P	**Pn**	**00 22 08.6**	**-3.8**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	**McKinley**	**8.66**	**109**	*e*Pn	**Pn**	**00 22 08.6**	**-3.9**
	comp=Z,4.4nm,0.8s						
BM3	**Burnt Mountain**	**8.77**	**82**	P	**Pn**	**00 22 11.1**	**-2.9**
ILAR	**Eielson Array**	**8.85**	**100**	Pn	**Pn**	**00 22 13.1**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=295,slow=14,SNR=32						
ILAR				Sn	**Sn**	**00 23 50.9**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=301,slow=25,SNR=4.2						
BILL	**Bilibino**	**9.82**	**284**	*e*P	**Pn**	**00 22 29.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	**Bilibino**	**9.82**	**284**	*e*Pn	**Pn**	**00 22 29.1**	**+0.7**
	comp=Z,5.3nm,0.6s						
SML	**Sawmill**	**10.12**	**117**	*e*P	**Pn**	**00 22 33.2**	**+0.8**
DAWY	**Dawson**	**12.03**	**94**	*e*P	**Pn**	**00 22 59.0**	**+0.3**
INK	**Inuvik**	**12.67**	**72**	Pn	**Pn**	**00 23 02.1**	**-5.3**
	comp=Z,0.6nm,0.3s,baz=282,slow=18,SNR=15						
SEY	**Seymchan**	**17.13**	**273**	*e*P	**Pn**	**00 24 11.7**	**+5.1**
MA2	**Magadan**	**19.81**	**266**	*d iP*	**Pn**	**00 24 41.6**	**+2.2**
MA2				*e*S	**Sn**	**00 28 20.6**	**-1.4**
MA2				pmax	pmax		
	comp=N,3.0nm,0.8s						
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MA2	**Magadan**	**19.81**	**266**	*e*P	**Pn**	**00 24 40.7**	**+1.3**
	comp=Z,4.6nm,0.8s						
TIXI	**Tiksi**	**21.44**	**309**	⇓*iP*	**P**	**00 24 56.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,96nm,11.0s,MS3.5						
YKW3	**Yellowknife Ar**	**22.23**	**78**	P	**P**	**00 25 06.9**	**+3.0**
YKA	**Yellowknife Ar**	**22.28**	**78**	P	**P**	**00 25 03.6**	**-0.8**
	comp=Z,2.0nm,0.9s,mb3.6,baz=304,slow=9.9,SNR=13						
YKA				LR	LR	00 35 04.6	
	comp=Z,55nm,19.9s,MS3.0,baz=300,slow=40						
RES	**Resolute Bay**	**22.85**	**41**	*e*P	**P**	**00 25 10.9**	**+0.4**
RES				*e*S	**S**	**00 29 17.4**	**-2.8**
RES				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.4						
RES	**Resolute Bay**	**22.85**	**41**	*e*P	**P**	**00 25 10.9**	**+0.4**
	comp=Z,31nm,1.8s,mb4.4						
RES				*e*S	**S**	**00 29 17.4**	**-2.8**
ELK	**Elko**	**38.93**	**107**	P	**P**	**00 27 34.1**	**+1.0**
	comp=Z,1.8nm,0.9s,mb3.8,baz=198,slow=16,SNR=3.7						
PDAR	**Pinedale Array**	**39.28**	**99**	P	**P**	**00 27 36.9**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.7,baz=307,slow=5.4,SNR=9.1						
NVAR	**Mina Array Bea**	**39.88**	**112**	P	**P**	**00 27 42.8**	**+1.8**
	comp=Z,3.0nm,0.8s,mb4.0,baz=308,slow=8.4,SNR=15						
MJAR	**Matsushiro Arr**	**43.32**	**252**	P	**P**	**00 28 09.7**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.1,baz=18,slow=7.8,SNR=13						
ULN	**Ulaanbaatar**	**45.22**	**289**	⇑*eP*	**P**	**00 28 18.9**	**-5.5**
JOF	**Joensuu**	**48.91**	**349**	*ep*	**P**	**00 28 52.6**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.7						
KAF	**Kangasniemi**	**50.04**	**352**	*ep*	**P**	**00 29 02.2**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**50.72**	**352**	P	**P**	**00 29 07.0**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=8.2,SNR=11						
FINES				LR	LR	00 49 32.7	
	comp=Z,62nm,20.1s,MS3.6,baz=13,slow=35						
FINES	**FINESS Array B**	**50.72**	**352**	P	**P**	**00 29 07.0**	**-0.1**
FINES				LR	LR	00 49 32.8	
ARU	**Arti**	**51.52**	**329**	⇑*iP*	**P**	**00 29 13.0**	**0.0**
ARU				*e*		00 30 24.8	
ARU				*e*		00 31 08.9	
ARU				*e*PPP		00 32 08.4	
ARU				*e*S	**S**	**00 36 32.4**	**-0.9**
ARU				*e*		00 38 59.1	
ARU				*e*SS	SS	00 40 09.6	+0.3
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**51.97**	**312**	⇓*eP*	**P**	**00 29 16.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**51.97**	**312**	⇓*eP*	**P**	**00 29 16.5**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**52.05**	**319**	P	**P**	**00 29 17.6**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.1,baz=32,slow=8.7,SNR=9.5						
AKTO	**Aktyubinsk**	**57.28**	**327**	P	**P**	**00 29 55.1**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=8.3,slow=6.1,SNR=4.7						
AKASG	**Malin Array Be**	**61.20**	**348**	P	**P**	**00 30 22.3**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.4,baz=7.9,slow=6.6,SNR=12						
AKASG	**Malin Array Be**	**61.20**	**348**	*i* P	**P**	**00 30 22.2**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KHC	**Kasperske Hory**	**63.44**	**359**	⇑*eP*	**P**	**00 30 35.2**	**-1.9**
GERES	**GERESS Array B**	**63.73**	**359**	P	**P**	**00 30 40.1**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=3.6,slow=4.3,SNR=5.4						
GOF	**Gofitskoye**	**65.16**	**337**	*e*P	**P**	**00 30 48.1**	**-0.3**
DAVOX	**Davos**	**65.78**	**2**	P	**P**	**00 30 52.2**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=338,slow=4.3,SNR=3.5						
BRTR	**Keskin Array B**	**71.65**	**343**	P	**P**	**00 31 29.9**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=18,slow=3.9,SNR=5.8						
BRTR	**Keskin Array B**	**71.65**	**343**	⇑*eP*	**P**	**00 31 29.8**	**+0.8**
PLCA	**Paso Flores**	**129.53**	**102**	PKP	PKPdf	00 39 16.8	+0.6
	comp=Z,0.7nm,0.4s,baz=64,slow=4.5,SNR=4.8						

IDC 19 00:23:12.7±3.2, 3073S×17792W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, Error ellipse: s-maj=72.7km s-min=22.7km az=117.0
ISCJB 19 00:23:17.2±1.4, 308S±01×1782W±02, h33km, mb3.9/5, Error ellipse: s-maj=31.8km s-min=10.4km az=40.1
NEIC 19 00:23:17.9±0.9, 3055S×17807W, h30km, mb4.2/2, Error ellipse: s-maj=23.1km s-min=13.3km az=114.0

ISC 19 00:23:18.6±1.4, 306S±01×1780W±03, h35km, n9, σ0°36/8, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.30**	**4**	Pn	**Pn**	**00 23 40.2**	**0.0**
	80nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO				Sn	**Sn**	**00 24 02.3**	**+6.0**
	197nm,0.3s,baz=216,slow=22,SNR=6.6						
STKA	**Stephens Creek**	**34.42**	**257**	P	**P**	**00 30 02.5**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=97,slow=8.1,SNR=2.3						
STKA	**Stephens Creek**	**34.42**	**257**	P	**P**	**00 30 02.5**	**-0.1**
ASAR	**Alice Springs**	**43.08**	**267**	P	**P**	**00 31 15.2**	**+0.1**
	0.5nm,0.6s,mb3.4,baz=111,slow=7.7,SNR=5.4						
WRAB	**Tennant Creek**	**44.08**	**272**	*e*P	**P**	**00 31 23.1**	**-0.1**
	3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**44.08**	**272**	P	**P**	**00 31 23.2**	**+0.1**
	0.7nm,0.4s,mb3.7,baz=111,slow=8.1,SNR=31						
QSPA	**South Pole Qui**	**59.56**	**180**	P	**P**	**00 33 18.6**	**0.0**
	1.6nm,0.8s,mb4.1						
QSPA				PcP	PcP	00 34 01.7	-3.9
KAF	**Kangasniemi**	**144.68**	**340**	*e*pkp	PKPdf	00 42 48.3	-3.2
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	PKPbc	00 42 51.2	-1.1
	0.7nm,0.5s,baz=48,slow=4.4,SNR=15						

NEIC 19 00:37:02.9±2.7, 3143S×7187W, h13km±10km, ML3.8(GUC), Error ellipse: s-maj=25.0km s-min=8.5km az=117.0
ISCJB 19 00:37:03.8±1.2, 3137S±005×7177W±009, h52km±10km, Error ellipse: s-maj=13.9km s-min=6.8km az=46.5
GUC 19 00:37:04.8±0.8, 3151S×7172W, h29km±4km, MD4.1, ML3.8

ISC 19 00:37:04.6±1.3, 3142S±005×7176W±008, h24km±9km, n23, σ0°56/36, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.55**	**113**	⇑*iP*	**Pb**	**00 37 15.2**	**-0.3**
ILCH				*i* S	**Sb**	**00 37 22.3**	**-0.7**
CMCH	**Combarbala**	**0.69**	**70**	⇑*iP*	**Pb**	**00 37 18.2**	**+0.1**
CMCH				*i* S	**Sb**	**00 37 28.2**	**+1.0**
CMCH				AMP		00 37 34.6	
	comp=E,10μm,0.7s						
CMCH	**Combarbala**	**0.69**	**70**	⇑*iP*	**Pb**	**00 37 18.2**	**+0.1**
CMCH				*i* S	**Sb**	**00 37 28.2**	**+1.0**
JACH	**Jahuel**	**1.60**	**142**	*e*P	**Pn**	**00 37 31.3**	**-0.1**
JACH				*i* S	**Sn**	**00 37 51.1**	**-0.3**
IHA	**Instituto Hidr**	**1.60**	**176**	*e*P	**Pn**	**00 37 30.6**	**-0.9**
IHA				*i* S	**Sn**	**00 37 51.6**	**+0.2**
ROCH	**El Roble**	**1.67**	**158**	⇑*iP*	**Pn**	**00 37 32.0**	**-0.4**
PEL	**Peldehue**	**1.94**	**152**	⇓*iP*	**Pn**	**00 37 35.9**	**-0.2**
PEL				*i* S	**Sn**	**00 37 59.5**	**-0.3**
PEL				AMP		00 38 04.6	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.94**	**152**	⇓*iP*	**Pn**	**00 37 35.9**	**-0.2**
PEL				*i* S	**Sn**	**00 37 59.5**	**-0.3**
RCDM	**Rinconada Maip**	**2.21**	**159**	⇑*iP*	**Pn**	**00 37 39.4**	**-0.4**
RCDM				*i* S	**Sn**	**00 38 06.9**	**+0.4**
RCDM				AMP		00 38 12.7	
	comp=E,538nm,0.3s						
RCDM	**Rinconada Maip**	**2.21**	**159**	⇑*iP*	**Pn**	**00 37 39.4**	**-0.4**
RCDM				*i* S	**Sn**	**00 38 06.9**	**+0.4**
FCH	**Farellones**	**2.27**	**147**	⇓*iP*	**Pn**	**00 37 41.0**	**+0.3**
FCH				*i* S	**Sn**	**00 38 08.8**	**+0.9**
FCH				AMP		00 38 11.4	
	comp=E,481nm,0.2s						
TACH	**Talagante**	**2.33**	**163**	*e*P	**Pn**	**00 37 40.9**	**-0.6**
ANTU	**Antumapu**	**2.34**	**156**	*i* S	**Sn**	**00 38 09.6**	**-0.1**
ANTU				AMP		00 38 19.7	
	comp=E,470nm,0.6s						
PCH	**Pirque**	**2.43**	**155**	⇑*iP*	**Pn**	**00 37 42.9**	**0.0**
CHCH	**Chadas Angostu**	**2.67**	**160**	*e*P	**Pn**	**00 37 46.3**	**+0.1**
LMEL	**Las Melosas**	**2.75**	**152**	*i* P	**Pn**	**00 37 47.8**	**+0.5**
LMEL				*i* S	**Sn**	**00 38 20.1**	**+0.3**
LMEL				AMP		00 38 31.1	
	comp=E,437nm,0.2s						
LMEL	**Las Melosas**	**2.75**	**152**	*i* P	**Pn**	**00 37 47.8**	**+0.5**
LMEL				*i* S	**Sn**	**00 38 20.1**	**+0.3**
CACH	**El Canelo**	**2.86**	**160**	⇓*iP*	**Pn**	**00 37 49.3**	**+0.5**
CICH	**Cipreses**	**3.10**	**159**	⇓*iP*	**Pn**	**00 37 52.6**	**+0.5**
SFDO	**San Fernando**	**3.25**	**169**	*e*P	**Pn**	**00 37 54.4**	**+0.3**
PLCA	**Paso Flores**	**9.35**	**174**	*e*Pn	**Pn**	**00 39 17.0**	**-0.8**
	comp=E,1.3nm,0.5s						
TRQA	**Tornquist**	**10.42**	**132**	*e*Pn	**Pn**	**00 39 32.9**	**+0.5**
	comp=E,1.6nm,0.6s						
CPUP	**Villa Florida**	**13.62**	**72**	Pn	**Pn**	**00 40 17.1**	**+0.8**
	comp=E,6.2nm,0.8s						
CPUP				Sn	**Sn**	**00 42 45.4**	**-1.4**

NAO 19 00:42:31.9, 3258N×7451E, h33km, mb3.7
NEIC 19 00:43:21.6±6.6, 3612N×7098E, h174km±34km, mb3.5/1, Error ellipse: s-maj=74.0km s-min=15.5km az=185.0
IDC 19 00:43:22.8±7.4, 3628N×7102E, h174km±63km, mb3.3/5, mb1 3.3/8, mb1mx3.1/22, mbtmp3.7/8, Error ellipse: s-maj=52.1km s-min=35.6km az=147.0
ISCJB 19 00:43:31.8±2.0, 370N±01×711E±01, h233km±16km, mb3.3/5, Error ellipse: s-maj=24.1km s-min=16.4km az=27.4
NNC 19 00:43:36.6±0.8, 3736N×7111E, h255km±8km, mb2.6, mpv3.8, Error ellipse: s-maj=9.0km s-min=4.3km az=16.0

ISC 19 00:43:34.1±2.1, 371N±02×711E±01, h237km±16km, n28, σ0°72/33, mb3.3/5, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.39**	**21**	P	**Pn**	**00 44 54.4**	**+0.1**
	SNR=105						
UCH	**Uchtor**	**5.74**	**27**	P	**Pn**	**00 44 59.0**	**+0.3**
	SNR=38						
EKS2	**Erkin-Say**	**5.90**	**20**	P	**Pn**	**00 45 01.1**	**+0.3**
	SNR=11						
KZA	**Kyzart**	**5.90**	**32**	P	**Pn**	**00 45 00.4**	**-0.4**
	SNR=8.2						
KK31	**Karatay Array**	**5.98**	**356**	⇑P	**Pn**	**00 45 01.8**	**+0.2**
	1.1nm,0.3s,baz=180,slow=12,SNR=69						
KK31				⇓S	**S**	**00 46 10.3**	**-1.2**
	5.2nm,0.5s,baz=172,slow=16,SNR=15						
KK31	**Karatay Array**	**5.98**	**356**	P	**Pn**	**00 45 01.8**	**+0.2**
KK31				S	**S**	**00 46 10.3**	**-1.2**
AAK	**Ala-Archa**	**6.10**	**25**	P	**Pn**	**00 45 03.

*NAO **19** 00:49:11.0, 732N×12507E, h33km, mb5.3*
*IDC **19** 00:49:15.9±0.6, 596N×12608E, h129km±5km, mb4.8/34, mb1 4.8/34, mb1mx4.8/35, mbtmp5.2/34, MS4.1/11, Ms1 4.1/11, ms1mx3.8/28, Error ellipse: s-maj=11.7km s-min=6.0km az=69.0*
*ISCJB **19** 00:49:15.6±0.2, 598N±002×126.13E±003, h140km, mb5.1/137, Error ellipse: s-maj=4.8km s-min=2.8km az=138.6*
*MOS **19** 00:49:15.0±0.9, 604N×12606E, h134km, mb5.2/47, Error ellipse: s-maj=12.2km s-min=5.8km az=106.4*
*MAN **19** 00:49:15.3, 602N×12627E, h128km, mb4.8, ML5.5, MS3.5*
MAN F DAVAO CITY - INTENSITY II GENERAL SANTOS CITY - INTENSITY I.
*BJI **19** 00:49:15.9, 594N×126.15E, h147km, mB5.1, mb5.2*
*HRVD **19** 00:49:16.6±0.2, 605N×12627E, h131km±1km, MW5.3/88, Centroid moment Tensor Solution. LP body waves: s69,c99;Mantle waves: s88,c169; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.79±.02; $M_{\theta\theta}$0.20±.03; $M_{\phi\phi}$-0.98±.03; $M_{r\theta}$-0.37±.02; $M_{\theta\phi}$-0.71±.03; $M_{\phi r}$0.07±.03; Best double couple: $M_0$1.18700×10^{17} NP1:ϕ_s355.00000°, δ52.00000°, λ44.00000°. NP2:ϕ_s234.00000°, δ57.00000°, λ133.00000°. Principal axes: T 1.0530, Plg55.0000°, Azm202.0000°; N 0.2690, Plg35.0000°, Azm27.0000°; P -1.3210, Plg3.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 00:49:16.6±0.1, 606N×12609E, mb5.2/53 Error ellipse: s-maj=5.9km s-min=3.9km az=69.0*
NEIC Felt [III PIVS] at General Santos and [II PIVS] at Davao.
ISC 19 00:49:17.6±0.2, 603N±002×12615E±003, h142km, h142km±2.4km:pP-P,n417,σ1ϑ04/391,mb5.1/136,59C-25D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.23**	**329**	⇑*iP*			**Pn**	**00 49 42.3**	**-1.3**
DMPH				*i*S			**Sn**	**00 50 02.7**	**-0.9**
KCP	**Kidapawan**	**1.44**	**313**	⇓*iP*			**Pn**	**00 49 44.6**	**-1.2**
BUKP	**Musuan**	**2.13**	**330**	*eP*			**Pn**	**00 49 53.0**	**-0.7**
BUKP				*e*S			**Sn**	**00 50 23.1**	**+1.5**
BIPH	**Bislig**	**2.15**	**6**	⇑*eP*			**Pn**	**00 49 52.0**	**-2.0**
BIPH				*e*S			**Sn**	**00 50 18.7**	**-3.3**
CGP	**Cagayan de Oro**	**2.81**	**329**	⇓*iP*			**Pn**	**00 50 01.6**	**-0.6**
CGP				*i*S			**Sn**	**00 50 36.5**	**-0.1**
BUTP	**Butuan**	**2.97**	**350**	*eP*			**Pn**	**00 50 03.8**	**-0.4**
BUTP				*e*S			**Sn**	**00 50 41.9**	**+1.7**
PAGZ	**Pagadian**	**3.29**	**304**	*eP*			**Pn**	**00 50 07.5**	**-0.8**
DCPH	**Dipolog City**	**3.76**	**313**	⇓*eP*			**Pn**	**00 50 14.5**	**0.0**
SCPH	**Surigao**	**3.79**	**350**	⇑*eP*			**Pn**	**00 50 12.8**	**-2.0**
IPIL	**Ipil**	**3.96**	**296**	*eP*			**Pn**	**00 50 16.5**	**-0.6**
MSLP	**Maasin**	**4.28**	**343**	*eP*			**Pn**	**00 50 19.3**	**-1.9**
TBP	**Tagbilaran**	**4.29**	**328**	*eP*			**Pn**	**00 50 20.3**	**-1.1**
TBP				*e*S				00 50 54.7	
SNPH	**Sibulan**	**4.38**	**319**	⇓*iP*			**Pn**	**00 50 22.8**	**+0.2**
LLP	**Lapu-Lapu**	**4.78**	**333**	⇓*eP*			**Pn**	**00 50 27.4**	**-0.5**
LLP				*e*S			**Sn**	**00 51 22.0**	**-0.6**
OCLP	**Ormoc**	**5.22**	**343**	*eP*			**Pn**	**00 50 33.2**	**-0.5**
PLP	**Palo**	**5.24**	**347**	*eP*			**Pn**	**00 50 33.6**	**-0.4**
GUIM	**Jordan**	**5.77**	**323**	*eP*			**Pn**	**00 50 40.6**	**-0.5**
RCP	**Roxas**	**6.45**	**329**	⇓*eP*			**Pn**	**00 50 50.4**	**+0.3**
CNP	**Cataman**	**6.61**	**347**	*eP*			**Pn**	**00 50 52.6**	**+0.3**
KALP	**Kalibo**	**6.76**	**326**	*eP*			**Pn**	**00 51 02.1**	**+7.8**
CUYO	**Cuyo Island**	**6.98**	**314**	*eP*			**Pn**	**00 50 56.6**	**-0.7**
OTRP	**Odiongan**	**7.50**	**327**	*eP*			**Pn**	**00 51 06.3**	**+2.1**
PVCP	**Virac**	**7.77**	**346**	*eP*			**Pn**	**00 51 08.3**	**+0.4**
SJMP	**San Jose**	**8.09**	**323**	*eP*			**Pn**	**00 51 12.4**	**+0.3**
BUSP	**Coron**	**8.35**	**316**	*eP*			**Pn**	**00 51 15.7**	**+0.1**
ENPP	**El Nido**	**8.41**	**308**	*eP*			**Pn**	**00 51 15.8**	**-0.6**
BATP	**Bataraza**	**8.72**	**289**	*eP*			**Pn**	**00 51 22.9**	**+2.3**
TGY	**Tagaytay City**	**9.52**	**328**	P			**Pn**	**00 51 33.7**	**+2.4**
	30nm,0.3s,baz=195,slow=10,SNR=9.7								
LUBP	**Lubang**	**9.62**	**323**	*eP*			**Pn**	**00 51 32.8**	**+0.3**
KKM	**Kota Kinabalu**	**9.88**	**271**	P			**Pn**	**00 51 35.1**	**-1.0**
KKM	**Kota Kinabalu**	**9.88**	**271**	*e*Pn			**Pn**	**00 51 37.5**	**+1.5**
SCZP	**Santa Cruz**	**11.46**	**328**	*eP*			**Pn**	**00 52 05.2**	**+8.3**
CVP	**Callao Caves**	**12.35**	**340**	⇓*eP**			**Pn**	**00 52 16.0**	**+7.5**
APYP	**Conner**	**12.70**	**338**	*eP*			**Pn**	**00 52 14.2**	**+1.1**
KSM	**Kuching**	**16.44**	**255**	*eP*			**Pn**	**00 53 01.8**	**+1.9**
YHNB	**Yeheng**	**19.09**	**347**	*eP*			**P**	**00 53 29.6**	**+0.4**
YHNB				*e*S			**S**	**00 56 58.7**	**+0.5**
KAKA	**Kakadu**	**19.64**	**161**	⇓*iP*			**P**	**00 53 35.3**	**+0.2**
	355nm,0.6s								
QZH	**Quanzhou**	**20.16**	**340**	⇓P			**P**	**00 53 41.1**	**+0.4**
QZH				S			**S**	**00 57 14.5**	**-4.6**
QZH				AMB			AMB		
	comp=Z,370nm,1.4s								
QIZ	**Qiongzhong**	**20.48**	**311**	P			**P**	**00 53 45.0**	**+0.9**
QIZ				AP				00 54 13.3	
QIZ				PP				00 54 17.0	
QIZ				S			**S**	**00 57 21.8**	**-3.6**
QIZ				SS				00 58 06.3	
QIZ				AMB			AMB		
	comp=Z,115nm,0.9s								
QIZ	**Qiongzhong**	**20.48**	**311**	*eP*			**P**	**00 53 44.8**	**+0.7**
	comp=Z,91nm,0.8s								
JOW	**Kunigami**	**20.79**	**5**	P			**P**	**00 53 47.8**	**+0.3**
	comp=Z,87nm,0.8s,baz=188,slow=8.3,SNR=16								
GZH	**Guangzhou**	**20.98**	**325**	P			**P**	**00 53 52.3**	**+2.9**
GZH				S			**S**	**00 57 39.0**	**+3.9**
GZH				LR			LR		
	comp=N,737nm,19.4s								
GZH				LR			LR		
	comp=E,623nm,17.7s								
GZH				LR			LR		
	comp=Z,726nm,14.9s								
KGM	**Kluang**	**23.12**	**261**	P			**P**	**00 54 12.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**23.98**	**181**	⇑*iP*			**P**	**00 54 19.1**	**+0.3**
	comp=Z,137nm,0.6s,mb5.7								
FITZ				*e*S			**S**	**00 58 24.4**	**-0.9**
IPM	**Ipoh**	**25.07**	**268**	P			**P**	**00 54 29.6**	**+0.9**
SSE	**Sheshan**	**25.37**	**350**	P			**P**	**00 54 33.1**	**+1.7**
SSE				AP			pP	00 55 03.9	+2.7
SSE				XP			sP	00 55 21.8	+4.1
SSE				PCP			PcP	00 58 00.3	+0.2
SSE				S			**S**	**00 58 49.8**	**+2.5**
SSE				SCP			ScP	01 01 25.1	-1.0
SSE				AMB			AMB		
	comp=Z,53nm,0.8s,mb5.1								
SSE				AMB			AMB		
	comp=Z,174nm,2.8s,mb5.1								
SSE				LR			LR		
	comp=N,609nm,22.1s								
SSE				LR			LR		
	comp=E,87nm,22.1s								
SSE				LR			LR		
	comp=Z,207nm,24.2s								
KULM	**Kulim**	**25.39**	**270**	*eP*			**P**	**00 54 32.0**	**+0.4**
KULM				*e*PcP			PcP	00 58 00.8	+0.7
CBIJ	**Chichi jima**	**25.92**	**34**	P			**P**	**00 54 34.4**	**-2.0**
	comp=Z,66nm,0.4s,mb5.6,baz=283,slow=7.1,SNR=6.9								
PMG	**Port Moresby**	**25.95**	**126**	P			**P**	**00 54 36.6**	**-0.1**
	comp=Z,40nm,0.6s,mb5.2,baz=11,slow=4.3,SNR=27								
PMG				S			**S**	**00 58 55.9**	**-0.5**
	comp=Z,14nm,0.9s,baz=162,slow=23,SNR=9.4								
PMG	**Port Moresby**	**25.95**	**126**	⇑*eP*			**P**	**00 54 36.5**	**-0.2**
PMG	**Port Moresby**	**25.95**	**126**	*eP*			**P**	**00 54 36.3**	**-0.3**
	comp=Z,71nm,0.9s,mb5.3								
PMG				*e*S			**S**	**00 58 56.0**	**-0.4**
NJ2	**Nanjing**	**26.77**	**346**	*eP*			**P**	**00 54 45.3**	**+1.2**
NJ2				AP			pP	00 55 18.3	+4.3
NJ2				XP			sP	00 55 36.8	+6.4
NJ2				S			**S**	**00 59 05.0**	**-4.5**
NJ2				XS			sS	01 00 03.0	+0.6
NJ2				AMB			AMB		
	comp=Z,70nm,1.0s,mb5.2								
NJ2				AMB			AMB		
	comp=Z,1μm,5.2s								
NJ2				LR			LR		
	comp=N,1μm,17.2s								
NJ2				LR			LR		
	comp=E,1μm,15.5s								
NJ2				LR			LR		
	comp=Z,2μm,14.4s								
WRAB	**Tennant Creek**	**27.03**	**163**	P			**P**	**00 54 46.3**	**0.0**
	comp=Z,466nm,0.4s,SNR=77								
WRAB	**Tennant Creek**	**27.03**	**163**	*eP*			**P**	**00 54 46.5**	**+0.2**
WRAB				pmax			pmax		
	comp=Z,88nm,0.6s,mb5.6								
WRAB	**Tennant Creek**	**27.03**	**163**	*eP*			**P**	**00 54 46.5**	**+0.1**
	comp=Z,88nm,0.6s,mb5.6								
WRA	**Warramunga Arr**	**27.03**	**163**	P			**P**	**00 54 46.1**	**-0.3**
	comp=Z,20nm,0.4s,mb5.1,baz=342,slow=10,SNR=138								
WRA				S			**S**	**00 59 10.8**	**-2.8**
	comp=Z,14nm,1.0s,baz=333,slow=16,SNR=10.0								
WRA				ScP			ScP	01 01 33.9	+2.9
	comp=Z,5.2nm,0.7s,baz=344,slow=3.0,SNR=5.1								
WRA				P3KPbc				01 27 21.2	
	comp=Z,0.9nm,0.7s,baz=159,slow=3.8,SNR=9.7								
WRA	**Warramunga Arr**	**27.03**	**163**	P			**P**	**00 54 46.1**	**-0.3**
WRA				S			**S**	**00 59 10.8**	**-2.8**
WRA	**Warramunga Arr**	**27.03**	**163**	P			**P**	**00 54 46.1**	**-0.3**
WRA				S			**S**	**00 59 10.8**	**-2.8**
WRA				ScP			ScP	01 01 33.9	+2.9
WRA				*e*				01 27 21.2	
WB2	**Warramunga Arr**	**27.04**	**163**	⇑*iP*			**P**	**00 54 46.0**	**-0.4**
WB2				*e*S			**S**	**00 59 11.3**	**-2.3**
WB2				*e*SCS			ScS	01 05 22.4	+0.1
JNU	**Nakatsue**	**27.32**	**9**	P			**P**	**00 54 48.6**	**-0.3**
	comp=Z,23nm,0.7s,mb4.9,baz=177,slow=8.7,SNR=9.8								
PSI	**Prapat**	**27.33**	**264**	P			**P**	**00 54 48.2**	**-0.8**
	comp=Z,8.7nm,0.4s,mb4.7,baz=102,slow=0.9,SNR=9.2								
PSI				PcP			PcP	00 58 06.0	+1.3
	comp=Z,20nm,0.8s,baz=133,slow=2.0,SNR=6.9								
PSI				ScP			ScP	01 01 34.1	+2.2
	comp=Z,37nm,1.1s,baz=181,slow=0.8,SNR=15								
PSI				LR			LR	01 05 55.8	
	comp=Z,351nm,19.2s,baz=267,slow=37								
PSI	**Prapat**	**27.33**	**264**	P			**P**	**00 54 48.2**	**-0.8**
PSI								00 58 06.0	
PSI	**Prapat**	**27.33**	**264**	P			**P**	**00 54 48.2**	**-0.8**
PSI				PcP			PcP	00 58 06.0	+1.3
PSI				ScP			ScP	01 01 34.1	+2.2
PSI				LR			LR	01 05 55.8	
GYA	**Guiyang**	**27.54**	**320**	⇑*iP*			**P**	**00 54 52.3**	**+1.4**
GYA				AP			pP	00 55 21.8	+0.9
GYA				XP			sP	00 55 38.4	+1.1
GYA				PP			PP	00 55 47.8	-8.0
GYA				PCP			PcP	00 58 06.8	+1.6
GYA				S			**S**	**00 59 28.5**	**+7.0**
GYA				SCS			ScS	01 05 26.1	+1.6
GYA				AMB			AMB		
	comp=Z,20nm,0.8s,mb4.9								
GYA				AMB			AMB		
	comp=Z,230nm,5.9s								
GYA				LR			LR		
	comp=N,940nm,18.3s								
GYA				LR			LR		
	comp=E,620nm,16.8s								
GYA				LR			LR		
	comp=Z,800nm,17.1s								
MBWA	**Marble Bar**	**27.74**	**193**	⇑*iP*			**P**	**00 54 52.6**	**-0.1**
	comp=Z,86nm,0.6s,mb5.7								
MBWA				*e*PcP			PcP	00 58 06.5	+0.8
ENH	**Enshi**	**28.77**	**329**	*eP*			**P**	**00 55 01.4**	**-0.4**
	comp=Z,56nm,0.8s,mb5.3								
KMI	**Kunming**	**29.38**	**313**	⇑P			**P**	**00 55 09.6**	**+2.4**
KMI				AP			pP	00 55 40.6	+3.2
KMI				XP			sP	00 55 57.6	+3.8
KMI				PCP			PcP	00 58 12.4	+2.6
KMI				S			**S**	**00 59 50.8**	**+0.4**
KMI				XS			sS	01 00 45.4	+1.9
KMI				SS			SS	01 01 34.3	-27
KMI				SCP			ScP	01 01 41.8	+3.5
KMI				AMB			AMB		
	comp=Z,39nm,0.9s,mb5.1								
KMI				AMB			AMB		
	comp=Z,49nm,3.2s								
KMI				LR			LR		
	comp=N,642nm,13.8s								
KMI				LR			LR		
	comp=E,519nm,11.8s								
KMI				LR			LR		
	comp=Z,556nm,27.6s								
JHJ	**Hachijo jima 2**	**29.79**	**23**	LR			LR	01 05 31.9	
	comp=Z,253nm,21.8s,baz=249,slow=33								
ASAR	**Alice Springs**	**30.47**	**166**	P			**P**	**00 55 17.2**	**+0.4**
	comp=Z,45nm,0.5s,mb5.5,baz=347,slow=7.1,SNR=742								
ASAR				PcP			PcP	00 58 13.8	+1.2
	comp=Z,11nm,0.5s,baz=346,slow=2.7,SNR=6.4								
ASAR				S			**S**	**01 00 07.2**	**-0.2**
	comp=Z,11nm,1.1s,baz=352,slow=20,SNR=7.7								
ASAR				ScP			ScP	01 01 44.6	+2.8
	comp=Z,4.8nm,0.7s,baz=349,slow=2.4,SNR=6.4								
ASAR				P3KPbc				01 27 06.1	
	comp=Z,0.5nm,0.9s,baz=169,slow=4.2,SNR=7.0								
ASAR	**Alice Springs**	**30.47**	**166**	P			**P**	**00 55 17.2**	**+0.4**
ASAR								00 58 13.8	
ASAR				S			**S**	**01 00 07.2**	**-0.2**
ASAR	**Alice Springs**	**30.47**	**166**	P			**P**	**00 55 17.2**	**+0.4**
ASAR				PcP			PcP	00 58 13.8	+1.2
ASAR				S			**S**	**01 00 07.2**	**-0.2**
ASAR				ScP			ScP	01 01 44.6	+2.8
ASAR				*e*				01 27 06.1	
TIA	**Tai'an**	**31.16**	**346**	*eP*			**P**	**00 55 22.8**	**-0.1**
TIA				AMB			AMB		
	comp=Z,48nm,1.0s,mb5.2								
KS15	**Wonju Array Si**	**31.31**	**3**	*eP*			**P**	**00 55 26.0**	**+1.8**
INCN	**Inchon**	**31.31**	**1**	*eP*			**P**	**00 55 25.4**	**+1.1**
	comp=Z,38nm,0.7s,mb5.2								
XAN	**Xi'an**	**32.12**	**332**	P			**P**	**00 55 30.8**	**-0.5**
XAN				PP			PP	00 56 40.8	-5.9
XAN				S			**S**	**01 00 28.8**	**-4.4**
XAN				AMB			AMB		
	comp=Z,63nm,1.0s,mb5.3								
XAN				LR			LR		
	comp=N,213nm,11.4s								
XAN				LR			LR		
	comp=E,434nm,19.9s								
XAN				LR			LR		
	comp=Z,395nm,22.1s								
MAJO	**Matsushiro**	**32.32**	**18**	*eP*			**P**	**00 55 31.0**	**-2.0**
MAJO				*e*				00 58 17.9	
MAJO				pmax			pmax		
	comp=Z,12nm,0.9s,mb4.6								
MAJO	**Matsushiro**	**32.32**	**18**	*eP*			**P**	**00 55 31.0**	**-2.1**
	comp=Z,12nm,0.9s,mb4.6								
MAJO				*e*PcP			PcP	00 58 17.9	+0.3
MAT	**Matsushiro**	**32.32**	**18**	P			**P**	**00 55 30.7**	**-2.3**
MAT				S			**S**	**01 00 34.6**	**-1.7**
MJAR	**Matsushiro Arr**	**32.32**	**18**	P			**P**	**00 55 31.6**	**-1.4**
	comp=Z,6.8nm,0.8s,mb4.4,baz=194,slow=9.2,SNR=24								
MJAR				PcP			PcP	00 58 19.0	+1.4
	comp=Z,8.4nm,0.8s,baz=178,slow=2.5,SNR=12								
MJAR				ScP			ScP	01 01 51.2	+3.2
	comp=Z,4.8nm,0.9s,baz=207,slow=3.9,SNR=9.1								
MJAR				LR			LR	01 08 11.8	
	comp=Z,262nm,20.3s,baz=210,slow=35								
MJAR	**Matsushiro Arr**	**32.32**	**18**	P			**P**	**00 55 31.7**	**-1.3**
MJAR								00 58 19.0	
CD2	**Chengdu**	**32.47**	**322**	⇑*iP*			**P**	**00 55 34.6**	**+0.2**
CD2				AP			pP	00 56 04.8	0.0
CD2				XP			sP	00 56 20.3	-0.8
CD2				PP			PP	00 56 49.8	-0.7
CD2				S			**S**	**01 00 36.4**	**-2.3**
CD2				XS			sS	01 01 31.5	-0.5
CD2				SS			SS	01 02 44.1	-20
CD2				AMB			AMB		
	comp=Z,20nm,0.8s,mb4.9								
CD2				AMB			AMB		
	comp=Z,100nm,5.2s								
CD2				LR			LR		
	comp=N,350nm,10.2s								
CD2				LR			LR		
	comp=Z,390nm,14.4s								
CTA	**Charters Tower**	**32.62**	**143**	*eP*			**P**	**00 55 37.2**	**+1.5**
	comp=Z,18nm,0.9s,mb4.8								
CTA				*e*PCP			PcP	00 58 20.7	+2.2
CTA	**Charters Tower**	**32.62**	**143**	P			**P**	**00 55 35.4**	**-0.3**
	comp=Z,7.3nm,0.5s,mb4.7,baz=320,slow=12,SNR=14								
CTA				PcP			PcP	00 58 20.9	+2.4
	comp=Z,6.8nm,0.6s,baz=334,slow=7.1,SNR=3.0								
CTA				S			**S**	**01 00 43.9**	**+2.9**
	comp=Z,3.5nm,0.7s,baz=217,slow=18,SNR=4.1								
CTA	**Charters Tower**	**32.62**	**143**	P			**P**	**00 55 35.4**	**-0.3**
CTA				PcP			PcP	00 58 20.9	+2.4
CTA				S			**S**	**01 00 43.9**	**+2.9**
CTAO	**Charters Tower**	**32.62**	**143**	*eP*			**P**	**00 55 37.0**	**+1.3**
CTAO				*e*				00 58 20.3	
CTAO				pmax			pmax		
	comp=Z,24nm,0.8s,mb5.0								
CTAO	**Charters Tower**	**32.62**	**143**	*eP*			**P**	**00 55 37.0**	**+1.3**
	comp=Z,24nm,0.8s,mb5.0								
CTAO				*e*PcP			PcP	00 58 20.3	+1.8
DL2	**Dalian**	**32.99**	**354**	⇑*iP*			**P**	**00 55 41.0**	**+2.1**
DL2				S			**S**	**01 00 50.3**	**+3.7**
DL2				XS			sS	01 01 44.1	+4.1
DL2				AMB			AMB		
	comp=Z,100nm,0.6s,mb5.7								
DL2				AMB			AMB		
	comp=Z,140nm,3.3s								
LZH	**Lanzhou**	**36.25**	**329**	*eP*			**P**	**00 56 07.8**	**+0.9**
LZH				AP			pP	00 56 41.9	+4.2
LZH				XP			sP	00 56 57.9	+4.0
LZH				PCP			PcP	00 58 31.3	+2.4
LZH				S			**S**	**01 01 34.0**	**-2.7**
LZH				SCP			ScP	01 02 05.3	+3.3
LZH				PCS			PcS	01 02 18.0	+1.2
LZH				AMB			AMB		
	comp=Z,70nm,1.0s,mb5.2								
LZH				AMB			AMB		
	comp=Z,220nm,5.5s								
LZH				LR			LR		
	comp=E,840nm,14.3s								
LZH				LR			LR		
	comp=Z,1μm,16.0s								
HHC	**Hu-ho-hao-te**	**37.05**	**342**	*eP*			**P**	**00 56 14.8**	**+1.1**
HHC				PP			PP	00 57 39.3	-1.7
HHC				S			**S**	**01 01 51.3**	**+2.4**
HHC				AMB			AMB		
	comp=Z,33nm,0.8s,mb5.0								
HHC				AMB			AMB		
	comp=Z,105nm,4.9s								
HHC				LR			LR		
	comp=N,220nm,21.6s								
HHC				LR			LR		
	comp=E,238nm,20.6s								
HHC				LR			LR		
	comp=Z,362nm,26.0s								
VLA	**Vladivostok**	**37.29**	**7**	*eP*			**P**	**00 56 16.1**	**+0.4**
VLA				*e*				00 56 41.5	
VLA				*e*				00 58 32.2	
VLA				pmax			pmax		
	comp=Z,86nm,1.0s,mb5.3								
VLA	**Vladivostok**	**37.29**	**7**	⇑*iP*			**P**	**00 56 16.9**	**+1.2**
VLA				pmax			pmax		
	comp=Z,71nm,0.8s,mb5.3								
BTO	**Baotou**	**37.34**	**340**	*eP*			**P**	**00 56 17.3**	**+1.2**
CN2	**Changchun**	**37.63**	**359**	*eP*			**P**	**00 56 19.0**	**+0.5**
CN2				*e*XP			sP	00 57 09.3	+3.6
CN2				PCP			PcP	00 58 32.9	-0.2
CN2				*e*S			**S**	**01 01 58.8**	**+1.2**
CN2				*e*SS			SS	01 04 43.1	-5.6
CN2				AMB			AMB		
	comp=Z,40nm,0.7s,mb5.2								
CN2				AMB			AMB		
	comp=Z,200nm,3.0s								
SHL	**Shillong**	**38.08**	**304**	*eP*			**P**	**00 56 22.0**	**-0.4**
SHL				*eP*				00 56 22.4	
SHL				AMb			AMB	00 56 28.7	
	comp=Z,497nm,0.4s								
KLBR	**Kellerberrin**	**38.26**	**192**	⇑*iP*			**P**	**00 56 24.0**	**+0.2**
	comp=Z,92nm,0.3s,mb5.9								
MDJ	**Mudanjiang**	**38.55**	**4**	P			**P**	**00 56 27.6**	**+1.3**
MDJ				AP			pP	00 56 57.3	-0.1
MDJ				XP			sP	00 57 13.1	-0.5
MDJ				PP			PP	00 57 59.9	+2.5
MDJ				S			**S**	**01 02 12.5**	**+0.9**
MDJ				XS			sS	01 03 05.6	-0.2
MDJ				AMB			AMB		
	comp=Z,91nm,0.8s,mb5.5								
MDJ				AMB			AMB		
	comp=Z,74nm,3.2s								
MDJ				LR			LR		
	comp=N,109nm,26.2s								
MDJ				LR			LR		
	comp=E,288nm,25.3s								
MDJ				LR			LR		
	comp=Z,152nm,23.4s								
MDJ	**Mudanjiang**	**38.55**	**4**	*eP*			**P**	**00 56 27.6**	**+1.3**
	comp=Z,93nm,1.0s,mb5.4								
MUN	**Mundaring**	**38.96**	**193**	⇑*iP*			**P**	**00 56 30.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**39.65**	**192**	P			**P**	**00 56 36.3**	**+0.8**
	comp=Z,118nm,0.4s,mb5.9,baz=22,slow=7.9,SNR=329								
NWAO	**Narrogin (SRO)**	**39.65**	**192**	⇑*iP*			**P**	**00 56 36.1**	**+0.6**
NWAO				pmax			pmax		
	comp=Z,102nm,0.5s								
NWAO	**Narrogin (SRO)**	**39.65**	**192**	⇑*iP*			**P**	**00 56 36.1**	**+0.6**
	comp=Z,102nm,0.5s,mb5.7								
STKA	**Stephens Creek**	**40.47**	**160**	⇑*iP*			**P**	**00 56 41.1**	**-1.1**
	comp=Z,30nm,0.4s,mb5.3								
STKA				*e*S			**S**	**01 02 37.0**	**-3.2**
STKA	**Stephens Creek**	**40.47**	**160**	P			**P**	**00 56 41.1**	**-1.0**
	comp=Z,43nm,0.7s,mb5.2,baz=336,slow=8.2,SNR=93								
STKA				S			**S**	**01 02 37.8**	**-2.4**
	comp=Z,2.8nm,0.8s,baz=231,slow=24,SNR=3.6								
STKA	**Stephens Creek**	**40.47**	**160**	⇑*iP*			**P**	**00 56 40.9**	**-1.2**
LSA	**Lhasa**	**40.52**	**310**	P			**P**	**00 56 44.6**	**+2.1**
LSA	**Lhasa**	**40.52**	**310**	*eP*			**P**	**00 56 43.1**	**+0.6**
LSA				*e*				00 58 43.9	
LSA				pmax			pmax		
	comp=Z,19nm,0.6s,mb4.9								
LSA	**Lhasa**	**40.52**	**310**	*eP*			**P**	**00 56 43.1**	**+0.5**
	comp=Z,19nm,0.6s,mb4.9								
LSA				*e*PcP			PcP	00 58 43.9	+1.6
LSA				*e*ScP			ScP	01 02 20.5	+2

ULN e 00 58 57.3
ULN pmax pmax
comp=Z,38nm,1.1s,mb4.9
ULN Ulaanbaatar 44.77 342⇓iP P 00 57 17.0 +0.2
comp=Z,38nm,1.1s,mb4.9
ULN ePcP PcP 00 58 57.3 +0.8
ULN eScP ScP 01 02 38.0 +2.5
SONM Songino Array 44.95 341 P P 00 57 18.2 -0.1
comp=Z,3.9nm,0.3s,mb4.5,baz=155,slow=8.7,SNR=86
SONM pP pP 00 57 47.3 -2.9
comp=Z,7.4nm,0.9s,baz=164,slow=7.7,SNR=3.5
SONM PcP PcP 00 58 57.6 +0.5
comp=Z,8.7nm,0.7s,baz=172,slow=2.6,SNR=7.0
SONM ScP ScP 01 02 38.3 +2.1
comp=Z,6.1nm,1.0s,baz=162,slow=3.0,SNR=10.0
SONM Songino Array 44.95 341 P P 00 57 18.2 -0.1
SONM *PP pP 00 57 47.3 -2.9
SONM 00 58 57.6
GKN Gorkha 44.99 304 eP **P 00 57 19.6 +1.0**
comp=Z,29nm,0.4s,mb5.2
KOLN Koldanda 45.77 303 eP **P 00 57 25.0 +0.3**
comp=Z,146nm,0.7s,mb5.7
ALBI Allahabad 46.52 299 eP **P 00 57 29.0 -1.6**
CNB Canberra Magne 46.57 154 eP **P 00 57 33.2 +2.2**
comp=Z,46nm,1.3s,mb5.0
TOO Toolangi 46.98 159 eP **P 00 57 36.6 +2.5**
comp=Z,21nm,0.9s,mb4.8
TOO Toolangi 46.98 159 eP **P 00 57 36.6 +2.5**
TOO pmax pmax
comp=Z,21nm,0.9s,mb4.8
CIT Chita 47.02 349 eP **P 00 57 35.8 +1.3**
CIT e pP 00 58 09.8 +3.2
CIT e 00 58 19.3
CIT e 00 59 04.8
CIT e 01 04 18.7
CIT pmax pmax
comp=Z,92nm,1.3s,mb5.2
HYB Hyderabad 47.83 288 iP **P 00 57 39.0 -1.8**
comp=Z,50nm,1.0s,mb5.1
HYB Hyderabad 47.83 288 eP **P 00 57 41.0 +0.2**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.1
HYB Hyderabad 47.83 288 eP **P 00 57 41.0 +0.2**
comp=Z,50nm,1.0s,mb5.1
NGP Nagpur 47.98 293 eP **P 00 57 41.7 -0.2**
NGP AMb AMB 00 57 43.2
comp=Z,47nm,0.6s,mb5.3
ZAK Zakamensk 48.18 340 eP **P 00 57 43.1 -0.3**
ZAK e pP 00 58 12.8 -2.9
ZAK e 00 59 09.1
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.2
ZAK pmax pmax
comp=Z,15nm,2.0s,mb4.3
ZAK pmax pmax
comp=Z,17nm,1.3s,mb4.5
DZM Mont Dzumac 48.34 127 P **P 00 57 46.0 +1.3**
comp=Z,8.6nm,0.5s,mb4.6,baz=13,slow=7.0,SNR=12
TRD Trivandrum 48.83 276 eP **P 00 57 49.0 +0.6**
TRD AMb AMB 00 58 00.1
comp=Z,58nm,0.9s,mb5.2
IRK Irkutsk 49.48 342 eP **P 00 57 50.1 -3.2**
IRK e pP 00 58 18.6 -7.2
IRK pmax pmax
comp=Z,102nm,1.5s,mb5.2
BHPL Bhopal 49.88 295 eP **P 00 57 56.2 -0.2**
BHPL AMb AMB 00 57 57.4
comp=Z,61nm,0.8s,mb5.3
MOY Mondy 50.04 340 eP **P 00 57 58.5 +0.9**
MOY pmax pmax
comp=Z,29nm,1.8s,mb4.6
WMQ Urumqi 50.53 324 P **P 00 58 02.0 +0.7**
WMQ AP pP 00 58 34.0 +0.2
WMQ XP sP 00 58 50.0 +0.4
WMQ PP PP 01 00 00.0 +1.7
WMQ S **S 01 05 03.0 -1.4**
WMQ SCS ScS 01 07 35.0 -2.7
WMQ SS SS 01 08 36.0 -4.1
WMQ AMB AMB
comp=Z,18nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,154nm,5.0s
WMQ LR LR
comp=N,1μm,11.0s
WMQ LR LR
comp=E,658nm,11.0s
WMQ LR LR
comp=Z,472nm,11.0s
CLNS Chul'man 50.68 359 eP **P 00 58 03.9 +1.5**
CLNS eS **S 01 05 10.6 +4.0**
CLNS eSS SS 01 08 36.3 -6.3
CLNS pmax pmax
comp=Z,56nm,0.6s,mb5.4
CLNS pmax pmax
comp=N,37nm,0.8s
CLNS pmax pmax
comp=E,21nm,0.7s
CLNS pmax pmax
comp=Z,13nm,1.4s,mb4.4
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=N,11nm,1.3s
CLNS smax
comp=Z,12nm,1.4s
CLNS smax
comp=E,14nm,1.2s
CLNS MLR MLR
comp=Z,100nm,13.0s
CLNS MLR MLR
comp=N,100nm,12.0s
CLNS MLR MLR
comp=E,100nm,13.0s
DDI Dehra Dun 51.19 304 eP **P 00 58 04.9 -1.3**
KAD Karad 51.96 287 eP **P 00 58 11.1 -0.9**
KAD AMb AMB 00 58 12.6
comp=Z,10.0nm,0.6s,mb4.7
SMLA Simla 52.17 305 eP **P 00 58 12.5 -1.0**
SMLA eP 00 58 12.9
SMLA AMb AMB 00 58 14.8
comp=Z,128nm,0.6s,mb5.7
SMLA ex x 00 59 00.0
POO Poona 52.41 289 eP **P 00 58 16.0 +0.7**
SDNR Sundarnagar 52.44 305 eP **P 00 58 15.9 +0.4**
BOD Bodaibo 52.52 352 eP **P 00 58 16.7 +0.6**
BOD pmax pmax
comp=Z,35nm,0.8s,mb5.1
AJM Ajmer 53.05 299 iP **P 00 58 18.0 -2.0**
DLH Dalhousie 53.58 306 eP **P 00 58 24.0 +0.2**
THN Thein Dam 53.74 306 eP **P 00 58 23.9 -1.1**
PET Petropavlovsk 53.86 24 eP **P 00 58 26.8 +1.0**
PET e 00 59 28.0
PET eS **S 01 05 55.0 +5.2**
PET pmax pmax
comp=Z,25nm,0.7s,mb5.0
PET smax
comp=E,100nm,11.1s
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 53.86 24 eP **P 00 58 25.9 +0.1**
comp=Z,73nm,1.2s,mb5.3
MKAR Makanchi Array 55.35 325 P **P 00 58 36.3 -0.4**
comp=Z,9.6nm,0.7s,mb4.6,baz=194,slow=20,SNR=39
MKAR pP pP 00 59 08.1 -1.6
comp=Z,11nm,0.6s,baz=99,slow=7.5,SNR=2.1
MKAR PcP PcP 00 59 35.8 +0.4
comp=Z,14nm,0.7s,baz=120,slow=4.4,SNR=6.2
MKAR ScP ScP 01 03 22.3 +1.5
comp=Z,4.9nm,0.9s,baz=100,slow=5.0,SNR=4.6
MKAR PKPPKP 01 28 38.0
comp=Z,0.6nm,0.9s,baz=318,slow=1.6,SNR=4.0
MKAR Makanchi Array 55.35 325 P **P 00 58 36.3 -0.3**
MKAR *PP pP 00 59 08.1 -1.6
MKAR 00 59 35.8
MKAR Makanchi Array 55.35 325 P **P 00 58 36.3 -0.4**
MKAR pP pP 00 59 08.1 -1.6
MKAR PcP PcP 00 59 35.8 +0.4
MKAR ScP ScP 01 03 22.3 +1.5
MKAR P'P' 01 28 38.0
YAK Yakutsk 55.95 2c iP **P 00 58 41.4 +0.6**
YAK e 00 59 38.3
YAK eS **S 01 06 20.2 +2.5**
YAK e*SS 01 06 32.3
YAK e 01 08 15.1
YAK pmax pmax
comp=Z,80nm,0.9s,mb5.5
YAK pmax pmax
comp=N,41nm,1.3s
YAK pmax pmax
comp=E,13nm,1.2s
YAK smax
comp=N,28nm,1.3s
YAK smax
comp=E,9.0nm,1.4s
YAK Yakutsk 55.95 2⇑iP P 00 58 41.4 +0.5
comp=E,154nm,0.8s,mb5.9
YAK ePcP PcP 00 59 37.6 -0.1
KSH Kashi 56.03 314 eP **P 00 58 45.0 +3.6**
KSH ePP PP 01 00 49.1 +1.3
KSH ePPP 01 02 01.1
KSH eS **S 01 06 20.0 +1.2**
KSH ePS 01 06 37.3
KSH eSS SS 01 10 04.3 -2.6
KSH AMB AMB
comp=Z,50nm,2.1s,mb5.0
KSH LR LR
comp=N,210nm,5.6s
KSH LR LR
comp=E,240nm,5.5s
MA2 Magadan 56.64 15c iP **P 00 58 46.4 +0.7**
MA2 e*SP sP 00 59 44.9 +10
MA2 e 01 00 50.9
MA2 ePPP 01 02 17.8
MA2 eS **S 01 06 26.4 -0.4**
MA2 eSSS 01 12 41.6
MA2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MA2 pmax pmax
comp=N,4.0nm,0.7s
MA2 MLR MLR
comp=Z,100nm,24.0s
MA2 Magadan 56.64 15 eP **P 00 58 46.3 +0.6**
comp=Z,17nm,0.6s,mb5.0
MA2 ePcP PcP 00 59 41.3 +0.9
BHJ Bhuj 56.92 294 eP **P 00 58 47.0 -0.7**
BHJ AMb AMB 00 58 51.0
comp=Z,101nm,1.3s,mb5.5
ULHL Ulahol 56.95 317 P **P 00 58 49.2 +1.3**
SNR=6.8
KZA Kyzart 57.55 317 P **P 00 58 53.8 +1.7**
SNR=18
TKM2 Tokmak 2 57.66 318 P **P 00 58 53.7 +0.8**
SNR=23
KBK Karagaybulak 57.99 317 P **P 00 58 56.0 +0.8**
SNR=19
UCH Uchtor 58.11 317 P **P 00 58 57.8 +1.7**
SNR=33
CHMS Chumysh 58.26 318 P **P 00 58 57.3 +0.2**
SNR=14
AAK Ala-Archa 58.28 317 P **P 00 58 58.2 +0.9**
SNR=17
AAK Ala-Archa 58.28 317 P **P 00 58 57.4 +0.1**
comp=Z,106nm,0.5s,mb5.9,SNR=12
AAK Ala-Archa 58.28 317 eP **P 00 58 56.9 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
AAK Ala-Archa 58.28 317 eP **P 00 58 56.9 -0.4**
comp=Z,8.0nm,0.6s,mb4.7
AAK eScP ScP 01 03 34.2 +0.5
USP Ospenovka 58.53 318 P **P 00 58 59.5 +0.4**
SNR=32
AML Almayashu 58.63 316 P **P 00 59 01.1 +1.4**
SNR=33
EKS2 Erkin-Say 58.78 317 P **P 00 59 01.6 +0.9**
SNR=35
KURK Kurchatov 59.51 327 P **P 00 59 05.6 -0.1**
comp=Z,683nm,0.6s,SNR=83
KURK Kurchatov 59.51 327⇓iP P 00 59 05.6 -0.1
KURK pmax pmax
comp=Z,59nm,0.6s,mb5.6
KURK Kurchatov 59.51 327⇓iP P 00 59 05.6 -0.2
comp=Z,59nm,0.6s,mb5.6
NVS Novosibirsk 59.58 333 eP **P 00 59 04.2 -2.0**
NVS e*PP pP 00 59 38.7 -1.0
NVS eS **S 01 06 55.6 -9.4**
NVS e*SS sS 01 08 34.6 +32
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s,mb4.7
NVS smax
comp=N,12nm,2.1s
NVS smax
comp=E,28nm,2.1s
SEY Seymchan 59.94 14 eP **P 00 59 10.6 +1.9**
SEY *PP pP 00 59 45.3 +3.0
SEY e*SP sP 01 00 01.0 +3.2
SEY e 01 01 25.4
SEY ePPP 01 02 45.4
SEY eS **S 01 07 16.0 +6.3**
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SEY pmax pmax
comp=E,6.0nm,0.6s
SEY smax
comp=N,130nm,21.3s
SEY smax
comp=E,330nm,21.3s
FX1 Attu Island--F 60.40 31 P **P 00 59 10.5 -1.3**
comp=E,39nm,0.7s,mb5.3,baz=254,slow=16,SNR=3.5
RPZ Rata Peaks 63.96 145 P **P 00 59 36.5 +0.9**
comp=E,7.2nm,0.4s,mb4.8,baz=316,slow=3.8,SNR=11
URZ Urewera 64.61 137 P **P 00 59 40.2 +0.4**
comp=E,4.3nm,0.5s,mb4.5,baz=281,slow=5.1,SNR=11
VOSK Vostochnaya 64.64 326 P **P 00 59 38.9 -1.1**
VOSK pmax pmax
comp=Z,11nm,0.5s,mb4.9
AFI Afiamalu 64.70 108 LR LR 01 24 20.7
comp=Z,263nm,18.1s,baz=282,slow=32
BVA0 Borovoye Array 65.09 327 iP **P 00 59 42.3 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BVAR Borovoye Array 65.09 327 P **P 00 59 42.1 -0.7**
comp=Z,20nm,0.5s,mb5.2,baz=136,slow=8.7,SNR=212
BVAR pP pP 01 00 14.1 -2.8
comp=Z,10nm,0.7s,baz=127,slow=7.4,SNR=2.8
BRVK Borovoye 65.17 327 P **P 00 59 43.1 -0.2**
comp=Z,387nm,0.6s,SNR=48
BRVK Borovoye 65.17 327 eP **P 00 59 42.8 -0.5**
BRVK pmax pmax
comp=Z,24nm,0.6s,mb5.2
BRVK Borovoye 65.17 327 eP **P 00 59 42.8 -0.6**
comp=Z,24nm,0.6s,mb5.2
TIXI Tiksi 65.57 1c iP **P 00 59 45.8 -0.1**
TIXI pmax pmax
comp=Z,139nm,1.1s,mb5.7
ZRNK Zerenda 65.83 326 P **P 00 59 47.0 -0.6**
ZRNK pmax pmax
comp=Z,15nm,0.5s,mb5.1
ZRNK Zerenda 65.83 326 eP **P 00 59 46.5 -1.0**
comp=Z,56nm,0.5s,mb5.7
JMDO Jabal Madar 67.44 292 P **P 00 59 57.7 -0.2**
SNR=5.3
BIDO Bidbid 67.48 293 P **P 00 59 58.6 +0.5**
SNR=5.6
BILL Bilibino 67.50 15⇑iP P 00 59 58.1 -0.1
BILL pmax pmax
comp=Z,34nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 67.50 15 eP **P 00 59 57.5 -0.7**
comp=Z,78nm,1.6s,mb5.3
SMDO Samad 67.53 292⇑P P 00 59 57.7 -0.6
HOQ Hoqain 68.23 293 P **P 01 00 02.9 +0.1**
SNR=8.0
BSY Bisya 68.29 292⇑P P 01 00 02.7 -0.5
ABKT Ailbek 69.02 308 P **P 01 00 08.6 +0.9**
comp=Z,123nm,1.0s,mb5.6,SNR=9.2
BANOM Banah 69.28 295⇑P P 01 00 09.5 +0.2
SHAO Shalim 69.66 287⇑P P 01 00 11.0 -0.6
AB31 Akbulak array 70.02 320 iP **P 01 00 12.9 -0.9**
AB31 pmax pmax
comp=Z,14nm,0.7s,mb4.8
RBK Rabkut 71.02 286 P **P 01 00 19.8 0.0**
SNR=8.4
WHFO Wadi Hawf 71.43 287⇑P P 01 00 21.4 -0.9
AKTK Aktyubinsk 71.52 321 P **P 01 00 22.4 -0.4**
comp=Z,23nm,0.6s,mb5.1,baz=100,slow=8.2,SNR=118
AKTO Aktyubinsk 71.52 321 P **P 01 00 22.4 -0.4**
comp=Z,23nm,0.6s,mb5.1,baz=100,slow=8.2,SNR=118
ABTO Aybut 71.88 286⇑P P 01 00 24.6 -0.5
SNR=12
ARU Arti 72.70 327 P **P 01 00 28.8 -1.1**
comp=Z,264nm,0.6s,mb6.1,SNR=21
ARU Arti 72.70 327⇓iP P 01 00 28.4 -1.5
ARU e 01 00 44.6
ARU e pP 01 01 02.7 -2.0
ARU eS S 01 09 41.5 -2.1
ARU e 01 10 20.8
ARU eSS SS 01 14 26.3 +0.3
ARU pmax pmax
comp=Z,26nm,0.7s,mb5.1
ARU Arti 72.70 327⇑iP P 01 00 28.6 -1.3
comp=Z,28nm,0.6s,mb5.2
CASY Casey 73.02 187 eP **P 01 00 32.4 +0.6**
comp=Z,35nm,0.8s,mb5.1
SOKR Solikamsk 74.44 330 iP **P 01 00 39.0 -1.1**
SOKR pmax pmax
comp=Z,20nm,1.4s,mb4.7
QRN Al-Qurain 76.82 298 eP **P 01 00 53.0 -0.5**
QRN AMb AMB 01 00 57.0
comp=Z,94nm,0.8s,mb5.5
UMR Umm Al-Rimmam 77.00 299 eP **P 01 00 53.3 -1.3**
UMR AMb AMB 01 01 00.9
comp=Z,49nm,0.7s,mb5.3
KBD Kabd 77.02 298 eP **P 01 00 53.5 -1.3**
KBD AMb AMB 01 00 57.4
comp=Z,169nm,0.7s,mb5.8
RDF Al-Radifah 77.14 298 eP **P 01 00 54.9 -0.5**
RDF AMb AMB 01 00 56.7
comp=Z,47nm,0.7s,mb5.2
MIB Mutribah 77.33 299 eP **P 01 00 55.9 -0.6**
MIB AMb AMB 01 00 58.3
comp=Z,83nm,1.0s,mb5.3
NAY Al-Naaiem 77.41 299 eP **P 01 00 56.1 -0.8**
NAY AMb AMB 01 01 01.6
comp=Z,20nm,0.6s,mb4.9
DGRG David-gareji 79.13 311 P **P 01 01 07.2 +0.9**
MTA Mtatsminda 79.57 311 P **P 01 01 08.8 +0.1**
GNI Garni 79.58 310 P **P 01 01 09.8 +1.1**
comp=Z,9.0nm,0.7s,mb4.5,baz=176,slow=9.5,SNR=7.9
GNI Garni 79.58 310 eP **P 01 01 10.2 +1.4**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI Garni 79.58 310 eP **P 01 01 10.2 +1.4**
comp=Z,21nm,0.9s,mb4.8
TBLG Delisi 79.61 311 P **P 01 01 09.1 +0.1**
DUS Dusheti 79.65 312 P **P 01 01 10.0 +0.9**
ZEI Tsey 80.25 312 eP **P 01 01 12.4 0.0**
ZEI pmax pmax
comp=Z,27nm,0.7s,mb5.0
KDAK Kodiak Island 80.27 32 P **P 01 01 13.0 +0.5**
comp=Z,264nm,0.8s,mb5.9,SNR=11
KDAK Kodiak Island 80.27 32 P **P 01 01 13.3 +0.8**
comp=Z,32nm,0.7s,mb5.0,baz=271,slow=3.9,SNR=23
AKH Akhalkalaki 80.54 311 P **P 01 01 15.2 +1.3**
ONI Oni 80.58 312 P **P 01 01 15.9 +1.7**
DIGO Kars 80.63 310 iP **P 01 01 15.4 +1.0**
OPO Ambohidratompo 81.51 250 P **P 01 01 18.3 -0.8**
comp=Z,2.7nm,0.5s,mb4.2,baz=88,slow=11,SNR=14
CHVG Ch'k'valeri 81.59 312 P **P 01 01 20.5 +1.0**
SLKM Skilak Lake 81.65 30 eP **P 01 01 19.5 -0.3**
VRHR Novokhopersk 81.91 321 eP **P 01 01 20.2 -1.0**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.1
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.4s
ERZM Erzurum 82.17 309 iP **P 01 01 23.8 +1.3**
PMR Palmer 82.22 29 eP **P 01 01 22.5 -0.3**
PMR pmax pmax
comp=Z,31nm,0.9s,mb4.9
PMR Palmer 82.22 29 eP **P 01 01 22.5 -0.3**
comp=Z,31nm,0.9s,mb4.9
BNGL BINGOL 82.36 308 iP **P 01 01 25.8 +2.3**
MCK McKinley 82.38 27⇑iP P 01 01 23.7 +0.1
MCK pmax pmax
comp=Z,34nm,0.8s,mb5.0
MCK McKinley 82.38 27⇑iP P 01 01 23.7 +0.1
comp=Z,34nm,0.8s,mb5.0
SML Sawmill 82.61 29⇑iP P 01 01 25.4 +0.6
MARD Mardin 82.71 307 iP **P 01 01 25.5 +0.1**
COLA College 82.88 25⇑iP P 01 01 25.9 -0.3
COLA pmax pmax
comp=Z,24nm,0.8s,mb5.0
COLA College 82.88 25⇑iP P 01 01 25.9 -0.3
comp=Z,24nm,0.8s,mb5.0
KLMR Klimovskoe 83.13 331c iP **P 01 01 26.7 -0.8**
KLMR e*PP pP 01 02 03.3 +0.2
KLMR pmax pmax
comp=Z,80nm,1.4s,mb5.3
KLMR pmax pmax
comp=Z,60nm,7.9s
KLMR MLR MLR
comp=Z,200nm,16.0s
ILAR Eielson Array 83.29 26 P **P 01 01 27.5 -0.8**
comp=Z,18nm,0.8s,mb4.9,baz=238,slow=5.0,SNR=183
ILAR PKKPbc PKKPbc 01 19 47.5 +0.3
comp=Z,0.5nm,0.4s,baz=111,slow=1.7,SNR=13
ILAR LR LR 01 35 24.4
comp=Z,43nm,19.8s,baz=90,slow=33
SOC Sochi 83.30 313 eP **P 01 01 28.3 -0.1**
SOC eS S 01 11 33.1 -4.1
SOC eSS SS 01 17 06.4 +1.2
SOC pmax pmax
comp=Z,39nm,0.9s,mb5.1
VORD Divnogorie 83.38 321 eP **P 01 01 28.0 -0.8**
VORD pmax pmax
comp=Z,40nm,1.3s,mb5.0
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
VRSR Storozhevoye 83.44 321c iP **P 01 01 27.7 -1.4**
VRSR eS S 01 11 33.3 -5.3
VRSR eSS SS 01 17 02.5 -4.7
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,0.9s
VRSR smax
comp=N,7.0nm,1.5s
VRSR smax
comp=Z,3.0nm,2.3s
VRSR smax
comp=E,3.0nm,1.7s
DIV Divide 83.84 29⇑iP P 01 01 31.0 -0.1
comp=E,281nm,1.1s,mb5.9
MOS Moscow 84.23 325 eP **P 01 01 28.4 -4.7**
MOS eS 01 11 39.3
MOS pmax pmax
comp=Z,40nm,1.6s,mb4.9
MOS MLR MLR
comp=Z,400nm,16.0s
MALT Malatya 84.52 308⇓P P 01 01 36.1 +1.5
MALT Malatya 84.52 308 eP **P 01 01 34.9 +0.3**
comp=Z,20nm,0.6s,mb5.0
OBN Obninsk 84.86 325 P **P 01 01 35.2 -1.1**
comp=Z,432nm,1.1s,mb6.1,SNR=10
OBN Obninsk 84.86 325c iP **P 01 01 35.5 -0.8**
OBN e 01 11 44.7
OBN eSS SS 01 17 30.1 +1.9
OBN pmax pmax
comp=Z,80nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 84.86 325 eP **P 01 01 35.0 -1.2**
comp=Z,100nm,1.1s,mb5.5
OBN epP pP 01 02 09.4 -2.6
GZT Gaziantep 85.26 307 iP **P 01 01 38.9 +0.6**
APA Apatity 85.53 337⇑iP P 01 01 39.6 0.0
APA i *PP pP 01 02 13.0 -2.4
APA eS 01 11 57.0
APA pmax pmax
comp=Z,43nm,1.2s,mb5.0
MAW Mawson 85.70 200 P **P 01 01 38.7 -1.7**
comp=Z,57nm,1.0s,mb5.2,baz=69,slow=20,SNR=4.0
MAW LR LR 01 34 56.2
comp=Z,81nm,21.5s,baz=240,slow=32
VNDA Vanda 85.76 173 P **P 01 01 40.6 -0.2**

comp=Z,4.7nm,0.4s,mb4.6,baz=318,slow=5.8,SNR=51
VNDA Vanda 85.76 173 *e*P **P 01 01 40.7 0.0**
VNDA pmax pmax
comp=Z,6.0nm,0.7s
VNDA Vanda 85.76 173 *e*P **P 01 01 40.7 0.0**
comp=Z,6.1nm,0.7s,mb4.4
COBT Iskenderun 86.37 306 *i* P **P 01 01 44.0 +0.2**
DAWY Dawson 86.58 26 *e*P **P 01 01 45.3 +0.6**
JOF Joensuu 86.89 333 *e*p **P 01 01 46.3 +0.1**
comp=Z,20nm,0.6s,mb5.1
JOF Joensuu 86.89 333 *e*P **P 01 01 46.3 +0.1**
JOF pmax pmax
comp=Z,20nm,0.6s,mb5.1
BOYT Boyabat 86.99 311 *i* P **P 01 01 46.6 -0.1**
SIM Simferopol' 87.23 315 *e*P **P 01 01 47.0 -0.9**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.0
TBI Tubuai 87.23 114 *e*SS SS 01 18 06.1 +3.2
comp=Z,130nm,26.0s
TBI *e*LR LR 01 29 37.1
comp=Z,184nm,25.8s
KEV Kevo 87.55 340 *e*p **P 01 01 48.5 -0.9**
comp=Z,16nm,0.8s,mb4.9
KEV Kevo 87.55 340 *e*P **P 01 01 48.5 -0.9**
KEV pmax pmax
comp=Z,16nm,0.8s,mb4.9
ARCES ARCESS Array B 88.11 340 P **P 01 01 51.3 -0.7**
comp=Z,26nm,0.7s,mb5.2,baz=83,slow=5.3,SNR=75
ARCES PKiKP PKiKP 01 06 52.8 -0.3
comp=Z,2.1nm,0.8s,baz=132,slow=1.8,SNR=4.0
ARCES PKKPbc PKKPbc 01 19 36.0 +0.3
comp=Z,3.4nm,0.9s,baz=252,slow=4.0,SNR=13
ARE0 ARCESS Array S 88.11 340 *e*P **P 01 01 51.3 -0.7**
BALT Daday 88.11 311 *i* P **P 01 01 53.1 +1.0**
BR131 Keskin Array S 88.12 310 *e*P **P 01 01 50.8 -1.3**
comp=Z,9.5nm,0.8s,mb4.7
BRTR Keskin Array B 88.12 310 P **P 01 01 51.0 -1.1**
comp=Z,8.6nm,0.8s,mb4.7,baz=106,slow=4.9,SNR=32
ELDT Eldivan 88.20 310 *i* P **P 01 01 51.9 -0.6**
INK Inuvik 88.25 21 P **P 01 01 52.7 0.0**
comp=Z,19nm,0.9s,mb4.9,baz=290,slow=4.2,SNR=76
INK Inuvik 88.25 21⇑*i*P **P 01 01 52.5 -0.2**
INK pmax pmax
comp=Z,25nm,1.0s
INK Inuvik 88.25 21⇑*i*P **P 01 01 52.5 -0.2**
comp=Z,25nm,1.0s,mb5.0
ANTO Ankara 88.75 310 *e*P **P 01 01 54.8 -0.3**
ANTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ANTO Ankara 88.75 310 *e*P **P 01 01 54.8 -0.3**
comp=Z,9.2nm,0.8s,mb4.8
KMBO Kilima Mbogo 89.02 269 P **P 01 01 56.1 -0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=54,slow=7.6,SNR=12
KMBO Kilima Mbogo 89.02 269 *e*P **P 01 01 57.0 +0.7**
KMBO pmax pmax
comp=Z,12nm,1.5s
KMBO Kilima Mbogo 89.02 269 *e*P **P 01 01 57.0 +0.7**
comp=Z,12nm,1.5s,mb4.6
ERMK Ermenek 89.04 307 *i* P **P 01 01 53.7 -2.7**
KAF Kangasniemi 89.31 332 *e*p **P 01 01 56.7 -1.0**
comp=Z,12nm,0.5s,mb5.1,baz=75,slow=4.3
KAF Kangasniemi 89.31 332 *e*pkp 01 19 33.2
KAF Kangasniemi 89.31 332 *e*P **P 01 01 56.7 -1.0**
KAF pmax pmax
comp=Z,12nm,0.5s,mb5.1
FINES FINESS Array B 89.55 332 P **P 01 01 57.9 -0.9**
comp=Z,14nm,0.5s,mb5.1,baz=73,slow=4.9,SNR=128
FINES PKKPbc PKKPbc 01 19 34.0 +1.8
comp=Z,0.5nm,0.7s,baz=170,slow=1.2,SNR=5.0
FINES LR LR 01 47 08.0
comp=Z,80nm,18.7s,baz=52,slow=39
AKASG Malin Array Be 89.76 321 P **P 01 01 58.5 -1.2**
comp=Z,2.4nm,0.5s,mb4.4,baz=74,slow=4.3,SNR=29
VSU Vasula 89.82 329⇑*e*P **P 01 01 59.2 -0.9**
ESKT Eskisehir 90.28 310 *i* P **P 01 02 01.0 -1.3**
TKTP Tekketepe 90.90 308 *i* P **P 01 02 01.2 -3.9**
TIRR Tirgusor 91.32 315 ⇑P **P 01 02 05.4 -1.7**
TIRR Tirgusor 91.32 315 ⇑P **P 01 02 05.4 -1.7**
CFR Carcaliu 91.39 316 ⇑P **P 01 02 06.9 -0.5**
CFR Carcaliu 91.39 316 ⇑P **P 01 02 07.0 -0.4**
ULDT Uludag 91.50 310 *i* P **P 01 02 06.8 -1.0**
VRI Vrincioaia 92.24 316 ⇓P **P 01 02 11.4 +0.1**
VRI Vrincioaia 92.24 316 ⇓P **P 01 02 11.4 +0.1**
BTOK Tokmak 92.40 310 *i* P **P 01 02 07.6 -4.4**
SUW Suwalki 92.72 325 *e*P **P 01 02 12.4 -1.1**
MLR Muntele Rosu 92.86 316 ⇓P **P 01 02 14.0 -0.1**
MLR Muntele Rosu 92.86 316 ⇓P **P 01 02 14.0 -0.2**
BURAR Bucovina Array 92.91 318 ⇑P **P 01 02 14.1 -0.3**
BURAR Bucovina Array 92.91 318 ⇑P **P 01 02 14.1 -0.3**
VOIR 93.48 316 ⇑P **P 01 02 14.6 -2.4**
VOIR 93.48 316 ⇑P **P 01 02 14.6 -2.4**
KWP Kalwaria 94.08 321 *e*P **P 01 02 19.1 -0.6**
comp=Z,8.9nm,0.9s,mb4.9
SYO Syowa Base 94.35 201⇑*i*P **P 01 02 21.3 +0.3**
SYO Syowa Base 94.35 201⇑*e*P **P 01 02 24.7 +3.7**
SYO Syowa Base 94.35 201⇓*e*P sP 01 03 07.1 -4.9
DRGR 94.76 318 ⇑P **P 01 02 22.5 -0.4**
DRGR 94.76 318 ⇑P **P 01 02 22.5 -0.4**
DAG Danmarks Havn 94.92 352⇓*i*P **P 01 02 23.6 0.0**
comp=Z,17nm,0.8s,mb5.3
CRVS Cervenica-Dubn 95.05 320 *e*P **P 01 02 24.9 +0.7**
STHS Stebnicka Huta 95.05 321 *e* **P 01 02 25.1 +0.9**
VTS Vitosha 95.40 314 ⇓P **P 01 02 23.8 -2.0**
RES Resolute Bay 95.67 10 *e*P **P 01 02 27.1 0.0**
comp=Z,12nm,0.9s,mb5.2
OJC Ojcow 95.73 322 *e*P **P 01 02 26.5 -0.8**
KECS Kecovo 95.78 320 *e*P **P 01 02 26.6 -1.0**
BZS Buzias 95.79 317 ⇓P **P 01 02 26.7 -0.9**
BZS Buzias 95.79 317 ⇓P **P 01 02 26.7 -0.9**
QSPA South Pole Qui 95.92 180 *e*P **P 01 02 30.1 +1.9**
comp=Z,0.8nm,0.5s,mb4.3
NB2 NORSAR Subarra 96.49 334 P **P 01 02 29.2 -1.5**
comp=Z,6.9nm,0.7s,mb5.1,baz=66,slow=4.6
NOA NORSAR Array B 96.49 334 P **P 01 02 29.1 -1.7**
comp=Z,6.1nm,0.7s,mb5.1,baz=66,slow=4.6,SNR=34
NOA LR LR 01 47 19.7
comp=Z,151nm,19.7s,baz=25,slow=36
NAO01 NORSAR Array S 96.71 334 *e*P **P 01 02 30.4 -1.4**
comp=Z,6.7nm,0.7s,mb5.1
OKC Ostrava-Krasne 96.87 322 *e*P **P 01 02 30.2 -2.2**
OKC *e*x x 01 02 43.8
MORC Moravsky Berou 97.26 322 *e*P **P 01 02 34.0 -0.2**
comp=Z,3.5nm,0.9s,mb4.7
YKW3 Yellowknife Ar 97.62 24 *e*P **P 01 02 35.9 +0.1**
YKA Yellowknife Ar 97.66 24 P **P 01 02 36.2 +0.2**
comp=Z,4.6nm,0.7s,mb5.0,baz=299,slow=4.5,SNR=99
YKA PP PP 01 06 35.1 -0.4
comp=Z,0.3nm,0.8s,baz=278,slow=8.7,SNR=3.1
YKA PKiKP PKiKP 01 07 09.7 +0.2
comp=Z,0.4nm,0.7s,baz=298,slow=1.7,SNR=5.4
YKA PKKPbc PKKPbc 01 19 10.4 -0.7
comp=Z,2.9nm,0.5s,baz=122,slow=3.2,SNR=55
YKA LR LR 01 52 57.0
comp=Z,56nm,18.9s,baz=260,slow=39
YKA Yellowknife Ar 97.66 24 P **P 01 02 36.2 +0.2**
YKA PP PP 01 06 35.1 -0.4
KSP Ksiaz 97.67 323 *e*P **P 01 02 36.2 +0.1**
DPC Dobruska-Polom 97.82 323 *e*P **P 01 02 36.9 +0.2**
UPC Upice 97.95 323 *e*P **P 01 02 37.5 +0.2**
VRAC Vranov 97.99 321 ⇑P **P 01 02 37.3 -0.2**
RUE Ruedersdorf 98.57 325 *e*Pdiff **P 01 02 40.3 +0.2**
PRU Pruhonice 99.02 323 *e*P **P 01 02 42.1 0.0**
BRG Berggiesshubel 99.06 324 *e*Pdiff **P 01 02 42.3 0.0**
BRG Berggiesshubel 99.06 324 *e*P **P 01 02 41.9 -0.4**
comp=Z,3.6nm,0.8s,mb4.8
LSZ Lusaka 99.22 256 *e*Pdif **P 01 02 42.4 -0.6**
CLL Collm 99.45 324 *e*Pdiff Pdif 01 02 44.0 0.0
CLL Collm 99.45 324 *e*P Pdif 01 02 43.0 -1.0
KHC Kasperske Hory 99.91 322 *e*P Pdif 01 02 48.1 +2.0
BSEG Bad Segeberg 99.91 327 *e*Pdiff Pdif 01 02 46.6 +0.5
GEC2 GERESS Array S 99.94 322 *e*Pdiff Pdif 01 02 46.4 +0.2
GERES GERESS Array B 99.94 322 P Pdif 01 02 46.2 0.0
comp=Z,1.0nm,0.7s,baz=96,slow=4.0,SNR=7.0
ROTZ Rotzenmuhle 100.50 323 *e*Pdiff Pdif 01 02 49.4 +0.7
MOX Moxa 100.52 324 *e*Pdiff Pdif 01 02 48.9 +0.1
CLZ Clausthal 100.75 325 *e*Pdiff Pdif 01 02 50.3 +0.5
SUMG Summit 100.92 355 *e*Pdif Pdif 01 02 51.3 +0.7
comp=Z,8.2nm,1.1s
GRA1 Grafenberg Arr 101.12 323 *e*Pdif Pdif 01 02 52.0 +0.5
GRF Grafenberg Arr 101.12 323 *e*Pdiff Pdif 01 02 52.0 +0.5
IBBN Ibbenburen 102.01 326 *e*Pdiff Pdif 01 02 56.2 +0.8
NEW Newport 102.78 38 P Pdif 01 03 00.0 +1.2
comp=Z,2.2nm,0.7s,baz=286,slow=3.9,SNR=5.7
NVAR Mina Array Bea 105.80 47 Pdiff Pdif 01 03 13.5 +1.2
comp=Z,1.0nm,0.8s,baz=285,slow=3.4,SNR=6.7
NVAR PKiKP PKiKP 01 07 26.2 +1.9
comp=Z,0.7nm,0.8s,baz=276,slow=3.0,SNR=6.1
NVAR PKKPbc PKKPbc 01 18 48.6 +1.1
comp=Z,0.8nm,0.7s,baz=155,slow=3.5,SNR=8.9
NVAR PKKPab PKKPab 01 19 05.6 +0.8
comp=Z,1.0nm,0.7s,baz=149,slow=4.0,SNR=8.2
NVAR Mina Array Bea 105.80 47 Pdif Pdif 01 03 13.5 +1.2
NVAR PKPdf PKiKP 01 07 26.2 +1.9
NVAR PKKPbc PKKPbc 01 18 48.6 +1.1
NVAR PKKPab PKKPab 01 19 05.6 +0.8
HLID Hailey 106.48 41 *e*PKP PKiKP 01 07 26.6 +1.1
ELK Elko 107.10 44 Pdiff Pdif 01 03 21.0 +2.9
comp=Z,0.3nm,0.3s,baz=295,slow=5.2,SNR=3.8
ELK PKiKP PKiKP 01 07 28.8 +2.1
comp=Z,0.7nm,0.7s,baz=133,slow=5.0,SNR=3.8
ELK PKKPbc PKKPbc 01 18 45.0 +1.5
comp=Z,0.3nm,0.4s,baz=38,slow=12,SNR=5.4
ELK PKKPab PKKPab 01 18 59.5 +0.5
comp=Z,1.1nm,0.6s,baz=110,slow=3.1,SNR=5.7
ELK Elko 107.10 44 Pdif Pdif 01 03 21.0 +2.9
ELK *e*PKP PKiKP 01 07 28.6 +2.0
FFC Flin Flon 107.47 27 *e*PKP PKiKP 01 07 27.8 +0.4
FCC Fort Churchill 107.86 21 *e*PKP PKiKP 01 07 28.1 0.0
BW06 Boulder Array 110.00 40 *e*PKP PKiKP 01 07 33.6 +1.5
PDAR Pinedale Array 110.00 40 PKiKP PKiKP 01 07 33.3 +1.2
comp=Z,0.7nm,0.8s,baz=111,slow=2.1,SNR=5.0
PDAR PKKPbc PKKPbc 01 18 33.5 -0.9
comp=Z,0.4nm,0.6s,baz=123,slow=5.5,SNR=5.3
PDAR PKKPab PKKPab 01 18 45.8 -0.4
comp=Z,3.7nm,0.6s,baz=121,slow=5.9,SNR=30
LAO LASA Array 110.02 35 *e*PKP PKiKP 01 07 34.0 +1.9
RSSD Black Hills 112.72 37 *e*PKP PKiKP 01 07 38.1 +0.9
PV01 Paradox Valley 112.88 44 *e*PKP PKiKP 01 07 39.4 +1.9
ULM Lac du Bonnet 113.22 28 PKiKP PKiKP 01 07 38.8 +0.6
comp=Z,2.9nm,0.7s,baz=310,slow=3.1,SNR=7.1
SDCO Great Sand Dun 115.19 43 *e*PKPdf PKPdf 01 07 44.0 +2.0
ANMO Albuquerque 115.89 47 *e*PKPdf PKPdf 01 07 45.6 +2.3
MNTX Cornudas Mount 118.22 49 *e*PKPdf PKPdf 01 07 49.7 +1.9
KSU1 Kansas State U 120.18 38 *e*PKPdf PKPdf 01 07 52.3 +0.8
WMOK Wichita Mounta 121.38 43 *e*PKPdf PKPdf 01 07 54.6 +0.8
TORD Torodi Ar. Bea 121.64 289 PKP PKPdf 01 07 55.3 +1.0
comp=Z,10.0nm,0.6s,baz=64,slow=1.7,SNR=156
TORD pPKP pPKPdf 01 08 28.1 -4.0
comp=Z,3.9nm,0.7s,baz=46,slow=1.6,SNR=3.2
TORD PP PP 01 09 28.7 +0.1
comp=Z,2.8nm,1.0s,baz=67,slow=3.7,SNR=3.6
TORD PKKPbc PKKPbc 01 17 56.1 +2.2
comp=Z,1.4nm,0.9s,baz=286,slow=2.5,SNR=9.1
JCT Junction City 122.98 48 *e*PKPdf PKPdf 01 07 58.3 +1.4
CCM Cathedral Cave 124.04 35 *e*PKPdf PKPdf 01 07 59.5 +0.5
MIAR Mount Ida 124.93 40 *e*PKPdf PKPdf 01 08 02.1 +1.4
BLO Bloomington 125.81 31 *e*PKPdf PKPdf 01 08 03.1 +0.7
NATX Nacogdoches 125.92 43 *e*PKPdf PKPdf 01 08 04.2 +1.7
HKT Hockley 126.14 46 *e*PKPdf PKPdf 01 08 04.0 +1.0
WCI Wyandotte Cave 126.64 32 *e*PKPdf PKPdf 01 08 05.3 +1.4
ACSO Alum Creek Sta 126.73 28 *e*PKPdf PKPdf 01 08 05.0 +0.9
WVT Waverly 127.33 35 *e*PKPdf PKPdf 01 08 06.3 +1.0
PLAL Pickwick Lake 128.00 36 *e*PKPdf PKPdf 01 08 07.2 +0.6
TZTN Tazewell 129.34 31 *e*PKPdf PKPdf 01 08 10.2 +1.1
TZTN *e*SKP 01 11 20.8
DBIC Dimbokro 129.51 284 PKP PKPdf 01 08 11.2 +1.7
comp=Z,11nm,0.8s,baz=43,slow=3.2,SNR=18
DBIC SKPbc 01 11 21.0
comp=Z,84nm,1.1s,baz=61,slow=4.7,SNR=46
DBIC Dimbokro 129.51 284 *e*PKPdf PKPdf 01 08 10.8 +1.4
LRAL Lakeview Retre 130.01 37 *e*PKPdf PKPdf 01 08 12.3 +2.0
LRAL *e*SKP 01 11 23.8
PLCA Paso Flores 142.34 159 PKhKP 01 08 29.7
comp=Z,5.3nm,0.7s,baz=224,slow=2.1,SNR=12
PLCA SKPbc SKPbc 01 12 01.4 +3.7
comp=Z,4.6nm,1.0s,baz=218,slow=4.2,SNR=3.5
PLCA Paso Flores 142.34 159 *e*PKPpre 01 08 29.6
PLCA *e*PKPdf PKPdf 01 08 34.8 +1.6
PLCA *e*SKP 01 12 01.8
JTS JuntasAbangare 145.04 63 *e*PKPdf PKPdf 01 08 40.0 +2.1
CCHI Chillan 145.29 154⇑*i*P PKPdf 01 08 40.6 +2.3
HLGC Holguin 145.49 39 *e*P PKPdf 01 08 41.1 +2.5
TRQA Tornquist 147.27 168 *e*PKPdf PKPdf 01 08 43.3 +1.6
TRQA *e*PKPbc PKPbc 01 08 45.5 +1.3
FCH Farellones 148.83 153⇓*i*P PKPdf 01 08 46.8 +2.6
CFAA Coronel Fontan 151.21 154 PKP PKPdf 01 08 50.0 +2.0
comp=Z,0.5nm,0.7s,baz=200,slow=2.0,SNR=8.9
CFAA *e*PKPbc PKPbc 01 08 55.6 +1.6
comp=Z,6.7nm,0.6s,baz=226,slow=2.6,SNR=123
SJG San Juan 153.12 27 PKPbc PKPbc 01 08 59.6 +1.3
comp=Z,12nm,0.5s,baz=2.1,slow=1.3,SNR=6.8
SJG PKPab PKPab 01 09 11.5 +1.1
comp=Z,16nm,0.6s,baz=234,slow=18,SNR=4.6
SJG San Juan 153.12 27 *e*PKPbc PKPbc 01 09 00.1 +1.8
SJG *e*PKPab PKPab 01 09 11.4 +1.0
CPD Cerro la Pandu 153.29 26 *e*PKPdf PKPdf 01 08 53.0 +1.9
CPD *e*PKPbc PKPbc 01 09 00.1 +1.4
CPD *e*PKPab PKPab 01 09 12.5 +1.4
MTP Monte Pirata 153.39 26 *e*PKPbc PKPbc 01 09 00.7 +1.8
MTP *e*PKPab PKPab 01 09 13.2 +1.6
OTAV Otavalo 154.67 77 *e*PKPdf PKPdf 01 08 55.8 +2.8
OTAV *e*PKPbc PKPbc 01 09 04.6 +2.9
ROSC El Rosal 156.87 63 PKP PKPdf 01 08 59.3 +3.3
comp=Z,11nm,0.7s,baz=138,slow=3.9,SNR=10
SDV Santo Domingo 157.65 49 PKP PKPdf 01 08 59.2 +2.2
comp=Z,19nm,0.9s,baz=359,slow=1.5,SNR=21
SDV PKPab PKPab 01 09 31.4 +1.5
comp=Z,12nm,0.7s,baz=280,slow=4.4,SNR=6.7
SDV Santo Domingo 157.65 49 *e*PKPdf PKPdf 01 08 59.0 +2.1
SDV *e*PKPab PKPab 01 09 31.0 +1.2
CPUP Villa Florida 159.54 171 *e*PKPdf PKPdf 01 09 00.7 +1.5
CPUP *e*PKPab PKPab 01 09 39.2 +1.2
LPAZ La Paz 162.69 127 PKP PKPdf 01 09 06.0 +3.5
comp=Z,7.1nm,1.0s,baz=2.8,slow=2.3,SNR=20
LPAZ La Paz 162.69 127 *e*PKPbc PKPdf 01 09 05.4 +2.9
SIV San Ignacio 167.83 145 PKP PKPdf 01 09 08.7 +1.9
comp=Z,5.6nm,1.0s,baz=210,slow=1.1,SNR=22
SIV pPKP pPKPdf 01 09 41.2 -3.6
comp=Z,1.9nm,0.7s,baz=96,slow=2.4,SNR=3.2
SIV PKPab PKPab 01 10 16.2 +1.7
comp=Z,5.0nm,1.0s,baz=225,slow=3.6,SNR=7.1

*NEIC **19** 01:00:13.7±5.8, 3145S×7180W, h17km±20km, ML3.3(GUC), Error ellipse: s-maj=53.3km s-min=11.9km az=117.0*

GUC 19 01:00:14.3±0.8, 3150S×7175W, h29km±4km, MD3.8, ML3.3, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.52**	**105**	⇑*i*P		Pb		01 00 25.0	+0.1
ILCH				*i* S		Sb		01 00 32.4	+0.3
CMCH	**Combarbala**	**0.72**	**63**	⇑*i*P		Pb		01 00 28.1	-0.3
CMCH				*i* S		Sb		01 00 38.2	+0.3
CMCH				AMP				01 00 44.4	
	comp=E,3μm,0.6s								
CMCH	**Combarbala**	**0.72**	**63**	⇑*i*P		Pb		01 00 28.1	-0.3
CMCH				*i* S		Sb		01 00 38.2	+0.3
JACH	**Jahuel**	**1.53**	**140**	*e*P		Pn		01 00 41.4	+1.6
JACH				*i* S		Sn		01 01 01.2	+2.6
ROCH	**El Roble**	**1.59**	**157**	⇑*i*P		Pn		01 00 41.7	+1.2
ROCH				*i* S		Sn		01 01 02.8	+2.7
PEL	**Peldehue**	**1.87**	**151**	⇑*i*P		Pn		01 00 45.6	+1.2
PEL				*i* S		Sn		01 01 09.7	+2.7
PEL				AMP				01 01 14.4	
	comp=E,953nm,0.3s								
PEL	**Peldehue**	**1.87**	**151**	⇑*i*P		Pn		01 00 45.6	+1.2
PEL				*i* S		Sn		01 01 09.7	+2.7
LCCH	**Las Cruces**	**1.97**	**176**	*e*P		Pn		01 00 46.9	+1.1
RCDM	**Rinconada Maip**	**2.14**	**158**	*e*P		Pn		01 00 49.2	+1.2
RCDM				*i* S		Sn		01 01 15.9	+2.4
RCDM				AMP				01 01 23.4	
	comp=E,203nm,0.1s								
RCDM	**Rinconada Maip**	**2.14**	**158**	*e*P		Pn		01 00 49.2	+1.2
RCDM				*i* S		Sn		01 01 15.9	+2.4
FCH	**Farellones**	**2.20**	**146**	⇓*i*P		Pn		01 00 50.8	+2.0
FCH				*i* S		Sn		01 01 19.2	+4.1
FCH				AMP				01 01 21.1	
	comp=E,164nm,0.3s								
TACH	**Talagante**	**2.25**	**162**	*e*P		Pn		01 00 51.5	+1.9
TACH				*e*				01 00 51.5	
CHCH	**Chadas Angostu**	**2.59**	**159**	*i* P		Pn		01 00 56.4	+2.1

*IDC **19** 01:00:59.9±1.6, 5075N×15654E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/20, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=97.9km s-min=28.2km az=137.0*

*NEIC **19** 01:01:04.8±0.8, 5070N×15652E, h35km, Error ellipse: s-maj=46.3km s-min=12.2km az=132.0*

*MOS **19** 01:01:07.3±0.4, 5006N×15730E, h97km, mb4.0/1, Error ellipse: s-maj=99.9km s-min=29.0km az=68.1*

*ISCJB **19** 01:01:11.9±2.2, 509N±05×1559E±07, h135km±20km, mb3.5/5, Error ellipse: s-maj=109.1km s-min=18.1km az=91.3*

ISC 19 01:01:13.9±1.8, 511N±05×1557E±07, h137km±15km, n8, σ0§54/10, mb3.5/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**2.67**	**43**	*e*PN		**Pn**		**01 01 55.2**	**-1.3**
PET				*e*S		**Sn**		**01 02 29.6**	**+0.3**
PET				pmax	pmax				
	comp=Z,25nm,0.6s								
PET				smax					
	comp=E,43nm,1.2s								
PET				smax					
	comp=N,80nm,0.6s								
PET	**Petropavlovsk**	**2.67**	**43**	*e*Pn		**Pn**		**01 01 45.7**	**-11**
PET				*e*Sn		**Sn**		**01 02 30.1**	**+0.7**
MJAR	**Matsushiro Arr**	**19.17**	**227**	P		**P**		**01 05 26.9**	**+0.2**
	comp=N,0.5nm,0.3s,baz=24,slow=9.3,SNR=9.0								
ILAR	**Eielson Array**	**32.15**	**43**	P		**P**		**01 07 27.5**	**-0.9**
	comp=N,0.8nm,0.9s,mb3.5,baz=260,slow=8.5,SNR=4.5								
INK	**Inuvik**	**37.10**	**36**	P		**P**		**01 08 11.4**	**+0.4**
	comp=N,0.7nm,0.5s,mb3.5,baz=297,slow=2.3,SNR=4.9								
YKA	**Yellowknife Ar**	**46.47**	**40**	P		**P**		**01 09 27.1**	**+0.1**
	comp=N,0.7nm,0.7s,mb3.4,baz=298,slow=7.7,SNR=6.4								
NVAR	**Mina Array Bea**	**59.03**	**66**	P		**P**		**01 10 59.5**	**+0.3**
	comp=N,0.3nm,0.7s,mb3.2,baz=292,slow=8.1,SNR=4.8								
PDAR	**Pinedale Array**	**60.90**	**57**	P		**P**		**01 11 12.0**	**0.0**
	comp=N,0.8nm,0.8s,mb3.6,baz=338,slow=3.2,SNR=5.6								

IDC 19 01:23:10.7±27.0, 1918S×17270W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=503.8km s-min=155.5km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.60**	**262**	P		P		01 30 36.1	+0.7
	2.2nm,0.6s,baz=98,slow=13,SNR=5.5								
STKA	**Stephens Creek**	**42.85**	**244**	P		P		01 31 10.8	+0.2
	1.3nm,0.3s,baz=85,slow=9.8,SNR=3.1								
ASAR	**Alice Springs**	**49.68**	**255**	P		P		01 32 04.8	+0.5
	1.6nm,0.7s,baz=87,slow=8.2,SNR=28								
WRA	**Warramunga Arr**	**49.74**	**260**	P		P		01 32 04.8	0.0
	0.7nm,0.5s,baz=98,slow=8.0,SNR=28								

IDC 19 02:01:48.2±3.7, 512S×15251E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/13, mbtmp3.6/2, Error ellipse: s-maj=166.9km s-min=46.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**21.20**	**248**	*e*P		P		02 06 34.6	-0.7
	4.3nm,0.6s								
WRA	**Warramunga Arr**	**23.02**	**229**	P		P		02 06 54.3	-0.4
	1.2nm,0.7s,baz=53,slow=9.9,SNR=11								
ASAR	**Alice Springs**	**25.72**	**222**	P		P		02 07 20.9	+0.7
	0.8nm,0.4s,baz=59,slow=8.9,SNR=21								
TORD	**Torodi Ar. Bea**	**150.13**	**287**	PKPbc		PKPbc		02 21 41.9	+1.0
	0.1nm,0.4s,baz=76,slow=2.4,SNR=6.9								

*IDC **19** 02:03:29.4±3.5, 2291S×17764W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx3.1/28, Error ellipse: s-maj=191.2km s-min=29.4km az=156.0*

NEIC 19 02:03:43.2±2.7, 2464S×17711W, h150km, mb4.3/2, Error ellipse: s-maj=171.0km s-min=18.7km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.65**	**189**	LR		LR		02 07 00.5	
	comp=Z,391nm,18.5s,baz=165,slow=33								
TBI	**Tubuai**	**25.28**	**93**	*e*LR		LR		02 14 59.0	
	142nm,28.2s								
TBI	**Tubuai**	**25.28**	**93**	*e*T				02 34 44.2	
	4.9nm,0.3s								
PAE	**Paea**	**26.57**	**80**	*e*T				02 36 26.5	
	22nm,0.5s								
HNR	**Honiara**	**26.58**	**301**	LR		LR		02 17 31.6	
	comp=Z,107nm,20.6s,baz=356,slow=33								
PPT	**Papeete**	**26.60**	**80**	*e*LR		LR		02 15 36.2	
	170nm,30.8s								
TVO	**Taravao**	**26.82**	**81**	*e*T				02 36 45.7	
	6.3nm,0.2s								
PMOR	**Pomariorio Ree**	**29.05**	**76**	*e*T				02 39 35.1	
	2.9nm,0.2s								
CTA	**Charters Tower**	**34.12**	**270**	P		P		02 10 13.3	-0.2
	3.8nm,0.6s,baz=96,slow=13,SNR=6.6								
CTAO	**Charters Tower**	**34.12**	**270**	*e*P		P		02 10 14.0	+0.5
	5.2nm,0.8s								
RKT	**Rikitea**	**38.45**	**97**	*e*T				02 51 09.2	
	1.8nm,0.3s								
ASAR	**Alice Springs**	**44.52**	**261**	P		P		02 11 41.1	+1.4
	3.4nm,0.9s,baz=93,slow=8.0,SNR=20								
WRAB	**Tennant Creek**	**44.98**	**266**	*e*P		P		02 11 43.2	-0.1
	5.8nm,1.0s								
WRA	**Warramunga Arr**	**44.99**	**266**	P		P		02 11 43.7	+0.3
	2.6nm,0.8s,baz=102,slow=7.9,SNR=14								
NVAR	**Mina Array Bea**	**83.48**	**43**	P		P		02 15 54.8	+0.8
	0.1nm,0.5s,baz=222,slow=11,SNR=3.6								
NOA	**NORSAR Array B**	**143.17**	**353**	PKhKP				02 22 57.2	
	1.4nm,0.9s,baz=17,slow=2.6,SNR=4.4								
NOA	**NORSAR Array B**	**143.17**	**353**	PKP		PKPdf		02 22 57.2	-2.1
AKASG	**Malin Array Be**	**146.99**	**329**	PKPbc		PKPbc		02 23 08.4	+0.3
	0.4nm,0.3s,baz=40,slow=4.4,SNR=10								
BRTR	**Keskin Array B**	**150.12**	**308**	PKPbc		PKPbc		02 23 17.2	+1.1
	0.8nm,0.7s,baz=67,slow=1.9,SNR=7.9								

*IDC **19** 02:12:14.2±1.1, 695S×13100E, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.2/12, mbtmp4.2/7, ML4.1/2, Error ellipse: s-maj=76.0km s-min=20.4km az=75.0*

*NEIC **19** 02:12:19.8±2.3, 699S×13093E, h42km±26km, mb4.1/6, Error ellipse: s-maj=22.5km s-min=18.1km az=68.0*

*ISCJB **19** 02:12:24.5±1.8, 731S±008×1311E±02, h119km±19km, mb4.0/9, Error ellipse: s-maj=27.5km s-min=11.0km az=149.4*

ISC 19 02:12:20.3±2.7, 70S±01×1310E±02, h48km±30km, n19, σ1§11/25, mb4.1/9, Tanimbar Islands region

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

SONM Songino Array 58.78 341 P P 02 22 14.4 +0.8
1.0nm,0.5s,mb4.2,baz=166,slow=6.8,SNR=8.5
MKAR Makanchi Array 68.78 326 P P 02 23 19.8 +0.3
1.8nm,0.7s,mb4.1,baz=116,slow=8.2,SNR=5.1
AAK Ala-Archa 71.19 319 P P 02 23 34.5 +0.3
2.0nm,0.9s,mb4.0
ZRNK Zerenda 79.32 327 *e*P **P 02 24 20.4 -0.5**
1.7nm,0.7s,mb4.1
AKTK Aktyubinsk 84.69 322 P P 02 24 49.2 +0.1
AKTO Aktyubinsk 84.69 322 P P 02 24 49.2 +0.1
0.8nm,0.5s,mb4.1,baz=60,slow=8.8,SNR=5.9

MAN 19 02:27:25.5, 1803N×12088E, h24km, mb2.3, ML3.9, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.38**	**116**	*e*P	Pb	02 27 35.2	+1.5
APYP				*e*S	Sb	02 27 43.6	+4.3
ABRA	**Dolores**	**0.41**	**203**	*e*P	Pb	02 27 35.2	+1.0
CVP	**Callao Caves**	**0.95**	**110**	*e*S	Sb	02 27 57.0	+1.5
SGCP	**Mt. Cagua**	**1.13**	**79**	*e*P	Pn	02 27 45.5	-0.2

NIED ***19*** *02:44:00, 4280N×14730E, h17km, Mw3.9 Best double couple: M0=7.53000×10^14 NP1:φ=49.00000°, δ=63.00000°, λ=121.00000°. NP2:φ=176.00000°, δ=40.00000°, λ=45.00000°.*
JMA ***19*** *02:44:08.9±0.3, 4285N×14726E, h24km, M4.4*
ISCJB ***19*** *02:44:08.8±1.6, 4285N±006×14720E±005, h13km±12km, mb4.0/10, MS3.6/1, Error ellipse: s-maj=9.4km s-min=6.7km az=172.8*
NAO ***19*** *02:44:10.6, 4269N×14822E, h33km, mb3.7*
NEIC ***19*** *02:44:11.8±4.8, 4301N×14685E, h11km±29km, mb3.9/2, Error ellipse: s-maj=16.1km s-min=11.2km az=126.0*
SKHL ***19*** *02:44:11.3±1.5, 4282N×147.19E, h33km±11km, mb5.0/2*
MOS ***19*** *02:44:12.9±1.3, 4293N×14685E, h39km, mb4.2/4, Error ellipse: s-maj=19.5km s-min=12.5km az=111.6*
IDC ***19*** *02:44:16.0±3.3, 4284N×14687E, h49km±34km, mb3.5/7, mb1 3.6/9, mb1mx3.4/21, mbtmp3.6/9, ML3.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=55.0km s-min=24.1km az=166.0*
ISC 19 02:44:09.3±1.3, 4290N±005×14716E±006, h5km±8km, n38, σ0°92/48, mb4.0/10, MS3.6/1, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**294**	P	**Pg**	02 44 30.9	**-0.1**
NEM2				*e*S	**Sg**	02 44 46.7	**+1.0**
YUK	**Yuzh-Kuril'sk**	**1.47**	**321**	*e*P	**Pn**	02 44 35.9	**-0.6**
YUK				AMB	AMB	02 44 38.1	
	2μm,0.6s						
YUK				AMB	AMB	02 44 38.1	
	2μm,0.6s						
YUK				AMB	AMB	02 44 38.4	
	400nm,0.4s						
YUK				AMB	AMB	02 44 38.4	
	1μm,0.4s						
YUK				*i* S	**Sn**	**02 44 55.5**	**-0.7**
YUK				A		02 44 58.5	
	11μm,1.0s						
YUK				A		02 45 02.8	
	6μm,0.5s						
YUK				A		02 45 02.8	
	5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**321**	*e*PN	**Pn**	**02 44 35.9**	**-0.6**
YUK				*i* S	**Sn**	**02 44 55.5**	**-0.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,0.7s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,400nm,0.5s						
YUK				smax			
	comp=E,11μm,1.0s						
YUK				smax			
	comp=N,11μm,1.3s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**321**	*e*Pn	**Pn**	**02 44 35.9**	**-0.6**
YUK				*i* S	**Sn**	**02 44 55.5**	**-0.7**
JRA	**Rausu**	**1.81**	**306**	P	**Pn**	**02 44 40.7**	**-0.4**
JRA				*e*S	**Sn**	**02 45 04.8**	**+0.3**
JAK	**Akkeshi**	**1.81**	**274**	P	**Pn**	**02 44 40.3**	**-0.9**
JNK	**Nakash**	**1.91**	**292**	P	**Pn**	**02 44 41.8**	**-0.7**
JNK				*e*S	**Sn**	**02 45 06.1**	**-0.8**
KUR	**Kuril'sk**	**2.38**	**12**	*e*P	**Pn**	**02 44 49.5**	**+0.5**
KUR				AMB	AMB	02 44 55.2	
	comp=E,300nm,1.0s						
KUR				*e*S	**Sn**	**02 45 17.0**	**-1.7**
KUR				A		02 45 37.5	
	comp=E,450nm,0.8s						
KUR				A		02 45 37.5	
	comp=E,100nm,0.8s						
JOB	**Onbets**	**2.44**	**271**	P	**Pn**	**02 44 49.3**	**-0.5**
JAR	**Ashorobuto**	**2.51**	**280**	P	**Pn**	**02 44 50.3**	**-0.5**
JAR				*e*S	**Sn**	**02 45 21.8**	**-0.1**
JTKR	**Abashiri--Toko**	**2.60**	**295**	P	**Pn**	**02 44 52.2**	**+0.2**
JTKR				*e*S	**Sn**	**02 45 25.8**	**+1.9**
JCH	**Churui**	**2.81**	**265**	P	**Pn**	**02 44 54.7**	**-0.2**
JMP	**Maruseppu**	**2.98**	**293**	P	**Pn**	**02 44 57.6**	**+0.4**
JEM	**Erimo**	**3.09**	**255**	P	**Pn**	**02 44 59.8**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.31**	**261**	P	**Pn**	**02 45 01.8**	**0.0**
JFR	**Furan**	**3.36**	**276**	P	**Pn**	**02 45 02.5**	**+0.1**
JBT2	**Biratori 2**	**3.53**	**270**	P	**Pn**	**02 45 04.1**	**-0.7**
ASAJ	**Asahikawa**	**3.53**	**292**	P	**Pn**	**02 45 05.7**	**+0.8**
	comp=E,1.1nm,0.3s,baz=125,slow=13,SNR=3.5						
ASAJ				S	**Sn**	**02 45 55.8**	**+8.7**
	comp=E,14nm,0.3s,baz=310,slow=25,SNR=6.6						
ASAJ				LR	LR	02 46 37.0	
	comp=E,234nm,18.2s,baz=346,slow=42						
YSS	**Yuzh-Sakhalins**	**5.12**	**324**	*e*PN	**Pn**	**02 45 24.3**	**-2.3**
YSS				S	**Sn**	**02 46 28.0**	**+1.9**
MJAR	**Matsushiro Arr**	**9.37**	**230**	P	**Pn**	**02 46 25.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=35,slow=15,SNR=4.0						
ULN	**Ulaanbaatar**	**28.37**	**294**	*e*P	**P**	**02 50 04.0**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**28.37**	**294**	*e*P	**P**	**02 50 04.0**	**-0.4**
	comp=Z,1.8nm,0.8s,mb3.8						
SONM	**Songino Array**	**28.81**	**294**	P	**P**	**02 50 08.5**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=84,slow=8.9,SNR=13						
ILAR	**Eielson Array**	**42.17**	**36**	P	**P**	**02 52 04.6**	**+1.7**
	comp=Z,0.4nm,0.8s,mb3.1,baz=270,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**44.99**	**298**	P	**P**	**02 52 25.0**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.9,baz=77,slow=9.1,SNR=21						
MKAR	**Makanchi Array**	**44.99**	**298**	P	**P**	**02 52 25.0**	**-0.6**
INK	**Inuvik**	**47.13**	**30**	P	**P**	**02 52 44.4**	**+1.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=292,slow=7.2,SNR=12						
INK	**Inuvik**	**47.13**	**30**	P	**P**	**02 52 44.5**	**+2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**47.13**	**30**	P	**P**	**02 52 44.5**	**+2.0**
	comp=Z,34nm,0.5s,mb5.5						
ZRNK	**Zerenda**	**50.85**	**310**	P	**P**	**02 53 10.5**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
RES	**Resolute Bay**	**55.78**	**16**	*e*P	**P**	**02 53 47.3**	**+0.1**
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
RES	**Resolute Bay**	**55.78**	**16**	*e*P	**P**	**02 53 47.3**	**+0.1**
	comp=Z,100nm,1.0s,mb5.8						
YKA	**Yellowknife Ar**	**56.50**	**33**	P	**P**	**02 53 53.6**	**+1.2**
	comp=Z,0.2nm,0.7s,mb3.3,baz=302,slow=7.0,SNR=3.7						
NEW	**Newport**	**62.89**	**48**	LR	LR	03 24 52.6	
	comp=Z,41nm,18.6s,MS3.6,baz=155,slow=39						
FINES	**FINESS Array B**	**65.63**	**333**	P	**P**	**02 54 53.5**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=42,slow=8.1,SNR=4.7						
NB2	**NORSAR Subarra**	**70.39**	**339**	P	**P**	**02 55 23.9**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**70.39**	**339**	P	**P**	**02 55 23.9**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=35,slow=6.1,SNR=3.5						
KHC	**Kasperske Hory**	**79.70**	**331**	*e*P	**P**	**02 56 29.0**	**+11**

IDC ***19*** *02:48:23.6±9.8, 2296S×17923W, h415km±100km, mb3.4/5, mb1 3.7/5, mb1mx3.4/14, mbtmp4.2/5, Error ellipse: s-maj=62.2km s-min=39.3km az=3.0*
NEIC ***19*** *02:48:26.6±0.7, 2295S×17932W, h450km, mb4.0/1, Error ellipse: s-maj=37.7km s-min=15.8km az=171.0*
ISCJB ***19*** *02:48:30.1±1.0, 229S±04×1795W±02, h500km, mb3.7/6, Error ellipse: s-maj=54.2km s-min=19.5km az=169.7*
ISC 19 02:48:31.2±1.0, 229S±04×1794W±02, h500km, n13, σ0°20/9, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.00**	**268**	P	**P**	**02 54 16.1**	**+0.4**
	3.8nm,0.6s,mb4.0,baz=99,slow=13,SNR=8.1						
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**02 55 43.4**	**-0.2**
	3.8nm,0.9s,mb3.8,baz=94,slow=8.7,SNR=30						
WB2	**Warramunga Arr**	**42.99**	**265**	*e*P	**P**	**02 55 45.4**	**-0.2**
WRAB	**Tennant Creek**	**42.99**	**265**	*e*P	**P**	**02 55 45.6**	**-0.1**
	6.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**43.00**	**265**	P	**P**	**02 55 45.8**	**0.0**
	4.1nm,0.9s,mb3.8,baz=103,slow=8.1,SNR=19						
NVAR	**Mina Array Bea**	**83.67**	**44**	P	**P**	**03 00 06.7**	**0.0**
	0.3nm,0.6s,mb3.0,baz=215,slow=6.4,SNR=4.0						
NVAR	**Mina Array Bea**	**83.67**	**44**	P	**P**	**03 00 06.7**	**0.0**
PLCA	**Paso Flores**	**88.60**	**134**	P	**P**	**03 00 30.4**	**+0.1**
	1.0nm,0.7s,mb3.7,baz=252,slow=8.1,SNR=3.2						
PLCA	**Paso Flores**	**88.60**	**134**	P	**P**	**03 00 30.4**	**+0.1**
NOA	**NORSAR Array B**	**141.16**	**352**	PKhKP		03 06 59.1	
	1.4nm,0.9s,baz=16,slow=4.6,SNR=3.3						
AKASG	**Malin Array Be**	**144.39**	**328**	PKP	PKPdf	03 07 10.6	+0.6
	0.4nm,0.2s,baz=42,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**144.39**	**328**	PKP	PKPdf	03 07 10.6	+0.6
BRTR	**Keskin Array B**	**147.36**	**309**	PKPbc	PKPbc	03 07 19.8	+1.5
	1.0nm,0.8s,baz=141,slow=4.2,SNR=9.6						

IDC ***19*** *02:53:49.7±1.5, 1679S×167.18E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=35.5km s-min=26.0km az=78.0*
ISCJB ***19*** *02:53:54.6±1.5, 1703S±007×1669E±02, h33km, mb3.9/5, Error ellipse: s-maj=28.3km s-min=9.2km az=159.4*
NEIC ***19*** *02:53:54.9±1.0, 1686S×167.15E, h35km, mb4.0/1, Error ellipse: s-maj=23.3km s-min=12.7km az=75.0*
ISC 19 02:53:55.9±1.4, 1697S±007×1671E±02, h35km, n11, σ0°75/12, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.12**	**187**	Pn	**Pn**	**02 55 09.5**	**-0.5**
	11nm,0.3s,baz=71,slow=20,SNR=124						
DZM				Sn	**Sn**	**02 56 07.6**	**-0.2**
	18nm,0.3s,baz=124,slow=22,SNR=13						
DZM	**Mont Dzumac**	**5.12**	**187**	*e*P	**Pn**	**02 55 09.9**	**-0.1**
DZM				*e*S	**Sn**	**02 56 06.6**	**-1.2**
NOUC	**Port Laguerre**	**5.16**	**188**	*e*P	**Pn**	**02 55 11.1**	**+0.5**
NOUC				*e*S	**Sn**	**02 56 08.8**	**-0.2**
URZ	**Urewera**	**22.97**	**159**	P	**P**	**02 58 58.2**	**+0.9**
	5.6nm,0.6s,mb4.2,baz=41,slow=16,SNR=5.8						
STKA	**Stephens Creek**	**27.46**	**233**	P	**P**	**02 59 38.3**	**-0.2**
	2.5nm,0.8s,mb3.8,baz=57,slow=6.6,SNR=5.5						
STKA	**Stephens Creek**	**27.46**	**233**	*e*P	**P**	**02 59 38.2**	**-0.4**
	3.0nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**31.18**	**259**	P	**P**	**03 00 12.0**	**+0.4**
	0.3nm,0.7s,mb3.2,baz=92,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**31.77**	**252**	P	**P**	**03 00 17.8**	**+1.0**
	4.4nm,0.8s,mb4.4,baz=80,slow=8.6,SNR=44						
MJAR	**Matsushiro Arr**	**59.80**	**333**	P	**P**	**03 03 56.2**	**-1.4**
	0.3nm,0.4s,mb3.7,baz=142,slow=6.3,SNR=4.5						
ARCES	**ARCESS Array B**	**122.36**	**345**	PKP	PKPdf	03 12 44.7	-2.5
	4.5nm,0.9s,baz=33,slow=3.7,SNR=5.8						
ARCES	**ARCESS Array B**	**122.36**	**345**	PKP	PKPdf	03 12 44.7	-2.5

IDC ***19*** *03:01:28.6±1.5, 6315N×151.16W, h107km±15km, mb3.2/3, mb1 3.4/7, mb1mx3.2/19, mbtmp3.5/7, Error ellipse: s-maj=22.5km s-min=11.1km az=112.0*
ISCJB ***19*** *03:01:29.8±0.4, 6315N±003×15082W±008, h136km±4km, mb3.4/3, Error ellipse: s-maj=5.7km s-min=4.9km az=34.1*
NEIC ***19*** *03:01:31.4, 6313N×15074W, h135km, MG3.2(AEIC), After AEIC.*
ISC 19 03:01:30.7±0.4, 6314N±003×15081W±008, h135km±4km, n36, σ0°94/48, mb3.4/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.39**	**37**	P	**Pn**	**03 01 50.8**	**+1.0**
TRF				S	**Sn**	**03 02 05.2**	**+1.0**
KTH	**Kantishna Hill**	**0.42**	**353**	P	**Pn**	**03 01 50.7**	**+0.8**
KTH				S	**Sn**	**03 02 04.5**	**+0.1**
MCK	**McKinley**	**1.03**	**54**	P	**Pn**	**03 01 55.1**	**+0.7**
MCK				S	**Sn**	**03 02 12.2**	**0.0**
GHO	**Glory Hole Cre**	**1.63**	**147**	P	**Pn**	**03 02 01.5**	**+0.9**
PMR	**Palmer**	**1.74**	**153**	*e*P	**Pn**	**03 02 02.1**	**+0.2**
SML	**Sawmill**	**1.77**	**138**	P	**Pn**	**03 02 02.4**	**+0.3**
SML				S	**Sn**	**03 02 27.3**	**+1.1**
FIB	**Fire Island**	**2.01**	**171**	P	**Pn**	**03 02 05.4**	**+0.4**
KNK	**Knik Glacier**	**2.06**	**147**	P	**Pn**	**03 02 05.9**	**+0.3**
RC01	**Rabbit Creek A**	**2.12**	**166**	P	**Pn**	**03 02 06.7**	**+0.3**
RC01				S	**Sn**	**03 02 33.7**	**-0.1**
COLA	**College**	**2.17**	**36**	P	**Pn**	**03 02 07.2**	**+0.2**
ILAR	**Eielson Array**	**2.38**	**45**	P	**Pn**	**03 02 09.8**	**+0.1**
	5.5nm,0.3s,baz=227,slow=12,SNR=582						
ILAR				S	**Sn**	**03 02 37.9**	**-1.6**
	2.5nm,0.3s,baz=225,slow=19,SNR=15						
TTA	**Tatalina**	**2.38**	**267**	*e*Pn	**Pn**	**03 02 09.0**	**-0.6**
TTA				*e*Sn	**Sn**	**03 02 37.3**	**-2.2**
IL1	**Eielson Array**	**2.38**	**45**	P	**Pn**	**03 02 09.8**	**+0.1**
TT01	**Tatalina**	**2.39**	**267**	P	**Pn**	**03 02 09.9**	**+0.3**
PAX	**Paxson**	**2.44**	**92**	P	**Pn**	**03 02 10.9**	**+0.6**
PAX				S	**Sn**	**03 02 40.6**	**-0.2**
SLKM	**Skilak Lake**	**2.66**	**174**	P	**Pn**	**03 02 13.7**	**+0.6**
SLKM				S	**Sn**	**03 02 44.4**	**-1.3**
SVW2	**Sparrevohn**	**3.04**	**230**	*e*P	**Pn**	**03 02 18.5**	**+0.5**
DOT	**Dot Lake**	**3.08**	**77**	P	**Pn**	**03 02 18.6**	**+0.1**
DOT				S	**Sn**	**03 02 53.4**	**-2.0**
DIV	**Divide**	**3.11**	**128**	P	**Pn**	**03 02 17.3**	**-1.6**
DIV				S	**Sn**	**03 02 53.4**	**-2.7**
SEW	**Seward**	**3.12**	**167**	P	**Pn**	**03 02 18.9**	**-0.1**
IM3	**Indian Mountai**	**3.12**	**337**	P	**Pn**	**03 02 19.1**	**+0.1**
MENT	**Mentasta**	**3.24**	**90**	*e*P	**Pn**	**03 02 21.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.54**	**135**	P	**Pn**	**03 02 24.3**	**-0.2**
BMRM	**Bremner River**	**3.65**	**124**	P	**Pn**	**03 02 25.3**	**-0.6**
COLD	**Coldfoot**	**4.11**	**3**	P	**Pn**	**03 02 32.3**	**+0.3**
BM3	**Burnt Mountain**	**5.02**	**28**	P	**Pn**	**03 02 43.9**	**-0.2**
DAWY	**Dawson**	**5.18**	**75**	P	**Pn**	**03 02 46.0**	**-0.2**
KDAK	**Kodiak Island**	**5.45**	**190**	P	**Pn**	**03 02 48.8**	**-1.0**
	0.7nm,0.3s,baz=9.1,slow=21,SNR=12						
KDAK				S	**Sn**	**03 03 47.5**	**-4.0**
	1.7nm,0.3s,baz=117,slow=23,SNR=9.9						
PNL	**Peninsula**	**6.49**	**117**	P	**Pn**	**03 03 03.5**	**-0.3**
INK	**Inuvik**	**8.78**	**46**	P	**Pn**	**03 03 33.8**	**-0.8**
	0.1nm,0.3s,baz=248,slow=10,SNR=5.9						
SIT	**Sitka**	**9.83**	**121**	*e*P	**Pn**	**03 03 50.0**	**+1.4**
	4.5nm,0.3s						
YKA	**Yellowknife Ar**	**16.42**	**76**	P	**Pn**	**03 05 13.0**	**-0.2**
	baz=290,slow=11,SNR=14						
YKA	**Yellowknife Ar**	**16.42**	**76**	P	**Pn**	**03 05 13.0**	**-0.2**
PDAR	**Pinedale Array**	**31.33**	**111**	P	**P**	**03 07 40.4**	**+2.2**
	0.6nm,0.7s,mb3.4,baz=325,slow=7.4,SNR=6.5						
NVAR	**Mina Array Bea**	**31.54**	**126**	P	**P**	**03 07 42.8**	**+2.8**
	0.5nm,0.6s,mb3.4,baz=330,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**62.62**	**322**	P	**P**	**03 11 39.6**	**-1.0**
	0.3nm,0.6s,mb3.3,baz=42,slow=7.0,SNR=5.8						

IDC 19 03:14:40.3±1.6, 1253N×14485E, h69km±26km, mb3.3/5, mb1 3.5/5, mb1mx3.3/20, mbtmp3.6/5, Error ellipse: s-maj=126.3km s-min=18.9km az=86.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.05**	**1**	P	Pn	03 14 58.6	-0.8
	121nm,0.3s,baz=352,slow=23,SNR=38						
GUMO				S	Sn	03 15 14.2	+0.5
	171nm,0.3s,baz=107,slow=19,SNR=19						
WRA	**Warramunga Arr**	**33.88**	**198**	P		03 21 16.2	-0.1
	0.7nm,0.6s,baz=20,slow=9.6,SNR=7.9						
ASAR	**Alice Springs**	**37.53**	**197**	P		03 21 48.4	+0.8
	0.2nm,0.5s,baz=17,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**62.24**	**316**	P		03 24 55.4	+0.6
	0.3nm,0.4s,baz=93,slow=8.4,SNR=7.9						
BVAR	**Borovoye Array**	**70.75**	**322**	P		03 25 48.5	-0.5
	0.3nm,0.3s,baz=103,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**92.11**	**335**	P		03 27 41.8	-0.2
	0.4nm,0.5s,baz=72,slow=6.2,SNR=8.4						

ISCJB ***19*** *03:19:09.2±4.2, 5.1S±02×152.1E±02, h63km±37km, mb3.9/6, Error ellipse: s-maj=38.2km s-min=23.4km az=129.4*
IDC ***19*** *03:19:09.2±5.5, 5045×152.10E, h55km±50km, mb3.6/5, mb1 3.9/6, mb1mx3.6/15, mbtmp3.9/6, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=39.5km s-min=26.0km az=163.0*
NEIC ***19*** *03:19:09.1±0.9, 502S×152.13E, mb3.8/1, Error ellipse: s-maj=27.6km s-min=14.9km az=143.0*
ISC 19 03:19:11.4±3.5, 51S±02×1521E±02, h72km±33km, n9, σ1°25/8, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.49**	**228**	P	**Pn**	**03 20 44.6**	**+0.4**
	2.1nm,0.3s,baz=59,slow=3.9,SNR=5.8						
PMG				S	**Sn**	**03 21 56.4**	**-0.4**
	3.8nm,0.3s,baz=128,slow=17,SNR=7.5						
CTA	**Charters Tower**	**15.94**	**200**	LR	LR	03 28 30.9	
	comp=Z,986nm,18.4s,baz=49,slow=35						
DZM	**Mont Dzumac**	**21.88**	**142**	P	**P**	**03 23 57.9**	**-0.4**
	9.9nm,0.8s,mb4.2,baz=309,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**22.69**	**228**	*e*P	**P**	**03 24 07.4**	**+0.5**
	2.9nm,0.7s,mb3.7						
WRAB				*e*pP		03 24 19.5	
WRA	**Warramunga Arr**	**22.71**	**228**	P	**P**	**03 24 06.8**	**-0.2**
	1.3nm,0.4s,mb3.6,baz=53,slow=10.0,SNR=22						
WRA				pP		03 24 19.9	
	4.9nm,0.6s,baz=52,slow=9.8,SNR=25						
ASAR	**Alice Springs**	**25.45**	**222**	P	**P**	**03 24 32.5**	**+0.1**
	1.0nm,0.3s,mb3.7,baz=58,slow=9.1,SNR=26						
ASAR				pP	pP	03 24 46.0	-3.4
	6.0nm,0.8s,baz=58,slow=9.1,SNR=30						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**03 31 25.4**	**-1.8**
	0.6nm,0.7s,mb3.5,baz=246,slow=5.4,SNR=8.5						
NVAR	**Mina Array Bea**	**92.84**	**52**	P	**P**	**03 32 17.7**	**+1.7**
	0.4nm,0.7s,mb3.8,baz=230,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.70**	**287**	PKPbc	PKPbc	03 38 54.0	+1.1
	0.4nm,0.4s,baz=94,slow=3.0,SNR=14						

IDC 19 04:09:28.8±52.0, 1970S×17757W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/19, Error ellipse: s-maj=955.1km s-min=154.2km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.52**	**182**	LR	LR	04 14 25.3	
	comp=Z,338nm,19.4s,baz=124,slow=31						
STKA	**Stephens Creek**	**38.51**	**243**	P	P	04 16 53.0	+0.2
	2.7nm,0.9s,baz=67,slow=7.7,SNR=4.4						
ASAR	**Alice Springs**	**45.10**	**256**	P	P	04 17 47.1	+0.3
	2.2nm,0.9s,baz=85,slow=8.6,SNR=21						
WRA	**Warramunga Arr**	**45.12**	**261**	P	P	04 17 47.2	+0.3
	1.5nm,0.8s,baz=98,slow=8.3,SNR=19						

CSEM ***19*** *05:21:44.1, 3496N×5822E, h18km, ML3.5, After TEH*
TEH 19 05:22:22.7, 3496N×5822E, h18km, Mn3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**1.47**	**38**	*e*Pn	Pn	05 22 46.4	-1.9
MHI	**Mashhad**	**1.69**	**37**	*e*Pn	Pn	05 22 51.3	-0.1
IMYA	**Miamay**	**2.06**	**48**	*e*Pn	Pn	05 22 56.3	-0.2
IMYA				*e*Sn	Sn	05 23 21.4	-0.4
ISFR	**Esferayen**	**2.09**	**355**	*e*Pn	Pn	05 22 56.8	0.0
ISHV	**Shirvan**	**2.60**	**351**	*e*Pn	Pn	05 23 03.8	-0.1
IANJ	**Anjiloo**	**3.56**	**279**	*e*Pn	Pn	05 23 21.5	+4.4
IBAF	**Bafgh**	**4.03**	**214**	*e*Pn	Pn	05 23 23.8	+0.3
ISHM	**Shahmirzad**	**4.11**	**283**	*e*Pn	Pn	05 23 24.1	-0.6
ISHM				*e*Sn	Sn	05 24 09.9	-2.4
ICHK	**Chekchek**	**4.18**	**231**	*e*Pn	Pn	05 23 24.3	-1.2
ILAS	**Lasjerd**	**4.33**	**277**	*e*Pn	Pn	05 23 37.3	+10
IMEH	**Mehriz**	**4.67**	**221**	*e*Pn	Pn	05 23 31.8	-0.5

ISCJB ***19*** *05:36:57.5±0.6, 3887N±002×23.12E±003, h6km±5km, Error ellipse: s-maj=4.0km s-min=3.2km az=174.8*
ATH ***19*** *05:36:57.9, 3885N×23.12E, h20km±1km, MD3.7/22, ML3.8*
NEIC ***19*** *05:36:57.9, 3886N×23.11E, h20km, ML3.8(ATH), After ATH.*
CSEM ***19*** *05:36:58.0±0.1, 3883N×2298E, h20km, ML3.7, Error ellipse: s-maj=2.2km s-min=1.7km az=92.0*
THE ***19*** *05:36:58.4, 3887N×2309E, h4km, ML3.5*
ISC 19 05:36:58.5±0.5, 3887N±002×2309E±003, h9km±4km, n79, σ1°32/95, 9C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.23**	**197**	⇑*i*PB	**Pg**	**05 37 03.0**	**-0.2**
LKR				*e*SB	**Sg**	**05 37 06.8**	**+0.5**
LKR	**Lokris**	**0.23**	**197**	*e*Pb	**Pg**	**05 37 02.6**	**-0.6**
NEO	**Neokhori**	**0.45**	**14**	⇑*i*PB	**Pg**	**05 37

APE	**Apeiranthos**	**2.64**	**132**	*e*Pn	**Pn**	**05 37 41.3**	**0.0**
KEK	**Kerkira**	**2.69**	**289**	*e*PN	**Pn**	**05 37 43.0**	**+1.0**
MMB	**Musomiste**	**2.76**	**10**	*i* P	**Pn**	**05 37 42.5**	**-0.5**
URLA	**Izmir**	**2.80**	**99**	*i* P	**Pg**	**05 37 52.2**	**0.0**
URLA				*i* S	**Sg**	**05 38 32.7**	**+4.3**
OHR	**Ohrid**	**2.84**	**323**	*i* Pn	**Pn**	**05 37 45.5**	**+1.4**
OHR				*i* Sn	**Sn**	**05 38 24.1**	**+5.6**
OHR				*e*Lg		05 38 39.6	
	comp=E,322nm,1.1s						
STIP	**Stip**	**2.90**	**347**	*i* Pn	**Pn**	**05 37 45.5**	**+0.5**
STIP	**Stip**	**2.90**	**347**	*i* Pn	**Pn**	**05 37 45.4**	**+0.5**
RDO	**Rodhopi**	**2.95**	**39**	*e*PN	**Pn**	**05 37 46.0**	**+0.4**
KKB	**Krupnik**	**2.99**	**360**	*i* P	**Pn**	**05 37 46.0**	**-0.2**
ALN	**Alexandroupoli**	**3.05**	**47**	*e*Pn	**Pn**	**05 37 46.1**	**-0.8**
RZN	**Rozhen**	**3.08**	**23**	*i* P	**Pn**	**05 37 47.5**	**+0.1**
KDZ	**Kurdzhali**	**3.30**	**32**	*i* P	**Pn**	**05 37 49.0**	**-1.4**
KDAG	**Bornova**	**3.31**	**97**	*i* P	**Pg**	**05 38 03.7**	**+1.8**
KDAG				*i* S	**Sg**	**05 38 51.2**	**+6.5**
SKO	**Skopje**	**3.34**	**338**	*e*Pn	**Pn**	**05 37 55.8**	**+4.8**
VAM	**Vamos**	**3.57**	**165**	*e*PN	**Pn**	**05 37 54.6**	**+0.5**
SART	**Tekirdag**	**3.64**	**59**	*i* P	**Pg**	**05 38 11.8**	**+3.5**
SART				*i* S	**Sg**	**05 38 57.9**	**+2.4**
VTS	**Vitosha**	**3.72**	**1**	*i* P	**Pn**	**05 37 57.0**	**+0.8**
BTOK	**Tokmak**	**3.94**	**75**	*i* P	**Pn**	**05 38 01.9**	**+2.7**
PVL	**Pavlikeni**	**4.66**	**21**	*i* P	**Pn**	**05 38 07.0**	**-2.1**
ULDT	**Uludag**	**4.85**	**73**	*i* P	**Pg**	**05 38 30.5**	**-0.9**
ULDT				*i* S	**Sg**	**05 39 28.4**	**-5.9**
TKTP	**Tekketepe**	**5.74**	**96**	*i* P	**Pn**	**05 38 26.6**	**+2.6**
ESKT	**Eskisehir**	**6.07**	**81**	*i* P	**Pn**	**05 38 30.4**	**+1.9**
SEYT	**Eskypehyr**	**6.07**	**81**	*i* P	**Pn**	**05 38 30.4**	**+2.0**
VOIR		**6.72**	**12**	⇓P	**Pn**	**05 38 38.3**	**+0.9**
VOIR		**6.72**	**12**	⇓P	**Pn**	**05 38 38.3**	**+0.9**
BZS	**Buzias**	**6.83**	**351**	⇓P	**Pn**	**05 38 40.0**	**+1.1**
BZS	**Buzias**	**6.83**	**351**	⇓P	**Pn**	**05 38 40.0**	**+1.1**
MLR	**Muntele Rosu**	**6.95**	**17**	⇑P	**Pn**	**05 38 45.3**	**+4.8**
MLR	**Muntele Rosu**	**6.95**	**17**	⇑P	**Pn**	**05 38 45.3**	**+4.7**
VRI	**Vrincioaia**	**7.49**	**20**	⇓P	**Pn**	**05 38 50.5**	**+2.5**
BURAR	**Bucovina Array**	**8.88**	**9**	⇑P	**Pn**	**05 39 06.5**	**-0.5**
BURAR	**Bucovina Array**	**8.88**	**9**	⇑P	**Pn**	**05 39 06.5**	**-0.5**

*IDC **19** 05:41:01.2±1.3, 365N×127.17E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=119.9km s-min=19.0km az=68.0*
*ISCJB **19** 05:41:04.7±0.9, 34N±03×1265E±09, h33km, mb4.1/9, Error ellipse: s-maj=133.9km s-min=12.0km az=137.3*
*NEIC **19** 05:41:06.6±0.7, 351N×12678E, h35km, mb4.1/4, Error ellipse: s-maj=108.0km s-min=9.8km az=69.0*
ISC 19 05:41:06.8±0.9, 35N±04×1267E±09, h35km, n10, σ0 62/10, mb4.1/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.46**	**162**	*e*P	**P**	**05 46 23.1**	**+0.7**
	19nm,0.8s,mb4.6						
WRAB				*e*		05 46 31.5	
WRA	**Warramunga Arr**	**24.47**	**162**	P	**P**	**05 46 22.2**	**-0.2**
	8.9nm,0.6s,mb4.4,baz=344,slow=11,SNR=61						
ASAR	**Alice Springs**	**27.89**	**166**	P	**P**	**05 46 54.1**	**+0.8**
	1.0nm,0.4s,mb3.8,baz=338,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**05 48 19.5**	**-1.2**
	1.6nm,0.4s,mb4.2,baz=340,slow=8.7,SNR=8.0						
STKA	**Stephens Creek**	**37.92**	**159**	*e*P	**P**	**05 48 19.3**	**-1.4**
ULN	**Ulaanbaatar**	**47.34**	**342**	P	**P**	**05 49 37.5**	**+0.3**
	1.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**47.51**	**342**	P	**P**	**05 49 38.8**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=141,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**05 50 54.3**	**+0.2**
	0.7nm,0.6s,mb3.9,baz=119,slow=8.1,SNR=9.8						
KURK	**Kurchatov**	**61.92**	**328**	*e*P	**P**	**05 51 22.6**	**-0.3**
	1.5nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**68.23**	**327**	*e*P	**P**	**05 52 03.3**	**-0.6**
	0.7nm,0.6s,mb3.9						

*IDC **19** 06:07:31.2±0.7, 285S×138.95E, h0km, mb4.7/8, mb1 4.8/9, mb1mx4.7/12, mbtmp4.7/9, ML4.3/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/22, Error ellipse: s-maj=26.0km s-min=11.2km az=88.0*
*ISCJB **19** 06:07:32.4±1.9, 282S±004×138.84E±007, h20km±13km, mb4.7/41, MS4.1/24, Error ellipse: s-maj=12.8km s-min=5.6km az=22.5*
*MOS **19** 06:07:34.4±0.9, 280S×138.74E, h33km, mb4.9/17, Error ellipse: s-maj=17.6km s-min=8.3km az=101.3*
*BJI **19** 06:07:34.6, 293S×139.23E, h53km, mB5.0, mb4.8, Ms4.6, Msz4.1*
*NEIC **19** 06:07:38.3±1.6, 289S×138.80E, h54km±15km, mb4.6/18, Error ellipse: s-maj=12.1km s-min=9.6km az=75.0*
ISC 19 06:07:39.2±1.2, 291S±004×138.84E±006, h63km±11km, h64km±3.5km: pP-P, n89, σ1 09/91, mb4.7/41, 2C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.49**	**128**	Pn	**Pn**	**06 10 09.6**	**+2.9**
	0.7nm,0.3s,baz=294,slow=6.0,SNR=6.6						
PMG	**Port Moresby**	**10.49**	**128**	*i* P	**Pn**	**06 10 09.1**	**+2.5**
PMG	**Port Moresby**	**10.49**	**128**	*e*Pn	**Pn**	**06 10 08.4**	**+1.8**
	48nm,0.9s						
KAKA	**Kakadu**	**11.62**	**213**	*e*P	**Pn**	**06 10 21.1**	**-1.0**
	301nm,1.0s						
KAKA				*e*S	**Sn**	**06 12 30.7**	**+0.5**
GUMO	**Guam**	**17.44**	**20**	LR	LR	06 17 38.3	
	comp=Z,298nm,19.6s,baz=221,slow=35						
WRAB	**Tennant Creek**	**17.48**	**194**	*e*P	**Pn**	**06 11 37.3**	**-1.3**
WRAB				*e*S	**S**	**06 14 42.7**	**-15**
WRAB				pmax	pmax		
	comp=Z,70nm,0.8s						
WRAB	**Tennant Creek**	**17.48**	**194**	*e*P	**Pn**	**06 11 37.3**	**-1.3**
	comp=Z,70nm,0.8s						
WRAB				*e*S	**S**	**06 14 42.7**	**-15**
WB2	**Warramunga Arr**	**17.49**	**194**	*e*P	**Pn**	**06 11 36.7**	**-2.0**
WB2				*e*S	**S**	**06 14 45.7**	**-12**
WRA	**Warramunga Arr**	**17.49**	**194**	P	**Pn**	**06 11 37.8**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=17,slow=13,SNR=31						
WRA				S	**S**	**06 14 52.6**	**-5.0**
	comp=Z,0.5nm,0.3s,baz=13,slow=22,SNR=4.6						
WRA				Lg		06 16 58.4	
	baz=20,slow=26,SNR=2.8						
WRA	**Warramunga Arr**	**17.49**	**194**	P	**Pn**	**06 11 37.8**	**-0.9**
WRA				S	**S**	**06 14 52.6**	**-5.0**
CTA	**Charters Tower**	**18.55**	**158**	*e*P	**Pn**	**06 11 55.5**	**+4.0**
	comp=Z,18nm,1.0s						
CTA	**Charters Tower**	**18.55**	**158**	P	**Pn**	**06 11 55.8**	**+4.2**
	comp=Z,0.5nm,0.3s,baz=337,slow=12,SNR=16						
CTA				S	**S**	**06 15 19.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=209,slow=21,SNR=2.0						
CTA				Lg		06 17 31.0	
	comp=Z,0.2nm,0.3s,baz=67,slow=23,SNR=3.3						
CTA				LR	LR	06 19 33.6	
	comp=Z,1μm,19.9s,baz=342,slow=39						
CTAO	**Charters Tower**	**18.55**	**158**	*e*P	**Pn**	**06 11 51.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,41nm,1.1s						
CTAO	**Charters Tower**	**18.55**	**158**	*e*P	**Pn**	**06 11 51.8**	**+0.3**
	comp=Z,41nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.89**	**220**	*e*P	**Pn**	**06 12 06.3**	**-1.2**
	comp=Z,38nm,0.7s						
FITZ				*e*S	**S**	**06 15 45.4**	**-0.4**
ASAR	**Alice Springs**	**21.18**	**193**	P	**P**	**06 12 19.9**	**+0.6**
	comp=Z,16nm,0.9s,mb4.4,baz=23,slow=9.9,SNR=76						
ASAR				S	**S**	**06 16 18.3**	**+7.0**
	comp=Z,4.2nm,0.8s,baz=16,slow=23,SNR=4.8						
TGY	**Tagaytay City**	**24.51**	**314**	P	**P**	**06 12 54.7**	**+2.2**
	comp=Z,89nm,0.3s,baz=226,slow=3.6,SNR=6.4						
MBWA	**Marble Bar**	**25.99**	**224**	*e*P	**P**	**06 13 06.9**	**+0.9**
	comp=Z,13nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**28.93**	**175**	*e*P	**P**	**06 13 31.4**	**-0.9**
	comp=Z,3.1nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.93**	**175**	P	**P**	**06 13 31.2**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.1,baz=330,slow=7.4,SNR=4.6						
STKA				LR	LR	06 26 25.4	
	comp=Z,1μm,18.8s,baz=6.6,slow=39						
CBIJ	**Chichi jima**	**30.00**	**6**	LR	LR	06 23 47.0	
	comp=Z,164nm,20.9s,baz=116,slow=33						
JOW	**Kunigami**	**31.28**	**342**	LR	LR	06 24 46.6	
	comp=Z,280nm,18.6s,baz=136,slow=33						
JHJ	**Hachijo jima 2**	**35.84**	**1**	LR	LR	06 25 46.4	
	comp=Z,311nm,20.2s,baz=107,slow=31						
NWAO	**Narrogin (SRO)**	**36.08**	**212**	LR	LR	06 30 34.8	
	comp=Z,1μm,19.2s,baz=37,slow=38						
SSE	**Sheshan**	**37.77**	**335**	P	**P**	**06 14 49.8**	**+0.8**
SSE				XP	sP	06 15 12.1	+0.1
SSE				PP	PP	06 16 17.3	+1.0
SSE				PCP	PcP	06 17 04.0	-0.7
SSE				S	**S**	**06 20 37.3**	**+2.2**
SSE				XS	sS	06 21 02.8	+1.1
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,118nm,4.1s						
SSE				LR	LR		
	comp=N,93nm,21.0s						
SSE				LR	LR		
	comp=E,67nm,21.8s						
SSE				LR	LR		
	comp=Z,129nm,24.2s						
MJAR	**Matsushiro Arr**	**39.25**	**359**	LR	LR	06 28 50.2	
	comp=Z,159nm,20.1s,baz=170,slow=33						
NJ2	**Nanjing**	**39.61**	**333**	*e*P	**P**	**06 15 02.8**	**-1.7**
NJ2				AP	pP	06 15 22.0	+1.8
NJ2				PP	PP	06 16 38.3	+1.9
NJ2				S	**S**	**06 20 58.0**	**-4.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,480nm,11.1s						
NJ2				LR	LR		
	comp=E,470nm,13.5s						
PSI	**Prapat**	**40.30**	**278**	P	**P**	**06 15 11.4**	**+1.2**
	comp=E,11nm,0.8s,mb4.6,baz=131,slow=7.9,SNR=8.9						
ENH	**Enshi**	**43.30**	**322**	*e*P	**P**	**06 15 34.7**	**0.0**
	comp=E,14nm,1.0s,mb4.7						
KMI	**Kunming**	**44.75**	**311**	P	**P**	**06 15 48.4**	**+2.1**
KMI				XP	sP	06 16 10.8	+1.3
KMI				S	**S**	**06 22 16.8**	**-1.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,75nm,4.7s						
KMI				LR	LR		
	comp=N,198nm,31.0s						
KMI				LR	LR		
	comp=E,258nm,33.7s						
KMI				LR	LR		
	comp=Z,165nm,27.1s						
VLA	**Vladivostok**	**46.24**	**353**	*i* P	**P**	**06 15 57.9**	**-0.2**
XAN	**Xi'an**	**46.31**	**325**	P	**P**	**06 15 58.8**	**+0.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
CD2	**Chengdu**	**47.41**	**318**	*e*P	**P**	**06 16 08.1**	**+0.9**
CD2				AP	pP	06 16 23.1	-0.2
CD2				XP	sP	06 16 30.8	+0.3
CD2				PP	PP	06 17 59.4	+0.5
CD2				S	**S**	**06 22 56.8**	**0.0**
CD2				XS	sS	06 23 23.5	-0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.8s						
CD2				LR	LR		
	comp=E,110nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,14.4s						
MDJ	**Mudanjiang**	**48.03**	**351**	P	**P**	**06 16 11.9**	**-0.1**
MDJ				AP	pP	06 16 27.8	-0.3
MDJ				XP	sP	06 16 32.8	-2.5
MDJ				PP	PP	06 18 06.9	+2.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,41nm,3.2s						
MDJ				LR	LR		
	comp=N,118nm,23.3s						
MDJ				LR	LR		
	comp=Z,142nm,23.3s						
CN2	**Changchun**	**48.03**	**347**	*e*P	**P**	**06 16 11.4**	**-0.6**
CN2				*e*AP	pP	06 16 26.8	-1.3
CN2				*e*XP	sP	06 16 33.9	-1.4
CN2				SCP	ScP	06 21 26.3	-1.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				LR	LR		
	comp=N,1μm,21.0s						
CN2				LR	LR		
	comp=E,900nm,21.0s						
RPZ	**Rata Peaks**	**49.65**	**150**	P	**P**	**06 16 25.9**	**+1.5**
	comp=E,37nm,0.9s,mb5.4,baz=24,slow=5.8,SNR=14						
LZH	**Lanzhou**	**50.72**	**323**	*e*P	**P**	**06 16 33.0**	**+0.5**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,114nm,4.6s						
LZH				LR	LR		
	comp=E,370nm,18.0s						
LZH				LR	LR		
	comp=Z,480nm,19.0s						
HABR	**Khabarovsk**	**51.27**	**357**	*i* P	**P**	**06 16 35.5**	**-1.1**
HABR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KLR	**Kul'dur**	**52.29**	**354**	*e*P	**P**	**06 16 40.2**	**-4.0**
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
GTA	**Gaotai**	**55.31**	**324**	P	**P**	**06 17 07.3**	**+1.1**
GTA				AP	pP	06 17 22.9	+0.2
GTA				XP	sP	06 17 29.8	0.0
GTA				PCP	PcP	06 18 05.5	-0.7
GTA				PP	PP	06 19 14.3	+4.0
GTA				S	**S**	**06 24 48.8**	**+3.3**
GTA				XS	sS	06 25 15.4	+2.1
GTA				SCS	ScS	06 26 45.8	-3.9
GTA				SS	SS	06 28 33.6	+3.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,94nm,12.0s						
GTA				LR	LR		
	comp=N,114nm,19.9s						
GTA				LR	LR		
	comp=E,133nm,14.5s						
GTA				LR	LR		
	comp=Z,148nm,20.2s						
ULN	**Ulaanbaatar**	**57.70**	**335**	*c* P	**P**	**06 17 24.3**	**+1.1**
ULN	**Ulaanbaatar**	**57.70**	**335**	*e*P	**P**	**06 17 23.0**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.5						
SONM	**Songino Array**	**57.95**	**335**	P	**P**	**06 17 25.5**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.3,baz=154,slow=8.0,SNR=15						
SONM				LR	LR	06 43 04.0	
	comp=Z,279nm,18.2s,baz=166,slow=37						
PET	**Petropavlovsk**	**58.16**	**14**	*e*P	**P**	**06 17 30.8**	**+4.3**
PET				*e*S	**S**	**06 25 31.3**	**+8.0**
PET				*e*SS	SS	06 29 21.2	+5.6
PET				smax			
	comp=N,100nm,19.5s						
CIT	**Chita**	**58.77**	**342**	*e*P	**P**	**06 17 31.5**	**+0.8**
ZAK	**Zakamensk**	**61.22**	**335**	*e*P	**P**	**06 17 48.0**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.9						
IRK	**Irkutsk**	**62.23**	**337**	*e*P	**P**	**06 17 47.2**	**-7.1**
IRK				*e*		06 20 07.7	
IRK				pmax	pmax		
	comp=Z,24nm,2.3s,mb4.9						
FX1	**Attu Island--F**	**62.62**	**23**	LR	LR	06 39 27.0	
	comp=Z,13nm,22.0s,baz=79,slow=31						
MA2	**Magadan**	**63.00**	**7**	*e*P	**P**	**06 17 58.1**	**-1.3**
MA2				*e*		06 20 17.9	
MA2				*e*S	**S**	**06 26 23.6**	**-1.4**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
MA2	**Magadan**	**63.00**	**7**	*e*P	**P**	**06 17 58.5**	**-0.8**
	comp=Z,9.6nm,1.2s,mb4.8						
MOY	**Mondy**	**63.14**	**335**	*e*P	**P**	**06 18 01.1**	**+0.7**
BOD	**Bodaibo**	**63.74**	**345**	*e*P	**P**	**06 18 03.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
YAK	**Yakutsk**	**65.14**	**355**	*i* P	**P**	**06 18 12.6**	**-0.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
WMQ	**Urumqi**	**65.25**	**322**	P	**P**	**06 18 14.4**	**+0.3**
WMQ				XP	sP	06 18 38.0	0.0
WMQ				PP	PP	06 20 40.0	+1.8
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,150nm,6.0s						
WMQ				LR	LR		
	comp=N,117nm,12.0s						
WMQ				LR	LR		
	comp=E,187nm,14.0s						
WMQ				LR	LR		
	comp=Z,68nm,11.0s						
SEY	**Seymchan**	**66.46**	**7**	*i* P	**P**	**06 18 21.9**	**0.0**
MKAR	**Makanchi Array**	**70.03**	**322**	P	**P**	**06 18 45.0**	**+0.7**
	comp=Z,6.5nm,0.8s,mb4.6,baz=117,slow=8.0,SNR=66						
MKAR				LR	LR	06 50 57.0	
	comp=Z,52nm,18.2s,baz=24,slow=37						
PPT	**Papeete**	**71.57**	**107**	LR	LR	06 44 32.6	
	comp=Z,40nm,19.6s,baz=263,slow=31						
BILL	**Biiibino**	**73.33**	**10**	*i* P	**P**	**06 19 05.3**	**+1.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,24.0s						
NVS	**Novosibirsk**	**73.43**	**330**	*e*P	**P**	**06 19 13.5**	**+8.9**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
AAK	**Ala-Archa**	**73.44**	**316**	*i* P	**P**	**06 19 03.7**	**-1.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
AAK	**Ala-Archa**	**73.44**	**316**	*e*P	**P**	**06 18 57.3**	**-7.4**
	comp=Z,5.4nm,1.1s,mb4.4						
KURK	**Kurchatov**	**73.95**	**325**	*c* P	**P**	**06 19 08.0**	**+0.3**
KURK	**Kurchatov**	**73.95**	**325**	*e*P	**P**	**06 19 07.4**	**-0.3**
	comp=Z,9.4nm,1.0s,mb4.7						
TIXI	**Tiksi**	**74.70**	**357**	⇓*e*P	**P**	**06 19 10.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s						
VNDA	**Vanda**	**75.57**	**175**	P	**P**	**06 19 18.5**	**+1.5**
	comp=Z,10nm,0.8s,mb4.8,baz=331,slow=5.7,SNR=18						
VNDA				LR	LR	06 52 35.7	
	comp=Z,306nm,19.3s,baz=360,slow=36						
VNDA	**Vanda**	**75.57**	**175**	*e*P	**P**	**06 19 18.4**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VNDA	**Vanda**	**75.57**	**175**	*e*P	**P**	**06 19 18.4**	**+1.3**
	comp=Z,8.7nm,0.8s,mb4.7						
BRVK	**Borovoye**	**79.62**	**325**	*e*P	**P**	**06 19 39.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**79.62**	**325**	*e*P	**P**	**06 19 39.5**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**80.32**	**325**	*e*P	**P**	**06 19 43.0**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
ZRNK	**Zerenda**	**80.32**	**325**	*e*P	**P**	**06 19 43.0**	**-0.4**
	comp=Z,13nm,1.2s,mb4.7						
MAW	**Mawson**	**81.99**	**202**	LR	LR	06 54 11.4	
	comp=Z,238nm,18.0s,baz=248,slow=34						
MCK	**McKinley**	**84.80**	**25**	P	**P**	**06 20 06.8**	**+0.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
MCK	**McKinley**	**84.80**	**25**	P	**P**	**06 20 06.8**	**+0.1**
	comp=Z,4.0nm,1.0s,mb4.5						
COLA	**College**	**85.59**	**24**	*i* P	**P**	**06 20 10.5**	**-0.1**
COLA	**College**	**85.59**	**24**	*e*P	**P**	**06 20 10.0**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**85.95**	**24**	P	**P**	**06 20 10.7**	**-1.7**
	comp=Z,5.0nm,0.8s,mb4.8,baz=262,slow=3.9,SNR=48						
ILAR				LR	LR	06 56 25.1	
	comp=Z,53nm,18.1s,baz=247,slow=34						
ARU	**Arti**	**87.03**	**327**	⇓*i* P	**P**	**06 20 16.4**	**-1.3**
ARU				*e*		06 23 39.1	
ARU				*e*PPP		06 25 32.2	
ARU				*e*S		06 30 35.1	
ARU				*e*SS	SS	06 36 30.5	-5.2
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**87.04**	**180**	*e*P	**P**	**06 20 19.5**	**+1.7**
	comp=Z,7.3nm,0.9s,mb4.9						
DAWY	**Dawson**	**88.99**	**26**	*e*P	**P**	**06 20 26.3**	**-0.7**
SYO	**Syowa Base**	**90.62**	**201**	⇓*e*P	**P**	**06 20 34.8**	**+0.1**
INK	**Inuvik**	**91.80**	**22**	P	**P**	**06 20 38.9**	**-1.2**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**91.80**	**22**	P	**P**	**06 20 38.9**	**-1.2**
	comp=Z,2.2nm,1.0s,mb4.4						
OBN	**Obninsk**	**99.39**	**325**	*e*P	**P**	**06 21 11.3**	**-3.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.9						
TORD	**Torodi Ar. Bea**	**136.44**	**286**	PKP	PKPdf	06 26 55.5	+1.7
	comp=Z,0.7nm,0.9s,baz=90,slow=2.1,SNR=9.8						
DBIC	**Dimbokro**	**143.64**	**277**	PKP	PKPdf	06 27 06.5	-0.4
	comp=Z,3.4nm,0.8s,baz=90,slow=5.6,SNR=5.6						
CPUP	**Villa Florida**	**146.99**	**153**	*e*PKPbc	PKPbc	06 27 16.3	+1.6
CPUP				*ep*PKPdf	pPKPdf	06 27 30.3	-0.6
LPAZ	**La Paz**	**147.22**	**126**	PKPbc	PKPbc	06 27 18.2	+2.9
	comp=Z,2.8nm,1.0s,baz=235,slow=1.5,SNR=9.9						
LPAZ	**La Paz**	**147.22**	**126**	*e*PKPbc	PKPbc	06 27 17.8	+2.5

*NIED **19** 06:18:00, 4430N×147.00E, h140km, Mw4.2 Best double couple: M0 2.49000×10^15 NP1:φ0=47.00000°, δ80.00000°, λ114.00000°. NP2:φ0=158.00000°, δ26.00000°, λ23.00000°.*
*SZGRF **19** 06:18:28.4, 4536N×146.19E, h33km, mb4.8, Kuril Islands, Russia*
*ISCJB **19** 06:18:33.4±0.4, 4449N±004×147.03E±005, h136km±3km, mb4.2/45, Error ellipse: s-maj=6.8km s-min=5.2km az=68.2*
*MOS **19** 06:18:34.6±1.3, 4447N×146.96E, h152km, mb4.4/17, Error ellipse: s-maj=11.5km s-min=6.5km az=106.0*
*SKHL **19** 06:18:35.5±0.5, 4442N×146.91E, h129km±8km, mb4.8/4, msh5.0/1*
*BJI **19** 06:18:35.8, 4463N×146.84E, h157km, mB4.7, mb4.5*
*JMA **19** 06:18:35.7±0.3, 4425N×147.00E, h132km±3km, M4.2*
*IDC **19** 06:18:36.6±1.6, 4453N×146.90E, h152km±14km, mb3.8/19, mb1 4.0/20, mb1mx4.0/24, mbtmp4.3/20, Error ellipse: s-maj=18.0km s-min=12.1km az=162.0*
*NEIC **19** 06:18:39.3

ASAJ Asahikawa 3.19 265 P **Pn 06 19 25.1 +1.4**
ASAJ Asahikawa 3.19 265 P **Pn 06 19 24.7 +1.0**
43nm,0.3s,baz=88,slow=16,SNR=274
ASAJ S **Sn 06 20 03.9 +2.2**
2.2nm,0.3s,baz=101,slow=31,SNR=2.5
JCH Churui 3.25 236 P **Pn 06 19 24.0 -0.5**
JCH *e*S **Sn 06 19 59.8 -3.3**
JFR Furan 3.47 249 P **Pn 06 19 28.0 +0.8**
JFR *e*S **Sn 06 20 07.4 -0.7**
JWK2 Keihoku 3.73 285 P **Pn 06 19 33.1 +2.4**
ERM Erimo 3.75 230 *e*PN **Pn 06 19 39.8 +8.8**
JNBK Urakawa-nobuka 3.81 236 P **Pn 06 19 30.5 -1.3**
YSS Yuzh-Sakhalins 3.87 311 ⇓*i*P **Pn 06 19 34.7 +2.2**
YSS AMB AMB 06 19 35.7
30nm,1.0s
YSS *e*S **Sn 06 20 17.7 +0.2**
YSS A 06 20 22.6
210nm,1.5s
YSS Yuzh-Sakhalins 3.87 311 ⇓*i*PN **Pn 06 19 34.7 +2.2**
YSS *e*S **Sn 06 20 17.7 +0.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax
comp=E,210nm,1.5s
YSS Yuzh-Sakhalins 3.87 311 *e*Pn **Pn 06 19 33.8 +1.3**
JHR Hokuryu 3.88 261 P **Pn 06 19 34.3 +1.6**
JYG Yagishiri 4.00 271 P **Pn 06 19 35.8 +1.5**
UGL Uglegorsk 5.71 325 *e*P **Pn 06 19 59.0 +2.0**
UGL AMB AMB 06 19 59.5
comp=E,36nm,0.6s
UGL A 06 21 12.0
comp=E,700nm,4.0s
UGL A 06 21 12.0
comp=E,600nm,4.0s
TYV Tymovskoe 7.02 337 *e*P **Pn 06 20 13.4 -1.2**
TYV AMB AMB 06 20 16.8
comp=E,18nm,0.8s
TYV AMB AMB 06 20 16.8
comp=E,20nm,0.8s
TYV AMB AMB 06 20 16.8
comp=E,26nm,0.8s
TEY Ternei 7.43 278 *e*P **Pn 06 20 19.0 -1.2**
HABR Khabarovsk 9.16 300 *e*PN **Pn 06 20 43.0 -0.4**
HABR *e*S **Sn 06 22 25.0 +0.2**
MJAR Matsushiro Arr 10.39 223 P **Pn 06 20 58.1 -1.7**
comp=E,0.5nm,0.3s,baz=29,slow=13,SNR=11
MJAR S **Sn 06 22 55.4 +0.9**
comp=E,0.1nm,0.3s,baz=89,slow=10,SNR=4.4
MJAR Matsushiro Arr 10.39 223 PN **Pn 06 20 58.1 -1.7**
MJAR S **Sn 06 22 55.4 +0.9**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
VLA Vladivostok 11.02 268 *i*PN **Pn 06 21 09.6 +1.4**
MDJ Mudanjiang 12.43 277 P **Pn 06 21 25.5 -1.3**
MDJ AMB AMB
comp=Z,12nm,0.8s
MDJ AMB AMB
comp=Z,29nm,4.2s
EKMR Ekimchan 12.62 318 *e*P **Pn 06 21 25.5 -3.6**
EKMR AMB AMB 06 21 30.0
comp=Z,10.0nm,1.0s
YASR Yasnyy 15.26 312 *e*P **Pn 06 21 59.1 -3.7**
YASR AMB AMB 06 22 00.0
comp=Z,7.0nm,0.8s
MA2 Magadan 15.28 7 *e*P **Pn 06 22 02.4 -0.5**
MA2 *e*S **S 06 24 47.8 -11**
MA2 pmax pmax
comp=Z,7.0nm,1.4s
CN2 Changchun 15.50 275 *e*P **Pn 06 22 02.5 -3.2**
CN2 *e*XP sP 06 22 48.5 +1.0
CN2 *e*S **S 06 24 46.1 -17**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
KROS Kirovskiy 16.34 315 *e*P **Pn 06 22 14.1 -1.9**
KROS AMB AMB 06 22 16.3
comp=Z,3.0nm,0.5s
SNY Shenyang 17.30 269 ⇑P **Pn 06 22 28.8 +1.2**
SNY S **S 06 25 24.1 -16**
SNY AMB AMB
comp=Z,10.0nm,0.5s
SNY AMB AMB
comp=Z,100nm,3.6s
SNY LR LR
comp=N,230nm,17.7s
SNY LR LR
comp=Z,160nm,18.6s
SEY Seymchan 18.73 8 *e*P **P 06 22 42.1 -0.6**
SEY *e*S **S 06 26 06.8 -2.1**
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s
SEY pmax pmax
comp=E,3.0nm,0.7s
SEY smax
comp=N,60nm,23.8s
SEY smax
comp=E,50nm,31.1s
SMY Shemya 19.62 56 *e*P **P 06 22 54.1 +1.8**
SMY pmax pmax
comp=Z,86nm,0.9s
SMY Shemya 19.62 56 *e*P **P 06 22 54.1 +1.7**
comp=Z,86nm,0.9s
YAK Yakutsk 20.28 336 *i*P **P 06 22 57.5 -1.9**
YAK pmax pmax
comp=Z,33nm,0.8s
YAK Yakutsk 20.28 336 *e*P **P 06 22 57.4 -2.0**
comp=Z,27nm,0.6s
SSE Sheshan 24.28 245 P **P 06 23 41.4 +2.2**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,39nm,8.2s
BOD Bodaibo 24.33 315 *e*P **P 06 23 35.3 -4.3**
BOD pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
NJ2 Nanjing 25.23 250 *e*P **P 06 23 48.1 +0.4**
NJ2 PP 06 24 32.3
NJ2 S **S 06 28 03.0 -0.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NJ2 AMB AMB
comp=Z,600nm,4.2s
NJ2 LR LR
comp=N,270nm,11.0s
NJ2 LR LR
comp=E,440nm,11.9s
NJ2 LR LR
comp=Z,10μm,14.0s
BILL Bilibino 25.67 17 *i*P **P 06 23 50.5 -1.3**
ULN Ulaanbaatar 27.66 291 *i*P **P 06 24 09.3 -0.3**
SONM Songino Array 28.10 291 P **P 06 24 13.3 -0.2**
comp=Z,1.7nm,0.6s,mb4.0,baz=83,slow=8.8,SNR=16
TIXI Tiksi 28.61 348 *i*P **P 06 24 09.2 -8.8**
CD2 Chengdu 36.39 263 *e*P **P 06 25 28.9 +3.1**
CD2 AP pP 06 26 03.6 +8.5
CD2 S **S 06 30 56.4 -0.8**
CD2 SS SS 06 33 31.3 -10
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,60nm,4.9s
KDAK Kodiak Island 38.82 48 P **P 06 25 46.9 +0.7**
comp=Z,8.4nm,0.7s,mb4.5,baz=259,slow=3.8,SNR=17
SML Sawmill 40.52 41 *e*P **P 06 26 00.8 +0.5**
COLA College 40.53 37 *e*P **P 06 26 00.6 +0.3**
COLA pmax pmax
comp=Z,16nm,0.9s,mb4.7
COLA College 40.53 37 *e*P **P 06 26 00.6 +0.3**
comp=Z,16nm,0.9s,mb4.6
ILAR Eielson Array 40.95 37 P **P 06 26 03.6 -0.1**
comp=Z,4.6nm,0.9s,mb4.1,baz=256,slow=4.7,SNR=55
WMQ Urumqi 41.74 291 *e*P **P 06 26 10.5 +0.3**
WMQ AP pP 06 26 48.5 +8.4
WMQ PP PP 06 27 52.0 +2.7
WMQ S **S 06 32 12.0 -5.2**
WMQ XS sS 06 33 19.0 +10
WMQ SS SS 06 35 17.0 -11
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,89nm,5.0s
WMQ LR LR
comp=N,87nm,10.0s
WMQ LR LR
comp=E,92nm,11.0s
WMQ LR LR
comp=Z,56nm,11.0s
MKAR Makanchi Array 44.16 297 P **P 06 26 29.6 0.0**
comp=Z,2.2nm,0.7s,mb3.9,baz=78,slow=8.9,SNR=25
KURK Kurchatov 45.04 303 *e*P **P 06 26 35.9 -0.8**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
KURK Kurchatov 45.04 303 *e*P **P 06 26 35.9 -0.8**
comp=Z,4.0nm,0.4s,mb4.4
INK Inuvik 45.81 31 P **P 06 26 42.5 -0.2**
comp=Z,7.4nm,0.3s,mb4.7,baz=290,slow=6.8,SNR=203
INK Inuvik 45.81 31 *e*P **P 06 26 42.6 -0.1**
INK pmax pmax
comp=Z,8.0nm,0.4s
INK Inuvik 45.81 31 *e*P **P 06 26 42.6 -0.2**
comp=Z,7.8nm,0.4s,mb4.7
BVAR Borovoye Array 48.96 309 P **P 06 27 06.5 -0.6**
comp=Z,1.2nm,0.5s,mb3.8,baz=85,slow=8.0,SNR=8.8
BVAR PcP PcP 06 28 29.3 +0.1
comp=Z,0.6nm,0.4s,baz=76,slow=3.6,SNR=4.8
BRVK Borovoye 49.01 309 *e*P **P 06 27 05.7 -1.7**
BRVK pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
BRVK Borovoye 49.01 309 *e*P **P 06 27 05.7 -1.7**
comp=Z,1.1nm,0.7s,mb3.6
ZRNK Zerenda 49.76 309 *e*P **P 06 27 12.0 -1.2**
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ZRNK Zerenda 49.76 309 *e*P **P 06 27 11.9 -1.2**
comp=Z,4.6nm,0.6s,mb4.3
KIP Kipapa 50.48 98 *i*P **P 06 27 18.3 -0.3**
AAK Ala-Archa 50.95 295 P **P 06 27 21.2 -0.9**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
AAK Ala-Archa 50.95 295 P **P 06 27 21.2 -0.9**
comp=Z,2.1nm,0.5s,mb4.0
AAK *e*PcP PcP 06 28 45.0 +8.4
ARU Arti 53.74 316 ⇓*i*P **P 06 27 41.0 -1.7**
ARU *e* 06 29 40.4
ARU *e*S **S 06 35 04.1 -2.5**
ARU *e*SS SS 06 38 47.3 -1.8
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ARU Arti 53.74 316 *e*P **P 06 27 40.2 -2.4**
comp=Z,5.4nm,0.7s,mb4.4
RES Resolute Bay 54.28 17 *e*P **P 06 27 45.1 -1.5**
RES pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
RES Resolute Bay 54.28 17 *e*P **P 06 27 45.1 -1.5**
comp=Z,3.5nm,0.6s,mb4.3
YKA Yellowknife Ar 55.24 34 P **P 06 27 53.8 +0.3**
comp=Z,1.5nm,0.5s,mb4.0,baz=302,slow=6.9,SNR=51
YKA Yellowknife Ar 55.24 34 P **P 06 27 53.8 +0.3**
AKTK Aktyubinsk 56.98 310 P **P 06 28 05.8 -0.1**
AKTO Aktyubinsk 56.98 310 P **P 06 28 05.8 -0.1**
comp=Z,1.8nm,0.6s,mb4.1,baz=71,slow=8.0,SNR=5.4
AKTO Aktyubinsk 56.98 310 P **P 06 28 05.8 -0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ARCES ARCESS Array B 58.52 339 P **P 06 28 14.8 -1.9**
comp=Z,0.8nm,0.5s,mb3.8,baz=45,slow=7.8,SNR=12
JOF Joensuu 61.38 332 *e*p **P 06 28 35.0 -1.2**
comp=Z,1.3nm,0.4s,mb4.1
JOF Joensuu 61.38 332 *e*P **P 06 28 35.0 -1.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
KAF Kangasniemi 63.60 333 *e*p **P 06 28 49.0 -1.9**
comp=Z,2.4nm,0.4s,mb4.4,baz=42,slow=6.3
KAF Kangasniemi 63.60 333 *e*P **P 06 28 49.0 -1.9**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
FINES FINESS Array B 64.17 333 P **P 06 28 52.8 -1.8**
comp=Z,5.7nm,0.5s,mb4.7,baz=42,slow=7.9,SNR=52
OBN Obninsk 64.66 323⇑*e*P **P 06 28 57.2 -0.6**
OBN *e*S **S 06 37 21.8 -5.3**
OBN *e*SS SS 06 41 37.0 -3.3
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
WRA Warramunga Arr 65.16 193 P **P 06 29 00.1 -1.0**
comp=Z,0.6nm,0.5s,mb3.7,baz=9.6,slow=6.8,SNR=4.6
WRA Warramunga Arr 65.16 193 *i*P **P 06 29 00.1 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.5s
FCC Fort Churchill 65.43 30 P **P 06 29 02.0 -0.8**
FCC pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
FCC Fort Churchill 65.43 30 P **P 06 29 02.0 -0.8**
comp=Z,7.1nm,0.5s,mb4.8
GOF Gofitskoye 68.28 312 *e*P **P 06 29 20.6 -0.2**
NB2 NORSAR Subarra 68.88 339 P **P 06 29 23.1 -1.4**
comp=Z,2.0nm,0.5s,mb4.1,baz=32,slow=6.9
NOA NORSAR Array B 68.88 339 P **P 06 29 23.1 -1.5**
comp=Z,2.0nm,0.6s,mb4.0,baz=33,slow=6.3,SNR=17
ASAR Alice Springs 68.88 193 P **P 06 29 25.1 +0.5**
comp=Z,0.4nm,1.0s,mb3.1,baz=3.9,slow=5.6,SNR=4.6
PDAR Pinedale Array 69.50 50 P **P 06 29 29.6 +1.2**
comp=Z,0.5nm,0.6s,mb3.4,baz=90,slow=0.1,SNR=4.9
GNI Garni 70.61 307 *i*P **P 06 29 42.7 +7.5**
AKASG Malin Array Be 70.92 323 P **P 06 29 36.3 -0.8**
comp=Z,4.9nm,0.4s,mb4.6,baz=40,slow=6.3,SNR=33
ULM Lac du Bonnet 70.97 37 P **P 06 29 37.3 0.0**
comp=Z,0.6nm,0.4s,mb3.7,baz=280,slow=6.7,SNR=4.6
BURAR Bucovina Array 74.98 323 ⇑P **P 06 30 01.4 +0.5**
BURAR Bucovina Array 74.98 323 ⇑P **P 06 30 01.4 +0.5**
OJC Ojcow 75.10 328 *e*P **P 06 30 01.9 +0.3**
KOLS Kolonicke sedl 75.16 326 *e*P **P 06 30 02.3 +0.3**
KOLS *e*PP PP 06 32 47.6 -4.3
STHS Stebnicka Huta 75.19 327 *e*P **P 06 30 02.8 +0.7**
BSEG Bad Segeberg 75.21 335 *e*P **P 06 30 02.4 +0.2**
comp=Z,5.0nm,0.9s,mb4.1
NIE Niedzica 75.55 327 *e*P **P 06 30 05.0 +0.8**
VRI Vrincioaia 75.67 321 ⇑P **P 06 30 06.2 +1.3**
VRI Vrincioaia 75.67 321 ⇑P **P 06 30 06.2 +1.3**
KSP Ksiaz 75.87 330 *e*P **P 06 30 06.5 +0.5**
KSP Ksiaz 75.87 330 *e*P **P 06 30 06.2 +0.2**
TIRR Tirgusor 75.99 320 ⇑P **P 06 30 07.6 +0.9**
TIRR Tirgusor 75.99 320 ⇑P **P 06 30 07.6 +0.9**
OKC Ostrava-Krasne 76.03 329 *e*P **P 06 30 05.2 -1.7**
KECS Kecovo 76.23 327 *e*P **P 06 30 08.7 +0.6**
UPC Upice 76.25 330 *e*P **P 06 30 08.5 +0.3**
DPC Dobruska-Polom 76.27 330 *e*P **P 06 30 08.8 +0.5**
MLR Muntele Rosu 76.31 322 P **P 06 30 08.9 +0.4**
comp=Z,4.3nm,0.7s,mb4.2,baz=204,slow=2.1,SNR=8.3
MLR Muntele Rosu 76.31 322 ⇑P **P 06 30 09.7 +1.2**
MLR Muntele Rosu 76.31 322 ⇑P **P 06 30 09.7 +1.1**
CLL Collm 76.61 332 *e*P **P 06 30 09.7 -0.5**
comp=Z,8.0nm,0.6s,mb4.5
CLL Collm 76.61 332 *i*P **P 06 30 10.0 -0.2**
comp=Z,15nm,0.9s,mb4.6
CLL Collm 76.61 332 *i*P **P 06 30 10.0 -0.2**
CLL pmax pmax
comp=Z,15nm,0.9s,mb4.6
BRG Berggiesshubel 76.66 332 *e*P **P 06 30 10.1 -0.4**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
BRG Berggiesshubel 76.66 332 *e*P **P 06 30 10.1 -0.4**
comp=Z,2.6nm,1.0s,mb3.8
BRTR Keskin Array B 76.96 313 P **P 06 30 12.8 +0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=66,slow=4.3,SNR=11
BRTR Keskin Array B 76.96 313⇑*e*P **P 06 30 13.1 +0.9**
CLZ Clausthal 77.00 334 *e*P **P 06 30 12.9 +0.5**
comp=Z,7.0nm,0.7s,mb4.4
CLZ Clausthal 77.00 334 *e*P **P 06 30 12.9 +0.5**
CLZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
PRU Pruhonice 77.20 331 *e*P **P 06 30 13.9 +0.4**
SMOL Smolenice 77.39 328 *e*P **P 06 30 15.7 +1.2**
IBBN Ibbenburen 77.39 336 *e*P **P 06 30 14.7 +0.2**
MOX Moxa 77.64 333 *e*P **P 06 30 16.0 +0.1**
comp=Z,3.0nm,0.9s,mb3.9
BZS Buzias 78.08 324 ⇑P **P 06 30 17.8 -0.6**
BZS Buzias 78.08 324 ⇑P **P 06 30 17.8 -0.5**
KHC Kasperske Hory 78.26 331 *e*P **P 06 30 19.6 +0.2**
KHC Kasperske Hory 78.26 331 *i*P **P 06 30 20.1 +0.7**
BUG Bochum--Univer 78.30 336 *e*P **P 06 30 19.5 -0.1**
comp=Z,7.0nm,0.8s,mb4.3
GERES GERESS Array B 78.46 331 P **P 06 30 20.5 +0.1**
comp=Z,2.0nm,0.7s,mb3.9,baz=29,slow=4.7,SNR=18
GERES GERESS Array B 78.46 331 P **P 06 30 20.5 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.7s
WET Wettzell 78.50 331 *e*P **P 06 30 21.1 +0.4**
comp=Z,5.0nm,1.0s,mb4.1
GRF Grafenberg Arr 78.58 332 *e*P **P 06 30 21.6 +0.5**
comp=Z,16nm,0.8s,mb4.7
BAIF Baives 80.41 337 *e*P **P 06 30 32.3 +1.3**
SSF Saint Saulge 83.32 336 *e*P **P 06 30 47.3 +1.1**
comp=Z,6.4nm,0.7s,mb4.2
SMF Signal de Mont 83.60 335 *e*P **P 06 30 48.8 +1.1**
AVF Avril sur Loir 83.61 336 *e*P **P 06 30 48.8 +1.1**
comp=Z,6.5nm,0.7s,mb4.2
LPL La Plagne 83.71 333 *e*P **P 06 30 49.2 +1.0**
LPG La Plagne 83.72 333 *e*P **P 06 30 49.3 +1.0**
BGF Bois d'Agland 83.97 336 *e*P **P 06 30 50.5 +0.9**
MBDF Montbardon 84.40 333 *e*P **P 06 30 51.8 +0.1**
ORIF Oris-en-Rattie 84.52 333 *e*P **P 06 30 52.9 +0.6**
CAF Calviac 85.68 336 *e*P **P 06 30 59.3 +1.2**

*OMAN **19** 06:20:20.6, 3024N±5293E, h20km, Error ellipse: s-maj=354.3km s-min=24.3km az=341.0*
*IDC **19** 06:20:45.3±1.8, 2824N±5404E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML1.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=36.9km s-min=20.4km az=145.0*
*NEIC **19** 06:20:46.1, 2817N±5399E, h14km, mb3.6/1, ML3.9(THR), MN4.0(TEH), After THR.*
*THR **19** 06:20:46.1±0.8, 2817N±5399E, h14km±7km, ML3.9*
*CSEM **19** 06:20:47.6±0.1, 2824N±5392E, h25km, ML3.9, Error ellipse: s-maj=3.5km s-min=2.4km az=59.0*
*ISCJB **19** 06:20:48.0±1.0, 2823N±003×5391E±005, h29km±9km, mb3.7/15, Error ellipse: s-maj=8.4km s-min=4.9km az=125.3*
*TEH **19** 06:20:50.6, 2827N×5384E, h26km, Mn3.8*
ISC 19 06:20:48.6±1.1, 2827N±003×5392E±005, h15km±8km, n56, σ0§99/61, mb3.7/15, 4C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.82**	**271**	*e*PG	**Pg**	**06 21 03.0**	**-1.6**
GHIR				AML	AML	06 21 30.4	
comp=E,4μm,0.3s							
GHIR				AML	AML	06 21 31.2	
comp=N,3μm,0.5s							
IMOK	**Mook**	**1.31**	**307**	*e*Pg	**Pg**	**06 21 13.5**	**-0.3**
IMOK	**Mook**	**1.31**	**307**	*e*Pn	**Pn**	**06 21 14.1**	**+1.8**
IPAR	**Pars**	**1.74**	**334**	*e*Pn	**Pn**	**06 21 19.4**	**+1.1**
SHI	**Shiraz**	**1.84**	**318**	*e*Pn	**Pn**	**06 21 21.1**	**+1.5**
BNDS	**Bandar-Abbas**	**2.17**	**113**	*e*PG	**Pn**	**06 21 23.9**	**-0.3**
BNDS				AML	AML	06 22 16.2	
comp=N,774nm,0.8s							
BNDS				AML	AML	06 22 16.6	
comp=E,819nm,0.8s							
BNDS	**Bandar-Abbas**	**2.17**	**113**	Pg	**Pn**	**06 21 23.0**	**-1.2**
KRBR	**Kerman**	**3.02**	**55**	*e*PN	**Pn**	**06 21 36.1**	**+0.4**
KRBR				*e*SG	**Sg**	**06 22 20.6**	**-4.9**
KRBR				AML	AML	06 22 26.1	
comp=E,512nm,0.4s							
KRBR				AML	AML	06 22 26.5	
comp=N,453nm,0.7s							
KRBR	**Kerman**	**3.02**	**55**	*e*Pn	**Pn**	**06 21 36.1**	**+0.3**
SNR=52							
KRBR				*e*Sg	**Sg**	**06 22 20.6**	**-4.9**
SNR=90							
KRBR	**Kerman**	**3.02**	**55**	Pn	**Pn**	**06 21 36.0**	**+0.2**
KRBR				Sg	**Sg**	**06 22 20.0**	**-5.5**
BANOM	**Banah**	**3.16**	**137**	P	**Pn**	**06 21 38.8**	**+1.1**
SNR=25							
IMEH	**Mehriz**	**3.17**	**11**	*e*Pn	**Pn**	**06 21 38.9**	**+1.0**
IBAF	**Bafgh**	**3.61**	**23**	*e*Pn	**Pn**	**06 21 43.9**	**0.0**
ICHK	**Chekchek**	**3.99**	**6**	*e*Pn	**Pn**	**06 21 49.6**	**+0.5**
ASHO	**Ashiyiah**	**4.05**	**151**	P	**Pn**	**06 21 51.5**	**+1.5**
SNR=31							
NASN	**Na'in**	**4.62**	**348**	*e*PN	**Pn**	**06 21 58.9**	**+1.1**
NASN	**Na'in**	**4.62**	**348**	Pn	**Pn**	**06 21 58.0**	**+0.2**
IZEF	**Zefreh**	**4.81**	**344**	*e*Pn	**Pn**	**06 22 00.4**	**0.0**
IPIR	**Pirpir**	**5.12**	**330**	*e*Pn	**Pn**	**06 22 04.2**	**-0.4**
IPIR				*e*Sn	**Sn**	**06 22 59.2**	**-4.2**
IKLH	**Kalahroud**	**5.42**	**339**	*e*Pn	**Pn**	**06 22 08.7**	**-0.1**
IKLH				*e*Sn	**Sn**	**06 23 06.6**	**-4.3**
ZHSF	**Zahedan**	**6.16**	**76**	*e*PN	**Pn**	**06 22 18.8**	**-0.2**
ZHSF	**Zahedan**	**6.16**	**76**	Pn	**Pn**	**06 22 18.0**	**-0.9**
BSY	**Bisya**	**6.25**	**151**	⇓P	**Pn**	**06 22 21.0**	**+0.9**
BSYO	**Bisya**	**6.28**	**151**	P	**Pn**	**06 22 21.0**	**+0.4**
SMDO	**Samad**	**6.39**	**143**	⇑P	**Pn**	**06 22 22.3**	**+0.2**
SNR=15							
JMDO	**Jabal Madar**	**6.99**	**146**	⇑P	**Pn**	**06 22 30.9**	**+0.6**
WBK	**Wadi Bani Khal**	**7.25**	**140**	⇓P	**Pn**	**06 22 33.9**	**0.0**
IFIR	**Firoozkooh**	**7.42**	**353**	*e*Pn	**Pn**	**06 22 36.8**	**+0.6**
IRAZ	**Razeghan**	**7.88**	**336**	*e*Pn	**Pn**	**06 22 43.5**	**+0.9**
IKOM	**Komasi**	**8.04**	**319**	*e*Pn	**Pn**	**06 22 43.7**	**-1.1**
WHFO	**Wadi Hawf**	**10.30**	**181**	⇑P	**Pn**	**06 23 15.3**	**-0.4**
SNR=70							
RBK	**Rabkut**	**10.72**	**179**	⇑P	**Pn**	**06 23 20.9**	**-0.6**
SNR=13							
ABTO	**Aybut**	**10.88**	**183**	P	**Pn**	**06 23 22.4**	**-1.3**
SNR=13							
GNI	**Garni**	**14.06**	**330**	Pn	**Pn**	**06 24 09.5**	**+2.4**
comp=N,0.4nm,0.3s,baz=4.7,slow=19,SNR=3.3							
BR131	**Keskin Array S**	**20.28**	**310**	*e*P	**P**	**06 25 24.7**	**+1.1**
comp=N,1.6nm,0.5s							
BRTR	**Keskin Array B**	**20.28**	**310**	P	**P**	**06 25 24.6**	**+1.0**
comp=N,2.4nm,0.6s,baz=130,slow=13,SNR=16							
AAK	**Ala-Archa**	**21.98**	**44**	*e*P	**P**	**06 25 41.7**	**-0.2**
AKTK	**Aktyubinsk**	**22.36**	**7**	P	**P**	**06 25 44.8**	**-1.1**
AKTK				LR	LR	06 35 02.1	
AKTO	**Aktyubinsk**	**22.36**	**7**	P	**P**	**06 25 44.8**	**-1.1**
comp=N,3.3nm,0.6s,mb4.0,baz=178,slow=12,SNR=12							
AKTO				LR	LR	06 35 02.1	
comp=N,25nm,18.1s,baz=0.0,slow=38							
IDI	**Anoyia**	**25.59**	**293**	P	**P**	**06 26 18.3**	**+1.2**
comp=N,2.5nm,0.5s,mb4.0,baz=317,slow=19,SNR=3.7							
BVAR	**Borovoye Array**	**27.57**	**22**	P	**P**	**06 26 34.4**	**-0.6**
comp=N,0.8nm,0.6s,mb3.5,baz=207,slow=9.3,SNR=8.4							
MLR	**Muntele Rosu**	**28.01**	**315**	P	**P**	**06 26 40.4**	**+1.6**
comp=N,0.9nm,0.7s,mb3.5,baz=127,slow=22,SNR=2.0							
MKAR	**Makanchi Array**	**28.89**	**43**	P	**P**	**06 26 45.5**	**-1.2**
comp=N,0.5nm,0.6s,mb3.4,baz=228,slow=13,SNR=3.6							
AKASG	**Malin Array Be**	**29.16**	**327**	P	**P**	**06 26 47.5**	**-1.6**
comp=N,0.1nm,0.3s,mb3.0,baz=141,slow=8.6,SNR=4.1							
AKASG	**Malin Array Be**	**29.16**	**327**	P	**P**	**06 26 47.5**	**-1.7**
GERES	**GERESS Array B**	**37.00**	**315**	P	**P**	**06 27 56.7**	**-0.7**
comp=N,0.2nm,0.5s,mb3.2,baz=93,slow=8.3,SNR=4.3							
JOF	**Joensuu**	**37.67**	**343**	*e*p	**P**	**06 28 03.3**	**+0.2**
comp=N,0.8nm,0.3s,mb3.9							
FINES	**FINESS Array B**	**38.01**	**339**	P	**P**	**06 28 05.2**	**-0.8**
comp=N,1.8nm,0.5s,mb4.1,baz=140,slow=9.7,SNR=25							
KAF	**Kangasniemi**	**38.44**	**339**	*e*p	**P**	**06 28 08.5**	**-1.1**
comp=N,0.4nm,0.4s,mb3.5							
NOA	**NORSAR Array B**	**43.36**	**331**	P	**P**	**06 28 48.5**	**-1.6**
comp=N,0.5nm,0.6s,mb3.4,baz=119,slow=8.0,SNR=4.2							
ARCES	**ARCESS Array B**	**44.45**	**346**	P	**P**	**06 28 58.1**	**-0.8**
comp=N,1.3nm,0.7s,mb3.8,baz=154,slow=8.8,SNR=8.5							
TORD	**Torodi Ar. Bea**	**50.74**	**264**	P	**P**	**06 29 47.3**	**-0.4**
comp=N,1.9nm,0.6s,mb4.2,baz=60,slow=7.8,SNR=24							
DBIC	**Dimbokro**	**59.43**	**261**	P	**P**	**06 30 51.2**	**+0.7**
comp=N,2.6nm,0.7s,mb4.4,baz=358,slow=3.2,SNR=4.5							
DBIC	**Dimbokro**	**59.43**	**261**	P	**P**	**06 30 51.2**	**+0.7**
YKA	**Yellowknife Ar**	**89.09**	**355**	P	**P**	**06 33 42.3**	**-0.9**
comp=N,0.3nm,0.5s,mb3.9,baz=7.0,slow=5.4,SNR=10							
YKA	**Yellowknife Ar**	**89.09**	**355**	P	**P**	**06 33 42.3**	**-0.9**

*ISCJB **19** 06:26:30.5±0.8, 1075N±005×6246W±003, h85km±8km, Error ellipse: s-maj=9.2km s-min=5.3km az=169.6*
*FUNV **19** 06:26:30.7, 1078N×6235W, h82km, MW3.1*
*NEIC **19** 06:26:35.6, 1087N×6223W, h66km, MD3.1(TRN), After TRN.*
*TRN **19** 06:26:35.1, 1085N×6231W, h53km, MD3.2*
ISC 19 06:26:31.6±0.8, 1077N±005×6245W±003, h78km±8km, n14, σ1§14/27, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**118**	⇑*i*P	**Pn**	**06 26 43.0**	**-0.3**
GUIV				*e*S	**Sn**	**06 26 50.9**	**-1.0**
GUNV	**Guanoco**	**0.77**	**219**	⇓*i*P	**Pn**	**06 26 48.5**	**+0.6**
GUNV				*e*S	**Sn**	**06 27 00.9**	**+1.0**
CRUV	**Carupano**	**0.78**	**263**	*e*P	**Pn**	**06 26 48.3**	**+0.4**
CRUV				*e*S	**Sn**	**06 27 00.2**	**+0.2**
ITEV	**Isla Los Testi**	**0.89**	**311**	*e*P	**Pn**	**06 26 48.4**	**-0.8**
ITEV				*e*S	**Sn**	**06 27 02.5**	**+0.3**
TRN	**Trinidad (W)**	**1.03**	**96**	⇑*i*P	**Pn**	**06 26 51.5**	**+0.7**
TRN				*e*S	**Sn**	**06 27 04.1**	**-1.2**
TPP	**Pointe-a-Pierr**	**1.08**	**114**	*e*P	**Pn**	**06 26 52.6**	**+1.2**
TPP				*e*S	**Sn**	**06 27 07.2**	**+1.0**

TBH	**Brigand Hill**	**1.39 102**	⇑*iP*	**Pn**	**06 26 56.2**	**+0.9**
TBH			*e*S	**Sn**	**06 27 12.6**	**-0.6**
GRW	**Mount Saint Ca**	**1.58 29**	*e*P	**Pn**	**06 27 00.3**	**+2.4**
GRW			*e*S	**Sn**	**06 27 16.2**	**-1.5**
TPR	**Prospect**	**1.69 76**	*e*P	**Pn**	**06 27 00.5**	**+1.2**
TPR			*e*S	**Sn**	**06 27 19.4**	**-0.9**
BOT	**Bacolet**	**1.74 77**	*e*P	**Pn**	**06 27 01.4**	**+1.4**
BOT			*e*S	**Sn**	**06 27 17.8**	**-3.7**
CUPV	**Cœpira**	**3.36 258**	*e*P	**Pn**	**06 27 22.1**	**+0.4**
LUEV	**Luepa**	**4.99 169**	*e*P	**Pn**	**06 27 41.4**	**-2.5**
LUEV			*e*S	**Sn**	**06 28 34.4**	**-5.8**
CAOV	**Caicara del Or**	**5.13 229**	*e*P	**Pn**	**06 27 44.4**	**-1.5**
CAOV			*e*S	**Sn**	**06 28 39.0**	**-4.8**
BAUV	**El Baul**	**5.80 252**	*e*P	**Pn**	**06 27 54.1**	**-0.9**
BAUV			*e*S	**Sn**	**06 28 55.8**	**-4.4**

*IDC **19** 06:27:07.2±5.5, 660S×12987E, h93km±53km, mb3.9/7, mb1 4.0/10, mb1mx3.8/18, mbtmp4.3/10, ML4.0/3, MS4.6/1, Ms1 4.6/1, ms1mx2.8/20, Error ellipse: s-maj=52.1km s-min=20.6km az=64.0*

*MOS **19** 06:27:07.7±0.9, 650S×13000E, h119km, mb4.1/6, Error ellipse: s-maj=23.7km s-min=9.3km az=115.7*

*ISCJB **19** 06:27:08.8±2.0, 655S±005×13005E±008, h130km±21km, mb4.2/18, Error ellipse: s-maj=12.6km s-min=8.9km az=162.4*

*NEIC **19** 06:27:08.2±2.1, 654S×13003E, h103km±22km, mb4.2/10, Error ellipse: s-maj=14.8km s-min=8.9km az=48.0*

*BJI **19** 06:27:08.2, 650S×13000E, h103km, mB5.1, mb4.4*

ISC 19 06:27:14.5±1.6, 676S±005×13006E±008, h174km±17km, n51, σ1§11/53, mb4.2/18, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**13.74 163**		*i* P	**Pn**	**06 30 21.7**	**-0.4**
WRAB	**Tennant Creek**	**13.74 163**		*e*Pn	**Pn**	**06 30 20.2**	**-1.9**
	14nm,0.8s						
WRAB				*e*Sn	**Sn**	**06 32 47.6**	**-7.1**
WRA	**Warramunga Arr**	**13.74 163**		P	**Pn**	**06 30 21.0**	**-1.1**
	1.0nm,0.3s,baz=346,slow=13,SNR=31						
WRA				S	**Sn**	**06 32 48.1**	**-6.8**
	3.6nm,0.3s,baz=348,slow=22,SNR=17						
WRA	**Warramunga Arr**	**13.74 163**		P	**Pn**	**06 30 21.0**	**-1.1**
WRA				S	**Sn**	**06 32 48.1**	**-6.8**
PMG	**Port Moresby**	**17.13 100**		P	**Pn**	**06 31 03.2**	**-0.4**
	1.0nm,0.3s,baz=260,slow=6.5,SNR=5.8						
PMG	**Port Moresby**	**17.13 100**		*i* P	**Pn**	**06 31 02.8**	**-0.8**
PMG	**Port Moresby**	**17.13 100**		*e*P	**Pn**	**06 31 02.5**	**-1.1**
	39nm,1.2s						
ASAR	**Alice Springs**	**17.21 168**		P	**Pn**	**06 31 05.8**	**+1.3**
	0.6nm,0.3s,baz=353,slow=11,SNR=50						
ASAR				S	**S**	**06 34 13.2**	**-0.3**
	0.8nm,0.3s,baz=353,slow=27,SNR=9.2						
MBWA	**Marble Bar**	**17.46 214**		P	**Pn**	**06 31 08.2**	**+0.8**
	6.8nm,0.7s						
MBWA				*e*S	**S**	**06 34 17.4**	**-1.1**
KKM	**Kota Kinabalu**	**18.78 312**		*e*P	**P**	**06 31 18.1**	**-2.4**
CTA	**Charters Tower**	**20.55 132**		P	**P**	**06 31 41.6**	**+2.1**
	1.7nm,0.3s,baz=327,slow=16,SNR=4.5						
CTAO	**Charters Tower**	**20.55 132**		*e*P	**P**	**06 31 41.1**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTAO	**Charters Tower**	**20.55 132**		*e*P	**P**	**06 31 41.1**	**+1.6**
	comp=Z,5.1nm,0.9s						
STKA	**Stephens Creek**	**27.21 158**		P	**P**	**06 32 42.6**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.6,baz=348,slow=12,SNR=3.4						
KULM	**Kulim**	**31.70 291**		P	**P**	**06 33 21.0**	**-0.7**
SSE	**Sheshan**	**38.59 348**		P	**P**	**06 34 21.4**	**+0.9**
SSE				AMB	AMB		
	comp=Z,123nm,3.6s						
NJ2	**Nanjing**	**40.05 345**		*e*P	**P**	**06 34 34.6**	**+2.0**
ENH	**Enshi**	**41.78 333**		*e*P	**P**	**06 34 46.3**	**-0.4**
	comp=Z,10nm,0.7s,mb4.6						
JIRN	**Jiri**	**54.48 311**		*e*P	**P**	**06 36 24.4**	**+0.4**
GUN	**Gumba**	**54.84 311**		*e*P	**P**	**06 36 27.9**	**+1.3**
	comp=Z,46nm,1.1s,mb5.1						
PKI	**Pulchoki**	**55.02 310**		*e*P	**P**	**06 36 27.8**	**-0.1**
KKN	**Kakani**	**55.23 311**		*e*P	**P**	**06 36 29.7**	**+0.3**
DMN	**Daman**	**55.27 310**		*e*P	**P**	**06 36 29.4**	**-0.2**
GKN	**Gorkha**	**55.83 310**		*e*P	**P**	**06 36 34.8**	**+1.2**
	comp=Z,7.2nm,0.3s,mb5.0						
KOLN	**Koldanda**	**56.49 310**		*e*P	**P**	**06 36 39.8**	**+1.4**
ULN	**Ulaanbaatar**	**58.06 342**		*i* P	**P**	**06 36 49.9**	**+0.6**
ULN	**Ulaanbaatar**	**58.06 342**		*e*P	**P**	**06 36 49.5**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.2						
SONM	**Songino Array**	**58.24 341**		P	**P**	**06 36 50.6**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=160,slow=6.6,SNR=14						
MOY	**Mondy**	**63.31 340**		*e*P	**P**	**06 37 25.2**	**+0.4**
MKAR	**Makanchi Array**	**68.06 327**		P	**P**	**06 37 55.9**	**+0.6**
	comp=Z,5.3nm,0.5s,mb4.5,baz=115,slow=8.1,SNR=92						
YAK	**Yakutsk**	**68.59 360**		*i* P	**P**	**06 37 57.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**70.40 320**		*e*P	**P**	**06 38 10.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**70.40 320**		*e*P	**P**	**06 38 10.2**	**+0.6**
	comp=Z,2.3nm,0.9s,mb3.9						
ZAL	**Zalesovo**	**71.40 334**		P	**P**	**06 38 15.2**	**-0.4**
	comp=Z,1.3nm,0.6s,mb3.9,baz=332,slow=6.1,SNR=6.5						
SEY	**Seymchan**	**71.56 11**		*i* P	**P**	**06 38 15.9**	**-0.7**
KURK	**Kurchatov**	**72.35 329**		*e*P	**P**	**06 38 21.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**72.35 329**		*e*P	**P**	**06 38 21.5**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.0						
VNDA	**Vanda**	**72.67 173**		*e*P	**P**	**06 38 25.8**	**+2.6**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**72.67 173**		*e*P	**P**	**06 38 25.8**	**+2.6**
	comp=Z,5.0nm,1.1s,mb4.2						
MAUI	**Maui**	**77.31 67**	⇓	*e*P	**P**	**06 38 45.3**	**-4.4**
BVAR	**Borovoye Array**	**77.89 328**		P	**P**	**06 38 52.7**	**-0.3**
	comp=Z,1.8nm,0.8s,mb3.8,baz=123,slow=5.3,SNR=8.7						
TIXI	**Tiksi**	**78.25 360**		*i* P	**P**	**06 38 53.5**	**-1.5**
ZRNK	**Zerenda**	**78.60 327**		*e*P	**P**	**06 38 56.9**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**78.60 327**		*e*P	**P**	**06 38 56.9**	**+0.1**
	comp=Z,3.1nm,0.9s,mb3.9						
BILL	**Bilibino**	**78.87 13**		*e*P	**P**	**06 38 55.4**	**-2.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.5						
AKTO	**Aktyubinsk**	**83.92 322**		P	**P**	**06 39 25.3**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.7,baz=163,slow=6.4,SNR=5.2						
ARU	**Arti**	**85.54 328**	⇓	*i* P	**P**	**06 39 31.5**	**-1.4**
ARU				*e*		06 42 57.5	
ARU				*e*PPP		06 44 53.4	
ARU				*e*SS	SS	06 55 37.1	+7.7
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
OBN	**Obninsk**	**97.50 325**		*e*P	**P**	**06 40 26.4**	**-2.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**101.38 340**		P	Pdif	06 40 48.4	+2.5
	comp=Z,3.2nm,0.9s,baz=63,slow=8.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**128.82 281**		PKP	PKPdf	06 46 05.0	+3.9
	comp=Z,0.8nm,0.7s,baz=55,slow=1.7,SNR=5.4						
LPAZ	**La Paz**	**150.87 142**		PKPbc	PKPbc	06 46 51.4	+5.0
	comp=Z,0.6nm,0.3s,baz=85,slow=3.9,SNR=6.1						

*PGC **19** 06:36:29.7, 6624N×14156W, h10km, ML2.8/2, Eastern Alaska.*

NEIC 19 06:36:29.4, 6622N×14303W, h12km, ML2.8(AEIC)**, After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.36 333**		P	Pn	06 36 53.6	-0.5
BM3				S	Sb	06 37 12.5	+0.4
IL1	**Eielson Array**	**2.17 230**		P	Pn	06 37 05.8	+0.5
IL1				S	Sn	06 37 33.1	+1.0
COLA	**College**	**2.42 238**		P	Pn	06 37 09.1	+0.3
COLA				S	Sn	06 37 40.2	+1.9
DOT	**Dot Lake**	**2.62 190**		P	Pn	06 37 10.9	-0.6
DOT				S	Sn	06 37 45.5	+2.2
DAWY	**Dawson**	**2.65 143**		Pn	Pn	06 37 07.3	-4.6
DAWY				Pg	Pg	06 37 11.2	-9.0
DAWY				Sn	Sn	06 37 35.5	-8.6
DAWY				Sg	Sg	06 37 43.6	-11
DAWY				Trac		06 37 51.8	
	comp=Z,18nm,0.2s						
DAWY	**Dawson**	**2.65 143**		*e*Pn	Pn	06 37 07.6	-4.4
DAWY				*e*Sn	Sn	06 37 41.8	-2.3
COLD	**Coldfoot**	**3.02 293**		P	Pn	06 37 16.9	-0.2
PAX	**Paxson**	**3.43 199**		P	Pn	06 37 22.9	+0.3
INK	**Inuvik**	**4.24 56**		Pn	Pn	06 37 26.7	-7.2
INK				Sn	Sn	06 38 10.9	-12
INK				Sg	Sg	06 38 28.5	-17
INK				Trac		06 38 37.4	
	comp=Z,12nm,0.5s						
IM3	**Indian Mountai**	**4.37 272**		P	Pn	06 37 35.5	-0.1
HYT	**Haines Junctio**	**5.95 153**		Pn	Pn	06 37 54.4	-2.9
HYT				Sg	Sg	06 39 27.8	-13
HYT				Trac		06 39 41.6	
	comp=Z,7.0nm,0.5s						
WHY	**Whitehorse**	**6.66 143**		Pn	Pn	06 38 02.1	-5.0
WHY				Sg	Sg	06 39 52.5	-11
WHY				Trac		06 40 05.4	
	comp=Z,5.0nm,0.8s						
YKW3	**Yellowknife Ar**	**12.76 93**		Pn	Pn	06 39 20.3	-10
YKW3				Sn	Sn	06 41 28.6	-24
YKW3				Trac		06 41 56.7	
	comp=Z,1.0nm,0.4s						
EDM	**Edmonton**	**19.57 117**		*e*P	Pn	06 40 47.2	-11

IDC 19 06:53:13.8±1.7, 713N×12555E, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/19, mbtmp4.3/5, MS3.0/1, Ms1 3.0/1, ms1mx2.2/26, 1C, Error ellipse: s-maj=187.7km s-min=19.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.05 70**		LR	LR	07 04 05.1	
	comp=Z,40nm,20.3s,baz=58,slow=32						
WRA	**Warramunga Arr**	**28.26 162**		P	P	06 59 10.0	+1.5
	2.8nm,0.3s,baz=341,slow=9.1,SNR=48						
WB2	**Warramunga Arr**	**28.26 162**	⇑	*iP*	P	06 59 10.0	+1.4
ASAR	**Alice Springs**	**31.68 165**		P	P	06 59 39.7	+0.9
	3.1nm,0.5s,baz=342,slow=7.0,SNR=56						
STKA	**Stephens Creek**	**41.70 159**		*e*P	P	07 01 02.2	-2.0
	1.1nm,0.4s						
STKA	**Stephens Creek**	**41.70 159**		P	P	07 01 02.5	-1.8
	1.7nm,0.5s,baz=346,slow=7.2,SNR=6.4						
MKAR	**Makanchi Array**	**54.12 324**		P	P	07 02 40.3	-0.1
	1.7nm,0.4s,baz=122,slow=7.7,SNR=40						
ZAL	**Zalesovo**	**57.05 333**		P	P	07 03 02.0	+0.5
	0.6nm,0.5s,baz=326,slow=7.2,SNR=3.4						

IDC 19 07:02:03.0±5.6, 5773S×2293W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/13, mbtmp3.8/1, Error ellipse: s-maj=259.3km s-min=70.1km az=147.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.66 163**		*e*	Pn	07 05 41.0	+9.4
VNA3				*e*		07 05 45.0	
VNA2	**Neumayer--Watz**	**14.78 160**		*e*	Pn	07 05 43.8	+11
VNA2				*e*		07 05 48.0	
TORD	**Torodi Ar. Bea**	**73.48 25**		P	P	07 13 37.2	-0.2
	0.7nm,0.7s,baz=203,slow=6.8,SNR=4.2						
YKA	**Yellowknife Ar**	**139.00 315**		PKP	PKPdf	07 21 29.1	-2.4
	0.3nm,0.8s,baz=127,slow=2.6,SNR=6.5						
ILAR	**Eielson Array**	**152.99 308**		PKPbc	PKPbc	07 22 00.7	-1.7
	0.4nm,1.0s,baz=90,slow=0.9,SNR=4.2						
ILAR				PKPab	PKPab	07 22 11.7	-1.9
	0.6nm,0.7s,baz=120,slow=2.3,SNR=5.8						

*NIED **19** 07:08:00, 3060N×13120E, h26km, Mw3.8 Best double couple: M0:6.59000×10^14 NP1:φ=166.00000°, δ=49.00000°, λ=76.00000°. NP2:φ=7.00000°, δ=43.00000°, λ=106.00000°.*

*ISCJB **19** 07:08:30.2±0.8, 3054N±004×13121E±009, h43km±6km, mb3.5/9, Error ellipse: s-maj=13.9km s-min=5.7km az=34.4*

*JMA **19** 07:08:31.2±0.1, 3058N×131.18E, h30km±1km, M3.5*

JMA Felt I J1.

*NEIC **19** 07:08:31.2, 3058N×131.18E, h30km, MG3.5(JMA), After JMA.*

*IDC **19** 07:08:33.2±1.8, 3060N×13096E, h51km±16km, mb3.3/9, mb1 3.5/11, mb1mx3.4/22, mbtmp3.6/11, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.0/15, Error ellipse: s-maj=26.3km s-min=9.3km az=98.0*

ISC 19 07:08:31.4±0.8, 3057N±004×13118E±009, h36km±6km, n22, σ1§06/30, mb3.5/9, 2C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.19 295**	⇓	P	**Pn**	**07 08 37.0**	**-1.3**
JTN				S	**Sn**	**07 08 41.5**	**-1.5**
JTSR	**Tashiro 2**	**0.63 339**	⇓	P	**Pn**	**07 08 43.1**	**-0.8**
JTSR				S	**Sn**	**07 08 52.0**	**-0.7**
JKC	**Kuchinoerabu**	**0.86 263**	⇓	P	**Pn**	**07 08 46.8**	**-0.2**
JKC				S	**Sn**	**07 08 59.0**	**+0.7**
JNAR	**Kushima--Naru**	**0.95 5**		P	**Pn**	**07 08 48.8**	**+0.5**
JNAR				S	**Sn**	**07 08 58.6**	**-2.1**
JSU	**Suzuyama**	**1.12 326**	⇓	P	**Pn**	**07 08 50.3**	**-0.3**
JSU				*e*S	**Sn**	**07 09 06.3**	**+1.5**
JTZ	**Takazaki**	**1.33 357**	⇑	P	**Pn**	**07 08 54.2**	**+0.8**
JTZ				*e*S	**Sn**	**07 09 11.1**	**+1.2**
JNN	**Nakanoshima**	**1.35 238**		P	**Pn**	**07 08 54.6**	**+0.9**
JZO	**Okuchi**	**1.64 342**	⇑	P	**Pn**	**07 08 58.3**	**+0.6**
JNU	**Nakatsue**	**2.56 354**		P	**Pn**	**07 09 11.6**	**+1.3**
	4.0nm,0.3s,baz=269,slow=40,SNR=6.7						
JNU				S	**Sn**	**07 09 41.9**	**+1.7**
	3.7nm,0.3s,baz=27,slow=6.5,SNR=2.9						
JOW	**Kunigami**	**4.52 215**		P	**Pn**	**07 09 38.4**	**+1.1**
	2.0nm,0.3s,baz=125,slow=23,SNR=5.8						
JOW				S	**Sn**	**07 10 28.2**	**-0.3**
	4.9nm,0.3s,baz=81,slow=28,SNR=7.5						
MJAR	**Matsushiro Arr**	**8.35 43**		S	**Sn**	**07 12 11.6**	**+8.6**
	0.3nm,0.3s,baz=19,slow=12,SNR=4.3						
SONM	**Songino Array**	**25.64 319**		P	**P**	**07 13 56.7**	**-0.8**
	0.5nm,0.6s,mb3.2,baz=136,slow=8.1,SNR=4.4						
SONM				LR	LR	07 24 56.7	
	comp=Z,45nm,18.8s,baz=344,slow=39						
MKAR	**Makanchi Array**	**40.77 308**		P	**P**	**07 16 08.4**	**-0.5**
	0.1nm,0.3s,mb2.9,baz=249,slow=16,SNR=5.7						
BVAR	**Borovoye Array**	**48.89 316**		P	**P**	**07 17 12.8**	**-0.7**
	baz=99,slow=9.2						
WRA	**Warramunga Arr**	**50.31 176**		P	**P**	**07 17 25.0**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=354,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**53.99 177**		P	**P**	**07 17 53.8**	**+2.1**
	0.4nm,0.7s,mb3.5,baz=11,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**62.89 170**		P	**P**	**07 18 52.9**	**-0.9**
	0.7nm,0.6s,mb4.0,baz=355,slow=12,SNR=3.1						
FINES	**FINESS Array B**	**70.38 330**		P	**P**	**07 19 40.2**	**-1.3**
	0.5nm,0.4s,mb3.8,baz=56,slow=5.6,SNR=14						
FINES	**FINESS Array B**	**70.38 330**		P	**P**	**07 19 40.2**	**-1.3**
YKA	**Yellowknife Ar**	**73.50 26**		P	**P**	**07 20 00.6**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=304,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**73.92 320**		P	**P**	**07 20 01.9**	**-0.9**
	0.1nm,0.3s,mb3.2,baz=55,slow=6.3,SNR=4.5						
NOA	**NORSAR Array B**	**76.56 334**		P	**P**	**07 20 16.7**	**-1.2**
	0.3nm,0.7s,mb3.3,baz=53,slow=5.5,SNR=3.0						

CASC 19 07:14:14.4±2.0, 1352N×8722W, h27km±26km, MD3.6, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.83 169**		*e*P	Pb	07 14 29.8	-0.5
CRIN				*e*S	Sb	07 14 42.0	+0.9
TEL3	**Telica 3**	**1.01 159**		*e*P	Pn	07 14 33.0	+0.2
VSM	**San Miguel**	**1.03 265**		*e*P	Pn	07 14 48.6	+16
VSM				*e*S	Sn	07 15 03.7	+17
LEON	**Leon**	**1.15 164**		*e*P	Pn	07 14 34.0	-0.6
SNVI	**San Vicente**	**1.58 273**		*e*P	Pn	07 14 57.0	+16
SNVI				*e*S	Sn	07 15 17.3	+17
LCBS	**La Ceiba**	**1.72 275**		*e*P	Pn	07 14 59.1	+17
LCBS				*e*S	Sn	07 15 22.6	+19
LBRS	**Las Brisas**	**1.79 277**		*e*P	Pn	07 15 00.7	+17
LBRS				*e*S	Sn	07 15 22.6	+17
LFRS	**El Faro**	**1.80 273**		*e*P	Pn	07 15 00.3	+17
LFRS				*e*S	Sn	07 15 22.6	+17
MTO2	**Montecristo 2**	**2.26 293**		*e*P	Pn	07 15 13.1	+23
MTO2				*e*S	Sn	07 15 41.1	+24

IDC 19 07:20:17.8±1.5, 141N×9688E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=35.8km s-min=25.3km az=34.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.47 56**		Pn	Pn	07 20 58.5	-0.8
	3.2nm,0.3s,baz=305,slow=6.6,SNR=8.5						
PSI				Sn	Sn	07 21 29.4	-0.8
	2.1nm,0.3s,baz=340,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**42.42 122**		P	P	07 28 14.8	+0.7
	0.2nm,0.4s,baz=305,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**46.97 346**		P	P	07 28 50.9	+0.5
	1.9nm,0.7s,baz=162,slow=8.2,SNR=22						
SONM	**Songino Array**	**46.98 9**		P	P	07 28 50.4	-0.1
	2.0nm,0.9s,baz=186,slow=8.8,SNR=16						
ZAL	**Zalesovo**	**53.30 351**		P	P	07 29 39.6	+1.2
	0.6nm,0.5s,baz=342,slow=7.6,SNR=3.9						
FINES	**FINESS Array B**	**79.67 333**		P	P	07 32 26.9	-0.3
	0.4nm,0.8s,baz=91,slow=8.8,SNR=3.7						
ARCES	**ARCESS Array B**	**82.23 340**		P	P	07 32 39.5	-1.3
	2.3nm,0.8s,baz=62,slow=7.6,SNR=3.0						

*ISCJB **19** 07:29:26.8±0.5, 6618N±004×14187W±009, h10km, mb3.5/1, Error ellipse: s-maj=6.0km s-min=5.1km az=171.1*

*NEIC **19** 07:29:27.9, 6626N×14222W, h3km, ML3.4(PGC), ML3.5(AEIC), After AEIC.*

*IDC **19** 07:29:29.3±1.1, 6620N×14197W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=29.9km s-min=9.9km az=155.0*

*PGC **19** 07:29:29.7, 6623N×14193W, h1km, ML3.4/2, Eastern Alaska.*

ISC 19 07:29:28.3±0.5, 6618N±004×14193W±008, h10km, n23, σ1§49/40, mb3.5/1, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.63 321**		P	**Pn**	**07 29 55.3**	**-1.8**
DAWY	**Dawson**	**2.38 152**		Pn	**Pn**	**07 30 09.3**	**+2.0**
DAWY				Pg	**Pg**	**07 30 13.3**	**-0.6**
DAWY				Sn	**Sn**	**07 30 40.0**	**+3.4**
DAWY				Sg	**Sg**	**07 30 44.4**	**-0.5**
DAWY				Trac		07 30 49.8	
	comp=Z,85nm,0.5s						
DAWY	**Dawson**	**2.38 152**		P	**Pn**	**07 30 09.1**	**+1.7**
IL1	**Eielson Array**	**2.51 238**		P	**Pn**	**07 30 08.7**	**-0.4**
ILAR	**Eielson Array**	**2.51 238**		Pn	**Pn**	**07 30 08.6**	**-0.5**
	3.1nm,0.3s,baz=46,slow=14,SNR=336						
ILAR				Pg	**Pg**	**07 30 15.5**	**-0.9**
	7.8nm,0.3s,baz=46,slow=18,SNR=60						
ILAR				Lg		07 30 44.2	
	55nm,0.3s,baz=51,slow=29,SNR=31						
DOT	**Dot Lake**	**2.70 201**		P	**Pn**	**07 30 13.1**	**+1.3**
DOT				S	**Sn**	**07 30 48.9**	**+4.4**
COLA	**College**	**2.79 245**		P	**Pn**	**07 30 12.2**	**-0.9**
COLA				S	**Sn**	**07 30 49.5**	**+2.7**
COLD	**Coldfoot**	**3.45 291**		P	**Pn**	**07 30 21.4**	**-0.6**
PAX	**Paxson**	**3.57 207**		P	**Pn**	**07 30 25.0**	**+1.3**
MCK	**McKinley**	**3.86 234**		P	**Pn**	**07 30 27.4**	**-0.3**
INK	**Inuvik**	**3.90 53**		Pn	**Pn**	**07 30 29.4**	**+1.2**
	1.2nm,0.3s,baz=241,slow=15,SNR=52						
INK				Sn	**Sn**	**07 31 15.2**	**+1.1**
	3.1nm,0.3s,baz=181,slow=15,SNR=8.4						
INK				Lg		07 31 32.8	
	3.5nm,0.3s,baz=145,slow=30,SNR=4.4						
INK	**Inuvik**	**3.90 53**		Pn	**Pn**	**07 30 29.2**	**+1.0**
INK				Sn	**Sn**	**07 31 14.5**	**+0.4**
INK				Trac		07 31 41.0	
	comp=Z,49nm,0.6s						
INK	**Inuvik**	**3.90 53**		Pn	**Pn**	**07 30 29.4**	**+1.2**
INK				Sn	**Sn**	**07 31 15.2**	**+1.1**
INK				Lg		07 31 32.8	
KTH	**Kantishna Hill**	**4.66 240**		P	**Pn**	**07 30 38.0**	**-0.7**
IM3	**Indian Mountai**	**4.82 273**		P	**Pn**	**07 30 40.1**	**-0.7**
HYT	**Haines Junctio**	**5.73 158**		Pn	**Pn**	**07 30 56.4**	**+3.0**
HYT				Sg	**Sg**	**07 32 29.0**	**-3.3**
HYT				Trac		07 32 44.5	
	comp=Z,18nm,0.6s						
HYT	**Haines Junctio**	**5.73 158**		Pn	**Pn**	**07 30 56.4**	**+3.0**
HYT				*e*Sg	**Sg**	**07 32 29.0**	**-3.3**
WHY	**Whitehorse**	**6.38 147**		Pn	**Pn**	**07 31 04.5**	**+2.2**
WHY				Sg	**Sg**	**07 32 50.2**	**-2.9**
WHY				Trac		07 32 58.3	
	comp=Z,6.0nm,0.7s						
WHY	**Whitehorse**	**6.38 147**		Pn	**Pn**	**07 31 04.5**	**+2.2**
WHY				*e*Sg	**Sg**	**07 32 50.2**	**-2.9**
YKW3	**Yellowknife Ar**	**12.31 94**		Pn	**Pn**	**07 32 21.6**	**-2.0**
YKW3				Pn	**Pn**	**07 32 21.8**	**-1.8**
YKW3				Sn	**Sn**	**07 34 31.8**	**-9.0**
YKW3				Trac		07 34 39.7	
	comp=Z,1.0nm,0.4s						
YKW3	**Yellowknife Ar**	**12.31 94**		*e*Pn	**Pn**	**07 32 21.6**	**-2.0**
YKW3				*e*Sn	**Sn**	**07 34 31.8**	**-9.0**
YKA	**Yellowknife Ar**	**12.35 95**		Pn	**Pn**	**07 32 22.4**	**-1.7**
	baz=296,slow=13,SNR=21						
YKA				Sn	**Sn**	**07 34 34.0**	**-7.7**

comp=N,500nm,21.0s
CN2 LR LR
comp=E,400nm,21.0s
HHC Hu-ho-hao-te 36.52 315 *eP* **P 08 46 07.8 0.0**
HHC AP pP 08 46 53.9 +6.2
HHC XP sP 08 47 17.9 +8.6
HHC PP PP 08 47 40.8 +5.8
HHC PCP PcP 08 48 27.4 +0.3
HHC S **S 08 51 32.8 -2.9**
HHC SCP ScP 08 51 50.0 -5.6
HHC XS sS 08 52 53.6 +7.5
HHC AMB AMB
comp=Z,95nm,9.6s
HHC LR LR
comp=N,177nm,19.2s
HHC LR LR
comp=E,437nm,19.2s
HHC LR LR
comp=Z,138nm,18.0s
WRAB Tennant Creek 39.83 196 *eP* **P 08 46 35.9 +0.5**
comp=Z,4.9nm,0.5s,mb4.4
WB2 Warramunga Arr 39.84 196 *eP* **P 08 46 36.0 +0.5**
WRA Warramunga Arr 39.84 196 P **P 08 46 35.6 +0.2**
comp=Z,2.6nm,0.5s,mb4.1,baz=20,slow=9.0,SNR=47
WRA PcP PcP 08 48 37.2 -0.3
comp=Z,0.5nm,0.6s,baz=19,slow=3.4,SNR=4.8
WRA S **S 08 52 26.1 +0.5**
comp=Z,0.4nm,0.7s,baz=20,slow=14,SNR=3.2
FITZ Fitzroy Crossi 41.37 209 *eP* **P 08 46 48.9 +0.9**
comp=Z,5.8nm,0.6s,mb4.4
ULN Ulaanbaatar 42.72 322 *eP* **P 08 46 58.6 -0.3**
comp=Z,0.9nm,0.6s,mb3.6
SONM Songino Array 43.09 322 P **P 08 47 02.8 +0.9**
comp=Z,0.8nm,0.4s,mb3.7,baz=138,slow=8.8,SNR=15
ASAR Alice Springs 43.51 196 P **P 08 47 05.7 +0.5**
comp=Z,0.9nm,0.6s,mb3.6,baz=20,slow=8.9,SNR=28
ASAR PcP PcP 08 48 49.2 -0.4
comp=Z,0.6nm,0.7s,baz=29,slow=3.7,SNR=5.2
ASAR S **S 08 53 19.1 -0.3**
comp=Z,0.2nm,0.6s,baz=13,slow=23,SNR=4.2
YAK Yakutsk 44.77 349 *eP* **P 08 47 14.8 -0.4**
comp=Z,11nm,0.4s,mb4.8
DZM Mont Dzumac 45.33 152 P **P 08 47 19.3 -0.4**
comp=Z,4.7nm,0.5s,mb4.3,baz=358,slow=12,SNR=6.0
MBWA Marble Bar 46.88 214 *eP* **P 08 47 32.7 +1.0**
comp=Z,4.9nm,0.7s,mb4.2
BILL Bilibino 51.14 10 *eP* **P 08 48 04.5 +0.4**
comp=Z,5.1nm,0.7s,mb4.3
WMQ Urumqi 54.22 311 *eP* **P 08 48 28.0 +1.4**
WMQ AP pP 08 49 18.0 +8.6
WMQ PP PP 08 50 34.0 +3.6
WMQ S **S 08 55 45.0 -3.9**
WMQ SCS ScS 08 57 51.0 -5.4
WMQ SS SS 08 59 30.0 -3.4
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,101nm,5.0s
WMQ LR LR
comp=N,45nm,10.0s
WMQ LR LR
comp=E,66nm,9.0s
WMQ LR LR
comp=Z,45nm,9.0s
ZAL Zalesovo 57.97 323 P **P 08 48 53.1 -0.1**
comp=Z,0.8nm,0.4s,mb3.9,baz=346,slow=6.4,SNR=4.4
MKAR Makanchi Array 58.38 314 P **P 08 48 56.2 +0.2**
comp=Z,1.2nm,0.6s,mb3.9,baz=88,slow=8.7,SNR=23
KDAK Kodiak Island 59.55 33 P **P 08 49 04.3 +0.3**
comp=Z,16nm,0.9s,mb4.8,baz=330,slow=4.3,SNR=17
KURK Kurchatov 61.20 318 *eP* **P 08 49 14.2 -1.0**
comp=Z,1.2nm,0.4s,mb4.1
SLKM Skilak Lake 61.37 31 *eP* **P 08 49 15.5 -0.9**
SML Sawmill 62.55 29 *eP* **P 08 49 23.9 -0.4**
COLA College 63.44 26 *eP* **P 08 49 29.6 -0.5**
comp=Z,5.3nm,0.8s,mb4.4
ILAR Eielson Array 63.82 26 P **P 08 49 31.0 -1.6**
comp=Z,5.4nm,0.7s,mb4.5,baz=254,slow=5.2,SNR=92
URZ Urewera 63.89 153 P **P 08 49 31.4 -1.6**
comp=Z,5.1nm,0.9s,mb4.3,baz=309,slow=6.5,SNR=2.8
BRVK Borovoye 66.48 320 *eP* **P 08 49 48.0 -1.7**
comp=Z,1.2nm,0.7s,mb3.8
DAWY Dawson 66.93 28 *eP* **P 08 49 52.7 +0.2**
ZRNK Zerenda 67.25 320 *eP* **P 08 49 53.8 -0.8**
comp=Z,1.0nm,0.6s,mb3.8
INK Inuvik 69.54 23 *eP* **P 08 50 07.9 -0.9**
comp=Z,6.6nm,0.7s,mb4.5
HDW Hoodsport 77.45 44 P **P 08 50 56.4 +1.5**
JCW Jim Creek 78.05 43 P **P 08 50 59.2 +1.1**
YKW3 Yellowknife Ar 78.14 28 *eP* **P 08 50 57.9 -0.8**
YKA Yellowknife Ar 78.16 28 P **P 08 50 58.3 -0.5**
comp=Z,3.3nm,0.5s,mb4.3,baz=288,slow=5.5,SNR=7.4
YKA Yellowknife Ar 78.16 28 P **P 08 50 58.3 -0.5**
ASR Mount Adams--S 78.79 45 P **P 08 51 03.2 +0.9**
YBH Yreka Blue Hor 79.17 50 P **P 08 51 05.2 +0.9**
comp=Z,4.5nm,0.9s,mb4.1,baz=283,slow=3.5,SNR=9.8
RES Resolute Bay 79.56 14 *eP* **P 08 51 05.4 -1.0**
comp=Z,1.6nm,0.6s,mb3.8
OHCM Honcut 80.72 52 *eP* **P 08 51 12.4 -0.2**
MOD Modoc 80.85 49 P **P 08 51 12.4 -0.9**
comp=Z,5.1nm,0.8s,mb4.2
NEW Newport 81.12 42 P **P 08 51 14.7 0.0**
comp=Z,5.9nm,0.8s,mb4.3,baz=283,slow=2.3,SNR=13
WVOR Wild Horse Val 81.88 48 *eP* **P 08 51 19.3 +0.6**
comp=Z,3.4nm,0.7s,mb4.1
CMB Columbia Colle 81.91 53 *eP* **P 08 51 19.1 +0.2**
comp=Z,5.7nm,0.9s,mb4.2
ARCES ARCESS Array B 82.52 342 P **P 08 51 20.8 -1.2**
comp=Z,2.2nm,0.6s,mb4.1,baz=56,slow=6.5,SNR=13
NVAR Mina Array Bea 83.36 52 P **P 08 51 27.1 +0.8**
comp=Z,8.9nm,0.7s,mb4.6,baz=263,slow=4.3,SNR=87
MNV Mina 83.47 52 *eP* **P 08 51 27.5 +0.6**
comp=Z,7.6nm,0.8s,mb4.5
JOF Joensuu 84.02 335 *ep* **P 08 51 28.7 -1.0**
comp=Z,1.5nm,0.4s,mb4.1
ELK Elko 84.83 49 *eP* **P 08 51 34.4 +0.6**
comp=Z,7.8nm,0.8s,mb4.5
DLMT Dillon 85.02 44 *eP* **P 08 51 34.4 -0.3**
comp=Z,2.8nm,0.6s,mb4.2
MCMT McKenzie Canyo 85.05 44 *eP* **P 08 51 34.6 -0.2**
QLMT Earthquake Lak 85.98 44 *eP* **P 08 51 39.8 +0.3**
KAF Kangasniemi 86.42 336 *ep* **P 08 51 38.9 -2.7**
comp=Z,0.5nm,0.4s,mb3.6
SPUT South Promonto 86.61 48 *eP* **P 08 51 42.9 +0.4**
DUG Dugway 86.76 49 *eP* **P 08 51 43.5 +0.3**
comp=Z,7.0nm,1.0s,mb4.5
FINES FINESS Array B 86.88 335 P **P 08 51 41.3 -2.5**
comp=Z,0.9nm,0.3s,mb4.0,baz=63,slow=4.9,SNR=24
ARUT Antelope Range 87.18 51 *eP* **P 08 51 45.9 +0.6**
MSU Marysvale 87.84 50 *eP* **P 08 51 49.1 +0.7**
PDAR Pinedale Array 88.03 45 P **P 08 51 48.5 -0.8**
comp=Z,0.8nm,0.3s,mb4.0,baz=168,slow=1.0,SNR=20
PV01 Paradox Valley 90.60 49 *eP* **P 08 52 01.3 +0.1**
ANMO Albuquerque 93.47 51 P **P 08 52 14.9 +0.3**
comp=Z,1.4nm,1.0s,mb4.0,baz=268,slow=3.3,SNR=3.9
VNA2 Neumayer--Watz 125.24 191 *eP*diff Pdif 08 54 42.3 +6.1
VNA2 *e* 08 55 40.2
VNA3 Neumayer Olymp 125.34 190 *eP*diff Pdif 08 54 41.6 +4.9
PLCA Paso Flores 142.09 133 PKhKP 08 58 25.9
comp=Z,0.8nm,0.8s,baz=309,slow=0.2,SNR=2.9
PLCA PKP PKPdf 08 58 30.3 +0.3
comp=Z,0.8nm,0.8s,baz=212,slow=1.2,SNR=4.5
LPAZ La Paz 147.87 91 PKPbc PKPbc 08 58 44.5 +1.3
comp=Z,7.3nm,0.8s,baz=266,slow=3.3,SNR=5.2
LPAZ La Paz 147.87 91 *eP*KPdf PKPdf 08 58 41.2 +1.3
LPAZ *eP*KPbc PKPbc 08 58 44.9 +1.8

NAO ***19*** *08:55:06.1, 34.21N×53.86E, h33km, mb4.1*
IDC ***19*** *08:55:51.7±1.4, 40.74N×52.78E, h0km, mb4.0/8, mb1 4.2/12, mb1mx3.9/25, mbtmp4.1/12, ML4.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/22, Error ellipse: s-maj=23.7km s-min=13.5km az=178.0*
ISCJB ***19*** *08:55:52.1±0.6, 40.35N±0.004×52.97E±0.003, h34km±8km, mb4.2/14, MS2.8/1, Error ellipse: s-maj=6.6km s-min=4.2km az=22.8*
MOS ***19*** *08:55:52.6±1.0, 40.37N×52.96E, h37km, mb4.2/6, Error ellipse: s-maj=7.6km s-min=6.1km az=118.3*
BJI ***19*** *08:55:52.2, 40.19N×52.71E, h68km, mB4.9, mb4.7*
CSEM ***19*** *08:55:53.5±0.2, 40.22N×52.96E, h60km, ML4.0/3, Error ellipse: s-maj=5.4km s-min=2.3km az=99.0*
NEIC ***19*** *08:55:55.3±1.0, 40.29N×52.93E, h55km±10km, mb3.6/3, Error ellipse: s-maj=15.5km s-min=5.0km az=166.0*

NNC ***19*** *08:56:02.7±1.7, 40.83N×54.38E, h0km, mb3.9, Error ellipse: s-maj=20.4km s-min=9.5km az=88.0*
TEH ***19*** *08:56:04.9, 39.44N×53.49E, h23km, Mn3.8*
ISC 19 08:55:54.4±0.4, 40.33N±0.004×52.96E±0.003, h43km±7km, n93, σ1§03/123, mb4.2/14, MS2.8/1, 13C-13D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**4.16**	**172**	*e*Pn	**Pn**	**08 56 54.1**	**-1.2**
ISHM	**Shahmirzad**	**4.52**	**177**	*e*Pn	**Pn**	**08 56 59.6**	**-0.7**
ISHM				*e*Sn	**Sn**	**08 57 39.8**	**-12**
IFIR	**Firoozkooh**	**4.68**	**182**	*e*Pn	**Pn**	**08 57 02.2**	**-0.3**
IANJ	**Anjiloo**	**4.91**	**171**	*e*Pn	**Pn**	**08 57 06.5**	**+0.8**
IANJ				*e*Sn	**Sn**	**08 57 48.0**	**-13**
ILAS	**Lasjerd**	**4.94**	**180**	*e*Pn	**Pn**	**08 57 07.3**	**+1.3**
IQOM	**Qom**	**5.68**	**196**	*e*Pn	**Pn**	**08 57 17.6**	**+1.4**
DGRG	**David-gareji**	**5.86**	**283**	P	**Pn**	**08 57 19.9**	**+1.3**
DGRG				S	**Sn**	**08 58 24.0**	**-0.5**
DGRG	**David-gareji**	**5.86**	**283**	P	**Pn**	**08 57 20.3**	**+1.7**
DGRG				S	**Sn**	**08 58 25.4**	**+0.9**
IPAY	**Payeh**	**6.12**	**127**	*e*Pn	**Pn**	**08 57 22.3**	**0.0**
IPAY				*e*Sn	**Sn**	**08 58 18.9**	**-12**
GNI	**Garni**	**6.29**	**271**	PG	**Pn**	**08 57 25.2**	**+0.7**
GNI	**Garni**	**6.29**	**271**	Pn	**Pn**	**08 57 26.0**	**+1.4**
	2.8nm,0.3s,baz=338,slow=1.2,SNR=9.5						
GNI				Sn	**Sn**	**08 58 41.9**	**+6.8**
	4.9nm,0.3s,baz=113,slow=21,SNR=3.3						
MTA	**Mtatsminda**	**6.33**	**285**	P	**Pn**	**08 57 24.5**	**-0.6**
MTA				S	**Sn**	**08 58 35.0**	**-1.0**
MTA	**Mtatsminda**	**6.33**	**285**	P	**Pn**	**08 57 25.0**	**-0.1**
MTA				S	**Sn**	**08 58 35.1**	**-1.0**
TBLG	**Delisi**	**6.37**	**285**	P	**Pn**	**08 57 24.9**	**-0.8**
TBLG				S	**Sn**	**08 58 35.0**	**-2.1**
TBLG	**Delisi**	**6.37**	**285**	P	**Pn**	**08 57 25.9**	**+0.2**
TBLG				S	**Sn**	**08 58 36.1**	**-1.1**
TBLG	**Delisi**	**6.37**	**285**	P	**Pn**	**08 57 26.0**	**+0.3**
TBLG				S	**Sn**	**08 58 35.1**	**-2.0**
DUS	**Dusheti**	**6.47**	**288**	P	**Pn**	**08 57 33.0**	**+6.0**
DUS				S	**Sn**	**08 58 44.4**	**+4.8**
IMYA	**Miamay**	**6.88**	**123**	*e*Pn	**Pn**	**08 57 32.1**	**-0.6**
CLDR	**Caldiran**	**7.07**	**263**	*e*PG	**Pn**	**08 57 33.0**	**-2.3**
ZEI	**Tsey**	**7.22**	**293**	*e*P	**Pn**	**08 57 38.8**	**+1.5**
ZEI				*e*		08 58 56.9	
ONI	**Oni**	**7.49**	**291**	P	**Pn**	**08 57 45.1**	**+4.0**
ONI	**Oni**	**7.49**	**291**	P	**Pn**	**08 57 45.1**	**+4.1**
GOF	**Gofitskoye**	**8.70**	**306**	*e*P	**Pn**	**08 57 59.1**	**+1.4**
GOF				*e*S	**Sn**	**08 59 36.1**	**+1.7**
GOF				pmax	pmax		
	comp=Z,50nm,1.0s						
GOF				smax			
	comp=N,150nm,0.8s						
AB31	**Akbulak array**	**10.21**	**27**	⇓Pn	**Pn**	**08 58 17.8**	**-0.5**
	comp=N,1.9nm,0.3s,baz=203,slow=14,SNR=41						
AB31				⇑Sn	**Sn**	**09 00 05.4**	**-6.0**
	comp=N,4.1nm,0.3s,baz=196,slow=22,SNR=8.0						
AB31	**Akbulak array**	**10.21**	**27**	P	**Pn**	**08 58 17.8**	**-0.5**
AB31						09 00 04.6	
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SOC	**Sochi**	**10.38**	**293**	*e*P	**Pn**	**08 58 21.0**	**+0.3**
SOC				*e*		09 00 20.1	
SOC				pmax	pmax		
	comp=Z,56nm,1.0s						
AKTK	**Aktyubinsk**	**10.71**	**18**	Pn	**Pn**	**08 58 26.6**	**+1.4**
AKTK				Sn	**Sn**	**09 00 16.4**	**-7.3**
AKTO	**Aktyubinsk**	**10.71**	**18**	⇑Pn	**Pn**	**08 58 24.1**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=198,slow=14						
AKTO				⇑Sn	**Sn**	**09 00 17.2**	**-6.4**
	comp=Z,6.2nm,1.1s,baz=198,slow=14						
AKTO	**Aktyubinsk**	**10.71**	**18**	Pn	**Pn**	**08 58 26.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=198,slow=9.7,SNR=11						
AKTO				Sn	**Sn**	**09 00 16.4**	**-7.3**
	comp=Z,4.2nm,0.3s,baz=220,slow=22,SNR=11						
AKTO	**Aktyubinsk**	**10.71**	**18**	Pn	**Pn**	**08 58 24.1**	**-1.1**
	comp=Z,0.9nm,0.8s						
AKTO				Sn	**Sn**	**09 00 17.2**	**-6.5**
	comp=Z,6.2nm,1.1s						
AKTO	**Aktyubinsk**	**10.71**	**18**	P	**Pn**	**08 58 26.6**	**+1.4**
AKTO						09 00 16.4	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ANN	**Anapa**	**12.29**	**296**	*e*P	**Pn**	**08 58 53.3**	**+6.6**
ANN				*e*S	**Sn**	**09 01 14.2**	**+12**
ANN				pmax	pmax		
	comp=Z,46nm,0.9s						
KK31	**Karatay Array**	**13.40**	**72**	⇑Pn	**Pn**	**08 59 00.3**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=270,slow=7.7,SNR=36						
KK31				⇑Sn	**Sn**	**09 01 20.1**	**-9.4**
	comp=Z,2.7nm,0.6s,baz=269,slow=24,SNR=5.5						
KK31	**Karatay Array**	**13.40**	**72**	*i* P	**Pn**	**08 59 00.2**	**-1.7**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR	**Karatay Array**	**13.40**	**72**	*i* P	**Pn**	**08 59 00.2**	**-1.7**
VORD	**Divnogorie**	**14.28**	**323**	*e*P	**Pn**	**08 59 12.8**	**-1.0**
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRSR	**Storozhevoye**	**14.49**	**323**	*e*P	**Pn**	**08 59 15.1**	**-1.6**
VRSR				*e*S	**Sn**	**09 01 48.4**	**-7.6**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VRSR				pmax	pmax		
	comp=N,4.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.9s						
VRSR				smax			
	comp=N,4.0nm,1.2s						
VRSR				smax			
	comp=Z,1.0nm,1.2s						
VRSR				smax			
	comp=E,3.0nm,1.4s						
BR131	**Keskin Array S**	**14.82**	**274**	P	**Pn**	**08 59 25.4**	**+4.3**
	comp=E,1.0nm,0.5s						
BRTR	**Keskin Array B**	**14.82**	**274**	Pn	**Pn**	**08 59 21.3**	**+0.2**
AAK	**Ala-Archa**	**16.30**	**75**	*i* P	**Pn**	**08 59 40.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.0s						
AAK	**Ala-Archa**	**16.30**	**75**	*e*P	**Pn**	**08 59 40.3**	**+0.1**
	comp=Z,2.8nm,0.6s						
ARU	**Arti**	**16.53**	**11**	*i* P	**Pn**	**08 59 43.7**	**+0.7**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZRNK	**Zerenda**	**16.71**	**36**	⇑P	**Pn**	**08 59 44.6**	**-0.7**
	comp=Z,1.1nm,0.5s						
ZRNK				⇓S	**S**	**09 02 39.1**	**-20**
	comp=Z,7.1nm,1.1s						
TKM2	**Tokmak 2**	**17.12**	**74**	⇑P	**Pn**	**08 59 51.0**	**+0.6**
	comp=Z,20nm,1.9s						
BRVK	**Borovoye**	**17.36**	**37**	*e*P	**Pn**	**08 59 54.6**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**17.36**	**37**	*e*P	**Pn**	**08 59 54.6**	**+1.2**
	comp=Z,2.8nm,0.7s						
BVA0	**Borovoye Array**	**17.38**	**37**	⇑P	**Pn**	**08 59 53.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=224,slow=16,SNR=61						
BVA0				⇑S	**S**	**09 02 55.8**	**-17**
	comp=Z,0.7nm,0.7s						
BVA0	**Borovoye Array**	**17.38**	**37**	P	**Pn**	**08 59 53.7**	**0.0**
BVA0						09 02 55.9	
BVAR	**Borovoye Array**	**17.38**	**37**	P	**Pn**	**08 59 53.8**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=218,slow=17,SNR=46						
BVAR				S	**S**	**09 02 56.0**	**-17**
	comp=Z,1.3nm,0.3s,baz=218,slow=26,SNR=8.3						
BVAR	**Borovoye Array**	**17.38**	**37**	P	**Pn**	**08 59 53.1**	**-0.6**
	comp=Z,0.6nm,0.5s,SNR=61						
BVAR				S	**S**	**09 02 55.8**	**-17**
	comp=Z,0.7nm,0.7s						
VOSK	**Vostochnaya**	**17.47**	**39**	⇓P	**Pn**	**08 59 55.3**	**+0.5**
	comp=Z,2.5nm,0.6s						
VOSK				⇓S	**S**	**09 02 57.6**	**-17**
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**18.38**	**329**	*e*P	**Pn**	**09 00 04.4**	**-1.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TIRR	**Tirgusor**	**18.57**	**291**	⇓P	**Pn**	**09 00 12.1**	**+3.9**
TIRR	**Tirgusor**	**18.57**	**291**	⇓P	**Pn**	**09 00 12.1**	**+3.9**
CFR	**Carcaliu**	**18.83**	**293**	⇓P	**Pn**	**09 00 10.1**	**-1.3**
CFR	**Carcaliu**	**18.83**	**293**	⇓P	**Pn**	**09 00 10.1**	**-1.3**
AKASG	**Malin Array Be**	**19.52**	**310**	P	**Pn**	**09 00 17.7**	**-1.9**
	comp=Z,11nm,0.3s,baz=101,slow=8.5,SNR=49						
AKASG				S	**S**	**09 03 52.2**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=112,slow=22,SNR=4.0						
AKASG	**Malin Array Be**	**19.52**	**310**	P	**Pn**	**09 00 17.7**	**-1.9**
AKASG				S	**S**	**09 03 52.2**	**-4.0**
VRI	**Vrincioaia**	**19.89**	**295**	⇑P	**Pn**	**09 00 24.0**	**0.0**
MLR	**Muntele Rosu**	**20.40**	**294**	P	**P**	**09 00 27.8**	**+0.1**
	comp=Z,6.8nm,0.5s,baz=237,slow=4.0,SNR=22						
MLR	**Muntele Rosu**	**20.40**	**294**	⇑P	**P**	**09 00 29.0**	**+1.4**
KURK	**Kurchatov**	**20.66**	**51**	⇑P	**P**	**09 00 31.2**	**+0.7**
	comp=Z,3.1nm,0.9s						
KURK	**Kurchatov**	**20.66**	**51**	*e*P	**P**	**09 00 31.1**	**+0.6**
KURK				*e*S	**S**	**09 04 11.0**	**-7.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**20.66**	**51**	*e*P	**P**	**09 00 31.1**	**+0.6**
	comp=Z,4.2nm,0.7s						
KURK				*e*S	**S**	**09 04 11.0**	**-7.9**
VOIR		**21.02**	**293**	⇓P	**P**	**09 00 35.3**	**+0.9**
BURAR	**Bucovina Array**	**21.18**	**299**	⇓P	**P**	**09 00 36.3**	**+0.3**
MK31	**Makanchi Array**	**22.13**	**63**	⇓P	**P**	**09 00 47.0**	**+0.7**
	comp=Z,2.8nm,0.8s,mb3.7						
MK31	**Makanchi Array**	**22.13**	**63**	*i* P	**P**	**09 00 46.4**	**+0.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**22.13**	**63**	P	**P**	**09 00 47.0**	**+0.8**
	comp=Z,1.8nm,0.6s,mb3.7,baz=253,slow=10,SNR=35						
MKAR	**Makanchi Array**	**22.13**	**63**	P	**P**	**09 00 46.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KLMR	**Klimovskoe**	**22.16**	**342**	*e*P	**P**	**09 00 46.4**	**-0.2**
KLMR				*e*		09 01 10.8	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
VTS	**Vitosha**	**22.36**	**286**	⇑P	**P**	**09 00 48.2**	**-0.4**
IDI	**Anoyia**	**22.69**	**266**	P	**P**	**09 00 51.9**	**-0.3**
	comp=Z,2.4nm,0.3s,mb4.1,baz=0.0,slow=7.1,SNR=6.8						
DRGR		**22.76**	**297**	⇓P	**P**	**09 00 53.1**	**+0.2**
BZS	**Buzias**	**23.44**	**293**	⇓P	**P**	**09 00 59.0**	**-0.9**
VSU	**Vasula**	**24.65**	**326**	*i* P	**P**	**09 01 11.1**	**+0.2**
OJC	**Ojcow**	**25.16**	**304**	*e*P	**P**	**09 01 16.0**	**+0.5**
ZAL	**Zalesovo**	**25.33**	**47**	P	**P**	**09 01 17.5**	**+0.5**
	comp=Z,1.4nm,0.3s,mb4.0,baz=207,slow=5.0,SNR=4.5						
ZAL				LR	LR	09 12 52.6	
	comp=Z,27nm,19.0s,MS2.8,baz=282,slow=41						
ZAL	**Zalesovo**	**25.33**	**47**	P	**P**	**09 01 17.5**	**+0.5**
ZAL				LR	LR	09 12 52.6	
JOF	**Joensuu**	**26.05**	**337**	*ep*	**P**	**09 01 24.7**	**+1.1**
	comp=Z,4.8nm,0.4s,mb4.4						
JOF	**Joensuu**	**26.05**	**337**	*eP*	**P**	**09 01 24.7**	**+1.1**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**26.75**	**331**	P	**P**	**09 01 29.2**	**-0.7**
	comp=Z,1.1nm,0.5s,mb3.7,baz=136,slow=11,SNR=14						
FINES	**FINESS Array B**	**26.75**	**331**	P	**P**	**09 01 29.2**	**-0.7**
KAF	**Kangasniemi**	**27.10**	**332**	*ep*	**P**	**09 01 32.9**	**-0.2**
	baz=133,slow=9.3						
GERES	**GERESS Array B**	**28.95**	**300**	P	**P**	**09 01 50.0**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=91,slow=9.2,SNR=7.9						
KEV	**Kevo**	**32.48**	**344**	*ep*	**P**	**09 02 21.3**	**+0.6**
	comp=Z,1.5nm,0.3s,mb4.3						
KEV	**Kevo**	**32.48**	**344**	*eP*	**P**	**09 02 21.3**	**+0.6**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
ARCES	**ARCESS Array B**	**32.64**	**343**	P	**P**	**09 02 22.2**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.4,baz=143,slow=9.6,SNR=24						
NB2	**NORSAR Subarra**	**32.78**	**323**	P	**P**	**09 02 22.4**	**-0.9**
	comp=Z,1.6nm,0.5s,mb4.2,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**32.78**	**323**	P	**P**	**09 02 22.7**	**-0.6**
	comp=Z,1.2nm,0.4s,mb4.2,baz=112,slow=8.4,SNR=9.3						
YAK	**Yakutsk**	**49.36**	**37**	*i* P	**P**	**09 04 39.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
NJ2	**Nanjing**	**52.73**	**77**	*eP*	**P**	**09 05 06.5**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SSE	**Sheshan**	**54.93**	**77**	P	**P**	**09 05 18.6**	**-2.3**
SSE				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,55nm,3.8s						

NEIC ***19*** *09:18:10.0, 18.18N×64.96W, h135km, MD3.5(RSPR), After RSPR.*
RSPR 19 09:18:10.0, 18.18N×64.96W, h135km±1km, MD3.5/6, MD3.5/6, 5C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CULB	**Culebra**	**0.37**	**291**	⇑*eP*	Pn	09 18 28.6	-0.4
CULB	**Culebra**	**0.37**	**291**	*e*S	Sn	09 18 43.6	+0.1
TBVI	**Tortola**	**0.41**	**55**	⇓*eP*	Pn	09 18 28.9	-0.3
TBVI				*e*S	Sn	09 18 43.6	-0.1
MTP	**Monte Pirata**	**0.57**	**262**	⇓*eP*	Pn	09 18 29.5	-0.5
MTP				*e*S	Sn	09 18 45.0	-0.2
HUMP	**Col San Antoni**	**0.84**	**268**	⇑*eP*	Pn	09 18 31.6	-0.4
HUMP				*e*S	Sn	09 18 48.8	0.0
CBYP	**Canovanas**	**0.85**	**276**	⇑*eP*	Pn	09 18 31.8	-0.3
CBYP				*e*S	Sn	09 18 48.9	0.0
CPD	**Cerro la Pandu**	**0.92**	**261**	⇑*eP*	Pn	09 18 32.7	+0.1
CPD				*e*S	Sn	09 18 50.0	+0.2
CRPR	**Cabo Rojo, PR**	**2.05**	**266**	⇑*eP*	Pn	09 18 45.0	+0.2
CRPR				*e*S	Sn	09 19 11.7	+0.2

WEL 19 09:19:02.1±0.3, 40.13S×176.71E, h46km±3km, ML3.5/6, Error ellipse: s-maj=2.9km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.15**	**50**	PN	Pn	09 19 09.5	-0.1
PXZ				SN	Sn	09 19 15.4	+0.6
TSZ	**Takapari Road**	**0.58**	**276**	PN	Pn	09 19 13.3	-0.8
TSZ				SN	Sn	09 19 21.1	-1.6
BFZ	**Birch Farm**	**0.66**	**213**	PN	Pn	09 19 15.0	0.0
BFZ				SN	Sn	09 19 25.1	+0.7
BKZ	**Black Stump Fm**	**0.97**	**350**	PN	Pn	09 19 18.7	-0.6
BKZ				SN	Sn	09 19 31.0	-0.9
MRZ	**Mangatainoka R**	**1.02**	**238**	PN	Pn	09

LBRS				eS	Sn	09 50 34.1	+20
MGAN	**Managua**	**1.61**	**130**	eP	Pn	09 49 53.4	-0.6
MGAN				eS	Sn	09 50 15.6	+0.2
MGAN				i		09 50 18.1	
	comp=N,396nm,0.3s						
BOQS	**Boqueron**	**1.80**	**288**	⇓eP	Pn	09 50 15.5	+19
BOQS				eS	Sn	09 50 40.6	+21
SBLS	**San Blas**	**2.15**	**288**	eP	Pn	09 50 20.1	+19
SBLS				eS	Sn	09 50 50.6	+22
MTO2	**Montecristo 2**	**2.16**	**304**	eP	Pn	09 50 22.7	+21
MTO2				eS	Sn	09 50 50.8	+22
RTR	**El Retiro**	**2.19**	**289**	eP	Pn	09 50 21.1	+19
RTR				eS	Sn	09 50 52.2	+23

*IDC **19** 09:50:19.9±1.1, 0.95N×96.98E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/29, Error ellipse: s-maj=39.9km s-min=18.4km az=50.0*
*BJI **19** 09:50:19.0, 0.48N×97.31E, h30km, mB4.9, mb4.8, Ms4.4, Msz4.2*
*ISCJB **19** 09:50:24.4±3.1, 1.1N±0.1×97.2E±0.1, h40km±23km, mb4.2/23, MS3.8/2, Error ellipse: s-maj=30.0km s-min=12.8km az=94.9*
*NEIC **19** 09:50:25.1±0.6, 1.06N×97.18E, h30km, mb4.3/9, Error ellipse: s-maj=13.9km s-min=8.9km az=222.0*
ISC 19 09:50:26.2±3.0, 11N±01×97.2E±01, h36km±23km, n35, σ0°89/34, mb4.2/23, MS3.8/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.43**	**45**	Pn	**Pn**	**09 51 03.0**	**-0.4**
	5.1nm,0.3s,baz=225,slow=8.6,SNR=24						
PSI				LR	LR	09 51 52.3	
	comp=Z,390nm,19.2s,baz=281,slow=36						
KULM	**Kulim**	**5.42**	**39**	⇑ePn	**Pn**	**09 51 43.9**	**-0.6**
KMI	**Kunming**	**24.50**	**12**	P	**P**	**09 55 42.9**	**+0.9**
KMI				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,57nm,3.6s						
KMI				LR	LR		
	comp=N,352nm,14.5s,MS4.0						
KMI				LR	LR		
	comp=E,181nm,14.5s,MS4.0						
KMI				LR	LR		
	comp=Z,272nm,16.1s,MS3.8						
SHL	**Shillong**	**24.88**	**349**	eP	**P**	**09 55 45.0**	**-0.5**
GYA	**Guiyang**	**26.82**	**19**	P	**P**	**09 56 04.9**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.46**	**339**	eP	**P**	**09 56 18.9**	**+1.2**
	comp=Z,16nm,0.8s,mb4.7						
PKI	**Pulchoki**	**28.66**	**338**	eP	**P**	**09 56 20.1**	**+0.6**
GUN	**Gumba**	**28.80**	**339**	eP	**P**	**09 56 21.7**	**+1.0**
	comp=Z,25nm,0.8s,mb5.0						
DMN	**Daman**	**28.82**	**337**	eP	**P**	**09 56 23.2**	**+2.3**
DAV	**Davao City (W)**	**28.91**	**77**	eP	**P**	**09 56 27.1**	**+5.4**
	comp=Z,0.3nm,0.6s,mb3.2						
KKN	**Kakani**	**28.91**	**338**	eP	**P**	**09 56 22.6**	**+0.9**
LSA	**Lhasa**	**29.04**	**349**	P	**P**	**09 56 22.6**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.1						
GKN	**Gorkha**	**29.35**	**337**	eP	**P**	**09 56 25.1**	**-0.5**
KOLN	**Koldanda**	**29.57**	**335**	eP	**P**	**09 56 28.6**	**+1.1**
ENH	**Enshi**	**31.29**	**21**	P	**P**	**09 56 41.6**	**-1.2**
	comp=Z,3.9nm,0.4s,mb4.6						
GTA	**Gaotai**	**38.22**	**3**	P	**P**	**09 57 42.4**	**-0.2**
GTA				AP	pP	09 57 48.4	-4.5
GTA				XP	sP	09 57 53.4	-3.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**09 58 13.3**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=300,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**41.98**	**122**	eP	**P**	**09 58 14.3**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**09 58 25.4**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.6,baz=305,slow=7.1,SNR=11						
KS15	**Wonju Array Si**	**45.91**	**34**	eP	**P**	**09 58 45.5**	**+0.2**
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**09 58 55.9**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=189,slow=9.3,SNR=23						
SONM				PcP	PcP	10 00 26.9	+0.3
	comp=Z,0.6nm,0.6s,baz=198,slow=3.5,SNR=4.1						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**09 58 56.5**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=160,slow=8.2,SNR=37						
CN2	**Changchun**	**49.41**	**27**	eP	**P**	**09 59 12.0**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**51.75**	**19**	eP	**P**	**09 59 29.8**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.3						
KURK	**Kurchatov**	**51.91**	**345**	eP	**P**	**09 59 30.9**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2						
OPO	**Ambohidratompo**	**52.88**	**246**	P	**P**	**09 59 45.1**	**+6.7**
	comp=Z,3.9nm,0.3s,mb4.8,baz=62,slow=5.3,SNR=18						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**09 59 47.5**	**+6.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=282,slow=9.3,SNR=4.9						
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**09 59 44.2**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=285,slow=6.9,SNR=16						
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**09 59 44.2**	**0.0**
ZRNK	**Zerenda**	**56.77**	**340**	eP	**P**	**10 00 05.2**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.1						
AKTK	**Aktyubinsk**	**59.34**	**332**	P	**P**	**10 00 23.4**	**-1.1**
AKTO	**Aktyubinsk**	**59.34**	**332**	P	**P**	**10 00 23.4**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=142,slow=5.2,SNR=8.6						
KMBO	**Kilima Mbogo**	**59.99**	**268**	LR	LR	10 20 35.3	
	comp=Z,46nm,19.1s,MS3.6,baz=76,slow=30						
AKASG	**Malin Array Be**	**75.35**	**322**	P	**P**	**10 02 04.4**	**-1.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=100,slow=3.7,SNR=4.5						
FINES	**FINESS Array B**	**80.11**	**333**	P	**P**	**10 02 31.6**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=99,slow=8.6,SNR=4.6						

*ISCJB **19** 10:10:24.0±0.4, 5247N±008×176.12W±005, h142km±4km, mb3.9/20, Error ellipse: s-maj=13.8km s-min=5.2km az=165.6*
*MOS **19** 10:10:24.3±1.4, 5245N×176.06W, h140km, mb4.5/2, Error ellipse: s-maj=19.0km s-min=15.5km az=77.8*
*IDC **19** 10:10:25.9±0.6, 5253N×176.22W, h148km±4km, mb3.7/18, mb1 3.8/20, mb1mx3.7/28, mbtmp4.1/20, Error ellipse: s-maj=14.8km s-min=8.2km az=170.0*
*NEIC **19** 10:10:26.0±0.7, 5242N×176.04W, mb4.2/5, Error ellipse: s-maj=17.4km s-min=9.2km az=178.0*
ISC 19 10:10:25.1±0.4, 5250N±008×176.09W±005, h140km±4km, h146km±2.7km: pP-P, n52, σ1°14/58, mb3.9/20, 1C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.71**	**211**	P	**Pn**	**10 10 46.6**	**0.0**
ADK				S	**Sn**	**10 11 02.3**	**-0.6**
ATKA	**Atka Island**	**1.20**	**103**	P	**Pn**	**10 10 50.6**	**-0.2**
ATKA				S	**Sn**	**10 11 09.6**	**-0.7**
NIKO	**Nikolski**	**4.42**	**81**	P	**Pn**	**10 11 31.4**	**+0.8**
NIKO				S	**Sn**	**10 12 20.9**	**-0.7**
OKCD	**Okmok Cone D**	**4.91**	**76**	P	**Pn**	**10 11 39.0**	**+1.8**
UNV	**Unalaska Valle**	**5.92**	**73**	P	**Pn**	**10 11 50.8**	**+0.1**
FX1	**Attu Island--F**	**6.55**	**278**	P	**Pn**	**10 11 59.0**	**+0.1**
	0.8nm,0.3s,baz=90,slow=20,SNR=3.8						
FX1				S	**Sn**	**10 13 12.9**	**+0.6**
	2.4nm,0.3s,baz=114,slow=20,SNR=4.0						
FX1	**Attu Island--F**	**6.55**	**278**	P	**Pn**	**10 11 59.1**	**+0.1**
FX1				S	**Sn**	**10 13 13.0**	**+0.6**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SDPT	**Sand Point**	**9.64**	**67**	P	**Pn**	**10 12 40.6**	**+0.1**
KDAK	**Kodiak Island**	**14.41**	**59**	P	**Pn**	**10 13 41.0**	**-1.5**
	comp=Z,9.3nm,0.3s,baz=278,slow=6.7,SNR=88						
KDAK				S	**Sn**	**10 16 19.4**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=150,slow=20,SNR=12						
BILL	**Bilibino**	**17.75**	**338**	d iP	**Pn**	**10 14 25.8**	**+2.3**
BILL	**Bilibino**	**17.75**	**338**	d iPN	**Pn**	**10 14 25.8**	**+2.3**
BILL	**Bilibino**	**17.75**	**338**	eP	**Pn**	**10 14 25.6**	**+2.1**
	comp=Z,40nm,1.0s						
MCK	**McKinley**	**18.06**	**41**	eP	**P**	**10 14 27.1**	**+1.4**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MCK	**McKinley**	**18.06**	**41**	eP	**P**	**10 14 27.1**	**+1.4**
	comp=Z,6.7nm,1.1s						
ILAR	**Eielson Array**	**19.32**	**39**	P	**P**	**10 14 38.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=239,slow=9.7,SNR=16						
ILAR				S	**S**	**10 18 10.3**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=229,slow=12,SNR=4.5						
ILAR				ScP	ScP	10 22 14.8	-3.8
	comp=Z,0.1nm,0.3s,baz=248,slow=2.0,SNR=5.8						
ILAR	**Eielson Array**	**19.32**	**39**	P	**P**	**10 14 38.0**	**-1.4**
ILAR				S	**S**	**10 18 10.3**	**-0.2**
SEY	**Seymchan**	**19.60**	**315**	eP	**P**	**10 14 44.9**	**+2.5**
SEY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**19.66**	**304**	⇑eP	**P**	**10 14 45.5**	**+2.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MA2	**Magadan**	**19.66**	**304**	eP	**P**	**10 14 45.0**	**+1.9**
	comp=Z,3.4nm,0.9s						
INK	**Inuvik**	**25.58**	**36**	P	**P**	**10 15 41.7**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.4,baz=254,slow=9.6,SNR=11						
INK				pP	pP	10 16 12.0	+1.5
	comp=Z,1.4nm,0.9s,baz=264,slow=14,SNR=2.2						
INK				sP	sP	10 16 29.8	+3.1
	comp=Z,2.4nm,0.9s,baz=241,slow=13,SNR=3.5						
INK	**Inuvik**	**25.58**	**36**	P	**P**	**10 15 41.7**	**+0.6**
INK				pP	pP	10 16 12.0	+1.5
INK				sP	sP	10 16 29.8	+3.1
YKA	**Yellowknife Ar**	**33.24**	**48**	P	**P**	**10 16 48.1**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.4,baz=280,slow=8.0,SNR=8.4						
YKA				pP	pP	10 17 20.8	+1.9
	comp=Z,0.1nm,0.5s,baz=281,slow=8.9,SNR=1.5						
YKA	**Yellowknife Ar**	**33.24**	**48**	P	**P**	**10 16 48.1**	**-0.7**
YKA				pP	pP	10 17 20.8	+1.9
MJAR	**Matsushiro Arr**	**35.61**	**262**	P	**P**	**10 17 09.5**	**+0.3**
	comp=Z,3.7nm,0.7s,mb4.1,baz=46,slow=7.0,SNR=24						
MAT	**Matsushiro**	**35.61**	**262**	P	**P**	**10 17 09.4**	**+0.2**
NEW	**Newport**	**36.93**	**72**	P	**P**	**10 17 21.1**	**+0.6**
	comp=Z,4.4nm,0.7s,mb4.2,baz=300,slow=7.0,SNR=9.4						
YBH	**Yreka Blue Hor**	**37.09**	**85**	P	**P**	**10 17 24.1**	**+2.3**
	comp=Z,3.5nm,0.8s,mb4.0,baz=334,slow=4.0,SNR=10						
WVOR	**Wild Horse Val**	**39.15**	**81**	eP	**P**	**10 17 40.7**	**+1.6**
WVOR				e*PP	pP	10 18 11.8	+2.0
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
WVOR	**Wild Horse Val**	**39.15**	**81**	eP	**P**	**10 17 40.7**	**+1.6**
	comp=Z,5.4nm,1.0s,mb4.1						
WVOR				epP	pP	10 18 11.8	+2.0
MCMT	**McKenzie Canyo**	**41.25**	**75**	eP	**P**	**10 17 56.3**	**0.0**
NVAR	**Mina Array Bea**	**41.77**	**86**	P	**P**	**10 18 02.2**	**+1.6**
	comp=Z,1.7nm,0.8s,mb3.7,baz=302,slow=6.4,SNR=14						
NVAR				pP	pP	10 18 31.9	+0.3
	comp=Z,0.8nm,0.8s,baz=300,slow=6.3,SNR=4.0						
NVAR				PcP	PcP	10 19 53.7	-0.5
	comp=Z,1.0nm,0.9s,baz=314,slow=0.9,SNR=5.7						
NVAR				ScP	ScP	10 23 29.1	-2.2
	comp=Z,0.2nm,0.7s,baz=302,slow=5.2,SNR=3.5						
NVAR	**Mina Array Bea**	**41.77**	**86**	P	**P**	**10 18 02.2**	**+1.6**
NVAR				pP	pP	10 18 31.9	+0.3
NVAR				PcP	PcP	10 19 53.7	-0.5
NVAR				ScP	ScP	10 23 29.1	-2.2
DUG	**Dugway**	**44.01**	**80**	eP	**P**	**10 18 18.9**	**+0.3**
DUG				e*PP	pP	10 18 50.8	+0.9
DUG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
DUG	**Dugway**	**44.01**	**80**	eP	**P**	**10 18 18.9**	**+0.3**
	comp=Z,11nm,1.1s,mb4.4						
DUG				epP	pP	10 18 50.8	+0.9
PDAR	**Pinedale Array**	**44.38**	**75**	P	**P**	**10 18 21.8**	**+0.2**
	comp=Z,5.2nm,0.7s,mb4.2,baz=307,slow=3.8,SNR=47						
PDAR				pP	pP	10 18 53.5	+0.6
	comp=Z,1.0nm,0.6s,baz=326,slow=3.0,SNR=2.8						
PDAR				sP	sP	10 19 11.5	+2.9
	comp=Z,0.9nm,0.8s,baz=279,slow=5.5,SNR=2.1						
TMUT	**Trail Mountain**	**45.53**	**80**	eP	**P**	**10 18 31.9**	**+1.3**
SONM	**Songino Array**	**47.64**	**297**	P	**P**	**10 18 45.8**	**-1.3**
	comp=Z,0.8nm,0.8s,mb3.4,baz=38,slow=9.2,SNR=6.8						
PV01	**Paradox Valley**	**47.86**	**79**	eP	**P**	**10 18 49.4**	**+0.6**
ARCES	**ARCESS Array B**	**57.26**	**351**	P	**P**	**10 19 57.0**	**-1.0**
	comp=Z,3.9nm,0.8s,mb4.3,baz=19,slow=7.3,SNR=9.9						
MKAR	**Makanchi Array**	**60.64**	**309**	P	**P**	**10 20 19.5**	**-1.8**
	comp=Z,0.5nm,0.4s,mb3.7,baz=47,slow=6.8,SNR=16						
BVAR	**Borovoye Array**	**61.10**	**321**	P	**P**	**10 20 24.1**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=56,slow=7.4,SNR=8.6						
BVAR				pP	pP	10 20 58.7	+1.2
	comp=Z,0.3nm,0.6s,baz=46,slow=8.5,SNR=1.4						
FINES	**FINESS Array B**	**65.05**	**348**	P	**P**	**10 20 49.0**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.6,baz=12,slow=8.9,SNR=5.8						
NOA	**NORSAR Array B**	**66.66**	**356**	P	**P**	**10 20 59.4**	**-1.4**
	comp=Z,0.8nm,0.8s,mb3.6,baz=6.3,slow=7.7,SNR=2.7						
AKTO	**Aktyubinsk**	**67.72**	**326**	P	**P**	**10 21 06.7**	**-0.7**
	comp=Z,1.1nm,0.4s,mb3.9,baz=51,slow=5.7,SNR=8.0						
AKTO				pP	pP	10 21 42.6	+1.4
	comp=Z,0.4nm,0.7s,baz=49,slow=22,SNR=1.2						
AKTO	**Aktyubinsk**	**67.72**	**326**	P	**P**	**10 21 06.7**	**-0.7**
AKTO				*PP	pP	10 21 42.6	+1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**83.99**	**226**	P	**P**	**10 22 38.3**	**-1.4**
	comp=Z,1.5nm,0.6s,mb3.9,baz=33,slow=5.8,SNR=17						
BRTR	**Keskin Array B**	**84.59**	**337**	P	**P**	**10 22 41.9**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.5,baz=70,slow=5.6,SNR=5.0						
BRTR				pP	pP	10 23 19.1	+1.1
	comp=Z,0.2nm,0.4s,baz=311,slow=25,SNR=1.9						
BRTR	**Keskin Array B**	**84.59**	**337**	P	pP	10 23 19.1	+1.2
PSI	**Prapat**	**84.73**	**268**	P	**P**	**10 22 42.5**	**-1.0**
	comp=Z,9.7nm,0.8s,mb4.6,baz=14,slow=3.0,SNR=5.4						
PSI	**Prapat**	**84.73**	**268**	P	**P**	**10 22 42.5**	**-0.9**
PSI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**87.45**	**225**	P	**P**	**10 22 56.1**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.2,baz=24,slow=5.3,SNR=47						
BOSA	**Boshof**	**151.36**	**318**	PKPbc	PKPbc	10 30 00.8	-1.5
	comp=Z,1.1nm,0.4s,baz=31,slow=1.3,SNR=5.9						

*ISCJB **19** 10:11:43.7±1.5, 556N±02×1600E±02, h170km±17km, mb3.4/8, Error ellipse: s-maj=27.5km s-min=18.5km az=107.2*
*MOS **19** 10:11:44.0±1.3, 5565N×16008E, h174km, mb3.8/4, Error ellipse: s-maj=39.4km s-min=18.7km az=77.9*
*IDC **19** 10:11:50.5±7.4, 5565N×15995E, h223km±74km, mb3.0/7, mb1 3.3/8, mb1mx3. 1/22, mbtmp3.7/8, Error ellipse: s-maj=27.9km s-min=15.5km az=150.0*
ISC 19 10:11:44.8±1.4, 556N±02×1600E±02, h168km±16km, n13, σ0°76/14, mb3.4/8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**2.67**	**198**	ePN	**Pn**	**10 12 29.2**	**+0.4**
PET				eS	**Sn**	**10 13 02.4**	**-0.5**
PET				pmax	pmax		
	comp=Z,34nm,0.6s						
PET				smax			
	comp=N,35nm,0.8s						
PET				smax			
	comp=E,29nm,0.6s						
ASAJ	**Asahikawa**	**15.99**	**231**	P	**Pn**	**10 15 23.7**	**+3.3**
	comp=E,0.5nm,0.3s,baz=72,slow=6.9,SNR=7.8						
ASAJ	**Asahikawa**	**15.99**	**231**	P	**Pn**	**10 15 23.7**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**27.16**	**49**	P	**P**	**10 17 11.8**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.3,baz=261,slow=8.4,SNR=8.3						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**10 19 14.3**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=301,slow=8.3,SNR=9.3						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**10 19 14.3**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.08**	**294**	P	**P**	**10 19 58.8**	**-0.8**
	comp=Z,0.1nm,0.4s,mb2.8,baz=46,slow=7.4,SNR=3.9						
BVAR	**Borovoye Array**	**48.84**	**307**	P	**P**	**10 20 12.8**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.4,baz=54,slow=7.5,SNR=4.0						
PDAR	**Pinedale Array**	**56.38**	**62**	P	**P**	**10 21 09.3**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=6.4,slow=2.3,SNR=4.3						
OBN	**Obninsk**	**60.41**	**327**	eP	**P**	**10 21 37.0**	**+0.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**78.31**	**205**	P	**P**	**10 23 25.6**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=20,slow=6.1,SNR=8.4						
ASAR	**Alice Springs**	**82.00**	**204**	P	**P**	**10 23 46.0**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.4,baz=17,slow=5.0,SNR=5.8						
ASAR	**Alice Springs**	**82.00**	**204**	P	**P**	**10 23 46.0**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*MOS **19** 10:26:21.5±1.8, 4489N×148.51E, h106km, mb4.0/1, Error ellipse: s-maj=36.6km s-min=23.2km az=73.4*
*ISCJB **19** 10:26:35.1±0.4, 4601N±004×14305E±009, h342km±4km, mb3.2/7, Error ellipse: s-maj=10.2km s-min=6.2km az=173.4*
*SKHL **19** 10:26:36.9±5.2, 4620N×143.10E, h337km±1km, mb3.8/3, msh4.5/3*
*JMA **19** 10:26:36.7±0.3, 4586N×143.16E, h338km±3km, M3.7*
*IDC **19** 10:26:36.1±0.8, 4619N×142.96E, h328km±16km, mb3.0/7, mb1 3.3/10, mb1mx3.0/23, mbtmp3.8/10, Error ellipse: s-maj=30.6km s-min=18.6km az=162.0*
*NEIC **19** 10:26:36.6±0.7, 4595N×143.11E, h341km±9km, mb4.0/3, Error ellipse: s-maj=19.1km s-min=11.6km az=125.0*
ISC 19 10:26:36.0±0.4, 4603N±004×14307E±009, h336km±4km, n43, σ1°06/53, mb3.2/7, 8C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.95**	**347**	⇑iP	**Pn**	**10 27 21.6**	**+1.6**
YSS				AMB	AMB	10 27 22.7	
	80nm,0.4s						
YSS				eS	**S**	**10 27 55.1**	**-0.1**
YSS				A		10 27 58.0	
	80nm,0.8s						
YSS	**Yuzh-Sakhalins**	**0.95**	**347**	ePn	**Pn**	**10 27 20.9**	**+0.9**
JWK2	**Keihoku**	**1.09**	**230**	⇑P	**Pn**	**10 27 21.5**	**+1.0**
JWK2				eS	**S**	**10 27 56.4**	**+0.2**
JSE	**Soyaes**	**1.12**	**198**	⇑P	**Pn**	**10 27 21.0**	**+0.3**
JRR	**Rishiri**	**1.52**	**235**	⇑P	**Pn**	**10 27 23.6**	**+0.8**
JSS	**Shosan**	**1.84**	**208**	P	**Pn**	**10 27 25.5**	**+0.7**
ASAJ	**Asahikawa**	**1.94**	**190**	P	**Pn**	**10 27 26.1**	**+0.6**
	10nm,0.3s,baz=15,slow=6.3,SNR=108						
ASAJ				S	**S**	**10 28 06.7**	**+1.5**
	baz=49,slow=20,SNR=1.8						
ASAJ	**Asahikawa**	**1.94**	**190**	PN	**Pn**	**10 27 26.1**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
JYG	**Yagishiri**	**1.98**	**217**	P	**Pn**	**10 27 26.4**	**+0.6**
JTKR	**Abashiri--Toko**	**2.14**	**164**	⇑P	**Pn**	**10 27 27.1**	**+0.1**
JTKR				eS	**S**	**10 28 06.8**	**-1.1**
JKK2	**Kamakawa 2**	**2.17**	**186**	⇑P	**Pn**	**10 27 27.5**	**+0.3**
JHR	**Hokuryu**	**2.48**	**203**	P	**Pn**	**10 27 30.1**	**+0.5**
JRA	**Rausu**	**2.55**	**144**	P	**Pn**	**10 27 30.5**	**+0.3**
JAR	**Ashorobuto**	**2.78**	**169**	⇑P	**Pn**	**10 27 32.2**	**0.0**
JAR				eS	**S**	**10 28 15.6**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**2.81**	**134**	erx	rx	10 28 03.5	
YUK				eS	**S**	**10 28 19.3**	**+1.4**
YUK				A		10 28 20.0	
	comp=Z,150nm,0.5s						
YUK				A		10 28 20.0	
	comp=Z,170nm,0.5s						
JFR	**Furan**	**2.88**	**187**	P	**Pn**	**10 27 33.1**	**-0.1**
JAK	**Akkeshi**	**3.25**	**158**	eS	**S**	**10 28 21.0**	**-4.2**
NEM2	**Nemuro 2**	**3.27**	**143**	P	**Pn**	**10 27 35.5**	**-1.3**
JEW	**Eniwo**	**3.39**	**201**	P	**Pn**	**10 27 38.5**	**+0.5**
JCH	**Churui**	**3.42**	**176**	⇑P	**Pn**	**10 27 36.5**	**-1.7**
JCH				eS	**S**	**10 28 23.1**	**-5.2**
JNBK	**Urakawa-nobuka**	**3.75**	**184**	P	**Pn**	**10 27 40.8**	**-0.8**
JNBK				eS	**S**	**10 28 30.2**	**-4.2**
JKB	**Kayabe**	**4.39**	**200**	P	**Pn**	**10 27 47.1**	**-1.2**
JKB				eS	**S**	**10 28 42.5**	**-4.0**
JOSM	**Okushiri--Mats**	**4.72**	**215**	P	**Pn**	**10 27 51.4**	**-0.4**
TYV	**Tymovskoe**	**4.85**	**357**	eP	**Pn**	**10 27 53.0**	**-0.2**
TYV				AMB	AMB	10 27 54.5	
	comp=Z,8.0nm,0.6s						
TYV				eS	**S**	**10 28 53.3**	**-2.2**
TYV				A		10 28 56.8	
	comp=Z,22nm,1.0s						
JOT	**Ohata**	**4.87**	**198**	P	**Pn**	**10 27 52.0**	**-1.5**
JOT				eS	**S**	**10 28 49.8**	**-6.2**
MDJ	**Mudanjiang**	**9.60**	**266**	ePn	**Pn**	**10 28 51.1**	**+2.0**
	comp=Z,6.8nm,0.5s						
EKMR	**Ekimchan**	**9.63**	**321**	eP	**Pn**	**10 28 48.6**	**-0.9**
EKMR				AMB	AMB	10 28 49.8	
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**10.16**	**203**	ePN	**Pn**	**10 28 55.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	**Matsushiro**	**10.16**	**203**	ePn	**Pn**	**10 28 55.2**	**-0.6**
	comp=Z,3.3nm,0.4s						
MJAR	**Matsushiro Arr**	**10.16**	**203**	P	**Pn**	**10 28 56.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=7.9,slow=13,SNR=15						
MJAR	**Matsushiro Arr**	**10.16**	**203**	P	**Pn**	**10 28 56.0**	**+0.2**
YASR	**Yasnyy**	**12.17**	**312**	eP	**Pn**	**10 29 18.4**	**-1.4**
JHJ	**Hachijo jima 2**	**13.14**	**192**	P	**Pn**	**10 29 32.8**	**+1.4

KLP eS Sn 10 43 05.3 -4.6
KLP AML AML 10 43 14.0
comp=N,118nm,0.7s
KLP AML AML 10 43 14.9
comp=E,116nm,0.5s
KHET Khetri 9.11 155 eS Sn 10 43 42.1 -8.1
KUDL Kundal 9.29 152 eS Sn 10 43 47.5 -7.1
SONA Sohna 9.44 148 ex x 10 42 50.7
SONA eS Sn 10 43 51.4 -6.8
MK31 Makanchi Array 13.09 35 ⇓P Pn 10 43 02.3 +0.3
comp=E,0.5nm,0.5s,baz=219,slow=13,SNR=6.7
MKAR Makanchi Array 13.09 35 P Pn 10 43 02.5 +0.5
comp=E,0.1nm,0.3s,baz=220,slow=15,SNR=8.5
KOLN Koldanda 13.40 127 ePn Pn 10 43 04.3 -1.7
KOLN eSn Sn 10 45 27.6 -6.4
comp=E,8.3nm,0.4s
KOLN Koldanda 13.40 127 ePn Pn 10 43 04.3 -1.7
comp=E,4.2nm,0.4s
KOLN eSn Sn 10 45 27.6 -6.4
GKN Gorkha 13.93 123 ePn Pn 10 43 11.4 -1.4
GKN eSn Sn 10 45 39.0 -7.7
comp=E,17nm,0.3s
GKN Gorkha 13.93 123 ePn Pn 10 43 11.4 -1.4
GKN eSn Sn 10 45 39.0 -7.7
comp=E,8.3nm,0.3s
DMN Daman 14.51 124 ePn Pn 10 43 19.7 -0.3
PKI Pulchoki 14.73 123 ePn Pn 10 43 22.6 -0.3
PKI eSn Sn 10 45 58.0 -8.0
comp=E,17nm,0.7s
PKI Pulchoki 14.73 123 eP Pn 10 43 22.6 -0.3
PKI e 10 45 58.0
PKI pmax pmax
comp=Z,9.0nm,0.7s
PKI Pulchoki 14.73 123 ePn Pn 10 43 22.6 -0.3
comp=Z,8.5nm,0.7s
PKI eSn Sn 10 45 58.0 -8.0
KURK Kurchatov 15.15 18 eP Pn 10 43 29.1 +1.0
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 15.15 18 ePn Pn 10 43 29.1 +1.1
comp=Z,1.6nm,0.6s
JIRN Jiri 15.21 121 ePn Pn 10 43 28.9 0.0
JIRN eSn Sn 10 46 10.1 -7.4
comp=Z,18nm,0.6s
JIRN Jiri 15.21 121 ePn Pn 10 43 28.9 0.0
comp=Z,9.0nm,0.6s
JIRN eSn Sn 10 46 10.1 -7.4
AB31 Akbulak array 15.32 330 ⇓P Pn 10 43 28.5 -1.8
comp=Z,0.6nm,0.2s,baz=133,slow=12,SNR=49
AB31 ⇑S S 10 46 04.2 -23
comp=Z,2.7nm,0.5s,baz=145,slow=23,SNR=11
VOSK Vostochnaya 16.27 359 ⇑P Pn 10 43 40.6 -1.4
comp=Z,4.2nm,2.0s
BVA0 Borovoye Array 16.59 358 ⇑P Pn 10 43 46.3 +0.4
comp=Z,0.3nm,0.7s,baz=288,slow=39,SNR=14
BVAR Borovoye Array 16.59 358 P Pn 10 43 44.8 -1.0
comp=Z,0.5nm,0.3s,baz=159,slow=12,SNR=13
BVAR S S 10 46 40.5 -10
comp=Z,0.2nm,0.3s,baz=163,slow=23,SNR=5.4
ZRNK Zerenda 16.59 355 ⇑P Pn 10 43 47.7 +1.9
comp=Z,1.7nm,0.6s
ZRNK Zerenda 16.59 355 eP Pn 10 43 45.5 -0.4
ZRNK pmax pmax
comp=Z,2.0nm,0.6s
ZRNK Zerenda 16.59 355 eP Pn 10 43 45.5 -0.4
comp=Z,2.4nm,0.6s
BRVK Borovoye 16.63 357 P Pn 10 43 46.8 +0.5
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 16.63 357 P Pn 10 43 46.8 +0.5
comp=Z,1.4nm,0.5s
AKTK Aktyubinsk 17.03 329 P Pn 10 43 51.2 +0.1
AKTK S S 10 46 48.0 -13
AKTO Aktyubinsk 17.03 329 ⇑P Pn 10 43 52.1 +0.9
comp=Z,0.4nm,0.3s
AKTO ⇓S S 10 46 48.0 -13
comp=Z,0.7nm,0.9s
AKTO Aktyubinsk 17.03 329 P Pn 10 43 51.2 +0.1
comp=Z,1.7nm,0.3s,baz=138,slow=8.5,SNR=33
AKTO S S 10 46 48.0 -13
comp=Z,0.2nm,0.3s,baz=160,slow=22,SNR=6.6
AKTO Aktyubinsk 17.03 329 P Pn 10 43 51.3 +0.1
AKTO S S 10 46 48.0 -13
AKTO pmax pmax
comp=Z,2.0nm,0.3s
ZAL Zalesovo 19.77 24 P P 10 44 21.6 +0.8
comp=Z,1.8nm,0.3s,baz=266,slow=4.9,SNR=18
FINES FINESS Array B 37.75 326 P P 10 47 04.6 +0.4
comp=Z,0.3nm,0.3s,mb3.4,baz=124,slow=7.9,SNR=14
ARCES ARCESS Array B 41.34 337 P P 10 47 34.8 +0.9
comp=Z,1.6nm,0.7s,mb3.7,baz=115,slow=8.6,SNR=14
NB2 NORSAR Subarra 44.66 323 P P 10 48 00.1 -0.5
comp=Z,5.5nm,0.3s,mb3.6,baz=98,slow=7.9
NOA NORSAR Array B 44.66 323 P P 10 48 00.5 -0.1
comp=Z,0.2nm,0.3s,mb3.2,baz=104,slow=7.3,SNR=6.8
TORD Torodi Ar. Bea 66.13 269 P P 10 50 33.8 -0.4
comp=Z,0.3nm,0.7s,mb3.2,baz=48,slow=5.1,SNR=5.7
INK Inuvik 73.89 9 P P 10 51 21.1 -0.4
comp=Z,0.7nm,0.7s,mb3.5,baz=319,slow=5.7,SNR=6.3
YKA Yellowknife Ar 81.27 3 P P 10 52 02.6 0.0
comp=Z,0.6nm,0.5s,mb3.5,baz=350,slow=5.4,SNR=29
WRA Warramunga Arr 81.62 122 P P 10 52 05.4 +1.0
comp=Z,0.3nm,1.1s,mb2.9,baz=327,slow=4.7,SNR=5.3

IDC 19 11:03:15.3±8.8, 3078S×17916W, h440km±105km, mb2.8/2, mb1 3.0/3, mb1mx2.9/13, mbtmp3.6/3, Error ellipse: s-maj=95.1km s-min=42.0km az=9.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.07**	**201**	P		P	P	11 05 10.9	-0.3
URZ	0.4nm,0.3s,baz=350,slow=23,SNR=6.3					S	S	11 06 46.5	+0.1
ASAR	**Alice Springs**	**42.09**	**268**	P		P	P	11 10 27.4	+0.4
	1.2nm,0.3s,baz=277,slow=23,SNR=12								
WRA	**Warramunga Arr**	**43.12**	**273**	P		P	P	11 10 35.1	0.0
	0.2nm,0.3s,baz=105,slow=7.2,SNR=9.0								
FINES	**FINESS Array B**	**145.15**	**339**	PKPbc		PKPbc	PKPbc	11 22 00.8	-1.4
	1.0nm,0.6s,baz=110,slow=7.9,SNR=17								
	0.2nm,0.3s,baz=55,slow=4.9,SNR=7.9								

IDC 19 11:18:25.5±1.9, 070N×9741E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=56.7km s-min=21.9km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.58**	**36**	Pn		Pn	Pn	11 19 08.0	-0.5
	2.1nm,0.3s,baz=274,slow=11,SNR=7.7								
WRA	**Warramunga Arr**	**41.60**	**122**	P		P	P	11 26 15.1	0.0
	0.3nm,0.5s,baz=303,slow=8.9,SNR=5.4								
ASAR	**Alice Springs**	**42.93**	**127**	P		P	P	11 26 26.6	+0.7
	0.3nm,0.5s,baz=298,slow=8.3,SNR=7.7								
SONM	**Songino Array**	**47.59**	**8**	P		P	P	11 27 03.0	0.0
	0.2nm,0.4s,baz=187,slow=9.3,SNR=3.0								
MKAR	**Makanchi Array**	**47.77**	**346**	P		P	P	11 27 04.5	+0.1
	0.6nm,0.5s,baz=161,slow=8.7,SNR=14								
ZAL	**Zalesovo**	**54.07**	**351**	P		P	P	11 27 51.6	-0.2
	0.9nm,0.4s,baz=306,slow=6.2,SNR=3.6								

IDC 19 11:26:13.6±2.6, 558N×12601E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=228.8km s-min=27.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.65**	**162**	P		P	P	11 31 55.3	+1.3
	0.2nm,0.5s,baz=343,slow=10,SNR=3.9								
ASAR	**Alice Springs**	**30.07**	**165**	P		P	P	11 32 23.9	-0.6
	0.3nm,1.0s,baz=348,slow=8.5,SNR=4.2								
MKAR	**Makanchi Array**	**55.64**	**325**	P		P	P	11 35 51.4	+0.1
	0.2nm,0.7s,baz=116,slow=7.1,SNR=4.3								

IDC 19 11:30:00.2±3.2, 2307N×14288E, h77km±29km, mb3.1/5, mb1 3.4/6, mb1mx3.2/19, mbtmp3.6/6, Error ellipse: s-maj=47.2km s-min=18.4km az=90.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.05**	**351**	P		Pn	Pn	11 31 01.1	+1.3
	29nm,0.3s,baz=283,slow=22,SNR=18								
CBIJ				S		Sn	Sn	11 31 46.3	+0.3
	33nm,0.3s,baz=278,slow=23,SNR=10.0								
WB2	**Warramunga Arr**	**43.56**	**192**	eP		P	P	11 37 56.8	+0.4
WRA	**Warramunga Arr**	**43.56**	**192**	P		P	P	11 37 57.0	+0.5
	0.3nm,0.3s,baz=17,slow=9.1,SNR=15								
ASAR	**Alice Springs**	**47.27**	**191**	P		P	P	11 38 24.6	-1.2
	0.2nm,0.7s,baz=18,slow=9.3,SNR=4.2								
MKAR	**Makanchi Array**	**53.57**	**312**	P		P	P	11 39 14.2	+1.0
	0.4nm,0.5s,baz=85,slow=9.4,SNR=6.5								
YKA	**Yellowknife Ar**	**75.37**	**28**	P		P	P	11 41 35.4	0.0
	0.1nm,0.5s,baz=292,slow=6.0,SNR=5.0								
FINES	**FINESS Array B**	**81.83**	**334**	P		P	P	11 42 09.6	-1.3
	0.4nm,0.5s,baz=57,slow=7.0,SNR=5.5								
PLCA	**Paso Flores**	**146.86**	**130**	PKPbc		PKPbc	PKPbc	11 49 33.9	+0.2
	0.8nm,0.8s,baz=20,slow=2.3,SNR=3.0								

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*IDC **19** 12:06:05.3±2.1, 3280S×17845W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/12, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=63.0km s-min=37.4km az=139.0*
*ISCJB **19** 12:06:08.9±5.3, 331S±02×1785W±08, h33km, mb4.0/4, Error ellipse: s-maj=94.7km s-min=13.3km az=22.9*
*NEIC **19** 12:06:09.9±1.3, 3302S×17835W, h35km, mb4.3/2, Error ellipse: s-maj=29.1km s-min=18.6km az=114.0*
ISC 19 12:06:10.4±5.2, 331S±02×1784W±08, h35km, n9, σ0§54/7, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.37**	**214**	Pn		**Pn**	**Pn**	**12 07 41.9**	**+0.3**
	1.0nm,0.3s,baz=288,slow=13,SNR=17								
URZ				Sn		**Sn**	**Sn**	**12 08 53.0**	**-0.1**
	1.3nm,0.3s,baz=330,slow=20,SNR=3.6								
CTA	**Charters Tower**	**34.00**	**283**	eP		**P**	**P**	**12 12 51.9**	**+1.2**
	1.8nm,0.5s,mb4.3								
ASAR	**Alice Springs**	**42.72**	**270**	P		**P**	**P**	**12 14 04.0**	**0.0**
	0.8nm,0.5s,mb3.7,baz=111,slow=7.8,SNR=24								
WB2	**Warramunga Arr**	**43.94**	**275**	eP		**P**	**P**	**12 14 13.4**	**-0.4**
WRAB	**Tennant Creek**	**43.94**	**275**	eP		**P**	**P**	**12 14 13.2**	**-0.7**
	3.9nm,0.8s,mb4.2								
WRA	**Warramunga Arr**	**43.95**	**275**	P		**P**	**P**	**12 14 13.6**	**-0.3**
	1.7nm,0.5s,mb4.1,baz=114,slow=7.9,SNR=40								
KAF	**Kangasniemi**	**146.92**	**339**	epkp		PKPdf	PKPdf	12 25 46.2	-0.9
FINES	**FINESS Array B**	**147.50**	**338**	PKPbc		PKPbc	PKPbc	12 25 49.0	-1.6
	1.2nm,0.5s,baz=48,slow=4.2,SNR=14								
NOA	**NORSAR Array B**	**151.31**	**350**	PKPbc		PKPbc	PKPbc	12 25 59.4	-0.7
	0.5nm,0.6s,baz=17,slow=4.2,SNR=3.9								

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*ISCJB **19** 12:19:41.3±1.0, 1755S±0.10×17907W±0.10, h515km±13km, mb4.0/18, Error ellipse: s-maj=18.2km s-min=10.1km az=97.7*
*IDC **19** 12:19:42.0±1.5, 1758S×179.12W, h513km±18km, mb3.4/11, mb1 3.6/13, mb1mx3.5/19, mbtmp4.3/13, Error ellipse: s-maj=20.8km s-min=10.7km az=141.0*
*NEIC **19** 12:19:42.9±1.2, 1754S×17907W, h522km±13km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=8.6km az=125.0*
ISC 19 12:19:42.4±0.9, 1756S±010×17902W±010, h517km±12km, n32, σ1§00/31, mb4.0/18, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.86**	**64**	P		**P**	**P**	**12 21 36.9**	**-0.8**
	9.4nm,0.3s,baz=216,slow=1.9,SNR=10								
AFI	**Afiamalu**	**7.86**	**64**	eP		**P**	**P**	**12 21 36.4**	**-1.3**
FUNA	**Funafuti**	**9.14**	**349**	eP		**P**	**P**	**12 21 51.7**	**+0.8**
DZM	**Mont Dzumac**	**14.40**	**249**	P		**P**	**P**	**12 22 45.7**	**-0.3**
	1.4nm,0.3s,baz=115,slow=23,SNR=11								
URZ	**Urewera**	**20.91**	**189**	P		**P**	**P**	**12 23 46.3**	**-1.9**
	5.9nm,0.3s,baz=280,slow=2.4,SNR=26								
RPZ	**Rata Peaks**	**27.40**	**196**	P		**P**	**P**	**12 24 46.5**	**+0.5**
	5.9nm,0.8s,mb4.3,baz=212,slow=0.6,SNR=4.7								
ARMA	**Armidale**	**29.62**	**239**	eP		**P**	**P**	**12 25 06.8**	**+1.5**
CTA	**Charters Tower**	**32.93**	**260**	eP		**P**	**P**	**12 25 33.7**	**0.0**
	3.3nm,0.6s,mb4.0								
CTAO	**Charters Tower**	**32.93**	**260**	eP		**P**	**P**	**12 25 34.2**	**+0.5**
	3.9nm,0.6s,mb4.1								
CNB	**Canberra Magne**	**33.19**	**232**	eP		**P**	**P**	**12 25 37.0**	**+1.1**
	26nm,0.7s,mb4.9								
TOO	**Toolangi**	**36.95**	**230**	eP		**P**	**P**	**12 26 08.3**	**+1.1**
	12nm,0.7s,mb4.5								
STKA	**Stephens Creek**	**38.29**	**241**	⇓iP		**P**	**P**	**12 26 17.4**	**-0.8**
	6.2nm,0.3s,mb4.6								
STKA	**Stephens Creek**	**38.29**	**241**	P		**P**	**P**	**12 26 17.4**	**-0.8**
	9.2nm,0.4s,mb4.6,baz=91,slow=9.7,SNR=40								
WB2	**Warramunga Arr**	**44.11**	**259**	⇓iP		**P**	**P**	**12 27 03.9**	**-0.6**
WRAB	**Tennant Creek**	**44.12**	**259**	eP		**P**	**P**	**12 27 03.8**	**-0.7**
	5.0nm,0.7s,mb4.2								
WRA	**Warramunga Arr**	**44.13**	**259**	P		**P**	**P**	**12 27 03.8**	**-0.7**
	1.0nm,0.3s,mb3.9,baz=84,slow=7.2,SNR=59								
WRA				PcP		PcP	PcP	12 28 38.6	+0.3
	1.3nm,0.8s,baz=88,slow=3.9,SNR=5.2								
ASAR	**Alice Springs**	**44.33**	**254**	P		**P**	**P**	**12 27 06.6**	**+0.5**
	22nm,0.5s,mb5.0,baz=88,slow=8.1,SNR=613								
ASAR				PcP		PcP	PcP	12 28 39.6	+0.5
	1.1nm,0.7s,baz=104,slow=4.0,SNR=6.4								
ASAR				ScP		ScP	ScP	12 31 43.0	+1.5
	0.6nm,0.6s,baz=100,slow=4.5,SNR=10								
ASAR				S		**S**	**S**	**12 32 59.4**	**-2.9**
	1.0nm,0.9s,baz=90,slow=16,SNR=9.0								
KAKA	**Kakadu**	**47.01**	**269**	eP		**P**	**P**	**12 27 26.7**	**+0.1**
	18nm,0.3s,mb5.1								
FITZ	**Fitzroy Crossi**	**52.51**	**260**	eP		**P**	**P**	**12 28 07.5**	**+0.4**
	8.9nm,0.6s,mb4.3								
MJAR	**Matsushiro Arr**	**67.28**	**324**	P		**P**	**P**	**12 29 45.2**	**-0.1**
	1.0nm,0.7s,mb3.4,baz=158,slow=6.5,SNR=6.4								
QSPA	**South Pole Qui**	**72.50**	**180**	eP		**P**	**P**	**12 30 16.7**	**+0.3**
	6.9nm,0.9s,mb4.1								
NVAR	**Mina Array Bea**	**79.57**	**44**	P		**P**	**P**	**12 30 56.6**	**+1.1**
	0.8nm,0.7s,mb3.1,baz=215,slow=7.8,SNR=9.2								
ELK	**Elko**	**82.80**	**43**	P		**P**	**P**	**12 31 13.6**	**+1.5**
	0.2nm,0.4s,mb3.0,baz=288,slow=4.0,SNR=5.5								
ELK	**Elko**	**82.80**	**43**	P		**P**	**P**	**12 31 13.6**	**+1.5**
MCK	**McKinley**	**84.33**	**13**	eP		**P**	**P**	**12 31 18.6**	**-1.1**
HLID	**Hailey**	**84.75**	**41**	eP		**P**	**P**	**12 31 22.8**	**+1.1**
	0.5nm,0.7s,mb3.1								
ILAR	**Eielson Array**	**85.68**	**13**	P		**P**	**P**	**12 31 24.4**	**-1.8**
	0.3nm,0.4s,mb3.3,baz=224,slow=5.3,SNR=11								
PDAR	**Pinedale Array**	**87.50**	**44**	P		**P**	**P**	**12 31 35.5**	**+0.6**
	0.5nm,0.6s,mb3.3,baz=231,slow=2.4,SNR=5.5								
YKA	**Yellowknife Ar**	**94.25**	**25**	P		**P**	**P**	**12 32 04.8**	**-1.2**
	0.2nm,0.7s,mb3.4,baz=241,slow=4.4,SNR=5.5								
YKA	**Yellowknife Ar**	**94.25**	**25**	P		**P**	**P**	**12 32 04.8**	**-1.2**
BRTR	**Keskin Array B**	**144.12**	**315**	PKP		PKPdf	PKPdf	12 38 18.9	-0.2
	0.9nm,0.7s,baz=140,slow=5.0,SNR=7.1								
GERES	**GERESS Array B**	**147.12**	**344**	PKPbc		PKPbc	PKPbc	12 38 27.0	-0.1
	0.3nm,0.3s,baz=49,slow=2.6,SNR=4.9								

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*NEIC **19** 12:24:04.0, 32.17N×11583W, h5km, ML3.2(PAS), ML3.5(ECX), After ECX.*
ECX 19 12:24:03.9±1.0, 3216N×11586W, h6km, MD3.0, ML3.2, 6C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.24**	**198**	⇓eP		Pg	Pg	12 24 13.0	+4.4
RDX				eS		Sg	Sg	12 24 15.7	+3.9
RDX				e				12 24 16.1	
	comp=E,6μm,0.2s								
RDX				e				12 24 16.5	
	comp=N,3μm,0.2s								
RMX	**La Rumorosa**	**0.48**	**337**	⇑iP		Pg	Pg	12 24 16.0	+2.9
RMX				eS		Sg	Sg	12 24 22.7	+3.4
RMX				⇓e				12 24 22.9	
	comp=N,3μm,0.1s								
RMX				⇑e				12 24 22.9	
	comp=E,2μm,0.1s								
YUH	**Yuha Desert**	**0.49**	**354**	⇓eP		Pg	Pg	12 24 12.1	-1.3
SGL	**Mount Signal**	**0.50**	**13**	⇓eP		Pg	Pg	12 24 12.3	-1.3
ERPC	**Ernies Place**	**0.61**	**16**	⇓eP		Pg	Pg	12 24 14.7	-0.9
CBX	**Cerro Bola**	**0.70**	**283**	⇑iP		Pg	Pg	12 24 16.7	-0.6
CBX				eS		Sg	Sg	12 24 26.0	-0.3
COK	**Cook Ranch**	**0.70**	**9**	⇓eP		Pg	Pg	12 24 16.4	-0.9
ENX	**Ensenada**	**0.74**	**248**	⇑eP		Pg	Pg	12 24 21.4	+3.4
ENX				eS		Sg	Sg	12 24 30.9	+3.3
ENX				⇓e				12 24 31.5	
	comp=N,635nm,0.5s								
ENX				⇓e				12 24 33.5	
	comp=E,641nm,0.5s								
ECNX	**Esteban Cantu**	**0.80**	**232**	⇑iP		Pg	Pg	12 24 22.6	+3.3
ECNX				eS		Sg	Sg	12 24 33.2	+3.5
CBKC	**Canebrake**	**0.81**	**336**	⇓eP		Pg	Pg	12 24 18.5	-0.9
PBX	**Punta Banda**	**0.84**	**241**	⇑eP		Pg	Pg	12 24 23.3	+3.2
PBX				eS		Sg	Sg	12 24 34.3	+3.3
PBX				e				12 24 34.9	
	comp=N,749nm,0.3s								
BAR	**Barrett**	**0.86**	**307**	⇓eP		Pg	Pg	12 24 19.1	-1.3
BAR				eSg		Sg	Sg	12 24 29.9	-1.6
SPX	**San Pedro Mart**	**1.16**	**163**	eP		Pg	Pg	12 24 24.5	-1.7
SPX				eS		Sg	Sg	12 24 40.1	-1.1
GLA	**Glamis**	**1.25**	**44**	eP		Pg	Pg	12 24 23.8	-4.1
GLA				eS		Sg	Sg	12 24 38.9	-5.0
PFO	**Pinyon Flat Ob**	**1.53**	**341**	ePn		Pn	Pn	12 24 29.0	-2.8
PFO				eS		Sn	Sn	12 24 51.2	-0.7
MWC	**Mount Wilson**	**2.76**	**319**	ePn		Pn	Pn	12 24 51.4	+2.7
MWC				eSg		Sg	Sg	12 25 28.0	-4.7
LDFC	**Landfair**	**2.98**	**12**	Pg		Pg	Pg	12 25 02.7	+1.7
GSC	**Goldstone**	**3.23**	**346**	ePg		Pg	Pg	12 25 02.4	-3.4
ISA	**Isabella**	**4.12**	**329**	ePn		Pn	Pn	12 25 06.2	-1.1
DAC	**Darwin (Calif)**	**4.35**	**341**	Pg		Pg	Pg	12 25 21.4	-5.9
DAC				eSg		Sg	Sg	12 26 20.0	-3.6

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*ISCJB **19** 12:34:35.2±2.1, 179S±01×1747W±01, h63km±21km, mb4.2/13, Error ellipse: s-maj=29.1km s-min=12.7km az=83.7*
*IDC **19** 12:34:37.3±3.5, 1801S×17465W, h71km±34km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp4.1/8, ML1.9/1, Error ellipse: s-maj=48.3km s-min=17.4km az=135.0*
*NEIC **19** 12:34:37.5±1.4, 1800S×17463W, h72km±14km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=9.4km az=134.0*
ISC 19 12:34:37.5±1.8, 180S±01×1746W±01, h72km±18km, n19, σ0§85/21, mb4.1/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.84**	**34**	P		**Pn**	**Pn**	**12 35 48.9**	**+1.1**
	2.5nm,0.3s,baz=91,slow=19,SNR=2.8								
AFI				S		**Sn**	**Sn**	**12 36 41.6**	**-0.9**
	28nm,0.3s,baz=34,slow=19,SNR=9.6								
AFI	**Afiamalu**	**4.84**	**34**	P		**Pn**	**Pn**	**12 35 48.9**	**+1.1**
AFI				S		**Sn**	**Sn**	**12 36 41.6**	**-0.9**
URZ	**Urewera**	**21.49**	**198**	P		**P**	**P**	**12 39 19.7**	**-0.6**
	8.0nm,0.6s,mb4.2,baz=76,slow=3.4,SNR=7.4								
RPZ	**Rata Peaks**	**28.40**	**202**	P		**P**	**P**	**12 40 29.0**	**+3.9**
	7.2nm,0.9s,mb4.2,baz=141,slow=0.8,SNR=5.0								
CTA	**Charters Tower**	**37.05**	**260**	eP		**P**	**P**	**12 41 41.8**	**+1.3**
	2.8nm,0.4s,mb4.5								
CTAO	**Charters Tower**	**37.05**	**260**	eP		**P**	**P**	**12 41 41.6**	**+1.1**
	2.8nm,0.5s,mb4.5								
STKA	**Stephens Creek**	**41.83**	**242**	P		**P**	**P**	**12 42 18.3**	**-1.9**
	1.2nm,0.5s,mb3.9,baz=95,slow=9.0,SNR=5.6								
STKA	**Stephens Creek**	**41.83**	**242**	eP		**P**	**P**	**12 42 18.4**	**-1.8**
WB2	**Warramunga Arr**	**48.21**	**259**	eP		**P**	**P**	**12 43 10.8**	**0.0**
WRAB	**Tennant Creek**	**48.22**	**259**	eP		**P**	**P**	**12 43 10.5**	**-0.3**
	4.2nm,0.6s,mb4.5								
WRA	**Warramunga Arr**	**48.23**	**259**	P		**P**	**P**	**12 43 10.8**	**-0.1**
	3.7nm,0.6s,mb4.4,baz=97,slow=8.2,SNR=102								
ASAR	**Alice Springs**	**48.30**	**254**	P		**P**	**P**	**12 43 11.5**	**0.0**
	16nm,0.8s,mb4.9,baz=91,slow=8.4,SNR=218								
KAKA	**Kakadu**	**51.25**	**268**	eP		**P**	**P**	**12 43 34.5**	**+0.7**
	9.1nm,1.0s,mb4.8								
QSPA	**South Pole Qui**	**72.09**	**180**	eP		**P**	**P**	**12 45 54.4**	**+0.4**
	0.7nm,0.6s,mb3.7								
NVAR	**Mina Array Bea**	**76.97**	**42**	P		**P**	**P**	**12 46 23.6**	**+1.3**
	0.6nm,0.8s,mb3.4,baz=232,slow=9.1,SNR=5.5								
COLA	**College**	**85.08**	**11**	eP		**P**	**P**	**12 47 05.1**	**-0.3**
	1.3nm,0.7s,mb4.0								
ILAR	**Eielson Array**	**85.16**	**12**	P		**P**	**P**	**12 47 05.5**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=228,slow=6.2,SNR=10								
YKA	**Yellowknife Ar**	**92.88**	**24**	P		**P**	**P**	**12 47 41.8**	**-0.6**
	0.1nm,0.8s,mb3.2,baz=241,slow=4.7,SNR=3.7								
YKA	**Yellowknife Ar**	**92.88**	**24**	P		**P**	**P**	**12 47 41.8**	**-0.6**

CASC 19 12:37:48.0±1.7, 1317N×8757W, h6km±5km, MD3.5, 4C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.28**	**293**	⇑iP		Pg	Pg	12 37 54.2	+0.8
CNCH				eS		Sg	Sg	12 37 58.1	+1.0
CRIN	**San Cristobal**	**0.69**	**132**	⇑eP		Pg	Pg	12 38 01.9	+0.7
BLLM	**Bellamira**	**0.70**	**293**	eP		Pg	Pg	12 38 01.6	0.0
BLLM				eS		Sg	Sg	12 38 12.3	+1.5
VSM	**San Miguel**	**0.73**	**291**	eP		Pg	Pg	12 38 02.3	+0.2
CAHU	**Cacacuatique**	**0.86**	**314**	eP		Pg	Pg	12 38 04.5	-0.1
CAHU				eS		Sg	Sg	12 38 17.1	+1.3
TELN	**Telica**	**0.91**	**128**	⇓eP		Pg	Pg	12 38 04.7	-0.8
TELN				eS		Sg	Sg	12 38 19.5	+2.1
TEL3	**Telica 3**	**0.92**	**130**	eP		Pg	Pg	12 38 04.8	-0.9
TEL3				eS		Sg	Sg	12 38 17.8	+0.2
LEON	**Leon**	**1.00**	**138**	⇓eP		Pg	Pg	12 38 05.8	-1.4
LEON				eS		Sg	Sg	12 38 19.4	-0.7
CNGN	**Cerro Negro**	**1.08**	**128**	eP		Pg	Pg	12 38 07.2	-1.5
CNGN				eS		Sg	Sg	12 38 25.1	+2.4
MIRN	**Miramar**	**1.11**	**131**	⇑eP		Pg	Pg	12 38 08.2	-1.0
MIRN				eS		S

VLS Valsamata 1.15 262 *e*PB **Pb 13 56 15.7 -1.0**
VLS *e*SN **Sn 13 56 33.2 +0.5**
ITM Ithomi 1.18 184 *e*PN **Pn 13 56 16.9 -0.3**
NAIG Nisos Aigina 1.29 117 *e*PN **Pn 13 56 20.0 +1.2**
NEO Neokhori 1.33 44 *e*PN **Pn 13 56 20.0 +0.7**
MPAR Parnis Oros 1.35 98 *e*PN **Pn 13 56 21.0 +1.3**
XOR Xorichti 1.35 41 *e*Pg **Pg 13 56 19.9 -0.8**
ATH Athens Observa 1.38 106 *e*PN **Pn 13 56 21.0 +1.0**
PTL Penteli 1.47 101 *e*PN **Pn 13 56 23.0 +1.7**
MEV Metsovon 1.56 337 *e*Pg **Pg 13 56 22.4 -2.2**
JAN Janina 1.59 325 *e*PN **Pn 13 56 24.3 +1.3**
LIT Litokhoron 1.78 11 *e*Pb **Pb 13 56 25.8 -1.6**
VLI Veliai 1.78 156 *e*PB **Pb 13 56 26.1 -1.4**

IDC 19 14:18:44.0±6.5,3240S×17860W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/12,mbtmp3.5/2,Error ellipse: s-maj=288.8km s-min=58.0km az=160.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.54**	**269**	P	P	14 26 41.5	+0.3
	0.3nm,0.8s,baz=110,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**43.70**	**275**	P	P	14 26 50.8	+0.1
	0.6nm,0.5s,baz=116,slow=7.6,SNR=3.4						
FINES	**FINESS Array B**	**146.82**	**338**	PKPbc	PKPbc	14 38 26.6	-1.5
	0.5nm,0.7s,baz=35,slow=5.1,SNR=5.7						

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*IDC **19** 14:27:43.3±2.7,3290S×17839W,h0km,mb4.3/3, mb1 4.4/4,mb1mx4.0/13,mbtmp4.2/4,ML3.7/1,Error ellipse: s-maj=58.4km s-min=34.8km az=118.0*
*ISCJB **19** 14:27:44.8±5.3,330S±02×1782W±08,h33km,mb4.2/3, Error ellipse: s-maj=95.4km s-min=14.0km az=26.0*
*NAO **19** 14:27:47.1,33.18S×17899W,h33km,mb3.6*
ISC 19 14:27:46.4±5.2,330S±02×1781W±08,h35km,n8,σ0°82/6, mb4.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.57**	**215**	Pn	**Pn**	**14 29 20.8**	**+0.2**
	1.5nm,0.3s,baz=12,slow=24,SNR=17						
URZ				Sn	**Sn**	**14 30 34.1**	**-0.1**
	7.3nm,0.3s,baz=148,slow=18,SNR=9.8						
CTA	**Charters Tower**	**34.21**	**283**	P	**P**	**14 34 29.6**	**+1.1**
	2.8nm,0.5s,mb4.5,baz=106,slow=15,SNR=9.7						
ASAR	**Alice Springs**	**42.95**	**270**	P	**P**	**14 35 41.9**	**-0.1**
	1.3nm,0.6s,mb3.9,baz=111,slow=7.8,SNR=44						
WB2	**Warramunga Arr**	**44.16**	**275**	*e*P	**P**	**14 35 50.8**	**-0.8**
WRA	**Warramunga Arr**	**44.17**	**275**	P	**P**	**14 35 51.4**	**-0.4**
	3.1nm,0.6s,mb4.2,baz=115,slow=7.6,SNR=36						
KAF	**Kangasniemi**	**146.92**	**339**	*e*pkp	PKPbc	14 47 25.2	+0.1
FINES	**FINESS Array B**	**147.50**	**339**	PKPbc	PKPbc	14 47 27.4	+0.7
	2.1nm,0.6s,baz=51,slow=4.4,SNR=23						
NB2	**NORSAR Subarra**	**151.26**	**351**	PKPa	PKPbc	14 47 36.5	+0.4
	comp=Z,0.7nm,0.6s,baz=18,slow=2.6						

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*IDC **19** 14:59:31.8±1.0,021S×12441E,h0km,mb3.8/6,mb1 4.0/6, mb1mx3.8/17,mbtmp3.8/6,Error ellipse: s-maj=63.6km s-min=17.3km az=72.0*
*NEIC **19** 14:59:37.0±0.6,019S×12455E,h35km,mb4.0/3,Error ellipse: s-maj=23.1km s-min=8.8km az=67.0*
*ISCJB **19** 14:59:39.0±3.9,03S±01×1243E±03,h78km±42km, mb3.8/8,Error ellipse: s-maj=45.1km s-min=12.0km az=137.5*
ISC 19 14:59:39.8±2.8,03S±01×1244E±02,h66km±32km,n12, σ0°66/11,mb3.8/8,1C,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.28**	**308**	*e*P	**Pn**	**15 02 04.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**17.79**	**176**	*e*P	**Pn**	**15 03 43.8**	**+1.0**
	7.4nm,1.4s						
MBWA	**Marble Bar**	**21.28**	**192**	*e*P	**P**	**15 04 20.1**	**-0.7**
	4.4nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**21.86**	**154**	*e*P	**P**	**15 04 26.9**	**-0.1**
	5.4nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**21.86**	**154**	P	**P**	**15 04 26.8**	**-0.3**
	1.6nm,0.6s,mb3.5,baz=335,slow=11,SNR=19						
WB2	**Warramunga Arr**	**21.87**	**154**	*e*P	**P**	**15 04 27.1**	**0.0**
ASAR	**Alice Springs**	**25.04**	**159**	P	**P**	**15 04 59.0**	**+1.2**
	2.8nm,0.7s,mb3.8,baz=330,slow=6.8,SNR=46						
ASAR				PcP	PcP	15 08 33.4	+2.4
	0.2nm,0.3s,baz=354,slow=1.8,SNR=8.2						
STKA	**Stephens Creek**	**35.42**	**154**	P	**P**	**15 06 28.1**	**-1.4**
	0.6nm,0.3s,mb3.9,baz=344,slow=9.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**38.78**	**18**	P	**P**	**15 06 57.9**	**-0.1**
	1.5nm,0.7s,mb4.0,baz=196,slow=8.9,SNR=9.5						
SONM	**Songino Array**	**50.38**	**344**	P	**P**	**15 08 30.6**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=159,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**59.56**	**328**	P	**P**	**15 09 36.8**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=122,slow=8.6,SNR=17						
SYO	**Syowa Base**	**87.90**	**201**	‖ *e*P	pP	15 12 39.4	-1.1

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*IDC **19** 15:16:25.8±7.0,1800N×12091E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/19,mbtmp3.4/3,Error ellipse: s-maj=191.3km s-min=65.9km az=22.0*
*JMA **19** 15:17:01.2±0.2,2430N×12186E,h72km,M2.8*
*ISCJB **19** 15:17:02.1±2.1,241N±03×1219E±01,h49km±19km, mb3.2/2,Error ellipse: s-maj=44.4km s-min=15.6km az=7.0*
ISC 19 15:17:02.7±2.2,241N±03×1219E±01,h42km±24km,n9, σ0°66/13,mb3.2/2,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.08**	**71**	P	**Pn**	**15 17 20.7**	**-0.6**
YOJ				*e*S	**Sn**	**15 17 35.3**	**+0.3**
IRIF	**Iriomote-Funau**	**1.69**	**82**	P	**Pn**	**15 17 29.3**	**-0.4**
IRIF				*e*S	**Sn**	**15 17 50.3**	**+0.1**
HATJ	**Hateruma jima**	**1.75**	**92**	*e*S	**Sn**	**15 17 52.1**	**+0.5**
JKRS	**Kuro-shima**	**1.94**	**86**	P	**Pn**	**15 17 33.3**	**+0.2**
JKRS				*e*S	**Sn**	**15 17 57.2**	**+1.0**
JIJ	**Ishigaki jima**	**2.07**	**83**	P	**Pn**	**15 17 34.4**	**-0.5**
JIJ				S	**Sn**	**15 17 58.9**	**-0.6**
JTJ	**Tarama**	**2.62**	**78**	P	**Pn**	**15 17 42.3**	**-0.1**
JTJ				*e*S	**Sn**	**15 18 12.8**	**-0.1**
SONM	**Songino Array**	**26.68**	**336**	P	sP	15 22 54.4	+0.4
	0.5nm,1.0s,baz=147,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**38.83**	**316**	P	**P**	**15 24 25.0**	**+1.4**
	0.4nm,0.8s,mb3.2,baz=115,slow=9.7,SNR=6.1						
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**15 29 21.1**	**-1.1**
	0.2nm,0.7s,mb3.2,baz=315,slow=4.9,SNR=5.7						

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*ISCJB **19** 15:50:03.1±1.1,2212S±006×6711W±008,h150km±13km, mb3.6/4,Error ellipse: s-maj=12.3km s-min=9.8km az=169.7*
*NEIC **19** 15:50:04.8±1.0,2222S×6719W,h157km±13km,mb4.0/1, Error ellipse: s-maj=17.3km s-min=11.4km az=83.0*
*IDC **19** 15:50:08.5±2.2,2195S×6696W,h181km±20km,mb3.5/4, mb1 3.6/8,mb1mx3.4/16,mbtmp4.0/8,Error ellipse: s-maj=21.1km s-min=18.6km az=55.0*
ISC 19 15:50:03.9±1.0,2215S±006×6714W±008,h143km±12km, n13,σ1°05/19,mb3.6/4,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.90**	**351**	P	**Pn**	**15 51 34.1**	**+5.0**
	5.8nm,0.3s,baz=157,slow=7.7,SNR=105						
LPAZ				S	**Sn**	**15 52 38.4**	**+2.5**
	baz=225,slow=18,SNR=1.9						
LPAZ	**La Paz**	**5.90**	**351**	‖ *i*Pn	**Pn**	**15 51 33.9**	**+4.8**
LPAZ				*e*Sn	**Sn**	**15 52 25.9**	**-10**
LPAZ				S	**Sn**	**15 52 38.4**	**+2.5**
ARE	**Arequipa**	**6.99**	**323**	*e*P	**Pn**	**15 51 44.0**	**+0.3**
ARE				*e*S	**Sn**	**15 53 01.0**	**-0.9**
SIV	**San Ignacio**	**8.39**	**44**	P	**Pn**	**15 52 03.9**	**+1.4**
	13nm,0.3s,baz=232,slow=11,SNR=225						
SIV				S	**Sn**	**15 53 33.6**	**-2.1**
	3.8nm,0.3s,baz=140,slow=22,SNR=7.7						
CFAA	**Coronel Fontan**	**9.47**	**186**	P	**Pn**	**15 52 16.7**	**-0.1**
	0.1nm,0.3s,baz=2.6,slow=13,SNR=14						
CFAA				S	**Sn**	**15 53 57.3**	**-4.4**
	0.2nm,0.3s,baz=271,slow=23,SNR=8.1						
TRQA	**Tornquist**	**16.47**	**165**	*e*P	**Pn**	**15 53 46.2**	**-0.4**
	2.4nm,0.3s						
PLCA	**Paso Flores**	**18.75**	**188**	P	**P**	**15 54 15.8**	**+4.1**
	0.1nm,0.3s,baz=359,slow=10,SNR=3.0						
BDFB	**Brasilia**	**19.21**	**74**	P	**P**	**15 54 17.5**	**+0.8**
	0.6nm,0.3s,baz=249,slow=12,SNR=4.2						
PDAR	**Pinedale Array**	**75.50**	**329**	P	**P**	**16 01 32.5**	**+0.3**
	0.3nm,0.8s,mb3.0,baz=153,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.03**	**69**	P	**P**	**16 01 35.2**	**0.0**
	4.3nm,0.5s,mb4.3,baz=256,slow=5.5,SNR=49						
BOSA	**Boshof**	**81.69**	**117**	P	**P**	**16 02 06.5**	**+0.4**
	1.1nm,0.4s,mb3.8,baz=278,slow=4.2,SNR=5.1						
BOSA	**Boshof**	**81.69**	**117**	*e*P	**P**	**16 02 06.5**	**+0.3**
YKA	**Yellowknife Ar**	**92.35**	**340**	P	**P**	**16 02 56.8**	**-1.1**
	0.3nm,0.7s,mb3.4,baz=134,slow=4.1,SNR=6.5						

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*THE **19** 15:51:47.9,3768N×2039E,h2km,ML3.7*
*CSEM **19** 15:51:49.7±0.2,3783N×2033E,h5km,ML4.1,Error ellipse: s-maj=4.1km s-min=2.9km az=36.0*
*ISCJB **19** 15:51:49.6±0.7,3778N±003×2031E±004,h24km±6km, mb3.6/6,Error ellipse: s-maj=6.4km s-min=4.3km az=69.0*
*NEIC **19** 15:51:50.7,3784N×2051E,h12km,ML4.1(ATH),After ATH.*
*ATH **19** 15:51:50.7,3784N×2051E,h12km±3km,MD3.8/16,ML4.1*
*IDC **19** 15:51:50.1±3.3,3758N×2009E,h57km±28km,mb3.4/6, mb1 3.5/11,mb1mx3.3/26,mbtmp3.5/11,ML3.6/5,MS2.8/1, Ms1 2.8/1,ms1mx2.2/20,Error ellipse: s-maj=48.9km s-min=15.8km az=44.0*
*NAO **19** 15:52:07.5,3933N×1973E,h33km,mb2.9*
ISC 19 15:51:49.4±1.0,3779N±003×2033E±004,h9km±6km,n59, σ1°41/67,mb3.6/6,1C-1D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.44**	**28**	‖ *i*PG	**Pg**	**15 51 57.2**	**-0.8**
VLS				*e*SB	**Sg**	**15 52 03.0**	**-0.7**
RLS	**Riolos of Patr**	**0.94**	**73**	*e*PB	**Pb**	**15 52 05.7**	**-2.1**
LKD	**Levkas**	**0.95**	**15**	*e*Pg	**Pg**	**15 52 07.5**	**-0.2**
LKD				*e*Sg	**Sg**	**15 52 22.6**	**+2.5**
ITM	**Ithomi**	**1.41**	**115**	*e*PB	**Pb**	**15 52 15.2**	**-0.7**
ITM				*e*SB	**Sb**	**15 52 33.6**	**-0.3**
EVR	**Evrytania**	**1.62**	**46**	*e*PB	**Pb**	**15 52 19.0**	**-0.4**
EVR				*e*SB	**Sb**	**15 52 39.6**	**-0.3**
IGT	**Igoumenitsa**	**1.74**	**0**	*e*Pb	**Pb**	**15 52 19.6**	**-1.9**
IGT				*e*Sb	**Sb**	**15 52 44.8**	**+1.3**
JAN	**Janina**	**1.91**	**12**	*e*PG	**Pg**	**15 52 25.5**	**-0.5**
KEK	**Kerkira**	**1.96**	**348**	*e*PG	**Pg**	**15 52 26.6**	**-0.5**
KEK	**Kerkira**	**1.96**	**348**	Pn	**Pn**	**15 52 22.3**	**-0.6**
KEK				*e*Pg	**Pg**	**15 52 26.6**	**-0.5**
MEV	**Metsovon**	**2.11**	**19**	*e*Pn	**Pn**	**15 52 25.1**	**+0.2**
LKR	**Lokris**	**2.27**	**67**	*e*PB	**Pb**	**15 52 27.2**	**-3.4**
VLI	**Veliai**	**2.34**	**116**	*e*PN	**Pn**	**15 52 30.0**	**+2.0**
KYTH	**Kithira**	**2.64**	**124**	*e*PN	**Pn**	**15 52 34.5**	**+2.4**
ATH	**Athens Observa**	**2.69**	**85**	*e*PN	**Pn**	**15 52 35.0**	**+2.2**
MPAR	**Parnis Oros**	**2.72**	**81**	*e*PB	**Pb**	**15 52 33.0**	**-5.2**
KVR	**Kavouri**	**2.73**	**88**	*e*PN	**Pn**	**15 52 35.0**	**+1.7**
NEO	**Neokhori**	**2.73**	**55**	*e*PN	**Pn**	**15 52 33.1**	**-0.3**
PTL	**Penteli**	**2.81**	**84**	*e*PN	**Pn**	**15 52 35.0**	**+0.5**
LIT	**Litokhoron**	**2.86**	**35**	*e*Pn	**Pn**	**15 52 35.0**	**-0.2**
LCI	**Lecce**	**3.07**	**327**	Pn	**Pn**	**15 52 38.9**	**+0.8**
FNA	**Florina**	**3.10**	**15**	*e*Pn	**Pn**	**15 52 38.8**	**+0.4**
TIP	**Timpagrande**	**3.13**	**297**	Pn	**Pn**	**15 52 39.3**	**+0.5**
BIA	**Bitola**	**3.32**	**13**	*i* Pn	**Pn**	**15 52 42.0**	**+0.6**
BIA	**Bitola**	**3.32**	**13**	*i* Pn	**Pn**	**15 52 42.0**	**+0.6**
OHR	**Ohrid**	**3.34**	**6**	*e*Pn	**Pn**	**15 52 44.6**	**+2.9**
OHR	**Ohrid**	**3.34**	**6**	*e*Pn	**Pn**	**15 52 44.5**	**+2.8**
SOI	**Samo**	**3.39**	**276**	Pn	**Pn**	**15 52 45.0**	**+2.5**
CEL	**Celeste**	**3.53**	**279**	Pn	**Pn**	**15 52 44.7**	**+0.3**
PLG	**Polygyros**	**3.54**	**42**	*e*PN	**Pn**	**15 52 45.0**	**+0.5**
GRG	**Griva**	**3.55**	**26**	*e*Pn	**Pn**	**15 52 44.5**	**-0.1**
PE1	**Pezze di Greco**	**3.76**	**324**	*e*Pn	**Pn**	**15 52 47.1**	**-0.5**
KNT	**Kendrikon**	**3.91**	**30**	*e*Pn	**Pn**	**15 52 49.8**	**+0.2**
VAM	**Vamos**	**3.92**	**126**	*e*PN	**Pn**	**15 52 52.4**	**+2.7**
VAY	**Valandovo**	**3.93**	**25**	*e*Pn	**Pn**	**15 52 52.5**	**+2.6**
CUC	**Castrocucco**	**4.15**	**303**	Pn	**Pn**	**15 52 55.0**	**+2.1**
STIP	**Stip**	**4.15**	**20**	*e*Pn	**Pn**	**15 52 52.3**	**-0.6**
SG1	**Sgolgore (BA)**	**4.16**	**318**	*e*Pn	**Pn**	**15 52 53.0**	**0.0**
GVD	**Gavdhos**	**4.23**	**133**	*e*P	**Pn**	**15 52 52.5**	**-1.5**
SKO	**Skopje**	**4.26**	**11**	*e*Pn	**Pn**	**15 52 58.9**	**+4.4**
PZI	**Palazzolo**	**4.35**	**262**	Pn	**Pn**	**15 52 54.3**	**-1.3**
IDI	**Anoyia**	**4.44**	**123**	P	**Pn**	**15 52 56.9**	**0.0**
	3.7nm,0.3s,baz=302,slow=16,SNR=21						
IDI				S	**Sn**	**15 53 47.2**	**-1.6**
	8.4nm,0.3s,baz=321,slow=18,SNR=11						
SLCN	**Sala Consilina**	**4.48**	**307**	Pn	**Pn**	**15 52 59.3**	**+1.8**
VAE	**Valguarnera**	**4.71**	**268**	S	**Sn**	**15 53 53.9**	**-1.4**
	1.8nm,0.3s,baz=162,slow=9.8,SNR=3.7						
SGO	**Sicignano**	**4.78**	**307**	Pn	**Pn**	**15 53 02.9**	**+1.3**
STON	**Ston**	**5.46**	**339**	*i* Pn	**Pn**	**15 53 08.7**	**-2.2**
STON				*i* Sn	**Sn**	**15 54 08.0**	**-5.8**
MLR	**Muntele Rosu**	**8.77**	**27**	P	**Pn**	**15 53 59.5**	**+3.2**
	0.3nm,0.3s,baz=157,slow=15,SNR=2.7						
BRTR	**Keskin Array B**	**10.57**	**75**	P	**Pn**	**15 54 21.5**	**+0.4**
	0.1nm,0.3s,baz=128,slow=23,SNR=2.7						
MOA	**Molln**	**10.99**	**338**	‖ *i*Pn	**Pn**	**15 54 25.6**	**-1.2**
	1.8nm,0.4s						
GERES	**GERESS Array B**	**12.05**	**339**	P	**Pn**	**15 54 39.6**	**-1.7**
	0.1nm,0.3s,baz=155,slow=14,SNR=3.0						
AKASG	**Malin Array Be**	**14.38**	**23**	P	**Pn**	**15 55 14.5**	**+1.4**
	0.6nm,0.3s,baz=208,slow=9.1,SNR=4.7						
AKASG	**Malin Array Be**	**14.38**	**23**	P	**Pn**	**15 55 14.5**	**+1.4**
HFS	**Hagfors**	**22.76**	**351**	P	**P**	**15 56 47.7**	**-4.2**
	2.5nm,0.9s,mb3.6,baz=153,slow=10.0,SNR=9.1						
EKA	**Eskdalemuir Ar**	**23.66**	**325**	P	**P**	**15 56 56.6**	**-4.6**
	1.1nm,0.8s,mb3.3,baz=129,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**23.95**	**7**	P	**P**	**15 57 00.4**	**-3.5**
	1.0nm,0.6s,mb3.4,baz=178,slow=8.6,SNR=12						
NB2	**NORSAR Subarra**	**23.97**	**349**	P	**P**	**15 57 02.1**	**-2.0**
	comp=Z,0.3nm,0.6s,mb2.9,baz=162,slow=10						
NOA	**NORSAR Array B**	**23.97**	**349**	P	**P**	**15 57 01.8**	**-2.2**
	comp=Z,0.6nm,0.9s,mb3.0,baz=163,slow=7.9,SNR=3.2						
KAF	**Kangasniemi**	**24.63**	**7**	*e*p	**P**	**15 57 07.4**	**-2.7**
ARCES	**ARCESS Array B**	**31.93**	**3**	P	**P**	**15 58 12.1**	**-3.2**
	comp=Z,2.5nm,1.0s,mb4.0,baz=186,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**16 00 06.7**	**-3.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=278,slow=7.1,SNR=20						

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*IDC **19** 15:53:30.4±0.7,5594S×2751W,h97km±5km,mb4.2/9, mb1 4.3/10,mb1mx4.1/17,mbtmp4.5/10,MS3.0/1, Ms1 3.0/1,ms1mx2.7/15,Error ellipse: s-maj=19.5km s-min=14.4km az=37.0*
*ISCJB **19** 15:53:31.7±3.7,559S±01×275W±02,h126km±35km, mb4.3/11,Error ellipse: s-maj=21.9km s-min=15.5km az=99.2*
*NEIC **19** 15:53:32.5±2.5,5590S×2745W,h118km±21km,mb4.7/5, Error ellipse: s-maj=14.7km s-min=9.7km az=47.0*
ISC 19 15:53:34.0±3.6,560S±01×275W±02,h134km±35km,n43, σ0°77/22,mb4.2/11,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.11**	**160**	*e*P	**Pn**	**15 57 25.4**	**+0.4**
VNA3				*e*		15 57 27.0	
VNA3				*e*		15 57 33.0	
VNA3				*e*		15 57 40.0	
VNA3				*e*		15 57 54.7	
VNA2	**Neumayer--Watz**	**17.32**	**158**	*e*P	**Pn**	**15 57 27.3**	**-0.2**
	baz=319,slow=13						
VNA2				*e*		15 57 29.1	
VNA2				*e*		15 57 35.1	
VNA2				*e*		15 57 42.6	
VNA2				*e*		15 57 57.1	
SNAA	**Sanae**	**18.87**	**156**	P	**P**	**15 57 43.6**	**-0.2**
	4.0nm,0.3s,baz=305,slow=10,SNR=202						
SNAA				LR	LR	16 03 03.1	
	comp=Z,47nm,18.3s,baz=229,slow=30						
SNAA	**Sanae**	**18.87**	**156**	*e*P	**P**	**15 57 43.5**	**-0.3**
	39nm,0.5s						
PMSA	**Palmer Station**	**19.83**	**229**	*e*P	**P**	**15 57 47.8**	**-6.3**
	54nm,0.3s						
SYO	**Syowa Base**	**31.74**	**141**	‖ *e*P	**P**	**15 59 44.8**	**-0.4**
QSPA	**South Pole Qui**	**34.27**	**180**	‖ *i*P	**P**	**16 00 08.1**	**+0.9**
	18nm,0.5s,mb5.0						
QSPA				*e*PcP	PcP	16 02 40.4	-0.1
CFAA	**Coronel Fontan**	**37.38**	**293**	P	**P**	**16 00 32.1**	**-1.6**
	0.2nm,0.4s,mb3.1,baz=147,slow=8.7,SNR=5.3						
CFAA				PcP	PcP	16 02 50.2	+0.5
	0.4nm,0.6s,baz=133,slow=3.9,SNR=5.1						
BOSA	**Boshof**	**46.11**	**76**	P	**P**	**16 01 43.7**	**-0.9**
	0.5nm,0.4s,mb3.5,baz=140,slow=17,SNR=2.2						
BOSA	**Boshof**	**46.11**	**76**	P	**P**	**16 01 43.7**	**-0.9**
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**16 01 49.1**	**+0.3**
	8.9nm,0.6s,mb4.6,baz=184,slow=6.2,SNR=19						
VNDA	**Vanda**	**46.64**	**183**	*e*P	**P**	**16 01 49.3**	**+0.5**
	9.3nm,0.7s,mb4.5						
SIV	**San Ignacio**	**47.41**	**314**	P	**P**	**16 01 54.4**	**-0.3**
	1.8nm,0.6s,mb3.9,baz=155,slow=6.5,SNR=11						
SIV				PcP	PcP	16 03 23.9	+0.8
	2.0nm,0.7s,baz=151,slow=5.2,SNR=6.9						
LBTB	**Lobatse**	**49.14**	**74**	P	**P**	**16 02 08.3**	**+0.3**
	2.1nm,0.7s,mb3.9,baz=122,slow=8.1,SNR=3.8						
LBTB	**Lobatse**	**49.14**	**74**	*e*P	**P**	**16 02 08.7**	**+0.6**
	2.0nm,0.7s,mb3.9						
LPAZ	**La Paz**	**50.20**	**305**	P	**P**	**16 02 17.1**	**+1.0**
	9.1nm,0.6s,mb4.6,baz=134,slow=5.3,SNR=32						
LPAZ				pP	pP	16 02 39.0	-8.1
	3.1nm,0.7s,baz=167,slow=4.9,SNR=3.2						
LPAZ	**La Paz**	**50.20**	**305**	*e*P	**P**	**16 02 17.3**	**+1.2**
	5.1nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**73.07**	**30**	P	**P**	**16 04 50.1**	**+0.8**
	1.4nm,0.5s,mb3.9,baz=199,slow=6.1,SNR=14						
TORD				pP	pP	16 05 14.8	-7.7
	1.9nm,0.6s,baz=196,slow=5.8,SNR=5.6						
SDV	**Santo Domingo**	**73.84**	**315**	P	**P**	**16 04 54.5**	**+0.6**
	6.8nm,0.8s,mb4.5,baz=218,slow=7.3,SNR=8.0						
SDV	**Santo Domingo**	**73.84**	**315**	P	**P**	**16 04 54.5**	**+0.6**
STKA	**Stephens Creek**	**92.00**	**171**	P	**P**	**16 06 26.2**	**-1.3**
	2.1nm,0.7s,mb4.3,baz=190,slow=5.7,SNR=4.0						
ASAR	**Alice Springs**	**99.11**	**163**	P	**P**	**16 06 60.0**	**+0.1**
	1.7nm,0.6s,mb4.6,baz=183,slow=3.8,SNR=19						
WRA	**Warramunga Arr**	**102.82**	**162**	Pdiff	Pdif	16 07 15.8	-0.6
	0.5nm,0.6s,baz=196,slow=4.5,SNR=5.0						
PDAR	**Pinedale Array**	**120.17**	**302**	PKP	PKPdf	16 12 07.8	-1.2
	0.3nm,0.5s,baz=117,slow=5.2,SNR=7.5						
NVAR	**Mina Array Bea**	**121.22**	**293**	PKP	PKPdf	16 12 11.7	+0.7
	0.7nm,0.6s,baz=142,slow=3.9,SNR=8.9						
FINES	**FINESS Array B**	**124.39**	**28**	PKP	PKPdf	16 12 15.6	-1.4
	1.0nm,0.7s,baz=180,slow=1.5,SNR=8.0						
YBH	**Yreka Blue Hor**	**125.94**	**293**	PKP	PKPdf	16 12 20.0	0.0
	0.7nm,0.3s,baz=9.6,slow=3.5,SNR=4.0						
ARCES	**ARCESS Array B**	**130.94**	**22**	PKP	PKPdf	16 12 28.8	-0.7
	0.9nm,0.7s,baz=90,slow=2.4,SNR=4.3						
YKA	**Yellowknife Ar**	**136.01**	**318**	PKP	PKPdf	16 12 38.0	-1.0
	2.1nm,0.6s,baz=128,slow=2.3,SNR=29						
YKA				pPKP	pPKPdf	16 13 04.6	-10
	0.5nm,0.6s,baz=131,slow=2.3,SNR=3.1						
YKA	**Yellowknife Ar**	**136.01**	**318**	PKP	PKPdf	16 12 38.0	-1.0
YKA				pPKP	pPKPdf	16 13 04.6	-10
MKAR	**Makanchi Array**	**137.02**	**72**	PKhKP		16 12 32.7	
	0.5nm,0.9s,baz=262,slow=4.0,SNR=4.1						
MKAR				PKP	PKPdf	16 12 39.7	-1.2
	0.4nm,0.6s,baz=253,slow=1.3,SNR=5.8						
ZAL	**Zalesovo**	**142.47**	**64**	PKP	PKPdf	16 12 49.5	-1.2
	0.8nm,0.5s,baz=195,slow=3.4,SNR=3.8						
INK	**Inuvik**	**145.64**	**321**	PKPbc	PKPbc	16 12 55.7	-1.2
	12nm,0.7s,baz=90,slow=3.5,SNR=83						
INK	**Inuvik**	**145.64**	**321**	*e*PKP	PKPdf	16 12 55.8	-0.6
DAWY	**Dawson**	**146.62**	**312**	*e*PKP	PKPdf	16 12 58.6	+0.6
DIV	**Divide**	**146.48**	**305**	*e*PKPbc	PKPbc	16 13 03.4	-1.4
SML	**Sawmill**	**149.86**	**306**	*e*PKPbc	PKPbc	16 13 07.4	-0.8
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	PKPbc	16 13 07.5	-1.0
	18nm,0.7s,baz=134,slow=2.6,SNR=173						
ILAR				pPKPbc	pPKPbc	16 13 33.6	-10
	3.9nm,0.9s,baz=122,slow=1.7,SNR=2.9						
PMR	**Palmer**	**150.16**	**305**	*e*PKPbc	PKPbc	16 13 08.2	-0.8
COLA	**College**	**150.37**	**312**	*e*PKPbc	PKPbc	16 13 08.1	-1.4
COLA				*e*PKPab	PKPab	16 13 15.9	-0.4
MCK	**McKinley**	**150.60**	**309**	*e*PKPbc	PKPbc	16 13 09.3	-0.7
**SONM

ZRNK	Zerenda	70.93	335	*e*P		P	16 06 54.2	-0.6
	comp=Z,2.1nm,0.5s,mb4.3							
YAK	Yakutsk	72.20	9	*d* *i*P		P	16 07 01.8	-0.7
YAK				pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1							
YAK	Yakutsk	72.20	9	*e*P		P	16 07 01.9	-0.6
	comp=Z,16nm,0.8s,mb5.0							
MA2	Magadan	75.37	20⇓	*e*P		P	16 07 21.6	+0.5
MA2				pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.5							
SEY	Seymchan	78.40	18	*i*P		P	16 07 39.4	+1.2
TIXI	Tiksi	81.22	6⇑	*e*P		P	16 07 52.6	-0.8
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
BR131	Keskin Array S	85.61	311	*e*P		P	16 08 17.2	+1.2
BRTR	Keskin Array B	85.61	311	P		P	16 08 17.1	+1.1
	comp=Z,1.5nm,0.7s,mb4.3,baz=125,slow=6.5,SNR=10							
OBN	Obninsk	88.13	326	*e*P		P	16 08 29.0	+0.8
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.8							
AKASG	Malin Array Be	91.26	321	P		P	16 08 41.1	-1.8
	comp=Z,0.3nm,0.4s,mb4.0,baz=86,slow=4.9,SNR=4.1							
FINES	FINESS Array B	95.01	331	P		P	16 08 59.8	-0.4
	comp=Z,0.8nm,0.8s,mb4.2,baz=104,slow=6.1,SNR=4.2							
FINES	FINESS Array B	95.01	331⇑	*e*P		P	16 09 01.2	+1.0
ARCES	ARCESS Array B	96.44	339	P		P	16 09 06.3	-0.4
	comp=Z,2.4nm,0.9s,mb4.6,baz=104,slow=6.6,SNR=3.1							
YKA	Yellowknife Ar	117.32	22	PKP		PKPdf	16 14 22.5	-0.3
	comp=Z,0.3nm,0.7s,baz=320,slow=1.8,SNR=5.8							
WVT	Waverly	148.11	29	*e*PKPbc		PKPbc	16 15 23.9	+0.8

IDC 19 15:58:12.9±16.0, 1297N×9259W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.7/3, MS4.0/2, Ms1 3.9/2, ms1mx3.1/19, Error ellipse: s-maj=347.7km s-min=131.0km az=176.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	34.12	323	P	P	16 04 59.7	+0.4
	0.5nm,0.8s,baz=138,slow=8.2,SNR=3.9						
ULM	Lac du Bonnet	37.28	357	LR	LR	16 24 38.1	
	comp=Z,82nm,19.1s,baz=354,slow=42						
YKA	Yellowknife Ar	51.90	347	P	P	16 07 22.9	-0.3
	1.4nm,0.7s,baz=153,slow=7.3,SNR=27						
ILAR	Eielson Array	63.56	337	P	P	16 08 45.0	-0.2
	0.8nm,1.0s,baz=129,slow=4.4,SNR=5.8						
URZ	Urewera	98.13	233	LR	LR	16 48 56.3	
	comp=Z,143nm,19.5s,baz=233,slow=31						

*IDC **19** 16:09:31.1±1.5, 190N×9655E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=39.0km s-min=20.8km az=51.0*
*ISCJB **19** 16:09:33.5±1.0, 19N±01×9649E±0.10, h33km, mb3.6/6, Error ellipse: s-maj=17.2km s-min=13.9km az=173.6*
*NEIC **19** 16:09:35.8±0.8, 196N×9668E, h30km, mb3.8/1, Error ellipse: s-maj=16.9km s-min=11.9km az=57.0*

ISC 19 16:09:36.0±1.0, 19N±01×9651E±0.10, h35km, n9, σ1§14/10, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.56	70	Pn	Pn	16 10 12.9	-2.1
	1.0nm,0.3s,baz=297,slow=14,SNR=4.6						
PSI				Sn	Sn	16 10 46.9	+1.9
	3.4nm,0.3s,baz=356,slow=11,SNR=6.1						
KULM	Kulim	5.32	51	*e*P	Pn	16 10 50.9	-1.9
WRA	Warramunga Arr	42.99	122	P	P	16 17 31.9	+0.1
	0.8nm,0.6s,mb3.6,baz=301,slow=9.2,SNR=12						
WRAB	Tennant Creek	43.00	122	*e*P	P	16 17 31.5	-0.3
	1.1nm,0.6s,mb3.8						
ASAR	Alice Springs	44.37	127	P	P	16 17 43.4	+0.5
	0.3nm,0.7s,mb3.1,baz=300,slow=7.8,SNR=8.5						
MKAR	Makanchi Array	46.39	347	P	P	16 17 59.4	+0.6
	0.4nm,0.6s,mb3.6,baz=158,slow=8.9,SNR=12						
SONM	Songino Array	46.53	9	P	P	16 18 00.1	+0.1
	0.3nm,0.3s,mb3.7,baz=186,slow=9.1,SNR=5.3						
ZAL	Zalesovo	52.74	351	P	P	16 18 47.9	+0.7
	0.9nm,0.6s,mb3.9,baz=316,slow=9.8,SNR=5.3						
ZAL	Zalesovo	52.74	351	P	P	16 18 47.9	+0.7

IDC 19 16:48:20.1±6.0, 3189S×17874W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=247.3km s-min=58.8km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.73	15	LR	LR	16 49 38.8	
	comp=Z,301nm,18.8s,baz=148,slow=29						
ASAR	Alice Springs	42.42	269	P	P	16 56 16.4	0.0
	0.2nm,0.4s,baz=111,slow=7.8,SNR=15						
WRA	Warramunga Arr	43.55	274	P	P	16 56 25.9	+0.4
	0.6nm,0.5s,baz=115,slow=7.6,SNR=22						
FINES	FINESS Array B	146.31	339	PKPbc	PKPbc	17 08 01.2	-1.5
	2.0nm,1.1s,baz=54,slow=3.3,SNR=4.5						

*ISCJB **19** 16:52:27.6±3.0, 20.1S±08×1785W±04, h507km±22km, mb3.6/7, Error ellipse: s-maj=135.3km s-min=15.7km az=126.8*
*IDC **19** 16:52:33.0±6.0, 2034S×17849W, h568km±60km, mb3.1/5, mb1 3.4/5, mb1mx3.1/13, mbtmp4.0/5, Error ellipse: s-maj=110.1km s-min=23.7km az=151.0*
*NEIC **19** 16:52:34.2±4.0, 2033S×17853W, h582km±40km, mb4.1/2, Error ellipse: s-maj=80.6km s-min=18.2km az=152.0*

ISC 19 16:52:30.1±2.6, 197S±08×1786W±04, h515km±20km, n16, σ0§55/10, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.75	50	*e*P	P	16 54 34.3	-0.1
CTAO	Charters Tower	32.99	263	P	P	16 58 23.3	+1.3
WRAB	Tennant Creek	44.12	261	*e*P	P	16 59 51.8	-0.5
ASAR	Alice Springs	44.13	256	P	P	16 59 52.0	-0.4
	0.5nm,0.5s,mb3.4,baz=87,slow=9.0,SNR=26						
ASAR				PcP	PcP	17 01 24.6	-1.5
	0.4nm,0.6s,baz=103,slow=3.9,SNR=8.6						
WRA	Warramunga Arr	44.13	261	P	P	16 59 52.0	-0.4
	0.4nm,0.3s,mb3.4,baz=97,slow=7.3,SNR=24						
NVAR	Mina Array Bea	80.88	44	P	P	17 03 51.0	+0.8
	1.2nm,0.8s,mb3.4,baz=214,slow=7.0,SNR=8.6						
COLA	College	87.59	13	*e*P	P	17 04 22.9	-0.2
	2.5nm,0.7s,mb4.0						
ILAR	Eielson Array	87.70	13	P	P	17 04 23.4	-0.2
	0.8nm,0.5s,mb3.7,baz=215,slow=5.2,SNR=20						
BW06	Boulder Array	88.81	43	*e*P	P	17 04 28.6	-0.2
	1.0nm,0.6s,mb3.8						
PDAR	Pinedale Array	88.81	43	P	P	17 04 28.8	0.0
	0.8nm,0.6s,mb3.7,baz=214,slow=4.3,SNR=8.6						
MKAR	Makanchi Array	110.25	314	PKiKP	PKiKP	17 10 00.8	-2.4
	0.2nm,0.5s,baz=166,slow=1.3,SNR=4.8						
ARCES	ARCESS Array B	128.07	349	PKP	PKPdf	17 10 34.6	-2.7
	2.2nm,0.8s,baz=64,slow=2.8,SNR=5.6						
FINES	FINESS Array B	134.88	344	PKP	PKPdf	17 10 48.6	-1.5
	0.3nm,0.4s,baz=108,slow=4.2,SNR=4.0						
AKASG	Malin Array Be	142.06	331	PKP	PKPdf	17 10 58.9	-4.4
	3.0nm,0.4s,baz=44,slow=4.1,SNR=24						
BRTR	Keskin Array B	145.89	313	PKPbc	PKPbc	17 11 11.3	-0.3
	0.9nm,0.6s,baz=139,slow=5.7,SNR=7.6						
GERES	GERESS Array B	149.31	344	PKPbc	PKPbc	17 11 20.1	-0.4
	0.6nm,0.5s,baz=16,slow=2.3,SNR=9.4						

*CSEM **19** 16:53:41.1±0.1, 3814N×2670E, h5km, MD2.8, Error ellipse: s-maj=2.5km s-min=2.0km az=99.0*
*ATH **19** 16:53:41.3, 3805N×2691E, h51km, MD3.0/3*
*ISK **19** 16:53:41.6, 3815N×2670E, h11km, MD2.8*
*ISCJB **19** 16:53:42.2±0.7, 3815N±002×2669E±005, h5km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=167.4*

ISC 19 16:53:42.4±0.6, 3815N±003×2668E±005, h9km±4km, n15, σ0§65/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.22	343	*i*P	Pg	16 53 46.5	-0.4
URLA				*i*S	Sg	16 53 50.0	+0.2
BLCB	Balcova	0.37	51	*i*PG	Pg	16 53 48.9	-0.7
SMG	Samos	0.46	164	*e*P	Pg	16 53 51.4	+0.1
SMG				*e*S	Sg	16 53 58.8	+1.4
IZM	Izmir	0.52	62	*i*PG	Pg	16 53 52.2	-0.3
IZM				*i*SG	Sg	16 53 59.4	+0.1
KDAG	Bornova	0.53	62	*i*P	Pg	16 53 52.1	-0.5
KDAG				*i*S	Sg	16 53 59.1	-0.4
AYDN	Tasoluk	1.07	117	*i*P	Pg	16 54 02.7	-0.2
AYDN				*i*S	Sg	16 54 16.5	-0.3
PRK	Paraskevi	1.14	344	*e*P	Pg	16 54 04.1	-0.1
AKS	Akhisar	1.15	50	*i*PN	Pn	16 54 04.2	-0.5
AKS				*i*SN	Sn	16 54 20.4	-0.1
AYVA	Ayvalik	1.15	0	*i*P	Pb	16 54 04.3	-0.2
AYVA				*i*S	Sg	16 54 21.3	+1.8
BODT	Bodrum	1.20	155	*e*PN	Pn	16 54 04.6	-0.8
BODT				*e*SN	Sn	16 54 21.9	+0.1
BDRM	Kayabasi	1.24	150	*i*P	Pn	16 54 06.4	+0.4
BDRM				*i*S	Sb	16 54 22.4	+0.2
APE	Apeiranthos	1.41	220	*e*PN	Pn	16 54 07.5	-0.8
APE	Apeiranthos	1.41	220	*e*P	Pn	16 54 06.7	-1.6
APE	Apeiranthos	1.41	220	*e*Pn	Pn	16 54 07.5	-0.8
MANT	Manisa	1.52	77	*i*P	Pn	16 54 10.3	+0.6
MANT				*i*S	Sn	16 54 30.5	+0.9

*ISK **19** 16:59:09.9, 3487N×2714E, h88km, MD3.3*
*CSEM **19** 16:59:11.6±0.1, 3496N×2740E, h60km, MD3.6, Error ellipse: s-maj=2.8km s-min=1.8km az=73.0*
*ISCJB **19** 16:59:11.6±0.3, 3491N±002×2736E±003, h33km, mb3.7/6, Error ellipse: s-maj=4.1km s-min=3.3km az=140.1*
*ATH **19** 16:59:12.1, 35.12N×2720E, h18km±1km, MD3.6/10*
*NEIC **19** 16:59:12.1, 35.12N×2720E, h18km, MD3.6(ATH), After ATH.*
*HLW **19** 16:59:13.4, 3493N×2747E, h18km, Mb3.1*
*IDC **19** 16:59:13.1±3.6, 3527N×2707E, h33km±28km, mb3.6/6, mb1 3.7/8, mb1mx3.5/20, mbtmp3.6/8, ML3.0/2, Error ellipse: s-maj=36.2km s-min=19.4km az=153.0*

ISC 19 16:59:10.5±1.0, 3498N±002×2731E±004, h8km±7km, n50, σ0§96/58, mb3.7/6, 16C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.58	348	*e*PB	Pg	16 59 20.5	-1.2
KARP				*e*SB	Sg	16 59 27.0	-2.2
XRY	Khrisi	1.33	266	*e*PN	Pn	16 59 35.5	+0.2
ARG	Arkhangelos	1.40	28	*e*PN	Pn	16 59 37.6	+1.3
NPS	Neapolis	1.42	282	*e*PN	Pn	16 59 37.0	+0.5
NPS				*e*SN	Sn	16 59 54.5	-0.8
NISR	Nisiros	1.63	355	*e*PN	Pn	16 59 40.5	+1.0
IDI	Anoyia	2.00	279	*e*Pg	Pn	16 59 45.4	+0.8
	6.6nm,0.3s,baz=97,slow=15,SNR=38						
IDI				Lg		17 00 12.2	
	10nm,0.3s,baz=278,slow=14,SNR=5.1						
SANT	Santorini	2.04	313	*e*P	Pn	16 59 44.8	-0.4
BODT	Bodrum	2.08	0	PN	Pn	16 59 45.7	+0.1
BODT				SN	Sn	17 00 12.4	+0.8
FETY	Fethiye	2.19	41	PN	Pn	16 59 47.6	+0.4
MLSB	Milas	2.34	9	PN	Pn	16 59 49.5	+0.3
APE	Apeiranthos	2.53	326	PN	Pn	16 59 51.0	-0.9
APE				SN	Sn	17 00 20.4	-2.4
APE	Apeiranthos	2.53	326	*e*Pb	Pn	16 59 52.0	+0.1
APE				*e*Sn	Sn	17 00 20.4	-2.4
VAM	Vamos	2.58	280	*e*PN	Pn	16 59 54.0	+1.5
GVD	Gavdhos	2.65	268	*e*PN	Pn	16 59 55.0	+1.5
SMG	Samos	2.75	352	*e*PN	Pn	16 59 55.5	+0.7
ELL	Elmali	2.75	49	PN	Pn	16 59 56.0	+1.1
ISP	Isparta	3.85	41	*e*PN	Pn	17 00 10.9	+0.9
ISP	Isparta	3.85	41	P	Pn	17 00 10.1	+0.1
SLUM		3.90	207	⇑P	Pn	17 00 11.9	+1.3
SLUM				S	Sn	17 00 54.2	-2.3
VLI	Veliai	3.95	297	*e*PN	Pn	17 00 12.3	+0.9
DABA	Dabaa	4.04	168	⇑P	Pn	17 00 12.8	+0.1
CSS	Prodhromos	4.95	89	*e*P	Pn	17 00 26.3	+1.2
CSS				*e*S	Sn	17 01 22.1	-0.4
SWA1		5.86	194	⇑P	Pn	17 00 37.9	+0.3
SWA2		5.93	196	⇑P	Pn	17 00 39.5	+0.9
SWA2				S	Sn	17 01 42.5	-4.3
FYM	Al Fayyum	6.15	148	⇑P	Pn	17 00 41.5	-0.1
KOT	Kottamia	6.33	142	⇑P	Pn	17 00 43.4	-0.6
HSAF	As Saff	6.44	145	⇑P	Pn	17 00 45.3	-0.3
GLL	Jalalah	6.55	144	⇑P	Pn	17 00 46.9	-0.2
AMAG	Maghara	6.59	129	⇑P	Pn	17 00 47.3	-0.3
AWBH		6.78	168	⇑P	Pn	17 00 50.2	-0.1
BRTR	Keskin Array B	6.92	45	Pn	Pn	17 00 52.5	+0.4
	0.1nm,0.3s,baz=232,slow=14,SNR=5.0						
SUZ		6.94	136	⇑P	Pn	17 00 52.3	-0.1
ZAF		7.21	141	⇑P	Pn	17 00 55.8	-0.4
HFRF	Wahat Farafira	7.86	173	⇑P	Pn	17 01 05.1	0.0
GRB	Gharib	8.16	144	⇓P	Pn	17 01 09.5	+0.3
TR2		8.55	139	⇑P	Pn	17 01 13.8	-0.7
HKAT	Jabal Katrina	8.59	137	⇑P	Pn	17 01 14.3	-0.8
TR1		8.97	139	⇓P	Pn	17 01 20.0	-0.3
HHRG	Al Ghardaqah	9.42	144	⇓P	Pn	17 01 25.8	-0.7
HDK1	Dakhla	9.58	169	P	Pn	17 01 29.3	+0.6
GTR	Jabal at Tayr	9.85	163	⇑P	Pn	17 01 33.5	+1.1
AKASG	Malin Array Be	15.77	4	Pn	Pn	17 02 53.5	+0.5
	0.5nm,0.3s,baz=194,slow=12,SNR=4.9						
GERES	GERESS Array B	17.12	328	Pn	Pn	17 03 04.9	-5.2
	0.0nm,0.3s,baz=145,slow=10,SNR=4.4						
TORD	Torodi Ar. Bea	31.76	233	P	P	17 05 34.2	-0.9
	0.7nm,0.7s,mb3.6,baz=36,slow=9.1,SNR=6.1						
ARCES	ARCESS Array B	34.62	359	P	P	17 05 56.3	-3.7
	4.3nm,1.1s,mb4.3,baz=171,slow=8.2,SNR=3.7						
MKAR	Makanchi Array	42.40	57	P	P	17 07 04.8	-0.6
	1.1nm,0.7s,mb3.6,baz=274,slow=8.1,SNR=20						
MKAR	Makanchi Array	42.40	57	P	P	17 07 04.8	-0.6
ZAL	Zalesovo	43.85	46	P	P	17 07 14.2	-2.9
	0.4nm,0.4s,mb3.5,baz=220,slow=14,SNR=3.3						
SONM	Songino Array	58.23	51	P	P	17 09 04.6	-0.7
	0.4nm,0.7s,mb3.5,baz=293,slow=8.2,SNR=4.4						
YKA	Yellowknife Ar	78.15	343	P	P	17 11 06.5	-3.6
	0.4nm,0.7s,mb3.5,baz=30,slow=5.7,SNR=4.6						

*NIED **19** 17:11:00, 32.10N×12990E, h5km, Mw4.0 Best double couple: M0:1.3000×10^15 NP1:φs306.00000°, δ67.00000°, λ-33.00000°. NP2:φs50.00000°, δ60.00000°, λ-154.00000°.*
*JMA **19** 17:11:12.5, 3207N×12988E, h12km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs306.00000°, δ62.00000°, λ-20.00000°. NP2:φs45.00000°, δ73.00000°, λ-151.00000°. Principal axes: T Plg7.0000°, Azm174.0000°; N Plg56.0000°, Azm73.0000°; P Plg33.0000°, Azm268.0000°;*
JMA Felt II J1.
*ISCJB **19** 17:11:12.1±0.6, 3208N±003×12986E±003, h11km±4km, mb3.5/10 Error ellipse: s-maj=4.8km s-min=4.3km az=38.5*
*IDC **19** 17:11:13.2±0.9, 3234N×12972E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.7/22, mbtmp3.6/10, ML3.1/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/23, Error ellipse: s-maj=21.8km s-min=12.8km az=140.0*
*NEIC **19** 17:11:14.5±2.2, 3230N×12981E, h8km±15km, mb3.9/1, Error ellipse: s-maj=14.9km s-min=10.8km az=91.0*
NEIC Recorded [2 JMA] in Kumamoto and Kagoshima; [1 JMA] in Nagasaki Prefectures.
*BJI **19** 17:11:15.1, 32.17N×12941E, h8km, mB4.6, mb4.1, Ms3.9, Msz4.3*

ISC 19 17:11:12.6±0.6, 3208N±002×12989E±004, h4km±5km, n26, σ0§95/36, mb3.5/10, 5C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.42	200	⇑P	Pg	17 11 20.7	0.0
JSJ				S	Sg	17 11 26.4	+0.2
JHD	Hondo	0.44	29	⇑P	Pg	17 11 21.4	+0.3
JHD				S	Sg	17 11 27.9	+1.1
NGSJ	Nagasakinomoza	0.56	353	⇑P	Pg	17 11 23.2	-0.1
NGSJ				S	Sg	17 11 31.0	+0.4
JZO	Okuchi	0.61	84	⇓P	Pg	17 11 24.6	+0.3
JZO				*e*S	Sg	17 11 32.7	+0.5
JSU	Suzuyama	0.75	139	⇑P	Pg	17 11 26.6	-0.3
JSU				S	Sg	17 11 36.5	-0.1
JIU2	Izumi 2	0.92	59	⇓P	Pg	17 11 29.4	-0.7
JIU2				S	Sg	17 11 41.4	-0.6
JTZ	Takazaki	1.04	99	⇓P	Pg	17 11 32.3	-0.2
JTZ				S	Sg	17 11 46.4	+0.5
JTA	Tamana	1.04	32	⇑P	Pg	17 11 31.6	-0.9
JTA				S	Sg	17 11 45.6	-0.4
JNU	Nakatsue	1.34	39	Pg	Pg	17 11 37.2	-1.0
	137nm,0.3s,baz=241,slow=9.7,SNR=188						
JNU				Lg		17 11 53.8	
	363nm,0.3s,baz=130,slow=41,SNR=30						
JOW	Kunigami	5.41	195	Pn	Pn	17 12 38.5	+4.4
	1.0nm,0.3s,baz=124,slow=24,SNR=2.4						
JOW				LR	LR	17 14 42.9	
	comp=Z,186nm,20.5s,baz=19,slow=37						
KS15	Wonju Array Ss	5.60	343	*e*P	Pn	17 12 36.7	+0.1
KS15				*e*S	Sb	17 14 00.1	+1.7
MJAR	Matsushiro Arr	8.20	55	Pn	Pn	17 13 13.6	+1.3
	0.5nm,0.3s,baz=240,slow=13,SNR=5.7						
MJAR				LR	LR	17 16 38.1	
	comp=Z,198nm,18.8s,baz=225,slow=40						
NJ2	Nanjing	9.36	273	*e*P	Pn	17 13 31.5	+3.2
NJ2				S	Sn	17 15 13.6	-0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,650nm,11.2s						
NJ2				LR	LR		
	comp=E,300nm,15.5s						
NJ2				LR	LR		
	comp=Z,12μm,14.0s						
ULN	Ulaanbaatar	23.43	319	*e*P	P	17 16 22.8	0.0
	comp=Z,4.3nm,1.2s,mb3.8						
SONM	Songino Array	23.78	318	P	P	17 16 25.2	-1.1
	comp=Z,1.5nm,0.9s,mb3.4,baz=139,slow=9.6,SNR=7.2						
GTA	Gaotai	25.40	295	P	P	17 16 36.6	-4.5
GTA				AP	pP	17 16 41.9	-0.3
GTA				XP	sP	17 16 45.1	+2.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.7						
MKAR	Makanchi Array	38.98	306	P	P	17 18 39.8	-0.1
	comp=Z,0.3nm,0.8s,mb3.1,baz=114,slow=7.0,SNR=3.3						
ASAR	Alice Springs	55.56	176	P	P	17 20 51.5	+2.4
	comp=Z,0.7nm,0.6s,mb3.9,baz=4.5,slow=13,SNR=4.2						
ILAR	Eielson Array	58.64	30	P	P	17 21 09.8	-1.1
	comp=Z,0.3nm,0.6s,mb3.5,baz=286,slow=6.1,SNR=4.3						
INK	Inuvik	62.98	24	P	P	17 21 39.6	-0.8
STKA	Stephens Creek	64.56	169	P	P	17 21 54.7	+3.8
	comp=Z,0.9nm,0.5s,mb4.1,baz=309,slow=13,SNR=3.0						
FINES	FINESS Array B	68.52	330	P	P	17 22 14.1	-2.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=175,slow=34,SNR=3.2						
FINES	FINESS Array B	68.52	330	P	P	17 22 14.1	-2.1
YKA	Yellowknife Ar	72.64	26	P	P	17 22 42.4	+1.1
	comp=Z,0.3nm,0.8s,mb3.3,baz=305,slow=5.7,SNR=7.4						
YKA	Yellowknife Ar	72.64	26	P	P	17 22 42.4	+1.1
BRTR	Keskin Array B	74.62	307	P	P	17 22 52.4	-0.6
	comp=Z,0.1nm,0.4s,mb3.1,baz=90,slow=35,SNR=2.4						

IDC 19 17:14:46.9±9.6, 684S×13026E, h75km±92km, mb3.3/2, mb1 3.9/4, mb1mx3.5/14, mbtmp3.9/4, ML4.3/2, Error ellipse: s-maj=129.0km s-min=37.4km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.61	163	P	Pn	17 17 57.1	+0.6
	2.1nm,0.3s,baz=347,slow=13,SNR=80						
WRA				S	Sn	17 20 18.8	-7.2
	1.9nm,0.3s,baz=337,slow=22,SNR=11						
ASAR	Alice Springs	17.09	169	P	Pn	17 18 41.7	+0.9
	0.7nm,0.3s,baz=341,slow=14,SNR=41						
ASAR				S	S	17 21 41.2	-14
	0.6nm,0.3s,baz=315,slow=16,SNR=4.6						
STKA	Stephens Creek	27.06	158	P	P	17 20 22.0	-0.1
	1.9nm,0.8s,baz=333,slow=8.9,SNR=4.0						
MKAR	Makanchi Array	68.24	327	P	P	17 25 39.7	+0.2
	0.1nm,0.3s,baz=109,slow=9.0,SNR=5.5						

*ISCJB **19** 17:17:02.2±0.7, 3124N±006×5630E±009, h10km, Error ellipse: s-maj=12.3km s-min=5.5km az=112.7*
*CSEM **19** 17:17:02.5±0.1, 3121N×5628E, h16km, ML3.6, Error ellipse: s-maj=2.8km s-min=2.6km az=18.0*
*THR **19** 17:17:02.3±0.4, 31.19N×5625E, h14km±3km, ML3.3*
*TEH **19** 17:17:03.9, 3142N×5634E, h10km, Mn3.6*

ISC 19 17:17:03.6±0.7, 3119N±006×5628E±009, h10km, n18, σ1§14/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	0.72	303	*e*Pg	Pg	17 17 14.8	-2.8
KRBR	Kerman	1.28	161	*e*PG	Pn	17 17 26.1	-1.3
KRBR				*e*SG	Sn	17 17 43.6	-1.0
KRBR				AML	AML	17 17 45.3	
	comp=N,869nm,0.2s						
KRBR				AML	AML	17 17 49.1	
	comp=E,583nm,0.3s						
KRBR	Kerman	1.28	161	*e*Pg	Pn	17 17 26.1	-1.4
	SNR=90						
KRBR				*e*Sg	Sn	17 17 43.6	-1.0
	SNR=90						
IMEH	Mehriz	1.44	278	*e*Pn	Pn	17 17 28.5	-1.2
ICHK	Chekchek	1.91	304	*e*Pn	Pn	17 17 35.3	-0.8
ISAD	Sadrabad	2.33	289	*e*Pn	Pn	17 17 41.2	-0.7
IPAR	Pars	3.10	245	*e*Pn	Pn	17 17 54.3	+1.8
NASN	Na'in	3.35	299	*e*PN	Pn	17 17 56.5	+0.5
NASN				*e*SG	Sg	17 18 46.4	-4.9
NASN				AML	AML	17 18 53.5	
	comp=N,77nm,0.4s						
NASN				AML	AML	17 18 55.5	
	comp=E,89nm,0.6s						
NASN	Na'in	3.35	299	*e*Pn	Pn	17 17 56.5	+0.5
	SNR=52						
NASN				*e*Sg	Sg	17 18 46.4	-4.9
	SNR=90						
IMOK	Mook	3.76	236	*e*Pn	Pn	17 18 02.5	+1.0
BNDS	Bandar-Abbas	3.78	181	*e*PN	Pn	17 18 02.5	+0.6
BNDS				AML	AML	17 19 13.4	
	comp=N,28nm,0.9s						
BNDS				AML	AML	17 19 14.0	

MWZ SN S 17 57 16.4 0.0
MWZ Matawai 2.42 199 *e*P Pn 17 56 41.4 +0.5
MARZ Manawahe 2.44 217 PN Pn 17 56 41.6 +0.5
MARZ Manawahe 2.44 217 P Pn 17 56 41.6 +0.5
URZ Urewera 2.48 207 PN Pn 17 56 41.4 -0.1
URZ SN S 17 57 17.3 -0.3
URZ Urewera 2.48 207 P Pn 17 56 41.4 -0.2
KNZ Kokohu 3.05 193 PN Pn 17 56 47.2 -0.5
KNZ Kokohu 3.05 193 *e*P Pn 17 56 48.2 +0.5
BKZ Black Stump Fm 3.51 207 PN Pn 17 56 53.7 +0.7
BKZ Black Stump Fm 3.51 207 *e*P Pn 17 56 53.7 +0.7
MOVZ Moawhango 4.01 212 P Pn 17 56 58.3 -0.7
BFZ Birch Farm 4.96 201 *e*P Pn 17 57 10.1 -0.5
MRZ Mangatainoka R 5.16 206 *e*P Pn 17 57 12.1 -0.9
KIW Kapiti Island 5.59 210 P Pn 17 57 16.9 -1.4
MTW Mount Morrison 5.63 204 P Pn 17 57 17.6 -1.3
TCW Tory Channel 6.14 212 P Pn 17 57 23.8 -1.6

*IDC **19** 18:55:11.2±0.7,3286S×17861W,h0km,mb4.4/6, mb1 4.6/10,mb1mx4.5/16,mbtmp4.5/10,ML4.5/3,MS4.1/9, Ms1 4.1/9,ms1mx3.8/22,Error ellipse: s-maj=24.5km s-min=15.1km az=147.0*
*HRVD **19** 18:55:14.3±0.8,3292S×17794W,h22km±2km,MW4.8/41, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s41,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.51±.23; $M_{\theta\theta}$-0.14±.16; $M_{\phi\phi}$-1.37±.15; $M_{r\theta}$-0.40±.31; $M_{\theta\phi}$-0.40±.11; $M_{\phi r}$1.60±.25; Best double couple: $M_0$2.21900×10^{16} NP1:ϕ_s212.00000°,δ25.00000°,λ124.00000°. NP2: ϕ_s355.00000°,δ69.00000°,λ76.00000°. Principal axes: T 2.3350, Plg63.0000°, Azm243.0000°; N -0.2270, Plg14.0000°, Azm1.0000°; P -2.1040, Plg23.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 18:55:14.3±3.0,3310S×17831W,h23km±21km,mb5.0/6 Error ellipse: s-maj=13.9km s-min=9.5km az=146.0*
*NAO **19** 18:55:15.9,3318S×17899W,h33km,mb4.5*
*ISCJB **19** 18:55:15.7±1.3,3333S×008×178.1W±0.1,h67km±13km, mb4.6/9,Error ellipse: s-maj=17.5km s-min=9.6km az=70.9*
*MOS **19** 18:55:17.5±2.6,3171S×179.12W,h10km,mb5.3/3,Error ellipse: s-maj=46.8km s-min=18.3km az=16.1*

ISC 19 18:55:16.9±1.1,3321S±008×1783W±01,h49km±13km,n74, σ1§09/50,mb4.7/9,MS4.0/7,5C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.95**	**5**	Pn	**Pn**	**18 56 07.5**	**-7.5**
	115nm,0.3s,baz=279,slow=21,SNR=3.7						
RAO				Sn	**Sn**	**18 56 49.2**	**-11**
	136nm,0.3s,baz=225,slow=22,SNR=4.3						
RAO				LR	LR	18 56 52.5	
	comp=Z,1μm,20.6s,baz=202,slow=28						
RAO	**Raoul Island**	**3.95**	**5**	P	**Pn**	**18 56 04.0**	**-11**
RAO				Pn	**Pn**	**18 56 07.5**	**-7.5**
RAO				Sn	**Sn**	**18 56 49.2**	**-11**
RAO				LR	LR	18 56 52.5	
PUZ	**Puketiti**	**5.62**	**209**	PN	**Pn**	**18 56 38.8**	**+1.0**
PUZ				SN	**Sn**	**18 57 47.4**	**+6.4**
MWZ	**Matawai**	**6.15**	**213**	PN	**Pn**	**18 56 46.1**	**+0.9**
MWZ				SN	**Sn**	**18 58 00.0**	**+5.9**
URZ	**Urewera**	**6.29**	**215**	Pn	**Pn**	**18 56 48.8**	**+1.8**
	8.0nm,0.3s,baz=21,slow=6.1,SNR=44						
URZ				Sn	**Sn**	**18 58 01.4**	**+4.0**
	10nm,0.3s,baz=146,slow=20,SNR=8.5						
URZ	**Urewera**	**6.29**	**215**	PN	**Pn**	**18 56 48.5**	**+1.5**
URZ				SN	**Sn**	**18 58 02.6**	**+5.1**
WCZ	**Waipu Caves**	**6.67**	**244**	PN	**Pn**	**18 56 55.7**	**+3.4**
OUZ	**Omahuta**	**7.03**	**251**	PN	**Pn**	**18 57 01.5**	**+4.3**
BKZ	**Black Stump Fm**	**7.30**	**214**	*e*PN	**Pn**	**18 57 01.9**	**+1.1**
BFZ	**Birch Farm**	**8.65**	**209**	*e*PN	**Pn**	**18 57 18.0**	**-1.4**
BFZ				SN	**Sn**	**18 58 55.6**	**0.0**
MRZ	**Mangatainoka R**	**8.92**	**212**	*e*PN	**Pn**	**18 57 21.8**	**-1.2**
MRZ				SN	**Sn**	**18 59 01.4**	**-0.7**
TCW	**Tory Channel**	**9.95**	**214**	SN	**Sn**	**18 59 24.2**	**-3.3**
THZ	**Tophouse**	**11.04**	**217**	SN	**Sn**	**18 59 50.9**	**-3.2**
MQZ	**McQueen's Vall**	**12.66**	**211**	SN	**Sn**	**19 00 25.6**	**-8.0**
RPZ	**Rata Peaks**	**13.40**	**215**	Pn	**Pn**	**18 58 22.8**	**-1.6**
	1.1nm,0.3s,baz=352,slow=2.7,SNR=7.7						
RPZ				Sn	**Sn**	**19 00 45.2**	**-6.6**
	1.2nm,0.3s,baz=179,slow=18,SNR=6.7						
DZM	**Mont Dzumac**	**17.48**	**306**	P	**Pn**	**18 59 16.8**	**-0.3**
	0.2nm,0.3s,baz=132,slow=20,SNR=5.4						
DZM				LR	LR	19 04 27.3	
	comp=Z,1μm,19.9s,baz=196,slow=33						
AFI	**Afiamalu**	**20.10**	**19**	P	**P**	**18 59 45.6**	**-0.8**
	1.6nm,0.3s,baz=108,slow=20,SNR=2.5						
AFI	**Afiamalu**	**20.10**	**19**	P	**P**	**18 59 45.6**	**-0.8**
RAR	**Rarotonga**	**20.30**	**59**	P	**P**	**18 59 48.3**	**-0.3**
	17nm,0.5s,baz=280,slow=19,SNR=3.2						
RAR				LR	LR	19 06 31.0	
	comp=Z,183nm,18.8s,MS3.5,baz=206,slow=33						
ARMA	**Armidale**	**25.69**	**268**	*e*P	**P**	**19 00 48.1**	**+5.8**
TBI	**Tubuai**	**27.13**	**76**	*e*LQ		19 06 11.7	
	351nm,23.2s						
TBI				*e*LR	LR	19 07 25.1	
	463nm,29.2s						
PPT	**Papeete**	**30.11**	**66**	*e*LQ		19 07 21.8	
	420nm,21.2s						
PPT				*e*LR	LR	19 08 47.2	
	417nm,27.0s						
STKA	**Stephens Creek**	**33.72**	**261**	*e*P	**P**	**19 01 53.7**	**+0.3**
	3.0nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**33.72**	**261**	P	**P**	**19 01 53.6**	**+0.2**
	2.4nm,0.8s,mb4.2,baz=96,slow=5.7,SNR=3.2						
STKA				LR	LR	19 15 02.8	
	comp=Z,841nm,18.9s,MS4.5,baz=283,slow=36						
CTA	**Charters Tower**	**34.12**	**284**	*e*P	**P**	**19 01 58.4**	**+1.5**
	11nm,0.6s,mb5.0						
CTA	**Charters Tower**	**34.12**	**284**	P	**P**	**19 01 57.4**	**+0.5**
	12nm,0.5s,mb5.1,baz=107,slow=10,SNR=26						
CTA				LR	LR	19 15 03.7	
	comp=Z,295nm,18.2s,MS4.1,baz=104,slow=35						
CTA	**Charters Tower**	**34.12**	**284**	*e*P	**P**	**19 01 58.4**	**+1.5**
CTA				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	**Charters Tower**	**34.12**	**284**	*e*P	**P**	**19 01 58.2**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
CTAO	**Charters Tower**	**34.12**	**284**	*e*P	**P**	**19 01 58.2**	**+1.3**
	comp=Z,14nm,0.6s,mb5.1						
RKT	**Rikitea**	**39.24**	**87**	*e*LR	LR	19 13 02.8	
	comp=Z,370nm,28.5s						
PMG	**Port Moresby**	**39.67**	**299**	LR	LR	19 16 45.5	
	comp=Z,294nm,18.8s,MS4.2,baz=255,slow=33						
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**19 03 10.2**	**+0.5**
	comp=Z,7.3nm,0.7s,mb4.5,baz=108,slow=7.5,SNR=173						
ASAR				S	**S**	**19 09 29.2**	**-1.2**
	comp=Z,1.1nm,1.0s,baz=118,slow=15,SNR=5.2						
WB2	**Warramunga Arr**	**44.03**	**275**	*e*P	**P**	**19 03 19.6**	**-0.1**
WRAB	**Tennant Creek**	**44.04**	**275**	P	**P**	**19 03 20.3**	**+0.6**
	comp=Z,163nm,0.8s,mb5.8,SNR=13						
WRAB	**Tennant Creek**	**44.04**	**275**	*c i*P	**P**	**19 03 19.8**	**+0.1**
WRAB	**Tennant Creek**	**44.04**	**275**	*e*P	**P**	**19 03 19.6**	**-0.1**
	comp=Z,61nm,1.1s,mb5.2						
WRA	**Warramunga Arr**	**44.04**	**275**	P	**P**	**19 03 19.8**	**0.0**
	comp=Z,17nm,0.6s,mb4.9,baz=114,slow=7.8,SNR=213						
VNDA	**Vanda**	**45.29**	**186**	LR	LR	19 17 53.0	
	comp=Z,168nm,18.6s,MS4.0,baz=356,slow=30						
KAKA	**Kakadu**	**49.25**	**282**	*e*P	**P**	**19 03 59.8**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.18**	**272**	*e*P	**P**	**19 04 22.8**	**+0.3**
	comp=Z,16nm,0.7s,mb5.1						
CASY	**Casey**	**52.57**	**209**	*e*P	**P**	**19 04 28.4**	**+3.0**
NWAO	**Narrogin (SRO)**	**53.24**	**251**	LR	LR	19 26 22.3	
	comp=Z,135nm,18.6s,MS4.0,baz=160,slow=35						
QSPA	**South Pole Qui**	**56.91**	**180**	*e*P	**P**	**19 05 03.0**	**+6.1**
VNA3	**Neumayer Olymp**	**75.53**	**176**	*e*	pP	19 07 10.0	-0.2
VNA3				*e*		19 07 15.5	
VNA3				*e*		19 07 27.2	
VNA2	**Neumayer--Watz**	**75.96**	**177**	*e*	pP	19 07 12.0	-0.7
	baz=177,slow=4.6						
VNA2				*e*		19 07 17.5	
VNA2				*e*		19 07 24.2	
VNA2				*e*		19 07 29.0	
VNA2				*e*		19 07 34.7	
MJAR	**Matsushiro Arr**	**80.42**	**326**	P	**P**	**19 07 22.5**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=163,slow=6.7,SNR=3.8						
PLCA	**Paso Flores**	**80.77**	**133**	LR	LR	19 37 06.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,90nm,19.2s,MS4.1,baz=9.6,slow=31						
NVAR	**Mina Array Bea**	**90.45**	**43**	P	**P**	**19 08 13.2**	**0.0**
	comp=Z,1.4nm,0.9s,mb4.3,baz=198,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**119.37**	**309**	PKP	PKPdf	19 14 01.2	+0.4
	comp=Z,0.9nm,0.6s,baz=286,slow=0.5,SNR=13						
ZAL	**Zalesovo**	**119.96**	**317**	PKP	PKPdf	19 14 01.3	-0.6
	comp=Z,0.6nm,0.6s,baz=310,slow=19,SNR=3.7						
KURK	**Kurchatov**	**122.79**	**313**	*i* PKIKP	PKPdf	19 14 07.2	-0.1
BVAR	**Borovoye Array**	**128.22**	**314**	PKP	PKPdf	19 14 17.8	+0.1
	comp=Z,2.1nm,0.6s,baz=113,slow=1.0,SNR=23						
ARU	**Arti**	**135.07**	**319**	*e*PKIKP	PKPdf	19 14 32.6	+1.9
LVZ	**Lovozero**	**140.43**	**341**	⇑*i*PKIKP	PKPdf	19 14 44.1	+3.6
ARCES	**ARCESS Array B**	**141.27**	**347**	PKhKP		19 14 38.9	
	comp=Z,2.1nm,0.8s,baz=60,slow=2.9,SNR=3.7						
GOF	**Gofitskoye**	**146.19**	**303**	*e*PKHKP		19 14 51.2	
MOS	**Moscow**	**146.47**	**323**	*e*PKHKP		19 14 51.4	
MOS				pmax	pmax		
	comp=Z,102nm,0.8s						
KAF	**Kangasniemi**	**147.09**	**339**	*e*pkp	PKPdf	19 14 53.7	+1.5
	baz=42,slow=2.8						
OBN	**Obninsk**	**147.29**	**323**	*c i*PKIKP	PKPdf	19 14 54.4	+1.9
OBN				pmax	pmax		
	comp=Z,20nm,0.9s						
VRSR	**Storozhevoye**	**147.38**	**315**	*e*PKIKP	PKPdf	19 14 55.2	+2.5
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.7s						
FINES	**FINESS Array B**	**147.68**	**338**	PKPbc	PKPbc	19 14 55.8	-0.2
	comp=E,20nm,0.8s,baz=66,slow=4.6,SNR=76						
VSU	**Vasula**	**149.66**	**334**	*c i*PKIKP	PKPbc	19 15 01.1	+0.1
MALT	**Malatya**	**149.92**	**290**	*e*PKIKP	PKPbc	19 15 02.1	+0.4
NB2	**NORSAR Subarra**	**151.48**	**350**	PKPa	PKPbc	19 15 05.3	0.0
	comp=Z,8.6nm,0.8s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.48**	**350**	PKPbc	PKPbc	19 15 05.6	+0.3
	comp=Z,5.5nm,0.7s,baz=14,slow=4.1,SNR=35						
MNK	**Minsk**	**151.87**	**327**	*e*PKIKP	PKPbc	19 15 06.0	-0.2
DBIC	**Dimbokro**	**152.90**	**166**	PKPbc	PKPbc	19 15 12.0	+3.5
	comp=Z,2.6nm,1.0s,baz=297,slow=6.8,SNR=2.6						
KONO	**Kongsberg**	**153.04**	**351**	⇑*i*PKIKP	PKPbc	19 15 09.4	+0.5
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc	PKPbc	19 15 10.4	+0.9
	comp=Z,3.4nm,0.6s,baz=58,slow=2.0,SNR=19						
AKASG	**Malin Array Be**	**153.33**	**319**	*i* PKIKP	PKPbc	19 15 10.3	+0.8
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BR131	**Keskin Array S**	**153.62**	**293**	*e*PKPbc	PKPbc	19 15 11.0	+0.9
BRTR	**Keskin Array B**	**153.62**	**293**	PKPbc	PKPbc	19 15 10.5	+0.4
	comp=Z,4.3nm,0.8s,baz=135,slow=3.7,SNR=23						
TORD	**Torodi Ar. Bea**	**160.03**	**180**	PKP	PKPdf	19 15 11.7	+1.1
	comp=Z,1.2nm,1.0s,baz=355,slow=3.1,SNR=3.6						
TORD				PKPab	PKPab	19 15 52.9	+2.4
	comp=Z,0.6nm,0.8s,baz=84,slow=2.8,SNR=4.7						
GERES	**GERESS Array B**	**161.99**	**334**	PKPab	PKPab	19 15 57.6	-1.4
	comp=Z,0.6nm,0.6s,baz=52,slow=5.2,SNR=6.0						

*ISCJB **19** 18:56:51.7±0.8,4643N±004×1090E±005,h8km,Error ellipse: s-maj=5.9km s-min=4.5km az=34.9*
*ROM **19** 18:56:51.4±0.2,4644N×1088E,h10km,Md2.1/3,Ml1.1/1, Error ellipse: s-maj=7.3km s-min=2.4km az=8.0*
*VIE **19** 18:56:51.6±0.8,4642N×1090E,h8km,ML1.5/3,Error ellipse: s-maj=5.6km s-min=2.9km az=177.0 8 km SSE of St.Gertraud*

ISC 19 18:56:52.0±1.3,4641N±004×1088E±005,h13km±17km,n6, σ0§35/12,6C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.25**	**74**	⇑*e*Pg	**Pg**	**18 56 57.4**	**+0.1**
APPI				Sg	**Sg**	**18 57 00.8**	**-0.1**
BRMO	**Bormio**	**0.36**	**281**	⇑*e*Pg	**Pg**	**18 56 59.4**	**+0.2**
BRMO				Sg	**Sg**	**18 57 03.9**	**-0.2**
	16nm,0.3s						
CTI	**Castel Tesino**	**0.65**	**124**	Pg	**Pg**	**18 57 04.6**	**0.0**
CTI				Sg	**Sg**	**18 57 13.3**	**+0.2**
SQTA	**Sankt Quirin**	**0.84**	**15**	⇑*i*Pg	**Pg**	**18 57 08.8**	**+0.5**
SQTA				⇓*i*Sg	**Sg**	**18 57 19.2**	**-0.1**
	9.0nm,0.4s						
MOTA	**Moosalm**	**0.95**	**9**	⇑*i*Pg	**Pg**	**18 57 10.5**	**+0.1**
MOTA				⇓*i*Sg	**Sg**	**18 57 22.7**	**0.0**
	1.5nm,0.2s						
KBA	**Koelnbreinsper**	**1.82**	**68**	⇑*i*Pg	**Pg**	**18 57 26.0**	**-1.0**
KBA				⇑*i*Sg	**Sg**	**18 57 51.0**	**+0.3**
	1.4nm,0.4s						

*NEIC **19** 19:12:53.5±2.3,686S×130.11E,h63km±24km,mb3.8/3, Error ellipse: s-maj=21.9km s-min=14.1km az=58.0*
*IDC **19** 19:12:54.2±5.5,688S×130.14E,h71km±53km,mb3.7/5, mb1 3.8/7,mb1mx3.7/15,mbtmp4.0/7,ML4.0/2,Error ellipse: s-maj=68.9km s-min=21.0km az=71.0*
*ISCJB **19** 19:13:00.4±1.7,725S±007×1300E±0.1,h157km±19km, mb3.7/7,Error ellipse: s-maj=17.9km s-min=11.1km az=1.7*

ISC 19 19:13:04.4±1.4,757S±007×12969E±010,h183km±15km, n18,σ0§88/22,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.78**	**152**	*e*P	**Pn**	**19 14 28.7**	**+0.2**
	10nm,0.2s						
KAKA				*e*S	**Sn**	**19 15 34.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.19**	**200**	*e*P	**Pn**	**19 15 40.7**	**+1.5**
	8.6nm,0.4s						
FITZ				*e*S	**Sn**	**19 17 39.4**	**-4.1**
WRAB	**Tennant Creek**	**13.10**	**160**	*e*Pn	**Pn**	**19 16 03.8**	**+0.2**
WRA	**Warramunga Arr**	**13.10**	**160**	P	**Pn**	**19 16 04.4**	**+0.8**
	1.0nm,0.3s,baz=340,slow=14,SNR=84						
WRA				S	**Sn**	**19 18 25.3**	**-4.0**
	2.1nm,0.3s,baz=333,slow=21,SNR=8.7						
WB2	**Warramunga Arr**	**13.11**	**160**	*e*P	**Pn**	**19 16 03.9**	**+0.3**
WB2				*e*S	**Sn**	**19 18 25.7**	**-3.7**
ASAR	**Alice Springs**	**16.51**	**166**	P	**Pn**	**19 16 50.0**	**+4.5**
	0.4nm,0.3s,baz=342,slow=8.9,SNR=64						
ASAR				S	**S**	**19 19 48.0**	**-0.1**
	0.3nm,0.3s,baz=331,slow=15,SNR=4.6						
MBWA	**Marble Bar**	**16.59**	**214**	*e*Pn	**Pn**	**19 16 52.7**	**+6.2**
MBWA				*e*Sn	**Sn**	**19 19 51.9**	**-0.7**
STKA	**Stephens Creek**	**26.61**	**157**	*e*P	**P**	**19 18 29.3**	**+3.6**
	1.0nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**26.61**	**157**	P	**P**	**19 18 29.0**	**+3.3**
	1.0nm,0.3s,mb3.9,baz=352,slow=11,SNR=6.4						
MJAR	**Matsushiro Arr**	**44.60**	**10**	P	**P**	**19 20 53.0**	**-5.2**
	0.7nm,0.7s,mb3.4,baz=188,slow=7.3,SNR=4.8						
ULN	**Ulaanbaatar**	**58.71**	**342**	*e*P	**P**	**19 22 42.2**	**-0.5**
	1.3nm,0.8s,mb3.8						
SONM	**Songino Array**	**58.88**	**342**	P	**P**	**19 22 42.9**	**-1.0**
	0.4nm,0.4s,mb3.6,baz=166,slow=7.0,SNR=9.0						
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**19 23 47.5**	**+0.6**
	2.5nm,0.4s,mb4.3,baz=112,slow=8.1,SNR=44						
KURK	**Kurchatov**	**72.84**	**329**	*e*P	**P**	**19 24 12.9**	**0.0**
BVAR	**Borovoye Array**	**76.38**	**328**	P	**P**	**19 24 43.8**	**-0.6**
	1.1nm,0.8s,mb3.5,baz=120,slow=8.8,SNR=6.9						
BRVK	**Borovoye**	**78.45**	**328**	*e*P	**P**	**19 24 45.1**	**+0.3**
	0.6nm,0.6s,mb3.4						
LPAZ	**La Paz**	**150.45**	**143**	PKPbc	PKPbc	19 32 40.7	+6.6
	0.9nm,0.3s,baz=47,slow=3.1,SNR=11						
LPAZ	**La Paz**	**150.45**	**143**	PKPbc	PKPbc	19 32 40.7	+6.6

*ISCJB **19** 19:18:13.7±0.5,3326S±002×72.12W±005,h51km±5km, mb4.5/15,MS4.2/2,Error ellipse: s-maj=6.7km s-min=3.8km az=33.9*
*NEIC **19** 19:18:14.0,3323S×7206W,h54km,mb4.5/8,After GUC.*
NEIC Felt [IV] at Papudo, Puchuncavi and Quilpue; [III] at Melipilla, Quillota, Rancagua, San Antonio, Santiago, Valparaiso and Vina del Mar; [II] at Talca.
*GUC **19** 19:18:14.0±0.9,3323S×7206W,h54km±10km,ML5.1*
*IDC **19** 19:18:17.1±2.5,3329S×7199W,h69km±21km,mb4.1/10, mb1 4.3/14,mb1mx4.2/18,mbtmp4.5/14,MS3.8/5, Ms1 3.8/5,ms1mx3.6/13,Error ellipse: s-maj=20.1km s-min=13.8km az=98.0*

ISC 19 19:18:14.6±0.5,3325S±003×7211W±005,h43km±6km,n80, σ0§71/93,mb4.5/15,MS4.2/2,16C-9D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.45**	**61**	⇓*i*P	**Pn**	**19 18 24.8**	**-0.1**
LCCH	**Las Cruces**	**0.51**	**117**	⇑*i*P	**Pn**	**19 18 25.3**	**-0.3**
PACH	**Papudo**	**0.91**	**39**	⇓*i*P	**Pn**	**19 18 30.5**	**-0.5**
LNV	**Longovilo**	**0.92**	**141**	⇑*i*P	**Pn**	**19 18 30.3**	**-0.8**
ROCH	**El Roble**	**0.96**	**74**	⇑*i*P	**Pn**	**19 18 31.4**	**-0.3**
TACH	**Talagante**	**1.06**	**113**	⇓*i*P	**Pn**	**19 18 32.7**	**-0.4**
RCDM	**Rinconada Maip**	**1.12**	**103**	*e*P	**Pn**	**19 18 33.1**	**-0.7**
RCDM				*i* S	**Sn**	**19 18 47.7**	**-0.4**
RCDM				AMP		19 18 48.9	
	comp=N,118μm,0.6s						
RCDM	**Rinconada Maip**	**1.12**	**103**	*e*P	**Pn**	**19 18 33.1**	**-0.7**
RCDM				*i* S	**Sn**	**19 18 47.7**	**-0.4**
PEL	**Peldehue**	**1.20**	**85**	⇑*i*P	**Pn**	**19 18 35.0**	**+0.1**
PEL				*i* S	**Sn**	**19 18 50.4**	**+0.3**
PEL				AMP		19 18 51.5	
	comp=N,124μm,0.3s						
PEL	**Peldehue**	**1.20**	**85**	⇑*i*P	**Pn**	**19 18 35.0**	**+0.1**
PEL				*i* S	**Sn**	**19 18 50.4**	**+0.3**
SAN	**Santiago**	**1.23**	**100**	*e*P	**Pn**	**19 18 35.2**	**-0.1**
SAN				*i* S	**Sn**	**19 18 50.7**	**-0.1**
SAN				AMP		19 18 53.6	
	comp=E,23μm,0.7s						
SAN	**Santiago**	**1.23**	**100**	*e*P	**Pn**	**19 18 35.2**	**-0.1**
SAN				*i* S	**Sn**	**19 18 50.7**	**-0.1**
ANTU	**Antumapu**	**1.28**	**105**	*e*P	**Pn**	**19 18 35.8**	**-0.2**
ANTU				*i* S	**Sn**	**19 18 52.0**	**+0.1**
ANTU				AMP		19 18 53.3	
	comp=N,70μm,0.5s						
ANTU	**Antumapu**	**1.28**	**105**	*e*P	**Pn**	**19 18 35.8**	**-0.2**
ANTU				*i* S	**Sn**	**19 18 52.0**	**+0.1**
PCH	**Pirque**	**1.39**	**106**	⇓*i*P	**Pn**	**19 18 37.6**	**+0.1**
CHCH	**Chadas Angostu**	**1.40**	**120**	⇓*i*P	**Pn**	**19 18 37.2**	**-0.4**
JACH	**Jahuel**	**1.40**	**67**	⇓*i*P	**Pn**	**19 18 37.3**	**-0.3**
SJCH	**San Jose de Ma**	**1.52**	**105**	*e*P	**Pn**	**19 18 38.9**	**-0.4**
SJCH				*i* S	**Sn**	**19 18 57.4**	**-0.5**
SJCH				AMP		19 18 58.4	
	comp=N,24μm,0.3s						
SJCH	**San Jose de Ma**	**1.52**	**105**	*e*P	**Pn**	**19 18 38.9**	**-0.4**
SJCH				*i* S	**Sn**	**19 18 57.4**	**-0.5**
FCH	**Farellones**	**1.53**	**93**	*e*P	**Pn**	**19 18 39.6**	**+0.2**
FCH				*i* S	**Sn**	**19 18 58.2**	**+0.2**
FCH				AMP		19 19 01.4	
	comp=N,39μm,0.2s						
CACH	**El Canelo**	**1.53**	**125**	⇑*i*P	**Pn**	**19 18 40.0**	**+0.5**
SFDO	**San Fernando**	**1.64**	**146**	⇓*i*P	**Pn**	**19 18 41.0**	**0.0**
LMEL	**Las Melosas**	**1.70**	**111**	⇑*i*P	**Pn**	**19 18 42.1**	**+0.3**
LMEL				*i* S	**Sn**	**19 19 02.6**	**+0.2**
LMEL				AMP		19 19 04.3	
	comp=N,41μm,0.1s						
LMEL	**Las Melosas**	**1.70**	**111**	⇑*i*P	**Pn**	**19 18 42.1**	**+0.3**
LMEL				*i* S	**Sn**	**19 19 02.6**	**+0.2**
CICH	**Cipreses**	**1.77**	**128**	⇓*i*P	**Pn**	**19 18 43.0**	**+0.2**
ILCH	**Illapel**	**1.79**	**27**	⇑*i*P	**Pn**	**19 18 42.7**	**-0.4**
ILCH				*i* S	**Sn**	**19 19 04.5**	**-0.2**
NICH	**Los Niches**	**1.90**	**158**	⇑*i*P	**Pn**	**19 18 44.5**	**+0.1**
NICH				*i* S	**Sn**	**19 19 07.6**	**+0.4**
CTCH	**Constitucion**	**2.09**	**187**	⇑*i*P	**Pn**	**19 18 47.2**	**+0.1**
CTCH				*i* S	**Sn**	**19 19 10.2**	**-1.8**
CTCH				AMP		19 19 13.3	
	comp=N,31μm,0.8s						
CTCH	**Constitucion**	**2.09**	**187**	⇑*i*P	**Pn**	**19 18 47.2**	**+0.1**
CTCH				S	**Sn**	**19 19 10.2**	**-1.8**
CMCH	**Combarbala**	**2.27**	**25**	⇑*i*P	**Pn**	**19 18 49.3**	**-0.3**
CMCH				*i* S	**Sn**	**19 19 16.0**	**-0.4**
CMCH				AMP		19 19 17.9	
	comp=E,60μm,0.9s						
CMCH	**Combarbala**	**2.27**	**25**	⇑*i*P	**Pn**	**19 18 49.3**	**-0.3**
CMCH				*i* S	**Sn**	**19 19 16.0**	**-0.4**
CNCO	**Chanco**	**2.50**	**188**	*e*P	**Pn**	**19 18 52.5**	**-0.3**
CNCO				AMP		19 19 21.9	
	comp=E,7μm,0.7s						
LNCH	**Linares**	**2.63**	**171**	⇑*i*P	**Pn**	**19 18 55.7**	**+1.2**
LNCH				*i* S	**Sn**	**19 19 25.8**	**+0.6**
LNCH				AMP		19 19 42.6	
	comp=N,8μm,0.6s						
LNCH	**Linares**	**2.63**	**171**	⇑*i*P	**Pn**	**19 18 55.7**	**+1.2**
LNCH				*i* S	**Sn**	**19 19 25.8**	**+0.6**
COCH	**Cobquecura**	**2.93**	**191**	*e*P	**Pn**	**19 18 58.7**	**+0.1**
CCHI	**Chillan**	**3.35**	**180**	*e*P	**Pn**	**19 19 04.7**	**+0.3**
CCHI				*i* S	**Sn**	**19 19 43.0**	**+0.2**
CCHI				AMP		19 19 45.0	
	comp=E,3μm,0.6s						
CCHI	**Chillan**

ZAL Zalesovo 153.62 31 PKP PKPdf 19 37 59.3 -1.4
comp=E,0.7nm,0.5s,baz=334,slow=1.5,SNR=5.1
ZAL PKPbc PKPbc 19 38 08.0 -0.6
comp=E,1.8nm,0.8s,baz=183,slow=2.3,SNR=10
MKAR Makanchi Array 156.31 48 PKP PKPdf 19 38 03.5 -1.0
comp=E,0.9nm,0.9s,baz=332,slow=2.1,SNR=7.7
MKAR PKPab PKPab 19 38 31.6 -1.1
comp=E,1.7nm,0.6s,baz=289,slow=4.1,SNR=22
SONM Songino Array 165.38 4 PKP PKPdf 19 38 11.7 -2.5
comp=E,0.4nm,0.8s,baz=214,slow=0.9,SNR=3.7
SONM PKPab PKPab 19 39 12.4 +0.1
comp=E,0.9nm,0.8s,baz=354,slow=4.3,SNR=6.8

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*ISCJB **19** 19:32:56.5±0.8, 3887N±003×2306E±007, h6km±8km, Error ellipse: s-maj=9.2km s-min=5.7km az=174.6*
*THE **19** 19:32:56.9, 3882N×2310E, h1km, ML2.6*
*CSEM **19** 19:32:57.4±0.1, 3885N×2307E, h1km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.3km az=95.0*
*NEIC **19** 19:32:57.2, 3886N×2307E, h5km, ML3.2(ATH), After ATH.*
*ATH **19** 19:32:57.2, 3886N×2307E, h5km±2km, MD3.0/5, ML3.2*
ISC 19 19:32:56.9±0.8, 3885N±004×2305E±007, h12km±9km, n11, σ0§85/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.20**	**191**	*e*PG	**Pg**	**19 33 01.4**	**+0.1**
NEO	**Neokhori**	**0.48**	**16**	*e*PB	**Pg**	**19 33 06.4**	**0.0**
NEO				*e*SB	**Sg**	**19 33 13.2**	**+0.4**
XOR	**Xorichti**	**0.53**	**12**	*e*Pg	**Pg**	**19 33 07.5**	**+0.1**
AOS	**Alonnisos**	**0.72**	**63**	*e*Pg	**Pg**	**19 33 09.9**	**-1.1**
EVR	**Evrytania**	**0.97**	**275**	*e*PN	**Pn**	**19 33 16.4**	**+0.1**
ATH	**Athens Observa**	**1.02**	**149**	*e*PN	**Pn**	**19 33 17.0**	**+0.1**
ATH				*e*SB	**Sb**	**19 33 30.8**	**+1.1**
PAIG	**Paliouri**	**1.19**	**24**	*e*Pg	**Pg**	**19 33 19.6**	**-0.1**
PAIG				*e*Sg	**Sg**	**19 33 36.2**	**+1.0**
LIT	**Litokhoron**	**1.33**	**341**	*e*Pg	**Pg**	**19 33 21.3**	**-1.1**
LIT				*e*Sg	**Sg**	**19 33 41.9**	**+2.2**
PLG	**Polygyros**	**1.56**	**11**	*e*PG	**Pg**	**19 33 25.7**	**-1.1**
OUR	**Ouranopolis**	**1.65**	**26**	*e*Pb	**Pb**	**19 33 26.6**	**-0.7**
MEV	**Metsovon**	**1.69**	**304**	*e*Pb	**Pb**	**19 33 27.4**	**-0.6**

DHMR 19 19:35:18.5±1.0, 1165N×4353E, h5km±9km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.68**	**20**	*i* P	Pn	19 35 49.3	+0.8
TRBA				*i* S	Sn	19 36 12.4	+2.0
TRBA				AML	AML	19 36 27.8	
	comp=N,694nm,0.6s						
UDYN	**Al 'Udayn**	**2.35**	**11**	*i* P	Pn	19 35 59.7	+2.0
UDYN				*i* S	Sn	19 36 32.5	+5.5
UDYN				AML	AML	19 36 40.8	
	comp=E,540nm,0.3s						
UDYN	**Al 'Udayn**	**2.35**	**11**	*i* P	Pn	19 35 59.7	+2.0
UDYN				*i* S	Sn	19 36 32.5	+5.6
	comp=E,270nm,0.3s						
LBOS		**2.78**	**37**	*i* P	Pn	19 36 06.6	+2.9
LBOS				*i* S	Sn	19 36 44.4	+6.8
DHBB	**Dhamar BB**	**3.03**	**16**	*i* P	Pn	19 36 10.5	+3.4
DHBB				*i* S	Sn	19 36 50.6	+6.9
HAJJ	**Hajjah**	**4.03**	**1**	*i* P	Pn	19 36 23.1	+2.2
HAJJ				*i* S	Sn	19 37 14.0	+5.6
HAJJ				AML	AML	19 37 31.9	
	comp=N,330nm,0.6s						
HAJJ	**Hajjah**	**4.03**	**1**	*i* P	Pn	19 36 23.0	+2.1
HAJJ				*i* S	Sn	19 37 14.0	+5.6
	comp=N,165nm,0.6s						

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*ISCJB **19** 19:42:59.1±0.8, 5789N±010×3248W±02, h10km, mb3.7/8, MS3.5/5, Error ellipse: s-maj=14.5km s-min=11.9km az=115.7*
*IDC **19** 19:42:59.0±1.1, 5769N×3252W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.6/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/26, Error ellipse: s-maj=33.0km s-min=18.9km az=23.0*
ISC 19 19:43:00.5±0.8, 5781N±009×3258W±02, h10km, n15, σ1§10/11, mb3.7/8, MS3.5/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.78**	**33**	Pn	**Pn**	**19 45 10.4**	**+2.9**
	0.6nm,0.3s,baz=215,slow=13,SNR=6.8						
BORG				Sn	**Sn**	**19 46 45.8**	**-0.6**
	0.4nm,0.3s,baz=67,slow=23,SNR=4.1						
SFJD	**Kangerlussuaq**	**12.42**	**325**	Pn	**Pn**	**19 45 56.9**	**-0.4**
	0.4nm,0.3s,baz=139,slow=8.2,SNR=2.9						
SFJD				LR	LR	19 49 37.2	
	comp=Z,284nm,21.1s,baz=156,slow=32						
DAVOX	**Davos**	**27.69**	**95**	LR	LR	19 58 06.0	
	comp=Z,103nm,20.0s,MS3.4,baz=260,slow=33						
GERES	**GERESS Array B**	**28.48**	**88**	LR	LR	19 58 39.2	
	comp=Z,75nm,19.3s,MS3.3,baz=100,slow=33						
VRAC	**Vranov**	**29.76**	**85**	LR	LR	19 59 33.8	
	comp=Z,59nm,20.4s,MS3.2,baz=142,slow=33						
AKASG	**Malin Array Be**	**35.59**	**74**	P	**P**	**19 49 57.0**	**-1.1**
	1.0nm,0.7s,mb3.9,baz=310,slow=8.5,SNR=4.3						
YKA	**Yellowknife Ar**	**38.55**	**312**	P	**P**	**19 50 22.2**	**-1.0**
	0.5nm,0.6s,mb3.5,baz=60,slow=8.8,SNR=6.0						
YKA				LR	LR	20 05 29.0	
	comp=Z,235nm,18.9s,MS4.0,baz=85,slow=35						
BRTR	**Keskin Array B**	**45.18**	**84**	P	**P**	**19 51 19.2**	**+1.6**
	0.5nm,0.8s,mb3.4,baz=336,slow=6.8,SNR=2.7						
ILAR	**Eielson Array**	**48.06**	**328**	P	**P**	**19 51 41.6**	**+1.6**
	1.9nm,0.9s,mb4.1,baz=31,slow=8.2,SNR=16						
PDAR	**Pinedale Array**	**48.73**	**287**	P	**P**	**19 51 45.5**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=59,slow=11,SNR=5.0						
TORD	**Torodi Ar. Bea**	**51.51**	**136**	P	**P**	**19 52 05.7**	**-0.6**
	1.1nm,0.8s,mb3.8,baz=334,slow=7.4,SNR=6.5						
DBIC	**Dimbokro**	**55.35**	**146**	LR	LR	20 14 45.8	
	comp=Z,67nm,19.8s,MS3.7,baz=210,slow=34						
MKAR	**Makanchi Array**	**62.64**	**45**	P	**P**	**19 53 24.4**	**-0.8**
	0.4nm,0.8s,mb3.6,baz=316,slow=5.1,SNR=5.3						
SONM	**Songino Array**	**69.36**	**28**	P	**P**	**19 54 08.4**	**0.0**
	0.3nm,0.6s,mb3.4,baz=240,slow=2.9,SNR=3.6						
ASAR	**Alice Springs**	**144.50**	**22**	PKP	PKPdf	20 02 36.3	-0.8
	0.2nm,0.6s,baz=355,slow=2.9,SNR=4.8						

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*IDC **19** 20:03:41.1±1.4, 5825×8130W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=52.7km s-min=26.7km az=58.0*
*ISCJB **19** 20:03:44.1±1.0, 5965×0060×8130W±02, h33km, mb3.7/5, Error ellipse: s-maj=21.6km s-min=8.8km az=0.9*
*NEIC **19** 20:03:46.8±2.0, 5885×8116W, h38km±18km, mb3.5/2, Error ellipse: s-maj=28.0km s-min=8.8km az=80.0*
ISC 19 20:03:46.7±1.0, 5905S±008×8138W±02, h35km, n13, σ0§79/12, mb3.7/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.70**	**25**	*e*Pn	**Pn**	**20 05 23.0**	**+0.4**
	4.2nm,0.6s						
OTAV				*e*Sn	**Sn**	**20 06 42.8**	**+5.1**
NNA	**Nana**	**7.46**	**145**	*e*Pn	**Pn**	**20 05 32.0**	**-1.0**
LPAZ	**La Paz**	**16.49**	**130**	Pn	**Pn**	**20 07 36.9**	**+1.6**
	0.1nm,0.3s,baz=315,slow=14,SNR=2.1						
LPAZ	**La Paz**	**16.49**	**130**	*e*P	**Pn**	**20 07 30.4**	**-4.9**
SDV	**Santo Domingo**	**18.10**	**36**	*e*P	**Pn**	**20 07 54.1**	**-1.2**
	1.6nm,0.8s						
SIV	**San Ignacio**	**22.18**	**119**	P	**P**	**20 08 39.8**	**+0.1**
	1.6nm,0.7s,mb3.6,baz=295,slow=14,SNR=9.8						
TEIG	**Tepich**	**26.86**	**345**	P	**P**	**20 09 24.4**	**+0.4**
PLCA	**Paso Flores**	**35.99**	**166**	P	**P**	**20 10 44.5**	**+0.3**
	1.0nm,0.7s,mb3.8,baz=347,slow=6.3,SNR=4.7						
TRQA	**Tornquist**	**36.49**	**154**	*e*P	**P**	**20 10 48.3**	**-0.2**
	1.2nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**	**72.82**	**345**	P	**P**	**20 15 11.0**	**-0.7**
	0.2nm,0.8s,mb3.1,baz=139,slow=5.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**84.49**	**76**	P	**P**	**20 16 16.8**	**+0.9**
	0.7nm,0.6s,mb4.0,baz=280,slow=4.8,SNR=14						
WRA	**Warramunga Arr**	**136.59**	**233**	PKP	PKPdf	20 23 06.0	+0.9
	0.2nm,0.6s,baz=113,slow=2.0,SNR=6.7						
MKAR	**Makanchi Array**	**136.85**	**17**	PKP	PKPdf	20 23 04.8	-0.8
	0.2nm,0.7s,baz=316,slow=4.0,SNR=2.6						

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*CSEM **19** 20:27:39.9±0.1, 3504N×395W, h12km, MD3.6, Error ellipse: s-maj=5.0km s-min=2.6km az=108.0*

*ISCJB **19** 20:27:40.9±0.5, 3506N±002×399W±004, h21km±5km, Error ellipse: s-maj=5.1km s-min=2.5km az=43.8*
*MDD **19** 20:27:40.9±0.3, 3507N×396W, h0km, mbLg2.7/20, Error ellipse: s-maj=3.8km s-min=2.9km az=73.0, PRXIMO*
*CNRM **19** 20:27:41.8, 3500N×395W, h3km, MD3.6*
ISC 19 20:27:41.2±0.6, 3504N±002×396W±003, h16km±4km, n56, σ1§24/105, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**5**	*i* P	**Pg**	**20 27 45.5**	**-0.2**
TOU	**Touzarine**	**0.19**	**115**	P	**Pg**	**20 27 45.0**	**-0.8**
TOU				S	**Sg**	**20 27 47.0**	**-1.9**
TOU	**Touzarine**	**0.19**	**115**	*i* P	**Pg**	**20 27 45.0**	**-0.8**
TZK	**Tazeka**	**0.97**	**191**	*e*P	**Pb**	**20 28 00.5**	**+0.9**
TZK				*i* S	**Sb**	**20 28 12.0**	**-0.1**
ZAI	**Zaio**	**1.00**	**94**	*i* P	**Pb**	**20 28 00.0**	**-0.1**
ZAI				*i* S	**Sb**	**20 28 14.0**	**+1.0**
EALB	**Alboran**	**1.17**	**40**	P	**Pn**	**20 28 00.1**	**-2.8**
	26nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**20 28 16.3**	**-1.7**
	318nm,0.6s,SNR=7.9						
EALB	**Alboran**	**1.17**	**40**	P	**Pn**	**20 28 00.1**	**-2.8**
	26nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**20 28 16.3**	**-1.7**
	318nm,0.6s,SNR=7.9						
TAF	**Taforalt**	**1.29**	**100**	P	**Pn**	**20 28 06.0**	**+1.5**
TAF				S	**Sb**	**20 28 25.0**	**+3.6**
MDAL	**Dalia**	**1.51**	**305**	*e*P	**Pn**	**20 28 09.0**	**+1.5**
MDAL				*i* S	**Sn**	**20 28 29.0**	**+2.2**
EMIJ	**Mijas**	**1.66**	**337**	P	**Pn**	**20 28 07.9**	**-1.6**
	2.5nm,0.1s,SNR=29						
EMIJ				S	**Sn**	**20 28 28.0**	**-2.5**
	39nm,0.2s						
EMIJ				UNK		20 29 27.5	
	SNR=9.7						
EMIJ	**Mijas**	**1.66**	**337**	P	**Pn**	**20 28 07.9**	**-1.6**
	2.5nm,0.1s,SNR=29						
EMIJ				S	**Sn**	**20 28 28.0**	**-2.4**
	39nm,0.2s						
TSY	**Tnine Yamani**	**1.68**	**282**	*i* P	**Pn**	**20 28 11.0**	**+1.2**
TSY				*i* S	**Sn**	**20 28 33.0**	**+2.0**
IFR	**Ifrane**	**1.80**	**213**	P	**Pn**	**20 28 11.5**	**0.0**
IFR				S	**Sn**	**20 28 34.5**	**+0.5**
EGUA	**Guajares**	**1.82**	**10**	P	**Pn**	**20 28 11.2**	**-0.6**
	1.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**20 28 34.5**	**+0.1**
	9.1nm,0.6s,SNR=7.9						
MIF	**Mishlifen**	**1.94**	**213**	*i* P	**Pn**	**20 28 14.0**	**+0.6**
MIF				*i* S	**Sn**	**20 28 36.0**	**-1.4**
ERON	**Agron**	**1.98**	**4**	P	**Pn**	**20 28 13.7**	**-0.2**
	2.0nm,0.2s,SNR=4.6						
ERON				S	**Sn**	**20 28 39.8**	**+1.4**
	21nm,0.4s						
EBER	**Berja**	**2.05**	**25**	P	**Pn**	**20 28 13.6**	**-1.3**
	4.6nm,0.3s,SNR=15						
EBER				S	**Sn**	**20 28 39.4**	**-0.7**
	144nm,0.7s						
EBER	**Berja**	**2.05**	**25**	P	**Pn**	**20 28 13.6**	**-1.3**
	4.6nm,0.3s,SNR=15						
EBER				S	**Sn**	**20 28 39.4**	**-0.6**
	144nm,0.7s						
ELOJ	**Sierra Loja**	**2.11**	**356**	P	**Pn**	**20 28 18.1**	**+2.4**
	1.7nm,0.2s,SNR=14						
ELOJ				S	**Sn**	**20 28 42.0**	**+0.4**
	12nm,0.3s						
CZD	**Col de Zad**	**2.20**	**204**	*i* P	**Pn**	**20 28 18.0**	**+1.0**
CZD				*i* S	**Sn**	**20 28 44.0**	**+0.2**
LIJA	**Lijar**	**2.20**	**328**	*i* P	**Pn**	**20 28 18.8**	**+1.8**
EQUE	**Quentar**	**2.20**	**11**	P	**Pn**	**20 28 17.1**	**+0.1**
	4.9nm,0.3s,SNR=12						
EQUE				S	**Sn**	**20 28 43.9**	**+0.1**
	47nm,0.4s,SNR=4.7						
ECOG	**Cogollos-Vega**	**2.25**	**8**	P	**Pn**	**20 28 18.4**	**+0.7**
	3.5nm,0.2s,SNR=8.8						
ECOG				S	**Sn**	**20 28 46.3**	**+1.1**
	14nm,0.4s,SNR=10						
ESPR	**Espera**	**2.38**	**320**	P	**Pn**	**20 28 20.6**	**+1.0**
	6.1nm,0.3s,SNR=11						
ESPR				S	**Sn**	**20 28 49.4**	**+1.0**
	46nm,0.6s						
ESPR	**Espera**	**2.38**	**320**	P	**Pn**	**20 28 20.6**	**+1.0**
	6.1nm,0.3s,SNR=11						
ESPR				S	**Sn**	**20 28 49.4**	**+1.0**
	46nm,0.6s						
ENIJ	**Nijar**	**2.39**	**36**	P	**Pn**	**20 28 20.0**	**+0.3**
	1.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**20 28 47.8**	**-0.9**
	22nm,0.5s,SNR=7.9						
ELUQ	**Luque**	**2.52**	**354**	P	**Pn**	**20 28 22.5**	**+1.0**
	2.7nm,0.2s,SNR=11						
ELUQ				S	**Sn**	**20 28 52.9**	**+1.0**
	13nm,0.5s,SNR=5.5						
EQES	**Quesada**	**2.85**	**14**	P	**Pn**	**20 28 27.5**	**+1.6**
	7.3nm,0.3s,SNR=26						
EQES				S	**Sn**	**20 29 00.4**	**+0.6**
	28nm,0.3s,SNR=4.8						
EQES	**Quesada**	**2.85**	**14**	P	**Pn**	**20 28 27.7**	**+1.8**
	7.3nm,0.3s,SNR=26						
EQES				S	**Sn**	**20 29 00.4**	**+0.6**
	28nm,0.3s,SNR=4.8						
EHUE	**Huescar**	**2.98**	**21**	P	**Pn**	**20 28 29.2**	**+1.5**
	1.3nm,0.2s,SNR=7.8						
EHUE				S	**Sn**	**20 29 02.6**	**-0.5**
	1.5nm,0.1s						
KIB	**El Ksiba**	**3.01**	**216**	*i* P	**Pn**	**20 28 28.0**	**-0.1**
KIB				*i* S	**Sn**	**20 29 03.0**	**-0.8**
ZFT	**Errachidia**	**3.02**	**186**	*i* P	**Pn**	**20 28 30.0**	**+1.7**
ZFT				*i* S	**Sn**	**20 29 04.0**	**0.0**
EBAN	**Banos Encina**	**3.12**	**3**	P	**Pn**	**20 28 30.8**	**+1.2**
	1.0nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**20 29 05.7**	**-0.8**
	9.3nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.16**	**351**	P	**Pn**	**20 28 31.0**	**+0.8**
	1.7nm,0.2s,SNR=19						
EADA				S	**Sn**	**20 29 06.6**	**-0.9**
	18nm,0.5s,SNR=4.7						
EADA	**Adamuz**	**3.16**	**351**	P	**Pn**	**20 28 31.0**	**+0.8**
	1.7nm,0.2s,SNR=19						
EADA				S	**Sn**	**20 29 06.6**	**-0.9**
	18nm,0.5s,SNR=4.7						
AVE	**Averroes**	**3.35**	**240**	P	**Pn**	**20 28 32.5**	**-0.3**
AVE				S	**Sn**	**20 29 15.0**	**+2.8**
EMIN	**Mina Concepcio**	**3.49**	**322**	P	**Pn**	**20 28 33.6**	**-1.1**
	3.0nm,0.2s,SNR=37						
EMIN				S	**Sn**	**20 29 13.1**	**-2.6**
	1.4nm,0.4s						
EMIN	**Mina Concepcio**	**3.49**	**322**	P	**Pn**	**20 28 33.6**	**-1.2**
	3.0nm,0.2s,SNR=37						
EMIN				S	**Sn**	**20 29 13.1**	**-2.6**
	1.4nm,0.4s						
EMUR	**La Murta**	**3.55**	**37**	P	**Pn**	**20 28 36.2**	**+0.6**
	2.9nm,0.4s,SNR=5.8						
EMUR				S	**Sn**	**20 29 15.6**	**-1.7**
	14nm,0.5s,SNR=6.3						
EMUR	**La Murta**	**3.55**	**37**	P	**Pn**	**20 28 36.2**	**+0.6**
	2.9nm,0.4s,SNR=5.8						
EMUR				S	**Sn**	**20 29 15.6**	**-1.6**
	14nm,0.5s,SNR=6.3						
TZC	**Tazercounte**	**3.58**	**217**	P	**Pn**	**20 28 36.0**	**+0.1**
TZC				S	**Sn**	**20 29 16.0**	**-1.8**
TZC	**Tazercounte**	**3.58**	**217**	*i* P	**Pn**	**20 28 36.0**	**+0.1**
EGRO	**El Granado**	**3.78**	**312**	P	**Pn**	**20 28 38.3**	**-0.4**
	2.5nm,0.2s,SNR=18						
EGRO				S	**Sn**	**20 29 20.4**	**-2.4**
	9.4nm,0.3s						
EGRO	**El Granado**	**3.78**	**312**	P	**Pn**	**20 28 38.3**	**-0.4**
	2.5nm,0.2s,SNR=18						
EGRO				S	**Sn**	**20 29 20.4**	**-2.4**
	9.4nm,0.3s						
ETOB	**Tobarra**	**4.08**	**28**	P	**Pn**	**20 28 44.3**	**+1.3**
	4.0nm,0.4s,SNR=15						
ETOB				S	**Sn**	**20 29 29.4**	**-1.0**
	13nm,0.6s,SNR=4.0						
ETOB	**Tobarra**	**4.08**	**28**	P	**Pn**	**20 28 44.3**	**+1.4**
	4.0nm,0.4s,SNR=15						
ETOB				S	**Sn**	**20 29 30.2**	**-0.1**
	13nm,0.6s,SNR=4.0						
EBAD	**Badajoz**	**4.44**	**327**	P	**Pn**	**20 28 47.2**	**-0.6**
	0.8nm,0.1s,SNR=12						
EBAD				S	**Sn**	**20 29 36.5**	**-2.7**
	13nm,0.2s						
EBAD	**Badajoz**	**4.44**	**327**	P	**Pn**	**20 28 47.2**	**-0.6**
	0.8nm,0.1s,SNR=12						
EBAD				S	**Sn**	**20 29 36.5**	**-2.6**
	13nm,0.2s						
ESDC	**Sonseca Array**	**4.62**	**360**	P	**Pn**	**20 28 50.6**	**+0.3**
	3.1nm,0.5s,baz=180,slow=14,SNR=4.0						
ESDC	**Sonseca Array**	**4.62**	**360**	P	**Pn**	**20 28 50.6**	**+0.3**
	3.1nm,0.5s,SNR=4.0						
OUK	**Oukaimeden**	**5.04**	**222**	P	**Pn**	**20 28 55.0**	**-1.0**
OUK				S	**Sn**	**20 29 51.0**	**-2.8**
CIA	**Chichaoua**	**5.31**	**231**	P	**Pn**	**20 28 59.5**	**-0.2**
CIA				S	**Sn**	**20 29 58.0**	**-2.5**
CIA	**Chichaoua**	**5.31**	**231**	*i* P	**Pn**	**20 28 59.5**	**-0.2**
GUD	**Guadarrama**	**5.59**	**358**	P	**Pn**	**20 29 03.7**	**+0.1**
	0.6nm,0.2s,SNR=7.0						
GUD				S	**Sn**	**20 30 06.1**	**-1.5**
	2.5nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**7.22**	**343**	P	**Pn**	**20 29 26.6**	**+0.6**
	1.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**20 30 43.1**	**-4.6**
	17nm,0.8s,SNR=4.0						
ELOB	**Lobios**	**7.53**	**336**	P	**Pn**	**20 29 30.3**	**0.0**
	0.9nm,0.2s,SNR=4.0						
ELOB				S	**Sn**	**20 30 51.7**	**-3.6**
	1.7nm,0.3s,SNR=4.0						

IDC 19 20:28:08.7±1.6, 7815×12745E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/13, Error ellipse: s-maj=172.4km s-min=29.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**152**	Pn	Pn	20 31 24.1	-1.4
	0.1nm,0.3s,baz=329,slow=14,SNR=12						
ASAR	**Alice Springs**	**16.94**	**159**	Pn	Pn	20 32 08.8	+1.7
	0.1nm,0.3s,baz=335,slow=11,SNR=8.2						
SONM	**Songino Array**	**58.44**	**344**	P	P	20 38 06.4	+0.2
	0.6nm,0.8s,baz=170,slow=8.4,SNR=5.8						
AFI	**Afiamalu**	**59.87**	**102**	LR	LR	20 58 03.7	
	comp=Z,76nm,21.5s,baz=217,slow=30						
MKAR	**Makanchi Array**	**67.54**	**328**	P	P	20 39 06.9	+0.1
	0.1nm,0.4s,baz=117,slow=8.1,SNR=4.1						

IDC 19 20:30:39.5±2.3, 7145×12930E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/14, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=144.3km s-min=32.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.64**	**159**	Pn	Pn	20 33 53.2	-0.9
	0.3nm,0.3s,baz=342,slow=13,SNR=9.1						
WRA				Sn	Sn	20 36 16.0	-10
	0.2nm,0.3s,baz=340,slow=20,SNR=5.1						
ASAR	**Alice Springs**	**17.02**	**165**	P	Pn	20 34 40.1	+1.3
	0.1nm,0.3s,baz=344,slow=9.9,SNR=6.2						
MKAR	**Makanchi Array**	**67.96**	**327**	P	P	20 41 40.4	+0.2
	0.3nm,0.9s,baz=126,slow=7.6,SNR=4.0						

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*ISCJB **19** 20:55:17.7±0.5, 4306N±002×1793E±002, h0km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=153.1*
*NEIC **19** 20:55:18.9, 4295N×1794E, h11km, ML3.0(PDG), After PDG.*
*PDG **19** 20:55:18.9±0.2, 4295N×1794E, h11km*
*PRU **19** 20:55:18.7, 4300N×1806E, h0km*
ISC 19 20:55:18.9±0.5, 4303N±002×1793E±002, h0km±4km, n58, σ1§31/89, 20C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.23**	**227**	*i* Pg	**Pg**	**20 55 23.4**	**0.0**
STON				*i* Sg	**Sg**	**20 55 27.2**	**+0.8**
BRY	**Bratogost**	**0.47**	**106**	⇑*i*Pg	**Pg**	**20 55 27.1**	**-0.8**
BRY				*e*Sg	**Sg**	**20 55 34.4**	**+0.5**
HCY	**Herceg Novi**	**0.72**	**144**	⇓*i*Pg	**Pg**	**20 55 31.1**	**-1.5**
HCY				*e*Sg	**Sg**	**20 55 41.7**	**-0.3**
UPM	**Unac-Piva**	**0.73**	**76**	⇑*i*Pg	**Pg**	**20 55 31.9**	**-1.1**
UPM				*e*Sg	**Sg**	**20 55 44.0**	**+1.5**
NKY	**Niksic**	**0.81**	**105**	⇑*i*Pg	**Pg**	**20 55 33.5**	**-1.0**
NKY				*e*Sg	**Sg**	**20 55 46.1**	**+1.1**
BUM	**Brajici-Budva**	**1.02**	**135**	*e*Pg	**Pg**	**20 55 37.0**	**-1.5**
BUM				*e*Sg	**Sg**	**20 55 51.8**	**+0.1**
PLE	**Pljevlja**	**1.11**	**74**	*e*Pg	**Pg**	**20 55 39.5**	**-0.6**
PLE				*e*Sg	**Sg**	**20 55 57.3**	**+2.8**
TTG	**Podgorica**	**1.15**	**121**	*e*Pg	**Pg**	**20 55 39.3**	**-1.6**
TTG				*e*Sg	**Sg**	**20 55 57.1**	**+1.3**
BBLS	**Bajina Basta -**	**1.36**	**52**	*e*Pg	**Pg**	**20 55 41.5**	**-3.5**
BBLS				Sg	**Sg**	**20 56 01.7**	**-0.9**
ULC	**Ulcinj**	**1.45**	**137**	*e*Pg	**Pg**	**20 55 44.4**	**-2.2**
ULC				*e*Sg	**Sg**	**20 56 06.4**	**+1.1**
IVA	**Berane**	**1.45**	**96**	⇓*i*Pg	**Pg**	**20 55 45.6**	**-1.1**
IVA				*e*Sg	**Sg**	**20 56 07.8**	**+2.2**
PVY	**Plav**	**1.56**	**106**	⇑*i*Pg	**Pg**	**20 55 47.9**	**-0.9**
PVY				*e*Sg	**Sg**	**20 56 10.6**	**+1.4**
BCI	**Bajram Curri**	**1.71**	**112**	*i* Pn	**Pn**	**20 55 50.4**	**+0.6**
BCI				*i* Sn	**Sn**	**20 56 15.1**	**+2.8**
PUK	**Puka**	**1.75**	**124**	*i* Pn	**Pn**	**20 55 51.7**	**+1.2**
PUK				*i* Sn	**Sn**	**20 56 16.8**	**+3.3**
DIVS	**Divcibare**	**1.84**	**54**	*i* Pn	**Pn**	**20 55 51.6**	**-0.1**
DIVS				Sg	**Sg**	**20 56 19.9**	**+2.0**
FGMS	**Monte Sant'Ang**	**1.98**	**229**	Pn	**Pn**

KHC *e*SN **Sn** **20 58 16.9 -1.3**

MAN 19 20:56:36.2, 981N×12547E, h33km, mb2.1, ML3.8, MS6.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.03**	**147**	⇓*e*P	Pb	20 56 41.2	-0.4
SCPH				*e*S	Sb	20 56 45.6	+0.3
MSLP	**Maasin**	**0.69**	**298**	*e*P	Pn	20 56 49.9	+0.4
BUTP	**Butuan**	**0.84**	**170**	*e*P	Pn	20 56 52.6	+0.9

NAO ***19*** *21:04:09.4, 791S×105 26E, h33km, mb4.9*
MOS ***19*** *21:05:10.3±0.8, 492S×108.12E, h553km, mb4.5/16, Error ellipse: s-maj=14.7km s-min=6.7km az=121.3*
ISCJB ***19*** *21:05:14.7±0.4, 510S±004×108.17E±005, h617km±6km, mb4.6/81, Error ellipse: s-maj=8.4km s-min=5.7km az=113.1*
IDC ***19*** *21:05:15.9±1.0, 503S×108.15E, h610km±11km, mb3.9/27, mb1 3.9/27, mb1mx3.9/28, mbtmp4.8/27, Error ellipse: s-maj=12.4km s-min=7.1km az=53.0*
NEIC ***19*** *21:05:15.9±0.5, 504S×108.18E, h611km±6km, mb4.8/28, Error ellipse: s-maj=7.1km s-min=3.6km az=51.0*
BJI ***19*** *21:05:15.9, 500S×10820E, h611km, mB4.7, mb4.8*
ISC 19 21:05:15.9±0.5, 511S±004×10819E±005, h613km±5km, h605km±1.0km:pP-P, n201, σ0.9 94/179, mb4.6/80, 21C-21D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**1.38**	**177**	P	**P**	**21 06 27.9**	**-1.3**
2μm,0.8s							
CBJI	**Citeko**	**1.86**	**226**	P	**P**	**21 06 28.8**	**-2.0**
1μm,0.8s							
KSM	**Kuching**	**6.87**	**18**	*e*P	**P**	**21 07 05.0**	**-0.3**
IPM	**Ipoh**	**11.91**	**323**	P	**P**	**21 07 53.9**	**+0.2**
TSI	**Tuntungan**	**12.87**	**311**	P	**P**	**21 08 04.3**	**+1.0**
102nm,0.8s							
KKM	**Kota Kinabalu**	**13.67**	**36**	P	**P**	**21 08 11.0**	**-0.2**
KKM	**Kota Kinabalu**	**13.67**	**36**	*e*P	**P**	**21 08 10.8**	**-0.5**
MBWA	**Marble Bar**	**19.50**	**146**	*e*P	**P**	**21 09 05.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**21.39**	**129**	*e*P	**P**	**21 09 22.1**	**+0.6**
6.0nm,0.5s,mb4.5							
KAKA	**Kakadu**	**25.11**	**109**	*e*P	**P**	**21 09 54.0**	**-0.3**
17nm,0.5s,mb4.9							
NWAO	**Narrogin (SRO)**	**28.94**	**164**	P	**P**	**21 10 28.4**	**+0.7**
2.5nm,0.6s,mb4.1,baz=324,slow=14,SNR=4.8							
NWAO	**Narrogin (SRO)**	**28.94**	**164**	P	**P**	**21 10 28.4**	**+0.7**
WRA	**Warramunga Arr**	**29.41**	**122**	P	**P**	**21 10 32.3**	**+0.5**
3.1nm,0.4s,mb4.3,baz=290,slow=11,SNR=97							
WRA				PcP	PcP	21 13 18.3	+1.0
6.4nm,0.5s,baz=302,slow=2.0,SNR=20							
WRA				S	**S**	**21 14 42.5**	**-1.7**
4.3nm,0.8s,baz=294,slow=16,SNR=10.0							
WRA				ScP	ScP	21 16 03.6	+1.7
4.0nm,0.8s,baz=315,slow=2.7,SNR=7.9							
WRAB	**Tennant Creek**	**29.41**	**122**	*e*P	**P**	**21 10 32.4**	**+0.6**
16nm,0.4s,mb5.0							
WB2	**Warramunga Arr**	**29.42**	**122**	⇑*i*P	**P**	**21 10 32.5**	**+0.6**
WB2				*i* PCP	PcP	21 13 18.3	+1.0
WB2				*e*S	**S**	**21 14 41.7**	**-2.7**
WB2				*e*SCS	ScS	21 19 56.9	-1.1
KMI	**Kunming**	**30.51**	**350**	P	**P**	**21 10 43.9**	**+2.6**
KMI				AMB	AMB		
comp=Z,17nm,1.0s,mb4.6							
ASAR	**Alice Springs**	**30.89**	**129**	P	**P**	**21 10 45.5**	**+1.1**
comp=Z,2.0nm,0.3s,mb4.2,baz=306,slow=7.9,SNR=52							
ASAR				PcP	PcP	21 13 22.1	+0.8
comp=Z,6.0nm,0.8s,baz=324,slow=2.2,SNR=25							
ASAR				S	**S**	**21 15 05.8**	**-1.2**
comp=Z,1.8nm,0.6s,baz=298,slow=16,SNR=7.6							
ASAR				ScP	ScP	21 16 09.2	+2.3
comp=Z,4.6nm,0.9s,baz=303,slow=3.0,SNR=13							
ASAR				PKiKP	PKiKP	21 20 49.4	-0.7
comp=Z,0.6nm,0.7s,baz=349,slow=2.8,SNR=4.1							
ASAR	**Alice Springs**	**30.89**	**129**	P	**P**	**21 10 45.5**	**+1.0**
ASAR	**Alice Springs**	**30.89**	**129**	P	**P**	**21 10 45.5**	**+1.1**
ASAR				PcP	PcP	21 13 22.1	+0.8
ASAR				S	**S**	**21 15 05.8**	**-1.2**
ASAR				ScP	ScP	21 16 09.2	+2.3
GYA	**Guiyang**	**31.41**	**357**	⇑*i*P	**P**	**21 10 50.3**	**+1.4**
GYA				XP	sP	21 13 36.8	-0.6
GYA				S	**S**	**21 15 19.5**	**+4.6**
GYA				SCS	ScS	21 20 09.4	+1.4
GYA				AMB	AMB		
comp=Z,30nm,0.8s,mb5.0							
GYA				AMB	AMB		
comp=Z,90nm,3.0s							
VIS	**Vishakhapatnam**	**33.42**	**313**	*e*P	**P**	**21 11 06.0**	**+0.3**
SHL	**Shillong**	**34.36**	**333**	*e*P	**P**	**21 11 15.0**	**+1.4**
SHL				*e*P		21 11 17.3	
SHL				AMb	AMB	21 11 18.6	
comp=Z,559nm,0.8s							
SHL				*e*x	x	21 15 50.0	
ENH	**Enshi**	**35.20**	**2**	*e*P	**P**	**21 11 20.9**	**+0.3**
comp=Z,21nm,1.0s,mb4.7							
BOK	**Bokaro**	**36.03**	**324**	*e*P	**P**	**21 11 27.0**	**-0.5**
BOK				AMb	AMB	21 11 28.8	
comp=Z,33nm,0.7s,mb5.0							
CD2	**Chengdu**	**36.06**	**354**	*e*P	**P**	**21 11 29.5**	**+1.8**
CD2				AP		21 13 10.0	
CD2				PP	PP	21 13 12.1	-0.7
CD2				XP	sP	21 14 17.8	-0.5
CD2				S	**S**	**21 16 29.8**	**+5.0**
CD2				AMB	AMB		
comp=Z,20nm,0.7s,mb4.8							
CD2				AMB	AMB		
comp=Z,60nm,5.2s							
HYB	**Hyderabad**	**36.84**	**308**	*i* P	**P**	**21 11 34.0**	**-0.1**
comp=Z,50nm,1.0s,mb5.0							
HYB	**Hyderabad**	**36.84**	**308**	*e*P	**P**	**21 11 34.0**	**-0.1**
comp=Z,50nm,1.0s,mb5.0							
SSE	**Sheshan**	**38.08**	**18**	P	**P**	**21 11 45.3**	**+1.2**
SSE				AMB	AMB		
comp=Z,13nm,0.7s,mb4.6							
SSE				AMB	AMB		
comp=Z,45nm,2.7s,mb4.5							
LSA	**Lhasa**	**38.28**	**336**	P	**P**	**21 11 47.4**	**+1.7**
LSA				*e*S	**S**	**21 16 56.6**	**-0.8**
LSA				AMB	AMB		
comp=Z,90nm,0.7s,mb5.4							
LSA	**Lhasa**	**38.28**	**336**	*e*P	**P**	**21 11 47.3**	**+1.6**
comp=Z,62nm,0.7s,mb5.2							
LSA				*e*S	**S**	**21 16 59.2**	**+1.8**
NJ2	**Nanjing**	**38.32**	**15**	*e*P	**P**	**21 11 46.3**	**+0.2**
NJ2				AP		21 13 28.6	
NJ2				PP	PP	21 13 31.4	-2.2
NJ2				XP	sP	21 14 35.0	-2.9
NJ2				S	**S**	**21 17 01.0**	**+2.9**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.5							
NJ2				AMB	AMB		
comp=Z,1μm,5.8s							
NGP	**Nagpur**	**38.70**	**313**	*e*P	**P**	**21 11 48.0**	**-1.1**
PMG	**Port Moresby**	**38.88**	**99**	P	**P**	**21 11 52.1**	**+1.6**
comp=Z,24nm,0.6s,mb4.9,baz=175,slow=3.8,SNR=13							
PMG	**Port Moresby**	**38.88**	**99**	*e*P	**P**	**21 11 51.7**	**+1.2**
JIRN	**Jiri**	**38.89**	**328**	*e*P	**P**	**21 11 51.3**	**+0.7**
comp=Z,154nm,0.7s,mb5.6							
XAN	**Xi'an**	**38.94**	**1**	P	**P**	**21 11 51.3**	**+0.3**
XAN				AMB	AMB		
comp=Z,32nm,0.7s,mb5.0							
PKI	**Pulchoki**	**39.23**	**327**	⇓*i*P	**P**	**21 11 53.6**	**+0.2**
comp=Z,45nm,0.8s,mb5.0							
GUN	**Gumba**	**39.25**	**328**	⇓*i*P	**P**	**21 11 54.3**	**+0.8**
comp=Z,164nm,0.5s							
DMN	**Daman**	**39.43**	**327**	⇓*i*P	**P**	**21 11 55.2**	**+0.3**
comp=Z,129nm,0.6s,mb5.6							
KKN	**Kakani**	**39.48**	**327**	⇓*i*P	**P**	**21 11 55.4**	**+0.1**
comp=Z,86nm,0.9s,mb5.3							
CTA	**Charters Tower**	**39.89**	**115**	P	**P**	**21 11 59.8**	**+1.2**
comp=Z,1.8nm,0.4s,mb3.9,baz=307,slow=10,SNR=3.9							
CTA				PcP	PcP	21 13 49.9	+1.4
comp=Z,5.0nm,0.5s,baz=267,slow=3.8,SNR=8.0							
CTA				ScP	ScP	21 16 42.8	+2.9
comp=Z,4.0nm,0.7s,baz=315,slow=5.7,SNR=3.4							
GKN	**Gorkha**	**39.99**	**327**	⇓*i*P	**P**	**21 11 59.6**	**+0.2**
comp=Z,142nm,0.7s,mb5.6							
KAD	**Karad**	**40.30**	**304**	*e*P	**P**	**21 12 01.8**	**-0.1**
KOLN	**Koldanda**	**40.39**	**325**	⇓*i*P	**P**	**21 12 02.8**	**+0.2**
comp=Z,129nm,0.5s							
STKA	**Stephens Creek**	**41.07**	**135**	⇓*i*P	**P**	**21 12 07.0**	**-0.9**
comp=Z,8.6nm,0.6s,mb4.5							
STKA				*i* PCP	PcP	21 13 51.2	-1.1
STKA				*e*S	**S**	**21 17 35.8**	**-2.1**
STKA	**Stephens Creek**	**41.07**	**135**	P	**P**	**21 12 07.3**	**-0.7**
comp=Z,9.0nm,0.5s,mb4.6,baz=313,slow=8.1,SNR=29							
STKA				PcP	PcP	21 13 51.5	-0.9
comp=Z,9.5nm,0.5s,baz=325,slow=3.6,SNR=11							
STKA				ScP	ScP	21 16 44.0	-0.6
comp=Z,1.0nm,0.5s,baz=310,slow=6.6,SNR=4.7							
STKA				S	**S**	**21 17 36.0**	**-1.9**
comp=Z,2.1nm,0.7s,baz=210,slow=23,SNR=3.2							
LZH	**Lanzhou**	**41.18**	**355**	⇓P	**P**	**21 12 09.8**	**+1.0**
LZH				AP	pP	21 13 54.0	+0.8
LZH				XP	sP	21 14 59.5	-2.6
LZH				AMB	AMB		
comp=Z,26nm,1.0s,mb4.7							
BHPL	**Bhopal**	**41.18**	**314**	*e*P	**P**	**21 12 08.5**	**-0.3**
BHPL				AMb	AMB	21 12 09.2	
comp=Z,37nm,0.6s,mb5.1							
POO	**Poona**	**41.20**	**306**	⇓*i*P	**P**	**21 12 08.5**	**-0.4**
NDI	**New Delhi**	**44.91**	**320**	*e*P	**P**	**21 12 36.0**	**-1.6**
GTA	**Gaotai**	**44.97**	**351**	P	**P**	**21 12 39.6**	**+1.5**
GTA				PCP	PcP	21 14 06.6	+0.9
GTA				AP	pP	21 14 26.3	+0.9
GTA				PP	PP	21 14 36.8	+2.6
GTA				XP	sP	21 15 34.3	+0.9
GTA				AMB	AMB		
comp=Z,14nm,0.6s,mb4.7							
HHC	**Hu-ho-hao-te**	**45.84**	**4**	*e*P	**P**	**21 12 44.8**	**+0.1**
HHC				PCP	PcP	21 14 09.3	+0.5
HHC				AP	pP	21 14 32.0	-0.7
HHC				PP	PP	21 14 45.3	+3.2
HHC				XP	sP	21 15 35.6	-4.8
HHC				SCP	ScP	21 17 04.3	+0.1
HHC				S	**S**	**21 18 46.3**	**+1.1**
HHC				AMB	AMB		
comp=Z,258nm,1.3s,mb5.6							
SMLA	**Simla**	**46.64**	**323**	*e*P	**P**	**21 12 49.2**	**-1.6**
SMLA				AMb	AMB	21 12 49.6	
comp=Z,162nm,0.4s							
SNY	**Shenyang**	**48.78**	**15**	⇑P	**P**	**21 13 07.5**	**+0.9**
SNY				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
MJAR	**Matsushiro Arr**	**50.05**	**32**	PcP	PcP	21 14 25.4	+1.2
comp=Z,2.0nm,0.7s,baz=206,slow=4.7,SNR=8.0							
CN2	**Changchun**	**51.12**	**16**	*e*P	**P**	**21 13 23.0**	**-0.6**
CN2				*e*AP	pP	21 15 14.3	-1.1
CN2				*e*S	**S**	**21 19 58.0**	**+0.9**
CN2				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.1							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
WMQ	**Urumqi**	**52.09**	**341**	*e*P	**P**	**21 13 31.5**	**+0.8**
WMQ				AP	pP	21 15 23.5	+0.4
WMQ				XP	sP	21 16 27.5	-2.0
WMQ				S	**S**	**21 20 12.0**	**+1.8**
WMQ				SCS	ScS	21 22 16.0	-0.3
WMQ				AMB	AMB		
comp=Z,21nm,1.0s,mb4.4							
WMQ				AMB	AMB		
comp=Z,107nm,5.0s							
SONM	**Songino Array**	**52.74**	**358**	P	**P**	**21 13 35.9**	**+0.7**
comp=Z,13nm,0.6s,mb4.5,baz=177,slow=8.3,SNR=160							
SONM				PcP	PcP	21 14 34.6	+0.2
comp=Z,10nm,0.5s,baz=179,slow=4.0,SNR=34							
ULN	**Ulaanbaatar**	**52.76**	**359**	*e*P	**P**	**21 13 35.7**	**+0.3**
comp=Z,16nm,0.6s,mb4.5							
MDJ	**Mudanjiang**	**53.10**	**19**	P	**P**	**21 13 38.6**	**+0.8**
MDJ				AMB	AMB		
comp=Z,81nm,4.6s							
KSH	**Kashi**	**53.43**	**329**	*i* PR		21 13 40.5	
KSH				*e*PCP	PcP	21 14 38.1	+1.1
KSH				*e*AP	pP	21 15 33.3	-0.2
KSH				*e*PP	PP	21 15 53.1	+3.3
KSH				*e*XP	sP	21 16 37.1	-2.4
KSH				*e*S	**S**	**21 20 24.4**	**-3.3**
KSH				*e*SCS	ScS	21 22 25.4	-0.4
KSH				AMB	AMB		
comp=Z,70nm,0.9s,mb5.0							
ZAK	**Zakamensk**	**55.43**	**356**	*e*P	**P**	**21 13 52.5**	**-1.5**
ZAK				*e*		21 14 44.2	
ZAK				pmax	pmax		
comp=Z,8.0nm,1.2s,mb3.9							
ZAK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.0							
KZA	**Kyzart**	**55.71**	**331**	P	**P**	**21 13 56.9**	**+0.9**
SNR=10							
TKM2	**Tokmak 2**	**56.19**	**332**	P	**P**	**21 13 59.5**	**+0.2**
SNR=8.8							
UCH	**Uchtor**	**56.19**	**330**	P	**P**	**21 13 59.6**	**+0.3**
SNR=7.6							
KBK	**Karagaybulak**	**56.30**	**331**	P	**P**	**21 14 00.6**	**+0.6**
SNR=8.6							
SMDO	**Samad**	**56.39**	**302**	P	**P**	**21 14 00.9**	**+0.3**
SNR=11							
AAK	**Ala-Archa**	**56.50**	**331**	P	**P**	**21 14 01.8**	**+0.4**
SNR=9.2							
AAK	**Ala-Archa**	**56.50**	**331**	*d i*P	**P**	**21 14 00.5**	**-0.9**
AAK				pmax	pmax		
comp=Z,21nm,1.2s,mb4.2							
AAK	**Ala-Archa**	**56.50**	**331**	*e*P	**P**	**21 14 00.4**	**-1.0**
comp=Z,23nm,1.2s,mb4.3							
BIDO	**Bidbid**	**56.51**	**302**	P	**P**	**21 14 01.8**	**+0.4**
SNR=21							
AML	**Almayashu**	**56.52**	**330**	P	**P**	**21 14 02.0**	**+0.4**
SNR=33							
MKAR	**Makanchi Array**	**56.54**	**339**	P	**P**	**21 14 01.6**	**-0.1**
comp=Z,38nm,0.5s,mb4.9,baz=148,slow=7.0,SNR=347							
MKAR				PcP	PcP	21 14 49.3	+0.1
comp=Z,4.1nm,0.7s,baz=132,slow=6.7,SNR=4.2							
MKAR				S	**S**	**21 21 08.4**	**+0.5**
comp=Z,0.6nm,0.7s,baz=155,slow=12,SNR=6.0							
EKS2	**Erkin-Say**	**56.88**	**330**	P	**P**	**21 14 04.3**	**+0.4**
SNR=5.0							
MOY	**Mondy**	**56.89**	**355**	*e*P	**P**	**21 14 04.6**	**+0.6**
USP	**Ospenovka**	**56.97**	**331**	P	**P**	**21 14 04.4**	**-0.2**
SNR=12							
BSY	**Bisya**	**56.99**	**301**	P	**P**	**21 14 04.9**	**+0.2**
SNR=12							
KLR	**Kul'dur**	**57.88**	**18**	*e*P	**P**	**21 14 07.1**	**-3.6**
WHFO	**Wadi Hawf**	**58.34**	**295**	P	**P**	**21 14 13.4**	**-0.5**
SNR=27							
ABTO	**Aybut**	**58.61**	**294**	P	**P**	**21 14 15.7**	**0.0**
SNR=26							
KK31	**Karatay Array**	**58.85**	**328**	*i* P	**P**	**21 14 15.7**	**-1.6**
KK31				pmax	pmax		
comp=Z,4.0nm,0.5s,mb3.8							
KKAR	**Karatay Array**	**58.85**	**328**	*e*P	**P**	**21 14 15.7**	**-1.6**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
YSS	**Yuzh-Sakhalins**	**60.17**	**27**	*i* P	**P**	**21 14 25.8**	**-0.2**
YSS				pmax	pmax		
comp=Z,25nm,1.4s,mb4.2							
OPO	**Ambohidratompo**	**60.92**	**252**	P	**P**	**21 14 32.2**	**+1.3**
comp=Z,4.1nm,0.8s,mb3.7,baz=92,slow=13,SNR=5.8							
KURK	**Kurchatov**	**61.15**	**339**	*d i*P	**P**	**21 14 32.2**	**-0.2**
KURK	**Kurchatov**	**61.15**	**339**	*e*P	**P**	**21 14 32.1**	**-0.3**
comp=Z,39nm,0.7s,mb4.8							
ZAL	**Zalesovo**	**62.02**	**345**	P	**P**	**21 14 37.4**	**-0.6**
comp=Z,24nm,0.4s,mb4.8,baz=334,slow=3.6,SNR=105							
ZAL				S	**S**	**21 22 13.3**	**-3.0**
comp=Z,0.6nm,0.5s,baz=193,slow=19,SNR=8.4							
KRAR	**Krasnoyarsk**	**62.20**	**350**	*i* P	**P**	**21 14 38.7**	**-0.5**
KRAR				pmax	pmax		
comp=Z,42nm,1.1s,mb4.6							
BOD	**Bodaibo**	**62.90**	**3**	*e*P	**P**	**21 14 42.8**	**-0.9**
BOD				pmax	pmax		
comp=Z,11nm,0.9s,mb4.2							
NVS	**Novosibirsk**	**63.24**	**344**	*e*P	**P**	**21 14 42.3**	**-3.6**
NVS				pmax	pmax		
comp=Z,15nm,1.5s,mb4.1							
NVS				pmax	pmax		
comp=N,9.0nm,1.4s							
NVS				pmax	pmax		
comp=E,7.0nm,1.3s							
VOSK	**Vostochnaya**	**65.65**	**336**	P	**P**	**21 14 59.1**	**-1.9**
VOSK				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.1							
BVA0	**Borovoye Array**	**66.11**	**336**	*i* P	**P**	**21 15 03.1**	**-0.8**
BVA0				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.8							
BVAR	**Borovoye Array**	**66.11**	**336**	P	**P**	**21 15 03.4**	**-0.5**
comp=Z,24nm,0.6s,mb4.8,baz=142,slow=8.8,SNR=279							
BRVK	**Borovoye**	**66.18**	**336**	*e*P	**P**	**21 15 03.7**	**-0.6**
BRVK				pmax	pmax		
comp=Z,12nm,0.8s,mb4.4							
BRVK	**Borovoye**	**66.18**	**336**	*e*P	**P**	**21 15 03.6**	**-0.7**
comp=Z,12nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**66.62**	**335**	*e*P	**P**	**21 15 06.5**	**-0.5**
ZRNK				pmax	pmax		
comp=Z,38nm,0.7s,mb4.9							
ZRNK	**Zerenda**	**66.62**	**335**	*e*P	**P**	**21 15 06.5**	**-0.6**
comp=Z,38nm,0.7s,mb4.9							
AB31	**Akbulak array**	**68.42**	**328**	P	**P**	**21 15 17.1**	**-0.9**
AB31				pmax	pmax		
comp=Z,14nm,0.5s,mb4.7							
YAK	**Yakutsk**	**68.96**	**11**	*d i*P	**P**	**21 15 20.2**	**-1.0**
YAK				pmax	pmax		
comp=Z,57nm,0.8s,mb5.0							
YAK	**Yakutsk**	**68.96**	**11**	*e*P	**P**	**21 15 19.9**	**-1.3**
comp=Z,54nm,0.8s,mb5.0							
AKTK	**Aktyubinsk**	**70.12**	**329**	P	**P**	**21 15 27.6**	**-0.6**
AKTO	**Aktyubinsk**	**70.12**	**329**	P	**P**	**21 15 27.6**	**-0.6**
comp=Z,9.7nm,0.6s,mb4.4,baz=89,slow=3.5,SNR=39							
AKTO	**Aktyubinsk**	**70.12**	**329**	P	**P**	**21 15 26.9**	**-1.2**
AKTO				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.7							
KMBO	**Kilima Mbogo**	**70.91**	**271**	P	**P**	**21 15 33.6**	**+0.8**
comp=Z,2.7nm,0.5s,mb4.1,baz=64,slow=9.7,SNR=11							
MA2	**Magadan**	**72.71**	**21**	*e*P	**P**	**21 15 43.2**	**+0.1**
MA2	**Magadan**	**72.71**	**21**	*e*P	**P**	**21 15 42.8**	**-0.3**
comp=Z,8.2nm,0.9s,mb4.3							
ARU	**Arti**	**73.44**	**334**	⇑*i*P	**P**	**21 15 46.5**	**-0.8**
ARU				*e*		21 18 41.5	
ARU				*e*PPP		21 20 27.1	
ARU				*e*S	S	21 24 27.7	-0.9
ARU				*e*SS	SS	21 29 25.2	-3.4
ARU				pmax	pmax		
comp=Z,24nm,1.1s,mb4.6							
ARU	**Arti**	**73.44**	**334**	*e*P	**P**	**21 15 46.4**	**-0.9**
comp=Z,23nm,1.0s,mb4.7							
GNI	**Garni**	**73.47**	**314**	P	**P**	**21 15 48.2**	**+0.8**
comp=Z,4.4nm,0.7s,mb4.1,baz=175,slow=11,SNR=5.2							
SEY	**Seymchan**	**75.64**	**19**	⇓*e*P	**P**	**21 15 59.4**	**-0.2**
MALT	**Malatya**	**77.50**	**311**	⇑P	**P**	**21 16 10.4**	**+0.7**
VNDA	**Vanda**	**77.60**	**170**	P	**P**	**21 16 10.7**	**+0.5**
comp=Z,3.4nm,0.6s,mb4.0,baz=301,slow=5.8,SNR=21							
SYO	**Syowa Base**	**77.67**	**200**	⇓*e*P	**P**	**21 16 11.3**	**+0.7**
TIXI	**Tiksi**	**77.80**	**7**	⇑*i*P	**P**	**21 16 08.7**	**-2.6**
TIXI				pmax	pmax		
comp=Z,18nm,0.7s,mb4.6							
LSZ	**Lusaka**	**79.04**	**255**	P	**P**	**21 16 19.1**	**+1.2**
comp=Z,9.1nm,0.5s,mb4.3,baz=84,slow=5.5,SNR=52							
LSZ	**Lusaka**	**79.04**	**255**	*e*P	**P**	**21 16 18.9**	**+1.0**
LSZ				pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.0							
LSZ	**Lusaka**	**79.04**	**255**	*e*P	**P**	**21 16 18.9**	**+1.0**
comp=Z,3.1nm,0.4s,mb4.0							
ANN	**Anapa**	**80.12**	**317**	*e*P	**P**	**21 16 25.7**	**+2.2**
ANN				*i*		21 19 37.0	
ANN				*e*S	S	21 25 45.9	+6.9
ANN				pmax	pmax		
comp=Z,39nm,1.1s,mb4.7							
CSS	**Prodhromos**	**80.60**	**307**	*e*P	**P**	**21 16 27.3**	**+1.3**
comp=Z,34nm,1.0s,mb4.7							
VRSR	**Storozhevoye**	**81.04**	**324**	*d i*P	**P**	**21 16 27.2**	**-1.1**
VRSR				pmax	pmax		
comp=N,2.0nm,0.9s							
VRSR				pmax	pmax		
comp=E,5.0nm,0.9s							
VRSR				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.0							
BOSA	**Boshof**	**81.38**	**242**	P	**P**	**21 16 30.9**	**+0.8**
comp=Z,4.0nm,0.5s,mb4.1,baz=100,slow=3.3,SNR=20							
BRTR	**Keskin Array B**	**81.47**	**311**	P	**P**	**21 16 30.3**	**-0.2**
comp=Z,16nm,0.7s,mb4.6,baz=135,slow=7.2,SNR=137							
BRTR				PP	PP	21 19 42.4	-5.9
comp=Z,0.3nm,0.6s,baz=95,slow=4.8,SNR=2.4							
ANTO	**Ankara**	**82.13**	**311**	*e*P	**P**	**21 16 33.8**	**0.0**
ANTO				pmax	pmax		
comp=Z,19nm,1.4s,mb4.4							
ANTO	**Ankara**	**82.13**	**311**	*e*P	**P**	**21 16 33.8**	**-0.1**
comp=Z,19nm,1.4s,mb4.4							
SIM	**Simferopol'**	**82.42**	**316**	*e*P	**P**	**21 16 35.0**	**-0.3**
SIM				pmax	pmax		
comp=Z,71nm,0.7s,mb5.3							
BILL	**Bilibino**	**83.33**	**19**	⇓*e*P	**P**	**21 16 38.6**	**-1.2**
BILL				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.2							
BILL	**Bilibino**	**83.33**	**19**	*e*P	**P**	**21 16 38.9**	**-1.0**
comp=Z,2.5nm,0.6s,mb3.9							
OBN	**Obninsk**	**83.80**	**327**	*d i*P	**P**	**21 16 41.4**	**-0.7**
OBN				*e*		21 20 06.5	
OBN				*e*S	S	21 26 05.4	-10
OBN				pmax	pmax		
comp=Z,14nm,0.5s,mb4.8							
OBN	**Obninsk**	**83.80**	**327**	*e*P	**P**	**21 16 41.4**	**-0.7**
comp=Z,11nm,0.7s,mb4.5							
KLMR	**Klimovskoe**	**84.25**	**333**	*d i*P	**P**	**21 16 43.4**	**-0.9**
KLMR				*e*		21 20 08.7	
KLMR				pmax	pmax		
comp=Z,50nm,1.6s,mb4.8							
QSPA	**South Pole Qui**	**84.87**	**180**	*e*P	**P**	**21 16 48.1**	**+0.8**
comp=Z,11nm,0.4s,mb4.8							
TIRR	**Tirgusor**	**86.28**	**315**	⇑P	**P**	**21 16 54.5**	**+0.4**
TIRR	**Tirgusor**	**86.28**	**315**	⇑P	**P**	**21 16 54.5**	**+0.4**
CFR	**Carcaliu**	**86.61**	**316**	⇑P	**P**	**

YKA	**Yellowknife Ar**	**114.69**	**20**	PKP	PKPdf	21 22 46.9	-0.9
YKA				PKKPbc	PKKPbc	21 33 27.1	-0.1
YKA				PKKPab	PKKPab	21 33 34.9	-0.5
FRB	**Frobisher Bay**	**121.43**	**358**	PKP	PKPdf	21 22 59.8	-1.0
	comp=Z,7.5nm,1.0s,baz=76,slow=21,SNR=4.2						
NEW	**Newport**	**122.27**	**34**	PKP	PKPdf	21 23 02.0	-0.4
	comp=Z,0.4nm,0.4s,baz=359,slow=2.6,SNR=5.9						
OHCM	**Honcut**	**123.76**	**45**	*e*PKPdf	PKPdf	21 23 05.9	+0.6
NVAR	**Mina Array Bea**	**126.40**	**45**	PKP	PKPdf	21 23 12.6	+2.3
	comp=Z,1.4nm,0.6s,baz=252,slow=2.2,SNR=13						
NVAR				SKPbc		21 25 31.4	
	comp=Z,0.5nm,0.8s,baz=316,slow=2.4,SNR=4.0						
PDAR	**Pinedale Array**	**129.78**	**36**	PKP	PKPdf	21 23 18.2	+1.5
	comp=Z,1.0nm,0.6s,baz=23,slow=0.8,SNR=13						
PDAR				SKPbc	SKPbc	21 25 44.6	+1.7
	comp=Z,1.0nm,0.9s,baz=284,slow=2.4,SNR=7.1						
ULM	**Lac du Bonnet**	**130.67**	**20**	SKPbc	SKPbc	21 25 46.1	-0.1
	comp=Z,5.3nm,0.8s,baz=310,slow=3.4,SNR=9.2						
PLCA	**Paso Flores**	**134.37**	**181**	PKP	PKPdf	21 23 27.0	+1.6
	comp=Z,0.7nm,0.6s,baz=214,slow=1.4,SNR=3.5						
ANMO	**Albuquerque**	**136.35**	**43**	PKP	PKPdf	21 23 31.2	+2.1
	comp=Z,2.1nm,0.7s,baz=252,slow=1.3,SNR=7.7						
ANMO				SKP		21 26 07.2	
	comp=Z,0.7nm,0.5s,baz=342,slow=6.4,SNR=3.2						
ANMO	**Albuquerque**	**136.35**	**43**	PKP	PKPdf	21 23 31.2	+2.1
ANMO				SKP		21 26 07.2	
MNTX	**Cornudas Mount**	**138.91**	**46**	*e*PKP	PKPdf	21 23 29.6	-4.2
WMOK	**Wichita Mounta**	**141.38**	**37**	*e*PKPdf	PKPdf	21 23 33.4	-4.8
CCM	**Cathedral Cave**	**142.73**	**26**	*e*PKPdf	PKPdf	21 23 38.8	-1.8
FVM	**French Village**	**143.14**	**25**	*e*PKPdf	PKPdf	21 23 39.7	-1.6
JCT	**Junction City**	**143.51**	**43**	*e*PKPbc	PKPdf	21 23 42.6	+0.7
BLO	**Bloomington**	**143.57**	**19**	*e*PKIKP	PKPdf	21 23 41.6	-0.4
PAL	**Palisades**	**144.21**	**3**	*e*PKIKP	PKPdf	21 23 43.0	-0.1
MIAR	**Mount Ida**	**144.44**	**32**	*e*PKIKP	PKPdf	21 23 44.8	+1.2
WCI	**Wyandotte Cave**	**144.49**	**20**	*e*PKPdf	PKPdf	21 23 44.2	+0.6
MVL	**Millersville**	**145.02**	**6**	*e*PKPdf	PKPdf	21 23 45.6	+1.1
CPUP	**Villa Florida**	**145.74**	**203**	*e*PKIKP	PKPdf	21 23 47.2	+1.4
WVT	**Waverly**	**145.79**	**23**	*e*PKIKP	PKPdf	21 23 48.0	+2.2
NATX	**Nacogdoches**	**145.92**	**36**	*e*PKP	PKPdf	21 23 50.0	+4.0
OXF	**Oxford**	**146.51**	**27**	*e*PKP	PKPdf	21 23 49.9	+2.9
PLAL	**Pickwick Lake**	**146.69**	**25**	*e*PKPdf	PKPdf	21 23 48.8	+1.5
TZTN	**Tazewell**	**146.91**	**17**	*e*PKPbc	PKPbc	21 23 51.2	+0.4
ELN	**Prospectdale**	**147.00**	**13**	*e*PKPbc	PKPbc	21 23 50.6	-0.4
SWET	**Sewanee**	**147.32**	**22**	*e*PKPbc	PKPbc	21 23 52.0	+0.2
CPCT	**Cooper Cave**	**147.61**	**20**	*e*PKPbc	PKPbc	21 23 53.3	+0.7
LRAL	**Lakeview Retre**	**148.81**	**25**	*e*PKPbc	PKPbc	21 23 55.7	+0.1
LPAZ	**La Paz**	**158.43**	**190**	PKP	PKPdf	21 24 06.8	+2.5
	comp=Z,0.9nm,0.6s,baz=233,slow=5.1,SNR=5.7						
LPAZ				PKPab	PKPab	21 24 46.0	+2.8
	comp=Z,1.9nm,0.7s,baz=168,slow=5.1,SNR=7.9						

*IDC **19** 21:15:19.8±1.0, 098N×9700E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/23, mbtmp3.9/11, MS3.8/1, Ms1 3.8/1, ms1mx2.5/28, Error ellipse: s-maj=37.2km s-min=17.2km az=51.0*
*BJI **19** 21:15:20.0, 061N×9759E, h30km, mB4.6, mb4.5, Ms4.2, Msz4.0*
*ISCJB **19** 21:15:22.5±0.6, 107N±008×9709E±009, h30km, mb4.0/17, MS3.8/1, Error ellipse: s-maj=13.9km s-min=10.3km az=113.8*
*NEIC **19** 21:15:24.6±0.5, 107N×97.10E, h30km, mb4.4/5, Error ellipse: s-maj=12.8km s-min=9.2km az=56.0*
ISC 19 21:15:24.8±0.6,**109N**±008×**9713E**±009,**h30**km,**n22,**
σ0§91/22,mb4.0/17,MS3.8/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.47**	**46**	Pn	**Pn**	**21 16 02.4**	**-0.6**
	4.3nm,0.3s,baz=248,slow=6.0,SNR=22						
KULM	**Kulim**	**5.46**	**40**	*e*Pn	**Pn**	**21 16 44.0**	**0.0**
KKM	**Kota Kinabalu**	**19.67**	**75**	P	**Pn**	**21 19 52.0**	**-0.8**
KMI	**Kunming**	**24.50**	**12**	P	**P**	**21 20 42.4**	**+1.1**
KMI				AP		21 20 49.6	
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,66nm,4.6s						
KMI				LR	LR		
	comp=N,202nm,17.4s,MS3.8						
KMI				LR	LR		
	comp=E,159nm,14.5s,MS3.8						
KMI				LR	LR		
	comp=Z,216nm,13.0s,MS3.8						
LSA	**Lhasa**	**29.02**	**349**	*e*P	**P**	**21 21 24.8**	**+2.8**
	comp=Z,5.4nm,0.6s,mb4.5						
ENH	**Enshi**	**31.31**	**21**	*e*P	**P**	**21 21 41.4**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.5						
GTA	**Gaotai**	**38.22**	**3**	P	**P**	**21 22 42.1**	**+0.2**
GTA				AP	pP	21 22 48.8	-1.9
GTA				XP	sP	21 22 53.4	-1.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**21 23 14.2**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.5,baz=298,slow=9.4,SNR=4.3						
WRAB	**Tennant Creek**	**42.04**	**122**	*e*P	**P**	**21 23 15.2**	**+1.6**
	comp=Z,6.9nm,1.2s,mb4.2						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**21 23 25.4**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.6,baz=306,slow=7.3,SNR=7.4						
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**21 23 55.5**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=191,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**21 23 56.6**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=159,slow=7.3,SNR=5.3						
KURK	**Kurchatov**	**51.88**	**345**	*e*P	**P**	**21 24 28.7**	**-1.7**
	comp=Z,6.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**21 24 39.9**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=319,slow=9.3,SNR=3.2						
ZAL	**Zalesovo**	**53.65**	**351**	P	**P**	**21 24 43.8**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2,baz=319,slow=3.7,SNR=7.9						
BVAR	**Borovoye Array**	**56.33**	**341**	P	**P**	**21 25 02.8**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=138,slow=11,SNR=6.9						
ZRNK	**Zerenda**	**56.73**	**340**	*e*P	**P**	**21 25 05.3**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.1						
AKTK	**Aktyubinsk**	**59.30**	**332**	P	**P**	**21 25 23.4**	**-0.3**
AKTO	**Aktyubinsk**	**59.30**	**332**	P	**P**	**21 25 23.4**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=162,slow=10.0,SNR=4.1						
CASY	**Casey**	**67.90**	**174**	*e*P	**P**	**21 26 19.4**	**-1.1**
BRTR	**Keskin Array B**	**69.13**	**312**	P	**P**	**21 26 28.2**	**0.0**
	comp=Z,0.3nm,0.8s,mb3.3,baz=118,slow=5.4,SNR=2.6						
FINES	**FINESS Array B**	**80.06**	**333**	P	**P**	**21 27 31.2**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=106,slow=8.8,SNR=3.4						

*IDC **19** 21:18:52.9±0.9, 2822N×8370E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, ML4.3/1, Error ellipse: s-maj=30.7km s-min=18.5km az=58.0*
*ISCJB **19** 21:18:53.0±1.1, 2837N±004×8377E±003, h2km±7km, mb3.9/16, Error ellipse: s-maj=8.0km s-min=3.8km az=54.9*
*DMN **19** 21:18:55.0±0.6, 2824N×8389E, h26km±2km, Ml4.7/2, Error ellipse: s-maj=15.5km s-min=6.2km az=170.0*
*BJI **19** 21:18:56.0, 2817N×8380E, h24km, mb4.3*
*NEIC **19** 21:18:57.6±0.5, 2815N×8371E, h35km, mb3.6/4, Error ellipse: s-maj=10.5km s-min=7.2km az=47.0*
*NDI **19** 21:19:15.5±9.9, 2811N×8366E, h12km±49km, ML3.7, mb3.6(NEIC)*
*NAO **19** 21:19:16.5, 3081N×8272E, h33km, mb4.0*
ISC 19 21:18:54.9±0.9,**2834N**±004×**8379E**±003,**h5**km±6km,**n52,**
σ1§06/67,mb3.9/16,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**0.59**	**196**	*e*Pn	**Pg**	**21 19 06.6**	**+0.4**
GKN	**Gorkha**	**0.82**	**114**	*e*Pg	**Pg**	**21 19 09.6**	**-1.1**
GKN				*e*Sg	**Sg**	**21 19 19.6**	**-1.7**
	3μm,0.3s						
GKN				*e*Sg	**Sg**	**21 19 20.3**	**-1.0**
	575nm,0.3s						
DMN	**Daman**	**1.37**	**122**	*e*Pn	**Pn**	**21 19 21.2**	**+0.5**
DMN				*e*Sn	**Sn**	**21 19 39.9**	**+0.7**
KKN	**Kakani**	**1.43**	**112**	*e*Pn	**Pn**	**21 19 21.7**	**+0.3**
KKN				*e*Sn	**Sn**	**21 19 41.5**	**+1.0**
KKN	**Kakani**	**1.43**	**112**	*e*Sn	**Sn**	**21 19 41.3**	**+0.8**
	1μm,0.2s						
KKN	**Kakani**	**1.43**	**112**	*e*Pn	**Pn**	**21 19 21.7**	**+0.3**
KKN				*e*Sn	**Sn**	**21 19 41.3**	**+0.8**
KKN				*e*Sn	**Sn**	**21 19 41.5**	**+1.0**
PKI	**Pulchoki**	**1.62**	**118**	*e*Pn	**Pn**	**21 19 24.8**	**+0.7**
PKI				*e*Sn	**Sn**	**21 19 46.0**	**+0.6**
PKI	**Pulchoki**	**1.62**	**118**	*e*Sn	**Sn**	**21 19 46.0**	**+0.6**
	1μm,0.3s						
GUN	**Gumba**	**1.90**	**102**	*e*Pn	**Pn**	**21 19 28.4**	**+0.5**
GUN				*e*Sn	**Sn**	**21 19 54.4**	**+2.3**
GUN	**Gumba**	**1.90**	**102**	*e*Sn	**Sn**	**21 19 54.4**	**+2.3**
JIRN	**Jiri**	**2.23**	**107**	*e*Pn	**Pn**	**21 19 33.3**	**+0.9**
JIRN				*e*Sn	**Sn**	**21 20 01.8**	**+1.5**
PTH	**Pithoragarh**	**3.35**	**292**	*ex*	x	21 19 59.9	
PTH				*ex*	x	21 20 29.9	
BOK	**Bokaro**	**4.90**	**157**	*e*P	**Pg**	**21 20 24.0**	**-4.8**
BOK				*i* P		21 20 25.4	
BOK				*e*S	**Sb**	**21 21 20.0**	**-0.4**
BOK				AML	AML	21 21 29.9	
	comp=E,101nm,0.5s						
BOK				AML	AML	21 21 37.2	
	comp=N,47nm,0.2s						
AGRA	**Agra**	**5.29**	**259**	*e*P	**Pb**	**21 20 32.5**	**+4.7**
AGRA				*e*S	**Sb**	**21 21 30.9**	**-0.7**
AGRA				AML	AML	21 22 20.6	
	comp=N,277nm,0.6s						
AGRA				AML	AML	21 22 21.6	
	comp=E,248nm,0.5s						
DDI	**Dehra Dun**	**5.38**	**293**	*e*P	**Pb**	**21 20 34.3**	**+4.9**
DDI				*e*S	**Sb**	**21 21 35.3**	**+1.1**
KLP	**Kalpa**	**5.76**	**305**	*e*P	**Pn**	**21 20 22.8**	**+1.8**
KLP				*e*S	**Sn**	**21 21 21.9**	**-5.6**
KLP				AML	AML	21 22 07.2	
	comp=E,89nm,0.5s						
KLP				AML	AML	21 22 22.4	
	comp=N,72nm,0.6s						
NDI	**New Delhi**	**5.79**	**275**	*e*P	**Pb**	**21 20 40.5**	**+4.1**
NDI				*ex*	x	21 21 55.5	
AYAN	**Aya Nagar**	**5.87**	**273**	*e*P	**Pb**	**21 20 39.8**	**+2.1**
SONA	**Sohna**	**5.91**	**271**	*e*P	**Pb**	**21 20 42.8**	**+4.4**
SONA				*ex*	x	21 21 56.1	
SONA				AML	AML	21 22 10.9	
	comp=N,54nm,0.6s						
SONA				AML	AML	21 22 25.6	
	comp=E,44nm,0.8s						
KUDL	**Kundal**	**6.44**	**270**	*e*P	**Pb**	**21 20 47.7**	**+0.3**
KUDL				*e*S	**Sb**	**21 21 57.0**	**-7.7**
LSA	**Lhasa**	**6.59**	**76**	P	**Pn**	**21 20 33.3**	**+0.9**
LSA	**Lhasa**	**6.59**	**76**	*e*Pn	**Pn**	**21 20 32.2**	**-0.1**
	comp=E,5.6nm,0.4s						
KHET	**Khetri**	**7.05**	**270**	*e*P	**Pn**	**21 20 43.5**	**+4.8**
KHET				*e*S	**Sn**	**21 21 51.5**	**-7.7**
CAL	**Calcutta**	**7.08**	**144**	*ex*	x	21 22 21.7	
BHPL	**Bhopal**	**7.66**	**230**	*e*P	**Pb**	**21 21 01.2**	**-6.9**
BHPL				*ex*	x	21 22 08.6	
SHL	**Shillong**	**7.73**	**109**	*e*P	**Pn**	**21 20 47.9**	**-0.2**
SHL				*e*S	**Sn**	**21 22 13.9**	**-2.1**
SHL				AML	AML	21 22 17.4	
	comp=E,149nm,0.1s						
SHL				AML	AML	21 22 18.4	
	comp=N,153nm,0.0s						
HYB	**Hyderabad**	**11.89**	**205**	*i* P	**Pn**	**21 21 41.0**	**-4.0**
HYB				*e*S	**Sn**	**21 23 51.0**	**-7.0**
HYB	**Hyderabad**	**11.89**	**205**	*e*P	**Pn**	**21 21 40.0**	**-5.0**
HYB				*e*S	**Sn**	**21 23 53.5**	**-4.5**
LATR	**Latur**	**11.89**	**215**	*e*P	**Pn**	**21 22 00.0**	**+15**
POO	**Poona**	**13.35**	**225**	*ex*	x	21 24 23.0	
AAK	**Ala-Archa**	**16.13**	**335**	*e*Pn	**Pn**	**21 22 45.3**	**+3.0**
	comp=N,1.4nm,0.4s						
MKAR	**Makanchi Array**	**18.46**	**357**	P	**Pn**	**21 23 11.9**	**+0.4**
	comp=N,0.8nm,0.3s,baz=178,slow=9.8,SNR=48						
KURK	**Kurchatov**	**22.69**	**351**	*e*P	**P**	**21 23 56.1**	**-1.1**
	comp=N,2.2nm,0.6s,mb3.8						
ZAL	**Zalesovo**	**25.59**	**1**	P	**P**	**21 24 24.6**	**-0.2**
	comp=N,1.2nm,0.4s,mb3.7,baz=282,slow=10.0,SNR=6.6						
SONM	**Songino Array**	**26.21**	**36**	P	**P**	**21 24 31.4**	**+0.9**
	comp=N,1.9nm,0.8s,mb3.7,baz=221,slow=9.9,SNR=9.3						
ULN	**Ulaanbaatar**	**26.57**	**36**	*e*P	**P**	**21 24 33.5**	**-0.3**
	comp=N,0.3nm,0.4s,mb3.2,baz=148,slow=11,SNR=4.9						
BVAR	**Borovoye Array**	**26.58**	**342**	P	**P**	**21 24 33.9**	**0.0**
	comp=N,0.3nm,0.4s,mb3.2,baz=148,slow=11,SNR=4.9						
ZRNK	**Zerenda**	**26.92**	**340**	*e*P	**P**	**21 24 36.7**	**-0.2**
	comp=N,0.4nm,0.4s,mb3.3						
MLR	**Muntele Rosu**	**48.27**	**307**	P	**P**	**21 27 41.8**	**+5.0**
	comp=N,1.4nm,0.7s,mb4.1,baz=166,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**50.18**	**328**	P	**P**	**21 27 50.9**	**-0.6**
	comp=N,1.5nm,0.5s,mb4.3,baz=110,slow=9.3,SNR=17						
KAF	**Kangasniemi**	**50.24**	**329**	*ep*	**P**	**21 27 51.5**	**-0.4**
	baz=103,slow=7.1						
ARCES	**ARCESS Array B**	**52.77**	**338**	P	**P**	**21 28 10.4**	**-0.4**
	comp=N,1.9nm,0.8s,mb4.1,baz=115,slow=8.1,SNR=4.0						
NB2	**NORSAR Subarra**	**57.25**	**326**	P	**P**	**21 28 41.7**	**-1.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**57.25**	**326**	P	**P**	**21 28 41.6**	**-1.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=94,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**68.48**	**129**	P	**P**	**21 29 57.5**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=323,slow=6.3,SNR=9.8						
WRAB	**Tennant Creek**	**68.48**	**129**	P	**P**	**21 29 57.9**	**-0.1**
ASAR	**Alice Springs**	**70.74**	**132**	P	**P**	**21 30 11.3**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=320,slow=6.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**77.01**	**278**	P	**P**	**21 30 47.9**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=68,slow=4.6,SNR=6.0						
ILAR	**Eielson Array**	**79.21**	**20**	P	**P**	**21 31 00.1**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=306,slow=4.8,SNR=11						
KDAK	**Kodiak Island**	**82.11**	**27**	P	**P**	**21 31 14.6**	**-1.9**
	comp=Z,11nm,1.0s,mb4.7,baz=333,slow=6.8,SNR=5.6						
YKA	**Yellowknife Ar**	**88.29**	**8**	P	**P**	**21 31 45.8**	**-1.6**
	comp=Z,0.3nm,0.7s,mb3.7,baz=337,slow=5.0,SNR=7.0						
YKA	**Yellowknife Ar**	**88.29**	**8**	P	**P**	**21 31 45.8**	**-1.6**

*ISCJB **19** 21:19:25.6±6.5, 282N±0.1×837E±0.1, h13km±40km, mb4.1/18, Error ellipse: s-maj=21.3km s-min=12.2km az=77.4*
*IDC **19** 21:19:25.3±0.8, 2822N×8374E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/23, mbtmp4.1/13, ML4.1/1, Error ellipse: s-maj=28.5km s-min=19.9km az=46.0*
*NEIC **19** 21:19:30.9±0.3, 2826N×8378E, h35km, mb3.8/7, Error ellipse: s-maj=9.6km s-min=6.7km az=221.0*
*NAO **19** 21:20:00.7, 3236N×8190E, h33km, mb4.3*
ISC 19 21:19:31.2±2.2,**283N**±01×**838E**±01,**h38**km±19km,**n27,**
σ0§65/26,mb4.1/18,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.63**	**76**	*e*Pn	**Pn**	**21 21 05.9**	**-0.1**
AAK	**Ala-Archa**	**16.16**	**335**	*e*Pn	**Pn**	**21 23 16.0**	**+0.6**
	2.9nm,0.6s						
MKAR	**Makanchi Array**	**18.51**	**357**	P	**Pn**	**21 23 43.6**	**-0.9**
	0.6nm,0.3s,baz=184,slow=10,SNR=13						
SONM	**Songino Array**	**26.26**	**36**	P	**P**	**21 25 03.9**	**+1.1**
	2.3nm,0.9s,mb3.7,baz=222,slow=9.4,SNR=6.3						
ULN	**Ulaanbaatar**	**26.62**	**36**	*e*P	**P**	**21 25 06.5**	**+0.5**
	3.6nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**26.95**	**340**	*e*P	**P**	**21 25 05.2**	**-3.8**
	1.3nm,0.7s,mb3.6						
MALT	**Malatya**	**38.85**	**297**	*e*P	**P**	**21 26 52.6**	**0.0**
	1.0nm,0.5s,mb3.8						
BR131	**Keskin Array S**	**42.59**	**299**	*e*P	**P**	**21 27 24.8**	**+1.4**
	0.3nm,0.4s,mb3.4						
BRTR	**Keskin Array B**	**42.59**	**299**	P	**P**	**21 27 24.8**	**+1.3**
	0.6nm,0.8s,mb3.4,baz=89,slow=5.4,SNR=4.0						
YAK	**Yakutsk**	**45.17**	**29**	P	**P**	**21 27 44.0**	**-0.1**
FINES	**FINESS Array B**	**50.20**	**328**	P	**P**	**21 28 22.9**	**-0.3**
	2.7nm,0.6s,mb4.5,baz=109,slow=7.6,SNR=15						
KAF	**Kangasniemi**	**50.27**	**329**	*ep*	**P**	**21 28 23.7**	**0.0**
	baz=103,slow=7.0						
ARCES	**ARCESS Array B**	**52.80**	**338**	P	**P**	**21 28 42.3**	**-0.4**
	2.1nm,0.8s,mb4.1,baz=95,slow=5.1,SNR=5.1						
NB2	**NORSAR Subarra**	**57.27**	**327**	P	**P**	**21 29 13.7**	**-1.2**
	comp=Z,3.0nm,0.7s,mb4.4,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**57.27**	**327**	P	**P**	**21 29 14.1**	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=7.1,SNR=7.7						
MBWA	**Marble Bar**	**60.20**	**141**	*e*P	**P**	**21 29 35.0**	**-0.3**
WRA	**Warramunga Arr**	**68.47**	**129**	P	**P**	**21 30 29.3**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=323,slow=6.3,SNR=6.0						
WRAB	**Tennant Creek**	**68.47**	**129**	*e*P	**P**	**21 30 29.8**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.2						
NWAO	**Narrogin (SRO)**	**68.68**	**150**	*e*P	**P**	**21 30 30.2**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**70.73**	**132**	P	**P**	**21 30 43.6**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=316,slow=6.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**76.98**	**278**	P	**P**	**21 31 20.0**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=66,slow=4.4,SNR=6.4						
ILAR	**Eielson Array**	**79.26**	**20**	P	**P**	**21 31 32.0**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=298,slow=4.7,SNR=11						
PMR	**Palmer**	**80.82**	**23**	*e*P	**P**	**21 31 41.4**	**+0.4**
	comp=Z,6.8nm,0.3s,mb5.1						
KDAK	**Kodiak Island**	**82.17**	**27**	P	**P**	**21 31 48.3**	**+0.2**
	comp=Z,8.7nm,1.0s,mb4.7,baz=284,slow=4.2,SNR=5.1						
FRB	**Frobisher Bay**	**85.70**	**348**	P	**P**	**21 32 07.1**	**+1.0**
	comp=Z,2.8nm,0.3s,mb4.9,baz=98,slow=7.1,SNR=7.7						
YKA	**Yellowknife Ar**	**88.34**	**8**	P	**P**	**21 32 18.0**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.7,baz=338,slow=4.9,SNR=6.5						
LPAZ	**La Paz**	**151.45**	**289**	PKPbc	PKPbc	21 39 22.3	+1.3
	comp=Z,0.6nm,0.8s,baz=45,slow=7.1,SNR=3.5						

*IDC **19** 21:22:44.6±2.6, 331S×12936E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=197.5km s-min=27.7km az=69.0*
*ISCJB **19** 21:22:48.2±1.0, 34S±02×1291E±04, h33km, mb3.9/3, Error ellipse: s-maj=62.8km s-min=12.8km az=125.9*
*NEIC **19** 21:22:50.1±1.0, 338S×12931E, h35km, mb3.9/3, Error ellipse: s-maj=66.0km s-min=13.1km az=64.0*
ISC 19 21:22:50.3±1.0,**34S**±02×**1294E**±04,**h35**km,**n9,σ0§89/9,**
mb3.9/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.18**	**164**	*e*Pn	**Pn**	**21 26 47.8**	**+0.3**
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**17.18**	**164**	P	**Pn**	**21 26 47.7**	**+0.2**
	0.5nm,0.3s,baz=347,slow=12,SNR=20						
ASAR	**Alice Springs**	**20.66**	**168**	P	**P**	**21 27 26.4**	**-0.6**
	2.6nm,0.4s,baz=347,slow=12,SNR=49						
CTAO	**Charters Tower**	**23.42**	**137**	P	**P**	**21 27 55.6**	**-0.7**
TAU	**Tasmania Unive**	**42.51**	**160**	*e*P	**P**	**21 30 42.9**	**+0.7**
LSA	**Lhasa**	**49.16**	**315**	*e*P	**P**	**21 31 33.5**	**-1.2**
	1.1nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**64.85**	**326**	P	**P**	**21 33 25.4**	**-0.3**
	0.2nm,0.4s,mb3.5,baz=110,slow=7.4,SNR=6.1						
MKAR	**Makanchi Array**	**64.85**	**326**	P	**P**	**21 33 25.4**	**-0.3**
ZRNK	**Zerenda**	**75.37**	**327**	*e*P	**P**	**21 34 32.1**	**+1.9**
	0.5nm,0.3s,mb3.9						

*IDC **19** 21:28:28.8±2.1, 4400N×10549W, h0km, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=63.5km s-min=8.2km az=147.0*
*ISCJB **19** 21:28:29.2±0.5, 4415N±003×10545W±006, h0km, Error ellipse: s-maj=6.0km s-min=4.7km az=178.0*
*NEIC **19** 21:28:30.7±0.5, 4412N×10530W, h0km, ML3.1, Error ellipse: s-maj=6.9km s-min=6.6km az=116.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] SSE of Gillette.
ISC 19 21:28:30.7±0.5,**4417N**±003×**10547W**±005,**h0**km,**n32,**
σ1§42/56,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**92**	*e*P	**Pg**	**21 28 49.1**	**-1.4**
LAO	**LASA Array**	**2.58**	**348**	*e*Pn	**Pn**	**21 29 14.4**	**+0.7**
RWWY	**Rawlins**	**2.79**	**208**	*e*Pn	**Pn**	**21 29 17.0**	**+0.4**
PHWY	**Pilot Hill**	**2.87**	**180**	*e*Pn	**Pn**	**21 29 15.6**	**-2.1**
PDAR	**Pinedale Array**	**3.29**	**246**	Pn	**Pn**	**21 29 24.4**	**+0.8**
	1.0nm,0.3s,baz=56,slow=16,SNR=43						
PDAR				Pg	**Pg**	**21 29 29.9**	**-4.0**
	3.8nm,0.3s,baz=64,slow=17,SNR=69						
PDAR				Lg		21 30 09.2	
	4.4nm,0.3s,baz=62,slow=30,SNR=8.8						
GCMT	**Greycliff**	**3.40**	**300**	*e*Pn	**Pn**	**21 29 26.7**	**+1.7**
GCMT				*e*Pg	**Pg**	**21 29 35.0**	**-0.8**
LOHW	**Long Hollow**

AB31	**Akbulak array**	**14.61**	**330**	⇓P	**Pn**	**21 34 19.4 -1.5**
	1.5nm,0.5s					
AB31				⇑S	**Sn**	**21 36 52.9 -9.3**
	1.5nm,0.7s					
ZRNK	**Zerenda**	**15.90**	**355**	*e*Pn	**Pn**	**21 34 40.4 +3.4**
	0.9nm,0.3s					
BVAR	**Borovoye Array**	**15.91**	**358**	P	**Pn**	**21 34 37.3 +0.2**
	0.2nm,0.3s,baz=179,slow=7.1,SNR=3.4					
AKTK	**Aktyubinsk**	**16.31**	**329**	P	**Pn**	**21 34 42.5 +0.3**
AKTO	**Aktyubinsk**	**16.31**	**329**	⇑P	**Pn**	**21 34 42.3 +0.1**
	0.7nm,0.8s					
AKTO				⇑S	**S**	**21 37 32.3 -16**
	0.7nm,1.9s					
AKTO	**Aktyubinsk**	**16.31**	**329**	P	**Pn**	**21 34 42.5 +0.3**
	0.4nm,0.3s,baz=137,slow=16,SNR=14					
LSA	**Lhasa**	**18.23**	**108**	*e*P	**P**	**21 34 58.5 -5.6**
	1.6nm,0.5s					
ZAL	**Zalesovo**	**19.27**	**25**	P	**P**	**21 35 15.1 -0.4**
	0.3nm,0.3s,baz=258,slow=10,SNR=4.4					
FINES	**FINESS Array B**	**37.05**	**326**	P	**P**	**21 38 00.5 +1.8**
	0.5nm,0.7s,mb3.5,baz=106,slow=10,SNR=3.0					
FINES	**FINESS Array B**	**37.05**	**326**	P	**P**	**21 38 00.5 +1.8**
FINES				pmax	pmax	
	comp=Z,1.0nm,0.7s					
FINES	**FINESS Array B**	**37.05**	**326**	P	**P**	**21 38 00.5 +1.8**
MJAR	**Matsushiro Arr**	**52.59**	**69**	LR	LR	22 05 16.7
	comp=Z,67nm,22.0s,baz=15,slow=39					
TORD	**Torodi Ar. Bea**	**65.88**	**268**	P	**P**	**21 41 33.0 -0.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=54,slow=5.6,SNR=7.4					
WRA	**Warramunga Arr**	**82.20**	**122**	P	**P**	**21 43 04.7 -3.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=325,slow=5.1,SNR=5.7					

JMA 19 21:36:45.0±0.2, 4383N×14706E, h64km±4km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.06**	**245**	P	Pn	21 37 04.3	+0.3
NEM2				*e*S	Sn	21 37 18.3	+0.2
JRA	**Rausu**	**1.41**	**275**	P	Pn	21 37 08.9	+0.4
JRA				*e*S	Sn	21 37 26.9	+0.7
JNK	**Nakash**	**1.71**	**263**	P	Pn	21 37 13.0	+0.3
JNK				*e*S	Sn	21 37 34.0	+0.4
JAK	**Akkeshi**	**1.91**	**245**	P	Pn	21 37 15.7	+0.4
JAK				*e*S	Sn	21 37 39.2	+0.8
JTKR	**Abashiri--Toko**	**2.28**	**275**	P	Pn	21 37 21.0	+0.7
JTKR				*e*S	Sn	21 37 47.2	-0.1
JAR	**Ashorobuto**	**2.45**	**259**	P	Pn	21 37 23.9	+1.3
JAR				*e*S	Sn	21 37 52.8	+1.4
JOB	**Onbets**	**2.53**	**250**	P	Pn	21 37 25.1	+1.4
JOB				*e*S	Sn	21 37 53.9	+0.6
JMP	**Maruseppu**	**2.68**	**275**	P	Pn	21 37 26.9	+1.2
JMP				*e*S	Sn	21 37 57.2	+0.2
JCH	**Churui**	**2.96**	**247**	P	Pn	21 37 30.6	+1.0
JCH				*e*S	Sn	21 38 03.7	-0.3
JKK2	**Kamakawa 2**	**3.12**	**272**	P	Pn	21 37 33.6	+1.9
JSE	**Soyaes**	**3.40**	**291**	P	Pn	21 37 36.1	+0.5
JNBK	**Urakawa-nobuka**	**3.52**	**245**	P	Pn	21 37 38.0	+0.8

*NEIC **19** 21:48:41.5, 3702S×17773E, h88km, ML3.8(WEL), After WEL.*

WEL 19 21:48:40.6±0.5, 3704S×17774E, h104km±5km, ML3.9/11, Error ellipse: s-maj=4.7km s-min=4.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**139**	PN	Pn	21 48 58.0	-0.3
MXZ				SN	Sn	21 49 12.2	+0.7
MXZ	**Matakaoa Point**	**0.69**	**139**	P	Pn	21 48 58.0	-0.3
MXZ				S	Sn	21 49 12.2	+0.6
PUZ	**Puketiti**	**1.11**	**158**	PN	Pn	21 49 02.4	-0.1
PUZ				SN	Sn	21 49 19.4	+0.4
PUZ	**Puketiti**	**1.11**	**158**	P	Pn	21 49 02.4	-0.1
MARZ	**Manawahe**	**1.26**	**222**	PN	Pn	21 49 04.5	+0.3
MARZ	**Manawahe**	**1.26**	**222**	P	Pn	21 49 04.5	+0.2
MWZ	**Matawai**	**1.30**	**187**	PN	Pn	21 49 05.0	+0.3
MWZ				SN	Sn	21 49 22.5	-0.3
MWZ	**Matawai**	**1.30**	**187**	P	Pn	21 49 05.0	+0.3
MWZ				S	Sn	21 49 22.6	-0.3
URZ	**Urewera**	**1.31**	**202**	PN	Pn	21 49 05.0	+0.1
URZ				SN	Sn	21 49 22.6	-0.6
URZ	**Urewera**	**1.31**	**202**	P	Pn	21 49 05.0	+0.2
KNZ	**Kokohu**	**1.98**	**181**	PN	Pn	21 49 12.9	-0.2
KNZ	**Kokohu**	**1.98**	**181**	*e*P	Pn	21 49 12.9	-0.1
BKZ	**Black Stump Fm**	**2.34**	**204**	PN	Pn	21 49 18.5	+0.8
BKZ	**Black Stump Fm**	**2.34**	**204**	*e*P	Pn	21 49 18.5	+0.8
TWVZ	**Taurewa**	**2.72**	**221**	P	Pn	21 49 25.4	+2.7
TUVZ	**Tukino**	**2.76**	**216**	PN	Pn	21 49 27.0	+3.7
TUVZ	**Tukino**	**2.76**	**216**	P	Pn	21 49 27.0	+3.7
FWVZ	**Far West T-bar**	**2.80**	**217**	PN	Pn	21 49 27.2	+3.4
FWVZ	**Far West T-bar**	**2.80**	**217**	P	Pn	21 49 27.2	+3.4
MOVZ	**Moawhango**	**2.83**	**213**	PN	Pn	21 49 25.8	+1.7
MOVZ	**Moawhango**	**2.83**	**213**	P	Pn	21 49 25.8	+1.6
WNVZ	**Wahianoa**	**2.83**	**216**	P	Pn	21 49 27.0	+2.7
KIW	**Kapiti Island**	**4.40**	**209**	P	Pn	21 49 44.3	-1.0
QRZ	**Quartz Range**	**5.54**	**225**	*e*P	Pn	21 50 00.2	-0.5
THZ	**Tophouse**	**6.02**	**217**	*e*P	Pn	21 50 06.2	-0.9
KHZ	**Kahutara**	**6.26**	**210**	*e*P	Pn	21 50 09.9	-0.6
MQZ	**McQueen's Vall**	**7.70**	**209**	SN	Sn	21 51 46.5	-9.1
TUZ	**Tuapeka**	**10.77**	**212**	*e*P	Pn	21 51 10.8	-1.0

*IDC **19** 21:57:58.6±1.0, 0.29S×12456E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=166.9km s-min=18.4km az=65.0*
*ISCJB **19** 21:58:01.6±0.7, 02S±03×1247E±05, h33km, mb4.0/8, Error ellipse: s-maj=82.4km s-min=12.4km az=125.1*
*NEIC **19** 21:58:03.9±0.7, 0.20S×12471E, h35km, mb4.4/3, Error ellipse: s-maj=84.3km s-min=12.2km az=63.0*

ISC 19 21:58:04.0±0.7, 02S±03×1247E±05, h35km, n10, σ1§00/9, mb4.0/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.77**	**155**	*e*P	**P**	**22 02 55.0**	**+2.4**
	1.5nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**21.77**	**155**	P	**P**	**22 02 51.7**	**-0.9**
	0.3nm,0.3s,mb3.1,baz=337,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.97**	**160**	P	**P**	**22 03 24.9**	**+0.7**
	0.7nm,0.7s,mb3.3,baz=342,slow=8.2,SNR=7.7						
CTAO	**Charters Tower**	**28.93**	**134**	*e*P	**P**	**22 03 59.6**	**-0.2**
STKA	**Stephens Creek**	**35.32**	**155**	P	**P**	**22 04 54.3**	**-1.5**
	1.2nm,0.5s,mb4.1,baz=338,slow=9.6,SNR=4.3						
SONM	**Songino Array**	**50.44**	**344**	P	**P**	**22 06 58.8**	**+0.7**
	0.8nm,0.6s,mb3.9,baz=156,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**59.68**	**328**	P	**P**	**22 08 04.5**	**-0.3**
	2.2nm,0.5s,mb4.4,baz=122,slow=8.1,SNR=77						
MKAR				PcP	PcP	22 08 51.5	-0.2
	0.7nm,0.7s,baz=122,slow=4.6,SNR=5.3						
KURK	**Kurchatov**	**64.00**	**329**	*e*P	**P**	**22 08 33.3**	**-0.6**
	4.7nm,0.4s,mb4.9						
ZRNK	**Zerenda**	**70.23**	**328**	*e*P	**P**	**22 09 13.8**	**+0.4**
	2.2nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**122.06**	**285**	PKP	PKPdf	22 16 56.4	+1.5
	0.5nm,1.1s,baz=93,slow=1.8,SNR=4.1						

IDC 19 22:15:03.9±2.3, 171N×12648E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=196.7km s-min=26.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**161**	P	P	22 20 07.7	-1.0
	2.1nm,0.9s,baz=339,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**26.24**	**164**	P	P	22 20 41.9	+1.4
	0.8nm,0.7s,baz=347,slow=13,SNR=8.1						
MKAR	**Makanchi Array**	**59.07**	**326**	P	P	22 25 06.0	+0.2
	0.2nm,0.8s,baz=116,slow=8.0,SNR=4.2						

*ATH **19** 22:38:46.7, 3329N×2674E, h40km, MD3.6/4*
*CSEM **19** 22:38:58.3±0.1, 3446N×2683E, h10km, ML3.1, Error ellipse: s-maj=3.9km s-min=2.4km az=44.0*
*ISCJB **19** 22:39:01.0±0.7, 3440N±005×2669E±009, h33km, Error ellipse: s-maj=10.4km s-min=7.0km az=157.6*
*HLW **19** 22:39:00.3, 3460N×2674E, h19km, Mb3.1*

ISC 19 22:39:02.3±0.7, 3448N±005×2657E±009, h35km, n13, σ1§00/15, 5C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.82**	**299**	*e*P	**Pn**	**22 39 16.5**	**-0.9**
NPS	**Neapolis**	**1.11**	**315**	*e*P	**Pn**	**22 39 22.5**	**+1.2**
KARP	**Karpathos**	**1.17**	**24**	*e*P	**Pn**	**22 39 23.5**	**+1.4**
VAM	**Vamos**	**2.16**	**296**	*e*P	**Pn**	**22 39 33.5**	**-2.3**
SLUM		**3.20**	**201**	⇓P	**Pn**	**22 39 50.8**	**+0.8**
SLUM				S	**Sn**	**22 40 27.4**	**+0.5**
SWA1		**5.26**	**188**	⇓P	**Pn**	**22 40 19.0**	**+0.6**
SWA2		**5.31**	**191**	⇑P	**Pn**	**22 40 19.9**	**+0.8**
SWA2				S	**Sn**	**22 41 18.2**	**-0.8**
AWBH		**6.46**	**161**	⇑P	**Pn**	**22 40 35.0**	**+0.1**
GLL	**Jalalah**	**6.55**	**137**	⇑P	**Pn**	**22 40 35.2**	**-1.0**
AMAG	**Maghara**	**6.78**	**123**	⇑P	**Pn**	**22 40 37.7**	**-1.6**
HFRF	**Wahat Farafira**	**7.46**	**168**	⇓P	**Pn**	**22 40 48.4**	**-0.3**
HDK1	**Dakhla**	**9.24**	**164**	⇑P	**Pn**	**22 41 13.7**	**+0.7**
GTR	**Jabal at Tayr**	**9.59**	**158**	⇓P	**Pn**	**22 41 18.2**	**+0.4**

MAN 19 23:08:50.3, 1844N×12106E, h78km, mb3.0, ML4.4, MS6.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.60**	**163**	*e*P	Pn	23 09 06.0	+1.2
APYP				*e*S	Sn	23 09 19.2	+3.7
SGCP	**Mt. Cagua**	**0.96**	**102**	*e*P	Pn	23 09 09.8	+1.1
CVP	**Callao Caves**	**1.03**	**135**	*e*P	Pn	23 09 10.0	+0.4
CVP				*e*S	Sn	23 09 25.0	+1.0

*ISK **19** 23:15:48.5, 4048N×2577E, h10km, ML3.8*
*SOF **19** 23:15:48.5, 4044N×2589E, h7km, MD3.6*
*ISCJB **19** 23:15:49.4±0.4, 4045N±002×2583E±002, h7km±3km, mb3.4/5, MS2.5/1, Error ellipse: s-maj=2.7km s-min=2.2km az=49.9*
*THE **19** 23:15:49.7, 4039N×2601E, h14km, ML3.9*
*ATH **19** 23:15:50.0, 4045N×2587E, h28km±1km, MD3.9/10*
*CSEM **19** 23:15:50.0±0.0, 4046N×2590E, h12km, ML3.9, Error ellipse: s-maj=1.2km s-min=1.0km az=22.0*
*NEIC **19** 23:15:50.0, 4045N×2587E, h28km, MD3.6(SOF), ML3.9(ATH), After ATH.*
*MOS **19** 23:15:51.9±0.8, 4040N×2591E, h33km, mb4.0/1, Error ellipse: s-maj=9.2km s-min=4.5km az=95.9*
*IDC **19** 23:15:53.0±4.9, 4038N×2588E, h27km±36km, mb3.3/5, mb1 3.6/9, mb1mx3.4/21, mbtmp3.4/9, ML3.1/3, MS3.0/7, Ms1 3.0/7, ms1mx2.8/18, Error ellipse: s-maj=19.9km s-min=17.3km az=103.0*
*NAO **19** 23:16:29.5, 4404N×2594E, h33km, mb3.3*

ISC 19 23:15:50.7±0.4, 4044N±002×2585E±002, h10km±3km, n126, σ1§03/156, mb3.4/5, MS2.5/1, 13C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.48**	**19**	*e*Pg	**Pg**	**23 15 59.5**	**-0.5**
ALN				*e*Sg	**Sg**	**23 16 06.6**	**+0.2**
LPK	**Lapseki**	**0.70**	**95**	*i* PG	**Pg**	**23 16 03.5**	**-0.8**
EZN	**Ezine**	**0.72**	**149**	*i* PG	**Pg**	**23 16 03.8**	**-0.8**
EZN				*i* SG	**Sg**	**23 16 15.4**	**+1.4**
RDO	**Rodhopi**	**0.74**	**342**	*e*PN	**Pn**	**23 16 04.3**	**-2.9**
RDO				*e*SN	**Sg**	**23 16 15.9**	**+1.2**
LIA	**Limnos Island**	**0.74**	**223**	*e*PN	**Pn**	**23 16 04.9**	**-2.3**
LIA				*e*SN	**Sg**	**23 16 16.1**	**+1.3**
LOS	**Limnos**	**0.78**	**229**	*e*Pg	**Pg**	**23 16 05.4**	**-0.2**
SART	**Tekirdag**	**1.05**	**76**	*i* P	**Pg**	**23 16 10.3**	**-0.5**
SART				*i* S	**Sg**	**23 16 25.0**	**+0.6**
MFT	**Murefte**	**1.15**	**72**	*i* PN	**Pn**	**23 16 11.4**	**-1.4**
MFT				*i* SN	**Sn**	**23 16 28.4**	**-0.1**
PRK	**Paraskevi**	**1.24**	**165**	*e*PN	**Pn**	**23 16 13.5**	**-0.6**
PRK				*e*SN	**Sn**	**23 16 30.3**	**-0.5**
KDZ	**Kurdzhali**	**1.25**	**345**	*i* P	**Pn**	**23 16 13.3**	**-0.9**
AYVA	**Ayvalik**	**1.31**	**150**	*i* P	**Pn**	**23 16 14.8**	**-0.2**
AYVA				*i* S	**Sb**	**23 16 33.1**	**+1.0**
MRMT	**Marmara Adasi**	**1.34**	**83**	*i* PN	**Pn**	**23 16 14.1**	**-1.4**
MRMT				*i* SN	**Sn**	**23 16 33.5**	**+0.1**
OUR	**Ouranopolis**	**1.43**	**266**	*e*Pg	**Pg**	**23 16 15.7**	**-2.5**
OUR				*e*Sg	**Sg**	**23 16 36.5**	**-0.1**
RZN	**Rozhen**	**1.51**	**326**	*i* P	**Pn**	**23 16 17.5**	**-0.3**
RZN				*i* Pg	**Pg**	**23 16 19.2**	**-0.5**
RZN	**Rozhen**	**1.51**	**326**	*i* Pg	**Pg**	**23 16 19.2**	**-0.5**
EDC	**Edincik**	**1.54**	**93**	*i* PN	**Pn**	**23 16 17.2**	**-1.1**
EDRB	**Edirne**	**1.56**	**26**	*i* PN	**Pn**	**23 16 17.4**	**-1.0**
EDRB				*i* SN	**Sn**	**23 16 37.4**	**-1.3**
BNT	**Bandirma**	**1.59**	**92**	*i* PN	**Pn**	**23 16 18.1**	**-0.7**
DIM	**Dimitrovgrad**	**1.62**	**352**	*i* Pg	**Pg**	**23 16 20.8**	**-1.0**
PAIG	**Paliouri**	**1.74**	**253**	*e*Pb	**Pb**	**23 16 19.7**	**-2.9**
PAIG				*e*Sb	**Sb**	**23 16 43.1**	**-1.4**
NVR	**Nevrokopi**	**1.75**	**302**	⇓*i*PN	**Pn**	**23 16 20.8**	**-0.3**
BALB	**Balikesir**	**1.76**	**117**	*i* PN	**Pn**	**23 16 21.0**	**-0.2**
BALB				*i* SN	**Sn**	**23 16 44.6**	**+1.0**
BTOK	**Tokmak**	**1.81**	**111**	*i* P	**Pn**	**23 16 22.0**	**+0.1**
BTOK				*i* S	**Sn**	**23 16 48.6**	**+3.7**
PLG	**Polygyros**	**1.83**	**269**	*e*PN	**Pn**	**23 16 21.6**	**-0.6**
PLD	**Plovdiv**	**1.87**	**333**	*i* P	**Pn**	**23 16 23.5**	**+0.8**
KCT	**Karacabey**	**1.93**	**94**	*i* PN	**Pn**	**23 16 23.4**	**-0.1**
SOH	**Sokhos**	**1.93**	**282**	*e*Pn	**Pn**	**23 16 23.1**	**-0.5**
SOH				*e*Sn	**Sn**	**23 16 49.2**	**+1.3**
SOH	**Sokhos**	**1.93**	**282**	*e*Pn	**Pn**	**23 16 23.0**	**-0.6**
MMB	**Musomiste**	**1.97**	**306**	*i* P	**Pn**	**23 16 23.5**	**-0.6**
AOS	**Alonnisos**	**1.98**	**231**	*e*Pn	**Pn**	**23 16 22.9**	**-1.3**
CTT	**Catalca**	**2.08**	**69**	*i* PN	**Pn**	**23 16 24.9**	**-0.8**
ELBA	**Catalca**	**2.08**	**69**	*i* P	**Pn**	**23 16 24.8**	**-0.9**
ELBA				*i* S	**Sn**	**23 16 51.4**	**-0.3**
JMB	**Yambol**	**2.10**	**15**	*i* P	**Pn**	**23 16 25.5**	**-0.3**
JMB	**Yambol**	**2.10**	**15**	*e*Pn	**Pn**	**23 16 23.8**	**-2.0**
JMB	**Yambol**	**2.10**	**15**	*i* P	**Pn**	**23 16 25.5**	**-0.3**
URLA	**Izmir**	**2.16**	**164**	*i* P	**Pn**	**23 16 26.3**	**-0.4**
URLA				*i* S	**Sn**	**23 16 55.2**	**+1.7**
AKS	**Akhisar**	**2.18**	**135**	*i* PN	**Pn**	**23 16 27.0**	**0.0**
THE	**Thessaloniki**	**2.20**	**276**	*e*Pn	**Pn**	**23 16 26.4**	**-0.9**
BLCB	**Balcova**	**2.25**	**155**	*i* PN	**Pn**	**23 16 27.2**	**-0.8**
DST	**Dursunbey**	**2.29**	**110**	*i* PN	**Pn**	**23 16 28.9**	**+0.3**
NEO	**Neokhori**	**2.31**	**241**	*e*PN	**Pn**	**23 16 28.0**	**-0.8**
KDAG	**Bornova**	**2.32**	**151**	*i* P	**Pn**	**23 16 28.9**	**0.0**
KDAG				*i* S	**Sn**	**23 16 59.4**	**+2.1**
IZM	**Izmir**	**2.32**	**151**	*i* PN	**Pn**	**23 16 29.1**	**+0.2**
KNT	**Kendrikon**	**2.35**	**289**	*e*Pn	**Pn**	**23 16 29.4**	**+0.1**
KNT				*e*Sn	**Sn**	**23 16 59.5**	**+1.3**
ORLT	**Orhaneli**	**2.37**	**99**	*i* PN	**Pn**	**23 16 29.5**	**-0.1**
PGB	**Panagyurishte**	**2.45**	**330**	*i* P	**Pn**	**23 16 31.0**	**+0.2**
BADT	**Buyukada**	**2.52**	**80**	*i* PN	**Pn**	**23 16 31.0**	**-0.7**
KKB	**Krupnik**	**2.52**	**305**	*i* P	**Pn**	**23 16 31.5**	**-0.2**
ULDT	**Uludag**	**2.54**	**96**	*i* P	**Pn**	**23 16 32.5**	**+0.7**
ULDT				*i* S	**Sg**	**23 17 14.0**	**+1.8**
LIT	**Litokhoron**	**2.59**	**263**	*e*Pn	**Pn**	**23 16 31.6**	**-1.0**
VAY	**Valandovo**	**2.63**	**291**	*i* Pn	**Pn**	**23 16 33.1**	**-0.1**
VAY				*i* Sn	**Sb**	**23 17 14.3**	**+4.0**
VAY	**Valandovo**	**2.63**	**291**	*e*Pn	**Pn**	**23 16 33.0**	**-0.2**
GRG	**Griva**	**2.67**	**282**	*e*Pn	**Pn**	**23 16 34.0**	**+0.2**
YLV	**Yalova**	**2.69**	**86**	PN	**Pn**	**23 16 34.0**	**0.0**
IZI	**Iznik**	**2.77**	**91**	PN	**Pn**	**23 16 35.5**	**+0.4**
PVL	**Pavlikeni**	**2.80**	**352**	*i* P	**Pn**	**23 16 36.0**	**+0.5**
SZH	**Strazhica**	**2.82**	**1**	*i* P	**Pn**	**23 16 36.0**	**+0.2**
LKR	**Lokris**	**2.84**	**232**	*e*PN	**Pn**	**23 16 36.4**	**+0.4**
SMG	**Samos**	**2.84**	**164**	⇑*i*PN	**Pn**	**23 16 35.8**	**-0.2**
VTS	**Vitosha**	**2.92**	**318**	*i* P	**Pn**	**23 16 37.5**	**+0.3**
PRD	**Provadia**	**2.99**	**22**	*i* P	**Pn**	**23 16 37.5**	**-0.6**
STIP	**Stip**	**3.04**	**295**	*i* Pn	**Pn**	**23 16 39.0**	**+0.3**
STIP				*i* Sn	**Sg**	**23 17 30.1**	**+1.8**
GDZ	**Gediz**	**3.11**	**115**	*i* P	**Pn**	**23 16 40.5**	**+0.7**
GDZ				*i* S	**Sn**	**23 17 25.3**	**+8.3**
AYDN	**Tasoluk**	**3.20**	**150**	*i* P	**Pn**	**23 16 41.0**	**0.0**
APE	**Apeiranthos**	**3.38**	**184**	PN	**Pn**	**23 16 43.3**	**-0.2**
APE	**Apeiranthos**	**3.38**	**184**	*e*Pn	**Pn**	**23 16 43.0**	**-0.5**
FNA	**Florina**	**3.42**	**277**	*e*Pn	**Pn**	**23 16 44.4**	**+0.4**
EVR	**Evrytania**	**3.47**	**245**	*e*PN	**Pn**	**23 16 45.0**	**+0.3**
BIA	**Bitola**	**3.48**	**281**	*i* Pn	**Pn**	**23 16 44.8**	**-0.1**
MLSB	**Milas**	**3.49**	**154**	PN	**Pn**	**23 16 45.3**	**+0.3**
BODT	**Bodrum**	**3.56**	**161**	PN	**Pn**	**23 16 46.2**	**+0.2**
BORA	**Eskisehir**	**3.58**	**98**	*i* P	**Pn**	**23 16 46.5**	**+0.3**
BORA				*i* S	**Sg**	**23 17 43.6**	**-1.9**
DENT	**Denizli**	**3.66**	**136**	PN	**Pn**	**23 16 47.6**	**+0.3**
SKO	**Skopje**	**3.66**	**296**	*i* Pn	**Pn**	**23 16 49.9**	**+2.6**
SKO	**Skopje**	**3.66**	**296**	*i* Pn	**Pn**	**23 16 49.8**	**+2.5**
DNZL	**Cakiroluk**	**3.71**	**137**	*i* P	**Pn**	**23 16 48.3**	**+0.3**
ESKT	**Eskisehir**	**3.95**	**102**	PN	**Pn**	**23 16 52.3**	**+0.9**
ESKT	**Eskisehir**	**3.95**	**102**	*i* P	**Pn**	**23 16 51.7**	**+0.3**
SEYT	**Eskypehyr**	**3.95**	**102**	*i* P	**Pn**	**23 16 51.7**	**+0.3**
TKTP	**Tekketepe**	**4.22**	**123**	*i* P	**Pn**	**23 16 56.3**	**+1.2**
TIRR	**Tirgusor**	**4.44**	**24**	⇑P	**Pn**	**23 16 58.2**	**+0.1**
TIRR	**Tirgusor**	**4.44**	**24**	⇑P	**Pn**	**23 16 58.2**	**+0.1**
ISP	**Isparta**	**4.46**	**124**	*e*PN	**Pn**	**23 16 59.5**	**+1.2**
ISP	**Isparta**	**4.46**	**124**	*e*Pn	**Pn**	**23 16 58.9**	**+0.6**
HARR	**Harsova**	**4.51**	**19**	⇑P	**Pn**	**23 16 58.0**	**-1.1**
HARR	**Harsova**	**4.51**	**19**	⇑P	**Pn**	**23 16 58.0**	**-1.1**
FETY	**Fethiye**	**4.57**	**145**	*e*PN	**Pn**	**23 17 00.7**	**+0.8**
ELL	**Elmali**	**4.87**	**138**	*e*PN	**Pn**	**23 17 05.2**	**+1.2**
KIZT	**Kizilcal**	**4.91**	**107**	*e*PN	**Pn**	**23 17 05.7**	**+1.1**
CFR	**Carcaliu**	**5.02**	**19**	⇑P	**Pn**	**23 17 07.4**	**+1.3**
CFR	**Carcaliu**	**5.02**	**19**	⇑P	**Pn**	**23 17 07.4**	**+1.3**
VOIR		**5.03**	**354**	⇑P	**Pn**	**23 17 06.6**	**+0.5**
MLR	**Muntele Rosu**	**5.04**	**1**	Pn	**Pn**	**23 17 08.6**	**+2.2**
	baz=180,slow=5.1						
MLR				Lg		23 18 36.0	
	1.8nm,0.3s,baz=241,slow=16,SNR=6.5						
MLR				LR	LR	23 19 28.6	
	comp=Z,248nm,18.8s,baz=225,slow=42						
MLR	**Muntele Rosu**	**5.04**	**1**	⇑P	**Pn**	**23 17 08.6**	**+2.3**
IDI	**Anoyia**	**5.20**	**189**	Pn	**Pn**	**23 17 07.7**	**-0.8**
	0.4nm,0.3s,baz=15,slow=16,SNR=5.8						
IDI				Sn	**Sn**	**23 18 06.7**	**-1.9**
	1.0nm,0.3s,baz=336,slow=12,SNR=2.8						
IDI				LR	LR	23 19 26.8	
	comp=Z,111nm,19.4s,baz=24,slow=42						
ANTO	**Ankara**	**5.36**	**94**	*e*P	**Pn**	**23 17 09.1**	**-1.5**
	6.0nm,0.8s						
ANTO	**Ankara**	**5.36**	**94**	*e*Pn	**Pn**	**23 17 11.4**	**+0.8**
ANTO	**Ankara**	**5.36**	**94**	*e*P	**Pn**	**23 17 09.1**	**-1.5**
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ANTO	**Ankara**	**5.36**	**94**	*e*Pn	**Pn**	**23 17 09.1**	**-1.6**
	comp=Z,5.5nm,0.8s						
VRI	**Vrincioaia**	**5.46**	**6**	⇑P	**Pn**	**23 17 14.9**	**+2.8**
VRI	**Vrincioaia**	**5.46**	**6**	⇑P	**Pn**	**23 17 14.9**	**+2.9**
BR131	**Keskin Array S**	**6.02**	**94**	*e*Pn	**Pn**	**23 17 20.0**	**+0.2**
	comp=Z,2.4nm,0.3s						
BR131				*e*Sn	**Sn**	**23 18 22.7**	**-6.1**
BRTR	**Keskin Array B**	**6.02**	**94**	Pn	**Pn**	**23 17 19.9**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=266,slow=12,SNR=59						
BRTR				Sn	**Sn**	**23 18 26.8**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=258,slow=14,SNR=2.3						
BZS	**Buzias**	**6.03**	**330**	⇓P	**Pn**	**23 17 19.8**	**-0.1**
BZS	**Buzias**	**6.03**	**330**	⇓P	**Pn**	**23 17 19.8**	**0.0**
DRGR		**6.74**	**341**	⇓P	**Pn**	**23 17 32.1**	**+2.4**
SEV	**Sevastopol'**	**7.08**	**52**	*e*P	Px	23 17 50.3	
SEV				*e*S	**Sn**	**23 18 50.0**	**-5.0**
SEV				pmax	pmax		
	comp=N,10.0nm,0.7s						
BURAR	**Bucovina Array**	**7.18**	**357**	⇑P	**Pn**	**23 17 37.8**	**+2.0**
BURAR	**Bucovina Array**	**7.18**	**357**	⇑P	**Pn**	**23 17 37.8**	**+2.0**
SIM	**Simferopol'**	**7.57**	**51**	*e*P	**Pn**	**23 17 44.1**	**+3.0**
SIM				*e*S	**Sn**	**23 19 01.0**	**-6.0**
SIM				pmax	pmax		
	comp=N,30nm,1.2s						
ALU	**Alushta**	**7.60**	**53**	*e*P	**Pn**	**23 17 42.6**	**+1.1**
	comp=N,15nm,0.8s						

ULDT	**Uludag**	**2.55**	**96**	*e*P	**Pn**	**23 19 45.4 +4.8**
ULDT				*i* S	**Sn**	**23 20 20.1 +8.2**
MANT	**Manisa**	**2.89**	**132**	*e*P	**Pn**	**23 19 45.6 +0.4**
AYDN	**Tasoluk**	**3.22**	**150**	*i* P	**Pn**	**23 19 50.1 +0.3**

ISCJB ***19*** *23:32:07.3±0.6,5146N±003×1607E±003, h0km, Error ellipse: s-maj=5.1km s-min=2.9km az=21.6*
IPEC ***19*** *23:32:08.4±0.7,5154N×1613E, h1km±3km, ML1.9/2, Error ellipse: s-maj=4.5km s-min=1.2km az=21.0*
PRU ***19*** *23:32:10.8,5142N×1600E, h0km*
CSEM ***19*** *23:32:11.6±0.2,5141N×1605E, h1km, ML3.0/3, Error ellipse: s-maj=4.2km s-min=2.3km az=179.0*
VIE ***19*** *23:32:12.0±0.3,5128N×1619E, h0km, mb2.2/3, ML2.5/3, Error ellipse: s-maj=2.2km s-min=1.8km az=81.0 61 km WNW of Breslau Suspected Mining induced.*
ISC 19 23:32:08.5±0.6,5150N±003×1608E±003, h0km, n24, σ0=96/45, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*i* Pgd	**Pg**	**23 32 22.5**	**+1.0**
KSP				e		23 32 23.6	
KSP				e		23 32 30.0	
KSP				*e*Sg	**Sg**	**23 32 31.0**	**+0.8**
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**23 32 22.4**	**+0.9**
KSP				*e*Sg	**Sg**	**23 32 31.0**	**+0.8**
UPC	**Upice**	**1.00**	**182**	*e*PG	**Pg**	**23 32 28.3**	**+0.7**
UPC	**Upice**	**1.00**	**182**	*e*Pg	**Pg**	**23 32 28.5**	**+0.8**
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn	**Pn**	**23 32 36.8**	**+0.3**
BRG				*e*Sg	**Sg**	**23 32 56.5**	**+0.3**
PRU	**Pruhonice**	**1.80**	**213**	*e*PG	**Pg**	**23 32 42.4**	**-0.7**
PRU				*e*SG	**Sg**	**23 33 05.9**	**-0.5**
	8.5nm,0.4s						
PRU	**Pruhonice**	**1.80**	**213**	*e*Pn	**Pn**	**23 32 40.7**	**-0.1**
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	**23 32 42.3**	**-0.4**
CLL				*i* Pg	**Pg**	**23 32 45.0**	**-0.6**
CLL				*i* Sg	**Sg**	**23 33 10.7**	**0.0**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**23 32 42.2**	**-0.5**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**23 32 43.2**	**+0.1**
MORC				*e*Sg	**Sg**	**23 33 09.9**	**-1.7**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**23 32 46.5**	**-2.8**
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**23 32 47.3**	**+0.7**
VRAC				*e*Sg	**Sg**	**23 33 18.7**	**-1.2**
	5.7nm,0.2s						
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**23 32 50.7**	**+0.9**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**23 32 52.5**	**+0.3**
NKC				*e*SG	**Sg**	**23 33 33.3**	**+0.4**
	18nm,0.4s						
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pn	**Pn**	**23 32 52.4**	**+0.2**
NKC				*e*Sg	**Sg**	**23 33 33.3**	**+0.4**
	18nm,0.4s						
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**23 32 59.1**	**-0.9**
OJC				*e*Sg	**Sg**	**23 33 34.8**	**0.0**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**23 32 55.9**	**+0.5**
KHC				*e*PG	**Pg**	**23 33 01.4**	**-2.0**
KHC				*e*SG	**Sg**	**23 33 39.1**	**-1.4**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pn	**Pn**	**23 32 55.6**	**+0.2**
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**23 32 56.7**	**+0.2**
MOX				*e*PG	**Pg**	**23 33 04.7**	**-0.2**
MOX				*e*SG	**Sg**	**23 33 44.4**	**+1.3**
NIE	**Niedzica**	**3.42**	**126**	*e*P	**Pg**	**23 33 13.7**	**-0.3**
NIE				*e*S	**Sg**	**23 34 00.8**	**+2.5**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**23 33 05.9**	**-0.9**
BSD				*i*		23 33 06.2	
BSD				*i*		23 33 12.1	
BSD				*e*S	**Sn**	**23 33 44.8**	**-6.1**
MOA	**Molln**	**3.84**	**199**	⇓*i* Pn	**Pn**	**23 33 09.8**	**+0.9**
MOA				⇑*i* Sg	**Sg**	**23 34 13.1**	**+1.2**
	3.5nm,0.4s						
MOA	**Molln**	**3.84**	**199**	Pn	**Pn**	**23 33 09.8**	**+0.9**
MOA				Sg	**Sg**	**23 34 13.1**	**+1.2**
	3.5nm,0.4s						
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PN	**Pn**	**23 33 10.7**	**+0.9**
STHS				*e*PG	**Pg**	**23 33 23.5**	**+0.1**
STHS				*e*SG	**Sg**	**23 34 20.2**	**+6.1**

ISCJB ***19*** *23:32:18.3±0.5,3925S±003×7175W±008, h116km±7km, mb4.2/2, Error ellipse: s-maj=10.7km s-min=5.4km az=173.0*
GUC ***19*** *23:32:18.7±1.0,3932S×7198W, h115km±13km, ML4.8*
NEIC ***19*** *23:32:19.5±0.6,3923S×7178W, h121km±9km, mb4.5/4, Error ellipse: s-maj=13.0km s-min=7.5km az=88.0*
ISC 19 23:32:19.2±0.6,3927S±003×7178W±008, h114km±7km, n33, σ1=10/51, mb4.2/2, 5C-2D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**0.83**	**310**	⇓*i* P	**Pn**	**23 32 38.2**	**-0.8**
TMU				*i* S	**Sn**	**23 32 52.9**	**-1.1**
VLCH	**Valdivia**	**1.25**	**244**	*e*P	**Pn**	**23 32 45.9**	**+2.6**
VLCH				*i* S	**Sn**	**23 33 03.0**	**+1.5**
VLCH	**Valdivia**	**1.25**	**244**	*e*P	**Pn**	**23 32 45.2**	**+2.0**
VLCH				*i* S	**Sn**	**23 33 03.0**	**+1.4**
AGCH	**Angol**	**1.63**	**334**	*e*P	**Pn**	**23 32 47.5**	**-0.2**
AGCH				*i* S	**Sn**	**23 33 09.1**	**-0.3**
AGCH				AMP		23 33 12.2	
	comp=N,10μm,0.4s						
PLCA	**Paso Flores**	**1.74**	**147**	*e*P	**Pn**	**23 32 48.7**	**-0.4**
PLCA				*e*S	**Sn**	**23 33 10.4**	**-1.4**
CCHI	**Chillan**	**2.68**	**355**	*e*P	**Pn**	**23 33 02.2**	**+1.2**
CCHI				*i* S	**Sn**	**23 33 33.9**	**+0.7**
CCHI				AMP		23 33 35.9	
	comp=E,4μm,0.3s						
CCHI	**Chillan**	**2.68**	**355**	*e*P	**Pn**	**23 33 01.1**	**+0.1**
CCHI				*i* S	**Sn**	**23 33 33.8**	**+0.7**
COCH	**Cobquecura**	**3.24**	**345**	*e*P	**Pn**	**23 33 08.7**	**+0.3**
COCH				*i* S	**Sn**	**23 33 44.3**	**-2.1**
COCH	**Cobquecura**	**3.24**	**345**	*e*P	**Pn**	**23 33 07.9**	**-0.5**
COCH				S	**Sn**	**23 33 44.2**	**-2.1**
LNCH	**Linares**	**3.42**	**2**	⇑*i* P	**Pn**	**23 33 12.0**	**+1.2**
LNCH				*i* S	**Sn**	**23 33 51.4**	**+0.6**
LNCH				AMP		23 33 54.9	
	comp=N,751nm,0.4s						
LNCH	**Linares**	**3.42**	**2**	*e*P	**Pn**	**23 33 11.7**	**+0.8**
LNCH				*i* S	**Sn**	**23 33 52.9**	**+2.1**
CNCO	**Chanco**	**3.58**	**350**	*e*P	**Pn**	**23 33 12.8**	**-0.2**
CNCO				*i* S	**Sn**	**23 33 52.0**	**-2.6**
CNCO				AMP		23 33 54.4	
	comp=N,1μm,0.2s						
CNCO	**Chanco**	**3.58**	**350**	*e*P	**Pn**	**23 33 12.6**	**-0.4**
CNCO				S	**Sn**	**23 33 52.0**	**-2.6**
NICH	**Los Niches**	**4.29**	**6**	*e*P	**Pn**	**23 33 23.3**	**+0.9**
NICH				*i* S	**Sn**	**23 34 12.6**	**+1.2**
SFDO	**San Fernando**	**4.69**	**8**	⇑*i* P	**Pn**	**23 33 28.3**	**+0.5**
SFDO				*i* S	**Sn**	**23 34 21.4**	**+0.2**
SFDO	**San Fernando**	**4.69**	**8**	⇑*i* P	**Pn**	**23 33 28.2**	**+0.4**
SFDO				S	**Sn**	**23 34 21.4**	**+0.2**
CICH	**Cipreses**	**5.06**	**13**	⇑*i* P	**Pn**	**23 33 34.4**	**+1.6**
CICH				*i* S	**Sn**	**23 34 32.2**	**+2.1**
CACH	**El Canelo**	**5.23**	**11**	*i* P	**Pn**	**23 33 35.7**	**+0.5**
CACH	**El Canelo**	**5.23**	**11**	*e*P	**Pn**	**23 33 35.7**	**+0.5**
LNV	**Longovilo**	**5.32**	**3**	*e*P	**Pn**	**23 33 36.0**	**-0.3**
CHCH	**Chadas Angostu**	**5.41**	**10**	*e*P	**Pn**	**23 33 37.9**	**+0.4**
CHCH	**Chadas Angostu**	**5.41**	**10**	*e*P	**Pn**	**23 33 37.7**	**+0.3**
TACH	**Talagante**	**5.65**	**7**	P	**Pn**	**23 33 39.8**	**-1.0**
PCH	**Pirque**	**5.73**	**11**	*e*P	**Pn**	**23 33 41.5**	**-0.4**
ANTU	**Antumapu**	**5.77**	**10**	⇓*i* P	**Pn**	**23 33 42.7**	**+0.4**
RCDM	**Rinconada Maip**	**5.83**	**8**	*e*P	**Pn**	**23 33 42.3**	**-0.9**
FCH	**Farellones**	**6.05**	**12**	*i* P	**Pn**	**23 33 45.7**	**-0.5**
FCH				*i* S	**Sn**	**23 34 53.9**	**-0.3**
ROCH	**El Roble**	**6.32**	**6**	*e*P	**Pn**	**23 33 48.7**	**-1.1**
JACH	**Jahuel**	**6.65**	**9**	*i* P	**Pn**	**23 33 53.0**	**-1.3**
TRQA	**Tornquist**	**7.77**	**84**	*e*Pn	**Pn**	**23 34 11.3**	**+1.9**
	comp=N,7.0nm,0.6s						
CPUP	**Villa Florida**	**17.70**	**47**	*e*P	**Pn**	**23 36 16.2**	**-2.1**
	comp=N,11nm,0.3s						
LPAZ	**La Paz**	**23.12**	**9**	*e*P	**P**	**23 37 15.0**	**-0.2**
	comp=N,3.0nm,0.9s,mb3.6						
LPAZ				*e*		23 37 26.5	
QSPA	**South Pole Qui**	**50.97**	**180**	⇑*i* P	**P**	**23 41 09.4**	**+0.3**
	comp=N,6.1nm,0.7s,mb4.7						

ISCJB ***19*** *23:47:28.8±4.3,53S±03×1523E±03, h85km±34km, mb4.0/6, Error ellipse: s-maj=58.3km s-min=27.6km az=82.4*

IDC ***19*** *23:47:29.3±5.2,530S×15230E, h75km±45km, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp4.1/5, ML2.8/1, Error ellipse: s-maj=66.6km s-min=25.4km az=126.0*
NEIC ***19*** *23:47:31.0±3.0,529S×15222E, h93km±23km, mb4.5/3, Error ellipse: s-maj=40.3km s-min=21.3km az=125.0*
ISC 19 23:47:30.3±3.8,53S±03×1523E±03, h87km±30km, n11, σ0=50/10, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.53**	**231**	P	**Pn**	**23 49 03.9**	**+0.2**
	1.2nm,0.3s,baz=42,slow=3.6,SNR=3.6						
PMG				S	**Sn**	**23 50 16.5**	**-0.1**
	6.6nm,0.3s,baz=149,slow=19,SNR=6.5						
KAKA	**Kakadu**	**20.93**	**248**	*e*P	**P**	**23 52 05.0**	**-0.9**
	16nm,0.5s						
WRAB	**Tennant Creek**	**22.73**	**229**	*e*P	**P**	**23 52 25.1**	**+0.2**
	9.8nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**22.73**	**229**	*e*P	**P**	**23 52 24.9**	**-0.1**
WRA	**Warramunga Arr**	**22.74**	**229**	P	**P**	**23 52 25.1**	**+0.1**
	4.6nm,0.4s,mb4.1,baz=53,slow=10,SNR=30						
ASAR	**Alice Springs**	**25.45**	**222**	P	**P**	**23 52 50.9**	**+0.9**
	2.8nm,0.4s,mb4.1,baz=59,slow=8.7,SNR=42						
STKA	**Stephens Creek**	**28.29**	**199**	P	**P**	**23 53 14.6**	**-0.8**
	1.5nm,0.8s,mb3.6,baz=21,slow=14,SNR=3.4						
MBWA	**Marble Bar**	**35.29**	**240**	*e*P	**P**	**23 54 17.1**	**+0.4**
	1.5nm,0.3s,mb4.3						
ILAR	**Eielson Array**	**82.80**	**22**	P	**P**	**23 59 44.8**	**0.0**
	0.7nm,0.7s,mb3.6,baz=244,slow=5.3,SNR=9.6						
LPAZ	**La Paz**	**134.63**	**119**	PKP	PKPdf	00 06 44.0	+5.5
	0.5nm,0.5s,baz=210,slow=2.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.97**	**287**	PKPbc	PKPbc	00 07 12.9	+2.4
	0.2nm,0.7s,baz=87,slow=1.9,SNR=4.1						

WEL 19 23:57:07.8±0.7,3556S×17968E, h33km, ML3.6/6, Error ellipse: s-maj=12.0km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.29**	**209**	P*	Pb	23 57 43.8	-4.5
PUZ	**Puketiti**	**2.76**	**204**	PN	Pn	23 57 50.2	+0.6
PUZ				SN	Sn	23 58 21.0	-0.7
MWZ	**Matawai**	**3.26**	**211**	P*	Pb	23 57 57.0	-8.0
MWZ				S*	Sb	23 58 34.3	-10
URZ	**Urewera**	**3.39**	**217**	P*	Pb	23 57 58.8	-8.4
URZ				S*	Sb	23 58 36.6	-11
KNZ	**Kokohu**	**3.81**	**204**	PN	Pn	23 58 03.1	-1.0
BKZ	**Black Stump Fm**	**4.41**	**214**	P*	Pb	23 58 12.3	-12
MQZ	**McQueen's Vall**	**9.77**	**212**	SN	Sn	00 01 01.1	-13

RSPR 19 23:58:21.8, 2048N×7012W, h25km±99km, MD3.9/4, MD3.9/4, 4C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**3.75**	**130**	⇑*e*P	Pn	23 59 14.1	-4.0
CRPR	**Cabo Rojo, PR**	**3.75**	**130**	*e*S	Sn	23 59 59.3	-2.2
MGP	**Maguayo**	**3.77**	**130**	*e*S	Sn	00 00 01.3	-0.5
LRS	**Lares**	**3.77**	**125**	⇑*e*P	Pn	23 59 17.8	-0.6
LRS				*e*S	Sn	00 00 01.3	-0.7
AOPR	**Arecibo Observ**	**3.82**	**123**	⇑*e*P	Pn	23 59 19.6	+0.6
AOPR	**Arecibo Observ**	**3.82**	**123**	*e*S	Sn	00 00 02.3	-0.8
CELP	**Cerrillos**	**4.11**	**125**	⇑*e*P	Pn	23 59 22.0	-1.0
CELP				*e*S	Sn	00 00 07.0	-3.2
HUMP	**Col San Antoni**	**4.65**	**119**	*e*S	Sn	00 00 20.8	-2.8

MAN 20 00:07:02.2, 1835N×12060E, h29km, mb2.5, ML4.0, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.70**	**172**	*e*P	Pb	00 07 16.9	+1.1
APYP	**Conner**	**0.78**	**128**	*e*P	Pb	00 07 17.2	+0.1
APYP				*e*S	Sb	00 07 28.6	+1.3

ISCJB ***20*** *00:11:28.4±0.3,4935N±002×685E±003, h0km, Error ellipse: s-maj=3.2km s-min=2.2km az=9.9*
BNS ***20*** *00:11:30.0±0.6,4934N×692E, h1km, ML1.5*
BGR ***20*** *00:11:30.0±0.4,4938N×687E, h1km, ML1.9/3, Error ellipse: s-maj=6.7km s-min=4.4km az=32.0*
LDG ***20*** *00:11:30.1±0.1,4937N×692E, h1km, Md2.7/1, Ml2.6/11, Error ellipse: s-maj=2.5km s-min=1.5km az=96.0, Suspected Mining induced.*
ISC 20 00:11:29.5±0.3,4935N±002×686E±003, h0km, n23, σ1=00/42, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**304**	*e*Pg	**Pg**	**00 11 41.0**	**+0.9**
	SNR=2.8						
WLF				*e*Sg	**Sg**	**00 11 46.7**	**-0.6**
BGG	**Burgeitz**	**0.91**	**20**	*e*Pg	**Pg**	**00 11 47.0**	**+0.1**
BGG				*e*Sg	**Sg**	**00 11 59.8**	**+1.1**
	9.0nm,0.8s						
HILG	**Hillesheim**	**0.95**	**353**	*e*Pg	**Pg**	**00 11 48.1**	**+0.5**
HILG				*e*Sg	**Sg**	**00 12 01.7**	**+1.8**
	22nm,0.5s						
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pg	**Pg**	**00 11 48.5**	**+0.2**
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pn	**Pn**	**00 11 49.3**	**-1.2**
CDF				*e*Sg	**Sg**	**00 12 01.6**	**+0.6**
	9.8nm,0.2s						
RFYF	**Reffroy**	**1.17**	**232**	*e*Pg	**Pg**	**00 11 53.4**	**+1.6**
	baz=49						
RFYF				*e*Sg	**Sg**	**00 12 09.1**	**+2.1**
	18nm,0.3s						
STB	**Steinbach**	**1.24**	**359**	*e*Pg	**Pg**	**00 11 52.7**	**-0.6**
STB				*e*Sg	**Sg**	**00 12 09.9**	**+0.6**
	7.6nm,0.6s						
KLL	**Kalltalsperre**	**1.34**	**345**	*e*Pg	**Pg**	**00 11 55.0**	**-0.2**
KLL				*e*Sg	**Sg**	**00 12 12.2**	**-0.4**
	5.1nm,0.5s						
TNS	**Taunus Mts**	**1.35**	**49**	*e*Pg	**Pg**	**00 11 54.9**	**-0.4**
	SNR=2.6						
TNS				*e*Sg	**Sg**	**00 12 11.8**	**-1.0**
HAU	**Haudompre**	**1.39**	**194**	*e*Pg	**Pg**	**00 11 56.5**	**+0.4**
HAU				*e*Sg	**Sg**	**00 12 15.6**	**+1.4**
	13nm,0.3s						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**00 11 56.7**	**+0.2**
	SNR=4.0						
BFO				*e*Sg	**Sg**	**00 12 15.1**	**+0.2**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**00 12 00.0**	**+2.4**
	baz=56						
MEZF				*e*Sg	**Sg**	**00 12 18.0**	**+1.4**
	9.8nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**00 11 58.9**	**+0.3**
GIVF				*e*Sg	**Sg**	**00 12 18.1**	**-0.2**
	12nm,0.5s						
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**00 11 59.0**	**0.0**
HINF				*e*Sg	**Sg**	**00 12 19.4**	**+0.5**
	30nm,0.2s						
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn	**Pn**	**00 11 59.8**	**-0.1**
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**00 12 01.2**	**-0.2**
SFTF				*e*Sg	**Sg**	**00 12 23.7**	**+0.7**
	3.9nm,0.3s						
BAIF	**Baives**	**1.86**	**293**	*e*Pn	**Pn**	**00 12 02.3**	**-0.3**
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**00 12 05.1**	**-0.1**
BAIF				*e*Sg	**Sg**	**00 12 28.4**	**-0.9**
	6.7nm,0.5s						
CABF	**La Chapelle**	**2.79**	**191**	*e*Pn	**Pn**	**00 12 15.2**	**-0.2**
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**00 12 15.4**	**-1.4**
	baz=50						
LOR				*e*Sn	**Sn**	**00 12 50.7**	**-1.6**
LOR				*e*Sg	**Sg**	**00 13 02.1**	**-0.3**
	2.9nm,0.3s						
SSF	**Saint Saulge**	**3.21**	**226**	*e*Pn	**Pn**	**00 12 19.6**	**-1.5**
SSF				*e*Sn	**Sn**	**00 12 57.5**	**-2.5**
SSF				*e*Sg	**Sg**	**00 13 10.5**	**-2.1**
	2.8nm,0.4s						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pn	**Pn**	**00 12 22.5**	**-1.0**
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	**00 12 38.9**	**-0.4**
	SNR=3.6						

ISCJB ***20*** *00:20:21.5±0.7, 1513S±009×7184W±009, h131km±8km, mb3.7/7, Error ellipse: s-maj=18.8km s-min=8.5km az=82.5*
NEIC ***20*** *00:20:23.0±0.9, 1517S×7179W, h126km±9km, mb3.9/3, Error ellipse: s-maj=16.0km s-min=10.8km az=221.0*

IDC ***20*** *00:20:24.8±3.2, 1519S×7167W, h141km±27km, mb3.6/6, mb1 3.6/9, mb1mx3.5/20, mbtmp4.0/9, Error ellipse: s-maj=26.9km s-min=23.5km az=90.0*
ISC 20 00:20:22.6±0.7, 1513S±009×7182W±009, h125km±8km, n18, σ0=96/19, mb3.7/7, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.36**	**167**	⇓*i* P	**Pn**	**00 20 48.9**	**+0.1**
ARE				*i* S	**Sn**	**00 21 09.0**	**+0.2**
LPAZ	**La Paz**	**3.73**	**109**	P	**Pn**	**00 21 21.5**	**+2.8**
	19nm,0.3s,baz=289,slow=8.7,SNR=275						
LPAZ	**La Paz**	**3.73**	**109**	P	**Pn**	**00 21 21.5**	**+2.8**
NNA	**Nana**	**5.80**	**302**	*e*Pn	**Pn**	**00 21 47.2**	**+0.9**
	85nm,0.3s						
NNA				*e*Sn	**Sn**	**00 22 50.5**	**-1.1**
SIV	**San Ignacio**	**10.39**	**96**	P	**Pn**	**00 22 46.3**	**-1.9**
	1.5nm,0.3s,baz=284,slow=10,SNR=37						
CFAA	**Coronel Fontan**	**16.73**	**169**	P	**Pn**	**00 24 09.1**	**-0.3**
	0.1nm,0.3s,baz=349,slow=10,0,SNR=12						
CPUP	**Villa Florida**	**17.53**	**132**	*e*P	**Pn**	**00 24 18.3**	**-0.8**
	10nm,0.3s						
BDFB	**Brasilia**	**22.95**	**94**	P	**P**	**00 25 15.6**	**-0.5**
	1.3nm,0.4s,mb3.6,baz=263,slow=8.7,SNR=6.1						
BDFB	**Brasilia**	**22.95**	**94**	P	**P**	**00 25 15.6**	**-0.5**
TRQA	**Tornquist**	**24.44**	**161**	*e*P	**P**	**00 25 29.3**	**-0.4**
	2.1nm,0.9s,mb3.5						
PLCA	**Paso Flores**	**25.54**	**178**	P	**P**	**00 25 39.6**	**+0.1**
	3.6nm,0.9s,mb3.8,baz=10.0,slow=12,SNR=6.7						
PLCA	**Paso Flores**	**25.54**	**178**	*e*P	**P**	**00 25 39.9**	**+0.4**
	1.5nm,0.5s,mb3.7						
ULM	**Lac du Bonnet**	**68.45**	**344**	P	**P**	**00 31 11.1**	**0.0**
	0.7nm,0.5s,mb3.8,baz=165,slow=5.1,SNR=3.2						
DBIC	**Dimbokro**	**69.79**	**77**	P	**P**	**00 31 20.8**	**+1.5**
	1.5nm,0.8s,mb3.9,baz=243,slow=6.8,SNR=7.1						
TORD	**Torodi Ar. Bea**	**77.97**	**73**	P	**P**	**00 32 06.5**	**-0.4**
	1.6nm,0.5s,mb4.0,baz=264,slow=5.3,SNR=26						
YKA	**Yellowknife Ar**	**84.29**	**342**	P	**P**	**00 32 41.2**	**+0.8**
	0.2nm,0.5s,mb3.2,baz=136,slow=5.1,SNR=7.0						
YKA	**Yellowknife Ar**	**84.29**	**342**	P	**P**	**00 32 41.2**	**+0.8**
SONM	**Songino Array**	**147.35**	**2**	PKPbc	PKPbc	00 39 53.3	+1.8
	1.2nm,0.7s,baz=356,slow=0.8,SNR=7.7						

IDC 20 00:45:36.2±3.0, 1570S×17407W, h140km±28km, mb3.0/4, mb1 3.3/5, mb1mx3.2/15, mbtmp3.5/5, Error ellipse: s-maj=160.6km s-min=22.4km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.84**	**52**	P	Pn	00 46 21.3	+0.1
	17nm,0.3s,baz=210,slow=0.6,SNR=11						
AFI				S	Sn	00 46 52.8	-3.0
	20nm,0.3s,baz=68,slow=22,SNR=9.4						
WRA	**Warramunga Arr**	**49.15**	**257**	P	P	00 54 10.4	+0.7
	0.1nm,0.7s,baz=94,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**49.41**	**252**	P	P	00 54 11.8	+0.1
	0.4nm,0.5s,baz=90,slow=7.9,SNR=6.9						
ILAR	**Eielson Array**	**82.86**	**11**	P	P	00 57 44.5	-0.5
	0.3nm,0.5s,baz=201,slow=3.9,SNR=9.1						
PDAR	**Pinedale Array**	**82.92**	**42**	P	P	00 57 46.0	+0.7
	0.4nm,0.8s,baz=191,slow=3.9,SNR=3.5						

ISCJB ***20*** *01:12:16.6±0.3, 4314N±002×0.18E±002, h15km, Error ellipse: s-maj=2.9km s-min=2.2km az=77.8*
LDG ***20*** *01:12:18.4±0.0, 4305N×0.15E, h15km, Md2.5/2, Ml2.5/10, Error ellipse: s-maj=1.0km s-min=0.7km az=142.0*
MDD ***20*** *01:12:19.2±0.3, 4305N×0.15E, h10km, mbLg1.8/21, Error ellipse: s-maj=2.2km s-min=1.5km az=12.0, PRXIMO*
STR ***20*** *01:12:19.3±0.3, 4303N×0.18E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 01:12:17.7±0.3, 4309N±002×016E±003, h19km±3km, n51, σ0=64/64, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**235**	Pg	**Pg**	**01 12 21.4**	**0.0**
LABF				Sg	**Sg**	**01 12 23.7**	**-0.1**
LABF	**Labassere**	**0.08**	**235**	Pg	**Pg**	**01 12 21.4**	**+0.1**
LABF				Lg		01 12 23.4	
EPF	**Esparros**	**0.14**	**115**	*e*Pg	**Pg**	**01 12 22.4**	**+0.4**
EPF				*e*Sg	**Sg**	**01 12 25.2**	**+0.3**
	60nm,0.3s						
EPF	**Esparros**	**0.14**	**115**	Pg	**Pg**	**01 12 22.4**	**+0.4**
EPF				Lg		01 12 25.2	
	30nm,0.3s						
VIEF	**Viey**	**0.23**	**206**	Pg	**Pg**	**01 12 23.1**	**-0.2**
VIEF				Sg	**Sg**	**01 12 26.3**	**-0.7**
VIEF	**Viey**	**0.23**	**206**	Pg	**Pg**	**01 12 23.1**	**-0.1**
VIEF				Lg		01 12 26.3	
RESF	**Ens**	**0.31**	**155**	Pg	**Pg**	**01 12 24.8**	**+0.2**
RESF				Sg	**Sg**	**01 12 28.8**	**-0.4**
RESF	**Ens**	**0.31**	**155**	Pg	**Pg**	**01 12 24.8**	**+0.2**
RESF				Lg		01 12 29.1	
EBIE	**Bielsa**	**0.41**	**182**	Pg	**Pg**	**01 12 26.2**	**0.0**
	2.8nm,0.1s,SNR=108						
EBIE			

1.7nm,0.2s,SNR=10
EMIR Lg 01 13 08.0
5.0nm,0.1s,SNR=9.2
EPOB Poblet 1.87 158 Pg **Pg 01 12 52.8 -0.8**
1.6nm,0.2s,SNR=8.2
EPOB Sn **Sn 01 13 12.8 +1.2**
1.3nm,0.2s,SNR=7.9
EPOB Lg 01 13 16.3
1.8nm,0.1s,SNR=7.8
LFF La Frestale 1.89 13 *e*Pg **Pg 01 12 54.7 +0.6**
LFF *e*Sg **Sg 01 13 20.1 +1.4**
12nm,0.3s
LFF La Frestale 1.89 13 Pg **Pg 01 12 54.7 +0.6**
LFF Lg 01 13 20.1
6.2nm,0.3s
ECRI Cripan 2.02 257 Lg 01 13 23.7
1.5nm,0.2s,SNR=7.9
EJON La Jonquera 2.11 107 Sn **Sn 01 13 19.6 +2.0**
1.0nm,0.4s,SNR=4.0
ERTA Horta de San J 2.14 177 Pg **Pg 01 12 58.2 -0.6**
0.5nm,0.2s,SNR=5.8
ERTA Lg 01 13 24.7
1.6nm,0.1s,SNR=7.9
CAF Calviac 2.29 36 *e*Pg **Pg 01 13 01.7 0.0**
CAF *e*Sn **Sn 01 13 21.2 -0.9**
CAF *e*Sg **Sg 01 13 32.0 +0.6**
4.8nm,0.2s
CAF Calviac 2.29 36 Pg **Pg 01 13 01.7 0.0**
CAF Sn **Sn 01 13 21.2 -0.9**
CAF Lg 01 13 32.0
2.4nm,0.2s
RJF Les Rejaudoux 2.42 23 *e*Pg **Pg 01 13 04.0 -0.1**
RJF *e*Sn **Sn 01 13 24.1 -1.1**
RJF *e*Sg **Sg 01 13 35.9 +0.4**
2.5nm,0.1s
RJF Les Rejaudoux 2.42 23 Pg **Pg 01 13 04.0 -0.1**
RJF Sn **Sn 01 13 24.1 -1.1**
RJF Lg 01 13 35.9
1.2nm,0.1s
EMOS Mosqueruela 2.77 190 Pg **Pg 01 13 08.9 -1.9**
0.6nm,0.3s,SNR=7.9
EMOS Lg 01 13 46.8
0.5nm,0.1s,SNR=7.9
LASF Ste Croix 2.86 69 *e*Sg **Sg 01 13 49.2 -0.4**
1.6nm,0.3s
LASF Ste Croix 2.86 69 Lg 01 13 49.2
0.8nm,0.3s
TCF Toulx Ste Croi 3.51 24 *e*Sg **Sg 01 14 10.0 -0.6**
2.2nm,0.2s
TCF Toulx Ste Croi 3.51 24 Lg 01 14 10.0
1.1nm,0.2s
MFF Saint Martin d 3.52 357 *e*Sg **Sg 01 14 09.9 -0.8**
2.2nm,0.3s
MFF Saint Martin d 3.52 357 Lg 01 14 09.9
1.1nm,0.3s
BGF Bois d'Agland 3.96 28 *e*Sg **Sg 01 14 24.0 -0.8**
8.2nm,0.3s
BGF Bois d'Agland 3.96 28 Lg 01 14 24.0
4.1nm,0.3s

ISCJB ***20*** *01:16:38.5±2.1,2669N±009×5591E±007,h3km±10km, Error ellipse: s-maj=16.6km s-min=7.8km az=128.8*
CSEM ***20*** *01:16:39.4,2667N×5609E,h14km,ML3.3,After THR*
THR ***20*** *01:16:39.4±0.3,2667N×5609E,h14km±2km,ML3.3*
KISR ***20*** *01:16:44.4±0.6,2689N×5529E,h7km±999km,ML3.5*
ISC 20 01:16:42.8±2.0,2680N±010×5589E±006,h15km±8km**,n12,** σ1°**65/22,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.65**	**23**	*e*PG	**Pg**	**01 16 53.4**	**-2.1**
BNDS				*e*SG	**Sg**	**01 17 03.8**	**-0.3**
BNDS				AML	AML	01 17 15.5	
	comp=N,1μm,0.6s						
BNDS				AML	AML	01 17 16.7	
	comp=E,2μm,0.4s						
BNDS	**Bandar-Abbas**	**0.65**	**23**	*e*Pg	**Pg**	**01 16 53.4**	**-2.1**
	SNR=90						
BNDS				*e*Sg	**Sg**	**01 17 03.8**	**-0.3**
	comp=E,2μm,0.4s,SNR=90						
GHIR	**Ghir-Karzin**	**2.97**	**301**	*e*PN	**Pn**	**01 17 31.4**	**+2.1**
GHIR				*e*SG	**Sg**	**01 18 18.8**	**+0.6**
GHIR				AML	AML	01 18 36.8	
	comp=N,63nm,0.6s						
GHIR				AML	AML	01 18 39.4	
	comp=E,76nm,0.6s						
GHIR	**Ghir-Karzin**	**2.97**	**301**	*e*Pn	**Pn**	**01 17 31.4**	**+2.1**
	SNR=52						
GHIR				*e*Sg	**Sg**	**01 18 18.8**	**+0.6**
	comp=E,76nm,0.6s,SNR=90						
KRBR	**Kerman**	**3.26**	**13**	*e*PN	**Pn**	**01 17 33.7**	**+0.4**
KRBR				SN	**Sn**	**01 18 13.3**	**+1.4**
KRBR				AML	AML	01 18 40.5	
	comp=N,50nm,0.5s						
KRBR	**Kerman**	**3.26**	**13**	*e*Pn	**Pn**	**01 17 33.7**	**+0.3**
	SNR=52						
KRBR				Sn	**Sn**	**01 18 13.3**	**+1.4**
	comp=N,50nm,0.5s,SNR=52						
ZHSF	**Zahedan**	**5.14**	**56**	*e*PN	**Pn**	**01 17 57.2**	**-2.0**
NASN	**Na'in**	**6.55**	**337**	*e*PN	**Pn**	**01 18 20.5**	**+2.0**
RDF	**Al-Radifah**	**7.67**	**288**	*e*P	**Pn**	**01 18 34.5**	**+0.5**
RDF				*e*S	**Sn**	**01 19 56.9**	**-3.8**
RDF				AML	AML	01 19 59.9	
	comp=Z,8.9nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.71**	**293**	*e*P	**Pn**	**01 18 35.1**	**+0.6**
UMR				*e*S	**Sn**	**01 19 58.1**	**-3.5**
UMR				AML	AML	01 20 01.3	
	comp=Z,9.6nm,0.5s						
NAY	**Al-Naaiem**	**8.02**	**290**	*e*P	**Pn**	**01 18 39.3**	**+0.7**
NAY				*e*S	**Sn**	**01 20 06.1**	**-3.0**
NAY				AML	AML	01 20 12.2	
	comp=Z,4.2nm,0.5s						
MIB	**Mutribah**	**8.11**	**294**	*e*P	**Pn**	**01 18 40.9**	**+1.0**
MIB				*e*S	**Sn**	**01 20 07.9**	**-3.3**
MIB				AML	AML	01 20 10.2	
	comp=Z,7.0nm,0.4s						

NAO ***20*** *01:39:48.6,6731N×145.11W,h33km,mb3.9*
NEIC ***20*** *01:39:58.0,6973N×14581W,h5km,mb4.7/50, ML5.0(AEIC),After AEIC.*
BJI ***20*** *01:39:58.0,6970N×14580W,h5km,mB5.0,mb4.9,Ms4.8, Msz4.6*
ISCJB ***20*** *01:39:59.2±0.1,6958N±002×14625W±007,h5km, mb4.7/93,MS4.3/17,Error ellipse: s-maj=3.8km s-min=2.5km az=146.2*
MOS ***20*** *01:40:00.0±1.0,6958N×14600W,h10km,mb4.8/30,Error ellipse: s-maj=20.1km s-min=5.2km az=94.4*
IDC ***20*** *01:40:00.1±0.6,6961N×14596W,h0km,mb4.3/17, mb1 4.5/20,mb1mx4.5/23,mbtmp4.4/20,ML4.6/3,MS3.9/12, Ms1 3.9/12,ms1mx3.7/27,Error ellipse: s-maj=14.2km s-min=11.1km az=61.0*
PGC ***20*** *01:40:02.0,6964N×14533W,h1km,ML4.9/1,Brooks Range, Alaska.*
SZGRF ***20*** *01:40:05.7,6931N×14576W,h33km,mb4.3,Northern Alaska, United States*
ISC 20 01:40:01.6±1.2,6960N±002×14613W±007,h11km±7km**, h14**km±.6km**:pP-P,n254,** σ1°**07/283,mb4.7/93,MS4.3/17, 14C-4D,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.26**	**165**	P	**Pn**	**01 40 37.8**	**-1.1**
COLD	**Coldfoot**	**2.82**	**214**	P	**Pn**	**01 40 46.8**	**+0.2**
COLD				S	**Sn**	**01 41 27.0**	**+6.4**
IM3	**Indian Mountai**	**4.64**	**222**	P	**Pn**	**01 41 10.4**	**-1.2**
INK	**Inuvik**	**4.73**	**100**	Pn	**Pn**	**01 41 10.6**	**-2.3**
	10nm,0.3s,baz=302,slow=12,SNR=286						
INK				Sn	**Sn**	**01 42 02.5**	**-5.2**
	58nm,0.3s,baz=160,slow=27,SNR=8.6						
INK				Lg		01 42 25.7	
	41nm,0.3s,baz=41,slow=30,SNR=3.9						
INK				LR	LR	01 43 29.6	
	comp=Z,877nm,18.6s,baz=280,slow=45						
INK	**Inuvik**	**4.73**	**100**	Pn	**Pn**	**01 41 10.5**	**-2.3**
INK				Sn	**Sn**	**01 42 02.2**	**-5.4**
INK				Trac		01 42 37.3	
	comp=Z,996nm,0.8s						
INK	**Inuvik**	**4.73**	**100**	*e*Pn	**Pn**	**01 41 10.7**	**-2.2**
INK				*e*Sn	**Sn**	**01 42 04.6**	**-3.0**
COLA	**College**	**4.79**	**189**	P	**Pn**	**01 41 12.8**	**-0.9**
COLA				S	**Sn**	**01 42 07.7**	**-1.6**
IL1	**Eielson Array**	**4.86**	**184**	P	**Pn**	**01 41 13.6**	**-1.1**
ILAR	**Eielson Array**	**4.86**	**184**	Pn	**Pn**	**01 41 13.6**	**-1.1**
	6.3nm,0.3s,baz=2.7,slow=15,SNR=435						
ILAR				Sn	**Sn**	**01 42 08.8**	**-2.1**
	37nm,0.3s,baz=0.2,slow=26,SNR=5.7						
ILAR				Lg		01 42 33.4	
	48nm,0.3s,baz=4.7,slow=27,SNR=5.2						
ILAR				LR	LR	01 42 49.0	
	comp=Z,491nm,21.2s,baz=21,slow=35						
ILAR	**Eielson Array**	**4.86**	**184**	P	**Pn**	**01 41 13.6**	**-1.0**
ILAR						01 42 08.8	
MCK	**McKinley**	**6.00**	**192**	P	**Pn**	**01 41 29.8**	**-0.5**
DOT	**Dot Lake**	**6.03**	**171**	P	**Pn**	**01 41 29.8**	**-1.0**
DAWY	**Dawson**	**6.16**	**151**	Pn	**Pn**	**01 41 31.1**	**-1.4**
DAWY				Sn	**Sn**	**01 42 38.3**	**-4.6**
DAWY				Trac		01 42 45.5	
	comp=Z,319nm,0.6s						
DAWY	**Dawson**	**6.16**	**151**	P	**Pn**	**01 41 30.9**	**-1.6**
TRF	**Thorofare Moun**	**6.39**	**197**	P	**Pn**	**01 41 35.4**	**-0.3**
PAX	**Paxson**	**6.66**	**177**	P	**Pn**	**01 41 39.2**	**-0.2**
MENT	**Mentasta**	**6.76**	**171**	*e*P	**Pn**	**01 41 39.6**	**-1.2**
TT01	**Tatalina**	**7.80**	**215**	P	**Pn**	**01 41 55.0**	**-0.1**
SML	**Sawmill**	**7.88**	**188**	*e*Pn	**Pn**	**01 41 57.4**	**+1.3**
SML				*e*Sn	**Sn**	**01 43 26.9**	**+1.6**
PMR	**Palmer**	**8.14**	**190**	*e*P	**Pn**	**01 42 00.2**	**+0.6**
DIV	**Divide**	**8.51**	**179**	*e*Pn	**Pn**	**01 42 04.2**	**-0.5**
	130nm,0.7s						
DIV				*e*Sn	**Sn**	**01 43 36.8**	**-4.0**
RC01	**Rabbit Creek A**	**8.68**	**192**	P	**Pn**	**01 42 09.1**	**+2.1**
BMRM	**Bremner River**	**8.69**	**175**	P	**Pn**	**01 42 08.8**	**+1.5**
TNA	**Tin City**	**9.23**	**254**	P	**Pn**	**01 42 14.6**	**0.0**
SLKM	**Skilak Lake**	**9.29**	**193**	*e*Pn	**Pn**	**01 42 18.6**	**+3.1**
SLKM				*e*Sn	**Sn**	**01 44 00.6**	**+0.6**
SVW2	**Sparrevohn**	**9.39**	**209**	P	**Pn**	**01 42 16.8**	**0.0**
HYT	**Haines Junctio**	**9.51**	**154**	Pn	**Pn**	**01 42 17.5**	**-1.0**
HYT				Trac		01 45 09.8	
	comp=Z,161nm,0.9s						
WHY	**Whitehorse**	**10.12**	**147**	⇑Pn	**Pn**	**01 42 24.6**	**-2.3**
WHY				Trac		01 45 28.6	
	comp=Z,70nm,1.3s						
WHY	**Whitehorse**	**10.12**	**147**	P	**Pn**	**01 42 24.5**	**-2.3**
KDAK	**Kodiak Island**	**12.19**	**197**	Pn	**Pn**	**01 42 52.3**	**-2.9**
	0.1nm,0.3s,baz=58,slow=11,SNR=2.2						
KDAK				LR	LR	01 49 07.5	
	comp=Z,329nm,18.2s,baz=24,slow=45						
YKW3	**Yellowknife Ar**	**14.43**	**104**	Pn	**Pn**	**01 43 19.4**	**-6.4**
YKW3				Pn	**Pn**	**01 43 19.5**	**-6.3**
YKW3				Sn	**Sn**	**01 45 46.2**	**-20**
YKW3				Sn	**Sn**	**01 45 48.0**	**-18**
YKW3				Trac		01 46 06.4	
	comp=Z,61nm,0.5s						
YKW3				Trac		01 46 06.6	
	comp=Z,59nm,0.5s						
YKW3	**Yellowknife Ar**	**14.43**	**104**	*e*Pn	**Pn**	**01 43 19.2**	**-6.6**
YKW3				*e*Sn	**Sn**	**01 45 49.6**	**-16**
YKA	**Yellowknife Ar**	**14.48**	**104**	Pn	**Pn**	**01 43 20.1**	**-6.4**
	baz=313,slow=13,SNR=205						
YKA				Sn	**Sn**	**01 45 48.6**	**-18**
	baz=313,slow=23,SNR=14						
YKA				Lg		01 47 20.0	
	baz=321,slow=26,SNR=1.7						
YKA	**Yellowknife Ar**	**14.48**	**104**	Pn	**Pn**	**01 43 20.1**	**-6.4**
YKA				Sn	**Sn**	**01 45 48.6**	**-18**
YKA				Lg		01 47 20.0	
FNBB	**Fort Nelson**	**14.58**	**126**	Pn	**Pn**	**01 43 23.8**	**-3.9**
FNBB				Trac		01 46 22.5	
	comp=Z,27nm,0.8s						
RES	**Resolute Bay**	**16.02**	**49**	Pn	**Pn**	**01 43 41.4**	**-5.4**
RES				Sn	**Sn**	**01 46 27.2**	**-17**
RES				Trac		01 46 46.0	
	comp=Z,58nm,0.8s						
RES	**Resolute Bay**	**16.02**	**49**	*e*P	**Pn**	**01 43 41.6**	**-5.2**
RES				pmax	pmax		
	comp=Z,25nm,0.7s						
RES	**Resolute Bay**	**16.02**	**49**	*e*Pn	**Pn**	**01 43 41.6**	**-5.2**
	comp=Z,25nm,0.7s						
RES				*e*Sn	**Sn**	**01 46 28.3**	**-16**
BILL	**Bilibino**	**16.93**	**287**	*i* P	**Pn**	**01 43 57.5**	**-0.9**
BILL				pmax	pmax		
	comp=Z,15nm,1.2s						
BILL				MLR	MLR		
	comp=Z,500nm,11.0s						
RUBB	**Prince Rupert**	**16.95**	**147**	Pn	**Pn**	**01 44 00.7**	**+2.0**
RUBB				Trac		01 49 35.6	
	comp=Z,16nm,1.1s						
BMBC	**Bull Mountain**	**17.27**	**130**	Pn	**Pn**	**01 44 00.1**	**-2.6**
BMBC				Trac		01 48 15.3	
	comp=Z,35nm,1.1s						
FSB	**Fort Saint Jam**	**18.11**	**136**	Pn	**Pn**	**01 44 12.8**	**-0.3**
FSB				Trac		01 49 59.6	
	comp=Z,50nm,1.4s						
HOLB	**Holberg**	**20.86**	**146**	Pn	**P**	**01 44 46.9**	**+3.5**
PHC	**Port Hardy**	**20.93**	**145**	Pn	**P**	**01 44 45.2**	**+0.9**
MAYB	**Maynard**	**21.27**	**145**	Pn	**P**	**01 44 48.2**	**+0.3**
NCRB	**Newcastle Ridg**	**21.50**	**143**	Pn	**P**	**01 44 50.8**	**+0.4**
WOSB	**Woss**	**21.62**	**144**	Pn	**P**	**01 44 50.6**	**-1.2**
MNB	**Mounoet Dainar**	**21.70**	**129**	Pn	**P**	**01 44 52.5**	**0.0**
MNB				S	**S**	**01 49 04.3**	**+12**
EDB	**Eliza Dome**	**21.79**	**145**	Pn	**P**	**01 44 56.7**	**+3.2**
EDM	**Edmonton**	**22.25**	**121**	Pn	**P**	**01 44 57.3**	**-1.1**
EDM				Trac		01 49 36.0	
	comp=Z,3.0nm,0.2s						
EDM	**Edmonton**	**22.25**	**121**	*e*P	**P**	**01 44 56.8**	**-1.6**
LLLB	**Lillooet**	**22.26**	**136**	Pn	**P**	**01 44 58.0**	**-0.5**
DOWB	**Downie Slide**	**22.28**	**130**	Pn	**P**	**01 44 57.8**	**-1.0**
WSLR	**Whistler**	**22.46**	**138**	Pn	**P**	**01 45 00.4**	**-0.2**
BTB	**Buttle Lake**	**22.50**	**143**	Pn	**P**	**01 45 01.9**	**+0.8**
TXB	**Texada**	**22.52**	**141**	Pn	**P**	**01 45 01.9**	**+0.6**
SLEB	**Sale Mountain**	**22.70**	**130**	Pn	**P**	**01 45 02.7**	**-0.5**
SHB	**Sechelt**	**22.73**	**140**	Pn	**P**	**01 45 03.0**	**-0.6**
WPB	**Watts Point**	**22.83**	**139**	Pn	**P**	**01 45 05.1**	**+0.5**
BIB	**Bowen Island**	**23.04**	**140**	Pn	**P**	**01 45 07.8**	**+0.9**
NLLB	**Nanaimo Lost L**	**23.06**	**141**	Pn	**P**	**01 45 06.6**	**-0.4**
MGB	**Mount Grey**	**23.12**	**142**	Pn	**P**	**01 45 07.6**	**-0.1**
GOBB	**Galiano Island**	**23.43**	**140**	Pn	**P**	**01 45 11.1**	**+0.2**
SNB	**Saturna Island**	**23.67**	**140**	Pn	**P**	**01 45 12.8**	**-0.5**
LZB	**Mount Lazard**	**23.68**	**141**	Pn	**P**	**01 45 14.2**	**+0.8**
VDB	**Vedder Mountai**	**23.68**	**138**	Pn	**P**	**01 45 12.3**	**-1.0**
PGC	**Sidney**	**23.72**	**141**	Pn	**P**	**01 45 13.4**	**-0.3**
PGC	**Sidney**	**23.72**	**141**	*e*P	**P**	**01 45 13.0**	**-0.7**
	comp=Z,78nm,1.1s,mb5.0						
PNT	**Penticton**	**24.01**	**134**	Pn	**P**	**01 45 15.9**	**-0.4**
FCC	**Fort Churchill**	**24.26**	**90**	⇓Pn	**P**	**01 45 16.3**	**-2.4**
FCC				Sn	**S**	**01 49 35.4**	**-1.9**
FCC				Trac		01 51 02.5	
	comp=Z,13nm,0.8s						
FCC	**Fort Churchill**	**24.26**	**90**	*e*P	**P**	**01 45 16.4**	**-2.2**
SEY	**Seymchan**	**24.59**	**285**	*e*P	**P**	**01 45 22.6**	**+1.0**
SEY						01 45 54.3	
SEY						01 48 55.7	
SEY				*e*S	**S**	**01 49 42.3**	**-0.3**
SEY				SS		01 50 36.6	
SEY				pmax	pmax		
	comp=Z,41nm,1.0s,mb4.9						
SEY				smax			
	comp=N,260nm,18.9s						
SEY				smax			
	comp=E,140nm,25.2s						
SEY				MLR	MLR		
	comp=Z,960nm,16.0s,MS4.4						
SEY				MLR	MLR		
	comp=N,510nm,17.0s,MS4.2						
SEY				MLR	MLR		
	comp=E,520nm,16.0s,MS4.2						
FFC	**Flin Flon**	**24.66**	**104**	*e*P	**P**	**01 45 22.1**	**-0.2**
FFC				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
FFC	**Flin Flon**	**24.66**	**104**	*e*P	**P**	**01 45 22.1**	**-0.3**
	comp=Z,16nm,0.9s,mb4.6						
FX1	**Attu Island--F**	**25.04**	**249**	P	**P**	**01 45 25.7**	**0.0**
	comp=Z,13nm,0.5s,mb4.7,baz=162,slow=17,SNR=6.9						
FX1				LR	LR	01 56 14.9	
	comp=Z,14nm,19.6s,baz=206,slow=39						
FX1	**Attu Island--F**	**25.04**	**249**	*e*P	**P**	**01 45 26.3**	**+0.5**
NEW	**Newport**	**25.62**	**131**	P	**P**	**01 45 30.8**	**-0.3**
	comp=Z,11nm,0.9s,mb4.4,baz=338,slow=9.4,SNR=13						
NEW				LR	LR	01 56 31.3	
	comp=Z,184nm,19.1s,MS3.6,baz=340,slow=39						
NEW	**Newport**	**25.62**	**131**	P	**P**	**01 45 30.8**	**-0.3**
NEW				LR	LR	01 56 31.3	
FMW	**Mount Fremont**	**25.74**	**139**	P	**P**	**01 45 32.3**	**+0.2**
TBM	**Table Mountain**	**25.77**	**137**	P	**P**	**01 45 32.3**	**-0.1**
WALA	**Waterton Lakes**	**25.77**	**126**	Pn	**P**	**01 45 32.2**	**-0.2**
WALA				Trac		01 51 37.0	
	comp=Z,5.0nm,0.8s						
NAC	**Naches**	**26.12**	**138**	P	**P**	**01 45 35.7**	**+0.1**
MXC	**Moxie City**	**26.40**	**137**	P	**P**	**01 45 37.9**	**-0.2**
HAWA	**Hanford**	**26.75**	**136**	*e*P	**P**	**01 45 40.3**	**-1.0**
MA2	**Magadan**	**27.52**	**281**	*e*P	**P**	**01 45 50.3**	**+2.2**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.0						
MSO	**Missoula**	**27.80**	**128**	*e*P	**P**	**01 45 50.4**	**-0.3**
	comp=Z,28nm,1.3s,mb4.7						
CHMT	**Chamberlain Mo**	**27.91**	**127**	*e*P	**P**	**01 45 51.3**	**-0.4**
HRY	**Holter Researc**	**28.50**	**126**	*e*P	**P**	**01 45 56.9**	**0.0**
FRB	**Frobisher Bay**	**29.27**	**63**	P	**P**	**01 46 01.5**	**-2.3**
	comp=Z,26nm,0.8s,mb5.0,baz=328,slow=8.7,SNR=22						
FRB				LR	LR	01 58 17.9	
	comp=Z,884nm,19.3s,MS4.4,baz=340,slow=38						
DLMT	**Dillon**	**29.51**	**128**	*e*P	**P**	**01 46 06.4**	**+0.4**
	comp=Z,18nm,1.1s,mb4.7						
HUMO	**Hull Mountain**	**29.58**	**144**	*e*P	**P**	**01 46 07.5**	**+0.9**
	comp=Z,32nm,1.6s,mb4.8						
MCMT	**McKenzie Canyo**	**29.94**	**129**	*e*P	**P**	**01 46 10.8**	**+1.1**
LAO	**LASA Array**	**30.18**	**119**	*e*P	**P**	**01 46 13.2**	**+1.4**
	comp=Z,19nm,1.0s,mb4.8						
QLMT	**Earthquake Lak**	**30.33**	**127**	*e*P	**P**	**01 46 15.5**	**+2.4**
ULM	**Lac du Bonnet**	**30.46**	**103**	P	**P**	**01 46 12.9**	**-1.4**
	comp=Z,4.0nm,0.8s,mb4.2,baz=318,slow=7.2,SNR=4.6						
ULM	**Lac du Bonnet**	**30.46**	**103**	Pn	**P**	**01 46 13.2**	**-1.1**
ULM				Sn	S	01 51 59.6	+44
ULM				Trac		01 54 05.3	
	comp=Z,11nm,0.8s						
WVOR	**Wild Horse Val**	**30.70**	**138**	*e*P	**P**	**01 46 17.1**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**30.70**	**138**	*e*P	**P**	**01 46 17.1**	**+0.7**
	comp=Z,9.6nm,1.0s,mb4.6						
MOD	**Modoc**	**30.82**	**141**	*e*P	**P**	**01 46 12.8**	**-4.7**
	comp=Z,7.4nm,0.9s,mb4.5						
FLWY	**Flagg Ranch**	**31.22**	**126**	*e*P	**P**	**01 46 23.6**	**+2.6**
	comp=Z,8.5nm,0.9s,mb4.6						
IMW	**Indian Meadow**	**31.32**	**127**	*e*P	**P**	**01 46 22.7**	**+0.7**
	comp=Z,18nm,0.9s,mb4.9						
WDC	**Whiskeytown Da**	**31.61**	**144**	*e*P	**P**	**01 46 25.1**	**+0.6**
WDC				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
WDC	**Whiskeytown Da**	**31.61**	**144**	*e*P	**P**	**01 46 25.1**	**+0.6**
	comp=Z,16nm,1.3s,mb4.7						
LOHW	**Long Hollow**	**31.68**	**127**	*e*P	**P**	**01 46 26.2**	**+1.1**
	comp=Z,10nm,0.8s,mb4.7						
SNOW	**Snow King Moun**	**31.78**	**127**	*e*P	**P**	**01 46 27.3**	**+1.4**
	comp=Z,11nm,0.7s,mb4.8						
REDW	**Red Top Meadow**	**31.84**	**127**	*e*P	**P**	**01 46 27.3**	**+0.8**
	comp=Z,31nm,1.2s,mb5.0						
AHID	**Auburn Hatcher**	**32.33**	**128**	*e*P	**P**	**01 46 32.0**	**+1.2**
	comp=Z,12nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**32.76**	**126**	P	**P**	**01 46 34.8**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8,baz=1.6,slow=6.4,SNR=28						
OHCM	**Honcut**	**33.03**	**144**	*e*P	**P**	**01 46 36.5**	**-0.4**
ELK	**Elko**	**33.12**	**134**	*e*P	**P**	**01 46 38.4**	**+0.7**
ELK				pmax	pmax		
	comp=Z,34nm,1.7s						
ELK	**Elko**	**33.12**	**134**	*e*P	**P**	**01 46 38.4**	**+0.7**
	comp=Z,34nm,1.7s,mb5.0						
RSSD	**Black Hills**	**33.16**	**118**	*e*P	**P**	**01 46 37.9**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
RSSD	**Black Hills**	**33.16**	**118**	*e*P	**P**	**01 46 37.9**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.7						
HWUT	**Hardware Ranch**	**33.27**	**129**	*e*P	**P**	**01 46 39.5**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7						
TCUT	**Toone Canyon**	**33.77**	**129**	*e*P	**P**	**01 46 44.1**	**+0.7**
EYMN	**Ely**	**33.93**	**101**	*e*P	**P**	**01 46 44.1**	**-0.6**
	comp=Z,19nm,0.7s,mb5.1						
DUG	**Dugway**	**34.26**	**132**	*e*P	**P**	**01 46 48.6**	**+1.0**
DUG				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
DUG	**Dugway**	**34.26**	**132**	*e*P	**P**	**01 46 48.6**	**+1.0**
	comp=Z,15nm,0.9s,mb4.9						
RWWY	**Rawlins**	**34.43**	**124**	*e*P	**P**	**01 46 49.3**	**+0.2**
	comp=Z,31nm,1.1s,mb5.2						
DAU	**Daniels Canyon**	**34.47**	**130**	*e*P	**P**	**01 46 50.2**	**+0.8**
NVAR	**Mina Array Bea**	**34.59**	**140**	P	**P**	**01 46 51.6**	**+1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=345,slow=6.0,SNR=43						
NVAR				LR	LR	02 01 23.2	
	comp=Z,239nm,21.5s,MS3.9,baz=340,slow=37						
MNV	**Mina**	**34.62**	**140**	*e*P	**P**	**01 46 51.1**	**+0.4**
MNV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
MNV	**Mina**	**34.62**	**140**	*e*P	**P**	**01 46 51.1**	**+0.4**
	comp=Z,15nm,1.1s,mb4.8						
MPU	**Maple Canyon**	**34.74**	**130**	*e*P	**P**	**01 46 52.4**	**+0.6**
	comp=Z,13nm,1.1s,mb4.8						
TMUT	**Trail Mountain**	**35.53**	**130**	*e*P	**P**	**01 46 59.2**	**+0.7**
SRU	**San Rafael**	**35.89**	**129**	*e*P	**P**	**01 47 01.5**	**-0.1**
SRU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SRU	**San Rafael**	**35.89**	**129**	*e*P	**P**	**01 47 01.5**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8						
MVU	**Marysvale**	**36.01**	**132**	*e*P	**P**	**01 47 06.1**	**+3.5**
	comp=Z,11nm,1.1s,mb4.7						
MSU	**Marysvale**	**36.01**	**132**	*e*P	**P**	**01 47 03.6**	**+0.9**
ARUT	**Antelope Range**	**36.37**	**134**	*e*P	**P**	**01 47 05.7**	**0.0**
ISCO	**Idaho Springs**	**36.64**	**123**	*e*P	**P**	**01 47 08.6**	**+0.6**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ISCO	**Idaho Springs**	**36.64**	**123**	*e*P	**P**	**01 47 08.6**	**+0.5**
	comp=Z,7.4nm,1.0s,mb4.5						
DAC	**Darwin (Calif)**	**36.81**	**140**	*e*P	**P**	**01 47 10.4**	**+0.9**
DAC				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
DAC	**Darwin (Calif)**	**36.81**	**140**	*e*P	**P**	**01 47 10.4**	**+0.9**
	comp=Z,19nm,1.3s,mb4.8						

PLAL	**Pickwick Lake**	**46.62**	**107**	*e*P	**P**	**01 48 28.2**	**-1.6**
	comp=Z,7.0nm,0.8s,mb4.6						
JCT	**Junction City**	**47.02**	**121**	*e*P	**P**	**01 48 29.3**	**-3.7**
JCT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
JCT	**Junction City**	**47.02**	**121**	*e*P	**P**	**01 48 29.3**	**-3.7**
	comp=Z,11nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**47.12**	**284**	P	**P**	**01 48 30.5**	**-3.2**
MDJ				PP	PP	01 50 22.4	-2.1
MDJ				SCP	ScP	01 53 55.9	-3.4
MDJ				S	**S**	**01 55 25.4**	**-0.5**
MDJ				SCS	ScS	01 58 25.5	-2.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,55nm,5.6s						
MDJ				LR	LR		
	comp=N,157nm,15.4s,MS4.2						
MDJ				LR	LR		
	comp=E,139nm,16.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,164nm,19.0s,MS4.0						
SWET	**Sewanee**	**47.13**	**104**	*e*P	**P**	**01 48 34.6**	**+0.8**
JOF	**Joensuu**	**47.75**	**2**	*e*p	**P**	**01 48 38.6**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.4						
JOF	**Joensuu**	**47.75**	**2**	*e*P	**P**	**01 48 38.6**	**0.0**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**48.46**	**5**	*e*p	**P**	**01 48 43.7**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.4,baz=354,slow=8.0						
KAF	**Kangasniemi**	**48.46**	**5**	*e*P	**P**	**01 48 43.7**	**-0.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NB2	**NORSAR Subarra**	**48.65**	**14**	P	**P**	**01 48 45.1**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=348,slow=7.9						
NOA	**NORSAR Array B**	**48.65**	**14**	P	**P**	**01 48 44.9**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=344,slow=5.7,SNR=4.9						
LRAL	**Lakeview Retre**	**48.76**	**106**	*e*P	**P**	**01 48 47.6**	**+1.2**
	comp=Z,4.3nm,0.5s,mb4.7						
NAO01	**NORSAR Array S**	**48.82**	**15**	P	**P**	**01 48 46.9**	**0.0**
FINES	**FINESS Array B**	**49.13**	**5**	P	**P**	**01 48 48.8**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=8.1,slow=9.6,SNR=13						
CN2	**Changchun**	**49.24**	**287**	*e*P	**P**	**01 48 51.9**	**+1.8**
CN2				*e*S	**S**	**01 55 56.9**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,300nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,700nm,21.0s,MS4.6						
MOY	**Mondy**	**49.62**	**311**	*e*P	**P**	**01 48 55.2**	**+2.2**
MOY				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
ZAK	**Zakamensk**	**50.17**	**309**	*e*P	**P**	**01 48 48.4**	**-8.8**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.5						
NVS	**Novosibirsk**	**50.81**	**326**	*e*P	**P**	**01 48 59.6**	**-2.5**
MJAR	**Matsushiro Arr**	**51.31**	**272**	P	**P**	**01 49 05.2**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=11,slow=7.4,SNR=5.6						
MJAR				LR	LR	02 10 33.0	
	comp=Z,253nm,21.2s,MS4.2,baz=15,slow=36						
MJAR	**Matsushiro Arr**	**51.31**	**272**	P	**P**	**01 49 05.2**	**-0.6**
MJAR				LR	LR	02 10 33.0	
ZAL	**Zalesovo**	**51.35**	**324**	P	**P**	**01 49 06.2**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=116,slow=5.6,SNR=6.5						
ZAL				LR	LR	02 13 00.2	
	comp=Z,148nm,20.1s,MS4.0,baz=90,slow=38						
ULN	**Ulaanbaatar**	**51.39**	**304**	*i* P	**P**	**01 49 07.7**	**+1.3**
SONM	**Songino Array**	**51.60**	**305**	P	**P**	**01 49 06.7**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=25,slow=6.4,SNR=9.6						
SONM				LR	LR	02 13 58.4	
	comp=Z,206nm,19.2s,MS4.2,baz=248,slow=40						
ARU	**Arti**	**53.01**	**343**	⇓*i*P	**P**	**01 49 18.4**	**0.0**
ARU				*e*		01 50 25.0	
ARU				*e*		01 51 17.5	
ARU				*e*S	**S**	**01 56 47.0**	**-1.0**
ARU				*e*SS	SS	02 00 27.2	+0.1
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ARU	**Arti**	**53.01**	**343**	*e*P	**P**	**01 49 18.9**	**+0.5**
	comp=Z,4.7nm,0.6s,mb4.6						
BRVK	**Borovoye**	**54.81**	**334**	*e*P	**P**	**01 49 32.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**54.81**	**334**	*e*P	**P**	**01 49 32.1**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**55.10**	**335**	*e*P	**P**	**01 49 34.2**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**55.10**	**335**	*e*P	**P**	**01 49 34.2**	**+0.5**
	comp=Z,5.2nm,1.0s,mb4.5						
KURK	**Kurchatov**	**55.63**	**327**	*e*P	**P**	**01 49 38.0**	**+0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**55.63**	**327**	*e*P	**P**	**01 49 38.0**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.7						
CLL	**Collm**	**58.44**	**15**	⇑*i*P	**P**	**01 49 57.5**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.5						
CLL				*e*(pP)	pP	01 50 02.0	+1.2
CLL	**Collm**	**58.44**	**15**	⇑P	**P**	**01 49 57.5**	**+0.1**
CLL				*e*		01 50 04.0	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CLL	**Collm**	**58.44**	**15**	⇑*i*P	**P**	**01 49 57.5**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.5						
CLL				*e*		01 50 04.0	
BAIF	**Baives**	**58.69**	**22**	*e*P	**P**	**01 49 58.8**	**-0.4**
	comp=Z,14nm,0.9s,mb4.7						
GIVF	**Givet**	**58.73**	**21**	*e*P	**P**	**01 49 59.4**	**0.0**
BRG	**Berggiesshubel**	**58.96**	**15**	*e*P	**P**	**01 50 01.5**	**+0.5**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRG	**Berggiesshubel**	**58.96**	**15**	*e*P	**P**	**01 50 01.6**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.2						
ROSF	**Rostrenen**	**59.27**	**28**	*e*P	**P**	**01 50 02.5**	**-0.7**
FLN	**La Foliniere**	**59.30**	**26**	*e*P	**P**	**01 50 02.5**	**-0.8**
	comp=Z,40nm,0.9s,mb5.2						
FLN				*e*R			
	comp=Z,215nm,22.5s						
SGMF	**Saint Gilles**	**59.46**	**27**	*e*P	**P**	**01 50 03.9**	**-0.6**
LDF	**La Druitiere**	**59.51**	**26**	*e*P	**P**	**01 50 04.3**	**-0.6**
GRR	**Gorron**	**59.60**	**26**	*e*P	**P**	**01 50 04.8**	**-0.7**
	comp=Z,136nm,1.4s,mb5.5						
GRA1	**Grafenberg Arr**	**59.87**	**17**	*e*P	**P**	**01 50 08.1**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.3						
GRF	**Grafenberg Arr**	**59.87**	**17**	*e*P	**P**	**01 50 08.1**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.3						
GRF	**Grafenberg Arr**	**59.87**	**17**	*e*P	**P**	**01 50 08.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**59.97**	**3**	P	**P**	**01 50 08.1**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=356,slow=7.1,SNR=13						
WMQ	**Urumqi**	**60.24**	**318**	P	**P**	**01 50 10.0**	**+0.1**
WMQ				XP	sP	01 50 17.0	+2.5
WMQ				PP	PP	01 52 25.0	+2.4
WMQ				S	**S**	**01 58 22.0**	**-1.8**
WMQ				SCS	ScS	01 59 56.0	-4.6
WMQ				SS	SS	02 02 20.0	-1.0
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,128nm,6.0s						
WMQ				LR	LR		
	comp=N,174nm,12.0s,MS4.6						
WMQ				LR	LR		
	comp=E,142nm,10.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,105nm,12.0s,MS4.2						
MORC	**Moravsky Berou**	**60.34**	**12**	⇓P	**P**	**01 50 10.6**	**+0.1**
KHC	**Kasperske Hory**	**60.65**	**15**	*e*P	**P**	**01 50 13.5**	**+0.8**
KHC	**Kasperske Hory**	**60.65**	**15**	*i* P	**P**	**01 50 12.6**	**-0.1**
CDF	**Champ du Feu**	**60.70**	**20**	*e*P	**P**	**01 50 13.2**	**+0.2**
GERES	**GERESS Array B**	**60.95**	**15**	P	**P**	**01 50 15.2**	**+0.5**
	comp=Z,1.6nm,0.8s,mb4.2,baz=347,slow=5.5,SNR=18						
HYF	**Humbligny**	**61.21**	**24**	*e*P	**P**	**01 50 15.7**	**-0.8**
GTA	**Gaotai**	**61.22**	**306**	P	**P**	**01 50 17.6**	**+1.1**
GTA				AP	pP	01 50 21.5	+1.6
GTA				XP	sP	01 50 24.9	+3.7
GTA				PP	PP	01 52 36.8	+5.5
GTA				S	**S**	**01 58 41.5**	**+5.2**
GTA				SCS	ScS	02 00 05.8	-2.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,62nm,10.6s						
GTA				LR	LR		
	comp=N,356nm,20.5s,MS4.7						
GTA				LR	LR		
	comp=E,485nm,22.0s,MS4.7						
GTA				LR	LR		
	comp=Z,263nm,15.2s						
LOR	**Lormes**	**61.38**	**23**	*e*P	**P**	**01 50 17.0**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.6						
LOR				*e*R			
	comp=Z,111nm,17.0s						
MFF	**Saint Martin d**	**61.45**	**26**	*e*P	**P**	**01 50 17.4**	**-0.7**
	comp=Z,50nm,1.1s,mb5.2						
SSF	**Saint Saulge**	**61.54**	**23**	*e*P	**P**	**01 50 18.5**	**-0.2**
	comp=Z,4.8nm,0.5s,mb4.6						
AVF	**Avril sur Loir**	**61.78**	**23**	*e*P	**P**	**01 50 19.7**	**-0.6**
BGF	**Bois d'Agland**	**61.94**	**24**	*e*P	**P**	**01 50 21.1**	**-0.3**
SMF	**Signal de Mont**	**61.99**	**23**	*e*P	**P**	**01 50 21.2**	**-0.5**
NJ2	**Nanjing**	**62.06**	**287**	*e*P	**P**	**01 50 21.6**	**-0.6**
NJ2				AP	pP	01 50 25.6	0.0
NJ2				XP	sP	01 50 28.6	+1.7
NJ2				PP	PP	01 52 41.3	+2.6
NJ2				S	**S**	**01 58 44.0**	**-2.9**
NJ2				XS	sS	01 58 53.0	+0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,190nm,4.6s						
NJ2				LR	LR		
	comp=N,410nm,27.4s,MS4.6						
NJ2				LR	LR		
	comp=E,390nm,25.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,100nm,15.6s						
TCF	**Toulx Ste Croi**	**62.11**	**24**	*e*P	**P**	**01 50 22.4**	**-0.1**
	comp=Z,17nm,0.8s,mb4.9						
SSE	**Sheshan**	**62.15**	**284**	*e*P	**P**	**01 50 20.3**	**-2.5**
SSE				PCP	PcP	01 50 59.8	-3.1
SSE				PP	PP	01 52 37.8	-1.7
SSE				S	**S**	**01 58 46.0**	**-2.0**
SSE				SCS	ScS	02 00 11.3	-3.6
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,18nm,3.5s						
SSE				LR	LR		
	comp=N,80nm,21.0s,MS4.2						
SSE				LR	LR		
	comp=E,147nm,21.1s,MS4.2						
SSE				LR	LR		
	comp=Z,82nm,21.5s,MS3.9						
CABF	**La Chapelle**	**62.32**	**21**	*e*P	**P**	**01 50 23.7**	**-0.2**
	comp=Z,75nm,1.4s,mb5.3						
KBA	**Koelnbreinsper**	**62.66**	**16**	⇑*i*P	**P**	**01 50 27.6**	**+1.4**
	comp=Z,9.4nm,0.7s,mb5.0						
KBA	**Koelnbreinsper**	**62.66**	**16**	⇑P	**P**	**01 50 27.6**	**+1.4**
KBA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
BURAR	**Bucovina Array**	**62.93**	**7**	⇑P	**P**	**01 50 29.0**	**+1.0**
BURAR	**Bucovina Array**	**62.93**	**7**	⇑P	**P**	**01 50 29.0**	**+1.0**
RJF	**Les Rejaudoux**	**62.97**	**25**	*e*P	**P**	**01 50 27.9**	**-0.4**
	comp=Z,66nm,1.3s,mb5.3						
LZH	**Lanzhou**	**63.13**	**301**	*e*P	**P**	**01 50 31.0**	**+1.6**
LZH				PP	PP	01 52 51.3	+3.1
LZH				*e*S	**S**	**01 59 00.3**	**-0.1**
LZH				XS	sS	01 59 05.6	-0.4
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,116nm,6.7s						
LZH				LR	LR		
	comp=N,506nm,15.1s						
LZH				LR	LR		
	comp=Z,845nm,18.5s,MS5.0						
OBKA	**Obir**	**63.34**	**15**	⇑*i*P	**P**	**01 50 31.8**	**+1.0**
	comp=Z,17nm,0.8s,mb5.2						
LPL	**La Plagne**	**63.48**	**21**	*e*P	**P**	**01 50 31.6**	**0.0**
LPG	**La Plagne**	**63.50**	**21**	*e*P	**P**	**01 50 31.8**	**0.0**
VIVF	**Saint-Julien-l**	**63.86**	**23**	*e*P	**P**	**01 50 33.6**	**-0.6**
ORIF	**Oris-en-Rattie**	**63.96**	**22**	*e*P	**P**	**01 50 34.4**	**-0.4**
ORIF				*e*R			
	comp=Z,114nm,17.0s						
AAK	**Ala-Archa**	**64.18**	**328**	⇑*e*P	**P**	**01 50 36.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
BZS	**Buzias**	**64.75**	**9**	⇓P	**P**	**01 50 40.9**	**+0.9**
MLR	**Muntele Rosu**	**65.08**	**6**	⇑P	**P**	**01 50 44.6**	**+2.4**
MLR	**Muntele Rosu**	**65.08**	**6**	⇑P	**P**	**01 50 44.6**	**+2.5**
GOF	**Gofitskoye**	**65.46**	**353**	*e*P	**P**	**01 50 45.2**	**+0.6**
GOF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
PGF	**Pioggiola**	**66.68**	**20**	*e*P	**P**	**01 50 51.9**	**-0.6**
	comp=Z,22nm,0.8s,mb5.0						
ESDC	**Sonseca Array**	**67.56**	**31**	P	**P**	**01 50 57.9**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=353,slow=6.5,SNR=3.6						
VTS	**Vitosha**	**67.85**	**8**	⇑P	**P**	**01 51 03.8**	**+3.9**
CD2	**Chengdu**	**67.97**	**299**	*e*P	**P**	**01 50 59.8**	**-0.8**
ELDT	**Eldivan**	**70.23**	**0**	*i* P	**P**	**01 51 15.8**	**+1.1**
GNI	**Garni**	**70.28**	**351**	*i* P	**P**	**01 51 14.6**	**-0.3**
ULDT	**Uludag**	**70.52**	**4**	*i* P	**P**	**01 51 17.4**	**+1.0**
ERZM	**Erzurum**	**70.67**	**354**	*i* P	**P**	**01 51 20.1**	**+2.8**
BR131	**Keskin Array S**	**70.99**	**0**	*e*P	**P**	**01 51 20.7**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.9						
BRTR	**Keskin Array B**	**70.99**	**0**	P	**P**	**01 51 18.9**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=4,1,slow=6.9,SNR=6.4						
BRTR	**Keskin Array B**	**70.99**	**0**	⇑*e*P	**P**	**01 51 20.2**	**+0.9**
ESKT	**Eskisehir**	**71.17**	**2**	*i* P	**P**	**01 51 21.2**	**+0.8**
KMI	**Kunming**	**73.69**	**298**	P	**P**	**01 51 33.6**	**-1.8**
KMI				S	S	02 00 59.8	-6.3
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
KMI				AMB	AMB		
	comp=Z,80nm,5.1s						
KMI				LR	LR		
	comp=N,270nm,15.2s,MS4.8						
KMI				LR	LR		
	comp=E,244nm,17.2s,MS4.8						
KMI				LR	LR		
	comp=Z,264nm,15.2s,MS4.6						
ROSC	**El Rosal**	**79.17**	**105**	P	**P**	**01 52 06.1**	**-0.4**
	comp=Z,4.3nm,0.5s,mb4.6,baz=27,slow=6.8,SNR=4.9						
OTAV	**Otavalo**	**82.12**	**111**	*e*P	**P**	**01 52 24.3**	**+2.0**
	comp=Z,6.3nm,1.1s,mb4.5						

IDC 20 02:00:49.6±5.7, 1815S×17440W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=234.5km s-min=61.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.88**	**242**	P	P	02 08 40.4	-1.1
	0.7nm,0.5s,baz=67,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**48.34**	**259**	P	P	02 09 32.3	-0.5
	1.1nm,0.8s,baz=92,slow=6.3,SNR=8.0						
ASAR	**Alice Springs**	**48.40**	**254**	P	P	02 09 35.1	+1.8
	3.1nm,0.7s,baz=90,slow=8.2,SNR=34						
BRTR	**Keskin Array B**	**147.60**	**317**	PKPbc	PKPbc	02 20 35.8	-0.1
	0.5nm,0.7s,baz=5.7,slow=1.4,SNR=3.8						

NAO ***20*** *02:21:49.4, 3852N×7576E, h33km, mb3.5*
ISCJB ***20*** *02:22:09.8±1.7, 3990N±003×7201E±006, h20km±13km, mb3.9/19, MS3.7/2, Error ellipse: s-maj=8.8km s-min=4.4km az=136.1*
MOS ***20*** *02:22:12.7±1.9, 4019N×7214E, h33km, mb4.1/10, Error ellipse: s-maj=11.3km s-min=6.0km az=92.7*
IDC ***20*** *02:22:14.4±3.3, 4009N×7218E, h39km±27km, mb3.6/13, mb1 3.8/16, mb1mx3.7/24, mbtmp3.9/16, ML3.4/3, Error ellipse: s-maj=21.2km s-min=15.0km az=177.0*
BJI ***20*** *02:22:15.4, 4034N×7222E, h33km, mB4.7, mb4.8, ML4.0*
NNC ***20*** *02:22:15.0±4.9, 4044N×7211E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=41.4km s-min=20.6km az=1.0*
NEIC ***20*** *02:22:15.8±1.0, 4038N×7216E, h35km, Error ellipse: s-maj=15.6km s-min=9.8km az=151.0*
ISC 20 02:22:09.0±1.4, 3998N±003×7191E±005, h2km±9km, n82, σ1∓45/94, mb3.9/19, MS3.7/2, 15C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.54**	**31**	P	**Pn**	**02 22 51.9**	**+0.8**
	SNR=667						
UCH	**Uchtor**	**2.98**	**40**	P	**Pn**	**02 22 58.1**	**+0.9**
	SNR=42						
EKS2	**Erkin-Say**	**3.02**	**27**	P	**Pn**	**02 22 59.0**	**+1.2**
	SNR=98						
KSH	**Kashi**	**3.16**	**97**	P	**Pn**	**02 23 02.1**	**+2.4**
KSH				S	**Sn**	**02 23 39.9**	**+1.9**
KSH				Smax			
	comp=N,530nm,0.9s						
KSH				Smax			
	comp=E,660nm,0.8s						
KZA	**Kyzart**	**3.28**	**49**	P	**Pn**	**02 23 02.0**	**+0.7**
	SNR=43						
AAK	**Ala-Archa**	**3.29**	**35**	P	**Pn**	**02 23 02.5**	**+1.1**
	SNR=82						
AAK	**Ala-Archa**	**3.29**	**35**	*c i*PN	**Pn**	**02 23 01.5**	**+0.1**
KK31	**Karatay Array**	**3.29**	**342**	Pn	**Pn**	**02 23 03.9**	**+2.4**
	comp=E,5.0nm,0.3s,baz=144,slow=11,SNR=950						
KK31				⇓Pg	**Pg**	**02 23 10.5**	**-1.6**
	comp=E,28nm,0.3s,baz=149,slow=16						
KK31				⇑Sn	**Sn**	**02 23 41.7**	**+0.5**
	comp=E,106nm,0.5s,baz=147,slow=28						
KK31	**Karatay Array**	**3.29**	**342**	*i* PN	**Pn**	**02 23 03.8**	**+2.3**
KK31				pmax	pmax		
	comp=Z,65nm,0.3s						
KKAR	**Karatay Array**	**3.29**	**342**	PN	**Pn**	**02 23 03.8**	**+2.3**
KKAR						02 23 41.6	
KKAR				pmax	pmax		
	comp=Z,19nm,0.3s						
FRU	**Bishkek**	**3.50**	**35**	⇑*e*PN	**Pn**	**02 23 06.3**	**+2.0**
FRU				*i*		02 23 14.0	
FRU				*i*		02 23 19.5	
FRU				*i*		02 23 48.0	
FRU				*i*		02 23 55.0	
FRU				*i*		02 23 59.0	
FRU				pmax	pmax		
	comp=Z,300nm,1.0s						
FRU				smax			
	comp=Z,2μm,1.0s						
KBK	**Karagaybulak**	**3.52**	**40**	P	**Pn**	**02 23 06.2**	**+1.7**
	SNR=47						
CHMS	**Chumysh**	**3.69**	**34**	P	**Pn**	**02 23 07.9**	**+1.0**
	SNR=29						
USP	**Ospenovka**	**3.81**	**30**	P	**Pn**	**02 23 09.5**	**+0.9**
	SNR=53						
ULHL	**Ulahol**	**3.98**	**54**	P	**Pn**	**02 23 10.9**	**0.0**
	SNR=26						
TKM2	**Tokmak 2**	**4.04**	**42**	P	**Pn**	**02 23 12.7**	**+1.0**
	SNR=20						
TKM2	**Tokmak 2**	**4.04**	**42**	⇑Pn	**Pn**	**02 23 12.4**	**+0.7**
	comp=Z,71nm,0.8s						
TKM2				⇓Lg		02 24 09.7	
	comp=Z,103nm,0.5s						
TKM2	**Tokmak 2**	**4.04**	**42**	*i* PN	**Pn**	**02 23 12.4**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,20nm,0.3s						
KNDC	**Almaty**	**4.98**	**48**	⇑Pg	**Pg**	**02 23 41.5**	**-2.9**
KNDC				⇓Lg		02 24 40.4	
THN	**Thein Dam**	**8.13**	**157**	*e*P	**Pn**	**02 24 12.6**	**+4.6**
THN				*e*S	**Sn**	**02 25 40.2**	**-0.3**
BHK	**Bhakra**	**9.29**	**155**	*ex*	x	02 26 09.0	
SDNR	**Sundarnagar**	**9.40**	**153**	*ex*	x	02 24 38.5	
SDNR				*e*S	**Sn**	**02 26 11.1**	**-0.6**
KLP	**Kalpa**	**9.87**	**147**	*e*P	**Pn**	**02 24 37.4**	**+5.6**
KLP				*e*S	**Sn**	**02 26 23.1**	**-0.1**
KLP				AML	AML	02 26 34.7	
	comp=N,85nm,0.9s						
KLP				AML	AML	02 26 35.5	
	comp=E,114nm,0.7s						
MK31	**Makanchi Array**	**10.16**	**45**	⇑Pn	**Pn**	**02 24 34.9**	**-0.9**
	comp=E,3.7nm,0.8s,baz=222,slow=12,SNR=16						
MK31				⇑Lg		02 27 19.9	
	comp=E,4.0nm,0.7s,baz=234,slow=28,SNR=4.8						
DDI	**Dehra Dun**	**10.86**	**151**	*ex*	x	02 26 47.5	
KURK	**Kurchatov**	**11.72**	**21**	⇑Lg		02 28 09.6	
	comp=E,17nm,0.8s						
KURK	**Kurchatov**	**11.72**	**21**	⇑*e*P	**Pn**	**02 24 54.7**	**-2.4**
NDI	**New Delhi**	**12.09**	**157**	*ex*	x	02 27 08.0	
AYAN	**Aya Nagar**	**12.25**	**158**	*e*P	**Pn**	**02 25 04.1**	**-0.3**
AYAN				*e*S	**Sn**	**02 27 11.1**	**-10**
KHET	**Khetri**	**12.30**	**164**	*e*P	**Pn**	**02 25 03.2**	**-2.0**
KHET				*e*S	**Sn**	**02 27 10.4**	**-12**
KHET				AML	AML	02 27 21.9	
	comp=E,22nm,0.4s						
KHET				AML	AML	02 27 28.9	
	comp=N,17nm,0.3s						
KUDL	**Kundal**	**12.40**	**161**	*e*P	**Pn**	**02 25 06.1**	**-0.3**
KUDL				*e*S	**Sn**	**02 27 15.5**	**-10**
KUDL				AML	AML	02 27 21.9	
	comp=E,21nm,0.5s						
KUDL				AML	AML	02 27 26.5	
	comp=N,16nm,0.5s						
SONA	**Sohna**	**12.46**	**158**	*e*P	**Pn**	**02 25 07.9**	**+0.7**
SONA				*e*S	**Sn**	**02 27 16.9**	**-10**
SONA				AML	AML	02 27 24.7	
	comp=N,17nm,0.4s						
AB31	**Akbulak array**	**12.58**	**321**	⇑Pn	**Pn**	**02 25 07.6**	**-1.3**
	comp=N,1.5nm,0.4s						
AB31				⇑Sn	**Sn**	**02 27 20.0**	**-10**
	comp=N,4.0nm,0.4s						
AB31	**Akbulak array**	**12.58**	**321**	P	**Pn**	**02 25 07.5**	**-1.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**12.76**	**357**	⇓Pn	**Pn**	**02 25 06.5**	**-4.9**
	comp=Z,0.9nm,0.6s						
VOSK				⇓Lg		02 28 43.9	
	comp=Z,26nm,1.1s						
BVA0	**Borovoye Array**	**13.09**	**356**	Pn	**Pn**	**02 25 13.9**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=158,slow=13,SNR=12						
BVA0				⇑Lg		02 29 00.3	
	comp=Z,2.5nm,1.1s,baz=158,slow=22,SNR=5.6						
BVA0	**Borovoye Array**	**13.

comp=Z,1.1nm,0.4s,baz=221,slow=16,SNR=1.9
GNI Garni 20.77 279 *i* P **P 02 26 58.5 +7.4**
GNI pmax pmax
comp=Z,5.0nm,1.1s
GNI MLR MLR
comp=Z,100nm,22.0s
ZEI Tsey 21.17 287 *i* P **P 02 26 57.1 +1.7**
ZEI pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
GTA Gaotai 21.45 83 P **P 02 26 57.8 -0.6**
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb3.8
GOF Gofitskoye 21.82 293 *e*P **P 02 27 08.2 +5.8**
ZAK Zakamensk 24.26 54 *e*P **P 02 27 25.1 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
SONM Songino Array 25.89 61 P **P 02 27 40.7 -1.4**
comp=Z,0.7nm,0.8s,mb3.2,baz=289,slow=10,SNR=3.7
OBN Obninsk 27.88 315 *e*P **P 02 28 02.5 +2.4**
OBN *e* 02 28 47.0
OBN *e*S **S 02 32 42.8 -1.4**
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.5
BRTR Keskin Array B 29.24 282 P **P 02 28 15.2 +3.1**
comp=Z,0.7nm,0.7s,mb3.5,baz=79,slow=8.2,SNR=5.4
BOD Bodaibo 32.24 42 *e*P **P 02 28 36.4 -2.3**
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
FINES FINESS Array B 35.07 323 P **P 02 29 03.8 +0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=115,slow=8.5,SNR=14
ARCES ARCESS Array B 38.24 336 P **P 02 29 30.4 +0.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=110,slow=9.2,SNR=13
ARCES ARCESS Array B 38.24 336 P **P 02 29 30.4 +0.1**
NJ2 Nanjing 38.42 87 *e*P **P 02 29 37.4 +5.6**
NJ2 AMB AMB
comp=Z,110nm,1.0s
SSE Sheshan 40.63 87 *e*P **P 02 29 52.9 +2.7**
SSE AMB AMB
comp=Z,24nm,0.6s,mb5.0
SSE AMB AMB
comp=Z,91nm,8.0s
GERES GERESS Array B 41.60 302 P **P 02 30 00.1 +1.9**
comp=Z,0.3nm,0.5s,mb3.2,baz=65,slow=7.5,SNR=4.7
NB2 NORSAR Subarra 42.09 321 P **P 02 30 02.0 -0.2**
comp=Z,0.4nm,0.5s,mb3.3,baz=89,slow=7.9
NOA NORSAR Array B 42.09 321 P **P 02 30 02.2 -0.1**
comp=Z,0.6nm,0.6s,mb3.4,baz=90,slow=8.0,SNR=3.7
NOA NORSAR Array B 42.09 321 P **P 02 30 02.2 -0.1**
BILL Bilibino 55.18 27⇑*e*P **P 02 31 32.9 -10**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
BILL MLR MLR
comp=Z,100nm,18.0s,MS3.9
TORD Torodi Ar. Bea 66.55 268 P **P 02 33 01.4 +1.1**
comp=Z,2.2nm,0.4s,mb4.6,baz=53,slow=5.5,SNR=83
ILAR Eielson Array 71.24 16 P **P 02 33 27.8 -1.8**
comp=Z,1.4nm,0.8s,mb3.9,baz=324,slow=5.3,SNR=18
ILAR Eielson Array 71.24 16 P **P 02 33 27.8 -1.8**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
DBIC Dimbokro 75.61 267 P **P 02 33 56.4 +1.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=26,slow=5.2,SNR=5.1
DBIC Dimbokro 75.61 267 P **P 02 33 56.4 +1.1**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 77.74 3 P **P 02 34 06.3 -1.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=350,slow=5.8,SNR=16
YKA Yellowknife Ar 77.74 3 P **P 02 34 06.3 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 83.24 123 P **P 02 34 35.4 -1.6**
comp=Z,0.6nm,0.6s,mb3.8,baz=324,slow=5.2,SNR=5.6
WRA Warramunga Arr 83.24 123 P **P 02 34 35.4 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 85.67 126 P **P 02 34 47.9 -1.3**
comp=Z,0.5nm,0.7s,mb3.8,baz=318,slow=6.0,SNR=6.5
ASAR Alice Springs 85.67 126 P **P 02 34 47.9 -1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s

*IDC **20** 02:44:32.9±0.7, 3278S×17836W, h0km, mb4.5/6, mb1 4.8/7, mb1mx4.5/13, mbtmp4.6/7, ML4.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/19, Error ellipse: s-maj=29.1km s-min=21.6km az=173.0*
*ISCJB **20** 02:44:36.5±0.9, 3292S±006×1785W±0.1, h33km, mb4.7/9, MS4.1/3, Error ellipse: s-maj=18.2km s-min=6.8km az=32.5*
*NAO **20** 02:44:37.4, 3288S×178.13W, h33km, mb4.1*
*NEIC **20** 02:44:38.2±1.2, 3230S×17847W, h30km, mb5.0/6, Error ellipse: s-maj=35.0km s-min=16.0km az=147.0*
*MOS **20** 02:44:42.7±2.6, 3170S×179.10W, h33km, mb5.2/4, Error ellipse: s-maj=23.5km s-min=19.7km az=166.1*

ISC 20 02:44:38.4±0.9, 3288S±006×1785W±0.1, h35km, n50, σ1$06/34, mb4.7/9, MS4.1/3, 5C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.64**	**7**	Pn		**Pn**	**02 45 23.8**	**-8.5**
	146nm,0.3s,baz=72,slow=20,SNR=4.0							
RAO				Sn		**Sn**	**02 46 08.3**	**-5.7**
	300nm,0.3s,baz=58,slow=23,SNR=4.8							
PUZ	**Puketiti**	**5.84**	**206**	SN		**Sn**	**02 47 09.8**	**+1.7**
MWZ	**Matawai**	**6.35**	**210**	*e*PN		**Pn**	**02 46 05.5**	**-4.0**
MWZ				SN		**Sn**	**02 47 21.5**	**+0.7**
URZ	**Urewera**	**6.47**	**213**	Pn		**Pn**	**02 46 10.9**	**-0.2**
	8.7nm,0.3s,baz=46,slow=3.6,SNR=39							
URZ				Sn		**Sn**	**02 47 22.4**	**-1.3**
	28nm,0.3s,baz=144,slow=17,SNR=13							
URZ	**Urewera**	**6.47**	**213**	*e*PN		**Pn**	**02 46 09.5**	**-1.6**
URZ				SN		**Sn**	**02 47 24.5**	**+0.8**
KNZ	**Kokohu**	**6.89**	**206**	*e*PN		**Pn**	**02 46 14.3**	**-2.5**
KNZ				SN		**Sn**	**02 47 33.5**	**-0.4**
MRZ	**Mangatainoka R**	**9.12**	**210**	SN		**Sn**	**02 48 23.0**	**-6.0**
MQZ	**McQueen's Vall**	**12.86**	**210**	SN		**Sn**	**02 49 46.5**	**-14**
RPZ	**Rata Peaks**	**13.59**	**214**	Pn		**Pn**	**02 47 42.2**	**-6.3**
	1.2nm,0.3s,baz=313,slow=16,SNR=5.5							
RPZ				Sn		**Sn**	**02 50 05.8**	**-12**
	1.9nm,0.3s,baz=93,slow=16,SNR=11							
DZM	**Mont Dzumac**	**17.17**	**305**	LR		LR	02 53 50.6	
	comp=Z,470nm,20.3s,baz=25,slow=32							
TBI	**Tubuai**	**27.20**	**77**	*e*LR		LR	02 56 47.8	
	136nm,28.8s							
PPT	**Papeete**	**30.12**	**67**	*e*LR		LR	02 58 10.0	
	181nm,28.2s							
STKA	**Stephens Creek**	**33.62**	**261**	*e*P		**P**	**02 51 14.8**	**-0.6**
	1.4nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**33.62**	**261**	P		**P**	**02 51 14.9**	**-0.5**
	1.2nm,0.7s,mb3.9,baz=117,slow=15,SNR=4.6							
STKA				LR		LR	03 04 15.5	
	comp=Z,275nm,18.8s,MS4.0,baz=158,slow=35							
CTA	**Charters Tower**	**33.90**	**283**	*e*P		**P**	**02 51 19.7**	**+1.9**
	11nm,0.5s,mb5.0							
CTA	**Charters Tower**	**33.90**	**283**	P		**P**	**02 51 19.2**	**+1.4**
	13nm,0.5s,mb5.1,baz=117,slow=10,SNR=32							
CTA	**Charters Tower**	**33.90**	**283**	*e*P		**P**	**02 51 19.7**	**+1.9**
CTA				pmax		pmax		
	comp=Z,11nm,0.5s							
CTAO	**Charters Tower**	**33.90**	**283**	*e*P		**P**	**02 51 20.1**	**+2.3**
CTAO				*e*			02 52 27.1	
CTAO				pmax		pmax		
	comp=Z,13nm,0.6s,mb5.0							
CTAO	**Charters Tower**	**33.90**	**283**	*e*P		**P**	**02 51 20.1**	**+2.2**
	comp=Z,13nm,0.6s,mb5.0							
CTAO				*e*PP		PP	02 52 27.1	-7.8
ASAR	**Alice Springs**	**42.65**	**270**	P		**P**	**02 52 32.1**	**+0.6**
	comp=Z,7.6nm,0.6s,mb4.6,baz=108,slow=7.5,SNR=118							
WB2	**Warramunga Arr**	**43.85**	**275**⇑	*i*P		**P**	**02 52 41.3**	**+0.1**
WB2				*i*			02 52 55.2	
WRAB	**Tennant Creek**	**43.86**	**275**	P		**P**	**02 52 41.3**	**+0.1**
	comp=Z,133nm,0.5s,mb5.9,SNR=27							
WRAB	**Tennant Creek**	**43.86**	**275**⇑	*e*P		**P**	**02 52 41.2**	**0.0**
WRAB				pmax		pmax		
	comp=Z,17nm,0.5s,mb5.0							
WRAB	**Tennant Creek**	**43.86**	**275**⇑	*e*P		**P**	**02 52 41.1**	**-0.1**
	comp=Z,17nm,0.5s,mb5.0							
WRA	**Warramunga Arr**	**43.86**	**275**	P		**P**	**02 52 41.3**	**+0.1**
	comp=Z,14nm,0.6s,mb4.9,baz=115,slow=7.8,SNR=188							
VNDA	**Vanda**	**45.60**	**186**	LR		LR	03 07 37.5	
	comp=Z,77nm,19.7s,MS3.6,baz=252,slow=30							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**49.03**	**282**	*e*P		**P**	**02 53 20.3**	**-1.5**
	comp=Z,13nm,0.7s,mb5.1							
FITZ	**Fitzroy Crossi**	**52.01**	**272**	*e*P		**P**	**02 53 44.2**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0							
VNA3	**Neumayer Olymp**	**75.87**	**176**	*e*		**P**	**02 56 31.0**	**+10**
VNA3				*e*			02 56 34.4	
VNA2	**Neumayer--Watz**	**76.30**	**177**	*e*		**P**	**02 56 33.5**	**+10**
	baz=172,slow=5.5							
VNA2				*e*			02 56 37.0	
VNA2				*e*			02 56 48.5	
PLCA	**Paso Flores**	**81.11**	**133**	P		**P**	**02 56 50.8**	**+0.8**
	comp=Z,3.0nm,1.1s,mb4.1,baz=235,slow=5.6,SNR=3.8							
NVAR	**Mina Array Bea**	**90.31**	**43**	P		**P**	**02 57 35.8**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.9,baz=245,slow=3.1,SNR=5.0							
KURK	**Kurchatov**	**122.46**	**313**⇑	*i*PKIKP		PKPdf	03 03 30.1	+0.2
ARU	**Arti**	**134.73**	**319**	*i*PKIKP		PKPdf	03 03 52.8	-0.4
ARU				MLR		MLR		
	comp=Z,100nm,18.0s,MS4.6							
ARCES	**ARCESS Array B**	**140.91**	**347**	PKhKP			03 03 59.2	
	comp=Z,3.2nm,1.0s,baz=15,slow=4.7,SNR=4.7							
ARCES				PKP		PKPdf	03 04 03.8	-0.9
	comp=Z,1.5nm,0.6s,baz=18,slow=0.4,SNR=6.6							
JOF	**Joensuu**	**144.56**	**337**	*e*pkp		PKPdf	03 04 09.3	-1.8
MOS	**Moscow**	**146.12**	**323**	*e*PKHKP			03 04 12.6	
MOS				pmax		pmax		
	comp=Z,48nm,1.0s							
KAF	**Kangasniemi**	**146.73**	**339**	*e*pkp		PKPdf	03 04 13.9	-0.9
	baz=43,slow=2.9							
OBN	**Obninsk**	**146.94**	**323**	*d i*PKIKP		PKPdf	03 04 16.2	+1.0
OBN				*e*			03 07 47.6	
OBN				pmax		pmax		
	comp=Z,10.0nm,0.7s							
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc		PKPbc	03 04 16.7	-1.5
	comp=Z,6.2nm,0.5s,baz=48,slow=4.0,SNR=79							
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc		PKPbc	03 04 16.7	-1.5
VSU	**Vasula**	**149.30**	**334**⇑	*i*PKIKP		PKPdf	03 04 22.7	+3.7
NB2	**NORSAR Subarra**	**151.13**	**350**	PKPa		PKPbc	03 04 26.4	-1.4
	comp=Z,2.4nm,0.6s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**151.13**	**350**	PKPbc		PKPbc	03 04 26.5	-1.3
	comp=Z,2.9nm,0.7s,baz=13,slow=4.1,SNR=17							
HFS	**Hagfors**	**151.58**	**347**	PKPbc		PKPbc	03 04 27.1	-1.7
	comp=Z,4.2nm,0.6s,baz=61,slow=10,SNR=13							
HFS				PKPab		PKPab	03 04 36.0	-1.5
	comp=Z,2.3nm,0.6s,baz=101,slow=4.8,SNR=5.6							
AKASG	**Malin Array Be**	**152.98**	**319**	PKPbc		PKPbc	03 04 31.4	-0.6
	comp=Z,1.8nm,0.4s,baz=47,slow=3.0,SNR=15							
AKASG				PKPab		PKPab	03 04 42.9	-0.4
	comp=Z,5.0nm,0.8s,baz=71,slow=2.4,SNR=11							
DBIC	**Dimbokro**	**153.25**	**166**	PKPbc		PKPbc	03 04 33.3	+0.8
	comp=Z,1.5nm,0.7s,baz=213,slow=5.7,SNR=4.7							
BRTR	**Keskin Array B**	**153.34**	**294**	PKPbc		PKPbc	03 04 32.5	-0.3
	comp=Z,2.6nm,0.5s,baz=144,slow=3.8,SNR=36							
BRTR				PKPab		PKPab	03 04 46.0	+1.2
	comp=Z,2.1nm,0.7s,baz=142,slow=4.2,SNR=6.8							
TORD	**Torodi Ar. Bea**	**160.36**	**180**	PKPab		PKPab	03 05 16.1	+1.1
	comp=Z,0.8nm,0.9s,baz=186,slow=3.5,SNR=6.1							
GERES	**GERESS Array B**	**161.63**	**334**	PKPab		PKPab	03 05 19.6	-1.0
	comp=Z,0.4nm,0.6s,baz=23,slow=4.4,SNR=4.3							

IDC 20 02:55:15.3±3.0, 3285S×17833W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/12, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=71.9km s-min=36.2km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.55**	**213**	Pn		Pn	02 56 53.7	+0.8
	1.5nm,0.3s,baz=343,slow=23,SNR=8.9							
URZ				Sn		Sn	02 58 07.4	-0.8
	2.5nm,0.3s,baz=154,slow=19,SNR=11							
ASAR	**Alice Springs**	**42.76**	**270**	P		P	03 03 15.2	+0.9
	0.5nm,0.6s,baz=102,slow=7.4,SNR=7.0							
WB2	**Warramunga Arr**	**43.96**	**275**	*e*P		P	03 03 24.4	+0.3
WRA	**Warramunga Arr**	**43.97**	**275**	P		P	03 03 23.5	-0.7
	0.5nm,0.3s,baz=116,slow=6.5,SNR=8.7							
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc		PKPbc	03 14 59.5	-1.3
	0.7nm,0.6s,baz=48,slow=4.1,SNR=6.7							

*ISCJB **20** 02:55:28.5±2.0, 405N±0.1×7357E±009, h10km, Error ellipse: s-maj=16.3km s-min=9.7km az=150.2*
*KNET **20** 02:55:29.2±0.7, 4083N×7337E, h14km±13km, ml2.0, Error ellipse: s-maj=9.4km s-min=5.4km az=36.0*
*NNC **20** 02:55:31.7±3.8, 4077N×7315E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=47.3km s-min=20.1km az=152.0*

ISC 20 02:55:28.7±2.0, 405N±01×7365E±010, h10km, n7, σ1$00/13, 10C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.62**	**1**	⇑P		**Pn**	**02 55 54.5**	**-2.9**
	17nm,0.2s,SNR=63							
AML				⇑S		**Sn**	**02 56 13.7**	**-4.6**
	35nm,0.3s							
UCH	**Uchtor**	**1.83**	**20**	⇑P		**Pn**	**02 55 59.9**	**-0.3**
	2.6nm,0.1s,SNR=6.9							
UCH				⇓S		**Sn**	**02 56 23.7**	**+0.2**
	11nm,0.2s							
KZA	**Kyzart**	**1.98**	**37**	⇑P		**Pn**	**02 56 03.9**	**+1.7**
	6.0nm,0.2s,SNR=6.0							
EKS2	**Erkin-Say**	**2.15**	**2**	⇓P		**Pn**	**02 56 03.6**	**-1.0**
	3.2nm,0.2s,SNR=16							
EKS2				⇑S		**Sn**	**02 56 30.5**	**-0.9**
	3.9nm,0.2s							
AAK	**Ala-Archa**	**2.21**	**16**	⇓P		**Pn**	**02 56 05.6**	**+0.1**
	3.6nm,0.2s,SNR=7.4							
AAK				⇑S		**Sn**	**02 56 33.7**	**+0.8**
	9.7nm,0.2s							
TKM2	**Tokmak 2**	**2.81**	**31**	⇑Pn		**Pb**	**02 56 18.2**	**-0.9**
	0.8nm,0.2s							
TKM2				⇑Sn		**Sb**	**02 56 54.1**	**+0.5**
	1.6nm,0.2s							
KK31	**Karatay Array**	**3.50**	**319**	⇑Pn		**Pn**	**02 56 24.0**	**+0.8**
	0.8nm,0.6s,baz=129,slow=15,SNR=10							
KK31				⇑Sn		**Sn**	**02 57 05.1**	**+0.6**
	2.2nm,0.5s,baz=142,slow=26,SNR=9.2							

CASC 20 03:00:32.6±2.4, 1285N×8785W, h123km±45km, MD3.8, ML2.7, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**1.23**	**308**	*e*S		Sn	03 01 17.3	+1.4
MOMJ	**Momotombo**	**1.35**	**109**	*e*P		Pn	03 00 58.4	0.0
COPN	**Copaltepe**	**1.39**	**118**⇑	*e*P		Pn	03 00 57.6	-1.4
COPN				*i*			03 01 31.6	
	comp=Z,79nm,0.4s							
TICN	**Ticuantepe**	**1.77**	**117**	*e*P		Pn	03 01 03.0	-0.4
TICN				*e*S		Sn	03 01 29.5	+2.6
SBLS	**San Blas**	**1.99**	**300**	*e*P		Pn	03 01 07.4	+1.3
SNJE	**San Jose**	**1.99**	**301**	*e*P		Pn	03 01 07.6	+1.6
RTR	**El Retiro**	**2.04**	**301**	*e*P		Pn	03 01 07.8	+1.1
RTR				*e*S		Sn	03 01 33.3	+0.5

*NAO **20** 04:05:19.6, 3258N×7451E, h33km, mb4.0*
*NEIC **20** 04:05:50.7±0.9, 3585N×7050E, h10km, mb3.5/3, Error ellipse: s-maj=22.1km s-min=8.1km az=53.0*
*IDC **20** 04:05:53.1±8.1, 3572N×7075E, h33km±59km, mb3.5/8, mb1 3.7/11, mb1mx3.5/22, mbtmp3.7/11, ML3.7/3, Error ellipse: s-maj=34.1km s-min=22.0km az=27.0*
*ISCJB **20** 04:05:58.8±1.0, 36.12N±004×7088E±009, h96km±11km, mb3.6/9, Error ellipse: s-maj=13.3km s-min=4.3km az=134.7*
*NNC **20** 04:06:07.2±6.1, 3677N×7031E, h101km±78km, mb3.4, mpv4.2, Error ellipse: s-maj=47.7km s-min=32.4km az=18.0*

ISC 20 04:05:59.8±0.9, 3606N±004×7090E±010, h93km±10km, n55, σ1$37/70, mb3.5/9, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.38**	**131**	*e*x		x	04 07 19.7	
THN				*e*S		**Sn**	**04 08 21.0**	**+2.7**
DLH	**Dalhousie**	**5.47**	**128**	*e*P		**Pn**	**04 07 22.0**	**+3.2**
DLH				*e*S		**Sn**	**04 08 23.0**	**+2.7**
AML	**Almayashu**	**6.44**	**19**	P		**Pn**	**04 07 32.7**	**+0.7**
	SNR=57							
UCH	**Uchtor**	**6.77**	**23**	P		**Pn**	**04 07 37.2**	**+0.7**
	SNR=16							
SDNR	**Sundarnagar**	**6.80**	**130**	*e*P		**Pn**	**04 07 39.4**	**+2.5**
SDNR				*e*S		**Sn**	**04 08 52.0**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KZA	**Kyzart**	**6.90**	**28**	P		**Pn**	**04 07 39.5**	**+1.2**
	SNR=8.3							
EKS2	**Erkin-Say**	**6.96**	**18**	P		**Pn**	**04 07 39.7**	**+0.6**
	SNR=9.5							
KK31	**Karatay Array**	**7.04**	**358**⇑	P		**Pn**	**04 07 39.0**	**-1.2**
	8.3nm,0.4s,baz=212,slow=37,SNR=76							
KK31				⇓S		**Sn**	**04 08 51.0**	**-7.7**
	5.6nm,0.4s,baz=258,slow=131,SNR=6.0							
AAK	**Ala-Archa**	**7.13**	**22**	P		**Pn**	**04 07 42.3**	**+0.9**
	SNR=22							
AAK	**Ala-Archa**	**7.13**	**22**	*e*Pn		**Pn**	**04 07 41.1**	**-0.4**
	21nm,0.4s							
AAK				*e*Sn		**Sn**	**04 09 00.0**	**-0.8**
KBK	**Karagaybulak**	**7.29**	**24**	P		**Pn**	**04 07 44.9**	**+1.2**
	SNR=7.9							
ULHL	**Ulahol**	**7.44**	**32**	P		**Pn**	**04 07 46.4**	**+0.8**
	SNR=9.2							
CHMS	**Chumysh**	**7.54**	**22**	P		**Pn**	**04 07 47.2**	**+0.2**
	SNR=18							
KLP	**Kalpa**	**7.60**	**124**	*e*P		**Pn**	**04 07 54.3**	**+6.5**
KLP				AML		AML	04 08 57.4	
	comp=N,10nm,0.4s							
KLP				*e*S		**Sn**	**04 09 16.6**	**+4.2**
KLP				AML		AML	04 09 17.4	
	comp=E,71nm,0.6s							
USP	**Ospenovka**	**7.71**	**20**	P		**Pn**	**04 07 49.3**	**-0.1**
	SNR=11							
TKM2	**Tokmak 2**	**7.75**	**26**	P		**Pn**	**04 07 50.9**	**+1.0**
	SNR=8.3							
TKM2	**Tokmak 2**	**7.75**	**26**	⇓P		**Pn**	**04 07 50.5**	**+0.6**
	comp=E,11nm,0.6s							
TKM2				⇓S		**Sn**	**04 09 14.8**	**-1.3**
	comp=E,12nm,0.9s							
DDI	**Dehra Dun**	**8.28**	**132**	*e*x		x	04 07 38.5	
KHET	**Khetri**	**8.98**	**151**	*e*S		**Sn**	**04 09 40.8**	**-5.2**
KHET				AML		AML	04 09 42.6	
	comp=N,14nm,0.1s							
KHET				AML		AML	04 09 43.9	
	comp=E,23nm,0.3s							
NDI	**New Delhi**	**9.09**	**142**	*e*x		x	04 08 49.0	
NDI				*e*S		**Sn**	**04 09 45.0**	**-3.5**
KUDL	**Kundal**	**9.20**	**147**	*e*P		**Pn**	**04 08 11.1**	**+1.5**
KUDL				*e*S		**Sn**	**04 09 45.7**	**-5.7**
KUDL				AML		AML	04 09 51.4	
	comp=E,15nm,0.3s							
KUDL				AML		AML	04 09 52.9	
	comp=N,16nm,0.3s							
AYAN	**Aya Nagar**	**9.21**	**143**	*e*P		**Pn**	**04 08 11.7**	**+2.0**
AYAN				*e*S		**Sn**	**04 09 47.8**	**-3.8**
AYAN				AML		AML	04 09 51.2	
	comp=Z,19nm,0.3s							
SONA	**Sohna**	**9.38**	**144**	*e*x		x	04 08 09.7	
SONA				AML		AML	04 08 42.3	
	comp=N,6.6nm,0.6s							
SONA				*e*S		**Sn**	**04 09 50.3**	**-5.5**
KOLN	**Koldanda**	**13.58**	**124**	*e*Pn		**Pn**	**04 09 07.4**	**-1.0**
KOLN				*e*Sn		**Sn**	**04 11 31.1**	**-6.6**
	comp=N,9.8nm,0.5s							
KOLN	**Koldanda**	**13.58**	**124**	*e*Pn		**Pn**	**04 09 07.4**	**-1.0**
	comp=N,4.9nm,0.5s							
KOLN				*e*Sn		**Sn**	**04 11 31.1**	**-6.6**
MK31	**Makanchi Array**	**13.70**	**35**⇑	P		**Pn**	**04 09 11.3**	**+1.3**
	comp=N,1.0nm,0.5s,baz=219,slow=14,SNR=21							
MKAR	**Makanchi Array**	**13.70**	**35**	Pn		**Pn**	**04 09 08.4**	**-1.6**
	comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=10							
GKN	**Gorkha**	**14.14**	**121**	*e*Pn		**Pn**	**04 09 14.6**	**-1.1**
GKN				*e*Sn		**Sn**	**04 11 44.1**	**-7.2**
	comp=N,18nm,0.4s							
GKN	**Gorkha**	**14.14**	**121**	*e*Pn		**Pn**	**04 09 14.6**	**-1.1**
	comp=N,9.1nm,0.4s							
GKN				*e*Sn		**Sn**	**04 11 44.1**	**-7.2**
DMN	**Daman**	**14.71**	**121**	*e*Pn		**Pn**	**04 09 22.0**	**-1.1**
KKN	**Kakani**	**14.72**	**120**	*e*Pn		**Pn**	**04 09 22.4**	**-0.8**
PKI	**Pulchoki**	**14.94**	**120**	*e*Pn		**Pn**	**04 09 25.9**	**-0.2**
GUN	**Gumba**	**15.07**	**118**	*e*Pn		**Pn**	**04 09 27.1**	**-0.6**
AB31	**Akbulak array**	**15.43**	**332**⇑	P		**Pn**	**04 09 28.5**	**-3.7**
	comp=N,4.2nm,0.5s							
AB31				⇑S		S	04 12 05.2	-27
	comp=N,2.2nm,0.5s							
JIRN	**Jiri**	**15.44**	**119**	*e*Pn		**Pn**	**04 09 29.8**	**-2.5**
KURK	**Kurchatov**	**15.67**	**18**	P		**Pn**	**04 09 37.4**	**+2.1**
KURK	**Kurchatov**	**15.67**	**18**	*e*Pn		**Pn**	**04 09 37.1**	**+1.9**
	comp=N,2.6nm,0.8s							
ZRNK	**Zerenda**	**16.94**	**356**	P		**Pn**	**04 09 49.2**	**-1.7**
ZRNK	**Zerenda**	**16.94**	**356**	*e*Pn		**Pn**	**04 09 49.7**	**-1.3**
	comp=N,1.4nm,0.5s							
ZRNK				*e*Sn		**Sn**	**04 12 48.9**	**-10**
BVA0	**Borovoye Array**	**16.97**	**359**	⇓P		**Pn**	**04 09 49.8**	**-1.5**
	comp=N,0.1nm,0.4s,baz=162,slow=8.8,SNR=9.1							
BVAR	**Borovoye Array**	**16.97**	**359**	Pn		**Pn**	**04 09 48.7**	**-2.6**
	comp=N,0.3nm,0.3s,baz=167,slow=9.2,SNR=6.1							
AKTK	**Aktyubinsk**	**17.12**	**331**	Pn		**Pn**	**04 09 52.3**	**-0.9**
AKTK				Sn		**Sn**	**04 12 47.0**	**-16**
AKTO	**Aktyubinsk**	**17.12**	**331**⇑	P		**Pn**	**04 09 52.3**	**-0.9**
	comp=N,0.5nm,0.7s							
AKTO				⇓S		**S**	**04 12 46.9**	**-20**
	comp=N,0.6nm,0.8s							
AKTO	**Aktyubinsk**	**17.12**	**331**	Pn		**Pn**	**04 09 52.3**	**-0.9**
	comp=N,0.6nm,0.3s,baz=143,slow=14,SNR=13							
AKTO				Sn		**Sn**	**04 12 47.0**	**-16**
	comp=N,0.1nm,0.3s,baz=245,slow=21,SNR=5.2							
FINES	**FINESS Array B**	**37.81**	**326**	P		**P**	**04 13 08.0**	**+0.9**
	comp=N,1.4nm,0.6s,mb4.0,baz=111,slow

ISCJB 20 05:45:38.7±0.8, 3353N±0.10×1384E±0.1, h304km±8km, mb3.2/2, Error ellipse: s-maj=15.7km s-min=13.2km az=136.4
JMA 20 05:45:38.7±0.2, 3354N×13840E, h308km, M3.0
ISC 20 05:45:39.7±0.8, 3356N±010×1384E±01, h298km±8km, n16, σ0§82/19, mb3.2/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.69**	**305**	P	**Pn**	**05 46 18.7**	**+0.1**
TK04	**Tokai 4**	**0.95**	**331**	P	**Pn**	**05 46 20.2**	**+0.6**
JHJ2	**Mitsune**	**1.24**	**111**	P	**Pn**	**05 46 22.2**	**+1.1**
JIE	**Ise**	**1.66**	**301**	P	**Pn**	**05 46 23.3**	**-0.4**
JYN	**Shimob**	**1.94**	**3**	P	**Pn**	**05 46 26.9**	**+1.1**
JWZ	**Kozaga**	**2.27**	**270**	P	**Pn**	**05 46 27.0**	**-1.5**
BSO1	**Boso 1**	**2.38**	**62**	P	**Pn**	**05 46 28.6**	**-0.8**
BSO1				*eS*	**S**	**05 47 08.4**	**-0.7**
JRY	**Ryogami san**	**2.49**	**9**	P	**Pn**	**05 46 31.5**	**+1.1**
JRY				*eS*	**S**	**05 47 11.6**	**+0.8**
JGM	**Miyama**	**2.56**	**327**	P	**Pn**	**05 46 31.4**	**+0.3**
JAG	**Ashikaga**	**2.98**	**16**	P	**Pn**	**05 46 34.9**	**-0.2**
JAG				*eS*	**S**	**05 47 17.3**	**-2.0**
MJAR	**Matsushiro Arr**	**2.98**	**357**	Pn	**Pn**	**05 46 35.6**	**+0.5**
	1.1nm,0.3s,baz=225,slow=16,SNR=8.4						
MAT	**Matsushiro**	**2.99**	**356**	P	**Pn**	**05 46 35.6**	**+0.5**
JWT	**Wachi**	**3.04**	**305**	P	**Pn**	**05 46 35.1**	**-0.6**
JHS	**Saijyo**	**4.63**	**290**	P	**Pn**	**05 46 52.9**	**0.0**
WRA	**Warramunga Arr**	**53.34**	**185**	P	**P**	**05 54 28.5**	**-0.2**
	0.5nm,0.3s,mb3.3,baz=0.0,slow=7.7,SNR=19						
FINES	**FINESS Array B**	**70.74**	**332**	P	**P**	**05 56 23.8**	**0.0**
	0.3nm,0.5s,mb3.2,baz=66,slow=6.7,SNR=5.9						

MAN 20 06:07:02.1, 1835N×12060E, h29km, mb2.5, ML4.0, MS3.2, Luzon

ISCJB 20 06:20:29.4±0.5, 6623N±004×14195W±009, h10km, mb3.2/2, Error ellipse: s-maj=5.5km s-min=5.2km az=74.1
IDC 20 06:20:30.3±1.4, 6638N×14237W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/21, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=24.7km s-min=10.4km az=156.0
NEIC 20 06:20:32.4, 6625N×14223W, h23km, ML3.5(AEIC), After AEIC.
PGC 20 06:20:32.0, 6626N×14198W, h1km, ML3.3/2, Eastern Alaska.
ISC 20 06:20:30.7±0.4, 6629N±003×14200W±008, h10km, n26, σ1§41/42, mb3.2/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.53**	**319**	P	**Pn**	**06 20 57.8**	**-0.3**
BM3				S	**Sn**	**06 21 18.3**	**+0.3**
DAWY	**Dawson**	**2.49**	**153**	Pn	**Pn**	**06 21 11.7**	**+0.4**
DAWY				Sn	**Sn**	**06 21 43.4**	**+1.6**
DAWY				Sg	**Sg**	**06 21 47.4**	**-3.4**
DAWY				Trac		06 21 52.6	
	comp=Z,55nm,0.2s						
DAWY	**Dawson**	**2.49**	**153**	P	**Pn**	**06 21 11.9**	**+0.7**
IL1	**Eielson Array**	**2.54**	**235**	P	**Pn**	**06 21 11.4**	**-0.6**
ILAR	**Eielson Array**	**2.54**	**235**	Pn	**Pn**	**06 21 11.2**	**-0.8**
	1.7nm,0.3s,baz=46,slow=14,SNR=218						
ILAR				Lg		06 21 47.1	
	41nm,0.3s,baz=48,slow=32,SNR=39						
DOT	**Dot Lake**	**2.80**	**199**	P	**Pn**	**06 21 15.4**	**-0.1**
COLA	**College**	**2.82**	**242**	P	**Pn**	**06 21 14.8**	**-0.9**
COLD	**Coldfoot**	**3.38**	**290**	P	**Pn**	**06 21 24.0**	**+0.5**
MENT	**Mentasta**	**3.45**	**193**	*e*P	**Pn**	**06 21 25.9**	**+1.5**
PAX	**Paxson**	**3.66**	**206**	P	**Pn**	**06 21 28.5**	**+1.3**
INK	**Inuvik**	**3.86**	**55**	Pn	**Pn**	**06 21 31.8**	**+1.8**
	1.6nm,0.3s,baz=240,slow=16,SNR=88						
INK				Sn	**Sn**	**06 22 17.2**	**+1.8**
	3.2nm,0.3s,baz=0.0,slow=20,SNR=6.0						
INK				Lg		06 22 33.1	
	6.1nm,0.3s,baz=330,slow=20,SNR=8.1						
INK	**Inuvik**	**3.86**	**55**	Pn	**Pn**	**06 21 31.7**	**+1.7**
INK				Sn	**Sn**	**06 22 16.8**	**+1.3**
INK				Sg	**Sg**	**06 22 32.6**	**-1.9**
INK				Trac		06 22 42.6	
	comp=Z,43nm,0.7s						
INK	**Inuvik**	**3.86**	**55**	*e*Pn	**Pn**	**06 21 31.8**	**+1.8**
INK				*e*Sn	**Sn**	**06 22 17.2**	**+1.8**
MCK	**McKinley**	**3.91**	**232**	*e*Pn	**Pn**	**06 21 30.3**	**-0.5**
MCK				*e*Pg	**Pg**	**06 21 45.3**	**-0.2**
MCK				*e*Sg	**Sg**	**06 22 30.8**	**-5.3**
TRF	**Thorofare Moun**	**4.54**	**235**	P	**Pn**	**06 21 39.0**	**-0.4**
IM3	**Indian Mountai**	**4.78**	**272**	P	**Pn**	**06 21 41.1**	**-1.7**
DIV	**Divide**	**5.45**	**200**	*e*Pn	**Pn**	**06 21 51.0**	**-0.9**
DIV				*e*Sg	**Sg**	**06 23 17.4**	**-8.2**
PMR	**Palmer**	**5.67**	**217**	*e*P	**Pn**	**06 21 56.4**	**+1.5**
HYT	**Haines Junctio**	**5.84**	**158**	Pn	**Pn**	**06 21 59.3**	**+2.0**
HYT				Sg	**Sg**	**06 23 32.4**	**-5.8**
HYT				Trac		06 23 40.3	
	comp=Z,65nm,0.7s						
WHY	**Whitehorse**	**6.49**	**147**	Pn	**Pn**	**06 22 07.2**	**+1.0**
WHY				Sg	**Sg**	**06 23 53.7**	**-5.2**
WHY				Trac		06 24 04.3	
	comp=Z,15nm,0.7s						
WHY	**Whitehorse**	**6.49**	**147**	P	**Pn**	**06 22 06.9**	**+0.8**
YKW3	**Yellowknife Ar**	**12.35**	**95**	Pn	**Pn**	**06 23 24.4**	**-2.1**
YKW3				Sn	**Sn**	**06 25 35.0**	**-9.1**
YKW3				Sn	**Sn**	**06 25 35.8**	**-8.3**
YKW3				Trac		06 25 41.8	
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**12.38**	**95**	Pn	**Pn**	**06 23 25.0**	**-2.0**
	baz=296,slow=13,SNR=26						
YKA				Sn	**Sn**	**06 25 38.7**	**-6.3**
	baz=297,slow=22,SNR=6.7						
YKA				Lg		06 27 04.7	
	baz=300,slow=29,SNR=3.1						
YKA	**Yellowknife Ar**	**12.38**	**95**	Pn	**Pn**	**06 23 25.0**	**-2.0**
YKA				Sn	**Sn**	**06 25 38.7**	**-6.3**
YKA				Lg		06 27 04.7	
PDAR	**Pinedale Array**	**29.53**	**127**	P	**P**	**06 26 37.5**	**+2.2**
	0.5nm,0.9s,mb3.3,baz=344,slow=4.9,SNR=4.8						
NVAR	**Mina Array Bea**	**31.03**	**142**	P	**P**	**06 26 52.3**	**+3.8**
	0.2nm,0.6s,mb3.1,baz=340,slow=6.8,SNR=3.7						

CASC 20 06:27:34.9±2.0, 1310N×8764W, h7km±4km, MD4.1, ML3.5, 12C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.26**	**313**	*i*P	Pg	06 27 45.0	+5.0
CNCH				*e*S	Sg	06 27 48.9	+5.4
BLLM	**Bellamira**	**0.68**	**301**	*e*P	Pg	06 27 52.3	+4.3
BLLM				*e*S	Sg	06 28 02.9	+6.2
CRIN	**San Cristobal**	**0.70**	**124**	*e*P	Pg	06 27 48.5	+0.2
CRIN				*i*		06 28 13.7	
	comp=Z,1μm,0.7s						
VSM	**San Miguel**	**0.70**	**298**	*e*P	Pg	06 27 53.0	+4.6
VSM				*e*S	Sg	06 28 03.3	+5.9
CAHU	**Cacacuatique**	**0.87**	**320**	*e*P	Pg	06 27 55.1	+3.5
CAHU				*e*S	Sg	06 28 08.4	+5.4
TELN	**Telica**	**0.93**	**122**	*e*P	Pg	06 27 51.5	-1.2
TEL3	**Telica 3**	**0.93**	**124**	*e*P	Pg	06 27 52.2	-0.6
TEL3				*e*S	Sg	06 28 05.0	0.0
TEL3				*i*		06 28 12.8	
	comp=Z,2μm,0.7s						
LEON	**Leon**	**0.99**	**133**	*i*P	Pg	06 27 53.0	-1.0
CNGN	**Cerro Negro**	**1.09**	**123**	*e*P	Pg	06 27 54.8	-1.0
MIRN	**Miramar**	**1.12**	**126**	*e*P	Pg	06 27 55.1	-1.2
MOMJ	**Momotombo**	**1.27**	**122**	*e*P	Pn	06 27 57.4	-1.7
SNVI	**San Vicente**	**1.27**	**294**	*e*P	Pn	06 28 02.9	+3.7
SNVI				*e*S	Sb	06 28 21.1	+5.3
COPN	**Copaltepe**	**1.37**	**132**	*e*P	Pn	06 27 59.1	-1.3
LCBS	**La Ceiba**	**1.42**	**293**	*e*P	Pn	06 28 05.0	+3.9
LCBS				*e*S	Sb	06 28 24.8	+4.8
LFRS	**El Faro**	**1.48**	**291**	*e*P	Pn	06 28 05.7	+3.7
LFRS				*e*S	Sn	06 28 26.2	+4.6
LBRS	**Las Brisas**	**1.51**	**295**	*e*P	Pn	06 28 07.0	+4.7
LBRS				*e*S	Sn	06 28 27.5	+5.2
APYN	**Apoyeque**	**1.52**	**124**	*e*P	Pn	06 28 01.6	-1.0
APYN				*e*S	Sn	06 28 24.9	+2.2
LFU	**La Fuente**	**1.57**	**294**	*e*P	Pn	06 28 07.5	+4.2
LFU				*e*S	Sn	06 28 29.0	+5.1
XAVN	**Gruta Xavier**	**1.59**	**126**	*e*P	Pn	06 28 03.3	-0.2
MGAN	**Managua**	**1.66**	**125**	*e*P	Pn	06 28 03.7	-0.7
MGAN				*i*		06 28 34.2	
	comp=N,732nm,0.5s						
SNET	**Serv Nac Est T**	**1.66**	**291**	*e*P	Pn	06 28 03.4	-1.0
SNET				*e*S	Sn	06 28 26.8	+0.8
WILN	**Americas 2**	**1.69**	**123**	*e*S	Sn	06 28 27.2	+0.3
BOQS	**Boqueron**	**1.72**	**292**	*e*P	Pn	06 28 10.5	+5.2
BOQS				*e*S	Sn	06 28 34.5	+7.1
TICN	**Ticuantepe**	**1.73**	**127**	*e*P	Pn	06 28 05.3	-0.1
SNJE	**San Jose**	**2.06**	**292**	*e*P	Pn	06 28 16.3	+6.4
SNJE				*e*S	Sn	06 28 45.1	+9.2
SBLS	**San Blas**	**2.07**	**291**	*e*P	Pn	06 28 15.2	+5.2
SBLS				*e*S	Sn	06 28 41.5	+5.5
RTR	**El Retiro**	**2.11**	**292**	*e*P	Pn	06 28 17.4	+6.8
RTR				*e*S	Sn	06 28 44.5	+7.5
MTO2	**Montecristo 2**	**2.12**	**308**	*e*P	Pn	06 28 16.5	+5.7
MTO2				*e*S	Sn	06 28 44.8	+7.6
IXG	**Ixpaco**	**2.94**	**292**	*e*P	Pn	06 28 22.1	+0.1

ISCJB 20 06:43:24.1±0.6, 128N±0.1×8779W±006, h4km, mb4.1/13, Error ellipse: s-maj=17.0km s-min=3.2km az=60.3
CASC 20 06:43:24.9±2.5, 1307N×8764W, h4km±6km, MD4.2, ML3.8
IDC 20 06:43:29.5±3.3, 1379N×8715W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.7/20, mbtmp3.9/6, ML2.6/2, Error ellipse: s-maj=130.0km s-min=29.7km az=35.0
NEIC 20 06:43:30.9±2.2, 1279N×8751W, h55km±32km, mb4.2/12, Error ellipse: s-maj=44.4km s-min=17.6km az=213.0
ISC 20 06:43:25.1±0.5, 1271N±009×8779W±005, h4km, n45, σ1§19/43, mb4.1/13, 12C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.57**	**356**	*i*P	Px	06 43 35.1	
CNCH				*e*S	Sx	06 43 38.9	
CRIN	**San Cristobal**	**0.72**	**90**	*e*P	**Pg**	**06 43 38.6**	**-0.3**
CRIN				*e*S	**Sg**	**06 43 48.3**	**0.0**
BLLM	**Bellamira**	**0.85**	**329**	*e*P	Px	06 43 42.7	
BLLM				*e*S	Sx	06 43 53.1	
VSM	**San Miguel**	**0.86**	**327**	*e*P	Px	06 43 43.5	
VSM				*e*S	Sx	06 43 53.7	
LEON	**Leon**	**0.92**	**108**	*i*P	**Pg**	**06 43 43.0**	**+0.3**
TEL3	**Telica 3**	**0.93**	**98**	*e*P	**Pg**	**06 43 42.0**	**-1.0**
TELN	**Telica**	**0.94**	**96**	*e*P	**Pg**	**06 43 41.8**	**-1.3**
TELN				*e*S	**Sg**	**06 43 57.0**	**+1.7**
CNGN	**Cerro Negro**	**1.08**	**101**	*e*P	**Pg**	**06 43 44.7**	**-1.2**
CNGN				*e*S	**Sg**	**06 44 00.7**	**+0.8**
MIRN	**Miramar**	**1.08**	**104**	*e*P	**Pg**	**06 43 44.8**	**-1.0**
CAHU	**Cacacuatique**	**1.14**	**339**	*e*P	Px	06 43 45.4	
CAHU				*e*S	Sx	06 43 58.4	
MOMJ	**Momotombo**	**1.25**	**103**	*e*P	**Pg**	**06 43 47.5**	**-1.6**
COPN	**Copaltepe**	**1.28**	**114**	*e*P	**Pg**	**06 43 49.1**	**-0.5**
COPN				*e*S	**Sg**	**06 44 07.5**	**+1.3**
SNVI	**San Vicente**	**1.36**	**312**	*e*P	Px	06 43 53.1	
SNVI				*e*S	Sx	06 44 11.5	
APYN	**Apoyeque**	**1.48**	**108**	*e*P	**Pn**	**06 43 51.6**	**-0.9**
LCBS	**La Ceiba**	**1.50**	**309**	*e*P	Px	06 43 55.5	
LCBS				*e*S	Sx	06 44 15.0	
XAVN	**Gruta Xavier**	**1.53**	**111**	*e*P	**Pn**	**06 43 52.4**	**-0.8**
LFRS	**El Faro**	**1.54**	**306**	*e*P	Px	06 43 55.8	
LFRS				*e*S	Sx	06 44 14.7	
LBRS	**Las Brisas**	**1.60**	**310**	*e*P	Px	06 43 56.6	
LBRS				*e*S	Sx	06 44 17.2	
MGAN	**Managua**	**1.60**	**110**	*e*P	**Pn**	**06 43 54.7**	**+0.5**
MGAN				*i*		06 44 19.0	
	comp=N,1μm,0.7s						
WILN	**Americas 2**	**1.66**	**109**	*e*P	**Pn**	**06 43 52.9**	**-2.0**
WILN				*e*S	**Sn**	**06 44 18.2**	**+1.7**
TICN	**Ticuantepe**	**1.66**	**114**	*e*P	**Pn**	**06 43 55.8**	**+0.9**
TICN				*e*S	**Sn**	**06 44 19.6**	**+2.9**
BOQS	**Boqueron**	**1.78**	**305**	*e*P	Px	06 44 00.6	
BOQS				*e*S	Sx	06 44 25.5	
APON	**Apoyo**	**1.86**	**115**	*e*P	**Pn**	**06 43 57.1**	**-0.6**
IXG	**Ixpaco**	**2.98**	**300**	*e*P	**Pn**	**06 44 13.1**	**0.0**
JTS	**JuntasAbangare**	**3.67**	**131**	*e*Pn	**Pn**	**06 44 23.5**	**+0.9**
JTS				*e*S	**Sn**	**06 45 15.4**	**+9.1**
ROSC	**El Rosal**	**15.41**	**119**	Pn	**Pn**	**06 47 10.9**	**+7.7**
	comp=N,0.2nm,0.3s,baz=320,slow=8.5,SNR=3.2						
SDV	**Santo Domingo**	**17.27**	**101**	Pn	**Pn**	**06 47 26.8**	**-0.3**
	comp=N,0.1nm,0.3s,baz=352,slow=5.4,SNR=4.0						
SDV	**Santo Domingo**	**17.27**	**101**	*e*P	**Pn**	**06 47 25.4**	**-1.6**
	comp=N,3.6nm,0.9s						
JCT	**Junction City**	**20.89**	**330**	*e*P	**P**	**06 48 09.0**	**+0.8**
	comp=N,5.8nm,0.9s						
MIAR	**Mount Ida**	**22.37**	**347**	*e*P	**P**	**06 48 24.8**	**+0.7**
	comp=N,15nm,1.3s,mb4.3						
WMOK	**Wichita Mounta**	**24.10**	**337**	*e*P	**P**	**06 48 41.4**	**-0.2**
	comp=N,7.0nm,1.1s,mb4.0						
MNTX	**Cornudas Mount**	**24.89**	**322**	*e*P	**P**	**06 48 49.2**	**+0.3**
	comp=N,42nm,1.9s,mb4.6						
ANMO	**Albuquerque**	**27.87**	**326**	P	**P**	**06 49 16.5**	**+0.7**
	comp=N,1.8nm,1.0s,mb3.7,baz=151,slow=8.4,SNR=6.3						
ANMO	**Albuquerque**	**27.87**	**326**	*e*P	**P**	**06 49 13.8**	**-2.0**
	comp=N,2.3nm,1.0s,mb3.8						
SDCO	**Great Sand Dun**	**29.53**	**331**	*e*P	**P**	**06 49 29.9**	**-0.6**
	comp=N,2.3nm,1.0s,mb3.9						
PV10	**Paradox Valley**	**31.80**	**327**	*e*P	**P**	**06 49 51.0**	**+0.4**
HWUT	**Hardware Ranch**	**35.49**	**329**	*e*P	**P**	**06 50 23.1**	**+0.4**
	comp=N,3.8nm,1.0s,mb4.3						
REDW	**Red Top Meadow**	**36.45**	**331**	*e*P	**P**	**06 50 32.0**	**+1.1**
	comp=N,5.9nm,1.0s,mb4.5						
SNOW	**Snow King Moun**	**36.49**	**331**	*e*P	**P**	**06 50 33.1**	**+1.9**
	comp=N,5.1nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**37.29**	**319**	P	**P**	**06 50 40.2**	**+2.1**
	comp=N,1.6nm,1.0s,mb3.8,baz=125,slow=9.7,SNR=9.0						
MCMT	**McKenzie Canyo**	**38.50**	**331**	*e*P	**P**	**06 50 50.4**	**+2.0**
YKA	**Yellowknife Ar**	**53.28**	**345**	P	**P**	**06 52 44.4**	**-0.6**
	comp=N,1.4nm,0.9s,mb3.9,baz=138,slow=7.9,SNR=18						
RES	**Resolute Bay**	**62.09**	**358**	*e*P	**P**	**06 53 44.6**	**-2.4**
	comp=N,1.7nm,0.9s,mb4.2						
INK	**Inuvik**	**62.86**	**343**	*e*P	**P**	**06 53 49.8**	**-2.4**
	comp=N,2.6nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**65.66**	**336**	P	**P**	**06 54 09.6**	**-0.8**
	comp=N,1.1nm,1.0s,mb3.9,baz=112,slow=5.0,SNR=9.1						

MOS 20 06:43:21.0±1.3, 3704N×4223E, h10km, mb4.0/1, Error ellipse: s-maj=20.8km s-min=16.9km az=33.0
CSEM 20 06:43:32.7±0.1, 3928N×4128E, h8km, MD3.3, Error ellipse: s-maj=2.1km s-min=1.6km az=99.0
NEIC 20 06:43:33.0, 3926N×4128E, h9km, MD3.3(ISK), After ISK.
ISCJB 20 06:43:34.1±0.7, 3927N±003×4134E±004, h11km±5km, Error ellipse: s-maj=5.7km s-min=4.3km az=28.4
ISK 20 06:43:34.7, 39.17N×4133E, h15km, MD3.2
ISC 20 06:43:34.5±0.6, 3926N±003×4132E±005, h9km±5km, n40, σ1§18/52, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.34**	**204**	*i*P	**Pg**	**06 43 40.6**	**-0.5**
BNGL				*i*S	**Sg**	**06 43 46.4**	**+0.7**
ERZM	**Erzurum**	**0.65**	**3**	*i*P	**Pg**	**06 43 46.0**	**-1.0**
ERZM				*i*S	**Sg**	**06 43 56.0**	**+0.6**
EZM	**Erzurum**	**0.65**	**3**	Pg	**Pg**	**06 43 45.8**	**-1.2**
BTMT	**Batman**	**1.07**	**173**	PG	**Pg**	**06 43 55.5**	**+0.3**
BEST	**Besiri**	**1.37**	**182**	*i*P	**Pn**	**06 43 59.0**	**-0.7**
BEST				*i*S	**Sb**	**06 44 19.4**	**+1.6**
DIY	**Diyarbakir**	**1.61**	**213**	*e*PN	**Pn**	**06 44 02.3**	**-0.8**
DIY				*e*SN	**Sn**	**06 44 22.9**	**-1.0**
DIY	**Diyarbakir**	**1.61**	**213**	Pn	**Pn**	**06 44 02.1**	**-1.0**
DIY				*e*Sn	**Sn**	**06 44 22.9**	**-1.0**
DIY	**Diyarbakir**	**1.61**	**213**	Pn	**Pn**	**06 44 02.1**	**-1.0**
VANB	**Van**	**1.74**	**112**	Pn	**Pn**	**06 44 05.0**	**+0.1**
VANB	**Van**	**1.74**	**112**	Pn	**Pn**	**06 44 05.0**	**+0.2**
VANT	**Van**	**1.81**	**116**	*e*PN	**Pn**	**06 44 04.5**	**-1.3**
VANT	**Van**	**1.81**	**116**	Pn	**Pn**	**06 44 04.5**	**-1.2**
KELT	**Kelkit**	**1.82**	**300**	*i*P	**Pn**	**06 44 08.0**	**+2.0**
KELT				*i*S	**Sg**	**06 44 36.7**	**+3.5**
GUMT	**Gumushane**	**1.86**	**311**	PN	**Pn**	**06 44 08.3**	**+1.8**
GUMT	**Gumushane**	**1.86**	**311**	Pn	**Pn**	**06 44 05.5**	**-1.0**
GUMT	**Gumushane**	**1.86**	**311**	Pn	**Pn**	**06 44 05.5**	**-0.9**
DIGO	**Kars**	**1.96**	**53**	*i*P	**Pn**	**06 44 08.4**	**+0.6**
DIGO				*i*S	**Sb**	**06 44 38.0**	**+3.3**
SIRT	**Sirnak**	**1.96**	**153**	*e*PN	**Pn**	**06 44 07.1**	**-0.8**
ARTV	**Artvin**	**1.98**	**13**	*i*P	**Pn**	**06 44 10.1**	**+2.0**
ARTV				*i*S	**Sn**	**06 44 36.9**	**+4.0**
ARTV	**Artvin**	**1.98**	**13**	*i*S	**Sn**	**06 44 36.9**	**+3.9**
ELZG	**Elazig**	**1.98**	**248**	*i*P	**Pn**	**06 44 10.3**	**+2.2**
ELZG				*i*S	**Sg**	**06 44 43.8**	**+5.6**
MARD	**Mardin**	**1.99**	**193**	*i*P	**Pn**	**06 44 09.4**	**+1.1**
MARD				*i*S	**Sn**	**06 44 36.8**	**+3.5**
CLDR	**Caldiran**	**2.02**	**93**	*e*PN	**Pn**	**06 44 09.2**	**+0.5**
CLDR	**Caldiran**	**2.02**	**93**	Pn	**Pn**	**06 44 08.8**	**+0.1**
CLDR	**Caldiran**	**2.02**	**93**	Pn	**Pn**	**06 44 08.8**	**+0.1**
MYA	**Malataya**	**2.45**	**249**	*e*PN	**Pn**	**06 44 14.0**	**-0.6**
MALT	**Malatya**	**2.45**	**248**	*e*PN	**Pn**	**06 44 14.5**	**-0.1**
URFA	**Urfa**	**2.68**	**228**	Pn	**Pn**	**06 44 17.5**	**-0.2**
URFA	**Urfa**	**2.68**	**228**	Pn	**Pn**	**06 44 17.5**	**-0.3**
GNI	**Garni**	**2.78**	**70**	*e*P	**Pn**	**06 44 18.0**	**-1.2**
GNI	**Garni**	**2.78**	**70**	*e*Pn	**Pn**	**06 44 19.8**	**+0.6**
GNI				*e*S	**Sn**	**06 44 53.9**	**+1.0**
GNI	**Garni**	**2.78**	**70**	*c*eP	**Pn**	**06 44 18.0**	**-1.2**
GNI				*e*S	**Sn**	**06 44 53.9**	**+1.0**
GNI	**Garni**	**2.78**	**70**	Pn	**Pn**	**06 44 19.8**	**+0.7**
ISP	**Isparta**	**8.59**	**264**	*i*P	**Pn**	**06 45 38.2**	**-0.8**
APE	**Apeiranthos**	**12.62**	**265**	*i*P	**Pn**	**06 46 33.5**	**-0.7**
OBN	**Obninsk**	**16.18**	**350**	*e*P	**Pn**	**06 47 21.8**	**-0.2**
	100nm,16.0s						
OBN	**Obninsk**	**16.18**	**350**	*e*P	**Pn**	**06 47 21.8**	**-0.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
ARU	**Arti**	**20.61**	**28**	*e*P	**P**	**06 48 13.3**	**-0.6**
KURK	**Kurchatov**	**28.46**	**54**	*e*P	**P**	**06 49 27.3**	**-2.4**
TIXI	**Tiksi**	**52.53**	**24**	*e*P	**P**	**06 52 46.7**	**-1.3**

NAO 20 06:56:02.3, 1150N×88.17W, h33km, mb4.0
IDC 20 06:56:06.1±0.6, 1311N×8741W, h0km, mb4.8/26, mb1 5.0/27, mb1mx5.0/28, mbtmp4.8/27, ML4.0/1, MS5.2/19, Ms1 5.2/19, ms1mx5.1/25, Error ellipse: s-maj=21.4km s-min=11.2km az=54.0
CASC 20 06:56:08.7±2.0, 1326N×8754W, h19km±5km, MD5.1, ML5.3, mb5.6(NEIC), Fault plane solution: NP1: φs346.10000°, δ71.30000°, λ36.00000°.
ISCJB 20 06:56:08.4±0.9, 1323N±002×8747W±002, h12km±6km, mb5.4/149, MS5.2/146, Error ellipse: s-maj=4.7km s-min=2.6km az=63.0
MOS 20 06:56:09.5±1.6, 1342N×8754W, h10km, mb5.6/53, MS5.2/26, Error ellipse: s-maj=8.5km s-min=4.6km az=109.2
HRVD 20 06:56:09.7±0.2, 1324N×8762W, h17km, MW5.5/99, Centroid moment Tensor Solution. LP body waves: s77,c147; Mantle waves: s99,c209; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.25±.04; Mθθ-1.49±.04; Mφφ 1.74±.04; Mrθ-0.55±.10; Mrφ-1.93±.03; Mθφ 0.12±.10; Best double couple: M0 2.58200×10^17 NP1:φs20.00000°, δ77.00000°, λ-3.00000°. NP2: φs110.00000°, δ87.00000°, λ-167.00000°. Principal axes: T 2.6830, Plg7.0000°, Azm244.0000°; N -0.2010, Plg77.0000°, Azm124.0000°; P -2.4820, Plg11.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 20 06:56:09.6, 1320N×8760W, h10km, mB5.5, Ms5.7, Msz5.4
NEIC 20 06:56:09.7±0.3, 1316N×8756W, h10km, mb5.6/108, MS5.2/125, MD5.6(SNET), Error ellipse: s-maj=7.6km s-min=4.6km az=33.0
NEIC Felt [V] at La Union and [IV] at Tegucigalpa. Also felt at La Ceiba, Monjaras and Quebradas. Felt at Esteli, Nicaragua.
SZGRF 20 06:56:12.1, 1306N×8736W, h33km, mb5.5, MS5.5, Honduras
ISC 20 06:56:10.8±0.9, 1314N±002×8747W±002, h19km±6km, h17km±1.3km: pP-P, n524, σ1§28/450, mb5.4/149, MS5.2/146, 27C-28D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.60**	**137**	*i*P	**Pb**	**06 56 22.8**	**+0.1**
TELN	**Telica**	**0.82**	**131**	*e*P	**Pb**	**06 56 25.9**	**-0.6**
TELN				*e*S	**Sb**	**06 56 41.5**	**+4.3**
TEL3	**Telica 3**	**0.83**	**133**	*i*P	**Pb**	**06 56 26.3**	**-0.4**
LEON	**Leon**	**0.92**	**142**	*i*P	**Pb**	**06 56 27.3**	**-0.8**
CNGN	**Cerro Negro**	**0.99**	**130**	*i*P	**Pb**	**06 56 28.8**	**-0.5**
MIRN	**Miramar**	**1.02**	**133**	*i*P	**Pb**	**06 56 29.2**	**-0.7**
MOMJ	**Momotombo**	**1.17**	**129**	*e*P	**Pn**	**06 56 31.4**	**-0.7**
COPN	**Copaltepe**	**1.29**	**138**	*i*P	**Pn**	**06 56 33.2**	**-0.5**
APYN	**Apoyeque**	**1.42**	**129**	*e*P	**Pn**	**06 56 35.7**	**+0.1**
XAVN	**Gruta Xavier**	**1.49**	**131**	*e*P	**Pn**	**06 56 36.3**	**-0.2**
MGAN	**Managua**	**1.55**	**130**	*e*S	**Sn**	**06 57 00.5**	**+3.5**
MGAN				*i*		06 57 09.7	
	comp=N,26μm,0.5s	

MOIG Morelia 14.67 298 *i* P **Pn 06 59 37.8 +0.5**
MRX Morelia 14.69 298 *e*P **Pn 06 59 33.0 -4.4**
ROSC El Rosal 15.36 121 Pn **Pn 06 59 49.8 +3.4**
comp=E,0.3nm,0.3s,baz=265,slow=23,SNR=13
ROSC LR LR 07 05 42.6
comp=E,3μm,18.9s,baz=347,slow=38
OTAV Otavalo 15.63 144 *e*P **Pn 06 59 51.8 +1.8**
comp=E,128nm,1.5s
DWPF Disney 15.92 20 *e*P **Pn 06 59 53.5 -0.2**
comp=E,263nm,1.4s
SFJM Santa Fe 16.59 298 *e*P **Pn 07 00 04.0 +1.7**
SDV Santo Domingo 17.06 103 Pn **Pn 07 00 07.4 -0.8**
comp=E,0.6nm,0.3s,baz=296,slow=4.5,SNR=24
SDV Santo Domingo 17.06 103 *i* P **Pn 07 00 07.0 -1.2**
SDV Santo Domingo 17.06 103 *e*P **Pn 07 00 07.1 -1.1**
comp=E,1μm,1.9s
HKT Hockley 18.43 336 *e*P **Pn 07 00 23.6 -1.5**
HKT pmax pmax
comp=Z,212nm,1.1s
HKT Hockley 18.43 336 *e*P **Pn 07 00 23.6 -1.6**
comp=Z,212nm,1.1s
HKT *e*S **Sn 07 03 56.3 +5.8**
NATX Nacogdoches 19.67 342 *e*P **Pn 07 00 39.4 -0.7**
comp=Z,747nm,1.4s
NATX *e*S **Sn 07 04 18.0 -2.5**
LRAL Lakeview Retre 19.80 1 *e*P **Pn 07 00 41.1 -0.6**
comp=Z,122nm,1.1s
LRAL *e*S **Sn 07 04 22.6 -1.1**
JCT Junction City 20.67 329 *e*P **P 07 00 48.2 -1.3**
JCT pmax pmax
comp=Z,504nm,1.4s
JCT MLR MLR
comp=Z,3μm,22.0s,MS4.7
JCT Junction City 20.67 329 *e*P **P 07 00 48.2 -1.3**
comp=Z,504nm,1.4s
JCT LR LR
comp=Z,3μm,22.0s,MS4.7
NHSC New Hope 20.96 17 *e*P **P 07 00 54.3 +1.7**
comp=Z,1μm,1.4s
NHSC LR LR
comp=Z,2μm,21.0s,MS4.4
COW Cow Castle Cre 21.07 16 *e*P **P 07 00 59.3 +5.5**
SJG San Juan 21.11 74 P **P 07 00 53.5 -0.8**
comp=Z,55nm,1.1s,mb4.8,baz=283,slow=7.5,SNR=7.4
SJG LR LR 07 09 25.2
comp=Z,14μm,19.2s,MS5.4,baz=263,slow=38
SJG San Juan 21.11 74 *e*P **P 07 00 54.0 -0.3**
SJG pmax pmax
comp=Z,98nm,1.2s
SJG MLR MLR
comp=Z,12μm,20.0s
SJG San Juan 21.11 74 *e*P **P 07 00 54.0 -0.3**
comp=Z,98nm,1.2s,mb5.0
SJG LR LR
comp=Z,12μm,20.0s,MS5.3
CPD Cerro la Pandu 21.32 74 *e*P **P 07 00 57.6 +1.1**
OXF Oxford 21.35 356 *e*P **P 07 00 56.7 -0.1**
OXF pmax pmax
comp=Z,569nm,1.2s,mb5.8
OXF MLR MLR
comp=Z,3μm,19.0s,MS4.7
OXF Oxford 21.35 356 *e*P **P 07 00 56.7 -0.1**
comp=Z,569nm,1.2s,mb5.8
OXF LR LR
comp=Z,3μm,19.0s,MS4.7
MTP Monte Pirata 21.66 74 *e*P **P 07 01 01.3 +1.1**
PLAL Pickwick Lake 21.75 359 *e*P **P 07 01 00.6 -0.5**
comp=Z,108nm,1.3s,mb5.1
PLAL LR LR
comp=Z,3μm,19.0s,MS4.7
JSC Jenkinsville 21.79 14 *e*P **P 07 01 02.1 +0.6**
UALR University of 21.98 349 *e*P **P 07 01 03.4 -0.3**
comp=Z,152nm,1.1s,mb5.3
MET Memphis--Engin 22.00 355 *e*P **P 07 01 03.4 -0.3**
MIAR Mount Ida 22.01 346 *e*P **P 07 01 03.7 -0.3**
MIAR pmax pmax
comp=Z,268nm,1.2s,mb5.5
MIAR MLR MLR
comp=Z,2μm,21.0s,MS4.6
MIAR Mount Ida 22.01 346 *e*P **P 07 01 03.7 -0.3**
comp=Z,268nm,1.2s,mb5.5
MIAR LR LR
comp=Z,2μm,21.0s,MS4.6
SWET Sewanee 22.02 3 *e*P **P 07 01 04.0 0.0**
CPCT Cooper Cave 22.37 6 *e*P **P 07 01 08.2 +0.5**
CPCT *e*S Sx 07 05 35.2
HBAR Harrisburg 22.50 353 *e*P **P 07 01 08.9 -0.2**
GNAR Gosnell 22.84 355 *e*P **P 07 01 12.4 -0.3**
comp=Z,1μm,1.2s,mb6.1
WVT Waverly 22.89 359 *e*P **P 07 01 12.1 -1.2**
WVT pmax pmax
comp=Z,211nm,1.5s,mb5.3
WVT MLR MLR
comp=Z,2μm,21.0s,MS4.5
WVT Waverly 22.89 359 *e*P **P 07 01 12.1 -1.2**
comp=Z,211nm,1.5s,mb5.3
WVT LR LR
comp=Z,2μm,21.0s,MS4.5
UTMT University of 23.13 357 *e*P **P 07 01 15.2 -0.6**
comp=Z,639nm,1.3s,mb5.9
TZTN Tazewell 23.57 8 *e*P **P 07 01 20.5 +0.2**
WMOK Wichita Mounta 23.82 336 *e*P **P 07 01 21.0 -1.6**
WMOK *e*S Sx 07 06 17.1
WMOK pmax pmax
comp=Z,419nm,1.3s,mb5.7
WMOK MLR MLR
comp=Z,2μm,22.0s,MS4.6
WMOK Wichita Mounta 23.82 336 *e*P **P 07 01 21.0 -1.6**
comp=Z,419nm,1.3s,mb5.7
WMOK *e*S Sx 07 06 17.1
WMOK LR LR
comp=Z,2μm,22.0s,MS4.6
STMA St. Maarten, A 23.96 75 *e*P **P 07 01 15.4 -8.5**
GDL2 Guadalupe Moun 24.49 324 *e*P **P 07 01 29.2 +0.5**
ELN Prospectdale 24.73 13 *e*P **P 07 01 32.9 +2.0**
MNTX Cornudas Mount 24.73 321 *e*P **P 07 01 29.3 -1.6**
comp=Z,1μm,1.6s,mb6.2
MNTX *e*S **S 07 05 55.0 +3.0**
MNTX LR LR
comp=Z,2μm,20.0s,MS4.7
FVM French Village 24.88 354 *e*P **P 07 01 30.5 -1.7**
FVM pmax pmax
comp=Z,62nm,1.4s,mb5.0
FVM French Village 24.88 354 *e*P **P 07 01 30.5 -1.7**
comp=Z,62nm,1.4s,mb5.0
WCI Wyandotte Cave 25.00 2 *e*P **P 07 01 32.6 -0.8**
WCI pmax pmax
comp=Z,261nm,1.4s,mb5.6
WCI MLR MLR
comp=Z,2μm,21.0s,MS4.6
WCI Wyandotte Cave 25.00 2 *e*P **P 07 01 32.6 -0.8**
comp=Z,261nm,1.4s,mb5.6
WCI LR LR
comp=Z,2μm,21.0s,MS4.6
CCM Cathedral Cave 25.04 353 P **P 07 01 32.1 -1.6**
CCM pmax pmax
comp=Z,96nm,1.1s,mb5.2
CCM Cathedral Cave 25.04 353 *e*P **P 07 01 32.0 -1.7**
comp=Z,96nm,1.1s,mb5.2
CCM LR LR
comp=Z,2μm,22.0s,MS4.5
FWV Forest Hill 25.05 13 *e*P **P 07 01 34.7 +0.8**
SLM Saint Louis 25.51 355 P **P 07 01 37.0 -1.0**
SLM pmax pmax
comp=Z,27nm,0.4s,mb5.1
SLM Saint Louis 25.51 355 *e*P **P 07 01 36.8 -1.2**
comp=Z,27nm,0.4s,mb5.1
BLO Bloomington 25.94 2 P **P 07 01 41.0 -0.9**
BLO pmax pmax
comp=Z,99nm,1.1s,mb5.2
BLO Bloomington 25.94 2 *e*P **P 07 01 40.9 -1.0**
comp=Z,99nm,1.1s,mb5.2
CBN Corbin 26.53 18 *e*P **P 07 01 50.4 +3.2**
comp=Z,307nm,1.4s,mb5.6
CBN LR LR
comp=Z,4μm,20.0s,MS5.0
KSU1 Kansas State U 27.09 344 *e*P **P 07 01 50.9 -1.4**
NNA Nana 27.10 157 *e*P **P 07 01 52.6 +0.2**
comp=Z,78nm,1.4s,mb5.0
NNA LR LR
comp=Z,2μm,20.0s,MS4.6
BNM Barren Site 27.20 323 *e*P **P 07 01 53.5 +0.2**
MCWV Mont Chateau 27.25 13 *e*P **P 07 01 54.7 +1.0**
comp=Z,121nm,1.4s,mb5.2
MCWV LR LR
comp=Z,3μm,21.0s,MS4.8

ACSO Alum Creek Sta 27.27 8 *e*P **P 07 01 53.8 -0.1**
comp=Z,103nm,1.3s,mb5.2
ACSO LR LR
comp=Z,1μm,19.0s,MS4.5
LPM Los Pinos Moun 27.32 324 *e*P **P 07 01 54.2 -0.1**
LENM Lemitar 27.42 323 *e*P **P 07 01 55.3 +0.1**
LAZ Ladron 27.68 323 *e*P **P 07 01 57.8 +0.3**
ANMO Albuquerque 27.68 325 P **P 07 01 57.7 +0.1**
comp=Z,61nm,1.2s,mb5.1,baz=145,slow=10,SNR=27
ANMO LR LR 07 16 35.7
comp=Z,2μm,19.3s,MS4.8,baz=266,slow=44
ANMO Albuquerque 27.68 325 *e*P **P 07 01 57.3 -0.3**
ANMO pmax pmax
comp=Z,197nm,1.3s
ANMO MLR MLR
comp=Z,3μm,22.0s
ANMO Albuquerque 27.68 325 *e*P **P 07 01 57.2 -0.4**
comp=Z,197nm,1.3s,mb5.6
ANMO LR LR
comp=Z,3μm,22.0s,MS4.8
CBKS Cedar Bluff 27.79 339 P **P 07 01 59.4 +0.9**
CBKS pmax pmax
comp=Z,200nm,1.3s,mb5.6
CBKS Cedar Bluff 27.79 339 *e*P **P 07 01 58.8 +0.3**
comp=Z,198nm,1.4s,mb5.5
CBKS LR LR
comp=Z,2μm,19.0s,MS4.7
BBSR BB Station 28.30 44 PFAKE
BBSR LR LR 07 02 20.0 +17
comp=Z,4μm,19.0s,MS5.1
MVL Millersville 28.49 18 *e*P **P 07 02 07.8 +3.1**
TUC Tucson 28.63 316 *e*P **P 07 02 06.1 +0.1**
TUC pmax pmax
comp=Z,181nm,1.5s,mb5.6
TUC MLR MLR
comp=Z,8μm,19.0s,MS5.3
TUC Tucson 28.63 316 *e*P **P 07 02 06.1 +0.1**
comp=Z,181nm,1.5s,mb5.6
TUC LR LR
comp=Z,8μm,19.0s,MS5.3
ALLY Alegheny Colle 29.11 11 *e*P **P 07 02 10.2 -0.1**
AAM Ann Arbor 29.24 6 P **P 07 02 11.7 +0.3**
AAM pmax pmax
comp=Z,170nm,1.5s,mb5.5
AAM Ann Arbor 29.24 6 *e*P **P 07 02 11.2 -0.3**
comp=Z,174nm,1.5s,mb5.6
AAM LR LR
comp=Z,2μm,20.0s,MS4.7
SDCO Great Sand Dun 29.30 330 *e*P **P 07 02 12.1 +0.1**
comp=Z,203nm,1.3s,mb5.7
SDCO LR LR
comp=Z,4μm,20.0s,MS5.0
ERPA Erie 29.59 11 *e*P **P 07 02 15.5 +0.9**
comp=Z,297nm,1.4s,mb5.8
ERPA LR LR
comp=Z,2μm,19.0s,MS4.8
ISCO Idaho Springs 30.99 332 P **P 07 02 27.0 0.0**
ISCO pmax pmax
comp=Z,120nm,1.3s,mb5.6
ISCO Idaho Springs 30.99 332 *e*P **P 07 02 26.8 -0.2**
comp=Z,117nm,1.4s,mb5.5
ISCO LR LR
comp=Z,4μm,22.0s,MS5.1
WUAZ Wupatki 31.00 320 *e*P **P 07 02 27.1 +0.1**
comp=Z,322nm,1.4s,mb6.0
WUAZ LR LR
comp=Z,8μm,19.0s,MS5.4
SMCO Snowmass 31.14 330 *e*P **P 07 02 28.5 +0.3**
comp=Z,163nm,1.3s,mb5.7
PV01 Paradox Valley 31.17 327 *e*P **P 07 02 28.7 +0.2**
PV10 Paradox Valley 31.60 327 *e*P **P 07 02 31.6 -0.7**
QUA2 Belchertown 31.86 22 *e*P **P 07 02 36.1 +1.6**
comp=Z,131nm,1.3s,mb5.6
PHWY Pilot Hill 32.15 334 *e*P **P 07 02 37.0 -0.2**
SADO Sadowa 32.31 11 P **P 07 02 37.6 -0.9**
comp=Z,18nm,0.6s,mb5.0,baz=212,slow=7.8,SNR=14
WES Weston 32.33 23 P **P 07 02 42.1 +3.4**
WES pmax pmax
comp=Z,150nm,1.3s,mb5.7
WES Weston 32.33 23 *e*P **P 07 02 40.1 +1.4**
comp=Z,154nm,1.4s,mb5.6
WES LR LR
comp=Z,3μm,21.0s,MS5.0
HRV Harvard--Oak R 32.34 22 PFAKE
HRV LR LR 07 02 50.0 +11
comp=Z,4μm,20.0s,MS5.1
ACCN Adirondack Com 32.40 19 *e*P **P 07 02 40.8 +1.5**
NCB Newcomb 32.76 18 *e*P **P 07 02 44.2 +1.7**
comp=Z,140nm,1.6s,mb5.6
NCB LR LR
comp=Z,7μm,19.0s,MS5.4
SRU San Rafael 32.93 326 P **P 07 02 43.8 -0.2**
SRU pmax pmax
comp=Z,250nm,1.2s,mb6.0
SRU San Rafael 32.93 326 *e*P **P 07 02 43.5 -0.5**
comp=Z,250nm,1.3s,mb6.0
MIV Mineville/With 33.06 19 *e*P **P 07 02 45.7 +0.6**
FFD Franklin Falls 33.15 21 *e*P **P 07 02 48.7 +2.8**
comp=Z,184nm,1.2s,mb5.9
LDFC Landfair 33.17 316 *e*P **P 07 02 46.6 +0.6**
RWWY Rawlins 33.23 333 *e*P **P 07 02 48.1 +1.5**
comp=Z,322nm,1.4s,mb6.1
LONY Lake Ozonia 33.25 17 *e*P **P 07 02 45.9 -0.8**
NEN Nelson 33.31 317 *e*P **P 07 02 47.3 0.0**
PFO Pinyon Flat Ob 33.32 313 P **P 07 02 49.2 +1.8**
comp=Z,146nm,1.1s,mb5.8,SNR=6.4
PFO Pinyon Flat Ob 33.32 313 P **P 07 02 48.9 +1.5**
PFO pmax pmax
comp=Z,40nm,1.2s,mb5.2
PFO Pinyon Flat Ob 33.32 313 *e*P **P 07 02 48.7 +1.3**
comp=Z,40nm,1.2s,mb5.2
PFO LR LR
comp=Z,5μm,19.0s,MS5.2
ARE Arequipa 33.39 151 *e*P **P 07 02 51.0 +3.0**
TMUT Trail Mountain 33.44 325 *e*P **P 07 02 48.7 +0.3**
MSU Marysvale 33.45 323 *e*P **P 07 02 49.1 +0.6**
MVU Marysvale 33.46 323 *e*P **P 07 02 54.6 +6.0**
comp=Z,311nm,1.6s,mb6.0
MVU LR LR
comp=Z,5μm,20.0s,MS5.2
ARUT Antelope Range 33.72 321 *e*P **P 07 02 51.3 +0.4**
LBNH Lisbon 33.73 20 P **P 07 02 53.6 +2.6**
LBNH pmax pmax
comp=Z,110nm,1.4s,mb5.6
LBNH Lisbon 33.73 20 *e*P **P 07 02 53.2 +2.2**
comp=Z,115nm,1.4s,mb5.6
LBNH LR LR
comp=Z,3μm,19.0s,MS5.0
FRNY Flat Rock 33.73 18 *e*P **P 07 02 50.7 -0.3**
RSSD Black Hills 33.98 338 P **P 07 02 52.8 -0.3**
RSSD pmax pmax
comp=Z,72nm,1.4s,mb5.4
RSSD Black Hills 33.98 338 *e*P **P 07 02 52.5 -0.6**
comp=Z,72nm,1.4s,mb5.4
RSSD LR LR
comp=Z,3μm,20.0s,MS5.1
MPU Maple Canyon 34.18 326 *e*P **P 07 02 54.5 -0.3**
comp=Z,458nm,1.3s,mb6.2
MPU LR LR
comp=Z,7μm,19.0s,MS5.4
DAU Daniels Canyon 34.26 327 *e*P **P 07 02 55.8 +0.3**
NLU North Lily Min 34.38 325 *e*P **P 07 02 55.1 -1.5**
MWC Mount Wilson 34.78 312 *e*P **P 07 03 01.3 +1.3**
TCUT Toone Canyon 34.84 328 *e*P **P 07 03 01.6 +1.1**
EYMN Ely 34.86 355 *e*P **P 07 03 00.9 +0.2**
comp=Z,121nm,1.6s,mb5.6
EYMN LR LR
comp=Z,2μm,21.0s,MS4.9
NOQ North Oquirrh 34.89 326 *e*P **P 07 03 01.0 0.0**
comp=Z,524nm,1.5s,mb6.2
LPAZ La Paz 34.94 146 P **P 07 03 00.7 -0.7**
comp=Z,2.6nm,0.8s,baz=288,slow=6.7,SNR=4.8
LPAZ LR LR 07 18 20.8
comp=Z,4μm,21.6s,MS5.1,baz=322,slow=38
LPAZ La Paz 34.94 146 P **P 07 03 01.4 0.0**
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
LPAZ La Paz 34.94 146 *e*P **P 07 03 00.9 -0.6**
comp=Z,7.2nm,1.1s,mb4.5
LPAZ LR LR
comp=Z,4μm,21.0s,MS5.2
DUG Dugway 34.95 325 *e*P **P 07 03 01.7 +0.2**
DUG pmax pmax
comp=Z,177nm,1.3s,mb5.8
DUG MLR MLR
comp=Z,6μm,20.0s,MS5.3

DUG Dugway 34.95 325 *e*P **P 07 03 01.7 +0.1**
comp=Z,177nm,1.3s,mb5.8
DUG LR LR
comp=Z,6μm,20.0s,MS5.3
BW06 Boulder Array 35.16 331 *e*P **P 07 03 02.4 -0.9**
comp=Z,163nm,1.9s,mb5.6
BW06 LR LR
comp=Z,6μm,19.0s,MS5.3
PDAR Pinedale Array 35.16 331 P **P 07 03 02.3 -1.0**
comp=Z,14nm,1.1s,mb4.8,baz=131,slow=10,SNR=33
PDAR LR LR 07 21 58.8
comp=Z,5μm,18.9s,MS5.3,baz=322,slow=44
HWUT Hardware Ranch 35.28 328 *e*P **P 07 03 03.6 -0.7**
comp=Z,274nm,1.3s,mb6.0
HWUT LR LR
comp=Z,4μm,20.0s,MS5.2
DAC Darwin (Calif) 35.52 316 *e*P **P 07 03 06.3 -0.1**
DAC pmax pmax
comp=Z,45nm,1.3s,mb5.2
DAC MLR MLR
comp=Z,8μm,19.0s,MS5.5
DAC Darwin (Calif) 35.52 316 *e*P **P 07 03 06.3 -0.1**
comp=Z,45nm,1.3s,mb5.2
DAC LR LR
comp=Z,8μm,19.0s,MS5.5
SPUT South Promonto 35.53 327 *e*P **P 07 03 05.8 -0.7**
BGU Big Grassy Mou 35.58 326 *e*P **P 07 03 10.1 +3.2**
ISA Isabella 35.80 314 *e*P **P 07 03 09.8 +1.0**
ISA MLR MLR
comp=Z,1μm,20.0s,MS4.7
AHID Auburn Hatcher 35.90 330 *e*P **P 07 03 08.9 -0.7**
comp=Z,224nm,1.4s,mb5.9
AHID LR LR
comp=Z,4μm,19.0s,MS5.2
HVU Hansel Valley 36.03 327 *e*P **P 07 03 11.7 +0.9**
HVU pmax pmax
comp=Z,676nm,2.0s,mb6.2
HVU Hansel Valley 36.03 327 *e*P **P 07 03 11.7 +0.8**
comp=Z,676nm,2.0s,mb6.2
REDW Red Top Meadow 36.22 331 *e*P **P 07 03 11.8 -0.7**
comp=Z,444nm,1.3s,mb6.2
SNOW Snow King Moun 36.25 331 *e*P **P 07 03 12.4 -0.3**
comp=Z,405nm,1.3s,mb6.2
LOHW Long Hollow 36.30 331 *e*P **P 07 03 12.7 -0.4**
comp=Z,280nm,1.5s,mb6.0
IMW Indian Meadow 36.67 331 *e*P **P 07 03 15.5 -0.7**
comp=Z,84nm,1.3s,mb5.4
ELK Elko 36.70 324 P **P 07 03 16.2 -0.2**
comp=Z,46nm,1.0s,mb5.3,baz=129,slow=5.1,SNR=42
ELK Elko 36.70 324 *e*P **P 07 03 16.3 -0.2**
ELK pmax pmax
comp=Z,130nm,1.3s
ELK MLR MLR
comp=Z,6μm,19.0s
ELK Elko 36.70 324 *e*P **P 07 03 16.3 -0.2**
comp=Z,130nm,1.3s,mb5.6
ELK LR LR
comp=Z,6μm,19.0s,MS5.4
FLWY Flagg Ranch 36.70 332 *e*P **P 07 03 16.4 -0.1**
comp=Z,166nm,1.3s,mb5.7
LKWY Lake 36.94 332 *e*P **P 07 03 19.2 +0.7**
LKWY pmax pmax
comp=Z,384nm,2.1s,mb5.9
LKWY MLR MLR
comp=Z,5μm,19.0s,MS5.3
LKWY Lake 36.94 332 *e*P **P 07 03 19.2 +0.7**
comp=Z,384nm,2.1s,mb5.9
LKWY LR LR
comp=Z,5μm,19.0s,MS5.3
LAO LASA Array 36.98 338 *e*P **P 07 03 20.7 +1.8**
comp=Z,236nm,1.4s,mb5.8
LAO LR LR
comp=Z,3μm,20.0s,MS5.1
PTRM Twissleman Ran 37.02 313 *e*P **P 07 03 21.0 +1.7**
YFT Old Faithful 37.05 332 *e*P **P 07 03 20.8 +1.4**
MNV Mina 37.08 318 *e*P **P 07 03 20.0 +0.3**
MNV pmax pmax
comp=Z,135nm,1.3s,mb5.6
MNV MLR MLR
comp=Z,7μm,20.0s,MS5.4
MNV Mina 37.08 318 *e*P **P 07 03 20.0 +0.3**
comp=Z,135nm,1.3s,mb5.6
MNV LR LR
comp=Z,7μm,20.0s,MS5.4
NVAR Mina Array Bea 37.17 318 P **P 07 03 21.0 +0.5**
comp=Z,56nm,1.0s,mb5.3,baz=124,slow=9.3,SNR=52
NVAR LR LR 07 22 14.6
comp=Z,3μm,18.9s,MS5.1,baz=145,slow=42
YMR Madison River 37.27 332 *e*P **P 07 03 21.7 +0.3**
comp=Z,184nm,1.3s,mb5.8
YMR LR LR
comp=Z,2μm,22.0s,MS4.8
GCMT Greycliff 37.58 334 *e*P **P 07 03 23.9 -0.1**
QLMT Earthquake Lak 37.61 332 *e*P **P 07 03 24.7 +0.5**
ULM Lac du Bonnet 37.64 351 P **P 07 03 21.4 -3.0**
comp=Z,18nm,1.0s,mb4.8,baz=168,slow=9.1,SNR=11
ULM Lac du Bonnet 37.64 351 P **P 07 03 21.4 -3.0**
BMN Battle Mountai 37.67 322 *e*P **P 07 03 24.7 -0.1**
BMN pmax pmax
comp=Z,156nm,1.3s,mb5.6
BMN MLR MLR
comp=Z,4μm,21.0s,MS5.2
BMN Battle Mountai 37.67 322 *e*P **P 07 03 24.7 0.0**
comp=Z,156nm,1.3s,mb5.6
BMN LR LR
comp=Z,4μm,21.0s,MS5.2
DGMT Dagmar 37.86 342 *e*P **P 07 03 25.7 -0.7**
comp=Z,250nm,1.0s,mb5.9
DGMT LR LR
comp=Z,2μm,21.0s,MS5.0
LRV Little Rabbit 37.97 314 *e*P **P 07 03 26.7 -0.5**
HLID Hailey 38.15 328 *e*P **P 07 03 28.2 -0.6**
comp=Z,41nm,1.1s,mb5.1
MCMT McKenzie Canyo 38.27 331 *e*P **P 07 03 30.4 +0.5**
BOZ Bozeman (W) 38.32 332 *e*P **P 07 03 29.9 -0.4**
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
BOZ MLR MLR
comp=Z,3μm,19.0s,MS5.1
BOZ Bozeman (W) 38.32 332 *e*P **P 07 03 29.9 -0.4**
comp=Z,7.1nm,0.7s,mb4.5
BOZ LR LR
comp=Z,3μm,19.0s,MS5.1
CMB Columbia Colle 38.34 316 *e*P **P 07 03 29.7 -0.7**
CMB pmax pmax
comp=Z,60nm,1.5s,mb5.1
CMB MLR MLR
comp=Z,4μm,19.0s,MS5.3
CMB Columbia Colle 38.34 316 *e*P **P 07 03 29.7 -0.7**
comp=Z,60nm,1.5s,mb5.1
CMB LR LR
comp=Z,4μm,19.0s,MS5.3
SAO San Andreas Ge 38.43 314 P **P 07 03 36.2 +5.0**
SAO pmax pmax
comp=Z,50nm,1.5s,mb5.0
SAO San Andreas Ge 38.43 314 *e*P **P 07 03 34.9 +3.7**
comp=Z,50nm,1.5s,mb5.0
SAO LR LR
comp=Z,3μm,20.0s,MS5.1
DLMT Dillon 38.55 331 *e*P **P 07 03 31.9 -0.3**
comp=Z,206nm,1.3s,mb5.7
SIV San Ignacio 38.98 137 P **P 07 03 32.3 -3.5**
comp=Z,2.2nm,0.6s,baz=309,slow=8.7,SNR=19
HRY Holter Researc 39.23 333 *e*P **P 07 03 37.7 -0.2**
WVOR Wild Horse Val 39.74 323 P **P 07 03 41.3 -0.8**
WVOR pmax pmax
comp=Z,160nm,1.2s,mb5.6
WVOR Wild Horse Val 39.74 323 *e*P **P 07 03 41.2 -0.9**
comp=Z,156nm,1.2s,mb5.6
WVOR LR LR
comp=Z,5μm,20.0s,MS5.3
OHCM Honcut 39.75 317 *e*P **P 07 03 41.8 -0.4**
CHMT Chamberlain Mo 40.02 332 *e*P **P 07 03 44.3 -0.2**
MSO Missoula 40.27 332 *e*P **P 07 03 45.9 -0.6**
comp=Z,130nm,1.4s,mb5.5
MSO LR LR
comp=Z,2μm,21.0s,MS5.0
MOD Modoc 40.41 321 *e*P **P 07 03 47.1 -0.6**
comp=Z,78nm,1.2s,mb5.3
MOD LR LR
comp=Z,6μm,19.0s,MS5.5
LBCM Butte Creek Ri 40.46 319 P **P 07 03 47.2 -0.9**
BMO Blue Mountains 40.55 327 *e*P **P 07 03 46.7 -2.1**
comp=Z,86nm,1.1s,mb5.3
BMO LR LR
comp=Z,5μm,20.0s,MS5.4
HOPS Hopland 40.64 316 *e*P **P 07 03 49.4 -0.2**

comp=Z,189nm,2.0s,mb5.4
HOPS LR LR
LTIM Timbered Crate 40.74 320 P **P** **07 03 49.6 -0.8**
WDC Whiskeytown Da 41.09 318 P **P** **07 03 54.5 +1.2**
WDC pmax pmax
comp=Z,23nm,1.1s,mb4.7
WDC Whiskeytown Da 41.09 318 *e*P **P** **07 03 54.0 +0.7**
comp=Z,23nm,1.2s,mb4.7
WDC LR LR
comp=Z,3μm,22.0s,MS5.1
KIPM Iron Peak 41.32 317 *e*P **P** **07 03 57.0 +1.8**
KCPM Cahto Peak 41.32 316 *e*P **P** **07 03 57.0 +1.8**
YBH Yreka Blue Hor 41.81 320 P **P** **07 03 54.3 -4.9**
comp=Z,12nm,1.1s,mb4.5,baz=142,slow=4.4,SNR=6.5
YBH LR LR 07 21 36.3
comp=Z,3μm,20.2s,MS5.1,baz=150,slow=36
YBH Yreka Blue Hor 41.81 320 P **P** **07 03 57.2 -2.0**
YBH pmax pmax
comp=Z,22nm,1.2s
YBH Yreka Blue Hor 41.81 320 *e*P **P** **07 03 57.0 -2.2**
comp=Z,22nm,1.2s,mb4.7
YBH LR LR
comp=Z,5μm,19.0s,MS5.4
KHMM Horse Mountain 42.02 318 *e*P **P** **07 03 59.9 -1.0**
BBOR Butler Butte 42.42 321 P **P** **07 04 02.1 -2.1**
HUMO Hull Mountain 42.44 321 *e*P **P** **07 04 01.7 -2.6**
comp=Z,12nm,1.1s,mb4.5
HUMO LR LR
comp=Z,5μm,20.0s,MS5.4
HAWA Hanford 42.74 327 PFAKE 07 04 20.0 +13
HAWA LR LR
comp=Z,369nm,20.0s,MS4.3
HBO Huckleberry Mo 42.74 322 P **P** **07 04 05.5 -1.3**
NEW Newport 42.80 331 P **P** **07 04 05.9 -1.3**
comp=Z,37nm,1.2s,mb5.0,baz=141,slow=9.4,SNR=31
NEW Newport 42.80 331 *e*P **P** **07 04 07.7 +0.5**
NEW pmax pmax
comp=Z,76nm,1.4s
NEW Newport 42.80 331 *e*P **P** **07 04 07.7 +0.5**
comp=Z,76nm,1.4s,mb5.2
FFC Flin Flon 43.02 348 P **P** **07 04 07.2 -1.8**
comp=Z,223nm,1.2s,mb5.8,SNR=9.4
FFC Flin Flon 43.02 348 P **P** **07 04 07.0 -2.0**
FFC pmax pmax
comp=Z,53nm,1.1s,mb5.2
FFC Flin Flon 43.02 348 *e*P **P** **07 04 07.2 -1.9**
comp=Z,54nm,1.1s,mb5.2
FFC LR LR
comp=Z,3μm,20.0s,MS5.1
KBO Bosley Butte 43.02 319 *e*P **P** **07 04 09.2 +0.1**
MXC Moxie City 43.26 327 P **P** **07 04 10.3 -0.7**
KEBM Edson Butte 43.44 320 *e*P **P** **07 04 13.2 +0.8**
COR Corvallis 43.75 323 P **P** **07 04 18.2 +3.3**
COR *e* 07 04 27.3
COR pmax pmax
comp=Z,300nm,1.7s,mb5.8
COR Corvallis 43.75 323 *e*P **P** **07 04 16.7 +1.8**
comp=Z,302nm,1.8s,mb5.7
COR LR LR
comp=Z,4μm,20.0s,MS5.3
WTV Waterville 43.81 328 P **P** **07 04 14.2 -1.2**
EDM Edmonton 44.96 338 *e*P **P** **07 04 22.8 -1.8**
FCC Fort Churchill 45.80 355 P **P** **07 04 28.9 -2.4**
FCC pmax pmax
comp=Z,36nm,1.1s,mb5.2
FCC Fort Churchill 45.80 355 *e*P **P** **07 04 28.8 -2.5**
comp=Z,36nm,1.1s,mb5.2
OCWA Octopus Mounta 46.07 326 *e*P **P** **07 04 32.5 -0.9**
comp=Z,155nm,1.3s,mb5.8
OCWA LR LR
comp=Z,5μm,20.0s,MS5.4
PGC Sidney 46.22 327 *e*P **P** **07 04 36.3 +1.7**
comp=Z,362nm,1.4s,mb6.1
CFAA Coronel Fontan 48.17 158 P **P** **07 04 48.5 -1.3**
comp=Z,0.4nm,0.5s,baz=318,slow=6.6,SNR=9.6
CFAA Coronel Fontan 48.17 158 P **P** **07 04 48.5 -1.3**
CPUP Villa Florida 48.98 143 PFAKE 07 05 10.0 +14
CPUP LR LR
comp=Z,285nm,19.0s,MS4.3
FCH Farellones 49.03 161⇓*e*P **P** **07 04 55.6 -0.8**
BBB Bella Bella 50.72 329 P **P** **07 05 12.1 +2.9**
comp=Z,47nm,1.1s,mb5.3,baz=129,slow=5.5,SNR=6.5
FRB Frobisher Bay 52.25 11 P **P** **07 05 17.9 -2.8**
comp=Z,28nm,0.8s,mb5.2,baz=208,slow=9.5,SNR=13
FRB LR LR 07 29 32.7
comp=Z,6μm,18.3s,MS5.7,baz=14,slow=38
YKA Yellowknife Ar 52.94 345 P **P** **07 05 23.2 -2.6**
comp=Z,8.3nm,0.8s,mb4.7,baz=140,slow=7.6,SNR=125
YKA LR LR 07 29 58.7
comp=Z,2μm,20.5s,MS5.1,baz=160,slow=38
YKW3 Yellowknife Ar 53.00 345 *e*P **P** **07 05 23.8 -2.4**
CRAG Craig 55.01 330 *e*P **P** **07 05 43.4 +2.5**
comp=Z,154nm,1.4s,mb5.8
PLCA Paso Flores 55.85 164 P **P** **07 05 46.0 -1.0**
comp=Z,24nm,1.2s,mb5.1,baz=345,slow=6.4,SNR=6.9
PLCA Paso Flores 55.85 164 P **P** **07 05 46.4 -0.6**
PLCA pmax pmax
comp=Z,46nm,1.3s
PLCA Paso Flores 55.85 164 *e*P **P** **07 05 46.0 -1.0**
comp=Z,46nm,1.3s,mb5.3
PLCA LR LR
comp=Z,723nm,22.0s,MS4.7
TRQA Tornquist 56.26 156 *e*P **P** **07 05 48.1 -1.8**
comp=Z,23nm,1.5s,mb5.0
TRQA LR LR
comp=Z,1μm,22.0s,MS5.0
TAOE Nuku Hiva Isla 56.69 250 *e*S **S** **07 13 38.6 -5.9**
comp=Z,3μm,24.0s
TAOE *e*LR LR 07 22 07.2
comp=Z,11μm,27.3s,baz=72
SIT Sitka 56.88 331 PFAKE 07 06 10.0 +16
SIT LR LR
comp=Z,5μm,20.0s,MS5.6
ADH Angra Heroismo 58.72 53 *i* LR LR 07 24 00.0
RKT Rikitea 58.83 232 *e*S **S** **07 14 05.9 -6.6**
comp=Z,1μm,27.0s
RKT *e*LQ 07 20 50.7
comp=Z,1μm,37.0s
RKT *e*LR LR 07 23 24.9
comp=Z,3μm,30.0s,baz=46
SFJD Kangerlussuaq 59.06 16 P **P** **07 06 08.3 -1.3**
comp=Z,14nm,1.0s,mb4.9,baz=202,slow=8.6,SNR=3.9
RES Resolute Bay 61.67 358 *e*P **P** **07 06 24.9 -2.6**
RES pmax pmax
comp=Z,30nm,0.9s,mb5.4
RES Resolute Bay 61.67 358 *e*P **P** **07 06 24.9 -2.5**
comp=Z,30nm,0.8s,mb5.5
DAWY Dawson 62.15 337 *e*P **P** **07 06 28.1 -2.6**
INK Inuvik 62.54 342 P **P** **07 06 31.3 -2.0**
comp=Z,92nm,1.1s,mb5.8,baz=135,slow=7.7,SNR=33
INK Inuvik 62.54 342 *e*P **P** **07 06 31.2 -2.1**
INK pmax pmax
comp=Z,149nm,1.2s
INK Inuvik 62.54 342 *e*P **P** **07 06 31.1 -2.1**
comp=Z,149nm,1.2s,mb6.0
MENT Mentasta 63.35 335 *e*P **P** **07 06 40.5 +1.8**
DIV Divide 63.51 333 *e*P **P** **07 06 39.7 -0.1**
comp=Z,263nm,1.2s,mb6.1
DIV LR LR
comp=Z,6μm,19.0s,MS5.8
SML Sawmill 64.91 333 *e*P **P** **07 06 51.1 +2.2**
PMR Palmer 65.19 332 *e*P **P** **07 06 53.1 +2.3**
PMR pmax pmax
comp=Z,69nm,1.5s,mb5.5
PMR Palmer 65.19 332 *e*P **P** **07 06 52.4 +1.6**
comp=Z,61nm,1.2s,mb5.5
SLKM Skilak Lake 65.35 331 *e*P **P** **07 06 53.9 +2.1**
ILAR Eielson Array 65.38 336 P **P** **07 06 49.4 -2.6**
comp=Z,9.0nm,0.9s,mb4.8,baz=108,slow=5.1,SNR=34
ILAR PP PP 07 09 13.8 -2.1
comp=Z,12nm,1.1s,baz=118,slow=5.8,SNR=4.7
ILAR LR LR 07 40 00.3
comp=Z,3μm,19.0s,MS5.5,baz=260,slow=40
ILAR Eielson Array 65.38 336 P **P** **07 06 49.4 -2.6**
ILAR 07 09 13.8
KDAK Kodiak Island 65.77 328 P **P** **07 06 55.1 +0.6**
comp=Z,20nm,1.1s,mb5.0,baz=9.8,slow=2.4,SNR=5.1
COLA College 65.80 336*d i*P **P** **07 06 53.3 -1.4**
COLA College 65.80 336 *e*P **P** **07 06 52.2 -2.5**
comp=Z,29nm,1.0s,mb5.3
COLA LR LR
comp=Z,3μm,19.0s,MS5.5
MCK McKinley 65.83 335 *e*P **P** **07 06 53.0 -1.9**
MCK pmax pmax
comp=Z,51nm,1.1s,mb5.5
MCK MLR MLR
comp=Z,719nm,20.0s,MS4.9
MCK McKinley 65.83 335 *e*P **P** **07 06 53.0 -1.9**
comp=Z,51nm,1.1s,mb5.5
MCK LR LR
comp=Z,719nm,20.0s,MS4.9
SUMG Summit 65.93 14 *e*P **P** **07 06 54.3 -1.2**
comp=Z,94nm,0.9s,mb5.8
SVW2 Sparrevohn 68.04 331 *e*P **P** **07 07 09.9 +0.9**
PPT Papeete 68.47 245 *e*S S 07 16 05.8 -6.7
comp=Z,2μm,28.5s
PPT *e*LR LR 07 27 39.3
comp=Z,5μm,28.2s,baz=62
PPT Papeete 68.47 245 LR LR 07 30 16.0
comp=Z,2μm,18.9s,MS5.2,baz=48,slow=30
ALE Alert 70.13 3 P **P** **07 07 19.0 -2.9**
comp=Z,228nm,1.1s,mb6.0,SNR=8.7
TBI Tubuai 70.64 239 *e*S S 07 16 31.7 -6.4
comp=Z,1μm,25.8s
TBI *e*LR LR 07 28 52.8
comp=Z,3μm,29.0s,baz=62
DAG Danmarks Havn 72.49 13⇓*i*P **P** **07 07 33.7 -2.5**
comp=Z,10nm,0.5s,mb5.0
DAG
comp=Z,3μm,20.0s
DAG Danmarks Havn 72.49 13⇓*e*P **P** **07 07 33.7 -2.5**
DAG pmax pmax
comp=Z,11nm,0.5s,mb5.0
DAG MLR MLR
comp=Z,3μm,20.0s,MS5.6
DAG Danmarks Havn 72.49 13⇓*e*P **P** **07 07 33.7 -2.5**
comp=Z,11nm,0.5s,mb5.0
DAG LR LR
comp=Z,3μm,20.0s,MS5.6
UNV Unalaska Valle 73.03 323 PFAKE 07 07 50.0 +11
UNV LR LR
comp=Z,4μm,20.0s,MS5.7
MTE Manteigas 73.98 51 *e*P **P** **07 07 47.7 +2.7**
comp=Z,136nm,1.3s,mb5.7
MTE Manteigas 73.98 51 *e*LQ 07 27 42.4
MTE *e*LR LR 07 31 02.0
comp=Z,2μm,20.3s
MTE Manteigas 73.98 51 *e*P **P** **07 07 47.4 +2.4**
comp=Z,99nm,1.4s,mb5.5
PCBR Castelo Branco 74.07 52 *e*P **P** **07 07 48.8 +3.3**
comp=Z,91nm,1.5s,mb5.5
TNA Tin City 74.18 335 PFAKE 07 08 00.0 +14
TNA LR LR
comp=Z,1μm,19.0s,MS5.2
ESK Eskdalemuir 76.05 36 PFAKE 07 08 10.0 +13
ESK LR LR
comp=Z,1μm,19.0s,MS5.2
ROSF Rostrenen 76.47 43 *e*P **P** **07 07 58.5 -0.8**
QUIF Quistinic 76.57 43 *e*P **P** **07 07 59.3 -0.6**
comp=Z,362nm,1.6s,mb5.7
ESDC Sonseca Array 76.78 52 P **P** **07 08 00.7 -0.4**
comp=Z,19nm,0.9s,mb5.0,baz=284,slow=5.5,SNR=24
ESLA Sonseca Array 76.78 52 *e*P **P** **07 08 04.1 +3.0**
comp=Z,25nm,1.4s,mb4.9
ESLA LR LR
comp=Z,7μm,20.0s,MS6.0
SGMF Saint Gilles 76.95 43 *e*P **P** **07 08 01.2 -0.8**
MDT Midelt 77.06 59 P **P** **07 08 02.7 +0.1**
comp=Z,24nm,1.1s,mb5.0,baz=286,slow=6.8,SNR=13
MDT LR LR 07 36 08.1
comp=Z,2μm,21.6s,MS5.3,baz=292,slow=31
GRR Gorron 78.07 43 *e*P **P** **07 08 07.5 -0.8**
comp=Z,70nm,1.0s,mb5.2
FLN La Foliniere 78.27 42 *e*P **P** **07 08 08.5 -0.9**
FLN *e*R
comp=Z,2μm,17.8s
SJPF Ste Jean 78.43 48 *e*P **P** **07 08 10.0 -0.3**
comp=Z,224nm,1.4s,mb5.6
LDF La Druitiere 78.53 43 *e*P **P** **07 08 09.8 -1.0**
comp=Z,56nm,1.0s,mb5.1
RAR Rarotonga 78.75 245 LR LR 07 35 01.5
comp=Z,1μm,18.6s,MS5.2,baz=182,slow=30
MFF Saint Martin d 78.76 45 *e*P **P** **07 08 11.4 -0.7**
ETSF Etsaut 78.94 48 *e*P **P** **07 08 11.8 -1.3**
comp=Z,123nm,1.5s,mb5.3
ADK Adak 79.30 321 PFAKE 07 08 30.0 +15
ADK LR LR
comp=Z,919nm,20.0s,MS5.1
EPF Esparros 79.58 48 *e*P **P** **07 08 15.9 -0.7**
comp=Z,318nm,1.7s,mb5.7
LFF La Frestale 79.59 46 *e*P **P** **07 08 16.1 -0.5**
comp=Z,171nm,1.3s,mb5.5
HOPE Hope Point 79.83 152 PFAKE 07 08 30.0 +12
HOPE LR LR
comp=Z,1μm,19.0s,MS5.3
EBR Ebro Roquetas 80.02 50 *e*Ts 07 08 28.0
RJF Les Rejaudoux 80.08 46 *e*P **P** **07 08 18.9 -0.4**
comp=Z,94nm,1.3s,mb5.3
RJF *e*R
comp=Z,1μm,19.2s
TCF Toulx Ste Croi 80.41 45 *e*P **P** **07 08 20.3 -0.8**
CAF Calviac 80.53 46 *e*P **P** **07 08 21.0 -0.7**
comp=Z,146nm,1.4s,mb5.4
BGF Bois d'Agland 80.81 44 *e*P **P** **07 08 22.6 -0.6**
comp=Z,104nm,1.2s,mb5.3
MTLF Montolieu 80.89 48 *e*P **P** **07 08 23.1 -0.5**
comp=Z,141nm,1.5s,mb5.4
AVF Avril sur Loir 81.11 44 *e*P **P** **07 08 24.4 -0.4**
BAIF Baives 81.12 41 *e*P **P** **07 08 24.0 -0.9**
SSF Saint Saulge 81.17 44 *e*P **P** **07 08 24.1 -1.0**
comp=Z,34nm,1.1s,mb4.9
DBIC Dimbokro 81.35 85 P **P** **07 08 24.9 -1.2**
comp=Z,12nm,1.2s,mb4.7,baz=263,slow=14,SNR=2.4
DBIC LR LR 07 41 22.4
comp=Z,1μm,21.0s,MS5.2,baz=261,slow=33
DBIC Dimbokro 81.35 85 *e*P **P** **07 08 27.9 +1.8**
DBIC pmax pmax
comp=Z,20nm,1.3s
DBIC Dimbokro 81.35 85 *e*P **P** **07 08 27.9 +1.8**
comp=Z,20nm,1.3s,mb4.9
DBIC LR LR 07 41 22.4
DOU Dourbes 81.36 41 ⇓P **P** **07 08 28.9 +2.8**
comp=Z,23nm,1.6s,mb4.9
LOR Lorres 81.37 44 *e*P **P** **07 08 25.4 -0.8**
comp=Z,107nm,1.4s,mb5.3
LOR *e*R
comp=Z,2μm,20.0s
SMF Signal de Mont 81.47 44 *e*P **P** **07 08 25.6 -1.1**
GIVF Givet 81.50 41 *e*P **P** **07 08 25.9 -1.0**
LASF Ste Croix 81.93 47 *e*P **P** **07 08 28.7 -0.5**
MEZF Maizieres J'vi 81.94 42 *e*P **P** **07 08 28.7 -0.5**
HGN Heimansgroeve 82.08 40 *e*P **P** **07 08 30.0 +0.1**
comp=Z,35nm,1.6s,mb5.0
KONO Kongsberg 82.31 31 PFAKE 07 08 40.0 +8.8
KONO LR LR
comp=Z,916nm,21.0s,MS5.1
VIVF Saint-Julien-l 82.36 46 *e*P **P** **07 08 30.9 -0.5**
comp=Z,61nm,1.0s,mb5.2
WTSB Winterswijk 82.38 38 *e*P **P** **07 08 31.9 +0.4**
comp=Z,57nm,0.7s,mb5.6
WLF Walferdange 82.43 41 ⇓P **P** **07 08 33.6 +1.9**
comp=Z,40nm,1.2s,mb5.2
NAO01 NORSAR Array S 82.67 29 *e*P **P** **07 08 35.9 +2.9**
comp=Z,36nm,1.1s,mb5.3
NAO01 LR LR
comp=Z,938nm,20.0s,MS5.2
NB2 NORSAR Subarra 82.78 29 P **P** **07 08 31.7 -1.9**
comp=Z,1.2nm,0.8s,baz=288,slow=5.3
NOA NORSAR Array B 82.78 29 P **P** **07 08 32.4 -1.2**
comp=Z,13nm,0.9s,mb5.0,baz=285,slow=5.0,SNR=28
NOA LR LR 07 41 32.1
comp=Z,704nm,20.3s,MS5.0,baz=270,slow=33
NOA NORSAR Array B 82.78 29 P **P** **07 08 32.4 -1.2**
NOA LR LR 07 41 32.1
HAU Haudompre 82.89 42 *e*P **P** **07 08 33.1 -1.0**
HAU *e*R
comp=Z,1μm,20.2s
CABF La Chapelle 82.99 44 *e*P **P** **07 08 34.0 -0.7**
comp=Z,80nm,1.3s,mb5.3
RUP Ruppelstein 83.00 41 *e*P **P** **07 08 38.8 +4.1**
SMRF Simiane la Rot 83.17 47 *e*P **P** **07 08 35.0 -0.6**
ORIF Oris-en-Rattie 83.19 46 *e*P **P** **07 08 35.1 -0.6**
ORIF *e*R
comp=Z,2μm,21.2s
HINF Hinteralfeld 83.26 43 *e*P **P** **07 08 35.1 -1.0**
ABH Alteburg 83.27 40 *e*P **P** **07 08 40.1 +4.0**
LOMF Lomont 83.34 43 *e*P **P** **07 08 39.0 +2.5**
ECH Echery 83.37 42 *e*P **P** **07 08 38.6 +1.9**
CDF Champ du Feu 83.41 42 *e*P **P** **07 08 35.5 -1.3**
comp=Z,58nm,1.2s,mb5.2
MOF Molkenrain 83.44 43 *e*P **P** **07 08 39.3 +2.3**
LANF Langenberg 83.63 41 *e*P **P** **07 08 40.1 +2.1**
LPL La Plagne 83.66 45 *e*P **P** **07 08 37.5 -0.6**
LPG La Plagne 83.67 45 *e*P **P** **07 08 37.8 -0.4**
comp=Z,18nm,0.9s,mb4.9
LIBD Limburg 83.68 42 *e*P **P** **07 08 40.5 +2.3**
MBDF Montbardon 83.85 46 *e*P **P** **07 08 38.5 -0.6**
BILL Bilibino 83.87 339 *e*P **P** **07 08 40.4 +1.2**
BILL pmax pmax
comp=Z,29nm,1.2s,mb5.3
BILL Bilibino 83.87 339 *e*P **P** **07 08 40.4 +1.2**
comp=Z,29nm,1.2s,mb5.3
BILL LR LR
comp=Z,850nm,19.0s,MS5.1
LMR La Mourre 83.96 47 *e*P **P** **07 08 39.0 -0.7**
FRF La Foret Royal 84.01 47 *e*P **P** **07 08 39.2 -0.7**
BFO Black Forest 84.11 42 P **P** **07 08 43.1 +2.7**
BFO Black Forest 84.11 42 *e*P **P** **07 08 42.3 +1.8**
TOD Tromm 84.13 41 *e*P **P** **07 08 44.0 +3.5**
HFS Hagfors 84.19 30 LR LR 07 48 07.0
comp=Z,815nm,18.7s,MS5.1,baz=276,slow=37
SPAK Spaichingen 84.46 42 *e*P **P** **07 08 44.3 +2.1**
SMY Shemya 84.69 323 PFAKE 07 08 50.0 +6.6
SMY LR LR
comp=Z,2μm,21.0s,MS5.5
DAVA Damuels 85.38 43⇓*i*P **P** **07 08 50.6 +3.8**
comp=Z,46nm,1.0s,mb5.5
DAVA Damuels 85.38 43 ⇓P **P** **07 08 50.6 +3.8**
comp=Z,46nm,1.0s,mb5.6
ARCES ARCESS Array B 85.54 19 P **P** **07 08 45.5 -2.1**
comp=Z,4.0nm,0.8s,mb4.7,baz=39,slow=7.8,SNR=5.1
ARCES LR LR 07 46 24.2
comp=Z,714nm,18.4s,MS5.1,baz=298,slow=35
MOX Moxa 85.62 39 *e*P **P** **07 08 51.3 +3.2**
comp=Z,46nm,1.6s,mb5.5
MOX
comp=Z,900nm,19.0s
MOX Moxa 85.62 39 *e*P **P** **07 08 51.3 +3.2**
MOX pmax pmax
comp=Z,46nm,1.6s,mb5.5
MOX MLR MLR
comp=Z,900nm,19.0s,MS5.2
GRA1 Grafenberg Arr 85.63 40 *e*P **P** **07 08 47.1 -1.0**
comp=Z,54nm,1.3s,mb5.6
GRA1 LR LR
comp=Z,2μm,18.8s,MS5.5
GRF Grafenberg Arr 85.63 40 *e*P **P** **07 08 47.1 -1.0**
comp=Z,54nm,1.3s,mb5.6
GRF *e*L 07 47 35.3
comp=Z,2μm,18.8s
GRF Grafenberg Arr 85.63 40 *e*P **P** **07 08 47.1 -1.0**
GRF pmax pmax
comp=Z,54nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,2μm,18.8s,MS5.5
KEV Kevo 85.91 19 PFAKE 07 09 00.0 +11
KEV LR LR
comp=Z,702nm,19.0s,MS5.1
PGF Pioggiola 85.92 47 *e*P **P** **07 08 48.9 -0.6**
NKC Novy Kostel 86.25 39 *e*P **P** **07 08 51.6 +0.5**
BSD Bornholm Skovb 86.28 34 *i* P **P** **07 08 43.3 -8.0**
BSD
comp=Z,660nm,19.0s
BSD Bornholm Skovb 86.28 34 *e*P **P** **07 08 43.3 -8.0**
BSD MLR MLR
comp=Z,660nm,19.0s,MS5.0
TORD Torodi Ar. Bea 86.28 77 P **P** **07 08 48.7 -2.6**
comp=Z,2.4nm,1.0s,mb4.4,baz=286,slow=4.6,SNR=9.5
TORD PP PP 07 12 18.3 +6.1
comp=Z,2.7nm,1.2s,baz=270,slow=7.4,SNR=3.9
CLL Collm 86.29 38⇓*i*P **P** **07 08 53.3 +2.0**
comp=Z,39nm,1.3s,mb5.5
CLL *i* (sP) sP 07 08 58.2 -1.8
CLL Collm 86.29 38⇓*i*P **P** **07 08 53.3 +2.0**
CLL *i* pP 07 08 58.2 +0.5
CLL pmax pmax
comp=Z,39nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,1μm,18.5s,MS5.3
CLL Collm 86.29 38⇓*i*P **P** **07 08 53.3 +2.0**
comp=Z,39nm,1.3s,mb5.5
CLL *i* pP 07 08 58.2 +0.5
CLL LR LR
comp=Z,1μm,18.5s,MS5.3
BRG Berggiesshubel 86.98 38 *e*P **P** **07 08 53.3 -1.4**
BRG *e* pP 07 08 58.2 -2.9
BRG pmax pmax
comp=Z,11nm,1.1s,mb5.0
BRG MLR MLR
comp=Z,810nm,17.0s,MS5.2
BRG Berggiesshubel 86.98 38 *e*P **P** **07 08 53.3 -1.5**
comp=Z,11nm,1.1s,mb5.0
BRG *e* pP 07 08 58.2 -2.9
BRG LR LR
comp=Z,810nm,17.0s,MS5.2
KHC Kasperske Hory 87.26 40 *e*P **P** **07 08 56.7 +0.6**
KHC *ex* x 07 09 47.0
KHC AMS AMS 07 49 10.0
comp=Z,1μm,18.4s
GERES GERESS Array B 87.42 40 P **P** **07 08 54.8 -2.1**
comp=Z,5.7nm,0.8s,mb4.9,baz=282,slow=2.6,SNR=21
PRU Pruhonice 87.61 39 *e*P **P** **07 09 00.8 +3.0**
PRU AMS AMS 07 49 10.0
comp=Z,2μm,17.7s
KBA Koelnbreinsper 87.71 42⇓*i*P **P** **07 09 00.4 +2.2**
comp=Z,26nm,1.4s,mb5.3
KBA Koelnbreinsper 87.71 42 ⇓P **P** **07 09 00.4 +2.2**
KBA pmax pmax
comp=Z,26nm,1.4s,mb5.3
AFI Afiamalu 87.71 255 LR LR 07 40 17.5
comp=Z,1μm,20.6s,MS5.2,baz=266,slow=30
AFI Afiamalu 87.71 255 PFAKE 07 09 10.0 +12
AFI LR LR
comp=Z,1μm,19.0s,MS5.3
ROBS Robic 88.06 43 *e*P **P** **07 09 02.8 +2.9**
ROBS *e* pP 07 09 08.9 +2.6
UPC Upice 88.35 38 *e*P **P** **07 09 04.7 +3.4**
KSP Ksiaz 88.41 38 *e*P **P** **07 09 04.6 +3.0**
DPC Dobruska-Polom 88.58 38 *e*P **P** **07 09 03.5 +1.1**
DPC AMS AMS 07 50 10.0
comp=Z,1μm,15.9s
APA Apatity 89.04 19⇑*e*P **P** **07 09 05.6 +1.1**
APA *e*S 07 19 54.0
APA pmax pmax
comp=Z,38nm,1.6s,mb5.5
VISS Visnje 89.07 43 *e*P **P** **07 09 08.1 +3.4**
VRAC Vranov 89.09 39 ⇓P **P** **07 09 07.8 +3.0**
KAF Kangasniemi 89.16 25 *e*p **P** **07 09 03.1 -2.0**
comp=Z,9.2nm,1.3s,mb5.0
KAF Kangasniemi 89.16 25 *e*P **P** **07 09 03.1 -2.0**
KAF pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
LVZ Lovozero 89.25 19 PFAKE 07 09 20.0 +14
LVZ LR LR
comp=Z,621nm,20.0s,MS5.0
FINES FINESS Array B 89.36 26 P **P** **07 09 04.5 -1.6**
comp=Z,4.3nm,0.9s,mb4.8,baz=349,slow=1.9,SNR=13
FINES LR LR 07 46 30.2
comp=Z,963nm,20.6s,MS5.2,baz=164,slow=34
BOJS Bojanci 89.44 43 *e*P **P** **07 09 08.1 +1.7**
MORC Moravsky Berou 89.52 39 ⇓P **P** **07 09 09.4 +2.6**
MORC Moravsky Berou 89.52 39 *e*P **P** **07 09 10.2 +3.4**
comp=Z,9.8nm,1.4s,mb5.0
ZST Bratislava 89.78 40 *e*P **P** **07 09 08.4 +0.4**
OKC Ostrava-Krasne 89.86 39 *e*P **P** **07 09 09.5 +1.1**
OKC AMS AMS 07 50 10.0
comp=Z,1μm,18.3s
OJC Ojcow 90.72 38 *e*P **P** **07 09 14.7 +2.3**
SEY Seymchan 91.31 337 *e*P **P** **07 09 17.3 +2.2**
SEY *e* 07 19 47.7
SEY *e*S 07 20 19.0
SEY SS SS 07 26 31.9 +14
SEY pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SEY smax
comp=N,194nm,33.0s
SEY smax
comp=E,110nm,20.8s
SEY MLR MLR
comp=N,1μm,27.0s,MS5.5
SEY MLR MLR
comp=E,2μm,27.0s,MS5.5
SEY MLR MLR
comp=Z,3μm,27.0s,MS5.6
NIE Niedzica 91.33 38 *e*P **P** **07 09 18.2 +3.0**
PSZ Piszkesteto 91.63 40 P **P** **07 09 21.4 +4.8**

PSZ					pmax	pmax		
	comp=Z,30nm,1.4s,mb5.4							
PSZ	**Piszkesteto**	**91.63**	**40**	*e*P	**P**		**07 09 18.4**	**+1.8**
	comp=Z,30nm,1.4s,mb5.4							
KECS	**Kecovo**	**91.78**	**39**	*e*pP	pP		07 09 21.1	-2.6
STHS	**Stebnicka Huta**	**91.89**	**38**	*e*pP	pP		07 09 22.4	-1.8
TIXI	**Tiksi**	**91.96**	**349**	*e*P	**P**		**07 09 17.0**	**-1.1**
TIXI					pmax	pmax		
	comp=Z,14nm,1.3s,mb5.1							
TIXI					MLR	MLR		
	comp=Z,800nm,20.0s,MS5.2							
TIXI	**Tiksi**	**91.96**	**349**	PFAKE			07 09 30.0	+12
TIXI					LR	LR		
	comp=Z,2μm,19.0s,MS5.5							
CRVS	**Cervenica-Dubn**	**92.22**	**39**	*e*	**P**		**07 09 27.9**	**+8.5**
KWP	**Kalwaria**	**92.69**	**38**	*e*P	**P**		**07 09 25.8**	**+4.3**
KOLS	**Kolonicke sedl**	**92.70**	**38**	*e*pP	pP		07 09 25.3	-2.6
PET	**Petropavlovsk**	**93.33**	**326**	PFAKE			07 09 40.0	+16
PET					LR	LR		
	comp=Z,743nm,20.0s,MS5.1							
BZS	**Buzias**	**93.59**	**42**	⇑P	**P**		**07 09 26.2**	**+0.5**
BZS	**Buzias**	**93.59**	**42**	⇑P	**P**		**07 09 26.2**	**+0.5**
MA2	**Magadan**	**93.81**	**334**	PFAKE			07 09 40.0	+13
MA2					LR	LR		
	comp=Z,692nm,20.0s,MS5.1							
DRGR		**93.83**	**40**	⇑P	**P**		**07 09 29.3**	**+2.5**
DRGR		**93.83**	**40**	⇑P	**P**		**07 09 29.3**	**+2.5**
BURAR	**Bucovina Array**	**95.04**	**39**	⇑P	**P**		**07 09 33.1**	**+0.8**
BURAR	**Bucovina Array**	**95.04**	**39**	⇑P	**P**		**07 09 33.1**	**+0.8**
KLMR	**Klimovskoe**	**95.16**	**23**	*e*P	**P**		**07 09 34.6**	**+1.7**
KLMR				*e*			07 13 25.3	
KLMR					pmax	pmax		
	comp=Z,30nm,2.0s,mb5.4							
KLMR					pmax	pmax		
	comp=Z,50nm,5.7s							
AKASG	**Malin Array Be**	**95.97**	**35**	P	**P**		**07 09 35.2**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=276,slow=4.2,SNR=6.2							
AKASG	**Malin Array Be**	**95.97**	**35**	P	**P**		**07 09 35.2**	**-1.4**
MLR	**Muntele Rosu**	**96.42**	**41**	⇑P	**P**		**07 09 42.3**	**+3.7**
MLR	**Muntele Rosu**	**96.42**	**41**	⇑P	**P**		**07 09 42.3**	**+3.8**
OBN	**Obninsk**	**97.38**	**29**	⇑*e*P	**P**		**07 09 42.6**	**-0.3**
OBN				*e*			07 13 40.4	
OBN				*e*S			07 20 18.8	
OBN					pmax	pmax		
	comp=Z,15nm,1.2s,mb5.3							
OBN					MLR	MLR		
	comp=Z,800nm,18.0s,MS5.2							
OBN	**Obninsk**	**97.38**	**29**	PFAKE			07 09 50.0	+7.1
OBN					LR	LR		
	comp=Z,959nm,20.0s,MS5.3							
YAK	**Yakutsk**	**99.60**	**343**	PFAKE			07 10 00.0	+7.1
YAK					LR	LR		
	comp=Z,1μm,20.0s,MS5.3							
KWAJ	**Kwajalein Atol**	**102.33**	**282**	PFAKE			07 10 20.0	+15
KWAJ					LR	LR		
	comp=Z,1μm,20.0s,MS5.4							
QSPA	**South Pole Qui**	**103.10**	**180**	PFAKE			07 10 20.0	+12
QSPA					LR	LR		
	comp=Z,812nm,19.0s,MS5.3							
ANTO	**Ankara**	**103.51**	**43**	PFAKE			07 10 20.0	+10
ANTO					LR	LR		
	comp=Z,494nm,19.0s,MS5.1							
BR131	**Keskin Array S**	**104.14**	**43**	PFAKE			07 10 30.0	+17
BR131					LR	LR		
	comp=Z,327nm,20.0s,MS4.9							
SNZO	**South Karori**	**104.39**	**230**	PFAKE			07 10 30.0	+16
SNZO					LR	LR		
	comp=Z,2μm,19.0s,MS5.7							
ARU	**Arti**	**105.13**	**19**	PFAKE			07 14 40.0	+8.1
ARU					LR	LR		
	comp=Z,713nm,20.0s,MS5.2							
YSS	**Yuzh-Sakhalins**	**105.21**	**327**	PFAKE			07 14 40.0	+8.0
YSS					LR	LR		
	comp=Z,679nm,20.0s,MS5.2							
VNDA	**Vanda**	**107.18**	**192**	PFAKE			07 14 50.0	+14
VNDA					LR	LR		
	comp=Z,739nm,19.0s,MS5.3							
TSUM	**Tsumeb**	**108.24**	**106**	PFAKE			07 14 50.0	+12
TSUM					LR	LR		
	comp=Z,853nm,20.0s,MS5.3							
GNI	**Garni**	**110.89**	**37**	PFAKE			07 15 00.0	+17
GNI					LR	LR		
	comp=Z,407nm,19.0s,MS5.0							
BRVK	**Borovoye**	**111.35**	**14**	PFAKE			07 15 00.0	+16
BRVK					LR	LR		
	comp=Z,703nm,20.0s,MS5.2							
NVS	**Novosibirsk**	**111.83**	**6**	*e*PKIKP	PKiKP		07 15 02.1	+18
NVS					pmax	pmax		
	comp=Z,40nm,2.3s							
NVS					pmax	pmax		
	comp=N,40nm,2.5s							
NVS					pmax	pmax		
	comp=E,34nm,2.7s							
HIA	**Hailar**	**113.38**	**341**	PFAKE			07 15 00.0	+13
HIA					LR	LR		
	comp=Z,966nm,20.0s,MS5.4							
MDJ	**Mudanjiang**	**113.39**	**332**	PFAKE			07 15 00.0	+13
MDJ					LR	LR		
	comp=Z,570nm,20.0s,MS5.2							
HNR	**Honiara**	**113.94**	**265**	PFAKE			07 15 00.0	+12
HNR					LR	LR		
	comp=Z,873nm,20.0s,MS5.3							
MAJO	**Matsushiro**	**114.47**	**321**	PFAKE			07 15 00.0	+11
MAJO					LR	LR		
	comp=Z,573nm,22.0s,MS5.1							
SYO	**Syowa Base**	**114.98**	**162**⇑	*e*pPdiff			07 11 07.5	
KURK	**Kurchatov**	**115.26**	**10**	*i* PKIKP	PKiKP		07 14 50.8	-0.2
KURK	**Kurchatov**	**115.26**	**10**	PFAKE			07 15 00.0	+9.0
KURK					LR	LR		
	comp=Z,1μm,19.0s,MS5.6							
BOSA	**Boshof**	**116.01**	**116**	PFAKE			07 15 10.0	+18
BOSA					LR	LR		
	comp=Z,1μm,22.0s,MS5.5							
LBTB	**Lobatse**	**116.19**	**112**	PFAKE			07 15 10.0	+17
LBTB					LR	LR		
	comp=Z,888nm,20.0s,MS5.4							
LSZ	**Lusaka**	**117.79**	**100**	PFAKE			07 15 10.0	+14
LSZ					LR	LR		
	comp=Z,719nm,19.0s,MS5.3							
ULN	**Ulaanbaatar**	**117.90**	**349**	PFAKE			07 15 10.0	+14
ULN					LR	LR		
	comp=Z,836nm,20.0s,MS5.4							
DL2	**Dalian**	**121.52**	**334**	*e*PKP	PKPdf		07 15 01.0	-2.0
DL2				*e*PP	PP		07 16 34.4	-0.4
DL2				*e*SS	SS		07 33 07.3	-1.7
DL2				PP	PP			
	comp=Z,110nm,9.5s							
DL2				LR	LR			
	comp=N,220nm,17.6s,MS5.1							
DL2				LR	LR			
	comp=E,330nm,17.0s,MS5.1							
DL2				LR	LR			
	comp=Z,490nm,18.3s,MS5.2							
AAK	**Ala-Archa**	**122.08**	**16**	*e*PKIKP	PKPdf		07 15 13.3	+9.2
BJT	**Baijiatuau**	**122.73**	**339**	PFAKE			07 15 20.0	+15
BJT					LR	LR		
	comp=Z,1μm,20.0s,MS5.6							
WMQ	**Urumqi**	**123.14**	**4**	PKP	PKPdf		07 15 06.0	-0.1
WMQ				PP	PP		07 16 51.0	+5.2
WMQ				SKS	SKSdf		07 22 17.0	-0.1
WMQ				SKKS	SKKSac		07 23 42.0	-1.9
WMQ				SS	SS		07 33 34.0	+4.3
WMQ				PP	PP			
	comp=Z,33nm,8.0s							
WMQ				LR	LR			
	comp=N,815nm,14.0s,MS5.8							
WMQ				LR	LR			
	comp=E,1μm,15.0s,MS5.8							
WMQ				LR	LR			
	comp=Z,802nm,14.0s,MS5.5							
KMBO	**Kilima Mbogo**	**124.00**	**82**	PFAKE			07 15 20.0	+12
KMBO					LR	LR		
	comp=Z,616nm,22.0s,MS5.2							
CASY	**Casey**	**125.55**	**189**	PFAKE			07 15 20.0	+9.3
CASY					LR	LR		
	comp=Z,858nm,19.0s,MS5.4							
PMG	**Port Moresby**	**126.38**	**268**	PFAKE			07 15 30.0	+18
PMG					LR	LR		
	comp=Z,830nm,21.0s,MS5.4							
SSE	**Sheshan**	**128.11**	**328**	*e*PKP	PKPdf		07 15 17.5	+1.9
SSE				PP	PP		07 17 24.0	+5.1
SSE				SS	SS		07 34 30.4	-1.6
SSE				PP	PP			
	comp=Z,50nm,4.1s							
SSE				LR	LR			
	comp=N,255nm,32.9s,MS5.1							
SSE				LR	LR			
	comp=E,588nm,33.0s,MS5.1							
SSE				LR	LR			
	comp=Z,535nm,27.8s							
CTAO	**Charters Tower**	**128.23**	**255**	PFAKE			07 15 30.0	+14
CTAO				LR	LR			
	comp=Z,713nm,21.0s,MS5.3							
NJ2	**Nanjing**	**128.47**	**331**	*e*PKP	PKPdf		07 15 12.8	-3.5
NJ2				PP	PP		07 17 23.0	+1.7
NJ2				PKS			07 18 49.0	
NJ2				PP	PP			
	comp=Z,130nm,4.7s							
NJ2				LR	LR			
	comp=N,720nm,30.8s,MS5.3							
NJ2				LR	LR			
	comp=E,580nm,33.9s,MS5.3							
NJ2				LR	LR			
	comp=Z,590nm,32.8s,MS5.1							
LZH	**Lanzhou**	**129.88**	**348**	*e*PKP	PKPdf		07 15 15.5	-3.5
LZH				XPKP			07 15 26.5	
LZH				*e*PP	PP		07 17 35.3	+4.8
LZH				PKS			07 18 56.6	
LZH				SKS	SKSdf		07 22 30.5	+0.9
LZH				SKKS	SKKSac		07 24 30.3	+3.8
LZH				*e*SS	SS		07 34 56.8	+2.9
LZH				PP	PP			
	comp=Z,317nm,8.1s							
LZH				LR	LR			
	comp=N,725nm,18.3s							
LZH				LR	LR			
	comp=Z,1μm,20.2s,MS5.5							
STKA	**Stephens Creek**	**131.43**	**239**	*e*PKP	PKPdf		07 15 18.5	-3.4
	comp=Z,7.9nm,1.5s							
STKA	**Stephens Creek**	**131.43**	**239**	PKP	PKPdf		07 15 18.9	-3.0
	comp=Z,1.7nm,0.6s,baz=68,slow=4.3,SNR=6.1							
STKA	**Stephens Creek**	**131.43**	**239**	*e*PKP	PKPdf		07 15 18.5	-3.4
STKA				*e*PKPdf	PKPdf		07 15 23.4	+1.5
ENH	**Enshi**	**133.85**	**340**	PFAKE			07 15 40.0	+14
ENH				LR	LR			
	comp=Z,594nm,20.0s,MS5.3							
CD2	**Chengdu**	**134.89**	**346**	*e*PKP	PKPdf		07 15 27.8	-0.6
CD2				PP	PP		07 18 05.3	+2.6
CD2				SKS	SKSdf		07 22 37.3	-1.2
CD2				SS	SS		07 35 56.4	+1.6
CD2				PP	PP			
	comp=Z,60nm,8.4s							
CD2				LR	LR			
	comp=E,370nm,21.6s							
CD2				LR	LR			
	comp=Z,300nm,22.8s,MS5.0							
LSA	**Lhasa**	**137.39**	**2**	PFAKE			07 15 50.0	+17
LSA				LR	LR			
	comp=Z,507nm,20.0s,MS5.2							
WB2	**Warramunga Arr**	**139.43**	**255**	*e*PKP			07 15 26.6	
WRAB	**Tennant Creek**	**139.43**	**255**	*e*PKIKP	PKPdf		07 15 38.5	+1.7
WRAB				MLR	MLR			
	comp=Z,923nm,22.0s,MS5.5							
WRA	**Warramunga Arr**	**139.44**	**255**	PKhKP			07 15 27.7	
	comp=Z,1.8nm,0.9s,baz=95,slow=2.3,SNR=8.8							
WRA				PKP	PKPdf		07 15 35.0	-1.9
	comp=Z,6.9nm,1.1s,baz=89,slow=1.4,SNR=12							
WRA	**Warramunga Arr**	**139.44**	**255**	PKP	PKPdf		07 15 35.0	-1.9
ASAR	**Alice Springs**	**139.50**	**249**	PKhKP			07 15 28.5	
	comp=Z,1.2nm,0.8s,baz=104,slow=2.9,SNR=7.1							
ASAR				PKP	PKPdf		07 15 34.6	-2.3
	comp=Z,3.2nm,1.0s,baz=117,slow=2.5,SNR=8.5							
ASAR	**Alice Springs**	**139.50**	**249**	PKP	PKPdf		07 15 34.6	-2.3
KMI	**Kunming**	**140.68**	**345**	PKP	PKPdf		07 15 34.6	-4.5
KMI				LR	LR			
	comp=N,571nm,26.7s,MS5.4							
KMI				LR	LR			
	comp=E,492nm,21.7s,MS5.4							
KMI				LR	LR			
	comp=Z,854nm,25.9s,MS5.4							
QIZ	**Qiongzhong**	**143.76**	**332**	PFAKE			07 16 00.0	+15
QIZ				LR	LR			
	comp=Z,578nm,22.0s,MS5.3							
HYB	**Hyderabad**	**146.65**	**25**	*i* PKP	PKPdf		07 15 51.0	+1.5
HYB	**Hyderabad**	**146.65**	**25**	*e*P	PKPdf		07 15 54.0	+4.5
FITZ	**Fitzroy Crossi**	**147.76**	**257**	*e*PKP	PKPdf		07 15 47.5	-3.9
	comp=Z,27nm,1.0s							
NWAO	**Narrogin (SRO)**	**150.06**	**225**	*e*PKIKP	PKPdf		07 16 00.7	+5.6
NWAO				MLR	MLR			
	comp=Z,588nm,22.0s							
MUN	**Mundaring**	**151.31**	**225**	*e*PKP	PKPdf		07 16 03.3	+6.2
MBWA	**Marble Bar**	**152.84**	**249**	PFAKE			07 16 10.0	+11
MBWA				LR	LR			
	comp=Z,926nm,19.0s,MS5.6							
PALK	**Pallekele**	**156.56**	**31**	PFAKE			07 16 20.0	+16
PALK				LR	LR			
	comp=Z,521nm,21.0s,MS5.3							
DGAR	**Diego Garcia**	**159.45**	**76**	PFAKE			07 16 20.0	+12
DGAR				LR	LR			
	comp=Z,946nm,19.0s,MS5.7							
COCO	**West Island**	**175.69**	**282**	PFAKE			07 16 30.0	+10
COCO				LR	LR			
	comp=Z,870nm,21.0s							

JMA 20 06:57:05.0±0.2, 3209N×14127E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.59**	**310**	P	Pn	06 57 34.6	+0.1
JHJ2				S	Sn	06 57 55.7	0.0
JIZS	**Izushimoda**	**3.30**	**323**	P	Pn	06 57 59.6	+1.7
JHO	**Hitachi**	**4.55**	**353**	P	Pn	06 58 16.8	+1.8
JMM	**Marumori**	**5.78**	**356**	P	Pn	06 58 33.3	+1.4

*NEIC **20** 06:57:32.8, 4044N×2586E, h19km, MD2.7(SOF), MD3.2(ISK), MD3.3(ATH), After ATH.*
*ATH **20** 06:57:32.8, 4044N×2586E, h19km±3km, MD3.3/3*
*SOF **20** 06:57:32.1, 4041N×2574E, h7km, MD2.7*
*ISCJB **20** 06:57:32.1±0.6, 4045N±002×2581E±004, h6km±5km, Error ellipse: s-maj=4.6km s-min=3.8km az=155.3*
*ISK **20** 06:57:32.1, 4037N×2574E, h22km, MD3.0*
*CSEM **20** 06:57:33.1±0.1, 4045N×2592E, h12km, MD3.0, Error ellipse: s-maj=1.7km s-min=1.5km az=110.0*

ISC 20 06:57:32.9±0.5, 4045N±002×2580E±004, h12km±4km, n34, σ0:71/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.72**	**344**	*e*PN	**Pg**	**06 57 47.4**	**+0.5**
RDO				*e*SN	**Sg**	**06 57 57.7**	**+1.3**
LIA	**Limnos Island**	**0.73**	**221**	*e*PN	**Pg**	**06 57 47.7**	**+0.6**
LIA				*e*SN	**Sg**	**06 57 57.7**	**+1.1**
EZN	**Ezine**	**0.74**	**147**	PG	**Pg**	**06 57 46.3**	**-1.0**
EZN				SG	**Sg**	**06 57 57.3**	**+0.3**
EZN	**Ezine**	**0.74**	**147**	Pg	**Pg**	**06 57 46.3**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	PN	**Pn**	**06 57 53.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	Pn	**Pn**	**06 57 53.2**	**-0.5**
RKY				Sg	**Sg**	**06 58 07.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	Pn	**Pn**	**06 57 53.1**	**-0.6**
RKY				Sg	**Sg**	**06 58 07.2**	**-0.4**
SART	**Tekirdag**	**1.07**	**77**	*i* P	**Pb**	**06 57 52.6**	**-0.8**
SART				*i* S	**Sb**	**06 58 07.4**	**0.0**
MFT	**Murefte**	**1.17**	**73**	PN	**Pn**	**06 57 54.6**	**-0.5**
MFT				SN	**Sn**	**06 58 10.8**	**-0.2**
KDZ	**Kurdzhali**	**1.23**	**346**	*i* P	**Pn**	**06 57 56.0**	**+0.1**
PRK	**Paraskevi**	**1.26**	**163**	*e*PN	**Pn**	**06 57 56.5**	**+0.2**
PRK				*e*SN	**Sn**	**06 58 13.0**	**-0.1**
AYVA	**Ayvalik**	**1.33**	**149**	*i* P	**Pn**	**06 57 57.3**	**0.0**
AYVA				*i* S	**Sb**	**06 58 15.9**	**+1.2**
TKR	**Tekirdag**	**1.42**	**67**	Pn	**Pn**	**06 57 58.5**	**0.0**
TKR	**Tekirdag**	**1.42**	**67**	Pn	**Pn**	**06 57 58.5**	**-0.1**
RZN	**Rozhen**	**1.48**	**327**	*i* P	**Pg**	**06 58 01.3**	**-0.1**
EDRB	**Edirne**	**1.56**	**27**	PN	**Pn**	**06 58 00.6**	**+0.1**
EDRB				SN	**Sn**	**06 58 21.7**	**+1.0**
EDRB	**Edirne**	**1.56**	**27**	Pn	**Pn**	**06 58 00.7**	**+0.2**
EDRB				*e*Sn	**Sn**	**06 58 21.7**	**+1.0**
EDRB	**Edirne**	**1.56**	**27**	Pn	**Pn**	**06 58 00.7**	**+0.2**
EDC	**Edincik**	**1.58**	**93**	*e*PN	**Pn**	**06 57 59.9**	**-0.8**
DIM	**Dimitrovgrad**	**1.61**	**353**	*i* P	**Pg**	**06 58 03.5**	**-0.3**
BNT	**Bandirma**	**1.62**	**93**	PN	**Pn**	**06 58 00.5**	**-0.8**
BNT	**Bandirma**	**1.62**	**93**	Pn	**Pn**	**06 58 00.6**	**-0.7**
NVR	**Nevrokopi**	**1.72**	**302**	*e*PB	**Pb**	**06 58 03.6**	**-0.9**
BALB	**Balikesir**	**1.79**	**116**	*e*PN	**Pn**	**06 58 02.5**	**-1.1**
BALB	**Balikesir**	**1.79**	**116**	Pn	**Pn**	**06 58 02.5**	**-1.1**
PLG	**Polygyros**	**1.80**	**268**	*e*PN	**Pg**	**06 58 05.8**	**-1.7**
BTOK	**Tokmak**	**1.84**	**111**	*i* P	**Pn**	**06 58 03.6**	**-0.7**
BTOK				*i* S	**Sn**	**06 58 28.3**	**+0.8**
MMB	**Musomiste**	**1.94**	**307**	*e*P	**Pn**	**06 58 06.0**	**+0.3**
CTT	**Catalca**	**2.11**	**70**	*e*PN	**Pn**	**06 58 08.3**	**+0.3**
CTT	**Catalca**	**2.11**	**70**	Pn	**Pn**	**06 58 08.3**	**+0.3**
URLA	**Izmir**	**2.18**	**163**	*i* P	**Pn**	**06 58 09.5**	**+0.6**
URLA				*i* S	**Sn**	**06 58 35.2**	**-0.6**
URLA	**Izmir**	**2.18**	**163**	*i* P	**Pn**	**06 58 09.5**	**+0.6**
URLA				*i* S	**Sn**	**06 58 35.2**	**-0.6**
ULDT	**Uludag**	**2.57**	**96**	*i* P	**Pb**	**06 58 19.2**	**+0.3**
ULDT				*i* S	**Sb**	**06 58 51.5**	**+1.1**
YLV	**Yalova**	**2.72**	**86**	*e*PN	**Pn**	**06 58 17.1**	**+0.7**

CASC 20 07:13:29.4±2.6, 1309N×8752W, h8km±15km, MD3.9, ML3.3, 3C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.36**	**301**	*e*P	Pg	07 13 37.3	+0.8
CNCH				*e*S	Sg	07 13 41.9	+0.7
CRIN	**San Cristobal**	**0.60**	**130**	*e*P	Pg	07 13 41.2	+0.2
BLLM	**Bellamira**	**0.78**	**297**	*e*P	Pg	07 13 44.9	+0.4
BLLM				*e*S	Sg	07 13 55.0	+0.3
VSM	**San Miguel**	**0.81**	**295**	*e*P	Pg	07 13 45.9	+1.0
VSM				*e*S	Sg	07 13 56.4	+0.8
TELN	**Telica**	**0.82**	**126**⇑	*e*P	Pg	07 13 43.9	-1.4
TEL3	**Telica 3**	**0.83**	**128**⇑	*e*P	Pg	07 13 44.3	-1.1
LEON	**Leon**	**0.91**	**138**⇓	*i*P	Pg	07 13 45.1	-1.7
LEON				*e*S	Sg	07 13 59.7	+1.1
LEON				*i*		07 14 02.2	
	comp=Z,801nm,0.4s						
CAHU	**Cacacuatique**	**0.95**	**315**	*e*P	Pg	07 13 47.6	-0.2
CNGN	**Cerro Negro**	**0.99**	**126**	*e*P	Pg	07 13 47.0	-1.4
MIRN	**Miramar**	**1.02**	**129**⇓	*e*P	Pg	07 13 47.7	-1.2
MOMJ	**Momotombo**	**1.17**	**125**⇓	*e*P	Pb	07 13 49.4	-2.4
COPN	**Copaltepe**	**1.28**	**135**⇑	*e*P	Pn	07 13 51.2	-2.3
COPN				*e*S	Sb	07 14 10.1	-0.2
SNVI	**San Vicente**	**1.39**	**292**	*e*P	Pn	07 13 55.6	+0.6
SNVI				*e*S	Sb	07 14 13.1	-0.3
LCBS	**La Ceiba**	**1.53**	**292**	*e*P	Pn	07 13 57.5	+0.5
LCBS				*e*S	Sn	07 14 16.3	-0.6
MGAN	**Managua**	**1.56**	**127**	*e*P	Pn	07 13 56.8	-0.5
LFRS	**El Faro**	**1.59**	**290**	*e*P	Pn	07 13 58.1	+0.3
LBRS	**Las Brisas**	**1.62**	**294**	*e*P	Pn	07 13 59.2	+1.0
BOQS	**Boqueron**	**1.83**	**291**	*e*P	Pn	07 14 02.6	+1.5

*THE **20** 07:18:47.0, 4039N×2595E, h10km, ML3.5*
*ISK **20** 07:18:47.6, 4037N×2572E, h32km, MD3.1*
*ATH **20** 07:18:47.8, 4046N×2580E, h29km±2km, MD3.6/3*
*NEIC **20** 07:18:47.3, 4036N×2569E, h32km, MD3.3(SOF), MD3.3(ISK), MD3.6(ATH), After ISK.*
*SOF **20** 07:18:48.4, 4045N×2574E, h18km, MD3.3*
*CSEM **20** 07:18:48.1±0.1, 4045N×2586E, h20km, ML3.5, Error ellipse: s-maj=1.4km s-min=1.1km az=179.0*
*ISCJB **20** 07:18:48.4±0.4, 4045N±002×2581E±002, h20km±4km, Error ellipse: s-maj=3.2km s-min=3.0km az=56.5*

ISC 20 07:18:48.0±0.4, 4045N±002×2583E±002, h11km±3km, n75, σ0:97/97, 5C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.48**	**20**	*e*Pg	**Pg**	**07 18 57.1**	**-0.2**
ALN				*e*Sg	**Sg**	**07 19 03.7**	**+0.1**
LPK	**Lapseki**	**0.71**	**96**	PG	**Pg**	**07 19 02.2**	**-0.4**
LPK	**Lapseki**	**0.71**	**96**	Pg	**Pg**	**07 19 01.9**	**+0.1**
EZN	**Ezine**	**0.73**	**149**	PG	**Pg**	**07 19 01.5**	**-0.6**
EZN				SG	**Sg**	**07 19 12.0**	**+0.4**
EZN	**Ezine**	**0.73**	**149**	Pg	**Pg**	**07 19 01.5**	**-0.5**
RDO	**Rodhopi**	**0.73**	**342**	*e*PN	**Pg**	**07 19 01.9**	**-0.2**
LIA	**Limnos Island**	**0.74**	**222**	*e*PN	**Pg**	**07 19 02.7**	**+0.4**
LIA				*e*SN	**Sg**	**07 19 13.0**	**+0.9**
LOS	**Limnos**	**0.77**	**228**	*e*Pg	**Pg**	**07 19 02.5**	**-0.4**
LOS				*e*Sg	**Sg**	**07 19 13.7**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.05**	**76**	PN	**Pn**	**07 19 07.8**	**-0.8**
RKY				SN	**Sn**	**07 19 22.4**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.05**	**76**	*e*Pn	**Pn**	**07 19 07.8**	**-0.8**
RKY				*e*Sn	**Sn**	**07 19 22.4**	**-0.8**
RKY				Sg	**Sg**	**07 19 22.9**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.05**	**76**	Pn	**Pn**	**07 19 07.8**	**-0.8**
RKY				Sg	**Sg**	**07 19 22.9**	**+0.9**
SART	**Tekirdag**	**1.05**	**76**	*i* P	**Pb**	**07 19 07.9**	**-0.3**
SART				*i* S	**Sg**	**07 19 22.7**	**+0.7**
MFT	**Murefte**	**1.15**	**73**	PN	**Pn**	**07 19 09.8**	**-0.2**
KDZ	**Kurdzhali**	**1.24**	**345**	*i* P	**Pn**	**07 19 11.0**	**-0.2**
PRK	**Paraskevi**	**1.25**	**164**⇑	*i*PN	**Pn**	**07 19 11.7**	**+0.4**
PRK				*e*SN	**Sn**	**07 19 28.4**	**+0.3**
AYVA	**Ayvalik**	**1.32**	**150**	*i* P	**Pn**	**07 19 12.6**	**+0.4**
AYVA				*i* S	**Sb**	**07 19 31.1**	**+1.6**
MRMT	**Marmara Adasi**	**1.35**	**83**	PN	**Pn**	**07 19 12.0**	**-0.8**
TKR	**Tekirdag**	**1.40**	**67**	PN	**Pn**	**07 19 13.1**	**-0.3**
TKR	**Tekirdag**	**1.40**	**67**	Pn	**Pn**	**07 19 13.2**	**-0.2**
OUR	**Ouranopolis**	**1.42**	**266**	*e*Pg	**Pn**	**07 19 13.1**	**-0.6**
RZN	**Rozhen**	**1.50**	**326**	*i* P	**Pn**	**07 19 15.5**	**+0.7**
EDC	**Edincik**	**1.55**	**93**	PN	**Pn**	**07 19 15.4**	**-0.1**
EDC	**Edincik**	**1.55**	**93**	Pn	**Pn**	**07 19 15.4**	**-0.1**
EDRB	**Edirne**	**1.56**	**26**	PN	**Pn**	**07 19 15.1**	**-0.5**
EDRB				SN	**Sn**	**07

BZS	**Buzias**	**6.02 331**	⇑P	**Pn**	**07 20 18.3**	**+1.4**
BZS	**Buzias**	**6.02 331**	⇑P	**Pn**	**07 20 18.3**	**+1.5**

*NEIC **20** 07:20:49.9, 4033N×2568E, h28km, MD2.6(SOF), MD3.1(ISK), After ISK.*
*ISK **20** 07:20:49.8, 4033N×2567E, h29km, MD3.0*
*ISCJB **20** 07:20:52.0±0.9, 4034N±007×2583E±006, h29km±11km, Error ellipse: s-maj=12.0km s-min=7.5km az=29.9*
*CSEM **20** 07:20:51.2±0.1, 4035N×2587E, h20km, MD3.0, Error ellipse: s-maj=3.1km s-min=1.9km az=34.0*
*SOF **20** 07:20:53.4, 4047N×2565E, h20km, MD2.6*

ISC 20 07:20:51.8±1.0, 4037N±006×2586E±006, h18km±8km, n25, σ0§59/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.65**	**146**	PG	**Pg**	**07 21 04.0**	**-0.6**
EZN				SG	**Sg**	**07 21 14.6**	**+1.3**
EZN	**Ezine**	**0.65**	**146**	*e*Pg	**Pg**	**07 21 04.0**	**-0.6**
EZN				Sg	**Sg**	**07 21 14.0**	**+0.7**
EZN	**Ezine**	**0.65**	**146**	Pg	**Pg**	**07 21 04.0**	**-0.6**
EZN				Sg	**Sg**	**07 21 14.0**	**+0.7**
LPK	**Lapseki**	**0.69**	**89**	PG	**Pg**	**07 21 05.4**	**0.0**
LPK	**Lapseki**	**0.69**	**89**	Pg	**Pg**	**07 21 05.0**	**-0.4**
LPK	**Lapseki**	**0.69**	**89**	Pg	**Pg**	**07 21 05.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.06**	**72**	PN	**Pn**	**07 21 11.3**	**-0.4**
RKY				SN	**Sn**	**07 21 26.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.06**	**72**	Pn	**Pn**	**07 21 11.4**	**-0.3**
RKY				*e*Sn	**Sn**	**07 21 26.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.06**	**72**	Pn	**Pn**	**07 21 11.4**	**-0.4**
RKY				Sg	**Sg**	**07 21 26.4**	**+0.2**
MFT	**Murefte**	**1.16**	**68**	PN	**Pn**	**07 21 12.7**	**-0.5**
MFT				SN	**Sn**	**07 21 29.2**	**+0.6**
KDZ	**Kurdzhali**	**1.32**	**346**	*i* P	**Pn**	**07 21 15.5**	**+0.1**
MRMT	**Marmara Adasi**	**1.35**	**79**	PN	**Pn**	**07 21 15.5**	**-0.2**
TKR	**Tekirdag**	**1.42**	**64**	*e*PN	**Pn**	**07 21 16.8**	**+0.1**
TKR	**Tekirdag**	**1.42**	**64**	Pn	**Pn**	**07 21 16.9**	**+0.1**
RZN	**Rozhen**	**1.57**	**327**	*i* P	**Pn**	**07 21 19.0**	**+0.1**
BNT	**Bandirma**	**1.58**	**90**	*e*PN	**Pn**	**07 21 18.8**	**-0.1**
EDRB	**Edirne**	**1.62**	**24**	*e*PN	**Pn**	**07 21 18.2**	**-1.3**
EDRB	**Edirne**	**1.62**	**24**	Pn	**Pn**	**07 21 18.3**	**-1.2**
EDRB	**Edirne**	**1.62**	**24**	Pn	**Pn**	**07 21 18.3**	**-1.2**
DIM	**Dimitrovgrad**	**1.70**	**352**	*i* P	**Pn**	**07 21 22.0**	**+1.5**
MMB	**Musomiste**	**2.02**	**308**	*e*P	**Pn**	**07 21 25.0**	**0.0**
CTT	**Catalca**	**2.10**	**67**	*e*PN	**Pn**	**07 21 25.9**	**-0.2**
CTT	**Catalca**	**2.10**	**67**	Pn	**Pn**	**07 21 26.0**	**-0.1**
CTT	**Catalca**	**2.10**	**67**	Pn	**Pn**	**07 21 26.0**	**-0.2**
ORLT	**Orhaneli**	**2.35**	**97**	*e*PN	**Pn**	**07 21 29.0**	**-0.5**

*CSEM **20** 07:22:00.6±0.2, 3786N×2113E, h2km, ML3.6, Error ellipse: s-maj=5.0km s-min=3.6km az=24.0*
*NEIC **20** 07:22:00.0, 3785N×2115E, h14km, MD3.7(ATH), After ATH.*
*ATH **20** 07:22:00.0, 3785N×2115E, h14km±1km, MD3.7/5, ML3.6*
*ISCJB **20** 07:22:01.4±1.2, 3786N±005×2113E±005, h15km±8km, mb3.5/4, Error ellipse: s-maj=8.7km s-min=5.8km az=63.9*
*THE **20** 07:22:01.6, 3779N×2101E, h10km, ML2.9*
*IDC **20** 07:22:01.8±4.6, 3811N×2141E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/20, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=109.2km s-min=24.1km az=57.0*

ISC 20 07:22:00.6±1.1, 3782N±005×2113E±005, h2km±7km, n20, σ1§43/25, mb3.5/4, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.36**	**48**	⇓*i*PB	**Pg**	**07 22 06.4**	**-1.1**
RLS				*e*SB	**Sg**	**07 22 11.7**	**-0.4**
VLS	**Valsamata**	**0.56**	**310**	*e*PB	**Pg**	**07 22 11.0**	**-0.3**
VLS				*e*SB	**Sg**	**07 22 19.2**	**+0.6**
ITM	**Ithomi**	**0.90**	**135**	*e*PB	**Pb**	**07 22 17.3**	**-1.5**
LKD	**Levkas**	**0.97**	**337**	*e*Pg	**Pg**	**07 22 18.8**	**-0.3**
LKD				*e*Sg	**Sg**	**07 22 34.3**	**+2.7**
EVR	**Evrytania**	**1.22**	**26**	*e*PB	**Pb**	**07 22 22.3**	**-2.1**
AGG	**Agios Georgios**	**1.53**	**38**	*e*Pg	**Pg**	**07 22 30.1**	**+0.2**
	comp=Z,2.5nm,0.4s						
AGG				*e*Sg	**Sg**	**07 22 52.8**	**+3.0**
LKR	**Lokris**	**1.69**	**60**	*e*PG	**Pg**	**07 22 31.2**	**-1.8**
VLI	**Veliai**	**1.81**	**127**	*e*PN	**Pn**	**07 22 33.1**	**+0.4**
ATH	**Athens Observa**	**2.05**	**85**	*e*PN	**Pn**	**07 22 36.3**	**+0.3**
KEK	**Kerkira**	**2.16**	**332**	*e*PN	**Pn**	**07 22 37.2**	**-0.4**
NEO	**Neokhori**	**2.21**	**47**	*e*PN	**Pn**	**07 22 38.5**	**+0.2**
XOR	**Xorichti**	**2.24**	**46**	*e*Pn	**Pn**	**07 22 41.0**	**+2.4**
LIT	**Litokhoron**	**2.52**	**24**	*e*Pn	**Pn**	**07 22 44.7**	**+2.2**
AOS	**Alonnisos**	**2.54**	**57**	*e*Pn	**Pn**	**07 22 44.9**	**+2.1**
KARN	**Karanos**	**3.29**	**136**	*e*Pn	**Pn**	**07 22 55.0**	**+1.9**
IDI	**Anoyia**	**3.94**	**129**	Pn	**Pn**	**07 23 03.7**	**+1.7**
	0.2nm,0.3s,baz=321,slow=16,SNR=2.4						
IDI				Sn	**Sn**	**07 23 54.4**	**+5.6**
	1.1nm,0.3s,baz=342,slow=19,SNR=6.5						
HFS	**Hagfors**	**22.83**	**350**	P	**P**	**07 27 03.2**	**-1.6**
	1.2nm,0.6s,mb3.5,baz=156,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**23.85**	**6**	P	**P**	**07 27 14.0**	**-1.2**
	0.5nm,0.6s,mb3.2,baz=180,slow=8.3,SNR=5.5						
ARCES	**ARCESS Array B**	**31.87**	**3**	P	**P**	**07 28 25.6**	**-1.4**
	1.8nm,0.9s,mb3.9,baz=194,slow=9.7,SNR=5.1						
MKAR	**Makanchi Array**	**45.08**	**58**	P	**P**	**07 30 16.3**	**-1.7**
	0.4nm,0.4s,mb3.6,baz=277,slow=7.1,SNR=8.3						

BJI 20 07:22:47.7, 2755N×11997E, h17km, ML3.8, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.88**	**206**	*e*P	Pn	07 23 35.3	+2.6
QZH				S	Sn	07 24 10.9	+4.0
QZH				Smax			
	comp=N,420nm,0.4s						
QZH				Smax			
	comp=E,350nm,0.5s						
NJ2	**Nanjing**	**4.59**	**348**	*e*P	Pn	07 24 01.3	+5.0
NJ2				SG	Sg	07 25 15.6	+0.5
NJ2				Smax			
	comp=N,230nm,0.9s						
NJ2				Smax			
	comp=E,250nm,0.7s						

*IDC **20** 07:32:48.6±15.0, 1305N×8691W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=322.1km s-min=102.7km az=176.0*

CASC 20 07:31:47.5±1.4, 1317N×8758W, h14km±9km, MD3.5, ML2.8, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.27**	**292**	*e*P	Pg	07 31 53.0	-0.2
CNCH				*e*S	Sg	07 31 57.8	+0.7
CRIN	**San Cristobal**	**0.69**	**133**	*e*P	Pg	07 32 01.0	-0.1
BLLM	**Bellamira**	**0.70**	**293**	*e*P	Pg	07 32 00.7	-0.5
BLLM				*e*S	Sg	07 32 10.7	+0.4
VSM	**San Miguel**	**0.73**	**291**	*e*P	Pg	07 32 01.5	-0.1
VSM				*e*S	Sg	07 32 13.1	+1.9
TELN	**Telica**	**0.92**	**128**	*e*P	Pb	07 32 04.2	-1.0
TEL3	**Telica 3**	**0.93**	**130**	*e*P	Pb	07 32 03.7	-1.7
LEON	**Leon**	**1.00**	**138**	⇓*e*P	Pb	07 32 04.9	-1.8
LEON				*e*S	Sb	07 32 19.1	-0.6
LEON				*i*		07 32 22.1	
	comp=Z,193nm,0.8s						
CNGN	**Cerro Negro**	**1.08**	**128**	*e*P	Pb	07 32 07.0	-1.0
MIRN	**Miramar**	**1.11**	**131**	*e*P	Pb	07 32 07.0	-1.5
MOMJ	**Momotombo**	**1.26**	**127**	*e*P	Pn	07 32 09.6	-1.1
SNVI	**San Vicente**	**1.30**	**290**	*e*P	Pn	07 32 11.2	-0.1
SNVI				*e*S	Sb	07 32 28.8	+0.4
COPN	**Copaltepe**	**1.38**	**136**	⇑*e*P	Pn	07 32 11.1	-1.2
LCBS	**La Ceiba**	**1.45**	**289**	*e*P	Pn	07 32 13.3	0.0
LCBS				*e*S	Sn	07 32 32.1	+0.1
APYN	**Apoyeque**	**1.52**	**128**	*e*P	Pn	07 32 13.4	-0.8
LBRS	**Las Brisas**	**1.54**	**292**	*e*P	Pn	07 32 14.1	-0.3
SNET	**Serv Nac Est T**	**1.69**	**288**	*e*P	Pn	07 33 18.9	+62
SNET				*e*S	Sn	07 33 40.5	+62
BOQS	**Boqueron**	**1.75**	**289**	*e*P	Pn	07 32 18.2	+0.8
ELK	**Elko**	**36.61**	**324**	P	P	07 40 00.5	+67
	comp=Z,0.6nm,0.5s,baz=131,slow=6.6,SNR=6.5						
NVAR	**Mina Array Bea**	**37.08**	**318**	P	P	07 40 05.6	+68
	comp=Z,1.7nm,1.2s,baz=122,slow=9.2,SNR=6.4						
YKA	**Yellowknife Ar**	**52.89**	**345**	P	P	07 42 09.1	+66
	comp=Z,0.9nm,0.8s,baz=137,slow=7.9,SNR=19						
ILAR	**Eielson Array**	**65.31**	**336**	P	P	07 43 34.1	+65
	comp=Z,0.5nm,0.9s,baz=120,slow=4.6,SNR=5.6						

*IDC **20** 07:34:18.9±3.3, 1328N×8659W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, ML2.7/2, Error ellipse: s-maj=131.6km s-min=29.9km az=34.0*
*ISCJB **20** 07:34:23.5±1.0, 1333N±008×8727W±005, h15km±8km, mb3.7/5, Error ellipse: s-maj=15.6km s-min=3.7km az=65.5*
*CASC **20** 07:34:24.7±2.4, 1313N×8743W, h7km±11km, MD4.4, ML3.5*

ISC 20 07:34:23.1±0.9, 1331N±007×8728W±005, h5km±6km, n27, σ0§99/35, mb3.7/5, 6C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.54**	**267**	⇑*e*P	**Pg**	**07 34 33.8**	**+0.4**
CNCH				*e*S	**Sg**	**07 34 39.5**	**-1.0**
CRIN	**San Cristobal**	**0.65**	**160**	*e*P	**Pg**	**07 34 36.0**	**+0.4**
CRIN				*e*S	**Sg**	**07 34 46.2**	**+2.2**
TELN	**Telica**	**0.83**	**148**	⇑*e*P	**Pg**	**07 34 39.1**	**+0.1**
TEL3	**Telica 3**	**0.85**	**150**	⇓*e*P	**Pg**	**07 34 39.1**	**-0.3**
TEL3				*i* P		07 34 39.2	
BLLM	**Bellamira**	**0.94**	**278**	*e*P	**Pg**	**07 34 41.3**	**+0.1**
BLLM				*e*S	**Sg**	**07 34 52.2**	**-1.2**
LEON	**Leon**	**0.97**	**157**	⇓*i*P	**Pg**	**07 34 40.4**	**-1.3**
LEON				*i*		07 34 57.5	
	comp=Z,1μm,0.4s						
VSM	**San Miguel**	**0.97**	**277**	*e*P	**Pg**	**07 34 41.9**	**+0.1**
VSM				*e*S	**Sg**	**07 34 53.6**	**-0.8**
CNGN	**Cerro Negro**	**0.99**	**145**	⇑*e*P	**Pg**	**07 34 42.2**	**+0.2**
CAHU	**Cacacuatique**	**1.01**	**297**	*e*P	**Pg**	**07 34 44.2**	**+1.6**
CAHU				*e*S	**Sg**	**07 34 56.3**	**+0.6**
MIRN	**Miramar**	**1.03**	**147**	*e*P	**Pg**	**07 34 42.3**	**-0.5**
MOMJ	**Momotombo**	**1.15**	**141**	⇓*e*P	**Pg**	**07 34 44.5**	**-0.7**
COPN	**Copaltepe**	**1.31**	**149**	⇑*e*P	**Pn**	**07 34 46.5**	**-1.6**
APYN	**Apoyeque**	**1.40**	**140**	*e*P	**Pn**	**07 34 49.1**	**-0.3**
XAVN	**Gruta Xavier**	**1.48**	**141**	⇑*e*P	**Pn**	**07 34 49.6**	**-0.9**
MGAN	**Managua**	**1.54**	**139**	⇑*e*P	**Pn**	**07 34 51.0**	**-0.2**
MGAN				*e*S	**Sn**	**07 35 13.1**	**+1.5**
SNVI	**San Vicente**	**1.54**	**281**	*e*P	**Pn**	**07 34 52.1**	**+0.7**
SNVI				*e*S	**Sn**	**07 35 11.0**	**-0.8**
LCBS	**La Ceiba**	**1.69**	**282**	*e*P	**Pn**	**07 34 54.1**	**+0.8**
LFRS	**El Faro**	**1.76**	**280**	*e*P	**Pn**	**07 34 54.6**	**+0.3**
LBRS	**Las Brisas**	**1.77**	**284**	*e*P	**Pn**	**07 34 55.6**	**+1.2**
SNET	**Serv Nac Est T**	**1.93**	**281**	*e*P	**Pn**	**07 34 52.6**	**-4.1**
SNET				*e*S	**Sn**	**07 35 16.7**	**-4.7**
BOQS	**Boqueron**	**1.99**	**282**	*e*P	**Pn**	**07 34 59.1**	**+1.6**
ROSC	**El Rosal**	**15.29**	**122**	Pn	**Pn**	**07 37 50.1**	**-10**
	comp=Z,0.3nm,0.3s,baz=282,slow=17,SNR=3.5						
ANMO	**Albuquerque**	**27.66**	**324**	P	**P**	**07 40 12.7**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.6,baz=161,slow=8.0,SNR=4.8						
ELK	**Elko**	**36.67**	**323**	P	**P**	**07 41 30.6**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=208,slow=5.0,SNR=2.6						
NVAR	**Mina Array Bea**	**37.17**	**318**	P	**P**	**07 41 35.6**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.7,baz=119,slow=8.8,SNR=7.9						
YKA	**Yellowknife Ar**	**52.83**	**344**	P	**P**	**07 43 38.4**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=137,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**65.31**	**336**	P	**P**	**07 45 03.9**	**-2.2**
	comp=Z,0.8nm,0.9s,mb3.8,baz=119,slow=5.6,SNR=7.5						

*SOF **20** 07:49:50.7, 4042N×2579E, h2km, MD3.0*
*ISK **20** 07:49:51.8, 4046N×2581E, h15km, MD3.1*
*NEIC **20** 07:49:52.4, 4037N×2577E, h28km, MD3.0(SOF), MD3.3(ISK), MD3.6(ATH), After ISK.*
*THE **20** 07:49:52.7, 4045N×2581E, h5km, ML3.4*
*ATH **20** 07:49:52.6, 4048N×2582E, h32km±5km, MD3.6/3*
*CSEM **20** 07:49:52.9±0.1, 4045N×2589E, h20km, ML3.4, Error ellipse: s-maj=1.4km s-min=1.1km az=15.0*
*ISCJB **20** 07:49:52.8±0.4, 4046N±002×2580E±002, h18km±5km, Error ellipse: s-maj=3.5km s-min=3.0km az=29.4*

ISC 20 07:49:52.5±0.4, 4046N±002×2581E±002, h11km±3km, n76, σ1§04/98, 2C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.47**	**22**	*e*Pg	**Pg**	**07 50 01.7**	**-0.1**
	comp=Z,27nm,0.1s						
ALN				*e*Sg	**Sg**	**07 50 08.6**	**+0.4**
RDO	**Rodhopi**	**0.72**	**344**	*e*PN	**Pn**	**07 50 06.4**	**-2.2**
LPK	**Lapseki**	**0.73**	**96**	PG	**Pg**	**07 50 06.0**	**-0.7**
LPK				SG	**Sg**	**07 50 16.6**	**+0.3**
LPK	**Lapseki**	**0.73**	**96**	Pg	**Pg**	**07 50 06.3**	**-0.4**
LPK				*e*Sg	**Sg**	**07 50 16.6**	**+0.3**
LIA	**Limnos Island**	**0.74**	**221**	*e*PN	**Pn**	**07 50 07.4**	**-1.5**
LIA				*e*SN	**Sg**	**07 50 18.7**	**+2.3**
EZN	**Ezine**	**0.75**	**148**	PG	**Pg**	**07 50 06.6**	**-0.4**
EZN				SG	**Sg**	**07 50 18.0**	**+1.3**
EZN	**Ezine**	**0.75**	**148**	Pg	**Pg**	**07 50 05.7**	**-1.3**
LOS	**Limnos**	**0.76**	**227**	*e*Pg	**Pg**	**07 50 07.4**	**+0.1**
LOS				*e*Sg	**Sg**	**07 50 18.0**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	PG	**Pg**	**07 50 12.9**	**-0.2**
RKY				SG	**Sg**	**07 50 28.2**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	Pn	**Pn**	**07 50 12.6**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	*e*Pg	**Pg**	**07 50 12.9**	**-0.2**
RKY				*e*Sg	**Sg**	**07 50 28.2**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.07**	**77**	Pn	**Pn**	**07 50 12.6**	**-0.9**
RKY				Sg	**Sg**	**07 50 26.6**	**-0.4**
SART	**Tekirdag**	**1.07**	**77**	*i* P	**Pb**	**07 50 12.5**	**-0.6**
SART				*i* S	**Sg**	**07 50 27.7**	**+0.6**
MFT	**Murefte**	**1.17**	**73**	PN	**Pn**	**07 50 14.2**	**-0.6**
MFT				SN	**Sn**	**07 50 30.8**	**0.0**
KDZ	**Kurdzhali**	**1.23**	**346**	*i* P	**Pn**	**07 50 16.3**	**+0.7**
PRK	**Paraskevi**	**1.26**	**163**	*e*PN	**Pn**	**07 50 16.3**	**+0.2**
PRK				*e*SN	**Sn**	**07 50 33.1**	**+0.1**
AYVA	**Ayvalik**	**1.33**	**149**	*i* P	**Pn**	**07 50 17.4**	**+0.3**
AYVA				*i* S	**Sb**	**07 50 35.4**	**+0.7**
MRMT	**Marmara Adasi**	**1.37**	**83**	PN	**Pn**	**07 50 17.1**	**-0.5**
OUR	**Ouranopolis**	**1.40**	**266**	*e*Pg	**Pg**	**07 50 17.7**	**-1.7**
TKR	**Tekirdag**	**1.42**	**67**	PN	**Pn**	**07 50 18.1**	**-0.1**
TKR	**Tekirdag**	**1.42**	**67**	Pn	**Pn**	**07 50 18.1**	**-0.1**
RZN	**Rozhen**	**1.48**	**326**	*i* P	**Pn**	**07 50 20.0**	**+0.9**
EDRB	**Edirne**	**1.56**	**27**	*e*PN	**Pn**	**07 50 20.1**	**-0.1**
EDRB	**Edirne**	**1.56**	**27**	Pn	**Pn**	**07 50 20.2**	**0.0**
EDC	**Edincik**	**1.57**	**93**	PN	**Pn**	**07 50 19.5**	**-0.9**
EDC	**Edincik**	**1.57**	**93**	Pn	**Pn**	**07 50 19.6**	**-0.8**
EDC	**Edincik**	**1.57**	**93**	Pn	**Pn**	**07 50 19.6**	**-0.8**
DIM	**Dimitrovgrad**	**1.60**	**353**	*i* P	**Pn**	**07 50 22.5**	**+1.7**
BNT	**Bandirma**	**1.62**	**93**	*e*PN	**Pn**	**07 50 20.5**	**-0.5**
BNT	**Bandirma**	**1.62**	**93**	Pn	**Pn**	**07 50 20.5**	**-0.4**
PAIG	**Paliouri**	**1.71**	**253**	*e*Pb	**Pb**	**07 50 21.8**	**-2.2**
	comp=Z,10.0nm,0.4s						
NVR	**Nevrokopi**	**1.72**	**302**	*e*PB	**Pb**	**07 50 23.0**	**-1.2**
NVR				*e*SN	**Sn**	**07 50 43.9**	**-0.5**
BALB	**Balikesir**	**1.79**	**117**	*e*PN	**Pn**	**07 50 22.5**	**-0.8**
PLG	**Polygyros**	**1.81**	**268**	*e*PB	**Pb**	**07 50 23.8**	**-1.8**
BTOK	**Tokmak**	**1.84**	**111**	*i* P	**Pn**	**07 50 24.3**	**+0.2**
BTOK				*i* S	**Sn**	**07 50 47.1**	**-0.2**
PLD	**Plovdiv**	**1.84**	**334**	*e*P	**Pn**	**07 50 27.5**	**+3.4**
SOH	**Sokhos**	**1.90**	**282**	*e*Pb	**Pb**	**07 50 25.0**	**-2.3**
MMB	**Musomiste**	**1.94**	**306**	*e*P	**Pn**	**07 50 26.0**	**+0.6**
KCT	**Karacabey**	**1.96**	**95**	*e*PN	**Pn**	**07 50 24.6**	**-1.1**
KCT	**Karacabey**	**1.96**	**95**	Pn	**Pn**	**07 50 24.7**	**-1.0**
KCT	**Karacabey**	**1.96**	**95**	Pn	**Pn**	**07 50 24.7**	**-1.0**
JMB	**Yambol**	**2.09**	**16**	*e*P	**Pn**	**07 50 29.0**	**+1.5**
JMB	**Yambol**	**2.09**	**16**	*e*Pn	**Pn**	**07 50 27.9**	**+0.4**
JMB	**Yambol**	**2.09**	**16**	*e*P	**Pn**	**07 50 29.0**	**+1.5**
CTT	**Catalca**	**2.11**	**70**	*e*PN	**Pn**	**07 50 26.8**	**-0.9**
ELBA	**Catalca**	**2.11**	**70**	*i* P	**Pn**	**07 50 27.0**	**-0.7**
ELBA				*i* S	**Sn**	**07 50 52.5**	**-1.4**
URLA	**Izmir**	**2.18**	**163**	*i* P	**Pn**	**07 50 28.5**	**-0.3**
URLA				*i* S	**Sn**	**07 50 57.7**	**+1.9**
AKS	**Akhisar**	**2.21**	**135**	*e*PN	**Pn**	**07 50 28.4**	**-0.7**
AKS	**Akhisar**	**2.21**	**135**	Pn	**Pn**	**07 50 28.5**	**-0.6**
AKS	**Akhisar**	**2.21**	**135**	Pn	**Pn**	**07 50 28.4**	**-0.7**
KNT	**Kendrikon**	**2.32**	**289**	*e*Pn	**Pn**	**07 50 31.3**	**+0.7**
	comp=Z,3.5nm,0.4s						
DST	**Dursunbey**	**2.33**	**111**	*e*PN	**Pn**	**07 50 30.5**	**-0.2**
DST	**Dursunbey**	**2.33**	**111**	Pn	**Pn**	**07 50 30.5**	**-0.2**
KDAG	**Bornova**	**2.34**	**151**	*i* P	**Pn**	**07 50 31.1**	**+0.2**
KDAG				*i* S	**Sn**	**07 51 07.8**	**+8.1**
IZM	**Izmir**	**2.35**	**151**	*e*PN	**Pn**	**07 50 31.1**	**+0.1**
IZM	**Izmir**	**2.35**	**151**	Pn	**Pn**	**07 50 29.9**	**-1.1**
PGB	**Panagyurishte**	**2.43**	**330**	*e*P	**Pn**	**07 50 33.5**	**+1.4**
PGB				*i* Pg	**Pg**	**07 50 37.5**	**-1.6**
PGB	**Panagyurishte**	**2.43**	**330**	*i* Pg	**Pg**	**07 50 37.5**	**-1.6**
PGB	**Panagyurishte**	**2.43**	**330**	*i* Pg	**Pg**	**07 50 37.5**	**-1.6**
KKB	**Krupnik**	**2.49**	**305**	*i* P	**Pn**	**07 50 34.0**	**+1.0**
ULDT	**Uludag**	**2.56**	**96**	*i* P	**Pn**	**07 50 33.6**	**-0.4**
ULDT				*i* S	**Sn**	**07 51 12.8**	**+7.5**
GRG	**Griva**	**2.64**	**282**	*e*Pn	**Pn**	**07 50 35.2**	**+0.2**
YLV	**Yalova**	**2.72**	**87**	*e*PN	**Pn**	**07 50 36.0**	**-0.2**
VTS	**Vitosha**	**2.89**	**318**	*e*P	**Pn**	**07 50 40.8**	**+2.3**
GDZ	**Gediz**	**3.14**	**115**	*i* P	**Pn**	**07 50 42.7**	**+0.8**
GDZ				*i* S	**Sn**	**07 51 25.0**	**+5.5**
ESKT	**Eskisehir**	**3.98**	**102**	*i* P	**Pn**	**07 50 54.3**	**+0.7**
ESKT				*i* S	**Sn**	**07 51 48.8**	**+8.6**
ESKT	**Eskisehir**	**3.98**	**102**	*e*Pn	**Pn**	**07 50 54.2**	**+0.7**
SEYT	**Eskypehyr**	**3.98**	**102**	*i* P	**Pn**	**07 50 54.3**	**+0.8**
TIRR	**Tirgusor**	**4.44**	**25**	⇑P	**Pn**	**07 51 01.1**	**+1.3**
TIRR	**Tirgusor**	**4.44**	**25**	⇑P	**Pn**	**07 51 01.1**	**+1.3**
MLR	**Muntele Rosu**	**5.03**	**1**	⇓P	**Pn**	**07 51 09.4**	**+1.5**
MLR	**Muntele Rosu**	**5.03**	**1**	⇓P	**Pn**	**07 51 09.4**	**+1.4**
VRI	**Vrincioaia**	**5.45**	**7**	⇓P	**Pn**	**07 51 15.4**	**+1.8**
VRI	**Vrincioaia**	**5.45**	**7**	⇓P	**Pn**	**07 51 15.4**	**+1.7**
BZS	**Buzias**	**6.00**	**331**	⇓P	**Pn**	**07 51 21.8**	**+0.6**
BZS	**Buzias**	**6.00**	**331**	⇓P	**Pn**	**07 51 21.8**	**+0.6**

*ISCJB **20** 07:55:19.0±1.1, 3328S±006×1785W±0.1, h48km±10km, mb4.9/15, MS4.3/11, Error ellipse: s-maj=16.0km s-min=6.8km az=52.2*
*NAO **20** 07:55:21.0, 32.18S×17865W, h33km, mb3.5*
*IDC **20** 07:55:21.3±1.9, 3304S×17840W, h50km±16km, mb4.3/6, mb1 4.6/9, mb1mx4.3/15, mbtmp4.6/9, ML4.4/3, MS4.3/11, Ms1 4.3/11, ms1mx4.2/22, Error ellipse: s-maj=19.7km s-min=13.9km az=155.0*
*BJI **20** 07:55:33.7, 3157S×17827W, h154km, mB5.2, mb5.0*
*MOS **20** 07:55:33.9±1.3, 3185S×17895W, h137km, mb4.9/4, Error ellipse: s-maj=22.0km s-min=18.3km az=4.5*
*NEIC **20** 07:55:35.3±1.8, 3168S×17902W, h143km±15km, mb4.8/8, Error ellipse: s-maj=21.9km s-min=14.2km az=173.0*

ISC 20 07:55:20.2±1.0, 3320S±006×1784W±01, h43km±9km, n97, σ1§14/58, mb4.9/15, MS4.3/11, 3C-4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.95**	**6**	P	**Pn**	**07 56 15.7**	**-2.6**
	74nm,0.3s,baz=66,slow=24,SNR=3.9						
RAO				S	**Sn**	**07 56 50.5**	**-13**
	306nm,0.3s,baz=85,slow=22,SNR=5.1						
RAO	**Raoul Island**	**3.95**	**6**	*e*Pn	**Pn**	**07 56 17.5**	**-0.9**
RAO				*e*Sn	**Sn**	**07 56 44.6**	**-19**
PUZ	**Puketiti**	**5.57**	**208**	PN	**Pn**	**07 56 41.6**	**+1.0**
PUZ				SN	**Sn**	**07 57 50.9**	**+7.6**
MWZ	**Matawai**	**6.10**	**212**	PN	**Pn**	**07 56 49.0**	**+1.2**
MWZ				SN	**Sn**	**07 58 04.6**	**+8.3**
URZ	**Urewera**	**6.23**	**215**	P	**Pn**	**07 56 51.1**	**+1.5**
	13nm,0.3s,baz=355,slow=1.5,SNR=73						
URZ				S	**Sn**	**07 58 04.9**	**+5.4**
	31nm,0.3s,baz=153,slow=20,SNR=15						
URZ	**Urewera**	**6.23**	**215**	PN	**Pn**	**07 56 51.0**	**+1.4**
URZ				SN	**Sn**	**07 58 07.3**	**+7.9**
WCZ	**Waipu Caves**	**6.58**	**243**	PN	**Pn**	**07 56 59.8**	**+5.5**
KNZ	**Kokohu**

NJ2 LR LR
comp=N,620nm,25.4s,MS5.2
NJ2 LR LR
comp=E,900nm,22.4s,MS5.2
NJ2 LR LR
comp=Z,650nm,23.8s,MS5.0
CMB Columbia Colle 89.06 42 *e*P **P 08 08 10.5 -0.2**
CMB pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
CMB Columbia Colle 89.06 42 *e*P **P 08 08 10.5 -0.2**
comp=Z,3.8nm,1.4s,mb4.5
NVAR Mina Array Bea 90.52 43 P **P 08 08 17.3 -0.2**
comp=Z,1.2nm,1.0s,mb4.2,baz=210,slow=6.7,SNR=7.7
CN2 Changchun 92.15 323 *e*P **P 08 08 24.4 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
ELK Elko 93.83 43 LR LR 08 41 13.0
comp=Z,145nm,19.9s,MS4.4,baz=265,slow=29
CD2 Chengdu 97.28 302 *e*P **P 08 08 46.4 -2.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
LPAZ La Paz 97.31 115 LR LR 08 42 55.3
comp=Z,63nm,20.9s,MS4.1,baz=203,slow=29
LPAZ La Paz 97.31 115 P **P 08 08 56.6 +8.0**
LPAZ pmax pmax
comp=Z,3.0nm,1.2s
LPAZ La Paz 97.31 115 P **P 08 08 56.6 +8.0**
comp=Z,2.7nm,1.2s,mb4.5
PDAR Pinedale Array 98.39 44 LR LR 08 47 32.3
comp=Z,131nm,18.7s,MS4.5,baz=258,slow=32
MKAR Makanchi Array 119.28 309 PKP PKPdf 08 14 03.3 -1.3
comp=Z,1.0nm,0.8s,baz=75,slow=1.4,SNR=9.4
MKAR Makanchi Array 119.28 309⇑ *i*PKIKP PKPdf 08 14 03.2 -1.4
MKAR Makanchi Array 119.28 309 PKIKP PKPdf 08 14 03.3 -1.3
KURK Kurchatov 122.70 313 *i* PKIKP PKPdf 08 14 10.7 -0.5
BRVK Borovoye 128.20 314 *e*PKIKP PKPdf 08 14 21.1 -0.6
ZRNK Zerenda 128.95 314 *e*PKIKP PKPdf 08 14 22.6 -0.5
ARU Arti 134.99 319 *i* PKIKP PKPdf 08 14 35.3 +0.8
ARU Arti 134.99 319 *e*PKP PKPdf 08 14 35.4 +0.9
ARCES ARCESS Array B 141.23 347 PKhKP 08 14 36.5
comp=Z,3.0nm,1.0s,baz=25,slow=2.6,SNR=3.7
ARCES PKP PKPdf 08 14 45.3 -0.7
comp=Z,2.8nm,0.9s,baz=22,slow=1.3,SNR=4.9
ARCES ARCESS Array B 141.23 347 PKP PKPdf 08 14 45.3 -0.7
JOF Joensuu 144.86 337 *e*p PKPdf 08 14 50.9 -1.5
comp=Z,9.7nm,1.0s
JOF Joensuu 144.86 337 *e*PKIKP PKPdf 08 14 50.9 -1.5
JOF pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 144.97 294 *e*PKIKP PKPdf 08 14 53.1 +0.5
ZEI Tsey 145.62 299 *i* PKIKP PKPdf 08 14 52.6 -1.1
VRHR Novokhopersk 145.87 314 *e*PKIKP PKPdf 08 14 54.3 +0.2
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
GOF Gofitskoye 146.09 303 *e*PKIKP PKPdf 08 14 54.5 0.0
GOF pmax pmax
comp=Z,30nm,0.6s
MOS Moscow 146.40 323 *e*PKIKP PKPdf 08 14 54.7 -0.3
MOS pmax pmax
comp=Z,98nm,1.1s
KAF Kangasniemi 147.04 339 *e*p PKPdf 08 14 55.8 -0.3
comp=Z,8.8nm,0.7s
KAF Kangasniemi 147.04 339 *e*PKP2 PKPab 08 14 55.8 -4.0
KAF pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 147.22 323⇑ *i*PKP2 PKPab 08 14 58.0 -2.5
OBN *e* 08 18 30.1
OBN *e*SS SS 08 37 45.3 +23
OBN pmax pmax
comp=Z,57nm,1.4s
VRSR Storozhevoye 147.30 315 *e*PKP2 PKPab 08 14 59.0 -1.8
VRSR pmax pmax
comp=Z,5.0nm,1.2s
VRSR pmax pmax
comp=N,1.0nm,1.1s
VRSR pmax pmax
comp=E,3.0nm,1.1s
FINES FINESS Array B 147.62 338 PKPbc PKPbc 08 14 58.6 -1.2
comp=E,11nm,0.7s,baz=51,slow=3.4,SNR=40
FINES FINESS Array B 147.62 338⇑ *i*PKP2 PKPab 08 14 58.7 -3.4
VSU Vasula 149.60 334 *d i*PKP2 PKPab 08 15 04.7 -5.4
MALT Malatya 149.81 290 *e*PKP2 PKPab 08 15 06.4 -4.5
NB2 NORSAR Subarra151.45 350 PKPa 08 15 08.0
comp=Z,0.6nm,0.6s,baz=31,slow=2.9
NOA NORSAR Array B151.45 350 PKPbc PKPbc 08 15 08.7 -0.6
comp=Z,1.4nm,0.8s,baz=23,slow=4.5,SNR=10
MNK Minsk 151.80 327 *e*PKIKP PKPdf 08 15 07.0 +3.3
AKASG Malin Array Be 153.24 319 PKPbc PKPbc 08 15 12.3 -1.0
comp=Z,2.4nm,0.6s,baz=55,slow=1.9,SNR=26
AKASG PKPab PKPab 08 15 23.8 -1.5
comp=Z,1.3nm,0.5s,baz=95,slow=2.0,SNR=5.9
BR131 Keskin Array S 153.51 293 *e*PKPbc PKPbc 08 15 14.6 +0.7
BRTR Keskin Array B 153.51 293 PKPbc PKPbc 08 15 14.7 +0.8
comp=Z,2.6nm,0.5s,baz=132,slow=3.5,SNR=17
BRTR PKPab PKPab 08 15 26.6 +0.3
comp=Z,1.3nm,0.5s,baz=130,slow=2.5,SNR=5.1
TORD Torodi Ar. Bea 160.04 180 PKP PKPdf 08 15 16.1 +1.5
comp=Z,2.0nm,1.2s,baz=240,slow=1.1,SNR=5.0
TORD PKPab PKPab 08 15 55.8 +1.3
comp=Z,1.1nm,0.8s,baz=172,slow=2.6,SNR=4.6
CLL Collm 160.07 339 *e*PKPab PKPab 08 15 53.0 -1.6
GERES GERESS Array B 161.93 333 PKPab PKPab 08 16 01.9 -0.8
comp=Z,0.6nm,0.7s,baz=25,slow=3.5,SNR=3.8

IDC 20 08:12:16.3±17.0, 1260N×9162W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=356.3km s-min=128.1km az=175.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**35.00**	**322**	P	P	08 19 10.6	+0.2
	0.3nm,0.6s,baz=125,slow=9.4,SNR=4.4						
YKA	**Yellowknife Ar**	**52.47**	**347**	P	P	08 21 30.3	-0.6
	1.1nm,0.6s,baz=150,slow=7.3,SNR=39						
ILAR	**Eielson Array**	**64.27**	**337**	P	P	08 22 53.7	+0.4
	0.5nm,0.9s,baz=168,slow=4.2,SNR=4.4						

CASC 20 08:44:29.3±3.1, 1313N×8749W, h4km±12km, MD4.0, ML3.3, 6C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.36**	**294**⇓	*e*P	Pg	08 44 38.2	+1.8
CNCH				*e*S	Sg	08 44 41.8	+0.7
CRIN	**San Cristobal**	**0.60**	**134**⇑	*e*P	Pg	08 44 40.9	0.0
CRIN				*e*S	Sg	08 44 51.9	+3.2
CRIN				*i*		08 44 58.9	
	comp=Z,1μm,0.4s						
BLLM	**Bellamira**	**0.79**	**294**	*e*P	Pg	08 44 45.6	+1.1
BLLM				*e*S	Sg	08 44 55.8	+1.0
VSM	**San Miguel**	**0.82**	**292**	*e*P	Pg	08 44 46.5	+1.5
VSM				*e*S	Sg	08 44 57.3	+1.7
TELN	**Telica**	**0.83**	**129**⇑	*e*P	Pg	08 44 44.0	-1.2
TELN				*e*S	Sg	08 44 59.5	+3.6
TEL3	**Telica 3**	**0.84**	**131**⇓	*e*P	Pg	08 44 44.2	-1.2
TEL3				*e*S	Sg	08 44 58.6	+2.4
TEL3				*i*		08 45 12.2	
	comp=Z,1μm,0.6s						
LEON	**Leon**	**0.92**	**140**⇓	*e*P	Pg	08 44 45.3	-1.6
CAHU	**Cacacuatique**	**0.95**	**313**	*e*P	Pg	08 44 48.4	+0.9
CAHU				*e*S	Sg	08 45 00.8	+1.0
CNGN	**Cerro Negro**	**0.99**	**129**⇑	*e*P	Pg	08 44 47.2	-1.1
MIRN	**Miramar**	**1.02**	**132**⇑	*e*P	Pg	08 44 47.1	-1.7
MOMJ	**Momotombo**	**1.17**	**127**⇑	*e*P	Pg	08 44 49.8	-2.0
COPN	**Copaltepe**	**1.29**	**137**⇑	*e*P	Pg	08 44 51.2	-2.7
SNVI	**San Vicente**	**1.40**	**290**	*e*P	Pn	08 44 56.3	+0.8
SNVI				*e*S	Sb	08 45 13.6	-0.5
APYN	**Apoyeque**	**1.42**	**128**	*e*P	Pn	08 44 55.1	-0.8
APYN				*e*S	Sb	08 45 16.6	+1.7
XAVN	**Gruta Xavier**	**1.50**	**130**⇓	*e*P	Pn	08 44 55.7	-1.2
LCBS	**La Ceiba**	**1.54**	**290**	*e*P	Pn	08 44 58.5	+1.0
LCBS				*e*S	Sn	08 45 17.9	0.0
MGAN	**Managua**	**1.56**	**129**	*e*P	Pn	08 44 56.7	-1.0
MGAN				*i*		08 45 22.2	
	comp=E,409nm,0.4s						
LFRS	**El Faro**	**1.61**	**288**	*e*P	Pn	08 44 59.1	+0.7
LBRS	**Las Brisas**	**1.63**	**292**	*e*P	Pn	08 44 60.0	+1.2
SNET	**Serv Nac Est T**	**1.78**	**288**	*e*P	Pn	08 44 56.5	-4.4
SNET				*e*S	Sn	08 45 19.9	-4.0
BOQS	**Boqueron**	**1.84**	**289**	*e*P	Pn	08 45 03.2	+1.6
IXG	**Ixpaco**	**3.06**	**290**	*e*P	Pn	08 45 17.7	-0.8

*NAO **20** 08:43:47.7, 2480S×17765W, h600km, mb4.1*
*SZGRF **20** 08:43:51.7, 2342S×17829W, h33km, South of Fiji Islands*
*CSEM **20** 08:44:01.0, 2146S×17991E, h33km, mb5.7*
*ORF **20** 08:44:18.8, 1425S×17156E, h30km, mb5.9*
*MOS **20** 08:44:56.9±1.8, 2062S×17945E, h503km, mb4.6/14, Error ellipse: s-maj=12.1km s-min=10.2km az=142.6*
*BJI **20** 08:45:00.8, 2190S×17970E, h611km, mB4.6, mb4.9*
*ISCJB **20** 08:45:01.0±0.8, 2197S±006×17967E±005, h616km±11km, mb4.7/65, Error ellipse: s-maj=9.0km s-min=6.5km az=137.7*
*NEIC **20** 08:45:01.9±1.0, 2188S×17971E, h611km±12km, mb4.7/36, Error ellipse: s-maj=11.8km s-min=7.5km az=145.0*
*IDC **20** 08:45:03.8±1.0, 2201S×17958E, h639km±10km, mb3.9/19, mb1 4.1/20, mb1mx4.1/22, mbtmp4.9/20, Error ellipse: s-maj=12.0km s-min=9.2km az=151.0*
ISC 20 08:45:02.3±0.8, 2191S±005×17969E±005, h615km±11km, h610km±5.6km: pP-P, n262, σ1°06/149, mb4.7/64, 18C-38D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.62**	**164**	S	S	08 48 29.8	-4.0
	107nm,0.3s,baz=107,slow=21,SNR=3.3						
AFI	**Afiamalu**	**11.36**	**47**	P	P	08 47 32.8	-1.9
	7.8nm,0.3s,baz=218,slow=4.0,SNR=4.5						
AFI	**Afiamalu**	**11.36**	**47**	*e*P	P	08 47 33.2	-1.6
AFI				pmax	pmax		
	comp=Z,51nm,0.8s						
AFI	**Afiamalu**	**11.36**	**47**	*e*Pn	P	08 47 33.2	-1.6
	comp=Z,51nm,0.8s						
DZM	**Mont Dzumac**	**12.29**	**267**	P	P	08 47 45.5	+1.5
	comp=Z,7.4nm,0.3s,baz=78,slow=18,SNR=23						
DZM				S	S	08 49 56.5	-0.3
	baz=248,slow=22,SNR=2.1						
DZM	**Mont Dzumac**	**12.29**	**267**	*e*P	P	08 47 45.3	+1.3
OUZ	**Omahuta**	**14.30**	**201**	PN	P	08 48 06.8	+3.5
WCZ	**Waipu Caves**	**14.74**	**197**	PN	P	08 48 10.9	+3.5
URZ	**Urewera**	**16.45**	**187**	P	P	08 48 20.3	-2.8
	comp=Z,3.4nm,0.3s,baz=358,slow=5.1,SNR=26						
URZ				S	S	08 51 01.4	-5.1
	comp=Z,2.2nm,0.3s,baz=254,slow=23,SNR=11						
URZ	**Urewera**	**16.45**	**187**	PN	P	08 48 21.1	-2.0
MWZ	**Matawai**	**16.48**	**186**	PN	P	08 48 21.9	-1.5
QRZ	**Quartz Range**	**19.81**	**196**	PN	P	08 48 55.0	+1.4
THZ	**Tophouse**	**20.60**	**195**	PN	P	08 49 00.2	-0.6
THZ				SN	S	08 52 06.4	-6.5
DSZ	**Denniston Nort**	**20.86**	**197**	PN	P	08 49 03.4	+0.3
KHZ	**Kahutara**	**21.09**	**193**	PN	P	08 49 03.4	-1.7
KHZ				SN	S	08 52 14.3	-6.3
LTZ	**Lake Taylor**	**21.72**	**195**	PN	P	08 49 09.6	-1.1
RPZ	**Rata Peaks**	**22.90**	**196**	P	P	08 49 19.7	-1.5
	comp=Z,6.9nm,0.6s,mb4.5,baz=11,slow=4.0,SNR=11						
RPZ				S	S	08 52 43.5	-5.6
	comp=Z,2.6nm,0.6s,baz=285,slow=13,SNR=2.9						
FOZ	**Fox Glacier**	**23.14**	**199**	PN	P	08 49 22.6	-0.7
ARMA	**Armidale**	**26.52**	**246**⇓	*i*P	P	08 49 55.2	+2.1
TBI	**Tubuai**	**28.48**	**99**	*e*P	P	08 50 11.9	+1.8
	comp=Z,94nm,0.9s,mb5.4						
TVO	**Taravao**	**29.47**	**88**	*e*P	P	08 50 19.6	+1.0
	comp=Z,90nm,0.7s,mb5.5						
CNB	**Canberra Magne**	**29.66**	**237**⇓	*i*P	P	08 50 22.0	+1.8
	comp=Z,50nm,0.5s,mb5.4						
CTA	**Charters Tower**	**31.24**	**267**⇓	*i*P	P	08 50 34.8	+1.1
	comp=Z,81nm,0.5s,mb5.6						
CTA				*e*PCP	PcP	08 53 08.8	+0.4
CTA	**Charters Tower**	**31.24**	**267**	P	P	08 50 34.8	+1.1
	comp=Z,95nm,0.5s,mb5.7,baz=94,slow=10,SNR=230						
CTA				PcP	PcP	08 53 08.8	+0.4
	comp=Z,8.4nm,0.6s,baz=216,slow=4.3,SNR=4.8						
CTA	**Charters Tower**	**31.24**	**267**⇓	*i*P	P	08 50 34.8	+1.1
CTA				*e*		08 53 08.8	
CTA				pmax	pmax		
	comp=Z,81nm,0.5s						
CTAO	**Charters Tower**	**31.24**	**267**	*e*P	P	08 50 34.9	+1.2
CTAO				pmax	pmax		
	comp=Z,93nm,0.5s,mb5.7						
CTAO	**Charters Tower**	**31.24**	**267**	*e*P	P	08 50 34.9	+1.2
	comp=Z,93nm,0.5s,mb5.7						
VAH	**Vaihoa**	**31.64**	**84**	*e*P	P	08 50 37.8	+0.7
	comp=Z,73nm,0.9s,mb5.3						
TOO	**Toolangi**	**33.33**	**234**⇓	*i*P	P	08 50 52.6	+1.3
	comp=Z,62nm,0.6s,mb5.4						
TOO	**Toolangi**	**33.33**	**234**⇓	*i*P	P	08 50 52.6	+1.3
TOO				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.4						
PMG	**Port Moresby**	**33.62**	**287**	P	P	08 50 54.5	+0.8
	comp=Z,113nm,0.8s,mb5.5,baz=92,slow=5.5,SNR=36						
PMG	**Port Moresby**	**33.62**	**287**	*e*P	P	08 50 54.6	+0.9
PMG				pmax	pmax		
	comp=Z,114nm,0.9s						
PMG	**Port Moresby**	**33.62**	**287**	*e*P	P	08 50 54.5	+0.8
	comp=Z,114nm,0.9s,mb5.5						
TAU	**Tasmania Unive**	**34.11**	**225**	*e*P	P	08 50 57.9	0.0
TAU				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.7						
TAU	**Tasmania Unive**	**34.11**	**225**	*e*P	P	08 50 57.9	0.0
	comp=Z,8.6nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**35.24**	**245**⇓	*i*P	P	08 51 06.4	-0.8
	comp=Z,26nm,0.4s,mb5.2						
STKA				*e*		08 56 06.9	
STKA	**Stephens Creek**	**35.24**	**245**	P	P	08 51 06.5	-0.7
	comp=Z,35nm,0.5s,mb5.3,baz=91,slow=9.5,SNR=151						
STKA				ScP	ScP	08 56 05.8	-2.4
	comp=Z,6.9nm,1.0s,baz=55,slow=3.1,SNR=5.5						
ADE	**Adelaide**	**38.06**	**241**	*e*P	P	08 51 30.4	+0.2
RKT	**Rikitea**	**41.77**	**101**	*e*P	P	08 52 00.8	+1.1
	comp=Z,41nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**42.11**	**259**	P	P	08 52 02.8	+0.4
	comp=Z,106nm,0.8s,mb5.4,baz=97,slow=8.1,SNR=1002						
ASAR				PcP	PcP	08 53 41.0	-1.0
	comp=Z,9.0nm,0.7s,baz=107,slow=4.3,SNR=7.3						
ASAR				ScP	ScP	08 56 34.0	-0.9
	comp=Z,4.0nm,1.0s,baz=108,slow=4.0,SNR=8.6						
ASAR				S	S	08 57 35.3	-3.7
	comp=Z,3.2nm,0.9s,baz=94,slow=15,SNR=11						
WB2	**Warramunga Arr**	**42.28**	**264**⇓	*i*P	P	08 52 03.4	-0.3
WRAB	**Tennant Creek**	**42.28**	**264**	*e*P	P	08 52 03.4	-0.3
WRAB				*e*S	S	08 57 41.7	+0.3
WRAB				pmax	pmax		
	comp=Z,132nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**42.28**	**264**	*e*P	P	08 52 03.4	-0.3
	comp=Z,132nm,0.9s,mb5.5						
WRAB				*e*S	S	08 57 41.7	+0.3
WRA	**Warramunga Arr**	**42.29**	**264**	P	P	08 52 03.0	-0.7
	comp=Z,65nm,0.8s,mb5.2,baz=95,slow=5.2,SNR=373						
WRA				PcP	PcP	08 53 41.8	-0.8
	comp=Z,5.7nm,0.8s,baz=102,slow=3.7,SNR=5.5						
WRA				ScP	ScP	08 56 35.2	-0.3
	comp=Z,3.6nm,0.8s,baz=96,slow=4.3,SNR=7.7						
WRA				S	S	08 57 37.0	-4.5
	comp=Z,3.2nm,1.0s,baz=101,slow=14,SNR=5.2						
KAKA	**Kakadu**	**45.88**	**273**⇓	*i*P	P	08 52 31.1	-0.2
	comp=Z,83nm,0.4s,mb5.6						
FITZ	**Fitzroy Crossi**	**50.72**	**264**⇓	*i*P	P	08 53 07.4	+0.3
	comp=Z,53nm,1.0s,mb4.9						
MBWA	**Marble Bar**	**55.45**	**259**	*e*P	P	08 53 40.2	-0.3
	comp=Z,74nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**55.51**	**246**⇓	*i*P	P	08 53 40.5	-0.4
	comp=Z,54nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**55.82**	**244**	*e*P	P	08 53 42.8	-0.2
NWAO				pmax	pmax		
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**55.82**	**244**	*e*P	P	08 53 42.8	-0.2
	comp=Z,16nm,0.8s,mb4.3						
VNDA	**Vanda**	**56.33**	**185**	P	P	08 53 46.7	+0.2
	comp=Z,4.6nm,0.4s,mb4.0,baz=342,slow=6.7,SNR=5.0						
VNDA	**Vanda**	**56.33**	**185**	P	P	08 53 46.7	+0.2
MUN	**Mundaring**	**56.78**	**245**⇓	*i*P	P	08 53 49.6	+0.1
QSPA	**South Pole Qui**	**68.17**	**180**⇑	*i*P	P	08 55 03.3	+0.6
	comp=Z,22nm,1.2s,mb4.5						
MJAR	**Matsushiro Arr**	**70.10**	**325**	P	P	08 55 13.6	-0.6
	comp=Z,19nm,0.8s,mb4.6,baz=160,slow=6.0,SNR=37						
MAJO	**Matsushiro**	**70.10**	**325**	*e*P	P	08 55 13.9	-0.3
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**70.10**	**325**	*e*P	P	08 55 13.9	-0.3
	comp=Z,20nm,0.8s,mb4.6						
MAT	**Matsushiro**	**70.10**	**325**	P	P	08 55 13.5	-0.7
KSM	**Kuching**	**71.49**	**279**	*e*P	P	08 55 22.6	+0.3
YHNB	**Yeheng**	**73.15**	**306**	*e*P	P	08 55 31.1	-0.8
TATO	**Taipei**	**73.24**	**306**	*e*P	P	08 55 31.9	-0.4
	comp=Z,64nm,0.7s,mb5.3						
FX1	**Attu Island--F**	**74.69**	**356**	*e*P	P	08 55 39.5	-1.0
YSS	**Yuzh-Sakhalins**	**76.22**	**335***c i*P		P	08 55 50.1	+1.1
YSS				pmax	pmax		
	comp=Z,53nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**76.22**	**335**	*e*P	P	08 55 50.2	+1.2
	comp=Z,26nm,0.8s,mb4.7						
KS15	**Wonju Array Si**	**76.56**	**320**	*e*P	P	08 55 51.2	+0.3
PET	**Petropavlovsk**	**76.82**	**347**	*e*P	P	08 55 51.1	-1.2
PET				pmax	pmax		
	comp=Z,27nm,0.7s,mb4.8						
SSE	**Sheshan**	**76.97**	**311**	*e*P	P	08 55 53.8	+0.8
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,103nm,4.7s						
VLA	**Vladivostok**	**78.22**	**326***c i*P		P	08 55 59.0	-0.8
VLA				pmax	pmax		
	comp=Z,63nm,1.7s,mb4.8						
NJ2	**Nanjing**	**79.14**	**311**	*e*P	P	08 56 06.3	+1.6
NJ2				AP	pP	08 58 13.0	+0.6
NJ2				XP	sP	08 59 13.9	-0.7
NJ2				PP	PP	08 59 18.0	+2.3
NJ2				S	S	09 05 16.0	+0.9
NJ2				XS	sS	09 08 59.0	-3.7
NJ2				AMB	AMB		
	comp=Z,310nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,410nm,5.7s						
MDJ	**Mudanjiang**	**80.46**	**326**	*e*P	P	08 56 11.1	-0.5
	comp=Z,38nm,1.2s,mb4.6						
HABR	**Khabarovsk**	**80.63**	**332**	*i*P	P	08 56 13.4	+1.0
HABR				*e*S	S	09 05 32.6	+2.4
WHN	**Wuhan**	**81.56**	**308**⇑	P	P	08 56 18.0	+0.8
WHN				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.0						
ISA	**Isabella**	**81.86**	**46**	*e*P	P	08 56 19.2	+0.5
ISA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
ISA	**Isabella**	**81.86**	**46**	*e*P	P	08 56 19.2	+0.6
	comp=Z,5.4nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**81.96**	**44**	*e*P	P	08 56 19.6	+0.4
CMB				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
CMB	**Columbia Colle**	**81.96**	**44**	*e*P	P	08 56 19.6	+0.4
	comp=Z,8.0nm,1.1s,mb4.2						
CN2	**Changchun**	**82.12**	**324**	*e*P	P	08 56 19.8	-0.2
CN2				*e*AP	pP	08 58 29.0	-0.1
CN2				*e*S	S	09 05 46.3	+1.1
CN2				AMB	AMB		
	comp=Z,50nm,1.3s,mb4.9						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
TIA	**Tai'an**	**82.66**	**314**⇓	P	P	08 56 23.1	+0.4
KLR	**Kul'dur**	**82.67**	**331**	*e*P	P	08 56 20.0	-2.7
KDAK	**Kodiak Island**	**82.70**	**15**	P	P	08 56 21.6	-1.2
	comp=Z,7.4nm,0.8s,mb4.2,baz=50,slow=16,SNR=4.9						
YBH	**Yreka Blue Hor**	**82.74**	**40**	P	P	08 56 23.9	+0.8
	comp=Z,3.5nm,0.9s,mb3.9,baz=178,slow=2.2,SNR=9.3						
YBH	**Yreka Blue Hor**	**82.74**	**40**	*e*P	P	08 56 23.9	+0.8
YBH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YBH	**Yreka Blue Hor**	**82.74**	**40**	*e*P	P	08 56 23.9	+0.8
	comp=Z,3.4nm,0.8s,mb3.9						
HUMO	**Hull Mountain**	**83.13**	**39**	*e*P	P	08 56 26.1	+1.0
	comp=Z,10nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**83.53**	**44**	P	P	08 56 27.6	+0.6
	comp=Z,1.7nm,0.8s,mb3.6,baz=214,slow=6.8,SNR=14						
NVAR				pP	pP	08 58 42.5	+5.9
	comp=Z,1.9nm,1.1s,baz=215,slow=7.8,SNR=5.1						
MNV	**Mina**	**83.63**	**44**	*e*P	P	08 56 27.7	+0.2
MNV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
MNV	**Mina**	**83.63**	**44**	*e*P	P	08 56 27.7	+0.2
	comp=Z,1.2nm,0.4s,mb3.8						
MA2	**Magadan**	**84.59**	**346***de*P		P	08 56 30.6	-1.6
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MA2				pmax	pmax		
	comp=N,2.0nm,0.8s						
MA2	**Magadan**	**84.59**	**346**	*e*P	P	08 56 30.8	-1.4
	comp=N,34nm,1.2s,mb4.9						
SYO	**Syowa Base**	**84.87**	**193**⇓	*e*P	P	08 56 31.3	-2.3
SYO	**Syowa Base**	**84.87**	**193**⇓	*e*pP	pP	08 58 41.2	-2.6
ENH	**Enshi**	**85.06**	**305**	*e*P	P	08 56 35.0	+0.5
	comp=N,52nm,0.9s,mb5.2						
BJT	**Baijiatuau**	**85.39**	**316**	*e*P	P	08 56 35.5	-0.6
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**85.39**	**316**	*e*P	P	08 56 35.5	-0.5
	comp=Z,16nm,0.8s,mb4.7						
GYA	**Guiyang**	**85.49**	**301**	P	P	08 56 37.4	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
WVOR	**Wild Horse Val**	**85.59**	**41**	*e*P	P	08 56 37.4	+0.4
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
WVOR	**Wild Horse Val**	**85.59**	**41**	*e*P	P	08 56 37.4	+0.3
	comp=Z,2.1nm,0.6s,mb3.9						
HDW	**Hoodsport**	**86.20**	**35**	P	P	08 56 40.9	+1.0
BBB	**Bella Bella**	**86.67**	**29**	P	P	08 56 41.7	-0.4
	comp=Z,9.2nm,0.7s,mb4.6,baz=152,slow=23,SNR=6.9						
RMW	**Rattlesnake Mo**	**86.75**	**35**	P	P	08 56 43.2	+0.7
PMR	**Palmer**	**86.89**	**14**	*e*P	P	08 56 41.7	-1.5
PMR				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
PMR	**Palmer**	**86.89**	**14**	*e*P	P	08 56 41.7	-1.5
	comp=Z,25nm,1.0s,mb4.9						
EBG	**Ellensburg**	**87.09**	**36**	P	P	08 56 44.9	+0.8
JCW	**Jim Creek**	**87.13**	**35**	P	P	08 56 44.9	+0.6
SEY	**Seymchan**	**87.27**	**348**	*e*P	P

comp=Z,2.0nm,1.3s
ANMO Albuquerque 89.96 52 eP P 08 56 57.9 +0.5
comp=Z,2.1nm,1.3s,mb3.8
COLA College 90.05 13 eP P 08 56 56.1 -1.7
COLA College 90.05 13 eP P 08 56 55.9 -2.0
comp=Z,7.1nm,0.8s,mb4.5
ILAR Eielson Array 90.17 14 P P 08 56 55.9 -2.5
comp=Z,2.5nm,0.7s,mb4.1,baz=209,slow=5.5,SNR=37
BILL Bilibino 90.23 355d iP P 08 56 57.5 -1.1
BILL pmax pmax
comp=Z,16nm,1.3s,mb4.7
BILL Bilibino 90.23 355 eP P 08 56 57.4 -1.2
comp=Z,3.3nm,0.6s,mb4.3
PDAR Pinedale Array 91.46 44 P P 08 57 04.3 0.0
comp=Z,0.7nm,0.7s,mb3.7,baz=227,slow=2.3,SNR=8.7
LZH Lanzhou 91.93 308 ⇓P P 08 57 07.5 +1.0
LZH AP pP 08 59 20.3 +1.5
LZH XP sP 09 00 19.8 +0.1
LZH PP PP 09 01 01.5 +4.4
LZH AMB AMB
comp=Z,25nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,53nm,8.3s
YAK Yakutsk 92.62 339 eP P 08 57 08.8 -0.9
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
ULN Ulaanbaatar 95.03 320 ⇓iP P 08 57 19.0 -1.6
SONM Songino Array 95.41 320 P P 08 57 22.7 +0.3
comp=Z,0.5nm,0.4s,mb4.0,baz=108,slow=4.8,SNR=2.9
CFAA Coronel Fontan 95.99 127 P P 08 57 24.3 -0.6
comp=Z,0.1nm,0.5s,baz=254,slow=6.0,SNR=5.3
INK Inuvik 96.20 16 P P 08 57 22.0 -3.8
comp=Z,1.4nm,0.8s,mb4.2,baz=244,slow=5.1,SNR=10
INK Inuvik 96.20 16 P P 08 57 22.0 -3.8
GTA Gaotai 96.21 310 P P 08 57 26.1 +0.2
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.8
YKA Yellowknife Ar 98.69 25 P Pdif 08 57 34.7 -2.3
comp=Z,0.4nm,0.7s,baz=244,slow=4.5,SNR=11
YKA Yellowknife Ar 98.69 25 P Pdif 08 57 34.7 -2.3
MKAR Makanchi Array 110.59 313 Pdiff Pdif 08 58 28.6 -1.2
comp=Z,0.5nm,0.7s,baz=91,slow=5.6,SNR=6.4
MKAR PKiKP PKiKP 09 02 24.2 -2.0
comp=Z,1.1nm,0.5s,baz=152,slow=0.6,SNR=23
MKAR PKKPbc PKKPbc 09 13 26.4 -0.4
comp=Z,0.6nm,0.7s,baz=306,slow=4.1,SNR=5.6
MKAR PKKPab PKKPab 09 13 38.7 -1.1
comp=Z,0.6nm,0.8s,baz=292,slow=2.6,SNR=5.0
KURK Kurchatov 113.56 317d iPKiKP PKiKP 09 02 29.4 -2.4
ZRNK Zerenda 119.59 319 ePKiKP PKPdf 09 02 41.4 -2.0
ARU Arti 125.11 324 iPKiKP PKPdf 09 02 52.8 -1.2
ARU e 09 04 53.2
ARU Arti 125.11 324 ePKPdf PKPdf 09 02 52.5 -1.5
ARCES ARCESS Array B 129.89 348 PKP PKPdf 09 03 01.1 -2.1
comp=Z,6.7nm,0.6s,baz=67,slow=1.8,SNR=16
ARCES SKPbc SKPbc 09 05 26.6 -2.6
comp=Z,8.9nm,0.8s,baz=49,slow=5.5,SNR=12
FINES FINESS Array B 136.47 342 PKP PKPdf 09 03 14.9 -0.6
comp=Z,5.6nm,1.0s,baz=58,slow=3.4,SNR=7.7
FINES SKPbc SKPbc 09 05 47.8 -3.3
comp=Z,2.5nm,0.7s,baz=57,slow=7.0,SNR=8.2
OBN Obninsk 136.92 330 ⇓iPKiKP PKPdf 09 03 15.7 -0.6
OBN pmax pmax
comp=Z,23nm,1.5s
NB2 NORSAR Subarra140.08 351 PKPa 09 03 14.7
comp=Z,2.7nm,0.8s,baz=14,slow=3.2
NOA NORSAR Array B140.08 351 PKhKP 09 03 12.6
comp=Z,2.0nm,0.7s,baz=3.9,slow=2.6,SNR=12
NOA PKP PKPdf 09 03 21.9 -0.2
comp=Z,2.9nm,0.7s,baz=15,slow=3.9,SNR=6.0
NOA SKPbc SKPbc 09 05 57.9 -3.1
comp=Z,3.2nm,0.9s,baz=16,slow=4.3,SNR=6.4
ANN Anapa 141.57 315 ePKiKP PKPdf 09 03 33.0 +8.3
ANN pmax pmax
comp=Z,74nm,1.2s
MALT Malatya 143.02 305 eP PKPdf 09 03 23.2 -4.0
MALT Malatya 143.02 305 PKHKP 09 03 26.1
MALT Malatya 143.02 305 ePKPdf PKPdf 09 03 25.6 -1.6
AKASG Malin Array Be 143.14 328 PKP PKPdf 09 03 24.0 -3.4
comp=Z,36nm,0.6s,baz=44,slow=4.2,SNR=194
AKASG SKPbc SKPbc 09 06 06.1 -2.6
comp=Z,6.3nm,0.8s,baz=44,slow=2.1,SNR=16
SUW Suwalki 143.34 337 ePKP PKPdf 09 03 25.3 -2.5
SIM Simferopol' 143.62 317 ⇓iPKHKP 09 03 27.3
SIM pmax pmax
comp=Z,80nm,0.9s
SVSK Karacayir 143.63 308 eP PKPdf 09 03 25.7 -2.7
HTY Hatay 145.34 302 eP PKPdf 09 03 32.2 +1.0
TOS Tosya 145.36 311 eP PKPdf 09 03 33.0 +1.7
GKP Gorka Klasztor 145.94 341 ePKP PKPdf 09 03 33.5 +1.2
BRTR Keskin Array B 146.13 309 PKP PKPdf 09 03 31.5 -1.1
comp=Z,9.0nm,0.7s,baz=113,slow=2.8,SNR=43
BRTR PKPbc PKPbc 09 03 34.0 -0.8
comp=Z,8.1nm,0.5s,baz=126,slow=3.4,SNR=43
BRTR SKPbc SKPbc 09 06 12.3 -3.2
comp=Z,1.0nm,0.9s,baz=77,slow=2.7,SNR=3.6
KAMT Kaman 146.20 309 eP PKPdf 09 03 33.3 +0.6
SAFT Safranbolu 146.20 312 eP PKPdf 09 03 33.2 +0.5
MERS Mersin 146.40 304 eP PKPdf 09 03 34.4 +1.4
ANTO Ankara 146.68 310 ⇓PKHKP 09 03 36.2
ANTO Ankara 146.68 310 ePKPbc PKPbc 09 03 35.9 -0.5
KWP Kalwaria 146.89 332 ePKP PKPdf 09 03 36.2 +2.3
BSEG Bad Segeberg 147.02 348 ePKPbc PKPbc 09 03 36.4 -0.8
BSEG ePKPab PKPab 09 03 40.2 -0.7
BSEG Bad Segeberg 147.02 348 ePKP2 PKPab 09 03 40.2 -0.7
CFR Carcaliu 147.12 322 ⇑P PKPdf 09 03 37.1 +2.9
BURAR Bucovina Array 147.16 327 ⇑P PKPdf 09 03 37.4 +3.1
IKL Isikli 147.22 303 eP PKPdf 09 03 35.9 +1.5
TIRR Tirgusor 147.37 320 ⇓P PKPdf 09 03 37.2 +2.6
VRI Vrincioaia 147.50 324 ⇑P PKPdf 09 03 37.9 +3.0
VRI Vrincioaia 147.50 324 PKHKP 09 03 37.5
VRI Vrincioaia 147.50 324 ⇑PKIKP PKPdf 09 03 37.9 +3.0
HARR Harsova 147.52 321 ⇓P PKPdf 09 03 38.3 +3.4
KOLS Kolonicke sedl 147.60 332 iPKP PKPdf 09 03 38.7 +3.7
RUE Ruedersdorf 147.61 344 ePKPbc PKPbc 09 03 38.1 -0.6
OJC Ojcow 147.62 336 ePKP PKPdf 09 03 37.8 +2.7
STHS Stebnicka Huta 147.67 333 iPKP PKPdf 09 03 38.3 +3.1
STHS e 09 03 43.6
KIZT Kizilcal 147.71 309 eP PKPdf 09 03 37.2 +2.0
CRVS Cervenica-Dubn 147.97 333 ePKP PKPdf 09 03 39.6 +4.0
NIE Niedzica 148.05 334 ePKP PKPdf 09 03 39.8 +4.0
MLR Muntele Rosu 148.16 324 ⇓P PKPdf 09 03 39.2 +3.3
DCN Croghan 148.17 8 ⇓iP PKPdf 09 03 38.6 +2.6
DLF Lyons Farm 148.31 7 ⇓iP PKPdf 09 03 39.6 +3.4
KSP Ksiaz 148.33 340 ePKP PKPdf 09 03 40.1 +3.9
KSP Ksiaz 148.33 340 ePKP2 PKPab 09 03 44.8 -1.4
OKC Ostrava-Krasne 148.55 337 ⇑ePKPB PKPbc 09 03 38.4 -2.7
VOIR 148.68 325 ⇑P PKPbc 09 03 40.8 -0.6
KECS Kecovo 148.71 333 ePKP PKPbc 09 03 41.5 0.0
KECS e 09 03 47.5
UPC Upice 148.71 340⇑ePKPB PKPbc 09 03 41.0 -0.5
DPC Dobruska-Polom 148.75 339⇑ePKPB PKPbc 09 03 41.2 -0.4
MORC Moravsky Berou 148.82 337 ePKIKP PKPbc 09 03 40.9 -0.8
CLL Collm 148.87 344 ePKPbc PKPbc 09 03 41.0 -0.9
CLL ePKPab PKPab 09 03 47.6 -0.9
CLL Collm 148.87 344 ⇓iPKPbc PKPbc 09 03 41.1 -0.8
comp=Z,59nm,0.9s
CLL ⇑iPKPab PKPab 09 03 47.7 -0.8
comp=Z,25nm,0.8s
CLL Collm 148.87 344 ⇓iPKIKP PKPbc 09 03 41.1 -0.8
CLL e 09 03 48.0
CLL pmax pmax
comp=Z,59nm,0.9s
CLL pmax pmax
comp=Z,25nm,0.8s
DRGR 148.96 329 ⇑P PKPbc 09 03 41.8 -0.3
DRGR 148.96 329 PKIKP PKPbc 09 03 41.5 -0.6
CLZ Clausthal 148.99 347 ePKPbc PKPbc 09 03 41.5 -0.7
BRG Berggiesshubel 149.01 342 ePKPbc PKPbc 09 03 41.5 -0.7
BRG ePKPab PKPab 09 03 48.2 -0.9
BRG Berggiesshubel 149.01 342 iPKIKP PKPbc 09 03 41.5 -0.7
BRG i 09 03 48.0
BRG pmax pmax
comp=Z,23nm,0.7s
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=Z,2.0nm,0.6s
PSZ Piszkesteto 149.40 333 ePKHKP 09 03 42.3
PSZ e 09 03 50.7
WTSB Winterswijk 149.50 351 ePKP PKPbc 09 03 42.3 -1.0
comp=Z,64nm,0.9s
VRAC Vranov 149.54 338 ⇓PKHKP 09 03 42.6
PRU Pruhonice 149.63 341⇑ePKPB PKPbc 09 03 42.8 -0.9
PRU ePKPAB PKPab 09 03 51.5 -0.1
MOX Moxa 149.83 345 ePKPbc PKPbc 09 03 43.1 -1.1
MOX ePKPab PKPab 09 03 51.3 -1.2
MOX Moxa 149.83 345 ePKP PKPbc 09 03 43.0 -1.2
comp=Z,30nm,1.1s
MOX e 09 03 51.5
MOX Moxa 149.83 345 ePKHKP 09 03 43.0
MOX e 09 03 51.5
MOX pmax pmax
comp=Z,30nm,1.1s
WERD Werda 149.84 344 ePKPbc PKPbc 09 03 43.4 -0.8
WERD ePKPab PKPab 09 03 52.0 -0.5
BUG Bochum--Univer 149.94 351 ePKPbc PKPbc 09 03 43.4 -1.0
NKC Novy Kostel 150.00 344⇑ePKPB PKPbc 09 03 44.0 -0.6
NKC ePKPAB PKPab 09 03 52.6 -0.6
UBBA Unterbreizbach 150.04 347 ePKPbc PKPbc 09 03 43.6 -1.0
BZS Buzias 150.33 328 ⇓P PKPbc 09 03 44.4 -0.9
ROTZ Rotzenmuhle 150.49 343 ePKPbc PKPbc 09 03 44.8 -0.9
ROTZ ePKPab PKPab 09 03 54.7 -0.5
KHC Kasperske Hory 150.68 341⇑ePKPB PKPbc 09 03 44.9 -1.2
KHC ePKPAB PKPab 09 03 55.5 -0.5
HGN Heimansgroeve 150.79 352 ePKP PKPbc 09 03 44.9 -1.5
comp=Z,19nm,1.0s
GRF Grafenberg Arr 150.81 345 ePKP PKPbc 09 03 45.1 -1.3
GRF ePKPab PKPab 09 03 56.1 -0.5
WET Wettzell 150.87 342 ePKPbc PKPbc 09 03 46.2 -0.4
WET ePKPab PKPab 09 03 56.7 -0.1
GEC2 GERESS Array S 150.89 341 ePKPbc PKPbc 09 03 45.8 -0.8
GERES GERESS Array B 150.89 341 PKPbc PKPbc 09 03 44.8 -1.8
comp=Z,8.3nm,0.7s,baz=48,slow=2.0,SNR=49
GERES PKPab PKPab 09 03 56.8 -0.2
comp=Z,1.7nm,0.7s,baz=45,slow=4.0,SNR=6.1
TNS Taunus Mts 150.91 348 ePKPbc PKPbc 09 03 45.8 -0.9
TNS ePKPab PKPab 09 03 55.9 -1.1
MEM Membach 150.93 352 PKP PKPbc 09 03 45.6 -1.1
PKSM Moragy 151.27 332 PKIKP PKPbc 09 03 46.5 -0.9
VTS Vitosha 151.52 322 ⇓PKIKP PKPbc 09 03 48.0 0.0
GIVF Givet 151.57 353 ePKP1 PKPbc 09 03 47.3 -0.8
comp=Z,43nm,0.9s
MOA Molln 151.59 339⇓iPKPbc PKPbc 09 03 46.9 -1.2
comp=Z,4.7nm,0.8s
DOU Dourbes 151.60 353 PKP PKPbc 09 03 47.3 -0.9
DOU PKPbc PKPbc 09 03 54.5 +6.3
DOU PKPab PKPab 09 04 02.7 +2.8
BAIF Baives 151.68 354 ePKP1 PKPbc 09 03 47.5 -0.9
WLF Walferdange 151.83 351 ePKPbc PKPbc 09 03 47.8 -0.9
WLF Walferdange 151.83 351 PKP PKPbc 09 03 48.6 -0.1
STU Stuttgart 152.14 346 ePKPbc PKPbc 09 03 48.6 -0.8
FUR Furstenfeldbru 152.20 343 ePKPbc PKPbc 09 03 48.6 -0.9
FUR ePKPab PKPab 09 04 02.4 -0.1
PERS Pernice 152.34 337 ePKPdf PKPbc 09 03 48.1 -1.7
STIP Stip 152.67 321 iPKP PKPab 09 04 04.4 0.0
VAY Valandovo 152.68 320 iPKP PKPab 09 04 04.0 -0.5
BFO Black Forest 152.74 347 ePKPbc PKPbc 09 03 49.6 -1.1
CDF Champ du Feu 152.87 349 ePKP1 PKPbc 09 03 50.0 -1.0
comp=Z,33nm,1.1s
SKO Skopje 152.92 323 iPKP PKPab 09 04 06.1 +0.6
WTTA Wattenberg 152.93 342 ⇓ PKPab 09 04 05.4 -0.2
comp=Z,17nm,0.5s
WTTA Wattenberg 152.93 342⇓iPKPbc PKPbc 09 03 50.1 -1.0
comp=Z,9.8nm,0.6s
WTTA Wattenberg 152.93 342 PKPab 09 04 05.4 -0.2
comp=Z,17nm,0.5s
SQTA Sankt Quirin 153.09 342 ⇑ PKPab 09 04 06.1 -0.1
comp=Z,8.6nm,1.0s
SQTA Sankt Quirin 153.09 342⇓iPKPbc PKPbc 09 03 50.4 -1.0
comp=Z,2.8nm,0.7s
SQTA Sankt Quirin 153.09 342 PKPab 09 04 06.1 -0.1
comp=Z,8.6nm,1.0s
FLN La Foliniere 153.20 0 ePKP1 PKPbc 09 03 50.4 -1.3
comp=Z,26nm,0.8s
BOJS Bojanci 153.24 335 ePKPdf PKPbc 09 03 51.2 -0.5
BOJS ePKPbc PKPab 09 04 08.7 +1.8
LDF La Druitiere 153.37 360 ePKP1 PKPbc 09 03 50.6 -1.4
comp=Z,14nm,0.7s
GRR Gorron 153.58 1 ePKP1 PKPbc 09 03 51.3 -1.2
OHR Ohrid 153.85 322 iPKP PKPab 09 04 08.7 -0.8
SSF Saint Saulge 154.72 354 ePKP1 PKPdf 09 03 55.0 +9.3
CABF La Chapelle 154.81 350 ePKP1 PKPdf 09 03 54.7 +8.9
AVF Avril sur Loir 155.00 354 ePKP1 PKPdf 09 03 55.6 +10
MFF Saint Martin d 155.37 360 ePKP1 PKPdf 09 03 55.2 +8.6
ESDC Sonseca Array 162.02 9 PKPab PKPab 09 04 43.1 -2.0
comp=Z,3.3nm,0.8s,baz=338,slow=4.6,SNR=5.3
DBIC Dimbokro 164.23 163 PKPab PKPab 09 04 54.9 +0.1
comp=Z,1.9nm,0.7s,baz=223,slow=13,SNR=3.7
TORD Torodi Ar. Bea 171.08 193 PKP PKPdf 09 03 59.5 -1.5
comp=Z,1.6nm,1.0s,baz=335,slow=1.2,SNR=7.2
TORD PKPab PKPab 09 05 25.5 +0.3
comp=Z,0.8nm,0.9s,baz=183,slow=3.1,SNR=3.7

IDC 20 08:52:17.7±67.0, 1834S×17675E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1176.0km s-min=152.2km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.41	240	P	P	08 59 06.6	0.0
0.5nm,0.4s,baz=79,slow=16,SNR=3.7							
WRA	Warramunga Arr	40.02	261	P	P	08 59 54.5	+0.2
0.2nm,0.6s,baz=94,slow=7.9,SNR=6.2							
ASAR	Alice Springs	40.24	255	P	P	08 59 56.6	+0.5
3.9nm,0.6s,baz=88,slow=8.3,SNR=34							

CASC 20 09:11:43.1±3.0, 1312N×8746W, h6km±10km, MD3.7, ML3.0, 2C-7D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.39	293	⇑iP	Pg	09 11 51.7	+1.0
CNCH				eS	Sg	09 11 55.5	-0.4
CRIN	San Cristobal	0.58	136	eP	Pg	09 11 54.1	-0.2
TELN	Telica	0.80	130⇓	eP	Pg	09 11 57.8	-0.7
TEL3	Telica 3	0.81	132⇓	eP	Pg	09 11 57.4	-1.4
TEL3				eS	Sg	09 12 12.1	+2.8
TEL3				i		09 12 18.6	
comp=Z,567nm,0.4s							
BLLM	Bellamira	0.82	293	eP	Pg	09 11 59.0	+0.2
BLLM				eS	Sg	09 12 10.1	+0.7
VSM	San Miguel	0.85	291	eP	Pg	09 11 60.0	+0.6
VSM				eS	Sg	09 12 11.2	+0.8
LEON	Leon	0.90	142	⇓iP	Pg	09 11 58.5	-1.8
LEON				i		09 12 17.2	
comp=Z,392nm,0.5s							
CNGN	Cerro Negro	0.97	130⇓	eP	Pg	09 12 00.3	-1.4
CAHU	Cacacuatique	0.97	312	eP	Pg	09 12 01.9	+0.2
CAHU				eS	Sg	09 12 14.3	0.0
MIRN	Miramar	1.00	133⇓	eP	Pg	09 12 00.5	-1.8
MOMJ	Momotombo	1.15	128⇓	eP	Pg	09 12 02.8	-2.4
COPN	Copaltepe	1.27	138⇑	eP	Pn	09 12 04.6	-2.7
COPN				eS	Sg	09 12 23.6	-0.2
APYN	Apoyeque	1.40	129⇓	eP	Pn	09 12 07.6	-1.6
SNVI	San Vicente	1.43	290	eP	Pn	09 12 09.8	+0.3
SNVI				eS	Sb	09 12 28.2	-0.3
LCBS	La Ceiba	1.57	290	eP	Pn	09 12 11.9	+0.4
LFRS	El Faro	1.63	288	eP	Pn	09 12 12.8	+0.4
LBRS	Las Brisas	1.66	292	eP	Pn	09 12 13.0	+0.3
SNET	Serv Nac Est T	1.81	288	eP	Pn	09 12 09.9	-4.9
SNET				eS	Sn	09 12 33.3	-4.7
BOQS	Boqueron	1.87	289	eP	Pn	09 12 17.2	+1.6

IDC 20 09:18:50.2±3.7, 278S×13605E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.5/13, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=166.3km s-min=29.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.14	185	P	Pn	09 22 53.1	+2.0
0.1nm,0.3s,baz=4.0,slow=12,SNR=5.6							
ASAR	Alice Springs	20.86	186	P	P	09 23 33.1	-0.6
0.7nm,0.6s,baz=20,slow=10,SNR=1							
MKAR	Makanchi Array	68.24	323	P	P	09 29 52.9	+0.3
0.3nm,0.4s,baz=100,slow=10,SNR=8.0							

*ISCJB **20** 09:23:44.8±1.9, 217N±0.1×1430E±03, h312km±18km, mb3.5/6, Error ellipse: s-maj=52.2km s-min=18.8km az=14.2*
*IDC **20** 09:23:44.8±2.2, 2165N×143.17E, h299km±21km, mb3.2/6, mb1 3.4/8, mb1mx3.1/21, mbtmp3.9/8, Error ellipse: s-maj=40.1km s-min=16.1km az=100.0*

ISC 20 09:23:45.6±1.9, 217N±01×1430E±03, h306km±18km, n9, σ0§74/10, mb3.5/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.45	352	P	Pn	09 25 09.3	+0.8
15nm,0.3s,baz=108,slow=21,SNR=11							
CBIJ				S	S	09 26 14.6	-0.8
7.0nm,0.3s,baz=311,slow=21,SNR=6.0							
MJAR	Matsushiro Arr	15.40	345	P	P	09 27 07.4	+0.8
0.5nm,0.3s,baz=172,slow=10,SNR=4.5							
WB2	Warramunga Arr	42.23	192	eP	P	09 31 09.0	-0.3
WRA	Warramunga Arr	42.23	192	P	P	09 31 09.2	-0.1
0.5nm,0.4s,mb3.1,baz=16,slow=9.6,SNR=14							
ILAR	Eielson Array	62.12	27	P	P	09 33 33.6	-1.0
0.4nm,0.6s,mb3.2,baz=258,slow=5.7,SNR=11							
YKA	Yellowknife Ar	76.54	28	P	P	09 35 01.9	-0.5
0.7nm,0.6s,mb3.6,baz=292,slow=5.9,SNR=24							
ARCES	ARCESS Array B	78.90	341	P	P	09 35 16.1	+0.8
1.3nm,0.5s,mb3.9,baz=74,slow=9.5,SNR=10.0							
FINES	FINESS Array B	83.14	334	P	P	09 35 36.8	-0.8
0.6nm,0.5s,mb3.7,baz=80,slow=5.6,SNR=9.1							
NVAR	Mina Array Bea	83.26	51	P	P	09 35 39.3	+1.1
0.5nm,0.7s,mb3.4,baz=270,slow=5.9,SNR=4.4							

*ISK **20** 09:27:13.5, 4044N×2570E, h22km, MD3.0*
*CSEM **20** 09:27:15.6±0.1, 4044N×2590E, h20km, ML3.1, Error ellipse: s-maj=2.6km s-min=1.9km az=162.0*
*ISCJB **20** 09:27:15.7±0.5, 4047N±003×2580E±003, h21km±5km, Error ellipse: s-maj=4.6km s-min=3.8km az=118.9*
*THE **20** 09:27:15.0, 4041N×2588E, h8km, ML3.1*
*NEIC **20** 09:27:16.0, 4044N×2581E, h30km, MD3.2(ISK), MD3.5(ATH), After ATH.*
*ATH **20** 09:27:16.0, 4044N×2581E, h30km±1km, MD3.5/3*

ISC 20 09:27:15.2±0.5, 4046N±003×2580E±003, h15km±4km, n42, σ0§88/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	Alexandroupoli	0.48	23	ePg	Pg	09 27 24.6	-0.1
comp=Z,14nm,0.2s							
ALN				eSg	Sg	09 27 31.5	+0.4
ALN	Alexandroupoli	0.48	23	ePg	Pg	09 27 24.6	-0.1
14nm,0.2s							
ALN				eSg	Sg	09 27 31.5	+0.4
RDO	Rodhopi	0.71	344	ePN	Pn	09 27 30.2	-0.5
RDO				eSN	Sg	09 27 42.0	+3.4
LIA	Limnos Island	0.73	220	ePN	Pn	09 27 30.3	-0.6
LIA				eSN	Sn	09 27 41.2	-0.6
LPK	Lapseki	0.74	96	PG	Pg	09 27 29.7	0.0
LPK	Lapseki	0.74	96	Pg	Pg	09 27 28.8	-0.9
EZN	Ezine	0.75	147	iPG	Pg	09 27 28.7	-1.2
EZN				iSG	Sg	09 27 40.9	+1.1
EZN	Ezine	0.75	147	Pg	Pg	09 27 28.8	-1.1
EZN				iSg	Sg	09 27 40.9	+1.1
EZN	Ezine	0.75	147	Pg	Pg	09 27 28.8	-1.1
LOS	Limnos	0.76	226	ePg	Pg	09 27 30.1	+0.1
LOS				eSg	Sg	09 27 40.6	+0.6
RKY	Sarkoy-Tekirda	1.08	77	PN	Pn	09 27 34.7	-1.0
RKY				SN	Sn	09 27 50.1	-0.3
RKY	Sarkoy-Tekirda	1.08	77	Pn	Pn	09 27 34.8	-0.9
RKY				eSn	Sn	09 27 50.1	-0.3
RKY				Sg	Sg	09 27 50.8	+0.7
RKY	Sarkoy-Tekirda	1.08	77	Pn	Pn	09 27 34.8	-0.9
RKY				Sg	Sg	09 27 50.8	+0.7
SART	Tekirdag	1.08	77	iP	Pb	09 27 35.6	+0.1
SART				iS	Sb	09 27 50.7	+1.2
MFT	Murefte	1.18	73	PN	Pn	09 27 36.5	-0.6
MFT				SN	Sn	09 27 53.3	+0.5
PRK	Paraskevi	1.27	163	ePN	Pn	09 27 39.2	+0.9
PRK				eSN	Sn	09 27 56.0	+1.0
AYVA	Ayvalik	1.34	149	iP	Pn	09 27 39.8	+0.4
AYVA				iS	Sn	09 27 58.0	+1.1
MRMT	Marmara Adasi	1.38	83	PN	Pn	09 27 39.4	-0.5
MRMT				SN	Sn	09 27 57.6	-0.2
OUR	Ouranopolis	1.39	265	ePg	Pg	09 27 40.5	-1.5
comp=Z,4.5nm,0.2s							
TKR	Tekirdag	1.43	68	PN	Pn	09 27 39.9	-0.6
TKR	Tekirdag	1.43	68	Pn	Pn	09 27 40.0	-0.5
EDRB	Edirne	1.56	27	PN	Pn	09 27 41.7	-0.6
EDRB	Edirne	1.56	27	Pn	Pn	09 27 42.6	+0.3
EDRB	Edirne	1.56	27	Pn	Pn	09 27 42.6	+0.2
EDC	Edincik	1.58	93	ePN	Pn	09 27 41.9	-0.8
EDC	Edincik	1.58	93	Pn	Pn	09 27 42.0	-0.7
BNT	Bandirma	1.63	93	ePN	Pn	09 27 43.0	-0.2
NVR	Nevrokopi	1.71	302	ePN	Pn	09 27 46.1	+1.6
BALB	Balikesir	1.80	116	ePN	Pn	09 27 45.6	0.0
BALB	Balikesir	1.80	116	Pn	Pn	09 27 43.9	-1.7
BTOK	Tokmak	1.85	111	iP	Pn	09 27 47.2	+0.8
BTOK				iS	Sn	09 28 14.6	+5.2
AOS	Alonnisos	1.96	229	ePb	Pb	09 27 47.5	-3.0
KCT	Karacabey	1.97	95	PN	Pn	09 27 47.2	-0.7
KCT	Karacabey	1.97	95	Pn	Pn	09 27 47.2	-0.7
CTT	Catalca	2.12	70	PN	Pn	09 27 49.5	-0.5
ELBA	Catalca	2.12	70	iP	Pn	09 27 50.0	+0.1
ELBA				iS	Sn	09 28 22.2	+6.2
ELBA	Catalca	2.12	70	iP	Pn	09 27 50.0	0.0
AKS	Akhisar	2.22	135	ePN	Pn	09 27 51.0	-0.4
AKS	Akhisar	2.22	135	Pn	Pn	09 27 50.1	-1.3
KNT	Kendrikon	2.31	289	ePn	Pn	09 27 54.0	+1.4
GRG	Griva	2.63	282	ePn	Pn	09 27 58.0	+1.0
YLV	Yalova	2.73	87	ePN	Pn	09 27 57.9	-0.5

IDC 20 09:29:50.8±8.3, 622S×14908E, h61km±66km, mb2.9/1, mb1 3.6/3, mb1mx3.3/14, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=126.8km s-min=54.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.69	211	P	Pn	09 30 45.6	+0.3
12nm,0.3s,baz=20,slow=5.4,SNR=37							
PMG				S	Sn	09 31 28.4	+0.8
9.7nm,0.3s,baz=41,slow=20,SNR=10							
WB2	Warramunga Arr	19.77	225	eP	Pn	09 34 16.4	-1.4
WRA	Warramunga Arr	19.77	225	P	Pn	09 34 16.0	-1.9
0.4nm,0.3s,baz=51,slow=11,SNR=18							
ASAR	Alice Springs	22.67	219	P	P	09 34 47.6	+0.7
0.4nm,0.5s,baz=51,slow=9.9,SNR=14							
TORD	Torodi Ar. Bea	147.15	285	PKPbc	PKPbc	09 49 27.4	+0.3
0.2nm,0.4s,baz=84,slow=3.9,SNR=6.4							

ISC 20 09:57:10.7±0.6, 3967N±003×2945E±004, h10km, n8, σ0§97/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.53	333	iP	Pg	09 57 19.8	-1.2
ULDT				iS	Sg	09 57 27.9	-0.1
GDZ	Gediz	0.58	178	iP	Pg	09 57 22.4	+0.4
GDZ				iS	Sg	09 57 30.3	+0.6
IZI	Iznik	0.67	1	ePG	Pg	09 57 23.0	-0.6
BORA	Eskisehir	0.80	75	iP	Pg	09 57 24.9	-1.2
BORA				iS	Sg	09 57 37.5	+0.9
YLV	Yalova	0.90	356	ePG	Pg	09 57 28.2	+0.2
YLV				eSG	Sg	09 57 42.0	+2.3
ESKT	Eskisehir	1.09	97	ePG	Pg	09 57 30.4	-1.3
ESKT	Eskisehir	1.09	97	iP	Pb	09 57 30.8	-0.8
ESKT				iS	Sg	09 57 47.1	+1.2
BTOK	Tokmak	1.10	275	iP	Pb	09 57 31.2	-0.6
BTOK				iS	Sg	09 57 46.9	+0.7

*NAO **20** 09:56:51.4, 3041N×7599E, h33km, mb3.7*
*IDC **20** 09:57:15.9±0.9, 3388N×7392E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.7/2, Error ellipse: s-maj=30.3km s-min=19.1km az=54.0*
*MOS **20** 09:57:18.4±1.1, 3388N×7403E, h33km,

mb3.7(NEIC)
*BJI **20** 09:57:25.2, 3468N×7344E, h52km, mb3.7, ML4.2*
*NNC **20** 09:57:28.3±1.8, 3432N×7373E, h64km±15km, mb3.6, mpv4.4, Error ellipse: s-maj=24.6km s-min=10.8km az=119.0*

ISC 20 09:57:22.5±0.4, **3388N**±003×**7417E**±005, **h67**km±8km, **n81**, σ1§**42**/105, **mb3.6**/10, **2C-5D, Southwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.79**	**254**	⇓P	**Pn**	**09 57 31.2**	**-7.0**
CEP	**Cherat**	**1.88**	**269**	P	**Pn**	**09 57 50.1**	**-2.4**
THN	**Thein Dam**	**1.94**	**138**	*e*P	**Pn**	**09 57 55.4**	**+2.2**
DLH	**Dalhousie**	**2.01**	**131**	*e*P	**Pn**	**09 57 58.0**	**+3.8**
DLH				*ex*	x	09 58 28.0	
SARP	**Sargodha**	**2.32**	**213**	P	**Pn**	**09 57 57.3**	**-1.1**
PONG	**Pong**	**2.43**	**142**	*e*P	**Pn**	**09 58 03.0**	**+3.1**
PONG				*ex*	x	09 58 39.0	
BHK	**Bhakra**	**3.10**	**142**	*ex*	x	09 58 07.6	
BHK				*ex*	x	09 58 23.8	
BHK				*ex*	x	09 58 57.6	
SDNR	**Sundarnagar**	**3.34**	**134**	*e*P	**Pn**	**09 58 15.0**	**+2.7**
SDNR				*ex*	x	09 59 04.4	
SMLA	**Simla**	**3.73**	**136**	*e*P	**Pn**	**09 58 19.6**	**+2.0**
SMLA				*e*P		09 58 20.4	
SMLA				*e*S	**Sn**	**09 59 06.3**	**+6.0**
SMLA				AML	AML	09 59 21.2	
	comp=N,456nm,0.2s						
SMLA				AML	AML	09 59 21.8	
	comp=E,596nm,0.3s						
KLP	**Kalpa**	**4.16**	**123**	*e*P	**Pn**	**09 58 27.3**	**+3.8**
KLP				*e*S	**Sn**	**09 59 15.4**	**+4.7**
DDI	**Dehra Dun**	**4.84**	**136**	*e*P	**Pn**	**09 58 34.6**	**+1.8**
DDI				*ex*	x	09 59 57.1	
NDI	**New Delhi**	**5.79**	**152**	*e*P	**Pn**	**09 58 50.0**	**+4.1**
NDI				*e*S	**Sn**	**09 59 54.0**	**+3.1**
KALG	**Kalgarh**	**5.85**	**137**	*e*P	**Pn**	**09 58 43.1**	**-3.5**
KALG				*e*S	**Sn**	**09 59 46.6**	**-5.7**
KHET	**Khetri**	**5.95**	**166**	*e*P	**Pn**	**09 58 48.8**	**+0.8**
KHET				*e*S	**Sn**	**09 59 53.3**	**-1.5**
KUDL	**Kundal**	**6.05**	**160**	*e*P	**Pn**	**09 58 50.5**	**+1.1**
KUDL				*e*S	**Sn**	**09 59 56.7**	**-0.4**
KUDL				AML	AML	10 00 37.3	
	comp=E,63nm,0.7s						
KUDL				AML	AML	10 00 39.9	
	comp=N,41nm,0.7s						
SONA	**Sohna**	**6.14**	**155**	*e*P	**Pn**	**09 58 51.5**	**+1.0**
SONA				*e*S	**Sn**	**09 59 58.5**	**-0.9**
SONA				AML	AML	10 00 04.6	
	comp=E,78nm,0.3s						
SONA				AML	AML	10 00 05.1	
	comp=N,38nm,0.2s						
AGRA	**Agra**	**7.38**	**153**	*e*P	**Pn**	**09 58 57.1**	**-10**
AGRA				*e*S	**Sn**	**10 00 15.1**	**-15**
AJM	**Ajmer**	**7.38**	**177**	*e*P	**Pn**	**09 59 09.0**	**+1.4**
AJM				*e*P		09 59 09.1	
AJM				*i* S	**Sn**	**10 00 27.0**	**-2.9**
AJM				*ex*	x	10 00 40.8	
AJM				AML	AML	10 01 33.4	
	comp=N,33nm,0.6s						
AJM				AML	AML	10 01 34.0	
	comp=E,34nm,0.3s						
KZA	**Kyzart**	**8.23**	**6**	P	**Pn**	**09 59 20.5**	**+1.4**
	SNR=24						
AML	**Almayashu**	**8.25**	**358**	P	**Pn**	**09 59 20.0**	**+0.6**
	SNR=31						
UCH	**Uchtor**	**8.34**	**2**	P	**Pn**	**09 59 22.0**	**+1.3**
	SNR=25						
ULHL	**Ulahol**	**8.51**	**10**	P	**Pn**	**09 59 26.6**	**+3.5**
	SNR=8.0						
AAK	**Ala-Archa**	**8.75**	**2**	P	**Pn**	**09 59 27.5**	**+1.2**
	SNR=8.7						
AAK	**Ala-Archa**	**8.75**	**2**	*e*P	**Pn**	**09 59 25.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**8.75**	**2**	*e*Pn	**Pn**	**09 59 25.9**	**-0.3**
	comp=Z,7.2nm,0.8s						
EKS2	**Erkin-Say**	**8.78**	**358**	P	**Pn**	**09 59 27.3**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**9.10**	**7**	P	**Pn**	**09 59 32.2**	**+1.2**
	SNR=17						
TKM2	**Tokmak 2**	**9.10**	**7**	⇓P	**Pn**	**09 59 32.0**	**+1.0**
	comp=Z,8.6nm,0.5s						
TKM2				⇓S	**Sn**	**10 01 09.2**	**-2.7**
	comp=Z,14nm,0.7s						
CHMS	**Chumysh**	**9.12**	**3**	P	**Pn**	**09 59 32.5**	**+1.1**
	SNR=7.5						
KK31	**Karatay Array**	**9.65**	**344**	P	**Pn**	**09 59 36.9**	**-1.6**
	comp=Z,4.3nm,0.3s,baz=153,slow=11,SNR=194						
KK31				⇓S	**Sn**	**10 01 19.4**	**-5.9**
	comp=Z,1.6nm,0.3s,baz=168,slow=24,SNR=7.7						
KOLN	**Koldanda**	**10.13**	**124**	*e*Pn	**Pn**	**09 59 46.5**	**+1.4**
KOLN				*e*Sn	**Sn**	**10 01 38.9**	**+1.8**
	comp=Z,19nm,0.5s						
KOLN	**Koldanda**	**10.13**	**124**	*e*Pn	**Pn**	**09 59 46.5**	**+1.4**
	comp=Z,9.4nm,0.5s						
KOLN				*e*Sn	**Sn**	**10 01 38.9**	**+1.8**
GKN	**Gorkha**	**10.72**	**120**	*e*Pn	**Pn**	**09 59 53.2**	**0.0**
GKN				*e*Sn	**Sn**	**10 01 50.5**	**-1.0**
	comp=Z,43nm,0.5s						
GKN	**Gorkha**	**10.72**	**120**	*e*Pn	**Pn**	**09 59 53.2**	**0.0**
	comp=Z,22nm,0.5s						
GKN				*e*Sn	**Sn**	**10 01 50.5**	**-1.0**
BHPL	**Bhopal**	**10.97**	**164**	*e*S	**Sn**	**10 01 50.5**	**-7.2**
DMN	**Daman**	**11.29**	**121**	*e*Pn	**Pn**	**10 00 00.4**	**-0.5**
DMN				*e*Sn	**Sn**	**10 02 04.5**	**-0.8**
	comp=Z,50nm,0.7s						
DMN	**Daman**	**11.29**	**121**	*e*Pn	**Pn**	**10 00 00.4**	**-0.5**
	comp=Z,25nm,0.7s						
DMN				*e*Sn	**Sn**	**10 02 04.5**	**-0.8**
KKN	**Kakani**	**11.31**	**119**	*e*Pn	**Pn**	**10 00 00.5**	**-0.7**
KKN				*e*Sn	**Sn**	**10 02 04.2**	**-1.6**
	comp=Z,41nm,0.7s						
KKN	**Kakani**	**11.31**	**119**	*e*P	**Pn**	**10 00 00.5**	**-0.7**
KKN				*e*		10 02 04.2	
KKN				pmax	pmax		
	comp=Z,21nm,0.7s						
KKN	**Kakani**	**11.31**	**119**	*e*Pn	**Pn**	**10 00 00.5**	**-0.7**
	comp=Z,21nm,0.7s						
KKN				*e*Sn	**Sn**	**10 02 04.2**	**-1.6**
PKI	**Pulchoki**	**11.53**	**120**	*e*Pn	**Pn**	**10 00 04.0**	**-0.2**
PKI				*e*Sn	**Sn**	**10 02 09.8**	**-1.4**
	comp=Z,27nm,0.5s						
PKI	**Pulchoki**	**11.53**	**120**	*e*P	**Pn**	**10 00 04.0**	**-0.2**
PKI				*e*		10 02 09.8	
PKI				pmax	pmax		
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**11.53**	**120**	*e*Pn	**Pn**	**10 00 04.0**	**-0.2**
	comp=Z,14nm,0.5s						
PKI				*e*Sn	**Sn**	**10 02 09.8**	**-1.4**
GUN	**Gumba**	**11.68**	**117**	*e*Pn	**Pn**	**10 00 05.6**	**-0.6**
GUN				*e*Sn	**Sn**	**10 02 11.3**	**-3.5**
	comp=Z,16nm,0.4s						
GUN	**Gumba**	**11.68**	**117**	*e*Pn	**Pn**	**10 00 05.6**	**-0.6**
	comp=Z,8.2nm,0.4s						
GUN				*e*Sn	**Sn**	**10 02 11.3**	**-3.5**
JIRN	**Jiri**	**12.04**	**118**	*e*Pn	**Pn**	**10 00 10.5**	**-0.7**
JIRN				*e*Sn	**Sn**	**10 02 21.9**	**-1.9**
	comp=Z,16nm,0.4s						
JIRN	**Jiri**	**12.04**	**118**	*e*Pn	**Pn**	**10 00 10.5**	**-0.7**
	comp=Z,7.9nm,0.4s						
JIRN				*e*Sn	**Sn**	**10 02 21.9**	**-1.9**
MK31	**Makanchi Array**	**14.30**	**23**	P	**Pn**	**10 00 42.0**	**+0.5**
	baz=211,slow=12,SNR=15						
MKAR	**Makanchi Array**	**14.30**	**23**	Pn	**Pn**	**10 00 39.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=12						
MKAR	**Makanchi Array**	**14.30**	**23**	*i* P	**Pn**	**10 00 41.4**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**17.14**	**10**	*e*P	**Pn**	**10 01 16.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**17.14**	**10**	*e*P	**Pn**	**10 01 16.2**	**-1.3**
	comp=Z,3.8nm,0.8s						
AB31	**Akbulak array**	**18.64**	**330**	P	**Pn**	**10 01 33.8**	**-2.0**
	comp=Z,1.2nm,0.4s,baz=143,slow=12,SNR=13						
VOSK	**Vostochnaya**	**18.98**	**354**	⇓P	**Pn**	**10 01 36.3**	**-3.5**
	comp=Z,6.0nm,1.4s						
BVA0	**Borovoye Array**	**19.33**	**353**	P	**Pn**	**10 01 43.3**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=170,slow=14,SNR=19						
BVAR	**Borovoye Array**	**19.33**	**353**	P	**Pn**	**10 01 42.6**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=161,slow=11,SNR=16						
BRVK	**Borovoye**	**19.38**	**353**	*e*P	**Pn**	**10 01 43.0**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**19.38**	**353**	*e*P	**Pn**	**10 01 43.0**	**-1.5**
	comp=Z,4.9nm,1.0s						
ZRNK	**Zerenda**	**19.42**	**351**	⇑P	**Pn**	**10 01 44.2**	**-0.9**
	comp=Z,3.1nm,0.8s						
ZRNK	**Zerenda**	**19.42**	**351**	*e*P	**Pn**	**10 01 43.6**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZRNK	**Zerenda**	**19.42**	**351**	*e*P	**Pn**	**10 01 43.6**	**-1.4**
	comp=Z,4.0nm,0.8s						
AKTK	**Aktyubinsk**	**20.35**	**329**	P	**P**	**10 01 53.6**	**+0.2**
AKTO	**Aktyubinsk**	**20.35**	**329**	⇑P	**P**	**10 01 53.3**	**-0.1**
	comp=Z,1.8nm,0.5s						
AKTO	**Aktyubinsk**	**20.35**	**329**	P	**P**	**10 01 53.6**	**+0.2**
	comp=Z,16nm,0.5s,baz=132,slow=11,SNR=32						
AKTO	**Aktyubinsk**	**20.35**	**329**	P	**P**	**10 01 53.6**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,16nm,0.5s						
GTA	**Gaotai**	**21.27**	**68**	*e*P	**P**	**10 02 14.5**	**+11**
GTA				AP		10 02 20.1	
GTA				PP		10 02 41.5	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.7						
ZAL	**Zalesovo**	**21.42**	**17**	P	**P**	**10 02 05.7**	**+0.8**
	comp=Z,3.4nm,0.5s,mb4.0,baz=264,slow=6.3,SNR=15						
ZAL	**Zalesovo**	**21.42**	**17**	P	**P**	**10 02 05.7**	**+0.8**
AKASG	**Malin Array Be**	**36.62**	**311**	P	**P**	**10 04 21.8**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=82,slow=7.2,SNR=4.4						
AKASG	**Malin Array Be**	**36.62**	**311**	P	**P**	**10 04 21.8**	**-0.5**
FINES	**FINESS Array B**	**41.10**	**327**	P	**P**	**10 05 00.2**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=101,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**44.55**	**338**	P	**P**	**10 05 28.9**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=96,slow=9.1,SNR=8.4						
NB2	**NORSAR Subarra**	**48.03**	**324**	P	**P**	**10 05 55.1**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**48.03**	**324**	P	**P**	**10 05 55.6**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.6,baz=96,slow=7.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**68.32**	**272**	P	**P**	**10 08 17.4**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=48,slow=5.3,SNR=4.1						
WRA	**Warramunga Arr**	**78.39**	**124**	P	**P**	**10 09 20.1**	**+4.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=322,slow=5.1,SNR=10						
WRA	**Warramunga Arr**	**78.39**	**124**	P	**P**	**10 09 20.1**	**+4.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**80.62**	**127**	P	**P**	**10 09 31.2**	**+3.4**
	comp=Z,0.7nm,0.8s,mb3.5,baz=316,slow=6.1,SNR=5.5						
ASAR	**Alice Springs**	**80.62**	**127**	P	**P**	**10 09 31.3**	**+3.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**83.71**	**4**	P	**P**	**10 09 46.4**	**+2.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=344,slow=5.2,SNR=8.1						
YKA	**Yellowknife Ar**	**83.71**	**4**	P	**P**	**10 09 46.4**	**+2.4**

MAN 20 10:13:11.4, 989N×12217E, h1km, mb2.5, ML4.0, MS5.8, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUYO	**Cuyo Island**	**1.48**	**310**	*e*P	Pn	10 13 39.5	+0.3
PAGZ	**Pagadian**	**2.36**	**149**	*e*P	Pn	10 13 52.8	+1.5
PAGZ				*e*S	Sn	10 14 22.0	+1.2
ENPP	**El Nido**	**3.00**	**296**	*e*P	Pn	10 14 00.7	+0.7

*ISCJB **20** 10:16:25.1±1.0, 6958N±006×1455W±02, h10km, Error ellipse: s-maj=10.7km s-min=7.5km az=93.2*
*PGC **20** 10:16:27.8, 6958N×14557W, h1km, ML2.7/1, Brooks Range, Alaska.*
*NEIC **20** 10:16:28.5, 6948N×14589W, h10km, ML3.1(AEIC), After AEIC.*

ISC 20 10:16:26.7±1.0, **6961N**±006×**1455W**±02, **h10**km, **n17**, σ1§**05**/25, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.23**	**171**	P	**Pn**	**10 17 04.2**	**+0.5**
BM3				S	**Sn**	**10 17 31.4**	**+0.2**
COLD	**Coldfoot**	**2.95**	**218**	P	**Pn**	**10 17 13.2**	**-0.4**
INK	**Inuvik**	**4.52**	**101**	Pn	**Pn**	**10 17 36.8**	**+1.6**
INK				Sn	**Sn**	**10 18 28.4**	**+0.6**
INK				Trac		10 18 37.7	
	comp=Z,3.0nm,0.1s						
INK	**Inuvik**	**4.52**	**101**	*e*Pn	**Pn**	**10 17 37.0**	**+1.8**
INK				*e*Sn	**Sn**	**10 18 22.6**	**-5.3**
IM3	**Indian Mountai**	**4.79**	**224**	P	**Pn**	**10 17 38.4**	**-0.5**
COLA	**College**	**4.84**	**192**	P	**Pn**	**10 17 39.8**	**+0.1**
IL1	**Eielson Array**	**4.89**	**187**	P	**Pn**	**10 17 40.4**	**+0.1**
DOT	**Dot Lake**	**6.02**	**174**	P	**Pn**	**10 17 56.5**	**+0.8**
MCK	**McKinley**	**6.06**	**194**	P	**Pn**	**10 17 56.4**	**+0.1**
DAWY	**Dawson**	**6.07**	**154**	Pn	**Pn**	**10 17 57.3**	**+0.8**
DAWY				Sn	**Sn**	**10 19 04.1**	**-1.9**
DAWY				Trac		10 19 10.5	
	comp=Z,3.0nm,0.2s						
DAWY	**Dawson**	**6.07**	**154**	P	**Pn**	**10 17 57.4**	**+0.9**
KTH	**Kantishna Hill**	**6.45**	**202**	P	**Pn**	**10 18 01.4**	**-0.3**
PAX	**Paxson**	**6.67**	**180**	P	**Pn**	**10 18 05.4**	**+0.7**
PAX				S	**Sn**	**10 19 20.1**	**-0.7**
HYT	**Haines Junctio**	**9.43**	**155**	Pn	**Pn**	**10 18 45.3**	**+2.6**
WHY	**Whitehorse**	**10.02**	**148**	Pn	**Pn**	**10 18 50.8**	**+0.1**
YKW3	**Yellowknife Ar**	**14.23**	**105**	Pn	**Pn**	**10 19 45.6**	**-2.6**
YKW3				Pn	**Pn**	**10 19 45.7**	**-2.6**
YKW3				Sn	**Sn**	**10 22 14.6**	**-12**
YKW3				Trac		10 22 20.6	
	comp=Z,1.0nm,0.3s						
YKW3				Trac		10 22 23.3	
	comp=Z,1.0nm,0.3s						
RES	**Resolute Bay**	**15.85**	**49**	Pn	**Pn**	**10 20 09.1**	**-0.8**
RES				Sn	**Sn**	**10 22 55.3**	**-10**
RES				Trac		10 23 04.0	
	comp=Z,1.0nm,0.4s						

IDC 20 10:23:15.6±6.5, **3069S**×**17937W, h0**km, **mb3.3**/2, **mb1 3.6**/2, **mb1mx3.5**/12, **mbtmp3.3**/2, **Error ellipse: s-maj=255.3km s-min=62.1km az=156.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.91**	**268**	P	P	10 31 07.7	-0.2
	0.1nm,0.5s,baz=108,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**42.93**	**273**	P	P	10 31 16.7	+0.5
	0.4nm,0.6s,baz=113,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	10 42 52.5	-1.6
	0.5nm,0.8s,baz=66,slow=2.3,SNR=3.6						

*ISCJB **20** 10:25:25.9±1.6, 1764S±008×16758E±007, h17km±11km, mb4.0/10, MS3.7/4, Error ellipse: s-maj=13.2km s-min=10.5km az=133.4*
*IDC **20** 10:25:25.2±0.9, 1752S×16763E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, ML3.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/24, Error ellipse: s-maj=27.8km s-min=20.5km az=128.0*
*LDG **20** 10:25:28.6±0.6, 1753S×16692E, h10km, Mb4.5/2, Error ellipse: s-maj=124.4km s-min=6.2km az=91.0*
*NEIC **20** 10:25:29.6±0.6, 1761S×16767E, h30km, mb4.3/2, Error ellipse: s-maj=16.2km s-min=13.7km az=122.0*

ISC 20 10:25:27.2±1.5, **1768S**±007×**16764E**±007, **h12**km±9km, **n42**, σ1§**13**/21, **mb4.1**/9, **MS3.7**/4, **1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.57**	**89**	⇓*i*P	**Pg**	**10 25 38.0**	**-0.3**
DZM	**Mont Dzumac**	**4.52**	**194**	Pn	**Pn**	**10 26 36.0**	**+0.5**
	3.0nm,0.3s,baz=44,slow=19,SNR=24						
DZM				Sn	**Sn**	**10 27 26.6**	**-1.3**
	6.4nm,0.3s,baz=145,slow=20,SNR=7.0						
DZM	**Mont Dzumac**	**4.52**	**194**	*e*P	**Pn**	**10 26 35.2**	**-0.3**
DZM				*e*S	**Sn**	**10 27 25.3**	**-2.6**
HNR	**Honiara**	**11.09**	**317**	LR	LR	10 31 47.9	
	comp=Z,260nm,20.2s,baz=178,slow=35						
AFI	**Afiamalu**	**20.15**	**82**	LR	LR	10 35 45.8	
	comp=Z,389nm,20.3s,MS3.8,baz=265,slow=31						
CTA	**Charters Tower**	**20.38**	**260**	*e*P	**P**	**10 30 05.8**	**+2.0**
CTA	**Charters Tower**	**20.38**	**260**	P	**P**	**10 30 04.8**	**+1.0**
	6.5nm,0.9s,baz=81,slow=13,SNR=4.8						
CTA				LR	LR	10 36 50.6	
	comp=Z,183nm,21.7s,MS3.4,baz=50,slow=34						
CTAO	**Charters Tower**	**20.38**	**260**	*e*P	**P**	**10 30 05.1**	**+1.3**
	8.3nm,0.9s						
URZ	**Urewera**	**22.12**	**160**	P	**P**	**10 30 24.9**	**+2.3**
	6.1nm,0.8s,mb4.1,baz=7.1,slow=16,SNR=2.9						
STKA	**Stephens Creek**	**27.46**	**234**	P	**P**	**10 31 12.8**	**-0.4**
	1.7nm,0.3s,mb4.1,baz=28,slow=7.2,SNR=4.3						
STKA				LR	LR	10 42 02.4	
	comp=Z,191nm,19.8s,MS3.7,baz=24,slow=36						
WRA	**Warramunga Arr**	**31.58**	**261**	P	**P**	**10 31 49.0**	**-0.7**
	1.8nm,0.9s,mb3.9,baz=89,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**32.07**	**254**	P	**P**	**10 31 53.5**	**-0.5**
	3.9nm,0.9s,mb4.3,baz=80,slow=8.8,SNR=35						
FITZ	**Fitzroy Crossi**	**39.91**	**263**	*e*P	**P**	**10 33 02.1**	**+1.0**
TBI	**Tubuai**	**40.46**	**105**	*e*S	**S**	**10 39 14.6**	**+0.5**
	52nm,28.0s						
TBI				*e*LR	LR	10 44 32.2	
	102nm,25.2s						
PPT	**Papeete**	**40.71**	**97**	*e*S	**S**	**10 39 17.8**	**0.0**
	55nm,24.5s						
PPT				*e*LR	LR	10 44 39.4	
	127nm,22.8s						
PPT	**Papeete**	**40.71**	**97**	LR	LR	10 45 47.9	
	comp=Z,214nm,20.3s,MS4.0,baz=252,slow=30						
RKT	**Rikitea**	**53.78**	**106**	*e*LR	LR	10 50 22.2	
	84nm,26.2s						
MJAR	**Matsushiro Arr**	**60.67**	**333**	P	**P**	**10 35 37.2**	**-1.1**
	1.1nm,0.7s,mb4.1,baz=162,slow=6.6,SNR=4.4						
MJAR	**Matsushiro Arr**	**60.67**	**333**	P	**P**	**10 35 37.2**	**-1.1**
QSPA	**South Pole Qui**	**72.37**	**180**	*e*P	**P**	**10 36 53.4**	**+0.4**
	4.9nm,0.8s,mb4.5						
SONM	**Songino Array**	**85.07**	**324**	P	**P**	**10 38 04.0**	**+1.1**
	2.0nm,1.0s,mb4.2,baz=130,slow=4.6,SNR=7.1						
NVAR	**Mina Array Bea**	**88.92**	**49**	P	**P**	**10 38 21.2**	**-0.4**
	0.2nm,0.5s,mb3.7,baz=235,slow=7.5,SNR=3.1						
ILAR	**Eielson Array**	**89.20**	**18**	P	**P**	**10 38 19.9**	**-3.1**
	0.5nm,0.7s,mb3.9,baz=236,slow=5.0,SNR=8.0						
YKA	**Yellowknife Ar**	**99.98**	**27**	P	Pdif	10 39 09.8	-2.5
	0.1nm,0.6s,baz=242,slow=4.8,SNR=3.7						
KMBO	**Kilima Mbogo**	**127.72**	**254**	PKP	PKPdf	10 44 34.9	+2.3
	1.6nm,0.2s,baz=48,slow=4.1,SNR=6.5						
NOA	**NORSAR Array B**	**133.54**	**344**	PKP	PKPdf	10 44 43.6	0.0
	1.0nm,0.8s,baz=36,slow=2.0,SNR=4.1						
BFO	**Black Forest**	**145.08**	**336**	*e*PKPab	PKPab	10 45 03.6	-0.4
CDF	**Champ du Feu**	**145.42**	**337**	*e*PKP1	PKPbc	10 45 05.0	-0.1
	37nm,0.9s						
HINF	**Hinteralfeld**	**146.07**	**337**	*e*PKP1	PKPbc	10 45 07.1	0.0
HAU	**Haudompre**	**146.10**	**337**	*e*PKP1	PKPbc	10 45 07.1	-0.1
CABF	**La Chapelle**	**147.36**	**336**	*e*PKP1	PKPbc	10 45 10.0	-0.8
	52nm,1.3s						
LOR	**Lormes**	**147.61**	**339**	*e*PKP1	PKPbc	10 45 11.4	-0.1
	60nm,1.5s						
SSF	**Saint Saulge**	**147.91**	**339**	*e*PKP1	PKPbc	10 45 12.2	-0.1
	27nm,1.0s						
LPG	**La Plagne**	**148.01**	**334**	*e*PKP1	PKPbc	10 45 15.2	+2.6
SMF	**Signal de Mont**	**148.16**	**339**	*e*PKP1	PKPbc	10 45 12.6	-0.4
BGF	**Bois d'Agland**	**148.57**	**340**	*e*PKP1	PKPbc	10 45 13.8	-0.3
	45nm,1.0s						
MBDF	**Montbardon**	**148.62**	**333**	*e*PKP1	PKPbc	10 45 14.6	+0.4
ORIF	**Oris-en-Rattie**	**148.84**	**335**	*e*PKP1	PKPbc	10 45 14.9	+0.1
	19nm,0.9s						
VIVF	**Saint-Julien-l**	**149.37**	**336**	*e*PKP1	PKPbc	10 45 16.3	+0.2
	34nm,1.2s						
SMRF	**Simiane la Rot**	**149.73**	**334**	*e*PKP1	PKPbc	10 45 17.2	+0.2
	68nm,1.2s						
LASF	**Ste Croix**	**150.34**	**336**	*e*PKP1	PKPbc	10 45 18.7	+0.2
	18nm,0.8s						
TORD	**Torodi Ar. Bea**	**165.73**	**254**	PKP	PKPdf	10 45 32.3	+0.4
	0.9nm,0.9s,baz=49,slow=1.2,SNR=4.5						
TORD				PKPab	PKPab	10 46 33.1	+2.0
	0.4nm,0.9s,baz=104,slow=5.2,SNR=3.0						

*CSEM **20** 10:52:41.6±1.3, 3864N×2851W, h0km±6km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.8km az=53.0, After PDA*
*PDA **20** 10:52:41.6±1.3, 3864N×2851W, h0km±6km, MD3.4, ML2.7, Error ellipse: s-maj=3.0km s-min=2.8km az=53.0*

SVSA 20 10:52:41.6±1.3, **3864N**×**2851W, h0**km±6km, **MD3.4, ML2.7, Error ellipse: s-maj=3.0km s-min=2.8km az=53.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.15**	**221**	*i* P	Pg	10 52 44.3	-0.2
HOR				*i* S	Sg	10 52 46.9	+0.5
HOR	**Horta**	**0.15**	**221**	*i* S	Sg	10 52 46.9	+0.5
PICO	**Pico**	**0.15**	**156**	*i* P	Pg	10 52 44.6	+0.1
PICO				*e*S	Sg	10 52 46.6	+0.1
PICO	**Pico**	**0.15**	**156**	*e*S	Sg	10 52 46.6	+0.1
PCED	**Cedros**	**0.15**	**266**	*i* P	Pg	10 52 44.6	0.0
PCED				*e*S	Sg	10 52 47.4	+0.8
PCED							
	3μm,0.1s						
PCED	**Cedros**	**0.15**	**266**	*e*S	Sg	10 52 47.4	+0.8
CALA	**Caldeira**	**0.17**	**250**	*i* P	Pg

RPZ	**Rata Peaks**	**5.58**	**44**	Pn	**Pn**	**10 54 15.9**	**-3.2**
	2.2nm,0.3s,baz=121,slow=0.6,SNR=17						
RPZ				Sn	**Sn**	**10 55 22.3**	**+0.4**
	20nm,0.3s,baz=44,slow=14,SNR=11						
URZ	**Urewera**	**12.69**	**45**	Pn	**Pn**	**10 55 56.0**	**-0.6**
	0.7nm,0.3s,baz=241,slow=7.3,SNR=3.2						
URZ				Sn	**Sn**	**10 58 10.9**	**-5.6**
	0.4nm,0.3s,baz=99,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**24.26**	**302**	P	**P**	**10 58 07.5**	**-4.5**
	0.8nm,0.5s,mb3.5,baz=110,slow=24,SNR=2.0						
ASAR	**Alice Springs**	**34.90**	**302**	P	**P**	**10 59 46.9**	**+0.6**
	1.2nm,0.6s,mb4.0,baz=133,slow=7.7,SNR=42						
WRA	**Warramunga Arr**	**37.63**	**307**	P	**P**	**11 00 09.1**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=139,slow=8.0,SNR=13						
BRTR	**Keskin Array B**	**144.92**	**275**	PKP	PKPdf	11 12 33.8	+2.5
	0.5nm,0.7s,baz=163,slow=1.5,SNR=3.5						

CSEM ***20*** *10:53:41.9±1.1, 3861N×2855W, h13km±6km, ML2.2, Error ellipse: s-maj=4.0km s-min=3.8km az=47.0, After PDA*
PDA ***20*** *10:53:41.9±1.1, 3861N×2855W, h13km±6km, MD3.1, ML2.2, Error ellipse: s-maj=4.0km s-min=3.8km az=47.0*
SVSA 20 10:53:41.9±1.1, 3861N×2855W, h13km±6km, MD3.1, ML2.2, Error ellipse: s-maj=4.0km s-min=3.8km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.11**	**218**	*e*S	Sg	10 53 46.8	-0.4
PCED	**Cedros**	**0.12**	**277**	*e*P	Pg	10 53 44.6	-0.6
PCED				*e*S	Sg	10 53 47.3	-0.3
PCED							
	92nm,0.2s						
PCED	**Cedros**	**0.12**	**277**	*e*P	Pg	10 53 44.6	-0.6
PCED				*e*S	Sg	10 53 47.3	-0.3
CALA	**Caldeira**	**0.13**	**256**	*e*P	Pg	10 53 44.6	-0.6
CALA				*e*S	Sg	10 53 47.5	-0.1
PICO	**Pico**	**0.15**	**140**	*e*P	Pg	10 53 44.7	-0.8
PICO				*e*S	Sg	10 53 47.4	-0.7
PBOI	**Pico dos Bois**	**0.22**	**143**	*e*rx		10 53 50.9	
ROSA	**Rosais**	**0.26**	**66**	*e*P	Pg	10 53 46.6	-0.8
ROSA				*e*S	Sg	10 53 50.3	-0.8
PPNO	**Prainha do Nor**	**0.26**	**123**	*e*P	Pg	10 53 47.0	-0.4
PPNO				*e*S	Sg	10 53 50.9	-0.2
PMAN	**Manadas**	**0.36**	**87**	*e*S	Sg	10 53 52.9	-1.1

MOS ***20*** *10:54:18.8±1.4, 1828N×10056W, h33km, mb5.4/38, Error ellipse: s-maj=8.6km s-min=4.6km az=93.4*
SZGRF ***20*** *10:54:20.4, 1807N×10152W, h44km, mb5.2, MS4.5, Guerrero, Mexico*
BJI ***20*** *10:54:20.7, 18.10N×100.80W, h51km, mB4.9, mb5.1, Ms5.1, Msz4.8*
ISCJB ***20*** *10:54:21.2±0.2, 1822N±002×10073W±002, h55km, mb5.2/136, MS4.5/21, Error ellipse: s-maj=3.1km s-min=2.2km az=48.3*
IDC ***20*** *10:54:22.2±0.6, 1822N×10079W, h54km±4km, mb4.6/22, mb1 4.7/23, mb1mx4.7/24, mbtmp4.9/23, MS4.5/15, Ms1 4.5/15, ms1mx4.4/17, Error ellipse: s-maj=17.4km s-min=10.0km az=51.0*
NEIC ***20*** *10:54:23.7, 1815N×10075W, h51km, mb5.1/90, MD5.0(MEX), After MEX.*
MEX ***20*** *10:54:23.7±1.4, 1815N×10075W, h51km±26km, MD5.0*
HRVD ***20*** *10:54:23.7±0.2, 1830N×10054W, h56km, MW5.2/81, Centroid moment Tensor Solution. LP body waves: s81,c134;Mantle waves: s78,c156; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.84±.02; $M_{\theta\theta}$=0.64±.01; $M_{\phi\phi}$=0.19±.02; $M_{r\theta}$=0.33±.01; $M_{\theta\phi}$=-0.36±.01; $M_{\phi r}$=-0.14±.01; Best double couple: M_0=0.91300×10^{17} NP1:ϕ_s=121.00000°, δ34.00000°, λ=-86.00000°. NP2: ϕ_s=297.00000°, δ57.00000°, λ=-93.00000°. Principal axes: T 0.9130, Plg11.0000°, Azm29.0000°; N -0.0020, Plg2.0000°, Azm298.0000°; P -0.9120, Plg78.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***20*** *10:54:26.5, 2088N×10372W, h33km, mb5.1*
ISC 20 10:54:23.2±0.2, 1827N±002×10068W±002, h57km, h57km±1.8km: pP-P, n399, σ1§32/399, mb5.2/136, MS4.5/21, 24C-11D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.00**	**229**	⇑*i*P	**Pn**	**10 54 37.4**	**-3.7**
ZIIG				*i* S	**Sn**	**10 54 49.8**	**-4.6**
MEIG	**Mezcala**	**1.06**	**109**	⇑*i*P	**Pn**	**10 54 41.6**	**-0.3**
MEIG				*i* S	**Sn**	**10 54 55.5**	**-0.3**
PLIG	**Platanillo**	**1.12**	**84**	⇑*i*P	**Pn**	**10 54 43.0**	**+0.3**
PLIG				*i* S	**Sn**	**10 54 58.1**	**+0.9**
CAIG	**El Cayaco**	**1.28**	**162**	⇑*i*P	**Pn**	**10 54 42.0**	**-2.8**
CAIG				*i* S	**Sn**	**10 54 56.5**	**-4.4**
MOIG	**Morelia**	**1.48**	**341**	⇑*i*P	**Pn**	**10 54 48.2**	**+0.7**
MOIG				*i* S	**Sn**	**10 55 06.6**	**+0.8**
MRX	**Morelia**	**1.51**	**341**	*e*P	**Pn**	**10 54 48.9**	**+1.0**
ACX	**Acapulco**	**1.57**	**153**	⇑*i*P	**Pn**	**10 54 46.2**	**-2.6**
ACX				*i* S	**Sn**	**10 55 05.3**	**-2.8**
SZVM	**Salazar**	**1.61**	**49**	⇑*i*P	**Pn**	**10 54 50.2**	**+1.0**
SZVM				*i* S	**Sn**	**10 55 11.3**	**+2.3**
YAIG	**Yautepec**	**1.63**	**69**	⇑*i*P	**Pn**	**10 54 50.6**	**+1.0**
YAIG				*i* S	**Sn**	**10 55 07.8**	**-1.8**
IIZ	**Mezontepec**	**1.64**	**56**	*i* P	**Pn**	**10 54 51.2**	**+1.6**
IIZ				*i* S	**Sn**	**10 55 18.0**	**+8.4**
CHVM	**Chichinautzin**	**1.66**	**61**	⇑*i*P	**Pn**	**10 54 50.9**	**+1.0**
CHVM				*i* S	**Sn**	**10 55 11.0**	**+0.8**
UNM	**Universidad Na**	**1.77**	**53**	⇑*i*P	**Pn**	**10 54 52.9**	**+1.5**
UNM				⇑*i*P		10 54 53.2	
UNM				*i* P		10 54 53.6	
UNM				*i* S	**Sn**	**10 55 12.2**	**-0.5**
UNM				*i* S	**Sn**	**10 55 12.3**	**-0.4**
UNM				*i* S	**Sn**	**10 55 15.4**	**+2.7**
CIVM	**Cilcuayo**	**1.80**	**62**	⇓*i*P	**Pn**	**10 54 52.9**	**+1.0**
CIVM				*i* S	**Sn**	**10 55 18.0**	**+4.4**
PBVM	**Pinon**	**1.90**	**52**	*i* P	**Pn**	**10 54 55.0**	**+1.7**
PBVM				*i* S	**Sn**	**10 55 16.4**	**+0.3**
PTVM	**Pico Tres Padr**	**1.98**	**48**	⇑*i*P	**Pn**	**10 54 55.3**	**+1.0**
PTVM				*i* S	**Sn**	**10 55 18.4**	**+0.4**
PPM	**Popocatepetl**	**2.10**	**68**	*e*P	**Pn**	**10 54 57.0**	**+1.1**
PPM				⇑*i*P		10 54 57.2	
PPM				*i* P		10 54 57.6	
PPM				*i* S	**Sn**	**10 55 20.8**	**-0.1**
PNIG	**Pinotepa**	**3.07**	**127**	*e*P	**Pn**	**10 55 08.6**	**-0.5**
SFJM	**Santa Fe**	**3.14**	**315**	*i* P	**Pn**	**10 55 10.6**	**+0.5**
SFJM				*i* S	**Sn**	**10 55 46.6**	**+0.3**
TPIG	**Tehuac#an**	**3.15**	**87**	⇑*i*P	**Pn**	**10 55 11.3**	**+1.0**
TPIG				*i* S	**Sn**	**10 55 45.9**	**-0.8**
VHO	**Vista Hermosa**	**3.94**	**107**	⇑*i*P	**Pn**	**10 55 22.6**	**+1.5**
OXX	**Oaxaca**	**3.95**	**107**	*e*P	**Pn**	**10 55 23.7**	**+2.5**
OXX				*i* S	**Sn**	**10 56 05.8**	**-0.4**
LVIG	**Laguna Verde**	**4.28**	**70**	⇑*i*P	**Pn**	**10 55 26.4**	**+0.6**
LVIG				*i* S	**Sn**	**10 56 15.2**	**+0.8**
ZAIG	**Zacatecas**	**4.81**	**339**	*e*P	**Pn**	**10 55 32.9**	**-0.2**
HUIG	**Huatulco**	**5.03**	**119**	*e*P	**Pn**	**10 55 36.6**	**+0.6**
HUIG				*i* S	**Sn**	**10 56 29.4**	**-3.4**
EVV	**El Vigia**	**5.06**	**87**	*e*P	**Pn**	**10 55 37.9**	**+1.4**
EVV				*i* S	**Sn**	**10 56 36.1**	**+2.5**
TUIG	**Tuzandepetl**	**5.95**	**91**	*i* P	**Pn**	**10 55 48.6**	**-0.1**
TUIG				*i* S	**Sn**	**10 56 59.0**	**+3.5**
SCX	**San Cristobal**	**7.82**	**100**	*i* P	**Pn**	**10 56 15.5**	**+1.2**
LPIG	**La Paz**	**10.69**	**304**	*i* P	**Pn**	**10 57 00.4**	**+6.9**
TEIG	**Tepich**	**11.87**	**79**	*i* P	**Pn**	**10 57 09.2**	**-0.4**
JCT	**Junction City**	**12.18**	**4**	*e*Pn	**Pn**	**10 57 15.7**	**+1.8**
	80nm,0.6s						
HKT	**Hockley**	**12.44**	**20**	*e*Pn	**Pn**	**10 57 17.1**	**-0.2**
	146nm,1.3s						
MNTX	**Cornudas Mount**	**14.03**	**343**	*e*Pn	**Pn**	**10 57 40.4**	**+1.4**
	125nm,1.1s						
GDL2	**Guadalupe Moun**	**14.26**	**347**	*e*Pn	**Pn**	**10 57 45.0**	**+3.0**
NATX	**Nacogdoches**	**14.49**	**21**	*e*Pn	**Pn**	**10 57 44.1**	**-0.9**
	370nm,0.9s						
WMOK	**Wichita Mounta**	**16.49**	**6**	*e*P	**Pn**	**10 58 09.1**	**-1.5**
WMOK				pmax	pmax		
	comp=Z,62nm,0.8s						
WMOK	**Wichita Mounta**	**16.49**	**6**	*e*Pn	**Pn**	**10 58 09.1**	**-1.6**
	comp=Z,62nm,0.8s						
BNM	**Barren Site**	**16.68**	**343**	*e*Pn	**Pn**	**10 58 15.3**	**+2.2**
TUC	**Tucson**	**16.68**	**329**	*e*P	**Pn**	**10 58 14.9**	**+1.8**
TUC				pmax	pmax		
	comp=Z,58nm,1.2s						
TUC	**Tucson**	**16.68**	**329**	*e*Pn	**Pn**	**10 58 14.9**	**+1.8**
	comp=Z,58nm,1.2s						
LENM	**Lemitar**	**16.80**	**342**	*e*Pn	**Pn**	**10 58 16.8**	**+2.3**
LPM	**Los Pinos Moun**	**16.84**	**343**	*e*Pn	**Pn**	**10 58 17.1**	**+2.1**
LAZ	**Ladron**	**17.07**	**342**	*e*Pn	**Pn**	**10 58 19.7**	**+1.8**
SOR	**Soroa**	**17.14**	**72**	*e*P	**Pn**	**10 58 18.8**	**0.0**
JTS	**JuntasAbangare**	**17.17**	**115**	P	**Pn**	**10 58 22.5**	**+3.4**
	comp=Z,186nm,0.3s,SNR=7.1						
JTS	**JuntasAbangare**	**17.17**	**115**	*d i*P	**Pn**	**10 58 21.1**	**+2.0**
JTS	**JuntasAbangare**	**17.17**	**115**	*e*Pn	**Pn**	**10 58 23.4**	**+4.3**
	comp=Z,220nm,1.2s						
JTS				*e*pP	pP	10 58 39.6	+7.3
ANMO	**Albuquerque**	**17.39**	**344**	P	**Pn**	**10 58 23.1**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=156,slow=12,SNR=88						
ANMO				LR	LR	11 05 53.0	
	comp=Z,2μm,19.7s,baz=245,slow=40						
ANMO	**Albuquerque**	**17.39**	**344**	*e*P	**Pn**	**10 58 24.0**	**+2.2**
ANMO				pmax	pmax		
	comp=Z,103nm,1.0s						
ANMO	**Albuquerque**	**17.39**	**344**	*e*P	**Pn**	**10 58 23.9**	**+2.1**
	comp=Z,103nm,1.0s						
MIAR	**Mount Ida**	**17.40**	**20**	*e*P	**Pn**	**10 58 20.5**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,79nm,0.9s						
MIAR	**Mount Ida**	**17.40**	**20**	*e*Pn	**Pn**	**10 58 20.5**	**-1.5**
	comp=Z,79nm,0.9s						
UALR	**University of**	**18.03**	**23**	*e*P	**Pn**	**10 58 28.7**	**-1.0**
	comp=Z,67nm,0.7s						
UALR				*e*pP	pP	10 58 47.1	+5.2
OXF	**Oxford**	**19.04**	**30**	*e*P	**Pn**	**10 58 39.5**	**-2.3**
OXF				pmax	pmax		
	comp=Z,123nm,0.8s						
OXF	**Oxford**	**19.04**	**30**	*e*P	**Pn**	**10 58 39.5**	**-2.3**
	comp=Z,123nm,0.8s						
OXF				*e*pPn		10 58 56.7	
LRAL	**Lakeview Retre**	**19.16**	**37**	*e*P	**Pn**	**10 58 40.8**	**-2.4**
	comp=Z,31nm,0.5s						
MET	**Memphis--Engin**	**19.31**	**28**	*e*Pn	**Pn**	**10 58 43.5**	**-1.6**
HBAR	**Harrisburg**	**19.37**	**25**	*e*Pn	**Pn**	**10 58 44.0**	**-1.7**
GLA	**Glamis**	**19.44**	**322**	*e*P	**Pn**	**10 58 46.8**	**+0.2**
WUAZ	**Wupatki**	**19.62**	**333**	*e*Pn	**Pn**	**10 58 49.4**	**+0.6**
	comp=Z,202nm,0.9s						
WUAZ				*e*pPn		10 59 06.0	
MGV	**Manicaragua**	**19.79**	**75**	*e*P	**Pn**	**10 58 50.4**	**-0.4**
SDCO	**Great Sand Dun**	**19.86**	**349**	*e*P	**Pn**	**10 58 50.3**	**-1.2**
	comp=Z,152nm,1.2s						
GNAR	**Gosnell**	**19.99**	**26**	*e*P	**Pn**	**10 58 50.5**	**-2.5**
	comp=Z,356nm,0.6s						
PLAL	**Pickwick Lake**	**20.06**	**31**	*e*P	**P**	**10 58 50.1**	**-1.6**
	comp=Z,152nm,0.5s						
DWPF	**Disney**	**20.19**	**58**	*e*P	**P**	**10 58 49.6**	**-3.6**
	comp=Z,54nm,0.8s						
BAR	**Barrett**	**20.32**	**318**	*e*P	**P**	**10 58 55.9**	**+1.5**
CBKS	**Cedar Bluff**	**20.48**	**2**	*e*P	**P**	**10 58 55.3**	**-1.0**
CBKS				*e*PP		10 59 14.4	
CBKS				pmax	pmax		
	comp=Z,131nm,1.0s						
CBKS	**Cedar Bluff**	**20.48**	**2**	*e*P	**P**	**10 58 55.3**	**-1.0**
	comp=Z,131nm,1.0s						
CBKS				*e*pP		10 59 14.4	
UTMT	**University of**	**20.80**	**28**	*e*P	**P**	**10 58 58.9**	**-0.8**
	comp=Z,448nm,0.9s						
PFO	**Pinyon Flat Ob**	**20.80**	**320**	P	**P**	**10 59 01.0**	**+1.3**
	comp=Z,162nm,0.8s,SNR=8.9						
PFO	**Pinyon Flat Ob**	**20.80**	**320**	*e*P	**P**	**10 59 01.1**	**+1.4**
PFO				pmax	pmax		
	comp=Z,191nm,1.6s						
PFO	**Pinyon Flat Ob**	**20.80**	**320**	*e*P	**P**	**10 59 01.1**	**+1.4**
	comp=Z,191nm,1.6s						
PV01	**Paradox Valley**	**20.96**	**342**	*e*P	**P**	**10 59 02.4**	**+1.0**
KSU1	**Kansas State U**	**21.05**	**9**	*e*P	**P**	**10 59 01.0**	**-1.4**
LDFC	**Landfair**	**21.09**	**325**	*e*P	**P**	**10 59 04.8**	**+2.1**
WVT	**Waverly**	**21.10**	**30**	*e*P	**P**	**10 59 01.1**	**-1.8**
WVT				pmax	pmax		
	comp=Z,165nm,0.6s,mb5.5						
WVT	**Waverly**	**21.10**	**30**	*e*P	**P**	**10 59 01.1**	**-1.9**
	comp=Z,165nm,0.6s,mb5.5						
PV10	**Paradox Valley**	**21.32**	**342**	*e*P	**P**	**10 59 04.9**	**-0.4**
SWET	**Sewanee**	**21.36**	**35**	*e*P	**P**	**10 59 03.5**	**-2.2**
CCM	**Cathedral Cave**	**21.37**	**21**	*e*P	**P**	**10 59 04.2**	**-1.6**
CCM				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.1						
CCM	**Cathedral Cave**	**21.37**	**21**	*e*P	**P**	**10 59 04.2**	**-1.5**
	comp=Z,62nm,0.6s,mb5.1						
NEN	**Nelson**	**21.38**	**327**	*e*P	**P**	**10 59 06.1**	**+0.2**
SMCO	**Snowmass**	**21.54**	**347**	*e*P	**P**	**10 59 08.4**	**+0.8**
	comp=Z,96nm,1.1s,mb5.1						
SMCO				*e*pPn		10 59 29.0	
FVM	**French Village**	**21.59**	**22**	*e*P	**P**	**10 59 06.4**	**-1.8**
FVM				pmax	pmax		
	comp=Z,135nm,0.5s,mb5.6						
FVM	**French Village**	**21.59**	**22**	*e*P	**P**	**10 59 06.4**	**-1.8**
	comp=Z,135nm,0.5s,mb5.6						
SIUC	**Southern Illin**	**21.82**	**25**	*e*P	**P**	**10 59 09.2**	**-1.4**
MCJ	**Malvern**	**21.85**	**87**	⇓*i*P	**P**	**10 59 14.1**	**+3.1**
ISCO	**Idaho Springs**	**21.87**	**350**	*e*P	**P**	**10 59 11.2**	**0.0**
ISCO				pmax	pmax		
	comp=Z,86nm,0.6s,mb5.4						
ISCO	**Idaho Springs**	**21.87**	**350**	*e*P	**P**	**10 59 11.2**	**0.0**
	comp=Z,86nm,0.6s,mb5.4						
CVJ	**Coleyville**	**21.98**	**86**	⇓*i*P	**P**	**10 59 15.4**	**+3.2**
BBJ	**Bamboo Saint A**	**22.22**	**86**	⇓*i*P	**P**	**10 59 17.7**	**+2.9**
SLM	**Saint Louis**	**22.24**	**22**	*e*P	**P**	**10 59 13.0**	**-2.0**
SLM				pmax	pmax		
	comp=Z,222nm,0.8s,mb5.6						
SLM	**Saint Louis**	**22.24**	**22**	*e*P	**P**	**10 59 12.9**	**-2.1**
	comp=Z,222nm,0.8s,mb5.6						
CPCT	**Cooper Cave**	**22.32**	**37**	*e*P	**P**	**10 59 13.8**	**-2.1**
CPCT				*e*pP		10 59 34.5	
LMAC	**Las Mercedes**	**22.43**	**82**	*e*P	**P**	**10 59 20.1**	**+3.0**
ARUT	**Antelope Range**	**22.43**	**333**	*e*P	**P**	**10 59 18.9**	**+1.8**
SRU	**San Rafael**	**22.46**	**340**	*e*P	**P**	**10 59 17.4**	**0.0**
SRU				pmax	pmax		
	comp=Z,32nm,0.6s,mb4.9						
SRU	**San Rafael**	**22.46**	**340**	*e*P	**P**	**10 59 17.4**	**0.0**
	comp=Z,32nm,0.6s,mb4.9						
MSU	**Marysvale**	**22.52**	**336**	*e*P	**P**	**10 59 19.0**	**+0.9**
MVU	**Marysvale**	**22.53**	**336**	*e*P	**P**	**10 59 25.3**	**+7.2**
	comp=Z,68nm,1.4s,mb4.9						
MVU				*e*pP		10 59 36.8	
STH	**Stony Hill**	**22.68**	**87**	⇓*i*P	**P**	**10 59 22.3**	**+2.6**
GWJ	**Greenwich**	**22.75**	**87**	⇓*i*P	**P**	**10 59 23.3**	**+2.8**
TMUT	**Trail Mountain**	**22.86**	**339**	*e*P	**P**	**10 59 22.2**	**+0.6**
PHWY	**Pilot Hill**	**23.32**	**351**	*e*P	**P**	**10 59 25.8**	**-0.4**
HLGC	**Holguin**	**23.33**	**80**	*e*P	**P**	**10 59 24.6**	**-1.8**
DAC	**Darwin (Calif)**	**23.34**	**324**	*e*P	**P**	**10 59 27.3**	**+0.8**
DAC				*e**SP	sP	10 59 59.4	+13
DAC				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.6						
DAC	**Darwin (Calif)**	**23.34**	**324**	*e*P	**P**	**10 59 27.3**	**+0.9**
	comp=Z,36nm,1.5s,mb4.6						
DAC				*e*pP		10 59 47.7	
DAC				*e*sP	sP	10 59 59.4	+13
COW	**Cow Castle Cre**	**23.38**	**46**	*e*P	**P**	**10 59 24.8**	**-2.1**
ISA	**Isabella**	**23.42**	**321**	*e*P	**P**	**10 59 25.9**	**-1.3**
ISA				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.5						
ISA	**Isabella**	**23.42**	**321**	*e*P	**P**	**10 59 25.9**	**-1.3**
	comp=Z,8.1nm,0.4s,mb4.5						
WCI	**Wyandotte Cave**	**23.52**	**29**	*e*P	**P**	**10 59 26.2**	**-1.9**
WCI				pmax	pmax		
	comp=Z,229nm,1.1s,mb5.5						
WCI	**Wyandotte Cave**	**23.52**	**29**	*e*P	**P**	**10 59 26.2**	**-1.9**
	comp=Z,229nm,1.1s,mb5.5						
JSC	**Jenkinsville**	**23.54**	**44**	*e*P	**P**	**10 59 26.0**	**-2.3**
NHSC	**New Hope**	**23.59**	**47**	*e*P	**P**	**10 59 27.8**	**-0.9**
	comp=Z,1μm,1.2s,mb6.2						
MPU	**Maple Canyon**	**23.65**	**339**	*e*P	**P**	**10 59 29.8**	**+0.5**
	comp=Z,94nm,1.4s,mb5.0						
TZTN	**Tazewell**	**23.65**	**36**	*e*P	**P**	**10 59 27.2**	**-2.1**
RCC	**Rio Carpintero**	**23.66**	**82**	*i* P	**P**	**10 59 30.1**	**+0.7**
RCC				*i* S	**S**	**11 03 37.4**	**-2.5**
	comp=N,522nm,18.6s						
RCC				*i*			
	comp=E,270nm,18.0s						
NLU	**North Lily Min**	**23.75**	**338**	*e*P	**P**	**10 59 28.1**	**-2.2**
DAU	**Daniels Canyon**	**23.88**	**340**	*e*P	**P**	**10 59 32.1**	**+0.7**
DAU				*e**PP		10 59 49.3	
RWWY	**Rawlins**	**24.00**	**348**	*e*P	**P**	**10 59 33.1**	**+0.7**
	comp=E,638nm,1.6s,mb5.8						
BLO	**Bloomington**	**24.18**	**28**	*e*P	**P**	**10 59 32.8**	**-1.4**
BLO				pmax	pmax		
	comp=Z,139nm,0.6s,mb5.6						
BLO	**Bloomington**	**24.18**	**28**	*e*P	**P**	**10 59 32.8**	**-1.4**
	comp=Z,138nm,0.6s,mb5.6						
DUG	**Dugway**	**24.23**	**337**	*e*P	**P**	**10 59 35.1**	**+0.5**
DUG				pmax	pmax		
	comp=Z,64nm,1.3s,mb4.9						
DUG	**Dugway**	**24.23**	**337**	*e*P	**P**	**10 59 35.1**	**+0.5**
	comp=Z,64nm,1.3s,mb4.9						
DUG				*e*pP		10 59 54.3	
NOQ	**North Oquirrh**	**24.38**	**339**	*e*P	**P**	**10 59 36.2**	**+0.2**
	comp=Z,36nm,0.9s,mb4.8						
PTRM	**Twissleman Ran**	**24.48**	**319**	*e*P	**P**	**10 59 38.5**	**+1.7**
TCUT	**Toone Canyon**	**24.56**	**340**	*e*P	**P**	**10 59 38.3**	**+0.7**
BGU	**Big Grassy Mou**	**24.95**	**337**	*e*P	**P**	**10 59 44.5**	**+3.4**
BGU				*e*pP		11 00 01.3	
HWUT	**Hardware Ranch**	**25.05**	**340**	*e*P	**P**	**10 59 42.4**	**+0.3**
	comp=Z,170nm,1.4s,mb5.4						
MNV	**Mina**	**25.21**	**326**	*e*P	**P**	**10 59 44.8**	**+1.2**
MNV				pmax	pmax		
	comp=Z,46nm,1.1s,mb4.9						
MNV	**Mina**	**25.21**	**326**	*e*P	**P**	**10 59 44.8**	**+1.2**
	comp=Z,46nm,1.1s,mb4.9						
NVAR	**Mina Array Bea**	**25.29**	**326**	P	**P**	**10 59 45.6**	**+1.3**
	comp=Z,31nm,0.8s,mb4.9,baz=140,slow=10,SNR=168						
NVAR				PcP	PcP	11 03 16.0	0.0
	comp=Z,1.5nm,0.6s,baz=147,slow=4.7,SNR=6.0						
LRV	**Little Rabbit**	**25.47**	**319**	*e*P	**P**	**10 59 47.2**	**+1.3**
PDAR	**Pinedale Array**	**25.55**	**345**	P	**P**	**10 59 46.2**	**-0.4**
	comp=Z,36nm,0.8s,mb4.9,baz=140,slow=9.2,SNR=96						
PDAR				PcP	PcP	11 03 15.8	-0.8
	comp=Z,3.6nm,0.8s,baz=130,slow=5.5,SNR=5.3						
PDAR				pPcP		11 03 32.6	
	comp=Z,1.4nm,0.5s,baz=141,slow=5.6,SNR=4.7						
PDAR				PKiKP	PKiKP	11 10 55.1	-1.7
	comp=Z,0.4nm,0.7s,baz=146,slow=2.9,SNR=3.5						
PDAR				LR	LR	11 10 56.5	
	comp=Z,2μm,21.2s,MS4.5,baz=176,slow=39						
PDAR	**Pinedale Array**	**25.55**	**345**	P	**P**	**10 59 46.2**	**-0.4**
PDAR				PcP	PcP	11 03 15.8	-0.8
PDAR				pPcP		11 03 32.6	
HVU	**Hansel Valley**	**25.61**	**339**	*e*P	**P**	**10 59 44.2**	**-2.9**
HVU				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
HVU	**Hansel Valley**	**25.61**	**339**	*e*P	**P**	**10 59 44.2**	**-2.9**
	comp=Z,12nm,0.7s,mb4.5						
HVU				*e*pP	pP	11 00 09.3	+8.1
ELK	**Elko**	**25.66**	**334**	P	**P**	**10 59 48.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=152,slow=7.9,SNR=8.5						
ELK				PcP	PcP	11 03 16.9	0.0
	comp=Z,2.6nm,0.7s,baz=216,slow=1.7,SNR=7.0						
ELK				LR	LR	11 11 10.2	
	comp=Z,2μm,19.5s,MS4.7,baz=153,slow=39						
ELK	**Elko**	**25.66**	**334**	*e*P	**P**	**10 59 47.8**	**+0.2**
ELK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ELK	**Elko**	**25.66**	**334**	*e*P	**P**	**10 59 47.8**	**+0.2**
	comp=Z,9.7nm,1.1s,mb4.2						
ELK				*e*pP	pP	11 00 07.9	+6.3
RSSD	**Black Hills**	**25.93**	**354**	*e*P	**P**	**10 59 49.6**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.9						
RSSD	**Black Hills**	**25.93**	**354**	*e*P	**P**	**10 59 49.6**	**-0.4**
	comp=Z,22nm,0.6s,mb4.9						
AHID	**Auburn Hatcher**	**25.97**	**342**	*e*P	**P**	**10 59 49.9**	**-0.5**
	comp=Z,20nm,1.0s,mb4.6						
AHID				*e*pP	pP	11 00 10.1	+5.6
CMB	**Columbia Colle**	**26.16**	**323**	*e*P	**P**	**10 59 52.2**	**+0.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMB	**Columbia Colle**	**26.16**	**323**	*e*P	**P**	**10 59 52.2**	**+0.1**
	comp=Z,4.8nm,0.9s						
BMN	**Battle Mountai**	**26.29**	**331**	*e*P	**P**	**10 59 53.1**	**-0.1**
BMN				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
BMN	**Battle Mountai**	**26.29**	**331**	*e*P	**P**	**10 59 53.1**	**-0.1**
	comp=Z,15nm,1.2s,mb4.4						
REDW	**Red Top Meadow**	**26.45**	**343**	*e*P	**P**	**10 59 54.

EBG Ellensburg 32.92 335 P **P** **11 00 53.0 +1.0**
CPD Cerro la Pandu 33.00 85 *eP* **P** **11 00 54.5 +1.8**
CPD *e**PP pP 11 01 12.9 +5.9
WTV Waterville 33.32 336 P **P** **11 00 55.8 +0.3**
MTP Monte Pirata 33.34 85 *eP* **P** **11 00 57.6 +1.9**
ETW Entiat 33.39 336 P **P** **11 00 56.9 +0.8**
ACCN Adirondack Com 33.85 36 *eP* **P** **11 00 57.6 -2.5**
NCB Newcomb 33.92 35 *eP* **P** **11 00 57.6 -3.1**
comp=Z,28nm,0.8s,mb5.2
LONY Lake Ozonia 34.15 34 *eP* **P** **11 01 00.4 -2.3**
MIV Mineville/With 34.36 36 *eP* **P** **11 01 02.1 -2.5**
JCW Jim Creek 34.50 335 P **P** **11 01 05.4 -0.4**
HRV Harvard--Oak R 34.55 39 *eP* **P** **11 01 03.8 -2.4**
HRV pmax pmax
comp=Z,95nm,1.5s,mb5.5
HRV Harvard--Oak R 34.55 39 *eP* **P** **11 01 03.8 -2.4**
comp=Z,95nm,1.5s,mb5.5
WES Weston 34.62 40 *eP* **P** **11 01 02.9 -3.9**
FRNY Flat Rock 34.83 35 *eP* **P** **11 01 06.2 -2.4**
HNH Hanover 34.84 37 *eP* **P** **11 01 06.5 -2.1**
comp=Z,6.1nm,1.2s,mb4.4
LBNH Lisbon 35.37 37 *eP* **P** **11 01 11.2 -2.0**
LBNH pmax pmax
comp=Z,109nm,1.5s,mb5.6
LBNH Lisbon 35.37 37 *eP* **P** **11 01 11.2 -2.1**
comp=Z,109nm,1.5s,mb5.6
FFC Flin Flon 36.40 359 P **P** **11 01 20.6 -1.5**
comp=Z,270nm,0.7s,SNR=16
FFC Flin Flon 36.40 359 *eP* **P** **11 01 20.0 -2.1**
FFC pmax pmax
comp=Z,38nm,0.9s,mb5.3
FFC Flin Flon 36.40 359 *eP* **P** **11 01 20.0 -2.0**
comp=Z,38nm,0.9s,mb5.3
DOG Dongo Capester 37.34 87 *eP* **P** **11 01 33.5 +3.5**
TBG Guadaloupe-3 37.34 88 *eP* **P** **11 01 33.0 +2.9**
NNA Nana 38.17 140 *eP* **P** **11 01 36.2 -0.9**
comp=Z,94nm,1.8s,mb5.2
FCC Fort Churchill 40.72 5 *eP* **P** **11 01 56.3 -2.0**
FCC *e* 11 03 57.7
FCC pmax pmax
comp=Z,21nm,1.0s,mb4.7
FCC Fort Churchill 40.72 5 *eP* **P** **11 01 56.2 -2.0**
comp=Z,21nm,1.0s,mb4.7
FCC *e*PcP PcP 11 03 57.7 -1.2
ARE Arequipa 44.91 138 P **P** **11 02 32.0 -0.2**
YKA Yellowknife Ar 45.23 351 P **P** **11 02 32.3 -2.5**
comp=Z,12nm,0.6s,mb4.9,baz=158,slow=7.4,SNR=298
YKA PcP PcP 11 04 13.3 -0.6
comp=Z,3.5nm,0.7s,baz=157,slow=3.0,SNR=14
YKA pPcP 11 04 29.3
comp=Z,3.0nm,0.6s,baz=154,slow=3.1,SNR=7.0
YKA LR LR 11 22 55.1
comp=Z,1µm,19.9s,MS4.8,baz=180,slow=38
YKA Yellowknife Ar 45.23 351 P **P** **11 02 32.3 -2.5**
YKA 11 04 13.4
YKA Yellowknife Ar 45.23 351 P **P** **11 02 32.3 -2.5**
YKA PcP PcP 11 04 13.3 -0.6
YKA pPcP 11 04 29.3
YKA LR LR 11 22 55.1
YKW3 Yellowknife Ar 45.30 351 *eP* **P** **11 02 32.9 -2.3**
YKW3 *e*pP pP 11 02 55.8 +5.7
YKW3 *e*PcP PcP 11 04 13.3 -0.9
LPAZ La Paz 46.97 135 P **P** **11 02 47.8 -0.6**
comp=Z,4.5nm,0.8s,mb4.5,baz=334,slow=6.1,SNR=12
LPAZ pP pP 11 03 04.2 +0.9
comp=Z,2.7nm,0.6s,baz=221,slow=5.3,SNR=4.0
LPAZ LR LR 11 21 08.1
comp=Z,254nm,19.4s,MS4.2,baz=276,slow=34
LPAZ La Paz 46.97 135 *eP* **P** **11 02 47.9 -0.5**
LPAZ pmax pmax
comp=Z,25nm,1.4s
LPAZ La Paz 46.97 135 *eP* **P** **11 02 47.9 -0.5**
comp=Z,25nm,1.4s,mb5.0
RKT Rikitea 53.06 220 *eP* **P** **11 03 34.2 -0.3**
comp=Z,80nm,1.4s,mb5.5
RKT Rikitea 53.06 220 *eS* **S** **11 10 59.3 -1.1**
comp=Z,158nm,27.8s
RKT *e*SS SS 11 14 18.3 -22
comp=Z,193nm,29.8s
RKT *e*LR LR 11 18 51.8
comp=Z,1µm,26.8s
DIV Divide 53.27 335 *eP* **P** **11 03 35.8 -0.3**
comp=Z,39nm,0.8s,mb5.4
MENT Mentasta 53.51 337 *eP* **P** **11 03 38.2 +0.4**
INK Inuvik 54.12 346 *eP* **P** **11 03 40.7 -1.6**
INK pmax pmax
comp=Z,32nm,0.8s
INK Inuvik 54.12 346 *eP* **P** **11 03 40.7 -1.6**
comp=Z,32nm,0.8s,mb5.3
KDAK Kodiak Island 54.75 329 P **P** **11 03 46.6 -0.3**
comp=Z,4.8nm,0.7s,mb4.7,baz=104,slow=7.2,SNR=7.2
PMR Palmer 54.90 334 *eP* **P** **11 03 47.9 0.0**
PMR pmax pmax
comp=Z,20nm,0.8s,mb5.2
PMR Palmer 54.90 334 *eP* **P** **11 03 47.9 0.0**
comp=Z,20nm,0.8s,mb5.2
ILAR Eielson Array 55.71 338 P **P** **11 03 53.0 -0.7**
comp=Z,8.9nm,0.8s,mb4.8,baz=140,slow=5.0,SNR=83
ILAR PcP PcP 11 04 52.0 -0.6
comp=Z,4.5nm,0.6s,baz=161,slow=2.4,SNR=11
ILAR pPcP 11 05 08.4
comp=Z,3.9nm,0.6s,baz=157,slow=2.6,SNR=2.7
ILAR LR LR 11 29 44.0
comp=Z,432nm,21.3s,MS4.5,baz=143,slow=38
ILAR Eielson Array 55.71 338 P **P** **11 03 53.1 -0.7**
ILAR 11 04 52.0
ILAR Eielson Array 55.71 338 P **P** **11 03 53.0 -0.7**
ILAR PcP PcP 11 04 52.0 -0.6
ILAR pPcP 11 05 08.4
ILAR LR LR 11 29 44.0
MCK McKinley 55.91 336 *eP* **P** **11 03 54.9 -0.3**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MCK McKinley 55.91 336 *eP* **P** **11 03 54.9 -0.3**
comp=Z,7.3nm,0.7s,mb4.8
COLA College 56.11 338 *eP* **P** **11 03 56.1 -0.6**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
COLA College 56.11 338 *eP* **P** **11 03 56.1 -0.6**
comp=Z,6.7nm,0.7s,mb4.8
RES Resolute Bay 56.52 2 *eP* **P** **11 03 56.8 -2.8**
RES pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
RES Resolute Bay 56.52 2 *eP* **P** **11 03 56.8 -2.8**
comp=Z,9.9nm,0.6s,mb5.0
VAH Vaihoa 56.99 237 *eP* **P** **11 04 03.0 +0.1**
comp=Z,88nm,1.3s,mb5.6
VAH *e*pP pP 11 04 19.3 +1.1
comp=Z,71nm,1.2s
SVW2 Sparrevohn 57.47 332 *eP* **P** **11 04 05.4 -0.9**
SFJD Kangerlussuaq 58.24 21 P **P** **11 04 10.3 -1.4**
comp=Z,8.0nm,0.5s,mb5.0,baz=208,slow=7.5,SNR=8.4
SFJD Kangerlussuaq 58.24 21 P **P** **11 04 10.3 -1.4**
CPUP Villa Florida 61.14 135 *eP* **P** **11 04 29.9 -1.7**
CPUP pmax pmax
comp=Z,62nm,0.7s
CPUP Villa Florida 61.14 135 *eP* **P** **11 04 29.9 -1.7**
comp=Z,62nm,0.7s,mb5.8
BDFB Brasilia 61.85 120 P **P** **11 04 36.6 +0.2**
comp=Z,15nm,0.7s,mb5.2,baz=292,slow=8.5,SNR=25
BDFB LR LR 11 34 00.8
comp=Z,213nm,18.7s,MS4.3,baz=143,slow=38
SUMG Summit 64.50 17 *eP* **P** **11 04 53.0 -1.0**
comp=Z,45nm,1.1s,mb5.4
PLCA Paso Flores 65.04 155 P **P** **11 04 56.7 -0.7**
comp=Z,23nm,1.1s,mb5.1,baz=331,slow=7.0,SNR=25
PLCA LR LR 11 26 45.3
comp=Z,155nm,18.6s,MS4.2,baz=355,slow=30
PLCA Paso Flores 65.04 155 *eP* **P** **11 04 56.3 -1.2**
PLCA pmax pmax
comp=Z,46nm,1.3s
PLCA Paso Flores 65.04 155 *eP* **P** **11 04 56.3 -1.2**
comp=Z,46nm,1.3s,mb5.3
ALE Alert 65.99 5 P **P** **11 05 01.0 -2.6**
comp=Z,58nm,0.6s,mb5.8,SNR=7.4
TRQA Tornquist 66.79 148 *eP* **P** **11 05 06.9 -1.8**
CAM4 Nova Friburgo 69.70 123 *eP* **P** **11 05 17.7 -9.2**
CAM4 *i* 11 05 22.2
CAM4 *i* 11 05 27.3
CAM4 *i* 11 05 42.5
DAG Danmarks Havn 70.51 14⇓ *iP* **P** **11 05 30.1 -1.8**
comp=Z,25nm,0.7s,mb5.2
DAG Danmarks Havn 70.51 14⇓ *iP* **P** **11 05 30.1 -1.8**
DAG pmax pmax
comp=Z,25nm,0.7s,mb5.2

BILL Bilibino 74.35 337⇑ *iP* **P** **11 05 54.5 -0.2**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
PTOM Tomar 80.28 52 *eP* **P** **11 06 28.8 +0.9**
PVRL Vila Real 80.34 50 *eP* **P** **11 06 29.1 +0.9**
PTEO Sao Teotonio 80.60 54 *eP* **P** **11 06 32.5 +2.9**
MTE Manteigas 80.70 51 *eP* **P** **11 06 31.0 +0.8**
EVO Evora 80.87 53 *eP* **P** **11 06 30.4 -0.6**
comp=Z,102nm,1.0s,mb5.4
EVO *e*pP pP 11 06 46.2 -0.8
EVO *e*R
comp=Z,208nm,22.8s
PBRG Braganca 80.90 49 *eP* **P** **11 06 33.3 +2.1**
PCBR Castelo Branco 80.91 51 *eP* **P** **11 06 32.9 +1.6**
PBEJ Beja 81.12 53 *eP* **P** **11 06 34.8 +2.4**
ROSF Rostrenen 81.35 42 *eP* **P** **11 06 32.3 -1.3**
SEY Seymchan 81.35 334⇑ *iP* **P** **11 06 34.1 +0.5**
QUIF Quistinic 81.55 42 *eP* **P** **11 06 34.0 -0.6**
comp=Z,98nm,1.0s,mb5.4
SGMF Saint Gilles 81.83 42 *eP* **P** **11 06 35.3 -0.8**
comp=Z,74nm,1.1s,mb5.2
PET Petropavlovsk 81.83 323 *eP* **P** **11 06 37.0 +0.8**
PET *e*S S 11 16 47.4 +2.3
PET pmax pmax
comp=Z,21nm,0.7s,mb5.2
PET pmax pmax
comp=Z,100nm,14.2s
PET pmax pmax
comp=Z,35nm,0.7s,mb5.4
PET smax
comp=N,200nm,13.9s
PET MLR MLR
comp=Z,200nm,28.0s,MS4.3
PET MLR MLR
comp=E,200nm,27.0s,MS4.4
PET MLR MLR
comp=N,100nm,23.0s,MS4.4
GRR Gorron 82.86 41 *eP* **P** **11 06 41.2 -0.3**
comp=N,56nm,0.5s,mb5.5
FLN La Foliniere 82.97 41 *eP* **P** **11 06 42.0 -0.1**
comp=N,92nm,0.7s,mb5.6
FLN *e*R
comp=N,220nm,20.2s
LDF La Druitiere 83.25 41 *eP* **P** **11 06 43.2 -0.3**
comp=N,97nm,1.1s,mb5.4
LDF *e*pP pP 11 07 00.0 +0.4
MA2 Magadan 83.43 331 *eP* **P** **11 06 44.9 +0.4**
MA2 S S 11 16 59.6 -1.8
MA2 *e* 11 17 57.7
MA2 *e* 11 18 25.5
MA2 pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
MA2 Magadan 83.43 331 *eP* **P** **11 06 45.0 +0.5**
comp=Z,11nm,1.1s,mb4.8
ESDC Sonseca Array 83.54 50 P **P** **11 06 45.3 +0.2**
comp=Z,5.6nm,0.7s,mb4.8,baz=302,slow=5.2,SNR=12
MFF Saint Martin d 83.92 43 *eP* **P** **11 06 47.5 +0.6**
comp=Z,49nm,1.0s,mb5.3
KONO Kongsberg 84.19 29*c iP* **P** **11 06 50.1 +1.8**
KONO Kongsberg 84.19 29 *eP* **P** **11 06 46.7 -1.6**
comp=Z,50nm,1.0s,mb5.6
KONO *e*PcP PcP 11 06 49.9 -2.2
TIXI Tiksi 84.25 346*c iP* **P** **11 06 48.0 -0.6**
TIXI pmax pmax
comp=Z,25nm,1.3s,mb5.2
NB2 NORSAR Subarra 84.27 27 P **P** **11 06 49.4 +0.7**
comp=Z,15nm,0.8s,mb5.2,baz=301,slow=5.3
NOA NORSAR Array B 84.27 27 P **P** **11 06 48.4 -0.3**
comp=Z,15nm,1.0s,mb5.1,baz=301,slow=5.0,SNR=31
NOA pP pP 11 07 04.4 -0.4
comp=Z,4.9nm,0.7s,baz=299,slow=5.0,SNR=6.7
NOA LR LR 11 44 20.4
comp=Z,152nm,21.9s,MS4.3,baz=280,slow=36
NOA NORSAR Array B 84.27 27 P **P** **11 06 48.4 -0.3**
NOA *PP pP 11 07 04.4 -0.4
SJPF Ste Jean 84.38 47 *eP* **P** **11 06 48.9 -0.4**
ARCES ARCESS Array B 84.58 17 P **P** **11 06 50.7 +0.4**
comp=Z,23nm,0.6s,mb5.5,baz=306,slow=4.5,SNR=126
ARCES pP pP 11 07 05.5 -0.9
comp=Z,7.6nm,0.7s,baz=310,slow=4.6,SNR=4.6
ARCES LR LR 11 45 24.1
comp=Z,160nm,21.7s,MS4.4,baz=6.4,slow=36
ARCES ARCESS Array B 84.58 17 P **P** **11 06 50.7 +0.4**
ARCES *PP pP 11 07 05.5 -0.9
ARCES ARCESS Array B 84.58 17 P **P** **11 06 50.7 +0.4**
ARCES pP pP 11 07 05.5 -0.9
ARCES LR LR 11 45 24.1
ARE0 ARCESS Array S 84.58 17 *eP* **P** **11 06 47.5 -2.8**
ARE0 *e*PcP PcP 11 06 50.5 -3.3
KEV Kevo 84.84 16 *ep* **P** **11 06 51.0 -0.6**
comp=Z,14nm,0.5s,mb5.3
KEV Kevo 84.84 16 *eP* **P** **11 06 51.0 -0.6**
KEV pmax pmax
comp=Z,14nm,0.5s,mb5.3
KEV Kevo 84.84 16 *eP* **P** **11 06 50.4 -1.3**
comp=Z,10nm,0.6s,mb5.1
ETSF Etsaut 84.91 47 *eP* **P** **11 06 52.5 +0.5**
comp=Z,83nm,0.8s,mb5.6
LFF La Frestale 85.08 44 *eP* **P** **11 06 52.9 +0.1**
comp=Z,45nm,0.5s,mb5.5
SNF Seneffe 85.23 38 P **P** **11 06 55.4 +1.8**
SNF PCP PcP 11 07 08.9 +12
SNF AP pP 11 07 13.2 +3.6
SNF XP sP 11 07 17.3 +1.4
BAIF Baives 85.36 39 *eP* **P** **11 06 54.1 -0.1**
comp=Z,113nm,1.0s,mb5.7
BAIF *e*pP pP 11 07 10.1 -0.2
HYF Humbligny 85.46 42 *eP* **P** **11 06 54.6 -0.1**
RJF Les Rejaudoux 85.46 44 *eP* **P** **11 06 54.9 +0.2**
comp=Z,89nm,0.9s,mb5.6
RJF *e*pP pP 11 07 10.6 -0.2
EPF Esparros 85.48 46 *eP* **P** **11 06 55.0 +0.2**
comp=Z,27nm,0.7s,mb5.2
TCF Toulx Ste Croi 85.55 43 *eP* **P** **11 06 55.0 -0.2**
comp=Z,176nm,1.1s,mb5.9
TCF *e*pP pP 11 07 10.8 -0.5
DOU Dourbes 85.57 39⇑⇑ **P** **11 06 56.3 +1.0**
comp=Z,13nm,0.8s,mb5.2
DOU PCP PcP 11 07 01.6 +3.4
DOU E pP 11 07 11.5 +0.1
DOU AP pP 11 07 17.8 +6.4
DOU XP sP 11 07 27.6 +10
GIVF Givet 85.70 38 *eP* **P** **11 06 56.0 +0.1**
comp=Z,106nm,1.0s,mb5.7
BGF Bois d'Agland 85.86 42 *eP* **P** **11 06 56.3 -0.4**
comp=Z,127nm,1.1s,mb5.8
CAF Calviac 85.96 44 *eP* **P** **11 06 57.2 0.0**
comp=Z,19nm,0.7s,mb5.1
MLS Moulis 86.03 46 *eP* **P** **11 06 58.6 +1.1**
SSF Saint Saulge 86.08 42 *eP* **P** **11 06 57.6 -0.2**
comp=Z,81nm,1.0s,mb5.6
HGN Heimansgroeve 86.09 38 *eP* **P** **11 06 57.9 +0.1**
comp=Z,43nm,1.0s,mb5.6
HGN *ex* x 11 07 13.5
AVF Avril sur Loir 86.09 42 *eP* **P** **11 06 57.3 -0.5**
comp=Z,52nm,0.9s,mb5.5
AVF *e*pP pP 11 07 13.2 -0.8
SALF Salau 86.16 46 *eP* **P** **11 06 59.9 +1.7**
MEM Membach 86.19 38 P **P** **11 06 58.2 -0.1**
MEM PCP PcP 11 07 10.2 +9.3
MEM AP pP 11 07 20.6 +6.1
LOR Lormes 86.23 41 *eP* **P** **11 06 58.6 +0.1**
comp=Z,115nm,0.7s,mb6.0
LOR *e*pP pP 11 07 14.4 -0.2
LOR *es*P sP 11 07 21.0 +0.1
LOR *e*R
comp=Z,180nm,20.0s
PYM Petit Puy Mans 86.27 43 *eP* **P** **11 06 59.9 +1.2**
EBR Ebro Roquetas 86.38 48 *eP* **P** **11 07 02.0 +2.8**
SMF Signal de Mont 86.46 42 *eP* **P** **11 06 59.1 -0.5**
comp=Z,48nm,0.7s,mb5.5
MEZF Maizieres J'vi 86.48 40 *eP* **P** **11 06 59.9 +0.2**
comp=Z,66nm,0.7s,mb5.7
LBL Lubilhac 86.62 43 *eP* **P** **11 07 01.9 +1.5**
MTLF Montolieu 86.65 45 *eP* **P** **11 07 00.8 +0.2**
comp=Z,75nm,1.0s,mb5.6
WLF Walferdange 86.67 39 P **P** **11 06 58.8 -1.9**
comp=Z,17nm,0.7s,mb5.4
WLF PCP PcP 11 07 02.3 -0.6
WLF E 11 07 08.8
WLF E pP 11 07 16.7 -0.1
WLF AP pP 11 07 22.1 +5.3
WLF XP sP 11 07 28.6 +5.6
WLF Walferdange 86.67 39 *eP* **P** **11 07 00.7 0.0**
WLF pmax pmax
comp=Z,27nm,0.8s,mb5.5
WLF Walferdange 86.67 39 *eP* **P** **11 07 00.7 0.0**
comp=Z,27nm,0.8s,mb5.5
THEF They Montfort 87.16 40 *eP* **P** **11 07 04.8 +1.7**
LASF Ste Croix 87.47 44 *eP* **P** **11 07 05.4 +0.8**
comp=Z,41nm,0.7s,mb5.5
HAU Haudompre 87.47 40 *eP* **P** **11 07 05.8 +1.2**
comp=Z,38nm,0.7s,mb5.5
HAU *e*pP pP 11 07 21.6 +0.9
HAU *e*R
comp=Z,292nm,20.5s
VIVF Saint-Julien-l 87.70 43 *eP* **P** **11 07 06.5 +0.9**
comp=Z,20nm,0.8s,mb5.1
CDF Champ du Feu 87.86 39 *eP* **P** **11 07 06.7 +0.3**
comp=Z,37nm,1.0s,mb5.2
ECH Echery 87.88 40 *eP* **P** **11 07 07.9 +1.4**
CABF La Chapelle 87.89 41 *eP* **P** **11 07 06.9 +0.3**
comp=Z,26nm,1.0s,mb5.1
APA Apatity 88.05 16⇓ *iP* **P** **11 07 03.0 -4.3**
APA pmax pmax
comp=Z,65nm,1.7s,mb5.6
RAO Raoul Island 88.17 239 P **P** **11 07 08.7 +0.8**
comp=Z,190nm,0.4s,baz=55,slow=22,SNR=2.9
ORIF Oris-en-Rattie 88.46 43 *eP* **P** **11 07 09.2 0.0**
comp=Z,20nm,0.8s,mb5.1
ORIF *e*R
comp=Z,196nm,21.0s
LPL La Plagne 88.75 42 *eP* **P** **11 07 10.9 +0.3**
LPG La Plagne 88.78 42 *eP* **P** **11 07 11.1 +0.4**
LMR La Mourre 89.53 44 *eP* **P** **11 07 14.1 -0.2**
GRA1 Grafenberg Arr 89.61 37 *eP* **P** **11 07 17.2 +2.5**
comp=Z,24nm,1.5s,mb5.3
GRA1 *e*pP pP 11 07 30.0 -0.9
GRA1 LR LR
comp=Z,200nm,21.8s,MS4.5
GRF Grafenberg Arr 89.61 37 *eP* **P** **11 07 17.2 +2.5**
comp=Z,24nm,1.5s,mb5.3
GRF *e*pP pP 11 07 30.0 -0.9
GRF *e*L 11 45 58.8
comp=Z,199nm,21.8s
GRF Grafenberg Arr 89.61 37 *eP* **P** **11 07 17.2 +2.5**
GRF *e**PP pP 11 07 30.0 -0.9
GRF pmax pmax
comp=Z,24nm,1.5s,mb5.3
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.5
KAF Kangasniemi 89.64 22 *ep* **P** **11 07 12.8 -2.0**
comp=Z,7.3nm,0.8s,mb5.1
KAF Kangasniemi 89.64 22 *eP* **P** **11 07 12.8 -2.0**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
CLL Collm 89.83 35 *i P* **P** **11 07 16.1 +0.4**
CLL *e* pP 11 07 31.0 -0.9
CLL pmax pmax
comp=Z,17nm,1.5s,mb5.2
CLL Collm 89.83 35 *i P* **P** **11 07 16.1 +0.4**
comp=Z,17nm,1.5s,mb5.2
CLL *e* pP 11 07 31.0 -0.9
FINES FINESS Array B 90.00 23 P **P** **11 07 16.2 -0.2**
comp=Z,1.7nm,0.6s,mb4.6,baz=29,slow=4.4,SNR=7.3
FINES LR LR 11 48 48.5
comp=Z,244nm,21.7s,MS4.6,baz=171,slow=36
FINES FINESS Array B 90.00 23 *eP* **P** **11 07 19.1 +2.6**
NKC Novy Kostel 90.04 36 *eP* **P** **11 07 18.0 +1.3**
BRG Berggiesshubel 90.56 35 *eP* **P** **11 07 19.8 +0.7**
BRG *e* pP 11 07 34.2 -1.1
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
BRG Berggiesshubel 90.56 35 *eP* **P** **11 07 19.8 +0.7**
comp=Z,4.0nm,0.9s,mb4.8
BRG *e* pP 11 07 34.2 -1.1
YAK Yakutsk 90.63 339*c iP* **P** **11 07 19.5 +0.1**
YAK pmax pmax
comp=Z,36nm,0.8s,mb5.8
YAK Yakutsk 90.63 339 *eP* **P** **11 07 19.2 -0.3**
comp=Z,31nm,0.8s,mb5.7
JOF Joensuu 90.80 20 *ep* **P** **11 07 18.5 -1.7**
comp=Z,1.3nm,0.5s,mb4.5
JOF Joensuu 90.80 20 *eP* **P** **11 07 18.5 -1.7**
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
KHC Kasperske Hory 91.23 37 *eP* **P** **11 07 23.8 +1.6**
KHC Kasperske Hory 91.23 37⇑ *iP* **P** **11 07 24.2 +2.0**
PRU Pruhonice 91.33 36 *eP* **P** **11 07 22.9 +0.2**
GERES GERESS Array B 91.44 37 P **P** **11 07 23.2 0.0**
comp=Z,1.3nm,0.7s,mb4.4,baz=328,slow=4.9,SNR=7.3
GERES pP pP 11 07 38.9 -0.5
comp=Z,1.5nm,0.6s,baz=317,slow=4.4,SNR=5.0
GERES LR LR 11 47 59.7
comp=Z,226nm,21.2s,MS4.6,baz=294,slow=35
GERES GERESS Array B 91.44 37 P **P** **11 07 23.2 0.0**
GERES *PP pP 11 07 38.9 -0.5
UPC Upice 91.87 35 *eP* **P** **11 07 26.4 +1.2**
DPC Dobruska-Polom 92.12 35 *eP* **P** **11 07 26.5 +0.2**
OKC Ostrava-Krasne 93.39 35 *eP* **P** **11 07 29.6 -2.6**
DBIC Dimbokro 93.42 82 P **P** **11 07 32.0 -0.3**
comp=Z,3.5nm,0.9s,mb4.8,baz=238,slow=13,SNR=3.0
DBIC pP pP 11 07 48.2 -0.4
comp=Z,2.7nm,0.8s,baz=280,slow=3.2,SNR=2.9
DBIC LR LR 11 45 22.9
comp=Z,158nm,20.1s,MS4.5,baz=279,slow=33
DBIC Dimbokro 93.42 82 P **P** **11 07 32.0 -0.3**
DBIC *PP pP 11 07 48.2 -0.4
DBIC Dimbokro 93.42 82 P **P** **11 07 32.0 -0.3**
DBIC pP pP 11 07 48.2 -0.4
DBIC LR LR 11 45 22.9
YSS Yuzh-Sakhalins 93.68 322 *eP* **P** **11 07 34.4 +0.9**
YSS pmax pmax
comp=Z,29nm,1.3s,mb5.5
ZST Bratislava 93.71 36 *eP* **P** **11 07 34.6 +1.0**
LIKS Likavka 94.35 35 *eP* **P** **11 07 37.8 +1.2**
KLMR Klimovskoe 94.91 18 *eP* **P** **11 07 37.6 -1.6**
KLMR pmax pmax
comp=Z,20nm,1.8s,mb5.2
STHS Stebnicka Huta 95.28 34 *eP* **P** **11 07 40.5 -0.4**
KECS Kecovo 95.42 35 *eP* **P** **11 07 41.5 0.0**
CRVS Cervenica-Dubn 95.70 34 *e* **P** **11 07 48.5 +5.7**
KOLS Kolonicke sedl 96.12 34 *eP* **P** **11 07 45.8 +1.1**
TORD Torodi Ar. Bea 97.35 74 P **P** **11 07 51.6 +1.4**
comp=Z,2.5nm,0.6s,mb4.8,baz=297,slow=5.1,SNR=32
TORD pP pP 11 08 05.3 -1.1
comp=Z,1.9nm,0.8s,baz=313,slow=5.6,SNR=6.1
TORD PKKP PKKPbc 11 24 28.4 +0.4
comp=Z,0.9nm,0.7s,baz=107,slow=3.2,SNR=6.7
OBN Obninsk 98.38 23⇓ *eP* **P** **11 07 55.0 +0.1**
OBN *e* 11 11 51.3
OBN *i* PS PS 11 20 42.3 -7.8
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb5.5
OBN MLR MLR
comp=Z,400nm,23.0s,MS4.8
AKASG Malin Array Be 98.46 30 P **P** **11 07 53.2 -2.0**
comp=Z,0.7nm,0.5s,mb4.5,baz=313,slow=3.3,SNR=7.2
AKASG pP pP 11 08 09.4 -2.1
comp=Z,1.7nm,0.7s,baz=291,slow=4.2,SNR=3.0
AKASG Malin Array Be 98.46 30 P **P** **11 07 53.2 -2.0**
AKASG pP pP 11 08 09.4 -2.1
BOD Bodaibo 98.91 342 *eP* **P** **11 07 53.9 -3.4**
MDJ Mudanjiang 102.45 326 P Pdif 11 08 11.4 -1.6
MDJ S Sdif 11 19 47.4 -5.2
MDJ AMB AMB
comp=Z,7.0nm,2.0s
MDJ AMB AMB
comp=Z,49nm,3.2s
MDJ LR LR
comp=N,74nm,33.7s
MDJ LR LR
comp=E,63nm,59.0s
MDJ LR LR
comp=Z,148nm,30.1s,MS4.3
BRTR Keskin Array B 108.28 36 PKKPab PKKPab 11 24 09.1 -0.4
comp=Z,0.6nm,0.8s,baz=116,slow=5.6,SNR=3.7
PMG Port Moresby 113.85 268 *e*PKIKP PKiKP 11 12 51.0 -4.5
MKAR Makanchi Array 115.19 358 PKP PKiKP 11 12 56.5 -1.6
comp=Z,0.5nm,0.7s,baz=22,slow=1.6,SNR=5.7
MKAR PKKPbc PKKPbc 11 23 31.1 -1.9
comp=Z,0.6nm,0.6s,baz=201,slow=3.5,SNR=8.9
MKAR PKKPab PKKPab 11 23 36.8 -2.0
comp=Z,1.9nm,0.8s,baz=167,slow=6.2,SNR=17
MKAR PKKP PKKPbc 11 23 54.1 +21
comp=Z,1.1nm,0.8s,baz=155,slow=6.7,SNR=6.3
MKAR Makanchi Array 115.19 358 PKIKP PKiKP 11 12 56.5 -1.6
MKAR 11 23 31.1
MKAR 11 23 36.8
NJ2 Nanjing 117.24 323 *e*PKP PKPdf 11 13 01.4 -0.6

NJ2				PP	PP	11 14 19.0	+5.9
NJ2				PP	PP		
	comp=Z,60nm,5.8s						
NJ2				LR	LR		
	comp=N,530nm,25.2s						
NJ2				LR	LR		
	comp=E,490nm,31.0s						
NJ2				LR	LR		
	comp=Z,510nm,39.4s						
WMQ	**Urumqi**	**117.74**	**353**	PKP	PKPdf	11 13 02.0	-1.0
WMQ				PP	PP	11 14 20.0	+3.4
WMQ				SKS	SKSdf	11 20 03.0	-7.2
WMQ				SKKS	SKKSac	11 21 02.0	-10
WMQ				PP	PP		
	comp=Z,35nm,9.0s						
WMQ				LR	LR		
	comp=N,268nm,14.0s,MS5.2						
WMQ				LR	LR		
	comp=E,218nm,13.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,287nm,14.0s,MS5.0						
AAK	**Ala-Archa**	**119.24**	**4⇑**	*i* PKIKP	PKPdf	11 13 04.7	-1.2
XAN	**Xi'an**	**120.83**	**331**	PKP	PKPdf	11 13 08.5	-0.4
LZH	**Lanzhou**	**121.17**	**337**	*e* PKP	PKPdf	11 13 08.5	-1.1
LZH				*e* PP	PP	11 14 42.5	+2.3
LZH				SKS	SKSdf	11 20 09.4	-7.3
LZH				SKKS	SKKSac	11 21 24.8	-10
LZH				PP	PP		
	comp=Z,73nm,7.7s						
LZH				LR	LR		
	comp=N,217nm,18.0s						
LZH				LR	LR		
	comp=Z,448nm,20.2s,MS5.1						
STKA	**Stephens Creek**	**122.68**	**243**	*e* P	PKPdf	11 13 09.6	-2.9
	comp=Z,6.6nm,0.8s						
STKA	**Stephens Creek**	**122.68**	**243**	PKP	PKPdf	11 13 09.8	-2.7
	comp=Z,6.6nm,0.6s,baz=53,slow=1.7,SNR=16						
CD2	**Chengdu**	**125.75**	**334**	*e* PKP	PKPdf	11 13 17.8	-0.6
CD2				PP	PP	11 15 15.8	+4.8
CD2				SKS	SKSdf	11 20 18.3	-7.0
CD2				SKKS	SKKSac	11 21 54.9	-9.3
CD2				PP	PP		
	comp=Z,80nm,9.6s						
CD2				LR	LR		
	comp=E,120nm,14.4s						
CD2				LR	LR		
	comp=Z,100nm,14.4s,MS4.6						
WB2	**Warramunga Arr**	**128.17**	**259**	*e* P	PKPdf	11 13 22.1	-0.9
WRAB	**Tennant Creek**	**128.17**	**259**	*e* PKIKP	PKPdf	11 13 22.5	-0.5
WRA	**Warramunga Arr**	**128.19**	**259**	PKP	PKPdf	11 13 22.2	-0.8
	comp=Z,6.8nm,0.6s,baz=79,slow=2.4,SNR=105						
WRA				pPKP	pPKPdf	11 13 38.7	-1.2
	comp=Z,2.9nm,0.6s,baz=81,slow=2.6,SNR=7.0						
ASAR	**Alice Springs**	**129.00**	**254**	PKP	PKPdf	11 13 23.8	-0.7
	comp=Z,4.8nm,0.7s,baz=83,slow=2.1,SNR=48						
ASAR				pPKP	pPKPdf	11 13 40.8	-0.6
	comp=Z,2.4nm,0.8s,baz=97,slow=3.3,SNR=6.0						
MAW	**Mawson**	**129.57**	**172**	PKP	PKPdf	11 13 24.2	-1.5
	comp=Z,13nm,0.8s,baz=277,slow=3.0,SNR=4.5						
BOSA	**Boshof**	**129.70**	**112**	PKP	PKPdf	11 13 25.7	-0.1
	comp=Z,3.2nm,0.6s,baz=358,slow=4.5,SNR=6.4						
BOSA				pPKP	pPKPdf	11 13 42.2	-0.5
	comp=Z,3.1nm,0.7s,baz=358,slow=3.0,SNR=2.9						
KMI	**Kunming**	**131.21**	**331**	PKP	PKPdf	11 13 29.8	+1.1
KMI				SS	SS	11 33 11.8	-2.8
KMI				LR	LR		
	comp=Z,131nm,22.2s,MS4.6						
KMBO	**Kilima Mbogo**	**135.34**	**72**	PKP	PKPdf	11 13 37.6	+1.1
	comp=Z,0.4nm,0.3s,baz=202,slow=24,SNR=3.8						
KLBR	**Kellerberrin**	**142.91**	**242**	*e* P	PKPdf	11 13 45.6	-4.7
	comp=Z,33nm,1.3s						
MUN	**Mundaring**	**144.11**	**240**	*e* P	PKPdf	11 13 49.5	-2.9
HYB	**Hyderabad**	**144.53**	**1**	*i* PKP	PKPdf	11 13 51.0	-2.1
	comp=Z,90nm,1.0s						
HYB	**Hyderabad**	**144.53**	**1**	*e* P	PKPdf	11 13 51.0	-2.1

CASC 20 10:59:58.6±2.5, 1312N×8741W, h13km±23km, MD3.5, ML2.7, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.44**	**291**	*e* P	Pg	11 00 07.5	+0.3
CNCH				*e* S	Sg	11 00 11.8	-1.4
CRIN	**San Cristobal**	**0.55**	**140**	*e* P	Pg	11 00 09.4	0.0
TELN	**Telica**	**0.77**	**132⇑**	*e* P	Pg	11 00 13.0	-0.5
TEL3	**Telica 3**	**0.78**	**134**	*e* P	Pg	11 00 12.6	-1.1
BLLM	**Bellamira**	**0.86**	**292**	*e* P	Pg	11 00 14.9	-0.4
BLLM				*e* S	Sg	11 00 25.8	-0.8
LEON	**Leon**	**0.87**	**144**	*e* P	Pg	11 00 13.7	-1.7
LEON				*e* S	Sg	11 00 25.8	-1.0
LEON				*i*		11 00 31.8	
	comp=Z,213nm,0.8s						
VSM	**San Miguel**	**0.89**	**290**	*e* P	Pg	11 00 15.9	+0.1
VSM				*e* S	Sg	11 00 27.2	-0.3
CNGN	**Cerro Negro**	**0.93**	**131**	*e* P	Pb	11 00 15.6	-1.1
MIRN	**Miramar**	**0.96**	**135⇓**	*e* P	Pb	11 00 15.8	-1.3
CAHU	**Cacacuatique**	**1.01**	**310**	*e* P	Pb	11 00 18.2	+0.3
CAHU				*e* S	Sb	11 00 30.1	-1.0
COPN	**Copaltepe**	**1.23**	**139**	*e* P	Pn	11 00 19.8	-1.7
APYN	**Apoyeque**	**1.36**	**130**	*e* P	Pn	11 00 22.0	-1.3
SNVI	**San Vicente**	**1.47**	**290**	*e* P	Pn	11 00 25.9	+1.1
SNVI				*e* S	Sn	11 00 44.5	+0.6
SNVI				*e* S	Sn	11 00 44.5	+0.7
LCBS	**La Ceiba**	**1.61**	**289**	*e* P	Pn	11 00 27.8	+1.1
LBRS	**Las Brisas**	**1.70**	**291**	*e* P	Pn	11 00 30.1	+2.2

*IDC **20** 11:01:01.8±1.3, 2052N×14475E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.7/21, mbtmp3.7/7, ML4.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/16, Error ellipse: s-maj=54.0km s-min=19.6km az=85.0*
*ISCJB **20** 11:01:04.4±3.4, 206N±0.1×1446E±03, h33km±31km, mb3.4/5, Error ellipse: s-maj=54.3km s-min=17.9km az=165.9*
ISC 20 11:01:06.2±6.1, 2059N±010×1447E±03, h28km±45km, n8, σ0§50/9, mb3.4/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.86**	**341**	Pn	**Pn**	**11 02 45.0**	**+0.1**
	21nm,0.3s,baz=97,slow=23,SNR=18						
CBIJ				Sn	**Sn**	**11 04 01.4**	**-0.7**
	21nm,0.3s,baz=114,slow=23,SNR=8.3						
GUMO	**Guam**	**6.97**	**178**	Sn	**Sn**	**11 04 14.0**	**+9.4**
	9.9nm,0.3s,baz=340,slow=21,SNR=3.7						
GUMO				LR	LR	11 05 10.1	
	comp=Z,40nm,19.4s,baz=63,slow=36						
MJAR	**Matsushiro Arr**	**16.87**	**342**	Pn	**Pn**	**11 05 00.2**	**0.0**
	0.5nm,0.3s,baz=128,slow=13,SNR=7.7						
SONM	**Songino Array**	**41.07**	**321**	P	**P**	**11 08 47.8**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=96,slow=1.5,SNR=3.5						
WRA	**Warramunga Arr**	**41.54**	**195**	P	**P**	**11 08 51.0**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=13,slow=8.6,SNR=21						
ASAR	**Alice Springs**	**45.23**	**194**	P	**P**	**11 09 20.1**	**-0.7**
	0.2nm,0.4s,mb3.3,baz=14,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**56.47**	**313**	P	**P**	**11 10 46.3**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=80,slow=9.1,SNR=6.0						
YKA	**Yellowknife Ar**	**76.77**	**28**	P	**P**	**11 12 55.2**	**+0.1**
	0.2nm,0.6s,mb3.2,baz=290,slow=5.8,SNR=3.9						

*CSEM **20** 11:05:15.9±0.9, 3863N×2850W, h10km, ML2.1, Error ellipse: s-maj=2.9km s-min=1.9km az=166.0, After PDA*
*PDA **20** 11:05:15.9±0.9, 3863N×2850W, h10km, MD3.1, ML2.1, Error ellipse: s-maj=2.9km s-min=1.9km az=166.0*
SVSA 20 11:05:15.9±0.9, 3863N×2850W, h10km, MD3.1, ML2.1, Error ellipse: s-maj=2.9km s-min=1.9km az=166.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.14**	**157**	*i* P	Pg	11 05 18.9	-0.2
PICO				*e* S	Sg	11 05 21.2	-0.2
PICO	**Pico**	**0.14**	**157**	*e* S	Sg	11 05 21.2	-0.2
HOR	**Horta**	**0.15**	**225**	*e* P	Pg	11 05 19.2	0.0
HOR				*e* S	Sg	11 05 21.6	+0.1
PCED	**Cedros**	**0.16**	**268**	*e* P	Pg	11 05 18.9	-0.5
PCED				*e* S	Sg	11 05 21.7	-0.1
PCED							
	206nm,0.2s						
PCED	**Cedros**	**0.16**	**268**	*e* P	Pg	11 05 18.9	-0.5
PCED				*e* S	Sg	11 05 21.7	-0.1
CALA	**Caldeira**	**0.17**	**252**	*e* P	Pg	11 05 19.2	-0.4
CALA				*e* S	Sg	11 05 21.9	-0.2
PBOI	**Pico dos Bois**	**0.22**	**154**	*e*rx		11 05 24.1	
ROSA	**Rosais**	**0.22**	**67**	*e* P	Pg	11 05 20.4	0.0
ROSA				*e* S	Sg	11 05 23.2	-0.3
PPNO	**Prainha do Nor**	**0.24**	**131**	*e* S	Sg	11 05 24.0	-0.2
PPNO							
	74nm,0.2s						
PMAN	**Manadas**	**0.32**	**90**	*e* P	Pg	11 05 21.4	-0.9
PMAN				*e* S	Sg	11 05 25.6	-1.0
PMAN							
	107nm,0.2s						

*IDC **20** 11:05:20.2±1.0, 1866S×17366W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/17, mbtmp4.2/10, MS4.0/7, Ms1 4.0/7, ms1mx3.7/22, Error ellipse: s-maj=41.5km s-min=18.4km az=140.0*
*ISCJB **20** 11:05:24.4±0.6, 186S±0.1×1738W±0.1, h33km, mb4.5/17, MS4.1/7, Error ellipse: s-maj=23.1km s-min=11.0km az=97.0*
*NEIC **20** 11:05:30.8±5.5, 1881S×17367W, h82km±48km, mb4.9/8, Error ellipse: s-maj=21.9km s-min=17.5km az=146.0*
ISC 20 11:05:26.0±0.6, 185S±01×1737W±01, h35km, n47, σ1§06/30, mb4.5/17, MS4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.94**	**22**	Pn	**Pn**	**11 06 34.4**	**-3.3**
	4.4nm,0.3s,baz=166,slow=4.2,SNR=3.2						
AFI				Sn	**Sn**	**11 07 21.9**	**-12**
	17nm,0.3s,baz=47,slow=20,SNR=3.8						
AFI	**Afiamalu**	**4.94**	**22**	Pn	**Pn**	**11 06 34.4**	**-3.3**
AFI				Sn	**Sn**	**11 07 21.9**	**-12**
RAR	**Rarotonga**	**13.33**	**104**	Pn	**Pn**	**11 08 18.2**	**-14**
	10.0nm,0.3s,baz=258,slow=9.0,SNR=10						
RAR				LR	LR	11 11 36.8	
	comp=Z,15nm,19.2s,baz=284,slow=28						
DZM	**Mont Dzumac**	**18.99**	**256**	P	**Pn**	**11 09 47.2**	**+1.9**
	0.6nm,0.3s,baz=106,slow=22,SNR=9.6						
URZ	**Urewera**	**21.24**	**200**	P	**P**	**11 10 05.9**	**-2.9**
	8.7nm,0.4s,mb4.4,baz=293,slow=3.4,SNR=13						
PPT	**Papeete**	**22.91**	**91**	*e* LR	LR	11 15 40.2	
	389nm,26.2s						
TBI	**Tubuai**	**23.09**	**106**	*e* LR	LR	11 15 39.8	
	216nm,26.2s						
HNR	**Honiara**	**27.13**	**286**	LR	LR	11 20 39.5	
	comp=Z,451nm,18.1s,MS4.1,baz=178,slow=34						
RPZ	**Rata Peaks**	**28.21**	**204**	P	**P**	**11 11 17.6**	**+2.3**
	8.2nm,0.4s,mb4.7,baz=55,slow=4.3,SNR=13						
ARMA	**Armidale**	**33.60**	**243**	*e* P	**P**	**11 12 02.6**	**-0.3**
CTA	**Charters Tower**	**37.80**	**261**	*e* P	**P**	**11 12 39.0**	**+0.1**
	14nm,0.8s,mb4.7						
CTA	**Charters Tower**	**37.80**	**261**	P	**P**	**11 12 38.0**	**-0.8**
	15nm,0.7s,mb4.8,baz=80,slow=11,SNR=12						
CTAO	**Charters Tower**	**37.80**	**261**	*e* P	**P**	**11 12 38.7**	**-0.2**
	18nm,0.8s,mb4.8						
PMG	**Port Moresby**	**39.02**	**278**	LR	LR	11 27 23.1	
	comp=Z,396nm,18.0s,MS4.3,baz=294,slow=34						
STKA	**Stephens Creek**	**42.32**	**243**	P	**P**	**11 13 16.5**	**+0.1**
	2.2nm,0.6s,mb4.0,baz=78,slow=9.0,SNR=3.9						
STKA				LR	LR	11 29 55.8	
	comp=Z,256nm,19.6s,MS4.1,baz=28,slow=35						
STKA	**Stephens Creek**	**42.32**	**243**	P	**P**	**11 13 16.5**	**+0.1**
WB2	**Warramunga Arr**	**48.95**	**259**	*e* P	**P**	**11 14 08.0**	**-0.7**
WRAB	**Tennant Creek**	**48.95**	**259**	*e* P	**P**	**11 14 07.9**	**-0.8**
	16nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**48.96**	**259**	P	**P**	**11 14 08.1**	**-0.7**
	7.9nm,0.9s,mb4.8,baz=97,slow=7.4,SNR=25						
ASAR	**Alice Springs**	**48.97**	**254**	P	**P**	**11 14 08.7**	**-0.2**
	22nm,0.7s,mb5.3,baz=88,slow=8.3,SNR=126						
KAKA	**Kakadu**	**52.08**	**268**	*e* P	**P**	**11 14 32.3**	**-0.1**
	9.5nm,0.6s,mb4.9						
MJAR	**Matsushiro Arr**	**71.18**	**321**	P	**P**	**11 16 40.8**	**-0.3**
	2.2nm,0.8s,mb4.1,baz=165,slow=6.3,SNR=4.3						
QSPA	**South Pole Qui**	**71.52**	**180**	*e* P	**P**	**11 16 42.7**	**-0.6**
	3.0nm,0.7s,mb4.3						
YBH	**Yreka Blue Hor**	**76.24**	**37**	LR	LR	11 46 40.5	
	comp=Z,124nm,18.5s,MS4.2,baz=204,slow=32						
NVAR	**Mina Array Bea**	**76.82**	**42**	P	**P**	**11 17 14.3**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=210,slow=7.1,SNR=4.2						
NEW	**Newport**	**83.43**	**34**	LR	LR	11 50 08.0	
	comp=Z,141nm,18.4s,MS4.4,baz=216,slow=32						
MCK	**McKinley**	**84.23**	**11**	*e* P	**P**	**11 17 54.0**	**+0.2**
	6.8nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**84.76**	**42**	P	**P**	**11 17 56.5**	**0.0**
	0.4nm,0.7s,mb3.6,baz=247,slow=6.1,SNR=4.4						
COLA	**College**	**85.47**	**11**	*e* P	**P**	**11 18 00.0**	**0.0**
	12nm,0.9s,mb5.0						
ILAR	**Eielson Array**	**85.55**	**11**	P	**P**	**11 18 00.1**	**-0.4**
	1.4nm,0.8s,mb4.3,baz=222,slow=6.0,SNR=17						
DAWY	**Dawson**	**86.50**	**14**	*e* P	**P**	**11 18 05.8**	**+0.6**
BILL	**Bilibino**	**87.57**	**353**	*e* P	**P**	**11 18 11.4**	**+1.1**
	8.0nm,1.1s,mb4.9						
PLCA	**Paso Flores**	**87.60**	**132**	LR	LR	11 50 29.8	
	comp=Z,63nm,18.1s,MS4.1,baz=177,slow=31						
CFAA	**Coronel Fontan**	**92.89**	**125**	LR	LR	11 52 00.8	
	comp=Z,8.5nm,18.1s,MS3.2,baz=192,slow=30						
YKA	**Yellowknife Ar**	**93.06**	**24**	P	**P**	**11 18 37.7**	**+1.8**
	0.1nm,0.6s,mb3.4,baz=235,slow=3.9,SNR=2.8						
YKA	**Yellowknife Ar**	**93.06**	**24**	P	**P**	**11 18 37.7**	**+1.8**
AKASG	**Malin Array Be**	**143.10**	**336**	PKP	PKPdf	11 24 53.2	-2.9
	0.3nm,0.3s,baz=36,slow=3.7,SNR=6.8						
KMBO	**Kilima Mbogo**	**143.87**	**241**	PKP	PKPdf	11 24 57.0	-0.5
	0.7nm,0.5s,baz=43,slow=20,SNR=3.7						
MALT	**Malatya**	**145.84**	**312**	*e* PKPdf	PKPdf	11 25 04.9	+4.1
CLL	**Collm**	**146.88**	**352**	*i* P	PKPdf	11 25 06.0	+3.4
	comp=Z,7.0nm,0.8s						
CLL				*i* x	x	11 25 19.3	
	comp=Z,22nm,1.1s						
UPC	**Upice**	**147.18**	**349**	*e* PKP	PKPdf	11 25 07.5	+4.4
DPC	**Dobruska-Polom**	**147.27**	**348**	*e* PKP	PKPdf	11 25 07.4	+4.1
DPC				*e*x	x	11 25 20.9	
PRU	**Pruhonice**	**147.94**	**350**	*e* PKP	PKPdf	11 25 12.0	+7.6
PRU				*e*x	x	11 25 24.3	
BR131	**Keskin Array S**	**148.36**	**318**	*e* PKPbc	PKPbc	11 25 10.7	+2.2
BRTR	**Keskin Array B**	**148.36**	**318**	PKPbc	PKPbc	11 25 09.2	+0.7
	comp=Z,2.9nm,0.9s,baz=146,slow=2.1,SNR=15						
KHC	**Kasperske Hory**	**148.93**	**351**	*e* PKP	PKPdf	11 25 11.7	+5.7
KHC				*e*x	x	11 25 25.0	
GERES	**GERESS Array B**	**149.19**	**350**	PKPbc	PKPbc	11 25 11.2	+0.6
	comp=Z,0.6nm,0.6s,baz=48,slow=2.0,SNR=5.4						

MAN 20 11:12:09.6, 1103N×12244E, h20km, mb1.7, ML3.6, MS2.7, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.42**	**160**	*e* P	Pb	11 12 19.4	+1.1
GUIM				*e* S	Sb	11 12 29.0	+4.7
RCP	**Roxas**	**0.61**	**29⇑**	*e* P	Pb	11 12 22.1	+0.5
RCP				*e* S	Sb	11 12 33.2	+3.6
OTRP	**Odiongan**	**1.39**	**343**	*e* P	Pn	11 12 32.6	-1.2
OTRP				*e* S	Sn	11 12 52.8	+1.2

RSPR 20 11:13:18.3, 1792N×6830W, h106km±2km, MD3.6/10, MD3.6/10, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.13**	**86⇑**	*e* P	Pn	11 13 40.3	-0.3
CRPR	**Cabo Rojo, PR**	**1.13**	**86**	*e* S	Sn	11 13 56.8	-0.6
MGP	**Maguayo**	**1.15**	**86⇓**	*e* P	Pn	11 13 40.5	-0.3
MGP				*e* S	Sn	11 13 57.2	-0.5
LSP	**Las Mesas**	**1.18**	**78**	*e* S	Sn	11 13 58.2	-0.1
LRS	**Lares**	**1.43**	**75⇑**	*e* P	Pn	11 13 43.2	-0.8
LRS				*e* S	Sn	11 14 03.8	+0.3
AOPR	**Arecibo Observ**	**1.53**	**74⇑**	*e* P	Pn	11 13 44.8	-0.4
AOPR	**Arecibo Observ**	**1.53**	**74**	*e* S	Sn	11 14 05.7	+0.1
OBIP	**Obispado Ponce**	**1.61**	**86⇑**	*e* P	Pn	11 13 46.1	-0.1
OBIP	**Obispado Ponce**	**1.61**	**86**	*e* S	Sn	11 14 07.5	0.0
CELP	**Cerrillos**	**1.64**	**85⇑**	*e* P	Pn	11 13 46.2	-0.4
CELP				*e* S	Sn	11 14 08.5	+0.4
ICM	**Isla Caja Muer**	**1.69**	**91⇓**	*e* P	Pn	11 13 47.1	-0.1
ICM	**Isla Caja Muer**	**1.69**	**91**	*e* S	Sn	11 14 09.5	+0.3
CPD	**Cerro la Pandu**	**2.27**	**87⇑**	*e* P	Pn	11 13 54.1	-0.5
CPD	**Cerro la Pandu**	**2.27**	**87**	*e* S	Sn	11 14 21.9	-0.4
CBYP	**Canovanas**	**2.35**	**81⇓**	*e* P	Pn	11 13 55.0	-0.6
CBYP	**Canovanas**	**2.35**	**81**	*e* S	Sn	11 14 23.9	-0.3
MTP	**Monte Pirata**	**2.61**	**86⇑**	*e* P	Pn	11 13 59.4	+0.3
MTP				*e* S	Sn	11 14 30.8	+0.5
CULB	**Culebra**	**2.85**	**82**	*e* S	Sn	11 14 36.8	+0.9

*CSEM **20** 11:14:57.0±0.9, 3859N×2853W, h15km, ML2.0, Error ellipse: s-maj=4.0km s-min=2.8km az=172.0, After PDA*
*PDA **20** 11:14:57.0±0.9, 3859N×2853W, h15km, MD2.9, ML2.0, Error ellipse: s-maj=4.0km s-min=2.8km az=172.0*
SVSA 20 11:14:57.0±0.9, 3859N×2853W, h15km, MD2.9, ML2.0, Error ellipse: s-maj=4.0km s-min=2.8km az=172.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**229**	*e* S	Sg	11 15 02.1	-0.3
PICO	**Pico**	**0.12**	**137**	*e* P	Pg	11 15 00.0	-0.6
PICO				*e* S	Sg	11 15 02.6	-0.3
CALA	**Caldeira**	**0.13**	**265**	*e* P	Pg	11 14 59.9	-0.8
CALA				*e* S	Sg	11 15 03.1	0.0
PCED	**Cedros**	**0.14**	**285**	*e* P	Pg	11 14 59.9	-0.8
PCED				*e* S	Sg	11 15 02.8	-0.4
PCED							
	60nm,0.1s						
PCED	**Cedros**	**0.14**	**285**	*e* P	Pg	11 14 59.9	-0.8
PCED				*e* S	Sg	11 15 02.8	-0.4
PPNO	**Prainha do Nor**	**0.24**	**120**	*e*rx		11 15 03.2	
ROSA	**Rosais**	**0.26**	**61**	*e* P	Pg	11 15 02.0	-0.6
ROSA				*e* S	Sg	11 15 05.6	-0.8

IDC 20 11:18:37.9±8.1, 734S×15553E, h105km±65km, mb3.4/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.8/4, Error ellipse: s-maj=79.2km s-min=40.1km az=131.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.53**	**256**	P	Pn	11 20 37.9	-0.6
	0.8nm,0.3s,baz=184,slow=13,SNR=3.1						
PMG				S	Sn	11 22 15.5	+2.6
	0.7nm,0.3s,baz=344,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**24.06**	**237**	P	P	11 23 43.2	-0.1
	1.8nm,0.8s,baz=60,slow=9.1,SNR=10						
ILAR	**Eielson Array**	**83.50**	**21**	P	P	11 30 53.9	-0.1
	0.2nm,0.8s,baz=246,slow=5.0,SNR=4.3						
MKAR	**Makanchi Array**	**84.01**	**319**	P	P	11 30 56.9	+0.4
	0.2nm,0.6s,baz=92,slow=5.4,SNR=3.9						

*IDC **20** 11:32:28.2±7.9, 1588N×9764W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, Error ellipse: s-maj=154.8km s-min=122.1km az=23.0*
*ISCJB **20** 11:32:31.6±1.1, 1597N±005×9837W±004, h25km±7km, mb3.8/5, Error ellipse: s-maj=8.8km s-min=4.8km az=48.5*
*NEIC **20** 11:32:33.3, 1600N×9837W, h6km, mb4.1/2, MD4.5(MEX), After MEX.*
*MEX **20** 11:32:33.3±0.8, 1600N×9837W, h6km±6km, MD4.5*
ISC 20 11:32:32.1±1.2, 1597N±005×9837W±004, h19km±5km, n33, σ1§32/45, mb3.8/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**29**	*i* P	**Pg**	**11 32 41.5**	**-0.4**
PNIG				*i* S	**Sg**	**11 32 48.4**	**-0.1**
ACX	**Acapulco**	**1.73**	**301**	*e* P	**Pn**	**11 32 58.0**	**-3.2**
VHO	**Vista Hermosa**	**1.92**	**55**	*i* P	**Pn**	**11 33 03.1**	**-0.7**
VHO				*i* S	**Sn**	**11 33 27.1**	**-0.3**
OXX	**Oaxaca**	**1.93**	**55**	*i* P	**Pn**	**11 33 02.0**	**-2.0**
CAIG	**El Cayaco**	**2.11**	**301**	*e* P	**Pn**	**11 33 05.4**	**-1.0**
CAIG				*i* S	**Sn**	**11 33 30.9**	**-1.2**
HUIG	**Huatulco**	**2.19**	**95**	*i* P	**Pn**	**11 33 06.8**	**-0.7**
HUIG				*i* S	**Sn**	**11 33 33.1**	**-1.0**
MEIG	**Mezcala**	**2.28**	**329**	*i* P	**Pn**	**11 33 08.7**	**-0.1**
MEIG				*i* S	**Sn**	**11 33 36.0**	**-0.4**
PLIG	**Platanillo**	**2.64**	**336**	*e* P	**Pn**	**11 33 13.2**	**-0.5**
PLIG				*i* S	**Sn**	**11 33 44.0**	**-1.3**
YAIG	**Yautepec**	**2.95**	**347**	*e* P	**Pn**	**11 33 18.1**	**+0.1**
YAIG				*i* S	**Sn**	**11 33 51.9**	**-1.1**
PPM	**Popocatepetl**	**3.09**	**356**	*e* P	**Pn**	**11 33 20.2**	**+0.3**
PPM				*e* P		11 33 25.0	
PPM				*i* S	**Sn**	**11 33 56.7**	**+0.3**
CIVM	**Cilcuayo**	**3.17**	**349**	*e* S	**Sn**	**11 34 00.1**	**+1.8**
CHVM	**Chichinautzin**	**3.19**	**347**	*e* S	**Sn**	**11 34 00.3**	**+1.5**
ZIIG	**Zihuatanejo**	**3.38**	**299**	*i* S	**Sn**	**11 34 02.6**	**-0.9**
UNM	**Universidad Na**	**3.43**	**347**	*e* P	**Pn**	**11 33 25.0**	**+0.4**
UNM				*i* S	**Sn**	**11 34 00.9**	**-3.8**
UNM	**Universidad Na**	**3.43**	**347**	*e* P	**Pn**	**11 33 25.0**	**+0.4**
UNM				*i* P		11 33 25.0	
UNM				*e* P		11 33 30.0	
UNM				*i* S	**Sn**	**11 34 00.9**	**-3.8**
UNM				*i* S	**Sn**	**11 34 01.6**	**-3.1**
SZVM	**Salazar**	**3.47**	**344**	*e* S	**Sn**	**11 34 06.0**	**+0.2**
PTVM	**Pico Tres Padr**	**3.67**	**349**	*e* S	**Sn**	**11 34 10.6**	**-0.1**
EVV	**El Vigia**	**3.81**	**49**	*e* P	**Pn**	**11 33 31.5**	**+1.8**
LVIG	**Laguna Verde**	**4.17**	**26**	*i* P	**Pn**	**11 33 33.4**	**-1.4**
**

VSM				eS	Sg	11 50 41.7	+1.3
CNGN	**Cerro Negro**	**0.94**	**130**	eP	Pg	11 50 29.0	-1.1
MIRN	**Miramar**	**0.97**	**133**‖	eP	Pg	11 50 29.3	-1.3
CAHU	**Cacacuatique**	**1.00**	**311**	eP	Pg	11 50 31.8	+0.4
CAHU				eS	Sg	11 50 44.4	0.0
MOMJ	**Momotombo**	**1.11**	**128**⇑	eP	Pg	11 50 31.7	-1.8
COPN	**Copaltepe**	**1.23**	**138**⇑	eP	Pb	11 50 33.3	-2.4
COPN				i		11 50 54.7	
	comp=Z,1μm,0.3s						
APYN	**Apoyeque**	**1.37**	**129**⇑	eP	Pn	11 50 37.3	-0.3
SNVI	**San Vicente**	**1.46**	**291**	eP	Pn	11 50 39.3	+0.4
LCBS	**La Ceiba**	**1.60**	**290**	eP	Pn	11 50 41.4	+0.6
LFRS	**El Faro**	**1.67**	**288**	eP	Pn	11 50 42.5	+0.8
BOQS	**Boqueron**	**1.90**	**290**	eP	Pn	11 50 47.0	+2.1

WEL 20 11:58:01.0±0.4, 3856S×17569E, h158km±3km, ML3.5/10, Error ellipse: s-maj=3.0km s-min=2.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.54**	**184**	PN	Pn	11 58 23.7	+0.2
KRVZ				SN	Sn	11 58 40.4	-0.2
TWVZ	**Taurewa**	**0.55**	**201**	PN	Pn	11 58 23.5	0.0
TWVZ				SN	Sn	11 58 40.8	+0.2
WTVZ	**West Tongariro**	**0.56**	**188**	PN	Pn	11 58 23.8	+0.3
WTVZ				SN	Sn	11 58 42.8	+2.0
OTVZ	**Oturere**	**0.61**	**182**	PN	Pn	11 58 24.5	+0.7
NGZ	**Ngauruhoe**	**0.62**	**186**	PN	Pn	11 58 24.1	+0.2
HIZ	**Hauiti**	**0.65**	**274**	PN	Pn	11 58 23.4	-0.7
HIZ				SN	Sn	11 58 41.7	0.0
WPVZ	**Whakapapa**	**0.66**	**190**	PN	Pn	11 58 24.4	+0.3
WPVZ				SN	Sn	11 58 41.4	-0.3
FWVZ	**Far West T-bar**	**0.71**	**189**	PN	Pn	11 58 24.6	+0.2
TUVZ	**Tukino**	**0.71**	**182**	PN	Pn	11 58 24.9	+0.4
TRVZ	**Turoa**	**0.75**	**188**	PN	Pn	11 58 24.9	+0.2
WNVZ	**Wahianoa**	**0.77**	**185**	PN	Pn	11 58 25.1	+0.3
WNVZ				SN	Sn	11 58 42.8	-0.2
PKVZ	**Pokaka**	**0.78**	**200**	PN	Pn	11 58 24.8	-0.1
MOVZ	**Moawhango**	**0.85**	**177**	PN	Pn	11 58 25.1	-0.2
BKZ	**Black Stump Fm**	**0.88**	**134**	PN	Pn	11 58 25.5	0.0
URZ	**Urewera**	**1.16**	**76**	PN	Pn	11 58 27.9	0.0
MWZ	**Matawai**	**1.46**	**82**	PN	Pn	11 58 31.2	+0.4
PUZ	**Puketiti**	**2.08**	**77**	PN	Pn	11 58 37.6	+0.1
MRZ	**Mangatainoka R**	**2.10**	**182**	PN	Pn	11 58 36.6	-1.2
KIW	**Kapiti Island**	**2.38**	**194**	PN	Pn	11 58 39.5	-1.6
CAW	**Cannon Point**	**2.59**	**190**	PN	Pn	11 58 41.9	-1.8
MTW	**Mount Morrison**	**2.60**	**183**	PN	Pn	11 58 41.8	-1.9

*IDC **20** 12:01:26.7±1.2, 1683S×17741W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/16, mbtmp4.3/9, ML2.2/1, MS4.6/15, Ms1 4.6/15, ms1mx4.5/20, Error ellipse: s-maj=49.5km s-min=18.6km az=151.0*
*NEIC **20** 12:01:28.6±0.7, 1673S×17743W, h10km, mb4.8/8, Error ellipse: s-maj=33.4km s-min=9.1km az=156.0*
*BJI **20** 12:01:28.5, 1670S×17740W, h10km, mB5.2, mb4.8*
*ISCJB **20** 12:01:29.6±0.8, 168S±02×1773W±0.1, h33km, mb4.5/15, MS4.7/13, Error ellipse: s-maj=35.8km s-min=8.8km az=134.0*

ISC 20 12:01:32.5±0.7, 166S±02×1775W±01, h35km, n45, σ1§15/23, mb4.5/15, MS4.7/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.10**	**65**	Pn	**Pn**	**12 02 58.0**	**-2.1**
	3.7nm,0.3s,baz=64,slow=8.6,SNR=4.4						
AFI				LR	LR	12 04 48.2	
	comp=Z,4μm,20.0s,baz=246,slow=33						
AFI	**Afiamalu**	**6.10**	**65**	eP	**Pn**	**12 02 58.7**	**-1.4**
	60nm,0.9s						
AFI				LR	LR	12 04 48.2	
RAR	**Rarotonga**	**17.35**	**108**	LR	LR	12 09 37.1	
	comp=Z,611nm,20.5s,baz=344,slow=28						
URZ	**Urewera**	**22.10**	**191**	LR	LR	12 13 12.6	
	comp=Z,3μm,21.9s,MS4.7,baz=253,slow=32						
HNR	**Honiara**	**23.12**	**285**	P	**P**	**12 06 35.4**	**0.0**
	47nm,0.9s,mb4.9,baz=97,slow=4.7,SNR=2.7						
HNR				LR	LR	12 13 59.9	
	comp=Z,6μm,21.7s,MS5.0,baz=177,slow=32						
PPT	**Papeete**	**26.66**	**96**	eLR	LR	12 13 33.7	
	4μm,27.5s,baz=262						
PPT	**Papeete**	**26.66**	**96**	LR	LR	12 15 11.1	
	comp=Z,960nm,19.3s,MS4.4,baz=260,slow=31						
TBI	**Tubuai**	**27.12**	**109**	eLQ		12 12 49.2	
	1μm,32.9s						
TBI				eLR	LR	12 13 54.4	
	7μm,30.8s,baz=282						
CTA	**Charters Tower**	**34.58**	**259**‖	iP	**P**	**12 08 18.6**	**+0.8**
	13nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**34.58**	**259**	eP	**P**	**12 08 18.4**	**+0.6**
	87nm,1.6s,mb5.4						
TAOE	**Nuku Hiva Isla**	**37.15**	**83**	eLR	LR	12 18 29.4	
	10μm,31.8s						
STKA	**Stephens Creek**	**40.06**	**240**	eP	**P**	**12 09 03.1**	**-1.2**
	7.6nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**40.06**	**240**	P	**P**	**12 09 03.1**	**-1.2**
	7.8nm,0.9s,mb4.4,baz=91,slow=8.6,SNR=9.3						
STKA				LR	LR	12 23 31.5	
	comp=Z,524nm,21.6s,MS4.3,baz=67,slow=33						
RKT	**Rikitea**	**40.37**	**106**	eS	**S**	**12 15 16.3**	**+3.8**
	240nm,26.8s						
RKT				eLR	LR	12 20 01.4	
	4μm,30.5s,baz=275						
WB2	**Warramunga Arr**	**45.76**	**258**	eP	**P**	**12 09 52.8**	**+2.3**
WRAB	**Tennant Creek**	**45.77**	**258**	eP	**P**	**12 09 49.9**	**-0.6**
	35nm,1.6s,mb5.0						
WRA	**Warramunga Arr**	**45.77**	**258**	P	**P**	**12 09 49.6**	**-1.0**
	6.0nm,1.3s,mb4.4,baz=90,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**46.03**	**253**	P	**P**	**12 09 52.3**	**-0.3**
	13nm,0.8s,mb4.9,baz=85,slow=8.3,SNR=88						
KAKA	**Kakadu**	**48.53**	**268**	eP	**P**	**12 10 11.7**	**-0.3**
	9.5nm,0.9s,mb4.8						
VNDA	**Vanda**	**61.82**	**185**	LR	LR	12 34 25.6	
	comp=Z,361nm,18.5s,MS4.6,baz=26,slow=32						
RPN	**Rapa Nui**	**63.44**	**112**	LR	LR	12 31 58.5	
	comp=Z,1μm,19.6s,MS5.0,baz=272,slow=29						
MJAR	**Matsushiro Arr**	**67.42**	**322**	P	**P**	**12 12 25.7**	**+1.3**
	1.5nm,0.7s,mb4.1,baz=164,slow=6.4,SNR=4.6						
MJAR				LR	LR	12 36 13.9	
	comp=Z,258nm,20.3s,MS4.4,baz=130,slow=31						
NVAR	**Mina Array Bea**	**77.86**	**44**	P	**P**	**12 13 26.5**	**+0.1**
	1.4nm,1.0s,mb3.9,baz=227,slow=10,SNR=6.3						
HLID	**Hailey**	**83.05**	**41**	eP	**P**	**12 13 55.3**	**+1.0**
	3.4nm,1.2s,mb4.2						
MNTX	**Cornudas Mount**	**84.08**	**55**	eP	**P**	**12 14 01.3**	**+1.7**
	5.6nm,1.4s,mb4.5						
COLA	**College**	**84.31**	**12**	eP	**P**	**12 13 59.3**	**-1.5**
	9.7nm,1.3s,mb4.8						
ILAR	**Eielson Array**	**84.42**	**13**	P	**P**	**12 14 00.6**	**-0.7**
	2.9nm,1.1s,mb4.3,baz=228,slow=6.1,SNR=11						
ILAR				LR	LR	12 45 06.3	
	comp=Z,254nm,20.3s,MS4.6,baz=49,slow=31						
MCMT	**McKenzie Canyo**	**84.66**	**40**	eP	**P**	**12 14 02.0**	**-0.5**
MAW	**Mawson**	**85.39**	**200**	LR	LR	12 52 06.7	
	comp=Z,716nm,18.1s,MS5.1,baz=85,slow=36						
DAWY	**Dawson**	**85.59**	**16**	eP	**P**	**12 14 06.9**	**-0.3**
PDAR	**Pinedale Array**	**85.78**	**43**	LR	LR	12 48 46.3	
	comp=Z,153nm,18.3s,MS4.4,baz=148,slow=33						
CD2	**Chengdu**	**89.13**	**303**	eP	**P**	**12 14 23.6**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
PLCA	**Paso Flores**	**91.56**	**133**	LR	LR	12 46 41.8	
	comp=Z,199nm,20.7s,MS4.5,baz=235,slow=30						
YKA	**Yellowknife Ar**	**92.77**	**24**	P	**P**	**12 14 43.3**	**+2.2**
	comp=Z,0.2nm,1.0s,mb3.5,baz=248,slow=5.2,SNR=4.2						
YKA				LR	LR	12 48 50.8	
	comp=Z,724nm,21.3s,MS5.1,baz=240,slow=31						
ULM	**Lac du Bonnet**	**97.33**	**40**	LR	LR	12 52 14.2	
	comp=Z,280nm,19.3s,MS4.8,baz=262,slow=31						
STHS	**Stebnicka Huta**	**143.92**	**339**	e	PKPdf	12 21 05.7	+1.6
CRVS	**Cervenica-Dubn**	**144.28**	**339**	e	PKPdf	12 21 04.6	-0.1
BRTR	**Keskin Array B**	**144.49**	**317**	PKP	PKPdf	12 21 05.3	+0.2
	comp=Z,2.4nm,0.9s,baz=114,slow=3.1,SNR=10						
DPC	**Dobruska-Polom**	**144.55**	**345**	ePKP	PKPdf	12 21 05.0	-0.2
KECS	**Kecovo**	**144.98**	**339**	e	PKPdf	12 21 05.8	-0.1
PRU	**Pruhonice**	**145.31**	**346**	ePKP	PKPdf	12 21 08.3	+1.8
GRA1	**Grafenberg Arr**	**146.25**	**350**	ePKP	PKPdf	12 21 10.0	+1.9
KHC	**Kasperske Hory**	**146.34**	**347**	ePKP	PKPdf	12 21 11.1	+2.9
GERES	**GERESS Array B**	**146.58**	**347**	PKPbc	PKPbc	12 21 12.1	+1.9
	comp=Z,1.1nm,0.6s,baz=24,slow=3.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**176.47**	**166**	PKP	PKPdf	12 21 40.3	+1.4
	comp=Z,0.9nm,1.0s,baz=177,slow=2.7,SNR=3.6						

*SOF **20** 12:08:40.2, 4045N×2590E, h3km, MD3.2*
*ISK **20** 12:08:40.8, 4033N×2570E, h26km, MD3.1*
*NEIC **20** 12:08:41.8, 4047N×2588E, h26km, MD3.2(SOF), MD3.7(ATH), After ATH.*
*ISCJB **20** 12:08:41.3±0.5, 4043N±002×2584E±003, h5km±4km, Error ellipse: s-maj=3.5km s-min=3.4km az=42.5*
*ATH **20** 12:08:41.8, 4047N×2588E, h26km, MD3.7/3*
*CSEM **20** 12:08:42.0±0.1, 4041N×2591E, h15km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.5km az=30.0*
*THE **20** 12:08:42.2, 4043N×2582E, h1km, ML3.5*

ISC 20 12:08:42.1±0.5, 4044N±002×2586E±003, h10km±4km, n51, σ1§00/63, 5C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.48**	**17**	ePg	**Pg**	**12 08 51.5**	**-0.1**
	comp=Z,37nm,0.3s						
ALN				eSg	**Sg**	**12 08 58.4**	**+0.5**
LPK	**Lapseki**	**0.69**	**95**	PG	**Pg**	**12 08 56.0**	**+0.5**
EZN	**Ezine**	**0.71**	**149**	PG	**Pg**	**12 08 55.4**	**-0.4**
EZN				SG	**Sg**	**12 09 05.8**	**+0.8**
LIA	**Limnos Island**	**0.75**	**224**	ePN	**Pg**	**12 08 57.0**	**+0.5**
LIA				eSN	**Sg**	**12 09 08.5**	**+2.2**
RDO	**Rodhopi**	**0.75**	**341**	ePN	**Pg**	**12 08 56.2**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.04**	**76**	PN	**Pn**	**12 09 02.5**	**-0.2**
RKY				SN	**Sn**	**12 09 17.9**	**+0.6**
SART	**Tekirdag**	**1.04**	**76**	iP	**Pg**	**12 09 01.9**	**-0.2**
SART				iS	**Sg**	**12 09 16.9**	**+1.3**
MFT	**Murefte**	**1.14**	**72**	PN	**Pn**	**12 09 03.3**	**-0.8**
MFT				SN	**Sn**	**12 09 20.6**	**+0.8**
PRK	**Paraskevi**	**1.23**	**165**‖	iPN	**Pn**	**12 09 05.6**	**+0.2**
PRK				eSN	**Sn**	**12 09 22.7**	**+0.6**
KDZ	**Kurdzhali**	**1.26**	**345**	iP	**Pn**	**12 09 05.5**	**-0.3**
AYVA	**Ayvalik**	**1.30**	**150**	iP	**Pn**	**12 09 06.8**	**+0.5**
AYVA				iS	**Sb**	**12 09 22.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.33**	**82**	PN	**Pn**	**12 09 05.9**	**-0.9**
TKR	**Tekirdag**	**1.39**	**66**	PN	**Pn**	**12 09 07.0**	**-0.6**
TKR				SN	**Sn**	**12 09 26.0**	**+0.9**
OUR	**Ouranopolis**	**1.44**	**267**	ePg	**Pg**	**12 09 07.6**	**-2.1**
	comp=Z,23nm,0.3s						
RZN	**Rozhen**	**1.52**	**326**	iP	**Pn**	**12 09 10.0**	**+0.6**
EDC	**Edincik**	**1.53**	**93**	PN	**Pn**	**12 09 08.3**	**-1.3**
EDRB	**Edirne**	**1.56**	**25**	PN	**Pn**	**12 09 10.1**	**+0.2**
BNT	**Bandirma**	**1.58**	**92**	PN	**Pn**	**12 09 09.6**	**-0.6**
DIM	**Dimitrovgrad**	**1.63**	**351**	eP	**Pn**	**12 09 11.5**	**+0.6**
BALB	**Balikesir**	**1.74**	**116**	PN	**Pn**	**12 09 11.0**	**-1.5**
PAIG	**Paliouri**	**1.74**	**254**	ePb	**Pb**	**12 09 11.7**	**-2.6**
PAIG				eSb	**Sb**	**12 09 35.8**	**-0.4**
NVR	**Nevrokopi**	**1.77**	**302**	ePN	**Pn**	**12 09 12.8**	**0.0**
BTOK	**Tokmak**	**1.80**	**111**	iP	**Pn**	**12 09 13.8**	**+0.5**
BTOK				iS	**Sn**	**12 09 33.0**	**-3.1**
PLG	**Polygyros**	**1.84**	**269**	ePN	**Pn**	**12 09 13.6**	**-0.2**
PLD	**Plovdiv**	**1.88**	**333**	iP	**Pg**	**12 09 17.5**	**-0.7**
SOH	**Sokhos**	**1.94**	**282**	ePb	**Pn**	**12 09 14.8**	**-0.4**
MMB	**Musomiste**	**1.98**	**306**	iP	**Pn**	**12 09 16.0**	**+0.3**
CTT	**Catalca**	**2.08**	**69**	PN	**Pn**	**12 09 16.9**	**-0.2**
JMB	**Yambol**	**2.10**	**15**	iP	**Pn**	**12 09 18.0**	**+0.6**
JMB	**Yambol**	**2.10**	**15**	ePn	**Pn**	**12 09 18.8**	**+1.4**
URLA	**Izmir**	**2.15**	**164**	iP	**Pn**	**12 09 18.5**	**+0.4**
URLA				iS	**Sn**	**12 09 46.8**	**+2.0**
AKS	**Akhisar**	**2.17**	**135**	PN	**Pn**	**12 09 16.5**	**-1.8**
IZM	**Izmir**	**2.31**	**151**	ePN	**Pn**	**12 09 17.5**	**-2.7**
KNT	**Kendrikon**	**2.36**	**289**	ePn	**Pn**	**12 09 21.2**	**+0.3**
	comp=Z,5.0nm,0.5s						
PGB	**Panagyurishte**	**2.46**	**330**	eP	**Pn**	**12 09 22.5**	**+0.1**
VAY	**Valandovo**	**2.65**	**291**	ePn	**Pn**	**12 09 25.9**	**+1.1**
GRG	**Griva**	**2.68**	**282**	ePn	**Pn**	**12 09 25.7**	**+0.4**
YLV	**Yalova**	**2.68**	**86**	ePN	**Pn**	**12 09 25.0**	**-0.4**
IZI	**Izmik**	**2.76**	**91**	ePN	**Pn**	**12 09 25.8**	**-0.7**
SMG	**Samos**	**2.83**	**164**	ePN	**Pn**	**12 09 27.9**	**+0.5**
HRT	**Hereke**	**2.92**	**81**	ePN	**Pn**	**12 09 28.7**	**0.0**
VTS	**Vitosha**	**2.93**	**318**	eP	**Pn**	**12 09 28.5**	**-0.3**
VTS	**Vitosha**	**2.93**	**318**	ePn	**Pn**	**12 09 29.4**	**+0.6**
APE	**Apeiranthos**	**3.37**	**184**	‖P	**Pb**	**12 09 42.5**	**+0.5**
TIRR	**Tirgusor**	**4.44**	**24**	‖P	**Pg**	**12 10 11.6**	**+4.4**
TIRR	**Tirgusor**	**4.44**	**24**	‖P	**Pg**	**12 10 11.6**	**+4.3**
CFR	**Carcaliu**	**5.03**	**19**	⇑P	**Pg**	**12 10 15.0**	**-3.4**
CFR	**Carcaliu**	**5.03**	**19**	⇑P	**Pg**	**12 10 15.0**	**-3.4**
MLR	**Muntele Rosu**	**5.05**	**1**	⇑P	**Pn**	**12 10 01.1**	**+3.1**
MLR	**Muntele Rosu**	**5.05**	**1**	⇑P	**Pn**	**12 10 01.1**	**+3.1**
VRI	**Vrincioaia**	**5.46**	**6**	⇑P	**Pn**	**12 10 07.0**	**+3.4**

IDC 20 12:16:05.3±4.2, 2043S×17891W, h650km±54km, mb3.0/3, mb1 3.3/3, mb1mx2.9/13, mbtmp4.0/3, Error ellipse: s-maj=160.5km s-min=22.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.71**	**257**	P	P	12 23 16.1	+0.6
	1.5nm,0.5s,baz=95,slow=7.6,SNR=34						
ASAR				S	S	12 29 02.1	+1.5
	0.5nm,0.8s,baz=94,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**43.77**	**262**	P	P	12 23 16.3	+0.4
	1.2nm,0.3s,baz=97,slow=7.6,SNR=102						
ILAR	**Eielson Array**	**88.44**	**13**	P	P	12 27 50.2	0.0
	0.3nm,0.5s,baz=218,slow=5.3,SNR=8.3						
AKASG	**Malin Array Be**	**142.54**	**330**	PKP	PKPdf	12 34 24.3	-1.7
	1.0nm,0.4s,baz=43,slow=4.2,SNR=7.1						

*CSEM **20** 12:23:49.3±0.3, 3347N×3530E, h1km, ML2.5, Error ellipse: s-maj=5.3km s-min=2.5km az=110.0, Suspected Mining explosion.*
*GRAL **20** 12:23:49.7±0.3, 3322N×3530E, h0km±301km, MD3.2*
*ISCJB **20** 12:23:51.8±0.8, 3341N±002×3529E±006, h0km, Error ellipse: s-maj=6.8km s-min=3.3km az=24.3*
*GII **20** 12:25:20.7±0.6, 3349N×3529E, h0km±14km, ML2.5/3*

ISC 20 12:23:52.6±0.7, 3341N±002×3531E±005, h0km, n12, σ1§14/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.08**	**12**	iPg	**Pg**	**12 23 54.5**	**+0.3**
HNTI	**Hanita**	**0.34**	**199**	Pg	**Pg**	**12 23 58.3**	**-0.9**
HNTI				Sg	**Sg**	**12 24 05.5**	**+1.9**
KSDI	**Kefar Szold**	**0.36**	**126**	Pg	**Pg**	**12 23 58.2**	**-1.3**
KSDI				Sg	**Sg**	**12 24 04.8**	**+0.5**
HRI	**Mount Hermon**	**0.38**	**112**	Pg	**Pg**	**12 23 58.5**	**-1.4**
HRI				Sg	**Sg**	**12 24 05.2**	**+0.3**
MMC7	**Mount Meron ar**	**0.39**	**170**	Pg	**Pg**	**12 23 59.1**	**-1.0**
MMA0B	**Mount Meron ar**	**0.40**	**169**	Pg	**Pg**	**12 23 59.2**	**-1.1**
MMA0B				Sg	**Sg**	**12 24 06.3**	**+0.9**
BHL	**Bhannes**	**0.57**	**30**	ePg	**Pg**	**12 24 02.9**	**-0.6**
BHL				eSg	**Sg**	**12 24 12.7**	**+1.8**
KSHT	**Keshet**	**0.60**	**135**	Pg	**Pg**	**12 24 02.3**	**-1.8**
KSHT				Sg	**Sg**	**12 24 13.1**	**+1.3**
MMLI	**Mount Malkishu**	**0.97**	**174**	Sg	**Sg**	**12 24 24.3**	**+0.5**
HWQ	**Hawqa**	**1.02**	**31**	iPg	**Pg**	**12 24 10.9**	**-1.2**
HWQ				iSg	**Sg**	**12 24 26.6**	**+1.4**
SLTI	**Sal'it**	**1.19**	**191**	Sg	**Sg**	**12 24 31.4**	**+0.7**
YTIR	**Yattir**	**2.04**	**185**	Pn	**Pn**	**12 24 23.7**	**-4.5**

*CSEM **20** 12:59:11.9±1.0, 3916N×2854W, h0km, ML2.1, Error ellipse: s-maj=7.1km s-min=3.5km az=141.0, After PDA*
*PDA **20** 12:59:11.9±1.0, 3916N×2854W, h0km, MD3.3, ML2.1, Error ellipse: s-maj=7.1km s-min=3.5km az=141.0*

SVSA 20 12:59:11.9±1.0, 3916N×2854W, h0km, MD3.3, ML2.1, Error ellipse: s-maj=7.1km s-min=3.5km az=141.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.45**	**106**	eP	Pg	12 59 20.2	-0.4
PGRA				eS	Sg	12 59 26.5	0.0
PGRA							
	35nm,0.2s						
PGRA	**Graciosa**	**0.45**	**106**	eP	Pg	12 59 20.2	-0.4
PGRA				eS	Sg	12 59 26.5	0.0
ROSA	**Rosais**	**0.50**	**152**	eP	Pg	12 59 21.1	-0.3
ROSA				i rx		12 59 25.8	
ROSA				eS	Sg	12 59 27.3	-0.5
PCED	**Cedros**	**0.54**	**193**	eP	Pg	12 59 21.5	-0.8
PCED				eS	Sg	12 59 28.9	-0.5
PCED							
	39nm,0.2s						
PCED	**Cedros**	**0.54**	**193**	eP	Pg	12 59 21.5	-0.8
PCED				eS	Sg	12 59 28.9	-0.5
CALA	**Caldeira**	**0.59**	**192**	eP	Pg	12 59 22.4	-0.8
CALA				eS	Sg	12 59 30.2	-0.6
PMAN	**Manadas**	**0.63**	**146**	erx		12 59 30.7	
PICO	**Pico**	**0.66**	**172**	eP	Pg	12 59 23.9	-0.7
PICO				i rx		12 59 28.4	
PICO				eS	Sg	12 59 32.8	-0.4

NEIC 20 13:35:34.3, 4784S×16543E, h38km, ML3.9(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**2.60**	**43**	PN	Pn	13 36 14.5	+0.7
WHZ				SN	Sn	13 36 46.8	+2.6
WHZ	**Wether Hill Ro**	**2.60**	**43**	P	Pn	13 36 14.4	+0.6
WHZ				S	Sn	13 36 44.9	+0.7
DCZ	**Deep Cove**	**2.64**	**27**	PN	Pn	13 36 16.1	+1.7
DCZ				SN	Sn	13 36 47.1	+1.8
DCZ	**Deep Cove**	**2.64**	**27**	P	Pn	13 36 16.1	+1.7
DCZ				S	Sn	13 36 45.3	+0.1
MLZ	**Mavora Lakes**	**3.13**	**38**	PN	Pn	13 36 21.7	+0.6
MLZ				SN	Sn	13 36 57.9	+0.8
MLZ	**Mavora Lakes**	**3.13**	**38**	eP	Pn	13 36 21.7	+0.6
TUZ	**Tuapeka**	**3.44**	**58**	PN	Pn	13 36 27.1	+1.7
TUZ				SN	Sn	13 37 06.9	+2.0
TUZ	**Tuapeka**	**3.44**	**58**	eP	Pn	13 36 27.1	+1.7
EAZ	**Earnscleugh**	**3.74**	**47**	PN	Pn	13 36 30.2	+0.7
EAZ				SN	Sn	13 37 13.1	+0.9
EAZ	**Earnscleugh**	**3.74**	**47**	eP	Pn	13 36 30.6	+1.2
WKZ	**Wanaka**	**3.90**	**41**	eP	Pn	13 36 33.8	+2.1
FOZ	**Fox Glacier**	**5.21**	**36**	eP	Pn	13 36 53.6	+3.9

*NEIC **20** 13:40:54.5, 45.11S×16740E, h66km, ML4.2(WEL), After WEL.*

WEL 20 13:40:54.5±0.1, 4511S×16739E, h66km±1km, ML4.2/14, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**204**	PN	Pn	13 41 05.8	-0.2
DCZ				SN	Sn	13 41 14.5	-0.1
DCZ	**Deep Cove**	**0.41**	**204**	P	Pn	13 41 05.8	-0.3
DCZ				S	Sn	13 41 14.5	-0.1
MSZ	**Milford Sound**	**0.58**	**41**	PN	Pn	13 41 07.5	-0.2
MSZ				SN	Sn	13 41 17.3	-0.2
MSZ	**Milford Sound**	**0.58**	**41**	P	Pn	13 41 07.5	-0.2
MLZ	**Mavora Lakes**	**0.60**	**114**	PN	Pn	13 41 07.4	-0.5
MLZ				SN	Sn	13 41 17.2	-0.7
MLZ	**Mavora Lakes**	**0.60**	**114**	P	Pn	13 41 07.4	-0.6
MLZ				S	Sn	13 41 17.2	-0.7
WHZ	**Wether Hill Ro**	**0.88**	**154**	PN	Pn	13 41 11.0	-0.2
WHZ				SN	Sn	13 41 23.3	-0.3
WHZ	**Wether Hill Ro**	**0.88**	**154**	P	Pn	13 41 11.0	-0.2
WHZ				S	Sn	13 41 23.3	-0.3
WKZ	**Wanaka**	**1.19**	**77**	PN	Pn	13 41 15.1	0.0
WKZ	**Wanaka**	**1.19**	**77**	P	Pn	13 41 15.1	0.0
EAZ	**Earnscleugh**	**1.36**	**96**	PN	Pn	13 41 17.3	-0.1
EAZ	**Earnscleugh**	**1.36**	**96**	P	Pn	13 41 17.3	-0.1
JCZ	**Jackson Bay**	**1.42**	**44**	PN	Pn	13 41 18.1	-0.1
JCZ	**Jackson Bay**	**1.42**	**44**	P	Pn	13 41 18.1	-0.1
TUZ	**Tuapeka**	**1.79**	**119**	PN	Pn	13 41 22.4	-0.7
TUZ	**Tuapeka**	**1.79**	**119**	P	Pn	13 41 22.4	-0.7
LBZ	**Lake Benmore**	**2.12**	**71**	PN	Pn	13 41 26.2	-1.3
LBZ	**Lake Benmore**	**2.12**	**71**	P	Pn	13 41 26.2	-1.4
FOZ	**Fox Glacier**	**2.26**	**48**	PN	Pn	13 41 29.0	-0.4
FOZ	**Fox Glacier**	**2.26**	**48**	eP	Pn	13 41 29.0	-0.5
ODZ	**Otahua Downs**	**2.30**	**90**	PN	Pn	13 41 29.0	-1.1
ODZ	**Otahua Downs**	**2.30**	**90**	P	Pn	13 41 29.0	-1.1
RPZ	**Rata Peaks**	**2.97**	**63**	PN	Pn	13 41 37.1	-2.1
RPZ	**Rata Peaks**	**2.97**	**63**	P	Pn	13 41 37.1	-2.1
WVZ	**Waitaha Valley**	**3.15**	**51**	PN	Pn	13 41 39.6	-2.0
WVZ	**Waitaha Valley

IDC 20 14:55:17.2±3.0, 268S×13876E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.6/11, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=104.7km s-min=19.7km az=92.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.69 194**		P	Pn	14 59 26.1	+1.1
	0.2nm,0.3s,baz=18,slow=12,SNR=11						
WRA				S	Sn	15 02 43.1	+0.3
	0.1nm,0.3s,baz=10,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**21.39 192**		P	P	15 00 07.5	+1.1
	0.8nm,0.6s,baz=23,slow=9.7,SNR=18						
MKAR	**Makanchi Array**	**69.79 322**		P	P	15 06 29.5	+0.1
	0.2nm,0.4s,baz=123,slow=7.2,SNR=5.0						

MAN 20 15:04:08.4, 971N×12543E, h9km, mb3.5, ML4.7, MS1.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.71 307**		*e*P	Pg	15 04 22.1	+0.1
MSLP				*e*S	Sg	15 04 33.2	+1.9
BUTP	**Butuan**	**0.76 166**		*e*P	Pg	15 04 23.5	+0.4
BUTP				*e*S	Sg	15 04 38.4	+5.5
PLP	**Palo**	**1.51 343**		*e*P	Pn	15 04 35.5	-0.1
PLP				*e*S	Sn	15 04 58.0	+2.5
OCLP	**Ormoc**	**1.56 329**		*e*P	Pn	15 04 36.6	+0.3
OCLP				*e*S	Sn	15 04 58.9	+2.2
LLP	**Lapu-Lapu**	**1.57 293**		*e*P	Pn	15 04 34.1	-2.3
LLP				*e*S	Sn	15 04 52.9	-3.9
BIPH	**Bislig**	**1.77 149**	⇓	*i*P	Pn	15 04 40.7	+1.4
BIPH				*i* S	Sn	15 05 02.9	+1.0
BUKP	**Musuan**	**1.86 191**		*e*P	Pn	15 04 40.0	-0.4
BUKP				*e*S	Sn	15 05 07.6	+3.6
BESP	**Borongan**	**1.88 0**		*e*P	Pn	15 04 41.1	+0.4
BESP				*e*S	Sn	15 05 05.0	+0.4
SNPH	**Sibulan**	**2.20 261**	⇑	*e*P	Sn	15 05 07.0	-5.4
DCPH	**Dipolog City**	**2.34 242**		*e*P	Pn	15 04 47.1	0.0
DCPH				*i* S	Sn	15 05 15.3	-0.6
PAGZ	**Pagadian**	**2.75 228**		*e*P	Pn	15 04 53.8	+1.1
PAGZ				*e*S	Sn	15 05 28.9	+3.0
CNP	**Catarman**	**2.88 345**		*e*P	Pn	15 04 55.6	+1.1
CNP				*e*S	Sn	15 05 36.2	+6.9
GUIM	**Jordan**	**2.94 288**		*e*P	Pn	15 04 55.4	+0.1
IPIL	**Ipil**	**3.41 236**		*e*P	Pn	15 05 03.1	+1.3

*IDC **20** 15:07:23.8±2.1, 3569N×14049E, h70km±17km, mb3.1/3, mb1 3.3/6, mb1mx3.1/22, mbtmp3.5/6, Error ellipse: s-maj=25.2km s-min=8.4km az=68.0*
*ISCJB **20** 15:07:24.4±0.7, 3564N±004×140.19E±007, h88km±5km, mb3.4/3, Error ellipse: s-maj=10.3km s-min=5.6km az=135.4*
*JMA **20** 15:07:24.7±0.2, 3573N×14020E, h80km±2km, M3.2*

ISC 20 15:07:25.2±0.6, 3565N±004×14020E±007, h82km±5km, n19, σ0§93/29, mb3.4/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.23 180**	⇓	P	**Pn**	**15 07 37.6**	**+0.3**
JCN				S	**Sn**	**15 07 48.0**	**+1.7**
TOK	**Tokyo**	**0.36 276**		P	**Pn**	**15 07 38.0**	**-0.1**
TOK				S	**Sn**	**15 07 48.0**	**+0.4**
BSO3	**Boso 3**	**0.88 163**		P	**Pn**	**15 07 42.2**	**-0.8**
BSO3				S	**Sn**	**15 07 57.2**	**+1.0**
JAG	**Ashikaga**	**0.98 322**	⇑	P	**Pn**	**15 07 43.5**	**-0.6**
JOD2	**Odawara 2**	**0.99 247**	⇓	P	**Pn**	**15 07 43.7**	**-0.5**
JOD2				S	**Sn**	**15 07 57.4**	**-1.0**
JRY	**Ryogami san**	**1.12 290**	⇓	P	**Pn**	**15 07 46.0**	**+0.3**
JIM2	**Oshima 3**	**1.12 214**		P	**Pn**	**15 07 45.1**	**-0.7**
JIM2				S	**Sn**	**15 08 00.5**	**-0.8**
BSO1	**Boso 1**	**1.18 147**		P	**Pn**	**15 07 45.2**	**-1.3**
JKT	**Katashina**	**1.36 326**		P	**Pn**	**15 07 48.2**	**-0.5**
JKT				S	**Sn**	**15 08 06.3**	**-0.1**
JYN	**Shimob**	**1.36 264**	⇓	P	**Pn**	**15 07 48.7**	**0.0**
JIZS	**Izushimoda**	**1.43 230**		P	**Pn**	**15 07 49.4**	**-0.2**
JIZS				S	**Sn**	**15 08 07.5**	**-0.5**
JFY	**Yanaizu**	**1.80 347**	⇑	P	**Pn**	**15 07 54.1**	**-0.3**
MJAR	**Matsushiro Arr**	**1.84 300**		P	**Pn**	**15 07 54.9**	**-0.1**
	9.8nm,0.3s,baz=106,slow=13,SNR=77						
MJAR				S	**Sn**	**15 08 20.2**	**+2.5**
	7.4nm,0.3s,baz=117,slow=30,SNR=7.6						
MAT	**Matsushiro**	**1.84 300**		P	**Pn**	**15 07 54.7**	**-0.3**
MAT				S	**Sn**	**15 08 17.9**	**+0.1**
JHJ	**Hachijo jima 2**	**2.55 188**		P	**Pn**	**15 08 05.0**	**+0.6**
	47nm,0.3s,baz=243,slow=24,SNR=33						
JHJ				S	**Sn**	**15 08 35.2**	**+0.7**
	41nm,0.3s,baz=54,slow=23,SNR=7.2						
ASAJ	**Asahikawa**	**8.65 12**		P	**Pn**	**15 09 24.1**	**-3.5**
	0.4nm,0.3s,baz=194,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**44.04 303**		P	**P**	**15 15 26.1**	**+1.4**
	0.2nm,0.5s,mb3.1,baz=97,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**55.56 187**		P	**P**	**15 16 50.8**	**-1.2**
	0.5nm,0.6s,mb3.7,baz=1.1,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**59.29 187**		P	**P**	**15 17 20.2**	**+2.0**
	0.2nm,0.6s,mb3.4,baz=19,slow=12,SNR=8.1						

IDC 20 15:20:44.1±70.0, 2137S×17677E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=1227.0km s-min=139.3km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.01 244**		P	P	15 27 20.1	-0.8
	0.7nm,0.6s,baz=99,slow=7.9,SNR=2.7						
ASAR	**Alice Springs**	**39.56 258**		P	P	15 28 17.6	+0.8
	0.5nm,0.5s,baz=98,slow=8.1,SNR=16						
WRA	**Warramunga Arr**	**39.64 264**		P	P	15 28 18.2	+0.6
	0.3nm,0.3s,baz=96,slow=8.0,SNR=14						

*CSEM **20** 15:51:17.7±0.1, 3817N×2677E, h10km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.3km az=105.0*
*ISK **20** 15:51:17.9, 3818N×2676E, h15km, MD2.8*
*ISCJB **20** 15:51:18.2±0.7, 3814N±003×2674E±004, h8km±5km, Error ellipse: s-maj=5.4km s-min=4.9km az=111.5*
*ATH **20** 15:51:18.6, 3810N×2670E, h30km±4km, MD3.4/3*

ISC 20 15:51:18.7±0.5, 3816N±003×2674E±004, h12km±3km, n21, σ0§75/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.23 330**		*i* P	**Pg**	**15 51 23.8**	**+0.2**
URLA				*i* S	**Sg**	**15 51 27.5**	**+0.6**
BLCB	**Balcova**	**0.33 46**		*e*PG	**Pg**	**15 51 24.5**	**-0.8**
BLCB				*e*SG	**Sg**	**15 51 29.3**	**-0.4**
SMG	**Samos**	**0.46 171**		*e*PB	**Pg**	**15 51 27.8**	**+0.2**
SMG				*e*SB	**Sg**	**15 51 34.7**	**+1.0**
IZM	**Izmir**	**0.47 59**		*i* PG	**Pg**	**15 51 27.7**	**-0.3**
IZM				*i* SG	**Sg**	**15 51 34.3**	**0.0**
KDAG	**Bornova**	**0.48 59**		*i* P	**Pg**	**15 51 27.8**	**-0.3**
KDAG				*i* S	**Sg**	**15 51 34.3**	**-0.2**
AYDN	**Tasoluk**	**1.03 119**		*i* P	**Pb**	**15 51 38.2**	**-0.1**
AYDN				*i* S	**Sg**	**15 51 51.6**	**-0.2**
AYDN	**Tasoluk**	**1.03 119**		*i* P	**Pb**	**15 51 38.2**	**-0.2**
AYDN				*i* S	**Sg**	**15 51 51.6**	**-0.2**
AKS	**Akhisar**	**1.11 49**		*i* PN	**Pn**	**15 51 39.0**	**-1.0**
AKS				*i* SN	**Sn**	**15 51 54.5**	**-0.7**
PRK	**Paraskevi**	**1.15 341**		*e*PN	**Pn**	**15 51 40.9**	**+0.3**
AYVA	**Ayvalik**	**1.15 358**		*i* P	**Pb**	**15 51 40.3**	**-0.2**
AYVA				*i* S	**Sb**	**15 51 58.4**	**+3.0**
AYVA	**Ayvalik**	**1.15 358**		*i* P	**Pb**	**15 51 40.3**	**-0.2**
AYVA				*i* S	**Sb**	**15 51 58.3**	**+2.9**
BODT	**Bodrum**	**1.18 157**		PN	**Pn**	**15 51 41.1**	**+0.1**
BODT				SN	**Sn**	**15 51 57.1**	**0.0**
MLSB	**Milas**	**1.19 136**		PN	**Pn**	**15 51 41.0**	**-0.1**
APE	**Apeiranthos**	**1.45 222**		PN	**Pn**	**15 51 44.1**	**-0.6**
APE	**Apeiranthos**	**1.45 222**		*e*PN	**Pn**	**15 51 43.9**	**-0.8**
APE				*e*SN	**Sn**	**15 52 02.6**	**-1.1**
APE	**Apeiranthos**	**1.45 222**		*e*Pn	**Pn**	**15 51 44.1**	**-0.6**
APE				*e*Sn	**Sn**	**15 52 02.6**	**-1.1**
MANT	**Manisa**	**1.47 76**		*i* P	**Pn**	**15 51 45.9**	**+0.9**
MANT				*i* S	**Sn**	**15 52 03.9**	**-0.1**
BALB	**Balikesir**	**1.73 31**		*e*PN	**Pn**	**15 51 48.0**	**-0.5**
DNZL	**Cakiroluk**	**1.88 104**		*i* P	**Pn**	**15 51 50.8**	**+0.2**
DNZL				*i* S	**Sn**	**15 52 16.2**	**+1.9**
ULDT	**Uludag**	**2.72 42**		*i* P	**Pn**	**15 52 09.3**	**+7.2**
ULDT				*i* S	**Sn**	**15 52 43.1**	**+8.2**
TKTP	**Tekketepe**	**2.82 91**		*i* P	**Pn**	**15 52 15.6**	**+12**
TKTP				*i* S	**Sn**	**15 52 54.8**	**+17**

*IDC **20** 16:03:11.1±0.9, 1007N×12589E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=84.5km s-min=18.3km az=71.0*
*NEIC **20** 16:03:12.7±0.6, 995N×12559E, h10km, mb4.0/1, Error ellipse: s-maj=17.9km s-min=11.6km az=72.0*
*MAN **20** 16:03:17.3, 1018N×126.14E, h13km, mb3.6, ML4.8, MS1.9*
*ISCJB **20** 16:03:18.4±0.8, 1017N±003×126.14E±007, h71km±7km, mb3.7/8, Error ellipse: s-maj=12.0km s-min=5.4km az=165.7*

ISC 20 16:03:18.9±0.9, 1016N±003×12620E±008, h59km±10km, n25, σ1§20/38, mb3.8/8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.80 242**		*e*P	**Pn**	**16 03 31.7**	**-2.6**
SCPH				*e*S	**Sn**	**16 03 43.7**	**-1.8**
BUTP	**Butuan**	**1.31 206**		*e*P	**Pn**	**16 03 40.4**	**-0.7**
BUTP				*e*S	**Sn**	**16 03 58.8**	**+1.2**
MSLP	**Maasin**	**1.32 269**		*e*P	**Pn**	**16 03 39.6**	**-1.6**
MSLP				*e*S	**Sn**	**16 03 57.5**	**-0.4**
PLP	**Palo**	**1.56 310**		*e*P	**Pn**	**16 03 42.8**	**-1.7**
PLP				*i* S	**Sn**	**16 04 04.9**	**+1.2**
BESP	**Borongan**	**1.62 332**		*e*P	**Pn**	**16 03 44.5**	**-0.7**
BESP				*e*S	**Sn**	**16 04 06.5**	**+1.5**
OCLP	**Ormoc**	**1.80 300**		*e*P	**Pn**	**16 03 47.2**	**-0.4**
OCLP				*e*S	**Sn**	**16 04 11.0**	**+1.6**
BIPH	**Bislig**	**1.97 175**	⇑	*e*P	Px	16 04 01.7	
BIPH				*i* S	**Sn**	**16 04 17.6**	**+4.1**
LLP	**Lapu-Lapu**	**2.21 274**		*e*P	**Pn**	**16 03 53.2**	**0.0**
LLP				*e*S	**Sn**	**16 04 12.5**	**-6.8**
BUKP	**Musuan**	**2.53 207**		*e*P	**Pn**	**16 03 59.3**	**+1.7**
BUKP				*e*S	**Sn**	**16 04 32.5**	**+5.3**
CNP	**Catarman**	**2.78 327**		*e*P	**Pn**	**16 04 00.4**	**-0.7**
CNP				*e*S	**Sn**	**16 04 29.5**	**-3.9**
DCPH	**Dipolog City**	**3.22 241**		*e*P	**Pn**	**16 04 08.1**	**+1.1**
DCPH				*i* S	**Sn**	**16 04 43.3**	**-0.8**
GUIM	**Jordan**	**3.58 278**		*e*P	**Pn**	**16 04 11.9**	**-0.1**
GUIM				*e*S	**Sn**	**16 04 49.8**	**-3.3**
PAGZ	**Pagadian**	**3.61 231**		*e*P	**Pn**	**16 04 13.8**	**+1.4**
PAGZ				*e*S	**Sn**	**16 04 57.2**	**+3.5**
PVCP	**Virac**	**3.96 330**		*e*P	**Pn**	**16 04 17.9**	**+0.8**
PVCP				*e*S	**Sn**	**16 05 02.9**	**+0.6**
IPIL	**Ipil**	**4.29 237**		*e*P	**Pn**	**16 04 25.2**	**+3.5**
POLP	**Polilio Island**	**6.16 318**		*e*P	**Pn**	**16 04 46.8**	**-0.5**
WRA	**Warramunga Arr**	**30.96 165**		P	**P**	**16 09 30.5**	**+0.1**
	0.7nm,0.7s,mb3.6,baz=345,slow=9.3,SNR=3.4						
ASAR	**Alice Springs**	**34.45 167**		P	**P**	**16 10 01.1**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=355,slow=7.3,SNR=11						
SONM	**Songino Array**	**41.10 340**		P	**P**	**16 10 57.3**	**+0.4**
	0.4nm,0.5s,mb3.3,baz=156,slow=9.9,SNR=4.5						
STKA	**Stephens Creek**	**44.32 161**		P	**P**	**16 11 22.0**	**-1.0**
	2.1nm,0.9s,mb3.9,baz=311,slow=9.3,SNR=3.2						
STKA	**Stephens Creek**	**44.32 161**		*e*P	**P**	**16 11 22.1**	**-0.9**
MKAR	**Makanchi Array**	**52.08 323**		P	**P**	**16 12 21.8**	**-1.0**
	0.7nm,0.7s,mb3.7,baz=120,slow=8.1,SNR=11						
KURK	**Kurchatov**	**56.12 326**		*e*P	**P**	**16 12 51.4**	**-0.9**
	1.4nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**85.96 332**		P	**P**	**16 15 52.2**	**-0.4**
	0.8nm,0.9s,mb3.9,baz=61,slow=6.5,SNR=2.5						
YKA	**Yellowknife Ar**	**93.89 24**		P	**P**	**16 16 31.2**	**+1.3**
	0.3nm,0.6s,mb3.9,baz=301,slow=4.8,SNR=8.8						

IDC 20 16:39:06.2±1.2, 356N×12690E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/21, Error ellipse: s-maj=126.0km s-min=19.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.94 123**		LR	LR	16 53 40.6	
	comp=Z,75nm,19.0s,baz=85,slow=36						
WRA	**Warramunga Arr**	**24.47 163**		P	P	16 44 27.3	+0.5
	1.7nm,0.7s,baz=343,slow=10,SNR=9.1						
WB2	**Warramunga Arr**	**24.47 163**		*e*P	P	16 44 27.6	+0.8
ASAR	**Alice Springs**	**27.91 166**		P	P	16 44 59.0	+1.2
	0.2nm,0.5s,baz=342,slow=9.4,SNR=7.9						
STKA	**Stephens Creek**	**37.91 159**		P	P	16 46 24.2	-0.9
	1.9nm,0.7s,baz=339,slow=8.3,SNR=4.5						
SONM	**Songino Array**	**47.52 341**		P	P	16 47 43.5	+0.4
	0.3nm,0.6s,baz=160,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**57.79 325**		P	P	16 48 59.1	-0.1
	0.4nm,0.5s,baz=118,slow=8.1,SNR=11						

*NEIC **20** 17:14:49.2, 3620S×17908E, h6km, ML4.5(WEL), After WEL.*

WEL 20 17:14:49.4±0.3, 3621S×17906E, h5km, ML3.7/6, Error ellipse: s-maj=2.5km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.48 204**		P*	Pb	17 15 14.5	-2.9
MXZ				S*	Sb	17 15 32.7	-3.7
MXZ	**Matakaoa Point**	**1.48 204**		P	Pn	17 15 14.5	-2.2
MXZ				S	Sn	17 15 32.7	-3.7
MWZ	**Matawai**	**2.45 209**		P*	Pb	17 15 29.1	-4.8
MWZ	**Matawai**	**2.45 209**		*e*P	Pn	17 15 29.1	-0.9
URZ	**Urewera**	**2.57 217**		P*	Pb	17 15 30.6	-5.3
URZ	**Urewera**	**2.57 217**		P	Pn	17 15 30.6	-1.1
TGRZ	**Tauranga**	**2.71 235**		P*	Pb	17 15 32.6	-5.6
TGRZ	**Tauranga**	**2.71 235**		P	Pn	17 15 32.6	-0.9
KUZ	**Kuaotunu**	**2.74 258**		PN	Pn	17 15 33.3	-0.7
KUZ	**Kuaotunu**	**2.74 258**		P	Pn	17 15 33.3	-0.7
BKZ	**Black Stump Fm**	**3.58 214**		*e*P	Pn	17 15 43.6	-2.0
MOVZ	**Moawhango**	**4.13 218**		P	Pn	17 15 52.1	-1.0

*ISCJB **20** 17:20:09.6±0.4, 4170N±001×2551E±001, h13km±2km, mb4.3/38, MS4.0/22, Error ellipse: s-maj=2.0km s-min=1.7km az=29.8*
*SKO **20** 17:20:09.0, 4171N×2554E, h10km, M3.9, ML4.7*
*PRU **20** 17:20:09.7, 4164N×2533E, h0km, M4.6*
*SOF **20** 17:20:09.3, 4169N×2548E, h13km, MD4.5*
*BJI **20** 17:20:09.0, 4170N×2550E, h10km, mB4.9, mb4.7, Ms4.8, Msz4.3*
*PDG **20** 17:20:09.6±0.6, 4167N×2552E, h11km±1km*
*NEIC **20** 17:20:09.0, 4171N×2554E, h10km, mb4.6/7, MD4.4(PDG), MD4.5(SOF), ML4.6(ATH), ML4.6(THE), After CSEM.*
NEIC Two people injured, at least 175 buildings slightly damaged and power and telephone service interrupted in the Murgovo area.
*MOS **20** 17:20:09.3±1.1, 4170N×2550E, h10km, mb4.6/11, Error ellipse: s-maj=4.3km s-min=3.0km az=93.8*
*CSEM **20** 17:20:09.0, 4171N×2554E, h10km, mb4.7*
*IDC **20** 17:20:10.3±0.6, 4184N×2538E, h0km, mb4.0/16, mb1 4.2/25, mb1mx4.1/30, mbtmp4.1/25, ML4.0/8, MS3.8/21, Ms1 3.8/21, ms1mx3.7/39, Error ellipse: s-maj=9.7km s-min=9.0km az=35.0*
*ATH **20** 17:20:10.3, 4164N×2545E, h26km±1km, MD4.4/17, ML4.6*
*THE **20** 17:20:10.9, 4162N×2558E, h15km, ML4.6*
*NAO **20** 17:20:26.8, 4265N×2361E, h33km, mb3.8*

ISC 20 17:20:10.5±0.3, 4168N±001×2550E±001, h8km±2km, h15km±1.5km: pP-P, n370, σ1§16/441, mb4.3/39, MS4.0/22, 35C-33D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.07 245**		*i* Pg	**Pg**	**17 20 12.8**	**+0.4**
DIM	**Dimitrovgrad**	**0.37 4**		*i* Pg	**Pg**	**17 20 17.5**	**-0.3**
RDO	**Rodhopi**	**0.53 177**	⇑	*i*PN	**Pg**	**17 20 20.8**	**0.0**
RDO				*e*SN	**Sg**	**17 20 28.5**	**+0.7**
RZN	**Rozhen**	**0.59 271**		*i* P	**Pg**	**17 20 21.0**	**-0.9**
PLD	**Plovdiv**	**0.73 306**		*i* P	**Pg**	**17 20 23.5**	**-1.1**
ALN	**Alexandroupoli**	**0.88 152**		*e*Pg	**Pg**	**17 20 27.5**	**+0.1**
EDRB	**Edirne**	**0.94 79**		*i* PN	**Pg**	**17 20 27.8**	**-0.9**
EDRB				*i* SN	**Sn**	**17 20 44.3**	**+0.5**
JMB	**Yambol**	**1.13 45**		*e*Pg	**Pg**	**17 20 31.1**	**-1.1**
JMB				*e*Sg	**Sg**	**17 20 46.0**	**-0.7**
JMB	**Yambol**	**1.13 45**		*i* Pg	**Pg**	**17 20 31.4**	**-0.7**
JMB				*e*Sg	**Sg**	**17 20 46.0**	**-0.8**
NVR	**Nevrokopi**	**1.27 256**		*e*PN	**Pn**	**17 20 33.2**	**-1.4**
NVR				*e*SN	**Sn**	**17 20 50.2**	**-1.7**
PGB	**Panagyurishte**	**1.32 312**		*i* Pg	**Pg**	**17 20 34.3**	**-1.5**
MMB	**Musomiste**	**1.33 267**		*i* Pg	**Pg**	**17 20 34.3**	**-1.8**
PVL	**Pavlikeni**	**1.54 355**		*i* P	**Pn**	**17 20 37.7**	**-0.6**
SRS	**Serrai**	**1.54 249**		*e*Pg	**Pn**	**17 20 37.8**	**-0.5**
SRS				*e*Sg	**Sn**	**17 20 57.8**	**-0.8**
SART	**Tekirdag**	**1.61 127**		*i* P	**Pn**	**17 20 39.7**	**+0.5**
MFT	**Murefte**	**1.61 123**		*i* PN	**Pn**	**17 20 39.2**	**-0.1**
LPK	**Lapseki**	**1.62 143**		*i* PN	**Pn**	**17 20 40.3**	**+1.0**
SZH	**Strazhica**	**1.62 11**		*i* P	**Pn**	**17 20 40.1**	**+0.7**
OUR	**Ouranopolis**	**1.77 221**		*e*Pb	**Pn**	**17 20 40.5**	**-0.9**
LOS	**Limnos**	**1.77 190**		*e*Pb	**Pn**	**17 20 39.6**	**-1.9**
LIA	**Limnos Island**	**1.79 188**	⇑	*i*PN	**Pn**	**17 20 41.3**	**-0.5**
LIA				*e*SN	**Sn**	**17 21 03.4**	**-1.4**
KKB	**Krupnik**	**1.82 277**		*i* P	**Pn**	**17 20 41.5**	**-0.6**
SOH	**Sokhos**	**1.83 243**		*e*Pb	**Pb**	**17 20 41.8**	**-2.5**
SOH				*e*Sb	**Sb**	**17 21 06.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.91 123**		*i* PN	**Pn**	**17 20 42.6**	**-0.8**
VTS	**Vitosha**	**1.93 299**		*i* P	**Pn**	**17 20 43.5**	**-0.2**
VTS	**Vitosha**	**1.93 299**		*e*Pn	**Pn**	**17 20 43.4**	**-0.3**
EZN	**Ezine**	**1.95 161**		*i* PN	**Pn**	**17 20 43.8**	**-0.2**
KNT	**Kendrikon**	**2.02 256**		*e*Pn	**Pn**	**17 20 44.6**	**-0.4**
KNT				*e*Sn	**Sn**	**17 21 12.3**	**+1.9**
PLG	**Polygyros**	**2.03 231**		*e*PB	**Pn**	**17 20 44.2**	**-0.8**
PLG				*e*SN	**Sn**	**17 21 08.8**	**-1.7**
THE	**Thessaloniki**	**2.18 242**		*e*Pn	**Pn**	**17 20 46.5**	**-0.6**
THE				*e*Sn	**Sn**	**17 21 13.7**	**-0.6**
THE	**Thessaloniki**	**2.18 242**		*e*Pn	**Pn**	**17 20 46.5**	**-0.6**
THE				*e*Sn	**Sn**	**17 21 13.6**	**-0.7**
EDC	**Edincik**	**2.23 126**		*i* PN	**Pn**	**17 20 48.5**	**+0.8**
PAIG	**Paliouri**	**2.23 219**		*e*Pn	**Pn**	**17 20 47.0**	**-0.8**
PAIG				*e*Sn	**Sn**	**17 21 13.3**	**-2.2**
VAY	**Valandovo**	**2.23 262**		*i* Pn	**Pn**	**17 20 47.1**	**-0.7**
VAY				*i* Sn	**Sb**	**17 21 19.3**	**+0.5**
VAY				*e*Lg		17 21 27.7	
	comp=E,3μm,0.7s						
VAY				*e*Lg		17 21 28.4	
	comp=N,11μm,1.1s						
VAY	**Valandovo**	**2.23 262**		*i* Pn	**Pn**	**17 20 47.0**	**-0.8**
VAY				*i* Sn	**Sb**	**17 21 19.3**	**+0.5**
BNT	**Bandirma**	**2.26 125**		*i* PN	**Pn**	**17 20 48.5**	**+0.4**
CTT	**Catalca**	**2.27 103**		*i* PN	**Pn**	**17 20 48.0**	**-0.3**
ELBA	**Catalca**	**2.27 103**		*i* P	**Pn**	**17 20 48.1**	**-0.1**
GRG	**Griva**	**2.44 254**		*e*Pn	**Pn**	**17 20 50.2**	**-0.5**
GRG				*e*Sn	**Sn**	**17 21 20.7**	**-0.1**
STIP	**Stip**	**2.48 271**		*i* Pn	**Pn**	**17 20 50.9**	**-0.3**
STIP				*i* Sn	**Sg**	**17 21 29.1**	**-1.1**
STIP				*e*Lg		17 21 32.4	
	comp=E,2μm,0.5s						
STIP				*e*Lg		17 21 33.1	
	comp=N,2μm,0.4s						
PRK	**Paraskevi**	**2.50 166**	⇑	*i*PB	**Pb**	**17 20 52.0**	**-3.7**
PRK				*e*SN	**Sn**	**17 21 21.2**	**-1.0**
ZAPS	**Zavoj/Pirot**	**2.68 308**	⇑	*i*Pn	**Pn**	**17 20 53.5**	**-0.4**
ZAPS				Sn	**Sn**	**17 21 30.1**	**+3.6**
BUC1	**Bucharest**	**2.70 8**	⇑	P	**Pn**	**17 20 55.5**	**+1.3**
BUC1	**Bucharest**	**2.70 8**		P	**Pn**	**17 20 54.6**	**+0.4**
BUC1	**Bucharest**	**2.70 8**	⇑	P	**Pn**	**17 20 55.5**	**+1.3**
BALB	**Balikesir**	**2.73 138**		PN	**Pn**	**17 20 55.3**	**+0.7**
ISK	**Istanbul-Kandi**	**2.75 102**		*i* PN	**Pn**	**17 20 54.4**	**-0.5**
LIT	**Litokhoron**	**2.77 236**		*e*Pn	**Pn**	**17 20 54.0**	**-1.2**
	comp=N,16nm,0.4s						
AOS	**Alonnisos**	**2.79 207**		*e*Pn	**Pn**	**17 20 54.5**	**-1.0**
AOS				*e*Sn	**Sn**	**17 21 27.3**	**-2.2**
PSN	**Preselentsi**	**2.81 44**		*e*P	**Pn**	**17 20 56.5**	**+0.7**
XOR	**Xorichti**	**2.90 218**		*e*Pn	**Pn**	**17 20 56.2**	**-0.9**
	comp=N,30nm,0.9s						
CRAR	**CRAIOVA**	**2.92 335**		P	**Pn**	**17 20 56.3**	**-1.0**
NEO	**Neokhori**	**2.94 217**		*e*PN	**Pn**	**17 20 56.5**	**-1.0**
ORLT	**Orhaneli**	**3.05 121**		PN	**Pn**	**17 21 00.3**	**+1.3**
SKO	**Skopje**	**3.05 277**		*i* Pn	**Pn**	**17 20 59.5**	**+0.4**
SKO				*i* Sn	**Sg**	**17 21 51.5**	**+3.0**
SKO				*e*Lg		17 21 54.3	
	comp=N,2μm,1.1s						
SKO				*e*Lg		17 21 55.9	
	comp=E,3μm,1.3s						
SKO	**Skopje**	**3.05 277**		*i* Pn	**Pn**	**17 20 59.4**	**+0.4**
YLV	**Yalova**	**3.13 110**		PN	**Pn**	**17 20 59.5**	**-0.6**
KZN	**Kozani**	**3.14 245**		*e*PN	**Pn**	**17 21 00.2**	**-0.1**
DST	**Dursunbey**	**3.15 130**		PN	**Pn**	**17 21 01.1

ULC Ulcinj 4.68 276 *e*Pn **Pn 17 21 21.5 0.0**
ULC *e*Sn **Sn 17 22 16.2 +0.2**
TTG Podgorica 4.71 281⇓*i*Pn **Pn 17 21 23.0 +1.2**
TTG *e*Sn **Sn 17 22 17.7 +1.1**
DIVS Divcibare 4.71 303 *i* Pn **Pn 17 21 22.1 +0.2**
MLSB Milas 4.72 157 *e*PN **Pn 17 21 22.4 +0.4**
LKD Levkas 4.75 233 *e*Pn **Pn 17 21 24.1 +1.6**
DENT Denizli 4.77 144 *e*PN **Pn 17 21 23.3 +0.6**
PLE Pljevlja 4.81 292⇓*i*Pn **Pn 17 21 24.2 +1.0**
PLE *e*Sn **Sn 17 22 20.1 +1.1**
BODT Bodrum 4.82 162 *e*PN **Pn 17 21 22.8 -0.6**
DNZL Cakiroluk 4.83 144 *i* P **Pn 17 21 24.5 +0.9**
BZS Buzias 4.84 326⇑P **Pn 17 21 22.6 -1.1**
BZS Buzias 4.84 326 P **Pn 17 21 22.7 -1.0**
BEO Belgrade 4.84 312⇑*i*Pn **Pn 17 21 24.5 +0.8**
BDRM Kayabasi 4.85 161 *i* P **Pn 17 21 24.1 +0.3**
BDRM Kayabasi 4.85 161 *i* P **Pn 17 21 24.0 +0.3**
NKY Niksic 4.96 285⇓*i*Pn **Pn 17 21 25.6 +0.3**
NKY *e*Sn **Sn 17 22 23.5 +0.7**
NKY Niksic 4.96 285⇓*i*Pn **Pn 17 21 25.5 +0.2**
BUM Brajici-Budva 4.96 279⇓*i*Pn **Pn 17 21 26.4 +1.1**
BUM *e*Sn **Sn 17 22 22.6 -0.3**
UPM Unac-Piva 5.11 290 *e*Pn **Pn 17 21 27.8 +0.5**
UPM *e*Sn **Sn 17 22 26.5 0.0**
VLS Valsamata 5.14 229 *e*PN **Pn 17 21 29.5 +1.7**
TKTP Tekketepe 5.19 133 *i* P **Pn 17 21 30.1 +1.6**
TKTP Tekketepe 5.19 133 *i* P **Pn 17 21 30.0 +1.5**
NISR Nisiros 5.22 165 *e*PN **Pn 17 21 30.0 +1.2**
HCY Herceg Novi 5.27 281 *e*Pn **Pn 17 21 30.6 +1.0**
HCY *e*Sn **Sn 17 22 31.4 +1.0**
ITM Ithomi 5.28 213 *e*PN **Pn 17 21 31.3 +1.7**
SANT Santorini 5.30 180 *e*Pn **Pn 17 21 28.8 -1.2**
SANT Santorini 5.30 180 *e*Pn **Pn 17 21 28.8 -1.2**
BRY Bratogost 5.30 286 *e*Pn **Pn 17 21 30.6 +0.6**
BRY *e*Sn **Sn 17 22 31.1 -0.2**
VLI Veliai 5.34 203 *e*PN **Pn 17 21 29.7 -0.8**
SAFT Safranbolu 5.42 92 *e*PN **Pn 17 21 28.9 -2.7**
ISP Isparta 5.44 133 *e*PN **Pn 17 21 32.2 +0.3**
ISP Isparta 5.44 133*d i*P **Pn 17 21 33.0 +1.1**
DRGR 5.49 340⇓P **Pn 17 21 37.6 +5.0**
DRGR 5.49 340⇓P **Pn 17 21 37.6 +5.0**
KIZT Kizilcal 5.62 118 *e*PN **Pn 17 21 33.9 -0.5**
KYTH Kithira 5.72 200 *e*PN **Pn 17 21 36.0 +0.2**
FETY Fethiye 5.75 150 *e*PN **Pn 17 21 37.0 +0.8**
ANTO Ankara 5.82 106 *e*PN **Pn 17 21 35.6 -1.6**
ANTO Ankara 5.82 106 *e*Pn **Pn 17 21 36.8 -0.4**
comp=E,87nm,0.9s
ANTO Ankara 5.82 106 *e*P **Pn 17 21 36.8 -0.4**
ANTO pmax pmax
comp=Z,87nm,0.9s
ANTO Ankara 5.82 106 *e*Pn **Pn 17 21 36.8 -0.3**
comp=Z,87nm,0.9s
KIS Kishinev 5.83 23 *i* P **Pn 17 21 38.0 +0.8**
KIS *i* S **Sn 17 22 45.0 +0.8**
KIS Kishinev 5.83 23 *i* P **Pn 17 21 38.0 +0.8**
KIS *i* S **Sn 17 22 45.0 +0.8**
KIS MLR MLR
comp=E,2μm,10.0s
BALT Daday 5.91 89 *i* P **Pn 17 21 38.8 +0.4**
BURAR Bucovina Array 5.94 358⇓P **Pn 17 21 40.1 +1.4**
ELL Elmali 6.00 144 *e*P **Pn 17 21 39.8 +0.3**
ELDT Eldivan 6.11 99 *i* P **Pn 17 21 42.0 +0.9**
IDI Anoyia 6.40 184 Pn **Pn 17 21 44.6 -0.4**
comp=E,1.9nm,0.3s,baz=11,slow=11,SNR=29
IDI Sn **Sn 17 22 57.0 -1.3**
comp=E,1.0nm,0.3s,baz=327,slow=16,SNR=1.7
IDI Lg 17 23 37.9
baz=186,slow=22,SNR=2.1
IDI LR LR 17 24 24.5
comp=E,853nm,19.4s,baz=355,slow=39
TOS Tosya 6.45 93 *e*P **Pn 17 21 43.2 -2.5**
KONT Konya--Tatoy 6.46 123 *e*P **Pn 17 21 44.9 -1.1**
BR131 Keskin Array S 6.49 105 *e*Pn **Pn 17 21 46.4 +0.2**
comp=E,27nm,0.8s
BR131 Keskin Array S 6.49 105 *e*Pn **Pn 17 21 46.4 +0.2**
comp=E,27nm,0.8s
BRTR Keskin Array B 6.49 105 Pn **Pn 17 21 46.9 +0.6**
comp=E,0.9nm,0.3s,baz=282,slow=13,SNR=34
BRTR Lg 17 23 40.7
baz=251,slow=26,SNR=2.0
BRTR Keskin Array B 6.49 105 Pn **Pn 17 21 46.8 +0.6**
PKS6 Bocsa 6.51 321⇑*e*P **Pn 17 21 46.3 -0.3**
KAMT Kaman 6.67 108 *e*P **Pn 17 21 47.4 -1.4**
PKSM Moragy 6.71 315⇓*i*P **Pn 17 21 48.9 -0.4**
PKSM *e*S **Sg 17 23 37.0 -8.9**
RHK3 Tenkes 6.72 311⇓*e*P **Pn 17 21 49.2 -0.3**
GVD Gavdhos 6.92 190 Pn **Pn 17 21 51.9 -0.3**
comp=E,57nm,0.7s
GVD Gavdhos 6.92 190 Pn **Pn 17 21 51.9 -0.3**
comp=E,57nm,0.7s
YAL Yalta 6.93 63 *e*P **Pn 17 21 51.5 -0.9**
comp=E,180nm,0.7s
YAL Yalta 6.93 63⇓*e*P **Pn 17 21 51.5 -0.9**
YAL *e*S **Sn 17 23 05.0 -6.4**
YAL pmax pmax
comp=Z,180nm,0.7s
YAL smax
comp=N,50nm,0.6s
YAL smax
comp=E,80nm,0.6s
RHK1 Bakonya 6.95 312⇑*i*P **Pn 17 21 49.4 -3.2**
SIM Simferopol' 7.08 60 *e*P **Pn 17 21 54.1 -0.3**
comp=E,150nm,0.5s
SIM Simferopol' 7.08 60⇑*e*P **Pn 17 21 54.1 -0.3**
SIM *e*S **Sn 17 23 10.3 -4.8**
SIM pmax pmax
comp=Z,150nm,0.5s
SIM smax
comp=N,120nm,1.0s
SIM smax
comp=E,290nm,1.0s
TIP Timpagrande 7.12 252 *e*Pn **Pn 17 21 54.8 -0.2**
PKS8 Sarbogard 7.14 319⇓*e*P **Pn 17 21 54.3 -0.9**
PKS9 Tamasi 7.14 316⇓*e*P **Pn 17 21 54.8 -0.5**
ALU Alushta 7.17 62 *i* P **Pn 17 21 55.1 -0.5**
comp=E,160nm,0.6s
ALU Alushta 7.17 62⇓*i*P **Pn 17 21 55.1 -0.5**
ALU *e*S **Sn 17 23 13.3 -3.9**
ALU smax
comp=N,160nm,0.6s
ALU smax
comp=E,310nm,0.8s
UZH Uzhgorod 7.31 343 *e*P **Pn 17 21 57.0 -0.6**
UZH *e*S **Sn 17 23 18.0 -2.8**
PSZ Piszkesteto 7.40 329⇓*e*Pn **Pn 17 21 57.5 -1.3**
PSZ *e*Sn **Sn 17 23 15.4 -7.6**
PSZ Piszkesteto 7.40 329 P **Pn 17 21 58.1 -0.7**
CUC Castrocucco 7.54 260 Pn **Pn 17 22 04.4 +3.7**
comp=E,166nm,0.9s
SLCN Sala Consilina 7.57 263 Pn **Pn 17 22 03.4 +2.2**
KOLS Kolonicke sedl 7.60 344 *e*PN **Pn 17 22 01.6 0.0**
SUDU Sudak 7.64 62 *i* P **Pn 17 22 02.0 -0.1**
comp=E,190nm,0.7s
SUDU Sudak 7.64 62⇑*i*P **Pn 17 22 02.0 -0.1**
SUDU *e*S **Sn 17 23 24.8 -4.0**
SUDU pmax pmax
comp=Z,190nm,0.7s
SUDU smax
comp=N,180nm,0.7s
SUDU smax
comp=E,170nm,0.7s
PKSG 7.64 321⇓*e*P **Pn 17 22 01.0 -1.1**
KECS Kecovo 7.67 334 *e*PN **Pn 17 22 01.5 -1.0**
MGR Morigerati 7.69 262 Pn **Pn 17 22 06.9 +4.1**
CRVS Cervenica-Dubn 7.76 340 *e*PN **Pn 17 22 04.0 +0.2**
SGO Sicignano 7.78 265 Pn **Pn 17 22 05.1 +1.1**
comp=E,22nm,0.4s
SGO Sicignano 7.78 265 P **Pn 17 22 05.1 +1.1**
SGO pmax pmax
comp=Z,22nm,0.4s
CSSN Cassano Irpino 7.94 268 Pn **Pn 17 22 07.1 +1.0**
FEO Feodosiya 7.94 62 *e*P **Pn 17 22 07.4 +1.1**
comp=Z,130nm,0.7s
FEO *e*S **Sn 17 23 36.0 -0.3**
FEO Feodosiya 7.94 62⇓*e*P **Pn 17 22 07.4 +1.1**
FEO *e*S **Sn 17 23 36.0 -0.3**
FEO pmax pmax
comp=Z,130nm,0.7s
FEO smax
comp=N,160nm,1.1s
FEO smax
comp=E,360nm,1.1s
SRO1 Iza 7.98 322 *e*PN **Pn 17 22 09.0 +2.2**

SRO Srobarova 7.98 323 *e*PN **Pn 17 22 07.4 +0.6**
SOI Samo 8.11 247 Pn **Pn 17 22 09.2 +0.7**
KOGS Kog 8.19 309 *e*Pn **Pn 17 22 09.7 +0.1**
KOGS *e*Sn **Sn 17 23 41.2 -1.1**
KWP Kalwaria 8.19 347 *e*P **Pn 17 22 10.0 +0.4**
KWP *e*Sg Sn 17 24 24.6 +42
KWP Kalwaria 8.19 347 *e*P **Pn 17 22 09.5 -0.2**
KWP *e*P 17 22 10.0
KWP *e*Sg Sn 17 24 24.6 +42
LVV L'vov 8.21 353 *e*P **Pn 17 22 04.4 -5.5**
STHS Stebnicka Huta 8.29 340 *e*PN **Pn 17 22 13.7 +2.6**
BOJS Bojanci 8.36 301 *e*Pn **Pn 17 22 16.2 +4.2**
ATN Antennamare 8.47 249 Pn **Pn 17 22 14.4 +0.9**
NIE Niedzica 8.55 337 *e*P **Pn 17 22 18.5 +3.9**
ZST Bratislava 8.82 320 *e*PN **Pn 17 22 18.6 +0.3**
SVSK Karacayir 8.90 98 *e*P **Pn 17 22 16.8 -2.5**
SMOL Smolenice 8.90 323 *e*PN **Pn 17 22 19.2 -0.2**
SMOL *e*SN **Sn 17 23 55.9 -4.0**
PERS Pernice 8.96 307 *e*Pn **Pn 17 22 22.2 +2.0**
PERS *e*Sn **Sn 17 23 58.2 -3.1**
AQU L'Aquila 9.03 278 *e*Pn **Pn 17 22 21.5 +0.3**
AQU L'Aquila 9.03 278 *e*Pn **Pn 17 22 21.5 +0.3**
PTQR Pietraquaria 9.04 276 Pn **Pn 17 22 25.2 +3.9**
ARSA Arzberg 9.05 311⇑*e*Sn **Sn 17 24 02.4 -1.0**
ARSA Arzberg 9.05 311⇑*i*Pn **Pn 17 22 21.0 -0.5**
ARSA ⇑*i*Sn **Sn 17 24 02.4 -1.0**
ARSA Arzberg 9.05 311⇑Pn **Pn 17 22 20.9 -0.5**
ARSA Sn **Sn 17 24 02.4 -1.0**
OBKA Obir 9.24 305⇑*e*Sn **Sn 17 24 06.3 -1.9**
OBKA Obir 9.24 305⇑*i*Pn **Pn 17 22 22.4 -1.7**
OBKA ⇑*i*Sn **Sn 17 24 06.3 -1.9**
ANN Anapa 9.25 66 *e*P **Pn 17 22 21.4 -2.8**
ANN pmax pmax
comp=Z,59μm,0.9s
NRCA Norcia 9.26 281 Pn **Pn 17 22 25.0 +0.7**
AKASG Malin Array Be 9.38 15 Pn **Pn 17 22 24.3 -1.8**
comp=Z,2.5nm,0.3s,baz=202,slow=13,SNR=25
AKASG Sn **Sn 17 24 04.2 -7.6**
comp=E,5.1nm,0.3s,baz=194,slow=23,SNR=7.0
AKASG Lg 17 25 06.1
baz=178,slow=28,SNR=3.2
AKASG Malin Array Be 9.38 15 P **Pn 17 22 24.3 -1.7**
AKASG 17 24 04.2
AKASG Malin Array Be 9.38 15 Pn **Pn 17 22 24.3 -1.8**
AKASG Sn **Sn 17 24 04.2 -7.6**
AKASG Lg 17 25 06.1
OJC Ojcow 9.42 337 *e*P **Pn 17 22 26.7 +0.2**
OJC *e*PP 17 22 36.0
SNTG Esanatoglia 9.42 284 Pn **Pn 17 22 26.7 +0.2**
ARV Arcevia 9.44 285 Pn **Pn 17 22 27.0 +0.2**
VOY Vojsko 9.45 301 *e*(Pn) **Pn 17 22 35.0 +8.1**
VOY *e* 17 22 40.7
VOY *e*(Sn) **Sn 17 24 11.3 -1.9**
VAE Valguarnera 9.53 248 Pn **Pn 17 22 28.2 +0.2**
comp=Z,0.7nm,0.3s,baz=10.0,slow=17,SNR=2.5
MURB Monte Urbino 9.72 284 Pn **Pn 17 22 35.2 +4.6**
MORC Moravsky Berou 9.82 328 *e*Pn **Pn 17 22 29.6 -2.4**
VRAC Vranov 9.86 324 Pn **Pn 17 22 30.3 -2.3**
comp=Z,0.5nm,0.3s,baz=144,slow=11,SNR=6.1
VRAC Sn **Sn 17 24 16.9 -6.5**
comp=Z,0.3nm,0.3s,baz=128,slow=18,SNR=2.3
VRAC LR LR 17 26 35.3
comp=Z,493nm,18.1s,baz=137,slow=40
VRAC Vranov 9.86 324 Pn **Pn 17 22 30.3 -2.2**
VRAC Sn **Sn 17 24 16.9 -6.5**
MOA Molln 10.09 311⇓*e*Sn **Sn 17 24 27.8 -1.3**
MOA Molln 10.09 311⇓*i*Pn **Pn 17 22 34.6 -1.1**
MOA ⇓*i*Sn **Sn 17 24 27.8 -1.3**
MOA Molln 10.09 311⇓Pn **Pn 17 22 34.6 -1.1**
MOA Sn **Sn 17 24 27.8 -1.3**
MALT Malatya 10.47 104 P **Pn 17 22 40.4 -0.5**
MALT Malatya 10.47 104 Pn **Pn 17 22 40.4 -0.5**
SOC Sochi 10.65 75 *e*P **Pn 17 22 42.8 -0.6**
comp=Z,52nm,0.9s
SOC Sochi 10.65 75 *e*P **Pn 17 22 42.8 -0.6**
SOC *e* 17 24 46.9
SOC pmax pmax
comp=Z,52nm,0.9s
SOC MLR MLR
comp=Z,195nm,18.0s
GERES GERESS Array B 10.97 315 Pn **Pn 17 22 47.2 -0.6**
comp=Z,0.3nm,0.3s,baz=120,slow=13,SNR=23
GERES Sn **Sn 17 24 47.5 -3.2**
comp=Z,0.1nm,0.3s,baz=122,slow=20,SNR=2.2
GERES LR LR 17 26 41.1
comp=Z,368nm,18.5s,baz=122,slow=36
GERES GERESS Array B 10.97 315 P **Pn 17 22 47.2 -0.5**
GERES 17 24 47.5
UPC Upice 11.01 327 *e*P **Pn 17 22 49.4 +1.1**
KSP Ksiaz 11.15 328 *e*P **Pn 17 22 55.3 +5.0**
KSP Ksiaz 11.15 328 *e*P **Pn 17 22 53.7 +3.4**
KHC Kasperske Hory 11.21 316 *e*P **Pn 17 22 50.8 -0.2**
KHC *e*x x 17 23 40.0
KHC *e*x x 17 25 32.0
KHC AMS AMS 17 27 30.0
comp=Z,1μm,10.8s
KHC Kasperske Hory 11.21 316 *e*P **Pn 17 22 50.8 -0.2**
KHC *e* 17 23 40.0
KHC *e* 17 25 32.0
PRU Pruhonice 11.28 321 *e*P **Pn 17 22 57.0 +5.0**
PRU AMS AMS 17 27 40.0
comp=Z,1μm,10.0s
PRU Pruhonice 11.28 321 *e*P **Pn 17 22 57.0 +5.0**
BRG Berggiesshubel 12.17 323 *e*(P) **Pn 17 23 13.5 +9.3**
comp=Z,1.3nm,0.9s
PGF Pioggiola 12.29 280 *e*P **Pn 17 23 04.8 -1.0**
comp=Z,95nm,1.2s
DAVOX Davos 12.31 300 Pn **Pn 17 23 05.6 -0.5**
comp=Z,0.1nm,0.3s,baz=92,slow=9.3,SNR=1.5
DAVOX Sn **Sn 17 25 22.7 -0.6**
comp=Z,0.3nm,0.3s,baz=319,slow=20,SNR=4.2
DAVOX LR LR 17 28 33.3
comp=Z,275nm,21.0s,baz=106,slow=41
SUW Suwalki 12.44 354 *e*P **Pn 17 23 06.6 -1.2**
SUW *e*Sg **Sn 17 25 25.2 -1.4**
GRA1 Grafenberg Arr 12.79 314 *e*P **Pn 17 23 14.3 +1.7**
GRF Grafenberg Arr 12.79 314 *e*P **Pn 17 23 14.3 +1.7**
CLL Collm 12.90 323 *e*sP 17 23 17.0
comp=Z,8.0nm,1.3s
CLL *i* (PPP) 17 23 28.7
CLL Collm 12.90 323 *e*P **Pn 17 23 17.0 +2.9**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 12.90 323 *e*P **Pn 17 23 17.0 +2.9**
comp=Z,8.0nm,1.3s
CLL *i* 17 23 28.7
MNK Minsk 12.92 6 *e*P **Pn 17 23 10.0 -4.5**
MOX Moxa 13.13 318 *e*(P) **Pn 17 23 25.1 +7.8**
comp=Z,33nm,1.9s
MOX
comp=Z,300nm,20.0s
GOF Gofitskoye 13.20 69 *e*P **Pn 17 23 18.1 -0.1**
comp=Z,20nm,0.8s
GOF *e*S **Sn 17 25 43.4 -1.7**
GOF Gofitskoye 13.20 69 *e*P **Pn 17 23 18.1 -0.1**
GOF *e*S **Sn 17 25 43.4 -1.7**
GOF pmax pmax
comp=Z,20nm,0.8s
GOF smax
comp=N,40nm,1.3s
GOF smax
comp=E,60nm,1.3s
VRSR Storozhevoye 13.40 40 *e*P **Pn 17 23 19.5 -1.4**
comp=E,60nm,16.0s
VRSR Storozhevoye 13.40 40 *e*P **Pn 17 23 19.5 -1.4**
VRSR pmax pmax
comp=Z,7.0nm,1.0s
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,8.0nm,0.8s
VRSR MLR MLR
comp=Z,40nm,17.0s
VRSR MLR MLR
comp=N,60nm,16.0s
VRSR MLR MLR
comp=E,10.0nm,14.0s
SBF Sospel 13.45 285 *e*P **Pn 17 23 22.4 +0.7**
ZEI Tsey 13.68 79 *i* P **Pn 17 23 25.0 +0.2**
MBDF Montbardon 14.00 289 *e*P **Pn 17 23 33.1 +4.0**
comp=E,23nm,0.8s
FRF La Foret Royal 14.01 284 *e*P **Pn 17 23 30.4 +1.1**
LPG La Plagne 14.11 292 *e*P **Pn 17 23 34.3 +3.6**
comp=E,52nm,1.0s
LPL La Plagne 14.13 292 *e*P **Pn 17 23 34.4 +3.5**
comp=E,24nm,0.9s
EIL Elat 14.22 144 *e*P **Pn 17 23 34.5 +2.3**
comp=E,116nm,0.7s
EIL Elat 14.22 144 *e*P **Pn 17 23 34.5 +2.4**
comp=E,116nm,0.7s
CDF Champ du Feu 14.52 304 *e*P **Pn 17 23 39.3 +3.1**
comp=E,69nm,1.2s
HINF Hinteralfeld 14.59 301 *e*P **Pn 17 23 42.5 +5.3**
GNI Garni 14.63 90 Pn **Pn 17 23 41.2 +3.4**
baz=349,slow=4.7,SNR=8.6
GNI LR LR 17 29 40.7
comp=E,70nm,19.2s,baz=249,slow=39
GNI Garni 14.63 90*c i*P **Pn 17 23 41.5 +3.7**
GNI pmax pmax
comp=Z,25nm,1.0s
GNI MLR MLR
comp=Z,100nm,14.0s
GNI Garni 14.63 90 *e*P **Pn 17 23 41.1 +3.3**
comp=Z,41nm,1.2s
ORIF Oris-en-Rattie 14.65 289 *e*P **Pn 17 23 39.6 +1.6**
comp=Z,28nm,1.0s
ORIF *e*R
comp=Z,562nm,21.0s
CABF La Chapelle 14.77 296 *e*P **Pn 17 23 41.1 +1.4**
comp=Z,26nm,0.9s
HAU Haudompre 14.97 301 *e*P **Pn 17 23 47.1 +4.7**
comp=Z,42nm,1.2s
HAU *e*R
comp=Z,467nm,18.8s
OBN Obninsk 15.29 25 *e*P **Pn 17 23 46.3 -0.4**
comp=Z,30nm,1.0s
OBN Obninsk 15.29 25⇓*e*P **Pn 17 23 46.3 -0.4**
OBN *e*S **Sn 17 26 27.2 -9.1**
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,200nm,16.0s
VIVF Saint-Julien-l 15.50 289 *e*P **Pn 17 23 53.7 +4.4**
LASF Ste Croix 16.04 286 *e*P **Pn 17 23 58.2 +1.8**
comp=Z,39nm,1.2s
MOS Moscow 16.15 25 *e*P **Pn 17 23 52.8 -5.0**
MOS MLR MLR
comp=Z,1μm,18.0s
SMF Signal de Mont 16.30 295 *e*P **Pn 17 24 00.9 +1.2**
comp=Z,56nm,1.1s
LOR Lormes 16.41 297 *e*P **Pn 17 24 04.8 +3.7**
comp=Z,96nm,1.2s
LOR *e*R
comp=Z,483nm,20.2s
SSF Saint Saulge 16.60 296 *e*P **Pn 17 24 06.0 +2.4**
comp=Z,31nm,1.1s
AVF Avril sur Loir 16.66 295 *e*P **Pn 17 24 05.6 +1.3**
comp=Z,105nm,1.4s
VSU Vasula 16.82 2*c i*P **Pn 17 24 03.1 -3.3**
BGF Bois d'Agland 16.96 294 *e*P **Pn 17 24 09.6 +1.4**
comp=Z,87nm,1.3s
BHD Baghdad 17.15 113 *ex* x 17 25 02.0
BHD *ex* x 17 28 48.0
BHD *ex* x 17 29 35.0
BHD *ex* x 17 31 38.0
TCF Toulx Ste Croi 17.36 293 *e*P **Pn 17 24 16.1 +2.9**
PUL Pulkovo 18.36 8 *i* P Px 17 24 39.2
PUL pmax pmax
comp=Z,86nm,0.6s
PUL MLR MLR
comp=Z,398nm,14.0s
PUL MLR MLR
comp=N,316nm,15.0s
PUL MLR MLR
comp=E,209nm,10.0s
ETSF Etsaut 19.30 282 *e*P **Pn 17 24 41.3 +4.5**
comp=E,23nm,1.1s
FINES FINESS Array B 19.80 1 P **Pn 17 24 38.6 -4.2**
comp=E,0.7nm,0.3s,baz=153,slow=13,SNR=24
FINES LR LR 17 32 55.2
comp=E,502nm,18.5s,baz=161,slow=39
FINES FINESS Array B 19.80 1 *i* P **Pn 17 24 39.4 -3.4**
comp=E,7.0nm,0.7s
FINES FINESS Array B 19.80 1 *i* P **Pn 17 24 39.4 -3.4**
FINES pmax pmax
comp=Z,7.0nm,0.7s
HFS Hagfors 19.86 342 P **Pn 17 24 41.9 -1.7**
comp=Z,0.7nm,0.3s,baz=91,slow=5.9,SNR=9.3
HFS LR LR 17 33 14.5
comp=Z,352nm,18.9s,baz=158,slow=40
KAF Kangasniemi 20.47 1 *ep* **P 17 24 46.0 -2.6**
comp=Z,12nm,0.8s
KAF Kangasniemi 20.47 1 *e*P **P 17 24 46.0 -2.6**
KAF pmax pmax
comp=Z,12nm,0.8s
KONO Kongsberg 20.52 337 *e*P **P 17 24 46.7 -2.5**
KLMR Klimovskoe 21.02 19 *i* P **P 17 24 54.2 -0.4**
comp=Z,40nm,0.9s,mb4.8
KLMR Klimovskoe 21.02 19*d i*P **P 17 24 54.2 -0.4**
KLMR *e* 17 25 14.9
KLMR pmax pmax
comp=Z,40nm,0.9s,mb4.8
NAO01 NORSAR Array S 21.16 340 *e*P **P 17 24 53.9 -2.2**
comp=Z,19nm,0.8s,mb4.5
NB2 NORSAR Subarra 21.25 341 P **P 17 24 54.8 -2.2**
comp=Z,4.1nm,0.7s,mb3.9,baz=152,slow=12
NOA NORSAR Array B 21.25 341 P **P 17 24 55.0 -2.0**
comp=Z,4.7nm,0.8s,mb3.9,baz=150,slow=12,SNR=14
NOA LR LR 17 34 25.0
comp=Z,225nm,18.9s,MS3.6,baz=140,slow=41
JOF Joensuu 21.55 7 *ep* **P 17 24 59.2 -1.1**
comp=Z,20nm,0.9s,mb4.5
JOF Joensuu 21.55 7 *e*P **P 17 24 59.2 -1.1**
JOF pmax pmax
comp=Z,20nm,0.9s,mb4.5
ESDC Sonseca Array 22.39 275 P **P 17 25 09.6 +0.3**
comp=Z,2.9nm,0.7s,mb3.8,baz=83,slow=10,SNR=5.7
EKA Eskdalemuir Ar 23.18 316 P **P 17 25 16.4 -1.2**
comp=Z,9.4nm,0.8s,mb4.2,baz=112,slow=10.0,SNR=15
AKTK Aktyubinsk 24.04 58 P **P 17 25 27.6 +1.6**
AKTK LR LR 17 37 04.0
AKTO Aktyubinsk 24.04 58 P **P 17 25 27.6 +1.6**
comp=Z,3.3nm,0.9s,mb3.8,baz=259,slow=14,SNR=8.5
AKTO LR LR 17 37 04.0
comp=Z,153nm,18.7s,MS3.5,baz=0.0,slow=42
AKTO Aktyubinsk 24.04 58 P **P 17 25 27.6 +1.6**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
AKTO MLR MLR
comp=Z,153nm,18.7s,MS3.5
MDT Midelt 25.45 259 P **P 17 25 40.3 +1.5**
comp=Z,2.5nm,0.9s,mb3.8,baz=80,slow=11,SNR=1.9
MDT LR LR 17 36 18.6
comp=Z,146nm,18.2s,MS3.5,baz=154,slow=38
ARU Arti 25.89 44 *e*P **P 17 25 42.4 -0.5**
comp=Z,32nm,1.0s,mb4.8
ARU Arti 25.89 44 *e*P **P 17 25 44.9 +2.0**
ARU *e* 17 26 24.1
ARU *e*PPP 17 26 32.3
ARU *e* 17 29 13.2
ARU *e*S **S 17 30 15.8 +2.8**
ARU *e*SS 17 31 16.8
ARU *e*SSS 17 31 34.3
ARU MLR MLR
comp=Z,100nm,15.0s,MS3.5
ARU MLR MLR
comp=N,40nm,16.0s,MS3.5
ARU MLR MLR
comp=E,100nm,17.0s,MS3.5
ARU Arti 25.89 44 *e*P **P 17 25 42.4 -0.5**
comp=E,32nm,1.0s,mb4.8
APA Apatity 26.30 7 *i* P **P 17 25 47.4 +0.8**
comp=E,27nm,1.4s,mb4.6
APA Apatity 26.30 7⇑*i*P **P 17 25 47.4 +0.8**
APA *i* 17 26 28.0
APA *e*S **S 17 30 17.0 -2.4**
APA pmax pmax
comp=Z,27nm,1.4s,mb4.6
APA MLR MLR
comp=Z,600nm,13.0s,MS4.3
SOKR Solikamsk 26.36 37 *e*P **P 17 25 52.8 +5.8**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.6
LVZ Lovozero 26.74 8 *e*P **P 17 25 52.7 +2.2**
LVZ pmax pmax
comp=Z,34nm,1.5s,mb4.7
LVZ MLR MLR
comp=Z,300nm,15.0s,MS4.0
ARCES ARCESS Array B 27.92 0 P **P 17 26 01.4 +0.3**
comp=Z,2.1nm,0.7s,mb3.9,baz=175,slow=9.7,SNR=2.7

ARCES LR LR 17 37 47.2
comp=Z,516nm,18.4s,MS4.2,baz=188,slow=38
TORD Torodi Ar. Bea 35.18 223 P **P 17 27 06.8 +1.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=30,slow=9.4,SNR=24
AAK Ala-Archa 35.93 72 *eP* **P 17 27 09.9 -1.4**
comp=Z,6.0nm,1.3s,mb4.4
AAK Ala-Archa 35.93 72⇑ *iP* **P 17 27 12.5 +1.2**
AAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
AAK MLR MLR
comp=Z,100nm,17.0s,MS3.6
AAK Ala-Archa 35.93 72 *eP* **P 17 27 09.9 -1.5**
comp=Z,6.0nm,1.3s,mb4.4
KURK Kurchatov 37.14 57 *eP* **P 17 27 21.8 +0.1**
NVS Novosibirsk 39.49 50 *eP* **P 17 27 43.4 +1.9**
NVS *i* 17 29 11.3
NVS pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
NVS pmax pmax
comp=N,1.0nm,1.0s
NVS pmax pmax
comp=E,2.0nm,0.8s
MKAR Makanchi Array 40.25 63 P **P 17 27 48.6 +0.8**
comp=E,1.4nm,0.6s,mb3.9,baz=287,slow=6.0,SNR=23
MKAR PP PP 17 29 22.5 +2.2
comp=E,1.9nm,0.9s,baz=272,slow=11,SNR=5.8
MKAR LR LR 17 45 08.5
comp=E,58nm,21.0s,MS3.4,baz=90,slow=37
MKAR Makanchi Array 40.25 63 P **P 17 27 48.6 +0.8**
MKAR 17 29 22.5
ZAL Zalesovo 40.50 52 P **P 17 27 50.4 +0.5**
comp=E,1.8nm,0.7s,mb3.8,baz=195,slow=8.4,SNR=12
ZAL LR LR 17 47 08.7
comp=E,124nm,18.5s,MS3.8,baz=358,slow=40
DBIC Dimbokro 44.07 226 P **P 17 28 20.6 +1.6**
comp=E,2.0nm,0.7s,mb4.0,baz=4.1,slow=10,SNR=3.8
DBIC LR LR 17 48 23.3
comp=E,82nm,18.3s,MS3.7,baz=191,slow=38
DBIC Dimbokro 44.07 226 P **P 17 28 20.6 +1.6**
DBIC LR LR 17 48 23.3
WMQ Urumqi 44.76 65 *eP* **P 17 28 24.0 -0.5**
WMQ XP sP 17 28 31.0 +3.1
WMQ PP PP 17 30 09.0 0.0
WMQ S **S 17 34 59.0 -2.7**
WMQ SS SS 17 38 12.0 -10
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,105nm,5.0s
WMQ LR LR
comp=N,124nm,14.0s,MS4.1
WMQ LR LR
comp=E,109nm,13.0s,MS4.1
WMQ LR LR
comp=Z,98nm,13.0s,MS3.9
ZAK Zakamensk 52.38 52 *eP* **P 17 29 25.8 +2.6**
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.3
GTA Gaotai 54.85 66 P **P 17 29 44.9 +3.7**
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb4.1
SONM Songino Array 55.29 54 P **P 17 29 46.0 +1.6**
comp=Z,2.8nm,0.9s,mb4.3,baz=291,slow=8.5,SNR=11
SONM LR LR 17 55 21.6
comp=Z,112nm,21.7s,MS3.9,baz=316,slow=38
ULN Ulaanbaatar 55.68 54 *eP* **P 17 29 48.4 +1.2**
comp=Z,1.7nm,0.9s,mb4.1
ULN Ulaanbaatar 55.68 54 *eP* **P 17 29 48.4 +1.2**
ULN pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ULN Ulaanbaatar 55.68 54 *eP* **P 17 29 48.4 +1.2**
comp=Z,1.7nm,0.9s,mb4.1
LZH Lanzhou 59.27 67 *eP* **P 17 30 11.5 -1.0**
LZH PP PP 17 32 23.8 +0.4
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,51nm,5.6s
LZH LR LR
comp=N,405nm,15.2s
LZH LR LR
comp=Z,497nm,17.8s,MS4.7
HHC Hu-ho-hao-te 61.92 59 *eP* **P 17 30 34.5 +3.8**
HHC AP pP 17 30 39.3 +6.1
HHC XP sP 17 30 41.6 +7.5
HHC PCP PcP 17 31 14.9 +3.5
HHC PP PP 17 32 53.8 +6.9
HHC SCP ScP 17 35 13.3 -0.3
HHC S **S 17 38 52.5 -2.4**
HHC XS sS 17 39 03.3 +4.3
HHC SCS ScS 17 40 21.9 -1.0
HHC AMB AMB
comp=Z,11nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,94nm,11.9s
HHC LR LR
comp=N,107nm,14.3s,MS4.5
HHC LR LR
comp=E,269nm,16.7s,MS4.5
HHC LR LR
comp=Z,63nm,7.7s
CD2 Chengdu 61.99 72 *eP* **P 17 30 29.6 -1.5**
CD2 AP pP 17 30 34.3 +0.7
CD2 PP PP 17 32 47.9 +0.5
CD2 S **S 17 38 50.8 -4.9**
CD2 SS SS 17 42 54.1 -3.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=E,90nm,13.2s
CD2 LR LR
comp=Z,60nm,10.8s,MS4.0
KMI Kunming 64.55 78 P **P 17 30 49.0 +0.9**
KMI AP pP 17 30 53.8 +3.2
KMI XP sP 17 30 56.0 +4.4
KMI S **S 17 39 25.8 -1.9**
KMI SS SS 17 43 35.8 -2.2
KMI AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,72nm,3.4s
KMI LR LR
comp=N,109nm,11.4s
KMI LR LR
comp=E,114nm,9.5s
KMI LR LR
comp=Z,112nm,13.4s,MS4.2
BILL Bilibino 66.70 15 *eP* **P 17 31 01.2 -0.8**
comp=Z,100nm,18.0s
BILL Bilibino 66.70 15⇑ *eP* **P 17 31 01.2 -0.8**
BILL pmax pmax
comp=Z,7.0nm,2.1s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
NCB Newcomb 68.47 310 *eP* **P 17 31 17.0 +3.8**
comp=Z,16nm,1.1s,mb5.0
CN2 Changchun 68.70 50 *eP* **P 17 31 13.0 -1.6**
BOSA Boshof 69.94 180 P **P 17 31 23.1 +0.9**
comp=Z,2.4nm,0.8s,mb4.2,baz=359,slow=9.5,SNR=5.4
BOSA LR LR 18 05 06.9
comp=Z,81nm,19.7s,MS4.0,baz=353,slow=38
YKA Yellowknife Ar 71.35 342 P **P 17 31 30.3 -0.5**
comp=Z,0.5nm,0.8s,mb3.5,baz=32,slow=5.7,SNR=8.4
NJ2 Nanjing 71.78 63 *eP* **P 17 31 33.9 +0.4**
NJ2 AP pP 17 31 36.8 +0.8
NJ2 XP sP 17 31 40.8 +3.9
NJ2 PP PP 17 34 15.3 +2.6
NJ2 S S 17 40 52.0 -2.0
NJ2 XS sS 17 41 01.0 +2.8
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,150nm,5.2s
NJ2 LR LR
comp=N,460nm,40.0s,MS4.7
NJ2 LR LR
comp=E,720nm,40.0s,MS4.7
NJ2 LR LR
comp=Z,340nm,26.8s
ILAR Eielson Array 73.72 357 P **P 17 31 45.5 +0.5**
comp=Z,1.5nm,0.9s,mb3.9,baz=356,slow=4.4,SNR=16
DAWY Dawson 73.92 353 *eP* **P 17 31 47.6 +1.4**
SSE Sheshan 73.93 63 *eP* **P 17 31 43.1 -3.1**
SSE PCP PcP 17 32 00.4 -1.2
SSE S S 17 41 11.8 -6.7
SSE SCS ScS 17 41 53.6 -2.9
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,34nm,3.5s
SSE LR LR
comp=N,26nm,22.8s,MS3.9
SSE LR LR
comp=E,58nm,22.9s,MS3.9
SSE LR LR
comp=Z,61nm,21.9s,MS3.9
MCK McKinley 74.84 357 P **P 17 31 51.3 -0.2**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MCK McKinley 74.84 357 P **P 17 31 51.3 -0.2**
comp=Z,4.8nm,1.0s,mb4.4
ULM Lac du Bonnet 75.08 325 P **P 17 31 52.9 0.0**
comp=Z,1.6nm,0.6s,mb4.1,baz=16,slow=4.8,SNR=5.6
FLWY Flagg Ranch 86.01 330 *eP* **P 17 32 54.7 +3.2**
comp=Z,5.0nm,0.8s,mb4.8
PDAR Pinedale Array 86.69 329 P **P 17 32 55.7 +0.8**
comp=Z,0.3nm,0.7s,mb3.7,baz=27,slow=2.4,SNR=3.0
PDAR LR LR 18 10 23.9
comp=Z,128nm,18.5s,MS4.4,baz=129,slow=35

SOF ***20*** *17:43:25.7, 4168N×2546E, h13km, MD3.1*
CSEM ***20*** *17:43:25.3±0.1, 4176N×2548E, h2km, MD3.1, Error ellipse: s-maj=1.8km s-min=1.2km az=179.0*
NEIC ***20*** *17:43:26.4±0.6, 4165N×2543E, h8km±6km, MD3.1(SOF), MD3.5(ATH), Error ellipse: s-maj=7.8km s-min=5.9km az=114.0*
ISCJB ***20*** *17:43:26.0±0.3, 4169N±003×2547E±003, h13km, Error ellipse: s-maj=3.8km s-min=2.7km az=164.0*
ATH ***20*** *17:43:29.8, 4148N×2529E, h7km±1km, MD3.5/3*
THE ***20*** *17:43:29.2, 4167N×2559E, h22km, ML3.3*
ISC 20 17:43:26.7±0.3, 4168N±003×2547E±002, h13km, n35, σ1§24/53, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.05**	**231**	*i* P	**Pg**	**17 43 29.5**	**+0.4**
DIM	**Dimitrovgrad**	**0.37**	**7**	*i* Pg	**Pg**	**17 43 34.2**	**+0.1**
RDO	**Rodhopi**	**0.54**	**174**⇑	*i*PB	**Pg**	**17 43 37.4**	**+0.2**
RDO				*e*SB	**Sg**	17 43 42.6	-1.8
PLD	**Plovdiv**	**0.71**	**307**	*i* Pg	**Pg**	**17 43 40.0**	**-0.5**
ALN	**Alexandroupoli**	**0.90**	**151**	*e*Pg	**Pg**	**17 43 44.3**	**+0.3**
ALN				*e*Sg	**Sg**	**17 43 56.2**	**+0.5**
ALN	**Alexandroupoli**	**0.90**	**151**	*e*Pg	**Pg**	**17 43 44.3**	**+0.3**
ALN				*e*Sg	**Sg**	**17 43 56.2**	**+0.5**
EDRB	**Edirne**	**0.97**	**80**	*i* PG	**Pg**	**17 43 44.7**	**-0.7**
EDRB				*i* SG	**Sg**	**17 43 58.0**	**0.0**
JMB	**Yambol**	**1.14**	**46**	*i* Pg	**Pg**	**17 43 48.0**	**-0.7**
JMB	**Yambol**	**1.14**	**46**	*e*Pg	**Pg**	**17 43 47.4**	**-1.3**
JMB				*e*Sg	**Sg**	**17 44 02.4**	**-1.2**
NVR	**Nevrokopi**	**1.25**	**255**	*e*PG	**Pg**	**17 43 49.8**	**-0.9**
NVR				*e*SB	**Sb**	**17 44 05.1**	**-1.0**
PGB	**Panagyurishte**	**1.30**	**312**	*i* Pg	**Pg**	**17 43 50.5**	**-1.2**
MMB	**Musomiste**	**1.31**	**267**	*i* Pg	**Pg**	**17 43 51.0**	**-0.8**
SRS	**Serrai**	**1.52**	**249**	*e*Pg	**Pg**	**17 43 54.5**	**-1.4**
SRS				*e*Sg	**Sg**	**17 44 15.2**	**-0.4**
PVL	**Pavlikeni**	**1.54**	**356**	*i* P	**Pn**	**17 43 54.5**	**+0.7**
SZH	**Strazhica**	**1.62**	**12**	*i* P	**Pn**	**17 43 56.5**	**+1.6**
MFT	**Murefte**	**1.63**	**123**	PN	**Pn**	**17 43 56.8**	**+1.7**
OUR	**Ouranopolis**	**1.75**	**220**	*e*Pb	**Pn**	**17 43 56.9**	**+0.2**
KKB	**Krupnik**	**1.79**	**277**	*i* P	**Pn**	**17 43 57.5**	**+0.2**
KKB				*i* Pg	**Pg**	**17 43 59.5**	**-1.6**
KKB	**Krupnik**	**1.79**	**277**	*i* Pg	**Pg**	**17 43 59.5**	**-1.6**
LIA	**Limnos Island**	**1.79**	**187**	*e*PG	**Pg**	**17 43 59.1**	**-2.0**
SOH	**Sokhos**	**1.81**	**242**	*e*Pb	**Pb**	**17 43 59.6**	**0.0**
SOH				*e*Sb	**Sb**	**17 44 22.7**	**+0.5**
VTS	**Vitosha**	**1.91**	**299**	P	**Pn**	**17 44 00.7**	**+1.8**
VTS				*i* Pg	**Pg**	**17 44 01.5**	**-1.8**
VTS	**Vitosha**	**1.91**	**299**	*e*Pn	**Pn**	**17 43 60.0**	**+1.1**
VTS				*e*Sn	**Sn**	**17 44 24.9**	**+2.1**
VTS	**Vitosha**	**1.91**	**299**	P	**Pn**	**17 44 00.7**	**+1.8**
VTS	**Vitosha**	**1.91**	**299**	*i* Pg	**Pg**	**17 44 01.5**	**-1.8**
VTS				*e*Sn	**Sn**	**17 44 24.9**	**+2.1**
MRMT	**Marmara Adasi**	**1.94**	**123**	*e*PN	**Pn**	**17 44 00.3**	**+1.1**
KNT	**Kendrikon**	**2.00**	**256**	*e*Pn	**Pn**	**17 44 02.0**	**+1.8**
KNT				*e*Sn	**Sn**	**17 44 26.9**	**+1.9**
PLG	**Polygyros**	**2.01**	**230**	*e*PG	**Pg**	**17 44 02.7**	**-2.6**
PLG				*e*SN	**Sn**	**17 44 26.8**	**+1.5**
VAY	**Valandovo**	**2.21**	**262**	*i* Pn	**Pg**	**17 44 06.4**	**-2.5**
VAY				*i* Sn	**Sg**	**17 44 37.0**	**-0.6**
VAY	**Valandovo**	**2.21**	**262**	*i* Pn	**Pg**	**17 44 06.4**	**-2.6**
VAY				*i* Sn	**Sg**	**17 44 37.0**	**-0.6**
PAIG	**Paliouri**	**2.22**	**218**	*e*Pn	**Pn**	**17 44 03.5**	**+0.4**
BNT	**Bandirma**	**2.28**	**125**	*e*PN	**Pn**	**17 44 05.4**	**+1.4**
CTT	**Catalca**	**2.29**	**102**	*e*PN	**Pn**	**17 44 03.2**	**-0.9**
GRG	**Griva**	**2.42**	**254**	*e*Pn	**Pn**	**17 44 07.9**	**+2.0**
GRG				*e*Sn	**Sn**	**17 44 37.1**	**+1.7**
STIP	**Stip**	**2.46**	**271**	*e*Pn	**Pg**	**17 44 12.8**	**-1.0**
STIP				*i* Sn	**Sg**	**17 44 47.0**	**+1.3**

ATH ***20*** *17:45:14.6, 3833N×2197E, h18km±2km, MD3.5/8, ML3.3*
NEIC ***20*** *17:45:14.6, 3833N×2197E, h18km, ML3.3(ATH), After ATH.*
THE ***20*** *17:45:14.6, 3831N×2204E, h3km, ML3.3*
ISCJB ***20*** *17:45:15.3±0.8, 3836N±003×2194E±005, h19km±9km, Error ellipse: s-maj=6.9km s-min=5.3km az=179.0*
CSEM ***20*** *17:45:15.0±0.1, 3833N×2200E, h7km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.5km az=56.0*
ISC 20 17:45:14.8±0.8, 3835N±004×2200E±005, h9km±7km, n26, σ1§09/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.59**	**345**	*e*PN	**Pg**	**17 45 26.3**	**+0.1**
EVR				*e*SN	**Sg**	**17 45 35.3**	**+1.3**
AGG	**Agios Georgios**	**0.72**	**21**	*e*Pg	**Pg**	**17 45 28.1**	**-0.7**
AGG				*e*Sg	**Sg**	**17 45 40.0**	**+1.7**
LKR	**Lokris**	**0.84**	**68**	*e*PN	**Pn**	**17 45 31.0**	**-1.9**
LKR				*e*SN	**Sn**	**17 45 43.5**	**-1.9**
LKD	**Levkas**	**1.12**	**289**	*e*Pg	**Pg**	**17 45 35.9**	**-0.4**
LKD				*e*Sg	**Sg**	**17 45 53.1**	**+2.3**
VLS	**Valsamata**	**1.12**	**262**	*e*PN	**Pn**	**17 45 35.6**	**-1.1**
ITM	**Ithomi**	**1.17**	**183**	*e*PN	**Pn**	**17 45 36.4**	**-0.9**
NAIG	**Nisos Aigina**	**1.31**	**116**	*e*PN	**Pn**	**17 45 40.0**	**+0.6**
NEO	**Neokhori**	**1.36**	**45**	*e*PN	**Pn**	**17 45 40.3**	**+0.3**
NEO				*e*SN	**Sn**	**17 45 59.4**	**+1.3**
XOR	**Xorichti**	**1.38**	**42**	*e*Pg	**Pg**	**17 45 40.5**	**-0.9**
XOR				*e*Sg	**Sg**	**17 45 59.1**	**-0.2**
MPAR	**Parnis Oros**	**1.38**	**98**	*e*PN	**Pn**	**17 45 40.5**	**+0.2**
ATH	**Athens Observa**	**1.41**	**105**	*e*PN	**Pn**	**17 45 41.7**	**+1.1**
PTL	**Penteli**	**1.50**	**101**	*e*PN	**Pn**	**17 45 43.0**	**+1.0**
MEV	**Metsovon**	**1.56**	**338**	*e*Pg	**Pg**	**17 45 43.0**	**-1.7**
IGT	**Igoumenitsa**	**1.76**	**313**	*e*Pb	**Pb**	**17 45 46.4**	**-0.9**
IGT	**Igoumenitsa**	**1.76**	**313**	*e*Pb	**Pb**	**17 45 46.3**	**-1.0**
VLI	**Veliai**	**1.79**	**155**	*e*PN	**Pn**	**17 45 46.2**	**+0.3**
VLI				*e*SN	**Sn**	**17 46 11.0**	**+2.3**
LIT	**Litokhoron**	**1.79**	**12**	*e*Pb	**Pb**	**17 45 46.0**	**-1.9**
PAIG	**Paliouri**	**2.05**	**39**	*e*Pn	**Pn**	**17 45 49.3**	**-0.3**
FNA	**Florina**	**2.48**	**349**	*e*Pn	**Pn**	**17 45 56.4**	**+0.9**
OUR	**Ouranopolis**	**2.51**	**37**	*e*Pn	**Pn**	**17 45 55.8**	**-0.1**
GRG	**Griva**	**2.63**	**7**	*e*Pn	**Pn**	**17 45 57.8**	**+0.4**
SOH	**Sokhos**	**2.69**	**23**	*e*Pn	**Pn**	**17 45 58.4**	**+0.1**
KNT	**Kendrikon**	**2.90**	**14**	*e*Pn	**Pn**	**17 46 01.4**	**+0.2**
APE	**Apeiranthos**	**3.08**	**113**	*e*Pn	**Pn**	**17 46 03.8**	**+0.1**
KARN	**Karanos**	**3.32**	**152**	*e*Pn	**Pn**	**17 46 05.5**	**-1.4**
LAST	**Lasithi**	**4.23**	**138**	*e*Pn	**Pn**	**17 46 20.1**	**+0.6**

CASC ***20*** *17:49:24.7±2.3, 1436N×9372W, h20km±999km, MD4.5, ML4.9, mb4.6(NEIC)*
BJI ***20*** *17:49:27.7, 1420N×9360W, h20km, mB4.8, Ms4.9, Msz4.8*
NEIC ***20*** *17:49:27.7, 1418N×9364W, h20km, mb4.6/37, MD4.7(MEX), After MEX.*
MEX ***20*** *17:49:27.7±1.1, 1418N×9364W, h20km±53km, MD4.7*
ISCJB ***20*** *17:49:27.9±1.3, 1434N±004×9357W±002, h33km±9km, mb4.5/46, MS3.9/7, Error ellipse: s-maj=7.2km s-min=2.9km az=48.0*
NAO ***20*** *17:49:32.6, 1441N×9206W, h33km, mb4.7*
IDC ***20*** *17:49:35.2±4.6, 1469N×9311W, h74km±43km, mb4.1/20, mb1 4.2/20, mb1mx4.1/24, mbtmp4.4/20, MS3.9/11, Ms1 3.9/11, ms1mx3.7/29, Error ellipse: s-maj=30.3km s-min=11.2km az=54.0*
ISC 20 17:49:28.5±1.3, 1435N±004×9354W±002, h24km±10km, n110, σ1§44/125, mb4.5/46, MS3.9/7, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.85**	**91**	*e*P	**Pn**	**17 49 58.6**	**-0.1**
CCIG	**Comitan**	**2.35**	**35**⇑	*i*P	**Pn**	**17 50 06.1**	**+0.4**
CCIG				*i* S	**Sn**	**17 50 35.2**	**+1.3**
TP2	**Tecpan 2**	**2.48**	**80**	*e*P	**Pn**	**17 50 07.9**	**+0.5**
TP2				*e*S	**Sn**	**17 50 40.5**	**+3.7**
SCX	**San Cristobal**	**2.53**	**20**	*i* P	**Pn**	**17 50 09.0**	**+0.9**
SCX				*i* S	**Sn**	**17 50 40.0**	**+1.8**
FUG	**Fuego 3**	**2.62**	**87**	*e*P	**Pn**	**17 50 08.8**	**-0.5**
PCG	**Pacaya**	**2.84**	**89**	*e*P	**Pn**	**17 50 14.3**	**+1.9**
HUIG	**Huatulco**	**2.85**	**300**	*i* P	**Pn**	**17 50 10.7**	**-1.9**
HUIG				*i* S	**Sn**	**17 50 40.4**	**-5.8**
IXG	**Ixpaco**	**3.00**	**93**	*e*P	**Pn**	**17 50 13.7**	**-0.8**
IXG				*e*S	**Sn**	**17 50 51.0**	**+1.3**
IXG				AML	AML	17 51 16.0	
	comp=E,16μm,0.6s						
TUIG	**Tuzandepetl**	**3.76**	**347**	*i* P	**Pn**	**17 50 24.6**	**-0.4**
TUIG				*i* S	**Sn**	**17 51 07.9**	**-0.7**
RTR	**El Retiro**	**3.81**	**96**	*e*P	**Pn**	**17 50 22.0**	**-3.6**
RTR				*e*S	**Sn**	**17 51 09.2**	**-0.4**
SBLS	**San Blas**	**3.83**	**97**	*e*P	**Pn**	**17 50 22.5**	**-3.5**
SBLS				*e*S	**Sn**	**17 51 10.5**	**+0.1**
SNJE	**San Jose**	**3.85**	**97**	*e*P	**Pn**	**17 50 22.3**	**-3.9**
SNJE				*e*S	**Sn**	**17 51 10.4**	**-0.3**
MTO2	**Montecristo 2**	**4.05**	**89**	*e*P	**Pn**	**17 50 31.6**	**+2.6**
MTO2				*e*S	**Sn**	**17 51 21.0**	**+5.3**
OXX	**Oaxaca**	**4.10**	**312**	*e*P	**Pn**	**17 50 30.0**	**+0.4**
VHO	**Vista Hermosa**	**4.10**	**312**	*e*P	**Pn**	**17 50 29.5**	**-0.1**
VHO				*i* S	**Sn**	**17 51 15.2**	**-1.6**
BOQS	**Boqueron**	**4.18**	**98**	*e*P	**Pn**	**17 50 30.6**	**-0.1**
BOQS				*e*S	**Sn**	**17 51 20.8**	**+2.0**
LBRS	**Las Brisas**	**4.41**	**97**	*e*P	**Pn**	**17 50 32.9**	**-1.0**
LBRS				*e*S	**Sn**	**17 51 26.4**	**+1.9**
LFRS	**El Faro**	**4.41**	**99**	*e*P	**Pn**	**17 50 30.0**	**-3.9**
LFRS				*e*S	**Sn**	**17 51 24.6**	**+0.2**
EVV	**El Vigia**	**4.44**	**337**	*e*P	**Pn**	**17 50 32.0**	**-2.4**
LCBS	**La Ceiba**	**4.48**	**98**	*e*P	**Pn**	**17 50 29.2**	**-5.7**
LCBS				*e*S	**Sn**	**17 51 24.5**	**-1.8**
SCIG		**5.12**	**26**	*i* P	**Pn**	**17 50 42.6**	**-1.1**
SCIG				*i* S	**Sn**	**17 51 43.3**	**+1.3**
UTMO	**Huajuapan**	**5.37**	**311**	*i* S	**Sn**	**17 51 45.8**	**-2.2**
PPM	**Popocatepetl**	**6.77**	**315**	*e*P	**Pn**	**17 51 04.8**	**-1.5**
PPM				*i* S	**Sn**	**17 52 21.7**	**-0.9**
PPM	**Popocatepetl**	**6.77**	**315**	*e*P	**Pn**	**17 51 03.5**	**-2.8**
PPM				*e*P		17 51 04.8	
PPM				*i* S	**Sn**	**17 52 21.7**	**-0.9**
MEIG	**Mezcala**	**6.84**	**302**	*e*P	**Pn**	**17 51 07.7**	**+0.4**
MEIG				*i* S	**Sn**	**17 52 24.4**	**0.0**
PLIG	**Platanillo**	**6.99**	**306**	*i* P	**Pn**	**17 51 11.7**	**+2.3**
PLIG				*i* S	**Sn**	**17 52 27.4**	**-0.8**
UNM	**Universidad Na**	**7.33**	**313**	*e*P	**Pn**	**17 51 16.0**	**+2.0**
TEIG	**Tepich**	**7.71**	**40**	*e*Pn	**Pn**	**17 51 16.6**	**-2.7**
JTS	**JuntasAbangare**	**9.31**	**115**	P	**Pn**	**17 51 39.4**	**-1.8**
	comp=E,60nm,0.8s						
SFJM	**Santa Fe**	**10.93**	**305**	*e*P	**Pn**	**17 52 04.0**	**+0.6**
HKT	**Hockley**	**15.67**	**353**	*e*P	**Pn**	**17 53 08.3**	**+0.5**
	comp=E,90nm,1.9s						
JCT	**Junction City**	**17.06**	**341**	*e*P	**Pn**	**17 53 26.0**	**+0.6**
	comp=E,29nm,0.9s						
LRAL	**Lakeview Retre**	**19.54**	**17**	P	**Pn**	**17 53 50.8**	**-4.8**
	comp=E,20nm,1.0s						
MIAR	**Mount Ida**	**20.11**	**360**	*e*P	**P**	**17 53 57.9**	**-2.6**
	comp=E,22nm,0.9s						
GDL2	**Guadalupe Moun**	**20.34**	**333**	P	**P**	**17 54 05.6**	**+2.6**
UALR	**University of**	**20.37**	**3**	*e*P	**P**	**17 53 59.8**	**-3.5**
	comp=E,48nm,1.5s						
MNTX	**Cornudas Mount**	**20.39**	**330**	*e*P	**P**	**17 54 04.5**	**+0.9**
	comp=E,13nm,0.8s						
OXF	**Oxford**	**20.42**	**10**	*e*P	**P**	**17 54 01.1**	**-2.8**
	comp=E,38nm,0.9s						
WMOK	**Wichita Mounta**	**20.85**	**348**	*e*P	**P**	**17 54 08.4**	**-0.1**
	comp=E,5.4nm,0.6s						
WMOK				*e*S	**S**	**17 57 50.0**	**-10**
PLAL	**Pickwick Lake**	**21.13**	**13**	P	**P**	**17 54 08.2**	**-3.4**
	comp=E,8.6nm,0.8s,mb4.1						
PLAL				*e*		17 54 17.8	
ROSC	**El Rosal**	**21.14**	**115**	P	**P**	**17 54 14.3**	**+2.6**
	comp=E,8.3nm,0.5s,mb4.4,baz=104,slow=21,SNR=8.7						
GNAR	**Gosnell**	**21.76**	**8**	P	**P**	**17 54 17.3**	**-1.0**
	comp=E,128nm,0.9s,mb5.3						
WVT	**Waverly**	**22.29**	**12**	*e*P	**P**	**17 54 21.2**	**-2.7**
	comp=E,12nm,0.9s,mb4.3						
JSC	**Jenkinsville**	**22.75**	**27**	P	**P**	**17 54 26.8**	**-2.1**
BNM	**Barren Site**	**23.00**	**331**	*e*P	**P**	**17 54 32.8**	**+1.2**
SDV	**Santo Domingo**	**23.08**	**101**	P	**P**	**17 54 32.4**	**+0.1**
	comp=E,16nm,0.8s,mb4.5,baz=315,slow=4.8,SNR=19						
SDV	**Santo Domingo**	**23.08**	**101**	*e*P	**P**	**17 54 31.9**	**-0.4**
	comp=E,15nm,0.8s,mb4.5						
LPM	**Los Pinos Moun**	**23.14**	**332**	*e*P	**P**	**17 54 33.7**	**+0.8**
LENM	**Lemitar**	**23.18**	**331**	*e*P	**P**	**17 54 33.8**	**+0.4**
LAZ	**Ladron**	**23.45**	**331**	*e*P	**P**	**17 54 37.5**	**+1.2**
ANMO	**Albuquerque**	**23.59**	**333**	P	**P**	**17 54 38.4**	**+0.8**
	comp=E,4.5nm,0.9s,mb3.9,baz=157,slow=12,SNR=5.4						
ANMO	**Albuquerque**	**23.59**	**333**	*e*P	**P**	**17 54 38.1**	**+0.6**
	comp=E,7.4nm,1.1s,mb4.0						
CCM	**Cathedral Cave**	**23.70**	**5**	*e*P	**P**	**17 54 36.2**	**-2.4**
	comp=E,13nm,0.8s,mb4.4						
TUC	**Tucson**	**23.82**	**322**	*e*P	**P**	**17 54 41.7**	**+2.0**
	comp=E,16nm,1.0s,mb4.4						
WCI	**Wyandotte Cave**	**24.64**	**14**	*e*P	**P**	**17 54 45.0**	**-2.1**
	comp=E,16nm,0.6s,mb4.7						
SDCO	**Great Sand Dun**	**25.61**	**338**	*e*P	**P**	**17 54 57.3**	**+1.3**
	comp=E,20nm,1.1s,mb4.5						
PV01	**Paradox Valley**	**27.18**	**333**	*e*P	**P**	**17 55 11.8**	**+1.7**
SMCO	**Snowmass**	**27.42**	**337**	*e*P	**P**	**17 55 13.9**	**+1.6**
	comp=E,4.8nm,0.8s,mb4.1						
ISCO	**Idaho Springs**	**27.48**	**340**	*e*P	**P**	**17 55 13.5**	**+0.6**
	comp=E,7.1nm,1.1s,mb4.1						
ARUT	**Antelope Range**	**29.28**	**327**	*e*P	**P**	**17 55 30.5**	**+1.7**
DAU	**Daniels Canyon**	**30.24**	**333**	*e*P	**P**	**17 55 39.1**	**+1.8**
TCUT	**Toone Canyon**	**30.88**	**333**	*e*P	**P**	**17 55 45.1**	**+2.1**
RSSD	**Black Hills**	**31.00**	**345**	*e*P	**P**	**17 55 44.1**	**0.0**
	comp=E,4.8nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**31.50**	**337**	P	**P**	**17 55 49.0**	**+0.5**
	comp=E,3.4nm,0.9s,mb4.2,baz=138,slow=8.4,SNR=23						
MNV	**Mina**	**32.39**	**322**	*e*P	**P**	**17 55 58.1**	**+1.8**
	comp=E,5.8nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**32.47**	**322**	P	**P**	**17 55 59.3**	**+2.2**
	comp=E,5.6nm,0.9s,mb4.4,baz=138,slow=9.4,SNR=38						
NVAR				PcP	PcP	17 58 44.9	+1.2
	comp=E,1.4nm,0.9s,baz=145,slow=4.2,SNR=5.0						
REDW	**Red Top Meadow**	**32.51**	**336**	*e*P	**P**	**17 55 58.0**	**+0.6**
	comp=E,25nm,1.1s,mb5.1						
SNOW	**Snow King Moun**	**32.56**	**336**	*e*P	**P**	**17 55 59.5**	**+1.7**
	comp=E,34nm,0.9s,mb5.3						
LOHW	**Long Hollow**	**32.62**	**337**	*e*P	**P**	**17 55 59.2**	**+0.9**
	comp=E,16nm,1.0s,mb4.9						
MOOW	**Moose Ponds**	**32.80**	**337**	*e*P	**P**	**17 56 00.3**	**+0.4**
	comp=E,6.0nm,1.0s,mb4.5						

LPAZ LR LR 18 13 11.9
comp=E,44nm,20.9s,MS3.3,baz=337,slow=36
LPAZ La Paz 39.45 140 P P 17 56 59.4 +2.7
SIV San Ignacio 44.02 132 P P 17 57 33.3 -0.9
comp=E,3.2nm,1.0s,mb4.0,baz=312,slow=9.6,SNR=10
FCC Fort Churchill 44.34 360 *e*P **P 17 57 34.3 -2.4**
comp=E,7.8nm,1.2s,mb4.3
YKA Yellowknife Ar 50.36 347 P P 17 58 22.4 -1.1
comp=E,12nm,0.7s,mb5.0,baz=152,slow=7.3,SNR=216
YKA PcP PcP 17 59 40.4 -1.5
comp=E,0.9nm,0.7s,baz=151,slow=3.6,SNR=5.2
YKA LR LR 18 22 05.4
comp=E,70nm,18.4s,MS3.7,baz=90,slow=39
YKA Yellowknife Ar 50.36 347 P P 17 58 22.4 -1.1
YKA PcP PcP 17 59 40.4 -1.5
YKA LR LR 18 22 05.4
YKW3 Yellowknife Ar 50.42 348 *e*P **P 17 58 22.9 -1.2**
FRB Frobisher Bay 52.32 14 P P 17 58 36.0 -2.3
comp=E,11nm,0.7s,mb4.9,baz=215,slow=9.9,SNR=16
BDFB Brasília 53.97 122 P P 17 58 49.7 -0.7
comp=E,4.3nm,0.8s,mb4.5,baz=304,slow=5.0,SNR=7.7
PLCA Paso Flores 58.80 160 P P 17 59 28.2 +3.4
comp=E,3.0nm,0.9s,mb4.3,baz=310,slow=6.8,SNR=6.3
INK Inuvik 59.69 344 P P 17 59 29.8 -1.2
comp=E,6.5nm,0.9s,mb4.7,baz=127,slow=5.9
INK LR LR 18 29 43.2
comp=E,108nm,20.2s,MS4.0,baz=68,slow=40
INK Inuvik 59.69 344 *e*P **P 17 59 29.7 -1.2**
comp=E,4.6nm,0.8s,mb4.6
RES Resolute Bay 60.34 360 *e*P **P 17 59 33.3 -2.1**
comp=E,11nm,0.8s,mb4.9
ILAR Eielson Array 61.94 337 P P 17 59 45.6 -0.7
comp=E,4.7nm,0.9s,mb4.6,baz=141,slow=4.5,SNR=31
MCK McKinley 62.26 336 *e*P **P 17 59 47.9 -0.6**
comp=E,3.2nm,0.9s,mb4.5
EKA Eskdalemuir Ar 78.56 36 P P 18 01 24.9 -3.1
comp=E,3.1nm,0.8s,mb4.3,baz=289,slow=5.2,SNR=6.1
BILL Bilibino 80.58 338 *e*P **P 18 01 38.8 -0.2**
comp=E,3.8nm,0.8s,mb4.4
NB2 NORSAR Subarra 84.55 28 P P 18 01 58.4 -1.3
comp=Z,7.1nm,1.0s,mb4.8,baz=288,slow=5.3
NOA NORSAR Array B 84.55 28 P P 18 01 58.4 -1.3
comp=Z,3.7nm,0.9s,mb4.5,baz=290,slow=5.0,SNR=8.7
NOA LR LR 18 38 15.7
comp=Z,65nm,19.2s,MS4.0,baz=335,slow=35
ARCES ARCESS Array B 86.28 18 P P 18 02 06.8 -1.5
comp=Z,2.1nm,0.6s,mb4.6,baz=320,slow=3.2,SNR=16
DBIC Dimbokro 87.11 84 P P 18 02 11.0 -1.3
comp=Z,2.0nm,0.9s,mb4.4,baz=284,slow=4.2,SNR=3.3
GERES GERESS Array B 90.28 39 P P 18 02 26.5 -0.8
comp=Z,0.2nm,0.4s,mb3.8,baz=331,slow=5.2,SNR=4.8
FINES FINESS Array B 90.82 25 P P 18 02 28.0 -1.8
comp=Z,1.0nm,0.8s,mb4.2,baz=346,slow=0.6,SNR=4.8
FINES LR LR 18 42 02.6
comp=Z,48nm,21.6s,MS3.9,baz=314,slow=35
FINES FINESS Array B 90.82 25 P P 18 02 28.0 -1.8
FINES LR LR 18 42 02.6
WMQ Urumqi 122.11 359 *e*PKP PKPdf 18 08 22.0 +0.9
SSE Sheshan 123.83 324 *e*PKP PKPdf 18 08 26.5 +2.1
LZH Lanzhou 127.22 342 *e*PKP PKPdf 18 08 26.5 -4.4
LZH LR LR
comp=N,153nm,18.5s
LZH LR LR
comp=Z,289nm,20.3s,MS5.0
CD2 Chengdu 132.03 340 *e*PKP PKPdf 18 08 41.1 +1.1
HYB Hyderabad 147.49 14 *e*P PKPdf 18 09 10.0 +2.1

IDC ***20*** *17:54:01.3±0.4, 980S×10705E, h0km, mb4.7/23, mb1 4.8/24, mb1mx4.8/27, mbtmp4.7/24, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/25, Error ellipse: s-maj=19.0km s-min=11.5km az=45.0*
ISCJB ***20*** *17:54:03.0±1.4, 978S±004×10709E±005, h23km±10km, mb4.9/84, MS4.1/17, Error ellipse: s-maj=8.1km s-min=6.3km az=113.5*
MOS ***20*** *17:54:05.4±1.2, 960S×107.15E, h33km, mb5.2/32, Error ellipse: s-maj=12.1km s-min=6.4km az=113.8*
NEIC ***20*** *17:54:06.9±0.2, 975S×107.10E, h35km, mb5.0/30, Error ellipse: s-maj=7.4km s-min=4.4km az=48.0*
HRVD ***20*** *17:54:06.9±0.6, 990S×10698E, h18km±1km, MW4.8/62, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s62,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.67±.14; $M_{\theta\theta}$1.57±.09; $M_{\phi\phi}$0.10±.10; $M_{r\theta}$0.04±.21; $M_{\theta\phi}$-0.02±.07; $M_{\phi r}$0.45±.34; Best double couple: $M_0$1.67500×10^{16} NP1:ϕ_s104.00000°, δ46.00000°, λ-71.00000°. NP2: ϕ_s258.00000°, δ47.00000°, λ-109.00000°. Principal axes: T 1.5710, Plg1.0000°, Azm1.0000°; N 0.2090, Plg14.0000°, Azm271.0000°; P -1.7800, Plg76.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***20*** *17:54:06.8, 980S×107.10E, h35km, mB4.9, mb5.0, Ms4.8, Msz4.3*
ISC 20 17:54:06.0±1.5, 979S±004×10709E±005, h29km±10km, h35km±.5km: pP-P, n217, σ0.9 94/175, mb4.9/84, MS4.1/17, 10C-18D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.99**	**10**	P	**Pn**	**17 54 51.7**	**+0.4**
	1μm,0.8s						
KSI	**Kapahiang**	**7.56**	**323**	P	**Pn**	**17 55 50.5**	**-3.6**
	405nm,0.8s						
PSI	**Prapat**	**14.92**	**327**	Pn	**Pn**	**17 57 33.7**	**-1.0**
	0.4nm,0.3s,baz=170,slow=14,SNR=2.7						
PSI	**Prapat**	**14.92**	**327**	Pn	**Pn**	**17 57 33.7**	**-1.0**
PCI	**Palu**	**15.45**	**56**	P	**Pn**	**17 57 42.3**	**+0.6**
	60nm,1.2s						
KULM	**Kulim**	**16.30**	**337**	*e*P	**Pn**	**17 57 51.4**	**-1.3**
MBWA	**Marble Bar**	**16.61**	**134**	*e*P	**Pn**	**17 57 52.1**	**-4.5**
	26nm,0.6s						
MBWA				*e*S	**Sn**	**18 00 40.6**	**-19**
KKM	**Kota Kinabalu**	**18.16**	**30**	*e*P	**Pn**	**17 58 15.2**	**-0.7**
BSI	**Banda Aceh**	**19.20**	**322**	P	**Pn**	**17 58 28.2**	**-0.3**
	85nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.79**	**117**	⇓*i*P	**Pn**	**17 58 35.2**	**-0.4**
	33nm,0.8s						
FITZ				*e*S	**Sn**	**18 01 57.8**	**-19**
BATP	**Bataraza**	**21.32**	**30**	*e*P	**P**	**17 58 51.0**	**+0.6**
NNT	**Nongplab**	**23.40**	**342**	P	**P**	**17 59 12.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**24.86**	**159**	P	**P**	**17 59 24.7**	**-1.2**
	23nm,1.0s,mb4.7,baz=325,slow=6.3,SNR=5.6						
NWAO				S	**S**	**18 03 55.1**	**+8.2**
	7.2nm,0.7s,baz=266,slow=21,SNR=3.6						
NWAO				LR	LR	18 07 46.6	
	comp=Z,174nm,18.5s,MS3.6,baz=348,slow=33						
NWAO	**Narrogin (SRO)**	**24.86**	**159**	P	**P**	**17 59 24.4**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,19nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.86**	**159**	P	**P**	**17 59 24.4**	**-1.5**
	comp=Z,19nm,0.9s,mb4.6						
KAKA	**Kakadu**	**25.03**	**99**	*e*P	**P**	**17 59 28.0**	**+0.6**
	comp=Z,26nm,0.6s,mb4.9						
BUKP	**Musuan**	**25.07**	**46**	*e*P	**P**	**17 59 29.2**	**+1.4**
NST	**Nakhon Sawan**	**26.22**	**345**	P	**P**	**17 59 37.0**	**-1.2**
	comp=Z,35nm,0.8s,mb4.9						
MSLP	**Maasin**	**26.54**	**42**	*e*P	**P**	**17 59 41.1**	**0.0**
OCLP	**Ormoc**	**27.06**	**41**	*e*P	**P**	**17 59 46.3**	**+0.6**
WRA	**Warramunga Arr**	**28.16**	**114**	P	**P**	**17 59 55.8**	**+0.2**
	comp=Z,9.6nm,0.8s,mb4.5,baz=286,slow=10,SNR=48						
WRA				PcP	PcP	18 03 10.1	+1.0
	comp=Z,2.3nm,0.6s,baz=300,slow=2.0,SNR=6.9						
WRAB	**Tennant Creek**	**28.17**	**114**	P	**P**	**17 59 56.0**	**+0.3**
	comp=Z,100nm,0.9s,mb5.5,SNR=10						
WRAB	**Tennant Creek**	**28.17**	**114**	*e*P	**P**	**17 59 55.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**28.17**	**114**	*e*P	**P**	**17 59 55.7**	**0.0**
	comp=Z,12nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**28.17**	**114**	*e*P	**P**	**17 59 55.3**	**-0.5**
ASAR	**Alice Springs**	**29.08**	**122**	P	**P**	**18 00 03.9**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.1,baz=300,slow=8.0,SNR=44						
ASAR				PcP	PcP	18 03 12.4	+1.1
	comp=Z,3.3nm,0.7s,baz=297,slow=2.4,SNR=10						
KMI	**Kunming**	**34.96**	**353**	P	**P**	**18 00 57.8**	**+2.5**
KMI				AP	pP	18 01 08.5	+4.6
KMI				XP	sP	18 01 11.8	+4.3
KMI				S	**S**	**18 06 30.6**	**+5.4**
KMI				XS	sS	18 06 46.6	+7.3
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,98nm,5.1s						
KMI				LR	LR		
	comp=N,315nm,10.5s,MS4.3						
KMI				LR	LR		
	comp=E,116nm,11.8s,MS4.3						
KMI				LR	LR		
	comp=Z,308nm,11.8s,MS4.3						
GYA	**Guiyang**	**36.03**	**359**	⇑*i*P	**P**	**18 01 05.8**	**+1.2**
GYA				AP	pP	18 01 14.8	+1.6
GYA				XP	sP	18 01 19.0	+2.3
GYA				S	**S**	**18 06 41.5**	**-0.2**
GYA				SCS	ScS	18 11 18.6	-1.6
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,3.4s						
GYA				LR	LR		
	comp=N,640nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,480nm,17.0s,MS4.6						
GYA				LR	LR		
	comp=Z,430nm,16.7s,MS4.3						
STKA	**Stephens Creek**	**38.76**	**130**	⇓*i*P	**P**	**18 01 26.2**	**-1.5**
	comp=Z,19nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**38.76**	**130**	P	**P**	**18 01 26.5**	**-1.2**
	comp=Z,33nm,0.8s,mb5.1,baz=299,slow=8.1,SNR=68						
HYB	**Hyderabad**	**39.06**	**314**	*i* P	**P**	**18 01 29.0**	**-1.2**
HYB	**Hyderabad**	**39.06**	**314**	*e*P	**P**	**18 01 29.0**	**-1.2**
CTA	**Charters Tower**	**39.11**	**110**	*e*P	**P**	**18 01 32.5**	**+1.9**
	comp=Z,11nm,1.2s,mb4.5						
CTA	**Charters Tower**	**39.11**	**110**	P	**P**	**18 01 32.5**	**+1.9**
	comp=Z,14nm,0.9s,mb4.7,baz=271,slow=8.7,SNR=9.7						
CTA	**Charters Tower**	**39.11**	**110**	*e*P	**P**	**18 01 32.5**	**+1.9**
CTA				pmax	pmax		
	comp=Z,11nm,1.2s						
PMG	**Port Moresby**	**39.49**	**93**	P	**P**	**18 01 34.4**	**+0.6**
	comp=Z,21nm,0.8s,mb4.9,baz=286,slow=4.6,SNR=7.5						
PMG	**Port Moresby**	**39.49**	**93**	*e*P	**P**	**18 01 35.2**	**+1.4**
PMG				pmax	pmax		
	comp=Z,37nm,1.1s						
PMG	**Port Moresby**	**39.49**	**93**	*e*P	**P**	**18 01 35.2**	**+1.4**
	comp=Z,37nm,1.1s,mb5.0						
ENH	**Enshi**	**39.89**	**3**	*e*P	**P**	**18 01 36.8**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.4						
CD2	**Chengdu**	**40.59**	**356**	P	**P**	**18 01 46.8**	**+3.9**
CD2				AP	pP	18 01 56.6	+5.0
CD2				PP	PP	18 03 24.8	+8.2
CD2				S	**S**	**18 07 55.3**	**+4.8**
CD2				XS	sS	18 08 11.5	+6.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,70nm,4.9s						
CD2				LR	LR		
	comp=E,100nm,13.2s						
CD2				LR	LR		
	comp=Z,110nm,14.4s,MS3.9						
WHN	**Wuhan**	**40.70**	**10**	P	**P**	**18 01 44.8**	**+1.0**
JOW	**Kunigami**	**41.81**	**29**	LR	LR	18 19 44.4	
	comp=Z,102nm,18.9s,MS3.7,baz=310,slow=37						
LSA	**Lhasa**	**42.15**	**339**	P	**P**	**18 01 57.0**	**+1.2**
LSA	**Lhasa**	**42.15**	**339**	⇓*i*P	**P**	**18 01 57.2**	**+1.4**
LSA				pmax	pmax		
	comp=Z,53nm,0.6s,mb5.3						
LSA	**Lhasa**	**42.15**	**339**	⇓*i*P	**P**	**18 01 57.2**	**+1.4**
	comp=Z,53nm,0.6s,mb5.3						
JIRN	**Jiri**	**42.38**	**332**	*e*P	**P**	**18 01 58.5**	**+0.9**
	comp=Z,86nm,0.7s,mb5.5						
PKI	**Pulchoki**	**42.67**	**331**	*e*P	**P**	**18 02 00.9**	**+1.0**
GUN	**Gumba**	**42.73**	**332**	*e*P	**P**	**18 02 01.5**	**+1.0**
	comp=Z,76nm,0.8s,mb5.5						
SSE	**Sheshan**	**42.84**	**18**	*e*P	**P**	**18 02 03.8**	**+2.5**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,82nm,6.0s						
DMN	**Daman**	**42.84**	**331**	*e*P	**P**	**18 02 02.1**	**+0.7**
	comp=Z,53nm,0.9s,mb5.2						
KKN	**Kakani**	**42.91**	**331**	*e*P	**P**	**18 02 02.5**	**+0.6**
	comp=Z,49nm,0.9s,mb5.3						
KKN	**Kakani**	**42.91**	**331**	*e*P	**P**	**18 02 02.5**	**+0.6**
KKN				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
GKN	**Gorkha**	**43.40**	**331**	*e*P	**P**	**18 02 06.3**	**+0.4**
XAN	**Xi'an**	**43.62**	**2**	P	**P**	**18 02 06.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
XAN				LR	LR		
	comp=N,86nm,15.2s,MS4.0						
XAN				LR	LR		
	comp=E,138nm,15.2s,MS4.0						
XAN				LR	LR		
	comp=Z,166nm,16.4s,MS4.0						
KOLN	**Koldanda**	**43.72**	**329**	*e*P	**P**	**18 02 08.9**	**+0.5**
	comp=Z,80nm,1.0s,mb5.4						
LZH	**Lanzhou**	**45.73**	**356**	*e*P	**P**	**18 02 25.6**	**+1.1**
LZH				AP	pP	18 02 36.1	+2.9
LZH				XP	sP	18 02 39.8	+3.1
LZH				PP	PP	18 04 13.6	+1.8
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,177nm,6.2s						
LZH				LR	LR		
	comp=N,714nm,13.9s						
LZH				LR	LR		
	comp=Z,1μm,17.7s,MS4.9						
GTA	**Gaotai**	**49.41**	**353**	P	**P**	**18 02 54.5**	**+1.5**
GTA				AP	pP	18 03 04.5	+2.6
GTA				XP	sP	18 03 08.8	+3.5
GTA				PP	PP	18 04 50.3	+3.1
GTA				PCS	PcS	18 08 11.4	-0.3
GTA				S	**S**	**18 09 59.4**	**+1.2**
GTA				SCS	ScS	18 12 40.8	-2.0
GTA				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,149nm,9.6s						
GTA				LR	LR		
	comp=N,113nm,19.9s,MS4.2						
GTA				LR	LR		
	comp=E,219nm,20.3s,MS4.2						
GTA				LR	LR		
	comp=Z,131nm,19.9s,MS3.9						
HHC	**Hu-ho-hao-te**	**50.55**	**4**	*e*P	**P**	**18 03 02.3**	**+0.6**
HHC				AP	pP	18 03 12.0	+1.5
HHC				XP	sP	18 03 15.5	+1.5
HHC				PCP	PcP	18 04 19.5	+0.2
HHC				PP	PP	18 04 59.0	+1.4
HHC				SCP	ScP	18 08 12.0	-1.2
HHC				S	**S**	**18 10 15.5**	**+1.4**
HHC				SCS	ScS	18 12 48.9	-1.6
HHC				AMB	AMB		
	comp=Z,299nm,1.8s,mb5.9						
HHC				AMB	AMB		
	comp=Z,138nm,7.2s						
HHC				LR	LR		
	comp=N,105nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=E,127nm,15.6s,MS4.2						
HHC				LR	LR		
	comp=Z,93nm,15.6s,MS3.9						
MAJO	**Matsushiro**	**54.59**	**31**	*e*P	**P**	**18 03 29.7**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**54.59**	**31**	*e*P	**P**	**18 03 29.7**	**-1.9**
	comp=Z,13nm,0.9s,mb5.0						
MAT	**Matsushiro**	**54.59**	**31**	P	**P**	**18 03 29.5**	**-2.1**
MJAR	**Matsushiro Arr**	**54.59**	**31**	P	**P**	**18 03 30.1**	**-1.5**
	comp=Z,13nm,1.0s,mb4.9,baz=209,slow=7.9,SNR=27						
MJAR				PcP	PcP	18 04 36.2	+1.8
	comp=Z,4.7nm,0.9s,baz=198,slow=4.7,SNR=5.2						
CN2	**Changchun**	**55.88**	**16**	*e*P	**P**	**18 03 39.6**	**-1.3**
CN2				*e*XP	sP	18 03 55.0	+1.7
CN2				*e*S	**S**	**18 11 23.9**	**-2.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,13.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,13.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,18.0s,MS4.8						
WMQ	**Urumqi**	**56.19**	**343**	*e*P	**P**	**18 03 44.0**	**+0.9**
WMQ				AP	pP	18 03 54.0	+1.9
WMQ				XP	sP	18 03 58.0	+2.5
WMQ				PP	PP	18 05 50.0	+1.6
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,127nm,5.0s						
WMQ				LR	LR		
	comp=N,71nm,13.0s,MS4.0						
WMQ				LR	LR		
	comp=E,58nm,13.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,61nm,13.0s,MS3.9						
KSH	**Kashi**	**56.93**	**332**	*e*P	**P**	**18 03 50.0**	**+1.6**
KSH				*e*AP	pP	18 04 00.1	+2.8
KSH				*e*XP	sP	18 04 04.3	+3.5
KSH				*e*PP	PP	18 05 57.1	+2.1
KSH				*e*SCP	ScP	18 08 40.1	-0.9
KSH				*e*PCS	PcS	18 08 44.0	-0.4
KSH				*e*S	**S**	**18 11 37.8**	**-2.6**
KSH				*e*SCS	ScS	18 13 33.3	-2.3
KSH				AMB	AMB		
	comp=Z,40nm,1.7s,mb5.2						
KSH				LR	LR		
	comp=N,90nm,4.1s						
KSH				LR	LR		
	comp=E,170nm,5.5s						
SONM	**Songino Array**	**57.37**	**359**	P	**P**	**18 03 52.5**	**+1.0**
	comp=E,24nm,0.6s,mb5.4,baz=178,slow=7.8,SNR=239						
SONM				LR	LR	18 31 28.6	
	comp=E,121nm,18.7s,MS4.0,baz=175,slow=39						
ULN	**Ulaanbaatar**	**57.40**	**360**	*e*P	**P**	**18 03 52.4**	**+0.7**
ULN				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.5						
ULN	**Ulaanbaatar**	**57.40**	**360**	*e*P	**P**	**18 03 52.4**	**+0.7**
	comp=Z,27nm,0.6s,mb5.5						
MDJ	**Mudanjiang**	**57.85**	**19**	P	**P**	**18 03 53.3**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,112nm,10.5s						
OPO	**Ambohidratompo**	**58.51**	**254**	P	**P**	**18 03 59.4**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=73,slow=6.1,SNR=5.0						
KZA	**Kyzart**	**59.30**	**333**	P	**P**	**18 04 05.3**	**+0.3**
	SNR=17						
TKM2	**Tokmak 2**	**59.81**	**334**	P	**P**	**18 04 08.5**	**0.0**
	SNR=17						
TKM2	**Tokmak 2**	**59.81**	**334**	*i* P	**P**	**18 04 08.3**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
KBK	**Karagaybulak**	**59.89**	**333**	P	**P**	**18 04 09.5**	**+0.4**
	SNR=12						
ZAK	**Zakamensk**	**60.01**	**357**	*e*P	**P**	**18 04 10.4**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.0s,mb4.1						
AML	**Almayashu**	**60.05**	**332**	P	**P**	**18 04 10.4**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**60.08**	**333**	P	**P**	**18 04 09.5**	**-0.8**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**60.08**	**333**	*e*P	**P**	**18 04 09.3**	**-1.1**
	comp=Z,7.5nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**60.42**	**332**	P	**P**	**18 04 12.9**	**+0.2**
	SNR=17						
MK31	**Makanchi Array**	**60.52**	**341**	*i* P	**P**	**18 04 13.3**	**-0.1**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**60.52**	**341**	P	**P**	**18 04 13.3**	**-0.1**
	comp=Z,12nm,0.7s,mb5.1,baz=143,slow=8.0,SNR=106						
MKAR				LR	LR	18 33 55.0	
	comp=Z,46nm,20.6s,MS3.6,baz=90,slow=40						
MKAR	**Makanchi Array**	**60.52**	**341**	P	**P**	**18 04 13.3**	**-0.1**
MKAR				LR	LR	18 33 55.0	
USP	**Ospenovka**	**60.58**	**333**	P	**P**	**18 04 13.1**	**-0.6**
	SNR=6.5						
MOY	**Mondy**	**61.43**	**356**	*e*P	**P**	**18 04 20.6**	**+1.1**
MOY				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
CIT	**Chita**	**61.81**	**5**	*e*P	**P**	**18 04 21.6**	**-0.5**
CIT				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
IRK	**Irkutsk**	**61.83**	**358**	*e*P	**P**	**18 04 20.7**	**-1.5**
IRK				*e*		18 04 35.1	
IRK				pmax	pmax		
	comp=Z,18nm,2.8s,mb4.7						
KK31	**Karatay Array**	**62.31**	**330**	*i* P	**P**	**18 04 24.0**	**-1.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
KKAR	**Karatay Array**	**62.31**	**330**	*i* P	**P**	**18 04 24.0**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
KLR	**Kul'dur**	**62.63**	**18**	*e*P	**P**	**18 04 23.8**	**-3.8**
KLR				pmax	pmax		
	comp=E,16nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.3						
HABR	**Khabarovsk**	**63.05**	**20**	*i* P	**P**	**18 04 30.1**	**-0.2**
HABR				*e*S	**S**	**18 12 58.3**	**-0.7**
HABR				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3						
YSS	**Yuzh-Sakhalins**	**64.82**	**26**	⇓*e*P	**P**	**18 04 42.5**	**+0.5**
YSS				*e*	pP	18 04 52.3	+1.2
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.7						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KURK	**Kurchatov**	**65.14**	**340**	P	**P**	**18 04 44.1**	**0.0**
	comp=Z,202nm,0.9s,SNR=34						
KURK	**Kurchatov**	**65.14**	**340**	⇑*e*P	**P**	**18 04 44.2**	**+0.1**
KURK	**Kurchatov**	**65.14**	**340**	*e*P	**P**	**18 04 44.0**	**-0.1**
	comp=Z,28nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**66.23**	**346**	P	**P**	**18 04 50.3**	**-0.8**
	comp=Z,3.9nm,0.4s,mb4.8,baz=340,slow=3.7,SNR=18						
ZAL				LR	LR	18 38 16.3	
	comp=Z,47nm,18.7s,MS3.7,baz=167,slow=40						
NVS	**Novosibirsk**	**67.44**	**345**	*i* P	**P**	**18 04 56.4**	**-2.4**
BOD	**Bodaibo**	**67.61**	**4**	*e*P	**P**	**18 04 58.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CLNS	**Chul'man**	**68.00**	**10**	*e*P	**P**	**18 05 00.6**	**-1.7**
CLNS				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
CLNS				pmax	pmax		
	comp=N,12nm,1.3s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
RDF	**Al-Radifah**	**69.10**	**306**	*e*P	**P**	**18 05 08.7**	**-0.5**
RDF				AMb	AMB	18 05 10.3	
	comp=Z,35nm,1.0s,mb5.2						
NAY	**Al-Naaiem**	**69.48**	**306**	*e*P	**P**	**18 05 10.7**	**-0.9**
NAY				AMb	AMB	18 05 15.2	
	comp=Z,13nm,1.0s,mb4.8						
VOSK	**Vostochnaya**	**69.50**	**337**	P	**P**	**18 05 11.3**	**-0.4**
MIB	**Mutribah**	**69.63**	**307**	*e*P	**P**	**18 05 11.7**	**-0.8**
MIB				AMb	AMB	18 05 13.7	
	comp=Z,25nm,1.1s,mb5.1						
KMBO	**Kilima Mbogo**	**69.94**	**272**	P

comp=Z,20nm,0.8s,mb5.1
SYO Syowa Base 72.94 200⇑ *e*P **P 18 05 31.7 -0.8**
SYO Syowa Base 72.94 200⇑ *e*pP pP 18 05 41.1 -0.6
SYO Syowa Base 72.94 200⇑ *e*sP sP 18 05 49.9 +4.8
VNDA Vanda 73.23 169 P **P 18 05 33.7 -0.5**
comp=Z,2.9nm,0.8s,mb4.2,baz=295,slow=5.5,SNR=6.7
VNDA Vanda 73.23 169 P **P 18 05 33.7 -0.5**
AKTK Aktyubinsk 73.56 330 P **P 18 05 35.9 -0.3**
AKTO Aktyubinsk 73.56 330 P **P 18 05 35.9 -0.3**
comp=Z,6.6nm,0.9s,mb4.6,baz=135,slow=6.4,SNR=13
AKTO Aktyubinsk 73.56 330 *i*P **P 18 05 35.9 -0.3**
AKTO pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
YAK Yakutsk 73.73 11 P **P 18 05 36.7 -0.5**
YAK pmax pmax
comp=Z,35nm,0.9s,mb5.3
YAK Yakutsk 73.73 11 *e*P **P 18 05 36.6 -0.6**
comp=Z,35nm,0.9s,mb5.3
GNI Garni 75.98 316 P **P 18 05 50.4 +0.2**
comp=Z,1.3nm,0.4s,mb4.2,baz=27,slow=8.8,SNR=4.1
GNI Garni 75.98 316 *e*P **P 18 05 50.6 +0.4**
GNI pmax pmax
comp=Z,7.0nm,1.0s
PET Petropavlovsk 76.38 29 *e*P **P 18 05 52.3 -0.1**
PET pmax pmax
comp=Z,25nm,0.8s,mb5.2
LSZ Lusaka 76.86 257⇓ *e*P **P 18 05 56.0 +0.8**
LSZ *e* 18 06 07.3
LSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LSZ Lusaka 76.86 257⇓ *e*P **P 18 05 56.0 +0.8**
comp=Z,8.4nm,0.8s,mb4.7
LSZ *e* 18 06 07.3
ARU Arti 77.16 335 P **P 18 05 56.5 -0.4**
comp=Z,155nm,0.6s,SNR=14
ARU Arti 77.16 335 *d i*P **P 18 05 56.7 -0.2**
ARU pmax pmax
comp=Z,29nm,1.0s,mb5.2
ARU Arti 77.16 335 *e*P **P 18 05 56.6 -0.2**
comp=Z,28nm,0.9s,mb5.2
MA2 Magadan 77.44 21 *d i*P **P 18 05 58.9 +0.5**
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 pmax pmax
comp=N,6.0nm,0.8s
MA2 pmax pmax
comp=E,3.0nm,0.8s
MA2 Magadan 77.44 21 *e*P **P 18 05 58.7 +0.3**
comp=E,23nm,0.7s,mb5.2
ZEI Tsey 77.70 318 *e*P **P 18 05 59.6 -0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOSA Boshof 78.25 243 P **P 18 06 04.3 +1.4**
comp=Z,4.8nm,1.1s,mb4.4,baz=140,slow=7.1,SNR=5.7
BOSA LR LR 18 33 01.8
comp=Z,40nm,18.4s,MS3.8,baz=296,slow=30
GOF Gofitskoye 79.25 320 *e*P **P 18 06 03.1 -5.3**
EIL Elat 79.63 303 *e*P **P 18 06 05.8 -4.7**
comp=Z,318nm,0.5s
MALT Malatya 79.75 312 P **P 18 06 11.8 +0.6**
MALT pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MALT Malatya 79.75 312 *e*P **P 18 06 11.2 +0.1**
comp=Z,5.3nm,1.0s,mb4.4
QSPA South Pole Qui 80.22 180⇓ *i*P **P 18 06 13.7 0.0**
comp=Z,6.7nm,0.7s,mb4.7
SEY Seymchan 80.39 19 *e*P **P 18 06 15.5 +0.9**
SEY pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SEY pmax pmax
comp=N,7.0nm,1.1s
CSS Prodhromos 82.53 307 *e*P **P 18 06 26.6 +0.6**
TIXI Tiksi 82.55 7 *d i*P **P 18 06 25.2 -0.8**
TIXI pmax pmax
comp=Z,43nm,1.0s,mb5.4
BR131 Keskin Array S 83.74 312 *e*P **P 18 06 32.1 -0.1**
BRTR Keskin Array B 83.74 312 P **P 18 06 32.0 -0.2**
comp=Z,6.2nm,0.8s,mb4.8,baz=135,slow=6.7,SNR=10
VRSR Storozhevoye 84.15 324 *e*P **P 18 06 33.6 -0.7**
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,1.1s
VRSR pmax pmax
comp=E,3.0nm,0.9s
TSUM Tsumeb 86.37 251 *e*P **P 18 06 46.6 +1.2**
comp=E,9.3nm,1.0s,mb5.0
TSUM *e* pP 18 06 56.9 +2.1
OBN Obninsk 87.10 327 *d i*P **P 18 06 48.7 -0.2**
OBN *e* 18 10 13.1
OBN *e*S 18 17 20.7
OBN pmax pmax
comp=Z,32nm,1.0s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
KLMR Klimovskoe 87.89 333 *d i*P **P 18 06 52.4 -0.3**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.3
BILL Bilibino 88.08 19 P **P 18 06 53.1 -0.5**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BILL Bilibino 88.08 19 *e*P **P 18 06 53.4 -0.2**
comp=Z,9.5nm,0.8s,mb5.1
VNA2 Neumayer--Watz 88.56 197⇑ *i*PKiKP **P 18 06 56.2 +0.3**
VNA2 *e* 18 06 57.8
TIRR Tirgusor 88.81 315 P **P 18 06 57.2 +0.1**
TIRR Tirgusor 88.81 315 *e*P **P 18 06 56.9 -0.2**
VNA3 Neumayer Olymp 89.07 197⇑ *i*PKiKP **P 18 06 58.4 +0.1**
IDI Anoyia 89.30 306 P **P 18 07 00.5 +1.2**
comp=Z,8.7nm,0.7s,mb5.2,baz=47,slow=2.0,SNR=4.6
AKASG Malin Array Be 89.92 322 P **P 18 07 01.3 -1.0**
comp=Z,0.9nm,0.5s,mb4.3,baz=88,slow=5.1,SNR=11
VRI Vrincioaia 90.32 316⇑P **P 18 07 05.3 +1.2**
VRI Vrincioaia 90.32 316⇑P **P 18 07 05.3 +1.2**
MLR Muntele Rosu 90.76 316 P **P 18 07 06.8 +0.6**
comp=Z,5.5nm,0.6s,mb5.0,baz=258,slow=0.7,SNR=8.1
MLR Muntele Rosu 90.76 316⇓P **P 18 07 06.8 +0.6**
DRGR 93.23 317⇓P **P 18 07 18.1 +0.5**
DRGR 93.23 317⇓P **P 18 07 18.1 +0.4**
BZS Buzias 93.77 315⇓P **P 18 07 20.0 -0.1**
BZS Buzias 93.77 315⇓P **P 18 07 20.0 -0.1**
FINES FINESS Array B 94.25 332 P **P 18 07 23.1 +0.8**
comp=Z,0.4nm,0.5s,mb4.1,baz=84,slow=4.3,SNR=4.4
ARCES ARCESS Array B 96.16 340 P **P 18 07 30.2 -0.8**
comp=Z,3.5nm,0.8s,mb4.8,baz=99,slow=5.6,SNR=5.8
DIV Divide 106.78 29 *e*Pg PKiKP 18 12 30.4 +1.9
YKA Yellowknife Ar 119.42 21 PKP PKPdf 18 12 52.0 -0.5
comp=Z,2.0nm,0.6s,baz=327,slow=1.8,SNR=52
YKA Yellowknife Ar 119.42 21 PKP PKPdf 18 12 52.0 -0.5
FRB Frobisher Bay 126.04 358 PKP PKPdf 18 13 04.7 -0.6
comp=Z,8.7nm,1.0s,baz=358,slow=6.5,SNR=5.5
NEW Newport 126.70 36 PKP PKPdf 18 13 08.1 +1.5
comp=Z,2.5nm,0.2s,baz=44,slow=20,SNR=3.2
PLCA Paso Flores 129.69 182 PKP PKPdf 18 13 13.8 +1.6
comp=Z,1.1nm,0.7s,baz=289,slow=6.9,SNR=3.2
PLCA Paso Flores 129.69 182 PKP PKPdf 18 13 13.8 +1.6
NVAR Mina Array Bea 130.40 47 PKP PKPdf 18 13 15.6 +2.0
comp=Z,0.8nm,0.8s,baz=248,slow=1.6,SNR=6.1
NVAR Mina Array Bea 130.40 47 PKP PKPdf 18 13 15.6 +2.0
YMR Madison River 132.23 36 *e*PKPdf PKPdf 18 13 19.0 +2.0
HWUT Hardware Ranch 133.55 40 PKPdf PKPdf 18 13 19.8 +0.3
PDAR Pinedale Array 134.16 38 PKP PKPdf 18 13 19.6 -1.0
comp=Z,0.8nm,0.7s,baz=85,slow=0.5,SNR=7.4
MSU Marysvale 134.70 44 *e*PKIKP PKPdf 18 13 22.8 +1.1
ULM Lac du Bonnet 135.41 21 PKP PKPdf 18 13 24.5 +1.5
comp=Z,2.5nm,0.7s,baz=354,slow=6.1,SNR=8.1
SRU San Rafael 135.52 43 PKIKP PKPdf 18 13 20.6 -2.6
RSSD Black Hills 136.46 33 PKIKP PKPdf 18 13 25.9 +1.0
RSSD Black Hills 136.46 33 *e*PKPdf PKPdf 18 13 25.7 +0.8
ANMO Albuquerque 140.45 45⇑PKIKP PKPdf 18 13 35.9 +3.6
MNTX Cornudas Mount 142.85 49 *e*PKPpre 18 13 33.6
MNTX *e*PKPdf PKPdf 18 13 36.0 -0.6
BDFB Brasilia 144.70 225 PKP PKPdf 18 13 40.5 +0.7
comp=Z,14nm,0.8s,baz=135,slow=2.9,SNR=18
SADO Sadowa 144.73 8 PKP PKPdf 18 13 39.2 -0.6
comp=Z,5.5nm,0.6s,baz=22,slow=5.4,SNR=3.0
SADO Sadowa 144.73 8 PKP PKPdf 18 13 39.2 -0.6
FRNY Flat Rock 145.08 1 *i*PKPdf PKPdf 18 13 40.0 -0.4
LONY Lake Ozonia 145.27 2 *e*PKP PKPdf 18 13 41.0 +0.2
WMOK Wichita Mounta 145.71 40 PKP2 PKPab 18 13 43.0 +0.7
WMOK pmax pmax
comp=Z,10.0nm,0.7s
WMOK Wichita Mounta 145.71 40 *e*PKP PKPdf 18 13 42.7 +1.1
MIV Mineville/With 145.84 1 *e*PKPdf PKPdf 18 13 42.3 +0.6
NCB Newcomb 145.93 2 *e*PKP PKPdf 18 13 43.3 +1.4

HNH Hanover 146.21 359 *e*PKP PKPdf 18 13 43.9 +1.5
ACCN Adirondack Com 146.53 1 *e*PKPbc PKPbc 18 13 44.7 +0.4
CCM Cathedral Cave 147.38 27 *e*PKP2 PKPab 18 13 47.6 -1.1
CCM Cathedral Cave 147.38 27 *e*PKPbc PKPbc 18 13 47.3 +0.5
JCT Junction City 147.58 47 *e*PKPdf PKPdf 18 13 46.6 +1.9
JCT *e*PKPbc PKPbc 18 13 49.1 +1.8
JCT *e*PKPab PKPab 18 13 51.9 +2.3
ACSO Alum Creek Sta 148.39 15 *e*PKPbc PKPbc 18 13 50.1 +0.6
MIAR Mount Ida 148.94 34 PKIKP PKPdf 18 13 48.4 +1.5
MIAR *e* 18 13 52.3
MIAR *e* 18 13 57.1
WCI Wyandotte Cave 149.23 21 *e*PKP2 PKPab 18 13 52.7 -3.5
WCI pmax pmax
comp=Z,37nm,0.7s
WCI Wyandotte Cave 149.23 21 *e*PKPbc PKPbc 18 13 52.5 +0.8
UALR University of 149.43 33 PKPdf PKPdf 18 13 49.6 +1.9
UALR *e*PKPbc PKPbc 18 13 53.5 +1.4
MVL Millersville 149.76 5 PKPdf PKPdf 18 13 49.3 +1.1
MVL *e*PKPbc PKPbc 18 13 53.8 +0.8
MVL *e*PKPab PKPab 18 13 56.5 -1.9
WVT Waverly 150.48 25 PKIKP PKPdf 18 13 55.4 +6.0
WVT Waverly 150.48 25 *e*PKPbc PKPbc 18 13 55.7 +1.0
HKT Hockley 150.67 44 *e*PKIKP PKPdf 18 13 56.9 +7.3
OXF Oxford 151.12 29 *e*PKIKP PKPdf 18 13 57.0 +6.7
PLAL Pickwick Lake 151.35 27 *e*PKPbc PKPbc 18 13 57.1 +0.3
FWV Forest Hill 151.42 13 *e*PKPbc PKPbc 18 13 57.4 +0.5
TZTN Tazewell 151.67 18 *e*PKPbc PKPbc 18 13 58.6 +1.1
ELN Prospectdale 151.78 13 *e*PKPbc PKPbc 18 13 57.9 +0.2
SWET Sewanee 152.04 23 *e*PKPbc PKPbc 18 13 58.7 +0.4
CPCT Cooper Cave 152.35 21 *e*PKPbc PKPbc 18 13 59.8 +0.8
LRAL Lakeview Retre 153.47 27 *e*PKPbc PKPbc 18 14 02.3 +0.8

*CSEM **20** 18:01:26.4±0.9, 3863N×2850W, h12km±12km, ML2.0, Error ellipse: s-maj=3.7km s-min=3.6km az=165.0, After PDA*
*PDA **20** 18:01:26.4±0.9, 3863N×2850W, h12km±12km, MD2.8, ML2.0, Error ellipse: s-maj=3.7km s-min=3.6km az=165.0*
SVSA 20 18:01:26.4±0.9, 3863N×2850W, h12km±12km, MD2.8, ML2.0, Error ellipse: s-maj=3.7km s-min=3.6km az=165.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.14**	**154**	*i* P	Pg	18 01 29.5	-0.3
PICO				*e*S	Sg	18 01 31.8	-0.4
PICO	**Pico**	**0.14**	**154**	*e*S	Sg	18 01 31.8	-0.4
HOR	**Horta**	**0.14**	**225**	*e*rx		18 01 31.8	
PCED	**Cedros**	**0.16**	**271**	*e*P	Pg	18 01 29.5	-0.6
PCED				*e*S	Sg	18 01 32.2	-0.4
PCED							
	134nm,0.1s						
PCED	**Cedros**	**0.16**	**271**	*e*P	Pg	18 01 29.5	-0.6
PCED				*e*S	Sg	18 01 32.2	-0.4
PCND	**Candelaria**	**0.16**	**168**	*e*P	Pg	18 01 30.7	+0.6
PCND				*e*S	Sg	18 01 33.5	+0.8
PCND							
	49nm,0.1s						
CALA	**Caldeira**	**0.16**	**254**	*e*P	Pg	18 01 29.8	-0.4
CALA				*e*S	Sg	18 01 32.7	-0.1
ROSA	**Rosais**	**0.23**	**65**	*e*P	Pg	18 01 31.1	-0.1
ROSA				*e*S	Sg	18 01 33.8	-0.7
PPNO	**Prainha do Nor**	**0.24**	**129**	*e*rx		18 01 36.3	
PPNO				*e*rx		18 01 36.3	
PPNO				*e*rx		18 01 36.3	

*HLW **20** 18:02:44.1, 3683N×3068E, h33km, Mb4.2*
*ISCJB **20** 18:02:44.4±0.2, 3683N±002×3069E±003, h110km±4km, mb3.8/3, Error ellipse: s-maj=4.0km s-min=2.7km az=96.8*
*CSEM **20** 18:02:44.4±0.1, 3684N×3078E, h60km, Mw3.4, Error ellipse: s-maj=1.9km s-min=1.1km az=56.0*
*IDC **20** 18:02:44.2±2.4, 3681N×3067E, h76km±21km, mb3.6/3, mb1 3.6/5, mb1mx3.3/21, mbtmp3.8/5, Error ellipse: s-maj=41.8km s-min=10.9km az=147.0*
*ISK **20** 18:02:46.9, 3706N×3059E, h96km, MD3.2*
*NEIC **20** 18:02:46.0, 3704N×3062E, h30km, MD3.4(ISK), MD3.7(ATH), After ISK.*
*NIC **20** 18:02:48.7±0.3, 3679N×3086E, h55km, mb4.1, ML3.6, MW3.3*
*ATH **20** 18:02:54.7, 3682N×2963E, h28km±5km, MD3.7/5*
*GRAL **20** 18:04:38.4±0.3, 3405N×3557E, h43km±2km, MD2.8*
ISC 20 18:02:45.6±0.2, 3683N±002×3070E±003, h100km±5km, n107, σ1§01/146, mb3.8/3, 4C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.64**	**352**	*i* PG	**Pn**	**18 03 02.2**	**-0.2**
ELL	**Elmali**	**0.64**	**263**	*i* PG	**Pn**	**18 03 04.0**	**+1.5**
ELL				*i* SG	**Sn**	**18 03 15.8**	**+0.7**
GOLH	**Golhisar**	**0.99**	**294**	*i* P	**Pn**	**18 03 07.1**	**+1.1**
GOLH				*i* S	**Sn**	**18 03 22.7**	**+1.4**
ISP	**Isparta**	**1.02**	**352**	PG	**Pn**	**18 03 04.9**	**-1.4**
ISP				SG	**Sn**	**18 03 18.6**	**-3.2**
ISP	**Isparta**	**1.02**	**352**	*e*P	**Pn**	**18 03 05.5**	**-0.8**
KSL	**Kastellorizon**	**1.12**	**233**	*e*PN	**Pn**	**18 03 08.3**	**+0.9**
TKTP	**Tekketepe**	**1.25**	**346**	*i* P	**Pn**	**18 03 08.4**	**-0.3**
TKTP				*i* S	**Sn**	**18 03 26.1**	**-0.2**
TKTP	**Tekketepe**	**1.25**	**346**	*i* P	**Pn**	**18 03 08.4**	**-0.4**
TKTP				*i* S	**Sn**	**18 03 26.1**	**-0.2**
FETY	**Fethiye**	**1.31**	**262**	PN	**Pn**	**18 03 10.4**	**+0.9**
DNZL	**Cakiroluk**	**1.57**	**304**	*i* P	**Pn**	**18 03 13.1**	**+0.4**
DNZL				*i* S	**Sn**	**18 03 33.0**	**-0.3**
DNZL	**Cakiroluk**	**1.57**	**304**	*i* P	**Pn**	**18 03 13.1**	**+0.4**
DNZL				*i* S	**Sn**	**18 03 33.0**	**-0.3**
DENT	**Denizli**	**1.62**	**305**	PN	**Pn**	**18 03 13.2**	**-0.1**
KONT	**Konya--Tatoy**	**1.73**	**49**	PN	**Pn**	**18 03 15.9**	**+1.2**
KHL	**Karahalli**	**1.76**	**328**	PN	**Pn**	**18 03 13.5**	**-1.6**
ERMK	**Ermenek**	**1.79**	**95**	*i* P	**Pn**	**18 03 15.7**	**+0.2**
ERMK				*i* S	**Sn**	**18 03 39.1**	**+0.8**
ARG	**Arkhangelos**	**2.16**	**254**	*e*PN	**Pn**	**18 03 20.5**	**+0.3**
AKMC	**Akamas**	**2.23**	**143**	P	**Pn**	**18 03 22.3**	**+1.1**
KIZT	**Kizilcal**	**2.25**	**24**	PN	**Pn**	**18 03 21.6**	**+0.2**
ALT	**Altintas**	**2.27**	**348**	PN	**Pn**	**18 03 20.4**	**-1.3**
ALFC	**Alevga**	**2.27**	**137**	P	**Pn**	**18 03 22.5**	**+0.8**
	26nm,0.2s						
ALFC				S	**Sn**	**18 03 48.8**	**-0.5**
PPCY	**Paphos**	**2.36**	**145⇑**	*i*P	**Pn**	**18 03 23.6**	**+0.8**
MANT	**Manisa**	**2.37**	**315**	*i* P	**Pn**	**18 03 23.1**	**+0.1**
MANT				*i* S	**Sn**	**18 03 50.2**	**-1.5**
MLSB	**Milas**	**2.38**	**282**	PN	**Pn**	**18 03 24.1**	**+1.0**
AYDN	**Tasoluk**	**2.40**	**291**	*i* P	**Pn**	**18 03 23.5**	**+0.1**
AYDN				*i* S	**Sn**	**18 03 51.1**	**-1.1**
GDZ	**Gediz**	**2.45**	**337**	*i* P	**Pn**	**18 03 24.2**	**+0.2**
GDZ				*i* S	**Sn**	**18 03 51.4**	**-2.1**
BDRM	**Kayabasi**	**2.62**	**276**	*i* P	**Pn**	**18 03 26.5**	**+0.3**
MAMC	**Mammari**	**2.63**	**128**	P	**Pn**	**18 03 27.4**	**+1.0**
ESKT	**Eskisehir**	**2.69**	**3**	PN	**Pn**	**18 03 26.6**	**-0.6**
ESKT	**Eskisehir**	**2.69**	**3**	*i* P	**Pn**	**18 03 27.2**	**0.0**
SEYT	**Eskypehyr**	**2.69**	**3**	*i* P	**Pn**	**18 03 27.2**	**0.0**
BODT	**Bodrum**	**2.72**	**276**	PN	**Pn**	**18 03 28.5**	**+0.9**
SZAC	**Souni-Zanaja**	**2.73**	**139**	P	**Pn**	**18 03 29.6**	**+1.9**
	9.9nm,0.2s						
SZAC				S	**Sn**	**18 04 00.5**	**+0.4**
CSS	**Prodhromos**	**2.84**	**130**	P	**Pn**	**18 03 29.9**	**+0.8**
	2.6nm,0.3s						
CSS				S	**Sn**	**18 04 03.0**	**+0.3**
CSS	**Prodhromos**	**2.84**	**130**	*e*P	**Pn**	**18 03 29.5**	**+0.4**
CSS				S	**Sn**	**18 04 03.0**	**+0.3**
CSS	**Prodhromos**	**2.84**	**130**	*e*P	**Pn**	**18 03 29.5**	**+0.4**
NISR	**Nisiros**	**2.88**	**267**	*e*PN	**Pn**	**18 03 29.2**	**-0.5**
BORA	**Eskisehir**	**3.05**	**356**	*i* P	**Pn**	**18 03 32.0**	**0.0**
AKS	**Akhisar**	**3.06**	**313**	PN	**Pn**	**18 03 31.9**	**-0.3**
KARP	**Karpathos**	**3.13**	**247**	*e*PN	**Pn**	**18 03 33.9**	**+0.8**
KDAG	**Bornova**	**3.14**	**301**	*i* P	**Pn**	**18 03 32.9**	**-0.3**
SMG	**Samos**	**3.20**	**287**	*e*PN	**Pn**	**18 03 33.8**	**-0.2**
SMG				*e*SN	**Sn**	**18 04 03.3**	**-8.1**
DST	**Dursunbey**	**3.21**	**330**	PN	**Pn**	**18 03 33.3**	**-0.9**
ANTO	**Ankara**	**3.45**	**28**	PN	**Pn**	**18 03 37.5**	**+0.1**
LOD	**Lodumlu**	**3.46**	**27**	PN	**Pn**	**18 03 37.6**	**+0.1**
ORLT	**Orhaneli**	**3.51**	**337**	PN	**Pn**	**18 03 37.2**	**-0.9**
ULDT	**Uludag**	**3.53**	**340**	*i* P	**Pn**	**18 03 38.8**	**+0.4**
URLA	**Izmir**	**3.60**	**296**	*i* P	**Pn**	**18 03 39.0**	**-0.4**
BTOK	**Tokmak**	**3.60**	**325**	*i* P	**Pn**	**18 03 39.9**	**+0.5**
BTOK				*i* S	**Sn**	**18 04 19.5**	**-1.4**
BTOK	**Tokmak**	**3.60**	**325**	*i* P	**Pn**	**18 03 39.8**	**+0.4**
BTOK				*i* S	**Sn**	**18 04 19.5**	**-1.5**
BRTR	**Keskin Array B**	**3.70**	**38**	P	**Pn**	**18 03 41.3**	**+0.5**
	4.7nm,0.3s,baz=216,slow=15,SNR=184						
BRTR				S	**Sn**	**18 04 22.3**	**-1.2**
	5.3nm,0.3s,baz=211,slow=28,SNR=12						
BR131	**Keskin Array S**	**3.70**	**38**	*e*P	**Pn**	**18 03 41.1**	**+0.3**
BR131				*e*S	**Sn**	**18 04 23.0**	**-0.5**
BR131	**Keskin Array S**	**3.70**	**38**	*e*P	**Pn**	**18 03 41.1**	**+0.3**
BR131				*e*S	**Sn**	**18 04 23.0**	**-0.4**
CDAG	**Cicekdag**	**4.02**	**45**	*i* P	**Pn**	**18 03 46.1**	**+1.1**
BNT	**Bandirma**	**4.14**	**329**	PN	**Pn**	**18 03 46.2**	**-0.4**
APE	**Apeiranthos**	**4.14**	**275**	*e*PN	**Pn**	**18 03 47.2**	**+0.5**
NPS	**Neapolis**	**4.41**	**251**	*e*PN	**Pn**	**18 03 50.4**	**+0.2**
NPS				*e*SN	**Sn**	**18 04 32.4**	**-8.0**
IDI	**Anoyia**	**4.95**	**254**	P	**Pn**	**18 03 56.7**	**-0.9**
	1.3nm,0.3s,baz=275,slow=20,SNR=13						
IDI				S	**Sn**	**18 04 51.2**	**-2.4**
	2.8nm,0.3s,baz=115,slow=22,SNR=6.8						
HWQ	**Hawqa**	**4.98**	**119**	*e*Sg	**Sn**	**18 04 54.1**	**-0.2**
BHL	**Bhannes**	**4.99**	**124**	*e*Sg	**Sn**	**18 04 50.5**	**-4.2**
MATL	**Matirih**	**5.05**	**130**	*e*Pg	Px	18 04 49.9	
HNTI	**Hanita**	**5.24**	**134**	Pn	**Pn**	**18 04 02.1**	**+0.5**
HNTI				Sn	**Sn**	**18 04 57.7**	**-3.0**
FKH	**Fakeheh**	**5.32**	**117**	*e*Pg	Px	18 04 51.5	
FKH				*e*Sg	**Sn**	**18 05 01.3**	**-1.4**
FKH	**Fakeheh**	**5.32**	**117**	*e*Sg	**Sn**	**18 05 01.3**	**-1.4**
MMA0B	**Mount Meron ar**	**5.42**	**133**	Pn	**Pn**	**18 04 04.9**	**+0.9**
MMA0B				Sn	**Sn**	**18 05 02.8**	**-2.4**
VAM	**Vamos**	**5.45**	**257**	*e*PN	**Pn**	**18 04 05.8**	**+1.5**
KSDI	**Kefar Szold**	**5.45**	**130**	Pn	**Pn**	**18 04 05.2**	**+0.8**
KSDI				Sn	**Sn**	**18 05 02.9**	**-3.0**
OFRI	**'Ofer**	**5.49**	**139**	Pn	**Pn**	**18 04 05.0**	**+0.1**
OFRI				Sn	**Sn**	**18 05 02.6**	**-4.0**
GVD	**Gavdhos**	**5.72**	**252**	*e*P	**Pn**	**18 04 03.7**	**-4.4**
	97nm,0.2s						
SLTI	**Sal'it**	**5.81**	**141**	Pn	**Pn**	**18 04 09.6**	**+0.3**
SLTI				Sn	**Sn**	**18 05 10.4**	**-4.2**
MMLI	**Mount Malkishu**	**5.86**	**137**	Pn	**Pn**	**18 04 10.8**	**+0.8**
MMLI				Sn	**Sn**	**18 05 12.2**	**-3.6**
DABA	**Dabaa**	**6.14**	**200**	P	**Pn**	**18 04 14.3**	**+0.6**
HBRG	**Burj al 'Arab**	**6.28**	**187**	P	**Pn**	**18 04 16.5**	**+0.8**
AMAZ	**Amatzia**	**6.33**	**145**	Pn	**Pn**	**18 04 17.2**	**+0.8**
AMAZ				Sn	**Sn**	**18 05 23.9**	**-3.4**
AMAG	**Maghara**	**6.51**	**161**	P	**Pn**	**18 04 18.4**	**-0.4**
KZIT	**Kziot**	**6.66**	**151**	Pn	**Pn**	**18 04 21.1**	**+0.3**
KZIT				Sn	**Sn**	**18 05 30.6**	**-4.6**
SVTA	**Shivta**	**6.73**	**150**	Pn	**Pn**	**18 04 22.1**	**+0.4**
SVTA				Sn	**Sn**	**18 05 33.5**	**-3.4**
MZDA	**Masada**	**6.73**	**144**	Pn	**Pn**	**18 04 23.0**	**+1.2**
MZDA				Sn	**Sn**	**18 05 33.5**	**-3.4**
SQR		**6.94**	**176**	P	**Pn**	**18 04 24.9**	**+0.2**
KOT	**Kottamia**	**6.95**	**172**	⇓P	**Pn**	**18 04 24.2**	**-0.6**
KOT				S	**Sn**	**18 05 37.5**	**-4.7**
HHAG	**Hagoal**	**6.96**	**170**	P	**Pn**	**18 04 24.8**	**-0.1**
FYM	**Al Fayyum**	**7.12**	**178**	P	**Pn**	**18 04 28.1**	**+1.0**
SUZ		**7.20**	**165**	P	**Pn**	**18 04 28.2**	**+0.1**
HSAF	**As Saff**	**7.23**	**174**	⇑P	**Pn**	**18 04 28.3**	**-0.2**
GLL	**Jalalah**	**7.28**	**173**	⇓P	**Pn**	**18 04 29.0**	**-0.3**
HNKL	**Nakhl**	**7.41**	**157**	P	**Pn**	**18 04 30.3**	**-0.7**
HNKL	**Nakhl**	**7.41**	**157**	⇓P	**Pn**	**18 04 30.7**	**-0.3**
HNKL				S	**Sn**	**18 05 48.6**	**-4.8**
HNKL	**Nakhl**	**7.41**	**157**	P	**Pn**	**18 04 30.7**	**-0.3**
HRFI	**Mount Harif**	**7.68**	**151**	Pn	**Pn**	**18 04 35.6**	**+0.9**
HRFI				Sn	**Sn**	**18 05 56.0**	**-4.1**
ZAF		**7.69**	**168**	⇑P	**Pn**	**18 04 34.2**	**-0.5**
TIRR	**Tirgusor**	**7.81**	**348**	⇓P	**Pn**	**18 04 37.5**	**+1.0**
TIRR	**Tirgusor**	**7.81**	**348**	⇓P	**Pn**	**18 04 37.5**	**+1.0**
MBH	**Mount Berech**	**7.86**	**152**	Pn	**Pn**	**18 04 37.9**	**+0.8**
MBH				Sn	**Sn**	**18 06 01.9**	**-2.4**
EIL	**Elat**	**7.98**	**152**	Pn	**Pn**	**18 04 39.0**	**+0.2**
EIL	**Elat**	**7.98**	**152**	P	**Pn**	**18 04 40.1**	**+1.4**
EIL				Sn	**Sn**	**18 06 04.4**	**-2.9**
EIL	**Elat**	**7.98**	**152**	P	**Pn**	**18 04 40.1**	**+1.3**
	89nm,0.4s						
EIL				S	**Sn**	**18 06 04.7**	**-2.7**
HARR	**Harsova**	**8.13**	**346**	⇓P	**Pn**	**18 04 45.2**	**+4.4**
AWBH		**8.62**	**191**	P	**Pn**	**18 04 46.7**	**-0.8**
SWA1		**8.63**	**210**	⇓P	**Pn**	**18 04 47.1**	**-0.4**
SWA1				S	**Sn**	**18 06 17.5**	**-5.6**
HKAT	**Jabal Katrina**	**8.74**	**161**	P	**Pn**	**18 04 49.0**	**-0.1**
SWA2		**8.75**	**212**	⇑P	**Pn**	**18 04 48.5**	**-0.7**
TR1		**9.22**	**162**	P	**Pn**	**18 04 55.3**	**-0.3**
SHRM		**9.37**	**161**	P	**Pn**	**18 04 57.7**	**0.0**
HFRF	**Wahat Farafira**	**9.86**	**193**	P	**Pn**	**18 05 03.8**	**-0.5**
HHRG	**Al Ghardaqah**	**9.89**	**165**	P	**Pn**	**18 05 04.2**	**-0.5**
ARCES	**ARCESS Array B**	**32.89**	**357**	P	**P**	**18 09 09.8**	**-0.2**
	2.0nm,0.9s,mb3.9,baz=166,slow=8.3,SNR=4.8						
MKAR	**Makanchi Array**	**39.09**	**59**	P	**P**	**18 10 04.5**	**+1.6**
	0.4nm,0.3s,mb3.7,baz=270,slow=8.2,SNR=8.9						
SONM	**Songino Array**	**54.93**	**53**	P	**P**	**18 12 07.5**	**+1.5**
	0.6nm,0.5s,mb3.9,baz=288,slow=7.9,SNR=9.9						

*IDC **20** 18:14:35.5±1.4, 672N×9336E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=63.7km s-min=19.2km az=52.0*
*NEIC **20** 18:14:37.0±1.1, 677N×9335E, h10km, mb4.1/1, Error ellipse: s-maj=47.5km s-min=12.0km az=54.0*
*ISCJB **20** 18:14:39.6±4.4, 68N±02×934E±04, h42km±37km, mb3.6/7, Error ellipse: s-maj=71.6km s-min=19.2km az=119.5*
ISC 20 18:14:41.8±3.7, 68N±02×935E±04, h42km±32km, n11, σ1§02/11, mb3.6/7, Nicobar Islands region

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

comp=Z,447nm,22.0s,baz=282,slow=33
MWZ Matawai 6.34 209 PN **Pn 18 29 04.5 -0.2**
MWZ SN **Sn 18 30 18.3 +1.2**
URZ Urewera 6.46 212 Pn **Pn 18 29 06.6 +0.3**
17nm,0.3s,baz=15,slow=3.0,SNR=69
URZ Sn **Sn 18 30 20.6 +0.6**
9.3nm,0.3s,baz=148,slow=20,SNR=3.5
URZ Urewera 6.46 212 PN **Pn 18 29 06.9 +0.7**
URZ SN **Sn 18 30 20.8 +0.8**
KNZ Kokohu 6.88 206 PN **Pn 18 29 10.1 -1.9**
KNZ SN **Sn 18 30 29.4 -1.0**
MRZ Mangatainoka R 9.11 210 SN **Sn 18 31 19.0 -6.3**
KIW Kapiti Island 9.56 211 SN **Sn 18 31 30.8 -5.6**
THZ Tophouse 11.20 215 SN **Sn 18 32 09.0 -7.5**
MQZ McQueen's Vall 12.85 210 SN **Sn 18 32 44.6 -12**
RPZ Rata Peaks 13.57 214 Pn **Pn 18 30 40.6 -3.1**
2.1nm,0.3s,baz=63,slow=6.0,SNR=10.0
RPZ Sn **Sn 18 33 05.5 -9.0**
2.1nm,0.3s,baz=240,slow=24,SNR=9.3
RPZ Rata Peaks 13.57 214 Pn **Pn 18 30 40.6 -3.1**
RPZ Sn **Sn 18 33 05.5 -9.0**
DZM Mont Dzumac 17.11 305 LR LR 18 36 35.7
comp=Z,860nm,20.4s,baz=199,slow=32
TBI Tubuai 27.26 77 eLQ 18 38 12.1
349nm,25.0s
TBI eLR LR 18 39 40.9
319nm,31.2s
PPT Papeete 30.16 67 eLQ 18 39 33.7
320nm,22.2s
PPT eLR LR 18 40 57.5
190nm,25.8s,baz=213
STKA Stephens Creek 33.56 261 eP **P 18 34 12.5 +1.3**
2.3nm,1.2s,mb4.0
STKA Stephens Creek 33.56 261 P **P 18 34 12.1 +1.0**
1.0nm,0.6s,mb4.0,baz=108,slow=13,SNR=3.5
STKA LR LR 18 47 21.6
comp=Z,587nm,18.1s,MS4.3,baz=290,slow=36
CTA Charters Tower 33.84 283 eP **P 18 34 15.5 +2.0**
13nm,0.5s,mb5.1
CTA Charters Tower 33.84 283 P **P 18 34 15.6 +2.0**
15nm,0.5s,mb5.2,baz=120,slow=10,SNR=39
CTA LR LR 18 46 56.8
comp=Z,191nm,18.7s,MS3.9,baz=58,slow=35
CTAO Charters Tower 33.84 283 eP **P 18 34 15.4 +1.9**
13nm,0.5s,mb5.1
RKT Rikitea 39.43 87 eLR LR 18 45 03.0
237nm,30.2s
ASAR Alice Springs 42.59 270 P **P 18 35 27.5 +0.2**
4.2nm,0.5s,mb4.4,baz=107,slow=7.5,SNR=109
ASAR S **S 18 41 49.9 -0.1**
0.4nm,0.8s,baz=113,slow=14,SNR=4.6
WB2 Warramunga Arr 43.79 275 ⇑iP **P 18 35 36.9 -0.1**
WRAB Tennant Creek 43.80 275 eP **P 18 35 36.8 -0.3**
16nm,0.6s,mb4.9
WRA Warramunga Arr 43.80 275 P **P 18 35 37.0 0.0**
10.0nm,0.5s,mb4.8,baz=115,slow=7.6,SNR=166
WRA S **S 18 42 05.5 -2.3**
0.3nm,0.8s,baz=109,slow=15,SNR=2.7
KAKA Kakadu 48.97 282 eP **P 18 36 17.7 +0.1**
7.4nm,0.6s,mb4.9
FITZ Fitzroy Crossi 51.95 272 eP **P 18 36 39.5 -0.7**
5.3nm,0.6s,mb4.7
QSPA South Pole Qui 57.26 180 eP **P 18 37 19.7 +1.0**
QSPA e 18 37 29.8
CBIJ Chichi jima 70.36 323 LR LR 19 04 40.3
comp=Z,88nm,18.7s,MS4.0,baz=0.7,slow=32
VNA3 Neumayer Olymp 75.89 176 ⇓i **P 18 39 28.2 +10**
VNA3 e 18 39 33.9
VNA2 Neumayer--Watz 76.32 177 ⇓i **P 18 39 28.2 +8.0**
baz=174,slow=4.9
VNA2 e 18 39 34.0
PLCA Paso Flores 81.16 133 P **P 18 39 47.5 +0.6**
2.2nm,1.0s,mb4.0,baz=23,slow=2.1,SNR=3.0
PLCA Paso Flores 81.16 133 P **P 18 39 47.5 +0.6**
NVAR Mina Array Bea 90.34 43 P **P 18 40 31.5 -0.9**
0.4nm,0.6s,mb3.9,baz=208,slow=8.2,SNR=3.7
NVAR LR LR 19 14 02.8
comp=Z,37nm,20.8s,MS3.8,baz=270,slow=31
MKAR Makanchi Array 118.99 309 PKP PKPdf 18 46 17.8 -2.2
0.7nm,0.6s,baz=217,slow=2.2,SNR=12
KURK Kurchatov 122.40 313 eP PKPdf 18 46 23.9 -2.6
ZRNK Zerenda 128.65 314 eP PKPdf 18 46 35.5 -3.0
ARCES ARCESS Array B 140.88 347 PKhKP 18 46 54.4
1.4nm,0.7s,baz=24,slow=2.0,SNR=6.2
ARCES PKP PKPdf 18 46 58.5 -2.8
1.3nm,0.6s,baz=31,slow=2.8,SNR=6.1
JOF Joensuu 144.51 337 ep PKPdf 18 47 02.1 -5.6
2.8nm,0.7s
KAF Kangasniemi 146.69 339 ep PKPdf 18 47 09.5 -2.0
5.8nm,0.5s
FINES FINESS Array B 147.27 338 PKPbc PKPbc 18 47 12.3 -2.5
11nm,0.6s,baz=49,slow=4.3,SNR=54
FINES FINESS Array B 147.27 338 PKPbc PKPbc 18 47 12.3 -2.5
NB2 NORSAR Subarra151.10 350 PKPa 18 47 22.0
comp=Z,1.8nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B151.10 350 PKPbc PKPbc 18 47 22.0 -2.4
comp=Z,2.3nm,0.7s,baz=13,slow=4.1,SNR=11
NOA NORSAR Array B151.10 350 PKPbc PKPbc 18 47 22.0 -2.4
AKASG Malin Array Be 152.93 319 PKPbc PKPbc 18 47 26.8 -1.8
comp=Z,1.5nm,0.5s,baz=44,slow=2.5,SNR=16
AKASG PKPab PKPab 18 47 38.1 -1.6
comp=Z,2.7nm,0.6s,baz=47,slow=3.2,SNR=10
BRTR Keskin Array B 153.28 294 PKPbc PKPbc 18 47 28.1 -1.2
comp=Z,1.6nm,0.5s,baz=142,slow=4.0,SNR=14
BRTR PKPab PKPab 18 47 40.1 -1.1
comp=Z,1.0nm,0.6s,baz=143,slow=4.6,SNR=4.8
DBIC Dimbokro 153.29 166 PKPbc PKPbc 18 47 29.9 +0.5
comp=Z,1.8nm,0.8s,baz=256,slow=4.2,SNR=4.0
DBIC PKPab PKPab 18 47 41.1 -0.2
comp=Z,1.3nm,0.7s,baz=208,slow=4.8,SNR=4.2
TORD Torodi Ar. Bea 160.38 181 PKPab PKPab 18 48 12.3 +0.5
comp=Z,1.1nm,1.0s,baz=166,slow=2.1,SNR=3.3
GERES GERESS Array B 161.58 334 PKPab PKPab 18 48 14.1 -2.9
comp=Z,0.5nm,0.8s,baz=66,slow=3.3,SNR=4.2

CASC 20 18:28:24.7±2.3, 1396N×9088W, h105km±16km, MD3.5, ML4.2, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.47**	**62**	⇓eP	Pn	18 28 41.4	+0.6
IXG				eS	Sn	18 28 53.3	+0.6
IXG				AML	AML	18 28 54.8	
	comp=E,17μm,0.5s						
FUG	**Fuego 3**	**0.49**	**4**	⇓iP	Pn	18 28 42.1	+1.2
PCG	**Pacaya**	**0.51**	**31**	eP	Pn	18 28 43.3	+2.3
PCG				eS	Sn	18 28 55.1	+1.9
JAT	**Jato**	**0.82**	**296**	eP	Pn	18 28 44.5	+0.9
TP2	**Tecpan 2**	**0.83**	**351**	⇓eP	Pn	18 28 45.4	+1.6
TP2				eS	Sn	18 28 59.7	+1.6
TP2				AML	AML	18 29 02.7	
	comp=E,2μm,0.3s						
RTR	**El Retiro**	**1.20**	**93**	eP	Pn	18 28 47.6	-0.1
RTR				eS	Sn	18 29 07.5	+2.5
SBLS	**San Blas**	**1.23**	**95**	eP	Pn	18 28 47.8	-0.1
SBLS				eS	Sn	18 29 07.2	+1.7
SNJE	**San Jose**	**1.24**	**94**	eP	Pn	18 28 47.9	-0.2
SNJE				eS	Sn	18 29 07.5	+1.7
MTO2	**Montecristo 2**	**1.54**	**73**	eP	Pn	18 28 51.5	-0.1
BOQS	**Boqueron**	**1.57**	**98**	eP	Pn	18 28 52.1	+0.1
LBRS	**Las Brisas**	**1.80**	**97**	eP	Pn	18 28 55.1	+0.3
LFRS	**El Faro**	**1.80**	**100**	eP	Pn	18 28 54.8	0.0
LCBS	**La Ceiba**	**1.87**	**99**	eP	Pn	18 28 55.8	+0.1
LCBS				eS	Sn	18 29 22.1	+2.6
SNVI	**San Vicente**	**2.01**	**100**	eP	Pn	18 28 58.3	+0.7

*ISCJB **20** 18:29:16.8±0.6, 4164N±003×2551E±003, h0km±5km, Error ellipse: s-maj=4.6km s-min=3.6km az=172.8*
*SOF **20** 18:29:16.3, 4164N×2554E, h14km, MD3.0*
*CSEM **20** 18:29:17.4±0.1, 4171N×2552E, h8km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.7km az=7.0*
*NEIC **20** 18:29:19.2, 4161N×2537E, h15km, MD3.0(SOF), MD3.4(ATH), After ATH.*
*ATH **20** 18:29:19.2, 4161N×2537E, h15km, MD3.4/3*
*THE **20** 18:29:19.0, 4162N×2563E, h14km, ML3.2*
ISC 20 18:29:17.7±0.5, 4166N±003×**2550E**±003, **h5**km±3km, **n34, σ1§11/45, 1C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.07**	**262**	i P	Sg	18 29 20.9	+0.6
DIM	**Dimitrovgrad**	**0.39**	**3**	i Pg	Pg	18 29 25.2	-0.1
RDO	**Rodhopi**	**0.51**	**177**	⇑iPB	Pg	18 29 28.7	+1.1
RDO				eSB	Sg	18 29 35.8	+1.6
RZN	**Rozhen**	**0.59**	**273**	i Pg	Pg	18 29 28.5	-0.5
PLD	**Plovdiv**	**0.74**	**307**	i Pg	Pg	18 29 31.5	-0.5
ALN	**Alexandroupoli**	**0.86**	**152**	ePg	Pg	18 29 34.5	+0.3
	comp=Z,11nm,0.3s						
ALN				eSg	Sg	18 29 45.9	+0.4
EDRB	**Edirne**	**0.95**	**78**	PN	Pn	18 29 35.8	-1.8
EDRB				SN	Sn	18 29 52.0	+0.5
JMB	**Yambol**	**1.14**	**45**	i P	Pg	18 29 37.5	-2.1
JMB				i Pg	Pg	18 29 39.2	-0.4
JMB	**Yambol**	**1.14**	**45**	ePg	Pg	18 29 39.0	-0.6
JMB	**Yambol**	**1.14**	**45**	i Pg	Pg	18 29 39.2	-0.4
NVR	**Nevrokopi**	**1.27**	**256**	ePN	Pn	18 29 41.1	-1.0
NVR				eSN	Sn	18 29 57.3	-2.2
MMB	**Musomiste**	**1.33**	**268**	i Pg	Pg	18 29 42.5	-0.7
PGB	**Panagyurishte**	**1.33**	**312**	i P	Pn	18 29 41.5	-1.4
SRS	**Serrai**	**1.54**	**250**	ePg	Pg	18 29 46.2	-0.9
SRS				eSg	Sg	18 30 07.7	+0.7
PVL	**Pavlikeni**	**1.56**	**355**	i P	Pn	18 29 45.8	-0.3
MFT	**Murefte**	**1.60**	**122**	PN	Pn	18 29 46.7	+0.1
SZH	**Strazhica**	**1.64**	**11**	i P	Pn	18 29 49.3	+2.2
LOS	**Limnos**	**1.75**	**191**	ePb	Pb	18 29 48.1	-2.2
LOS				eSb	Sb	18 30 10.1	-2.5
OUR	**Ouranopolis**	**1.75**	**222**	ePb	Pb	18 29 48.3	-2.0
KKB	**Krupnik**	**1.82**	**277**	i P	Pn	18 29 51.0	+1.4
SOH	**Sokhos**	**1.82**	**243**	ePb	Pb	18 29 50.6	-0.9
	comp=Z,4.5nm,0.3s						
SOH				eSb	Sb	18 30 14.6	0.0
MRMT	**Marmara Adasi**	**1.90**	**123**	ePN	Pn	18 29 50.7	0.0
EZN	**Ezine**	**1.94**	**161**	ePN	Pn	18 29 50.8	-0.4
VTS	**Vitosha**	**1.94**	**299**	ePn	Pn	18 29 52.5	+1.2
VTS	**Vitosha**	**1.94**	**299**	P	Pn	18 29 51.5	+0.2
VTS	**Vitosha**	**1.94**	**299**	ePn	Pn	18 29 52.5	+1.2
PLG	**Polygyros**	**2.02**	**231**	ePN	Pn	18 29 53.1	+0.8
PLG				eSN	Sn	18 30 17.5	-0.4
KNT	**Kendrikon**	**2.02**	**257**	ePn	Pn	18 29 53.0	+0.6
	comp=Z,3.5nm,0.3s						
KNT				eSn	Sn	18 30 20.2	+2.2
PAIG	**Paliouri**	**2.21**	**219**	ePn	Pn	18 29 54.8	-0.2
VAY	**Valandovo**	**2.23**	**262**	ePn	Pn	18 29 56.4	+1.1
BNT	**Bandirma**	**2.25**	**125**	ePN	Pn	18 29 55.9	+0.4
CTT	**Catalca**	**2.26**	**102**	eP	Pn	18 29 56.3	+0.6
GRG	**Griva**	**2.44**	**254**	ePn	Pn	18 29 58.8	+0.7
GRG				eSn	Sn	18 30 30.4	+2.1
XOR	**Xorichti**	**2.89**	**218**	ePn	Pn	18 30 04.4	+0.1

IDC 20 18:36:35.3±2.3, 190N×6790E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=68.1km s-min=30.9km az=55.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.45**	**14**	P	P	18 45 04.0	+0.2
	0.4nm,0.9s,baz=216,slow=6.0,SNR=4.7						
BRTR	**Keskin Array B**	**48.85**	**325**	P	P	18 45 23.1	+0.5
	0.6nm,0.8s,baz=138,slow=7.6,SNR=3.7						
ZAL	**Zalesovo**	**53.71**	**12**	P	P	18 45 58.2	-0.8
	0.8nm,0.7s,baz=253,slow=7.4,SNR=6.2						
SONM	**Songino Array**	**56.55**	**30**	P	P	18 46 20.1	+0.6
	0.3nm,0.8s,baz=232,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**68.61**	**112**	P	P	18 47 40.9	+0.7
	1.6nm,0.9s,baz=288,slow=6.0,SNR=9.9						

*NEIC **20** 18:37:46.8, 33.17S×70.19W, h3km, MD3.6(GUC), After GUC.*
GUC 20 18:37:46.8±0.6, 3317S×7019W, h3km±5km, MD3.6, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.18**	**210**	⇑iP	Pg	18 37 51.2	+1.0
FCH				i S	Sg	18 37 53.9	+1.3
PCH	**Pirque**	**0.52**	**212**	eP	Pg	18 37 57.4	+0.5
PCH				i S	Sg	18 38 05.2	+1.6
TACH	**Talagante**	**0.79**	**233**	i P	Pg	18 38 01.6	-0.3
CHCH	**Chadas Angostu**	**0.85**	**207**	eP	Pg	18 38 02.7	-0.4
CACH	**El Canelo**	**1.00**	**200**	eP	Pg	18 38 05.9	-0.1
CACH				i S	Sg	18 38 20.7	+1.7
CICH	**Cipreses**	**1.16**	**190**	eP	Pg	18 38 08.8	-0.2
CICH				i S	Sg	18 38 25.1	+1.1
SFDO	**San Fernando**	**1.59**	**205**	eP	Pn	18 38 15.8	0.0

*NEIC **20** 18:42:45.5±9.3, 657S×147.40E, h71km±37km, mb3.8/3, Error ellipse: s-maj=104.6km s-min=33.1km az=208.0*
*ISCJB **20** 18:42:48.9±5.2, 69S±03×1472E±03, h84km±33km, mb4.0/2, Error ellipse: s-maj=56.2km s-min=37.0km az=86.5*
*IDC **20** 18:42:50.1±5.7, 697S×14738E, h85km±43km, mb3.5/2, mb1 3.7/5, mb1mx3.4/15, mbtmp3.9/5, Error ellipse: s-maj=67.3km s-min=46.4km az=95.0*
ISC 20 18:42:49.8±5.2, 69S±03×**1472E**±03, **h77**km±34km, **n12, σ0§71/12, mb3.9/3, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.48**	**181**	P	Pn	18 43 27.7	-0.4
	17nm,0.3s,baz=355,slow=5.7,SNR=103						
PMG				S	Sn	18 43 57.4	-0.1
	8.4nm,0.3s,baz=215,slow=6.6,SNR=3.5						
CTA	**Charters Tower**	**13.14**	**184**	eP	Pn	18 45 54.5	+1.3
	3.4nm,1.0s						
CTA	**Charters Tower**	**13.14**	**184**	P	Pn	18 45 54.4	+1.3
	0.3nm,0.3s,baz=4.7,slow=17,SNR=4.8						
CTAO	**Charters Tower**	**13.14**	**184**	eP	Pn	18 45 54.5	+1.4
	3.5nm,0.8s						
WRAB	**Tennant Creek**	**17.99**	**223**	eP	Pn	18 46 54.0	-0.6
	3.2nm,0.6s						
WB2	**Warramunga Arr**	**17.99**	**223**	eP	Pn	18 46 54.5	-0.2
WRA	**Warramunga Arr**	**18.00**	**223**	P	Pn	18 46 54.6	-0.2
	0.5nm,0.3s,baz=47,slow=11,SNR=26						
ASAR	**Alice Springs**	**21.01**	**216**	P	P	18 47 27.8	+0.8
	1.9nm,0.3s,mb3.9,baz=52,slow=8.7,SNR=78						
FITZ	**Fitzroy Crossi**	**23.79**	**240**	eP	P	18 47 55.8	+0.5
	5.8nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**25.39**	**191**	eP	P	18 48 08.8	-1.1
	2.6nm,1.2s,mb3.5						
STKA	**Stephens Creek**	**25.39**	**191**	P	P	18 48 08.8	-1.1
	1.5nm,0.4s,mb3.7,baz=7.2,slow=11,SNR=6.4						
TORD	**Torodi Ar. Bea**	**145.51**	**283**	PKPbc	PKPbc	19 02 19.5	+0.3
	0.3nm,0.4s,baz=60,slow=2.5,SNR=6.6						

*CSEM **20** 18:42:59.1±0.4, 3925N×844W, h10km, ML1.7, Error ellipse: s-maj=16.6km s-min=8.4km az=113.0*
*MDD **20** 18:43:00.2±0.4, 3926N×847W, h0km, mbLg1.8/5, Error ellipse: s-maj=4.5km s-min=2.4km az=108.0, PRXIMO*
*IGIL **20** 18:43:00.1, 3928N×849W, h1km, ML1.6*
INMG 20 18:43:00.4±0.9, 3928N×848W, h0km, ML1.7, Error ellipse: s-maj=3.6km s-min=1.3km az=108.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALMR	**Almeirim**	**0.14**	**211**	eP	Pg	18 43 02.7	-0.4
ALMR				eS	Sg	18 43 04.5	-0.4
ALMR				eS	Sg	18 43 04.5	-0.4
ALMR				AML	AML	18 43 05.1	
	comp=N,231nm,0.1s						
ALMR	**Almeirim**	**0.14**	**211**	eP	Pg	18 43 02.7	-0.4
ALMR				eS	Sg	18 43 04.5	-0.4
PTOM	**Tomar**	**0.35**	**9**	ePg	Pg	18 43 06.8	-0.2
PTOM				eSg	Sg	18 43 11.4	-0.1
PTOM							
	comp=N,50nm,0.1s						
PTOM	**Tomar**	**0.35**	**9**	ePg	Pg	18 43 06.8	-0.2
PTOM				eSg	Sg	18 43 11.4	-0.1
	comp=N,50nm,0.1s						
MOE	**Montemor**	**0.76**	**172**	eSg	Sg	18 43 24.4	-0.4
PCBR	**Castelo Branco**	**0.96**	**54**	eP	Pg	18 43 18.6	-0.2
PCBR				eS	Sg	18 43 31.2	-0.1
PCBR							
	comp=N,13nm,0.3s						
PCBR	**Castelo Branco**	**0.96**	**54**	eP	Pg	18 43 18.6	-0.2
PCBR				eS	Sg	18 43 31.2	-0.1
	comp=N,13nm,0.3s						
EBAD	**Badajoz**	**1.26**	**114**	Pg	Pg	18 43 22.7	-1.8
	comp=N,1.5nm,0.1s,SNR=18						
EBAD				Lg		18 43 40.4	
	comp=N,7.3nm,0.1s,SNR=23						
PBEJ	**Beja**	**1.34**	**159**	eS	Sg	18 43 42.8	-0.6
PTEO	**Sao Teotonio**	**1.74**	**186**	eSg	Sg	18 43 54.5	-1.8
EGRO	**El Granado**	**1.91**	**155**	Pg	Pg	18 43 34.0	-3.0
	comp=N,0.3nm,0.2s,SNR=7.9						
EGRO				Lg		18 43 59.4	
	comp=N,1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.07**	**136**	Pg	Pg	18 43 36.5	-3.6
	comp=N,0.3nm,0.2s,SNR=7.9						
EMIN				Lg		18 44 05.4	
	comp=N,1.5nm,0.2s,SNR=5.7						
EADA	**Adamuz**	**3.25**	**109**	Sn	Sn	18 44 28.2	-3.8
	comp=N,0.3nm,0.2s,SNR=7.9						
EADA				Lg		18 44 43.1	
	comp=N,0.6nm,0.2s,SNR=7.9						

*HLW **20** 18:43:28.7, 3485N×3276E, h33km, Mb3.0*
*ISCJB **20** 18:43:29.7±0.8, 3449N±003×3285E±007, h11km±8km, Error ellipse: s-maj=9.2km s-min=5.3km az=1.3*
*CSEM **20** 18:43:29.5±0.1, 3458N×3292E, h24km±1km, Mw3.0, Error ellipse: s-maj=3.9km s-min=2.8km az=109.0*
*NIC **20** 18:43:29.9±0.3, 3450N×3292E, h21km, ML3.1, MW3.0*
ISC 20 18:43:31.0±1.0, 3456N±008×**3287E**±006, **h16**km±16km, **n25, σ0§76/34, 3C-4D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.20**	**2**	⇑iP	Pg	18 43 35.9	+0.3
PPCY	**Paphos**	**0.54**	**307**	P	Pg	18 43 41.9	+0.2
CSS	**Prodhromos**	**0.55**	**43**	P	Pg	18 43 41.3	-0.6
	12nm,0.2s						
CSS				S	Sg	18 43 50.4	+1.2
CSS	**Prodhromos**	**0.55**	**43**	ePG	Pg	18 43 41.9	0.0
CSS				eSG	Sg	18 43 47.1	-2.1
CSS	**Prodhromos**	**0.55**	**43**	ePg	Pg	18 43 41.9	0.0
CSS				eSg	Sg	18 43 47.1	-2.1
CSS				S	Sg	18 43 50.4	+1.2
ALFC	**Alevga**	**0.64**	**339**	P	Pg	18 43 43.1	-0.4
	18nm,0.2s						
ALFC				S	Sg	18 43 53.3	+1.3
AKMC	**Akamas**	**0.65**	**316**	P	Pg	18 43 43.9	+0.2
MAMC	**Mammari**	**0.67**	**25**	P	Pg	18 43 43.2	-1.0
PHNC	**Paralimni**	**1.05**	**65**	P	Pb	18 43 52.2	+1.3
PHNC				S	Sb	18 44 09.1	+4.7
IKL	**Isikli**	**1.80**	**21**	ePG	Pg	18 44 02.1	-3.5
IKL				eSG	Sg	18 44 28.2	-0.8
AMAG	**Maghara**	**3.92**	**176**	⇓P	Pn	18 44 30.7	+0.1
AMAG				S	Sn	18 45 15.9	-0.3
HHAG	**Hagoal**	**4.64**	**188**	P	Pn	18 44 40.2	-0.3
KOT	**Kottamia**	**4.70**	**191**	⇓P	Pn	18 44 41.5	+0.1
SUZ		**4.71**	**180**	P	Pn	18 44 41.6	+0.2
HNKL	**Nakhl**	**4.71**	**168**	⇑P	Pn	18 44 41.9	+0.4
HNKL				S	Sn	18 45 35.6	-0.2
SQR		**4.88**	**197**	P	Pn	18 44 43.6	-0.2
HSAF	**As Saff**	**5.05**	**193**	P	Pn	18 44 45.9	-0.3
AYT	**Al 'Ayyat**	**5.06**	**197**	P	Pn	18 44 45.6	-0.6
GLL	**Jalalah**	**5.07**	**192**	⇓P	Pn	18 44 46.4	+0.1
ZNM		**5.17**	**180**	⇑P	Pn	18 44 47.7	-0.1
ZAF		**5.27**	**183**	⇓P	Pn	18 44 49.3	+0.2
HNAT	**Natroun**	**5.27**	**202**	P	Pn	18 44 49.2	+0.1
HKAT	**Jabal Katrina**	**6.09**	**171**	P	Pn	18 45 01.4	+1.0
TR2		**6.20**	**173**	P	Pn	18 45 02.6	+0.7
SWA2		**8.24**	**232**	P	Pn	18 45 28.2	-1.6

*NEIC **20** 18:43:44.0±5.0, 2082S×17868W, h530km±55km, mb4.2/4, Error ellipse: s-maj=32.7km s-min=15.2km az=51.0*
*IDC **20** 18:43:47.4±3.1, 2089S×17870W, h575km±33km, mb3.1/7, mb1 3.3/8, mb1mx3.2/15, mbtmp4.2/8, Error ellipse: s-maj=25.6km s-min=21.1km az=69.0*
*ISCJB **20** 18:43:50.0±2.4, 210S±02×1790W±0.1, h616km±32km, mb3.7/9, Error ellipse: s-maj=24.8km s-min=20.8km az=27.4*
ISC 20 18:43:51.2±2.6, 210S±02×**1789W**±01, **h619**km±34km, **n17, σ0§89/16, mb3.7/9, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.55**	**191**	P	P	18 47 20.1	-1.6
	1.8nm,0.3s,baz=93,slow=9.6,SNR=8.6						
CTA	**Charters Tower**	**32.64**	**265**	eP	P	18 49 35.0	+0.8
	2.0nm,0.3s,mb4.2						
CTA	**Charters Tower**	**32.64**	**265**	P	P	18 49 35.1	+1.0
	2.9nm,0.4s,mb4.2,baz=90,slow=18,SNR=10						
CTAO	**Charters Tower**	**32.64**	**265**	eP	P	18 49 34.6	+0.5
	3.2nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**36.84**	**245**	P	P	18 50 07.8	-1.1
	1.8nm,0.9s,mb3.6,baz=54,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**43.62**	**257**	P	P	18 51 03.5	+0.8
	2.0nm,0.6s,mb3.8,baz=98,slow=7.7,SNR=31						
ASAR				ScP	ScP	18 55 34.1	+5.0
	0.5nm,0.7s,baz=99,slow=4.4,SNR=5.9						
ASAR				S	S	18 56 48.6	-0.1
	0.7nm,0.7s,baz=97,slow=15,SNR=5.9						
WB2	**Warramunga Arr**	**43.72**	**263**	eP	P	18 51 03.6	+0.2
WRAB	**Tennant Creek**	**43.72**	**263**	eP	P	18 51 03.3	-0.2
WRA	**Warramunga Arr**	**43.73**	**263**	P	P	18 51 03.8	+0.3
	1.3nm,0.3s,mb4.0,baz=96,slow=7.4,SNR=47						
WRA				S	S	18 56 48.9	-1.5
	0.2nm,0.7s,baz=102,slow=15,SNR=3.9						
KAKA	**Kakadu**	**47.18**	**272**	eP	P	18 51 30.1	+0.5
	2.3nm,0.3s,mb4.2						
VNDA	**Vanda**	**57.34**	**185**	P	P	18 52 42.4	+0.5
	0.5nm,0.4s,mb3.1,baz=6.3,slow=6.6,SNR=4.7						
QSPA	**South Pole Qui**	**69.06**	**180**	eP	P	18 53 58.1	+1.5
	2.9nm,1.0s,mb3.7						
MJAR	**Matsushiro Arr**	**70.14**	**324**	P	P	18 54 03.1	+0.1
	1.4nm,0.9s,mb3.4,baz=148,slow=4.4,SNR=4.3						
ILAR	**Eielson Array**	**88.98**	**13**	P	P	18 55 40.2	-1.2
	0.5nm,0.5s,mb3.6,baz=218,slow=5.0,SNR=9.7						
AKASG	**Malin Array Be**	**143.05**	**330**	PKP	PKPdf	19 02 13.3	-2.5
	3.2nm,0.4s,baz=43,slow=4.1,SNR=29						
MALT	**Malatya**	**143.59**	**307**	⇓P	PKPdf	19 02 18.3	+1.6
GERES	**GERESS Array B**	**150.46**	**343**	PKPbc	PKPbc	19 02 34.6	+0.5
	0.8nm,0.8s,baz=40,slow=2.3,SNR=5.7						

*ISCJB **20** 18:47:06.6±0.3, 4805N±002×746E±003, h10km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=164.7*
*LDG **20** 18:47:06.6±0.2, 4804N×756E, h10km, Md2.0/2, Ml2.1/7, Error ellipse: s-maj=3.1km s-min=1.7km az=123.0*
*STR **20** 18:47:06.8±0.2, 4808N×751E, h10km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **20** 18:47:07.3±0.1, 4806N×750E, h12km, ML1.7, Error ellipse: s-maj=1.8km s-min=1.4km az=97.0*
*LEDBW **20** 18:47:08.5±

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
HAU				*e*Sg	**Sg**	**18 47 33.2**	**+1.1**
SISB	**Singen-Sch Ber**	**1.06**	**110**	P	**Pb**	**18 47 27.1**	**+0.1**
SISB				S	**Sb**	**18 47 41.2**	**+0.4**
LBG	**Lerchenberg**	**1.06**	**54**	P	**Pb**	**18 47 27.0**	**-0.1**
LBG				S	**Sb**	**18 47 41.0**	**+0.1**
GUT	**Gutenstein**	**1.09**	**89**	P	**Pb**	**18 47 27.8**	**+0.2**
GUT				S	**Sb**	**18 47 41.8**	**+0.1**
RFYF	**Reffroy**	**1.47**	**294**	*e*Pg	**Pg**	**18 47 34.6**	**-0.6**
RFYF				*e*Sg	**Sg**	**18 47 54.0**	**-0.2**
	5.3nm,0.2s,baz=113						
SFTF	**Sexfontaines**	**1.65**	**276**	*e*Pg	**Pg**	**18 47 38.1**	**-0.6**
SFTF				*e*Sg	**Sg**	**18 48 00.9**	**+0.7**
	2.2nm,0.2s						
MEZF	**Maizieres J'vi**	**1.69**	**286**	*e*Pg	**Pg**	**18 47 38.8**	**-0.7**
	baz=109						
MEZF				*e*Sg	**Sg**	**18 48 01.6**	**+0.1**
	2.5nm,0.2s,baz=105						
CABF	**La Chapelle**	**1.73**	**214**	*e*Sg	**Sg**	**18 48 02.0**	**-0.8**
	0.7nm,0.2s						
LOR	**Lormes**	**2.58**	**254**	*e*Pg	**Pg**	**18 47 55.7**	**-0.8**
	baz=75						
LOR				*e*Sg	**Sg**	**18 48 28.3**	**-1.6**
	1.9nm,0.3s,baz=78						

BJI ***20*** *18:51:57.5, 327S×6758E, h10km, mB5.0, mb4.8, Ms4.7, Msz4.4*

ISCJB ***20*** *18:52:02.9±0.3, 274S±005×6808E±004, h10km, mb4.7/73, MS4.3/26, Error ellipse: s-maj=7.1km s-min=6.3km az=33.1*

IDC ***20*** *18:52:03.4±0.5, 262S×6809E, h0km, mb4.4/24, mb1 4.5/24, mb1mx4.4/27, mbtmp4.4/24, MS4.3/12, Ms1 4.2/12, ms1mx3.9/29, Error ellipse: s-maj=14.5km s-min=12.9km az=17.0*

MOS ***20*** *18:52:03.3± 1.4, 263S×6811E, h10km, mb4.9/24, Error ellipse: s-maj=9.9km s-min=6.2km az=100.4*

NEIC ***20*** *18:52:05.0±0.2, 271S×6809E, h10km, mb4.9/29, Error ellipse: s-maj=6.8km s-min=5.9km az=34.0*

HRVD ***20*** *18:52:04.9±0.5, 279S×6808E, h12km, MW4.9/62, Centroid moment Tensor Solution. LP body waves: s29,c41;Mantle waves: s62,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.99±.12; $M_{\theta\theta}$2.50±.10; $M_{\phi\phi}$-0.50±.12; $M_{r\theta}$1.20±.30; $M_{\theta\phi}$-1.17±.09; $M_{\phi r}$-1.05±.41; Best double couple: $M_0$2.96000×10^{16} NP1:ϕ_s87.00000°, δ33.00000°, λ-124.00000°. NP2: ϕ_s306.00000°, δ63.00000°, λ-70.00000°. Principal axes: T 3.3180, Plg16.0000°, Azm21.0000°; N -0.7160, Plg18.0000°, Azm116.0000°; P -2.6010, Plg66.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NAO ***20*** *18:52:15.1, 194N×7505E, h33km, mb4.3*

SZGRF ***20*** *18:52:29.9, 187N×6844E, h33km, mb4.9, Carlsberg Ridge*

ISC 20 18:52:05.3±0.3, 271S±005×6807E±004, h10km, (h25km±1.2km:pP-P), n173, σ1§08/156, mb4.7/73, MS4.3/26, 20C-12D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.39**	**137**	*e*P	**Pn**	**18 53 38.1**	**-1.4**
DGAR				pmax	pmax		
	comp=Z,532nm,1.1s						
DGAR	**Diego Garcia**	**6.39**	**137**	*e*P	**Pn**	**18 53 38.1**	**-1.4**
	comp=Z,532nm,1.1s						
PALK	**Pallekele**	**16.04**	**52**	*e*P	**Pn**	**18 55 48.9**	**-2.0**
	comp=Z,18nm,0.8s						
MNGI	**Mangalore**	**16.93**	**23**	*e*P	**Pn**	**18 56 03.3**	**+1.1**
MNGI				*e*S	**Sn**	**18 59 17.8**	**+7.3**
POO	**Poona**	**21.86**	**15**	*e*P	**P**	**18 56 59.5**	**+1.4**
HYB	**Hyderabad**	**22.51**	**27⇑**	*i*P	**P**	**18 57 05.0**	**0.0**
HYB	**Hyderabad**	**22.51**	**27⇑**	*e*P	**P**	**18 57 05.0**	**0.0**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.51**	**27⇑**	*e*P	**P**	**18 57 05.0**	**0.0**
	comp=Z,50nm,1.0s,mb4.9						
OPO	**Ambohidratompo**	**25.82**	**231**	P	**P**	**18 57 37.4**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.1,baz=41,slow=10,SNR=7.1						
KMBO	**Kilima Mbogo**	**30.84**	**272**	P	**P**	**18 58 22.2**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.8,baz=62,slow=17,SNR=4.4						
KMBO				LR	LR	19 08 44.8	
	comp=Z,194nm,19.4s,MS3.8,baz=95,slow=32						
KMBO	**Kilima Mbogo**	**30.84**	**272**	*e*P	**P**	**18 58 28.4**	**+6.9**
PSI	**Prapat**	**31.32**	**80**	P	**P**	**18 58 26.6**	**+0.9**
	comp=Z,1.5nm,0.4s,mb4.1,baz=274,slow=11,SNR=4.6						
PSI				LR	LR	19 08 26.7	
	comp=Z,504nm,21.4s,MS4.2,baz=232,slow=31						
KULM	**Kulim**	**33.50**	**76**	*e*P	**P**	**18 58 46.0**	**+1.2**
KOLN	**Koldanda**	**33.79**	**25**	*e*P	**P**	**18 58 48.2**	**+0.9**
	comp=Z,48nm,1.2s,mb5.3						
DMN	**Daman**	**34.32**	**27**	*e*P	**P**	**18 58 53.2**	**+1.3**
	comp=Z,43nm,1.0s,mb5.3						
PKI	**Pulchoki**	**34.43**	**28**	*e*P	**P**	**18 58 54.0**	**+1.1**
GKN	**Gorkha**	**34.45**	**26**	*e*P	**P**	**18 58 54.0**	**+1.0**
	comp=Z,78nm,1.2s,mb5.5						
KKN	**Kakani**	**34.55**	**28**	*e*P	**P**	**18 58 55.0**	**+1.0**
	comp=Z,25nm,0.8s,mb5.2						
KKN	**Kakani**	**34.55**	**28**	*e*P	**P**	**18 58 55.0**	**+1.0**
KKN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
JIRN	**Jiri**	**34.87**	**29**	*e*P	**P**	**18 58 57.7**	**+1.0**
	comp=Z,20nm,0.8s,mb5.1						
GUN	**Gumba**	**34.94**	**28**	*e*P	**P**	**18 58 58.5**	**+1.2**
	comp=Z,105nm,1.2s,mb5.7						
LSA	**Lhasa**	**39.07**	**33**	P	**P**	**18 59 34.0**	**+1.6**
LSA	**Lhasa**	**39.07**	**33**	*e*P	**P**	**18 59 33.9**	**+1.5**
LSA				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.0						
LSA	**Lhasa**	**39.07**	**33**	*e*P	**P**	**18 59 33.9**	**+1.6**
	comp=Z,32nm,1.1s,mb5.0						
LSZ	**Lusaka**	**41.23**	**250**	P	**P**	**18 59 51.0**	**+0.7**
	comp=Z,4.6nm,0.5s,mb4.3,baz=64,slow=7.2,SNR=18						
LSZ				LR	LR	19 14 42.6	
	comp=Z,583nm,18.0s,MS4.5,baz=263,slow=33						
LSZ	**Lusaka**	**41.23**	**250**	*e*P	**P**	**18 59 51.0**	**+0.7**
LSZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
LSZ	**Lusaka**	**41.23**	**250**	*e*P	**P**	**18 59 51.0**	**+0.6**
	comp=Z,9.6nm,0.9s,mb4.4						
KMI	**Kunming**	**43.54**	**48**	P	**P**	**19 00 09.9**	**+0.8**
KMI				AP	pP	19 00 17.8	+5.5
KMI				XP	sP	19 00 22.3	+8.8
KMI				PP	PP	19 01 53.3	+3.0
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,122nm,3.9s						
KMI				LR	LR		
	comp=N,153nm,20.3s,MS4.2						
KMI				LR	LR		
	comp=E,232nm,17.0s,MS4.2						
KMI				LR	LR		
	comp=Z,286nm,19.4s,MS4.2						
AML	**Almayashu**	**44.92**	**6**	P	**P**	**19 00 21.2**	**+1.0**
	SNR=7.0						
KZA	**Kyzart**	**45.05**	**8**	P	**P**	**19 00 22.6**	**+1.3**
	SNR=36						
UCH	**Uchtor**	**45.11**	**7**	P	**P**	**19 00 22.9**	**+1.2**
	SNR=7.2						
ULHL	**Ulahol**	**45.35**	**9**	P	**P**	**19 00 25.0**	**+1.3**
	SNR=9.5						
EKS2	**Erkin-Say**	**45.45**	**6**	P	**P**	**19 00 25.7**	**+1.3**
	SNR=40						
AAK	**Ala-Archa**	**45.50**	**7**	P	**P**	**19 00 25.9**	**+1.1**
	SNR=10						
AAK	**Ala-Archa**	**45.50**	**7**	*c i*P	**P**	**19 00 24.7**	**-0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**45.50**	**7**	*e*P	**P**	**19 00 23.7**	**-1.1**
	comp=Z,14nm,1.3s,mb4.7						
KBK	**Karagaybulak**	**45.58**	**7**	P	**P**	**19 00 26.5**	**+1.0**
	SNR=16						
FRU	**Bishkek**	**45.72**	**7**	*e*P	**P**	**19 00 28.0**	**+1.5**
FRU				*e*		19 00 34.0	
TKM2	**Tokmak 2**	**45.92**	**8**	P	**P**	**19 00 29.1**	**+1.0**
	SNR=17						
QIZ	**Qiongzhong**	**46.40**	**60**	*e*P	**P**	**19 00 34.6**	**+2.7**
QIZ				S	**S**	**19 07 23.5**	**+3.9**
QIZ				LR	LR		
	comp=E,376nm,15.9s						
QIZ				LR	LR		
	comp=Z,352nm,16.8s,MS4.4						
LBTB	**Lobatse**	**46.51**	**238**	LR	LR	19 17 18.6	
	comp=Z,272nm,20.6s,MS4.2,baz=81,slow=32						
GYA	**Guiyang**	**47.23**	**50⇑**	*i*P	**P**	**19 00 38.1**	**-0.3**
GYA				PP	PP	19 02 28.4	-0.9
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,390nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=E,430nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=Z,480nm,18.0s,MS4.5						
CD2	**Chengdu**	**47.67**	**43**	P	**P**	**19 00 41.8**	**-0.1**
CD2				PP	PP	19 02 32.8	-0.6
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=E,90nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,21.6s,MS3.9						
GNI	**Garni**	**47.71**	**336**	P	**P**	**19 00 41.1**	**-1.0**
	comp=Z,4.5nm,0.8s,mb4.5,baz=78,slow=2.3,SNR=7.7						
GNI	**Garni**	**47.71**	**336**	*e*P	**P**	**19 00 44.1**	**+2.0**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI	**Garni**	**47.71**	**336**	*e*P	**P**	**19 00 44.1**	**+1.9**
	comp=Z,6.4nm,0.8s,mb4.7						
BOSA	**Boshof**	**48.20**	**233**	P	**P**	**19 00 45.2**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.7,baz=66,slow=9.4,SNR=8.4						
BOSA				LR	LR	19 19 59.1	
	comp=Z,322nm,18.1s,MS4.3,baz=81,slow=35						
MALT	**Malatya**	**49.16**	**329**	*e*P	**P**	**19 00 54.8**	**+1.5**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
MALT	**Malatya**	**49.16**	**329**	*e*P	**P**	**19 00 54.8**	**+1.5**
	comp=Z,6.2nm,0.9s,mb4.6						
WMQ	**Urumqi**	**49.56**	**19**	P	**P**	**19 00 56.0**	**-0.4**
WMQ				PP	PP	19 02 51.0	+0.4
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,108nm,5.0s						
WMQ				LR	LR		
	comp=N,547nm,11.0s,MS4.9						
WMQ				LR	LR		
	comp=E,328nm,11.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,504nm,11.0s,MS4.8						
MKAR	**Makanchi Array**	**50.86**	**13**	P	**P**	**19 01 05.2**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=193,slow=7.8,SNR=28						
MKAR				PcP	PcP	19 02 23.1	+0.3
	comp=Z,1.5nm,0.8s,baz=207,slow=4.1,SNR=4.2						
MKAR				LR	LR	19 23 17.3	
	comp=Z,155nm,19.3s,MS4.0,baz=358,slow=37						
MKAR	**Makanchi Array**	**50.86**	**13**	*i* P	**P**	**19 01 05.1**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**50.86**	**13**	P	**P**	**19 01 05.2**	**-1.1**
MKAR				PcP	PcP	19 02 23.1	+0.3
LZH	**Lanzhou**	**51.03**	**38**	*e*P	**P**	**19 01 08.3**	**+0.8**
LZH				AP	pP	19 01 15.0	+4.3
LZH				XP	sP	19 01 19.3	+7.4
LZH				PP	PP	19 03 05.3	+1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,122nm,6.5s						
LZH				LR	LR		
	comp=E,564nm,14.2s						
LZH				LR	LR		
	comp=Z,798nm,17.9s,MS4.8						
GTA	**Gaotai**	**51.07**	**32**	P	**P**	**19 01 07.8**	**0.0**
GTA				PCP	PcP	19 02 25.0	+1.4
GTA				PP	PP	19 03 05.9	+1.6
GTA				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,123nm,7.2s						
GTA				LR	LR		
	comp=N,422nm,22.4s,MS4.5						
GTA				LR	LR		
	comp=E,386nm,21.7s,MS4.5						
GTA				LR	LR		
	comp=Z,563nm,24.3s,MS4.5						
ENH	**Enshi**	**51.35**	**47**	*e*P	**P**	**19 01 09.4**	**-0.5**
	comp=Z,30nm,1.2s,mb5.1						
GOF	**Gofitskoye**	**52.53**	**338**	*e*P	**P**	**19 01 18.6**	**-0.1**
BR131	**Keskin Array S**	**52.73**	**327**	*e*P	**P**	**19 01 21.2**	**+1.0**
	comp=Z,2.3nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**52.73**	**327**	P	**P**	**19 01 20.3**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=145,slow=11,SNR=18						
XAN	**Xi'an**	**53.04**	**43**	P	**P**	**19 01 21.6**	**-0.9**
XAN				AP	pP	19 01 28.9	+3.3
XAN				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
AKTK	**Aktyubinsk**	**53.64**	**352**	P	**P**	**19 01 25.7**	**-1.1**
AKTO	**Aktyubinsk**	**53.64**	**352**	P	**P**	**19 01 25.7**	**-1.1**
	comp=Z,5.8nm,0.9s,mb4.5,baz=169,slow=8.1,SNR=26						
KURK	**Kurchatov**	**53.98**	**8**	*c i*P	**P**	**19 01 28.5**	**-0.9**
KURK	**Kurchatov**	**53.98**	**8**	*e*P	**P**	**19 01 28.3**	**-1.1**
	comp=Z,13nm,0.9s,mb4.9						
WHN	**Wuhan**	**55.12**	**49**	⇑P	**P**	**19 01 37.5**	**-0.1**
ZRNK	**Zerenda**	**55.46**	**1⇑**	*i*P	**P**	**19 01 39.8**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
ZRNK	**Zerenda**	**55.46**	**1⇑**	*i*P	**P**	**19 01 39.8**	**-0.3**
	comp=Z,17nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**55.56**	**2**	P	**P**	**19 01 37.9**	**-2.9**
	comp=Z,2.0nm,0.6s,mb4.3,baz=157,slow=8.0,SNR=12						
BRVK	**Borovoye**	**55.59**	**2**	*e*P	**P**	**19 01 40.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BRVK	**Borovoye**	**55.59**	**2**	*e*P	**P**	**19 01 40.1**	**-0.9**
	comp=Z,6.1nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**58.15**	**12**	P	**P**	**19 01 58.1**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=259,slow=6.5,SNR=19						
ZAL				LR	LR	19 27 25.0	
	comp=Z,265nm,20.2s,MS4.3,baz=268,slow=36						
FITZ	**Fitzroy Crossi**	**58.40**	**110**	*e*P	**P**	**19 02 00.1**	**-0.8**
	comp=Z,15nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**58.71**	**10**	*i* P	**P**	**19 02 00.7**	**-2.4**
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
NVS				pmax	pmax		
	comp=E,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**58.72**	**38**	*e*P	**P**	**19 02 03.4**	**+0.2**
HHC				PCP	PcP	19 02 52.5	-0.5
HHC				PP	PP	19 04 15.3	+2.3
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,111nm,7.2s						
HHC				LR	LR		
	comp=N,101nm,18.0s,MS4.2						
HHC				LR	LR		
	comp=E,148nm,19.2s,MS4.2						
HHC				LR	LR		
	comp=Z,116nm,15.6s,MS4.1						
TIRR	**Tirgusor**	**58.81**	**328**	⇑P	**P**	**19 02 03.0**	**-0.8**
TIRR	**Tirgusor**	**58.81**	**328**	⇑P	**P**	**19 02 03.0**	**-0.8**
VRSR	**Storozhevoye**	**59.09**	**339**	*e*P	**P**	**19 02 04.8**	**-1.0**
VRSR				pmax	pmax		
	comp=N,5.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
HARR	**Harsova**	**59.22**	**328**	⇓P	**P**	**19 02 06.0**	**-0.6**
HARR	**Harsova**	**59.22**	**328**	⇓P	**P**	**19 02 06.0**	**-0.6**
NJ2	**Nanjing**	**59.23**	**50**	*e*P	**P**	**19 02 07.1**	**+0.3**
NJ2				PP	PP	19 04 22.1	+4.6
NJ2				S	**S**	**19 10 15.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,200nm,4.8s						
NJ2				LR	LR		
	comp=N,400nm,26.2s,MS4.6						
NJ2				LR	LR		
	comp=E,400nm,25.4s,MS4.6						
NJ2				LR	LR		
	comp=Z,460nm,29.8s,MS4.4						
ARU	**Arti**	**59.45**	**354⇓**	*i*P	**P**	**19 02 07.9**	**-0.4**
ARU				*e*		19 02 53.0	
ARU				*e*		19 04 19.5	
ARU				*e*PPP		19 05 44.3	
ARU				*e*SS	SS	19 14 04.0	-8.4
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ARU	**Arti**	**59.45**	**354**	*e*P	**P**	**19 02 07.7**	**-0.5**
	comp=Z,13nm,1.0s,mb4.9						
SONM	**Songino Array**	**60.44**	**29**	P	**P**	**19 02 15.2**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9,baz=225,slow=6.2,SNR=58						
SONM				LR	LR	19 28 20.5	
	comp=Z,697nm,18.4s,MS4.8,baz=206,slow=36						
VTS	**Vitosha**	**60.58**	**323**	⇑P	**P**	**19 02 16.5**	**+0.5**
VRI	**Vrincioaia**	**60.63**	**328**	⇑P	**P**	**19 02 17.1**	**+0.7**
SSE	**Sheshan**	**60.65**	**52**	*e*P	**P**	**19 02 16.3**	**-0.2**
SSE				PCP	PcP	19 03 01.0	+0.3
SSE				PP	PP	19 04 29.3	-0.7
SSE				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.4						
SSE				AMB	AMB		
	comp=Z,39nm,3.5s						
SSE				LR	LR		
	comp=N,48nm,22.5s,MS4.0						
SSE				LR	LR		
	comp=E,108nm,22.5s,MS4.0						
SSE				LR	LR		
	comp=Z,169nm,21.6s,MS4.2						
ULN	**Ulaanbaatar**	**60.78**	**29**	*e*P	**P**	**19 02 17.3**	**-0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**60.78**	**29**	*e*P	**P**	**19 02 17.3**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.7						
MLR	**Muntele Rosu**	**60.81**	**327**	⇑P	**P**	**19 02 18.6**	**+1.1**
ZAK	**Zakamensk**	**60.89**	**25**	*e*P	**P**	**19 02 16.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.3						
MOY	**Mondy**	**60.95**	**23**	*e*P	**P**	**19 02 19.1**	**+0.5**
VOIR		**61.26**	**327**	⇓P	**P**	**19 02 21.6**	**+1.0**
VOIR		**61.26**	**327**	⇓P	**P**	**19 02 21.6**	**+1.0**
BURAR	**Bucovina Array**	**62.56**	**329**	⇓P	**P**	**19 02 27.4**	**-1.9**
BURAR	**Bucovina Array**	**62.56**	**329**	⇓P	**P**	**19 02 27.4**	**-2.0**
AKASG	**Malin Array Be**	**62.71**	**333**	P	**P**	**19 02 28.9**	**-1.5**
	comp=Z,3.4nm,0.9s,mb4.5,baz=126,slow=5.9,SNR=12						
SOKR	**Solikamsk**	**62.73**	**354**	*e*P	**P**	**19 02 28.6**	**-1.9**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,130nm,13.0s,MS4.3						
OBN	**Obninsk**	**63.20**	**340⇑**	*e*P	**P**	**19 02 33.2**	**-0.4**
OBN				*e*SS	SS	19 15 17.5	+6.3
OBN				pmax	pmax		
	comp=Z,24nm,2.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
BZS	**Buzias**	**63.28**	**325**	⇑P	**P**	**19 02 31.8**	**-2.4**
BZS	**Buzias**	**63.28**	**325**	⇑P	**P**	**19 02 31.8**	**-2.4**
KAKA	**Kakadu**	**64.41**	**103**	*e*P	**P**	**19 02 40.1**	**-1.5**
	comp=Z,21nm,0.9s,mb5.2						
MAW	**Mawson**	**64.88**	**182**	LR	LR	19 23 41.9	
	comp=Z,391nm,22.0s,MS4.6,baz=171,slow=29						
KOLS	**Kolonicke sedl**	**64.92**	**329**	*e*P	**P**	**19 02 44.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**65.32**	**328**	*e*P	**P**	**19 02 47.6**	**+0.1**
KECS	**Kecovo**	**65.59**	**327**	*e*P	**P**	**19 02 48.1**	**-1.2**
STHS	**Stebnicka Huta**	**65.75**	**329**	*e*P	**P**	**19 02 49.3**	**-1.0**
STHS				*es*P	sP	19 02 55.5	+0.8
SRO1	**Iza**	**66.42**	**326**	*e*P	**P**	**19 02 54.6**	**0.0**
CIT	**Chita**	**66.68**	**29**	*e*P	**P**	**19 02 55.7**	**-0.6**
CIT				pmax	pmax		
	comp=Z,31nm,1.8s,mb5.0						
WRA	**Warramunga Arr**	**66.79**	**110**	P	**P**	**19 02 57.3**	**+0.3**
	comp=Z,12nm,0.9s,mb5.0,baz=283,slow=6.2,SNR=59						
WRAB	**Tennant Creek**	**66.80**	**110⇑**	*e*P	**P**	**19 02 56.9**	**-0.1**
WRAB	**Tennant Creek**	**66.80**	**110**	*e*P	**P**	**19 02 57.4**	**+0.4**
WB2	**Warramunga Arr**	**66.80**	**110**	*e*P	**P**	**19 02 57.2**	**+0.2**
ASAR	**Alice Springs**	**66.81**	**114**	P	**P**	**19 02 57.4**	**+0.3**
	comp=Z,7.2nm,0.9s,mb4.7,baz=284,slow=6.0,SNR=54						
KLMR	**Klimovskoe**	**67.13**	**345**	*e*P	**P**	**19 03 00.1**	**+0.9**
KLMR				*e*		19 05 33.8	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
KLMR				MLR	MLR		
	comp=Z,230nm,16.0s,MS4.5						
SUW	**Suwalki**	**67.68**	**333**	*e*P	**P**	**19 03 02.3**	**-0.3**
SUW				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SUW	**Suwalki**	**67.68**	**333**	*e*P	**P**	**19 03 02.3**	**-0.3**
	comp=Z,20nm,0.8s,mb5.2						
TORD	**Torodi Ar. Bea**	**67.71**	**285**	P	**P**	**19 03 03.9**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=107,slow=7.0,SNR=3.4						
MORC	**Moravsky Berou**	**67.92**	**327**	⇓P	**P**	**19 03 04.2**	**+0.1**
MORC	**Moravsky Berou**	**67.92**	**327**	*e*P	**P**	**19 03 03.9**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.3						
SYO	**Syowa Base**	**68.89**	**191⇓**	*e*P	**P**	**19 03 12.0**	**+1.8**
SYO	**Syowa Base**	**68.89**	**191⇓**	*e*pP	pP	19 03 15.4	+1.9
SYO	**Syowa Base**	**68.89**	**191⇓**	*e*PcP	PcP	19 03 36.4	+1.8
SYO	**Syowa Base**	**68.89**	**191⇑**	*e*PP	PP	19 05 41.8	-0.5
CN2	**Changchun**	**69.05**	**41**	*e*P	**P**	**19 03 10.4**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
BRG	**Berggiesshubel**	**70.46**	**327**	*e*P	**P**	**19 03 25.7**	**+5.9**
	comp=Z,3.4nm,1.0s,mb4.2						
BRG	**Berggiesshubel**	**70.46**	**327**	*e*P	**P**	**19 03 25.7**	**+5.8**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BOD	**Bodaibo**	**70.60**	**24**	*e*P	**P**	**19 03 17.8**	**-3.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.0						
CLL	**Collm**	**71.19**	**327**	*e*P	**P**	**19 03 25.0**	**+0.7**
CLL				*i* (sP)

ESDC	**Sonseca Array**	**78.00**	**311**	P	**P**		**19 04 04.7**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=91,slow=4.9,SNR=9.0							
PMG	**Port Moresby**	**78.80**	**99**	P	**P**		**19 04 08.8**	**+0.5**
	comp=Z,9.3nm,0.8s,mb4.8,baz=307,slow=0.8,SNR=3.8							
YAK	**Yakutsk**	**79.48**	**25**	*e*P	**P**		**19 04 10.3**	**-1.7**
YAK				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
YSS	**Yuzh-Sakhalins**	**81.57**	**42**	*e*P	**P**		**19 04 19.9**	**-3.3**
YSS				pmax	pmax			
	comp=Z,35nm,1.7s,mb5.0							
VNA3	**Neumayer Olymp**	**83.51**	**199⇑**	*i*P	**P**		**19 04 38.9**	**+5.6**
TIXI	**Tiksi**	**83.69**	**16**	*d i*P	**P**		**19 04 32.0**	**-2.3**
TIXI				pmax	pmax			
	comp=Z,12nm,1.0s,mb5.0							
QSPA	**South Pole Qui**	**87.29**	**180**	*e*P	**P**		**19 04 53.5**	**+1.3**
	comp=Z,6.9nm,1.2s,mb4.8							
VNDA	**Vanda**	**88.19**	**167**	P	**P**		**19 04 58.1**	**+1.5**
	comp=Z,1.6nm,0.9s,mb4.2,baz=19,slow=5.1,SNR=2.8							
MA2	**Magadan**	**88.61**	**30**	*e*P	**P**		**19 04 57.7**	**-0.8**
MA2				*e*			19 05 03.9	
MA2				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.9							
MA2	**Magadan**	**88.61**	**30**	*e*P	**P**		**19 04 57.3**	**-1.2**
	comp=Z,10nm,0.9s,mb5.2							
SEY	**Seymchan**	**89.80**	**27**	*e*P	**P**		**19 05 03.7**	**-0.4**
BILL	**Bilibino**	**95.57**	**22**	*e*P	**P**		**19 05 29.5**	**-1.2**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb4.2							
YKA	**Yellowknife Ar**	**120.32**	**1**	PKP	PKPdf		19 10 56.4	-0.3
	comp=Z,1.1nm,0.8s,baz=351,slow=2.2,SNR=20							
YKA				PP	PP		19 12 20.8	-1.7
	comp=Z,1.1nm,0.9s,baz=358,slow=6.6,SNR=12							
YKA				PKKPbc	PKKPbc		19 21 04.4	+1.1
	comp=Z,0.4nm,0.9s,baz=168,slow=3.6,SNR=3.9							
YKA	**Yellowknife Ar**	**120.32**	**1**	PKIKP	PKPdf		19 10 56.4	-0.3
YKA							19 12 20.8	
YKA	**Yellowknife Ar**	**120.32**	**1**	PKP	PKPdf		19 10 56.4	-0.3
YKA				PP	PP		19 12 20.8	-1.7
YKA				PKKPbc	PKKPbc		19 21 04.4	+1.1
PDAR	**Pinedale Array**	**140.06**	**357**	PKP	PKPdf		19 11 33.5	-0.5
	comp=Z,1.1nm,0.9s,baz=259,slow=0.8,SNR=9.2							
NVAR	**Mina Array Bea**	**143.97**	**9**	PKP	PKPdf		19 11 39.8	-1.2
	comp=Z,0.8nm,0.8s,baz=18,slow=1.5,SNR=5.8							
MIAR	**Mount Ida**	**144.01**	**334**	*e*PKIKP	PKPdf		19 11 41.1	+0.1
MSU	**Marysvale**	**144.37**	**0**	*e*PKIKP	PKPdf		19 11 41.9	+0.2
PV10	**Paradox Valley**	**144.40**	**356**	*e*PKPdf	PKPdf		19 11 42.1	+0.4
PV01	**Paradox Valley**	**144.61**	**355**	*e*PKPdf	PKPdf		19 11 42.2	+0.1
SDCO	**Great Sand Dun**	**144.64**	**351**	*e*PKPdf	PKPdf		19 11 41.5	-0.6
ARUT	**Antelope Range**	**145.06**	**2**	*e*PKIKP	PKPdf		19 11 44.5	+1.6
WMOK	**Wichita Mounta**	**145.87**	**340**	*e*PKP2	PKPab		19 11 45.7	+0.4
DAC	**Darwin (Calif)**	**146.19**	**8**	*e*PKP2	PKPab		19 11 46.5	0.0
MNTX	**Cornudas Mount**	**150.51**	**349**	*e*PKPbc	PKPbc		19 11 58.8	+1.5

*BJI **20** 18:55:10.6, 324S×6774E, h10km, mB4.9, mb4.7, Ms4.7, Msz4.4*
*ISCJB **20** 18:55:14.6±0.4, 281S±006×6806E±006, h10km, mb4.5/38, MS4.4/7, Error ellipse: s-maj=8.7km s-min=8.1km az=146.8*
*IDC **20** 18:55:14.9±0.6, 275S×6806E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.1/24, mbtmp4.1/17, Error ellipse: s-maj=19.1km s-min=16.0km az=175.0*
*MOS **20** 18:55:15.1±0.9, 278S×6813E, h10km, mb4.7/5, Error ellipse: s-maj=13.1km s-min=9.8km az=84.1*
*NEIC **20** 18:55:16.7±0.2, 279S×6809E, h10km, mb4.6/13, Error ellipse: s-maj=6.3km s-min=6.1km az=28.0*

ISC 20 18:55:17.2±0.4, 276S±006×6807E±006, h10km, (h14km±1.6km: pP-P), n78, σ0§93/73, mb4.5/38, MS4.4/7, 2C-4D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.36**	**137**	*e*P	**Pn**	**18 56 50.0**	**-0.9**
DGAR				pmax	pmax		
	comp=Z,157nm,0.6s						
DGAR	**Diego Garcia**	**6.36**	**137**	*e*P	**Pn**	**18 56 50.0**	**-0.9**
	comp=Z,157nm,0.6s						
PALK	**Pallekele**	**16.07**	**52**	*e*Pn	**Pn**	**18 59 03.1**	**-0.1**
	comp=Z,8.3nm,0.7s						
HYB	**Hyderabad**	**22.56**	**27**	*i* P	**P**	**19 00 17.0**	**-0.4**
HYB				*e*S	**S**	**19 04 25.0**	**0.0**
HYB	**Hyderabad**	**22.56**	**27**	*e*P	**P**	**19 00 17.0**	**-0.4**
KMBO	**Kilima Mbogo**	**30.84**	**272**	P	**P**	**19 01 34.4**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.0,baz=58,slow=12,SNR=5.6						
KULM	**Kulim**	**33.51**	**76**	*e*P	**P**	**19 01 57.7**	**+0.9**
KULM				*e*		19 02 05.3	
KOLN	**Koldanda**	**33.84**	**25**	*e*P	**P**	**19 02 00.3**	**+0.7**
	comp=Z,22nm,1.2s,mb5.0						
DMN	**Daman**	**34.37**	**27**	*e*P	**P**	**19 02 04.8**	**+0.6**
PKI	**Pulchoki**	**34.47**	**28**	*e*P	**P**	**19 02 06.6**	**+1.4**
GKN	**Gorkha**	**34.49**	**26**	*e*P	**P**	**19 02 06.0**	**+0.7**
	comp=Z,38nm,1.2s,mb5.2						
KKN	**Kakani**	**34.60**	**27**	*e*P	**P**	**19 02 07.0**	**+0.7**
JIRN	**Jiri**	**34.92**	**29**	*e*P	**P**	**19 02 09.7**	**+0.7**
GUN	**Gumba**	**34.98**	**28**	*e*P	**P**	**19 02 10.5**	**+0.9**
	comp=Z,33nm,1.1s,mb5.2						
LSA	**Lhasa**	**39.11**	**33**	*e*P	**P**	**19 02 46.4**	**+1.8**
LSA				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
LSA	**Lhasa**	**39.11**	**33**	*e*P	**P**	**19 02 46.4**	**+1.7**
	comp=Z,20nm,1.1s,mb4.8						
LSZ	**Lusaka**	**41.21**	**250**	P	**P**	**19 03 02.4**	**+0.3**
	comp=Z,1.9nm,0.5s,mb4.0,baz=84,slow=6.2,SNR=8.4						
LSZ	**Lusaka**	**41.21**	**250**	*e*P	**P**	**19 03 03.1**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSZ	**Lusaka**	**41.21**	**250**	*e*P	**P**	**19 03 03.1**	**+1.0**
	comp=Z,1.7nm,0.6s,mb3.9						
KMI	**Kunming**	**43.57**	**48**	P	**P**	**19 03 22.5**	**+1.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**45.55**	**7**	*e*P	**P**	**19 03 37.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**45.55**	**7**	*e*P	**P**	**19 03 37.5**	**+0.4**
	comp=Z,6.3nm,1.3s,mb4.4						
GYA	**Guiyang**	**47.26**	**50⇑**	*i*P	**P**	**19 03 50.3**	**-0.2**
GYA				AP	pP	19 03 54.6	+0.9
GYA				XP	sP	19 03 57.4	+2.5
GYA				PP	PP	19 05 40.8	-0.7
GYA				S	**S**	**19 10 41.8**	**-1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,60nm,3.2s						
GYA				LR	LR		
	comp=N,370nm,17.9s,MS4.5						
GYA				LR	LR		
	comp=E,310nm,17.6s,MS4.5						
GYA				LR	LR		
	comp=Z,380nm,18.0s,MS4.4						
CD2	**Chengdu**	**47.71**	**43**	*e*P	**P**	**19 03 54.8**	**+0.8**
CD2				PP	PP	19 05 45.9	+0.2
CD2				S	**S**	**19 10 50.1**	**0.0**
CD2				SS	SS	19 14 12.8	-5.5
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,100nm,5.3s						
CD2				LR	LR		
	comp=E,130nm,14.4s						
CD2				LR	LR		
	comp=Z,210nm,18.0s,MS4.2						
GNI	**Garni**	**47.75**	**336**	P	**P**	**19 03 55.0**	**+0.6**
	comp=Z,1.3nm,0.3s,mb4.4,baz=64,slow=8.9,SNR=3.0						
GNI	**Garni**	**47.75**	**336**	*e*P	**P**	**19 03 55.3**	**+0.9**
BOSA	**Boshof**	**48.16**	**233**	P	**P**	**19 03 57.6**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.2,baz=147,slow=11,SNR=3.9						
MALT	**Malatya**	**49.20**	**329**	*e*P	**P**	**19 04 07.2**	**+1.7**
WMQ	**Urumqi**	**49.61**	**19**	*e*P	**P**	**19 04 10.0**	**+1.4**
WMQ				XP	sP	19 04 17.0	+4.0
WMQ				PP	PP	19 06 05.0	+2.0
WMQ				S	**S**	**19 11 17.0**	**+0.1**
WMQ				SCS	ScS	19 13 58.0	-2.5
WMQ				SS	SS	19 14 45.0	-3.9
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,102nm,5.0s						
WMQ				LR	LR		
	comp=N,487nm,11.0s,MS4.9						
WMQ				LR	LR		
	comp=E,354nm,10.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,462nm,10.0s,MS4.8						
MKAR	**Makanchi Array**	**50.91**	**13**	P	**P**	**19 04 17.7**	**-0.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=195,slow=7.7,SNR=5.3						
LZH	**Lanzhou**	**51.07**	**37**	*e*P	**P**	**19 04 19.5**	**-0.2**
LZH				AP	pP	19 04 22.9	0.0
LZH				XP	sP	19 04 24.1	0.0
LZH				PP	PP	19 06 17.3	+1.1
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,55nm,6.1s						
LZH				LR	LR		
	comp=N,499nm,14.5s						
LZH				LR	LR		
	comp=Z,698nm,18.2s,MS4.7						
GTA	**Gaotai**	**51.11**	**32**	P	**P**	**19 04 19.9**	**-0.1**
GTA				AP	pP	19 04 25.4	+2.2
GTA				XP	sP	19 04 29.4	+5.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
ENH	**Enshi**	**51.39**	**47**	*e*P	**P**	**19 04 21.1**	**-1.0**
	comp=Z,11nm,1.0s,mb4.8						
BR131	**Keskin Array S**	**52.78**	**327**	*e*P	**P**	**19 04 32.4**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**52.78**	**327**	P	**P**	**19 04 32.1**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=143,slow=11,SNR=9.0						
XAN	**Xi'an**	**53.08**	**43**	P	**P**	**19 04 33.9**	**-0.7**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
AKTK	**Aktyubinsk**	**53.69**	**352**	P	**P**	**19 04 38.4**	**-0.7**
AKTO	**Aktyubinsk**	**53.69**	**352**	P	**P**	**19 04 38.4**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=170,slow=8.3,SNR=9.1						
KURK	**Kurchatov**	**54.03**	**8**	*e*P	**P**	**19 04 40.4**	**-1.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**54.03**	**8**	*e*P	**P**	**19 04 40.4**	**-1.2**
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**55.51**	**1⇑**	*i*P	**P**	**19 04 52.0**	**-0.4**
BVAR	**Borovoye Array**	**55.61**	**2**	P	**P**	**19 04 52.8**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=200,slow=7.2,SNR=4.0						
ZAL	**Zalesovo**	**58.19**	**12**	P	**P**	**19 05 10.1**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=252,slow=8.0,SNR=5.4						
ZAL	**Zalesovo**	**58.19**	**12**	P	**P**	**19 05 10.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.38**	**109**	*e*P	**P**	**19 05 13.2**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.8						
HHC	**Hu-ho-hao-te**	**58.76**	**38**	*e*P	**P**	**19 05 15.8**	**+0.4**
HHC				AP	pP	19 05 20.5	+1.9
HHC				XP	sP	19 05 22.8	+3.0
HHC				PCP	PcP	19 06 06.3	+1.2
HHC				PP	PP	19 07 26.6	+1.3
HHC				SCP	ScP	19 10 02.4	-3.2
HHC				S	**S**	**19 13 19.0**	**-1.5**
HHC				SCS	ScS	19 15 02.1	-3.3
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,112nm,6.0s						
HHC				LR	LR		
	comp=N,141nm,15.6s						
HHC				LR	LR		
	comp=E,206nm,22.8s						
HHC				LR	LR		
	comp=Z,258nm,18.0s,MS4.4						
ARU	**Arti**	**59.50**	**354**	*e*P	**P**	**19 05 20.1**	**-0.4**
ARU	**Arti**	**59.50**	**354**	*e*P	**P**	**19 05 19.9**	**-0.7**
	comp=Z,5.7nm,1.0s,mb4.6						
SONM	**Songino Array**	**60.49**	**29**	P	**P**	**19 05 27.7**	**+0.4**
	comp=Z,6.1nm,1.0s,mb4.6,baz=222,slow=6.3,SNR=14						
SSE	**Sheshan**	**60.68**	**52**	*e*P	**P**	**19 05 27.5**	**-1.1**
SSE				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,59nm,3.9s						
SSE				LR	LR		
	comp=N,48nm,22.5s,MS4.0						
SSE				LR	LR		
	comp=E,108nm,22.5s,MS4.0						
SSE				LR	LR		
	comp=Z,169nm,21.6s,MS4.2						
ULN	**Ulaanbaatar**	**60.82**	**29**	*e*P	**P**	**19 05 29.6**	**0.0**
AKASG	**Malin Array Be**	**62.76**	**333**	P	**P**	**19 05 40.3**	**-2.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=132,slow=5.8,SNR=4.7						
KAKA	**Kakadu**	**64.40**	**103**	*e*P	**P**	**19 05 52.1**	**-1.3**
	comp=Z,15nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**66.77**	**110**	P	**P**	**19 06 09.0**	**+0.3**
	comp=Z,7.8nm,1.1s,mb4.7,baz=290,slow=5.8,SNR=24						
WRAB	**Tennant Creek**	**66.78**	**110**	*e*P	**P**	**19 06 09.2**	**+0.4**
WB2	**Warramunga Arr**	**66.78**	**110**	*e*P	**P**	**19 06 08.9**	**+0.1**
ASAR	**Alice Springs**	**66.79**	**114**	P	**P**	**19 06 09.0**	**+0.1**
	comp=Z,3.2nm,0.9s,mb4.4,baz=283,slow=6.1,SNR=12						
TORD	**Torodi Ar. Bea**	**67.72**	**285**	P	**P**	**19 06 12.9**	**-1.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=115,slow=6.5,SNR=3.5						
MORC	**Moravsky Berou**	**67.96**	**327**	P	**P**	**19 06 13.5**	**-2.8**
SYO	**Syowa Base**	**68.84**	**191‖**	*e*P	**P**	**19 06 13.8**	**-8.0**
SYO	**Syowa Base**	**68.84**	**191‖**	*e*PcP	PcP	19 06 47.5	+1.2
MDJ	**Mudanjiang**	**72.14**	**41**	P	**P**	**19 06 42.3**	**+0.3**
MDJ				AP	pP	19 06 45.0	-0.2
MDJ				XP	sP	19 06 47.9	+1.5
MDJ				PCP	PcP	19 07 00.4	+0.1
MDJ				PP	PP	19 09 25.4	+3.2
MDJ				S	S	19 16 05.5	+1.3
MDJ				SCS	ScS	19 16 48.5	+0.2
MDJ				SS	SS	19 20 43.9	+2.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,49nm,4.0s						
MDJ				LR	LR		
	comp=N,61nm,25.8s,MS3.9						
MDJ				LR	LR		
	comp=E,49nm,24.5s,MS3.9						
MDJ				LR	LR		
	comp=Z,83nm,24.1s,MS3.9						
MDJ	**Mudanjiang**	**72.14**	**41**	*e*P	**P**	**19 06 40.8**	**-1.2**
DBIC	**Dimbokro**	**73.40**	**278**	P	**P**	**19 06 49.7**	**+0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=94,slow=4.6,SNR=3.4						
MJAR	**Matsushiro Arr**	**75.82**	**51**	P	**P**	**19 07 03.3**	**-0.2**
	comp=Z,1.3nm,1.0s,mb3.8,baz=286,slow=4.5,SNR=4.1						
ESDC	**Sonseca Array**	**78.03**	**311**	P	**P**	**19 07 16.4**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=91,slow=4.9,SNR=4.5						
VNA2	**Neumayer--Watz**	**82.67**	**199‖**	*i*P	**P**	**19 07 32.3**	**-8.6**
VNA3	**Neumayer Olymp**	**83.46**	**199‖**	*i*P	**P**	**19 07 48.4**	**+3.4**
TIXI	**Tiksi**	**83.74**	**16**	*e*P	**P**	**19 07 41.9**	**-4.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
YKA	**Yellowknife Ar**	**120.37**	**1**	PKP	PKPdf	19 14 07.2	-1.5
	comp=Z,0.3nm,0.8s,baz=358,slow=2.2,SNR=4.9						
YKA				PP	PP	19 15 33.6	-1.2
	comp=Z,0.6nm,0.9s,baz=355,slow=7.2,SNR=7.9						
YKA	**Yellowknife Ar**	**120.37**	**1**	PKP	PKPdf	19 14 07.2	-1.5
YKA				PP	PP	19 15 33.6	-1.2
NVAR	**Mina Array Bea**	**144.02**	**9**	PKP	PKPdf	19 14 53.0	0.0
	comp=Z,0.5nm,0.8s,baz=321,slow=0.7,SNR=4.3						
MSU	**Marysvale**	**144.42**	**0**	*e*PKIKP	PKPdf	19 14 53.4	-0.3
PV01	**Paradox Valley**	**144.66**	**355**	*e*PKPdf	PKPdf	19 14 54.5	+0.4
PV01				*e*		19 15 00.2	
WMOK	**Wichita Mounta**	**145.91**	**340**	*e*PKP2	PKPab	19 14 56.9	-0.5
DAC	**Darwin (Calif)**	**146.24**	**8**	*e*PKP2	PKPab	19 14 59.6	+1.0
MNTX	**Cornudas Mount**	**150.56**	**349**	*e*PKPbc	PKPbc	19 15 10.6	+1.4
TUC	**Tucson**	**150.59**	**358**	*e*PKIKP	PKPdf	19 15 09.8	+5.9

CASC 20 18:57:19.9±2.8, 1321N×8763W, h0km±6km, MD3.9, 1C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.21**	**288**	*e*P	Pg	18 57 23.0	-1.0
VSM	**San Miguel**	**0.67**	**289**	*e*P	Pg	18 57 33.6	+0.9
CRIN	**San Cristobal**	**0.76**	**132**	*e*P	Pg	18 57 36.2	+1.7
CRIN				*e*S	Sg	18 57 49.9	+5.7
TEL3	**Telica 3**	**0.99**	**130‖**	*e*P	Pg	18 57 39.9	+1.0
TEL3				*e*S	Sg	18 57 54.7	+2.9
CNGN	**Cerro Negro**	**1.15**	**128**	*e*P	Pg	18 57 41.9	0.0
CNGN				*e*S	Sg	18 57 58.6	+1.7
MIRN	**Miramar**	**1.18**	**131**	*e*P	Pg	18 57 42.5	0.0
MIRN				*e*S	Sg	18 57 58.5	+0.8
SNVI	**San Vicente**	**1.25**	**289**	*e*P	Pg	18 57 43.8	+0.1
SNVI				*e*S	Sg	18 58 02.7	+2.8
LCBS	**La Ceiba**	**1.39**	**289**	*e*P	Pg	18 57 45.5	-0.9
LCBS				*e*S	Sg	18 58 06.9	+2.4
COPN	**Copaltepe**	**1.44**	**135⇑**	*e*P	Pn	18 57 46.7	-0.5
COPN				*e*S	Sg	18 58 05.5	-0.7
LFRS	**El Faro**	**1.46**	**287**	*e*P	Pn	18 57 46.4	-1.1
LFRS				*e*S	Sg	18 58 08.4	+1.7
APYN	**Apoyeque**	**1.58**	**128**	*e*P	Pn	18 57 48.9	-0.2
APYN				*e*S	Sn	18 58 09.7	-0.6

*ISCJB **20** 19:07:00.6±0.7, 316S±02×769E±01, h10km, mb4.0/10, MS4.3/6, Error ellipse: s-maj=25.9km s-min=16.4km az=37.4*
*IDC **20** 19:07:00.2±1.1, 31.65S×7689E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, MS4.3/6, Ms1 4.2/6, ms1mx3.7/31, Error ellipse: s-maj=46.8km s-min=20.7km az=16.0*
*NEIC **20** 19:07:02.3±0.7, 3158S×7691E, h10km, mb4.4/1, Error ellipse: s-maj=27.8km s-min=18.4km az=205.0*

ISC 20 19:07:02.4±0.7, 315S±02×769E±01, h10km, n18, σ1§13/12, mb4.0/10, MS4.3/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**47.14**	**278**	P	**P**	**19 15 35.1**	**+0.3**
	4.7nm,0.7s,mb4.5,baz=120,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**50.66**	**96**	P	**P**	**19 16 02.0**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=244,slow=6.5,SNR=10						
WRA	**Warramunga Arr**	**52.51**	**92**	P	**P**	**19 16 15.9**	**+0.1**
	0.9nm,0.9s,mb3.7,baz=249,slow=7.2,SNR=8.0						
WRAB	**Tennant Creek**	**52.53**	**92**	*e*P	**P**	**19 16 17.3**	**+1.5**
STKA	**Stephens Creek**	**54.28**	**109**	P	**P**	**19 16 26.3**	**-2.4**
	2.6nm,0.8s,mb4.2,baz=290,slow=9.5,SNR=2.9						
STKA				LR	LR	19 37 01.6	
	comp=Z,165nm,18.9s,MS4.1,baz=205,slow=33						
STKA	**Stephens Creek**	**54.28**	**109**	P	**P**	**19 16 26.3**	**-2.4**
STKA				LR	LR	19 37 01.6	
VNDA	**Vanda**	**58.37**	**165**	LR	LR	19 39 32.6	
	comp=Z,306nm,18.5s,MS4.5,baz=267,slow=34						
QSPA	**South Pole Qui**	**58.60**	**180**	*e*P	**P**	**19 16 59.7**	**+0.2**
	3.7nm,1.1s,mb4.3						
PMG	**Port Moresby**	**68.36**	**88**	LR	LR	19 46 49.1	
	comp=Z,180nm,18.9s,MS4.3,baz=226,slow=35						
RPZ	**Rata Peaks**	**71.73**	**130**	LR	LR	19 42 12.8	
	comp=Z,166nm,19.1s,MS4.3,baz=188,slow=30						
MKAR	**Makanchi Array**	**78.12**	**4**	P	**P**	**19 19 00.1**	**-1.6**
	0.7nm,0.8s,mb3.6,baz=179,slow=6.1,SNR=10						
DZM	**Mont Dzumac**	**78.43**	**109**	LR	LR	19 51 58.8	
	comp=Z,184nm,18.1s,MS4.5,baz=253,slow=34						
HNR	**Honiara**	**79.25**	**94**	LR	LR	19 50 12.5	
	comp=Z,118nm,19.5s,MS4.2,baz=181,slow=33						
BRTR	**Keskin Array B**	**81.47**	**328**	P	**P**	**19 19 20.8**	**+1.0**
	0.5nm,0.8s,mb3.5,baz=167,slow=5.8,SNR=4.1						
SONM	**Songino Array**	**83.34**	**20**	P	**P**	**19 19 31.2**	**+1.6**
	0.9nm,0.9s,mb3.8,baz=208,slow=6.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.55**	**289**	P	**P**	**19 19 35.4**	**-0.4**
	0.6nm,0.7s,mb3.9,baz=106,slow=4.6,SNR=4.7						
ZAL	**Zalesovo**	**85.40**	**5**	P	**P**	**19 19 39.0**	**-1.0**
	1.0nm,0.6s,mb4.1,baz=312,slow=4.5,SNR=7.1						
YKA	**Yellowknife Ar**	**148.16**	**10**	PKPbc	PKPbc	19 26 47.1	-1.4
	0.9nm,0.8s,baz=328,slow=3.5,SNR=9.6						

NEIC 20 19:20:26.8, 6163N×15117W, h64km, ML3.3(AEIC), ML3.6(PMR), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.66**	**134**	P	Pn	19 20 41.6	+0.8
RC01	**Rabbit Creek A**	**0.88**	**127**	P	Pn	19 20 43.1	-0.3
RC01				S	Sn	19 20 57.0	+1.4
PMR	**Palmer**	**0.97**	**91**	P	Pn	19 20 43.8	-0.8
PMR				S	Sn	19 20 58.0	+0.2
GHO	**Glory Hole Cre**	**1.08**	**81**	P	Pn	19 20 45.7	-0.3
SLKM	**Skilak Lake**	**1.21**	**157**	P	Pn	19 20 47.0	-0.8
SML	**Sawmill**	**1.36**	**81**	P	Pn	19 20 48.9	-0.8
SEW	**Seward**	**1.74**	**150**	P	Pn	19 20 53.9	-0.9
TRF	**Thorofare Moun**	**1.88**	**12**	P	Pn	19 20 56.1	-0.5
KTH	**Kantishna Hill**	**1.94**	**3**	P	Pn	19 20 57.1	-0.3
KTH				S	Sn	19 21 19.6	-1.1
SVW2	**Sparrevohn**	**2.19**	**258**	P	Pn	19 20 59.5	-1.4
MCK	**McKinley**	**2.35**	**25**	P	Pn	19 21 02.8	-0.2
TT01	**Tatalina**	**2.61**	**302**	P	Pn	19 21 05.2	-1.4
DIV	**Divide**	**2.64**	**99**	*e*P	Pn	19 21 03.6	-3.5
EYAK	**Cordova Ski Ar**	**2.84**	**110**	P	Pn	19 21 08.2	-1.6
PAX	**Paxson**	**2.98**	**61**	P	Pn	19 21 11.2	-0.4
BMRM	**Bremner River**	**3.23**	**99**	P	Pn	19 21 12.7	-2.5
COLA	**College**	**3.59**	**23**	P	Pn	19 21 19.4	-0.5
MENT	**Mentasta**	**3.72**	**66**	*e*P	Pn	19 21 20.5	-1.2
DOT	**Dot Lake**	**3.86**	**55**	P	Pn	19 21 22.9	-0.7
KDAK	**Kodiak Island**	**3.92**	**191**	P	Pn	19 21 22.4	-2.1
IM04	**Indian Mountai**	**4.52**	**346**	P	Pn	19 21 31.2	-1.4
TNA	**Tin City**	**8.43**	**305**	*e*P	Pn	19 22 26.1	-0.2
	5.8nm,0.4s						

**IDC 20 19:21:39.6±1.1, 1042S×1319W, h0km, mb3.8

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ASCN	**Ascension**	**2.62**	**335**	P	**Pn**	**19 27 27.4**	**-4.9**
DBIC	**Dimbokro**	**18.84**	**27**	P	**Pn**	**19 31 11.1**	**+0.7**
	0.3nm,0.3s,baz=189,slow=11,SNR=8.9						
TORD	**Torodi Ar. Bea**	**27.64**	**33**	P	**P**	**19 32 38.3**	**+0.7**
	3.2nm,0.9s,mb3.9,baz=217,slow=9.9,SNR=13						
LSZ	**Lusaka**	**40.66**	**101**	*e*P	**P**	**19 34 30.5**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,57nm,1.9s,mb4.9						
LSZ	**Lusaka**	**40.66**	**101**	*e*P	**P**	**19 34 30.4**	**+0.3**
	comp=Z,57nm,1.9s,mb4.9						
MDT	**Midelt**	**43.69**	**11**	P	**P**	**19 34 52.7**	**-2.2**
	comp=Z,8.5nm,0.7s,mb4.6,baz=262,slow=12,SNR=3.3						
SIV	**San Ignacio**	**46.83**	**258**	P	**P**	**19 35 20.5**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=103,slow=9.1,SNR=9.6						
KMBO	**Kilima Mbogo**	**51.00**	**83**	P	**P**	**19 35 52.3**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=229,slow=22,SNR=5.4						
TRQA	**Tornquist**	**51.56**	**229**	*e*P	**P**	**19 35 55.0**	**-1.0**
LPAZ	**La Paz**	**53.61**	**257**	P	**P**	**19 36 13.3**	**+2.0**
	comp=Z,1.9nm,0.9s,mb4.0,baz=205,slow=1.1,SNR=4.4						
LPAZ	**La Paz**	**53.61**	**257**	P	**P**	**19 36 13.3**	**+2.0**
CFAA	**Coronel Fontan**	**54.93**	**239**	P	**P**	**19 36 19.9**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=77,slow=5.3,SNR=7.4						
GERES	**GERESS Array B**	**63.53**	**20**	P	**P**	**19 37 20.4**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=183,slow=5.3,SNR=7.3						
SRO	**Srobarova**	**64.31**	**23**	*e*P	**P**	**19 37 27.4**	**+1.9**
PSZ	**Piszkesteto**	**65.01**	**24**	*e*P	**P**	**19 37 30.9**	**+0.8**
CLL	**Collm**	**65.46**	**18**	*i*P	**P**	**19 37 33.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,87nm,2.7s,mb5.3						
CLL				MLR	MLR		
	comp=Z,700nm,21.5s,MS4.8						
CLL	**Collm**	**65.46**	**18**	*i*P	**P**	**19 37 33.0**	**0.0**
	comp=Z,87nm,2.7s,mb5.3						
CLL				LR	LR		
	comp=Z,700nm,21.5s,MS4.8						
MORC	**Moravsky Berou**	**65.64**	**21**	*e*P	**P**	**19 37 34.5**	**+0.3**
MORC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**65.64**	**21**	*e*P	**P**	**19 37 34.5**	**+0.3**
	comp=Z,13nm,1.1s,mb4.9						
OTAV	**Otavalo**	**65.67**	**275**	*e*P	**P**	**19 37 35.7**	**+1.3**
	comp=Z,28nm,1.7s,mb5.0						
DPC	**Dobruska-Polom**	**65.70**	**20**	*e*P	**P**	**19 37 45.5**	**+11**
UPC	**Upice**	**65.73**	**20**	*e*P	**P**	**19 37 47.5**	**+13**
OKC	**Ostrava-Krasne**	**65.91**	**22**	*e*P	**P**	**19 37 32.5**	**-3.4**
OKC				AMS	AMS	20 06 30.0	
	comp=Z,700nm,19.4s						
BR131	**Keskin Array S**	**66.09**	**38**	*e*P	**P**	**19 37 37.0**	**0.0**
BRTR	**Keskin Array B**	**66.09**	**38**	P	**P**	**19 37 37.5**	**+0.5**
	comp=Z,5.0nm,1.1s,mb4.4,baz=191,slow=6.0,SNR=4.0						
LVV	**L'vov**	**68.19**	**25**	*e*P	**P**	**19 37 50.1**	**-0.3**
AKASG	**Malin Array Be**	**71.09**	**27**	P	**P**	**19 38 07.8**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.5,baz=226,slow=7.0,SNR=25						
NOA	**NORSAR Array B**	**73.72**	**12**	P	**P**	**19 38 23.4**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=203,slow=6.4,SNR=4.7						
GOF	**Gofitskoye**	**74.84**	**38**	*e*P	**P**	**19 38 29.2**	**-1.3**
ARU	**Arti**	**88.71**	**32**	*i*P	**P**	**19 39 43.1**	**-0.4**
JCT	**Junction City**	**92.23**	**300**	P	**P**	**19 39 58.8**	**-1.1**

ISCJB ***20*** *19:27:31.3±0.4, 1036S±008×1320W±009, h10km, mb4.8/43, Error ellipse: s-maj=14.7km s-min=7.8km az=82.7*
IDC ***20*** *19:27:31.2±0.6, 1046S×13.15W, h0km, mb4.5/17, mb1 4.5/18, mb1mx4.4/25, mbtmp4.5/18, ML3.5/1, MS4.4/1, Ms1 4.4/1, ms1mx4.3/3, Error ellipse: s-maj=23.9km s-min=14.1km az=144.0*
MOS ***20*** *19:27:31.2±0.9, 1045S×1321W, h10km, mb5.1/9, Error ellipse: s-maj=19.6km s-min=9.7km az=58.9*
NEIC ***20*** *19:27:33.0±0.3, 1049S×13.13W, h10km, mb5.1/11, Error ellipse: s-maj=12.0km s-min=6.9km az=138.0*
ISC 20 19:27:33.4±0.4, 1041S±008×1313W±009, h10km, n83, σ0.984/76, mb4.8/43, 7C-3D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**18.86**	**26**	P	**Pn**	**19 31 54.7**	**+0.5**
	0.1nm,0.3s,baz=174,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**27.65**	**32**	P	**P**	**19 33 21.7**	**+0.4**
	3.7nm,0.9s,mb4.0,baz=216,slow=7.9,SNR=3.6						
BDFB	**Brasilia**	**34.35**	**258**	P	**P**	**19 34 19.4**	**-0.9**
	3.4nm,0.5s,mb4.6,baz=85,slow=9.3,SNR=6.1						
BOSA	**Boshof**	**40.23**	**122**	P	**P**	**19 35 09.5**	**-0.7**
	5.9nm,1.0s,mb4.3,baz=276,slow=9.2,SNR=5.0						
SIV	**San Ignacio**	**46.92**	**258**	P	**P**	**19 36 04.0**	**-0.1**
	3.8nm,0.9s,mb4.3,baz=90,slow=7.5,SNR=6.5						
KMBO	**Kilima Mbogo**	**50.90**	**83**	P	**P**	**19 36 36.0**	**+1.4**
	3.0nm,0.9s,mb4.2,baz=250,slow=8.6,SNR=7.2						
TRQA	**Tornquist**	**51.59**	**229**	*e*P	**P**	**19 36 38.9**	**-0.9**
	49nm,1.3s,mb5.3						
LPAZ	**La Paz**	**53.70**	**257**	P	**P**	**19 36 55.2**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=72,slow=13,SNR=4.4						
LPAZ	**La Paz**	**53.70**	**257**	P	**P**	**19 36 55.2**	**-0.3**
SJPF	**Ste Jean**	**54.36**	**11**	*e*P	**P**	**19 36 59.5**	**-0.8**
	72nm,1.2s,mb5.2						
CFAA	**Coronel Fontan**	**54.98**	**239**	P	**P**	**19 37 04.0**	**-0.8**
	1.7nm,1.0s,mb4.0,baz=86,slow=7.9,SNR=9.0						
CFAA	**Coronel Fontan**	**54.98**	**239**	P	**P**	**19 37 04.0**	**-0.8**
ARE	**Arequipa**	**56.92**	**257**	*e*P	**P**	**19 37 19.0**	**+0.3**
RJF	**Les Rejaudoux**	**57.01**	**12**	*e*P	**P**	**19 37 18.5**	**-0.8**
RJF				*e*R			
	1μm,20.0s						
MBDF	**Montbardon**	**57.76**	**17**	*e*P	**P**	**19 37 24.2**	**-0.4**
	19nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**57.93**	**11**	*e*P	**P**	**19 37 25.6**	**-0.2**
	140nm,1.7s,mb5.4						
TCF	**Toulx Ste Croi**	**58.09**	**12**	*e*P	**P**	**19 37 26.5**	**-0.4**
	82nm,1.6s,mb5.2						
LPG	**La Plagne**	**58.46**	**16**	*e*P	**P**	**19 37 29.4**	**-0.1**
	36nm,1.2s,mb5.0						
LPL	**La Plagne**	**58.47**	**16**	*e*P	**P**	**19 37 29.4**	**-0.2**
	28nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**58.79**	**14**	*e*P	**P**	**19 37 31.8**	**0.0**
	43nm,1.3s,mb5.0						
AVF	**Avril sur Loir**	**58.82**	**13**	*e*P	**P**	**19 37 31.0**	**-1.0**
SSF	**Saint Saulge**	**59.11**	**13**	*e*P	**P**	**19 37 32.5**	**-1.5**
	57nm,1.4s,mb5.1						
ROSF	**Rostrenen**	**59.13**	**8**	*e*P	**P**	**19 37 34.0**	**-0.2**
	217nm,1.4s,mb5.7						
CABF	**La Chapelle**	**59.31**	**15**	*e*P	**P**	**19 37 35.1**	**-0.3**
	44nm,1.3s,mb5.0						
LOR	**Lormes**	**59.38**	**13**	*e*P	**P**	**19 37 35.3**	**-0.6**
LOR				*e*R			
	897nm,19.0s						
HINF	**Hinteralfeld**	**60.62**	**15**	*e*P	**P**	**19 37 44.2**	**-0.2**
HAU	**Haudompre**	**60.67**	**15**	*e*P	**P**	**19 37 46.0**	**+1.3**
	42nm,1.1s,mb5.2						
HAU				*e*R			
	1μm,21.0s						
DAVA	**Damuels**	**60.99**	**18**	⇑P	**P**	**19 37 46.8**	**-0.1**
	comp=Z,20nm,1.1s,mb5.2						
DAVA	**Damuels**	**60.99**	**18**	⇑P	**P**	**19 37 46.8**	**-0.1**
	20nm,1.1s,mb5.2						
CDF	**Champ du Feu**	**61.28**	**15**	*e*P	**P**	**19 37 48.1**	**-0.8**
	37nm,1.4s,mb5.0						
SQTA	**Sankt Quirin**	**61.34**	**19**	⇑P	**P**	**19 37 49.3**	**0.0**
	comp=Z,15nm,1.2s,mb5.0						
SQTA	**Sankt Quirin**	**61.34**	**19**	⇑P	**P**	**19 37 49.3**	**0.0**
SQTA				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
SQTA	**Sankt Quirin**	**61.34**	**19**	⇑P	**P**	**19 37 49.2**	**0.0**
	comp=Z,15nm,1.2s,mb5.0						
MOTA	**Moosalm**	**61.42**	**19**	⇓P	**P**	**19 37 49.5**	**-0.3**
	comp=Z,16nm,1.3s,mb5.0						
MOTA	**Moosalm**	**61.42**	**19**	⇓P	**P**	**19 37 49.5**	**-0.3**
MOTA				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
WTTA	**Wattenberg**	**61.51**	**19**	⇑P	**P**	**19 37 50.1**	**-0.4**
	comp=Z,16nm,1.2s,mb5.0						
WTTA	**Wattenberg**	**61.51**	**19**	⇑P	**P**	**19 37 50.1**	**-0.4**
WTTA				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
SNAA	**Sanae**	**61.54**	**176**	P	**P**	**19 37 49.9**	**-0.7**
	comp=Z,4.6nm,0.9s,mb4.6,baz=345,slow=7.8,SNR=6.1						
BAIF	**Baives**	**62.09**	**13**	*e*P	**P**	**19 37 54.4**	**0.0**
	comp=Z,20nm,1.0s,mb4.9						
GIVF	**Givet**	**62.27**	**13**	*e*P	**P**	**19 37 55.6**	**+0.1**
	comp=Z,54nm,1.3s,mb5.2						
ROSC	**El Rosal**	**62.79**	**281**	P	**P**	**19 38 01.4**	**+2.3**
	comp=Z,3.3nm,0.3s,mb4.9,baz=94,slow=22,SNR=4.1						
GRA1	**Grafenberg Arr**	**63.54**	**17**	*e*P	**P**	**19 38 04.7**	**+0.7**
	comp=Z,7.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**63.54**	**17**	*e*P	**P**	**19 38 04.7**	**+0.7**
	comp=Z,7.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**63.54**	**17**	*e*P	**P**	**19 38 04.7**	**+0.7**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**63.54**	**17**	*e*P	**P**	**19 38 04.7**	**+0.7**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KHC	**Kasperske Hory**	**63.77**	**19**	⇓*i*P	**P**	**19 37 56.3**	**-9.3**
NKC	**Novy Kostel**	**64.39**	**18**	*e*P	**P**	**19 38 05.6**	**-4.0**
NKC				AMS	AMS	20 04 40.0	
	comp=Z,800nm,17.7s						
MOX	**Moxa**	**64.51**	**17**	*e*(P)	**P**	**19 38 00.2**	**-10**
MOX							
	comp=Z,600nm,22.0s						
PSZ	**Piszkesteto**	**65.04**	**24**	*e*P	**P**	**19 38 14.8**	**+1.0**
PSZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
PSZ	**Piszkesteto**	**65.04**	**24**	*e*P	**P**	**19 38 14.8**	**+1.0**
	comp=Z,18nm,1.1s,mb5.0						
MORC	**Moravsky Berou**	**65.68**	**21**	*e*P	**P**	**19 38 18.4**	**+0.4**
MORC				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**65.68**	**21**	*e*P	**P**	**19 38 18.4**	**+0.4**
	comp=Z,10nm,1.2s,mb4.7						
DPC	**Dobruska-Polom**	**65.73**	**20**	*e*P	**P**	**19 38 16.2**	**-2.1**
DPC	**Dobruska-Polom**	**65.73**	**20**	*e*x	x	19 38 16.2	
OTAV	**Otavalo**	**65.79**	**275**	*e*P	**P**	**19 38 20.8**	**+2.1**
	comp=Z,24nm,1.3s,mb5.1						
MLR	**Muntele Rosu**	**65.82**	**29**	P	**P**	**19 38 18.9**	**0.0**
	comp=Z,16nm,0.9s,mb5.0,baz=217,slow=2.5,SNR=6.9						
BRTR	**Keskin Array B**	**66.08**	**38**	P	**P**	**19 38 19.6**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=211,slow=7.7,SNR=8.7						
BR131	**Keskin Array S**	**66.08**	**38**	*e*P	**P**	**19 38 20.6**	**0.0**
LVV	**L'vov**	**68.22**	**25**	*e*P	**P**	**19 38 33.6**	**-0.5**
AKASG	**Malin Array Be**	**71.11**	**27**	P	**P**	**19 38 51.4**	**-0.5**
	comp=Z,22nm,0.8s,mb5.1,baz=225,slow=6.9,SNR=13						
GNI	**Garni**	**73.40**	**43**	P	**P**	**19 39 06.2**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=244,slow=16,SNR=2.4						
ZEI	**Tsey**	**74.17**	**40**	*e*P	**P**	**19 39 10.9**	**+0.7**
VORD	**Divnogorie**	**76.10**	**31**	*e*P	**P**	**19 39 22.1**	**+0.8**
VRSR	**Storozhevoye**	**76.19**	**31**	*e*P	**P**	**19 39 22.7**	**+0.9**
VOR	**Voronezh**	**76.51**	**30**	*e*P	**P**	**19 39 25.4**	**+1.8**
OBN	**Obninsk**	**77.37**	**27**	*e*P	**P**	**19 39 23.1**	**-5.4**
FINES	**FINESS Array B**	**77.94**	**18**	P	**P**	**19 39 31.4**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.5,baz=151,slow=4.4,SNR=6.1						
QSPA	**South Pole Qui**	**79.73**	**180**	*e*P	**P**	**19 39 42.0**	**+0.5**
	comp=Z,7.7nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**84.13**	**13**	P	**P**	**19 40 03.2**	**-1.4**
	comp=Z,4.1nm,0.8s,mb4.6,baz=207,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**84.13**	**13**	P	**P**	**19 40 03.2**	**-1.4**
SUMG	**Summit**	**84.45**	**353**	*e*P	**P**	**19 40 08.1**	**+1.8**
	comp=Z,29nm,1.1s,mb5.3						
AKTK	**Aktyubinsk**	**86.26**	**37**	P	**P**	**19 40 15.6**	**+0.3**
AKTO	**Aktyubinsk**	**86.26**	**37**	P	**P**	**19 40 15.6**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.4,baz=168,slow=8.6,SNR=4.4						
ARU	**Arti**	**88.72**	**32**	P	**P**	**19 40 27.3**	**+0.2**
JCT	**Junction City**	**92.36**	**300**	*e*P	**P**	**19 40 44.9**	**+0.8**
JCT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
JCT	**Junction City**	**92.36**	**300**	*e*P	**P**	**19 40 44.9**	**+0.7**
	comp=Z,8.9nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**94.36**	**37**	P	**P**	**19 40 53.3**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.3,baz=256,slow=4.0,SNR=3.7						
NVS	**Novosibirsk**	**102.09**	**36**	*i*P	Pdif	19 41 30.5	+2.4
ZAL	**Zalesovo**	**103.00**	**37**	P	Pdif	19 41 33.6	+1.5
SONM	**Songino Array**	**117.34**	**41**	PKP	PKPdf	19 46 19.1	0.0
	comp=Z,0.9nm,0.9s,baz=232,slow=2.3,SNR=6.7						
MA2	**Magadan**	**129.46**	**11**	*e*P	Pdif	19 43 20.8	-9.0
ASAR	**Alice Springs**	**133.25**	**137**	PKP	PKPdf	19 46 49.1	-0.4
	comp=Z,0.7nm,0.9s,baz=189,slow=2.6,SNR=5.2						
MJAR	**Matsushiro Ar**	**143.28**	**40**	PKP	PKPdf	19 47 05.8	-2.1
	comp=Z,2.2nm,1.0s,baz=290,slow=4.6,SNR=5.1						

NAO ***20*** *19:30:03.8, 2432N×5846E, h33km, mb4.7*
OMAN ***20*** *19:30:19.1, 2972N×5391E, h25km, Error ellipse: s-maj=30.5km s-min=2.1km az=345.0*
BJI ***20*** *19:30:39.6, 2827N×5417E, h43km, mB5.1, mb4.7, Ms4.6, Msz4.2*
TEH ***20*** *19:30:39.4, 2788N×5480E, h7km, Mn4.4*
CSEM ***20*** *19:30:41.1±0.0, 2818N×5476E, h30km, mb4.8/70, Ms4.1, Error ellipse: s-maj=1.6km s-min=1.1km az=16.0*
NEIC ***20*** *19:30:41.5, 2819N×5481E, h15km, mb4.8/34, ML4.6(THR), MN4.5(TEH), After THR.*
MOS ***20*** *19:30:41.8±0.8, 2816N×5479E, h33km, mb4.9/44, Error ellipse: s-maj=6.9km s-min=4.3km az=103.0*
THR ***20*** *19:30:41.5±0.8, 2819N×5481E, h15km±6km, ML4.6*
SZGRF ***20*** *19:30:42.7, 2921N×5507E, h33km, mb4.2, Southern Iran*
IDC ***20*** *19:30:42.3±2.3, 2816N×5480E, h24km±14km, mb4.3/26, mb1 4.5/28, mb1mx4.4/30, mbtmp4.5/28, ML4.1/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/29, Error ellipse: s-maj=12.3km s-min=10.1km az=110.0*
ISCJB ***20*** *19:30:42.3±0.3, 2813N±002×5473E±002, h40km±3km, mb4.7/117, MS4.0/21, Error ellipse: s-maj=3.3km s-min=2.7km az=80.3*
ISC 20 19:30:44.4±0.3, 2812N±002×5474E±002, h42km±2km, h36km±4.0km: pP-P, n408, σ0.998/451, mb4.7/117, MS4.0/21, 18C-14D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.46**	**119**	*e*PG	**Pn**	**19 31 08.0**	**-0.2**
BNDS				AML	AML	19 31 32.6	
	comp=N,9μm,0.6s						
BNDS				AML	AML	19 31 36.5	
	comp=E,7μm,0.4s						
GHIR	**Ghir-Karzin**	**1.55**	**277**	*e*PG	**Pn**	**19 31 11.0**	**+1.5**
GHIR				*e*SG	**Sn**	**19 31 32.8**	**+4.4**
GHIR				AML	AML	19 31 38.4	
	comp=N,6μm,0.5s						
GHIR				AML	AML	19 31 41.0	
	comp=E,8μm,0.5s						
GHIR	**Ghir-Karzin**	**1.55**	**277**	*e*Pg	**Pn**	**19 31 11.0**	**+1.5**
	SNR=90						
GHIR				*e*Sg	**Sn**	**19 31 32.8**	**+4.3**
	comp=E,8μm,0.5s,SNR=90						
GHIR	**Ghir-Karzin**	**1.55**	**277**	*e*Pg	**Pn**	**19 31 11.0**	**+1.5**
GHIR				*e*Sg	**Sn**	**19 31 32.8**	**+4.4**
IMOK	**Mook**	**2.01**	**298**	*e*Pn	**Pn**	**19 31 17.0**	**+1.3**
IPAR	**Pars**	**2.27**	**320**	*e*Pn	**Pn**	**19 31 20.2**	**+0.9**
IPAR				*e*Sn	**Sn**	**19 31 50.1**	**+4.0**
SHI	**Shiraz**	**2.47**	**308**	*e*Pn	**Pn**	**19 31 23.6**	**+1.5**
SHI				*e*Sn	**Sn**	**19 31 56.0**	**+4.9**
KRBR	**Kerman**	**2.57**	**43**	*e*PN	**Pn**	**19 31 24.1**	**+0.6**
KRBR				*e*SG	**Sn**	**19 31 59.2**	**+5.7**
KRBR				AML	AML	19 32 06.5	
	comp=N,3μm,0.6s						
KRBR				AML	AML	19 32 14.6	
	comp=E,2μm,0.7s						
KRBR	**Kerman**	**2.57**	**43**	*e*Pn	**Pn**	**19 31 24.1**	**+0.6**
KRBR				*e*Sg	**Sn**	**19 31 59.2**	**+5.7**
BANOM	**Banah**	**2.59**	**147**	P	**Pn**	**19 31 23.5**	**-0.3**
	SNR=273						
BANOM				P		19 31 23.7	
	SNR=12						
IMEH	**Mehriz**	**3.27**	**358**	*e*Pn	**Pn**	**19 31 34.1**	**+1.1**
IMEH				*e*Sn	**Sn**	**19 32 15.2**	**+4.6**
IBAF	**Bafgh**	**3.54**	**12**	*e*Pn	**Pn**	**19 31 36.9**	**+0.2**
IBAF				*e*Sn	**Sn**	**19 32 19.6**	**+2.3**
ASHO	**Ashiyiah**	**3.62**	**161**	P	**Pn**	**19 31 38.6**	**+0.7**
	SNR=44						
ISAD	**Sadrabad**	**3.89**	**347**	*e*Sn	**Sn**	**19 32 28.9**	**+2.8**
ICHK	**Chekchek**	**4.12**	**356**	*e*Pn	**Pn**	**19 31 45.2**	**+0.4**
ICHK				*e*Sn	**Sn**	**19 32 35.8**	**+4.0**
IGAR	**Garneh**	**4.67**	**332**	*e*Pn	**Pn**	**19 31 55.8**	**+3.6**
NASN	**Na'in**	**4.96**	**341**	*e*PN	**Pn**	**19 31 56.7**	**+0.5**
ARQ	**Araqi**	**5.02**	**161**	P	**Pn**	**19 31 57.3**	**+0.1**
	SNR=23						
HOQ	**Hoqain**	**5.08**	**152**	P	**Pn**	**19 31 58.5**	**+0.6**
	SNR=22						
IZEF	**Zefreh**	**5.20**	**337**	*e*Pn	**Pn**	**19 31 59.2**	**-0.4**
IZEF				*e*Sn	**Sn**	**19 33 00.0**	**+1.8**
BIDO	**Bidbid**	**5.50**	**146**	P	**Pn**	**19 32 02.8**	**-0.9**
	SNR=40						
ZHSF	**Zahedan**	**5.50**	**73**	*e*PN	**Pn**	**19 32 04.2**	**+0.5**
IPIR	**Pirpir**	**5.63**	**325**	*e*Pn	**Pn**	**19 32 04.9**	**-0.7**
IPIR				*e*Sn	**Sn**	**19 33 09.8**	**+0.8**
BSY	**Bisya**	**5.79**	**157**	P	**Pn**	**19 32 08.0**	**+0.2**
	SNR=51						
BSYO	**Bisya**	**5.82**	**157**	P	**Pn**	**19 32 08.0**	**-0.1**
	SNR=51						
IKLH	**Kalahroud**	**5.86**	**333**	*e*Pn	**Pn**	**19 32 08.6**	**0.0**
IKLH				*e*Sn	**Sn**	**19 33 15.5**	**+1.1**
SMDO	**Samad**	**5.86**	**149**	P	**Pn**	**19 32 09.0**	**+0.4**
	SNR=167						
QRN	**Al-Qurain**	**6.04**	**278**	*e*P	**Pn**	**19 32 11.0**	**-0.1**
QRN				AML	AML	19 33 20.5	
	comp=Z,259nm,0.2s						
KBD	**Kabd**	**6.28**	**281**	*e*P	**Pn**	**19 32 14.4**	**0.0**
KBD				AML	AML	19 33 26.9	
	comp=Z,832nm,0.3s						
KBD	**Kabd**	**6.28**	**281**	*e*P	**Pn**	**19 32 14.2**	**-0.2**
UMR	**Umm Al-Rimmam**	**6.32**	**285**	*e*P	**Pn**	**19 32 14.8**	**-0.2**
UMR				AML	AML	19 33 25.2	
	comp=Z,125nm,0.3s						
RDF	**Al-Radifah**	**6.38**	**279**	*e*P	**Pn**	**19 32 15.2**	**-0.5**
RDF				AML	AML	19 33 30.6	
	comp=Z,170nm,0.3s						
RDF	**Al-Radifah**	**6.38**	**279**	*e*P	**Pn**	**19 32 14.9**	**-0.8**
NAY	**Al-Naaiem**	**6.68**	**282**	*e*P	**Pn**	**19 32 19.6**	**-0.3**
NAY				AML	AML	19 33 36.6	
	comp=Z,69nm,0.4s						
NAY	**Al-Naaiem**	**6.68**	**282**	*e*P	**Pn**	**19 32 20.0**	**+0.1**
WBK	**Wadi Bani Khal**	**6.69**	**144**	P	**Pn**	**19 32 19.1**	**-0.9**
	SNR=57						
MIB	**Mutribah**	**6.70**	**286**	*e*P	**Pn**	**19 32 19.8**	**-0.3**
MIB				AML	AML	19 33 33.1	
	comp=Z,90nm,0.4s						
MIB	**Mutribah**	**6.70**	**286**	*e*P	**Pn**	**19 32 19.2**	**-0.9**
IVRN	**Varamin**	**7.32**	**340**	*e*Pn	**Pn**	**19 32 28.3**	**-0.4**
IVRN				*e*Sn	**Sn**	**19 33 50.0**	**-0.5**
IANJ	**Anjiloo**	**7.36**	**355**	*e*Pn	**Pn**	**19 32 29.5**	**+0.2**
IQOM	**Qom**	**7.40**	**336**	*e*Pn	**Pn**	**19 32 29.0**	**-0.8**
IQOM				*e*Sn	**Sn**	**19 33 52.0**	**-0.4**
ILAS	**Lasjerd**	**7.40**	**349**	*e*Pn	**Pn**	**19 32 29.7**	**-0.1**
ILAS				*e*Sn	**Sn**	**19 33 52.0**	**-0.4**
ASAO	**Ashtian**	**7.57**	**329**	*e*PN	**Pn**	**19 32 33.0**	**+0.8**
IFIR	**Firoozkooh**	**7.69**	**348**	*e*Pn	**Pn**	**19 32 34.3**	**+0.5**
ISHM	**Shahmirzad**	**7.76**	**351**	*e*Pn	**Pn**	**19 32 35.2**	**+0.4**
ISHM				*e*Sn	**Sn**	**19 34 00.7**	**-0.7**
DAMV	**Damavand**	**7.85**	**343**	*e*PN	**Pn**	**19 32 36.8**	**+0.8**
IKIA	**Kiasar**	**8.12**	**354**	*e*Pn	**Pn**	**19 32 40.5**	**+0.9**
IKIA				*e*Sn	**Sn**	**19 34 08.8**	**-1.2**
IGLO	**Galoogah**	**8.24**	**353**	*e*Pn	**Pn**	**19 32 44.8**	**+3.6**
IRAZ	**Razeghan**	**8.34**	**332**	*e*Pn	**Pn**	**19 32 46.2**	**+3.6**
IRAZ				*e*Sn	**Sn**	**19 34 14.0**	**-1.5**
CHTH	**Charan**	**8.35**	**339**	*e*PN	**Pn**	**19 32 43.9**	**+1.1**
IPRN	**Paran-Amol**	**8.37**	**346**	*e*Pn	**Pn**	**19 32 43.0**	**-0.1**
IPRN				*e*Sn	**Sn**	**19 34 14.8**	**-1.5**
THKV	**Tehran--Karaj**	**8.44**	**338**	*e*PN	**Pn**	**19 32 45.3**	**+1.3**
IMOG	**Moghan**	**8.87**	**25**	*e*Pn	**Pn**	**19 32 48.9**	**-1.0**
IMOG				*e*Sn	**Sn**	**19 34 25.4**	**-3.1**
IKRD	**Kardeh**	**9.20**	**19**	*e*Pn	**Pn**	**19 32 57.7**	**+3.2**
IKRD				*e*Sn	**Sn**	**19 34 40.9**	**+4.2**
ISFR	**Esferayen**	**9.32**	**16**	*e*Pn	**Pn**	**19 32 55.6**	**-0.5**
IMYA	**Miamay**	**9.37**	**28**	*e*Pn	**Pn**	**19 32 58.0**	**+1.2**
ILIN	**Laeen**	**9.48**	**318**	*e*Pn	**Pn**	**19 32 57.6**	**-0.7**
ILIN				*e*Sn	**Sn**	**19 34 40.7**	**-2.9**
IDHR	**Dehrash**	**9.69**	**315**	*e*Pn	**Pn**	**19 32 57.9**	**-

SNR=38
KAD Karad 20.89 117 *e*P **P 19 35 24.7 +1.8**
KAD AMb AMB 19 35 26.9
comp=Z,20nm,1.3s
BR131 Keskin Array S 20.94 309 *e*P **P 19 35 23.9 +0.5**
comp=Z,11nm,0.7s
BR131 Keskin Array S 20.94 309 *e*P **P 19 35 23.9 +0.4**
comp=Z,12nm,0.7s
BRTR Keskin Array B 20.94 309 P **P 19 35 24.2 +0.8**
comp=Z,15nm,0.8s,baz=129,slow=14,SNR=73
BRTR Keskin Array B 20.94 309 P **P 19 35 24.2 +0.8**
KSH Kashi 20.94 52 *e*P **P 19 35 23.0 -0.4**
KSH *e*AP 19 35 31.3
KSH *e*XP sP 19 35 36.3 -2.9
KSH *e*PP 19 35 44.3
KSH *e*PPP 19 35 53.0
KSH *e*S **S 19 39 04.6 -10**
KSH AMB AMB
comp=Z,100nm,4.4s
KSH LR LR
comp=N,700nm,10.0s,MS4.5
KSH LR LR
comp=E,660nm,10.2s,MS4.5
BOYT Boyabat 20.95 314 *i* P **P 19 35 24.0 +0.4**
BHPL Bhopal 21.00 98 *e*P **P 19 35 23.3 -0.9**
BHPL *e*P 19 35 24.0
BHPL AMb AMB 19 35 29.1
comp=Z,46nm,1.9s,mb4.5
BHPL AMb AMB 19 35 30.0
comp=Z,43nm,1.4s,mb4.6
BHPL *e*S **S 19 39 19.5 +3.8**
BHPL *e*S **S 19 39 25.4 +10**
KONT Konya--Tatoy 21.12 303 *e*P **P 19 35 26.5 +1.0**
EKS2 Erkin-Say 21.18 42 P **P 19 35 26.8 +0.7**
SNR=21
UCH Uchtor 21.37 44 P **P 19 35 27.9 -0.2**
SNR=21
ELDT Eldivan 21.44 311 *i* P **P 19 35 29.1 +0.3**
AB31 Akbulak array 21.48 9 *i* P **P 19 35 29.9 +0.6**
comp=Z,44nm,1.1s,mb4.7
AB31 Akbulak array 21.48 9 *i* P **P 19 35 29.9 +0.6**
AB31 pmax pmax
comp=Z,44nm,1.1s,mb4.7
ANTO Ankara 21.58 309 *e*P **P 19 35 29.3 -1.1**
ANTO Ankara 21.58 309 *e*P **P 19 35 31.4 +1.0**
comp=Z,55nm,1.3s,mb4.8
ANTO Ankara 21.58 309 *e*P **P 19 35 31.4 +1.0**
ANTO pmax pmax
comp=Z,55nm,1.3s,mb4.8
AAK Ala-Archa 21.59 43 P **P 19 35 31.2 +0.8**
SNR=26
AAK Ala-Archa 21.59 43 *e*P **P 19 35 30.0 -0.5**
comp=Z,28nm,0.9s,mb4.7
AAK Ala-Archa 21.59 43 *d* *i*P **P 19 35 30.1 -0.4**
AAK pmax pmax
comp=Z,59nm,1.7s,mb4.7
ANN Anapa 21.63 325 *e*P **P 19 35 37.3 +6.4**
ANN *e**PP 19 35 50.7
ANN *e* 19 36 00.4
ANN *e*S **S 19 39 37.8 +10**
ANN *e*SS 19 40 17.6
ANN pmax pmax
comp=Z,51nm,1.5s,mb4.7
KZA Kyzart 21.74 45 P **P 19 35 32.2 +0.2**
SNR=36
FRU Bishkek 21.78 42 *e*P **P 19 35 35.0 +2.5**
FRU *e* 19 35 58.0
FRU *e* 19 39 40.0
FRU pmax pmax
comp=Z,60nm,1.9s,mb4.7
KBK Karagaybulak 21.88 43 P **P 19 35 33.8 +0.3**
SNR=16
CHMS Chumysh 21.96 42 P **P 19 35 36.7 +2.3**
SNR=7.7
USP Ospenovka 21.97 41 P **P 19 35 36.7 +2.2**
SNR=15
BALT Daday 21.98 313 *i* P **P 19 35 32.9 -1.8**
BALT Daday 21.98 313 *i* P **P 19 35 32.8 -1.8**
TKM2 Tokmak 2 22.42 43 P **P 19 35 41.1 +1.8**
SNR=7.5
TKM2 Tokmak 2 22.42 43 *i* P **P 19 35 38.7 -0.6**
comp=Z,19nm,1.4s,mb4.3
TKM2 Tokmak 2 22.42 43 *i* P **P 19 35 38.7 -0.6**
TKM2 pmax pmax
comp=Z,19nm,1.4s,mb4.3
AKTK Aktyubinsk 22.43 6 *i* P **P 19 35 38.5 -0.9**
comp=Z,12nm,1.6s,mb4.1
AKTK Aktyubinsk 22.43 6 P **P 19 35 38.8 -0.6**
AKTK S **S 19 39 45.9 +2.4**
AKTK LR LR 19 45 59.9
AKTO Aktyubinsk 22.43 6 P **P 19 35 38.8 -0.6**
comp=Z,9.8nm,0.6s,mb4.4,baz=192,slow=11,SNR=38
AKTO S **S 19 39 45.9 +2.4**
comp=Z,1.1nm,0.7s,baz=120,slow=20,SNR=3.0
AKTO LR LR 19 45 59.9
comp=Z,216nm,20.4s,MS3.6,baz=0.0,slow=41
AKTO Aktyubinsk 22.43 6 *i* P **P 19 35 38.5 -0.9**
AKTO pmax pmax
comp=Z,12nm,1.6s,mb4.1
ULHL Ulahol 22.45 45 P **P 19 35 40.3 +0.7**
SNR=12
ELL Elmali 22.61 299 *e*P **P 19 35 41.8 +0.5**
TKTP Tekketepe 22.67 302 *i* P **P 19 35 42.2 +0.3**
TKTP Tekketepe 22.67 302 *i* P **P 19 35 42.2 +0.2**
ESKT Eskisehir 22.80 306 *e*P **P 19 35 43.2 -0.2**
ESKT Eskisehir 22.80 306 *i* P **P 19 35 43.0 -0.4**
SEYT Eskypehyr 22.80 306 *i* P **P 19 35 43.0 -0.4**
ALT Altintas 23.17 304 *e*P **P 19 35 45.3 -1.9**
FETY Fethiye 23.22 298 *e*P **P 19 35 47.4 -0.4**
BORA Eskisehir 23.23 307 *i* P **P 19 35 46.2 -1.6**
KHL Karahalli 23.36 302 *e*P **P 19 35 44.6 -4.5**
SIM Simferopol' 23.49 321 *e*P **P 19 35 50.6 +0.2**
comp=Z,22nm,1.0s,mb4.5
SIM Simferopol' 23.49 321⇑ *e*P **P 19 35 50.6 +0.2**
SIM S **S 19 39 52.1 -8.7**
SIM pmax pmax
comp=Z,22nm,1.0s,mb4.5
SIM MLR MLR
comp=Z,100nm,17.0s,MS3.4
DNZL Cakiroluk 23.53 301 *i* P **P 19 35 50.8 +0.1**
ULDT Uludag 24.26 306 *i* P **P 19 35 58.6 +1.2**
HYB Hyderabad 24.36 111 *i* P **P 19 36 00.0 +1.7**
HYB Hyderabad 24.36 111 *e*P **P 19 36 00.0 +1.7**
BODT Bodrum 24.70 298 *e*P **P 19 35 57.2 -4.3**
AKS Akhisar 24.80 303 *e*P **P 19 35 55.1 -7.2**
BTOK Tokmak 24.92 305 *i* P **P 19 36 03.2 -0.2**
VRHR Novokhopersk 25.00 340 *e*P **P 19 36 03.9 -0.2**
comp=Z,100nm,1.5s,mb5.1
VRHR Novokhopersk 25.00 340 *e*P **P 19 36 03.9 -0.2**
VRHR pmax pmax
comp=Z,60nm,1.2s,mb5.0
VRHR pmax pmax
comp=N,100nm,1.5s
VRHR pmax pmax
comp=E,50nm,1.9s
KDAG Bornova 25.07 301 *i* P **P 19 36 05.8 +1.0**
BNT Bandirma 25.21 306 *e*P **P 19 36 06.2 +0.2**
KOLN Koldanda 25.48 84 *e*P **P 19 36 09.0 +0.5**
comp=E,105nm,1.5s,mb5.2
VORD Divnogorie 25.64 337 *e*P **P 19 36 11.1 +1.2**
comp=E,80nm,1.2s,mb5.1
VORD Divnogorie 25.64 337 *e*P **P 19 36 11.1 +1.2**
VORD pmax pmax
comp=Z,30nm,1.0s,mb4.8
VORD pmax pmax
comp=N,80nm,1.2s
VORD pmax pmax
comp=E,40nm,0.9s
VRSR Storozhevoye 25.88 337 *e*P **P 19 36 11.6 -0.5**
comp=E,1.0nm,0.9s
VRSR Storozhevoye 25.88 337 *e*P **P 19 36 11.6 -0.5**
VRSR pmax pmax
comp=Z,1.0nm,0.9s
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=E,1.0nm,0.7s
SANT Santorini 26.02 296 *e*P **P 19 36 12.3 -1.1**
comp=E,127nm,1.1s,mb5.4
SANT Santorini 26.02 296 *e*P **P 19 36 12.3 -1.1**
comp=E,127nm,1.1s,mb5.4
APE Apeiranthos 26.10 297 *e*P **P 19 36 12.5 -1.5**
APE Apeiranthos 26.10 297 P **P 19 36 15.4 +1.3**
APE Apeiranthos 26.10 297⇑ P **P 19 36 15.4 +1.3**
VOR Voronezh 26.31 338 *e*P **P 19 36 16.0 0.0**
VOR pmax pmax
comp=N,50nm,1.2s
VOR pmax pmax
comp=Z,70nm,1.2s,mb5.1
VOR pmax pmax
comp=E,90nm,1.0s
IDI Anoyia 26.32 293 P **P 19 36 17.0 +0.9**
comp=E,6.6nm,0.3s,mb4.6,baz=85,slow=9.3,SNR=34
GKN Gorkha 26.36 83 *e*P **P 19 36 16.5 +0.1**
EDRB Edirne 26.58 308 *e*P **P 19 36 16.7 -1.7**
TIRR Tirgusor 26.60 315⇑ P **P 19 36 18.2 -0.4**
TIRR Tirgusor 26.60 315⇑ P **P 19 36 18.2 -0.4**
DMN Daman 26.82 84 *e*P **P 19 36 21.0 +0.4**
comp=E,46nm,1.2s,mb4.9
KKN Kakani 26.95 83 *e*P **P 19 36 22.2 +0.4**
comp=E,62nm,1.2s,mb5.0
KKN Kakani 26.95 83 *e*P **P 19 36 22.2 +0.4**
KKN pmax pmax
comp=Z,31nm,1.2s,mb4.7
ZRNK Zerenda 26.97 19 *e*P **P 19 36 21.3 -0.7**
comp=Z,4.0nm,0.8s,mb4.0
ZRNK Zerenda 26.97 19 *e*P **P 19 36 21.3 -0.7**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
ZRNK Zerenda 26.97 19 *e*P **P 19 36 21.3 -0.7**
comp=Z,4.5nm,0.8s,mb4.0
PKI Pulchoki 27.09 84 *e*P **P 19 36 23.3 +0.2**
VOSK Vostochnaya 27.39 22 P **P 19 36 25.0 -0.7**
comp=Z,10.0nm,0.9s,mb4.3
VOSK Vostochnaya 27.39 22 P **P 19 36 25.0 -0.7**
VOSK pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
BRVK Borovoye 27.45 21 *e*P **P 19 36 25.3 -0.9**
comp=Z,7.0nm,1.0s,mb4.2
BRVK Borovoye 27.45 21 *e*P **P 19 36 25.3 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BRVK Borovoye 27.45 21 *e*P **P 19 36 25.3 -0.9**
comp=Z,7.0nm,1.0s,mb4.2
BVA0 Borovoye Array 27.45 21 *i* P **P 19 36 25.9 -0.4**
comp=Z,3.0nm,1.0s,mb3.8
BVA0 Borovoye Array 27.45 21 *i* P **P 19 36 25.9 -0.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
BVAR Borovoye Array 27.45 21 P **P 19 36 25.9 -0.4**
comp=Z,11nm,0.8s,mb4.4,baz=202,slow=7.5,SNR=80
BVAR PcP PcP 19 39 44.4 +0.4
comp=Z,0.4nm,0.3s,baz=222,slow=3.7,SNR=5.0
BVAR ScP ScP 19 43 23.1 +2.1
comp=Z,0.7nm,0.6s,baz=240,slow=4.5,SNR=4.7
BVAR Borovoye Array 27.45 21 P **P 19 36 25.9 -0.4**
BVAR 19 39 44.4
GUN Gumba 27.46 83 *e*P **P 19 36 26.8 +0.5**
JIRN Jiri 27.77 83 *e*P **P 19 36 29.3 +0.2**
comp=Z,33nm,1.1s,mb4.9
BOK Bokaro 28.29 92 *e*P **P 19 36 34.9 +1.2**
BOK AMb AMB 19 36 38.9
comp=Z,31nm,0.8s,mb5.0
ARU Arti 28.43 4 *e*P **P 19 36 34.6 -0.4**
comp=Z,3.9nm,0.7s,mb4.2
ARU Arti 28.43 4 *e*S **S 19 41 16.8 -2.4**
ARU Arti 28.43 4⇓ *i*P **P 19 36 35.2 +0.2**
ARU *e* 19 37 24.2
ARU *e*PPP 19 37 33.3
ARU *e* 19 39 43.1
ARU *e*S **S 19 41 16.8 -2.4**
ARU *e*SS SS 19 42 37.3 -43
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
ARU Arti 28.43 4 *e*P **P 19 36 34.6 -0.3**
comp=Z,3.9nm,0.7s,mb4.2
MK31 Makanchi Array 28.52 42 *i* P **P 19 36 35.4 -0.4**
comp=Z,2.0nm,0.5s,mb4.1
MK31 Makanchi Array 28.52 42 *i* P **P 19 36 35.4 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MKAR Makanchi Array 28.52 42 P **P 19 36 35.5 -0.2**
comp=Z,2.3nm,0.8s,mb4.0,baz=229,slow=9.2,SNR=29
MKAR LR LR 19 48 35.3
comp=Z,82nm,19.0s,MS3.4,baz=40,slow=38
MLR Muntele Rosu 28.63 315 P **P 19 36 38.2 +1.4**
comp=Z,2.4nm,0.5s,mb4.2,baz=42,slow=5.6,SNR=5.5
MLR Muntele Rosu 28.63 315 P **P 19 36 39.6 +2.8**
MLR Muntele Rosu 28.63 315⇑ P **P 19 36 39.6 +2.8**
KURK Kurchatov 28.92 32 *e*P **P 19 36 39.0 -0.3**
comp=Z,18nm,1.4s,mb4.6
KURK Kurchatov 28.92 32 *c* *i*P **P 19 36 39.1 -0.2**
KURK Kurchatov 28.92 32 *e*P **P 19 36 39.0 -0.3**
comp=Z,18nm,1.4s,mb4.6
VOIR 29.17 314⇓ P **P 19 36 42.9 +1.3**
VOIR 29.17 314⇓ P **P 19 36 42.9 +1.4**
AKASG Malin Array Be 29.69 326 P **P 19 36 45.3 -0.8**
comp=Z,6.0nm,0.8s,mb4.4,baz=131,slow=8.0,SNR=24
OBN Obninsk 30.02 339 *i* P **P 19 36 49.0 -0.1**
comp=Z,42nm,1.7s,mb4.9
OBN *e*S **S 19 41 40.2 -4.0**
comp=Z,100nm,18.0s
OBN Obninsk 30.02 339 *c* *i*P **P 19 36 49.0 -0.1**
OBN *e*S **S 19 41 40.2 -4.0**
OBN pmax pmax
comp=Z,42nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.5
OBN Obninsk 30.02 339 *e*P **P 19 36 49.0 -0.1**
comp=Z,13nm,0.4s,mb5.0
BURAR Bucovina Array 30.09 318⇑ P **P 19 36 50.8 +1.1**
BURAR Bucovina Array 30.09 318⇑ P **P 19 36 50.8 +1.1**
WMQ Urumqi 30.69 50⇑ *i*P **P 19 36 55.0 0.0**
WMQ XP sP 19 37 09.0 -2.5
WMQ PP PP 19 37 55.0 -10
WMQ S **S 19 41 53.0 -1.8**
WMQ SS SS 19 43 36.0 -31
WMQ AMB AMB
comp=Z,17nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,135nm,4.0s
WMQ LR LR
comp=N,415nm,12.0s,MS4.4
WMQ LR LR
comp=E,187nm,10.0s,MS4.4
WMQ LR LR
comp=Z,149nm,10.0s,MS3.9
DRGR 31.22 315⇓ P **P 19 37 00.4 +0.7**
DRGR 31.22 315⇓ P **P 19 37 00.4 +0.7**
BZS Buzias 31.44 313⇓ P **P 19 37 02.2 +0.6**
BZS Buzias 31.44 313⇓ P **P 19 37 02.2 +0.5**
SOKR Solikamsk 31.48 2 *e*P **P 19 37 01.7 -0.2**
comp=Z,160nm,16.0s
SOKR Solikamsk 31.48 2 *e*P **P 19 37 01.7 -0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
SOKR MLR MLR
comp=Z,160nm,16.0s,MS3.8
LSA Lhasa 31.84 78 *e*P **P 19 37 06.0 +0.9**
comp=Z,7.0nm,1.0s,mb4.5
LSA Lhasa 31.84 78 *e*P **P 19 37 06.0 +0.9**
LSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSA Lhasa 31.84 78 *e*P **P 19 37 06.0 +0.9**
comp=Z,6.5nm,1.0s,mb4.4
LVV L'vov 31.89 321 *e*P **P 19 37 05.9 +0.3**
UZH Uzhgorod 32.30 318 *e*P **P 19 37 02.0 -7.1**
UZH *e*S **S 19 42 29.0 +9.2**
KOLS Kolonicke sedl 32.45 319 *e*P **P 19 37 10.7 +0.2**
KOLS *e* 19 37 25.1
KWP Kalwaria 32.53 320 *e*P **P 19 37 11.4 +0.2**
CRVS Cervenica-Dubn 32.91 318 *e*P **P 19 37 15.9 +1.4**
KECS Kecovo 33.31 317 *e*P **P 19 37 17.8 -0.2**
KMBO Kilima Mbogo 33.57 213 P **P 19 37 21.6 +1.3**
comp=Z,2.1nm,0.9s,mb4.0,baz=40,slow=16,SNR=2.5
NVS Novosibirsk 33.75 30 *i* P **P 19 37 19.5 -2.4**
comp=Z,13nm,1.4s,mb4.7
NVS *i* S **S 19 42 41.6 -0.9**
NVS Novosibirsk 33.75 30 *i* P **P 19 37 19.5 -2.4**
NVS *i* S **S 19 42 41.6 -0.9**
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.7
NVS pmax pmax
comp=N,12nm,1.2s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS smax
comp=N,13nm,1.4s
NVS smax
comp=E,5.0nm,1.3s
ZAL Zalesovo 33.89 32 P **P 19 37 22.4 -0.7**
comp=E,7.7nm,0.8s,mb4.7,baz=240,slow=9.4,SNR=56
ZAL S **S 19 42 44.6 0.0**
comp=E,0.5nm,0.4s,baz=72,slow=22,SNR=5.7
ZAL LR LR 19 53 38.2
comp=E,244nm,19.6s,MS3.9,baz=13,slow=41
ZAL Zalesovo 33.89 32 P **P 19 37 22.4 -0.7**
ZAL S **S 19 42 44.6 0.0**
KLMR Klimovskoe 34.31 347 *i* P **P 19 37 25.4 -1.3**
comp=E,30nm,1.6s,mb5.0
KLMR Klimovskoe 34.31 347 *d* *i*P **P 19 37 25.4 -1.3**
KLMR pmax pmax
comp=Z,30nm,1.6s,mb5.0
SUW Suwalki 34.65 327 *e*P **P 19 37 29.2 -0.4**
VRAC Vranov 35.99 317 P **P 19 37 42.2 +1.0**
VRAC Vranov 35.99 317⇑ P **P 19 37 42.2 +1.1**
VSU Vasula 36.03 335 *i* P **P 19 37 41.1 -0.4**
VSU Vasula 36.03 335 *c* *i*P **P 19 37 41.1 -0.4**
KSP Ksiaz 36.76 319 *e*P **P 19 37 47.4 -0.3**
MOA Molln 36.95 313⇓ P **P 19 37 49.5 +0.1**
comp=Z,14nm,1.3s,mb4.6
PRU Pruhonice 37.48 317 *e*P **P 19 37 53.2 -0.6**
PRU *e*x x 19 38 12.0
PRU AMS AMS 20 03 50.0
comp=Z,800nm,16.5s
PRU Pruhonice 37.48 317 *e*P **P 19 37 53.2 -0.6**
comp=Z,800nm,16.5s
GERES GERESS Array B 37.62 315 P **P 19 37 54.1 -0.9**
comp=Z,1.0nm,0.5s,mb3.8,baz=101,slow=7.6,SNR=13
GERES PcP PcP 19 40 12.2 +0.2
comp=Z,0.7nm,0.7s,baz=108,slow=3.2,SNR=3.7
GERES ScP ScP 19 43 57.7 +1.8
comp=Z,0.8nm,0.8s,baz=134,slow=3.9,SNR=6.8
GERES GERESS Array B 37.62 315 P **P 19 37 54.1 -0.9**
GERES 19 40 12.2
GERES GERESS Array B 37.62 315 P **P 19 37 54.1 -0.9**
GERES PcP PcP 19 40 12.2 +0.2
GERES ScP ScP 19 43 57.7 +1.8
KHC Kasperske Hory 37.79 315 *e*P **P 19 37 55.8 -0.6**
KHC x pP 19 38 08.0 0.0
KHC AMS AMS 20 04 20.0
comp=Z,800nm,16.5s
KHC Kasperske Hory 37.79 315 *e*P **P 19 37 55.8 -0.6**
KHC *e* pP 19 38 08.0 0.0
KHC *e* 19 39 42.0
KHC MLR MLR
comp=Z,800nm,16.5s,MS4.6
KHC Kasperske Hory 37.79 315 *e*P **P 19 37 55.8 -0.6**
KHC *e* pP 19 38 08.0 0.0
KHC *e* 19 39 42.0
KHC LR LR
comp=Z,800nm,16.5s,MS4.6
JOF Joensuu 38.02 343 *e*p **P 19 37 59.3 +0.9**
comp=Z,2.9nm,0.4s,mb4.4
JOF Joensuu 38.02 343 *e*P **P 19 37 59.3 +0.9**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
BRG Berggiesshubel 38.15 318 *e*P **P 19 37 58.7 -0.8**
comp=Z,1.0nm,5.1s
BRG Berggiesshubel 38.15 318 *e*P **P 19 37 59.4 -0.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
BRG MLR MLR
comp=N,372nm,23.5s,MS4.3
BRG MLR MLR
comp=E,367nm,20.5s,MS4.3
BRG MLR MLR
comp=Z,410nm,17.5s,MS4.3
FINES FINESS Array B 38.41 338 P **P 19 38 01.4 -0.3**
comp=Z,8.3nm,0.5s,mb4.7,baz=138,slow=9.4,SNR=129
FINES FINESS Array B 38.41 338 P **P 19 38 01.4 -0.3**
GTA Gaotai 38.77 61⇑ P **P 19 38 05.8 +1.1**
GTA XP sP 19 38 19.8 -1.6
GTA PP PP 19 39 40.3 +6.3
GTA PCP PcP 19 40 15.6 +0.1
GTA SCP ScP 19 44 01.0 +0.7
GTA S **S 19 44 02.8 +3.7**
GTA XS sS 19 44 19.8 +1.3
GTA SS SS 19 46 46.8 -4.2
GTA AMB AMB
comp=Z,23nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,90nm,11.5s
GTA LR LR
comp=N,109nm,16.0s,MS3.9
GTA LR LR
comp=E,108nm,16.8s,MS3.9
GTA LR LR
comp=Z,159nm,14.5s,MS4.0
KAF Kangasniemi 38.83 339 *e*p **P 19 38 05.0 -0.2**
comp=Z,1.7nm,0.3s,mb4.2
KAF Kangasniemi 38.83 339 *e*P **P 19 38 05.0 -0.2**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
CLL Collm 38.86 318 *i* x pP 19 38 18.0 +0.9
CLL Collm 38.86 318 *i* P **P 19 38 05.0 -0.4**
CLL *i* pP 19 38 18.0 +0.9
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.6
PGF Pioggiola 39.52 304 *e*P **P 19 38 10.7 -0.2**
SBF Sospel 40.80 306 *e*P **P 19 38 21.3 -0.3**
comp=Z,198nm,1.5s,mb5.2
FRF La Foret Royal 41.34 305 *e*P **P 19 38 26.0 0.0**
MBDF Montbardon 41.38 307 *e*P **P 19 38 26.0 -0.3**
comp=Z,6.7nm,0.6s,mb4.2
LMR La Mourre 41.42 305 *e*P **P 19 38 26.5 -0.1**
LPG La Plagne 41.49 308 *e*P **P 19 38 28.0 +0.8**
comp=Z,23nm,1.1s,mb4.4
LPL La Plagne 41.51 308 *e*P **P 19 38 28.3 +0.9**
comp=Z,48nm,1.3s,mb4.7
APA Apatity 41.53 348 *i* P **P 19 38 28.6 +1.1**
comp=Z,400nm,14.0s
APA Apatity 41.53 348⇑ *i*P **P 19 38 28.6 +1.1**
APA pmax pmax
comp=Z,26nm,1.0s,mb4.8
APA MLR MLR
comp=Z,400nm,14.0s,MS4.4
CDF Champ du Feu 41.63 312 *e*P **P 19 38 28.1 -0.3**
MOY Mondy 41.66 43 *e*P **P 19 38 29.4 +0.8**
comp=Z,26nm,2.0s,mb4.5
MOY Mondy 41.66 43 *e*P **P 19 38 29.4 +0.8**
MOY pmax pmax
comp=Z,26nm,2.0s,mb4.5
LZH Lanzhou 41.99 66 *e*P **P 19 38 31.0 -0.3**
LZH AP pP 19 38 40.5 -2.5
LZH XP sP 19 38 44.6 -3.4
LZH *e*PP PP 19 40 11.5 +2.6
LZH *e*S **S 19 44 47.3 +0.2**
LZH AMB AMB
comp=Z,39nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,127nm,6.7s
LZH LR LR
comp=E,613nm,14.1s
LZH LR LR
comp=Z,982nm,17.6s,MS4.7
ORIF Oris-en-Rattie 42.03 307 *e*P **P 19 38 31.7 +0.1**
CABF La Chapelle 42.11 309 *e*P **P 19 38 31.8 -0.5**
comp=Z,16nm,0.8s,mb4.4
SMRF Simiane la Rot 42.15 306 *e*P **P 19 38 32.4 -0.2**
comp=Z,145nm,1.8s,mb5.0
HAU Haudompre 42.16 312 *e*P **P 19 38 32.2 -0.5**
CD2 Chengdu 42.48 74 *e*P **P 19 38 36.3 +1.0**
CD2 AP pP 19 38 46.0 -1.1
CD2 PP PP 19 40 17.8 +3.5
CD2 S **S 19 44 55.3 +0.9**
CD2 SS SS 19 47 58.9 -5.9
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
CD2 AMB AMB
comp=Z,70nm,6.0s
CD2 LR LR
comp=N,90nm,12.0s
CD2 LR LR
comp=Z,60nm,10.8s,MS3.8
ZAK Zakamensk 42.73 45 *i* P **P 19 38 37.8 +0.4**
comp=Z,12nm,1.5s,mb4.4
ZAK Zakamensk 42.73 45 *i* P **P 19 38 37.8 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.5s,mb4.4
KMI Kunming 42.80 83 P **P 19 38 39.5 +1.6**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KMI LR LR
comp=Z,69nm,23.6s,MS3.5

MUD Monsted U'grnd 42.84 324 *i* P **P 19 38 38.7 +0.5**
comp=Z,11nm,0.7s,mb4.7
MUD Monsted U'grnd 42.84 324 *e*P **P 19 38 38.7 +0.5**
comp=Z,11nm,0.7s,mb4.7
MUD Monsted U'grnd 42.84 324 *e*P **P 19 38 38.7 +0.5**
MUD pmax pmax
comp=Z,11nm,0.7s,mb4.7
VIVF Saint-Julien-I 42.88 307 *e*P **P 19 38 37.7 -0.8**
GIVF Givet 43.54 314 *e*P **P 19 38 43.6 -0.2**
SMF Signal de Mont 43.65 309 *e*P **P 19 38 43.7 -1.0**
LOR Lormes 43.71 310 *e*P **P 19 38 45.2 0.0**
IRK Irkutsk 43.76 43 *e*P **P 19 38 45.1 -0.6**
comp=Z,29nm,1.5s,mb4.8
IRK Irkutsk 43.76 43 *e*P **P 19 38 45.1 -0.6**
IRK pmax pmax
comp=Z,29nm,1.5s,mb4.8
NB2 NORSAR Subarra 43.84 331 P **P 19 38 44.9 -1.4**
comp=Z,5.1nm,0.5s,mb4.5,baz=117,slow=7.9
NOA NORSAR Array B 43.84 331 P **P 19 38 45.3 -1.0**
comp=Z,8.6nm,0.8s,mb4.5,baz=118,slow=8.0,SNR=27
BAIF Baives 43.92 314 *e*P **P 19 38 47.1 +0.2**
comp=Z,38nm,1.1s,mb4.7
SSF Saint Saulge 43.92 310 *e*P **P 19 38 46.4 -0.6**
AVF Avril sur Loir 44.00 309 *e*P **P 19 38 47.0 -0.5**
SONM Songino Array 44.31 49 P **P 19 38 50.4 +0.4**
comp=Z,8.0nm,0.9s,mb4.4,baz=262,slow=9.8,SNR=62
SONM LR LR 19 59 01.1
comp=Z,116nm,18.7s,MS3.8,baz=213,slow=38
MTLF Montolieu 44.54 304 *e*P **P 19 38 51.5 -0.4**
comp=Z,46nm,1.4s,mb4.8
KEV Kevo 44.63 347 *e*p **P 19 38 52.2 -0.4**
comp=Z,13nm,0.8s,mb4.8
KEV Kevo 44.63 347 *e*P **P 19 38 52.2 -0.4**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.8
CAF Calviac 44.73 307 *e*P **P 19 38 53.0 -0.4**
comp=Z,8.6nm,0.8s,mb4.3
TCF Toulx Ste Croi 44.73 309 *e*P **P 19 38 53.2 -0.2**
ULN Ulaanbaatar 44.75 49 *e*P **P 19 38 53.8 +0.2**
comp=Z,9.5nm,0.8s,mb4.7
ULN Ulaanbaatar 44.75 49 *c i*P **P 19 38 54.0 +0.4**
ARCES ARCESS Array B 44.77 346 P **P 19 38 53.4 -0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=149,slow=9.9,SNR=25
ARCES ARCESS Array B 44.77 346 P **P 19 38 53.3 -0.4**
RJF Les Rejaudoux 45.14 307 *e*P **P 19 38 56.4 -0.3**
NSS Namsos 45.33 336 *e*P **P 19 38 56.9 -1.3**
NSS Namsos 45.33 336 *e*P **P 19 38 56.8 -1.3**
SNR=27
MOR8 Moi Rana 45.41 338 *e*P **P 19 38 58.4 -0.4**
MOR8 AMb AMB 19 38 59.2
comp=Z,35nm,1.3s,mb5.0
MOR8 Moi Rana 45.41 338 *e*P **P 19 38 58.4 -0.4**
comp=Z,35nm,1.3s,mb5.0,SNR=27
MOR8 Moi Rana 45.41 338 *e*P **P 19 38 58.4 -0.4**
comp=Z,35nm,1.3s,mb5.0
ERTA Horta de San J 45.93 301 P **P 19 39 03.4 +0.5**
comp=Z,9.1nm,0.6s,mb4.9,SNR=6.2
STOK Stokkvaagen 45.97 338 *e*P **P 19 39 02.8 -0.5**
STOK AMb AMB 19 39 04.1
comp=Z,82nm,1.7s,mb5.4
STOK Stokkvaagen 45.97 338 *e*P **P 19 39 02.8 -0.4**
comp=Z,82nm,1.7s,mb5.4,SNR=27
STOK Stokkvaagen 45.97 338 *e*P **P 19 39 02.8 -0.5**
comp=Z,82nm,1.7s,mb5.4
XAN Xi'an 46.34 69 P **P 19 39 05.6 -0.5**
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
EMOS Mosqueruela 46.57 300 P **P 19 39 07.9 0.0**
comp=Z,8.7nm,0.8s,mb4.7,SNR=5.6
LOF Lofoten 46.87 340 *e*P **P 19 39 11.1 +0.8**
ENH Enshi 47.45 74 *e*P **P 19 39 14.4 -0.4**
comp=Z,5.7nm,0.8s,mb4.5
ENH Enshi 47.45 74 *e*P **P 19 39 14.4 -0.4**
comp=Z,5.7nm,0.8s,mb4.5
EBER Berja 48.75 296 P **P 19 39 27.0 +2.2**
comp=Z,11nm,0.6s,mb5.1,SNR=6.1
EQES Quesada 48.78 297 P **P 19 39 25.4 +0.3**
comp=Z,9.1nm,0.6s,mb5.0,SNR=10
PSI Prapat 49.05 113 P **P 19 39 28.9 +1.8**
comp=Z,2.3nm,0.6s,mb4.4,baz=284,slow=7.3,SNR=2.7
PSI Prapat 49.05 113 P **P 19 39 28.9 +1.8**
ECOG Cogollos-Vega 49.24 296 P **P 19 39 28.5 -0.1**
comp=Z,3.4nm,0.4s,mb4.8,SNR=7.9
ESDC Sonseca Array 49.29 300 P **P 19 39 29.3 +0.4**
comp=Z,1.2nm,0.4s,mb4.3,baz=74,slow=7.4,SNR=8.7
EGUA Guajares 49.29 296 P **P 19 39 29.7 +0.7**
comp=Z,2.0nm,0.8s,mb4.2,SNR=7.9
EBAN Banos Encina 49.30 298 P **P 19 39 29.6 +0.5**
comp=Z,8.1nm,0.6s,mb4.9,SNR=6.0
CIT Chita 49.37 44 *e*P **P 19 39 29.1 -0.5**
comp=Z,42nm,1.3s,mb5.3
CIT Chita 49.37 44 *e*P **P 19 39 29.1 -0.5**
CIT pmax pmax
comp=Z,42nm,1.3s,mb5.3
ERON Agron 49.46 296 P **P 19 39 30.8 +0.5**
comp=Z,6.6nm,0.4s,mb5.0,SNR=7.9
ELUQ Luque 49.76 297 P **P 19 39 31.7 -0.8**
comp=Z,4.0nm,0.4s,mb4.8,SNR=7.9
EADA Adamuz 49.92 298 P **P 19 39 34.0 +0.2**
comp=Z,15nm,0.9s,mb5.0,SNR=9.1
EMIJ Mijas 50.29 296 P **P 19 39 36.8 +0.2**
comp=Z,7.5nm,0.6s,mb4.9,SNR=7.9
BOD Bodaibo 50.39 37 *e*P **P 19 39 35.8 -1.5**
comp=Z,21nm,1.4s,mb5.0
BOD Bodaibo 50.39 37 *e*P **P 19 39 35.8 -1.5**
BOD pmax pmax
comp=Z,21nm,1.4s,mb5.0
MDT Midelt 50.80 291 P **P 19 39 41.4 +1.0**
comp=Z,5.6nm,0.7s,mb4.6,baz=96,slow=6.7,SNR=6.2
EJIF Jimena Fronter 50.86 296 P **P 19 39 41.0 +0.1**
comp=Z,4.8nm,0.6s,mb4.6,SNR=7.9
ESPR Espera 51.11 296 P **P 19 39 42.2 -0.5**
comp=Z,4.5nm,0.4s,mb4.8,SNR=5.7
TORD Torodi Ar. Bea 51.44 265 P **P 19 39 45.5 +0.3**
comp=Z,12nm,0.8s,mb4.9,baz=60,slow=7.5,SNR=148
WHN Wuhan 51.50 72 ⇑P **P 19 39 49.5 +3.8**
EMIN Mina Concepcio 51.62 297 P **P 19 39 47.5 +0.9**
comp=Z,29nm,1.4s,mb5.0,SNR=8.2
NJ2 Nanjing 54.90 69 *e*P **P 19 40 13.3 +2.6**
NJ2 AP pP 19 40 21.4 -1.4
NJ2 XP sP 19 40 25.0 -2.7
NJ2 PP PP 19 42 17.5 +3.7
NJ2 S **S 19 47 51.0 +1.9**
NJ2 XS sS 19 48 07.0 -2.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,100nm,4.2s
NJ2 LR LR
comp=N,430nm,31.0s,MS4.5
NJ2 LR LR
comp=E,370nm,26.2s,MS4.5
NJ2 LR LR
comp=Z,220nm,33.0s
SSE Sheshan 57.07 70 *e*P **P 19 40 25.3 -0.9**
SSE AP pP 19 40 34.8 -3.5
SSE PCP PcP 19 41 21.4 +0.7
SSE S **S 19 48 14.6 -3.3**
SSE SCS ScS 19 50 12.8 +0.8
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,53nm,5.6s
SSE LR LR
comp=N,42nm,42.7s,MS3.5
SSE LR LR
comp=E,70nm,42.7s,MS3.5
SSE LR LR
comp=Z,57nm,28.0s
CN2 Changchun 57.68 54 *e*P **P 19 40 29.1 -1.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
YAK Yakutsk 58.56 32 *e*P **P 19 40 35.1 -1.5**
comp=Z,14nm,0.8s,mb5.0
YAK Yakutsk 58.56 32 *d i*P **P 19 40 35.4 -1.2**
YAK pmax pmax
comp=Z,16nm,1.3s,mb4.9
YAK Yakutsk 58.56 32 *e*P **P 19 40 35.1 -1.6**
comp=Z,14nm,0.8s,mb5.0
TIXI Tiksi 58.59 21 *i* P **P 19 40 36.1 -0.7**
comp=Z,12nm,1.7s,mb4.7
TIXI Tiksi 58.59 21 *d i*P **P 19 40 36.1 -0.7**
TIXI pmax pmax
comp=Z,12nm,1.7s,mb4.7
TSUM Tsumeb 59.20 222 *e*P **P 19 40 42.8 +1.7**
comp=Z,3.2nm,0.9s,mb4.3
TSUM Tsumeb 59.20 222 *e*P **P 19 40 42.9 +1.8**
comp=Z,3.2nm,0.9s,mb4.3
LBTB Lobatse 59.81 211 P **P 19 40 46.9 +1.6**
comp=Z,2.5nm,0.4s,mb4.6,baz=28,slow=9.9,SNR=7.3
LBTB Lobatse 59.81 211 *e*P **P 19 40 47.3 +2.0**
comp=Z,9.0nm,0.9s,mb4.8
LBTB Lobatse 59.81 211 *e*P **P 19 40 47.3 +2.0**
LBTB pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LBTB Lobatse 59.81 211 *e*P **P 19 40 47.3 +2.0**
comp=Z,8.9nm,0.9s,mb4.8
DBIC Dimbokro 60.12 261 P **P 19 40 48.0 +0.6**
comp=Z,6.4nm,0.9s,mb4.7,baz=31,slow=8.2,SNR=10.0
DBIC Dimbokro 60.12 261 *e*P **P 19 40 47.8 +0.4**
comp=Z,20nm,1.4s,mb5.0
DBIC Dimbokro 60.12 261 *e*P **P 19 40 47.8 +0.4**
DBIC pmax pmax
comp=Z,20nm,1.4s
DBIC Dimbokro 60.12 261 *e*P **P 19 40 47.8 +0.4**
comp=Z,20nm,1.4s,mb5.0
MDJ Mudanjiang 60.47 52 P **P 19 40 49.5 -0.3**
MDJ AP pP 19 40 58.9 -3.1
MDJ XP sP 19 41 03.9 -3.0
MDJ PCP PcP 19 41 34.9 +0.7
MDJ PP PP 19 43 01.6 -1.7
MDJ SCP ScP 19 45 31.3 -0.7
MDJ PCS PcS 19 45 36.8 +0.1
MDJ S **S 19 49 03.0 +1.0**
MDJ SS SS 19 52 59.3 -1.1
MDJ AMB AMB
comp=Z,5.0nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,35nm,5.1s
MDJ LR LR
comp=N,43nm,40.2s,MS3.6
MDJ LR LR
comp=E,72nm,36.4s,MS3.6
MDJ LR LR
comp=Z,85nm,38.8s,MS3.6
KLR Kul'dur 61.04 47 *e*P **P 19 40 49.7 -4.0**
BOSA Boshof 63.08 209 P **P 19 41 08.2 +0.9**
comp=Z,3.6nm,0.7s,mb4.6,baz=21,slow=7.2,SNR=8.0
HABR Khabarovsk 63.33 47 *e*P **P 19 41 08.3 -0.7**
HABR *e*S **S 19 49 34.2 -4.1**
SUMG Summit 64.39 341 *e*P **P 19 41 16.8 +0.8**
comp=Z,20nm,1.0s,mb5.1
SUMG Summit 64.39 341 *e*P **P 19 41 16.8 +0.8**
comp=Z,20nm,1.0s,mb5.1
SEY Seymchan 68.71 29 *e*P **P 19 41 43.8 +0.2**
comp=Z,10.0nm,1.3s,mb4.6
SEY Seymchan 68.71 29 *e*P **P 19 41 43.8 +0.2**
SEY pmax pmax
comp=E,7.0nm,1.0s
SEY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SEY pmax pmax
comp=N,10.0nm,1.3s
YSS Yuzh-Sakhalins 68.75 47 *i* P **P 19 41 43.3 -0.5**
comp=N,40nm,1.7s,mb5.1
YSS Yuzh-Sakhalins 68.75 47 *d i*P **P 19 41 43.3 -0.5**
YSS pmax pmax
comp=Z,40nm,1.7s,mb5.1
MJAR Matsushiro Arr 68.97 59 P **P 19 41 44.1 -1.1**
comp=Z,2.1nm,0.8s,mb4.1,baz=288,slow=6.9,SNR=5.4
MA2 Magadan 69.13 33 *e*P **P 19 41 45.8 -0.4**
comp=Z,4.0nm,1.1s,mb4.3
MA2 Magadan 69.13 33 *e*P **P 19 41 45.8 -0.4**
MA2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BILL Biiibino 71.80 22 *i* P **P 19 42 02.5 +0.1**
comp=Z,100nm,16.0s
BILL Biiibino 71.80 22 ⇑*i*P **P 19 42 02.5 +0.1**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
BILL Biiibino 71.80 22 *e*P **P 19 42 02.6 +0.2**
comp=Z,8.8nm,1.1s,mb4.6
FITZ Fitzroy Crossi 82.52 115 *e*P **P 19 43 02.2 -0.4**
comp=Z,4.7nm,0.6s,mb4.7
INK Inuvik 83.67 3 *e*P **P 19 43 07.9 -0.7**
comp=Z,3.0nm,0.8s,mb4.5
INK Inuvik 83.67 3 *e*P **P 19 43 07.9 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 83.67 3 *e*P **P 19 43 07.9 -0.6**
comp=Z,3.4nm,0.8s,mb4.5
KAKA Kakadu 85.35 107 *e*P **P 19 43 17.4 +0.4**
comp=Z,10nm,0.6s,mb5.1
ILAR Eielson Array 85.89 9 P **P 19 43 19.0 -0.7**
comp=Z,1.8nm,0.8s,mb4.4,baz=328,slow=4.1,SNR=21
MCK McKinley 86.57 10 *e*P **P 19 43 22.5 -0.5**
comp=Z,8.0nm,1.2s,mb4.8
MCK McKinley 86.57 10 *e*P **P 19 43 22.5 -0.5**
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
MCK McKinley 86.57 10 *e*P **P 19 43 22.5 -0.5**
comp=Z,8.2nm,1.2s,mb4.8
DAWY Dawson 87.46 6 *e*P **P 19 43 27.1 -0.3**
DAWY Dawson 87.46 6 *e*P **P 19 43 27.1 -0.3**
YKW3 Yellowknife Ar 89.24 355 *e*P **P 19 43 35.8 0.0**
YKW3 Yellowknife Ar 89.24 355 *e*P **P 19 43 35.8 0.0**
YKA Yellowknife Ar 89.30 355 P **P 19 43 36.2 +0.1**
comp=Z,3.2nm,0.8s,mb4.7,baz=4.6,slow=5.0,SNR=63
YKA Yellowknife Ar 89.30 355 P **P 19 43 36.2 +0.1**
WRA Warramunga Arr 90.51 112 P **P 19 43 41.8 +0.1**
comp=Z,1.9nm,0.9s,mb4.4,baz=310,slow=3.8,SNR=28
WRA PKKPbc PKKPbc 20 01 09.8 +1.0
comp=Z,0.2nm,0.5s,baz=110,slow=2.9,SNR=7.4
WB2 Warramunga Arr 90.52 112 *e*P **P 19 43 41.5 -0.3**
ASAR Alice Springs 92.00 116 P **P 19 43 48.8 +0.2**
comp=Z,1.7nm,0.7s,mb4.5,baz=302,slow=4.3,SNR=13
BBB Bella Bella 100.01 2 LR LR 20 30 50.5
comp=Z,271nm,19.0s,MS4.8,baz=50,slow=36

IDC 20 19:38:48.1±5.7,993S×1339W,h0km,mb4.2/9,mb1 4.3/9, mb1mx4.0/21,mbtmp4.2/9,MS4.2/2,Ms1 4.1/2, ms1mx3.6/17,Error ellipse: s-maj=141.4km s-min=96.5km az=171.0,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**18.55**	**28**	LR	LR		19 48 53.5	
comp=Z,398nm,18.0s,baz=85,slow=33								
TORD	**Torodi Ar. Bea**	**27.38**	**33**	P	P		19 44 35.6	+0.6
1.7nm,0.8s,baz=216,slow=9.2,SNR=8.0								
BDFB	**Brasilia**	**34.21**	**257**	LR	LR		19 56 10.8	
comp=Z,530nm,18.5s,baz=283,slow=30								
IDI	**Anoyia**	**57.71**	**37**	P	P		19 48 41.6	+1.0
2.5nm,0.9s,baz=22,slow=15,SNR=3.8								
GERES	**GERESS Array B**	**63.20**	**20**	P	P		19 49 17.6	-0.5
0.7nm,0.8s,baz=193,slow=7.0,SNR=6.4								
MLR	**Muntele Rosu**	**65.53**	**29**	P	P		19 49 32.3	-1.0
2.1nm,0.5s,baz=176,slow=4.7,SNR=7.0								
BRTR	**Keskin Array B**	**65.86**	**38**	P	P		19 49 36.8	+1.3
1.4nm,0.9s,baz=228,slow=6.8,SNR=11								
AKASG	**Malin Array Be**	**70.80**	**27**	P	P		19 50 05.8	-0.6
5.7nm,0.9s,baz=226,slow=7.0,SNR=25								
HFS	**Hagfors**	**73.10**	**14**	P	P		19 50 21.3	+1.1
4.6nm,1.0s,baz=212,slow=5.3,SNR=3.7								
GNI	**Garni**	**73.22**	**43**	P	P		19 50 20.9	0.0
1.2nm,0.4s,baz=64,slow=9.4,SNR=4.0								
FINES	**FINESS Array B**	**77.57**	**18**	P	P		19 50 46.1	+0.2
1.7nm,0.8s,baz=188,slow=8.4,SNR=6.4								

*IDC **20** 20:15:57.6±1.6, 9.17S×79.16W, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/18, mbtmp3.9/7, Error ellipse: s-maj=63.0km s-min=36.8km az=38.0*
*ISCJB **20** 20:16:03.2±2.5, 9.3S×02×792W±03, h55km±22km, mb3.9/7, Error ellipse: s-maj=52.5km s-min=13.6km az=128.2*
*NEIC **20** 20:16:07.7±1.5, 9.17S×7847W, h85km±13km, mb4.2/1, Error ellipse: s-maj=32.4km s-min=11.9km az=67.0*
NEIC Felt [II] at Chimbote.

ISC 20 20:16:05.5±2.3,94S±02×792W±03,h61km±20km,n21, σ0§89/14,mb3.9/7,Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	**3.53**	**138**	*e*P	**Pn**		**20 16 57.6**	**-0.2**
NNA				*e*S	**Sn**		**20 17 38.2**	**0.0**
OTAV	**Otavalo**	**9.56**	**5**	*e*P	**Pn**		**20 18 20.4**	**+0.2**
11nm,0.7s								
PDAR	**Pinedale Array**	**58.79**	**334**	PcP	PcP		20 26 46.4	-0.1
0.5nm,0.6s,baz=134,slow=4.7,SNR=4.5								
NVAR	**Mina Array Bea**	**59.87**	**325**	P	**P**		**20 26 05.7**	**+0.9**
0.5nm,0.7s,mb3.7,baz=141,slow=7.9,SNR=5.3								
NVAR	**Mina Array Bea**	**59.87**	**325**	P	**P**		**20 26 05.7**	**+0.9**
ELK	**Elko**	**59.88**	**329**	P	**P**		**20 26 05.5**	**+0.6**
0.7nm,0.6s,mb3.9,baz=8.3,slow=3.0,SNR=3.8								
ELK	**Elko**	**59.88**	**329**	*e*P	**P**		**20 26 06.3**	**+1.4**
1.6nm,0.8s,mb4.1								
TAOE	**Nuku Hiva Isla**	**60.07**	**265**	*e*LR	LR		20 26 32.4	
1um,35.1s								
PPT	**Papeete**	**68.58**	**255**	*e*LR	LR		20 27 42.8	
403nm,23.5s								
FRB	**Frobisher Bay**	**73.34**	**5**	P	**P**		**20 27 29.0**	**-1.6**
2.1nm,0.3s,mb4.5,baz=236,slow=6.7,SNR=6.6								
FRB	**Frobisher Bay**	**73.34**	**5**	P	**P**		**20 27 29.0**	**-1.6**
YKA	**Yellowknife Ar**	**76.66**	**344**	P	**P**		**20 27 48.9**	**-0.8**
0.4nm,0.4s,mb3.7,baz=142,slow=5.8,SNR=13								
YKA	**Yellowknife Ar**	**76.66**	**344**	P	**P**		**20 27 48.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.40**	**76**	P	**P**		**20 28 27.6**	**+1.5**
0.9nm,0.7s,mb3.9,baz=300,slow=4.0,SNR=10								
INK	**Inuvik**	**86.31**	**342**	P	**P**		**20 28 40.0**	**-0.7**
0.8nm,0.9s,mb3.9,baz=108,slow=3.2,SNR=3.1								
ILAR	**Eielson Array**	**89.14**	**337**	P	**P**		**20 28 54.0**	**-0.2**
0.5nm,0.9s,mb3.9,baz=133,slow=3.0,SNR=4.8								
ASAR	**Alice Springs**	**133.88**	**224**	PKP	PKPdf		20 35 17.2	+1.7
0.3nm,0.5s,baz=96,slow=2.3,SNR=7.1								
WRA	**Warramunga Arr**	**135.95**	**228**	PKP	PKPdf		20 35 21.0	+1.6
0.5nm,0.5s,baz=122,slow=2.0,SNR=21								
MKAR	**Makanchi Array**	**139.50**	**20**	PKP	PKPdf		20 35 26.0	+0.1
0.2nm,0.6s,baz=293,slow=2.6,SNR=4.1								
MKAR	**Makanchi Array**	**139.50**	**20**	PKP	PKPdf		20 35 26.0	0.0
SONM	**Songino Array**	**141.35**	**354**	PKhKP			20 35 23.3	
0.2nm,0.7s,baz=40,slow=2.5,SNR=3.5								

*HLW **20** 20:16:18.8, 3490N×3272E, h33km, Mb2.8*
*ISCJB **20** 20:16:20.8±0.9, 3450N±003×3288E±009, h13km±7km, Error ellipse: s-maj=12.1km s-min=5.5km az=3.6*
*CSEM **20** 20:16:20.3±0.1, 3458N×3291E, h22km±2km, Mw2.7, Error ellipse: s-maj=6.1km s-min=4.0km az=65.0*
*NIC **20** 20:16:20.9±0.3, 3452N×3289E, h15km, ML2.9, MW2.7*

ISC 20 20:16:21.9±1.2,345N±01×3287E±008,h12km±21km,n12, σ0§57/16,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.22**	**2**	P	**Pg**		**20 16 26.5**	**-0.1**
SZAC				S	**Sg**		**20 16 30.5**	**+0.8**
PPCY	**Paphos**	**0.55**	**308**	P	**Pg**		**20 16 32.6**	**-0.2**
CSS	**Prodhromos**	**0.56**	**42**	P	**Pg**		**20 16 31.9**	**-1.1**
3.1nm,0.3s								
CSS				S	**Sg**		**20 16 41.0**	**+0.6**
ALFC	**Alevga**	**0.66**	**340**	P	**Pg**		**20 16 33.8**	**-0.9**
5.9nm,0.2s								
ALFC				S	**Sg**		**20 16 44.0**	**+0.7**
MAMC	**Mammari**	**0.69**	**24**	P	**Pg**		**20 16 34.7**	**-0.6**
AMAG	**Maghara**	**3.90**	**176**	P	**Pn**		**20 17 21.3**	**-0.3**
KOT	**Kottamia**	**4.68**	**191**	P	**Pn**		**20 17 32.1**	**-0.3**
SUZ		**4.69**	**180**	P	**Pn**		**20 17 32.5**	**0.0**
HNKL	**Nakhl**	**4.69**	**168**	P	**Pn**		**20 17 33.0**	**+0.5**
HNKL				S	**Sn**		**20 18 26.9**	**+0.1**
GLL	**Jalalah**	**5.05**	**192**	P	**Pn**		**20 17 37.1**	**-0.2**
HKAT	**Jabal Katrina**	**6.07**	**171**	P	**Pn**		**20 17 52.5**	**+1.0**
TR2		**6.18**	**173**	P	**Pn**		**20 17 53.0**	**0.0**

*ISCJB **20** 20:17:02.2±0.9, 2431S±005×670W±0.1, h182km±21km, mb3.6/2, Error ellipse: s-maj=20.6km s-min=8.0km az=12.8*
*NEIC **20** 20:17:02.9±0.9, 2416S×6701W, h160km±17km, Error ellipse: s-maj=21.5km s-min=11.7km az=118.0*
*IDC **20** 20:17:04.0±2.0, 2427S×6675W, h169km±21km, mb3.5/2, mb1 3.5/6, mb1mx3.3/16, mbtmp4.0/6, Error ellipse: s-maj=39.9km s-min=19.4km az=108.0*
*GUC **20** 20:17:06.2±0.9, 2434S×6736W, h180km, ML4.1*

ISC 20 20:17:03.2±0.9,2430S±005×670W±01,h164km±20km,n15, σ1§41/19,mb3.6/2,1C,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.08**	**286**	*e*P	**Pn**		**20 17 54.6**	**+2.5**
CEN1				*i* S	**Sn**		**20 18 30.2**	**+0.2**
CEN1				AMP			20 18 34.6	
comp=E,203nm,0.5s								
CPN1	**Cerro Paranal**	**3.13**	**263**	*e*P	**Pn**		**20 17 54.5**	**+1.7**
CPN1				*i* S	**Sn**		**20 18 31.3**	**+0.1**
CPN1				AMP			20 18 38.1	
comp=E,192nm,0.4s								
ANCH	**Antofagasta**	**3.19**	**280**	⇑*i*P	**Pn**		**20 17 52.5**	**-1.0**
ANCH				*i* S	**Sn**		**20 18 29.8**	**-2.7**
CRCH	**Chaqaral**	**3.87**	**237**	*i* S	**Sn**		**20 18 47.0**	**-1.0**
CRCH				AMP			20 18 49.0	
comp=E,380nm,0.3s								
CFAA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**		**20 18 49.0**	**+1.0**
comp=E,0.1nm,0.3s,baz=8.1,slow=13,SNR=10								
CFAA				S	**Sn**		**20 20 07.5**	**-3.1**
comp=E,0.2nm,0.3s,baz=279,slow=22,SNR=6.3								
LPAZ	**La Paz**	**8.04**	**352**	P	**Pn**		**20 18 58.5**	**+1.5**
comp=E,1.1nm,0.3s,baz=150,slow=8.3,SNR=22								
LPAZ				S	**Sn**		**20 20 26.2**	**-0.5**
comp=E,0.2nm,0.3s,baz=253,slow=19,SNR=2.5								
LPAZ	**La Paz**	**8.04**	**352**	P	**Pn**		**20 18 58.5**	**+1.5**
LPAZ	**La Paz**	**8.04**	**352**	S	**Sn**		**20 20 26.2**	**-0.5**
SIV	**San Ignacio**	**9.95**	**35**	P	**Pn**		**20 19 21.4**	**-0.9**
comp=E,1.0nm,0.3s,baz=225,slow=12,SNR=13								
PLCA	**Paso Flores**	**16.66**	**189**	P	**Pn**		**20 20 49.2**	**+2.1**
comp=E,0.2nm,0.3s,baz=353,slow=15,SNR=3.0								
PLCA	**Paso Flores**	**16.66**	**189**	P	**Pn**		**20 20 49.2**	**+2.1**
BDFB	**Brasilia**	**19.78**	**68**	P	**P**		**20 21 20.5**	**-0.1**
comp=E,1.0nm,0.3s,baz=247,slow=11,SNR=10								
DBIC	**Dimbokro**	**67.88**	**71**	P	**P**		**20 27 41.8**	**-2.0**
comp=E,1.0nm,0.8s,mb3.6,baz=207,slow=14,SNR=2.7								
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**		**20 28 36.0**	**+0.1**
comp=E,0.5nm,0.4s,mb3.5,baz=258,slow=5.6,SNR=18								
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc		20 36 25.3	-0.3
comp=E,0.2nm,0.5s,baz=309,slow=1.6,SNR=3.3								

*NEIC **20** 20:22:38.6, 1697N×10062W, h4km, MD4.1(MEX), After MEX.*

MEX 20 20:22:38.6±0.8,1697N×10062W,h4km±7km,MD4.1,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.34**	**77**	*i* P	Pg		20 22 44.9	-0.3
CAIG				*i* S	Sg		20 22 50.1	+0.4
ACX	**Acapulco**	**0.68**	**99**	*i* P	Pg		20 22 51.2	-0.4
ZIIG	**Zihuatanejo**	**1.03**	**308**	*i* P	Pg		20 22 55.5	-2.7
ZIIG				*i* S	Sg		20 23 09.5	-2.1
MEIG	**Mezcala**	**1.34**	**45**	*e*P	Pn		20 22 60.0	-4.2
MEIG				*i* S	Sg		20 23 17.2	-4.6
PLIG	**Platanillo**	**1.77**	**37**	*e*P	Pn		20 23 05.6	-4.3
PLIG				*i* S	Sn		20 23 29.0	-3.9
YAIG	**Yautepec**	**2.39**	**38**	*e*P	Pn		20 23 16.0	-2.5
YAIG				*i* S	Sn		20 23 44.7	-3.6
UNM	**Universidad Na**	**2.72**	**30**	*i* P	Pn		20 23 20.4	-2.6
UNM				*i* S	Sn		20 23 53.1	-3.1
UNM	**Universidad Na**	**2.72**	**30**	*e*P	Pn		20 23 20.0	-3.0
UNM				*i* P			20 23 20.4	
UNM				*i* S	Sn		20 23 53.1	-3.1
MOIG	**Morelia**	**2.75**	**349**	*i* P	Pn		20 23 22.8	-0.6
MOIG				*i* S	Sn		20 23 55.8	-1.2
MRX	**Morelia**	**2.77**	**349**	*e*P	Pn		20 23 24.0	+0.2
PPM	**Popocatepetl**	**2.82**	**42**	*i* P	Pn		20 23 21.6	-2.7
PPM				*e*P			20 23 23.5	
PPM				*i* S	Sn		20 23 56.3	-2.5
UTMO	**Huajuapan**	**2.82**	**72**	*e*P	Pn		20 23 21.3	-3.1
UTMO				*i* S	Sn		20 23 54.1	-4.7
TPIG	**Tehuac#an**	**3.42**	**65**	*i* S	Sn		20 24 09.8	-3.8
OXX	**Oaxaca**	**3.73**	**88**	*e*P	Pn		20 23 38.0	+1.1
SFJM	**Santa Fe**	**4.18**	**327**	*e*P	Pn		20 23 43.5	+0.4

**IDC 20 21:02:08.5±1.1,2561N×4530W,h0km,mb3.7/9, mb1 4.0/9,mb1mx3.8/22,mbtmp

BDFB	**Brasilia**	**41.09**	**184**	LR	LR	21 25	15.5
	comp=Z,78nm,20.2s,baz=214,slow=34						
DBIC	**Dimbokro**	**42.93**	**109**	LR	LR	21 25	14.8
	comp=Z,110nm,18.4s,baz=225,slow=32						
ULM	**Lac du Bonnet**	**45.76**	**316**	LR	LR	21 28	48.9
	comp=Z,94nm,18.1s,baz=210,slow=35						
TORD	**Torodi Ar. Bea**	**45.81**	**97**	P	P	21 10 31.5	-0.5
	1.1nm,0.9s,baz=301,slow=7.5,SNR=4.7						
LPAZ	**La Paz**	**47.21**	**211**	P	P	21 10 44.2	+1.2
	1.0nm,0.7s,baz=354,slow=7.4,SNR=4.2						
GERES	**GERESS Array B**	**50.96**	**47**	P	P	21 11 11.8	+0.1
	0.4nm,0.8s,baz=255,slow=4.0,SNR=4.5						
GERES				LR	LR	21 29 53.3	
	comp=Z,24nm,18.0s,baz=264,slow=33						
NOA	**NORSAR Array B**	**51.83**	**31**	P	P	21 11 18.4	+0.1
	0.7nm,0.9s,baz=252,slow=7.3,SNR=3.2						
PDAR	**Pinedale Array**	**54.58**	**306**	P	P	21 11 38.3	-0.2
	1.1nm,0.9s,baz=87,slow=7.7,SNR=5.8						
PDAR				LR	LR	21 33 23.0	
	comp=Z,85nm,20.8s,baz=46,slow=34						
YKA	**Yellowknife Ar**	**58.07**	**329**	P	P	21 12 02.3	-1.1
	0.4nm,0.8s,baz=95,slow=7.6,SNR=6.1						
YKA				LR	LR	21 34 26.4	
	comp=Z,87nm,21.9s,baz=95,slow=33						
NEW	**Newport**	**59.47**	**313**	LR	LR	21 36 40.5	
	comp=Z,122nm,19.1s,baz=298,slow=35						
AKASG	**Malin Array Be**	**60.99**	**44**	P	P	21 12 23.1	-0.5
	0.2nm,0.3s,baz=273,slow=5.5,SNR=4.7						
NVAR	**Mina Array Bea**	**61.75**	**301**	LR	LR	21 38 23.6	
	comp=Z,97nm,20.6s,baz=160,slow=35						
YBH	**Yreka Blue Hor**	**64.38**	**306**	LR	LR	21 39 12.3	
	comp=Z,98nm,19.1s,baz=346,slow=34						
BBB	**Bella Bella**	**65.91**	**318**	LR	LR	21 39 28.5	
	comp=Z,84nm,19.9s,baz=38,slow=34						
BRTR	**Keskin Array B**	**65.97**	**56**	P	P	21 12 57.5	+0.9
	0.9nm,0.8s,baz=260,slow=4.4,SNR=8.1						
ILAR	**Eielson Array**	**71.90**	**334**	P	P	21 13 34.0	+0.6
	1.7nm,1.0s,baz=67,slow=4.3,SNR=10						
ILAR				LR	LR	21 46 21.1	
	comp=Z,68nm,19.0s,baz=166,slow=37						
KMBO	**Kilima Mbogo**	**83.76**	**94**	LR	LR	21 51 53.1	
	comp=Z,60nm,18.7s,baz=81,slow=36						

*ISCJB **20** 21:23:01.5±0.8, 277N±0.1×5531E±005, h10km, mb3.6/14, Error ellipse: s-maj=15.6km s-min=5.8km az=179.7*
*IDC **20** 21:23:01.4±0.9, 2765N×5540E, h0km, mb3.7/14, mb1 3.8/15, mb1mx3.7/24, mbtmp3.7/15, ML0.7/1, Error ellipse: s-maj=22.8km s-min=18.5km az=125.0*
*CSEM **20** 21:23:01.2±0.1, 2771N×5540E, h10km, mb3.4, Error ellipse: s-maj=6.9km s-min=3.4km az=173.0*
*NEIC **20** 21:23:02.9±0.8, 2761N×5548E, h10km, MN3.4(TEH), Error ellipse: s-maj=17.1km s-min=14.7km az=214.0*
*KISR **20** 21:23:02.3±0.6, 2771N×5532E, h34km, ML3.5*

ISC 20 21:23:07.2±1.8,**277N**±01×**5536E**±009,**h39**km±17km,**n24**, σ0°**64**/28,**mb3.6**/14,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBD	**Kabd**	**6.91**	**284**	*e*P	**Pn**	**21 24 45.8**	**-0.1**
KBD				*e*S	**Sn**	**21 26 03.1**	**-0.2**
UMR	**Umm Al-Rimmam**	**6.97**	**287**	*e*P	**Pn**	**21 24 46.8**	**0.0**
UMR				*e*S	**Sn**	**21 26 04.5**	**-0.3**
UMR				AML	AML	21 26 04.7	
	comp=Z,6.5nm,0.4s						
RDF	**Al-Radifah**	**7.00**	**282**	*e*P	**Pn**	**21 24 47.1**	**-0.1**
RDF				*e*S	**Sn**	**21 26 05.6**	**+0.2**
RDF				AML	AML	21 26 09.7	
	comp=Z,9.1nm,0.5s						
RDF	**Al-Radifah**	**7.00**	**282**	*e*P	**Pn**	**21 24 46.4**	**-0.7**
NAY	**Al-Naaiem**	**7.31**	**284**	*e*P	**Pn**	**21 24 51.1**	**-0.3**
NAY				AML	AML	21 26 14.9	
	comp=Z,3.6nm,0.7s						
MIB	**Mutribah**	**7.35**	**289**	*e*P	**Pn**	**21 24 51.8**	**-0.2**
MIB				*e*S	**Sn**	**21 26 14.5**	**+0.3**
MIB				AML	AML	21 26 18.2	
	comp=Z,16nm,0.6s						
GNI	**Garni**	**15.22**	**327**	Pn	**Pn**	**21 26 42.0**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=2.1						
BRTR	**Keskin Array B**	**21.63**	**309**	P	**P**	**21 27 55.0**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.2,baz=130,slow=14,SNR=6.9						
AKTK	**Aktyubinsk**	**22.81**	**4**	P	**P**	**21 28 06.7**	**+0.2**
AKTK	**Aktyubinsk**	**22.81**	**4**	P	**P**	**21 28 06.7**	**+0.2**
AKTO	**Aktyubinsk**	**22.81**	**4**	P	**P**	**21 28 06.7**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.6,baz=179,slow=10,SNR=6.2						
BVAR	**Borovoye Array**	**27.66**	**20**	P	**P**	**21 28 50.9**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.8,baz=202,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**28.47**	**41**	P	**P**	**21 28 58.0**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.0,baz=228,slow=9.4,SNR=4.1						
AKASG	**Malin Array Be**	**30.35**	**326**	P	**P**	**21 29 14.4**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.7,baz=133,slow=8.5,SNR=5.6						
ZAL	**Zalesovo**	**33.96**	**31**	P	**P**	**21 29 46.5**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=188,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**39.01**	**338**	P	**P**	**21 30 29.4**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.5,baz=120,slow=11,SNR=5.8						
SONM	**Songino Array**	**44.17**	**49**	P	**P**	**21 31 12.6**	**+0.5**
	comp=Z,0.1nm,0.5s,mb2.8,baz=254,slow=10,SNR=3.9						
NOA	**NORSAR Array B**	**44.48**	**331**	P	**P**	**21 31 13.4**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=115,slow=7.6,SNR=3.4						
ARCES	**ARCESS Array B**	**45.32**	**346**	P	**P**	**21 31 22.1**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=140,slow=8.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**51.96**	**265**	P	**P**	**21 32 12.3**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=62,slow=7.5,SNR=17						
BOSA	**Boshof**	**62.98**	**210**	P	**P**	**21 33 30.6**	**+0.7**
	comp=Z,1.5nm,0.5s,mb4.4,baz=14,slow=5.2,SNR=8.3						
BOSA	**Boshof**	**62.98**	**210**	P	**P**	**21 33 30.5**	**+0.6**
YKA	**Yellowknife Ar**	**89.78**	**355**	P	**P**	**21 36 01.5**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.6,baz=6.4,slow=5.3,SNR=5.2						
WRA	**Warramunga Arr**	**89.84**	**113**	P	**P**	**21 36 01.9**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=315,slow=4.2,SNR=4.6						

*IDC **20** 21:30:47.2±6.2, 1303N×11999E, h63km±68km, mb3.2/3, mb1 3.5/3, mb1mx3.1/19, mbtmp3.5/3, Error ellipse: s-maj=66.1km s-min=23.9km az=66.0*
*ISCJB **20** 21:30:50.7±0.6, 1353N±005×12073E±006, h122km±5km, mb3.5/3, Error ellipse: s-maj=9.6km s-min=7.2km az=141.2*
*MAN **20** 21:30:52.7, 1354N×12071E, h91km, mb3.1, ML4.4, MS3.2*

ISC 20 21:30:51.7±0.6,**1353N**±004×**12073E**±006,**h117**km±5km, **n15**,σ1°**07**/23,**mb3.5**/3,**1C**,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.52**	**293**	*e*P	**Pn**	**21 31 08.9**	**-0.5**
LUBP				*e*S	**Sn**	**21 31 21.5**	**-1.3**
TGY	**Tagaytay City**	**0.60**	**19**	P	**Pn**	**21 31 11.2**	**+1.1**
	661nm,0.3s,baz=171,slow=1.9,SNR=39						
TGY				S	**Sn**	**21 31 28.2**	**+4.4**
	205nm,0.3s,baz=141,slow=21,SNR=4.5						
TGY	**Tagaytay City**	**0.60**	**19**	⇑*i*P	**Pn**	**21 31 11.1**	**+1.0**
TGY				*i* S	**Sn**	**21 31 22.7**	**-1.1**
BOAC	**Boac**	**1.08**	**94**	*e*P	**Pn**	**21 31 13.4**	**-0.9**
BOAC				*e*S	**Sn**	**21 31 31.0**	**-0.4**
BUSP	**Coron**	**1.60**	**199**	*e*P	**Pn**	**21 31 20.9**	**+0.7**
BUSP				*e*S	**Sn**	**21 31 42.1**	**+0.3**
POLP	**Polilio Island**	**1.67**	**44**	*e*P	**Pn**	**21 31 21.8**	**+0.8**
OTRP	**Odiongan**	**1.71**	**133**	*e*P	**Pn**	**21 31 22.2**	**+0.7**
OTRP				*e*S	**Sn**	**21 31 43.2**	**-0.8**
SCZP	**Santa Cruz**	**2.37**	**340**	*e*P	**Pn**	**21 31 28.7**	**-1.0**
SCZP				*e*S	**Sn**	**21 31 59.4**	**+0.5**
ENPP	**El Nido**	**2.64**	**209**	*e*P	**Pn**	**21 31 34.6**	**+1.4**
ENPP				*e*S	**Sn**	**21 32 01.1**	**-4.0**
CUYO	**Cuyo Island**	**2.68**	**174**	*e*P	**Pn**	**21 31 34.9**	**+1.2**
PVCP	**Virac**	**3.33**	**88**	*e*P	**Pn**	**21 31 43.9**	**+1.7**
WRA	**Warramunga Arr**	**35.85**	**158**	P	**P**	**21 37 39.1**	**-1.0**
	0.6nm,0.3s,mb4.0,baz=331,slow=10,SNR=34						
WB2	**Warramunga Arr**	**35.86**	**158**	*e*P	**P**	**21 37 37.9**	**-2.2**
ASAR	**Alice Springs**	**39.15**	**161**	P	**P**	**21 38 07.5**	**-0.3**
	0.5nm,0.4s,mb3.7,baz=334,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**46.19**	**324**	P	**P**	**21 39 05.5**	**+0.7**
	0.1nm,0.4s,mb2.9,baz=112,slow=8.8,SNR=4.5						

*LDG **20** 21:33:28.4±0.3, 4207N×179E, h7km, Ml1.9/5, Error ellipse: s-maj=5.8km s-min=1.9km az=162.0*
*ISCJB **20** 21:33:29.6±0.6, 4221N×003×168E±004, h14km±7km, Error ellipse: s-maj=5.8km s-min=3.9km az=123.2*
*STR **20** 21:33:29.7±0.2, 4218N×169E, h2km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **20** 21:33:30.9±0.2, 4221N×175E, h5km±5km, ML1.8, Error ellipse: s-maj=4.8km s-min=2.6km az=134.0*
*MDD **20** 21:33:31.1±0.4, 4224N×170E, h9km±7km, mbLg1.1/9, Error ellipse: s-maj=2.7km s-min=1.6km az=141.0, PRXIMO*

ISC 20 21:33:30.1±0.6,**4220N**±003×**173E**±004,**h16**km±7km,**n33**, σ0°**73**/36,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.29**	**47**	Pg	**Pg**	**21 33 36.0**	**-0.4**
VALF				Sg	**Sg**	**21 33 40.7**	**+0.1**
VALF	**Valcebollere**	**0.29**	**47**	Pg	**Pg**	**21 33 36.1**	**-0.3**
VALF				Lg		21 33 41.2	
CORG	**Organya**	**0.31**	**276**	Pg	**Pg**	**21 33 35.2**	**-1.4**
CORG				Lg		21 33 40.6	
	2.5nm,0.2s						
EMIR	**Miracle**	**0.32**	**208**	Pg	**Pg**	**21 33 37.6**	**+0.7**
	2.0nm,0.2s,SNR=10						
EMIR				Lg		21 33 43.5	
	6.9nm,0.3s,SNR=8.5						
EMIR	**Miracle**	**0.32**	**208**	Pg	**Pg**	**21 33 37.6**	**+0.8**
	2.0nm,0.2s,SNR=10						
CLLI	**Llivia**	**0.33**	**33**	Pg	**Pg**	**21 33 36.8**	**-0.3**
CLLI				Lg		21 33 42.1	
	2.3nm,0.2s						
CBRU	**Bruguera**	**0.35**	**75**	Pg	**Pg**	**21 33 37.4**	**+0.1**
CSOR	**Sort**	**0.47**	**292**	Pg	**Pg**	**21 33 39.3**	**-0.3**
CARF	**Carcanieres**	**0.59**	**28**	Pg	**Pg**	**21 33 41.4**	**-0.3**
CARF				Sg	**Sg**	**21 33 49.9**	**+0.4**
CARF	**Carcanieres**	**0.59**	**28**	Pg	**Pg**	**21 33 41.5**	**-0.2**
CARF				Lg		21 33 49.8	
CFON	**Fontmartina**	**0.69**	**129**	Pg	**Pg**	**21 33 44.3**	**+0.8**
CFON				Lg		21 33 54.6	
CAVN	**Les Avellanes**	**0.79**	**247**	Pg	**Pg**	**21 33 46.0**	**+0.5**
CAVN				Lg		21 33 57.0	
	2.8nm,0.3s						
EPOB	**Poblet**	**0.97**	**210**	Pg	**Pg**	**21 33 49.5**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		21 34 03.4	
	6.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**0.97**	**210**	Pg	**Pg**	**21 33 49.5**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EGRA	**Graus**	**1.05**	**270**	Pg	**Pg**	**21 33 50.8**	**+0.4**
	8.8nm,0.8s,SNR=7.9						
EGRA				Lg		21 34 05.9	
	2.8nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**1.20**	**17**	*e*Pg	**Pg**	**21 33 52.9**	**-0.3**
MTLF				*e*Sn	**Sn**	**21 34 08.2**	**+0.1**
MTLF				*e*Sg	**Sg**	**21 34 09.8**	**+1.0**
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.20**	**17**	Pg	**Pg**	**21 33 52.9**	**-0.3**
MTLF				Sn	**Sn**	**21 34 08.2**	**+0.1**
MTLF				Lg		21 34 09.8	
	0.6nm,0.2s						
EBIE	**Bielsa**	**1.27**	**293**	Pg	**Pg**	**21 33 54.0**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
EBIE				Lg		21 34 11.5	
	2.4nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.27**	**293**	Pg	**Pg**	**21 33 54.0**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.32**	**310**	*e*Pg	**Pg**	**21 33 56.2**	**+0.7**
EPF				*e*Sg	**Sg**	**21 34 14.7**	**+2.0**
	2.5nm,0.2s						
EPF	**Esparros**	**1.32**	**310**	Pg	**Pg**	**21 33 56.2**	**+0.7**
EPF				Lg		21 34 14.7	
	1.2nm,0.2s						
ERTA	**Horta de San J**	**1.62**	**221**	Pg	**Pg**	**21 34 00.3**	**-1.0**
	2.1nm,0.3s,SNR=7.9						
ERTA				Lg		21 34 22.6	
	1.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**1.62**	**221**	Pg	**Pg**	**21 34 00.3**	**-1.0**
	2.1nm,0.3s,SNR=7.9						
EBR	**Ebro Roquetas**	**1.66**	**214**	*e*Rs		21 34 23.0	
EBR	**Ebro Roquetas**	**1.66**	**214**	Lg		21 34 23.0	
ESAC	**San Caprasio**	**1.71**	**255**	Pg	**Pg**	**21 34 02.8**	**-0.1**
	3.1nm,0.3s,SNR=7.9						
ESAC				Lg		21 34 25.1	
	8.1nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.71**	**255**	Pg	**Pg**	**21 34 02.8**	**-0.1**
	3.1nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**1.83**	**293**	*e*Pg	**Pg**	**21 34 04.2**	**-1.0**
ETSF				*e*Sg	**Sg**	**21 34 28.6**	**-0.4**
	1.6nm,0.2s						
ETSF	**Etsaut**	**1.83**	**293**	Pg	**Pg**	**21 34 04.2**	**-1.0**
ETSF				Lg		21 34 28.6	
	0.8nm,0.2s						
SJPF	**Ste Jean**	**2.36**	**294**	*e*Sg	**Sg**	**21 34 45.9**	**-0.1**
	1.1nm,0.2s						
SJPF	**Ste Jean**	**2.36**	**294**	Lg		21 34 45.9	
	0.6nm,0.2s						
LASF	**Ste Croix**	**2.44**	**39**	*e*Sg	**Sg**	**21 34 47.2**	**-1.3**
	0.7nm,0.2s						
LASF	**Ste Croix**	**2.44**	**39**	Lg		21 34 47.2	
	0.3nm,0.2s						

*ISCJB **20** 21:45:17.0±0.5, 3986S±003×17683E±006, h66km±5km, mb3.5/2, Error ellipse: s-maj=8.5km s-min=4.3km az=36.8*
*WEL **20** 21:45:20.0±0.2, 3974S×17671E, h37km±3km, ML4.0/18, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0*
WEL Felt in the Hawke's Bay region, maximum reported intensity MM 4.
*NEIC **20** 21:45:20.3, 3974S×17669E, h31km, ML4.0(WEL), After WEL.*
NEIC Felt at Taradale.
*IDC **20** 21:45:21.9±1.3, 3829S×17575E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.7/10, mbtmp3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/16, Error ellipse: s-maj=112.9km s-min=16.5km az=3.0*

ISC 20 21:45:18.1±0.5,**3984S**±003×**17681E**±006,**h56**km±6km, **n76**,σ0°**94**/80,**mb3.3**/2,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.20**	**168**	PN	**Pn**	**21 45 28.7**	**+1.6**
PXZ				SN	**Sn**	**21 45 34.3**	**+0.7**
PXZ				SN	**Sn**	**21 45 35.3**	**+1.7**
TSZ	**Takapari Road**	**0.69**	**251**	PN	**Pn**	**21 45 32.1**	**+0.2**
TSZ				SN	**Sn**	**21 45 41.5**	**-0.5**
TSZ	**Takapari Road**	**0.69**	**251**	P	**Pn**	**21 45 32.1**	**+0.2**
BKZ	**Black Stump Fm**	**0.71**	**340**	PN	**Pn**	**21 45 31.5**	**-0.7**
BKZ				SN	**Sn**	**21 45 40.4**	**-2.2**
BKZ	**Black Stump Fm**	**0.71**	**340**	P	**Pn**	**21 45 31.5**	**-0.7**
MOVZ	**Moawhango**	**0.92**	**297**	PN	**Pn**	**21 45 34.7**	**-0.3**
MOVZ	**Moawhango**	**0.92**	**297**	P	**Pn**	**21 45 34.7**	**-0.2**
BFZ	**Birch Farm**	**0.95**	**207**	PN	**Pn**	**21 45 36.9**	**+1.6**
BFZ	**Birch Farm**	**0.95**	**207**	P	**Pn**	**21 45 36.9**	**+1.7**
KNZ	**Kokohu**	**1.05**	**40**	PN	**Pn**	**21 45 37.4**	**+0.8**
KNZ	**Kokohu**	**1.05**	**40**	P	**Pn**	**21 45 37.4**	**+0.7**
TUVZ	**Tukino**	**1.06**	**302**	PN	**Pn**	**21 45 36.9**	**+0.2**
TUVZ	**Tukino**	**1.06**	**302**	P	**Pn**	**21 45 36.9**	**+0.2**
WNVZ	**Wahianoa**	**1.06**	**298**	PN	**Pn**	**21 45 37.0**	**+0.2**
WNVZ	**Wahianoa**	**1.06**	**298**	P	**Pn**	**21 45 37.0**	**+0.2**
HATZ	**Hinemaiaia**	**1.09**	**329**	PN	**Pn**	**21 45 37.1**	**-0.1**
HATZ	**Hinemaiaia**	**1.09**	**329**	P	**Pn**	**21 45 37.1**	**-0.1**
OTVZ	**Oturere**	**1.11**	**307**	PN	**Pn**	**21 45 37.5**	**+0.1**
TRVZ	**Turoa**	**1.11**	**298**	PN	**Pn**	**21 45 37.7**	**+0.3**
DRZ	**Dome Shelter**	**1.11**	**300**	P	**Pn**	**21 45 38.2**	**+0.8**
MTVZ	**Mangateitei**	**1.13**	**293**	PN	**Pn**	**21 45 38.3**	**+0.7**
RITZ	**Rihia Road**	**1.13**	**319**	PN	**Pn**	**21 45 37.5**	**-0.2**
RITZ	**Rihia Road**	**1.13**	**319**	P	**Pn**	**21 45 38.0**	**+0.3**
FWVZ	**Far West T-bar**	**1.13**	**300**	PN	**Pn**	**21 45 37.9**	**+0.2**
FWVZ	**Far West T-bar**	**1.13**	**300**	P	**Pn**	**21 45 37.9**	**+0.2**
NGZ	**Ngauruhoe**	**1.14**	**305**	PN	**Pn**	**21 45 37.9**	**0.0**
WPVZ	**Whakapapa**	**1.16**	**302**	PN	**Pn**	**21 45 38.2**	**+0.1**
WPVZ	**Whakapapa**	**1.16**	**302**	P	**Pn**	**21 45 38.2**	**+0.1**
KRVZ	**Karewarewa**	**1.17**	**309**	PN	**Pn**	**21 45 38.1**	**0.0**
WTVZ	**West Tongariro**	**1.19**	**307**	PN	**Pn**	**21 45 38.4**	**0.0**
WTVZ	**West Tongariro**	**1.19**	**307**	P	**Pn**	**21 45 38.4**	**0.0**
KATZ	**Kakaramea**	**1.22**	**315**	P	**Pn**	**21 45 39.0**	**+0.1**
MRZ	**Mangatainoka R**	**1.25**	**228**	P	**Pn**	**21 45 40.1**	**+0.8**
RATZ	**Rangitukua**	**1.26**	**320**	P	**Pn**	**21 45 39.3**	**-0.1**
TWVZ	**Taurewa**	**1.31**	**305**	P	**Pn**	**21 45 40.2**	**+0.1**
WHTZ	**Whakaora**	**1.34**	**330**	P	**Pn**	**21 45 40.6**	**+0.1**
WATZ	**Wairara**	**1.40**	**323**	P	**Pn**	**21 45 40.8**	**-0.5**
WAZ	**Wanganui**	**1.41**	**273**	P	**Pn**	**21 45 42.9**	**+1.5**
PATZ	**Paeroa**	**1.52**	**343**	P	**Pn**	**21 45 43.1**	**+0.2**
URZ	**Urewera**	**1.59**	**9**	Pn	**Pn**	**21 45 43.7**	**-0.2**
	54nm,0.3s,baz=239,slow=7.6,SNR=329						
URZ				Sn	**Sn**	**21 46 01.6**	**-1.8**
	118nm,0.3s,baz=294,slow=20,SNR=22						
URZ	**Urewera**	**1.59**	**9**	P	**Pn**	**21 45 43.9**	**0.0**
MWZ	**Matawai**	**1.60**	**21**	P	**Pn**	**21 45 44.2**	**+0.2**
TAZ	**Tarawera**	**1.62**	**352**	P	**Pn**	**21 45 44.5**	**+0.2**
MTW	**Mount Morrison**	**1.65**	**217**	P	**Pn**	**21 45 45.0**	**+0.3**
VRZ	**Vera Road**	**1.74**	**293**	P	**Pn**	**21 45 47.6**	**+1.7**
KIW	**Kapiti Island**	**1.78**	**234**	P	**Pn**	**21 45 46.9**	**+0.5**
CAW	**Cannon Point**	**1.84**	**226**	P	**Pn**	**21 45 47.3**	**+0.1**
PAWZ	**Paruwai Farm**	**1.87**	**214**	P	**Pn**	**21 45 47.9**	**+0.3**
RAEZ	**Rainy Point**	**1.95**	**286**	P	**Pn**	**21 45 53.3**	**+4.6**
HIZ	**Hauiti**	**2.01**	**310**	*e*P	**Pn**	**21 45 49.0**	**-0.6**
PUZ	**Puketiti**	**2.09**	**33**	P	**Pn**	**21 45 50.6**	**-0.1**
WEL	**Wellington**	**2.12**	**226**	P	**Pn**	**21 45 51.3**	**+0.2**
MRW	**Makara Radio**	**2.12**	**228**	P	**Pn**	**21 45 51.0**	**-0.2**
BHW	**Baring Head**	**2.15**	**223**	P	**Pn**	**21 45 50.1**	**-1.4**
NEZ	**North Egmont**	**2.17**	**284**	P	**Pn**	**21 45 55.9**	**+4.1**
SNZO	**South Karori**	**2.17**	**227**	P	**Pn**	**21 45 51.5**	**-0.3**
PKE	**Pukeiti**	**2.27**	**285**	P	**Pn**	**21 45 55.9**	**+2.7**
NRZ	**Ngariki Road**	**2.28**	**282**	P	**Pn**	**21 45 58.5**	**+5.3**
WIZ	**White Island**	**2.33**	**7**	P	**Pn**	**21 45 51.0**	**-2.9**
NWEZ	**Newall Road**	**2.34**	**283**	P	**Pn**	**21 45 58.0**	**+3.9**
TCW	**Tory Channel**	**2.37**	**234**	P	**Pn**	**21 45 54.2**	**-0.3**
MXZ	**Matakaoa Point**	**2.56**	**28**	P	**Pn**	**21 45 56.9**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.91**	**229**	P	**Pn**	**21 46 00.4**	**-1.5**
MKAZ	**Moumakai**	**3.01**	**334**	P	**Pn**	**21 46 03.2**	**-0.1**
WTAZ	**Waiatarua**	**3.39**	**328**	P	**Pn**	**21 46 08.6**	**+0.2**
MTAZ	**Motutapu**	**3.39**	**333**	P	**Pn**	**21 46 09.2**	**+0.7**
QRZ	**Quartz Range**	**3.42**	**252**	P	**Pn**	**21 46 08.1**	**-0.7**
THZ	**Tophouse**	**3.53**	**236**	*e*P	**Pn**	**21 46 09.5**	**-0.9**
KHZ	**Kahutara**	**3.57**	**223**	*e*P	**Pn**	**21 46 09.6**	**-1.3**
DSZ	**Denniston Nort**	**4.25**	**242**	*e*P	**Pn**	**21 46 19.5**	**-0.8**
LTZ	**Lake Taylor**	**4.51**	**228**	*e*P	**Pn**	**21 46 21.9**	**-1.9**
MQZ	**McQueen's Vall**	**4.96**	**217**	*e*P	**Pn**	**21 46 28.5**	**-1.5**
ODZ	**Otahua Downs**	**6.92**	**219**	*e*P	**Pn**	**21 46 55.4**	**-1.4**
ASAR	**Alice Springs**	**39.48**	**281**	P	**P**	**21 52 44.5**	**+1.5**
	0.5nm,0.7s,mb3.4,baz=130,slow=8.4,SNR=5.7						
ASAR				pP	pP	21 52 55.6	-1.8
	1.5nm,0.8s,baz=127,slow=8.8,SNR=13						
WRA	**Warramunga Arr**	**41.35**	**286**	P	**P**	**21 52 60.0**	**+1.6**
	0.5nm,0.6s,mb3.3,baz=128,slow=7.2,SNR=9.2						
WRA				pP	pP	21 53 11.6	-1.4
	1.8nm,0.7s,baz=127,slow=7.8,SNR=15						
TORD	**Torodi Ar. Bea**	**153.07**	**191**	PKPbc	pPKPdf	22 05 25.2	+6.7
	0.4nm,0.8s,baz=156,slow=3.2,SNR=5.4						

*PGC **20** 22:00:29.0, 6633N×14294W, h1km, ML2.9/2, Eastern Alaska.*
*ISCJB **20** 22:00:30.7±0.6, 6625N±005×14200W±0.1, h10km, Error ellipse: s-maj=7.0km s-min=6.9km az=124.4*
*NEIC **20** 22:00:32.4, 6626N×14242W, h10km, ML3.0(AEIC), After AEIC.*

ISC 20 22:00:31.7±0.6,**6624N**±004×**1421W**±01,**h10**km,**n13**, σ1°**19**/18,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.56**	**321**	P	**Pn**	**22 00 58.1**	**-1.3**
BM3				S	**Sn**	**22 01 20.2**	**+0.5**
DAWY	**Dawson**	**2.46**	**152**	Pn	**Pn**	**22 01 13.3**	**+1.5**
DAWY				Pg	**Pg**	**22 01 15.4**	**-3.3**
DAWY				Sn	**Sn**	**22 01 47.0**	**+5.1**
DAWY				Trac		22 01 54.1	
	comp=Z,18nm,0.2s						
DAWY	**Dawson**	**2.46**	**152**	P	**Pn**	**22 01 13.3**	**+1.5**
DAWY				S	**Sn**	**22 01 47.1**	**+5.2**
IL1	**Eielson Array**	**2.50**	**236**	P	**Pn**	**22 01 11.8**	**-0.6**
DOT	**Dot Lake**	**2.74**	**199**	P	**Pn**	**22 01 16.8**	**+1.0**
COLA	**College**	**2.78**	**243**

mpv2.8, Error ellipse: s-maj=25.1km s-min=19.0km az=94.0

BJI 20 22:15:34.8, 4326N×8556E, h13km, ML3.2, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.65**	**69**	PG	Pg	22 16 02.8	-3.7
WMQ				SG	Sg	22 16 23.8	-4.1
WMQ				Smax			
	comp=N,287nm,0.5s						
WMQ				Smax			
	comp=E,259nm,0.5s						
MK31	**Makanchi Array**	**4.23**	**328**	Pn	Pn	22 16 40.0	+1.1
	comp=E,0.3nm,0.3s,baz=141,slow=14,SNR=110						
MK31				⇓Pg	Pg	22 16 50.5	-5.2
	comp=E,1.5nm,0.3s,baz=138,slow=17,SNR=25						
MK31				⇓Sn	Sn	22 17 30.4	+2.3
	comp=E,15nm,0.6s						
MK31				⇓Lg		22 17 46.7	
	comp=E,31nm,0.6s,baz=142,slow=29						
TKM2	**Tokmak 2**	**7.30**	**271**	⇑Lg		22 19 21.9	
	comp=E,4.0nm,0.8s						
KURK	**Kurchatov**	**8.84**	**330**	⇑Sn	Sn	22 19 17.5	-4.1
	comp=E,1.2nm,0.5s						
KURK				⇑Lg		22 20 10.1	
	comp=E,5.5nm,1.2s						

*NAO **20** 22:41:27.6, 2926N×14035E, h33km, mb4.3*
*NIED **20** 22:42:00, 3300N×13830E, h290km, Mw4.1 Best double couple: M0 1.46000×10^15 NP1:φ0=33.00000°, δ72.00000°, λ-68.00000°. NP2:φ0=161.00000°, δ28.00000°, λ-138.00000°.*
*BJI **20** 22:42:16.9, 3307N×13842E, h288km, mB4.7, mb4.4*
*MOS **20** 22:42:18.5±0.9, 3296N×13817E, h295km, mb4.2/19, Error ellipse: s-maj=15.4km s-min=7.4km az=101.1*
*NEIC **20** 22:42:19.1±0.5, 3290N×13833E, mb3.9/8, Error ellipse: s-maj=10.6km s-min=9.4km az=113.0*
*ISCJB **20** 22:42:19.2±0.4, 3300N±005×13828E±005, h304km±2km, mb3.9/35, Error ellipse: s-maj=8.2km s-min=5.7km az=123.6*
*JMA **20** 22:42:19.0±0.3, 3296N×13833E, h305km±4km, M3.7*
*IDC **20** 22:42:20.5±0.6, 3296N×13821E, h299km±5km, mb3.4/16, mb1 3.6/18, mb1mx3.5/24, mbtmp4.1/18, Error ellipse: s-maj=13.6km s-min=10.3km az=73.0*

ISC 20 22:42:20.3±0.4, 3303N±005×13828E±005, h299km±2km, h282km±10.0km; pP-P, n108, σ0§92/117, mb3.9/35, 3C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.93**	**322**	*e*S	**S**	**22 43 32.4**	**+0.4**
TK02	**Tokai 2**	**1.01**	**335**	*e*S	**S**	**22 43 33.2**	**+0.5**
TK03	**Tokai 3**	**1.16**	**347**	*e*S	**S**	**22 43 35.3**	**+1.3**
JHJ	**Hachijo jima 2**	**1.27**	**86**	P	**Pn**	**22 43 01.4**	**-0.5**
JHJ	69nm,0.3s,baz=44,slow=6.2,SNR=12			S	**S**	**22 43 36.9**	**+1.8**
	42nm,0.3s,baz=63,slow=23,SNR=6.1						
JHJ2	**Mitsune**	**1.30**	**86**	P	**Pn**	**22 43 01.7**	**-0.4**
JKO	**Kozu shima**	**1.36**	**32**	P	**Pn**	**22 43 02.5**	**0.0**
TK04	**Tokai 4**	**1.39**	**346**	*e*S	**S**	**22 43 37.0**	**+0.6**
NJJ	**Nii jima 2**	**1.60**	**31**	P	**Pn**	**22 43 04.7**	**+0.7**
JIE	**Ise**	**1.89**	**317**	P	**Pn**	**22 43 06.2**	**+0.1**
JIM2	**Oshima 3**	**1.94**	**29**	P	**Pn**	**22 43 06.3**	**-0.2**
JWZ	**Kozaga**	**2.20**	**284**	P	**Pn**	**22 43 08.1**	**-0.5**
JWZ				*e*S	**S**	**22 43 45.5**	**-1.6**
JOD2	**Odawara 2**	**2.33**	**17**	P	**Pn**	**22 43 09.6**	**-0.1**
JOD2				*e*S	**S**	**22 43 48.9**	**-0.1**
JYN	**Shimob**	**2.47**	**5**	P	**Pn**	**22 43 11.8**	**+0.8**
JWY	**Kouya**	**2.53**	**299**	P	**Pn**	**22 43 11.9**	**+0.4**
BSO1	**Boso 1**	**2.77**	**54**	P	**Pn**	**22 43 10.6**	**-3.1**
BSO1				*e*S	**S**	**22 43 53.6**	**-2.8**
JGM	**Miyama**	**2.96**	**335**	P	**Pn**	**22 43 16.0**	**+0.5**
JRY	**Ryogami san**	**3.02**	**10**	P	**Pn**	**22 43 16.7**	**+0.5**
JRY				*e*S	**S**	**22 43 59.6**	**-1.2**
JWT	**Wachi**	**3.27**	**314**	P	**Pn**	**22 43 19.0**	**+0.3**
JAI	**Aioi**	**3.29**	**284**	P	**Pn**	**22 43 18.7**	**-0.1**
JAI				*e*S	**S**	**22 44 04.2**	**-1.4**
MJAR	**Matsushiro Arr**	**3.50**	**359**	P	**Pn**	**22 43 20.9**	**-0.2**
	3.2nm,0.3s,baz=172,slow=10,SNR=36						
MJAR				S	**S**	**22 44 10.7**	**+1.0**
	0.3nm,0.3s,baz=141,slow=15,SNR=4.8						
MAJO	**Matsushiro**	**3.50**	**359**	*e*P	**Pn**	**22 43 21.4**	**+0.3**
MAT	**Matsushiro**	**3.50**	**359**	P	**Pn**	**22 43 21.2**	**+0.1**
MAT				S	**S**	**22 44 09.0**	**-0.7**
MAT	**Matsushiro**	**3.50**	**359**	P	**Pn**	**22 43 21.9**	**+0.8**
MAT				*e*S	**S**	**22 44 07.3**	**-2.4**
JAG	**Ashikaga**	**3.52**	**16**	P	**Pn**	**22 43 20.0**	**-1.3**
JAG				S	**S**	**22 44 05.9**	**-4.2**
JKG	**Kaga**	**3.61**	**334**	P	**Pn**	**22 43 22.9**	**+0.7**
JMN	**Monobe**	**3.74**	**282**	P	**Pn**	**22 43 23.8**	**+0.2**
JTO	**Tosashimizu**	**4.61**	**269**	P	**Pn**	**22 43 32.9**	**-0.3**
JHS	**Saijyo**	**4.71**	**296**	P	**Pn**	**22 43 35.1**	**+0.7**
JNU	**Nakatsue**	**6.21**	**273**	P	**Pn**	**22 43 52.8**	**+0.7**
	1.8nm,0.3s,baz=79,slow=10,SNR=8.6						
CBIJ	**Chichi jima**	**6.81**	**149**	P	**Pn**	**22 43 54.5**	**-4.9**
	6.9nm,0.3s,baz=270,slow=20,SNR=8.8						
CBIJ				S	**S**	**22 45 08.0**	**-11**
	53nm,0.3s,baz=286,slow=21,SNR=22						
KS15	**Wonju Array Si**	**9.57**	**300**	Pn	**Pn**	**22 44 34.4**	**+1.3**
ASAJ	**Asahikawa**	**11.57**	**16**	P	**Pn**	**22 44 56.0**	**-1.6**
	1.1nm,0.3s,baz=204,slow=12,SNR=5.6						
ASAJ	**Asahikawa**	**11.57**	**16**	P	**Pn**	**22 44 56.0**	**-1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**13.39**	**332**	*e*P	**Pn**	**22 45 18.7**	**-0.9**
	comp=Z,4.5nm,0.5s						
YSS	**Yuzh-Sakhalins**	**14.32**	**12**	*e*P	**Pn**	**22 45 30.9**	**+0.3**
SSE	**Sheshan**	**14.62**	**267**	*e*P	**Pn**	**22 45 33.0**	**-1.2**
SSE				AMB	AMB		
	comp=Z,17nm,0.9s						
SSE				AMB	AMB		
	comp=Z,41nm,5.0s						
HABR	**Khabarovsk**	**15.62**	**352**	*e*P	**Pn**	**22 45 36.8**	**-9.1**
HABR				*i* S	**S**	**22 48 23.5**	**-10**
NJ2	**Nanjing**	**16.41**	**272**	*e*P	**P**	**22 45 55.6**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
HIA	**Hailar**	**21.31**	**325**	*e*P	**P**	**22 46 42.4**	**-1.5**
ENH	**Enshi**	**24.63**	**271**	*e*P	**P**	**22 47 12.4**	**-1.7**
	comp=Z,3.1nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**27.77**	**311**	⇑*e*P	**P**	**22 47 43.4**	**+1.3**
ULN	**Ulaanbaatar**	**27.77**	**311**	*e*P	**P**	**22 47 42.5**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.4						
MA2	**Magadan**	**27.82**	**14**	*e*P	**P**	**22 47 43.5**	**+1.0**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.2						
SONM	**Songino Array**	**28.18**	**311**	P	**P**	**22 47 46.6**	**+1.0**
	comp=Z,1.5nm,0.8s,mb3.5,baz=119,slow=9.3,SNR=12						
SONM				pP		22 48 41.9	
	comp=Z,1.1nm,1.0s,baz=114,slow=9.5,SNR=4.4						
SONM				PcP	PcP	22 50 51.5	+0.4
	comp=Z,0.3nm,0.6s,baz=100,slow=2.3,SNR=3.8						
SONM				ScP	ScP	22 54 03.9	+0.9
	comp=Z,0.2nm,0.9s,baz=31,slow=0.8,SNR=2.4						
SONM	**Songino Array**	**28.18**	**311**	P	**P**	**22 47 46.6**	**+1.0**
SONM				*PP		22 48 41.9	
SONM						22 50 51.5	
YAK	**Yakutsk**	**29.54**	**352**	*e*P	**P**	**22 47 58.9**	**+1.3**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**30.98**	**314**	*e*P	**P**	**22 48 08.1**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.1s,mb3.7						
BILL	**Bilibino**	**38.59**	**16**	⇓*i*P	**P**	**22 49 17.0**	**+2.1**
BILL				*e*		22 50 47.2	
BILL				*e*S	**S**	**22 54 45.6**	**-2.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
BILL	**Bilibino**	**38.59**	**16**	P	**P**	**22 49 15.2**	**+0.3**
	comp=Z,2.6nm,0.6s,mb3.8						
TIXI	**Tiksi**	**39.01**	**355**	⇑*i*P	**P**	**22 49 18.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
LSA	**Lhasa**	**40.12**	**278**	P	**P**	**22 49 28.0**	**+0.5**
LSA	**Lhasa**	**40.12**	**278**	*e*P	**P**	**22 49 28.6**	**+1.1**
LSA				*e*PP	pP	22 50 23.8	-3.8
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**40.12**	**278**	*e*P	**P**	**22 49 28.6**	**+1.1**
	comp=Z,4.0nm,0.6s,mb3.9						
LSA				*e*pP	pP	22 50 23.8	-3.7
ZAL	**Zalesovo**	**42.85**	**316**	P	**P**	**22 49 49.4**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.5,baz=5.2,slow=7.9,SNR=6.7						
ZAL				PcP	PcP	22 51 34.2	-0.3
	comp=Z,1.4nm,0.7s,baz=292,slow=1.5,SNR=6.3						
ZAL	**Zalesovo**	**42.85**	**316**	*i* P	**P**	**22 49 49.9**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**42.85**	**316**	P	**P**	**22 49 49.4**	**-0.1**
ZAL				PcP	PcP	22 51 34.2	-0.3
MKAR	**Makanchi Array**	**44.19**	**305**	P	**P**	**22 50 00.3**	**+0.2**
	comp=Z,1.9nm,0.5s,mb3.6,baz=90,slow=9.6,SNR=33						
MKAR				ScP	ScP	22 55 00.9	-0.9
	comp=Z,0.2nm,0.6s,baz=84,slow=1.4,SNR=3.7						
JIRN	**Jiri**	**44.90**	**278**	*e*P	**P**	**22 50 06.3**	**+0.6**
	comp=Z,52nm,0.4s						
GUN	**Gumba**	**45.07**	**278**	*e*P	**P**	**22 50 07.6**	**+0.5**
	comp=Z,22nm,0.5s,mb4.7						
PKI	**Pulchoki**	**45.58**	**278**	*e*P	**P**	**22 50 11.0**	**0.0**
KKN	**Kakani**	**45.61**	**278**	*e*P	**P**	**22 50 11.3**	**0.0**
	comp=Z,21nm,0.7s,mb4.5						
DMN	**Daman**	**45.82**	**278**	*e*P	**P**	**22 50 12.8**	**-0.1**
	comp=Z,6.3nm,0.4s,mb4.3						
GKN	**Gorkha**	**46.07**	**279**	*e*P	**P**	**22 50 14.7**	**-0.1**
	comp=Z,18nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.48**	**311**	*e*P	**P**	**22 50 17.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**46.48**	**311**	*e*P	**P**	**22 50 17.9**	**-0.1**
	comp=Z,7.1nm,0.8s,mb4.0						
KURK				*e*pP	pP	22 51 11.7	-8.2
KOLN	**Koldanda**	**47.01**	**279**	*e*P	**P**	**22 50 22.4**	**+0.3**
AAK	**Ala-Archa**	**50.21**	**301**	⇑*i*P	**P**	**22 50 45.7**	**-0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s,mb3.4						
BRVK	**Borovoye**	**51.50**	**314**	*e*P	**P**	**22 50 55.3**	**-0.5**
BRVK				*e*PP	pP	22 51 59.1	0.0
KDAK	**Kodiak Island**	**51.81**	**40**	P	**P**	**22 50 58.4**	**+0.3**
	comp=Z,3.5nm,0.7s,mb3.8,baz=307,slow=5.1,SNR=4.4						
KDAK	**Kodiak Island**	**51.81**	**40**	P	**P**	**22 50 58.4**	**+0.3**
ZRNK	**Zerenda**	**52.28**	**314**	*e*pP	pP	22 52 05.2	+0.2
	comp=Z,1.8nm,0.6s						
WRAB	**Tennant Creek**	**52.80**	**185**	*e*P	**P**	**22 51 04.6**	**-0.7**
WRAB				*e*PP	pP	22 52 06.3	-2.7
WRA	**Warramunga Arr**	**52.81**	**185**	P	**P**	**22 51 04.3**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.2,baz=0.1,slow=7.7,SNR=25						
ILAR	**Eielson Array**	**54.24**	**31**	P	**P**	**22 51 16.2**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.1,baz=280,slow=5.6,SNR=12						
HYB	**Hyderabad**	**55.55**	**269**	*i* P	**P**	**22 51 25.0**	**0.0**
HYB	**Hyderabad**	**55.55**	**269**	*e*P	**P**	**22 51 25.0**	**0.0**
ASAR	**Alice Springs**	**56.53**	**185**	P	**P**	**22 51 32.6**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.0,baz=14,slow=12,SNR=5.1						
MBWA	**Marble Bar**	**56.72**	**201**	*e*P	**P**	**22 51 32.5**	**-0.8**
ARU	**Arti**	**57.70**	**320**	*d i*P	**P**	**22 51 39.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
INK	**Inuvik**	**59.11**	**26**	P	**P**	**22 51 50.3**	**+0.5**
	comp=Z,0.8nm,0.4s,mb3.5,baz=266,slow=8.2,SNR=5.9						
INK	**Inuvik**	**59.11**	**26**	P	**P**	**22 51 50.3**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**66.27**	**339**	*e*p	**P**	**22 52 36.6**	**-0.1**
	comp=Z,5.0nm,0.6s,mb4.4						
KEV	**Kevo**	**66.27**	**339**	*e*P	**P**	**22 52 36.6**	**-0.1**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**66.83**	**339**	P	**P**	**22 52 40.8**	**+0.5**
	comp=Z,4.2nm,0.5s,mb4.4,baz=66,slow=8.7,SNR=43						
ARCES	**ARCESS Array B**	**66.83**	**339**	P	**P**	**22 52 40.8**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
RES	**Resolute Bay**	**67.10**	**13**	*e*P	**P**	**22 52 42.8**	**+0.8**
RES				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
RES	**Resolute Bay**	**67.10**	**13**	*e*P	**P**	**22 52 42.8**	**+0.8**
	comp=Z,2.3nm,0.4s,mb4.3						
JOF	**Joensuu**	**68.27**	**332**	*e*p	**P**	**22 52 48.8**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.1						
JOF	**Joensuu**	**68.27**	**332**	*e*P	**P**	**22 52 48.8**	**-0.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**68.55**	**28**	P	**P**	**22 52 51.6**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=301,slow=6.1,SNR=7.9						
KAF	**Kangasniemi**	**70.67**	**332**	*e*p	**P**	**22 53 02.9**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.2,baz=54,slow=5.7						
KAF	**Kangasniemi**	**70.67**	**332**	*e*P	**P**	**22 53 02.9**	**-0.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**71.14**	**332**	P	**P**	**22 53 06.5**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.0,baz=88,slow=5.9,SNR=16						
FINES	**FINESS Array B**	**71.14**	**332**	P	**P**	**22 53 06.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**75.86**	**322**	P	**P**	**22 53 33.7**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.0,baz=52,slow=5.4,SNR=7.2						
AKASG	**Malin Array Be**	**75.86**	**322**	P	**P**	**22 53 33.7**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**76.85**	**336**	P	**P**	**22 53 38.7**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.0,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**76.85**	**336**	P	**P**	**22 53 39.6**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.2,baz=44,slow=5.6,SNR=14						
NOA	**NORSAR Array B**	**76.85**	**336**	P	**P**	**22 53 39.7**	**+0.2**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**79.54**	**311**	P	**P**	**22 53 55.1**	**+1.0**
	comp=Z,1.9nm,0.8s,mb3.9,baz=97,slow=4.2,SNR=14						
BRTR	**Keskin Array B**	**79.54**	**311**	P	**P**	**22 53 55.2**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AHID	**Auburn Hatcher**	**81.42**	**44**	*e*P	**P**	**22 54 03.2**	**-1.0**
PDAR	**Pinedale Array**	**82.32**	**43**	P	**P**	**22 54 10.6**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.4,baz=302,slow=3.3,SNR=4.9						
GERES	**GERESS Array B**	**84.70**	**327**	P	**P**	**22 54 21.0**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=43,slow=6.0,SNR=8.4						
GERES	**GERESS Array B**	**84.70**	**327**	P	**P**	**22 54 21.0**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**118.15**	**311**	PKP	PKPdf	23 00 31.9	+0.1
	comp=Z,0.4nm,0.9s,baz=45,slow=2.1,SNR=5.6						
DBIC	**Dimbokro**	**127.23**	**312**	PKP	PKPdf	23 00 50.2	+1.0
	comp=Z,1.7nm,1.0s,baz=72,slow=3.2,SNR=2.7						
DBIC	**Dimbokro**	**127.23**	**312**	PKIKP	PKPdf	23 00 50.2	+1.0
DBIC				pmax	pmax		
	comp=Z,2.0nm,1.0s						

*IDC **20** 22:45:17.1±2.9, 3576S×17991E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/11, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=70.8km s-min=43.2km az=130.0*

NEIC 20 22:45:22.0±1.9, 3591S×17988E, h35km, mb4.2/1, Error ellipse: s-maj=40.2km s-min=20.5km az=112.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.23**	**223**	Pn	Pn	22 46 10.2	0.0
	6.2nm,0.3s,baz=23,slow=5.3,SNR=25						
URZ				Sn	Sn	22 46 47.2	-0.2
	3.7nm,0.3s,baz=129,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**41.38**	**274**	P	P	22 53 05.3	+0.6
	1.0nm,0.7s,baz=119,slow=7.2,SNR=10						
WB2	**Warramunga Arr**	**42.86**	**279**	*e*P	P	22 53 16.9	+0.1
WRAB	**Tennant Creek**	**42.87**	**279**	*e*P	P	22 53 17.0	+0.1
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**42.87**	**279**	P	P	22 53 17.2	+0.3
	0.9nm,0.4s,baz=120,slow=7.8,SNR=15						
FINES	**FINESS Array B**	**149.55**	**335**	PKPbc	PKPbc	23 05 06.8	-0.9
	1.7nm,0.8s,baz=47,slow=3.9,SNR=8.6						

*ISCJB **20** 23:02:41.3±0.9, 1696S±006×7038W±006, h65km±9km, mb4.2/16, Error ellipse: s-maj=11.2km s-min=7.5km az=94.8*
*NEIC **20** 23:02:43.3±0.9, 1688S×7029W, h62km±8km, mb4.6/9, Error ellipse: s-maj=12.2km s-min=6.9km az=50.0*
NEIC Felt [III] at Carumas.
*BJI **20** 23:02:43.3, 1690S×7030W, h62km*
*IDC **20** 23:02:46.4±2.6, 1692S×6998W, h92km±22km, mb3.9/8, mb1 4.1/9, mb1mx3.9/17, mbtmp4.2/9, MS4.2/13, Ms1 4.2/13, ms1mx4.1/19, Error ellipse: s-maj=26.7km s-min=21.8km az=46.0*

ISC 20 23:02:43.2±0.8, 1698S±006×7032W±006, h67km±8km, n63, σ1§01/45, mb4.2/16, 2C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.23**	**295**	⇑*i*P	**Pn**	**23 02 54.5**	**-10**
ARE				*i* S	**Sn**	**23 03 09.2**	**-11**
LPAZ	**La Paz**	**2.21**	**72**	P	**Pn**	**23 03 18.7**	**+1.0**
	88nm,0.3s,baz=253,slow=14,SNR=1427						
LPAZ				S	**Sn**	**23 03 53.2**	**+9.2**
	36nm,0.3s,baz=197,slow=19,SNR=2.2						
LPAZ	**La Paz**	**2.21**	**72**	⇑*i*Pn	**Pn**	**23 03 18.7**	**+1.1**
LPAZ				*e*Sn	**Sn**	**23 03 45.0**	**+1.0**
CEN1	**Los Morros**	**6.38**	**179**	*e*P	**Pn**	**23 04 13.7**	**-0.8**
NNA	**Nana**	**8.03**	**307**	*e*Pn	**Pn**	**23 04 36.6**	**-0.5**
	23nm,0.8s						
NNA				*e*Sn	**Sn**	**23 06 06.0**	**-0.4**
SIV	**San Ignacio**	**8.93**	**85**	P	**Pn**	**23 04 48.4**	**-1.0**
	1.3nm,0.3s,baz=269,slow=12,SNR=18						
CFAA	**Coronel Fontan**	**14.68**	**173**	P	**Pn**	**23 06 03.5**	**-3.7**
	0.1nm,0.3s,baz=332,slow=13,SNR=4.9						
CFAA				LR	LR	23 12 01.9	
	comp=Z,52nm,20.8s,baz=155,slow=38						
CFAA	**Coronel Fontan**	**14.68**	**173**	P	**Pn**	**23 06 03.5**	**-3.7**
CFAA				LR	LR	23 12 01.9	
CPUP	**Villa Florida**	**15.24**	**130**	*e*Pn	**Pn**	**23 06 15.0**	**+0.7**
FCH	**Farellones**	**16.28**	**180**	⇓*i*P	**Pn**	**23 06 27.6**	**+0.1**
OTAV	**Otavalo**	**18.89**	**334**	*e*P	**Pn**	**23 06 59.4**	**-0.1**
BDFB	**Brasilia**	**21.45**	**90**	LR	LR	23 16 23.8	
	comp=Z,631nm,19.1s,baz=21,slow=39						
TRQA	**Tornquist**	**22.24**	**162**	*e*P	**P**	**23 07 35.5**	**+1.2**
	21nm,1.1s,mb4.4						
PLCA	**Paso Flores**	**23.67**	**180**	P	**P**	**23 07 49.3**	**+0.7**
	8.2nm,1.0s,mb4.0,baz=358,slow=11,SNR=9.2						
PLCA				LR	LR	23 17 19.1	
	comp=Z,435nm,20.1s,baz=344,slow=37						
PLCA	**Paso Flores**	**23.67**	**180**	*e*P	**P**	**23 07 50.2**	**+1.6**
	14nm,1.1s,mb4.2						
SDV	**Santo Domingo**	**25.70**	**359**	P	**P**	**23 08 06.8**	**-0.3**
MIAR	**Mount Ida**	**55.81**	**337**	*e*P	**P**	**23 12 14.2**	**+0.7**
	11nm,1.2s,mb4.8						
FVM	**French Village**	**57.84**	**341**	*e*P	**P**	**23 12 26.9**	**-1.0**
	19nm,1.9s,mb4.8						
CCM	**Cathedral Cave**	**58.17**	**341**	*e*P	**P**	**23 12 28.9**	**-1.2**
GDL2	**Guadalupe Moun**	**58.78**	**326**	P	**P**	**23 12 35.0**	**+0.6**
MNTX	**Cornudas Mount**	**58.94**	**325**	*e*P	**P**	**23 12 35.1**	**-0.4**
	6.5nm,1.2s,mb4.5						
RKT	**Rikitea**	**60.62**	**253**	*e*S	**S**	**23 21 09.3**	**+11**
	228nm,30.0s						
RKT				*e*LR	LR	23 30 48.1	
	219nm,32.2s						
SDCO	**Great Sand Dun**	**63.70**	**329**	*e*P	**P**	**23 13 07.1**	**-0.5**
	10nm,1.1s,mb4.6						
PV01	**Paradox Valley**	**65.53**	**328**	*e*P	**P**	**23 13 21.3**	**+1.7**
MSU	**Marysvale**	**67.72**	**326**	*e*P	**P**	**23 13 34.0**	**+0.5**
ARUT	**Antelope Range**	**67.89**	**324**	*e*P	**P**	**23 13 34.9**	**+0.3**
DBIC	**Dimbokro**	**68.83**	**76**	P	**P**	**23 13 37.9**	**-2.5**
	2.3nm,0.8s,mb4.1,baz=180,slow=9.1,SNR=3.8						
DBIC				LR	LR	23 41 29.6	
	comp=Z,427nm,20.8s,baz=224,slow=34						
DBIC	**Dimbokro**	**68.83**	**76**	P	**P**	**23 13 37.9**	**-2.5**
DBIC				LR	LR	23 41 29.6	
PDAR	**Pinedale Array**	**69.55**	**330**	P	**P**	**23 13 45.2**	**+0.4**
	0.7nm,0.5s,mb3.7,baz=121,slow=8.7,SNR=8.0						
PDAR				LR	LR	23 45 30.9	
	comp=Z,112nm,19.2s,baz=342,slow=37						
ULM	**Lac du Bonnet**	**70.63**	**343**	P	**P**	**23 13 51.0**	**-0.5**
	4.9nm,0.6s,mb4.5,baz=154,slow=5.7,SNR=16						
ULM				LR	LR	23 47 56.9	
	comp=Z,114nm,18.3s,baz=213,slow=38						
ULM	**Lac du Bonnet**	**70.63**	**343**	P	**P**	**23 13 51.0**	**-0.5**
ULM				LR	LR	23 47 56.9	
IMW	**Indian Meadow**	**71.06**	**330**	*e*P	**P**	**23 13 55.1**	**+1.0**
	2.2nm,0.5s,mb4.2						
FLWY	**Flagg Ranch**	**71.08**	**330**	*e*P	**P**	**23 13 55.9**	**+1.6**
	7.2nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**71.13**	**322**	P	**P**	**23 13 56.8**	**+2.2**
	1.3nm,0.9s,mb3.8,baz=138,slow=7.8,SNR=6.6						
HLID	**Hailey**	**72.52**	**328**	*e*P	**P**	**23 14 02.4**	**-0.5**
	5.0nm,1.3s,mb4.2						
TBI	**Tubuai**	**73.73**	**250**	*e*S	S	23 23 46.6	+11
	144nm,26.2s						
TBI				*e*LR	LR	23 36 59.6	
	285nm,34.5s		

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURV				eS	Sn	23 04 41.2	-1.7
CUPV	**Cœpira**	**3.18**	**261**	eP	Pn	23 04 15.3	+0.8
CUPV				eS	Sn	23 04 50.7	-0.8
BIRV	**Birongo**	**3.61**	**269**	eP	Pn	23 04 21.1	+0.7
BIRV				eS	Sn	23 05 00.7	-1.3
MERV	**Las Mercedes**	**3.87**	**251**	eP	Pn	23 04 24.8	+1.0
MERV				eS	Sn	23 05 08.2	0.0
LUEV	**Luepa**	**4.82**	**166**	eP	Pn	23 04 36.3	-0.5
LUEV				eS	Sn	23 05 28.1	-3.2
CAOV	**Caicara del Or**	**4.88**	**229**	eP	Pn	23 04 37.8	+0.2
CAOV				eS	Sn	23 05 31.1	-1.7
BAUV	**El Baul**	**5.60**	**254**	eP	Pn	23 04 47.3	0.0
BAUV				eS	Sn	23 05 48.0	-2.3

IDC ***20*** *23:31:49.5±0.5, 192N×12649E, h0km, mb4.7/22, mb1 4.7/22, mb1mx4.7/24, mbtmp4.7/22, MS3.8/6, Ms1 3.8/6, ms1mx3.4/28, Error ellipse: s-maj=23.0km s-min=11.2km az=77.0*

BJI ***20*** *23:31:51.7, 171N×12664E, h38km, mB4.9, mb4.9, Ms4.5, Msz3.8*

ISCJB ***20*** *23:31:52.0±0.2, 191N±003×12657E±005, h26km, mb4.9/81, MS3.9/17, Error ellipse: s-maj=7.9km s-min=3.8km az=142.5*

MOS ***20*** *23:31:53.2±1.0, 198N×12655E, h33km, mb5.3/29, Error ellipse: s-maj=12.8km s-min=6.0km az=109.5*

NEIC ***20*** *23:31:53.8±0.2, 193N×12653E, mb5.0/28, Error ellipse: s-maj=7.6km s-min=4.1km az=71.0*

NAO ***20*** *23:32:23.1, 7.18N×12236E, h33km, mb4.6*

ISC 20 23:31:54.1±0.2,190N±003×12661E±005,h28km, h28km±1.4km:pP-P,n187,σ1§04/192,mb4.9/81,MS3.9/17, 11C-13D,Northern Moluccas Sea

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**6.14**	**346**	eP	Pn	23 33 26.6	+3.7
BUKP				eS	Sn	23 34 51.5	+19
PAGZ	**Pagadian**	**6.73**	**332**	eP	Pn	23 33 34.3	+3.3
PAGZ				eS	Sn	23 34 47.6	+0.9
BUTP	**Butuan**	**7.09**	**352**	eP	Pn	23 33 37.9	+1.9
BUTP				eS	Sn	23 35 09.4	+14
IPIL	**Ipil**	**7.10**	**326**	eP	Pn	23 33 39.1	+3.0
PCI	**Palu**	**7.32**	**248**	P	Pn	23 33 46.9	+7.7
	104nm,1.1s						
TSM	**Tawau**	**9.04**	**285**	P	Px	23 34 19.8	
KKM	**Kota Kinabalu**	**11.16**	**292**	P	Pn	23 34 36.5	+4.8
KKM	**Kota Kinabalu**	**11.16**	**292**	ePn	Pn	23 34 36.7	+5.0
KAKA	**Kakadu**	**15.63**	**158**	eP	Pn	23 35 32.4	+0.1
	51nm,0.6s						
KSM	**Kuching**	**16.30**	**269**	eP	Pn	23 35 42.4	+1.4
FITZ	**Fitzroy Crossi**	**19.90**	**183**	eP	Pn	23 36 24.3	-0.8
	22nm,0.4s						
GUMO	**Guam**	**21.47**	**56**	LR	LR	23 44 14.4	
	comp=Z,178nm,20.7s,MS3.5,baz=255,slow=34						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	**23 36 56.0**	**-0.5**
	380nm,0.4s,SNR=66						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	**23 36 56.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	**23 36 56.6**	**+0.1**
	comp=Z,48nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**23 36 56.7**	**+0.1**
	comp=Z,33nm,0.5s,mb5.0,baz=340,slow=11,SNR=196						
WRA				PcP	PcP	23 40 46.1	+0.3
	comp=Z,1.8nm,0.6s,baz=337,slow=2.3,SNR=4.6						
WRA				S	**S**	**23 41 03.2**	**-2.1**
	comp=Z,8.1nm,0.9s,baz=344,slow=18,SNR=9.1						
WB2	**Warramunga Arr**	**23.00**	**161**	⇓iP	**P**	**23 36 56.6**	**0.0**
WB2				eS	**S**	**23 41 00.6**	**-4.7**
QIZ	**Qiongzhong**	**23.65**	**317**	P	**P**	**23 37 01.3**	**-1.9**
QIZ				S	**S**	**23 41 12.3**	**-3.7**
QIZ				AMB	AMB		
	comp=Z,38nm,1.2s,mb4.7						
QIZ	**Qiongzhong**	**23.65**	**317**	P	**P**	**23 37 02.9**	**-0.3**
QZH	**Quanzhou**	**24.18**	**342**	eP	**P**	**23 37 08.0**	**0.0**
QZH				S	**S**	**23 41 23.5**	**-1.0**
JOW	**Kunigami**	**24.84**	**4**	P	**P**	**23 37 15.6**	**+1.5**
	comp=Z,86nm,0.9s,mb5.3,baz=202,slow=9.8,SNR=16						
AS31	**Alice Springs**	**26.38**	**165**	eP	**P**	**23 37 29.1**	**+1.1**
ASPA	**Alice Springs**	**26.38**	**165**	eP	**P**	**23 37 29.1**	**+1.1**
ASAR	**Alice Springs**	**26.39**	**165**	P	**P**	**23 37 28.6**	**+0.6**
	comp=Z,4.6nm,0.4s,mb4.3,baz=343,slow=7.8,SNR=50						
ASAR				PcP	PcP	23 40 54.1	+0.9
	comp=Z,2.5nm,0.7s,baz=354,slow=2.4,SNR=7.2						
ASAR				S	**S**	**23 42 07.7**	**+8.1**
	comp=Z,4.4nm,0.8s,baz=340,slow=17,SNR=11						
PSI	**Prapat**	**27.68**	**272**	P	**P**	**23 37 37.5**	**-2.1**
	comp=Z,3.5nm,0.4s,mb4.4,baz=245,slow=7.4,SNR=3.5						
PSI				LR	LR	23 50 07.0	
	comp=Z,255nm,19.3s,MS3.8,baz=297,slow=40						
CTA	**Charters Tower**	**29.14**	**140**	eP	**P**	**23 37 57.8**	**+5.2**
	comp=Z,5.9nm,0.6s,mb4.5						
CTA	**Charters Tower**	**29.14**	**140**	P	**P**	**23 37 53.9**	**+1.3**
	comp=Z,5.8nm,0.8s,mb4.4,baz=11,slow=10,SNR=3.0						
CTA	**Charters Tower**	**29.14**	**140**	P	**P**	**23 37 53.9**	**+1.3**
CTAO	**Charters Tower**	**29.14**	**140**	eP	**P**	**23 37 54.0**	**+1.4**
CBIJ	**Chichi jima**	**29.17**	**29**	LR	LR	23 46 49.8	
	comp=Z,201nm,21.8s,MS3.7,baz=244,slow=31						
SSE	**Sheshan**	**29.49**	**351**	eP	**P**	**23 37 57.3**	**+1.5**
SSE				AP	pP	23 38 05.0	+1.1
SSE				XP	sP	23 38 09.3	+2.1
SSE				PCP	PcP	23 41 03.1	+2.3
SSE				S	**S**	**23 42 51.3**	**+2.8**
SSE				XS	sS	23 43 06.0	+4.1
SSE				SCS	ScS	23 48 28.6	-6.7
SSE				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,51nm,5.4s						
SSE				LR	LR		
	comp=Z,127nm,33.1s,MS3.3						
WHN	**Wuhan**	**30.77**	**339**	⇑P	**P**	**23 38 07.5**	**+0.4**
NJ2	**Nanjing**	**30.87**	**347**	eP	**P**	**23 38 10.0**	**+2.0**
NJ2				AP	pP	23 38 18.1	+2.0
NJ2				XP	sP	23 38 21.3	+1.8
NJ2				PP	PP	23 39 13.4	-4.5
NJ2				S	**S**	**23 43 13.0**	**+2.8**
NJ2				XS	sS	23 43 26.0	+2.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,160nm,10.0s						
NJ2				LR	LR		
	comp=N,370nm,28.9s,MS4.0						
NJ2				LR	LR		
	comp=E,340nm,30.6s,MS4.0						
NJ2				LR	LR		
	comp=Z,280nm,32.0s,MS3.7						
GYA	**Guiyang**	**31.04**	**324**	⇑iP	**P**	**23 38 10.0**	**+0.5**
GYA				AP	pP	23 38 17.4	-0.2
GYA				XP	sP	23 38 20.6	-0.4
GYA				PP	PP	23 39 12.3	-7.5
GYA				PCP	PcP	23 41 05.4	+0.6
GYA				S	**S**	**23 43 12.3**	**-0.5**
GYA				SCP	ScP	23 44 45.8	+0.1
GYA				SCS	ScS	23 48 41.3	-1.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,3.6s						
GYA				LR	LR		
	comp=N,690nm,16.4s,MS4.6						
GYA				LR	LR		
	comp=E,740nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=Z,780nm,17.0s,MS4.4						
ENH	**Enshi**	**32.56**	**332**	P	**P**	**23 38 22.6**	**-0.3**
	comp=Z,24nm,1.1s,mb5.0						
KMI	**Kunming**	**32.60**	**317**	P	**P**	**23 38 24.5**	**+1.3**
KMI				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
KMI				LR	LR		
	comp=N,113nm,20.4s,MS3.8						
KMI				LR	LR		
	comp=E,159nm,21.8s,MS3.8						
KMI				LR	LR		
	comp=Z,149nm,23.3s,MS3.6						
KLBR	**Kellerberrin**	**34.35**	**193**	eP	**P**	**23 38 39.1**	**+0.6**
	comp=Z,14nm,0.6s,mb5.1						
MUN	**Mundaring**	**35.11**	**195**	eP	**P**	**23 38 46.3**	**+1.3**
KS15	**Wonju Array Si**	**35.39**	**2**	eP	**P**	**23 38 48.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.76**	**194**	P	**P**	**23 38 52.1**	**+1.5**
	comp=Z,9.3nm,0.8s,mb4.7,baz=15,slow=9.9,SNR=6.8						
NWAO	**Narrogin (SRO)**	**35.76**	**194**	eP	**P**	**23 38 52.4**	**+1.8**
NWAO				e*PP	pP	23 38 57.9	-0.8
NWAO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NWAO	**Narrogin (SRO)**	**35.76**	**194**	eP	**P**	**23 38 52.4**	**+1.8**
	comp=Z,2.0nm,0.3s,mb4.5						
NWAO				epP	pP	23 38 57.9	-0.9
CD2	**Chengdu**	**36.06**	**325**	eP	**P**	**23 38 52.6**	**-0.5**
CD2				AP	pP	23 38 59.9	-1.4
CD2				XP	sP	23 39 03.3	-1.4
CD2				PP	PP	23 40 15.1	-0.2
CD2				S	**S**	**23 44 29.9**	**-0.6**
CD2				SS	SS	23 46 53.8	-14
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,6.0s						
CD2				LR	LR		
	comp=N,100nm,16.8s						
CD2				LR	LR		
	comp=Z,90nm,18.0s,MS3.6						
MJAR	**Matsushiro Arr**	**36.10**	**16**	P	**P**	**23 38 52.9**	**-0.6**
	comp=Z,16nm,1.0s,mb4.9,baz=186,slow=9.1,SNR=28						
MJAR				LR	LR	23 52 37.3	
	comp=Z,186nm,22.0s,MS3.8,baz=185,slow=35						
MAJO	**Matsushiro**	**36.10**	**16**	eP	**P**	**23 38 52.8**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
MAJO	**Matsushiro**	**36.10**	**16**	eP	**P**	**23 38 52.8**	**-0.7**
	comp=Z,38nm,1.1s,mb5.2						
MAT	**Matsushiro**	**36.10**	**16**	P	**P**	**23 38 51.9**	**-1.6**
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	**23 38 55.4**	**-1.3**
	comp=Z,4.2nm,0.4s,mb4.7,baz=336,slow=7.9,SNR=21						
STKA				PcP	PcP	23 41 18.9	-1.4
	comp=Z,3.0nm,0.6s,baz=51,slow=3.5,SNR=2.8						
STKA	**Stephens Creek**	**36.48**	**158**	eP	**P**	**23 38 55.1**	**-1.6**
	comp=Z,8.5nm,0.8s,mb4.7						
STKA				epP	pP	23 39 05.0	+0.1
STKA				eS	PP	23 40 16.4	-3.6
BJT	**Baijiatuau**	**39.11**	**347**	P	**P**	**23 39 19.3**	**+0.3**
SNY	**Shenyang**	**39.84**	**356**	⇓P	**P**	**23 39 25.6**	**+0.5**
SNY				S	**S**	**23 45 26.8**	**-1.1**
SNY				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
SNY				AMB	AMB		
	comp=Z,90nm,6.9s						
SNY				LR	LR		
	comp=N,100nm,5.5s						
SNY				LR	LR		
	comp=Z,140nm,25.5s,MS3.7						
LZH	**Lanzhou**	**40.02**	**331**	eP	**P**	**23 39 27.0**	**+0.4**
LZH				AP	pP	23 39 39.1	+4.3
LZH				XP	sP	23 39 44.5	+6.4
LZH				PP	PP	23 41 04.3	+5.5
LZH				PCP	PcP	23 41 31.6	+0.4
LZH				eS	**S**	**23 45 30.8**	**+0.3**
LZH				XS	sS	23 45 51.4	+7.3
LZH				SS	SS	23 48 23.9	-4.2
LZH				AMB	AMB		
	comp=Z,42nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,307nm,5.9s						
LZH				LR	LR		
	comp=E,927nm,14.5s						
ARMA	**Armidale**	**40.03**	**145**	eP	**P**	**23 39 28.1**	**+1.5**
SHL	**Shillong**	**40.88**	**308**	eP	**P**	**23 39 34.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**41.09**	**343**	eP	**P**	**23 39 35.3**	**-0.1**
HHC				AP	pP	23 39 42.6	-1.1
HHC				XP	sP	23 39 45.6	-1.4
HHC				PP	PP	23 41 13.3	+2.9
HHC				PCP	PcP	23 41 37.3	+2.6
HHC				S	**S**	**23 45 42.9**	**-3.6**
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,96nm,7.2s						
HHC				LR	LR		
	comp=N,235nm,24.0s,MS4.3						
HHC				LR	LR		
	comp=E,395nm,24.0s,MS4.3						
HHC				LR	LR		
	comp=Z,168nm,25.2s,MS3.8						
VLA	**Vladivostok**	**41.31**	**6**	eP	**P**	**23 39 36.8**	**-0.4**
VLA				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.2						
CN2	**Changchun**	**41.73**	**359**	eP	**P**	**23 39 39.5**	**-1.2**
CN2				eXP	sP	23 39 50.5	-1.8
CN2				eS	**S**	**23 45 56.0**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.4						
MDJ	**Mudanjiang**	**42.62**	**3**	P	**P**	**23 39 48.5**	**+0.6**
MDJ				PCP	PcP	23 41 37.4	-2.3
MDJ				SCP	ScP	23 45 27.3	-1.3
MDJ				PCS	PcS	23 45 30.1	-1.7
MDJ				S	**S**	**23 46 12.8**	**+3.7**
MDJ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,105nm,5.0s						
MDJ				LR	LR		
	comp=N,116nm,29.8s,MS3.7						
MDJ				LR	LR		
	comp=E,53nm,25.8s,MS3.7						
MDJ				LR	LR		
	comp=Z,153nm,32.5s						
MDJ	**Mudanjiang**	**42.62**	**3**	P	**P**	**23 39 48.9**	**+1.0**
LSA	**Lhasa**	**43.57**	**313**	P	**P**	**23 39 56.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**43.57**	**313**	P	**P**	**23 39 56.6**	**+1.0**
	comp=Z,14nm,0.8s,mb4.7						
ASAJ	**Asahikawa**	**44.37**	**16**	P	**P**	**23 40 02.8**	**+0.8**
	comp=Z,22nm,0.9s,mb4.9,baz=254,slow=18,SNR=7.5						
GTA	**Gaotai**	**44.60**	**330**	⇓P	**P**	**23 40 03.6**	**-0.3**
GTA				AP	pP	23 40 11.8	-0.4
GTA				XP	sP	23 40 14.4	-1.1
GTA				PCP	PcP	23 41 46.3	-0.1
GTA				PP	PP	23 41 48.1	-0.1
GTA				SCP	ScP	23 45 35.8	-0.9
GTA				S	**S**	**23 46 39.1**	**+1.0**
GTA				SS	SS	23 49 50.0	-8.4
GTA				SCS	ScS	23 49 56.8	-3.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,55nm,9.5s						
GTA				LR	LR		
	comp=N,75nm,4.9s						
GTA				LR	LR		
	comp=E,74nm,7.2s						
GTA				LR	LR		
	comp=Z,72nm,9.9s						
JIRN	**Jiri**	**46.36**	**307**	eP	**P**	**23 40 17.3**	**-0.5**
	comp=Z,26nm,0.8s,mb5.2						
GUN	**Gumba**	**46.72**	**308**	eP	**P**	**23 40 20.2**	**-0.4**
	comp=Z,31nm,0.7s,mb5.4						
PKI	**Pulchoki**	**46.94**	**307**	eP	**P**	**23 40 21.4**	**-0.9**
HABR	**Khabarovsk**	**46.96**	**8**	iP	**P**	**23 40 23.5**	**+1.0**
HABR				eS	**S**	**23 47 13.5**	**+1.5**
HABR				pmax	pmax		
	comp=Z,18nm,0.3s,mb5.5						
YSS	**Yuzh-Sakhalins**	**47.03**	**15**	eP	**P**	**23 40 23.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**47.03**	**15**	P	**P**	**23 40 23.2**	**+0.2**
	comp=Z,18nm,0.6s,mb5.2						
KKN	**Kakani**	**47.14**	**307**	eP	**P**	**23 40 22.9**	**-1.0**
	comp=Z,20nm,0.8s,mb5.1						
KKN	**Kakani**	**47.14**	**307**	eP	**P**	**23 40 22.9**	**-1.0**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
DMN	**Daman**	**47.20**	**307**	eP	**P**	**23 40 23.0**	**-1.4**
	comp=Z,50nm,1.3s,mb5.3						
KLR	**Kul'dur**	**47.36**	**5**	eP	**P**	**23 40 22.4**	**-3.2**
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
HIA	**Hailar**	**47.55**	**354**	P	**P**	**23 40 27.8**	**+0.7**
HIA				pmax	pmax		
	comp=Z,23nm,1.1s						
HIA	**Hailar**	**47.55**	**354**	P	**P**	**23 40 27.8**	**+0.7**
	comp=Z,23nm,1.1s,mb5.1						
GKN	**Gorkha**	**47.75**	**307**	eP	**P**	**23 40 27.8**	**-0.8**
	comp=Z,8.4nm,0.5s,mb5.0						
KOLN	**Koldanda**	**48.48**	**306**	eP	**P**	**23 40 34.1**	**-0.2**
	comp=Z,42nm,0.8s,mb5.5						
ULN	**Ulaanbaatar**	**48.81**	**343**	diP	**P**	**23 40 37.1**	**+0.3**
ULN	**Ulaanbaatar**	**48.81**	**343**	eP	**P**	**23 40 37.0**	**+0.2**
	comp=Z,26nm,1.3s,mb5.1						
SONM	**Songino Array**	**48.99**	**342**	P	**P**	**23 40 38.2**	**0.0**
	comp=Z,6.5nm,0.7s,mb4.8,baz=154,slow=8.3,SNR=45						
SONM				LR	LR	00 01 07.9	
	comp=Z,58nm,18.9s,MS3.6,baz=332,slow=36						
HYB	**Hyderabad**	**49.64**	**291**	iP	**P**	**23 40 43.0**	**-0.2**
HYB	**Hyderabad**	**49.64**	**291**	eP	**P**	**23 40 43.0**	**-0.2**
CIT	**Chita**	**51.13**	**350**	eP	**P**	**23 40 55.1**	**+0.7**
CIT				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.2						
ZAK	**Zakamensk**	**52.20**	**341**	eP	**P**	**23 40 51.3**	**-11**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.3						
IRK	**Irkutsk**	**53.53**	**343**	eP	**P**	**23 41 12.0**	**-0.2**
IRK				e		23 43 11.2	
IRK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
MOY	**Mondy**	**54.05**	**341**	eP	**P**	**23 41 16.9**	**+0.9**
MOY				pmax	pmax		
	comp=Z,32nm,2.0s,mb4.9						
WMQ	**Urumqi**	**54.15**	**326**	eP	**P**	**23 41 17.0**	**+0.2**
WMQ				XP	sP	23 41 28.0	-0.5
WMQ				PP	PP	23 43 20.0	+1.5
WMQ				S	**S**	**23 48 50.0**	**-1.9**
WMQ				SCS	ScS	23 51 01.0	-3.2
WMQ				SS	SS	23 52 31.0	-2.7
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,127nm,5.0s						
WMQ				LR	LR		
	comp=N,158nm,12.0s,MS4.4						
WMQ				LR	LR		
	comp=E,97nm,12.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,118nm,12.0s,MS4.2						
CLNS	**Chul'man**	**54.79**	**359**	eP	**P**	**23 41 19.2**	**-2.2**
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
BOD	**Bodaibo**	**56.65**	**352**	eP	**P**	**23 41 34.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**23 41 50.7**	**-0.4**
	comp=Z,7.2nm,0.6s,mb4.9,baz=120,slow=8.1,SNR=166						
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**23 41 50.7**	**-0.4**
KSH	**Kashi**	**59.26**	**316**	eP	**P**	**23 41 55.0**	**+2.0**
KSH				eAP	pP	23 42 02.0	+0.4
KSH				eXP	sP	23 42 05.1	+0.3
KSH				ePCP	PcP	23 42 43.3	+2.2
KSH				ePP	PP	23 44 07.1	+3.1
KSH				ePPP		23 45 32.1	
KSH				eSCP	ScP	23 46 41.1	+1.2
KSH				ePCS	PcS	23 46 44.3	+1.3
KSH				eS	**S**	**23 49 58.3**	**-1.0**
KSH				ePS		23 50 15.3	
KSH				eSCS	ScS	23 51 39.3	-1.9
KSH				eSS	SS	23 53 53.3	-0.7
KSH				AMB	AMB		
	comp=Z,70nm,3.2s						
KSH				LR	LR		
	comp=N,120nm,4.4s						
KSH				LR	LR		
	comp=E,120nm,6.0s						
YAK	**Yakutsk**	**60.03**	**2**	eP	**P**	**23 41 58.5**	**+0.2**
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK	**Yakutsk**	**60.03**	**2**	eP	**P**	**23 41 58.2**	**-0.1**
	comp=N,48nm,1.0s,mb5.5						
YAK				epP	pP	23 42 07.8	+0.8
MA2	**Magadan**	**60.50**	**14**	diP	**P**	**23 42 02.2**	**+0.7**
MA2				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.5						
MA2	**Magadan**	**60.50**	**14**	eP	**P**	**23 42 02.0**	**+0.5**
	comp=Z,42nm,0.9s,mb5.5						
KZA	**Kyzart**	**60.88**	**318**	P	**P**	**23 42 05.0**	**+0.8**
	SNR=21						
TKM2	**Tokmak 2**	**61.04**	**319**	P	**P**	**23 42 05.2**	**0.0**
	SNR=14						
KBK	**Karagaybulak**	**61.34**	**319**	P	**P**	**23 42 07.6**	**+0.3**
	SNR=12						
UCH	**Uchtor**	**61.44**	**318**	P	**P**	**23 42 08.8**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**61.63**	**319**	P	**P**	**23 42 10.5**	**+1.3**
	SNR=8.2						
AAK	**Ala-Archa**	**61.63**	**319**	P	**P**	**23 42 08.5**	**-0.7**
	comp=Z,43nm,0.6s,mb5.8,SNR=8.1						
AAK	**Ala-Archa**	**61.63**	**319**	eP	**P**	**23 42 08.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**61.63**	**319**	P	**P**	**23 42 08.4**	**-0.9**
	comp=Z,8.2nm,1.0s,mb4.8						
USP	**Ospenovka**	**61.91**	**319**	P	**P**	**23 42 10.9**	**-0.2**
	SNR=9.1						
AML	**Almayashu**	**61.95**	**318**	P	**P**	**23 42 12.1**	**+0.7**
	SNR=28						
EKS2	**Erkin-Say**	**62.12**	**318**	P	**P**	**23 42 12.7**	**+0.2**
	SNR=23						
ZAL	**Zalesovo**	**62.16**	**334**	P	**P**	**23 42 11.9**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.8,baz=335,slow=5.9,SNR=15						
KURK	**Kurchatov**	**63.21**	**328**	P	**P**	**23 42 19.9**	**+0.1**
	comp=Z,342nm,0.7s,SNR=63						
KURK	**Kurchatov**	**63.21**	**328**	P	**P**	**23 42 19.4**	**-0.4**
NVS	**Novosibirsk**	**63.44**	**334**	iP	**P**	**23 42 19.4**	**-1.9**
NVS				pmax	pmax		
	comp=N,13nm,1.4s						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
NVS				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.0						
SEY	**Seymchan**	**63.83**	**13**	eP	**P**	**23 42 24.8**	**+0.9**
SEY						23 43 00.9	
SEY						23 44 50.1	
SEY				ePPP		23 46 13.2	
SEY				eS	**S**	**23 51 01.0**	**+3.7**
SEY				eSS	SS	23 55 00.6	-5.0
SEY				eSSS		23 57 57.3	
SEY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
SEY				smax			
	comp=N,36nm,23.4s						
SEY				smax			
	comp=E,23nm,15.6s						
SEY				MLR	MLR		
	comp=N,79nm,23.0s,MS3.9						
SEY				MLR	MLR		
	comp=Z,172nm,23.0s,MS4.2						
SEY				MLR	MLR		
	comp=E,55nm,22.0s,MS3.9						
BVAR	**Borovoye Array**	**68.78**	**327**	P	**P**	**23 42 55.0**	**-0.6**
	comp=E,9.

ARU	**Arti**	**76.41 328**	⇑*iP*		**P**	**23 43 40.0 -1.0**
ARU			*e*			23 43 50.7
ARU			*e*			23 46 31.5
ARU			*e*S		S	23 53 22.3 -2.2
ARU			*e*			23 53 54.5
ARU			*e*SS		SS	23 58 18.8 -0.3
ARU			pmax	pmax		
comp=Z,50nm,1.1s,mb5.4						
ARU	**Arti**	**76.41 328**	P		**P**	**23 43 40.1 -0.9**
TNA	**Tin City**	**78.31 23**	P		**P**	**23 43 52.1 +0.5**
VNDA	**Vanda**	**81.64 173**	P		**P**	**23 44 10.1 +0.5**
comp=Z,8.0nm,0.8s,mb4.7,baz=325,slow=6.3,SNR=25						
VNDA	**Vanda**	**81.64 173**	*e*P		**P**	**23 44 09.8 +0.2**
VNDA			*e**PP		pP	23 44 19.2 +0.8
VNDA			*e**SP		sP	23 44 22.6 +0.9
VNDA			pmax	pmax		
comp=Z,5.0nm,0.6s						
VNDA	**Vanda**	**81.64 173**	*e*P		**P**	**23 44 09.8 +0.2**
comp=Z,5.0nm,0.6s,mb4.6						
VNDA			*e*pP		pP	23 44 19.2 +0.8
VNDA			*e*sP		sP	23 44 22.6 +0.9
GNI	**Garni**	**82.56 310**	P		**P**	**23 44 16.0 +1.6**
GNI			pmax	pmax		
comp=Z,23nm,1.4s						
GNI	**Garni**	**82.56 310**	P		**P**	**23 44 16.0 +1.6**
comp=Z,23nm,1.4s,mb5.0						
ZEI	**Tsey**	**83.36 313**	*e*P		**P**	**23 44 19.5 +0.9**
ZEI			*i* *PP		pP	23 44 26.5 -0.9
ZEI			pmax	pmax		
comp=Z,26nm,1.0s,mb5.2						
KDAK	**Kodiak Island**	**83.49 32**	P		**P**	**23 44 19.7 +0.4**
comp=Z,5.5nm,0.8s,mb4.6,baz=214,slow=7.3,SNR=5.5						
KDAK	**Kodiak Island**	**83.49 32**	P		**P**	**23 44 19.7 +0.4**
GOF	**Gofitskoye**	**84.12 315**	*e*P		**P**	**23 44 22.8 +0.3**
GOF			pmax	pmax		
comp=Z,30nm,1.3s,mb5.3						
PPT	**Papeete**	**84.67 108**	*e*LR		LR	00 11 24.7
comp=Z,96nm,23.8s						
PPT	**Papeete**	**84.67 108**	LR		LR	00 19 58.0
comp=Z,86nm,18.4s,MS4.2,baz=336,slow=34						
TBI	**Tubuai**	**85.17 113**	*e*LR		LR	00 11 37.8
comp=Z,87nm,34.8s						
VRHR	**Novokhopersk**	**85.37 321**	*e*P		**P**	**23 44 28.3 -0.5**
VRHR			pmax	pmax		
comp=N,20nm,0.7s						
VRHR			pmax	pmax		
comp=Z,40nm,0.7s,mb5.7						
VRHR			pmax	pmax		
comp=E,20nm,1.4s						
MCK	**McKinley**	**85.84 26**	*e*P		**P**	**23 44 30.5 -0.6**
MCK			pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.5						
MCK	**McKinley**	**85.84 26**	*e*P		**P**	**23 44 30.5 -0.6**
comp=Z,3.1nm,0.9s,mb4.5						
SML	**Sawmill**	**85.99 28**	*e*P		**P**	**23 44 31.8 -0.1**
SOC	**Sochi**	**86.45 313**	*e*P		**P**	**23 44 33.2 -0.9**
SOC			*e*S			23 54 54.9
SOC			pmax	pmax		
comp=Z,35nm,1.6s,mb5.3						
ILAR	**Eielson Array**	**86.80 25**	P		**P**	**23 44 34.2 -1.6**
comp=Z,1.0nm,0.8s,mb4.1,baz=243,slow=4.9,SNR=10						
VRSR	**Storozhevoye**	**86.91 321**	*e*P		**P**	**23 44 34.8 -1.6**
VRSR			pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.5						
VRSR			pmax	pmax		
comp=N,1.0nm,0.8s						
VRSR			pmax	pmax		
comp=E,2.0nm,0.9s						
KLMR	**Klimovskoe**	**86.93 331**	*c iP*		**P**	**23 44 35.3 -1.2**
KLMR			pmax	pmax		
comp=Z,20nm,1.2s,mb5.2						
MALT	**Malatya**	**87.41 308**	⇑P		**P**	**23 44 40.4 +1.6**
ANN	**Anapa**	**88.09 315**	*e*P		**P**	**23 44 40.6 -1.4**
ANN			pmax	pmax		
comp=Z,50nm,1.0s,mb5.7						
OBN	**Obninsk**	**88.48 325**	*d iP*		**P**	**23 44 42.7 -1.2**
OBN			pmax	pmax		
comp=Z,29nm,1.2s,mb5.4						
OBN	**Obninsk**	**88.48 325**	*e*P		**P**	**23 44 42.4 -1.5**
comp=Z,32nm,1.2s,mb5.4						
KMBO	**Kilima Mbogo**	**89.39 269**	P		**P**	**23 44 49.2 +1.0**
comp=Z,1.9nm,0.9s,mb4.4,baz=27,slow=23,SNR=4.7						
KMBO	**Kilima Mbogo**	**89.39 269**	*i* P		**P**	**23 44 50.5 +2.3**
KMBO			pmax	pmax		
comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**89.39 269**	P		**P**	**23 44 49.2 +1.0**
DAWY	**Dawson**	**90.06 26**	P		**P**	**23 44 51.3 0.0**
SIM	**Simferopol'**	**90.44 315**	⇑*e*P		**P**	**23 44 52.8 -0.3**
SIM			pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.9						
SYO	**Syowa Base**	**90.69 201**	⇓*e*pP		pP	23 45 04.7 +1.6
SYO	**Syowa Base**	**90.69 201**	⇓*e*sP		sP	23 45 08.6 +2.3
JOF	**Joensuu**	**90.74 333**	*e*p		**P**	**23 44 52.4 -2.1**
comp=Z,2.9nm,0.6s,mb4.8						
JOF	**Joensuu**	**90.74 333**	*e*P		**P**	**23 44 52.4 -2.1**
JOF			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.8						
BR131	**Keskin Array S**	**91.09 310**	P		**P**	**23 44 56.2 +0.2**
BRTR	**Keskin Array B**	**91.09 310**	P		**P**	**23 44 55.8 -0.3**
comp=Z,1.5nm,0.8s,mb4.3,baz=115,slow=5.8,SNR=11						
QSPA	**South Pole Qui**	**91.82 180**	*e*P		**P**	**23 45 00.1 +0.6**
comp=Z,30nm,1.8s,mb5.3						
QSPA			*e*pP		pP	23 45 09.0 +0.6
INK	**Inuvik**	**91.90 21**	P		**P**	**23 44 59.0 -0.9**
comp=Z,3.4nm,1.1s,mb4.6,baz=285,slow=4.7,SNR=7.3						
INK	**Inuvik**	**91.90 21**	*e*P		**P**	**23 44 58.8 -1.0**
INK			pmax	pmax		
comp=Z,9.0nm,1.5s						
INK	**Inuvik**	**91.90 21**	*e*P		**P**	**23 44 58.8 -1.0**
comp=Z,8.7nm,1.5s,mb4.9						
ARCES	**ARCESS Array B**	**92.11 340**	P		**P**	**23 44 59.2 -1.7**
comp=Z,7.3nm,0.9s,mb5.0,baz=57,slow=7.4,SNR=13						
ARCES	**ARCESS Array B**	**92.11 340**	P		**P**	**23 44 59.2 -1.7**
KAF	**Kangasniemi**	**93.15 332**	*e*p		**P**	**23 45 04.8 -0.8**
comp=Z,2.1nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**93.15 332**	*e*P		**P**	**23 45 04.8 -0.8**
KAF			pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.7						
AKASG	**Malin Array Be**	**93.23 321**	P		**P**	**23 45 04.7 -1.3**
comp=Z,0.7nm,0.5s,mb4.4,baz=72,slow=3.8,SNR=11						
FINES	**FINESS Array B**	**93.38 332**	P		**P**	**23 45 06.2 -0.4**
comp=Z,1.4nm,0.7s,mb4.5,baz=68,slow=3.2,SNR=8.6						
FINES	**FINESS Array B**	**93.38 332**	P		**P**	**23 45 06.2 -0.5**
VRI	**Vrincioaia**	**95.53 316**	⇑P		**P**	**23 45 17.1 +0.6**
VRI	**Vrincioaia**	**95.53 316**	⇑P		**P**	**23 45 17.1 +0.6**
MLR	**Muntele Rosu**	**96.12 316**	⇓P		**P**	**23 45 19.0 -0.3**
MLR	**Muntele Rosu**	**96.12 316**	⇓P		**P**	**23 45 19.0 -0.3**
BURAR	**Bucovina Array**	**96.28 318**	⇓P		**P**	**23 45 20.6 +0.7**
BURAR	**Bucovina Array**	**96.28 318**	⇓P		**P**	**23 45 20.6 +0.7**
DRGR		**98.11 318**	⇑P		**P**	**23 45 27.9 -0.3**
DRGR		**98.11 318**	⇑P		**P**	**23 45 27.9 -0.3**
RKT	**Rikitea**	**98.48 113**	*e*LR		LR	00 17 48.0
comp=Z,92nm,33.8s						
NB2	**NORSAR Subarra**	**100.36 333**	P		Pdif	23 45 36.4 -1.9
comp=Z,2.1nm,0.9s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**100.36 333**	P		Pdif	23 45 36.3 -2.0
comp=Z,1.3nm,0.8s,baz=67,slow=4.7,SNR=4.1						
YKA	**Yellowknife Ar**	**101.20 25**	P		Pdif	23 45 41.8 -0.2
comp=Z,0.4nm,0.7s,baz=297,slow=4.7,SNR=9.9						
YKA	**Yellowknife Ar**	**101.20 25**	⇑*e*P		Pdif	23 45 42.0 0.0
YKA	**Yellowknife Ar**	**101.20 25**	P		Pdif	23 45 41.8 -0.2
TORD	**Torodi Ar. Bea**	**123.35 287**	PKP		PKPdf	23 50 49.5 +1.0
comp=Z,1.8nm,0.8s,baz=90,slow=1.6,SNR=11						
TORD			PKKPab		PKKPab	00 00 39.5 +1.7
comp=Z,0.4nm,0.9s,baz=266,slow=3.6,SNR=4.3						
DBIC	**Dimbokro**	**130.81 280**	PKP		PKPdf	23 51 03.2 +0.5
comp=Z,2.0nm,0.8s,baz=357,slow=2.8,SNR=3.3						
DBIC	**Dimbokro**	**130.81 280**	PKP		PKPdf	23 51 03.2 +0.5

IDC 20 23:40:18.3±1.6, 625S×12276E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=168.0km s-min=24.0km az=60.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.66 141**		P	Pn	23 44 24.0	-1.6
0.1nm,0.3s,baz=314,slow=13,SNR=9.1							
ASAR	**Alice Springs**	**20.36 149**		P	P	23 44 57.9	+1.5
0.8nm,0.7s,baz=313,slow=9.9,SNR=5.5							
SONM	**Songino Array**	**55.76 347**		P	P	23 49 56.8	0.0
1.0nm,0.7s,baz=159,slow=8.0,SNR=9.0							
MKAR	**Makanchi Array**	**63.83 330**		P	P	23 50 53.1	+0.7
0.9nm,0.6s,baz=131,slow=7.8,SNR=12							
ZAL	**Zalesovo**	**67.90 337**		P	P	23 51 18.0	-0.7
1.0nm,0.5s,baz=324,slow=5.1,SNR=6.1							

IDC 21 00:03:43.2±4.0, 1734S×17713W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=178.6km s-min=40.0km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.62 286**		LR	LR	00 16 10.4	
comp=Z,59nm,20.9s,baz=176,slow=32							
STKA	**Stephens Creek**	**39.97 241**		P	P	00 11 20.0	+0.6
1.4nm,0.5s,baz=96,slow=10,SNR=6.2							
WRA	**Warramunga Arr**	**45.93 259**		P	P	00 12 07.5	-0.2
0.6nm,0.5s,baz=96,slow=6.9,SNR=22							
ASAR	**Alice Springs**	**46.12 254**		P	P	00 12 09.8	+0.6
6.8nm,0.6s,baz=89,slow=8.2,SNR=98							
BRTR	**Keskin Array B**	**145.23 316**		PKPbc	PKPbc	00 23 22.0	-0.5
0.2nm,0.6s,baz=22,slow=4.7,SNR=2.7							
GERES	**GERESS Array B**	**147.36 347**		PKPbc	PKPbc	00 23 28.5	-0.3
0.4nm,0.6s,baz=48,slow=2.0,SNR=4.4							

*MOS **21** 00:39:56.6±1.1, 742S×128.05E, h33km, mb5.2/17, Error ellipse: s-maj=15.5km s-min=6.8km az=112.7*
*BJI **21** 00:39:57.3, 802S×128.82E, h92km, mB4.9, mb5.1*
*ISCJB **21** 00:39:59.6±1.3, 744S±005×128.35E±006, h63km±12km, mb5.0/50, Error ellipse: s-maj=11.3km s-min=6.2km az=120.7*
*IDC **21** 00:40:01.2±3.5, 746S×128.25E, h68km±33km, mb4.4/15, mb1 4.5/18, mb1mx4.4/22, mbtmp4.7/18, ML4.2/1, Error ellipse: s-maj=21.3km s-min=11.9km az=68.0*
*NEIC **21** 00:40:02.7±1.1, 746S×128.29E, h78km±11km, mb5.0/25, Error ellipse: s-maj=10.6km s-min=6.7km az=63.0*
*HRVD **21** 00:40:02.7±0.8, 759S×128.40E, h116km±13km, MW4.7/37, Centroid moment Tensor Solution. LP body waves: s2,c2;Mantle waves: s37,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.97±.13; $M_{\theta\theta}$0.31±.14; $M_{\phi\phi}$-1.29±.15; $M_{r\theta}$0.40±.09; $M_{r\phi}$0.30±.20; $M_{\theta\phi}$0.19±.14; Best double couple: $M_0$1.27600×10^{16} NP1:ϕ_s145.00000°, δ48.00000°, λ52.00000°. NP2:ϕ_s14.00000°, δ54.00000°, λ125.00000°. Principal axes: T 1.2020, Plg63.0000°, Azm345.0000°; N 0.1470, Plg27.0000°, Azm172.0000°; P -1.3510, Plg3.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 00:40:02.0±1.1, 745S±005×12839E±006, h68km±11km, h83km±3.9km: pP-P, n127, σ1s02/127, mb4.9/50, 13C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.58 143**		*e*P	**Pn**	**00 41 40.1**	**+4.1**
285nm,0.1s							
KAKA				*e*S	**Sn**	**00 42 49.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.92 194**		*e*P	**Pn**	**00 42 34.6**	**-0.7**
19nm,0.3s							
FITZ				*e*S	**Sn**	**00 44 26.9**	**-8.9**
WRAB	**Tennant Creek**	**13.69 156**		Pn	**Pn**	**00 43 13.9**	**+1.0**
429nm,0.8s,SNR=23							
WRAB	**Tennant Creek**	**13.69 156**		*e*P	**Pn**	**00 43 13.1**	**+0.2**
WRAB				pmax	pmax		
comp=Z,93nm,0.8s							
WRAB	**Tennant Creek**	**13.69 156**		*e*Pn	**Pn**	**00 43 13.1**	**+0.1**
comp=Z,93nm,0.8s							
WRAB				*e*Sn	**Sn**	**00 45 32.5**	**-11**
WRA	**Warramunga Arr**	**13.69 156**		P	**Pn**	**00 43 11.6**	**-1.4**
comp=Z,5.5nm,0.3s,baz=338,slow=13,SNR=93							
WRA				S	**Sn**	**00 45 32.5**	**-11**
comp=Z,12nm,0.3s,baz=334,slow=23,SNR=12							
WB2	**Warramunga Arr**	**13.70 156**		*e*P	**Pn**	**00 43 11.9**	**-1.1**
WB2				*e*S	**Sn**	**00 45 32.6**	**-11**
MBWA	**Marble Bar**	**15.99 211**		*e*P	**Pn**	**00 43 44.2**	**+1.6**
comp=Z,6.6nm,0.5s							
MBWA				*e*Sn	**Sn**	**00 46 27.3**	**-12**
AS31	**Alice Springs**	**16.97 162**		*e*P	**Pn**	**00 43 55.2**	**+0.4**
ASAR	**Alice Springs**	**16.97 162**		P	**Pn**	**00 43 54.5**	**-0.3**
comp=Z,2.8nm,0.3s,baz=331,slow=9.5,SNR=143							
ASAR				S	**S**	**00 46 54.2**	**-15**
comp=Z,3.6nm,0.3s,baz=322,slow=22,SNR=7.4							
ASPA	**Alice Springs**	**16.97 162**		*e*P	**Pn**	**00 43 55.2**	**+0.3**
KKM	**Kota Kinabalu**	**18.09 318**		*e*P	**Pn**	**00 44 08.1**	**-0.4**
PMG	**Port Moresby**	**18.67 97**		P	**Pn**	**00 44 15.9**	**+0.3**
comp=Z,2.4nm,0.3s,baz=289,slow=5.9,SNR=14							
PMG	**Port Moresby**	**18.67 97**		*d iP*	**Pn**	**00 44 20.5**	**+5.0**
PMG	**Port Moresby**	**18.67 97**		*e*Pn	**Pn**	**00 44 17.1**	**+1.6**
comp=Z,70nm,0.9s							
KSM	**Kuching**	**20.10 295**		*e*P	**P**	**00 44 32.8**	**+2.8**
CTA	**Charters Tower**	**21.39 128**		*e*P	**P**	**00 44 47.3**	**+3.3**
comp=Z,7.9nm,0.9s,mb4.0							
CTA				*e*		00 44 53.0	
CTA				*e*		00 46 35.1	
CTA	**Charters Tower**	**21.39 128**		P	**P**	**00 44 45.4**	**+1.4**
comp=Z,7.7nm,0.8s,mb4.1,baz=297,slow=12,SNR=9.2							
CTA	**Charters Tower**	**21.39 128**		*e*P	**P**	**00 44 47.3**	**+3.3**
CTA				pmax	pmax		
comp=Z,8.0nm,0.9s							
CTAO	**Charters Tower**	**21.39 128**		*e*P	**P**	**00 44 47.6**	**+3.6**
comp=Z,41nm,0.9s,mb4.8							
CTAO				S	**S**	**00 48 32.7**	**-4.8**
TGY	**Tagaytay City**	**22.65 341**		P	**P**	**00 44 56.4**	**-1.0**
comp=Z,172nm,0.3s,baz=155,slow=14,SNR=2.0							
KLBR	**Kellerberrin**	**25.99 201**		*e*P	**P**	**00 45 28.9**	**+0.6**
KLBR				*e*S	sS	00 50 19.7	-2.1
STKA	**Stephens Creek**	**27.24 155**		*e*P	**P**	**00 45 39.4**	**-0.2**
comp=Z,8.4nm,0.4s,mb4.6							
STKA	**Stephens Creek**	**27.24 155**		P	**P**	**00 45 38.6**	**-1.0**
comp=Z,14nm,0.6s,mb4.7,baz=327,slow=9.1,SNR=28							
NWAO	**Narrogin (SRO)**	**27.38 201**		P	**P**	**00 45 39.4**	**-1.4**
comp=Z,6.3nm,0.5s,mb4.4,baz=101,slow=6.6,SNR=8.9							
NWAO	**Narrogin (SRO)**	**27.38 201**		*e*P	**P**	**00 45 41.1**	**+0.3**
KULM	**Kulim**	**30.43 294**		*e*P	**P**	**00 46 08.3**	**+0.3**
PSI	**Prapat**	**31.11 288**		P	**P**	**00 46 12.2**	**-1.7**
comp=Z,13nm,0.8s,mb4.7,baz=165,slow=5.5,SNR=7.8							
TOO	**Toolangi**	**33.77 155**		*e*P	**P**	**00 46 40.6**	**+3.5**
comp=Z,7.5nm,0.6s,mb4.7							
SSE	**Sheshan**	**38.94 350**		*e*P	**P**	**00 47 19.8**	**-1.4**
SSE				AMB	AMB		
comp=Z,24nm,0.8s,mb5.1							
SSE				AMB	AMB		
comp=Z,54nm,3.6s							
TAU	**Tasmania Unive**	**39.05 158**		P	**P**	**00 47 22.7**	**+0.5**
WHN	**Wuhan**	**40.10 341**		⇓P	**P**	**00 47 32.6**	**+1.7**
KMI	**Kunming**	**40.89 323**		P	**P**	**00 47 39.6**	**+2.2**
KMI				AMB	AMB		
comp=Z,17nm,1.0s,mb4.8							
ENH	**Enshi**	**41.66 335**		*e*P	**P**	**00 47 44.0**	**+0.3**
KS15	**Wonju Array Si**	**44.66 359**		*e*P	**P**	**00 48 08.8**	**+0.9**
MJAR	**Matsushiro Ar**	**44.72 11**		P	**P**	**00 48 07.3**	**-1.1**
comp=Z,14nm,0.9s,mb4.7,baz=190,slow=9.2,SNR=16							
MAJO	**Matsushiro**	**44.72 11**		*e*P	**P**	**00 48 08.1**	**-0.3**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.6							
MAJO	**Matsushiro**	**44.72 11**		*e*P	**P**	**00 48 08.1**	**-0.2**
comp=Z,8.8nm,0.7s,mb4.6							
MAT	**Matsushiro**	**44.72 11**		P	**P**	**00 48 07.9**	**-0.5**
CD2	**Chengdu**	**44.85 329**		*e*P	**P**	**00 48 09.5**	**+0.1**
CD2				AP	pP	00 48 28.0	+1.6
CD2				PP	PP	00 49 56.6	+1.4
CD2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.9							
CD2				AMB	AMB		
comp=Z,60nm,9.6s							
CD2				LR	LR		
comp=E,80nm,14.4s							
CD2				LR	LR		
comp=Z,50nm,10.8s							
XAN	**Xi'an**	**45.20 337**		P	**P**	**00 48 11.8**	**-0.4**
XAN				AMB	AMB		
comp=Z,23nm,1.0s,mb4.9							
SHL	**Shillong**	**48.34 314**		*e*P	**P**	**00 48 37.0**	**+0.3**
BJT	**Baijiatuau**	**48.56 347**		*e*P	**P**	**00 48 39.1**	**+0.7**
BJT				pmax	pmax		
comp=Z,56nm,1.1s							
BJT	**Baijiatuau**	**48.56 347**		*e*P	**P**	**00 48 39.1**	**+0.7**
comp=Z,56nm,1.1s,mb5.4							
LZH	**Lanzhou**	**49.07 334**		⇑P	**P**	**00 48 43.0**	**+0.7**
LZH				AP	pP	00 49 03.5	+4.0
LZH				XP	sP	00 49 12.6	+5.4
LZH				PP	PP	00 50 38.0	+1.7
LZH				AMB	AMB		
comp=Z,37nm,1.0s,mb5.3							
LZH				AMB	AMB		
comp=Z,123nm,7.6s							
LZH				LR	LR		
comp=E,713nm,14.5s							
LZH				LR	LR		
comp=Z,985nm,17.8s							
HHC	**Hu-ho-hao-te**	**50.49 343**		*e*P	**P**	**00 48 53.8**	**+0.7**
HHC				AP	pP	00 49 17.5	+7.1
HHC				XP	sP	00 49 28.3	+10
HHC				PCP	PcP	00 50 11.4	+1.1
HHC				PP	PP	00 50 52.3	+3.0
HHC				AMB	AMB		
comp=Z,74nm,4.8s							
HHC				LR	LR		
comp=N,97nm,16.8s							
HHC				LR	LR		
comp=E,183nm,14.4s							
HHC				LR	LR		
comp=Z,85nm,18.0s							
LSA	**Lhasa**	**51.43 318**		P	**P**	**00 49 01.8**	**+1.7**
LSA	**Lhasa**	**51.43 318**		*e*P	**P**	**00 49 01.5**	**+1.4**
LSA				pmax	pmax		
comp=Z,34nm,0.6s,mb5.5							
LSA	**Lhasa**	**51.43 318**		*e*P	**P**	**00 49 01.5**	**+1.3**
comp=Z,34nm,0.6s,mb5.5							
MDJ	**Mudanjiang**	**51.84 1**		P	**P**	**00 49 04.0**	**+0.9**
MDJ				AP	pP	00 49 23.8	+3.3
MDJ				PCP	PcP	00 50 15.3	0.0
MDJ				PCS	PcS	00 54 13.5	+0.1
MDJ				S	**S**	**00 56 20.9**	**+0.5**
MDJ				SCS	ScS	00 58 44.3	-2.6
MDJ				SS	SS	01 00 00.4	+2.6
MDJ				AMB	AMB		
comp=Z,13nm,1.1s,mb4.9							
MDJ				AMB	AMB		
comp=Z,40nm,3.7s							
MDJ				LR	LR		
comp=N,18nm,32.5s							
MDJ				LR	LR		
comp=E,9.0nm,22.9s							
MDJ				LR	LR		
comp=Z,35nm,21.0s							
RPZ	**Rata Peaks**	**51.87 141**		P	**P**	**00 49 05.2**	**+1.8**
comp=Z,14nm,0.9s,mb5.0,baz=312,slow=18,SNR=4.3							
GTA	**Gaotai**	**53.61 333**		P	**P**	**00 49 17.0**	**+0.8**
GTA				AMB	AMB		
comp=Z,30nm,0.9s,mb5.3							
JIRN	**Jiri**	**53.69 312**		⇑*iP*	**P**	**00 49 16.9**	**+0.1**
comp=Z,49nm,0.8s,mb5.6							
GUN	**Gumba**	**54.06 312**		⇑*iP*	**P**	**00 49 19.4**	**-0.1**
comp=Z,82nm,0.8s,mb5.8							
PKI	**Pulchoki**	**54.21 312**		⇑*iP*	**P**	**00 49 20.3**	**-0.3**
comp=Z,36nm,0.7s,mb5.5							
PKI	**Pulchoki**	**54.21 312**		⇑*iP*	**P**	**00 49 20.3**	**-0.3**
PKI				pmax	pmax		
comp=Z,18nm,0.7s,mb5.2							
KKN	**Kakani**	**54.43 312**		⇑*iP*	**P**	**00 49 22.0**	**-0.2**
comp=Z,42nm,0.8s,mb5.5							
KKN	**Kakani**	**54.43 312**		⇑*iP*	**P**	**00 49 22.0**	**-0.2**
KKN				pmax	pmax		
comp=Z,21nm,0.8s,mb5.2							
DMN	**Daman**	**54.46 312**		⇑*iP*	**P**	**00 49 22.3**	**-0.1**
comp=Z,72nm,0.9s,mb5.7							
GKN	**Gorkha**	**55.02 312**		⇑*iP*	**P**	**00 49 26.2**	**-0.3**
comp=Z,82nm,0.9s,mb5.8							
HYB	**Hyderabad**	**55.09 297**		*i* P	**P**	**00 49 24.0**	**-2.9**
HYB	**Hyderabad**	**55.09 297**		*e*P	**P**	**00 49 24.0**	**-2.9**
KOLN	**Koldanda**	**55.67 311**		⇑*iP*	**P**	**00 49 30.9**	**-0.2**
comp=Z,76nm,0.8s,mb5.8							
HABR	**Khabarovsk**	**55.99 5**		*e*P	**P**	**00 49 34.1**	**+0.7**
HABR				*i* S	**S**	**00 57 20.7**	**+4.2**
KLR	**Kul'dur**	**56.52 3**		*e*P	**P**	**00 49 33.9**	**-3.3**
HIA	**Hailar**	**56.98 353**		*e*P	**P**	**00 49 41.3**	**+0.8**
HIA				pmax	pmax		
comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**56.98 353**		*e*P	**P**	**00 49 41.3**	**+0.8**
comp=Z,6.2nm,0.6s,mb4.8							
ULN	**Ulaanbaatar**	**58.21 343**		*d iP*	**P**	**00 49 49.3**	**+0.2**
ULN	**Ulaanbaatar**	**58.21 343**		*e*P	**P**	**00 49 50.0**	**+0.9**
comp=Z,34nm,1.0s,mb5.3							
SONM	**Songino Array**	**58.38 343**		P	**P**	**00 49 50.5**	**+0.2**
comp=Z,21nm,0.7s,mb5.3,baz=167,slow=7.2,SNR=185							
CIT	**Chita**	**60.59 350**		*e*P	**P**	**00 50 06.7**	**+1.2**
CIT				pmax	pmax		
comp=Z,28nm,1.1s,mb5.2							
ZAK	**Zakamensk**	**61.58 342**		*e*P	**P**	**00 50 11.2**	**-1.0**
ZAK				pmax	pmax		
comp=Z,13nm,1.2s,mb4.8							
WMQ	**Urumqi**	**62.91 328**		P	**P**	**00 50 21.5**	**+0.4**
WMQ				AP	pP	00 50 41.0	+2.1
WMQ				XP	sP	00 50 50.0	+3.5
WMQ				PP	PP	00 52 42.0	+1.9
WMQ				AMB	AMB		
comp=Z,15nm,1.0s,mb4.9							
WMQ				AMB	AMB		
comp=Z,88nm,6.0s							
WMQ				LR	LR		
comp=N,42nm,9.0s							
WMQ				LR	LR		
comp=E,47nm,9.0s							
WMQ				LR	LR		
comp=Z,32nm,8.0s							
MOY	**Mondy**	**63.41 341**		*e*P	**P**	**00 50 25.4**	**+1.0**
MOY				pmax	pmax		
comp=Z,24nm,1.7s,mb4.8							
BOD	**Bodaibo**	**66.09 352

BRVK	Borovoye	77.67	328	P	P	00 51 50.0	-1.1
	comp=E,76nm,1.2s,mb5.3,SNR=8.5						
BRVK	Borovoye	77.67	328	*e*P	P	00 51 50.4	-0.7
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
BRVK	Borovoye	77.67	328	*e*P	P	00 51 50.4	-0.7
	comp=Z,12nm,1.1s,mb4.5						
ZRNK	Zerenda	78.28	328	*e*P	P	00 51 53.5	-1.1
ZRNK				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.8						
ZRNK	Zerenda	78.28	328	*e*P	P	00 51 53.5	-1.1
	comp=Z,23nm,1.2s,mb4.8						
TIXI	Tiksi	78.94	0	⇓*i*P	P	00 51 56.9	-1.2
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
OPO	Ambohidratompo	79.36	253	P	P	00 52 00.4	0.0
	comp=Z,2.5nm,0.9s,mb4.0,baz=51,slow=6.9,SNR=3.5						
BILL	Bilibino	79.92	14	*e*P	P	00 52 04.8	+1.3
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
QSPA	South Pole Qui	82.53	180	*e*P	P	00 52 16.8	-0.5
	comp=Z,2.2nm,0.7s,mb4.1						
SYO	Syowa Base	82.66	201	⇓*e*P	P	00 52 19.2	+1.2
AKTK	Aktyubinsk	83.45	323	P	P	00 52 20.6	-1.5
AKTO	Aktyubinsk	83.45	323	P	P	00 52 20.6	-1.5
	comp=Z,3.7nm,0.7s,mb4.4,baz=102,slow=5.2,SNR=20						
ARU	Arti	85.24	328	P	P	00 52 30.0	-1.2
	comp=Z,62nm,1.2s,mb5.4,SNR=5.1						
ARU	Arti	85.24	328	⇑*i*P	P	00 52 29.8	-1.4
ARU				*e*		00 55 47.3	
ARU				*e*S		01 02 50.1	
ARU				*e*SS	SS	01 08 32.8	+1.4
ARU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
ARU	Arti	85.24	328	*e*P	P	00 52 29.5	-1.6
	comp=Z,15nm,1.2s,mb4.8						
ILAR	Eielson Array	94.44	25	P	P	00 53 11.8	-2.7
	comp=Z,0.5nm,0.8s,mb3.9,baz=292,slow=3.8,SNR=5.0						
BOSA	Boshof	97.86	240	P	P	00 53 29.1	-0.9
	comp=Z,2.1nm,0.8s,mb4.7,baz=326,slow=7.3,SNR=3.4						
BOSA	Boshof	97.86	240	*e*P	P	00 53 30.2	+0.1
ARCES	ARCESS Array B	101.44	340	P	Pdif	00 53 43.1	-2.8
	comp=Z,1.8nm,0.8s,baz=77,slow=4.8,SNR=6.2						
YKA	Yellowknife Ar	108.86	26	PKiKP	PKiKP	00 58 21.7	-1.8
	comp=Z,0.2nm,0.6s,baz=299,slow=1.7,SNR=5.3						
YKA	Yellowknife Ar	108.86	26	PKPdf	PKiKP	00 58 21.7	-1.8
KONO	Kongsberg	110.70	332	⇑*i*PKIKP	PKiKP	00 58 26.8	-0.1
PDAR	Pinedale Array	118.34	45	PKP	PKPdf	00 58 40.4	-1.2
	comp=Z,0.4nm,0.7s,baz=328,slow=1.6,SNR=3.7						
PDAR				PKKPbc	PKKPbc	01 09 01.7	+2.4
	comp=Z,0.4nm,0.6s,baz=125,slow=4.9,SNR=5.4						
ANMO	Albuquerque	122.85	53	⇑*i*PKIKP	PKPdf	00 58 50.5	+0.3
TORD	Torodi Ar. Bea	127.32	281	PKP	PKPdf	00 58 57.6	-1.1
	comp=Z,1.3nm,0.7s,baz=54,slow=2.4,SNR=12						
CPUP	Villa Florida	145.97	171	*e*PKP	PKPdf	00 59 34.3	+1.2
LPAZ	La Paz	151.30	145	PKPbc	PKPbc	00 59 49.6	+1.8
	comp=Z,2.4nm,0.4s,baz=47,slow=3.5,SNR=22						
LPAZ	La Paz	151.30	145	*e*PKPbc	PKPbc	00 59 49.5	+1.7

IDC ***21*** *00:40:22.0±2.4, 3592N×3593E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.3/22, mbtmp3.3/7, ML2.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/15, Error ellipse: s-maj=35.3km s-min=20.5km az=17.0*
HLW ***21*** *00:40:22.1, 3642N×3586E, h30km, Mb3.3*
ISCJB ***21*** *00:40:23.3±0.5, 3608N±001×3587E±002, h8km±3km, mb3.4/2, MS2.7/1, Error ellipse: s-maj=3.3km s-min=2.2km az=163.3*
NEIC ***21*** *00:40:23.0, 3597N×3598E, h24km, ML3.7(ISK), After ISK,*
ISK ***21*** *00:40:23.6, 3600N×3596E, h21km, MD3.7*
GRAL ***21*** *00:40:23.9±0.9, 3617N×3591E, h14km±10km, MD4.0*
CSEM ***21*** *00:40:24.0±0.1, 3613N×3593E, h10km, Mw3.2, Error ellipse: s-maj=1.7km s-min=1.2km az=82.0*
GII ***21*** *00:41:06.8±0.6, 3595N×3555E, h6km±30km, ML3.5/6, Mw3.2/3*

ISC 21 00:40:24.3±0.4, 3608N±001×3588E±003, h7km±3km, n88, σ0§89/127, mb3.4/2, MS2.7/1, 4C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	Hatay	0.21	79	*i* PG	Pg	00 40 29.0	+0.4
HTY				*i* SG	Sg	00 40 32.6	+1.1
BTCH	Batrach	0.47	95	⇑*i*P	Pg	00 40 33.8	+0.3
BTCH				⇓*i*S	Sg	00 40 39.7	+0.1
COBT	Iskenderun	0.53	35	*i* P	Pg	00 40 34.2	-0.4
COBT				*i* S	Sg	00 40 40.6	-1.0
SLNF	Slenfeh	0.56	150	⇑*i*P	Pg	00 40 35.4	+0.3
SLNF				⇑*i*S	Sg	00 40 43.1	+0.7
WRDH	Warideh	0.72	143	⇑*i*P	Pg	00 40 38.3	+0.2
WRDH				⇑*i*S	Sg	00 40 48.3	+0.9
DRWC	Darouich	0.83	49	⇑*i*P	Pg	00 40 40.3	-0.1
DRWC				⇑*i*S	Sg	00 40 52.0	+0.8
BIDA	Albida	1.12	161	⇓*i*P	Pg	00 40 45.2	-0.7
BIDA				⇑*i*S	Sg	00 41 00.2	-0.3
KFRA	Kufra	1.15	139	⇑*i*P	Pg	00 40 45.7	-0.6
KFRA				⇓*i*S	Sg	00 41 00.4	-0.8
MERS	Mersin	1.35	306	*i* PN	Pn	00 40 49.6	+0.1
MERS				*i* SN	Sn	00 41 08.1	+0.5
KARA	Karaisali	1.35	331	*i* PN	Pn	00 40 49.7	+0.2
KARA				*i* SN	Sn	00 41 08.2	+0.5
KOZT	Kozan	1.40	358	*i* PN	Pn	00 40 50.0	-0.2
KOZT				*i* SN	Sn	00 41 08.7	-0.1
GAZ	Gaziantep	1.53	44	PN	Pn	00 40 51.3	-0.7
GAZ				SN	Sn	00 41 10.5	-1.5
HAWK	Haweek	1.61	164	⇑*i*P	Pn	00 40 53.5	+0.4
HAWK				⇑*i*S	Sn	00 41 14.0	-0.2
IKL	Isikli	1.78	276	PN	Pn	00 40 54.8	-0.7
IKL				SN	Sn	00 41 18.2	-0.1
HWQ	Hawqa	1.80	178	*e*Pg	Pn	00 40 55.2	-0.5
HWQ				*e*Sg	Sn	00 41 19.0	+0.3
GZT	Gaziantep	1.86	46	*i* P	Pg	00 40 59.0	-0.9
GZT				*i* S	Sg	00 41 24.8	+0.7
FKH	Fakeheh	1.89	167	*e*Pg	Pn	00 40 57.3	+0.4
FKH				*e*Sg	Sn	00 41 21.9	+0.9
RABH	Abou Rabah	1.97	146	⇑*i*P	Pn	00 40 58.7	+0.7
RABH				⇑*i*S	Sn	00 41 23.2	+0.3
MARH	Ras Al Marh	2.11	166	⇓*i*P	Pn	00 41 00.2	+0.3
MARH				⇓*i*S	Sn	00 41 26.9	+0.6
JHLN	Al Jahlan	2.12	100	⇓*i*P	Pn	00 40 59.3	-0.8
JHLN				⇑*i*S	Sn	00 41 26.3	-0.3
BHL	Bhannes	2.18	185	*e*Pn	Pn	00 41 00.2	-0.7
BHL				Sn	Sn	00 41 27.0	-1.1
NIG	Nigde	2.27	334	PN	Pn	00 41 02.9	+0.8
CSS	Prodhromos	2.36	243	*e*Pn	Pn	00 41 02.2	-1.2
CSS				*e*Sn	Sn	00 41 31.2	-1.3
CSS	Prodhromos	2.36	243	*e*Pn	Pn	00 41 02.2	-1.2
CSS				*e*Sn	Sn	00 41 31.2	-1.3
ATAB	Bozova	2.38	54	*i* P	Pn	00 41 07.9	+4.1
ATAB				*i* S	Sn	00 41 40.7	+7.6
ERMK	Ermenek	2.46	284	*i* P	Pn	00 41 02.4	-2.3
ERMK				*i* S	Sn	00 41 34.8	-0.2
QASN	Qassioun	2.56	173	⇑*i*P	Pn	00 41 07.4	+1.2
QASN				⇑*i*S	Sn	00 41 38.1	+0.5
MATL	Matirih	2.62	190	*e*Pn	Pn	00 41 05.9	-1.1
BRBR	Barbar	2.66	179	⇑*i*P	Pn	00 41 08.3	+0.7
URFA	Urfa	2.73	59	PN	Pn	00 41 07.3	-1.1
HDMB	Hadim	2.87	289	PN	Pn	00 41 08.8	+0.4
KSDI	Kefar Szold	2.89	184	Pn	Pn	00 41 11.3	+0.7
KSDI				Sn	Sn	00 41 45.7	+0.1
MALT	Malatya	3.02	42	PN	Pn	00 41 11.4	-1.0
MALT	Malatya	3.02	42	*e*Pn	Pn	00 41 12.5	+0.1
MALT	Malatya	3.02	42	*e*Pg	Pg	00 41 21.2	-1.0
MALT	Malatya	3.02	42	*e*Pn	Pn	00 41 12.5	0.0
MALT				*e*Pg	Pg	00 41 21.2	-1.0
MALT				*e*Sg	Sg	00 42 00.7	-0.6
HNTI	Hanita	3.05	191	Pn	Pn	00 41 12.5	-0.3
HNTI				Sn	Sn	00 41 48.8	-0.7
MMA1	Mount Meron ar	3.08	187	Pn	Pn	00 41 13.2	-0.1
MMA0B	Mount Meron ar	3.08	187	Pn	Pn	00 41 13.4	+0.1
MMA0B				Sn	Sn	00 41 48.9	-1.5
KONT	Konya--Tatoy	3.38	305	*e*PN	Pn	00 41 18.1	+0.7
OFRI	'Ofer	3.53	192	Pn	Pn	00 41 19.2	-0.2
OFRI	'Ofer	3.53	192	Pn	Pn	00 41 19.2	-0.3
MMLI	Mount Malkishu	3.65	186	Pn	Pn	00 41 22.7	+1.6
MMLI				Sn	Sn	00 42 05.0	+0.6
KAMT	Kaman	3.71	333	*e*PN	Pn	00 41 22.9	+1.0
CDAG	Cicekdag	3.73	342	*i* P	Pg	00 41 31.3	-4.5
CDAG				*i* S	Sg	00 42 21.6	-2.6
SLTI	Sal'it	3.89	191	Pn	Pn	00 41 25.2	+0.8
DIY	Diyarbakir	3.92	61	*e*PN	Pn	00 41 23.9	-1.0
SVSK	Karacayir	3.93	13	*e*PN	Pn	00 41 25.7	+0.7
BR131	Keskin Array S	4.05	335	*e*Pn	Pn	00 41 27.8	+1.2
BR131				*e*Sn	Sn	00 42 16.6	+2.4
BR131	Keskin Array S	4.05	335	*e*Pn	Pn	00 41 27.8	+1.2
BR131				*e*Sn	Sn	00 42 16.6	+2.4
BRTR	Keskin Array B	4.05	335	Pn	Pn	00 41 28.1	+1.5
	0.3nm,0.3s,baz=163,slow=15,SNR=14						
BRTR				Lg		00 42 35.3	
	0.5nm,0.3s,baz=172,slow=23,SNR=5.0						
BRTR	Keskin Array B	4.05	335	Pn	Pn	00 41 28.0	+1.4
KIZT	Kizilcal	4.23	312	*e*PN	Pn	00 41 30.3	+1.1
ANTO	Ankara	4.50	328	*e*PN	Pn	00 41 34.3	+1.5
AMAZ	Amatzia	4.61	190	Pn	Pn	00 41 35.2	+0.9
AMAZ				Sn	Sn	00 42 28.7	+0.7
MZDA	Masada	4.78	185	Pn	Pn	00 41 37.2	+0.6
ELL	Elmali	4.86	280	*e*PN	Pn	00 41 38.6	+0.8
BTMT	Batman	4.95	63	*e*PN	Pn	00 41 37.0	-2.0
SVTA	Shivta	5.24	192	Pn	Pn	00 41 43.9	+0.9
ESKT	Eskisehir	5.26	312	*e*PN	Pn	00 41 44.7	+1.5
KZIT	Kziot	5.31	194	Pn	Pn	00 41 44.5	+0.6
KZIT				Sn	Sn	00 42 44.1	-1.1
EZM	Erzurum	5.77	47	*e*PN	Pn	00 41 51.0	+0.7
MSL	Mosul	5.84	86	*ex*	x	00 42 16.0	
MSL				*ex*	x	00 43 28.0	
AMAG	Maghara	5.86	203	⇑P	Pn	00 41 50.6	-1.0
HRFI	Mount Harif	6.07	187	Pn	Pn	00 41 56.6	+2.2
CUKT	Cukurca	6.32	77	*e*PN	Pn	00 41 58.0	+0.2
HNKL	Nakhl	6.34	195	⇓P	Pn	00 41 57.9	-0.2
HNKL				S	Sn	00 43 07.4	-3.2
EIL	Elat	6.44	187	Pn	Pn	00 42 01.1	+1.7
EIL	Elat	6.44	187	*e*Pn	Pn	00 41 59.3	-0.2
	98nm,0.7s						
EIL				*e*Sn	Sn	00 43 07.8	-5.4
EIL	Elat	6.44	187	*e*Pn	Pn	00 41 59.3	-0.2
	98nm,0.7s						
EIL				*e*Sn	Sn	00 43 07.8	-5.4
SUZ		6.73	203	⇑P	Pn	00 42 02.8	-0.6
KOT	Kottamia	7.01	210	⇑P	Pn	00 42 06.5	-0.9
GLL	Jalalah	7.37	210	P	Pn	00 42 11.6	-0.7
BHD	Baghdad	7.54	109	*ex*	x	00 42 52.0	
BHD				*ex*	x	00 44 24.0	
HKAT	Jabal Katrina	7.70	192	⇑P	Pn	00 42 17.1	+0.3
TR2		7.89	194	⇓P	Pn	00 42 18.9	-0.4
GNI	Garni	8.08	57	Pn	Pn	00 42 22.6	+0.6
	0.1nm,0.3s,baz=171,slow=20,SNR=2.6						
GRB	Gharib	8.21	199	P	Pn	00 42 22.8	-1.1
IDI	Anoyia	8.98	268	Pn	Pn	00 42 33.1	-1.2
	0.4nm,0.3s,baz=90,slow=14,SNR=9.2						
IDI				Sn	Sn	00 44 10.0	-5.6
	0.4nm,0.3s,baz=95,slow=18,SNR=3.6						
AKASG	Malin Array Be	15.38	344	Pn	Pn	00 44 02.7	+1.0
	0.5nm,0.3s,baz=167,slow=11,SNR=4.3						
AKASG	Malin Array Be	15.38	344	Pn	Pn	00 44 02.7	+1.0
GERES	GERESS Array B	20.66	315	P	P	00 45 03.5	-1.0
	0.6nm,0.6s,baz=118,slow=11,SNR=7.2						
GERES				LR	LR	00 54 39.3	
	comp=Z,33nm,18.3s,MS2.7,baz=297,slow=41						
GERES	GERESS Array B	20.66	315	P	P	00 45 03.5	-1.0
GERES				LR	LR	00 54 39.3	
AKTK	Aktyubinsk	21.47	41	P	P	00 45 12.6	-0.7
AKTK	Aktyubinsk	21.47	41	P	P	00 45 12.7	-0.6
AKTO	Aktyubinsk	21.47	41	P	P	00 45 12.7	-0.6
	1.1nm,0.6s,mb3.4,baz=235,slow=12,SNR=6.1						
MKAR	Makanchi Array	35.93	58	P	P	00 47 25.5	+0.3
	0.3nm,0.6s,mb3.4,baz=273,slow=6.3,SNR=4.9						
MKAR	Makanchi Array	35.93	58	P	P	00 47 25.5	+0.3

IDC ***21*** *00:41:55.7±0.8, 1462S×1669E, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.5/16, mbtmp4.4/10, MS3.9/8, Ms1 3.9/8, ms1mx3.5/23, Error ellipse: s-maj=33.5km s-min=23.4km az=102.0*
ISCJB ***21*** *00:41:56.1±0.4, 1469S±006×1669E±0.1, h10km, mb4.5/20, MS3.9/7, Error ellipse: s-maj=17.4km s-min=7.3km az=139.5*
LDG ***21*** *00:41:58.2±0.2, 1470S×1664 9E, h10km, Mb4.5/3, Error ellipse: s-maj=34.3km s-min=6.5km az=84.0*
NEIC ***21*** *00:42:02.7±0.5, 1488S×1669 5E, h55km, mb4.6/7, Error ellipse: s-maj=19.9km s-min=13.3km az=113.0*
BJI ***21*** *00:42:06.7, 1427S×1660 2E, h55km, mB4.7, mb4.8, Ms4.8, Msz4.2*

ISC 21 00:41:57.6±0.4, 1465S±006×1670E±01, h10km, n72, σ1§15/28, mb4.5/20, MS3.9/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	3.22	159	⇑*i*P	Pn	00 42 49.6	+1.4
BKM				S	Sn	00 43 26.9	+0.4
DZM	Mont Dzumac	7.40	184	Pn	Pn	00 43 43.4	-2.3
	7.0nm,0.3s,baz=196,slow=22,SNR=55						
DZM				Sn	Sn	00 45 04.0	-5.7
	4.6nm,0.3s,baz=310,slow=23,SNR=3.0						
DZM				LR	LR	00 46 19.5	
	comp=Z,1μm,19.6s,baz=24,slow=36						
HNR	Honiara	8.66	306	LR	LR	00 47 02.2	
	comp=Z,478nm,20.0s,baz=175,slow=36						
AFI	Afiamalu	20.55	91	LR	LR	00 52 29.5	
	comp=Z,275nm,19.5s,MS3.6,baz=301,slow=31						
CTA	Charters Tower	20.55	252	P	P	00 46 35.2	-1.0
	27nm,0.8s,baz=74,slow=13,SNR=7.9						
CTA				LR	LR	00 53 38.2	
	comp=Z,336nm,18.7s,MS3.7,baz=43,slow=34						
CTAO	Charters Tower	20.55	252	*e*P	P	00 46 35.3	-1.0
	38nm,1.1s						
URZ	Urewera	25.15	161	LR	LR	00 54 46.5	
	comp=Z,284nm,18.6s,MS3.8,baz=54,slow=31						
STKA	Stephens Creek	28.88	229	LR	LR	00 58 40.6	
	comp=Z,309nm,19.0s,MS3.9,baz=287,slow=35						
PPT	Papeete	41.72	100	*e*LR	LR	01 01 21.4	
	103nm,24.5s						
TBI	Tubuai	41.90	109	*e*LR	LR	01 01 24.7	
	77nm,25.8s						
RKT	Rikitea	55.22	108	*e*LR	LR	01 07 34.3	
	90nm,25.8s						
MJAR	Matsushiro Arr	57.73	333	P	P	00 51 47.6	-0.9
	5.1nm,0.9s,mb4.5,baz=161,slow=8.5,SNR=9.4						
VNDA	Vanda	62.94	181	P	P	00 52 25.0	+0.9
	2.5nm,0.8s,mb4.4,baz=348,slow=5.8,SNR=3.6						
CN2	Changchun	69.46	329	*e*P	P	00 53 07.0	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ENH	Enshi	71.14	310	*e*P	P	00 53 15.9	-0.4
	comp=Z,7.3nm,0.8s,mb4.7						
HHC	Hu-ho-hao-te	75.38	320	*e*P	P	00 53 42.4	+1.1
HHC				PCP	PcP	00 53 54.8	+0.3
HHC				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,61nm,6.0s						
HHC				LR	LR		
	comp=N,112nm,19.2s,MS4.7						
HHC				LR	LR		
	comp=E,394nm,20.4s,MS4.7						
HHC				LR	LR		
	comp=Z,85nm,18.0s,MS4.1						
QSPA	South Pole Qui	75.38	180	*e*P	P	00 53 40.8	-0.5
	comp=Z,1.1nm,1.0s,mb3.7						
CD2	Chengdu	75.78	308	*e*P	P	00 53 45.9	+2.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,9.2s						
LZH	Lanzhou	78.10	312	*e*P	P	00 53 58.5	+1.8
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,56nm,8.6s						
ULN	Ulaanbaatar	81.94	324	*e*P	P	00 54 18.4	+0.9
TNA	Tin City	82.16	10	*e*P	P	00 54 16.7	-2.0
	comp=Z,8.5nm,1.3s,mb4.5						
SONM	Songino Array	82.30	324	P	P	00 54 19.9	+0.5
	comp=Z,1.9nm,1.0s,mb4.0,baz=135,slow=6.0,SNR=6.7						
GTA	Gaotai	82.45	314	*e*P	P	00 54 21.1	+1.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
BILL	Bilibino	82.46	360	*e*P	P	00 54 20.2	+0.1
	comp=Z,22nm,1.0s,mb5.0						
MCK	McKinley	85.14	18	*e*P	P	00 54 34.2	+0.3
	comp=Z,4.0nm,1.0s,mb4.5						
COLA	College	86.31	18	*e*P	P	00 54 39.8	+0.1
	comp=Z,7.8nm,1.0s,mb4.9						
ILAR	Eielson Array	86.52	18	P	P	00 54 39.5	-1.2
	comp=Z,2.9nm,0.7s,mb4.6,baz=240,slow=4.7,SNR=27						
NVAR	Mina Array Bea	87.39	49	P	P	00 54 45.6	+0.6
	comp=Z,0.7nm,0.9s,mb3.9,baz=211,slow=6.8,SNR=4.8						
WMQ	Urumqi	92.51	315	*e*P	P	00 55 09.0	0.0
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb5.2						
PDAR	Pinedale Array	95.06	47	LR	LR	01 30 43.9	
	comp=Z,61nm,19.6s,MS4.1,baz=72,slow=31						
MKAR	Makanchi Array	96.99	316	P	P	00 55 28.9	-0.6
	comp=Z,1.5nm,0.7s,mb4.5,baz=95,slow=6.7,SNR=8.7						
ZAL	Zalesovo	97.20	324	P	P	00 55 28.5	-1.9
	comp=Z,0.5nm,0.4s,mb4.3,baz=2.1,slow=4.0,SNR=3.3						
YKA	Yellowknife Ar	97.58	27	P	P	00 55 30.4	-1.7
	comp=Z,0.8nm,0.8s,mb4.3,baz=255,slow=4.5,SNR=17						
YKA				LR	LR	01 38 47.3	
	comp=Z,48nm,18.9s,MS4.0,baz=195,slow=35						
YKA	Yellowknife Ar	97.58	27	P	P	00 55 30.4	-1.7
YKA				LR	LR	01 38 47.3	
ARCES	ARCESS Array B	120.12	345	PKP	PKPdf	01 00 47.1	-1.5
	comp=Z,0.9nm,0.3s,baz=78,slow=2.2,SNR=54						
FINES	FINESS Array B	125.56	338	PKP	PKPdf	01 00 60.0	+0.9
	comp=Z,1.6nm,0.8s,baz=93,slow=3.0,SNR=5.7						
FINES	FINESS Array B	125.56	338	PKP	PKPdf	01 00 60.0	+0.9
NOA	NORSAR Array B	130.49	345	PKP	PKPdf	01 01 09.2	+0.7
	comp=Z,0.6nm,0.8s,baz=40,slow=1.7,SNR=4.5						
NOA				SKPbc	SKPbc	01 04 33.1	+1.2
	comp=Z,3.4nm,1.1s,baz=33,slow=3.0,SNR=4.4						
GERES	GERESS Array B	139.47	333	PKiKP		01 01 21.6	
	comp=Z,0.5nm,0.9s,baz=186,slow=1.3,SNR=3.8						
GIVF	Givet	141.79	341	*e*PKP1	PKPdf	01 01 29.9	+0.5
DAVOX	Davos	142.71	334	PKP	PKPdf	01 01 29.4	-1.6
	comp=Z,1.6nm,0.6s,baz=333,slow=18,SNR=3.8						
CABF	La Chapelle	144.37	337	*e*PKP1	PKPdf	01 01 34.8	+0.8
	comp=Z,97nm,1.6s						
FLN	La Foliniere	144.46	346	*e*PKP1	PKPdf	01 01 33.0	-1.1
	comp=Z,55nm,1.1s						
LDF	La Druitiere	144.53	345	*e*PKP1	PKPdf	01 01 33.4	-0.8
LOR	Lormes	144.59	340	*e*PKP1	PKPdf	01 01 33.4	-0.9
	comp=Z,20nm,1.1s						
SSF	Saint Saulge	144.88	340	*e*PKP1	PKPdf	01 01 34.6	-0.3
	comp=Z,55nm,0.9s						
GRR	Gorron	144.90	346	*e*PKP1	PKPdf	01 01 34.2	-0.7
HYF	Humbligny	144.97	341	*e*PKP1	PKPdf	01 01 35.0	0.0
LPL	La Plagne	145.03	336	*e*PKP1	PKPbc	01 01 35.5	+1.0
	comp=Z,17nm,0.8s						
LPG	La Plagne	145.03	336	*e*PKP1	PKPbc	01 01 35.8	+1.3
	comp=Z,77nm,1.2s						
SMF	Signal de Mont	145.14	340	*e*PKP1	PKPbc	01 01 35.2	+0.4
	comp=Z,59nm,1.2s						
AVF	Avril sur Loir	145.17	340	*e*PKP1	PKPbc	01 01 35.3	+0.4
	comp=Z,45nm,1.1s						
SGMF	Saint Gilles	145.40	348	*e*PKP1	PKPbc	01 01 35.8	+0.1
BNI	Bardonecchia	145.43	335	*e*PKPdf	PKPdf	01 01 36.6	+0.8
BGF	Bois d'Agland	145.54	341	*e*PKP1	PKPbc	01 01 36.6	+0.5
	comp=Z,105nm,1.4s						
MBDF	Montbardon	145.66	335	*e*PKP1	PKPbc	01 01 36.8	+0.3
	comp=Z,39nm,1.1s						
ORIF	Oris-en-Rattie	145.86	336	*e*PKP1	PKPbc	01 01 37.8	+0.7
	comp=Z,40nm,0.9s						
TCF	Toulx Ste Croi	145.98	341	*e*PKP1	PKPbc	01 01 36.8	-0.7
	comp=Z,37nm,1.2s						
SBF	Sospel	146.07	333	*e*PKP1	PKPbc	01 01 37.8	0.0
	comp=Z,150nm,1.2s						
PGF	Pioggiola	146.37	330	*e*PKP1	PKPbc	01 01 39.2	+0.5
	comp=Z,47nm,0.9s						
VIVF	Saint-Julien-l	146.38	337	*e*PKP1	PKPbc	01 01 37.8	-0.9
	comp=Z,30nm,1.1s						
MFF	Saint Martin d	146.38	344	*e*PKP1	PKPbc	01 01 38.1	-0.6
	comp=Z,55nm,1.0s						
FRF	La Foret Royal	146.66	334	*e*PKP1	PKPbc	01 01 39.5	0.0
	comp=Z,61nm,1.1s						
LMR	La Mourre	146.90	334	*e*PKP1	PKPbc	01 01 40.2	0.0
	comp=Z,48nm,1.0s						
RJF	Les Rejaudoux	147.08	341	*e*PKP1	PKPbc	01 01 41.1	+0.4
CAF	Calviac	147.24	340	*e*PKP1	PKPbc	01 01 39.6	-1.5
	comp=Z,50nm,1.3s						
LASF	Ste Croix	147.35	337	*e*PKP1	PKPbc	01 01 42.0	+0.6

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TRBA                                  i S          Sn     01 27 43.4 -1.3
TRBA                                    AML        AML    01 27 46.9
        comp=Z,541nm,0.5s
UDYN  Al 'Udayn          2.68  22  i P          Pn     01 27 25.6 -1.0
UDYN                                  i S          Sn     01 27 59.9 +0.7
UDYN                                    AML        AML    01 28 07.4
        comp=E,607nm,0.5s
DESE  Dese               3.27 264  ePN          Pn     01 27 36.4 +1.7
DESE                                  eS           Sn     01 28 21.4 +7.8
LBOS                     3.28  43  i P          Pn     01 27 34.8 -0.1
LBOS                                  i S          Sn     01 28 15.7 +1.7
DHBB  Dhamar BB          3.40  24  i P          Pn     01 27 35.7 -0.7
DHBB                                  i S          Sn     01 28 17.9 +1.2
BDHA  Al Bayda'          3.57  45 ⇓i P          Pn     01 27 38.5 -0.3
BDHA                                  i S          Sn     01 28 22.4 +1.3
BDHA                                    AML        AML    01 28 39.5
        comp=N,358nm,0.6s
BDHA  Al Bayda'          3.57  45 ⇓i P          Pn     01 27 38.5 -0.4
BDHA                                  i S          Sn     01 28 22.4 +1.3
        comp=N,179nm,0.6s
HAJJ  Hajjah             4.26   8 ⇑i P          Pn     01 27 47.2 -1.0
HAJJ                                  i S          Sn     01 28 37.8 -0.3
HAJJ                                    AML        AML    01 28 58.5
        comp=N,327nm,0.6s
HAJJ  Hajjah             4.26   8 ⇑i P          Pn     01 27 47.2 -1.1
HAJJ                                  i S          Sn     01 28 37.8 -0.2
        comp=N,163nm,0.6s
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DHMR ***21*** *01:36:27.1±1.1, 1162N×4289E, h9km±9km, ML4.0*
ISCJB ***21*** *01:36:28.9±1.6, 113N±0.1×4332E±0.10, h10km, Error ellipse: s-maj=20.8km s-min=6.5km az=106.2*

ISC 21 01:36:30.9±1.4, 115N±01×4327E±009, h10km, n11, σ1°38/22, 2D, Ethiopia

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
TRBA  At Turbah          1.96  25 ⇓i P          Pn     01 37 02.4 -1.7
TRBA                                  i S          Sn     01 37 29.9 +1.1
TRBA                                    AML        AML    01 37 38.1
        comp=Z,1μm,0.5s
TRBA  At Turbah          1.96  25 ⇓i P          Pn     01 37 02.4 -1.8
TRBA                                  i S          Sn     01 37 29.9 +1.1
        comp=Z,650nm,0.5s
UDYN  Al 'Udayn          2.59  15  i P          Pn     01 37 11.8 -1.2
UDYN                                  i S          Sn     01 37 46.0 +1.5
UDYN                                    AML        AML    01 37 55.2
        comp=N,2μm,0.6s
LBOS                     3.09  39  i P          Pn     01 37 20.0 +0.3
LBOS                                  i S          Sn     01 38 02.5 +5.8
DHBB  Dhamar BB          3.29  19  i P          Pn     01 37 22.1 -0.5
DHBB                                  i S          Sn     01 38 04.7 +3.0
DHBB  Dhamar BB          3.29  19  i P          Pn     01 37 22.0 -0.5
DHBB                                  i S          Sn     01 38 04.7 +3.0
BDHA  Al Bayda'          3.37  41  i P          Pn     01 37 24.4 +0.9
BDHA                                  i S          Sn     01 38 09.8 +6.2
BDHA                                    AML        AML    01 38 25.6
        comp=N,614nm,0.7s
BDHA  Al Bayda'          3.37  41  i P          Pn     01 37 24.4 +0.8
BDHA                                  i S          Sn     01 38 09.8 +6.2
        comp=N,307nm,0.7s
DESE  Dese               3.58 265  ePN          Pn     01 37 27.3 +0.8
DESE                                  eS           Sn     01 38 09.3 +0.5
HAJJ  Hajjah             4.24   4  i P          Pn     01 37 32.9 -2.6
HAJJ                                  i S          Sn     01 38 23.3 -1.8
HAJJ                                    AML        AML    01 38 49.2
        comp=E,494nm,0.8s
HAJJ  Hajjah             4.24   4  i P          Pn     01 37 32.9 -2.6
HAJJ                                  i S          Sn     01 38 23.3 -1.8
        comp=E,247nm,0.8s
```

ISCJB ***21*** *01:38:25.7±1.6, 6956N±004×1456W±0.1, h13km±11km, mb3.7/6, Error ellipse: s-maj=9.0km s-min=6.1km az=78.2*
IDC ***21*** *01:38:26.8±1.2, 6962N×14568W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, ML3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.3/38, Error ellipse: s-maj=19.0km s-min=16.4km az=69.0*
NEIC ***21*** *01:38:27.4, 6973N×14581W, h51km, mb3.7/2, ML3.7(AEIC), After AEIC.*
PGC ***21*** *01:38:27.7, 6969N×14549W, h1km, ML3.6/1, Brooks Range, Alaska.*

ISC 21 01:38:26.5±1.9, 6961N±004×1457W±0.1, h7km±13km, n32, σ1°08/49, mb3.7/6, Northern Alaska

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
BM3   Burnt Mountain     2.23 170  P          Pn     01 39 04.0 +0.2
BM3                                 S          Sn     01 39 33.6 +1.9
COLD  Coldfoot           2.92 217  P          Pn     01 39 13.1 -0.3
COLD                                S          Sn     01 39 48.3 -0.4
INK   Inuvik             4.57 101  Pn         Pn     01 39 36.7 +0.8
        1.9nm,0.3s,baz=313,slow=7.2,SNR=138
INK                                 Sn         Sn     01 40 28.3 -0.9
        5.0nm,0.3s,baz=151,slow=10,SNR=4.6
INK                                 Lg                01 40 51.8
        5.1nm,0.3s,baz=20,slow=23,SNR=6.2
INK   Inuvik             4.57 101  Pn         Pn     01 39 36.6 +0.7
INK                                 Sn         Sn     01 40 29.0 -0.2
INK                                 Trac              01 40 34.6
        comp=Z,28nm,0.3s
COLA  College            4.83 191  P          Pn     01 39 39.1 -0.5
IL1   Eielson Array      4.88 186  P          Pn     01 39 39.7 -0.6
ILAR  Eielson Array      4.88 186  Pn         Pn     01 39 39.5 -0.7
        1.7nm,0.3s,baz=4.1,slow=13,SNR=81
ILAR                                Sn         Sn     01 40 36.8 -0.3
        3.4nm,0.3s,baz=354,slow=17,SNR=4.1
ILAR                                Lg                01 40 59.7
        4.8nm,0.3s,baz=9.0,slow=31,SNR=5.2
DOT   Dot Lake           6.02 173  P          Pn     01 39 56.3 +0.4
MCK   McKinley           6.04 194  P          Pn     01 39 55.8 -0.4
DAWY  Dawson             6.09 153  Pn         Pn     01 39 57.2 +0.4
DAWY                                Sn         Sn     01 41 05.0 -1.7
DAWY                                Trac              01 41 09.0
        comp=Z,43nm,0.8s
DAWY  Dawson             6.09 153  P          Pn     01 39 57.2 +0.3
DAWY                                S          Sn     01 41 06.3 -0.4
KTH   Kantishna Hill     6.43 202  P          Pn     01 40 01.1 -0.4
TRF   Thorofare Moun     6.45 199  P          Pn     01 40 01.3 -0.5
PAX   Paxson             6.67 179  P          Pn     01 40 05.2 +0.4
PAX                                 S          Sn     01 41 20.3 -0.8
MENT  Mentasta           6.75 172  P          Pn     01 40 06.3 +0.4
SML   Sawmill            7.91 189  ePn        Pn     01 40 25.5 +3.6
SML                                 eSn        Sn     01 41 52.0 +0.4
TNA   Tin City           9.39 255  ePn        Pn     01 40 41.6 -0.5
        1.6nm,0.6s
TNA                                 eSn        Sn     01 42 22.1 -5.8
HYT   Haines Junctio     9.45 155  Pn         Pn     01 40 44.6 +1.7
HYT                                 Sn         Sn     01 42 26.3 -3.1
HYT                                 Trac              01 43 40.5
        comp=Z,9.0nm,0.9s
WHY   Whitehorse        10.04 148  Pn         Pn     01 40 51.8 +0.7
YKW3  Yellowknife Ar    14.28 104  Pn         Pn     01 41 45.5 -3.4
YKW3                                Pn         Pn     01 41 45.5 -3.4
YKW3                                Sn         Sn     01 44 11.3 -16
YKW3                                Sn         Sn     01 44 14.4 -13
YKW3                                Trac              01 44 36.7
        comp=Z,3.0nm,0.5s
YKW3                                Trac              01 44 36.9
        comp=Z,4.0nm,0.5s
YKW3  Yellowknife Ar    14.28 104  ePn        Pn     01 41 45.4 -3.6
YKA   Yellowknife Ar    14.33 105  Pn         Pn     01 41 45.8 -3.8
        baz=313,slow=13,SNR=80
YKA                                 Sn         Sn     01 44 16.6 -12
        baz=309,slow=23,SNR=7.3
YKA   Yellowknife Ar    14.33 105  Pn         Pn     01 41 45.9 -3.8
YKA                                 Sn         Sn     01 44 16.6 -12
RES   Resolute Bay      15.89  49  Pn         Pn     01 42 08.3 -2.2
RES                                 Sn         Sn     01 44 52.1 -15
RES                                 Trac              01 45 07.2
        comp=Z,2.0nm,0.3s
RES   Resolute Bay      15.89  49  ePn        Pn     01 42 08.4 -2.0
        1.9nm,0.4s
FCC   Fort Churchill    24.10  91  eP         P      01 43 42.4 -0.2
        2.0nm,0.7s,mb3.7
FRB   Frobisher Bay     29.12  63  P          P      01 44 28.6 +0.7
        3.4nm,0.9s,mb4.1,baz=308,slow=14,SNR=4.0
PDAR  Pinedale Array    32.63 126  P          P      01 45 01.1 +2.3
        0.8nm,0.7s,mb3.8,baz=5.6,slow=4.3,SNR=10
NVAR  Mina Array Bea    34.49 140  P          P      01 45 16.7 +1.7
        0.2nm,0.6s,mb3.3,baz=106,slow=5.3,SNR=2.7
NVAR  Mina Array Bea    34.49 140  P          P      01 45 16.7 +1.7
```

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FINES FINESS Array B    49.10   5  P          P      01 47 14.1 -0.4
        2.8nm,1.2s,mb4.2,baz=339,slow=10,SNR=3.1
MKAR  Makanchi Array    58.72 323  P          P      01 48 25.9 +1.1
        0.3nm,0.6s,mb3.5,baz=41,slow=7.0,SNR=4.6
```

ISCJB ***21*** *01:39:17.5±1.2, 47S±02×688E±02, h10km, mb4.1/14, MS3.7/5, Error ellipse: s-maj=42.6km s-min=7.8km az=98.0*
IDC ***21*** *01:39:17.3±1.4, 482S×6870E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/22, mbtmp4.0/10, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=54.6km s-min=18.6km az=52.0*
NEIC ***21*** *01:39:18.9±0.8, 481S×6871E, h10km, mb4.3/4, Error ellipse: s-maj=31.2km s-min=9.1km az=53.0*

ISC 21 01:39:19.8±1.2, 47S±02×688E±02, h10km, n25, σ0°78/18, mb4.1/14, MS3.7/5, Chagos Archipelago region

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
DGAR  Diego Garcia       4.51 127  ePn        Pn     01 40 27.5 -0.7
DGAR                                eSn        Sn     01 41 20.8 +0.1
PSI   Prapat            31.01  77  LR         LR     01 56 20.8
        comp=Z,181nm,18.9s,MS3.8,baz=250,slow=33
KMBO  Kilima Mbogo      31.70 275  LR         LR     01 55 59.5
        comp=Z,96nm,18.9s,MS3.5,baz=97,slow=32
AAK   Ala-Archa         47.41   6  eP         P      01 47 54.3 +0.1
        2.0nm,1.0s,mb4.0
BOSA  Boshof            47.62 235  LR         LR     02 04 15.9
        comp=Z,78nm,21.4s,MS3.6,baz=79,slow=32
GNI   Garni             49.82 336  P          P      01 48 13.6 +0.7
        0.8nm,0.5s,mb4.0,baz=36,slow=15,SNR=3.3
MKAR  Makanchi Array    52.66  12  P          P      01 48 32.9 -1.2
        0.7nm,0.7s,mb3.7,baz=189,slow=6.1,SNR=9.3
MKAR  Makanchi Array    52.66  12  P          P      01 48 32.9 -1.2
BRTR  Keskin Array B    54.80 327  P          P      01 48 50.2 +0.4
        0.8nm,0.9s,mb3.7,baz=134,slow=7.1,SNR=6.0
AKTK  Aktyubinsk        55.71 352  P          P      01 48 56.7 +0.3
AKTO  Aktyubinsk        55.71 352  P          P      01 48 56.7 +0.3
        2.1nm,1.1s,mb4.1,baz=166,slow=9.2,SNR=4.8
KURK  Kurchatov         55.85   8  eP         P      01 48 57.5  0.0
        3.1nm,1.0s,mb4.3
ZRNK  Zerenda           57.45   0  eP         P      01 49 08.6 -0.2
        3.2nm,1.1s,mb4.3
ZAL   Zalesovo          59.96  11  P          P      01 49 25.6 -0.7
        0.8nm,0.4s,mb4.1,baz=221,slow=7.0,SNR=4.6
SONM  Songino Array     61.85  28  P          P      01 49 40.0 +0.9
        1.7nm,0.8s,mb4.2,baz=220,slow=6.8,SNR=14
SONM                                LR         LR     02 16 26.8
        comp=Z,57nm,19.2s,MS3.8,baz=290,slow=36
ASAR  Alice Springs     65.34 114  P          P      01 50 02.4 +0.3
        1.7nm,0.8s,mb4.1,baz=279,slow=6.1,SNR=16
WRA   Warramunga Arr    65.42 110  P          P      01 50 03.9 +1.2
        3.5nm,0.7s,mb4.5,baz=284,slow=6.2,SNR=25
WRAB  Tennant Creek     65.43 110  eP         P      01 50 03.9 +1.2
        7.2nm,0.7s,mb4.8
STKA  Stephens Creek    72.92 122  P          P      01 50 47.7 -1.5
        1.9nm,0.8s,mb4.0,baz=46,slow=0.5,SNR=3.5
STKA                                LR         LR     02 16 48.1
        comp=Z,75nm,20.1s,MS4.0,baz=13,slow=31
FINES FINESS Array B    73.73 340  P          P      01 50 52.8 -1.2
        0.7nm,0.9s,mb3.6,baz=218,slow=18,SNR=3.9
MCK   McKinley         115.08  17  ePdif      Pdif   01 54 11.1 -1.1
YKA   Yellowknife Ar    122.29   2  PKP        PKPdf  01 58 12.8 -2.2
        0.1nm,0.6s,baz=358,slow=3.3,SNR=4.5
SMCO  Snowmass          145.48 354  ePKPdf     PKPdf  01 58 58.8 +0.7
NVAR  Mina Array Bea    145.82  10  ePKPbc     PKPbc  01 58 59.0 -0.2
        1.0nm,0.8s,baz=4.9,slow=2.9,SNR=6.5
NVAR  Mina Array Bea    145.82  10  PKPbc      PKPbc  01 58 59.0 -0.2
```

ISCJB ***21*** *02:18:35.0±0.3, 4936N±002×687E±003, h0km, Error ellipse: s-maj=3.1km s-min=2.2km az=11.3*
BGR ***21*** *02:18:36.6±0.4, 4937N×687E, h1km, ML1.9/3, Error ellipse: s-maj=7.8km s-min=5.6km az=33.0*
LDG ***21*** *02:18:36.7±0.1, 4939N×691E, h1km, Md2.7/1, Ml2.6/11, Error ellipse: s-maj=2.1km s-min=2.0km az=91.0, Suspected Mining induced.*
BNS ***21*** *02:18:38.0±0.8, 4939N×690E, h1km, ML1.7*

ISC 21 02:18:36.1±0.3, 4936N±002×687E±003, h0km, n26, σ1°11/45, Germany

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
WLF   Walferdange       0.56 304  ePg        Pg     02 18 47.6 +0.8
        SNR=3.8
WLF                                 eSg        Sg     02 18 53.5 -0.5
BGG   Burgeitz          0.90  20  ePg        Pg     02 18 54.3 +1.0
BGG                                 eSg        Sg     02 19 06.5 +1.5
        18nm,0.5s
HILG  Hillesheim        0.94 353  eSg        Sg     02 19 08.4 +2.1
        28nm,0.4s
CDF   Champ du Feu      0.98 164  ePg        Pg     02 18 55.0  0.0
CDF   Champ du Feu      0.98 164  ePn        Pn     02 18 56.0 -1.1
CDF                                 eSg        Sg     02 19 08.3 +0.6
        11nm,0.2s
RFYF  Reffroy           1.17 232  ePg        Pg     02 19 00.1 +1.5
        baz=44
RFYF                                eSg        Sg     02 19 15.8 +2.0
        17nm,0.3s,baz=48
STB   Steinbach         1.24 359  ePg        Pg     02 19 00.2 +0.4
STB                                 eSg        Sg     02 19 16.3 +0.5
        12nm,1.4s
KLL   Kalltalsperre     1.34 345  ePg        Pg     02 19 01.8  0.0
KLL                                 eSg        Sg     02 19 19.0 -0.1
        6.9nm,0.8s
TNS   Taunus Mts        1.34  49  ePg        Pg     02 19 01.5 -0.3
        SNR=3.7
TNS                                 eSg        Sg     02 19 18.5 -0.7
HAU   Haudompre         1.40 194  ePg        Pg     02 19 03.9 +1.0
HAU                                 eSg        Sg     02 19 22.4 +1.4
        12nm,0.3s
BFO   Black Forest      1.41 136  ePg        Pg     02 19 03.7 +0.5
        SNR=4.5
BFO                                 eSg        Sg     02 19 20.7 -0.8
MEZF  Maizieres J'vi    1.47 235  ePn        Pn     02 19 04.2 +0.3
        baz=51
MEZF  Maizieres J'vi    1.47 235  ePg        Pg     02 19 06.8 +2.5
        baz=49
MEZF                                eSg        Sg     02 19 25.5 +2.1
        8.6nm,0.4s
GIVF  Givet             1.52 300  ePn        Pn     02 19 02.4 -2.1
GIVF  Givet             1.52 300  ePg        Pg     02 19 05.6 +0.4
GIVF                                eSg        Sg     02 19 24.8 -0.2
        17nm,0.4s
HINF  Hinteralfeld      1.54 180  ePg        Pg     02 19 05.8 +0.1
HINF                                eSg        Sg     02 19 26.2 +0.5
        24nm,0.3s
HOBG  Hohbusch          1.65  10  ePg        Pg     02 19 07.0 -0.8
HOBG                                eSg        Sg     02 19 26.0 -3.2
        27nm,0.4s
SFTF  Sexfontaines      1.67 227  ePn        Pn     02 19 06.4 -0.2
        baz=47
SFTF  Sexfontaines      1.67 227  ePg        Pg     02 19 08.0 -0.2
SFTF                                eSg        Sg     02 19 30.6 +0.8
        9.7nm,0.4s,baz=44
BAIF  Baives            1.86 293  ePn        Pn     02 19 09.0 -0.2
BAIF  Baives            1.86 293  ePg        Pg     02 19 11.7 -0.1
BAIF                                eSg        Sg     02 19 35.1 -0.9
        4.7nm,0.3s
CABF  La Chapelle       2.80 191  ePn        Pn     02 19 21.7 -0.4
LOR   Lormes            2.90 225  ePn        Pn     02 19 22.1 -1.4
        baz=52
LOR                                 eSn        Sn     02 19 57.4 -1.6
LOR                                 eSg        Sg     02 20 08.9 -0.4
        4.1nm,0.4s
SSF   Saint Saulge      3.22 226  ePn        Pn     02 19 26.2 -1.6
SSF                                 eSn        Sn     02 20 04.2 -2.6
SSF                                 eSg        Sg     02 20 17.5 -1.9
        2.3nm,0.3s
SMF   Signal de Mont    3.39 218  ePn        Pn     02 19 29.2 -1.0
GEC2  GERESS Array S    4.52  94  ePn        Pn     02 19 46.0 +0.2
        SNR=7.5
```

SOF ***21*** *02:20:06.0, 4038N×2596E, h2km, MD4.0*
IDC ***21*** *02:20:07.9±1.1, 4037N×2589E, h0km, mb3.4/5, mb1 3.5/8, mb1mx3.4/23, mbtmp3.4/8, ML3.7/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/24, Error ellipse: s-maj=22.9km s-min=13.3km az=93.0*
NEIC ***21*** *02:20:08.7, 4044N×2585E, h28km, MD4.0(SOF), ML4.1(ATH), After ATH.*
ATH ***21*** *02:20:08.7, 4044N×2585E, h28km±1km, MD4.0/12, ML4.1*
CSEM ***21*** *02:20:08.4±0.0, 4044N×2590E, h10km, ML3.9, Error ellipse: s-maj=1.2km s-min=0.9km az=3.0*
THE ***21*** *02:20:08.9, 4038N×2588E, h7km, ML3.9*
ISCJB ***21*** *02:20:08.3±0.5, 4041N±001×2581E±002, h11km±3km, mb3.4/5, MS2.9/3, Error ellipse: s-maj=2.5km s-min=2.2km az=80.4*
ISK ***21*** *02:20:09.0, 4042N×2588E, h16km, MD3.6*

ISC 21 02:20:09.0±0.4, 4042N±001×2582E±002, h8km±3km, n149, σ0°90/178, mb3.4/5, MS2.9/3, 16C-1D, Aegean Sea

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
ALN   Alexandroupoli    0.51  20  ePg        Pg     02 20 18.7 -0.1
EZN   Ezine             0.71 147  i PG       Pg     02 22 20.8 +0.1
EZN                                 i SG       Sg     02 20 32.5 +0.6
LIA   Limnos Island     0.71 223  ePN        Pn     02 20 23.9 -1.5
LIA                                 eSN        Sg     02 20 34.5 +2.5
LPK   Lapseki           0.72  93  i PG       Pg     02 20 22.7 -0.2
LOS   Limnos            0.74 229  ePg        Pg     02 20 23.9 +0.6
LOS                                 eSg        Sg     02 20 34.4 +1.4
LOS   Limnos            0.74 229  ePg        Pg     02 20 23.9 +0.6
LOS                                 eSg        Sg     02 20 34.3 +1.3
RDO   Rodhopi           0.76 344 ⇑i PN        Pn     02 20 23.4 -2.6
RDO                                 eSN        Sg     02 20 34.5 +1.1
SART  Tekirdag          1.07  75  i P          Pg     02 20 29.2 -0.4
SART                                i S        Sg     02 20 44.1 +0.6
MFT   Murefte           1.17  71  i PN        Pn     02 20 30.5 -1.2
PRK   Paraskevi         1.22 163 ⇑i PN        Pn     02 20 32.6 +0.2
PRK                                 eSN        Sn     02 20 49.5 +0.3
KDZ   Kurdzhali         1.27 346  i P          Pn     02 20 32.5 -0.5
KDZ                                 i S        Sb     02 20 50.0 +0.5
AYVA  Ayvalik           1.30 149  i P          Pn     02 20 33.7 +0.2
AYVA                                i S        Sb     02 20 51.4 +0.9
MRMT  Marmara Adasi     1.37  82  i PN        Pn     02 20 33.1 -1.3
OUR   Ouranopolis       1.40 267  ePg        Pg     02 20 34.4 -1.6
OUR   Ouranopolis       1.40 267  ePg        Pg     02 20 34.3 -1.6
RZN   Rozhen            1.52 327  i P        Pn     02 20 37.0 +0.6
RZN                                 i S        Sn     02 20 55.5 -0.8
EDC   Edincik           1.57  92  i PN       Pn     02 20 36.3 -0.8
EDRB  Edirne            1.59  26  i PN       Pn     02 20 37.1 -0.3
EDRB                                i SN       Sn     02 20 57.4 -0.8
BNT   Bandirma          1.61  92  i PN       Pn     02 20 36.7 -1.0
DIM   Dimitrovgrad      1.64 353  i P        Pn     02 20 38.0 -0.2
DIM                                 i S        Sn     02 21 01.5 +2.0
PAIG  Paliouri          1.71 254  ePb        Pb     02 20 38.2 -2.5
PAIG                                eSb        Sb     02 21 02.5 +0.2
NVR   Nevrokopi         1.75 303 ⇓i PN        Pn     02 20 39.7 +0.1
NVR                                 eSN        Sn     02 21 02.1  0.0
BALB  Balikesir         1.77 116  i PN        Pn     02 20 39.4 -0.5
PLG   Polygyros         1.81 269  ePN        Pn     02 20 40.2 -0.3
BTOK  Tokmak            1.82 110  i P        Pn     02 20 41.0 +0.3
SRS   Serrai            1.83 293  ePb        Pb     02 20 40.6 -2.1
PLD   Plovdiv           1.88 334  i P        Pn     02 20 42.0 +0.5
SOH   Sokhos            1.92 283  ePb        Pb     02 20 41.8 -2.4
AOS   Alonnisos         1.94 231  ePb        Pb     02 20 42.0 -2.7
MMB   Musomiste         1.96 307  i P        Pn     02 20 42.5 -0.1
CTT   Catalca           2.11  69  i PN       Pn     02 20 43.5 -1.2
ELBA  Catalca           2.11  69  i P        Pn     02 20 43.4 -1.2
ELBA                                i S        Sn     02 21 10.2 -0.9
JMB   Yambol            2.12  16  i P        Pn     02 20 44.5 -0.3
JMB   Yambol            2.12  16  ePn        Pn     02 20 44.6 -0.2
JMB                                eSn        Sn     02 21 11.8 +0.5
URLA  Izmir             2.14 163  i P        Pn     02 20 45.3 +0.2
URLA                                i S        Sx     02 21 24.1
AKS   Akhisar           2.18 134  i PN       Pn     02 20 45.5 -0.1
THE   Thessaloniki      2.18 276  ePn        Pn     02 20 45.2 -0.4
        comp=Z,6.0nm,0.2s
BLCB  Balcova           2.24 155  i PN       Pn     02 20 46.4  0.0
XOR   Xorichti          2.28 243  ePn        Pn     02 20 46.1 -0.8
NEO   Neokhori          2.29 242 ⇑i PN        Pn     02 20 46.2 -0.8
KDAG  Bornova           2.31 150  i P        Pn     02 20 48.0 +0.7
KDAG                                i S        Sg     02 21 22.5 -0.6
DST   Dursunbey         2.31 110  i PN       Pn     02 20 46.9 -0.4
KNT   Kendrikon         2.34 289  ePn        Pn     02 20 48.2 +0.5
        comp=Z,27nm,0.2s
ORLT  Orhaneli          2.39  98  i PN       Pn     02 20 48.2 -0.2
PGB   Panagyurishte     2.46 330  i P        Pn     02 20 50.0 +0.5
KKB   Krupnik           2.52 306  i P        Pn     02 20 50.8 +0.6
ISK   Istanbul-Kandi    2.55  74  PN         Pn     02 20 49.9 -0.7
ULDT  Uludag            2.56  95  i P        Pn     02 20 50.7 -0.1
ULDT                                i S        Sx     02 21 38.0
LIT   Litokhoron        2.56 264  ePn        Pn     02 20 50.3 -0.5
        comp=Z,2.1nm,0.4s
GRG   Griva             2.65 283  ePn        Pn     02 20 52.4 +0.3
GRG   Griva             2.65 283  ePn        Pn     02 20 52.3 +0.2
MPAR  Parnis Oros       2.78 216  ePN        Pn     02 20 54.5 +0.6
IZI   Iznik             2.79  91  PN         Pn     02 20 53.2 -0.8
LKR   Lokris            2.81 232  ePN        Pn     02 20 53.8 -0.4
PTL   Penteli           2.81 213  ePN        Pn     02 20 53.5 -0.8
PVL   Pavlikeni         2.82 353  i P        Pn     02 20 54.5 +0.2
SMG   Samos             2.82 163  ePN        Pn     02 20 54.5 +0.1
SZH   Strazhica         2.84   2  i P        Pn     02 20 55.0 +0.3
MANT  Manisa            2.87 131  i P        Pn     02 20 55.7 +0.7
MANT                                i S        Sx     02 21 46.7
VTS   Vitosha           2.92 319  ePn        Pn     02 20 56.5 +0.8
VTS   Vitosha           2.92 319  ePn        Pn     02 20 56.5 +0.7
VTS                                 i S        Sn     02 21 30.5 -0.6
VTS   Vitosha           2.92 319  i P        Pn     02 20 57.0 +1.2
VTS                                 i S        Sn     02 21 30.5 -0.6
ATH   Athens Observa    2.94 214  ePN        Pn     02 20 55.8 -0.2
HRT   Hereke            2.96  81  PN         Pn     02 20 56.0 -0.3
PRD   Provadia          3.02  23  i P        Pn     02 20 56.5 -0.6
STIP  Stip              3.02 296  i Pn       Pn     02 20 58.1 +0.9
STIP                                i Sn       Sg     02 21 45.8 -0.4
AGG   Agios Georgios    3.03 244  ePn        Pn     02 20 57.3  0.0
KVR   Kavouri           3.04 212  ePN        Pn     02 20 57.0 -0.4
GDZ   Gediz             3.12 114  i P        Pn     02 20 59.5 +1.0
AYDN  Tasoluk           3.19 149  i P        Pn     02 20 59.9 +0.4
NAIG  Nisos Aigina      3.22 215  ePN        Pn     02 21 00.5 +0.7
APE   Apeiranthos       3.35 184  ePN        Pn     02 21 01.7  0.0
APE   Apeiranthos       3.35 184  ePN        Pn     02 21 01.5 -0.2
APE   Apeiranthos       3.35 184  ePn        Pn     02 21 00.9 -0.8
FNA   Florina           3.40 278  ePn        Pn     02 21 03.0 +0.7
GPA   Golpazari         3.44  91  ePN        Pn     02 21 02.8  0.0
EVR   Evrytania         3.44 245  ePN        Pn     02 21 03.3 +0.4
BIA   Bitola            3.47 281  ePn        Pn     02 21 03.5 +0.3
BIA   Bitola            3.47 281  i Pn       Pn     02 21 04.1 +0.9
MLSB  Milas             3.48 153  ePN        Pn     02 21 03.4  0.0
BODT  Bodrum            3.55 160  ePN        Pn     02 21 04.8 +0.4
MEV   Metsovon          3.58 261  ePn        Pn     02 21 04.6 -0.1
ALT   Altintas          3.58 111  ePN        Pn     02 21 05.1 +0.3
BDRM  Kayabasi          3.58 159  i P        Pn     02 21 05.3 +0.5
BORA  Eskisehir         3.59  97  i P        Pn     02 21 05.8 +0.8
BORA                                i S        Sg     02 22 03.1 -1.3
DENT  Denizli           3.65 136  ePN        Pn     02 21 05.6 -0.2
DNZL  Cakiroluk         3.71 136  i P        Pn     02 21 07.4 +0.8
ZAPS  Zavoj/Pirot       3.74 321 ⇑i Pn        Pn     02 21 08.1 +1.1
ZAPS                                Sn         Sn     02 21 47.9 -3.3
NISR  Nisiros           3.94 164  ePN        Pn     02 21 10.0 +0.2
ESKT  Eskisehir         3.97 101  ePN        Pn     02 21 11.2 +1.0
ESKT  Eskisehir         3.97 101  i P        Pn     02 21 11.1 +0.9
SEYT  Eskypehyr         3.97 101  i P        Pn     02 21 11.1 +0.9
SANT  Santorini         4.05 184  ePn        Pn     02 21 10.7 -0.6
SANT  Santorini         4.05 184  ePn        Pn     02 21 10.7 -0.6
SANT                                eSn        Sn     02 21 58.5 -0.4
MDU   Mudurnu           4.12  88  ePN        Pn     02 21 12.4 +0.2
TKTP  Tekketepe         4.23 123  i P        Pn     02 21 15.8 +2.1
IGT   Igoumenitsa       4.30 260  ePn        Pn     02 21 15.4 +0.6
LKD   Levkas            4.34 248  ePn        Pn     02 21 16.1 +0.8
LKD   Levkas            4.34 248  ePn        Pn     02 21 16.1 +0.8
BOLS  Boljevac          4.45 321 ⇑i Pn        Pn     02 21 16.9 +0.1
BOLS                                Sn         Sn     02 22 09.5 +0.7
ISP   Isparta           4.46 124  ePN        Pn     02 21 18.0 +1.0
TIRR  Tirgusor          4.47  25 ⇑⇑P          Pn     02 21 16.5 -0.5
TIRR  Tirgusor          4.47  25 ⇑⇑P          Pn     02 21 16.5 -0.6
FETY  Fethiye           4.57 145  ePN        Pn     02 21 18.8 +0.4
BCK   Bucak             4.75 127  ePN        Pn     02 21 21.4 +0.5
DJES  Djerdap           4.86 331  ePn        Pn     02 21 22.9 +0.5
DJES                                eS         Sg     02 22 42.3 -2.8
ELL   Elmali            4.87 138  ePN        Pn     02 21 22.9 +0.3
KIZT  Kizilcal          4.93 106  ePN        Pn     02 21 24.3 +1.0
CFR   Carcaliu          5.05  19 ⇑⇑P          Pn     02 21 24.7 -0.4
MLR   Muntele Rosu      5.07   1  Pn         Pn     02 21 27.0 +1.7
        3.8nm,0.3s,baz=198,slow=5.0,SNR=56
MLR                                 Sn         Sn     02 22 26.7 +2.7
        2.4nm,0.3s,baz=233,slow=10,SNR=3.5
MLR                                 Lg         02 22 58.1
        4.0nm,0.3s,baz=221,slow=13,SNR=4.9
MLR                                 LR         LR     02 23 47.5
```

comp=Z,404nm,18.7s,baz=84,slow=43
MLR Muntele Rosu 5.07 1 ⇑P Pn 02 21 28.2 +2.9
IDI Anoyia 5.18 188 Pn Pn 02 21 26.2 -0.6
0.5nm,0.3s,baz=9.6,slow=14,SNR=10
IDI Sn Sn 02 22 25.7 -0.9
0.4nm,0.3s,baz=324,slow=5.8,SNR=2.6
IDI LR LR 02 23 45.3
comp=Z,197nm,18.0s,baz=275,slow=42
KARN Karanos 5.23 197 *e*Pn Pn 02 21 26.9 -0.6
LAST Lasithi 5.26 183 *e*Pn Pn 02 21 26.7 -1.2
SAFT Safranbolu 5.28 79 *e*PN Pn 02 21 29.8 +1.7
ANTO Ankara 5.38 94 *e*Pn Pn 02 21 29.5 0.0
20nm,0.8s
ANTO Ankara 5.38 94 *e*Pn Pn 02 21 29.6 0.0
20nm,0.8s
VRI Vrincioaia 5.48 7 ⇑P Pn 02 21 33.7 +2.7
DIVS Divcibare 5.67 312 *i* Pn Pn 02 21 34.0 +0.5
DIVS *e*S Sx 02 22 58.3
DIVS Divcibare 5.67 312 *e*Pn Pn 02 21 34.1 +0.5
BALT Daday 5.84 77 *i* P Pn 02 21 36.2 +0.4
BALT Daday 5.84 77 *i* P Pn 02 21 36.2 +0.4
BR131 Keskin Array S 6.04 94 ⇑*i*Pn Pn 02 21 38.9 +0.3
4.7nm,0.3s
BR131 *e*Sn Sn 02 22 46.8 -1.2
BR131 Keskin Array S 6.04 94 ⇑*i*Pn Pn 02 21 38.9 +0.3
4.7nm,0.3s
BR131 *e*Sn Sn 02 22 46.8 -1.2
BRTR Keskin Array B 6.04 94 Pn Pn 02 21 38.9 +0.3
2.4nm,0.3s,baz=265,slow=11,SNR=82
BRTR Sn Sn 02 22 47.1 -0.9
0.8nm,0.3s,baz=271,slow=20,SNR=5.3
BRTR Lg 02 23 24.0
baz=270,slow=19,SNR=2.2
BRTR Keskin Array B 6.04 94 Pn Pn 02 21 38.9 +0.3
BRTR Sn Sn 02 22 47.1 -0.9
BRTR Keskin Array B 6.04 94 Pn Pn 02 21 38.9 +0.3
BRTR Sn Sn 02 22 47.1 -0.9
BRTR Lg 02 23 24.0
CDAG Cicekdag 6.62 94 *i* P Pn 02 21 46.9 +0.4
DRGR 6.75 342 ⇑P Pn 02 21 49.3 +0.8
DRGR 6.75 342 ⇑P Pn 02 21 49.3 +0.9
BURAR Bucovina Array 7.21 357 ⇑P Pn 02 21 56.5 +1.9
BURAR Bucovina Array 7.21 357 ⇑P Pn 02 21 56.5 +1.9
PSZ Piszkesteto 8.62 332 Pn Pn 02 22 13.9 -0.1
19nm,1.0s
PSZ Piszkesteto 8.62 332 Pn Pn 02 22 13.9 -0.1
19nm,1.0s
AKASG Malin Array Be 10.55 12 Pn Pn 02 22 38.2 -2.4
0.8nm,0.3s,baz=200,slow=12,SNR=4.2
AKASG Malin Array Be 10.55 12 Pn Pn 02 22 38.2 -2.4
GNI Garni 14.45 85 Pn Pn 02 23 39.2 +5.4
0.1nm,0.3s,baz=125,slow=19,SNR=1.9
FINES FINESS Array B 21.05 0 LR LR 02 33 29.5
comp=Z,46nm,20.5s,MS2.9,baz=195,slow=38
HFS Hagfors 21.13 343 LR LR 02 34 17.5
comp=Z,69nm,19.1s,MS3.1,baz=257,slow=40
NOA NORSAR Array B 22.52 341 LR LR 02 35 09.4
comp=Z,33nm,19.1s,MS2.8,baz=135,slow=40
AKTK Aktyubinsk 24.54 55 P P 02 25 28.7 -0.4
AKTO Aktyubinsk 24.54 55 P P 02 25 28.7 -0.4
0.5nm,0.6s,mb3.2,baz=260,slow=11,SNR=3.5
TORD Torodi Ar. Bea 34.44 225 P P 02 26 57.4 +0.4
0.3nm,0.8s,mb3.3,baz=34,slow=8.4,SNR=4.8
MKAR Makanchi Array 40.62 62 P P 02 27 49.7 +0.3
0.6nm,0.8s,mb3.3,baz=285,slow=6.1,SNR=6.9
MKAR Makanchi Array 40.62 62 P P 02 27 49.7 +0.3
SONM Songino Array 55.84 53 P P 02 29 46.6 -0.3
0.6nm,1.0s,mb3.6,baz=297,slow=6.8,SNR=3.0
YKA Yellowknife Ar 72.61 342 P P 02 31 36.9 0.0
0.4nm,0.7s,mb3.5,baz=28,slow=5.8,SNR=7.4
YKA Yellowknife Ar 72.61 342 P P 02 31 36.9 -0.1
YKA Yellowknife Ar 72.61 342 P P 02 31 36.9 0.0

MOS ***21*** *02:20:16.4±1.1,5163N×16.18E,h10km,mb4.2/1,Error ellipse: s-maj=9.1km s-min=4.5km az=83.6*
LDG ***21*** *02:20:16.4±0.1,5159N×16.13E,h1km,Ml4.0/7,Error ellipse: s-maj=3.0km s-min=2.2km az=170.0,Suspected Mining induced.*
IPEC ***21*** *02:20:16.9±0.4,5161N×1626E,h0km±2km,ML3.2/4,Error ellipse: s-maj=2.4km s-min=1.2km az=21.0*
ISCJB ***21*** *02:20:17.0±0.3,5146N±002×1608E±002,h0km,mb3.6/3,MS3.4/1,Error ellipse: s-maj=2.4km s-min=1.8km az=15.4*
NEIC ***21*** *02:20:17.8±0.4,5160N×16.17E,h5km,ML3.6(SZGRF),Error ellipse: s-maj=5.3km s-min=4.5km az=30.0*
CSEM ***21*** *02:20:18.3±0.2,5154N×16.14E,h1km,ML3.9/5,Error ellipse: s-maj=2.8km s-min=2.1km az=14.0*
IDC ***21*** *02:20:18.3±0.6,5151N×1607E,h0km,mb3.4/2,mb1 3.6/10,mb1mx3.4/24,mbtmp3.4/10,ML3.4/7,Error ellipse: s-maj=10.9km s-min=6.3km az=120.0*
BGR ***21*** *02:20:18.1±0.5,5150N×16.17E,h1km,ML3.6/14,Error ellipse: s-maj=4.4km s-min=4.4km az=114.0*
PRU ***21*** *02:20:19.6,5149N×1605E,h0km,Felt In Harrachov*
WAR ***21*** *02:20:19.4,5152N×16.11E,ML3.2,Mining Induced*
VIE ***21*** *02:20:22.0±0.8,5125N×16.12E,h0km,Error ellipse: s-maj=4.7km s-min=3.5km az=10.0,Suspected Mining induced. 64 km WNW of Breslau*
UPP ***21*** *02:20:45.2,5354N×1551E,h0km,ML2.4,Suspected Mining explosion.*

ISC 21 02:20:18.1±0.3,5153N±002×1608E±002,h0km,n129,
σ1§17/230,mb3.6/3,MS3.4/1,27C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	**Pg**	02 20 31.9	+0.4
KSP				*e*Sg	**Sg**	02 20 41.6	+1.0
KSP				*e*S	**Sg**	02 20 46.5	+5.9
KSP	**Ksiaz**	**0.70**	**169**	⇓*i*Pg	**Pg**	02 20 32.0	+0.5
KSP				*e*Sg	**Sg**	02 20 41.6	+1.0
KSP				*e*		02 20 46.5	
UPC	**Upice**	**1.02**	**182**	*e*PG	**Pg**	02 20 38.1	+0.4
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**	02 20 40.8	-0.1
DPC				*e*SG	**Sg**	02 20 56.0	-0.3
272nm,0.7s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*Pg	**Pg**	02 20 40.8	-0.1
DPC				*e*Sg	**Sg**	02 20 56.1	-0.2
BRG	**Berggiesshubel**	**1.50**	**245**	*e*Pg	**Pg**	02 20 45.9	-0.9
BRG				*e*Sg	**Sg**	02 21 07.6	+1.4
BRG	**Berggiesshubel**	**1.50**	**245**	PN	**Pn**	02 20 45.7	-0.5
BRG				PG	**Pg**	02 20 47.6	+0.8
BRG				SG	**Sg**	02 21 07.7	+1.4
180nm,0.5s							
BRG	**Berggiesshubel**	**1.50**	**245**	Pg	**Pg**	02 20 47.7	+0.9
BRG				Sg	**Sg**	02 21 07.6	+1.4
RUE	**Ruedersdorf**	**1.71**	**305**	*e*Pn	**Pn**	02 20 48.7	-0.5
RUE				*e*Sg	**Sg**	02 21 15.0	+1.8
RUE	**Ruedersdorf**	**1.71**	**305**	*e*Pn	**Pn**	02 20 48.7	-0.5
RUE				*e*Sg	**Sg**	02 21 15.0	+1.8
PRA	**Prague**	**1.79**	**216**	PN	**Pn**	02 20 50.0	-0.3
PRU	**Pruhonice**	**1.82**	**213**	*e*PN	**Pn**	02 20 50.4	-0.4
PRU				*e*PG	**Pg**	02 20 52.5	-0.6
PRU				*e*SG	**Sg**	02 21 16.2	-0.6
125nm,0.5s							
PRU	**Pruhonice**	**1.82**	**213**	*e*Pn	**Pn**	02 20 50.2	-0.6
PRU	**Pruhonice**	**1.82**	**213**	*e*Pg	**Pg**	02 20 52.5	-0.6
PRU				*e*Sg	**Sg**	02 21 16.2	-0.6
62nm,0.5s							
GKP	**Gorka Klasztor**	**1.88**	**22**	*e*Pg	**Pg**	02 20 58.4	+4.2
GKP				*e*Sn	**Sn**	02 21 21.8	+5.8
GKP				*e*Sg	**Sg**	02 21 24.3	+5.6
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	02 20 51.9	-0.4
CLL				*e*Sg	**Sg**	02 21 21.8	+1.3
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	02 20 51.9	-0.4
CLL				*i* Pg	**Pg**	02 20 55.2	-0.1
CLL				*i* x	x	02 20 58.9	
CLL				*i* Sg	**Sg**	02 21 21.5	+1.0
comp=Z,204nm,0.7s							
CLL	**Collm**	**1.94**	**265**	*i* Pg	**Pg**	02 20 55.2	-0.1
CLL				Sg	**Sg**	02 21 21.8	+1.3
CLL	**Collm**	**1.94**	**265**	*i* Pn	**Pn**	02 20 51.9	-0.4
CLL				*i* Pg	**Pg**	02 20 55.2	-0.1
CLL				*i* Sg	**Sg**	02 21 21.5	+1.0
RAC	**Raciborz**	**1.97**	**136**	*e*Pn	**Pn**	02 20 51.5	-1.3
RAC				*e*Sg	**Sg**	02 21 21.4	-0.1
MORC	**Moravsky Berou**	**1.98**	**151**	⇓*i*Pn	**Pn**	02 20 52.2	-0.8
MORC				*e*Sg	**Sg**	02 21 19.5	-2.4
comp=Z,142nm,0.4s							
MORC				*e*S	**Sn**	02 21 20.5	+2.0
MORC	**Moravsky Berou**	**1.98**	**151**	⇓*i*Pn	**Pn**	02 20 52.2	-0.8
MORC				*e*Sn	**Sn**	02 21 20.5	+2.0
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PN	**Pn**	02 20 51.7	-3.4
OKC				*e*PG	**Pg**	02 20 55.8	-3.4
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*Pg	**Pg**	02 20 55.8	-3.4
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	02 20 56.1	-0.5
comp=Z,5.0nm,0.3s,baz=337,slow=13,SNR=42							
VRAC				Lg		02 21 28.4	
comp=Z,22nm,0.3s,baz=72,slow=23,SNR=14							
VRAC	**Vranov**	**2.25**	**171**	*e*Pn	**Pn**	02 20 56.4	-0.1
VRAC				*e*Sg	**Sg**	02 21 29.4	-0.9
comp=Z,114nm,0.4s							
VRAC	**Vranov**	**2.25**	**171**	⇑P	**Pn**	02 20 57.5	+0.9
KRUC	**Moravsky**	**2.48**	**175**	*e*Sg	**Sg**	02 21 36.5	-1.2
comp=Z,88nm,0.6s							
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	02 21 01.8	+0.1
WERD				*e*Sg	**Sg**	02 21 42.1	-0.2
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	02 21 02.4	+0.4
NKC				*e*PG	**Pg**	02 21 08.5	-0.3
NKC				*e*SG	**Sg**	02 21 44.3	+1.3
comp=Z,258nm,0.6s							
NKC	**Novy Kostel**	**2.64**	**242**	*e*Pg	**Pg**	02 21 08.5	-0.3
NKC				*e*Sg	**Sg**	02 21 44.3	+1.3
OJC	**Ojcow**	**2.69**	**118**	*e*P	**Pn**	02 21 09.7	+7.0
OJC				*e*S	**Sn**	02 21 44.4	+8.4
JAVC	**Velka Javorina**	**2.86**	**158**	*e*Sg	**Sg**	02 21 50.7	+0.7
comp=Z,136nm,0.8s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	02 21 05.3	0.0
KHC				*e*PG	**Pg**	02 21 11.6	-1.9
KHC				*e*SG	**Sg**	02 21 50.9	0.0
comp=Z,50nm,0.4s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pg	**Pg**	02 21 11.6	-1.9
KHC				*e*Sg	**Sg**	02 21 51.3	+0.4
MOX	**Moxa**	**2.95**	**254**	*e*Pn	**Pn**	02 21 07.0	+0.8
MOX				*e*Sg	**Sg**	02 21 54.0	+1.1
MOX	**Moxa**	**2.95**	**254**	*e*PN	**Pn**	02 21 06.4	+0.2
MOX				*e*PG	**Pg**	02 21 15.2	+0.5
MOX				*e*SG	**Sg**	02 21 54.5	+1.5
MOX	**Moxa**	**2.95**	**254**	*e*Pn	**Pn**	02 21 06.4	+0.2
MOX				*e*Pg	**Pg**	02 21 15.2	+0.5
MOX				*e*Sg	**Sg**	02 21 54.5	+1.5
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	02 21 07.8	+0.5
ROTZ				*e*Sg	**Sg**	02 21 54.5	-1.0
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	02 21 08.0	-0.2
GEC2				*e*Sg	**Sg**	02 21 56.2	-1.3
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	02 21 08.0	-0.2
GEC2				*e*Sg	**Sg**	02 21 56.2	-1.2
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	02 21 08.3	+0.1
comp=Z,4.0nm,0.3s,baz=33,slow=12,SNR=121							
GERES				Pg	**Pg**	02 21 14.3	-3.0
comp=Z,5.2nm,0.3s,baz=30,slow=16,SNR=48							
GERES				Sn	**Sn**	02 21 45.0	-0.8
comp=Z,4.5nm,0.3s,baz=31,slow=23,SNR=6.5							
GERES				Lg		02 21 56.7	
comp=Z,12nm,0.3s,baz=41,slow=29,SNR=12							
GERES	**GERESS Array B**	**3.09**	**211**	Pg	**Pg**	02 21 14.3	-3.1
GERES				S	**Sn**	02 21 45.0	-0.8
GERES	**GERESS Array B**	**3.09**	**211**	P	**Pn**	02 21 08.3	+0.1
GERES						02 21 45.0	
SMOL	**Smolenice**	**3.14**	**163**	*e*PN	**Pn**	02 21 10.2	+1.4
SMOL				*e*PG	**Pg**	02 21 17.4	-0.9
SMOL				*e*SG	**Sg**	02 21 57.9	-1.1
SMOL	**Smolenice**	**3.14**	**163**	*e*Pg	**Pg**	02 21 17.4	-0.9
SMOL				*e*Sg	**Sg**	02 21 57.9	-1.1
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	02 21 09.2	+0.3
WET				*e*Sg	**Sg**	02 21 58.3	-0.9
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	02 21 09.2	+0.3
WET				*e*Sg	**Sg**	02 21 58.3	-0.9
LIKS	**Likavka**	**3.15**	**141**	*e*SG	**Sg**	02 22 01.7	+2.4
VKA	**Vienna**	**3.27**	**177**	*i* Pn	**Pn**	02 21 12.3	+1.7
ZST	**Bratislava**	**3.40**	**168**	*e*PN	**Pn**	02 21 13.4	+1.0
ZST				*e*PG	**Pg**	02 21 22.4	-0.9
ZST				*e*SG	**Sg**	02 22 06.2	-1.2
ZST	**Bratislava**	**3.40**	**168**	*e*Pg	**Pg**	02 21 22.4	-0.9
ZST				*e*Sg	**Sg**	02 22 06.2	-1.2
ZST	**Bratislava**	**3.40**	**168**	*e*Pn	**Pn**	02 21 13.4	+1.0
ZST				*e*Pg	**Pg**	02 21 22.4	-0.9
ZST				*e*Sg	**Sg**	02 22 06.2	-1.2
NIE	**Niedzica**	**3.43**	**126**	*e*P	**Pg**	02 21 22.6	-1.3
NIE				*e*S	**Sg**	02 22 08.8	+0.4
GRA1	**Grafenberg Arr**	**3.60**	**241**	Pn	**Pn**	02 21 15.8	+0.6
GRA1				Sg	**Sg**	02 22 14.2	+0.4
GRA1	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	02 21 15.8	+0.6
GRA1				*e*Sg	**Sg**	02 22 14.2	+0.4
GRF	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	02 21 15.8	+0.6
GRF				*e*Sg	**Sg**	02 22 14.2	+0.4
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	02 21 14.8	-1.2
BSD				*e*S	**Sn**	02 21 56.0	-3.9
BSD				*i* S	**Sn**	02 21 57.5	-2.4
MOA	**Molln**	**3.87**	**198**	⇑Sg	**Sg**	02 22 22.9	+0.6
comp=Z,98nm,0.8s							
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	02 21 19.2	+0.4
SNR=9.7							
MOA				⇑*i*Sg	**Sg**	02 22 22.9	+0.6
comp=Z,98nm,0.8s							
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	02 21 19.2	+0.4
MOA				Sg	**Sg**	02 22 22.9	+0.6
UBBA	**Unterbreizbach**	**3.89**	**262**	*e*Pn	**Pn**	02 21 19.2	0.0
UBBA				*e*Sg	**Sg**	02 22 21.9	-1.3
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	02 21 19.7	+0.2
STHS				*e*PG	**Pg**	02 21 32.8	-0.4
STHS				*e*SG	**Sg**	02 22 24.5	+0.5
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pg**	02 21 32.8	-0.4
STHS				*e*Sg	**Sg**	02 22 24.5	+0.5
KECS	**Kecovo**	**4.17**	**135**	*e*PN	**Pn**	02 21 22.1	-0.9
KECS				*e*PG	**Pg**	02 21 38.1	+0.1
KECS				*e*SG	**Sg**	02 22 35.5	+3.5
KECS	**Kecovo**	**4.17**	**135**	*e*Pn	**Pn**	02 21 22.1	-0.9
KECS				*e*Pg	**Pg**	02 21 38.1	+0.1
KECS				*e*Sg	**Sg**	02 22 35.5	+3.5
ARSA	**Arzberg**	**4.30**	**185**	⇑Sg	**Sg**	02 22 33.2	-3.0
comp=Z,70nm,0.7s							
ARSA	**Arzberg**	**4.30**	**185**	⇑*i*Pn	**Pn**	02 21 24.8	+0.1
ARSA				⇑*i*Sg	**Sg**	02 22 33.2	-3.0
comp=Z,70nm,0.7s							
ARSA	**Arzberg**	**4.30**	**185**	⇑Pn	**Pn**	02 21 24.8	+0.1
ARSA				Sg	**Sg**	02 22 33.2	-3.0
ARSA	**Arzberg**	**4.30**	**185**	⇑Pn	**Pn**	02 21 24.8	+0.1
ARSA				Sg	**Sg**	02 22 33.2	-3.0
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*PN	**Pn**	02 21 24.9	-0.5
CRVS				*e*PG	**Pg**	02 21 41.3	0.0
CRVS				*e*SG	**Sg**	02 22 43.1	+5.5
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*Pg	**Pg**	02 21 41.3	0.0
FUR	**Furstenfeldbru**	**4.58**	**225**	*e*Pn	**Pn**	02 21 28.9	+0.2
FUR				*e*Sg	**Sg**	02 22 45.0	-0.3
FUR	**Furstenfeldbru**	**4.58**	**225**	*e*Pn	**Pn**	02 21 28.9	+0.3
FUR				*e*Sg	**Sg**	02 22 45.0	-0.3
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN	**Pn**	02 21 30.8	-0.1
KOLS				*e*PG	**Pg**	02 22 48.1	-1.0
KOLS				*e*SG	**Sg**	02 22 53.2	+2.5
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*Pg	**Pg**	02 21 48.1	-1.0
BLEU	**Blekinge**	**4.79**	**358**	P	**Pn**	02 21 30.6	-0.9
KBA	**Koelnbreinsper**	**4.80**	**203**	⇓Sg	**Sg**	02 22 51.6	-0.7
comp=Z,33nm,0.7s							
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*Pn	**Pn**	02 21 32.7	+1.0
KBA				⇓*i*Sg	**Sg**	02 22 51.6	-0.7
comp=Z,33nm,0.7s							
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑Pn	**Pn**	02 21 32.7	+1.0
KBA				Sg	**Sg**	02 22 51.6	-0.7
PERS	**Pernice**	**4.94**	**188**	*i* Pn	**Pn**	02 21 35.1	+1.6
UZH	**Uzhgorod**	**4.94**	**124**	*e*P	**Pg**	02 21 50.0	-2.8
TNS	**Taunus Mts**	**5.01**	**258**	*e*Sg	**Sg**	02 22 59.0	0.0
WTTA	**Wattenberg**	**5.16**	**216**	⇑Sg	**Sg**	02 23 05.4	+1.5
comp=Z,42nm,0.7s							
WTTA	**Wattenberg**	**5.16**	**216**	⇑*i*Pn	**Pn**	02 21 37.6	+1.0
WTTA				⇑*i*Sg	**Sg**	02 23 05.4	+1.5
comp=Z,42nm,0.7s							
WTTA	**Wattenberg**	**5.16**	**216**	⇑Pn	**Pn**	02 21 37.6	+1.0
comp=Z,42nm,0.7s							
WTTA				Sg	**Sg**	02 23 05.4	+1.5
WTTA	**Wattenberg**	**5.16**	**216**	⇑Pn	**Pn**	02 21 37.6	+1.0
comp=Z,42nm,0.7s							
WTTA				Sg	**Sg**	02 23 05.4	+1.5
STU	**Stuttgart**	**5.21**	**241**	*e*Sg	**Sg**	02 23 04.7	-1.0
MOTA	**Moosalm**	**5.30**	**220**	⇑Sg	**Sg**	02 23 09.5	+1.2
comp=Z,31nm,0.7s							
MOTA	**Moosalm**	**5.30**	**220**	⇑*i*Pn	**Pn**	02 21 38.4	-0.1
SNR=8.3							
MOTA				⇑*i*Sg	**Sg**	02 23 09.5	+1.2
comp=Z,31nm,0.7s							
MOTA	**Moosalm**	**5.30**	**220**	⇑*i*Pn	**Pn**	02 21 38.4	-0.1
comp=Z,31nm,0.7s							
MOTA				Sg	**Sg**	02 23 09.5	+1.2
MOTA	**Moosalm**	**5.30**	**220**	⇑*i*Pn	**Pn**	02 21 38.4	-0.1
comp=Z,31nm,0.7s							
MOTA				Sg	**Sg**	02 23 09.5	+1.2
LVV	**L'vov**	**5.34**	**106**	*e*P	**Pn**	02 21 48.3	+9.3
LVV				*e*S	**Sn**	02 22 41.7	+0.5
SQTA	**Sankt Quirin**	**5.36**	**218**	⇑Sg	**Sg**	02 23 13.3	+3.1
comp=Z,22nm,0.6s							
SQTA	**Sankt Quirin**	**5.36**	**218**	⇑*i*Pn	**Pn**	02 21 40.7	+1.4
SQTA				⇑*i*Sg	**Sg**	02 23 13.3	+3.1
comp=Z,22nm,0.6s							
SQTA	**Sankt Quirin**	**5.36**	**218**	⇑Pn	**Pn**	02 21 40.7	+1.4
comp=Z,22nm,0.6s							
SQTA				Sg	**Sg**	02 23 13.3	+3.1
SQTA	**Sankt Quirin**	**5.36**	**218**	⇑Pn	**Pn**	02 21 40.7	+1.3
comp=Z,22nm,0.6s							
SQTA				Sg	**Sg**	02 23 13.3	+3.1
GORS	**Gorjuse**	**5.39**	**196**	*e*Pn	**Pn**	02 21 41.0	+1.2
PDKS	**Podkum**	**5.52**	**188**	*i* Pn	**Pn**	02 21 42.9	+1.3
GOLS	**Golise**	**5.53**	**183**	*i* Pn	**Pn**	02 21 42.8	+1.1
LEGS	**Legarje**	**5.61**	**185**	*i* Pn	**Pn**	02 21 43.5	+0.7
VOY	**Vojsko**	**5.69**	**196**	*e*	**Pg**	02 22 03.7	-3.4
VOY				*e*		02 22 06.4	
VOY				*e*Sn	**Sg**	02 23 26.6	+5.8
BFO	**Black Forest**	**5.94**	**240**	*e*Sg	**Sg**	02 23 27.3	-1.7
DAVOX	**Davos**	**6.25**	**223**	Pn	**Pn**	02 21 52.3	+0.7
comp=Z,0.5nm,0.3s,baz=5.0,slow=20,SNR=7.7							
DAVOX				Sn	**Sn**	02 23 04.7	+0.9
comp=Z,0.3nm,0.3s,baz=45,slow=20,SNR=2.1							
DAVOX				Lg		02 23 38.4	
comp=Z,1.0nm,0.3s,baz=217,slow=20,SNR=4.1							
CDF	**Champ du Feu**	**6.48**	**245**	*e*Pn	**Pn**	02 21 51.5	-3.2
CDF				*e*Sg	**Sg**	02 23 42.0	-4.2
comp=Z,92nm,1.1s							
CDF	**Champ du Feu**	**6.48**	**245**	*e*Sg	**Sg**	02 23 42.0	-4.2
HINF	**Hinteralfeld**	**7.04**	**242**	*e*Pn	**Pn**	02 21 58.9	-3.6
HINF				*e*Sg	**Sg**	02 23 58.6	-5.8
comp=Z,25nm,0.7s							
HAU	**Haudompre**	**7.22**	**245**	*e*Pn	**Pn**	02 22 01.1	-3.8
HAU				*e*Sg	**Sg**	02 24 04.2	-5.8
comp=Z,46nm,1.1s							
GIVF	**Givet**	**7.27**	**263**	*e*Sg	**Sg**	02 24 05.6	-6.2
comp=Z,45nm,1.0s							
SFTF	**Sexfontaines**	**7.87**	**249**	*e*Sg	**Sg**	02 24 24.1	-6.8
comp=Z,67nm,1.3s							
CABF	**La Chapelle**	**8.20**	**237**	*e*Sg	**Sg**	02 24 35.3	-6.1
comp=Z,70nm,1.1s							
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	02 22 16.6	-3.3
comp=Z,1.8nm,0.3s,baz=280,slow=12,SNR=16							
AKASG				Sn	**Sn**	02 23 46.6	-7.9
comp=Z,1.3nm,0.3s,baz=273,slow=23,SNR=5.6							
AKASG				Lg		02 24 44.8	
comp=Z,1.6nm,0.3s,baz=271,slow=25,SNR=4.3							
AKASG	**Malin Array Be**	**8.31**	**91**	P	**Pn**	02 22 16.6	-3.3
AKASG						02 23 46.7	
MBDF	**Montbardon**	**9.22**	**226**	*e*Pn	**Pn**	02 22 29.2	-3.1
VSU	**Vasula**	**9.25**	**37**	*e*P	**Pn**	02 22 33.4	+0.6
SBF	**Sospel**	**9.62**	**221**	*e*P	**Pn**	02 22 38.6	+0.7
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	02 22 39.5	-2.3
comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=2.5							
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	02 22 39.5	-2.3
FRF	**La Foret Royal**	**10.20**	**222**	*e*P	**Pn**	02 22 46.9	+1.1
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	02 22 58.2	-3.4
comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=8.6							
FINES				Sn	**Sn**	02 24 57.5	-12
comp=Z,0.3nm,0.3s,baz=208,slow=17,SNR=4.7							
PUL	**Pulkovo**	**11.50**	**39**	*e*P	**Pn**	02 23 06.1	+2.5
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	02 23 09.5	-2.0
comp=Z,0.1nm,0.3s,baz=141,slow=15,SNR=3.7							
OBN	**Obninsk**	**12.75**	**66**	*e*P	**Pn**	02 23 21.2	+0.5
comp=Z,5.0nm,0.6s							
OBN	**Obninsk**	**12.75**	**66**	*e*P	**Pn**	02 23 21.2	+0.5
OBN				pmax	pmax		
comp=Z,5.0nm,0.6s							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P

comp=Z,57nm,0.3s
OJC Ojcow 2.67 117 *e*P **Pg 02 23 44.1 -0.1**
OJC *e*S **Sg 02 24 19.4 +0.6**
OJC Ojcow 2.67 117 *e*S **Sg 02 24 19.4 +0.6**
NEUB Neuenburg 2.73 266 *e*Pg **Pg 02 23 44.6 -0.8**
NEUB *e*Sg **Sg 02 24 21.0 +0.3**
KHC Kasperske Hory 2.86 215 *e*PN **Pn 02 23 40.5 +0.5**
KHC *e*PG **Pg 02 23 46.0 -1.9**
KHC *e*SG **Sg 02 24 23.7 -1.3**
KHC Kasperske Hory 2.86 215 *e*Pg **Pg 02 23 46.0 -1.9**
KHC *e*Sg **Sg 02 24 23.7 -1.3**
MANZ Manzenberg 2.95 241 *e*Pn **Pn 02 23 41.5 +0.4**
MANZ *e*Sg **Sg 02 24 28.6 +0.8**
MOX Moxa 2.95 255 *e*Pn **Pn 02 23 42.0 +0.8**
MOX *e*Sg **Sg 02 24 28.5 +0.6**
MOX Moxa 2.95 255 *e*PG **Pg 02 23 49.2 -0.5**
MOX *e*SG **Sg 02 24 28.9 +1.0**
ROTZ Rotzenmuhle 3.02 237 *e*Pn **Pn 02 23 42.4 +0.2**
ROTZ *e*Sg **Sg 02 24 28.4 -1.7**
GEC2 GERESS Array S 3.06 211 *e*Pn **Pn 02 23 44.0 +1.3**
GEC2 *e*Sg **Sg 02 24 30.7 -0.8**
GEC2 GERESS Array S 3.06 211 *e*Pn **Pn 02 23 44.0 +1.3**
GEC2 *e*Sg **Sg 02 24 30.7 -0.8**
SMOL Smolenice 3.10 163 *e*PG **Pg 02 23 53.5 +1.0**
SMOL *e*SG **Sg 02 24 32.6 -0.1**
WET Wettzell 3.12 223 *e*Pn **Pn 02 23 44.1 +0.5**
WET Wettzell 3.12 223 *e*Pn **Pn 02 23 44.1 +0.5**
ZST Bratislava 3.36 168 *e*Pg **Pg 02 23 55.7 -1.8**
ZST *e*Sg **Sg 02 24 41.6 +0.6**
ZST Bratislava 3.36 168 *e*PG **Pg 02 23 55.7 -1.8**
ZST *e*SG **Sg 02 24 41.6 +0.6**
NIE Niedzica 3.40 126 *e*P **Pg 02 23 55.7 -2.6**
NIE *e*S **Sg 02 24 43.1 +0.8**
GRA1 Grafenberg Arr 3.59 242 Sg **Sg 02 24 48.9 +0.4**
GRA1 Grafenberg Arr 3.59 242 *e*Sg **Sg 02 24 48.9 +0.4**
GRF Grafenberg Arr 3.59 242 *e*Sg **Sg 02 24 48.9 +0.5**
BSD Bornholm Skovb 3.70 349 *i*P **Pn 02 23 49.7 -1.8**
BSD *i*S **Sn 02 24 29.5 -6.4**
BSD Bornholm Skovb 3.70 349 *e*P **Pn 02 23 49.7 -1.8**
BSD *i*S **Sn 02 24 29.5 -6.4**
MOA Molln 3.83 199 ⇑*i*Pn **Pn 02 23 53.9 +0.6**
MOA ⇑*i*Sg **Sg 02 24 57.2 +1.0**
comp=Z,9.1nm,0.5s
MOA Molln 3.83 199 ⇑Pn **Pn 02 23 53.9 +0.6**
MOA Sg **Sg 02 24 57.2 +1.0**
STHS Stebnicka Huta 3.89 120 *e*PG **Pg 02 24 08.4 +0.8**
STHS *e*SG **Sg 02 25 00.4 +2.4**
KECS Kecovo 4.13 135 *e* **Sg 02 25 04.8 -1.0**

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*ISCJB **21** 02:23:06.9±2.1, 1288N±008×1452E±03, h45km±15km, mb4.1/11, MS3.6/3, Error ellipse: s-maj=41.4km s-min=12.6km az=176.8*
*IDC **21** 02:23:07.2±4.9, 1291N×14524E, h32km±35km, mb3.9/10, mb1 4.0/10, mb1mx3.9/20, mbtmp4.0/10, MS3.7/3, Ms1 3.6/3, ms1mx3.0/30, Error ellipse: s-maj=35.0km s-min=13.5km az=86.0*
*NEIC **21** 02:23:07.5±0.6, 1291N×14525E, h35km, mb4.4/1, Error ellipse: s-maj=26.0km s-min=9.2km az=87.0*
ISC 21 02:23:07.7±2.6, 1295N±007×1453E±02, h37km±20km**, n20,**
σ0§77/19, mb4.1/11, MS3.6/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.76**	**328**	Pn	**Pn**	**02 23 21.7**	**-0.1**
	619nm,0.3s,baz=166,slow=10,SNR=127						
GUMO				Sn	**Sn**	**02 23 32.0**	**0.0**
	2μm,0.3s,baz=21,slow=18,SNR=26						
GUMO	**Guam**	**0.76**	**328**	Pn	**Pn**	**02 23 21.7**	**-0.1**
GUMO				Sn	**Sn**	**02 23 32.0**	**0.0**
JOW	**Kunigami**	**21.10**	**313**	LR	LR	02 34 35.4	
	comp=Z,103nm,19.0s,MS3.2,baz=214,slow=33						
WRAB	**Tennant Creek**	**34.40**	**198**	*e*P	**P**	**02 29 51.5**	**+0.1**
	3.7nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**34.41**	**198**	*e*P	**P**	**02 29 51.8**	**+0.4**
WRA	**Warramunga Arr**	**34.41**	**198**	P	**P**	**02 29 51.7**	**+0.2**
	2.9nm,0.7s,mb4.3,baz=20,slow=9.6,SNR=18						
ASAR	**Alice Springs**	**38.05**	**197**	P	**P**	**02 30 23.2**	**+0.7**
	1.3nm,0.5s,mb3.9,baz=22,slow=11,SNR=23						
STKA	**Stephens Creek**	**44.71**	**184**	P	**P**	**02 31 15.4**	**-1.7**
	1.6nm,0.9s,mb3.9,baz=48,slow=12,SNR=2.1						
STKA				LR	LR	02 52 31.6	
	comp=Z,103nm,18.4s,MS3.8,baz=25,slow=40						
SONM	**Songino Array**	**47.49**	**325**	P	**P**	**02 31 39.7**	**+0.8**
	0.6nm,0.5s,mb3.8,baz=122,slow=5.5,SNR=7.2						
SONM				PcP	PcP	02 33 09.7	+1.0
	1.0nm,0.5s,baz=155,slow=3.9,SNR=8.6						
MKAR	**Makanchi Array**	**62.23**	**316**	P	**P**	**02 33 25.6**	**0.0**
	0.5nm,0.4s,mb4.0,baz=91,slow=8.6,SNR=13						
ILAR	**Eielson Array**	**68.97**	**25**	P	**P**	**02 34 09.2**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=251,slow=5.8,SNR=45						
AKTK	**Aktyubinsk**	**78.41**	**319**	P	**P**	**02 35 05.0**	**+0.5**
AKTO	**Aktyubinsk**	**78.41**	**319**	P	**P**	**02 35 05.0**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=75,slow=8.6,SNR=3.8						
YKA	**Yellowknife Ar**	**83.24**	**27**	P	**P**	**02 35 31.3**	**+1.1**
	0.3nm,0.3s,mb3.7,baz=285,slow=5.2,SNR=9.1						
YKA				LR	LR	03 10 26.1	
	comp=Z,48nm,18.8s,MS3.9,baz=305,slow=34						
ARCES	**ARCESS Array B**	**87.82**	**342**	P	**P**	**02 35 53.5**	**+0.5**
	1.1nm,0.6s,mb4.3,baz=79,slow=7.5,SNR=7.1						
JOF	**Joensuu**	**89.05**	**335**	*e*p	**P**	**02 35 58.0**	**-0.8**
KAF	**Kangasniemi**	**91.47**	**336**	*e*p	**P**	**02 36 08.6**	**-1.5**
FINES	**FINESS Array B**	**91.91**	**335**	P	**P**	**02 36 11.0**	**-1.2**
	1.0nm,0.4s,mb4.5,baz=72,slow=5.3,SNR=21						
TORD	**Torodi Ar. Bea**	**135.56**	**304**	PKP	PKPdf	02 42 25.4	+1.6
	0.3nm,0.4s,baz=8.2,slow=1.4,SNR=16						
DBIC	**Dimbokro**	**144.50**	**302**	PKP	PKPdf	02 42 40.0	0.0
	2.1nm,0.4s,baz=50,slow=2.2,SNR=13						

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*ISCJB **21** 02:28:10.5±0.5, 3995N±002×2345E±004, h3km±6km, Error ellipse: s-maj=5.7km s-min=3.4km az=175.5*
*NEIC **21** 02:28:10.9, 3993N×2357E, h13km, MD3.2(ATH), After ATH.*
*ATH **21** 02:28:10.9, 3993N×2357E, h13km±5km, MD3.2/3*
*CSEM **21** 02:28:11.4±0.1, 3995N×2347E, h3km±1km, ML2.6, Error ellipse: s-maj=2.7km s-min=1.6km az=79.0*
*THE **21** 02:28:11.4, 3994N×2347E, h7km, ML2.6*
ISC 21 02:28:11.1±0.5, 3994N±002×**2347E**±004**, h9**km±6km**, n18,**
σ0§85/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.17**	**95**	*e*Pg	**Pg**	**02 28 14.8**	**+0.2**
PLG	**Polygyros**	**0.43**	**358**	*e*PB	**Pg**	**02 28 19.7**	**+0.1**
PLG				*e*SB	**Sg**	**02 28 25.5**	**+0.2**
OUR	**Ouranopolis**	**0.56**	**45**	*e*Pg	**Pg**	**02 28 22.4**	**+0.4**
	comp=Z,22nm,0.2s						
XOR	**Xorichti**	**0.61**	**200**	*e*Pg	**Pg**	**02 28 23.1**	**+0.2**
NEO	**Neokhori**	**0.66**	**196**	*e*PB	**Pb**	**02 28 24.1**	**-0.7**
NEO				*e*SB	**Sb**	**02 28 33.3**	**-0.8**
LIT	**Litokhoron**	**0.77**	**282**	*e*Pg	**Pg**	**02 28 26.1**	**+0.2**
LIT				*e*Sg	**Sg**	**02 28 37.3**	**+1.5**
THE	**Thessaloniki**	**0.79**	**331**	*e*Pg	**Pg**	**02 28 25.9**	**-0.4**
THE				*e*Sg	**Sg**	**02 28 37.4**	**+0.7**
AOS	**Alonnisos**	**0.83**	**157**	*e*Pg	**Pg**	**02 28 27.1**	**-0.1**
AOS				*e*Sg	**Sg**	**02 28 39.0**	**+1.0**
SOH	**Sokhos**	**0.88**	**355**	*e*Pg	**Pg**	**02 28 27.7**	**-0.5**
SRS	**Serrai**	**1.18**	**5**	*e*Pg	**Pg**	**02 28 33.0**	**-0.8**
AGG	**Agios Georgios**	**1.27**	**224**	*e*Pg	**Pg**	**02 28 34.5**	**-1.0**
AGG				*e*Sg	**Sg**	**02 28 52.7**	**+0.7**
KNT	**Kendrikon**	**1.29**	**341**	*e*Pg	**Pg**	**02 28 35.0**	**-0.9**
	comp=Z,4.2nm,0.3s						
KNT				*e*Sg	**Sg**	**02 28 53.3**	**+0.5**
GRG	**Griva**	**1.30**	**322**	*e*Pg	**Pg**	**02 28 35.4**	**-0.7**
GRG				*e*Sg	**Sg**	**02 28 53.3**	**+0.3**
NVR	**Nevrokopi**	**1.44**	**12**	*e*PB	**Pb**	**02 28 37.8**	**-0.3**
NVR				*e*SB	**Sb**	**02 28 57.0**	**+0.4**
MMB	**Musomiste**	**1.66**	**7**	*e*P	**Pn**	**02 28 40.5**	**+0.1**
MMB				*i*Sg	**Sg**	**02 29 03.0**	**-1.5**
FNA	**Florina**	**1.80**	**298**	*e*Pb	**Pb**	**02 28 42.4**	**-2.0**
KKB	**Krupnik**	**1.95**	**352**	*i*P	**Pn**	**02 28 46.0**	**+1.6**
RZN	**Rozhen**	**1.99**	**28**	*e*P	**Pn**	**02 28 46.5**	**+1.6**

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*NEIC **21** 02:29:39.6, 3212S×7166W, h36km, MD3.5(GUC), After GUC.*
GUC 21 02:29:39.6±0.7, 3212S×7166W, h36km±3km**, MD3.5, ML2.8, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.02**	**147**	*e*P	Pn	02 29 58.1	+0.8
ROCH				*i*S	Sn	02 30 12.1	+1.7
JACH	**Jahuel**	**1.07**	**122**	⇓*i*P	Pn	02 29 59.2	+1.1
JACH				*i*S	Sn	02 30 13.9	+2.3
CMCH	**Combarbala**	**1.10**	**31**	⇑*i*P	Pn	02 29 59.2	+0.7
CMCH				*i*S	Sn	02 30 14.2	+1.9
CMCH				AMP		02 30 15.4	
	comp=E,798nm,0.6s						
CMCH	**Combarbala**	**1.10**	**31**	⇑*i*P	Pn	02 29 59.2	+0.7
CMCH				*i*S	Sn	02 30 14.2	+1.9
LCCH	**Las Cruces**	**1.36**	**177**	*e*P	Pn	02 30 03.2	+1.2
LCCH				*e*S	Sn	02 30 21.1	+2.3
RCDM	**Rinconada Maip**	**1.55**	**152**	⇑*i*P	Pn	02 30 06.4	+1.7
RCDM				*i*S	Sn	02 30 26.0	+2.5
TACH	**Talagante**	**1.65**	**158**	*e*P	Pn	02 30 07.7	+1.7
FCH	**Farellones**	**1.67**	**137**	*e*P	Pn	02 30 08.3	+1.9
FCH				*i*S	Sn	02 30 30.5	+3.9
FCH				AMP		02 30 33.5	
	comp=E,112nm,0.2s						
ANTU	**Antumapu**	**1.69**	**149**	*i*S	Sn	02 30 30.4	+3.4
ANTU				AMP		02 30 32.7	
	comp=E,111nm,0.2s						
PCH	**Pirque**	**1.79**	**147**	*e*P	Pn	02 30 09.5	+1.6
CHCH	**Chadas Angostu**	**2.00**	**155**	*e*P	Pn	02 30 12.8	+1.9

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*SOF **21** 02:29:56.7, 4009N×2604E, h13km, MD2.9*
*ISK **21** 02:29:59.2, 4046N×2577E, h7km, MD3.0*
*ISCJB **21** 02:30:01.2±0.3, 4043N±002×2588E±003, h10km, Error ellipse: s-maj=3.4km s-min=3.2km az=66.4*
*ATH **21** 02:30:01.3, 4042N×2587E, h25km±3km, MD3.3/3*
*NEIC **21** 02:30:01.3, 4042N×2587E, h25km, MD2.9(SOF), MD3.3(ATH), After ATH.*
*CSEM **21** 02:30:01.2±0.1, 4045N×2591E, h10km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.4km az=8.0*
ISC 21 02:30:01.4±0.5, 4043N±002×**2588E**±003**, h7**km±4km**, n32,**
σ1§01/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.67**	**94**	*e*PG	**Pg**	**02 30 14.0**	**-0.3**
LIA	**Limnos Island**	**0.75**	**226**	*e*PN	**Pg**	**02 30 16.1**	**+0.3**
LIA				*e*SN	**Sg**	**02 30 26.6**	**+1.0**
RDO	**Rodhopi**	**0.77**	**340**	*e*PN	**Pg**	**02 30 15.7**	**-0.4**
RDO				*e*SN	**Sg**	**02 30 28.0**	**+2.0**
SART	**Tekirdag**	**1.02**	**75**	*i*P	**Pg**	**02 30 21.6**	**+0.6**
SART				*i*S	**Sg**	**02 30 34.4**	**+0.2**
SART	**Tekirdag**	**1.02**	**75**	*i*P	**Pg**	**02 30 21.5**	**+0.5**
SART				*i*S	**Sg**	**02 30 34.4**	**+0.1**
MFT	**Murefte**	**1.12**	**71**	*i*PN	**Pn**	**02 30 22.2**	**-1.3**
MFT				*i*SN	**Sn**	**02 30 39.2**	**0.0**
PRK	**Paraskevi**	**1.22**	**166**	*e*PN	**Pn**	**02 30 24.9**	**+0.2**
PRK				*e*SN	**Sn**	**02 30 41.4**	**0.0**
AYVA	**Ayvalik**	**1.28**	**151**	*i*P	**Pn**	**02 30 26.0**	**+0.4**
AYVA				*i*S	**Sb**	**02 30 43.6**	**+1.2**
MRMT	**Marmara Adasi**	**1.32**	**82**	*i*PN	**Pn**	**02 30 25.8**	**-0.3**
EDC	**Edincik**	**1.52**	**92**	PN	**Pn**	**02 30 28.7**	**-0.2**
EDC				SN	**Sn**	**02 30 49.8**	**+1.0**
RZN	**Rozhen**	**1.54**	**325**	*i*P	**Pn**	**02 30 30.0**	**+0.8**
RZN				*e*S	**Sg**	**02 30 59.0**	**+8.2**
BNT	**Bandirma**	**1.56**	**92**	PN	**Pn**	**02 30 29.4**	**0.0**
EDRB	**Edirne**	**1.56**	**24**	*i*PN	**Pn**	**02 30 27.9**	**-1.6**
EDRB				*i*SN	**Sn**	**02 30 49.5**	**-0.5**
DIM	**Dimitrovgrad**	**1.64**	**351**	*i*P	**Pn**	**02 30 31.3**	**+0.7**
BALB	**Balikesir**	**1.72**	**116**	*e*PN	**Pn**	**02 30 31.8**	**+0.1**
BTOK	**Tokmak**	**1.78**	**111**	*i*P	**Pn**	**02 30 33.1**	**+0.7**
BTOK				*i*S	**Sn**	**02 30 58.2**	**+2.9**
NVR	**Nevrokopi**	**1.79**	**302**	*e*PB	**Pb**	**02 30 32.2**	**-2.2**
PLG	**Polygyros**	**1.86**	**269**	*e*PB	**Pb**	**02 30 33.7**	**-2.0**
PLD	**Plovdiv**	**1.90**	**332**	*e*P	**Pn**	**02 30 37.0**	**+2.9**
MMB	**Musomiste**	**2.00**	**306**	*e*P	**Pn**	**02 30 35.0**	**-0.6**
MMB				*i*S	**Sn**	**02 31 04.5**	**+3.6**
CTT	**Catalca**	**2.06**	**69**	*e*PN	**Pn**	**02 30 35.7**	**-0.7**
ELBA	**Catalca**	**2.06**	**69**	*i*P	**Pg**	**02 30 40.6**	**-0.3**
ELBA				*i*S	**Sg**	**02 31 08.2**	**+0.5**
JMB	**Yambol**	**2.11**	**14**	*e*P	**Pn**	**02 30 38.0**	**+1.0**
URLA	**Izmir**	**2.14**	**165**	*i*P	**Pn**	**02 30 37.9**	**+0.5**
URLA				*i*S	**Sn**	**02 31 03.8**	**-0.4**
AKS	**Akhisar**	**2.15**	**135**	*e*PN	**Pn**	**02 30 37.6**	**+0.1**
ULDT	**Uludag**	**2.50**	**95**	*i*P	**Pg**	**02 30 48.9**	**-0.5**
ULDT				*i*S	**Sb**	**02 31 17.2**	**-0.4**
ULDT	**Uludag**	**2.50**	**95**	*i*S	**Sb**	**02 31 17.2**	**-0.5**
KKB	**Krupnik**	**2.56**	**305**	*e*P	**Pn**	**02 30 43.5**	**+0.3**
SMG	**Samos**	**2.81**	**164**	*e*PN	**Pn**	**02 30 46.5**	**-0.2**
MANT	**Manisa**	**2.83**	**132**	*i*P	**Pg**	**02 30 55.1**	**-0.5**
MANT				*i*S	**Sn**	**02 31 18.9**	**-2.4**
MANT	**Manisa**	**2.83**	**132**	*i*S	**Sn**	**02 31 18.9**	**-2.4**
VTS	**Vitosha**	**2.95**	**318**	*e*P	**Pg**	**02 30 56.3**	**-1.6**

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*ISCJB **21** 02:39:29.5±0.6, 2398S±004×6669W±007, h205km±11km, mb3.7/3, Error ellipse: s-maj=11.4km s-min=6.6km az=33.8*
*IDC **21** 02:39:30.7±1.7, 2387S×6661W, h199km±17km, mb3.6/3, mb1 3.6/7, mb1mx3.4/16, mbtmp4.1/7, Error ellipse: s-maj=25.1km s-min=15.7km az=103.0*
*NEIC **21** 02:39:33.0, 2408S×6724W, h240km, mb4.5/1, After GUC.*
*GUC **21** 02:39:33.0±0.9, 2408S×6724W, h240km, ML4.8*
ISC 21 02:39:30.7±0.6, 2397S±005×**6673W**±008**, h200**km±11km**,**
n22, σ1§33/30, mb3.7/3, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.23**	**280**	⇓*i*P	**Pn**	**02 40 26.1**	**+3.1**
CEN1				*i*S	**Sn**	**02 41 05.5**	**+1.5**
CEN1				AMP		02 41 08.0	
	comp=N,649nm,0.2s						
ANCH	**Antofagasta**	**3.38**	**274**	⇑*i*P	**Pn**	**02 40 23.7**	**-1.1**
ANCH				*i*S	**Sn**	**02 41 03.6**	**-3.6**
ANCH				AMP		02 41 08.7	
	comp=E,1μm,0.1s						
ANCH	**Antofagasta**	**3.38**	**274**	⇑*i*P	**Pn**	**02 40 23.7**	**-1.1**
ANCH				*i*S	**Sn**	**02 41 03.6**	**-3.6**
CPN1	**Cerro Paranal**	**3.41**	**258**	⇑*i*P	**Pn**	**02 40 27.0**	**+1.8**
CPN1				*i*S	**Sn**	**02 41 08.2**	**+0.2**
CPN1				AMP		02 41 10.7	
	comp=E,1μm,0.5s						
CRCH	**Chaqaral**	**4.25**	**235**	*e*P	**Pn**	**02 40 36.2**	**+0.7**
CRCH				*i*S	**Sn**	**02 41 25.1**	**-1.3**
CRCH				AMP		02 41 26.9	
	comp=E,537nm,0.6s						
CRCH	**Chaqaral**	**4.25**	**235**	*e*P	**Pn**	**02 40 36.2**	**+0.7**
CRCH				*i*S	**Sn**	**02 41 25.1**	**-1.3**
CDCH	**Caldera**	**4.82**	**229**	*i*P	**Pn**	**02 40 42.7**	**-0.1**
CDCH				*i*S	**Sn**	**02 41 37.2**	**-2.4**
CFAA	**Coronel Fontan**	**7.72**	**190**	P	**Pn**	**02 41 21.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=8.4,slow=12,SNR=16						
CFAA				S	**Sn**	**02 42 44.4**	**-3.1**
	comp=E,0.2nm,0.3s,baz=261,slow=22,SNR=9.5						
CFAA	**Coronel Fontan**	**7.72**	**190**	P	**Pn**	**02 41 21.4**	**+1.1**
CFAA				S	**Sn**	**02 42 44.4**	**-3.1**
LPAZ	**La Paz**	**7.75**	**350**	P	**Pn**	**02 41 21.6**	**+1.0**
	comp=E,1.1nm,0.3s,baz=163,slow=7.0,SNR=23						
LPAZ				S	**Sn**	**02 42 46.8**	**-1.4**
	comp=E,0.2nm,0.3s,baz=278,slow=18,SNR=3.3						
CPUP	**Villa Florida**	**8.84**	**107**	*e*Pn	**Pn**	**02 41 35.0**	**+0.2**
	comp=E,32nm,0.8s						
SIV	**San Ignacio**	**9.55**	**35**	P	**Pn**	**02 41 43.1**	**-1.0**
	comp=E,0.9nm,0.3s,baz=219,slow=12,SNR=18						
SIV				S	**Sn**	**02 43 26.2**	**-4.7**
	comp=E,0.1nm,0.3s,baz=187,slow=12,SNR=2.3						
PLCA	**Paso Flores**	**17.02**	**190**	P	**P**	**02 43 18.4**	**+2.7**
	comp=E,0.6nm,0.3s,baz=352,slow=9.9,SNR=5.5						
PLCA	**Paso Flores**	**17.02**	**190**	P	**P**	**02 43 18.4**	**+2.7**
BDFB	**Brasilia**	**19.45**	**68**	P	**P**	**02 43 42.6**	**+0.6**
	comp=E,1.5nm,0.3s,baz=248,slow=11,SNR=40						
DBIC	**Dimbokro**	**67.56**	**71**	P	**P**	**02 50 04.8**	**-0.6**
	comp=E,1.4nm,0.8s,mb3.6,baz=220,slow=7.2,SNR=3.7						
DBIC	**Dimbokro**	**67.56**	**71**	P	**P**	**02 50 04.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.33**	**69**	P	**P**	**02 50 56.9**	**-0.6**
	comp=E,1.9nm,0.7s,mb3.9,baz=260,slow=5.5,SNR=35						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**02 52 26.3**	**-0.4**
	comp=E,0.3nm,0.6s,mb3.5,baz=135,slow=4.3,SNR=9.6						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	02 58 46.7	-1.1
	comp=E,0.8nm,0.6s,baz=312,slow=2.3,SNR=14						
MKAR				pPKPbc	pPKPbc	02 59 44.9	+6.0
	comp=E,0.4nm,0.7s,baz=329,slow=2.1,SNR=4.1						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	02 58 46.7	-1.1
MKAR				pPKPbc	pPKPbc	02 59 44.9	+6.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCN	**Inchon**	**162.32**	**323**	*e*PKPdf	PKPdf	02 59 07.0	-1.2

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*ISCJB **21** 02:39:52.7±1.3, 1150N±010×4318E±008, h10km, Error ellipse: s-maj=16.5km s-min=5.8km az=110.0*
*DHMR **21** 02:39:52.5±1.4, 1168N×4326E, h5km±13km, ML3.9*
ISC 21 02:39:53.5±1.3, 1146N±010×**4321E**±008**, h10**km**, n9,**
σ1§28/18, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.97**	**27**	*i*P	**Pn**	**02 40 24.6**	**-2.3**
TRBA				*i*S	**Sn**	**02 40 49.4**	**-2.2**
TRBA				AML	AML	02 40 56.9	
	comp=E,1μm,0.7s						
UDYN	**Al 'Udayn**	**2.60**	**17**	*i*P	**Pn**	**02 40 34.7**	**-0.9**
UDYN				*i*S	**Sn**	**02 41 06.9**	**-0.3**
UDYN				AML	AML	02 41 17.7	
	comp=N,2μm,0.5s						
LBOS		**3.12**	**40**	⇑*i*P	**Pn**	**02 40 41.8**	**-0.9**
LBOS				*i*S	**Sn**	**02 41 21.3**	**+1.4**
DHBB	**Dhamar BB**	**3.30**	**20**	*i*P	**Pn**	**02 40 45.0**	**-0.2**
DHBB				*i*S	**Sn**	**02 41 26.5**	**+2.0**
BDHA	**Al Bayda'**	**3.40**	**42**	*i*P	**Pn**	**02 40 47.4**	**+0.8**
BDHA				*i*S	**Sn**	**02 41 29.1**	**+2.2**
BDHA				AML	AML	02 41 54.0	
	comp=N,667nm,0.6s						
BDHA	**Al Bayda'**	**3.40**	**42**	*i*P	**Pn**	**02 40 47.4**	**+0.8**
BDHA				*i*S	**Sn**	**02 41 29.1**	**+2.2**
	comp=N,334nm,0.6s						
DESE	**Dese**	**3.52**	**265**	*e*PN	**Pn**	**02 40 48.3**	**+0.1**
DESE				*e*S	**Sn**	**02 41 30.9**	**+1.0**
HAJJ	**Hajjah**	**4.23**	**5**	*i*P	**Pn**	**02 40 57.0**	**-1.0**
HAJJ				*i*S	**Sn**	**02 41 47.5**	**+0.1**
HAJJ				AML	AML	02 42 11.8	
	comp=E,524nm,0.6s						
HAJJ	**Hajjah**	**4.23**	**5**	*i*P	**Pn**	**02 40 57.0**	**-1.0**
HAJJ				*i*S	**Sn**	**02 41 47.5**	**+0.1**
	comp=E,262nm,0.6s						

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*NEIC **21** 02:50:30.7±0.8, 3617S×17973W, h35km, mb4.8/5, ML4.7(WEL), Error ellipse: s-maj=15.5km s-min=9.6km az=123.0*
*WEL **21** 02:50:30.8±1.3, 3617S×17965W, h33km, ML4.7/16, Error ellipse: s-maj=14.5km s-min=12.3km az=0.0*
*IDC **21** 02:50:33.9±2.3, 3593S×17978E, h47km±19km, mb4.3/4, mb1 4.5/5, mb1mx4.1/12, mbtmp4.5/5, ML4.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/23, Error ellipse: s-maj=27.9km s-min=15.5km az=166.0*
*ISCJB **21** 02:50:35.7±1.5, 3655S±007×1799E±02, h92km±8km, mb4.5/7, Error ellipse: s-maj=20.9km s-min=11.4km az=11.1*
ISC 21 02:50:33.4±1.3, 3644S±008×**1798W**±01**, h75**km±8km**, n72,**
σ1§09/63, mb4.5/7, 1D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.91**	**233**	PN	**Pn**	**02 51 04.4**	**+0.6**
MXZ				*e*SN	**Sn**	**02 51 28.7**	**+2.1**
MXZ	**Matakaoa Point**	**1.91**	**233**	P	**Pn**	**02 51 04.6**	**+0.7**
MXZ				S	**Sn**	**02 51 29.2**	**+2.6**
PUZ	**Puketiti**	**2.27**	**223**	PN	**Pn**	**02 51 10.1**	**+1.4**
PUZ	**Puketiti**	**2.27**	**223**	*e*P	**Pn**	**02 51 10.3**	**+1.6**
MWZ	**Matawai**	**2.87**	**228**	PN	**Pn**	**02 51 17.6**	**+0.8**
MWZ				*e*SN	**Sn**	**02 51 45.9**	**+1.4**
MWZ	**Matawai**	**2.87**	**228**	*e*P	**Pn**	**02 51 17.9**	**+1.1**
URZ	**Urewera**	**3.08**	**233**	P	**Pn**	**02 51 20.5**	**+0.8**
	26nm,0.3s,baz=31,slow=5.6,SNR=110						
URZ				S	**Sn**	**02 51 57.9**	**+2.5**
	56nm,0.3s,baz=170,slow=21,SNR=3.8						
URZ				LR	LR	02 52 02.2	
	comp=Z,192nm,20.5s,baz=86,slow=28						
URZ	**Urewera**	**3.08**	**233**	PN	**Pn**	**02 51 20.3**	**+0.6**
URZ				*e*SN	**Sn**	**02 51 57.3**	**+1.9**
URZ	**Urewera**	**3.08**	**233**	P	**Pn**	**02 51 20.2**	**+0.5**
KNZ	**Kokohu**	**3.28**	**217**	PN	**Pn**	**02 51 22.2**	**-0.2**
BKZ	**Black Stump Fm**	**4.02**	**226**	PN	**Pn**	**02 51 33.0**	**+0.4**
MKAZ	**Moumakai**	**4.12**	**259**	PN	**Pn**	**02 51 32.9**	**-1.0**
MKAZ	**Moumakai**	**4.12**	**259**	P	**Pn**	**02 51 33.3**	**-0.6**
MTAZ	**Motutapu**	**4.29**	**264**	PN	**Pn**	**02 51 35.5**	**-0.8**
MTAZ	**Motutapu**	**4.29**	**264**	P	**Pn**	**02 51 35.6**	**-0.6**
OTAZ	**Otara**	**4.29**	**262**	P	**Pn**	**02 51 36.2**	**0.0**
**

YKA Yellowknife Ar 111.50 27 PKPdf PKiKP 03 09 02.7 +3.6
MKAR Makanchi Array 120.41 308 PKP PKPdf 03 09 17.4 +1.3
0.3nm,0.6s,baz=138,slow=0.8,SNR=7.6
ARCES ARCESS Array B 144.10 345 PKP PKPdf 03 09 59.6 -0.8
1.2nm,0.7s,baz=306,slow=7.7,SNR=4.1
JOF Joensuu 147.34 334 *e*pkp PKPdf 03 10 08.9 +3.0
KAF Kangasniemi 149.60 336 *e*pkp PKPdf 03 10 14.5 +4.9
baz=46,slow=2.5
DBIC Dimbokro 150.01 170 PKPbc PKPbc 03 10 20.9 +5.6
1.4nm,0.6s,baz=199,slow=4.1,SNR=4.7
FINES FINESS Array B 150.15 335 PKPbc PKPbc 03 10 16.1 +0.5
5.9nm,0.9s,baz=48,slow=3.8,SNR=22
BR131 Keskin Array S 153.58 287 *e*PKPbc PKPbc 03 10 25.9 +2.5
BRTR Keskin Array B 153.58 287 PKPbc PKPbc 03 10 25.4 +2.0
1.4nm,0.7s,baz=145,slow=2.8,SNR=9.9
NOA NORSAR Array B 154.41 348 PKPbc PKPbc 03 10 27.7 +2.5
0.6nm,0.8s,baz=48,slow=13,SNR=2.5
AKASG Malin Array Be 154.81 314 PKPbc PKPbc 03 10 27.4 +1.3
0.3nm,0.3s,baz=46,slow=1.5,SNR=4.1
TORD Torodi Ar. Bea 156.77 184 PKPbc PKPdf 03 10 35.4 +15
0.5nm,0.9s,baz=190,slow=0.5,SNR=3.5
TORD PKPab PKPab 03 10 56.9 +7.1
1.5nm,0.9s,baz=177,slow=2.9,SNR=5.7

IDC 21 03:12:25.2±71.0, 1695S×17625E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.9/3, Error ellipse: s-maj=1244.0km s-min=147.7km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.71**	**238**	P	P	03 19 16.3	-0.4
	1.2nm,0.6s,baz=80,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**39.80**	**259**	P	P	03 20 00.5	+0.5
	0.2nm,0.3s,baz=91,slow=7.9,SNR=9.4						
ASAR	**Alice Springs**	**40.16**	**253**	P	P	03 20 03.5	+0.6
	1.4nm,0.4s,baz=86,slow=8.5,SNR=27						

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*CSEM **21** 03:18:42.5±0.6, 3878N×2953W, h5km, ML1.4, Error ellipse: s-maj=10.0km s-min=5.2km az=26.0, After PDA*
*PDA **21** 03:18:42.5±0.6, 3878N×2953W, h5km, MD3.3, ML1.4, Error ellipse: s-maj=10.0km s-min=5.2km az=26.0*
SVSA 21 03:18:42.5±0.6, 3878N×2953W, h5km, MD3.3, ML1.4, Error ellipse: s-maj=10.0km s-min=5.2km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.60**	**109**	*e*rx		03 19 07.2	
CALA	**Caldeira**	**0.68**	**107**	*e*P	Pg	03 18 53.8	-1.7
CALA				*e*S	Sg	03 19 02.3	-2.0
HOR	**Horta**	**0.75**	**109**	*e*P	Pg	03 18 54.6	-2.2
HOR				*e*S	Sg	03 19 04.1	-2.4
PCND	**Candelaria**	**0.89**	**110**	*e*S	Sg	03 19 07.5	-3.6
PCND	6.6nm,0.1s						
PICO	**Pico**	**0.91**	**107**	*e*P	Pg	03 18 57.0	-2.9
PICO				*e*S	Sg	03 19 08.1	-3.6
ROSA	**Rosais**	**1.01**	**93**	*i* P	Pg	03 18 58.6	-3.2
ROSA				*e*S	Sg	03 19 10.1	-4.8

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*CSEM **21** 03:27:56.3±0.8, 3872N×2954W, h10km, ML2.3, Error ellipse: s-maj=14.3km s-min=7.2km az=20.0, After PDA*
*PDA **21** 03:27:56.3±0.8, 3872N×2954W, h10km, MD3.3, ML2.3, Error ellipse: s-maj=14.3km s-min=7.2km az=20.0*
SVSA 21 03:27:56.3±0.8, 3872N×2954W, h10km, MD3.3, ML2.3, Error ellipse: s-maj=14.3km s-min=7.2km az=20.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.60**	**103**	*e*rx		03 28 14.2	
CALA	**Caldeira**	**0.67**	**102**	*e*P	Pg	03 28 07.5	-1.8
CALA				*e*S	Sg	03 28 15.4	-2.7
HOR	**Horta**	**0.74**	**105**	*e*P	Pg	03 28 07.8	-2.8
HOR				*e*S	Sg	03 28 16.5	-3.8
PCND	**Candelaria**	**0.88**	**106**	*e*S	Sg	03 28 20.9	-3.9
PCND	26nm,0.2s						
PICO	**Pico**	**0.90**	**104**	*i* P	Pg	03 28 10.3	-3.4
PICO				*e*S	Sg	03 28 20.8	-4.6
ROSA	**Rosais**	**1.02**	**90**	*i* P	Pg	03 28 11.8	-4.1
ROSA				*e*S	Sg	03 28 23.6	-5.6

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*BJI **21** 03:52:37.3, 824S×81.10E, h36km, mB5.0, mb4.8, Ms4.6, Msz4.1*
*IDC **21** 03:52:38.0±0.4, 757S×8136E, h0km, mb4.7/22, mb1 4.8/22, mb1mx4.8/23, mbtmp4.7/22, MS4.0/11, Ms1 4.0/11, ms1mx3.8/20, Error ellipse: s-maj=16.9km s-min=11.5km az=20.0*
*ISCJB **21** 03:52:38.2±0.3, 759S±004×8132E±004, h10km, mb4.9/104, MS4.1/23, Error ellipse: s-maj=6.6km s-min=5.5km az=116.4*
*NEIC **21** 03:52:40.7±0.2, 767S×8134E, mb5.0/35, Error ellipse: s-maj=7.5km s-min=6.0km az=38.0*
*MOS **21** 03:52:40.3±1.1, 747S×8129E, h21km, mb5.1/56, Error ellipse: s-maj=9.4km s-min=5.5km az=114.1*
*HRVD **21** 03:52:40.7±0.9, 758S×8124E, h35km±1km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s15,c17; Mantle waves: s36,c44; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr1.52±.21; Mθθ-1.44±.13; Mφφ-0.07±.14; Mrθ0.18±.15; Mθφ-1.18±.13; Mφr0.50±.20; Best double couple: M0 1.91900×10^16 NP1:φs258.00000°, δ42.00000°, λ117.00000°. NP2: φs44.00000°, δ54.00000°, λ68.00000°. Principal axes: T 1.6730, Plg71.0000°, Azm258.0000°; N 0.4970, Plg18.0000°, Azm57.0000°; P -2.1650, Plg6.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **21** 03:52:50.9, 732S×7926E, h33km, mb4.9, South Indian Ocean*
ISC 21 03:52:40.1±0.3, 760S±004×8130E±004, h10km, (h24km±2.1km:pP-P), n339, σ1§03/273, mb4.9/104, MS4.1/23, 24C-9D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**8.78**	**271**	Pn	**Pn**	**03 54 47.8**	**+0.8**
	4μm,0.7s,SNR=7.0						
DGAR	**Diego Garcia**	**8.78**	**271**	Pn	**Pn**	**03 54 47.2**	**+0.2**
DGAR				*e*Sn	**Sn**	**03 56 15.2**	**-11**
PALK	**Pallekele**	**14.79**	**358**	Pn	**Pn**	**03 56 05.1**	**-4.1**
	202nm,0.5s,SNR=15						
PALK	**Pallekele**	**14.79**	**358**	Pn	**Pn**	**03 56 05.7**	**-3.5**
	52nm,0.6s						
PALK				*e*Sn	**Sn**	**03 58 38.3**	**-15**
TRD	**Trivandrum**	**16.58**	**345**	*e*P	**Pn**	**03 56 31.2**	**-1.4**
TRD				*e*x	x	03 59 27.6	
PSI	**Prapat**	**20.39**	**60**	P	**P**	**03 57 20.9**	**+3.8**
	12nm,0.9s,baz=262,slow=6.8,SNR=5.5						
PSI				LR	LR	04 03 43.7	
	comp=Z,449nm,18.1s,MS3.9,baz=246,slow=33						
PSI	**Prapat**	**20.39**	**60**	P	**P**	**03 57 20.9**	**+3.8**
PSI				pmax	pmax		
	comp=Z,12nm,0.9s						
PSI				MLR	MLR		
	comp=Z,449nm,18.1s,MS3.9						
PSI	**Prapat**	**20.39**	**60**	P	**P**	**03 57 20.9**	**+3.8**
PSI				LR	LR	04 03 43.7	
HYB	**Hyderabad**	**25.00**	**354**	*i* P	**P**	**03 58 12.0**	**+7.9**
HYB				*e*S	**S**	**04 02 34.0**	**+6.1**
VIS	**Vishakhapatnam**	**25.24**	**5**	*e*P	**P**	**03 58 04.8**	**-1.4**
VIS				*e*S	**S**	**04 02 34.1**	**+2.5**
KAD	**Karad**	**25.73**	**344**	*e*P	**P**	**03 58 10.2**	**-0.4**
KAD				*e*x	x	04 02 34.0	
POO	**Poona**	**26.98**	**344**	*e*P	**P**	**03 58 21.0**	**-1.0**
BHPL	**Bhopal**	**30.88**	**353**	*e*P	**P**	**03 58 55.2**	**-1.5**
BHPL				AMb	AMB	03 59 09.8	
	comp=Z,33nm,1.4s,mb5.0						
BHPL				*e*S	**S**	**04 04 02.5**	**+2.0**
SHL	**Shillong**	**34.54**	**17**	*e*P	**P**	**03 59 30.0**	**+1.4**
OPO	**Ambohidratompo**	**34.90**	**248**	P	**P**	**03 59 33.3**	**+1.6**
	comp=Z,4.8nm,0.8s,mb4.5,baz=78,slow=6.7,SNR=8.4						
PKI	**Pulchoki**	**35.19**	**6**	*e*P	**P**	**03 59 36.2**	**+2.0**
	comp=Z,48nm,1.0s,mb5.4						
PKI	**Pulchoki**	**35.19**	**6**	*e*P	**P**	**03 59 36.2**	**+2.0**
PKI				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
DMN	**Daman**	**35.19**	**6**	*e*P	**P**	**03 59 36.3**	**+2.0**
	comp=Z,70nm,1.2s,mb5.5						
KOLN	**Koldanda**	**35.23**	**4**	*e*P	**P**	**03 59 36.7**	**+2.1**
	comp=Z,105nm,1.0s,mb5.7						
JIRN	**Jiri**	**35.37**	**8**	*e*P	**P**	**03 59 37.5**	**+1.7**
	comp=Z,61nm,1.2s,mb5.4						
KKN	**Kakani**	**35.39**	**6**	*e*P	**P**	**03 59 37.3**	**+1.3**
	comp=Z,49nm,1.1s,mb5.3						
KKN	**Kakani**	**35.39**	**6**	*e*P	**P**	**03 59 37.3**	**+1.3**
KKN				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
GKN	**Gorkha**	**35.54**	**5**	*e*P	**P**	**03 59 38.9**	**+1.6**
	comp=Z,82nm,1.1s,mb5.6						
GUN	**Gumba**	**35.58**	**7**	*e*P	**P**	**03 59 39.6**	**+2.0**
	comp=Z,134nm,1.0s,mb5.8						
LSA	**Lhasa**	**38.27**	**14**	P	**P**	**04 00 02.8**	**+2.2**
LSA	**Lhasa**	**38.27**	**14**	*e*P	**P**	**04 00 02.7**	**+2.1**
LSA				*e*		04 00 10.4	
LSA				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.1						
LSA	**Lhasa**	**38.27**	**14**	*e*P	**P**	**04 00 02.7**	**+2.1**
	comp=Z,36nm,1.0s,mb5.0						
LSA				*e*		04 00 10.4	
KMI	**Kunming**	**38.65**	**32**	P	**P**	**04 00 05.9**	**+2.2**
KMI				S	**S**	**04 06 02.4**	**+2.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
KMI				LR	LR		
	comp=N,189nm,15.8s						
KMI				LR	LR		
	comp=E,218nm,21.8s						
KMI				LR	LR		
	comp=Z,176nm,18.5s,MS3.9						
GYA	**Guiyang**	**41.86**	**35**	P	**P**	**04 00 30.8**	**+0.5**
GYA				AP	pP	04 00 38.3	+4.9
GYA				XP	sP	04 00 41.6	+7.0
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,540nm,17.4s,MS4.6						
GYA				LR	LR		
	comp=E,490nm,17.8s,MS4.6						
GYA				LR	LR		
	comp=Z,470nm,17.6s,MS4.4						
CD2	**Chengdu**	**43.92**	**28**	*e*P	**P**	**04 00 49.3**	**+2.3**
CD2				AP	pP	04 00 56.8	+6.6
CD2				PP	PP	04 02 33.4	+4.1
CD2				S	**S**	**04 07 19.3**	**+0.8**
CD2				SS	SS	04 10 28.3	-6.6
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=E,90nm,15.6s						
CD2				LR	LR		
	comp=Z,80nm,14.4s,MS3.8						
KMBO	**Kilima Mbogo**	**44.36**	**276**	P	**P**	**04 00 51.3**	**+0.8**
	comp=Z,9.9nm,0.9s,mb4.5,baz=64,slow=10.0,SNR=29						
KMBO				LR	LR	04 15 45.6	
	comp=Z,208nm,20.9s,MS4.0,baz=97,slow=31						
KMBO	**Kilima Mbogo**	**44.36**	**276**	P	**P**	**04 00 52.5**	**+2.0**
	comp=Z,9.8nm,1.0s,mb4.5						
LZH	**Lanzhou**	**48.35**	**25**	*e*P	**P**	**04 01 21.6**	**-0.3**
LZH				AP	pP	04 01 31.0	+6.0
LZH				XP	sP	04 01 35.3	+9.0
LZH				*e*PP	PP	04 03 13.8	-0.6
LZH				*e*S	**S**	**04 08 18.8**	**-3.3**
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,158nm,7.4s						
LZH				LR	LR		
	comp=N,745nm,14.1s						
LZH				LR	LR		
	comp=Z,2μm,18.3s,MS5.0						
XAN	**Xi'an**	**48.99**	**31**	P	**P**	**04 01 25.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
NAY	**Al-Naaiem**	**49.17**	**320**	*e*P	**P**	**04 01 27.3**	**-0.9**
WHN	**Wuhan**	**49.42**	**38**	P	**P**	**04 01 30.3**	**+0.2**
KZA	**Kyzart**	**49.74**	**354**	P	**P**	**04 01 34.4**	**+1.8**
	SNR=8.2						
GTA	**Gaotai**	**49.82**	**19**	*e*P	**P**	**04 01 33.8**	**+0.6**
GTA				AP	pP	04 01 40.3	+4.0
GTA				PCP	PcP	04 02 54.0	+0.2
GTA				PP	PP	04 03 29.4	+1.6
GTA				PPP		04 04 26.4	
GTA				SCP	ScP	04 06 46.6	-2.8
GTA				PCS	PcS	04 06 50.1	-0.5
GTA				S	**S**	**04 08 41.6**	**-1.1**
GTA				SCS	ScS	04 11 20.0	-4.9
GTA				SS	SS	04 12 11.6	-3.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,50nm,6.9s						
GTA				LR	LR		
	comp=N,126nm,15.3s						
GTA				LR	LR		
	comp=E,94nm,20.6s						
GTA				LR	LR		
	comp=Z,135nm,17.2s,MS4.0						
AML	**Almayashu**	**49.98**	**353**	P	**P**	**04 01 35.7**	**+1.4**
	SNR=20						
KBK	**Karagaybulak**	**50.35**	**354**	P	**P**	**04 01 38.5**	**+1.4**
	SNR=8.6						
AAK	**Ala-Archa**	**50.37**	**353**	P	**P**	**04 01 38.6**	**+1.2**
	SNR=10						
AAK	**Ala-Archa**	**50.37**	**353**	P	**P**	**04 01 37.2**	**-0.2**
	comp=Z,66nm,0.9s,mb5.7,SNR=9.6						
AAK	**Ala-Archa**	**50.37**	**353**	*e*P	**P**	**04 01 37.3**	**-0.1**
AAK				*e**PP	pP	04 01 42.4	+1.9
AAK				*e**SP	sP	04 01 46.7	+4.9
AAK				*e*		04 02 55.3	
AAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**50.37**	**353**	*e*P	**P**	**04 01 37.3**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
AAK				*e*pP	pP	04 01 42.4	+1.9
AAK				*e*sP	sP	04 01 46.7	+4.9
AAK				*e*PcP	PcP	04 02 55.3	-0.5
EKS2	**Erkin-Say**	**50.49**	**353**	P	**P**	**04 01 39.5**	**+1.3**
	SNR=13						
TKM2	**Tokmak 2**	**50.55**	**355**	P	**P**	**04 01 39.5**	**+0.8**
	SNR=17						
TKM2	**Tokmak 2**	**50.55**	**355**	*i* P	**P**	**04 01 39.0**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
FRU	**Bishkek**	**50.56**	**354**	*e*P	**P**	**04 01 40.0**	**+1.2**
FRU				*e*		04 01 50.0	
USP	**Ospenovka**	**51.00**	**354**	P	**P**	**04 01 42.5**	**+0.4**
	SNR=8.8						
KK31	**Karatay Array**	**51.41**	**350**	*i* P	**P**	**04 01 44.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KKAR	**Karatay Array**	**51.41**	**350**	*i* P	**P**	**04 01 44.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WMQ	**Urumqi**	**51.51**	**6**	P	**P**	**04 01 47.0**	**+1.1**
WMQ				XP	sP	04 01 58.0	+7.7
WMQ				PP	PP	04 03 45.0	+1.9
WMQ				SCP	ScP	04 06 55.0	-1.7
WMQ				S	**S**	**04 09 04.0**	**-2.1**
WMQ				SCS	ScS	04 11 32.0	-4.4
WMQ				SS	SS	04 12 37.0	-5.0
WMQ				AMB	AMB		
	comp=Z,46nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,215nm,5.0s						
WMQ				LR	LR		
	comp=N,89nm,10.0s,MS4.2						
WMQ				LR	LR		
	comp=E,93nm,10.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,75nm,10.0s,MS4.0						
LSZ	**Lusaka**	**52.51**	**257**	P	**P**	**04 01 55.0**	**+1.6**
	baz=91,slow=7.7						
LSZ	**Lusaka**	**52.51**	**257**	P	**P**	**04 01 54.7**	**+1.4**
LSZ				*e*		04 03 04.9	
LSZ				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
LSZ	**Lusaka**	**52.51**	**257**	P	**P**	**04 01 54.7**	**+1.3**
	comp=Z,30nm,1.3s,mb5.1						
LSZ				*e*PcP	PcP	04 03 04.9	+1.1
WRA	**Warramunga Arr**	**52.75**	**109**	P	**P**	**04 01 55.5**	**+0.4**
	comp=Z,9.2nm,0.7s,mb4.8,baz=283,slow=8.1,SNR=54						
WRA				PcP	PcP	04 03 04.1	-0.6
	comp=Z,1.7nm,0.5s,baz=287,slow=2.7,SNR=5.3						
WRA	**Warramunga Arr**	**52.75**	**109**	P	**P**	**04 01 55.5**	**+0.4**
WRA						04 03 04.1	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	**Tennant Creek**	**52.76**	**109**	P	**P**	**04 01 55.0**	**-0.2**
	comp=Z,111nm,0.7s,mb5.9,SNR=5.8						
WRAB	**Tennant Creek**	**52.76**	**109**	P	**P**	**04 01 55.7**	**+0.5**
WRAB				*e**PP	pP	04 02 00.9	+2.5
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**52.76**	**109**	P	**P**	**04 01 55.7**	**+0.5**
	comp=Z,19nm,0.8s,mb5.1						
WRAB				*e*pP	pP	04 02 00.9	+2.6
WRAB				*e*		04 03 18.0	
WB2	**Warramunga Arr**	**52.76**	**109**	*e*P	**P**	**04 01 55.5**	**+0.3**
WB2				*e*		04 02 02.8	
ASAR	**Alice Springs**	**52.81**	**114**	P	**P**	**04 01 55.9**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.3,baz=285,slow=6.6,SNR=23						
ASAR				PcP	PcP	04 03 04.5	-0.4
	comp=Z,2.2nm,0.6s,baz=280,slow=3.9,SNR=5.9						
ASAR	**Alice Springs**	**52.81**	**114**	P	**P**	**04 01 55.9**	**+0.3**
ASAR						04 03 04.6	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NJ2	**Nanjing**	**53.27**	**40**	*e*P	**P**	**04 02 01.4**	**+2.4**
NJ2				AP	pP	04 02 09.1	+6.9
NJ2				XP	sP	04 02 12.1	+8.7
NJ2				PP	PP	04 04 03.0	+3.9
NJ2				S	**S**	**04 09 29.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,880nm,31.9s						
NJ2				LR	LR		
	comp=E,590nm,25.0s						
NJ2				LR	LR		
	comp=Z,290nm,26.8s						
MK31	**Makanchi Array**	**54.16**	**1**	*i* P	**P**	**04 02 04.7**	**-0.8**
MK31				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
MKAR	**Makanchi Array**	**54.16**	**1**	P	**P**	**04 02 05.3**	**-0.2**
	comp=Z,18nm,0.7s,mb5.1,baz=183,slow=8.7,SNR=240						
MKAR				LR	LR	04 26 27.6	
	comp=Z,95nm,18.1s,MS3.9,baz=181,slow=38						
MKAR	**Makanchi Array**	**54.16**	**1**	*i* P	**P**	**04 02 04.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,29nm,0.9s						
MKAR	**Makanchi Array**	**54.16**	**1**	P	**P**	**04 02 05.3**	**-0.2**
MKAR				LR	LR	04 26 27.6	
SSE	**Sheshan**	**54.20**	**43**	*e*P	**P**	**04 02 06.3**	**+0.5**
SSE				AP	pP	04 02 16.0	+7.1
SSE				XP	sP	04 02 18.5	+8.3
SSE				PCP	PcP	04 03 10.1	-0.1
SSE				PP	PP	04 04 08.5	+1.1
SSE				S	**S**	**04 09 41.3**	**-1.5**
SSE				XS	sS	04 09 57.1	+9.0
SSE				SCS	ScS	04 11 52.9	-2.3
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,24nm,3.8s						
SSE				LR	LR		
	comp=N,28nm,21.5s,MS3.7						
SSE				LR	LR		
	comp=E,66nm,21.5s,MS3.7						
SSE				LR	LR		
	comp=Z,82nm,20.0s,MS3.8						
HHC	**Hu-ho-hao-te**	**55.67**	**28**	*e*P	**P**	**04 02 16.6**	**+0.2**
HHC				AP	pP	04 02 24.3	+4.7
HHC				XP	sP	04 02 27.4	+6.6
HHC				PCP	PcP	04 03 14.5	-1.3
HHC				PP	PP	04 04 21.6	+0.9
HHC				SCP	ScP	04 07 11.9	-3.0
HHC				S	**S**	**04 09 59.6**	**-3.0**
HHC				PS		04 10 14.1	
HHC				SCS	ScS	04 12 02.0	-3.8
HHC				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,81nm,10.8s						
HHC				LR	LR		
	comp=N,178nm,18.0s,MS4.5						
HHC				LR	LR		
	comp=E,280nm,18.0s,MS4.5						
HHC				LR	LR		
	comp=Z,74nm,19.2s,MS3.8						
LBTB	**Lobatse**	**55.80**	**245**	P	**P**	**04 02 18.1**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
LBTB	**Lobatse**	**55.80**	**245**	P	**P**	**04 02 18.1**	**+0.7**
	comp=Z,12nm,1.0s,mb4.9						
BOSA	**Boshof**	**56.67**	**241**	P	**P**	**04 02 23.9**	**+0.3**
	comp=Z,5.6nm,0.7s,mb4.7,baz=63,slow=5.9,SNR=14						
BOSA				LR	LR	04 22 34.2	
	comp=Z,69nm,20.8s,MS3.7,baz=117,slow=32						
KURK	**Kurchatov**	**58.12**	**358**	*e*P	**P**	**04 02 33.4**	**-0.4**
KURK				*e**PP	pP	04 02 39.2	+2.2
KURK				*e**SP	sP	04 02 43.1	+4.9
KURK				*e*		04 03 24.5	
KURK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
KURK	**Kurchatov**	**58.12**	**358**	*e*P	**P**	**04 02 33.4**	**-0.4**
	comp=Z,18nm,1.0s,mb5.1						
KURK				*e*pP	pP	04 02 39.2	+2.2
KURK				*e*sP	sP	04 02 43.1	+4.9
KURK				*e*PcP	PcP	04 03 24.5	-0.9
GNI	**Garni**	**58.27**	**328**	LR	LR	04 27 10.8	
	comp=Z,75nm,20.2s,MS3.8,baz=291,slow=36						
GNI	**Garni**	**58.27**	**328**	*e*P	**P**	**04 02 32.2**	**-2.6**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GNI				MLR	MLR		
	comp=Z,100nm,17.0s						
GNI	**Garni**	**58.27**	**328**	P	**P**	**04 02 35.8**	**+1.0**
	comp=Z,8.7nm,0.9s,mb4.8						
SONM	**Songino Array**	**59.48**	**19**	P	**P**	**04 02 43.3**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.5,baz=206,slow=7.0,SNR=33						
SONM				LR	LR	04 29 27.9	
	comp=Z,74nm,18.6s,MS3.8,baz=181,slow=37						
SONM	**Songino Array**	**59.48**	**19**	P	**P**	**04 02 43.3**	**0.0**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,74nm,18.6s						
AB31	**Akbulak array**	**59.62**	**344**	*i* P	**P**	**04 02 43.9**	**-0.4**
AB31				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
ULN	**Ulaanbaatar**	**59.73**	**20⇑**	*i* P	**P**	**04 02 44.7**	**-0.3**
ERZM	**Erzurum**	**59.95**	**325**	*i* P	**P**	**04 02 48.0**	**+1.5**
ELZG	**Elazig**	**60.41**	**323**	*i* P	**P**	**04 02 51.1**	**+1.4**
GZT	**Gaziantep**	**60.57**	**321**	*i* P	**P**	**04 02 50.8**	**0.0**
ZEI	**Tsey**	**60.59**	**329**	*e*P	**P**	**04 02 52.2**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	**60.63**	**322**	P	**P**	**04 02 53.0**	**+1.8**
MALT				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
MALT	**Malatya**	**60.63**	**322**	P	**P**	**04 02 53.0**	**+1.8**
	comp=Z,11nm,0.9s,mb5.0						
VOSK	**Vostochnaya**	**60.73**	**353**	P	**P**	**04 02 50.2**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**60.82**	**16**	*e*P	**P**	**04 02 52.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.5			

BVA0 Borovoye Array 61.10 352 P P 04 02 53.2 -1.1
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.9
BRVK Borovoye 61.15 352 P P 04 02 53.0 -1.7
comp=Z,44nm,0.6s,mb5.8,SNR=5.2
BRVK Borovoye 61.15 352 P P 04 02 53.9 -0.8
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
BRVK Borovoye 61.15 352 P P 04 02 53.9 -0.8
comp=Z,2.7nm,0.6s,mb4.5
ZRNK Zerenda 61.22 352 *i* P **P 04 02 54.3 -0.8**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
ZRNK Zerenda 61.22 352 *eP* **P 04 02 54.5 -0.7**
comp=Z,8.9nm,0.8s,mb5.0
NVS Novosibirsk 62.23 1 *i* P **P 04 02 59.8 -2.2**
NVS *i* 04 03 07.0
NVS pmax pmax
comp=Z,13nm,0.9s,mb5.1
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,3.0nm,0.8s
GRSN GIRESUNGRSN 62.40 324 *i* P **P 04 03 02.3 -0.8**
ERMK Ermenek 63.16 318 *i* P **P 04 03 07.5 -0.7**
SOC Sochi 63.35 327 *eP* **P 04 03 07.2 -2.2**
SOC *e* 04 03 43.6
SOC *e* 04 05 27.7
SOC *e*PPP 04 06 59.2
SOC *e*S **S 04 11 37.2 -4.6**
SOC *e* 04 12 57.0
SOC pmax pmax
comp=Z,21nm,1.2s,mb5.1
SOC MLR MLR
comp=Z,170nm,19.0s,MS4.2
CTA Charters Tower 63.94 109 *eP* **P 04 03 13.9 +0.6**
comp=Z,7.8nm,0.7s,mb4.8
CTA *e* 04 03 27.4
CTA *e* 04 03 34.2
CTA Charters Tower 63.94 109 P **P 04 03 13.9 +0.6**
comp=Z,11nm,0.7s,mb5.0,baz=268,slow=8.3,SNR=13
CTA Charters Tower 63.94 109 *eP* **P 04 03 13.9 +0.6**
CTA *e* 04 03 27.4
CTA pmax pmax
comp=Z,8.0nm,0.7s
BR131 Keskin Array S 64.45 321 *eP* **P 04 03 16.9 +0.2**
comp=Z,6.6nm,0.9s,mb4.7
BRTR Keskin Array B 64.45 321 P **P 04 03 16.9 +0.2**
comp=Z,6.2nm,0.8s,mb4.7,baz=133,slow=6.1,SNR=52
BRTR Keskin Array B 64.45 321 P **P 04 03 16.9 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BOYT Boyabat 64.69 323 *i* P **P 04 03 18.2 0.0**
CN2 Changchun 64.88 34 *eP* **P 04 03 18.8 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
PMG Port Moresby 65.08 97 P **P 04 03 21.6 +0.8**
comp=Z,18nm,0.8s,mb5.2,baz=239,slow=3.5,SNR=12
PMG Port Moresby 65.08 97 P **P 04 03 22.0 +1.2**
PMG *e* 04 03 35.0
PMG pmax pmax
comp=Z,15nm,0.7s
PMG Port Moresby 65.08 97 P **P 04 03 22.0 +1.2**
comp=Z,15nm,0.7s,mb5.1
PMG *e* 04 03 35.0
HIA Hailar 65.83 27 *eP* **P 04 03 23.7 -2.0**
ESKT Eskisehir 66.11 319 *i* P **P 04 03 27.3 -0.1**
ARU Arti 66.50 346 P **P 04 03 29.1 -0.9**
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.1
ARU Arti 66.50 346 P **P 04 03 29.1 -0.9**
comp=Z,18nm,1.0s,mb5.1
SYO Syowa Base 67.09 195⇓ *eP* **P 04 03 33.1 -0.6**
SYO Syowa Base 67.09 195⇑ *ep*P pP 04 03 44.4 +7.4
SYO Syowa Base 67.09 195⇓ *es*P sP 04 03 46.9 +8.7
MDJ Mudanjiang 67.72 35 P **P 04 03 38.8 +1.1**
MDJ AP pP 04 03 44.5 +3.5
MDJ XP sP 04 03 47.8 +5.6
MDJ PCP PcP 04 04 05.3 +0.8
MDJ PP PP 04 06 07.5 +0.5
MDJ S S 04 12 36.1 +0.8
MDJ AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,60nm,4.4s
MDJ LR LR
comp=Z,37nm,20.3s,MS3.6
SANT Santorini 68.18 314 P **P 04 03 40.4 -0.2**
comp=Z,22nm,0.6s,mb5.4
APE Apeiranthos 68.46 315 *c i*P **P 04 03 42.0 -0.3**
APE Apeiranthos 68.46 315 ⇓P **P 04 03 42.7 +0.3**
MAT Matsushiro 69.02 46 P **P 04 03 45.6 -0.2**
MJAR Matsushiro Arr 69.02 46 P **P 04 03 45.6 -0.3**
comp=Z,9.0nm,0.9s,mb4.7,baz=237,slow=7.3,SNR=20
MJAR Matsushiro Arr 69.02 46 P **P 04 03 45.6 -0.2**
MJAR pmax pmax
comp=Z,9.0nm,0.9s
TIRR Tirgusor 70.33 323 ⇓P **P 04 03 52.7 -1.2**
TIRR Tirgusor 70.33 323 ⇓P **P 04 03 52.7 -1.2**
BOD Bodaibo 70.40 18 *eP* **P 04 03 50.8 -3.5**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HARR Harsova 70.74 323 ⇑P **P 04 03 56.1 -0.3**
HARR Harsova 70.74 323 ⇑P **P 04 03 56.1 -0.3**
KLR Kul'dur 71.66 32 *eP* **P 04 03 57.8 -4.2**
KLR *e* 04 04 05.0
VRI Vrincioaia 72.09 323 ⇑P **P 04 04 04.9 +0.3**
VRI Vrincioaia 72.09 323 ⇑P **P 04 04 04.9 +0.3**
MLR Muntele Rosu 72.36 323 P **P 04 04 06.6 +0.4**
comp=Z,12nm,0.7s,mb4.9,baz=152,slow=3.0,SNR=39
MLR Muntele Rosu 72.36 323 ⇑P **P 04 04 06.8 +0.6**
MLR Muntele Rosu 72.36 323 P **P 04 04 06.6 +0.4**
MLR pmax pmax
comp=Z,12nm,0.7s
MLR Muntele Rosu 72.36 323 ⇑P **P 04 04 06.8 +0.6**
VTS Vitosha 72.64 319 ⇑P **P 04 04 07.7 -0.2**
MOS Moscow 72.71 336 *eP* **P 04 04 06.6 -1.7**
MOS pmax pmax
comp=Z,57nm,1.0s,mb5.5
OBN Obninsk 72.72 335 *d i*P **P 04 04 07.7 -0.6**
OBN pmax pmax
comp=Z,12nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
VOIR 72.87 322 ⇓P **P 04 04 09.3 +0.1**
VOIR 72.87 322 ⇓P **P 04 04 09.3 0.0**
AKASG Malin Array Be 73.38 328 P **P 04 04 11.2 -1.0**
comp=Z,8.4nm,0.8s,mb4.7,baz=122,slow=4.7,SNR=29
AKASG Malin Array Be 73.38 328 P **P 04 04 11.2 -1.0**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 73.89 324 ⇑P **P 04 04 15.5 +0.3**
BURAR Bucovina Array 73.89 324 ⇑P **P 04 04 15.5 +0.3**
DRGR 74.96 323 ⇑P **P 04 04 21.4 0.0**
DRGR 74.96 323 ⇑P **P 04 04 21.4 -0.1**
BZS Buzias 75.07 321 ⇑P **P 04 04 21.9 -0.2**
BZS Buzias 75.07 321 ⇑P **P 04 04 21.9 -0.2**
KLMR Klimovskoe 75.68 340 *c i*P **P 04 04 24.5 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.0
KOLS Kolonicke sedl 76.25 324 *eP* **P 04 04 29.4 +0.5**
KOLS *e* 04 06 10.1
KWP Kalwaria 76.34 325 *eP* **P 04 04 28.8 -0.6**
KWP *e* 04 05 46.7
CRVS Cervenica-Dubn 76.71 324 *eP* **P 04 04 33.4 +2.0**
STHS Stebnicka Huta 77.08 325 *eP* **P 04 04 32.5 -1.0**
KECS Kecovo 77.08 323 *eP* **P 04 04 33.1 -0.5**
HNR Honiara 77.65 98 P **P 04 04 36.6 -0.1**
comp=Z,175nm,0.7s,baz=247,slow=3.6,SNR=3.2
HNR Honiara 77.65 98 P **P 04 04 36.6 -0.1**
HNR pmax pmax
comp=Z,175nm,0.7s
SUW Suwalki 78.29 329 *eP* **P 04 04 39.7 -0.6**
YAK Yakutsk 78.78 21 *eP* **P 04 04 42.1 -0.9**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.1
GOLS Golise 79.03 320 *i* P **P 04 04 44.2 -0.1**
VSU Vasula 79.03 334 ⇓*i*P **P 04 04 42.3 -2.1**
BOJS Bojanci 79.07 319 *eP* **P 04 04 44.2 -0.4**
VISS Visnje 79.45 319 *i* P **P 04 04 46.4 -0.3**
PERS Pernice 79.59 320 *i* P **P 04 04 47.0 -0.4**
LJU Ljubljana 79.74 319 *eP* **P 04 04 47.9 -0.4**
JOF Joensuu 79.93 339 *ep* **P 04 04 48.4 -0.8**
DPC Dobruska-Polom 80.34 324 *eP* **P 04 04 51.6 +0.1**
DPC pmax pmax
comp=Z,11nm,0.5s,mb5.0
DPC Dobruska-Polom 80.34 324 *eP* **P 04 04 51.6 +0.1**
comp=Z,11nm,0.5s,mb5.0
KSP Ksiaz 80.56 324 *eP* **P 04 04 53.8 +1.1**
KSP *e* 04 05 52.3
KSP Ksiaz 80.56 324 *eP* **P 04 04 53.2 +0.5**
VNDA Vanda 80.58 167 P **P 04 04 52.1 -0.7**
comp=Z,1.9nm,0.8s,mb4.1,baz=323,slow=1.2,SNR=3.4
VNDA LR LR 04 35 54.5
comp=Z,141nm,18.2s,MS4.3,baz=99,slow=32
UPC Upice 80.59 324 *eP* **P 04 04 50.5 -2.3**
FINES FINESS Array B 81.00 336 P **P 04 04 54.2 -0.8**
comp=Z,7.7nm,0.7s,mb4.7,baz=107,slow=5.1,SNR=42
FINES LR LR 04 42 38.4
comp=Z,106nm,20.1s,MS4.2,baz=17,slow=37
FINES FINESS Array B 81.00 336 P **P 04 04 54.2 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,107nm,20.1s
FINES FINESS Array B 81.00 336 P **P 04 04 54.2 -0.8**
FINES LR LR 04 42 38.4
GKP Gorka Klasztor 81.06 327 *eP* **P 04 04 54.4 -0.9**
PRU Pruhonice 81.25 323 *eP* **P 04 04 56.3 0.0**
KAF Kangasniemi 81.29 337 *ep* **P 04 04 54.3 -2.3**
comp=Z,17nm,0.6s,mb5.1,baz=123,slow=5.0
KAF Kangasniemi 81.29 337 *eP* **P 04 04 54.3 -2.3**
KAF pmax pmax
comp=Z,17nm,0.6s,mb5.2
GEC2 GERESS Array S 81.32 322 *eP* **P 04 04 56.1 -0.6**
comp=Z,14nm,1.4s,mb4.7
GEC2 GERESS Array S 81.32 322 *eP* **P 04 04 56.1 -0.6**
GEC2 pmax pmax
comp=Z,14nm,1.4s,mb4.7
GERES GERESS Array B 81.32 322 P **P 04 04 56.4 -0.3**
comp=Z,2.3nm,0.7s,mb4.2,baz=122,slow=5.0,SNR=21
GERES GERESS Array B 81.32 322 P **P 04 04 56.4 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 81.50 322 *eP* **P 04 04 57.4 -0.3**
TORD Torodi Ar. Bea 81.69 284 P **P 04 04 58.9 +0.2**
comp=Z,7.5nm,0.9s,mb4.6,baz=82,slow=4.3,SNR=42
BRG Berggiesshubel 81.94 324 *eP* **P 04 05 00.0 0.0**
comp=Z,11nm,1.4s,mb4.6
BRG Berggiesshubel 81.94 324 *i* P **P 04 05 00.5 +0.5**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRG Berggiesshubel 81.94 324 *i* P **P 04 05 00.5 +0.5**
comp=Z,2.6nm,0.7s,mb4.3
LVZ Lovozero 82.19 344 *eP* **P 04 04 59.0 -2.3**
LVZ pmax pmax
comp=Z,21nm,1.3s,mb4.9
LVZ pmax pmax
comp=N,9.0nm,1.4s
LVZ pmax pmax
comp=E,12nm,1.5s
LVZ MLR MLR
comp=Z,195nm,21.0s,MS4.5
PGF Pioggiola 82.29 315 *eP* **P 04 05 01.9 +0.1**
comp=Z,122nm,1.6s,mb5.3
QSPA South Pole Qui 82.42 180 *eP* **P 04 05 01.7 -0.8**
comp=Z,2.0nm,1.2s,mb3.9
VNA2 Neumayer--Watz 82.44 199 *eP* **P 04 05 03.4 +0.8**
baz=79,slow=5.2
VNA2 *e* 04 05 08.5
VNA2 *e* 04 05 11.2
VNA2 *e* 04 05 13.2
VNA2 *e* 04 05 16.9
FUR Furstenfeldbru 82.58 321 *eP* **P 04 05 03.2 -0.1**
comp=Z,6.0nm,0.8s,mb4.7
FUR Furstenfeldbru 82.58 321 *eP* **P 04 05 03.2 -0.1**
FUR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NKC Novy Kostel 82.59 323 *eP* **P 04 05 03.8 +0.4**
RUE Ruedersdorf 82.65 325 *eP* **P 04 05 04.1 +0.4**
comp=Z,27nm,1.0s,mb5.2
CLL Collm 82.66 324 *eP* **P 04 05 04.0 +0.3**
comp=Z,15nm,1.0s,mb5.0
CLL Collm 82.66 324 ⇑ *i*P **P 04 05 04.1 +0.4**
comp=Z,25nm,1.0s,mb5.2
CLL Collm 82.66 324 ⇑ *i*P **P 04 05 04.1 +0.4**
CLL pmax pmax
comp=Z,25nm,1.0s,mb5.2
CLL Collm 82.66 324 ⇑ *i*P **P 04 05 04.1 +0.4**
comp=Z,25nm,1.0s,mb5.2
GRA1 Grafenberg Arr 83.14 322 *eP* **P 04 05 06.3 +0.1**
comp=Z,24nm,1.0s,mb5.2
GRF Grafenberg Arr 83.14 322 *eP* **P 04 05 06.3 +0.1**
comp=Z,24nm,1.0s,mb5.2
GRF Grafenberg Arr 83.14 322 *eP* **P 04 05 06.3 +0.1**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.2
VNA3 Neumayer Olymp 83.17 199 *eP* **P 04 05 13.7 +7.3**
VNA3 Neumayer Olymp 83.17 199 *eP* **P 04 05 13.7 +7.3**
VNA3 *e* pP 04 05 18.0 +8.3
MOX Moxa 83.23 323 *eP* **P 04 05 07.1 +0.4**
comp=Z,6.0nm,1.2s,mb4.5
MOX Moxa 83.23 323 *eP* **P 04 05 07.2 +0.5**
comp=Z,16nm,1.3s,mb4.9
MOX Moxa 83.23 323 *eP* **P 04 05 07.2 +0.5**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.9
SBF Sospel 83.77 316 *eP* **P 04 05 09.6 +0.1**
comp=Z,47nm,1.0s,mb5.3
STU Stuttgart 84.09 321 *eP* **P 04 05 10.5 -0.6**
comp=Z,22nm,1.2s,mb5.2
FRF La Foret Royal 84.23 315 *eP* **P 04 05 12.0 +0.2**
LMR La Mourre 84.27 315 *eP* **P 04 05 12.0 0.0**
comp=Z,33nm,1.1s,mb5.1
CLZ Clausthal 84.38 324 *eP* **P 04 05 13.0 +0.4**
comp=Z,17nm,1.2s,mb5.0
CLZ Clausthal 84.38 324 *eP* **P 04 05 13.0 +0.4**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
MBDF Montbardon 84.47 316 *eP* **P 04 05 13.4 +0.3**
BFO Black Forest 84.50 320 *eP* **P 04 05 13.3 +0.1**
comp=Z,7.0nm,1.0s,mb4.8
BFO Black Forest 84.50 320 *eP* **P 04 05 13.3 +0.1**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LPG La Plagne 84.70 317 *eP* **P 04 05 14.1 -0.1**
comp=Z,7.9nm,0.7s,mb4.6
LPL La Plagne 84.72 317 *eP* **P 04 05 14.1 -0.2**
comp=Z,6.4nm,0.5s,mb4.7
TIXI Tiksi 84.99 14 ⇑ *i*P **P 04 05 11.6 -4.1**
TIXI pmax pmax
comp=Z,25nm,0.7s,mb5.5
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.2
TNS Taunus Mts 85.01 322 *eP* **P 04 05 16.2 +0.4**
comp=Z,7.0nm,1.2s,mb4.7
TNS Taunus Mts 85.01 322 *eP* **P 04 05 16.2 +0.4**
TNS pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
BSEG Bad Segeberg 85.12 326 *eP* **P 04 05 16.9 +0.6**
comp=Z,10.0nm,1.4s,mb4.8
ORIF Oris-en-Rattie 85.13 316 *eP* **P 04 05 16.2 -0.2**
ORIF *eR*
comp=Z,78nm,22.2s
CDF Champ du Feu 85.19 320 *eP* **P 04 05 16.1 -0.6**
comp=Z,27nm,1.2s,mb4.9
HINF Hinteralfeld 85.29 319 *eP* **P 04 05 17.3 +0.1**
CABF La Chapelle 85.45 318 *eP* **P 04 05 18.2 +0.2**
KEV Kevo 85.51 344 *ep* **P 04 05 16.5 -1.8**
comp=Z,9.2nm,0.6s,mb5.2
KEV Kevo 85.51 344 *eP* **P 04 05 16.5 -1.8**
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
HAU Haudompre 85.67 319 *eP* **P 04 05 18.7 -0.4**
HAU *eR*
comp=Z,47nm,21.0s
ARCES ARCESS Array B 85.81 343 P **P 04 05 19.6 -0.2**
comp=Z,14nm,0.7s,mb5.3,baz=127,slow=5.0,SNR=56
ARCES ARCESS Array B 85.81 343 P **P 04 05 19.6 -0.2**
ARCES pmax pmax
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 85.94 316 *eP* **P 04 05 20.7 +0.3**
BUG Bochum--Univer 86.09 323 *eP* **P 04 05 21.1 0.0**
comp=Z,11nm,1.0s,mb5.0
LASF Ste Croix 86.31 315 *eP* **P 04 05 22.7 +0.4**
comp=Z,60nm,1.4s,mb5.3
MA2 Magadan 86.34 29 *eP* **P 04 05 20.7 -1.7**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
SMF Signal de Mont 86.96 318 *eP* **P 04 05 25.9 +0.5**
DBIC Dimbokro 87.09 277 P **P 04 05 26.1 0.0**
comp=Z,9.8nm,0.8s,mb5.1,baz=93,slow=4.4,SNR=18
DBIC LR LR 04 44 59.7
comp=Z,50nm,18.7s,MS4.0,baz=117,slow=36
DBIC Dimbokro 87.09 277 P **P 04 05 26.1 +0.1**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC MLR MLR
comp=Z,50nm,18.7s
NB2 NORSAR Subarra 87.16 333 P **P 04 05 25.6 -0.8**
comp=Z,0.7nm,0.7s,mb4.0,baz=145,slow=7.4
NOA NORSAR Array B 87.16 333 P **P 04 05 24.6 -1.8**
comp=Z,2.2nm,0.8s,mb4.4,baz=106,slow=5.2,SNR=4.5
NOA NORSAR Array B 87.16 333 P **P 04 05 24.6 -1.8**
NOA pmax pmax
comp=Z,2.0nm,0.8s
MTLF Montolieu 87.30 314 *eP* **P 04 05 27.8 +0.7**
comp=Z,32nm,1.1s,mb5.2
DOU Dourbes 87.34 321 ⇑P **P 04 05 27.7 +0.4**
comp=Z,4.7nm,1.0s,mb4.7
DOU AP pP 04 05 38.2 +7.6
BAIF Baives 87.58 321 *eP* **P 04 05 29.1 +0.7**
comp=Z,45nm,1.0s,mb5.3
CAF Calviac 87.76 316 *eP* **P 04 05 30.0 +0.7**
RJF Les Rejaudoux 88.22 316 *eP* **P 04 05 32.2 +0.7**
comp=Z,58nm,1.2s,mb5.4
RJF *eR*
comp=Z,50nm,22.2s
SEY Seymchan 88.27 26 ⇑ *eP* **P 04 05 31.3 -0.4**
PET Petropavlovsk 88.49 36 *eP* **P 04 05 31.0 -1.7**
PET pmax pmax
comp=Z,58nm,1.7s,mb5.5
LFF La Frestale 88.68 316 *eP* **P 04 05 33.5 -0.2**
ETSF Etsaut 89.19 313 *eP* **P 04 05 37.2 +1.1**
MFF Saint Martin d 89.63 317 *eP* **P 04 05 37.4 -0.7**
SJPF Ste Jean 89.72 313 *eP* **P 04 05 39.8 +1.3**
comp=Z,69nm,1.2s,mb5.6
LDF La Druitiere 90.00 319 *eP* **P 04 05 40.1 +0.2**
comp=Z,8.3nm,0.6s,mb5.0
FLN La Foliniere 90.27 319 *eP* **P 04 05 40.6 -0.5**
FLN *eR*
comp=Z,50nm,17.8s
GRR Gorron 90.45 319 *eP* **P 04 05 42.3 +0.4**
ESDC Sonseca Array 91.17 310 P **P 04 05 45.3 0.0**
comp=Z,4.0nm,0.8s,mb4.8,baz=78,slow=4.0,SNR=12
QUIF Quistinic 91.89 318 *eP* **P 04 05 48.2 -0.4**
comp=Z,50nm,1.1s,mb5.5
BILL Bilibino 95.11 22 *eP* **P 04 05 58.5 -4.9**
RES Resolute Bay 112.92 359 PKIKP PKiKP 04 11 14.7 -2.6
ILAR Eielson Array 113.70 20 PKiKP PKiKP 04 11 16.1 -2.8
comp=Z,0.5nm,0.6s,baz=298,slow=3.0,SNR=12
ILAR Eielson Array 113.70 20 *i* PKIKP PKiKP 04 11 16.1 -2.7
ILAR pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 115.12 14 PKP PKiKP 04 11 19.2 -2.3
comp=Z,2.3nm,0.8s,baz=355,slow=4.3,SNR=17
INK Inuvik 115.12 14 PKIKP PKiKP 04 11 19.2 -2.3
INK pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 123.99 9 PKP PKPdf 04 11 36.4 -2.1
comp=Z,3.1nm,0.7s,baz=334,slow=2.4,SNR=69
YKA PP PP 04 13 21.7 -0.5
comp=Z,0.1nm,0.3s,baz=347,slow=7.1,SNR=4.0
YKA PKKPbc PKKPbc 04 21 24.1 +0.1
comp=Z,0.1nm,0.6s,baz=153,slow=3.9,SNR=4.1
YKA Yellowknife Ar 123.99 9 PKIKP PKPdf 04 11 36.4 -2.2
YKA 04 13 21.7
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 123.99 9 PKP PKPdf 04 11 36.4 -2.1
YKA PP PP 04 13 21.8 -0.5
YKA PKKPbc PKKPbc 04 21 24.1 +0.1
BDFB Brasilia 124.75 245 PKP PKPdf 04 11 41.0 +1.0
comp=Z,2.6nm,0.7s,baz=104,slow=5.4,SNR=4.9
BDFB Brasilia 124.75 245 PKIKP PKPdf 04 11 41.0 +1.0
BDFB pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 125.37 206 PKP PKPdf 04 11 41.5 +0.3
comp=Z,0.6nm,0.5s,baz=233,slow=7.2,SNR=3.8
PLCA Paso Flores 125.37 206 PKIKP PKPdf 04 11 41.5 +0.3
PLCA pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 136.57 18 PKP PKPdf 04 12 03.1 +0.7
comp=Z,1.0nm,0.3s,baz=333,slow=3.3,SNR=4.5
NEW Newport 136.57 18 PKIKP PKPdf 04 12 03.1 +0.7
NEW pmax pmax
comp=Z,1.0nm,0.3s
ULM Lac du Bonnet 137.42 357 PKP PKPdf 04 12 02.4 -1.6
comp=Z,2.0nm,0.6s,baz=339,slow=5.9,SNR=4.6
YBH Yreka Blue Hor 139.90 28 PKP PKPdf 04 12 08.1 -0.5
comp=Z,1.9nm,0.9s,baz=254,slow=1.8,SNR=3.3
YBH Yreka Blue Hor 139.90 28 PKIKP PKPdf 04 12 08.1 -0.4
YBH pmax pmax
comp=Z,2.0nm,0.9s
MOD Modoc 140.85 26 *e*PKPdf PKPdf 04 12 10.9 +0.7
MOD *ep*PKPdf pPKPdf 04 12 20.9 +7.2
LPAZ La Paz 141.55 232 PKhKP 04 12 07.9
comp=Z,1.1nm,0.5s,baz=66,slow=6.0,SNR=5.3
LPAZ PKP PKPdf 04 12 13.6 +2.1
comp=Z,8.4nm,0.8s,baz=138,slow=3.5,SNR=25
LPAZ La Paz 141.55 232 PKIKP PKPdf 04 12 07.9 -3.6
LPAZ 04 12 13.6
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
YMR Madison River 141.56 14 *e*PKPdf PKPdf 04 12 12.5 +1.0
YMR *ep*PKPdf pPKPdf 04 12 20.5 +5.5
HLID Hailey 141.62 18 PKPdf PKPdf 04 12 05.7 -5.9
LOHW Long Hollow 142.64 14 *e*PKPdf PKPdf 04 12 10.7 -2.8
SNOW Snow King Moun 142.75 15 *e*PKPdf PKPdf 04 12 11.4 -2.3
REDW Red Top Meadow 142.81 15 *e*PKPdf PKPdf 04 12 11.8 -2.0
PDAR Pinedale Array 143.69 14 PKhKP 04 12 12.3
comp=Z,6.4nm,0.8s,baz=58,slow=2.2,SNR=31
PDAR PKP PKPdf 04 12 15.4 +0.1
comp=Z,5.1nm,0.7s,baz=50,slow=1.4,SNR=36
ELK Elko 143.85 22 PKP PKPdf 04 12 13.7 -1.9
comp=Z,3.4nm,0.9s,baz=87,slow=5.1,SNR=9.4
ELK Elko 143.85 22 PKIKP PKPdf 04 12 13.7 -1.9
ELK pmax pmax
comp=Z,3.0nm,1.0s
HWUT Hardware Ranch 144.26 17 *e*PKPdf PKPdf 04 12 14.3 -2.0
BGU Big Grassy Mou 144.44 19 *e*PKPdf PKPdf 04 12 18.8 +2.2
NVAR Mina Array Bea 144.57 27 PKP PKPdf 04 12 16.4 -0.4
comp=Z,5.6nm,0.8s,baz=317,slow=2.1,SNR=33
MNV Mina 144.63 27 *e*PKIKP PKPdf 04 12 16.2 -0.7
MNV *e* 04 12 23.3
TCUT Toone Canyon 144.76 17 *e*PKPdf PKPdf 04 12 16.4 -0.8
NOQ North Oquirrh 144.97 18 *e*PKPdf PKPdf 04 12 16.3 -1.2
DUG Dugway 145.17 19 *e*PKIKP PKPdf 04 12 17.6 -0.3
RWWY Rawlins 145.22 11 *e*PKPbc PKPbc 04 12 17.4 -0.2
DAU Daniels Canyon 145.45 17 *e*PKIKP PKPdf 04 12 18.7 +0.3
DAU *e* 04 12 26.0
NLU North Lily Min 145.63 18 *e*PKPdf PKPdf 04 12 15.7 -2.9
NLU *ep*PKPdf pPKPdf 04 12 24.5 +2.4
PTRM Twissleman Ran 145.83 32 *e*PKPdf PKPdf 04 12 20.1 +1.1
PTRM *ep*PKPdf pPKPdf 04 12 27.9 +5.4
PHWY Pilot Hill 145.91 9 *e*PKPdf PKPdf 04 12 19.4 +0.3
PHWY *ep*PKPdf pPKPdf 04 12 27.9 +5.3
BLA Blacksburg 146.16 333 *e*PKP2 PKPab 04 12 20.2 -1.0
ELN Prospectdale 146.29 334 PKPdf PKPdf 04 12 20.8 +1.0
TMUT Trail Mountain 146.50 18 *e*PKPdf PKPdf 04 12 21.9 +1.8
TMUT *ep*PKPdf pPKPdf 04 12 29.2 +5.6
DAC Darwin (Calif) 146.65 28 *e*PKPdf PKPdf 04 12 21.4 +1.0
DAC *e* 04 12 36.1
BLO Bloomington 146.71 343 *e*PKP2 PKPab 04 12 20.5 -2.8
ISA Isabella 146.71 30 *e*PKP2 PKPab 04 12 21.7 -1.6
MVU Marysvale 146.90 20 *e*PKPdf PKPdf 04 12 28.3 +7.5
MSU Marysvale 146.91 20 *e*PKPdf PKPdf 04 12 22.1 +1.3
MSU *ep*PKPdf pPKPdf 04 12 31.0 +6.7
ARUT Antelope Range 147.11 22 *e*PKPbc PKPbc 04 12 23.9 +0.6
ARUT pPKPdf pPKPdf 04 12 31.4 +6.8
ISCO Idaho Springs 147.34 10 *e*PKP2 PKPab 04 12 23.8 -2.0
SMCO Snowmass 147.69 12 PKPdf PKPdf 04 12 22.5 +0.3
SMCO *e*PKPbc PKPbc 04 12 25.3 +0.4
SMCO *ep*PKPdf pPKPdf 04 12 32.5 +6.9
PV10 Paradox Valley 147.97 15 *e*PKPbc PKPbc 04 12 26.3 +0.7
PV10 *ep*PKPdf pPKPdf 04 12 32.8 +6.7
TZTN Tazewell 148.05 337 *e*PKPdf PKPdf 04 12 22.5 -0.2
PV01 Paradox Valley 148.32 15 *e*PKPbc PKPbc 04 12 26.8 +0.2
NEN Nelson 148.41 26 *e*PKPbc PKPbc 04 12 27.3 +0.5
KSU1 Kansas State U 148.58 357 PKPdf PKPdf 04 12 23.4 -0.2
KSU1 *e*PKPbc PKPbc 04 12 26.4 -0.8
FVM French Village 148.84 347 *e*PKPbc PKPbc 04 12 27.2 -0.8

FVM				*e*PKPdf	pPKPdf	04 12 34.7	+7.2
CCM	**Cathedral Cave**	**148.94**	**349**	*e*PKPbc	PKPbc	04 12 27.2	-1.0
CCM				*ep*PKPdf	pPKPdf	04 12 34.5	+6.9
SDCO	**Great Sand Dun**	**149.36**	**11**	*e*PKPbc	PKPbc	04 12 28.9	-0.4
SDCO				*ep*PKPdf	pPKPdf	04 12 34.3	+6.0
CPCT	**Cooper Cave**	**149.38**	**337**	PKPdf	PKPdf	04 12 25.0	+0.1
CPCT				*e*PKPbc	PKPbc	04 12 28.9	-0.3
CPCT				*ep*PKPdf	pPKPdf	04 12 34.0	+5.7
COW	**Cow Castle Cre**	**149.41**	**329**	*e*PKPbc	PKPbc	04 12 29.8	+0.5
WVT	**Waverly**	**149.91**	**342**	PKPdf	PKPdf	04 12 25.2	-0.5
WVT				*e*PKPbc	PKPbc	04 12 29.6	-1.0
WVT				*ep*PKPdf	pPKPdf	04 12 36.2	+7.1
SWET	**Sewanee**	**150.12**	**339**	*e*PKPbc	PKPbc	04 12 29.9	-1.1
GLAT	**Glass**	**150.20**	**345**	*e*PKPbc	PKPbc	04 12 31.0	-0.3
GLA	**Glamis**	**150.59**	**28**	*e*PKIKP	PKPdf	04 12 27.7	+0.9
GLA				*e*	*e*	04 12 33.1	
GNAR	**Gosnell**	**150.67**	**346**	*e*PKPbc	PKPbc	04 12 32.6	+0.2
PLAL	**Pickwick Lake**	**151.05**	**342**	*e*PKPbc	PKPbc	04 12 32.0	-1.3
PLAL				*e*		04 12 38.2	
ANMO	**Albuquerque**	**151.86**	**14**	*e*PKIKP	PKPdf	04 12 29.6	+0.9
ANMO				*e*		04 12 35.7	
OXF	**Oxford**	**151.88**	**344**	*e*PKPbc	PKPbc	04 12 34.5	-0.7
UALR	**University of**	**152.33**	**349**	*e*PKPdf	PKPdf	04 12 30.1	+0.6
UALR				*e*PKPbc	PKPbc	04 12 35.9	-0.4
LPM	**Los Pinos Moun**	**152.43**	**14**	*e*PKPbc	PKPbc	04 12 36.8	+0.3
LENM	**Lemitar**	**152.48**	**15**	*e*PKPbc	PKPbc	04 12 37.1	+0.5
BNM	**Barren Site**	**152.58**	**14**	*e*PKPbc	PKPbc	04 12 37.4	+0.6
TUC	**Tucson**	**152.97**	**23**	*e*PKIKP	PKPdf	04 12 31.2	+0.8
TUC				*e*		04 12 38.6	
WMOK	**Wichita Mounta**	**152.99**	**0**	PKIKP	PKPdf	04 12 30.1	-0.3
WMOK				*e*		04 12 37.0	
WMOK				*e*		04 12 48.7	
MNTX	**Cornudas Mount**	**155.23**	**14**	*e*PKPdf	PKPdf	04 12 33.9	+0.3
ROSC	**El Rosal**	**155.62**	**265**	PKPab	PKPab	04 13 02.1	+1.9
	comp=Z,2.4nm,0.4s,baz=107,slow=9.3,SNR=4.4						

NNC 21 04:08:25.9±63.0, 4378N×7643E, h0km, mb1.7, mpv3.6, 3C-1D, Error ellipse: s-maj=498.4km s-min=177.6km az=3.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.68**	**145**	⇑P	Pg	04 08 38.0	-1.0
	939nm,0.2s						
KNDC				⇑S	Sg	04 08 49.3	+1.5
	2μm,0.6s						
TKM2	**Tokmak 2**	**1.05**	**216**	⇓P	Pg	04 08 48.4	+2.5
	0.7nm,0.2s						
TKM2				⇑S	Sg	04 08 59.8	+0.3
	1.3nm,0.5s						

JMA 21 04:15:18.3±0.1, 3824N×14472E, h57km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**290**	P	Pn	04 15 58.1	+1.2
OFUJ				*e*S	Sn	04 16 27.9	+1.3
MIYJ	**Miyakonagasawa**	**2.63**	**301**	P	Pn	04 15 59.1	+0.8
MIYJ				*e*S	Sn	04 16 29.6	+0.7
JIO	**Ouri**	**2.66**	**276**	P	Pn	04 15 59.9	+1.2
JIO				*e*S	Sn	04 16 31.1	+1.4
JMK	**Ichinoseki**	**2.83**	**286**	P	Pn	04 16 02.6	+1.5
JMK				*e*S	Sn	04 16 35.9	+1.9
JOT	**Ohata**	**4.22**	**319**	P	Pn	04 16 22.0	+1.9
JOT				*e*S	Sn	04 17 08.4	+0.3
JCH	**Churui**	**4.49**	**347**	P	Pn	04 16 22.8	-1.0
JCH				*e*S	Sn	04 17 11.5	-3.2
JRY	**Ryogami san**	**5.15**	**246**	P	Pn	04 16 34.0	+1.2
JRY				*e*S	Sn	04 17 30.1	-0.8
NEM2	**Nemuro 2**	**5.18**	**8**	P	Pn	04 16 29.4	-3.8
NEM2				*e*S	Sn	04 17 23.7	-7.9

NNC 21 04:38:44.3±5.5, 3698N×7117E, h201km±82km, mb2.7, mpv3.7, 4C-1D, Error ellipse: s-maj=54.0km s-min=32.1km az=24.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**355**	⇑P	Pn	04 40 13.1	-0.1
	5.3nm,0.3s,baz=180,slow=13,SNR=200						
KK31				⇑S	Sn	04 41 24.4	+0.7
	2.2nm,0.4s,baz=180,slow=24,SNR=3.7						
TKM2	**Tokmak 2**	**6.83**	**28**	⇑P	Pn	04 40 21.7	-0.6
	5.1nm,1.6s						
TKM2				⇓S	Sn	04 41 41.2	+1.1
	2.0nm,0.8s						
AB31	**Akbulak array**	**14.73**	**330**	P	Pn	04 42 05.2	+2.1
	0.6nm,0.4s,baz=158,slow=11,SNR=32						
AB31				⇑S	S	04 44 44.6	-2.1
	0.4nm,0.5s,baz=156,slow=24,SNR=3.5						

ISCJB ***21*** *04:43:10.8±0.3, 4478N±002×673E±003, h10km±3km, Error ellipse: s-maj=3.5km s-min=2.6km az=126.6*
GEN ***21*** *04:43:11.7, 4479N×681E, h0km, ML2.0*
CSEM ***21*** *04:43:11.0±0.1, 4480N×684E, h10km, ML2.0, Error ellipse: s-maj=2.7km s-min=1.8km az=74.0*
LDG ***21*** *04:43:11.7±0.1, 4479N×676E, h2km, Md2.4/1, Ml2.3/5, Error ellipse: s-maj=2.0km s-min=1.1km az=61.0*
STR ***21*** *04:43:11.5±0.3, 4481N×681E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 04:43:11.2±0.3, 4479N±002×677E±003, h13km±3km, n30, σ0§56/54, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.06**	**177**	*e*Pg	**Pg**	**04 43 13.2**	**-0.5**
MBDF				*e*Sg	**Sg**	**04 43 13.9**	**-1.6**
	442nm,0.2s						
MBDF	**Montbardon**	**0.06**	**177**	*e*Sg	**Sg**	**04 43 13.9**	**-1.6**
RRL	**Cesana Torines**	**0.14**	**5**	P	**Pg**	**04 43 14.8**	**+0.1**
SURF	**Saint Ours**	**0.31**	**174**	Pg	**Pg**	**04 43 17.7**	**+0.2**
SURF				Sg	**Sg**	**04 43 22.3**	**+0.6**
FENE	**Fenestrelle**	**0.32**	**41**	P	**Pg**	**04 43 17.9**	**+0.1**
PZZ	**Prazzo**	**0.37**	**139**	P	**Pg**	**04 43 18.6**	**0.0**
RSP	**Reno Superiore**	**0.51**	**43**	P	**Pg**	**04 43 21.5**	**+0.3**
RSP				S	**Sg**	**04 43 28.0**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.65**	**282**	*e*Pg	**Pg**	**04 43 23.4**	**-0.4**
ORIF				*e*Sg	**Sg**	**04 43 31.6**	**-0.7**
	23nm,0.2s						
STV	**Sta Anna Valdi**	**0.67**	**143**	P	**Pg**	**04 43 24.6**	**+0.3**
STV				S	**Sg**	**04 43 33.4**	**+0.2**
STV2	**Anna di Valdie**	**0.67**	**143**	P	**Pg**	**04 43 24.3**	**0.0**
STV2				S	**Sg**	**04 43 33.2**	**0.0**
LPG	**La Plagne**	**0.71**	**359**	*e*Pg	**Pg**	**04 43 25.3**	**+0.2**
LPG				*e*Sg	**Sg**	**04 43 34.8**	**+0.3**
	6.3nm,0.2s						
ENR	**Entracque**	**0.73**	**140**	P	**Pg**	**04 43 25.3**	**-0.1**
ENR				S	**Sg**	**04 43 34.9**	**-0.1**
LPL	**La Plagne**	**0.73**	**358**	*e*Pg	**Pg**	**04 43 25.5**	**+0.1**
LPL				*e*Sg	**Sg**	**04 43 35.2**	**+0.1**
	14nm,0.4s						
GRN	**Grenoble**	**0.86**	**303**	Pg	**Pg**	**04 43 28.1**	**+0.3**
GRN				Sg	**Sg**	**04 43 39.7**	**+0.7**
AUTN	**L'Aution**	**0.92**	**149**	Pg	**Pg**	**04 43 29.7**	**+0.7**
AUTN				Sg	**Sg**	**04 43 42.1**	**+1.0**
ROB	**Roburent**	**0.93**	**121**	P	**Pg**	**04 43 29.1**	**-0.1**
ROB				S	**Sg**	**04 43 40.9**	**-0.4**
SAOF	**Saorge**	**0.98**	**144**	Pg	**Pg**	**04 43 29.8**	**-0.3**
SAOF				Sg	**Sg**	**04 43 43.2**	**+0.3**
MONE	**Monesi**	**1.00**	**135**	P	**Pb**	**04 43 30.1**	**-0.3**
MONE				S	**Sb**	**04 43 43.5**	**0.0**
TRAV		**1.00**	**43**	P	**Pb**	**04 43 30.8**	**+0.3**
TRAV				S	**Sb**	**04 43 43.3**	**-0.4**
SBF	**Sospel**	**1.04**	**152**	*e*Pn	**Pn**	**04 43 31.7**	**+0.2**
SBF				*e*Sg	**Sg**	**04 43 44.9**	**+0.1**
	9.2nm,0.2s						
RORO		**1.15**	**125**	P	**Pb**	**04 43 32.7**	**-0.3**
RORO				S	**Sb**	**04 43 46.5**	**-1.3**
NEGI	**Negi**	**1.15**	**144**	P	**Pb**	**04 43 33.4**	**+0.3**
IMI	**Imperia**	**1.19**	**137**	P	**Pn**	**04 43 33.8**	**+0.2**
IMI				S	**Sb**	**04 43 48.5**	**-0.5**
FRF	**La Foret Royal**	**1.23**	**184**	*e*Pg	**Pg**	**04 43 34.4**	**-0.5**
FRF				*e*Sg	**Sg**	**04 43 50.4**	**-0.4**
	10nm,0.3s						
TAVF	**Tavernes**	**1.27**	**204**	Pg	**Pg**	**04 43 37.0**	**+1.2**
TAVF				Sg	**Sg**	**04 43 54.3**	**+2.0**
LMR	**La Mourre**	**1.46**	**187**	*e*Pg	**Pg**	**04 43 39.1**	**-0.3**
LMR				*e*Sg	**Sg**	**04 43 58.0**	**-0.4**
	7.5nm,0.3s						
VIVF	**Saint-Julien-l**	**1.49**	**273**	*e*Pn	**Pn**	**04 43 37.9**	**+0.2**
VIVF	**Saint-Julien-l**	**1.49**	**273**	*e*Pg	**Pg**	**04 43 39.5**	**-0.4**
VIVF				*e*Sg	**Sg**	**04 43 58.6**	**-0.7**
	8.8nm,0.4s						
VIVF	**Saint-Julien-l**	**1.49**	**273**	*e*Pg	**Pg**	**04 43 39.5**	**-0.4**
VIVF				*e*Sg	**Sg**	**04 43 58.6**	**-0.7**
LASF	**Ste Croix**	**2.20**	**252**	*e*Pn	**Pn**	**04 43 47.9**	**+0.4**
LASF				*e*Sn	**Sn**	**04 44 13.9**	**-0.7**
	1.2nm,0.3s						

NIED ***21*** *04:44:00, 36.10N×142.50E, h5km, Mw5.1 Best double couple: M0 5.34000×10^16 NP1:φs216.00000°, δ50.00000°, λ97.00000°. NP2:φs24.00000°, δ41.00000°, λ81.00000°.*
IDC ***21*** *04:44:02.9±0.5, 3599N×142.42E, h0km, mb4.9/18, mb1 5.0/22, mb1mx4.9/24, mbtmp4.9/22, ML4.7/4, MS5.0/14, Ms1 5.0/14, ms1mx4.6/33, Error ellipse: s-maj=16.2km s-min=13.1km az=95.0*
JMA ***21*** *04:44:04.8±0.2, 3608N×142.49E, h77km, M5.2*
NAO ***21*** *04:44:07.1, 3606N×143.09E, h33km, mb4.9*
ISCJB ***21*** *04:44:07.4±0.1, 3613N±002×142.28E±002, h32km, mb5.0/170, MS5.3/50, Error ellipse: s-maj=3.4km s-min=2.3km az=148.9*
MOS ***21*** *04:44:08.4±0.9, 3636N×142.25E, h30km, mb5.3/65, MS5.4/28, Error ellipse: s-maj=7.7km s-min=4.3km az=115.2*
HRVD ***21*** *04:44:08.7±0.2, 3604N×142.72E, h12km, MW5.2/85, Centroid moment Tensor Solution. LP body waves: s51,c78;Mantle waves: s85,c159; Half duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr5.25±.11; Mθθ-1.87±.11; Mφφ-3.39±.11; Mre2.39±.33; Mθφ-3.00±.09; Mθr5.05±.33; Best double couple: M0 7.83700×10^16 NP1:φs228.00000°, δ23.00000°, λ108.00000°. NP2: φs29.00000°, δ68.00000°, λ82.00000°. Principal axes: T 7.6740, Plg66.0000°, Azm285.0000°; N 0.3150, Plg7.0000°, Azm32.0000°; P -7.9990, Plg23.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *04:44:08.7±1.7, 3605N×142.32E, h32km±11km, mb5.0/82, MW5.1(NIED) Error ellipse: s-maj=5.0km s-min=3.8km az=157.0*
SZGRF ***21*** *04:44:10.7, 3654N×142.95E, h33km, mb5.0, MS5.1, Off east coast of Honshu, Japan*
BJI ***21*** *04:44:12.5, 3624N×141.41E, h31km, mB5.3, mb5.0, Ms5.5, Msz5.2*

ISC 21 04:44:09.2±0.1, 3611N±002×14229E±002, h34km, h34km±.5km; pP-P, n475, σ1§05/504, mb5.0/170, MS5.3/50, 49C-16D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.23**	**251**	⇑P	**Pn**	**04 44 28.8**	**-1.2**
CHOJ				S	**Sn**	**04 44 46.4**	**+1.0**
JHO	**Hitachi**	**1.48**	**290**	⇑P	**Pn**	**04 44 31.9**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.55**	**310**	P	**Pn**	**04 44 32.9**	**-1.5**
ONAJ				S	**Sn**	**04 44 54.2**	**+0.9**
JFK	**Kawauchi**	**1.69**	**318**	⇑P	**Pn**	**04 44 34.6**	**-1.7**
JFK				S	**Sn**	**04 44 57.5**	**+0.8**
BSO1	**Boso 1**	**1.81**	**217**	P	**Pn**	**04 44 36.1**	**-1.8**
BSO3	**Boso 3**	**1.96**	**228**	P	**Pn**	**04 44 38.7**	**-1.2**
JSB	**Shiboa**	**2.09**	**295**	⇑P	**Pn**	**04 44 41.4**	**-0.4**
JFT	**Otama**	**2.10**	**312**	⇑P	**Pn**	**04 44 41.6**	**-0.4**
JFT				S	**Sn**	**04 45 09.7**	**+2.8**
JMM	**Marumori**	**2.12**	**326**	⇑P	**Pn**	**04 44 40.3**	**-1.9**
JMM				S	**Sn**	**04 45 08.7**	**+1.4**
JAG	**Ashikaga**	**2.31**	**279**	⇑P	**Pn**	**04 44 43.7**	**-1.2**
JFY	**Yanaizu**	**2.44**	**303**	⇑P	**Pn**	**04 44 46.2**	**-0.5**
JIO	**Ouri**	**2.45**	**342**	⇑P	**Pn**	**04 44 44.4**	**-2.4**
JKT	**Katashina**	**2.54**	**286**	⇑P	**Pn**	**04 44 47.7**	**-0.2**
JIM2	**Oshima 3**	**2.72**	**240**	P	**Pn**	**04 44 48.6**	**-1.8**
JIM2				S	**Sn**	**04 45 22.9**	**+0.8**
JOD2	**Odawara 2**	**2.74**	**253**	P	**Pn**	**04 44 49.6**	**-1.1**
JOD2				S	**Sn**	**04 45 24.3**	**+1.7**
JRY	**Ryogami san**	**2.75**	**269**	⇑P	**Pn**	**04 44 49.8**	**-1.0**
JYS	**Shiratake**	**2.75**	**320**	⇑P	**Pn**	**04 44 50.3**	**-0.6**
JHK	**Hiroka**	**2.86**	**294**	P	**Pn**	**04 44 52.5**	**+0.1**
JNS	**Sasagawa**	**2.93**	**306**	P	**Pn**	**04 44 54.0**	**+0.7**
JNS				S	**Sn**	**04 45 31.1**	**+3.9**
JMK	**Ichinoseki**	**2.96**	**344**	⇑P	**Pn**	**04 44 51.6**	**-2.1**
JYN	**Shimob**	**3.10**	**260**	P	**Pn**	**04 44 55.1**	**-0.7**
JYK	**Kaneyama**	**3.19**	**332**	⇑P	**Pn**	**04 44 55.5**	**-1.4**
MJAR	**Matsushiro Arr**	**3.32**	**279**	Pn	**Pn**	**04 44 58.5**	**-0.2**
	28nm,0.3s,baz=89,slow=16,SNR=122						
MAJO	**Matsushiro**	**3.32**	**279**	⇑*e*P	**Pn**	**04 44 59.1**	**+0.3**
MAT	**Matsushiro**	**3.32**	**279**	P	**Pn**	**04 44 59.0**	**+0.2**
MAT				*e*S	**Sn**	**04 45 37.5**	**+0.5**
MAT	**Matsushiro**	**3.32**	**279**	P	**Pn**	**04 44 59.1**	**+0.3**
JNG	**Nsakai**	**3.40**	**276**	⇑P	**Pn**	**04 45 00.0**	**+0.2**
JJN	**Nakama**	**3.46**	**288**	⇑P	**Pn**	**04 45 01.5**	**+0.8**
JHJ	**Hachijo jima 2**	**3.63**	**215**	Pn	**Pn**	**04 45 00.8**	**-2.2**
	162nm,0.3s,baz=196,slow=19,SNR=17						
JHJ				Sn	**Sn**	**04 45 41.1**	**-3.5**
	552nm,0.3s,baz=20,slow=23,SNR=14						
JNY	**Yasuok**	**3.68**	**259**	P	**Pn**	**04 45 04.0**	**+0.4**
JGN	**Niukaw**	**4.03**	**273**	P	**Pn**	**04 45 09.7**	**+1.3**
JGM	**Miyama**	**4.54**	**266**	P	**Pn**	**04 45 16.6**	**+1.1**
JHG	**Hegura jima**	**4.63**	**294**	P	**Pn**	**04 45 17.0**	**+0.2**
ERM	**Erimo**	**5.93**	**6**	Pn	**Pn**	**04 45 30.8**	**-3.8**
	2μm,0.4s,SNR=48						
JHS	**Saijyo**	**7.56**	**264**	P	**Pn**	**04 45 57.7**	**+0.8**
ASAJ	**Asahikawa**	**8.00**	**2**	Pn	**Pn**	**04 45 59.9**	**-3.1**
	8.7nm,0.3s,baz=236,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**04 47 32.6**	**+0.5**
	2.3nm,0.3s,baz=336,slow=23,SNR=3.7						
ASAJ				LR	LR	04 50 16.5	
	comp=Z,11μm,18.4s,baz=186,slow=46						
ASAJ	**Asahikawa**	**8.00**	**2**	P	**Pn**	**04 45 59.9**	**-3.0**
ASAJ						04 47 32.7	
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,11μm,18.5s						
YUK	**Yuzh-Kuril'sk**	**8.37**	**18**	P	**Pn**	**04 46 00.5**	**-7.6**
YUK				*i* S	**Sn**	**04 47 31.3**	**-10**
YUK				pmax	pmax		
	comp=Z,210nm,0.2s						
YUK				smax			
	comp=N,770nm,0.5s						
YUK				smax			
	comp=E,250nm,0.5s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,3μm,0.8s						
YUK				MLR	MLR		
	comp=N,11μm,16.0s						
YUK				MLR	MLR		
	comp=Z,11μm,16.0s						
YUK				MLR	MLR		
	comp=E,8μm,10.0s						
CBIJ	**Chichi jima**	**8.99**	**181**	Pn	**Pn**	**04 46 11.8**	**-4.7**
	comp=E,47nm,0.3s,baz=301,slow=9.2,SNR=30						
CBIJ				Sn	**Sn**	**04 47 43.7**	**-13**
	comp=E,67nm,0.3s,baz=230,slow=23,SNR=6.8						
JNU	**Nakatsue**	**9.87**	**256**	Pn	**Pn**	**04 46 31.1**	**+2.5**
	comp=E,1.5nm,0.3s,baz=79,slow=17,SNR=4.2						
KUR	**Kuril'sk**	**10.04**	**23**	*e*P	**Pn**	**04 46 25.0**	**-6.0**
KUR				*i* S	**Sn**	**04 48 13.0**	**-9.4**
KUR				pmax	pmax		
	comp=N,110nm,0.9s						
KUR				pmax	pmax		
	comp=E,130nm,0.9s						
KUR				pmax	pmax		
	comp=Z,170nm,0.9s						
KUR				smax			
	comp=N,100nm,0.8s						
KUR				smax			
	comp=E,210nm,0.8s						
KUR				MLR	MLR		
	comp=N,11μm,12.0s						
KUR				MLR	MLR		
	comp=E,7μm,12.0s						
KUR				MLR	MLR		
	comp=Z,14μm,12.0s						
VLA	**Vladivostok**	**10.64**	**314**	*i* P	**Pn**	**04 46 39.6**	**+0.5**
VLA						04 48 46.0	
VLA				pmax	pmax		
	comp=Z,278nm,1.4s						
VLA				smax			
	comp=Z,8μm,12.0s						
YSS	**Yuzh-Sakhalins**	**10.84**	**2**	⇓*i*P	**Pn**	**04 46 41.1**	**-0.8**
YSS				pmax	pmax		
	comp=Z,200nm,1.3s						
YSS	**Yuzh-Sakhalins**	**10.84**	**2**	⇓*i*Pn	**Pn**	**04 46 41.1**	**-0.8**
	comp=Z,200nm,1.3s						
KS15	**Wonju Array Si**	**11.63**	**281**	⇑*i*Pn	**Pn**	**04 46 54.5**	**+1.8**
MDJ	**Mudanjiang**	**12.87**	**315**	P	**Pn**	**04 47 09.3**	**-0.3**
MDJ				AP		04 47 16.4	
MDJ				XP		04 47 21.8	
MDJ				S	**Sn**	**04 49 31.9**	**+0.4**
MDJ				SCP	ScP	04 56 14.8	+1.2
MDJ				PCS	PcS	04 56 18.3	+0.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,1μm,11.3s						
MDJ				LR	LR		
	comp=N,11μm,13.2s						
MDJ				LR	LR		
	comp=E,4μm,13.5s						
MDJ				LR	LR		
	comp=Z,8μm,13.2s						
MDJ	**Mudanjiang**	**12.87**	**315**	*e*Pn	**Pn**	**04 47 10.8**	**+1.2**
	comp=Z,144nm,1.5s						
UGL	**Uglegorsk**	**12.96**	**359**	*e*P	**Pn**	**04 47 06.0**	**-4.9**
UGL				S	**Sn**	**04 49 40.0**	**+6.2**
UGL				pmax	pmax		
	comp=N,500nm,10.0s						
UGL				pmax	pmax		
	comp=E,300nm,10.0s						
UGL				pmax	pmax		
	comp=Z,500nm,10.0s						
UGL				smax			
	comp=N,700nm,11.0s						
UGL				smax			
	comp=E,1μm,11.0s						
UGL				smax			
	comp=Z,900nm,10.0s						
HABR	**Khabarovsk**	**13.45**	**339**	*i* P	**Pn**	**04 47 16.7**	**-0.9**
HABR				*e*S	**Sn**	**04 49 44.6**	**-1.3**
HABR				pmax	pmax		
	comp=Z,67nm,1.2s						
HABR				MLR	MLR		
	comp=Z,6μm,15.0s						
CN2	**Changchun**	**15.01**	**306**	*e*P	**Pn**	**04 47 36.6**	**-2.1**
CN2				*e*XP	sP	04 47 48.9	-8.2
CN2				*e*S	**Sn**	**04 50 21.6**	**-2.2**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,12μm,12.0s						
CN2				LR	LR		
	comp=E,13μm,12.0s						
CN2				LR	LR		
	comp=Z,12μm,13.0s						
JOW	**Kunigami**	**15.11**	**236**	Pn	**Pn**	**04 47 43.0**	**+3.0**
	comp=Z,2.7nm,0.3s,baz=46,slow=9.6,SNR=10						
KLR	**Kul'dur**	**15.21**	**333**	*e*P	**Pn**	**04 47 35.2**	**-6.1**
KLR				MLR	MLR		
	comp=Z,87μm,13.0s						
SNY	**Shenyang**	**15.62**	**297**	⇑P	**Pn**	**04 47 45.4**	**-1.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=N,11μm,12.0s						
SNY				LR	LR		
	comp=E,9μm,13.5s						
SNY				LR	LR		
	comp=Z,9μm,13.8s						
DL2	**Dalian**	**16.63**	**286**	PR	**Pn**	**04 47 56.3**	**-3.3**
DL2				XP	sP	04 48 12.5	-2.6
DL2				*e*S	**Sn**	**04 50 57.8**	**-5.3**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s						
DL2				AMB	AMB		
	comp=Z,870nm,6.2s						
DL2				LR	LR		
	comp=N,4μm,12.6s						
DL2				LR	LR		
	comp=E,6μm,13.0s						
DL2				LR	LR		
	comp=Z,6μm,12.2s						
OKH	**Okha**	**17.44**	**1**	*e*P	**Pn**	**04 48 13.8**	**+4.1**
OKH				pmax	pmax		
	comp=Z,900nm,10.0s						
SSE	**Sheshan**	**18.27**	**260**	⇑P	**Pn**	**04 48 16.3**	**-3.6**
SSE				AP	pP	04 48 25.1	-3.7
SSE				XP	sP	04 48 30.4	-2.8
SSE				S	**Sn**	**04 51 38.9**	**-3.9**
SSE				SCS	ScS	05 00 03.4	-1.1
SSE				AMB	AMB		
	comp=Z,17nm,0.7s						
SSE				AMB	AMB		
	comp=Z,562nm,8.8s						
SSE				LR	LR		
	comp=N,6μm,17.8s						
SSE				LR	LR		
	comp=E,3μm,17.8s						
SSE				LR	LR		
	comp=Z,5μm,14.3s						
NJ2	**Nanjing**	**19.82**	**265**	*e*P	**Pn**	**04 48 40.4**	**+1.9**
NJ2				AP	pP	04 48 48.3	+2.4
NJ2				XP	sP	04 48 53.4	+3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,690nm,10.8s						
NJ2				LR	LR		
	comp=N,12μm,17.0s						
NJ2				LR	LR		
	comp=E,7μm,15.4s						
NJ2				LR	LR		
	comp=Z,4μm,13.2s						
PET	**Petropavlovsk**	**20.45**	**29**	*e*P	**P**	**04 48 44.6**	**+0.9**
PET				*e*		04 49 05.3	
PET				*e*S	**S**	**04 52 28.4**	**-2.4**
PET				pmax	pmax		
	comp=Z,23nm,0.9s						
PET				pmax	pmax		
	comp=Z,100nm,4.4s						
PET				pmax	pmax		
	comp=Z,700nm,5.0s						
PET				pmax	pmax		
	comp=Z,400nm,5.2s						
PET				pmax	pmax		
	comp=Z,700nm,12.5s						
PET				smax			
	comp=E,2μm,9.7s						
PET				smax			
	comp=E,2μm,7.9s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.7						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
BJT	**Baijiatuau**	**20.91**	**289**	*e*P	**P**	**04 48 47.9**	**-0.7**
BJT				pmax	pmax		
	comp=Z,53nm,0.9s						
BJT	**Baijiatuau**	**20.91**	**289**	*e*P	**P**	**04 48 47.9**	**-0.7**
	comp=Z,53nm,0.9s						
HIA	**Hailar**	**21.05**	**316**	*d*iP	**P**	**04 48 49.5**	**-0.7**
HIA	**Hailar**	**21.05**	**316**	*e*Pn	**P**	**04

CLNS				pmax	pmax	
	comp=E,17nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,74nm,1.1s,mb5.0					
CLNS				pmax	pmax	
	comp=N,83nm,1.0s					
CLNS				pmax	pmax	
	comp=E,26nm,0.9s					
CLNS				smax		
	comp=E,2μm,11.6s					
CLNS				smax		
	comp=Z,2μm,12.7s					
CLNS				smax		
	comp=N,1μm,12.2s					
CLNS				MLR	MLR	
	comp=Z,8μm,14.0s,MS5.3					
CLNS				MLR	MLR	
	comp=N,2μm,13.0s,MS5.3					
CLNS				MLR	MLR	
	comp=E,7μm,13.0s,MS5.3					
TIY	**Taiyuan**	**23.88 283**	⇑P	**P**	**04 49 20.0 +0.4**	
TIY			LR	LR		
	comp=N,8μm,14.0s					
WHN	**Wuhan**	**23.95 265**	P	**P**	**04 49 17.5 -2.7**	
WHN			LR	LR		
	comp=Z,10μm,14.4s,MS5.4					
MA2	**Magadan**	**24.12 11**	*d iP*	**P**	**04 49 21.3 -0.4**	
MA2			*e*S	**S**	**04 53 34.4 -2.8**	
MA2			pmax	pmax		
	comp=N,10.0nm,0.8s					
MA2			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6					
MA2			MLR	MLR		
	comp=Z,6μm,19.9s,MS5.0					
MA2	**Magadan**	**24.12 11**	*e*P	**P**	**04 49 20.4 -1.3**	
	comp=Z,23nm,0.8s,mb4.7					
HHC	**Hu-ho-hao-te**	**24.44 291**	*e*P	**P**	**04 49 25.3 +0.6**	
HHC			AMB	AMB		
	comp=Z,71nm,1.2s,mb5.0					
HHC			LR	LR		
	comp=Z,4μm,14.3s,MS5.1					
BTO	**Baotou**	**25.61 290**	*e*P	**P**	**04 49 35.9 +0.6**	
BTO			AMB	AMB		
	comp=Z,34nm,0.6s,mb5.0					
BTO			LR	LR		
	comp=N,596nm,9.6s					
BTO			LR	LR		
	comp=E,5μm,12.9s					
CIT	**Chita**	**25.83 317**	*e*P	**P**	**04 49 38.1 +0.8**	
CIT			*e*		04 50 25.4	
CIT			pmax	pmax		
	comp=Z,414nm,1.9s,mb5.6					
YAK	**Yakutsk**	**27.12 347**	*e*P	**P**	**04 49 48.4 -0.6**	
	comp=Z,80nm,0.8s,mb5.3					
YAK			pP	pP	04 49 57.5 -1.3	
XAN	**Xi'an**	**27.31 276**	P	**P**	**04 49 50.0 -0.7**	
XAN			S	**S**	**04 54 26.9 -1.0**	
XAN			AMB	AMB		
	comp=Z,58nm,1.3s,mb5.0					
XAN			AMB	AMB		
	comp=Z,754nm,13.2s					
XAN			LR	LR		
	comp=N,1μm,11.5s,MS5.3					
XAN			LR	LR		
	comp=E,5μm,14.4s,MS5.3					
XAN			LR	LR		
	comp=Z,5μm,15.0s,MS5.2					
FX1	**Attu Island--F**	**27.38 43**	LR	LR	04 59 54.4	
	comp=Z,53nm,18.7s,baz=252,slow=35					
SEY	**Seymchan**	**27.57 10**	*e*P	**P**	**04 49 52.3 -0.6**	
SEY					04 50 39.6	
SEY			*e*PPP		04 50 50.8	
SEY					04 53 13.2	
SEY			*e*S	**S**	**04 54 29.0 -2.9**	
SEY			*e*SSS		04 56 11.4	
SEY			pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7					
SEY			smax			
	comp=N,1μm,9.9s					
SEY			smax			
	comp=E,500nm,9.2s					
SEY			MLR	MLR		
	comp=Z,7μm,16.0s,MS5.3					
SEY			MLR	MLR		
	comp=N,4μm,19.0s,MS5.3					
SEY			MLR	MLR		
	comp=E,6μm,19.0s,MS5.3					
ENH	**Enshi**	**27.98 267**	*e*P	**P**	**04 49 55.9 -0.7**	
	comp=E,106nm,0.8s,mb5.5					
ENH			*e*pP	pP	04 50 06.7 +0.2	
ULN	**Ulaanbaatar**	**28.46 305**	*c iP*	**P**	**04 50 01.4 +0.5**	
BOD	**Bodaibo**	**28.68 328**	*e*P	**P**	**04 50 01.9 -1.0**	
BOD			*e*		04 50 07.0	
BOD			pmax	pmax		
	comp=Z,111nm,1.6s,mb5.3					
SONM	**Songino Array**	**28.89 305**	P	**P**	**04 50 05.6 +0.9**	
	comp=Z,28nm,0.8s,mb5.1,baz=104,slow=6.8,SNR=92					
SONM			LR	LR	05 01 58.4	
	comp=Z,1μm,18.1s,MS4.6,baz=189,slow=37					
LZH	**Lanzhou**	**30.93 282**	⇑P	**P**	**04 50 22.8 0.0**	
LZH			AP	pP	04 50 33.5 +0.8	
LZH			XP	sP	04 50 38.3 +1.5	
LZH			PP	PP	04 51 24.8 -8.1	
LZH			PCP	PcP	04 53 20.1 +1.5	
LZH			*e*S	**S**	**04 55 22.0 -2.7**	
LZH			SCP	ScP	04 56 57.5 -1.2	
LZH			PCS	PcS	04 57 02.4 -0.2	
LZH			SCS	ScS	05 00 53.0 -2.6	
LZH			AMB	AMB		
	comp=Z,53nm,1.3s,mb5.2					
LZH			AMB	AMB		
	comp=Z,287nm,9.2s					
LZH			LR	LR		
	comp=N,3μm,13.0s					
LZH			LR	LR		
	comp=Z,3μm,17.2s,MS5.1					
IRK	**Irkutsk**	**31.24 313**	*e*P	**P**	**04 50 23.5 -2.0**	
IRK			*e*	pP	04 50 33.0 -2.4	
IRK			pmax	pmax		
	comp=Z,56nm,1.3s,mb5.2					
ZAK	**Zakamensk**	**31.39 309**	⇑*e*P	**P**	**04 50 27.3 +0.4**	
ZAK			pmax	pmax		
	comp=Z,125nm,1.7s,mb5.5					
GYA	**Guiyang**	**31.78 262**	⇑*i iP*	**P**	**04 50 29.4 -0.9**	
GYA			AP	pP	04 50 41.3 +1.1	
GYA			XP	sP	04 50 46.8 +2.5	
GYA			S	**S**	**04 55 40.4 +2.3**	
GYA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2					
GYA			AMB	AMB		
	comp=Z,620nm,7.2s					
GYA			LR	LR		
	comp=N,3μm,12.0s,MS5.4					
GYA			LR	LR		
	comp=E,4μm,13.2s,MS5.4					
GYA			LR	LR		
	comp=Z,5μm,14.7s,MS5.3					
CD2	**Chengdu**	**32.40 272**	P	**P**	**04 50 36.3 +0.6**	
CD2			XP	sP	04 50 49.8 +0.1	
CD2			PP	PP	04 51 40.8 -8.4	
CD2			PPP		04 52 01.4	
CD2			S	**S**	**04 55 45.9 -1.7**	
CD2			XS	sS	04 55 59.5 -4.6	
CD2			AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2					
CD2			AMB	AMB		
	comp=Z,300nm,7.6s					
CD2			LR	LR		
	comp=N,4μm,16.8s					
CD2			LR	LR		
	comp=Z,3μm,16.8s,MS5.1					
MOY	**Mondy**	**33.07 311**	*e*P	**P**	**04 50 42.0 +0.4**	
MOY			pmax	pmax		
	comp=Z,59nm,2.2s,mb5.1					
QIZ	**Qiongzhong**	**33.22 248**	P	**P**	**04 50 43.3 +0.5**	
QIZ			S	**S**	**04 56 01.4 +1.0**	
QIZ			AMB	AMB		
	comp=Z,271nm,9.2s					
QIZ			LR	LR		
	comp=N,1μm,11.8s,MS5.1					
QIZ			LR	LR		
	comp=E,2μm,13.4s,MS5.1					
QIZ			LR	LR		
	comp=Z,2μm,13.4s,MS5.0					
GTA	**Gaotai**	**33.52 289**	P	**P**	**04 50 46.3 +0.9**	
GTA			AP	pP	04 50 55.6 +0.2	
GTA			XP	sP	04 50 59.9 +0.3	
GTA			PP	PP	04 51 56.6 -5.0	
GTA			PPP		04 52 08.4	
GTA			PCP	PcP	04 53 26.5 +0.8	
GTA			S	**S**	**04 56 00.9 -4.2**	
GTA			XS	sS	04 56 18.1 -3.4	
GTA			SCP	ScP	04 57 06.9 -0.7	
GTA			PCS	PcS	04 57 10.6 -0.9	
GTA			SCS	ScS	05 01 08.5 -0.2	
GTA			AMB	AMB		
	comp=Z,33nm,1.6s,mb5.0					
GTA			AMB	AMB		
	comp=Z,541nm,8.4s					
GTA			LR	LR		
	comp=N,4μm,13.4s,MS5.4					
GTA			LR	LR		
	comp=E,3μm,15.7s,MS5.4					
GTA			LR	LR		
	comp=Z,4μm,15.3s,MS5.2					
BILL	**Bilibino**	**34.72 16**	⇑*i iP*	**P**	**04 50 54.9 -0.9**	
BILL			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
BILL	**Bilibino**	**34.72 16**	*e*P	**P**	**04 50 54.1 -1.7**	
	comp=Z,18nm,1.1s,mb4.9					
KMI	**Kunming**	**35.54 263**	P	**P**	**04 51 02.4 -0.5**	
KMI			AP	pP	04 51 12.8 -0.1	
KMI			XP	sP	04 51 17.8 +0.7	
KMI			PP	PP	04 52 23.4 -0.5	
KMI			PCP	PcP	04 53 31.5 0.0	
KMI			S	**S**	**04 56 34.1 -2.1**	
KMI			XS	sS	04 56 51.0 -1.7	
KMI			SCS	ScS	05 01 15.8 -3.7	
KMI			AMB	AMB		
	comp=Z,32nm,1.2s,mb5.1					
KMI			AMB	AMB		
	comp=Z,360nm,3.1s					
KMI			LR	LR		
	comp=N,4μm,15.4s,MS5.5					
KMI			LR	LR		
	comp=E,4μm,14.9s,MS5.5					
KMI			LR	LR		
	comp=Z,4μm,14.2s,MS5.3					
TIXI	**Tiksi**	**36.29 353**	*e*P	**P**	**04 51 08.3 -1.0**	
TIXI			*e*		04 52 31.1	
TIXI			*e*S	**S**	**04 56 48.8 +1.1**	
TIXI			pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7					
TNA	**Tin City**	**41.31 29**	*e*P	**P**	**04 51 50.4 -1.1**	
	comp=Z,14nm,1.4s,mb4.4					
TNA			*e*pP	pP	04 52 03.4 +1.8	
WMQ	**Urumqi**	**41.89 298**	P	**P**	**04 51 57.5 +1.3**	
WMQ			AP	pP	04 52 07.5 +1.2	
WMQ			XP	sP	04 52 11.5 +1.1	
WMQ			PP	PP	04 53 38.5 +5.1	
WMQ			S	**S**	**04 58 15.0 +3.1**	
WMQ			AMB	AMB		
	comp=Z,61nm,1.1s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,548nm,5.0s					
WMQ			LR	LR		
	comp=N,2μm,10.0s,MS5.3					
WMQ			LR	LR		
	comp=E,897nm,10.0s,MS5.3					
WMQ			LR	LR		
	comp=Z,1μm,10.0s,MS5.0					
LSA	**Lhasa**	**43.01 277**	P	**P**	**04 52 06.5 +1.3**	
LSA			S	**S**	**04 58 26.6 -1.8**	
LSA			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8					
LSA			AMB	AMB		
	comp=Z,460nm,10.1s					
LSA			LR	LR		
	comp=N,910nm,14.8s,MS5.4					
LSA			LR	LR		
	comp=E,3μm,14.8s,MS5.4					
LSA			LR	LR		
	comp=Z,4μm,13.6s,MS5.5					
LSA	**Lhasa**	**43.01 277**	*e*P	**P**	**04 52 07.4 +2.2**	
LSA			*e**PP	pP	04 52 16.7 +1.3	
LSA			pmax	pmax		
	comp=Z,65nm,1.1s,mb5.3					
LSA	**Lhasa**	**43.01 277**	*e*P	**P**	**04 52 07.4 +2.2**	
	comp=Z,65nm,1.1s,mb5.3					
LSA			*e*pP	pP	04 52 16.7 +1.3	
ZAL	**Zalesovo**	**43.07 313**	P	**P**	**04 52 06.0 +0.3**	
	comp=Z,16nm,0.9s,mb4.8,baz=21,slow=8.5,SNR=83					
NVS	**Novosibirsk**	**43.99 314**	*i* P	**P**	**04 52 11.9 -1.2**	
NVS			pmax	pmax		
	comp=Z,49nm,1.1s,mb5.2					
NVS			pmax	pmax		
	comp=N,7.0nm,0.7s					
NVS			pmax	pmax		
	comp=E,38nm,1.2s					
SHL	**Shillong**	**44.11 271**	*e*P	**P**	**04 52 15.0 +0.9**	
SHL			*e*x	x	04 58 52.0	
MK31	**Makanchi Array**	**45.21 303**	*i* P	**P**	**04 52 23.0 +0.1**	
MK31			pmax	pmax		
	comp=Z,50nm,0.8s,mb5.4					
MKAR	**Makanchi Array**	**45.21 303**	P	**P**	**04 52 22.9 0.0**	
	comp=Z,39nm,0.9s,mb5.3,baz=85,slow=8.9,SNR=92					
MKAR			LR	LR	05 11 43.6	
	comp=Z,924nm,18.7s,MS4.7,baz=58,slow=37					
MKAR	**Makanchi Array**	**45.21 303**	*i* P	**P**	**04 52 23.0 +0.1**	
MKAR			pmax	pmax		
	comp=Z,40nm,0.8s					
MKAR	**Makanchi Array**	**45.21 303**	P	**P**	**04 52 22.9 0.0**	
MKAR			LR	LR	05 11 43.6	
KSM	**Kuching**	**45.44 228**	*e*P	**P**	**04 52 25.3 +0.5**	
KSM			*e*pP	pP	04 52 36.0 +1.1	
PMG	**Port Moresby**	**45.51 173**	*e*P	**P**	**04 52 24.5 -0.7**	
PMG			pmax	pmax		
	comp=Z,27nm,1.1s					
PMG	**Port Moresby**	**45.51 173**	*e*P	**P**	**04 52 24.5 -0.7**	
	comp=Z,27nm,1.1s,mb5.1					
KURK	**Kurchatov**	**47.06 309**	P	**P**	**04 52 37.4 0.0**	
	comp=Z,554nm,0.8s,SNR=60					
KURK	**Kurchatov**	**47.06 309**	*e*P	**P**	**04 52 37.2 -0.2**	
KURK			*e**PP	pP	04 52 47.1 -0.6	
KURK			*e**SP	sP	04 52 51.4 -0.4	
KURK			pmax	pmax		
	comp=Z,75nm,0.8s,mb5.7					
KURK	**Kurchatov**	**47.06 309**	*e*P	**P**	**04 52 37.1 -0.3**	
	comp=Z,75nm,0.8s,mb5.7					
KURK			*e*pP	pP	04 52 47.1 -0.5	
KURK			*e*sP	sP	04 52 51.4 -0.4	
KDAK	**Kodiak Island**	**47.32 41**	P	**P**	**04 52 38.0 -1.5**	
	comp=Z,14nm,1.0s,mb4.8,baz=227,slow=8.6,SNR=5.2					
KDAK	**Kodiak Island**	**47.32 41**	P	**P**	**04 52 38.0 -1.5**	
JIRN	**Jiri**	**47.81 276**	*e*P	**P**	**04 52 43.9 +0.6**	
	comp=Z,179nm,1.2s,mb6.0					
GUN	**Gumba**	**47.96 277**	*e*P	**P**	**04 52 44.9 +0.5**	
	comp=Z,133nm,1.1s,mb5.9					
CAL	**Calcutta**	**48.39 269**	*e*P	**P**	**04 52 50.3 +2.6**	
CAL			*e*P		04 52 50.3	
CAL			*e*S	**S**	**04 59 49.9 +4.0**	
CAL			*e*S	**S**	**04 59 49.9 +4.0**	
CAL			AMP		05 17 54.7	
	comp=Z,966nm,16.6s					
PKI	**Pulchoki**	**48.48 277**	*e*P	**P**	**04 52 48.9 +0.5**	
	comp=Z,91nm,1.2s,mb5.7					
PKI	**Pulchoki**	**48.48 277**	*e*P	**P**	**04 52 48.9 +0.5**	
PKI			pmax	pmax		
	comp=Z,46nm,1.2s,mb5.4					
KKN	**Kakani**	**48.49 277**	*e*P	**P**	**04 52 49.1 +0.6**	
	comp=Z,76nm,0.9s,mb5.7					
KKN	**Kakani**	**48.49 277**	*e*P	**P**	**04 52 49.1 +0.6**	
KKN			pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4					
DMN	**Daman**	**48.70 277**	*e*P	**P**	**04 52 50.9 +0.7**	
GKN	**Gorkha**	**48.92 278**	*e*P	**P**	**04 52 52.1 +0.3**	
	comp=Z,373nm,1.4s					
MCK	**McKinley**	**49.01 33**	*e*P	**P**	**04 52 52.1 -0.4**	
MCK			*e**PP	pP	04 53 03.0 +0.2	
MCK			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4					
MCK	**McKinley**	**49.01 33**	*e*P	**P**	**04 52 52.1 -0.4**	
	comp=Z,4.3nm,1.0s,mb4.4					
MCK			*e*pP	pP	04 53 03.0 +0.2	
COLA	**College**	**49.48 32**	*e*P	**P**	**04 52 56.8 +0.6**	
COLA			*e**SP	sP	04 53 07.8 -2.7	
COLA			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3					
COLA	**College**	**49.48 32**	*e*P	**P**	**04 52 56.8 +0.6**	
	comp=Z,1.8nm,0.6s,mb4.3					
COLA			*e*sP	sP	04 53 07.8 -2.7	
AAA	**Alma-Ata**	**49.65 299**	*i* P	**P**	**04 53 00.8 +3.4**	
AAA			*i* S	**S**	**05 00 06.0 +2.5**	
BOK	**Bokaro**	**49.77 272**	*e*P	**P**	**04 52 58.0 -0.4**	
BOK			AMb	AMB	04 53 13.0	
	comp=Z,31nm,1.1s,mb5.2					
BOK			*e*S	**S**	**05 00 07.2 +1.9**	
KOLN	**Koldanda**	**49.85 278**	*e*P	**P**	**04 52 59.4 +0.5**	
	comp=Z,155nm,1.4s,mb5.8					
ILAR	**Eielson Array**	**49.90 32**	P	**P**	**04 52 57.8 -1.5**	
	comp=Z,5.9nm,0.8s,mb4.7,baz=267,slow=6.2,SNR=36					
DIV	**Divide**	**50.59 37**	*e*P	**P**	**04 53 03.3 -1.2**	
	comp=Z,43nm,0.9s,mb5.4					
DIV			*e*pP	pP	04 53 13.0 -1.8	
TKM2	**Tokmak 2**	**50.69 299**	P	**P**	**04 53 06.5 +1.2**	
	SNR=32					
TKM2	**Tokmak 2**	**50.69 299**	*i* P	**P**	**04 53 06.2 +0.9**	
TKM2			pmax	pmax		
	comp=Z,112nm,1.4s,mb5.6					
KZA	**Kyzart**	**51.18 298**	P	**P**	**04 53 12.3 +3.4**	
	SNR=14					
KBK	**Karagaybulak**	**51.22 299**	P	**P**	**04 53 10.3 +1.0**	
	SNR=16					
USP	**Ospenovka**	**51.37 300**	P	**P**	**04 53 10.9 +0.6**	
	SNR=14					
FRU	**Bishkek**	**51.41 299**	*e*P	**P**	**04 53 12.0 +1.3**	
FRU			*e*		05 00 37.0	
FRU			pmax	pmax		
	comp=Z,120nm,1.7s,mb5.5					
VOSK	**Vostochnaya**	**51.42 313**	P	**P**	**04 53 10.4 -0.4**	
VOSK			pmax	pmax		
	comp=Z,73nm,1.4s,mb5.4					
KSH	**Kashi**	**51.43 295**	*e*P	**P**	**04 53 16.4 +5.6**	
KSH			PCP	PcP	04 54 29.3 +4.3	
KSH			*e*SCP	ScP	04 58 22.1 +3.2	
KSH			*e*PCS	PcS	04 58 26.0 +3.2	
KSH			AMB	AMB		
	comp=Z,130nm,2.4s,mb5.4					
KSH			LR	LR		
	comp=N,2μm,11.8s,MS5.6					
KSH			LR	LR		
	comp=E,3μm,11.6s,MS5.6					
AAK	**Ala-Archa**	**51.55 299**	P	**P**	**04 53 13.6 +1.8**	
	SNR=14					
AAK	**Ala-Archa**	**51.55 299**	P	**P**	**04 53 12.2 +0.4**	
	comp=E,134nm,0.6s,mb6.0,SNR=11					
AAK	**Ala-Archa**	**51.55 299**	*e*P	**P**	**04 53 11.4 -0.4**	
AAK			pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0					
AAK	**Ala-Archa**	**51.55 299**	*e*P	**P**	**04 53 11.4 -0.4**	
	comp=Z,12nm,0.6s,mb5.0					
UCH	**Uchtor**	**51.66 299**	P	**P**	**04 53 14.0 +1.4**	
	SNR=10.0					
BVA0	**Borovoye Array**	**51.71 313**	*i* P	**P**	**04 53 12.6 -0.4**	
BVA0			pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4					
BRVK	**Borovoye**	**51.77 313**	P	**P**	**04 53 13.7 +0.3**	
	comp=Z,103nm,0.5s,mb6.0,SNR=8.6					
BRVK	**Borovoye**	**51.77 313**	*e*P	**P**	**04 53 13.1 -0.3**	
BRVK			*e**PP	pP	04 53 22.0 -1.7	
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
BRVK	**Borovoye**	**51.77 313**	*e*P	**P**	**04 53 13.1 -0.3**	
	comp=Z,8.9nm,0.8s,mb4.8					
BRVK			*e*pP	pP	04 53 22.0 -1.7	
EKS2	**Erkin-Say**	**52.05 299**	P	**P**	**04 53 15.8 +0.4**	
	SNR=14					
AML	**Almayashu**	**52.27 299**	P	**P**	**04 53 18.7 +1.6**	
	SNR=54					
ZRNK	**Zerenda**	**52.55 313**	⇑*i iP*	**P**	**04 53 18.9 -0.3**	
ZRNK			pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0					
ZRNK	**Zerenda**	**52.55 313**	⇑*i iP*	**P**	**04 53 18.9 -0.3**	
	comp=Z,28nm,1.3s,mb5.0					
KLP	**Kalpa**	**52.55 285**	*e*P	**P**	**04 53 19.1 -0.1**	
KALG	**Kalgarh**	**52.98 282**	*e*P	**P**	**04 53 21.6 -0.8**	
KK31	**Karatay Array**	**54.20 301**	*i* P	**P**	**04 53 31.2 -0.1**	
KK31			pmax	pmax		
	comp=Z,69nm,1.2s,mb5.5					
KKAR	**Karatay Array**	**54.20 301**	P	**P**	**04 53 31.2 -0.1**	
KKAR			pmax	pmax		
	comp=Z,83nm,1.2s,mb5.5					
NDI	**New Delhi**	**54.55 282**	*e*P	**P**	**04 53 33.0 -0.8**	
AYAN	**Aya Nagar**	**54.70 282**	*e*P	**P**	**04 53 34.5 -0.5**	
SONA	**Sohna**	**54.84 282**	*e*P	**P**	**04 53 36.0 +0.1**	
VIS	**Vishakhapatnam**	**54.87 267**	*e*P	**P**	**04 53 36.3 +0.1**	
VIS			AMb	AMB	04 53 48.9	
	comp=Z,29nm,1.4s,mb5.1					
VIS			*e*S	**S**	**05 01 16.7 +1.7**	
INK	**Inuvik**	**54.89 27**	*e*P	**P**	**04 53 35.5 -0.8**	
INK			*e**PP	pP	04 53 44.6 -2.1	
INK			pmax	pmax		
	comp=Z,4.0nm,0.5s					
INK	**Inuvik**	**54.89 27**	*e*P	**P**	**04 53 35.5 -0.8**	
	comp=Z,4.0nm,0.5s,mb4.7					
INK			*e*pP	pP	04 53 44.6 -2.1	
KUDL	**Kundal**	**55.36 282**	*e*P	**P**	**04 53 38.9 -0.8**	
KHET	**Khetri**	**55.93 282**	*e*P	**P**	**04 53 43.5 -0.3**	
CTA	**Charters Tower**	**56.02 176**	*e*P	**P**	**04 53 43.8 -0.6**	
	comp=Z,4.5nm,0.8s,mb4.5					
CTA	**Charters Tower**	**56.02 176**	*e*P	**P**	**04 53 43.8 -0.6**	
CTA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
FITZ	**Fitzroy Crossi**	**56.17 199**	*e*P	**P**	**04 53 44.9 -0.7**	
	comp=Z,8.4nm,0.6s,mb5.0					
WRAB	**Tennant Creek**	**56.24 189**	P	**P**	**04 53 44.5 -1.5**	
	comp=Z,277nm,1.2s,SNR=13					
WRAB	**Tennant Creek**	**56.24 189**	*e*P	**P**	**04 53 44.4 -1.6**	
WRAB			*e**PP	pP	04 53 55.2 -1.3	
WRAB			pmax	pmax		
	comp=Z,92nm,1.1s,mb5.7					
WRAB	**Tennant Creek**	**56.24 189**	*e*P	**P**	**04 53 44.4 -1.7**	
	comp=Z,92nm,1.1s,mb5.7					
WRAB			*e*pP	pP	04 53 55.1 -1.3	
WB2	**Warramunga Arr**	**56.25 189**	*e*P	**P**	**04 53 43.4 -2.7**	
WRA	**Warramunga Arr**	**56.26 189**	P	**P**	**04 53 44.2 -1.9**	
	comp=Z,51nm,1.1s,mb5.4,baz=7.0,slow=7.1,SNR=86					
SOKR	**Solikamsk**	**57.49 323**	⇑*i iP*	**P**	**04 53 55.8 +0.9**	
SOKR			*e*	pP	04 54 03.9 -1.4	
SOKR			S	**S**	**05 01 41.7 -8.2**	
SOKR			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1					
SOKR			MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4					
ARU	**Arti**	**57.52 319**	*e*P	**P**	**04 53 54.7 -0.4**	
ARU			*e**PP	pP	04 54 05.5 0.0	
ARU			pmax	pmax		
	comp=Z,40nm,0.8s,mb5.5					
ARU	**Arti**	**57.52 319**	*e*P	**P**	**04 53 54.6 -0.4**	
	comp=Z,40nm,0.8s,mb5.5					
ARU			*e*pP	pP	04 54 05.5 0.0	
AJM	**Ajmer**	**57.57 281**	*e*P	**P**	**04 53 55.1 -0.4**	
AJM			AMb	AMB	04 53 56.7	
	comp=Z,19nm,0.9s,mb5.1					
AJM			*e*S	**S**	**05 01 53.2 +2.2**	
HYB	**Hyderabad**	**58.89 270**	*i* P	**P**	**04 54 04.5 -0.2**	
HYB	**Hyderabad**	**58.89 270**	*e*P	**P**	**04 54 04.5 -0.2**	
AB31	**Akbulak array**	**59.07 311**	*i* P	**P**	**04 54 05.5 -0.4**	
AB31			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1					
AS31	**Alice Springs**	**59.98 189**	*e*P	**P**	**04 54 10.6 -1.6**	
ASAR	**Alice Springs**	**59.98 189**	P	**P**	**04 54 10.7 -1.5**	
	comp=Z,20nm,1.1s,mb5.1,baz=7.1,slow=5.0,SNR=44					
ASPA	**Alice Springs**	**59.98 189**	*e*P	**P**	**04 54 10.6 -1.6**	
MBWA	**Marble Bar**	**60.83 204**	*e*P	**P**	**04 54 16.8 -1.2**	
	comp=Z,44nm,1.2s,mb5.5					
ALE	**Alert**	**60.98 4**	P	**P**	**04 54 19.3 +0.3**	
	comp=Z,111nm,1.1s,mb5.9,SNR=7.4					
POO	**Poona**	**62.12 273**	*e*P	**P**	**04 54 26.0 -0.7**	
DZM	**Mont Dzumac**	**62.22 155**	P	**P**	**04 54 27.9 +0.5**	
	comp=Z,19nm,1.0s,mb5.2,baz=267,slow=17,SNR=4.7					
KAD	**Karad**	**62.49 272**	*e*P	**P**	**04 54 28.6 -0.5**	
KAD			AMb	AMB	04 54 41.7	
	comp=Z,28nm,1.3s,mb5.2					
KAD			*e*S	**S**	**05 02 56.4 +2.3**	
BHJ	**Bhuj**	**63.09 280**	*e*P	**P**	**04 54 32.4 -0.8**	
BHJ			*e*S	**S**	**05 03 03.8 +2.2**	
LVZ	**Lovozero**	**63.24 336**	*c iP*	**P**	**04 54 34.4 +0.3**	
LVZ			*i* S	**S**	**05 03 05.8 +2.3**	
LVZ			*e*SS	SS	05 07 10.3 +0.3	
LVZ			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9					
LVZ			pmax	pmax		
	comp=N,7.0nm,0.9s					
LVZ			pmax	pmax		
	comp=E,7.0nm,1.2s					

LVZ smax
comp=Z,142nm,2.5s
LVZ smax
comp=N,137nm,2.8s
LVZ smax
comp=E,152nm,3.8s
LVZ MLR MLR
comp=Z,2µm,19.0s,MS5.4
LVZ MLR MLR
comp=N,2µm,14.0s
LVZ MLR MLR
comp=E,2µm,20.0s
RES Resolute Bay 63.31 14 *e*P **P 04 54 33.6 -1.1**
RES *e**PP pP 04 54 43.1 -2.1
RES *e**SP sP 04 54 47.6 -1.6
RES pmax pmax
comp=Z,15nm,0.9s,mb5.1
RES Resolute Bay 63.31 14 *e*P **P 04 54 33.6 -1.1**
comp=Z,15nm,0.9s,mb5.1
RES *e*pP pP 04 54 43.1 -2.1
RES *e*sP sP 04 54 47.6 -1.6
APA Apatity 63.81 336⇑*i*P **P 04 54 38.5 +0.5**
APA *i* pP 04 54 48.0 -0.5
APA *e*PPP 04 58 30.0
APA *e*S **S 05 03 14.0 +3.3**
APA *e*SS SS 05 07 20.0 +1.0
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
APA MLR MLR
comp=Z,3µm,15.0s,MS5.6
YKW3 Yellowknife Ar 64.21 30 *e*P **P 04 54 39.6 -1.0**
YKW3 *e*pP pP 04 54 51.0 -0.2
YKA Yellowknife Ar 64.25 30 P **P 04 54 39.6 -1.2**
comp=Z,3.3nm,0.9s,mb4.3,baz=296,slow=6.5,SNR=36
YKA PKPPKP 05 23 32.0
comp=Z,0.1nm,0.5s,baz=111,slow=2.7,SNR=4.2
KEV Kevo 64.55 340 *e*p **P 04 54 42.0 -0.8**
KLMR Klimovskoe 64.91 328*d*i*P* **P 04 54 45.3 +0.2**
KLMR *e* 04 57 08.9
KLMR pmax pmax
comp=Z,40nm,1.2s,mb5.3
KLMR MLR MLR
comp=Z,2µm,13.0s,MS5.5
PECR Pechory 64.98 323 *e*P **P 04 54 45.0 -0.6**
PECR *e* 04 55 14.6
PECR *e* 04 57 10.6
PECR *e*S **S 05 03 23.4 -1.7**
PECR *e*PS 05 03 54.0
PECR pmax pmax
comp=Z,300nm,4.0s
PECR smax
comp=N,600nm,12.0s
PECR smax
comp=E,500nm,9.0s
PECR MLR MLR
comp=E,1µm,15.0s,MS5.5
PECR MLR MLR
comp=Z,3µm,15.0s,MS5.6
PECR MLR MLR
comp=N,2µm,13.0s,MS5.5
PECR MLR MLR
comp=E,3µm,14.0s
PECR MLR MLR
comp=Z,4µm,14.0s
PECR MLR MLR
comp=N,1µm,12.0s
ARCES ARCESS Array B 65.10 340 P **P 04 54 46.1 -0.2**
comp=N,4.4nm,0.9s,mb4.5,baz=64,slow=11,SNR=7.6
ARCES LR LR 05 28 48.1
comp=N,1µm,18.2s,MS5.2,baz=39,slow=41
DAG Danmarks Havn 66.75 355⇓*i*P **P 04 54 56.0 -1.0**
comp=N,5.1nm,0.4s,mb4.9
DAG Danmarks Havn 66.75 355⇓*e*P **P 04 54 56.0 -1.0**
DAG pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
ARMA Armidale 66.76 171 *e*P **P 04 54 58.2 +1.2**
JOF Joensuu 67.11 332 *e*p **P 04 54 59.0 -0.2**
CMW Cultus Mountai 67.35 46 P **P 04 55 01.4 +0.6**
JCW Jim Creek 67.57 46 P **P 04 55 02.8 +0.6**
STKA Stephens Creek 67.64 181 *e*P **P 04 55 00.4 -2.2**
comp=Z,5.7nm,0.6s,mb4.8
STKA Stephens Creek 67.64 181 P **P 04 54 59.8 -2.8**
comp=Z,26nm,1.3s,mb5.1,baz=346,slow=5.8,SNR=9.4
STKA LR LR 05 24 16.4
comp=Z,304nm,20.2s,MS4.5,baz=12,slow=36
STKA Stephens Creek 67.64 181 *e*P **P 04 54 59.1 -3.5**
STKA *e* 04 55 14.5
HTW Haystack Looko 67.86 46 P **P 04 55 04.9 +0.9**
RVC Mount Rainier- 68.17 47 P **P 04 55 07.2 +1.3**
MOS Moscow 68.41 324 *e*P **P 04 55 04.2 -3.2**
MOS *i* pP 04 55 17.2 -0.9
MOS *e*S S 05 04 04.3 -2.2
MOS MLR MLR
comp=Z,2µm,14.5s,MS5.5
WTV Waterville 68.97 46 P **P 04 55 11.7 +0.7**
EBG Ellensburg 69.01 47 P **P 04 55 11.8 +0.6**
OBN Obninsk 69.25 324*c i*P **P 04 55 13.5 +0.8**
OBN *i* pP 04 55 23.4 0.0
OBN *e* 04 57 48.8
OBN *i*S S 05 04 19.8 +3.3
OBN *i*SS SS 05 08 47.8 +4.4
OBN pmax pmax
comp=Z,23nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,3µm,17.0s,MS5.6
PUL Pulkovo 69.34 330 *e*P **P 04 55 15.0 +1.8**
PUL *e* 04 57 52.1
PUL *e*S S 05 04 21.3 +3.7
PUL *e*SS SS 05 08 40.2 -4.6
PUL MLR MLR
comp=Z,3µm,19.0s,MS5.5
PUL MLR MLR
comp=N,3µm,13.0s
PUL MLR MLR
comp=E,1µm,13.0s
KAF Kangasniemi 69.45 333 *e*p **P 04 55 12.7 -1.2**
comp=E,8.2nm,0.6s,mb4.8,baz=50,slow=5.9
MAK Makhachkala 69.58 309*d i*P **P 04 55 13.5 -1.2**
MAK *i* 04 55 35.7
MAK *e* 04 57 53.4
MAK *e*PPP 04 59 29.6
MAK *e*S S 05 04 21.8 +1.4
MAK pmax pmax
comp=Z,90nm,1.1s,mb5.6
MAK MLR MLR
comp=Z,3µm,16.0s,MS5.7
EDM Edmonton 69.63 38 *e*P **P 04 55 14.1 -0.9**
EDM *e**PP pP 04 55 25.2 -0.5
EDM Edmonton 69.63 38 *e*P **P 04 55 14.1 -0.9**
EDM *e*pP pP 04 55 25.2 -0.5
EDM *e*sP sP 04 55 28.8 -0.9
MDW Midway 69.64 47 P **P 04 55 16.0 +0.9**
VOR Voronezh 69.79 320 P **P 04 55 15.0 -1.0**
VOR pmax pmax
comp=Z,100nm,1.1s,mb5.7
HAWA Hanford 69.89 47 *e*P **P 04 55 16.8 +0.2**
comp=Z,1.5nm,1.4s
HAWA *e*pP pP 04 55 26.1 -1.2
HAWA *e*sP sP 04 55 30.4 -0.9
FINES FINESS Array B 69.96 333 P **P 04 55 16.4 -0.6**
comp=Z,14nm,1.0s,mb4.9,baz=57,slow=7.0,SNR=36
FINES LR LR 05 30 44.5
comp=Z,1µm,18.2s,MS5.2,baz=22,slow=40
FINES FINESS Array B 69.96 333 P **P 04 55 16.4 -0.6**
FINES LR LR 05 30 44.5
YBH Yreka Blue Hor 70.35 52 *e*P **P 04 55 20.2 +0.8**
YBH *e**PP pP 04 55 29.6 -0.5
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 70.35 52 *e*P **P 04 55 20.2 +0.7**
comp=Z,8.6nm,0.9s,mb4.7
YBH *e*pP pP 04 55 29.6 -0.5
KLBR Kellerberrin 71.17 202 *e*P **P 04 55 24.0 -0.4**
comp=Z,40nm,1.3s,mb5.2
GOF Gofitskoye 71.24 312 *e*P **P 04 55 23.5 -1.3**
GOF pmax pmax
comp=Z,46nm,1.0s,mb5.4
SUMG Summit 71.60 0 *e*P **P 04 55 26.5 -0.6**
comp=Z,20nm,1.0s,mb5.0
SUMG *e*pP pP 04 55 37.0 -0.7
VSU Vasula 71.60 330*c i*P **P 04 55 26.6 -0.4**
DGRG David-gareji 71.72 308 P **P 04 55 31.3 +3.5**
MOD Modoc 71.79 51 *e*P **P 04 55 28.5 +0.3**
comp=Z,8.6nm,0.8s,mb4.7
MOD *e*pP pP 04 55 38.2 -0.7
MOD *e*sP sP 04 55 41.6 -1.2
WBK Wadi Bani Khal 71.86 285 P **P 04 55 30.8 +2.2**
SNR=7.9
ZEI Tsey 71.94 310 *i* P **P 04 55 27.0 -2.1**
ZEI *i* *PP pP 04 55 38.5 -1.3
ZEI *i* 04 55 47.3
ZEI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BMO Blue Mountains 72.03 47 *e*P **P 04 55 29.9 +0.2**
comp=Z,12nm,1.2s,mb4.7
BMO *e*pP pP 04 55 39.8 -0.5
BANOM Banah 72.17 289⇓P **P 04 55 31.5 +1.0**
ONI Oni 72.32 310 P **P 04 55 31.7 +0.4**
SMDO Samad 72.34 286⇑P **P 04 55 32.7 +1.2**
OHCM Honcut 72.40 54 P **P 04 55 32.0 +0.2**
WVOR Wild Horse Val 72.55 50 *e*P **P 04 55 33.0 +0.3**
WVOR *e**PP pP 04 55 43.5 +0.1
WVOR pmax pmax
comp=Z,16nm,1.3s,mb4.8
WVOR Wild Horse Val 72.55 50 *e*P **P 04 55 33.0 +0.3**
comp=Z,16nm,1.3s,mb4.8
WVOR *e*pP pP 04 55 43.5 +0.1
HOQ Hoqain 72.64 287 P **P 04 55 34.1 +0.9**
SNR=6.6
GNI Garni 72.82 307 *e*P **P 04 55 35.4 +1.1**
GNI *e**PP pP 04 55 44.1 -0.9
GNI pmax pmax
comp=Z,47nm,1.4s
GNI Garni 72.82 307 *e*P **P 04 55 35.4 +1.0**
comp=Z,47nm,1.4s,mb5.2
GNI *e*pP pP 04 55 44.1 -1.0
MSO Missoula 72.89 44 *e*P **P 04 55 34.4 -0.4**
comp=Z,9.5nm,1.1s,mb4.6
MSO *e*pP pP 04 55 44.6 -0.9
ASHO Ashiyiah 73.02 288⇑P **P 04 55 36.3 +0.8**
BSY Bisya 73.17 286 P **P 04 55 37.4 +1.0**
SNR=8.6
CHMT Chamberlain Mo 73.23 44 *e*P **P 04 55 36.9 +0.2**
CHMT *e*pP pP 04 55 46.4 -1.0
ARQ Araqi 73.38 287 P **P 04 55 39.2 +1.6**
SNR=7.7
DIGO Kars 73.55 308 *i* P **P 04 55 38.2 -0.4**
MNK Minsk 73.67 326 *e*P **P 04 55 39.0 -0.4**
CMB Columbia Colle 73.83 55 *e*P **P 04 55 40.4 +0.1**
CMB *e**PP pP 04 55 50.9 -0.1
CMB pmax pmax
comp=Z,14nm,1.0s,mb4.8
CMB Columbia Colle 73.83 55 *e*P **P 04 55 40.4 +0.2**
comp=Z,14nm,1.0s,mb4.8
CMB *e*pP pP 04 55 50.9 -0.1
SOC Sochi 74.04 312 *e*P **P 04 55 40.7 -0.8**
SOC *e* 04 56 02.2
SOC *e*PPP 05 00 10.7
SOC *e*S S 05 05 08.4 -3.3
SOC *e*SS SS 05 09 51.6 -5.1
SOC pmax pmax
comp=Z,16nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,688nm,16.0s,MS5.0
ARTV Artvin 74.04 309 *i* P **P 04 55 38.9 -2.6**
FFC Flin Flon 74.10 33 P **P 04 55 41.4 -0.4**
comp=Z,64nm,0.9s,mb5.6,SNR=7.5
FFC Flin Flon 74.10 33 *e*P **P 04 55 40.9 -0.9**
FFC *e**PP pP 04 55 51.0 -1.6
FFC pmax pmax
comp=Z,12nm,0.9s,mb4.8
FFC Flin Flon 74.10 33 *e*P **P 04 55 40.9 -0.9**
comp=Z,12nm,0.9s,mb4.8
FFC *e*pP pP 04 55 51.0 -1.6
DLMT Dillon 74.50 45 *e*P **P 04 55 44.5 +0.3**
comp=Z,45nm,1.2s,mb5.3
DLMT *e*pP pP 04 55 54.4 -0.5
DLMT *e*sP sP 04 55 58.2 -0.7
BMN Battle Mountai 74.54 51 *e*P **P 04 55 45.1 +0.7**
BMN *e**PP pP 04 55 55.7 +0.5
BMN pmax pmax
comp=Z,18nm,1.0s,mb5.0
BMN Battle Mountai 74.54 51 *e*P **P 04 55 45.1 +0.7**
comp=Z,18nm,1.0s,mb5.0
BMN *e*pP pP 04 55 55.7 +0.6
MCMT McKenzie Canyo 74.66 45 *e*P **P 04 55 46.1 +1.0**
MCMT *e*pP pP 04 55 54.7 -1.2
ANN Anapa 74.68 314 *e*P **P 04 55 44.5 -0.7**
ANN *e* 04 58 35.8
ANN *e*PPP 05 00 18.7
ANN *e*S S 05 05 17.3 -1.5
ANN pmax pmax
comp=Z,15nm,0.8s,mb5.0
BOZ Bozeman (W) 74.88 44 *e*P **P 04 55 46.7 +0.3**
BOZ *e**PP pP 04 55 57.5 +0.4
BOZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
BOZ Bozeman (W) 74.88 44 *e*P **P 04 55 46.7 +0.4**
comp=Z,15nm,0.8s,mb5.0
BOZ *e*pP pP 04 55 57.5 +0.4
NVAR Mina Array Bea 74.97 53 P **P 04 55 47.6 +0.7**
comp=Z,12nm,0.9s,mb4.8,baz=297,slow=4.2,SNR=41
MNV Mina 75.07 53 *e*P **P 04 55 47.9 +0.4**
MNV pmax pmax
comp=Z,11nm,1.1s,mb4.7
MNV Mina 75.07 53 *e*P **P 04 55 47.9 +0.4**
comp=Z,11nm,1.1s,mb4.7
ERZM Erzurum 75.11 309 *i* P **P 04 55 48.9 +1.2**
HFS Hagfors 75.22 336 LR LR 05 32 59.6
comp=Z,2µm,18.4s,MS5.4,baz=45,slow=39
PTRM Twissleman Ran 75.26 57 *e*P **P 04 55 49.0 +0.4**
NB2 NORSAR Subarra 75.31 338 P **P 04 55 48.3 -0.5**
comp=Z,9.6nm,0.7s,mb4.8,baz=38,slow=5.9
NOA NORSAR Array B 75.31 338 P **P 04 55 48.3 -0.5**
comp=Z,11nm,0.7s,mb4.9,baz=39,slow=5.7,SNR=36
NOA LR LR 05 32 22.6
comp=Z,1µm,18.3s,MS5.3,baz=25,slow=38
AKASG Malin Array Be 75.46 323 P **P 04 55 49.0 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=46,slow=5.7,SNR=43
QLMT Earthquake Lak 75.48 45 *e*P **P 04 55 49.8 0.0**
NAO01 NORSAR Array S 75.56 338 *e*P **P 04 55 50.0 -0.3**
comp=Z,4.4nm,0.6s,mb4.6
NAO01 *e*pP pP 04 55 59.6 -1.5
ELK Elko 75.60 50 *e*P **P 04 55 51.4 +0.9**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 75.60 50 *e*P **P 04 55 51.4 +0.8**
comp=Z,9.2nm,1.0s,mb4.7
YMR Madison River 75.84 45 *e*P **P 04 55 51.8 -0.1**
comp=Z,18nm,1.1s,mb4.9
YMR *e* pP 04 56 04.0 +1.4
GCMT Greycliff 75.89 43 P **P 04 55 51.9 -0.3**
GCMT *e*pP pP 04 56 04.7 +1.7
GCMT *e*sP sP 04 56 10.0 +3.0
SUW Suwalki 76.04 328 *e*P **P 04 55 53.0 0.0**
SUW *e*PcP PcP 04 56 01.6 -3.6
SUW L 05 32 16.5
comp=Z,1.8nm,17.4s
SUW Suwalki 76.04 328 *e*P **P 04 55 53.0 0.0**
SUW *e*PcP PcP 04 56 01.6 -3.6
MSL Mosul 76.04 305 *ex* x 04 56 02.0
YFT Old Faithful 76.04 45 *e*P **P 04 55 55.7 +2.7**
LKWY Lake 76.22 45 *e*P **P 04 55 55.3 +1.2**
LKWY pmax pmax
comp=Z,16nm,1.0s,mb4.9
LKWY Lake 76.22 45 *e*P **P 04 55 55.3 +1.2**
comp=Z,16nm,1.0s,mb4.9
KELT Kelkit 76.30 310 *i* P **P 04 55 55.1 +0.7**
IMW Indian Meadow 76.32 45 *e*P **P 04 55 55.4 +0.8**
comp=Z,24nm,1.0s,mb5.1
IMW *e*pP pP 04 56 05.7 +0.3
FLWY Flagg Ranch 76.34 45 *e*P **P 04 55 56.5 +1.7**
comp=Z,32nm,1.2s,mb5.1
SIM Simferopol' 76.48 316 *e*P **P 04 55 57.0 +1.5**
SIM *i* S S 05 05 43.0 +4.3
SIM *e*SSS 05 13 49.0
SIM pmax pmax
comp=Z,11nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,1µm,15.8s,MS5.2
HVU Hansel Valley 76.50 48 *e*P **P 04 55 56.3 +0.6**
HVU *e* pP 04 56 07.5 +1.1
HVU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HVU Hansel Valley 76.50 48 *e*P **P 04 55 56.3 +0.6**
comp=Z,13nm,0.9s,mb4.8
HVU *e*PcP PcP 04 56 07.5 +0.3
MOOW Moose Ponds 76.52 45 *e*P **P 04 55 56.8 +1.0**
comp=Z,36nm,1.6s,mb5.1
DAC Darwin (Calif) 76.66 55 *e*P **P 04 55 56.6 +0.1**
DAC *e**PP pP 04 56 07.3 0.0
DAC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAC Darwin (Calif) 76.66 55 *e*P **P 04 55 56.5 0.0**
comp=Z,9.5nm,0.9s,mb4.7
DAC *e*pP pP 04 56 07.3 -0.1
LOHW Long Hollow 76.68 46 *e*P **P 04 55 57.6 +1.0**
comp=Z,8.3nm,1.0s,mb4.6
SNOW Snow King Moun 76.69 46 *e*P **P 04 55 57.7 +1.0**
comp=Z,21nm,1.0s,mb5.0
REDW Red Top Meadow 76.69 46 *e*P **P 04 55 57.6 +0.8**
comp=Z,22nm,1.2s,mb5.0
REDW *e*PcP PcP 04 56 08.9 +0.8
BGU Big Grassy Mou 76.86 49 *e*P **P 04 56 01.4 +3.7**
BGU *e*pP pP 04 56 11.8 +3.3
BHD Baghdad 76.88 302 *ex* x 04 56 07.0
BHD *ex* x 05 05 27.0
AHID Auburn Hatcher 76.91 46 *e*P **P 04 55 58.0 0.0**
comp=Z,8.6nm,0.8s,mb4.7
AHID *e*pP pP 04 56 09.1 +0.3
AHID *e*sP sP 04 56 12.0 -0.7
MARD Mardin 76.98 307 *i* P **P 04 55 57.8 -0.6**
SPUT South Promonto 76.98 48 *e*P **P 04 55 57.8 -0.6**
SPUT *e*pP pP 04 56 08.8 -0.3
DGMT Dagmar 77.12 39 *e*P **P 04 55 58.8 -0.3**
comp=Z,27nm,1.1s,mb5.1
DGMT *e*pP pP 04 56 09.2 -0.7
LAO LASA Array 77.21 41 *e*P **P 04 55 59.8 +0.2**
comp=Z,26nm,1.0s,mb5.1
LAO *e*pP pP 04 56 09.4 -1.0
HWUT Hardware Ranch 77.33 48 *e*P **P 04 56 00.9 +0.6**
comp=Z,21nm,1.0s,mb5.0
HWUT *e* pP 04 56 11.2 +0.1
DUG Dugway 77.42 49 *e*P **P 04 56 01.5 +0.7**
DUG *e* pP 04 56 12.2 +0.6
DUG pmax pmax
comp=Z,22nm,1.0s,mb5.0
DUG Dugway 77.42 49 *e*P **P 04 56 01.5 +0.6**
comp=Z,22nm,1.0s,mb5.0
DUG *e* pP 04 56 12.2 +0.6
NOQ North Oquirrh 77.57 49 *e*P **P 04 56 02.2 +0.6**
comp=Z,46nm,1.1s,mb5.3
NOQ *e* pP 04 56 13.5 +1.0
TCUT Toone Canyon 77.72 48 *e*P **P 04 56 03.9 +1.4**
TCUT *e* pP 04 56 13.3 +0.1
PDAR Pinedale Array 77.81 46 P **P 04 56 02.6 -0.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=298,slow=1.3,SNR=36
MALT Malatya 77.90 309⇑P **P 04 56 05.7 +2.2**
NLU North Lily Min 78.02 49 *e*P **P 04 56 03.3 -0.9**
NLU *e* pP 04 56 13.9 -1.1
KIS Kishinev 78.05 320 *e*P **P 04 56 08.0 +3.7**
KIS *e* 04 59 08.0
KIS *e*PPP 05 00 51.0
KIS *e*S S 05 05 59.0 +3.2
KIS *e*SS SS 05 10 54.0 -3.5
KIS MLR MLR
comp=N,3µm,15.0s,MS5.8
KIS MLR MLR
comp=E,2µm,15.0s,MS5.8
KIS MLR MLR
comp=Z,4µm,15.0s,MS5.8
KIS MLR MLR
comp=Z,2µm,16.0s
BOYT Boyabat 78.18 313 *i* P **P 04 56 05.2 +0.2**
WAR Warsaw 78.21 328 *e*P **P 04 56 03.9 -1.3**
DAU Daniels Canyon 78.24 48 *e*P **P 04 56 06.3 +0.9**
DAU *e**PP pP 04 56 16.2 0.0
MPU Maple Canyon 78.25 49 *e*P **P 04 56 06.5 +1.0**
comp=Z,30nm,1.2s,mb5.1
MPU *e*pP pP 04 56 16.8 +0.6
RBK Rabkut 78.39 283⇓P **P 04 56 06.1 -0.1**
ARUT Antelope Range 78.47 52 *e*P **P 04 56 07.6 +1.0**
ARUT *e* pP 04 56 17.2 -0.2
WHFO Wadi Hawf 78.50 284⇑P **P 04 56 06.5 -0.4**
SNR=6.9
BSD Bornholm Skovb 78.59 332 *i* P **P 04 56 10.7 +3.4**
comp=Z,33nm,0.9s,mb5.3
BSD *i* 04 56 33.6
BSD *e* 05 07 01.7
BSD
comp=Z,1µm,16.0s
BSD Bornholm Skovb 78.59 332 *i* P **P 04 56 10.7 +3.4**
BSD *e* 05 07 01.7
BSD pmax pmax
comp=Z,33nm,0.9s,mb5.3
BSD MLR MLR
comp=Z,1µm,16.0s,MS5.4
BSD Bornholm Skovb 78.59 332 *i* P **P 04 56 10.7 +3.4**
comp=Z,33nm,0.9s,mb5.3
BSD *i* 04 56 33.6
BSD *e* 05 07 01.7
MVU Marysvale 78.81 50 *e*P **P 04 56 15.3 +6.8**
comp=Z,17nm,1.1s,mb4.9
MSU Marysvale 78.83 50 *e*P **P 04 56 09.7 +1.1**
MSU *e**PP pP 04 56 19.9 +0.5
NEN Nelson 78.84 54 *e*P **P 04 56 09.0 +0.4**
NEN *e*pP pP 04 56 19.0 -0.5
NEN *e*sP sP 04 56 22.8 -0.7
TMUT Trail Mountain 78.95 49 *e*P **P 04 56 08.8 -0.5**
TMUT *e*pP pP 04 56 20.1 0.0
BALT Daday 79.01 314 *i* P **P 04 56 11.4 +1.8**
GZT Gaziantep 79.02 308 *i* P **P 04 56 08.6 -1.1**
GKP Gorka Klasztor 79.06 330 *e*P **P 04 56 07.0 -2.9**
GKP *e*SKS 05 06 14.0
GKP L 05 35 52.7
comp=Z,4.3nm,16.1s
COP Copenhagen 79.06 334 *i* P **P 04 56 14.7 +4.8**
COP *i* 04 56 43.1
COP *i*S S 05 06 14.3 +7.7
COP *i* 05 11 32.2
COP
comp=Z,840nm,16.0s
COP Copenhagen 79.06 334 *e*P **P 04 56 14.7 +4.8**
COP *i*S S 05 06 14.3 +7.7
COP MLR MLR
comp=Z,850nm,16.0s,MS5.2
COP Copenhagen 79.06 334 *e*P **P 04 56 14.7 +4.8**
COP *i* 04 56 43.1
COP *i*S S 05 06 14.3 +7.7
COP *i* 05 11 32.2
COP LR LR
comp=Z,850nm,16.0s,MS5.2
ABTO Aybut 79.19 284⇓P **P 04 56 10.3 -0.3**
KWP Kalwaria 79.29 325 *e*P **P 04 56 11.7 +0.6**
KWP *e*pP pP 04 56 21.0 -0.9
KWP *e*S S 05 06 04.5 -4.5
KWP L 05 36 31.0
comp=Z,3.3nm,16.3s
KWP Kalwaria 79.29 325 *e*P **P 04 56 11.7 +0.6**
KWP *e*pP pP 04 56 21.0 -0.9
KWP *e*S S 05 06 04.5 -4.5
BURAR Bucovina Array 79.47 322⇑P **P 04 56 12.9 +0.8**
BURAR Bucovina Array 79.47 322⇑P **P 04 56 12.9 +0.8**
SRU San Rafael 79.48 49 *e*P **P 04 56 12.7 +0.5**
SRU *e**PP pP 04 56 23.3 +0.3
SRU pmax pmax
comp=Z,23nm,1.0s,mb5.1
SRU San Rafael 79.48 49 *e*P **P 04 56 12.7 +0.5**
comp=Z,22nm,1.0s,mb5.0
SRU *e*pP pP 04 56 23.3 +0.3
MUD Monsted U'grnd 79.58 336 *i* P **P 04 56 15.8 +3.0**
MUD *i* 04 56 38.2
MUD *i*S S 05 06 21.7 +10
MUD *i* 05 11 31.3
MUD
comp=Z,1µm,16.0s
MUD Monsted U'grnd 79.58 336 *e*P **P 04 56 15.8 +3.0**
MUD *i* 04 56 38.2
MUD *i*S S 05 06 21.7 +10
MUD *i* 05 11 31.3
MUD MLR MLR
comp=Z,1µm,16.0s,MS5.3
MUD Monsted U'grnd 79.58 336 *e*P **P 04 56 15.8 +3.0**
MUD *i* 04 56 38.2
MUD *i*S S 05 06 21.7 +10
MUD *i* 05 11 31.3
CDAG Cicekdag 79.61 312 *i* P **P 04 56 12.9 0.0**
ULM Lac du Bonnet 79.88 34 P **P 04 56 13.3 -1.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=301,slow=7.0,SNR=7.2
VRI Vrincioaia 79.88 320⇑P **P 04 56 16.0 +1.6**
VRI Vrincioaia 79.88 320⇑P **P 04 56 16.0 +1.6**
KOLS Kolonicke sedl 79.98 325 *e*P **P 04 56 15.8 +0.9**
BRTR Keskin Array B 79.99 312 P **P 04 56 15.3 +0.3**

comp=Z,5.3nm,0.8s,mb4.5,baz=96,slow=3.5,SNR=37
BRTR Keskin Array B 79.99 312 P **P 04 56 15.3 +0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 80.12 325 *i* P **P 04 56 16.8 +1.2**
STHS *e* 04 56 42.3
OJC Ojcow 80.20 327 *e*P **P 04 56 16.1 0.0**
OJC *e*S S 05 06 09.4 -9.2
OJC L 05 35 04.2
comp=Z,7.4nm,18.6s
CRVS Cervenica-Dubn 80.38 325 *e*P **P 04 56 19.0 +1.9**
CRVS *e* 04 56 46.3
NIE Niedzica 80.54 326 *e*P **P 04 56 18.6 +0.7**
MLR Muntele Rosu 80.54 320 LR LR 05 34 14.9
comp=Z,2μm,19.6s,MS5.4,baz=48,slow=37
MLR Muntele Rosu 80.54 320 ⇑P **P 04 56 19.0 +1.1**
MLR Muntele Rosu 80.54 320 ⇑P **P 04 56 19.0 +1.1**
PV10 Paradox Valley 80.85 49 *e*P **P 04 56 21.2 +1.6**
PV10 *e*pP pP 04 56 31.3 +0.9
RUE Ruedersdorf 81.03 331 *e*P **P 04 56 20.1 -0.4**
comp=Z,9.0nm,0.7s,mb4.8
KECS Kecovo 81.13 325 *e*P **P 04 56 21.7 +0.6**
KECS *e* 04 59 34.6
BSEG Bad Segeberg 81.20 334 *e*P **P 04 56 20.9 -0.5**
comp=Z,12nm,0.9s,mb4.8
OKC Ostrava-Krasne 81.20 327 *e*P **P 04 56 20.5 -1.0**
OKC AMS AMS 05 42 00.0
comp=Z,2μm,13.7s
KSP Ksiaz 81.25 329 *e*P **P 04 56 22.3 +0.6**
KSP *e*pP pP 04 56 29.2 -3.4
KSP *e*S S 05 06 23.3 -6.4
KSP *e*SKS 05 06 32.4
KSP L 05 35 41.0
comp=Z,3.8nm,17.6s
KSP Ksiaz 81.25 329 *e*P **P 04 56 21.8 +0.1**
KSP *e*SKS 05 06 34.0
KSP LR LR
comp=Z,4μm,17.6s,MS5.9
DRGR 81.27 323 ⇓P **P 04 56 22.8 +1.0**
DRGR 81.27 323 ⇓P **P 04 56 22.8 +1.0**
PV01 Paradox Valley 81.29 49 *e*P **P 04 56 23.0 +1.1**
PV01 *e*pP pP 04 56 32.6 -0.2
LIKS Likavka 81.35 326 *e*P **P 04 56 20.7 -1.6**
MORC Moravsky Berou 81.51 327 ⇑P **P 04 56 23.7 +0.6**
SMCO Snowmass 81.58 47 *e*P **P 04 56 24.2 +0.8**
comp=Z,17nm,1.3s,mb4.8
SMCO *e*pP pP 04 56 35.2 +0.8
DPC Dobruska-Polom 81.61 328 *e*P **P 04 56 23.5 -0.1**
DPC *e*pP pP 04 56 30.9 -3.6
DPC AMS AMS 05 37 20.0
comp=Z,3μm,13.1s
UPC Upice 81.62 329 *e*P **P 04 56 23.6 -0.1**
PSZ Piszkesteto 81.81 325 *e*P **P 04 56 25.0 +0.3**
PSZ *e**PP pP 04 56 34.1 -1.4
PSZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
PSZ Piszkesteto 81.81 325 *e*P **P 04 56 25.0 +0.3**
comp=Z,12nm,0.8s,mb4.9
PSZ *e*pP pP 04 56 34.1 -1.4
ISCO Idaho Springs 81.98 46 *e*P **P 04 56 26.7 +1.1**
ISCO *e**PP pP 04 56 35.6 -0.8
ISCO *e**SP sP 04 56 40.2 -0.2
ISCO pmax pmax
comp=Z,15nm,1.4s,mb4.7
ISCO Idaho Springs 81.98 46 *e*P **P 04 56 26.7 +1.1**
comp=Z,15nm,1.4s,mb4.7
ISCO *e*pP pP 04 56 35.6 -0.8
ISCO *e*sP sP 04 56 40.2 -0.2
BRG Berggiesshubel 82.20 330 *e*P **P 04 56 26.0 -0.7**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 82.20 330 *e*P **P 04 56 27.5 +0.8**
comp=Z,8.3nm,1.0s,mb4.6
BRG *e* 04 59 33.8
comp=Z,1.9nm,0.8s
BRG PP PP 04 59 36.0 +0.8
BRG S S 05 06 42.0 +2.5
BRG SS SS 05 11 56.0 -3.6
BRG
comp=N,2μm,14.8s
BRG
comp=E,1μm,13.4s
BRG
comp=Z,2μm,14.7s
BRG Berggiesshubel 82.20 330 *e*P **P 04 56 27.5 +0.8**
BRG 04 59 36.0
BRG S S 05 06 42.0 +2.5
BRG SS SS 05 11 56.0 -3.6
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG MLR MLR
comp=Z,2μm,14.7s,MS5.7
BRG Berggiesshubel 82.20 330 *e*P **P 04 56 27.5 +0.8**
comp=Z,8.3nm,1.0s,mb4.6
BRG *e* 04 59 33.8
BRG PP PP 04 59 36.0 +0.8
BRG S S 05 06 42.0 +2.5
BRG SS SS 05 11 56.0 -3.6
BRG LR LR
comp=Z,2μm,14.7s,MS5.7
CLL Collm 82.24 331 *e*P **P 04 56 26.0 -0.9**
comp=Z,16nm,0.9s,mb5.0
CLL *e* 04 56 58.5
CLL *e*PPP 05 01 28.0
CLL *e*S S 05 06 40.0 +0.1
CLL *e*SS SS 05 12 05.5 +5.3
CLL *e*LR LR 05 24 14.9
CLL *e*L 05 38 13.1
comp=Z,812nm,20.0s
CLL Collm 82.24 331 *i* P **P 04 56 26.0 -0.9**
comp=Z,17nm,1.3s,mb4.8
CLL ⇑*i*P(2) 04 56 27.6
comp=Z,26nm,0.9s
CLL *i* PcP PcP 04 56 33.8 +1.6
CLL *e*x x 04 56 53.0
CLL *e*S S 05 06 39.0 -0.9
CLL *e*SS SS 05 12 00.0 -0.2
CLL *e*x x 05 16 30.0
CLL Collm 82.24 331 ⇑*i*P **P 04 56 27.6 +0.7**
CLL *i* 04 56 33.8
CLL *e*S S 05 06 39.0 -0.9
CLL pmax pmax
comp=Z,26nm,0.9s,mb5.2
CLL Collm 82.24 331 ⇑*i*P **P 04 56 27.6 +0.7**
comp=Z,26nm,0.9s,mb5.2
CLL *i* 04 56 33.8
CLL *e*S S 05 06 39.0 -0.9
VRAC Vranov 82.28 328 ⇑P **P 04 56 28.1 +1.0**
SMOL Smolenice 82.50 327 *e*P **P 04 56 29.9 +1.6**
PRU Pruhonice 82.63 329 *e*P **P 04 56 29.1 +0.1**
PRU *e*pP pP 04 56 37.4 -2.4
PRU AMS AMS 05 40 10.0
comp=Z,2μm,15.1s
BZS Buzias 82.64 323 ⇓P **P 04 56 29.6 +0.6**
BZS Buzias 82.64 323 ⇓P **P 04 56 29.6 +0.6**
CLZ Clausthal 82.84 332 *e*P **P 04 56 29.7 -0.4**
comp=Z,12nm,1.0s,mb4.9
CLZ Clausthal 82.84 332 *e*P **P 04 56 29.7 -0.4**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
GDZ Gediz 82.87 314 *i* P **P 04 56 27.1 -3.0**
ZST Bratislava 82.88 327 *i* P **P 04 56 32.1 +1.8**
WERD Werda 83.19 330 *e*P **P 04 56 31.2 -0.7**
comp=Z,7.0nm,1.7s,mb4.4
NKC Novy Kostel 83.30 330 *e*P **P 04 56 32.4 0.0**
NKC *e*PCP PcP 04 56 38.3 +1.5
NKC AMS AMS 05 38 20.0
comp=Z,3μm,14.4s
NKC Novy Kostel 83.30 330 *e*P **P 04 56 32.4 0.0**
NKC *e*pP pP 04 56 38.3 -5.0
MOX Moxa 83.31 331 *e*P **P 04 56 31.9 -0.6**
comp=Z,5.0nm,1.1s,mb4.5
MOX Moxa 83.31 331 *e*P **P 04 56 32.9 +0.4**
comp=Z,10.0nm,1.2s,mb4.7
MOX
comp=Z,800nm,19.0s
MOX Moxa 83.31 331 *e*P **P 04 56 32.9 +0.4**
MOX pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MOX MLR MLR
comp=Z,800nm,19.0s,MS5.1
SDCO Great Sand Dun 83.39 48 *e*P **P 04 56 33.8 +0.9**
comp=Z,8.6nm,1.1s,mb4.7
SDCO *e*pP pP 04 56 43.7 0.0
IBBN Ibbenburen 83.43 334 *e*P **P 04 56 32.2 -0.9**
comp=Z,14nm,0.5s,mb5.2
KDZ Kurdzhali 83.44 318 *e*P **P 04 56 34.0 +0.8**
PPT Papeete 83.59 117 LR LR 05 27 45.6
comp=Z,551nm,18.9s,MS5.0,baz=332,slow=31
KHC Kasperske Hory 83.69 329 *e*P **P 04 56 33.9 -0.6**
KHC PCP PcP 04 56 36.0 -2.6
KHC *e*pP pP 04 56 45.0 -0.3
KHC *e*x x 04 59 27.5
KHC AMS AMS 05 39 00.0
comp=Z,2μm,14.6s
KHC Kasperske Hory 83.69 329 *e*P **P 04 56 33.9 -0.6**
KHC *e* pP 04 56 45.0 -0.3
KHC MLR MLR
comp=Z,2μm,14.6s,MS5.6
ROTZ Rotzenmuhle 83.76 330 *e*P **P 04 56 34.8 0.0**
comp=Z,10.0nm,1.1s,mb4.9
RZN Rozhen 83.80 318 *e*P **P 04 56 36.0 +1.0**
GEC2 GERESS Array S 83.86 329 *e*P **P 04 56 34.5 -0.8**
comp=Z,8.0nm,0.9s,mb4.8
GEC2 GERESS Array S 83.86 329 *e*P **P 04 56 34.6 -0.7**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
GEC2 GERESS Array S 83.86 329 *e*P **P 04 56 34.6 -0.7**
comp=Z,8.0nm,0.9s,mb4.8
GERES GERESS Array B 83.86 329 P **P 04 56 35.1 -0.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=33,slow=4.9,SNR=40
GERES LR LR 05 37 09.5
comp=Z,784nm,19.5s,MS5.1,baz=235,slow=38
VTS Vitosha 83.97 320 *e*P **P 04 56 36.0 +0.1**
WET Wettzell 83.98 329 *e*P **P 04 56 35.6 -0.3**
comp=Z,10.0nm,1.5s,mb4.7
WET Wettzell 83.98 329 *e*P **P 04 56 35.6 -0.3**
WET pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
GRA1 Grafenberg Arr 84.22 331 *e*P **P 04 56 37.2 +0.1**
comp=Z,21nm,1.0s,mb5.2
GRA1 *e*S 05 07 04.7
GRA1 LR LR
comp=Z,800nm,18.3s,MS5.1
GRF Grafenberg Arr 84.22 331 *e*P **P 04 56 37.2 +0.1**
comp=Z,21nm,1.0s,mb5.2
GRF *e*S 05 07 04.7
GRF *e*L 05 47 15.6
comp=Z,779nm,18.3s
GRF Grafenberg Arr 84.22 331 *e*P **P 04 56 37.2 +0.1**
GRF *e*S 05 07 04.7
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,800nm,18.3s,MS5.1
MMB Musomiste 84.40 319 *e*P **P 04 56 39.0 +1.0**
KKB Krupnik 84.55 319 *e*P **P 04 56 40.0 +1.2**
ANMO Albuquerque 84.63 50 *e*P **P 04 56 40.0 +0.8**
ANMO *e**PP pP 04 56 50.5 +0.4
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO Albuquerque 84.63 50 *e*P **P 04 56 40.0 +0.8**
comp=Z,14nm,1.2s,mb5.0
ANMO *e*pP pP 04 56 50.5 +0.3
GROS Grobnik 84.91 326 *e*P **P 04 56 41.1 +0.5**
GOLS Golise 85.19 326 *i* P **P 04 56 42.6 +0.5**
VAY Valandovo 85.20 319 *e*P **P 04 56 42.3 +0.3**
FUR Furstenfeldbru 85.40 330 *e*P **P 04 56 42.6 -0.5**
comp=Z,8.0nm,0.6s,mb5.0
FUR Furstenfeldbru 85.40 330 *e*P **P 04 56 42.6 -0.5**
FUR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
MEM Membach 85.45 334 P **P 04 56 42.9 -0.4**
comp=Z,6.0nm,0.9s,mb4.7
MEM AP pP 04 56 52.9 -1.3
STU Stuttgart 85.75 331 *e*P **P 04 56 44.1 -0.7**
comp=Z,17nm,1.0s,mb5.2
CBKS Cedar Bluff 86.01 44 *e*P **P 04 56 45.6 -0.5**
CBKS *e**PP pP 04 56 56.3 -0.7
CBKS pmax pmax
comp=Z,24nm,1.1s,mb5.3
CBKS Cedar Bluff 86.01 44 *e*P **P 04 56 45.6 -0.5**
comp=Z,24nm,1.1s,mb5.3
CBKS *e*pP pP 04 56 56.3 -0.7
SNF Seneffe 86.14 335 P **P 04 56 47.6 +0.9**
comp=Z,5.5nm,0.9s,mb4.8
SNF AP pP 04 56 58.8 +1.1
OHR Ohrid 86.29 320 *e*P pP 04 56 58.9 +0.5
GIVF Givet 86.29 334 *e*P **P 04 56 47.0 -0.5**
DOU Dourbes 86.38 334 P **P 04 56 48.7 +0.8**
comp=Z,2.5nm,0.8s,mb4.5
DOU AP pP 04 56 58.4 -0.4
DOU XP sP 04 57 04.5 +1.8
BFO Black Forest 86.45 331 *e*P **P 04 56 47.5 -0.8**
comp=Z,13nm,1.1s,mb5.1
BFO Black Forest 86.45 331 *e*P **P 04 56 47.4 -0.9**
BFO pmax pmax
comp=Z,13nm,1.1s,mb5.1
BFO Black Forest 86.45 331 *e*P **P 04 56 47.4 -0.9**
comp=Z,13nm,1.1s,mb5.1
APE Apeiranthos 86.53 314 ⇑P **P 04 56 48.0 -0.6**
BAIF Baives 86.54 334 *e*P **P 04 56 48.2 -0.5**
CDF Champ du Feu 86.79 332 *e*P **P 04 56 49.6 -0.3**
comp=Z,38nm,1.3s,mb5.3
DAVOX Davos 87.08 329 LR LR 05 39 11.3
comp=Z,1μm,18.9s,MS5.4,baz=22,slow=38
HINF Hinteralfeld 87.44 332 *e*P **P 04 56 53.0 -0.1**
HAU Haudompre 87.48 332 *e*P **P 04 56 52.7 -0.6**
HAU *e*R
comp=Z,1μm,19.2s
IDI Anoyia 88.13 313 LR LR 05 42 33.4
comp=Z,339nm,18.8s,MS4.8,baz=190,slow=40
LOR Lormes 89.02 333 *e*P **P 04 57 00.2 -0.4**
comp=Z,16nm,1.0s,mb5.0
LOR *e*R
comp=Z,2μm,18.2s
SSF Saint Saulge 89.32 333 *e*P **P 04 57 02.6 +0.6**
comp=Z,9.7nm,0.8s,mb4.9
LPL La Plagne 89.38 331 *e*P **P 04 57 02.0 -0.3**
comp=Z,18nm,1.2s,mb5.0
LPG La Plagne 89.39 330 *e*P **P 04 57 02.3 0.0**
comp=Z,27nm,1.4s,mb5.1
SMF Signal de Mont 89.55 333 *e*P **P 04 57 02.7 -0.4**
comp=Z,38nm,1.3s,mb5.3
AVF Avril sur Loir 89.61 333 *e*P **P 04 57 03.0 -0.3**
comp=Z,20nm,0.9s,mb5.1
GRR Gorron 89.68 336 *e*P **P 04 57 03.5 -0.2**
MBDF Montbardon 90.02 330 *e*P **P 04 57 05.0 -0.2**
comp=Z,28nm,1.3s,mb5.1
ORIF Oris-en-Rattie 90.22 331 *e*P **P 04 57 05.7 -0.5**
comp=Z,19nm,1.1s,mb5.0
ORIF *e*R
comp=Z,931nm,18.0s
TCF Toulx Ste Croi 90.45 334 *e*P **P 04 57 06.2 -1.1**
SBF Sospel 90.45 329 *e*P **P 04 57 06.6 -0.7**
VIVF Saint-Julien-l 90.74 331 *e*P **P 04 57 08.1 -0.5**
comp=Z,14nm,0.9s,mb5.0
PGF Pioggiola 90.86 327 *e*P **P 04 57 07.6 -1.5**
comp=Z,160nm,1.7s,mb5.8
MFF Saint Martin d 91.01 335 *e*P **P 04 57 08.9 -0.9**
comp=Z,73nm,1.3s,mb5.6
FRF La Foret Royal 91.03 329 *e*P **P 04 57 08.9 -1.0**
comp=Z,50nm,1.3s,mb5.4
CCM Cathedral Cave 91.13 39 *e*P **P 04 57 09.7 -0.7**
CCM *e**PP pP 04 57 20.9 -0.5
CCM pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
CCM Cathedral Cave 91.13 39 *e*P **P 04 57 09.7 -0.7**
comp=Z,8.6nm,1.1s,mb5.0
CCM *e*pP pP 04 57 20.9 -0.5
LMR La Mourre 91.27 329 *e*P **P 04 57 10.2 -0.9**
comp=Z,44nm,1.2s,mb5.4
RJF Les Rejaudoux 91.54 333 *e*P **P 04 57 11.5 -0.8**
comp=Z,52nm,1.1s,mb5.5
RJF *e*R
comp=Z,2μm,17.0s
CAF Calviac 91.67 333 *e*P **P 04 57 12.4 -0.5**
comp=Z,26nm,1.0s,mb5.2
LASF Ste Croix 91.71 331 *e*P **P 04 57 11.8 -1.3**
VAE Valguarnera 92.29 321 LR LR 05 43 10.9
comp=Z,955nm,18.5s,MS5.3,baz=329,slow=38
MIAR Mount Ida 92.51 43 *e*P **P 04 57 17.3 +0.5**
MIAR *e**PP pP 04 57 27.4 -0.4
MIAR pmax pmax
comp=Z,13nm,1.1s,mb5.3
MIAR Mount Ida 92.51 43 *e*P **P 04 57 17.3 +0.5**
comp=Z,13nm,1.1s,mb5.3
MIAR *e*pP pP 04 57 27.4 -0.4
MTLF Montolieu 92.97 332 *e*P **P 04 57 18.1 -0.8**
comp=Z,21nm,1.1s,mb5.2
TORD Torodi Ar. Bea 118.48 315 PKP PKPdf 05 02 51.8 -1.4
comp=Z,0.5nm,0.7s,baz=24,slow=2.3,SNR=13
TORD PP PP 05 04 09.2 -1.0
comp=Z,2.3nm,0.9s,baz=48,slow=4.8,SNR=6.6
QSPA South Pole Qui 125.86 180 *e*P PKPdf 05 03 06.3 -1.1
SYO Syowa Base 127.70 206‖*e*Pdiff Pdif 04 59 55.1 +1.2
SYO Syowa Base 127.70 206‖*e*Pdiff 05 00 05.1
LPAZ La Paz 146.53 62 PKPbc PKPbc 05 03 46.9 +0.1
comp=Z,3.9nm,0.9s,baz=348,slow=5.0,SNR=9.7
LPAZ La Paz 146.53 62 PKIKP PKPdf 05 03 46.9 +1.5
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 153.95 110 PKPbc PKPbc 05 04 05.0 +0.1
comp=Z,4.6nm,1.1s,baz=252,slow=1.5,SNR=4.8
PLCA Paso Flores 153.95 110 PKIKP PKPdf 05 04 05.1 +8.1
PLCA pmax pmax
comp=Z,5.0nm,1.1s

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*IDC **21** 05:21:30.6±1.7,787S×12527E,h0km,mb3.7/1,mb1 3.5/3, mb1mx3.3/15,mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=189.2km s-min=30.4km az=60.0*
NEIC 21 05:21:34.6±1.4,887S×12377E,h30km,mb3.3/1,Error ellipse: s-maj=51.8km s-min=17.6km az=59.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.35**	**169**	*e*P	Pn	05 23 47.3	-0.1
FITZ	2.9nm,0.9s			*e*S	Sn	05 25 21.5	-10
WRA	**Warramunga Arr**	**15.02**	**138**	Pn	Pn	05 25 03.3	-1.4
	0.2nm,0.3s,baz=319,slow=13,SNR=13						
WRA				Sn	Sn	05 27 37.7	-12
	0.4nm,0.3s,baz=255,slow=23,SNR=14						
WRAB	**Tennant Creek**	**15.02**	**138**	Pn	Pn	05 25 06.2	+1.4
	1.1nm,0.6s						
ASAR	**Alice Springs**	**17.62**	**148**	P	Pn	05 25 38.9	+1.0
	0.1nm,0.3s,baz=326,slow=13,SNR=6.8						
ASAR				S	Sn	05 28 40.4	-13
	0.1nm,0.3s,baz=317,slow=22,SNR=4.3						
MKAR	**Makanchi Array**	**66.59**	**330**	P	P	05 32 22.1	+0.1
	0.5nm,0.5s,baz=139,slow=7.8,SNR=14						

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*NAO **21** 05:37:06.7,2673N×6153E,h33km,mb3.8*
*OMAN **21** 05:37:21.2,2840N×5505E,h40km,Error ellipse: s-maj=31.1km s-min=2.5km az=350.0*
*BJI **21** 05:37:27.6,2750N×5580E,h22km,mB5.1,mb4.8,Ms4.7*
*IDC **21** 05:37:27.3±1.5,2740N×5579E,h0km,mb4.1/19, mb1 4.2/19,mb1mx4.1/27,mbtmp4.1/19,MS4.0/7, Ms1 4.0/7,ms1mx3.6/28,Error ellipse: s-maj=34.4km s-min=16.4km az=172.0*
*ISCJB **21** 05:37:28.9±0.2,2755N±003×5580E±003,h10km, mb4.4/53,MS4.1/10,Error ellipse: s-maj=4.8km s-min=3.2km az=80.4*
*CSEM **21** 05:37:29.4±0.1,2737N×5568E,h20km,mb4.6/22,Error ellipse: s-maj=2.8km s-min=1.6km az=25.0*
*THR **21** 05:37:30.2±0.9,2748N×5583E,h14km±9km,ML4.1*
*NEIC **21** 05:37:31.7±1.5,2746N×5579E,h23km±10km,mb4.7/17, ML4.1(THR),MN4.1(TEH),Error ellipse: s-maj=15.3km s-min=6.3km az=195.0*
*MOS **21** 05:37:32.5±1.4,2769N×5585E,h33km,mb4.8/24, MS4.0/4,Error ellipse: s-maj=9.1km s-min=5.7km az=107.6*
*TEH **21** 05:37:33.5,2735N×5567E,h31km,Mn4.1*
*SZGRF **21** 05:37:35.5,28.18N×5595E,h33km,mb4.4,Southern Iran*
ISC 21 05:37:30.7±0.2,2752N±003×5580E±003,h10km, (h21km±6.3km:pP-P),n197,σ1§34/199,mb4.4/53,MS4.1/10, 5C-12D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.35**	**110**	*e*PG	**Pg**	**05 37 37.1**	**-0.5**
BNDS				*e*SG	**Sg**	**05 37 41.7**	**-0.5**
BANOM	**Banah**	**1.65**	**164**	P	**Pn**	**05 38 01.9**	**+2.2**
	SNR=49						
BANOM				P		05 38 02.0	
	SNR=25						
KRBR	**Kerman**	**2.59**	**19**	*e*PN	**Pn**	**05 38 14.2**	**+1.6**
KRBR				AML	AML	05 39 16.0	
	comp=E,2μm,0.7s						
KRBR				AML	AML	05 39 16.8	
	comp=N,2μm,0.6s						
GHIR	**Ghir-Karzin**	**2.61**	**288**	*e*PN	**Pn**	**05 38 14.5**	**+1.6**
GHIR				AML	AML	05 39 29.1	
	comp=N,390nm,0.6s						
GHIR				AML	AML	05 39 35.0	
	comp=E,725nm,0.7s						
ASHO	**Ashiyiah**	**2.83**	**175**	P	**Pn**	**05 38 17.6**	**+1.6**
	SNR=20						
ASHO				P		05 38 17.9	
	SNR=32						
IMOK	**Mook**	**3.12**	**300**	*e*Pn	**Pn**	**05 38 19.8**	**-0.1**
IPAR	**Pars**	**3.35**	**314**	*e*Pn	**Pn**	**05 38 23.9**	**+0.9**
IMEH	**Mehriz**	**3.99**	**345**	*e*Pn	**Pn**	**05 38 33.7**	**+1.8**
IBAF	**Bafgh**	**4.06**	**357**	*e*Pn	**Pn**	**05 38 34.3**	**+1.5**
BIDO	**Bidbid**	**4.50**	**152**	P	**Pn**	**05 38 44.0**	**+5.1**
	SNR=15						
ZHSF	**Zahedan**	**4.84**	**63**	*e*PN	**Pn**	**05 38 45.7**	**+2.1**
ZHSF				AML	AML	05 40 10.2	
	comp=N,120nm,0.7s						
ZHSF				AML	AML	05 40 13.6	
	comp=E,143nm,0.7s						
ICHK	**Chekchek**	**4.86**	**346**	*e*Pn	**Pn**	**05 38 45.2**	**+1.4**
SMDO	**Samad**	**4.88**	**155**	P	**Pn**	**05 38 45.3**	**+1.1**
	SNR=21						
SMDO				P		05 38 47.6	
	SNR=13						
BSY	**Bisya**	**4.92**	**165**	P	**Pn**	**05 38 46.4**	**+1.8**
	SNR=16						
BSYO	**Bisya**	**4.94**	**164**	P	**Pn**	**05 38 46.4**	**+1.5**
	SNR=16						
IGAR	**Garneh**	**5.65**	**327**	*e*Pn	**Pn**	**05 38 58.5**	**+3.8**
NASN	**Na'in**	**5.87**	**334**	*e*PN	**Pn**	**05 38 59.6**	**+1.9**
NASN				*e*SG	**Sg**	**05 40 33.2**	**-5.7**
IZEF	**Zefreh**	**6.14**	**332**	*e*Pn	**Pn**	**05 39 01.9**	**+0.5**
IZEF				*e*Lg		05 40 48.2	
IPIR	**Pirpir**	**6.68**	**322**	*e*Pn	**Pn**	**05 39 09.2**	**+0.4**
IPIR				*e*Sn	**Sn**	**05 40 20.4**	**-4.5**
IKLH	**Kalahroud**	**6.83**	**329**	*e*Pn	**Pn**	**05 39 11.7**	**+0.8**
IANJ	**Anjiloo**	**8.09**	**349**	*e*Pn	**Pn**	**05 39 29.4**	**+1.3**
IVRN	**Varamin**	**8.23**	**336**	*e*Pn	**Pn**	**05 39 30.9**	**+0.8**
IFIR	**Firoozkooh**	**8.50**	**343**	*e*Pn	**Pn**	**05 39 35.0**	**+1.2**
ISHM	**Shahmirzad**	**8.53**	**346**	*e*Pn	**Pn**	**05 39 35.7**	**+1.4**
DAMV	**Damavand**	**8.72**	**339**	*e*PN	**Pn**	**05 39 38.7**	**+1.9**
IKIA	**Kiasar**	**8.85**	**349**	*e*Pn	**Pn**	**05 39 39.8**	**+1.3**
IGLO	**Galoogah**	**8.98**	**348**	*e*Pn	**Pn**	**05 39 43.6**	**+3.2**
IMOG	**Moghan**	**9.07**	**18**	*e*Pn	**Pn**	**05 39 43.9**	**+2.2**
IMOG				*e*Lg		05 42 22.2	
IPRN	**Paran-Amol**	**9.21**	**342**	*e*Lg		05 42 24.7	
IRAZ	**Razeghan**	**9.32**	**329**	*e*Pn	**Pn**	**05 39 45.3**	**+0.2**
SHAO	**Shalim**	**9.45**	**181**	P	**Pn**	**05 39 48.3**	**+1.4**
	SNR=17						
IKRD	**Kardeh**	**9.51**	**13**	*e*Pn	**Pn**	**05 39 53.2**	**+5.6**
IMYA	**Miamay**	**9.52**	**21**	*e*Pn	**Pn**	**05 39 50.2**	**+2.4**
ISFR	**Esferayen**	**9.68**	**11**	*e*Pn	**Pn**	**05 39 49.2**	**-0.7**
WHFO	**Wadi Hawf**	**9.74**	**192**	P	**Pn**	**05 39 49.8**	**-1.0**
	SNR=29						
RBK	**Rabkut**	**10.08**	**189**	P	**Pn**	**05 39 54.3**	**-1.2**
	SNR=15						
ISHV	**Shirvan**	**10.11**	**9**	*e*Pn	**Pn**	**05 39 57.7**	**+1.8**
IEMG	**Emamqoli**	**10.15**	**13**	*e*Pn	**Pn**	**05 39 57.1**	**+0.7**
ABTO	**Aybut**	**10.38**	**193**	P	**Pn**	**05 39 58.1**	**-1.4**
	SNR=26						
IDHR	**Dehrash**	**10.78**	**314**	*e*Pn	**Pn**	**05 40 03.7**	**-1.4**
IDHR				*e*Sn	**Sn**	**05 41 56.9**	**-8.9**
BHD	**Baghdad**	**11.40**	**303**	*e*x	x	05 40 16.0	
BHD				*e*x	x	05 42 50.0	
BHD				*e*x	x	05 43 56.0	
BHD				*e*x	x	05 44 09.0	
IBST	**Bostanabad**	**12.62**	**326**	*e*Pn	**Pn**	**05 40 29.9**	**-0.3**
MSL	**Mosul**	**13.88**	**312**	*e*x	x	05 40 43.5	
MSL				*e*x	x	05 43 18.0	
IMRD	**Marand**	**14.00**	**325**	*e*Pn	**Pn**	**05 40 48.7**	**-0.3**
GNI	**Garni**	**15.57**	**327**	P	**Pn**	**05 41 15.1**	**+4.9**
	comp=E,1.4nm,0.3s,baz=153,slow=3.0,SNR=8.3						
GNI	**Garni**	**15.57**	**327**	*c* *i*P	**Pn**	**05 41 15.3**	**+5.1**
GNI				pmax	pmax		
	comp=Z,28nm,1.7s						
GNI				MLR	MLR		
	comp=Z,800nm,23.0s						

DIGO **Kars** 16.46 325 *i* P Pn 05 41 26.3 +4.6
EZM **Erzurum** 17.20 320 *e*P Pn 05 41 23.9 -7.2
ZEI **Tsey** 18.03 331 *e*P Pn 05 41 43.6 +2.3
MALT **Malatya** 18.10 311 *e*P Pn 05 41 43.0 +0.8
MALT **Malatya** 18.10 311 ⇓P Pn 05 41 44.1 +2.0
POO **Poona** 18.85 115 *e*P Pn 05 41 52.0 +0.7
GOF **Gofitskoye** 20.26 333 *e*P P 05 42 05.0 -1.2
comp=Z,47nm,1.7s
GOF **Gofitskoye** 20.26 333 *e*P P 05 42 05.0 -1.2
GOF pmax pmax
comp=Z,47nm,1.7s
KSH **Kashi** 20.59 49 *e*P P 05 42 09.1 -0.6
KSH *e*AP 05 42 17.3
KSH *e*XP sP 05 42 22.3 +8.4
KSH *e*PP 05 42 29.1
KSH *e*PPP 05 42 38.1
KSH *e*S S 05 45 46.3 -14
KSH *e*XS sS 05 46 02.3 -2.1
KSH *e*SS 05 46 18.1
KSH *e*PCP PcP 05 46 22.1 +1.7
KSH AMB AMB
comp=Z,130nm,2.3s
KSH LR LR
comp=N,710nm,7.4s
KSH LR LR
comp=E,670nm,9.7s
AML **Almayashu** 20.63 40 P P 05 42 09.5 -0.7
SNR=40
SOC **Sochi** 20.63 325 *e*P P 05 42 13.0 +2.8
SOC *e*S S 05 46 02.2 +1.4
SOC pmax pmax
comp=Z,56nm,1.5s
SOC MLR MLR
comp=Z,520nm,14.0s,MS4.0
EKS2 **Erkin-Say** 21.02 39 P P 05 42 14.9 +0.5
SNR=35
UCH **Uchtor** 21.17 41 P P 05 42 15.6 -0.4
SNR=12
AAK **Ala-Archa** 21.41 40 P P 05 42 18.8 +0.2
SNR=13
AAK **Ala-Archa** 21.41 40 *e*P P 05 42 17.4 -1.2
comp=Z,67nm,1.2s,mb4.8
AAK **Ala-Archa** 21.41 40 *e*P P 05 42 17.4 -1.2
AAK pmax pmax
comp=Z,67nm,1.2s,mb4.8
AAK **Ala-Archa** 21.41 40 *e*P P 05 42 17.4 -1.2
comp=Z,67nm,1.2s,mb4.8
KZA **Kyzart** 21.51 43 P P 05 42 20.2 +0.5
SNR=22
USP **Ospenovka** 21.81 39 P P 05 42 23.6 +0.7
SNR=10
KAMT **Kaman** 21.83 308 *e*P P 05 42 21.8 -1.4
AB31 **Akbulak array** 21.94 7 P P 05 42 22.7 -1.6
comp=Z,65nm,1.2s,mb4.9
AB31 **Akbulak array** 21.94 7 P P 05 42 22.7 -1.6
AB31 pmax pmax
comp=Z,65nm,1.2s,mb4.9
BOYT **Boyabat** 22.04 314 *i* P P 05 42 25.9 +0.5
BR131 **Keskin Array S** 22.04 309 *e*P P 05 42 26.1 +0.7
comp=Z,6.0nm,0.7s,mb4.1
BR131 **Keskin Array S** 22.04 309 *e*P P 05 42 26.1 +0.7
comp=Z,6.0nm,0.7s,mb4.1
BRTR **Keskin Array B** 22.04 309 P P 05 42 25.0 -0.4
comp=Z,3.0nm,0.7s,mb3.8,baz=129,slow=13,SNR=23
ULHL **Ulahol** 22.21 43 P P 05 42 27.2 0.0
SNR=9.2
TKM2 **Tokmak 2** 22.23 41 P P 05 42 27.2 -0.1
SNR=9.8
TKM2 **Tokmak 2** 22.23 41 *i* P P 05 42 25.8 -1.5
comp=Z,28nm,1.4s,mb4.5
TKM2 **Tokmak 2** 22.23 41 *i* P P 05 42 25.8 -1.5
TKM2 pmax pmax
comp=Z,28nm,1.4s,mb4.5
TOS **Tosya** 22.41 313 *e*P P 05 42 25.5 -3.8
ELDT **Eldivan** 22.54 311 *i* P P 05 42 31.8 +1.1
ANN **Anapa** 22.66 324 *e*P P 05 42 32.3 +0.4
comp=Z,45nm,1.7s,mb4.6
ANN **Anapa** 22.66 324 *e*P P 05 42 32.3 +0.4
ANN *e**PP 05 42 46.2
ANN *e*S S 05 46 35.9 -4.5
ANN pmax pmax
comp=Z,45nm,1.7s,mb4.6
AKTK **Aktyubinsk** 22.95 4 P P 05 42 34.0 -1.0
AKTK **Aktyubinsk** 22.95 4 P P 05 42 34.0 -1.0
AKTK LR LR 05 53 07.0
AKTO **Aktyubinsk** 22.95 4 P P 05 42 34.0 -1.0
comp=Z,20nm,1.2s,mb4.4,baz=177,slow=11,SNR=17
AKTO LR LR 05 53 07.1
comp=Z,613nm,18.4s,MS4.1,baz=0.0,slow=41
BALT **Daday** 23.08 313 *i* P P 05 42 38.6 +2.3
HYB **Hyderabad** 23.27 111 *i* P P 05 42 39.0 +0.6
HYB **Hyderabad** 23.27 111 *e*P P 05 42 39.0 +0.6
ESKT **Eskisehir** 23.92 306 *i* P P 05 42 44.6 -0.1
SEYT **Eskypehyr** 23.92 306 *i* P P 05 42 44.6 -0.1
KOLN **Koldanda** 24.61 83 *e*P P 05 42 52.0 +1.0
comp=Z,93nm,1.4s,mb5.1
ULDT **Uludag** 25.37 307 *i* P P 05 42 56.8 -1.2
GKN **Gorkha** 25.50 82 *e*P P 05 42 59.7 +0.6
comp=Z,72nm,1.2s,mb5.1
AYDN **Tasoluk** 25.52 300 *i* P P 05 43 01.4 +2.0
DMN **Daman** 25.95 83 *e*P P 05 43 04.1 +0.9
comp=Z,67nm,1.1s,mb5.1
KKN **Kakani** 26.09 82 *e*P P 05 43 05.1 +0.7
comp=Z,77nm,1.0s,mb5.2
KKN **Kakani** 26.09 82 *e*P P 05 43 05.1 +0.7
KKN pmax pmax
comp=Z,39nm,1.0s,mb4.9
PKI **Pulchoki** 26.22 83 *e*P P 05 43 06.5 +0.8
comp=Z,88nm,1.2s,mb5.2
PKI **Pulchoki** 26.22 83 *e*P P 05 43 06.5 +0.8
PKI pmax pmax
comp=Z,44nm,1.2s,mb4.9
JIRN **Jiri** 26.90 83 *e*P P 05 43 12.7 +0.9
comp=Z,80nm,1.1s,mb5.2
ZRNK **Zerenda** 27.24 18 *e*P P 05 43 14.2 -0.6
comp=Z,12nm,1.1s,mb4.3
ZRNK **Zerenda** 27.24 18 *e*P P 05 43 14.2 -0.6
ZRNK pmax pmax
comp=Z,12nm,1.1s,mb4.3
ZRNK **Zerenda** 27.24 18 *e*P P 05 43 14.2 -0.6
comp=Z,12nm,1.1s,mb4.3
IDI **Anoyia** 27.42 294 P P 05 43 14.1 -2.4
comp=Z,0.7nm,0.3s,mb3.6,baz=297,slow=6.8,SNR=2.0
VOSK **Vostochnaya** 27.60 20 P P 05 43 15.6 -2.5
VOSK pmax pmax
comp=Z,27nm,1.6s,mb4.6
TIRR **Tirgusor** 27.69 315 ⇓P P 05 43 20.1 +1.2
BRVK **Borovoye** 27.69 19 *e*P P 05 43 18.4 -0.5
comp=Z,10nm,1.1s,mb4.4
BRVK **Borovoye** 27.69 19 *e*P P 05 43 18.4 -0.5
BRVK pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
BRVK **Borovoye** 27.69 19 *e*P P 05 43 18.4 -0.5
comp=Z,10nm,1.1s,mb4.4
BVA0 **Borovoye Array** 27.69 19 P P 05 43 17.6 -1.3
comp=Z,7.0nm,1.3s,mb4.1
BVA0 **Borovoye Array** 27.69 19 P P 05 43 17.6 -1.3
BVA0 pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
BVAR **Borovoye Array** 27.69 19 P P 05 43 17.8 -1.0
comp=Z,8.1nm,0.9s,mb4.3,baz=198,slow=9.0,SNR=18
CFR **Carcaliu** 28.21 316 ⇓P P 05 43 26.8 +3.3
MK31 **Makanchi Array** 28.34 40 *i* P P 05 43 23.7 -1.0
comp=Z,4.0nm,0.7s,mb4.2
MK31 **Makanchi Array** 28.34 40 *i* P P 05 43 23.7 -1.0
MK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
MKAR **Makanchi Array** 28.34 40 P P 05 43 24.2 -0.5
comp=Z,2.2nm,0.8s,mb3.9,baz=227,slow=6.2,SNR=17
MKAR **Makanchi Array** 28.34 40 P P 05 43 23.7 -1.0
comp=Z,3.0nm,0.7s,mb4.0
MKAR **Makanchi Array** 28.34 40 P P 05 43 23.7 -1.0
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 28.34 40 P P 05 43 24.2 -0.6
KURK **Kurchatov** 28.93 31 *e*P P 05 43 29.2 -0.7
comp=Z,4.5nm,0.9s,mb4.2
KURK **Kurchatov** 28.93 31 *d i*P P 05 43 29.5 -0.4
KURK **Kurchatov** 28.93 31 *e*P P 05 43 29.2 -0.8
comp=Z,4.5nm,0.9s,mb4.2
ARU **Arti** 28.96 3 *i* P P 05 43 31.8 +1.6
comp=Z,3.0nm,0.9s,mb4.0
ARU **Arti** 28.96 3 ⇑*i*P P 05 43 31.8 +1.6
ARU *e* 05 44 24.2
ARU *e* 05 46 40.9
ARU *e*S S 05 48 19.1 -1.8
ARU *e*SS SS 05 49 48.6 -35
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.0
ARU MLR MLR
comp=E,100nm,14.0s
MLR **Muntele Rosu** 29.72 315 P P 05 43 39.7 +2.8
comp=E,3.7nm,0.8s,mb4.2,baz=127,slow=5.1,SNR=8.6
MLR **Muntele Rosu** 29.72 315 ⇓P P 05 43 42.2 +5.3
MLR **Muntele Rosu** 29.72 315 ⇓P P 05 43 42.2 +5.3
VOIR 30.26 314 ⇓P P 05 43 43.4 +1.7
VOIR 30.26 314 ⇓P P 05 43 43.4 +1.7
WMQ **Urumqi** 30.35 49 *e*P P 05 43 42.0 -0.5
WMQ AMB AMB
comp=Z,21nm,1.0s,mb4.8
AKASG **Malin Array Be** 30.71 326 P P 05 43 43.6 -2.0
comp=Z,1.1nm,0.5s,mb3.9,baz=131,slow=8.2,SNR=13
OBN **Obninsk** 30.91 338 *e*P P 05 43 50.8 +3.3
OBN *e* 05 44 55.6
OBN pmax pmax
comp=Z,30nm,1.6s,mb4.9
MOS **Moscow** 31.10 340 *e*P P 05 43 46.9 -2.2
BURAR **Bucovina Array** 31.16 318 ⇓P P 05 43 59.4 +10
DRGR 32.31 315 ⇓P P 05 44 00.4 +0.6
DRGR 32.31 315 ⇓P P 05 44 00.4 +0.7
BZS **Buzias** 32.54 313 ⇑P P 05 44 03.1 +1.3
BZS **Buzias** 32.54 313 ⇑P P 05 44 03.1 +1.3
KOLS **Kolonicke sedl** 33.52 319 *e*P P 05 44 09.1 -1.2
KMBO **Kilima Mbogo** 33.61 215 LR LR 05 57 38.4
comp=Z,132nm,19.9s,MS3.7,baz=91,slow=36
NVS **Novosibirsk** 33.81 29 *i* P P 05 44 11.0 -1.9
NVS *i* S S 05 49 34.1 -2.6
comp=Z,12nm,1.4s
NVS **Novosibirsk** 33.81 29 *i* P P 05 44 11.0 -1.9
NVS *i* S S 05 49 34.1 -2.6
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.8
NVS smax
comp=N,12nm,1.4s
ZAL **Zalesovo** 33.91 31 P P 05 44 12.4 -1.2
comp=N,4.0nm,0.8s,mb4.4,baz=236,slow=7.5,SNR=20
ZAL **Zalesovo** 33.91 31 P P 05 44 12.4 -1.3
CRVS **Cervenica-Dubn** 33.98 318 *e*P P 05 44 11.5 -2.9
KECS **Kecovo** 34.38 317 *e*P P 05 44 16.4 -1.5
KLMR **Klimovskoe** 35.10 346 *i* P P 05 44 22.9 -1.2
comp=N,50nm,1.6s,mb5.2
KLMR **Klimovskoe** 35.10 346 *d i*P P 05 44 22.9 -1.2
KLMR pmax pmax
comp=Z,50nm,1.6s,mb5.2
MORC **Moravsky Berou** 36.68 318 *e*P P 05 44 37.0 -0.6
VSU **Vasula** 36.96 335 *c i*P P 05 44 43.5 +3.5
VRAC **Vranov** 37.07 317 P P 05 44 39.7 -1.2
comp=Z,1.7nm,0.3s,mb4.3,baz=107,slow=11,SNR=4.2
DPC **Dobruska-Polom** 37.62 318 *e*P P 05 44 47.2 +1.6
UPC **Upice** 37.87 318 *e*P P 05 44 41.7 -5.9
GTA **Gaotai** 38.24 60 P P 05 44 50.9 +0.1
GTA AP pP 05 44 55.0 +1.1
GTA XP sP 05 44 58.1 +3.0
GTA AMB AMB
comp=Z,8.0nm,1.6s,mb4.2
PRU **Pruhonice** 38.56 317 *e*P P 05 44 52.7 -0.8
GERES **GERESS Array B** 38.71 315 P P 05 44 55.4 +0.6
comp=Z,0.3nm,0.4s,baz=115,slow=9.0,SNR=5.9
KHC **Kasperske Hory** 38.87 315 *e*P P 05 44 54.8 -1.3
BRG **Berggiesshubel** 39.23 318 *e*(P) P 05 44 57.9 -1.2
comp=Z,4.4nm,1.2s,mb4.1
BRG **Berggiesshubel** 39.23 318 P P 05 44 57.9 -1.2
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
FINES **FINESS Array B** 39.32 338 P P 05 44 58.2 -1.6
comp=Z,1.4nm,0.6s,mb3.9,baz=116,slow=8.7,SNR=5.9
FINES **FINESS Array B** 39.32 338 P P 05 44 58.2 -1.6
NKC **Novy Kostel** 39.91 317 *e*P P 05 45 01.2 -3.6
CLL **Collm** 39.93 318 *e*P P 05 45 03.0 -2.0
comp=Z,9.0nm,1.4s,mb4.3
CLL **Collm** 39.93 318 *e*P P 05 45 03.0 -2.0
CLL pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
GRA1 **Grafenberg Arr** 40.51 315 *e*P P 05 45 08.1 -1.7
comp=Z,13nm,1.5s,mb4.3
GRF **Grafenberg Arr** 40.51 315 *e*P P 05 45 08.1 -1.7
comp=Z,13nm,1.5s,mb4.3
GRF **Grafenberg Arr** 40.51 315 *e*P P 05 45 08.1 -1.7
GRF pmax pmax
comp=Z,13nm,1.5s,mb4.3
DAVOX **Davos** 40.67 311 P P 05 45 10.5 -0.6
comp=Z,2.5nm,0.6s,mb4.0,baz=141,slow=6.5,SNR=5.0
LZH **Lanzhou** 41.37 66 *e*P P 05 45 16.9 +0.1
LZH AP pP 05 45 22.1 +2.2
LZH XP sP 05 45 25.6 +4.4
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.6
MOY **Mondy** 41.46 42 *e*P P 05 45 17.7 +0.1
KMI **Kunming** 41.95 82 P P 05 45 22.8 +1.2
KMI AMB AMB
comp=Z,18nm,1.2s,mb4.6
ZAK **Zakamensk** 42.49 44 *e*P P 05 45 19.8 -6.2
ZAK *e* 05 45 25.1
ZAK *e* 05 47 07.4
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
HFS **Hagfors** 43.31 331 P P 05 45 31.9 -0.7
comp=Z,1.7nm,0.4s,mb4.1,baz=132,slow=10,SNR=5.1
SONM **Songino Array** 43.99 49 P P 05 45 38.0 -0.1
comp=Z,1.6nm,0.8s,mb3.8,baz=257,slow=8.7,SNR=13
SONM PP PP 05 47 23.3 +2.8
comp=Z,1.1nm,0.9s,baz=265,slow=8.3,SNR=3.6
SONM LR LR 06 08 21.2
comp=Z,4.4nm,22.0s,baz=207,slow=42
SONM **Songino Array** 43.99 49 P P 05 45 38.0 -0.1
SONM 05 47 23.3
ULN **Ulaanbaatar** 44.43 49 *e*P P 05 45 41.0 -0.6
comp=Z,11nm,1.4s,mb4.4
ULN **Ulaanbaatar** 44.43 49 *e*P P 05 45 41.0 -0.6
ULN pmax pmax
comp=Z,11nm,1.4s,mb4.4
ULN **Ulaanbaatar** 44.43 49 *e*P P 05 45 41.0 -0.7
comp=Z,11nm,1.4s,mb4.4
NB2 **NORSAR Subarra** 44.82 331 P P 05 45 42.3 -2.5
comp=Z,0.9nm,0.6s,mb3.8,baz=112,slow=7.9
NOA **NORSAR Array B** 44.82 331 P P 05 45 42.5 -2.3
comp=Z,1.3nm,0.7s,mb3.9,baz=116,slow=7.8,SNR=6.0
NOA **NORSAR Array B** 44.82 331 P P 05 45 42.5 -2.3
ARCES **ARCESS Array B** 45.58 346 P P 05 45 49.2 -1.6
comp=Z,1.7nm,0.9s,mb4.0,baz=139,slow=5.8,SNR=6.6
PSI **Prapat** 47.95 113 LR LR 06 07 02.3
comp=Z,155nm,18.1s,MS4.0,baz=144,slow=37
TORD **Torodi Ar. Bea** 52.33 266 P P 05 46 41.0 -1.7
comp=Z,1.0nm,0.5s,mb4.0,baz=62,slow=8.0,SNR=19
NJ2 **Nanjing** 54.23 69 *e*P P 05 46 50.8 -5.8
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
SSE **Sheshan** 56.39 69 *e*P P 05 47 06.8 -5.3
SSE AMB AMB
comp=Z,18nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,85nm,7.4s
TIXI **Tiksi** 58.81 21 *e*P P 05 47 25.8 -3.4
TIXI pmax pmax
comp=Z,13nm,1.7s,mb4.7
TIXI MLR MLR
comp=Z,300nm,19.0s,MS4.4
KLR **Kul'dur** 60.76 47 *e*P P 05 47 37.7 -4.9
JOW **Kunigami** 63.55 72 LR LR 06 17 45.6
comp=Z,64nm,18.2s,MS3.8,baz=329,slow=38
SUMG **Summit** 65.27 341 *e*P P 05 48 12.0 -0.6
comp=Z,9.0nm,0.8s,mb4.8
MJAR **Matsushiro Arr** 68.47 59 P P 05 48 31.9 -1.1
comp=Z,0.9nm,0.4s,mb4.2,baz=292,slow=10,SNR=5.2
ASAJ **Asahikawa** 69.23 50 LR LR 06 21 36.9
comp=Z,108nm,19.8s,MS4.1,baz=352,slow=38
ILAR **Eielson Array** 86.33 10 P P 05 50 10.8 -2.0
comp=Z,1.1nm,0.9s,mb4.1,baz=331,slow=3.9,SNR=12
ILAR LR LR 06 33 43.4
comp=Z,89nm,18.4s,MS4.2,baz=354,slow=39
MCK **McKinley** 86.98 11 *e*P P 05 50 14.1 -2.0
MCK *e**PP pP 05 50 24.1 +4.7
MCK *e**SP sP 05 50 28.7 +8.1
MCK pmax pmax
comp=Z,7.0nm,1.3s,mb4.7
MCK **McKinley** 86.98 11 *e*P P 05 50 14.1 -1.9
comp=Z,7.4nm,1.3s,mb4.8
MCK *e*pP pP 05 50 24.1 +4.7
MCK *e*sP sP 05 50 28.7 +8.1
DAWY **Dawson** 87.94 7 *e*P P 05 50 18.8 -1.9
YKA **Yellowknife Ar** 89.97 356 P P 05 50 28.7 -1.6
comp=Z,1.0nm,0.9s,mb4.1,baz=2.6,slow=4.5,SNR=16
YKA **Yellowknife Ar** 89.97 356 P P 05 50 28.7 -1.6
KDAK **Kodiak Island** 91.75 15 LR LR 06 39 01.0
comp=Z,118nm,19.1s,MS4.3,baz=79,slow=40

IDC 21 05:42:48.7±1.9, 727S×12545E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=231.2km s-min=30.8km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	15.27	147	Pn	Pn	05 46 27.4	+1.9
	0.5nm,0.3s,baz=322,slow=14,SNR=29						
WRA				Sn	Sn	05 49 04.6	-11
	0.8nm,0.3s,baz=311,slow=25,SNR=11						
WB2	**Warramunga Arr**	15.27	146	*e*P	Pn	05 46 27.3	+1.7
WB2				*e*S	Sn	05 49 04.0	-11
ASAR	**Alice Springs**	18.21	154	P	Pn	05 47 02.3	-0.6
	0.3nm,0.3s,baz=329,slow=14,SNR=13						
ASAR				S	Sn	05 50 11.3	-16
	0.4nm,0.3s,baz=313,slow=20,SNR=9.1						
MKAR	**Makanchi Array**	66.05	329	P	P	05 53 37.4	+0.1
	0.2nm,0.4s,baz=136,slow=6.5,SNR=5.5						

MAN 21 05:58:12.5, 838N×12487E, h15km, mb1.8, ML3.6, MS3.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	0.19	295	⇑*i*P	Pg	05 58 18.0	+1.1
CGP				*i* S	Sg	05 58 22.1	+2.2
BUKP	**Musuan**	0.53	158	*e*P	Pg	05 58 23.2	+0.3
BUKP				*e*S	Sg	05 58 31.9	+1.9
PAGZ	**Pagadian**	1.56	250	*e*P	Pn	05 58 39.6	-0.1
PAGZ				*e*S	Sn	05 58 59.7	+0.1

IDC 21 06:00:11.6±2.8, 4972S×11821E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/12, mbtmp3.9/4, ML2.1/1, Error ellipse: s-maj=126.2km s-min=25.3km az=94.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	16.79	357	Pn	Pn	06 04 09.1	+1.1
	0.4nm,0.3s,baz=183,slow=12,SNR=5.1						
ASAR	**Alice Springs**	28.77	31	P	P	06 06 11.2	+0.3
	0.7nm,0.8s,baz=202,slow=9.1,SNR=8.3						
VNDA	**Vanda**	32.37	164	P	P	06 06 42.2	-0.4
	1.2nm,0.8s,baz=299,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	32.38	29	P	P	06 06 42.4	-0.4
	0.7nm,0.7s,baz=200,slow=8.4,SNR=8.1						
PDAR	**Pinedale Array**	146.71	83	PKPbc	PKPbc	06 19 54.6	-0.7
	0.6nm,0.9s,baz=176,slow=2.4,SNR=5.1						
YKA	**Yellowknife Ar**	148.86	46	PKPbc	PKPbc	06 19 58.6	-2.5
	0.4nm,0.8s,baz=276,slow=2.0,SNR=8.1						

IDC 21 06:14:59.9±3.1, 4974S×11808E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/12, mbtmp3.8/3, ML2.4/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/19, Error ellipse: s-maj=127.7km s-min=47.6km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	16.81	358	Pn	Pn	06 18 57.6	+1.0
	0.6nm,0.3s,baz=169,slow=8.6,SNR=6.0						
NWAO				LR	LR	06 23 51.1	
	comp=Z,56nm,19.1s,baz=223,slow=32						
ASAR	**Alice Springs**	28.83	31	P	P	06 20 59.8	0.0
	0.5nm,0.7s,baz=205,slow=9.1,SNR=6.6						
WRA	**Warramunga Arr**	32.44	29	P	P	06 21 31.4	-0.2
	0.7nm,0.7s,baz=197,slow=8.7,SNR=3.9						
RPZ	**Rata Peaks**	36.16	101	LR	LR	06 33 55.6	
	comp=Z,136nm,20.4s,baz=273,slow=31						
PDAR	**Pinedale Array**	146.80	84	PKPbc	PKPbc	06 34 43.9	0.0
	0.4nm,0.8s,baz=234,slow=3.0,SNR=4.0						
YKA	**Yellowknife Ar**	148.93	46	PKPbc	PKPbc	06 34 46.8	-2.8
	0.2nm,0.7s,baz=281,slow=2.3,SNR=7.1						

IDC 21 06:18:35.3±2.4, 2169N×14305E, h277km±22km, mb3.2/6, mb1 3.5/7, mb1mx3.1/20, mbtmp3.9/7, Error ellipse: s-maj=44.7km s-min=16.8km az=101.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	5.44	352	P	Pn	06 19 59.0	+1.8
	9.7nm,0.3s,baz=245,slow=19,SNR=5.4						
CBIJ				S	S	06 21 02.2	-0.7
	8.8nm,0.3s,baz=124,slow=24,SNR=5.7						
WRA	**Warramunga Arr**	42.24	192	P	P	06 26 01.6	0.0
	0.9nm,0.3s,baz=14,slow=9.1,SNR=11						
ILAR	**Eielson Array**	62.10	27	P	P	06 28 26.3	-0.7
	0.3nm,0.4s,baz=265,slow=5.4,SNR=7.1						
YKA	**Yellowknife Ar**	76.52	28	P	P	06 29 55.0	+0.1
	0.6nm,0.6s,baz=292,slow=5.9,SNR=16						
ARCES	**ARCESS Array B**	78.89	341	P	P	06 30 08.2	+0.2
	2.1nm,0.9s,baz=80,slow=8.8,SNR=6.8						
FINES	**FINESS Array B**	83.14	334	P	P	06 30 29.6	-0.7
	0.5nm,0.5s,baz=62,slow=5.2,SNR=5.9						
NVAR	**Mina Array Bea**	83.25	51	P	P	06 30 31.4	+0.5
	0.5nm,0.7s,baz=275,slow=5.0,SNR=5.1						

IDC 21 06:30:33.4±1.3, 354N×12688E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=141.3km s-min=19.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.45	163	P	P	06 35 54.7	+0.8
	1.7nm,0.6s,baz=342,slow=10,SNR=9.5						
WB2	**Warramunga Arr**	24.46	163	*e*P	P	06 35 55.2	+1.3
ASAR	**Alice Springs**	27.89	166	P	P	06 36 26.5	+1.5
	0.2nm,0.5s,baz=360,slow=7.1,SNR=4.5						
STKA	**Stephens Creek**	37.90	159	P	P	06 37 51.0	-1.3
	1.6nm,0.6s,baz=344,slow=9.9,SNR=5.1						
SONM	**Songino Array**	47.53	341	P	P	06 39 11.0	+0.6
	0.3nm,0.5s,baz=148,slow=6.4,SNR=4.0						
MKAR	**Makanchi Array**	57.80	325	P	P	06 40 26.3	-0.2
	0.5nm,0.6s,baz=118,slow=8.1,SNR=12						

DHMR ***21*** *06:38:30.3±1.8, 1162N×4306E, h9km±15km, ML4.2*
ISCJB ***21*** *06:38:32.0±1.1, 1150N±008×4310E±006, h10km, Error ellipse: s-maj=13.9km s-min=5.7km az=116.5*

ISC 21 06:38:32.9±1.1, 1146N±009×4313E±007, h10km, n11, σ1§49/22, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	2.01	29	*i* P	Pn	06 39 03.4	-3.5
TRBA				*i* S	Sn	06 39 29.9	-2.0
TRBA				AML	AML	06 39 35.4	
	comp=N,2μm,0.5s						
ADEN	**Aden**	2.23	54	*i* P	Pn	06 39 08.2	-1.8
ADEN				*i* S	Sn	06 39 39.3	+1.7
ADEN	**Aden**	2.23	54	*i* P	Pn	06 39 08.1	-1.9
ADEN				*i* S	Sn	06 39 39.3	+1.7
UDYN	**Al 'Udayn**	2.62	18	⇓*i*P	Pn	06 39 14.2	-1.1
UDYN				*i* S	Sn	06 39 48.4	+1.2
UDYN				AML	AML	06 39 55.8	
	comp=N,3μm,0.6s						
LBOS		3.17	41	⇑*i*P	Pn	06 39 22.9	+0.1
LBOS				*i* S	Sn	06 40 02.7	+2.1
DHBB	**Dhamar BB**	3.33	21	*i* P	Pn	06 39 24.9	-0.1
DHBB				*i* S	Sn	06 40 05.6	+1.0
DESE	**Dese**	3.45	265	*e*PN	Pn	06 39 26.7	0.0
DESE				*e*S	Sn	06 40 09.4	+1.9
BDHA	**Al Bayda'**	3.45	43	*i* P	Pn	06 39 25.8	-0.9
BDHA				*i* S	Sn	06 40 10.3	+2.7
BDHA				AML	AML	06 40 28.5	
	comp=E,874nm,0.6s						
BDHA	**Al Bayda'**	3.45	43	*i* P	Pn	06 39 25.8	-0.9
BDHA				*i* S	Sn	06 40 10.4	+2.8

	comp=E,437nm,0.6s						
HAJJ	Hajjah	4.24	6	*i* P	Pn	06 39 35.6	-2.0
HAJJ				*i* S	Sn	06 40 26.2	-0.9
HAJJ				AML	AML	06 40 45.2	
	comp=N,1μm,0.7s						
HAJJ	Hajjah	4.24	6	*i* P	Pn	06 39 35.6	-1.9
HAJJ				*i* S	Sn	06 40 26.2	-0.9
	comp=N,589nm,0.7s						

IDC 21 07:06:18.7±5.8,3179S×17888W,h0km,mb3.6/2,
mb1 3.9/2,mb1mx3.7/12,mbtmp3.6/2,MS2.9/1,Ms1 2.9/1,
ms1mx2.6/21,Error ellipse: s-maj=236.4km
s-min=58.3km az=158.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.24	206	LR	LR	07 10 25.1	
	comp=Z,105nm,21.5s,baz=311,slow=34						
ASAR	Alice Springs	42.31	269	P	P	07 14 14.1	0.0
	0.3nm,0.5s,baz=110,slow=7.2,SNR=5.5						
WRA	Warramunga Arr	43.42	274	P	P	07 14 23.5	+0.3
	0.6nm,0.5s,baz=115,slow=7.7,SNR=6.3						
FINES	FINESS Array B	146.18	339	PKPbc	PKPbc	07 25 59.3	-1.6
	0.6nm,0.6s,baz=36,slow=3.5,SNR=6.6						

*ISCJB **21** 07:21:16.4±0.7,1035N±006×57.1E±0.1,h10km,mb3.9/13,*
Error ellipse: s-maj=18.8km s-min=8.3km az=26.9
*IDC **21** 07:21:16.9±0.9,1043N×5696E,h0km,mb3.9/12,*
mb1 3.9/12,mb1mx3.8/22,mbtmp3.9/12,MS2.9/1,
Ms1 2.9/1,ms1mx2.5/26,Error ellipse: s-maj=28.2km
s-min=15.9km az=113.0
*NEIC **21** 07:21:18.5±1.3,1037N×5703E,h10km,mb4.1/2,Error*
ellipse: s-maj=41.9km s-min=13.5km az=112.0
*CSEM **21** 07:21:21.1±0.2,1056N×5673E,h33km,mb3.9/1,Error*
ellipse: s-maj=18.2km s-min=5.0km az=119.0
ISC 21 07:21:18.4±0.7,1033N±006×572E±01,h10km,n29,
σ1§34/28,mb3.9/13,2C-3D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	Rabkut	7.69	338	P	Pn	07 23 12.8	+2.3
	SNR=8.7						
ABTO	Aybut	7.93	332	⇓P	Pn	07 23 15.2	+1.5
	SNR=11						
WHFO	Wadi Hawf	8.23	337	P	Pn	07 23 19.6	+1.7
	SNR=10.0						
WBK	Wadi Bani Khal	12.34	8	⇑P	Pn	07 24 14.4	+0.3
BSY	Bisya	12.35	0	⇑P	Pn	07 24 15.1	+0.9
	SNR=7.8						
ATD	Arta Tunnel	14.10	276	LR	LR	07 29 06.9	
	comp=Z,47nm,19.0s,baz=44,slow=34						
ASHO	Ashiyiah	14.32	356	⇓P	Pn	07 24 40.4	-0.8
BANOM	Banah	15.54	357	⇓P	Pn	07 24 56.2	-1.3
KMBO	Kilima Mbogo	22.84	241	P	P	07 26 20.3	-1.4
	1.3nm,0.5s,mb3.6,baz=50,slow=17,SNR=4.5						
KMBO	Kilima Mbogo	22.84	241	P	P	07 26 20.3	-1.4
MALT	Malatya	32.54	332	*e*P	P	07 27 51.7	+2.1
	2.3nm,0.7s,mb4.2						
BRTR	Keskin Array B	35.98	328	P	P	07 28 18.9	-0.5
	0.9nm,0.8s,mb3.8,baz=139,slow=9.5,SNR=4.7						
LSZ	Lusaka	38.35	229	P	P	07 28 40.0	+0.5
	1.4nm,0.5s,mb4.0,baz=57,slow=9.8,SNR=5.2						
LSZ	Lusaka	38.35	229	*e*P	P	07 28 39.8	+0.3
	1.3nm,0.5s,mb3.9						
LSZ	Lusaka	38.35	229	*e*P	P	07 28 39.8	+0.3
	1.3nm,0.5s,mb3.9						
AKTK	Aktyubinsk	39.99	1	P	P	07 28 52.7	-0.6
AKTK	Aktyubinsk	39.99	1	P	P	07 28 52.6	-0.6
AKTO	Aktyubinsk	39.99	1	P	P	07 28 52.6	-0.6
	3.4nm,0.6s,mb4.3,baz=178,slow=9.2,SNR=19						
MKAR	Makanchi Array	42.14	26	P	P	07 29 11.6	+0.6
	0.6nm,0.6s,mb3.4,baz=210,slow=8.7,SNR=8.5						
AKASG	Malin Array Be	46.35	336	P	P	07 29 42.6	-2.0
	0.6nm,0.4s,mb3.8,baz=138,slow=6.9,SNR=5.2						
LBTB	Lobatse	46.70	221	P	P	07 29 47.8	+0.4
	1.9nm,0.8s,mb4.1,baz=74,slow=7.4,SNR=2.3						
TSUM	Tsumeb	48.81	233	*e*P	P	07 30 05.3	+1.5
BOSA	Boshof	49.48	218	P	P	07 30 08.8	-0.2
	3.8nm,1.1s,mb4.3,baz=4.4,slow=13,SNR=2.6						
BOSA	Boshof	49.48	218	P	P	07 30 08.8	-0.2
TORD	Torodi Ar. Bea	54.29	279	P	P	07 30 44.3	-0.5
	0.8nm,0.7s,mb3.8,baz=97,slow=6.1,SNR=6.8						
JOF	Joensuu	55.69	346	*e*p	P	07 30 51.7	-3.2
FINES	FINESS Array B	55.87	343	P	P	07 30 54.0	-2.1
	1.1nm,0.6s,mb4.1,baz=126,slow=9.8,SNR=6.5						
ARCES	ARCESS Array B	62.53	348	P	P	07 31 40.7	-1.6
	2.6nm,0.9s,mb4.4,baz=139,slow=7.8,SNR=9.2						
WRA	Warramunga Arr	81.66	112	P	P	07 33 38.7	+1.8
	0.3nm,0.8s,mb3.2,baz=293,slow=4.5,SNR=2.8						

WEL 21 07:25:07.8±0.3,3730S×17787E,h108km±2km,ML3.6/11,
1C-1D,Error ellipse: s-maj=3.0km s-min=2.4km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.44	127	PN	Pn	07 25 23.9	-0.1
MXZ				SN	Sn	07 25 36.5	+0.3
PUZ	Puketiti	0.83	158	PN	Pn	07 25 27.1	+0.1
PUZ				SN	Sn	07 25 40.9	-0.7
MWZ	Matawai	1.07	194	PN	Pn	07 25 29.5	0.0
MWZ				SN	Sn	07 25 46.5	+0.6
URZ	Urewera	1.13	212	⇓PN	Pn	07 25 29.8	-0.4
URZ				SN	Sn	07 25 46.9	-0.2
TAZ	Tarawera	1.42	229	*e*PN	Pn	07 25 34.0	+0.5
KNZ	Kokohu	1.72	185	⇑PN	Pn	07 25 36.8	-0.3
KNZ				SN	Sn	07 25 59.6	0.0
BKZ	Black Stump Fm	2.15	210	PN	Pn	07 25 41.8	-0.8
BKZ				SN	Sn	07 26 08.6	-0.7
KRVZ	Karewarewa	2.51	224	PN	Pn	07 25 47.4	+0.2
NGZ	Ngauruhoe	2.59	223	PN	Pn	07 25 48.3	+0.1
TUVZ	Tukino	2.62	221	*e*PN	Pn	07 25 48.4	-0.3
WPVZ	Whakapapa	2.64	223	PN	Pn	07 25 47.4	-1.5
MOVZ	Moawhango	2.68	218	PN	Pn	07 25 48.4	-1.0
TSZ	Takapari Road	3.13	208	*e*PN	Pn	07 25 52.7	-2.8
MRZ	Mangatainoka R	3.80	207	PN	Pn	07 26 01.2	-3.2
MRZ				SN	Sn	07 26 44.1	-4.1
KIW	Kapiti Island	4.24	212	PN	Pn	07 26 06.8	-3.4
CAW	Cannon Point	4.38	209	PN	Pn	07 26 08.2	-4.0
TRWZ	Traveller	4.43	202	*e*PN	Pn	07 26 09.0	-3.8
SNZO	South Karori	4.69	211	PN	Pn	07 26 11.8	-4.6
TCW	Tory Channel	4.80	214	PN	Pn	07 26 13.9	-3.9

*NAO **21** 07:30:30.3,3929N×2845E,h33km,mb3.5*
*ISCJB **21** 07:30:33.6±0.4,3913N±001×2424E±001,h7km±2km,*
mb4.5/63,MS4.0/24,Error ellipse: s-maj=2.2km
s-min=1.6km az=32.2
*CSEM **21** 07:30:34.0,3916N×2432E,h10km,mb4.5*
*IDC **21** 07:30:34.0±0.6,3910N×2428E,h0km,mb4.2/20,*
mb1 4.3/27,mb1mx4.2/32,mbtmp4.2/27,ML4.1/8,MS3.9/24,
Ms1 3.9/24,ms1mx3.8/32,Error ellipse: s-maj=12.1km
s-min=9.3km az=105.0
*MOS **21** 07:30:34.8±0.9,3916N×2427E,h15km,mb4.7/13,Error*
ellipse: s-maj=4.5km s-min=2.8km az=90.6
*ATH **21** 07:30:34.5,3911N×2425E,h29km±1km,MD4.3/27,ML4.5*
*SKO **21** 07:30:34.0,3915N×2431E,h10km,M3.7,ML4.1*
*THE **21** 07:30:35.0,3910N×2426E,h8km,ML4.4*
*BJI **21** 07:30:35.5,3957N×2383E,h22km,mB4.8,mb4.7,Ms4.6,*
Msz4.3
*NEIC **21** 07:30:36.8±0.2,3909N×2429E,h20km,mb4.6/22,*
MD4.0(PDG),MD4.2(SOF),ML4.5(ISK),ML4.5(ATH),Error
ellipse: s-maj=2.9km s-min=2.5km az=196.0
*PDG **21** 07:30:36.8±0.7,3909N×2432E,h63km±12km*
ISC 21 07:30:34.7±0.4,3912N±001×2425E±001,h4km±2km,
h20km±1.3km:pP-P,n424,σ1§21/478,mb4.5/63,MS4.0/24,
26C-31D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.29	280	*e*Pg	Pg	07 30 40.7	+0.4
NEO	Neokhori	0.82	284	*e*PN	Pn	07 30 51.0	-2.0
NEO				*e*SN	Sg	07 31 02.5	+1.5
XOR	Xorichti	0.85	287	*e*Pg	Pg	07 30 50.9	-0.3
XOR				*e*Sg	Sg	07 31 03.5	+1.3
PAIG	Paliouri	0.92	332	*e*Pg	Pg	07 30 52.7	+0.4
PAIG				*e*Sg	Sg	07 31 05.9	+1.6
LOS	Limnos	1.04	38	*e*Pg	Pg	07 30 54.5	-0.1
LOS	Limnos	1.04	38	*e*Pg	Pg	07 30 54.5	-0.2
MPAR	Parnis Oros	1.04	203	*e*PN	Pn	07 30 54.0	-2.1
LIA	Limnos Island	1.06	43	*e*PN	Pn	07 30 55.2	-1.2
LIA				*e*SN	Sn	07 31 09.8	-1.8
LKR	Lokris	1.08	245	*e*PN	Pn	07 30 54.6	-2.0
LKR				*e*SN	Sn	07 31 09.9	-2.0
PTL	Penteli	1.11	196	*e*PN	Pn	07 30 55.0	-2.0
ATH	Athens Observa	1.22	200	⇑*i*PN	Pn	07 30 56.8	-1.7
ATH				*e*SN	Sn	07 31 13.1	-2.3
OUR	Ouranopolis	1.23	351	*e*Pg	Pg	07 30 57.6	-0.8
KVR	Kavouri	1.34	196	*e*PN	Pn	07 30 59.0	-1.2
PLG	Polygyros	1.40	334	*e*PN	Pn	07 30 59.6	-1.3
NAIG	Nisos Aigina	1.48	204	*e*PB	Pb	07 31 00.5	-2.3
AGG	Agios Georgios	1.49	267	*e*Pg	Pg	07 31 01.1	-2.3
AGG				*e*Sg	Sg	07 31 21.7	-1.1
PRK	Paraskevi	1.58	85	*e*PN	Pn	07 31 02.6	-0.9
PRK				*e*SN	Sn	07 31 23.4	-0.9
LIT	Litokhoron	1.67	306	*e*Pb	Pb	07 31 03.1	-3.0
LIT				*e*Sb	Sb	07 31 25.8	-1.7
EZN	Ezine	1.76	66	PN	Pn	07 31 05.4	-0.5
EZN				SN	Sn	07 31 29.3	+0.6
EZN	Ezine	1.76	66	Pn	Pn	07 31 05.4	-0.5
EZN	Ezine	1.76	66	Pn	Pn	07 31 05.4	-0.5
THE	Thessaloniki	1.80	327	*e*Pb	Pb	07 31 06.0	-2.3
	comp=Z,28nm,0.5s						
THE				*e*Sb	Sb	07 31 29.4	-1.8
SOH	Sokhos	1.83	338	*e*Pb	Pb	07 31 05.9	-2.9
AYVA	Ayvalik	1.91	84	*i* P	Pn	07 31 07.3	-0.7
AYVA				*i* S	Sn	07 31 33.7	+1.3
EVR	Evrytania	1.91	265	*e*PB	Pb	07 31 07.6	-2.5
URLA	Izmir	1.99	112	*i* P	Pn	07 31 08.3	-0.8
URLA				*i* S	Sn	07 31 42.2	+7.8
KZN	Kozani	2.25	303	⇓*i*PN	Pn	07 31 12.4	-0.2
NVR	Nevrokopi	2.25	353	⇑*i*PN	Pn	07 31 11.8	-0.9
ALN	Alexandroupoli	2.25	37	*e*Pn	Pn	07 31 11.3	-1.4
	comp=Z,32nm,0.5s						
ALN				*e*Sn	Sn	07 31 40.3	-0.6
RDO	Rodhopi	2.25	26	⇑*i*PN	Pn	07 31 11.5	-1.2
APE	Apeiranthos	2.28	153	PN	Pn	07 31 11.0	-2.1
APE	Apeiranthos	2.28	153	*e*PN	Pn	07 31 12.1	-1.0
APE	Apeiranthos	2.28	153	*e*Pn	Pn	07 31 11.9	-1.2
APE	Apeiranthos	2.28	153	P	Pn	07 31 12.5	-0.6
APE	Apeiranthos	2.28	153	⇓P	Pn	07 31 12.5	-0.6
KNT	Kendrikon	2.29	334	*e*Pn	Pn	07 31 13.1	-0.1
LPK	Lapseki	2.31	56	PN	Pn	07 31 12.7	-0.8
LPK	Lapseki	2.31	56	Pn	Pn	07 31 13.5	0.0
LPK	Lapseki	2.31	56	Pn	Pn	07 31 13.5	+0.1
GRG	Griva	2.32	323	*e*Pn	Pn	07 31 13.5	-0.1
GRG				*e*Sn	Sn	07 31 42.6	+0.1
RLS	Riolos of Patr	2.42	245	*e*PB	Pb	07 31 15.4	-3.4
MEV	Metsovon	2.43	287	*e*Pn	Pn	07 31 15.0	-0.1
IZM	Izmir	2.47	106	*e*PN	Pn	07 31 15.7	0.0
IZM	Izmir	2.47	106	P	Pn	07 31 15.7	0.0
KDAG	Bornova	2.47	106	*i* P	Pn	07 31 15.0	-0.7
KDAG				*i* S	Sn	07 31 39.3	-7.0
SMG	Samos	2.48	124	*e*PN	Pn	07 31 15.1	-0.7
MMB	Musomiste	2.50	351	*i* P	Pn	07 31 15.0	-1.1
VAY	Valandovo	2.55	330	*i* Pn	Pn	07 31 16.5	-0.2
VAY				*i* Sn	Sg	07 31 59.9	+3.3
VAY				*e*Rg		07 32 02.0	
	comp=E,1μm,1.0s						
VAY	Valandovo	2.55	330	*i* Pn	Pn	07 31 16.5	-0.3
RZN	Rozhen	2.59	8	*i* P	Pn	07 31 17.0	-0.4
VLI	Veliai	2.61	204	*e*PN	Pn	07 31 16.2	-1.4
ITM	Ithomi	2.66	224	*e*PN	Pn	07 31 18.6	+0.3
KDZ	Kurdzhali	2.68	19	*i* P	Pn	07 31 17.0	-1.6
JAN	Janina	2.69	283	*e*PN	Pn	07 31 19.0	+0.3
SART	Tekirdag	2.75	54	*i* P	Pn	07 31 18.8	-0.8
SART				*i* S	Sg	07 32 01.9	-1.1
FNA	Florina	2.76	308	*e*Pn	Pn	07 31 19.7	0.0
	comp=E,10.0nm,0.5s						
AKS	Akhisar	2.79	94	PN	Pn	07 31 19.8	-0.3
AKS	Akhisar	2.79	94	Pn	Pn	07 31 19.9	-0.2
AKS	Akhisar	2.79	94	Pn	Pn	07 31 19.9	-0.3
LKD	Levkas	2.83	263	*e*Pn	Pn	07 31 19.6	-1.1
BALB	Balikesir	2.87	78	PN	Pn	07 31 20.8	-0.3
BALB	Balikesir	2.87	78	Pn	Pn	07 31 20.9	-0.2
BALB	Balikesir	2.87	78	Pn	Pn	07 31 20.9	-0.3
MFT	Murefte	2.87	54	PN	Pn	07 31 19.8	-1.4
KKB	Krupnik	2.88	342	*i* P	Pn	07 31 20.8	-0.6
SANT	Santorini	2.91	160	*e*Pn	Pn	07 31 20.5	-1.2
SANT	Santorini	2.91	160	*e*Pn	Pn	07 31 20.6	-1.1
SANT	Santorini	2.91	160	*e*Pn	Pn	07 31 20.6	-1.1
SANT				*e*S	Sg	07 32 07.6	-0.5
BIA	Bitola	2.94	311	*i* Pn	Pn	07 31 22.4	+0.3
MRMT	Marmara Adasi	2.97	59	PN	Pn	07 31 21.3	-1.3
KYTH	Kithira	2.99	199	*e*PN	Pn	07 31 22.0	-0.9
PLD	Plovdiv	3.00	7	*i* P	Pn	07 31 23.5	+0.5
PLD				*i* S	Sg	07 32 17.0	+5.8
VLS	Valsamata	3.01	253	*e*PN	Pn	07 31 24.0	+0.8
STIP	Stip	3.02	329	*i* Pn	Pn	07 31 25.1	+1.9
STIP	Stip	3.02	329	*i* Pn	Pn	07 31 25.0	+1.8
EDC	Edincik	3.05	65	PN	Pn	07 31 23.7	+0.1
EDC	Edincik	3.05	65	Pn	Pn	07 31 23.7	+0.1
EDC	Edincik	3.05	65	Pn	Pn	07 31 23.7	+0.1
IGT	Igoumenitsa	3.06	279	*e*Pn	Pn	07 31 25.0	+1.1
DIM	Dimitrovgrad	3.09	18	*i* P	Pn	07 31 24.0	-0.2
BNT	Bandirma	3.09	65	PN	Pn	07 31 24.5	+0.3
BNT	Bandirma	3.09	65	P	Pn	07 31 24.5	+0.3
BODT	Bodrum	3.17	129	PN	Pn	07 31 24.2	-1.2
BODT	Bodrum	3.17	129	Pn	Pn	07 31 24.2	-1.2
BODT	Bodrum	3.17	129	Pn	Pn	07 31 24.2	-1.1
AYDN	Tasoluk	3.21	116	*i* P	Pn	07 31 25.3	-0.5
AYDN				*i* S	Sb	07 32 12.0	+0.4
BDRM	Kayabasi	3.25	128	*i* P	Pn	07 31 26.3	-0.2
BDRM				*i* S	Sg	07 32 17.0	-2.2
OHR	Ohrid	3.31	308	*i* Pn	Pn	07 31 27.4	+0.1
OHR				*e*Rg		07 32 41.7	
	comp=E,3μm,2.0s						
OHR	Ohrid	3.31	308	*i* Pn	Pn	07 31 27.3	+0.1
MLSB	Milas	3.32	122	PN	Pn	07 31 26.8	-0.6
MLSB	Milas	3.32	122	Pn	Pn	07 31 26.8	-0.6
MLSB	Milas	3.32	122	Pn	Pn	07 31 26.8	-0.6
EDRB	Edirne	3.33	34	PN	Pn	07 31 26.0	-1.5
EDRB	Edirne	3.33	34	Pn	Pn	07 31 26.0	-1.5
KCT	Karacabey	3.37	69	*e*PN	Pn	07 31 28.3	+0.2
KCT	Karacabey	3.37	69	Pn	Pn	07 31 28.4	+0.3
KCT	Karacabey	3.37	69	Pn	Pn	07 31 28.4	+0.3
MANT	Manisa	3.43	99	*i* P	Pn	07 31 29.0	+0.2
MANT				*i* S	Sg	07 32 25.3	+0.5
PGB	Panagyurishte	3.43	359	*i* P	Pn	07 31 28.0	-0.9
DST	Dursunbey	3.43	80	PN	Pn	07 31 29.0	+0.1
DST	Dursunbey	3.43	80	P	Pn	07 31 29.0	+0.1
KEK	Kerkira	3.50	281	*e*PN	Pn	07 31 30.0	+0.2
KEK	Kerkira	3.50	281	Pn	Pn	07 31 32.0	+2.2
VTS	Vitosha	3.56	348	*e*Pn	Pn	07 31 31.2	+0.6
VTS	Vitosha	3.56	348	*e*Pn	Pn	07 31 31.2	+0.5
VTS	Vitosha	3.56	348	*i* P	Pn	07 31 31.0	+0.3
SKO	Skopje	3.56	324	*i* Pn	Pn	07 31 32.2	+1.4
SKO				*e*Rg		07 32 47.2	
	comp=E,911nm,1.7s						
SKO	Skopje	3.56	324	*e*Pn	Pn	07 31 31.8	+1.1
VAM	Vamos	3.71	181	*e*PN	Pn	07 31 33.3	+0.6
ORLT	Orhaneli	3.71	74	*e*PN	Pn	07 31 32.5	-0.3
ORLT	Orhaneli	3.71	74	Pn	Pn	07 31 32.5	-0.3
ORLT	Orhaneli	3.71	74	Pn	Pn	07 31 32.5	-0.2
JMB	Yambol	3.79	27	*e*Pn	Pn	07 31 32.6	-1.2
JMB	Yambol	3.79	27	*i* P	Pn	07 31 32.0	-1.8
CTT	Catalca	3.79	56	*e*PN	Pn	07 31 33.1	-0.8
CTT	Catalca	3.79	56	Pn	Pn	07 31 33.1	-0.8
CTT	Catalca	3.79	56	Pn	Pn	07 31 33.1	-0.8
ELBA	Catalca	3.79	56	*i* P	Pn	07 31 33.0	-0.9
ELBA				*i* S	Sg	07 32 35.5	-1.1
IDI	Anoyia	3.86	172	Pn	Pn	07 31 33.7	-1.1
	comp=E,11nm,0.3s,baz=351,slow=12,SNR=77						
IDI				Lg		07 32 34.7	
	comp=E,9.4nm,0.3s,baz=256,slow=17,SNR=3.1						
IDI				LR	LR	07 33 18.4	
	comp=E,2μm,20.3s,baz=343,slow=43						
ULDT	Uludag	3.91	73	*i* P	Pn	07 31 35.1	-0.4
ULDT				*i* S	Sn	07 32 30.2	+8.4
DENT	Denizli	4.00	108	*e*PN	Pn	07 31 36.5	-0.2
DENT	Denizli	4.00	108	Pn	Pn	07 31 36.5	-0.2
NPS	Neapolis	4.00	164	*e*PN	Pn	07 31 36.6	-0.2
DNZL	Cakiroluk	4.03	109	*i* P	Pn	07 31 38.3	+1.1
DNZL				*i* S	Sn	07 32 27.9	+3.0
GDZ	Gediz	4.07	89	*i* P	Pn	07 31 38.4	+0.7
GDZ				*i* S	Sg	07 32 45.0	-0.6
PVL	Pavlikeni	4.18	11	*i* P	Pn	07 31 38.0	-1.2
KHL	Karahalli	4.20	99	*e*PN	Pn	07 31 40.0	+0.5
KHL	Karahalli	4.20	99	Pn	Pn	07 31 40.0	+0.5
KHL	Karahalli	4.20	99	Pn	Pn	07 31 40.0	+0.5
YLV	Yalova	4.20	68	*e*PN	Pn	07 31 39.2	-0.3
KARP	Karpathos	4.25	146	*e*PN	Pn	07 31 40.0	-0.2
GVD	Gavdhos	4.27	182	*e*PN	Pn	07 31 41.2	+0.7
SZH	Strazhica	4.33	17	*i* P	Pn	07 31 41.0	-0.4
ZAPS	Zavoj/Pirot	4.35	344	⇑*i*Pn	Pn	07 31 41.4	-0.2
ZAPS				Sn	Sn	07 32 23.4	-9.3
XRY	Khrisi	4.39	164	*e*PN	Pn	07 31 42.0	-0.1
HRT	Hereke	4.50	66	*e*PN	Pn	07 31 43.8	+0.2
FETY	Fethiye	4.56	121	*e*PN	Pn	07 31 45.4	+1.0
FETY	Fethiye	4.56	121	Pn	Pn	07 31 45.5	+1.1
FETY	Fethiye	4.56	121	Pn	Pn	07 31 45.5	+1.0
GOLH	Golhisar	4.59	112	*i* P	Pn	07 31 46.9	+2.1
GOLH				*i* S	Sg	07 33 04.5	+2.3
ZIMR		4.61	10	⇓P	Pn	07 31 45.7	+0.5
ZIMR		4.61	10	⇓P	Pn	07 31 45.7	+0.6
PRD	Provadia	4.72	29	*i* P	Pn	07 31 45.0	-1.7
PVY	Plav	4.75	318	⇑*i*Pn	Pn	07 31 47.9	+0.8
PVY				*e*Sn	Sn	07 32 41.2	-1.3
PVY	Plav	4.75	318	⇑*i*Pn	Pn	07 31 47.8	+0.8
PVY				*e*Sn	Sn	07 32 41.2	-1.3
ULC	Ulcinj	4.75	308	⇑*i*Pn	Pn	07 31 47.9	+0.8
ULC				*e*Sn	Sn	07 32 41.3	-1.2
GPA	Golpazari	4.82	74	*e*PN	Pn	07 31 47.9	-0.1
GPA	Golpazari	4.82	74	Pn	Pn	07 31 47.9	-0.1
GPA	Golpazari	4.82	74	Pn	Pn	07 31 47.9	-0.1
BORA	Eskisehir	4.86	79	*i* P	Pn	07 31 49.1	+0.5
BORA				*i* S	Sg	07 33 06.0	-4.9
IVA	Berane	4.99	320	⇑*i*Pn	Pn	07 31 51.8	+1.5
IVA				*e*Sn	Sn	07 32 46.9	-1.5
BOLS	Boljevac	5.01	341	⇓*i*Pn	Pn	07 31 49.7	-1.0
BOLS				Sn	Sn	07 32 49.5	+0.5
TTG	Podgorica	5.03	313	⇑*i*Pn	Pn	07 31 52.4	+1.5
TTG				*e*Sn	Sn	07 32 48.0	-1.3
ELL	Elmali	5.06	116	*e*PN	Pn	07 31 50.9	-0.5
ELL	Elmali	5.06	116	Pn	Pn	07 31 50.9	-0.5
ELL	Elmali	5.06	116	Pn	Pn	07 31 50.9	-0.4
ISP	Isparta	5.08	103	*e*P	Pn	07 31 53.0	+1.4
ISP	Isparta	5.08	103	*d*P	Pn	07 31 52.5	+0.9
ISP	Isparta	5.08	103	*e*Pn	Pn	07 31 52.8	+1.2
	comp=E,73nm,0.8s						
ESKT	Eskisehir	5.14	83	*e*P	Pn	07 31 53.4	+1.0
ESKT	Eskisehir	5.14	83	*i* P	Pn	07 31 53.1	+0.7
ESKT				*i* S	Sg	07 33 10.6	-9.2
ESKT	Eskisehir	5.14	83	Pn	Pn	07 31 53.4	+1.0
ESKT	Eskisehir	5.14	83	Pn	Pn	07 31 53.4	+1.1
SEYT	Eskypehyr	5.14	83	*i* P	Pn	07 31 53.1	+0.7
BUM	Brajici-Budva	5.16	310	⇓*i*Pn	Pn	07 31 53.1	+0.5
BUM				*e*Sn	Sn	07 32 50.7	-1.9
CRAR	CRAIOVA	5.21	356	P	Pn	07 31 53.6	+0.2
HENT	Hendek	5.39	69	*i* P	Pn	07 31 55.9	0.0
HENT				*i* S	Sn	07 32 49.6	-8.6
BUC1	Bucharest	5.39	14	P	Pn	07 31 56.9	+1.0
NKY	Niksic	5.42	315	⇑*i*Pn	Pn	07 31 56.9	+0.6
NKY				*e*Sn	Sn	07 32 57.4	-1.6
HCY	Herceg Novi	5.48	309	⇑*i*Pn	Pn	07 31 58.2	+1.0
HCY				*e*Sn	Sn	07 32 59.3	-1.3
MDU	Mudurnu	5.53	74	*e*P	Pn	07 31 58.1	+0.3
MDU	Mudurnu	5.53	74	Pn	Pn	07 31 57.0	-0.8
MDU	Mudurnu	5.53	74	Pn	Pn	07 31 57.0	-0.8
PLE	Pljevlja	5.57	321	⇓*i*Pn	Pn	07 31 58.7	+0.3
PLE				*e*Sn	Sn	07 33 01.1	-1.8
DJES	Djerdap	5.66	347	*e*Pn	Pn	07 31 57.1	-2.4
BRT	Bari-Castellan	5.69	290	Pn	Pn	07 32 00.9	+1.0
UPM	Unac

SLNA Salina 7.37 269 Pn **Pn 07 32 25.4 +2.4**
BALT Daday 7.39 68 *i* P **Pn 07 32 24.4 +1.1**
BALT *i* S **Sg 07 34 25.5 -6.4**
PZI Palazzolo 7.62 257 P **Pn 07 32 24.4 -2.0**
DRGR 7.75 352 ⇓P **Pn 07 32 28.7 +0.4**
DRGR 7.75 352 P **Pn 07 32 28.0 -0.3**
DRGR 7.75 352 ⇓P **Pn 07 32 28.7 +0.4**
VAE Valguarnera 7.90 261 Pn **Pn 07 32 32.2 +1.9**
comp=Z,5.0nm,0.3s,baz=96,slow=19,SNR=3.5
CII Carovilli 8.02 292 Pn **Pn 07 32 34.6 +2.7**
RHK3 Tenkes 8.08 329 *e*P **Pn 07 32 33.4 +0.6**
PKSM Moragy 8.20 332⇑*i*P **Pn 07 32 34.5 +0.1**
RHK1 Bakonya 8.32 329⇑*i*P **Pn 07 32 34.0 -2.1**
BURAR Bucovina Array 8.52 4 ⇑P **Pn 07 32 39.8 +1.0**
BURAR Bucovina Array 8.52 4 ⇑P **Pn 07 32 39.9 +1.0**
KIS Kishinev 8.55 22 *e*P **Pn 07 32 39.0 -0.3**
KIS *e*S **Sn 07 34 16.0 -0.2**
comp=Z,900nm,12.0s
KIS Kishinev 8.55 22 *e*P **Pn 07 32 39.0 -0.3**
KIS *e*S **Sn 07 34 16.0 -0.2**
KIS MLR MLR
comp=Z,1μm,11.0s
KIS MLR MLR
comp=N,2μm,13.0s
KIS MLR MLR
comp=E,1μm,10.0s
KIS MLR MLR
comp=Z,900nm,12.0s
USI Ustica 8.64 271 Pn **Pn 07 32 39.2 -1.2**
comp=Z,155nm,0.4s
PKS8 Sarbogard 8.76 334 *e*P **Pn 07 32 41.5 -0.6**
NRCA Norcia 9.20 297 Pn **Pn 07 32 48.0 -0.1**
PKSG 9.30 335 *e*P **Pn 07 32 41.4 -8.2**
PSZ Piszkesteto 9.35 342 *e* **Pn 07 32 51.4 +1.3**
SIM Simferopol' 9.37 48 P **Pn 07 32 54.0 +3.5**
comp=Z,14nm,0.7s
SIM S **Sn 07 34 37.0 +0.7**
comp=Z,300nm,16.7s
SIM Simferopol' 9.37 48 P **Pn 07 32 54.0 +3.5**
SIM S **Sn 07 34 37.0 +0.7**
SIM pmax pmax
comp=Z,14nm,0.7s
SIM MLR MLR
comp=Z,300nm,16.7s
KECS Kecovo 9.75 345 *e*PN **Pn 07 32 58.1 +2.5**
KECS *e* 07 35 31.8
KOLS Kolonicke sedl 9.91 352 *e*PN **Pn 07 33 01.4 +3.5**
VOY Vojsko 10.29 316 *e* **Pn 07 33 05.3 +2.2**
VOJS Vojsko 10.29 315 *i* P **Pn 07 33 03.5 +0.3**
ARSA Arzberg 10.32 325⇑*i*Pn **Pn 07 33 06.6 +3.1**
comp=Z,26nm,0.9s
ARSA Arzberg 10.32 325 ⇑P **Pn 07 33 06.6 +3.1**
comp=Z,26nm,0.9s
STHS Stebnicka Huta 10.52 349 *e*PN **Pn 07 33 10.9 +4.7**
STHS *e* 07 36 25.5
NIE Niedzica 10.68 346 *e*P **Pn 07 33 09.3 +1.0**
MOA Molln 11.34 324⇓*i*Pn **Pn 07 33 19.4 +2.1**
comp=Z,41nm,1.2s
ANN Anapa 11.34 56 *e*S **Sn 07 35 25.3 +0.8**
ANN Anapa 11.34 56 *e*P **Pn 07 33 15.5 -1.9**
ANN *e*S **Sn 07 35 25.3 +0.8**
ANN pmax pmax
comp=Z,8.0nm,0.7s
ANN MLR MLR
comp=Z,267nm,13.0s
OJC Ojcow 11.54 346 *e*P **Pn 07 33 20.3 +0.1**
OKC Ostrava-Krasne 11.56 340 *e*P **Pn 07 33 21.2 +0.7**
OKC AMS AMS 07 39 00.0
comp=Z,1μm,12.4s
VRAC Vranov 11.56 334 Pn **Pn 07 33 22.0 +1.5**
comp=Z,0.5nm,0.3s,baz=145,slow=9.0,SNR=3.6
VRAC LR LR 07 37 56.5
comp=Z,381nm,19.6s,baz=150,slow=38
AKASG Malin Array Be 12.10 15 Pn **Pn 07 33 26.0 -1.9**
comp=Z,0.9nm,0.3s,baz=200,slow=13,SNR=10.0
GERES GERESS Array B 12.32 326 Pn **Pn 07 33 32.0 +1.1**
comp=Z,0.3nm,0.3s,baz=146,slow=14,SNR=16
GERES LR LR 07 38 43.7
comp=Z,386nm,21.0s,baz=135,slow=40
DPC Dobruska-Polom 12.55 336 *e*P **Pn 07 33 39.2 +5.2**
DPC AMS AMS 07 39 40.0
comp=Z,1μm,13.0s
KHC Kasperske Hory 12.59 326 *e*P **Pn 07 33 36.5 +1.9**
KHC x x 07 33 49.5
KHC AMS AMS 07 38 50.0
comp=Z,1μm,13.5s
KHC Kasperske Hory 12.59 326 *e*P **Pn 07 33 36.5 +1.9**
KHC *e* 07 33 49.5
PRU Pruhonice 12.87 331 *e*P **Pn 07 33 40.6 +2.2**
PRU AMS AMS 07 38 40.0
comp=Z,800nm,10.2s
DAVOX Davos 13.00 311 Pn **Pn 07 33 41.0 +0.9**
comp=Z,0.2nm,0.3s,baz=321,slow=22,SNR=3.0
DAVOX LR LR 07 38 56.8
comp=Z,531nm,19.5s,baz=113,slow=39
DAVOX Davos 13.00 311 Pn **Pn 07 33 41.0 +0.8**
DAVOX Davos 13.00 311 Pn **Pn 07 33 41.0 +0.9**
DAVOX LR LR 07 38 56.8
BRG Berggiesshubel 13.81 332 *e*P **Pn 07 34 02.3 +11**
comp=Z,6.6nm,1.2s
BRG
comp=N,410nm,19.8s
BRG
comp=E,460nm,31.0s
BRG
comp=Z,440nm,15.7s
GRA1 Grafenberg Arr 14.06 323 *e*P **Pn 07 33 56.7 +2.0**
GRF Grafenberg Arr 14.06 323 *e*P **Pn 07 33 56.7 +2.0**
MBDF Montbardon 14.16 299 *e*P **Pn 07 33 53.9 -2.0**
comp=Z,29nm,0.9s
LPG La Plagne 14.42 302 *e*P **Pn 07 34 00.2 +0.7**
comp=Z,34nm,0.9s
LPL La Plagne 14.44 302 *e*P **Pn 07 34 00.1 +0.4**
comp=Z,63nm,1.2s
CLL Collm 14.51 331⇑*i*sP sP 07 34 09.7 +0.3
comp=Z,20nm,1.4s
CLL *e*x x 07 34 27.0
MOX Moxa 14.57 326 *e*P **Pn 07 34 03.1 +1.6**
comp=Z,22nm,1.6s
MOX
comp=Z,700nm,14.0s
MOX Moxa 14.57 326 *e*P **Pn 07 34 03.1 +1.6**
MOX pmax pmax
comp=Z,22nm,1.6s
MOX MLR MLR
comp=Z,700nm,14.0s
ONI Oni 14.94 70 P **Pn 07 34 08.6 +2.0**
GOF Gofitskoye 15.15 61 *e*P **Pn 07 34 20.0 +11**
MSL Mosul 15.18 95 *e*x x 07 34 29.0
CABF La Chapelle 15.26 305 *e*P **Pn 07 34 09.1 -1.7**
comp=Z,71nm,1.2s
ZEI Tsey 15.29 70 *e*P **Pn 07 34 12.5 +1.2**
HINF Hinteralfeld 15.30 310 *e*P **Pn 07 34 10.1 -1.4**
MNK Minsk 15.58 8 *e*P **Pn 07 34 12.0 -3.1**
VIVF Saint-Julien-l 15.63 298 *e*P **Pn 07 34 14.7 -1.0**
TBLG Delisi 15.82 74 P **Pn 07 34 26.8 +8.6**
GNI Garni 15.83 80 LR LR 07 41 27.7
comp=Z,522nm,18.1s,baz=65,slow=41
GNI Garni 15.83 80 *e*P **Pn 07 34 19.0 +0.7**
comp=Z,300nm,13.0s
GNI Garni 15.83 80 *ce*P **Pn 07 34 19.0 +0.7**
GNI pmax pmax
comp=Z,6.0nm,1.1s
GNI MLR MLR
comp=Z,300nm,13.0s
MTA Mtatsminda 15.86 74 P **Pn 07 34 26.5 +7.8**
SMF Signal de Mont 16.71 303 *e*P **Pn 07 34 26.6 -3.1**
comp=Z,34nm,1.0s
LOR Lormes 16.92 305 *e*P **Pn 07 34 30.2 -2.1**
LOR *e*R
comp=Z,520nm,19.2s
AVF Avril sur Loir 17.08 303 *e*P **Pn 07 34 31.2 -3.1**
BHD Baghdad 17.26 104 *e*x x 07 34 32.0
BHD *e*x x 07 37 41.0
BHD *e*x x 07 41 35.0
BGF Bois d'Agland 17.33 302 *e*P **Pn 07 34 34.8 -2.7**
OBN Obninsk 18.02 23 *e*P **Pn 07 34 43.0 -3.0**
comp=Z,68nm,1.2s
OBN Obninsk 18.02 23⇑*i*P **Pn 07 34 43.0 -3.0**
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,200nm,14.0s
OBN Obninsk 18.02 23 *e*P **Pn 07 34 43.0 -2.9**
comp=Z,68nm,1.2s

MOS Moscow 18.87 24 *e*P **Pn 07 34 53.7 -2.7**
EMOS Mosqueruela 19.04 282 P **Pn 07 35 00.0 +1.6**
comp=Z,8.2nm,0.7s,SNR=7.9
EBEN Beniarda 19.04 277 P **Pn 07 35 00.7 +2.3**
comp=Z,20nm,0.8s,SNR=7.9
VSU Vasula 19.43 4 *i* P **Pn 07 35 01.7 -1.4**
ECHE Chera 19.49 279 P **Pn 07 35 04.8 +1.0**
comp=Z,12nm,0.8s,SNR=6.5
SJPF Ste Jean 19.57 290 *e*P **Pn 07 35 04.3 -0.5**
comp=Z,94nm,1.3s
FLN La Foliniere 20.17 307 *e*P **P 07 35 11.0 +0.9**
FLN *e*R
comp=Z,690nm,17.8s
EVIA Vianos 20.81 277 P **P 07 35 20.2 +3.2**
comp=Z,19nm,0.6s,SNR=6.3
MIB Mutribah 21.14 109 *e*P **P 07 35 21.1 +0.5**
MIB AMb AMB 07 35 24.2
comp=Z,96nm,0.8s,mb5.2
NAY Al-Naaiem 21.37 110 *e*P **P 07 35 23.4 +0.3**
NAY AMb AMB 07 35 25.1
comp=Z,26nm,1.0s,mb4.5
UMR Umm Al-Rimmam 21.55 109 *e*P **P 07 35 25.3 +0.3**
UMR AMb AMB 07 35 29.3
comp=Z,91nm,1.2s,mb5.1
QUIF Quistinic 21.64 303 *e*P **P 07 35 25.8 -0.2**
comp=Z,171nm,1.3s,mb5.0
ESDC Sonseca Array 21.77 280 P **P 07 35 28.1 +0.7**
comp=Z,15nm,0.9s,mb4.4,baz=74,slow=11,SNR=20
ESLA Sonseca Array 21.77 280 *e*P **P 07 35 28.9 +1.5**
comp=Z,4.7nm,0.9s,mb3.9
ESLA Sonseca Array 21.77 280 *e*P **P 07 35 28.9 +1.5**
comp=Z,4.7nm,0.9s,mb3.9
GUD Guadarrama 21.81 283 P **P 07 35 29.5 +1.7**
comp=Z,8.8nm,0.8s,mb4.2,SNR=5.0
HFS Hagfors 22.06 346 P **P 07 35 29.9 -0.6**
comp=Z,5.0nm,0.6s,mb4.1,baz=161,slow=9.4,SNR=6.9
HFS LR LR 07 45 03.3
comp=Z,296nm,19.3s,MS3.7,baz=292,slow=39
FINES FINESS Array B 22.38 2 P **P 07 35 32.8 -1.1**
comp=Z,5.5nm,0.9s,mb4.0,baz=168,slow=12,SNR=14
FINES LR LR 07 45 03.4
comp=Z,582nm,18.9s,MS4.0,baz=159,slow=39
EADA Adamuz 22.50 277 P **P 07 35 36.9 +1.8**
comp=Z,9.9nm,0.8s,mb4.3,SNR=7.9
KONO Kongsberg 22.55 340 *e*P **P 07 35 34.2 -1.5**
comp=Z,23nm,1.2s,mb4.5
KONO Kongsberg 22.55 340 *e*P **P 07 35 34.2 -1.5**
KONO pmax pmax
comp=Z,23nm,1.2s,mb4.5
KONO Kongsberg 22.55 340 *e*P **P 07 35 34.2 -1.5**
comp=Z,23nm,1.2s,mb4.5
KAF Kangasniemi 23.06 2 *e*p **P 07 35 38.4 -2.7**
comp=Z,10nm,1.1s,mb4.2
KAF Kangasniemi 23.06 2 *e*P **P 07 35 38.4 -2.7**
KAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
NAO01 NORSAR Array S 23.29 343⇓*e*P **P 07 35 44.2 +0.7**
comp=Z,19nm,0.8s,mb4.6
NAO01 NORSAR Array S 23.29 343⇓*e*P **P 07 35 44.2 +0.6**
comp=Z,19nm,0.8s,mb4.6
NB2 NORSAR Subarra 23.39 344 P **P 07 35 43.5 -1.1**
comp=Z,1.2nm,0.8s,mb3.4,baz=143,slow=10
NOA NORSAR Array B 23.39 344 P **P 07 35 43.8 -0.8**
comp=Z,9.5nm,0.8s,mb4.3,baz=154,slow=11,SNR=27
NOA LR LR 07 45 25.6
comp=Z,107nm,18.3s,MS3.3,baz=180,slow=38
ECAL Calabor 23.65 287 P **P 07 35 46.3 -0.9**
comp=Z,16nm,0.9s,mb4.4,SNR=7.9
KLMR Klimovskoe 23.75 19*d i*P **P 07 35 49.6 +1.5**
KLMR pmax pmax
comp=Z,50nm,1.3s,mb4.8
KLMR MLR MLR
comp=Z,420nm,12.0s,MS4.1
MDT Midelt 24.13 264 P **P 07 35 53.1 +1.6**
comp=Z,7.0nm,0.8s,mb4.1,baz=74,slow=11,SNR=8.5
MDT LR LR 07 44 56.0
comp=Z,119nm,21.7s,MS3.3,baz=339,slow=36
EMIN Mina Concepcio 24.20 277 P **P 07 35 51.8 -0.4**
SNR=7.9
JOF Joensuu 24.21 8 *e*p **P 07 35 52.4 +0.1**
EKA Eskdalemuir Ar 24.45 321 P **P 07 35 54.8 +0.3**
comp=Z,7.2nm,0.7s,mb4.2,baz=111,slow=9.2,SNR=16
ESK Eskdalemuir 24.47 320 *e*P **P 07 35 55.7 +1.1**
comp=Z,223nm,1.9s,mb5.3
ESK Eskdalemuir 24.47 320 *e*P **P 07 35 55.7 +1.1**
ESK pmax pmax
comp=Z,223nm,1.9s,mb5.3
ESK Eskdalemuir 24.47 320 *e*P **P 07 35 55.7 +1.1**
comp=Z,223nm,1.9s,mb5.3
EGRO El Granado 24.88 276 P **P 07 35 59.9 +1.5**
comp=Z,13nm,1.1s,mb4.4,SNR=7.9
AKTK Aktyubinsk 26.28 53 P **P 07 36 11.2 +0.1**
AKTK LR LR 07 49 37.3
AKTO Aktyubinsk 26.28 53 P **P 07 36 11.2 +0.1**
comp=Z,2.1nm,0.9s,mb3.6,baz=265,slow=12,SNR=5.3
AKTO LR LR 07 49 37.3
comp=Z,198nm,19.3s,MS3.7,baz=0.0,slow=44
AKTO Aktyubinsk 26.28 53 P **P 07 36 11.2 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
AKTO MLR MLR
comp=Z,198nm,19.3s,MS3.7
ARU Arti 28.43 41 *e*P **P 07 36 30.6 +0.2**
comp=Z,6.7nm,1.2s,mb4.2
ARU Arti 28.43 41⇓*i*P **P 07 36 31.0 +0.6**
ARU *e* 07 37 18.6
ARU *e*PPP 07 37 27.6
ARU *e* 07 39 43.6
ARU *e*S **S 07 41 17.4 -0.7**
ARU *e*SS 07 42 35.8
ARU *e* 07 47 18.3
ARU pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.0
ARU MLR MLR
comp=N,60nm,17.0s,MS3.8
ARU MLR MLR
comp=E,200nm,16.0s,MS3.8
ARU Arti 28.43 41 *e*P **P 07 36 30.6 +0.2**
comp=E,6.7nm,1.2s,mb4.2
APA Apatity 28.96 7 *e*P **P 07 36 36.3 +1.2**
comp=E,800nm,14.0s
APA Apatity 28.96 7⇑*e*P **P 07 36 36.3 +1.2**
APA *e*S **S 07 41 25.0 -1.4**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.6
APA MLR MLR
comp=Z,800nm,14.0s,MS4.5
LVZ Lovozero 29.40 8⇓ **P 07 36 35.8 -3.3**
ARCES ARCESS Array B 30.49 1 P **P 07 36 48.1 -0.5**
comp=Z,2.6nm,0.8s,mb4.0,baz=200,slow=13,SNR=5.6
ARCES LR LR 07 50 12.0
comp=Z,426nm,18.2s,MS4.1,baz=181,slow=39
TORD Torodi Ar. Bea 32.66 224 P **P 07 37 07.3 -0.4**
comp=Z,6.9nm,0.5s,mb4.8,baz=33,slow=9.2,SNR=51
ZRNK Zerenda 33.43 51 *e*P **P 07 37 15.5 +1.0**
comp=Z,33nm,1.8s,mb5.0
ZRNK Zerenda 33.43 51 *e*P **P 07 37 15.5 +1.0**
ZRNK pmax pmax
comp=Z,33nm,1.8s,mb5.0
ZRNK Zerenda 33.43 51 *e*P **P 07 37 15.5 +1.0**
comp=Z,33nm,1.8s,mb5.0
BRVK Borovoye 34.21 51 *e*P **P 07 37 22.6 +1.3**
comp=Z,5.2nm,1.2s,mb4.3
BRVK Borovoye 34.21 51 *e*P **P 07 37 22.6 +1.3**
BRVK *e* 07 38 41.7
BRVK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRVK Borovoye 34.21 51 *e*P **P 07 37 22.6 +1.3**
comp=Z,5.2nm,1.2s,mb4.3
BRVK *e*PP PP 07 38 41.7 +3.1
BVAR Borovoye Array 34.27 51 P **P 07 37 21.1 -0.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=221,slow=11,SNR=6.9
AAK Ala-Archa 37.71 68 *e*P **P 07 37 51.4 +0.1**
comp=Z,18nm,1.4s,mb4.6
AAK Ala-Archa 37.71 68 *e*P **P 07 37 51.4 +0.1**
AAK pmax pmax
comp=Z,18nm,1.4s,mb4.6
AAK Ala-Archa 37.71 68 *e*P **P 07 37 51.4 +0.2**
comp=Z,18nm,1.4s,mb4.6
FRU Bishkek 37.76 68 *e*P **P 07 37 54.0 +2.3**
FRU pmax pmax
comp=Z,50nm,1.8s,mb4.9
KURK Kurchatov 39.37 55 *e*P **P 07 38 04.9 -0.3**
comp=Z,3.6nm,1.0s,mb4.1
KURK Kurchatov 39.37 55 *e*P **P 07 38 04.9 -0.3**

KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
KURK Kurchatov 39.37 55 *e*P **P 07 38 04.9 -0.3**
comp=Z,3.6nm,1.0s,mb4.1
DBIC Dimbokro 41.61 227 P **P 07 38 23.2 -0.5**
comp=Z,6.9nm,0.6s,mb4.4,baz=23,slow=10,SNR=17
DBIC LR LR 07 56 56.3
comp=Z,75nm,18.9s,MS3.6,baz=278,slow=38
DBIC Dimbokro 41.61 227 *e*P **P 07 38 22.9 -0.9**
comp=Z,14nm,0.9s,mb4.6
DBIC Dimbokro 41.61 227 *e*P **P 07 38 22.9 -0.9**
DBIC pmax pmax
comp=Z,14nm,0.9s
DBIC Dimbokro 41.61 227 *e*P **P 07 38 22.9 -0.8**
comp=Z,14nm,0.9s,mb4.6
NVS Novosibirsk 41.89 48 *e*P **P 07 38 25.5 -0.6**
MKAR Makanchi Array 42.32 60 P **P 07 38 29.8 +0.2**
comp=Z,1.9nm,0.6s,mb3.9,baz=279,slow=6.7,SNR=20
MKAR LR LR 07 58 49.2
comp=Z,116nm,19.1s,MS3.8,baz=272,slow=40
ZAL Zalesovo 42.87 49 P **P 07 38 34.1 +0.1**
comp=Z,2.2nm,0.7s,mb4.0,baz=204,slow=8.7,SNR=11
WMQ Urumqi 46.74 63 *e*P **P 07 39 07.0 +2.1**
WMQ XP sP 07 39 16.0 +9.1
WMQ PP PP 07 40 57.0 +2.4
WMQ S **S 07 45 56.0 +0.7**
WMQ SS SS 07 49 15.0 -6.6
WMQ AMB AMB
comp=Z,21nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,152nm,5.0s
WMQ LR LR
comp=N,179nm,11.0s,MS4.3
WMQ LR LR
comp=E,87nm,11.0s,MS4.3
WMQ LR LR
comp=Z,89nm,10.0s,MS4.0
ZAK Zakamensk 54.73 50 *e*P **P 07 40 00.9 -4.3**
ZAK *e* 07 40 04.8
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
GTA Gaotai 56.80 64 P **P 07 40 22.1 +2.1**
GTA AP pP 07 40 28.3 +6.8
GTA XP sP 07 40 31.0 +9.0
GTA PCP PcP 07 41 18.0 +2.2
GTA PP PP 07 42 30.9 +4.7
GTA PCS PcS 07 45 16.6 0.0
GTA S **S 07 48 15.3 +1.5**
GTA XS sS 07 48 25.9 +10
GTA SCS ScS 07 50 06.8 -3.4
GTA SS SS 07 52 06.6 +4.9
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,57nm,4.6s
GTA LR LR
comp=N,92nm,14.9s
GTA LR LR
comp=E,147nm,20.3s
GTA LR LR
comp=Z,142nm,16.0s,MS4.2
FRB Frobisher Bay 56.91 328 P **P 07 40 19.6 -1.2**
comp=Z,6.7nm,0.8s,mb4.7,baz=75,slow=10,SNR=10
SONM Songino Array 57.59 52 P **P 07 40 23.7 -1.9**
comp=Z,1.0nm,0.9s,mb3.9,baz=289,slow=4.5,SNR=6.8
SONM LR LR 08 08 05.3
comp=Z,112nm,18.4s,MS4.0,baz=349,slow=39
SONM Songino Array 57.59 52 P **P 07 40 23.7 -1.9**
SONM LR LR 08 08 05.3
TIXI Tiksi 57.74 21⇑*e*P **P 07 40 26.2 -0.4**
BOD Bodaibo 57.82 39 *e*P **P 07 40 26.5 -0.7**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ULN Ulaanbaatar 57.98 52 *e*P **P 07 40 28.9 +0.5**
ULN Ulaanbaatar 57.98 52 *e*P **P 07 40 29.6 +1.2**
comp=Z,2.5nm,0.9s,mb4.2
RES Resolute Bay 59.66 344 *e*P **P 07 40 40.9 +0.8**
RES pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
RES Resolute Bay 59.66 344 *e*P **P 07 40 40.9 +0.8**
comp=Z,1.6nm,0.9s,mb4.0
LZH Lanzhou 61.17 65 *e*P **P 07 40 51.5 +1.2**
LZH AP pP 07 40 57.6 +5.8
LZH XP sP 07 41 00.5 +8.2
LZH PP PP 07 43 08.3 +3.4
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,57nm,8.4s
LZH LR LR
comp=N,439nm,15.5s
LZH LR LR
comp=Z,548nm,18.3s,MS4.7
YAK Yakutsk 62.84 31 *i* P **P 07 41 01.6 0.0**
CD2 Chengdu 63.71 70 *e*P **P 07 41 08.8 +1.4**
CD2 AP pP 07 41 15.0 +6.2
CD2 PP PP 07 43 30.4 +3.0
CD2 S **S 07 49 40.1 -2.3**
CD2 SS SS 07 53 47.5 -2.5
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,50nm,4.8s
CD2 LR LR
comp=E,110nm,14.4s
CD2 LR LR
comp=Z,60nm,15.6s,MS3.9
LBTB Lobatse 63.81 179 P **P 07 41 08.6 +0.5**
comp=Z,2.6nm,0.7s,mb4.3,baz=20,slow=11,SNR=4.2
HHC Hu-ho-hao-te 64.09 57 *e*P **P 07 41 10.4 +0.6**
HHC AP pP 07 41 14.9 +3.6
HHC XP sP 07 41 19.8 +8.0
HHC PCP PcP 07 41 46.1 +1.1
HHC PP PP 07 43 34.0 +3.3
HHC SCP 07 45 45.9
HHC S **S 07 49 44.4 -2.7**
HHC XS sS 07 49 56.4 +7.0
HHC PS 07 50 06.0
HHC SCS ScS 07 50 59.9 -4.6
HHC SS SS 07 53 55.0 -0.9
HHC AMB AMB
comp=Z,79nm,9.6s
HHC LR LR
comp=N,138nm,16.8s,MS4.4
HHC LR LR
comp=E,175nm,19.2s,MS4.4
HHC LR LR
comp=Z,80nm,14.4s,MS4.0
KMI Kunming 66.05 76 P **P 07 41 26.3 +3.7**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
BOSA Boshof 67.39 179 P **P 07 41 31.5 +0.4**
comp=Z,4.8nm,1.0s,mb4.5,baz=31,slow=9.8,SNR=3.6
BOSA LR LR 08 16 09.3
comp=Z,112nm,18.3s,MS4.1,baz=356,slow=41
BOSA Boshof 67.39 179 P **P 07 41 31.5 +0.4**
BOSA LR LR 08 16 09.3
BILL Bilibino 69.42 14⇑*i*P **P 07 41 44.1 +0.3**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
BILL MLR MLR
comp=Z,100nm,22.0s,MS4.0
BILL Bilibino 69.42 14 *e*P **P 07 41 44.4 +0.6**
comp=Z,12nm,1.2s,mb4.7
FCC Fort Churchill 69.89 331 *e*P **P 07 41 47.4 +0.7**
FCC pmax pmax
comp=Z,23nm,1.6s,mb4.9
FCC Fort Churchill 69.89 331 *e*P **P 07 41 47.4 +0.6**
comp=Z,23nm,1.6s,mb4.9
SEY Seymchan 70.19 22 *e*P **P 07 41 48.7 +0.1**
CN2 Changchun 71.10 49 *e*P **P 07 41 57.0 +2.9**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
MA2 Magadan 72.23 25 *e*P **P 07 42 01.6 +0.7**
MA2 pmax pmax
comp=Z,30nm,2.1s,mb4.8
MA2 Magadan 72.23 25 *e*P **P 07 42 02.1 +1.1**
comp=Z,25nm,1.3s,mb5.0
MDJ Mudanjiang 72.97 46 P **P 07 42 04.5 -0.9**
MDJ AMB AMB
comp=Z,4.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,32nm,6.0s
YKA Yellowknife Ar 73.47 341 P **P 07 42 08.3 0.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=28,slow=5.9,SNR=12

YKA LR LR 08 17 15.0
comp=Z,81nm,18.0s,MS4.0,baz=60,slow=38
VLA Vladivostok 75.21 46⇑ *eP* **P 07 42 17.0 -1.4**
VLA pmax pmax
comp=Z,21nm,0.6s,mb5.2
SSE Sheshan 75.98 61 *eP* **P 07 42 21.6 -1.3**
SSE AMB AMB
comp=Z,12nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,44nm,3.5s
ILAR Eielson Array 76.21 356 P **P 07 42 24.9 +0.7**
comp=Z,0.6nm,0.9s,mb3.5,baz=16,slow=6.5,SNR=6.4
ILAR LR LR 08 16 59.9
comp=Z,59nm,19.5s,MS3.9,baz=319,slow=36
PSI Prapat 76.36 98 LR LR 08 21 36.3
comp=Z,162nm,18.2s,MS4.4,baz=33,slow=40
ULM Lac du Bonnet 76.64 325 P **P 07 42 26.7 +0.1**
comp=Z,5.6nm,0.9s,mb4.5,baz=33,slow=5.5,SNR=7.7
ULM LR LR 08 16 40.5
comp=Z,75nm,19.2s,MS4.0,baz=5.5,slow=36
LRAL Lakeview Retre 84.02 308 *eP* **P 07 43 08.2 +1.8**
comp=Z,4.6nm,0.9s,mb4.6
NEW Newport 86.48 335 *eP* **P 07 43 19.9 +1.3**
NEW Newport 86.48 335 *eP* **P 07 43 20.0 +1.4**
comp=Z,3.8nm,0.8s,mb4.7
MIAR Mount Ida 86.85 313 *eP* **P 07 43 22.3 +1.8**
comp=Z,14nm,1.4s,mb5.0
PDAR Pinedale Array 89.36 328 LR LR 08 23 26.2
comp=Z,86nm,20.2s,MS4.2,baz=248,slow=36
ISCO Idaho Springs 89.05 324 *eP* **P 07 43 33.8 +2.8**
comp=Z,3.1nm,1.0s,mb4.6
WMOK Wichita Mounta 89.58 316 *eP* **P 07 43 34.7 +1.3**
comp=Z,4.8nm,1.0s,mb4.8
SDCO Great Sand Dun 90.64 322 *eP* **P 07 43 39.1 +0.7**
comp=Z,4.5nm,1.2s,mb4.7
CTAO Charters Tower 127.02 87 *e*PKIKP PKPdf 07 49 39.9 -0.1
CTAO Charters Tower 127.02 87 *e*PKPdf PKPdf 07 49 40.0 0.0

NIED ***21*** *07:47:00,3430N×14120E,h53km,Mw4.1 Best double couple: M0:1.81000×10^15 NP1:φ=236.00000°,δ85.00000°, λ156.00000°. NP2:φ=328.00000°,δ66.00000°,λ5.00000°.*
MOS ***21*** *07:47:25.7±0.8,3435N×14148E,h33km,mb4.5/14,Error ellipse: s-maj=16.1km s-min=7.4km az=119.0*
BJI ***21*** *07:47:26.2,3459N×14138E,h34km,mB4.5,mb4.3*
IDC ***21*** *07:47:28.8±3.1,3434N×14141E,h36km±25km,mb3.7/12, mb1 4.0/16,mb1mx3.8/24,mbtmp4.1/16,ML4.5/4,Error ellipse: s-maj=25.6km s-min=13.6km az=77.0*
ISCJB ***21*** *07:47:28.4±0.7,3429N±003×14125E±006,h52km±5km, mb4.1/25,Error ellipse: s-maj=8.2km s-min=5.2km az=162.8*
NEIC ***21*** *07:47:29.8±1.0,3435N×14130E,h48km±8km,mb4.6/7, MW4.1(NIED),Error ellipse: s-maj=10.1km s-min=7.6km az=78.0*
JMA ***21*** *07:47:29.0±0.3,3427N×141.19E,h50km±3km,M4.1*
ISC 21 07:47:29.4±0.7,3429N±003×14125E±006,h41km±5km, n73,σ0°83/88,mb4.1/25,5C-8D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.42**	**328**	⇑P	**Pn**	**07 47 39.3**	**+0.1**
BSO3	**Boso 3**	**0.79**	**310**	⇓P	**Pn**	**07 47 44.3**	**+0.2**
BSO4	**Boso 4**	**1.02**	**313**	⇓P	**Pn**	**07 47 47.9**	**+0.7**
BSO4				S	**Sn**	**07 48 00.6**	**+0.2**
KTR	**Katsuura**	**1.15**	**318**	P	**Pn**	**07 47 49.5**	**+0.6**
KTR				S	**Sn**	**07 48 03.7**	**+0.3**
TATJ	**Tateyama 2**	**1.34**	**304**	⇓P	**Pn**	**07 47 51.8**	**+0.2**
TATJ				S	**Sn**	**07 48 09.3**	**+1.1**
JMY	**Miyakejima3**	**1.46**	**262**	P	**Pn**	**07 47 53.7**	**+0.5**
JMY				S	**Sn**	**07 48 09.2**	**-1.8**
JIM2	**Oshima 3**	**1.56**	**286**	⇓P	**Pn**	**07 47 53.7**	**-0.9**
JIM2				S	**Sn**	**07 48 12.4**	**-1.2**
JHJ2	**Mitsune**	**1.68**	**226**	P	**Pn**	**07 47 56.7**	**+0.5**
JHJ2				S	**Sn**	**07 48 16.5**	**0.0**
JHJ	**Hachijo jima 2**	**1.69**	**227**	Pn	**Pn**	**07 47 56.9**	**+0.4**
	379nm,0.3s,baz=113,slow=3.5,SNR=62						
JHJ				Sn	**Sn**	**07 48 16.2**	**-0.6**
	769nm,0.3s,baz=90,slow=20,SNR=24						
JKO	**Kozu shima**	**1.75**	**267**	P	**Pn**	**07 47 56.8**	**-0.4**
KTJJ	**Kamata 2**	**1.91**	**290**	⇓P	**Pn**	**07 47 58.4**	**-1.0**
JIZS	**Izushimoda**	**2.00**	**283**	⇓P	**Pn**	**07 48 00.1**	**-0.6**
JIZS				S	**Sn**	**07 48 23.5**	**-1.0**
JOD2	**Odawara 2**	**2.02**	**299**	P	**Pn**	**07 48 00.2**	**-0.8**
JOD2				S	**Sn**	**07 48 23.3**	**-1.7**
MJAR	**Matsushiro Arr**	**3.34**	**313**	Pn	**Pn**	**07 48 19.8**	**+0.7**
	29nm,0.3s,baz=195,slow=8.8,SNR=136						
MJAR				Sn	**Sn**	**07 48 57.8**	**+0.2**
	28nm,0.3s,baz=119,slow=25,SNR=13						
MAJO	**Matsushiro**	**3.35**	**313**	*e*Pn	**Pn**	**07 48 20.3**	**+1.2**
MAJO				*e*Sn	**Sn**	**07 48 58.9**	**+1.3**
MAT	**Matsushiro**	**3.35**	**313**	P	**Pn**	**07 48 20.3**	**+1.2**
MAT				S	**Sn**	**07 48 58.1**	**+0.5**
CBIJ	**Chichi jima**	**7.22**	**173**	Pn	**Pn**	**07 49 11.8**	**-0.5**
	51nm,0.3s,baz=65,slow=8.1,SNR=23						
CBIJ				Sn	**Sn**	**07 50 27.7**	**-5.3**
	19nm,0.3s,baz=287,slow=19,SNR=3.7						
JNU	**Nakatsue**	**8.72**	**265**	Pn	**Pn**	**07 49 34.2**	**+1.3**
	2.2nm,0.3s,baz=93,slow=11,SNR=4.3						
ASAJ	**Asahikawa**	**9.86**	**6**	Pn	**Pn**	**07 49 47.8**	**-0.8**
	5.6nm,0.3s,baz=220,slow=9.6,SNR=7.7						
ASAJ				Sn	**Sn**	**07 51 31.1**	**-6.9**
	0.7nm,0.3s,baz=9.5,slow=14,SNR=3.0						
ASAJ	**Asahikawa**	**9.86**	**6**	P	**Pn**	**07 49 47.8**	**-0.8**
ASAJ						07 51 31.1	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
VLA	**Vladivostok**	**11.44**	**323⇑**	*e*P	**Pn**	**07 50 13.7**	**+3.6**
VLA				pmax	pmax		
	comp=Z,13nm,0.5s						
YSS	**Yuzh-Sakhalins**	**12.70**	**5**	*c i*P	**Pn**	**07 50 25.1**	**-2.2**
YSS				pmax	pmax		
	comp=Z,22nm,0.7s						
YSS	**Yuzh-Sakhalins**	**12.70**	**5**	*e*Pn	**Pn**	**07 50 25.4**	**-1.9**
	comp=Z,15nm,0.5s						
HABR	**Khabarovsk**	**14.90**	**344**	*e*P	**Pn**	**07 50 52.6**	**-4.6**
SSE	**Sheshan**	**17.18**	**265**	*e*P	**Pn**	**07 51 28.1**	**+1.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,77nm,7.6s						
GUMO	**Guam**	**20.87**	**170**	*e*P	**P**	**07 52 09.0**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,680nm,1.6s						
GUMO	**Guam**	**20.87**	**170**	*e*P	**P**	**07 52 08.9**	**+1.1**
	comp=Z,680nm,1.6s						
PET	**Petropavlovsk**	**22.45**	**28⇑**	*e*P	**P**	**07 52 13.7**	**-11**
PET				pmax	pmax		
	comp=Z,46nm,1.3s,mb4.8						
WHN	**Wuhan**	**22.99**	**268**	*e*P	**P**	**07 52 30.3**	**-0.1**
ULN	**Ulaanbaatar**	**28.86**	**308**	*e*P	**P**	**07 53 24.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**28.86**	**308**	*e*P	**P**	**07 53 24.2**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**29.29**	**308**	P	**P**	**07 53 27.7**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=111,slow=9.0,SNR=12						
BOD	**Bodaibo**	**29.81**	**330**	*e*P	**P**	**07 53 31.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
ZAK	**Zakamensk**	**31.93**	**312**	*e*P	**P**	**07 53 51.7**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.0						
TIXI	**Tiksi**	**37.99**	**354**	*i*P	**P**	**07 54 40.0**	**-3.2**
ZAL	**Zalesovo**	**43.71**	**315**	P	**P**	**07 55 30.6**	**+0.3**
	comp=Z,1.2nm,0.4s,mb3.9,baz=19,slow=9.1,SNR=6.7						
MK31	**Makanchi Array**	**45.51**	**304**	*i*P	**P**	**07 55 44.6**	**-0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**45.51**	**304**	P	**P**	**07 55 44.8**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=83,slow=10.0,SNR=52						
JIRN	**Jiri**	**47.19**	**278**	*e*P	**P**	**07 55 57.8**	**-0.1**
GUN	**Gumba**	**47.35**	**278**	*e*P	**P**	**07 55 58.9**	**-0.2**
	comp=Z,9.8nm,0.5s,mb5.0						
KURK	**Kurchatov**	**47.55**	**310**	*d i*P	**P**	**07 56 00.0**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**47.55**	**310**	*e*P	**P**	**07 56 00.5**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.9						
PKI	**Pulchoki**	**47.86**	**278**	*e*P	**P**	**07 56 02.2**	**-0.9**
KKN	**Kakani**	**47.89**	**278**	*e*P	**P**	**07 56 03.4**	**+0.1**
DMN	**Daman**	**48.10**	**278**	*e*P	**P**	**07 56 04.4**	**-0.5**
GKN	**Gorkha**	**48.33**	**279**	*e*P	**P**	**07 56 06.3**	**-0.4**
KOLN	**Koldanda**	**49.27**	**279**	*e*P	**P**	**07 56 14.0**	**+0.1**
TKM2	**Tokmak 2**	**50.85**	**300**	*i*P	**P**	**07 56 27.1**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	**College**	**51.48**	**31**	*i*P	**P**	**07 56 20.1**	**-11**
AAK	**Ala-Archa**	**51.71**	**300⇑**	*e*P	**P**	**07 56 31.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**51.71**	**300**	*e*P	**P**	**07 56 31.6**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**51.89**	**31**	P	**P**	**07 56 31.8**	**-1.9**
	comp=Z,0.4nm,1.1s,mb3.3,baz=218,slow=10,SNR=2.2						
VOSK	**Vostochnaya**	**52.03**	**313**	P	**P**	**07 56 34.4**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**53.18**	**314**	*e*P	**P**	**07 56 43.9**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**53.18**	**314**	*e*P	**P**	**07 56 43.9**	**+0.7**
	comp=Z,3.7nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**54.32**	**188**	*e*P	**P**	**07 56 51.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**54.32**	**188**	*e*P	**P**	**07 56 51.7**	**+0.1**
	comp=Z,2.3nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**54.33**	**188**	P	**P**	**07 56 52.0**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.3,baz=3.2,slow=7.4,SNR=68						
KK31	**Karatay Array**	**54.41**	**302**	*i*P	**P**	**07 56 52.0**	**-0.3**
KKAR	**Karatay Array**	**54.41**	**302**	*i*P	**P**	**07 56 52.0**	**-0.3**
ASAR	**Alice Springs**	**58.06**	**188**	P	**P**	**07 57 18.8**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=16,slow=12,SNR=15						
ARU	**Arti**	**58.34**	**320⇓**	*i*P	**P**	**07 57 20.0**	**-0.2**
ARU				*e*		07 59 29.5	
ARU				*e*PPP		08 00 51.4	
ARU				*e*S	**S**	**08 05 26.8**	**+7.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	**Arti**	**58.34**	**320**	*e*P	**P**	**07 57 20.2**	**0.0**
	comp=Z,7.6nm,1.1s,mb4.6						
AB31	**Akbulak array**	**59.62**	**311**	*i*P	**P**	**07 57 28.8**	**-0.3**
AKTK	**Aktyubinsk**	**60.42**	**313**	P	**P**	**07 57 35.9**	**+1.3**
AKTO	**Aktyubinsk**	**60.42**	**313**	P	**P**	**07 57 35.9**	**+1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=77,slow=12,SNR=6.5						
AKTO	**Aktyubinsk**	**60.42**	**313**	P	**P**	**07 57 35.9**	**+1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**65.82**	**180**	P	**P**	**07 58 10.9**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=334,slow=13,SNR=2.1						
AKASG	**Malin Array Be**	**76.39**	**323**	P	**P**	**07 59 14.3**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.3,baz=49,slow=5.7,SNR=10						
AKASG	**Malin Array Be**	**76.39**	**323**	P	**P**	**07 59 14.3**	**-0.1**
NOA	**NORSAR Array B**	**76.66**	**337**	P	**P**	**07 59 15.9**	**0.0**
	comp=Z,1.7nm,0.7s,mb3.9,baz=39,slow=5.7,SNR=3.1						
PDAR	**Pinedale Array**	**79.69**	**45**	P	**P**	**07 59 32.4**	**-0.3**
	comp=Z,0.1nm,0.4s,mb3.1,baz=214,slow=7.3,SNR=2.8						
GERES	**GERESS Array B**	**84.97**	**328**	P	**P**	**07 59 59.8**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.6,baz=42,slow=6.1,SNR=4.0						

ISCJB ***21*** *07:59:01.6±1.8,3908N±007×2428E±008,h6km±9km, Error ellipse: s-maj=14.6km s-min=6.8km az=95.6*
CSEM ***21*** *07:59:03.3±0.1,3905N×2424E,h20km,ML2.3,Error ellipse: s-maj=3.4km s-min=2.3km az=147.0*
NEIC ***21*** *07:59:03.0,3904N×2427E,h19km,MD2.9(ATH),After ATH.*
ATH ***21*** *07:59:03.0,3904N×2427E,h19km±3km,MD2.9/4*
THE ***21*** *07:59:04.3,39.16N×2424E,h12km,ML2.3*
ISC 21 07:59:01.6±2.0,3905N±008×2431E±009,h7km±10km,n10, σ1°00/16,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.35**	**290**	*e*Pg	**Pg**	**07 59 09.5**	**+1.0**
AOS				*e*Sg	**Sg**	**07 59 14.5**	**+1.3**
NEO	**Neokhori**	**0.88**	**287**	*e*PN	**Pn**	**07 59 19.4**	**-1.0**
XOR	**Xorichti**	**0.92**	**290**	*e*Pg	**Pg**	**07 59 20.2**	**+0.9**
	comp=Z,7.0nm,0.4s						
XOR				*e*Sg	**Sg**	**07 59 31.6**	**+0.2**
PAIG	**Paliouri**	**1.00**	**331**	*e*Pg	**Pg**	**07 59 21.2**	**+0.4**
PAIG				*e*Sg	**Sg**	**07 59 34.1**	**+0.3**
LIA	**Limnos Island**	**1.08**	**38**	*e*PN	**Pn**	**07 59 24.2**	**+1.0**
LKR	**Lokris**	**1.10**	**249**	*e*PN	**Pn**	**07 59 22.9**	**-0.5**
LKR				*e*SN	**Sn**	**07 59 38.3**	**-0.5**
OUR	**Ouranopolis**	**1.31**	**349**	*e*Pg	**Pg**	**07 59 25.4**	**-1.3**
	comp=Z,2.5nm,0.4s						
OUR				*e*Sg	**Sg**	**07 59 41.7**	**-2.0**
PLG	**Polygyros**	**1.48**	**334**	*e*PN	**Pn**	**07 59 30.3**	**+1.7**
AGG	**Agios Georgios**	**1.54**	**270**	*e*Pg	**Pg**	**07 59 29.8**	**-1.4**
AGG				*e*Sg	**Sg**	**07 59 50.7**	**-0.5**
KNT	**Kendrikon**	**2.37**	**333**	*e*Pn	**Pn**	**07 59 41.1**	**+0.2**

SZGRF ***21*** *08:09:21.5,2687N×5679E,h33km,mb4.2,Southern Iran*
CSEM ***21*** *08:09:22.6±0.1,2752N×5567E,h10km,mb4.1/5,Error ellipse: s-maj=2.2km s-min=1.3km az=47.0*
ISCJB ***21*** *08:09:22.5±0.3,2748N±003×5569E±003,h10km, mb4.0/22,MS3.4/5,Error ellipse: s-maj=5.1km s-min=3.6km az=83.7*
NEIC ***21*** *08:09:23.1,2736N×5578E,h15km,mb4.0/8,ML3.9(THR), After THR.*
OMAN ***21*** *08:09:23.1±3.7,2773N×5556E,h20km,Error ellipse: s-maj=4.4km s-min=2.3km az=358.0*
MOS ***21*** *08:09:23.5±1.9,2689N×5598E,h63km,mb4.2/7,Error ellipse: s-maj=17.8km s-min=8.6km az=110.2*
THR ***21*** *08:09:23.1±0.5,2736N×5578E,h15km±4km,ML3.9*
TEH ***21*** *08:09:29.0,2750N×5539E,h11km,Mn3.8*
IDC ***21*** *08:09:29.9±9.5,2753N×5575E,h68km±80km,mb3.6/14, mb1 3.8/14,mb1mx3.6/24,mbtmp3.9/14,MS3.3/7, Ms1 3.3/7,ms1mx3.1/28,Error ellipse: s-maj=50.2km s-min=19.6km az=160.0*
ISC 21 08:09:24.7±0.3,2752N±003×5576E±004,h10km,n90, σ1°48/97,mb4.0/22,MS3.4/5,7C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.38**	**108**	*e*PG	**Pg**	**08 09 30.3**	**-1.9**
BNDS				*e*SG	**Sg**	**08 09 35.9**	**-1.4**
BNDS				AML	AML	08 09 42.2	
	comp=E,8μm,0.3s						
BNDS				AML	AML	08 09 43.4	
	comp=N,8μm,0.3s						
BNDS	**Bandar-Abbas**	**0.38**	**108**	*e*Pg	**Pg**	**08 09 30.3**	**-1.9**
	SNR=99						
BNDS				*e*Sg	**Sg**	**08 09 35.9**	**-1.4**
	comp=N,8μm,0.3s,SNR=99						
BNDS	**Bandar-Abbas**	**0.38**	**108**	Pg	**Pg**	**08 09 30.0**	**-2.2**
BNDS				Sg	**Sg**	**08 09 35.0**	**-2.3**
BANOM	**Banah**	**1.66**	**163**	⇓P	**Pn**	**08 09 56.0**	**+2.2**
	SNR=21						
BANOM				⇓S	**Sn**	**08 10 18.8**	**+3.6**
GHIR	**Ghir-Karzin**	**2.57**	**288**	*e*PN	**Pn**	**08 10 07.2**	**+0.8**
GHIR				*e*SG	**Sg**	**08 10 45.8**	**-1.6**
GHIR				AML	AML	08 11 04.5	
	comp=E,967nm,0.8s						
GHIR	**Ghir-Karzin**	**2.57**	**288**	Pn	**Pn**	**08 10 07.0**	**+0.6**
GHIR				Sg	**Sg**	**08 10 45.0**	**-2.4**
KRBR	**Kerman**	**2.61**	**19**	*e*PN	**Pn**	**08 10 08.8**	**+1.9**
KRBR				AML	AML	08 10 46.5	
	comp=N,760nm,0.6s						
KRBR				AML	AML	08 10 48.9	
	comp=E,481nm,0.8s						
KRBR	**Kerman**	**2.61**	**19**	Pn	**Pn**	**08 10 08.0**	**+1.1**
ASHO	**Ashiyiah**	**2.83**	**175**	⇑P	**Pn**	**08 10 11.1**	**+1.2**
	SNR=19						
IPAR	**Pars**	**3.33**	**315**	*e*Pn	**Pn**	**08 10 18.5**	**+1.7**
IBAF	**Bafgh**	**4.07**	**358**	*e*Pn	**Pn**	**08 10 28.1**	**+1.2**
ISAD	**Sadrabad**	**4.74**	**338**	*e*Pn	**Pn**	**08 10 39.1**	**+2.9**
ICHK	**Chekchek**	**4.86**	**346**	*e*Pn	**Pn**	**08 10 39.4**	**+1.6**
ZHSF	**Zahedan**	**4.88**	**63**	*e*PN	**Pn**	**08 10 39.2**	**+1.1**
ZHSF	**Zahedan**	**4.88**	**63**	Pn	**Pn**	**08 10 39.0**	**+0.9**
SMDO	**Samad**	**4.89**	**155**	⇑P	**Pn**	**08 10 38.8**	**+0.5**
BSY	**Bisya**	**4.92**	**164**	⇑P	**Pn**	**08 10 39.7**	**+0.9**
BSYO	**Bisya**	**4.95**	**164**	P	**Pn**	**08 10 39.7**	**+0.6**
JMDO	**Jabal Madar**	**5.54**	**157**	⇓P	**Pn**	**08 10 47.7**	**+0.4**
WBK	**Wadi Bani Khal**	**5.68**	**149**	⇑P	**Pn**	**08 10 47.8**	**-1.3**
IZEF	**Zefreh**	**6.13**	**332**	*e*Pn	**Pn**	**08 10 56.4**	**+1.1**
IPIR	**Pirpir**	**6.66**	**322**	*e*Pn	**Pn**	**08 11 02.8**	**+0.2**
IPIR				*e*Sn	**Sn**	**08 12 13.4**	**-5.1**
IKLH	**Kalahroud**	**6.82**	**329**	*e*Sn	**Sn**	**08 12 17.6**	**-4.9**
QRN	**Al-Qurain**	**7.04**	**282**	*e*P	**Pn**	**08 11 07.2**	**-0.5**
QRN				AML	AML	08 12 27.9	
	comp=Z,224nm,0.5s						
KBD	**Kabd**	**7.30**	**285**	*e*P	**Pn**	**08 11 10.8**	**-0.5**
KBD				AML	AML	08 12 36.1	
	comp=Z,141nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.36**	**288**	*e*P	**Pn**	**08 11 11.6**	**-0.7**
RDF	**Al-Radifah**	**7.38**	**283**	*e*P	**Pn**	**08 11 12.0**	**-0.5**
RDF				AML	AML	08 12 36.4	
	comp=Z,43nm,0.4s						
NAY	**Al-Naaiem**	**7.70**	**285**	*e*P	**Pn**	**08 11 16.2**	**-0.7**
NAY				AML	AML	08 12 44.8	
	comp=Z,42nm,0.5s						
NAY	**Al-Naaiem**	**7.70**	**285**	*e*P	**Pn**	**08 11 16.1**	**-0.8**
MIB	**Mutribah**	**7.75**	**289**	*e*P	**Pn**	**08 11 17.0**	**-0.5**
MIB				AML	AML	08 12 45.9	
	comp=Z,83nm,0.7s						
IFIR	**Firoozkooh**	**8.50**	**343**	*e*Pn	**Pn**	**08 11 29.9**	**+2.1**
ISHM	**Shahmirzad**	**8.53**	**346**	*e*Pn	**Pn**	**08 11 30.9**	**+2.7**
SHAO	**Shalim**	**9.45**	**181**	P	**Pn**	**08 11 42.2**	**+1.4**
	SNR=17						
WHFO	**Wadi Hawf**	**9.73**	**191**	P	**Pn**	**08 11 44.8**	**+0.2**
	SNR=21						
WHFO				⇑S	**Sn**	**08 13 23.1**	**-11**
RBK	**Rabkut**	**10.07**	**189**	P	**Pn**	**08 11 50.6**	**+1.3**
	SNR=10						
ABTO	**Aybut**	**10.37**	**193**	⇓P	**Pn**	**08 11 52.5**	**-0.9**
	SNR=47						
ABTO				⇑S	**Sn**	**08 13 43.2**	**-6.4**
ILIN	**Laeen**	**10.54**	**317**	*e*Pn	**Pn**	**08 11 55.1**	**-0.7**
IDHR	**Dehrash**	**10.76**	**314**	*e*Pn	**Pn**	**08 11 58.1**	**-0.7**
IDHR				*e*Sn	**Sn**	**08 13 49.5**	**-10**
GNI	**Garni**	**15.56**	**327**	P	**Pn**	**08 13 10.3**	**+6.2**
	comp=Z,0.6nm,0.3s,baz=262,slow=0.6,SNR=8.4						
GNI				LR	LR	08 19 00.4	
	comp=Z,56nm,20.5s,baz=136,slow=37						
GNI	**Garni**	**15.56**	**327**	*e*P	**Pn**	**08 13 07.1**	**+3.0**
GNI				pmax	pmax		
	comp=Z,21nm,0.9s						
GNI	**Garni**	**15.56**	**327**	*e*P	**Pn**	**08 13 07.1**	**+3.0**
	comp=Z,21nm,0.9s						
ZEI	**Tsey**	**18.02**	**331**	*i*P	**Pn**	**08 13 37.1**	**+1.9**
MALT	**Malatya**	**18.07**	**311**	*e*P	**Pn**	**08 13 38.8**	**+2.9**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MALT	**Malatya**	**18.07**	**311**	*e*P	**Pn**	**08 13 38.8**	**+2.9**
	comp=Z,9.5nm,1.2s						
ATD	**Arta Tunnel**	**20.00**	**220**	LR	LR	08 21 57.8	
	comp=Z,84nm,19.4s,baz=9.3,slow=37						
SOC	**Sochi**	**20.62**	**325**	*e*P	**P**	**08 14 07.3**	**+3.2**
AAK	**Ala-Archa**	**21.43**	**40**	*e*P	**P**	**08 14 13.8**	**+0.9**
	comp=Z,2.4nm,0.6s,mb3.7						
AAK	**Ala-Archa**	**21.43**	**40**	*e*P	**P**	**08 14 13.8**	**+0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
AAK	**Ala-Archa**	**21.43**	**40**	*e*P	**P**	**08 14 13.8**	**+0.8**
	comp=Z,2.4nm,0.6s,mb3.7						
BR131	**Keskin Array S**	**22.02**	**309**	*e*P	**P**	**08 14 20.2**	**+1.0**
	comp=Z,8.0nm,0.9s,mb4.2						
BR131	**Keskin Array S**	**22.02**	**309**	*e*P	**P**	**08 14 20.2**	**+1.0**
	comp=Z,8.0nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**22.02**	**309**	P	**P**	**08 14 18.6**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.1,baz=133,slow=13,SNR=17						
ANTO	**Ankara**	**22.67**	**309**	*e*P	**P**	**08 14 27.5**	**+1.4**
ANTO				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5						
ANTO	**Ankara**	**22.67**	**309**	*e*P	**P**	**08 14 27.4**	**+1.4**
	comp=Z,21nm,1.1s,mb4.5						
AKTK	**Aktyubinsk**	**22.95**	**4**	P	**P**	**08 14 29.0**	**-0.1**
AKTK	**Aktyubinsk**	**22.95**	**4**	P	**P**	**08 14 29.1**	**-0.1**
AKTK				LR	LR	08 25 01.5	
AKTO	**Aktyubinsk**	**22.95**	**4**	P	**P**	**08 14 29.1**	**-0.1**
	comp=Z,3.7nm,0.8s,mb3.9,baz=199,slow=10,SNR=4.8						
AKTO				LR	LR	08 25 01.5	
	comp=Z,113nm,19.5s,MS3.3,baz=0.0,slow=41						
ZRNK	**Zerenda**	**27.25**	**18**	*e*P	**P**	**08 15 10.6**	**+1.6**
	comp=Z,1.7nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**27.25**	**18**	*e*P	**P**	**08 15 10.6**	**+1.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**27.25**	**18**	*e*P	**P**	**08 15 10.6**	**+1.6**
	comp=Z,1.7nm,0.6s,mb3.8						
BRVK	**Borovoye**	**27.71**	**19**	*e*P	**P**	**08 15 12.0**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.5						
BRVK	**Borovoye**	**27.71**	**19**	*e*P	**P**	**08 15 12.0**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
BRVK	**Borovoye**	**27.71**	**19**	*e

XOR				*e*Sg	Sg	08 10 29.2	+2.5
PAIG	**Paliouri**	**0.84**	**334**	*e*Pg	Pg	08 10 17.7	+0.2
PAIG				*e*Sg	Sg	08 10 31.9	+3.2
LOS	**Limnos**	**1.04**	**43**	*e*Pg	Pg	08 10 20.0	-1.4
LOS				*e*Sg	Sg	08 10 35.3	+0.3
LKR	**Lokris**	**1.04**	**241**	⇑*i*PB	Pb	08 10 19.9	-0.9
LIA	**Limnos Island**	**1.07**	**47**	*e*PB	Pb	08 10 21.4	+0.2
PTL	**Penteli**	**1.15**	**192**	*e*PB	Pb	08 10 21.8	-0.7
OUR	**Ouranopolis**	**1.17**	**353**	*e*Pg	Pg	08 10 22.8	-1.0
	comp=Z,10.0nm,0.3s						
ATH	**Athens Observa**	**1.25**	**196**	*e*PN	Pn	08 10 24.2	+0.4
ATH				*e*SN	Sn	08 10 40.0	-0.1
PLG	**Polygyros**	**1.32**	**336**	*e*PN	Pn	08 10 25.3	+0.5
PLG				*e*SN	Sn	08 10 41.7	-0.3
AGG	**Agios Georgios**	**1.43**	**265**	*e*Pg	Pg	08 10 26.7	-2.1
AGG				*e*Sg	Sg	08 10 47.3	-0.2
NAIG	**Nisos Aigina**	**1.51**	**201**	*e*PN	Pn	08 10 28.5	+1.2
LIT	**Litokhoron**	**1.59**	**306**	*e*Pb	Pb	08 10 29.2	-0.9
PRK	**Paraskevi**	**1.64**	**87**	*e*PN	Pn	08 10 30.4	+1.2
SOH	**Sokhos**	**1.76**	**340**	*e*Pb	Pb	08 10 31.8	-1.1
EVR	**Evrytania**	**1.85**	**263**	*e*PB	Pb	08 10 33.3	-1.2
NVR	**Nevrokopi**	**2.19**	**354**	*e*PN	Pn	08 10 37.4	+0.7
KNT	**Kendrikon**	**2.21**	**334**	*e*Pn	Pn	08 10 37.9	+0.9
	comp=Z,2.7nm,0.7s						
GRG	**Griva**	**2.24**	**323**	*e*Pn	Pn	08 10 38.0	+0.7
GRG	**Griva**	**2.24**	**323**	*e*Pn	Pn	08 10 38.0	+0.6
RDO	**Rodhopi**	**2.24**	**28**	*e*PB	Pb	08 10 39.3	-1.8
ALN	**Alexandroupoli**	**2.25**	**39**	*e*Pn	Pn	08 10 37.0	-0.6
APE	**Apeiranthos**	**2.36**	**152**	*e*PN	Pn	08 10 40.5	+1.4
APE	**Apeiranthos**	**2.36**	**152**	*e*Pn	Pn	08 10 36.8	-2.3
MMB	**Musomiste**	**2.44**	**352**	*i* P	Pn	08 10 40.5	+0.4
RZN	**Rozhen**	**2.55**	**9**	*i* P	Pn	08 10 42.0	+0.3
SMG	**Samos**	**2.56**	**124**	*e*PN	Pn	08 10 43.7	+1.9
VLI	**Veliai**	**2.63**	**202**	*e*PN	Pn	08 10 44.0	+1.2
KKB	**Krupnik**	**2.81**	**343**	*i* P	Pn	08 10 46.0	+0.7
LAST	**Lasithi**	**4.14**	**165**	*e*Pn	Pn	08 11 02.5	-1.1

*ISCJB **21** 08:11:47.0±2.8, 39.10N±004×2420E±006, h17km±31km, Error ellipse: s-maj=8.6km s-min=5.4km az=68.4*
*ATH **21** 08:11:47.0, 39.10N×2422E, h34km±3km, MD3.6/13, ML3.4*
*NEIC **21** 08:11:47.0, 39.10N×2422E, h34km, ML3.4(ATH), After ATH.*
*CSEM **21** 08:11:49.0±0.1, 3909N×24.19E, h40km, ML3.4, Error ellipse: s-maj=3.0km s-min=2.3km az=121.0*

ISC 21 08:11:48.5±3.0, 3910N±004×2420E±006, h28km±30km, n21, σ0:70/24, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.79**	**286**	*e*PN	Pn	08 12 03.3	-0.4
NEO				*e*SN	Sn	08 12 14.4	-0.1
MPAR	**Parnis Oros**	**1.01**	**201**	*e*PN	Pn	08 12 06.5	-0.3
LKR	**Lokris**	**1.03**	**245**	*e*PN	Pn	08 12 06.4	-0.7
LKR				*e*SN	Sn	08 12 21.1	+0.5
LIA	**Limnos Island**	**1.11**	**43**	*e*PN	Pn	08 12 07.8	-0.3
LIA				*e*SN	Sn	08 12 22.0	-0.4
ATH	**Athens Observa**	**1.18**	**199**	*e*PN	Pn	08 12 08.9	-0.2
PLG	**Polygyros**	**1.40**	**336**	*e*PN	Pn	08 12 12.1	-0.1
NAIG	**Nisos Aigina**	**1.45**	**203**	*e*PN	Pn	08 12 13.0	+0.2
PRK	**Paraskevi**	**1.62**	**84**	*e*PN	Pn	08 12 15.5	+0.3
EVR	**Evrytania**	**1.87**	**265**	*e*PN	Pn	08 12 19.0	+0.4
NVR	**Nevrokopi**	**2.27**	**354**	*e*PN	Pn	08 12 23.2	-0.9
APE	**Apeiranthos**	**2.28**	**152**	*e*PN	Pn	08 12 24.0	-0.2
RDO	**Rodhopi**	**2.29**	**26**	*e*PN	Pn	08 12 24.7	+0.3
MMB	**Musomiste**	**2.52**	**352**	*i* P	Pn	08 12 27.0	-0.5
VLI	**Veliai**	**2.57**	**203**	*e*PN	Pn	08 12 28.6	+0.3
RZN	**Rozhen**	**2.62**	**9**	*i* P	Pn	08 12 28.0	-0.9
KKB	**Krupnik**	**2.90**	**343**	*i* P	Pn	08 12 33.0	+0.3
VTS	**Vitosha**	**3.57**	**348**	*i* P	Pn	08 12 42.0	0.0
VOIR		**6.37**	**5**	⇑P	Pn	08 13 24.1	+3.7
MLR	**Muntele Rosu**	**6.52**	**11**	⇓P	Pn	08 13 24.6	+2.1
VRI	**Vrincioaia**	**7.02**	**15**	⇓P	Pn	08 13 33.2	+3.8
BURAR	**Bucovina Array**	**8.55**	**5**	⇑P	Pn	08 13 54.9	+4.6

*CSEM **21** 08:25:17.3±0.4, 2728N×5582E, h20km, ML3.1, Error ellipse: s-maj=13.8km s-min=3.3km az=6.0*
*NEIC **21** 08:25:17.2, 2735N×5578E, h14km, mb3.4/1, ML3.1(THR), After THR.*
*THR **21** 08:25:17.2±0.7, 2735N×5578E, h14km±6km, ML3.1*
*ISCJB **21** 08:25:18.1±1.9, 273N±02×5584E±005, h21km±7km, mb3.3/6, Error ellipse: s-maj=36.6km s-min=7.6km az=6.0*
*IDC **21** 08:25:20.8±2.9, 2777N×5590E, h0km, mb3.4/5, mb1 3.4/5, mb1mx3.3/22, mbtmp3.4/5, Error ellipse: s-maj=65.1km s-min=28.8km az=149.0*

ISC 21 08:25:18.2±2.2, 273N±02×5580E±006, h8km±11km, n19, σ0:49/24, mb3.3/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.34**	**74**	*e*PG	Pg	08 25 24.6	-0.3
BNDS				*e*SG	Sg	08 25 30.1	+0.6
BNDS	**Bandar-Abbas**	**0.34**	**74**	Pg	Pg	08 25 24.0	-0.9
BNDS				Sg	Sg	08 25 30.0	+0.5
GHIR	**Ghir-Karzin**	**2.68**	**292**	*e*PN	Pn	08 26 01.7	+0.2
GHIR				*e*SG	Sb	08 26 39.9	+0.6
GHIR				AML	AML	08 27 17.7	
	comp=N,37nm,0.5s						
GHIR				AML	AML	08 27 22.8	
	comp=E,48nm,0.7s						
GHIR	**Ghir-Karzin**	**2.68**	**292**	Pn	Pn	08 26 01.0	-0.5
GHIR				*e*Sg	Sb	08 26 39.9	+0.6
	SNR=90						
GHIR	**Ghir-Karzin**	**2.68**	**292**	Pn	Pn	08 26 01.0	-0.5
GHIR				Sg	Sb	08 26 39.0	-0.3
KRBR	**Kerman**	**2.80**	**17**	*e*PN	Pn	08 26 03.6	+0.5
KRBR				AML	AML	08 26 50.1	
	comp=N,129nm,0.7s						
KRBR				AML	AML	08 26 55.1	
	comp=E,160nm,0.8s						
KRBR	**Kerman**	**2.80**	**17**	Pn	Pn	08 26 03.0	-0.2
ZHSF	**Zahedan**	**4.95**	**61**	*e*PN	Pn	08 26 33.2	+0.5
ZHSF				AML	AML	08 27 59.5	
	comp=E,12nm,0.5s						
ZHSF				AML	AML	08 28 00.1	
	comp=N,11nm,0.5s						
ZHSF	**Zahedan**	**4.95**	**61**	Pn	Pn	08 26 33.0	+0.3
NASN	**Na'in**	**6.06**	**335**	*e*PN	Pn	08 26 47.8	-0.2
NASN	**Na'in**	**6.06**	**335**	Pn	Pn	08 26 47.0	-1.0
AAK	**Ala-Archa**	**21.57**	**40**	*e*P	P	08 30 08.4	+0.3
	comp=N,1.1nm,0.6s,mb3.5						
BRTR	**Keskin Array B**	**22.18**	**310**	P	P	08 30 15.4	+0.8
	comp=N,1.0nm,0.8s,mb3.3,baz=127,slow=11,SNR=7.3						
AKTK	**Aktyubinsk**	**23.16**	**4**	P	P	08 30 24.9	-0.1
AKTK	**Aktyubinsk**	**23.16**	**4**	P	P	08 30 24.9	-0.1
AKTO	**Aktyubinsk**	**23.16**	**4**	P	P	08 30 24.9	-0.1
	comp=N,1.5nm,0.6s,mb3.6,baz=201,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**27.89**	**19**	P	P	08 31 08.1	-0.4
	comp=N,0.2nm,0.3s,mb3.2,baz=193,slow=5.9,SNR=2.3						
MKAR	**Makanchi Array**	**28.51**	**40**	P	P	08 31 13.6	-0.3
	comp=N,0.1nm,0.5s,mb2.8,baz=232,slow=7.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**52.31**	**266**	P	P	08 34 35.8	+5.6
	comp=N,0.3nm,0.5s,mb3.5,baz=65,slow=7.2,SNR=4.9						

*ISCJB **21** 08:25:27.2±0.4, 3084N±002×3497E±005, h0km, Error ellipse: s-maj=5.7km s-min=3.2km az=26.6*
*CSEM **21** 08:25:28.0±0.1, 3079N×3495E, h1km, ML2.5, Error ellipse: s-maj=2.4km s-min=1.5km az=72.0, Mining explosion.*
*HLW **21** 08:25:31.7, 3072N×3476E, h14km, Mb2.5*
*GII **21** 08:26:26.2±0.6, 3086N×3501E, h0km, ML2.4/7*

ISC 21 08:25:27.7±0.4, 3086N±002×3493E±005, h0km, n18, σ0:95/27, 2C-3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVTA	**Shivta**	**0.27**	**286**	Pg	Pg	08 25 34.8	+1.9
ZFRI	**Zfri**	**0.37**	**144**	Pg	Pg	08 25 34.8	+0.1
KZIT	**Kziot**	**0.46**	**276**	Pg	Pg	08 25 38.4	+1.9
KZIT				Sg	Sg	08 25 46.3	+3.9
MZDA	**Masada**	**0.59**	**39**	Pg	Pg	08 25 38.3	-0.6
MZDA				Sg	Sg	08 25 47.0	+0.5
MZDA	**Masada**	**0.59**	**39**	Pg	Pg	08 25 38.3	-0.6
MZDA				Sg	Sg	08 25 47.0	+0.5
HRFI	**Mount Harif**	**0.82**	**173**	Pg	Pg	08 25 43.5	0.0
HRFI				Sg	Sg	08 25 55.5	+1.4
MKRJ	**Makawir**	**0.93**	**41**	Pg	Pg	08 25 45.1	-0.3
MBH	**Mount Berech**	**1.06**	**181**	Pg	Pg	08 25 47.8	-0.2
AQBJ	**Aqaba**	**1.13**	**175**	Pg	Pg	08 25 49.5	+0.2
EIL	**Elat**	**1.18**	**179**	Pg	Pg	08 25 50.3	-0.1
EIL				Sg	Sg	08 26 06.9	+1.2
HNKL	**Nakhl**	**1.23**	**222**	⇑P	Pg	08 25 51.0	-0.4
HNKL				S	Sg	08 26 05.1	-2.3
SLTI	**Sal'it**	**1.38**	**4**	Pn	Pn	08 25 53.1	-1.1
SLTI				Sn	Sn	08 26 13.5	+0.3
AMAG	**Maghara**	**1.50**	**262**	⇓P	Pn	08 25 55.2	-0.6
MMLI	**Mount Malkishu**	**1.63**	**15**	Pn	Pn	08 25 57.0	-0.7
MMLI				Sn	Sn	08 26 20.1	+0.8
OFRI	**'Ofer**	**1.76**	**2**	Pn	Pn	08 25 59.0	-0.4
SUZ		**2.08**	**241**	⇓P	Pn	08 26 02.9	-0.9
HKAT	**Jabal Katrina**	**2.46**	**200**	⇑P	Pn	08 26 08.3	-0.8
HKAT				S	Sn	08 26 35.4	-4.4
TR2		**2.68**	**203**	⇓P	Pn	08 26 11.6	-0.4

IDC 21 08:27:13.7±2.1, 659S×12923E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=149.3km s-min=31.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**160**	Pn	Pn	08 30 37.2	+1.6
	0.2nm,0.3s,baz=343,slow=12,SNR=5.7						
WRA				Sn	Sn	08 32 57.8	-16
	0.3nm,0.3s,baz=334,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**17.57**	**166**	P	Pn	08 31 19.2	-0.7
	0.1nm,0.3s,baz=340,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	08 38 11.4	+0.2
	0.4nm,0.5s,baz=120,slow=7.7,SNR=9.9						

IDC 21 08:38:21.6±2.9, 3153S×17775W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/13, mbtmp3.7/3, ML2.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/24, Error ellipse: s-maj=70.8km s-min=35.7km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.27**	**356**	LR	LR	08 39 31.5	
	comp=Z,1μm,20.6s,baz=198,slow=31						
URZ	**Urewera**	**7.93**	**211**	Pn	Pn	08 40 17.9	-0.3
	0.1nm,0.3s,baz=180,slow=2.0,SNR=3.8						
URZ				Sn	Sn	08 41 48.8	+0.1
	0.7nm,0.3s,baz=303,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**43.27**	**268**	P	P	08 46 25.8	+0.9
	0.4nm,0.5s,baz=106,slow=7.8,SNR=7.1						
WRA	**Warramunga Arr**	**44.36**	**273**	P	P	08 46 33.4	-0.3
	1.2nm,0.7s,baz=112,slow=7.7,SNR=7.6						
FINES	**FINESS Array B**	**146.27**	**340**	PKPbc	PKPbc	08 58 02.5	-1.6
	0.8nm,0.5s,baz=32,slow=3.6,SNR=11						

*ISCJB **21** 08:56:48.8±0.5, 2902N±009×1400E±03, h448km±9km, mb3.5/4, Error ellipse: s-maj=36.7km s-min=7.9km az=144.3*
*IDC **21** 08:56:48.5±2.2, 2888N×13929E, h411km±41km, mb3.3/4, mb1 3.3/6, mb1mx2.9/20, mbtmp3.9/6, Error ellipse: s-maj=103.5km s-min=16.3km az=80.0*
*JMA **21** 08:56:43.3±0.1, 2912N×14023E, h450km, M3.5*

ISC 21 08:56:49.8±0.5, 2904N±009×1401E±03, h444km±9km, n16, σ0:70/21, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.67**	**136**	P	**P**	**08 57 54.6**	**+0.6**
CBIJ				S	**S**	**08 58 45.7**	**-0.4**
CBIJ	**Chichi jima**	**2.67**	**136**	P	**P**	**08 57 54.0**	**0.0**
	8.8nm,0.3s,baz=288,slow=19,SNR=7.6						
CBIJ				S	**S**	**08 58 46.0**	**-0.1**
	46nm,0.3s,baz=119,slow=22,SNR=19						
JHHJ	**Haha-jima-NKT**	**3.02**	**142**	P	**P**	**08 57 56.6**	**+0.1**
JHHJ				S	**S**	**08 58 50.5**	**-0.2**
JIE	**Ise**	**6.07**	**332**	P	**P**	**08 58 25.1**	**+0.5**
JNY	**Yasuok**	**6.58**	**344**	P	**P**	**08 58 30.7**	**+0.8**
JEG	**Eigenji**	**6.85**	**334**	P	**P**	**08 58 33.5**	**+0.8**
JRY	**Ryogami san**	**7.03**	**352**	P	**P**	**08 58 35.1**	**+0.4**
JRY				*e*S	**S**	**08 59 57.4**	**-3.1**
JAG	**Ashikaga**	**7.38**	**356**	P	**P**	**08 58 37.7**	**-0.8**
JAG				*e*S	**S**	**08 59 59.5**	**-8.0**
JHO	**Hitachi**	**7.56**	**3**	P	**P**	**08 58 41.1**	**+0.8**
MJAR	**Matsushiro Arr**	**7.65**	**348**	P	**P**	**08 58 41.4**	**+0.1**
	0.9nm,0.3s,baz=194,slow=7.1,SNR=6.7						
JHS	**Saijyo**	**8.40**	**317**	P	**P**	**08 58 48.6**	**-0.8**
WB2	**Warramunga Arr**	**49.01**	**187**	*e*P	**P**	**09 04 54.2**	**-0.2**
WRA	**Warramunga Arr**	**49.01**	**187**	P	**P**	**09 04 54.2**	**-0.3**
	0.8nm,0.3s,mb3.6,baz=2.4,slow=7.9,SNR=17						
ASAR	**Alice Springs**	**52.74**	**187**	P	**P**	**09 05 21.8**	**0.0**
	0.3nm,0.3s,mb3.0,baz=3.4,slow=6.1,SNR=9.1						
ARCES	**ARCESS Array B**	**71.10**	**340**	P	**P**	**09 07 22.6**	**+0.6**
	8.4nm,1.2s,mb4.1,baz=78,slow=9.6,SNR=2.2						
FINES	**FINESS Array B**	**75.39**	**333**	P	**P**	**09 07 46.2**	**-0.5**
	0.4nm,0.3s,mb3.5,baz=101,slow=7.2,SNR=2.3						

IDC 21 08:57:20.9±1.4, 382N×12750E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=130.7km s-min=20.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**164**	P	P	09 02 42.1	-0.2
	2.0nm,0.9s,baz=345,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**28.03**	**167**	P	P	09 03 15.5	+1.8
	0.2nm,0.3s,baz=339,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**37.95**	**160**	P	P	09 04 39.4	-0.8
	0.9nm,0.6s,baz=333,slow=9.0,SNR=4.2						
SONM	**Songino Array**	**47.46**	**341**	P	P	09 05 58.3	+0.9
	0.5nm,0.7s,baz=161,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**57.92**	**325**	P	P	09 07 14.4	-0.4
	0.4nm,0.5s,baz=119,slow=8.5,SNR=6.9						

IDC 21 09:08:11.7±1.5, 383N×12730E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=152.1km s-min=25.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.61**	**164**	P	P	09 13 33.5	-0.1
	2.5nm,0.7s,baz=344,slow=10,SNR=10						
WB2	**Warramunga Arr**	**24.61**	**164**	*e*P	P	09 13 34.4	+0.8
ASAR	**Alice Springs**	**28.07**	**167**	P	P	09 14 05.9	+1.0
	0.1nm,0.3s,baz=341,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**38.02**	**160**	P	P	09 15 31.6	0.0
	0.9nm,0.5s,baz=349,slow=10,SNR=2.9						
SONM	**Songino Array**	**47.39**	**341**	P	P	09 16 47.7	+0.1
	0.4nm,0.6s,baz=160,slow=8.9,SNR=4.2						

*SKO **21** 09:08:26.2, 4184N×2193E, h24km, M2.1, ML2.4*
*CSEM **21** 09:08:27.3±0.1, 4186N×2192E, h5km, ML2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=97.0*
*ISCJB **21** 09:08:27.2±0.4, 4182N±002×2190E±002, h10km, Error ellipse: s-maj=3.4km s-min=2.6km az=2.1*
*SOF **21** 09:08:28.5, 4186N×2202E, h5km, MD2.5*
*THE **21** 09:08:28.6, 4177N×2193E, h1km, ML2.5*
*NEIC **21** 09:08:28.5, 4186N×2202E, h5km, MD2.5(SOF), After SOF.*

ISC 21 09:08:27.8±0.4, 4183N±002×2190E±002, h10km, n30, σ0:77/51, 3C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.25**	**123**	⇑*i*Pg	**Pg**	**09 08 32.4**	**-0.5**
STIP				*i* Sg	**Sg**	**09 08 36.5**	**+0.2**
STIP				*e*Lg		09 08 36.5	
	comp=N,586nm,0.4s						
STIP				*e*Lg		09 08 37.0	
	comp=E,100nm,0.2s						
STIP	**Stip**	**0.25**	**123**	⇑*i*Pg	**Pg**	**09 08 32.3**	**-0.6**
STIP				*i* Sg	**Sg**	**09 08 36.5**	**+0.2**
SKO	**Skopje**	**0.38**	**292**	*e*Pg	**Pg**	**09 08 35.5**	**+0.4**
SKO				*e*Sg	**Sg**	**09 08 40.8**	**+0.6**
SKO	**Skopje**	**0.38**	**292**	*i* Pg	**Pg**	**09 08 35.6**	**+0.4**
SKO				*i* Sg	**Sg**	**09 08 40.9**	**+0.7**
	comp=E,650nm,0.3s						
SKO				*e*Lg		09 08 40.9	
SKO				*e*Lg		09 08 41.2	
	comp=N,687nm,0.2s						
SKO	**Skopje**	**0.38**	**292**	*i* Pg	**Pg**	**09 08 35.5**	**+0.3**
SKO				*i* Sg	**Sg**	**09 08 40.8**	**+0.6**
	comp=N,650nm,0.3s						
BELI	**Belica**	**0.49**	**253**	⇓*i*Pg	**Pg**	**09 08 36.6**	**-0.8**
BELI				*i*		09 08 36.8	
BELI				*i*		09 08 44.8	
BELI				*i* Sg	**Sg**	**09 08 45.1**	**+1.2**
KOZJ	**Kozjak Brana**	**0.53**	**275**	*i* Pg	**Pg**	**09 08 37.7**	**-0.5**
KOZJ				*i*		09 08 38.0	
KOZJ				*i*		09 08 44.9	
KOZJ				*i* Sg	**Sg**	**09 08 45.1**	**0.0**
SAMO	**Samokov**	**0.59**	**257**	⇑*i*Pg	**Pg**	**09 08 38.7**	**-0.5**
SAMO				*i*		09 08 39.7	
SAMO				*i* Sg	**Sg**	**09 08 46.6**	**-0.3**
VAY	**Valandovo**	**0.71**	**135**	*e*Pg	**Pg**	**09 08 40.6**	**-0.9**
VAY	**Valandovo**	**0.71**	**135**	*i* Pg	**Pg**	**09 08 40.9**	**-0.7**
VAY				*i* Sg	**Sg**	**09 08 52.3**	**+1.4**
VAY				*e*Lg		09 08 52.4	
	comp=E,124nm,0.6s						
VAY				*e*Lg		09 08 53.1	
	comp=N,108nm,0.5s						
VAY	**Valandovo**	**0.71**	**135**	*i* Pg	**Pg**	**09 08 40.8**	**-0.7**
VAY	**Valandovo**	**0.71**	**135**	P	**Pg**	**09 08 45.2**	**+3.7**
VAY				*i* Sg	**Sg**	**09 08 52.3**	**+1.4**
VAY	**Valandovo**	**0.71**	**135**	P	**Pg**	**09 08 45.1**	**+3.6**
KKB	**Krupnik**	**0.88**	**87**	*i* P	**Pg**	**09 08 45.0**	**+0.2**
BIA	**Bitola**	**0.92**	**209**	*i* Pg	**Pg**	**09 08 45.4**	**-0.1**
BIA				*i* Sg	**Sg**	**09 08 57.7**	**+0.2**
BIA				*e*Lg		09 08 58.8	
	comp=E,114nm,0.2s						
BIA				*e*Lg		09 08 59.0	
	comp=N,111nm,0.2s						
BIA	**Bitola**	**0.92**	**209**	*e*Pg	**Pg**	**09 08 45.2**	**-0.3**
BIA				*e*Sg	**Sg**	**09 08 57.8**	**+0.3**
GRG	**Griva**	**0.95**	**157**	*e*Pg	**Pg**	**09 08 45.6**	**-0.4**
GRG				*e*Sg	**Sg**	**09 08 58.0**	**-0.4**
KNT	**Kendrikon**	**1.00**	**131**	*e*Pg	**Pg**	**09 08 46.3**	**-0.7**
	comp=N,3.0nm,0.3s						
KNT				*e*Sg	**Sg**	**09 09 00.0**	**-0.1**
OHR	**Ohrid**	**1.10**	**230**	*e*Pg	**Pg**	**09 08 48.0**	**-0.9**
OHR				*e*Sg	**Sg**	**09 09 03.8**	**+0.6**
OHR	**Ohrid**	**1.10**	**230**	*e*Pg	**Pg**	**09 08 48.0**	**-0.9**
OHR				⇓*i*Sg	**Sg**	**09 09 03.7**	**+0.5**
OHR				*e*Lg		09 09 03.8	
	comp=E,90nm,0.4s						
OHR	**Ohrid**	**1.10**	**230**	*e*Pg	**Pg**	**09 08 47.9**	**-1.0**
OHR				*e*Sg	**Sg**	**09 09 03.8**	**+0.7**
FNA	**Florina**	**1.12**	**201**	*e*Pg	**Pg**	**09 08 49.0**	**-0.3**
	comp=E,6.0nm,0.3s						
FNA				*e*Sg	**Sg**	**09 09 03.8**	**0.0**
VTS	**Vitosha**	**1.23**	**51**	*e*Pg	**Pg**	**09 08 51.8**	**+0.3**
VTS	**Vitosha**	**1.23**	**51**	*e*Pg	**Pg**	**09 08 51.8**	**+0.4**
VTS				*i* S	**Sb**	**09 09 07.5**	**+0.4**
VTS	**Vitosha**	**1.23**	**51**	*i* P	**Pn**	**09 08 52.0**	**+1.0**
VTS				*i* S	**Sb**	**09 09 07.5**	**+0.4**
MMB	**Musomiste**	**1.39**	**99**	*i* P	**Pn**	**09 08 54.5**	**+1.3**
SOH	**Sokhos**	**1.49**	**132**	*e*Pg	**Pg**	**09 08 54.5**	**-1.8**
ZAPS	**Zavoj/Pirot**	**1.56**	**20**	⇓*i*Pg	**Pg**	**09 08 56.5**	**-1.2**
ZAPS				Sg	**Sg**	**09 09 17.3**	**-0.6**
RZN	**Rozhen**	**2.11**	**93**	*i* P	**Pn**	**09 09 07.0**	**+3.9**
PAIG	**Paliouri**	**2.33**	**144**	*e*Pn	**Pn**	**09 09 06.9**	**+0.8**

GUC 21 09:11:59.9±0.7, 2536S×7191W, h35km±3km, MD3.9, ML2.7, 1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRCH	**Chaqaral**	**1.52**	**131**	*e*P	Pn	09 12 26.1	+1.5
CRCH				*i* S	Sn	09 12 46.0	+2.8
CRCH				AMP		09 12 48.1	
	comp=N,268nm,0.2s						
CPN1	**Cerro Paranal**	**1.54**	**62**	*e*P	Pn	09 12 27.4	+2.4
CPN1				*i* S	Sn	09 12 47.5	+3.7
CDCH	**Caldera**	**1.97**	**151**	*e*P	Pn	09 12 32.4	+1.6
CDCH				*i* S	Sn	09 12 57.6	+3.4
CDCH				AMP		09 12 58.7	
	comp=N,65nm,0.6s						
ANCH	**Antofagasta**	**2.15**	**40**	*e*P	Pn	09 12 34.0	+0.7
ANCH				*i* S	Sn	09 13 00.6	+1.8
CEN1	**Los Morros**	**2.50**	**39**	⇓*i*P	Pn	09 12 37.0	-1.1
CEN1				*i* S	Sn	09 13 05.7	-1.7
CEN1				AMP		09 13 11.4	
	comp=N,58nm,0.7s						

*MOS **21** 09:12:12.0±0.5, 5578N×161.12E, h164km, mb4.0/1, Error ellipse: s-maj=70.1km s-min=18.6km az=80.2*

KRSC 21 09:12:12.3±0.7, 5576N×16112E, h164km±2km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.31**	**325**	*i* P	Pn	09 12 35.7	+1.2
ZL

RUS *e*S Sn 09 13 51.9 -0.6
GRL Gorelyy 3.68 210 P Pn 09 13 11.7 +2.9
KAMR Kamenskoye 7.21 19 *e*P Pn 09 13 57.6 +2.5

GUC 21 09:20:51.3±0.7, 3381S×6829W, h19km±15km, MD3.9, ML2.7, 1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.74**	**286**	*e*P	Pn	09 21 21.1	+0.6
FCH				*i* S	Sn	09 21 44.4	+2.3
FCH				AMP		09 21 48.7	
	comp=E,106nm,0.7s						
CICH	**Cipreses**	**1.84**	**253**	*e*P	Pn	09 21 22.6	+0.8
CICH				*i* S	Sn	09 21 46.1	+1.5
CACH	**El Canelo**	**1.95**	**260**	⇓*i*P	Pn	09 21 24.3	+1.0
CACH				*i* S	Sn	09 21 48.9	+1.7
CHCH	**Chadas Angostu**	**1.97**	**266**	*e*P	Pn	09 21 24.9	+1.3
CHCH				*i* S	Sn	09 21 50.2	+2.4
RCDM	**Rinconada Maip**	**2.13**	**278**	*e*P	Pn	09 21 27.9	+2.2
RCDM				*i* S	Sn	09 21 55.2	+3.6
RCDM				AMP		09 21 56.9	
	comp=N,108nm,0.5s						

*ISCJB **21** 09:34:17.2±0.6, 3913N×003×24.19E±003, h11km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=100.7*
*NEIC **21** 09:34:17.9, 39.10N×2423E, h17km, ML3.2(ATH), After ATH.*
*ATH **21** 09:34:17.9, 39.10N×2423E, h17km±2km, MD3.3/12, ML3.2*
*CSEM **21** 09:34:18.4±0.1, 39.10N×2422E, h20km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.6km az=129.0*
*THE **21** 09:34:18.1, 39.12N×2421E, h13km, ML2.8*
ISC 21 09:34:17.7±0.6, 3912N±003×2418E±004, h13km±4km, n23, σ1°14/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**283**	*e*Pg	**Pg**	**09 34 23.1**	**+0.3**
AOS				*e*Sg	**Sg**	**09 34 27.8**	**+1.5**
AOS	**Alonnisos**	**0.24**	**283**	*e*Pg	**Pg**	**09 34 23.1**	**+0.3**
AOS				*e*Sg	**Sg**	**09 34 27.8**	**+1.5**
NEO	**Neokhori**	**0.77**	**285**	*e*PN	**Pn**	**09 34 33.7**	**-0.5**
NEO				*e*SN	**Sn**	**09 34 45.2**	**-0.4**
XOR	**Xorichti**	**0.81**	**288**	*e*Pg	**Pg**	**09 34 34.0**	**+0.6**
	comp=Z,11nm,0.3s						
XOR				*e*Sg	**Sg**	**09 34 45.8**	**+1.9**
PAIG	**Paliouri**	**0.90**	**335**	*e*Pg	**Pg**	**09 34 35.1**	**0.0**
PAIG				*e*Sg	**Sg**	**09 34 48.2**	**+1.4**
MPAR	**Parnis Oros**	**1.02**	**200**	*e*PN	**Pn**	**09 34 38.0**	**+0.3**
LKR	**Lokris**	**1.03**	**244**	*e*PB	**Pb**	**09 34 37.1**	**-0.3**
LKR				*e*SN	**Sn**	**09 34 52.6**	**+0.5**
LOS	**Limnos**	**1.07**	**40**	*e*Pg	**Pg**	**09 34 37.7**	**-0.7**
LOS				*e*Sg	**Sg**	**09 34 52.5**	**+0.1**
PTL	**Penteli**	**1.09**	**193**	*e*PN	**Pn**	**09 34 37.8**	**-0.8**
LIA	**Limnos Island**	**1.10**	**44**	*e*PN	**Pn**	**09 34 38.1**	**-0.6**
LIA				*e*SN	**Sn**	**09 34 54.0**	**+0.2**
ATH	**Athens Observa**	**1.20**	**198**	*e*PN	**Pn**	**09 34 41.0**	**+0.9**
ATH				*e*SN	**Sn**	**09 34 56.7**	**+0.5**
OUR	**Ouranopolis**	**1.23**	**353**	*e*Pg	**Pg**	**09 34 40.1**	**-1.2**
	comp=Z,4.0nm,0.3s						
PLG	**Polygyros**	**1.38**	**336**	*e*PN	**Pn**	**09 34 43.8**	**+1.2**
AGG	**Agios Georgios**	**1.45**	**267**	*e*Pg	**Pg**	**09 34 43.6**	**-1.8**
AGG				*e*Sg	**Sg**	**09 35 03.0**	**-1.2**
NAIG	**Nisos Aigina**	**1.46**	**202**	*e*PN	**Pn**	**09 34 45.0**	**+1.3**
PRK	**Paraskevi**	**1.63**	**85**	*e*PN	**Pn**	**09 34 47.5**	**+1.5**
LIT	**Litokhoron**	**1.64**	**308**	*e*Pb	**Pb**	**09 34 46.1**	**-1.6**
LIT				*e*Sb	**Sb**	**09 35 07.1**	**-1.1**
SOH	**Sokhos**	**1.82**	**340**	*e*Pb	**Pb**	**09 34 48.4**	**-2.4**
NVR	**Nevrokopi**	**2.25**	**354**	*e*PB	**Pb**	**09 34 56.5**	**-1.6**
RDO	**Rodhopi**	**2.28**	**27**	*e*PN	**Pn**	**09 34 57.2**	**+2.3**
ALN	**Alexandroupoli**	**2.28**	**38**	*e*PN	**Pn**	**09 34 54.3**	**-0.7**
GRG	**Griva**	**2.29**	**324**	*e*Pn	**Pn**	**09 34 55.7**	**+0.6**
GRG				*e*Sn	**Sn**	**09 34 58.3**	**+1.1**
VLI	**Veliai**	**2.59**	**203**	*e*PB	**Pb**	**09 35 02.0**	**-1.9**

IDC 21 09:52:02.0±3.9, 449S×10252E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=157.2km s-min=24.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.58**	**119**	P	P	09 58 52.8	+0.3
	0.2nm,0.7s,baz=296,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**35.76**	**125**	P	P	09 59 02.9	+0.2
	0.2nm,0.5s,baz=298,slow=7.5,SNR=5.4						
SONM	**Songino Array**	**52.21**	**3**	P	P	10 01 15.9	+1.2
	1.0nm,0.6s,baz=179,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**54.11**	**343**	P	P	10 01 27.7	-0.9
	0.4nm,0.5s,baz=156,slow=9.1,SNR=9.2						

IDC 21 10:09:16.9±1.6, 273N×9553E, h22km±5km, mb3.5/5, mb1 3.6/6, mb1mx3.4/22, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=48.2km s-min=16.9km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.39**	**89**	Pn	Pn	10 10 09.3	+0.8
	1.9nm,0.3s,baz=319,slow=11,SNR=14						
PSI				Sn	Sn	10 10 49.5	+1.4
	3.3nm,0.3s,baz=190,slow=21,SNR=4.3						
WRA	**Warramunga Arr**	**44.26**	**122**	P	P	10 17 24.8	+0.2
	0.2nm,0.5s,baz=300,slow=9.1,SNR=5.9						
WRA				pP	pP	10 17 31.8	+0.3
	0.3nm,0.5s,baz=300,slow=9.4,SNR=2.9						
MKAR	**Makanchi Array**	**45.38**	**347**	P	P	10 17 33.5	-0.1
	1.8nm,0.6s,baz=165,slow=7.6,SNR=35						
MKAR				pP	pP	10 17 40.6	+0.1
	2.0nm,0.7s,baz=160,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**45.64**	**127**	P	P	10 17 36.1	+0.4
	0.2nm,0.6s,baz=295,slow=8.0,SNR=5.4						
SONM	**Songino Array**	**45.91**	**10**	P	P	10 17 37.4	-0.3
	0.5nm,0.6s,baz=195,slow=9.2,SNR=5.0						
SONM				pP	pP	10 17 44.5	-0.2
	1.1nm,0.8s,baz=185,slow=8.7,SNR=5.9						
ZAL	**Zalesovo**	**51.80**	**352**	P	P	10 18 23.1	+0.1
	1.5nm,0.5s,baz=96,slow=23,SNR=6.4						
ZAL				pP	pP	10 18 30.2	+0.3
	1.8nm,0.6s,baz=308,slow=4.3,SNR=2.9						

IDC 21 10:30:29.0±4.5, 750S×10396E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=164.2km s-min=32.5km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.93**	**116**	P	P	10 36 56.7	+0.4
	0.2nm,0.5s,baz=286,slow=12,SNR=4.4						
SONM	**Songino Array**	**55.14**	**2**	P	P	10 40 03.5	+0.5
	1.1nm,0.7s,baz=178,slow=9.5,SNR=8.3						
MKAR	**Makanchi Array**	**57.39**	**342**	P	P	10 40 18.9	-0.3
	0.3nm,0.4s,baz=143,slow=9.1,SNR=5.6						

*BER **21** 10:57:12.1±2.5, 5932N×2711E, h0km, ML2.2(NAO), Suspected explosion*
*NAO **21** 10:57:12.2±1.7, 5932N×2695E, ML2.2*
*IDC **21** 10:57:14.8±2.0, 5945N×2695E, h0km, mb1 3.4/4, mb1mx3.1/21, mbtmp3.3/4, ML2.7/4, Error ellipse: s-maj=17.4km s-min=9.6km az=133.0*
HEL 21 10:57:12.6±0.1, 5932N×2693E, h0km, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.86**	**187**	*i* P	Pg	10 57 27.9	-1.2
VSU				*i* S	Sg	10 57 39.3	-1.0
FIA0	**FINESS Array S**	**2.18**	**349**	*e*P	Pn	10 57 49.9	-0.1
FIA0				*e*SG	Sg	10 58 20.6	-1.9
FIA0				*e*RG		10 58 35.2	
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	Pn	10 57 50.0	0.0
	baz=166,slow=16						
FIA0				Lg		10 58 18.9	
	baz=168,slow=37						
FIA0				Rg		10 58 33.5	
	baz=164,slow=37						
FINES	**FINESS Array B**	**2.18**	**349**	Pn	Pn	10 57 50.0	-0.1
	1.5nm,0.3s,baz=168,slow=16,SNR=37						
FINES				Pg	Pg	10 57 51.3	-3.0
	1.5nm,0.3s,baz=167,slow=16,SNR=36						
FINES				Lg		10 58 19.1	
	2.6nm,0.3s,baz=164,slow=27,SNR=17						
HFS	**Hagfors**	**6.74**	**283**	*e*P	Pn	10 58 52.1	-0.7
HFS				*e*S	Sn	11 00 06.3	-4.0
HFS				*e*SG	Sg	11 00 41.9	-7.3
HFS	**Hagfors**	**6.74**	**283**	Pn	Pn	10 58 52.1	-0.7
HFS				Sn	Sn	11 00 06.3	-4.0
	baz=97,slow=28						
HFS				Lg		11 00 41.9	
	baz=84,slow=37						
HFS	**Hagfors**	**6.74**	**283**	Pn	Pn	10 58 52.3	-0.5
	0.1nm,0.3s,baz=108,slow=12,SNR=2.0						
HFS				Sn	Sn	11 00 08.3	-2.0
	0.2nm,0.3s,baz=89,slow=24,SNR=2.6						
HFS				Lg		11 00 45.1	
	0.7nm,0.3s,baz=91,slow=30,SNR=5.9						
NB2	**NORSAR Subarra**	**8.02**	**289**	Pn	Pn	10 59 09.0	-1.3
	baz=88,slow=14						
NB2	**NORSAR Subarra**	**8.02**	**289**	*e*P	Pn	10 59 09.0	-1.3
NOA	**NORSAR Array B**	**8.02**	**289**	Pn	Pn	10 59 08.5	-1.8
	0.1nm,0.3s,baz=90,slow=10,SNR=1.9						
NOA				Sn	Sn	11 00 34.9	-6.9
	0.1nm,0.3s,baz=189,slow=14,SNR=2.3						
NOA				Lg		11 01 24.0	
	0.3nm,0.3s,baz=152,slow=19,SNR=3.3						
APA0	**Apatity Array**	**8.75**	**15**	Pn	Pn	10 59 15.8	-4.6
	baz=195,slow=16						
APA0	**Apatity Array**	**8.75**	**15**	*e*P	Pn	10 59 15.8	-4.6
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	Pn	10 59 38.3	-3.0
	baz=174,slow=16						
ARA0				Sn	Sn	11 01 30.4	-6.9
	baz=170,slow=22						
ARA0	**ARCESS Array S**	**10.28**	**357**	*e*P	Pn	10 59 38.3	-3.0
ARA0				*e*S	Sn	11 01 30.4	-6.9
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	Pn	10 59 38.9	-2.5
	0.1nm,0.3s,baz=172,slow=14,SNR=7.9						
ARCES				Sn	Sn	11 01 29.1	-8.1
	0.1nm,0.3s,baz=175,slow=23,SNR=2.8						

IDC 21 10:58:38.9±7.1, 2101S×16954E, h73km±51km, mb3.5/2, mb1 3.8/3, mb1mx3.5/13, mbtmp3.8/3, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/17, Error ellipse: s-maj=194.9km s-min=49.3km az=157.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.07**	**249**	P	Pn	10 59 25.3	+0.2
	42nm,0.3s,baz=345,slow=23,SNR=852						
DZM				S	Sn	11 00 01.2	+0.7
	43nm,0.3s,baz=192,slow=20,SNR=16						
CTA	**Charters Tower**	**21.82**	**268**	LR	LR	11 09 50.3	
	comp=Z,82nm,18.9s,baz=47,slow=31						
WRA	**Warramunga Arr**	**32.95**	**265**	P	P	11 05 06.4	-0.1
	0.5nm,0.6s,baz=98,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**33.01**	**259**	P	P	11 05 07.8	+0.8
	1.0nm,0.7s,baz=86,slow=9.1,SNR=23						
GERES	**GERESS Array B**	**146.18**	**331**	PKPbc	PKPbc	11 18 10.1	-0.7
	0.3nm,0.5s,baz=48,slow=2.0,SNR=4.5						

*NAO **21** 10:59:03.8, 28.11N×82.13E, h33km, mb4.4*
*IDC **21** 10:59:07.5±0.6, 2924N×8150E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.3/24, mbtmp4.2/20, MS3.7/8, Ms1 3.8/8, ms1mx3.3/33, Error ellipse: s-maj=18.4km s-min=15.4km az=46.0*
*LDG **21** 10:59:08.2±0.1, 2944N×8134E, h10km, Mb4.6/11, Ms3.4/1, Error ellipse: s-maj=7.7km s-min=3.2km az=75.0*
*BJI **21** 10:59:10.1, 2951N×8146E, h17km, mB4.5, mb4.4, ML4.1, Ms4.1, Msz4.0*
*NEIC **21** 10:59:12.0±2.1, 2925N×8130E, h26km±16km, mb4.4/8, Error ellipse: s-maj=8.7km s-min=6.4km az=50.0*
*ISCJB **21** 10:59:11.4±0.2, 2932N±003×8139E±002, h33km, mb4.3/44, MS3.8/11, Error ellipse: s-maj=3.8km s-min=2.4km az=31.0*
*MOS **21** 10:59:11.2±1.2, 2936N×8141E, h33km, mb4.4/28, Error ellipse: s-maj=10.1km s-min=6.5km az=108.8*
*DMN **21** 10:59:11.3±0.7, 2931N×8178E, h10km, Ml4.8/7, Error ellipse: s-maj=26.1km s-min=12.6km az=26.0*
*NDI **21** 10:59:12.7±4.3, 2928N×8153E, h20km, ML4.3, MW4.4, mb4.4(NEIC)*
ISC 21 10:59:13.6±0.2, 2932N±002×8141E±002, h35km, n157, σ1°26/177, mb4.3/44, MS3.8/11, 3C-2D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.03**	**277**	*e*P	Px	10 59 11.7	
LGTI				*e*S	Sx	10 59 28.3	
KALG	**Kalgarh**	**2.33**	**275**	*e*P	**Pn**	**10 59 43.8**	**-5.7**
KALG				*e*S	**Sn**	**11 00 13.3**	**-3.5**
KOLN	**Koldanda**	**2.47**	**128**	*e*Pn	**Pn**	**10 59 52.8**	**+1.4**
KOLN	**Koldanda**	**2.47**	**128**	*e*Sn	**Sn**	**11 00 23.6**	**+3.3**
	5μm,1.2s						
VLK	**Valmikinagar**	**2.94**	**132**	*ex*	x	11 00 05.0	
VLK				*ex*	x	11 00 13.0	
DDI	**Dehra Dun**	**3.08**	**290**	*e*P	**Pn**	**11 00 03.1**	**+3.3**
DDI				*e*S	**Sn**	**11 00 38.5**	**+3.1**
GKN	**Gorkha**	**3.12**	**114**	*e*Sn	**Sn**	**11 00 38.5**	**+2.1**
	3μm,0.6s						
GKN	**Gorkha**	**3.12**	**114**	*e*Pn	**Pn**	**11 00 01.4**	**+1.0**
GKN				*e*Sn	**Sn**	**11 00 38.5**	**+2.1**
KLP	**Kalpa**	**3.51**	**310**	*e*P	**Pn**	**11 00 08.0**	**+2.4**
KLP				*e*S	**Sn**	**11 00 50.7**	**+4.8**
KLP				AML	AML	11 01 10.5	
	comp=E,2μm,0.6s						
KLP				AML	AML	11 01 11.6	
	comp=N,2μm,0.6s						
DMN	**Daman**	**3.67**	**117**	*e*Pn	**Pn**	**11 00 08.3**	**+0.4**
DMN				*e*Sn	**Sn**	**11 00 51.3**	**+1.3**
	comp=N,900nm,0.5s						
AGRA	**Agra**	**3.70**	**237**	*e*P	**Pn**	**11 00 08.9**	**+0.6**
AGRA				*e*S	**Sn**	**11 00 52.6**	**+1.9**
AGRA				AML	AML	11 01 18.6	
	comp=E,1μm,0.3s						
AGRA				AML	AML	11 01 19.6	
	comp=N,2μm,0.5s						
KKN	**Kakani**	**3.73**	**113**	*e*Pn	**Pn**	**11 00 09.2**	**+0.5**
KKN				*e*Sn	**Sn**	**11 00 52.4**	**+1.1**
	comp=N,648nm,0.4s						
NDI	**New Delhi**	**3.73**	**261**	*e*P	**Pn**	**11 00 09.9**	**+1.2**
NDI				*e*P		11 00 10.0	
NDI				*e*S	**Sn**	**11 00 52.6**	**+1.2**
NDI				*e*S	**Sn**	**11 00 53.0**	**+1.6**
AYAN	**Aya Nagar**	**3.85**	**258**	*e*P	**Pn**	**11 00 11.8**	**+1.5**
PKI	**Pulchoki**	**3.93**	**115**	*e*Pn	**Pn**	**11 00 11.8**	**+0.4**
PKI				*e*Sn	**Sn**	**11 00 57.2**	**+0.9**
	comp=N,487nm,0.5s						
SONA	**Sohna**	**3.95**	**255**	*e*P	**Pn**	**11 00 13.0**	**+1.3**
SONA				*ex*	x	11 01 18.1	
SONA				AML	AML	11 01 19.9	
	comp=N,908nm,0.3s						
SONA				AML	AML	11 01 22.0	
	comp=E,911nm,0.4s						
ALBI	**Allahabad**	**4.01**	**175**	*ex*	x	11 00 08.5	
ALBI				*ex*	x	11 01 22.5	
SMLA	**Simla**	**4.09**	**297**	*e*P	**Pn**	**11 00 13.8**	**+0.1**
SMLA				*e*S	**Sn**	**11 01 00.7**	**+0.4**
SMLA				AML	AML	11 01 24.9	
	comp=E,2μm,0.9s						
SMLA				AML	AML	11 01 27.7	
	comp=N,1μm,0.9s						
GUN	**Gumba**	**4.17**	**109**	*e*Pn	**Pn**	**11 00 15.7**	**+0.9**
GUN				*e*Sn	**Sn**	**11 01 03.5**	**+1.2**
	comp=N,1μm,0.8s						
SDNR	**Sundarnagar**	**4.41**	**301**	*e*P	**Pn**	**11 00 20.5**	**+2.5**
SDNR				*ex*	x	11 01 32.5	
KUDL	**Kundal**	**4.48**	**256**	*e*P	**Pn**	**11 00 20.4**	**+1.4**
KUDL				*e*S	**Sn**	**11 01 10.8**	**+0.9**
KUDL				AML	AML	11 01 43.2	
	comp=E,615nm,0.4s						
KUDL				AML	AML	11 01 43.5	
	comp=N,1000nm,0.6s						
JIRN	**Jiri**	**4.52**	**110**	*e*Pn	**Pn**	**11 00 20.2**	**+0.7**
JIRN				*e*Sn	**Sn**	**11 01 11.3**	**+0.5**
	comp=N,559nm,0.4s						
BHK	**Bhakra**	**4.79**	**297**	*ex*	x	11 00 46.0	
BHK				*ex*	x	11 01 46.6	
KHET	**Khetri**	**5.08**	**257**	*e*P	**Pn**	**11 00 28.2**	**+0.9**
KHET				*e*S	**Sn**	**11 01 23.9**	**-0.8**
PONG	**Pong**	**5.39**	**300**	*e*P	**Pn**	**11 00 33.0**	**+1.5**
PONG				*ex*	x	11 01 37.0	
DLH	**Dalhousie**	**5.67**	**306**	*e*P	**Pn**	**11 00 38.0**	**+2.6**
DLH				*ex*	x	11 01 37.0	
THN	**Thein Dam**	**5.79**	**304**	*e*P	**Pn**	**11 00 39.4**	**+2.3**
JBP	**Jabalpur**	**6.26**	**192**	*e*P	**Pn**	**11 00 42.8**	**-0.7**
JBP				*e*P		11 00 46.0	
JBP				*ex*	x	11 01 53.4	
AJM	**Ajmer**	**6.63**	**246**	*e*P	**Pn**	**11 00 48.1**	**-0.4**
AJM				*i* P		11 00 49.0	
AJM				*i* S	**Sn**	**11 02 01.0**	**-1.8**
BOK	**Bokaro**	**6.81**	**143**	*e*P	**Pn**	**11 00 49.2**	**-1.8**
BOK				*e*P		11 00 49.7	
BOK				*e*P		11 00 49.8	
BOK				*i* P		11 00 50.3	
BOK				*e*S	**Sn**	**11 02 01.8**	**-5.4**
BOK				*i* x	x	11 02 02.3	
BOK				*e*S	**Sn**	**11 02 03.2**	**-4.0**
BHPL	**Bhopal**	**7.04**	**211**	*e*P	**Pn**	**11 00 53.9**	**-0.3**
BHPL				*e*S	**Sn**	**11 02 09.5**	**-3.3**
BHPL				*i* S	**Sn**	**11 02 11.6**	**-1.2**
SARP	**Sargodha**	**7.96**	**291**	P	**Pn**	**11 01 07.8**	**+0.9**
CHCP	**Chirah Chowk**	**8.19**	**304**	P	**Pn**	**11 01 10.1**	**+0.1**
NGP	**Nagpur**	**8.41**	**195**	*e*P	**Pn**	**11 01 12.5**	**-0.5**
NGP				*e*P		11 01 13.3	
NGP				*e*S	**Sn**	**11 02 42.0**	**-4.8**
LSA	**Lhasa**	**8.49**	**85**	P	**Pn**	**11 01 15.5**	**+1.4**
LSA				S	**Sn**	**11 02 46.8**	**-1.9**
LSA				Smax			
	comp=E,40nm,0.7s						
LSA	**Lhasa**	**8.49**	**85**	*e*Pn	**Pn**	**11 01 15.8**	**+1.7**
	comp=E,22nm,0.8s						
LSA				*e*Sn	**Sn**	**11 02 47.1**	**-1.6**
THW	**Thamme Wali**	**8.99**	**295**	P	**Pn**	**11 01 19.7**	**-1.2**
CEP	**Cherat**	**9.26**	**301**	P	**Pn**	**11 01 23.6**	**-1.1**
CEP				S	**Sn**	**11 03 04.0**	**-3.6**
SBDP	**Sheikh Budin**	**9.59**	**291**	P	**Pn**	**11 01 28.1**	**-1.0**
DRP	**Derazinda**	**9.96**	**287**	P	**Pn**	**11 01 34.1**	**-0.2**
SHL	**Shillong**	**10.02**	**109**	*e*P	**Pn**	**11 01 33.0**	**-2.1**
SHL				*e*S	**Sn**	**11 03 17.0**	**-9.3**
AGT	**Agartala**	**10.33**	**119**	*i* x	x	11 01 41.0	
AGT				*i* x	x	11 03 09.0	
BHV	**Bhavnagar**	**11.26**	**230**	*e*P	**Pn**	**11 01 50.0**	**-2.0**
VIS	**Vishakhapatnam**	**11.68**	**171**	*e*P	**Pn**	**11 01 56.2**	**-1.6**
VIS				*ex*	x	11 04 00.1	
HYB	**Hyderabad**	**12.14**	**193**	*i* P	**Pn**	**11 02 01.0**	**-3.0**
HYB				*e*S	**Sn**	**11 04 15.0**	**-3.1**
HYB	**Hyderabad**	**12.14**	**193**	*e*P	**Pn**	**11 02 00.0**	**-4.0**
HYB				*e*S	**Sn**	**11 04 24.0**	**+5.9**
POO	**Poona**	**12.77**	**214**	⇑*i*P	**Pn**	**11 02 09.5**	**-3.2**
POO				*i* PP		11 02 19.5	
POO				*i* PPP		11 02 26.5	
POO				*ex*	x	11 04 15.5	
POO				*i* S	**Sn**	**11 04 25.5**	**-8.1**
POO				*i* SS		11 04 39.5	
POO				*i* SSS		11 04 51.5	
POO				*i* PCP	PcP	11 07 25.5	-22
KZA	**Kyzart**	**13.67**	**340**	P	**Pn**	**11 02 25.1**	**+0.2**
	SNR=5.8						
UCH	**Uchtor**	**14.03**	**338**	P	**Pn**	**11 02 27.2**	**-2.7**
	SNR=18						
AML	**Almayashu**	**14.22**	**336**	P	**Pn**	**11 02 30.2**	**-2.3**
	SNR=34						
KBK	**Karagaybulak**	**14.29**	**340**	P	**Pn**	**11 02 43.1**	**+10**
	SNR=16						
TKM2	**Tokmak 2**	**14.35**	**343**	P	**Pn**	**11 02 42.2**	**+8.0**
	SNR=7.7						
AAK	**Ala-Archa**	**14.41**	**339**	P	**Pn**	**11 02 34.3**	**-0.7**
	SNR=10						
AAK	**Ala-Archa**	**14.41**	**339**	*i* P	**Pn**	**11 02 32.9**	**-2.1**
AAK				pmax	pmax		
	comp=Z,12μm,1.3s						
AAK	**Ala-Archa**	**14.41**	**339**	*e*Pn	**Pn**	**11 02 33.0**	**-1.9**
	comp=Z,64nm,1.4s						
FRU	**Bishkek**	**14.55**	**340**	*e*P	**Pn**	**11 02 39.0**	**+2.1**
EKS2	**Erkin-Say**	**14.66**	**337**	P	**Pn**	**11 02 47.3**	**+8.8**
	SNR=9.0						
USP	**Ospenovka**	**14.98**	**340**	P	**Pn**	**11 02 44.6**	**+1.9**
	SNR=6.7						
WMQ	**Urumqi**	**15.32**	**17**	P	**Pn**	**11 02 44.0**	**-3.1**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s						
WMQ				LR	LR		
	comp=N,227nm,5.0s						
WMQ				LR	LR		
	comp=E,67nm,5.0s						
WMQ				LR	LR		
	comp=Z,201nm,5.0s						
GOA	**Goa**	**15.44**	**209**	*e*P	**Pn**	**11 02 48.0**	**-0.7**
GOA				*ex*	x	11 05 11.0	
MKAR	**Makanchi Array**	**17.46**	**2**	P	**Pn**	**11 03 10.7**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=184,slow=12,SNR=37						
MKAR				LR	LR	11 11 03.8	
	comp=Z,244nm,19.4s,baz=87,slow=41						
MKAR	**Makanchi Array**	**17.46**	**2**	P	**Pn**	**11 03 10.7**	**-3.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,244nm,19.4s						
GTA	**Gaotai**	**18.19**	**52**	*e*P	**Pn**	**11 03 19.8**	**-3.5**
GTA				AP	pP	11 03 27.8	-4.7
GTA				XP	sP	11 03 31.1	-5.8
GTA				AMB	AMB		
	comp=Z,4.0nm,2.0s						
GTA				AMB	AMB		
	comp=Z,72nm,3.2s						
GTA				LR	LR		
	comp=N,247nm,12.6s						
GTA				LR	LR		
	comp=E,142nm,14.1s						
GTA				LR	LR		
	comp=Z,177nm,18.3s						
LZH	**Lanzhou**	**20.02**	**65**	*e*P	**P**	**11 03 48.5**	**+5.1**
LZH				AMB	AMB		
	comp=Z,22nm,1.3s						
LZH				AMB	AMB		
	comp=Z,53nm,6.4s						
LZH				LR	LR		
	comp=N,249nm,10.5s						
LZH				LR	LR		
	comp=Z,423nm,13.7s,MS4.0						
KURK	**Kurchatov**	**21.47**	**355**	*e*P	**P**	**11 03 57.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.4						
KURK	**Kurchatov**	**21.47**	**355**	*e*P	**P**	**11 03 57.5**	**-1.5**
	comp=Z,12nm,0.6s,mb4.4						
GYA	**Guiyang**	**22.49**	**

SONM MLR MLR
comp=Z,139nm,22.0s
ZAK Zakamensk 26.73 32 *e*P **P 11 04 49.8 +0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb3.9
ULN Ulaanbaatar 27.08 40 *e*P **P 11 04 53.8 +0.9**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
ULN Ulaanbaatar 27.08 40 *e*P **P 11 04 53.8 +0.8**
comp=Z,8.8nm,1.0s,mb4.2
AKTK Aktyubinsk 27.49 327 P **P 11 04 57.0 +0.5**
AKTK LR LR 11 16 44.3
AKTO Aktyubinsk 27.49 327 P **P 11 04 57.0 +0.5**
comp=Z,2.5nm,0.7s,mb3.9,baz=121,slow=12,SNR=8.9
AKTO LR LR 11 16 44.3
comp=Z,288nm,18.4s,MS3.9,baz=0.0,slow=38
AKTO Aktyubinsk 27.49 327 P **P 11 04 57.1 +0.6**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
AKTO MLR MLR
comp=Z,288nm,18.4s,MS3.9
ARU Arti 31.55 336⇓ *i*P **P 11 05 32.6 0.0**
ARU *e* 11 06 32.4
ARU *e* 11 08 27.6
ARU *e*S **S 11 10 35.8 -2.9**
ARU *e*SS SS 11 12 24.0 -31
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ARU MLR MLR
comp=N,70nm,16.0s,MS3.6
ARU MLR MLR
comp=E,70nm,16.0s,MS3.6
ARU MLR MLR
comp=Z,100nm,16.0s,MS3.6
ARU Arti 31.55 336 *e*P **P 11 05 32.7 +0.1**
comp=Z,13nm,1.3s,mb4.6
GNI Garni 31.81 300 P **P 11 05 37.6 +2.8**
comp=Z,1.9nm,0.5s,mb4.2,baz=150,slow=20,SNR=3.2
GNI Garni 31.81 300⇓ *e*P **P 11 05 36.8 +2.0**
SSE Sheshan 34.29 77 *e*P **P 11 05 56.3 -0.2**
SSE AMB AMB
comp=Z,21nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,28nm,4.3s
BOD Bodaibo 36.36 29 *e*P **P 11 06 12.7 -1.6**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CN2 Changchun 37.76 55 *e*P **P 11 06 24.6 -1.5**
ANN Anapa 37.86 306 *e*P **P 11 06 26.6 -0.4**
ANN *e**PP pP 11 06 41.4 +4.2
ANN *e*S **S 11 12 13.7 -2.2**
ANN pmax pmax
comp=Z,11nm,0.8s,mb4.6
BRTR Keskin Array B 40.29 298 P **P 11 06 48.1 +0.8**
comp=Z,1.3nm,0.7s,mb3.7,baz=104,slow=10,SNR=9.4
BRTR Keskin Array B 40.29 298 P **P 11 06 48.2 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KLR Kul'dur 42.83 48 *e*P **P 11 07 05.3 -2.9**
KLR MLR MLR
comp=Z,500nm,10.0s,MS4.7
AKASG Malin Array Be 44.24 314 P **P 11 07 18.8 -0.7**
comp=Z,1.1nm,0.4s,mb3.9,baz=83,slow=7.4,SNR=14
AKASG Malin Array Be 44.24 314 P **P 11 07 18.8 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
YAK Yakutsk 45.27 30 *i*P **P 11 07 27.5 -0.2**
MLR Muntele Rosu 46.01 306 P **P 11 07 35.0 +1.4**
comp=Z,16nm,0.8s,mb5.0,baz=162,slow=2.0,SNR=22
MLR Muntele Rosu 46.01 306 P **P 11 07 35.0 +1.4**
MLR pmax pmax
comp=Z,16nm,0.8s
IDI Anoyia 47.60 292 P **P 11 07 46.9 +0.9**
comp=Z,1.1nm,0.3s,mb4.4,baz=43,slow=11,SNR=3.9
MJAR Matsushiro Arr 47.63 66 LR LR 11 28 50.3
comp=Z,72nm,21.1s,MS3.6,baz=150,slow=37
FINES FINESS Array B 48.24 328 P **P 11 07 50.9 -0.1**
comp=Z,0.9nm,0.4s,mb4.1,baz=118,slow=11,SNR=9.0
FINES LR LR 11 29 46.7
comp=Z,110nm,22.0s,MS3.8,baz=177,slow=38
FINES FINESS Array B 48.24 328 *i*P **P 11 07 51.0 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 48.24 328 P **P 11 07 50.9 -0.1**
FINES LR LR 11 29 46.7
KAF Kangasniemi 48.33 329 *e*p **P 11 07 49.0 -2.6**
TIXI Tiksi 49.52 18 *e*P **P 11 07 58.1 -2.7**
TIXI pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
TIXI MLR MLR
comp=Z,124nm,16.0s,MS4.0
YSS Yuzh-Sakhalins 50.07 52⇑ *e*P **P 11 08 09.4 +4.5**
ARCES ARCESS Array B 51.08 338 P **P 11 08 12.1 -0.4**
comp=Z,3.9nm,0.9s,mb4.3,baz=101,slow=6.9,SNR=9.4
ARCES LR LR 11 31 35.8
comp=Z,82nm,19.4s,MS3.8,baz=8.4,slow=38
ARCES ARCESS Array B 51.08 338 P **P 11 08 12.1 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,82nm,19.4s
KMBO Kilima Mbogo 51.91 242 P **P 11 08 18.1 -0.8**
comp=Z,0.5nm,0.3s,mb3.9,baz=51,slow=13,SNR=3.9
KMBO Kilima Mbogo 51.91 242 P **P 11 08 18.1 -0.7**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 54.23 311 P **P 11 08 35.8 -0.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=64,slow=7.7,SNR=4.0
NB2 NORSAR Subarra 55.28 326 P **P 11 08 43.0 -0.4**
comp=Z,5.4nm,0.9s,mb4.6,baz=92,slow=7.4
NOA NORSAR Array B 55.28 326 P **P 11 08 42.3 -1.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=92,slow=7.1,SNR=8.0
NOA LR LR 11 33 42.2
comp=Z,94nm,20.0s,MS3.9,baz=215,slow=38
NOA NORSAR Array B 55.28 326 P **P 11 08 42.3 -1.1**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,94nm,20.0s
KONO Kongsberg 56.07 324 *e*P **P 11 08 47.5 -1.7**
CDF Champ du Feu 58.51 311 *e*P **P 11 09 06.4 +0.1**
HINF Hinteralfeld 58.89 311 *e*P **P 11 09 09.1 +0.1**
LPG La Plagne 59.41 308 *e*P **P 11 09 13.5 +0.9**
comp=Z,24nm,1.0s,mb4.9
LPL La Plagne 59.42 308 *e*P **P 11 09 13.6 +0.9**
comp=Z,18nm,0.8s,mb4.9
MBDF Montbardon 59.56 307 *e*P **P 11 09 13.5 -0.2**
comp=Z,28nm,1.2s,mb4.9
CABF La Chapelle 59.64 309 *e*P **P 11 09 14.6 +0.4**
ORIF Oris-en-Rattie 60.14 308 *e*P **P 11 09 17.7 +0.1**
comp=Z,9.9nm,0.9s,mb4.5
LOR Lormes 60.99 310 *e*P **P 11 09 23.6 +0.2**
SMF Signal de Mont 61.14 310 *e*P **P 11 09 24.3 -0.1**
comp=Z,25nm,1.1s,mb5.0
BILL Bilibino 61.26 25*c i*P **P 11 09 24.8 -0.4**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
SSF Saint Saulge 61.27 310 *e*P **P 11 09 25.2 -0.1**
comp=Z,9.9nm,0.9s,mb4.6
AVF Avril sur Loir 61.44 310 *e*P **P 11 09 26.1 -0.3**
TCF Toulx Ste Croi 62.32 310 *e*P **P 11 09 32.5 +0.1**
comp=Z,43nm,1.3s,mb5.1
LDF La Druitiere 63.28 313 *e*P **P 11 09 38.3 -0.4**
EKA Eskdalemuir Ar 63.45 321 P **P 11 09 38.9 -1.0**
comp=Z,5.2nm,0.8s,mb4.7,baz=94,slow=6.4,SNR=8.4
EKA Eskdalemuir Ar 63.45 321 P **P 11 09 38.9 -1.0**
EKA pmax pmax
comp=Z,5.0nm,0.8s
SGMF Saint Gilles 64.93 313 *e*P **P 11 09 49.4 -0.2**
LSZ Lusaka 67.85 237 *e*P **P 11 10 08.0 -0.3**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LSZ Lusaka 67.85 237 *e*P **P 11 10 08.0 -0.3**
comp=Z,2.0nm,0.6s,mb4.3
WRA Warramunga Arr 70.73 127 P **P 11 10 25.1 -0.9**
comp=Z,2.9nm,0.5s,mb4.4,baz=323,slow=6.1,SNR=14
WRA Warramunga Arr 70.73 127 P **P 11 10 25.1 -1.0**
WRA pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 72.96 130 P **P 11 10 39.2 -0.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=326,slow=6.3,SNR=18
ASAR Alice Springs 72.96 130 P **P 11 10 39.3 -0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 74.81 277 P **P 11 10 50.8 +0.5**
comp=Z,1.3nm,0.7s,mb3.9,baz=56,slow=4.8,SNR=11

BOSA Boshof 78.73 228 P **P 11 11 12.1 -0.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=104,slow=9.7,SNR=3.5
BOSA Boshof 78.73 228 P **P 11 11 12.1 -0.3**
BOSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ILAR Eielson Array 78.97 19 P **P 11 11 12.5 -1.3**
comp=Z,2.2nm,0.9s,mb4.1,baz=306,slow=4.9,SNR=26
ILAR Eielson Array 78.97 19 P **P 11 11 12.5 -1.3**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 79.27 13 *e*P **P 11 11 14.4 -1.0**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 79.27 13 *e*P **P 11 11 14.3 -1.0**
comp=Z,2.8nm,0.9s,mb4.2
DBIC Dimbokro 83.53 274 P **P 11 11 38.9 +1.0**
comp=Z,1.7nm,0.8s,mb4.2,baz=90,slow=2.0,SNR=3.4
DBIC Dimbokro 83.53 274 P **P 11 11 38.9 +1.0**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 83.53 274 P **P 11 11 38.9 +1.0**
YKA Yellowknife Ar 87.60 7 P **P 11 11 56.8 -1.4**
comp=Z,1.0nm,0.7s,mb4.2,baz=342,slow=4.7,SNR=29
YKA Yellowknife Ar 87.60 7 P **P 11 11 56.8 -1.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 87.60 7 P **P 11 11 56.8 -1.4**
NATX Nacogdoches 119.14 356 *e*PKPdf PKPdf 11 17 59.3 +0.5
LPAZ La Paz 149.18 288 PKPbc PKPbc 11 18 58.4 0.0
comp=Z,1.1nm,0.9s,baz=117,slow=2.3,SNR=3.5
LPAZ La Paz 149.18 288 PKP2 PKPab 11 18 58.4 -4.4
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
CFAA Coronel Fontan 153.78 257 PKPbc PKPbc 11 19 07.2 -1.8
comp=Z,0.2nm,0.5s,baz=150,slow=1.5,SNR=4.1

IDC 21 11:04:49.8±4.8, 2500N×4521W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.6/6, MS3.3/7, Ms1 3.3/7, ms1mx3.1/27, Error ellipse: s-maj=144.0km s-min=32.5km az=1.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.64**	**255**	LR	LR	11 14 50.6	
comp=Z,24nm,19.0s,baz=91,slow=29							
BDFB	**Brasilia**	**40.48**	**184**	LR	LR	11 29 38.8	
comp=Z,47nm,18.8s,baz=89,slow=37							
DBIC	**Dimbokro**	**42.66**	**108**	LR	LR	11 27 17.7	
comp=Z,61nm,19.6s,baz=233,slow=32							
ULM	**Lac du Bonnet**	**46.26**	**317**	LR	LR	11 31 23.1	
comp=Z,39nm,19.4s,baz=113,slow=34							
NOA	**NORSAR Array B**	**52.31**	**31**	P	P	11 14 03.5	+0.3
1.2nm,1.0s,baz=250,slow=8.3,SNR=2.5							
PDAR	**Pinedale Array**	**55.00**	**306**	P	P	11 14 23.7	+0.8
0.4nm,0.9s,baz=85,slow=11,SNR=4.1							
PDAR				LR	LR	11 35 57.2	
comp=Z,51nm,18.9s,baz=263,slow=34							
YKA	**Yellowknife Ar**	**58.64**	**329**	LR	LR	11 37 24.2	
comp=Z,36nm,20.4s,baz=65,slow=33							
NVAR	**Mina Array Bea**	**62.14**	**302**	LR	LR	11 41 16.7	
comp=Z,19nm,18.1s,baz=180,slow=35							
BRTR	**Keskin Array B**	**66.24**	**56**	P	P	11 15 40.5	+0.9
0.2nm,0.4s,baz=248,slow=6.5,SNR=4.1							
ILAR	**Eielson Array**	**72.48**	**334**	P	P	11 16 17.5	-0.8
0.6nm,0.8s,baz=67,slow=4.1,SNR=7.2							
AKTO	**Aktyubinsk**	**79.03**	**39**	P	P	11 16 54.1	-1.6
0.6nm,0.6s,baz=310,slow=7.9,SNR=3.0							
BVAR	**Borovoye Array**	**84.37**	**33**	P	P	11 17 25.4	+1.5
0.3nm,0.7s,baz=292,slow=7.6,SNR=2.6							

*IDC **21** 11:05:32.7±1.6, 2945×13992E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/13, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=70.2km s-min=25.8km az=95.0*
*ISCJB **21** 11:05:36.2±1.2, 30S±01×1398E±04, h33km, mb3.6/4, Error ellipse: s-maj=50.9km s-min=14.4km az=16.7*
ISC 21 11:05:37.8±1.2, 30S±01×1400E±03, h35km, n8, σ0†57/8, mb3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**17.72**	**198**	*e*P	**Pn**	**11 09 40.8**	**-0.9**
WRA	**Warramunga Arr**	**17.72**	**198**	P	**Pn**	**11 09 41.2**	**-0.6**
0.9nm,0.3s,baz=14,slow=13,SNR=29							
FITZ	**Fitzroy Crossi**	**20.58**	**222**	*e*P	**P**	**11 10 13.8**	**+0.2**
7.4nm,1.8s							
ASAR	**Alice Springs**	**21.38**	**195**	P	**P**	**11 10 22.6**	**+0.4**
1.5nm,0.5s,mb3.5,baz=26,slow=9.5,SNR=26							
ASPA	**Alice Springs**	**21.38**	**195**	*e*P	**P**	**11 10 23.2**	**+1.0**
MKAR	**Makanchi Array**	**70.80**	**322**	P	**P**	**11 16 50.9**	**+0.2**
0.3nm,0.4s,mb3.6,baz=104,slow=8.0,SNR=12							
BVAR	**Borovoye Array**	**80.28**	**325**	P	**P**	**11 17 44.7**	**-0.4**
0.4nm,0.4s,mb3.7,baz=111,slow=7.1,SNR=4.3							
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**11 18 12.3**	**0.0**
0.3nm,0.5s,mb3.8,baz=267,slow=4.5,SNR=5.9							

IDC 21 11:09:14.8±6.8, 2160S×6694W, h212km±48km, mb3.3/2, mb1 3.5/4, mb1mx3.3/14, mbtmp3.9/4, Error ellipse: s-maj=71.8km s-min=25.5km az=15.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.40**	**348**	P	Pn	11 10 35.4	+0.9
1.3nm,0.3s,baz=170,slow=11,SNR=20							
LPAZ				S	S	11 11 39.3	+1.6
0.1nm,0.3s,baz=66,slow=20,SNR=2.5							
SIV	**San Ignacio**	**7.87**	**46**	P	Pn	11 11 06.2	-0.2
7.7nm,0.3s,baz=230,slow=11,SNR=72							
SIV				S	S	11 12 36.5	+1.1
0.4nm,0.3s,baz=120,slow=22,SNR=3.7							
TORD	**Torodi Ar. Bea**	**75.67**	**69**	P	P	11 20 37.3	+0.6
0.7nm,0.4s,baz=252,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**91.90**	**340**	P	P	11 21 58.4	-0.6
0.2nm,0.7s,baz=127,slow=4.3,SNR=8.8							

IDC 21 11:15:55.6±2.3, 688S×12996E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=142.9km s-min=31.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.66**	**162**	Pn	Pn	11 19 09.9	-0.6
0.1nm,0.3s,baz=345,slow=13,SNR=12							
WRA				Sn	Sn	11 21 31.7	-11
0.4nm,0.3s,baz=339,slow=22,SNR=8.4							
ASAR	**Alice Springs**	**17.11**	**168**	P	Pn	11 19 57.1	+1.0
0.1nm,0.3s,baz=344,slow=8.9,SNR=4.2							
ASAR				S	Sn	11 22 53.4	-14
0.1nm,0.3s,baz=331,slow=14,SNR=3.8							
MKAR	**Makanchi Array**	**68.10**	**327**	P	P	11 26 57.4	+0.2
0.6nm,0.6s,baz=120,slow=7.8,SNR=7.2							

*CSEM **21** 11:21:08.1±0.7, 1138N×4279E, h10km, ML4.3, Error ellipse: s-maj=13.4km s-min=12.2km az=91.0*
*IDC **21** 11:21:11.9±1.6, 1119N×4290E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/19, mbtmp3.7/4, ML3.4/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=57.8km s-min=27.9km az=114.0*
*DHMR **21** 11:21:12.9±1.5, 1167N×4302E, h12km±12km, ML4.3*
*ISCJB **21** 11:21:13.3±0.8, 1150N±007×4307E±006, h10km, mb3.7/3, MS3.5/9, Error ellipse: s-maj=12.0km s-min=5.7km az=98.0*
*NEIC **21** 11:21:14.9±1.0, 1157N×4314E, h10km, ML4.4(DHMR), Error ellipse: s-maj=28.2km s-min=12.9km az=118.0*
ISC 21 11:21:15.0±0.8, 1151N±007×4311E±006, h10km, n32, σ1†46/44, mb3.7/3, MS3.5/9, 9D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.98**	**30**	*i*P	**Pn**	**11 21 46.0**	**-2.5**
TRBA				*i*S	**Sn**	**11 22 11.9**	**-1.4**
TRBA				AML	AML	11 22 14.8	
comp=N,3μm,0.4s							
TRBA	**At Turbah**	**1.98**	**30**⇓	*i*P	**Pn**	**11 21 46.3**	**-2.2**
TRBA				*i*S	**Sn**	**11 22 13.5**	**+0.2**
ADEN	**Aden**	**2.23**	**55**	*i*P	**Pn**	**11 21 50.9**	**-1.0**
ADEN				*i*S	**Sn**	**11 22 21.7**	**+2.3**
ADEN				AML	AML	11 22 35.0	
comp=E,2μm,0.4s							
ADEN	**Aden**	**2.23**	**55**	*i*P	**Pn**	**11 21 50.9**	**-1.0**
ADEN				*i*S	**Sn**	**11 22 21.7**	**+2.2**
comp=E,1μm,0.4s							
ADEN	**Aden**	**2.23**	**55**	*i*P	**Pn**	**11 21 50.9**	**-1.0**
ADEN				*i*S	**Sn**	**11 22 22.9**	**+3.4**
UDYN	**Al 'Udayn**	**2.58**	**19**	*i*P	**Pn**	**11 21 56.3**	**-0.5**
UDYN				*i*S	**Sn**	**11 22 28.5**	**+0.2**
UDYN				AML	AML	11 22 38.7	
comp=N,5μm,0.6s							
UDYN	**Al 'Udayn**	**2.58**	**19**⇓	*i*P	**Pn**	**11 21 57.1**	**+0.3**
UDYN				*i*S	**Sn**	**11 22 29.5**	**+1.2**
comp=N,3μm,0.6s							
UDYN	**Al 'Udayn**	**2.58**	**19**⇓	*i*P	**Pn**	**11 21 57.1**	**+0.2**
UDYN				*i*S	**Sn**	**11 22 33.5**	**+5.2**
LBOS		**3.14**	**41**	*i*P	**Pn**	**11 22 04.4**	**-0.1**
LBOS				*i*S	**Sn**	**11 22 44.0**	**+1.9**
LBOS		**3.14**	**41**⇓	*e*P	**Pn**	**11 22 03.1**	**-1.4**
LBOS				*i*S	**Sn**	**11 22 47.1**	**+5.0**
DHBB	**Dhamar BB**	**3.29**	**22**	*i*P	**Pn**	**11 22 06.1**	**-0.4**
DHBB				*i*S	**Sn**	**11 22 46.7**	**+1.0**
DHBB	**Dhamar BB**	**3.29**	**22**	*i*P	**Pn**	**11 22 04.5**	**-2.1**
DHBB				*i*S	**Sn**	**11 22 50.0**	**+4.2**
DESE	**Dese**	**3.43**	**264**	*e*PN	**Pn**	**11 22 06.2**	**-2.2**
DESE				*e*S	**Sn**	**11 22 51.0**	**+1.9**
BDHA	**Al Bayda'**	**3.43**	**44**	*i*P	**Pn**	**11 22 08.2**	**-0.3**
BDHA				*i*S	**Sn**	**11 22 52.3**	**+3.1**
BDHA				AML	AML	11 23 06.4	
comp=N,1μm,0.5s							
BDHA	**Al Bayda'**	**3.43**	**44**⇓	*e*P	**Pn**	**11 22 07.3**	**-1.2**
BDHA				*i*S	**Sn**	**11 22 53.5**	**+4.3**
comp=N,735nm,0.5s							
BDHA	**Al Bayda'**	**3.43**	**44**⇓	*e*P	**Pn**	**11 22 07.3**	**-1.2**
BDHA				*i*S	**Sn**	**11 22 53.7**	**+4.5**
HAJJ	**Hajjah**	**4.19**	**6**⇓	*i*P	**Pn**	**11 22 16.7**	**-2.3**
HAJJ				*i*S	**Sn**	**11 23 08.0**	**0.0**
HAJJ	**Hajjah**	**4.19**	**6**⇓	*i*P	**Pn**	**11 22 16.7**	**-2.3**
HAJJ				*i*S	**Sn**	**11 23 07.7**	**-0.3**
HAJJ	**Hajjah**	**4.19**	**6**⇓	*i*P	**Pn**	**11 22 16.7**	**-2.3**
HAJJ				*i*S	**Sn**	**11 23 09.1**	**+1.1**
KMBO	**Kilima Mbogo**	**13.84**	**205**	Pn	**Pn**	**11 24 25.4**	**-5.7**
comp=N,0.2nm,0.3s,baz=54,slow=19,SNR=2.4							
KMBO				Lg		11 28 18.0	
comp=N,0.3nm,0.3s,baz=288,slow=20,SNR=5.4							
KMBO				LR	LR	11 29 48.5	
comp=N,454nm,18.9s,baz=95,slow=38							
KMBO	**Kilima Mbogo**	**13.84**	**205**	*e*Pn	**Pn**	**11 24 31.3**	**+0.2**
comp=N,1.4nm,0.8s							
KMBO	**Kilima Mbogo**	**13.84**	**205**	*e*Pn	**Pn**	**11 24 31.3**	**+0.1**
comp=N,1.4nm,0.8s							
KMBO				Lg		11 28 18.0	
KMBO				LR	LR	11 29 48.5	
BRTR	**Keskin Array B**	**29.33**	**345**	P	**P**	**11 27 18.8**	**+1.0**
comp=N,0.4nm,0.7s,mb3.3,baz=148,slow=8.5,SNR=2.8							
BOSA	**Boshof**	**43.46**	**203**	LR	LR	11 48 39.6	
comp=N,97nm,18.5s,MS3.7,baz=5.2,slow=38							
GERES	**GERESS Array B**	**44.53**	**332**	LR	LR	11 49 48.8	
comp=N,32nm,18.4s,MS3.3,baz=223,slow=38							
MKAR	**Makanchi Array**	**48.24**	**36**	P	**P**	**11 29 57.2**	**+1.3**
comp=N,1.2nm,1.0s,mb3.9,baz=221,slow=7.2,SNR=8.7							
MKAR				LR	LR	11 51 58.9	
comp=N,46nm,18.3s,MS3.5,baz=213,slow=38							
MDT	**Midelt**	**48.53**	**304**	LR	LR	11 52 33.2	
comp=N,101nm,19.3s,MS3.8,baz=112,slow=39							
FINES	**FINESS Array B**	**51.38**	**350**	LR	LR	11 53 57.5	
comp=N,25nm,18.1s,MS3.3,baz=167,slow=38							
HFS	**Hagfors**	**53.20**	**342**	LR	LR	11 54 49.4	
comp=N,21nm,18.1s,MS3.2,baz=71,slow=38							
ZAL	**Zalesovo**	**53.66**	**29**	LR	LR	11 57 08.1	
comp=N,128nm,18.8s,MS4.0,baz=242,slow=40							
NOA	**NORSAR Array B**	**54.68**	**342**	LR	LR	11 54 15.6	
comp=N,23nm,18.9s,MS3.3,baz=255,slow=36							
SONM	**Songino Array**	**63.68**	**42**	P	**P**	**11 31 48.0**	**+1.5**
comp=N,1.2nm,1.1s,mb3.8,baz=264,slow=4.3,SNR=6.1							
SONM				LR	LR	12 00 42.9	
comp=N,52nm,19.9s,MS3.7,baz=99,slow=37							

*ISCJB **21** 11:30:41.9±1.1, 1139N±008×4322E±006, h10km, Error ellipse: s-maj=13.8km s-min=5.7km az=115.9*
*DHMR **21** 11:30:42.7±1.3, 1163N×4324E, h5km±11km, ML4.1*
ISC 21 11:30:42.7±1.2, 1135N±009×4326E±007, h10km, n11, σ1†13/22, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.05**	**24**⇑	*i*P	**Pn**	**11 31 15.1**	**-2.1**
TRBA				*i*S	**Sn**	**11 31 40.7**	**-2.1**
TRBA				AML	AML	11 31 46.6	
comp=E,2μm,0.9s							
ADEN	**Aden**	**2.20**	**50**	*i*P	**Pn**	**11 31 19.7**	**+0.4**
ADEN				*i*S	**Sn**	**11 31 46.8**	**+0.2**
ADEN				AML	AML	11 32 03.8	
comp=E,1μm,0.4s							
ADEN	**Aden**	**2.20**	**50**	*i*P	**Pn**	**11 31 17.5**	**-1.8**
ADEN				*i*S	**Sn**	**11 31 46.1**	**-0.5**
comp=E,570nm,0.4s							
UDYN	**Al 'Udayn**	**2.69**	**15**⇓	*e*P	**Pn**	**11 31 25.9**	**-0.1**
UDYN				*i*S	**Sn**	**11 31 59.1**	**+0.4**
UDYN				AML	AML	11 32 07.5	
comp=N,3μm,0.6s							
UDYN	**Al 'Udayn**	**2.69**	**15**⇓	*e*P	**Pn**	**11 31 25.9**	**-0.1**
UDYN				*i*S	**Sn**	**11 31 58.6**	**-0.1**
comp=N,2μm,0.6s							
LBOS		**3.17**	**38**	*i*P	**Pn**	**11 31 33.1**	**+0.5**
LBOS				*i*S	**Sn**	**11 32 13.4**	**+2.9**
DHBB	**Dhamar BB**	**3.39**	**19**	*i*P	**Pn**	**11 31 35.5**	**-0.1**
DHBB				*i*S	**Sn**	**11 32 16.8**	**+1.0**
BDHA	**Al Bayda'**	**3.45**	**41**	*i*P	**Pn**	**11 31 37.8**	**+1.4**
BDHA				*i*S	**Sn**	**11 32 20.6**	**+3.3**
BDHA	**Al Bayda'**	**3.45**	**41**	*i*P	**Pn**	**11 31 35.9**	**-0.5**
BDHA				*i*S	**Sn**	**11 32 18.4**	**+1.1**
DESE	**Dese**	**3.56**	**267**	*e*PN	**Pn**	**11 31 38.4**	**+0.4**
DESE				*e*S	**Sn**	**11 32 20.6**	**+0.5**
HAJJ	**Hajjah**	**4.34**	**4**	*i*P	**Pn**	**11 31 47.6**	**-1.0**
HAJJ				*i*S	**Sn**	**11 32 39.4**	**+0.1**

*IDC **21** 11:34:06.0±1.0, 1893N×12158E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, Error ellipse: s-maj=75.6km s-min=21.1km az=71.0*
*ISCJB **21** 11:34:08.9±0.8, 1921N±005×12115E±007, h10km, mb3.3/5, Error ellipse: s-maj=9.2km s-min=6.8km az=169.1*
*MAN **21** 11:34:12.1, 1892N×12122E, h1km, mb3.0, ML4.3, MS2.9*
ISC 21 11:34:09.9±0.8, 1913N±005×12119E±006, h10km, n11, σ1†28/17, mb3.3/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.97**	**214**⇑	*i*P	**Pg**	**11 34 27.9**	**-0.6**
PIP				*e*S	**Sg**	**11 34 40.7**	**-0.4**
SGCP	**Mt. Cagua**	**1.20**	**137**	*e*P	**Pb**	**11 34 32.9**	**+0.1**
SGCP				*e*S	**Sb**	**11 34 49.5**	**+1.2**
APYP	**Conner**	**1.26**	**178**	*e*P	**Pn**	**11 34 33.1**	**-0.5**
APYP				*e*S	**Sb**	**11 34 50.0**	**-0.1**
ABRA	**Dolores**	**1.54**	**197**	*e*P	**Pn**	**11 34 36.7**	**-0.7**
ABRA				*e*S	**Sn**	**11 34 59.6**	**+2.1**
CVP	**Callao Caves**	**1.54**	**157**⇓	*e*P	**Pn**	**11 34 38.0**	**+0.6**
CVP				*e*S	**Sn**	**11 34 55.0**	**-2.5**
BOLP	**Bolinao**	**2.99**	**204**	*e*P	**Pn**	**11 35 00.7**	**+3.3**
BOLP				*e*S	**Sn**	**11 35 41.3**	**+8.1**
SONM	**Songino Array**	**31.06**	**341**	P	**P**	**11 40 29.3**	**+1.3**
0.2nm,0.5s,mb3.2,baz=130,slow=5.8,SNR=2.7							
WRA	**Warramunga Arr**	**40.92**	**161**	P	**P**	**11 41 46.9**	**-5.4**
0.2nm,0.5s,mb3.0,baz=341,slow=9.1,SNR=7.8							
WRA				PcP	PcP	11 43 50.5	-2.3
0.1nm,0.4s,baz=344,slow=3.2,SNR=7.9							
MKAR	**Makanchi Array**

az=149.9
IDC ***21*** *11:38:22.0±0.6,2851N×13961E,h426km±6km,mb3.8/26, mb1 3.9/30,mb1mx3.9/31,mbtmp4.6/30,Error ellipse: s-maj=11.8km s-min=6.3km az=80.0*
JMA ***21*** *11:38:22.7±0.2,2873N×14026E,h449km±4km,M4.1*
BJI ***21*** *11:38:22.1,2848N×13952E,h445km,mB4.5,mb4.5*
NEIC ***21*** *11:38:23.5±0.8,2857N×13956E,h440km±10km,mb4.4/26, Error ellipse: s-maj=8.9km s-min=6.4km az=100.0*
ISC 21 11:38:22.7±0.4,2853N±003×13963E±005,h432km±3km, h430km±6.6km:pP-P,n181,σ1ϑ07/196,mb4.1/67,4C-8D,
Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.68**	**122**	P	**P**	**11 39 25.6**	**-0.3**
CBIJ	**Chichi jima**	**2.68**	**122**	P	**P**	**11 39 25.6**	**-0.3**
	439nm,0.3s,baz=268,slow=18,SNR=184						
CBIJ				S	**S**	**11 40 15.1**	**-2.1**
	988nm,0.3s,baz=291,slow=20,SNR=26						
JHJ2	**Mitsune**	**4.57**	**2**	P	**P**	**11 39 42.3**	**+0.4**
JHJ2				*e*S	**S**	**11 40 44.4**	**-2.0**
JHJ	**Hachijo jima 2**	**4.57**	**2**	P	**P**	**11 39 41.9**	**-0.1**
	35nm,0.3s,baz=43,slow=19,SNR=9.7						
JHJ				S	**S**	**11 40 43.3**	**-3.2**
	34nm,0.3s,baz=300,slow=20,SNR=3.2						
BSO1	**Boso 1**	**6.21**	**10**	P	**P**	**11 39 58.1**	**-0.4**
BSO1				*e*S	**S**	**11 41 12.7**	**-4.1**
BSO3	**Boso 3**	**6.29**	**7**	P	**P**	**11 39 58.5**	**-0.9**
JIE	**Ise**	**6.35**	**338**	P	**P**	**11 40 02.4**	**+2.4**
JKN2	**Miekihoku**	**6.37**	**334**	P	**P**	**11 40 02.7**	**+2.5**
JHMK	**Hamakita**	**6.46**	**346**	P	**P**	**11 40 01.9**	**+0.7**
BSO4	**Boso 4**	**6.46**	**5**	P	**P**	**11 40 00.7**	**-0.5**
HMMJ	**Hamamatsu 2**	**6.51**	**346**	P	**P**	**11 40 02.8**	**+1.1**
JOD2	**Odawara 2**	**6.72**	**356**	P	**P**	**11 40 03.6**	**-0.4**
JNY	**Yasuok**	**6.97**	**348**	P	**P**	**11 40 07.6**	**+1.0**
JAO	**Obara**	**7.01**	**344**	P	**P**	**11 40 08.6**	**+1.6**
JEG	**Eigenji**	**7.13**	**338**	P	**P**	**11 40 11.0**	**+2.6**
JTO	**Tosashimizu**	**7.29**	**308**	P	**P**	**11 40 12.8**	**+2.8**
JHU	**Hanno**	**7.30**	**358**	P	**P**	**11 40 09.0**	**-1.2**
JRY	**Ryogami san**	**7.49**	**355**	P	**P**	**11 40 11.9**	**-0.3**
JYT	**Yasato**	**7.69**	**3**	P	**P**	**11 40 13.9**	**-0.5**
JAG	**Ashikaga**	**7.87**	**359**	P	**P**	**11 40 14.9**	**-1.5**
MJAR	**Matsushiro Arr**	**8.07**	**352**	P	**P**	**11 40 17.9**	**-0.7**
	2.8nm,0.3s,baz=167,slow=11,SNR=36						
MJAR				S	**S**	**11 41 47.9**	**-5.8**
	1.9nm,0.3s,baz=153,slow=16,SNR=5.4						
MJAR	**Matsushiro Arr**	**8.07**	**352**	P	**P**	**11 40 17.9**	**-0.7**
MJAR				S	**S**	**11 41 47.9**	**-5.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				smax			
	comp=E,2.0nm,0.3s						
MAJO	**Matsushiro**	**8.08**	**352**	*e*P	**P**	**11 40 18.0**	**-0.6**
MAJO				*e*S	**S**	**11 41 50.3**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,21nm,0.4s						
MAJO	**Matsushiro**	**8.08**	**352**	*e*P	**P**	**11 40 18.0**	**-0.6**
	comp=Z,22nm,0.4s						
MAJO				*e*S	**S**	**11 41 50.3**	**-3.5**
MAT	**Matsushiro**	**8.08**	**352**	P	**P**	**11 40 17.9**	**-0.7**
MAT				S	**S**	**11 41 47.0**	**-6.8**
JHO	**Hitachi**	**8.09**	**5**	P	**P**	**11 40 18.2**	**-0.6**
JHS	**Saijyo**	**8.50**	**321**	P	**P**	**11 40 26.0**	**+2.7**
JFK	**Kawauchi**	**8.87**	**6**	P	**P**	**11 40 27.5**	**+0.2**
JOW	**Kunigami**	**10.21**	**263**	P	**P**	**11 40 45.1**	**+3.2**
	comp=Z,24nm,0.3s,baz=98,slow=16,SNR=82						
JMK	**Ichinoseki**	**10.47**	**7**	P	**P**	**11 40 45.6**	**+0.6**
JTU	**Tsushima**	**10.57**	**307**	P	**P**	**11 40 47.8**	**+1.8**
JKB	**Kayabe**	**13.37**	**5**	P	**P**	**11 41 17.7**	**+1.1**
JOSM	**Okushiri--Mats**	**13.52**	**360**	P	**P**	**11 41 19.2**	**+1.0**
ASAJ	**Asahikawa**	**15.73**	**8**	P	**P**	**11 41 43.0**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=208,slow=12,SNR=10						
ASAJ	**Asahikawa**	**15.73**	**8**	P	**P**	**11 41 43.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VLA	**Vladivostok**	**15.84**	**339**	*i* P	**P**	**11 41 44.0**	**+0.9**
VLA				pmax	pmax		
	comp=Z,80nm,0.6s						
SSE	**Sheshan**	**16.21**	**284**	*e*P	**P**	**11 41 44.8**	**-2.2**
SSE				AMB	AMB		
	comp=Z,11nm,0.8s						
SSE				AMB	AMB		
	comp=Z,86nm,4.8s						
MDJ	**Mudanjiang**	**17.94**	**336**	P	**P**	**11 42 05.1**	**-0.1**
MDJ				XP	sP	11 43 58.8	+0.3
MDJ				S	**S**	**11 45 08.9**	**-0.1**
MDJ				SCP	ScP	11 49 10.6	-0.2
MDJ				PCS	PcS	11 49 51.8	-2.1
MDJ				SCS	ScS	11 52 51.5	-0.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,63nm,5.2s						
YSS	**Yuzh-Sakhalins**	**18.55**	**7**	||*i*P	**P**	**11 42 11.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**18.55**	**7**	*e*P	**P**	**11 42 11.5**	**-0.1**
CN2	**Changchun**	**19.01**	**327**	*e*P	**P**	**11 42 15.0**	**-1.0**
HABR	**Khabarovsk**	**20.22**	**351**	*e*P	**P**	**11 42 29.1**	**+2.1**
HABR				*i* S	**S**	**11 45 47.5**	**+1.2**
KLR	**Kul'dur**	**21.53**	**346**	*e*P	**P**	**11 42 36.3**	**-2.7**
WHN	**Wuhan**	**22.07**	**281**	*e*P	**P**	**11 42 46.1**	**+2.2**
HHC	**Hu-ho-hao-te**	**26.02**	**306**	*e*P	**P**	**11 43 15.8**	**-3.4**
HHC				XP	sP	11 45 22.8	-2.7
HHC				S	**S**	**11 47 19.8**	**+1.7**
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.2						
HHC				AMB	AMB		
	comp=Z,117nm,6.0s						
PET	**Petropavlovsk**	**28.22**	**25**	*i* P	**P**	**11 43 38.9**	**+0.4**
GYA	**Guiyang**	**29.26**	**274**	P	**P**	**11 43 48.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
CIT	**Chita**	**30.46**	**328**	*e*P	**P**	**11 43 54.2**	**-3.9**
LZH	**Lanzhou**	**31.04**	**293**	||P	**P**	**11 44 03.3**	**+0.2**
LZH				AP	pP	11 45 21.8	+1.3
LZH				PP	PP	11 45 28.5	+3.3
LZH				XP	sP	11 46 11.8	+1.1
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,47nm,5.7s						
CD2	**Chengdu**	**31.16**	**283**	*e*P	**P**	**11 44 04.3**	**+0.1**
CD2				AP	pP	11 45 24.3	+2.7
CD2				PP	PP	11 45 30.8	+4.2
CD2				XP	sP	11 46 15.0	+3.2
CD2				S	**S**	**11 48 37.0**	**-1.2**
CD2				XS	sS	11 51 00.3	-0.9
CD2				SS	SS	11 51 10.8	-5.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
ULN	**Ulaanbaatar**	**31.72**	**316**	*ce*P	**P**	**11 44 09.8**	**+0.8**
ULN				*i* *PP	pP	11 45 33.8	+7.1
ULN	**Ulaanbaatar**	**31.72**	**316**	*e*P	**P**	**11 44 09.1**	**0.0**
	comp=Z,7.6nm,0.6s,mb4.2						
MA2	**Magadan**	**31.96**	**11**	*e*P	**P**	**11 44 11.3**	**+0.2**
SONM	**Songino Array**	**32.11**	**316**	P	**P**	**11 44 13.5**	**+1.1**
	comp=Z,5.6nm,0.5s,mb4.2,baz=125,slow=8.2,SNR=79						
SONM				PcP	PcP	11 46 49.8	+0.5
	comp=Z,0.6nm,0.4s,baz=120,slow=3.3,SNR=5.8						
SONM				ScP	ScP	11 49 50.2	-0.9
	comp=Z,0.4nm,0.4s,baz=147,slow=2.5,SNR=4.6						
SONM	**Songino Array**	**32.11**	**316**	P	**P**	**11 44 13.5**	**+1.1**
SONM						11 46 49.8	
SONM				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**34.14**	**352**	||*e*P	**P**	**11 44 28.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.4						
YAK	**Yakutsk**	**34.14**	**352**	*e*P	**P**	**11 44 28.5**	**-1.2**
BOD	**Bodaibo**	**34.31**	**336**	*e*P	**P**	**11 44 30.5**	**-0.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
GTA	**Gaotai**	**34.51**	**299**	*e*P	**P**	**11 44 33.8**	**+1.0**
GTA				AP	pP	11 45 50.6	-0.8
GTA				PP	PP	11 46 05.9	+2.9
GTA				PCP	PcP	11 47 00.3	+4.2
GTA				S	**S**	**11 49 31.3**	**+2.0**
GTA				SCP	ScP	11 49 59.8	+0.2
GTA				SS	SS	11 52 16.8	-5.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.6						
GTA				AMB	AMB		
	comp=Z,76nm,5.7s						
ZAK	**Zakamensk**	**35.04**	**319**	*e*P	**P**	**11 44 37.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
SEY	**Seymchan**	**35.40**	**10**	||*i*P	**P**	**11 44 40.1**	**-0.2**
PMG	**Port Moresby**	**38.41**	**168**	P	**P**	**11 45 06.7**	**+1.5**
	comp=Z,6.1nm,0.3s,mb4.3,baz=40,slow=7.9,SNR=6.6						
PMG	**Port Moresby**	**38.41**	**168**	P	**P**	**11 45 06.7**	**+1.5**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PMG	**Port Moresby**	**38.41**	**168**	*e*P	**P**	**11 45 05.6**	**+0.3**
BILL	**Bilibino**	**42.60**	**14**	*d i*P	**P**	**11 45 39.1**	**+0.2**
BILL				pmax	pmax		
	comp=Z,45nm,1.3s,mb4.6						
BILL	**Bilibino**	**42.60**	**14**	*e*P	**P**	**11 45 38.9**	**0.0**
	comp=Z,41nm,1.1s,mb4.7						
TIXI	**Tiksi**	**43.57**	**355**	*d i*P	**P**	**11 45 45.9**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
WMQ	**Urumqi**	**43.90**	**305**	*e*P	**P**	**11 45 48.0**	**-1.2**
WMQ				AP	pP	11 47 14.0	+2.0
WMQ				PP	PP	11 47 40.0	-0.4
WMQ				S	**S**	**11 51 45.0**	**-2.7**
WMQ				SS	SS	11 55 07.0	-8.2
WMQ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,101nm,5.0s						
ZAL	**Zalesovo**	**46.93**	**319**	P	**P**	**11 46 12.6**	**+0.1**
	comp=Z,2.2nm,0.7s,mb3.6,baz=22,slow=7.2,SNR=10						
ZAL				PcP	PcP	11 47 36.6	-0.3
	comp=Z,1.1nm,0.5s,baz=356,slow=5.5,SNR=4.3						
ZAL	**Zalesovo**	**46.93**	**319**	P	**P**	**11 46 12.6**	**+0.1**
ZAL					pP	11 47 36.6	-0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**47.81**	**309**	*i* P	**P**	**11 46 19.0**	**-0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
MKAR	**Makanchi Array**	**47.81**	**309**	P	**P**	**11 46 19.1**	**-0.2**
	comp=Z,2.5nm,0.5s,mb3.8,baz=86,slow=11,SNR=44						
MKAR				PcP	PcP	11 47 39.5	-0.6
	comp=Z,0.9nm,0.4s,baz=76,slow=9.2,SNR=6.9						
MKAR				ScP	ScP	11 50 50.6	-1.7
	comp=Z,0.8nm,0.4s,baz=82,slow=5.5,SNR=9.6						
MKAR	**Makanchi Array**	**47.81**	**309**	P	**P**	**11 46 19.1**	**-0.1**
MKAR					pP	11 47 39.5	-4.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=E,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**48.29**	**198**	*e*P	**P**	**11 46 23.8**	**+1.0**
	comp=E,2.6nm,0.4s,mb3.9						
WRAB	**Tennant Creek**	**48.45**	**187**	*e*P	**P**	**11 46 24.1**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**48.45**	**187**	*e*P	**P**	**11 46 24.1**	**0.0**
	comp=Z,7.8nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**48.46**	**187**	*e*S	**S**	**11 52 49.9**	**-1.9**
WB2	**Warramunga Arr**	**48.46**	**187**	*e*P	**P**	**11 46 24.2**	**+0.1**
WB2				*e*PCP	PcP	11 47 43.6	+1.2
WB2				*e*SCP	ScP	11 50 55.3	+0.2
WRA	**Warramunga Arr**	**48.46**	**187**	P	**P**	**11 46 24.3**	**+0.2**
	comp=Z,6.0nm,0.3s,mb4.4,baz=4.3,slow=7.6,SNR=296						
WRA				PcP	PcP	11 47 43.8	+1.3
	comp=Z,1.5nm,0.4s,baz=359,slow=3.9,SNR=9.1						
WRA				ScP	ScP	11 50 55.1	0.0
	comp=Z,3.2nm,0.9s,baz=1.7,slow=4.8,SNR=11						
WRA				S	**S**	**11 52 49.6**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=6.1,slow=13,SNR=10						
WRA	**Warramunga Arr**	**48.46**	**187**	P	**P**	**11 46 24.3**	**+0.2**
WRA						11 47 43.8	
WRA				S	**S**	**11 52 49.6**	**-2.2**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA				pmax	pmax		
	comp=E,3.0nm,0.9s						
WRA				smax			
	comp=E,2.0nm,0.8s						
CTA	**Charters Tower**	**48.76**	**172**	*e*P	**P**	**11 46 27.6**	**+1.3**
	comp=E,7.3nm,0.9s,mb4.0						
CTA	**Charters Tower**	**48.76**	**172**	P	**P**	**11 46 27.5**	**+1.2**
	comp=E,7.4nm,0.8s,mb4.0,baz=14,slow=3.9,SNR=5.4						
CTA	**Charters Tower**	**48.76**	**172**	*e*P	**P**	**11 46 27.6**	**+1.3**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**50.36**	**314**	*d i*P	**P**	**11 46 37.9**	**-0.3**
KURK	**Kurchatov**	**50.36**	**314**	*e*P	**P**	**11 46 37.5**	**-0.8**
	comp=Z,6.3nm,0.5s,mb4.2						
AS31	**Alice Springs**	**52.19**	**187**	*e*P	**P**	**11 46 51.7**	**+0.1**
AS31				*e*S	**S**	**11 53 41.9**	**-0.6**
ASAR	**Alice Springs**	**52.19**	**187**	P	**P**	**11 46 51.8**	**+0.2**
	comp=Z,2.7nm,0.4s,mb3.8,baz=1.3,slow=6.4,SNR=163						
ASAR				PcP	PcP	11 47 57.6	+1.3
	comp=Z,0.9nm,0.7s,baz=7.1,slow=3.5,SNR=4.3						
ASAR				S	**S**	**11 53 41.5**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=20,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**52.19**	**187**	P	**P**	**11 46 51.8**	**+0.2**
ASAR						11 47 57.7	
ASAR				S	**S**	**11 53 41.5**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				smax			
	comp=E,1.0nm,0.8s						
ASPA	**Alice Springs**	**52.19**	**187**	*e*P	**P**	**11 46 51.7**	**+0.1**
ASPA				*e*S	**S**	**11 53 41.9**	**-0.7**
TKM2	**Tokmak 2**	**52.74**	**304**	*i* P	**P**	**11 46 56.0**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.3						
AAK	**Ala-Archa**	**53.58**	**304**	*e*P	**P**	**11 47 00.7**	**-0.9**
AAK				*e*		11 48 00.4	
KDAK	**Kodiak Island**	**54.59**	**37**	P	**P**	**11 47 08.9**	**+0.2**
	comp=Z,8.9nm,0.4s,mb4.3,baz=26,slow=6.4,SNR=29						
VOSK	**Vostochnaya**	**55.11**	**316**	P	**P**	**11 47 11.9**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.5						
BVA0	**Borovoye Array**	**55.45**	**317**	*i* P	**P**	**11 47 14.7**	**-0.1**
BVAR	**Borovoye Array**	**55.45**	**317**	P	**P**	**11 47 14.7**	**-0.1**
	comp=Z,5.9nm,0.4s,mb4.2,baz=91,slow=7.2,SNR=66						
BVAR	**Borovoye Array**	**55.45**	**317**	P	**P**	**11 47 14.7**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BRVK	**Borovoye**	**55.51**	**317**	*e*P	**P**	**11 47 14.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
BRVK	**Borovoye**	**55.51**	**317**	*e*P	**P**	**11 47 14.4**	**-0.8**
	comp=Z,7.3nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**56.29**	**317**	*i* P	**P**	**11 47 21.4**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
ZRNK	**Zerenda**	**56.29**	**317**	*e*P	**P**	**11 47 20.2**	**-0.4**
	comp=Z,5.6nm,0.7s,mb4.0						
KK31	**Karatay Array**	**56.41**	**305**	*i* P	**P**	**11 47 21.7**	**+0.2**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.1						
KKAR	**Karatay Array**	**56.41**	**305**	*i* P	**P**	**11 47 21.7**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
MCK	**McKinley**	**56.62**	**30**	*e*P	**P**	**11 47 22.9**	**-0.1**
COLA	**College**	**57.14**	**29**	*e*P	**P**	**11 47 27.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
COLA	**College**	**57.14**	**29**	*e*P	**P**	**11 47 27.1**	**+0.6**
	comp=Z,6.2nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**57.55**	**29**	P	**P**	**11 47 28.7**	**-0.7**
	comp=Z,4.4nm,0.4s,mb4.2,baz=252,slow=5.7,SNR=159						
ILAR	**Eielson Array**	**57.55**	**29**	P	**P**	**11 47 28.7**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
STKA	**Stephens Creek**	**60.10**	**178**	*e*P	**P**	**11 47 45.0**	**-1.7**
	comp=Z,1.8nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**60.10**	**178**	P	**P**	**11 47 45.2**	**-1.5**
	comp=Z,2.5nm,0.4s,mb4.0,baz=349,slow=9.0,SNR=13						
DAWY	**Dawson**	**60.83**	**30**	*e*P	**P**	**11 47 51.6**	**+0.1**
ARU	**Arti**	**61.90**	**322**	||*i*P	**P**	**11 47 58.0**	**-0.5**
ARU				*e*		11 48 32.6	
ARU				*e*	pP	11 49 27.8	-1.1
ARU				*e*		11 50 17.0	
ARU				*e*S	**S**	**11 55 46.8**	**-1.0**
ARU				*e*SS	SS	12 00 02.4	+3.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
ARU	**Arti**	**61.90**	**322**	*e*P	**P**	**11 47 57.3**	**-1.3**
	comp=Z,12nm,0.5s,mb4.7						
AB31	**Akbulak array**	**62.47**	**313**	*e*P	**P**	**11 48 02.1**	**-0.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
INK	**Inuvik**	**62.67**	**25**	P	**P**	**11 48 03.4**	**-0.2**
	comp=Z,3.7nm,0.4s,mb4.2,baz=292,slow=5.7,SNR=111						
INK	**Inuvik**	**62.67**	**25**	P	**P**	**11 48 03.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INK	**Inuvik**	**62.67**	**25**	*e*P	**P**	**11 48 03.1**	**-0.5**
	comp=Z,3.4nm,0.4s,mb4.2						
AKTK	**Aktyubinsk**	**63.42**	**315**	P	**P**	**11 48 08.2**	**-0.3**
AKTO	**Aktyubinsk**	**63.42**	**315**	P	**P**	**11 48 08.2**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.2,baz=82,slow=14,SNR=9.6						
AKTO	**Aktyubinsk**	**63.42**	**315**	P	**P**	**11 48 08.2**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
KEV	**Kevo**	**70.87**	**340**	*ep*	**P**	**11 48 53.3**	**-1.3**
RES	**Resolute Bay**	**71.19**	**13**	*e*P	**P**	**11 48 55.7**	**-0.8**
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
RES	**Resolute Bay**	**71.19**	**13**	*e*P	**P**	**11 48 55.7**	**-0.8**
	comp=Z,10nm,1.0s,mb4.3						
ARCES	**ARCESS Array B**	**71.44**	**340**	P	**P**	**11 48 57.8**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.2,baz=67,slow=8.2,SNR=45						
ARCES	**ARCESS Array B**	**71.44**	**340**	P	**P**	**11 48 57.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YKW3	**Yellowknife Ar**	**71.92**	**28**	*e*P	**P**	**11 48 59.6**	**-1.1**
YKA	**Yellowknife Ar**	**71.95**	**28**	P	**P**	**11 49 00.6**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.2,baz=300,slow=5.9,SNR=115						
YKA	**Yellowknife Ar**	**71.95**	**28**	P	**P**	**11 49 00.6**	**-0.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
OBN	**Obninsk**	**74.06**	**324**	||*e*P	**P**	**11 49 12.4**	**-0.7**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**75.19**	**333**	*ep*	**P**	**11 49 18.2**	**-1.3**
	comp=Z,3.7nm,0.5s,mb4.3,baz=54,slow=5.2						
KAF	**Kangasniemi**	**75.19**	**333**	*e*P	**P**	**11 49 18.2**	**-1.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**75.65**	**333**	P	**P**	**11 49 21.7**	**-0.4**
	comp=Z,6.3nm,0.4s,mb4.6,baz=73,slow=5.2,SNR=130						
FINES	**FINESS Array B**	**75.65**	**333**	P	**P**	**11 49 21.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
NEW	**Newport**	**77.36**	**42**	*e*P	**P**	**11 49 31.9**	**+0.3**
NEW				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	**Newport**	**77.36**	**42**	*e*P	**P**	**11 49 31.9**	**+0.3**
	comp=Z,11nm,1.1s,mb4.4						
BMO	**Blue Mountains**	**78.90**	**45**	*e*P	**P**	**11 49 40.7**	**+0.8**
	comp=Z,14nm,1.5s,mb4.4						
AKASG	**Malin Array Be**	**80.11**	**323**	P	**P**	**11 49 45.5**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.0,baz=52,slow=5.3,SNR=9.1						
AKASG	**Malin Array Be**	**80.11**	**323**	P	**P**	**11 49 45.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMB	**Columbia Colle**	**80.15**	**52**	*e*P	**P**	**11 49 47.4**	**+0.9**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
CMB	**Columbia Colle**	**80.15**	**52**	*e*P	**P**	**11 49 47.4**	**+0.9**
	comp=Z,4.3nm,0.9s,mb4.1						
MALT	**Malatya**	**80.86**	**309**	*e*P	**P**	**11 49 47.7**	**-2.5**
HFS	**Hagfors**	**81.20**	**336**	P	**P**	**11 49 50.6**	**-1.4**
	comp=Z,2.9nm,0.4s,mb4.4,baz=108,slow=4.8,SNR=14						
HFS	**Hagfors**	**81.20**	**336**	P	**P**	**11 49 50.6**	**-1.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HLID	**Hailey**	**81.35**	**45**	*e*P	**P**	**11 49 53.7**	**+1.0**
	comp=Z,2.8nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**81.39**	**51**	P	**P**	**11 49 53.0**	**0.0**
	comp=Z,0.8nm,0.3s,mb4.0,baz=286,slow=5.3,SNR=34						
NB2	**NORSAR Subarra**	**81.43**	**337**	P	**P**	**11 49 52.3**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.8,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**81.43**	**337**	P	**P**	**11 49 52.4**	**-0.8**
	comp=Z,1.9nm,0.4s,mb4.1,baz=46,slow=4.8,SNR=11						
NOA	**NORSAR Array B**	**81.43**	**337**	P	**P**	**11 49 52.4**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DLMT	**Dillon**	**81.51**	**43**	*e*P	**P**	**11 49 54.5**	**+0.9**
	comp=Z,26nm,1.8s,mb4.7						
ELK	**Elko**	**82.28**	**48**	*e*P	**P**	**11 49 59.1**	**+1.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.99**	**26**	*i* P	**Pn**	**11 43 51.2**	**-1.8**
TRBA				*i* S	**Sn**	**11 44 17.3**	**-0.7**
TRBA				AML	AML	11 44 19.9	
	comp=N,1μm,0.4s						
UDYN	**Al 'Udayn**	**2.63**	**16**	*i* P	**Pn**	**11 44 00.9**	**-0.8**
UDYN				*i* S	**Sn**	**11 44 33.6**	**0.0**
UDYN				AML	AML	11 44 43.6	
	comp=N,1μm,0.8s						
UDYN	**Al 'Udayn**	**2.63**	**16**	*i* P	**Pn**	**11 44 00.9**	**-0.8**
UDYN				*i* S	**Sn**	**11 44 33.6**	**-0.1**
	comp=N,699nm,0.8s						
LBOS		**3.13**	**39**	*i* P	**Pn**	**11 44 08.7**	**0.0**
LBOS				*i* S	**Sn**	**11 44 50.7**	**+4.6**
DHBB	**Dhamar BB**	**3.33**	**20**	*i* P	**Pn**	**11 44 11.3**	**-0.1**
DHBB				*i* S	**Sn**	**11 44 53.5**	**+2.7**
DHBB	**Dhamar BB**	**3.33**	**20**	*i* P	**Pn**	**11 44 11.3**	**0.0**
DHBB				*i* S	**Sn**	**11 44 53.5**	**+2.6**
BDHA	**Al Bayda'**	**3.41**	**42**	*i* P	**Pn**	**11 44 12.8**	**+0.3**
BDHA				*i* S	**Sn**	**11 44 56.1**	**+3.1**
BDHA				AML	AML	11 45 20.9	
	comp=N,464nm,0.9s						
BDHA	**Al Bayda'**	**3.41**	**42**	*i* P	**Pn**	**11 44 12.8**	**+0.3**
BDHA				*i* S	**Sn**	**11 44 56.1**	**+3.1**
	comp=N,232nm,0.9s						
DESE	**Dese**	**3.54**	**265**	*e*PN	**Pn**	**11 44 15.6**	**+1.3**
DESE				*e*S	**Sn**	**11 44 56.1**	**0.0**
HAJJ	**Hajjah**	**4.26**	**5**	*i* P	**Pn**	**11 44 22.2**	**-2.0**
HAJJ				*i* S	**Sn**	**11 45 14.2**	**+0.1**

*IDC **21** 11:48:23.3±2.5, 1152N×8550W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, MS3.6/3, Ms1 3.6/3, ms1mx3.0/19, Error ellipse: s-maj=87.8km s-min=54.0km az=63.0*
*ISCJB **21** 11:48:25.1±0.5, 1088N×0003×8669W±004, h10km, mb3.7/10, MS3.5/3, Error ellipse: s-maj=6.3km s-min=2.6km az=114.7*
*CASC **21** 11:48:27.4±2.6, 1098N×8650W, h6km±6km, MD3.9, ML3.7, mb3.7(NEIC)*
*NEIC **21** 11:48:32.8±1.2, 1149N×8558W, h74km±16km, mb3.7/4, Error ellipse: s-maj=48.9km s-min=15.0km az=70.0*

ISC 21 11:48:26.5±0.5, 1095N±003×8662W±004, h10km, n51, σ1§20/64, mb3.7/10, MS3.5/3, 9C-12D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.83**	**66**	⇓*e*P	**Pg**	**11 48 40.9**	**-1.6**
APON	**Apoyo**	**1.11**	**29**	⇓*e*P	**Pb**	**11 48 46.7**	**-1.0**
MASN	**Masaya**	**1.13**	**24**	⇓*e*P	**Pb**	**11 48 47.6**	**-0.6**
MASN				*e*S	**Sb**	**11 49 03.2**	**+0.3**
	comp=Z,2μm,0.8s						
TICN	**Ticuantepe**	**1.15**	**19**	⇑*e*P	**Pb**	**11 48 47.8**	**-0.6**
CONN	**Concepcion**	**1.16**	**58**	⇑*e*P	**Pb**	**11 48 46.2**	**-2.4**
MADN	**Villa Maderas**	**1.16**	**67**	⇑*e*P	**Pb**	**11 48 46.3**	**-2.3**
COPN	**Copaltepe**	**1.23**	**1**	⇓*e*P	**Pn**	**11 48 49.8**	**+0.1**
COPN				*e*S	**Sb**	**11 49 06.3**	**+0.7**
XAVN	**Gruta Xavier**	**1.23**	**14**	⇓*e*P	**Pn**	**11 48 49.3**	**-0.4**
XAVN				*e*S	**Sb**	**11 49 06.2**	**+0.5**
	comp=Z,3μm,0.4s						
RIN3	**Volcan Rincon**	**1.23**	**97**	⇑*e*P	**Pn**	**11 48 47.5**	**-2.2**
MGAN	**Managua**	**1.25**	**17**	⇓*e*P	**Pn**	**11 48 49.4**	**-0.6**
MGAN				*e*S	**Sb**	**11 49 06.3**	**+0.1**
	comp=N,3μm,0.5s						
VCR	**Vista de Mar**	**1.27**	**130**	⇑*e*P	**Pn**	**11 48 49.2**	**-1.0**
VCR				*e*S	**Sb**	**11 49 06.0**	**-0.9**
WILN	**Americas 2**	**1.28**	**19**	⇓*e*P	**Pn**	**11 48 49.6**	**-0.8**
WILN				⇓*e*P		11 48 49.8	
APYN	**Apoyeque**	**1.31**	**12**	⇑*e*P	**Pn**	**11 48 50.8**	**0.0**
LIM1	**Limonal**	**1.37**	**100**	*i* P	**Pn**	**11 48 48.8**	**-2.8**
LIM1				*i* S	**Sb**	**11 49 06.1**	**-3.6**
MOMJ	**Momotombo**	**1.46**	**3**	⇓*e*P	**Pn**	**11 48 52.8**	**-0.1**
MOMJ				*e*S	**Sn**	**11 49 12.1**	**+0.2**
	comp=Z,428nm,0.5s						
LEON	**Leon**	**1.48**	**350**	⇓*e*P	**Pn**	**11 48 53.8**	**+0.6**
LEON				*e*S	**Sn**	**11 49 14.1**	**+1.5**
MIRN	**Miramar**	**1.49**	**357**	⇑*e*P	**Pn**	**11 48 53.6**	**+0.3**
CNGN	**Cerro Negro**	**1.55**	**357**	⇓*e*P	**Pn**	**11 48 54.4**	**+0.3**
CNGN				*e*S	**Sn**	**11 49 14.3**	**+0.2**
	comp=Z,899nm,0.5s						
TEL3	**Telica 3**	**1.63**	**352**	⇑*e*P	**Pn**	**11 48 55.9**	**+0.6**
TELN	**Telica**	**1.66**	**353**	*e*P	**Pn**	**11 48 56.4**	**+0.7**
TELN				*e*S	**Sn**	**11 49 18.6**	**+1.6**
JTS	**JuntasAbangare**	**1.77**	**111**	*e*Pn	**Pn**	**11 48 55.8**	**-1.3**
CRIN	**San Cristobal**	**1.79**	**347**	*e*P	**Pn**	**11 48 58.6**	**+1.2**
CAO	**Cobano**	**1.94**	**129**	⇑*e*P	**Pn**	**11 48 57.0**	**-2.5**
CAO				*e*S	**Sn**	**11 49 26.7**	**+2.8**
VACR	**Volcan Arenal**	**1.97**	**104**	*e*P	**Pn**	**11 48 59.3**	**-0.6**
VACR				*e*S	**Sn**	**11 49 25.8**	**+1.2**
EPA	**Esparza**	**2.21**	**115**	*e*P	**Pn**	**11 49 04.0**	**+0.9**
EPA				*e*S	**Sn**	**11 49 32.4**	**+1.9**
CGA2	**Cerro Gallo 2**	**2.31**	**113**	*e*P	**Pn**	**11 49 05.7**	**+1.1**
CGA2				*e*S	**Sn**	**11 49 34.4**	**+1.2**
VPS2	**Volcan Poas 2**	**2.46**	**108**	*e*P	**Pn**	**11 49 06.7**	**+0.1**
PRS1	**Puriscal**	**2.47**	**113**	*e*P	**Pn**	**11 49 07.7**	**+1.0**
PRS1				*e*S	**Sn**	**11 49 39.0**	**+2.1**
LAJ	**Bijagual**	**2.69**	**113**	⇓*e*P	**Pn**	**11 49 05.5**	**-4.2**
SJS	**Escuela Geolog**	**2.72**	**111**	*e*P	**Pn**	**11 49 11.9**	**+1.7**
SJS				*e*S	**Sn**	**11 49 43.4**	**+0.3**
OCM	**Ochomogo**	**2.82**	**112**	*e*P	**Pn**	**11 49 11.7**	**+0.2**
OCM				*e*P		11 49 13.2	
OCM				*e*S	**Sn**	**11 49 45.4**	**-0.2**
VTU	**Volcan Turrial**	**2.96**	**108**	*e*P	**Pn**	**11 49 14.4**	**+0.9**
BUS	**Buena Vista**	**3.14**	**116**	*e*P	**Pn**	**11 49 17.1**	**+1.2**
SJG	**San Juan**	**21.05**	**68**	LR	LR	11 59 25.5	
	comp=Z,138nm,21.6s,MS3.3,baz=273,slow=33						
SWET	**Sewanee**	**24.17**	**1**	*e*P	**P**	**11 53 42.4**	**-0.4**
MIAR	**Mount Ida**	**24.33**	**346**	*e*P	**P**	**11 53 41.9**	**-2.4**
	comp=Z,1.8nm,0.4s,mb3.9						
WMOK	**Wichita Mounta**	**26.15**	**337**	*e*P	**P**	**11 54 01.0**	**+0.2**
	comp=Z,5.1nm,0.9s,mb4.0						
ANMO	**Albuquerque**	**29.95**	**326**	P	**P**	**11 54 36.3**	**+1.5**
	comp=Z,0.6nm,0.7s,mb3.4,baz=97,slow=10,SNR=4.8						
ANMO	**Albuquerque**	**29.95**	**326**	*e*P	**P**	**11 54 36.6**	**+1.8**
	comp=Z,0.9nm,0.9s,mb3.5						
SDCO	**Great Sand Dun**	**31.61**	**331**	*e*P	**P**	**11 54 49.4**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.7						
PV10	**Paradox Valley**	**33.88**	**327**	*e*P	**P**	**11 55 08.9**	**-0.4**
PDAR	**Pinedale Array**	**37.47**	**332**	P	**P**	**11 55 39.2**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=137,slow=8.3,SNR=6.9						
PDAR				PcP	PcP	11 57 57.6	-0.9
	comp=Z,0.2nm,0.7s,baz=133,slow=3.8,SNR=3.6						
NVAR	**Mina Array Bea**	**39.36**	**319**	P	**P**	**11 55 56.5**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.3,baz=130,slow=7.3,SNR=5.1						
ULM	**Lac du Bonnet**	**39.92**	**351**	P	**P**	**11 55 55.9**	**-4.8**
	comp=Z,1.4nm,0.6s,mb3.9,baz=177,slow=13,SNR=4.2						
BDFB	**Brasilia**	**46.47**	**124**	LR	LR	12 17 45.0	
	comp=Z,100nm,18.7s,MS3.8,baz=203,slow=38						
YKA	**Yellowknife Ar**	**55.27**	**345**	P	**P**	**11 57 56.2**	**-3.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=141,slow=7.1,SNR=12						
YKA				PcP	PcP	11 58 58.6	-2.0
	comp=Z,0.3nm,0.7s,baz=142,slow=4.5,SNR=8.8						
YKA				LR	LR	12 23 46.3	
	comp=Z,42nm,18.4s,MS3.5,baz=125,slow=39						
YKA	**Yellowknife Ar**	**55.27**	**345**	P	**P**	**11 57 56.2**	**-3.6**
YKA				PcP	PcP	11 58 58.6	-2.0
YKA				LR	LR	12 23 46.3	
INK	**Inuvik**	**64.87**	**343**	P	**P**	**11 59 02.1**	**-3.7**
	comp=Z,0.4nm,0.6s,mb3.7,baz=114,slow=9.6,SNR=5.5						
ILAR	**Eielson Array**	**67.72**	**336**	P	**P**	**11 59 21.4**	**-2.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=136,slow=4.1,SNR=11						
ASAR	**Alice Springs**	**139.44**	**246**	PKP	PKPdf	12 07 54.9	+0.9
	comp=Z,0.3nm,0.6s,baz=89,slow=1.4,SNR=5.4						
WRA	**Warramunga Arr**	**139.61**	**252**	PKP	PKPdf	12 07 55.1	+0.8
	comp=Z,0.5nm,0.8s,baz=94,slow=2.2,SNR=10.0						

*NEIC **21** 11:50:58.4, 3165S×7181W, h31km, ML3.1(GUC), After GUC.*

GUC 21 11:50:58.4±0.7, 3165S×7181W, h31km±4km, MD4.0, ML3.1, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.84**	**56**	*e*P	Pn	11 51 14.2	+0.2
CMCH				*i* S	Sn	11 51 25.6	+0.3
CMCH				AMP		11 51 28.1	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**0.84**	**56**	*e*P	Pn	11 51 14.2	+0.2
CMCH				*i* S	Sn	11 51 25.6	+0.3
PACH	**Papudo**	**0.94**	**160**	⇑*i*P	Pn	11 51 15.5	0.0
JACH	**Jahuel**	**1.46**	**135**	*e*P	Pn	11 51 23.7	+1.2
JACH				*i* S	Sn	11 51 43.0	+2.4
LCCH	**Las Cruces**	**1.83**	**174**	*e*P	Pn	11 51 28.6	+0.9
RCDM	**Rinconada Maip**	**2.02**	**155**	*e*P	Pn	11 51 31.7	+1.4
RCDM				*i* S	Sn	11 51 57.3	+2.8
RCDM				AMP		11 52 04.5	
	comp=E,188nm,0.2s						
RCDM	**Rinconada Maip**	**2.02**	**155**	*e*P	Pn	11 51 31.7	+1.4
RCDM				*i* S	Sn	11 51 57.3	+2.8
FCH	**Farellones**	**2.11**	**143**	*e*P	Pn	11 51 33.8	+2.2
FCH				*i* S	Sn	11 52 00.2	+3.6
FCH				AMP		11 52 04.2	
	comp=E,146nm,0.5s						
PCH	**Pirque**	**2.25**	**151**	*e*P	Pn	11 51 35.3	+1.8
CHCH	**Chadas Angostu**	**2.48**	**157**	*e*P	Pn	11 51 38.7	+2.1
CHCH				*i* S	Sn	11 52 09.2	+3.5
CACH	**El Canelo**	**2.66**	**158**	*e*P	Pn	11 51 43.3	+4.2

*DHMR **21** 11:51:47.9±1.0, 1178N×4305E, h9km±8km, ML4.1*
*ISCJB **21** 11:51:48.1±0.6, 1161N±007×4301E±007, h10km, mb3.9/9, MS3.8/10, Error ellipse: s-maj=13.1km s-min=4.8km az=89.1*
*IDC **21** 11:51:48.8±1.3, 1152N×4293E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, MS3.8/11, Ms1 3.7/11, ms1mx3.6/20, Error ellipse: s-maj=30.8km s-min=7.1km az=170.0*
*CSEM **21** 11:51:48.8±0.2, 1184N×4289E, h2km, ML4.1, Error ellipse: s-maj=8.7km s-min=3.0km az=137.0*
*NEIC **21** 11:51:52.2±1.6, 1191N×4297E, h10km, mb4.0/1, ML4.1(DHMR), Error ellipse: s-maj=33.8km s-min=16.1km az=152.0*

ISC 21 11:51:50.1±0.7, 1163N±007×4307E±006, h10km, n34, σ1§40/42, mb3.9/9, MS3.8/10, 7C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**0.24**	**246**	Pg	**Pg**	**11 51 50.3**	**-4.6**
	18μm,0.3s,baz=222,slow=7.7,SNR=642						
TRBA	**At Turbah**	**1.90**	**33**	⇑*e*P	**Pn**	**11 52 19.9**	**-2.6**
TRBA				*i* S	**Sn**	**11 52 44.9**	**-1.6**
TRBA				AML	AML	11 52 56.8	
	comp=N,2μm,0.6s						
TRBA	**At Turbah**	**1.90**	**33**	⇑*e*P	**Pn**	**11 52 19.9**	**-2.6**
TRBA				*i* S	**Sn**	**11 52 42.1**	**-4.4**
UDYN	**Al 'Udayn**	**2.49**	**21**	⇓*i*P	**Pn**	**11 52 28.7**	**-1.9**
UDYN				⇑*e*P		11 52 29.7	
UDYN				*i* S	**Sn**	**11 53 00.6**	**-0.4**
UDYN				AML	AML	11 53 17.1	
	comp=N,2μm,0.8s						
UDYN	**Al 'Udayn**	**2.49**	**21**	⇑*e*P	**Pn**	**11 52 29.7**	**-0.9**
UDYN				*i* S	**Sn**	**11 53 00.0**	**-1.0**
UDYN	**Al 'Udayn**	**2.49**	**21**	⇑*e*P	**Pn**	**11 52 29.7**	**-1.0**
UDYN				*i* S	**Sn**	**11 52 60.0**	**-1.1**
LBOS		**3.08**	**43**	*i* P	**Pn**	**11 52 38.3**	**-0.6**
LBOS				*i* S	**Sn**	**11 53 18.3**	**+2.5**
LBOS		**3.08**	**43**	*e*P	**Pn**	**11 52 37.2**	**-1.7**
LBOS				*i* S	**Sn**	**11 53 16.0**	**+0.3**
DHBB	**Dhamar BB**	**3.20**	**24**	⇑*e*P	**Pn**	**11 52 39.6**	**-0.8**
DHBB				*i* S	**Sn**	**11 53 20.4**	**+1.8**
DHBB	**Dhamar BB**	**3.20**	**24**	⇑*e*P	**Pn**	**11 52 39.6**	**-0.8**
DHBB				*i* S	**Sn**	**11 53 18.4**	**-0.2**
BDHA	**Al Bayda'**	**3.38**	**46**	⇓*e*P	**Pn**	**11 52 42.1**	**-0.8**
BDHA				*i* S	**Sn**	**11 53 25.1**	**+2.1**
BDHA				AML	AML	11 53 47.4	
	comp=N,1μm,0.6s						
BDHA	**Al Bayda'**	**3.38**	**46**	⇓*e*P	**Pn**	**11 52 42.1**	**-0.8**
BDHA				*i* S	**Sn**	**11 53 25.1**	**+2.1**
	comp=N,561nm,0.6s						
BDHA	**Al Bayda'**	**3.38**	**46**	⇓*e*P	**Pn**	**11 52 42.1**	**-0.8**
BDHA				*i* S	**Sn**	**11 53 23.3**	**+0.3**
DESE	**Dese**	**3.40**	**262**	*e*PN	**Pn**	**11 52 41.5**	**-1.7**
DESE				*e*S	**Sn**	**11 53 25.4**	**+1.8**
HAJJ	**Hajjah**	**4.08**	**7**	⇓*e*P	**Pn**	**11 52 51.4**	**-1.2**
HAJJ				*i* S	**Sn**	**11 53 40.1**	**-0.3**
KMBO	**Kilima Mbogo**	**13.93**	**205**	Pn	**Pn**	**11 55 05.3**	**-2.1**
	baz=35,slow=17,SNR=3.6						
KMBO				Lg		11 59 05.7	
	comp=N,0.3nm,0.3s,baz=289,slow=14,SNR=6.2						
KMBO				LR	LR	12 00 01.8	
	comp=N,347nm,21.3s,baz=88,slow=36						
KMBO	**Kilima Mbogo**	**13.93**	**205**	Pn	**Pn**	**11 55 05.3**	**-2.2**
KMBO				Lg		11 59 05.7	
KMBO				LR	LR	12 00 01.8	
GNI	**Garni**	**28.45**	**3**	LR	LR	12 09 40.2	
	comp=N,122nm,19.7s,MS3.5,baz=354,slow=38						
BRTR	**Keskin Array B**	**29.21**	**345**	P	**P**	**11 57 56.9**	**+5.0**
	comp=N,1.0nm,0.9s,mb3.5,baz=148,slow=8.5,SNR=5.4						
LSZ	**Lusaka**	**30.52**	**209**	LR	LR	12 10 19.9	
	comp=N,365nm,19.7s,MS4.0,baz=164,slow=37						
TORD	**Torodi Ar. Bea**	**40.41**	**277**	P	**P**	**11 59 28.1**	**-0.3**
	comp=N,1.6nm,1.0s,mb3.7,baz=98,slow=8.4,SNR=7.6						
AAK	**Ala-Archa**	**41.23**	**36**	*e*P	**P**	**11 59 37.8**	**+2.7**
AAK	**Ala-Archa**	**41.23**	**36**	*e*P	**P**	**11 59 37.8**	**+2.7**
	comp=N,3.8nm,1.3s,mb3.9						
BOSA	**Boshof**	**43.55**	**203**	LR	LR	12 18 38.5	
	comp=N,167nm,20.7s,MS3.9,baz=31,slow=37						
GERES	**GERESS Array B**	**44.41**	**332**	P	**P**	**12 00 02.2**	**+1.3**
	comp=N,0.9nm,0.9s,mb3.5,baz=154,slow=7.1,SNR=3.7						
BVAR	**Borovoye Array**	**46.73**	**22**	P	**P**	**12 00 20.4**	**+1.1**
	comp=N,0.7nm,0.7s,mb3.7,baz=215,slow=7.2,SNR=5.4						
DBIC	**Dimbokro**	**47.52**	**268**	P	**P**	**12 00 25.9**	**+0.3**
	comp=N,3.6nm,0.9s,mb4.4,baz=67,slow=11,SNR=4.8						
DBIC				LR	LR	12 19 40.0	
	comp=N,47nm,18.8s,MS3.5,baz=58,slow=35						
MKAR	**Makanchi Array**	**48.17**	**36**	P	**P**	**12 00 31.9**	**+1.4**
	comp=N,2.3nm,0.9s,mb4.2,baz=232,slow=6.0,SNR=19						
MKAR				LR	LR	12 22 34.2	
	comp=N,68nm,19.9s,MS3.6,baz=87,slow=38						
MKAR	**Makanchi Array**	**48.17**	**36**	P	**P**	**12 00 31.9**	**+1.4**
MKAR				LR	LR	12 22 34.2	
ZAL	**Zalesovo**	**53.57**	**29**	P	**P**	**12 01 11.6**	**+0.3**
	comp=N,0.8nm,0.4s,mb4.0,baz=240,slow=4.0,SNR=6.3						
ZAL				LR	LR	12 28 15.1	
	comp=N,178nm,19.2s,MS4.1,baz=241,slow=41						
NOA	**NORSAR Array B**	**54.55**	**342**	LR	LR	12 26 24.1	
	comp=N,31nm,18.2s,MS3.4,baz=325,slow=38						
ARCES	**ARCESS Array B**	**58.94**	**353**	LR	LR	12 27 49.8	
	comp=N,57nm,19.8s,MS3.7,baz=8.3,slow=37						
SONM	**Songino Array**	**63.62**	**42**	P	**P**	**12 02 23.3**	**+2.0**
	comp=N,1.5nm,1.0s,mb4.0,baz=256,slow=6.8,SNR=9.2						
SONM				LR	LR	12 31 17.0	
	comp=N,106nm,18.4s,MS4.0,baz=107,slow=37						
JOW	**Kunigami**	**80.62**	**64**	LR	LR	12 39 23.0	
	comp=N,31nm,18.6s,MS3.7,baz=263,slow=35						

*ISCJB **21** 12:10:47.7±1.3, 1143N±010×4324E±008, h10km, Error ellipse: s-maj=16.5km s-min=5.9km az=110.2*
*DHMR **21** 12:10:49.4±1.1, 1168N×4341E, h5km±10km, ML3.7*

ISC 21 12:10:48.4±1.4, 114N±01×4327E±008, h10km, n9, σ0§82/18, 3C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.02**	**24**	⇓*e*P	**Pn**	**12 11 20.9**	**-1.5**
TRBA				*i* S	**Sn**	**12 11 43.7**	**-4.0**
TRBA				AML	AML	12 11 54.4	
	comp=E,1μm,0.5s						
UDYN	**Al 'Udayn**	**2.66**	**15**	*i* P	**Pn**	**12 11 31.0**	**-0.3**
UDYN				*i* S	**Sn**	**12 12 02.5**	**-1.1**
UDYN				AML	AML	12 12 15.0	
	comp=N,940nm,0.6s						
UDYN	**Al 'Udayn**	**2.66**	**15**	*i* P	**Pn**	**12 11 31.0**	**-0.3**
UDYN				*i* S	**Sn**	**12 12 02.5**	**-1.1**
	comp=N,470nm,0.6s						
LBOS		**3.14**	**38**	⇑*i*P	**Pn**	**12 11 37.9**	**0.0**
LBOS				*i* S	**Sn**	**12 12 16.2**	**+0.8**
DHBB	**Dhamar BB**	**3.35**	**19**	⇓*i*P	**Pn**	**12 11 40.6**	**-0.3**
DHBB				*i* S	**Sn**	**12 12 21.7**	**+0.9**
BDHA	**Al Bayda'**	**3.42**	**41**	⇑*i*P	**Pn**	**12 11 42.0**	**+0.3**
BDHA				*i* S	**Sn**	**12 12 23.3**	**+1.1**
BDHA				AML	AML	12 12 55.1	
	comp=N,335nm,0.5s						
BDHA	**Al Bayda'**	**3.42**	**41**	⇑*i*P	**Pn**	**12 11 42.0**	**+0.3**
BDHA				*i* S	**Sn**	**12 12 23.3**	**+1.1**
	comp=N,167nm,0.5s						
DESE	**Dese**	**3.58**	**266**	*e*PN	**Pn**	**12 11 43.4**	**-0.6**
DESE				*e*S	**Sn**	**12 12 27.4**	**+1.1**
HAJJ	**Hajjah**	**4.31**	**4**	*i* P	**Pn**	**12 11 53.6**	**-0.3**
HAJJ				*i* S	**Sn**	**12 12 44.4**	**+0.1**

*IDC **21** 12:11:29.4±1.1, 005S×1264E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=131.6km s-min=17.5km az=67.0*
*NEIC **21** 12:11:30.9±0.5, 009S×1262E, h10km, mb4.1/4, Error ellipse: s-maj=36.4km s-min=8.5km az=66.0*
*ISCJB **21** 12:11:32.4±0.6, 01S±01×1262E±03, h33km, mb3.9/10, Error ellipse: s-maj=41.1km s-min=9.6km az=132.2*

ISC 21 12:11:34.8±0.6, 01S±01×1263E±03, h35km, n17, σ0§76/17, mb3.9/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.27**	**159**	*e*P	**P**	**12 16 17.8**	**-0.2**
	7.4nm,1.1s,mb3.9						
WRA	**Warramunga Arr**	**21.27**	**159**	P	**P**	**12 16 17.7**	**-0.4**
	0.6nm,0.2s,mb3.5,baz=336,slow=10,SNR=35						
WB2	**Warramunga Arr**	**21.28**	**159**	*e*P	**P**	**12 16 18.2**	**+0.1**
WB2				*e*S	S	12 19 37.6	-35
WB2	**Warramunga Arr**	**21.28**	**159**	*e*P	**P**	**12 16 17.9**	**-0.2**
WB2				*e*P		12 16 18.2	
WB2				*e*S	S	12 19 37.6	-35
AS31	**Alice Springs**	**24.60**	**163**	*e*P	**P**	**12 16 52.3**	**+0.7**
ASAR	**Alice Springs**	**24.60**	**163**	P	**P**	**12 16 52.6**	**+1.1**
	0.9nm,0.3s,mb3.7,baz=346,slow=12,SNR=26						
ASPA	**Alice Springs**	**24.60**	**163**	*e*P	**P**	**12 16 52.3**	**+0.7**
STKA	**Stephens Creek**	**34.80**	**157**	*e*P	**P**	**12 18 20.3**	**-1.8**
	2.2nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**34.80**	**157**	P	**P**	**12 18 19.9**	**-2.2**
	0.6nm,0.3s,mb4.1,baz=328,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**34.80**	**157**	*e*P	**P**	**12 18 19.8**	**-2.3**
ULN	**Ulaanbaatar**	**50.59**	**343**	*e*P	**P**	**12 20 30.4**	**+0.4**
	2.7nm,1.0s,mb4.1						
SONM	**Songino Array**	**50.75**	**343**	P	**P**	**12 20 31.5**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=156,slow=7.6,SNR=10						
DGAR	**Diego Garcia**	**54.15**	**261**	*e*P	**P**	**12 20 56.2**	**-0.2**
	90nm,0.9s						
MKAR	**Makanchi Array**	**60.43**	**327**	P	**P**	**12 21 41.6**	**+0.9**
	0.8nm,0.4s,mb4.2,baz=122,slow=7.3,SNR=28						
KURK	**Kurchatov**	**64.70**	**329**	*e*P	**P**	**12 22 08.9**	**-0.4**
	4.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**70.25**	**328**	P	**P**	**12 22 44.1**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=134,slow=8.6,SNR=3.8						
ZRNK	**Zerenda**	**70.96**	**327**	*e*P	**P**	**12 22 47.8**	**-0.9**
	1.4nm,0.8s,mb3.9						

*ISCJB **21** 12:20:22.7±1.1, 3940N±008×7796E±006, h10km, mb3.3/3, Error ellipse: s-maj=10.8km s-min=7.2km az=4.8*
*NNC **21** 12:20:22.8±6.1, 3959N×7892E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=55.6km s-min=32.3km az=179.0*
*IDC **21** 12:20:25.6±2.1, 3990N×7748E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.3/20, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=63.5km s-min=24.6km az=138.0*
*BJI **21** 12:20:28.6, 4007N×7759E, h13km, ML3.6*

ISC 21 12:20:23.1±1.1, 3929N±008×7800E±006, h10km, n20, σ1§24/22, mb3.3/3, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.59**	**279**	PG	**Pg**	**12 20 52.6**	**-0.9**
KSH				SG	**Sg**	**12 21 14.1**	**0.0**
KSH				Smax			
	comp=N,330nm,0.7s						
KSH				Smax			
	comp=E,220nm,0.7s						
ULHL	**Ulahol**	**3.24**	**336**	P	**Pn**	**12 21 13.1**	**-0.8**
	SNR=13						
KZA	**Kyzart**	**3.48**	**324**	P	**Pn**	**12 21 19.1**	**+1.9**
	SNR=50						
UCH	**Uchtor**	**3.95**	**319**	P	**Pn**	**12 21 23.6**	**-0.1**
	SNR=11						
KNDC	**Almaty**	**4.00**	**349**	⇓Pn	**Pn**	**12 21 20.1**	**-4.2**
	comp=E,632nm,0.7s						
KNDC				⇑Sn	**Sn**	**12 22 14.2**	**+3.0**
	comp=E,2μm,0.9s						
TKM2	**Tokmak 2**	**4.05**	**334**	P	**Pn**	**12 21 24.0**	**-1.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**4.05**	**334**	⇑

MAN 21 13:13:23.3, 903N×12647E, h1km, mb2.3, ML3.9, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.84**	**266**	*e*P	Pg	13 13 40.1	+0.6
BUTP				*e*S	Sg	13 13 54.8	+4.3
BIPH	**Bislig**	**0.85**	**188**	⇑*i*P	Pg	13 13 38.0	-1.6
BIPH				*i*S	Sg	13 13 48.1	-2.6
SCPH	**Surigao**	**1.23**	**308**	⇓*e*P	Pg	13 13 46.9	+0.1
BUKP	**Musuan**	**1.81**	**231**	*e*P	Pn	13 13 56.2	+0.7
BUKP				*e*S	Sn	13 14 20.5	+1.4

*IDC **21** 13:21:43.9±3.9, 4548N×151.19E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/20, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=161.9km s-min=33.1km az=156.0*
*ISCJB **21** 13:22:01.0±0.9, 453N±0.1×1494E±02, h224km±11km, mb3.1/3, Error ellipse: s-maj=26.2km s-min=9.4km az=88.6*
*JMA **21** 13:22:01.9±0.5, 4522N×14954E, h181km, M3.6*
ISC 21 13:22:02.7±1.0, 453N±01×1493E±02, h226km±13km, n27, σ1§12/39, mb3.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.17**	**234**	P	**Pn**	**13 22 54.3**	**-1.3**
NEM2				*e*S	**S**	**13 23 35.5**	**-1.8**
JRA	**Rausu**	**3.25**	**247**	P	**Pn**	**13 22 56.3**	**-0.2**
JNK	**Nakash**	**3.67**	**244**	P	**Pn**	**13 23 01.4**	**0.0**
JAK	**Akkeshi**	**4.00**	**237**	P	**Pn**	**13 23 05.0**	**-0.4**
JAK				*e*S	**S**	**13 23 54.5**	**-0.5**
JTKR	**Abashiri--Toko**	**4.04**	**253**	P	**Pn**	**13 23 06.0**	**+0.1**
JMP	**Maruseppu**	**4.41**	**256**	P	**Pn**	**13 23 10.6**	**+0.3**
JAR	**Ashorobuto**	**4.42**	**246**	P	**Pn**	**13 23 11.5**	**+1.0**
JOB	**Onbets**	**4.57**	**241**	P	**Pn**	**13 23 13.0**	**+0.6**
JOB				*e*S	**S**	**13 24 08.5**	**+0.8**
JKK2	**Kamakawa 2**	**4.87**	**256**	P	**Pn**	**13 23 17.1**	**+1.1**
ASAJ	**Asahikawa**	**4.90**	**259**	Pn	**Pn**	**13 23 17.6**	**+1.2**
2.8nm,0.3s,baz=79,slow=14,SNR=35							
JCH	**Churui**	**5.02**	**240**	P	**Pn**	**13 23 18.2**	**+0.2**
JCH				*e*S	**S**	**13 24 17.1**	**-0.7**
JEM	**Erimo**	**5.50**	**236**	P	**Pn**	**13 23 24.9**	**+0.9**
JBT2	**Biratori 2**	**5.57**	**246**	P	**Pn**	**13 23 26.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**5.58**	**240**	P	**Pn**	**13 23 24.5**	**-0.5**
JNBK				*e*S	**S**	**13 24 28.2**	**-2.3**
JNB	**Noboribetsu**	**6.58**	**248**	P	**Pn**	**13 23 38.4**	**+0.8**
JNB				*e*S	**S**	**13 24 54.7**	**+1.3**
JKB	**Kayabe**	**6.87**	**243**	P	**Pn**	**13 23 41.4**	**0.0**
JKB				*e*S	**S**	**13 24 58.2**	**-2.0**
JYM2	**Yakumo 2**	**7.18**	**247**	P	**Pn**	**13 23 46.1**	**+0.8**
JSR	**Shiriuchi**	**7.45**	**243**	*e*S	**S**	**13 25 13.3**	**-0.5**
JTM	**Tenmabayashi**	**7.49**	**236**	P	**Pn**	**13 23 49.1**	**-0.3**
JTM				*e*S	**S**	**13 25 11.9**	**-2.9**
JANG	**Nango**	**7.51**	**232**	P	**Pn**	**13 23 49.5**	**-0.1**
JANG				*e*S	**S**	**13 25 13.1**	**-2.0**
OFUJ	**Ofunato**	**8.37**	**225**	P	**Pn**	**13 24 02.1**	**+1.5**
OFUJ				*e*S	**S**	**13 25 36.1**	**+0.8**
JRG	**Rokugo**	**8.68**	**231**	P	**Pn**	**13 24 06.0**	**+1.5**
JRG				*e*S	**S**	**13 25 43.5**	**+1.0**
JIO	**Ouri**	**9.01**	**224**	P	**Pn**	**13 24 09.2**	**+0.4**
JIO				*e*S	**S**	**13 25 50.6**	**+0.2**
ILAR	**Eielson Array**	**39.37**	**37**	P	**P**	**13 29 06.9**	**-3.4**
0.9nm,1.0s,mb3.3,baz=268,slow=7.6,SNR=7.4							
YKA	**Yellowknife Ar**	**53.70**	**35**	P	**P**	**13 30 59.3**	**-2.0**
0.3nm,0.7s,mb3.0,baz=298,slow=7.1,SNR=7.7							
PDAR	**Pinedale Array**	**67.78**	**51**	P	**P**	**13 32 36.0**	**0.0**
0.3nm,0.6s,mb3.1,baz=298,slow=3.7,SNR=4.0							
TRBA	**At Turbah**	**91.08**	**290**	*i*P	**P**	**13 34 33.7**	**-7.8**
TRBA				*e*		13 34 33.8	
baz=216,slow=12							
TRBA				*i*S		13 35 01.5	
TRBA				AML	AML	13 35 02.6	
comp=N,44nm,0.3s							

CASC 21 13:27:33.9±2.3, 1106N×8639W, h1km±4km, MD3.9, ML3.9, 8C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.58**	**67**	⇓*e*P	Pg	13 27 46.5	+1.4
CONN	**Concepcion**	**0.91**	**56**	⇑*e*P	Pg	13 27 51.8	+0.5
APON	**Apoyo**	**0.91**	**21**	⇑*e*P	Pg	13 27 52.3	+1.0
MADN	**Villa Maderas**	**0.91**	**68**	⇑*e*P	Pg	13 27 52.4	+1.0
MASN	**Masaya**	**0.95**	**14**	*e*P	Pg	13 27 52.8	+0.7
MASN				*e*S	Sg	13 28 06.6	+2.1
TICN	**Ticuantepe**	**0.98**	**9**	⇑*e*P	Pg	13 27 53.5	+0.8
XAVN	**Gruta Xavier**	**1.08**	**3**	*e*P	Pg	13 27 55.3	+0.6
MGAN	**Managua**	**1.09**	**8**	⇑*e*P	Pg	13 27 54.9	+0.1
MGAN				*e*S	Sg	13 28 11.1	+2.1
comp=E,1μm,0.6s							
WILN	**Americas 2**	**1.11**	**10**	*e*P	Pg	13 27 55.0	-0.2
WILN				⇑*e*P		13 27 55.2	
WILN				*e*S	Sg	13 28 11.8	+2.1
comp=N,8μm,0.3s							
COPN	**Copaltepe**	**1.13**	**350**	⇑*e*P	Pg	13 27 55.3	-0.3
COPN				*e*S	Sg	13 28 12.3	+2.1
comp=Z,3μm,0.3s							
APYN	**Apoyeque**	**1.17**	**2**	⇑*e*P	Pg	13 27 56.5	+0.2
APYN				*e*S	Sg	13 28 13.4	+2.0
LIM1	**Limonal**	**1.18**	**108**	*i*P	Pg	13 27 55.2	-1.2
LIM1				*i*S	Sg	13 28 11.8	+0.2
MOMJ	**Momotombo**	**1.35**	**354**	*e*P	Pg	13 27 58.3	-1.4
MIRN	**Miramar**	**1.41**	**347**	*e*P	Pn	13 27 59.0	-1.7
MIRN				*e*S	Sg	13 28 18.6	-0.5
comp=Z,2μm,0.3s							
LEON	**Leon**	**1.43**	**340**	*e*P	Pn	13 27 60.0	-1.1
CNGN	**Cerro Negro**	**1.46**	**348**	*e*P	Pn	13 28 00.3	-1.1
TEL3	**Telica 3**	**1.57**	**344**	⇓*e*P	Pn	13 28 01.5	-1.4
JTS	**JuntasAbangare**	**1.61**	**118**	*e*S	Sn	13 28 25.7	+0.8
VACR	**Volcan Arenal**	**1.78**	**109**	*e*P	Pn	13 28 05.2	-0.7
CAO	**Cobano**	**1.85**	**137**	*e*P	Pn	13 28 08.3	+1.5
CAO				*e*S	Sn	13 28 33.4	+2.5
CGA2	**Cerro Gallo 2**	**2.16**	**118**	*e*P	Pn	13 28 11.8	+0.8
CGA2				*e*S	Sn	13 28 40.1	+1.6
PRS1	**Puriscal**	**2.31**	**117**	*e*P	Pn	13 28 13.9	+0.8
LAJ	**Bijagual**	**2.53**	**118**	*e*P	Pn	13 28 11.9	-4.2
LAJ				*e*S	Sn	13 28 43.7	-4.0
BUS	**Buena Vista**	**2.99**	**120**	*e*P	Pn	13 28 25.1	+2.6

*ATH **21** 13:28:35.1, 4041N×2618E, h5km, MD3.1/3*
*SOF **21** 13:28:44.7, 4033N×2618E, h5km, MD2.7*
*CSEM **21** 13:28:46.6±0.1, 4039N×2615E, h5km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.8km az=55.0*
*ISCJB **21** 13:28:47.2±0.5, 4039N±003×2615E±003, h5km, Error ellipse: s-maj=4.3km s-min=3.6km az=66.2*
*NEIC **21** 13:28:48.0, 4045N×2601E, h29km, MD2.7(SOF), MD3.1(ATH), MD3.2(ISK), After ISK.*
*ISK **21** 13:28:49.7, 4040N×2621E, h28km, MD3.0*
ISC 21 13:28:47.7±0.9, 4038N±003×2613E±005, h7km±6km, n24, σ0§77/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.85**	**69**	*e*PG	**Pg**	**13 29 04.6**	**+0.6**
RKY				*e*SG	**Sg**	**13 29 15.9**	**+0.8**
SART	**Tekirdag**	**0.85**	**69**	*i*P	**Pg**	**13 29 03.8**	**-0.3**
SART				*i*S	**Sg**	**13 29 16.1**	**+1.0**
SART	**Tekirdag**	**0.85**	**69**	*i*P	**Pg**	**13 29 03.8**	**-0.3**
SART				*i*S	**Sg**	**13 29 16.1**	**+0.9**
LIA	**Limnos Island**	**0.88**	**237**	*e*PB	**Pb**	**13 28 52.8**	**-12**
LIA				*e*SB	**Sb**	**13 29 05.3**	**-12**
RDO	**Rodhopi**	**0.89**	**329**	*e*PB	**Pb**	**13 28 52.2**	**-13**
RDO				*e*SB	**Sb**	**13 29 04.5**	**-13**
MFT	**Murefte**	**0.96**	**65**	PG	**Pg**	**13 29 06.4**	**+0.2**
MFT				SG	**Sg**	**13 29 19.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.14**	**78**	PG	**Pg**	**13 29 08.4**	**-1.1**
MRMT				SG	**Sg**	**13 29 22.9**	**-1.3**
PRK	**Paraskevi**	**1.14**	**175**	*e*PB	**Pb**	**13 28 57.3**	**-12**
AYVA	**Ayvalik**	**1.16**	**158**	*i*P	**Pg**	**13 29 09.3**	**-0.5**
AYVA				*i*S	**Sg**	**13 29 25.7**	**+0.8**
EDC	**Edincik**	**1.32**	**91**	*e*PN	**Pn**	**13 29 12.5**	**-0.1**
BNT	**Bandirma**	**1.36**	**91**	*e*PN	**Pn**	**13 29 12.8**	**-0.4**
BNT				*e*SN	**Sn**	**13 29 29.3**	**-2.3**
KDZ	**Kurdzhali**	**1.38**	**337**	*i*P	**Pn**	**13 29 13.0**	**-0.3**
KDZ				*i*S	**Sb**	**13 29 32.0**	**+0.4**
BALB	**Balikesir**	**1.53**	**118**	*e*PN	**Pn**	**13 29 15.4**	**-0.1**
EDRB	**Edirne**	**1.53**	**17**	*e*PN	**Pn**	**13 29 15.6**	**+0.1**
BTOK	**Tokmak**	**1.58**	**113**	*i*P	**Pn**	**13 29 16.7**	**+0.5**
BTOK				*i*S	**Sn**	**13 29 38.1**	**+1.2**
RZN	**Rozhen**	**1.69**	**321**	*i*P	**Pn**	**13 29 17.0**	**-0.6**
RZN				*i*S	**Sn**	**13 29 41.5**	**+2.0**
KCT	**Karacabey**	**1.70**	**93**	*e*PN	**Pn**	**13 29 17.5**	**-0.4**
CTT	**Catalca**	**1.90**	**66**	*e*PN	**Pn**	**13 29 20.5**	**-0.1**
AKS	**Akhisar**	**1.98**	**139**	*e*PN	**Pn**	**13 29 21.7**	**0.0**
URLA	**Izmir**	**2.05**	**170**	*i*P	**Pn**	**13 29 22.5**	**-0.1**
URLA				*i*S	**Sn**	**13 29 49.1**	**+0.6**
IZM	**Izmir**	**2.17**	**156**	*e*PN	**Pn**	**13 29 24.6**	**+0.4**
MMB	**Musomiste**	**2.18**	**304**	*i*P	**Pn**	**13 29 24.0**	**-0.4**
MMB				*i*S	**Sn**	**13 29 57.0**	**+5.3**
HRT	**Hereke**	**2.73**	**80**	*e*PN	**Pn**	**13 29 31.8**	**-0.1**
KKB	**Krupnik**	**2.74**	**304**	*i*P	**Pn**	**13 29 31.0**	**-1.1**

IDC 21 13:37:11.6±1.8, 444N×12775E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=159.4km s-min=19.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.08**	**165**	P	P	13 42 37.7	0.0
1.1nm,0.6s,baz=345,slow=10.0,SNR=18							
WB2	**Warramunga Arr**	**25.09**	**165**	*e*P	P	13 42 38.0	+0.3
ASAR	**Alice Springs**	**28.57**	**168**	P	P	13 43 09.8	+0.6
0.2nm,0.4s,baz=344,slow=12,SNR=7.0							
STKA	**Stephens Creek**	**38.45**	**161**	P	P	13 44 35.2	+0.3
1.5nm,0.7s,baz=348,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	13 47 02.9	0.0
0.7nm,0.6s,baz=117,slow=8.1,SNR=18							
BVAR	**Borovoye Array**	**67.28**	**327**	P	P	13 48 08.4	+0.3
0.5nm,0.8s,baz=94,slow=13,SNR=2.7							

*ISCJB **21** 13:45:39.7±0.5, 2185N±003×12164E±007, h113km±5km, mb3.9/15, Error ellipse: s-maj=10.6km s-min=4.9km az=29.1*
*NEIC **21** 13:45:39.8±0.9, 2183N×12178E, h100km±8km, mb4.2/6, Error ellipse: s-maj=23.6km s-min=6.7km az=68.0*
*JMA **21** 13:45:42.0±0.3, 2195N×12184E, h154km, M3.0*
*IDC **21** 13:45:45.0±6.9, 2168N×12143E, h145km±67km, mb3.5/10, mb1 3.6/10, mb1mx3.4/20, mbtmp3.9/10, Error ellipse: s-maj=27.4km s-min=12.6km az=71.0*
ISC 21 13:45:41.1±0.5, 2186N±003×12164E±007, h109km±5km, n31, σ0§90/41, mb3.9/15, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.30**	**359**	*e*Pn	**Pn**	**13 46 16.6**	**-1.3**
NACB				*e*Sn	**Sn**	**13 46 43.3**	**-2.8**
YHNB	**Yeheng**	**2.81**	**355**	*e*Pn	**Pn**	**13 46 24.6**	**+0.1**
YHNB				*e*Sn	**Sn**	**13 46 52.7**	**-5.1**
YOJ	**Yonaguni jima**	**2.88**	**26**	P	**Pn**	**13 46 26.7**	**+1.3**
YOJ				S	**Sn**	**13 46 59.8**	**+0.2**
HATJ	**Hateruma jima**	**2.96**	**42**	P	**Pn**	**13 46 27.1**	**+0.6**
HATJ				*e*S	**Sn**	**13 47 01.9**	**+0.5**
TATO	**Taipei**	**3.10**	**357**	*e*Pn	**Pn**	**13 46 27.0**	**-1.3**
IRIF	**Iriomote-Funau**	**3.12**	**38**	P	**Pn**	**13 46 29.0**	**+0.3**
IRIF				*e*S	**Sn**	**13 47 06.1**	**+0.7**
JKRS	**Kuro-shima**	**3.22**	**42**	P	**Pn**	**13 46 30.5**	**+0.6**
JKRS				*e*S	**Sn**	**13 47 07.8**	**+0.2**
JIJ	**Ishigaki jima**	**3.39**	**42**	P	**Pn**	**13 46 32.2**	**0.0**
JIJ				S	**Sn**	**13 47 11.4**	**-0.4**
JTJ	**Tarama**	**3.95**	**45**	P	**Pn**	**13 46 40.1**	**+0.5**
JTJ				*e*S	**Sn**	**13 47 23.8**	**-1.2**
APYP	**Conner**	**4.00**	**185**	*e*P	**Pn**	**13 46 42.3**	**+2.0**
APYP				*e*S	**Sn**	**13 47 24.3**	**-1.9**
ABRA	**Dolores**	**4.28**	**192**	*e*P	**Pn**	**13 46 44.7**	**+0.6**
ABRA				*e*S	**Sn**	**13 47 33.8**	**+0.7**
MJAR	**Matsushiro Arr**	**20.52**	**41**	P	**P**	**13 50 14.7**	**+4.1**
1.8nm,0.7s,baz=232,slow=7.7,SNR=7.3							
ASAJ	**Asahikawa**	**28.16**	**33**	P	**P**	**13 51 27.3**	**+4.3**
3.0nm,0.6s,mb4.0,baz=216,slow=8.7,SNR=5.1							
ULN	**Ulaanbaatar**	**28.47**	**339**	*e*P	**P**	**13 51 26.0**	**+0.2**
1.5nm,0.4s,mb3.9							
SONM	**Songino Array**	**28.67**	**338**	P	**P**	**13 51 27.7**	**+0.2**
1.8nm,0.6s,mb3.9,baz=157,slow=9.8,SNR=17							
MKAR	**Makanchi Array**	**40.31**	**318**	P	**P**	**13 53 08.6**	**+0.9**
0.9nm,0.6s,mb3.8,baz=104,slow=9.7,SNR=18							
WRAB	**Tennant Creek**	**43.36**	**162**	*e*P	**P**	**13 53 31.9**	**-0.6**
1.9nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**43.36**	**162**	P	**P**	**13 53 31.7**	**-0.8**
1.3nm,0.6s,mb3.5,baz=344,slow=9.0,SNR=19							
WB2	**Warramunga Arr**	**43.37**	**162**	*e*P	**P**	**13 53 31.3**	**-1.2**
KURK	**Kurchatov**	**44.15**	**321**	*e*P	**P**	**13 53 38.4**	**-0.3**
2.4nm,0.9s,mb3.9							
AS31	**Alice Springs**	**46.80**	**165**	*e*P	**P**	**13 54 00.0**	**+0.3**
ASAR	**Alice Springs**	**46.80**	**165**	P	**P**	**13 53 59.9**	**+0.2**
0.8nm,0.3s,mb3.9,baz=343,slow=7.3,SNR=67							
ASPA	**Alice Springs**	**46.80**	**165**	*e*P	**P**	**13 54 00.0**	**+0.3**
BVAR	**Borovoye Array**	**49.74**	**322**	P	**P**	**13 54 23.0**	**+0.7**
0.6nm,0.5s,mb3.8,baz=111,slow=9.8,SNR=6.3							
ZRNK	**Zerenda**	**50.52**	**321**	*e*P	**P**	**13 54 28.8**	**+0.7**
2.1nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**56.75**	**160**	P	**P**	**13 55 12.0**	**-1.5**
0.8nm,0.5s,mb4.0,baz=351,slow=7.7,SNR=4.3							
STKA	**Stephens Creek**	**56.75**	**160**	*e*P	**P**	**13 55 11.7**	**-1.8**
ARU	**Arti**	**57.22**	**324**	*e*P	**P**	**13 55 17.2**	**+0.4**
2.5nm,0.5s,mb4.5							
MCK	**McKinley**	**70.39**	**28**	P	**P**	**13 56 42.5**	**-0.7**
5.3nm,1.2s,mb4.2							
NOA	**NORSAR Array B**	**80.47**	**332**	P	**P**	**13 57 40.9**	**+0.1**
0.4nm,0.5s,mb3.5,baz=61,slow=5.3,SNR=2.2							
YKA	**Yellowknife Ar**	**84.94**	**23**	P	**P**	**13 58 04.0**	**+0.1**
0.3nm,0.6s,mb3.4,baz=311,slow=4.7,SNR=11							

*BER **21** 13:46:10.9±3.9, 6053N×2889E, h0km, ML2.1(NAO), Suspected explosion*
*NAO **21** 13:46:10.6±2.8, 6041N×2873E, ML2.1*
HEL 21 13:46:09.7±0.5, 6058N×2917E, h0km, ML1.7, ML2.1(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.80**	**267**	*e*P	Pg	13 46 24.6	-0.4
VJF				*e*S	Sg	13 46 34.7	-0.7
PVF	**Pernaja**	**1.63**	**270**	*e*P	Pn	13 46 37.9	-1.8
PVF				*e*S	Sn	13 46 59.4	-2.0
FIA0	**FINESS Array S**	**1.73**	**301**	*e*P	Pn	13 46 39.9	-1.1
FIA0				*e*S	Sn	13 47 02.7	-1.2
FIA0	**FINESS Array S**	**1.73**	**301**	Pn	Pn	13 46 40.0	-1.1
baz=123,slow=16							
FIA0				Lg		13 47 03.5	
baz=116,slow=28							
FIA0				Rg		13 47 11.4	
baz=122,slow=37							
KAF	**Kangasniemi**	**2.06**	**319**	*e*P	Pn	13 46 45.6	+0.1
KAF				*e*S	Sn	13 47 12.1	+0.1
KAF				MSG		13 47 15.2	
comp=Z,5.7nm,0.2s							
SUF	**Sumiainen**	**2.58**	**327**	MSG		13 47 30.1	
comp=Z,3.1nm,0.2s							
KEF	**Keuruu**	**2.61**	**309**	MSG		13 47 31.2	
comp=Z,1.4nm,0.2s							
HFS	**Hagfors**	**7.69**	**273**	Lg		13 50 05.7	
baz=95,slow=56							
HFS	**Hagfors**	**7.69**	**273**	*e*SG	Sg	13 50 05.7	-11
HFS	**Hagfors**	**7.69**	**273**	Lg		13 50 05.7	
baz=95,slow=56							
NB2	**NORSAR Subarra**	**8.78**	**281**	*e*P	Pn	13 48 16.1	-1.9
NB2				*e*		13 50 34.1	
ARA0	**ARCESS Array S**	**9.12**	**352**	Pn	Pn	13 48 21.7	-0.8
baz=164,slow=14							
ARA0	**ARCESS Array S**	**9.12**	**352**	*e*P	Pn	13 48 21.7	-0.8

*ISCJB **21** 14:02:30.4±0.7, 4039N±002×26.11E±004, h2km±5km, Error ellipse: s-maj=5.2km s-min=3.4km az=121.2*
*CSEM **21** 14:02:31.2±0.1, 4038N×2621E, h5km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.8km az=88.0*
*ISK **21** 14:02:31.5, 4024N×2599E, h46km, MD3.3*
*NEIC **21** 14:02:32.0, 4032N×2620E, h22km, MD3.1(ISK), MD3.4(ATH), After ISK.*
*ATH **21** 14:02:32.0, 4040N×2611E, h29km±2km, MD3.3/4*
ISC 21 14:02:31.6±0.7, 4039N±002×2613E±004, h10km±5km, n20, σ1§01/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.58**	**165**	*i*PG	**Pg**	**14 02 42.8**	**-0.1**
EZN				*i*SG	**Sg**	**14 02 51.1**	**+0.5**
SART	**Tekirdag**	**0.86**	**69**	*i*P	**Pg**	**14 02 47.3**	**-0.8**
SART				*i*S	**Sg**	**14 02 58.8**	**-0.6**
LIA	**Limnos Island**	**0.87**	**236**	*e*PN	**Pn**	**14 02 49.2**	**-0.8**
LIA				*e*SN	**Sn**	**14 03 01.3**	**-1.5**
RDO	**Rodhopi**	**0.88**	**330**	*e*PN	**Pn**	**14 02 48.7**	**-1.4**
RDO				*e*SN	**Sn**	**14 03 01.5**	**-1.4**
PRK	**Paraskevi**	**1.15**	**174**	*e*PN	**Pn**	**14 02 54.1**	**+0.3**
PRK				*e*SN	**Sn**	**14 03 09.4**	**-0.1**
AYVA	**Ayvalik**	**1.16**	**158**	*i*P	**Pb**	**14 02 53.6**	**-0.3**
AYVA				*i*S	**Sb**	**14 03 09.7**	**+0.7**
EDC	**Edincik**	**1.33**	**91**	*e*PN	**Pn**	**14 02 56.2**	**-0.1**
EDC				*e*SN	**Sn**	**14 03 13.8**	**-0.2**
BNT	**Bandirma**	**1.37**	**91**	*e*PN	**Pn**	**14 02 56.0**	**-0.8**
KDZ	**Kurdzhali**	**1.37**	**337**	*i*P	**Pn**	**14 02 57.0**	**+0.2**
KDZ				*i*S	**Sb**	**14 03 16.0**	**+1.1**
EDRB	**Edirne**	**1.53**	**18**	*e*PN	**Pn**	**14 02 59.8**	**+0.8**
BALB	**Balikesir**	**1.54**	**118**	*e*PN	**Pn**	**14 02 57.9**	**-1.3**
BTOK	**Tokmak**	**1.59**	**113**	*i*P	**Pn**	**14 03 00.8**	**+1.0**
BTOK				*i*S	**Sn**	**14 03 23.1**	**+2.6**
RZN	**Rozhen**	**1.68**	**321**	*i*P	**Pn**	**14 03 03.0**	**+1.9**
RZN				*i*S	**Sn**	**14 03 24.0**	**+1.3**
CTT	**Catalca**	**1.91**	**66**	*e*PN	**Pn**	**14 03 04.8**	**+0.6**
NVR	**Nevrokopi**	**1.97**	**300**	*e*PN	**Pn**	**14 03 05.3**	**+0.2**
AKS	**Akhisar**	**1.99**	**139**	*e*PN	**Pn**	**14 03 03.3**	**-2.1**
URLA	**Izmir**	**2.06**	**170**	*i*P	**Pn**	**14 03 05.3**	**-1.0**
URLA				*i*S	**Sn**	**14 03 33.3**	**+1.3**
DST	**Dursunbey**	**2.08**	**111**	*e*PN	**Pn**	**14 03 05.7**	**-0.8**
KDAG	**Bornova**	**2.17**	**156**	*i*P	**Pg**	**14 03 13.3**	**0.0**
KDAG				*i*S	**Sg**	**14 03 42.6**	**+1.2**
VTS	**Vitosha**	**3.11**	**316**	*i*Sg	**Sg**	**14 04 12.0**	**+0.6**

*NEIC **21** 14:02:45.9, 3895S×175.10E, h212km, MG3.8(WEL), After WEL.*
WEL 21 14:02:44.7±0.2, 3901S×17505E, h224km±1km, ML3.8/5, 7C-3D, Error ellipse: s-maj=2.8km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.26**	**243**	PN	Pn	14 03 13.4	-0.5
VRZ				SN	S	14 03 35.9	-0.8
VRZ	**Vera Road**	**0.26**	**243**	P	Pn	14 03 13.4	-0.5
VRZ				S	S	14 03 31.1	-5.6
TWVZ	**Taurewa**	**0.30**	**102**	⇑PN	Pn	14 03 13.8	-0.1
TWVZ				SN	S	14 03 36.2	-0.7
TWVZ	**Taurewa**	**0.30**	**102**	P	Pn	14 03 13.8	-0.2
PKVZ	**Pokaka**	**0.36**	**141**	⇑PN	Pn	14 03 14.2	0.0
PKVZ				*e*SN	S	14 03 36.7	-0.4
WPVZ	**Whakapapa**	**0.43**	**117**	⇑PN	Pn	14 03 14.5	+0.2
WPVZ				SN	S	14 03 37.0	-0.5
WPVZ	**Whakapapa**	**0.43**	**117**	P	Pn	14 03 14.5	+0.2
WTVZ	**West Tongariro**	**0.43**	**104**	PN	Pn	14 03 14.5	+0.2
WTVZ	**West Tongariro**	**0.43**	**104**	P	Pn	14 03 14.5	+0.2
MTVZ	**Mangateitei**	**0.49**	**139**	PN	Pn	14 03 14.6	+0.1
MOVZ	**Moawhango**	**0.67**	**126**	PN	Pn	14 03 15.1	-0.1
MOVZ				*e*SN	S	14 03 37.5	-1.5
MOVZ	**Moawhango**	**0.67**	**126**	P	Pn	14 03 15.1	-0.1
WAZ	**Wanganui**	**0.75**	**184**	⇑PN	Pn	14 03 15.9	+0.4
WAZ				SN	S	14 03 39.6	0.0
WAZ	**Wanganui**	**0.75**	**184**	P	Pn	14 03 15.9	+0.4
PKE	**Pukeiti**	**0.85**	**257**	PN	Pn	14 03 15.7	-0.4
PKE	**Pukeiti**	**0.85**	**257**	P	Pn	14 03 15.7	-0.3
BKZ	**Black Stump Fm**	**1.13**	**98**	⇓PN	Pn	14 03 17.5	-0.3
BKZ				*e*SN	S	14 03 41.9	-1.6
BKZ	**Black Stump Fm**	**1.13**	**98**	P	Pn	14 03 17.5	-0.2
TSZ	**Takapari Road**	**1.26**	**146**	PN	Pn	14 03 18.9	+0.3
TSZ				SN	S	14 03 44.6	-0.6
TSZ	**Takapari Road**	**1.26**	**146**	P	Pn	14 03 19.1	+0.5
MRZ	**Mangatainoka R**	**1.70**	**166**	⇑PN	Pn	14 03 22.0	-0.2
MRZ				SN	S	14 03 50.5	-1.0
MRZ	**Mangatainoka R**	**1.70**	**166**	P	Pn	14 03 22.0	-0.2
PXZ	**Pawanui**	**1.73**	**127**	PN	Pn	14 03 22.7	+0.2
URZ	**Urewera**	**1.78**	**66**	⇓PN	Pn	14 03 21.2	-1.7
URZ				SN	S	14 03 48.6	-4.2
URZ	**Urewera**	**1.78**	**66**	P	Pn	14 03 21.2	-1.7
**KI

ROCH				*i* S	Sb	14 13 43.2 +0.3
ILCH	**Illapel**	**0.93**	**31**	*e*P	Pn	14 13 33.7 +0.2
ILCH				*i* S	Sn	14 13 46.4 +0.7
ILCH				AMP		14 13 49.5
comp=N,915nm,0.3s						
ILCH	**Illapel**	**0.93**	**31**	*e*P	Pn	14 13 33.7 +0.2
ILCH				*i* S	Sn	14 13 46.4 +0.7
JACH	**Jahuel**	**1.00**	**105**	⇑*i*P	Pn	14 13 34.8 +0.4
JACH				*i* S	Sn	14 13 48.8 +1.4
LCCH	**Las Cruces**	**1.05**	**172**	⇑*i*P	Pn	14 13 35.1 -0.1
LCCH				*i* S	Sn	14 13 49.3 +0.5
PEL	**Peldehue**	**1.13**	**129**	⇑*i*P	Pn	14 13 37.0 +0.6
PEL				*i* S	Sn	14 13 51.7 +0.9
PEL				AMP		14 13 53.2
comp=E,4μm,0.3s						
PEL	**Peldehue**	**1.13**	**129**	⇑*i*P	Pn	14 13 37.0 +0.6
PEL				*i* S	Sn	14 13 51.7 +0.9
RCDM	**Rinconada Maip**	**1.31**	**144**	*e*P	Pn	14 13 39.6 +0.8
RCDM				*i* S	Sn	14 13 56.7 +1.4
RCDM				AMP		14 13 58.7
comp=N,1μm,0.1s						
RCDM	**Rinconada Maip**	**1.31**	**144**	*e*P	Pn	14 13 39.6 +0.8
RCDM				*i* S	Sn	14 13 56.7 +1.4
SAN	**Santiago**	**1.36**	**139**	*i* S	Sn	14 13 58.3 +1.8
TACH	**Talagante**	**1.39**	**151**	*e*P	Pn	14 13 40.7 +0.9
CMCH	**Combarbala**	**1.40**	**27**	*e*P	Pn	14 13 40.9 +0.9
CMCH				*i* S	Sn	14 13 59.1 +1.7
CMCH				AMP		14 14 01.6
comp=E,2μm,0.4s						
CMCH	**Combarbala**	**1.40**	**27**	*e*P	Pn	14 13 40.9 +0.9
CMCH				*i* S	Sn	14 13 59.1 +1.7
ANTU	**Antumapu**	**1.47**	**141**	*e*P	Pn	14 13 42.0 +1.2
ANTU				*i* S	Sn	14 14 01.0 +2.0
ANTU				AMP		14 14 06.3
comp=N,969nm,0.6s						
ANTU	**Antumapu**	**1.47**	**141**	*e*P	Pn	14 13 42.0 +1.2
ANTU				*i* S	Sn	14 14 01.0 +2.0
FCH	**Farellones**	**1.51**	**127**	⇓*i*P	Pn	14 13 42.7 +1.2
FCH				*i* S	Sn	14 14 03.0 +2.9
FCH				AMP		14 14 05.6
comp=E,553nm,0.3s						
PCH	**Pirque**	**1.57**	**140**	*e*P	Pn	14 13 43.8 +1.4
CHCH	**Chadas Angostu**	**1.75**	**149**	*e*P	Pn	14 13 46.6 +1.8
LMEL	**Las Melosas**	**1.91**	**138**	*e*P	Pn	14 13 48.5 +1.5
LMEL				*i* S	Sn	14 14 13.1 +3.1
CACH	**El Canelo**	**1.93**	**151**	*e*P	Pn	14 13 49.8 +2.5
SFDO	**San Fernando**	**2.26**	**165**	*e*P	Pn	14 13 53.0 +1.2

*MOS **21** 14:27:30.3±1.8,3579N×6975E,h33km,mb4.4/1,Error ellipse: s-maj=17.0km s-min=9.2km az=94.7*
*IDC **21** 14:27:35.6±15.0,3594N×7007E,h75km±143km,mb3.2/4, mb1 3.4/7,mb1mx3.2/23,mbtmp3.6/7,ML3.3/3,Error ellipse: s-maj=90.3km s-min=31.2km az=4.0*
*ISCJB **21** 14:27:38.7±1.3,3611N±007×7011E±01,h124km±14km, mb3.2/3,Error ellipse: s-maj=19.0km s-min=5.3km az=116.9*
*NEIC **21** 14:27:38.8±1.7,3606N×7011E,h104km±15km,mb4.1/7, Error ellipse: s-maj=22.0km s-min=5.2km az=59.0*
*NNC **21** 14:27:46.8±7.9,3673N×7005E,h127km±114km,mb3.1, mpv3.7,Error ellipse: s-maj=63.1km s-min=38.4km az=23.0*

ISC 21 14:27:40.0±1.2,3611N±007×701E±01,h120km±12km,n37, σ0§92/44,mb3.2/3,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.93**	**127**	*e*P	**Pn**	**14 29 07.1**	**+1.7**
THN				*e*S	**Sn**	**14 30 12.1**	**0.0**
AML	**Almayashu** SNR=32	**6.63**	**24**	P	**Pn**	**14 29 15.4**	**+0.5**
KK31	**Karatay Array** 1.8nm,0.3s,baz=174,slow=11,SNR=140	**6.99**	**3**	P	**Pn**	**14 29 18.7**	**-1.1**
KK31	3.2nm,0.3s,baz=190,slow=23,SNR=9.4			⇑S	**Sn**	**14 30 32.3**	**-5.4**
KKAR	**Karatay Array**	**6.99**	**3**	P	**Pn**	**14 29 18.7**	**-1.1**
KKAR						14 30 32.3	
KKAR	comp=Z,1.0nm,0.2s			pmax	pmax		
UCH	**Uchtor** SNR=7.4	**7.01**	**28**	P	**Pn**	**14 29 20.3**	**+0.3**
EKS2	**Erkin-Say** SNR=14	**7.14**	**22**	P	**Pn**	**14 29 23.5**	**+1.8**
KZA	**Kyzart** SNR=7.1	**7.18**	**32**	P	**Pn**	**14 29 23.4**	**+1.0**
AAK	**Ala-Archa**	**7.35**	**26**	*e*P	**Pn**	**14 29 23.8**	**-0.9**
AAK	comp=Z,3.0nm,0.4s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,2.8nm,0.4s	**7.35**	**26**	*e*P	**Pn**	**14 29 23.8**	**-0.9**
SMLA	**Simla**	**7.71**	**128**	*e*P	**Pn**	**14 29 30.9**	**+1.4**
SMLA				*e*S	**Sn**	**14 30 52.0**	**-3.3**
USP	**Ospenovka** SNR=5.9	**7.91**	**24**	P	**Pn**	**14 29 33.2**	**+0.9**
TKM2	**Tokmak 2** comp=Z,2.6nm,0.6s	**8.02**	**30**	⇑P	**Pn**	**14 29 32.6**	**-1.1**
TKM2				⇓S	**Sn**	**14 30 55.9**	**-6.8**
MK31	**Makanchi Array** comp=Z,1.2nm,0.8s,baz=216,slow=10,SNR=12	**14.04**	**37**	⇓P	**Pn**	**14 30 57.9**	**+4.4**
MKAR	**Makanchi Array** comp=Z,0.0nm,0.3s,baz=223,slow=15,SNR=6.2	**14.04**	**37**	P	**Pn**	**14 30 53.2**	**-0.3**
MKAR	**Makanchi Array**	**14.04**	**37**	P	**Pn**	**14 30 53.2**	**-0.3**
KOLN	**Koldanda** comp=Z,6.6nm,0.4s	**14.16**	**122**	*e*P	**Pn**	**14 30 54.9**	**-0.1**
GKN	**Gorkha** comp=Z,6.3nm,0.3s	**14.74**	**119**	*e*P	**Pn**	**14 31 01.5**	**-0.9**
GKN				*e*S	**Sn**	**14 33 35.5**	**-10**
AB31	**Akbulak array** comp=Z,1.8nm,0.5s,baz=154,slow=12,SNR=61	**15.09**	**334**	P	**Pn**	**14 31 05.3**	**-1.5**
AB31	comp=Z,1.0nm,0.7s,baz=151,slow=23,SNR=5.7			⇑S	**S**	**14 33 43.1**	**-19**
AB31	**Akbulak array** comp=Z,1.0nm,0.3s	**15.09**	**334**	*e*P	**Pn**	**14 31 05.2**	**-1.6**
AB31				pmax	pmax		
DMN	**Daman**	**15.30**	**119**	*e*P	**Pn**	**14 31 08.7**	**-0.8**
KKN	**Kakani**	**15.32**	**119**	*e*P	**Pn**	**14 31 09.2**	**-0.5**
PKI	**Pulchoki**	**15.54**	**119**	*e*P	**Pn**	**14 31 12.4**	**-0.1**
GUN	**Gumba** comp=Z,6.3nm,0.4s	**15.68**	**117**	*e*P	**Pn**	**14 31 13.8**	**-0.4**
JIRN	**Jiri** comp=Z,13nm,0.3s	**16.05**	**117**	*e*P	**Pn**	**14 31 18.1**	**-0.6**
AKTK	**Aktyubinsk**	**16.77**	**332**	P	**Pn**	**14 31 27.4**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,0.5nm,0.8s	**16.77**	**332**	⇑P	**Pn**	**14 31 26.9**	**-0.6**
AKTO	comp=Z,0.2nm,0.8s			⇑S	**S**	**14 34 26.5**	**-8.0**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=137,slow=13,SNR=13	**16.77**	**332**	P	**Pn**	**14 31 27.4**	**-0.2**
ZRNK	**Zerenda**	**16.85**	**358**	*e*P	**Pn**	**14 31 28.7**	**+0.1**
ZRNK	comp=Z,1.0nm,0.3s			pmax	pmax		
ZRNK	**Zerenda** comp=Z,1.0nm,0.3s	**16.85**	**358**	*e*P	**Pn**	**14 31 28.7**	**+0.1**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=171,slow=10,SNR=3.7	**16.91**	**1**	P	**Pn**	**14 31 28.7**	**-0.6**
BRVK	**Borovoye**	**16.95**	**0**	P	**Pn**	**14 31 31.4**	**+1.7**
LSA	**Lhasa**	**18.79**	**104**	*e*P	**P**	**14 31 49.3**	**-0.6**
LSA	comp=Z,6.0nm,0.4s			pmax	pmax		
LSA	**Lhasa** comp=Z,6.0nm,0.4s	**18.79**	**104**	*e*P	**P**	**14 31 49.3**	**-0.6**
ZAL	**Zalesovo** comp=Z,1.5nm,0.4s,baz=214,slow=4.6,SNR=7.3	**20.56**	**25**	P	**P**	**14 32 09.9**	**+0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,mb3.5,baz=47,slow=5.7,SNR=4.1	**64.97**	**268**	P	**P**	**14 38 07.7**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,mb3.2,baz=327,slow=5.0,SNR=2.9	**82.41**	**121**	P	**P**	**14 39 49.2**	**+0.5**
ASAR	**Alice Springs** comp=Z,0.1nm,0.6s,mb3.0,baz=310,slow=4.5,SNR=5.1	**84.64**	**124**	P	**P**	**14 40 00.8**	**+0.7**

*THE **21** 14:38:46.6,3910N×2421E,h12km,ML2.7*
*ISCJB **21** 14:38:47.3±0.7,3914N±004×2417E±004,h20km±6km, Error ellipse: s-maj=6.8km s-min=5.0km az=113.9*
*CSEM **21** 14:38:47.0±0.1,3910N×2421E,h20km,ML2.7,Error ellipse: s-maj=3.2km s-min=2.0km az=143.0*
*ATH **21** 14:38:47.2,3915N×2416E,h32km±4km,MD3.1/11,ML3.2*
*NEIC **21** 14:38:47.2,3915N×2416E,h32km,ML3.2(ATH),After ATH.*

ISC 21 14:38:47.0±0.7,3915N±004×2416E±004,h17km±4km,n21, σ0§99/28,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.22**	**275**	*e*Pg	**Pg**	**14 38 51.9**	**-0.1**
AOS				*e*Sg	**Sg**	**14 38 56.4**	**+0.9**
NEO	**Neokhori**	**0.74**	**282**	*e*PN	**Pn**	**14 39 02.5**	**-0.2**
NEO				*e*SN	**Sn**	**14 39 13.3**	**-0.3**
XOR	**Xorichti** comp=Z,9.0nm,0.2s	**0.78**	**286**	*e*Pg	**Pg**	**14 39 02.7**	**+0.5**
XOR				*e*Sg	**Sg**	**14 39 14.3**	**+1.7**
PAIG	**Paliouri**	**0.86**	**335**	*e*Pg	**Pg**	**14 39 04.0**	**+0.3**
PAIG				*e*Sg	**Sg**	**14 39 17.5**	**+2.4**
LKR	**Lokris**	**1.03**	**242**	*e*PN	**Pn**	**14 39 06.6**	**-0.1**
LKR				*e*SN	**Sn**	**14 39 20.9**	**+0.1**
MPAR	**Parnis Oros**	**1.05**	**199**	*e*PN	**Pn**	**14 39 06.8**	**-0.2**
LOS	**Limnos**	**1.06**	**42**	*e*Pg	**Pg**	**14 39 06.4**	**-1.0**
LOS				*e*Sg	**Sg**	**14 39 21.2**	**-0.2**
LIA	**Limnos Island**	**1.09**	**46**	*e*PN	**Pn**	**14 39 07.5**	**0.0**
PTL	**Penteli**	**1.12**	**192**	*e*PN	**Pn**	**14 39 07.8**	**-0.1**
OUR	**Ouranopolis** comp=Z,3.5nm,0.3s	**1.19**	**353**	*e*Pg	**Pg**	**14 39 08.9**	**-1.0**
ATH	**Athens Observa**	**1.23**	**197**	*e*PN	**Pn**	**14 39 09.8**	**+0.4**
PLG	**Polygyros**	**1.34**	**336**	*e*PN	**Pn**	**14 39 11.3**	**+0.4**
KVR	**Kavouri**	**1.36**	**193**	*e*PN	**Pn**	**14 39 11.5**	**+0.4**
AGG	**Agios Georgios**	**1.43**	**265**	*e*Pg	**Pg**	**14 39 12.0**	**-2.5**
AGG				*e*Sg	**Sg**	**14 39 31.6**	**-1.6**
NAIG	**Nisos Aigina**	**1.49**	**201**	*e*PN	**Pn**	**14 39 14.0**	**+1.1**
LIT	**Litokhoron**	**1.60**	**307**	*e*Pb	**Pb**	**14 39 14.5**	**-1.6**
PRK	**Paraskevi**	**1.64**	**86**	*e*PN	**Pn**	**14 39 16.0**	**+0.9**
SOH	**Sokhos**	**1.78**	**340**	*e*Pb	**Pb**	**14 39 16.9**	**-2.2**
SRS	**Serrai**	**2.01**	**348**	*e*Pn	**Pn**	**14 39 20.6**	**+0.5**
NVR	**Nevrokopi**	**2.21**	**354**	*e*PN	**Pn**	**14 39 23.5**	**+0.6**
GRG	**Griva**	**2.25**	**324**	*e*Pn	**Pn**	**14 39 24.0**	**+0.5**

IDC 21 14:40:49.4±2.3,185N×12716E,h0km,mb3.2/3,mb1 3.5/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=182.1km s-min=26.2km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=341,slow=11,SNR=5.5	**22.77**	**162**	P	P	14 45 53.3	-0.1
ASAR	**Alice Springs** 0.1nm,0.4s,baz=344,slow=11,SNR=6.8	**26.20**	**166**	P	P	14 46 26.5	+0.8
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=114,slow=8.4,SNR=5.6	**59.34**	**326**	P	P	14 50 53.2	0.0

*NEIC **21** 14:47:03.8,2916S×7124W,h47km,MD4.1(GUC),After GUC.*

GUC 21 14:47:03.8±0.7,2916S×7124W,h47km,MD4.1,ML4.1,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.96**	**24**	*e*P	Pn	14 47 37.1	+2.6
CPCH				*i* S	Sn	14 48 01.1	+3.2
CPCH				AMP		14 48 05.4	
comp=E,6μm,0.1s							
CPCH	**Copiapo**	**1.96**	**24**	*e*P	Pn	14 47 37.1	+2.6
CPCH				*i* S	Sn	14 48 01.1	+3.2
CMCH	**Combarbala**	**2.01**	**174**	*e*P	Pn	14 47 36.4	+1.1
CMCH				*i* S	Sn	14 48 00.7	+1.4
CMCH				AMP		14 48 01.6	
comp=E,2μm,0.3s							
CMCH	**Combarbala**	**2.01**	**174**	*e*P	Pn	14 47 36.4	+1.1
CMCH				*i* S	Sn	14 48 00.7	+1.4
CDCH	**Caldera**	**2.11**	**10**	⇑*i*P	Pn	14 47 37.1	+0.5
CDCH				*i* S	Sn	14 48 02.2	+0.5
CRCH	**Chaqaral**	**2.86**	**11**	*i* P	Pn	14 47 47.7	+0.8
CRCH				*i* S	Sn	14 48 20.6	+0.5
CRCH				AMP		14 48 22.8	
comp=N,165nm,0.1s							
CRCH	**Chaqaral**	**2.86**	**11**	*i* P	Pn	14 47 47.7	+0.8
CRCH				*i* S	Sn	14 48 20.6	+0.5
JACH	**Jahuel**	**3.55**	**171**	*i* P	Pn	14 47 58.2	+1.8
JACH				*i* S	Sn	14 48 38.6	+1.5
PEL	**Peldehue**	**4.00**	**173**	*e*P	Pn	14 48 03.2	+0.7
PEL				*i* S	Sn	14 48 48.8	+0.7
FCH	**Farellones**	**4.23**	**169**	*e*P	Pn	14 48 09.3	+3.6
FCH				*i* S	Sn	14 48 57.2	+3.4
RCDM	**Rinconada Maip**	**4.33**	**175**	*e*P	Pn	14 48 07.6	+0.6
RCDM				*i* S	Sn	14 48 56.0	-0.2
CPN1	**Cerro Paranal**	**4.58**	**10**	*i* S	Sn	14 49 01.0	-1.4

IDC 21 15:00:11.9±2.3,091N×12605E,h0km,mb3.2/3,mb1 3.5/3, mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=225.7km s-min=26.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=337,slow=12,SNR=3.2	**22.26**	**159**	P	P	15 05 09.7	-0.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=12,SNR=7.2	**25.60**	**163**	P	P	15 05 43.8	+1.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=131,slow=8.5,SNR=4.7	**59.49**	**327**	P	P	15 10 16.8	+0.1

MEX 21 15:04:58.5±0.4,1804N×9942W,h62km±6km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.22**	**239**	*i* P	Pn	15 05 07.1	-1.2
MEIG				*i* S	Sn	15 05 13.9	-1.4
PLIG	**Platanillo**	**0.36**	**347**	*i* P	Pn	15 05 08.1	-1.1
PLIG				*i* S	Sn	15 05 15.4	-1.7
ACX	**Acapulco**	**1.26**	**202**	*e*P	Pn	15 05 18.5	-1.5
ACX				*i* S	Sn	15 05 33.5	-2.6
PPM	**Popocatepetl**	**1.27**	**36**	*i* P	Pn	15 05 19.4	-0.7
PPM				*i* S	Sn	15 05 35.0	-1.2

*IDC **21** 15:10:17.0±0.5,3172N×9508E,h0km,mb4.5/24, mb1 4.6/26,mb1mx4.6/28,mbtmp4.5/26,ML3.6/2,MS3.9/18, Ms1 3.9/18,ms1mx3.8/30,Error ellipse: s-maj=18.1km s-min=10.7km az=39.0*
*ISCJB **21** 15:10:17.4±1.0,3169N±002×9504E±002,h15km±7km, mb4.7/74,MS4.1/33,Error ellipse: s-maj=4.2km s-min=3.0km az=176.9*
*NEIC **21** 15:10:18.1±2.0,3172N×9505E,h5km±12km,mb4.9/21, Error ellipse: s-maj=4.8km s-min=4.0km az=173.0*
*HRVD **21** 15:10:18.1±0.4,3175N×9513E,h14km±2km,MW4.9/48, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s48,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.16; $M_{\theta\theta}$-0.08±.11; $M_{\phi\phi}$0.65±.11; $M_{r\theta}$-1.00±.33; $M_{\theta\phi}$1.37±.09; $M_{\phi r}$1.95±.45; Best double couple: $M_0$2.58800×10^{16} NP1:ϕ_s70.00000°,δ36.00000°,λ-13.00000°. NP2: ϕ_s171.00000°,δ82.00000°,λ-125.00000°. Principal axes: T 2.2400, Plg28.0000°, Azm289.0000°; N 0.6980, Plg35.0000°, Azm177.0000°; P -2.9370, Plg42.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **21** 15:10:19.5±0.7,3194N×9455E,h10km,Mb4.9/12,Ms3.7/7 Error ellipse: s-maj=30.8km s-min=6.9km az=135.0*
*BJI **21** 15:10:19.2,3174N×9504E,h25km,mB4.9,mb4.7,ML4.6, Ms4.8,Msz4.5*
*MOS **21** 15:10:20.1±0.8,3168N×9507E,h33km,mb5.0/32, MS4.1/11,Error ellipse: s-maj=7.2km s-min=5.3km az=105.5*
*SZGRF **21** 15:10:32.9,3177N×9297E,h33km,mb4.6,Xizang*
*NAO **21** 15:10:46.5,3468N×9275E,h33km,mb3.8*

ISC 21 15:10:21.9±1.0,3173N±002×9502E±002,h31km±7km, h39km±5.2km:pP-P,n228,σ1§10/260,mb4.7/74,MS4.1/33, 10C-6D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.90**	**240**	PG	**Pn**	**15 11 24.5**	**+4.9**
LSA				S	**Sn**	**15 12 11.5**	**+7.2**
LSA				Smax			
comp=N,160nm,1.0s							
LSA				Smax			
comp=E,260nm,0.9s							
LSA	**Lhasa**	**3.90**	**240**	Pn	**Pn**	**15 11 23.9**	**+4.2**
SHL	**Shillong**	**6.73**	**205**	*e*P	**Pn**	**15 12 02.9**	**+4.4**
SHL				*e*S	**Sn**	**15 13 14.2**	**+0.1**
SHL				*e*S	**Sn**	**15 13 16.0**	**+1.9**
CD2	**Chengdu**	**7.52**	**94**	P	**Pn**	**15 12 11.8**	**+2.4**
CD2				S	**Sn**	**15 13 35.8**	**+2.2**
CD2				LR	LR		
comp=N,4μm,10.8s							
CD2				LR	LR		
comp=Z,2μm,9.6s							
AGT	**Agartala**	**8.49**	**204**	*i* P	**Pn**	**15 12 28.0**	**+5.2**
AGT				*i* x	x	15 13 05.0	
LZH	**Lanzhou**	**8.53**	**57**	*e*P	**Pn**	**15 12 23.8**	**+0.6**
LZH				AP		15 12 31.8	
LZH				S	**Sn**	**15 13 58.8**	**+0.5**
LZH				XS		15 14 09.8	
LZH				SS		15 14 17.6	
LZH				AMB	AMB		
comp=Z,59nm,1.0s							
LZH				AMB	AMB		
comp=Z,322nm,4.1s							
LZH				LR	LR		
comp=E,6μm,8.3s							
LZH				LR	LR		
comp=Z,8μm,11.6s							
GTA	**Gaotai**	**8.60**	**26**	P	**Pn**	**15 12 24.6**	**+0.3**
GTA				AP		15 12 34.9	
GTA				XP		15 12 38.8	
GTA				S	**Sn**	**15 13 57.8**	**-2.4**
GTA				LG2		15 14 41.3	
GTA				AMB	AMB		
comp=Z,8.0nm,1.4s							
GTA				AMB	AMB		
comp=Z,77nm,5.7s							
GTA				LR	LR		
comp=N,1μm,14.1s							
GTA				LR	LR		
comp=E,3μm,11.8s							
GTA				LR	LR		
comp=Z,983nm,11.8s							
JIRN	**Jiri**	**8.68**	**244**	*e*Pn	**Pn**	**15 12 26.1**	**+0.8**
JIRN				*e*Sn	**Sn**	**15 14 01.1**	**-1.1**
comp=Z,87nm,0.9s							
JIRN	**Jiri**	**8.68**	**244**	*e*Pn	**Pn**	**15 12 26.1**	**+0.8**
comp=Z,44nm,0.9s							
JIRN				*e*Sn	**Sn**	**15 14 01.1**	**-1.1**
GUN	**Gumba**	**8.80**	**247**	*e*Pn	**Pn**	**15 12 26.7**	**-0.3**
GUN				*e*Sn	**Sn**	**15 14 03.7**	**-1.4**
comp=Z,159nm,0.9s							
GUN	**Gumba**	**8.80**	**247**	*e*Pn	**Pn**	**15 12 26.7**	**-0.3**
comp=Z,79nm,0.9s							
GUN				*e*Sn	**Sn**	**15 14 03.7**	**-1.4**
KKN	**Kakani**	**9.33**	**248**	*e*Pn	**Pn**	**15 12 33.4**	**-0.8**
KKN				*e*Sn	**Sn**	**15 14 15.0**	**-3.0**
comp=Z,165nm,1.1s							
KKN	**Kakani**	**9.33**	**248**	*e*Pn	**Pn**	**15 12 33.4**	**-0.8**
comp=Z,82nm,1.1s							
KKN				*e*Sn	**Sn**	**15 14 15.0**	**-3.0**
PKI	**Pulchoki**	**9.33**	**246**	*e*Pn	**Pn**	**15 12 33.8**	**-0.4**
PKI				*e*Sn	**Sn**	**15 14 15.3**	**-2.8**
comp=Z,118nm,1.1s							
PKI	**Pulchoki**	**9.33**	**246**	*e*Pn	**Pn**	**15 12 33.8**	**-0.4**
comp=Z,59nm,1.1s							
PKI				*e*Sn	**Sn**	**15 14 15.3**	**-2.8**
KMI	**Kunming**	**9.46**	**132**	P	**Pn**	**15 12 36.9**	**+1.0**
KMI				PP		15 12 48.8	
KMI				S	**Sn**	**15 14 25.0**	**+3.8**
KMI				AMB	AMB		
comp=Z,9.0nm,0.8s							
KMI				AMB	AMB		
comp=Z,106nm,3.9s							
KMI				LR	LR		
comp=N,3μm,8.2s							
KMI				LR	LR		
comp=E,2μm,10.6s							
KMI				LR	LR		
comp=Z,4μm,9.8s							
DMN	**Daman**	**9.55**	**247**	*e*Pn	**Pn**	**15 12 36.4**	**-0.8**
DMN				*e*Sn	**Sn**	**15 14 20.1**	**-3.3**
comp=Z,152nm,1.0s							
DMN	**Daman**	**9.55**	**247**	*e*Pn	**Pn**	**15 12 36.4**	**-0.8**
comp=Z,76nm,1.0s							
DMN				*e*Sn	**Sn**	**15 14 20.1**	**-3.3**
GKN	**Gorkha**	**9.75**	**250**	*e*Pn	**Pn**	**15 12 38.7**	**-1.2**
GKN				*e*Sn	**Sn**	**15 14 24.9**	**-3.4**
comp=Z,52nm,0.8s							
GKN	**Gorkha**	**9.75**	**250**	*e*Pn	**Pn**	**15 12 38.7**	**-1.2**
comp=Z,26nm,0.8s							
GKN				*e*Sn	**Sn**	**15 14 24.9**	**-3.4**
KOLN	**Koldanda**	**10.68**	**251**	*e*Pn	**Pn**	**15 12 51.6**	**-1.1**
KOLN				*e*Sn	**Sn**	**15 14 46.8**	**-4.3**
comp=Z,63nm,0.8s							
KOLN	**Koldanda**	**10.68**	**251**	*e*Pn	**Pn**	**15 12 51.6**	**-1.1**
comp=Z,32nm,0.8s							
KOLN				*e*Sn	**Sn**	**15 14 46.8**	**-4.3**
CAL	**Calcutta**	**10.91**	**215**	*ex*	x	15 15 32.3	
CAL				*ex*	x	15 16 11.1	
CAL				*ex*	x	15 16 11.1	
BOK	**Bokaro**	**11.30**	**228**	*e*P	**Pn**	**15 13 00.6**	**-0.6**
BOK				AMb	AMB	15 13 06.2	
comp=Z,16nm,0.5s							
BOK				*e*S	**Sn**	**15 14 57.1**	**-9.4**
GYA	**Guiyang**	**11.45**	**114**	⇑*i*P	**Pn**	**15 13 02.9**	**-0.4**
GYA				XP		15 13 17.5	
GYA				AMB	AMB		
comp=Z,40nm,0.7s							
GYA				AMB	AMB		
comp=Z,160nm,3.0s							
GYA				LR	LR		
comp=N,4μm,9.5s							
GYA				LR	LR		
comp=E,3μm,10.5s							
GYA				LR	LR		
comp=Z,4μm,10.8s							
XAN	**Xi'an**	**11.91**	**75**	P	**Pn**	**15 13 09.5**	**-0.1**
XAN				LG2		15 16 20.0	
XAN				AMB	AMB		
comp=Z,21nm,2.2s							
XAN				LR	LR		
comp=N,3μm,14.8s							
XAN				LR	LR		
comp=E,1μm,14.5s							
XAN				LR	LR		
comp=Z,3μm,10.0s							
ENH	**Enshi**	**12.50**	**93**	Pn	**Pn**	**15 13 17.0**	**-0.6**
WMQ	**Urumqi**	**13.38**	**337**	P	**Pn**	**15 13 31.3**	**+1.6**
WMQ				AP		15 13 40.0	
WMQ				S	**Sn**	**15 16 00.0**	**+2.7**
WMQ				SS		15 16 16.0	
WMQ				AMB	AMB		
comp=Z,15nm,0.8s							
WMQ				AMB	AMB		
comp=Z,105nm,3.0s							
WMQ				LR	LR		
comp=N,658nm,6.0s							
WMQ				LR	LR		
comp=E,897nm,6.0s							
WMQ				LR	LR		
comp=Z,485nm,5.0s							
DDI	**Dehra Dun**	**14.62**	**269**	*ex*	x	15 13 44.7	
BTO	**Baotou**	**14.99**	**50**	*e*P	**Pn**	**15 13 56.3**	**+4.7**
BTO				S	**Sn**	**15 16 37.3**	**+0.7**
BTO				AMB	AMB		
comp=Z,29nm,1.0s							
BTO				LR	LR		
comp=N,499nm,5.1s							
BTO				LR	LR		
comp=E,1μm,10.8s							
NDI	**New Delhi**	**15.69**	**263**	*e*P	**Pn**	**15 14 01.0**	**+0.4**
JBP	**Jabalpur**	**15.83**	**241**	*e*P	**Pn**	**15 14 01.0**	**-1.4**
JBP				*

comp=Z,4μm,10.2s
NST Nakhon Sawan 16.65 163 P Pn 15 14 14.0 +1.1
KKTK Khon Kaen 16.89 153 P Pn 15 14 19.0 +3.1
comp=Z,309nm,0.8s
KSH Kashi 17.31 302⇑ iP Pn 15 14 23.9 +2.8
KSH AP pP 15 14 32.1 +1.6
KSH XP sP 15 14 38.3 +3.9
KSH S **Sn 15 17 32.4 -0.4**
KSH XS sS 15 17 47.0 -6.7
KSH SS 15 17 55.6
KSH AMB AMB
comp=Z,150nm,2.6s
KSH LR LR
comp=N,2μm,7.5s
KSH LR LR
comp=E,2μm,7.9s
VIS Vishakhapatnam 17.51 220 eP Pn 15 14 27.5 +3.9
VIS AMb AMB 15 14 30.2
comp=Z,31nm,1.5s
BHPL Bhopal 17.74 246 eP Pn 15 14 24.9 -1.6
BHPL ex x 15 17 30.2
MK31 Makanchi Array 17.95 331 i P Pn 15 14 26.3 -2.8
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 17.95 331 P Pn 15 14 26.8 -2.3
comp=Z,0.2nm,0.3s,baz=146,slow=15,SNR=18
MKAR PcP PcP 15 19 03.5 -0.1
comp=Z,0.1nm,0.3s,baz=85,slow=1.3,SNR=4.0
MKAR ScP ScP 15 22 39.4 +2.7
comp=Z,0.1nm,0.3s,baz=100,slow=3.4,SNR=6.1
MKAR Makanchi Array 17.95 331 eP Pn 15 14 26.3 -2.8
MKAR S **Sn 15 17 47.2 -1.1**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 18.28 25 P Pn 15 14 32.3 -0.8
comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=27
SONM PcP PcP 15 19 05.0 +0.8
comp=Z,0.1nm,0.3s,baz=203,slow=2.0,SNR=6.3
QIZ Qiongzhong 18.39 130 P Pn 15 14 36.6 +2.1
QIZ S **Sn 15 17 59.0 0.0**
QIZ AMB AMB
comp=Z,241nm,6.2s
QIZ LR LR
comp=N,1μm,9.5s
QIZ LR LR
comp=E,922nm,8.8s
QIZ LR LR
comp=Z,2μm,10.4s
CHCP Chirah Chowk 18.41 282 P Pn 15 14 33.3 -1.4
ULN Ulaanbaatar 18.54 26c iP Pn 15 14 35.6 -0.7
ULN Ulaanbaatar 18.54 26 P Pn 15 14 34.9 -1.4
AJM Ajmer 18.55 259 eP Pn 15 14 35.9 -0.5
AJM AMb AMB 15 14 39.2
comp=Z,42nm,1.4s
KZA Kyzart 18.85 309 P Pn 15 14 41.7 +1.7
SNR=40
TIA Tai'an 18.86 70 eP Pn 15 14 39.8 -0.4
BJT Baijiatuau 19.00 58 eP Pn 15 14 41.9 0.0
BJT pmax pmax
comp=Z,41nm,1.4s
BJT Baijiatuau 19.00 58 eP Pn 15 14 41.9 0.0
comp=Z,41nm,1.4s
TKM2 Tokmak 2 19.02 311 P Pn 15 14 43.2 +1.1
SNR=7.8
TKM2 Tokmak 2 19.02 311 i P Pn 15 14 43.0 +0.9
TKM2 pmax pmax
comp=Z,11nm,0.9s
KBK Karagaybulak 19.31 310 P Pn 15 14 46.6 +1.0
SNR=21
UCH Uchtor 19.40 308 P Pn 15 14 47.4 +0.7
SNR=15
CEP Cherat 19.54 282 P Pn 15 14 45.6 -2.7
AAK Ala-Archa 19.60 310 P Pn 15 14 49.8 +0.9
SNR=26
AAK Ala-Archa 19.60 310c iP Pn 15 14 48.5 -0.5
AAK pmax pmax
comp=Z,69nm,1.7s
AAK MLR MLR
comp=Z,400nm,13.0s
AAK Ala-Archa 19.60 310 P Pn 15 14 47.9 -1.1
comp=Z,85nm,1.4s
FRU Bishkek 19.61 310 eP Pn 15 14 50.5 +1.4
FRU pmax pmax
comp=Z,100nm,2.1s
ZAK Zakamensk 19.63 16 eP Pn 15 14 48.1 -1.3
ZAK pmax pmax
comp=Z,33nm,1.5s
THW Thamme Wali 19.71 279 P Pn 15 14 47.4 -2.9
USP Ospenovka 19.89 311 P Pn 15 14 52.3 -0.2
SNR=7.0
AML Almayashu 19.91 307 P Pn 15 14 52.9 +0.2
SNR=32
EKS2 Erkin-Say 20.08 309 P P 15 14 54.5 +1.7
SNR=48
NJ2 Nanjing 20.24 83 eP P 15 14 54.8 +0.3
NJ2 AP 15 15 05.4
NJ2 XP sP 15 15 11.3 +4.7
NJ2 PP 15 15 15.8
NJ2 S **S 15 18 37.0 -2.9**
NJ2 XS sS 15 18 52.0 -0.9
NJ2 AMB AMB
comp=Z,20nm,1.0s
NJ2 AMB AMB
comp=Z,220nm,7.0s
NJ2 LR LR
comp=N,2μm,19.0s,MS4.6
NJ2 LR LR
comp=E,1μm,17.0s,MS4.6
NJ2 LR LR
comp=Z,590nm,17.4s,MS4.0
MOY Mondy 20.40 11 eP P 15 14 56.8 +0.5
MOY pmax pmax
comp=Z,41nm,1.9s
SBDP Sheikh Budin 20.53 278 P P 15 14 57.7 0.0
HYB Hyderabad 20.63 230 i P P 15 14 58.0 -0.7
HYB eS **S 15 18 54.0 +6.3**
HYB Hyderabad 20.63 230 eP P 15 14 58.0 -0.7
DRP Derazinda 21.10 277 P P 15 15 05.0 +1.2
IRK Irkutsk 21.59 16 eP P 15 15 09.9 +0.8
IRK eS **S 15 19 08.0 +1.4**
IRK pmax pmax
comp=Z,61nm,1.7s,mb4.8
QZH Quanzhou 21.80 102 i PR 15 15 10.8
QZH S **S 15 19 05.0 -5.6**
QZH AMB AMB
comp=Z,190nm,1.5s,mb5.3
QZH AMB AMB
comp=Z,390nm,7.0s
QZH LR LR
comp=N,810nm,7.3s
QZH LR LR
comp=E,1μm,7.9s
QZH LR LR
comp=Z,2μm,10.0s,MS4.8
SSE Sheshan 22.33 85 eP P 15 15 15.9 -1.1
SSE AP 15 15 28.0
SSE S **S 15 19 18.3 -2.6**
SSE SCS ScS 15 26 25.4 -6.6
SSE AMB AMB
comp=Z,24nm,0.9s,mb4.6
SSE AMB AMB
comp=Z,141nm,7.7s
SSE LR LR
comp=N,939nm,19.9s,MS4.2
SSE LR LR
comp=E,281nm,19.9s,MS4.2
SSE LR LR
comp=Z,639nm,17.0s,MS4.1
KK31 Karatay Array 22.45 307 i P P 15 15 18.2 -0.1
KK31 pmax pmax
comp=Z,28nm,1.0s,mb4.7
KKAR Karatay Array 22.45 307 P P 15 15 18.2 -0.1
KKAR pmax pmax
comp=Z,28nm,1.0s,mb4.7
KURK Kurchatov 22.54 332 P P 15 15 18.7 -0.5
POO Poona 23.18 241 eP P 15 15 25.0 -1.0
ZAL Zalesovo 23.38 345 P P 15 15 27.8 -0.3
comp=Z,1.8nm,0.4s,mb3.9,baz=316,slow=12,SNR=17
ZAL LR LR 15 26 24.1
comp=Z,151nm,21.9s,MS3.4,baz=310,slow=41
CIT Chita 24.40 28 eP P 15 15 36.5 -0.9
CIT pmax pmax
comp=Z,29nm,1.4s,mb4.5
NVS Novosibirsk 24.58 343 i P P 15 15 37.5 -1.6
NVS i S **S 15 19 51.9 -6.2**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.5
NVS pmax pmax
comp=N,43nm,1.7s
NVS pmax pmax
comp=E,17nm,1.3s
NVS smax
comp=N,43nm,2.0s
NVS smax
comp=E,18nm,1.8s
SNY Shenyang 24.90 58 ⇓P P 15 15 40.5 -1.5
SNY S **S 15 19 58.0 -5.2**
SNY LR LR
comp=N,380nm,11.1s,MS4.4
SNY LR LR
comp=E,660nm,14.4s,MS4.4
SNY LR LR
comp=Z,650nm,12.6s,MS4.3
HIA Hailar 25.52 39 P P 15 15 48.5 +0.9
HIA pmax pmax
comp=Z,37nm,1.3s
HIA Hailar 25.52 39 P P 15 15 48.5 +0.8
comp=Z,37nm,1.3s,mb4.8
INCN Inchon 26.57 69 P P 15 15 56.9 -0.2
comp=Z,48nm,1.1s,mb4.9
CN2 Changchun 26.75 55 ⇓P P 15 15 58.8 0.0
CN2 eAP pP 15 16 08.4 +0.8
CN2 eS **S 15 20 28.3 -4.3**
CN2 AMB AMB
comp=Z,60nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,12.0s,MS4.5
CN2 LR LR
comp=E,600nm,12.0s,MS4.5
CN2 LR LR
comp=Z,800nm,12.0s,MS4.5
KS15 Wonju Array Si 27.56 69 P P 15 16 07.0 +0.9
BVA0 Borovoye Array 27.75 327 P P 15 16 08.3 +0.5
BVA0 pmax pmax
comp=Z,1.0nm,1.1s
BVAR Borovoye Array 27.75 327 P P 15 16 08.6 +0.8
comp=Z,2.3nm,0.7s,mb3.9,baz=126,slow=9.9,SNR=11
BVAR PcP PcP 15 19 23.3 -0.5
comp=Z,0.9nm,0.6s,baz=146,slow=2.9,SNR=4.6
BRVK Borovoye 27.82 327 eP P 15 16 08.2 -0.2
ZRNK Zerenda 28.36 326 P P 15 16 12.1 -1.0
PSI Prapat 29.00 172 LR LR 15 29 15.9
comp=Z,289nm,20.4s,MS3.9,baz=180,slow=39
BOD Bodaibo 29.16 21 eP P 15 16 18.3 -1.9
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
JOW Kunigami 29.34 91 LR LR 15 29 07.2
comp=Z,387nm,19.0s,MS4.0,baz=309,slow=39
MDJ Mudanjiang 29.84 55 P P 15 16 25.8 -0.5
MDJ AP pP 15 16 36.8 +1.6
MDJ XP sP 15 16 41.1 +2.1
MDJ PCP PcP 15 19 28.8 -0.2
MDJ S **S 15 21 19.3 -1.9**
MDJ XS sS 15 21 38.3 +2.4
MDJ SCP ScP 15 23 06.6 -2.2
MDJ PCS PcS 15 23 12.4 +0.1
MDJ AMB AMB
comp=Z,6.0nm,1.3s,mb4.2
MDJ AMB AMB
comp=Z,48nm,3.8s
MDJ LR LR
comp=N,462nm,11.4s,MS4.4
MDJ LR LR
comp=E,176nm,12.7s,MS4.4
MDJ LR LR
comp=Z,629nm,13.0s,MS4.4
VLA Vladivostok 31.18 58 eP P 15 16 36.5 -1.6
VLA pmax pmax
comp=Z,40nm,1.7s,mb5.0
VLA MLR MLR
comp=Z,300nm,12.3s,MS4.2
AB31 Akbulak array 31.54 314 P P 15 16 42.1 +0.8
AB31 pmax pmax
comp=Z,11nm,1.2s,mb4.6
KLR Kul'dur 32.55 47 eP P 15 16 46.4 -3.8
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,40nm,1.4s,mb5.2
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s,MS5.2
AKTK Aktyubinsk 33.12 315 P P 15 16 56.2 +1.1
AKTK LR LR 15 32 12.9
AKTO Aktyubinsk 33.12 315 P P 15 16 56.2 +1.1
comp=Z,4.9nm,0.9s,mb4.4,baz=107,slow=8.9,SNR=13
AKTO LR LR 15 32 12.9
comp=Z,533nm,18.6s,MS4.3,baz=223,slow=40
AKTO Aktyubinsk 33.12 315 P P 15 16 56.2 +1.0
AKTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AKTO MLR MLR
comp=Z,533nm,18.6s,MS4.3
HABR Khabarovsk 34.43 49 i P P 15 17 06.0 -0.5
HABR pmax pmax
comp=Z,87nm,2.8s,mb5.2
ARU Arti 35.33 325 ⇓i P P 15 17 14.9 +0.6
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,300nm,15.0s,MS4.2
ARU Arti 35.33 325 P P 15 17 15.1 +0.9
comp=Z,37nm,1.6s,mb5.1
MAT Matsushiro 35.85 70 P P 15 17 16.9 -1.8
MAT S **S 15 23 03.6 +9.2**
MJAR Matsushiro Arr 35.85 70 P P 15 17 16.7 -2.1
comp=Z,4.7nm,1.1s,mb4.3,baz=282,slow=8.6,SNR=10
MJAR PcP PcP 15 19 46.0 +0.3
comp=Z,3.0nm,0.6s,baz=254,slow=2.6,SNR=9.0
MJAR LR LR 15 34 06.1
comp=Z,214nm,18.1s,MS4.0,baz=280,slow=40
MJAR Matsushiro Arr 35.85 70 P P 15 17 16.7 -2.0
MJAR 15 19 46.0
JHJ Hachijo jima 2 37.60 76 LR LR 15 34 39.4
comp=Z,217nm,20.6s,MS3.9,baz=16,slow=39
YAK Yakutsk 37.63 26d iP P 15 17 33.2 -0.7
YAK pmax pmax
comp=Z,15nm,0.7s,mb4.8
YAK MLR MLR
comp=Z,200nm,18.0s,MS4.0
YAK Yakutsk 37.63 26 eP P 15 17 33.4 -0.5
comp=Z,9.1nm,0.8s,mb4.6
ASAJ Asahikawa 39.01 58 P P 15 17 46.0 +0.4
comp=Z,32nm,0.9s,mb5.1,baz=259,slow=10.0,SNR=22
ASAJ Asahikawa 39.01 58 P P 15 17 46.0 +0.5
ASAJ pmax pmax
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 39.30 53ceP P 15 17 48.0 0.0
YSS pmax pmax
comp=Z,68nm,1.7s,mb5.1
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.2
YSS Yuzh-Sakhalins 39.30 53 P P 15 17 47.5 -0.4
comp=Z,54nm,1.2s,mb5.2
UMR Umm Al-Rimmam 40.51 280 eP P 15 17 58.1 +0.1
UMR AMb AMB 15 18 02.6
comp=Z,44nm,0.8s,mb5.1
KBD Kabd 40.63 279 eP P 15 17 59.5 +0.5
KBD AMb AMB 15 18 03.7
comp=Z,142nm,0.7s,mb5.7
RDF Al-Radifah 40.82 279 eP P 15 18 00.6 0.0
RDF AMb AMB 15 18 04.9
comp=Z,46nm,0.7s,mb5.2
NAY Al-Naaiem 40.99 279 eP P 15 18 02.4 +0.4
NAY AMb AMB 15 18 06.7
comp=Z,46nm,0.8s,mb5.2
GNI Garni 41.10 296 P P 15 18 06.6 +3.8
comp=Z,2.7nm,0.4s,mb4.2,baz=268,slow=6.3,SNR=10.0
GNI Garni 41.10 296 P P 15 18 06.6 +3.7
GNI pmax pmax
comp=Z,3.0nm,0.4s
GNI Garni 41.10 296 P P 15 18 04.7 +1.8
comp=Z,27nm,1.2s,mb4.8
ZEI Tsey 41.59 300 eP P 15 18 10.2 +3.3
ZEI i *PP pP 15 18 15.6 -0.4
ZEI i 15 20 02.1
GOF Gofitskoye 42.17 304 eP P 15 18 12.0 +0.4
TIXI Tiksi 43.90 15 P P 15 18 24.6 -1.0
SOC Sochi 44.60 302 eP P 15 18 28.4 -2.8
SOC e*PP pP 15 18 42.5 +2.1
SOC eS **S 15 25 02.3 -2.9**
SOC e*SS sS 15 25 23.1 +2.8
SOC eSS SS 15 28 23.6 -2.0
SOC pmax pmax
comp=Z,12nm,1.1s,mb4.6
SOC MLR MLR
comp=Z,224nm,17.0s,MS4.2
MA2 Magadan 46.01 36⇓eP P 15 18 42.0 -0.4
MA2 pmax pmax
comp=Z,23nm,1.7s,mb4.8
MA2 MLR MLR
comp=Z,200nm,15.0s,MS4.2
ANN Anapa 46.16 304 eP P 15 18 45.8 +2.2
ANN pmax pmax
comp=Z,28nm,1.7s,mb4.9
KLMR Klimovskoe 46.16 326 eP P 15 18 42.8 -0.8
KLMR pmax pmax
comp=Z,30nm,1.9s,mb4.9
KLMR MLR MLR
comp=Z,370nm,13.0s,MS4.5
MALT Malatya 46.20 295 eP P 15 18 45.8 +1.9
MALT pmax pmax
comp=Z,25nm,1.5s,mb4.9
MALT Malatya 46.20 295 eP P 15 18 45.8 +1.9
comp=Z,25nm,1.5s,mb4.9
MOS Moscow 46.27 319 eP P 15 18 42.6 -1.8
MOS pmax pmax
comp=Z,60nm,0.7s,mb5.6
OBN Obninsk 46.81 318ceP P 15 18 48.8 +0.2
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.2
SEY Seymchan 47.50 32⇑eP P 15 18 53.7 -0.4
BR131 Keskin Array S 49.62 297 P P 15 19 11.8 +1.5
BRTR Keskin Array B 49.62 297 P P 15 19 11.3 +1.0
comp=Z,4.7nm,0.9s,mb4.5,baz=94,slow=6.9,SNR=19
ANTO Ankara 50.23 298 eP P 15 19 16.4 +1.4
ANTO pmax pmax
comp=Z,13nm,1.0s,mb4.9
ANTO Ankara 50.23 298 eP P 15 19 16.4 +1.4
comp=Z,14nm,1.0s,mb4.9
EIL Elat 51.11 284 P P 15 19 23.6 +2.0
AKASG Malin Array Be 51.24 312 P P 15 19 22.4 -0.3
comp=Z,1.4nm,0.5s,mb4.2,baz=77,slow=6.6,SNR=11
VSU Vasula 52.35 322⇑iP P 15 19 33.1 +2.2
FINES FINESS Array B 52.70 326 P P 15 19 32.5 -1.0
comp=Z,2.1nm,0.9s,mb4.1,baz=72,slow=6.2,SNR=6.9
FINES LR LR 15 43 57.3
comp=Z,97nm,20.3s,MS3.8,baz=142,slow=38
KEV Kevo 53.01 336 ep P 15 19 34.8 -1.0
ARCES ARCESS Array B 53.51 336 P P 15 19 38.8 -0.6
comp=Z,3.6nm,1.0s,mb4.3,baz=90,slow=7.8,SNR=7.7
ARCES PcP PcP 15 20 45.1 -0.9
comp=Z,5.1nm,1.0s,baz=94,slow=4.9,SNR=6.4
ARCES LR LR 15 44 53.5
comp=Z,171nm,19.0s,MS4.1,baz=91,slow=39
ARCES ARCESS Array B 53.51 336 P P 15 19 38.8 -0.6
ARCES 15 20 45.1
BILL Bilibino 53.99 26 eP P 15 19 42.5 -0.5
BILL pmax pmax
comp=Z,19nm,1.3s,mb4.9
BILL Bilibino 53.99 26 eP P 15 19 42.5 -0.5
comp=Z,19nm,1.3s,mb4.9
MLR Muntele Rosu 54.12 306 P P 15 19 44.9 +0.9
comp=Z,13nm,0.9s,mb4.9,baz=105,slow=7.3,SNR=14
SUW Suwalki 54.61 317 P P 15 19 47.7 +0.3
KWP Kalwaria 55.53 311 eP P 15 19 55.0 +0.9
KWP pmax pmax
comp=Z,19nm,0.9s,mb5.1
KWP Kalwaria 55.53 311 eP P 15 19 55.0 +0.8
comp=Z,18nm,0.9s,mb5.1
STHS Stebnicka Huta 56.51 311 eP P 15 20 01.7 +0.6
SANT Santorini 56.69 295 P P 15 20 01.5 -0.9
KECS Kecovo 57.19 310 eP P 15 20 06.6 +0.7
IDI Anoyia 57.46 294 P P 15 20 07.4 -0.5
comp=Z,11nm,0.8s,mb4.9,baz=62,slow=7.9,SNR=14
FITZ Fitzroy Crossi 57.60 145 eP P 15 20 07.2 -1.6
comp=Z,7.1nm,0.9s,mb4.7
MBWA Marble Bar 57.67 152 eP P 15 20 09.4 +0.1
GVD Gavdhos 58.23 294 P P 15 20 13.4 +0.2
comp=Z,20nm,0.9s,mb5.2
VYHS Vyhne 58.26 311 eP P 15 20 14.0 +0.6
DPC Dobruska-Polom 59.42 313 eP P 15 20 22.1 +0.6
UPC Upice 59.57 313 eP P 15 20 22.8 +0.2
NB2 NORSAR Subarra 59.88 326 P P 15 20 23.8 -0.9
comp=Z,1.0nm,0.7s,mb4.0,baz=78,slow=7.4
NOA NORSAR Array B 59.88 326 P P 15 20 24.0 -0.7
comp=Z,3.0nm,1.0s,mb4.3,baz=79,slow=6.8,SNR=5.7
NOA LR LR 15 47 28.0
comp=Z,38nm,19.2s,MS3.5,baz=310,slow=37
BRG Berggiesshubel 60.75 314 i P P 15 20 31.1 +0.5
comp=Z,2.8nm,0.9s,mb4.4
BRG i 15 20 34.8
comp=Z,4.3nm,1.0s
CLL Collm 61.21 315 eP P 15 20 34.0 +0.3
comp=Z,10.0nm,1.3s,mb4.8
CLL Collm 61.21 315 eP P 15 20 34.0 +0.3
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
KHC Kasperske Hory 61.45 312 eP P 15 20 36.1 +0.7
GERES GERESS Array B 61.46 312 P P 15 20 36.1 +0.7
comp=Z,2.0nm,0.7s,mb4.3,baz=75,slow=5.7,SNR=15
GERES LR LR 15 51 08.0
comp=Z,208nm,20.5s,MS4.3,baz=84,slow=40
GRA1 Grafenberg Arr 62.76 313 eP P 15 20 45.4 +1.2
comp=Z,13nm,1.4s,mb4.9
GRF Grafenberg Arr 62.76 313 eP P 15 20 45.4 +1.2
comp=Z,13nm,1.4s,mb4.9
GRF Grafenberg Arr 62.76 313 eP P 15 20 45.4 +1.2
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.9
KMBO Kilima Mbogo 63.63 251 P P 15 20 50.3 +0.4
comp=Z,1.5nm,0.5s,mb4.3,baz=48,slow=17,SNR=6.7
KMBO LR LR 15 47 06.1
comp=Z,68nm,21.1s,MS3.8,baz=86,slow=35
KMBO Kilima Mbogo 63.63 251 P P 15 20 51.1 +1.1
WRAB Tennant Creek 63.72 138 P P 15 20 50.8 +0.3
WRA Warramunga Arr 63.72 138 P P 15 20 50.8 +0.3
comp=Z,12nm,0.8s,mb5.0,baz=331,slow=7.3,SNR=58
WB2 Warramunga Arr 63.73 138 eP P 15 20 50.7 +0.1
TNA Tin City 64.39 27 P P 15 20 55.0 +0.1
PMG Port Moresby 64.46 120 P P 15 20 56.5 +1.1
comp=Z,28nm,0.9s,mb5.3,baz=353,slow=5.8,SNR=9.4
PMG Port Moresby 64.46 120 P P 15 20 56.5 +1.1
CDF Champ du Feu 65.63 313 eP P 15 21 03.0 0.0
ASPA Alice Springs 66.46 141⇑iP P 15 21 09.0 +0.7
AS31 Alice Springs 66.46 141⇑iP P 15 21 09.0 +0.7
ASAR Alice Springs 66.46 141 P P 15 21 08.8 +0.4
comp=Z,9.6nm,0.9s,mb4.8,baz=328,slow=6.4,SNR=82
LPG La Plagne 67.04 310 eP P 15 21 12.9 +0.9
comp=Z,24nm,0.8s,mb5.0
LPL La Plagne 67.05 310 eP P 15 21 12.8 +0.8
SBF Sospel 67.21 308 eP P 15 21 14.0 +0.9
comp=Z,72nm,1.0s,mb5.4
MBDF Montbardon 67.32 309 eP P 15 21 15.0 +1.2
comp=Z,9.9nm,0.7s,mb4.7
NWAO Narrogin (SRO) 67.64 160 LR LR 15 51 11.5
comp=Z,96nm,18.6s,MS4.0,baz=59,slow=36
ORIF Oris-en-Rattie 67.83 310 eP P 15 21 16.9 -0.1
comp=Z,8.3nm,0.6s,mb4.6
ORIF eR
comp=Z,234nm,22.0s
LOR Lormes 68.20 313 eP P 15 21 18.9 -0.4
LOR eR
comp=Z,85nm,19.2s
SMRF Simiane la Rot 68.41 309 eP P 15 21 21.2 +0.6
SMF Signal de Mont 68.46 312 eP P 15 21 20.1 -0.8
comp=Z,5.1nm,0.6s,mb4.4
SSF Saint Saulge 68.50 313 eP P 15 21 21.2 0.0
VIVF Saint-Julien-l 68.64 310 eP P 15 21 22.4 +0.3
AVF Avril sur Loir 68.70 313 eP P 15 21 22.4 -0.1
comp=Z,16nm,0.9s,mb4.6
LASF Ste Croix 69.50 310 eP P 15 21 27.8 +0.4
TCF Toulx Ste Croi 69.63 312 eP P 15 21 28.4 +0.2
LDF La Druitiere 70.08 315 eP P 15 21 31.5 +0.5
CAF Calviac 70.30 311 eP P 15 21 32.9 +0.6
RJF Les Rejaudoux 70.49 312 eP P 15 21 33.8 +0.3
RJF eR
comp=Z,111nm,19.2s
GRR Gorron 70.61 315 eP P 15 21 34.1 -0.2
comp=Z,18nm,0.8s,mb4.8
MTLF Montolieu 70.88 310 eP P 15 21 36.3 +0.4

CTA	**Charters Tower**	**71.17**	**129**	*e*P	**P**	**15 21 37.9**	**+0.3**
	comp=Z,13nm,0.9s,mb4.9						
CTA	**Charters Tower**	**71.17**	**129**	P	**P**	**15 21 38.0**	**+0.4**
	comp=Z,18nm,0.9s,mb5.0,baz=316,slow=7.0,SNR=9.3						
CTA				LR	LR	15 53 20.6	
	comp=Z,91nm,19.2s,MS4.0,baz=139,slow=36						
CTA	**Charters Tower**	**71.17**	**129**	P	**P**	**15 21 38.0**	**+0.4**
CTA				pmax	pmax		
	comp=Z,18nm,0.9s						
CTA				MLR	MLR		
	comp=Z,91nm,19.2s						
COLA	**College**	**72.10**	**24***d*	*i*P	**P**	**15 21 42.9**	**-0.4**
EPF	**Esparros**	**72.25**	**310**	*e*P	**P**	**15 21 45.1**	**+1.0**
ILAR	**Eielson Array**	**72.49**	**23**	P	**P**	**15 21 44.6**	**-0.9**
	comp=Z,5.8nm,0.9s,mb4.5,baz=296,slow=5.4,SNR=53						
ILAR				LR	LR	15 57 21.3	
	comp=Z,54nm,20.9s,MS3.8,baz=212,slow=39						
ETSF	**Etsaut**	**72.90**	**310**	*e*P	**P**	**15 21 48.9**	**+0.9**
	comp=Z,16nm,0.7s,mb4.7						
SJPF	**Ste Jean**	**73.23**	**311**	*e*P	**P**	**15 21 50.1**	**+0.1**
	comp=Z,16nm,0.8s,mb4.7						
RES	**Resolute Bay**	**73.66**	**3**	P	**P**	**15 21 52.1**	**-0.4**
INK	**Inuvik**	**73.98**	**17**	*e*P	**P**	**15 21 53.7**	**-0.6**
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	**Inuvik**	**73.98**	**17**	*e*P	**P**	**15 21 53.7**	**-0.7**
	comp=Z,9.5nm,0.9s,mb4.7						
DAWY	**Dawson**	**75.41**	**22**	P	**P**	**15 22 02.4**	**-0.3**
ESDC	**Sonseca Array**	**76.70**	**308**	P	**P**	**15 22 10.2**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=48,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**77.09**	**141**⇑	*i*P	**P**	**15 22 10.3**	**-1.9**
	comp=Z,5.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**77.09**	**141**	P	**P**	**15 22 10.3**	**-1.9**
	comp=Z,6.8nm,0.8s,mb4.7,baz=330,slow=8.0,SNR=11						
STKA				LR	LR	15 59 29.8	
	comp=Z,99nm,18.5s,MS4.2,baz=24,slow=38						
LSZ	**Lusaka**	**79.25**	**245**	P	**P**	**15 22 25.1**	**+1.0**
ARMA	**Armidale**	**81.87**	**133**	*e*P	**P**	**15 22 39.9**	**+1.7**
YKW3	**Yellowknife Ar**	**83.07**	**13**	P	**P**	**15 22 43.8**	**-0.6**
YKA	**Yellowknife Ar**	**83.14**	**13**	P	**P**	**15 22 44.0**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=327,slow=5.1,SNR=46						
YKA				PKKPbc	PKKPbc	15 41 03.7	-1.9
	comp=Z,0.1nm,0.5s,baz=172,slow=2.4,SNR=6.6						
YKA				LR	LR	16 05 56.0	
	comp=Z,47nm,18.3s,MS3.9,baz=100,slow=40						
YKA	**Yellowknife Ar**	**83.14**	**13**	P	**P**	**15 22 44.0**	**-0.7**
YKA				PKKPbc	PKKPbc	15 41 03.7	-1.9
YKA				LR	LR	16 05 56.0	
TORD	**Torodi Ar. Bea**	**85.98**	**283**	P	**P**	**15 23 00.1**	**+0.9**
	comp=Z,8.0nm,0.7s,mb5.0,baz=48,slow=4.9,SNR=47						
TORD				PP	PP	15 26 21.9	+2.6
	comp=Z,1.7nm,1.0s,baz=64,slow=7.7,SNR=5.7						
BOSA	**Boshof**	**89.44**	**236**	LR	LR	16 01 13.0	
	comp=Z,67nm,18.4s,MS4.1,baz=345,slow=34						
FCC	**Fort Churchill**	**89.54**	**5**	P	**P**	**15 23 15.4**	**-0.8**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
FCC	**Fort Churchill**	**89.54**	**5**	P	**P**	**15 23 15.4**	**-0.8**
	comp=Z,4.2nm,1.1s,mb4.7						
FFC	**Flin Flon**	**92.67**	**10**	P	**P**	**15 23 30.1**	**-0.6**
DBIC	**Dimbokro**	**94.86**	**281**	P	**P**	**15 23 41.3**	**+0.5**
	comp=Z,3.7nm,0.9s,mb4.8,baz=159,slow=7.4,SNR=4.9						
DBIC				LR	LR	16 09 44.7	
	comp=Z,57nm,19.0s,MS4.1,baz=151,slow=38						

CSEM ***21*** *15:20:58.8±0.1,41°73N×25°50E,h2km,MD3.5,Error ellipse: s-maj=1.6km s-min=1.2km az=161.0*
NEIC ***21*** *15:20:59.9±0.7,41°61N×25°42E,h10km±6km,MD3.3(SOF), MD3.6(ATH),Error ellipse: s-maj=8.3km s-min=6.4km az=118.0*
ISCJB ***21*** *15:20:59.4±0.3,41°67N±002°×25°46E±002,h10km,Error ellipse: s-maj=3.1km s-min=2.3km az=165.2*
SOF ***21*** *15:20:59.3,41°71N×25°48E,h13km,MD3.3*
THE ***21*** *15:21:01.2,41°65N×25°59E,h19km,ML3.6*
ATH ***21*** *15:21:04.0,41°38N×25°22E,h3km,MD3.6/4*
ISC 21 15:20:59.8±0.3,4166N±002°×2546E±002,h10km,n70, σ19°32/92,8C-4D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.04**	**250**	*i* Pg	**Pg**	**15 21 02.5**	**+0.8**
KDZ	**Kurdzhali**	**0.04**	**250**	Pg	**Pg**	**15 21 02.5**	**+0.8**
KDZ				*i* Sg	**Sg**	**15 21 04.0**	**+1.0**
KDZ	**Kurdzhali**	**0.04**	**250**	Pg	**Pg**	**15 21 02.5**	**+0.8**
KDZ				*i* Sg	**Sg**	**15 21 04.0**	**+1.0**
DIM	**Dimitrovgrad**	**0.39**	**8**	*i* P	**Pg**	**15 21 07.0**	**-0.5**
DIM	**Dimitrovgrad**	**0.39**	**8**	*i* S	**Sg**	**15 21 15.0**	**+2.3**
DIM	**Dimitrovgrad**	**0.39**	**8**	*i* P	**Pg**	**15 21 08.0**	**+0.5**
DIM				*i* S	**Sg**	**15 21 15.0**	**+2.3**
RDO	**Rodhopi**	**0.52**	**174**⇑	*i*PG	**Pg**	**15 21 10.7**	**+0.8**
RZN	**Rozhen**	**0.56**	**273**	*i* P	**Pg**	**15 21 10.5**	**-0.2**
RZN	**Rozhen**	**0.56**	**273**	Pg	**Pg**	**15 21 11.0**	**+0.3**
RZN				Sg	**Sg**	**15 21 18.0**	**-0.1**
PLD	**Plovdiv**	**0.72**	**308**	*i* P	**Pg**	**15 21 13.0**	**-0.7**
PLD				*i* Sg	**Sg**	**15 21 22.0**	**-1.1**
ALN	**Alexandroupoli**	**0.88**	**150**	*e*Pg	**Pg**	**15 21 17.5**	**+0.7**
	comp=Z,12nm,0.3s						
ALN				*e*Sg	**Sg**	**15 21 28.6**	**+0.4**
EDRB	**Edirne**	**0.97**	**79**	P	**Pg**	**15 21 18.6**	**0.0**
JMB	**Yambol**	**1.16**	**46**	*e*Pg	**Pg**	**15 21 20.9**	**-1.1**
JMB				*e*Sg	**Sg**	**15 21 35.7**	**-1.4**
JMB	**Yambol**	**1.16**	**46**	*i* P	**Pb**	**15 21 21.0**	**-0.9**
JMB				*i* S	**Sb**	**15 21 35.0**	**-2.0**
NVR	**Nevrokopi**	**1.24**	**256**	*e*PG	**Pg**	**15 21 23.0**	**-0.7**
MMB	**Musomiste**	**1.30**	**267**	*i* P	**Pn**	**15 21 24.0**	**-0.1**
MMB	**Musomiste**	**1.30**	**267**	*i* P	**Pn**	**15 21 24.5**	**+0.4**
MMB				*i* S	**Sb**	**15 21 42.0**	**+0.8**
PGB	**Panagyurishte**	**1.31**	**313**	*i* P	**Pn**	**15 21 24.0**	**-0.2**
PGB	**Panagyurishte**	**1.31**	**313**	*i* P	**Pn**	**15 21 23.0**	**-1.2**
SRS	**Serrai**	**1.51**	**249**	*e*Pg	**Pg**	**15 21 27.6**	**-1.2**
SRS				*e*Sg	**Sg**	**15 21 48.6**	**+0.2**
PVL	**Pavlikeni**	**1.56**	**356**	*i* P	**Pn**	**15 21 26.0**	**-1.5**
PVL	**Pavlikeni**	**1.56**	**356**	*i* P	**Pn**	**15 21 27.0**	**-0.5**
SART	**Tekirdag**	**1.62**	**126**	*i* P	**Pn**	**15 21 31.3**	**+2.9**
MFT	**Murefte**	**1.63**	**122**	P	**Pn**	**15 21 28.8**	**+0.3**
OUR	**Ouranopolis**	**1.74**	**221**	*e*Pb	**Pb**	**15 21 30.3**	**-1.5**
	comp=Z,20nm,0.4s						
LOS	**Limnos**	**1.75**	**190**	*e*Pb	**Pb**	**15 21 30.5**	**-1.6**
LIA	**Limnos Island**	**1.78**	**187**⇑	*i*PG	**Pg**	**15 21 31.1**	**-2.8**
KKB	**Krupnik**	**1.79**	**277**	*i* P	**Pn**	**15 21 31.0**	**+0.2**
KKB	**Krupnik**	**1.79**	**277**	*i* P	**Pn**	**15 21 31.5**	**+0.7**
KKB				*i* Sg	**Pg**	**15 21 40.0**	**+5.8**
KKB				*i* S	**Sn**	**15 21 52.0**	**-1.6**
SOH	**Sokhos**	**1.80**	**243**	*e*Pb	**Pb**	**15 21 31.6**	**-1.2**
SOH				*e*Sb	**Sb**	**15 21 55.0**	**-0.4**
VTS	**Vitosha**	**1.92**	**300**	*i* P	**Pn**	**15 21 32.0**	**-0.5**
VTS	**Vitosha**	**1.92**	**300**	*e*Pn	**Pn**	**15 21 33.1**	**+0.6**
VTS				*e*Sn	**Sn**	**15 21 58.9**	**+2.2**
VTS	**Vitosha**	**1.92**	**300**	*i* P	**Pn**	**15 21 33.0**	**+0.5**
VTS	**Vitosha**	**1.92**	**300**	*e*Pn	**Pn**	**15 21 33.2**	**+0.7**
VTS				*e*Sn	**Sn**	**15 21 58.9**	**+2.2**
MRMT	**Marmara Adasi**	**1.93**	**123**	*e*P	**Pn**	**15 21 32.6**	**0.0**
KNT	**Kendrikon**	**1.99**	**256**	*e*Pn	**Pn**	**15 21 34.3**	**+0.8**
	comp=Z,20nm,0.3s						
KNT				*e*Sn	**Sn**	**15 22 00.6**	**+2.0**
PLG	**Polygyros**	**2.00**	**231**	*e*PG	**Pg**	**15 21 36.0**	**-2.1**
THE	**Thessaloniki**	**2.15**	**242**	*e*Pn	**Pn**	**15 21 36.8**	**+1.1**
	comp=Z,4.0nm,0.8s						
THE				*e*Sn	**Sn**	**15 22 04.5**	**+2.1**
PAIG	**Paliouri**	**2.20**	**219**	*e*Pn	**Pn**	**15 21 36.5**	**+0.1**
VAY	**Valandovo**	**2.20**	**262**	*e*Pn	**Pn**	**15 21 37.3**	**+0.9**
VAY				*e*Sn	**Sn**	**15 22 06.1**	**+2.5**
VAY	**Valandovo**	**2.20**	**262**	*e*Pn	**Pg**	**15 21 40.3**	**-1.7**
VAY				*i* Sn	**Sg**	**15 22 10.8**	**+0.3**
VAY	**Valandovo**	**2.20**	**262**	*e*Pn	**Pn**	**15 21 37.3**	**+0.9**
VAY				*i* Sn	**Sg**	**15 22 10.7**	**+0.2**
EDC	**Edincik**	**2.24**	**125**	*e*P	**Pn**	**15 21 36.5**	**-0.4**
CTT	**Catalca**	**2.29**	**102**	*e*P	**Pn**	**15 21 35.9**	**-1.7**
ELBA	**Catalca**	**2.29**	**102**	*i* P	**Pn**	**15 21 39.5**	**+1.9**
GRG	**Griva**	**2.41**	**254**	*e*Pn	**Pn**	**15 21 40.2**	**+0.9**
STIP	**Stip**	**2.46**	**272**	*i* Pn	**Pg**	**15 21 45.1**	**-1.7**
STIP				*i* Sn	**Sg**	**15 22 19.5**	**+0.8**
AYVA	**Ayvalik**	**2.53**	**158**	*i* P	**Pg**	**15 21 46.7**	**-1.6**
KCT	**Karacabey**	**2.60**	**122**	*e*P	**Pn**	**15 21 41.7**	**-0.1**
BTOK	**Tokmak**	**2.72**	**133**	*i* P	**Pg**	**15 21 50.0**	**-2.0**
BALB	**Balikesir**	**2.73**	**137**	*e*P	**Pn**	**15 21 46.9**	**+3.2**
AOS	**Alonnisos**	**2.77**	**206**	*e*Pn	**Pn**	**15 21 44.4**	**+0.2**
XOR	**Xorichti**	**2.88**	**218**	*e*Pn	**Pn**	**15 21 46.0**	**+0.4**
YLV	**Yalova**	**3.15**	**109**	*e*P	**Pn**	**15 21 50.8**	**+1.4**
HRT	**Hereke**	**3.28**	**103**	*e*P	**Pn**	**15 21 51.4**	**+0.2**
TIRR	**Tirgusor**	**3.53**	**37**	⇓P	**Pn**	**15 21 56.5**	**+1.8**
TIRR	**Tirgusor**	**3.53**	**37**	⇓P	**Pn**	**15 21 56.5**	**+1.9**
DJES	**Djerdap**	**3.67**	**325**	*e*Pn	**Pg**	**15 22 13.9**	**+3.9**
DJES				*e*Sg	**Sg**	**15 22 55.8**	**-1.7**
DJES	**Djerdap**	**3.67**	**325**	Sg	**Sg**	**15 22 55.8**	**-1.7**
VOIR		**3.79**	**356**	⇓P	**Pn**	**15 21 59.7**	**+1.5**
VOIR		**3.79**	**356**	⇓P	**Pn**	**15 21 59.7**	**+1.6**
MLR	**Muntele Rosu**	**3.84**	**5**	⇑P	**Pn**	**15 22 01.4**	**+2.4**
MLR	**Muntele Rosu**	**3.84**	**5**	⇑P	**Pn**	**15 22 01.4**	**+2.4**
DIVS	**Divcibare**	**4.70**	**303**	*i* Pn	**Pb**	**15 22 20.8**	**-1.5**
DIVS				Sg	**Sg**	**15 23 28.7**	**-2.1**
DIVS	**Divcibare**	**4.70**	**303**	Sg	**Sg**	**15 23 28.7**	**-2.0**
BZS	**Buzias**	**4.84**	**326**	⇑P	**Pn**	**15 22 12.3**	**-0.4**
BZS	**Buzias**	**4.84**	**326**	⇑P	**Pn**	**15 22 12.3**	**-0.4**
BURAR	**Bucovina Array**	**5.95**	**358**	⇑P	**Pn**	**15 22 30.4**	**+2.4**
BURAR	**Bucovina Array**	**5.95**	**358**	⇑P	**Pn**	**15 22 30.4**	**+2.4**
MORC	**Moravsky Berou**	**9.82**	**328**	*e*Sg	Sx	15 26 03.0	

IDC ***21*** *15:36:49.0±1.6,64°05S×129°67E,h0km,mb3.9/4,mb1 4.0/6, mb1mx3.9/15,mbtmp3.9/6,ML3.9/2,Error ellipse: s-maj=124.2km s-min=27.7km az=71.0*
NEIC ***21*** *15:36:53.6±0.7,6.18S×130.38E,h35km,mb4.2/2,Error ellipse: s-maj=29.8km s-min=9.0km az=86.0*
ISCJB ***21*** *15:37:00.1±2.2,6.68S±006°×129°9E±0.1,h125km±22km, mb3.9/6,Error ellipse: s-maj=17.6km s-min=9.3km az=171.1*
ISC 21 15:37:04.0±1.7,688S±006°×1301E±02,h158km±16km,n14, σ0°70/21,mb3.8/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.98**	**201**	*e*P	**Pn**	**15 39 51.2**	**+1.4**
	7.5nm,0.4s						
FITZ				*e*S	**Sn**	**15 42 01.5**	**-0.8**
WRAB	**Tennant Creek**	**13.60**	**163**	*e*Pn	**Pn**	**15 40 11.0**	**+0.5**
WRA	**Warramunga Arr**	**13.61**	**163**	Pn	**Pn**	**15 40 09.7**	**-0.9**
	0.6nm,0.3s,baz=344,slow=14,SNR=40						
WRA				Sn	**Sn**	**15 42 36.6**	**-4.8**
	2.3nm,0.3s,baz=346,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.61**	**163**	*e*P	**Pn**	**15 40 10.6**	**0.0**
WB2				*e*S	**Sn**	**15 42 35.1**	**-6.4**
AS31	**Alice Springs**	**17.08**	**168**	*e*P	**Pn**	**15 40 57.6**	**+4.3**
AS31				*e*S	**S**	**15 44 02.1**	**-0.1**
ASPA	**Alice Springs**	**17.08**	**168**	*e*P	**Pn**	**15 40 57.6**	**+4.3**
ASPA				*e*S	**S**	**15 44 02.1**	**-0.1**
ASAR	**Alice Springs**	**17.08**	**168**	P	**Pn**	**15 40 57.9**	**+4.6**
	0.3nm,0.3s,baz=344,slow=8.7,SNR=36						
ASAR				S	**S**	**15 44 02.6**	**+0.4**
	0.6nm,0.3s,baz=353,slow=27,SNR=6.9						
MBWA	**Marble Bar**	**17.40**	**214**	*e*Pn	**Pn**	**15 41 03.4**	**+6.3**
MBWA				*e*Sn	**Sn**	**15 44 04.6**	**-7.6**
ULN	**Ulaanbaatar**	**58.19**	**342**	*e*P	**P**	**15 46 40.9**	**-0.5**
	2.1nm,0.8s,mb4.0						
SONM	**Songino Array**	**58.37**	**341**	P	**P**	**15 46 42.7**	**0.0**
	0.6nm,0.6s,mb3.6,baz=159,slow=6.7,SNR=7.1						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**15 47 48.0**	**+0.8**
	2.0nm,0.4s,mb4.2,baz=119,slow=8.3,SNR=30						
ZAL	**Zalesovo**	**71.54**	**334**	P	**P**	**15 48 06.5**	**-1.1**
	1.1nm,1.1s,mb3.5,baz=338,slow=8.5,SNR=5.0						
KURK	**Kurchatov**	**72.49**	**329**	*e*P	**P**	**15 48 13.4**	**+0.1**
	1.8nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**78.04**	**328**	P	**P**	**15 48 45.4**	**+0.4**
	0.5nm,0.4s,mb3.5,baz=128,slow=9.4,SNR=6.7						

ISCJB ***21*** *15:44:42.8±0.8,45N±02°×1239E±02,h500km,mb3.5/7, Error ellipse: s-maj=37.5km s-min=12.4km az=116.6*
NEIC ***21*** *15:44:44.2±0.6,44°4N×123°84E,h500km,mb3.9/2,Error ellipse: s-maj=31.4km s-min=10.3km az=58.0*
IDC ***21*** *15:44:46.0±17.0,42°3N×123°41E,h520km±263km,mb2.9/5, mb1 3.0/5,mb1mx2.8/19,mbtmp3.8/5,Error ellipse: s-maj=134.3km s-min=32.8km az=73.0*
ISC 21 15:44:44.4±0.8,45N±02°×1239E±02,h500km,n9,σ0°49/9, mb3.5/7,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.76**	**282**	*e*P	**P**	**15 46 38.4**	**+0.1**
WRAB	**Tennant Creek**	**26.34**	**157**	*e*P	**P**	**15 49 39.8**	**+0.1**
	2.2nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**26.35**	**157**	P	**P**	**15 49 39.8**	**+0.1**
	1.0nm,0.3s,mb3.7,baz=333,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**29.62**	**161**	P	**P**	**15 50 08.9**	**+0.5**
	0.5nm,0.3s,mb3.4,baz=339,slow=7.4,SNR=19						
STKA	**Stephens Creek**	**39.89**	**156**	P	**P**	**15 51 33.6**	**-0.7**
	1.4nm,0.8s,mb3.5,baz=353,slow=8.1,SNR=3.2						
STKA	**Stephens Creek**	**39.89**	**156**	*e*P	**P**	**15 51 33.3**	**-0.9**
SONM	**Songino Array**	**45.74**	**344**	P	**P**	**15 52 20.9**	**+0.7**
	0.1nm,0.3s,mb2.7,baz=159,slow=7.8,SNR=5.0						
MKAR	**Makanchi Array**	**55.34**	**326**	P	**P**	**15 53 30.1**	**-0.2**
	0.9nm,0.3s,mb3.5,baz=118,slow=8.2,SNR=10						
KURK	**Kurchatov**	**59.60**	**328**	*e*P	**P**	**15 53 58.8**	**-0.6**
	2.1nm,0.6s,mb3.7						

IDC 21 16:04:42.8±2.0,190N×12682E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.5/15,mbtmp3.7/3,MS3.9/4,Ms1 3.9/4, ms1mx3.2/26,Error ellipse: s-maj=172.7km s-min=23.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**162**	P	P	16 09 47.8	-0.6
	2.2nm,0.8s,baz=340,slow=11,SNR=11						
PMG	**Port Moresby**	**23.17**	**119**	LR	LR	16 18 31.7	
	comp=Z,412nm,19.5s,baz=194,slow=36						
ASAR	**Alice Springs**	**26.33**	**165**	P	P	16 10 21.4	+1.2
	0.6nm,0.6s,baz=350,slow=14,SNR=7.0						
HNR	**Honiara**	**34.87**	**109**	LR	LR	16 25 41.5	
	comp=Z,96nm,18.6s,baz=359,slow=36						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	16 14 45.0	+0.1
	0.5nm,0.5s,baz=119,slow=7.9,SNR=14						
RPZ	**Rata Peaks**	**60.23**	**144**	LR	LR	16 38 27.8	
	comp=Z,223nm,20.3s,baz=103,slow=34						
AFI	**Afiamalu**	**62.83**	**107**	LR	LR	16 39 45.8	
	comp=Z,81nm,21.0s,baz=130,slow=34						

BJI ***21*** *16:11:42.1,43°3S×140°69E,h57km,mB5.1,mb4.8,Ms4.5, Msz4.1*
ISCJB ***21*** *16:11:46.2±1.7,36°4S±004°×140°31E±008,h45km±16km, mb4.4/27,MS3.9/9,Error ellipse: s-maj=12.7km s-min=7.1km az=8.7*
MOS ***21*** *16:11:46.3±0.9,35°9S×140°21E,h44km,mb4.6/11,Error ellipse: s-maj=17.1km s-min=7.9km az=101.5*
NEIC ***21*** *16:11:49.7±1.7,36°5S×140°26E,h58km±17km,mb4.2/12, Error ellipse: s-maj=12.4km s-min=8.8km az=106.0*
IDC ***21*** *16:11:50.4±3.1,37°1S×140°31E,h69km±29km,mb4.0/7, mb1 4.2/9,mb1mx4.2/11,mbtmp4.4/9,ML4.1/3,MS3.8/9, Ms1 3.9/9,ms1mx3.5/22,Error ellipse: s-maj=22.3km s-min=11.1km az=90.0*
ISC 21 16:11:51.8±1.5,372S±004°×14035E±008,h84km±15km, n77,σ1°03/78,mb4.3/27,3C-6D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.81**	**130**	P	**Pn**	**16 13 56.6**	**+0.3**
	3.7nm,0.3s,baz=323,slow=5.7,SNR=17						
PMG				S	**Sn**	**16 15 33.2**	**-0.7**
	0.6nm,0.3s,baz=215,slow=17,SNR=3.2						
PMG	**Port Moresby**	**8.81**	**130**	P	**Pn**	**16 13 56.6**	**+0.3**
PMG				S	**Sn**	**16 15 33.2**	**-0.7**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PMG				smax			
	comp=E,1.0nm,0.3s						
PMG	**Port Moresby**	**8.81**	**130**	*e*P	**Pn**	**16 13 56.2**	**-0.1**
	comp=E,116nm,1.1s						
WRAB	**Tennant Creek**	**17.14**	**199**⇓	*e*P	**Pn**	**16 15 43.9**	**-2.1**
WRAB	**Tennant Creek**	**17.14**	**199**	*e*P	**Pn**	**16 15 42.7**	**-3.2**
	comp=E,169nm,0.9s						
WB2	**Warramunga Arr**	**17.15**	**199**	*e*P	**Pn**	**16 15 39.3**	**-6.8**
WB2				*e*S	**S**	**16 18 48.3**	**-12**
WRA	**Warramunga Arr**	**17.15**	**200**	P	**Pn**	**16 15 44.6**	**-1.5**
	comp=E,2.8nm,0.3s,baz=21,slow=12,SNR=90						
WRA				S	**S**	**16 18 47.3**	**-13**
	comp=E,1.3nm,0.3s,baz=19,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**17.15**	**200**	P	**Pn**	**16 15 44.6**	**-1.5**
WRA				S	**S**	**16 18 47.3**	**-13**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=E,1.0nm,0.3s						
CTA	**Charters Tower**	**17.26**	**161**	*e*P	**Pn**	**16 15 49.0**	**+1.6**
	comp=E,14nm,0.9s						
CTA	**Charters Tower**	**17.26**	**161**	P	**Pn**	**16 15 46.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=335,slow=14,SNR=3.4						
CTA				LR	LR	16 22 20.2	
	comp=E,508nm,21.2s,baz=13,slow=36						
CTA	**Charters Tower**	**17.26**	**161**	*e*P	**Pn**	**16 15 49.0**	**+1.6**
CTA				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**17.26**	**161**	*e*P	**Pn**	**16 15 48.5**	**+1.1**
GUMO	**Guam**	**17.77**	**15**	LR	LR	16 21 25.2	
	comp=Z,189nm,21.7s,baz=238,slow=32						
FITZ	**Fitzroy Crossi**	**20.29**	**224**	*e*P	**P**	**16 16 20.8**	**0.0**
	comp=Z,42nm,0.9s						
FITZ				*e*S	**S**	**16 19 56.2**	**-7.5**
AS31	**Alice Springs**	**20.78**	**197**	*e*P	**P**	**16 16 26.7**	**+0.6**
AS31				*e*S	**S**	**16 20 12.4**	**-0.9**
ASAR	**Alice Springs**	**20.78**	**197**	P	**P**	**16 16 27.6**	**+1.5**
	comp=Z,173nm,0.8s,baz=27,slow=8.9,SNR=219						
ASAR				S	**S**	**16 20 13.4**	**0.0**
	comp=Z,12nm,1.1s,baz=17,slow=24,SNR=9.1						
ASAR	**Alice Springs**	**20.78**	**197**	P	**P**	**16 16 27.6**	**+1.5**
ASAR				S	**S**	**16 20 13.4**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,173nm,0.8s						
ASAR				smax			
	comp=E,12nm,1.1s						
ASPA	**Alice Springs**	**20.78**	**197**	*e*P	**P**	**16 16 26.7**	**+0.6**
ASPA				*e*S	**S**	**16 20 12.4**	**-1.0**
MBWA	**Marble Bar**	**26.50**	**227**	*e*P	**P**	**16 17 21.4**	**0.0**
STKA	**Stephens Creek**	**28.03**	**178**	*e*P	**P**	**16 17 34.5**	**-0.5**
	comp=E,2.7nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**28.03**	**178**	P	**P**	**16 17 34.3**	**-0.7**
	comp=E,1.8nm,0.8s,mb3.6,baz=72,slow=2.7,SNR=4.2						
STKA				LR	LR	16 29 56.7	
	comp=E,716nm,19.2s,baz=21,slow=39						
CBIJ	**Chichi jima**	**30.69**	**3**	LR	LR	16 27 52.2	
	comp=E,130nm,21.3s,baz=148,slow=31						
JOW	**Kunigami**	**32.54**	**340**	LR	LR	16 29 01.9	
	comp=E,132nm,21.4s,baz=144,slow=32						
NWAO	**Narrogin (SRO)**	**36.22**	**214**	LR	LR	16 33 15.1	
	comp=E,93nm,20.2s,baz=38,slow=36						
SSE	**Sheshan**	**39.15**	**334**	*e*P	**P**	**16 19 10.3**	**-1.0**
SSE				PCP	PcP	16 21 18.8	-0.4
SSE				S	**S**	**16 25 02.6**	**-2.4**
SSE				SCS	ScS	16 29 10.5	-1.3
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,38nm,5.7s						
SSE				LR	LR		
	comp=N,75nm,24.1s						
SSE				LR	LR		
	comp=E,24nm,24.0s						
SSE				LR	LR		
	comp=Z,101nm,23.2s						
MJAR	**Matsushiro Arr**	**40.10**	**357**	P	**P**	**16 19 17.7**	**-1.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=176,slow=7.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**40.10**	**357**	P	**P**	**16 19 17.7**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NJ2	**Nanjing**	**41.03**	**332**	*e*P	**P**	**16 19 27.5**	**+0.7**
NJ2				PP	PP	16 21 07.3	+4.4
NJ2				S	**S**	**16 25 33.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
NJ2				LR	LR		
	comp=N,1μm,25.3s						
NJ2				LR	LR		
	comp=E,470nm,24.1s						
NJ2				LR	LR		
	comp=Z,350nm,26.0s						
PSI	**Prapat**	**41.

comp=Z,3.1nm,0.7s,mb4.3,baz=260,slow=4.9,SNR=22
ILAR Eielson Array 86.08 24 P **P** **16 24 22.1 -1.2**
ILAR pmax pmax
comp=Z,3.0nm,0.7s
QSPA South Pole Qui 86.23 180⇓ *i* P **P** **16 24 26.1 +2.0**
comp=Z,5.3nm,0.6s,mb4.7
ARU Arti 88.53 327 *d i* P **P** **16 24 34.6 -0.5**
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
LVZ Lovozero 99.31 338 *i* P **P** **16 25 23.6 -1.0**
YKA Yellowknife Ar 100.22 27 P Pdif 16 25 28.1 -0.4
comp=Z,0.1nm,0.7s,baz=284,slow=4.8,SNR=5.2
OBN Obninsk 100.92 325 *e* P Pdif 16 25 36.0 +4.3
OBN pmax pmax
comp=Z,5.0nm,0.6s
DBIC Dimbokro 145.23 276 PKPbc PKPbc 16 31 21.6 +2.0
comp=Z,1.8nm,0.7s,baz=40,slow=3.7,SNR=3.5
DBIC Dimbokro 145.23 276 PKIKP PKPdf 16 31 21.6 +1.9
DBIC pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 145.53 126 PKPbc PKPbc 16 31 24.3 +3.8
comp=Z,1.7nm,0.6s,baz=260,slow=3.1,SNR=5.5
LPAZ La Paz 145.53 126 *e* PKP PKPdf 16 31 24.4 +4.1
LPAZ *e* 16 31 38.1

*NEIC **21** 16:16:34.2, 1709N×10002W, h49km, MD4.0(MEX), After MEX.*
MEX 21 16:16:34.2±0.6, 1709N×10002W, h49km±7km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**156**	*i* P	Pn	16 16 41.5	-1.2
ACX				*i* S	Sn	16 16 47.0	-1.7
CAIG	**El Cayaco**	**0.24**	**261**	*i* P	Pn	16 16 41.4	-1.4
CAIG				*i* S	Sn	16 16 47.0	-1.7
MEIG	**Mezcala**	**0.92**	**24**	*i* P	Pn	16 16 49.3	-1.4
MEIG				*i* S	Sn	16 17 00.9	-2.0
PLIG	**Platanillo**	**1.39**	**21**	*i* P	Pn	16 16 56.6	-0.5
PLIG				*i* S	Sn	16 17 13.5	-0.8
PNIG	**Pinotepa**	**1.94**	**111**	*i* P	Pn	16 17 03.9	-0.8
PNIG				*i* S	Sn	16 17 24.0	-3.8
UTMO	**Huajuapan**	**2.24**	**70**	*e* P	Pn	16 17 07.2	-1.6
UTMO				*i* S	Sn	16 17 33.9	-1.3
PPM	**Popocatepetl**	**2.37**	**34**	*i* P	Pn	16 17 09.9	-0.7
PPM				*i* S	Sn	16 17 37.7	-0.8
VHO	**Vista Hermosa**	**3.14**	**90**	*i* S	Sn	16 17 58.3	+0.9

IDC 21 16:24:56.8±2.0, 114N×9698E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=50.8km s-min=28.2km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.55**	**50**	Pn	Pn	16 25 39.1	-0.2
	2.9nm,0.3s,baz=238,slow=4.8,SNR=11						
WRA	**Warramunga Arr**	**42.19**	**122**	P	P	16 32 51.5	+0.3
	0.5nm,0.6s,baz=303,slow=9.1,SNR=5.4						
SONM	**Songino Array**	**47.22**	**9**	P	P	16 33 31.3	-0.1
	0.5nm,0.7s,baz=187,slow=9.3,SNR=7.7						
MKAR	**Makanchi Array**	**47.24**	**346**	P	P	16 33 32.1	+0.6
	0.4nm,0.5s,baz=158,slow=9.3,SNR=13						
BVAR	**Borovoye Array**	**56.23**	**341**	P	P	16 34 38.1	-0.6
	0.7nm,0.7s,baz=128,slow=9.3,SNR=5.8						

*ISCJB **21** 16:29:05.5±0.3, 3631N±004×13689E±006, h284km±3km, mb3.4/10, Error ellipse: s-maj=8.5km s-min=6.4km az=60.1*
*JMA **21** 16:29:05.9±0.1, 3626N×13696E, h284km±1km, M3.0*
*IDC **21** 16:29:06.3±0.7, 3631N×13682E, h274km±8km, mb3.1/8, mb1 3.4/9, mb1mx3.2/21, mbtmp3.8/9, Error ellipse: s-maj=23.2km s-min=13.3km az=76.0*
*NEIC **21** 16:29:06.3±0.6, 3632N×13683E, h276km±7km, mb4.2/3, Error ellipse: s-maj=18.0km s-min=10.8km az=79.0*
ISC 21 16:29:06.4±0.3, 3632N±004×13688E±006, h279km±2km, n36, σ0°75/53, mb3.4/10, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.37**	**105**	P	**Pn**	**16 29 42.3**	**+0.1**
JGN				S	**S**	**16 30 10.4**	**-0.2**
JKG	**Kaga**	**0.44**	**265**	P	**Pn**	**16 29 42.7**	**+0.3**
JKG				*e*S	**S**	**16 30 11.2**	**+0.4**
JGM	**Miyama**	**0.63**	**192**	P	**Pn**	**16 29 43.0**	**+0.1**
JGM				*e*S	**S**	**16 30 11.5**	**-0.3**
MAJO	**Matsushiro**	**1.10**	**78**⇓	*i* Pn	**Pn**	**16 29 45.0**	**+0.1**
MAJO				*e*S	**S**	**16 30 15.7**	**+0.3**
MAT	**Matsushiro**	**1.10**	**78**	P	**Pn**	**16 29 45.0**	**+0.1**
MAT				S	**S**	**16 30 15.3**	**-0.1**
MAT	**Matsushiro**	**1.10**	**78**	P	**Pn**	**16 29 45.0**	**+0.1**
MAT				S	**S**	**16 30 15.2**	**-0.2**
MJAR	**Matsushiro Arr**	**1.10**	**78**	P	**Pn**	**16 29 45.4**	**+0.4**
	9.7nm,0.3s,baz=256,slow=7.7,SNR=81						
MJAR				S	**S**	**16 30 15.4**	**0.0**
	0.6nm,0.3s,baz=256,slow=12,SNR=7.2						
JSZ	**Suzu**	**1.19**	**19**	P	**Pn**	**16 29 45.8**	**+0.3**
JSZ				S	**S**	**16 30 16.8**	**+0.4**
JHG	**Hegura jima**	**1.53**	**1**	P	**Pn**	**16 29 48.5**	**+0.9**
JHG				*e*S	**S**	**16 30 21.4**	**+1.1**
JWT	**Wachi**	**1.58**	**230**	P	**Pn**	**16 29 47.9**	**-0.1**
JYN	**Shimob**	**1.58**	**121**	P	**Pn**	**16 29 47.5**	**-0.5**
JRY	**Ryogami san**	**1.67**	**100**	P	**Pn**	**16 29 48.6**	**0.0**
JRY				*e*S	**S**	**16 30 20.4**	**-1.7**
JIE	**Ise**	**1.93**	**184**	P	**Pn**	**16 29 50.9**	**+0.3**
JIE				S	**S**	**16 30 25.6**	**-0.1**
JSD	**Sado**	**2.04**	**32**	P	**Pn**	**16 29 52.0**	**+0.4**
JSD				*e*S	**S**	**16 30 27.1**	**-0.4**
JAG	**Ashikaga**	**2.08**	**86**	P	**Pn**	**16 29 51.0**	**-0.9**
JOD2	**Odawara 2**	**2.08**	**120**	P	**Pn**	**16 29 51.8**	**-0.1**
JOD2				*e*S	**S**	**16 30 28.2**	**+0.1**
JNS	**Sasagawa**	**2.46**	**52**	P	**Pn**	**16 29 55.8**	**+0.5**
JWZ	**Kozaga**	**2.94**	**199**	P	**Pn**	**16 30 00.7**	**+0.7**
JWZ				*e*S	**S**	**16 30 40.7**	**-2.0**
JHS	**Saijyo**	**3.33**	**248**	P	**Pn**	**16 30 04.2**	**+0.1**
JHS				S	**S**	**16 30 50.0**	**-0.1**
JHJ	**Hachijo jima 2**	**3.99**	**142**	S	**S**	**16 31 05.2**	**+2.0**
ASAJ	**Asahikawa**	**8.93**	**28**	P	**Pn**	**16 31 09.6**	**-1.8**
	7.2nm,0.3s,baz=231,slow=13,SNR=113						
ASAJ				S	**S**	**16 32 45.2**	**-7.5**
	0.6nm,0.3s,baz=323,slow=29,SNR=6.6						
CBIJ	**Chichi jima**	**10.24**	**152**	P	**Pn**	**16 31 21.4**	**-6.2**
	3.3nm,0.3s,baz=287,slow=19,SNR=5.0						
CBIJ				S	**S**	**16 33 08.9**	**-14**
	14nm,0.3s,baz=257,slow=22,SNR=8.7						
YSS	**Yuzh-Sakhalins**	**11.50**	**21**	*e*Pn	**Pn**	**16 31 41.4**	**-1.7**
	20nm,0.4s						
SONM	**Songino Array**	**25.22**	**307**	P	**P**	**16 34 06.4**	**-0.8**
	0.3nm,0.6s,mb2.9,baz=113,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**41.41**	**302**	P	**P**	**16 36 26.5**	**+0.6**
	0.8nm,0.6s,mb3.1,baz=83,slow=9.9,SNR=12						
MKAR	**Makanchi Array**	**41.41**	**302**	P	**P**	**16 36 26.5**	**+0.6**
KURK	**Kurchatov**	**43.51**	**308**	*e*P	**P**	**16 36 43.0**	**+0.3**
	4.0nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**48.35**	**312**	P	**P**	**16 37 19.6**	**-0.7**
	0.3nm,0.4s,mb3.0,baz=86,slow=9.1,SNR=4.1						
WRAB	**Tennant Creek**	**55.99**	**183**	*e*P	**P**	**16 38 15.9**	**-0.3**
	4.4nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**56.00**	**183**	*e*P	**P**	**16 38 16.1**	**-0.2**
WRA	**Warramunga Arr**	**56.00**	**183**	P	**P**	**16 38 16.1**	**-0.2**
	3.1nm,0.4s,mb4.1,baz=359,slow=7.6,SNR=92						
ASAR	**Alice Springs**	**59.72**	**183**	P	**P**	**16 38 42.8**	**+0.7**
	0.9nm,0.6s,mb3.5,baz=15,slow=13,SNR=19						
YKA	**Yellowknife Ar**	**66.22**	**29**	P	**P**	**16 39 24.8**	**+0.2**
	0.1nm,0.4s,mb2.9,baz=294,slow=7.9,SNR=4.2						
YKA	**Yellowknife Ar**	**66.22**	**29**	P	**P**	**16 39 24.8**	**+0.2**
FINES	**FINESS Array B**	**67.71**	**331**	P	**P**	**16 39 34.0**	**0.0**
	0.9nm,0.7s,mb3.6,baz=100,slow=4.7,SNR=6.4						
PDAR	**Pinedale Array**	**80.73**	**43**	P	**P**	**16 40 50.5**	**+1.8**
	0.4nm,0.7s,mb3.2,baz=329,slow=1.7,SNR=3.9						

*IDC **21** 16:40:41.7±1.9, 584N×12535E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=191.4km s-min=24.9km az=65.0*
ISC 21 16:40:49.0±2.6, 67N±02×1273E±03, h80km±28km, n5, σ1°17/7, mb3.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.52**	**299**	*e*P	**Pn**	**16 41 26.1**	**-1.7**
BUKP				*e*S	**Sn**	**16 41 58.2**	**+0.7**
BUTP	**Butuan**	**2.83**	**325**	*e*P	**Pn**	**16 41 32.7**	**+0.7**
BUTP				*e*S	**Sn**	**16 42 18.8**	**+14**
WRA	**Warramunga Arr**	**27.32**	**165**	P	**P**	**16 46 26.2**	**0.0**
	0.3nm,0.3s,mb3.3,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**30.82**	**168**	P	**P**	**16 46 57.6**	**+0.4**
	0.2nm,0.3s,mb3.3,baz=344,slow=7.3,SNR=5.2						
ASAR				PcP	PcP	16 49 55.1	+2.6
	0.1nm,0.6s,baz=354,slow=2.5,SNR=7.0						
MKAR	**Makanchi Array**	**55.51**	**324**	P	**P**	**16 50 15.3**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=115,slow=7.7,SNR=11						

*ISCJB **21** 17:04:30.3±0.9, 3341N±003×35.13E±007, h13km±6km, Error ellipse: s-maj=11.0km s-min=3.5km az=37.5*
*GRAL **21** 17:04:30.6±0.4, 3337N×3500E, h14km±61km, MD3.1*
*CSEM **21** 17:04:31.2±0.2, 3336N×3515E, h10km, ML2.1, Error ellipse: s-maj=3.0km s-min=1.7km az=122.0*
*GII **21** 17:04:38.6±0.3, 3335N×3520E, h10km±1km, ML2.1/5*
ISC 21 17:04:31.0±0.9, 3340N±003×3513E±008, h12km±7km, n26, σ0°62/35, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.18**	**62**	*e*Pg	**Pg**	**17 04 36.3**	**+1.2**
HNTI	**Hanita**	**0.32**	**174**	Pg	**Pg**	**17 04 38.2**	**+0.7**
HNTI				Sg	**Sg**	**17 04 43.1**	**+1.3**
MMC1	**Mount Meron ar**	**0.43**	**149**	Pg	**Pg**	**17 04 39.7**	**+0.1**
MMC7	**Mount Meron ar**	**0.44**	**150**	Pg	**Pg**	**17 04 39.6**	**0.0**
MMB3	**Mount Meron ar**	**0.44**	**150**	Pg	**Pg**	**17 04 39.7**	**0.0**
MMC2	**Mount Meron ar**	**0.44**	**148**	Pg	**Pg**	**17 04 39.7**	**0.0**
MMB4	**Mount Meron ar**	**0.44**	**149**	Pg	**Pg**	**17 04 39.8**	**0.0**
MMA4	**Mount Meron ar**	**0.45**	**150**	Pg	**Pg**	**17 04 39.7**	**-0.1**
MMC6	**Mount Meron ar**	**0.45**	**151**	Pg	**Pg**	**17 04 39.7**	**-0.1**
MMA1	**Mount Meron ar**	**0.45**	**149**	Pg	**Pg**	**17 04 39.8**	**0.0**
MMA0B	**Mount Meron ar**	**0.45**	**150**	Pg	**Pg**	**17 04 39.8**	**-0.1**
MMA0B				Sg	**Sg**	**17 04 45.9**	**0.0**
MMA3	**Mount Meron ar**	**0.45**	**150**	Pg	**Pg**	**17 04 39.8**	**-0.1**
MMB2	**Mount Meron ar**	**0.45**	**151**	Pg	**Pg**	**17 04 39.8**	**-0.1**
MMA2	**Mount Meron ar**	**0.45**	**150**	Pg	**Pg**	**17 04 39.9**	**0.0**
MMB1	**Mount Meron ar**	**0.45**	**149**	Pg	**Pg**	**17 04 39.9**	**-0.1**
MMC5	**Mount Meron ar**	**0.46**	**149**	Pg	**Pg**	**17 04 39.9**	**-0.1**
MMC4	**Mount Meron ar**	**0.46**	**149**	Pg	**Pg**	**17 04 40.0**	**-0.1**
KSDI	**Kefar Szold**	**0.49**	**115**	Pg	**Pg**	**17 04 40.4**	**-0.2**
KSDI				Sg	**Sg**	**17 04 47.1**	**0.0**
BHL	**Bhannes**	**0.66**	**41**	*e*Pg	**Pg**	**17 04 44.1**	**+0.2**
BHL				*e*Sg	**Sg**	**17 04 54.0**	**+1.4**
OFRI	**'Ofer**	**0.79**	**189**	Pg	**Pg**	**17 04 46.1**	**-0.2**
OFRI				Sg	**Sg**	**17 04 57.4**	**+0.8**
MMLI	**Mount Malkishu**	**0.99**	**166**	Pg	**Pg**	**17 04 48.9**	**-1.2**
MMLI				Sg	**Sg**	**17 05 02.5**	**-0.6**
HWQ	**Hawqa**	**1.10**	**38**	*e*Pg	**Pg**	**17 04 51.5**	**-0.8**
HWQ				*e*Sg	**Sg**	**17 05 06.6**	**-0.1**
SLTI	**Sal'it**	**1.16**	**184**	Pg	**Pg**	**17 04 52.1**	**-1.3**
SLTI				Sg	**Sg**	**17 05 08.2**	**-0.3**
FKH	**Fakeheh**	**1.34**	**51**	*e*Pg	**Pg**	**17 04 55.5**	**-1.3**
FKH				*e*Sg	**Sg**	**17 05 14.0**	**-0.3**
MKRJ	**Makawir**	**1.90**	**167**	Pn	**Pn**	**17 05 04.2**	**+1.0**
MZDA	**Masada**	**2.10**	**175**	Sn	**Sn**	**17 05 32.5**	**+0.5**

*ISCJB **21** 17:51:48.5±0.8, 1950S±009×17783W±008, h553km±11km, mb4.0/20, Error ellipse: s-maj=15.9km s-min=8.2km az=103.7*
*NEIC **21** 17:51:50.0±0.9, 1951S×17774W, h560km±11km, mb4.2/14, Error ellipse: s-maj=12.9km s-min=7.8km az=139.0*
*IDC **21** 17:51:51.5±2.2, 1967S×17779W, h578km±26km, mb3.4/9, mb1 3.7/11, mb1mx3.7/16, mbtmp4.4/11, Error ellipse: s-maj=20.0km s-min=11.6km az=151.0*
ISC 21 17:51:50.2±0.9, 1951S±009×17774W±008, h562km±11km, n52, σ1°08/44, mb4.0/20, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.98**	**47**	P	**P**	**17 53 47.3**	**-0.7**
	13nm,0.3s,baz=15,slow=3.2,SNR=18						
AFI				S	**S**	**17 55 20.9**	**-3.8**
	1.7nm,0.3s,baz=90,slow=20,SNR=4.0						
AFI	**Afiamalu**	**7.98**	**47**	*e*P	**P**	**17 53 47.6**	**-0.4**
AFI				S	**S**	**17 55 20.9**	**-3.8**
DZM	**Mont Dzumac**	**15.01**	**257**	P	**P**	**17 55 00.4**	**+0.8**
	1.8nm,0.3s,baz=100,slow=21,SNR=18						
URZ	**Urewera**	**19.21**	**192**	P	**P**	**17 55 35.7**	**-2.7**
	3.5nm,0.3s,baz=335,slow=3.5,SNR=16						
SNZO	**South Karori**	**22.66**	**195**	*e*P	**P**	**17 56 08.3**	**-1.3**
CNB	**Canberra Magne**	**32.98**	**235**⇑	*i*P	**P**	**17 57 40.5**	**+1.2**
	18nm,0.7s,mb4.7						
CTA	**Charters Tower**	**33.84**	**263**⇑	*i*P	**P**	**17 57 47.8**	**+1.3**
	5.3nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**33.84**	**263**	*e*P	**P**	**17 57 47.6**	**+1.1**
	8.5nm,0.6s,mb4.5						
TOO	**Toolangi**	**36.68**	**233**⇑	*i*P	**P**	**17 58 11.0**	**+0.9**
	15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.44**	**243**⇑	*i*P	**P**	**17 58 23.5**	**-0.9**
	5.0nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.44**	**243**	P	**P**	**17 58 23.6**	**-0.8**
	8.0nm,0.8s,mb4.3,baz=84,slow=7.8,SNR=14						
WB2	**Warramunga Arr**	**44.97**	**261**	*e*P	**P**	**17 59 15.9**	**+0.1**
WRAB	**Tennant Creek**	**44.98**	**261**	*e*P	**P**	**17 59 15.8**	**-0.1**
	3.9nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**44.98**	**261**	P	**P**	**17 59 16.2**	**+0.3**
	2.8nm,0.3s,mb4.2,baz=97,slow=7.8,SNR=202						
WRA				S	**S**	**18 05 11.0**	**-2.7**
	0.5nm,0.9s,baz=103,slow=14,SNR=4.2						
AS31	**Alice Springs**	**44.99**	**256**	*e*P	**P**	**17 59 16.3**	**+0.4**
AS31				*e*S	**S**	**18 05 11.9**	**-1.9**
ASAR	**Alice Springs**	**44.99**	**256**	P	**P**	**17 59 16.6**	**+0.7**
	5.5nm,0.5s,mb4.4,baz=87,slow=8.2,SNR=199						
ASAR				PcP	PcP	18 00 45.2	+0.4
	0.4nm,0.4s,baz=105,slow=4.4,SNR=4.0						
ASAR				S	**S**	**18 05 13.2**	**-0.6**
	1.4nm,0.8s,baz=90,slow=16,SNR=10						
ASPA	**Alice Springs**	**44.99**	**256**	*e*P	**P**	**17 59 16.3**	**+0.3**
ASPA				*e*S	**S**	**18 05 11.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**53.40**	**262**	*e*P	**P**	**18 00 18.4**	**+0.5**
	1.2nm,0.9s,mb3.2						
FITZ	**Fitzroy Crossi**	**53.40**	**262**	*e*PKP	**P**	**18 00 18.4**	**+0.5**
	5.0nm,0.5s,mb4.1						
KLBR	**Kellerberrin**	**58.70**	**244**	*e*PKP	**P**	**18 00 53.7**	**-0.7**
	9.1nm,0.6s,mb4.2						
SBA	**Scott Base**	**58.87**	**184**	*e*P	**P**	**18 00 57.3**	**+1.8**
VNDA	**Vanda**	**58.91**	**185**	P	**P**	**18 00 55.3**	**-0.5**
	1.0nm,0.6s,mb3.2,baz=7.8,slow=6.0,SNR=8.2						
VNDA	**Vanda**	**58.91**	**185**	*e*P	**P**	**18 00 56.5**	**+0.7**
	0.9nm,0.6s,mb3.2						
MUN	**Mundaring**	**59.97**	**244**	*e*PKP	**P**	**18 01 03.1**	**+0.2**
MJAR	**Matsushiro Arr**	**69.56**	**323**	P	**P**	**18 02 03.3**	**+0.1**
	2.5nm,0.5s,mb4.0,baz=163,slow=5.8,SNR=8.4						
QSPA	**South Pole Qui**	**70.55**	**180**	*e*P	**P**	**18 02 09.4**	**+0.3**
	3.1nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**80.14**	**43**	P	**P**	**18 03 03.6**	**+1.3**
	1.4nm,0.8s,mb3.3,baz=207,slow=7.1,SNR=7.4						
MCK	**McKinley**	**85.96**	**12**	*e*P	**P**	**18 03 30.2**	**-1.1**
	3.4nm,0.9s,mb4.0						
MNTX	**Cornudas Mount**	**85.98**	**55**	*e*P	**P**	**18 03 32.4**	**+0.9**
	0.7nm,0.5s,mb3.5						
MCMT	**McKenzie Canyo**	**87.05**	**40**	*e*P	**P**	**18 03 37.8**	**+1.3**
COLA	**College**	**87.19**	**12**	*e*P	**P**	**18 03 35.5**	**-1.6**
	5.6nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**87.30**	**13**	P	**P**	**18 03 36.3**	**-1.4**
	1.7nm,0.7s,mb3.8,baz=223,slow=5.7,SNR=17						
QLMT	**Earthquake Lak**	**87.92**	**41**	*e*P	**P**	**18 03 42.3**	**+1.7**
BW06	**Boulder Array**	**88.08**	**43**	*e*P	**P**	**18 03 41.6**	**+0.3**
	1.5nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**88.08**	**43**	P	**P**	**18 03 41.9**	**+0.6**
	1.4nm,0.8s,mb3.7,baz=220,slow=2.2,SNR=11						
VNA3	**Neumayer Olymp**	**89.11**	**176**⇑	*i*	**P**	**18 03 44.7**	**-1.4**
VNA2	**Neumayer--Watz**	**89.55**	**177**⇑	*i*	**P**	**18 03 48.0**	**-0.2**
	baz=200,slow=3.1						
YKA	**Yellowknife Ar**	**95.52**	**25**	P	**P**	**18 04 14.8**	**-0.7**
	0.1nm,0.4s,mb3.4,baz=240,slow=4.2,SNR=5.7						
MKAR	**Makanchi Array**	**110.70**	**314**	PKiKP	PKiKP	18 09 17.9	-1.5
	0.3nm,0.5s,baz=228,slow=0.7,SNR=6.2						
BVAR	**Borovoye Array**	**118.48**	**320**	PKP	PKPdf	18 09 33.3	-1.1
	0.6nm,0.4s,baz=188,slow=2.8,SNR=5.1						
ARCES	**ARCESS Array B**	**128.00**	**350**	PKP	PKPdf	18 09 51.5	-1.2
	2.1nm,0.7s,baz=26,slow=3.1,SNR=6.1						
ARCES	**ARCESS Array B**	**128.00**	**350**	PKP	PKPdf	18 09 51.5	-1.2
FINES	**FINESS Array B**	**134.90**	**344**	PKP	PKPdf	18 10 05.5	-0.2
	0.6nm,0.6s,baz=108,slow=4.5,SNR=4.1						
AKASG	**Malin Array Be**	**142.27**	**332**	PKhKP		18 10 14.8	
	1.1nm,0.4s,baz=42,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**142.27**	**332**	PKP		18 10 14.8	
BRTR	**Keskin Array B**	**146.35**	**314**	PKPbc	PKPbc	18 10 28.6	+0.2
	1.2nm,0.5s,baz=136,slow=4.8,SNR=8.5						
CLL	**Collm**	**147.16**	**348**	*i* P	PKPdf	18 10 30.0	+2.5
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**147.16**	**348**	*i* P	PKPdf	18 10 30.0	+2.5
BRG	**Berggiesshubel**	**147.37**	**346**	*i* P	PKPdf	18 10 31.2	+3.4
	comp=Z,0.8nm,1.8s						
KHC	**Kasperske Hory**	**149.08**	**345**	*e*P	PKPdf	18 10 35.5	+4.9
KHC				*ex*	x	18 10 42.5	
KHC	**Kasperske Hory**	**149.08**	**345**	*e*P	PKPdf	18 10 35.5	+4.9
KHC				*e*		18 10 42.5	
GERES	**GERESS Array B**	**149.32**	**345**	PKPbc	PKPbc	18 10 36.2	+0.1
	comp=Z,2.6nm,0.8s,baz=46,slow=3.9,SNR=16						

NNC 21 18:04:06.1±4.2, 3740N×7137E, h256km±39km, mb2.1, mpv3.5, 4C-2D, Error ellipse: s-maj=41.8km s-min=22.8km az=8.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.05**	**20**	P	Pn	18 05 23.9	+1.3
	SNR=27						
UCH	**Uchtor**	**5.39**	**26**	P	Pn	18 05 28.1	+1.3
	SNR=14						
KZA	**Kyzart**	**5.55**	**31**	P	Pn	18 05 30.4	+1.7
	SNR=9.3						
EKS2	**Erkin-Say**	**5.57**	**19**	P	Pn	18 05 30.7	+1.7
	SNR=5.5						
KK31	**Karatay Array**	**5.73**	**354**	P	Pn	18 05 30.6	-0.3
	3.8nm,0.7s,baz=189,slow=13,SNR=57						
KK31				S	S	18 06 39.9	+1.0
	2.4nm,0.4s,baz=177,slow=16,SNR=14						
AAK	**Ala-Archa**	**5.75**	**24**	P	Pn	18 05 32.9	+1.7
	SNR=7.4						
TKM2	**Tokmak 2**	**6.39**	**29**⇑	P	Pn	18 05 39.6	+0.4
	1.7nm,0.6s						
TKM2				⇑S	S	18 06 53.6	-0.2
	5.8nm,1.0s						
MK31	**Makanchi Array**	**12.39**	**37**	P	Pn	18 06 55.6	+1.2
	0.1nm,0.4s,baz=218,slow=13,SNR=8.9						
AB31	**Akbulak array**	**14.45**	**329**⇓	P	Pn	18 07 18.1	-1.3
	0.1nm,0.3s,baz=145,slow=11,SNR=9.7						
VOSK	**Vostochnaya**	**15.32**	**359**⇑	P	Pn	18 07 30.1	+0.2
	1.8nm,0.8s						
ZRNK	**Zerenda**	**15.64**	**355**⇑	P	Pn	18 07 32.5	-1.1
	0.4nm,0.6s						
AKTO	**Aktyubinsk**	**16.16**	**328**⇓	P	P	18 07 36.8	-1.4
	0.5nm,0.8s						

IDC 21 18:49:49.4±4.7, 576N×7323W, h26km±31km, mb3.4/2, mb1 3.6/2, mb1mx3.3/17, mbtmp3.6/2, Error ellipse: s-maj=46.4km s-min=30.7km az=132.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.41**	**231**	Pn	Pn	18 50 13.3	-0.1
	13nm,0.3s,baz=87,slow=18,SNR=24						
ROSC				Pg	Pn	18 50 14.9	+1.5
	36nm,0.3s,baz=85,slow=18,SNR=35						
ROSC				Lg		18 50 36.1	
	50nm,0.3s,baz=66,slow=19,SNR=9.3						
YKA	**Yellowknife Ar**	**64.22**	**340**	P	P	19 00 22.0	-0.1
	0.4nm,0.5s,baz=134,slow=6.7,SNR=14						
TORD	**Torodi Ar. Bea**	**74.06**	**78**	P	P	19 01 24.3	+1.2
	0.5nm,1.1s,baz=285,slow=5.5,SNR=2.2						
WRA	**Warramunga Arr**	**149.72**	**240**	PKPbc	PKPbc	19 09 37.3	+0.4
	0.9nm,0.6s,baz=110,slow=2.6,SNR=18						

IDC 21 18:51:09.1±2.0, 103N×9709E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=54.2km s-min=23.8km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.54**	**46**	Pn	Pn	18 51 51.5	-0.2
	2.9nm,0.3s,baz=246,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**42.04**	**122**	P	P	18 59 02.6	+0.3
	0.5nm,0.6s,baz=302,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**43.38**	**127**	P	P	18 59 13.7	+0.4
	0.4nm,0.8s

CTA LR LR 19 22 54.3
comp=E,192nm,18.3s,MS3.7,baz=127,slow=39
CTA Charters Tower 25.81 115 P **P** **19 11 43.8 +2.7**
CTA pmax pmax
comp=Z,23nm,1.0s
CTA MLR MLR
comp=Z,192nm,18.3s
CTAO Charters Tower 25.81 115 *eP* **P** **19 11 44.5 +3.4**
CTAO pmax pmax
comp=Z,52nm,1.2s,mb4.9
CTAO Charters Tower 25.81 115 *eP* **P** **19 11 44.5 +3.4**
comp=Z,52nm,1.2s,mb4.9
CTAO *e* 19 12 08.5
KULM Kulim 25.85 306 *eP* **P** **19 11 37.6 -3.8**
PSI Prapat 25.92 299 P **P** **19 11 42.4 +0.4**
comp=Z,13nm,1.0s,mb4.4,baz=154,slow=11,SNR=12
PSI Prapat 25.92 299 P **P** **19 11 42.4 +0.3**
PSI pmax pmax
comp=Z,13nm,1.0s,mb4.4
PSI Prapat 25.92 299 P **P** **19 11 42.4 +0.3**
STKA Stephens Creek 28.47 142 ⇓ *iP* **P** **19 12 05.3 +0.3**
comp=Z,23nm,0.6s,mb5.0
STKA Stephens Creek 28.47 142 P **P** **19 12 05.3 +0.3**
comp=Z,30nm,0.7s,mb5.0,baz=313,slow=8.8,SNR=70
STKA LR LR 19 24 03.9
comp=Z,172nm,20.3s,MS3.6,baz=22,slow=38
STKA Stephens Creek 28.47 142 *eP* **P** **19 12 05.0 +0.1**
QIZ Qiongzhong 31.26 338 *eP* **P** **19 12 30.7 +1.0**
comp=Z,17nm,1.1s,mb4.8
GUMO Guam 33.16 45 LR LR 19 25 02.0
comp=Z,67nm,21.1s,MS3.3,baz=287,slow=34
ARMA Armidale 34.50 130 ⇑ *iP* **P** **19 13 02.8 +4.8**
CNB Canberra Magne 35.60 139 *eP* **P** **19 13 11.0 +3.5**
comp=Z,48nm,1.7s,mb5.2
HNR Honiara 37.91 92 P **P** **19 13 27.2 +0.1**
HNR pmax pmax
comp=Z,85nm,1.1s,mb5.4
HNR Honiara 37.91 92 P **P** **19 13 27.2 +0.1**
comp=Z,85nm,1.1s,mb5.4
TAU Tasmania Unive 39.59 150 *eP* **P** **19 13 42.8 +1.5**
TAU pmax pmax
comp=Z,51nm,1.2s,mb5.1
TAU Tasmania Unive 39.59 150 *eP* **P** **19 13 42.8 +1.6**
comp=Z,51nm,1.2s,mb5.1
SSE Sheshan 41.10 360 *eP* **P** **19 13 53.5 -0.2**
SSE AP pP 19 14 01.9 +2.7
SSE XP sP 19 14 06.4 +5.0
SSE PP PP 19 15 28.6 0.0
SSE PCP PCP 19 15 54.3 +1.2
SSE S **S** **19 20 05.3 -0.5**
SSE AMB AMB
comp=Z,18nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,65nm,8.9s
ENH Enshi 41.90 344 *eP* **P** **19 13 59.5 -0.7**
comp=Z,5.1nm,0.9s,mb4.2
NJ2 Nanjing 42.13 357 *eP* **P** **19 14 04.3 +2.1**
NJ2 AP pP 19 14 14.1 +6.5
NJ2 XP sP 19 14 18.0 +8.2
NJ2 PP PP 19 15 45.5 +5.8
NJ2 S **S** **19 20 20.0 -1.0**
NJ2 XS sS 19 20 36.0 +6.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
NJ2 LR LR
comp=N,1μm,21.9s,MS4.9
NJ2 LR LR
comp=E,1μm,21.4s,MS4.9
NJ2 LR LR
comp=Z,400nm,20.5s,MS4.3
PALK Pallekele 44.17 292 *eP* **P** **19 14 24.9 +6.3**
comp=Z,9.6nm,1.0s,mb4.5
CD2 Chengdu 44.31 338 *eP* **P** **19 14 19.3 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
SHL Shillong 45.79 322 *eP* **P** **19 14 33.0 +1.4**
DGAR Diego Garcia 48.48 269 P **P** **19 14 56.1 +3.5**
comp=Z,60nm,0.8s,mb5.7
LZH Lanzhou 48.98 341 *eP* **P** **19 14 57.5 +1.1**
LZH AP pP 19 15 07.0 +5.0
LZH XP sP 19 15 11.6 +7.5
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.1
LZH LR LR
comp=N,379nm,12.5s
LZH LR LR
comp=Z,467nm,15.6s,MS4.6
MJAR Matsushiro Arr 49.13 18 P **P** **19 14 59.0 +1.4**
comp=Z,4.6nm,0.8s,mb4.6,baz=189,slow=8.3,SNR=12
MJAR Matsushiro Arr 49.13 18 P **P** **19 14 59.0 +1.5**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MAJO Matsushiro 49.13 18 P **P** **19 14 59.7 +2.2**
MAJO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MAJO Matsushiro 49.13 18 P **P** **19 14 59.7 +2.2**
comp=Z,6.3nm,0.8s,mb4.7
LSA Lhasa 49.29 325 P **P** **19 15 00.5 +1.7**
LSA Lhasa 49.29 325 *eP* **P** **19 14 59.6 +0.8**
LSA pmax pmax
comp=Z,15nm,0.7s,mb5.1
LSA Lhasa 49.29 325 *eP* **P** **19 14 59.6 +0.8**
comp=Z,15nm,0.7s,mb5.1
BJT Baijiatuan 50.24 355 P **P** **19 15 02.7 -3.3**
comp=Z,23nm,1.4s,mb5.0
HYB Hyderabad 50.53 303 *iP* **P** **19 15 08.0 -0.2**
HYB Hyderabad 50.53 303 *eP* **P** **19 15 08.0 -0.2**
JIRN Jiri 50.87 319 *eP* **P** **19 15 11.0 +0.3**
comp=Z,70nm,1.3s,mb5.4
GUN Gumba 51.24 319 *eP* **P** **19 15 13.7 +0.2**
comp=Z,38nm,0.8s,mb5.4
PKI Pulchoki 51.32 318 *eP* **P** **19 15 13.8 -0.3**
comp=Z,11nm,0.5s,mb5.0
PKI Pulchoki 51.32 318 *eP* **P** **19 15 13.8 -0.3**
PKI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
DMN Daman 51.54 318 *eP* **P** **19 15 15.7 -0.1**
comp=Z,14nm,0.7s,mb5.0
KKN Kakani 51.55 318 *eP* **P** **19 15 15.8 0.0**
comp=Z,53nm,1.4s,mb5.3
KKN Kakani 51.55 318 *eP* **P** **19 15 15.8 0.0**
KKN pmax pmax
comp=Z,26nm,1.4s,mb5.0
GKN Gorkha 52.11 318 *eP* **P** **19 15 19.2 -0.9**
comp=Z,26nm,0.8s,mb5.2
KOLN Koldanda 52.65 317 *eP* **P** **19 15 23.5 -0.6**
comp=Z,82nm,1.6s,mb5.4
GTA Gaotai 53.34 339 P **P** **19 15 30.1 +0.9**
GTA AMB AMB
comp=Z,6.0nm,2.0s,mb4.2
GTA AMB AMB
comp=Z,103nm,5.3s
GTA LR LR
comp=N,78nm,9.5s
GTA LR LR
comp=E,94nm,9.2s
GTA LR LR
comp=Z,115nm,18.3s,MS4.0
POO Poona 54.99 301 *eP* **P** **19 15 41.0 -0.2**
ASAJ Asahikawa 57.40 18 P **P** **19 15 58.1 -0.2**
comp=Z,9.0nm,1.0s,mb4.7,baz=284,slow=17,SNR=3.5
ASAJ Asahikawa 57.40 18 P **P** **19 15 58.2 -0.2**
ASAJ pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 59.25 349 *d iP* **P** **19 16 11.4 +0.1**
ULN Ulaanbaatar 59.25 349 *eP* **P** **19 16 11.1 -0.2**
comp=Z,2.6nm,0.8s,mb4.3
HIA Hailar 59.27 359 ⇓ *eP* **P** **19 16 10.8 -0.6**
SONM Songino Array 59.35 348 P **P** **19 16 11.7 -0.2**
comp=Z,3.0nm,0.6s,mb4.5,baz=166,slow=7.9,SNR=33
SONM ScP ScP 19 20 58.7 -1.1
comp=Z,1.0nm,1.0s,baz=167,slow=4.0,SNR=5.8
SONM LR LR 19 43 10.9
comp=Z,72nm,20.7s,MS3.8,baz=171,slow=38
SONM Songino Array 59.35 348 P **P** **19 16 11.7 -0.3**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=E,1.0nm,1.0s
SONM MLR MLR
comp=Z,72nm,20.7s
HABR Khabarovsk 59.68 10 *eP* **P** **19 16 14.4 +0.1**
HABR *eS* **S** **19 24 23.0 -1.1**
HABR pmax pmax
comp=Z,15nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 60.03 17 ⇑ *eP* **P** **19 16 15.9 -0.8**
YSS pmax pmax
comp=Z,27nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 60.03 17 *eP* **P** **19 16 16.9 +0.2**
comp=Z,37nm,1.3s,mb5.2
ZAK Zakamensk 62.42 347 *eP* **P** **19 16 32.6 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.6
MK31 Makanchi Array 66.68 332 *iP* **P** **19 17 00.7 0.0**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MKAR Makanchi Array 66.68 332 P **P** **19 17 00.8 +0.1**
comp=Z,3.8nm,0.5s,mb4.7,baz=148,slow=7.3,SNR=120
MKAR ScP 19 21 31.4
comp=Z,0.6nm,0.9s,baz=170,slow=3.5,SNR=3.6
MKAR Makanchi Array 66.68 332 P **P** **19 17 00.8 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR pmax pmax
comp=E,1.0nm,0.9s
AAK Ala-Archa 67.89 324 *eP* **P** **19 17 06.9 -1.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 67.89 324 *eP* **P** **19 17 06.8 -1.5**
comp=Z,2.7nm,0.8s,mb4.3
BOD Bodaibo 68.09 356 *eP* **P** **19 17 07.5 -2.2**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
MAW Mawson 68.92 201 P **P** **19 17 15.2 +0.3**
comp=Z,34nm,1.1s,mb5.2,baz=136,slow=17,SNR=2.2
MAW LR LR 19 44 32.9
comp=Z,147nm,18.2s,MS4.3,baz=271,slow=33
MAW Mawson 68.92 201 P **P** **19 17 15.2 +0.4**
MAW pmax pmax
comp=Z,34nm,1.1s
MAW MLR MLR
comp=Z,147nm,18.2s
VNDA Vanda 70.40 171 *eP* **P** **19 17 25.5 +1.6**
VNDA pmax pmax
comp=Z,16nm,1.2s
VNDA Vanda 70.40 171 *eP* **P** **19 17 25.5 +1.6**
comp=Z,16nm,1.2s,mb4.8
ZAL Zalesovo 71.07 338 P **P** **19 17 26.9 -1.1**
comp=Z,3.9nm,0.6s,mb4.5,baz=349,slow=4.6,SNR=19
ZAL Zalesovo 71.07 338 P **P** **19 17 26.9 -1.2**
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 71.07 338 P **P** **19 17 26.9 -1.1**
KURK Kurchatov 71.19 333 *eP* **P** **19 17 27.4 -1.4**
KURK pmax pmax
comp=Z,16nm,1.0s,mb4.9
KURK Kurchatov 71.19 333 *eP* **P** **19 17 27.4 -1.4**
comp=Z,16nm,1.0s,mb4.9
SBA Scott Base 71.38 171 *eP* **P** **19 17 32.2 +2.3**
comp=Z,19nm,1.3s,mb4.9
YAK Yakutsk 72.33 4 *c iP* **P** **19 17 35.1 -0.5**
YAK pmax pmax
comp=Z,18nm,0.6s,mb5.2
YAK Yakutsk 72.33 4 P **P** **19 17 34.7 -0.9**
comp=Z,22nm,0.7s,mb5.2
NVS Novosibirsk 72.35 338 *iP* **P** **19 17 33.3 -2.5**
NVS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.3s
MA2 Magadan 73.45 15 ⇓ *iP* **P** **19 17 43.7 +1.4**
MA2 Magadan 73.45 15 *eP* **P** **19 17 43.0 +0.7**
comp=E,8.9nm,0.8s,mb4.8
VOSK Vostochnaya 76.07 331 P **P** **19 17 56.6 -0.8**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVAR Borovoye Array 76.54 331 P **P** **19 17 59.4 -0.7**
comp=Z,1.7nm,0.8s,mb4.0,baz=152,slow=6.7,SNR=12
BVAR Borovoye Array 76.54 331 P **P** **19 17 59.4 -0.7**
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 76.61 331 P **P** **19 17 58.1 -2.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 76.61 331 P **P** **19 17 58.1 -2.4**
comp=Z,3.0nm,0.8s,mb4.3
SEY Seymchan 76.75 14 ⇓ *iP* **P** **19 18 02.4 +1.1**
ZRNK Zerenda 77.16 331 *eP* **P** **19 18 02.7 -0.9**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZRNK Zerenda 77.16 331 *eP* **P** **19 18 02.6 -0.9**
comp=Z,4.7nm,1.0s,mb4.4
QSPA South Pole Qui 79.76 180 *eP* **P** **19 18 19.3 +1.4**
comp=Z,6.7nm,1.1s,mb4.5
AB31 Akbulak array 79.98 324 *iP* **P** **19 18 18.8 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
TIXI Tiksi 81.86 2 *eP* **P** **19 18 27.3 -1.9**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KMBO Kilima Mbogo 84.11 270 *eP* **P** **19 18 42.8 +2.0**
KMBO *e* 19 18 51.3
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 84.11 270 *eP* **P** **19 18 42.8 +1.9**
comp=Z,3.6nm,1.1s,mb4.4
KMBO *e* 19 18 51.3
ARU Arti 84.14 330 ⇓ *iP* **P** **19 18 39.6 -1.4**
ARU *e* 19 21 53.8
ARU *e*PPP 19 23 44.5
ARU *e*S 19 28 59.5
ARU *e*SS SS 19 34 31.2 -2.6
ARU pmax pmax
comp=Z,2.0nm,1.1s,mb4.2
BILL Bilibino 84.32 15 ⇑ *iP* **P** **19 18 43.4 +1.5**
BILL pmax pmax
comp=Z,4.0nm,1.7s,mb4.3
BILL MLR MLR
comp=Z,100nm,21.0s,MS4.2
BILL Bilibino 84.32 15 P **P** **19 18 43.4 +1.5**
comp=Z,2.0nm,0.8s,mb4.3
GNI Garni 86.57 312 P **P** **19 18 55.4 +2.3**
comp=Z,1.0nm,0.4s,mb4.4,baz=260,slow=9.9,SNR=3.8
GNI Garni 86.57 312 ⇓ *eP* **P** **19 18 54.6 +1.5**
GNI pmax pmax
comp=Z,7.0nm,1.3s
SNAA Sanae 90.46 195 P **P** **19 19 12.8 +1.2**
comp=Z,5.2nm,1.4s,mb4.7,baz=5.9,slow=14,SNR=3.6
SNAA Sanae 90.46 195 P **P** **19 19 12.8 +1.2**
SNAA pmax pmax
comp=Z,5.0nm,1.4s
MALT Malatya 90.87 309 *eP* **P** **19 19 14.8 +1.3**
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
MALT Malatya 90.87 309 *eP* **P** **19 19 14.8 +1.3**
comp=Z,3.9nm,1.1s,mb4.7
BRTR Keskin Array B 94.80 309 P **P** **19 19 31.9 +0.3**
comp=Z,1.4nm,0.8s,mb4.4,baz=123,slow=6.0,SNR=10
BRTR Keskin Array B 94.80 309 P **P** **19 19 32.0 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 95.41 325 *eP* **P** **19 19 42.2 +7.8**
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
PMR Palmer 98.64 29 P **P** **19 19 48.6 -0.4**
PMR pmax pmax
comp=Z,7.0nm,0.5s,mb5.5
PMR Palmer 98.64 29 P **P** **19 19 48.6 -0.4**
comp=Z,7.2nm,0.5s,mb5.5
AKASG Malin Array Be 99.26 320 P **P** **19 19 51.1 -0.7**
comp=Z,0.1nm,0.3s,mb3.8,baz=101,slow=1.9,SNR=4.0
ILAR Eielson Array 99.89 26 P Pdif 19 19 56.0 +1.4
comp=Z,0.3nm,0.6s,baz=233,slow=5.7,SNR=5.4
GERES GERESS Array B 109.33 318 PKiKP PKiKP 19 24 41.0 +0.9
comp=Z,0.5nm,0.6s,baz=128,slow=2.2,SNR=4.3
YKA Yellowknife Ar 114.30 25 PKP PKiKP 19 24 49.7 +0.2
comp=Z,0.6nm,0.8s,baz=299,slow=1.8,SNR=9.7
YKA PP PP 19 25 40.5 -4.5
comp=Z,0.7nm,0.7s,baz=288,slow=4.4,SNR=8.9
YKA PKKPbc PKKPbc 19 35 29.5 +0.4
comp=Z,0.1nm,0.4s,baz=107,slow=3.7,SNR=5.5
YKA Yellowknife Ar 114.30 25 PKiKP PKiKP 19 24 49.7 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 114.30 25 PKP PKiKP 19 24 49.7 +0.2
YKA PP PP 19 25 40.5 -4.5
YKA PKKPbc PKKPbc 19 35 29.6 +0.5
TORD Torodi Ar. Bea 121.07 279 PKP PKPdf 19 25 04.1 +1.6
comp=Z,1.7nm,0.9s,baz=75,slow=1.9,SNR=8.6
PDAR Pinedale Array 125.13 44 PKP PKPdf 19 25 11.9 +1.6
comp=Z,0.4nm,0.8s,baz=261,slow=2.7,SNR=3.5
MCWV Mont Chateau 145.10 29 *e*PKPdf PKPdf 19 25 48.8 +1.5
LRAL Lakeview Retre 145.35 45 *e*PKPdf PKPdf 19 25 49.9 +2.1
TZTN Tazewell 145.39 37 *e*PKPdf PKPdf 19 25 49.7 +1.9
FWV Forest Hill 146.19 33 *e*PKPbc PKPbc 19 25 52.0 +1.8
LPAZ La Paz 151.98 160 PKPbc PKPbc 19 26 09.0 +4.0
comp=Z,3.1nm,0.8s,baz=230,slow=1.2,SNR=12
LPAZ PKPab PKPab 19 26 18.7 +4.4
comp=Z,12nm,0.7s,baz=196,slow=4.9,SNR=32
BDFB Brasilia 152.26 202 PKPbc PKPbc 19 26 08.5 +2.8
comp=Z,5.3nm,0.8s,baz=202,slow=4.3,SNR=5.3

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*ISCJB **21** 19:10:41.1±0.7,2125S±009×3309E±009,h10km,mb4.2/9, MS4.1/2,Error ellipse: s-maj=16.3km s-min=8.0km az=100.0*
*IDC **21** 19:10:42.6±1.1,2104S×3345E,h0km,mb4.0/8, mb1 4.1/10,mb1mx3.9/24,mbtmp4.1/10,ML4.2/2,MS3.6/5, Ms1 3.7/5,ms1mx3.3/21,Error ellipse: s-maj=34.1km s-min=24.8km az=11.0*
*NEIC **21** 19:10:42.5±0.7,2132S×3330E,h10km,mb4.4/4,Error ellipse: s-maj=17.0km s-min=11.5km az=143.0*
ISC 21 19:10:42.5±0.6,2132S±009×3329E±008,h10km,n27, σ1§15/28,mb4.2/9,MS4.1/2,Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.72**	**320**	Pn	Pn		**Pn**	**19 12 33.8**	**-1.1**
	4.3nm,0.3s,baz=147,slow=15,SNR=41								
LSZ					Sn		**Sn**	**19 13 55.8**	**-6.6**
	8.5nm,0.3s,baz=142,slow=14,SNR=4.0								
LSZ					Lg			19 14 41.2	
	62nm,0.3s,baz=56,slow=21,SNR=11								
LSZ	**Lusaka**	**7.72**	**320**	*e*Pn			**Pn**	**19 12 33.9**	**-0.9**
	47nm,0.6s								
LSZ				*e*Sn			**Sn**	**19 13 50.7**	**-12**
LBTB	**Lobatse**	**7.97**	**241**	Pn			**Pn**	**19 12 39.5**	**+1.1**
	5.2nm,0.3s,baz=67,slow=13,SNR=64								
LBTB					Sn		**Sn**	**19 14 08.5**	**-0.1**
	3.2nm,0.3s,baz=130,slow=16,SNR=2.4								
LBTB					Lg			19 14 53.4	
	12nm,0.3s,baz=166,slow=20,SNR=11								
LBTB					LR		LR	19 15 39.5	
	comp=Z,379nm,20.5s,baz=95,slow=36								
LBTB	**Lobatse**	**7.97**	**241**	*e*Pn			**Pn**	**19 12 38.9**	**+0.5**
	3μm,0.8s								
LBTB				*e*Sn			**Sn**	**19 14 08.1**	**-0.5**
BOSA	**Boshof**	**10.28**	**223**	Pn			**Pn**	**19 13 09.6**	**-0.4**
	1.2nm,0.3s,baz=50,slow=13,SNR=51								
BOSA					Sn		**Sn**	**19 15 01.1**	**-4.3**
	3.5nm,0.3s,baz=329,slow=13,SNR=3.1								
BOSA					Lg			19 16 02.7	
	3.9nm,0.3s,baz=324,slow=19,SNR=2.6								
BOSA					LR		LR	19 17 24.1	
	comp=Z,443nm,18.1s,baz=53,slow=38								
BOSA	**Boshof**	**10.28**	**223**	*e*Pn			**Pn**	**19 13 09.5**	**-0.5**
	3μm,0.8s								
OPO	**Ambohidratompo**	**13.36**	**81**	Pn			**Pn**	**19 13 50.3**	**-1.8**
	0.9nm,0.3s,baz=251,slow=13,SNR=11								
OPO					Sn		**Sn**	**19 16 11.3**	**-9.3**
	0.8nm,0.3s,baz=191,slow=18,SNR=3.9								
TSUM	**Tsumeb**	**14.88**	**275**	Pn			**Pn**	**19 14 11.0**	**-1.9**
	2.5nm,0.3s,baz=107,slow=13,SNR=53								
TSUM					Sn		**Sn**	**19 16 52.0**	**-5.9**
	0.4nm,0.3s,baz=42,slow=15,SNR=2.9								
TSUM					Lg			19 18 26.4	
	1.2nm,0.3s,baz=16,slow=20,SNR=3.1								
TSUM					LR		LR	19 20 57.8	
	comp=Z,47nm,20.9s,baz=227,slow=41								
TSUM	**Tsumeb**	**14.88**	**275**	*e*Pn			**Pn**	**19 14 08.4**	**-4.5**
	16nm,0.6s								
KMBO	**Kilima Mbogo**	**20.44**	**11**	P			**P**	**19 15 20.4**	**+0.5**
	1.5nm,0.8s,baz=223,slow=18,SNR=4.3								
KMBO					Lg			19 21 14.9	
	6.1nm,1.1s,baz=247,slow=20,SNR=4.7								
KMBO	**Kilima Mbogo**	**20.44**	**11**	*e*P			**P**	**19 15 21.6**	**+1.7**
	12nm,1.6s								
TORD	**Torodi Ar. Bea**	**46.21**	**315**	P			**P**	**19 19 08.5**	**+0.8**
	3.7nm,0.9s,mb4.3,baz=128,slow=6.4,SNR=22								
TORD				PP			PP	19 20 58.8	+2.8
	1.2nm,0.7s,baz=133,slow=7.7,SNR=3.5								
DBIC	**Dimbokro**	**46.63**	**302**	P			**P**	**19 19 12.9**	**+2.0**
	1.8nm,0.7s,mb4.1,baz=135,slow=11,SNR=3.6								
DBIC	**Dimbokro**	**46.63**	**302**	P			**P**	**19 19 14.1**	**+3.2**
	2.6nm,0.7s,mb4.3								
GNI	**Garni**	**62.08**	**10**	P			**P**	**19 21 02.9**	**-0.4**
	6.4nm,1.2s,mb4.6								
BDFB	**Brasilia**	**76.54**	**258**	P			**P**	**19 22 37.0**	**+4.1**
	6.4nm,0.8s,mb4.6,baz=94,slow=4.0,SNR=5.7								
BDFB					LR		LR	19 52 18.0	
	comp=Z,119nm,18.4s,MS4.2,baz=117,slow=32								
BVAR	**Borovoye Array**	**80.73**	**22**	P			**P**	**19 22 56.2**	**+0.2**
	1.5nm,0.9s,mb3.9,baz=224,slow=8.1,SNR=4.9								
MKAR	**Makanchi Array**	**80.93**	**32**	P			**P**	**19 22 57.0**	**0.0**
	0.3nm,0.9s,mb3.2,baz=215,slow=6.5,SNR=2.2								
KURK	**Kurchatov**	**82.09**	**27**	*e*P			**P**	**19 23 03.6**	**+0.5**
	5.4nm,1.3s,mb4.3								
NOA	**NORSAR Array B**	**83.98**	**349**	P			**P**	**19 23 11.4**	**-1.5**
	1.0nm,0.8s,mb4.0,baz=158,slow=6.8,SNR=3.4								
ASAR	**Alice Springs**	**90.76**	**116**	P			**P**	**19 23 47.5**	**+1.7**
	1.0nm,0.9s,mb4.1,baz=234,slow=4.0,SNR=5.9								
LPAZ	**La Paz**	**94.39**	**251**	LR			LR	20 03 41.9	
	comp=Z,46nm,18.8s,MS4.0,baz=320,slow=34								
MSU	**Marysvale**	**145.76**	**308**	*e*PKPdf			PKPdf	19 30 23.8	+2.6
MVU	**Marysvale**	**145.79**	**308**	*e*PKPdf			PKPdf	19 30 28.7	+7.4
BMO	**Blue Mountains**	**146.28**	**321**	*e*PKPdf			PKPdf	19 30 25.3	+3.1
MNV	**Mina**	**150.10**	**311**	*e*PKPbc			PKPbc	19 30 36.8	+3.3
NVAR	**Mina Array Bea**	**150.21**	**311**	PKPbc			PKPbc	19 30 37.1	+3.4
	0.9nm,0.7s,baz=80,slow=4.0,SNR=8.0								

IDC 21 19:45:15.1±2.1,912S×12284E,h0km,mb3.3/1,mb1 3.3/3, mb1mx3.2/15,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=251.6km s-min=30.7km az=55.0,Savu Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.47**	**135**	Pn			Pn	19 48 55.1	+0.6
	0.1nm,0.3s,baz=312,slow=16,SNR=7.3								
WRA					Sn		Sn	19 51 37.8	-8.8
	0.1nm,0.3s,baz=304,slow=24,SNR=6.0								
ASAR	**Alice Springs**	**17.93**	**145**	P			Pn	19 49 25.9	+0.2
	0.1nm,0.3s,baz=324,slow=13,SNR=8.4								
MKAR	**Makanchi Array**	**66.35**	**331**	P			P	19 56 05.7	+0.1
	0.2nm,0.4s,baz=153,slow=6.7,SNR=8.5								

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*CSEM **21** 19:50:24.6±0.1,3805N×3006E,h5km,MD3.1,Error ellipse: s-maj=1.5km s-min=1.1km az=27.0*
*ISK **21** 19:50:24.8,3805N×3006E,h6km,MD3.1*
*ISCJB **21** 19:50:25.6±0.5,3805N±003×3005E±003,h8km±5km, Error ellipse: s-maj=4.9km s-min=3.9km az=19.6*
*ATH **21** 19:50:55.8,38.16N×2635E,h10km,MD3.3/3*
ISC 21 19:50:26.2±0.5,3803N±003×3005E±003,h9km±4km,n30, σ0§77/39,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.21**	**86**	*iP*			**Pg**	**19 50 30.8**	**+0.3**
TKTP				*iS*			**Sg**	**19 50 37.3**	**+3.9**
ISP	**Isparta**	**0.41**	**117**	*i*PG			**Pg**	**19 50 33.5**	**-0.6**
ISP				*i*SG			**Sg**	**19 50 40.1**	**+0.7**
KHL	**Karahalli**	**0.51**	**305**	*i*PG			**Pg**	**19 50 35.0**	**-1.1**
KHL				*i*SG			**Sg**	**19 50 42.2**	**-0.6**
BCK	**Bucak**	**0.71**	**143**	*i*PG			**Pg**	**19 50 39.3**	**-0.5**
DENT	**Denizli**	**0.85**	**252**	*i*PG			**Pg**	**19 50 42.0**	**-0.6**
DNZL	**Cakiroluk**	**0.86**	**247**	*iP*			**Pg**	**19 50 42.4**	**-0.4**
DNZL				*iS*			**Sg**	**19 50 57.7**	**+3.6**
ALT	**Altintas**	**1.03**	**2**	PG			**Pg**	**19 50 44.5**	**-1.4**
MANT	**Manisa**	**1.27**	**292**	*iP*			**Pn**	**19 50 49.0**	**-1.0**
MANT				*iS*			**Sg**	**19 51 07.7**	**+0.8**
ELL	**Elmali**	**1.28**	**185**	PN			**Pn**	**19 50 50.0**	**-0.2**
FETY	**Fethiye**	**1.59**	**209**	PN			**Pn**	**19 50 55.0**	**+0.6**
ESKT	**Eskisehir**	**1.62**	**22**	PN			**Pn**	**19 50 54.6**	**-0.2**
ESKT	**Eskisehir**	**1.62**	**22**	*iP*			**Pn**	**19 50 55.0**	**+0.2**
ESKT				*iS*			**Sn**	**19 51 16.7**	**+0.9**
SEYT	**Eskypehyr**	**1.62**	**22**	*iP*			**Pn**	**19 50 55.0**	**+0.2**
SEYT				*iS*			**Sn**	**19 51 16.7**	**+1.0**
KIZT	**Kizilcal**	**1.67**	**59**	PN			**Pn**	**19 50 55.2**	**-0.3**
AYDN	**Tasoluk**	**1.76**	**259**	*iP*			**Pn**	**19 50 56.0**	**-0.8**
AYDN				*iS*			**Sg**	**19 51 25.3**	**+2.5**
KONT	**Konya--Tatoy**	**1.82**	**92**	PN			**Pn**	**19 50 57.7**	**0.0**

BORA	**Eskisehir**	**1.88**	**9**	*i* P	**Pn**	**19 50 57.9**	**-0.5**
BORA				*i* S	**Sg**	**19 51 27.9**	**+1.5**
BORA	**Eskisehir**	**1.88**	**9**	*i* P	**Pn**	**19 50 57.8**	**-0.6**
MLSB	**Milas**	**1.95**	**249**	*e*PN	**Pn**	**19 50 59.6**	**+0.2**
AKS	**Akhisar**	**1.95**	**296**	PN	**Pn**	**19 50 59.2**	**-0.2**
HDMB	**Hadim**	**2.21**	**118**	*e*PN	**Pn**	**19 51 03.1**	**+0.2**
ORLT	**Orhaneli**	**2.21**	**336**	*e*PN	**Pn**	**19 51 02.4**	**-0.5**
IZM	**Izmir**	**2.23**	**280**	*e*PN	**Pn**	**19 51 03.2**	**0.0**
BODT	**Bodrum**	**2.38**	**247**	*e*PN	**Pn**	**19 51 06.0**	**+0.6**
SMG	**Samos**	**2.56**	**264**	*e*PB	**Pb**	**19 51 07.2**	**-5.1**
YLV	**Yalova**	**2.59**	**348**	*e*PN	**Pn**	**19 51 08.3**	**+0.1**
BNT	**Bandirma**	**2.86**	**325**	*e*PN	**Pn**	**19 51 11.9**	**0.0**
MRMT	**Marmara Adasi**	**3.20**	**324**	*e*PN	**Pn**	**19 51 16.9**	**+0.3**
PRK	**Paraskevi**	**3.20**	**294**	*e*PN	**Pn**	**19 51 16.5**	**-0.1**
LIA	**Limnos Island**	**4.23**	**298**	*e*PN	**Pn**	**19 51 31.1**	**+0.3**

*IDC **21** 20:00:35.8±4.6, 5446N×16039E, h55km±45km, mb3.2/7, mb1 3.5/7, mb1mx3.3/20, mbtmp3.4/7, ML4.0/1, Error ellipse: s-maj=40.0km s-min=18.7km az=145.0*
*MOS **21** 20:00:37.7±1.6, 5448N×16070E, h94km, mb3.5/2, Error ellipse: s-maj=46.8km s-min=25.2km az=58.0*
*ISCJB **21** 20:00:38.7±0.3, 5431N±002×16097E±006, h91km±4km, mb3.3/7, Error ellipse: s-maj=6.1km s-min=2.9km az=58.1*
*KRSC **21** 20:00:38.4±0.9, 5434N×16088E, h90km±3km, ML3.9*

ISC 21 20:00:39.5±0.3, 5432N±002×16095E±005, h86km±4km, n40, σ0°83/66, mb3.3/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.51**	**62**	*i* P	**Pn**	**20 00 54.2**	**+0.2**
MKZ				*i* S	**Sn**	**20 01 05.4**	**+0.7**
KII	**Karymskiy**	**0.93**	**253**	*i* P	**Pn**	**20 00 57.6**	**-0.5**
KII				*e*S	**Sn**	**20 01 11.3**	**-0.7**
TUMR	**Tumrok**	**1.07**	**335**	*i* P	**Pn**	**20 00 59.5**	**-0.3**
TUMR				*e*S	**Sn**	**20 01 14.5**	**-0.5**
SPN	**Mys Shipunski**	**1.34**	**205**	*e*P	**Pn**	**20 01 02.8**	**-0.3**
SPN				*e*S	**Sn**	**20 01 20.1**	**-0.8**
NLC	**Nalytchevo**	**1.49**	**220**	*e*P	**Pn**	**20 01 05.0**	**0.0**
NLC				*e*S	**Sn**	**20 01 23.8**	**-0.5**
SMAR	**Somma**	**1.66**	**231**	*e*P	**Pn**	**20 01 07.3**	**+0.2**
SMAR				*e*S	**Sn**	**20 01 27.4**	**-0.6**
UGLR	**Uglovaya**	**1.68**	**230**	*e*P	**Pn**	**20 01 08.0**	**+0.6**
UGLR				*e*S	**Sn**	**20 01 28.6**	**0.0**
AVH	**Avacha**	**1.69**	**232**	*i* P	**Pn**	**20 01 08.0**	**+0.5**
AVH				*i* S	**Sn**	**20 01 30.0**	**+1.3**
KPT	**Kopyto**	**1.70**	**346**	*e*P	**Pn**	**20 01 07.3**	**-0.4**
KPT				*e*S	**Sn**	**20 01 28.4**	**-0.7**
ZLN	**Zelenaya**	**1.71**	**357**	*i* P	**Pn**	**20 01 08.2**	**+0.5**
ZLN				*e*S	**Sn**	**20 01 30.1**	**+1.0**
KOK	**Koryaka**	**1.71**	**234**	*e*P	**Pn**	**20 01 08.1**	**+0.2**
KOK				*e*S	**Sn**	**20 01 29.5**	**+0.1**
CIRR	**Tsirk**	**1.81**	**356**	*i* P	**Pn**	**20 01 09.5**	**+0.5**
CIRR				*e*S	**Sn**	**20 01 32.3**	**+0.8**
KOZ	**Kozyrevsk**	**1.85**	**341**	*i* P	**Pn**	**20 01 09.3**	**-0.3**
KOZ				*e*S	**Sn**	**20 01 31.7**	**-0.8**
GNL	**Ganaly**	**1.88**	**252**	*i* P	**Pn**	**20 01 10.1**	**+0.1**
GNL				*e*S	**Sn**	**20 01 33.5**	**+0.2**
PET	**Petropavlovsk**	**1.88**	**227**	*e*P	**Pn**	**20 01 10.2**	**+0.1**
PET				*i* S	**Sn**	**20 01 33.7**	**+0.4**
PET	**Petropavlovsk**	**1.88**	**227**	*e*PN	**Pn**	**20 01 10.2**	**+0.1**
PET				*e*S	**Sn**	**20 01 33.8**	**+0.5**
PET				pmax	pmax		
	comp=Z,61nm,0.5s						
PET				smax			
	comp=N,318nm,0.7s						
PET				smax			
	comp=E,618nm,0.4s						
KLY	**Klyuchi**	**2.01**	**355**	*e*P	**Pn**	**20 01 11.6**	**-0.1**
KLY				*e*S	**Sn**	**20 01 36.2**	**0.0**
ESO	**Esso**	**2.06**	**322**	*i* P	**Pn**	**20 01 11.5**	**-0.9**
ESO				*e*S	**Sn**	**20 01 36.1**	**-1.5**
ESO				Smax			
	comp=E,140nm,0.7s						
SRDR	**Sredinnyy**	**2.12**	**341**	*i* P	**Pn**	**20 01 12.4**	**-0.8**
KBTR	**Krutoberegovo**	**2.17**	**29**	*e*P	**Pn**	**20 01 14.1**	**+0.2**
KBTR				*e*S	**Sn**	**20 01 40.0**	**-0.2**
KRMR	**Karymshinskiy**	**2.25**	**230**	*e*P	**Pn**	**20 01 14.9**	**0.0**
KRMR				*e*S	**Sn**	**20 01 42.3**	**+0.4**
BDR	**Baidarnaya**	**2.26**	**4**	*i* P	**Pn**	**20 01 15.6**	**+0.6**
BDR				*e*S	**Sn**	**20 01 44.2**	**+2.0**
SRKR	**Sorokina**	**2.34**	**3**	*i* P	**Pn**	**20 01 16.7**	**+0.5**
SRKR				*e*S	**Sn**	**20 01 43.8**	**-0.4**
RUS	**Russkaya**	**2.39**	**219**	*e*P	**Pn**	**20 01 16.4**	**-0.3**
RUS				*e*S	**Sn**	**20 01 43.9**	**-1.3**
GRL	**Gorelyy**	**2.47**	**225**	*e*P	**Pn**	**20 01 18.4**	**+0.6**
APC	**Apacha**	**2.66**	**240**	*i* P	**Pn**	**20 01 20.8**	**+0.5**
APC				*e*S	**Sn**	**20 01 52.9**	**+1.2**
APC				Smax			
	comp=E,70nm,1.1s						
BKI	**Bering**	**3.04**	**71**	*i* P	**Pn**	**20 01 26.3**	**+0.8**
BKI				*e*S	**Sn**	**20 01 59.4**	**-1.6**
BKI				Smax			
	comp=E,120nm,0.3s						
MIPR	**Malaya Ipel'ka**	**3.24**	**233**	*i* P	**Pn**	**20 01 29.1**	**+0.9**
FX1	**Attu Island--F**	**7.41**	**96**	P	**Pn**	**20 02 25.7**	**+0.8**
	comp=E,7.2nm,0.3s,baz=265,slow=2,2,SNR=22						
FX1				S	**Sn**	**20 03 45.1**	**-2.2**
	comp=E,7.0nm,0.3s,baz=140,slow=21,SNR=13						
FX1	**Attu Island--F**	**7.41**	**96**	PN	**Pn**	**20 02 25.7**	**+0.8**
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**23.71**	**231**	P	**P**	**20 05 41.5**	**-2.0**
	comp=Z,1.2nm,0.7s,mb3.4,baz=14,slow=10,SNR=4.2						
MJAR	**Matsushiro Arr**	**23.71**	**231**	P	**P**	**20 05 41.5**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**27.60**	**47**	P	**P**	**20 06 18.2**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.2,baz=264,slow=7.9,SNR=7.3						
ILAR	**Eielson Array**	**27.60**	**47**	P	**P**	**20 06 18.3**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**41.92**	**44**	P	**P**	**20 08 21.3**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=298,slow=7.9,SNR=4.4						
YKA	**Yellowknife Ar**	**41.92**	**44**	P	**P**	**20 08 21.3**	**-0.2**
MKAR	**Makanchi Array**	**48.09**	**295**	P	**P**	**20 09 06.8**	**-3.5**
	comp=Z,0.1nm,0.3s,mb3.1,baz=48,slow=6.6,SNR=3.4						
NVAR	**Mina Array Bea**	**54.86**	**71**	P	**P**	**20 10 03.0**	**+2.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=313,slow=5.4,SNR=4.1						
PDAR	**Pinedale Array**	**56.49**	**62**	P	**P**	**20 10 13.7**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=293,slow=2.1,SNR=5.6						
WRA	**Warramunga Arr**	**77.41**	**206**	P	**P**	**20 12 24.5**	**-0.6**
	comp=Z,0.1nm,0.5s,mb2.9,baz=26,slow=6.3,SNR=7.9						

*BUG **21** 20:03:02.9, 5162N×697E, h1km, ML1.1*
*BNS **21** 20:03:03.2±0.5, 5168N×697E, h1km, ML1.7*
*LDG **21** 20:03:04.4±0.2, 5158N×690E, h1km, Ml2.6/2, Error ellipse: s-maj=4.8km s-min=3.0km az=28.0, Suspected Mining induced.*

BGR 21 20:03:04.0±0.6, 5161N×705E, h1km, ML1.9/4, 1D, Error ellipse: s-maj=10.0km s-min=4.4km az=94.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11**	**277**	Pg	Pg	20 03 05.3	-0.8
BZER				Sg	Sg	20 03 07.4	-0.2
BUG	**Bochum--Univer**	**0.22**	**140**	⇓*i*Pg	Pg	20 03 08.8	+0.7
BUG				Sg	Sg	20 03 13.0	+2.0
WTSB	**Winterswijk**	**0.39**	**337**	*e*Pg	Pg	20 03 10.3	-1.2
BNS	**Bensberg**	**0.65**	**173**	*e*Pg	Pg	20 03 16.9	+0.5
BNS				*e*Sg	Sg	20 03 27.0	+2.2
	45nm,0.5s						
HOBG	**Hohbusch**	**0.65**	**164**	*e*Pg	Pg	20 03 17.1	+0.7
HOBG				*e*Sg	Sg	20 03 27.5	+2.7
	42nm,0.4s						
IBBN	**Ibbenburen**	**0.83**	**32**	*e*Pg	Pg	20 03 19.3	-0.6
	SNR=3.7						
IBBN				*e*Sg	Sg	20 03 31.1	+0.6
STB	**Steinbach**	**1.02**	**187**	*e*Pg	Pg	20 03 23.6	0.0
STB				*e*Sg	Sg	20 03 38.7	+1.8
	16nm,0.2s						
KLL	**Kalltalsperre**	**1.07**	**206**	*e*Pg	Pg	20 03 23.7	-0.8
KLL				*e*Sg	Sg	20 03 39.5	+1.2
	12nm,0.3s						
HGN	**Heimansgroeve**	**1.10**	**220**	*e*Pg	Pg	20 03 24.1	-0.9
	6.9nm,0.3s						
HGN				*e*Sg	Sg	20 03 39.4	+0.2
BGG	**Burgeitz**	**1.42**	**172**	*e*Pg	Pg	20 03 29.7	-1.4
BGG				*e*Sg	Sg	20 03 49.2	-0.2
	13nm,0.2s						
TNS	**Taunus Mts**	**1.65**	**147**	*e*Pg	Pg	20 03 34.2	-1.3
	SNR=3.0						
TNS				*e*Sg	Sg	20 03 57.0	+0.1
WLF	**Walferdange**	**2.03**	**197**	*e*Pg	Pg	20 03 42.2	-0.6
	SNR=1.7						
GIVF	**Givet**	**2.06**	**224**	*e*Pn	Pn	20 03 36.8	-2.9
GIVF	**Givet**	**2.06**	**224**	*e*P	Pn	20 03 39.4	-0.3
GIVF				*e*Sg	Sg	20 04 07.2	-3.1
	11nm,0.3s						
CLZ	**Clausthal**	**2.08**	**82**	*e*Pg	Pg	20 03 42.0	-1.9
	SNR=2.6						
RFYF	**Reffroy**	**3.15**	**199**	*e*Pn	Pn	20 03 52.8	-1.9
CDF	**Champ du Feu**	**3.20**	**177**	*e*Pn	Pn	20 03 53.8	-1.6
BFO	**Black Forest**	**3.38**	**165**	*e*Pn	Pn	20 03 56.7	-1.3
	SNR=1.9						
HAU	**Haudompre**	**3.63**	**187**	*e*Pn	Pn	20 03 59.3	-2.1
SFTF	**Sexfontaines**	**3.64**	**202**	*e*Pn	Pn	20 03 59.3	-2.2
SFTF				*e*Sg	Sg	20 04 56.7	-4.4
	1.7nm,0.3s						
LOR	**Lormes**	**4.81**	**207**	*e*Pn	Pn	20 04 15.2	-2.4
	baz=37						
LOR				*e*Sn	Sn	20 05 07.0	-7.0
CABF	**La Chapelle**	**5.04**	**188**	*e*Pn	Pn	20 04 18.9	-1.8
SSF	**Saint Saulge**	**5.10**	**208**	*e*Pn	Pn	20 04 18.9	-2.7
SMF	**Signal de Mont**	**5.39**	**204**	*e*Pn	Pn	20 04 22.6	-2.9
AVF	**Avril sur Loir**	**5.39**	**208**	*e*Pn	Pn	20 04 22.5	-3.0
LDF	**La Druitiere**	**5.51**	**240**	*e*Pn	Pn	20 04 24.1	-3.1
FLN	**La Foliniere**	**5.61**	**242**	*e*Pn	Pn	20 04 25.9	-2.6
	baz=53						
BGF	**Bois d'Agland**	**5.76**	**210**	*e*Pn	Pn	20 04 27.7	-2.8
GRR	**Gorron**	**6.03**	**241**	*e*Pn	Pn	20 04 31.4	-2.9
GRR				*e*Sn	Sn	20 05 36.6	-7.3
TCF	**Toulx Ste Croi**	**6.20**	**213**	*e*Pn	Pn	20 04 33.7	-3.0

*NEIC **21** 20:08:36.9, 6630N×142.17W, h20km, ML3.2(AEIC), After AEIC.*

PGC 21 20:08:35.6, 6625N×14248W, h5km, ML3.3/2, Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.45**	**325**	P	Pn	20 09 02.1	-0.4
BM3				S	Sb	20 09 21.0	-0.8
IL1	**Eielson Array**	**2.36**	**233**	P	Pn	20 09 16.5	+1.5
DAWY	**Dawson**	**2.55**	**148**	Pn	Pn	20 09 16.1	-1.5
DAWY				Sn	Sn	20 09 47.6	-1.3
DAWY				Sg	Sg	20 09 54.8	-2.7
DAWY				Trac		20 10 00.5	
	comp=Z,74nm,0.5s						
DAWY	**Dawson**	**2.55**	**148**	P	Pn	20 09 17.3	-0.3
DAWY				S	Sn	20 09 47.9	-1.1
COLA	**College**	**2.63**	**241**	P	Pn	20 09 20.6	+1.9
DOT	**Dot Lake**	**2.69**	**195**	P	Pn	20 09 20.8	+1.2
COLD	**Coldfoot**	**3.22**	**291**	P	Pn	20 09 29.0	+2.2
MENT	**Mentasta**	**3.37**	**190**	P	Pn	20 09 29.2	+0.4
PAX	**Paxson**	**3.53**	**203**	P	Pn	20 09 33.0	+1.9
MCK	**McKinley**	**3.73**	**230**	P	Pn	20 09 35.7	+1.9
INK	**Inuvik**	**4.04**	**55**	Pn	Pn	20 09 37.0	-1.1
INK				Sn	Sn	20 10 22.9	-2.9
INK				Sg	Sg	20 10 36.5	-9.0
INK				Trac		20 10 44.5	
	comp=Z,25nm,0.7s						
INK	**Inuvik**	**4.04**	**55**	*e*Pn	Pn	20 09 36.7	-1.4
KTH	**Kantishna Hill**	**4.50**	**237**	P	Pn	20 09 45.7	+1.3
HYT	**Haines Junctio**	**5.88**	**156**	Pn	Pn	20 10 05.9	+2.6
HYT				Sg	Sg	20 11 38.0	-6.3
HYT				Trac		20 11 52.1	
	comp=Z,12nm,0.6s						
WHY	**Whitehorse**	**6.55**	**145**	Pn	Pn	20 10 12.9	+0.3
WHY				Sg	Sg	20 12 00.2	-5.9
WHY				Trac		20 12 23.8	
	comp=Z,6.0nm,0.9s						
YKW3	**Yellowknife Ar**	**12.54**	**94**	P	Pn	20 11 29.9	-4.7
YKW3				Sn	Sn	20 13 41.8	-13
YKW3				Trac		20 14 29.2	
	comp=Z,1.0nm,0.5s						

IDC 21 20:13:44.0±2.4, 626S×13029E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/13, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=140.4km s-min=32.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**164**	Pn	Pn	20 17 06.4	+0.6
	0.2nm,0.3s,baz=347,slow=14,SNR=15						
WRA				Sn	Sn	20 19 29.6	-14
	0.2nm,0.3s,baz=334,slow=23,SNR=7.4						
ASAR	**Alice Springs**	**17.65**	**169**	P	Pn	20 17 51.2	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	20 24 43.8	+0.2
	0.2nm,0.5s,baz=116,slow=7.4,SNR=4.5						

*ISCJB **21** 20:18:42.0±5.3, 12S±02×1276E±04, h9km±33km, mb4.3/8, Error ellipse: s-maj=77.3km s-min=11.9km az=122.7*
*IDC **21** 20:18:42.6±1.2, 1.10S×12778E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=123.7km s-min=18.9km az=68.0*
*NEIC **21** 20:18:44.3±0.9, 122S×127.49E, h10km, mb4.5/4, Error ellipse: s-maj=53.4km s-min=9.5km az=60.0*

ISC 21 20:18:49.7±4.0, 13S±02×1276E±04, h54km±40km, n11, σ0°82/12, mb4.3/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.67**	**161**	P	**Pn**	**20 23 15.1**	**-0.9**
	0.4nm,0.3s,baz=341,slow=12,SNR=17						
WRA				S	**Sn**	**20 26 52.8**	**-0.3**
	0.1nm,0.3s,baz=342,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**23.07**	**165**	P	**P**	**20 23 51.5**	**+0.9**
	0.9nm,0.4s,mb3.5,baz=346,slow=10,SNR=13						
STKA	**Stephens Creek**	**33.17**	**158**	P	**P**	**20 25 21.6**	**+0.6**
	2.1nm,0.8s,mb4.1,baz=340,slow=13,SNR=3.8						
JIRN	**Jiri**	**49.10**	**309**	*e*P	**P**	**20 27 33.0**	**+1.4**
	3.6nm,0.4s,mb4.7						
GUN	**Gumba**	**49.46**	**309**	*e*P	**P**	**20 27 35.0**	**+0.6**
	5.6nm,0.4s,mb5.0						
KKN	**Kakani**	**49.87**	**309**	*e*P	**P**	**20 27 37.6**	**+0.1**
	3.8nm,0.7s,mb4.5						
DMN	**Daman**	**49.92**	**308**	*e*P	**P**	**20 27 38.3**	**+0.4**
GKN	**Gorkha**	**50.47**	**309**	*e*P	**P**	**20 27 40.4**	**-1.7**
KOLN	**Koldanda**	**51.18**	**308**	*e*P	**P**	**20 27 46.4**	**-1.0**
	8.8nm,0.7s,mb4.8						
SONM	**Songino Array**	**52.31**	**342**	P	**P**	**20 27 55.6**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=163,slow=6.3,SNR=5.9						
MKAR	**Makanchi Array**	**62.17**	**326**	P	**P**	**20 29 05.2**	**-0.1**
	0.8nm,0.3s,mb4.3,baz=121,slow=7.9,SNR=52						

*IDC **21** 20:24:32.4±0.8, 152N×12838E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, MS3.3/2, Ms1 3.3/2, ms1mx2.6/23, Error ellipse: s-maj=34.3km s-min=16.2km az=73.0*
*NEIC **21** 20:24:34.0±9.2, 148N×12853E, h9km±59km, mb4.6/12, Error ellipse: s-maj=13.6km s-min=8.4km az=65.0*
*BJI **21** 20:24:33.9, 150N×12850E, h9km, mB4.8, mb4.3, Ms4.6, Msz4.2*
*MOS **21** 20:24:35.5±1.5, 150N×12853E, h33km, mb4.7/4, Error ellipse: s-maj=20.6km s-min=11.0km az=111.5*
*ISCJB **21** 20:24:36.6±1.8, 144N±006×1286E±01, h42km±16km, mb4.4/24, MS3.1/1, Error ellipse: s-maj=19.2km s-min=8.4km az=139.5*

ISC 21 20:24:39.0±1.4, 143N±006×1286E±01, h46km±13km, n45, σ1°08/45, mb4.4/24, MS3.1/1, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**7.31**	**331**	*e*P	**Pn**	**20 26 24.3**	**+1.1**
BUKP				*e*S	**Sn**	**20 27 53.2**	**+8.4**
PAGZ	**Pagadian**	**8.23**	**321**	*e*P	**Pn**	**20 26 34.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.62**	**188**	*e*P	**Pn**	**20 29 03.1**	**-2.1**
	6.5nm,1.0s						
WRAB	**Tennant Creek**	**21.96**	**165**	*e*P	**P**	**20 29 28.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**21.96**	**165**	*e*P	**P**	**20 29 28.7**	**-0.1**
	comp=Z,24nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**21.97**	**165**	P	**P**	**20 29 28.6**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.0,baz=344,slow=12,SNR=24						
WB2	**Warramunga Arr**	**21.97**	**165**	*e*P	**P**	**20 29 29.1**	**+0.3**
JOW	**Kunigami**	**25.26**	**359**	LR	LR	20 37 56.2	
	comp=Z,60nm,22.0s,MS3.1,baz=334,slow=32						
ASAR	**Alice Springs**	**25.47**	**169**	P	**P**	**20 30 04.5**	**+1.8**
	comp=Z,1.2nm,0.6s,mb3.6,baz=349,slow=9.4,SNR=15						
PSI	**Prapat**	**29.69**	**273**	P	**P**	**20 30 38.8**	**-1.6**
	comp=Z,2.4nm,0.4s,mb4.3,baz=104,slow=8.3,SNR=6.5						
ENH	**Enshi**	**33.94**	**330**	*e*P	**P**	**20 31 18.7**	**+0.9**
	comp=Z,4.3nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**35.34**	**161**	*e*P	**P**	**20 31 30.3**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**35.34**	**161**	P	**P**	**20 31 30.1**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=340,slow=9.9,SNR=2.9						
MJAR	**Matsushiro Arr**	**36.05**	**13**	P	**P**	**20 31 35.6**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=186,slow=9.3,SNR=7.5						
MAJO	**Matsushiro**	**36.05**	**13**	*e*P	**P**	**20 31 34.9**	**-1.0**
XAN	**Xi'an**	**37.30**	**333**	P	**P**	**20 31 47.0**	**+0.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
LZH	**Lanzhou**	**41.42**	**329**	*e*P	**P**	**20 32 23.3**	**+2.4**
LZH				AP	pP	20 32 32.1	-1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.6						
SHL	**Shillong**	**42.74**	**307**	*e*P	**P**	**20 32 22.0**	**-10**
LSA	**Lhasa**	**45.35**	**312**	P	**P**	**20 32 52.0**	**-0.6**
LSA	**Lhasa**	**45.35**	**312**	*e*P	**P**	**20 32 53.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**45.35**	**312**	*e*P	**P**	**20 32 53.8**	**+1.2**
	comp=Z,3.0nm,0.6s,mb4.3						
GTA	**Gaotai**	**46.02**	**329**	*e*P	**P**	**20 32 59.0**	**+1.2**
GTA				AP	pP	20 33 03.4	-7.1
GTA				XP	sP	20 33 06.3	-10
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,61nm,6.5s						
GTA				LR	LR		
	comp=N,149nm,8.0s						
GTA				LR	LR		
	comp=E,124nm,6.1s						
GTA				LR	LR		
	comp=Z,115nm,8.8s						
YSS	**Yuzh-Sakhalins**	**46.99**	**13**	P	**P**	**20 33 04.6**	**-0.8**
YSS				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.2						
YSS	**Yuzh-Sakhalins**	**46.99**	**13**	P	**P**	**20 33 04.6**	**-0.9**
	comp=Z,43nm,1.4s,mb5.2						
JIRN	**Jiri**	**48.23**	**307**	*e*P	**P**	**20 33 15.7**	**+0.7**
	comp=Z,12nm,0.7s,mb5.0						
GUN	**Gumba**	**48.59**	**307**	*e*P	**P**	**20 33 17.8**	**0.0**
	comp=Z,13nm,0.7s,mb5.1						
PKI	**Pulchoki**	**48.82**	**306**	*e*P	**P**	**20 33 19.8**	**+0.2**
KKN	**Kakani**	**49.02**	**306**	*e*P	**P**	**20 33 21.2**	**+0.1**
DMN	**Daman**	**49.08**	**306**	*e*P	**P**	**20 33 22.0**	**+0.4**
	comp=Z,15nm,0.9s,mb5.0						
GKN	**Gorkha**	**49.62**	**306**	*e*P	**P**	**20 33 25.8**	**+0.1**
	comp=Z,17nm,1.2s,mb5.0						
KOLN	**Koldanda**	**50.37**	**306**	*e*P	**P**	**20 33 31.6**	**+0.3**
	comp=Z,9.2nm,0.5s,mb5.1						
HYB	**Hyderabad**	**51.67**	**291**	*i* P	**P**	**20 33 44.0**	**+2.9**
HYB	**Hyderabad**	**51.67**	**291**	*e*P	**P**	**20 33 44.0**	**+2.9**
YAK	**Yakutsk**	**60.46**	**1⇑**	*e*P	**P**	**20 34 44.8**	**+0.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
YAK	**Yakutsk**	**60.46**	**1**	*e*P	**P**	**20 34 44.5**	**+0.7**
	comp=Z,9.5nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**60.50**	**325**	P	**P**	**20 34 42.4**	**-1.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=112,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**60.50**	**325**	P	**P**	**20 34 42.4**	**-1.7**
KURK	**Kurchatov**	**64.67**	**327**	*e*P	**P**	**20 35 10.3**	**-1.7**
NVS	**Novosibirsk**	**64.76**	**333**	*e*P	**P**	**20 35 10.2**	**-2.3**
TIXI	**Tiksi**	**70.11**	**0⇓**	*e*P	**P**	**20 35 46.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**70.25**	**327**	P	**P**	**20 35 45.8**	**-1.5**
	comp=Z,2.3nm,0.9s,mb4.1,baz=110,slow=8.1,SNR=9.2						
AKTK	**Aktyubinsk**	**76.61**	**322**	P	**P**	**20 36 24.1**	**-0.5**
AKTO	**Aktyubinsk**	**76.61**	**322**	P	**P**	**20 36 24.1**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=111,slow=6.5,SNR=5.9						
VNDA	**Vanda**	**80.93**	**173**	P	**P**	**20 36 49.1**	**+0.8**
	comp=Z,1.6nm,1.1s,mb3.9,baz=316,slow=8.4,SNR=6.6						
ILAR	**Eielson Array**	**86.37**	**25**	P	**P**	**20 37 16.4**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.6,baz=244,slow=4.7,SNR=7.3						

*MOS **21** 20:31:12.3±2.4, 5118N×9819E, h10km, mb3.

comp=Z,0.6nm,0.3s,baz=34,slow=9.5,SNR=3.1
KMO Kumora 9.03 54 *e*P **Pn 20 33 23.6 -1.7**
KMO pmax pmax
comp=Z,7.0nm,0.6s
BOD Bodaibo 11.29 48 *e*P **Pn 20 33 55.1 -1.2**
BOD pmax pmax
comp=Z,3.0nm,0.2s
MKAR Makanchi Array 11.36 253 Pn **Pn 20 33 56.0 -1.2**
comp=Z,0.1nm,0.3s,baz=74,slow=15,SNR=3.7
MKAR Lg 20 37 07.2
comp=Z,0.1nm,0.3s,baz=66,slow=32,SNR=5.1
BVAR Borovoye Array 17.15 287 P **Pn 20 35 15.2 +0.6**
comp=Z,0.1nm,0.3s,baz=93,slow=12,SNR=7.8
TIXI Tiksi 24.67 23 *e*P **P 20 36 36.4 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
AKTO Aktyubinsk 25.20 284 P **P 20 36 39.5 -1.0**
comp=Z,1.2nm,0.5s,mb3.6,baz=85,slow=14,SNR=5.9
AKTO Aktyubinsk 25.20 284 P **P 20 36 39.5 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
NOA NORSAR Array B 45.97 317 P **P 20 39 42.3 +4.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=62,slow=7.8,SNR=3.3
NOA NORSAR Array B 45.97 317 P **P 20 39 42.3 +4.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 77.61 145 P **P 20 43 10.5 -0.6**
comp=Z,0.3nm,0.7s,mb3.3,baz=341,slow=6.1,SNR=3.4

MEX 21 20:45:43.9±0.3, 1686N×9974W, h15km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.17**	**273**	*i* P	Pg	20 45 47.5	-0.6
ACX				*i* S	Sg	20 45 50.5	-0.5
CAIG	**El Cayaco**	**0.54**	**290**	*i* P	Pg	20 45 53.2	-1.4
CAIG				*i* S	Sg	20 46 00.2	-1.7
MEIG	**Mezcala**	**1.07**	**6**	*e*P	Pb	20 46 00.6	-3.5
MEIG				*i* S	Sb	20 46 13.8	-4.0

NEIC 21 20:51:38.3, 3979S×17505E, h30km, ML3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.06**	**304**	P	Pb	20 51 43.7	+0.3
WAZ				S	Sb	20 51 46.9	0.0
WNVZ	**Wahianoa**	**0.63**	**43**	P	Pb	20 51 50.6	-0.2
WNVZ				S	Sb	20 52 00.4	+1.1
MOVZ	**Moawhango**	**0.66**	**55**	P	Pb	20 51 50.7	-0.7
WPVZ	**Whakapapa**	**0.70**	**33**	P	Pb	20 51 51.6	-0.4
WPVZ				S	Sb	20 52 01.5	+0.2
TUVZ	**Tukino**	**0.70**	**42**	P	Pb	20 51 51.8	-0.2
NGZ	**Ngauruhoe**	**0.75**	**35**	P	Pn	20 51 52.2	-0.6
WTVZ	**West Tongariro**	**0.79**	**32**	P	Pn	20 51 52.9	-0.5
MRZ	**Mangatainoka R**	**0.96**	**155**	*e*P	Pn	20 51 55.5	-0.2
KIW	**Kapiti Island**	**1.08**	**186**	P	Pn	20 51 56.5	-0.8
BKZ	**Black Stump Fm**	**1.28**	**61**	*e*P	Pn	20 52 01.1	+1.0
HIZ	**Hauiti**	**1.28**	**353**	*e*P	Pn	20 52 00.0	-0.2
CAW	**Cannon Point**	**1.32**	**179**	P	Pn	20 52 00.8	+0.2
MRW	**Makara Radio**	**1.46**	**190**	P	Pn	20 52 02.8	+0.2
TCW	**Tory Channel**	**1.54**	**202**	P	Pn	20 52 03.2	-0.5

IDC 21 20:52:58.9±2.0, 094N×12616E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=193.7km s-min=23.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**159**	P	P	20 57 56.8	-0.4
	0.9nm,0.5s,baz=338,slow=11,SNR=27						
ASAR	**Alice Springs**	**25.59**	**163**	P	P	20 58 30.6	+0.9
	0.4nm,0.6s,baz=332,slow=6.9,SNR=7.5						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	21 03 04.1	+0.1
	0.5nm,0.5s,baz=123,slow=8.0,SNR=16						

ISCJB ***21*** *21:00:21.0±0.2, 1018S±003×7546W±004, h14km, mb5.3/110, MS4.6/24, Error ellipse: s-maj=5.9km s-min=4.2km az=117.6*
MOS ***21*** *21:00:20.9±1.0, 1015S×7546W, h14km, mb5.4/49, MS4.4/6, Error ellipse: s-maj=17.7km s-min=5.8km az=116.4*
CSEM ***21*** *21:00:20.6, 1021S×7550W, h10km, mb5.5*
NEIC ***21*** *21:00:22.2±0.1, 1029S×7545W, mb5.4/80, Error ellipse: s-maj=6.3km s-min=3.4km az=63.0*
NEIC Felt [III] at Oxapampa.
IDC ***21*** *21:00:22.6±2.0, 1032S×7554W, h17km±11km, mb4.9/15, mb1 5.0/19, mb1mx4.9/22, mbtmp4.9/19, ML4.4/3, MS4.4/17, Ms1 4.4/17, ms1mx4.2/31, Error ellipse: s-maj=16.9km s-min=10.5km az=82.0*
BJI ***21*** *21:00:22.6, 1030S×7540W, h13km, mB5.2, Ms5.5, Msz4.9*
HRVD ***21*** *21:00:22.2±0.3, 1042S×7530W, h20km±1km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s42,c57;Mantle waves: s56,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.15±.17; $M_{\theta\theta}$-0.23±.10; $M_{\phi\phi}$-2.92±.14; $M_{r\theta}$0.55±.24; $M_{\theta\phi}$1.73±.08; $M_{\phi r}$4.63±.38; Best double couple: $M_0$5.82700×10^{16} NP1:ϕ_s131.00000°, δ24.00000°, λ44.00000°. NP2: ϕ_s359.00000°, δ73.00000°, λ108.00000°. Principal axes: T 5.9360, Plg58.0000°, Azm294.0000°; N -0.2210, Plg17.0000°, Azm174.0000°; P -5.7180, Plg26.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NAO ***21*** *21:00:37.9, 999S×7061W, h33km, mb4.7*
ISC 21 21:00:22.8±0.2, 1024S±003×7542W±004, h14km, h14km±.3km: pP-P, n353, σ0s83/256, mb5.3/110, MS4.6/24, 12C-5D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.23**	**219**	⇓*i*Pn	**Pn**	**21 00 59.2**	**-0.1**
NNA				*e*S	**Sn**	**21 01 27.4**	**+0.8**
ARE	**Arequipa**	**7.28**	**149**	*e*P	**Pn**	**21 02 11.0**	**+2.4**
LPAZ	**La Paz**	**9.30**	**131**	Pn	**Pn**	**21 02 38.1**	**+1.7**
	0.4nm,0.3s,baz=324,slow=13,SNR=17						
LPAZ				Lg		21 05 19.7	
	2.2nm,0.3s,baz=207,slow=17,SNR=3.7						
LPAZ				LR	LR	21 05 47.0	
	comp=Z,241nm,20.2s,baz=324,slow=35						
LPAZ	**La Paz**	**9.30**	**131**	*e*Pn	**Pn**	**21 02 38.9**	**+2.5**
	6.2nm,1.5s						
OTAV	**Otavalo**	**10.83**	**344**	*e*Pn	**Pn**	**21 02 59.0**	**+1.7**
	72nm,0.8s						
ROSC	**El Rosal**	**15.03**	**4**	Pn	**Pn**	**21 03 57.4**	**+2.7**
	baz=262,slow=20,SNR=6.2						
ROSC				Lg		21 08 20.9	
	2.1nm,0.3s,baz=87,slow=23,SNR=2.6						
ROSC				LR	LR	21 10 35.5	
	comp=Z,2μm,18.3s,baz=195,slow=40						
ROSC	**El Rosal**	**15.03**	**4**	Pn	**Pn**	**21 03 57.4**	**+2.7**
ROSC				Lg		21 08 20.9	
SIV	**San Ignacio**	**15.10**	**114**	Pn	**Pn**	**21 03 55.4**	**-0.2**
	1.2nm,0.3s,baz=281,slow=14,SNR=21						
SIV				Lg		21 08 08.6	
	2.5nm,0.3s,baz=20,slow=23,SNR=3.0						
PAYG	**Puerto Ayora**	**17.57**	**302**	⇑*e*P	**Pn**	**21 04 27.2**	**0.0**
	47nm,0.9s						
SDV	**Santo Domingo**	**19.58**	**14**	P	**Pn**	**21 04 52.1**	**+0.4**
	6.3nm,0.3s,baz=196,slow=12,SNR=78						
SDV				S	**Sn**	**21 08 34.4**	**+3.1**
	0.6nm,0.3s,baz=341,slow=5.5,SNR=3.2						
SDV				Lg		21 10 46.4	
	1.1nm,0.3s,baz=282,slow=23,SNR=2.7						
SDV				LR	LR	21 13 15.0	
	comp=Z,680nm,20.1s,baz=217,slow=39						
SDV	**Santo Domingo**	**19.58**	**14**	*e*P	**Pn**	**21 04 51.6**	**-0.1**
	127nm,0.8s						
CFAA	**Coronel Fontan**	**22.28**	**164**	P	**P**	**21 05 18.4**	**-1.1**
	1.0nm,0.6s,baz=334,slow=11,SNR=24						
JTS	**JuntasAbangare**	**22.49**	**335**	*e*P	**P**	**21 05 21.9**	**+0.2**
JTS				pmax	pmax		
	comp=Z,53nm,1.0s						
JTS	**JuntasAbangare**	**22.49**	**335**	*e*P	**P**	**21 05 21.9**	**+0.2**
	comp=Z,53nm,1.0s,mb4.9						
CPUP	**Villa Florida**	**23.43**	**136**	*e*P	**P**	**21 05 32.1**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,38nm,0.6s						
CPUP	**Villa Florida**	**23.43**	**136**	*e*P	**P**	**21 05 32.1**	**+0.5**
	comp=Z,38nm,0.6s,mb5.0						
BDFB	**Brasilia**	**27.23**	**104**	P	**P**	**21 06 07.1**	**+0.8**
	comp=Z,24nm,1.1s,mb4.6,baz=282,slow=10.0,SNR=16						
BDFB				Lg		21 14 36.6	
	comp=Z,12nm,1.0s,baz=360,slow=26,SNR=3.4						
BDFB				LR	LR	21 17 49.4	
	comp=Z,2μm,21.2s,MS4.7,baz=284,slow=38						
BDFB	**Brasilia**	**27.23**	**104**	P	**P**	**21 06 07.1**	**+0.8**
BDFB				Lg		21 14 36.6	
SJG	**San Juan**	**29.62**	**18**	P	**P**	**21 06 28.0**	**+0.5**
	comp=Z,78nm,0.7s,mb5.5,baz=184,slow=4.4,SNR=28						
SJG	**San Juan**	**29.62**	**18**	*e*P	**P**	**21 06 28.4**	**+0.9**
SJG				pmax	pmax		
	comp=Z,65nm,0.7s						
SJG	**San Juan**	**29.62**	**18**	*e*P	**P**	**21 06 28.4**	**+0.9**
	comp=Z,65nm,0.7s,mb5.5						
MTP	**Monte Pirata**	**29.79**	**19**	*e*P	**P**	**21 06 29.9**	**+0.9**
TRQA	**Tornquist**	**30.22**	**159**	*e*P	**P**	**21 06 31.8**	**-1.1**
	comp=Z,28nm,1.4s,mb4.8						
PLCA	**Paso Flores**	**30.68**	**173**	P	**P**	**21 06 37.1**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.3,baz=360,slow=8.1,SNR=4.5						
PLCA				PcP	PcP	21 09 33.9	-0.8
	comp=Z,6.9nm,0.9s,baz=337,slow=5.1,SNR=5.7						
PLCA	**Paso Flores**	**30.68**	**173**	P	**P**	**21 06 37.1**	**+0.2**
PLCA						21 09 33.9	
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PLCA	**Paso Flores**	**30.68**	**173**	*e*P	**P**	**21 06 36.9**	**-0.1**
	comp=Z,46nm,1.9s,mb5.0						
TEIG	**Tepich**	**32.81**	**337**	*e*P	**P**	**21 06 55.8**	**+0.1**
	comp=Z,9.7nm,1.0s,mb4.7						
RPN	**Rapa Nui**	**36.09**	**238**	LR	LR	21 18 16.4	
	comp=Z,583nm,19.4s,MS4.4,baz=356,slow=30						
DWPF	**Disney**	**38.56**	**351**	*e*P	**P**	**21 07 43.3**	**-1.7**
	comp=Z,98nm,1.3s,mb5.4						
RCBR	**Riachuelo**	**39.36**	**87**	*e*P	**P**	**21 07 51.7**	**0.0**
	comp=Z,21nm,0.9s,mb4.9						
NHSC	**New Hope**	**43.34**	**354**	*e*P	**P**	**21 08 25.1**	**+0.8**
	comp=Z,321nm,1.4s,mb5.9						
LRAL	**Lakeview Retre**	**44.42**	**346**	*e*P	**P**	**21 08 32.7**	**-0.4**
	comp=Z,41nm,0.9s,mb5.2						
LRAL				*e*pP	pP	21 08 36.5	-1.1
HKT	**Hockley**	**44.52**	**334**	*e*P	**P**	**21 08 34.7**	**+0.8**
HKT				*e*		21 10 16.3	
HKT				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.2						
HKT	**Hockley**	**44.52**	**334**	*e*P	**P**	**21 08 34.7**	**+0.8**
	comp=Z,48nm,1.3s,mb5.2						
HKT				*e*PcP	PcP	21 10 16.3	-0.7
JSC	**Jenkinsville**	**44.62**	**353**	*e*P	**P**	**21 08 23.5**	**-11**
NATX	**Nacogdoches**	**45.64**	**337**	*e*P	**P**	**21 08 43.8**	**+1.0**
	comp=Z,138nm,1.1s,mb5.8						
SWET	**Sewanee**	**46.28**	**348**	*e*P	**P**	**21 08 46.7**	**-1.1**
OXF	**Oxford**	**46.44**	**344**	*e*P	**P**	**21 08 47.8**	**-1.2**
OXF				*e*PP	pP	21 08 52.3	-1.3
OXF				pmax	pmax		
	comp=Z,111nm,1.1s,mb5.7						
OXF	**Oxford**	**46.44**	**344**	*e*P	**P**	**21 08 47.8**	**-1.2**
	comp=Z,111nm,1.1s,mb5.7						
OXF				*e*pP	pP	21 08 52.3	-1.3
PLAL	**Pickwick Lake**	**46.54**	**346**	*e*P	**P**	**21 08 48.3**	**-1.6**
	comp=Z,33nm,0.8s,mb5.3						
JCT	**Junction City**	**46.77**	**331**	*e*P	**P**	**21 08 51.9**	**+0.2**
JCT				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
JCT	**Junction City**	**46.77**	**331**	*e*P	**P**	**21 08 51.9**	**+0.2**
	comp=Z,24nm,0.9s,mb5.1						
ELN	**Prospectdale**	**47.47**	**354**	*e*P	**P**	**21 08 57.6**	**+0.5**
ELN				*e*pP	pP	21 09 01.5	-0.2
UALR	**University of**	**47.55**	**341**	*e*P	**P**	**21 08 57.1**	**-0.6**
	comp=Z,54nm,0.9s,mb5.6						
UALR				*e*pP	pP	21 09 01.1	-1.2
WVT	**Waverly**	**47.58**	**346**	*e*P	**P**	**21 08 56.0**	**-1.9**
WVT				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
WVT	**Waverly**	**47.58**	**346**	*e*P	**P**	**21 08 56.0**	**-2.0**
	comp=Z,11nm,0.6s,mb5.0						
MIAR	**Mount Ida**	**47.75**	**340**	*e*P	**P**	**21 08 59.2**	**-0.1**
MIAR				*e*PP	pP	21 09 03.0	-0.8
MIAR				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
MIAR	**Mount Ida**	**47.75**	**340**	*e*P	**P**	**21 08 59.2**	**-0.1**
	comp=Z,33nm,0.9s,mb5.4						
MIAR				*e*pP	pP	21 09 03.0	-0.8
GNAR	**Gosnell**	**47.97**	**344**	*e*P	**P**	**21 09 00.3**	**-0.7**
	comp=Z,68nm,0.5s,mb5.9						
PARMO	**Parma**	**48.56**	**345**	P	**P**	**21 09 04.2**	**-1.4**
WCI	**Wyandotte Cave**	**49.27**	**349**	P	**P**	**21 09 09.4**	**-1.6**
WCI				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
WCI	**Wyandotte Cave**	**49.27**	**349**	P	**P**	**21 09 09.4**	**-1.6**
	comp=Z,45nm,1.3s,mb5.3						
SIUC	**Southern Illin**	**49.42**	**346**	*e*P	**P**	**21 09 11.4**	**-0.7**
WMOK	**Wichita Mounta**	**49.91**	**335**	*e*P	**P**	**21 09 15.6**	**-0.2**
WMOK				*e*		21 10 35.6	
WMOK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
WMOK	**Wichita Mounta**	**49.91**	**335**	*e*P	**P**	**21 09 15.6**	**-0.3**
	comp=Z,20nm,1.1s,mb5.1						
WMOK				*e*PcP	PcP	21 10 35.6	-0.5
FVM	**French Village**	**49.98**	**345**	*e*P	**P**	**21 09 15.2**	**-1.2**
FVM				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.6						
FVM	**French Village**	**49.98**	**345**	*e*P	**P**	**21 09 15.2**	**-1.2**
	comp=Z,53nm,0.8s,mb5.6						
MVL	**Millersville**	**49.98**	**359**	*e*P	**P**	**21 09 17.3**	**+0.9**
MVL				*e*pP	pP	21 09 21.2	+0.2
BLO	**Bloomington**	**50.23**	**349**	*e*P	**P**	**21 09 17.0**	**-1.3**
BLO				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.5						
BLO	**Bloomington**	**50.23**	**349**	*e*P	**P**	**21 09 17.0**	**-1.3**
	comp=Z,30nm,0.6s,mb5.5						
CCM	**Cathedral Cave**	**50.27**	**344**	*e*P	**P**	**21 09 17.6**	**-1.0**
CCM				*e*		21 10 37.0	
CCM				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
CCM	**Cathedral Cave**	**50.27**	**344**	*e*P	**P**	**21 09 17.6**	**-1.0**
	comp=Z,19nm,0.8s,mb5.2						
CCM				*e*PcP	PcP	21 10 37.0	-0.4
SLM	**Saint Louis**	**50.54**	**345**	P	**P**	**21 09 19.4**	**-1.3**
MNTX	**Cornudas Mount**	**50.61**	**327**	*e*P	**P**	**21 09 20.9**	**-0.3**
	comp=Z,68nm,1.4s,mb5.4						
MNTX				*e*PcP	PcP	21 10 37.7	-1.0
ACSO	**Alum Creek Sta**	**50.70**	**353**	*e*P	**P**	**21 09 21.0**	**-0.8**
	comp=Z,22nm,0.8s,mb5.1						
ACSO				*e*pP	pP	21 09 24.9	-1.5
KSU1	**Kansas State U**	**52.90**	**339**	*e*P	**P**	**21 09 37.8**	**-0.4**
BNM	**Barren Site**	**53.16**	**328**	*e*P	**P**	**21 09 40.7**	**+0.5**
LPM	**Los Pinos Moun**	**53.29**	**328**	*e*P	**P**	**21 09 41.3**	**+0.2**
LENM	**Lemitar**	**53.36**	**327**	*e*P	**P**	**21 09 42.3**	**+0.7**
LENM				*e*PcP	PcP	21 10 48.5	-0.4
ACCN	**Adirondack Com**	**53.38**	**2**	*e*P	**P**	**21 09 42.8**	**+1.0**
LAZ	**Ladron**	**53.63**	**327**	*e*P	**P**	**21 09 44.4**	**+0.8**
ANMO	**Albuquerque**	**53.69**	**328**	P	**P**	**21 09 44.2**	**+0.1**
	comp=Z,21nm,0.9s,mb5.1,baz=140,slow=8.3,SNR=33						
ANMO	**Albuquerque**	**53.69**	**328**	⇑*i*P	**P**	**21 09 44.6**	**+0.5**
ANMO				*e*PP	pP	21 09 48.5	-0.2
ANMO				pmax	pmax		
	comp=Z,30nm,1.0s						
ANMO	**Albuquerque**	**53.69**	**328**	⇑*i*P	**P**	**21 09 44.6**	**+0.5**
	comp=Z,30nm,1.0s,mb5.2						
ANMO				*e*pP	pP	21 09 48.5	-0.2
CBKS	**Cedar Bluff**	**53.80**	**337**	*e*P	**P**	**21 09 45.1**	**+0.2**
CBKS				pmax	pmax		
	comp=Z,86nm,1.1s,mb5.6						
CBKS	**Cedar Bluff**	**53.80**	**337**	*e*P	**P**	**21 09 45.1**	**+0.2**
	comp=Z,86nm,1.1s,mb5.6						
NCB	**Newcomb**	**53.96**	**1**	*e*P	**P**	**21 09 46.6**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9						
MIV	**Mineville/With**	**54.08**	**2**	*e*P	**P**	**21 09 47.6**	**+0.7**
TUC	**Tucson**	**54.14**	**323**	*e*P	**P**	**21 09 47.9**	**+0.5**
TUC				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
TUC	**Tucson**	**54.14**	**323**	*e*P	**P**	**21 09 47.9**	**+0.5**
	comp=Z,32nm,0.9s,mb5.2						
LONY	**Lake Ozonia**	**54.60**	**1**	*e*P	**P**	**21 09 51.0**	**+0.3**
FRNY	**Flat Rock**	**54.83**	**2**	*e*P	**P**	**21 09 53.1**	**+0.7**
SDCO	**Great Sand Dun**	**55.42**	**331**	*e*P	**P**	**21 09 57.2**	**+0.6**
	comp=Z,61nm,0.9s,mb5.6						
WUAZ	**Wupatki**	**56.77**	**325**	*e*P	**P**	**21 10 07.2**	**+0.8**
	comp=Z,112nm,1.0s,mb5.8						
ISCO	**Idaho Springs**	**57.12**	**333**	*e*P	**P**	**21 10 09.2**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
ISCO	**Idaho Springs**	**57.12**	**333**	*e*P	**P**	**21 10 09.2**	**+0.4**
	comp=Z,47nm,1.4s,mb5.3						
PV01	**Paradox Valley**	**57.23**	**329**	*e*P	**P**	**21 10 10.3**	**+0.8**
PV01				*e*pP	pP	21 10 13.9	-0.3
SMCO	**Snowmass**	**57.26**	**331**	*e*P	**P**	**21 10 10.5**	**+0.8**
	comp=Z,46nm,1.0s,mb5.5						
PV10	**Paradox Valley**	**57.65**	**329**	*e*P	**P**	**21 10 12.1**	**-0.4**
BAR	**Barrett**	**58.05**	**319**	*e*P	**P**	**21 10 15.7**	**+0.4**
RKT	**Rikitea**	**58.12**	**249**	*e*S	**S**	**21 18 15.3**	**-1.2**
	comp=Z,157nm,31.2s						
RKT				*e*LR	LR	21 27 02.7	
	comp=Z,148nm,26.8s						
PHWY	**Pilot Hill**	**58.27**	**334**	*e*P	**P**	**21 10 16.9**	**0.0**
PFO	**Pinyon Flat Ob**	**58.51**	**320**	P	**P**	**21 10 19.9**	**+1.4**
	comp=Z,277nm,0.9s,mb6.3,SNR=11						
PFO	**Pinyon Flat Ob**	**58.51**	**320**	*e*P	**P**	**21 10 19.5**	**+1.0**
PFO				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5						
PFO	**Pinyon Flat Ob**	**58.51**	**320**	*e*P	**P**	**21 10 19.5**	**+0.9**
	comp=Z,49nm,1.0s,mb5.5						
NEN	**Nelson**	**58.88**	**323**	*e*P	**P**	**21 10 21.2**	**+0.1**
NEN				*e*pP	pP	21 10 25.8	+0.1
SRU	**San Rafael**	**58.96**	**329**	*e*P	**P**	**21 10 21.9**	**+0.2**
SRU				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.5						
SRU	**San Rafael**	**58.96**	**329**	*e*P	**P**	**21 10 21.9**	**+0.2**
	comp=Z,69nm,1.3s,mb5.5						
RWWY	**Rawlins**	**59.36**	**333**	*e*P	**P**	**21 10 24.9**	**+0.5**
	comp=Z,81nm,1.2s,mb5.6						
MSU	**Marysvale**	**59.39**	**327**	*e*P	**P**	**21 10 25.3**	**+0.7**
MSU				*e*PP	pP	21 10 29.4	+0.1
MVU	**Marysvale**	**59.40**	**327**	*e*P	**P**	**21 10 31.6**	**+6.9**
	comp=Z,55nm,1.3s,mb5.4						
MVU				*e*pP	pP	21 10 36.1	+6.8
TMUT	**Trail Mountain**	**59.45**	**328**	*e*P	**P**	**21 10 25.4**	**+0.3**
ARUT	**Antelope Range**	**59.56**	**326**	*e*P	**P**	**21 10 26.8**	**+1.0**
EYMN	**Ely**	**59.65**	**348**	*e*P	**P**	**21 10 24.9**	**-1.5**
	comp=Z,23nm,1.1s,mb5.1						
MWC	**Mount Wilson**	**59.92**	**320**	*e*P	**P**	**21 10 29.5**	**+1.2**
RSSD	**Black Hills**	**60.01**	**337**	*e*P	**P**	**21 10 29.2**	**+0.3**
MPU	**Maple Canyon**	**60.21**	**328**	*e*P	**P**	**21 10 30.6**	**+0.3**
	comp=Z,29nm,1.0s,mb5.3						
DAU	**Daniels Canyon**	**60.31**	**329**	*e*P	**P**	**21 10 31.6**	**+0.6**
NLU	**North Lily Min**	**60.39**	**328**	*e*P	**P**	**21 10 29.7**	**-1.8**
TCUT	**Toone Canyon**	**60.91**	**329**	*e*P	**P**	**21 10 35.5**	**+0.4**
NOQ	**North Oquirrh**	**60.93**	**329**	*e*P	**P**	**21 10 36.0**	**+0.8**
	comp=Z,80nm,1.3s,mb5.7						
DUG	**Dugway**	**60.95**	**328**	*e*P	**P**	**21 10 36.0**	**+0.6**
DUG				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.8						
DUG	**Dugway**	**60.95**	**328**	*e*P	**P**	**21 10 36.0**	**+0.7**
	comp=Z,68nm,0.9s,mb5.8						
ISA	**Isabella**	**61.10**	**321**	*e*P	**P**	**21 10 36.6**	**+0.2**
ISA				*e*PP	pP	21 10 41.3	+0.3
PDAR	**Pinedale Array**	**61.28**	**332**	P	**P**	**21 10 36.8**	**-0.8**
	comp=Z,17nm,1.1s,mb5.1,baz=141,slow=5.7,SNR=58						
PDAR				LR	LR	21 37 16.8	
	comp=Z,199nm,20.1s,MS4.3,baz=145,slow=36						
HWUT	**Hardware Ranch**	**61.36**	**330**	*e*P	**P**	**21 10 38.1**	**0.0**
	comp=Z,87nm,1.1s,mb5.8						
SPUT	**South Promonto**	**61.58**	**329**	*e*P	**P**	**21 10 39.8**	**+0.2**
SPUT				*e*pP	pP	21 10 44.0	-0.3
BGU	**Big Grassy Mou**	**61.60**	**328**	*e*P	**P**	**21 10 43.3**	**+3.6**
BGU				*e*pP	pP	21 10 48.5	+4.1
BGU				*e*PcP	PcP	21 11 23.6	+2.3
AHID	**Auburn Hatcher**	**62.01**	**331**	*e*P	**P**	**21 10 42.2**	**-0.2**
	comp=Z,69nm,1.4s,mb5.6						
HVU	**Hansel Valley**	**62.09**	**329**	*e*P	**P**	**21 10 42.8**	**-0.3**
HVU				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.5						
HVU	**Hansel Valley**	**62.09**	**329**	*e*P	**P**	**21 10 42.8**	**-0.3**
	comp=Z,43nm,1.1s,mb5.5						
REDW	**Red Top Meadow**	**62.34**	**331**	*e*P	**P**	**21 10 44.5**	**-0.2**
	comp=Z,41nm,1.2s,mb5.4						
LOHW	**Long Hollow**	**62.42**	**332**	*e*P	**P**	**21 10 45.2**	**-0.1**
	comp=Z,26nm,1.2s,mb5.2						
MOOW	**Moose Ponds**	**62.59**	**332**	*e*P	**P**	**21 10 45.9**	**-0.5**
	comp=Z,29nm,1.3s,mb5.2						
ELK	**Elko**	**62.63**	**327**	LR	LR	21 37 20.2	
	comp=Z,399nm,18.3s,MS4.6,baz=92,slow=35						
ELK	**Elko**	**62.63**	**327**	*e*P	**P**	**21 10 47.0**	**+0.3**
ELK				pmax	pmax		
	comp=Z,30nm,1.0s						
ELK	**Elko**	**62.63**	**327**	*e*P	**P**	**21 10 47.0**	**+0.3**
	comp=Z,30nm,1.0s,mb5.4						
MNV	**Mina**	**62.71**	**323**	*e*P	**P**	**21 10 47.7**	**+0.5**
MNV				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
MNV	**Mina**	**62.71**	**323**	*e*P	**P**	**21 10 47.7**	**+0.5**
	comp=Z,31nm,1.0s,mb5.4						
NVAR	**Mina Array Bea**	**62.79**	**323**	P	**P**	**21 10 48.5**	**+0.7**
	comp=Z,22nm,0.8s,mb5.3,baz=138,slow=7.6,SNR

HUMO Hull Mountain 68.19 324 *eP* **P 21 11 21.5 -1.1**
comp=Z,7.3nm,0.9s,mb4.7
FFC Flin Flon 68.47 344 P **P 21 11 23.8 -0.6**
comp=Z,156nm,0.7s,mb6.2,SNR=19
FFC Flin Flon 68.47 344 *eP* **P 21 11 23.6 -0.8**
FFC pmax pmax
comp=Z,23nm,0.9s,mb5.2
FFC Flin Flon 68.47 344 *eP* **P 21 11 23.6 -0.8**
comp=Z,23nm,0.9s,mb5.2
HUOR Husband 68.52 326 P **P 21 11 25.9 +1.2**
KBO Bosley Butte 68.69 323 *eP* **P 21 11 26.2 +0.4**
HAWA Hanford 68.79 329 *eP* **P 21 11 26.4 0.0**
comp=Z,3.1nm,1.3s,mb4.1
HAWA *e*pP pP 21 11 30.7 -0.4
NEW Newport 68.92 332 P **P 21 11 27.1 -0.1**
COR Corvallis 69.62 326 *eP* **P 21 11 32.0 +0.4**
COR pmax pmax
comp=Z,130nm,1.3s,mb5.7
COR Corvallis 69.62 326 *eP* **P 21 11 32.0 +0.4**
comp=Z,130nm,1.3s,mb5.7
WTV Waterville 69.89 330 P **P 21 11 34.1 +0.9**
FCC Fort Churchill 70.41 350 *eP* **P 21 11 35.3 -1.1**
FCC pmax pmax
comp=Z,49nm,1.1s,mb5.3
FCC Fort Churchill 70.41 350 *eP* **P 21 11 35.3 -1.1**
comp=Z,49nm,1.1s,mb5.3
EDM Edmonton 70.98 337 *eP* **P 21 11 39.1 -0.8**
TBI Tubuai 71.44 249 *eS* S 21 21 01.7 +1.1
comp=Z,358nm,28.8s
TBI *e*LR LR 21 33 15.0
comp=Z,129nm,29.0s
MBW Mount Baker 71.58 330 P **P 21 11 43.5 0.0**
PPT Papeete 71.98 255 *e*LR LR 21 33 32.0
comp=Z,383nm,22.8s,baz=90
PPT Papeete 71.98 255 LR LR 21 34 40.5
comp=Z,416nm,18.8s,MS4.7,baz=90,slow=29
DBIC Dimbokro 72.25 80 P **P 21 11 48.1 +0.6**
comp=Z,18nm,0.9s,mb5.0,baz=220,slow=5.7,SNR=14
DBIC LR LR 21 41 51.5
comp=Z,656nm,18.2s,MS4.9,baz=215,slow=34
DBIC Dimbokro 72.25 80 *eP* **P 21 11 48.3 +0.8**
DBIC pmax pmax
comp=Z,32nm,1.0s
DBIC Dimbokro 72.25 80 *eP* **P 21 11 48.3 +0.8**
comp=Z,32nm,1.0s,mb5.2
VNA3 Neumayer Olymp 72.67 162⇑ *i*P **P 21 11 48.7 -1.4**
VNA3 *e* 21 12 06.9
VNA2 Neumayer--Watz 73.28 161⇑ *i*P **P 21 11 54.1 +0.5**
VNA2 *e* 21 12 03.4
VNA2 *e* 21 12 09.9
SNAA Sanae 74.89 162⇓ *i*P **P 21 12 02.2 -0.9**
SNAA Sanae 74.89 162 *eP* **P 21 12 02.0 -1.0**
comp=Z,51nm,1.5s,mb5.2
YKA Yellowknife Ar 78.58 343 P **P 21 12 23.1 -0.8**
comp=Z,18nm,0.8s,mb5.1,baz=141,slow=6.1,SNR=357
YKA LR LR 21 51 24.7
comp=Z,123nm,19.5s,MS4.2,baz=145,slow=39
YKW3 Yellowknife Ar 78.64 343 *eP* **P 21 12 23.2 -1.1**
EVO Evora 79.22 47 *eP* **P 21 12 26.8 -0.6**
comp=Z,30nm,0.9s,mb4.9
EVO *e*R
comp=Z,246nm,19.2s
NVL N'lazarevskaya 79.50 160⇑ *i*P **P 21 12 29.9 +1.0**
NVL pmax pmax
comp=Z,26nm,1.2s,mb5.0
QSPA South Pole Qui 79.89 180 *eP* **P 21 12 31.1 0.0**
TORD Torodi Ar. Bea 79.99 75 P **P 21 12 32.4 +0.8**
comp=Z,15nm,0.8s,mb5.0,baz=274,slow=5.6,SNR=39
ESDC Sonseca Array 82.57 48 P **P 21 12 47.0 +1.8**
comp=Z,9.8nm,1.1s,mb4.8,baz=246,slow=4.5,SNR=12
ESLA Sonseca Array 82.57 48 *eP* **P 21 12 50.4 +5.1**
comp=Z,3.3nm,1.1s,mb4.3
RES Resolute Bay 85.62 355 *eP* **P 21 13 00.1 -0.7**
RES pmax pmax
comp=Z,11nm,1.0s,mb5.0
RES Resolute Bay 85.62 355 *eP* **P 21 13 00.1 -0.7**
comp=Z,11nm,1.0s,mb5.0
SJPF Ste Jean 85.64 45 *eP* **P 21 13 01.1 +0.2**
comp=Z,158nm,1.6s,mb5.7
QUIF Quistinic 85.92 40 *eP* **P 21 13 02.2 -0.1**
ROSF Rostrenen 85.99 40 *eP* **P 21 13 02.7 0.0**
ETSF Etsaut 86.03 45 *eP* **P 21 13 02.8 -0.1**
comp=Z,61nm,1.6s,mb5.3
SUMG Summit 86.07 10 *eP* **P 21 13 03.2 +0.1**
comp=Z,42nm,1.0s,mb5.6
SGMF Saint Gilles 86.42 40 *eP* **P 21 13 05.1 +0.3**
EPF Esparros 86.70 45 *eP* **P 21 13 06.6 +0.4**
comp=Z,54nm,1.4s,mb5.3
VNDA Vanda 86.76 191 P **P 21 13 05.5 -1.0**
comp=Z,11nm,1.2s,mb5.0,baz=129,slow=4.0,SNR=12
VNDA Vanda 86.76 191 P **P 21 13 05.5 -0.9**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 86.76 191 *eP* **P 21 13 06.1 -0.3**
comp=Z,23nm,1.4s,mb5.2
MFF Saint Martin d 87.44 42 *eP* **P 21 13 10.2 +0.4**
GRR Gorron 87.53 40 *eP* **P 21 13 10.2 0.0**
comp=Z,36nm,1.1s,mb5.2
LFF La Frestale 87.54 44 *eP* **P 21 13 10.8 +0.6**
comp=Z,79nm,1.4s,mb5.5
FLN La Foliniere 87.89 40 *eP* **P 21 13 11.5 -0.4**
FLN *e*R
comp=Z,277nm,20.8s
LDF La Druitiere 88.06 40 *eP* **P 21 13 12.8 +0.1**
comp=Z,121nm,1.6s,mb5.6
MTLF Montolieu 88.11 45 *eP* **P 21 13 12.6 -0.3**
RJF Les Rejaudoux 88.17 43 *eP* **P 21 13 13.3 +0.1**
comp=Z,28nm,1.1s,mb5.1
RJF *e*R
comp=Z,155nm,20.5s
DAWY Dawson 88.20 337 *eP* **P 21 13 12.5 -0.8**
INK Inuvik 88.31 342 *eP* **P 21 13 13.1 -0.8**
INK *e**PP pP 21 13 17.5 -1.2
INK pmax pmax
comp=Z,68nm,0.9s
INK Inuvik 88.31 342 *eP* **P 21 13 13.1 -0.8**
comp=Z,68nm,0.9s,mb5.9
INK *e*pP pP 21 13 17.4 -1.3
CAF Calviac 88.44 44 *eP* **P 21 13 14.9 +0.4**
comp=Z,26nm,1.1s,mb5.1
TCF Toulx Ste Croi 88.91 43 *eP* **P 21 13 17.0 +0.3**
comp=Z,19nm,1.0s,mb5.1
SYO Syowa Base 89.16 161⇑ *eP* **P 21 13 18.6 +0.7**
BGF Bois d'Agland 89.41 43 *eP* **P 21 13 18.7 -0.4**
comp=Z,18nm,0.9s,mb5.1
TSUM Tsumeb 89.49 109 *eP* **P 21 13 20.8 +1.4**
comp=Z,20nm,1.0s,mb5.4
DIV Divide 89.64 333⇑ *eP* **P 21 13 18.2 -1.9**
comp=Z,126nm,0.9s,mb6.2
DIV *e*pP pP 21 13 22.6 -2.3
AVF Avril sur Loir 89.81 42 *eP* **P 21 13 19.9 -1.0**
comp=Z,28nm,1.2s,mb5.1
SSF Saint Saulge 89.98 42 *eP* **P 21 13 21.4 -0.3**
comp=Z,7.7nm,0.8s,mb4.8
SMF Signal de Mont 90.09 43 *eP* **P 21 13 22.5 +0.2**
comp=Z,18nm,0.9s,mb5.1
LOR Lormes 90.26 42 *eP* **P 21 13 23.3 +0.3**
comp=Z,5.4nm,0.7s,mb4.7
LOR *e*R
comp=Z,264nm,20.0s
SMRF Simiane la Rot 90.63 45 *eP* **P 21 13 24.2 -0.5**
SML Sawmill 91.03 333 *eP* **P 21 13 25.6 -1.0**
ORIF Oris-en-Rattie 91.06 45 *eP* **P 21 13 26.1 -0.6**
comp=Z,13nm,0.8s,mb5.0
ORIF *e*R
comp=Z,269nm,19.2s
LMR La Mourre 91.14 46 *eP* **P 21 13 26.8 -0.3**
FRF La Foret Royal 91.29 46 *eP* **P 21 13 27.7 -0.1**
PMR Palmer 91.32 333 *eP* **P 21 13 27.0 -0.9**
PMR pmax pmax
comp=Z,11nm,0.7s,mb5.3
PMR Palmer 91.32 333 *eP* **P 21 13 27.0 -0.9**
comp=Z,10nm,0.7s,mb5.3
ILAR Eielson Array 91.45 336 P **P 21 13 27.8 -0.8**
comp=Z,6.5nm,0.8s,mb5.0,baz=151,slow=3.0,SNR=64
ILAR PP PP 21 17 01.8 -4.5
comp=Z,1.9nm,1.0s,baz=107,slow=6.0,SNR=5.4
ILAR Eielson Array 91.45 336 P **P 21 13 27.8 -0.8**
ILAR 21 17 01.8
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,1.0s
GIVF Givet 91.58 39 *eP* **P 21 13 28.7 -0.5**
CABF La Chapelle 91.59 43 *eP* **P 21 13 28.9 -0.3**
MBDF Montbardon 91.63 45 *eP* **P 21 13 29.1 -0.3**

LPL La Plagne 91.78 44 *eP* **P 21 13 30.0 -0.1**
comp=Z,5.7nm,0.9s,mb4.6
LPG La Plagne 91.79 44 *eP* **P 21 13 29.8 -0.3**
comp=Z,27nm,1.1s,mb5.2
COLA College 91.88 336 *eP* **P 21 13 29.5 -1.0**
COLA *e**PP pP 21 13 34.0 -1.4
COLA pmax pmax
comp=Z,35nm,0.9s,mb5.7
COLA College 91.88 336 *eP* **P 21 13 29.5 -1.1**
comp=Z,35nm,0.9s,mb5.7
COLA *e*pP pP 21 13 34.0 -1.4
SBF Sospel 91.91 46 *eP* **P 21 13 29.6 -1.1**
comp=Z,42nm,1.0s,mb5.4
MCK McKinley 91.94 335 *eP* **P 21 13 29.6 -1.2**
MCK pmax pmax
comp=Z,21nm,1.5s,mb5.2
MCK McKinley 91.94 335 *eP* **P 21 13 29.6 -1.2**
comp=Z,21nm,1.5s,mb5.2
HAU Haudompre 92.07 42 *eP* **P 21 13 30.9 -0.6**
HAU *e*R
comp=Z,218nm,22.2s
HINF Hinteralfeld 92.36 42 *eP* **P 21 13 32.8 0.0**
PGF Pioggiola 92.76 47 *eP* **P 21 13 32.8 -1.8**
CDF Champ du Feu 92.77 41 *eP* **P 21 13 34.7 0.0**
SVW2 Sparrevohn 94.16 331 *eP* **P 21 13 40.0 -1.1**
BOSA Boshof 94.37 120 LR LR 21 53 58.4
comp=Z,450nm,18.3s,MS5.0,baz=259,slow=34
LBTB Lobatse 95.54 117 LR LR 21 55 40.9
comp=Z,152nm,19.2s,MS4.5,baz=270,slow=35
GRF Grafenberg Arr 95.56 41 *eL* 21 53 21.1
comp=Z,171nm,21.3s
MAW Mawson 96.81 165 LR LR 21 54 19.4
comp=Z,539nm,19.5s,MS5.0,baz=99,slow=34
GERES GERESS Array B 97.04 42 P **P 21 13 53.6 -0.6**
comp=Z,0.7nm,0.8s,mb4.2,baz=264,slow=4.0,SNR=5.9
GERES LR LR 21 55 18.4
comp=Z,150nm,18.8s,MS4.5,baz=140,slow=34
GERES GERESS Array B 97.04 42 P **P 21 13 53.6 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,150nm,18.8s
NB2 NORSAR Subarra 97.24 29 P **P 21 13 55.5 +0.4**
comp=Z,3.2nm,1.1s,mb4.7,baz=258,slow=4.6
NOA NORSAR Array B 97.24 29 P **P 21 13 53.5 -1.6**
comp=Z,2.2nm,0.9s,mb4.6,baz=259,slow=4.5,SNR=4.1
NOA LR LR 21 54 52.2
comp=Z,88nm,19.2s,MS4.3,baz=120,slow=34
NOA NORSAR Array B 97.24 29 P **P 21 13 53.5 -1.6**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,89nm,19.2s
LSZ Lusaka 100.21 108 *e*PKPdif 21 14 11.3
AKASG Malin Array Be 107.13 40 PP PP 21 19 01.1 -4.7
comp=Z,0.1nm,0.3s,baz=266,slow=7.6,SNR=6.6
OBN Obninsk 110.87 35⇓ *i*PKIKP PKiKP 21 18 59.8 +4.4
OBN pmax pmax
comp=Z,14nm,1.4s
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.5
BRTR Keskin Array B 111.12 51 PP PP 21 19 30.6 -4.2
comp=Z,0.6nm,0.9s,baz=294,slow=3.9,SNR=4.3
TIXI Tiksi 116.85 352⇑ *i*PKIKP PKPdf 21 19 05.0 -1.8
TIXI MLR MLR
comp=Z,100nm,23.0s,MS4.4
SEY Seymchan 117.35 338⇓ *i*PKIKP PKPdf 21 19 07.4 -0.4
GNI Garni 119.50 50 *i*PKIKP PKPdf 21 19 09.5 -2.4
ARU Arti 121.77 28 *i*PKIKP PKPdf 21 19 15.8 -0.5
ARU *e* 21 20 49.2
ARU *e* 21 26 09.8
ARU *e*PS PS 21 30 47.0 +4.4
ARU *e*SS SS 21 37 26.6 +1.1
ARU MLR MLR
comp=Z,100nm,23.0s,MS4.4
ARU MLR MLR
comp=N,80nm,21.0s,MS4.4
ARU MLR MLR
comp=E,60nm,21.0s,MS4.4
STKA Stephens Creek 125.16 219 *e*PKP PKPdf 21 19 20.5 -2.3
comp=E,5.3nm,0.9s
STKA Stephens Creek 125.16 219 PKP PKPdf 21 19 20.8 -2.0
comp=E,6.1nm,0.8s,baz=95,slow=2.0,SNR=9.3
YAK Yakutsk 125.16 346 *e*PKIKP PKPdf 21 19 21.2 -1.6
YAK *e* 21 21 08.8
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,1.0s
AB31 Akbulak array 126.32 35 *i*PKIKP PKPdf 21 19 25.2 +0.2
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ZRNK Zerenda 128.68 27 *i*PKIKP PKPdf 21 19 29.5 0.0
ZRNK pmax pmax
comp=Z,10.0nm,1.1s
ZRNK Zerenda 128.68 27 *e*P PKPdf 21 19 29.4 -0.1
BVA0 Borovoye Array 129.24 26 PKIKP PKPdf 21 19 29.9 -0.7
BVA0 pmax pmax
comp=Z,1.0nm,1.1s
VOSK Vostochnaya 129.70 26 PKIKP PKPdf 21 19 31.6 +0.1
VOSK pmax pmax
comp=Z,6.0nm,1.1s
YSS Yuzh-Sakhalins 131.20 326⇑ *i*PKIKP PKPdf 21 19 34.1 -0.2
BOD Bodaibo 131.97 353 *e*PKIKP PKPdf 21 19 30.6 -5.2
BOD pmax pmax
comp=Z,5.0nm,1.5s
NVS Novosibirsk 132.40 17 *i*PKIKP PKPdf 21 19 35.3 -1.3
NVS *e* 21 21 57.1
NVS pmax pmax
comp=Z,24nm,1.5s
NVS pmax pmax
comp=E,17nm,1.4s
ZAL Zalesovo 133.63 16 PKP PKPdf 21 19 39.3 +0.4
comp=E,7.7nm,0.4s,baz=164,slow=1.3,SNR=34
ZAL SKPbc SKPbc 21 23 06.0 -1.1
comp=E,3.5nm,1.1s,baz=204,slow=1.9,SNR=5.6
ZAL Zalesovo 133.63 16 PKIKP PKPdf 21 19 39.3 +0.4
ZAL pmax pmax
comp=Z,8.0nm,0.4s
ZAL pmax pmax
comp=E,4.0nm,1.1s
KURK Kurchatov 134.34 23*c* *i*PKIKP PKPdf 21 19 40.7 +0.5
KURK Kurchatov 134.34 23 *e*P PKPdf 21 19 40.5 +0.3
KLR Kul'dur 135.02 335 *e*PKIKP PKPdf 21 19 38.2 -3.3
AS31 Alice Springs 135.76 220 *e*PKP PKPdf 21 19 42.8 -0.1
ASAR Alice Springs 135.76 220 PKhKP 21 19 29.1
comp=E,1.1nm,1.1s,baz=196,slow=24,SNR=3.7
ASAR PKP PKPdf 21 19 43.1 +0.2
comp=E,10nm,0.8s,baz=131,slow=2.1,SNR=64
ASAR SKPbc SKPbc 21 23 12.2 -1.7
comp=E,1.2nm,0.9s,baz=147,slow=3.3,SNR=4.4
ASAR Alice Springs 135.76 220 PKHKP 21 19 29.1
ASAR 21 19 43.1
ASAR pmax pmax
comp=Z,1.0nm,1.1s
ASAR pmax pmax
comp=Z,10.0nm,0.9s
ASAR pmax pmax
comp=E,1.0nm,0.9s
ASPA Alice Springs 135.76 220 *e*PKP PKPdf 21 19 42.8 -0.1
KK31 Karatay Array 135.84 36 *i*PKIKP PKPdf 21 19 44.6 +1.6
KK31 pmax pmax
comp=Z,1.0nm,0.9s
KKAR Karatay Array 135.84 36 *i*PKIKP PKPdf 21 19 44.6 +1.6
KKAR pmax pmax
comp=Z,1.0nm,0.9s
WB2 Warramunga Arr 138.07 224 *e*PKP PKPdf 21 19 46.3 -0.8
WRAB Tennant Creek 138.07 224 *e*PKIKP PKPdf 21 19 46.7 -0.5
WRA Warramunga Arr 138.07 224 PKhKP 21 19 37.1
comp=Z,0.9nm,0.9s,baz=136,slow=2.9,SNR=9.6
WRA PKP PKPdf 21 19 46.4 -0.8
comp=Z,14nm,0.9s,baz=135,slow=1.6,SNR=62
WRA Warramunga Arr 138.07 224 PKHKP 21 19 37.1
WRA 21 19 46.4
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA pmax pmax
comp=Z,15nm,0.9s
AAK Ala-Archa 138.39 34 *e*P PKPdf 21 19 47.5 -0.2
AAK *e*SKP 21 23 22.9
MK31 Makanchi Array 138.94 23 *i*PKIKP PKPdf 21 19 48.6 -0.1
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 138.94 23 PKhKP 21 19 44.9
comp=Z,3.8nm,0.9s,baz=299,slow=3.3,SNR=24
MKAR PKP PKPdf 21 19 48.5 -0.2

comp=Z,3.9nm,0.9s,baz=293,slow=2.8,SNR=25
MKAR Makanchi Array 138.94 23 PKIKP PKPdf 21 19 44.9 -3.8
MKAR 21 19 48.6
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MDJ Mudanjiang 139.52 332 PKP PKPdf 21 19 50.1 +0.3
MDJ PP PP 21 22 44.5 +0.2
MDJ SS SS 21 41 00.8 -2.2
MDJ LR LR
comp=Z,33nm,28.4s,MS3.9
MJAR Matsushiro Arr 139.88 316 PKhKP 21 19 40.3
comp=Z,8.1nm,0.9s,baz=81,slow=1.5,SNR=15
MJAR SKPbc SKPbc 21 23 25.1 -0.7
comp=Z,2.5nm,1.0s,baz=155,slow=2.3,SNR=5.6
MJAR Matsushiro Arr 139.88 316 PKHKP 21 19 40.3
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR pmax pmax
comp=E,3.0nm,1.0s
MAJO Matsushiro 139.88 316 *e*PKPpre 21 19 40.3
MAT Matsushiro 139.88 316 PKP PKPdf 21 19 41.4 -9.1
ZAK Zakamensk 139.96 1 *e*PKIKP PKPdf 21 19 47.3 -3.3
ZAK pmax pmax
comp=Z,10.0nm,1.6s
KSH Kashi 141.29 36 *e*PKP PKPdf 21 19 56.0 +3.0
KSH *e*PKS 21 23 30.0
KSH *e*PPP 21 26 34.1
KSH *e*SKS SKSdf 21 27 00.1 -2.5
KSH PP PP
comp=Z,80nm,4.0s
KSH LR LR
comp=N,110nm,5.0s
KSH LR LR
comp=E,150nm,5.2s
CN2 Changchun 141.97 335 *e*PKP PKPdf 21 19 51.8 -2.4
CN2 *e*PP PP 21 22 59.9 +0.6
CN2 LR LR
comp=Z,200nm,21.0s,MS4.8
ULN Ulaanbaatar 142.44 357⇑ *i*PKIKP PKPdf 21 19 51.5 -3.6
ULN Ulaanbaatar 142.44 357 *e*PKPdf PKPdf 21 19 50.8 -4.3
SONM Songino Array 142.49 358 PKhKP 21 19 50.9
comp=Z,2.7nm,0.8s,baz=333,slow=2.2,SNR=18
SONM PKP PKPdf 21 19 55.1 -0.1
comp=Z,2.7nm,0.8s,baz=353,slow=1.7,SNR=19
SONM SKPbc SKPbc 21 23 32.1 -0.4
comp=Z,2.7nm,1.1s,baz=111,slow=0.5,SNR=5.0
SONM Songino Array 142.49 358 PKIKP PKPdf 21 19 50.9 -4.3
SONM 21 19 55.1
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM pmax pmax
comp=E,3.0nm,1.1s
WMQ Urumqi 143.47 21 PKP PKPdf 21 19 56.0 -0.9
WMQ PP PP 21 23 11.0 +2.6
WMQ SKS SKSdf 21 27 02.0 -4.0
WMQ SKKS SKKSac 21 29 58.0 -2.9
WMQ SS SS 21 41 48.0 -1.1
WMQ PP PP
comp=Z,18nm,8.0s
WMQ LR LR
comp=N,79nm,11.0s,MS5.0
WMQ LR LR
comp=E,112nm,11.0s,MS5.0
WMQ LR LR
comp=Z,84nm,11.0s,MS4.8
SNY Shenyang 144.38 335 ⇓PKP PKPdf 21 19 56.3 -2.2
FITZ Fitzroy Crossi 145.00 217 *e*PKP PKPdf 21 19 58.6 -0.9
comp=Z,36nm,0.9s
THN Thein Dam 145.41 46 *e*P PKPbc 21 20 01.1 +0.9
MBWA Marble Bar 145.43 205 *e*PKPdf PKPdf 21 19 59.8 -0.5
KS15 Wonju Array Si 145.73 326 *e*PKPdf PKPdf 21 20 01.1 +0.3
KS15 *e*pPKPdf pPKPdf 21 20 05.8 0.0
INCN Inchon 146.38 327 *e*PKPdf PKPdf 21 20 02.1 +0.2
DL2 Dalian 147.63 335 PKP PKPdf 21 20 06.0 +2.0
DDI Dehra Dun 148.23 47 *ex* PKPbc 21 20 07.8 -0.5
BJT Baijiatuau 148.60 343 *e*PKPdf PKPdf 21 20 08.1 +2.5
HHC Hu-ho-hao-te 148.89 350 *e*PKP PKPdf 21 20 07.3 +1.2
HHC PP PP 21 23 45.6 +5.1
HHC LR LR
comp=N,99nm,4.7s
HHC LR LR
comp=E,99nm,5.3s
HHC LR LR
comp=Z,106nm,4.9s
POO Poona 149.15 71 *e*P PKPbc 21 20 12.5 +1.8
BTO Baotou 149.37 352 *e*PKP PKPdf 21 20 11.9 +5.1
GTA Gaotai 150.64 8 PKP PKPdf 21 20 09.8 +1.0
GTA PKS 21 23 43.5
GTA SKS SKSdf 21 27 11.9 -4.2
GTA SKKS SKKSac 21 30 38.8 -2.4
GTA SS SS 21 43 10.8 +0.7
GTA PP PP
comp=Z,57nm,5.3s
GTA LR LR
comp=N,53nm,9.9s
GTA LR LR
comp=E,61nm,9.9s
GTA LR LR
comp=Z,73nm,9.2s
TIA Tai'an 151.75 338 *e*PKP PKPdf 21 20 11.4 +0.9
JOW Kunigami 152.20 310 PKP PKPdf 21 20 11.1 -0.1
comp=Z,9.5nm,1.0s,baz=102,slow=9.3,SNR=1.8
JOW PKPbc PKPbc 21 20 18.8 +0.9
comp=Z,39nm,1.1s,baz=115,slow=6.9,SNR=6.8
KOLN Koldanda 153.66 46 *e*P PKPdf 21 20 14.3 +1.0
SSE Sheshan 154.14 326 *e*PKP PKPdf 21 20 13.1 -0.9
SSE PP PP 21 24 12.3 +1.8
SSE PP PP
comp=Z,53nm,5.6s
SSE LR LR
comp=N,89nm,18.7s,MS4.7
SSE LR LR
comp=E,59nm,18.7s,MS4.7
SSE LR LR
comp=Z,60nm,21.9s,MS4.4
GKN Gorkha 154.24 44 *e*P PKPdf 21 20 15.0 +0.8
LZH Lanzhou 154.26 1 *e*PKP PKPdf 21 20 15.4 +1.2
LZH APKP 21 20 20.1
LZH XPKP 21 20 22.6
LZH PKS 21 23 48.5
LZH *e*PP PP 21 24 16.0 +4.9
LZH SKS SKSdf 21 27 18.9 -1.6
LZH SKKS SKKSac 21 31 00.5 -0.4
LZH PP PP
comp=Z,237nm,8.4s
LZH LR LR
comp=N,625nm,18.5s
LZH LR LR
comp=Z,747nm,20.2s,MS5.5
NJ2 Nanjing 154.59 331 *e*PKP PKPdf 21 20 14.0 -0.6
NJ2 PKP2 PKPab 21 20 39.8 +2.1
NJ2 PP PP 21 24 15.0 +2.0
NJ2 LR LR
comp=N,790nm,35.2s,MS5.6
NJ2 LR LR
comp=E,1μm,32.0s,MS5.6
NJ2 LR LR
comp=Z,560nm,36.5s,MS5.1
DMN Daman 154.81 44 *e*P PKPdf 21 20 15.8 +0.8
KKN Kakani 154.81 43 *e*P PKPdf 21 20 15.6 +0.6
PKI Pulchoki 155.04 44 *e*P PKPdf 21 20 15.7 +0.4
GUN Gumba 155.13 42 *e*P PKPdf 21 20 15.8 +0.4
JIRN Jiri 155.51 42 *e*P PKPdf 21 20 16.4 +0.5
XAN Xi'an 155.97 351 PKP PKPdf 21 20 17.0 +0.5
LSA Lhasa 156.93 31 PKP PKPdf 21 20 20.5 +2.7
LSA Lhasa 156.93 31 *e*PKPdf PKPdf 21 20 19.6 +1.8
WHN Wuhan 157.84 337 PKP PKPdf 21 20 19.5 +0.6
CD2 Chengdu 159.41 2 *e*PKP PKPdf 21 20 16.8 -4.0
CD2 PP PP 21 24 39.0 -0.6
CD2 PP PP
comp=Z,80nm,9.5s
CD2 LR LR
comp=E,80nm,16.8s
CD2 LR LR
comp=Z,90nm,16.8s,MS4.7
ENH Enshi 159.54 348 *e*PKPdf PKPdf 21 20 21.3 +0.3
ENH *e*PKPab PKPab 21 20 58.5 -0.5
SHL Shillong 160.57 37 *e*P PKPdf 21 20 24.0 +1.9
GYA Guiyang 163.74 353 *i*PKP PKPdf 21 20 26.3 +1.0
GYA PKP2 PKPab 21 21 17.9 +0.4

GYA SS SS 21 45 29.4 -1.1
GYA PP PP
comp=Z,130nm,8.0s
GYA LR LR
comp=N,490nm,20.4s
GYA LR LR
comp=E,570nm,20.6s
GYA LR LR
comp=Z,530nm,21.5s
KMI Kunming 165.09 6 PKP PKPdf 21 20 26.4 -0.1
KMI PKP2 PKPab 21 21 26.9 +3.5
KMI PKS 21 23 57.5
KMI PP PP 21 25 10.1 +0.2
KMI SKS SKSdf 21 27 26.6 -3.7
KMI SKKS SKKSac 21 31 57.8 +0.5
KMI SS SS 21 45 42.3 -2.0
KMI LR LR
comp=N,146nm,14.1s
KMI LR LR
comp=E,194nm,12.8s
KMI LR LR
comp=Z,94nm,21.7s
PSI Prapat 170.72 142 PKP PKPdf 21 20 30.4 0.0
comp=Z,11nm,1.0s,baz=213,slow=7.3,SNR=7.3
PSI Prapat 170.72 142 PKIKP PKPdf 21 20 30.4 0.0
PSI pmax pmax
comp=Z,11nm,1.0s
PSI Prapat 170.72 142 PKP PKPdf 21 20 30.4 0.0

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*NAO **21** 21:42:46.9,2485S×17623W,h33km,mb3.8*
*SZGRF **21** 21:42:53.0,2342S×17927W,h33km,South of Fiji Islands*
*BJI **21** 21:43:53.9,2262S×17899W,h593km,mB4.9,mb4.6*
*IDC **21** 21:43:55.9±1.1,2251S×17977W,h571km±12km,mb3.8/9, mb1 3.9/11,mb1mx3.7/18,mbtmp4.7/11,Error ellipse: s-maj=20.5km s-min=12.2km az=153.0*
*ISCJB **21** 21:43:55.7±0.8,2260S±008×1796W±01,h594km±13km, mb4.5/23,Error ellipse: s-maj=16.4km s-min=10.6km az=57.8*
*NEIC **21** 21:43:55.6±0.7,2247S×17958W,h571km±8km,mb4.6/16, Error ellipse: s-maj=12.5km s-min=7.4km az=144.0*

ISC 21 21:43:56.2±0.7,2267S±007×1794W±01,h594km±10km, n103,σ1§02/48,mb4.5/23,5C-10D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.68**	**169**	P	**P**	**21 45 44.4**	**+1.4**
	191nm,0.3s,baz=98,slow=23,SNR=5.5						
RAO				S	**S**	**21 47 09.0**	**-1.4**
	54nm,0.3s,baz=60,slow=22,SNR=2.4						
RAO	**Raoul Island**	**6.68**	**169**	*e*Pn	**P**	**21 45 42.5**	**-0.5**
AFI	**Afiamalu**	**11.31**	**41**	P	**P**	**21 46 28.1**	**+0.2**
	5.1nm,0.3s,baz=277,slow=22,SNR=3.4						
AFI				S	**S**	**21 48 24.5**	**-8.0**
	2.5nm,0.3s,baz=57,slow=23,SNR=3.4						
DZM	**Mont Dzumac**	**13.13**	**270**	P	**P**	**21 46 46.1**	**-0.2**
	1.2nm,0.3s,baz=34,slow=23,SNR=10.0						
URZ	**Urewera**	**15.83**	**190**	P	**P**	**21 47 13.3**	**+1.1**
	1.3nm,0.3s,baz=313,slow=5.6,SNR=8.1						
URZ				S	**S**	**21 49 50.6**	**-1.3**
	0.7nm,0.3s,baz=207,slow=21,SNR=5.1						
ARMA	**Armidale**	**27.01**	**247**	*e*P	**P**	**21 48 54.0**	**+1.8**
CNB	**Canberra Magne**	**29.97**	**238**	*e*P	**P**	**21 49 20.0**	**+2.1**
	8.2nm,0.6s,mb4.5						
CTA	**Charters Tower**	**32.06**	**268**	*e*P	**P**	**21 49 35.4**	**-0.3**
	18nm,0.6s,mb4.9						
CTA	**Charters Tower**	**32.06**	**268**	P	**P**	**21 49 35.7**	**0.0**
	21nm,0.5s,mb5.0,baz=103,slow=12						
CTAO	**Charters Tower**	**32.06**	**268**	*e*P	**P**	**21 49 35.5**	**-0.3**
	29nm,0.7s,mb5.0						
TOO	**Toolangi**	**33.60**	**236**	*e*P	**P**	**21 49 50.3**	**+1.7**
	7.0nm,0.4s,mb4.6						
PMG	**Port Moresby**	**34.66**	**287**	*e*P	**P**	**21 49 55.6**	**-1.9**
	41nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**35.72**	**247**	⇓*i*P	**P**	**21 50 05.4**	**-0.8**
	6.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**35.72**	**247**	P	**P**	**21 50 05.5**	**-0.8**
	7.7nm,0.5s,mb4.5,baz=93,slow=9.2,SNR=26						
AS31	**Alice Springs**	**42.81**	**259**	*e*P	**P**	**21 51 03.0**	**0.0**
AS31				*e*S	**S**	**21 56 42.7**	**-2.5**
ASAR	**Alice Springs**	**42.81**	**259**	P	**P**	**21 51 03.2**	**+0.2**
	8.3nm,0.3s,mb4.7,baz=92,slow=8.0,SNR=119						
ASAR				PcP	PcP	21 52 42.0	+1.7
	1.7nm,0.5s,baz=110,slow=4.4,SNR=6.4						
ASAR				S	**S**	**21 56 41.5**	**-3.8**
	0.9nm,0.6s,baz=95,slow=15,SNR=7.1						
ASPA	**Alice Springs**	**42.81**	**259**	*e*P	**P**	**21 51 03.0**	**0.0**
ASPA				*e*S	**S**	**21 56 42.7**	**-2.6**
WB2	**Warramunga Arr**	**43.06**	**265**	*e*P	**P**	**21 51 03.9**	**-1.1**
WB2				*e*S	**S**	**21 56 43.5**	**-5.3**
WRAB	**Tennant Creek**	**43.07**	**265**	*e*P	**P**	**21 51 04.2**	**-0.8**
	19nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**43.08**	**265**	P	**P**	**21 51 04.4**	**-0.7**
	11nm,0.2s,mb5.0,baz=96,slow=8.0,SNR=551						
WRA				S	**S**	**21 56 44.1**	**-4.9**
	1.1nm,0.8s,baz=107,slow=15,SNR=5.4						
FITZ	**Fitzroy Crossi**	**51.50**	**264**	⇓*i*P	**P**	**21 52 08.4**	**+0.4**
	20nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**56.00**	**246**	*e*P	**P**	**21 52 40.1**	**+0.5**
	17nm,1.0s,mb4.2						
MBWA	**Marble Bar**	**56.16**	**259**	*e*P	**P**	**21 52 40.8**	**+0.1**
	57nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**56.27**	**245**	P	**P**	**21 52 42.1**	**+0.7**
	9.6nm,0.7s,mb4.1,baz=68,slow=3.8,SNR=6.6						
NWAO	**Narrogin (SRO)**	**56.27**	**245**	*e*P	**P**	**21 52 42.2**	**+0.8**
	20nm,1.1s,mb4.3						
MUN	**Mundaring**	**57.25**	**246**	*e*P	**P**	**21 52 49.4**	**+1.2**
KKM	**Kota Kinabalu**	**69.10**	**286**	*e*P	**P**	**21 54 03.9**	**+0.1**
MJAR	**Matsushiro Arr**	**71.22**	**325**	P	**P**	**21 54 15.4**	**-0.9**
	7.5nm,0.8s,mb4.3,baz=155,slow=5.6,SNR=17						
MAJO	**Matsushiro**	**71.22**	**325**	*e*P	**P**	**21 54 15.3**	**-1.0**
	9.0nm,0.8s,mb4.3						
MDJ	**Mudanjiang**	**81.57**	**326**	P	**P**	**21 55 13.4**	**+0.6**
	8.7nm,0.5s,mb4.5						
CMB	**Columbia Colle**	**81.92**	**43**	P	**P**	**21 55 11.2**	**-3.4**
	4.2nm,0.8s,mb4.0						
KULM	**Kulim**	**82.82**	**279**	*e*P	**P**	**21 55 19.6**	**+0.4**
PSI	**Prapat**	**83.42**	**276**	P	**P**	**21 55 22.2**	**+0.1**
	4.0nm,0.7s,mb4.1,baz=200,slow=5.0,SNR=5.8						
SYO	**Syowa Base**	**84.33**	**193**	⇓*e*PcP	PcP	21 55 35.3	+6.3
MA2	**Magadan**	**85.54**	**345**	P	**P**	**21 55 31.9**	**-0.6**
	12nm,0.9s,mb4.5						
ENH	**Enshi**	**86.21**	**305**	*e*P	**P**	**21 55 37.0**	**+1.3**
	9.6nm,0.9s,mb4.4						
BJT	**Baijiatuau**	**86.54**	**316**	*e*P	**P**	**21 55 38.0**	**+0.8**
XAN	**Xi'an**	**88.44**	**308**	P	**P**	**21 55 47.4**	**+1.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
KMI	**Kunming**	**89.20**	**298**	P	**P**	**21 55 49.3**	**-0.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
ILAR	**Eielson Array**	**90.71**	**13**	P	**P**	**21 55 56.0**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=235,slow=4.2,SNR=5.7						
SONM	**Songino Array**	**96.55**	**319**	P	**P**	**21 56 22.8**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.7,baz=136,slow=5.1,SNR=5.6						
ZAL	**Zalesovo**	**111.38**	**321**	PKiKP	PKiKP	22 01 23.7	+0.1
	comp=Z,0.5nm,0.4s,baz=357,slow=3.8,SNR=4.0						
ZAL	**Zalesovo**	**111.38**	**321**	PKPdf	PKiKP	22 01 23.7	+0.1
MKAR	**Makanchi Array**	**111.74**	**313**	PKiKP	PKiKP	22 01 24.0	-0.3
	comp=Z,0.6nm,0.5s,baz=196,slow=1.0,SNR=29						
MKAR	**Makanchi Array**	**111.74**	**313**	PKPdf	PKiKP	22 01 24.0	-0.3
AKTK	**Aktyubinsk**	**127.80**	**317**	PKP	PKPdf	22 01 56.3	+1.3
AKTO	**Aktyubinsk**	**127.80**	**317**	PKP	PKPdf	22 01 56.3	+1.2
	comp=Z,1.6nm,0.6s,baz=90,slow=6.3,SNR=7.4						
ARCES	**ARCESS Array B**	**130.80**	**349**	PKP	PKPdf	22 02 01.4	+0.6
	comp=Z,2.7nm,0.7s,baz=16,slow=1.4,SNR=16						
ARCES				SKPbc	SKPbc	22 04 32.9	+2.6
	comp=Z,2.2nm,0.7s,baz=35,slow=4.4,SNR=5.5						
LSZ	**Lusaka**	**133.62**	**218**	PKP	PKPdf	22 02 09.8	+3.7
	comp=Z,1.5nm,0.5s,baz=146,slow=3.9,SNR=4.2						
FINES	**FINESS Array B**	**137.46**	**342**	PKhKP		22 02 02.0	
	comp=Z,0.3nm,0.3s,baz=29,slow=4.4,SNR=5.2						
FINES				PKP	PKPdf	22 02 13.4	+0.2
	comp=Z,0.8nm,0.4s,baz=123,slow=2.6,SNR=10						
FINES				SKPbc	SKPbc	22 04 54.7	+3.2
	comp=Z,1.0nm,0.5s,baz=60,slow=5.5,SNR=4.7						
FINES	**FINESS Array B**	**137.46**	**342**	PKP		22 02 02.0	
FINES				PKP	PKPdf	22 02 13.4	+0.2
FINES				SKPbc	SKPbc	22 04 54.7	+3.2
NB2	**NORSAR Subarra**	**140.96**	**352**	PKPa	PKPdf	22 02 14.6	-4.9
	comp=Z,1.0nm,0.5s,baz=11,slow=3.3						
NOA	**NORSAR Array B**	**140.96**	**352**	PKhKP		22 02 13.8	
	comp=Z,0.5nm,0.6s,baz=3.6,slow=2.8,SNR=4.1						
NOA	**NORSAR Array B**	**140.96**	**352**	PKP	PKPdf	22 02 13.8	-5.7
MALT	**Malatya**	**144.16**	**305**	⇓P	PKPdf	22 02 26.9	+1.7
AKASG	**Malin Array Be**	**144.24**	**329**	PKP	PKPdf	22 02 24.9	-0.4
	comp=Z,5.9nm,0.3s,baz=42,slow=3.9,SNR=47						
AKASG				SKPbc	SKPbc	22 05 12.1	+3.1
	comp=Z,0.1nm,0.3s,baz=40,slow=2.0,SNR=4.1						
SUW	**Suwalki**	**144.37**	**337**	*e*PKPdf	PKPdf	22 02 25.8	+0.2
BR131	**Keskin Array S**	**147.27**	**309**	*e*PKPdf	PKPdf	22 02 34.6	+4.2
BRTR	**Keskin Array B**	**147.27**	**309**	PKPbc	PKPbc	22 02 34.8	+1.0
	comp=Z,4.1nm,0.8s,baz=139,slow=5.0,SNR=29						
ANTO	**Ankara**	**147.82**	**310**	*e*PKPdf	PKPdf	22 02 36.5	+5.1
BSEG	**Bad Segeberg**	**147.93**	**349**	*e*PKPbc	PKPbc	22 02 36.6	+1.1
BSEG				*e*PKPab	PKPab	22 02 40.8	+0.4
KWP	**Kalwaria**	**147.96**	**333**	*e*PKPdf	PKPbc	22 02 36.4	+0.9
CFR	**Carcaliu**	**148.25**	**322**	⇑P	PKPbc	22 02 38.0	+1.7
CFR	**Carcaliu**	**148.25**	**322**	⇑P	PKPbc	22 02 38.0	+1.8
BURAR	**Bucovina Array**	**148.26**	**328**	⇑P	PKPbc	22 02 38.0	+1.7
BURAR	**Bucovina Array**	**148.26**	**328**	⇑P	PKPbc	22 02 38.0	+1.7
TIRR	**Tirgusor**	**148.50**	**320**	⇓P	PKPbc	22 02 37.9	+1.0
TIRR	**Tirgusor**	**148.50**	**320**	⇓P	PKPbc	22 02 37.9	+1.0
KOLS	**Kolonicke sedl**	**148.68**	**332**	*e*PKP	PKPbc	22 02 39.3	+2.0
STHS	**Stebnicka Huta**	**148.74**	**334**	*e*PKP	PKPbc	22 02 39.0	+1.5
DCN	**Croghan**	**148.79**	**9**	*e*P	PKPbc	22 02 37.0	-0.6
DLF	**Lyons Farm**	**148.94**	**8**	*e*P	PKPbc	22 02 37.0	-1.0
CRVS	**Cervenica-Dubn**	**149.04**	**333**	*e*PKP	PKPbc	22 02 39.9	+1.7
MLR	**Muntele Rosu**	**149.28**	**324**	⇓P	PKPbc	22 02 39.7	+0.9
MLR	**Muntele Rosu**	**149.28**	**324**	⇓P	PKPbc	22 02 39.6	+0.9
KSP	**Ksiaz**	**149.34**	**340**	*e*PKP	PKPbc	22 02 40.3	+1.4
OKC	**Ostrava-Krasne**	**149.58**	**337**	*e*PKPbc	PKPbc	22 02 38.8	-0.7
UPC	**Upice**	**149.72**	**340**	*e*PKPbc	PKPbc	22 02 41.3	+1.5
DPC	**Dobruska-Polom**	**149.76**	**340**	*e*PKPbc	PKPbc	22 02 41.6	+1.7
KECS	**Kecovo**	**149.78**	**333**	*e*PKP	PKPbc	22 02 41.8	+1.9
CLL	**Collm**	**149.84**	**344**	*e*PKPbc	PKPbc	22 02 41.3	+1.2
CLL	**Collm**	**149.84**	**344**	⇓*i*PKPbc	PKPbc	22 02 41.3	+1.2
	comp=Z,22nm,0.9s						
CLL				⇑*i*PKPab	PKPab	22 02 48.4	+0.1
	comp=Z,11nm,0.6s						
CLZ	**Clausthal**	**149.92**	**348**	*e*PKPbc	PKPbc	22 02 41.6	+1.3
BRG	**Berggiesshubel**	**149.99**	**343**	*e*PKPbc	PKPbc	22 02 41.7	+1.2
BRG				*e*PKPab	PKPab	22 02 49.4	+0.5
BRG	**Berggiesshubel**	**149.99**	**343**	*i* P	PKPbc	22 02 41.8	+1.3
	comp=Z,9.1nm,0.5s						
BRG				*i*		22 02 49.4	
	comp=Z,3.7nm,0.7s						
VYHS	**Vyhne**	**150.43**	**335**	*e*PKP	PKPbc	22 02 42.6	+1.1
PRU	**Pruhonice**	**150.62**	**342**	*e*PKPbc	PKPbc	22 02 43.1	+1.2
PRU				*e*PKPab	PKPab	22 02 52.7	+1.1
MOX	**Moxa**	**150.79**	**346**	*e*PKPbc	PKPbc	22 02 42.5	+0.2
MOX	**Moxa**	**150.79**	**346**	*e*PKP	PKPbc	22 02 43.5	+1.2
	comp=Z,15nm,1.4s						
WERD	**Werda**	**150.81**	**345**	*e*PKPbc	PKPbc	22 02 43.6	+1.3
BUG	**Bochum--Univer**	**150.82**	**351**	*e*PKPab	PKPab	22 02 51.3	-1.1
TREC	**Trest**	**150.95**	**340**	*e*PKPbc	PKPbc	22 02 43.7	+1.1
UBBA	**Unterbreizbach**	**150.97**	**348**	*e*PKPbc	PKPbc	22 02 43.9	+1.2
KHC	**Kasperske Hory**	**151.67**	**342**	*e*PKPbc	PKPbc	22 02 45.6	+1.3
KHC				*e*PKPab	PKPab	22 02 56.6	+0.6
GRA1	**Grafenberg Arr**	**151.77**	**345**	*e*PKPbc	PKPbc	22 02 46.1	+1.6
GRF	**Grafenberg Arr**	**151.77**	**345**	*e*PKPbc	PKPbc	22 02 46.1	+1.6
TNS	**Taunus Mts**	**151.82**	**349**	*e*PKPbc	PKPbc	22 02 46.2	+1.6
TNS				*e*PKPab	PKPab	22 02 57.0	+0.4
WET	**Wettzell**	**151.85**	**343**	*e*PKPab	PKPab	22 02 58.0	+1.2
GEC2	**GERESS Array S**	**151.89**	**342**	*e*PKPbc	PKPbc	22 02 46.0	+1.2
GERES	**GERESS Array B**	**151.89**	**342**	PKPbc	PKPbc	22 02 45.3	+0.6
	comp=Z,2.0nm,0.7s,baz=23,slow=2.4,SNR=14						
GERES				PKPab	PKPab	22 02 56.6	-0.3
	comp=Z,1.0nm,0.5s,baz=35,slow=4.9,SNR=6.8						
VTS	**Vitosha**	**152.65**	**322**	⇓P	PKPbc	22 02 47.5	+1.1
FUR	**Furstenfeldbru**	**153.18**	**344**	*e*PKPbc	PKPbc	22 02 48.5	+1.0
FUR				*e*PKPab	PKPab	22 03 03.2	+0.8
BFO	**Black Forest**	**153.67**	**348**	*e*PKPab	PKPab	22 03 04.9	+0.4

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*ISCJB **21** 21:44:20.7±0.6,158N±009×672E±01,h10km,mb4.3/22, Error ellipse: s-maj=20.6km s-min=10.7km az=128.0*
*MOS **21** 21:44:20.1±1.6,146N×6700E,h10km,mb4.7/13,Error ellipse: s-maj=18.0km s-min=11.1km az=81.1*
*IDC **21** 21:44:22.3±1.0,174N×6732E,h0km,mb3.9/9,mb1 4.0/9, mb1mx3.8/23,mbtmp3.9/9,MS3.7/1,Ms1 3.6/1, ms1mx2.8/22,Error ellipse: s-maj=28.3km s-min=21.0km az=55.0*
*NEIC **21** 21:44:22.8±0.5,158N×67.13E,h10km,mb4.4/11,Error ellipse: s-maj=17.0km s-min=9.7km az=65.0*

ISC 21 21:44:23.1±0.6,162N±009×671E±01,h10km,n40, σ1§01/40,mb4.3/22,4C-2D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**10.43**	**149**	*e*P	**Pn**	**21 46 51.6**	**-1.0**
	675nm,1.9s						
LSA	**Lhasa**	**36.08**	**37**	*e*P	**P**	**21 51 28.9**	**+4.0**
LSA	**Lhasa**	**36.08**	**37**	*e*P	**P**	**21 51 29.0**	**+4.1**
	6.8nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**41.37**	**8**	*e*P	**P**	**21 52 08.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.8						
AAK	**Ala-Archa**	**41.37**	**8**	*e*P	**P**	**21 52 08.2**	**-1.0**
	comp=Z,4.5nm,1.5s,mb3.9						
LSZ	**Lusaka**	**42.00**	**245**	P	**P**	**21 52 18.3**	**+3.8**
	comp=Z,2.3nm,0.9s,mb3.8,baz=60,slow=5.2,SNR=4.6						
LSZ	**Lusaka**	**42.00**	**245**	*e*P	**P**	**21 52 14.1**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
LSZ	**Lusaka**	**42.00**	**245**	*e*P	**P**	**21 52 14.1**	**-0.3**
	comp=Z,4.2nm,1.1s,mb4.0						
GNI	**Garni**	**43.40**	**335**	P	**P**	**21 52 28.0**	**+2.2**
	comp=Z,2.2nm,0.7s,mb4.0,baz=81,slow=6.2,SNR=6.7						
GNI	**Garni**	**43.40**	**335**	*e*P	**P**	**21 52 27.9**	**+2.1**
GNI				pmax	pmax		
	comp=Z,23nm,1.5s						
GNI	**Garni**	**43.40**	**335**	*e*P	**P**	**21 52 27.9**	**+2.1**
	comp=Z,23nm,1.5s,mb4.7						
MALT	**Malatya**	**45.00**	**328**	*e*P	**P**	**21 52 40.3**	**+1.7**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
MALT	**Malatya**	**45.00**	**328**	*e*P	**P**	**21 52 40.3**	**+1.7**
	comp=Z,3.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**46.90**	**14**	P	**P**	**21 52 53.1**	**-0.5**
	comp=Z,0.6nm,0.9s,mb3.5,baz=188,slow=7.4,SNR=6.8						
BRTR	**Keskin Array B**	**48.63**	**325**	P	**P**	**21 53 07.0**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=146,slow=9.8,SNR=5.8						
AKTK	**Aktyubinsk**	**49.25**	**352**	P	**P**	**21 53 10.5**	**-1.3**
AKTO	**Aktyubinsk**	**49.25**	**352**	P	**P**	**21 53 10.5**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=176,slow=8.0,SNR=6.6						
KURK	**Kurchatov**	**49.88**	**10**	*e*P	**P**	**21 53 16.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**49.88**	**10**	*e*P	**P**	**21 53 16.7**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.1						
BOSA	**Boshof**	**50.12**	**230**	P	**P**	**21 53 13.6**	**-4.8**
BOSA				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.1						
BOSA	**Boshof**	**50.12**	**230**	P	**P**	**21 53 13.6**	**-4.8**
	comp=Z,28nm,1.5s,mb5.1						
ZRNK	**Zerenda**	**51.18**	**1**	*e*P	**P**	**21 53 27.2**	**+0.8**
ZRNK				*e*		21 53 32.4	
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**51.18**	**1**	*e*P	**P**	**21 53 27.2**	**+0.8**
	comp=Z,6.2nm,1.3s,mb4.4						
ZRNK				*e*		21 53 32.4	
ZAL	**Zalesovo**	**54.14**	**13**	P	**P**	**21 53 48.1**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=270,slow=9.1,SNR=11						
NVS	**Novosibirsk**	**54.66**	**11**	*e*P	**P**	**21 53 51.8**	**-0.3**
ARU	**Arti**	**55.08**	**354**	⇓*e*P	**P**	**21 53 55.2**	**+0.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
SONM	**Songino Array**	**57.17**	**31**	P	**P**	**21 54 10.6**	**+0.5**
	comp=Z,1.6nm,1.1s,mb4.0,baz=232,slow=6.3,SNR=11						
ULN	**Ulaanbaatar**	**57.53**	**31**	*e*P	**P**	**21 54 12.8**	**+0.2**
ULN				*e*		21 54 19.4	
ULN				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.5						
ULN	**Ulaanbaatar**	**57.53**	**31**	*e*P	**P**	**21 54 12.8**	**+0.2**
	comp=Z,8.4nm,1.6s,mb4.5						
ULN				*e*		21 54 19.4	
OBN	**Obninsk**	**58.83**	**340**	⇑*e*P	**P**	**21 54 20.5**	**-1.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
VSU	**Vasula**	**64.91**	**338**	⇑*e*P	**P**	**21 54 56.2**	**-6.4**
WRA	**Warramunga Arr**	**69.23**	**112**	P	**P**	**21 55 30.5**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=288,slow=5.6,SNR=9.9						
WRAB	**Tennant Creek**	**69.24**	**112**	⇑*i*P	**P**	**21 55 30.5**	**+0.4**
WRAB	**Tennant Creek**	**69.24**	**112**	*e*P	**P**	**21 55 31.1**	**+0.9**
	comp=Z,27nm,1.4s,mb5.0						
ASAR	**Alice Springs**	**69.51**	**116**	P	**P**	**21 55 32.5**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=289,slow=6.0,SNR=9.3						
DBIC	**Dimbokro**	**71.91**	**276**	*e*P	**P**	**21 55 51.0**	**+4.5**
DBIC				pmax	pmax		
	comp=Z,25nm,1.7s						
DBIC	**Dimbokro**	**71.91**	**276**	*e*P	**P**	**21 55 51.0**	**+4.5**
	comp=Z,24nm,1.7s,mb4.9						
YAK	**Yakutsk**	**76.00**	**26**	⇑*e*P	**P**	**21 56 07.5**	**-2.9**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**79.03**	**43**	*i* P	**P**	**21 56 28.6**	**+1.3**
TIXI	**Tiksi**	**79.83**	**16**	⇓*i*P	**P**	**21 56 31.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						

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*CSEM **21** 21:50:52.0,2833N×5715E,h17km,ML3.6,After THR*

THR 21 21:50:52.0±0.4,2833N×5715E,h17km±4km,ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.27**	**223**	*e*PG	Pg	21 51 15.6	-0.9
BNDS				AML	AML	21 51 35.0	
	comp=N,2μm,0.4s						
BNDS				AML	AML	21 51 37.8	
	comp=E,1μm,0.7s						
KRBR	**Kerman**	**1.68**	**349**	*e*PG	Pg	21 51 23.1	-1.2
KRBR				*e*SG	Sg	21 51 45.5	-0.6
KRBR				AML	AML	21 51 57.3	
	comp=N,335nm,0.6s						
KRBR				AML	AML	21 51 57.4	
	comp=E,545nm,0.4s						
KRBR	**Kerman**	**1.68**	**349**	*e*Pg	Pg	21 51 23.1	-1.2
	SNR=91						
KRBR				*e*Sg	Sg	21 51 45.5	-0.7
	comp=E,545nm,0.4s,SNR=91						
ZHSF	**Zahedan**	**3.43**	**67**	*e*PN	Pn	21 51 47.0	+2.3
GHIR	**Ghir-Karzin**	**3.67**	**270**	*e*PN	Pn	21 51 50.2	+2.3
GHIR	**Ghir-Karzin**	**3.67**	**270**	*e*Pn	Pn	21 51 50.2	+2.2
	SNR=52						

WEL 21 21:58:16.0±0.3,3720S×17670E,h247km±3km,ML3.6/7, 1C,Error ellipse: s-maj=5.3km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.10**	**163**	PN	Pn	21 58 51.2	-0.1
URZ				SN	S	21 59 18.9	-0.1
MWZ	**Matawai**	**1.31**	**150**	PN	Pn	21 58 52.7	+0.2
MWZ				SN	S	21 59 20.9	-0.4
BKZ	**Black Stump Fm**	**1.97**	**185**	⇑PN	Pn	21 58 58.0	+0.2
BKZ				SN	S	21 59 30.3	-0.5
KNZ	**Kokohu**	**1.97**	**157**	PN	Pn	21 58 58.1	+0.2
KNZ				SN	S	21 59 30.1	-0.8
WNVZ	**Wahianoa**	**2.29**	**202**	PN	Pn	21 59 01.4	+0.5
TSZ	**Takapari Road**	**2.91**	**191**	PN	Pn	21 59 06.6	-0.7
MRZ	**Mangatainoka R**	**3.56**	**194**	PN	Pn	21 59 12.8	-1.7
MRZ				SN	S	21 59 58.3	-2.6
KIW	**Kapiti Island**	**3.91**	**200**	PN	Pn	21 59 16.8	-1.8
MTW	**Mount Morrison**	**4.06**	**193**	PN	Pn	21 59 18.6	-1.6

IDC 21 21:58:48.5±3.5,607N×9468E,h0km,mb3.4/4,mb1 3.6/5, mb1mx3.4/22,mbtmp3.4/5,ML3.0/1,Error ellipse: s-maj=133.4km s-min=21.8km az=61.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.33**	**127**	Pn	Pn	22 00 11.4	+2.0
	0.5nm,0.3s,baz=281,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**41.95**	**347**	P	P	22 06 41.0	0.0
	0.1nm,0.5s,baz=168,slow=8.7,SNR=2.9						
SONM	**Songino Array**	**42.80**	**12**	P	P

1.0nm,0.7s,baz=290,slow=5.9,SNR=9.5
ASAR Alice Springs 69.55 116 P P 22 20 00.3 +0.4
0.9nm,0.7s,baz=288,slow=5.7,SNR=11

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*NAO **21** 22:28:30.6,3133N×7373E,h33km,mb4.4*
*NNC **21** 22:29:26.9±6.8,3698N×7055E,h0km,mb4.5,mpv5.6,*
Error ellipse: s-maj=65.3km s-min=33.7km az=170.0
*ISCJB **21** 22:29:30.8±0.3,3643N±002×7124E±003,h229km±3km,*
mb4.1/49,Error ellipse: s-maj=4.0km s-min=2.9km
az=126.5
*BJI **21** 22:29:30.6,3668N×7102E,h230km,mB4.3,mb4.5*
*MOS **21** 22:29:31.0±0.9,3647N×7127E,h229km,mb4.2/15,Error*
ellipse: s-maj=8.6km s-min=5.5km az=100.3
*NEIC **21** 22:29:31.1±1.1,3650N×7122E,h205km±14km,mb4.4/20,*
Error ellipse: s-maj=9.3km s-min=5.3km az=56.0
*IDC **21** 22:29:33.1±0.7,3645N×7126E,h240km±5km,mb3.7/17,*
mb1 3.8/21,mb1mx3.7/24,mbtmp4.3/21,Error ellipse:
s-maj=11.4km s-min=9.3km az=147.0
ISC 21 22:29:31.6±0.3,3646N±002×7123E±003,h221km±3km,
h233km±5.0km:pP-P,n191,s1904/227,mb4.1/49,22C-13D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.69**	**168**	⇑P		**Pn**		**22 30 20.2**	**+1.4**
CHCP	**Chirah Chowk**	**3.25**	**149**	⇑P		**Pn**		**22 30 26.5**	**+1.3**
CHCP				S		**S**		**22 31 05.0**	**-2.4**
THW	**Thamme Wali**	**3.68**	**173**	⇑P		**Pn**		**22 30 31.3**	**+1.1**
SBDP	**Sheikh Budin**	**4.16**	**185**	⇑P		**Pn**		**22 30 36.1**	**0.0**
SARP	**Sargodha**	**4.68**	**165**	P		**Pn**		**22 30 42.9**	**+0.5**
DRP	**Derazinda**	**4.78**	**191**	P		**Pn**		**22 30 44.4**	**+0.7**
KSH	**Kashi**	**4.83**	**49**	⇑*i*P		**Pn**		**22 30 45.6**	**+1.2**
KSH				XP				22 31 29.0	
KSH				S		**S**		**22 31 41.0**	**-1.0**
THN	**Thein Dam**	**5.46**	**136**	*e*P		**Pn**		**22 30 52.4**	**+0.1**
THN				*e*S		**S**		**22 31 54.7**	**-1.6**
DLH	**Dalhousie**	**5.53**	**134**	*e*P		**Pn**		**22 30 55.0**	**+1.9**
DLH				*e*S		**S**		**22 31 58.0**	**+0.2**
PONG	**Pong**	**5.95**	**138**	*ex*		x		22 31 01.0	
PONG				*ex*		x		22 32 05.0	
AML	**Almayashu** SNR=1059	**5.98**	**18**	P		**Pn**		**22 30 59.0**	**+0.2**
UCH	**Uchtor** SNR=120	**6.30**	**23**	P		**Pn**		**22 31 03.5**	**+0.6**
KZA	**Kyzart** SNR=71	**6.42**	**28**	P		**Pn**		**22 31 04.3**	**-0.2**
EKS2	**Erkin-Say** SNR=70	**6.50**	**17**	P		**Pn**		**22 31 05.6**	**+0.1**
BHK	**Bhakra**	**6.62**	**138**	*ex*		**S**		**22 32 25.9**	**+2.8**
AAK	**Ala-Archa** SNR=181	**6.66**	**21**	P		**Pn**		**22 31 08.1**	**+0.5**
AAK	**Ala-Archa**	**6.66**	**21**	⇑*i*PN		**Pn**		**22 31 06.8**	**-0.8**
AAK				pmax		pmax			
	comp=Z,101nm,0.4s								
AAK	**Ala-Archa**	**6.66**	**21**	⇑*i*Pn		**Pn**		**22 31 06.8**	**-0.7**
	comp=Z,100nm,0.4s								
AAK				*e*S		**S**		**22 32 11.0**	**-13**
KBK	**Karagaybulak** SNR=122	**6.82**	**24**	P		**Pn**		**22 31 10.3**	**+0.7**
FRU	**Bishkek**	**6.88**	**21**	⇑*e*PN		**Pn**		**22 31 11.8**	**+1.4**
FRU				*e*S		**S**		**22 32 28.5**	**-0.7**
FRU				pmax		pmax			
	comp=Z,80nm,1.8s								
FRU				smax					
	comp=N,250nm,1.8s								
FRU				smax					
	comp=E,80nm,1.8s								
FRU				smax					
	comp=N,250nm,1.8s								
FRU				smax					
	comp=E,430nm,1.7s								
ULHL	**Ulahol** SNR=78	**6.96**	**32**	P		**Pn**		**22 31 11.5**	**+0.1**
CHMS	**Chumysh** SNR=46	**7.07**	**21**	P		**Pn**		**22 31 13.0**	**+0.2**
USP	**Ospenovka** SNR=24	**7.25**	**19**	P		**Pn**		**22 31 15.0**	**-0.1**
SMLA	**Simla**	**7.25**	**135**	*e*P		**Pn**		**22 31 15.0**	**-0.1**
SMLA				*e*S		**S**		**22 32 35.1**	**-2.9**
TKM2	**Tokmak 2** SNR=140	**7.28**	**26**	P		**Pn**		**22 31 15.8**	**+0.3**
TKM2	**Tokmak 2**	**7.28**	**26**	⇓P		**Pn**		**22 31 15.6**	**+0.1**
	comp=E,57nm,0.5s								
TKM2				⇓S		**S**		**22 32 34.0**	**-4.5**
	comp=E,35nm,0.8s								
TKM2	**Tokmak 2**	**7.28**	**26**	PN		**Pn**		**22 31 15.7**	**+0.2**
TKM2				pmax		pmax			
	comp=Z,26nm,0.5s								
KLP	**Kalpa**	**7.62**	**128**	*e*P		**Pn**		**22 31 20.9**	**+1.0**
KLP				*e*S		**S**		**22 32 44.0**	**-2.5**
KLP				AML		AML		22 32 48.3	
	comp=N,625nm,0.6s								
KLP				AML		AML		22 32 48.7	
	comp=E,767nm,0.6s								
KNDC	**Almaty**	**8.06**	**31**	⇓P		**Pn**		**22 31 26.2**	**+0.7**
	comp=E,537nm,0.6s								
KNDC				⇓S		**S**		**22 32 55.3**	**-1.6**
	comp=E,696nm,1.4s								
DDI	**Dehra Dun**	**8.36**	**135**	*e*P		**Pn**		**22 31 28.9**	**-0.5**
DDI				*ex*		x		22 33 05.4	
RTK	**Rohtak**	**8.59**	**148**	*ex*		x		22 31 30.9	
KHET	**Khetri**	**9.21**	**154**	*e*P		**Pn**		**22 31 39.5**	**-0.9**
KHET				*e*S		**S**		**22 33 16.4**	**-7.5**
NDI	**New Delhi**	**9.25**	**145**	*e*P		**Pn**		**22 31 40.0**	**-0.8**
NDI				*e*S		**S**		**22 33 17.5**	**-7.3**
KALG	**Kalgarh**	**9.38**	**136**	*ex*		**S**		**22 33 14.8**	**-13**
AYAN	**Aya Nagar**	**9.38**	**146**	*e*P		**Pn**		**22 31 42.0**	**-0.4**
AYAN				*e*S		**S**		**22 33 21.4**	**-6.5**
KUDL	**Kundal**	**9.40**	**150**	*e*P		**Pn**		**22 31 41.7**	**-1.1**
KUDL				*e*S		**S**		**22 33 20.6**	**-7.9**
SONA	**Sohna**	**9.56**	**147**	*e*P		**Pn**		**22 31 44.5**	**-0.3**
SONA				*e*S		**S**		**22 33 25.0**	**-7.2**
AJM	**Ajmer**	**10.36**	**163**	*e*P		**Pn**		**22 31 53.9**	**-1.2**
AGRA	**Agra**	**10.82**	**146**	*e*P		**Pn**		**22 32 00.9**	**0.0**
AGRA				*e*S		**S**		**22 33 55.7**	**-6.3**
AGRA				AML		AML		22 33 56.3	
	comp=E,58nm,0.7s								
AGRA				AML		AML		22 33 57.8	
	comp=N,37nm,0.3s								
MK31	**Makanchi Array**	**13.22**	**35**	P		**Pn**		**22 32 29.9**	**-1.1**
	comp=N,20nm,0.8s,baz=216,slow=13,SNR=323								
MKAR	**Makanchi Array**	**13.22**	**35**	P		**Pn**		**22 32 30.1**	**-0.9**
	comp=N,1.4nm,0.3s,baz=211,slow=13,SNR=88								
MKAR				S		**S**		**22 34 59.3**	**+1.2**
	baz=224,slow=17,SNR=2.7								
MKAR	**Makanchi Array**	**13.22**	**35**	P		**Pn**		**22 32 30.1**	**-0.9**
MKAR				S		**S**		**22 34 59.3**	**+1.2**
BHJ	**Bhuj**	**13.23**	**186**	*e*S		**S**		**22 34 43.9**	**-14**
KOLN	**Koldanda**	**13.59**	**126**	*e*Pn		**Pn**		**22 32 35.6**	**0.0**
KOLN				*e*Sn		**S**		**22 35 01.1**	**-5.5**
	comp=N,40nm,0.8s								
KOLN	**Koldanda**	**13.59**	**126**	*e*Pn		**Pn**		**22 32 35.6**	**0.0**
	comp=N,20nm,0.8s								
KOLN				*e*Sn		**S**		**22 35 01.1**	**-5.5**
GKN	**Gorkha**	**14.12**	**123**	*e*Pn		**Pn**		**22 32 42.6**	**+0.4**
GKN				*e*Sn		**S**		**22 35 10.1**	**-8.8**
	comp=N,69nm,0.7s								
GKN	**Gorkha**	**14.12**	**123**	*e*Pn		**Pn**		**22 32 42.6**	**+0.4**
	comp=N,34nm,0.7s								
GKN				*e*Sn		**S**		**22 35 10.1**	**-8.8**
BHPL	**Bhopal**	**14.22**	**156**	*e*P		**Pn**		**22 32 47.1**	**+3.8**
WMQ	**Urumqi**	**14.57**	**55**	P		**Pn**		**22 32 47.5**	**-0.1**
WMQ				S		**S**		**22 35 23.0**	**-6.1**
WMQ				PCP		PcP		22 37 48.0	+3.2
WMQ				AMB		AMB			
	comp=Z,15nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,102nm,3.0s								
DMN	**Daman**	**14.69**	**123**	*e*Pn		**Pn**		**22 32 49.6**	**+0.5**
DMN				*e*Sn		**S**		**22 35 26.3**	**-5.6**
	comp=Z,66nm,0.9s								
DMN	**Daman**	**14.69**	**123**	*e*Pn		**Pn**		**22 32 49.6**	**+0.5**
	comp=Z,33nm,0.9s								
DMN				*e*Sn		**S**		**22 35 26.3**	**-5.6**
KKN	**Kakani**	**14.70**	**122**	*e*Pn		**Pn**		**22 32 49.4**	**+0.3**
KKN				*e*Sn		**S**		**22 35 25.5**	**-6.5**
	comp=Z,84nm,0.9s								
KKN	**Kakani**	**14.70**	**122**	*e*P		**Pn**		**22 32 49.4**	**+0.3**
KKN				*e*				22 35 25.5	
KKN				pmax		pmax			
	comp=Z,42nm,0.9s								
KKN	**Kakani**	**14.70**	**122**	*e*Pn		**Pn**		**22 32 49.4**	**+0.3**
	comp=Z,42nm,0.9s								
KKN				*e*Sn		**S**		**22 35 25.5**	**-6.5**
PKI	**Pulchoki**	**14.92**	**122**	*e*Pn		**Pn**		**22 32 52.2**	**+0.3**
PKI				*e*Sn		**S**		**22 35 30.2**	**-7.0**
	comp=Z,38nm,0.8s								
PKI	**Pulchoki**	**14.92**	**122**	*e*P		**Pn**		**22 32 52.2**	**+0.3**
PKI				*e*				22 35 30.2	
PKI				pmax		pmax			
	comp=Z,19nm,0.8s								
PKI	**Pulchoki**	**14.92**	**122**	*e*Pn		**Pn**		**22 32 52.2**	**+0.3**
	comp=Z,19nm,0.8s								
PKI				*e*Sn		**S**		**22 35 30.2**	**-7.0**
GUN	**Gumba**	**15.03**	**120**	*e*Pn		**Pn**		**22 32 53.6**	**+0.4**
GUN				*e*Sn		**S**		**22 35 32.6**	**-7.1**
AB31	**Akbulak array**	**15.21**	**331**	⇑P		**Pn**		**22 32 53.8**	**-1.7**
	comp=Z,1.1nm,0.3s								
AB31				⇓S		**S**		**22 35 39.4**	**-4.3**
	comp=Z,2.4nm,0.4s								
AB31	**Akbulak array**	**15.21**	**331**	P		**Pn**		**22 32 53.7**	**-1.7**
AB31								22 35 39.4	
AB31				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**15.21**	**18**	⇑P		**Pn**		**22 32 54.2**	**-1.2**
	comp=Z,2.6nm,0.7s								
KURK	**Kurchatov**	**15.21**	**18**	*e*P		**Pn**		**22 32 53.9**	**-1.5**
KURK				*e*S		**S**		**22 35 42.5**	**-1.2**
KURK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KURK	**Kurchatov**	**15.21**	**18**	*e*P		**Pn**		**22 32 53.9**	**-1.6**
	comp=Z,6.8nm,0.8s								
KURK				*e*S		**S**		**22 35 42.5**	**-1.2**
JIRN	**Jiri**	**15.40**	**120**	*e*Pn		**Pn**		**22 32 58.0**	**+0.3**
JIRN				*e*Sn		**S**		**22 35 38.6**	**-9.5**
	comp=Z,102nm,0.9s								
JIRN	**Jiri**	**15.40**	**120**	*e*Pn		**Pn**		**22 32 58.0**	**+0.3**
	comp=Z,51nm,0.9s								
JIRN				*e*Sn		**S**		**22 35 38.6**	**-9.5**
VOSK	**Vostochnaya**	**16.27**	**359**	⇑P		**P**		**22 33 07.6**	**+0.6**
	comp=Z,1.1nm,0.4s								
VOSK	**Vostochnaya**	**16.27**	**359**	P		**P**		**22 33 07.5**	**+0.5**
ZRNK	**Zerenda**	**16.57**	**355**	⇑P		**P**		**22 33 11.2**	**+0.9**
	comp=Z,2.5nm,0.4s								
ZRNK	**Zerenda**	**16.57**	**355**	*e*P		**P**		**22 33 11.3**	**+1.0**
ZRNK				pmax		pmax			
	comp=Z,5.0nm,0.4s								
ZRNK	**Zerenda**	**16.57**	**355**	*e*P		**P**		**22 33 11.3**	**+1.0**
	comp=Z,5.2nm,0.4s								
ZRNK				*e*				22 34 16.8	
BVA0	**Borovoye Array**	**16.58**	**358**	P		**P**		**22 33 11.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=164,slow=10,SNR=67								
BVA0	**Borovoye Array**	**16.58**	**358**	*i* P		**P**		**22 33 10.9**	**+0.5**
BVAR	**Borovoye Array**	**16.58**	**358**	P		**P**		**22 33 10.6**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=162,slow=12,SNR=47								
BVAR				S		**S**		**22 36 13.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=175,slow=24,SNR=2.8								
BRVK	**Borovoye**	**16.61**	**358**	*e*P		**P**		**22 33 11.6**	**+0.8**
BRVK				pmax		pmax			
	comp=Z,52nm,0.4s								
BRVK	**Borovoye**	**16.61**	**358**	*e*P		**P**		**22 33 11.6**	**+0.8**
	comp=Z,52nm,0.4s								
BRVK				*e*				22 34 11.3	
AKTK	**Aktyubinsk**	**16.91**	**330**	P		**P**		**22 33 14.3**	**+0.3**
AKTO	**Aktyubinsk**	**16.91**	**330**	⇑P		**P**		**22 33 14.8**	**+0.7**
	comp=Z,2.5nm,0.8s								
AKTO				⇑S		**S**		**22 36 16.9**	**-2.1**
	comp=Z,0.7nm,0.7s								
AKTO	**Aktyubinsk**	**16.91**	**330**	P		**P**		**22 33 14.3**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=140,slow=10.0,SNR=51								
AKTO	**Aktyubinsk**	**16.91**	**330**	P		**P**		**22 33 14.7**	**+0.6**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LSA	**Lhasa**	**17.99**	**106**	P		**P**		**22 33 30.1**	**+4.3**
LSA	**Lhasa**	**17.99**	**106**	*e*P		**P**		**22 33 29.7**	**+3.9**
LSA				pmax		pmax			
	comp=Z,22nm,0.9s								
LSA	**Lhasa**	**17.99**	**106**	*e*P		**P**		**22 33 29.7**	**+3.9**
	comp=Z,22nm,0.9s								
POO	**Poona**	**18.01**	**172**	*ex*		x		22 33 28.5	
ZAL	**Zalesovo**	**19.86**	**24**	P		**P**		**22 33 45.7**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=257,slow=6.9,SNR=39								
ZAL				S		**S**		**22 37 14.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=343,slow=19,SNR=6.3								
ZAL	**Zalesovo**	**19.86**	**24**	P		**P**		**22 33 45.7**	**-0.3**
ZAL				S		**S**		**22 37 14.2**	**-3.1**
HYB	**Hyderabad**	**20.04**	**159**	*i* P		**P**		**22 33 52.0**	**+4.1**
HYB	**Hyderabad**	**20.04**	**159**	*e*P		**P**		**22 33 52.0**	**+4.1**
NVS	**Novosibirsk**	**20.16**	**20**	*i* P		**P**		**22 33 47.9**	**-1.2**
NVS				*i*				22 34 55.3	
NVS				*i* S		**S**		**22 37 19.7**	**-3.2**
NVS				pmax		pmax			
	comp=N,10.0nm,0.9s								
NVS				pmax		pmax			
	comp=Z,9.0nm,0.9s								
NVS				pmax		pmax			
	comp=E,2.0nm,0.7s								
NVS				smax					
	comp=N,9.0nm,1.6s								
NVS				smax					
	comp=E,12nm,1.4s								
SHL	**Shillong**	**20.72**	**116**	*ex*		x		22 33 58.0	
SHL				*ex*		x		22 37 27.0	
UMR	**Umm Al-Rimmam**	**20.86**	**257**	*e*P		**P**		**22 33 58.0**	**+1.5**
UMR				AMb		AMB		22 34 01.9	
	comp=Z,42nm,0.5s								
UMR	**Umm Al-Rimmam**	**20.86**	**257**	*e*P		**P**		**22 33 55.9**	**-0.6**
UMR				AMb		AMB		22 33 58.8	
	comp=Z,32nm,0.7s								
MIB	**Mutribah**	**21.05**	**259**	*e*P		**P**		**22 33 58.4**	**-0.2**
MIB				AMb		AMB		22 34 02.3	
	comp=Z,70nm,1.3s,mb5.0								
MIB	**Mutribah**	**21.05**	**259**	*e*P		**P**		**22 33 58.2**	**-0.3**
MIB				AMb		AMB		22 34 00.8	
	comp=Z,44nm,0.8s,mb5.1								
GNI	**Garni**	**21.08**	**288**	P		**P**		**22 34 01.2**	**+2.3**
	comp=Z,9.6nm,0.7s,mb4.5,baz=70,slow=0.9,SNR=19								
GNI	**Garni**	**21.08**	**288**	*e*P		**P**		**22 34 01.1**	**+2.2**
GNI				pmax		pmax			
	comp=Z,24nm,1.0s								
GNI	**Garni**	**21.08**	**288**	*e*P		**P**		**22 34 01.1**	**+2.2**
	comp=Z,24nm,1.0s,mb4.7								
GNI				*e*pP				22 34 38.8	
RDF	**Al-Radifah**	**21.27**	**256**	*e*P		**P**		**22 34 00.3**	**-0.5**
RDF				AMb		AMB		22 34 02.8	
	comp=Z,27nm,0.7s,mb4.9								
RDF	**Al-Radifah**	**21.27**	**256**	*e*P		**P**		**22 33 60.0**	**-0.8**
RDF				AMb		AMB		22 34 02.9	
	comp=Z,32nm,0.8s,mb4.9								
NAY	**Al-Naaiem**	**21.36**	**257**	*e*P		**P**		**22 34 01.6**	**-0.2**
NAY				AMb		AMB		22 34 04.2	
	comp=Z,14nm,0.4s,mb4.8								
NAY	**Al-Naaiem**	**21.36**	**257**	*e*P		**P**		**22 34 01.5**	**-0.4**
NAY				AMb		AMB		22 34 05.5	
	comp=Z,17nm,0.5s,mb4.8								
ARU	**Arti**	**21.73**	**341**	*e*P		**P**		**22 34 05.4**	**-0.1**
ARU				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.4								
ARU	**Arti**	**21.73**	**341**	*e*P		**P**		**22 34 05.4**	**-0.1**
	comp=Z,6.6nm,0.6s,mb4.3								
ARU				*e*pP				22 34 39.6	
ARU				*e*sP		sP		22 35 03.1	-7.3
ZEI	**Tsey**	**21.93**	**295**	*e*P		**P**		**22 34 08.5**	**+1.3**
ZEI				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.5								
GTA	**Gaotai**	**22.70**	**74**	P		**P**		**22 34 16.6**	**+2.3**
GTA				PP				22 34 59.5	
GTA				PPP				22 35 38.3	
GTA				AMB		AMB			
	comp=Z,18nm,0.8s,mb4.7								
MALT	**Malatya**	**26.06**	**284**	⇑P		**P**		**22 34 46.9**	**+2.2**
MALT	**Malatya**	**26.06**	**284**	*e*P		**P**		**22 34 46.6**	**+1.9**
	comp=Z,2.8nm,0.7s,mb4.0								
LZH	**Lanzhou**	**26.23**	**81**	*e*P		**P**		**22 34 49.5**	**+3.3**
LZH				AP		pP		22 35 31.3	+1.3
LZH				PP		PP		22 35 42.6	-7.6
LZH				XP		sP		22 35 55.6	-0.1
LZH				AMB		AMB			
	comp=Z,21nm,1.0s,mb4.7								
LZH				AMB		AMB			
	comp=Z,55nm,4.8s								
CD2	**Chengdu**	**27.54**	**92**	*e*P		**P**		**22 34 59.5**	**+1.6**
CD2				AP		pP		22 35 43.9	+2.0
CD2				PP		PP		22 35 58.5	-6.2
CD2				XP		sP		22 36 09.8	+2.2
CD2				S		**S**		**22 39 22.0**	**-0.4**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
CD2				AMB		AMB			
	comp=Z,60nm,5.9s								
SONM	**Songino Array**	**28.21**	**55**	P		**P**		**22 35 05.0**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.0,baz=261,slow=9.3,SNR=28								
SONM				pP		pP		22 35 52.7	+4.8
	comp=Z,1.6nm,0.8s,baz=253,slow=10,SNR=7.0								
SONM				sP		sP		22 36 18.5	+5.0
	comp=Z,0.8nm,0.8s,baz=257,slow=11,SNR=2.2								
ULN	**Ulaanbaatar**	**28.65**	**55**	*e*P		**P**		**22 35 08.9**	**+1.2**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.0								
ULN	**Ulaanbaatar**	**28.65**	**55**	*e*P		**P**		**22 35 08.9**	**+1.2**
	comp=Z,2.5nm,0.7s,mb4.0								
BR131	**Keskin Array S**	**29.63**	**288**	*e*P		**P**		**22 35 17.2**	**+0.9**
	comp=Z,1.5nm,0.7s,mb3.7								
BRTR	**Keskin Array B**	**29.63**	**288**	P		**P**		**22 35 16.9**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.0,baz=102,slow=8.9,SNR=23								
OBN	**Obninsk**	**30.09**	**319**	⇑*i*P		**P**		**22 35 20.4**	**0.0**
OBN				*i* *PP		pP		22 36 06.4	+1.6
OBN				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.5								
XAN	**Xi'an**	**30.75**	**83**	P		**P**		**22 35 27.3**	**+1.1**
XAN				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
ENH	**Enshi**	**32.39**	**90**	*e*P		**P**		**22 35 42.3**	**+1.8**
	comp=Z,4.0nm,0.5s,mb4.2								
AKASG	**Malin Array Be**	**33.12**	**309**	P		**P**		**22 35 46.1**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.2,baz=83,slow=7.2,SNR=13								
AKASG	**Malin Array Be**	**33.12**	**309**	*i* P		**P**		**22 35 46.5**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
CIT	**Chita**	**33.54**	**49**	*e*P		**P**		**22 35 51.8**	**+1.4**
MLR	**Muntele Rosu**	**34.97**	**299**	⇑P		**P**		**22 36 04.3**	**+1.6**
MLR	**Muntele Rosu**	**34.97**	**299**	⇑P		**P**		**22 36 04.3**	**+1.6**
BOD	**Bodaibo**	**35.27**	**39**	*e*P		**P**		**22 36 03.2**	**-2.0**
BOD				pmax		pmax			
	comp=Z,2.0nm,1.9s,mb3.3								
BURAR	**Bucovina Array**	**35.47**	**303**	⇓P		**P**		**22 36 07.5**	**+0.6**
BURAR	**Bucovina Array**	**35.47**	**303**	⇓P		**P**		**22 36 07.5**	**+0.6**
APE	**Apeiranthos**	**36.35**	**285**	⇑*i*P		**P**		**22 36 14.1**	**-0.3**
KWP	**Kalwaria**	**37.19**	**306**	*e*P		**P**		**22 36 22.7**	**+1.2**
KOLS	**Kolonicke sedl**	**37.45**	**305**	*e*P		**P**		**22 36 24.0**	**+0.3**
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**		**22 36 24.6**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.1,baz=113,slow=9.7,SNR=27								
FINES	**FINESS Array B**	**37.62**	**326**	*i* P		**P**		**22 36 25.0**	**-0.2**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KAF	**Kangasniemi**	**37.76**	**327**	*e*p		**P**		**22 36 25.5**	**-0.8**
BZS	**Buzias**	**38.00**	**300**	⇓P		**P**		**22 36 29.8**	**+1.5**
BZS	**Buzias**	**38.00**	**300**	⇓P		**P**		**22 36 29.8**	**+1.6**
STHS	**Stebnicka Huta**	**38.13**	**306**	*e*P		**P**		**22 36 29.8**	**+0.4**
NIE	**Niedzica**	**38.74**	**306**	*e*P		**P**		**22 36 35.8**	**+1.3**
OJC	**Ojcow**	**39.08**	**307**	*e*P		**P**		**22 36 37.2**	**-0.1**
NJ2	**Nanjing**	**39.30**	**82**	*e*P		**P**		**22 36 40.9**	**+1.9**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.5s,mb4.6								
MORC	**Moravsky Berou**	**40.54**	**307**	⇑P		**P**		**22 36 49.9**	**+0.6**
GKP	**Gorka Klasztor**	**40.74**	**312**	*e*P		**P**		**22 36 51.3**	**+0.4**
VRAC	**Vranov**	**41.18**	**306**	⇑P		**P**		**22 36 55.8**	**+1.3**
ARCES	**ARCESS Array B**	**41.26**	**338**	P		**P**		**22 36 55.4**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.0,baz=119,slow=8.3,SNR=26								
SSE	**Sheshan**	**41.49**	**82**	*e*P		**P**		**22 36 54.3**	**-2.7**
SSE				AMB		AMB			
	comp=Z,15nm,0.8s,mb4.5								
SSE				AMB		AMB			
	comp=Z,26nm,3.9s								
BRG	**Berggiesshubel**	**42.80**	**308**	*i* P		**P**		**22 37 07.8**	**+0.3**
	comp=Z,3.4nm,0.8s,mb3.8								
BRG	**Berggiesshubel**	**42.80**	**308**	*i* P		**P**		**22 37 07.9**	**+0.4**
BRG				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb3.8								
GERES	**GERESS Array B**	**43.11**	**305**	P		**P**		**22 37 10.5**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.1,baz=116,slow=3.1,SNR=4.9								
HFS	**Hagfors**	**43.22**	**322**	P		**P**		**22 37 10.6**	**-0.3**
	comp=Z,6.6nm,0.6s,mb4.3,baz=97,slow=11,SNR=26								
YAK	**Yakutsk**	**43.89**	**35**	*d* *i*P		**P**		**22 37 15.7**	**-0.6**
YAK				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.2								
MDJ	**Mudanjiang**	**44.26**	**61**	P		**P**		**22 37 20.0**	**+0.8**
MDJ				AP		pP		22 38 05.0	-1.2
MDJ

comp=Z,0.3nm,0.5s,mb3.2,baz=347,slow=5.4,SNR=8.2
YKA pP pP 22 42 19.0 +2.9
comp=Z,1.0nm,0.9s,baz=348,slow=5.5,SNR=5.0
YKA sP sP 22 42 43.3 +3.9
comp=Z,0.7nm,0.8s,baz=348,slow=5.4,SNR=3.3
YKA Yellowknife Ar 81.28 3 P **P 22 41 22.6 -0.5**
YKA *PP pP 22 42 19.0 +2.9
YKA *SP sP 22 42 43.3 +3.9
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 81.81 122 P **P 22 41 25.2 -0.6**
comp=Z,0.7nm,0.4s,mb3.7,baz=324,slow=5.0,SNR=15
WRA Warramunga Arr 81.81 122 P **P 22 41 25.2 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 81.81 122⇓*i*P **P 22 41 25.0 -0.9**
WRAB Tennant Creek 81.81 122 *e*P **P 22 41 25.1 -0.7**
comp=Z,1.5nm,0.4s,mb4.0
ASAR Alice Springs 84.08 125 P **P 22 41 37.0 -0.4**
comp=Z,1.7nm,0.6s,mb3.9,baz=313,slow=5.1,SNR=21
ASAR Alice Springs 84.08 125 P **P 22 41 37.1 -0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 119.42 200⇑*i*PKIKP PKPdf 22 47 52.1 -2.5

*NEIC **21** 22:35:35.8, 167.9N×100.17W, h28km, MD3.8(MEX), After MEX.*
MEX 21 22:35:35.8±0.6, 167.9N×100.17W, h28km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**72**	*i*P	Pb	22 35 41.0	-1.4
ACX				*i*S	Sb	22 35 45.5	-1.4
CAIG	**El Cayaco**	**0.28**	**340**	*i*P	Pb	22 35 41.6	-1.1
CAIG				*i*S	Sb	22 35 45.7	-1.8
MEIG	**Mezcala**	**1.25**	**25**	*i*P	Pn	22 35 55.1	-2.2
MEIG				*i*S	Sn	22 36 10.0	-3.2
PLIG	**Platanillo**	**1.72**	**22**	*i*P	Pn	22 36 00.1	-3.7
PLIG				*i*S	Sn	22 36 23.1	-1.7
PPM	**Popocatepetl**	**2.70**	**33**	*i*P	Pn	22 36 15.9	-1.4
PPM				*i*S	Sn	22 36 49.9	+0.9

*IDC **21** 22:39:35.8±2.0, 869S×129.98E, h0km, mb3.9/1, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=129.0km s-min=30.7km az=67.0*
*ISCJB **21** 22:39:40.7±2.9, 89S±0.1×129.9E±0.2, h59km±28km, mb3.8/4, Error ellipse: s-maj=34.9km s-min=11.7km az=130.6*
*NEIC **21** 22:39:41.0±0.6, 885S×129.72E, h40km, mb3.7/4, Error ellipse: s-maj=22.3km s-min=7.8km az=67.0*
ISC 21 22:39:42.5±2.5, 89S±01×129.8E±02, h57km±28km, n13, σ0°75/18, mb3.8/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.94**	**203**	*e*P	**Pn**	**22 42 11.3**	**+8.7**
	2.6nm,0.2s						
FITZ				*e*S	**Sn**	**22 44 03.4**	**+11**
WRAB	**Tennant Creek**	**11.80**	**158**	*e*Pn	**Pn**	**22 42 28.3**	**+0.4**
	4.5nm,0.5s						
WRA	**Warramunga Arr**	**11.80**	**158**	Pn	**Pn**	**22 42 27.9**	**-0.1**
	1.0nm,0.3s,baz=342,slow=13,SNR=20						
WRA				Sn	**Sn**	**22 44 37.5**	**-0.6**
	1.4nm,0.3s,baz=351,slow=21,SNR=6.6						
WRA				Lg		22 46 02.8	
	baz=346,slow=28,SNR=3.0						
WB2	**Warramunga Arr**	**11.81**	**158**	*e*P	**Pn**	**22 42 27.9**	**-0.2**
WB2				*e*S	**Sn**	**22 44 38.9**	**+0.7**
ASAR	**Alice Springs**	**15.17**	**165**	Pn	**Pn**	**22 43 13.8**	**+0.5**
	0.5nm,0.3s,baz=348,slow=11,SNR=17						
ASAR				Sn	**Sn**	**22 45 59.2**	**-0.9**
	0.3nm,0.3s,baz=353,slow=26,SNR=5.5						
ASAR				Lg		22 47 47.0	
	baz=356,slow=31,SNR=2.8						
ASAR	**Alice Springs**	**15.17**	**165**	Pn	**Pn**	**22 43 13.8**	**+0.5**
ASAR				Sn	**Sn**	**22 45 59.2**	**-0.9**
ASAR				Lg		22 47 47.0	
MBWA	**Marble Bar**	**15.52**	**217**	*e*Pn	**Pn**	**22 43 18.4**	**+0.8**
	2.7nm,0.6s						
KULM	**Kulim**	**32.27**	**295**	P	**P**	**22 46 04.3**	**-1.4**
ENH	**Enshi**	**43.58**	**334**	*e*P	**P**	**22 47 39.6**	**-1.3**
	2.5nm,0.4s,mb4.3						
MKAR	**Makanchi Array**	**69.71**	**327**	P	**P**	**22 50 47.0**	**+0.7**
	0.8nm,0.6s,mb3.9,baz=128,slow=7.9,SNR=12						
KURK	**Kurchatov**	**74.04**	**329**	*e*P	**P**	**22 51 13.2**	**+1.0**
	0.3nm,0.5s,mb3.5						
BRVK	**Borovoye**	**79.64**	**328**	P	**P**	**22 51 44.1**	**+0.4**
ZRNK	**Zerenda**	**80.26**	**328**	*e*P	**P**	**22 51 47.0**	**-0.1**
	0.3nm,0.3s,mb3.7						

*BJI **21** 23:14:56.1, 6620N×142.30W, h15km, mB4.6, mb4.3, Ms4.3, Msz4.1*
*ISCJB **21** 23:14:59.1±0.4, 6630N±003×142.13W±008, h15km, mb4.0/10, MS3.7/2, Error ellipse: s-maj=4.8km s-min=4.4km az=102.1*
*IDC **21** 23:14:59.8±0.9, 6632N×142.33W, h0km, mb3.8/5, mb1 4.2/8, mb1mx3.8/22, mbtmp3.9/8, ML4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=19.4km s-min=10.3km az=156.0*
*PGC **21** 23:15:00.5, 6622N×142.14W, h1km, ML4.1/2, Mw4.4/5, Eastern Alaska.*
*NEIC **21** 23:15:01.1, 66.19N×142.31W, h15km, mb3.8/3, ML4.2(AEIC), ML4.5(PMR), MW4.4(PGC), After AEIC.*
ISC 21 23:14:59.0±1.1, 6628N±003×142.04W±007, h4km±7km, n40, σ1°34/62, mb4.0/10, MS3.7/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.49**	**152**	Pn	**Pn**	**23 15 40.9**	**+0.7**
DAWY				Sn	**Sn**	**23 16 09.8**	**-1.2**
DAWY				Sg	**Sg**	**23 16 16.8**	**-2.1**
DAWY				Trac		23 16 17.2	
	comp=Z,518nm,0.5s						
DAWY	**Dawson**	**2.49**	**152**	P	**Pn**	**23 15 41.1**	**+0.9**
ILAR	**Eielson Array**	**2.52**	**235**	Pn	**Pn**	**23 15 39.9**	**-0.8**
	12nm,0.3s,baz=45,slow=14,SNR=821						
ILAR				Lg		23 16 15.9	
	318nm,0.3s,baz=50,slow=30,SNR=46						
DOT	**Dot Lake**	**2.78**	**199**	P	**Pn**	**23 15 44.3**	**+0.1**
DOT				S	**Sn**	**23 16 16.4**	**-1.7**
COLA	**College**	**2.79**	**242**	P	**Pn**	**23 15 43.7**	**-0.8**
COLD	**Coldfoot**	**3.37**	**290**	P	**Pn**	**23 15 53.0**	**+0.6**
COLD				S	**Sn**	**23 16 33.2**	**+0.3**
MENT	**Mentasta**	**3.43**	**193**	P	**Pn**	**23 15 53.5**	**+0.3**
PAX	**Paxson**	**3.63**	**206**	P	**Pn**	**23 15 56.3**	**+0.3**
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**23 16 00.5**	**+1.0**
	7.2nm,0.3s,baz=232,slow=15,SNR=162						
INK				Sn	**Sn**	**23 16 44.8**	**-0.7**
	20nm,0.3s,baz=156,slow=12,SNR=9.5						
INK				Lg		23 17 04.2	
	28nm,0.3s,baz=123,slow=27,SNR=7.6						
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**23 16 00.3**	**+0.9**
INK				Sn	**Sn**	**23 16 46.3**	**+0.8**
INK				Sg	**Sg**	**23 17 03.9**	**+0.2**
INK				Trac		23 17 10.9	
	comp=Z,254nm,0.8s						
INK	**Inuvik**	**3.88**	**54**	Pn	**Pn**	**23 16 00.5**	**+1.0**
INK				Sn	**Sn**	**23 16 44.8**	**-0.6**
INK				Lg		23 17 04.2	
MCK	**McKinley**	**3.88**	**232**	P	**Pn**	**23 15 59.1**	**-0.4**
TRF	**Thorofare Moun**	**4.52**	**235**	P	**Pn**	**23 16 07.8**	**-0.3**
KTH	**Kantishna Hill**	**4.66**	**238**	P	**Pn**	**23 16 09.2**	**-0.9**
IM05	**Indian Mountai**	**4.76**	**272**	P	**Pn**	**23 16 10.0**	**-1.5**
SML	**Sawmill**	**5.27**	**215**	*e*Pn	**Pn**	**23 16 20.4**	**+2.0**
SML				*e*Sn	**Sn**	**23 17 23.2**	**+3.6**
DIV	**Divide**	**5.43**	**199**	*e*Pn	**Pn**	**23 16 21.9**	**+1.3**
	74nm,0.5s						
DIV				*e*Sn	**Sn**	**23 17 23.7**	**+0.2**
PMR	**Palmer**	**5.64**	**217**	*e*P	**Pn**	**23 16 25.4**	**+1.8**
HYT	**Haines Junctio**	**5.84**	**158**	Pn	**Pn**	**23 16 27.2**	**+0.9**
HYT				Sg	**Sg**	**23 18 00.9**	**-5.5**
HYT				Trac		23 18 09.5	
	comp=Z,197nm,0.8s						
FIB	**Fire Island**	**6.27**	**219**	*e*Pn	**Pn**	**23 16 36.5**	**+4.3**
	33nm,0.6s						
WHY	**Whitehorse**	**6.48**	**147**	Pn	**Pn**	**23 16 35.9**	**+0.7**
WHY				Sg	**Sg**	**23 18 21.6**	**-5.5**
WHY				Trac		23 18 30.5	
	comp=Z,57nm,0.7s						
SVW2	**Sparrevohn**	**7.94**	**235**	*e*P	**Pn**	**23 16 56.2**	**+1.1**
TNA	**Tin City**	**10.57**	**278**	*e*Pn	**Pn**	**23 17 32.1**	**+1.0**
	1.3nm,0.7s						
TNA				*e*Sn	**Sn**	**23 19 28.4**	**-1.6**
YKW3	**Yellowknife Ar**	**12.36**	**95**	Pn	**Pn**	**23 17 53.1**	**-2.6**
YKW3				Pn	**Pn**	**23 17 53.1**	**-2.6**
YKW3				Sn	**Sn**	**23 20 03.4**	**-11**
YKW3				Sn	**Sn**	**23 20 05.7**	**-8.3**
YKW3				Trac		23 20 47.5	
	comp=Z,9.0nm,0.6s						
YKW3				Trac		23 21 50.2	
	comp=Z,9.0nm,0.7s						
YKW3	**Yellowknife Ar**	**12.36**	**95**	*e*Pn	**Pn**	**23 17 53.2**	**-2.6**
YKW3				*e*Sn	**Sn**	**23 20 18.7**	**+4.8**
YKA	**Yellowknife Ar**	**12.40**	**95**	Pn	**Pn**	**23 17 53.8**	**-2.5**
	baz=296,slow=13,SNR=48						
YKA				Sn	**Sn**	**23 20 06.2**	**-8.6**
	baz=294,slow=22,SNR=5.3						
YKA				Lg		23 21 34.5	
	baz=315,slow=24,SNR=2.5						
YKA	**Yellowknife Ar**	**12.40**	**95**	Pn	**Pn**	**23 17 53.8**	**-2.5**
YKA				Sn	**Sn**	**23 20 06.2**	**-8.6**
YKA				Lg		23 21 34.5	
RES	**Resolute Bay**	**17.30**	**41**	P	**Pn**	**23 18 59.5**	**-1.9**
RES	**Resolute Bay**	**17.30**	**41**	*e*Pn	**Pn**	**23 18 59.5**	**-1.9**
	3.1nm,0.7s						
FFC	**Flin Flon**	**22.40**	**102**	*e*P	**P**	**23 19 59.7**	**+1.2**
	3.4nm,0.9s,mb3.8						
FCC	**Fort Churchill**	**22.82**	**86**	*e*P	**P**	**23 20 04.4**	**+1.5**
	5.3nm,1.3s,mb3.8						
FCC				*e*S	**S**	**23 24 13.0**	**-0.1**
PDAR	**Pinedale Array**	**29.54**	**127**	P	**P**	**23 21 07.3**	**+2.7**
	1.0nm,0.8s,mb3.6,baz=347,slow=6.1,SNR=11						
ELK	**Elko**	**29.66**	**136**	P	**P**	**23 21 08.4**	**+2.7**
	0.8nm,0.3s,mb3.9,baz=288,slow=7.9,SNR=3.7						
ELK				LR	LR	23 33 42.9	
	comp=Z,69nm,20.9s,MS3.3,baz=275,slow=38						
NVAR	**Mina Array Bea**	**31.03**	**142**	P	**P**	**23 21 21.5**	**+3.8**
	0.8nm,0.6s,mb3.7,baz=340,slow=7.5,SNR=5.9						
MDJ	**Mudanjiang**	**49.58**	**290**	P	**P**	**23 23 46.8**	**-4.4**
MDJ				PCP	PcP	23 25 09.8	-3.0
MDJ				PP	PP	23 25 40.4	-5.1
MDJ				S	**S**	**23 30 52.8**	**-7.1**
MDJ				AMB	AMB		
	comp=Z,16nm,2.2s,mb4.7						
MDJ				LR	LR		
	comp=N,33nm,38.2s						
MDJ				LR	LR		
	comp=E,24nm,17.2s						
MDJ				LR	LR		
	comp=Z,32nm,22.0s						
CN2	**Changchun**	**51.84**	**293**	*e*P	**P**	**23 24 06.8**	**-1.4**
FINES	**FINESS Array B**	**52.28**	**7**	P	**P**	**23 24 11.2**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=3.9,slow=9.8,SNR=11						
SONM	**Songino Array**	**54.86**	**310**	P	**P**	**23 24 32.2**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=36,slow=5.5,SNR=3.5						
GTA	**Gaotai**	**64.51**	**311**	*e*P	**P**	**23 25 34.4**	**-2.5**
GTA				AP	pP	23 25 38.8	+0.6
GTA				XP	sP	23 25 42.1	+3.4
GTA				PP	PP	23 27 56.4	-2.3
GTA				PPP		23 29 29.3	
GTA				SCP		23 30 10.6	
GTA				PCS		23 30 11.8	
GTA				S	**S**	**23 34 13.1**	**-3.6**
GTA				XS	sS	23 34 20.4	+1.6
GTA				SCS	ScS	23 35 24.3	-7.8
GTA				SS	SS	23 38 26.1	-0.7
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,57nm,5.7s						
GTA				LR	LR		
	comp=N,43nm,11.5s,MS4.1						
GTA				LR	LR		
	comp=E,57nm,11.1s,MS4.1						
GTA				LR	LR		
	comp=Z,72nm,11.1s,MS4.1						
NJ2	**Nanjing**	**64.62**	**292**	*e*P	**P**	**23 25 38.3**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						

*NEIC **21** 23:21:04.2±0.6, 4981N×154.66E, h35km, mb3.8/2, Error ellipse: s-maj=19.5km s-min=15.6km az=109.0*
*MOS **21** 23:21:09.1±0.6, 4987N×154.58E, h99km, mb4.0/2, Error ellipse: s-maj=39.0km s-min=13.4km az=66.9*
*IDC **21** 23:21:10.7±20.0, 4984N×154.66E, h96km±188km, mb3.1/5, mb1 3.3/5, mb1mx3.1/18, mbtmp3.5/5, Error ellipse: s-maj=40.9km s-min=30.1km az=95.0*
*KRSC **21** 23:21:12.1±0.7, 4948N×156.11E, h61km±24km, ML3.9*
*ISCJB **21** 23:21:13.0±1.5, 500N±0.1×155.0E±0.2, h136km±15km, mb3.3/7, Error ellipse: s-maj=25.4km s-min=18.1km az=69.0*
ISC 21 23:21:13.9±1.4, 500N±01×1549E±02, h129km±14km, n31, σ1°17/39, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.07**	**46**	*e*P	**Pn**	**23 21 30.3**	**-7.0**
SKR				*e*S	**Sn**	**23 21 47.5**	**-7.6**
MIPR	**Malaya Ipel'ka**	**2.60**	**26**	*e*P	**Pn**	**23 21 55.6**	**+0.2**
GRL	**Gorelyy**	**3.28**	**36**	*e*P	**Pn**	**23 22 04.9**	**+0.8**
GRL				*e*S	**Sn**	**23 22 43.0**	**+0.2**
APC	**Apacha**	**3.29**	**24**	*e*P	**Pn**	**23 22 07.5**	**+3.2**
RUS	**Russkaya**	**3.37**	**41**	P	**Pn**	**23 22 03.4**	**-1.8**
RUS				S	**Sn**	**23 22 40.5**	**-4.4**
RUS	**Russkaya**	**3.37**	**41**	*e*P	**Pn**	**23 22 03.4**	**-1.8**
RUS				*e*S	**Sn**	**23 22 40.4**	**-4.5**
KRMR	**Karymshinskiy**	**3.52**	**34**	*e*P	**Pn**	**23 22 08.1**	**+0.8**
PET	**Petropavlovsk**	**3.87**	**36**	*e*S	**Sn**	**23 22 55.2**	**-1.5**
KOK	**Koryaka**	**4.07**	**33**	*e*P	**Pn**	**23 22 16.1**	**+1.5**
UGLR	**Uglovaya**	**4.08**	**35**	*e*P	**Pn**	**23 22 15.4**	**+0.8**
UGLR				*e*S	**Sn**	**23 23 00.2**	**-1.5**
AVH	**Avacha**	**4.09**	**34**	*e*P	**Pn**	**23 22 16.2**	**+1.4**
SMAR	**Somma**	**4.11**	**35**	*e*P	**Pn**	**23 22 14.2**	**-0.9**
GNL	**Ganaly**	**4.20**	**26**	*i*P	**Pn**	**23 22 17.8**	**+1.6**
NLC	**Nalytchevo**	**4.25**	**39**	*e*S	**Sn**	**23 23 00.9**	**-5.0**
SPN	**Mys Shipunski**	**4.49**	**43**	P	**Pn**	**23 22 18.5**	**-1.6**
SPN				S	**Sn**	**23 23 05.0**	**-6.5**
SPN	**Mys Shipunski**	**4.49**	**43**	*i*P	**Pn**	**23 22 18.6**	**-1.5**
SPN				*e*S	**Sn**	**23 23 06.0**	**-5.5**
MKZ	**Mys Kozlova**	**6.23**	**40**	P	**Pn**	**23 22 42.5**	**-1.0**
MKZ				S	**Sn**	**23 23 47.4**	**-6.0**
MKZ	**Mys Kozlova**	**6.23**	**40**	P	**Pn**	**23 22 42.5**	**-1.0**
MKZ				*e*S	**Sn**	**23 23 47.2**	**-6.2**
KBTR	**Krutoberegovo**	**7.87**	**34**	P	**Pn**	**23 23 05.7**	**+0.1**
KBTR	**Krutoberegovo**	**7.87**	**34**	*e*P	**Pn**	**23 23 05.6**	**0.0**
MKAR	**Makanchi Array**	**46.59**	**295**	P	**P**	**23 29 28.2**	**-0.6**
	0.3nm,0.7s,mb3.0,baz=64,slow=8.2,SNR=4.2						
MKAR				PcP	PcP	23 31 01.2	+0.5
	0.2nm,0.7s,baz=64,slow=3.4,SNR=3.4						
YKA	**Yellowknife Ar**	**47.66**	**39**	P	**P**	**23 29 38.4**	**+1.3**
	0.1nm,0.6s,mb2.7,baz=310,slow=8.7,SNR=2.9						
YKA				pP	pP	23 30 03.4	-3.3
	0.3nm,0.6s,baz=297,slow=7.6,SNR=4.9						
YKA	**Yellowknife Ar**	**47.66**	**39**	P	**P**	**23 29 38.4**	**+1.3**
YKA				pP	pP	23 30 03.4	-3.3
ZRNK	**Zerenda**	**50.53**	**309**	*e*P	**P**	**23 29 58.7**	**-0.2**
	0.4nm,0.4s,mb3.4						
FINES	**FINESS Array B**	**61.65**	**335**	P	**P**	**23 31 17.2**	**-0.8**
	0.6nm,0.5s,mb3.6,baz=23,slow=6.8,SNR=5.5						
PDAR	**Pinedale Array**	**61.93**	**56**	pP	pP	23 31 46.1	-4.7
	0.3nm,0.7s,baz=339,slow=2.0,SNR=3.7						
TCUT	**Toone Canyon**	**62.05**	**59**	P	**P**	**23 31 22.8**	**+2.1**
WRAB	**Tennant Creek**	**71.92**	**200**	*e*P	**P**	**23 32 22.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
WRAB	**Tennant Creek**	**71.92**	**200**	*e*P	**P**	**23 32 22.8**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**71.93**	**200**	P	**P**	**23 32 22.0**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=21,slow=6.0,SNR=4.8						
ASAR	**Alice Springs**	**75.62**	**200**	P	**P**	**23 32 44.4**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.1,baz=11,slow=4.9,SNR=4.7						

MAN 21 23:57:26.1, 868N×12630E, h13km, mb2.2, ML3.8, MS0.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.50**	**173**⇑*i*P		Pg	23 57 35.8	-0.2
BIPH				*i*S	Sg	23 57 45.3	+2.7
BUTP	**Butuan**	**0.73**	**293**	*e*P	Pg	23 57 40.0	-0.3
BUTP				*e*S	Sg	23 57 53.7	+3.9
BUKP	**Musuan**	**1.46**	**237**	*e*P	Pn	23 57 51.4	-0.8
BUKP				*e*S	Sn	23 58 11.8	+0.6

*IDC **22** 00:03:34.5±2.6, 5020N×179.59E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.6/7, Error ellipse: s-maj=66.3km s-min=27.2km az=9.0*
*ISCJB **22** 00:03:38.7±3.4, 504N±03×179.6E±01, h35km±18km, mb3.6/7, Error ellipse: s-maj=55.9km s-min=10.5km az=21.0*
*NEIC **22** 00:03:39.3, 50.13N×179.73E, h17km, ML3.4(AEIC), After AEIC.*
ISC 22 00:03:41.2±3.0, 504N±03×179.7E±01, h40km±17km, n12, σ0°60/13, mb3.6/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**2.70**	**56**	P	**Pn**	**00 04 22.4**	**+0.3**
ATKA	**Atka Island**	**4.22**	**63**	P	**Pn**	**00 04 42.4**	**-0.6**
FX1	**Attu Island--F**	**4.76**	**304**	Pn	**Pn**	**00 04 51.1**	**+0.8**
	2.4nm,0.3s,baz=335,slow=14,SNR=8.6						
FX1				Sn	**Sn**	**00 05 43.8**	**-0.4**
	2.4nm,0.3s,baz=132,slow=22,SNR=6.4						
ILAR	**Eielson Array**	**22.57**	**38**	P	**P**	**00 08 37.4**	**-0.6**
	0.4nm,0.6s,mb3.0,baz=240,slow=9.1,SNR=4.9						
YKA	**Yellowknife Ar**	**36.57**	**45**	P	**P**	**00 10 44.0**	**+0.8**
	1.5nm,0.6s,mb4.0,baz=281,slow=8.0,SNR=27						
YKA	**Yellowknife Ar**	**36.57**	**45**	P	**P**	**00 10 44.0**	**+0.8**
NVAR	**Mina Array Bea**	**44.62**	**81**	P	**P**	**00 11 49.8**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=286,slow=9.9,SNR=3.8						
PDAR	**Pinedale Array**	**47.51**	**71**	P	**P**	**00 12 11.8**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=318,slow=2.0,SNR=3.9						
MKAR	**Makanchi Array**	**59.88**	**308**	P	**P**	**00 13 41.8**	**-1.0**
	0.2nm,0.6s,mb3.3,baz=44,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**66.50**	**347**	P	**P**	**00 14 26.9**	**+0.3**
	1.0nm,0.7s,mb4.0,baz=38,slow=9.6,SNR=4.6						
FINES	**FINESS Array B**	**66.50**	**347**	P	**P**	**00 14 26.9**	**+0.3**
NOA	**NORSAR Array B**	**68.50**	**354**	P	**P**	**00 14 40.0**	**+0.7**
	0.7nm,0.6s,mb3.9,baz=9.3,slow=6.4,SNR=3.2						

*SFS **22** 01:01:11.0, 3500N×390W, h0km, ML4.2*
*CSEM **22** 01:01:11.3±0.1, 3509N×392W, h15km, MD3.9, Error ellipse: s-maj=2.6km s-min=1.6km az=117.0*
*ISCJB **22** 01:01:11.1±0.2, 35.15N±001×407W±002, h10km, mb3.4/4, Error ellipse: s-maj=2.5km s-min=1.9km az=23.6*
*MDD **22** 01:01:12.6±0.3, 35.12N×398W, h0km, mbLg3.2/30, Error ellipse: s-maj=3.2km s-min=2.6km az=65.0, PRXIMO*
*LDG **22** 01:01:12.7±0.2, 3504N×381W, h20km, Ml3.5/3, Error ellipse: s-maj=5.1km s-min=4.8km az=90.0*
*INMG **22** 01:01:13.6±1.0, 35.15N×398W, h10km, ML3.1, Error ellipse: s-maj=4.8km s-min=2.3km az=174.0*
*CNRM **22** 01:01:14.1, 3507N×388W, h7km, MD3.9*
*IDC **22** 01:01:15.3±3.0, 35.14N×404W, h38km±30km, mb3.3/4, mb1 3.6/6, mb1mx3.3/23, mbtmp3.6/6, ML4.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=37.6km s-min=18.4km az=88.0*
*IGIL **22** 01:01:16.1, 3530N×4.10W, h2km, ML3.3*
ISC 22 01:01:12.3±0.2, 3513N±001×401W±002, h10km, n113, σ1°30/201, mb3.4/4, 2C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.10**	**30**	*i*P	**Pg**	**01 01 16.0**	**+1.1**
TOU	**Touzarine**	**0.27**	**130**	P	**Pg**	**01 01 17.0**	**-0.7**
TOU				S	**Sg**	**01 01 20.0**	**-1.4**
TOU	**Touzarine**	**0.27**	**130**	*e*P	**Pg**	**01 01 17.0**	**-0.7**
MELI	**Melilla**	**0.89**	**79**	*i*P	**Pg**	**01 01 28.4**	**-1.0**
MELI				*e*S	**Sg**	**01 01 42.1**	**+1.0**
ZAI	**Zaio**	**1.05**	**99**	*i*P	**Pg**	**01 01 31.0**	**-1.4**
ZAI				*i*S	**Sg**	**01 01 45.0**	**-1.0**
TZK	**Tazeka**	**1.05**	**188**	*i*P	**Pg**	**01 01 33.0**	**+0.5**
TZK				*i*S	**Sg**	**01 01 47.0**	**+0.8**
EALB	**Alboran**	**1.13**	**44**	P	**Pb**	**01 01 33.1**	**-0.8**
	269nm,0.2s,SNR=36						
EALB				S	**Sb**	**01 01 48.0**	**-0.6**
	487nm,0.3s,SNR=7.3						
EALB	**Alboran**	**1.13**	**44**	P	**Pb**	**01 01 33.1**	**-0.8**
	269nm,0.2s,SNR=36						
EALB				S	**Sb**	**01 01 48.0**	**-0.6**
	487nm,0.3s,SNR=7.3						
EMIJ	**Mijas**	**1.56**	**337**	P	**Pn**	**01 01 38.7**	**-1.3**
	70nm,0.4s,SNR=38						
EMIJ				S	**Sn**	**01 01 59.1**	**-1.2**
	147nm,0.3s,SNR=16						
EMIJ				UNK		01 02 58.9	
	SNR=4.4						
EMIJ	**Mijas**	**1.56**	**337**	P	**Pn**	**01 01 38.7**	**-1.3**
	70nm,0.4s,SNR=38						
EMIJ				S	**Sn**	**01 01 59.1**	**-1.1**
	147nm,0.3s,SNR=16						
TSY	**Tnine Yamani**	**1.62**	**279**	P	**Pn**	**01 01 44.0**	**+3.1**
TSY				S	**Sn**	**01 02 04.0**	**+2.1**
EJIF	**Jimena Fronter**	**1.77**	**318**	P	**Pn**	**01 01 43.3**	**+0.4**
	45nm,0.5s,SNR=37						
EJIF				S	**Sn**	**01 02 07.3**	**+1.7**
	124nm,0.8s						
MOMI	**Momias**	**1.83**	**311**	P	**Pn**	**01 01 48.2**	**+4.3**
IFR	**Ifrane**	**1.86**	**210**	P	**Pn**	**01 01 45.0**	**+0.8**
IFR				S	**Sn**	**01 02 06.5**	**-1.2**
ERON	**Agron**	**1.89**	**5**	P	**Pn**	**01 01 43.8**	**-0.7**
	34nm,0.3s,SNR=19						
ERON				S	**Sn**	**01 02 08.2**	**-0.2**
	70nm,0.3s,SNR=10						
ERON	**Agron**	**1.89**	**5**	P	**Pn**	**01 01 43.8**	**-0.7**
	34nm,0.3s,SNR=19						
ERON				S	**Sn**	**01 02 06.2**	**-2.2**
	70nm,0.3s,SNR=10						
EBER	**Berja**	**1.98**	**27**	P	**Pn**	**01 01 44.8**

44nm,0.2s,SNR=6.1
ELUQ Luque 2.43 355 P Pn 01 01 54.0 +2.0
18nm,0.2s,SNR=72
ELUQ S Sn 01 02 23.8 +2.0
44nm,0.2s,SNR=6.1
EQES Quesada 2.77 16 P Pn 01 01 58.4 +1.8
49nm,0.3s,SNR=173
EQES S Sn 01 02 31.3 +1.2
184nm,0.5s
EQES Quesada 2.77 16 P Pn 01 01 58.4 +1.7
49nm,0.3s,SNR=173
EQES S Sn 01 02 31.3 +1.2
184nm,0.5s
EHUE Huescar 2.91 23 P Pn 01 02 00.1 +1.5
13nm,0.3s,SNR=21
EHUE S Sn 01 02 33.7 +0.1
46nm,0.6s,SNR=12
EHUE Huescar 2.91 23 P Pn 01 02 00.1 +1.5
13nm,0.3s,SNR=21
EHUE S Sn 01 02 35.3 +1.7
46nm,0.6s,SNR=12
EBAN Banos Encina 3.03 3 P Pn 01 02 01.0 +0.8
9.2nm,0.3s,SNR=8.7
EBAN S Sn 01 02 40.8 +4.2
57nm,0.4s
KIB El Ksiba 3.06 214 *i* P **Pn 01 02 02.0 +1.3**
KIB *i* S **Sn 01 02 37.0 -0.3**
EADA Adamuz 3.06 352 P Pn 01 02 01.8 +1.1
25nm,0.3s,SNR=36
EADA S Sn 01 02 38.8 +1.4
79nm,0.4s
EADA Adamuz 3.06 352 P Pn 01 02 01.8 +1.1
25nm,0.3s,SNR=36
EADA S Sn 01 02 38.8 +1.4
79nm,0.4s
ZFT Errachidia 3.10 185 *i* P **Pn 01 02 01.0 -0.3**
ZFT *i* S **Sn 01 02 36.0 -2.4**
AVE Averroes 3.36 238 P Pn 01 02 05.5 +0.6
EMIN Mina Concepcio 3.40 322 P Pn 01 02 05.3 0.0
5.4nm,0.1s,SNR=37
EMIN S Sn 01 02 43.8 -1.8
18nm,0.3s
EMIN Mina Concepcio 3.40 322 P Pn 01 02 05.3 0.0
5.4nm,0.1s,SNR=37
EMIN S Sn 01 02 43.8 -1.8
18nm,0.3s
CART Cartagena 3.45 44 P Pn 01 02 07.3 +1.3
CART S Sn 01 02 42.5 -4.3
CART Cartagena 3.45 44 *e*P **Pn 01 02 07.3 +1.3**
CART *e*S **Sn 01 02 42.5 -4.3**
ERIP Rio Piedras 3.45 311 P Pn 01 02 05.7 -0.3
12nm,0.2s,SNR=7.9
ERIP S Sn 01 02 45.6 -1.3
54nm,0.4s,SNR=7.9
EMUR La Murta 3.50 39 P Pn 01 02 06.4 -0.3
8.3nm,0.4s,SNR=12
EMUR S Sn 01 02 46.1 -2.1
49nm,0.5s,SNR=7.1
EMUR La Murta 3.50 39 P Pn 01 02 06.4 -0.4
8.3nm,0.4s,SNR=12
EMUR S Sn 01 02 46.1 -2.2
49nm,0.5s,SNR=7.1
TZC Tazercounte 3.63 216 *i* P **Pn 01 02 08.5 0.0**
TZC *i* S **Sn 01 02 51.0 -0.3**
EGRO El Granado 3.69 311 P Pn 01 02 09.0 -0.3
9.5nm,0.2s,SNR=27
EGRO S Sn 01 02 51.0 -1.8
57nm,0.4s
EGRO El Granado 3.69 311 P Pn 01 02 09.0 -0.3
9.5nm,0.2s,SNR=27
EGRO S Sn 01 02 51.0 -1.9
57nm,0.4s
ETOB Tobarra 4.02 29 P Pn 01 02 15.7 +1.8
12nm,0.2s,SNR=68
ETOB S Sn 01 03 00.7 -0.3
16nm,0.4s
ETOB Tobarra 4.02 29 P Pn 01 02 15.7 +1.8
12nm,0.2s,SNR=68
ETOB S Sn 01 03 01.1 +0.1
16nm,0.4s
PBEJ Beja 4.24 314 *e*Pn **Pn 01 02 16.9 0.0**
PBEJ *e*Sn **Sn 01 03 04.9 -1.5**
PBEJ
19nm,0.3s
PBEJ Beja 4.24 314 *e*Pn **Pn 01 02 16.9 0.0**
PBEJ *e*Sn **Sn 01 03 04.9 -1.5**
19nm,0.3s
MORF Marmelete 4.33 301 *e*P **Pn 01 02 19.2 +1.0**
MORF *e*S **Sn 01 03 05.1 -3.7**
MORF *e*S **Sn 01 03 05.1 -3.6**
MORF AML AML 01 03 14.3
comp=N,58nm,0.3s
MORF Marmelete 4.33 301 *e*P **Pn 01 02 19.2 +1.0**
MORF *e*S **Sn 01 03 05.1 -3.7**
EBAD Badajoz 4.34 327 P Pn 01 02 18.6 +0.3
comp=N,4.8nm,0.2s,SNR=18
EBAD S Sn 01 03 07.1 -1.9
comp=N,64nm,0.3s
EBAD Badajoz 4.34 327 P Pn 01 02 18.6 +0.3
comp=N,4.8nm,0.2s,SNR=18
EBAD S Sn 01 03 07.1 -1.9
comp=N,64nm,0.3s
PTEO Sao Teotonio 4.50 304 *e*Pn **Pn 01 02 21.6 +1.1**
PTEO *e*Sn **Sn 01 03 11.9 -1.1**
PTEO
comp=N,35nm,0.6s
PTEO Sao Teotonio 4.50 304 *e*Pn **Pn 01 02 21.6 +1.1**
PTEO *e*Sn **Sn 01 03 11.9 -1.1**
comp=N,35nm,0.6s
ESDC Sonseca Array 4.53 0 Pn **Pn 01 02 21.7 +0.8**
comp=N,8.4nm,0.3s,baz=178,slow=12,SNR=78
ESDC Sn **Sn 01 03 12.5 -1.2**
comp=N,5.2nm,0.3s,baz=179,slow=22,SNR=6.1
ESDC Sonseca Array 4.53 0 ⇓P **Pn 01 02 22.0 +1.1**
comp=N,14nm,0.3s,baz=178,slow=12,SNR=18
ESDC S **Sn 01 03 11.8 -1.9**
comp=N,4.6nm,0.2s,baz=180,slow=22,SNR=7.3
ESDC Sonseca Array 4.53 0 P **Pn 01 02 22.0 +1.1**
comp=N,14nm,0.3s,SNR=18
ESDC S **Sn 01 03 11.8 -1.8**
comp=N,4.6nm,0.2s,SNR=7.3
EVO Evora 4.67 318 *e*Pn **Pn 01 02 23.8 +1.0**
EVO *e*Sn **Sn 01 03 16.2 -0.9**
comp=N,40nm,0.3s
EBEN Beniarda 4.68 39 P Pn 01 02 23.0 +0.1
comp=N,0.8nm,0.2s,SNR=7.9
EBEN S Sn 01 03 13.5 -3.7
comp=N,5.8nm,0.5s,SNR=7.9
EBEN Beniarda 4.68 39 P Pn 01 02 23.0 +0.1
comp=N,0.8nm,0.2s,SNR=7.9
EBEN S Sn 01 03 13.5 -3.7
comp=N,5.8nm,0.5s,SNR=7.9
MOE Montemor 4.86 315 *e*Sn **Sn 01 03 20.6 -1.0**
ECHE Chera 5.06 28 P Pn 01 02 28.6 +0.4
comp=N,1.4nm,0.3s,SNR=6.1
OUK Oukaimeden 5.08 221 P Pn 01 02 30.0 +1.6
OUK S **Sn 01 03 26.0 -1.1**
OUK Oukaimeden 5.08 221 *i* P **Pn 01 02 30.0 +1.6**
CIA Chichaoua 5.34 229 *i* P **Pn 01 02 33.0 +1.0**
CIA *i* S **Sn 01 03 33.0 -0.5**
PCBR Castelo Branco 5.45 331 *e*Pn **Pn 01 02 34.1 +0.6**
PCBR *e*Sn **Sn 01 03 33.6 -2.6**
PCBR
comp=N,16nm,0.3s
GUD Guadarrama 5.50 359 P Pn 01 02 35.3 +1.1
comp=N,9.3nm,0.4s,SNR=11
GUD S **Sn 01 03 34.6 -2.9**
comp=N,12nm,0.6s
PLOU Loures 5.56 314 *e*Pn **Pn 01 02 35.6 +0.5**
PLOU *e*Sn **Sn 01 03 37.3 -1.8**
PLOU
comp=N,16nm,0.3s
PTOM Tomar 5.69 323 *e*Pn **Pn 01 02 37.6 +0.8**
PTOM *e*Sn **Sn 01 03 40.5 -1.6**
PTOM
comp=N,18nm,0.4s
EIBI Ibiza 5.78 46 P Pn 01 02 37.7 -0.3
comp=N,3.2nm,0.2s,SNR=7.3
EIBI S **Sn 01 03 40.4 -4.0**
comp=N,13nm,0.4s,SNR=7.9
EIBI Ibiza 5.78 46 P Pn 01 02 37.7 -0.3
comp=N,3.2nm,0.2s,SNR=7.3
EMOS Mosqueruela 5.92 27 P Pn 01 02 41.2 +1.2
comp=N,1.3nm,0.3s,SNR=7.9
EMOS S **Sn 01 03 45.7 -2.3**
comp=N,1.0nm,0.2s,SNR=7.9
EMOS Mosqueruela 5.92 27 P Pn 01 02 41.2 +1.2
comp=N,1.3nm,0.3s,SNR=7.9
MTE Manteigas 5.96 333 *e*Pn **Pn 01 02 41.4 +0.9**
MTE *e*Sn **Sn 01 03 47.0 -1.7**
MTE
comp=N,16nm,0.5s
ERTA Horta de San J 6.75 29 P Pn 01 02 52.3 +1.0
comp=N,3.4nm,0.4s,SNR=6.4
ERTA S **Sn 01 04 05.7 -2.5**
comp=N,1.6nm,0.4s,SNR=4.0
ERTA Horta de San J 6.75 29 P Pn 01 02 52.3 +1.0
comp=N,3.4nm,0.4s,SNR=6.4
PVRL Vila Real 6.79 336 *e*Pn **Pn 01 02 52.5 +0.6**
PVRL *e*Sn **Sn 01 04 06.2 -3.1**
PVRL
comp=N,18nm,0.3s
PBRG Braganca 7.00 343 *e*Pn **Pn 01 02 55.7 +0.9**
PBRG *e*Sn **Sn 01 04 11.3 -3.1**
PBRG
comp=N,12nm,0.6s
ECAL Calabor 7.12 343 P Pn 01 02 57.6 +1.1
comp=N,3.7nm,0.2s,SNR=16
ECAL S **Sn 01 04 15.2 -2.3**
comp=N,41nm,0.6s,SNR=7.8
ECAL Calabor 7.12 343 P Pn 01 02 57.6 +1.1
comp=N,3.7nm,0.2s,SNR=16
ETOS Mallorca 7.13 48 P Pn 01 02 57.2 +0.7
comp=N,5.3nm,0.4s,SNR=6.3
ETOS S **Sn 01 04 14.4 -3.2**
comp=N,1.5nm,0.3s,SNR=4.1
ETOS Mallorca 7.13 48 P Pn 01 02 57.2 +0.6
comp=N,5.3nm,0.4s,SNR=6.3
PCAB Cabril 7.28 336 *e*Sn **Sn 01 04 19.3 -2.1**
ELOB Lobios 7.43 336 P Pn 01 03 01.5 +0.7
comp=N,4.1nm,0.3s,SNR=8.4
ELOB S **Sn 01 04 20.8 -4.3**
comp=N,9.5nm,0.4s,SNR=7.9
ERUA La Rua 7.65 342 P Pn 01 03 04.6 +0.9
comp=N,2.8nm,0.2s,SNR=6.4
ERUA S **Sn 01 04 25.4 -5.0**
comp=N,8.6nm,0.4s,SNR=7.9
EBIE Bielsa 8.20 22 P Pn 01 03 13.2 +1.8
comp=N,0.5nm,0.4s,SNR=7.9
EBIE S **Sn 01 04 40.0 -4.1**
comp=N,0.3nm,0.3s,SNR=4.0
ETSF Etsaut 8.20 18 *e*Pn **Pn 01 03 12.8 +1.5**
ETSF *e*Sn **Sn 01 04 37.9 -6.2**
comp=N,1.3nm,0.3s
ETSF Etsaut 8.20 18 *e*Pn **Pn 01 03 12.8 +1.5**
ETSF *e*Sn **Sn 01 04 37.9 -6.2**
comp=N,0.6nm,0.3s
EARI Arriondas 8.21 354 P Pn 01 03 12.8 +1.4
comp=N,1.6nm,0.2s,SNR=9.3
EARI S **Sn 01 04 40.8 -3.4**
comp=N,3.6nm,0.5s,SNR=7.9
SJPF Ste Jean 8.26 14 *e*Pn **Pn 01 03 12.5 +0.5**
SJPF *e*Sn **Sn 01 04 35.4 -10**
comp=N,7.7nm,0.7s
SJPF Ste Jean 8.26 14 *e*Pn **Pn 01 03 12.5 +0.5**
SJPF *e*Sn **Sn 01 04 35.4 -10**
comp=N,3.8nm,0.7s
EALK Alkurruntz 8.30 13 P Pn 01 03 13.8 +1.1
comp=N,7.7nm,0.4s,SNR=15
EALK S **Sn 01 04 42.8 -3.8**
comp=N,5.7nm,0.4s
STS Santiago 8.51 337 P Pn 01 03 16.9 +1.4
comp=N,2.0nm,0.3s,SNR=7.9
STS S **Sn 01 04 47.4 -4.2**
comp=N,1.6nm,0.3s,SNR=7.9
EPON Pontenova 8.54 344 P Pn 01 03 16.9 +1.0
comp=N,2.6nm,0.4s,SNR=7.9
EPON S **Sn 01 04 47.5 -4.8**
comp=N,2.2nm,0.4s,SNR=7.9
EPF Esparros 8.58 22 *e*Pn **Pn 01 03 16.9 +0.4**
QUIF Quistinic 12.79 3 *e*Pn **Pn 01 04 12.2 -1.9**
SGMF Saint Gilles 13.15 4 *e*Pn **Pn 01 04 19.2 +0.1**
ROSF Rostrenen 13.20 2 *e*Pn **Pn 01 04 18.8 -1.0**
DAVOX Davos 15.64 38 LR LR 01 10 32.8
comp=N,29nm,19.1s,baz=257,slow=36
TORD Torodi Ar. Bea 22.49 165 P P 01 06 11.7 -0.1
comp=N,3.8nm,0.8s,mb3.9,baz=350,slow=8.9,SNR=21
MKAR Makanchi Array 63.09 50 P P 01 11 39.0 -0.8
comp=N,0.2nm,0.7s,mb3.4,baz=281,slow=6.3,SNR=3.6
YKA Yellowknife Ar 68.07 332 P P 01 12 10.2 -1.8
comp=N,0.2nm,0.7s,mb3.3,baz=60,slow=6.7,SNR=6.7
PDAR Pinedale Array 76.95 313 P P 01 13 04.0 -0.9
comp=N,0.2nm,0.7s,mb3.1,baz=96,slow=6.4,SNR=2.3

ISCJB ***22*** *01:02:36.1±1.3,2332S±007×715W±02,h33km,mb4.1/4, Error ellipse: s-maj=26.7km s-min=8.3km az=160.0*
NEIC ***22*** *01:02:38.1±1.6,2328S×7163W,h77km±22km,mb3.7/2, Error ellipse: s-maj=24.9km s-min=10.7km az=80.0*
IDC ***22*** *01:02:41.5±4.0,2358S×7124W,h46km±26km,mb4.2/2, mb1 3.9/5,mb1mx3.6/15,mbtmp4.0/5,ML4.0/1, Error ellipse: s-maj=67.5km s-min=22.0km az=93.0*
ISC 22 01:02:37.6±4.4,2331S±007×714W±01,h18km±31km,n14, σ1§06/16,mb4.1/4,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**6.81**	**359**	*e*P		**Pn**	**01 04 15.0**	**-1.6**
ARE				*e*S		**Sn**	**01 05 34.0**	**+0.4**
LPAZ	**La Paz**	**7.62**	**24**	P		**Pn**	**01 04 33.5**	**+5.8**
0.9nm,0.3s,baz=206,slow=7.5,SNR=15								
LPAZ	**La Paz**	**7.62**	**24**	P		**Pn**	**01 04 33.5**	**+5.8**
CFAA	**Coronel Fontan**	**8.72**	**162**	P		**Pn**	**01 04 42.9**	**0.0**
0.2nm,0.3s,baz=336,slow=14,SNR=9.2								
CFAA				S		**Sn**	**01 06 13.8**	**-6.9**
0.1nm,0.3s,baz=178,slow=11,SNR=5.2								
CFAA	**Coronel Fontan**	**8.72**	**162**	P		**Pn**	**01 04 42.9**	**0.0**
CFAA				S		**Sn**	**01 06 13.8**	**-6.9**
SIV	**San Ignacio**	**12.13**	**55**	P		**Pn**	**01 05 31.2**	**+1.8**
0.4nm,0.3s,baz=252,slow=12,SNR=12								
SIV				S		**Sn**	**01 07 42.8**	**-1.3**
0.0nm,0.3s,baz=295,slow=20,SNR=3.3								
CPUP	**Villa Florida**	**13.11**	**106**	*e*Pn		**Pn**	**01 05 43.2**	**+0.4**
18nm,0.6s								
TRQA	**Tornquist**	**16.76**	**153**	*e*Pn		**Pn**	**01 06 30.1**	**-1.3**
1.3nm,0.6s								
BDFB	**Brasilia**	**23.29**	**75**	P		**P**	**01 07 50.4**	**+6.0**
1.9nm,0.4s,mb3.9,baz=249,slow=16,SNR=5.0								
SDV	**Santo Domingo**	**32.00**	**1**	P		**P**	**01 08 57.2**	**-5.5**
1.2nm,0.4s,mb4.1								
DBIC	**Dimbokro**	**71.43**	**74**	P		**P**	**01 13 57.6**	**+0.8**
3.0nm,0.9s,mb4.2,baz=235,slow=1.0,SNR=4.4								
TORD	**Torodi Ar. Bea**	**80.10**	**71**	P		**P**	**01 14 47.0**	**+0.7**
2.2nm,0.5s,mb4.3,baz=255,slow=5.0,SNR=58								
ZAL	**Zalesovo**	**144.54**	**24**	PKP		PKPdf	01 22 11.2	-1.7
1.4nm,0.7s,baz=160,slow=4.0,SNR=9.7								
MKAR	**Makanchi Array**	**148.43**	**36**	PKPbc		PKPbc	01 22 22.7	-0.3
2.7nm,0.7s,baz=326,slow=2.7,SNR=38								

ISCJB ***22*** *01:09:56.1±0.6,58N±01×1240E±03,h500km,mb3.8/9, Error ellipse: s-maj=39.7km s-min=9.3km az=133.7*
NEIC ***22*** *01:09:57.5±0.4,575N×12409E,h500km,mb4.1/3, Error ellipse: s-maj=31.5km s-min=7.5km az=67.0*
IDC ***22*** *01:10:01.6±6.3,572N×124.17E,h556km±92km,mb3.2/6, mb1 3.3/6,mb1mx3.0/20,mbtmp4.2/6, Error ellipse: s-maj=61.8km s-min=17.7km az=73.0*
ISC 22 01:09:57.7±0.6,58N±01×1241E±03,h500km,n18, σ0§62/18,mb3.8/9,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.15**	**156**	*e*P		**P**	**01 13 58.0**	**+0.5**
37nm,1.6s								
MBWA	**Marble Bar**	**27.09**	**189**	*e*P		**P**	**01 14 58.6**	**-0.8**
WRAB	**Tennant Creek**	**27.46**	**159**	*e*P		**P**	**01 15 03.0**	**+0.3**
7.7nm,0.3s,mb4.6								
WRA	**Warramunga Arr**	**27.47**	**159**	P		**P**	**01 15 02.9**	**+0.1**
2.4nm,0.4s,mb4.0,baz=338,slow=9.5,SNR=10.0								
WB2	**Warramunga Arr**	**27.47**	**159**	⇑*i*P		**P**	**01 15 02.9**	**+0.1**
AS31	**Alice Springs**	**30.78**	**162**	*e*P		**P**	**01 15 32.4**	**+0.8**
ASPA	**Alice Springs**	**30.78**	**162**	*e*P		**P**	**01 15 32.4**	**+0.8**
ASAR	**Alice Springs**	**30.78**	**162**	P		**P**	**01 15 32.5**	**+0.9**
2.7nm,0.5s,mb3.9,baz=342,slow=7.0,SNR=38								
CTAO	**Charters Tower**	**33.70**	**140**	P		**P**	**01 15 55.2**	**-1.4**
NWAO	**Narrogin (SRO)**	**39.02**	**189**	P		**P**	**01 16 40.2**	**-0.3**
2.6nm,0.5s,mb3.9,baz=9.5,slow=6.1,SNR=3.3								
STKA	**Stephens Creek**	**40.99**	**157**	P		**P**	**01 16 55.2**	**-1.2**
1.3nm,0.3s,mb3.8,baz=339,slow=12,SNR=3.2								
STKA	**Stephens Creek**	**40.99**	**157**	*e*P		**P**	**01 16 55.5**	**-0.8**
SONM	**Songino Array**	**44.57**	**343**	P		**P**	**01 17 24.6**	**+0.1**
0.5nm,0.6s,mb3.1,baz=165,slow=8.4,SNR=5.0								
MKAR	**Makanchi Array**	**54.39**	**326**	P		**P**	**01 18 37.4**	**+0.4**
1.2nm,0.4s,mb3.6,baz=120,slow=7.9,SNR=58								
MKAR				PcP		PcP	01 19 31.9	-1.2
0.2nm,0.4s,baz=121,slow=4.1,SNR=4.1								
MKAR	**Makanchi Array**	**54.39**	**326**	P		**P**	**01 18 37.4**	**+0.4**
MKAR				PcP		PcP	01 19 31.9	-1.2
KURK	**Kurchatov**	**58.62**	**328**	*e*P		**P**	**01 19 06.2**	**+0.1**
3.2nm,0.4s,mb4.0								
BRVK	**Borovoye**	**64.26**	**327**	*e*P		**P**	**01 19 43.2**	**+0.1**
0.9nm,0.7s,mb3.4								
ZRNK	**Zerenda**	**64.90**	**327**	*e*P		**P**	**01 19 46.7**	**-0.5**

NIED ***22*** *01:26:00,2960N×13050E,h35km,Mw4.1 Best double couple: M0 1.55000×1015 NP1:φs40.00000°,δ64.00000°, λ98.00000°. NP2:φs202.00000°,δ27.00000°,λ74.00000°.*
ISCJB ***22*** *01:26:52.3±0.6,2961N±005×13042E±009,h56km±5km, mb3.8/14,MS3.5/3,Error ellipse: s-maj=13.5km s-min=6.0km az=45.6*
JMA ***22*** *01:26:52.0±0.1,2957N×13055E,h42km±4km,M3.5*
IDC ***22*** *01:26:53.8±2.5,2963N×13043E,h52km±25km,mb3.5/10, mb1 3.7/12,mb1mx3.6/23,mbtmp3.8/12,ML3.3/2,MS3.3/5, Ms1 3.4/5,ms1mx2.9/26,Error ellipse: s-maj=26.5km s-min=16.8km az=119.0*
NEIC ***22*** *01:26:53.6±1.0,2960N×13037E,h51km±9km,mb4.2/4, Error ellipse: s-maj=11.4km s-min=8.4km az=98.0*
ISC 22 01:26:53.4±0.7,2963N±005×13044E±009,h49km±6km, n29,σ0§81/30,mb3.8/14,MS3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.54**	**294**	P		**Pn**	**01 27 04.7**	**-0.3**
JKC	**Kuchinoerabu**	**0.86**	**346**	*e*S		**Sn**	**01 27 22.0**	**+1.3**
JTN	**Tanegashima 3**	**1.13**	**24**	P		**Pn**	**01 27 12.2**	**-0.6**
JTN				*e*S		**Sn**	**01 27 26.4**	**-0.8**
JAM	**Amami Oshima**	**1.41**	**211**	P		**Pn**	**01 27 16.0**	**-0.6**
JTSR	**Tashiro 2**	**1.59**	**15**	P		**Pn**	**01 27 19.1**	**0.0**
JTK	**Tokunoshima**	**2.25**	**216**	P		**Pn**	**01 27 28.3**	**+0.2**
JOW	**Kunigami**	**3.37**	**215**	P		**Pn**	**01 27 42.6**	**-0.9**
6.6nm,0.3s,baz=86,slow=19,SNR=13								
JOW				S		**Sn**	**01 28 23.4**	**+1.1**
9.1nm,0.3s,baz=36,slow=27,SNR=4.2								
JOW				LR		LR	01 29 23.9	
comp=Z,240nm,18.4s,baz=126,slow=45								
JOW	**Kunigami**	**3.37**	**215**	P		**Pn**	**01 27 42.6**	**-0.9**
JOW				S		**Sn**	**01 28 23.4**	**+1.1**
JNU	**Nakatsue**	**3.51**	**6**	P		**Pn**	**01 27 46.5**	**+1.2**
2.6nm,0.3s,baz=161,slow=6.0,SNR=12								
YHNB	**Yeheng**	**9.46**	**241**	Pn		**Pn**	**01 29 06.7**	**-0.2**
ENH	**Enshi**	**18.17**	**277**	*e*P		**Pn**	**01 31 01.5**	**-0.5**
ULN	**Ulaanbaatar**	**25.61**	**322**	*e*P		**P**	**01 32 16.3**	**-1.8**
1.0nm,0.5s,mb3.6								
SONM	**Songino Array**	**25.95**	**321**	P		**P**	**01 32 20.6**	**-0.5**
1.0nm,0.7s,mb3.5,baz=141,slow=10,SNR=9.9								
SONM				LR		LR	01 43 27.8	
comp=Z,61nm,19.1s,MS3.2,baz=1.2,slow=38								
MKAR	**Makanchi Array**	**40.84**	**309**	P		**P**	**01 34 31.1**	**+0.9**
1.0nm,0.5s,mb3.7,baz=90,slow=10,SNR=28								
KURK	**Kurchatov**	**43.80**	**314**	*e*P		**P**	**01 34 54.5**	**+0.2**
2.3nm,0.4s,mb4.3								
BVAR	**Borovoye Array**	**49.12**	**316**	P		**P**	**01 35 36.2**	**+0.2**
2.9nm,0.6s,mb4.5,baz=95,slow=9.5,SNR=31								
BRVK	**Borovoye**	**49.18**	**316**	*e*P		**P**	**01 35 36.4**	**-0.1**
2.0nm,0.6s,mb4.3								
WRAB	**Tennant Creek**	**49.41**	**175**	*e*P		**P**	**01 35 38.1**	**-0.1**
ZRNK	**Zerenda**	**49.95**	**316**	*e*P		**P**	**01 35 42.7**	**+0.4**
1.8nm,0.6s,mb4.3								
ZRNK				*e*pP		pP	01 35 54.4	-1.2
CTAO	**Charters Tower**	**51.72**	**161**	*e*P		**P**	**01 35 56.1**	**+0.5**
AKTO	**Aktyubinsk**	**56.89**	**313**	LR		LR	02 03 06.0	
comp=Z,73nm,18.3s,MS3.8,baz=45,slow=38								
ILAR	**Eielson Array**	**60.53**	**29**	P		**P**	**01 36 57.5**	**-1.0**
0.4nm,0.9s,mb3.5,baz=270,slow=5.4,SNR=5.9								
ARCES	**ARCESS Array B**	**67.58**	**338**	LR		LR	02 11 47.8	
comp=Z,24nm,18.4s,MS3.5,baz=264,slow=40								
FINES	**FINESS Array B**	**70.88**	**330**	P		**P**	**01 38 04.3**	**-0.9**
0.3nm,0.5s,mb3.5,baz=46,slow=8.2,SNR=4.5								
YKA	**Yellowknife Ar**	**74.63**	**26**	P		**P**	**01 38 27.2**	**-0.2**
0.4nm,0.7s,mb3.5,baz=302,slow=5.5,SNR=11								
BRTR	**Keskin Array B**	**76.49**	**308**	P		**P**	**01 38 38.8**	**+0.7**
0.8nm,0.8s,mb3.7,baz=97,slow=5.4,SNR=5.9								
NOA	**NORSAR Array B**	**77.13**	**334**	P		**P**	**01 38 40.5**	**-1.2**
1.2nm,0.9s,mb3.8,baz=49,slow=5.5,SNR=2.7								
NVAR	**Mina Array Bea**	**86.76**	**47**	P		**P**	**01 39 33.4**	**+1.2**
0.5nm,0.7s,mb3.8,baz=295,slow=8.5,SNR=4.3								
PDAR	**Pinedale Array**	**89.31**	**40**	P		**P**	**01 39 46.0**	**+1.6**
0.3nm,0.6s,mb3.8,baz=318,slow=2.0,SNR=4.1								

IDC 22 01:39:58.6±4.0,2236S×14810E,h0km,mb1 3.8/4, mb1mx3.6/11,mbtmp3.6/4,ML3.8/4,Error ellipse: s-maj=39.2km s-min=19.6km az=87.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.84**	**322**	Pn		Pn	01 40 45.8	+0.6
8.1nm,0.3s,baz=140,slow=15,SNR=85								
CTA				Pg		Pg	01 40 51.0	-2.1
81nm,0.3s,baz=143,slow=17,SNR=84								
CTA				Lg			01 41 27.7	
140nm,0.3s,baz=59,slow=21,SNR=18								
CTA				Rg			01 41 44.9	
80nm,0.3s,baz=238,slow=22,SNR=3.9								
STKA	**Stephens Creek**	**11.11**	**210**	Pn		Pn	01 42 37.2	-1.4
0.4nm,0.3s,baz=16,slow=12,SNR=6.0								
STKA				Lg			01 45 52.8	
0.4nm,0.3s,baz=333,slow=22,SNR=2.8								
WRA	**Warramunga Arr**	**13.07**	**278**	Pn		Pn	01 43 05.1	-0.3
0.6nm,0.3s,baz=94,slow=12,SNR=7.6								
WRA				Sn		Sn	01 45 37.9	+6.5
0.4nm,0.3s,baz=100,slow=23,SNR=3.5								
WRA				Lg			01 46 54.4	
baz=102,slow=26,SNR=5.0								
ASAR	**Alice Springs**	**13.14**	**262**	Pn		Pn	01 43 08.2	+1.8
0.3nm,0.3s,baz=91,slow=14,SNR=8.6								
ASAR				Sn		Sn	01 45 34.4	+1.1
0.1nm,0.3s,baz=71,slow=25,SNR=3.5								
ASAR				Lg			01 46 55.7	
0.1nm,0.3s,baz=64,slow=30,SNR=4.1								

MOS ***22*** *01:43:29.9±1.0,5002N×8805E,h9km,mb3.8/1,Error ellipse: s-maj=13.3km s-min=9.4km az=83.1*
ISCJB ***22*** *01:43:30.9±0.5,5005N±004×8791E±005,h9km,mb3.4/1, Error ellipse: s-maj=6.4km s-min=4.3km az=167.6*
IDC ***22*** *01:43:31.2±2.4,5006N×8792E,h0km,mb3.5/1,mb1 3.6/5, mb1mx3.3/24,mbtmp3.5/5,ML3.3/4,Error ellipse: s-maj=28.3km s-min=10.5km az=101.0*
NNC ***22*** *01:43:34.0±2.2,5005N×8770E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=17.9km s-min=10.9km az=83.0*
NEIC ***22*** *01:43:36.6±1.6,5008N×8782E,h38km±19km,mb3.8/1, Error ellipse: s-maj=18.2km s-min=13.1km az=62.0*
ISC 22 01:43:32.5±0.5,5009N±004×8795E±005,h9km,n23, σ1§14/34,mb3.4/1,3C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**0.26**	**88**	*i* PG		**Pg**	**01 43 36.1**	**-1.5**
CUR				*e*SG		**Sg**	**01 43 40.3**	**-0.8**
TUNR	**Tungur**	**1.05**	**274**	*i* PG		**Pg**	**01 43 49.8**	**-2.7**
TUNR				*e*SG		**Sg**	**01 44 04.0**	**-2.1**
ELDR	**Elanda**	**1.64**	**314**	*e*PN		**Pn**	**01 44 01.6**	**+0.2**
ELDR				*e*			01 44 24.9	
ARTR	**Artybash**	**1.76**	**346**	*e*PN		**Pn**	**01 44 04.2**	**+1.1**
ARTR				*e*			01 44 30.3	
ZAL	**Zalesovo**	**4.32**	**334**	Pn		**Pn**	**01 44 39.9**	**+1.6**
2.7nm,0.3s,baz=318,slow=9.5,SNR=18								
ZAL				Sn		**Sn**	**01 45 31.4**	**+2.8**
2.6nm,0.3s,baz=47,slow=11,SNR=7.3								
ZAL				Lg			01 45 48.4	
3.5nm,0.3s,baz=50,slow=19,SNR=4.7								
ZAL	**Zalesovo**	**4.32**	**334**	Pn		**Pn**	**01 44 39.9**	**+1.6**
ZAL				Sn		**Sn**	**01 45 31.4**	**+2.8**
ZAL				Lg			01 45 48.4	
MK31	**Makanchi Array**	**5.01**	**231**	⇑Pn		**Pn**	**01 44 48.9**	**+1.1**

MKAR	**Makanchi Array**	**5.01 231**	Pn	**Pn**	**01 44 48.6**	**+0.9**
	4.5nm,0.3s,baz=52,slow=14,SNR=244					
MKAR			Sn	**Sn**	**01 45 46.0**	**+0.2**
	1.5nm,0.3s,baz=57,slow=13,SNR=3.6					
MKAR			Lg		01 46 07.8	
	4.0nm,0.3s,baz=54,slow=27,SNR=12					
MKAR	**Makanchi Array**	**5.01 231**	PN	**Pn**	**01 44 49.0**	**+1.3**
MKAR					01 45 46.8	
MKAR			*e*		01 46 07.1	
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.2s					
MKAR			smax			
	comp=Z,1.0nm,0.3s					
NVS	**Novosibirsk**	**5.56 331**	*e*P*	**Pg**	**01 45 18.5**	**-0.5**
NVS			*e*		01 46 00.8	
NVS			*e*		01 46 18.2	
KURK	**Kurchatov**	**6.00 280**	⇓Pn	**Pn**	**01 45 02.3**	**+1.0**
	comp=Z,2.6nm,0.9s					
KURK			⇑Sn	**Sn**	**01 46 10.5**	**+0.3**
	comp=Z,3.1nm,0.6s					
KURK			⇑Lg		01 46 41.2	
	comp=Z,6.3nm,0.5s					
KURK	**Kurchatov**	**6.00 280**	*e*PN	**Pn**	**01 45 02.1**	**+0.7**
KURK			*e*		01 46 13.4	
KURK			pmax	pmax		
	comp=Z,3.0nm,0.5s					
KURK	**Kurchatov**	**6.00 280**	*e*Pn	**Pn**	**01 45 02.1**	**+0.7**
	comp=Z,3.1nm,0.5s					
KURK			*e*Sn	**Sn**	**01 46 13.4**	**+3.3**
BVA0	**Borovoye Array**	**11.32 292**	⇓Pn	**Pn**	**01 46 13.6**	**-0.7**
	comp=Z,0.7nm,1.9s,baz=0,0,slow=0,1,SNR=5.7					
BVAR	**Borovoye Array**	**11.32 292**	Pn	**Pn**	**01 46 12.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=103,slow=15,SNR=6.6					
BVAR			Sn	**Sn**	**01 48 14.7**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=94,slow=18,SNR=2.6					
ZRNK	**Zerenda**	**12.14 291**	*e*Pn	**Pn**	**01 46 26.0**	**+0.5**
ZRNK			*e*Sn	**Sn**	**01 48 34.9**	**-6.2**
KK31	**Karatay Array**	**13.86 246**	⇓Pn	**Pn**	**01 46 48.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=202,slow=56,SNR=5.3					
AKTK	**Aktyubinsk**	**19.09 283**	P	**Pn**	**01 47 55.6**	**-0.4**
AKTO	**Aktyubinsk**	**19.09 283**	P	**Pn**	**01 47 55.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=78,slow=13,SNR=4.7					
LSA	**Lhasa**	**20.51 172**	P	**P**	**01 48 11.6**	**+0.8**
LSA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
LSA	**Lhasa**	**20.51 172**	P	**P**	**01 48 11.6**	**+0.8**
	comp=Z,1.2nm,0.3s					
YHNB	**Yeheng**	**36.24 122**	*e*P	**P**	**01 50 36.4**	**+0.7**
BRTR	**Keskin Array B**	**39.04 276**	P	**P**	**01 50 58.8**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.4,baz=66,slow=6.9,SNR=4.8					

*ISCJB **22** 01:53:10.0±1.2,204S±0.1×178.0W±0.1,h533km±19km, mb4.0/8, Error ellipse: s-maj=18.3km s-min=14.8km az=94.9*
*NEIC **22** 01:53:12.4±1.2,2035S×17797W,h551km±14km,mb4.4/5, Error ellipse: s-maj=17.5km s-min=13.6km az=155.0*
*IDC **22** 01:53:16.0±2.4,2043S×178.17W,h591km±28km,mb3.3/6, mb1 3.5/7,mb1mx3.3/15,mbtmp4.3/7, Error ellipse: s-maj=25.0km s-min=15.4km az=148.0*

ISC 22 01:53:12.0±1.2,205S±01×178.0W±01,h547km±17km,n24, σ1§10/25,mb4.0/8,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.80**	**43**	P	**P**	**01 55 17.1**	**-0.5**
	5.2nm,0.3s,baz=17,slow=8.4,SNR=10						
AFI				S	**S**	**01 56 55.6**	**-5.1**
	3.7nm,0.3s,baz=27,slow=23,SNR=6.2						
AFI	**Afiamalu**	**8.80**	**43**	P	**P**	**01 55 17.1**	**-0.5**
AFI				S	**S**	**01 56 55.6**	**-5.1**
DZM	**Mont Dzumac**	**14.64**	**261**	P	**P**	**01 56 18.5**	**+0.8**
	0.4nm,0.3s,baz=99,slow=19,SNR=3.7						
URZ	**Urewera**	**18.22**	**193**	P	**P**	**01 56 49.6**	**-2.4**
	4.6nm,0.3s,baz=355,slow=3.7,SNR=18						
CTA	**Charters Tower**	**33.54**	**264**	*e*P	**P**	**01 59 07.7**	**+1.0**
	4.4nm,0.4s,mb4.3						
CTA	**Charters Tower**	**33.54**	**264**	P	**P**	**01 59 07.7**	**+1.0**
	5.9nm,0.4s,mb4.4,baz=91,slow=10,SNR=6.6						
CTAO	**Charters Tower**	**33.54**	**264**	*e*P	**P**	**01 59 08.3**	**+1.6**
	6.5nm,0.5s,mb4.4						
PMG	**Port Moresby**	**35.39**	**283**	*e*P	**P**	**01 59 22.2**	**+0.1**
	12nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**37.84**	**244**	P	**P**	**01 59 40.4**	**-1.8**
	3.5nm,0.7s,mb4.0,baz=118,slow=7.8,SNR=6.6						
STKA				S	**S**	**02 04 50.9**	**-3.6**
	2.0nm,0.7s,baz=285,slow=24,SNR=4.0						
STKA	**Stephens Creek**	**37.84**	**244**	P	**P**	**01 59 40.4**	**-1.8**
STKA				S	**S**	**02 04 50.9**	**-3.6**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**02 00 35.6**	**+0.1**
	2.6nm,0.5s,mb4.0,baz=85,slow=8.7,SNR=14						
ASAR				S	**S**	**02 06 29.2**	**-2.4**
	3.6nm,0.8s,baz=94,slow=16,SNR=16						
GUMO	**Guam**	**49.83**	**310**	*e*P	**P**	**02 01 15.8**	**+0.7**
MBWA	**Marble Bar**	**57.91**	**257**	*e*P	**P**	**02 02 11.7**	**-0.3**
VNDA	**Vanda**	**57.93**	**185**	P	**P**	**02 02 13.2**	**+1.1**
	1.3nm,0.6s,mb3.3,baz=351,slow=4.9,SNR=7.4						
VNDA	**Vanda**	**57.93**	**185**	*e*P	**P**	**02 02 14.0**	**+1.9**
	1.4nm,0.7s,mb3.3						
QSPA	**South Pole Qui**	**69.58**	**180**	*e*P	**P**	**02 03 28.0**	**+1.6**
	6.4nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**70.23**	**324**	P	**P**	**02 03 30.1**	**-0.1**
	1.6nm,0.5s,mb3.8,baz=163,slow=5.4,SNR=4.8						
VNA3	**Neumayer Olymp**	**88.15**	**176**	⇓*i*	**P**	**02 05 05.0**	**+0.2**
ILAR	**Eielson Array**	**88.29**	**13**	P	**P**	**02 05 04.8**	**-0.7**
	0.6nm,0.6s,mb3.5,baz=219,slow=4.7,SNR=6.2						
VNA2	**Neumayer--Watz**	**88.59**	**177**	⇓*i*	**P**	**02 05 06.6**	**-0.3**
	baz=205,slow=3.8						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPdf	02 11 40.2	-3.5
	1.5nm,0.4s,baz=43,slow=4.0,SNR=8.3						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPdf	02 11 40.2	-3.5
BRTR	**Keskin Array B**	**146.87**	**312**	PKPbc	PKPbc	02 11 52.5	-0.6
	0.7nm,0.7s,baz=142,slow=4.8,SNR=6.7						
GERES	**GERESS Array B**	**150.20**	**344**	PKPbc	PKPbc	02 12 00.4	-1.0
	0.4nm,0.6s,baz=38,slow=2.4,SNR=4.3						

*IDC **22** 01:53:33.3±1.0,883S×12379E,h0km,mb4.1/5,mb1 4.4/7, mb1mx4.2/15,mbtmp4.2/7,ML4.5/1,MS3.3/1,Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=63.6km s-min=20.9km az=63.0*
*NEIC **22** 01:53:38.9±0.3,882S×12396E,h35km,mb4.9/11, Error ellipse: s-maj=15.1km s-min=5.1km az=55.0*
*ISCJB **22** 01:53:46.1±1.8,9.10S±009×1242E±0.1,h135km±18km, mb4.5/17, Error ellipse: s-maj=25.7km s-min=8.1km az=119.9*

ISC 22 01:53:42.1±1.9,891S±009×1240E±01,h64km±20km,n32, σ1§02/39,mb4.7/17,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.10**	**115**	*e*P	**Pn**	**01 55 52.3**	**+1.7**
	24nm,0.6s						
KAKA				*e*S	**Sn**	**01 57 23.1**	**-8.4**
FITZ	**Fitzroy Crossi**	**9.27**	**170**	*e*P	**Pn**	**01 55 52.2**	**-0.8**
	32nm,0.6s						
FITZ				*e*S	**Sn**	**01 57 28.3**	**-7.4**
WRA	**Warramunga Arr**	**14.83**	**139**	Pn	**Pn**	**01 57 06.8**	**-1.3**
	1.6nm,0.3s,baz=320,slow=13,SNR=32						
WRA				Sn	**Sn**	**01 59 39.4**	**-12**
	3.4nm,0.3s,baz=304,slow=24,SNR=11						
WRAB	**Tennant Creek**	**14.83**	**139**	*e*Pn	**Pn**	**01 57 07.9**	**-0.2**
	30nm,0.8s						
WRAB				*e*Sn	**Sn**	**01 59 40.7**	**-11**
WB2	**Warramunga Arr**	**14.84**	**139**	*e*P	**Pn**	**01 57 06.4**	**-1.8**
WB2				*e*S	**Sn**	**01 59 37.2**	**-14**
ASPA	**Alice Springs**	**17.46**	**148**	*e*P	**Pn**	**01 57 41.6**	**+0.4**
ASPA				*e*S	**S**	**02 00 43.0**	**-17**
AS31	**Alice Springs**	**17.46**	**148**	*e*P	**Pn**	**01 57 41.6**	**+0.4**
AS31				*e*S	**S**	**02 00 43.0**	**-17**
ASAR	**Alice Springs**	**17.46**	**148**	P	**Pn**	**01 57 41.4**	**+0.2**
	1.5nm,0.3s,baz=323,slow=12,SNR=63						
ASAR				S	**S**	**02 00 45.4**	**-14**
	1.0nm,0.3s,baz=316,slow=22,SNR=17						
PMG	**Port Moresby**	**22.86**	**93**	P	**P**	**01 58 40.5**	**+0.6**
BBOO	**Buckleboo**	**26.27**	**157**	*e*P	**P**	**01 59 11.9**	**+0.6**
	4.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**28.09**	**147**	P	**P**	**01 59 28.7**	**+1.1**
	4.0nm,1.0s,mb4.0,baz=336,slow=10.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**47.14**	**16**	P	**P**	**02 02 07.3**	**-0.6**
	1.3nm,0.6s,mb4.0,baz=192,slow=8.3,SNR=5.2						
LSA	**Lhasa**	**49.74**	**322**	*e*P	**P**	**02 02 30.0**	**+2.1**
	18nm,0.6s,mb5.3						
JIRN	**Jiri**	**51.59**	**316**	*e*P	**P**	**02 02 42.6**	**+0.8**
	37nm,0.6s,mb5.5						
GUN	**Gumba**	**51.96**	**316**	*e*P	**P**	**02 02 45.3**	**+0.7**
	54nm,0.6s,mb5.7						
PKI	**Pulchoki**	**52.08**	**315**	*e*P	**P**	**02 02 45.9**	**+0.5**
	24nm,0.5s,mb5.4						
KKN	**Kakani**	**52.30**	**316**	*e*P	**P**	**02 02 47.5**	**+0.4**
	22nm,0.6s,mb5.2						
DMN	**Daman**	**52.31**	**315**	*e*P	**P**	**02 02 47.6**	**+0.5**
	21nm,0.7s,mb5.1						
GKN	**Gorkha**	**52.88**	**315**	*e*P	**P**	**02 02 51.6**	**+0.3**
	17nm,0.3s,mb5.5						
KOLN	**Koldanda**	**53.46**	**314**	*e*P	**P**	**02 02 55.9**	**+0.3**
	9.9nm,0.5s,mb5.0						
SONM	**Songino Array**	**58.61**	**346**	P	**P**	**02 03 31.4**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=166,slow=9.4,SNR=5.5						
MKAR	**Makanchi Array**	**66.74**	**330**	P	**P**	**02 04 26.5**	**0.0**
	2.3nm,0.5s,mb4.4,baz=135,slow=7.5,SNR=47						
ZAL	**Zalesovo**	**70.82**	**337**	P	**P**	**02 04 49.3**	**-2.5**
	1.6nm,0.5s,mb4.2,baz=325,slow=4.0,SNR=8.9						
KURK	**Kurchatov**	**71.19**	**331**	*e*P	**P**	**02 04 53.6**	**-0.5**
	4.0nm,0.8s,mb4.4						
VNDA	**Vanda**	**71.34**	**172**	P	**P**	**02 04 56.2**	**+1.2**
BRVK	**Borovoye**	**76.69**	**330**	P	**P**	**02 05 25.4**	**-0.8**
ZRNK	**Zerenda**	**77.27**	**329**	*e*P	**P**	**02 05 28.8**	**-0.7**
	1.1nm,0.7s,mb3.9						
ARU	**Arti**	**84.25**	**329**	*e*P	**P**	**02 06 05.8**	**-0.9**
KMBO	**Kilima Mbogo**	**86.63**	**269**	P	**P**	**02 06 18.6**	**+0.1**
GNI	**Garni**	**87.58**	**311**	*e*P	**P**	**02 06 23.2**	**+0.1**
	0.9nm,0.4s,mb4.3						
LSZ	**Lusaka**	**93.24**	**254**	*e*P	**P**	**02 06 48.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.32**	**280**	PKP	PKPdf	02 12 32.3	+0.6
	0.5nm,0.5s,baz=60,slow=1.9,SNR=18						

*GEN **22** 01:56:11.9,4474N×1007E,h18km,ML2.0*
*ROM **22** 01:56:12.7±0.2,4471N×1002E,h10km,Md2.5/6,Ml2.0/3, Error ellipse: s-maj=5.1km s-min=2.9km az=39.0*
*ISCJB **22** 01:56:13.4±0.4,4463N±003×998E±004,h24km±4km, Error ellipse: s-maj=5.2km s-min=4.3km az=44.6*
*LDG **22** 01:56:13.0±0.3,4456N×1019E,h10km,Ml2.3/9, Error ellipse: s-maj=6.6km s-min=3.8km az=91.0*
*CSEM **22** 01:56:14.0±0.1,4447N×1003E,h20km,ML2.2/8, Error ellipse: s-maj=4.4km s-min=2.8km az=27.0*

ISC 22 01:56:13.5±0.4,4464N±003×1004E±004,h19km±4km,n34, σ1§01/55,2C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		**0.15**	**172**	P	**Pg**	**01 56 17.5**	**-0.3**
CODM		**0.28**	**208**	P	**Pg**	**01 56 19.5**	**-0.3**
VALM		**0.33**	**153**	P	**Pg**	**01 56 20.1**	**-0.4**
VALM				S	**Sg**	**01 56 25.9**	**+0.6**
ERBM	**Eremo**	**0.35**	**129**	Pg	**Pg**	**01 56 21.6**	**+0.7**
	30nm,0.4s						
BACM		**0.36**	**176**	P	**Pg**	**01 56 21.2**	**+0.1**
BACM				S	**Sg**	**01 56 27.1**	**+0.8**
BOB	**Bobbio (Coli)**	**0.44**	**287**	Pg	**Pg**	**01 56 21.0**	**-1.5**
BOB				Sg	**Sg**	**01 56 28.5**	**-0.1**
	98nm,0.7s						
GSCL	**Gusciola**	**0.49**	**126**	Pg	**Pg**	**01 56 24.6**	**+1.2**
	7.0nm,0.4s						
VINC	**Vinca**	**0.51**	**171**	P	**Pg**	**01 56 23.2**	**-0.5**
SARO	**Sassorosso**	**0.52**	**150**	P	**Pg**	**01 56 23.3**	**-0.7**
SARO				S	**Sg**	**01 56 31.4**	**+0.3**
BDI	**Bagni Di Lucca**	**0.70**	**145**	⇑*e*Pg	**Pg**	**01 56 26.9**	**-0.4**
BDI				Sg	**Sg**	**01 56 38.7**	**+2.0**
PII	**Pisa**	**0.98**	**159**	⇑*i*Pg	**Pg**	**01 56 32.1**	**-0.5**
PII				Sg	**Sg**	**01 56 45.9**	**+0.4**
	14nm,0.2s						
TEOL	**Teolo**	**1.36**	**58**	*e*Pg	**Pg**	**01 56 37.2**	**-2.6**
TEOL				*e*Sg	**Sg**	**01 56 57.5**	**-0.1**
CTI	**Castel Tesino**	**1.81**	**38**	Pg	**Pg**	**01 56 43.2**	**-5.1**
	20nm,0.3s						
APPI	**Appiano**	**2.02**	**24**	Pg	**Pg**	**01 56 47.0**	**-5.3**
	12nm,0.4s						
SBF	**Sospel**	**2.02**	**248**	*e*Pn	**Pn**	**01 56 46.0**	**-0.6**
SBF				*e*Sn	**Sn**	**01 57 11.5**	**+0.2**
	6.6nm,0.3s						
SBF	**Sospel**	**2.02**	**248**	*e*Pn	**Pn**	**01 56 46.0**	**-0.6**
SBF				*e*Sn	**Sn**	**01 57 11.5**	**+0.2**
	3.3nm,0.3s						
PGF	**Pioggiola**	**2.22**	**200**	*e*Pn	**Pn**	**01 56 48.4**	**-0.9**
PGF				*e*Sn	**Sn**	**01 57 13.9**	**-2.3**
	2.0nm,0.3s						
PGF	**Pioggiola**	**2.22**	**200**	*e*Pn	**Pn**	**01 56 48.4**	**-0.9**
PGF				*e*Sn	**Sn**	**01 57 13.9**	**-2.3**
	1.0nm,0.3s						
MBDF	**Montbardon**	**2.33**	**273**	*e*Pn	**Pn**	**01 56 51.3**	**+0.5**
MBDF				*e*Sn	**Sn**	**01 57 20.7**	**+1.8**
	2.9nm,0.3s						
MBDF	**Montbardon**	**2.33**	**273**	*e*Pn	**Pn**	**01 56 51.3**	**+0.5**
MBDF				*e*Sn	**Sn**	**01 57 20.7**	**+1.8**
	1.5nm,0.3s						
LPG	**La Plagne**	**2.48**	**291**	*e*Sn	**Sn**	**01 57 24.3**	**+1.7**
	1.7nm,0.4s						
LPG	**La Plagne**	**2.48**	**291**	*e*Sn	**Sn**	**01 57 24.3**	**+1.7**
	0.9nm,0.4s						
LPL	**La Plagne**	**2.50**	**292**	*e*Sn	**Sn**	**01 57 24.0**	**+0.9**
	2.3nm,0.3s						
LPL	**La Plagne**	**2.50**	**292**	*e*Sn	**Sn**	**01 57 24.0**	**+0.9**
	1.1nm,0.3s						
FRF	**La Foret Royal**	**2.67**	**247**	*e*Pn	**Pn**	**01 56 55.2**	**-0.2**
FRF				*e*Sn	**Sn**	**01 57 25.8**	**-1.5**
	2.3nm,0.3s						
FRF	**La Foret Royal**	**2.67**	**247**	*e*Pn	**Pn**	**01 56 55.2**	**-0.2**
FRF				*e*Sn	**Sn**	**01 57 25.8**	**-1.5**
	1.1nm,0.3s						
LMR	**La Mourre**	**2.86**	**244**	*e*Pn	**Pn**	**01 56 57.1**	**-1.0**
LMR				*e*Sn	**Sn**	**01 57 28.8**	**-3.2**
	1.2nm,0.2s						
LMR	**La Mourre**	**2.86**	**244**	*e*Pn	**Pn**	**01 56 57.1**	**-1.0**
LMR				*e*Sn	**Sn**	**01 57 28.8**	**-3.2**
	0.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.97**	**277**	*e*Pn	**Pn**	**01 57 00.2**	**+0.6**
ORIF				*e*Sn	**Sn**	**01 57 35.6**	**+0.9**
	0.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.97**	**277**	*e*Pn	**Pn**	**01 57 00.2**	**+0.6**
ORIF				*e*Sn	**Sn**	**01 57 35.6**	**+0.9**
	0.4nm,0.3s						
CABF	**La Chapelle**	**3.40**	**307**	*e*Pn	**Pn**	**01 57 06.3**	**+0.8**
HINF	**Hinteralfeld**	**3.87**	**326**	*e*Pn	**Pn**	**01 57 12.4**	**+0.5**
HINF				*e*Sn	**Sn**	**01 57 55.9**	**-1.0**
	2.6nm,0.3s						
HINF	**Hinteralfeld**	**3.87**	**326**	*e*Pn	**Pn**	**01 57 12.4**	**+0.5**
HINF				*e*Sn	**Sn**	**01 57 55.9**	**-1.0**
	1.3nm,0.3s						
CDF	**Champ du Feu**	**4.23**	**334**	*e*Pn	**Pn**	**01 57 17.4**	**+0.5**

*ISCJB **22** 02:00:12.8±0.3,4180N±002×2192E±002,h13km, Error ellipse: s-maj=3.0km s-min=2.4km az=39.2*
*SKO **22** 02:00:12.9,4183N×2190E,h12km,M2.1,ML2.5*
*CSEM **22** 02:00:13.2±0.2,4182N×2191E,h15km,ML2.5, Error ellipse: s-maj=3.1km s-min=2.8km az=10.0*
*THE **22** 02:00:14.1,4180N×2194E,h13km,ML2.6*

ISC 22 02:00:13.4±0.4,4182N±002×2193E±002,h5km±9km,n30, σ0§92/56,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.23**	**123**	*i* Pg	**Pg**	**02 00 18.1**	**+0.1**
STIP				*e*Sg	**Sg**	**02 00 21.9**	**+0.8**
STIP				*e*Lg		02 00 22.1	
	comp=N,831nm,0.5s						
STIP				*e*Lg		02 00 22.4	
	comp=E,203nm,0.3s						
STIP	**Stip**	**0.23**	**123**	*i* Pg	**Pg**	**02 00 18.1**	**+0.1**
STIP				*e*Sg	**Sg**	**02 00 21.8**	**+0.7**
SKO	**Skopje**	**0.39**	**292**	*e*Pg	**Pg**	**02 00 21.1**	**+0.2**
SKO				*e*Sg	**Sg**	**02 00 26.4**	**+0.4**
SKO	**Skopje**	**0.39**	**292**	*i* Pg	**Pg**	**02 00 21.2**	**+0.3**
SKO				*e*Sg	**Sg**	**02 00 26.6**	**+0.5**
SKO				*e*Lg		02 00 26.8	
	comp=E,713nm,0.3s						
SKO				*e*Lg		02 00 26.8	
	comp=N,693nm,0.2s						
SKO	**Skopje**	**0.39**	**292**	*i* Pg	**Pg**	**02 00 21.2**	**+0.2**
SKO				*e*Sg	**Sg**	**02 00 26.5**	**+0.4**
BELI	**Belica**	**0.51**	**254**	*i* Pg	**Pg**	**02 00 21.8**	**-1.4**
BELI				*i*		02 00 22.1	
BELI				*i* Sg	**Sg**	**02 00 30.2**	**+0.4**
KOZJ	**Kozjak Brana**	**0.55**	**276**	*e*Pg	**Pg**	**02 00 23.4**	**-0.6**
KOZJ				*i*		02 00 23.6	
KOZJ				*i*		02 00 23.8	
KOZJ				*i* Sg	**Sg**	**02 00 31.0**	**-0.1**
SAMO	**Samokov**	**0.60**	**258**	*i* Pg	**Pg**	**02 00 24.4**	**-0.6**
SAMO				*i*		02 00 24.6	
SAMO				*i*		02 00 25.4	
SAMO				*i* Sg	**Sg**	**02 00 32.5**	**-0.4**
VAY	**Valandovo**	**0.70**	**136**	*e*Pg	**Pg**	**02 00 26.5**	**-0.3**
VAY				*e*Sg	**Sg**	**02 00 36.6**	**+0.8**
VAY	**Valandovo**	**0.70**	**136**	*i* Pg	**Pg**	**02 00 26.5**	**-0.3**
VAY				*e*Sg	**Sg**	**02 00 36.9**	**+1.0**
VAY				*e*Lg		02 00 37.2	
	comp=N,154nm,0.5s						
VAY				*e*Lg		02 00 38.0	
	comp=E,155nm,0.6s						
VAY	**Valandovo**	**0.70**	**136**	*i* Pg	**Pg**	**02 00 26.5**	**-0.3**
VAY				*e*Sg	**Sg**	**02 00 36.8**	**+0.9**
KKB	**Krupnik**	**0.87**	**87**	*i* Pg	**Pg**	**02 00 31.5**	**+1.4**
BIA	**Bitola**	**0.92**	**210**	*e*Pg	**Pg**	**02 00 31.0**	**-0.1**
BIA				*e*Sg	**Sg**	**02 00 44.0**	**+0.9**
BIA	**Bitola**	**0.92**	**210**	*i* Pg	**Pg**	**02 00 31.2**	**+0.1**
BIA				*e*Sg	**Sg**	**02 00 43.5**	**+0.4**
BIA				*e*Lg		02 00 44.0	
	comp=E,122nm,0.3s						
BIA				*e*Lg		02 00 44.2	
	comp=N,168nm,0.3s						
BIA	**Bitola**	**0.92**	**210**	*e*Pg	**Pg**	**02 00 31.0**	**-0.1**
BIA				*e*Sg	**Sg**	**02 00 43.4**	**+0.3**
GRG	**Griva**	**0.94**	**157**	*e*Pg	**Pg**	**02 00 31.7**	**+0.3**
GRG				*e*Sg	**Sg**	**02 00 44.9**	**+1.3**
KNT	**Kendrikon**	**0.99**	**132**	*e*Pg	**Pg**	**02 00 31.9**	**-0.5**
	comp=N,4.0nm,0.5s						
KNT				*e*Sg	**Sg**	**02 00 46.1**	**+1.0**
OHR	**Ohrid**	**1.11**	**230**	*e*Pg	**Pg**	**02 00 33.9**	**-0.7**
OHR				*e*Sg	**Sg**	**02 00 49.6**	**+0.6**
OHR	**Ohrid**	**1.11**	**230**	*i* Pg	**Pg**	**02 00 34.0**	**-0.7**
OHR				*e*Sg	**Sg**	**02 00 49.3**	**+0.3**
OHR	**Ohrid**	**1.11**	**230**	*i* Pg	**Pg**	**02 00 33.9**	**-0.7**
OHR				*e*Sg	**Sg**	**02 00 49.6**	**+0.6**
FNA	**Florina**	**1.12**	**202**	*e*Pg	**Pg**	**02 00 35.0**	**+0.1**
	comp=N,6.5nm,0.5s						
FNA				*e*Sg	**Sg**	**02 00 50.4**	**+1.0**
VTS	**Vitosha**	**1.22**	**51**	*e*Pg	**Pg**	**02 00 36.8**	**-0.1**
VTS				*e*Sg	**Sg**	**02 00 52.5**	**-0.2**
VTS	**Vitosha**	**1.22**	**51**	*i* P	**Pg**	**02 00 37.0**	**+0.1**
VTS				*e*Sg	**Sg**	**02 00 52.5**	**-0.3**
VTS				*i* S	**Sg**	**02 00 53.0**	**+0.2**
MMB	**Musomiste**	**1.37**	**99**	*i* P	**Pn**	**02 00 40.0**	**+0.7**
THE	**Thessaloniki**	**1.43**	**146**	*e*Pg	**Pg**	**02 00 38.4**	**-2.4**
SRS	**Serrai**	**1.44**	**119**	*e*Pg	**Pg**	**02 00 39.2**	**-1.8**
SRS	**Serrai**	**1.44**	**119**	*e*Pg	**Pg**	**02 00 39.2**	**-1.8**
SOH	**Sokhos**	**1.47**	**132**	*e*Pg	**Pg**	**02 00 38.8**	**-2.9**
SOH				*e*Sg	**Sg**	**02 00 59.3**	**-1.4**
GRUS	**Gruza**	**2.25**	**337**	*e*Pn	**Pn**	**02 00 51.3**	**0.0**
GRUS				*e*Sg	**Sg**	**02 01 26.9**	**+1.3**
DIVS	**Divcibare**	**2.68**	**329**	*i* Pn	**Pn**	**02 00 57.1**	**-0.2**
DIVS				Sg	**Sg**	**02 01 44.2**	**+4.7**

*NEIC **22** 02:08:45.4,3191S×71.13W,h81km,MD3.3(GUC), After GUC.*

GUC 22 02:08:45.4±0.8,3191S×7113W,h81km±4km,MD3.3, ML3.5,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.27**	**353**	⇑*i*P	Pn	02 08 58.3	+0.6
ILCH				*i* S	Sn	02 09 07.7	+1.0
CMCH	**Combarbala**	**0.74**	**8**	*e*P	Pn	02 09 01.8	+0.3
CMCH				*i* S	Sn	02 09 14.3	+0.7
CMCH				AMP		02 09 15.8	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**0.74**	**8**	*e*P	Pn	02 09 01.8	+0.3
CMCH				*i* S	Sn	02 09 14.3	+0.7
JACH	**Jahuel**	**0.90**	**150**	*e*P	Pn	02 09 03.7	+0.4
JACH				*i* S	Sn	02 09 17.8	+1.2
ROCH	**El Roble**	**1.06**	**175**	⇓*i*P	Pn	02 09 05.9	+0.6
ROCH				*i* S	Sn	02 09 21.8	+1.6
PEL	**Peldehue**	**1.29**	**163**	⇓*i*P	Pn	02 09 08.7	+0.7
PEL				*i* S	Sn	02 09 25.5	+0.5
PEL				AMP		02 09 27.9	
	comp=E,2μm,0.8s						
PEL	**Peldehue**	**1.29**	**163**	⇓*i*P	Pn	02 09 08.7	+0.7
PEL				*i* S	Sn	02 09 25.5	+0.5
FCH	**Farellones**	**1.58**	**154**	⇑*i*P	Pn	02 09 12.9	+1.1
FCH				*i* S

NAO 22 02:18:29.6, 46.31N×155.29E, h33km, mb3.8
IDC 22 02:18:30.8±8.8, 47.14N×154.05E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/19, mbtmp3.5/5, Error ellipse: s-maj=220.8km s-min=33.1km az=169.0
NEIC 22 02:18:37.1±7.6, 4725N×15402E, h40km, mb3.9/3, Error ellipse: s-maj=199.0km s-min=21.3km az=169.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	35.77	39	P	P	02 25 29.9	-2.3
	0.1nm,0.4s,baz=260,slow=6.0,SNR=4.9						
MKAR	Makanchi Array	47.26	297	P	P	02 27 05.8	-0.6
	0.4nm,0.6s,baz=65,slow=8.1,SNR=8.7						
KURK	Kurchatov	47.60	304	P	P	02 27 08.6	-0.5
	1.3nm,0.6s						
YKA	Yellowknife Ar	50.15	37	P	P	02 27 29.8	+1.3
	0.0nm,0.3s,baz=295,slow=7.3,SNR=3.9						
BRVK	Borovoye	51.06	310	eP	P	02 27 35.1	-0.3
	0.7nm,0.6s						
ZRNK	Zerenda	51.78	310	eP	P	02 27 40.5	-0.3
	0.7nm,0.5s						
FINES	FINESS Array B	63.85	335	P	P	02 29 05.3	-0.2
	0.6nm,0.4s,baz=36,slow=6.9,SNR=12						
NB2	NORSAR Subarra	67.95	341	P	P	02 29 32.0	+0.2
	comp=Z,0.7nm,0.6s,baz=26,slow=6.5						
NOA	NORSAR Array B	67.95	341	P	P	02 29 31.6	-0.2
	comp=Z,0.8nm,0.5s,baz=26,slow=6.3,SNR=4.1						

CSEM 22 02:19:42.2±0.1, 38.16N×26.70E, h8km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.2km az=80.0
ATH 22 02:19:42.3, 38.11N×26.84E, h42km, MD3.1/3
ISCJB 22 02:19:43.1±0.6, 38.16N±003×2669E±005, h8km±5km, Error ellipse: s-maj=6.5km s-min=4.4km az=160.5
ISK 22 02:19:43.4, 38.19N×26.75E, h16km, MD2.7
ISC 22 02:19:43.2±0.6, 3816N±003×2668E±005, h11km±4km, n14, σ0§68/23, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.21	342	i P	Pg	02 19 47.4	-0.2
URLA				i S	Sg	02 19 50.8	+0.1
BLCB	Balcova	0.36	52	i PG	Pg	02 19 50.1	-0.3
BLCB				i SG	Sg	02 19 55.0	-0.3
SMG	Samos	0.47	164	⇑iP	Pg	02 19 52.5	+0.1
SMG				eS	Sg	02 19 59.7	+1.0
KDAG	Bornova	0.52	62	i P	Pg	02 19 53.1	-0.2
KDAG				i S	Sg	02 20 00.4	+0.1
AYDN	Tasoluk	1.07	117	i P	Pb	02 20 03.3	-0.4
AYDN				i S	Sb	02 20 17.4	-0.3
PRK	Paraskevi	1.13	344	eP	Pb	02 20 04.2	-0.5
AKS	Akhisar	1.14	51	PN	Pn	02 20 04.5	-0.6
AYVA	Ayvalik	1.14	0	i P	Pb	02 20 04.9	-0.1
AYVA				i S	Sb	02 20 20.7	+0.9
BODT	Bodrum	1.21	155	ePN	Pn	02 20 06.0	0.0
MLSB	Milas	1.23	134	ePN	Pn	02 20 06.9	+0.7
BDRM	Kayabasi	1.25	151	i P	Pn	02 20 08.0	+1.4
BDRM				i S	Sb	02 20 21.6	-1.4
BDRM	Kayabasi	1.25	151	i P	Pn	02 20 08.0	+1.4
BDRM				i S	Sb	02 20 21.5	-1.4
APE	Apeiranthos	1.42	220	eP	Pn	02 20 07.8	-1.1
MANT	Manisa	1.51	77	i P	Pn	02 20 11.3	+1.2
MANT				i S	Sn	02 20 29.8	0.0

NEIC 22 02:31:24.5±4.3, 533S×146.79E, h68km±27km, mb4.1/3, Error ellipse: s-maj=41.2km s-min=16.8km az=188.0
ISCJB 22 02:31:28.9±4.6, 59S±03×146.8E±02, h99km±27km, mb3.9/4, Error ellipse: s-maj=48.2km s-min=23.6km az=66.6
IDC 22 02:31:29.3±4.0, 585S×146.67E, h90km±29km, mb3.7/3, mb1 3.9/5, mb1mx3.5/14, mbtmp4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/15, Error ellipse: s-maj=41.8km s-min=20.1km az=123.0
ISC 22 02:31:29.9±2.7, 59S±02×1468E±02, h97km±18km, n19, σ0§85/18, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.54	175	P	Pn	02 32 23.0	+0.2
	38nm,0.3s,baz=350,slow=6.1,SNR=82						
PMG				S	Sn	02 33 03.6	-0.2
	56nm,0.3s,baz=140,slow=16,SNR=13						
CTA	Charters Tower	14.16	182	eP	Pn	02 34 49.8	+3.9
	1.7nm,0.2s						
CTA	Charters Tower	14.16	182	P	Pn	02 34 49.6	+3.6
	1.1nm,0.3s,baz=0.6,slow=14,SNR=7.8						
CTAO	Charters Tower	14.16	182	P	Pn	02 34 49.8	+3.8
	4.8nm,0.7s						
KAKA	Kakadu	15.76	243	eP	Pn	02 35 05.9	-0.3
	5.6nm,0.4s						
WRAB	Tennant Creek	18.53	220	eP	Pn	02 35 39.8	-0.2
	7.4nm,0.7s						
WB2	Warramunga Arr	18.53	220	eP	Pn	02 35 39.2	-0.9
WRA	Warramunga Arr	18.54	220	P	Pn	02 35 39.5	-0.7
	0.8nm,0.3s,baz=39,slow=11,SNR=19						
GUMO	Guam	19.42	354	LR	LR	02 42 31.9	
	comp=Z,80nm,18.6s,baz=72,slow=34						
AS31	Alice Springs	21.65	214	eP	P	02 36 13.7	+1.3
ASAR	Alice Springs	21.65	214	P	P	02 36 13.2	+0.7
	3.4nm,0.6s,mb3.9,baz=48,slow=9.4,SNR=32						
ASAR				S	S	02 40 06.5	0.0
	1.5nm,0.9s,baz=36,slow=18,SNR=6.7						
ASPA	Alice Springs	21.65	214	eP	P	02 36 13.7	+1.3
FITZ	Fitzroy Crossi	24.01	238	eP	P	02 36 35.7	+0.1
	5.8nm,0.4s,mb4.3						
STKA	Stephens Creek	26.35	190	P	P	02 36 55.2	-1.6
	1.9nm,0.7s,mb3.6,baz=18,slow=13,SNR=3.6						
STKA	Stephens Creek	26.35	190	eP	P	02 36 55.2	-1.6
VNDA	Vanda	72.06	177	P	P	02 42 43.5	-0.1
	1.1nm,0.6s,mb3.8,baz=356,slow=3.5,SNR=7.4						
VNDA	Vanda	72.06	177	P	P	02 42 43.5	-0.1
SIV	San Ignacio	144.86	129	PKPbc	PKPdf	02 50 55.6	0.0
	0.7nm,0.4s,baz=225,slow=6.8,SNR=6.6						
TORD	Torodi Ar. Bea	144.90	284	PKP	PKPdf	02 50 54.1	-1.5
	0.4nm,0.9s,baz=73,slow=3.2,SNR=3.4						

BJI 22 03:28:16.7, 1140N×8650W, h50km, mB5.0, Ms4.7, Msz4.4
ISCJB 22 03:28:18.6±0.4, 1123N±005×8668W±005, h73km±3km, mb4.3/44, Error ellipse: s-maj=10.3km s-min=3.4km az=90.3
NEIC 22 03:28:18.8±1.4, 1143N×8651W, h50km±13km, mb4.5/36, Error ellipse: s-maj=15.2km s-min=6.2km az=55.0
CASC 22 03:28:18.8±2.6, 1115N×8673W, h34km±18km, MD4.3, ML4.2, mb4.5(NEIC)
IDC 22 03:28:21.4±5.4, 1185N×8600W, h65km±49km, mb3.9/10, mb1 4.1/10, mb1mx3.9/19, mbtmp4.2/10, MS4.0/9, Ms1 4.1/9, ms1mx3.7/19, Error ellipse: s-maj=51.6km s-min=12.3km az=58.0
ISC 22 03:28:20.0±0.4, 1128N±005×8662W±005, h66km±3km, n130, σ1§02/115, mb4.3/44, 14C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.76	89	⇑eP	Pn	03 28 34.9	-0.4
APON	Apoyo	0.83	41	⇑eP	Pn	03 28 36.6	+0.4
MASN	Masaya	0.84	33	⇑eP	Pn	03 28 36.7	+0.4
TICN	Ticuantepe	0.84	27	⇑eP	Pn	03 28 36.7	+0.4
COPN	Copaltepe	0.89	2	⇓iP	Pn	03 28 36.5	-0.5
XAVN	Gruta Xavier	0.91	18	⇑eP	Pn	03 28 37.3	+0.1
MGAN	Managua	0.94	23	⇑eP	Pn	03 28 37.9	+0.4
MGAN				eS	Sn	03 28 54.9	+4.5
MGAN				i		03 29 01.2	
	comp=N,5μm,0.1s						
WILN	Americas 2	0.97	26	⇑eP	Pn	03 28 38.3	+0.4
APYN	Apoyeque	0.98	16	⇓eP	Pn	03 28 38.2	+0.2
CONN	Concepcion	1.01	74	⇑eP	Pn	03 28 38.8	+0.3
MADN	Villa Maderas	1.07	83	⇓eP	Pn	03 28 39.8	+0.6
MOMJ	Momotombo	1.12	4	⇑eP	Pn	03 28 39.4	-0.5
MIRN	Miramar	1.16	356	⇓eP	Pn	03 28 39.5	-0.8
LEON	Leon	1.16	347	⇑eP	Pn	03 28 39.0	-1.3
CNGN	Cerro Negro	1.21	356	⇑eP	Pn	03 28 40.2	-0.8
TEL3	Telica 3	1.30	350	⇑eP	Pn	03 28 41.2	-1.0
RIN3	Volcan Rincon	1.31	112	eP	Pn	03 28 41.0	-1.3
TELN	Telica	1.33	351	eP	Pn	03 28 41.8	-0.8
LIM1	Limonal	1.46	113	⇓eP	Pn	03 28 42.7	-1.6
LIM1				i S	Sn	03 29 03.3	+0.7
CRIN	San Cristobal	1.47	343	⇑eP	Pn	03 28 43.2	-1.3
VCR	Vista de Mar	1.50	140	eP	Pn	03 28 45.1	+0.2
JTS	JuntasAbangare	1.91	121	eS	Sn	03 29 12.4	-1.0
JTS	JuntasAbangare	1.91	121	ePn	Pn	03 28 47.6	-2.7
VACR	Volcan Arenal	2.07	113	eP	Pn	03 28 52.0	-0.5
CAO	Cobano	2.17	136	eP	Pn	03 28 53.9	+0.1
EPA	Esparza	2.37	123	eP	Pn	03 28 56.2	-0.3
CGA2	Cerro Gallo 2	2.46	120	eP	Pn	03 28 56.6	-1.2
POA2	Poas 2	2.57	115	eP	Pn	03 29 00.7	+1.3
VPS2	Volcan Poas 2	2.58	115	eP	Pn	03 28 58.4	-1.0
PRS1	Puriscal	2.61	119	eP	Pn	03 28 58.5	-1.3
BLLM	Bellamira	2.67	324	eP	Pn	03 29 01.3	+0.7
BLLM				eP		03 29 01.7	
VSM	San Miguel	2.68	323	eP	Pn	03 29 02.3	+1.5
LAJ	Bijagual	2.83	120	eP	Pn	03 28 56.5	-6.3
SJS	Escuela Geolog	2.85	118	eP	Pn	03 29 05.2	+2.1
OCM	Ochomogo	2.96	118	⇑eP	Pn	03 29 05.5	+0.9
ICR	Volcan Irazu	3.03	115	eP	Pn	03 29 07.7	+2.1
VTU	Volcan Turrial	3.08	114	eP	Pn	03 29 07.4	+1.2
BUS	Buena Vista	3.30	121	⇓eP	Pn	03 29 08.7	-0.5
LCBS	La Ceiba	3.30	316	eP	Pn	03 29 08.9	-0.3
LFRS	El Faro	3.33	315	eP	Pn	03 29 09.7	0.0
LFRS				eS	Sn	03 29 47.1	-0.9
LBRS	Las Brisas	3.40	316	eP	Pn	03 29 11.4	+0.8
BOQS	Boqueron	3.56	313	eP	Pn	03 29 13.8	+1.0
LIO	Limon	3.75	109	eP	Pn	03 29 16.9	+1.6
RTR	El Retiro	3.94	312	eP	Pn	03 29 18.5	+0.6
RTR				eS	Sn	03 30 02.9	+0.1
IXG	Ixpaco	4.72	308	eP	Pn	03 29 24.1	-4.5
TEIG	Tepich	9.04	350	ePn	Pn	03 30 30.0	+2.4
OTAV	Otavalo	13.65	143	eP	Pn	03 31 34.6	+4.2
	comp=N,16nm,1.4s						
ROSC	El Rosal	13.74	117	P	Pn	03 31 37.8	+6.2
	comp=N,0.2nm,0.3s,baz=287,slow=19,SNR=3.6						
ROSC				LR	LR	03 36 27.7	
	comp=N,394nm,18.2s,baz=339,slow=36						
SDV	Santo Domingo	15.92	97	P	Pn	03 32 00.6	+0.8
	comp=N,0.4nm,0.3s,baz=294,slow=5.3,SNR=15						
SDV	Santo Domingo	15.92	97	eP	Pn	03 31 58.9	-0.9
	comp=N,42nm,1.4s						
HKT	Hockley	20.46	337	eP	P	03 32 52.4	+0.3
	comp=N,110nm,1.6s						
LRAL	Lakeview Retre	21.65	359	eP	P	03 33 06.5	+1.6
	comp=N,16nm,0.9s,mb4.4						
NATX	Nacogdoches	21.69	341	eP	P	03 33 06.0	+0.7
	comp=N,61nm,1.1s,mb4.8						
COW	Cow Castle Cre	22.66	13	eP	P	03 33 17.3	+1.8
JCT	Junction City	22.69	329	eP	P	03 33 16.3	+0.5
	comp=N,11nm,0.8s,mb4.2						
OXF	Oxford	23.26	354	eP	P	03 33 21.2	-0.5
	comp=N,39nm,0.9s,mb4.7						
JSC	Jenkinsville	23.41	11	eP	P	03 33 24.5	+1.4
PLAL	Pickwick Lake	23.63	357	eP	P	03 33 24.9	-0.1
	comp=N,58nm,1.5s,mb4.7						
SWET	Sewanee	23.84	1	eP	P	03 33 27.4	+0.5
UALR	University of	23.96	348	eP	P	03 33 26.8	-1.3
	comp=N,12nm,0.9s,mb4.2						
MIAR	Mount Ida	24.01	346	eP	P	03 33 27.7	-0.8
	comp=N,16nm,0.9s,mb4.4						
CPCT	Cooper Cave	24.14	4	eP	P	03 33 30.8	+1.2
WVT	Waverly	24.76	358	eP	P	03 33 34.5	-0.8
	comp=N,4.3nm,0.7s,mb4.0						
WMOK	Wichita Mounta	25.84	337	eP	P	03 33 45.0	-0.2
	comp=N,48nm,1.1s,mb4.8						
ELN	Prospectdale	26.37	11	eP	P	03 33 51.0	+1.0
GDL2	Guadalupe Moun	26.47	325	eP	P	03 33 51.7	+0.9
MNTX	Cornudas Mount	26.70	322	eP	P	03 33 51.8	-1.1
	comp=N,18nm,1.4s,mb4.4						
WCI	Wyandotte Cave	26.84	1	eP	P	03 33 53.9	-0.3
	comp=N,5.8nm,0.8s,mb4.2						
CCM	Cathedral Cave	26.98	352	eP	P	03 33 53.8	-1.6
	comp=N,23nm,1.2s,mb4.6						
CCM				ePcP	PcP	03 37 16.9	+1.3
KSU1	Kansas State U	29.10	344	eP	P	03 34 13.3	-1.0
LENM	Lemitar	29.40	324	P	P	03 34 18.1	+1.1
ANMO	Albuquerque	29.68	326	P	P	03 34 21.1	+1.6
	comp=N,2.9nm,0.9s,mb3.9,baz=161,slow=6.8,SNR=7.6						
ANMO				PcP	PcP	03 37 24.5	+2.3
	comp=N,1.2nm,0.8s,baz=221,slow=5.3,SNR=4.4						
ANMO	Albuquerque	29.68	326	eP	P	03 34 20.5	+1.0
	comp=N,3.6nm,0.9s,mb4.0						
ANMO				ePcP	PcP	03 37 24.5	+2.3
TUC	Tucson	30.54	317	eP	P	03 34 27.0	0.0
	comp=N,2.8nm,0.9s,mb4.0						
SDCO	Great Sand Dun	31.32	330	eP	P	03 34 34.5	+0.6
	comp=N,3.2nm,0.7s,mb4.2						
LPAZ	La Paz	32.94	146	P	P	03 34 53.2	+5.2
	comp=N,1.4nm,1.1s,mb3.7,baz=269,slow=24,SNR=4.0						
LPAZ				LR	LR	03 48 16.6	
	comp=N,236nm,19.1s,baz=75,slow=36						
LPAZ	La Paz	32.94	146	P	P	03 34 53.2	+5.1
LPAZ				LR	LR	03 48 16.6	
WUAZ	Wupatki	32.95	321	eP	P	03 34 49.2	+1.0
	comp=N,9.6nm,1.0s,mb4.6						
WUAZ				ePcP	PcP	03 37 33.8	+2.8
SMCO	Snowmass	33.16	330	eP	P	03 34 49.7	-0.4
	comp=N,4.2nm,1.0s,mb4.2						
SADO	Sadowa	33.98	10	P	P	03 34 56.6	-0.6
	comp=N,7.9nm,0.9s,mb4.6,baz=197,slow=11,SNR=3.4						
SRU	San Rafael	34.93	327	eP	P	03 35 05.3	-0.1
	comp=N,6.9nm,0.6s,mb4.7						
MSU	Marysvale	35.43	324	eP	P	03 35 11.7	+2.0
MSU				ePcP	PcP	03 37 40.8	+2.7
DAU	Daniels Canyon	36.26	327	eP	P	03 35 17.7	+1.0
DUG	Dugway	36.95	326	eP	P	03 35 21.5	-1.1
	comp=N,6.2nm,1.1s,mb4.5						
SIV	San Ignacio	37.06	137	P	P	03 35 25.1	+1.6
	comp=N,6.5nm,0.8s,mb4.6,baz=313,slow=8.7,SNR=26						
SIV				PcP	PcP	03 37 45.4	+2.4
	comp=N,3.2nm,0.8s,baz=325,slow=5.0,SNR=6.2						
BW06	Boulder Array	37.18	332	eP	P	03 35 24.5	-0.1
	comp=N,1.6nm,0.5s,mb4.2						
BW06				ePcP	PcP	03 37 43.0	-0.4
PDAR	Pinedale Array	37.18	332	P	P	03 35 24.7	+0.1
	comp=N,1.2nm,0.6s,mb4.0,baz=126,slow=9.2,SNR=15						
PDAR				PcP	PcP	03 37 44.2	+0.9
	comp=N,0.8nm,0.7s,baz=146,slow=2.9,SNR=5.8						
HWUT	Hardware Ranch	37.29	329	eP	P	03 35 25.5	0.0
	comp=N,5.5nm,0.7s,mb4.6						
HWUT				ePcP	PcP	03 37 45.7	+2.0
AHID	Auburn Hatcher	37.91	330	eP	P	03 35 30.7	-0.1
	comp=N,4.3nm,0.4s,mb4.6						
REDW	Red Top Meadow	38.25	331	eP	P	03 35 32.9	-0.6
	comp=N,16nm,1.0s,mb4.8						
SNOW	Snow King Moun	38.28	331	eP	P	03 35 33.6	-0.2
	comp=N,8.0nm,0.6s,mb4.7						
LOHW	Long Hollow	38.32	332	eP	P	03 35 34.5	+0.3
	comp=N,2.8nm,0.7s,mb4.2						
MOOW	Moose Ponds	38.49	332	eP	P	03 35 36.6	+1.0
	comp=N,3.4nm,0.9s,mb4.2						
ELK	Elko	38.68	324	eP	P	03 35 37.6	+0.4
	comp=N,3.7nm,1.0s,mb4.2						
ELK				ePcP	PcP	03 37 50.6	+2.6
NVAR	Mina Array Bea	39.11	319	P	P	03 35 42.2	+1.4
	comp=N,1.7nm,0.9s,mb3.9,baz=137,slow=6.1,SNR=12						
NVAR				PcP	PcP	03 37 51.9	+2.6
	comp=N,3.1nm,0.8s,baz=146,slow=3.3,SNR=13						
ULM	Lac du Bonnet	39.59	351	P	P	03 35 42.5	-2.4
	comp=N,9.7nm,0.9s,mb4.6,baz=172,slow=8.7,SNR=20						
HLID	Hailey	40.16	328	eP	P	03 35 49.1	-0.4
	comp=N,4.0nm,1.1s,mb4.2						
HLID				ePcP	PcP	03 37 54.6	+2.0
MCMT	McKenzie Canyo	40.30	331	eP	P	03 35 51.1	+0.5
BOZ	Bozeman (W)	40.35	333	eP	P	03 35 51.4	+0.4
	comp=N,25nm,1.9s,mb4.7						
BOZ				ePcP	PcP	03 37 54.9	+1.7
WVOR	Wild Horse Val	41.72	324	eP	P	03 36 01.5	-0.9
	comp=N,3.3nm,0.8s,mb4.1						
BMO	Blue Mountains	42.55	328	eP	P	03 36 07.6	-1.5
	comp=N,1.9nm,0.7s,mb3.9						
FFC	Flin Flon	45.01	347	eP	P	03 36 27.7	-1.1
	comp=N,11nm,1.4s,mb4.4						
BDFB	Brasilia	46.65	124	P	P	03 36 42.1	+0.3
	comp=N,4.2nm,0.8s,mb4.2,baz=261,slow=9.3,SNR=7.7						
BDFB				LR	LR	03 57 04.1	
	comp=N,583nm,18.1s,baz=202,slow=37						
EDM	Edmonton	46.99	338	eP	P	03 36 43.6	-0.8
CPUP	Villa Florida	47.00	143	eP	P	03 36 42.4	-2.0
	comp=N,11nm,1.0s,mb4.5						
FCC	Fort Churchill	47.72	355	eP	P	03 36 48.2	-1.8
	comp=N,6.4nm,1.1s,mb4.4						
PLCA	Paso Flores	53.84	165	P	P	03 37 40.0	+3.9
	comp=N,2.9nm,0.9s,mb4.3,baz=308,slow=11,SNR=4.2						
YKA	Yellowknife Ar	54.95	345	P	P	03 37 42.6	-1.5
	comp=N,2.2nm,0.9s,mb4.2,baz=136,slow=7.4,SNR=35						
YKA				PcP	PcP	03 38 45.2	-0.1
	comp=N,0.4nm,0.6s,baz=144,slow=4.1,SNR=10						
YKA	Yellowknife Ar	54.95	345	P	P	03 37 42.6	-1.5
YKA				PcP	PcP	03 38 45.2	-0.1
RKT	Rikitea	58.38	234	eS	S	03 46 18.8	+13
	comp=N,241nm,25.5s						
RKT				eLR	LR	03 55 12.0	
	comp=N,175nm,28.0s						
ILAR	Eielson Array	67.41	336	P	P	03 39 07.3	-1.1
	comp=N,1.9nm,1.0s,mb3.9,baz=106,slow=4.4,SNR=14						
ILAR				LR	LR	04 13 58.1	
	comp=N,118nm,18.8s,baz=158,slow=41						
PPT	Papeete	68.46	246	eS	S	03 48 30.1	+18
	comp=N,66nm,24.8s						
PPT				eLR	LR	03 59 41.0	
	comp=N,135nm,24.2s						
PPT	Papeete	68.46	246	LR	LR	04 01 12.0	
	comp=N,208nm,19.3s,baz=84,slow=28						
TBI	Tubuai	70.43	240	eS	S	03 48 52.8	+18
	comp=N,62nm,25.8s						
TBI				eLR	LR	04 00 40.3	
	comp=N,142nm,25.8s						
DBIC	Dimbokro	80.68	85	LR	LR	04 14 31.7	
	comp=N,59nm,18.4s,baz=242,slow=35						
NOA	NORSAR Array B	83.99	29	LR	LR	04 14 18.4	
	comp=N,58nm,19.2s,baz=110,slow=33						
ARCES	ARCESS Array B	87.02	19	LR	LR	04 16 49.3	
	comp=N,67nm,21.4s,baz=118,slow=34						
FINES	FINESS Array B	90.66	26	LR	LR	04 21 11.0	
	comp=N,53nm,18.2s,baz=336,slow=35						
VNA3	Neumayer Olymp	96.45	162	e	pP	03 42 03.1	+2.7
VNA2	Neumayer--Watz	97.08	161	e	pP	03 42 00.2	-3.0
SONM	Songino Array	120.02	350	PKP	PKPdf	03 47 03.9	+0.9
	comp=N,0.8nm,0.7s,baz=336,slow=2.6,SNR=9.3						
MKAR	Makanchi Array	121.34	9	PKP	PKPdf	03 47 05.8	+0.3
	comp=N,0.2nm,0.6s,baz=185,slow=28,SNR=3.4						
WMQ	Urumqi	124.92	5	ePKP	PKPdf	03 47 11.0	-1.4
HHC	Hu-ho-hao-te	125.47	343	ePKP	PKPdf	03 47 07.3	-6.1
HHC				PP	PP	03 49 03.4	-1.6
HHC				PP	PP		
	comp=Z,66nm,6.4s						
GTA	Gaotai	129.22	354	ePKP	PKPdf	03 47 22.5	+1.9
STKA	Stephens Creek	131.16	237	PKP	PKPdf	03 47 27.6	+3.3
	comp=Z,1.3nm,0.8s,baz=68,slow=4.2,SNR=3.4						
LZH	Lanzhou	131.87	349	ePKP	PKPdf	03 47 23.5	-2.1
CD2	Chengdu	136.88	347	ePKP	PKPdf	03 47 30.4	-4.6
ASAR	Alice Springs	139.57	247	PKP	PKPdf	03 47 41.0	+1.0
	comp=Z,1.1nm,1.0s,baz=123,slow=2.7,SNR=4.2						
WRA	Warramunga Arr	139.71	252	PKP	PKPdf	03 47 41.6	+1.4
	comp=Z,1.4nm,0.8s,baz=86,slow=1.6,SNR=6.9						

VIE 22 03:38:59.9±0.1, 4764N×1370E, h7km±4km, Error ellipse: s-maj=0.9km s-min=0.7km az=5.0, felt 4 EMS98 at Altaussee / STYRIA 5 km ENE of Sankt Agatha
CSEM 22 03:39:00.4±0.1, 4761N×1385E, h2km, ML3.2/7, Error ellipse: s-maj=1.5km s-min=1.2km az=154.0
NEIC 22 03:39:00.9±0.5, 4765N×1376E, h10km, ML2.8(SZGRF), ML3.0(BRG), Error ellipse: s-maj=6.5km s-min=5.6km az=128.0
ISCJB 22 03:39:00.0±0.2, 4769N±001×1371E±002, h10km, Error ellipse: s-maj=2.1km s-min=1.9km az=120.0
IPEC 22 03:39:00.9±0.1, 4760N×1386E, h3km±1km, ML2.7/1, Error ellipse: s-maj=1.1km s-min=0.6km az=148.0
LDG 22 03:39:01.5±99.0, 4767N×1386E, h10km, Ml3.3/4, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
BGR 22 03:39:01.2±0.3, 4763N×1380E, h10km, ML2.8/10, Error ellipse: s-maj=4.4km s-min=3.3km az=99.0
PRU 22 03:39:02.6, 4773N×1386E, h0km
ISC 22 03:39:01.1±0.2, 4766N±001×1375E±002, h10km, n109, σ1§21/175, 18C-18D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	Molin	0.40	62	⇑Sg	Sg	03 39 14.3	+0.1
	comp=E,247nm,0.6s						
MOA	Molin	0.40	62	⇓iPg	Pg	03 39 08.1	-0.7
	63nm,0.3s,SNR=216						
MOA				⇑iSg	Sg	03 39 14.3	+0.1
	247nm,0.6s						
MOA	Molin	0.40	62	ePg	Pg	03 39 08.3	-0.6
	SNR=26						
MOA	Molin	0.40	62	⇓iPg	Pg	03 39 08.1	-0.8
MOA				Sg	Sg	03 39 14.3	+0.1
BGLD	Berchtesgaden	0.49	269	⇓iPg	Pg	03 39 09.0	-1.7
KBA	Koelnbreinsper	0.65	205	⇓Sg	Sg	03 39 20.8	-1.2
	comp=E,119nm,0.5s						
KBA	Koelnbreinsper	0.65	205	⇓iPg	Pg	03 39 12.2	-1.4
	26nm,0.4s,SNR=25						
KBA				⇓iSg	Sg	03 39 20.8	-1.2
	119nm,0.5s						
KBA	Koelnbreinsper	0.65	205	ePg	Pg	03 39 12.3	-1.3
	SNR=53						
KBA				eSg	Sg	03 39 20.7	-1.3
KBA	Koelnbreinsper	0.65	205	⇓iPg	Pg	03 39 12.2	-1.4
KBA				Sg	Sg	03 39 20.8	-1.2
GEC2	GERESS Array S	1

WET	**Wettzell**	**1.59 339**	*e*Pn	**Pn**	**03 39 30.4**	**+1.1**
WET			*e*Sg	**Sg**	**03 39 52.7**	**+0.5**
VOY	**Vojsko**	**1.64 176**	*e*Pn	**Pn**	**03 39 32.7**	**+2.8**
VOY			*e*Sn	**Sn**	**03 39 56.1**	**+5.1**
BRES	**Bressanone**	**1.68 236**	Pn	**Pn**	**03 39 32.0**	**+1.5**
FUR	**Furstenfeldbru**	**1.73 288**	*e*Pg	**Pg**	**03 39 33.8**	**-0.5**
	SNR=6.8					
FUR			*e*Sg	**Sg**	**03 39 57.4**	**+0.6**
SQTA	**Sankt Quirin**	**1.78 257**	⇓Sg	**Sg**	**03 39 57.6**	**-0.6**
	comp=Z,71nm,0.5s					
SQTA	**Sankt Quirin**	**1.78 257**	⇓*e*Pg	**Pg**	**03 39 33.4**	**-1.8**
	13nm,0.2s,SNR=25					
SQTA			⇓*i*Sg	**Sg**	**03 39 57.6**	**-0.6**
	71nm,0.5s					
SQTA	**Sankt Quirin**	**1.78 257**	*e*Pn	**Pn**	**03 39 33.2**	**+1.4**
SQTA			*e*Sg	**Sg**	**03 39 58.5**	**+0.3**
SQTA	**Sankt Quirin**	**1.78 257**	⇓*e*Pg	**Pg**	**03 39 33.4**	**-1.8**
SQTA			Sg	**Sg**	**03 39 57.6**	**-0.6**
JAVS	**Javornik**	**1.78 173**	*i* Pn	**Pn**	**03 39 33.4**	**+1.5**
MOTA	**Moosalm**	**1.82 261**	⇓Sg	**Sg**	**03 39 59.3**	**-0.2**
	comp=Z,63nm,0.4s					
MOTA	**Moosalm**	**1.82 261**	⇑*i*Pg	**Pg**	**03 39 33.8**	**-2.1**
	22nm,0.4s,SNR=43					
MOTA			⇓*i*Sg	**Sg**	**03 39 59.3**	**-0.2**
	63nm,0.4s					
MOTA	**Moosalm**	**1.82 261**	*e*(Pn)	**Pn**	**03 39 33.8**	**+1.4**
	SNR=2.9					
MOTA	**Moosalm**	**1.82 261**	Pn	**Pn**	**03 39 33.8**	**+1.4**
	SNR=2.9					
MOTA			*e*Sg	**Sg**	**03 40 00.6**	**+1.1**
MOTA	**Moosalm**	**1.82 261**	⇑*i*Pg	**Pn**	**03 39 33.8**	**+1.4**
MOTA			Sg	**Sg**	**03 39 59.3**	**-0.3**
PDKS	**Podkum**	**1.82 151**	*i* Pn	**Pn**	**03 39 34.8**	**+2.4**
VKA	**Vienna**	**1.83 70**	*i* Pg	**Pg**	**03 39 36.3**	**+0.1**
VKA			*i* Sg	**Sg**	**03 40 02.4**	**+2.4**
SOP	**Sopron**	**1.90 88**	⇑*i*Pg	**Pg**	**03 39 35.8**	**-1.7**
SOP			*e*Sg	**Sg**	**03 40 02.7**	**+0.5**
SOP	**Sopron**	**1.90 88**	*e*S	**Sg**	**03 40 02.7**	**+0.5**
TREC	**Trest**	**2.00 35**	*e*Pn	**Pn**	**03 39 36.0**	**+1.1**
APPI	**Appiano**	**2.09 236**	Pn	**Pn**	**03 39 38.1**	**+2.0**
CTI	**Castel Tesino**	**2.16 222**	Pn	**Pn**	**03 39 40.4**	**+3.3**
KRUC	**Moravsky**	**2.25 51**	*e*Pn	**Pn**	**03 39 38.8**	**+0.4**
KRUC			*e*Sg	**Sg**	**03 40 10.9**	**-2.6**
	38nm,0.6s					
ZST	**Bratislava**	**2.32 75**	*e*PG	**Pg**	**03 39 42.5**	**-3.1**
ZST			*e*SG	**Sg**	**03 40 14.8**	**-0.8**
ROTZ	**Rotzenmuhle**	**2.34 335**	*e*Pn	**Pn**	**03 39 39.6**	**0.0**
PRU	**Pruhonice**	**2.39 12**	*e*PG	**Pg**	**03 39 43.9**	**-2.9**
PRU			*e*SG	**Sg**	**03 40 16.1**	**-1.6**
	26nm,0.5s					
VRAC	**Vranov**	**2.51 48**	*e*Pn	**Pn**	**03 39 42.3**	**+0.4**
VRAC			*e*Sg	**Sg**	**03 40 16.8**	**-4.9**
MANZ	**Manzenberg**	**2.56 336**	*e*Pn	**Pn**	**03 39 43.7**	**+1.0**
BRMO	**Bormio**	**2.59 244**	Pn	**Pn**	**03 39 47.7**	**+4.7**
FUORN	**Ofenpass**	**2.59 248**	Pn	**Pn**	**03 39 44.3**	**+1.2**
SMOL	**Smolenice**	**2.61 70**	*e*PG	**Pg**	**03 39 48.1**	**-3.0**
SMOL			*e*SG	**Sg**	**03 40 24.1**	**-0.9**
GRA1	**Grafenberg Arr**	**2.63 321**	Pg	**Pg**	**03 39 52.0**	**+0.5**
	SNR=8.9					
GRA1			Sg	**Sg**	**03 40 25.4**	**-0.2**
GRF	**Grafenberg Arr**	**2.63 321**	*e*Pg	**Pg**	**03 39 52.0**	**+0.5**
	SNR=8.9					
GRF			*e*Sg	**Sg**	**03 40 25.4**	**-0.1**
DAVA	**Damuels**	**2.65 263**	⇑Sg	**Sg**	**03 40 26.4**	**+0.3**
	comp=E,22nm,0.4s					
DAVA	**Damuels**	**2.65 263**	⇑*i*Pn	**Pn**	**03 39 45.5**	**+1.7**
DAVA			⇑*i*Sg	**Sg**	**03 40 26.4**	**+0.3**
	22nm,0.4s					
DAVA	**Damuels**	**2.65 263**	*e*Pn	**Pn**	**03 39 46.0**	**+2.2**
	SNR=11					
DAVA	**Damuels**	**2.65 263**	⇑Pn	**Pn**	**03 39 45.5**	**+1.7**
DAVA			Sg	**Sg**	**03 40 26.4**	**+0.3**
NKC	**Novy Kostel**	**2.71 342**	*e*PG	**Pg**	**03 39 52.2**	**-0.8**
NKC			*e*SG	**Sg**	**03 40 28.0**	**-0.2**
	54nm,0.6s					
TANN	**Tannenbergstha**	**2.88 343**	*e*Pn	**Pn**	**03 39 47.7**	**+0.7**
TANN			*e*Sg	**Sg**	**03 40 33.4**	**-0.2**
WERD	**Werda**	**2.94 342**	*e*Pn	**Pn**	**03 39 49.2**	**+1.3**
	SNR=3.8					
WERD			*e*Pg	**Pg**	**03 39 57.1**	**-0.3**
DPC	**Dobruska-Polom**	**3.18 31**	*e*SG	**Sg**	**03 40 42.5**	**-0.7**
	65nm,0.9s					
UPC	**Upice**	**3.21 27**	*e*PG	**Pg**	**03 40 00.9**	**-1.7**
BRG	**Berggiesshubel**	**3.22 2**	*e*Pn	**Pn**	**03 39 51.8**	**+0.2**
BRG			*e*Sg	**Sg**	**03 40 44.1**	**-0.3**
BRG	**Berggiesshubel**	**3.22 2**	PN	**Pn**	**03 39 52.4**	**+0.7**
BRG			PG	**Pg**	**03 40 00.1**	**-2.6**
BRG			SN	**Sn**	**03 40 31.2**	**+1.3**
BRG			SG	**Sg**	**03 40 44.2**	**-0.2**
	27nm,0.8s					
FBE	**Freiberg**	**3.27 356**	*e*Pn	**Pn**	**03 39 52.9**	**+0.6**
FBE			*e*Sn	**Sn**	**03 40 32.3**	**+0.9**
MORC	**Moravsky Berou**	**3.29 49**	*e*Pn	**Pn**	**03 39 53.6**	**+1.0**
MORC	**Moravsky Berou**	**3.29 49**	*e*Pg	**Pg**	**03 40 00.8**	**-3.2**
MOX	**Moxa**	**3.29 336**	*e*Pn	**Pn**	**03 39 53.5**	**+0.8**
	SNR=4.3					
MOX			*e*Sn	**Sn**	**03 40 31.8**	**-0.1**
MOX	**Moxa**	**3.29 336**	*e*PN	**Pn**	**03 39 53.5**	**+0.8**
MOX			*e*SN	**Sn**	**03 40 31.8**	**-0.1**
MOX	**Moxa**	**3.29 336**	*e*Pn	**Pn**	**03 39 53.5**	**+0.8**
MOX			*e*Sn	**Sn**	**03 40 31.8**	**-0.1**
CLL	**Collm**	**3.68 353**	*i* Pn	**Pn**	**03 40 00.5**	**+2.5**
CLL			*e*Pg	**Pg**	**03 40 11.0**	**-0.6**
CLL			*i* Sn	**Sn**	**03 40 45.3**	**+3.9**
CLL			*i* Sg	**Sg**	**03 40 59.4**	**+0.1**
	comp=Z,27nm,0.7s					
BFO	**Black Forest**	**3.70 282**	*e*Pn	**Pn**	**03 39 58.8**	**+0.6**
	SNR=4.5					
BFO	**Black Forest**	**3.70 282**	*e*Pn	**Pn**	**03 39 58.2**	**-0.1**
BFO			*e*Pg	**Pg**	**03 40 13.2**	**+1.3**
BFO			*e*Sg	**Sg**	**03 41 01.1**	**+1.3**
TNS	**Taunus Mts**	**4.33 308**	*e*Pn	**Pn**	**03 40 08.3**	**+1.4**
	SNR=7.2					
CDF	**Champ du Feu**	**4.40 282**	*e*Pn	**Pn**	**03 40 07.7**	**-0.3**
CDF	**Champ du Feu**	**4.40 282**	*e*Pg	**Pg**	**03 40 23.8**	**-1.6**
CDF			*e*Sg	**Sg**	**03 41 21.1**	**-1.4**
	comp=Z,47nm,1.0s					
CDF	**Champ du Feu**	**4.40 282**	*e*Pg	**Pg**	**03 40 23.8**	**-1.6**
CDF			*e*Sg	**Sg**	**03 41 21.1**	**-1.4**
	comp=Z,24nm,1.0s					
HINF	**Hinteralfeld**	**4.65 274**	*e*Pn	**Pn**	**03 40 11.0**	**-0.4**
HINF			*e*Sn	**Sn**	**03 41 02.0**	**-3.4**
HINF			*e*Sg	**Sg**	**03 41 28.7**	**-1.8**
	comp=Z,15nm,0.7s					
HINF	**Hinteralfeld**	**4.65 274**	*e*Pn	**Pn**	**03 40 11.0**	**-0.4**
HINF			*e*Sn	**Sn**	**03 41 02.0**	**-3.4**
HINF			*e*Sg	**Sg**	**03 41 28.7**	**-1.8**
	comp=Z,7.7nm,0.7s					
HAU	**Haudompre**	**4.99 277**	*e*Pn	**Pn**	**03 40 15.2**	**-0.9**
HAU	**Haudompre**	**4.99 277**	*e*Pg	**Pg**	**03 40 35.3**	**-1.4**
HAU			*e*Sg	**Sg**	**03 41 40.1**	**-1.3**
	comp=Z,11nm,0.5s					
HAU	**Haudompre**	**4.99 277**	*e*Pg	**Pg**	**03 40 35.3**	**-1.4**
HAU			*e*Sg	**Sg**	**03 41 40.1**	**-1.3**
	comp=Z,5.6nm,0.5s					
LPG	**La Plagne**	**5.29 248**	*e*Pn	**Pn**	**03 40 19.5**	**-0.6**
LPG	**La Plagne**	**5.29 248**	*e*P	**Pn**	**03 40 24.1**	**+4.0**
LPG	**La Plagne**	**5.29 248**	*e*P	**Pn**	**03 40 24.1**	**+4.0**
CABF	**La Chapelle**	**5.33 261**	*e*Pn	**Pn**	**03 40 20.1**	**-0.6**
MBDF	**Montbardon**	**5.66 241**	*e*Pn	**Pn**	**03 40 24.6**	**-0.6**
MBDF	**Montbardon**	**5.66 241**	*e*P	**Pn**	**03 40 29.1**	**+3.9**
MBDF	**Montbardon**	**5.66 241**	*e*P	**Pn**	**03 40 29.1**	**+3.9**
SMRF	**Simiane la Rot**	**6.79 240**	*e*Pn	**Pn**	**03 40 40.6**	**-0.2**
AVF	**Avril sur Loir**	**7.13 267**	*e*Pn	**Pn**	**03 40 46.3**	**+0.9**
BGF	**Bois d'Agland**	**7.52 266**	*e*Pn	**Pn**	**03 40 50.5**	**-0.2**

ISCJB ***22*** *04:04:01.6±0.4, 4180N±002×2190E±002, h2km±5km, Error ellipse: s-maj=3.7km s-min=2.7km az=21.8*
CSEM ***22*** *04:04:01.8±0.1, 4185N×2192E, h5km, ML2.5, Error ellipse: s-maj=1.8km s-min=1.3km az=2.0*
SKO ***22*** *04:04:01.5, 4182N×2192E, h12km, M2.1, ML2.5*
THE ***22*** *04:04:03.1, 4178N×2195E, h1km, ML2.6*

ISC 22 04:04:02.3±0.4, 4181N±003×2190E±002, h4km±5km, n32, σ0°78/59, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.25**	**118**	⇑*i*Pg	**Pg**	**04 04 06.7**	**-0.4**
STIP				*e*Sg	**Sg**	**04 04 10.7**	**+0.3**
STIP				*e*Lg		04 04 10.8	
	comp=E,345nm,0.4s						
STIP				*e*Lg		04 04 10.9	
	comp=N,962nm,0.4s						
STIP	**Stip**	**0.25**	**118**	⇑*i*Pg	**Pg**	**04 04 06.7**	**-0.4**
STIP				*e*Sg	**Sg**	**04 04 10.6**	**+0.3**
SKO	**Skopje**	**0.38**	**296**	*e*Pg	**Pg**	**04 04 10.0**	**+0.5**
SKO				*e*Sg	**Sg**	**04 04 15.1**	**+0.7**
SKO	**Skopje**	**0.38**	**296**	*i* Pg	**Pg**	**04 04 09.8**	**+0.2**
SKO				*e*Sg	**Sg**	**04 04 15.2**	**+0.8**
SKO				*e*Lg		04 04 15.3	
	comp=E,326nm,0.3s						
SKO				*e*Lg		04 04 15.7	
	comp=N,312nm,0.4s						
SKO	**Skopje**	**0.38**	**296**	*i* Pg	**Pg**	**04 04 09.7**	**+0.2**
SKO				*e*Sg	**Sg**	**04 04 15.2**	**+0.8**
BELI	**Belica**	**0.48**	**255**	*i* Pg	**Pg**	**04 04 09.6**	**-1.9**
BELI				*i* Sg	**Sg**	**04 04 17.5**	**-0.3**
KOZJ	**Kozjak Brana**	**0.53**	**278**	*e*Pg	**Pg**	**04 04 11.8**	**-0.6**
KOZJ				*i*		04 04 12.2	
KOZJ				*i*		04 04 19.1	
KOZJ				*i* Sg	**Sg**	**04 04 19.3**	**+0.1**
SAMO	**Samokov**	**0.58**	**259**	*e*Pg	**Pg**	**04 04 13.1**	**-0.3**
SAMO				*i*		04 04 13.2	
SAMO				*i* Sg	**Sg**	**04 04 20.8**	**-0.1**
VAY	**Valandovo**	**0.70**	**134**	*e*Pg	**Pg**	**04 04 15.0**	**-0.8**
VAY				*e*Sg	**Sg**	**04 04 24.6**	**-0.3**
VAY	**Valandovo**	**0.70**	**134**	⇑*i*Pg	**Pg**	**04 04 15.0**	**-0.8**
VAY				*e*Sg	**Sg**	**04 04 25.4**	**+0.5**
VAY				*e*Lg		04 04 26.0	
	comp=E,206nm,0.5s						
VAY				*e*Lg		04 04 26.1	
	comp=N,256nm,0.5s						
VAY	**Valandovo**	**0.70**	**134**	⇑*i*Pg	**Pg**	**04 04 15.0**	**-0.8**
VAY				*e*Sg	**Sg**	**04 04 25.4**	**+0.5**
KKB	**Krupnik**	**0.89**	**86**	*i* Pg	**Pg**	**04 04 20.0**	**+0.6**
KKB				*i* Sg	**Sg**	**04 04 32.0**	**+1.1**
BIA	**Bitola**	**0.90**	**209**	*e*Pg	**Pg**	**04 04 19.6**	**0.0**
BIA				*e*Sg	**Sg**	**04 04 32.5**	**+1.4**
BIA	**Bitola**	**0.90**	**209**	*i* Pg	**Pg**	**04 04 19.5**	**0.0**
BIA				*e*Sg	**Sg**	**04 04 31.9**	**+0.7**
BIA				*e*Lg		04 04 32.4	
	comp=E,127nm,0.3s						
BIA				*e*Lg		04 04 32.7	
	comp=N,149nm,0.3s						
BIA	**Bitola**	**0.90**	**209**	*e*Pg	**Pg**	**04 04 19.6**	**+0.1**
BIA				*e*Sg	**Sg**	**04 04 32.5**	**+1.3**
GRG	**Griva**	**0.93**	**156**	*e*Pg	**Pg**	**04 04 20.1**	**-0.2**
GRG				*e*Sg	**Sg**	**04 04 32.5**	**+0.2**
GRG	**Griva**	**0.93**	**156**	*e*Pg	**Pg**	**04 04 20.0**	**-0.2**
GRG				*e*Sg	**Sg**	**04 04 32.5**	**+0.2**
KNT	**Kendrikon**	**0.99**	**130**	*e*Pg	**Pg**	**04 04 20.6**	**-0.8**
	comp=N,6.0nm,0.6s						
KNT				*e*Sg	**Sg**	**04 04 34.6**	**+0.4**
OHR	**Ohrid**	**1.08**	**230**	*e*Pg	**Pg**	**04 04 22.6**	**-0.4**
OHR				*e*Sg	**Sg**	**04 04 37.3**	**+0.3**
OHR	**Ohrid**	**1.08**	**230**	*e*Pg	**Pg**	**04 04 23.0**	**0.0**
FNA	**Florina**	**1.10**	**201**	*e*Pg	**Pg**	**04 04 23.4**	**0.0**
	comp=N,6.0nm,0.6s						
FNA				*e*Sg	**Sg**	**04 04 39.3**	**+1.8**
VTS	**Vitosha**	**1.25**	**51**	*e*Pg	**Pg**	**04 04 26.1**	**-0.1**
VTS				*e*Sg	**Sg**	**04 04 44.0**	**+1.5**
VTS	**Vitosha**	**1.25**	**51**	*i* P	**Pg**	**04 04 25.5**	**-0.7**
VTS	**Vitosha**	**1.25**	**51**	*e*Pg	**Pg**	**04 04 26.1**	**-0.1**
VTS				*i* S	**Sg**	**04 04 42.0**	**-0.5**
VTS				*e*Sg	**Sg**	**04 04 44.0**	**+1.5**
MMB	**Musomiste**	**1.39**	**99**	*i* P	**Pn**	**04 04 28.0**	**-0.4**
MMB				*i* S	**Sb**	**04 04 47.0**	**+0.1**
SRS	**Serrai**	**1.45**	**118**	*e*Pg	**Pg**	**04 04 29.0**	**-1.2**
SOH	**Sokhos**	**1.48**	**131**	*e*Pg	**Pg**	**04 04 29.5**	**-1.1**
SOH				*e*Sg	**Sg**	**04 04 49.4**	**-0.4**
LIT	**Litokhoron**	**1.77**	**165**	*e*Pb	**Pb**	**04 04 33.8**	**-1.4**
MEV	**Metsovon**	**2.08**	**194**	*e*Pn	**Pn**	**04 04 38.4**	**+0.5**
PAIG	**Paliouri**	**2.32**	**144**	*e*Pn	**Pn**	**04 04 41.3**	**+0.1**
PAIG				*e*Sn	**Sn**	**04 05 10.7**	**+0.6**
XOR	**Xorichti**	**2.63**	**158**	*e*Pn	**Pn**	**04 04 46.0**	**+0.5**
DIVS	**Divcibare**	**2.68**	**329**	*i* Pn	**Pn**	**04 04 45.4**	**-0.7**
DIVS				Sg	**Sg**	**04 05 31.7**	**+3.4**

IDC 22 04:37:03.2±1.4, 019N×12678E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=135.6km s-min=21.1km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.33**	**160**	P	P	04 41 51.0	-0.7
	0.7nm,0.7s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.70**	**164**	P	P	04 42 27.0	+1.1
	0.7nm,0.5s,baz=344,slow=11,SNR=11						
SONM	**Songino Array**	**50.66**	**342**	P	P	04 46 04.7	+0.6
	0.2nm,0.4s,baz=152,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**60.49**	**326**	P	P	04 47 14.7	-0.2
	0.8nm,0.4s,baz=118,slow=7.7,SNR=25						

NIED ***22*** *04:37:00, 3560N×140.10E, h68km, Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φ=108.00000°, δ=75.00000°, λ=-45.00000°. NP2:φ=212.00000°, δ=47.00000°, λ=-160.00000°.*
NAO ***22*** *04:37:02.2, 3263N×14172E, h33km, mb3.9*
MOS ***22*** *04:37:19.2±1.5, 3553N×14031E, h33km, mb4.4/13, Error ellipse: s-maj=13.8km s-min=8.7km az=111.4*
JMA ***22*** *04:37:23.9±0.2, 3561N×140.10E, h71km±2km, M4.1*
JMA Felt II J1.
ISCJB ***22*** *04:37:24.0±0.3, 3552N±003×14004E±004, h74km±3km, mb4.0/39, Error ellipse: s-maj=6.4km s-min=4.5km az=122.7*
IDC ***22*** *04:37:24.3±1.2, 3547N×140.14E, h65km±12km, mb3.7/17, mb1 3.9/19, mb1mx3.9/24, mbtmp4.1/19, MS3.0/1, Ms1 3.0/1, ms1mx2.1/25, Error ellipse: s-maj=16.3km s-min=5.9km az=67.0*
NEIC ***22*** *04:37:24.8±0.8, 3552N×140.05E, h67km±7km, mb4.1/22, Error ellipse: s-maj=7.4km s-min=6.0km az=111.0*
NEIC Recorded [2 JMA] in Saitama and Tokyo; [1 JMA] in Chiba, Ibaraki, Kanagawa, Shizuoka and Tochigi Prefectures.

ISC 22 04:37:24.8±0.3, 3553N±003×14006E±004, h67km±3km, n84, σ0°84/97, mb4.0/39, 2C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**134**	⇓P	**Pn**	**04 37 35.4**	**+0.6**
JCN				S	**Sn**	**04 37 44.1**	**+1.9**
TOK	**Tokyo**	**0.29**	**302**	⇓P	**Pn**	**04 37 35.8**	**+0.3**
BSO3	**Boso 3**	**0.82**	**153**	⇓P	**Pn**	**04 37 40.6**	**-0.3**
JOD2	**Odawara 2**	**0.84**	**251**	⇓P	**Pn**	**04 37 41.1**	**0.0**
JOD2				S	**Sn**	**04 37 53.1**	**0.0**
JIM2	**Oshima 3**	**0.96**	**212**	P	**Pn**	**04 37 42.2**	**-0.4**
JIM2				S	**Sn**	**04 37 56.2**	**+0.3**
JAG	**Ashikaga**	**1.01**	**331**	⇑P	**Pn**	**04 37 42.5**	**-0.8**
JAG				S	**Sn**	**04 37 56.0**	**-1.0**
JRY	**Ryogami san**	**1.05**	**297**	⇓P	**Pn**	**04 37 44.0**	**+0.2**
JRY				S	**Sn**	**04 37 58.9**	**+1.0**
BSO1	**Boso 1**	**1.16**	**139**	P	**Pn**	**04 37 44.2**	**-0.9**
BSO1				S	**Sn**	**04 38 00.2**	**-0.1**
JYN	**Shimob**	**1.23**	**269**	⇓P	**Pn**	**04 37 46.0**	**-0.1**
JYN				S	**Sn**	**04 38 02.5**	**+0.4**
JIZS	**Izushimoda**	**1.26**	**230**	⇓P	**Pn**	**04 37 46.7**	**+0.2**
JIZS				S	**Sn**	**04 38 03.2**	**+0.5**
JKT	**Katashina**	**1.39**	**332**	⇑P	**Pn**	**04 37 47.3**	**-0.9**
JKT				S	**Sn**	**04 38 04.0**	**-1.8**
JMY	**Miyakejima3**	**1.53**	**197**	P	**Pn**	**04 37 49.7**	**-0.3**
MJAR	**Matsushiro Arr**	**1.80**	**304**	P	**Pn**	**04 37 53.7**	**+0.1**
	34nm,0.3s,baz=131,slow=14,SNR=147						
MJAR				S	**Sn**	**04 38 17.2**	**+1.6**
	66nm,0.3s,baz=138,slow=17,SNR=18						
MAJO	**Matsushiro**	**1.81**	**304**	*e*P	**Pn**	**04 37 54.0**	**+0.3**
MAT	**Matsushiro**	**1.81**	**304**	P	**Pn**	**04 37 53.8**	**+0.1**
MAT				S	**Sn**	**04 38 14.6**	**-1.1**
MAT	**Matsushiro**	**1.81**	**304**	P	**Pn**	**04 37 54.0**	**+0.3**
MAT				*e*S	**Sn**	**04 38 12.0**	**-3.7**
JHJ	**Hachijo jima 2**	**2.42**	**185**	P	**Pn**	**04 38 02.4**	**+0.3**
	137nm,0.3s,baz=66,slow=8.1,SNR=21						
JHJ				S	**Sn**	**04 38 28.6**	**-1.9**
	299nm,0.3s,baz=67,slow=23,SNR=12						
JHJ				LR	LR	04 38 34.6	
	comp=Z,340nm,20.9s,baz=246,slow=30						
CBIJ	**Chichi jima**	**8.61**	**167**	P	**Pn**	**04 39 23.4**	**-3.2**
	32nm,0.3s,baz=348,slow=9.8,SNR=17						
CBIJ				S	**Sn**	**04 40 54.6**	**-7.4**
	7.5nm,0.3s,baz=282,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**8.79**	**12**	P	**Pn**	**04 39 23.7**	**-5.4**
	2.3nm,0.3s,baz=180,slow=16,SNR=4.4						
ASAJ				S	**Sn**	**04 41 00.5**	**-6.1**
	1.4nm,0.3s,baz=137,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**8.79**	**12**	P	**Pn**	**04 39 23.7**	**-5.4**
ASAJ				S	**Sn**	**04 41 00.5**	**-6.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM	**Songino Array**	**27.76**	**307**	P	**P**	**04 43 07.2**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.2,baz=102,slow=8.7,SNR=4.0						
BOD	**Bodaibo**	**28.25**	**330**	*e*P	**P**	**04 43 07.2**	**-4.3**
ZAL	**Zalesovo**	**42.15**	**314**	P	**P**	**04 45 10.7**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=5.7,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**44.00**	**303**	P	**P**	**04 45 25.2**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=89,slow=10,SNR=10						
KURK	**Kurchatov**	**46.01**	**309**	*e*P	**P**	**04 45 41.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**46.01**	**309**	*e*P	**P**	**04 45 41.0**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.2						
KDAK	**Kodiak Island**	**48.95**	**41**	P	**P**	**04 46 03.1**	**-1.2**
	comp=Z,10.0nm,0.8s,mb4.8,baz=349,slow=18,SNR=8.2						
BVAR	**Borovoye Array**	**50.78**	**313**	P	**P**	**04 46 19.2**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=93,slow=6.4,SNR=4.4						
COLA	**College**	**50.93**	**32**	*e*P	**P**	**04 46 19.0**	**-0.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
COLA	**College**	**50.93**	**32**	*e*P	**P**	**04 46 19.0**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**51.34**	**32**	P	**P**	**04 46 21.9**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.1,baz=268,slow=5.8,SNR=20						
ZRNK	**Zerenda**	**51.62**	**313**	*e*P	**P**	**04 46 25.0**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**51.62**	**313**	*e*P	**P**	**04 46 24.9**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**55.06**	**197**	*e*P	**P**	**04 46 50.2**	**+0.5**
	comp=Z,6.2nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**55.43**	**187**	*e*P	**P**	**04 46 52.2**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**55.43**	**187**	*e*P	**P**	**04 46 52.2**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**55.44**	**187**	*e*P	**P**	**04 46 51.5**	**-0.9**
WRA	**Warramunga Arr**	**55.44**	**187**	P	**P**	**04 46 51.6**	**-0.8**
	comp=Z,3.2nm,0.5s,mb4.6,baz=0.5,slow=7.5,SNR=75						
INK	**Inuvik**	**56.22**	**27**	P	**P**	**04 46 57.6**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=283,slow=6.6,SNR=13						
INK	**Inuvik**	**56.22**	**27**	*e*P	**P**	**04 46 57.7**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**56.22**	**27**	*e*P	**P**	**04 46 57.7**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1						
ARU	**Arti**	**56.76**	**319**	*e*P	**P**	**04 47 01.3**	**-0.5**
ARU	**Arti**	**56.76**	**319**	*e*P	**P**	**04 47 01.3**	**-0.5**
ASAR	**Alice Springs**	**59.16**	**187**	P	**P**	**04 47 19.4**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.9,baz=360,slow=7.0,SNR=20						
MBWA	**Marble Bar**	**59.58**	**202**	*e*P	**P**	**04 47 21.1**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.6						
RES	**Resolute Bay**	**64.32**	**14**	*e*P	**P**	**04 47 52.2**	**-1.1**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
RES	**Resolute Bay**	**64.32**	**14**	*e*P	**P**	**04 47 52.2**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**04 47 57.4**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.0,baz=13,slow=8.3,SNR=5.8						
YKW3	**Yellowknife Ar**	**65.61**	**29**	*e*P	**P**	**04 48 00.8**	**-0.8**
**YK

WRA				Sn	Sn	05 33 49.9	+0.4
	3.1nm,0.3s,baz=316,slow=23,SNR=15						
WRAB	**Tennant Creek**	**14.32**	**140**	*e*Pn	**Pn**	05 31 18.0	+6.0
	21nm,0.6s						
WRAB				*e*Sn	**Sn**	05 33 47.2	-2.3
WB2	**Warramunga Arr**	**14.32**	**140**	*e*P	**Pn**	05 31 17.7	+5.6
WB2				*e*S	**Sn**	05 33 50.5	+0.8
ASPA	**Alice Springs**	**17.00**	**149**	*e*P	**Pn**	05 31 52.9	+6.0
ASPA				*e*S	**S**	05 34 52.4	-11
AS31	**Alice Springs**	**17.00**	**149**	*e*P	**Pn**	05 31 52.9	+6.0
AS31				*e*S	**S**	05 34 52.4	-11
ASAR	**Alice Springs**	**17.00**	**149**	P	**Pn**	05 31 52.4	+5.5
	0.6nm,0.3s,baz=323,slow=12,SNR=39						
ASAR				S	**S**	05 34 54.2	-10
	0.5nm,0.3s,baz=311,slow=19,SNR=8.5						
KKM	**Kota Kinabalu**	**17.21**	**331**	P	**Pn**	05 31 56.9	+7.4
PMG	**Port Moresby**	**22.28**	**93**	*e*P	pP	05 33 02.2	+6.9
CTA	**Charters Tower**	**23.61**	**120**	P	pP	05 33 07.9	-1.5
	9.7nm,0.9s,baz=294,slow=13,SNR=5.3						
CTAO	**Charters Tower**	**23.61**	**120**	*e*P	**P**	05 32 56.3	-3.4
	12nm,0.9s,mb4.3						
CTAO				*e*		05 33 07.8	
STKA	**Stephens Creek**	**27.62**	**148**	*e*P	**P**	05 33 39.8	+3.8
	2.3nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**27.62**	**148**	P	**P**	05 33 40.2	+4.2
	2.0nm,0.6s,mb4.0,baz=283,slow=7.3,SNR=5.5						
ENH	**Enshi**	**41.76**	**340**	*e*P	**P**	05 35 41.9	+4.2
	24nm,0.7s,mb4.9						
MJAR	**Matsushiro Arr**	**47.18**	**15**	P	**P**	05 36 22.4	+1.4
	2.1nm,0.5s,mb4.3,baz=194,slow=8.6,SNR=6.1						
BJT	**Baijiatuau**	**49.49**	**351**	*e*P	**P**	05 36 38.7	-0.2
	6.4nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.24**	**321**	P	**P**	05 36 46.0	+1.5
LSA	**Lhasa**	**50.24**	**321**	*e*P	**P**	05 36 46.0	+1.4
	6.2nm,0.6s,mb4.8						
JIRN	**Jiri**	**52.13**	**316**	*e*P	**P**	05 36 59.1	+0.4
	27nm,0.7s,mb5.3						
GUN	**Gumba**	**52.50**	**316**	*e*P	**P**	05 37 01.7	+0.3
	38nm,0.7s,mb5.5						
PKI	**Pulchoki**	**52.61**	**315**	*e*P	**P**	05 37 02.3	0.0
	24nm,0.5s,mb5.3						
KKN	**Kakani**	**52.84**	**315**	*e*P	**P**	05 37 04.0	+0.1
	24nm,0.8s,mb5.2						
DMN	**Daman**	**52.85**	**315**	*e*P	**P**	05 37 04.0	0.0
	24nm,0.6s,mb5.3						
GKN	**Gorkha**	**53.42**	**315**	*e*P	**P**	05 37 08.0	-0.2
	28nm,0.6s,mb5.4						
MDJ	**Mudanjiang**	**53.66**	**4**	P	**P**	05 37 11.5	+1.5
MDJ				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,55nm,4.2s						
MDJ	**Mudanjiang**	**53.66**	**4**	*e*P	**P**	05 37 10.9	+0.9
	comp=Z,21nm,1.0s,mb5.0						
KOLN	**Koldanda**	**54.01**	**314**	*e*P	**P**	05 37 12.3	-0.2
	comp=Z,31nm,0.8s,mb5.3						
HIA	**Hailar**	**58.28**	**356**	*e*P	**P**	05 37 43.6	+0.6
	comp=Z,5.8nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**58.81**	**346**	*e*P	**P**	05 37 47.9	+1.1
	comp=Z,4.4nm,0.9s,mb4.5						
SONM	**Songino Array**	**58.94**	**346**	P	**P**	05 37 48.0	+0.3
	comp=Z,3.2nm,0.6s,mb4.5,baz=165,slow=8.4,SNR=33						
MKAR	**Makanchi Array**	**67.19**	**330**	P	**P**	05 38 42.2	-0.2
	comp=Z,6.7nm,0.9s,mb4.7,baz=135,slow=7.8,SNR=56						
MKAR	**Makanchi Array**	**67.19**	**330**	P	**P**	05 38 42.2	-0.2
AAK	**Ala-Archa**	**68.81**	**323**	*e*P	**P**	05 38 51.9	-0.7
	comp=Z,4.1nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**71.22**	**336**	P	**P**	05 39 06.1	-1.2
	comp=Z,1.7nm,0.5s,mb4.3,baz=350,slow=5.5,SNR=11						
KURK	**Kurchatov**	**71.64**	**331**	*e*P	**P**	05 39 08.9	-1.0
	comp=Z,6.9nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	**77.08**	**330**	P	**P**	05 39 40.8	-0.7
	comp=Z,0.8nm,0.9s,mb3.6,baz=121,slow=7.4,SNR=5.8						
BRVK	**Borovoye**	**77.15**	**330**	*e*P	**P**	05 39 41.5	-0.4
	comp=Z,2.3nm,1.2s,mb4.0						
ZRNK	**Zerenda**	**77.73**	**329**	*e*P	**P**	05 39 44.4	-0.8
	comp=Z,2.9nm,1.0s,mb4.2						
SYO	**Syowa Base**	**79.76**	**201**⇓	*e*P	**P**	05 39 55.2	-1.1
AKTK	**Aktyubinsk**	**82.52**	**324**	P	**P**	05 40 10.0	-1.0
AKTO	**Aktyubinsk**	**82.52**	**324**	P	**P**	05 40 10.0	-1.0
	comp=Z,3.0nm,0.8s,mb4.3,baz=85,slow=5.2,SNR=12						
LSZ	**Lusaka**	**93.73**	**254**	P	**P**	05 41 06.9	+1.9
	comp=Z,1.4nm,0.6s,mb4.6						

GRAL ***22*** *05:38:19.1±2.9, 3489km×2676E, h0km±61km, MD4.7*
NIC ***22*** *05:38:22.3±0.1, 3538N×2697E, h55km, mb4.8, ML4.4, MW4.1*
HLW ***22*** *05:38:22.6, 3550N×2724E, h25km, Mb4.7*
ISK ***22*** *05:38:23.7, 3518N×2699E, h76km, ML4.7*
ISCJB ***22*** *05:38:23.1±0.5, 3515N±001×27.16E±001, h25km±4km, mb4.6/97, MS4.0/19, Error ellipse: s-maj=2.5km s-min=1.7km az=61.3*
BJI ***22*** *05:38:23.0, 3526N×2631E, h49km, mB5.0, mb4.9, Ms4.7, Msz4.2*
ATH ***22*** *05:38:24.1, 3534N×27.12E, h22km±1km, MD4.4/22, ML4.7*
MOS ***22*** *05:38:24.2±1.4, 3520N×27.15E, h27km, mb4.9/27, Error ellipse: s-maj=5.4km s-min=2.9km az=104.5*
NEIC ***22*** *05:38:24.1, 3534N×27.12E, h22km, mb4.5/54, ML4.7(ATH), After ATH.*
CRAAG ***22*** *05:38:25.6, 3520N×2738E, Mb4.6*
CSEM ***22*** *05:38:25.6, 3520N×2738E, h42km, mb4.6*
IDC ***22*** *05:38:27.1±3.9, 3538N×2706E, h33km±30km, mb4.2/25, mb1 4.3/28, mb1mx4.3/31, mbtmp4.4/28, ML4.2/3, MS3.9/14, Ms1 3.9/14, ms1mx3.6/30, Error ellipse: s-maj=14.1km s-min=9.9km az=126.0*
THE ***22*** *05:38:29.5, 3541N×27.10E, h23km, ML4.3*
SZGRF ***22*** *05:38:30.0, 3524N×2636E, h10km, mb4.1, Crete, Greece*
NAO ***22*** *05:38:39.8, 3769N×2992E, h33km, mb3.9*

ISC 22 05:38:26.2±0.5, 3518N±001×2715E±001, h33km±4km, h36km±3.4km: pP-P, n539, σ1§28/569, mb4.6/96, MS4.0/19, 30C-26D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**1.23**	**256**	*e*PN	**Pn**	**05 38 47.5**	**+0.4**
NPS	**Neapolis**	**1.26**	**274**⇑	*i*PN	**Pn**	05 38 47.4	-0.1
NPS				*e*SN	**Sn**	05 39 04.3	+1.0
NPS	**Neapolis**	**1.26**	**274**⇑	*e*Pn	**Pn**	05 38 47.4	-0.1
NPS				*e*Sn	**Sn**	05 39 04.3	+1.0
ARG	**Arkhangelos**	**1.30**	**37**⇓	*i*PN	**Pn**	05 38 46.8	-1.3
ARG	**Arkhangelos**	**1.30**	**37**⇓	*e*Pn	**Pn**	05 38 46.8	-1.3
NISR	**Nisiros**	**1.43**	**359**	*e*PN	**Pn**	05 38 48.4	-1.4
SANT	**Santorini**	**1.82**	**311**	*e*Pn	**Pn**	05 38 54.1	-1.1
SANT				*e*Sn	**Sn**	05 39 19.1	+2.1
IDI	**Anoyia**	**1.85**	**274**	Pn	**Pn**	05 38 56.4	+0.8
	299nm,0.3s,baz=72,slow=13,SNR=471						
IDI				Sn	**Sn**	05 39 22.3	+4.3
	684nm,0.3s,baz=331,slow=19,SNR=7.2						
IDI				LR	LR	05 39 50.1	
	comp=Z,2μm,19.4s,baz=21,slow=47						
BODT	**Bodrum**	**1.89**	**4**	*i*Pn	**Pn**	05 38 55.6	-0.5
BODT				*i* SN	**Sn**	05 39 18.4	-0.3
BDRM	**Kayabasi**	**1.90**	**7**	*i* P	**Pn**	05 38 56.7	+0.5
BDRM				*i* S	**Sn**	05 39 24.2	+5.2
SIVA	**Sivas**	**1.93**	**266**	*e*Pb	**Pb**	05 38 59.7	-1.0
FETY	**Fethiye**	**2.14**	**47**	*i* PN	**Pn**	05 38 59.9	+0.3
MLSB	**Milas**	**2.17**	**13**	*i* PN	**Pn**	05 39 00.3	+0.3
MLSB				*i* SN	**Sn**	05 39 25.5	-0.3
KSL	**Kastellorizon**	**2.21**	**63**	*e*PN	**Pn**	05 39 01.5	+1.0
APE	**Apeiranthos**	**2.30**	**326**	*i* PN	**Pn**	05 39 00.1	-1.7
APE	**Apeiranthos**	**2.30**	**326**⇑	*i*PB	**Pn**	05 39 00.8	-1.0
APE	**Apeiranthos**	**2.30**	**326**	*e*Pn	**Pn**	05 39 00.7	-1.1
APE	**Apeiranthos**	**2.30**	**326**	⇓P	**Pn**	05 39 01.1	-0.7
APE	**Apeiranthos**	**2.30**	**326**⇑	*e*Pb	**Pn**	05 39 00.8	-1.0
VAM	**Vamos**	**2.43**	**276**	*e*PN	**Pn**	05 39 04.1	+0.6
GVD	**Gavdhos**	**2.54**	**263**	*e*PN	**Pn**	05 39 06.0	+1.0
SMG	**Samos**	**2.54**	**354**	*e*PN	**Pn**	05 39 03.7	-1.4
AYDN	**Tasoluk**	**2.55**	**13**	*i* P	**Pn**	05 39 05.6	+0.4
AYDN				*i* S	**Sn**	05 39 36.7	+1.7
KARN	**Karanos**	**2.66**	**276**	*e*Pn	**Pn**	05 39 08.3	+1.7
ELL	**Elmali**	**2.73**	**54**	*i* PN	**Pn**	05 39 08.7	+1.0
GOLH	**Golhisar**	**2.83**	**43**	*i* P	**Pn**	05 39 10.5	+1.4
GOLH				*i* S	**Sn**	05 39 47.3	+5.2
BLCB	**Balcova**	**3.20**	**358**	*i* PN	**Pn**	05 39 13.3	-0.9
URLA	**Izmir**	**3.21**	**352**	*i* P	**Pn**	05 39 14.8	+0.6
URLA				*i* S	**Sn**	05 40 07.3	+16
IZM	**Izmir**	**3.21**	**2**	*i* PN	**Pn**	05 39 13.7	-0.7
ANTB	**Antalya**	**3.32**	**58**	*i* PN	**Pn**	05 39 16.7	+0.9
MANT	**Manisa**	**3.49**	**18**	*i* P	**Pn**	05 39 18.6	+0.4
MANT				*i* S	**Sn**	05 39 57.9	-0.5
KYTH	**Kithira**	**3.52**	**289**	*e*PN	**Pn**	05 39 19.5	+0.9
BCK	**Bucak**	**3.59**	**50**	PN	**Pn**	05 39 20.7	+1.2
KHL	**Karahalli**	**3.67**	**31**	PN	**Pn**	05 39 21.4	+0.8
AKS	**Akhisar**	**3.73**	**8**	PN	**Pn**	05 39 21.1	-0.4
VLI	**Veliai**	**3.75**	**295**⇑	*i*PN	**Pn**	05 39 21.8	+0.1
VLI	**Veliai**	**3.75**	**295**⇑	*e*Pn	**Pn**	05 39 21.8	+0.1
ISP	**Isparta**	**3.79**	**44**	PN	**Pn**	05 39 23.1	+0.8
ISP	**Isparta**	**3.79**	**44**	*e*P	**Pn**	05 39 22.2	-0.1
ISP	**Isparta**	**3.79**	**44**	*e*Pn	**Pn**	05 39 23.1	+0.8
ISP	**Isparta**	**3.79**	**44**	*e*Pn	**Pn**	05 39 22.2	-0.1
KVR	**Kavouri**	**3.80**	**315**	*e*PN	**Pn**	05 39 22.5	+0.1
TKTP	**Tekketepe**	**3.83**	**41**	*i* P	**Pn**	05 39 24.1	+1.3
TKTP				*i* S	Sn	05 40 27.4	+21
NAIG	**Nisos Aigina**	**3.92**	**312**	*e*PN	**Pn**	05 39 24.0	0.0
ATH	**Athens Observa**	**3.93**	**316**	*e*PN	**Pn**	05 39 24.5	+0.4
MPAR	**Parnis Oros**	**4.04**	**318**	*e*PN	**Pn**	05 39 26.5	+0.8
PRK	**Paraskevi**	**4.12**	**350**	*e*PN	**Pn**	05 39 26.3	-0.5
AKMC	**Akamas**	**4.25**	**91**	*e*P	**Pn**	05 39 27.7	-0.8
DABA	**Dabaa**	**4.26**	**167**⇑	*e*P	**Pn**	05 39 29.4	+0.7
PPCY	**Paphos**	**4.27**	**92**	*e*P	**Pn**	05 39 28.0	-0.9
GDZ	**Gediz**	**4.33**	**25**	*i* P	**Pn**	05 39 29.9	+0.3
GDZ				*i* S	Sn	05 40 44.5	+26
ALFC	**Alevga**	**4.46**	**89**	*e*P	**Pn**	05 39 30.6	-0.9
ALFC				*es*	**Sn**	05 40 23.9	+1.6
ALFC	**Alevga**	**4.46**	**89**⇑	*e*P	**Pn**	05 39 30.6	-0.9
	46nm,0.7s						
ALFC				S	**Sn**	05 40 23.9	+1.6
BALB	**Balikesir**	**4.49**	**7**	*e*PN	**Pn**	05 39 31.1	-0.8
ALT	**Altintas**	**4.54**	**31**	*e*PN	**Pn**	05 39 32.9	+0.4
DST	**Dursunbey**	**4.57**	**14**	*e*PN	**Pn**	05 39 32.8	-0.2
HDMB	**Hadim**	**4.67**	**66**	*e*PN	**Pn**	05 39 35.5	+1.1
ITM	**Ithomi**	**4.67**	**297**	*e*PN	**Pn**	05 39 36.6	+2.2
EZN	**Ezine**	**4.69**	**352**	PN	**Pn**	05 39 32.8	-1.8
SZAC	**Souni-Zanaja**	**4.72**	**93**	P	**Pn**	05 39 34.4	-0.7
SZAC				S	**Sn**	05 40 30.8	+2.1
SZAC	**Souni-Zanaja**	**4.72**	**93**	*e*P	**Pn**	05 39 34.4	-0.7
SZAC				*es*	**Sn**	05 40 30.8	+2.1
AOS	**Alonnisos**	**4.76**	**328**	*e*Pn	**Pn**	05 39 35.8	+0.2
LKR	**Lokris**	**4.80**	**317**	*e*PN	**Pn**	05 39 36.7	+0.5
ERMK	**Ermenek**	**4.90**	**71**	*i* P	**Pn**	05 39 35.6	-1.9
ERMK				*i* S	**Sn**	05 40 33.6	+0.6
LIA	**Limnos Island**	**4.96**	**342**	*e*PN	**Pn**	05 39 37.8	-0.6
MAMC	**Mammari**	**4.97**	**88**	*e*P	**Pn**	05 39 37.7	-0.8
KONT	**Konya--Tatoy**	**5.02**	**55**	*e*PN	**Pn**	05 39 40.3	+1.1
CSS	**Prodhromos**	**5.07**	**91**	P	**Pn**	05 39 38.9	-1.0
	22nm,0.9s						
CSS				S	**Sn**	05 40 39.2	+1.9
CSS	**Prodhromos**	**5.07**	**91**	*e*P	**Pn**	05 39 38.9	-1.0
CSS				*es*	**Sn**	05 40 39.2	+1.9
CSS	**Prodhromos**	**5.07**	**91**	*e*Pn	**Pn**	05 39 38.0	-1.9
	235nm,0.9s						
CSS				*e*Sn	**Sn**	05 40 36.8	-0.5
HBRG	**Burj al 'Arab**	**5.12**	**153**⇓	*e*P	**Pn**	05 39 40.8	+0.3
HBRG				S	**Sn**	05 40 37.6	-0.8
KCT	**Karacabey**	**5.17**	**10**	*e*PN	**Pn**	05 39 40.4	-0.8
NEO	**Neokhori**	**5.18**	**324**	*e*PN	**Pn**	05 39 41.8	+0.5
BNT	**Bandirma**	**5.21**	**6**	*e*PN	**Pn**	05 39 40.9	-0.8
XOR	**Xorichti**	**5.24**	**324**	*e*Pn	**Pn**	05 39 42.6	+0.4
	comp=Z,5.5nm,0.9s						
ESKT	**Eskisehir**	**5.24**	**33**	*e*PN	**Pn**	05 39 42.4	+0.2
KIZT	**Kizilcal**	**5.29**	**44**	*e*PN	**Pn**	05 39 43.6	+0.8
BORA	**Eskisehir**	**5.38**	**28**	*i* P	**Pn**	05 39 45.0	+0.9
BORA				*i* S	Sn	05 41 14.9	+30
RLS	**Riolos of Patr**	**5.40**	**304**	*e*PN	**Pn**	05 39 46.4	+2.0
IKL	**Isikli**	**5.42**	**77**	*e*PN	**Pn**	05 39 44.5	-0.2
MRMT	**Marmara Adasi**	**5.43**	**4**	*e*PN	**Pn**	05 39 44.6	-0.2
AGG	**Agios Georgios**	**5.44**	**316**	*e*Pn	**Pn**	05 39 46.2	+1.3
	comp=Z,8.0nm,0.8s						
PAIG	**Paliouri**	**5.49**	**331**	*e*Pn	**Pn**	05 39 45.7	+0.2
MFT	**Murefte**	**5.60**	**1**	*e*PN	**Pn**	05 39 45.6	-1.5
PHNC	**Paralimni**	**5.64**	**90**	*e*P	**Pn**	05 39 50.3	+2.6
YLV	**Yalova**	**5.66**	**17**	*e*PN	**Pn**	05 39 47.6	-0.3
EVR	**Evrytania**	**5.67**	**313**	*e*PN	**Pn**	05 39 49.0	+0.9
ALN	**Alexandroupoli**	**5.78**	**352**	*e*Pn	**Pn**	05 39 49.5	0.0
	comp=Z,2.2nm,0.7s						
ALN	**Alexandroupoli**	**5.78**	**352**	*e*Pn	**Pn**	05 39 49.5	-0.1
	2.2nm,0.7s						
PLG	**Polygyros**	**5.96**	**332**	*e*PN	**Pn**	05 39 52.0	-0.1
HRT	**Hereke**	**5.97**	**19**	*e*PN	**Pn**	05 39 51.6	-0.7
SWA1		**6.02**	**192**⇓	*e*P	**Pn**	05 39 54.2	+1.2
SWA1				S	**Sn**	05 41 01.3	+0.6
CTT	**Catalca**	**6.04**	**9**	*e*PN	**Pn**	05 39 52.0	-1.2
VLS	**Valsamata**	**6.06**	**301**	*e*PN	**Pn**	05 39 55.1	+1.6
SWA2		**6.09**	**194**⇓	*e*P	**Pn**	05 39 54.9	+1.1
RDO	**Rodhopi**	**6.09**	**348**	*e*PN	**Pn**	05 39 53.8	-0.1
LIT	**Litokhoron**	**6.15**	**324**	*e*Pn	**Pn**	05 39 54.8	+0.1
	comp=Z,2.5nm,0.5s						
MDU	**Mudurnu**	**6.18**	**30**	*e*PN	**Pn**	05 39 54.8	-0.3
HMYD	**Mayseklein**	**6.19**	**149**	P	**Pn**	05 39 55.4	+0.2
MERS	**Mersin**	**6.21**	**72**	*e*PN	**Pn**	05 39 55.5	0.0
HNAT	**Natroun**	**6.26**	**151**	P	**Pn**	05 39 56.4	+0.3
LKD	**Levkas**	**6.29**	**306**	*e*Pn	**Pn**	05 39 57.7	+1.1
SQR		**6.29**	**146**	P	**Pn**	05 39 57.5	+0.9
FYM	**Al Fayyum**	**6.38**	**148**⇑	*e*P	**Pn**	05 39 58.0	+0.2
FYM				S	**Sn**	05 41 07.2	-2.3
AYT	**Al 'Ayyat**	**6.42**	**147**	P	**Pn**	05 39 59.9	+1.5
ANTO	**Ankara**	**6.48**	**42**	*e*PN	**Pn**	05 39 58.7	-0.5
ANTO	**Ankara**	**6.48**	**42**	*e*P	**Pn**	05 39 59.8	+0.6
	79nm,0.9s						
ANTO	**Ankara**	**6.48**	**42**	*e*P	**Pn**	05 39 59.8	+0.6
ANTO				pmax	pmax		
	comp=Z,79nm,0.9s						
ANTO	**Ankara**	**6.48**	**42**	*e*Pn	**Pn**	05 39 59.8	+0.5
	comp=Z,79nm,0.9s						
KOT	**Kottamia**	**6.56**	**142**⇑	*e*P	**Pn**	05 39 59.6	-0.7
KDZ	**Kurdzhali**	**6.60**	**349**	P	**Pn**	05 40 01.3	+0.4
KZN	**Kozani**	**6.66**	**322**	*e*PN	**Pn**	05 40 04.0	+2.3
EDRB	**Edirne**	**6.67**	**357**	*e*PN	**Pn**	05 40 00.7	-1.1
HHAG	**Hagoal**	**6.67**	**140**	P	**Pn**	05 40 01.9	0.0
HSAF	**As Saff**	**6.68**	**145**⇓	*e*P	**Pn**	05 40 02.1	+0.2
NVR	**Nevrokopi**	**6.68**	**338**	*e*PN	**Pn**	05 40 02.2	+0.2
KAMT	**Kaman**	**6.70**	**49**	*e*PN	**Pn**	05 40 01.9	-0.3
KARA	**Karaisali**	**6.72**	**70**	*e*PN	**Pn**	05 40 02.3	-0.2
RZN	**Rozhen**	**6.78**	**344**	P	**Pn**	05 40 03.8	+0.5
GLL	**Jalalah**	**6.78**	**144**⇓	*e*P	**Pn**	05 40 03.1	-0.3
AMAG	**Maghara**	**6.81**	**130**	*e*P	**Pn**	05 40 03.0	-0.7
KRTS	**Karatas**	**6.82**	**76**	*e*PN	**Pn**	05 40 03.7	-0.2
KNT	**Kendrikon**	**6.85**	**332**	*e*Pn	**Pn**	05 40 04.8	+0.5
	comp=Z,2.3nm,0.6s						
BR131	**Keskin Array S**	**6.87**	**47**	*e*P	**Pn**	05 40 04.2	-0.4
	comp=Z,20nm,0.6s						
BRTR	**Keskin Array B**	**6.87**	**47**	Pn	**Pn**	05 40 04.5	-0.1
	comp=Z,1.2nm,0.3s,baz=218,slow=13,SNR=95						
BRTR				Sn	**Sn**	05 41 20.1	-1.5
	baz=209,slow=23,SNR=1.8						
GRG	**Griva**	**6.88**	**328**	*e*Pn	**Pn**	05 40 05.8	+1.1
MMB	**Musomiste**	**6.94**	**338**	P	**Pn**	05 40 05.5	-0.1
HNTI	**Hanita**	**6.97**	**105**	Pn	**Pn**	05 40 06.1	+0.1
MATL	**Matirih**	**6.97**	**102**	*e*P	**Pn**	05 40 02.2	-3.7
DIM	**Dimitrovgrad**	**6.98**	**350**	*e*P	**Pn**	05 40 07.0	+0.9
OFRI	**'Ofer**	**6.99**	**109**	Pn	**Pn**	05 40 06.4	+0.1
AWBH		**7.00**	**167**	*e*P	**Pn**	05 40 06.9	+0.6
HBNS	**Bani Suwayf**	**7.10**	**150**⇑	*e*P	**Pn**	05 40 08.4	+0.6
VAY	**Valandovo**	**7.11**	**331**	*e*Pn	**Pn**	05 40 09.8	+1.9
BHL	**Bhannes**	**7.13**	**98**	*e*P	**Pn**	05 40 06.0	-2.1
BHL				*e*S	**Sn**	05 41 25.5	-2.4
SUZ		**7.16**	**136**	⇓P	**Pn**	05 40 08.4	-0.2
MMA0	**Mount Meron ar**	**7.18**	**105**	Pn	**Pn**	05 40 08.4	-0.4
MMA0B	**Mount Meron ar**	**7.18**	**105**	Pn	**Pn**	05 40 08.5	-0.3
CEYT	**Ceyhan**	**7.20**	**73**	*e*PN	**Pn**	05 40 08.8	-0.2
SLTI	**Sal'it**	**7.20**	**112**	Pn	**Pn**	05 40 08.9	-0.1
FNA	**Florina**	**7.22**	**323**	*e*Pn	**Pn**	05 40 10.8	+1.4
	comp=Z,2.5nm,0.6s						
CDAG	**Cicekdag**	**7.26**	**50**	*i* P	**Pn**	05 40 10.8	+0.9
HWQ	**Hawqa**	**7.30**	**95**	*e*P	**Pn**	05 40 08.8	-1.6
HWQ				*e*S	**Sn**	05 41 29.8	-2.2
KSDI	**Kefar Szold**	**7.32**	**103**	Pn	**Pn**	05 40 10.3	-0.5
KOZT	**Kozan**	**7.37**	**69**	*e*PN	**Pn**	05 40 10.7	-0.7
HTY	**Hatay**	**7.38**	**80**	*e*PN	**Pn**	05 40 10.8	-0.7
KEK	**Kerkira**	**7.39**	**310**	Pn	**Pn**	05 40 14.0	+2.2
KKB	**Krupnik**	**7.40**	**336**	P	**Pn**	05 40 12.5	+0.7
MMLI	**Mount Malkishu**	**7.41**	**109**	Pn	**Pn**	05 40 11.1	-0.8
BIA	**Bitola**	**7.42**	**324**	*e*Pn	**Pn**	05 40 14.5	+2.4
KZIT	**Kziot**	**7.42**	**123**	Pn	**Pn**	05 40 11.8	-0.4
AMAZ	**Amatzia**	**7.44**	**117**	Pn	**Pn**	05 40 12.2	-0.2
ZAF		**7.45**	**141**	P	**Pn**	05 40 11.5	-0.9
CANT	**Cankiri**	**7.45**	**41**	*e*PN	**Pn**	05 40 12.1	-0.4
COBT	**Iskenderun**	**7.51**	**77**	*i* P	**Pn**	05 40 12.9	-0.5
COBT				*i* S	**Sn**	05 41 36.1	-1.4
ZNM		**7.54**	**138**	P	**Pn**	05 40 13.6	-0.2
SVTA	**Shivta**	**7.56**	**122**	Pn	**Pn**	05 40 13.3	-0.8
FKH	**Fakeheh**	**7.67**	**94**	*e*Pn	**Pn**	05 40 14.8	-0.8
FKH				Sn	**Sn**	05 41 39.2	-2.2
HNKL	**Nakhl**	**7.78**	**130**⇓	*e*P	**Pn**	05 40 17.1	0.0
MZDA	**Masada**	**7.88**	**117**	Pn	**Pn**	05 40 17.7	-0.8
TOS	**Tosya**	**7.97**	**41**	*e*PN	**Pn**	05 40 18.9	-0.8
VTS	**Vitosha**	**8.02**	**339**	*e*Pn	**Pn**	05 40 20.6	+0.4
VTS	**Vitosha**	**8.02**	**339**	P	**Pn**	05 40 21.5	+1.2
HFRF	**Wahat Farafira**	**8.06**	**173**⇓	*e*P	**Pn**	05 40 20.9	-0.1
SZH	**Strazhica**	**8.13**	**354**	P	**Pn**	05 40 14.0	-7.9
ZFRI	**Zfri**	**8.17**	**122**	Pn	**Pn**	05 40 21.7	-0.8
GAZ	**Gaziantep**	**8.37**	**73**	*e*PN	**Pn**	05 40 24.4	-0.8
GRB	**Gharib**	**8.39**	**144**	P	**Pn**	05 40 25.7	+0.3
HRFI	**Mount Harif**	**8.40**	**125**	Pn	**Pn**	05 40 25.1	-0.4
EIL	**Elat**	**8.58**	**128**	Pn	**Pn**	05 40 28.6	+0.6
EIL				Sn	**Sn**	05 42 00.3	-3.3
EIL	**Elat**	**8.58**	**128**	*e*Pn	**Pn**	05 40 27.9	-0.1
	comp=Z,374nm,0.6s						
EIL				*e*Sn	**Sn**	05 41 57.7	-5.8
GZT	**Gaziantep**	**8.69**	**72**	*i* P	**Pn**	05 40 28.8	-0.7
GZT				*i* S	**Sn**	05 42 05.5	-0.8
TR2		**8.78**	**139**	⇓P	**Pn**	05 40 29.8	-1.0
SVSK	**Karacayir**	**9.14**	**56**	*e*PN	**Pn**	05 40 34.0	-1.7
TR1		**9.20**	**139**	P	**Pn**	05 40 35.3	-1.3
TIP	**Timpagrande**	**9.20**	**299**	Pn	**Pn**	05 40 36.0	-0.6
	comp=Z,58nm,1.2s						
TIRR	**Tirgusor**	**9.32**	**6**	⇓P	**Pn**	05 40 35.7	-2.5
TIRR	**Tirgusor**	**9.32**	**6**	⇓P	**

comp=Z,15nm,0.8s
KBA Koelnbreinsper 15.77 323 ⇓P **Pn 05 42 07.5 +1.8**
KBA pmax pmax
comp=Z,15nm,0.8s
MOA Molln 15.89 327 ⇑*i*P **Pn 05 42 11.1 +3.8**
comp=Z,4.7nm,0.6s
MOA Molln 15.89 327 ⇓P **Pn 05 42 11.1 +3.8**
comp=Z,4.7nm,0.6s
PGF Pioggiola 15.92 303 *e*P **Pn 05 42 09.8 +2.1**
comp=Z,36nm,0.7s
PGF Pioggiola 15.92 303 *e*P **Pn 05 42 09.8 +2.1**
comp=Z,18nm,0.7s
OJC Ojcow 15.96 343 *e*P **Pn 05 42 10.3 +2.1**
OKC Ostrava-Krasne 16.07 339 *e*P **Pn 05 42 12.1 +2.6**
OKC AMS AMS 05 48 20.0
comp=Z,400nm,16.1s
VRAC Vranov 16.12 334 ⇓P **Pn 05 42 13.0 +2.8**
SEST Monte Rota 16.12 320 Pn **Pn 05 42 12.0 +1.8**
comp=Z,53nm,1.2s
MORC Moravsky Berou 16.20 337 ⇓P **Pn 05 42 13.5 +2.2**
MORC Moravsky Berou 16.20 337 *e*P **Pn 05 42 13.1 +1.8**
comp=Z,9.8nm,0.7s
BRES Bressanone 16.34 319 Pn **Pn 05 42 13.9 +0.8**
WTTA Wattenberg 16.76 321 ⇑*i*Pn **Pn 05 42 18.5 +0.2**
comp=Z,10nm,0.6s
WTTA Wattenberg 16.76 321 ⇑P **Pn 05 42 18.5 +0.2**
WTTA pmax pmax
comp=Z,10.0nm,0.6s
WTTA Wattenberg 16.76 321 ⇑P **Pn 05 42 18.5 +0.2**
comp=Z,10nm,0.6s
GEC2 GERESS Array S 16.89 328 *e*P **Pn 05 42 19.5 -0.4**
comp=Z,53nm,1.5s
GEC2 GERESS Array S 16.89 328 *e*P **Pn 05 42 19.5 -0.4**
GEC2 pmax pmax
comp=Z,53nm,1.5s
GERES GERESS Array B 16.89 328 Pn **Pn 05 42 19.2 -0.7**
comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=14
SQTA Sankt Quirin 16.95 320 ⇑*i*Pn **Pn 05 42 21.0 +0.2**
comp=Z,12nm,0.9s
SQTA Sankt Quirin 16.95 320 ⇑P **Pn 05 42 21.0 +0.2**
SQTA pmax pmax
comp=Z,12nm,0.9s
MOTA Moosalm 17.09 320 ⇑*i*Pn **Pn 05 42 22.4 0.0**
comp=Z,6.0nm,0.9s
MOTA Moosalm 17.09 320 ⇑P **Pn 05 42 22.4 0.0**
MOTA pmax pmax
comp=Z,6.0nm,0.9s
MOTA Moosalm 17.09 320 ⇑P **Pn 05 42 22.4 0.0**
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 17.09 336 *e*P **Pn 05 42 23.3 +0.8**
KHC Kasperske Hory 17.16 328 *e*P **Pn 05 42 23.7 +0.4**
KHC pP pP 05 42 26.5 -6.9
KHC sP sP 05 42 32.0 -5.6
KHC x x 05 42 54.5
KHC AMS AMS 05 50 00.0
comp=Z,500nm,11.9s
KHC Kasperske Hory 17.16 328 *e*P **Pn 05 42 23.7 +0.4**
KHC *e* 05 42 26.5
KHC *e* 05 42 32.0
KHC *e* 05 42 54.5
UPC Upice 17.33 336 *e*P **Pn 05 42 28.0 +2.5**
DAVOX Davos 17.41 317 P **Pn 05 42 28.3 +1.9**
baz=138,slow=11
DAVOX LR LR 05 49 31.7
comp=Z,474nm,18.7s,baz=118,slow=39
PRU Pruhonice 17.43 332 *e*P **Pn 05 42 27.4 +0.6**
PRU AMS AMS 05 49 50.0
comp=Z,600nm,12.4s
WET Wettzell 17.47 327 *e*P **Pn 05 42 27.3 +0.1**
comp=Z,25nm,1.5s
WET Wettzell 17.47 327 *e*P **Pn 05 42 27.3 +0.1**
WET pmax pmax
comp=Z,25nm,1.5s
SBF Sospel 17.48 306 *e*P **Pn 05 42 25.3 -2.0**
comp=Z,79nm,0.7s
SBF Sospel 17.48 306 *e*P **Pn 05 42 25.3 -2.0**
comp=Z,39nm,0.7s
DAVA Damuels 17.70 318 ⇑*i*P **Pn 05 42 30.6 +0.5**
comp=Z,18nm,0.7s
FRF La Foret Royal 17.90 304 *e*P **Pn 05 42 30.5 -2.0**
comp=Z,96nm,1.2s
FRF La Foret Royal 17.90 304 *e*P **Pn 05 42 30.5 -2.0**
comp=Z,48nm,1.2s
LMR La Mourre 17.91 303 *e*P **Pn 05 42 30.4 -2.3**
ROTZ Rotzenmuhle 18.23 328 *e*P **Pn 05 42 36.7 +0.2**
comp=Z,10.0nm,1.1s
VRSR Storozhevoye 18.23 25 *e*P **Pn 05 42 36.3 -0.3**
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR pmax pmax
comp=Z,3.0nm,0.8s
MBDF Montbardon 18.26 308 *e*P **Pn 05 42 35.1 -1.9**
comp=Z,37nm,0.8s
MBDF Montbardon 18.26 308 *e*P **Pn 05 42 35.1 -1.9**
comp=Z,18nm,0.8s
BRG Berggiesshubel 18.38 333 *e*P **Pn 05 42 40.0 +1.7**
comp=Z,3.3nm,0.8s
BRG *e* 05 42 46.3
comp=Z,3.6nm,0.8s
BRG
comp=N,205nm,15.3s
BRG
comp=E,251nm,20.3s
BRG
comp=Z,212nm,13.4s
BRG Berggiesshubel 18.38 333 *e*P **Pn 05 42 38.7 +0.4**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 18.38 333 *e*P **Pn 05 42 40.0 +1.7**
comp=Z,3.3nm,0.8s
BRG *e* 05 42 46.3
BNI Bardonecchia 18.46 308 *e*P **Pn 05 42 40.9 +1.5**
comp=Z,12nm,0.8s
BNI Bardonecchia 18.46 308 *e*P **Pn 05 42 40.9 +1.5**
BNI pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 18.46 308 *e*P **Pn 05 42 40.9 +1.5**
comp=Z,12nm,0.8s
NKC Novy Kostel 18.47 329 *e*P **Pn 05 42 41.2 +1.7**
NKC AMS AMS 05 51 20.0
comp=Z,500nm,14.5s
LPG La Plagne 18.61 310 *e*P **Pn 05 42 40.0 -1.2**
comp=Z,32nm,0.7s
LPG La Plagne 18.61 310 *e*P **Pn 05 42 40.0 -1.2**
comp=Z,16nm,0.7s
GRA1 Grafenberg Arr 18.61 326 *e*P **Pn 05 42 40.2 -1.0**
comp=Z,30nm,0.8s
GRF Grafenberg Arr 18.61 326 *e*P **Pn 05 42 40.2 -1.0**
comp=Z,30nm,0.8s
GRF Grafenberg Arr 18.61 326 *e*P **Pn 05 42 40.2 -1.0**
GRF pmax pmax
comp=Z,30nm,0.8s
LPL La Plagne 18.63 310 *e*P **Pn 05 42 40.3 -1.1**
comp=Z,11nm,0.4s
LPL La Plagne 18.63 310 *e*P **Pn 05 42 40.3 -1.1**
comp=Z,5.4nm,0.4s
WERD Werda 18.69 329 *e*P **Pn 05 42 42.1 -0.1**
comp=Z,7.0nm,1.3s
SMRF Simiane la Rot 18.77 304 *e*P **Pn 05 42 41.3 -1.8**
RSL Roselend 18.77 310 *e*P **Pn 05 42 41.9 -1.3**
ORIF Oris-en-Rattie 18.92 307 *e*P **Pn 05 42 42.8 -2.1**
comp=Z,16nm,0.6s
ORIF *e*R
comp=Z,377nm,21.8s
ORIF Oris-en-Rattie 18.92 307 *e*P **Pn 05 42 42.8 -2.1**
comp=Z,7.9nm,0.6s
SUW Suwalki 19.04 353 *e*P **Pn 05 42 45.7 -0.6**
comp=Z,51nm,0.7s
SUW Suwalki 19.04 353 *e*P **Pn 05 42 45.7 -0.6**
SUW pmax pmax
comp=Z,51nm,0.7s
SUW Suwalki 19.04 353 *e*P **Pn 05 42 45.7 -0.6**
comp=Z,51nm,0.7s
VRHR Novokhopersk 19.04 29 *e*P **Pn 05 42 45.5 -0.9**
comp=Z,5.0nm,0.3s
VRHR Novokhopersk 19.04 29 *e*P **Pn 05 42 45.5 -0.9**
VRHR pmax pmax
comp=Z,80nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.5s
CLL Collm 19.08 332 *i*P **Pn 05 42 47.5 +0.7**
comp=Z,10.0nm,0.8s
CLL *i*pP pP 05 42 53.5 -1.1
comp=Z,32nm,1.3s
CLL *i*PP 05 43 01.7
CLL Collm 19.08 332 *e*P **Pn 05 42 47.1 +0.3**
comp=Z,19nm,1.2s
CLL Collm 19.08 332 *i*P **Pn 05 42 47.5 +0.7**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 19.08 332 *i*P **Pn 05 42 47.5 +0.7**
comp=Z,10.0nm,0.8s
CLL *i* 05 42 53.5
MOX Moxa 19.13 329 *e*P **Pn 05 42 46.8 -0.7**
comp=Z,24nm,1.5s
MOX
comp=Z,200nm,18.0s
BFO Black Forest 19.17 319 *e*P **Pn 05 42 47.0 -0.9**
comp=Z,4.0nm,0.6s
BFO Black Forest 19.17 319 *e*P **Pn 05 42 47.0 -0.9**
BFO pmax pmax
comp=Z,4.0nm,0.6s
LIBD Limburg 19.46 318 *e*P **Pn 05 42 55.3 +3.9**
LOMF Lomont 19.46 315 *e*P **Pn 05 42 57.9 +6.5**
CABF La Chapelle 19.53 312 *e*P **Pn 05 42 50.2 -2.1**
comp=Z,34nm,0.7s
CABF La Chapelle 19.53 312 *e*P **Pn 05 42 50.2 -2.1**
comp=Z,17nm,0.7s
MOF Molkenrain 19.55 316 *e*P **Pn 05 42 57.7 +5.2**
OG05 Jujurieux 19.66 310 *e*P **Pn 05 42 50.7 -3.1**
EMHD Djebel Mahouad 19.68 280 P **Pn 05 42 54.0 0.0**
VIVF Saint-Julien-l 19.69 306 *e*P **Pn 05 42 51.1 -3.0**
comp=Z,61nm,1.0s
VIVF Saint-Julien-l 19.69 306 *e*P **Pn 05 42 51.1 -3.0**
comp=Z,31nm,1.0s
HINF Hinteralfeld 19.69 316 *e*P **Pn 05 42 51.0 -3.2**
comp=Z,13nm,0.7s
HINF Hinteralfeld 19.69 316 *e*P **Pn 05 42 51.0 -3.2**
comp=Z,6.6nm,0.7s
TOD Tromm 19.71 323 *e*P **Pn 05 42 59.4 +5.0**
ECH Echery 19.74 317 *e*P **Pn 05 42 56.8 +2.1**
CDF Champ du Feu 19.79 318 *e*P **Pn 05 42 53.0 -2.3**
comp=Z,25nm,0.7s
CDF Champ du Feu 19.79 318 *e*P **Pn 05 42 53.0 -2.3**
comp=Z,12nm,0.7s
LANF Langenberg 19.83 320 *e*P **Pn 05 42 55.7 -0.1**
LASF Ste Croix 19.97 303 *e*P **Pn 05 42 54.2 -3.3**
comp=Z,26nm,0.9s
LASF Ste Croix 19.97 303 *e*P **Pn 05 42 54.2 -3.3**
comp=Z,13nm,0.9s
HAU Haudompre 20.08 316 *e*P **P 05 42 55.4 -1.4**
comp=Z,28nm,0.6s
HAU *e*R
comp=Z,268nm,19.0s
HAU Haudompre 20.08 316 *e*P **P 05 42 55.4 -1.4**
comp=Z,14nm,0.6s
TNS Taunus Mts 20.29 324 *e*P **P 05 43 00.0 +1.0**
comp=Z,17nm,1.0s
TNS Taunus Mts 20.29 324 *e*P **P 05 43 00.0 +1.0**
TNS pmax pmax
comp=Z,17nm,1.0s
THEF They Montfort 20.40 316 *e*P **P 05 43 00.4 +0.1**
ABH Alteburg 20.52 322 *e*P **P 05 43 02.8 +1.3**
CLZ Clausthal 20.55 329 *e*P **P 05 43 04.4 +2.6**
comp=Z,8.0nm,1.0s
CLZ Clausthal 20.55 329 *e*P **P 05 43 04.4 +2.6**
CLZ pmax pmax
comp=Z,8.0nm,1.0s
COLF Collangettes 20.58 307 *e*P **P 05 43 02.0 -0.2**
RUP Ruppelstein 20.66 321 *e*P **P 05 43 05.1 +2.1**
LBL Lubilhac 20.77 306 *e*P **P 05 43 05.3 +1.0**
PLDF La Plantade 20.80 308 *e*P **P 05 43 03.3 -1.3**
EBNR Beni Rached 20.82 281 P **P 05 43 02.5 -2.3**
VALF Valcebollere 20.83 298 *e*P **P 05 43 04.9 0.0**
MTLF Montolieu 20.90 300 *e*P **P 05 43 04.3 -1.4**
comp=Z,24nm,0.9s
MTLF Montolieu 20.90 300 *e*P **P 05 43 04.3 -1.4**
comp=Z,12nm,0.9s
SMF Signal de Mont 20.93 310 *e*P **P 05 43 03.9 -2.1**
comp=Z,26nm,0.7s
SMF Signal de Mont 20.93 310 *e*P **P 05 43 03.9 -2.1**
comp=Z,13nm,0.7s
OBN Obninsk 20.98 15 *e*P **P 05 43 04.8 -1.7**
comp=Z,17nm,0.7s
OBN Obninsk 20.98 15 ⇓*e*P **P 05 43 04.8 -1.7**
OBN *e* 05 43 16.0
OBN 05 43 27.0
OBN S **S 05 46 56.0 -2.4**
OBN SS 05 47 08.0
OBN 05 47 12.0
OBN pmax pmax
comp=Z,17nm,0.7s
OBN MLR MLR
comp=Z,200nm,15.0s,MS3.6
MEZF Maizieres J'vi 21.08 316 *e*P **P 05 43 05.8 -1.8**
comp=Z,14nm,0.4s,mb4.4
MEZF Maizieres J'vi 21.08 316 *e*P **P 05 43 05.8 -1.8**
comp=Z,6.9nm,0.4s,mb4.4
ETRT Tiaret 21.09 278 P **P 05 43 09.0 +1.3**
EMIR Miracle 21.10 296 P **P 05 43 05.9 -1.9**
comp=Z,37nm,0.8s,mb4.8,SNR=8.6
WLF Walferdange 21.11 320 *e*P **P 05 43 07.3 -0.6**
comp=Z,11nm,0.8s,mb4.2
WLF Walferdange 21.11 320 *e*P **P 05 43 07.3 -0.6**
WLF pmax pmax
comp=Z,11nm,0.8s,mb4.2
WLF Walferdange 21.11 320 *e*P **P 05 43 07.3 -0.6**
comp=Z,11nm,0.8s,mb4.2
PYM Petit Puy Mans 21.11 307 *e*P **P 05 43 06.2 -1.8**
AGO Saint Agoulin 21.14 308 *e*P **P 05 43 07.5 -0.8**
LOR Lormes 21.19 312 *e*P **P 05 43 07.8 -1.0**
comp=Z,25nm,0.7s,mb4.4
LOR *e*R
comp=Z,192nm,19.8s
LOR Lormes 21.19 312 *e*P **P 05 43 07.8 -1.0**
comp=Z,12nm,0.7s,mb4.4
AVF Avril sur Loir 21.30 310 *e*P **P 05 43 08.2 -1.8**
comp=Z,46nm,1.0s,mb4.5
AVF Avril sur Loir 21.30 310 *e*P **P 05 43 08.2 -1.8**
comp=Z,23nm,1.0s,mb4.5
SSF Saint Saulge 21.32 311 *e*P **P 05 43 08.4 -1.8**
comp=Z,57nm,0.7s,mb4.7
SSF Saint Saulge 21.32 311 *e*P **P 05 43 08.4 -1.8**
comp=Z,28nm,0.7s,mb4.7
EPOB Poblet 21.34 295 P **P 05 43 09.2 -1.2**
comp=Z,65nm,0.7s,mb5.1,SNR=21
CAF Calviac 21.46 305 *e*P **P 05 43 10.0 -1.7**
comp=Z,18nm,0.8s,mb4.2
CAF Calviac 21.46 305 *e*P **P 05 43 10.0 -1.7**
comp=Z,9.2nm,0.8s,mb4.2
BGF Bois d'Agland 21.52 309 *e*P **P 05 43 10.8 -1.6**
comp=Z,23nm,0.7s,mb4.4
BGF Bois d'Agland 21.52 309 *e*P **P 05 43 10.8 -1.6**
comp=Z,11nm,0.7s,mb4.4
EBR Ebro Roquetas 21.71 293 *e*P **P 05 43 10.0 -4.4**
MEM Membach 21.75 322 P **P 05 43 16.4 +1.7**
MEM Membach 21.75 322 AP pP 05 43 22.1 -1.5
MEM XP sP 05 43 26.1 -1.7
MEM PNPN 05 43 35.0
MOS Moscow 21.79 16 *e*P **P 05 43 15.4 +0.2**
comp=Z,47nm,0.8s,mb5.0
MOS Moscow 21.79 16 *e*P **P 05 43 15.4 +0.2**
MOS *e* 05 43 35.3
MOS *e* 05 47 13.9
MOS pmax pmax
comp=Z,47nm,0.8s,mb5.0
TCF Toulx Ste Croi 21.83 308 *e*P **P 05 43 13.7 -1.9**
MELF Melles 21.84 299 *e*P **P 05 43 17.3 +1.6**
RJF Les Rejaudoux 21.94 305 *e*P **P 05 43 15.1 -1.8**
comp=Z,51nm,0.8s,mb4.7
RJF *e*R
comp=Z,300nm,17.8s
RJF Les Rejaudoux 21.94 305 *e*P **P 05 43 15.1 -1.8**
comp=Z,25nm,0.8s,mb4.7
GIVF Givet 22.07 319 *e*P **P 05 43 15.8 -2.4**
comp=Z,7.2nm,0.3s,mb4.2
GIVF Givet 22.07 319 *e*P **P 05 43 15.8 -2.4**
comp=Z,3.6nm,0.3s,mb4.2
RESF Ens 22.13 298 *e*P **P 05 43 19.2 +0.4**
BSEG Bad Segeberg 22.16 333 *e*P **P 05 43 21.2 +2.0**
comp=Z,13nm,1.3s,mb4.2
EPF Esarros 22.17 299 *e*P **P 05 43 17.0 -2.3**
comp=Z,8.8nm,0.6s,mb4.0
DOU Dourbes 22.18 319 ⇓P **P 05 43 18.6 -0.9**
comp=Z,4.8nm,0.7s,mb4.0
DOU AP 05 43 27.9
DOU XP sP 05 43 38.8 +6.3
LFF La Frestale 22.36 304 *e*P **P 05 43 19.2 -2.1**
comp=Z,23nm,0.6s,mb4.5
BAIF Baives 22.37 319 *e*P **P 05 43 18.9 -2.6**
comp=Z,25nm,0.6s,mb4.5
SNF Seneffe 22.58 320 P **P 05 43 23.3 -0.3**
SNF AP 05 43 30.4
SNF PNPN 05 43 33.8
SNF XP sP 05 43 37.6 +0.8
ETSF Etsaut 22.79 298 *e*P **P 05 43 23.4 -2.5**
comp=Z,13nm,0.6s,mb4.2
SJPF Ste Jean 23.31 298 *e*P **P 05 43 28.2 -3.2**
comp=Z,45nm,0.8s,mb4.7
MFF Saint Martin d 23.46 307 *e*P **P 05 43 29.6 -3.3**
comp=Z,39nm,0.9s,mb4.5
LDF La Druitiere 24.18 312 *e*P **P 05 43 36.3 -3.1**
comp=Z,19nm,0.6s,mb4.4
FLN La Foliniere 24.46 312 *e*P **P 05 43 39.2 -2.8**
comp=Z,24nm,0.6s,mb4.5
FLN *e*R
comp=Z,156nm,21.0s
GRR Gorron 24.55 311 *e*P **P 05 43 40.6 -2.2**
comp=Z,29nm,0.6s,mb4.7
ESDC Sonseca Array 25.05 290 P **P 05 43 47.3 0.0**
comp=Z,3.7nm,0.4s,mb4.3,baz=83,slow=9.7,SNR=22
ESLA Sonseca Array 25.05 290 *e*P **P 05 43 47.0 -0.3**
comp=Z,2.6nm,0.8s,mb3.8
SGMF Saint Gilles 25.56 310 *e*P **P 05 43 49.7 -2.3**
QUIF Quistinic 25.83 309 *e*P **P 05 43 52.1 -2.4**
ROSF Rostrenen 26.04 310 *e*P **P 05 43 54.0 -2.3**
comp=Z,36nm,0.9s,mb4.6
FINES FINESS Array B 26.29 359 P **P 05 43 57.3 -1.3**
comp=Z,3.6nm,0.6s,mb4.1,baz=151,slow=8.7,SNR=15
FINES LR LR 05 54 58.1
comp=Z,148nm,18.3s,MS3.6,baz=158,slow=38
FINES FINESS Array B 26.29 359 *i*P **P 05 43 58.5 -0.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 26.29 359 P **P 05 43 57.3 -1.3**
FINES LR LR 05 54 58.1
MDT Midelt 26.39 274 P **P 05 44 00.0 +0.6**
comp=Z,10nm,0.8s,mb4.4,baz=79,slow=9.5,SNR=7.8
HFS Hagfors 26.46 345 P **P 05 43 60.0 -0.1**
comp=Z,3.3nm,0.6s,mb4.1,baz=155,slow=11,SNR=6.1
HFS LR LR 05 55 38.7
comp=Z,288nm,19.3s,MS3.8,baz=335,slow=39
KLMR Klimovskoe 26.90 13 *e*P **P 05 44 02.2 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
KLMR MLR MLR
comp=Z,260nm,11.0s,MS4.0
KAF Kangasniemi 26.96 359 *e*p **P 05 44 01.0 -3.6**
comp=Z,2.8nm,0.7s,mb3.9
KAF Kangasniemi 26.96 359 *e*P **P 05 44 01.0 -3.6**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
AKTK Aktyubinsk 27.05 46 P **P 05 44 05.0 -0.4**
AKTO Aktyubinsk 27.05 46 P **P 05 44 05.0 -0.4**
comp=Z,6.9nm,0.6s,mb4.3,baz=257,slow=9.0,SNR=22
AKTO Aktyubinsk 27.05 46 P **P 05 44 05.0 -0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
NAO01 NORSAR Array S 27.73 343 *e*P **P 05 44 11.3 -0.2**
comp=Z,5.2nm,0.6s,mb4.3
NB2 NORSAR Subarra 27.82 343 P **P 05 44 10.5 -1.9**
comp=Z,1.3nm,0.6s,mb3.7,baz=145,slow=9.3
NOA NORSAR Array B 27.82 343 P **P 05 44 10.5 -1.9**
comp=Z,1.6nm,0.7s,mb3.7,baz=147,slow=11,SNR=6.8
NOA LR LR 05 55 12.7
comp=Z,76nm,18.4s,MS3.3,baz=155,slow=36
JOF Joensuu 27.89 4 *e*p **P 05 44 12.1 -0.8**
comp=Z,2.0nm,0.5s,mb4.0
EVO Evora 28.23 287 *e*P **P 05 44 15.7 -0.3**
comp=Z,70nm,1.4s,mb4.8
EVO *e*R
comp=Z,139nm,19.0s
EKA Eskdalemuir Ar 28.98 323 P **P 05 44 21.6 -1.1**
comp=Z,1.9nm,0.7s,mb3.9,baz=121,slow=9.9,SNR=8.3
SOKR Solikamsk 31.12 29 *e*P **P 05 44 40.0 -1.6**
comp=Z,20nm,0.9s,mb5.0
SOKR Solikamsk 31.12 29 *e*P **P 05 44 40.0 -1.6**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
TORD Torodi Ar. Bea 31.77 233 P **P 05 44 48.4 +1.1**
comp=Z,15nm,0.6s,mb5.0,baz=32,slow=8.7,SNR=256
APA Apatity 32.64 4 ⇑*e*P **P 05 44 45.0 -10**
APA pmax pmax
comp=Z,78nm,1.8s,mb5.3
APA MLR MLR
comp=Z,800nm,14.0s,MS4.6
ZRNK Zerenda 34.33 46 *e*P **P 05 45 09.4 -0.2**
comp=Z,14nm,1.1s,mb4.8
ZRNK Zerenda 34.33 46 *e*P **P 05 45 09.4 -0.2**
ZRNK pmax pmax
comp=Z,14nm,1.1s,mb4.8
ZRNK Zerenda 34.33 46 *e*P **P 05 45 09.4 -0.2**
comp=Z,14nm,1.1s,mb4.8
ARCES ARCESS Array B 34.42 359 P **P 05 45 08.6 -1.9**
comp=Z,3.4nm,0.9s,mb4.2,baz=343,slow=10,SNR=14
ARCES LR LR 05 59 58.4
comp=Z,188nm,18.5s,MS3.9,baz=5.6,slow=38
BRVK Borovoye 35.10 46 *e*P **P 05 45 16.3 0.0**
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 35.10 46 *e*P **P 05 45 16.3 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 35.16 46 P **P 05 45 16.4 -0.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=256,slow=6.0,SNR=17
AML Almayashu 36.64 65 P **P 05 45 31.4 +2.0**
SNR=6.5
EKS2 Erkin-Say 36.66 64 P **P 05 45 31.2 +1.5**
SNR=13
USP Ospenovka 37.14 63 P **P 05 45 34.3 +0.5**
SNR=8.7
AAK Ala-Archa 37.19 64 P **P 05 45 35.7 +1.5**
SNR=17
AAK Ala-Archa 37.19 64 *e*P **P 05 45 34.4 +0.3**
AAK pmax pmax
comp=Z,15nm,0.7s,mb4.9
AAK Ala-Archa 37.19 64 *e*P **P 05 45 34.4 +0.2**
comp=Z,15nm,0.7s,mb4.9
UCH Uchtor 37.23 65 P **P 05 45 36.8 +2.2**
SNR=8.5
FRU Bishkek 37.26 64 *e*P **P 05 45 37.5 +2.7**
FRU pmax pmax
comp=Z,43nm,1.5s,mb5.1
CHMS Chumysh 37.35 63 P **P 05 45 37.3 +1.8**
SNR=6.6
KBK Karagaybulak 37.52 64 P **P 05 45 39.2 +2.3**
SNR=5.4
KZA Kyzart 37.79 65 P **P 05 45 41.7 +2.5**
SNR=18
TKM2 Tokmak 2 37.97 63 P **P 05 45 42.6 +1.9**
SNR=10
ULHL Ulahol 38.51 64 P **P 05 45 47.5 +2.2**
SNR=29
KURK Kurchatov 39.90 51 *e*P **P 05 45 56.8 -0.2**
comp=Z,17nm,1.0s,mb4.7
KURK Kurchatov 39.90 51 *e*P **P 05 45 56.8 -0.2**
KURK *e* 05 47 30.1
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.7
KURK Kurchatov 39.90 51 *e*P **P 05 45 56.8 -0.2**
comp=Z,17nm,1.0s,mb4.7
KURK *e*PP PP 05 47 30.1 +1.1
DBIC Dimbokro 40.87 234 P **P 05 46 05.7 +0.7**
comp=Z,8.7nm,0.7s,mb4.5,baz=14,slow=9.7,SNR=18
DBIC Dimbokro 40.87 234 P **P 05 46 05.7 +0.7**
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC Dimbokro 40.87 234 *e*P **P 05 46 05.5 +0.5**
comp=Z,19nm,1.1s,mb4.6
MKAR Makanchi Array 42.40 57 P **P 05 46 18.2 +0.7**
comp=Z,24nm,0.6s,mb5.0,baz=279,slow=6.6,SNR=379
MKAR LR LR 06 08 17.5
comp=Z,60nm,19.1s,MS3.5,baz=229,slow=42
ZAL Zalesovo 43.80 46 P **P 05 46 28.3 -0.5**
comp=Z,4.3nm,0.6s,mb4.4,baz=204,slow=8.0,SNR=13
WMQ Urumqi 46.58 60 ⇓*i*P **P 05 46 52.6 +1.7**
WMQ AP pP 05 47 02.6 +1.8
WMQ XP sP 05 47 06.6 +1.9
WMQ PP PP 05 48 41.6 +1.0
WMQ S **S 05 53 38.6 +1.1**
WMQ SCS ScS 05 56 41.6 -1.6
WMQ SS SS 05 56 57.6 -6.1
WMQ AMB AMB
comp=Z,32nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,175nm,4.0s
WMQ LR LR
comp=N,215nm,12.0s,MS4.4

WMQ LR LR
comp=E,106nm,12.0s,MS4.4
KOLN Koldanda 48.16 82 *eP* **P 05 47 04.8 +1.6**
comp=E,30nm,0.8s,mb5.4
GKN Gorkha 48.91 82 *eP* **P 05 47 10.3 +1.4**
comp=E,34nm,0.7s,mb5.5
DMN Daman 49.45 82 *eP* **P 05 47 14.7 +1.6**
comp=E,45nm,0.7s,mb5.6
KKN Kakani 49.52 82 *eP* **P 05 47 14.7 +1.1**
comp=E,28nm,0.6s,mb5.5
KKN Kakani 49.52 82 *eP* **P 05 47 14.7 +1.1**
KKN pmax pmax
comp=Z,14nm,0.6s,mb5.2
SUMG Summit 49.55 339 *eP* **P 05 47 12.9 -0.9**
comp=Z,4.3nm,0.9s,mb4.5
PKI Pulchoki 49.71 82 *eP* **P 05 47 15.9 +0.9**
comp=Z,36nm,0.8s,mb5.4
PKI Pulchoki 49.71 82 *eP* **P 05 47 15.9 +0.9**
PKI pmax pmax
comp=Z,18nm,0.8s,mb5.2
GUN Gumba 49.95 81 *eP* **P 05 47 18.3 +1.4**
comp=Z,36nm,0.8s,mb5.5
LSZ Lusaka 50.18 179 P **P 05 47 20.7 +2.1**
comp=Z,2.0nm,0.5s,mb4.4,baz=358,slow=10,SNR=6.7
LSZ PcP PcP 05 48 39.8 +2.3
comp=Z,2.6nm,0.8s,baz=356,slow=5.1,SNR=3.6
LSZ Lusaka 50.18 179 P **P 05 47 20.7 +2.1**
LSZ 05 48 39.8
LSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LSZ Lusaka 50.18 179 *eP* **P 05 47 20.4 +1.8**
comp=Z,1.8nm,0.4s,mb4.5
JIRN Jiri 50.31 81 *eP* **P 05 47 21.0 +1.4**
comp=Z,33nm,0.8s,mb5.4
LSA Lhasa 53.47 77 *eP* **P 05 47 43.4 +0.2**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 53.47 77 *eP* **P 05 47 43.4 +0.2**
comp=Z,3.6nm,0.6s,mb4.5
MOY Mondy 53.79 48 *eP* **P 05 47 47.6 +2.1**
TSUM Tsumeb 54.84 191 P **P 05 47 54.9 +1.8**
comp=Z,6.4nm,0.8s,mb4.7,baz=7.4,slow=7.5,SNR=8.6
TSUM Tsumeb 54.84 191 *eP* **P 05 47 55.3 +2.2**
comp=Z,3.8nm,0.8s,mb4.5
ZAK Zakamensk 55.51 49⇑ *iP* **P 05 47 59.5 +1.6**
ZAK pmax pmax
comp=Z,19nm,1.1s,mb5.0
GTA Gaotai 56.51 62 *eP* **P 05 48 06.1 +1.0**
GTA AP pP 05 48 16.9 +1.7
GTA PP PP 05 50 14.5 +3.5
GTA PPP 05 51 31.8
GTA SCP ScP 05 52 57.8 -0.6
GTA PCS PcS 05 53 01.5 -0.7
GTA S **S 05 55 53.8 -0.4**
GTA SCS ScS 05 57 50.0 -1.8
GTA SS SS 05 59 42.6 +0.8
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,60nm,4.2s
GTA LR LR
comp=N,67nm,8.4s
GTA LR LR
comp=E,110nm,10.3s
GTA LR LR
comp=Z,81nm,8.0s
SONM Songino Array 58.21 51 P **P 05 48 18.6 +1.6**
comp=Z,13nm,0.6s,mb5.1,baz=287,slow=8.1,SNR=161
ULN Ulaanbaatar 58.62 51 *eP* **P 05 48 21.1 +1.2**
ULN pmax pmax
comp=Z,16nm,0.8s,mb5.1
ULN Ulaanbaatar 58.62 51 *eP* **P 05 48 21.1 +1.1**
comp=Z,16nm,0.8s,mb5.1
BOD Bodaibo 59.43 38 *eP* **P 05 48 24.5 -1.1**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
LBTB Lobatse 59.88 182 P **P 05 48 31.6 +3.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=22,slow=5.8,SNR=6.6
LZH Lanzhou 60.72 65 *eP* **P 05 48 35.6 +1.2**
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.3
LZH LR LR
comp=N,383nm,13.5s
LZH LR LR
comp=Z,445nm,17.6s,MS4.7
CD2 Chengdu 62.85 70 *eP* **P 05 48 49.8 +1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
CD2 AMB AMB
comp=Z,80nm,5.9s
BOSA Boshof 63.47 182 P **P 05 48 55.4 +2.5**
comp=Z,2.9nm,0.4s,mb4.8,baz=339,slow=11,SNR=23
BOSA LR LR 06 21 13.3
comp=Z,97nm,19.1s,MS4.0,baz=204,slow=40
BOSA Boshof 63.47 182 P **P 05 48 55.4 +2.5**
BOSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
BOSA MLR MLR
comp=Z,97nm,19.1s,MS4.0
BOSA Boshof 63.47 182 *eP* **P 05 48 54.9 +2.0**
comp=Z,3.1nm,0.4s,mb4.8
HHC Hu-ho-hao-te 64.27 57⇑P **P 05 48 59.8 +1.7**
HHC AP pP 05 49 10.1 +1.8
HHC XP sP 05 49 14.4 +2.2
HHC PCP PcP 05 49 32.9 +0.3
HHC PP PP 05 51 24.4 +4.8
HHC SCP 05 53 31.5
HHC S **S 05 57 38.4 +4.9**
HHC XS sS 05 57 54.8 +4.4
HHC PS 05 58 02.6
HHC SCS ScS 05 58 48.0 -1.7
HHC SS SS 06 01 52.6 +9.3
HHC AMB AMB
comp=Z,32nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,69nm,8.4s
HHC LR LR
comp=N,115nm,18.0s,MS4.3
HHC LR LR
comp=E,188nm,22.8s,MS4.3
HHC LR LR
comp=Z,74nm,20.4s,MS3.9
KMI Kunming 64.72 76 P **P 05 49 06.8 +5.7**
KMI AP pP 05 49 13.3 +2.0
KMI XP sP 05 49 17.6 +2.4
KMI PP PP 05 51 27.3 +3.7
KMI S **S 05 57 38.4 -0.8**
KMI SS SS 06 01 50.9 +0.4
KMI AMB AMB
comp=Z,12nm,0.6s,mb5.1
KMI AMB AMB
comp=Z,69nm,4.0s
KMI LR LR
comp=N,112nm,21.2s,MS4.1
KMI LR LR
comp=E,93nm,22.9s,MS4.1
KMI LR LR
comp=Z,106nm,20.3s,MS4.0
XAN Xi'an 65.36 65 P **P 05 49 06.3 +1.1**
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
HIA Hailar 65.85 46 *eP* **P 05 49 09.4 +1.0**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 65.85 46 *eP* **P 05 49 09.4 +1.0**
comp=Z,17nm,1.0s,mb5.0
ENH Enshi 67.53 68 *eP* **P 05 49 19.6 +0.6**
comp=Z,8.7nm,0.7s,mb4.9
CN2 Changchun 71.94 49 *eP* **P 05 49 46.8 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
BILL Bilibino 72.64 15 *eP* **P 05 49 49.5 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BILL Bilibino 72.64 15 *eP* **P 05 49 49.5 -0.9**
comp=Z,1.7nm,0.4s,mb4.3
KLR Kul'dur 72.68 42 *eP* **P 05 49 48.6 -2.0**
PSI Prapat 73.51 98 P **P 05 49 58.0 +2.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=345,slow=20,SNR=3.2
NJ2 Nanjing 73.61 62 *eP* **P 05 49 53.3 -2.8**
NJ2 AP pP 05 50 06.8 +0.3
NJ2 PCP PcP 05 50 09.0 -2.9
NJ2 XP sP 05 50 11.4 +1.1
NJ2 S S 05 59 19.0 -5.1
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,80nm,10.0s
NJ2 LR LR
comp=N,230nm,23.1s,MS4.5
NJ2 LR LR
comp=E,160nm,21.2s,MS4.5
NJ2 LR LR
comp=Z,160nm,23.9s,MS4.2
MA2 Magadan 74.76 26 *eP* **P 05 50 06.5 +3.7**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 74.76 26 *eP* **P 05 50 02.9 +0.1**
comp=Z,10nm,1.0s,mb4.7
SSE Sheshan 75.80 62 P **P 05 50 06.9 -1.9**
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,145nm,4.1s
INK Inuvik 75.82 353 *eP* **P 05 50 06.9 -2.0**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 75.82 353 *eP* **P 05 50 06.9 -2.0**
comp=Z,4.4nm,1.1s,mb4.3
YKW3 Yellowknife Ar 77.87 343 *eP* **P 05 50 20.1 -0.4**
YKA Yellowknife Ar 77.92 343 P **P 05 50 19.4 -1.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=31,slow=5.4,SNR=15
YKA LR LR 06 24 17.4
comp=Z,62nm,18.0s,MS4.0,baz=320,slow=35
YKA Yellowknife Ar 77.92 343 *i* P **P 05 50 22.7 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
TNA Tin City 78.91 6 *eP* **P 05 50 25.1 -1.2**
comp=Z,1.9nm,0.8s,mb4.1
ILAR Eielson Array 80.27 357 P **P 05 50 32.6 -1.0**
comp=Z,0.4nm,0.6s,baz=343,slow=3.5,SNR=10
FFC Flin Flon 80.37 333 *eP* **P 05 50 33.1 -1.1**
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FFC Flin Flon 80.37 333 *eP* **P 05 50 33.1 -1.1**
comp=Z,5.0nm,0.8s,mb4.5
DAWY Dawson 80.52 354 *eP* **P 05 50 33.9 -1.0**
ULM Lac du Bonnet 81.19 327 P **P 05 50 37.5 -1.0**
comp=Z,1.6nm,0.6s,mb4.1,baz=79,slow=4.7,SNR=6.1
ULM LR LR 06 25 55.6
comp=Z,92nm,19.0s,MS4.2,baz=30,slow=35
MJAR Matsushiro Arr 84.09 49 P **P 05 50 55.0 +1.4**
comp=Z,3.3nm,0.8s,mb4.5,baz=295,slow=3.2,SNR=6.9
MJAR LR LR 06 32 05.8
comp=Z,106nm,20.0s,MS4.2,baz=140,slow=38
CPCT Cooper Cave 85.17 310 *eP* **P 05 50 59.5 +0.4**
WVT Waverly 86.76 313 *eP* **P 05 51 06.4 -0.5**
WVT pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
WVT Waverly 86.76 313 *eP* **P 05 51 06.4 -0.6**
comp=Z,3.4nm,0.8s,mb4.6
BDFB Brasilia 87.23 249 P **P 05 51 11.7 +2.5**
comp=Z,3.3nm,0.7s,mb4.7,baz=39,slow=3.7,SNR=5.3
BDFB LR LR 06 30 03.9
comp=Z,106nm,18.7s,MS4.3,baz=302,slow=36
CCM Cathedral Cave 87.45 316 *eP* **P 05 51 09.0 -1.3**
CCM pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
CCM Cathedral Cave 87.45 316 *eP* **P 05 51 09.0 -1.3**
comp=Z,5.0nm,0.7s,mb4.8
LRAL Lakeview Retre 88.30 310 *eP* **P 05 51 14.4 +0.1**
comp=Z,3.0nm,0.6s,mb4.7
MIAR Mount Ida 91.25 315 *eP* **P 05 51 28.1 0.0**
MIAR pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
MIAR Mount Ida 91.25 315 *eP* **P 05 51 28.1 -0.1**
comp=Z,8.1nm,1.2s,mb4.9
BW06 Boulder Array 92.93 330 *eP* **P 05 51 37.7 +1.8**
comp=Z,0.6nm,0.5s,mb4.3
PDAR Pinedale Array 92.93 330 P **P 05 51 37.9 +2.0**
comp=Z,0.5nm,0.8s,mb4.0,baz=30,slow=3.6,SNR=5.1
PDAR LR LR 06 33 36.9
comp=Z,52nm,18.5s,MS4.0,baz=242,slow=36
BMO Blue Mountains 94.07 336 *eP* **P 05 51 40.1 -1.0**
comp=Z,2.1nm,0.8s,mb4.6
WRA Warramunga Arr 114.97 98 PKP PKiKP 05 57 05.6 +1.9
comp=Z,0.3nm,0.7s,baz=316,slow=0.3,SNR=6.3

IDC 22 05:55:48.9±4.0, 2819S×17838W, h211km±57km, mb3.2/2, mb1 3.5/2, mb1mx3.3/12, mbtmp3.8/2, Error ellipse: s-maj=172.6km s-min=32.9km az=169.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**159**	P	Pn	05 56 22.3	+1.7
	412nm,0.3s,baz=81,slow=4.3,SNR=22						
RAO				S	S	05 56 45.4	0.0
	259nm,0.3s,baz=270,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**42.94**	**265**	P	P	06 03 27.1	+0.2
	0.6nm,0.5s,baz=98,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**43.72**	**270**	P	P	06 03 33.3	+0.2
	0.7nm,0.3s,baz=107,slow=7.5,SNR=21						
FINES	**FINESS Array B**	**142.96**	**341**	PKP	PKPdf	06 14 54.4	-2.9
	0.5nm,0.4s,baz=47,slow=4.6,SNR=6.3						
AKASG	**Malin Array Be**	**149.33**	**325**	PKPbc	PKPbc	06 15 12.5	-0.1
	1.0nm,0.3s,baz=47,slow=3.2,SNR=7.9						

ISCJB ***22*** *06:27:08.1±0.7, 3322N±009×1400E±02, h125km±6km, mb3.5/3, Error ellipse: s-maj=20.9km s-min=14.9km az=177.1*
IDC ***22*** *06:27:09.4±1.3, 33.14N×140.19E, h108km±11km, mb3.1/3, mb1 3.3/4, mb1mx3.0/19, mbtmp3.4/4, Error ellipse: s-maj=53.1km s-min=7.6km az=88.0*
JMA ***22*** *06:27:10.4±0.1, 33.38N×139.97E, h106km±2km, M2.9*
ISC 22 06:27:09.4±0.7, 3326N±009×1400E±02, h117km±6km, n10, σ0°32/11, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.21**	**227**	P	**Pn**	**06 27 25.9**	**+0.1**
JHJ	**Hachijo jima 2**	**0.23**	**233**	P	**Pn**	**06 27 25.9**	**0.0**
	387nm,0.3s,baz=81,slow=23,SNR=186						
JHJ				S	**Sn**	**06 27 38.3**	**+0.2**
	126nm,0.3s,baz=92,slow=24,SNR=13						
BSO3	**Boso 3**	**1.60**	**15**	P	**Pn**	**06 27 37.8**	**0.0**
BSO1	**Boso 1**	**1.61**	**30**	P	**Pn**	**06 27 37.5**	**-0.5**
TK04	**Tokai 4**	**2.10**	**303**	P	**Pn**	**06 27 44.0**	**0.0**
JHMK	**Hamakita**	**2.43**	**310**	P	**Pn**	**06 27 47.7**	**-0.5**
MJAR	**Matsushiro Arr**	**3.59**	**336**	P	**Pn**	**06 28 03.9**	**+0.4**
	0.8nm,0.3s,baz=158,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**53.18**	**187**	P	**P**	**06 36 14.9**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=5.2,slow=7.6,SNR=9.9						
WRA				PcP	PcP	06 37 23.4	+1.5
	0.3nm,0.9s,baz=354,slow=3.8,SNR=5.3						
ILAR	**Eielson Array**	**53.31**	**31**	P	**P**	**06 36 16.8**	**+0.5**
	0.2nm,0.6s,mb3.4,baz=272,slow=7.2,SNR=5.9						
ASAR	**Alice Springs**	**56.90**	**187**	P	**P**	**06 36 42.2**	**+0.2**
	0.3nm,0.6s,mb3.5,baz=10.0,slow=8.2,SNR=5.6						
ASAR				PcP	PcP	06 37 38.5	+2.2
	0.3nm,0.5s,baz=3.9,slow=4.9,SNR=4.1						

IDC ***22*** *06:49:12.5±1.8, 857S×124.79E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=190.2km s-min=31.4km az=58.0*
NEIC ***22*** *06:49:13.5±1.3, 949S×123.47E, h10km, mb4.6/1, Error ellipse: s-maj=22.5km s-min=15.8km az=45.0*
ISCJB ***22*** *06:49:27.1±2.7, 105S±0.1×123.8E±0.1, h42km±31km, mb4.4/1, Error ellipse: s-maj=24.9km s-min=19.6km az=78.8*
ISC 22 06:49:31.7±3.5, 105S±02×1239E±01, h86km±35km, n10, σ0°90/15, mb4.3/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.75**	**168**	*eP*	**Pn**	**06 51 21.8**	**+0.1**
	1.6nm,0.2s						
FITZ				*eS*	**Sn**	**06 52 47.8**	**-0.1**
MBWA	**Marble Bar**	**11.36**	**200**	*e*Pn	**Pn**	**06 52 05.2**	**-5.7**
WRA	**Warramunga Arr**	**13.74**	**134**	Pn	**Pn**	**06 52 41.5**	**-1.2**
	0.2nm,0.3s,baz=315,slow=13,SNR=9.2						
WRA				Sn	**Sn**	**06 55 12.6**	**-1.1**
	1.4nm,0.3s,baz=307,slow=24,SNR=17						
WRAB	**Tennant Creek**	**13.74**	**134**	*e*Pn	**Pn**	**06 52 43.2**	**+0.4**
WB2	**Warramunga Arr**	**13.75**	**134**	*eP*	**Pn**	**06 52 42.5**	**-0.3**
WB2				*eS*	**Sn**	**06 55 14.9**	**+0.9**
ASPA	**Alice Springs**	**16.19**	**145**	*eP*	**Pn**	**06 53 18.9**	**+5.0**
AS31	**Alice Springs**	**16.19**	**145**	*eP*	**Pn**	**06 53 18.9**	**+5.0**
ASAR	**Alice Springs**	**16.19**	**145**	P	**Pn**	**06 53 15.8**	**+1.8**
	0.2nm,0.3s,baz=333,slow=14,SNR=10						
ASAR				S	**S**	**06 56 14.9**	**-5.9**
	0.5nm,0.3s,baz=308,slow=22,SNR=15						
ASAR	**Alice Springs**	**16.19**	**145**	P	**Pn**	**06 53 15.8**	**+1.8**
ASAR				S	**S**	**06 56 14.8**	**-5.9**
NWAO	**Narrogin (SRO)**	**23.18**	**194**	*eP*	**P**	**06 54 30.4**	**-0.5**
	19nm,1.2s,mb4.3						

NIED ***22*** *06:50:00, 2620N×129.70E, h5km, Mw3.9 Best double couple: M0 7.58000×10^14 NP1:φ=266.00000°, δ=60.00000°, λ=-67.00000°. NP2:φ=46.00000°, δ=37.00000°, λ=-124.00000°.*
IDC ***22*** *06:50:31.8±1.0, 2590N×129.24E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=46.2km s-min=15.2km az=62.0*
ISCJB ***22*** *06:50:33.2±0.5, 2622N±004×129.68E±003, h33km, mb3.6/8, Error ellipse: s-maj=5.3km s-min=4.1km az=176.1*
JMA ***22*** *06:50:33.2±0.1, 2620N×129.69E, h47km, M4.0*
NEIC ***22*** *06:50:35.7±0.8, 26.15N×129.66E, h35km, MG4.0(JMA), Error ellipse: s-maj=25.5km s-min=12.7km az=71.0*
ISC 22 06:50:34.4±1.9, 2625N±004×12964E±004, h31km±16km, n27, σ1°07/38, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.35**	**296**	P	**Pn**	**06 50 57.4**	**+0.3**
JOW				*eS*	**Sn**	**06 51 13.2**	**-0.8**
JOW	**Kunigami**	**1.35**	**296**	Pn	**Pn**	**06 50 57.5**	**+0.4**
	384nm,0.3s,baz=124,slow=16,SNR=940						
JOW				Sn	**Sn**	**06 51 13.4**	**-0.6**
	329nm,0.3s,baz=112,slow=27,SNR=26						
JMZ	**Minamidaito 2**	**1.49**	**106**	P	**Pn**	**06 50 57.2**	**-1.8**
JMZ				*eS*	**Sn**	**06 51 14.0**	**-3.4**
JTK	**Tokunoshima**	**1.65**	**338**	P	**Pn**	**06 51 01.7**	**+0.5**
JTK				*eS*	**Sn**	**06 51 21.9**	**+0.6**
JIH	**Iheya**	**1.69**	**298**	P	**Pn**	**06 51 01.4**	**-0.4**
JIH				*eS*	**Sn**	**06 51 22.1**	**-0.2**
JJT2	**Tamagusuku 2**	**1.70**	**267**	P	**Pn**	**06 51 02.1**	**+0.2**
JJT2				*eS*	**Sn**	**06 51 22.9**	**+0.3**
NAH1	**Naha**	**1.75**	**269**	P	**Pn**	**06 51 02.8**	**+0.2**
NAH1				*eS*	**Sn**	**06 51 23.1**	**-0.7**
JZK	**Kikaishima**	**2.08**	**8**	P	**Pn**	**06 51 07.2**	**+0.1**
JZK				*eS*	**Sn**	**06 51 32.4**	**+0.4**
JAM	**Amami Oshima**	**2.15**	**359**	P	**Pn**	**06 51 08.2**	**0.0**
JAM				*eS*	**Sn**	**06 51 33.7**	**-0.1**
JAGN	**Aguni-jima**	**2.17**	**279**	P	**Pn**	**06 51 08.9**	**+0.5**
JAGN				*eS*	**Sn**	**06 51 34.2**	**-0.1**
JKE	**Kume jima 2**	**2.56**	**272**	P	**Pn**	**06 51 13.2**	**-0.6**
JKE				*eS*	**Sn**	**06 51 41.7**	**-2.2**
JNN	**Nakanoshima**	**3.58**	**3**	P	**Pn**	**06 51 27.9**	**+0.1**
JNN				*eS*	**Sn**	**06 52 07.2**	**-1.9**
JTN	**Tanegashima 3**	**4.54**	**15**	P	**Pn**	**06 51 41.2**	**+0.2**
JTN				*eS*	**Sn**	**06 52 31.2**	**-1.6**
JTJ	**Tarama**	**4.74**	**251**	*eS*	**Sn**	**06 52 33.0**	**-4.6**
JNU	**Nakatsue**	**6.93**	**9**	Pn	**Pn**	**06 52 15.3**	**+1.5**
	1.5nm,0.3s,baz=141,slow=32,SNR=5.8						
SONM	**Songino Array**	**28.23**	**326**	P	**P**	**06 56 28.0**	**+3.5**
	0.4nm,0.7s,mb3.1,baz=143,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**42.47**	**312**	P	PP	07 00 06.2	+1.0
	0.2nm,0.4s,baz=134,slow=7.7,SNR=7.7						
MKAR	**Makanchi Array**	**42.47**	**312**	P	**P**	**06 58 28.6**	**+2.1**
	0.3nm,0.6s,mb3.1,baz=98,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**42.47**	**312**	P	PP	07 00 06.2	+1.0
WRA	**Warramunga Arr**	**46.14**	**174**	P	**P**	**06 58 56.1**	**+0.2**
	2.1nm,0.8s,mb4.1,baz=351,slow=8.4,SNR=6.1						
ASAR	**Alice Springs**	**49.79**	**175**	P	**P**	**06 59 25.1**	**+1.0**
	0.8nm,0.5s,mb4.0,baz=5.3,slow=14,SNR=5.8						
STKA	**Stephens Creek**	**58.92**	**168**	P	**P**	**07 00 29.2**	**-1.4**
	0.7nm,0.4s,mb4.0,baz=5.1,slow=8.4,SNR=4.2						
STKA	**Stephens Creek**	**58.92**	**168**	P	**P**	**07 00 29.2**	**-1.4**
FINES	**FINESS Array B**	**73.47**	**331**	P	**P**	**07 02 05.4**	**+1.6**
	0.6nm,0.6s,mb3.7,baz=52,slow=3.1,SNR=3.6						
YKA	**Yellowknife Ar**	**77.97**	**25**	P	**P**	**07 02 34.7**	**+5.1**
	0.2nm,0.7s,mb3.1,baz=302,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**77.97**	**25**	P	**P**	**07 02 34.7**	**+5.1**
BRTR	**Keskin Array B**	**78.02**	**308**	P	**P**	**07 02 31.8**	**+2.0**
	0.5nm,0.8s,mb3.5,baz=30,slow=8.9,SNR=3.3						

CASC 22 06:59:27.9±2.5, 1158N×8666W, h34km±40km, MD3.8, ML4.1, 12C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.60**	**7**⇑	*eP*	Pn	06 59 40.2	+0.2
COPN				*eS*	Sb	06 59 49.8	+1.2
TICN	**Ticuantepe**	**0.62**	**43**⇑	*eP*	Pn	06 59 40.5	+0.2
TICN				*eS*	Sn	06 59 50.9	+1.8
XAVN	**Gruta Xavier**	**0.66**	**30**⇓	*eP*	Pn	06 59 41.2	+0.4
XAVN				*eS*	Sn	06 59 51.2	+1.2
APON	**Apoyo**	**0.68**	**60**⇓	*eP*	Pn	06 59 40.8	-0.2
APON				*eS*	Sn	06 59 49.2	-1.2
MGAN	**Managua**	**0.70**	**36**⇓	*eP*	Pn	06 59 41.4	0.0
MGAN				*eS*	Sn	06 59 51.8	+0.8
MGAN				*i*		06 59 53.0	
	comp=N,7μm,0.5s						
APYN	**Apoyeque**	**0.72**	**25**⇓	*eP*	Pn	06 59 42.2	+0.5
APYN				*eS*	Sn	06 59 52.5	+1.0
WILN	**Americas 2**	**0.75**	**39**⇑	*eP*	Pn	06 59 42.2	+0.2
WILN				*eS*	Sn	06 59 53.6	+1.4
MOMJ	**Momotombo**	**0.84**	**8**⇑	*eP*	Pn	06 59 43.0	-0.3
MOMJ				*eS*	Sn	06 59 54.9	+0.5
SSNN	**San Juan del S**	**0.85**	**110**	*eP*	Pn	06 59 42.2	-1.2
SSNN				*eS*	Sn	06 59 54.4	-0.3
MIRN	**Miramar**	**0.86**	**357**⇓	*iP*	Pn	06 59 43.6	0.0
MIRN				*eS*	Sn	06 59 55.5	+0.6
LEON	**Leon**	**0.86**	**345**⇑	*iP*	Pn	06 59 43.5	-0.2
LEON				*eS*	Sn	06 59 55.3	+0.3
CNGN	**Cerro Negro**	**0.92**	**358**⇑	*eP*	Pn	06 59 44.2	-0.2
CNGN				*eS*	Sn	06 59 59.7	+3.3
TEL3	**Telica 3**	**1.01**	**350**⇑	*eP*	Pn	06 59 45.5	-0.1
CONN	**Concepcion**	**1.02**	**91**⇑	*eP*	Pn	06 59 44.9	-0.8
CONN				*eS*	Sn	06 59 58.6	-0.2
TELN	**Telica**	**1.04**	**351**⇑	*eP*	Pn	06 59 45.9	-0.1
TELN				*eS*	Sn	06 59 59.4	+0.1
MADN	**Villa Maderas**	**1.12**	**98**⇓	*eP*	Pn	06 59 45.9	-1.2
CRIN	**San Cristobal**	**1.18**	**341**⇑	*eP*	Pn	06 59 47.8	-0.2
CRIN				*eS*	Sn	07 00 03.8	+1.0
VCR	**Vista de Mar**	**1.76**	**145**	*eP*	Pn	06 59 57.1	+1.2
VCR				*eS*	Sn	07 00 19.4	+2.3
VSM	**San Miguel**	**2.42**	**320**	*eP*	Pn	07 00 11.8	+6.8
VSM				*eS*	Sn	07 00 41.3	+7.8
PRS1	**Puriscal**	**2.80**	**124**⇑	*eP*	Pn	07 00 12.5	+2.2
PRS1				*eS*	Sn	07 00 46.4	+3.5
LCBS	**La Ceiba**	**3.06**	**313**	*eP*	Pn	07 00 19.2	+5.3
LCBS				*eS*	Sn	07 00 54.6	+5.3
LFRS	**El Faro**	**3.10**	**311**	*eP*	Pn	07 00 19.8	+5.4
LFRS				*eS*	Sn	07 00 55.4	+5.1
LBRS	**Las Brisas**	**3.17**	**313**	*eP*	Pn	07 00 21.4	+6.2
LBRS				*eS*	Sn	07 00 59.4	+7.6
BUS	**Buena Vista**	**3.49**	**125**⇑	*eP*	Pn	07 00 21.8	+2.0
BUS				*eS*	Sn	07 01 01.4	+1.5

CSEM ***22*** *07:01:25.6±0.1, 3908N×2424E, h10km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.4km az=132.0*
NEIC ***22*** *07:01:25.3, 39.09N×2425E, h9km, ML3.4(ATH), After THE.*
ATH ***22*** *07:01:25.6, 39.12N×2422E, h25km±1km, MD3.2/11, ML3.4*
THE ***22*** *07:01:25.3, 39.09N×2425E, h8km, ML2.7*
ISCJB ***22*** *07:01:26.0±0.7, 39.12N±003×2422E±004, h17km±7km, Error ellipse: s-maj=6.2km s-min=4.4km az=119.7*
ISC 22 07:01:25.7±0.6, 3913N±003×2420E±004, h15km±5km, n25, σ0°96/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.25**	**280**	*e*Pg	**Pg**	**07 01 31.1**	**0.0**
AOS				*e*Sg	**Sg**	**07 01 36.0**	**+1.1**
NEO	**Neokhori**	**0.78**	**284**	*e*PN	**Pn**	**07 01 41.7**	**-0.5**
NEO				*e*SN	**Sn**	**07 01 53.0**	**-0.6**
XOR	**Xorichti**	**0.82**	**287**	*e*Pg	**Pg**	**07 01 41.7**	**+0.1**
	comp=Z,5.0nm,0.2s						
XOR				*e*Sg	**Sg**	**07 01 53.5**	**+1.2**
PAIG	**Paliouri**	**0.90**	**334**	*e*Pg	**Pg**	**07 01 43.3**	**+0.2**

PAIG				*e*Sg	**Sg**	**07 01 56.3**	**+1.5**
MPAR	**Parnis Oros**	**1.04**	**201**	*e*PN	**Pn**	**07 01 46.0**	**+0.2**
MPAR				*e*SN	**Sn**	**07 02 00.5**	**+0.4**
LKR	**Lokris**	**1.05**	**243**	*e*PB	**Pb**	**07 01 45.0**	**-0.6**
LKR				*e*SN	**Sn**	**07 02 00.6**	**+0.3**
LOS	**Limnos**	**1.06**	**40**	*e*Pg	**Pg**	**07 01 45.6**	**-0.5**
LOS				*e*Sg	**Sg**	**07 02 00.5**	**+0.6**
LIA	**Limnos Island**	**1.08**	**44**	*e*PN	**Pn**	**07 01 46.1**	**-0.3**
PTL	**Penteli**	**1.11**	**194**	*e*PN	**Pn**	**07 01 46.5**	**-0.2**
ATH	**Athens Observa**	**1.21**	**198**	*e*PN	**Pn**	**07 01 49.0**	**+0.8**
OUR	**Ouranopolis**	**1.22**	**352**	*e*Pg	**Pg**	**07 01 47.8**	**-1.4**
	comp=Z,4.0nm,0.4s						
KVR	**Kavouri**	**1.34**	**195**	*e*PN	**Pn**	**07 01 50.5**	**+0.6**
PLG	**Polygyros**	**1.37**	**335**	*e*PN	**Pn**	**07 01 51.0**	**+0.6**
AGG	**Agios Georgios**	**1.46**	**266**	*e*Pg	**Pg**	**07 01 51.8**	**-1.9**
AGG				*e*Sg	**Sg**	**07 02 11.9**	**-0.8**
AGG	**Agios Georgios**	**1.46**	**266**	*e*Pg	**Pg**	**07 01 51.8**	**-2.0**
AGG				*e*Sg	**Sg**	**07 02 11.9**	**-0.8**
NAIG	**Nisos Aigina**	**1.48**	**202**	*e*PN	**Pn**	**07 01 53.0**	**+1.2**
PRK	**Paraskevi**	**1.62**	**85**	*e*PN	**Pn**	**07 01 53.9**	**+0.2**
PRK				*e*SN	**Sn**	**07 02 15.7**	**+1.4**
LIT	**Litokhoron**	**1.64**	**307**	*e*Pb	**Pb**	**07 01 53.8**	**-1.9**
SOH	**Sokhos**	**1.81**	**339**	*e*Pb	**Pb**	**07 01 57.1**	**-1.5**
KNT	**Kendrikon**	**2.26**	**334**	*e*Pn	**Pn**	**07 02 03.1**	**+0.5**
ALN	**Alexandroupoli**	**2.27**	**38**	*e*Pn	**Pn**	**07 02 01.9**	**-0.8**
GRG	**Griva**	**2.29**	**324**	*e*Pn	**Pn**	**07 02 03.9**	**+0.9**
APE	**Apeiranthos**	**2.31**	**152**	*e*Pn	**Pn**	**07 02 02.1**	**-1.1**
VLS	**Valsamata**	**2.98**	**253**	*e*PN	**Pn**	**07 02 14.0**	**+1.5**
LAST	**Lasithi**	**4.09**	**165**	*e*Pn	**Pn**	**07 02 26.2**	**-1.5**

CSEM ***22*** *07:01:31.6±0.1, 3704N×2888E, h5km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.9km az=22.0*
ISCJB ***22*** *07:01:32.3±0.7, 3706N±003×2887E±004, h0km±8km, Error ellipse: s-maj=5.7km s-min=4.8km az=65.1*
ISK ***22*** *07:01:32.1, 3704N×2886E, h10km, MD3.1*
NEIC ***22*** *07:01:36.1, 3686N×2871E, h9km, MD3.0(ISK), MD3.3(ATH), After ATH.*
ATH ***22*** *07:01:36.1, 3686N×2871E, h9km±1km, MD3.3/5*

ISC 22 07:01:32.9±0.6, 3706N±003×2887E±003, h3km±6km, n23, σ0°89/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.45**	**157**	*i* PG	**Pg**	**07 01 40.8**	**-0.8**
FETY				*i* SG	**Sg**	**07 01 48.1**	**+0.6**
GOLH	**Golhisar**	**0.58**	**72**	*i* P	**Pg**	**07 01 43.7**	**-0.3**
GOLH				*i* S	**Sg**	**07 01 52.2**	**+0.6**
DNZL	**Cakiroluk**	**0.65**	**13**	*i* P	**Pg**	**07 01 45.7**	**+0.3**
DNZL				*i* S	**Sg**	**07 01 57.2**	**+3.5**
DENT	**Denizli**	**0.71**	**11**	PG	**Pg**	**07 01 46.7**	**+0.2**
ELL	**Elmali**	**0.89**	**110**	PG	**Pg**	**07 01 49.0**	**-0.9**
MLSB	**Milas**	**0.90**	**286**	PG	**Pg**	**07 01 49.9**	**-0.3**
AYDN	**Tasoluk**	**0.99**	**308**	*i* P	**Pg**	**07 01 51.6**	**-0.3**
ARG	**Arkhangelos**	**1.03**	**216**	*e*PB	**Pb**	**07 01 51.4**	**-1.9**
KSL	**Kastellorizon**	**1.07**	**147**	*e*PB	**Pb**	**07 01 55.0**	**+1.0**
BDRM	**Kayabasi**	**1.14**	**271**	*i* P	**Pg**	**07 01 54.5**	**-0.2**
BDRM				*i* S	**Sg**	**07 02 10.2**	**+0.7**
BODT	**Bodrum**	**1.25**	**271**	PN	**Pn**	**07 01 56.0**	**-1.1**
KHL	**Karahalli**	**1.37**	**22**	*e*PN	**Pn**	**07 01 58.4**	**-0.4**
BCK	**Bucak**	**1.43**	**73**	*e*PN	**Pn**	**07 01 59.1**	**-0.6**
MANT	**Manisa**	**1.45**	**350**	*i* P	**Pn**	**07 01 59.4**	**-0.6**
MANT				*i* S	**Sb**	**07 02 19.8**	**+0.4**
NISR	**Nisiros**	**1.46**	**253**	*e*PB	**Pb**	**07 02 00.5**	**-0.2**
TKTP	**Tekketepe**	**1.52**	**49**	*i* P	**Pn**	**07 02 01.1**	**+0.2**
ISP	**Isparta**	**1.52**	**58**	*e*PN	**Pn**	**07 02 00.9**	**-0.1**
ISP	**Isparta**	**1.52**	**58**	Pn	**Pn**	**07 02 06.2**	**+5.2**
AKS	**Akhisar**	**2.00**	**336**	*e*PN	**Pn**	**07 02 06.4**	**-1.1**
KARP	**Karpathos**	**2.04**	**223**	*e*PN	**Pn**	**07 02 09.5**	**+1.4**
SANT	**Santorini**	**2.82**	**257**	Pn	**Pn**	**07 02 19.5**	**+0.7**
XRY	**Khrisi**	**3.37**	**231**	*e*PN	**Pn**	**07 02 28.5**	**+2.1**
ELDT	**Eldivan**	**4.94**	**45**	*i* P	**Pn**	**07 02 48.3**	**+0.3**

ISCJB ***22*** *07:02:34.7±1.5, 3406N±010×720E±0.1, h10km, Error ellipse: s-maj=20.5km s-min=8.3km az=107.3*
NDI ***22*** *07:02:38.1±2.3, 3449N×7229E, h10km, ML3.2*
NNC ***22*** *07:02:48.3±12.0, 3496N×7204E, h0km, mb3.8, mpv3.9, Error ellipse: s-maj=311.7km s-min=97.8km az=90.0*

ISC 22 07:02:39.6±1.1, 3413N±010×722E±01, h10km, n8, σ1°28/13, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.37**	**119**	*e*P	**Pn**	**07 03 33.8**	**+1.6**
THN				*ex*	**Sb**	**07 04 21.1**	**+0.8**
DLH	**Dalhousie**	**3.50**	**116**	*ex*	**Pb**	**07 03 44.0**	**+2.4**
DLH				*e*S	**Sn**	**07 04 16.0**	**+0.6**
SDNR	**Sundarnagar**	**4.77**	**122**	*e*P	**Pn**	**07 03 52.5**	**+1.1**
SDNR				*e*S	**Sn**	**07 04 45.1**	**-1.7**
KLP	**Kalpa**	**5.68**	**115**	*e*P	**Pn**	**07 04 03.4**	**-0.6**
KLP				*e*S	**Sn**	**07 05 07.8**	**-1.5**
KLP				AML	AML	07 05 09.5	
	comp=E,68nm,0.4s						
KLP				AML	AML	07 05 09.9	
	comp=N,71nm,0.4s						
KUDL	**Kundal**	**6.99**	**147**	*e*S	**Sn**	**07 05 40.7**	**-0.8**
KUDL				AML	AML	07 05 47.3	
	comp=E,8.5nm,0.4s						
KUDL				AML	AML	07 05 47.9	
	comp=N,6.4nm,0.3s						
SONA	**Sohna**	**7.18**	**143**	*e*S	**Sn**	**07 05 45.9**	**-0.3**
SONA				AML	AML	07 05 50.7	
	comp=E,21nm,0.6s						
SONA				AML	AML	07 05 50.7	
	comp=N,11nm,0.4s						
KK31	**Karatay Array**	**9.06**	**352**	P	**Pn**	**07 04 48.4**	**-2.0**
	comp=N,2.3nm,0.4s,baz=162,slow=11,SNR=61						
KK31				⇑S	**Sn**	**07 06 23.7**	**-8.7**
	comp=N,7.3nm,0.8s,baz=178,slow=25,SNR=14						
AB31	**Akbulak array**	**17.65**	**333**	P	**Pn**	**07 06 46.3**	**+0.9**
	comp=N,0.3nm,0.3s,baz=141,slow=13,SNR=9.2						

CASC 22 07:23:28.8±2.8, 1230N×8971W, h18km±42km, MD4.0, ML2.5, 9C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.46**	**25**⇑	*e*P	Pn	07 23 59.9	+5.7
LFRS				*e*S	Sn	07 24 21.2	+8.4
BOQS	**Boqueron**	**1.49**	**16**⇓	*e*P	Pn	07 24 00.9	+6.3
BOQS				*e*S	Sn	07 24 21.3	+7.7
LCBS	**La Ceiba**	**1.53**	**28**⇑	*e*P	Pn	07 24 00.8	+5.7
LCBS				*e*S	Sn	07 24 22.6	+8.1
SBLS	**San Blas**	**1.54**	**3**⇑	*e*P	Pn	07 24 01.8	+6.5
SBLS				*e*S	Sn	07 24 24.0	+9.3
LFU	**La Fuente**	**1.56**	**22**⇑	*e*P	Pn	07 24 02.1	+6.6
LFU				*e*S	Sn	07 24 21.9	+6.7
SNVI	**San Vicente**	**1.56**	**33**⇓	*e*P	Pn	07 24 01.4	+5.8
SNVI				*e*S	Sn	07 24 22.0	+6.7
SNJE	**San Jose**	**1.57**	**4**⇑	*e*P	Pn	07 24 02.2	+6.6
SNJE				*e*S	Sn	07 24 23.4	+8.0
LBRS	**Las Brisas**	**1.57**	**24**⇑	*e*P	Pn	07 24 02.0	+6.2
LBRS				*e*S	Sn	07 24 22.9	+7.3
RTR	**El Retiro**	**1.59**	**2**⇑	*e*P	Pn	07 24 02.6	+6.6
RTR				*e*S	Sn	07 24 24.1	+8.0
RTR				*e*		07 24 24.1	
VSM	**San Miguel**	**1.79**	**51**⇑	*e*P	Pn	07 24 04.7	+5.9
VSM				*e*S	Sn	07 24 28.6	+7.6
IXG	**Ixpaco**	**2.00**	**339**	*e*P	Pn	07 24 02.2	+0.6
IXG				*e*S	Sn	07 24 25.6	-0.7
IXG				*e*S	Sn	07 24 25.9	-0.3
MTO2	**Montecristo 2**	**2.12**	**9**⇑	*e*P	Pn	07 24 10.4	+7.1
MTO2				*e*S	Sn	07 24 36.0	+6.9
CRIN	**San Cristobal**	**2.63**	**81**	*e*P	Pn	07 24 10.8	+0.6
CRIN				*e*S	Sn	07 24 43.3	+1.7
JAT	**Jato**	**2.75**	**317**	*e*P	Pn	07 24 13.4	+1.5
JAT				*e*S	Sn	07 24 45.2	+0.5
LEON	**Leon**	**2.75**	**87**	*e*P	Pn	07 24 11.1	-0.9
TEL3	**Telica 3**	**2.81**	**84**⇓	*e*P	Pn	07 24 12.5	-0.2
TELN	**Telica**	**2.83**	**83**	*e*P	Pn	07 24 12.5	-0.5
MIRN	**Miramar**	**2.93**	**87**	*e*P	Pn	07 24 14.0	-0.4
CNGN	**Cerro Negro**	**2.95**	**86**	*e*P	Pn	07 24 14.5	-0.2
CNGN				*i*		07 24 39.7	
	comp=Z,22nm,0.3s						
COPN	**Copaltepe**	**3.05**	**92**⇓	*e*P	Pn	07 24 15.9	-0.1
MGAN	**Managua**	**3.39**	**92**	*e*P	Pn	07 24 21.1	+0.5

IDC ***22*** *07:25:17.3±0.7, 851S×12759E, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.1/18, mbtmp4.2/10, ML3.7/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/21, Error ellipse: s-maj=43.3km s-min=17.3km az=50.0*
ISCJB ***22*** *07:25:18.7±0.4, 870S±004×12783E±009, h33km, mb4.2/14, MS3.8/5, Error ellipse: s-maj=12.6km s-min=5.2km az=146.5*
MOS ***22*** *07:25:20.4±1.3, 873S×12767E, h48km, mb4.4/12, Error ellipse: s-maj=25.1km s-min=9.7km az=126.5*
NEIC ***22*** *07:25:21.6±0.6, 853S×12783E, mb4.4/7, Error ellipse: s-maj=17.2km s-min=9.3km az=61.0*

ISC 22 07:25:21.1±0.4, 869S±005×12770E±008, h35km, (h36km±1.8km:pP-P), n50, σ0°95/52, mb4.2/14, MS3.8/5, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.57**	**192**	*e*P	**Pn**	**07 27 41.3**	**+5.0**
	52nm,0.6s						
FITZ				*e*S	**Sn**	**07 29 27.8**	**+5.3**
WRAB	**Tennant Creek**	**12.89**	**151**	*e*P	**Pn**	**07 28 21.8**	**0.0**
WRAB				*e*		07 30 37.1	
WRAB				pmax	pmax		
	comp=Z,29nm,0.7s						
WRAB	**Tennant Creek**	**12.89**	**151**	*e*Pn	**Pn**	**07 28 21.8**	**0.0**
	comp=Z,29nm,0.7s						
WRAB				*e*Sn	**Sn**	**07 30 37.1**	**-6.9**
WRA	**Warramunga Arr**	**12.90**	**151**	Pn	**Pn**	**07 28 21.8**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=326,slow=14,SNR=170						
WRA				Sn	**Sn**	**07 30 37.1**	**-7.0**
	comp=Z,4.0nm,0.3s,baz=327,slow=23,SNR=12						
WRA	**Warramunga Arr**	**12.90**	**151**	P	**Pn**	**07 28 21.8**	**-0.1**
WRA						07 30 37.1	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=E,4.0nm,0.3s						
WB2	**Warramunga Arr**	**12.90**	**151**	*e*P	**Pn**	**07 28 21.9**	**0.0**
WB2				*e*S	**Sn**	**07 30 36.9**	**-7.3**
MBWA	**Marble Bar**	**14.59**	**211**	*e*Pn	**Pn**	**07 28 50.0**	**+5.1**
	comp=E,24nm,1.0s						
MBWA				*e*Sn	**Sn**	**07 31 25.3**	**0.0**
AS31	**Alice Springs**	**16.03**	**159**	*e*P	**Pn**	**07 29 02.7**	**-1.1**
AS31				*e*S	**S**	**07 31 56.0**	**-17**
ASAR	**Alice Springs**	**16.03**	**159**	Pn	**Pn**	**07 29 05.0**	**+1.2**
	comp=E,1.3nm,0.3s,baz=328,slow=9.3,SNR=60						
ASAR				Sn	**Sn**	**07 31 55.6**	**-4.8**
	comp=E,1.7nm,0.3s,baz=324,slow=18,SNR=7.8						
ASAR	**Alice Springs**	**16.03**	**159**	P	**Pn**	**07 29 05.0**	**+1.2**
ASAR						07 31 55.6	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR				smax			
	comp=E,2.0nm,0.3s						
ASPA	**Alice Springs**	**16.03**	**159**	*e*P	**Pn**	**07 29 02.7**	**-1.1**
ASPA				*e*S	**S**	**07 31 56.0**	**-17**
PMG	**Port Moresby**	**19.23**	**94**	P	**Pn**	**07 29 44.8**	**+1.5**
	comp=E,0.3nm,0.3s,baz=301,slow=18,SNR=2.1						
PMG	**Port Moresby**	**19.23**	**94**	*e*P	**Pn**	**07 29 42.1**	**-1.2**
PMG				pmax	pmax		
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**19.23**	**94**	*e*P	**Pn**	**07 29 42.1**	**-1.2**
	comp=Z,20nm,0.9s						
PMG				*ep*P	pP	07 29 51.2	-0.2
CTA	**Charters Tower**	**21.21**	**124**	P	**P**	**07 30 07.2**	**+3.4**
	comp=Z,2.1nm,0.3s,mb3.9,baz=293,slow=15,SNR=2.3						
CTA				LR	LR	07 38 40.5	
	comp=Z,306nm,19.9s,MS3.7,baz=134,slow=38						
CTA	**Charters Tower**	**21.21**	**124**	P	**P**	**07 30 07.2**	**+3.4**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,306nm,19.9s						
CTAO	**Charters Tower**	**21.21**	**124**	P	**P**	**07 30 05.4**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.3						
CTAO	**Charters Tower**	**21.21**	**124**	P	**P**	**07 30 05.4**	**+1.7**
	comp=Z,17nm,1.1s,mb4.3						
NWAO	**Narrogin (SRO)**	**25.99**	**200**	LR	LR	07 42 47.1	
	comp=Z,279nm,20.1s,MS3.8,baz=5.9,slow=40						
STKA	**Stephens Creek**	**26.44**	**153**	*e*P	**P**	**07 30 56.6**	**+2.0**
	comp=Z,4.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.44**	**153**	P	**P**	**07 30 56.4**	**+1.8**
	comp=Z,3.7nm,0.6s,mb4.1,baz=328,slow=9.1,SNR=9.0						
STKA				LR	LR	07 42 46.6	
	comp=Z,205nm,19.7s,MS3.7,baz=5.9,slow=39						
PSI	**Prapat**	**30.88**	**290**	P	**P**	**07 31 33.8**	**-0.3**
	comp=Z,2.4nm,0.4s,mb4.4,baz=105,slow=14,SNR=2.3						
PSI	**Prapat**	**30.88**	**290**	P	**P**	**07 31 33.8**	**-0.3**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
ULN	**Ulaanbaatar**	**59.20**	**344**	*e*P	**P**	**07 35 19.9**	**+1.2**
SONM	**Songino Array**	**59.36**	**343**	P	**P**	**07 35 19.7**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=159,slow=7.3,SNR=5.7						
SONM	**Songino Array**	**59.36**	**343**	P	**P**	**07 35 19.7**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**68.42**	**328**	P	**P**	**07 36 19.4**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=116,slow=8.3,SNR=23						
MKAR				LR	LR	08 07 40.8	
	comp=Z,45nm,20.4s,MS3.7,baz=170,slow=37						
MKAR	**Makanchi Array**	**68.42**	**328**	P	**P**	**07 36 19.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,45nm,20.4s						
MKAR	**Makanchi Array**	**68.42**	**328**	P	**P**	**07 36 19.4**	**+0.1**
MKAR				LR	LR	08 07 40.8	
AAK	**Ala-Archa**	**70.39**	**321**⇑	*e*P	**P**	**07 36 31.7**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
ZAL	**Zalesovo**	**72.11**	**335**	P	**P**	**07 36 41.7**	**-0.2**
	comp=Z,1.3nm,0.3s,mb4.3,baz=105,slow=4.5,SNR=6.0						
ZAL	**Zalesovo**	**72.11**	**335**	P	**P**	**07 36 41.7**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**72.80**	**330**	*e*P	**P**	**07 36 46.3**	**+0.3**
KURK				*e**PP	pP	07 36 57.0	+0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
KURK	**Kurchatov**	**72.80**	**330**	*e*P	**P**	**07 36 46.3**	**+0.3**
	comp=Z,9.4nm,1.2s,mb4.6						
KURK				*ep*P	pP	07 36 57.0	+0.1
SEY	**Seymchan**	**73.89**	**11**	*i* P	**P**	**07 36 52.2**	**-0.2**
BVAR	**Borovoye Array**	**78.30**	**329**	P	**P**	**07 37 18.2**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=133,slow=9.5,SNR=3.1						
BVAR	**Borovoye Array**	**78.30**	**329**	P	**P**	**07 37 18.2**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**78.37**	**329**	*e*P	**P**	**07 37 17.0**	**-0.9**
BRVK				*e**PP	pP	07 37 28.1	-0.8
BRVK				*e**SP	sP	07 37 33.6	+0.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**78.37**	**329**	*e*P	**P**	**07 37 17.0**	**-0.9**
	comp=Z,3.7nm,1.1s,mb4.2						
BRVK				*ep*P	pP	07 37 28.1	-0.7
BRVK				*es*P	sP	07 37 33.6	+0.7
ZRNK	**Zerenda**	**78.97**	**328**	*e*P	**P**	**07 37 21.3**	**+0.1**
ZRNK				*e**PP	pP	07 37 31.3	-0.9
ZRNK				*e**SP	sP	07 37 36.5	+0.3
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**78.97**	**328**	*e*P	**P**	**07 37 21.3**	**+0.1**
	comp=Z,5.3nm,1.1s,mb4.4						
ZRNK				*ep*P	pP	07 37 31.3	-0.9
ZRNK				*es*P	sP	07 37 36.5	+0.2
TIXI	**Tiksi**	**80.17**	**0**	*e*P	**P**	**07 37 25.4**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
QSPA	**South Pole Qui**	**81.30**	**180**	*e*P	**P**	**07 37 38.8**	**+5.0**
	comp=Z,19nm,1.6s,mb4.8						
AKTO	**Aktyubinsk**	**84.03**	**323**	P	**P**	**07 37 48.2**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.1,baz=92,slow=4.1,SNR=3.7						
AKTO	**Aktyubinsk**	**84.03**	**323**	P	**P**	**07 37 48.2**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**119.69**	**45**	PKP	PKPdf	07 44 09.5	+2.2
	comp=Z,0.5nm,0.6s,baz=284,slow=1.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**126.88**	**280**	PKP	PKPdf	07 44 25.5	+4.4
	comp=Z,2.1nm,0.9s,baz=42,slow=1.7,SNR=8.2						
CPUP	**Villa Florida**	**144.85**	**172**	*e*PKPab	PKPdf	07 44 59.0	+4.6
LPAZ	**La Paz**	**150.65**	**148**	PKPbc	PKPbc	07 45 15.2	+5.8
	comp=Z,2.0nm,0.6s,baz=184,slow=1.1,SNR=14						
LPAZ	**La Paz**	**150.65**	**148**	*e*PKPdf	PKPdf	07 45 08.6	+4.8
LPAZ				*e*PKPbc	PKPbc	07 45 15.3	+6.0

CSEM ***22*** *07:26:56.1, 4280N×4640E, h10km, mb3.6, After OBN*

MOS 22 07:26:56.8±0.5, 4280N×4640E, h10km, mb3.6/1, 1C, Error ellipse: s-maj=25.3km s-min=13.1km az=12.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.30**	**106**	*i* Pg	Pg	07 27 04.0	+1.2
	50nm,0.2s						
UNCR				*e*Sg	Sg	07 27 11.0	+4.2
UNCR	**Uncukul**	**0.30**	**106**⇑	*i*PG	Pg	07 27 04.0	+1.2
UNCR				*e*S	Sg	07 27 11.0	+4.2
UNCR				pmax	pmax		
	comp=Z,50nm,0.2s						
XNZR	**Khunzakh**	**0.34**	**139**	*e*Pg	Pg	07 27 05.5	+2.0
	comp=Z,29nm,0.2s						
XNZR				*i* Sg	Sg	07 27 13.0	+5.0
XNZR	**Khunzakh**	**0.34**	**139**	*e*PG	Pg	07 27 05.5	+2.0
XNZR				*i* S	Sg	07 27 13.0	+5.0
XNZR				pmax	pmax		
	comp=Z,29nm,0.2s						
DBC	**Dubki**	**0.39**	**54**	*i* Pg	Pg	07 27 06.0	+1.6
DBC				*i* Sg	Sg	07 27 14.0	+4.5
LACR	**Lac**	**1.55**	**272**	*i* Pg	Pg	07 27 24.5	-2.1
LACR				*i* Sg	Sg	07 27 45.2	-1.5
KORR	**Kora**	**1.74**	**280**	*e*Pn	Pn	07 27 28.4	+1.3
KORR				*e*Sg	Sg	07 27 51.9	-0.9
ZEI	**Tsey**	**1.84**	**270**	*i* Pn	Pn	07 27 29.1	+0.6
LSNR	**Lesken**	**1.96**	**285**	*i* Pn	Pn	07 27 31.8	+1.8
LSNR				*i* Sg	Sg	07 27 58.0	-1.7
DIGR	**Digorskoe uzhe**	**2.08**	**274**	*i* Pn	Pn	07 27 32.6	+0.9
DIGR				*i* Sb	Sb	07 27 59.4	-1.1

ISCJB ***22*** *07:29:49.7±0.9, 72S±0.1×6800E±008, h10km, mb4.2/10, MS3.5/4, Error ellipse: s-maj=22.0km s-min=10.4km az=29.9*
IDC ***22*** *07:29:50.1±0.9, 728S×6808E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/23, mbtmp4.1/9, MS3.5/4, Ms1 3.5/4, ms1mx3.0/27, Error ellipse: s-maj=26.9km s-min=22.0km az=45.0*
NEIC ***22*** *07:29:51.5±0.6, 731S×6825E, h10km, mb4.4/1, Error ellipse: s-maj=21.0km s-min=14.1km az=201.0*

ISC 22 07:29:52.2±0.9, 72S±01×6800E±008, h10km, n26, σ0°75/15, mb4.2/10, MS3.5/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.42**	**93**	*e*Pn	**Pn**	**07 30 53.1**	**-6.2**
DGAR				*e*Sn	**Sn**	**07 31 51.4**	**+0.5**
ATD	**Arta Tunnel**	**31.19**	**306**	LR	LR	07 46 42.8	
	comp=Z,41nm,19.0s,MS3.1,baz=137,slow=32						
KMBO	**Kilima Mbogo**	**31.24**	**280**	LR	LR	07 46 20.7	
	comp=Z,80nm,19.8s,MS3.4,baz=92,slow=32						
LSZ	**Lusaka**	**39.80**	**255**	P	**P**	**07 37 25.7**	**+0.3**
	3.2nm,0.7s,mb4.1,baz=72,slow=6.7,SNR=9.8						
BOSA	**Boshof**	**45.56**	**237**	LR	LR	07 54 27.2	
	comp=Z,60nm,20.0s,MS3.5,baz=117,slow=32						
MKAR	**Makanchi Array**	**55.25**	**12**	P	**P**	**07 39 24.8**	**-0.7**
	1.1nm,0.7s,mb4.0,baz=201,slow=7.9,SNR=7.1						
MKAR	**Makanchi Array**	**55.25**	**12**	P	**P**	**07 39 24.8**	**-0.7**
BRTR	**Keskin Array B**	**56.47**	**329**	P	**P**	**07 39 35.5**	**+1.3**
	1.5nm,0.9s,mb4.0,baz=144,slow=11,SNR=6.5						
AKTK	**Aktyubinsk**	**58.06**	**352**	P	**P**	**07 39 45.4**	**0.0**
AKTO	**Aktyubinsk**	**58.06**	**352**	P	**P**	**07 39 45.4**	**0.0**
	3.9nm,0.9s,mb4.4,baz=172,slow=7.2,SNR=9.8						
ZRNK	**Zerenda**	**59.93**	**1**	*e*P	**P**	**07 39 58.7**	**+0.2**
	3.5nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**60.04**	**2**	P	**P**	**07 39 59.3**	**+0.1**
	1.2nm,0.8s,mb4.0,baz=164,slow=6.9,SNR=4.8						
ZAL	**Zalesovo**	**62.54**	**11**	P	**P**	**07 40 14.3**	**-1.8**
	1.4nm,0.3s,mb4.6,baz=252,slow=7.6,SNR=5.7						
ZAL	**Zalesovo**	**62.54**	**11**	P	**P**	**07 40 14.3**	**-1.9**
SONM	**Songino Array**	**64.42**	**28**	P	**P**	**07 40 29.3**	**+0.8**
	2.3nm,0.9s,mb4.2,baz=228,slow=6.3,SNR=15						
SONM				LR	LR	08 10 21.4	
	comp=Z,53nm,18.9s,MS3.8,baz=188,slow=38						
ASAR	**Alice Springs**	**65

SAN	Santiago	1.98	157	*e*P		Pn	07 59 55.3 -0.3
SAN				*i* S		Sn	08 00 19.0 -0.3
SAN				AMP			08 00 25.7
comp=E,1μm,0.5s							
FCH	Farellones	2.02	148⇑	*i*P		Pn	07 59 56.3 +0.1
FCH				*i* S		Sn	08 00 20.4 +0.3
FCH				AMP			08 00 23.7
comp=E,1μm,0.4s							
FSR	Penalolen	2.05	155	*e*P		Pn	07 59 56.7 +0.1
FSR				*i* S		Sn	08 00 20.7 -0.3
FSR				AMP			08 00 26.9
comp=E,2μm,0.5s							
TACH	Talagante	2.10	165⇑	*i*P		Pn	07 59 57.2 0.0
TACH				*i* S		Sn	08 00 22.3 +0.2
ANTU	Antumapu	2.10	158	*e*P		Pn	07 59 57.0 -0.2
ANTU				*i* S		Sn	08 00 21.7 -0.4
ANTU				AMP			08 00 28.6
comp=E,1μm,0.3s							
PCH	Pirque	2.18	156	*e*P		Pn	07 59 58.2 -0.2
CHCH	Chadas Angostu	2.43	162⇓	*i*P		Pn	08 00 02.1 +0.3
CHCH				*i* S		Sn	08 00 30.3 -0.1
LMEL	Las Melosas	2.50	153⇑	*i*P		Pn	08 00 03.4 +0.6
LMEL				*i* S		Sn	08 00 32.0 -0.1
LMEL				AMP			08 00 38.6
comp=E,1μm,0.3s							
LMEL	Las Melosas	2.50	153⇑	*i*P		Pn	08 00 03.4 +0.6
LMEL				*i* S		Sn	08 00 32.0 -0.1
CACH	El Canelo	2.62	162⇑	*i*P		Pn	08 00 05.1 +0.7
CFAA	Coronel Fontan	2.85	91	P		Pn	08 00 08.5 +1.0
comp=E,6.1nm,0.3s,baz=258,slow=9.2,SNR=327							
CFAA				S		Sn	08 00 42.4 +1.8
comp=E,10.0nm,0.3s,baz=16,slow=0.3,SNR=11							
CICH	Cipreses	2.86	160⇑	*i*P		Pn	08 00 08.4 +0.7
SFDO	San Fernando	3.02	171⇑	*i*P		Pn	08 00 09.8 -0.1
PLCA	Paso Flores	9.13	175	P		Pn	08 01 33.4 -0.2
comp=E,0.5nm,0.3s,baz=338,slow=12,SNR=17							
PLCA				LR		LR	08 05 40.6
comp=E,32nm,19.1s,baz=337,slow=41							
LPAZ	La Paz	15.58	12	P		Pn	08 03 02.5 +1.7
comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=2.7							
SIV	San Ignacio	18.27	34	P		Pn	08 03 33.3 -0.9
comp=E,0.3nm,0.3s,baz=203,slow=8.1,SNR=13							
USHA	Ushuaia	23.31	175	P		P	08 04 22.4 -5.6
comp=E,3.1nm,0.8s,mb3.8,baz=346,slow=12,SNR=2.0							
BDFB	Brasilia	26.72	59	P		P	08 04 57.6 -1.3
comp=E,3.1nm,0.8s,mb3.9,baz=237,slow=4.4,SNR=5.0							
BDFB				LR		LR	08 16 26.3
comp=E,56nm,20.7s,MS3.1,baz=157,slow=38							
TORD	Torodi Ar. Bea	83.03	70	P		P	08 11 43.8 -0.5
comp=E,0.7nm,0.9s,mb3.7,baz=260,slow=5.3,SNR=3.1							
TORD				pP		pP	08 11 59.4 +0.1
comp=E,1.1nm,0.6s,baz=279,slow=6.3,SNR=7.6							
TORD				sP		sP	08 12 05.6 +0.5
comp=E,1.3nm,0.6s,baz=275,slow=5.3,SNR=5.7							
URZ	Urewera	85.55	227	LR		LR	08 39 54.5
comp=E,174nm,19.2s,MS4.5,baz=5.2,slow=28							

ISCJB ***22*** *08:06:41.9±0.3, 6255N±002×14934W±007, h78km±5km, mb3.7/4, Error ellipse: s-maj=5.3km s-min=3.9km az=178.4*
IDC ***22*** *08:06:41.5±1.4, 6254N×14935W, h57km±19km, mb3.6/3, mb1 3.6/7, mb1mx3.4/21, mbtmp3.7/7, ML3.4/4, Error ellipse: s-maj=29.9km s-min=9.5km az=113.0*
NEIC ***22*** *08:06:43.1, 6255N×14929W, h58km, mb3.6/1, ML3.6(AEIC), ML3.9(PMR), After AEIC.*

ISC 22 08:06:42.9±0.3, 6255N±002×14936W±007, h70km±6km, n38, σ0°84/51, mb3.7/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	Glory Hole Cre	0.80	165	P		Pn	08 06 58.6 -0.5
SML	Sawmill	0.88	147	P		Pn	08 06 59.3 -0.7
SML				S		Sn	08 07 11.8 -0.8
PMR	Palmer	0.96	173	P		Pn	08 07 00.5 -0.5
PMR				S		Sn	08 07 13.8 -0.6
TRF	Thorofare Moun	1.00	335	P		Pn	08 07 01.6 +0.1
TRF				S		Sn	08 07 14.6 -0.6
MCK	McKinley	1.21	9	P		Pn	08 07 04.1 +0.1
MCK				S		Sn	08 07 19.4 -0.4
KTH	Kantishna Hill	1.24	326	P		Pn	08 07 04.6 +0.1
KTH				S		Sn	08 07 20.8 +0.2
FIB	Fire Island	1.44	196	P		Pn	08 07 08.3 +1.3
RC01	Rabbit Creek A	1.47	187	P		Pn	08 07 07.9 +0.3
RC01				S		Sn	08 07 27.6 +1.5
PAX	Paxson	1.84	75	P		Pn	08 07 12.8 +0.4
PAX				S		Sn	08 07 35.8 +1.0
SLKM	Skilak Lake	2.09	192	P		Pn	08 07 16.0 +0.2
DIV	Divide	2.22	128	P		Pn	08 07 15.9 -1.6
COLA	College	2.43	15	P		Pn	08 07 20.3 -0.1
COLA				S		Sn	08 07 47.7 -1.4
SEW	Seward	2.45	181	P		Pn	08 07 22.0 +1.3
IL1	Eielson Array	2.49	25	P		Pn	08 07 21.2 0.0
ILAR	Eielson Array	2.49	25	P		Pn	08 07 21.1 -0.2
16nm,0.3s,baz=205,slow=14,SNR=550							
ILAR				S		Sn	08 07 48.8 -1.7
23nm,0.3s,baz=207,slow=23,SNR=17							
MENT	Mentasta	2.63	79	*e*P		Pn	08 07 23.7 +0.7
EYAK	Cordova Ski Ar	2.65	138	P		Pn	08 07 23.6 +0.2
DOT	Dot Lake	2.65	63	P		Pn	08 07 24.3 +0.9
DOT				S		Sn	08 07 56.7 +2.3
BMRM	Bremner River	2.76	123	P		Pn	08 07 24.5 -0.3
TT01	Tatalina	3.09	280	P		Pn	08 07 29.3 0.0
SVW2	Sparrevohn	3.29	247	*e*P		Pn	08 07 32.5 +0.4
IM01	Indian Mountai	3.95	333	P		Pn	08 07 41.3 +0.2
COLD	Coldfoot	4.71	356	P		Pn	08 07 52.0 +0.5
DAWY	Dawson	4.75	67	P		Pn	08 07 52.6 +0.6
PCA	Pinnacle	5.03	115	P		Pn	08 07 56.3 +0.5
KDAK	Kodiak Island	5.04	200	P		Pn	08 07 55.4 -0.7
0.8nm,0.3s,baz=312,slow=14,SNR=19							
KDAK				S		Sn	08 08 50.9 -2.0
5.2nm,0.3s,baz=283,slow=22,SNR=8.7							
BM3	Burnt Mountain	5.29	20	P		Pn	08 08 00.7 +1.3
PNL	Peninsula	5.63	116	P		Pn	08 08 04.0 0.0
WHY	Whitehorse	7.16	99	P		Pn	08 08 24.4 -0.5
BESE	Bessie Mountai	8.17	113	P		Pn	08 08 38.2 -0.5
TNA	Tin City	8.67	299	P		Pn	08 08 46.9 +1.4
INK	Inuvik	8.75	42	P		Pn	08 08 46.9 +0.2
0.5nm,0.3s,baz=235,slow=14,SNR=35							
INK				S		Sn	08 10 23.0 -0.7
0.6nm,0.3s,baz=299,slow=25,SNR=8.2							
INK	Inuvik	8.75	42	*e*Pn		Pn	08 08 46.7 +0.1
2.9nm,0.6s							
INK				*e*Sn		Sn	08 10 22.7 -1.0
YKA	Yellowknife Ar	15.93	75	P		Pn	08 10 22.4 -0.3
baz=285,slow=13,SNR=9.9							
RES	Resolute Bay	22.20	35	*e*P		P	08 11 33.4 0.0
1.7nm,0.7s,mb3.5							
SONM	Songino Array	54.69	307	P		P	08 16 05.7 +0.9
0.6nm,0.8s,mb3.7,baz=21,slow=7.1,SNR=6.5							
MKAR	Makanchi Array	63.50	323	P		P	08 17 04.3 -1.4
0.6nm,0.5s,mb3.8,baz=43,slow=7.2,SNR=11							
AKTO	Aktyubinsk	65.29	341	P		P	08 17 16.7 -0.7
1.1nm,0.5s,mb4.0,baz=2.2,slow=7.8,SNR=7.3							

NAO ***22*** *08:15:16.2, 2504S×17952W, h33km, mb3.4*
IDC ***22*** *08:16:15.7±1.8, 2362S×17967W, h520km±16km, mb3.9/11, mb1 4.1/13, mb1mx4.0/17, mbtmp4.8/13, Error ellipse: s-maj=18.2km s-min=16.8km az=117.0*
NEIC ***22*** *08:16:16.7±0.7, 2358S×17963W, h534km±9km, mb5.1/12, Error ellipse: s-maj=9.5km s-min=8.3km az=103.0*
ISCJB ***22*** *08:16:18.4±1.0, 2368S±007×17979W±009, h562km±13km, mb4.9/16, Error ellipse: s-maj=12.4km s-min=10.4km az=137.5*

ISC 22 08:16:15.6±1.0, 2358S±006×17958W±008, h517km±13km, n86, σ0°98/66, mb4.9/16, 10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.84	166	P		P	08 17 55.8 +4.8
162nm,0.3s,baz=87,slow=23,SNR=4.5							
RAO				S		S	08 19 05.8 -3.3
55nm,0.3s,baz=90,slow=20,SNR=1.7							
AFI	Afiamalu	12.13	39	P		P	08 18 54.9 -0.5
145nm,0.9s							
DZM	Mont Dzumac	12.98	274	P		P	08 19 04.4 +0.1
1.3nm,0.3s,baz=78,slow=16,SNR=12							
NOUC	Port Laguerre	13.10	274	*e*P		P	08 19 08.1 +2.5
URZ	Urewera	14.90	190	P		P	08 19 23.4 -1.0
6.0nm,0.3s,baz=28,slow=1.8,SNR=28							
URZ				S		S	08 21 55.4 -4.6
1.5nm,0.3s,baz=49,slow=20,SNR=5.4							
URZ	Urewera	14.90	190	P*		P	08 19 22.7 -1.7
URZ	Urewera	14.90	190	*e*P		P	08 19 22.7 -1.7
KNZ	Kokohu	15.57	188	*e*P		P	08 19 32.2 +0.9
BKZ	Black Stump Fm	15.89	191	P*		P	08 19 33.2 -1.4
BKZ	Black Stump Fm	15.89	191	*e*P		P	08 19 33.4 -1.2
MRZ	Mangatainoka R	17.51	192	P*		P	08 19 48.5 -2.0
MRZ	Mangatainoka R	17.51	192	*e*P		P	08 19 49.0 -1.5
TCW	Tory Channel	18.32	195	P*		P	08 19 57.6 -0.3
TCW	Tory Channel	18.32	195	P		P	08 19 57.6 -0.3
QRZ	Quartz Range	18.43	199	P*		P	08 20 00.6 +1.7
QRZ	Quartz Range	18.43	199	*e*P		P	08 20 00.6 +1.7
NNZ	Nelson	18.55	197	P*		P	08 20 00.7 +0.7
NNZ	Nelson	18.55	197	*e*P		P	08 20 00.7 +0.7
TUWZ	Tuamarina	18.61	195	P*		P	08 20 00.8 +0.3
THZ	Tophouse	19.19	197	P*		P	08 20 06.1 +0.3
THZ	Tophouse	19.19	197	*e*P		P	08 20 06.6 +0.8
DSZ	Denniston Nort	19.49	200	P*		P	08 20 10.0 +1.4
DSZ	Denniston Nort	19.49	200	*e*P		P	08 20 10.0 +1.4
KHZ	Kahutara	19.64	195	P*		P	08 20 10.3 +0.4
KHZ	Kahutara	19.64	195	*e*P		P	08 20 10.2 +0.3
LTZ	Lake Taylor	20.31	198	P*		P	08 20 15.8 -0.2
LTZ	Lake Taylor	20.31	198	*e*P		P	08 20 15.8 -0.2
WVZ	Waitaha Valley	21.03	200	P*		P	08 20 22.5 0.0
WVZ	Waitaha Valley	21.03	200	*e*P		P	08 20 23.0 +0.5
RPZ	Rata Peaks	21.51	199	P		P	08 20 26.3 -0.6
52nm,0.5s,mb5.4,baz=82,slow=0.8,SNR=34							
FOZ	Fox Glacier	21.81	201	P*		P	08 20 28.4 -1.1
FOZ	Fox Glacier	21.81	201	*e*P		P	08 20 28.6 -0.9
MLZ	Mavora Lakes	23.89	202	P*		P	08 20 49.1 +1.0
MLZ	Mavora Lakes	23.89	202	*e*P		P	08 20 49.1 +0.9
ARMA	Armidale	26.50	249	⇓*i*P		P	08 21 12.7 +1.5
CNB	Canberra Magne	29.34	239	*e*P		P	08 21 37.4 +1.3
16nm,1.2s,mb4.5							
CTA	Charters Tower	31.86	270	⇓*i*P		P	08 21 58.3 +0.5
88nm,0.5s,mb5.5							
CTAO	Charters Tower	31.86	270	*e*P		P	08 21 58.4 +0.6
117nm,0.6s,mb5.6							
TOO	Toolangi	32.94	237	*e*P		P	08 22 07.9 +0.9
22nm,0.6s,mb4.9							
PMG	Port Moresby	34.76	288	P		P	08 22 22.0 -0.3
75nm,0.7s,mb5.3,baz=103,slow=5.3,SNR=39							
PMG	Port Moresby	34.76	288	*e*P		P	08 22 22.0 -0.3
94nm,0.9s,mb5.3							
STKA	Stephens Creek	35.20	248	⇓*i*P		P	08 22 24.4 -1.5
29nm,0.6s,mb5.0							
STKA	Stephens Creek	35.20	248	P		P	08 22 24.5 -1.4
33nm,0.6s,mb5.0,baz=91,slow=9.4,SNR=77							
AS31	Alice Springs	42.47	260	⇓*i*P		P	08 23 24.6 -0.2
ASAR	Alice Springs	42.47	260	P		P	08 23 24.6 -0.1
52nm,0.8s,mb5.1,baz=95,slow=8.0,SNR=382							
ASAR				ScP	ScP		08 28 07.5 +0.3
2.3nm,0.8s,baz=111,slow=3.9,SNR=8.3							
ASAR				S		S	08 29 04.7 -4.3
1.4nm,0.7s,baz=97,slow=14,SNR=9.1							
ASPA	Alice Springs	42.47	260	⇓*i*P		P	08 23 24.6 -0.2
WB2	Warramunga Arr	42.80	266	⇓*i*P		P	08 23 26.6 -0.8
WRAB	Tennant Creek	42.81	266	P		P	08 23 26.0 -1.4
546nm,0.6s,SNR=56							
WRAB	Tennant Creek	42.81	266	*e*P		P	08 23 26.7 -0.8
88nm,0.7s,mb5.4							
WRA	Warramunga Arr	42.81	266	P		P	08 23 26.5 -1.0
68nm,0.7s,mb5.3,baz=102,slow=8.1,SNR=458							
WRA				ScP	ScP		08 28 09.2 +0.6
1.2nm,0.8s,baz=99,slow=4.1,SNR=7.6							
WRA				S		S	08 29 08.2 -5.7
1.1nm,0.8s,baz=102,slow=12,SNR=4.9							
FITZ	Fitzroy Crossi	51.24	265	⇓*i*P		P	08 24 30.9 -0.1
61nm,0.8s,mb5.0							
KLBR	Kellerberrin	55.47	247	⇓*i*P		P	08 25 00.6 -0.5
43nm,0.5s,mb4.9							
MBWA	Marble Bar	55.81	260	*e*P		P	08 25 02.7 -0.8
46nm,0.7s,mb4.8							
MUN	Mundaring	56.71	246	⇓*i*P		P	08 25 09.5 -0.2
JOW	Kunigami	71.07	312	P		P	08 26 41.9 +0.7
14nm,0.7s,mb4.6,baz=128,slow=12,SNR=6.5							
MJAR	Matsushiro Arr	71.86	325	P		P	08 26 45.4 -0.4
0.8nm,0.4s,baz=166,slow=6.9,SNR=4.9							
NVAR	Mina Array Bea	84.26	44	P		P	08 27 54.4 +1.8
1.3nm,0.9s,baz=218,slow=7.0,SNR=5.9							
ENH	Enshi	86.58	305	*e*P		P	08 28 03.9 +0.2
7.7nm,0.8s,mb4.4							
SRU	San Rafael	89.70	47	*e*P		P	08 28 19.4 +1.1
2.1nm,0.9s,mb4.0							
ILAR	Eielson Array	91.63	13	P		P	08 28 25.8 -1.5
0.3nm,0.6s,baz=221,slow=6.5,SNR=6.9							
PDAR	Pinedale Array	92.19	44	P		P	08 28 30.1 +0.3
0.6nm,0.7s,mb3.7,baz=201,slow=2.8,SNR=6.3							
SONM	Songino Array	97.11	319	P		P	08 28 51.1 -1.0
0.1nm,0.3s,baz=123,slow=5.3,SNR=3.9							
YKA	Yellowknife Ar	99.91	25	PP	PP		08 33 15.1 -2.4
0.1nm,0.9s,baz=236,slow=7.1,SNR=4.0							
MKAR	Makanchi Array	112.22	313	PKiKP	PKiKP		08 33 50.9 -1.4
0.7nm,0.6s,baz=112,slow=0.8,SNR=14							
BVAR	Borovoye Array	120.46	319	PKP	PKPdf		08 34 06.9 -1.2
1.6nm,0.4s,baz=108,slow=1.9,SNR=13							
ZRNK	Zerenda	121.30	319	*e*PKPdf	PKPdf		08 34 08.3 -1.4
AKTK	Aktyubinsk	128.34	317	PKP	PKPdf		08 34 22.3 -0.9
AKTO	Aktyubinsk	128.34	317	PKP	PKPdf		08 34 22.3 -0.9
1.7nm,0.6s,baz=25,slow=1.9,SNR=8.5							
ARCES	ARCESS Array B	131.66	348	PKP	PKPdf		08 34 27.8 -1.6
3.7nm,0.8s,baz=43,slow=1.2,SNR=12							
FINES	FINESS Array B	138.27	342	PKhKP			08 34 33.3
0.7nm,0.5s,baz=49,slow=3.5,SNR=5.7							
FINES				PKP	PKPdf		08 34 40.6 -1.1
0.7nm,0.4s,baz=75,slow=2.9,SNR=7.2							
FINES				SKPbc	SKPbc		08 37 24.4 -2.9
1.7nm,0.7s,baz=22,slow=1.5,SNR=6.5							
FINES	FINESS Array B	138.27	342	PKP	PKPdf		08 34 40.6 -1.1
FINES				SKPbc	SKPbc		08 37 24.4 -2.9
NB2	NORSAR Subarra	141.83	352	PKPa			08 34 43.3
comp=Z,0.3nm,0.4s,baz=16,slow=3.2							
NOA	NORSAR Array B	141.83	352	PKhKP			08 34 42.4
comp=Z,1.1nm,0.6s,baz=16,slow=4.7,SNR=6.1							
MALT	Malatya	144.52	303	*e*PKPbc	PKPdf		08 34 53.5 +0.6
AKASG	Malin Array Be	144.91	328	PKP	PKPdf		08 34 52.5 -1.0
comp=Z,3.7nm,0.4s,baz=42,slow=4.0,SNR=26							
BR131	Keskin Array S	147.69	308	*e*PKPbc	PKPbc		08 35 01.6 -0.2
BR131				*e*PKPab	PKPab		08 35 06.5 +0.5
BRTR	Keskin Array B	147.69	308	PKPbc	PKPbc		08 35 01.5 -0.3
comp=Z,2.2nm,0.6s,baz=145,slow=5.0,SNR=12							
BRTR				PKPab	PKPab		08 35 05.6 -0.3
comp=Z,5.1nm,0.7s,baz=96,slow=3.8,SNR=19							
KWP	Kalwaria	148.68	332	*e*PKPbc	PKPbc		08 35 04.2 -0.1
KOLS	Kolonicke sedl	149.38	331	*e*PKP	PKPbc		08 35 06.6 +0.6
STHS	Stebnicka Huta	149.46	333	*e*PKP	PKPbc		08 35 06.7 +0.5
KSP	Ksiaz	150.13	340	*e*PKP	PKPbc		08 35 07.8 0.0
KECS	Kecovo	150.50	332	*e*	PKPbc		08 35 12.8 +4.2
CLL	Collm	150.66	344	⇓*i*P	PKPbc		08 35 08.5 -0.5
comp=Z,10.0nm,0.7s							
BRG	Bergqiesshubel	150.81	342	*i* P	PKPbc		08 35 09.0 -0.3
comp=Z,5.1nm,0.5s							
GERES	GERESS Array B	152.69	341	PKPbc	PKPbc		08 35 12.7 -0.8
comp=Z,0.5nm,0.4s,baz=2.9,slow=2.7,SNR=4.6							
TORD	Torodi Ar. Bea	169.55	187	PKP	PKPdf		08 35 23.3 -0.1
comp=Z,0.6nm,0.5s,baz=163,slow=1.5,SNR=5.8							
TORD				PKPab	PKPab		08 36 40.9 +0.3
comp=Z,0.6nm,0.6s,baz=154,slow=4.9,SNR=5.4							

IDC ***22*** *08:21:46.7±23.0, 1149N×8636W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=426.1km s-min=171.6km az=172.0*
ISCJB ***22*** *08:21:48.0±1.2, 1092N±008×8708W±007, h33km, mb3.4/3, MS3.3/1, Error ellipse: s-maj=14.4km s-min=5.5km az=83.6*
CASC ***22*** *08:21:49.0±2.3, 1098N×8692W, h18km±8km, MD3.7*

ISC 22 08:21:50.5±1.2, 1105N±008×8699W±008, h35km, n23, σ0°70/24, mb3.4/3, MS3.3/1, 11C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	1.15	78⇑	*e*P		Pn	08 22 09.2 -0.8
SSNN				*e*S		Sn	08 22 24.8 +0.3
COPN	Copaltepe	1.19	19⇓	*e*P		Pn	08 22 10.8 +0.2
TICN	Ticuantepe	1.23	37	*e*P		Pn	08 22 11.4 +0.3
APON	Apoyo	1.25	46⇑	*e*P		Pn	08 22 11.0 -0.5
XAVN	Gruta Xavier	1.27	31⇑	*e*P		Pn	08 22 11.8 0.0
MGAN	Managua	1.31	34⇑	*e*P		Pn	08 22 12.2 -0.1
APYN	Apoyeque	1.34	28⇑	*e*P		Pn	08 22 13.3 +0.7
WILN	Americas 2	1.36	35⇑	*e*P		Pn	08 22 12.6 -0.3
LEON	Leon	1.36	4⇑	*e*P		Pn	08 22 13.4 +0.4
MIRN	Miramar	1.41	11⇓	*e*P		Pn	08 22 13.9 +0.3
MOMJ	Momotombo	1.42	18⇑	*e*P		Pn	08 22 13.8 0.0
CONN	Concepcion	1.43	69⇑	*e*P		Pn	08 22 12.7 -1.3
CNGN	Cerro Negro	1.47	11⇑	*e*P		Pn	08 22 14.5 +0.1
MADN	Villa Maderas	1.47	76	*e*P		Pn	08 22 13.6 -0.9
TEL3	Telica 3	1.52	5⇑	*e*P		Pn	08 22 15.6 +0.4
CRIN	San Cristobal	1.65	358⇓	*e*P		Pn	08 22 17.9 +1.0
CGA2	Cerro Gallo 2	2.69	112	*e*S		Sn	08 23 03.7 +1.2
PRS1	Puriscal	2.84	112	*e*S		Sn	08 23 05.3 -0.9
BUS	Buena Vista	3.51	115	*e*P		Pn	08 22 42.9 +0.4
BUS				*e*S		Sn	08 23 23.5 +0.8
PDAR	Pinedale Array	37.22	332	P		P	08 28 59.2 +0.8
0.3nm,0.8s,mb3.2,baz=134,slow=7.7,SNR=2.6							
ULM	Lac du Bonnet	39.77	351	P		P	08 29 18.4 -1.5
1.6nm,0.8s,mb3.8,baz=169,slow=10,SNR=4.1							
NEW	Newport	44.85	332	LR		LR	08 51 01.6
comp=Z,32nm,18.7s,MS3.3,baz=265,slow=39							
YKA	Yellowknife Ar	55.08	345	P		P	08 31 18.1 -0.7
0.2nm,0.8s,mb3.2,baz=132,slow=8.3,SNR=6.0							

ISCJB ***22*** *08:25:48.4±1.4, 1695S±01×1752W±02, h237km±21km, mb4.2/7, Error ellipse: s-maj=28.6km s-min=19.7km az=72.3*
NEIC ***22*** *08:25:50.0±1.0, 1699S×17509W, h242km±13km, mb4.1/2, Error ellipse: s-maj=26.2km s-min=12.0km az=136.0*
IDC ***22*** *08:25:50.0±2.0, 1707S×17509W, h242km±21km, mb4.1/5, mb1 4.2/7, mb1mx3.7/17, mbtmp4.7/7, Error ellipse: s-maj=25.0km s-min=17.1km az=115.0*

ISC 22 08:25:49.7±1.3, 1708S±02×1750W±02, h245km±20km, n17, σ0°75/19, mb4.2/7, 4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.33	45	P		Pn	08 26 59.2 +2.0
32nm,0.3s,baz=6.1,slow=1.3,SNR=15							
AFI				S		S	08 27 49.7 -1.1
39nm,0.3s,baz=38,slow=23,SNR=9.2							
AFI	Afiamalu	4.33	45	*e*Pn		Pn	08 26 58.7 +1.5
AFI				S		S	08 27 49.7 -1.1
DZM	Mont Dzumac	18.24	251	P		P	08 29 44.1 -1.1
0.4nm,0.3s,baz=73,slow=20,SNR=4.1							
URZ	Urewera	22.31	197	P		P	08 30 26.8 -0.1
19nm,0.5s,mb4.9,baz=18,slow=5.1,SNR=31							
URZ				S		S	08 34 13.2 -0.5
11nm,1.0s,baz=82,slow=7.1,SNR=5.2							
ARMA	Armidale	33.26	240	⇓*i*P		P	08 32 05.2 +1.2
STKA	Stephens Creek	41.96	241	⇓*i*P		P	08 33 15.6 -1.1
14nm,0.5s,mb4.7							
STKA	Stephens Creek	41.96	241	P		P	08 33 15.8 -0.9
22nm,0.6s,mb4.8,baz=90,slow=9.6,SNR=65							
STKA	Stephens Creek	41.96	241	*e*P		P	08 33 15.7 -1.0
WB2	Warramunga Arr	48.03	258	*e*P		P	08 34 04.2 -0.1
WRAB	Tennant Creek	48.03	258	*e*P		P	08 34 04.2 -0.1
5.4nm,0.9s,mb3.9							
WRA	Warramunga Arr	48.04	258	P		P	08 34 04.4 0.0
1.8nm,0.4s,mb3.8,baz=95,slow=7.0,SNR=40							
AS31	Alice Springs	48.21	253	⇓*i*P		P	08 34 06.0 +0.3
ASAR	Alice Springs	48.21	253	P		P	08 34 06.0 +0.3
21nm,0.5s,mb4.7,baz=87,slow=8.5,SNR=393							
ASPA	Alice Springs	48.22	253	⇓*i*P		P	08 34 06.0 +0.3
MBWA	Marble Bar	61.49	255	*e*P		P	08 35 40.9 +0.3
2.5nm,0.3s,mb4.3							
ILAR	Eielson Array	84.29	12	P		P	08 37 53.9 -0.2
0.2nm,0.5s,mb3.1,baz=223,slow=5.6,SNR=5.0							
BRTR	Keskin Array B	146.39	318	PKPbc	PKPbc		08 45 02.9 +1.2
1.5nm,0.8s,baz=116,slow=2.9,SNR=6.7							

LDG ***22*** *08:30:52.2±0.0, 4302N×0.13E, h10km, Md1.5/2, Ml1.8/3, Error ellipse: s-maj=0.8km s-min=0.4km az=163.0*
STR ***22*** *08:30:52.6±0.1, 4304N×0.04W, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

**MDD 22 08:30:53.2±0.3, 4300N×013E, h0km, mbLg1.2/5, Error ellipse: s-maj=2.3km s-min=1.7km az=80.0, PRXIMO, Pyren

0.4nm,1.0s,mb3.3,baz=134,slow=6.2,SNR=3.7

*BJI **22** 08:55:07.8, 339S×13472E, h27km, mB5.1, mb4.6, Ms4.4, Msz3.9*
*IDC **22** 08:55:08.2±0.8, 357S×13395E, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.4/15, mbtmp4.4/9, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=40.4km s-min=16.4km az=62.0*
*MOS **22** 08:55:08.1±1.3, 357S×13392E, h17km, mb4.6/16, Error ellipse: s-maj=20.2km s-min=9.2km az=116.3*
*ISCJB **22** 08:55:10.5±0.4, 371S±004×13391E±009, h33km, mb4.6/25, MS3.6/2, Error ellipse: s-maj=13.7km s-min=5.2km az=150.7*
*NEIC **22** 08:55:10.5±0.4, 367S×13382E, h15km, mb4.7/15, Error ellipse: s-maj=15.9km s-min=7.0km az=62.0*

ISC 22 08:55:12.7±0.4, 370S±005×13398E±010, h35km, (h15km±8.2km:pP-P), n66, σ1§28/69, mb4.6/25, MS3.6/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**14.27**	**114**	Pn	**Pn**	**08 58 32.2**	**+0.1**
	0.9nm,0.3s,baz=286,slow=15,SNR=3.4						
PMG	**Port Moresby**	**14.27**	**114**	*e*Pn	**Pn**	**08 58 33.5**	**+1.3**
WRAB	**Tennant Creek**	**16.14**	**179**	*e*P	**Pn**	**08 58 56.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,32nm,0.6s						
WRAB	**Tennant Creek**	**16.14**	**179**	*e*P	**Pn**	**08 58 56.4**	**-0.5**
	comp=Z,32nm,0.6s						
WRAB				S	S	09 01 40.6	-27
WB2	**Warramunga Arr**	**16.15**	**179**	*e*P	**Pn**	**08 58 55.2**	**-1.8**
WB2				*e*S	**S**	**09 01 46.6**	**-21**
WRA	**Warramunga Arr**	**16.15**	**179**	Pn	**Pn**	**08 58 55.0**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=357,slow=13,SNR=23						
WRA				Sn	**Sn**	**09 01 48.7**	**-6.3**
	comp=Z,1.3nm,0.3s,baz=350,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**16.15**	**179**	P	**Pn**	**08 58 55.0**	**-2.0**
WRA						09 01 48.7	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA				smax			
	comp=E,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**16.48**	**209**	*e*P	**Pn**	**08 58 59.8**	**-1.4**
	comp=E,14nm,0.3s						
FITZ				*e*S	**S**	**09 01 53.7**	**-20**
AS31	**Alice Springs**	**19.85**	**180**	*e*P	**Pn**	**08 59 44.0**	**+1.6**
AS31				*e*S	**S**	**09 03 15.9**	**-6.4**
ASAR	**Alice Springs**	**19.86**	**180**	P	**Pn**	**08 59 43.9**	**+1.4**
	comp=E,2.8nm,0.3s,baz=5.6,slow=12,SNR=121						
ASAR				S	**S**	**09 03 22.1**	**-0.1**
	comp=E,0.5nm,0.3s,baz=354,slow=26,SNR=7.2						
ASAR	**Alice Springs**	**19.86**	**180**	P	**Pn**	**08 59 43.9**	**+1.5**
ASAR				S	**S**	**09 03 22.2**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAR				smax			
	comp=E,1.0nm,0.3s						
ASPA	**Alice Springs**	**19.86**	**180**	*e*P	**Pn**	**08 59 44.0**	**+1.6**
ASPA				*e*S	**S**	**09 03 15.9**	**-6.4**
KKM	**Kota Kinabalu**	**20.20**	**299**	*e*P	**P**	**08 59 42.1**	**-2.3**
CTA	**Charters Tower**	**20.22**	**145**	*e*P	**P**	**08 59 47.9**	**+3.3**
	comp=E,14nm,1.3s						
CTA	**Charters Tower**	**20.22**	**145**	P	**P**	**08 59 47.5**	**+2.9**
	comp=E,15nm,0.9s,baz=322,slow=11,SNR=8.2						
CTA				LR	LR	09 08 22.0	
	comp=E,105nm,20.1s,MS3.2,baz=227,slow=39						
CTA	**Charters Tower**	**20.22**	**145**	*e*P	**P**	**08 59 47.9**	**+3.3**
CTA				pmax	pmax		
	comp=Z,14nm,1.3s						
CTAO	**Charters Tower**	**20.22**	**145**	*e*P	**P**	**08 59 47.9**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,42nm,1.3s						
CTAO	**Charters Tower**	**20.22**	**145**	*e*P	**P**	**08 59 47.9**	**+3.3**
	comp=Z,42nm,1.3s						
MBWA	**Marble Bar**	**22.21**	**217**	*e*P	**P**	**09 00 05.6**	**-0.5**
	comp=Z,35nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**28.93**	**167**	P	**P**	**09 01 08.9**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.1,baz=333,slow=9.4,SNR=5.4						
STKA	**Stephens Creek**	**28.93**	**167**	P	**P**	**09 01 08.9**	**+0.4**
PSI	**Prapat**	**35.62**	**280**	P	**P**	**09 02 07.8**	**+0.7**
	comp=Z,4.0nm,0.5s,mb4.6,baz=100,slow=8.1,SNR=7.6						
PSI	**Prapat**	**35.62**	**280**	P	**P**	**09 02 07.8**	**+0.7**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
PSI	**Prapat**	**35.62**	**280**	P	**P**	**09 02 07.8**	**+0.7**
SSE	**Sheshan**	**36.68**	**341**	P	**P**	**09 02 13.8**	**-2.4**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,140nm,3.8s						
NJ2	**Nanjing**	**38.35**	**339**	*e*P	**P**	**09 02 27.5**	**-2.7**
NJ2				AP	pP	09 02 37.0	-3.4
NJ2				XP	sP	09 02 41.3	-3.3
NJ2				PP	PP	09 03 58.3	0.0
NJ2				S	**S**	**09 08 16.0**	**-6.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,180nm,4.8s						
NJ2				LR	LR		
	comp=N,400nm,21.8s,MS4.3						
NJ2				LR	LR		
	comp=E,340nm,24.4s,MS4.3						
NJ2				LR	LR		
	comp=Z,210nm,23.9s,MS3.9						
LZH	**Lanzhou**	**48.58**	**327**	*e*P	**P**	**09 03 53.8**	**+1.1**
LZH				AP	pP	09 03 58.1	-5.0
LZH				XP	sP	09 04 01.3	-5.9
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
LSA	**Lhasa**	**52.75**	**312**	P	**P**	**09 04 26.0**	**+1.9**
LSA	**Lhasa**	**52.75**	**312**	*e*P	**P**	**09 04 24.4**	**+0.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LSA	**Lhasa**	**52.75**	**312**	*e*P	**P**	**09 04 24.4**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.7						
GTA	**Gaotai**	**53.18**	**327**	*e*P	**P**	**09 04 28.5**	**+1.2**
GTA				AP	pP	09 04 32.8	-5.0
GTA				XP	sP	09 04 36.3	-5.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**55.59**	**307**	*e*P	**P**	**09 04 45.8**	**+1.1**
	comp=Z,11nm,0.7s,mb5.0						
GUN	**Gumba**	**55.94**	**307**	*e*P	**P**	**09 04 48.4**	**+1.1**
	comp=Z,23nm,0.8s,mb5.3						
KKN	**Kakani**	**56.37**	**307**	*e*P	**P**	**09 04 51.2**	**+0.9**
	comp=Z,14nm,0.7s,mb5.1						
KKN	**Kakani**	**56.37**	**307**	*e*P	**P**	**09 04 51.2**	**+0.9**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
DMN	**Daman**	**56.43**	**307**	*e*P	**P**	**09 04 51.9**	**+1.1**
ULN	**Ulaanbaatar**	**56.51**	**339**	*i* P	**P**	**09 04 49.6**	**-1.8**
SONM	**Songino Array**	**56.73**	**338**	P	**P**	**09 04 52.8**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=155,slow=7.2,SNR=9.3						
SONM				PcP	PcP	09 05 49.4	+0.8
	comp=Z,1.2nm,0.7s,baz=152,slow=3.6,SNR=6.7						
SONM	**Songino Array**	**56.73**	**338**	P	**P**	**09 04 52.8**	**-0.1**
SONM						09 05 49.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GKN	**Gorkha**	**56.97**	**307**	*e*P	**P**	**09 04 55.4**	**+0.8**
	comp=Z,22nm,0.7s,mb5.3						
KOLN	**Koldanda**	**57.70**	**306**	*e*P	**P**	**09 05 01.0**	**+1.2**
	comp=Z,30nm,0.8s,mb5.4						
BOD	**Bodaibo**	**63.39**	**348**	*e*P	**P**	**09 05 33.3**	**-5.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.2						
MKAR	**Makanchi Array**	**67.75**	**324**	P	**P**	**09 06 07.5**	**+0.7**
	comp=Z,2.6nm,0.6s,mb4.4,baz=112,slow=8.3,SNR=42						
MKAR	**Makanchi Array**	**67.75**	**324**	P	**P**	**09 06 07.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SEY	**Seymchan**	**67.90**	**9**	*i* P	**P**	**09 06 04.2**	**-3.5**
ZAL	**Zalesovo**	**70.48**	**332**	P	**P**	**09 06 23.1**	**-0.6**
	comp=Z,1.2nm,0.4s,mb4.2,baz=352,slow=6.8,SNR=9.1						
ZAL	**Zalesovo**	**70.48**	**332**	P	**P**	**09 06 23.1**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**70.68**	**318**	*e*P	**P**	**09 06 25.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**70.68**	**318**	*e*P	**P**	**09 06 25.7**	**+0.8**
	comp=Z,2.9nm,1.0s,mb4.2						
KURK	**Kurchatov**	**71.87**	**327**	*e*P	**P**	**09 06 30.8**	**-1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**71.87**	**327**	*e*P	**P**	**09 06 30.8**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2						
VNDA	**Vanda**	**75.26**	**174**	P	**P**	**09 06 52.4**	**+0.4**
	comp=Z,3.8nm,1.2s,mb4.2,baz=333,slow=3.6,SNR=4.4						
VNDA	**Vanda**	**75.26**	**174**	P	**P**	**09 06 52.4**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
VNDA	**Vanda**	**75.26**	**174**	P	**P**	**09 06 52.4**	**+0.4**
TIXI	**Tiksi**	**75.28**	**358**	*i* P	**P**	**09 06 50.1**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**77.53**	**326**	P	**P**	**09 07 04.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**77.53**	**326**	P	**P**	**09 07 04.2**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**78.20**	**326**	*e*P	**P**	**09 07 08.2**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**78.20**	**326**	*e*P	**P**	**09 07 08.2**	**-0.4**
	comp=Z,7.4nm,1.2s,mb4.5						
ARU	**Arti**	**85.04**	**327**	*i* P	**P**	**09 07 43.8**	**-0.9**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
QSPA	**South Pole Qui**	**86.26**	**180**	*e*P	**P**	**09 07 51.4**	**+0.6**
	comp=Z,6.2nm,1.1s,mb4.8						
JCT	**Junction City**	**122.78**	**56**	*e*PKIKP	PKPdf	09 14 05.7	+0.8
TORD	**Torodi Ar. Bea**	**131.95**	**284**	PKP	PKPdf	09 14 23.6	+1.3
	comp=Z,0.4nm,0.7s,baz=77,slow=2.2,SNR=3.4						
CPUP	**Villa Florida**	**148.21**	**160**	*e*PKPbc	PKPbc	09 14 57.2	+2.3
CPUP				*e*PKPab	PKPab	09 15 01.7	+3.8
LPAZ	**La Paz**	**150.47**	**133**	PKPbc	PKPbc	09 15 04.4	+3.9
	comp=Z,3.4nm,0.9s,baz=16,slow=1.4,SNR=9.8						
LPAZ	**La Paz**	**150.47**	**133**	*e*PKPbc	PKPbc	09 15 04.6	+4.0

IGQ 22 08:56:05.7, 217S×7727W, h16km±7km, Mb4.2, Ms4.0, 4C-3D, Error ellipse: s-maj=12.6km s-min=5.1km az=116.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**1.34**	**302**	⇓P	Pn	08 56 31.3	+1.5
ULBA				S	Sn	08 56 48.4	+1.1
JUIV	**Juive**	**1.41**	**302**	⇑P	Pn	08 56 32.2	+1.6
JUIV				S	Sn	08 56 50.8	+2.0
CUSU	**Cusua**	**1.41**	**301**	P	Pn	08 56 32.5	+1.8
CUSU				S	Sn	08 56 49.9	+1.0
PISA	**Pisayambo**	**1.57**	**315**	⇓P	Pn	08 56 34.2	+1.4
TAMB	**Tambo**	**1.83**	**323**	⇑P	Pn	08 56 39.1	+2.7
VC1	**Cotopaxi 1**	**1.89**	**323**	⇑P	Pn	08 56 39.2	+1.9
ANTI	**Antisana**	**1.93**	**332**	P	Pn	08 56 38.4	+0.6
CAMI	**Rancho Maria**	**1.93**	**320**	⇑P	Pn	08 56 40.0	+2.2
LAV3	**Lava3-Reventad**	**2.09**	**350**	P	Pn	08 56 43.0	+2.9
CAYR	**Refugio Cayamb**	**2.29**	**341**	P	Pn	08 56 45.6	+2.8
CAYR				S	Sn	08 57 14.4	+3.7
ANGU	**Angureal**	**2.32**	**341**	P	Pn	08 56 46.2	+2.9
PINO	**Pino**	**2.41**	**326**	P	Pn	08 56 49.2	+4.8
YANA	**Yana**	**2.42**	**327**	P	Pn	08 56 49.3	+4.8
YANA				S	Sn	08 57 19.9	+6.1
COTA	**Cotacachi**	**2.71**	**337**	P	Pn	08 56 59.9	+11
COTA				⇓P		13 25 51.8	
COTA				S		13 26 03.1	

*ISCJB **22** 08:57:54.4±0.4, 3085N±002×3499E±004, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=34.3*
*CSEM **22** 08:57:54.3±0.1, 3082N×3498E, h1km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.6km az=86.0, Mining explosion.*
*GII **22** 08:57:54.0±0.6, 3085N×3498E, h0km, ML2.6/5*
*HLW **22** 08:57:55.2, 3099N×3507E, h20km, Mb3.1*

ISC 22 08:57:55.0±0.4, 3087N±002×3497E±004, h0km, n18, σ0§92/25, 1C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVTA	**Shivta**	**0.31**	**282**	Pg	**Pg**	**08 58 01.5**	**+0.6**
ZFRI	**Zfri**	**0.36**	**150**	**Pg**	**Pg**	**08 58 01.6**	**-0.2**
KZIT	**Kziot**	**0.50**	**275**	Pg	**Pg**	**08 58 05.0**	**+0.5**
KZIT				Sg	**Sg**	**08 58 13.0**	**+2.0**
MZDA	**Masada**	**0.55**	**37**	Pg	**Pg**	**08 58 05.4**	**-0.2**
MZDA				Sg	**Sg**	**08 58 14.8**	**+2.0**
HRFI	**Mount Harif**	**0.83**	**176**	Pg	**Pg**	**08 58 10.2**	**-0.6**
HRFI				Sg	**Sg**	**08 58 23.4**	**+1.8**
MKRJ	**Makawir**	**0.89**	**40**	Pg	**Pg**	**08 58 12.6**	**+0.6**
EIL	**Elat**	**1.19**	**181**	Pg	**Pg**	**08 58 17.2**	**-0.6**
EIL				Sg	**Sg**	**08 58 34.2**	**+1.0**
EIL	**Elat**	**1.19**	**181**	Pg	**Pg**	**08 58 17.2**	**-0.6**
EIL				Sg	**Sg**	**08 58 34.2**	**+0.9**
HNKL	**Nakhl**	**1.27**	**223**	P	**Pg**	**08 58 18.5**	**-0.8**
HNKL				S	**Sg**	**08 58 36.0**	**+0.3**
SLTI	**Sal'it**	**1.37**	**2**	Pn	**Pn**	**08 58 20.1**	**-1.3**
SLTI				Sn	**Sn**	**08 58 40.3**	**+0.1**
AMAG	**Maghara**	**1.54**	**262**	⇑P	**Pn**	**08 58 22.3**	**-1.3**
MMLI	**Mount Malkishu**	**1.61**	**14**	Pn	**Pn**	**08 58 23.8**	**-0.8**
OFRI	**'Ofer**	**1.75**	**0**	Pn	**Pn**	**08 58 26.3**	**-0.3**
SUZ		**2.12**	**242**	⇓P	**Pn**	**08 58 30.4**	**-1.1**
MMA0B	**Mount Meron ar**	**2.17**	**10**	Pn	**Pn**	**08 58 32.5**	**+0.1**
MMA1	**Mount Meron ar**	**2.18**	**10**	Pn	**Pn**	**08 58 32.5**	**0.0**
TR2		**2.70**	**204**	P	**Pn**	**08 58 38.8**	**-0.8**
TR1		**2.98**	**198**	P	**Pn**	**08 58 43.2**	**-0.3**

IDC 22 09:17:04.7±3.2, 846S×10643E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=147.4km s-min=19.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.31**	**116**	P	P	09 23 09.6	+0.7
	0.6nm,0.7s,baz=287,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**30.34**	**123**	P	P	09 23 18.6	+0.6
	0.4nm,0.9s,baz=305,slow=7.9,SNR=5.7						
STKA	**Stephens Creek**	**40.11**	**130**	P	P	09 24 41.8	-0.3
	0.9nm,0.4s,baz=325,slow=7.5,SNR=4.0						
SONM	**Songino Array**	**56.05**	**360**	P	P	09 26 45.2	-0.2
	0.5nm,0.8s,baz=166,slow=7.3,SNR=2.1						
MKAR	**Makanchi Array**	**59.07**	**341**	P	P	09 27 07.0	+0.3
	2.9nm,0.7s,baz=144,slow=7.8,SNR=42						
ZAL	**Zalesovo**	**64.80**	**346**	P	P	09 27 44.9	-0.2
	0.7nm,0.4s,baz=123,slow=15,SNR=3.2						

*BJI **22** 09:38:42.6, 990S×16020E, h29km, mB5.1, mb4.8*
*ISCJB **22** 09:38:44.5±0.5, 998S±005×16020E±008, h33km, mb4.4/23, MS3.6/1, Error ellipse: s-maj=11.5km s-min=7.1km az=169.1*
*IDC **22** 09:38:45.6±2.1, 993S×16022E, h29km±13km, mb4.2/13, mb1 4.3/14, mb1mx4.3/17, mbtmp4.3/14, ML3.6/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/20, Error ellipse: s-maj=23.4km s-min=15.0km az=106.0*
*NEIC **22** 09:38:45.7±1.3, 990S×16020E, h30km±8km, mb4.6/10, Error ellipse: s-maj=10.4km s-min=7.6km az=104.0*

ISC 22 09:38:46.6±0.4, 990S±005×16023E±008, h35km, n37, σ0§91/37, mb4.4/23, MS3.6/1, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.54**	**329**	Pg	**Pn**	**09 38 56.7**	**-1.1**
	2μm,0.3s,baz=128,slow=2.8,SNR=1238						
HNR				Lg		09 39 05.8	
	15μm,0.3s,baz=278,slow=19,SNR=134						
HNR	**Honiara**	**0.54**	**329**	*e*Pn	**Pn**	**09 38 56.8**	**-0.9**
HNR				*e*Sn	**Sn**	**09 39 05.8**	**+0.2**
DZM	**Mont Dzumac**	**13.49**	**154**	Pn	**Pn**	**09 41 55.1**	**-0.4**
	0.3nm,0.3s,baz=327,slow=14,SNR=8.5						
CTA	**Charters Tower**	**16.86**	**231**	Pn	**Pn**	**09 42 44.7**	**+4.9**
	0.4nm,0.3s,baz=62,slow=13,SNR=4.7						
CTA	**Charters Tower**	**16.86**	**231**	Pn	**Pn**	**09 42 44.7**	**+4.9**
CTAO	**Charters Tower**	**16.86**	**231**	P	**Pn**	**09 42 44.1**	**+4.3**
	10nm,1.0s						
WRAB	**Tennant Creek**	**26.88**	**245**	*e*P	**P**	**09 44 24.5**	**+0.5**
	22nm,0.9s,mb4.7						
WRAB				*e*PcP	PcP	09 47 46.6	+0.9
WB2	**Warramunga Arr**	**26.88**	**245**	⇑*i* P	**P**	**09 44 24.5**	**+0.4**
WRA	**Warramunga Arr**	**26.89**	**245**	P	**P**	**09 44 24.6**	**+0.5**
	8.2nm,0.6s,mb4.5,baz=76,slow=9.1,SNR=113						
WRA				PcP	PcP	09 47 46.6	+0.9
	1.8nm,0.7s,baz=70,slow=2.9,SNR=11						
STKA	**Stephens Creek**	**27.86**	**216**	*e*P	**P**	**09 44 30.8**	**-2.0**
	2.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.86**	**216**	P	**P**	**09 44 31.1**	**-1.7**
	3.0nm,0.6s,mb4.1,baz=53,slow=14,SNR=10						
STKA				LR	LR	09 55 26.8	
	comp=Z,146nm,18.2s,MS3.6,baz=27,slow=36						
AS31	**Alice Springs**	**28.61**	**238**	*e*P	**P**	**09 44 39.2**	**-0.2**
ASAR	**Alice Springs**	**28.61**	**238**	P	**P**	**09 44 39.1**	**-0.3**
	1.5nm,0.3s,mb4.2,baz=64,slow=10,SNR=45						
ASAR				PcP	PcP	09 47 50.4	+0.5
	1.0nm,0.7s,baz=50,slow=2.8,SNR=6.6						
ASPA	**Alice Springs**	**28.61**	**238**	*e*P	**P**	**09 44 39.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**34.48**	**252**	*e*P	**P**	**09 45 30.3**	**-0.8**
	11nm,0.6s,mb5.0						
MBWA	**Marble Bar**	**40.48**	**249**	*e*P	**P**	**09 46 22.2**	**+0.4**
	14nm,0.9s,mb4.7						
JOW	**Kunigami**	**47.91**	**320**	P	**P**	**09 47 22.4**	**+1.1**
	2.6nm,0.5s,mb4.5,baz=139,slow=17,SNR=3.4						
MJAR	**Matsushiro Arr**	**50.63**	**337**	P	**P**	**09 47 41.2**	**-0.9**
	1.8nm,0.6s,mb4.2,baz=169,slow=8.4,SNR=5.9						
MJAR	**Matsushiro Arr**	**50.63**	**337**	P	**P**	**09 47 41.2**	**-0.9**
CN2	**Changchun**	**62.08**	**332**	⇑*i* P	**P**	**09 49 03.4**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
VNDA	**Vanda**	**67.61**	**180**	P	**P**	**09 49 39.4**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=344,slow=6.7,SNR=15						
VNDA	**Vanda**	**67.61**	**180**	*e*P	**P**	**09 49 40.3**	**+0.6**
HIA	**Hailar**	**68.79**	**333**	*e*P	**P**	**09 49 46.5**	**-0.5**
	comp=Z,4.1nm,0.3s,mb4.8						
MA2	**Magadan**	**69.66**	**355**	*e*P	**P**	**09 49 51.5**	**-1.0**
	comp=Z,3.8nm,0.7s,mb4.4						
GTA	**Gaotai**	**74.40**	**316**	*e*P	**P**	**09 50 22.9**	**+2.0**
GTA				AP	pP	09 50 27.6	-4.2
GTA				XP	sP	09 50 30.3	-5.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**74.60**	**326**	P	**P**	**09 50 22.3**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=139,slow=5.5,SNR=40						
LSA	**Lhasa**	**77.17**	**304**	*e*P	**P**	**09 50 38.5**	**+1.8**
	comp=Z,3.7nm,0.5s,mb4.6						
BILL	**Bilibino**	**77.86**	**2**	*e*P	**P**	**09 50 40.0**	**-0.6**
	comp=Z,1.9nm,0.4s,mb4.4						
QSPA	**South Pole Qui**	**80.09**	**180**	*e*P	**P**	**09 50 53.7**	**+0.9**
	comp=Z,5.1nm,0.7s,mb4.6						
ILAR	**Eielson Array**	**84.23**	**20**	P	**P**	**09 51 13.0**	**-1.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=252,slow=4.8,SNR=13						
YBH	**Yreka Blue Hor**	**87.03**	**47**	P	**P**	**09 51 29.7**	**+1.3**
	comp=Z,0.9nm,0.8s,mb4.1,baz=238,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**89.00**	**318**	P	**P**	**09 51 37.5**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.3,baz=101,slow=6.4,SNR=16						
NVAR	**Mina Array Bea**	**89.48**	**51**	P	**P**	**09 51 41.0**	**+1.1**
	comp=Z,1.4nm,0.9s,mb4.3,baz=230,slow=5.3,SNR=8.1						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**09 52 11.0**	**-1.2**
	comp=Z,0.7nm,0.6s,mb4.2,baz=262,slow=4.5,SNR=21						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**09 52 11.0**	**-1.2**
PDAR	**Pinedale Array**	**96.79**	**48**	P	**P**	**09 52 14.3**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.8,baz=227,slow=3.6,SNR=2.9						
BOSA	**Boshof**	**122.06**	**227**	PKP	PKPdf	09 57 37.9	+0.5
	comp=Z,1.1nm,0.6s,baz=120,slow=1.1,SNR=4.1						

*CSEM **22** 09:57:44.6±1.4, 3864N×2926W, h4km±9km, ML2.6, Error ellipse: s-maj=13.5km s-min=9.0km az=56.0, After PDA*
*PDA **22** 09:57:44.6±1.4, 3864N×2926W, h4km±9km, MD3.4, ML2.6, Error ellipse: s-maj=13.5km s-min=9.0km az=56.0*

SVSA 22 09:57:44.6±1.4, 3864N×2926W, h4km±9km, MD3.4, ML2.6, Error ellipse: s-maj=13.5km s-min=9.0km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.37**	**98**	*e*P	Pg	09 57 51.1	-0.6
PTCA				*e*S	Sg	09 57 56.9	+0.3
PCED	**Cedros**	**0.44**	**91**	*e*P	Pg	09 57 52.1	-1.0
PCED				*e*S	Sg	09 57 58.0	-0.8
PCED							
	107nm,0.2s						
PCED	**Cedros**	**0.44**	**91**	*e*P	Pg	09 57 52.1	-1.0
PCED				*e*S	Sg	09 57 58.0	-0.8
CALA	**Caldeira**	**0.44**	**97**	*e*P	Pg	09 57 53.1	0.0
CALA				*e*S	Sg	09 57 58.0	-0.9
HOR	**Horta**	**0.51**	**103**	*e*S	Sg	09 57 59.8	-1.2
PCND	**Candelaria**	**0.65**	**105**	*e*S	Sg	09 58 03.4	-2.2
PICO	**Pico**	**0.67**	**102**	*i* P	Pg	09 57 56.3	-1.2
PICO				*e*S	Sg	09 58 04.6	-1.6
PICO	**Pico**	**0.67**	**102**	*e*S	Sg	09 58 04.6	-1.6
PPNO	**Prainha do Nor**	**0.80**	**102**	*e*S	Sg	09 58 08.1	-2.3
PPNO				*e*rx		09 58 09.8	
ROSA	**Rosais**	**0.80**	**84**	*i* P	Pg	09 57 57.6	-2.4
ROSA		

comp=N,9.5nm,0.3s
AYAN Aya Nagar 6.84 153 *e*S **Sn 10 28 48.9 -0.9**
KUDL Kundal 6.93 158 *e*P **Pn 10 27 33.3 +0.2**
KUDL *e*S **Sn 10 28 52.9 +0.8**
KUDL AML AML 10 29 44.6
comp=E,14nm,0.4s
KUDL AML AML 10 29 46.0
comp=N,14nm,0.5s
SONA Sohna 7.04 154 *e*P **Pn 10 27 35.8 +1.3**
SONA *e*S **Sn 10 28 53.6 -1.1**
SONA AML AML 10 29 43.1
comp=E,23nm,0.4s
SONA AML AML 10 29 43.5
comp=N,11nm,0.2s
AGRA Agra 8.28 152 AML AML 10 30 30.7
comp=E,112nm,0.4s
KK31 Karatay Array 8.79 345 ⇑P **Pn 10 27 58.3 -0.2**
comp=E,1.6nm,0.5s,baz=142,slow=11,SNR=42
KK31 ⇑S **Sn 10 29 32.3 -5.4**
comp=E,2.3nm,0.3s,baz=167,slow=24,SNR=10
AB31 Akbulak array 17.74 330 ⇓P **Pn 10 29 58.7 +0.2**
comp=E,1.8nm,0.8s,baz=132,slow=12,SNR=9.0
BVAR Borovoye Array 18.53 354 P **Pn 10 30 06.4 -1.9**
comp=E,0.3nm,0.3s,baz=150,slow=12,SNR=5.9
AKTO Aktyubinsk 19.44 329 ⇑P **Pn 10 30 20.2 +0.9**
comp=E,0.5nm,0.9s
AKTO Aktyubinsk 19.44 329 P **Pn 10 30 19.3 +0.1**
comp=E,1.5nm,0.5s,baz=125,slow=12,SNR=8.3
ZAL Zalesovo 20.87 19 P **P 10 30 28.3 -5.3**
comp=E,1.5nm,0.4s,baz=255,slow=7.7,SNR=4.4
ARCES ARCESS Array B 43.66 338 P **P 10 33 55.5 -0.8**
comp=E,2.5nm,0.9s,mb3.9,baz=108,slow=8.6,SNR=4.1
TORD Torodi Ar. Bea 67.78 271 P **P 10 36 50.5 +1.0**
comp=E,0.4nm,0.5s,mb3.7,baz=40,slow=5.6,SNR=2.6
YKA Yellowknife Ar 83.00 4 P **P 10 38 11.1 -5.8**
comp=E,0.2nm,0.6s,mb3.4,baz=348,slow=5.1,SNR=5.2

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*ISCJB **22** 10:26:07.9±1.8, 63S±0.1×1545E±0.2, h440km±20km, mb3.7/7, Error ellipse: s-maj=24.1km s-min=17.5km az=39.5*
*IDC **22** 10:26:08.3±2.0, 630S×1545E, h430km±22km, mb3.3/7, mb1 3.4/10, mb1mx3.3/17, mbtmp4.1/10, Error ellipse: s-maj=20.0km s-min=13.4km az=114.0*
ISC 22 10:26:08.6±1.8, 63S±01×1546E±02, h438km±21km, n12, σ0§83/12, mb3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.03**	**247**	P	**P**	**10 28 03.6**	**-0.5**
	1.3nm,0.3s,baz=41,slow=6.8,SNR=7.3						
CTA	**Charters Tower**	**15.98**	**210**	P	**P**	**10 29 31.6**	**+1.2**
	0.5nm,0.3s,baz=20,slow=11,SNR=5.7						
DZM	**Mont Dzumac**	**19.45**	**145**	P	**P**	**10 30 06.0**	**+0.4**
	0.4nm,0.3s,baz=139,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**23.94**	**233**	P	**P**	**10 30 46.5**	**+0.2**
	1.1nm,0.4s,mb3.7,baz=60,slow=9.1,SNR=19						
WRA				PcP	PcP	10 34 16.1	+1.9
	0.5nm,0.6s,baz=58,slow=2.2,SNR=5.4						
ASAR	**Alice Springs**	**26.39**	**227**	P	**P**	**10 31 08.2**	**+0.1**
	2.3nm,0.3s,mb4.0,baz=58,slow=9.1,SNR=36						
ASAR				PcP	PcP	10 34 21.7	+1.8
	0.5nm,0.5s,baz=47,slow=2.6,SNR=4.8						
ASAR				S	**S**	**10 35 09.1**	**-0.1**
	0.3nm,0.8s,baz=57,slow=15,SNR=5.0						
STKA	**Stephens Creek**	**28.25**	**204**	*e*P	**P**	**10 31 22.5**	**-2.0**
	1.5nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**28.25**	**204**	P	**P**	**10 31 22.5**	**-1.9**
	1.5nm,0.4s,mb3.7,baz=3.6,slow=8.0,SNR=11						
MJAR	**Matsushiro Arr**	**45.26**	**341**	P	**P**	**10 33 44.9**	**-0.3**
	0.7nm,0.3s,mb3.4,baz=166,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**82.60**	**319**	P	**P**	**10 37 45.7**	**+1.1**
	2.2nm,0.7s,mb4.0,baz=102,slow=6.4,SNR=26						
ILAR	**Eielson Array**	**82.82**	**22**	P	**P**	**10 37 45.0**	**-0.8**
	0.6nm,0.8s,mb3.4,baz=247,slow=5.3,SNR=8.1						
ZAL	**Zalesovo**	**83.36**	**326**	P	**P**	**10 37 48.8**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=48,slow=7.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.46**	**286**	PKPbc	PKPbc	10 45 15.6	+1.5
	0.8nm,0.6s,baz=51,slow=2.1,SNR=12						
TORD				PKPab	PKPab	10 45 28.1	+1.6
	0.3nm,0.3s,baz=85,slow=3.7,SNR=4.3						

IDC 22 10:51:30.8±2.2, 456S×15155E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.2/3, Error ellipse: s-maj=159.1km s-min=30.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.69**	**226**	P	P	10 56 33.6	-0.2
	0.4nm,0.7s,baz=54,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**25.51**	**220**	P	P	10 57 02.5	+1.8
	0.4nm,0.8s,baz=57,slow=8.4,SNR=4.9						
ILAR	**Eielson Array**	**82.41**	**22**	P	P	11 03 53.8	-0.9
	0.1nm,0.3s,baz=252,slow=5.6,SNR=4.4						

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*ISCJB **22** 10:57:56.3±0.5, 4173N±003×2546E±003, h4km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=174.6*
*CSEM **22** 10:57:56.1±0.1, 4175N×2550E, h2km, MD2.6*
*SOF **22** 10:57:56.5, 4171N×2544E, h10km, MD2.6*
*NEIC **22** 10:58:01.1, 4118N×2514E, h10km, MD2.6(SOF), MD3.4(ATH), After ATH.*
*ATH **22** 10:58:01.1, 4118N×2514E, h10km, MD3.4/3*
ISC 22 10:57:56.8±0.5, 4172N±003×2547E±003, h2km±5km, n28, σ0§87/38, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.08**	**212**	*i* Pg	**Pg**	**10 57 59.0**	**+0.7**
KDZ				Sg	**Sg**	**10 58 00.8**	**+1.4**
DIM	**Dimitrovgrad**	**0.34**	**8**	Pg	**Pg**	**10 58 04.0**	**+0.7**
RZN	**Rozhen**	**0.57**	**267**	*i* Pg	**Pg**	**10 58 07.0**	**-0.7**
RZN				Sg	**Sg**	**10 58 15.0**	**0.0**
RDO	**Rodhopi**	**0.57**	**175**	*e*PB	**Pg**	**10 58 07.1**	**-0.6**
PLD	**Plovdiv**	**0.69**	**304**	Pg	**Pg**	**10 58 10.0**	**-0.1**
ALN	**Alexandroupoli**	**0.93**	**152**	*e*P	**Pg**	**10 58 14.2**	**-0.3**
ALN	**Alexandroupoli**	**0.93**	**152**	P	**Pg**	**10 58 14.2**	**-0.3**
ALN				S	**Sg**	**10 58 26.1**	**-0.5**
EDRB	**Edirne**	**0.96**	**82**	PG	**Pg**	**10 58 14.0**	**-1.2**
EDRB				SG	**Sg**	**10 58 29.6**	**+1.9**
JMB	**Yambol**	**1.12**	**47**	*e*P	**Pg**	**10 58 18.7**	**+0.5**
JMB	**Yambol**	**1.12**	**47**	P	**Pg**	**10 58 18.7**	**+0.5**
JMB				S	**Sg**	**10 58 32.0**	**-0.7**
NVR	**Nevrokopi**	**1.26**	**254**	*e*PB	**Pb**	**10 58 19.6**	**-1.7**
PGB	**Panagyurishte**	**1.28**	**311**	Pg	**Pg**	**10 58 20.8**	**-0.5**
MMB	**Musomiste**	**1.31**	**265**	Pg	**Pg**	**10 58 21.0**	**-1.0**
MMB				Sg	**Sg**	**10 58 39.0**	**0.0**
PVL	**Pavlikeni**	**1.50**	**356**	P	**Pn**	**10 58 24.0**	**-0.8**
SRS	**Serrai**	**1.54**	**248**	*e*P	**Pn**	**10 58 24.8**	**-0.4**
MFT	**Murefte**	**1.65**	**124**	*e*PN	**Pn**	**10 58 27.0**	**+0.2**
OUR	**Ouranopolis**	**1.78**	**220**	*e*P	**Pn**	**10 58 28.4**	**-0.2**
KKB	**Krupnik**	**1.79**	**276**	P	**Pn**	**10 58 29.0**	**+0.3**
KKB				Sg	**Sg**	**10 58 55.0**	**+0.6**
SOH	**Sokhos**	**1.83**	**241**	*e*P	**Pn**	**10 58 29.4**	**+0.1**
SOH	**Sokhos**	**1.83**	**241**	P	**Pn**	**10 58 29.4**	**+0.1**
SOH				S	**Sn**	**10 58 52.7**	**-0.3**
VTS	**Vitosha**	**1.90**	**298**	*e*P	**Pn**	**10 58 31.8**	**+1.6**
VTS	**Vitosha**	**1.90**	**298**	P	**Pn**	**10 58 31.5**	**+1.3**
VTS				Sg	**Sg**	**10 58 57.5**	**-0.2**
MRMT	**Marmara Adasi**	**1.95**	**124**	*e*PN	**Pn**	**10 58 30.6**	**-0.3**
KNT	**Kendrikon**	**2.01**	**255**	*e*P	**Pn**	**10 58 32.3**	**+0.6**
KNT	**Kendrikon**	**2.01**	**255**	P	**Pn**	**10 58 32.3**	**+0.6**
KNT				S	**Sn**	**10 58 57.9**	**+0.4**
PLG	**Polygyros**	**2.04**	**229**	*e*PB	**Pn**	**10 58 29.1**	**-3.0**
BNT	**Bandirma**	**2.30**	**125**	*e*PN	**Pn**	**10 58 35.8**	**+0.2**
GRG	**Griva**	**2.43**	**253**	*e*P	**Pn**	**10 58 39.5**	**+1.9**

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*IDC **22** 11:09:00.9±6.3, 864S×123.10E, h178km±58km, mb3.1/1, mb1 3.1/3, mb1mx3.0/15, mbtmp3.6/3, Error ellipse: s-maj=234.2km s-min=14.3km az=57.0*
*ISCJB **22** 11:09:02.0±3.9, 90S±02×1230E±02, h212km±45km, mb3.2/1, Error ellipse: s-maj=48.0km s-min=23.2km az=97.9*
ISC 22 11:08:58.5±2.4, 88S±02×1228E±03, h150km±25km, n5, σ1§62/8, mb3.4/1, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.61**	**164**	*e*P	**Pn**	**11 11 14.8**	**+1.6**
	9.5nm,0.3s						
FITZ				*e*S	**Sn**	**11 12 58.4**	**-1.2**
WRA	**Warramunga Arr**	**15.69**	**136**	P	**Pn**	**11 12 30.3**	**-1.0**
	0.3nm,0.3s,baz=311,slow=14,SNR=15						
WRA				S	**S**	**11 15 14.9**	**-11**
	0.3nm,0.3s,baz=310,slow=23,SNR=5.8						
WB2	**Warramunga Arr**	**15.70**	**136**	*e*P	**Pn**	**11 12 31.3**	**-0.2**
ASAR	**Alice Springs**	**18.17**	**146**	P	**P**	**11 13 01.5**	**+2.0**
	0.1nm,0.3s,baz=328,slow=12,SNR=12						
ASAR				S	**S**	**11 16 19.7**	**0.0**
	0.1nm,0.3s,baz=317,slow=20,SNR=5.5						
MKAR	**Makanchi Array**	**66.09**	**331**	P	**P**	**11 19 28.6**	**-0.8**
	0.3nm,0.4s,mb3.4,baz=139,slow=7.4,SNR=12						

IDC 22 11:27:26.4±2.7, 861N×10315W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.9/17, mbtmp3.6/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/16, Error ellipse: s-maj=134.8km s-min=26.6km az=57.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**26.39**	**354**	P	P	11 33 04.2	-0.3
	0.6nm,0.7s,baz=168,slow=7.4,SNR=3.1						
NVAR	**Mina Array Bea**	**32.67**	**338**	P	P	11 34 01.7	+1.4
	0.2nm,0.4s,baz=155,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**34.48**	**352**	P	P	11 34 15.8	-0.2
	3.0nm,1.0s,baz=168,slow=8.9,SNR=8.6						
TAOE	**Nuku Hiva Isla**	**40.73**	**246**	*e*T		12 17 28.8	
	56nm,0.2s						
ULM	**Lac du Bonnet**	**41.95**	**7**	LR	LR	11 52 53.4	
	comp=Z,60nm,18.3s,baz=126,slow=36						
LPAZ	**La Paz**	**42.59**	**125**	P	P	11 35 24.8	+0.7
	0.9nm,0.7s,baz=304,slow=12,SNR=4.5						
LPAZ				LR	LR	11 50 58.8	
	comp=Z,23nm,19.1s,baz=97,slow=33						
RKT	**Rikitea**	**44.32**	**224**	*e*T		12 22 05.9	
	5.7nm,0.3s						
YKA	**Yellowknife Ar**	**54.43**	**353**	P	P	11 36 56.6	+1.2
	0.3nm,0.7s,baz=166,slow=7.7,SNR=7.1						
YKA				PcP	PcP	11 38 00.4	+1.4
	0.4nm,0.9s,baz=164,slow=3.5,SNR=8.0						
YKA				LR	LR	11 59 59.2	
	comp=Z,48nm,18.4s,baz=125,slow=36						
PLCA	**Paso Flores**	**57.56**	**151**	LR	LR	11 54 25.8	
	comp=Z,36nm,20.1s,baz=78,slow=28						
ILAR	**Eielson Array**	**63.86**	**341**	P	P	11 37 58.9	-1.8
	3.1nm,0.9s,baz=152,slow=4.8,SNR=22						
NOA	**NORSAR Array B**	**93.94**	**26**	LR	LR	12 23 33.2	
	comp=Z,37nm,19.2s,baz=260,slow=36						

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*KISR **22** 11:31:57.8±0.8, 3230N×4549E, h34km, ML2.7*
*CSEM **22** 11:31:59.7, 3227N×4890E, h14km, ML3.0, After THR*
*THR **22** 11:31:59.7±1.1, 3227N×4890E, h14km±7km, ML3.0*
*ISCJB **22** 11:32:00.7±0.8, 3224N±007×489E±0.1, h14km, Error ellipse: s-maj=17.5km s-min=6.2km az=54.1*
ISC 22 11:32:01.6±0.8, 3222N±006×489E±01, h14km, n9, σ1§04/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.13**	**212**	*e*PG	**Pg**	**11 32 03.5**	**-1.5**
SHGR				*e*SG	**Sg**	**11 32 07.2**	**-0.3**
SHGR	**Shooshtar-Gavs**	**0.13**	**212**	*e*Pg	**Pg**	**11 32 03.5**	**-1.5**
	SNR=117						
SHGR				*e*Sg	**Sg**	**11 32 07.2**	**-0.3**
	SNR=117						
ASAO	**Ashtian**	**2.52**	**22**	*e*PN	**Pn**	**11 32 41.7**	**-0.3**
ASAO				*e*SG	**Sg**	**11 33 16.7**	**-5.8**
ASAO				AML	AML	11 33 24.8	
	comp=E,70nm,0.5s						
ASAO				AML	AML	11 33 24.8	
	comp=N,66nm,0.6s						
ASAO	**Ashtian**	**2.52**	**22**	*e*Pn	**Pn**	**11 32 41.7**	**-0.3**
	SNR=52						
ASAO				*e*Sg	**Sg**	**11 33 16.7**	**-5.7**
	comp=N,66nm,0.6s,SNR=90						
MIB	**Mutribah**	**2.74**	**209**	*e*P	**Pn**	**11 32 45.3**	**+0.2**
MIB				*e*S	**Sn**	**11 33 20.9**	**+2.8**
MIB				AML	AML	11 33 21.9	
	comp=Z,15nm,0.5s						
UMR	**Umm Al-Rimmam**	**2.84**	**201**	*e*P	**Pg**	**11 32 51.1**	**-4.8**
UMR				*e*S	**Sg**	**11 33 31.5**	**-1.3**
UMR				AML	AML	11 33 33.4	
	comp=Z,42nm,0.4s						
SNGE	**Sanandaj**	**3.14**	**336**	*e*PN	**Pn**	**11 32 50.8**	**+0.2**
SNGE				AML	AML	11 33 41.6	
	comp=N,67nm,0.6s						
SNGE				AML	AML	11 33 41.6	
	comp=E,74nm,0.6s						
NAY	**Al-Naaiem**	**3.28**	**206**	*e*P	**Pn**	**11 32 52.1**	**-0.3**
NAY				*e*S	**Sn**	**11 33 32.5**	**+1.3**
NAY				AML	AML	11 33 34.4	
	comp=Z,9.9nm,0.4s						
NASN	**Na'in**	**3.37**	**79**	*e*PN	**Pn**	**11 32 54.2**	**+0.5**
NASN				AML	AML	11 33 52.6	
	comp=E,21nm,0.5s						
NASN				AML	AML	11 33 54.7	
	comp=N,18nm,0.5s						

MOS 22 11:32:57.6±2.4, 5172N×9799E, h17km, mb4.0/1, Error ellipse: s-maj=24.3km s-min=15.7km az=157.7, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.39**	**53**	*e*PG	Pg	11 33 23.0	-1.4
ORL				*e*		11 33 41.2	
ORL				pmax	pmax		
	comp=Z,92nm,0.3s						
ORL				smax			
	comp=N,418nm,0.8s						
MOY	**Mondy**	**1.87**	**90**	*e*PN	Pn	11 33 31.5	+2.7
MOY				*e*		11 33 57.2	
MOY				pmax	pmax		
	comp=Z,91nm,0.5s						
MOY				smax			
	comp=N,377nm,0.6s						
ARS	**Arshan**	**2.76**	**84**	*e*PN	Pn	11 33 47.8	+6.8
ARS				*e*		11 34 25.2	
ARS				pmax	pmax		
	comp=Z,20nm,0.2s						
ARS				smax			
	comp=E,2μm,0.5s						
TLY	**Talaya**	**3.52**	**88**	*e*PN	Pn	11 33 51.2	-0.3
TLY				*e*		11 34 00.1	
TLY				*e*		11 34 47.2	
TLY				pmax	pmax		
	comp=Z,12nm,0.5s						
TLY				smax			
	comp=E,106nm,0.6s						
ZAK	**Zakamensk**	**3.60**	**110**	*e*PN	Pn	11 34 01.2	+8.7
ZAK				*e*		11 34 48.9	
ZAK				pmax	pmax		
	comp=Z,26nm,0.6s						
ZAK				smax			
	comp=N,90nm,1.3s						
IRK	**Irkutsk**	**3.92**	**80**	*e*PN	Pn	11 34 07.8	+11
IRK				*e*		11 34 57.2	
IRK				pmax	pmax		
	comp=Z,191nm,0.2s						
IRK				smax			
	comp=N,390nm,0.5s						
LSTR	**Listvyanka**	**4.25**	**85**	*e*PN	Pn	11 34 12.9	+11
LSTR				*e*		11 35 07.6	
LSTR				pmax	pmax		
	comp=Z,12nm,1.0s						
LSTR				smax			
	comp=N,87nm,1.3s						
TRG	**Tyrgan**	**5.24**	**75**	*e*PN	Pn	11 34 33.5	+18
TRG				*e*		11 35 39.0	
TRG				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TRG				smax			
	comp=N,215nm,1.0s						
OGRR	**Ongureny**	**6.15**	**68**	*e*PN	Pn	11 34 29.6	+1.9
OGRR				*e*		11 34 48.0	
OGRR				*e*		11 36 06.6	
OGRR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
OGRR				smax			
	comp=N,115nm,1.2s						
BOD	**Bodaibo**	**11.07**	**50**	*e*P	Pn	11 35 36.5	+1.4
BOD				pmax	pmax		
	comp=Z,3.0nm,0.2s						

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*ISCJB **22** 11:37:05.6±0.5, 4173N±003×2547E±003, h1km±6km, Error ellipse: s-maj=5.5km s-min=4.0km az=146.4*
*CSEM **22** 11:37:06.4±0.2, 4173N×2551E, h12km, MD2.9, Error ellipse: s-maj=5.6km s-min=3.7km az=173.0*
*NEIC **22** 11:37:06.3, 4169N×2545E, h12km, MD2.9(SOF), MD3.3(ATH), ML2.8(THE), After SOF.*
*ATH **22** 11:37:06.9, 4079N×2539E, h46km±6km, MD3.3/3*
*SOF **22** 11:37:06.3, 4169N×2545E, h12km, MD2.9*
*THE **22** 11:37:08.2, 4165N×2564E, h24km, ML3.2*
ISC 22 11:37:06.5±0.5, 4170N±003×2548E±003, h8km±4km, n24, σ1§11/35, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.06**	**223**	*i* Pg	**Pg**	**11 37 09.0**	**+0.7**
KDZ				Sg	**Sg**	**11 37 10.8**	**+1.2**
RDO	**Rodhopi**	**0.55**	**175**	⇑*i* P	**Pg**	**11 37 17.0**	**-0.2**
RDO				*e*S	**Sg**	**11 37 24.2**	**-0.2**
RDO	**Rodhopi**	**0.55**	**175**	⇑*e*P	**Pg**	**11 37 17.0**	**-0.2**
RDO				*e*S	**Sg**	**11 37 24.2**	**-0.2**
RZN	**Rozhen**	**0.57**	**269**	*i* Pg	**Pg**	**11 37 17.0**	**-0.5**
ALN	**Alexandroupoli**	**0.91**	**152**	*e*Pg	**Pg**	**11 37 23.9**	**0.0**
	comp=Z,9.0nm,0.2s						
EDRB	**Edirne**	**0.96**	**81**	PG	**Pg**	**11 37 24.5**	**-0.4**
EDRB				SG	**Sg**	**11 37 39.5**	**+2.1**
JMB	**Yambol**	**1.13**	**47**	*e*Pg	**Pg**	**11 37 27.2**	**-0.9**
JMB				*e*Sg	**Sg**	**11 37 41.6**	**-1.2**
JMB	**Yambol**	**1.13**	**47**	*e*Pg	**Pg**	**11 37 27.2**	**-1.0**
JMB				*e*Sg	**Sg**	**11 37 41.6**	**-1.2**
NVR	**Nevrokopi**	**1.26**	**255**	*e*P	**Pn**	**11 37 29.4**	**-1.1**
NVR				*e*S	**Sb**	**11 37 46.1**	**-0.8**
MMB	**Musomiste**	**1.31**	**266**	Sg	**Sg**	**11 37 48.0**	**-0.8**
PVL	**Pavlikeni**	**1.52**	**356**	P	**Pn**	**11 37 34.0**	**-0.1**
SRS	**Serrai**	**1.53**	**248**	*e*Pb	**Pb**	**11 37 34.3**	**-0.8**
MFT	**Murefte**	**1.64**	**123**	PN	**Pn**	**11 37 36.0**	**+0.3**
OUR	**Ouranopolis**	**1.77**	**220**	*e*Pb	**Pb**	**11 37 36.6**	**-2.6**
	comp=Z,7.0nm,0.5s						
KKB	**Krupnik**	**1.80**	**276**	Pg	**Pg**	**11 37 39.9**	**-1.1**
SOH	**Sokhos**	**1.82**	**242**	*e*Pb	**Pb**	**11 37 38.8**	**-1.3**
VTS	**Vitosha**	**1.91**	**299**	*e*Pn	**Pn**	**11 37 40.6**	**+1.2**
VTS	**Vitosha**	**1.91**	**299**	*e*Pn	**Pn**	**11 37 40.6**	**+1.2**
VTS				Sg	**Sg**	**11 38 09.0**	**+1.2**
KNT	**Kendrikon**	**2.01**	**255**	*e*Pn	**Pn**	**11 37 41.7**	**+0.9**
	comp=Z,9.0nm,0.6s						
PLG	**Polygyros**	**2.03**	**230**	*e*P	**Pn**	**11 37 32.6**	**-8.4**
VAY	**Valandovo**	**2.21**	**261**	*i* Pn	**Pn**	**11 37 46.8**	**+3.2**
VAY				*i* Sn	**Sn**	**11 38 16.8**	**+5.6**
VAY	**Valandovo**	**2.21**	**261**	*i* Pn	**Pn**	**11 37 46.8**	**+3.2**
VAY				*i* Sn	**Sn**	**11 38 16.7**	**+5.6**
BNT	**Bandirma**	**2.28**	**125**	*e*PN	**Pn**	**11 37 44.5**	**0.0**
GRG	**Griva**	**2.43**	**253**	*e*Pn	**Pn**	**11 37 47.3**	**+0.8**
GRG				*e*Sn	**Sn**	**11 38 18.8**	**+2.3**

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*ISCJB **22** 11:51:47.5±0.4, 3536S±003×7088W±006, h120km±2km, mb4.2/17, Error ellipse: s-maj=8.6km s-min=4.8km az=52.6*
*NEIC **22** 11:51:47.8, 3532S×7099W, h124km, mb4.3/13, After GUC.*
NEIC Felt [III] at Curico and [II] at Rancagua and Talca.
*GUC **22** 11:51:47.8±0.6, 3532S×7099W, h124km±2km, ML4.7*
*IDC **22** 11:51:48.9±1.9, 3533S×7066W, h118km±16km, mb3.8/9, mb1 3.9/12, mb1mx3.8/17, mbtmp4.2/12, MS3.4/1, Ms1 3.3/1, ms1mx2.9/10, Error ellipse: s-maj=25.3km s-min=12.2km az=97.0*
ISC 22 11:51:48.5±0.3, 3535S±003×7089W±006, h115km±2km, n54, σ0§81/72, mb4.2/17, 8C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.45**	**321**	⇑*i* P	**Pn**	**11 52 05.7**	**0.0**
NICH				*i* S	**Sn**	**11 52 18.8**	**+0.4**
SFDO	**San Fernando**	**0.74**	**352**	*i* P	**Pn**	**11 52 07.6**	**-0.2**
LNCH	**Linares**	**0.76**	**230**	⇑*i* P	**Pn**	**11 52 06.8**	**-1.1**
LNCH				*i* S	**Sn**	**11 52 21.9**	**-0.6**
LNCH				AMP		11 52 22.4	
	comp=N,27μm,0.2s						
LNCH	**Linares**	**0.76**	**230**	⇑*i* P	**Pn**	**11 52 06.8**	**-1.1**
LNCH				*i* S	**Sn**	**11 52 21.9**	**-0.6**
CICH	**Cipreses**	**1.10**	**20**	⇑*i* P	**Pn**	**11 52 11.4**	**+0.2**
CICH				*i* S	**Sn**	**11 52 29.4**	**+1.1**
CTCH	**Constitucion**	**1.25**	**271**	*i* P	**Pn**	**11 52 13.2**	**+0.5**
CTCH				*i* S	**Sn**	**11 52 31.4**	**+0.3**
CTCH				AMP		11 52 37.9	
	comp=E,25μm,0.6s						
CTCH	**Constitucion**	**1.25**	**271**	*i* P	**Pn**	**11 52 13.2**	**+0.5**
CTCH				*i* S	**Sn**	**11 52 31.4**	**+0.3**
CACH	**El Canelo**	**1.26**	**11**	⇑*i* P	**Pn**	**11 52 13.0**	**+0.2**
CACH				*i* S	**Sn**	**11 52 32.2**	**+0.9**
CNCO	**Chanco**	**1.40**	**254**	⇑*i* P	**Pn**	**11 52 14.4**	**0.0**
CNCO				*i* S	**Sn**	**11 52 34.0**	**-0.1**
CNCO				AMP		11 52 35.3	
	comp=E,10μm,0.5s						
CNCO	**Chanco**	**1.40**	**254**	⇑*i* P	**Pn**	**11 52 14.4**	**0.0**
CNCO				*i* S	**Sn**	**11 52 34.0**	**-0.1**
CHCH	**Chadas Angostu**	**1.43**	**8**	*i* P	**Pn**	**11 52 14.7**	**-0.1**
CHCH				*i* S	**Sn**	**11 52 35.6**	**+0.8**
LNV	**Longovilo**	**1.46**	**343**	⇑*i* P	**Pn**	**11 52 14.7**	**-0.4**
LNV				*i* S	**Sn**	**11 52 34.7**	**-0.7**
LMEL	**Las Melosas**	**1.60**	**21**	⇓*i* P	**Pn**	**11 52 17.6**	**+0.7**
LMEL				*i* S	**Sn**	**11 52 39.9**	**+1.5**
LMEL				AMP		11 52 44.1	
	comp=N,7μm,0.2s						
LMEL	**Las Melosas**	**1.60**	**21**	⇓*i* P	**Pn**	**11 52 17.6**	**+0.7**
LMEL				*i* S	**Sn**	**11 52 39.9**	**+1.5**
TACH	**Talagante**	**1.70**	**359**	*i* P	**Pn**	**11 52 17.6**	**-0.4**
TACH				*i* S	**Sn**	**11 52 40.4**	**0.0**
PCH	**Pirque**	**1.75**	**10**	⇓*i* P	**Pn**	**11 52 18.8**	**0.0**
PCH				*i* S	**Sn**	**11 52 42.1**	**+0.4**
RCDM	**Rinconada Maip**	**1.86**	**2**	⇓*i* P	**Pn**	**11 52 19.5**	**-0.5**
RCDM				*i* S	**Sn**	**11 52 43.8**	**-0.3**
RCDM				AMP		11 52 44.8	
	comp=E,9μm,0.4s						
RCDM	**Rinconada Maip**	**1.86**	**2**	⇓*i* P	**Pn**	**11 52 19.5**	**-0.5**
RCDM				*i* S	**Sn**	**11 52 43.8**	**-0.3**
SAN	**Santiago**	**1.90**	**6**	AMP		11 52 48.1	
	comp=E,5μm,0.4s						
LCCH	**Las Cruces**	**1.96**	**343**	⇓*i* P	**Pn**	**11 52 20.4**	**-0.8**
LCCH				*i*

comp=E,1.7nm,0.3s,mb4.5
SWET Sewanee 71.60 347 *e*P P 12 02 56.9 -0.4
OXF Oxford 71.63 344 *e*P P 12 02 56.7 -0.8
comp=E,7.1nm,0.4s,mb4.8
PLAL Pickwick Lake 71.79 345 *e*P P 12 02 57.6 -0.9
comp=E,2.9nm,0.5s,mb4.4
WVT Waverly 72.85 346 *e*P P 12 03 04.1 -0.6
DBIC Dimbokro 74.73 70 P P 12 03 15.2 -0.5
comp=E,1.4nm,0.6s,mb3.9,baz=276,slow=6.2,SNR=5.8
CCM Cathedral Cave 75.44 344 *e*P P 12 03 19.2 -0.6
comp=E,9.6nm,0.9s,mb4.5
ANMO Albuquerque 77.43 331 *e*P P 12 03 32.0 +1.0
comp=E,1.6nm,0.9s,mb3.8
BOSA Boshof 78.61 117 P P 12 03 37.4 -0.1
comp=E,1.9nm,0.6s,mb4.1,baz=152,slow=1.2,SNR=6.2
PV01 Paradox Valley 81.03 331 *e*P P 12 03 51.7 +1.1
PV10 Paradox Valley 81.42 331 *e*P P 12 03 52.8 +0.1
TORD Torodi Ar. Bea 83.79 69 P P 12 04 04.7 -0.2
comp=E,2.2nm,0.7s,mb4.1,baz=254,slow=3.7,SNR=18
HWUT Hardware Ranch 85.19 331 *e*P P 12 04 12.3 +0.4
comp=E,1.7nm,0.6s,mb4.2
PDAR Pinedale Array 85.40 333 P P 12 04 13.2 +0.2
comp=E,1.4nm,0.9s,mb3.9,baz=140,slow=4.8,SNR=12
NVAR Mina Array Bea 85.53 325 P P 12 04 14.5 +0.8
comp=E,0.8nm,0.8s,mb3.7,baz=145,slow=6.1,SNR=7.1
ULM Lac du Bonnet 88.05 344 P P 12 04 25.1 -0.8
comp=E,2.7nm,0.7s,mb4.4,baz=186,slow=5.6,SNR=6.3
WRA Warramunga Arr 120.03 208 PKP PKPdf 12 10 25.5 -0.1
comp=E,0.4nm,0.9s,baz=160,slow=1.6,SNR=11

BJI 22 12:56:13.8, 4488N×12149E, h31km, ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**3.04**	**109**	*e*P	Pn	12 56 58.6	-1.1
CN2				*e*PG	Pn	12 57 04.3	+4.6
CN2				*e*SG	Sn	12 57 39.9	+4.9
CN2				Smax			
	comp=N,100nm,0.5s						
CN2				Smax			
	comp=E,100nm,0.5s						
MDJ	**Mudanjiang**	**5.78**	**90**	PG	Pn	12 57 58.3	+21
MDJ				SG	Sn	12 59 13.0	+30
MDJ				Smax			
	comp=N,27nm,0.7s						
MDJ				Smax			
	comp=E,14nm,0.9s						

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*NAO **22** 12:59:29.6±3.6, 6751N×3302E, ML2.3*
HEL 22 12:59:27.5±0.5, 6764N×3381E, h0km, ML2.0, ML2.3(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU4	**Liikasenvaara**	**2.10**	**234**	*e*P	Pn	13 00 04.3	+0.4
KU4				*e*S	Sn	13 00 30.7	+0.1
SGF	**Sodankyl**	**2.80**	**269**	*e*P	Pn	13 00 13.2	-0.3
SGF				*e*S	Sn	13 00 47.1	-1.0
SGF				MSG		13 00 56.4	
	comp=Z,5.0nm,0.3s						
KEV	**Kevo**	**3.27**	**314**	*e*P	Pn	13 00 20.5	+0.6
KEV				*e*S	Sn	13 00 59.0	-0.6
KEV				*e*SG	Sg	13 01 08.3	-4.2
KEV				MSG		13 01 10.2	
	comp=Z,4.5nm,0.3s						
ARA0	**ARCESS Array S**	**3.59**	**306**	Pn	Pn	13 00 24.0	-0.4
	baz=122,slow=16						
ARA0				Sn	Sn	13 01 06.0	-1.5
	baz=126,slow=28						
ARA0				Lg		13 01 17.1	
	baz=119,slow=28						
ARA0	**ARCESS Array S**	**3.59**	**306**	*e*P	Pn	13 00 24.0	-0.4
ARA0				*e*S	Sn	13 01 06.0	-1.5
ARA0				*e*SG	Sg	13 01 17.1	-5.8
KJN	**Kajaani**	**4.36**	**218**	*e*P	Pn	13 00 34.5	-0.5
KJN				*e*S	Sn	13 01 24.2	-2.2
KJN				*e*SB	Sb	13 01 36.8	-1.2
FIA0	**FINESS Array S**	**7.05**	**212**	Lg		13 03 02.7	
	baz=22,slow=28						
FIA0	**FINESS Array S**	**7.05**	**212**	*e*SG		13 03 02.7	
FIA0	**FINESS Array S**	**7.05**	**212**	Lg		13 03 02.7	
	baz=22,slow=28						

IDC 22 13:05:34.2±2.1, 184N×12648E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, Error ellipse: s-maj=171.0km s-min=26.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**161**	P	P	13 10 40.7	+0.4
	0.7nm,0.5s,baz=340,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.36**	**165**	P	P	13 11 12.3	+0.3
	0.2nm,0.6s,baz=336,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**58.97**	**326**	P	P	13 15 35.5	+0.1
	0.2nm,0.6s,baz=117,slow=8.2,SNR=4.5						

IDC 22 13:12:32.8±15.0, 009N×12296E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=412.0km s-min=229.5km az=49.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**151**	P	P	13 17 37.7	+0.5
	1.5nm,0.5s,baz=323,slow=11,SNR=44						
ASAR	**Alice Springs**	**25.90**	**157**	P	P	13 18 06.8	+0.4
	1.5nm,0.6s,baz=344,slow=13,SNR=46						
STKA	**Stephens Creek**	**36.36**	**153**	*e*P	P	13 19 38.3	-0.2
	1.3nm,0.6s						
STKA	**Stephens Creek**	**36.36**	**153**	P	P	13 19 38.5	0.0
	1.1nm,0.3s,baz=331,slow=9.6,SNR=9.3						

NEIC 22 13:21:46.3, 4074S×17455E, h20km, ML3.9(WEL), After WEL., Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.30**	**114**	P	Pb	13 21 52.9	-0.1
KIW				S	Sb	13 21 57.9	+0.4
TCW	**Tory Channel**	**0.52**	**204**	P	Pb	13 21 56.6	-0.1
TCW				S	Sb	13 22 04.2	+0.5
CAW	**Cannon Point**	**0.54**	**133**	P	Pb	13 21 57.3	+0.3
THZ	**Tophouse**	**1.61**	**230**	*e*P	Pn	13 22 15.0	+1.5

IGQ 22 13:25:35.6, 059N×7911W, h21km±2km, Mb4.0, Ms3.8, 5C-10D, Error ellipse: s-maj=3.6km s-min=1.4km az=84.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	**Yana**	**0.89**	**143**	⇑P	Pb	13 25 53.4	+1.1
PINO	**Pino**	**0.90**	**146**	⇑P	Pb	13 25 53.5	+1.1
PINO				S	Sb	13 26 05.3	+1.3
TERV	**Terraza Guagua**	**0.91**	**146**	⇓P	Pb	13 25 53.9	+1.2
GGP	**Refugio Guagua**	**0.92**	**146**	⇓P	Pb	13 25 53.6	+0.7
MAG1	**Magdalena**	**0.93**	**225**	⇓P	Pb	13 25 53.5	+0.4
MAG1				S	Sb	13 26 05.8	+0.7
JUA2	**San Juan 2**	**0.94**	**148**	⇓P	Pb	13 25 54.5	+1.2
JUA2				S	Sb	13 26 05.6	+0.2
ANGU	**Angureal**	**1.23**	**116**	⇓P	Pn	13 25 59.4	+1.9
ANGU				S	Sn	13 26 15.8	+2.4
CAYR	**Refugio Cayamb**	**1.24**	**117**	⇓P	Pn	13 25 59.7	+2.0
JAMA	**Jama**	**1.38**	**232**	P	Pn	13 25 59.2	-0.5
CAMI	**Rancho Maria**	**1.40**	**154**	⇑P	Pn	13 26 02.3	+2.5
ANTI	**Antisana**	**1.40**	**137**	⇑P	Pn	13 26 02.3	+2.4
ANTI				S	Sn	13 26 20.1	+2.4
VC1	**Cotopaxi 1**	**1.41**	**150**	⇓P	Pn	13 26 02.7	+2.7
QIL1	**Quilotoa**	**1.44**	**173**	⇑P	Pn	13 26 00.8	+0.5
TAMB	**Tambo**	**1.48**	**150**	⇓P	Pn	13 26 04.1	+3.2
TAMB				S	Sn	13 26 23.6	+4.1
PISA	**Pisayambo**	**1.79**	**156**	⇓P	Pn	13 26 08.8	+3.6
ULBA	**Ulba**	**2.14**	**161**	⇓P	Pn	13 26 13.7	+3.6

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*ISCJB **22** 13:48:07.6±0.5, 6083N±004×15259W±009, h133km±7km, mb3.5/2, Error ellipse: s-maj=7.4km s-min=6.5km az=43.1*
*IDC **22** 13:48:07.8±1.2, 6086N×15259W, h113km±14km, mb3.3/2, mb1 3.5/6, mb1mx3.2/20, mbtmp3.7/6, Error ellipse: s-maj=25.4km s-min=9.8km az=106.0*
*NEIC **22** 13:48:10.0, 6084N×15256W, h128km, MG3.5(AEIC), After AEIC.*
ISC 22 13:48:08.6±0.5, 6083N±004×15259W±009, h128km±7km, n33, σ0§82/41, mb3.5/2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.21**	**105**	P	Pn	13 48 34.1	+0.7
FIB	**Fire Island**	**1.22**	**73**	P	Pn	13 48 35.5	+1.9
RC01	**Rabbit Creek A**	**1.42**	**78**	P	Pn	13 48 36.5	+0.9
RC01				S	Sn	13 48 57.3	+1.1
SVW2	**Sparrevohn**	**1.48**	**282**	P	Pn	13 48 35.9	-0.5
SEW	**Seward**	**1.72**	**114**	P	Pn	13 48 39.5	+0.5
SEW				S	Sn	13 49 01.8	-0.5
PMR	**Palmer**	**1.84**	**64**	P	Pn	13 48 40.5	0.0
PMR				S	Sn	13 49 04.7	-0.2
GHO	**Glory Hole Cre**	**2.00**	**60**	P	Pn	13 48 42.9	+0.4
SML	**Sawmill**	**2.27**	**63**	P	Pn	13 48 45.8	0.0
TT01	**Tatalina**	**2.64**	**324**	P	Pn	13 48 50.5	0.0
KTH	**Kantishna Hill**	**2.84**	**15**	P	Pn	13 48 53.1	+0.1
TRF	**Thorofare Moun**	**2.84**	**21**	P	Pn	13 48 53.5	+0.5
TRF				S	Sn	13 49 26.7	-0.6
KDAK	**Kodiak Island**	**3.06**	**180**	P	Pn	13 48 54.9	-1.0
	16nm,0.3s,baz=38,slow=10,SNR=219						
KDAK				S	Sn	13 49 31.5	-0.9
	13nm,0.3s,baz=157,slow=22,SNR=7.5						
KDAK	**Kodiak Island**	**3.06**	**180**	P	Pn	13 48 55.0	-0.9
DIV	**Divide**	**3.34**	**82**	*e*Pn	Pn	13 48 58.3	-1.2
DIV				*e*Sn	Sn	13 49 37.4	-1.5
MCK	**McKinley**	**3.37**	**29**	P	Pn	13 49 00.4	+0.4
EYAK	**Cordova Ski Ar**	**3.38**	**92**	P	Pn	13 48 59.8	-0.2
BMRM	**Bremner River**	**3.91**	**85**	P	Pn	13 49 06.2	-0.8
PAX	**Paxson**	**3.99**	**54**	P	Pn	13 49 09.0	+0.9
PAX				S	Sn	13 49 54.0	-0.3
COLA	**College**	**4.60**	**26**	P	Pn	13 49 15.9	-0.3
MENT	**Mentasta**	**4.70**	**59**	*e*P	Pn	13 49 18.2	+0.6
IL1	**Eielson Array**	**4.74**	**31**	P	Pn	13 49 17.8	-0.3
ILAR	**Eielson Array**	**4.74**	**31**	P	Pn	13 49 17.4	-0.8
	8.8nm,0.3s,baz=220,slow=12,SNR=462						
ILAR				S	Sn	13 50 09.6	-2.6
	9.1nm,0.3s,baz=225,slow=21,SNR=13						
DOT	**Dot Lake**	**4.89**	**51**	P	Pn	13 49 20.5	+0.5
IM01	**Indian Mountai**	**5.21**	**355**	P	Pn	13 49 24.2	-0.2
PCA	**Pinnacle**	**6.15**	**92**	P	Pn	13 49 38.3	+1.3
DAWY	**Dawson**	**6.92**	**56**	*e*Pn	Pn	13 49 48.2	+0.7
TNA	**Tin City**	**8.38**	**311**	*e*Pn	Pn	13 50 07.0	-0.2
INK	**Inuvik**	**11.06**	**39**	P	Pn	13 50 42.7	-0.2
	0.4nm,0.3s,baz=239,slow=17,SNR=24						
INK	**Inuvik**	**11.06**	**39**	P	Pn	13 50 42.7	-0.2
YKA	**Yellowknife Ar**	**17.94**	**68**	P	Pn	13 52 09.8	0.0
	baz=282,slow=11,SNR=6.4						
YKA				PcP	PcP	13 56 37.8	-0.4
	baz=302,slow=1.3,SNR=4.1						
YKA				ScP	ScP	13 59 59.8	-1.7
	baz=294,slow=2.3,SNR=4.4						
YKA	**Yellowknife Ar**	**17.94**	**68**	P	Pn	13 52 09.8	0.0
YKA				PcP	PcP	13 56 37.8	-0.4
YKA				ScP	ScP	13 59 59.8	-1.7
SONM	**Songino Array**	**54.47**	**306**	P	P	13 57 24.3	+1.6
	1.1nm,0.6s,mb3.8,baz=42,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**63.91**	**321**	P	P	13 58 27.0	-0.7
	0.2nm,0.6s,mb3.1,baz=57,slow=4.5,SNR=4.1						

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*IDC **22** 13:48:04.8±16.0, 1642N×9450W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, Error ellipse: s-maj=309.6km s-min=110.5km az=176.0*
*ISCJB **22** 13:48:20.8±0.5, 1697N±004×9551W±003, h107km±5km, mb3.3/4, Error ellipse: s-maj=7.1km s-min=4.3km az=11.7*
*MEX **22** 13:48:22.5±1.1, 1697N×9549W, h113km±11km, MD4.4*
*NEIC **22** 13:48:23.0, 1699N×9550W, h108km, mb4.5/1, MD4.4(MEX), After MEX.*
ISC 22 13:48:21.9±0.5, 1697N±004×9550W±003, h99km±6km, n36, σ1§31/66, mb3.3/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.18**	**276**	*i* P	Pn	13 48 44.9	+0.6
OXX				*i* S	Sn	13 49 01.6	+0.4
VHO	**Vista Hermosa**	**1.19**	**275**	*i* P	Pn	13 48 45.3	+0.9
VHO				*i* S	Sn	13 49 02.5	+1.2
HUIG	**Huatulco**	**1.33**	**206**	*i* P	Pn	13 48 46.4	+0.4
HUIG				*i* S	Sn	13 49 05.2	+0.9
TUIG	**Tuzandepetl**	**1.47**	**44**	*i* P	Pn	13 48 48.1	+0.4
TUIG				*i* S	Sn	13 49 07.2	-0.1
EVV	**El Vigia**	**1.48**	**5**	*i* P	Pn	13 48 47.0	-0.9
EVV				*i* S	Sn	13 49 04.5	-3.1
EVV	**El Vigia**	**1.48**	**5**	*i* P	Pn	13 48 47.0	-0.9
EVV				*i* S	Sn	13 49 08.9	+1.3
TPIG	**Tehuac#an**	**2.29**	**309**	*i* P	Pn	13 48 59.5	+1.3
TPIG				*i* S	Sn	13 49 27.3	+1.3
UTMO	**Huajuapan**	**2.36**	**292**	*i* P	Pn	13 48 59.7	+0.6
UTMO				*i* S	Sn	13 49 27.7	0.0
PNIG	**Pinotepa**	**2.59**	**258**	*i* P	Pn	13 49 00.9	-1.2
PNIG				*i* S	Sn	13 49 26.5	-6.5
PNIG	**Pinotepa**	**2.59**	**258**	*i* P	Pn	13 49 00.9	-1.2
PNIG				*i* S	Sn	13 49 31.9	-1.1
SCX	**San Cristobal**	**2.75**	**94**	*i* P	Pn	13 49 06.0	+1.8
SCX				*i* S	Sn	13 49 33.5	-3.3
SCX	**San Cristobal**	**2.75**	**94**	*i* P	Pn	13 49 05.8	+1.5
SCX				*i* S	Sn	13 49 33.9	-2.9
LVIG	**Laguna Verde**	**2.88**	**342**	*i* P	Pn	13 49 03.8	-2.2
LVIG				*i* S	Sn	13 49 34.1	-5.7
LVIG	**Laguna Verde**	**2.88**	**342**	*i* P	Pn	13 49 03.8	-2.2
LVIG				*i* S	Sn	13 49 33.7	-6.1
CCIG	**Comitan**	**3.29**	**102**	*i* P	Pn	13 49 14.2	+2.7
CCIG				*i* S	Sn	13 49 48.6	-1.2
CCIG	**Comitan**	**3.29**	**102**	*e*P	Pn	13 49 12.4	+1.0
CCIG				*i* S	Sn	13 49 49.2	-0.6
PPM	**Popocatepetl**	**3.64**	**305**	*i* P	Pn	13 49 18.7	+2.6
PPM				*i* S	Sn	13 49 55.3	-2.8
PPM	**Popocatepetl**	**3.64**	**305**	*i* P	Pn	13 49 17.5	+1.4
PPM				*i* P		13 49 18.1	
PPM				*i* P		13 49 18.7	
PPM				*i* S	Sn	13 49 58.2	+0.1
PPM				*i* S	Sn	13 49 59.3	+1.2
MEIG	**Mezcala**	**4.05**	**284**	*i* P	Pn	13 49 20.9	-0.8
MEIG				*i* S	Sn	13 50 06.3	-1.7
CHVM	**Chichinautzin**	**4.06**	**302**	*i* P	Pn	13 49 23.4	+1.5
CHVM				*i* S	Sn	13 50 08.2	-0.2
PLIG	**Platanillo**	**4.07**	**291**	*i* P	Pn	13 49 23.3	+1.3
PLIG				*i* S	Sn	13 50 04.5	-4.2
PLIG	**Platanillo**	**4.07**	**291**	*e*P	Pn	13 49 22.6	+0.6
PLIG				*i* S	Sn	13 50 07.4	-1.3
IIZ	**Mezontepec**	**4.19**	**302**	*i* P	Pn	13 49 21.2	-2.4
IIZ				*i* S	Sn	13 50 07.9	-3.6
ACX	**Acapulco**	**4.23**	**269**	*i* P	Pn	13 49 21.7	-2.5
ACX				*i* S	Sn	13 50 12.3	-0.2
ACX	**Acapulco**	**4.23**	**269**	*i* P	Pn	13 49 21.9	-2.3
ACX				*i* S	Sn	13 50 12.3	-0.2
PTVM	**Pico Tres Padr**	**4.32**	**308**	*i* P	Pn	13 49 26.5	+1.2
PTVM				*i* S	Sn	13 50 14.9	+0.4
SZVM	**Salazar**	**4.37**	**303**	*i* P	Pn	13 49 26.0	0.0
SZVM				*i* S	Sn	13 50 16.2	+0.3
CAIG	**El Cayaco**	**4.57**	**272**	*i* P	Pn	13 49 27.8	-0.9
CAIG				*i* S	Sn	13 50 18.0	-2.6
ZIIG	**Zihuatanejo**	**5.74**	**277**	*i* P	Pn	13 49 44.8	+0.2
TEIG	**Tepich**	**7.57**	**64**	*e*Pn	Pn	13 50 07.4	-2.1
	4.4nm,0.3s						
TEIG				*e*S	Sn	13 51 27.3	-6.4
PDAR	**Pinedale Array**	**28.37**	**338**	P	P	13 54 08.9	+2.3
	0.2nm,0.7s,mb2.7,baz=166,slow=13,SNR=2.8						
NVAR	**Mina Array Bea**	**29.26**	**321**	P	P	13 54 17.9	+3.4
	1.1nm,0.8s,mb3.5,baz=133,slow=9.6,SNR=9.5						
YKA	**Yellowknife Ar**	**47.41**	**348**	P	P	13 56 46.2	0.0
	0.3nm,0.6s,mb3.2,baz=153,slow=7.5,SNR=7.4						
YKA	**Yellowknife Ar**	**47.41**	**348**	P	P	13 56 46.2	0.0
INK	**Inuvik**	**56.66**	**344**	P	P	13 57 55.2	+0.4
	0.3nm,0.4s,mb3.7,baz=143,slow=8.8,SNR=4.7						
INK	**Inuvik**	**56.66**	**344**	P	P	13 57 55.2	+0.4

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*NEIC **22** 14:05:18.7±7.1, 2996S×7204W, h9km±47km, mb4.1/1, Error ellipse: s-maj=27.6km s-min=10.3km az=88.0*
*ISCJB **22** 14:05:20.4±0.9, 3002S±008×719W±0.1, h33km, mb3.5/2, Error ellipse: s-maj=16.6km s-min=8.8km az=112.6*
*IDC **22** 14:05:23.8±4.9, 3000S×7182W, h39km±46km, mb3.1/1, mb1 3.6/5, mb1mx3.4/17, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=54.1km s-min=28.3km az=85.0*
ISC 22 14:05:23.1±0.9, 2997S±008×719W±01, h35km, n12, σ0§84/12, mb3.5/2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.53**	**118**	Pn	Pn	14 06 16.2	+0.9
	1.5nm,0.3s,baz=312,slow=11,SNR=39						
CFAA				Sn	Sn	14 06 56.0	+0.2
	3.7nm,0.3s,baz=152,slow=12,SNR=10						
PLCA	**Paso Flores**	**10.79**	**175**	Pn	Pn	14 07 54.9	-0.1
	0.1nm,0.3s,baz=245,slow=13,SNR=3.3						
PLCA	**Paso Flores**	**10.79**	**175**	*e*P	Pn	14 07 53.7	-1.3
TRQA	**Tornquist**	**11.50**	**137**	*e*P	Pn	14 08 04.3	-0.5
CPUP	**Villa Florida**	**13.34**	**78**	*e*P	Pn	14 08 25.7	-4.1
LPAZ	**La Paz**	**14.05**	**15**	Pn	Pn	14 08 39.9	+0.4
	0.1nm,0.3s,baz=198,slow=4.1,SNR=3.6						
LPAZ	**La Paz**	**14.05**	**15**	*e*P	Pn	14 08 38.9	-0.6
SIV	**San Ignacio**	**17.09**	**38**	P	Pn	14 09 18.8	-0.4
	0.2nm,0.3s,baz=239,slow=9.7,SNR=6.9						
ROSC	**El Rosal**	**34.71**	**356**	*e*P	P	14 12 08.4	-1.2
MNTX	**Cornudas Mount**	**69.09**	**330**	*e*P	P	14 16 26.0	+0.5
	0.7nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**80.25**	**333**	P	P	14 17 31.5	+1.4
	0.2nm,0.5s,mb3.3,baz=138,slow=6.8,SNR=2.7						
WRA	**Warramunga Arr**	**124.32**	**210**	PKP	PKPdf	14 24 18.2	0.0
	0.4nm,0.5s,baz=162,slow=1.6,SNR=9.3						

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*NAO **22** 14:11:29.1, 2496N×12800E, h33km, mb4.3*
*NIED **22** 14:12:00, 2690N×12550E, h230km, Mw4.3 Best double couple: M0:3.05000×10^15 NP1:φ0=341.00000°, δ=48.00000°, λ=-106.00000°. NP2:φ0=184.00000°, δ=45.00000°, λ=-73.00000°.*
*BJI **22** 14:12:03.9, 2671N×12569E, h230km, mB4.7, mb4.4*
*ISCJB **22** 14:12:05.5±0.2, 2688N±003×12550E±003, h225km±3km, mb4.1/23, Error ellipse: s-maj=6.5km s-min=3.6km az=104.8*
*NEIC **22** 14:12:07.5±0.3, 2694N×12537E, mb4.2/8, Error ellipse: s-maj=8.5km s-min=5.7km az=113.0*
*IDC **22** 14:12:07.4±0.7, 2696N×12546E, h231km±6km, mb3.8/12, mb1 4.0/16, mb1mx3.9/23, mbtmp4.5/16, Error ellipse: s-maj=16.1km s-min=9.3km az=75.0*
*JMA **22** 14:12:08.7±0.4, 2690N×12547E, h201km, M4.6*
ISC 22 14:12:06.3±0.2, 2692N±004×12547E±004, h217km±3km, h231km±2.9km; pP-P, n75, σ1§31/96, mb4.1/23, 1C-1D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.32**	**116**	P	Pn	14 12 41.3	+1.2
JKE				*e*S	S	14 13 06.4	0.0
JAGN	**Aguni-jima**	**1.62**	**101**	P	Pn	14 12 43.6	+1.1
JAGN				*e*S	S	14 13 10.3	-0.6
JMJ	**Miyako jima 2**	**2.11**	**184**	P	Pn	14 12 48.4	+1.3
JMJ				S	S	14 13 18.5	-0.6
NAH1	**Naha**	**2.12**	**109**	P	Pn	14 12 48.6	+1.4
NAH1				*e*S	S	14 13 18.2	-1.1
JOGS	**Gusukube**	**2.15**	**181**	P	Pn	14 12 49.1	+1.5
JOGS				S	S	14 13 19.9	-0.1
JJT2	**Tamagusuku 2**	**2.19**	**110**	P	Pn	14 12 49.8	+1.9
JIH	**Iheya**	**2.23**	**87**	P	Pn	14 12 49.6	+1.2
JIH				S	S	14 13 20.0	-1.4
JTJ	**Tarama**	**2.38**	**197**	P	Pn	14 12 50.6	+0.7
JTJ				S	S	14 13 22.5	-1.6
JOW	**Kunigami**	**2.51**	**91**	P	Pn	14 12 52.4	+1.1
JOW				S	S	14 13 24.3	-2.4
JOW	**Kunigami**	**2.51**	**91**	P	Pn	14 12 52.5	+1.2
	47nm,0.3s,baz=239,slow=6.0,SNR=608						
JOW				S	S	14 13 24.3	-2.4
	216nm,0.3s,baz=11,slow=29,SNR=108						
JIJ	**Ishigaki jima**	**2.81**	**205**	P	Pn	14 12 54.6	-0.1
JIJ				S	S	14 13 29.8	-2.9
JKRS	**Kuro-shima**	**2.98**	**207**	P	Pn	14 12 56.6	0.0
JKRS				*e*S	S	14 13 33.8	-2.3
IRIF	**Iriomote-Funau**	**3.02**	**212**	P	Pn	14 12 56.7	-0.3
IRIF				S	S	14 13 34.4	-2.4
JTK	**Tokunoshima**	**3.21**	**74**	P	Pn	14 12 59.3	0.0
JTK				*e*S	S	14 13 38.1	-2.9
HATJ	**Hateruma jima**	**3.23**	**208**	P	Pn	14 12 59.4	0.0
HATJ				S	S	14 13 38.6	-2.6
YOJ	**Yonaguni jima**	**3.30**	**223**	P	Pn	14 13 00.8	+0.5
YOJ				*e*S	S	14 13 43.2	+0.4
JAM	**Amami Oshima**	**3.96**	**67**	P	Pn	14 13 08.1	0.0
JAM				*e*S	S	14 13 54.5	-2.5
TATO	**Taipei**	**4.07**	**242**	*e*P	Pn	14 13 11.7	+2.1
JZK	**Kikaishima**	**4.23**	**70**	P	Pn	14 13 13.3	+1.8
JZK				*e*S	S	14 14 01.1	-1.9
YHNB	**Yeheng**	**4.32**	**240**	*e*P	Pn	14 13 14.3	+1.7
NACB	**Ninganchiao**	**4.44**	**233**	*e*P	Pn	14 13 13.2	-0.9
JNN	**Nakanoshima**	**4.85**	**52**	P	Pn	14 13 21.3	+2.1
JMZ	**Minamidaito 2**	**5.28**	**101**	P	Pn	14 13 25.8	+1.2
JMZ				S	S	14 14 23.1	-3.5
QZH	**Quanzhou**	**6.50**	**254**	⇑*i*P	Pn	14 13 41.6	+1.5
JNU	**Nakatsue**	**7.75**	**36**	P	Pn	14 13 58.6	+2.3
	9.4nm,0.3s,baz=194,slow=10,SNR=19						
APYP	**Conner**	**9.83**	**204**	*e*P	Pn	14 14 23.9	+0.9
APYP				*e*S	S	14 16 11.4	-1.9
ABRA	**Dolores**	**10.22**	**206**	*e*P	Pn	14 14 28.6	+0.6
ABRA				*e*S	S	14 16 24.3	+1.7
KS15	**Wonju Array Si**	**10.69**	**10**	*e*P	Pn	14 14 36.2	+2.3
TGY	**Tagaytay City**	**13.44**	**199**	P	Pn	14 15 11.2	+2.6
	32nm,0.3s,baz=244,slow=19,SNR=3.2						
MAT	**Matsushiro**	**14.46**	**45**	P	Pn	14 15 23.5	+2.4
MAT	**Matsushiro**	**14.46**	**45**	*e*P	Pn	14 15 24.0	+2.9
MJAR	**Matsushiro Arr**	**14.46**	**45**	P	Pn	14 15 22.8	+1.7
	0.8nm,0

comp=Z,102nm,4.0s
WMQ LR LR
comp=N,41nm,8.0s
WMQ LR LR
comp=E,43nm,8.0s
WMQ LR LR
comp=Z,37nm,8.0s
MKAR Makanchi Array 39.23 312 P P 14 19 13.1 -0.5
comp=Z,5.4nm,0.5s,mb4.3,baz=97,slow=11,SNR=146
MKAR PcP PcP 14 21 17.2 -0.8
comp=Z,1.1nm,0.6s,baz=78,slow=3.6,SNR=7.4
MKAR ScP ScP 14 24 44.0 -1.6
comp=Z,0.8nm,0.8s,baz=96,slow=4.9,SNR=7.2
MKAR Makanchi Array 39.23 312 P P 14 19 13.1 -0.5
MKAR PcP PcP 14 21 17.2 -0.8
MKAR ScP ScP 14 24 44.0 -1.6
KURK Kurchatov 42.62 317 *eP* **P 14 19 40.1 -1.0**
comp=Z,9.9nm,1.3s,mb4.1
WRAB Tennant Creek 47.37 169 *eP* **P 14 20 18.9 +0.4**
comp=Z,18nm,0.9s,mb4.4
WRA Warramunga Arr 47.37 169 P P 14 20 19.0 +0.4
comp=Z,7.4nm,0.7s,mb4.1,baz=351,slow=8.3,SNR=75
WRA pP pP 14 21 07.5 +2.0
comp=Z,1.5nm,0.8s,baz=351,slow=8.5,SNR=4.6
WRA PcP PcP 14 21 45.1 -0.5
comp=Z,0.7nm,0.6s,baz=328,slow=5.4,SNR=5.3
WB2 Warramunga Arr 47.38 169 *eP* **P 14 20 18.8 +0.2**
ZRNK Zerenda 48.92 318 *eP* **P 14 20 29.6 -0.7**
AS31 Alice Springs 50.95 170 *eP* **P 14 20 46.4 +0.8**
ASAR Alice Springs 50.95 170 P P 14 20 46.1 +0.6
comp=Z,2.4nm,0.5s,mb3.9,baz=357,slow=14,SNR=55
ASAR PcP PcP 14 21 58.5 -0.1
comp=Z,1.2nm,0.7s,baz=338,slow=3.5,SNR=8.3
ASPA Alice Springs 50.95 170 *eP* **P 14 20 46.4 +0.8**
NWAO Narrogin (SRO) 60.03 188 *eP* **P 14 21 50.6 +0.4**
STKA Stephens Creek 60.46 164 *eP* **P 14 21 51.4 -1.7**
comp=Z,2.7nm,0.9s,mb3.9
STKA Stephens Creek 60.46 164 P P 14 21 51.5 -1.6
comp=Z,4.1nm,0.8s,mb4.1,baz=4.7,slow=6.1,SNR=8.1
MCK McKinley 64.29 29 *eP* **P 14 22 17.9 -0.5**
ILAR Eielson Array 65.00 28 P P 14 22 21.9 -1.2
comp=Z,0.8nm,0.5s,mb3.6,baz=254,slow=4.6,SNR=24
ILAR PcP PcP 14 22 52.3 -1.8
comp=Z,0.5nm,0.6s,baz=271,slow=4.0,SNR=7.8
JOF Joensuu 68.23 331 *ep* **P 14 22 41.9 -1.6**
comp=Z,2.9nm,0.5s,mb4.2
ARCES ARCESS Array B 68.45 338 P P 14 22 43.3 -1.5
comp=Z,3.6nm,0.8s,mb4.1,baz=347,slow=5.0,SNR=7.2
INK Inuvik 69.23 23 *eP* **P 14 22 49.0 -0.6**
KAF Kangasniemi 70.69 331 *ep* **P 14 22 56.6 -1.9**
comp=Z,1.2nm,0.5s,mb3.8
FINES FINESS Array B 71.04 330 P P 14 22 59.5 -1.1
comp=Z,3.4nm,0.4s,mb4.3,baz=63,slow=6.2,SNR=39
FINES FINESS Array B 71.04 330 P P 14 22 59.5 -1.1
BRTR Keskin Array B 74.65 307 P P 14 23 21.4 -0.4
comp=Z,2.0nm,0.9s,mb3.7,baz=92,slow=6.2,SNR=8.5
BRTR pP pP 14 24 17.2 +4.0
comp=Z,1.3nm,0.9s,baz=98,slow=6.4,SNR=5.3
RES Resolute Bay 75.32 10 *eP* **P 14 23 24.0 -1.6**
comp=Z,1.4nm,0.6s,mb3.8
NB2 NORSAR Subarra 77.59 333 P P 14 23 36.7 -1.6
comp=Z,1.7nm,0.6s,mb3.9,baz=55,slow=5.6
NOA NORSAR Array B 77.59 333 P P 14 23 36.7 -1.6
comp=Z,1.9nm,0.5s,mb4.0,baz=53,slow=5.6,SNR=8.9
YKA Yellowknife Ar 78.93 24 P P 14 23 45.0 -0.6
comp=Z,2.7nm,0.7s,mb4.0,baz=304,slow=5.3,SNR=88
YKA pP pP 14 24 40.1 +2.5
comp=Z,0.4nm,0.8s,baz=309,slow=5.9,SNR=2.8
YKA Yellowknife Ar 78.93 24 P P 14 23 45.0 -0.6
YKA pP pP 14 24 40.1 +2.5
CLL Collm 82.16 324 *i P* **P 14 24 02.2 -0.6**
comp=Z,6.0nm,1.0s,mb4.2
EDM Edmonton 85.30 31 *eP* **P 14 24 19.1 +0.4**
FCC Fort Churchill 88.53 19 *eP* **P 14 24 32.9 -1.4**
comp=Z,4.1nm,0.9s,mb4.3
FFC Flin Flon 89.05 25 *eP* **P 14 24 36.3 -0.4**
comp=Z,7.8nm,0.9s,mb4.5
HRY Holter Researc 90.30 35 *eP* **P 14 24 43.8 +1.3**
NVAR Mina Array Bea 91.78 45 *P* **P 14 24 50.8 +1.4**
comp=Z,0.5nm,0.7s,mb3.6,baz=343,slow=4.6,SNR=4.9
TORD Torodi Ar. Bea 112.44 299 PKiKP PKiKP 14 30 16.4 0.0
comp=Z,0.4nm,0.5s,baz=43,slow=1.8,SNR=7.5
USHA Ushuaia 150.32 164 PKPbc PKPbc 14 31 32.4 +0.7
comp=Z,6.1nm,0.7s,baz=169,slow=5.2,SNR=7.7

*NAO **22** 14:47:13.6, 1387N×12029E, h33km, mb4.5*
*ISCJB **22** 14:47:36.3±0.3, 1558N±003×12065E±008, h182km±3km, mb3.8/19, Error ellipse: s-maj=12.0km s-min=5.2km az=175.8*
*MAN **22** 14:47:37.0, 1560N×12066E, h174km, mb3.4, ML4.6, MS2.9*
*NEIC **22** 14:47:39.0±0.9, 1546N×12075E, h201km±9km, mb3.9/4, Error ellipse: s-maj=31.6km s-min=11.1km az=64.0*
*IDC **22** 14:47:39.3±0.8, 1546N×12078E, h201km±8km, mb3.5/14, mb1 3.7/14, mb1mx3.6/19, mbtmp4.0/14, Error ellipse: s-maj=38.8km s-min=12.4km az=65.0*
ISC 22 14:47:37.2±0.3, 1558N±003×12068E±008, h177km±3km, n35, σ1§05/44, mb3.8/19, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.41**	**92**	‖ *eP*	**Pn**	**14 48 02.0**	**+0.6**
SCZP	**Santa Cruz**	**0.76**	**285**	*eP*	**Pn**	**14 48 03.0**	**0.0**
SCZP				*eS*	**Sn**	**14 48 22.8**	**-0.2**
BOLP	**Bolinao**	**1.08**	**318**	*eP*	**Pn**	**14 48 05.5**	**+0.2**
BOLP				*eS*	**Sn**	**14 48 27.1**	**+0.1**
POLP	**Polilio Island**	**1.48**	**125**	*eP*	**Pn**	**14 48 10.8**	**+2.0**
TGY	**Tagaytay City**	**1.49**	**170**	P	**Pn**	**14 48 11.6**	**+2.7**
	166nm,0.3s,baz=261,slow=7.5,SNR=14						
TGY				S	**Sn**	**14 48 37.7**	**+4.4**
	123nm,0.3s,baz=145,slow=21,SNR=10.0						
LUBP	**Lubang**	**1.88**	**193**	*eP*	**Pn**	**14 48 13.4**	**+0.6**
LUBP				*eS*	**Sn**	**14 48 39.7**	**-0.6**
ABRA	**Dolores**	**2.06**	**1**	*eP*	**Pn**	**14 48 14.2**	**-0.5**
ABRA				*eS*	**Sn**	**14 48 42.9**	**-0.9**
APYP	**Conner**	**2.34**	**13**	*eP*	**Pn**	**14 48 18.0**	**+0.1**
APYP				*eS*	**Sn**	**14 48 48.5**	**-0.8**
BOAC	**Boac**	**2.39**	**152**	*eP*	**Pn**	**14 48 19.5**	**+1.0**
PIP	**Pasuquin**	**2.73**	**359**	‖ *iP*	**Pn**	**14 48 22.5**	**0.0**
PIP				*eS*	**Sn**	**14 48 56.5**	**-1.2**
BUSP	**Coron**	**3.58**	**187**	*eP*	**Pn**	**14 48 33.3**	**+0.3**
BUSP				*eS*	**Sn**	**14 49 13.5**	**-3.0**
PVCP	**Virac**	**3.90**	**120**	*eP*	**Pn**	**14 48 36.8**	**-0.2**
ENPP	**El Nido**	**4.51**	**196**	*eP*	**Pn**	**14 48 45.8**	**+1.0**
ENPP				*eS*	**Sn**	**14 49 35.8**	**-1.9**
SONM	**Songino Array**	**34.26**	**343**	P	**P**	**14 54 07.3**	**+1.0**
	0.7nm,0.5s,mb3.7,baz=164,slow=9.9,SNR=6.8						
WRA	**Warramunga Arr**	**37.77**	**159**	P	**P**	**14 54 34.8**	**-1.2**
	0.5nm,0.8s,mb3.2,baz=330,slow=10,SNR=15						
ASAR	**Alice Springs**	**41.09**	**161**	P	**P**	**14 55 02.8**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=338,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**44.52**	**323**	P	**P**	**14 55 32.5**	**+1.4**
	3.0nm,0.7s,mb4.0,baz=126,slow=9.1,SNR=49						
MKAR				PcP	PcP	14 57 11.5	+0.3
	0.4nm,0.7s,baz=125,slow=3.1,SNR=4.4						
AAK	**Ala-Archa**	**47.74**	**314**	*eP*	**P**	**14 55 57.1**	**+0.9**
	0.7nm,0.5s,mb3.5						
KURK	**Kurchatov**	**48.63**	**325**	*eP*	**P**	**14 56 04.1**	**+1.1**
	17nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**54.22**	**325**	P	**P**	**14 56 45.2**	**+0.7**
	1.3nm,0.6s,mb3.9,baz=125,slow=8.5,SNR=14						
BRVK	**Borovoye**	**54.29**	**325**	*eP*	**P**	**14 56 45.9**	**+0.9**
	1.6nm,0.7s,mb3.9						
JOF	**Joensuu**	**75.98**	**332**	*ep*	**P**	**14 59 01.6**	**-3.0**
	1.5nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**77.08**	**26**	P	**P**	**14 59 10.1**	**-0.7**
	0.1nm,0.5s,mb2.7,baz=252,slow=5.5,SNR=4.3						
ARCES	**ARCESS Array B**	**77.33**	**339**	P	**P**	**14 59 12.3**	**+0.1**
	9.3nm,1.1s,mb4.3,baz=72,slow=7.8,SNR=10						
ARCES	**ARCESS Array B**	**77.33**	**339**	P	**P**	**14 59 12.3**	**+0.1**
BRTR	**Keskin Array B**	**77.98**	**308**	P	**P**	**14 59 16.6**	**+0.8**
	0.7nm,0.8s,mb3.3,baz=142,slow=6.3,SNR=3.8						
KAF	**Kangasniemi**	**78.40**	**331**	*ep*	**P**	**14 59 16.8**	**-1.3**
	1.6nm,0.6s,mb3.8,baz=75,slow=5.0						
FINES	**FINESS Array B**	**78.64**	**331**	P	**P**	**14 59 19.3**	**-0.1**
	1.3nm,0.4s,mb3.9,baz=57,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**78.64**	**331**	P	**P**	**14 59 19.3**	**-0.1**
AKASG	**Malin Array Be**	**79.02**	**320**	P	**P**	**14 59 21.3**	**-0.2**
	0.2nm,0.3s,mb3.2,baz=63,slow=4.7,SNR=4.6						
NB2	**NORSAR Subarra**	**85.59**	**333**	P	**P**	**14 59 54.7**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.1,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**85.59**	**333**	P	**P**	**14 59 54.5**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.2,baz=67,slow=4.9,SNR=13						
GERES	**GERESS Array B**	**89.17**	**321**	P	**P**	**15 00 13.2**	**+0.6**
	comp=Z,0.1nm,0.3s,mb3.2,baz=69,slow=7.3,SNR=4.2						
YKA	**Yellowknife Ar**	**91.06**	**22**	P	**P**	**15 00 21.8**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=308,slow=4.3,SNR=18						
VNDA	**Vanda**	**95.89**	**172**	P	**P**	**15 00 41.3**	**-2.3**
	comp=Z,1.6nm,0.7s,mb4.5,baz=6.7,slow=6.2,SNR=5.4						

IDC 22 15:13:46.1±1.2, 4994N×2911W, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=36.7km s-min=25.5km az=22.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**23.17**	**17**	LR	LR	15 26 43.4	
	comp=Z,44nm,18.4s,baz=236,slow=34						
NOA	**NORSAR Array B**	**24.98**	**48**	LR	LR	15 28 15.6	
	comp=Z,53nm,18.1s,baz=290,slow=35						
HFS	**Hagfors**	**26.10**	**51**	LR	LR	15 27 55.8	
	comp=Z,88nm,18.2s,baz=67,slow=33						
VRAC	**Vranov**	**29.27**	**73**	LR	LR	15 30 39.8	
	comp=Z,114nm,19.4s,baz=335,slow=35						
FINES	**FINESS Array B**	**32.16**	**48**	P	P	15 20 14.4	-1.0
	0.9nm,0.5s,baz=263,slow=7.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**44.52**	**135**	P	P	15 21 59.4	0.0
	2.4nm,1.0s,baz=341,slow=7.5,SNR=7.4						
YKA	**Yellowknife Ar**	**45.61**	**320**	P	P	15 22 07.5	-0.5
	0.3nm,0.8s,baz=64,slow=7.8,SNR=5.2						
PDAR	**Pinedale Array**	**53.46**	**295**	P	P	15 23 07.7	-0.3
	0.9nm,0.9s,baz=64,slow=6.9,SNR=7.5						
MKAR	**Makanchi Array**	**66.89**	**44**	P	P	15 24 39.5	-0.5
	0.6nm,0.6s,baz=326,slow=4.3,SNR=11						
SONM	**Songino Array**	**75.32**	**29**	P	P	15 25 32.0	+0.8
	0.3nm,0.7s,baz=331,slow=5.6,SNR=2.6						
ASAR	**Alice Springs**	**150.60**	**33**	PKPbc	PKPbc	15 33 39.3	-0.7
	0.2nm,0.6s,baz=346,slow=1.8,SNR=4.9						

*NEIC **22** 15:14:22.7, 17.16N×9973W, h10km, MD3.8(MEX), After MEX.*
MEX 22 15:14:22.3±0.9, 1718N×9973W, h8km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.36**	**210**	*i P*	Pg	15 14 28.5	-0.8
ACX				*i S*	Sg	15 14 34.5	+0.5
CAIG	**El Cayaco**	**0.53**	**256**	*i P*	Pg	15 14 31.8	-0.7
CAIG				*i S*	Sg	15 14 39.8	+0.4
MEIG	**Mezcala**	**0.75**	**8**	*i P*	Pg	15 14 35.6	-1.1
MEIG				*i S*	Sg	15 14 44.7	-1.9
PLIG	**Platanillo**	**1.23**	**10**	*i P*	Pb	15 14 43.6	-2.1
PLIG				*i S*	Sb	15 14 57.3	-4.4
PLIG	**Platanillo**	**1.23**	**10**	*i P*	Pb	15 14 43.5	-2.3
PLIG				*i S*	Sb	15 14 57.3	-4.4
PNIG	**Pinotepa**	**1.73**	**117**	*i P*	Pn	15 14 47.5	-5.1
PNIG				*i S*	Sn	15 15 10.0	-4.8
YAIG	**Yautepec**	**1.79**	**21**	*i P*	Pn	15 14 50.9	-2.6
YAIG				*i S*	Sn	15 15 15.1	-1.3
UTMO	**Huajuapan**	**1.95**	**70**	*i P*	Pn	15 14 53.1	-2.6
UTMO				*i S*	Sn	15 15 16.8	-3.6
PPM	**Popocatepetl**	**2.15**	**29**	*i P*	Pn	15 14 55.3	-3.2
PPM				*i S*	Sn	15 15 21.6	-3.7
PPM	**Popocatepetl**	**2.15**	**29**	*eP*	Pn	15 14 51.0	-7.5
PPM				*i P*		15 14 55.3	
PPM				*i S*	Sn	15 15 21.6	-3.7
OXX	**Oaxaca**	**2.88**	**91**	*eP*	Pn	15 15 06.5	-2.0

*ISCJB **22** 15:28:14.7±0.4, 39.10N±002×24.26E±002, h3km±3km, mb3.6/7, Error ellipse: s-maj=2.8km s-min=2.6km az=48.4*
*NEIC **22** 15:28:15.4, 39.13N×2432E, h5km, MD3.7(SOF), MD3.9(ATH), ML3.7(CSEM), After CSEM.*
*MOS **22** 15:28:15.6±0.9, 39.12N×2428E, h10km, mb4.4/1, Error ellipse: s-maj=11.9km s-min=4.6km az=89.9*
*IDC **22** 15:28:15.8±0.9, 39.11N×2426E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.6/25, mbtmp3.6/12, ML3.7/6, MS3.3/5, Ms1 3.3/5, ms1mx2.9/26, Error ellipse: s-maj=18.3km s-min=13.1km az=99.0*
*THE **22** 15:28:16.0, 39.12N×2431E, h3km, ML3.6*
*NAO **22** 15:28:16.1, 3964N×2842E, h33km, mb3.7*
*CSEM **22** 15:28:16.3±0.1, 39.11N×2428E, h15km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.4km az=22.0*
*ATH **22** 15:28:16.0, 39.10N×2426E, h31km±3km, MD3.9/15, ML3.9*
ISC 22 15:28:16.2±0.4, 3910N±002×2423E±002, h7km±3km, n120, σ1§24/144, mb3.6/7, 18C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.28**	**285**	*eP*g	**Pg**	**15 28 22.1**	**+0.4**
AOS				*eS*g	**Sg**	**15 28 27.3**	**+2.0**
NEO	**Neokhori**	**0.81**	**285**	‖ *i*PN	**Pn**	**15 28 32.5**	**-1.5**
NEO				*eS*N	**Sg**	**15 28 44.6**	**+2.4**
NEO	**Neokhori**	**0.81**	**285**	‖ *e*Pn	**Pn**	**15 28 32.5**	**-1.5**
NEO				*eS*n	**Sg**	**15 28 44.6**	**+2.4**
XOR	**Xorichti**	**0.85**	**289**	*eP*g	**Pg**	**15 28 33.3**	**+0.8**
PAIG	**Paliouri**	**0.93**	**333**	*eP*g	**Pg**	**15 28 34.1**	**+0.1**
MPAR	**Parnis Oros**	**1.02**	**202**	*eP*N	**Pn**	**15 28 35.5**	**-1.5**
LKR	**Lokris**	**1.06**	**245**	⇑ *i*PB	**Pb**	**15 28 35.7**	**-1.2**
LKR				*eS*N	**Sn**	**15 28 51.2**	**-1.3**
LKR	**Lokris**	**1.06**	**245**	⇑ *e*Pb	**Pb**	**15 28 35.7**	**-1.2**
LKR				*eS*n	**Sn**	**15 28 51.2**	**-1.3**
LOS	**Limnos**	**1.06**	**38**	*eP*g	**Pg**	**15 28 34.5**	**-2.1**
LOS				*eS*g	**Sg**	**15 28 50.4**	**0.0**
LIA	**Limnos Island**	**1.09**	**43**	⇑ *i*PN	**Pn**	**15 28 36.3**	**-1.6**
LIA				*eS*N	**Sn**	**15 28 51.1**	**-2.1**
LIA	**Limnos Island**	**1.09**	**43**	⇑ *e*Pn	**Pn**	**15 28 36.3**	**-1.6**
LIA				*eS*n	**Sn**	**15 28 51.1**	**-2.1**
PTL	**Penteli**	**1.09**	**195**	*eP*N	**Pn**	**15 28 36.5**	**-1.4**
ATH	**Athens Observa**	**1.20**	**200**	⇑ *i*PN	**Pn**	**15 28 38.2**	**-1.2**
ATH				*eS*N	**Sn**	**15 28 54.6**	**-1.3**
ATH	**Athens Observa**	**1.20**	**200**	⇑ *e*Pn	**Pn**	**15 28 38.2**	**-1.2**
ATH				*eS*n	**Sn**	**15 28 54.6**	**-1.3**
OUR	**Ouranopolis**	**1.25**	**351**	*eP*g	**Pg**	**15 28 38.8**	**-1.3**
PLG	**Polygyros**	**1.41**	**335**	*eP*N	**Pn**	**15 28 41.2**	**-1.1**
PLG				*eS*N	**Sn**	**15 29 00.0**	**-1.1**
NAIG	**Nisos Aigina**	**1.46**	**204**	*eP*N	**Pn**	**15 28 42.0**	**-1.0**
AGG	**Agios Georgios**	**1.48**	**268**	*eP*g	**Pg**	**15 28 42.9**	**-1.7**
	comp=Z,17nm,0.9s						
AGG				*eS*g	**Sg**	**15 29 05.0**	**+1.2**
PRK	**Paraskevi**	**1.60**	**84**	*eP*N	**Pn**	**15 28 44.0**	**-0.9**
LIT	**Litokhoron**	**1.67**	**307**	*eP*b	**Pb**	**15 28 45.0**	**-2.4**
	comp=Z,6.5nm,0.8s						
LIT				*eS*b	**Sb**	**15 29 09.1**	**+0.5**
THE	**Thessaloniki**	**1.81**	**328**	*eP*b	**Pb**	**15 28 47.2**	**-2.5**
	comp=Z,5.0nm,0.9s						
SOH	**Sokhos**	**1.84**	**339**	*eP*b	**Pb**	**15 28 48.0**	**-2.3**
EVR	**Evrytania**	**1.89**	**265**	*eP*B	**Pb**	**15 28 49.2**	**-1.9**
URLA	**Izmir**	**1.99**	**111**	*i P*	**Pn**	**15 28 53.9**	**+3.6**
URLA				*i S*	**Sg**	**15 29 23.2**	**+2.9**
SRS	**Serrai**	**2.07**	**347**	*eP*n	**Pn**	**15 28 50.4**	**-1.1**
KZN	**Kozani**	**2.25**	**303**	*eP*N	**Pn**	**15 28 53.4**	**-0.4**
NVR	**Nevrokopi**	**2.26**	**353**	*eP*N	**Pn**	**15 28 53.2**	**-0.9**
ALN	**Alexandroupoli**	**2.27**	**37**	*eP*n	**Pn**	**15 28 52.8**	**-1.4**
	comp=Z,6.5nm,0.9s						
APE	**Apeiranthos**	**2.27**	**153**	PN	**Pn**	**15 28 53.4**	**-0.8**
APE	**Apeiranthos**	**2.27**	**153**	*eP*n	**Pn**	**15 28 53.5**	**-0.7**
APE	**Apeiranthos**	**2.27**	**153**	P	**Pn**	**15 28 53.7**	**-0.5**
RDO	**Rodhopi**	**2.28**	**26**	*eP*N	**Pn**	**15 28 52.7**	**-1.5**
KNT	**Kendrikon**	**2.30**	**334**	*eP*n	**Pn**	**15 28 54.4**	**-0.2**
	comp=Z,9.5nm,0.8s						
GRG	**Griva**	**2.32**	**323**	*eP*n	**Pn**	**15 28 54.6**	**-0.3**
MEV	**Metsovon**	**2.42**	**287**	*eP*n	**Pn**	**15 28 56.5**	**+0.3**
IZM	**Izmir**	**2.48**	**106**	PN	**Pn**	**15 28 56.1**	**-0.8**
KDAG	**Bornova**	**2.48**	**105**	*i P*	**Pn**	**15 28 56.2**	**-0.8**
KDAG				*i S*	**Sg**	**15 29 37.0**	**+1.2**
SMG	**Samos**	**2.48**	**123**	*e*PN	**Pn**	**15 28 56.4**	**-0.6**
MMB	**Musomiste**	**2.52**	**351**	P	**Pn**	**15 28 56.5**	**-1.0**
VAY	**Valandovo**	**2.56**	**331**	*i* Pn	**Pn**	**15 28 59.7**	**+1.7**
VLI	**Veliai**	**2.59**	**204**	*e*PN	**Pn**	**15 28 57.4**	**-1.1**
RZN	**Rozhen**	**2.61**	**8**	P	**Pn**	**15 28 58.5**	**-0.3**
ITM	**Ithomi**	**2.64**	**224**	⇑ *i*PN	**Pn**	**15 28 59.8**	**+0.6**
ITM	**Ithomi**	**2.64**	**224**	⇑ *e*Pn	**Pn**	**15 28 59.8**	**+0.6**
FNA	**Florina**	**2.76**	**308**	*e*Pn	**Pn**	**15 29 00.8**	**-0.1**
	comp=Z,2.5nm,0.9s						
SART	**Tekirdag**	**2.77**	**54**	*i P*	**Pn**	**15 29 01.5**	**+0.5**
SART				*i S*	**Sg**	**15 29 45.1**	**-0.1**
AKS	**Akhisar**	**2.80**	**93**	PN	**Pn**	**15 29 01.4**	**-0.1**
LKD	**Levkas**	**2.82**	**263**	*e*Pn	**Pn**	**15 29 03.4**	**+1.7**
BALB	**Balikesir**	**2.88**	**78**	*e*PN	**Pn**	**15 29 02.7**	**+0.1**
SANT	**Santorini**	**2.90**	**160**	*e*Pn	**Pn**	**15 29 02.2**	**-0.6**
SANT	**Santorini**	**2.90**	**160**	*e*Pn	**Pn**	**15 29 02.9**	**+0.1**
SANT				*e*Pg	**Pg**	**15 29 10.9**	**-0.8**
SANT				*e*Sg	**Sg**	**15 29 48.3**	**-0.9**
KKB	**Krupnik**	**2.90**	**343**	P	**Pn**	**15 29 02.3**	**-0.5**
BIA	**Bitola**	**2.94**	**312**	*i* Pn	**Pn**	**15 29 07.1**	**+3.8**
KYTH	**Kithira**	**2.97**	**199**	*e*PN	**Pn**	**15 29 03.5**	**-0.3**
KYTH	**Kithira**	**2.97**	**199**	*e*Pn	**Pn**	**15 29 04.5**	**+0.7**
STIP	**Stip**	**3.02**	**330**	*i* Pn	**Pn**	**15 29 07.9**	**+3.4**
IGT	**Igoumenitsa**	**3.05**	**279**	*e*Pn	**Pn**	**15 29 06.6**	**+1.7**
EDC	**Edincik**	**3.07**	**65**	*e*PN	**Pn**	**15 29 07.3**	**+2.2**
DIM	**Dimitrovgrad**	**3.11**	**18**	P	**Pn**	**15 29 06.0**	**+0.3**
BNT	**Bandirma**	**3.11**	**65**	*e*PN	**Pn**	**15 29 07.3**	**+1.6**
BODT	**Bodrum**	**3.17**	**129**	*e*PN	**Pn**	**15 29 05.2**	**-1.3**
BDRM	**Kayabasi**	**3.25**	**128**	*i P*	**Pn**	**15 29 10.1**	**+2.4**
BDRM				*i S*	**Sn**	**15 29 40.3**	**-6.3**
OHR	**Ohrid**	**3.31**	**308**	*i* Pn	**Pn**	**15 29 12.0**	**+3.5**
OHR	**Ohrid**	**3.31**	**308**	*i* Pn	**Pn**	**15 29 11.9**	**+3.5**
EDRB	**Edirne**	**3.35**	**34**	*e*PN	**Pn**	**15 29 13.9**	**+4.9**
PGB	**Panagyurishte**	**3.45**	**359**	P	**Pn**	**15 29 10.8**	**+0.5**
VTS	**Vitosha**	**3.57**	**348**	⇑ P	**Pn**	**15 29 13.5**	**+1.4**
VTS	**Vitosha**	**3.57**	**348**	P	**Pn**	**15 29 12.5**	**+0.4**
VTS				S	**Sn**	**15 29 55.0**	**+0.5**
KARN	**Karanos**	**3.70**	**184**	*e*Pn	**Pn**	**15 29 14.4**	**+0.6**
IDI	**Anoyia**	**3.84**	**172**	Pn	**Pn**	**15 29 15.6**	**-0.2**
	3.5nm,0.3s,baz=352,slow=12,SNR=25						
IDI				Lg		15 30 16.3	
	3.8nm,0.3s,baz=311,slow=16,SNR=3.5						
IDI				LR	LR	15 30 60.0	
	comp=Z,308nm,22.0s,baz=353,slow=43						
DNZL	**Cakiroluk**	**4.04**	**109**	*i P*	**Pn**	**15 29 19.4**	**+0.9**
DNZL				*i S*	**Pg**	**15 29 33.5**	**-0.1**
LAST	**Lasithi**	**4.06**	**165**	*e*Pn	**Pn**	**15 29 18.8**	**+0.1**
GDZ	**Gediz**	**4.09**	**89**	*i P*	**Pn**	**15 29 19.5**	**+0.3**
GDZ				*i S*	**Pg**	**15 29 34.3**	**-0.2**
PVL	**Pavlikeni**	**4.20**	**11**	P	**Pn**	**15 29 19.0**	**-1.6**
YLV	**Yalova**	**4.22**	**68**	*e*PN	**Pn**	**15 29 23.7**	**+2.7**
KARP	**Karpathos**	**4.25**	**146**	*e*PN	**Pn**	**15 29 21.8**	**+0.5**
GVD	**Gavdhos**	**4.25**	**182**	*e*Pn	**Pn**	**15 29 22.8**	**+1.4**
SZH	**Strazhica**	**4.36**	**17**	*e*P	**Pn**	**15 29 23.0**	**+0.2**
FETY	**Fethiye**	**4.56**	**121**	*e*PN	**Pn**	**15 29 25.6**	**-0.1**
PRD	**Provadia**	**4.74**	**29**	*e*P	**Pn**	**15 29 27.0**	**-1.2**
TKTP	**Tekketepe**	**4.89**	**101**	*i P*	**Pn**	**15 29 33.6**	**+3.4**
TKTP				*i S*	**Pg**	**15 29 48.9**	**-1.0**
ESKT	**Eskisehir**	**5.15**	**83**	*e*PN	**Pn**	**15 29 35.4**	**+1.6**
GRUS	**Gruza**	**5.46**	**332**	*e*Pn	**Pn**	**15 29 39.9**	**+1.9**
TIP	**Timpagrande**	**5.81**	**273**	*e*Pn	**Pn**	**15 29 43.9**	**+1.1**
DIVS	**Divcibare**	**5.92**	**329**	*i* Pn	**Pn**	**15 29 45.4**	**+1.1**
DIVS	**Divcibare**	**5.92**	**329**	*e*Pn	**Pn**	**15 29 45.0**	**+0.7**
TIRR	**Tirgusor**	**6.20**	**29**	⇑ P	**Pn**	**15 29 48.0**	**-0.2**
TIRR	**Tirgusor**	**6.20**	**29**	⇑ P	**Pn**	**15 29 48.0**	**-0.2**
MLR	**Muntele Rosu**	**6.51**	**11**	Pn	**Pn**	**15 29 52.3**	**-0.1**
	1.2nm,0.3s,baz=176,slow=6.1,SNR=19						
MLR				LR	LR	15 32 49.5	
	comp=Z,284nm,18.6s,baz=11,slow=42						
MLR	**Muntele Rosu**	**6.51**	**11**	⇑ P	**Pn**	**15 29 52.8**	**+0.4**
MLR	**Muntele Rosu**	**6.51**	**11**	P	**Pn**	**15 29 52.3**	**-0.1**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,284nm,18.6s						
MLR	**Muntele Rosu**	**6.51**	**11**	⇑ P	**Pn**	**15 29 52.8**	**+0.4**
BZS	**Buzias**	**6.79**	**344**	‖ P	**Pn**	**15 29 57.1**	**+0.8**
**BZS

ESPR			S	Sn	15 33 23.5	+0.1
	4.4nm,0.2s,SNR=4.0					
EQES	**Quesada**	**2.85 13**	S	**Sn**	**15 33 34.5**	**+1.3**
	11nm,0.3s,SNR=7.9					
EQES	**Quesada**	**2.85 13**	S	**Sn**	**15 33 34.5**	**+1.3**
	11nm,0.3s,SNR=7.9					
ZFT	**Errachidia**	**3.01 188**	P	**Pn**	**15 33 02.5**	**+1.0**
ZFT			S	**Sn**	**15 33 36.0**	**-1.2**
ZFT	**Errachidia**	**3.01 188**	*e*P	**Pn**	**15 33 02.5**	**+1.0**
KIB	**El Ksiba**	**3.04 217**	*i* P	**Pn**	**15 33 04.0**	**+2.1**
KIB			*e*S	**Sn**	**15 33 38.5**	**+0.5**
EADA	**Adamuz**	**3.19 350**	P	**Pn**	**15 33 04.9**	**+1.0**
	2.1nm,0.2s,SNR=7.9					
EADA			S	**Sn**	**15 33 42.2**	**+0.5**
	4.3nm,0.3s,SNR=7.9					
EADA	**Adamuz**	**3.19 350**	P	**Pn**	**15 33 04.9**	**+1.0**
	2.1nm,0.2s,SNR=7.9					
EADA			S	**Sn**	**15 33 42.2**	**+0.5**
	4.3nm,0.3s,SNR=7.9					
ECAB	**El Cabril**	**3.29 338**	P	**Pn**	**15 33 05.7**	**+0.3**
	0.6nm,0.2s,SNR=7.9					
ECAB			S	**Sn**	**15 33 44.0**	**-0.2**
	2.6nm,0.3s,SNR=7.9					
ECAB	**El Cabril**	**3.29 338**	P	**Pn**	**15 33 05.7**	**+0.4**
	0.6nm,0.2s,SNR=7.9					
ECAB			S	**Sn**	**15 33 44.0**	**-0.2**
	2.6nm,0.3s,SNR=7.9					
EMIN	**Mina Concepcio**	**3.55 321**	P	**Pn**	**15 33 09.2**	**+0.3**
	1.5nm,0.1s,SNR=7.9					
EMIN			S	**Sn**	**15 33 48.5**	**-2.1**
	1.8nm,0.2s,SNR=7.9					
EMIN	**Mina Concepcio**	**3.55 321**	P	**Pn**	**15 33 09.2**	**+0.3**
	1.5nm,0.1s,SNR=7.9					
EMIN			S	**Sn**	**15 33 48.5**	**-2.1**
	1.8nm,0.2s,SNR=7.9					
TZC	**Tazercounte**	**3.61 218**	P	**Pn**	**15 33 10.5**	**+0.8**
TZC			S	**Sn**	**15 33 49.5**	**-2.5**
TZC	**Tazercounte**	**3.61 218**	*e*P	**Pn**	**15 33 10.5**	**+0.8**
EGRO	**El Granado**	**3.85 312**	P	**Pn**	**15 33 12.9**	**-0.1**
	1.8nm,0.1s,SNR=8.9					
EGRO			S	**Sn**	**15 33 55.5**	**-2.4**
	4.0nm,0.2s,SNR=7.9					
EGRO	**El Granado**	**3.85 312**	P	**Pn**	**15 33 12.9**	**-0.1**
	1.8nm,0.1s,SNR=8.9					
EGRO			S	**Sn**	**15 33 55.5**	**-2.4**
	4.0nm,0.2s,SNR=7.9					
ETOB	**Tobarra**	**4.06 27**	P	**Pn**	**15 33 17.8**	**+1.8**
	2.1nm,0.2s,SNR=7.9					
ETOB			S	**Sn**	**15 34 02.6**	**-0.6**
	1.4nm,0.2s,SNR=7.9					
ETOB	**Tobarra**	**4.06 27**	P	**Pn**	**15 33 17.8**	**+1.8**
	2.1nm,0.2s,SNR=7.9					
ETOB			S	**Sn**	**15 34 02.7**	**-0.6**
	1.4nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**4.50 327**	P	**Pn**	**15 33 22.1**	**+0.2**
	1.3nm,0.1s,SNR=4.6					
EBAD			S	**Sn**	**15 34 12.2**	**-1.8**
	4.2nm,0.1s,SNR=7.9					
EBAD	**Badajoz**	**4.50 327**	P	**Pn**	**15 33 22.1**	**+0.2**
	1.3nm,0.1s,SNR=4.6					

*ISCJB **22** 15:38:57.6±2.1, 324S±02×1795E±06, h395km±36km, mb3.2/2, Error ellipse: s-maj=89.7km s-min=18.9km az=34.9*
*IDC **22** 15:38:57.0±8.0, 3251S×17982E, h399km±97km, mb2.9/2, mb1 3.2/3, mb1mx3.0/12, mbtmp3.8/3, Error ellipse: s-maj=115.8km s-min=39.4km az=4.0*
ISC 22 15:39:00.9±1.9, 325S±01×1790E±05, h380km±22km, n11, σ0§54/14, mb3.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.65 186**		PN	**Pn**	**15 40 28.7**	**-0.1**
MWZ	**Matawai**	**6.00 191**		PN	**Pn**	**15 40 32.7**	**+0.1**
MWZ				SN	**S**	**15 41 48.4**	**+1.0**
URZ	**Urewera**	**6.00 194**		P	**Pn**	**15 40 31.5**	**-1.2**
	1.7nm,0.3s,baz=189,slow=7.6,SNR=22						
URZ				S	**S**	**15 41 47.6**	**+0.2**
	5.3nm,0.3s,baz=90,slow=23,SNR=22						
URZ	**Urewera**	**6.00 194**		PN	**Pn**	**15 40 32.8**	**+0.1**
URZ				SN	**S**	**15 41 47.1**	**-0.4**
BKZ	**Black Stump Fm**	**7.01 196**		PN	**Pn**	**15 40 43.8**	**-0.3**
BKZ				SN	**S**	**15 42 08.7**	**+0.5**
TCW	**Tory Channel**	**9.53 202**		SN	**S**	**15 43 01.1**	**-1.0**
THZ	**Tophouse**	**10.49 206**		PN	**Pn**	**15 41 24.6**	**0.0**
MQZ	**McQueen's Vall**	**12.30 202**		SN	**S**	**15 44 00.1**	**+0.1**
ASAR	**Alice Springs**	**40.51 271**		P	**P**	**15 46 05.1**	**+0.5**
	0.4nm,0.5s,mb2.9,baz=106,slow=7.1,SNR=16						
WRA	**Warramunga Arr**	**41.70 276**		P	**P**	**15 46 14.0**	**-0.1**
	0.7nm,0.3s,mb3.2,baz=115,slow=7.7,SNR=29						
FINES	**FINESS Array B**	**146.11 337**		PKPbc	PKPdf	15 57 50.3	-5.0
	1.0nm,0.6s,baz=36,slow=4.3,SNR=8.3						

*CSEM **22** 15:41:58.6±1.2, 3878N×2900W, h1km±16km, ML1.8, Error ellipse: s-maj=20.6km s-min=5.5km az=88.0, After PDA*
*PDA **22** 15:41:58.6±1.2, 3878N×2900W, h1km±16km, MD3.0, ML1.8, Error ellipse: s-maj=20.6km s-min=5.5km az=88.0*
SVSA 22 15:41:58.6±1.2, 3878N×2900W, h1km±16km, MD3.0, ML1.8, Error ellipse: s-maj=20.6km s-min=5.5km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.25 141**		*e*S	Sg	15 42 07.1	+0.6
PTCA							
	41nm,0.1s						
PCED	**Cedros**	**0.27 122**		*e*P	Pg	15 42 03.8	0.0
PCED				*e*S	Sg	15 42 07.5	+0.1
CALA	**Caldeira**	**0.30 130**		*e*P	Pg	15 42 03.9	-0.5
CALA				*e*S	Sg	15 42 08.2	0.0
HOR	**Horta**	**0.38 131**		*e*S	Sg	15 42 11.1	+0.3
PCND	**Candelaria**	**0.52 126**		*e*S	Sg	15 42 14.9	-0.3
PCND							
	12nm,0.2s						
PICO	**Pico**	**0.52 121**		*i* P	Pg	15 42 07.9	-0.7
PICO				*i* S	Sg	15 42 14.7	-0.7
PICO	**Pico**	**0.52 121**		*i* S	Sg	15 42 14.7	-0.7
PBOI	**Pico dos Bois**	**0.59 125**		*e*rx		15 42 16.3	
ROSA	**Rosais**	**0.59 95**		*e*P	Pg	15 42 09.3	-0.6
ROSA				*e*S	Sg	15 42 16.8	-0.8
PPNO	**Prainha do Nor**	**0.65 118**		*e*S	Sg	15 42 18.6	-0.8
PPNO							
	25nm,0.1s						

IDC 22 15:43:16.1±2.4, 238N×12525E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=285.3km s-min=24.6km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91 158**		P	P	15 48 31.7	0.0
	0.4nm,0.9s,baz=337,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**27.23 162**		P	P	15 49 02.4	+0.7
	0.1nm,0.4s,baz=340,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**57.84 326**		P	P	15 53 09.5	+0.1
	0.3nm,0.3s,baz=122,slow=7.6,SNR=21						

*IDC **22** 15:44:53.4±16.0, 2064S×17827W, h596km±150km, mb3.1/4, mb1 3.4/4, mb1mx3.0/14, mbtmp4.1/4, Error ellipse: s-maj=227.9km s-min=52.8km az=136.0*
NEIC 22 15:44:53.9±3.2, 2056S×17836W, h600km, mb4.1/3, Error ellipse: s-maj=147.0km s-min=15.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.15 264**		P	P	15 50 42.9	+0.7
	2.7nm,0.5s,baz=80,slow=11,SNR=5.6						
CTA	**Charters Tower**	**33.15 264**		P	P	15 50 42.9	+0.7
CTAO	**Charters Tower**	**33.15 264**		*e*P	P	15 50 43.0	+0.8
	2.5nm,0.4s						
AS31	**Alice Springs**	**44.18 257**		*e*P	P	15 52 11.6	+0.7
ASAR	**Alice Springs**	**44.18 257**		P	P	15 52 11.6	+0.7
	2.6nm,0.6s,baz=98,slow=7.6,SNR=60						
ASPA	**Alice Springs**	**44.18 257**		*e*P	P	15 52 11.6	+0.7
WB2	**Warramunga Arr**	**44.25 262**		*e*P	P	15 52 11.4	0.0
WRAB	**Tennant Creek**	**44.25 262**		*e*P	P	15 52 11.0	-0.5
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**44.26 262**		P	P	15 52 11.7	+0.2
	1.5nm,0.5s,baz=97,slow=7.6,SNR=47						

COLA	**College**	**88.34 13**		*e*P	P	15 56 42.0	-0.8
	2.2nm,0.8s						
ILAR	**Eielson Array**	**88.45 13**		P	P	15 56 43.0	-0.3
	0.6nm,0.9s,baz=216,slow=5.4,SNR=8.1						
AKASG	**Malin Array Be**	**142.91 331**		PKP	PKPdf	16 03 18.1	-1.9
	2.2nm,0.5s,baz=43,slow=4.2,SNR=17						
BRTR	**Keskin Array B**	**146.63 312**		PKPbc	PKPbc	16 03 29.8	+0.6
	0.7nm,0.6s,baz=129,slow=5.1,SNR=4.5						

IDC 22 15:55:44.8±7.5, 074N×9882E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=392.6km s-min=26.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**37.73 154**		LR	LR	16 17 39.9	
	comp=Z,64nm,21.6s,baz=168,slow=35						
WRA	**Warramunga Arr**	**40.42 123**		P	P	16 03 25.3	+0.6
	0.7nm,0.6s,baz=301,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**41.83 128**		P	P	16 03 36.5	+0.1
	0.5nm,0.6s,baz=297,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**48.09 345**		P	P	16 04 26.2	0.0
	0.7nm,0.7s,baz=157,slow=8.0,SNR=9.6						

*IDC **22** 16:15:11.6±1.8, 690S×13050E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, ML4.1/2, Error ellipse: s-maj=117.2km s-min=29.0km az=72.0*
*ISCJB **22** 16:15:27.0±3.0, 74S±01×1307E±01, h176km±33km, mb3.7/2, Error ellipse: s-maj=24.6km s-min=16.3km az=139.8*
ISC 22 16:15:28.3±2.9, 76S±01×1308E±01, h177km±32km, n8, σ1§24/12, mb3.7/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.60 205**		*e*P	**Pn**	**16 18 10.8**	**+2.3**
	4.0nm,0.4s						
FITZ				*e*S	**Sn**	**16 20 16.0**	**-1.2**
WRA	**Warramunga Arr**	**12.77 165**		Pn	**Pn**	**16 18 24.3**	**+0.7**
	1.2nm,0.3s,baz=347,slow=13,SNR=80						
WRA				Sn	**Sn**	**16 20 44.5**	**-0.8**
	2.0nm,0.3s,baz=335,slow=22,SNR=8.1						
WB2	**Warramunga Arr**	**12.78 165**		*e*P	**Pn**	**16 18 23.5**	**-0.1**
WB2				*e*S	**Sn**	**16 20 42.4**	**-3.1**
ASPA	**Alice Springs**	**16.28 170**		*e*P	**Pn**	**16 19 11.6**	**+4.6**
ASPA				*e*S	**S**	**16 22 07.8**	**+0.2**
ASAR	**Alice Springs**	**16.28 170**		Pn	**Pn**	**16 19 11.0**	**+4.1**
	0.5nm,0.3s,baz=346,slow=8.9,SNR=47						
ASAR				Sn	**Sn**	**16 22 10.4**	**+1.1**
	0.4nm,0.3s,baz=355,slow=25,SNR=7.2						
STKA	**Stephens Creek**	**26.20 159**		*e*P	pP	16 21 16.5	-6.1
	2.4nm,1.2s						
SONM	**Songino Array**	**59.23 341**		P	**P**	**16 25 09.5**	**-1.3**
	0.3nm,0.5s,mb3.4,baz=155,slow=7.5,SNR=5.5						
MKAR	**Makanchi Array**	**69.12 327**		P	**P**	**16 26 15.6**	**+0.4**
	1.7nm,0.5s,mb4.0,baz=113,slow=8.9,SNR=44						

*ISCJB **22** 16:17:52.0±4.3, 526N±02×16141E±008, h23km±35km, mb3.7/4, Error ellipse: s-maj=35.0km s-min=8.6km az=4.1*
*MOS **22** 16:17:53.5±2.2, 5265N×16124E, h33km, mb4.0/2, Error ellipse: s-maj=44.1km s-min=34.4km az=18.2*
*IDC **22** 16:17:56.8±5.3, 5252N×16121E, h38km±65km, mb3.5/3, mb1 3.8/4, mb1mx3.3/19, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=64.4km s-min=22.3km az=154.0*
ISC 22 16:17:53.9±4.8, 526N±02×16130E±009, h24km±39km, n8, σ1§28/10, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**1.66 286**		*e*PN	**Pn**	**16 18 20.2**	**-1.2**
PET				*e*S	**Sn**	**16 18 42.2**	**+0.2**
PET				pmax	pmax		
	comp=Z,77nm,0.5s						
PET				smax			
	comp=E,213nm,0.7s						
FX1	**Attu Island--F**	**7.21 83**		Pn	**Pn**	**16 19 39.1**	**+1.4**
	comp=E,5.6nm,0.3s,baz=224,slow=20,SNR=35						
FX1				Sn	**Sn**	**16 20 57.6**	**-1.2**
	comp=E,2.1nm,0.3s,baz=65,slow=17,SNR=2.9						
MJAR	**Matsushiro Arr**	**22.84 234**		P	**P**	**16 22 55.5**	**+0.4**
	comp=E,0.6nm,0.3s,mb3.5,baz=23,slow=12,SNR=5.3						
MJAR	**Matsushiro Arr**	**22.84 234**		P	**P**	**16 22 55.5**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**49.03 297**		P	**P**	**16 26 35.9**	**-2.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=59,slow=5.9,SNR=7.2						
FINES	**FINESS Array B**	**60.86 337**		P	**P**	**16 28 06.0**	**+1.7**
	comp=Z,1.4nm,0.9s,mb4.1,baz=27,slow=7.8,SNR=3.9						
FINES	**FINESS Array B**	**60.86 337**		P	**P**	**16 28 06.0**	**+1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**69.41 330**		P	**P**	**16 29 00.1**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=29,slow=6.3,SNR=4.2						

*NEIC **22** 16:31:36.7±0.7, 5024N×1877E, h5km, MG2.8(WAR), Error ellipse: s-maj=12.9km s-min=5.5km az=184.0*
*IPEC **22** 16:31:36.6±0.2, 5028N×1881E, h1km±1km, ML2.4/3, Error ellipse: s-maj=2.5km s-min=0.8km az=171.0*
*PRU **22** 16:31:37.9, 5026N×1872E, h0km*
*CSEM **22** 16:31:39.5±0.3, 5027N×1860E, h1km, ML3.0/5, Error ellipse: s-maj=9.2km s-min=3.8km az=11.0*
*VIE **22** 16:31:40.9±0.8, 5002N×1856E, h0km, mb1.7/2, ML2.6/3, Error ellipse: s-maj=7.3km s-min=5.0km az=145.0 30 km NE of Ostrava Suspected Mining induced.*
WAR 22 16:31:37.0, 5026N×1886E, ML2.8, 1C-3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46 248**		*e*Pg	Pg	16 31 48.1	+2.3
RAC				*e*Sg	Sg	16 31 55.3	+3.5
OJC	**Ojcow**	**0.60 93**		*e*Pg	Pg	16 31 48.9	+0.3
OJC				*e*Sg	Sg	16 31 57.0	+0.6
OKC	**Ostrava-Krasne**	**0.62 228**		*e*PG	Pg	16 31 46.5	-2.4
MORC	**Moravsky Berou**	**0.97 241**		*e*Pg	Pg	16 31 54.8	-0.9
MORC				*e*Sg	Sg	16 32 06.8	-1.5
	66nm,0.4s						
MORC	**Moravsky Berou**	**0.97 241**		*e*P	Pg	16 31 54.9	-0.9
MORC				*e*S	Sg	16 32 07.5	-0.8
LIKS	**Likavka**	**1.22 172**		*e*PN	Pn	16 32 02.5	+1.2
NIE	**Niedzica**	**1.26 131**		*e*Pg	Pg	16 32 00.9	-0.2
NIE				*e*Sg	Sg	16 32 18.3	+0.8
DPC	**Dobruska-Polom**	**1.63 274**		*e*PG	Pg	16 32 05.7	-2.6
DPC				*e*SG	Sg	16 32 26.7	-2.7
	56nm,0.5s						
DPC	**Dobruska-Polom**	**1.63 274**		*e*Pg	Pg	16 32 05.7	-2.6
DPC				*e*Sg	Sg	16 32 26.8	-2.6
KSP	**Ksiaz**	**1.74 291**		*e*Pn	Pn	16 32 07.0	-1.5
KSP				*e*Pg	Pg	16 32 09.0	-1.4
KSP				*e*Sg	Sg	16 32 31.6	-1.3
KSP	**Ksiaz**	**1.74 291**		*i* Pg	Pg	16 32 09.0	-1.4
KSP				*e*Sg	Sg	16 32 31.6	-1.3
KSP	**Ksiaz**	**1.74 291**		*e*Pn	Pn	16 32 07.0	-1.5
KSP				*i* Pg	Pg	16 32 09.0	-1.4
KSP				*e*Sg	Sg	16 32 31.6	-1.3
VRAC	**Vranov**	**1.75 238**		*e*Pn	Pn	16 32 08.2	-0.4
VRAC				*e*Sg	Sg	16 32 30.9	-2.3
	42nm,0.5s						
STHS	**Stebnicka Huta**	**1.76 118**		*e*PN	Pn	16 32 10.1	+1.4
STHS				*e*SN	Sn	16 32 36.5	+4.8
KRUC	**Moravsky**	**2.00 234**		*e*Pn	Pn	16 32 11.8	-0.2
KECS	**Kecovo**	**2.07 148**		*e*PN	Pn	16 32 15.1	+2.1
KECS				*e*SN	Sn	16 32 37.0	-2.4
CRVS	**Cervenica-Dubn**	**2.17 128**		*e*PN	Pn	16 32 17.3	+3.0
CRVS				*e*SN	Sn	16 32 45.9	+4.0
TREC	**Trest**	**2.39 248**		*e*SG	Sg	16 32 50.0	-3.8
PSZ	**Piszkesteto**	**2.44 163**		*e*Pg	Pg	16 32 23.8	+0.1
PSZ				*e*SB	Sb	16 32 51.7	-0.5
KWP	**Kalwaria**	**2.56 103**		*e*Pg	Pg	16 32 27.6	+1.5
KWP				*e*Sn	Sn	16 32 55.5	+3.9
KWP				*e*Sg	Sg	16 33 07.2	+7.8
KOLS	**Kolonicke sedl**	**2.58 119**		*e*PN	Pn	16 32 24.0	+3.9
KOLS				*e*SN	Sn	16 32 51.9	-0.3
PRU	**Pruhonice**	**2.79 266**		*e*SG	Sg	16 33 01.4	-5.3
	16nm,0.6s						
BRG	**Berggiesshubel**	**3.20 283**		Pg	Pg	16 32 36.0	-2.2
BRG				Sg	Sg	16 33 16.4	-3.2
BRG	**Berggiesshubel**	**3.20 283**		PG	Pg	16 32 36.0	-2.2
BRG				SG	Sg	16 33 16.4	-3.2
	8.8nm,0.8s						
KHC	**Kasperske Hory**	**3.61 254**		*e*PG	Pg	16 32 40.6	-5.6
KHC				*e*SG	Sg	16 33 29.6	-3.4
	18nm,0.6s						
MOA	**Molln**	**3.86 233**		⇓*i*Pn	Pn	16 32 37.3	-0.3
MOA				⇓*i*Pg	Pg	16 32 49.3	-1.8
MOA				⇓*i*Sg	Sg	16 33 36.7	-4.4
	12nm,0.6s						
MOA	**Molln**	**3.86 233**		Pg	Pg	16 32 49.3	-1.7
MOA				Sg	Sg	16 33 36.7	-4.4
	12nm,0.6s						
CLL	**Collm**	**3.86 288**		*i* Sg	Sg	16 33 39.9	-1.2
	comp=Z,22nm,1.0s						
NKC	**Novy Kostel**	**4.12 272**		*e*SG	Sg	16 33 45.2	-4.0
	comp=Z,26nm,1.0s						

*ISCJB **22** 16:36:31.0±0.5, 3910N±002×2427E±002, h4km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=30.4*
*NEIC **22** 16:36:32.7, 3912N×2427E, h4km, ML2.8(THE), ML3.6(ATH), After THE.*
*THE **22** 16:36:32.7, 3912N×2427E, h4km, ML3.0*
*ATH **22** 16:36:33.2, 3912N×2423E, h39km±4km, MD3.6/13, ML3.6*
*CSEM **22** 16:36:34.6±0.1, 3913N×2423E, h40km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.3km az=85.0*
ISC 22 16:36:32.3±0.4, 3911N±002×2424E±002, h10km±4km, n48, σ0§99/59, 6C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.28 282**		*e*Pg	**Pg**	**16 36 38.6**	**+0.7**
NEO	**Neokhori**	**0.81 284**		*e*PN	**Pn**	**16 36 49.1**	**-0.6**
NEO				*e*SN	**Sn**	**16 37 00.7**	**-1.1**
XOR	**Xorichti**	**0.85 288**		*e*Pg	**Pg**	**16 36 49.3**	**+0.7**
	comp=Z,22nm,0.3s						
XOR				*e*Sg	**Sg**	**16 37 01.2**	**+1.5**
MPAR	**Parnis Oros**	**1.04 202**		*e*PN	**Pn**	**16 36 52.5**	**-0.3**
LOS	**Limnos**	**1.05 38**		*e*Pg	**Pg**	**16 36 52.3**	**-0.1**
LOS				*e*Sg	**Sg**	**16 37 06.7**	**+0.6**
LKR	**Lokris**	**1.07 245**		*e*PB	**Pb**	**16 36 52.5**	**-0.4**
PTL	**Penteli**	**1.10 195**		*e*PN	**Pn**	**16 36 53.5**	**-0.2**
ATH	**Athens Observa**	**1.21 200**		*e*PN	**Pn**	**16 36 55.0**	**-0.2**
ATH				*e*SN	**Sn**	**16 37 11.0**	**-0.7**
OUR	**Ouranopolis**	**1.24 351**		*e*Pg	**Pg**	**16 36 55.4**	**-0.6**
	comp=Z,10.0nm,0.1s						
KVR	**Kavouri**	**1.33 196**		*e*PN	**Pn**	**16 36 57.0**	**+0.1**
PLG	**Polygyros**	**1.40 334**		⇑*i*PN	**Pn**	**16 36 57.4**	**-0.4**
PLG	**Polygyros**	**1.40 334**		⇑*e*Pn	**Pn**	**16 36 57.4**	**-0.4**
NAIG	**Nisos Aigina**	**1.47 204**		*e*PB	**Pb**	**16 37 00.1**	**+0.4**
AGG	**Agios Georgios**	**1.49 267**		*e*Pg	**Pg**	**16 36 59.0**	**-1.7**
	comp=Z,3.7nm,0.8s						
AGG				*e*Sg	**Sg**	**16 37 20.3**	**+0.2**
AGG	**Agios Georgios**	**1.49 267**		*e*Pg	**Pg**	**16 36 59.0**	**-1.8**
	3.7nm,0.8s						
PRK	**Paraskevi**	**1.59 85**		*e*PB	**Pb**	**16 37 00.9**	**-0.8**
LIT	**Litokhoron**	**1.67 307**		*e*Pb	**Pb**	**16 37 01.6**	**-1.6**
LIT	**Litokhoron**	**1.67 307**		*e*Pb	**Pb**	**16 37 01.5**	**-1.6**
THE	**Thessaloniki**	**1.81 328**		*e*Pb	**Pb**	**16 37 04.3**	**-1.1**
THE	**Thessaloniki**	**1.81 328**		*e*Pb	**Pb**	**16 37 04.3**	**-1.1**
SOH	**Sokhos**	**1.84 339**		*e*Pb	**Pb**	**16 37 04.0**	**-2.0**
EVR	**Evrytania**	**1.90 265**		*e*PB	**Pb**	**16 37 05.8**	**-1.2**
AYVA	**Ayvalik**	**1.92 83**		*i* P	**Pg**	**16 37 07.4**	**-1.6**
AYVA				*i* S	**Sg**	**16 37 34.0**	**+0.1**
URLA	**Izmir**	**1.99 111**		*i* P	**Pg**	**16 37 10.3**	**-0.2**
URLA				*i* S	**Sg**	**16 37 36.5**	**+0.2**
SRS	**Serrai**	**2.06 346**		*e*Pn	**Pn**	**16 37 07.1**	**+0.1**
NVR	**Nevrokopi**	**2.25 353**		⇑*i*PN	**Pn**	**16 37 09.6**	**0.0**
NVR	**Nevrokopi**	**2.25 353**		⇑*e*Pn	**Pn**	**16 37 09.6**	**0.0**
ALN	**Alexandroupoli**	**2.26 37**		*e*Pn	**Pn**	**16 37 09.5**	**-0.2**
ALN				*e*Sn	**Sn**	**16 37 38.6**	**+1.0**
RDO	**Rodhopi**	**2.26 26**		*e*PN	**Pn**	**16 37 09.1**	**-0.6**
APE	**Apeiranthos**	**2.28 153**		*e*PN	**Pn**	**16 37 10.1**	**+0.1**
APE				*e*SN	**Sn**	**16 37 36.8**	**-1.3**
APE	**Apeiranthos**	**2.28 153**		*e*Pn	**Pn**	**16 37 10.1**	**+0.1**
KNT	**Kendrikon**	**2.29 334**		*e*Pn	**Pn**	**16 37 10.4**	**+0.3**
	comp=Z,3.0nm,0.6s						
GRG	**Griva**	**2.32 323**		*e*Pn	**Pn**	**16 37 11.6**	**+1.1**
KDAG	**Bornova**	**2.47 106**		*i* P	**Pg**	**16 37 16.8**	**-2.8**
KDAG				*i* S	**Sg**	**16 37 54.2**	**+2.4**
SMG	**Samos**	**2.48 124**		*e*PN	**Pn**	**16 37 13.0**	**+0.3**
VAY	**Valandovo**	**2.55 330**		*e*Pn	**Pn**	**16 37 14.4**	**+0.7**
VAY	**Valandovo**	**2.55 330**		*e*Pn	**Pn**	**16 37 17.1**	**+3.5**
VLI	**Veliai**	**2.60 204**		*e*PN	**Pn**	**16 37 14.1**	**-0.3**
ITM	**Ithomi**	**2.65 224**		⇑*i*PN	**Pn**	**16 37 16.5**	**+1.4**
ITM	**Ithomi**	**2.65 224**		⇑*e*Pn	**Pn**	**16 37 16.5**	**+1.4**
FNA	**Florina**	**2.76 308**		*e*Pn	**Pn**	**16 37 17.3**	**+0.7**
LKD	**Levkas**	**2.83 263**		*e*Pn	**Pn**	**16 37 19.4**	**+2.0**
SANT	**Santorini**	**2.90 160**		*e*Pg	**Pg**	**16 37 27.9**	**0.0**
IGT	**Igoumenitsa**	**3.06 279**		*e*Pn	**Pn**	**16 37 22.2**	**+1.6**
MANT	**Manisa**	**3.43 99**		*i* P	**Pg**	**16 37 37.3**	**-0.7**
MANT				*i* S	**Sg**	**16 38 23.3**	**+0.8**
VTS	**Vitosha**	**3.56 348**		*e*Pn	**Pn**	**16 37 28.5**	**+0.9**
KARN	**

KECS Kecovo 2.07 148 *e*PN Pn 17 03 07.1 -0.9
KECS *e* 17 03 12.9
KECS Kecovo 2.07 148 *e*SN Sn 17 03 33.4 -1.1
CRVS Cervenica-Dubn 2.17 128 *e*PN Pn 17 03 09.1 -0.3
CRVS *e* 17 03 12.9
CRVS Cervenica-Dubn 2.17 128 *e*SN Sn 17 03 40.5 +3.5
ZST Bratislava 2.36 210 *e*PN Pn 17 03 11.6 -0.5
ZST *e* 17 03 20.2
TREC Trest 2.39 248 *e*PG Pg 17 03 14.4 -3.5
PSZ Piszkesteto 2.44 163⇑*e*Pn Pn 17 03 12.5 -0.6
PSZ *e*Sn Sn 17 03 48.2 +4.6
SRO Srobarova 2.47 189 *e* Pn 17 03 21.3 +7.7
KWP Kalwaria 2.56 103 *e*Pn Pn 17 03 20.5 +5.6
KWP *e*Pg Pg 17 03 22.9 +1.7
KWP *e*Sn Sn 17 04 01.0 +14
KWP *e*Sg Sg 17 04 14.5 +20
KWP Kalwaria 2.56 103 *e*Pg Pg 17 03 22.9 +1.7
KOLS Kolonicke sedl 2.58 119 *e*PN Pn 17 03 15.3 +0.1
KOLS *e* 17 03 22.7
KOLS Kolonicke sedl 2.58 119 *e*SN Sn 17 03 46.9 -0.4
KOLS Kolonicke sedl 2.58 119 *e*Pn Pn 17 03 15.3 +0.1
KOLS *e*Sn Sn 17 03 46.9 -0.4
PRU Pruhonice 2.79 266 *e*PN Pn 17 03 16.3 -1.7
PRU *e*PG Pg 17 03 21.1 -4.5
PRU *e*SG Sg 17 03 58.0 -3.8
PRU Pruhonice 2.79 266 *e*Pg Pg 17 03 21.1 -4.5
PRU *e*Sg Sg 17 03 58.0 -3.8
PRA Prague 2.85 268 SG Sg 17 04 02.0 -1.8
PKSG 2.88 186⇑*i*P Pn 17 03 19.7 +0.5
GKP Gorka Klasztor 3.18 342 *e*Pn Pn 17 03 23.7 +0.3
GKP *e*Pg Pg 17 03 37.2 +4.1
GKP *e*Sn Sn 17 04 04.5 +2.4
GKP *e*Sg Sg 17 04 22.4 +8.0
BRG Berggiesshubel 3.20 283 *e*Pg Pg 17 03 30.1 -3.3
BRG *e*Sg Sg 17 04 12.2 -2.6
BRG Berggiesshubel 3.20 283 PG Sg 17 03 29.9 -3.5
BRG SG Sg 17 04 12.3 -2.5
23nm,0.6s
PKS8 Sarbogard 3.38 182 *e*P Pn 17 03 25.8 -0.3
FBE Freiberg 3.57 283 *e*Pg Pg 17 03 38.7 -1.9
FBE *e*Sg Sg 17 04 23.9 -3.0
KHC Kasperske Hory 3.61 254 *e*PN Pn 17 03 28.0 -1.2
KHC *ex* x 17 03 34.2
KHC *e*SG Sg 17 04 26.1 -2.0
KHC Kasperske Hory 3.61 254 *e*Pg Pg 17 03 34.2 -7.1
KHC *e*Sg Sg 17 04 26.1 -2.0
GEC2 GERESS Array S 3.64 249 *e*Pn Pn 17 03 29.2 -0.5
GEC2 *e*Sg Sg 17 04 24.6 -4.5
GEC2 GERESS Array S 3.64 249 *e*Pn Pn 17 03 29.2 -0.5
GEC2 *e*Sg Sg 17 04 24.6 -4.5
GERES GERESS Array B 3.64 249 Pn Pn 17 03 29.0 -0.7
0.7nm,0.3s,baz=65,slow=14,SNR=18
GERES Pg Pg 17 03 38.2 -3.7
4.5nm,0.3s,baz=66,slow=16,SNR=41
GERES Lg 17 04 26.5
6.4nm,0.3s,baz=70,slow=30,SNR=9.6
MOA Molln 3.86 233⇑*i*Pn Pn 17 03 31.5 -1.2
MOA ⇓*i*Sg Sg 17 04 32.2 -4.0
20nm,0.5s
CLL Collm 3.86 288 *e*Pn Pn 17 03 31.5 -1.3
CLL *i*Pg Pg 17 03 44.2 -2.0
CLL *e*Sg Sg 17 04 34.4 -1.9
CLL Collm 3.86 288 *e*Pn Pn 17 03 32.0 -0.8
CLL *i*Pg Pg 17 03 44.2 -2.0
CLL *i*Sg Sg 17 04 39.2 +2.9
comp=Z,76nm,1.2s
CLL Collm 3.86 288 Pg Pg 17 03 44.2 -2.0
CLL Sg Sg 17 04 34.4 -1.9
RUE Ruedersdorf 3.89 307 Pg Pg 17 03 45.0 -1.6
WET Wettzell 4.04 256 *e*Pn Pn 17 03 33.9 -1.3
WET Wettzell 4.04 256 *e*Pn Pn 17 03 33.9 -1.3
TANN Tannenbergstha 4.10 275 *e*Pn Pn 17 03 34.7 -1.3
TANN *e*Sg Sg 17 04 40.4 -3.5
NKC Novy Kostel 4.12 272 *e*SG Sg 17 04 39.9 -4.4
WERD Werda 4.20 275 *e*Pn Pn 17 03 37.1 -0.3
ROTZ Rotzenmuhle 4.32 266 *e*Sg Sg 17 04 45.3 -5.5
MOX Moxa 4.65 278 *e*Pn Pn 17 03 41.4 -2.1
MOX *e*Pg Pg 17 03 59.4 -1.7
MOX *e*Sg Sg 17 04 58.5 -2.8
MOX Moxa 4.65 278 *e*PN Pn 17 03 42.6 -0.9
MOX *e*PG Pg 17 03 59.4 -1.7
MOX *e*SG Sg 17 04 59.9 -1.5
MOX Moxa 4.65 278 *e*Pn Pn 17 03 42.6 -0.9
MOX *e*Pg Pg 17 03 59.4 -1.7
MOX *e*Sg Sg 17 04 59.9 -1.5
GRF Grafenberg Arr 4.96 266 *e*Sg Sg 17 05 05.7 -5.8
BSD Bornholm Skovb 5.43 335 *i*P Pn 17 03 52.7 -1.5
BSD *i* 17 03 59.1
BSD *i*S Sn 17 04 50.6 -6.8
AKASG Malin Array Be 6.63 82 Pn Pn 17 04 08.8 -2.0
comp=Z,1.5nm,0.3s,baz=269,slow=12,SNR=13
AKASG Sn Sn 17 05 22.1 -5.0
comp=Z,1.0nm,0.3s,baz=271,slow=22,SNR=3.4
AKASG Lg 17 06 03.9
comp=Z,1.8nm,0.3s,baz=44,slow=22,SNR=6.1
AKASG Malin Array Be 6.63 82 Pn Pn 17 04 08.8 -2.0
AKASG Sn Sn 17 05 22.1 -5.0
AKASG Lg 17 06 03.9
DAVOX Davos 6.90 243 Pn Pn 17 04 14.1 -0.4
comp=Z,1.4nm,0.3s,baz=46,slow=14,SNR=10
DAVOX Lg 17 06 11.0
comp=Z,0.7nm,0.3s,baz=193,slow=20,SNR=6.4
DAVOX Davos 6.90 243 Pn Pn 17 04 14.1 -0.4
DAVOX Lg 17 06 11.0
HFS Hagfors 10.33 345 Pn Pn 17 04 58.8 -2.7
comp=Z,0.2nm,0.3s,baz=147,slow=13,SNR=5.3
NOA NORSAR Array B 11.63 341 Pn Pn 17 05 15.4 -3.9
comp=Z,0.5nm,0.3s,baz=148,slow=12,SNR=3.5
FINES FINESS Array B 11.92 17 Pn Pn 17 05 19.4 -3.8
comp=Z,0.6nm,0.3s,baz=192,slow=10,SNR=23
FINES Sn Sn 17 07 28.1 -8.8
comp=Z,0.4nm,0.3s,baz=195,slow=21,SNR=3.6
KAF Kangasniemi 12.58 16 *e*p Pn 17 05 27.4 -4.9
comp=Z,2.1nm,0.5s
JOF Joensuu 14.39 23 *e*p Pn 17 05 51.6 -5.4
comp=Z,2.2nm,0.5s
ARCES ARCESS Array B 19.61 7 Pn Pn 17 06 58.4 -4.7
comp=Z,0.5nm,0.3s,baz=198,slow=11,SNR=12
MKAR Makanchi Array 41.03 69 P P 17 10 16.9 -0.1
comp=Z,0.2nm,0.4s,baz=295,slow=6.7,SNR=16
SONM Songino Array 54.18 56 P P 17 11 59.3 0.0
comp=Z,0.5nm,1.0s,baz=294,slow=4.7,SNR=4.7

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*ISCJB **22** 17:03:02.9±2.6, 1705S×009×1672E±02, h44km±19km, mb4.1/5, Error ellipse: s-maj=39.3km s-min=13.4km az=154.1*
*IDC **22** 17:03:05.5±3.9, 1709S×16721E, h54km±30km, mb3.9/5, mb1 4.1/7, mb1mx3.9/15, mbtmp4.2/7, ML4.3/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/29, Error ellipse: s-maj=42.9km s-min=19.1km az=74.0*
*NEIC **22** 17:03:05.0±1.7, 1706S×16722E, h46km±12km, mb4.0/1, Error ellipse: s-maj=27.1km s-min=11.4km az=71.0*
ISC 22 17:03:04.8±2.3, 1704S±009×1673E±02, h48km±16km, n14, σ0°62/13, mb4.1/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.07**	**189**	P	**Pn**	**17 04 18.3**	**+0.1**
	2.6nm,0.3s,baz=53,slow=21,SNR=32						
DZM				S	**Sn**	**17 05 15.8**	**+0.3**
	3.1nm,0.3s,baz=328,slow=23,SNR=7.0						
HNR	**Honiara**	**10.41**	**316**	P	**Pn**	**17 05 31.1**	**-0.3**
	9.2nm,0.3s,baz=79,slow=3.8,SNR=7.2						
HNR				LR	LR	17 09 00.9	
	comp=Z,71nm,18.5s,baz=182,slow=34						
CTA	**Charters Tower**	**20.19**	**258**	LR	LR	17 14 27.7	
	comp=Z,16nm,19.4s,baz=232,slow=34						
STKA	**Stephens Creek**	**27.58**	**233**	*e*P	**P**	**17 08 47.4**	**+0.1**
	3.2nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.58**	**233**	P	**P**	**17 08 45.5**	**-1.8**
	4.0nm,0.8s,mb4.1,baz=41,slow=8.4,SNR=6.4						
WRAB	**Tennant Creek**	**31.36**	**260**	P	**P**	**17 09 20.3**	**-0.5**
WRA	**Warramunga Arr**	**31.37**	**260**	P	**P**	**17 09 20.5**	**-0.4**
	1.0nm,0.7s,mb3.8,baz=90,slow=8.9,SNR=15						
AS31	**Alice Springs**	**31.95**	**253**	*e*P	**P**	**17 09 26.4**	**+0.4**
ASAR	**Alice Springs**	**31.95**	**253**	P	**P**	**17 09 26.4**	**+0.5**
	6.8nm,0.8s,mb4.5,baz=81,slow=8.4,SNR=108						
ASPA	**Alice Springs**	**31.96**	**253**	*e*P	**P**	**17 09 26.4**	**+0.4**
GUMO	**Guam**	**37.65**	**323**	LR	LR	17 22 43.4	
	comp=Z,1μm,21.7s,baz=317,slow=31						
VNDA	**Vanda**	**60.57**	**181**	P	**P**	**17 13 09.2**	**-1.1**
	2.0nm,1.0s,mb4.2,baz=351,slow=4.1,SNR=4.0						
VNDA	**Vanda**	**60.57**	**181**	*e*P	**P**	**17 13 09.7**	**-0.6**
SONM	**Songino Array**	**84.37**	**324**	P	**P**	**17 15 32.7**	**+1.0**
	0.7nm,0.8s,mb3.8,baz=130,slow=4.3,SNR=5.7						

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*NAO **22** 17:23:51.0, 3136N×14128E, h33km, mb4.4*
*NIED **22** 17:24:00, 3290N×13920E, h200km, Mw4.2 Best double couple: M₀2.31000×10¹⁵ NP1:φ₀229.00000°, δ83.00000°, λ59.00000°. NP2:φ₀127.00000°, δ32.00000°, λ166.00000°.*
*BJI **22** 17:24:16.9, 3245N×13905E, h194km, mB4.6, mb4.6*
*MOS **22** 17:24:19.8±0.8, 3278N×13897E, h201km, mb4.3/7, Error ellipse: s-maj=20.7km s-min=7.9km az=96.8*
*ISCJB **22** 17:24:20.4±0.4, 3282N±004×139.19E±005, h206km±2km, mb3.9/28, Error ellipse: s-maj=7.5km s-min=6.3km az=133.9*
*NEIC **22** 17:24:21.1±0.8, 3279N×13907E, h195km±6km, mb4.3/11, Error ellipse: s-maj=9.4km s-min=7.2km az=97.0*
*JMA **22** 17:24:21.5±0.2, 3294N×13924E, h210km±2km, M3.9*
*IDC **22** 17:24:21.3±0.5, 3277N×13897E, h195km±4km, mb3.6/19, mb1 3.8/20, mb1mx3.8/22, mbtmp4.1/20, Error ellipse: s-maj=14.4km s-min=9.1km az=80.0*
ISC 22 17:24:21.7±0.4, 3287N±004×13917E±005, h202km±2km, n81, σ0°88/96, mb3.9/28, 8C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.57**	**64**	P	**Pn**	**17 24 50.0**	**+0.6**
	88nm,0.3s,baz=48,slow=3.3,SNR=36						
JHJ				S	**Sn**	**17 25 11.2**	**+0.3**
	133nm,0.3s,baz=238,slow=24,SNR=13						
JHJ2	**Mitsune**	**0.59**	**66**	⇓P	**Pn**	**17 24 49.8**	**+0.3**
JMY	**Miyakejima3**	**1.23**	**13**	P	**Pn**	**17 24 53.7**	**+0.3**
JKO	**Kozu shima**	**1.31**	**359**	⇑P	**Pn**	**17 24 54.0**	**-0.1**
JKO				*e*S	**Sn**	**17 25 19.5**	**+0.3**
TK01	**Tokai 1**	**1.60**	**304**	P	**Pn**	**17 24 56.4**	**-0.1**
TK02	**Tokai 2**	**1.60**	**313**	⇑P	**Pn**	**17 24 56.9**	**+0.4**
JIM2	**Oshima 3**	**1.86**	**7**	P	**Pn**	**17 24 59.2**	**+0.2**
JIM2				*e*S	**Sn**	**17 25 29.4**	**+1.5**
TK04	**Tokai 4**	**1.86**	**325**	⇑P	**Pn**	**17 24 59.5**	**+0.5**
JIZS	**Izushimoda**	**1.86**	**353**	⇑P	**Pn**	**17 24 59.1**	**+0.1**
JIZS				S	**Sn**	**17 25 27.9**	**-0.1**
BSO3	**Boso 3**	**2.23**	**30**	P	**Pn**	**17 25 02.0**	**-0.8**
BSO1	**Boso 1**	**2.33**	**40**	P	**Pn**	**17 25 02.7**	**-1.2**
BSO1				*e*S	**Sn**	**17 25 34.7**	**-2.1**
SHZ3	**Shizuoka 3**	**2.33**	**340**	⇑P	**Pn**	**17 25 04.4**	**+0.5**
SHZ3				*e*S	**Sn**	**17 25 37.3**	**+0.5**
JOD2	**Odawara 2**	**2.39**	**358**	⇑P	**Pn**	**17 25 05.1**	**+0.6**
JOD2				*e*S	**Sn**	**17 25 38.3**	**+0.4**
JIE	**Ise**	**2.56**	**307**	⇑P	**Pn**	**17 25 06.6**	**+0.2**
JIE				S	**Sn**	**17 25 40.5**	**-0.7**
JYN	**Shimob**	**2.67**	**349**	P	**Pn**	**17 25 08.2**	**+0.5**
JWZ	**Kozaga**	**2.97**	**284**	⇑P	**Pn**	**17 25 11.2**	**+0.1**
JRY	**Ryogami san**	**3.15**	**356**	⇓P	**Pn**	**17 25 13.6**	**+0.4**
JRY				*e*S	**Sn**	**17 25 52.7**	**-0.8**
JWY	**Kouya**	**3.28**	**295**	P	**Pn**	**17 25 15.5**	**+0.8**
JGM	**Miyama**	**3.48**	**325**	P	**Pn**	**17 25 17.6**	**+0.4**
JAG	**Ashikaga**	**3.56**	**4**	⇓P	**Pn**	**17 25 16.5**	**-1.6**
JAG				*e*S	**Sn**	**17 25 57.6**	**-4.7**
MJAR	**Matsushiro Arr**	**3.75**	**348**	P	**Pn**	**17 25 20.1**	**-0.4**
	7.6nm,0.3s,baz=219,slow=9.3,SNR=62						
MJAR				S	**Sn**	**17 26 06.7**	**+0.1**
	3.6nm,0.3s,baz=142,slow=16,SNR=6.1						
MAJO	**Matsushiro**	**3.75**	**348**	*e*P	**Pn**	**17 25 20.6**	**+0.1**
MAT	**Matsushiro**	**3.75**	**348**	P	**Pn**	**17 25 20.2**	**-0.3**
MAT				S	**Sn**	**17 26 04.8**	**-1.8**
MAT	**Matsushiro**	**3.75**	**348**	P	**Pn**	**17 25 20.3**	**-0.2**
MAT				*e*S	**Sn**	**17 26 04.2**	**-2.4**
MAT	**Matsushiro**	**3.75**	**348**	*e*P	**Pn**	**17 25 20.0**	**-0.5**
MAT				S	**Sn**	**17 26 04.0**	**-2.6**
JWT	**Wachi**	**3.95**	**309**	P	**Pn**	**17 25 23.6**	**+0.7**
JWT				*e*S	**Sn**	**17 26 10.8**	**-0.2**
CBIJ	**Chichi jima**	**6.32**	**155**	P	**Pn**	**17 25 49.4**	**-3.7**
	49nm,0.3s,baz=295,slow=20,SNR=54						
CBIJ				S	**Sn**	**17 26 59.5**	**-6.0**
	113nm,0.3s,baz=270,slow=23,SNR=17						
KS15	**Wonju Array Si**	**10.30**	**299**	*e*P	**Pn**	**17 26 46.1**	**+1.4**
ASAJ	**Asahikawa**	**11.54**	**12**	P	**Pn**	**17 26 57.9**	**-2.8**
	4.6nm,0.3s,baz=239,slow=11,SNR=43						
ASAJ	**Asahikawa**	**11.54**	**12**	P	**Pn**	**17 26 57.9**	**-2.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MDJ	**Mudanjiang**	**13.89**	**330**	P	**Pn**	**17 27 30.4**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,109nm,4.6s						
MDJ	**Mudanjiang**	**13.89**	**330**	*e*P	**Pn**	**17 27 29.8**	**-0.4**
	comp=Z,14nm,1.1s						
YSS	**Yuzh-Sakhalins**	**14.33**	**10**	⇓*i*P	**Pn**	**17 27 35.9**	**+0.3**
YSS				pmax	pmax		
	comp=N,70nm,0.4s						
YSS				pmax	pmax		
	comp=Z,70nm,0.4s						
YSS	**Yuzh-Sakhalins**	**14.33**	**10**	*e*P	**Pn**	**17 27 34.4**	**-1.1**
	comp=Z,57nm,0.4s						
KLR	**Kul'dur**	**17.26**	**343**	*e*P	**P**	**17 28 05.4**	**-3.8**
MA2	**Magadan**	**27.81**	**13**	*e*P	**P**	**17 29 52.9**	**+0.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MA2	**Magadan**	**27.81**	**13**	P	**P**	**17 29 52.5**	**+0.5**
	comp=Z,3.9nm,0.4s,mb4.4						
SONM	**Songino Array**	**28.85**	**311**	P	**P**	**17 30 01.0**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.3,baz=99,slow=8.4,SNR=4.7						
SONM				PcP	PcP	17 33 06.7	+1.3
	comp=Z,0.3nm,0.6s,baz=102,slow=3.7,SNR=3.5						
SONM				ScP	ScP	17 36 27.7	+0.2
	comp=Z,0.7nm,0.8s,baz=134,slow=2.8,SNR=7.2						
BOD	**Bodaibo**	**30.24**	**333**	*e*P	**P**	**17 30 12.4**	**-1.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
BILL	**Bilibino**	**38.53**	**16**	*e*P	**P**	**17 31 25.5**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**38.53**	**16**	*e*P	**P**	**17 31 25.5**	**+0.9**
	comp=Z,4.2nm,0.6s,mb4.2						
TIXI	**Tiksi**	**39.23**	**355**	*e*P	**P**	**17 31 29.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**44.90**	**305**	P	**P**	**17 32 15.7**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.4,baz=86,slow=9.7,SNR=27						
MKAR				PcP	PcP	17 33 54.8	+0.8
	comp=Z,0.1nm,0.3s,baz=64,slow=3.4,SNR=3.8						
MKAR				ScP	ScP	17 37 26.1	-0.9
	comp=Z,0.4nm,0.6s,baz=79,slow=6.3,SNR=5.2						
MKAR	**Makanchi Array**	**44.90**	**305**	P	**P**	**17 32 15.7**	**-0.4**
MKAR						17 33 54.8	
KURK	**Kurchatov**	**47.16**	**311**	*e*P	**P**	**17 32 32.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
KURK	**Kurchatov**	**47.16**	**311**	*e*P	**P**	**17 32 32.6**	**-1.2**
	comp=Z,9.1nm,1.2s,mb4.0						
KDAK	**Kodiak Island**	**51.45**	**40**	P	**P**	**17 33 07.4**	**+1.2**
	comp=Z,3.5nm,0.6s,mb4.0,baz=329,slow=6.4,SNR=8.4						
FIB	**Fire Island**	**52.59**	**35**	P	**P**	**17 33 13.8**	**-0.8**
WRAB	**Tennant Creek**	**52.70**	**186**	*e*P	**P**	**17 33 14.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
WRAB	**Tennant Creek**	**52.70**	**186**	*e*P	**P**	**17 33 14.6**	**-0.8**
	comp=Z,4.5nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**52.71**	**186**	*e*P	**P**	**17 33 14.9**	**-0.6**
WRA	**Warramunga Arr**	**52.71**	**186**	P	**P**	**17 33 15.0**	**-0.6**
	comp=Z,2.4nm,0.3s,mb4.0,baz=1.6,slow=8.0,SNR=192						
ZRNK	**Zerenda**	**52.93**	**314**	*e*P	**P**	**17 33 16.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**52.93**	**314**	*e*P	**P**	**17 33 16.7**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**54.00**	**31**	P	**P**	**17 33 25.8**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.1,baz=280,slow=7.5,SNR=8.5						
AS31	**Alice Springs**	**56.44**	**186**	*e*P	**P**	**17 33 42.0**	**-0.3**
ASAR	**Alice Springs**	**56.44**	**186**	P	**P**	**17 33 42.0**	**-0.2**
	comp=Z,1.7nm,0.3s,mb4.0,baz=14,slow=11,SNR=86						
ASPA	**Alice Springs**	**56.44**	**186**	*e*P	**P**	**17 33 42.0**	**-0.3**
ARU	**Arti**	**58.30**	**320**	*e*P	**P**	**17 33 54.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7						
ARU	**Arti**	**58.30**	**320**	*e*P	**P**	**17 33 54.9**	**-0.4**
	comp=Z,12nm,0.6s,mb4.7						
INK	**Inuvik**	**58.93**	**26**	P	**P**	**17 34 00.4**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.8,baz=300,slow=6.3,SNR=8.1						
STKA	**Stephens Creek**	**64.44**	**178**	*e*P	**P**	**17 34 34.9**	**-1.5**
	comp=Z,2.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**64.44**	**178**	P	**P**	**17 34 35.0**	**-1.3**
	comp=Z,3.8nm,0.6s,mb4.2,baz=326,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**67.24**	**340**	P	**P**	**17 34 54.4**	**+0.2**
	comp=Z,9.6nm,1.1s,mb4.3,baz=52,slow=8.0,SNR=4.6						
ARCES	**ARCESS Array B**	**67.24**	**340**	P	**P**	**17 34 54.4**	**+0.1**
YKA	**Yellowknife Ar**	**68.33**	**29**	P	**P**	**17 35 01.8**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=294,slow=6.4,SNR=4.3						
JOF	**Joensuu**	**68.77**	**332**	*e*p	**P**	**17 35 03.7**	**-0.1**
	comp=Z,1.1nm,0.4s,mb3.8						
KAF	**Kangasniemi**	**71.16**	**333**	*e*p	**P**	**17 35 17.0**	**-1.3**
	comp=Z,3.1nm,0.5s,mb4.2,baz=52,slow=5.6						
KAF	**Kangasniemi**	**71.16**	**333**	*e*P	**P**	**17 35 17.0**	**-1.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**71.64**	**332**	P	**P**	**17 35 21.1**	**0.0**
	comp=Z,2.6nm,0.4s,mb4.2,baz=57,slow=6.3,SNR=55						
AKASG	**Malin Array Be**	**76.45**	**322**	P	**P**	**17 35 48.9**	**-0.1**
	comp=Z,1.7nm,0.4s,mb4.1,baz=50,slow=5.4,SNR=19						
NB2	**NORSAR Subarra**	**77.30**	**337**	P	**P**	**17 35 53.3**	**-0.4**
	comp=Z,3.0nm,0.7s,mb4.0,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**77.30**	**337**	P	**P**	**17 35 53.8**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.2,baz=43,slow=5.5,SNR=15						
NVAR	**Mina Array Bea**	**78.99**	**51**	P	**P**	**17 36 05.4**	**+2.3**
	comp=Z,0.6nm,0.7s,mb3.4,baz=286,slow=4.5,SNR=5.6						
ELK	**Elko**	**79.67**	**48**	P	**P**	**17 36 08.6**	**+1.8**
	comp=Z,0.6nm,0.4s,mb3.5,baz=290,slow=5.2,SNR=3.1						
BR131	**Keskin Array S**	**80.21**	**311**	*e*P	**P**	**17 36 10.5**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.4						
BRTR	**Keskin Array B**	**80.21**	**311**	P	**P**	**17 36 10.5**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.8,baz=128,slow=4.7,SNR=12						
FRB	**Frobisher Bay**	**81.23**	**12**	P	**P**	**17 36 15.9**	**+0.9**
	comp=Z,1.6nm,0.4s,mb4.0,baz=12,slow=5.1,SNR=6.8						
PDAR	**Pinedale Array**	**81.92**	**44**	P	**P**	**17 36 20.2**	**+1.6**
	comp=Z,0.4nm,0.7s,mb3.2,baz=220,slow=1.2,SNR=3.6						
GERES	**GERESS Array B**	**85.25**	**327**	P	**P**	**17 36 35.7**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=43,slow=6.0,SNR=5.9						
LPAZ	**La Paz**	**150.31**	**63**	PKPbc	PKPbc	17 43 52.3	+3.5
	comp=Z,0.4nm,0.5s,baz=286,slow=3.6,SNR=5.0						

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*ISCJB **22** 17:28:28.8±0.8, 3909N±003×2427E±004, h6km±6km, Error ellipse: s-maj=6.1km s-min=5.2km az=64.2*
*NEIC **22** 17:28:29.3, 3905N×2434E, h2km, ML3.1(ATH), After THE.*
*THE **22** 17:28:29.3, 3905N×2434E, h1km, ML3.1*
*CSEM **22** 17:28:30.1±0.1, 3908N×2429E, h10km, ML3.1, Error ellipse: s-maj=2.9km s-min=2.0km az=95.0*
*ATH **22** 17:28:30.8, 3909N×2425E, h34km±2km, MD3.1/8, ML3.1*
ISC 22 17:28:29.4±0.8, 3909N±003×2427E±005, h9km±6km, n24, σ0°72/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.31**	**285**	*e*Pg	**Pg**	**17 28 36.5**	**+0.8**
NEO	**Neokhori**	**0.84**	**285**	*e*PN	**Pn**	**17 28 47.0**	**-0.4**
NEO				*e*SN	**Sn**	**17 28 58.9**	**-0.9**
PAIG	**Paliouri**	**0.95**	**331**	*e*Pg	**Pg**	**17 28 48.1**	**+0.3**
MPAR	**Parnis Oros**	**1.03**	**204**	*e*PN	**Pn**	**17 28 50.5**	**+0.5**
LOS	**Limnos**	**1.05**	**36**	*e*Pg	**Pg**	**17 28 49.2**	**-0.4**
LIA	**Limnos Island**	**1.07**	**41**	*e*PN	**Pn**	**17 28 51.2**	**+0.6**
LIA				*e*SN	**Sn**	**17 29 05.8**	**+0.3**
LKR	**Lokris**	**1.08**	**246**	*e*PN	**Pn**	**17 28 50.5**	**-0.3**
PTL	**Penteli**	**1.09**	**197**	*e*PN	**Pn**	**17 28 51.0**	**+0.2**
ATH	**Athens Observa**	**1.20**	**201**	*e*PN	**Pn**	**17 28 53.1**	**+0.8**
OUR	**Ouranopolis**	**1.26**	**350**	*e*Pg	**Pg**	**17 28 53.3**	**-0.3**
	comp=Z,5.5nm,0.4s						
KVR	**Kavouri**	**1.32**	**197**	*e*PN	**Pn**	**17 28 54.5**	**+0.5**
PLG	**Polygyros**	**1.43**	**334**	*e*PB	**Pb**	**17 28 56.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.47**	**205**	*e*PB	**Pb**	**17 28 56.0**	**-0.8**
AGG	**Agios Georgios**	**1.51**	**268**	*e*Pg	**Pg**	**17 28 57.0**	**-1.4**
AGG				*e*Sg	**Sg**	**17 29 19.3**	**+1.3**
AGG	**Agios Georgios**	**1.51**	**268**	*e*Pg	**Pg**	**17 28 57.0**	**-1.4**
PRK	**Paraskevi**	**1.56**	**84**	*e*PB	**Pb**	**17 28 58.2**	**-0.3**
LIT	**Litokhoron**	**1.71**	**307**	*e*Pb	**Pb**	**17 28 59.9**	**-1.0**
SOH	**Sokhos**	**1.87**	**338**	*e*Pb	**Pb**	**17 29 02.3**	**-1.4**
SRS	**Serrai**	**2.09**	**346**	*e*Pn	**Pn**	**17 29 05.0**	**+0.5**
APE	**Apeiranthos**	**2.25**	**153**	*e*Pn	**Pn**	**17 29 06.3**	**-0.5**
APE				*e*Sn	**Sn**	**17 29 34.3**	**-0.3**
ALN	**Alexandroupoli**	**2.26**	**37**	*e*Pn	**Pn**	**17 29 07.3**	**+0.4**
ALN	**Alexandroupoli**	**2.26**	**37**	*e*Pn	**Pn**	**17 29 07.3**	**+0.4**
KNT	**Kendrikon**	**2.32**	**333**	*e*Pn	**Pn**	**17 29 08.3**	**+0.5**
GRG	**Griva**	**2.35**	**323**	*e*Pn	**Pn**	**17 29 09.5**	**+1.3**

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*ISCJB **22** 17:30:08.9±6.0, 234S±09×1153W±08, h10km, mb4.1/7, MS3.6/2, Error ellipse: s-maj=166.7km s-min=30.0km az=78.7*
*IDC **22** 17:30:08.3±2.5

s-min=24.3km az=164.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.89**	**272**	Pn	Pn	17 52 16.0	+1.0
	3.5nm,0.3s,baz=124,slow=19,SNR=252						
DZM				Sn	Sn	17 52 50.1	-0.5
	25nm,0.3s,baz=314,slow=17,SNR=8.6						
DZM				LR	LR	17 53 19.9	
	comp=Z,217nm,18.3s,baz=69,slow=39						
CTA	**Charters Tower**	**21.84**	**271**	LR	LR	18 03 53.6	
	comp=Z,116nm,18.5s,baz=217,slow=34						
ASAR	**Alice Springs**	**32.82**	**260**	P	P	17 58 03.3	+0.5
	0.7nm,0.9s,baz=84,slow=9.9,SNR=6.3						
WRA	**Warramunga Arr**	**32.90**	**267**	P	P	17 58 02.8	-0.7
	0.7nm,1.0s,baz=98,slow=8.2,SNR=3.7						
MJAR	**Matsushiro Arr**	**65.52**	**333**	LR	LR	18 26 39.5	
	comp=Z,51nm,18.3s,baz=40,slow=32						
SONM	**Songino Array**	**89.77**	**323**	P	P	18 04 28.7	+0.6
	1.7nm,1.2s,baz=123,slow=2.2,SNR=7.2						
SONM				LR	LR	18 42 44.2	
	comp=Z,49nm,18.2s,baz=104,slow=34						
NVAR	**Mina Array Bea**	**90.54**	**48**	P	P	18 04 31.9	+0.3
	1.1nm,0.8s,baz=210,slow=8.7,SNR=3.6						
ILAR	**Eielson Array**	**92.97**	**17**	P	P	18 04 41.1	-1.8
	0.5nm,0.8s,baz=244,slow=4.5,SNR=7.2						
GERES	**GERESS Array B**	**147.23**	**330**	PKPbc	PKPbc	18 11 13.5	+0.6
	0.5nm,0.7s,baz=66,slow=3.2,SNR=4.4						

*ISK **22** 17:53:16.8, 3788N×2706E, h12km, MD3.0*
*ATH **22** 17:53:17.8, 3785N×2720E, h16km±2km, MD3.3/3*
*NEIC **22** 17:53:17.8, 3785N×2720E, h16km, MD3.0(ISK), MD3.3(ATH), After ATH.*
*ISCJB **22** 17:53:18.3±0.5, 3790N±003×27.17E±004, h5km, Error ellipse: s-maj=4.5km s-min=3.1km az=106.3*
*CSEM **22** 17:53:18.1±0.1, 3792N×27.19E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.9km az=100.0*

ISC 22 17:53:18.8±0.6, 3791N±002×2717E±004, h1km±7km, n19, σ1§12/31, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**233**	↑iPB	**Pg**	**17 53 24.6**	**-0.6**
SMG	**Samos**	**0.34**	**233**	↑ePb	**Pg**	**17 53 24.6**	**-0.6**
BLCB	**Balcova**	**0.48**	**348**	*i* PG	**Pg**	**17 53 27.8**	**-0.2**
BLCB				*i* SG	**Sg**	**17 53 34.2**	**-0.1**
IZM	**Izmir**	**0.49**	**8**	*i* PG	**Pg**	**17 53 28.3**	**+0.2**
IZM				*i* SG	**Sg**	**17 53 35.9**	**+1.4**
KDAG	**Bornova**	**0.49**	**9**	*i* P	**Pg**	**17 53 27.9**	**-0.3**
KDAG				*i* S	**Sg**	**17 53 36.2**	**+1.6**
AYDN	**Tasoluk**	**0.61**	**114**	*i* P	**Pg**	**17 53 30.6**	**+0.1**
AYDN				*i* S	**Sg**	**17 53 39.5**	**+1.1**
URLA	**Izmir**	**0.64**	**315**	*i* P	**Pg**	**17 53 30.5**	**-0.5**
URLA				*i* S	**Sg**	**17 53 39.8**	**+0.5**
BODT	**Bodrum**	**0.86**	**173**	PG	**Pg**	**17 53 32.8**	**-2.4**
BDRM	**Kayabasi**	**0.87**	**166**	*i* P	**Pg**	**17 53 36.4**	**+0.8**
BDRM				*i* S	**Sg**	**17 53 49.1**	**+2.3**
BDRM	**Kayabasi**	**0.87**	**166**	*i* P	**Pg**	**17 53 36.3**	**+0.8**
BDRM				*i* S	**Sg**	**17 53 49.1**	**+2.3**
AKS	**Akhisar**	**1.09**	**27**	PN	**Pn**	**17 53 39.6**	**-1.6**
MANT	**Manisa**	**1.23**	**62**	*i* P	**Pg**	**17 53 43.0**	**+0.6**
MANT				*i* S	**Sg**	**17 53 58.0**	**-0.5**
DNZL	**Cakiroluk**	**1.50**	**98**	*i* P	**Pg**	**17 53 46.1**	**-1.5**
DNZL				*i* S	**Sg**	**17 54 08.2**	**+1.3**
DNZL	**Cakiroluk**	**1.50**	**98**	*i* P	**Pn**	**17 53 46.1**	**-0.7**
DNZL				*i* S	**Sg**	**17 54 08.2**	**+1.2**
PRK	**Paraskevi**	**1.51**	**332**	*e*PN	**Pn**	**17 53 47.3**	**+0.4**
PRK				*e*SN	**Sn**	**17 54 08.8**	**+1.6**
APE	**Apeiranthos**	**1.56**	**238**	*e*PN	**Pn**	**17 53 43.6**	**-4.0**
APE	**Apeiranthos**	**1.56**	**238**	*e*Pn	**Pn**	**17 53 46.8**	**-0.8**
LIA	**Limnos Island**	**2.52**	**323**	*e*PN	**Pn**	**17 54 00.9**	**+0.1**
ULDT	**Uludag**	**2.70**	**34**	*i* P	**Pg**	**17 54 08.6**	**-1.9**
ULDT				*i* S	**Sg**	**17 54 44.1**	**-1.4**

DHMR 22 17:58:47.5±1.7, 1167N×4291E, h8km±15km, ML3.6, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.95**	**37**	↑*i*P	Pn	17 59 22.5	+1.6
TRBA				*i* S	Sn	17 59 49.7	+4.2
TRBA				AML	AML	17 59 55.9	
	comp=N,566nm,0.3s						
TRBA	**At Turbah**	**1.95**	**37**	↑*i*P	Pn	17 59 22.5	+1.6
TRBA				*i* S	Sn	17 59 49.7	+4.2
	comp=N,283nm,0.3s						
UDYN	**Al 'Udayn**	**2.50**	**24**	*i* P	Pn	17 59 31.5	+3.0
UDYN				*i* S	Sn	18 00 04.4	+5.1
UDYN				AML	AML	18 00 17.3	
	comp=E,416nm,0.6s						
UDYN	**Al 'Udayn**	**2.50**	**24**	*i* P	Pn	17 59 31.5	+3.0
UDYN				*i* S	Sn	18 00 04.4	+5.1
LBOS		**3.16**	**46**	*i* P	Pn	17 59 40.6	+3.0
LBOS				*i* S	Sn	18 00 21.2	+5.7
DHBB	**Dhamar BB**	**3.22**	**27**	*i* P	Pn	17 59 41.5	+3.1
DHBB				*i* S	Sn	18 00 23.3	+6.3
BDHA	**Al Bayda'**	**3.46**	**48**	*i* P	Pn	17 59 44.7	+3.0
BDHA				*i* S	Sn	18 00 29.8	+6.9
BDHA				AML	AML	18 00 47.6	
	comp=N,237nm,0.5s						
BDHA	**Al Bayda'**	**3.46**	**48**	*i* P	Pn	17 59 44.7	+3.0
BDHA				*i* S	Sn	18 00 29.8	+6.9
HAJJ	**Hajjah**	**4.06**	**9**	*i* P	Pn	17 59 51.7	+1.8
HAJJ				*i* S	Sn	18 00 44.1	+6.5
HAJJ				AML	AML	18 01 04.0	
	comp=N,238nm,0.6s						
HAJJ	**Hajjah**	**4.06**	**9**	*i* P	Pn	17 59 51.7	+1.8
HAJJ				*i* S	Sn	18 00 44.1	+6.5

*CSEM **22** 18:12:31.1±0.3, 4270N×4662E, h10km, mb3.6, Error ellipse: s-maj=9.2km s-min=5.2km az=10.0, After OBN*
*MOS **22** 18:12:31.1±1.1, 4270N×4662E, h10km, mb3.6/1, Error ellipse: s-maj=17.9km s-min=10.1km az=21.3*
*ISCJB **22** 18:12:32.3±0.6, 4268N±005×4650E±004, h6km±7km, Error ellipse: s-maj=9.1km s-min=4.7km az=35.5*

ISC 22 18:12:33.0±0.6, 4268N±005×4655E±005, h12km±6km, n13, σ1§10/23, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.19**	**80**	*e*Pg	**Pg**	**18 12 35.8**	**-1.3**
	72nm,0.2s						
UNCR				*e*Sg	**Sg**	**18 12 39.8**	**-0.1**
UNCR	**Uncukul**	**0.19**	**80**	*e*PG	**Pg**	**18 12 35.8**	**-1.3**
UNCR				*e*S	**Sg**	**18 12 39.8**	**-0.1**
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
DBC	**Dubki**	**0.40**	**32**	*e*Pg	**Pg**	**18 12 39.0**	**-1.8**
DBC				*i* Sg	**Sg**	**18 12 47.5**	**+1.4**
GNBR	**Gunib**	**0.43**	**133**	*e*Pg	**Pg**	**18 12 41.0**	**-0.4**
	comp=Z,34nm,0.3s						
GNBR				*e*Sg	**Sg**	**18 12 49.0**	**+1.9**
GNBR	**Gunib**	**0.43**	**133**	*e*PG	**Pg**	**18 12 41.0**	**-0.4**
GNBR				*e*S	**Sg**	**18 12 49.0**	**+1.9**
GNBR				pmax	pmax		
	comp=Z,34nm,0.3s						
SNJR	**Sundja**	**1.33**	**287**	*e*Pg	**Pg**	**18 12 56.9**	**-1.6**
SNJR				*e*Sg	**Sg**	**18 13 16.4**	**+0.6**
BTKR	**Batakoyurt**	**1.62**	**296**	*e*Pn	**Pn**	**18 13 02.8**	**+1.4**
BTKR				*e*Sg	**Sg**	**18 13 26.7**	**+1.5**
LACR	**Lac**	**1.66**	**276**	*i* Pn	**Pn**	**18 13 00.7**	**-1.2**
KMSR	**Komsomolskaya**	**1.79**	**293**	*i* Pn	**Pn**	**18 13 05.1**	**+1.4**
KMSR				*e*Sg	**Sg**	**18 13 30.4**	**-0.1**
KORR	**Kora**	**1.86**	**283**	*e*Pn	**Pn**	**18 13 04.9**	**+0.2**
ZEI	**Tsey**	**1.95**	**273**	*i* Pn	**Pn**	**18 13 04.9**	**-1.0**
LSNR	**Lesken**	**2.09**	**287**	*e*Pn	**Pn**	**18 13 08.2**	**+0.4**
LSNR				*e*Sb	**Sb**	**18 13 36.1**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.19**	**277**	*e*Pn	**Pn**	**18 13 08.4**	**-0.8**
DIGR				*e*Sn	**Sn**	**18 13 36.4**	**+0.1**

*NEIC **22** 18:15:59.7, 39.12N×2423E, h7km, ML3.2(ATH), After THE.*
*THE **22** 18:15:59.7, 39.12N×2423E, h7km, ML2.5*
*ISCJB **22** 18:16:00.2±0.7, 3913N±004×2421E±004, h17km±8km, Error ellipse: s-maj=6.6km s-min=4.5km az=113.3*
*CSEM **22** 18:16:00.8±0.1, 3913N×2422E, h20km, ML2.5, Error ellipse: s-maj=2.1km s-min=1.8km az=113.0*

*ATH **22** 18:16:00.0, 39.14N×2423E, h29km±3km, MD3.0/7, ML3.2*

ISC 22 18:15:60.0±0.6, 3915N±004×2419E±004, h15km±5km, n22, σ0§85/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**275**	*e*Pg	**Pg**	**18 16 05.2**	**-0.1**
AOS				*e*Sg	**Sg**	**18 16 09.0**	**+0.2**
NEO	**Neokhori**	**0.77**	**282**	*e*PN	**Pn**	**18 16 15.9**	**-0.3**
NEO				*e*SN	**Sn**	**18 16 27.5**	**+0.1**
XOR	**Xorichti**	**0.80**	**286**	*e*Pg	**Pg**	**18 16 16.0**	**+0.4**
	comp=Z,5.0nm,0.2s						
XOR				*e*Sg	**Sg**	**18 16 27.6**	**+1.5**
PAIG	**Paliouri**	**0.87**	**333**	*e*Pg	**Pg**	**18 16 17.0**	**+0.1**
PAIG				*e*Sg	**Sg**	**18 16 29.9**	**+1.7**
LOS	**Limnos**	**1.04**	**41**	*e*Pg	**Pg**	**18 16 19.4**	**-0.7**
LOS				*e*Sg	**Sg**	**18 16 34.0**	**+0.2**
LKR	**Lokris**	**1.05**	**242**	*e*PB	**Pb**	**18 16 19.4**	**-0.5**
MPAR	**Parnis Oros**	**1.06**	**200**	*e*PN	**Pn**	**18 16 20.0**	**-0.2**
LIA	**Limnos Island**	**1.07**	**46**	*e*PN	**Pn**	**18 16 19.7**	**-0.7**
LIA				*e*SN	**Sn**	**18 16 34.8**	**-0.2**
PTL	**Penteli**	**1.13**	**193**	*e*PN	**Pn**	**18 16 21.5**	**+0.3**
OUR	**Ouranopolis**	**1.19**	**352**	*e*Pg	**Pg**	**18 16 22.2**	**-0.8**
	comp=Z,2.5nm,0.3s						
ATH	**Athens Observa**	**1.23**	**198**	*e*PN	**Pn**	**18 16 22.5**	**-0.1**
PLG	**Polygyros**	**1.35**	**335**	*e*PN	**Pn**	**18 16 25.0**	**+0.8**
KVR	**Kavouri**	**1.36**	**194**	*e*PN	**Pn**	**18 16 25.0**	**+0.6**
AGG	**Agios Georgios**	**1.45**	**266**	*e*Pg	**Pg**	**18 16 25.6**	**-2.3**
AGG				*e*Sg	**Sg**	**18 16 46.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.49**	**202**	*e*PN	**Pn**	**18 16 27.0**	**+0.8**
LIT	**Litokhoron**	**1.62**	**306**	*e*Pb	**Pb**	**18 16 27.9**	**-1.6**
PRK	**Paraskevi**	**1.62**	**86**	*e*PN	**Pn**	**18 16 29.2**	**+1.2**
PRK				*e*SN	**Sn**	**18 16 48.8**	**+0.2**
SOH	**Sokhos**	**1.79**	**339**	*e*Pb	**Pb**	**18 16 30.5**	**-1.9**
KNT	**Kendrikon**	**2.24**	**334**	*e*Pn	**Pn**	**18 16 37.1**	**+0.6**
ALN	**Alexandroupoli**	**2.25**	**39**	*e*Pn	**Pn**	**18 16 36.9**	**+0.2**
APE	**Apeiranthos**	**2.33**	**153**	*e*PN	**Pn**	**18 16 38.3**	**+0.6**
APE	**Apeiranthos**	**2.33**	**153**	*e*Pn	**Pn**	**18 16 37.0**	**-0.7**

*IDC **22** 18:32:13.2±0.7, 4996N×2901W, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/25, mbtmp3.9/17, ML3.6/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/31, Error ellipse: s-maj=22.7km s-min=13.9km az=14.0*
*ISCJB **22** 18:32:13.0±0.6, 4996N±010×2895W±009, h10km, mb4.1/37, MS3.4/10, Error ellipse: s-maj=14.7km s-min=7.4km az=33.9*
*MOS **22** 18:32:13.9±0.9, 5000N×2889W, h10km, mb4.5/5, Error ellipse: s-maj=25.0km s-min=12.2km az=47.8*
*NEIC **22** 18:32:14.8±0.5, 5000N×2898W, h10km, mb4.3/4, Error ellipse: s-maj=15.3km s-min=8.2km az=47.8*
*CSEM **22** 18:32:16.9±0.1, 5007N×2877W, h33km, mb4.3/12, Ms3.3, Error ellipse: s-maj=5.3km s-min=2.9km az=26.0*
*SZGRF **22** 18:32:40.8, 4980N×2509W, h33km, mb4.3, Northern Mid-Atlantic Ridge*

ISC 22 18:32:14.8±0.6, 5002N±010×2893W±009, h10km, n87, σ0§71/79, mb4.1/37, MS3.4/10, 2C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.45**	**61**	Pn	**Pn**	**18 36 06.0**	**+0.3**
	0.1nm,0.3s,baz=258,slow=14,SNR=6.6						
ROSF	**Rostrenen**	**16.84**	**86**	*e*P	**Pn**	**18 36 09.6**	**-1.0**
	72nm,1.3s						
ROSF	**Rostrenen**	**16.84**	**86**	*e*P	**Pn**	**18 36 09.6**	**-1.0**
	36nm,1.3s						
QUIF	**Quistinic**	**17.02**	**87**	*e*P	**Pn**	**18 36 12.5**	**-0.4**
SGMF	**Saint Gilles**	**17.32**	**86**	*e*P	**Pn**	**18 36 16.3**	**-0.3**
	126nm,1.8s						
SGMF	**Saint Gilles**	**17.32**	**86**	*e*P	**Pn**	**18 36 16.3**	**-0.3**
	63nm,1.8s						
GRR	**Gorron**	**18.37**	**84**	*e*P	**Pn**	**18 36 29.3**	**-0.3**
FLN	**La Foliniere**	**18.52**	**83**	*e*P	**Pn**	**18 36 30.8**	**-0.6**
	118nm,1.6s						
FLN				*e*R			
	233nm,17.5s						
FLN	**La Foliniere**	**18.52**	**83**	*e*P	**Pn**	**18 36 30.8**	**-0.6**
	59nm,1.6s						
MFF	**Saint Martin d**	**19.39**	**89**	*e*P	**Pn**	**18 36 42.1**	**+0.1**
	33nm,1.2s						
MFF	**Saint Martin d**	**19.39**	**89**	*e*P	**Pn**	**18 36 42.1**	**+0.1**
	16nm,1.2s						
SJPF	**Ste Jean**	**20.18**	**99**	*e*P	**P**	**18 36 50.7**	**+1.2**
SFJD	**Kangerlussuaq**	**20.25**	**335**	LR	LR	18 42 37.2	
	comp=Z,50nm,18.9s,MS2.9,baz=157,slow=31						
ESDC	**Sonseca Array**	**20.41**	**111**	P	**P**	**18 36 51.9**	**-0.1**
	1.5nm,0.7s,baz=304,slow=9.8,SNR=7.7						
ETSF	**Etsaut**	**20.71**	**99**	*e*P	**P**	**18 36 56.3**	**+1.1**
	20nm,1.3s						
ETSF	**Etsaut**	**20.71**	**99**	*e*P	**P**	**18 36 56.3**	**+1.1**
	9.9nm,1.3s						
RJF	**Les Rejaudoux**	**20.96**	**91**	*e*P	**P**	**18 36 58.6**	**+0.7**
RJF				*e*R			
	147nm,17.8s						
TCF	**Toulx Ste Croi**	**21.02**	**88**	*e*P	**P**	**18 36 58.9**	**+0.3**
	25nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**21.02**	**88**	*e*P	**P**	**18 36 58.9**	**+0.3**
	12nm,1.0s,mb4.2						
BAIF	**Baives**	**21.19**	**77**	*e*P	**P**	**18 37 00.8**	**+0.4**
	13nm,0.9s,mb4.0						
BAIF	**Baives**	**21.19**	**77**	*e*P	**P**	**18 37 00.8**	**+0.4**
	6.6nm,0.9s,mb4.0						
BGF	**Bois d'Agland**	**21.34**	**87**	*e*P	**P**	**18 37 02.3**	**+0.3**
	58nm,1.4s,mb4.4						
BGF	**Bois d'Agland**	**21.34**	**87**	*e*P	**P**	**18 37 02.3**	**+0.3**
	29nm,1.4s,mb4.4						
CAF	**Calviac**	**21.47**	**92**	*e*P	**P**	**18 37 03.9**	**+0.5**
	34nm,1.3s,mb4.2						
CAF	**Calviac**	**21.47**	**92**	*e*P	**P**	**18 37 03.9**	**+0.5**
	17nm,1.3s,mb4.2						
GIVF	**Givet**	**21.57**	**77**	*e*P	**P**	**18 37 04.4**	**0.0**
	37nm,0.9s,mb4.5						
GIVF	**Givet**	**21.57**	**77**	*e*P	**P**	**18 37 04.4**	**0.0**
	19nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**21.58**	**86**	*e*P	**P**	**18 37 04.8**	**+0.2**
	36nm,1.2s,mb4.4						
AVF	**Avril sur Loir**	**21.58**	**86**	*e*P	**P**	**18 37 04.8**	**+0.2**
	18nm,1.2s,mb4.4						
SSF	**Saint Saulge**	**21.58**	**85**	*e*P	**P**	**18 37 04.7**	**+0.1**
	37nm,1.4s,mb4.3						
SSF	**Saint Saulge**	**21.58**	**85**	*e*P	**P**	**18 37 04.7**	**+0.1**
	18nm,1.4s,mb4.3						
LOR	**Lormes**	**21.74**	**85**	*e*P	**P**	**18 37 06.2**	**-0.1**
	19nm,1.1s,mb4.1						
LOR				*e*R			
	346nm,19.5s						
LOR	**Lormes**	**21.74**	**85**	*e*P	**P**	**18 37 06.2**	**-0.1**
	9.4nm,1.1s,mb4.1						
SMF	**Signal de Mont**	**21.94**	**86**	*e*P	**P**	**18 37 08.9**	**+0.4**
	21nm,1.0s,mb4.2						
MEZF	**Maizieres J'vi**	**22.12**	**81**	*e*P	**P**	**18 37 10.2**	**-0.2**
MTLF	**Montolieu**	**22.27**	**95**	*e*P	**P**	**18 37 11.9**	**-0.1**
	30nm,1.4s,mb4.2						
JMIC	**an Mayen**	**23.06**	**17**	LR	LR	18 44 14.7	
	comp=Z,108nm,20.1s,MS3.3,baz=262,slow=31						
HAU	**Haudompre**	**23.10**	**81**	*e*P	**P**	**18 37 20.0**	**-0.7**
	29nm,1.0s,mb4.4						
HAU				*e*R			
	168nm,20.8s						
CABF	**La Chapelle**	**23.40**	**85**	*e*P	**P**	**18 37 23.3**	**-0.7**
	33nm,1.3s,mb4.3						
HINF	**Hinteralfeld**	**23.48**	**82**	*e*P	**P**	**18 37 23.7**	**-1.1**
	10nm,0.8s,mb4.0						
CDF	**Champ du Feu**	**23.56**	**80**	*e*P	**P**	**18 37 24.6**	**-1.0**
ORIF	**Oris-en-Rattie**	**23.93**	**89**	*e*P	**P**	**18 37 27.8**	**-1.2**
	27nm,1.4s,mb4.2						
ORIF				*e*R			
	145nm,22.2s						
SMRF	**Simiane la Rot**	**24.14**	**91**	*e*P	**P**	**18 37 29.9**	**-1.0**
NOA	**NORSAR Array B**	**24.83**	**48**	P	**P**	**18 37 37.5**	**+0.3**
	4.4nm,1.0s,mb3.9,baz=262,slow=9.5,SNR=3.9						
NOA				LR	LR	18 46 32.8	
	comp=Z,84nm,18.5s,MS3.3,baz=285,slow=34						
MDT	**Midelt**	**24.88**	**125**	LR	LR	18 46 16.4	
	comp=Z,54nm,19.4s,MS3.1,baz=162,slow=34						
FRF	**La Foret Royal**	**25.02**	**91**	*e*P	**P**	**18 37 38.1**	**-0.8**
LMR	**La Mourre**	**25.04**	**92**	*e*P	**P**	**18 37 38.5**	**-0.6**
	51nm,1.4s,mb4.5						
GRA1	**Grafenberg Arr**	**25.67**	**75**	*e*P	**P**	**18 37 45.6**	**+0.8**
	13nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**25.67**	**75**	*e*P	**P**	**18 37 45.6**	**+0.8**
	comp=Z,13nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**25.67**	**75**	*e*P	**P**	**18 37 45.6**	**+0.8**
GRF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
DAVOX	**Davos**	**25.77**	**82**	LR	LR	18 47 31.3	
	comp=Z,166nm,18.9s,MS3.6,baz=288,slow=36						
HFS	**Hagfors**	**25.96**	**51**	P	**P**	**18 37 47.2**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.7,baz=258,slow=7.4,SNR=6.0						
HFS				LR	LR	18 47 17.6	
	comp=Z,157nm,18.3s,MS3.6,baz=245,slow=35						
CLL	**Collm**	**26.35**	**71**	↑↑*i*P	**P**	**18 37 51.5**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.1						
CLL	**Collm**	**26.35**	**71**	↑↑*i*P	**P**	**18 37 51.5**	**+0.5**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
PGF	**Pioggiola**	**27.02**	**91**	*e*P	**P**	**18 37 57.4**	**+0.4**
	comp=Z,40nm,1.3s,mb4.5						
PGF	**Pioggiola**	**27.02**	**91**	*e*P	**P**	**18 37 57.4**	**+0.4**
	comp=Z,20nm,1.3s,mb4.5						
BRG	**Berggiesshubel**	**27.04**	**72**	*e*(P)	**P**	**18 37 57.8**	**+0.6**
	comp=Z,5.8nm,1.5s,mb3.9						
BRG	**Berggiesshubel**	**27.04**	**72**	P	**P**	**18 37 57.8**	**+0.7**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.9						
GERES	**GERESS Array B**	**27.48**	**76**	P	**P**	**18 38 00.8**	**-0.3**
	comp=Z,3.0nm,1.1s,mb3.7,baz=306,slow=9.4,SNR=6.4						
GERES				LR	LR	18 48 25.6	
	comp=Z,118nm,18.9s,MS3.5,baz=272,slow=35						
FINES	**FINESS Array B**	**32.02**	**48**	P	**P**	**18 38 41.3**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3,baz=269,slow=8.4,SNR=14						
FINES				LR	LR	18 50 57.3	
	comp=Z,103nm,19.5s,MS3.5,baz=344,slow=35						
JOF	**Joensuu**	**34.31**	**45**	*e*p	**P**	**18 38 59.0**	**-2.4**
	comp=Z,6.6nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**36.27**	**66**	P	**P**	**18 39 18.1**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.2,baz=286,slow=8.8,SNR=8.4						
OBN	**Obninsk**	**38.82**	**57**	P	**P**	**18 39 40.0**	**+0.2**
	comp=Z,13nm,1.3s,mb4.5						
OBN	**Obninsk**	**38.82**	**57**	P	**P**	**18 39 40.0**	**+0.2**
OBN				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
ULM	**Lac du Bonnet**	**41.58**	**297**	P	**P**	**18 40 01.6**	**-1.2**
	comp=Z,2.5nm,0.8s,mb3.9,baz=54,slow=7.9,SNR=4.4						
BRTR	**Keskin Array B**	**44.30**	**79**	P	**P**	**18 40 26.4**	**+1.5**
	comp=Z,1.0nm,0.7s,mb3.6,baz=298,slow=5.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**44.48**	**135**	P	**P**	**18 40 26.0**	**-0.2**
	comp=Z,7.1nm,1.1s,mb4.3,baz=335,slow=7.5,SNR=19						
YKA	**Yellowknife Ar**	**45.63**	**320**	P	**P**	**18 40 35.9**	**+0.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=63,slow=8.0,SNR=7.7						
YKA				PcP	PcP	18 42 11.7	-1.8
	comp=Z,0.4nm,0.7s,baz=61,slow=4.0,SNR=9.0						
YKA	**Yellowknife Ar**	**45.63**	**320**	PcP	PcP	18 42 11.7	-1.8
YKA	**Yellowknife Ar**	**45.63**	**320**	P	**P**	**18 40 35.9**	**+0.6**
YKA				PcP	PcP	18 42 11.7	-1.8
DBIC	**Dimbokro**	**47.69**	**147**	P	**P**	**18 40 51.7**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.4,baz=320,slow=6.8,SNR=4.8						
DBIC				LR	LR	18 58 21.2	
	comp=Z,63nm,18.4s,MS3.6,baz=299,slow=33						
ARU	**Arti**	**49.38**	**47**	*i* P	**P**	**18 41 04.6**	**+0.1**
GNI	**Garni**	**50.97**	**71**	*i* P	**P**	**18 41 18.3**	**+1.8**
PDAR	**Pinedale Array**	**53.54**	**295**	P	**P**	**18 41 34.8**	**-0.9**
	comp=Z,1.9nm,1.0s,mb4.0,baz=60,slow=8.8,SNR=12						
PDAR				LR	LR	19 01 60.0	
	comp=Z,84nm,19.7s,MS3.8,baz=355,slow=33						
ILAR	**Eielson Array**	**55.89**	**333**	P	**P**	**18 41 52.6**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.2,baz=38,slow=6.3,SNR=4.6						
ILAR				PcP	PcP	18 42 50.4	-1.0
	comp=Z,0.8nm,0.9s,baz=5.7,slow=3.5,SNR=4.9						
ILAR	**Eielson Array**	**55.89**	**333**	PcP	PcP	18 42 50.4	-1.0
BRVK	**Borovoye**	**56.84**	**45**	*e*P	**P**	**18 41 59.8**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**56.84**	**45**	*e*P	**P**	**18 41 59.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**56.84**	**45**	*e*P	**P**	**18 41 59.8**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3						
TIXI	**Tiksi**	**57.61**	**8**	*i* P	**P**	**18 42 14.1**	**+9.1**
NVAR	**Mina Array Bea**	**61.41**	**297**	P	**P**	**18 42 31.8**	**+0.6**
	comp=Z,0.2nm,0.6s,mb3.5,baz=28,slow=4.1,SNR=3.5						
NVAR	**Mina Array Bea**	**61.41**	**297**	P	**P**	**18 42 31.8**	**+0.6**
AAK	**Ala-Archa**	**66.10**	**52**	*i* P	**P**	**18 43 02.6**	**+0.5**
MKAR	**

AKH				S	Sg	19 02 15.1	+0.7
SNJR	Sundja	1.19	66	ePg	Pg	19 01 57.8	-1.1
SNJR				eSg	Sg	19 02 14.0	-0.3
PRTR	Priterechnaya	1.35	31	ePg	Pg	19 02 01.1	-0.9
PRTR				eSg	Sg	19 02 19.6	+0.1
TBLG	Delisi	1.36	129	P	Pn	19 02 01.2	-0.1
TBLG				S	Sb	19 02 19.3	+0.1
TBLG	Delisi	1.36	129	ePg	Pg	19 02 01.2	-0.9
TBLG				Sg	Sg	19 02 19.3	-0.4
MTA	Mtatsminda	1.41	129	P	Pn	19 02 01.5	-0.6
MTA				S	Sb	19 02 20.7	0.0
DGRG	David-gareji	1.90	126	P	Pn	19 02 11.2	+2.4
DGRG				S	Sn	19 02 36.7	+3.8
DGRG	David-gareji	1.90	126	P	Pn	19 02 11.4	+2.6
DGRG				S	Sn	19 02 39.6	+6.7

*ISCJB **22** 19:09:30.5±0.8, 3024N±004×13187E±005, h37km±7km, mb3.5/10, MS3.2/2, Error ellipse: s-maj=7.3km s-min=6.2km az=62.2*
*JMA **22** 19:09:30.0±0.1, 3022N×13188E, h48km±3km, M3.9*
*IDC **22** 19:09:32.4±2.9, 3028N×13176E, h36km±24km, mb3.4/11, mb1 3.7/15, mb1mx3.6/23, mbtmp3.7/15, ML3.5/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/24, Error ellipse: s-maj=21.0km s-min=14.9km az=78.0*
*NEIC **22** 19:09:32.6±0.8, 3026N×13177E, h39km±7km, mb3.6/1, Error ellipse: s-maj=9.1km s-min=7.0km az=118.0*

ISC 22 19:09:32.0±1.2, 3025N±003×13181E±004, h34km±9km, n31, σ0°63/43, mb3.5/10, MS3.2/2, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.82	299	⇑P	Pn	19 09 46.3	-0.8
JTN				S	Sb	19 09 59.3	+0.7
JTSR	Tashiro 2	1.19	320	⇑P	Pn	19 09 51.5	-0.7
JTSR				S	Sn	19 10 08.0	+0.9
JNAR	Kushima--Naru	1.35	340	⇑P	Pn	19 09 54.0	-0.4
JNAR				S	Sn	19 10 11.1	0.0
JKC	Kuchinoerabu	1.41	279	P	Pn	19 09 55.1	-0.1
JKC				S	Sn	19 10 13.3	+0.7
JSU	Suzuyama	1.71	317	⇓P	Pn	19 09 58.9	-0.4
JSU				S	Sn	19 10 20.4	+0.5
JNN	Nakanoshima	1.72	257	P	Pn	19 09 59.5	-0.1
JNN				S	Sn	19 10 20.9	+0.5
JTZ	Takazaki	1.75	340	P	Pn	19 09 59.6	-0.4
JTZ				S	Sn	19 10 21.4	+0.3
JTSN	Tsuno	2.00	353	P	Pn	19 10 02.9	-0.5
JTSN				S	Sn	19 10 26.9	-0.4
JSJ	Shimokoshiki	2.29	309	P	Pn	19 10 06.6	-0.8
JSJ				S	Sn	19 10 34.1	-0.2
JIU2	Izumi 2	2.44	340	P	Pn	19 10 09.3	-0.1
JIU2				S	Sn	19 10 37.5	-0.5
JNU	Nakatsue	2.97	345	Pn	Pn	19 10 17.4	+0.7
JNU	9.9nm,0.3s,baz=207,slow=7.8,SNR=25			Sn	Sn	19 10 52.0	+0.9
JOW	6.8nm,0.3s,baz=100,slow=9.0,SNR=6.0 Kunigami	4.61	223	Pn	Pn	19 10 39.4	+0.1
JOW	2.6nm,0.3s,baz=215,slow=14,SNR=8.1			Sn	Sn	19 11 27.9	-3.8
JHJ	13nm,0.3s,baz=210,slow=20,SNR=10.0 Hachijo jima 2	7.37	65	Pn	Pn	19 11 17.2	0.0
JHJ	8.0nm,0.3s,baz=79,slow=19,SNR=4.5			LR	LR	19 14 01.6	
MAJO	comp=Z,48nm,18.9s,baz=93,slow=36 Matsushiro	8.24	39	eP	Pn	19 11 29.4	+0.3
MJAR	Matsushiro Arr	8.24	39	Pn	Pn	19 11 30.2	+1.0
MJAR	1.4nm,0.3s,baz=245,slow=14,SNR=16 Matsushiro Arr	8.24	39	Pn	Pn	19 11 30.2	+1.0
ENH	3.7nm,0.9s Enshi	19.28	276	P	Pn	19 13 54.5	-0.4
SONM	Songino Array	26.23	319	P	P	19 15 02.7	-1.1
SONM	0.3nm,0.6s,mb3.0,baz=149,slow=10,SNR=5.7			LR	LR	19 25 11.7	
MKAR	comp=Z,32nm,20.6s,MS2.8,baz=343,slow=36 Makanchi Array	41.39	308	P	P	19 17 14.3	-0.6
MKAR	0.3nm,0.6s,mb3.1,baz=99,slow=8.9,SNR=5.0			PcP	PcP	19 19 12.3	-0.3
HNR	0.3nm,0.7s,baz=101,slow=3.8,SNR=4.0 Honiara	47.84	141	P	P	19 18 07.0	+0.6
HNR	45nm,0.5s,baz=246,slow=4.7,SNR=4.5			LR	LR	19 36 37.4	
WRA	comp=Z,60nm,18.3s,MS3.6,baz=178,slow=34 Warramunga Arr	49.97	177	P	P	19 18 22.1	-0.6
ASAR	0.3nm,0.4s,mb3.7,baz=354,slow=8.3,SNR=5.9 Alice Springs	53.65	178	P	P	19 18 51.2	+1.1
ILAR	0.3nm,0.5s,mb3.5,baz=12,slow=12,SNR=12 Eielson Array	59.41	29	P	P	19 19 30.6	-0.5
FINES	0.2nm,0.7s,mb3.3,baz=306,slow=8.2,SNR=4.6 FINESS Array B	70.92	331	P	P	19 20 45.0	-0.7
YKA	26nm,1.5s,baz=51,slow=5.9,SNR=6.0 Yellowknife Ar	73.55	26	P	P	19 21 01.2	-0.3
BRTR	0.2nm,0.5s,mb3.3,baz=298,slow=5.4,SNR=6.9 Keskin Array B	77.04	308	P	P	19 21 22.3	+0.8
NOA	0.9nm,0.8s,mb3.8,baz=99,slow=5.6,SNR=7.4 NORSAR Array B	77.08	335	P	P	19 21 21.2	-0.6
CLL	0.5nm,0.5s,mb3.7,baz=51,slow=5.7,SNR=2.8 Collm	82.61	326	eP	P	19 21 52.0	+0.3
GERES	GERESS Array B	83.85	324	P	P	19 21 58.3	+0.2
NVAR	0.2nm,0.4s,mb3.6,baz=332,slow=4.5,SNR=3.7 Mina Array Bea	85.46	48	P	P	19 22 07.3	+1.1
NVAR	0.4nm,0.6s,mb3.8,baz=302,slow=5.1,SNR=5.1 Mina Array Bea	85.46	48	P	P	19 22 07.3	+1.1

*NEIC **22** 19:13:12.8, 3747S×17650E, h234km, MG3.8(WEL), After WEL.*

WEL 22 19:13:13.2±0.2, 3741S×17648E, h224km±2km, ML3.8/15, Error ellipse: s-maj=2.9km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.99	150	PN	Pn	19 13 45.4	0.0
URZ				SN	S	19 14 10.5	0.0
URZ	Urewera	0.99	150	P	Pn	19 13 45.5	+0.1
MWZ	Matawai	1.24	138	PN	Pn	19 13 47.2	+0.2
MWZ				SN	S	19 14 13.5	0.0
MWZ	Matawai	1.24	138	eP	Pn	19 13 47.4	+0.3
MXZ	Matakaoa Point	1.46	97	PN	Pn	19 13 48.9	+0.1
MXZ	Matakaoa Point	1.46	97	eP	Pn	19 13 48.9	+0.1
PUZ	Puketiti	1.56	116	PN	Pn	19 13 49.9	+0.3
PUZ				SN	S	19 14 17.4	-0.6
PUZ	Puketiti	1.56	116	eP	Pn	19 13 49.9	+0.3
BKZ	Black Stump Fm	1.75	180	PN	Pn	19 13 51.3	+0.1
BKZ				SN	S	19 14 20.8	-0.3
BKZ	Black Stump Fm	1.75	180	P	Pn	19 13 51.4	+0.1
KNZ	Kokohu	1.86	150	PN	Pn	19 13 52.3	+0.1
KNZ				SN	S	19 14 21.6	-1.3
KNZ	Kokohu	1.86	150	P	Pn	19 13 52.3	0.0
TUVZ	Tukino	1.96	199	PN	Pn	19 13 53.9	+0.7
TUVZ	Tukino	1.96	199	P	Pn	19 13 54.1	+0.9
MOVZ	Moawhango	2.07	196	PN	Pn	19 13 54.2	-0.1
MOVZ	Moawhango	2.07	196	P	Pn	19 13 54.2	-0.1
PKVZ	Pokaka	2.08	205	PN	Pn	19 13 54.7	+0.4
WAZ	Wanganui	2.62	206	PN	Pn	19 13 59.9	0.0
WAZ	Wanganui	2.62	206	eP	Pn	19 14 00.0	+0.1
TSZ	Takapari Road	2.68	188	PN	Pn	19 13 59.7	-0.8
BFZ	Birch Farm	3.27	183	PN	Pn	19 14 05.7	-1.5
BFZ	Birch Farm	3.27	183	P	Pn	19 14 05.7	-1.5
MRZ	Mangatainoka R	3.32	192	PN	Pn	19 14 05.9	-2.0
MRZ	Mangatainoka R	3.32	192	P	Pn	19 14 05.9	-1.9
KIW	Kapiti Island	3.66	199	PN	Pn	19 14 09.6	-2.2
KIW	Kapiti Island	3.66	199	P	Pn	19 14 09.6	-2.1
MTW	Mount Morrison	3.82	191	PN	Pn	19 14 11.1	-2.6
MTW	Mount Morrison	3.82	191	P	Pn	19 14 11.2	-2.5
CAW	Cannon Point	3.85	196	PN	Pn	19 14 11.8	-2.2
CAW	Cannon Point	3.85	196	P	Pn	19 14 11.9	-2.2
DUWZ	D'Urville Isla	3.93	210	PN	Pn	19 14 12.7	-2.3
MRW	Makara Radio	4.05	199	PN	Pn	19 14 14.0	-2.5
MSWZ	Moikau Station	4.11	193	PN	Pn	19 14 14.2	-3.0
MSWZ	Moikau Station	4.11	193	P	Pn	19 14 14.2	-3.0
TCW	Tory Channel	4.16	204	PN	Pn	19 14 15.4	-2.5
TCW	Tory Channel	4.16	204	P	Pn	19 14 15.4	-2.5
TUWZ	Tuamarina	4.47	205	PN	Pn	19 14 18.9	-2.7
NNZ	Nelson	4.50	211	ePN	Pn	19 14 19.2	-2.7
QRZ	Quartz Range	4.59	221	PN	Pn	19 14 19.9	-3.2
QRZ	Quartz Range	4.59	221	eP	Pn	19 14 19.9	-3.2
BSWZ	Blackbirch Sta	4.75	204	PN	Pn	19 14 22.6	-2.5
BSWZ	Blackbirch Sta	4.75	204	P	Pn	19 14 21.6	-3.4
THZ	Tophouse	5.15	211	PN	Pn	19 14 27.2	-2.9
THZ	Tophouse	5.15	211	eP	Pn	19 14 27.2	-2.9

KHZ	Kahutara	5.49	203	PN	Pn	19 14 31.4	-2.9
KHZ	Kahutara	5.49	203	eP	Pn	19 14 31.4	-2.9
LTZ	Lake Taylor	6.26	210	PN	Pn	19 14 40.4	-3.7
LTZ	Lake Taylor	6.26	210	eP	Pn	19 14 40.4	-3.7

*IDC **22** 19:17:04.6±2.5, 1698S×16713E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=58.7km s-min=24.1km az=100.0*
*ISCJB **22** 19:17:07.0±0.8, 1698S±008×16721E±008, h33km, mb3.9/5, Error ellipse: s-maj=12.7km s-min=8.9km az=85.1*

ISC 22 19:17:08.9±0.8, 1695S±008×16732E±008, h35km, n9, σ0°70/11, mb3.9/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	1.14	129	⇑iP	Pn	19 17 27.4	-0.8
BKM				S	Sn	19 17 43.0	+0.3
DZM	Mont Dzumac	5.16	189	Pn	Pn	19 18 22.7	-0.8
DZM	1.5nm,0.3s,baz=59,slow=18,SNR=18			Sn	Sn	19 19 22.9	+1.1
STKA	2.2nm,0.3s,baz=311,slow=19,SNR=3.4 Stephens Creek	27.64	233	eP	P	19 22 52.5	-0.6
STKA	2.4nm,0.8s,mb3.9 Stephens Creek	27.64	233	P	P	19 22 52.1	-1.1
WRA	2.3nm,0.8s,mb3.9,baz=52,slow=8.5,SNR=6.0 Warramunga Arr	31.39	259	P	P	19 23 26.1	-0.4
ASAR	0.8nm,0.7s,mb3.6,baz=88,slow=8.8,SNR=14 Alice Springs	31.98	252	P	P	19 23 31.6	0.0
ASPA	6.1nm,0.8s,mb4.5,baz=81,slow=8.3,SNR=114 Alice Springs	31.99	252	eP	P	19 23 31.6	0.0
MJAR	Matsushiro Arr	59.89	333	P	P	19 27 12.2	+1.0
SONM	1.2nm,0.8s,mb4.0,baz=186,slow=13,SNR=3.3 Songino Array	84.30	324	P	P	19 29 37.6	+0.5
	0.5nm,0.8s,mb3.7,baz=134,slow=4.2,SNR=4.9						

*ISCJB **22** 19:35:01.3±0.8, 2796S±006×664W±0.1, h169km±11km, mb3.6/6, Error ellipse: s-maj=16.9km s-min=9.1km az=21.1*
*IDC **22** 19:35:01.9±1.6, 2799S×66.38W, h158km±15km, mb3.5/6, mb1 3.8/9, mb1mx3.7/17, mbtmp4.1/9, Error ellipse: s-maj=23.6km s-min=13.7km az=103.0*
*NEIC **22** 19:35:02.7±0.7, 2795S×664.0W, h168km±7km, mb4.6/2, Error ellipse: s-maj=12.0km s-min=7.7km az=108.0*

ISC 22 19:35:02.5±0.8, 2800S±008×664W±01, h167km±11km, n16, σ0°60/15, mb3.6/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.93	203	P	Pn	19 36 02.9	+0.6
CFAA	14nm,0.3s,baz=21,slow=13,SNR=441			S	Sn	19 36 48.2	-0.7
CFAA	17nm,0.3s,baz=166,slow=17,SNR=25 Coronel Fontan	3.93	203	P	Pn	19 36 02.9	+0.6
CFAA				S	Sn	19 36 48.2	-0.7
CPUP	Villa Florida	8.26	80	eP	Pn	19 36 59.5	+0.3
LPAZ	15nm,0.4s La Paz	11.76	352	P	Pn	19 37 45.8	+0.6
LPAZ	1.3nm,0.3s,baz=166,slow=9.5,SNR=14			S	Sn	19 39 50.5	-4.9
SIV	baz=90,slow=20,SNR=2.2 San Ignacio	12.93	24	P	Pn	19 38 00.1	0.0
SAML	1.1nm,0.3s,baz=208,slow=14,SNR=18 Samuel	19.19	10	eP	P	19 39 12.6	-0.8
BDFB	10nm,0.6s Brasília	21.01	58	P	P	19 39 32.6	-0.3
SNAA	2.0nm,0.5s,mb3.7,baz=194,slow=9.5,SNR=3.7 Sanae	55.42	160	P	P	19 44 20.0	+0.5
TORD	1.0nm,0.5s,mb3.8,baz=291,slow=10.0,SNR=11 Torodi Ar. Bea	77.54	68	P	P	19 46 39.4	-0.4
PDAR	0.9nm,0.6s,mb3.5,baz=267,slow=6.3,SNR=9.8 Pinedale Array	80.84	329	P	P	19 46 58.0	+0.3
NVAR	1.2nm,0.6s,mb3.7,baz=127,slow=8.0,SNR=15 Mina Array Bea	81.98	321	P	P	19 47 04.3	+0.7
YKA	0.3nm,0.6s,mb3.1,baz=167,slow=4.4,SNR=3.8 Yellowknife Ar	98.04	340	P	P	19 48 19.0	-0.7
ASAR	0.2nm,0.7s,mb3.7,baz=135,slow=4.8,SNR=7.1 Alice Springs	125.03	203	PKP	PKPdf	19 53 43.1	+0.3
ASAR	0.2nm,0.6s,baz=142,slow=1.7,SNR=5.0			pPKP	pPKPdf	19 54 29.9	+3.2
WRA	0.5nm,0.8s,baz=146,slow=1.6,SNR=4.5 Warramunga Arr	128.29	205	PKP	PKPdf	19 53 49.8	+0.8
WRA	0.2nm,0.3s,baz=154,slow=2.0,SNR=16			pPKP	pPKPdf	19 54 36.3	+3.4
MKAR	0.8nm,0.6s,baz=163,slow=1.6,SNR=6.9 Makanchi Array	149.14	44	PKPbc	PKPbc	19 54 31.4	+0.5
MKAR	1.0nm,0.6s,baz=307,slow=2.8,SNR=10			PKPab	PKPab	19 54 36.5	+0.7
SONM	0.8nm,0.5s,baz=315,slow=2.8,SNR=9.3 Songino Array	159.42	14	PKPab	PKPab	19 55 20.0	+0.5
	0.6nm,0.8s,baz=283,slow=2.8,SNR=5.9						

*NIED **22** 19:39:00, 4500N×15090E, h71km, Mw3.8 Best double couple: M0=4.93000×10^14 NP1:φ0=154.00000°, δ61.00000°, λ-141.00000°. NP2:φ0=42.00000°, δ56.00000°, λ-35.00000°.*
*MOS **22** 19:39:05.9±1.9, 4584N×15104E, h107km, mb4.4/3, Error ellipse: s-maj=22.6km s-min=15.4km az=158.2*
*SKHL **22** 19:39:06.6±2.0, 4588N×15106E, h80km±39km, mb4.8/6*
*IDC **22** 19:39:08.6±3.9, 4599N×15086E, h113km±37km, mb3.2/8, mb1 3.4/9, mb1mx3.3/19, mbtmp3.6/9, Error ellipse: s-maj=28.9km s-min=18.6km az=156.0*
*ISCJB **22** 19:39:09.1±0.9, 4520N±007×15086E±009, h152km±8km, mb3.9/15, Error ellipse: s-maj=13.3km s-min=7.8km az=90.3*
*NEIC **22** 19:39:11.0±2.1, 4603N×15092E, h132km±17km, mb4.5/7, Error ellipse: s-maj=24.6km s-min=10.3km az=158.0*
*JMA **22** 19:39:10.5±0.7, 4503N×15088E, h86km, M4.4*

ISC 22 19:39:07.9±0.9, 4539N±007×15101E±010, h119km±8km, n62, σ1°39/78, mb4.0/15, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.22	267	⇓iP	Pn	19 39 41.6	-2.5
KUR				AMB	AMB	19 39 48.8	
KUR	150nm,0.4s			AMB	AMB	19 39 48.8	
KUR	80nm,0.4s			AMB	AMB	19 39 48.8	
KUR	360nm,0.4s			eS	Sn	19 40 09.6	-2.2
KUR				A		19 40 10.2	
KUR	4μm,1.0s			A		19 40 10.5	
KUR	1μm,0.5s			A		19 40 10.5	
KUR	2μm,0.5s						
KUR	Kuril'sk	2.22	267	⇓iPN	Pn	19 39 41.6	-2.5
KUR				eS	Sn	19 40 09.6	-2.2
KUR				pmax	pmax		
KUR	comp=N,150nm,0.4s			pmax	pmax		
KUR	comp=E,80nm,0.4s			pmax	pmax		
KUR	comp=Z,360nm,0.4s			smax			
KUR	comp=N,1μm,0.5s			smax			
KUR	comp=E,2μm,0.5s						
YUK	Yuzh-Kuril'sk	3.91	252	eP	Pn	19 40 07.3	+1.1
YUK				AMB	AMB	19 40 07.5	
YUK	comp=E,210nm,0.3s			eS	Sn	19 40 52.0	+0.7
YUK				A		19 40 53.8	
YUK	comp=E,2μm,0.9s			A		19 40 54.8	
YUK	comp=E,850nm,0.4s			A		19 40 54.8	
YUK	comp=E,540nm,0.4s						
YUK	Yuzh-Kuril'sk	3.91	252	ePN	Pn	19 40 07.3	+1.1
YUK				eS	Sn	19 40 52.0	+0.7
YUK				pmax	pmax		
YUK	comp=Z,210nm,0.4s			smax			
YUK	comp=N,2μm,0.9s			smax			
YUK	comp=E,2μm,0.9s			smax			
YUK	comp=N,850nm,0.3s			smax			
YUK	comp=E,540nm,0.5s						
NEM2	Nemuro 2	4.28	244	P	Pn	19 40 11.0	-0.1
NEM2				eS	Sn	19 40 58.4	-1.8
JRA	Rausu	4.44	253	P	Pn	19 40 14.8	+1.5
JNK	Nakash	4.85	250	P	Pn	19 40 19.9	+1.2
JAK	Akkeshi	5.13	244	P	Pn	19 40 22.6	+0.1
JAK				eS	Sn	19 41 19.5	-1.1
JTKR	Abashiri--Toko	5.26	257	P	Pn	19 40 25.7	+1.4
JAR	Ashorobuto	5.59	251	P	Pn	19 40 30.7	+1.9
JMP	Maruseppu	5.62	259	P	Pn	19 40 30.5	+1.3
JOB	Onbets	5.73	247	P	Pn	19 40 31.4	+0.8
JOB				eS	Sn	19 41 33.3	-1.7
YSS	Yuzh-Sakhalins	5.94	288	⇑iP	Pn	19 40 34.8	+1.3
YSS				AMB	AMB	19 40 35.2	
YSS	comp=E,40nm,0.7s			AMB	AMB	19 40 35.2	
YSS	comp=E,50nm,0.7s			eS	Sn	19 41 41.0	+0.7
YSS				A		19 41 44.0	
YSS	comp=E,30nm,0.8s						
YSS	Yuzh-Sakhalins	5.94	288	⇑iPN	Pn	19 40 34.8	+1.3
YSS				eS	Sn	19 41 41.0	+0.7
YSS				pmax	pmax		
YSS	comp=N,40nm,0.7s			pmax	pmax		
YSS	comp=E,50nm,0.7s			pmax	pmax		
YSS	comp=Z,50nm,0.7s			smax			
YSS	comp=E,30nm,0.8s						
YSS	Yuzh-Sakhalins	5.94	288	eP	Pn	19 40 33.5	0.0
JKK2	comp=E,32nm,0.6s Kamakawa 2	6.08	259	P	Pn	19 40 37.2	+1.8
ASAJ	Asahikawa	6.12	261	P	Pn	19 40 37.9	+2.0
ASAJ	Asahikawa	6.12	261	P	Pn	19 40 36.6	+0.7
ASAJ	comp=E,1.0nm,0.3s,baz=78,slow=20,SNR=9.6 Asahikawa	6.12	261	PN	Pn	19 40 36.7	+0.8
ASAJ				pmax	pmax		
JCH	comp=Z,1.0nm,0.3s Churui	6.17	246	P	Pn	19 40 37.2	+0.6
JCH				eS	Sn	19 41 45.4	-0.4
JFR	Furan	6.44	253	P	Pn	19 40 42.5	+2.3
JEM	Erimo	6.61	242	P	Pn	19 40 44.1	+1.6
JNBK	Urakawa-nobuka	6.73	245	P	Pn	19 40 44.1	0.0
JBT2	Biratori 2	6.75	250	P	Pn	19 40 45.1	+0.7
UGL	Uglegorsk	7.12	304	eP	Pn	19 40 45.0	-4.4
UGL				AMB	AMB	19 40 49.5	
UGL	comp=Z,78nm,1.0s			erx	rx	19 41 00.5	
JNB	Noboribetsu	7.76	251	P	Pn	19 40 58.8	+0.6
TYV	Tymovskoe	7.82	317	eP	Pn	19 40 56.2	-2.8
TYV				AMB	AMB	19 40 57.5	
TYV	comp=Z,22nm,1.0s			AMB	AMB	19 40 57.5	
JKB	comp=Z,37nm,1.0s Kayabe	8.03	248	P	Pn	19 41 01.1	-0.7
JKB				eS	Sn	19 42 27.7	-3.3
JYM2	Yakumo 2	8.36	251	P	Pn	19 41 06.6	+0.3
JYM2				eS	Sn	19 42 37.5	-1.4
JANG	Nango	8.58	238	P	Pn	19 41 07.8	-1.4
JANG				eS	Sn	19 42 39.3	-4.9
JTM	Tenmabayashi	8.60	241	P	Pn	19 41 09.2	-0.3
JTM				eS	Sn	19 42 39.6	-5.1
JSR	Shiriuchi	8.61	247	eS	Sn	19 42 40.5	-4.4
JTH	Tanohata	8.66	234	P	Pn	19 41 08.8	-1.5
JTH				eS	Sn	19 42 40.0	-6.1
OFUJ	Ofunato	9.36	231	eS	Sn	19 42 58.8	-4.3
JRG	Rokugo	9.73	236	P	Pn	19 41 24.5	-0.2
JRG				eS	Sn	19 43 07.1	-4.9
JIO	Ouri	9.98	229	P	Pn	19 41 27.6	-0.5
JIO				eS	Sn	19 43 13.3	-4.9
NKL	Nikolayevsk	10.28	323	erx	rx	19 41 26.0	
JFK	Kawauchi	11.04	227	eS	Sn	19 43 39.3	-4.6
YASR	Yasnyy	16.91	306	eP	Pn	19 42 51.7	-5.5
YASR				AMB	AMB	19 42 54.9	
KROS	comp=Z,5.0nm,0.7s Kirovskiy	17.86	309	eP	Pn	19 43 02.0	-6.7
KROS				AMB	AMB	19 43 04.8	
SONM	comp=Z,8.0nm,0.9s Songino Array	30.43	291	P	P	19 45 07.4	-1.5
ILAR	comp=Z,0.3nm,0.6s,mb3.1,baz=65,slow=8.1,SNR=3.3 Eielson Array	38.53	37	P	P	19 46 16.0	-2.7
INK	comp=Z,0.3nm,0.6s,mb3.3,baz=262,slow=7.6,SNR=8.9 Inuvik	43.59	31	eP	P	19 46 58.0	-2.1
INK				pmax	pmax		
INK	comp=Z,1.0nm,0.6s Inuvik	43.59	31	eP	P	19 46 58.0	-2.1
MKAR	comp=Z,1.0nm,0.6s,mb3.7 Makanchi Array	46.27	298	P	P	19 47 19.9	-1.5
LSA	comp=Z,0.6nm,0.6s,mb3.5,baz=68,slow=7.2,SNR=8.7 Lhasa	48.88	273	eP	P	19 47 45.5	+4.0
LSA				pmax	pmax		
LSA	comp=Z,4.0nm,0.6s,mb4.5 Lhasa	48.88	273	eP	P	19 47 45.5	+4.0
YKA	comp=Z,3.7nm,0.6s,mb4.5 Yellowknife Ar	52.89	35	P	P	19 48 09.4	-2.1
JIRN	comp=Z,0.3nm,0.5s,mb3.5,baz=298,slow=6.9,SNR=9.0 Jiri	53.59	274	eP	P	19 48 18.0	+1.4
GUN	comp=Z,14nm,0.6s,mb5.2 Gumba	53.65	275	eP	P	19 48 18.5	+1.4
KKN	comp=Z,5.1nm,0.4s,mb4.9 Kakani	54.15	275	eP	P	19 48 22.2	+1.5
KKN	comp=Z,6.1nm,0.5s,mb4.9 Kakani	54.15	275	eP	P	19 48 22.2	+1.5
KKN				pmax	pmax		
KKN	comp=Z,3.0nm,0.5s,mb4.6 Daman	54.38	275	eP	P	19 48 23.8	+1.4
DMN	comp=Z,7.3nm,0.6s,mb4.9 Gorkha	54.47	275	eP	P	19 48 24.5	+1.5
GKN	comp=Z,7.6nm,0.5s,mb5.0 Koldanda	55.34	276	eP	P	19 48 29.5	+0.2
KOLN	comp=Z,0.5nm,0.7s,mb3.4,baz=293,slow=8.6,SNR=3.7 Mina Array Bea	64.37	61	P	P	19 49 31.2	+0.1
NVAR	comp=Z,0.5nm,0.7s,mb3.4,baz=293,slow=8.6,SNR=3.7 Mina Array Bea	64.37	61	P	P	19 49 31.2	+0.1
FINES	comp=Z,1.1nm,0.9s,mb3.7,baz=32,slow=11,SNR=4.3 FINESS Array B	64.64	334	P	P	19 49 29.2	-3.6
FINES	comp=Z,1.1nm,0.9s,mb3.7,baz=32,slow=11,SNR=4.3 FINESS Array B	64.64	334	P	P	19 49 29.2	-3.6
PDAR	Pinedale Array	66.74	52	P	P	19 49 45.9	-0.4
ASAR	comp=Z,0.8nm,0.7s,mb3.7,baz=304,slow=2.1,SNR=9.0 Alice Springs	70.47	197	P	P	19 50 14.0	+4.6
	comp=Z,0.5nm,0.8s,mb3.4,baz=23,slow=6.8,SNR=5.5						

*ISCJB **22** 19:43:43.2±1.5, 2680N±005×5561E±006, h13km±12km, Error ellipse: s-maj=9.4km s-min=7.5km az=154.0*
*KISR **22** 19:43:45.3±0.9, 2721N×5569E, h34km, ML3.5*
*CSEM **22** 19:43:49.5, 2734N×5577E, h18km, ML2.8, After THR*

ISC 22 19:43:44.0±1.4, 2680N±004×5569E±007, h5km±12km, n12, σ1°22/18, 2C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.73	36	ePg	Pg	19 43 57.3	-0.7
BNDS	SNR=107			eSg	Sg	19 44 02.9	-4.6
BANOM	789nm,0.3s,SNR=107 Banah	1.03	148	⇓P	Pg	19 44 02.7	-1.1
ASHO	SNR=65 Ashiyiah	2.14	171	⇓P	Pn	19 44 20.8	+0.4
GHIR	SNR=18 Ghir-

WHFO	Wadi Hawf	9.02 192	⇑P	Pn	19 45 54.4	-0.5
	SNR=5.8					
ABTO	Aybut	9.66 194	⇑P	Pn	19 46 02.8	-0.9
	SNR=9.2					

IDC 22 20:05:04.5±2.9, 4982N×2964W, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.7/5, MS3.0/4, Ms1 3.1/4, ms1mx2.8/35, Error ellipse: s-maj=85.2km s-min=37.0km az=85.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	NORSAR Array B	25.31	48	LR	LR	20 20 23.1	
	comp=Z,38nm,18.3s,baz=0.0,slow=36						
DAVOX	Davos	26.25	81	LR	LR	20 21 54.3	
	comp=Z,27nm,19.0s,baz=181,slow=38						
HFS	Hagfors	26.44	50	LR	LR	20 18 56.7	
	comp=Z,44nm,19.4s,baz=264,slow=32						
FINES	FINESS Array B	32.49	48	P	P	20 11 34.9	-1.8
	3.6nm,1.1s,baz=266,slow=7.6,SNR=3.9						
SADO	Sadowa	33.45	281	LR	LR	20 24 25.0	
	comp=Z,23nm,20.6s,baz=208,slow=35						
TORD	Torodi Ar. Bea	44.68	134	P	P	20 13 19.2	+0.2
	0.7nm,0.9s,baz=330,slow=8.8,SNR=5.3						
BVAR	Borovoye Array	57.38	45	P	P	20 14 54.5	0.0
	0.7nm,0.7s,baz=301,slow=6.6,SNR=6.3						
MKAR	Makanchi Array	67.21	44	P	P	20 16 00.3	-0.2
	0.7nm,0.7s,baz=317,slow=6.0,SNR=9.9						
SONM	Songino Array	75.59	29	P	P	20 16 52.3	+1.2
	0.3nm,0.8s,baz=320,slow=4.6,SNR=4.0						
ASAR	Alice Springs	150.88	32	PKPbc	PKPbc	20 24 57.4	-1.6
	0.2nm,0.5s,baz=334,slow=1.7,SNR=4.9						

*ISCJB **22** 20:24:56.2±0.5, 6076N±004×1516W±0.1, h100km±7km, mb3.6/2, Error ellipse: s-maj=9.3km s-min=6.5km az=40.1*
*IDC **22** 20:24:57.3±1.6, 6066N×15136W, h95km±27km, mb3.4/2, mb1 3.4/6, mb1mx3.2/20, mbtmp3.6/6, Error ellipse: s-maj=41.5km s-min=14.1km az=117.0*
*NEIC **22** 20:24:58.9, 6081N×15170W, h81km, MG3.0(AEIC), After AEIC.*
NEIC Felt at Homer.

ISC 22 20:24:57.3±0.5, 6076N±004×1516W±01, h93km±8km, n27, σ0§94/34, mb3.6/2, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	Skilak Lake	0.71	111	P	Pn	20 25 14.9	+0.7
FIB	Fire Island	0.79	59	P	Pn	20 25 16.3	+1.3
RC01	Rabbit Creek A	0.95	69	P	Pn	20 25 17.3	+0.6
RC01				S	Sn	20 25 31.5	+0.3
SEW	Seward	1.24	121	P	Pn	20 25 20.4	+0.4
SEW				S	Sn	20 25 37.2	+0.1
PMR	Palmer	1.44	54	P	Pn	20 25 22.5	+0.1
PMR				S	Sn	20 25 40.7	-0.8
GHO	Glory Hole Cre	1.63	50	P	Pn	20 25 25.2	+0.4
SML	Sawmill	1.88	55	P	Pn	20 25 28.5	+0.5
SML				S	Sn	20 25 50.8	-0.6
SVW2	Sparrevohn	1.99	281	P	Pn	20 25 28.7	-0.8
TRF	Thorofare Moun	2.76	12	P	Pn	20 25 39.6	-0.1
KTH	Kantishna Hill	2.82	6	P	Pn	20 25 40.3	-0.1
DIV	Divide	2.85	80	eP	Pn	20 25 39.6	-1.2
DIV				eS	Sn	20 26 11.8	-2.6
KDAK	Kodiak Island	3.04	190	P	Pn	20 25 43.0	-0.4
	5.0nm,0.3s,baz=28,slow=8.3,SNR=129						
KDAK				S	Sn	20 26 17.4	-1.4
	5.0nm,0.3s,baz=283,slow=23,SNR=15						
KDAK	Kodiak Island	3.04	190	P	Pn	20 25 43.4	0.0
MCK	McKinley	3.22	21	P	Pn	20 25 47.2	+1.4
BMRM	Bremner River	3.41	84	P	Pn	20 25 47.9	-0.5
PAX	Paxson	3.64	50	P	Pn	20 25 52.7	+1.2
COLA	College	4.46	21	P	Pn	20 26 03.0	+0.4
IL1	Eielson Array	4.56	26	P	Pn	20 26 04.4	+0.4
ILAR	Eielson Array	4.56	26	P	Pn	20 26 04.2	+0.3
	3.1nm,0.3s,baz=212,slow=13,SNR=196						
ILAR				S	Sn	20 26 53.5	-2.2
	1.5nm,0.3s,baz=208,slow=22,SNR=7.6						
IM01	Indian Mountai	5.34	350	P	Pn	20 26 13.3	-1.2
PNL	Peninsula	6.17	95	P	Pn	20 26 26.9	+1.1
DAWY	Dawson	6.55	54	P	Pn	20 26 32.0	+1.1
BM3	Burnt Mountain	7.34	21	P	Pn	20 26 41.5	-0.3
INK	Inuvik	10.80	38	P	Pn	20 27 28.2	-0.6
	0.3nm,0.3s,baz=234,slow=17,SNR=8.9						
YKA	Yellowknife Ar	17.50	68	P	Pn	20 28 55.6	+0.4
	baz=280,slow=9.8,SNR=11						
SONM	Songino Array	54.91	306	P	P	20 34 19.9	+1.5
	0.7nm,0.8s,mb3.8,baz=35,slow=8.0,SNR=8.2						
AKASG	Malin Array Be	68.89	359	P	P	20 35 50.9	-1.1
	0.2nm,0.3s,mb3.5,baz=11,slow=7.1,SNR=4.2						

*NEIC **22** 20:30:54.4, 4157N×2556E, h12km, MD2.6(SOF), ML2.7(THE), After SOF.*
*SOF **22** 20:30:54.4, 4157N×2556E, h12km, MD2.6*
*CSEM **22** 20:30:56.7±0.1, 4170N×2544E, h10km, MD2.6, Error ellipse: s-maj=2.0km s-min=1.5km az=78.0*
*ISCJB **22** 20:30:56.1±0.5, 4165N±003×2549E±004, h6km±3km, Error ellipse: s-maj=4.8km s-min=4.3km az=115.2*
*THE **22** 20:30:58.5, 4166N×2561E, h25km, ML3.2*
*ATH **22** 20:31:00.3, 4135N×2522E, h17km±5km, MD3.5/3*

ISC 22 20:30:56.7±0.5, 4166N±003×2549E±004, h7km±3km, n28, σ1§04/41, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	Kurdzhali	0.05	257	i Pg	Pg	20 30 59.0	+0.7
KDZ				Sg	Sg	20 31 00.8	+1.4
DIM	Dimitrovgrad	0.39	5	i Pg	Pg	20 31 04.0	-0.2
DIM				Sg	Sg	20 31 10.8	+1.4
RDO	Rodhopi	0.52	176	⇑i PB	Pg	20 31 07.2	+0.5
RDO	Rodhopi	0.52	176	⇑ePb	Pg	20 31 07.2	+0.5
RZN	Rozhen	0.58	273	i Pg	Pg	20 31 07.0	-0.8
RZN				Sg	Sg	20 31 14.5	-0.8
ALN	Alexandroupoli	0.87	151	ePg	Pg	20 31 14.1	+0.6
ALN				eSg	Sg	20 31 26.2	+1.4
JMB	Yambol	1.15	45	ePg	Pg	20 31 17.3	-1.4
JMB				eSg	Sg	20 31 31.9	-1.7
JMB	Yambol	1.15	45	Pg	Pg	20 31 17.8	-0.9
JMB				eSg	Sg	20 31 31.9	-1.7
NVR	Nevrokopi	1.26	256	ePN	Pn	20 31 19.6	-1.0
MMB	Musomiste	1.32	267	Pg	Pg	20 31 21.0	-1.0
MMB				Sg	Sg	20 31 39.0	-0.1
PGB	Panagyurishte	1.32	313	P	Pn	20 31 21.0	-0.5
SRS	Serrai	1.52	250	ePg	Pg	20 31 24.7	-1.2
SRS				eSg	Sg	20 31 45.2	-0.5
PVL	Pavlikeni	1.56	356	P	Pn	20 31 24.5	-0.2
SZH	Strazhica	1.64	12	eP	Pn	20 31 26.3	+0.5
OUR	Ouranopolis	1.75	221	ePb	Pb	20 31 26.8	-2.2
	comp=Z,5.0nm,0.3s						
LIA	Limnos Island	1.78	188	ePN	Pn	20 31 27.6	-0.2
KKB	Krupnik	1.81	277	P	Pn	20 31 29.5	+1.3
SOH	Sokhos	1.81	243	ePb	Pb	20 31 29.3	-0.8
SOH				eSb	Sb	20 31 52.2	-0.8
SOH	Sokhos	1.81	243	ePb	Pb	20 31 29.3	-0.8
SOH				eSb	Sb	20 31 52.2	-0.8
VTS	Vitosha	1.93	299	ePn	Pn	20 31 30.8	+1.0
VTS				eSn	Sn	20 31 54.9	+0.5
VTS	Vitosha	1.93	299	P	Pn	20 31 31.8	+1.9
VTS				eSn	Sn	20 31 54.9	+0.5
KNT	Kendrikon	2.01	256	ePn	Pn	20 31 31.6	+0.7
	comp=Z,7.0nm,0.5s						
KNT				eSn	Sn	20 31 58.0	+1.7
KNT	Kendrikon	2.01	256	ePn	Pn	20 31 31.6	+0.7
	7.0nm,0.5s						
PLG	Polygyros	2.01	231	ePN	Pn	20 31 30.8	-0.1
PAIG	Paliouri	2.21	219	ePn	Pn	20 31 33.2	-0.5
VAY	Valandovo	2.22	262	ePn	Pn	20 31 34.9	+1.1
GRG	Griva	2.43	254	ePn	Pn	20 31 37.8	+1.1
PRK	Paraskevi	2.49	166	ePB	Pb	20 31 38.3	-3.3

*ISCJB **22** 20:32:58.3±0.3, 4287N±003×064E±002, h10km, Error ellipse: s-maj=4.1km s-min=2.4km az=5.7*
*MDD **22** 20:32:59.6±0.2, 4283N×062E, h10km±1km, mbLg1.4/12, Error ellipse: s-maj=2.2km s-min=1.3km az=179.0, PRXIMO*
*LDG **22** 20:32:59.4±0.1, 4283N×062E, h5km±1km, Md2.1/1, Ml1.8/6, Error ellipse: s-maj=2.1km s-min=0.8km az=176.0*
*STR **22** 20:32:59.3±0.1, 4282N×062E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 20:32:58.9±0.5, 4285N±003×063E±002, h15km±6km, n38, σ0§57/43, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	Melles	0.10	77	Pg	Pg	20 33 02.3	+0.2
MELF				Sg	Sg	20 33 04.2	-0.1
MELF	Melles	0.10	77	Pg	Pg	20 33 02.4	+0.2
MELF				Lg		20 33 04.3	
RESF	Ens	0.22	259	Pg	Pg	20 33 03.9	+0.1
RESF				Sg	Sg	20 33 07.2	+0.1
RESF	Ens	0.22	259	Pg	Pg	20 33 03.9	+0.2
RESF				Lg		20 33 07.0	
EPF	Esparros	0.28	310	ePg	Pg	20 33 04.9	+0.1
EPF				eSg	Sg	20 33 09.0	+0.2
	21nm,0.2s						
EPF	Esparros	0.28	310	Pg	Pg	20 33 04.9	+0.1
EPF				Lg		20 33 09.0	
	10nm,0.2s						
EBIE	Bielsa	0.39	245	⇑Pg	Pg	20 33 07.0	+0.1
	2.2nm,0.0s,SNR=18						
EBIE				Lg		20 33 12.0	
	7.7nm,0.2s,SNR=26						
SALF	Salau	0.42	102	Pg	Pg	20 33 07.6	+0.2
SALF				Sg	Sg	20 33 13.1	0.0
SALF	Salau	0.42	102	Pg	Pg	20 33 07.5	+0.1
SALF				Lg		20 33 13.1	
VIEF	Viey	0.45	274	Pg	Pg	20 33 07.9	+0.1
VIEF				Sg	Sg	20 33 14.2	+0.4
VIEF	Viey	0.45	274	Pg	Pg	20 33 08.0	+0.2
VIEF				Lg		20 33 14.0	
LABF	Labassere	0.45	296	Pg	Pg	20 33 08.2	+0.3
LABF				Sg	Sg	20 33 14.5	+0.5
LABF	Labassere	0.45	296	Pg	Pg	20 33 08.2	+0.3
LABF				Lg		20 33 14.4	
CSOR	Sort	0.60	142	Pg	Pg	20 33 10.7	0.0
CSOR				Lg		20 33 18.2	
	1.6nm,0.2s						
GRBF	Gourbit	0.67	91	Pg	Pg	20 33 12.2	+0.2
GRBF				Lg		20 33 20.9	
EGRA	Graus	0.69	199	⇑Pg	Pg	20 33 12.6	+0.1
	0.4nm,0.1s,SNR=18						
EGRA				Lg		20 33 21.0	
	1.6nm,0.1s,SNR=8.2						
CORG	Organya	0.80	140	Lg		20 33 24.0	
	3.7nm,0.1s						
ETSF	Etsaut	0.87	274	ePg	Pg	20 33 15.6	-0.2
ETSF				eSg	Sg	20 33 26.7	-0.6
	2.8nm,0.2s						
ETSF	Etsaut	0.87	274	Pg	Pg	20 33 15.6	-0.2
ETSF				Lg		20 33 26.7	
	1.4nm,0.2s						
CAVN	Les Avellanes	0.97	175	Pg	Pg	20 33 18.4	+0.7
CAVN				Lg		20 33 30.7	
	3.5nm,0.1s						
CLLI	Llivia	1.06	110	Pg	Pg	20 33 19.6	+0.3
CARF	Carcanieres	1.10	97	Lg		20 33 34.8	
EMIR	Miracle	1.15	144	Pg	Pg	20 33 20.8	-0.2
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg		20 33 36.4	
	1.7nm,0.1s,SNR=7.9						
MTLF	Montolieu	1.26	67	ePg	Pg	20 33 23.1	-0.1
MTLF				eSg	Sg	20 33 40.2	+0.5
	1.8nm,0.3s						
MTLF	Montolieu	1.26	67	Pg	Pg	20 33 23.1	-0.1
MTLF				Lg		20 33 40.2	
	0.9nm,0.3s						
SJPF	Ste Jean	1.39	282	ePg	Pg	20 33 24.9	-0.6
SJPF				eSg	Sg	20 33 43.0	-0.5
	2.1nm,0.3s						
SJPF	Ste Jean	1.39	282	Pg	Pg	20 33 24.9	-0.6
SJPF				Lg		20 33 43.0	
	1.1nm,0.3s						
ESAC	San Caprasio	1.39	216	Pg	Pg	20 33 24.3	-1.4
	3.7nm,0.3s,SNR=7.9						
ESAC				Lg		20 33 43.8	
	4.3nm,0.2s,SNR=7.9						
EPOB	Poblet	1.53	167	Pg	Pg	20 33 27.7	-0.6
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		20 33 47.1	
	1.8nm,0.1s,SNR=7.9						
EALK	Alkurruntz	1.61	284	Pg	Pg	20 33 30.2	+0.5
	0.9nm,0.4s,SNR=5.9						
EALK				Lg		20 33 51.0	
	0.8nm,0.1s,SNR=7.9						
ELIZ	Elizondo	1.61	282	Pg	Pg	20 33 29.9	+0.1
	0.8nm,0.2s,SNR=7.9						
ELIZ				Lg		20 33 50.6	
	0.6nm,0.1s,SNR=7.9						
ERTA	Horta de San J	1.91	187	Lg		20 33 58.4	
	1.3nm,0.2s,SNR=7.9						
CAF	Calviac	2.32	26	eP	Pn	20 33 39.5	+3.0
CAF				eSg	Sg	20 34 13.2	-0.2
	1.0nm,0.2s						
CAF	Calviac	2.32	26	Pg	Pn	20 33 39.5	+3.0
CAF				Lg		20 34 13.2	
	0.5nm,0.2s						
RJF	Les Rejaudoux	2.54	14	eSg	Sg	20 34 19.5	-0.8
	0.7nm,0.2s						
RJF	Les Rejaudoux	2.54	14	Lg		20 34 19.5	
	0.3nm,0.2s						
LASF	Ste Croix	2.65	61	eSg	Sg	20 34 23.1	-0.9
	0.4nm,0.2s						
LASF	Ste Croix	2.65	61	Lg		20 34 23.1	
	0.2nm,0.2s						

*OMAN **22** 20:38:07.9, 2945N×5306E, h0km, Error ellipse: s-maj=721.5km s-min=61.9km az=336.0*
*IDC **22** 20:38:23.4±2.5, 2823N×5392E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/20, mbtmp3.5/5, Error ellipse: s-maj=55.3km s-min=27.4km az=148.0*
*ISCJB **22** 20:38:25.1±0.5, 2826N±006×5396E±005, h10km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=5.2km az=46.8*
*THR **22** 20:38:26.7±0.4, 2826N×5399E, h17km±3km, ML3.3*
*CSEM **22** 20:38:27.8±0.1, 2824N×5394E, h35km, ML4.0/3, Error ellipse: s-maj=6.1km s-min=2.2km az=2.0*
*KISR **22** 20:38:40.1±1.1, 2904N×5294E, h42km±999km, ML2.8*

ISC 22 20:38:26.3±0.9, 2833N±005×5401E±003, h6km±7km, n25, σ1§21/34, mb3.5/4, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.90	268	ePG	Pg	20 38 43.6	0.0
GHIR				eSG	Sg	20 38 55.7	+0.4
GHIR				AML	AML	20 39 07.8	
	comp=E,1μm,0.4s						
GHIR				AML	AML	20 39 08.4	
	comp=N,587nm,0.7s						
GHIR	Ghir-Karzin	0.90	268	ePg	Pg	20 38 43.6	0.0
	SNR=92						
GHIR				eSg	Sg	20 38 55.7	+0.4
	comp=N,587nm,0.7s,SNR=92						
BNDS	Bandar-Abbas	2.13	115	ePN	Pn	20 39 03.4	+1.0
BNDS				eSG	Sg	20 39 33.4	-1.3
BNDS				AML	AML	20 39 40.9	
	comp=E,150nm,0.5s						
BNDS				AML	AML	20 39 43.5	
	comp=N,150nm,0.5s						
BNDS	Bandar-Abbas	2.13	115	ePn	Pn	20 39 03.4	+1.0
	SNR=52						
BNDS				eSg	Sg	20 39 33.3	-1.3
	comp=N,150nm,0.5s,SNR=91						
KRBR	Kerman	2.92	55	ePN	Pn	20 39 15.5	+2.3
KRBR				eSG	Sg	20 39 59.6	-0.5
KRBR				AML	AML	20 40 03.2	
	comp=N,111nm,0.6s						
KRBR				AML	AML	20 40 04.9	
	comp=E,109nm,0.6s						
KRBR	Kerman	2.92	55	ePn	Pn	20 39 15.5	+2.2
	SNR=52						
KRBR				eSg	Sg	20 39 59.6	-0.5
	comp=E,109nm,0.6s,SNR=91						
BANOM	Banah	3.15	139	⇓P	Pn	20 39 17.9	+1.5
ASHO	Ashiyiah	4.07	153	⇓P	Pn	20 39 30.4	+1.3
	SNR=10						
QRN	Al-Qurain	5.37	276	eP	Pn	20 39 47.8	+0.8
QRN				eS	Sn	20 40 39.0	-10
QRN				AML	AML	20 40 43.0	
	comp=Z,4.4nm,0.1s						
KBD	Kabd	5.61	280	eP	Pn	20 39 50.2	0.0
KBD				AML	AML	20 40 52.4	
	comp=Z,14nm,0.4s						
KBD	Kabd	5.61	280	eP	Pn	20 39 50.2	0.0
RDF	Al-Radifah	5.71	278	eP	Pn	20 39 52.1	+0.5
RDF				AML	AML	20 40 40.2	
	comp=Z,14nm,0.4s						
NAY	Al-Naaiem	6.01	280	eP	Pn	20 39 56.3	+0.5
NAY				eS	Sn	20 40 53.6	-11
NAY				AML	AML	20 40 56.7	
	comp=Z,5.2nm,0.6s						
MIB	Mutribah	6.02	286	eP	Pn	20 39 56.1	+0.2
MIB				eS	Sn	20 40 51.6	-14
MIB				AML	AML	20 41 00.2	
	comp=Z,7.6nm,0.5s						
SMDO	Samad	6.39	144	P	Pn	20 40 02.6	+1.7
	SNR=7.2						
WBK	Wadi Bani Khal	7.24	141	⇑P	Pn	20 40 13.4	+0.7
WHFO	Wadi Hawf	10.36	181	⇑P	Pn	20 40 53.9	-1.5
WHFO	Wadi Hawf	10.36	181	P	Pn	20 40 53.9	-1.5
RBK	Rabkut	10.77	179	P	Pn	20 41 00.1	-0.9
	SNR=6.2						
ABTO	Aybut	10.94	184	⇑P	Pn	20 41 01.4	-2.0
BRTR	Keskin Array B	20.30	309	P	P	20 43 02.9	0.0
	comp=Z,0.3nm,0.4s,baz=126,slow=13,SNR=2.9						
AKTO	Aktyubinsk	22.29	7	P	P	20 43 23.6	-0.7
	comp=Z,1.1nm,0.6s,mb3.4,baz=180,slow=7.1,SNR=3.1						
MKAR	Makanchi Array	28.79	43	P	P	20 44 24.6	-0.4
	comp=Z,0.2nm,0.4s,mb3.2,baz=231,slow=11,SNR=5.1						
FINES	FINESS Array B	37.98	339	P	P	20 45 41.7	-3.2
	comp=Z,1.1nm,0.8s,mb3.6,baz=142,slow=9.6,SNR=6.2						
TORD	Torodi Ar. Bea	50.83	264	P	P	20 47 25.2	-2.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=60,slow=7.2,SNR=13						

*ISCJB **22** 21:11:34.8±6.0, 235S±04×664W±03, h240km±42km, mb3.5/2, Error ellipse: s-maj=75.2km s-min=25.2km az=61.0*
*IDC **22** 21:11:39.1±9.7, 2318S×6630W, h254km±64km, mb3.3/2, mb1 3.2/5, mb1mx3.1/15, mbtmp3.8/5, Error ellipse: s-maj=109.9km s-min=26.4km az=24.0*

ISC 22 21:11:37.5±6.4, 234S±04×664W±03, h244km±44km, n6, σ1§04/6, mb3.5/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.23	346	P	Pn	21 13 21.2	+0.2
	0.5nm,0.3s,baz=179,slow=6.3,SNR=2.6						
LPAZ				S	S	21 14 44.3	+0.3
	0.1nm,0.3s,baz=177,slow=2.6,SNR=3.2						
SIV	San Ignacio	8.86	35	P	Pn	21 13 40.6	-1.0
	0.2nm,0.3s,baz=226,slow=14,SNR=4.5						
BDFB	Brasilia	18.90	69	P	P	21 15 40.9	+0.8
	0.5nm,0.3s,baz=250,slow=14,SNR=5.6						
TORD	Torodi Ar. Bea	75.79	69	P	P	21 22 56.8	+0.2
	0.5nm,0.6s,mb3.3,baz=261,slow=5.7,SNR=13						
ULM	Lac du Bonnet	77.81	341	P	P	21 23 07.3	-0.5
	0.5nm,0.3s,mb3.6,baz=162,slow=6.1,SNR=3.0						
MKAR	Makanchi Array	145.66	39	PKPbc	PKPbc	21 30 46.9	-0.6
	0.2nm,0.5s,baz=288,slow=2.8,SNR=6.8						

*BJI **22** 21:11:49.1, 609S×14610E, h112km, mB5.0, mb5.1*
*ISCJB **22** 21:11:50.3±1.1, 619S±004×14557E±007, h109km±11km, mb4.8/50, Error ellipse: s-maj=12.3km s-min=7.2km az=18.1*
*MOS **22** 21:11:51.2±1.1, 612S×14536E, h111km, mb4.9/20, Error ellipse: s-maj=12.4km s-min=8.5km az=110.3*
*IDC **22** 21:11:53.3±0.7, 619S×14558E, h124km±6km, mb4.3/12, mb1 4.4/14, mb1mx4.4/17, mbtmp4.7/14, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=21.9km s-min=11.5km az=79.0*
*NEIC **22** 21:11:54.7±1.2, 628S×14548E, h137km±11km, mb4.8/22, Error ellipse: s-maj=8.7km s-min=7.7km az=84.0*

ISC 22 21:11:54.5±1.0, 633S±005×14564E±008, h137km±11km, n121, σ1§06/106, mb4.7/49, 4C-4D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.40	154	P	Pn	21 12 47.1	+0.7
	100nm,0.3s,baz=31,slow=6.4,SNR=246						
PMG				S	Sn	21 13 26.6	-0.1
	43nm,0.3s,baz=128,slow=23,SNR=14						
PMG				LR	LR	21 13 55.2	
	comp=Z,522nm,21.7s,baz=298,slow=34						
PMG	Port Moresby	3.40	154	P	Pn	21 12 47.2	+0.7
PMG				S	Sn	21 13 26.7	0.0
HNR	Honiara	14.50	103	P	Pn	21 15 18.5	+5.4
	8.6nm,0.3s,baz=251,slow=8.1,SNR=3.6						
WRAB	Tennant Creek	17.41	218	eP	Pn	21 15 47.9	-1.0
WB2	Warramunga Arr	17.42	218	eP	Pn	21 15 47.7	-1.3
WRA	Warramunga Arr	17.42	218	P	Pn	21 15 48.0	-1.0
	1.7nm,0.3s,baz=37,slow=12,SNR=78						
WRA				pP	pP	21 16 17.0	+4.8
	0.7nm,0.3s,baz=39,slow=12,SNR=5.5						
WRA				PcP	PcP	21 20 24.2	+2.1
	0.0nm,0.3s,baz=9.5,slow=1.4,SNR=6.8						
AS31	Alice Springs	20.60	212	eP	P	21 16 22.9	+0.2
AS31				eS	S	21 20 04.3	-1.1
ASAR	Alice Springs	20.60	212	P	P	21 16 23.1	+0.4
	3.5nm,0.3s,baz=29,slow=13,SNR=48						
ASAR				pP		21 16 48.2	
	15nm,0.8s,baz=41,slow=10,SNR=5.8						
ASAR				S	S	21 20 04.9	-0.5
	3.2nm,0.9s,baz=29,slow=22,SNR=5.0						
ASAR				PcP	PcP	21 20 29.7	+1.9
	2.4nm,0.8s,baz=67,slow=2.0,SNR=6.8						
ASAR	Alice Springs	20.60	212	P	P	21 16 23.2	+0.5
ASAR				*PP		21 16 48.3	
ASAR				S	S	21 20 04.9	-0.5
ASAR						21 20 29.7	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAR				smax			
	comp=E,3.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASPA	Alice Springs	20.60	212	eP	P	21 16 22.9	+0.1
ASPA				eS	S	21 20 04.3	-1.2
FITZ	Fitzroy Crossi	22.75	237	eP	P	21 16 43.0	-2.0
	comp=Z,28nm,0.7s,mb4.8						
ARMA	Armidale	24.61	168	eP	P	21 17 04.1	+2.1
STKA	Stephens Creek	25.69	188	eP	P	21 17 10.8	-0.9
	comp=Z,15nm,0.9s,mb4.6						
STKA				eS	S	21 21 26.0	-4.2
STKA	Stephens Creek	25.69	188	P	P	21 17 11.2	-0.5
	comp=Z,13nm,0.5s,mb4.8,baz=356,slow=8.7,SNR=36						
TGY	Tagaytay City	31.83	310	P	P	21 18 04.7	-1.5
	comp=Z,66nm,0.4s,baz=204,slow=15,SNR=3.2						
TGY	Tagaytay City	31.83	310	P	P	21 18 04.7	-1.5
TGY				pmax	pmax		
	comp=Z,67nm,0.4s						
MJAR	Matsushiro Arr	43.21	351	P	P	21 19 39.7	-2.2
	comp=Z,4.7nm,0.8s,mb4.1,baz=167,slow=7.4,SNR=9.0						
MJAR				PcP	PcP	21 21 29.1	+0.4
	comp=Z,

PSI Prapat 47.52 280 P **P 21 20 15.4 -0.4**
comp=Z,4.6nm,0.7s,mb4.2,baz=58,slow=12,SNR=3.8
PSI Prapat 47.52 280 P **P 21 20 15.5 -0.3**
PSI pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
ENH Enshi 50.26 318 *e*P **P 21 20 36.8 +0.1**
comp=Z,22nm,1.1s,mb4.7
KMI Kunming 52.14 309 P **P 21 20 52.6 +1.9**
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.5
MDJ Mudanjiang 52.73 346 *e*P **P 21 20 54.0 -1.1**
XAN Xi'an 53.09 322 P **P 21 20 57.6 -0.1**
XAN AMB AMB
comp=Z,36nm,1.4s,mb4.9
BJT Baijiatuan 53.53 332 *e*P **P 21 20 00.6 -0.3**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuan 53.53 332 *e*P **P 21 20 00.6 -0.3**
comp=Z,8.7nm,0.6s,mb4.7
CD2 Chengdu 54.55 315 P **P 21 20 08.6 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
BTO Baotou 57.03 328 *e*P **P 21 21 26.3 +0.3**
BTO AMB AMB
comp=Z,20nm,1.0s,mb4.9
LZH Lanzhou 57.59 320 *e*P **P 21 21 30.8 +0.9**
LZH AP pP 21 21 54.1 -8.0
LZH AMB AMB
comp=Z,39nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,86nm,6.3s
HIA Hailar 59.81 341 *e*P **P 21 21 44.3 -0.9**
HIA pmax pmax
comp=Z,19nm,1.2s
HIA Hailar 59.81 341 *e*P **P 21 21 44.3 -0.9**
comp=Z,19nm,1.2s,mb4.8
GTA Gaotai 62.14 321 P **P 21 22 01.9 +0.9**
GTA AMB AMB
comp=Z,19nm,1.2s,mb4.8
LSA Lhasa 63.37 308 P **P 21 22 10.3 +1.2**
LSA Lhasa 63.37 308 *e*P **P 21 22 10.9 +1.8**
LSA pmax pmax
comp=Z,17nm,0.8s,mb4.9
LSA Lhasa 63.37 308 *e*P **P 21 22 10.8 +1.7**
comp=Z,17nm,0.8s,mb4.9
FX1 Attu Island--F 63.45 18 *e*P **P 21 22 10.3 +0.6**
ULN Ulaanbaatar 63.76 332 *e*P **P 21 22 12.4 +0.7**
ULN pmax pmax
comp=Z,22nm,0.8s,mb5.0
ULN Ulaanbaatar 63.76 332 *e*P **P 21 22 12.4 +0.7**
comp=Z,22nm,0.8s,mb5.0
SONM Songino Array 64.05 332 P **P 21 22 14.1 +0.5**
comp=Z,11nm,0.7s,mb4.8,baz=162,slow=4.6,SNR=73
SONM PcP PcP 21 22 47.9 +0.2
comp=Z,1.8nm,0.6s,baz=154,slow=2.2,SNR=4.3
SONM Songino Array 64.05 332 P **P 21 22 14.1 +0.5**
SONM pP 21 22 47.9 +1.5
SONM pmax pmax
comp=Z,11nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.6s
CIT Chita 64.26 339 *e*P **P 21 22 11.9 -3.1**
CIT pmax pmax
comp=Z,36nm,1.1s,mb5.1
MA2 Magadan 65.83 3 *e*P **P 21 22 24.4 -0.7**
MA2 *e**PP pP 21 23 03.9 +5.8
MA2 *e* 21 24 49.8
MA2 *e*S S 21 30 55.7 -5.2
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
JIRN Jiri 66.58 304 *e*P **P 21 22 30.9 +1.0**
comp=Z,25nm,0.7s,mb5.2
GUN Gumba 66.92 304 *e*P **P 21 22 33.2 +1.1**
comp=Z,78nm,0.7s,mb5.6
PKI Pulchoki 67.19 303 *e*P **P 21 22 34.0 +0.2**
comp=Z,25nm,0.9s,mb5.1
PKI Pulchoki 67.19 303 *e*P **P 21 22 34.0 +0.2**
PKI pmax pmax
comp=Z,12nm,0.9s,mb4.7
ZAK Zakamensk 67.29 332⇑ *e*P **P 21 22 34.2 -0.2**
ZAK pmax pmax
comp=Z,37nm,1.2s,mb5.1
KKN Kakani 67.38 303 *e*P **P 21 22 35.7 +0.8**
comp=Z,54nm,0.8s,mb5.4
KKN Kakani 67.38 303 *e*P **P 21 22 35.7 +0.8**
KKN pmax pmax
comp=Z,27nm,0.8s,mb5.1
DMN Daman 67.46 303 *e*P **P 21 22 36.4 +1.0**
comp=Z,68nm,0.8s,mb5.5
GKN Gorkha 67.99 303 *e*P **P 21 22 39.3 +0.6**
comp=Z,53nm,0.8s,mb5.3
KOLN Koldanda 68.77 303 *e*P **P 21 22 44.3 +0.7**
comp=Z,50nm,0.8s,mb5.3
BOD Bodaibo 68.88 342 *e*P **P 21 22 41.6 -2.7**
BOD pmax pmax
comp=Z,6.0nm,1.9s,mb4.0
MOY Mondy 69.23 332 *e*P **P 21 22 47.1 +0.7**
MOY pmax pmax
comp=Z,28nm,1.9s,mb4.7
SEY Seymchan 69.26 3⇑ *e*P **P 21 22 45.6 -1.0**
YAK Yakutsk 69.27 352⇑ *e*P **P 21 22 46.2 -0.5**
YAK pmax pmax
comp=Z,12nm,1.4s,mb4.4
VNDA Vanda 71.66 176 P **P 21 23 02.1 +0.9**
comp=Z,1.4nm,0.6s,mb3.9,baz=315,slow=3.1,SNR=7.3
VNDA Vanda 71.66 176 P **P 21 23 02.1 +0.9**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
WMQ Urumqi 72.17 320 P **P 21 23 04.8 +0.6**
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.7
BILL Bilibino 75.62 8 *e*P **P 21 23 24.2 -0.1**
BILL pmax pmax
comp=Z,13nm,1.6s,mb4.3
MKAR Makanchi Array 76.90 321 P **P 21 23 31.7 +0.1**
comp=Z,3.1nm,0.3s,mb4.4,baz=98,slow=8.3,SNR=81
MKAR Makanchi Array 76.90 321⇑ *e*P **P 21 23 31.8 +0.3**
MKAR Makanchi Array 76.90 321 P **P 21 23 31.7 +0.1**
TNA Tin City 79.32 18 *e*P **P 21 23 44.4 -0.4**
comp=Z,4.9nm,1.1s,mb4.0
NVS Novosibirsk 79.81 329⇓ *i*P **P 21 23 45.8 -1.7**
NVS pmax pmax
comp=Z,23nm,1.3s,mb4.7
NVS pmax pmax
comp=E,22nm,1.4s
KZA Kyzart 79.91 315 P **P 21 23 50.1 +2.0**
SNR=46
TKM2 Tokmak 2 79.93 315 P **P 21 23 49.1 +0.9**
SNR=9.7
KBK Karagaybulak 80.30 315 P **P 21 23 50.8 +0.7**
SNR=9.0
UCH Uchtor 80.48 315 P **P 21 23 52.6 +1.5**
SNR=18
CHMS Chumysh 80.55 315 P **P 21 23 52.0 +0.5**
SNR=7.6
AAK Ala-Archa 80.61 315 P **P 21 23 52.8 +0.9**
SNR=9.2
AAK Ala-Archa 80.61 315 *d*P **P 21 23 51.5 -0.3**
AAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
AAK Ala-Archa 80.61 315 *e*P **P 21 23 51.4 -0.5**
comp=Z,5.4nm,0.8s,mb4.2
KURK Kurchatov 80.67 324 *e*P **P 21 23 51.9 -0.2**
KURK pmax pmax
comp=Z,24nm,1.2s,mb4.7
KURK Kurchatov 80.67 324 *e*P **P 21 23 51.9 -0.2**
comp=Z,24nm,1.2s,mb4.7
USP Ospenovka 80.80 316 P **P 21 23 53.5 +0.6**
SNR=14
AML Almayashu 81.03 314 P **P 21 23 55.5 +1.4**
SNR=35
EKS2 Erkin-Say 81.13 315 P **P 21 23 55.7 +1.1**
SNR=24
QSPA South Pole Qui 83.64 180⇓ *i*P **P 21 24 08.3 +0.7**
comp=Z,4.7nm,0.5s,mb4.5
MCK McKinley 85.08 24 *e*P **P 21 24 13.6 -1.2**
MCK pmax pmax
comp=Z,11nm,0.9s,mb4.6
MCK McKinley 85.08 24 *e*P **P 21 24 13.6 -1.2**
comp=Z,11nm,0.9s,mb4.6
COLA College 85.98 23 *e*P **P 21 24 18.0 -1.3**
COLA pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
COLA College 85.98 23 *e*P **P 21 24 18.0 -1.4**
comp=Z,8.9nm,0.7s,mb4.6
BVAR Borovoye Array 86.25 324 P **P 21 24 19.9 -0.7**
comp=Z,6.7nm,0.7s,mb4.5,baz=113,slow=6.1,SNR=41
BVAR pP pP 21 24 52.4 -2.8
comp=Z,3.0nm,0.7s,baz=101,slow=7.7,SNR=4.7
BVAR Borovoye Array 86.25 324 P **P 21 24 19.9 -0.7**
BVAR *PP pP 21 24 52.4 -2.8
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 86.31 324 *e*P **P 21 24 20.4 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BRVK Borovoye 86.31 324 *e*P **P 21 24 20.4 -0.6**
comp=Z,4.7nm,0.9s,mb4.2
ILAR Eielson Array 86.32 23 P **P 21 24 19.1 -1.9**
comp=Z,11nm,0.7s,mb4.7,baz=251,slow=5.2,SNR=170
ILAR Eielson Array 86.32 23 P **P 21 24 19.1 -1.9**
ILAR pmax pmax
comp=Z,11nm,0.7s
ZRNK Zerenda 87.03 324 *e*P **P 21 24 23.3 -1.2**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
ZRNK Zerenda 87.03 324 *e*P **P 21 24 23.3 -1.1**
comp=Z,7.6nm,1.0s,mb4.5
AKTK Aktyubinsk 93.32 320 P **P 21 24 52.4 -1.4**
AKTO Aktyubinsk 93.32 320 P **P 21 24 52.4 -1.4**
comp=Z,0.8nm,0.3s,mb4.3,baz=68,slow=5.4,SNR=3.7
AKTO Aktyubinsk 93.32 320 P **P 21 24 52.4 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
YKA Yellowknife Ar 100.09 28 P Pdif 21 25 23.4 -0.9
comp=Z,0.6nm,0.8s,baz=276,slow=5.1,SNR=11
YKA PKiKP PKiKP 21 29 50.8 -0.6
comp=Z,0.2nm,0.5s,baz=289,slow=1.8,SNR=4.9
YKA Yellowknife Ar 100.09 28 *i*P Pdif 21 25 24.3 -0.1
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 100.09 28 P Pdif 21 25 23.4 -1.0
PDAR Pinedale Array 105.14 48 PKiKP PKiKP 21 30 01.4 +0.9
comp=Z,0.4nm,0.6s,baz=98,slow=4.5,SNR=4.0
FINES FINESS Array B 109.38 334 Pdiff Pdif 21 26 03.6 -2.1
comp=Z,1.4nm,1.0s,baz=69,slow=6.3,SNR=4.3
FINES PKiKP PKiKP 21 30 07.6 -0.9
comp=Z,1.5nm,0.8s,baz=126,slow=2.6,SNR=3.9
FINES FINESS Array B 109.38 334 P Pdif 21 26 03.6 -2.1
FINES pmax pmax
comp=Z,1.0nm,1.0s
FINES pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 120.25 327 *e*PKP PKPdf 21 30 29.8 +0.5
comp=Z,1.8nm,0.8s
CLL Collm 120.53 328 *e*PKPdf PKPdf 21 30 30.0 +0.2
KHC Kasperske Hory 121.34 325 *e*PKPdf PKPdf 21 30 32.5 +1.2
GERES GERESS Array B 121.41 325 PKP PKPdf 21 30 31.7 +0.2
comp=Z,1.7nm,0.7s,baz=62,slow=1.3,SNR=17
GERES pPKP pPKPdf 21 31 04.7 -3.2
comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=3.2
GERES GERESS Array B 121.41 325 PKIKP PKPdf 21 30 31.7 +0.2
GERES 21 31 04.7
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 122.57 148 PKP PKPdf 21 30 35.5 +1.8
comp=Z,1.2nm,0.6s,baz=113,slow=5.5,SNR=6.1
PLCA Paso Flores 122.57 148 PKIKP PKPdf 21 30 35.5 +1.8
PLCA pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 122.57 148 PKP PKPdf 21 30 35.5 +1.8
EKA Eskdalemuir Ar 125.15 339 PKP PKPdf 21 30 38.4 -0.3
comp=Z,1.1nm,0.5s,baz=15,slow=2.4,SNR=7.1
EKA Eskdalemuir Ar 125.15 339 PKIKP PKPdf 21 30 38.4 -0.3
EKA pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 139.72 124 PKP PKPdf 21 31 07.9 +1.8
comp=Z,0.8nm,0.5s,baz=52,slow=2.8,SNR=5.2
LPAZ La Paz 139.72 124 PKIKP PKPdf 21 31 07.9 +1.9
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 143.86 284 PKP PKPdf 21 31 12.6 -0.8
comp=Z,4.4nm,0.6s,baz=60,slow=3.8,SNR=95
TORD pPKP pPKPdf 21 31 46.2 -3.7
comp=Z,0.9nm,0.5s,baz=69,slow=3.1,SNR=2.2
SDV Santo Domingo 143.96 84 PKP PKPdf 21 31 13.7 +0.1
comp=Z,9.8nm,0.4s,baz=333,slow=4.6,SNR=16
SJG San Juan 146.86 66 PKPbc PKPbc 21 31 21.8 +1.2
comp=Z,6.9nm,0.3s,baz=310,slow=2.7,SNR=3.0
BDFB Brasilia 154.32 148 PKPbc PKPbc 21 31 40.2 +1.7
comp=Z,3.6nm,0.5s,baz=231,slow=0.5,SNR=5.6
BDFB Brasilia 154.32 148 PKIKP PKPbc 21 31 40.2 +1.8
BDFB pmax pmax
comp=Z,4.0nm,0.5s

MAN 22 21:12:07.0, 1709N×12026E, h33km, mb3.0, ML4.4, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.70**	**38**	*e*P	Pn	21 12 21.1	+0.5
ABRA				*e*S	Sb	21 12 28.8	-1.5
BOLP	**Bolinao**	**0.78**	**205**	*e*P	Pn	21 12 21.9	+0.3
BOLP				*e*S	Sn	21 12 43.9	+12
APYP	**Conner**	**1.21**	**51**	*e*P	Pn	21 12 29.0	+1.4
APYP				*e*S	Sn	21 12 42.8	0.0

MEX 22 21:15:01.4±0.7, 1634N×9899W, h16km±15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.03**	**301**	*i*P	Pb	21 15 17.0	-3.9
ACX				*i*S	Sb	21 15 30.0	-4.2
MEIG	**Mezcala**	**1.69**	**339**	*i*P	Pn	21 15 27.2	-3.0
MEIG				*i*S	Sn	21 15 45.7	-5.7
UTMO	**Huajuapan**	**1.86**	**37**	*e*P	Pn	21 15 29.9	-2.7
UTMO				*i*S	Sn	21 15 51.5	-4.3
PLIG	**Platanillo**	**2.10**	**347**	*e*P	Pn	21 15 33.8	-2.0
PLIG				*i*S	Sn	21 15 57.8	-3.8
VHO	**Vista Hermosa**	**2.28**	**71**	*e*P	Pn	21 15 36.2	-2.2
VHO				*i*S	Sn	21 16 00.7	-5.4

IDC 22 21:37:02.9±7.2, 3034S×7694E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/14, mbtmp3.6/2, MS3.5/1, Ms1 3.4/1, ms1mx3.0/9, Error ellipse: s-maj=351.5km s-min=54.9km az=27.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**44.70**	**259**	LR	LR	21 58 58.1	
	comp=Z,61nm,21.7s,baz=118,slow=29						
ASAR	**Alice Springs**	**50.75**	**97**	P	P	21 46 05.0	+0.5
	0.4nm,0.5s,baz=256,slow=5.7,SNR=7.8						
WRA	**Warramunga Arr**	**52.52**	**93**	P	P	21 46 17.9	+0.2
	0.6nm,0.7s,baz=246,slow=7.3,SNR=9.8						
YKA	**Yellowknife Ar**	**146.98**	**10**	PKPbc	PKPbc	21 56 45.8	-1.5
	0.2nm,0.6s,baz=329,slow=3.3,SNR=5.8						

PRE ***22*** *22:19:03.7±1.2, 2132S×3348E, h5km, ML7.2*
IDC ***22*** *22:19:05.9±1.1, 2118S×3351E, h2km±5km, mb5.8/31, mb1 5.9/32, mb1mx5.9/32, mbtmp5.8/32, ML5.0/1, MS7.2/23, Ms1 7.2/23, ms1mx7.1/29, Error ellipse: s-maj=14.5km s-min=7.9km az=80.0*
SZGRF ***22*** *22:19:05.8, 2238S×3271E, h33km, mb6.3, MS7.3, Mozambique*
CRAAG ***22*** *22:19:06.6, 2229S×3344E, Mw7.5*
MOS ***22*** *22:19:06.8±1.3, 2117S×3372E, h11km, mb6.6/60, MS7.3/57, Error ellipse: s-maj=11.9km s-min=3.7km az=94.2*
IGIL ***22*** *22:19:06.0, 2122S×3334E, h2km, mb5.9, MS7.3*
BJI ***22*** *22:19:07.6, 2087S×3310E, h22km, mB7.4, mb6.2, Ms7.6, Msz7.4*
HRVD ***22*** *22:19:07.8±0.1, 2120S×3333E, h12km, MW7.0/104, Centroid moment Tensor Solution. LP body waves: s104,c272;Mantle waves: s104,c477; Half duration: 7±9 Moment tensor: Scale 1019Nm; Mrr-2.83±.02; Mθθ-0.21±.02; Mφφ3.04±.02; Mrθ-0.19±.08; Mrφ-1.38±.01; Mθφ2.64±.09; Best double couple: M0 4.16000×1019 NP1:φs325.00000°, δ27.00000°, λ-114.00000°. NP2: φs172.00000°, δ65.00000°, λ-78.00000°. Principal axes: T 4.4480, Plg19.0000°, Azm253.0000°; N -0.5770, Plg11.0000°, Azm347.0000°; P -3.8730, Plg67.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
NEIC ***22*** *22:19:07.8±0.2, 2132S×3358E, h11km, mb6.5/107, ME7.1, MS7.5/143, MW7.0, MW7.0(MOS) Error ellipse: s-maj=7.6km s-min=5.1km az=77.0, Moment Tensor Solution. s24 Moment tensor: Scale 1019Nm; Mrr-3.62; Mθθ-0.63; Mφφ4.25; Mrθ0.75; Mθφ-0.92; Mrφ2.11; Best double couple: M0 4.60000×1019 NP1:φs186.00000°, δ60.00000°, λ-72.00000°. NP2:φs332.00000°, δ35.00000°, λ-119.00000°. Principal axes: T 4.8700, Plg13.0000°, Azm262.0000°; N -0.4800, Plg16.0000°, Azm356.0000°; P -4.3900, Plg69.0000°, Azm134.0000°; Broadband fault plane solution: P waves. NP1:φs345.00000°, δ10.00000°, λ-90.00000°. NP2:φs165.00000°, δ80.00000°, λ-90.00000°. Principal axes: T Plg35.0000°, Azm255.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm75.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC One person killed at Espungabera, one killed at Machaze and 2 killed at Beira. Thirty-six people injured and at least 294 buildings damaged in the Espungabera-Beira-Chimoio area. Power outages occurred at Maputo. Felt [V] at Beira, Inhambane and Maputo; [IV] at Matola. Felt [IV] at Harare and Mutare, Zimbabwe. Also felt [IV] at Louis Trichardt and Phalaborwa; [III] at Durban and Middelburg; [II] at Johannesburg and Pretoria, South Africa. Felt throughout Mozambique and eastern Zimbabwe. Felt in Swaziland and at Lobatse, Botswana and Lusaka, Zambia.
ISCJB ***22*** *22:19:07.6±0.1, 2125S±002×3360E±003, h16km, mb6.3/295, MS7.4/200 Error ellipse: s-maj=3.8km s-min=3.5km az=126.2*
NAO ***22*** *22:19:10.2, 2100S×3300E, h10km, mb6.2*
BGS ***22*** *22:19:12.5, 2034S×3531E, h27km, mb6.4, MS7.1*
ISC 22 22:19:09.3±0.1, 2131S±002×3355E±003, h16km, h16km±1.1km: pP-P, n1391, σ1 23/1150, mb6.3/295, MS7.4/200, 77C-85D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.54**	**227**	*e*P	**Pn**	**22 20 41.2**	**-3.5**
SLR				*e*S	**Sn**	**22 21 51.9**	**-7.0**
SLR				AML	AML	22 22 40.0	
	comp=Z,60μm,0.6s						
LSZ	**Lusaka**	**7.87**	**319**	Pn	**Pn**	**22 20 56.6**	**-6.5**
	comp=Z,42nm,0.3s,baz=147,slow=14,SNR=448						
LSZ				Sn	**Sn**	**22 22 19.0**	**-13**
	comp=Z,3μm,0.3s,baz=225,slow=13,SNR=8.1						
LSZ				Lg		22 23 04.3	
	comp=Z,8μm,0.3s,baz=225,slow=18,SNR=14						
LSZ				LR	LR	22 24 25.2	
	comp=Z,785μm,18.3s,baz=141,slow=41						
LSZ	**Lusaka**	**7.87**	**319**	*e*P	**Pn**	**22 20 57.9**	**-5.1**
LSZ	**Lusaka**	**7.87**	**319**	*e*Pn	**Pn**	**22 20 56.3**	**-6.7**
LSZ				*e*Sn	**Sn**	**22 22 22.2**	**-10**
LBTB	**Lobatse**	**8.19**	**242**	Pn	**Pn**	**22 21 01.9**	**-5.6**
	comp=Z,58nm,0.3s,baz=68,slow=13,SNR=260						
LBTB				Sn	**Sn**	**22 22 29.6**	**-10**
	comp=Z,370nm,0.3s,baz=127,slow=16,SNR=2.1						
LBTB				Lg		22 23 12.5	
	comp=Z,1μm,0.3s,baz=360,slow=22,SNR=3.7						
LBTB	**Lobatse**	**8.19**	**242**	Pn	**Pn**	**22 21 01.1**	**-6.4**
LBTB				*e*Sn	**Sn**	**22 22 33.1**	**-6.6**
SEK	**Senekal**	**8.81**	**216**	*e*S	**Sn**	**22 22 47.1**	**-7.8**
SEK				AML	AML	22 23 58.5	
	comp=Z,55μm,0.8s						
BOSA	**Boshof**	**10.46**	**224**	Pn	**Pn**	**22 21 32.6**	**-5.9**
	comp=Z,50nm,0.3s,baz=51,slow=13,SNR=223						
BOSA				Sn	**Sn**	**22 23 25.1**	**-10**
	comp=Z,455nm,0.3s,baz=108,slow=15,SNR=7.5						
BOSA				Lg		22 24 29.4	
	comp=Z,952nm,0.3s,baz=311,slow=22,SNR=3.8						
BOSA	**Boshof**	**10.46**	**224**⇑	*e*Pn	**Pn**	**22 21 31.9**	**-6.6**
	comp=Z,60nm,0.7s						
BOSA				*e*Sn	**Sn**	**22 23 26.5**	**-8.9**
HVD	**Hendrik Verwoe**	**11.75**	**216**	*e*P	**Pn**	**22 21 52.9**	**-3.3**
HVD				*e*S	**Sn**	**22 23 55.8**	**-11**
OPO	**Ambohidratompo**	**13.11**	**80**	Pn	**Pn**	**22 22 14.0**	**-0.8**
	comp=Z,8.8nm,0.3s,baz=253,slow=13,SNR=40						
OPO				Sn	**Sn**	**22 24 36.4**	**-3.8**
	comp=Z,84nm,0.3s,baz=211,slow=13,SNR=3.1						
GRM	**Grahamstown**	**13.49**	**206**	*e*P	**Pn**	**22 22 17.1**	**-2.8**
GRM				*e*S	**Sn**	**22 24 38.0**	**-11**
TSUM	**Tsumeb**	**15.13**	**275**	Pn	**Pn**	**22 22 32.7**	**-10**
	comp=Z,15nm,0.3s,baz=99,slow=11,SNR=131						
TSUM				Sn	**Sn**	**22 25 14.3**	**-15**
	comp=Z,65nm,0.3s,baz=357,slow=22,SNR=6.4						
TSUM				Lg		22 26 56.8	
	comp=Z,209nm,0.3s,baz=186,slow=11,SNR=5.4						
TSUM				LR	LR	22 29 03.6	
	comp=Z,910μm,20.8s,baz=86,slow=40						
TSUM	**Tsumeb**	**15.13**	**275**⇑	*e*Pn	**Pn**	**22 22 33.1**	**-9.1**
	comp=Z,3μm,0.6s						
TSUM				*e*Sn	**Sn**	**22 25 15.1**	**-14**
SUR	**Sutherland**	**15.82**	**223**	Pn	**Pn**	**22 22 44.7**	**-6.6**
	comp=Z,19μm,1.0s,SNR=53						
SUR	**Sutherland**	**15.82**	**223**	Pn	**Pn**	**22 22 42.9**	**-8.3**
	comp=Z,18nm,0.3s,baz=53,slow=12,SNR=100						
SUR				Sn	**Sn**	**22 25 30.2**	**-16**
	comp=Z,91nm,0.3s,baz=32,slow=16,SNR=3.3						
SUR				LR	LR	22 29 11.4	
	comp=Z,201μm,18.8s,baz=48,slow=38						
SUR	**Sutherland**	**15.82**	**223**⇑	*e*Pn	**Pn**	**22 22 43.5**	**-7.8**
	comp=Z,7μm,0.8s						
SUR				*e*Sn	**Sn**	**22 25 32.8**	**-13**
KOMG	**Komaggas**	**16.77**	**237**	*e*P	**Pn**	**22 23 01.8**	**-1.6**
CER	**Ceres**	**17.43**	**223**	*e*P	**Pn**	**22 23 07.6**	**-4.1**
ELIM	**Elim**	**17.97**	**220**	*e*P	**Pn**	**22 23 13.2**	**-5.2**
KMBO	**Kilima Mbogo**	**20.38**	**11**	P	**P**	**22 23 43.8**	**-1.5**
	comp=Z,32nm,0.8s,baz=188,slow=13,SNR=90						
KMBO				S	**S**	**22 27 22.5**	**-11**
	comp=Z,242nm,1.2s,baz=312,slow=7.3,SNR=2.0						
KMBO				Lg		22 29 38.1	
	comp=Z,899nm,1.0s,baz=213,slow=11,SNR=5.4						
KMBO				LR	LR	22 31 32.7	
	comp=Z,673μm,20.1s,MS7.0,baz=5.9,slow=37						
KMBO	**Kilima Mbogo**	**20.38**	**11**⇓	*e*P	**P**	**22 23 44.6**	**-0.7**
KMBO				pmax	pmax		
	comp=Z,2μm,1.4s						
KMBO				MLR	MLR		
	comp=Z,532μm,20.0s						
KMBO	**Kilima Mbogo**	**20.38**	**11**⇓	*e*P	**P**	**22 23 44.6**	**-0.7**
	comp=Z,2μm,1.4s						
KMBO				*e*S	**S**	**22 27 37.0**	**+3.9**
KMBO				LR	LR		
	comp=Z,532μm,20.0s,MS6.9						
FURI	**Furi**	**30.44**	**10**	*e*P	**P**	**22 25 23.4**	**+2.5**
FURI				*e*S	**S**	**22 30 40.5**	**+19**
DESE	**Dese**	**32.78**	**11**	*e*P	**P**	**22 25 45.2**	**+3.6**
DESE				*e*S	**S**	**22 31 00.5**	**+2.8**
DESE	**Dese**	**32.78**	**11**	*e*P	**P**	**22 25 45.2**	**+3.6**
DESE				*e*S	**S**	**22 31 00.5**	**+2.8**
ATD	**Arta Tunnel**	**33.89**	**16**	S	**S**	**22 31 13.4**	**-1.6**
	comp=Z,51nm,1.3s,baz=164,slow=11,SNR=3.0						
ATD				LR	LR	22 39 39.2	
	comp=Z,371μm,19.5s,MS7.1,baz=345,slow=36						
TRBA	**At Turbah**	**35.86**	**18**	*e*P	**P**	**22 26 10.2**	**+2.0**
LBOS		**36.80**	**19**⇓	*e*P	**P**	**22 26 18.9**	**+2.6**
LBOS				AMb	AMB	22 26 22.7	
	comp=Z,5μm,2.1s,mb7.0						
LBOS				*i*S	**S**	**22 32 04.8**	**+5.1**
BDHA	**Al Bayda'**	**37.00**	**20**	*e*P	**P**	**22 26 20.0**	**+2.0**
DHBB	**Dhamar BB**	**37.21**	**16**⇓	*e*P	**P**	**22 26 22.0**	**+2.2**
DHBB				AMb	AMB	22 26 26.6	
	comp=Z,8μm,2.1s,mb7.2						
DHBB				*i*S	**S**	**22 32 09.7**	**+3.7**
SHEL	**Horse Pasture**	**37.55**	**271**	P	**P**	**22 26 21.9**	**-0.7**
	comp=Z,11μm,1.4s,mb7.4,SNR=38						
MUKL	**Al Mukalla**	**38.68**	**24**	*e*P	**P**	**22 26 33.4**	**+1.3**
DGAR	**Diego Garcia**	**40.01**	**76**	P	**P**	**22 26 42.7**	**-0.6**
DGAR				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.6						
DGAR	**Diego Garcia**	**40.01**	**76**⇓	*e*P	**P**	**22 26 41.2**	**-2.1**
	comp=Z,1μm,1.1s,mb6.6						
DGAR				LR	LR		
	comp=Z,469μm,19.0s,MS7.3						
TRIS	**Tristan da Cun**	**42.59**	**238**	*e*P	**P**	**22 27 03.6**	**-0.8**

comp=Z,2μm,1.1s,mb6.8
TRIS LR LR
comp=Z,399μm,20.0s,MS7.3
ABTO Aybut 43.02 28 P **P 22 27 08.3 +0.3**
SNR=92
RBK Rabkut 43.56 29 P **P 22 27 13.6 +1.2**
SNR=108
WHFO Wadi Hawf 43.73 28 P **P 22 27 13.9 +0.2**
SNR=105
SHAO Shalim 44.67 31 P **P 22 27 23.2 +2.0**
SNR=32
TORD Torodi Ar. Bea 46.38 315 P **P 22 27 31.6 -3.1**
comp=Z,283nm,1.0s,mb6.2,baz=125,slow=3.9,SNR=215
TORD PP PP 22 29 19.5 -4.1
comp=Z,190nm,0.8s,baz=134,slow=7.4,SNR=2.1
TORD S **S 22 34 19.1 -2.5**
comp=Z,63nm,1.1s,baz=136,slow=4.6,SNR=2.6
SYO Syowa Base 47.84 177⇑ *e*P **P 22 27 46.8 +0.6**
SYO Syowa Base 47.84 177⇑ *i*pP pP 22 27 48.3 -3.1
SYO Syowa Base 47.84 177⇑ *i*PcP PcP 22 29 12.7 -2.1
ASCN Ascension 48.04 279 P **P 22 27 50.1 +2.4**
comp=Z,2μm,0.9s,mb7.2,SNR=14
ASCN Ascension 48.04 279 P **P 22 27 39.8 -7.9**
comp=Z,218nm,0.6s,mb6.4
ASCN LR LR
comp=Z,333μm,19.0s,MS7.3
BSY Bisya 49.49 29 P **P 22 27 59.2 +0.4**
SNR=288
ARQ Araqi 49.70 28 ⇓P **P 22 28 00.6 +0.1**
SNR=127
MAW Mawson 49.81 166 *e*P **P 22 28 02.5 +1.2**
comp=Z,285nm,0.7s,mb6.4
MAW *e*S **S 22 35 11.8 +1.6**
MAW Mawson 49.81 166 P **P 22 28 02.1 +0.8**
comp=Z,383nm,0.9s,mb6.4,baz=311,slow=10,SNR=22
MAW S **S 22 35 12.1 +1.9**
comp=Z,51nm,1.1s,baz=303,slow=21,SNR=2.0
MAW ScS ScS 22 37 48.6 -3.6
comp=Z,58nm,1.1s,baz=326,slow=3.5,SNR=2.6
MAW LR LR 22 45 01.6
comp=Z,177μm,19.6s,MS7.1,baz=330,slow=31
MAW Mawson 49.81 166 *e*P **P 22 28 02.5 +1.2**
MAW *e*S **S 22 35 11.8 +1.6**
MAW pmax pmax
comp=Z,285nm,0.7s
SMDO Samad 50.15 30 P **P 22 28 04.9 +1.0**
SNR=46
WBK Wadi Bani Khal 50.20 31 P **P 22 28 05.3 +1.1**
SNR=128
HOQ Hoqain 50.27 29 P **P 22 28 04.8 0.0**
SNR=126
BIDO Bidbid 50.58 30 P **P 22 28 07.4 +0.2**
SNR=94
ASHO Ashiyiah 50.69 27 P **P 22 28 08.0 0.0**
SNR=137
EIL Elat 50.70 2 *e*P **P 22 28 07.2 -0.8**
comp=Z,7μm,1.1s
NVL N'Iazarevskaya 51.10 189⇑ *i*P **P 22 28 11.6 +0.6**
NVL *e**PP pP 22 28 20.6 +4.4
NVL *e* 22 37 54.6
NVL *e*SSS 22 40 36.7
NVL pmax pmax
comp=Z,780nm,1.2s,mb6.5
QRN Al-Qurain 51.66 16 *e*P **P 22 28 16.1 +0.9**
QRN AMb AMB 22 28 21.9
comp=Z,993nm,1.2s,mb6.6
RDF Al-Radifah 51.74 16 *e*P **P 22 28 16.5 +0.7**
RDF AMb AMB 22 28 22.9
comp=Z,1μm,1.1s,mb6.8
BANOM Banah 51.88 26 P **P 22 28 16.3 -0.6**
SNR=38
TRD Trivandrum 51.91 60 *e*S **S 22 35 40.6 +1.4**
NAY Al-Naaiem 51.97 15 *e*P **P 22 28 18.2 +0.6**
NAY AMb AMB 22 28 22.1
comp=Z,444nm,1.2s,mb6.2
KBD Kabd 52.01 16 *e*P **P 22 28 18.9 +1.0**
KBD AMb AMB 22 28 23.5
comp=Z,4μm,1.5s,mb7.2
UMR Umm Al-Rimmam 52.38 16 *e*P **P 22 28 21.4 +0.8**
UMR AMb AMB 22 28 25.9
comp=Z,3μm,1.2s,mb7.1
MIB Mutribah 52.52 15 *e*P **P 22 28 22.4 +0.8**
MIB AMb AMB 22 28 24.9
comp=Z,365nm,0.7s,mb6.4
MNGI Mangalore 52.93 54 *e*P **P 22 28 24.5 -0.2**
MNGI *e*x x 22 35 51.1
GOA Goa 53.84 51 *e*P **P 22 28 31.0 -0.4**
PALK Pallekele 54.29 64 P **P 22 28 35.9 +1.2**
comp=Z,2μm,1.4s,mb6.8,SNR=21
PALK Pallekele 54.29 64⇓*e*P **P 22 28 34.3 -0.4**
comp=Z,2μm,1.7s,mb6.8
PALK LR LR
comp=Z,249μm,19.0s,MS7.3
SNAA Sanae 54.53 193 S **S 22 36 13.9 -1.0**
comp=Z,17nm,1.2s,baz=13,slow=10,SNR=1.4
SNAA SS SS 22 39 59.4 +2.0
comp=Z,2.9nm,1.2s,baz=308,slow=19,SNR=1.4
SNAA LR LR 22 50 25.2
comp=Z,61μm,18.3s,MS6.7,baz=50,slow=34
SNAA Sanae 54.53 193⇓*i*P **P 22 28 37.0 +0.6**
SNAA *e* 22 28 46.5
BHL Bhannes 54.94 2 *e*P **P 22 28 40.2 +0.8**
VNA2 Neumayer--Watz 55.05 195⇓*i*P **P 22 28 41.3 +1.1**
baz=31,slow=1.9
VNA2 ⇓*i* pP 22 28 44.1 -1.3
VNA2 *e* 22 28 49.8
VNA2 *e* 22 28 54.8
VNA2 *e* 22 29 16.6
VNA2 *e* 22 29 33.5
VNA2 *e* 22 29 42.8
VNA2 *e* 22 29 50.0
VNA2 *e* 22 30 23.0
VNA2 *e* 22 30 44.2
VNA2 *e* 22 31 09.8
VNA2 *e* 22 31 37.0
VNA2 *e* 22 32 02.6
VNA2 *e* 22 32 53.9
VNA2 *e* 22 33 35.5
VNA2 *e* 22 34 10.0
VNA2 *e* 22 36 21.4
VNA2 *e* 22 36 39.7
VNA2 *e* 22 37 21.5
VNA2 *e* 22 37 53.4
VNA2 *e* 22 38 30.0
VNA2 Neumayer--Watz 55.05 195⇓*i*P **P 22 28 41.3 +1.1**
VNA2 ⇓*i*P pP 22 28 44.1 -1.3
VNA1 Neumayer--Stat 55.09 196⇓*i*P **P 22 28 42.2 +1.8**
VNA1 ⇓*i* pP 22 28 45.0 -0.7
VNA1 *e* 22 28 50.9
VNA1 *e* 22 29 41.0
BHD Baghdad 55.25 11 *i*x x 22 28 34.0
BHD *i*x x 22 29 32.0
BHD *i*x x 22 30 33.0
BHD *i*x x 22 31 53.0
BHD *i*x x 22 36 05.0
BHD *i*x x 22 36 22.0
FKH Fakeheh 55.30 3 *e*P **P 22 28 43.9 +1.9**
KAD Karad 55.31 49 *e*P **P 22 28 42.6 +0.6**
KAD *e*S **S 22 36 26.9 +1.6**
HWQ Hawqa 55.33 2 *e*P **P 22 28 43.0 +0.9**
BOM Bombay 55.44 47 *e*P **P 22 28 42.5 -0.5**
BOM *i*P 22 28 42.5
BOM *e*x x 22 29 04.2
comp=Z,9μm,12.5s
BOM *i*S **S 22 36 30.7 +3.6**
BOM *e*x x 22 36 32.7
VNA3 Neumayer Olymp 55.83 196⇓*i*P **P 22 28 46.4 +0.7**
VNA3 ⇓*i* pP 22 28 49.4 -1.6
VNA3 *e* 22 28 55.1
VNA3 *e* 22 29 43.7
VNA3 *e* 22 30 48.8
VNA3 *e* 22 31 15.9
VNA3 *e* 22 32 07.6
VNA3 *e* 22 33 40.5
CSS Prodhromos 55.96 360 P **P 22 28 46.7 0.0**
CSS Prodhromos 55.96 360 *e*P **P 22 28 46.5 -0.2**
comp=Z,914nm,1.4s,mb6.6
XRY Khrisi 56.37 352 *e*P **P 22 28 50.0 +0.4**
ZKR Zakros 56.54 353 *e*P **P 22 28 51.0 +0.2**
GVD Gavdhos 56.56 351 *e*P **P 22 28 53.0 +2.0**
GVD Gavdhos 56.56 351 *e*P **P 22 28 50.1 -0.9**
BHJ Bhuj 56.56 41 *e*P **P 22 28 49.5 -1.5**
BHJ AMb AMB 22 28 59.4
comp=Z,538nm,1.5s,mb6.3
BHJ *e*S **S 22 36 43.2 +1.2**
SIVA Sivas 56.63 351 *e*P **P 22 28 51.2 -0.3**
LAST Lasithi 56.68 352 *e*P **P 22 28 51.9 +0.1**
NPS Neapolis 56.76 352 *e*P **P 22 28 54.5 +2.1**
KARP Karpathos 56.87 354 *e*P **P 22 28 55.5 +2.3**
IDI Anoyia 56.88 352 P **P 22 28 52.7 -0.6**
comp=Z,215nm,1.0s,mb6.1,baz=174,slow=11,SNR=4.5
IDI S **S 22 36 45.0 -1.3**
comp=Z,21nm,1.0s,baz=262,slow=0.9,SNR=2.1
BHV Bhavnagar 57.02 44 *e*P **P 22 28 55.0 +0.8**
VAM Vamos 57.10 351 *e*P **P 22 28 56.0 +1.2**
KARN Karanos 57.14 351 *e*P **P 22 28 53.8 -1.3**
HTY Hatay 57.17 2 P **P 22 28 56.8 +1.5**
MDRS Chennai 57.18 58 *e*P **P 22 28 55.1 -0.3**
MDRS AMb AMB 22 29 08.8
comp=Z,394nm,1.6s,mb6.2
MDRS *e*S **S 22 36 49.7 -0.5**
IKL Isikli 57.23 0 P **P 22 28 56.5 +0.7**
KSL Kastellorizon 57.27 356 *e*P **P 22 28 58.5 +2.5**
COBT Iskenderun 57.57 3 *i*P **P 22 28 59.6 +1.5**
MEST Erdemli 57.59 1 *i*P **P 22 28 57.7 -0.5**
KRTS Karatas 57.59 2 P **P 22 29 02.0 +3.7**
ERMK Ermenek 57.64 359 *i*P **P 22 28 57.7 -0.9**
LATR Latur 57.73 50 *e*P **P 22 28 58.5 -0.8**
FETY Fethiye 57.79 356 P **P 22 29 00.7 +1.0**
ELL Elmali 57.85 357 P **P 22 29 01.9 +1.8**
MERS Mersin 57.87 1 P **P 22 29 00.4 +0.2**
SANT Santorini 57.88 352 *e*P **P 22 28 59.7 -0.6**
NISR Nisiros 57.93 354 *e*P **P 22 29 03.0 +2.4**
DALT Dalyan (Mudla) 57.95 355 P **P 22 29 01.9 +1.1**
ANTB Antalya 57.96 357 P **P 22 29 03.8 +3.0**
MSL Mosul 57.99 9 *ex* x 22 29 04.0
MSL *i*x x 22 29 52.0
MSL *i*x x 22 31 23.0
MSL *i*x x 22 32 44.0
MSL *i*x x 22 37 10.0
CEYT Ceyhan 58.04 2 P **P 22 29 01.6 +0.2**
KYTH Kithira 58.13 350 *e*P **P 22 29 04.5 +2.4**
GAZ Gaziantep 58.27 3 P **P 22 29 04.4 +1.3**
KARA Karaisali 58.27 1 P **P 22 29 03.8 +0.8**
GOLH Golhisar 58.35 356 *i*P **P 22 29 05.4 +1.8**
BODT Bodrum 58.35 354 P **P 22 29 03.8 +0.1**
KOZT Kozan 58.51 2 P **P 22 29 05.5 +0.7**
BCK Bucak 58.52 357 P **P 22 29 05.3 +0.5**
HYB Hyderabad 58.54 52⇓*i*P **P 22 29 03.5 -1.4**
comp=Z,790nm,1.0s,mb6.7
HYB *e*PcP PcP 22 29 53.0 -2.2
HYB *e*S **S 22 37 06.0 -1.9**
HYB *e*PKPPKP 22 58 52.0
HYB Hyderabad 58.54 52⇓*e*P **P 22 29 03.5 -1.4**
HYB *e*S **S 22 37 08.0 +0.1**
HYB pmax pmax
comp=Z,790nm,1.0s,mb6.7
HYB Hyderabad 58.54 52⇓*e*P **P 22 29 03.5 -1.4**
comp=Z,790nm,1.0s,mb6.7
HYB *e*S **S 22 37 08.0 +0.1**
APE Apeiranthos 58.55 352 P **P 22 29 04.8 -0.2**
APE Apeiranthos 58.55 352 *e*P **P 22 29 06.5 +1.5**
APE Apeiranthos 58.55 352 *e*P **P 22 29 04.1 -0.9**
VLI Veliai 58.58 350 *e*P **P 22 29 08.0 +2.8**
MIR Mirnyy 58.62 156 *d*P **P 22 29 07.0 +1.5**
MIR *e*S **S 22 37 12.0 +3.0**
MIR *e* 22 38 52.0
MIR pmax pmax
comp=E,12μm,16.0s
MIR smax
comp=E,38μm,14.0s
MIR MLR MLR
comp=N,79μm,18.0s,MS6.9
MIR MLR MLR
comp=E,45μm,18.0s,MS6.9
MIR MLR MLR
comp=Z,203μm,18.0s,MS7.3
ATAB Bozova 58.63 4 *i*P **P 22 29 05.4 -0.2**
URFA Urfa 58.65 5 P **P 22 29 07.2 +1.5**
MARD Mardin 58.71 7 *i*P **P 22 29 05.4 -0.7**
DNZL Cakiroluk 58.84 356 *i*P **P 22 29 06.3 -0.7**
AYDN Tasoluk 58.90 355 *i*P **P 22 29 05.4 -2.0**
DENT Denizli 58.90 356 P **P 22 29 09.1 +1.7**
ISP Isparta 58.91 357 P **P 22 29 07.3 -0.1**
ISP Isparta 58.91 357 *e*P **P 22 29 06.7 -0.8**
ISP pmax pmax
comp=Z,736nm,1.2s,mb6.6
ISP Isparta 58.91 357 *e*P **P 22 29 06.7 -0.7**
comp=Z,736nm,1.2s,mb6.6
BSTP Nigde 58.95 1 *i*P **P 22 29 06.3 -1.4**
KONT Konya--Tatoy 58.95 359 P **P 22 29 08.8 +1.0**
CUKT Cukurca 59.01 9 P **P 22 29 09.1 +0.9**
SMG Samos 59.04 354 *e*P **P 22 29 10.0 +1.6**
TKTP Tekketepe 59.11 357 *i*P **P 22 29 07.3 -1.6**
NIG Nigde 59.11 1 P **P 22 29 07.2 -1.7**
ITM Ithomi 59.20 349 *e*P **P 22 29 12.0 +2.5**
DIY Diyarbakir 59.22 6 P **P 22 29 10.4 +0.7**
KHL Karahalli 59.44 356 P **P 22 29 12.6 +1.5**
MALT Malatya 59.48 4 P **P 22 29 11.1 -0.4**
MALT Malatya 59.48 4 P **P 22 29 10.2 -1.3**
MALT 22 29 10.9
MALT pmax pmax
comp=Z,190nm,1.1s,mb6.0
MALT Malatya 59.48 4 *e*P **P 22 29 10.6 -0.9**
comp=Z,191nm,1.1s,mb6.0
NAIG Nisos Aigina 59.51 351 *e*P **P 22 29 13.0 +1.3**
KVR Kavouri 59.54 351 *e*P **P 22 29 14.0 +2.2**
BTMT Batman 59.65 7 P **P 22 29 12.6 -0.1**
MANT Manisa 59.67 355 *i*P **P 22 29 13.0 +0.3**
IZM Izmir 59.68 354 P **P 22 29 16.6 +3.7**
ATH Athens Observa 59.69 351 *e*P **P 22 29 15.5 +2.6**
KDAG Bornova 59.69 354 *i*P **P 22 29 13.0 +0.2**
BLCB Balcova 59.69 354 P **P 22 29 13.6 +0.7**
ELZG Elazig 59.71 5 *i*P **P 22 29 12.1 -0.9**
URLA Izmir 59.71 354 *i*P **P 22 29 14.0 +0.9**
PTL Penteli 59.74 351 *e*P **P 22 29 14.9 +1.7**
MPAR Parnis Oros 59.86 351 *e*P **P 22 29 15.0 +0.9**
KIZT Kizilcal 59.89 358 P **P 22 29 14.2 -0.1**
AKS Akhisar 60.11 355 P **P 22 29 15.9 +0.1**
ALT Altintas 60.13 357 P **P 22 29 15.8 -0.1**
TVAN Van 60.24 9 *i*P **P 22 29 16.9 +0.2**
KAMT Kaman 60.36 0 P **P 22 29 17.9 +0.4**
BNGL BINGOL 60.37 7 *i*P **P 22 29 17.8 +0.3**
VLS Valsamata 60.41 348 *e*P **P 22 29 20.0 +2.2**
ESKT Eskisehir 60.56 358 P **P 22 29 19.4 +0.5**
ESKT Eskisehir 60.56 358 *i*P **P 22 29 18.8 -0.1**
CDAG Cicekdag 60.62 1 *i*P **P 22 29 18.8 -0.5**
PRK Paraskevi 60.62 354 *e*P **P 22 29 21.5 +2.2**
AYVA Ayvalik 60.64 354 *i*P **P 22 29 18.8 -0.6**
BR131 Keskin Array S 60.72 0 *e*P **P 22 29 18.4 -1.5**
comp=Z,274nm,1.0s,mb6.3
BR131 LR LR
comp=Z,52μm,19.0s,MS6.7
BRTR Keskin Array B 60.72 0 P **P 22 29 18.8 -1.2**
comp=Z,46nm,1.0s,mb5.6,baz=174,slow=6.6,SNR=88
BRTR S **S 22 37 34.4 -1.6**
comp=Z,8.1nm,0.9s,baz=190,slow=6.3,SNR=2.3
BRTR PKPPKP 22 58 42.2
comp=Z,2.4nm,1.0s,baz=225,slow=0.2,SNR=7.4
BRTR Keskin Array B 60.72 0 P **P 22 29 18.8 -1.1**
BRTR S **S 22 37 34.4 -1.6**
BRTR Keskin Array B 60.72 0 P **P 22 29 18.8 -1.2**
BRTR S **S 22 37 34.4 -1.6**
BRTR P'P' 22 58 42.2
DST Dursunbey 60.77 356 P **P 22 29 20.4 +0.1**
AOS Alonnisos 60.84 351 *e*P **P 22 29 20.0 -0.8**
SVST Sivas 60.85 3 *i*P **P 22 29 20.7 -0.1**
BALB Balikesir 60.86 355 P **P 22 29 22.0 +1.1**
ANTO Ankara 60.86 359 P **P 22 29 21.0 +0.1**
ANTO Ankara 60.86 359 *e*P **P 22 29 19.5 -1.4**
ANTO pmax pmax
comp=Z,213nm,1.2s,mb6.2
ANTO MLR MLR
comp=Z,87μm,21.0s,MS6.9
ANTO Ankara 60.86 359 *e*P **P 22 29 19.5 -1.4**
comp=Z,214nm,1.2s,mb6.2
ANTO LR LR
comp=Z,87μm,21.0s,MS6.9
EVR Evrytania 60.91 350 *e*P **P 22 29 24.5 +3.2**
CLDR Caldiran 60.91 9 P **P 22 29 20.4 -0.9**
LKD Levkas 60.91 348 *e*P **P 22 29 21.3 0.0**
AGG Agios Georgios 60.93 350 *e*P **P 22 29 20.5 -0.9**
BORA Eskisehir 60.94 357 *i*P **P 22 29 21.7 +0.2**
COCO West Island 60.95 92 P **P 22 29 24.1 +2.6**
comp=Z,3μm,1.5s,mb7.2,SNR=5.3
COCO West Island 60.95 92 *e*P **P 22 29 22.4 +0.9**
comp=Z,2μm,1.6s,mb7.0
COCO LR LR
comp=Z,321μm,20.0s,MS7.5
BTOK Tokmak 60.97 355 *i*P **P 22 29 21.7 0.0**
SVSK Karacayir 60.99 3 P **P 22 29 12.1 -10**
NEO Neokhori 61.07 351 *e*P **P 22 29 23.5 +1.2**
XOR Xorichti 61.13 351 *e*P **P 22 29 21.5 -1.3**
VAE Valguarnera 61.19 343 P **P 22 29 22.2 -0.9**
comp=Z,47nm,1.1s,mb5.5
VAE S **S 22 37 43.0 +0.9**
comp=Z,15nm,1.2s,baz=184,slow=23,SNR=2.0
VAE Valguarnera 61.19 343 P **P 22 29 22.2 -0.9**
VAE S **S 22 37 43.0 +0.9**
ULDT Uludag 61.27 356 *i*P **P 22 29 22.6 -1.1**
NGP Nagpur 61.28 49 *e*P **P 22 29 24.1 +0.4**
NGP *ex* x 22 37 51.0
ERZM Erzurum 61.33 7 *i*P **P 22 29 24.5 +0.4**
EZM Erzurum 61.33 7 P **P 22 29 25.4 +1.3**
HOPE Hope Point 61.36 219 P **P 22 29 25.5 +1.2**
comp=Z,3μm,1.3s,mb7.2,SNR=5.3
HOPE Hope Point 61.36 219 *e*P **P 22 29 24.6 +0.3**
comp=Z,1μm,1.5s,mb6.8
HOPE LR LR
comp=Z,152μm,20.0s,MS7.2
KELT Kelkit 61.37 5 *i*P **P 22 29 24.5 +0.2**
LOS Limnos 61.44 353 *e*P **P 22 29 26.7 +1.9**
IZI Iznik 61.45 356 P **P 22 29 26.6 +1.7**
ELDT Eldivan 61.48 360 *i*P **P 22 29 23.6 -1.5**
MDU Mudurnu 61.49 358 P **P 22 29 26.0 +0.8**
BHPL Bhopal 61.54 46 *e*P **P 22 29 25.5 -0.1**
BHPL *e*P 22 29 26.9
BHPL AMb AMB 22 29 30.6
comp=Z,1μm,1.4s,mb6.8
BHPL AMb AMB 22 29 37.5
comp=Z,2μm,0.9s,mb7.2
BHPL *e*S **S 22 37 46.0 -0.6**
BHPL *e*S **S 22 37 49.3 +2.7**
MCT Mte Cammarata 61.55 342 P **P 22 29 28.4 +2.8**
BNT Bandirma 61.57 355 P **P 22 29 25.9 +0.2**
SGKT Sivrigoynuk 61.58 359 *i*P **P 22 29 24.5 -1.2**
CANT Cankiri 61.60 0 P **P 22 29 26.1 +0.2**
PAIG Paliouri 61.61 351 *e*P **P 22 29 24.0 -2.0**
CLTB Caltabellotta 61.62 342 P **P 22 29 27.7 +1.6**
comp=Z,1μm,1.7s,mb6.8
CTKT Corum 61.62 1 *i*P **P 22 29 26.4 +0.4**
YLV Yalova 61.68 356 P **P 22 29 27.2 +0.7**
GUMT Gumushane 61.70 5 P **P 22 29 25.9 -0.7**
IGT Igoumenitsa 61.77 348 *e*P **P 22 29 26.6 -0.5**
JAN Janina 61.80 349 *e*P **P 22 29 30.0 +2.7**
MRMT Marmara Adasi 61.84 355 P **P 22 29 28.0 +0.4**
MEV Metsovon 61.86 349 *e*P **P 22 29 28.7 +1.1**
HENT Hendek 61.86 358 *i*P **P 22 29 27.4 -0.3**
HRT Hereke 61.92 357 P **P 22 29 28.7 +0.7**
GRI Girifalco 61.93 345 P **P 22 29 28.7 +0.5**
LIT Litokhoron 61.96 350 *e*P **P 22 29 27.6 -0.7**
SART Tekirdag 61.96 355 *i*P **P 22 29 28.4 0.0**
OUR Ouranopolis 61.97 352 *e*P **P 22 29 26.0 -2.4**
AJM Ajmer 61.99 42 *e*P **P 22 29 28.7 +0.2**
AJM AMb AMB 22 29 36.7
comp=Z,387nm,1.6s,mb6.3
AJM *e*S **S 22 37 51.4 -0.9**
AJM AMS AMS 22 50 48.1
comp=Z,54μm,22.9s,MS6.7
GNI Garni 62.02 10 P **P 22 29 29.1 +0.4**
GNI Garni 62.02 10 P **P 22 29 28.3 -0.5**
comp=Z,86nm,1.0s,mb5.8,baz=151,slow=2.5,SNR=70
GNI S **S 22 37 51.7 -1.0**
comp=Z,8.7nm,0.8s,baz=344,slow=11,SNR=1.9
GNI LR LR 22 58 33.8
comp=Z,118μm,19.2s,MS7.1,baz=9.3,slow=38
GNI PKPPKP 22 58 36.6
comp=Z,2.8nm,0.8s,baz=207,slow=17,SNR=6.3
GNI Garni 62.02 10 P **P 22 29 28.3 -0.5**
GNI 22 29 29.3
GNI pmax pmax
comp=Z,1μm,1.5s
GNI Garni 62.02 10 *e*P **P 22 29 28.4 -0.4**
comp=Z,429nm,1.1s,mb6.5
GNI LR LR
comp=Z,122μm,19.0s,MS7.1
KEK Kerkira 62.05 348 *e*P **P 22 29 31.5 +2.6**
MFT Murefte 62.05 355 P **P 22 29 25.9 -3.1**
GRSN GIRESUNGRSN 62.07 4 *i*P **P 22 29 27.4 -1.7**
DIGO Kars 62.08 8 *i*P **P 22 29 30.3 +1.1**
KVT Kavak 62.11 2 P **P 22 29 30.7 +1.3**
TIP Timpagrande 62.19 345 *e*P **P 22 29 29.1 -0.8**
ISK Istanbul-Kandi 62.20 356 P **P 22 29 29.5 -0.4**
SAFT Safranbolu 62.23 359 P **P 22 29 29.1 -1.1**
ERC Erice 62.23 341 P **P 22 29 32.7 +2.5**
KZN Kozani 62.27 350 *e*P **P 22 29 30.5 +0.1**
ALN Alexandroupoli 62.28 354 *e*P **P 22 29 29.0 -1.5**
VIS Vishakhapatnam 62.32 55 *e*P **P 22 29 31.5 +0.7**
VIS AMb AMB 22 29 43.9
comp=Z,770nm,1.6s,mb6.6
VIS *ex* x 22 38 07.0
ELBA Catalca 62.32 356 *i*P **P 22 29 30.3 -0.5**
CTT Catalca 62.32 356 P **P 22 29 28.6 -2.1**
LSK Leskovik 62.32 349 *i*Pn **P 22 29 32.4 +1.6**
ABSA Djebel Ababsia 62.35 336 P **P 22 29 34.0 +3.0**
CMER Merouana 62.39 335 P **P 22 29 34.0 +2.8**
THE Thessaloniki 62.41 351 *e*P **P 22 29 31.1 -0.2**
BOYT Boyabat 62.42 1 *i*P **P 22 29 29.3 -2.1**
BYBT Boyabat 62.47 1 P **P 22 29 30.3 -1.4**
BALT Daday 62.52 360 *i*P **P 22 29 31.2 -0.9**
SOH Sokhos 62.53 351 *e*P **P 22 29 31.9 -0.3**
CTEI Djebel Teioual 62.58 335 P **P 22 29 34.5 +2.0**
ARTV Artvin 62.66 7 *i*P **P 22 29 31.2 -1.8**
CMAH Djebel Manchou 62.69 336 P **P 22 29 35.0 +1.8**
CASM Ain Smara 62.72 336 P **P 22 29 38.0 +4.6**
CKFL Kef-Lekhel 62.75 336 P **P 22 29 36.0 +2.4**
SRS Serrai 62.79 352 *e*P **P 22 29 31.4 -2.5**
FNA Florina 62.80 350 *e*P **P 22 29 32.6 -1.4**
GRG Griva 62.81 351 *e*P **P 22 29 33.2 -0.8**
CKHR Kef el Ahmar 62.89 335 P **P 22 29 36.0 +1.4**
KNT Kendrikon 62.94 351 *e*P **P 22 29 34.0 -0.8**
LCI Lecce 62.99 347 P **P 22 29 37.2 +2.0**
comp=Z,3μm,2.3s,mb7.0
CAEH 'Ain El Ouahch 63.04 336 P **P 22 29 37.0 +1.5**
BIA Bitola 63.04 350 *e*P **P 22 29 34.0 -1.5**
BIA Bitola 63.04 350 *i*P **P 22 29 35.5 -0.1**
BIA *i*S **S 22 38 12.6 +7.1**
AKH Akhalkalaki 63.08 8 P **P 22 29 35.6 -0.2**
AKH S **S 22 38 14.6 +8.7**
KDZ Kurdzhali 63.09 353 P **P 22 29 36.5 +0.6**
SET Setif 63.09 335 P **P 22 29 38.0 +2.1**
VAY Valandovo 63.14 351 *e*P **P 22 29 35.0 -1.2**
VAY Valandovo 63.14 351 *i*P **P 22 29 34.7 -1.5**
VAY *i*S **S 22 38 13.7 +7.1**
EDRB Edirne 63.15 354 P **P 22 29 35.0 -1.3**
DFRA Djebel Bou Aff 63.20 335 P **P 22 29 37.5 +0.9**
RZN Rozhen 63.21 353 P **P 22 29 36.5 -0.2**
OHR Ohrid 63.22 349 *e*P **P 22 29 36.0 -0.8**
OHR Ohrid 63.22 349 *i*P **P 22 29 36.5 -0.2**
OHR *i*S **S 22 38 14.4 +6.7**
MMB Musomiste 63.24 352 P **P 22 29 37.0 +0.1**
JBP Jabalpur 63.25 48 *e*P **P 22 29 36.1 -0.8**
JBP *e*S **S 22 38 08.2 +0.2**
ABKT Ailbek 63.29 22 P **P 22 29 36.5 -0.7**
comp=Z,867nm,1.4s,mb6.7,SNR=58
VAN Vannovskaya 63.31 22 *e*P **P 22 29 36.5 -0.8**
VAN *e*S **S 22 38 15.0 +6.2**
DGRG David-gareji 63.40 10 P **P 22 29 37.7 -0.2**
DGRG S **S 22 38 16.8 +6.9**
BKR Bakuriani 63.40 8 P **P 22 29 38.6 +0.7**
DIM Dimitrovgrad 63.47 353 P **P 22 29 41.0 +2.6**
MTA Mtatsminda 63.54 9 P **P 22 29 37.6 -1.3**
MTA S **S 22 38 25.2 +13**
STIP Stip 63.56 351 *i*P **P 22 29 39.5 +0.5**
STIP *i*S **S 22 38 31.1 +19**
TBLG Delisi 63.57 9 P **P 22 29 38.7 -0.4**
TBLG S **S 22 38 22.3 +10**
KKB Krupnik 63.60 351 P **P 22 29 39.0 -0.3**
JMB Yambol 63.78 354 *e*P **P 22 29 41.0 +0.5**
DUS Dusheti 63.92 9 P **P 22 29 42.9 +1.5**
SKO Skopje 63.95 350 *e*P **P 22 29 39.4 -2.2**
SKO Skopje 63.95 350 *i*P **P 22 29 41.1 -0.5**
SKO *i*S **S 22 38 25.6 +8.8**
EMHD Djebel Mahouad 64.10 333 P **P 22 29 45.0 +2.4**
PGB Panagyurishte 64.13 352 P **P 22 29 42.5 -0.2**
ETRT Tiaret 64.15 331 P **P 22 29 43.0 +0.1**
CHVG Ch'k'valeri 64.19 7 P **P 22 29 43.4 +0.3**
ONI Oni 64.22 8 P **P 22 29 42.9 -0.4**

ONI S S 22 38 32.3 +12
PUK Puka 64.29 349 *i* Pn P 22 29 45.2 +1.4
VTS Vitosha 64.29 352 P P 22 29 44.0 +0.2
ULC Ulcinj 64.33 348⇑ *i*P P 22 29 44.9 +0.8
PRD Provadia 64.44 355 P P 22 29 44.0 -0.8
ZEI Tsey 64.47 8 *i* P P 22 29 45.7 +0.7
ZEI *e**PP pP 22 29 49.2 -1.1
ZEI *e*S S 22 38 35.9 +13
ZEI *e*S S 22 38 36.1 +13
ZEI pmax pmax
comp=Z,362nm,1.9s,mb6.1
OJGS Djebel Guires 64.49 331 P P 22 29 50.0 +4.9
SZH Strazhica 64.64 354 P P 22 29 46.0 -0.1
PVL Pavlikeni 64.65 353 P P 22 29 45.5 -0.7
EANR 'Ain N'Sour 64.70 331 P P 22 29 44.0 -2.5
BUM Brajici-Budva 64.72 348⇑ *i*P P 22 29 47.2 +0.6
ECHA Ech Chlef 64.75 332 P P 22 29 47.0 +0.2
TTG Podgorica 64.78 348⇑ *i*P P 22 29 47.7 +0.7
FGMS Monte Sant'Ang 64.78 346 P P 22 29 46.9 -0.1
comp=Z,2µm,2.6s,mb6.7
EBNR Beni Rached 64.80 332 P P 22 29 49.0 +1.9
PVY Plav 64.81 349⇑ *i*P P 22 29 48.5 +1.3
SOC Sochi 64.82 5*c i*P P 22 29 47.5 +0.2
SOC *e**PP pP 22 29 52.5 -0.1
SOC *e* 22 30 23.3
SOC *e* 22 32 15.9
SOC *i* S S 22 38 29.4 +1.9
SOC *e**SS sS 22 38 39.4 +3.1
SOC *e*SS SS 22 42 32.9 -6.0
SOC pmax pmax
comp=Z,1µm,3.2s
SOC pmax pmax
comp=Z,236nm,1.6s,mb6.0
SOC MLR MLR
comp=Z,115µm,18.0s,MS7.1
PSN Preselentsi 64.86 356 P P 22 29 50.0 +2.5
HCY Herceg Novi 64.94 348⇑ *i*P P 22 29 49.7 +1.6
OKGL Djebel Kef Gue 64.98 331 P P 22 29 52.0 +3.7
OTSS Djebel Tessala 65.03 329 P P 22 29 53.0 +4.4
ZIMR 65.08 353⇓ P P 22 29 50.6 +1.6
ZIMR 65.08 353⇓ P P 22 29 50.6 +1.6
IVA Berane 65.09 349⇑ *i*P P 22 29 50.0 +1.0
NDI New Delhi 65.16 42 *e*S S 22 38 32.0 +0.3
NKY Niksic 65.20 348⇑ *i*P P 22 29 50.5 +0.8
CII Carovilli 65.20 344 P P 22 29 50.8 +1.1
MAK Makhachkala 65.23 11*d i*P P 22 29 52.4 +2.5
MAK *i* 22 29 52.5
MAK *e* 22 30 20.4
MAK *e* 22 39 39.3
MAK pmax pmax
comp=Z,1µm,1.3s,mb6.8
MAK MLR MLR
comp=Z,269µm,18.0s,MS7.5
DGI Dorgali Grotta 65.25 340 P P 22 29 51.9 +1.9
USTO Oran 65.28 330 P P 22 29 54.0 +3.7
BRY Bratogost 65.37 348⇑ *i*P P 22 29 51.9 +1.1
CASY Casey 65.46 154 *e*P P 22 29 52.6 +1.2
CASY *e*S S 22 38 35.4 0.0
STON Ston 65.51 347 *i* P P 22 29 53.1 +1.4
UPM Unac-Piva 65.59 348⇑ *i*P P 22 29 53.0 +0.7
TIRR Tirgusor 65.61 356⇑ P P 22 29 52.4 0.0
PLE Pljevlja 65.62 349⇑ *i*P P 22 29 53.4 +0.9
BOLS Boljevac 65.69 351⇑ *i*P P 22 29 53.0 +0.1
BUC1 Bucharest 65.70 354⇓ P P 22 29 54.9 +1.9
BUC1 Bucharest 65.70 354 P P 22 29 53.2 +0.2
BUC1 Bucharest 65.70 354⇓ P P 22 29 54.9 +1.9
BWNR Bhubaneshwar 65.72 55 *ex* PcP 22 30 29.0 +4.7
CERT Cerreto 65.76 343 P P 22 29 53.5 +0.2
HARR Harsova 65.88 356⇑ P P 22 29 55.9 +1.8
HARR Harsova 65.88 356⇑ P P 22 29 55.9 +1.8
ANN Anapa 65.88 3*d i*P P 22 29 53.0 -1.2
ANN *i* S S 22 38 43.6 +3.0
ANN pmax pmax
comp=Z,43µm,11.1s
ALBI Allahabad 65.90 48 *e*P P 22 29 53.0 -1.3
CRAR CRAIOVA 65.92 352 P P 22 29 55.0 +0.6
GRUS Gruza 65.94 350 *e*P P 22 29 54.6 +0.1
SIM Simferopol' 65.94 0*ce*P P 22 29 54.6 +0.1
SIM *e* 22 32 26.0
SIM *e*S S 22 38 45.8 +4.6
SIM pmax pmax
comp=Z,22µm,14.7s
AQU L'Aquila 66.02 344 P P 22 29 55.5 +0.4
AQU pmax pmax
comp=Z,310nm,1.0s,mb6.3
AQU L'Aquila 66.02 344 P P 22 29 55.8 +0.7
comp=Z,4µm,2.4s,mb7.0
BBLS Bajina Basta - 66.14 349 *i* P P 22 30 04.2 +8.4
SVIS Svilajnac 66.25 350⇑ *i*P P 22 29 55.9 -0.6
DIVS Divcibare 66.26 349 *i* P P 22 29 56.9 +0.3
CFR Carcaliu 66.35 356⇓ P P 22 29 57.7 +0.5
CFR Carcaliu 66.35 356⇓ P P 22 29 57.7 +0.5
DJES Djerdap 66.39 351 *e*P P 22 29 57.0 -0.5
ISR Istrita 66.42 355⇓ P P 22 30 00.3 +2.7
ISR Istrita 66.42 355⇓ P P 22 30 00.3 +2.8
NIL Nilore 66.47 36 P P 22 30 00.6 +2.6
comp=Z,512nm,2.0s,mb6.2,SNR=21
OSPF L'Ospedale 66.60 340 *e*P P 22 29 58.0 -0.7
GOF Gofitskoye 66.61 7⇑ *i*P P 22 30 00.3 +1.5
GOF *e*S S 22 38 54.9 +5.5
GOF pmax pmax
comp=Z,558nm,1.3s,mb6.4
MTUR Matau 66.67 353⇓ P P 22 30 01.5 +2.3
MTUR Matau 66.67 353⇓ P P 22 30 01.5 +2.3
MAON Monte Argentar 66.71 342 P P 22 29 58.9 -0.6
PONG Pong 66.73 39 *e*P P 22 30 00.0 +0.4
DDI Dehra Dun 66.83 41 *e*P P 22 29 59.4 -0.8
MLR Muntele Rosu 66.84 354 P P 22 29 57.9 -2.4
comp=Z,89nm,0.9s,mb5.8,baz=180,slow=4.4,SNR=74
MLR S S 22 38 51.5 -0.6
comp=Z,3.8nm,0.8s,baz=289,slow=20,SNR=1.3
MLR Muntele Rosu 66.84 354⇓ P P 22 30 01.4 +1.1
MLR S S 22 38 51.5 -0.6
VOIR 66.88 354⇓ P P 22 30 00.8 +0.3
VOIR 66.88 354⇓ P P 22 30 00.8 +0.3
BEO Belgrade 66.89 350 *e*P P 22 30 00.7 +0.1
CART Cartagena 67.00 331 *e*P P 22 30 00.1 -1.2
comp=Z,321nm,1.1s,mb6.3
MURB Monte Urbino 67.10 343 P P 22 30 03.3 +1.3
VRI Vrincioaia 67.14 355⇓ P P 22 30 02.8 +0.6
VRI Vrincioaia 67.14 355 P P 22 30 01.9 -0.3
VRI Vrincioaia 67.14 355⇓ P P 22 30 02.8 +0.6
DLH Dalhousie 67.17 38 *ex* pP 22 30 09.0 +1.3
CORF Corte 67.19 341 *e*P P 22 30 03.0 +0.5
ARV Arcevia 67.21 344 P P 22 30 02.0 -0.7
comp=Z,998nm,2.3s,mb6.4
PGF Pioggiola 67.46 341 *e*P P 22 30 03.2 -1.0
comp=Z,2µm,1.4s,mb6.5
BZS Buzias 67.48 351⇓ P P 22 30 05.5 +1.1
BZS Buzias 67.48 351 P P 22 30 03.8 -0.6
LGTI Lohaghat 67.60 43 *e*P P 22 30 05.5 +0.4
CSNT Castellina Chi 67.63 343 P P 22 30 05.0 -0.3
PTH Pithoragarh 67.65 43 *e*P P 22 30 04.1 -1.3
PTH *ex* x 22 34 32.8
NVLJ Novalja 67.74 346 *i* P P 22 30 05.4 -0.6
BOK Bokaro 67.86 52 *e*P P 22 30 08.1 +1.4
BOK AMb AMB 22 30 20.1
comp=Z,850nm,1.6s,mb6.5
BOK *i* S S 22 39 05.5 +1.1
BOK *e*S S 22 39 07.3 +2.9
BOK AMS AMS 23 42 23.6
comp=Z,14µm,18.1s
PII Pisa 68.08 342 P P 22 30 07.8 -0.3
comp=Z,961nm,1.7s,mb6.5
KIS Kishinev 68.12 357κ *i*P P 22 30 08.0 -0.4
KIS *i* 22 30 33.0
KIS *i* 22 32 42.0
KIS *e*PPP 22 34 24.0
KIS *e*S S 22 39 08.0 +0.4
KIS *e* 22 39 56.0
KIS pmax pmax
comp=Z,35µm,13.0s
KIS pmax pmax
comp=N,16µm,11.0s
KIS pmax pmax
comp=E,2µm,7.0s
KIS pmax pmax
comp=Z,20µm,14.0s
KIS pmax pmax
comp=Z,11µm,13.0s
KIS smax
comp=E,38µm,15.0s
KIS MLR MLR
comp=Z,42µm,16.0s,MS6.8
KIS MLR MLR
comp=N,46µm,17.0s,MS6.9
KIS MLR MLR
comp=E,27µm,15.0s,MS6.9
KIS MLR MLR
comp=Z,43µm,18.0s
PSI Prapat 68.25 78 P P 22 30 08.5 -0.7
comp=Z,90nm,0.9s,mb5.8,baz=257,slow=5.2,SNR=42
PSI S S 22 39 09.1 0.0
comp=Z,2.7nm,0.5s,baz=142,slow=8.4,SNR=2.3
PSI LR LR 22 55 20.8
comp=Z,442µm,21.3s,MS7.7,baz=276,slow=32
PSI PKP2ab 22 58 28.4
comp=Z,38nm,1.2s,baz=33,slow=1.1,SNR=3.7
PSI Prapat 68.25 78 P P 22 30 08.5 -0.7
PSI S S 22 39 09.1 0.0
PSI Prapat 68.25 78 P P 22 30 08.5 -0.7
PSI S S 22 39 09.1 0.0
PSI LR LR 22 55 20.9
PSI P'P'ab 22 58 28.4
BDI Bagni Di Lucca 68.37 342 P P 22 30 11.4 +1.5
IAS Iasi 68.39 356⇑ P P 22 30 10.9 +0.8
IAS Iasi 68.39 356 P P 22 30 09.2 -0.9
IAS Iasi 68.39 356⇑ P P 22 30 10.9 +0.8
CAM3 Guarapari 68.49 255⇑ *e*P P 22 30 06.9 -3.8
CAM3 *i* pP 22 30 10.3 -5.8
CAM3 *i* 22 30 13.9
CAM3 *i* 22 30 18.5
CAM3 *i* 22 30 40.3
VLC Villacollemand 68.52 342⇓ *e*P P 22 30 07.9 -3.0
comp=Z,195nm,1.3s,mb5.9
VLC *e*S S 22 38 53.6 -19
RHK1 Bakonya 68.54 348 *e*P P 22 30 08.5 -2.5
BOJS Bojanci 68.55 346 *e*P P 22 30 11.8 +0.7
BOJS *e* pP 22 30 17.0 +0.6
BOJS *e*S S 22 39 20.4 +7.8
BOJS *e* 22 40 30.4
PKSM Moragy 68.55 349 P P 22 30 10.0 -1.1
PKSM Moragy 68.55 349⇓ *e*P P 22 30 12.7 +1.6
GSCL Gusciola 68.64 343 P P 22 30 11.9 +0.3
SFS San Fernando 68.65 326 *e*P P 22 30 11.3 -0.4
SFS pmax pmax
comp=Z,1µm,1.2s,mb6.7
SFS San Fernando 68.65 326 *e*P P 22 30 11.3 -0.4
comp=Z,1µm,1.2s,mb6.7
KOLN Koldanda 68.71 47 *e*P P 22 30 10.0 -2.1
comp=Z,883nm,0.9s,mb6.7
RCBR Riachuelo 68.77 272 *e*P P 22 30 11.3 -1.2
comp=Z,1µm,1.5s,mb6.7
RCBR *e*S S 22 38 56.1 -19
RCBR LR LR
comp=Z,407µm,19.0s,MS7.7
GCIS Gornji Cirnik 68.81 347 *e*P P 22 30 12.5 -0.2
QSPA South Pole Qui 68.85 180⇓ *i*P P 22 30 14.0 +1.0
comp=Z,668nm,1.1s,mb6.5
CAL Calcutta 68.93 54 *e*P P 22 30 14.6 +1.1
CAL *ex* x 22 38 10.6
LMR La Mourre 68.97 339 *e*P P 22 30 12.6 -1.1
comp=Z,737nm,1.2s,mb6.2
BURAR Bucovina Array 69.01 354⇓ P P 22 30 14.0 0.0
BURAR Bucovina Array 69.01 354⇓ P P 22 30 14.0 0.0
EBR Ebro Roquetas 69.03 334 *e*P P 22 30 14.0 -0.1
REVF Revere 69.05 340 *e*P P 22 30 13.7 -0.5
FRF La Foret Royal 69.12 339 *e*P P 22 30 13.5 -1.1
comp=Z,560nm,1.0s,mb6.1
SBF Sospel 69.14 340 *e*P P 22 30 13.9 -0.8
comp=Z,2µm,1.1s,mb6.5
PKS8 Sarbogard 69.19 349 *e*P P 22 30 14.7 -0.3
SAOF Saorge 69.21 340 *e*P P 22 30 14.8 -0.4
LJU Ljubljana 69.22 346 *e*P P 22 30 15.0 -0.2
LJU *e* pP 22 30 21.4 +0.7
LJU *e*S S 22 39 23.4 +2.8
LJU *e* 22 39 40.5
LJU *e* 22 40 24.5
KOGS Kog 69.23 347 *e*P P 22 30 15.1 -0.2
MVIF Mont Vial 69.26 340 *e*P P 22 30 16.4 +0.9
AUTN L'Aution 69.26 340 *e*P P 22 30 15.3 -0.2
PKS7 Kunszentmiklos 69.27 350 *e*P P 22 30 16.4 +0.9
BOB Bobbio (Coli) 69.34 342 P P 22 30 16.0 0.0
VOY Vojsko 69.36 345 *e*P P 22 30 15.0 -1.1
VOY *e* pP 22 30 18.1 -3.3
SJAF Saint Jean de 69.50 336 *e*P P 22 30 17.2 +0.2
GKN Gorkha 69.56 47 *e*P P 22 30 15.2 -2.2
comp=Z,2µm,1.2s,mb7.0
DMN Daman 69.64 48 *e*P P 22 30 16.3 -1.5
comp=Z,2µm,1.3s,mb6.8
ROBS Robic 69.65 345 *e*P P 22 30 17.6 -0.3
PERS Pernice 69.65 347 *e*P P 22 30 18.0 +0.1
PERS *e* pP 22 30 24.2 +0.9
PERS *e*S S 22 39 32.5 +6.7
PERS *e* 22 40 29.7
OBKA Obir 69.66 346⇓ *i*P P 22 30 18.3 +0.3
comp=Z,11µm,4.2s,SNR=67
FILF Fillols 69.69 336 *e*P P 22 30 19.8 +1.7
BUD Budapest 69.71 350⇑ *e*P P 22 30 19.2 +0.9
PKSG 69.73 349⇑ *e*P P 22 30 18.0 -0.4
GMNA Gemona 69.74 345 P P 22 30 18.8 +0.3
VALF Valcebollere 69.76 336 *e*P P 22 30 18.9 +0.3
PKT Phuket 69.82 72 P P 22 30 22.5 +3.6
PKI Pulchoki 69.83 48 *e*P P 22 30 16.0 -3.0
comp=Z,2µm,1.2s,mb6.9
SMRF Simiane la Rot 69.85 339 *e*P P 22 30 19.2 +0.1
comp=Z,2µm,1.7s,mb6.5
KKN Kakani 69.87 48 *e*P P 22 30 17.5 -1.8
comp=Z,3µm,1.4s,mb7.0
KKN Kakani 69.87 48 *e*P P 22 30 17.5 -1.8
KKN pmax pmax
comp=Z,1µm,1.4s,mb6.7
SURF Saint Ours 69.89 340 *e*P P 22 30 21.7 +2.3
CAM4 Nova Friburgo 69.89 253 *e*P P 22 30 18.4 -1.0
CAM4 *i* 22 30 20.1
CAM4 *i* 22 30 20.5
CTI Castel Tesino 69.92 344 P P 22 30 20.1 +0.5
comp=Z,3µm,2.1s,mb6.8
PENC Penc 69.97 350⇑ *e*P P 22 30 19.8 0.0
PSZ Piszkesteto 69.99 350⇓ *i*P P 22 30 20.6 +0.6
PSZ Piszkesteto 69.99 350 P P 22 30 18.2 -1.8
CARF Carcanieres 70.00 336 *e*P P 22 30 22.9 +2.9
LRDF Laroque-de-Fa 70.02 336 *e*P P 22 30 20.2 0.0
ESDC Sonseca Array 70.06 330 P P 22 30 18.6 -1.8
comp=Z,201nm,1.0s,mb6.0,baz=144,slow=5.5,SNR=103
ESDC S S 22 39 30.5 +0.1
comp=Z,7.2nm,1.0s,baz=154,slow=6.1,SNR=3.3
ESLA Sonseca Array 70.06 330 *e*P P 22 30 19.3 -1.1
comp=Z,180nm,1.0s,mb6.0
ESLA LR LR
comp=Z,1109µm,20.0s,MS8.1
SRO2 Moca 70.09 349 *e*P P 22 30 22.5 +1.9
SRO1 Iza 70.12 349 *e*P P 22 30 21.8 +1.0
MBDF Montbardon 70.12 340 *e*P P 22 30 20.7 -0.1
comp=Z,851nm,1.0s,mb6.3
PAB San Pablo 70.14 330 P P 22 30 20.3 -0.6
PAB S S 22 39 33.4 +2.1
ARSA Arzberg 70.15 347⇓ *i*P P 22 30 20.8 -0.2
comp=Z,8µm,4.2s,SNR=36
SRO Srobarova 70.15 349 *e*P P 22 30 22.8 +1.8
SRO *e*S S 22 39 44.1 +13
OG22 Abries 70.15 340 *e*P P 22 30 23.2 +2.2
MABI Malga Bissina 70.23 343 P P 22 30 21.8 +0.3
UZH Uzhgorod 70.35 352 *i* P P 22 30 20.0 -2.2
UZH *i* PPP 22 34 45.0
UZH *e*S S 22 39 30.0 -3.8
SOP Sopron 70.35 348⇓ *i*P P 22 30 23.1 +0.9
GUN Gumba 70.36 48 *e*P P 22 30 20.7 -1.6
comp=Z,3µm,1.1s,mb7.2
SALF Salau 70.39 335 *e*P P 22 30 23.1 +0.7
JIRN Jiri 70.42 48 *e*P P 22 30 21.0 -1.7
comp=Z,4µm,1.4s,mb7.1
APPI Appiano 70.43 344 P P 22 30 22.6 -0.1
BNI Bardonecchia 70.44 340 P P 22 30 23.3 +0.5
BNI pmax pmax
comp=Z,420nm,1.1s,mb6.3
BNI Bardonecchia 70.44 340 P P 22 30 23.3 +0.5
comp=Z,2µm,1.6s,mb6.7
BNI *e*S S 22 39 38.5 +3.5
KECS Kecovo 70.45 351 *e*P P 22 30 21.8 -1.0
KECS *e*S S 22 39 40.9 +5.8
KECS *e* 22 58 24.5
KECS Kecovo 70.45 351 *e*P P 22 30 21.8 -1.0
KECS *e*S S 22 39 40.9 +5.8
KBA Koelnbreinsper 70.47 345⇓ *i*P P 22 30 23.1 +0.2
comp=Z,27µm,8.6s,SNR=115
KBA Koelnbreinsper 70.47 345⇓ *i*P P 22 30 23.1 +0.2
comp=Z,27µm,8.6s
OG26 St.-Nazaire-De 70.47 339 *e*P P 22 30 25.4 +2.5
MTLF Montolieu 70.49 336 *e*P P 22 30 21.7 -1.3
comp=Z,2µm,1.7s,mb6.4
LASF Ste Croix 70.53 338 *e*P P 22 30 22.7 -0.6
comp=Z,1µm,1.2s,mb6.3
MORF Marmelete 70.56 325 *e*P P 22 30 22.3 -1.2
MORF *e*S S 22 39 35.3 -1.1
MORF *e*S S 22 39 35.3 -1.1
MORF AMS AMS 23 05 05.6
comp=N,213µm,17.9s
MORF Marmelete 70.56 325 *e*P P 22 30 22.3 -1.2
MORF *e*S S 22 39 35.3 -1.1
ORIF Oris-en-Rattie 70.58 340 *e*P P 22 30 23.3 -0.3
comp=N,2µm,1.4s,mb6.5
ORIF *e*R
comp=N,291µm,19.5s
TAS Tashkent 70.59 28 *e*P P 22 30 22.5 -1.2
TAS *e*S S 22 39 26.5 -10
MLS Moulis 70.59 335 *e*P P 22 30 22.4 -1.3
KOLS Kolonicke sedl 70.64 352 *e*P P 22 30 23.6 -0.4
KOLS *e*S S 22 39 45.7 +8.4
MELF Melles 70.65 335 *e*P P 22 30 24.2 +0.2
BERNI Berninapass 70.69 343 *e*P P 22 30 14.5 -10
comp=N,2µm,3.2s
BERNI Berninapass 70.69 343 *e*P P 22 30 24.2 -0.1
PBEJ Beja 70.69 326 *e*P P 22 30 24.5 +0.2
comp=N,179nm,1.3s,mb5.8
PBEJ *e*- pP 22 30 29.9 +0.2
PBEJ *e*S S 22 39 39.5 +1.6
CRVS Cervenica-Dubn 70.72 352 *e*P P 22 30 26.2 +1.7
CRVS *e*S S 22 39 42.2 +4.0
CRVS *e* 22 58 23.3
CRVS Cervenica-Dubn 70.72 352 *e*P P 22 30 26.2 +1.7
CRVS *e*S S 22 39 42.2 +4.0
ZST Bratislava 70.74 348 *e*P P 22 30 23.5 -1.1
ZST *e*PP PP 22 33 00.1 -1.2
ZST *e*S S 22 39 41.2 +2.7
GDM Grand'Maison 70.76 340 *e*P P 22 30 26.7 +2.0
RESF Ens 70.76 335 *e*P P 22 30 25.3 +0.6
PTEO Sao Teotonio 70.78 326 *e*P P 22 30 25.3 +0.5
comp=N,166nm,1.1s,mb5.9
PTEO *e*- pP 22 30 31.0 +0.8
PTEO *e*S S 22 39 45.0 +6.1
FUORN Ofenpass 70.82 343 *e*P P 22 30 19.9 -5.1
comp=N,2µm,2.2s,mb6.6
FUORN Ofenpass 70.82 343 *e*P P 22 30 24.8 -0.2
LPG La Plagne 70.82 340 *e*P P 22 30 24.6 -0.5
comp=N,950nm,1.1s,mb6.3
KULM Kulim 70.84 76 *e*P P 22 30 23.9 -1.3
KULM *e*S S 22 39 48.5 +9.0
LPL La Plagne 70.84 340 *e*P P 22 30 24.3 -0.9
comp=N,2µm,1.5s,mb6.5
IPM Ipoh 70.85 77 P P 22 30 27.0 +1.8
VDL Val di Lei 70.91 343 *e*P P 22 30 19.9 -5.7
comp=N,1µm,1.9s,mb6.4
VDL Val di Lei 70.91 343 *e*P P 22 30 24.7 -0.9
GRN Grenoble 70.91 340 *e*P P 22 30 25.9 +0.3
VIVF Saint-Julien-l 70.93 339 *e*P P 22 30 24.8 -0.9
comp=N,674nm,1.2s,mb6.2
MMK Mattmark 70.95 341 *e*P P 22 30 21.1 -4.7
comp=N,1µm,1.8s,mb6.5
MMK Mattmark 70.95 341 *e*P P 22 30 24.8 -1.0
EPF Esparros 70.95 335 *e*P P 22 30 24.7 -1.1
comp=N,1µm,1.1s,mb6.4
VIEF Viey 70.95 335 *e*P P 22 30 26.2 +0.3
VKA Vienna 70.96 348 *i* P P 22 30 24.6 -1.3
SMOL Smolenice 70.99 349 *e*P P 22 30 27.2 +1.1
MOA Molln 70.99 346⇓ *i*P P 22 30 25.8 -0.3
comp=N,13µm,4.6s,SNR=119
RSL Roselend 71.03 340 *e*P P 22 30 26.9 +0.6
WTTA Wattenberg 71.06 344⇓ *i*P P 22 30 25.2 -1.2
comp=N,8µm,2.9s,mb7.1,SNR=65
DAVOX Davos 71.07 343 P P 22 30 24.2 -2.4
comp=N,116nm,1.0s,mb5.8
DAVOX S S 22 39 41.8 -0.5
comp=N,11nm,0.9s,baz=122,slow=6.8,SNR=1.8
DAVOX Davos 71.07 343 *e*P P 22 30 24.2 -2.4
comp=N,2µm,3.6s
DAVOX Davos 71.07 343 *e*P P 22 30 25.8 -0.8
LABF Labassere 71.07 335 *e*P P 22 30 28.1 +1.5
FUSIO Fusio 71.11 342 *e*P P 22 30 24.7 -2.1
comp=N,841nm,2.4s,mb6.2
FUSIO Fusio 71.11 342 *e*P P 22 30 25.3 -1.5
SQTA Sankt Quirin 71.12 344⇓ *i*P P 22 30 25.5 -1.4
comp=N,3µm,2.2s,mb6.8,SNR=53
WATA Walderalm 71.14 344⇓ *i*P P 22 30 26.4 -0.6
comp=N,2µm,2.2s,mb6.6,SNR=31
WATA Walderalm 71.14 344⇓ *i*P P 22 30 26.4 -0.6
WATA pmax pmax
comp=Z,2µm,2.2s,mb6.6
DIX Grande Dixence 71.14 341 *e*P P 22 30 24.8 -2.2
comp=Z,1µm,1.7s,mb6.5
DIX Grande Dixence 71.14 341 *e*P P 22 30 25.9 -1.1
EVO Evora 71.15 327 *e*P P 22 30 26.7 -0.4
comp=Z,463nm,1.0s,mb6.0
EVO *e*R
comp=Z,226µm,18.8s
ETSF Etsaut 71.20 334 *e*P P 22 30 26.2 -1.2
comp=Z,701nm,0.9s,mb6.3
LIKS Likavka 71.22 350 *e*P P 22 30 29.3 +1.8
STHS Stebnicka Huta 71.25 352 *e*P P 22 30 27.4 -0.3
STHS *e*S S 22 39 52.5 +8.1
STHS *e* 22 58 23.1
STHS Stebnicka Huta 71.25 352 *e*P P 22 30 27.4 -0.3
STHS *e*S S 22 39 52.5 +8.1
MOTA Moosalm 71.27 344⇑ *i*P P 22 30 26.4 -1.4
comp=Z,1µm,1.7s,mb6.5,SNR=142
MOTA Moosalm 71.27 344⇑ *i*P P 22 30 26.4 -1.4
MOTA pmax pmax
comp=Z,1µm,1.7s,mb6.5
REYF Montagne du Re 71.28 334 *e*P P 22 30 28.6 +0.8
KWP Kalwaria 71.28 353 *e*P P 22 30 28.6 +0.8
KWP *e*pP pP 22 30 36.4 +3.2
KWP *e*PP PP 22 33 09.5 +3.6
KWP *e*S S 22 39 51.3 +6.6
KWP *e*SKS 22 40 23.8
KWP L 23 00 57.8
comp=Z,82nm,23.1s
KWP Kalwaria 71.28 353 *e*P P 22 30 28.6 +0.8
KWP *e*pP pP 22 30 36.4 +3.2
KWP *e*PP PP 22 33 09.5 +3.6
KWP *e*S S 22 39 51.3 +6.6
KWP *e*SKS 22 40 23.8
EMV Vieux Emosson 71.28 341 *e*P P 22 30 24.8 -3.1
comp=Z,876nm,2.6s,mb6.2
EMV Vieux Emosson 71.28 341 *e*P P 22 30 26.7 -1.2
LVV L'vov 71.31 354 *i* P P 22 30 30.0 +1.9
LVV *i* S S 22 39 53.0 +7.9
MOE Montemor 71.32 326 *e*P P 22 30 29.1 +1.0
SALAN Lac Salanfe 71.33 341 *e*P P 22 30 25.3 -2.9
comp=Z,1µm,2.9s,mb6.3
SALAN Lac Salanfe 71.33 341 *e*P P 22 30 26.8 -1.4
LKBD Leukerbad 71.35 341 *e*P P 22 30 25.8 -2.5
comp=Z,782nm,1.7s,mb6.4
LKBD Leukerbad 71.35 341 *e*P P 22 30 27.0 -1.3
LLS Linth-Limmern 71.37 342 *e*P P 22 30 25.9 -2.5
comp=Z,1µm,2.5s,mb6.4
LLS Linth-Limmern 71.37 342 *e*P P 22 30 27.3 -1.1
GRYON Gryon 71.38 341 *e*P P 22 30 25.9 -2.6
comp=Z,895nm,1.6s,mb6.4
GRYON Gryon 71.38 341 *e*P P 22 30 27.0 -1.5
NIE Niedzica 71.39 351 *e*P P 22 30 28.6 +0.1
ATE Arette 71.41 334 *e*P P 22 30 28.2 -0.5
SENIN Lac Senin 71.43 341 *e*P P 22 30 26.7 -2.0
comp=Z,1µm,2.4s,mb6.4
SENIN Lac Senin 71.43 341 *e*P P 22 30 27.6 -1.1
PLONS Plons 71.45 343 *e*P P 22 30 26.8 -2.1
comp=Z,1µm,1.8s,mb6.5
PLONS Plons 71.45 343 *e*P P 22 30 27.7 -1.2
LARF Larrau 71.49 334 *e*P P 22 30 29.2 +0.1
AIGLE Aigle 71.51 341 *e*P P 22 30 27.7 -1.6
comp=Z,965nm,1.6s,mb6.5
AIGLE Aigle 71.51 341 *e*P P 22 30 27.8 -1.5
HASLI Hasliberg 71.53 342 *e*P P 22 30 27.7 -1.7
comp=Z,2µm,1.9s,mb6.6
HASLI Hasliberg 71.53 342 *e*P P 22 30 28.2 -1.2
DAVA Damuels 71.53 343⇓ *i*P P 22 30 28.7 -0.6
comp=Z,6µm,3.3s,SNR=37
DAVA Damuels 71.53 343⇓ *i*P P 22 30 28.7 -0.6
comp=Z,6µm,3.3s
BNALP Bannalp 71.56 342 *e*P P 22 30 27.3 -2.2

comp=Z,1µm,2.2s,mb6.5
BNALP Bannalp 71.56 342 *e*P **P 22 30 28.5 -1.0**
MUO Muotathal 71.58 342 *e*P **P 22 30 27.6 -2.1**
comp=Z,1µm,2.2s,mb6.5
MUO Muotathal 71.58 342 *e*P **P 22 30 28.8 -0.9**
OG01 Vacheresse 71.59 341 *e*P **P 22 30 28.4 -1.3**
WIMIS Wimmis 71.60 341 *e*P **P 22 30 27.7 -2.1**
comp=Z,998nm,1.7s,mb6.5
WIMIS Wimmis 71.60 341 *e*P **P 22 30 28.6 -1.2**
ORDF Ordiarp 71.61 334 *e*P **P 22 30 29.2 -0.7**
LIENZ Alp Oberkamor 71.65 343 *e*P **P 22 30 27.8 -2.3**
comp=Z,1µm,2.7s,mb6.3
LIENZ Alp Oberkamor 71.65 343 *e*P **P 22 30 28.9 -1.2**
SJPF Ste Jean 71.65 334 *e*P **P 22 30 28.9 -1.2**
comp=Z,650nm,1.1s,mb6.2
OG05 Jujurieux 71.71 340 *e*P **P 22 30 32.4 +1.9**
LBL Lubilhac 71.75 338 *e*P **P 22 30 31.0 +0.3**
OSSF Osses 71.78 334 *e*P **P 22 30 31.7 +0.8**
AKASG Malin Array Be 71.79 357 P **P 22 30 27.7 -3.2**
comp=Z,27nm,0.7s,mb5.3,baz=179,slow=5.8,SNR=64
AKASG S S 22 39 49.5 -1.1
comp=Z,0.3nm,0.3s,baz=116,slow=16,SNR=2.8
AKASG PKPPKP 22 58 18.9
comp=Z,0.2nm,0.2s,baz=337,slow=3.0,SNR=4.5
AKASG Malin Array Be 71.79 357 P **P 22 30 27.7 -3.3**
AKASG S S 22 39 49.6 -1.0
COLF Collangettes 71.84 338 *e*P **P 22 30 31.6 +0.4**
PCBR Castelo Branco 71.88 328 *e*P **P 22 30 30.1 -1.4**
comp=Z,119nm,1.3s,mb5.7
PCBR *e*S S 22 39 56.8 +5.2
LIS Lisbon 71.88 326 *e*P **P 22 30 29.4 -2.1**
LIS *e*S S 22 39 51.6 0.0
LIS *e*S S 22 39 51.8 +0.2
LIS AMb AMB 22 40 17.4
comp=N,319nm,2.5s
LIS AMS AMS 22 58 32.0
comp=E,158µm,22.8s
LIS Lisbon 71.88 326 *e*P **P 22 30 29.4 -2.1**
LIS *e*S S 22 39 51.8 +0.2
GIMEL Gimel 71.90 341 *e*P **P 22 30 28.2 -3.4**
comp=E,1µm,1.6s,mb6.7
GIMEL Gimel 71.90 341 *e*P **P 22 30 31.0 -0.6**
TORNY Torny 71.90 341 *e*P **P 22 30 28.2 -3.4**
comp=E,2µm,1.6s,mb6.7
TORNY Torny 71.90 341 *e*P **P 22 30 30.8 -0.8**
AGT Agartala 71.90 54 *i* P **P 22 30 32.0 +0.4**
AGT *i* x x 22 31 13.0
CAF Calviac 71.91 337 *e*P **P 22 30 30.7 -0.9**
comp=E,942nm,1.2s,mb6.3
VRAC Vranov 71.91 348 P **P 22 30 29.6 -2.0**
comp=E,74nm,1.1s,mb5.5,baz=167,slow=5.3,SNR=26
VRAC S S 22 39 50.9 -1.0
comp=E,4.9nm,0.7s,baz=41,slow=20,SNR=2.5
VRAC Vranov 71.91 348 P **P 22 30 30.6 -1.0**
VRAC Vranov 71.91 348 ⇑P **P 22 30 32.0 +0.4**
ALMR Almeirim 71.91 327 *e*P **P 22 30 30.1 -1.6**
WILA Wila 71.92 343 *e*P **P 22 30 28.5 -3.2**
comp=E,1µm,2.1s,mb6.4
WILA Wila 71.92 343 *e*P **P 22 30 30.7 -1.0**
KGM Kluang 71.96 80 P **P 22 30 32.3 +0.3**
ZUR Zurich 71.97 342 *e*P **P 22 30 28.6 -3.4**
comp=E,1µm,1.6s,mb6.7
ZUR Zurich 71.97 342 *e*P **P 22 30 31.0 -1.0**
FUR Furstenfeldbru 71.98 345 *e*P **P 22 30 31.6 -0.5**
comp=Z,895nm,1.3s,mb6.5
FUR *e*PP PP 22 33 13.5 +1.5
FUR *e*S S 22 39 55.8 +3.0
FUR Furstenfeldbru 71.98 345 *e*P **P 22 30 31.6 -0.5**
FUR *e* 22 33 13.5
FUR *e*S S 22 39 55.8 +3.0
FUR pmax pmax
comp=Z,895nm,1.3s,mb6.5
PLOU Loures 72.00 326 *e*P **P 22 30 32.5 +0.3**
comp=Z,385nm,1.3s,mb6.2
PLOU *e*- pP 22 30 38.4 +0.8
CABF La Chapelle 72.02 340 *e*P **P 22 30 31.5 -0.8**
comp=Z,2µm,1.4s,mb6.6
GEC2 GERESS Array S 72.05 346 *e*P **P 22 30 31.8 -0.7**
comp=Z,324nm,1.1s,mb6.2
GEC2 *e*PP PP 22 33 14.9 +2.3
GEC2 *e*S S 22 39 58.3 +4.7
GEC2 GERESS Array S 72.05 346 *e*P **P 22 30 31.8 -0.7**
GEC2 *e* 22 33 14.9
GEC2 *e*S S 22 39 58.3 +4.7
GEC2 pmax pmax
comp=Z,324nm,1.1s,mb6.2
GERES GERESS Array B 72.05 346 P **P 22 30 30.3 -2.2**
comp=Z,100nm,1.0s,mb5.7,baz=158,slow=4.9,SNR=92
GERES S S 22 39 53.9 +0.3
comp=Z,4.5nm,1.0s,baz=202,slow=1.4,SNR=2.3
GERES PKPPKP 22 58 19.0
comp=Z,1.4nm,1.0s,baz=294,slow=1.3,SNR=8.4
GERES LR LR 23 06 13.9
comp=Z,115µm,19.0s,MS7.2,baz=300,slow=39
GERES GERESS Array B 72.05 346 P **P 22 30 30.3 -2.2**
GERES S S 22 39 53.9 +0.3
TREC Trest 72.11 348 *e*P **P 22 30 31.2 -1.6**
TREC *e*S S 22 39 57.0 +2.8
FRNF Fournols 72.12 338 *e*P **P 22 30 35.0 +2.1**
VORD Divnogorie 72.14 4 *e*P **P 22 30 32.3 -0.7**
VORD pmax pmax
comp=Z,240nm,1.3s,mb6.0
VORD pmax pmax
comp=E,110nm,1.1s
OKC Ostrava-Krasne 72.14 350 *e*P **P 22 30 29.8 -3.2**
OKC *e*PP PP 22 33 14.0 +0.7
OKC *e*x x 22 35 01.0
OKC *e*S S 22 39 53.8 -0.8
OKC AMS AMS 23 11 40.0
comp=E,102µm,16.6s
OKC Ostrava-Krasne 72.14 350 *e*P **P 22 30 29.8 -3.2**
OKC *e*PP PP 22 33 14.0 +0.7
OKC *e* 22 35 01.0
OKC *e*S S 22 39 53.8 -0.8
FLACH Flaach 72.16 343 *e*P **P 22 30 32.3 -0.8**
STEIN Stein am Rhein 72.16 343 *e*P **P 22 30 28.9 -4.2**
comp=E,2µm,1.7s,mb6.8
STEIN Stein am Rhein 72.16 343 *e*P **P 22 30 32.3 -0.8**
PTOM Tomar 72.17 327 *e*P **P 22 30 34.4 +1.2**
comp=E,277nm,1.3s,mb6.0
PTOM *e*- pP 22 30 38.8 +0.2
PTOM *e*S S 22 39 59.9 +4.9
MORC Moravsky Berou 72.18 349 P **P 22 30 31.5 -1.8**
BALST Balsthal 72.19 342 *e*P **P 22 30 30.8 -2.5**
comp=E,3µm,2.1s,mb6.8
BALST Balsthal 72.19 342 *e*P **P 22 30 32.6 -0.7**
TRULL Truellikon 72.19 343 *e*P **P 22 30 31.0 -2.3**
comp=E,2µm,1.8s,mb6.7
TRULL Truellikon 72.19 343 *e*P **P 22 30 32.4 -0.9**
BRANT Les Verrieres 72.19 341 *e*P **P 22 30 30.7 -2.7**
comp=E,2µm,2.9s,mb6.6
BRANT Les Verrieres 72.19 341 *e*P **P 22 30 33.0 -0.4**
SULZ Sulz-Cheisache 72.24 342 *e*P **P 22 30 31.0 -2.6**
comp=E,2µm,1.8s,mb6.8
SULZ Sulz-Cheisache 72.24 342 *e*P **P 22 30 32.9 -0.7**
OJC Ojcow 72.25 351 *e*P **P 22 30 34.4 +0.7**
OJC *e*pP pP 22 30 37.7 -1.3
OJC *e*PP PP 22 33 18.0 +3.8
OJC *i* S S 22 39 58.4 +2.6
OJC *e*SKSac SKSac 22 40 38.8 +1.3
OJC L 23 07 08.8
comp=E,426nm,19.4s
OJC Ojcow 72.25 351 *e*P **P 22 30 34.4 +0.7**
OJC *e**PP pP 22 30 37.7 -1.3
OJC *e* 22 33 18.0
OJC *i* S S 22 39 58.4 +2.6
OJC MLR MLR
comp=Z,426µm,19.4s,MS7.7
PLDF La Plantade 72.26 339 *e*P **P 22 30 34.1 +0.4**
PYM Petit Puy Mans 72.28 338 *e*P **P 22 30 33.9 0.0**
KSH Kashi 72.33 33 *i* PR **P 22 30 34.0 -0.2**
KSH *e*AP pP 22 30 39.3 -0.3
KSH *e*XP sP 22 30 42.3 +0.8
KSH *e*PKP PcP 22 30 53.1 +1.0
KSH *e*PP PP 22 33 17.1 +2.1
KSH *e*PPP 22 35 00.1
KSH *e*S S 22 39 54.0 -2.8
KSH XS sS 22 40 04.1 -1.6
KSH *e*PS 22 40 29.3
KSH *e*SKS 22 40 34.0
KSH *e*SCS ScS 22 40 37.1 -3.0
KSH *e*SS SS 22 44 37.0 +2.1
KSH AMB AMB
comp=Z,390nm,1.2s,mb6.2

KSH AMB AMB
comp=Z,2µm,4.8s
KSH LR LR
comp=N,202µm,22.9s,MS7.5
KSH LR LR
comp=E,181µm,19.0s,MS7.5
MTE Manteigas 72.34 328 *e*P **P 22 30 35.1 +0.9**
comp=E,188nm,1.1s,mb5.9
MTE *e*S S 22 40 00.0 +3.1
MTE *e*LQ 22 48 21.6
MTE *e*LR LR 22 54 35.9
comp=E,305µm,21.4s
MTE Manteigas 72.34 328 *e*P **P 22 30 34.0 -0.2**
comp=E,261nm,1.1s,mb6.1
KHC Kasperske Hory 72.35 346 *e*P **P 22 30 33.1 -1.2**
KHC x x 22 30 57.0
KHC *e*PP PP 22 33 20.4 +5.3
KHC *e*x x 22 35 08.9
KHC *e*S S 22 39 59.6 +2.6
KHC AMS AMS 23 05 40.0
comp=E,154µm,18.0s
KHC Kasperske Hory 72.35 346 *e*P **P 22 30 33.1 -1.2**
KHC *e* 22 30 57.0
KHC *e* 22 33 20.4
KHC *e*S S 22 39 59.6 +2.6
KHC MLR MLR
comp=Z,154µm,18.0s,MS7.3
KHC Kasperske Hory 72.35 346 *e*P **P 22 30 33.1 -1.2**
KHC *e* 22 30 57.0
KHC *e*PP PP 22 33 20.4 +5.3
KHC *e* 22 35 08.9
KHC *e*S S 22 39 59.6 +2.6
KHC LR LR
comp=Z,154µm,18.0s,MS7.3
SLE Schleitheim 72.35 343 *e*P **P 22 30 32.3 -2.0**
comp=Z,1µm,1.8s,mb6.6
SLE Schleitheim 72.35 343 *e*P **P 22 30 33.4 -0.9**
BBS Basel-Blauen 72.36 342 *e*P **P 22 30 34.7 +0.4**
RAC Raciborz 72.37 350 *e*P **P 22 30 32.9 -1.5**
RAC *e**PP pP 22 30 36.9 -2.9
RAC *e*S S 22 39 58.4 +1.2
RAC MLR MLR
comp=E,215µm,22.6s,MS7.4
RAC MLR MLR
comp=Z,86µm,22.8s,MS7.0
RAC MLR MLR
comp=N,115µm,20.2s,MS7.4
BOURR Bourrignon 72.38 342 *e*P **P 22 30 32.4 -2.0**
comp=N,3µm,3.0s
BOURR Bourrignon 72.38 342 *e*P **P 22 30 33.9 -0.5**
VRSR Storozhevoye 72.38 4*c i*P **P 22 30 33.5 -0.9**
VRSR *e**PP pP 22 30 40.0 +0.2
VRSR *e* 22 33 18.6
VRSR *i* S S 22 39 53.8 -3.5
VRSR *e*SS SS 22 44 30.9 -4.7
VRSR pmax pmax
comp=N,70nm,1.1s
VRSR pmax pmax
comp=Z,60nm,1.1s,mb5.4
VRSR smax
comp=N,710nm,5.8s
VRSR smax
comp=Z,730nm,12.9s
VRSR smax
comp=E,3µm,8.0s
RJF Les Rejaudoux 72.43 337 *e*P **P 22 30 33.8 -1.0**
comp=E,893nm,1.1s,mb6.3
RJF *e*R
comp=E,379µm,20.2s
VRHR Novokhopersk 72.44 5 *e*P **P 22 30 35.2 +0.4**
VRHR *e**SP sP 22 30 48.1 +5.9
VRHR *e*S S 22 39 58.0 0.0
VRHR pmax pmax
comp=Z,480nm,1.1s,mb6.3
VRHR pmax pmax
comp=N,530nm,1.3s
VRHR pmax pmax
comp=E,100nm,1.4s
VRHR smax
comp=E,55µm,11.4s
VRHR smax
comp=Z,6µm,21.6s
VRHR smax
comp=N,17µm,10.2s
VRHR MLR MLR
comp=Z,52µm,18.0s,MS6.8
VRHR MLR MLR
comp=N,43µm,20.0s,MS6.9
VRHR MLR MLR
comp=E,58µm,25.0s,MS6.9
LOMF Lomont 72.46 341 *e*P **P 22 30 35.6 +0.7**
AGO Saint Agoulin 72.50 338 *e*P **P 22 30 34.1 -1.1**
WET Wettzell 72.52 346 *e*P **P 22 30 34.3 -1.0**
comp=Z,322nm,1.7s,mb6.0
WET *e*PP PP 22 33 18.6 +2.1
WET *e*S S 22 40 01.6 +2.7
WET Wettzell 72.52 346 *e*P **P 22 30 34.3 -1.0**
WET *e* 22 33 18.6
WET *e*S S 22 40 01.6 +2.7
WET pmax pmax
comp=Z,322nm,1.7s,mb6.0
KKAR Karatay Array 72.56 27 *i* P **P 22 30 33.9 -1.6**
KKAR pmax pmax
comp=Z,3µm,1.7s,mb7.0
SPAK Spaichingen 72.58 343 *e*P **P 22 30 36.4 +0.8**
FELD Feldberg 72.59 342 *e*P **P 22 30 35.8 +0.1**
SMF Signal de Mont 72.78 339 *e*P **P 22 30 35.3 -1.5**
comp=Z,818nm,1.2s,mb6.2
MOF Molkenrain 72.82 342 *e*P **P 22 30 37.3 +0.2**
HINF Hinteralfeld 72.87 342 *e*P **P 22 30 36.0 -1.4**
comp=Z,2µm,1.8s,mb6.5
VOR Voronezh 72.89 4 *e*P **P 22 30 36.5 -1.0**
VOR pmax pmax
comp=Z,1µm,1.8s,mb6.5
BFO Black Forest 72.91 343 *e*P **P 22 30 36.9 -0.7**
comp=Z,339nm,1.7s,mb6.0
BFO *e*PP PP 22 33 20.3 +0.4
BFO *e*S S 22 40 02.9 -0.5
BFO Black Forest 72.91 343 P **P 22 30 39.2 +1.6**
comp=Z,569nm,1.5s,mb6.3,SNR=18
BFO Black Forest 72.91 343 *e*P **P 22 30 36.9 -0.7**
BFO *e* 22 33 20.3
BFO *e*S S 22 40 02.9 -0.5
BFO pmax pmax
comp=Z,339nm,1.7s,mb6.0
LIBD Limburg 72.95 342 *e*P **P 22 30 38.5 +0.6**
DPC Dobruska-Polom 72.95 349 *e*P **P 22 30 38.2 +0.3**
DPC *e*PP PP 22 33 28.2 +7.9
DPC *e*x x 22 35 11.1
DPC AMS AMS 23 09 30.0
comp=Z,105µm,18.2s
PRU Pruhonice 72.96 347 *e*P **P 22 30 36.2 -1.7**
PRU *e*PP PP 22 33 25.3 +5.0
PRU *e*x x 22 35 11.3
PRU *e*S S 22 40 05.4 +1.5
PRU AMS AMS 23 04 00.0
comp=Z,101µm,21.2s
TCF Toulx Ste Croi 73.03 338 *e*P **P 22 30 37.7 -0.6**
comp=Z,1µm,1.2s,mb6.4
PBRG Braganca 73.03 330 *e*P **P 22 30 38.3 0.0**
comp=Z,123nm,1.2s,mb5.7
PBRG *e*- pP 22 30 44.0 +0.3
PBRG *e*S S 22 40 10.0 +5.2
BGF Bois d'Agland 73.04 338 *e*P **P 22 30 37.3 -1.1**
comp=Z,864nm,1.3s,mb6.2
MUN Mundaring 73.04 118 *e*P **P 22 30 40.7 +2.3**
MUN *e*S S 22 40 11.6 +6.7
PRA Prague 73.06 347 P **P 22 30 38.0 -0.5**
AVF Avril sur Loir 73.07 339 *e*P **P 22 30 37.2 -1.3**
comp=Z,1µm,1.3s,mb6.4
STU Stuttgart 73.08 343 *e*P **P 22 30 38.2 -0.4**
comp=Z,352nm,1.1s,mb6.2
STU *e*PP PP 22 33 22.4 +1.1
STU *e*S S 22 40 03.8 -1.5
STU Stuttgart 73.08 343 *e*P **P 22 30 38.0 -0.6**
STU *e*S S 22 39 58.1 -7.2
STU pmax pmax
comp=Z,541nm,1.1s,mb6.4
STU Stuttgart 73.08 343 *e*P **P 22 30 38.0 -0.7**
comp=Z,541nm,1.1s,mb6.4
STU *e*S S 22 39 58.1 -7.3
PVRL Vila Real 73.09 329 *e*P **P 22 30 38.9 +0.2**
comp=Z,163nm,1.2s,mb5.8
PVRL *e*- pP 22 30 44.5 +0.4
PVRL *e*S S 22 40 10.5 +5.0

ECH Echery 73.14 342 *e*P **P 22 30 38.2 -0.8**
UPC Upice 73.16 348 *e*P **P 22 30 37.6 -1.5**
UPC *e*PP PP 22 33 20.6 -1.4
NNT Nongplab 73.18 69 P **P 22 30 40.4 +1.2**
HAU Haudompre 73.19 341 *e*P **P 22 30 39.1 -0.2**
comp=Z,3µm,1.7s,mb6.7
HAU *e*R
comp=Z,178µm,17.5s
AML Almayashu 73.22 30 P **P 22 30 38.2 -1.2**
SNR=202
SSF Saint Saulge 73.25 339 *e*P **P 22 30 38.0 -1.6**
comp=Z,517nm,1.3s,mb6.0
ROTZ Rotzenmuhle 73.25 346 *e*P **P 22 30 39.1 -0.6**
comp=Z,506nm,1.0s,mb6.4
ROTZ *e*PP PP 22 33 25.1 +2.3
ROTZ *e*S S 22 40 08.0 +0.7
WLS Welschbruch 73.26 342 *e*P **P 22 30 39.6 -0.1**
CDF Champ du Feu 73.28 342 *e*P **P 22 30 38.3 -1.5**
comp=Z,847nm,1.2s,mb6.3
LOR Lormes 73.32 339 *e*P **P 22 30 38.6 -1.4**
comp=Z,997nm,1.5s,mb6.2
LOR *e*R
comp=Z,229µm,22.5s
SHL Shillong 73.32 53 *e*x **P 22 30 37.0 -3.0**
SHL *e*x sS 22 40 16.0 -0.9
GRA1 Grafenberg Arr 73.42 345 *e*P **P 22 30 40.2 -0.4**
comp=Z,798nm,1.2s,mb6.5
GRA1 *e*PP PP 22 33 26.5 +2.3
GRA1 *e*S S 22 40 13.4 +4.2
GRA1 LR LR
comp=Z,164µm,20.1s,MS7.3
GRF Grafenberg Arr 73.42 345 *e*P **P 22 30 40.2 -0.4**
comp=Z,798nm,1.2s,mb6.5
GRF *e*PP PP 22 33 26.5 +2.3
GRF *e*S S 22 40 13.4 +4.2
GRF *e*L 23 07 36.4
comp=Z,163µm,20.1s
GRF Grafenberg Arr 73.42 345 *e*P **P 22 30 40.2 -0.4**
GRF *e* 22 33 26.5
GRF *e*S S 22 40 13.4 +4.2
GRF pmax pmax
comp=Z,798nm,1.2s,mb6.5
GRF MLR MLR
comp=Z,164µm,20.1s,MS7.3
KSP Ksiaz 73.43 349 *e*P **P 22 30 41.9 +1.2**
KSP *e*pP pP 22 30 50.8 +4.7
KSP *e*PP PP 22 33 20.4 -3.9
KSP *e*PPP 22 35 16.7
KSP *e*S S 22 40 14.4 +5.1
KSP *e*SKS 22 40 56.7
KSP L 23 02 22.9
comp=Z,162nm,22.9s
KSP Ksiaz 73.43 349 *e*P **P 22 30 39.9 -0.8**
KSP *e**PP pP 22 30 45.0 -1.1
KSP *e* 22 33 19.6
KSP *e*PPP 22 35 14.0
KSP *e*S S 22 40 13.0 +3.7
KSP *e* 22 40 51.0
KSP MLR MLR
comp=Z,188µm,22.9s,MS7.3
KSP Ksiaz 73.43 349 *e*P **P 22 30 39.9 -0.8**
KSP *e*pP pP 22 30 45.0 -1.1
KSP *e*PP PP 22 33 19.6 -4.7
KSP *e*PPP 22 35 14.0
KSP *e*S S 22 40 13.0 +3.7
KSP *e*SKS 22 40 51.0
KSP *e*SS SS 22 44 44.0 -7.7
KSP LR LR
comp=Z,188µm,22.9s,MS7.3
PVCC Panska Ves 73.46 347 *e*P **P 22 30 39.6 -1.3**
PVCC *e*PP PP 22 33 24.4 -0.2
PVCC *e*x x 22 35 14.8
PVCC *e*S S 22 40 15.7 +6.0
PVCC AMS AMS 23 07 30.0
comp=Z,98µm,16.8s
THEF They Montfort 73.50 341 *e*P **P 22 30 41.2 +0.1**
MATF Mathat 73.55 336 *e*P **P 22 30 43.2 +1.8**
PCAB Cabril 73.57 329 *e*P **P 22 30 41.7 +0.2**
comp=Z,227nm,1.2s,mb6.0
PCAB *e*- pP 22 30 47.1 +0.2
PCAB *e*S S 22 40 13.2 +2.3
VAO Valinhos 73.62 251⇑*e*P **P 22 30 40.9 -0.9**
VAO *i* 22 30 42.2
VAO *i* pP 22 30 45.8 -1.4
VAO *i* 22 30 50.4
VAO *i* 22 30 53.9
NKC Novy Kostel 73.64 346 *e*P **P 22 30 40.6 -1.3**
NKC *e*PP PP 22 33 33.4 +7.3
NKC *e*x x 22 35 16.9
NKC *e*S S 22 40 16.1 +4.4
NKC AMS AMS 23 11 00.0
comp=Z,146µm,17.1s
NKC Novy Kostel 73.64 346 *e*P **P 22 30 40.6 -1.3**
NKC *e*PP PP 22 33 33.4 +7.3
NKC *e* 22 35 16.9
NKC *e*S S 22 40 16.1 +4.4
NWAO Narrogin (SRO) 73.64 119 S S 22 40 12.3 +0.7
comp=Z,4.9nm,0.8s,baz=336,slow=3.9,SNR=1.6
NWAO Narrogin (SRO) 73.64 119 P **P 22 30 43.1 +1.2**
NWAO *e* 22 33 23.9
NWAO *e*S 22 40 41.6
NWAO pmax pmax
comp=Z,502nm,1.4s
NWAO MLR MLR
comp=Z,191µm,20.0s
NWAO Narrogin (SRO) 73.64 119 P **P 22 30 43.1 +1.2**
comp=Z,502nm,1.4s,mb6.2
NWAO *e*PP PP 22 33 23.9 -2.2
NWAO *e*S 22 40 41.6
NWAO LR LR
comp=Z,191µm,20.0s,MS7.4
LANF Langenberg 73.65 343 *e*P **P 22 30 41.3 -0.7**
EKS2 Erkin-Say 73.67 30 P **P 22 30 40.6 -1.4**
SNR=167
UCH Uchtor 73.68 30 P **P 22 30 45.2 +3.0**
SNR=126
HYF Humbligny 73.72 339 *e*P **P 22 30 41.0 -1.4**
WERD Werda 73.87 346 *e*P **P 22 30 42.9 -0.4**
comp=Z,201nm,1.2s,mb5.9
KTD Kalmit 73.88 343 *e*P **P 22 30 43.7 +0.4**
KZA Kyzart 73.91 31 P **P 22 30 44.1 +0.5**
SNR=136
BRG Berggiesshubel 73.92 347 *e*P **P 22 30 42.5 -1.1**
comp=Z,187nm,1.4s,mb5.8
BRG *e*PP PP 22 33 29.9 +1.4
BRG Berggiesshubel 73.92 347 *i* P **P 22 30 43.0 -0.5**
comp=Z,76nm,1.4s,mb5.4
BRG *i* pP 22 30 47.9 -1.0
comp=Z,79nm,1.1s
BRG *i* 22 35 23.0
BRG S S 22 40 23.0 +8.2
BRG *i* 22 40 56.0
BRG SS SS 22 45 11.0 +12
BRG *e*PKPPKP 22 58 10.7
comp=Z,2.4nm,2.0s
BRG
comp=N,64µm,18.6s
BRG
comp=E,75µm,16.8s
BRG
comp=Z,88µm,15.5s
BRG Berggiesshubel 73.92 347 *i* P **P 22 30 43.0 -0.6**
BRG *i* pP 22 30 47.9 -1.0
BRG S S 22 40 23.0 +8.2
BRG *i* 22 40 56.0
BRG pmax pmax
comp=Z,77nm,1.4s,mb5.4
BRG MLR MLR
comp=Z,88µm,15.5s,MS7.2
BRG Berggiesshubel 73.92 347 *i* P **P 22 30 43.0 -0.5**
comp=Z,76nm,1.4s,mb5.4
BRG *i* pP 22 30 47.9 -1.0
BRG *i* 22 35 23.0
BRG S S 22 40 23.0 +8.2
BRG *i* 22 40 56.0
BRG SS SS 22 45 11.0 +12
BRG *e*P'P' 22 58 10.7
BRG LR LR
comp=Z,88µm,15.5s,MS7.2
TOD Tromm 73.95 344 *e*P **P 22 30 44.0 +0.3**
AAK Ala-Archa 73.98 30 P **P 22 30 44.1 +0.2**
SNR=121
AAK Ala-Archa 73.98 30 P **P 22 30 43.5 -0.4**
comp=Z,2µm,1.4s,mb6.8,SNR=74

AAK	**Ala-Archa**	**73.98**	**30**	*e*P	**P**	**22 30 41.9**	**-2.0**
AAK				*e*		22 33 30.4	
AAK				pmax	pmax		
	comp=Z,727nm,1.4s,mb6.4						
AAK				MLR	MLR		
	comp=Z,324μm,21.0s,MS7.6						
AAK	**Ala-Archa**	**73.98**	**30**	*e*P	**P**	**22 30 41.9**	**-2.1**
	comp=Z,727nm,1.4s,mb6.4						
AAK				*e*PP	PP	22 33 30.4	+1.4
AAK				*e*S	S	22 39 59.7	-16
AAK				LR	LR		
	comp=Z,324μm,21.0s,MS7.6						
MEZF	**Maizieres J'vi**	**74.03 341**		*e*P	**P**	**22 30 43.5**	**-0.7**
	comp=Z,1μm,1.1s,mb6.4						
WAR	**Warsaw**	**74.05 352**		*e*P	**P**	**22 30 45.2**	**+0.9**
WAR				*e*pP	pP	22 30 52.7	+3.0
WAR				*e*PcP	PcP	22 30 59.3	-0.2
WAR	**Warsaw**	**74.05 352**		*e*P	**P**	**22 30 45.2**	**+0.9**
WAR				*e**PP	pP	22 30 52.7	+3.0
WAR				*e*		22 30 59.3	
WAR				*e*S	S	22 40 20.7	+4.4
WAR				*e*		22 41 06.4	
WAR				MLR	MLR		
	comp=Z,98μm,22.4s,MS7.0						
WAR	**Warsaw**	**74.05 352**		*e*P	**P**	**22 30 45.2**	**+0.9**
WAR				*e*pP	pP	22 30 52.7	+3.0
WAR				*e*PcP	PcP	22 30 59.3	-0.2
WAR				*e*PPP		22 35 24.0	
WAR				*e*S	S	22 40 20.7	+4.4
WAR				*e*SKS		22 41 06.4	
WAR				LR	LR		
	comp=Z,98μm,22.4s,MS7.0						
AB31	**Akbulak array**	**74.08**	**18**	*i* P	**P**	**22 30 41.6**	**-2.9**
AB31				pmax	pmax		
	comp=Z,844nm,1.3s,mb6.5						
PMSA	**Palmer Station**	**74.12 206**		*e*P	**P**	**22 30 46.7**	**+1.9**
	comp=Z,392nm,1.3s,mb6.2						
PMSA				LR	LR		
	comp=Z,89μm,19.0s,MS7.1						
MFF	**Saint Martin d**	**74.14 337**		*e*P	**P**	**22 30 43.7**	**-1.2**
	comp=Z,2μm,1.6s,mb6.6						
FRU	**Bishkek**	**74.19**	**30**	⇑*i*P	**P**	**22 30 45.8**	**+0.6**
FRU				*i*	pP	22 30 50.5	-0.1
FRU				pmax	pmax		
	comp=Z,532nm,1.8s,mb6.2						
MOX	**Moxa**	**74.21 346**		*e*P	**P**	**22 30 44.7**	**-0.6**
	comp=Z,213nm,1.1s,mb6.0						
MOX				*e*PP	PP	22 33 33.0	+2.0
MOX				*e*S	S	22 40 23.2	+5.1
MOX	**Moxa**	**74.21 346**		*e*P	**P**	**22 30 44.0**	**-1.3**
	comp=Z,482nm,1.4s,mb6.2						
MOX							
	comp=Z,79μm,19.0s						
MOX	**Moxa**	**74.21 346**		*e*P	**P**	**22 30 44.0**	**-1.3**
MOX				pmax	pmax		
	comp=Z,482nm,1.4s,mb6.2						
MOX				MLR	MLR		
	comp=Z,79μm,19.0s,MS7.0						
KBK	**Karagaybulak**	**74.21**	**30**	P	**P**	**22 30 44.4**	**-0.9**
	SNR=202						
CHMS	**Chumysh**	**74.38**	**30**	P	**P**	**22 30 48.5**	**+2.2**
	SNR=104						
KLBR	**Kellerberrin**	**74.41 118**		*e*P	**P**	**22 30 47.8**	**+1.4**
	comp=Z,2μm,2.0s,mb6.7						
IMP	**Imphal**	**74.44**	**55**	*i* x	**P**	**22 30 50.0**	**+3.4**
IMP				*e*x	PP	22 33 21.0	-12
USP	**Ospenovka**	**74.47**	**30**	P	**P**	**22 30 45.4**	**-1.4**
	SNR=163						
RUP	**Ruppelstein**	**74.51 343**		*e*P	**P**	**22 30 47.1**	**+0.1**
ULHL	**Ulahol**	**74.52**	**31**	P	**P**	**22 30 46.0**	**-1.1**
	SNR=134						
CLL	**Collm**	**74.53 347**		*e*P	**P**	**22 30 46.3**	**-0.8**
	comp=Z,411nm,1.5s,mb6.1						
CLL				*e*PP	PP	22 33 35.8	+2.2
CLL				*e*PPP		22 35 19.2	
CLL				*e*S	S	22 40 25.4	+3.7
CLL				*e*SS	SS	22 45 14.6	+6.2
CLL				*e*SSS		22 48 37.6	
CLL				eLR	LR	22 55 31.6	
CLL				*e*PKPPKPdf		22 58 19.2	
CLL				eL		23 07 36.1	
	comp=Z,152μm,20.0s						
CLL	**Collm**	**74.53 347**		*i* P	**P**	**22 30 46.8**	**-0.3**
	comp=Z,166nm,1.1s,mb5.9						
CLL				*i* 3PKPdf		22 18 02.3	
	comp=Z,282nm,3.0s						
CLL				⇑*i*P(2)	pP	22 30 52.6	+0.1
	comp=Z,324nm,1.3s						
CLL				*e*Plp		22 30 54.0	
	comp=Z,27μm,16.9s						
CLL				*i* (PcP)	PcP	22 31 02.3	+0.8
CLL				*i* x	x	22 31 13.9	
CLL				*e*PP	PP	22 33 36.0	+2.4
CLL				*e*PPP		22 35 26.0	
CLL				*e*S	S	22 40 28.0	+6.3
	comp=N,58μm,25.9s						
CLL				*e*S	S	22 40 28.0	+6.3
	comp=E,114μm,23.5s						
CLL				*i* x	x	22 41 17.0	
CLL				*e*x	x	22 42 53.0	
CLL				*e*SS	SS	22 45 08.0	-0.4
CLL				*e*SSS		22 48 39.0	
CLL				*e*PKPPKPdf		22 58 20.0	
CLL	**Collm**	**74.53 347**		*i* P	**P**	**22 30 46.8**	**-0.3**
CLL				*i*	pP	22 30 52.6	+0.1
CLL				*i*		22 31 02.3	
CLL				*e*S	S	22 40 28.0	+6.3
CLL				*e*P'P'		22 58 20.0	
CLL				LR	LR		
	comp=Z,154μm,18.4s,MS7.3						
ABH	**Alteburg**	**74.54 343**		*e*P	**P**	**22 30 46.9**	**-0.3**
EFI	**East Falkland**	**74.55 220**		P	**P**	**22 30 45.1**	**-2.1**
	comp=Z,1μm,1.7s,mb6.5,SNR=5.8						
EFI	**East Falkland**	**74.55 220**		P	**P**	**22 30 48.6**	**+1.4**
EFI	**East Falkland**	**74.55 220**		*e*P	**P**	**22 30 47.8**	**+0.5**
	comp=Z,366nm,1.2s,mb6.2						
EFI				LR	LR		
	comp=Z,326μm,19.0s,MS7.6						
TNS	**Taunus Mts**	**74.61 344**		*e*P	**P**	**22 30 47.1**	**-0.5**
	comp=Z,173nm,1.1s,mb5.9						
TNS				*e*PP	PP	22 33 36.0	+1.7
TNS				*e*S	S	22 40 28.3	+5.8
TNS	**Taunus Mts**	**74.61 344**		*e*P	**P**	**22 30 47.1**	**-0.5**
TNS				*e*		22 33 36.0	
TNS				*e*S	S	22 40 28.3	+5.8
TNS				pmax	pmax		
	comp=Z,173nm,1.1s,mb5.9						
AKTK	**Aktyubinsk**	**74.63**	**16**	P	**P**	**22 30 44.6**	**-3.1**
AKTK				S	S	22 40 22.6	-0.3
AKTK				P'P'		22 58 16.6	
AKTK				LR	LR	23 06 06.8	
AKTO	**Aktyubinsk**	**74.63**	**16**	P	**P**	**22 30 44.6**	**-3.1**
	comp=Z,110nm,1.0s,mb5.7,baz=198,slow=5.1,SNR=45						
AKTO				S	S	22 40 22.6	-0.3
	comp=Z,14nm,1.2s,baz=222,slow=18,SNR=2.0						
AKTO				PKPPKP		22 58 16.6	
	comp=Z,2.5nm,1.1s,baz=259,slow=3.4,SNR=2.6						
AKTO				LR	LR	23 06 06.8	
	comp=Z,140μm,21.4s,MS7.2,baz=0.0,slow=38						
AKTO	**Aktyubinsk**	**74.63**	**16**	P	**P**	**22 30 47.1**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,13μm,5.0s						
LRYF	**La Roche-sur-Y**	**74.65 336**		*e*P	**P**	**22 30 47.4**	**-0.4**
TKM2	**Tokmak 2**	**74.72**	**31**	P	**P**	**22 30 47.0**	**-1.3**
	SNR=196						
WLF	**Walferdange**	**74.73 342**		⇑P	**P**	**22 30 48.1**	**-0.2**
WLF				AP	pP	22 30 50.0	-3.7
WLF				XP	sP	22 30 53.1	-2.5
WLF				PCP	PcP	22 30 59.9	-2.5
UBBA	**Unterbreizbach**	**74.76 345**		*e*P	**P**	**22 30 48.0**	**-0.4**
	comp=Z,1μm,2.1s,mb6.5						
UBBA				*e*PP	PP	22 33 38.1	+2.5
UBBA				*e*S	S	22 40 21.6	-2.6
NST	**Nakhon Sawan**	**74.93**	**66**	⇑P	**P**	**22 30 49.5**	**0.0**
	comp=Z,250nm,1.1s,mb6.1						
LSA	**Lhasa**	**75.13**	**49**	P	**P**	**22 30 50.1**	**-0.5**
LSA				S	S	22 40 31.4	+3.0
LSA				AMB	AMB		
	comp=Z,330nm,1.2s,mb6.1						
LSA				LR	LR		
	comp=N,90μm,26.8s,MS7.3						
LSA				LR	LR		
	comp=E,175μm,22.3s,MS7.3						
LSA				LR	LR		
	comp=Z,214μm,33.1s						
LSA	**Lhasa**	**75.13**	**49**	*e*P	**P**	**22 30 50.1**	**-0.5**
LSA				*e*S	S	22 40 25.1	-3.3
LSA				pmax	pmax		
	comp=Z,463nm,0.9s,mb6.4						
LSA				MLR	MLR		
	comp=Z,254μm,19.0s,MS7.5						
LSA	**Lhasa**	**75.13**	**49**	*e*P	**P**	**22 30 50.1**	**-0.5**
	comp=Z,463nm,0.9s,mb6.4						
LSA				*e*S	S	22 40 25.1	-3.3
LSA				LR	LR		
	comp=Z,254μm,19.0s,MS7.5						
RUE	**Ruedersdorf**	**75.47 348**		*e*P	**P**	**22 30 51.9**	**-0.7**
	comp=Z,490nm,1.2s,mb6.3						
RUE				*e*PP	PP	22 33 43.9	+2.2
RUE				*e*S	S	22 40 29.6	-2.6
RUE	**Ruedersdorf**	**75.47 348**		*e*P	**P**	**22 30 51.8**	**-0.8**
	comp=Z,686nm,1.1s,mb6.5						
RUE				*e*PP	PP	22 33 37.7	-4.0
RUE				*e*S	S	22 40 28.9	-3.3
GIVF	**Givet**	**75.51 341**		*e*P	**P**	**22 30 51.6**	**-1.2**
	comp=Z,1μm,1.4s,mb6.3						
SUW	**Suwalki**	**75.54 354**		*e*P	**P**	**22 30 53.7**	**+0.7**
SUW				*e*pP	pP	22 31 02.5	+4.1
SUW				*e*PcP	PcP	22 31 05.6	-0.3
SUW				*e*PP	PP	22 33 51.5	+9.2
SUW				*e*PPP		22 35 35.3	
SUW				*e*S	S	22 40 37.0	+4.0
SUW				*e*sS	sS	22 40 46.7	+4.8
SUW				*e*SKS		22 41 17.8	
SUW				L		23 03 49.2	
	comp=Z,102nm,24.1s						
SUW	**Suwalki**	**75.54 354**		*e*P	**P**	**22 30 53.7**	**+0.7**
SUW				*e**PP	pP	22 31 02.5	+4.1
SUW				*e*		22 31 05.6	
SUW				*e*PPP		22 35 35.3	
SUW				*e*S	S	22 40 37.0	+4.0
SUW				*e*		22 41 17.8	
SUW	**Suwalki**	**75.54 354**		*e*P	**P**	**22 30 53.7**	**+0.7**
SUW				*e*pP	pP	22 31 02.5	+4.1
SUW				*e*PcP	PcP	22 31 05.6	-0.3
SUW				*e*PP	PP	22 33 51.5	+9.2
SUW				*e*PPP		22 35 35.3	
SUW				*e*S	S	22 40 37.0	+4.0
SUW				*e*SS	sS	22 40 46.7	+4.8
SUW				*e*SKS		22 41 17.8	
DOU	**Dourbes**	**75.58 341**		P	**P**	**22 30 51.6**	**-1.6**
DOU				AP	pP	22 30 54.8	-3.7
DOU				XP	sP	22 30 57.7	-2.8
DOU				PCP	PcP	22 31 03.1	-2.9
GKP	**Gorka Klasztor**	**75.60 350**		*e*P	**P**	**22 30 54.1**	**+0.8**
GKP				*e*pP	pP	22 31 03.2	+4.5
GKP				*e*PcP	PcP	22 31 08.4	+2.2
GKP				*e*PP	PP	22 33 44.3	+1.5
GKP				*e*PPP		22 35 40.1	
GKP				*e*S	S	22 40 38.9	+5.3
GKP				*e*SKS		22 41 20.0	
GKP				*e*SS	SS	22 45 36.5	+12
GKP				L		23 03 11.3	
	comp=Z,72nm,22.7s						
GKP	**Gorka Klasztor**	**75.60 350**		*e*P	**P**	**22 30 54.1**	**+0.8**
GKP				*e**PP	pP	22 31 03.2	+4.5
GKP				*e*		22 31 08.4	
GKP				*e*		22 33 44.3	
GKP				*e*S	S	22 40 38.9	+5.3
GKP				*e*		22 41 20.0	
GKP				MLR	MLR		
	comp=Z,72μm,22.7s,MS6.9						
CLZ	**Clausthal**	**75.61 345**		*e*P	**P**	**22 30 53.0**	**-0.4**
	comp=Z,441nm,1.9s,mb6.1						
CLZ				*e*PP	PP	22 33 44.9	+2.0
CLZ				*e*S	S	22 40 39.4	+5.6
CLZ	**Clausthal**	**75.61 345**		*e*P	**P**	**22 30 53.0**	**-0.4**
CLZ				*e*		22 33 44.9	
CLZ				*e*S	S	22 40 39.4	+5.6
CLZ				pmax	pmax		
	comp=Z,441nm,1.9s,mb6.1						
MEM	**Membach**	**75.62 342**		P	**P**	**22 30 52.5**	**-0.9**
MEM	**Membach**	**75.62 342**		AP	pP	22 30 55.8	-3.0
MEM				XP	sP	22 30 58.8	-2.0
MEM				PCP	PcP	22 31 03.9	-2.3
MEM				E		22 31 10.0	
MEM				PP	PP	22 33 50.5	+7.6
AAA	**Alma-Ata**	**75.64**	**31**	*i* P	**P**	**22 30 53.2**	**-0.3**
AAA				*i* S	S	22 40 38.7	+4.7
AAA				pmax	pmax		
	comp=Z,55μm,9.3s						
AAA				smax			
	comp=N,101μm,12.8s						
MNK	**Minsk**	**75.66 357**		*e*P	**P**	**22 30 50.0**	**-3.6**
MNK				*e*PPP		22 35 26.0	
MNK				*e*S	S	22 40 34.0	-0.2
MNK				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.9						
MNK				pmax	pmax		
	comp=N,1μm,1.5s						
MNK				pmax	pmax		
	comp=E,800nm,1.8s						
MNK				smax			
	comp=N,99μm,12.0s						
MNK				MLR	MLR		
	comp=E,72μm,18.0s,MS7.3						
MNK				MLR	MLR		
	comp=N,130μm,20.0s,MS7.3						
MNK				MLR	MLR		
	comp=Z,194μm,20.0s,MS7.4						
BAIF	**Baives**	**75.66 341**		*e*P	**P**	**22 30 52.5**	**-1.1**
	comp=Z,1μm,1.3s,mb6.4						
HGN	**Heimansgroeve**	**75.78 342**		*e*P	**P**	**22 30 53.9**	**-0.4**
	comp=Z,149nm,2.1s,mb5.5						
HGN				*e*x	x	22 30 59.6	
	comp=Z,453nm,3.1s						
HGN				*e*x	x	22 31 03.7	
	comp=Z,579nm,3.3s						
HGN				*e*x	x	22 31 10.2	
	comp=Z,644nm,4.3s						
HGN				*e*PP	PP	22 33 49.1	+4.9
HGN				*e*PPP		22 35 23.6	
HGN				*i* S	S	22 40 44.7	+9.1
HGN				*e*SS	SS	22 45 20.1	-7.3
HGN				*e*SSS		22 48 56.3	
LDF	**La Druitiere**	**75.82 338**		*e*P	**P**	**22 30 52.8**	**-1.7**
	comp=Z,837nm,1.1s,mb6.3						
BEBN	**Eben Emael**	**75.88 342**		P	**P**	**22 30 53.6**	**-1.3**
BEBN				AP	pP	22 30 57.4	-3.0
BEBN				XP	sP	22 31 00.5	-1.8
BEBN				PCP	PcP	22 31 08.8	+1.5
GRR	**Gorron**	**75.91 337**		*e*P	**P**	**22 30 53.3**	**-1.8**
	comp=Z,1μm,1.5s,mb6.3						
BUG	**Bochum--Univer**	**76.03 343**		*e*P	**P**	**22 30 55.5**	**-0.2**
	comp=Z,394nm,1.3s,mb6.2						
BUG				*e*PP	PP	22 33 48.7	+2.4
BUG				*e*S	S	22 40 44.3	+6.0
SNF	**Seneffe**	**76.04 341**		P	**P**	**22 30 55.2**	**-0.6**
SNF				AP	pP	22 30 58.3	-2.9
SNF				PCP	PcP	22 31 06.1	-1.9
FLN	**La Foliniere**	**76.09 338**		*e*P	**P**	**22 30 54.4**	**-1.7**
	comp=Z,577nm,1.2s,mb6.1						
FLN				*e*R			
	comp=Z,284μm,19.2s						
OBN	**Obninsk**	**76.16**	**2**	P	**P**	**22 30 55.3**	**-1.2**
	comp=Z,2μm,1.2s,mb6.9,SNR=23						
OBN	**Obninsk**	**76.16**	**2**	*d i*P	**P**	**22 30 55.3**	**-1.2**
OBN				*i*	pP	22 31 00.3	-1.6
OBN				*i*		22 33 53.0	
OBN				*i* S	S	22 40 40.4	+0.7
OBN				*e*		22 41 03.8	
OBN				*e*PS		22 41 20.8	
OBN				pmax	pmax		
	comp=Z,870nm,1.8s,mb6.4						
OBN				pmax	pmax		
	comp=Z,17μm,5.5s						
OBN				MLR	MLR		
	comp=Z,83μm,20.0s,MS7.0						
OBN	**Obninsk**	**76.16**	**2**	*e*P	**P**	**22 30 55.0**	**-1.5**
	comp=Z,794nm,1.4s,mb6.5						
OBN				LR	LR		
	comp=Z,85μm,21.0s,MS7.0						
UCC	**Uccle**	**76.27 341**		P	**P**	**22 30 56.7**	**-0.4**
UCC				AP	pP	22 30 58.6	-3.9
UCC				PCP	PcP	22 31 12.4	+3.4
UCC				E		22 31 24.5	
UCC				PP	PP	22 33 48.8	+0.4
QUIF	**Quistinic**	**76.38 336**		*e*P	**P**	**22 30 56.4**	**-1.3**
	comp=Z,1μm,1.5s,mb6.3						
SGMF	**Saint Gilles**	**76.42 336**		*e*P	**P**	**22 30 56.2**	**-1.8**
	comp=Z,1μm,1.4s,mb6.3						
IDID	**Didziasalis**	**76.54 356**		*e*P	**P**	**22 30 58.0**	**-0.7**
IDID				AMb	AMB	22 31 01.8	
	comp=Z,63nm,1.2s,mb5.4						
IDID				*e*PP	PP	22 33 51.5	+0.9
IIGN	**Ignalina**	**76.61 356**		*e*P	**P**	**22 30 58.7**	**-0.3**
IIGN				AMb	AMB	22 31 02.3	
	comp=Z,70nm,1.2s,mb5.5						
IIGN				*e*PP	PP	22 33 51.8	+0.5
WTSB	**Winterswijk**	**76.63 343**		*e*P	**P**	**22 30 57.7**	**-1.5**
	comp=Z,180nm,2.2s,mb5.6						
WTSB				*e*x	x	22 31 05.5	
	comp=Z,502nm,1.8s						
WTSB				*e*x	x	22 31 09.6	
	comp=Z,740nm,2.6s						
IBBN	**Ibbenburen**	**76.69 344**		*e*P	**P**	**22 30 59.3**	**-0.2**
	comp=Z,235nm,1.2s,mb6.0						
IBBN				*e*PP	PP	22 33 53.8	+1.9
IBBN				*e*S	S	22 40 50.0	+4.5
ROSF	**Rostrenen**	**76.77 336**		*e*P	**P**	**22 30 58.1**	**-1.8**
	comp=Z,957nm,1.6s,mb6.2						
BDFB	**Brasilia**	**76.78 258**		P	**P**	**22 30 58.8**	**-1.2**
	comp=Z,472nm,0.9s,mb6.4,baz=107,slow=4.3,SNR=77						
BDFB				S	S	22 40 47.0	+0.4
	comp=Z,4.4nm,0.7s,baz=0.6,slow=24,SNR=2.2						
BDFB				SS	SS	22 45 35.8	-6.8
	comp=Z,1.1nm,0.5s,baz=186,slow=25,SNR=1.8						
BDFB				LR	LR	23 01 20.3	
	comp=Z,1017μm,19.1s,MS8.2,baz=112,slow=33						
MOS	**Moscow**	**76.82**	**2**	*o i*P	**P**	**22 31 00.2**	**0.0**
MOS				*e*		22 31 10.4	
MOS				*e*		22 33 55.0	
MOS				*e*PPP		22 35 43.8	
MOS				*i* S	S	22 40 46.7	-0.3
MOS				*e*		22 41 31.5	
MOS				*e*SS	SS	22 45 48.2	+5.1
MOS				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.6						
MOS				smax			
	comp=N,19μm,12.1s						
ISAL	**Salakas**	**76.83 356**		*e*P	**P**	**22 30 59.9**	**-0.4**
ISAL				AMb	AMB	22 31 03.4	
	comp=Z,48nm,1.2s,mb5.3						
ISAL				*e*PP	PP	22 33 52.8	-0.3
VNDA	**Vanda**	**76.88 170**		P	**P**	**22 31 00.2**	**-0.4**
	comp=Z,343nm,1.0s,mb6.2,baz=248,slow=7.3,SNR=38						
VNDA				S	S	22 40 49.8	+2.1
	comp=Z,6.0nm,1.1s,baz=242,slow=7.5,SNR=1.7						
VNDA				SS	SS	22 45 42.4	-1.7
	comp=Z,1.9nm,1.1s,baz=264,slow=14,SNR=1.7						
VNDA				PKPPKP		22 58 11.0	
	comp=Z,4.1nm,0.4s,baz=294,slow=9.0,SNR=5.6						
VNDA				LR	LR	23 05 50.0	
	comp=Z,178μm,18.1s,MS7.4,baz=214,slow=36						
VNDA	**Vanda**	**76.88 170**		P	**P**	**22 31 00.3**	**-0.3**
VNDA						22 31 00.8	
VNDA				pmax	pmax		
	comp=Z,580nm,1.5s						
VNDA	**Vanda**	**76.88 170**		*e*P	**P**	**22 31 01.6**	**+1.0**
	comp=Z,750nm,1.3s,mb6.5						
VNDA				LR	LR		
	comp=Z,106μm,21.0s,MS7.1						
DRV	**Dumont d'Urvil**	**76.93 157**		P	**P**	**22 30 57.0**	**-3.8**
DRV	**Dumont d'Urvil**	**76.93 157**		PP	PP	22 33 51.0	-2.9
DRV				SKS		22 41 09.0	
DRV				SS	SS	22 45 47.0	+2.2
DRV				L		22 51 00.0	
IZAR	**Zarasai**	**77.00 356**		*e*P	**P**	**22 31 00.7**	**-0.6**
IZAR				AMb	AMB	22 31 04.3	
	comp=Z,56nm,1.3s,mb5.3						
JLP	**Les Platons**	**77.08 337**		*e*P	**P**	**22 31 02.2**	**+0.5**
JLP	**Les Platons**	**77.08 337**		*e*P	**P**	**22 31 02.2**	**+0.5**
JVM	**Valle D.L. Mar**	**77.09 337**		*e*P	**P**	**22 31 02.2**	**+0.4**
JVM	**Valle D.L. Mar**	**77.09 337**		*e*P	**P**	**22 31 02.2**	**+0.4**
SBA	**Scott Base**	**77.42 171**		*e*P	**P**	**22 31 04.6**	**+1.0**
SBA				MLR	MLR		
	comp=Z,174μm,19.0s,MS7.4						
RGN	**Rugen**	**77.52 348**		*e*P	**P**	**22 31 03.4**	**-0.8**
	comp=Z,284nm,1.1s,mb6.1						
RGN				*e*PP	PP	22 33 59.2	+0.3
RGN				*e*S	S	22 41 00.4	+5.8
RGN	**Rugen**	**77.52 348**		*e*P	**P**	**22 31 04.9**	**+0.8**
	comp=Z,489nm,1.1s,mb6.3						
KKTK	**Khon Kaen**	**77.53**	**67**	PG	**P**	**22 31 02.0**	**-2.2**
KKTK				SG	sP	22 31 09.0	-2.6
BSEG	**Bad Segeberg**	**77.57 346**		*e*P	**P**	**22 31 03.7**	**-0.7**
	comp=Z,396nm,1.3s,mb6.2						
BSEG				*e*PP	PP	22 33 59.9	+0.6
BSEG				*e*S	S	22 41 01.7	+6.5
BSD	**Bornholm Skovb**	**77.77 349**	⇓	*i*P	**P**	**22 31 06.4**	**+0.9**
	comp=Z,325nm,1.1s,mb6.2						
BSD				*i*		22 34 10.3	
BSD				*i* S	S	22 41 00.5	+3.2
BSD							
	comp=Z,86μm,19.0s						
BSD	**Bornholm Skovb**	**77.77 349**	⇓	*i*P	**P**	**22 31 06.4**	**+0.9**
BSD				*i* S	S	22 41 00.5	+3.2
BSD				pmax	pmax		
	comp=Z,320nm,1.1s,mb6.2						
BSD				MLR	MLR		
	comp=Z,86μm,19.0s,MS7.1						
BSD	**Bornholm Skovb**	**77.77 349**	⇓	*i*P	**P**	**22 31 06.4**	**+0.9**
	comp=Z,325nm,1.1s,mb6.2						
BSD				*i*		22 34 10.3	
BSD				*i* S	S	22 41 00.5	+3.2
PECR	**Pechory**	**77.83**	**6**	*e*P	**P**	**22 31 04.0**	**-1.9**
PECR				*e*		22 33 56.0	
PECR				*e*S	S	22 40 54.6	-3.4
PECR				pmax	pmax		
	comp=Z,30μm,13.2s						
PECR				smax			
	comp=E,10μm,12.4s						
PECR				MLR	MLR		
	comp=Z,63μm,19.0s,MS7.0						
PECR				MLR	MLR		
	comp=E,19μm,15.0s						
KSM	**Kuching**	**78.21**	**84**	*e*P	**P**	**22 31 08.2**	**+0.2**
HLG	**Helgoland**	**78.36 345**		*e*P	**P**	**22 31 08.4**	**-0.5**
	comp=Z,268nm,1.1s,mb6.1						
HLG				*e*PP	PP	22 34 06.7	+0.7
HLG				*e*S	S	22 41 09.9	+6.2
SKP1	**Kophill**	**78.70 339**		*e*P	**P**	**22 31 10.9**	**+0.2**
SKP1	**Kophill**	**78.70 339**		*e*P	**P**	**22 31 10.9**	**+0.2**
SWK	**Warminster**	**78.71 338**	⇑	*e*P	**P**	**22 31 11.1**	**+0.4**
SWK	**Warminster**	**78.71 338**	⇑	*e*P	**P**	**22 31 11.1**	**+0.4**
COP	**Copenhagen**	**78.77 348**	⇓	*i*P	**P**	**22 31 12.8**	**+1.7**
	comp=Z,154nm,1.2s,mb5.8						
COP				*i*		22 34 18.1	
COP				*i* S	S	22 41 14.9	+6.9
COP				*i*		22 46 19.7	
COP							
	comp=Z,54μm,19.0s						
COP	**Copenhagen**	**78.77 348**	⇓	*i*P	**P**	**22 31 12.8**	**+1.7**
COP				*i* S	S	22 41 14.9	+6.9
COP				*i*		22 46 19.7	
COP				pmax	pmax		
	comp=Z,154nm,1.2s,mb5.8						
COP				MLR	MLR		
	comp=Z,54μm,19.0s,MS6.9						
SWN1	**Swindon**	**78.86 338**	⇑	*e*P	**P**	**22 31 11.7**	**+0.1**
SWN1	**Swindon**	**78.86 338**	⇑	*e*P	**P**

comp=Z,760nm,1.3s,mb6.5
MBWA ePP PP 22 34 11.8 -1.0
MBWA LR LR
comp=Z,89μm,19.0s,MS7.1
SSW Stow on the Wo 79.26 339 eP **P 22 31 13.8 +0.1**
SSW Stow on the Wo 79.26 339 eP **P 22 31 13.8 +0.1**
LPA La Plata 79.28 237 ceP **P 22 31 14.0 +0.1**
LPA epP pP 22 31 17.0 -2.3
LPA esP sP 22 31 19.0 -2.3
LPA ePCP PcP 22 31 21.0 -1.1
LPA ePP PP 22 34 12.0 -1.6
LPA SKIKP 22 40 18.0
LPA eS S 22 41 11.0 -2.5
LPA esSKS 22 41 34.0
HGH Gray Hill 79.31 338 eP **P 22 31 13.4 -0.7**
HGH Gray Hill 79.31 338 eP **P 22 31 13.4 -0.7**
HTL Hartland 79.39 337 P **P 22 31 15.8 +1.3**
HTL S S 22 41 12.9 -1.8
HTL Hartland 79.39 337 eP **P 22 31 15.8 +1.3**
HTL eS S 22 41 12.9 -1.8
HTL AMS AMS 23 05 57.4
comp=E,73μm,17.1s,MS7.2
HTL AMS AMS 23 11 23.8
comp=N,72μm,18.6s,MS7.2
HTL Hartland 79.39 337 eP **P 22 31 15.8 +1.3**
HTL eS S 22 41 12.9 -1.8
HTL AMS AMS 23 05 57.4
comp=E,73μm,17.1s,MS7.2
HTL AMS AMS 23 11 23.8
comp=N,72μm,18.6s,MS7.2
VSU Vasula 79.67 356 d iP **P 22 31 14.4 -1.6**
VSU Vasula 79.67 356 i Pr **P 22 31 14.4 -1.6**
MCH1 Michaelchurch 79.68 338 S S 22 41 16.9 -0.8
MCH1 Michaelchurch 79.68 338 eP **P 22 31 15.9 -0.1**
MCH1 eS S 22 41 16.9 -0.8
MCH1 AMS AMS 23 09 29.5
comp=E,90μm,19.1s,MS7.3
MCH1 AMS AMS 23 10 52.4
comp=N,81μm,18.6s,MS7.3
MCH1 Michaelchurch 79.68 338 eP **P 22 31 15.9 -0.1**
MCH1 eS S 22 41 16.9 -0.8
MCH1 AMS AMS 23 09 29.5
comp=E,90μm,19.1s,MS7.3
MCH1 AMS AMS 23 10 52.4
comp=N,81μm,18.6s,MS7.3
HTR Trewern Hill 79.84 338⇑ eP **P 22 31 16.6 -0.4**
HTR AMb AMB 22 31 26.2
comp=Z,1μm,1.6s,mb6.5
HTR Trewern Hill 79.84 338⇑ eP **P 22 31 16.6 -0.4**
HTR AMb AMB 22 31 26.2
comp=Z,1μm,1.6s,mb6.5
SSP1 Stoney Pound 80.07 338⇑ eP **P 22 31 17.9 -0.3**
SSP1 Stoney Pound 80.07 338⇑ eP **P 22 31 17.9 -0.3**
HLM1 Long Mynd 80.07 338 eP **P 22 31 17.6 -0.6**
HLM1 AMb AMB 22 31 27.8
comp=Z,932nm,1.4s,mb6.5
HLM1 Long Mynd 80.07 338 eP **P 22 31 17.6 -0.6**
HLM1 AMb AMB 22 31 27.8
comp=Z,932nm,1.4s,mb6.5
PSMN Pico do Norte, 80.08 316 eP **P 22 31 21.5 +3.3**
ZRNK Zerenda 80.10 21 P **P 22 31 16.1 -2.2**
ZRNK pmax pmax
comp=Z,481nm,1.2s,mb6.3
ZRNK Zerenda 80.10 21 P **P 22 31 16.1 -2.2**
comp=Z,481nm,1.2s,mb6.3
KWE Weaver Farm 80.13 339 eP **P 22 31 18.6 +0.1**
KWE Weaver Farm 80.13 339 eP **P 22 31 18.6 +0.1**
MUD Monsted U'grnd 80.15 347⇓ iP **P 22 31 20.6 +2.0**
comp=Z,466nm,1.0s,mb6.4
MUD i 22 34 26.6
MUD i S S 22 41 28.2 +5.5
MUD
comp=Z,87μm,18.0s
MUD Monsted U'grnd 80.15 347⇓ iP **P 22 31 20.6 +2.0**
comp=Z,466nm,1.0s,mb6.4
MUD i 22 34 26.6
MUD i S S 22 41 28.2 +5.5
KBI1 Birley Grange 80.23 339⇑ eP **P 22 31 18.9 -0.2**
KBI1 Birley Grange 80.23 339⇑ eP **P 22 31 18.9 -0.2**
SBD1 Bryn Du 80.52 338 eP **P 22 31 20.6 0.0**
SBD1 Bryn Du 80.52 338 eP **P 22 31 20.6 0.0**
VOSK Vostochnaya 80.58 22 P **P 22 31 20.1 -0.8**
VOSK pmax pmax
comp=Z,935nm,1.7s,mb6.4
BRVK Borovoye 80.62 21 P **P 22 31 20.2 -0.9**
comp=Z,2μm,1.4s,mb6.8,SNR=75
BRVK Borovoye 80.62 21 P **P 22 31 19.2 -1.9**
BRVK pmax pmax
comp=Z,453nm,1.4s,mb6.2
BRVK MLR MLR
comp=Z,58μm,19.0s,MS7.0
BRVK Borovoye 80.62 21 P **P 22 31 19.2 -1.9**
comp=Z,453nm,1.4s,mb6.2
BRVK LR LR
comp=Z,58μm,19.0s,MS7.0
BVA0 Borovoye Array 80.63 22 i P **P 22 31 19.0 -2.2**
BVA0 pmax pmax
comp=Z,29μm,7.0s
BVAR Borovoye Array 80.63 22 P **P 22 31 18.8 -2.4**
comp=Z,150nm,0.9s,mb5.9,baz=217,slow=7.1,SNR=58
BVAR S S 22 41 26.9 -0.8
comp=Z,6.7nm,1.1s,baz=46,slow=1.5,SNR=5.1
MIRA Miradouro 80.68 317 eP **P 22 31 23.8 +2.3**
FRA1 Furnas 80.70 317 eP **P 22 31 25.1 +3.5**
PFAD Fenais da Ajud 80.74 317 eP **P 22 31 24.8 +3.0**
PCNG Congro 80.74 317 eP **P 22 31 25.3 +3.5**
comp=Z,496nm,1.2s,mb6.3
VIF Vila Franca 80.76 316 eP **P 22 31 25.2 +3.3**
comp=Z,425nm,1.5s,mb6.2
PRCH Ribeira Ch 80.78 316 eP **P 22 31 25.0 +3.0**
comp=Z,613nm,1.3s,mb6.4
MESC Monte Escuro 80.79 317 eP **P 22 31 25.2 +3.1**
MKAR Makanchi Array 80.80 32 P **P 22 31 19.5 -2.6**
comp=Z,77nm,1.1s,mb5.5,baz=216,slow=4.4,SNR=87
MKAR S S 22 41 30.2 +0.7
comp=Z,4.8nm,1.1s,baz=212,slow=4.3,SNR=3.0
MKAR SS SS 22 46 46.5 +3.7
comp=Z,1.1nm,1.0s,baz=49,slow=12,SNR=2.5
MKAR PKKPbc PKKPbc 22 50 03.1 +2.5
comp=Z,3.1nm,0.6s,baz=40,slow=0.8,SNR=11
MKAR PKPPKP 22 58 04.6
comp=Z,1.1nm,0.9s,baz=39,slow=0.8,SNR=6.1
MKAR LR LR 23 06 02.8
comp=Z,86μm,21.6s,MS7.1,baz=237,slow=35
MKAR Makanchi Array 80.80 32 P **P 22 31 19.5 -2.6**
MKAR S S 22 41 30.2 +0.7
MKAR SS SS 22 46 46.6 +3.7
MKAR 22 50 03.1
LFA Lagoa do Fogo 80.80 317 eP **P 22 31 25.2 +3.1**
PMAT Coroa da Mata 80.82 317 eP **P 22 31 25.7 +3.5**
comp=Z,15nm,1.1s
PUL Pulkovo 80.82 358 d iP **P 22 31 22.6 +0.4**
PUL i S S 22 41 28.8 -1.0
PUL pmax pmax
comp=Z,861nm,1.4s,mb6.5
PUL pmax pmax
comp=N,1μm,0.9s
PUL smax
comp=Z,7μm,7.2s
PUL smax
comp=N,20μm,8.8s
PUL smax
comp=E,100μm,12.1s
PUL Pulkovo 80.82 358 i P **P 22 31 21.8 -0.4**
PVER Pico Vermelho 80.84 317 eP **P 22 31 24.9 +2.6**
comp=E,231nm,1.1s,mb6.0
CML Cha da Macela 80.84 316 eP **P 22 31 25.0 +2.7**
PDA Ponta Delgada 80.90 316 i P **P 22 31 31.0 +8.3**
PDA Ponta Delgada 80.90 316 i PP PP 22 34 32.0 +4.9
PDA i S S 22 41 37.0 +6.4
PDA i SS SS 22 47 20.0 +36
PDA i LQ 22 55 11.0
PDA eLR LR 22 58 48.0
FAC Faja de Cima 80.91 316 eP **P 22 31 25.0 +2.3**
PSET Sete Cidades 80.98 316 eP **P 22 31 16.9 -6.2**
comp=E,269nm,1.2s,mb6.0
YRE Yr Eifl 80.99 338 eP **P 22 31 24.3 +1.2**
YRE AMb AMB 22 31 31.8
comp=Z,984nm,1.8s,mb6.4
YRE Yr Eifl 80.99 338 eP **P 22 31 24.3 +1.2**
YRE AMb AMB 22 31 31.8
comp=Z,984nm,1.8s,mb6.4
YLL Llanberis 81.03 338 eP **P 22 31 23.0 -0.3**
YLL AMb AMB 22 31 32.6
comp=Z,1μm,1.7s,mb6.5
YLL Llanberis 81.03 338 eP **P 22 31 23.0 -0.3**
YLL AMb AMB 22 31 32.6
comp=Z,1μm,1.7s,mb6.5
SET2 Ginetes 81.05 316 eP **P 22 31 25.0 +1.6**
SET4 Mosteiros 81.07 316 e 22 31 28.1
WLF1 Llynfaes 81.23 338⇑ eP **P 22 31 24.4 0.0**
WLF1 AMb AMB 22 31 33.8
comp=Z,988nm,1.7s,mb6.5
WLF1 Llynfaes 81.23 338⇑ eP **P 22 31 24.4 0.0**
WLF1 AMb AMB 22 31 33.8
comp=Z,988nm,1.7s,mb6.5
YRC Rhoscolyn 81.26 338 eP **P 22 31 25.0 +0.5**
YRC AMb AMB 22 31 34.0
comp=Z,647nm,1.7s,mb6.3
YRC Rhoscolyn 81.26 338 eP **P 22 31 25.0 +0.5**
YRC AMb AMB 22 31 34.0
comp=Z,647nm,1.7s,mb6.3
TRQA Tornquist 81.32 233 eP **P 22 31 24.5 -0.4**
comp=Z,910nm,1.3s,mb6.5
TRQA LR LR
comp=Z,283μm,21.0s,MS7.6
WCB1 Church Bay 81.35 338⇑ eP **P 22 31 24.7 -0.3**
WCB1 Church Bay 81.35 338⇑ eP **P 22 31 24.7 -0.3**
KMI Kunming 81.50 59 P **P 22 31 26.1 +0.3**
KMI AP pP 22 31 31.5 +0.2
KMI XP sP 22 31 33.4 +0.2
KMI PP PP 22 34 37.0 +4.9
KMI S S 22 41 38.8 +2.0
KMI SKS 22 41 42.8
KMI SS SS 22 46 59.6 +6.1
KMI AMB AMB
comp=Z,240nm,1.8s,mb5.8
KMI AMB AMB
comp=Z,44μm,11.2s
KMI LR LR
comp=N,94μm,21.0s,MS7.4
KMI LR LR
comp=E,132μm,18.7s,MS7.4
KMI LR LR
comp=Z,151μm,18.3s,MS7.4
CPUP Villa Florida 81.57 245 eP **P 22 31 24.0 -2.2**
CPUP pmax pmax
comp=Z,886nm,1.2s
CPUP MLR MLR
comp=Z,65μm,20.0s
CPUP Villa Florida 81.57 245 eP **P 22 31 24.0 -2.2**
comp=Z,886nm,1.2s,mb6.6
CPUP LR LR
comp=Z,65μm,20.0s,MS7.0
WMQ Urumqi 81.60 36⇓ iP **P 22 31 25.6 -0.8**
WMQ XP sP 22 31 32.6 -1.2
WMQ PP PP 22 34 34.6 +1.7
WMQ S S 22 41 36.0 -1.9
WMQ SKS 22 41 41.0
WMQ PS 22 42 27.0
WMQ SS SS 22 46 58.0 +3.1
WMQ AMB AMB
comp=Z,285nm,1.2s,mb6.1
WMQ AMB AMB
comp=Z,44μm,8.0s
WMQ LR LR
comp=N,107μm,11.0s,MS7.7
WMQ LR LR
comp=E,142μm,11.0s,MS7.7
WMQ LR LR
comp=Z,120μm,10.0s,MS7.5
KURK Kurchatov 81.97 27 P **P 22 31 26.6 -1.7**
comp=Z,4μm,1.3s,mb7.2
KURK Kurchatov 81.97 27 P **P 22 31 26.6 -1.7**
KURK pmax pmax
comp=Z,1μm,1.5s,mb6.6
KURK Kurchatov 81.97 27 P **P 22 31 26.0 -2.3**
comp=Z,2μm,1.5s,mb6.9
KURK LR LR
comp=Z,234μm,22.0s,MS7.5
DLF Lyons Farm 81.99 337⇑ iP **P 22 31 28.6 +0.2**
KLMR Klimovskoe 82.01 3 c iP **P 22 31 27.8 -0.7**
KLMR e 22 34 36.1
KLMR eS S 22 41 43.8 +1.7
KLMR eSS SS 22 47 05.5 +4.5
KLMR pmax pmax
comp=Z,500nm,1.3s,mb6.3
KLMR pmax pmax
comp=Z,29μm,12.6s
KLMR smax
comp=N,2μm,16.4s
KLMR smax
comp=E,88μm,13.2s
WIM Isle of Man 82.02 338 eP **P 22 31 28.6 0.0**
WIM AMb AMB 22 31 38.3
comp=Z,1μm,1.6s,mb6.7
WIM Isle of Man 82.02 338 eP **P 22 31 28.6 0.0**
WIM AMb AMB 22 31 38.3
comp=Z,1μm,1.6s,mb6.7
DCN Croghan 82.30 337⇑ iP **P 22 31 30.3 +0.2**
VAL Valentia 82.36 334⇓ iS S 22 41 50.2 +4.5
VAL Valentia 82.36 334 eP **P 22 31 30.2 -0.2**
VAL i S S 22 41 50.2 +4.5
PFAV Pico das Favas 82.37 317 eP **P 22 31 33.1 +2.7**
comp=Z,147nm,1.5s,mb5.7
RIB2 Ribeirinha 82.41 316 eP **P 22 31 32.8 +2.2**
comp=Z,218nm,1.3s,mb5.9
ADH Angra Heroismo 82.44 316 eP **P 22 31 31.5 +0.7**
ADH Angra Heroismo 82.44 316 i P PcP 22 31 47.5 +12
ADH Angra Heroismo 82.44 316 ePP PP 22 34 55.0 +15
PVNV Vila Nova 82.45 317 eP **P 22 31 32.9 +2.1**
comp=Z,168nm,1.4s,mb5.8
EKA Eskdalemuir Ar 82.50 340 P **P 22 31 30.5 -0.6**
comp=Z,46nm,0.8s,mb5.5,baz=120,slow=5.0,SNR=39
ESK Eskdalemuir 82.50 340 P **P 22 31 31.1 +0.1**
ESK AMb AMB 22 31 39.9
comp=Z,684nm,1.5s,mb6.4
ESK Eskdalemuir 82.50 340 S S 22 41 44.4 -2.6
ESK Eskdalemuir 82.50 340 eP **P 22 31 31.1 +0.1**
ESK eP 22 31 31.1
ESK AMb AMB 22 31 39.9
comp=Z,684nm,1.5s,mb6.4
ESK eS S 22 41 44.4 -2.6
ESK Eskdalemuir 82.50 340 eP **P 22 31 31.1 +0.1**
ESK eP 22 31 31.1
ESK AMb AMB 22 31 39.9
comp=Z,684nm,1.5s,mb6.4
ESK eS S 22 41 44.4 -2.6
ESK Eskdalemuir 82.50 340 P **P 22 31 32.9 +1.8**
comp=Z,1μm,1.4s,mb6.7,SNR=11
ESK Eskdalemuir 82.50 340 P **P 22 31 30.7 -0.4**
ESK pmax pmax
comp=Z,514nm,1.4s,mb6.3
ESK MLR MLR
comp=Z,179μm,19.0s,MS7.5
ESK Eskdalemuir 82.50 340 P **P 22 31 30.7 -0.4**
comp=Z,514nm,1.4s,mb6.3
ESK LR LR
comp=Z,179μm,19.0s,MS7.5
PPAD Pico dos Padre 82.50 316 eP **P 22 31 33.3 +2.2**
comp=Z,172nm,1.3s,mb5.8
PBIS Biscoitos 82.51 316 eP **P 22 31 33.1 +2.0**
comp=Z,186nm,1.3s,mb6.0
ASBA Santa Barbara 82.53 316 eP **P 22 31 34.7 +3.4**
comp=Z,165nm,1.0s,mb6.0
GMM Mts of Mourne 82.54 338 eP **P 22 31 31.1 -0.2**
GMM Mts of Mourne 82.54 338 eP **P 22 31 31.1 -0.2**
PSBA Serra de Santa 82.56 316 eP **P 22 31 39.5 +8.1**
comp=Z,1μm,1.5s,mb6.7
GAL1 Galloway 82.62 339 eP **P 22 31 32.1 +0.4**
GAL1 Galloway 82.62 339 eP **P 22 31 32.1 +0.4**
FINES FINESS Array B 82.68 356 P **P 22 31 30.8 -1.2**
comp=Z,74nm,1.0s,mb5.7,baz=152,slow=5.4,SNR=86
FINES S S 22 41 49.8 +0.8
comp=Z,10nm,1.2s,baz=206,slow=8.3,SNR=2.6
FINES SS SS 22 47 05.0 -6.0
comp=Z,2.2nm,1.0s,baz=36,slow=20,SNR=2.6
FINES PKKPbc PKKPbc 22 50 00.1 +3.8
comp=Z,1.9nm,0.6s,baz=25,slow=3.0,SNR=7.6
FINES LR LR 23 09 08.8
comp=Z,70μm,21.9s,MS7.0,baz=16,slow=36
FINES FINESS Array B 82.68 356 P **P 22 31 30.8 -1.2**
FINES S S 22 41 49.8 +0.9
FINES SS SS 22 47 05.0 -6.0
HFS Hagfors 82.75 350 P **P 22 31 30.4 -2.0**
comp=Z,48nm,1.0s,mb5.5,baz=186,slow=5.4,SNR=33
SOKR Solikamsk 82.81 12 c iP **P 22 31 30.1 -2.6**
SOKR i 22 34 40.5
SOKR i S S 22 41 42.5 -7.8
SOKR pmax pmax
comp=Z,850nm,1.2s,mb6.7
EBL Broad Law 82.82 340 eP **P 22 31 32.9 +0.1**
EBL AMb AMB 22 31 41.8
comp=Z,917nm,1.3s,mb6.7
EBL Broad Law 82.82 340 eP **P 22 31 32.9 +0.1**
EBL AMb AMB 22 31 41.8
comp=Z,917nm,1.3s,mb6.7
PMAN Manadas 82.98 316 eP **P 22 31 37.5 +3.9**
comp=Z,558nm,1.4s,mb6.4
EDI Edinburgh 82.99 340 P **P 22 31 33.9 +0.3**
EDI AMb AMB 22 31 37.8
comp=Z,549nm,1.4s,mb6.4
EDI Edinburgh 82.99 340 S S 22 41 49.9 -2.2
EDI Edinburgh 82.99 340⇑ eP **P 22 31 33.9 +0.3**
EDI eP 22 31 33.9
EDI AMb AMB 22 31 37.8
comp=Z,549nm,1.4s,mb6.4
EDI eS S 22 41 49.9 -2.2
EDI AMS AMS 23 06 47.3
comp=N,102μm,20.2s,MS7.6
EDI AMS AMS 23 09 03.0
comp=E,204μm,18.5s,MS7.6
EDI Edinburgh 82.99 340⇑ eP **P 22 31 33.9 +0.3**
EDI eP 22 31 33.9
EDI AMb AMB 22 31 37.8
comp=Z,549nm,1.4s,mb6.4
EDI eS S 22 41 49.9 -2.2
EDI AMS AMS 23 06 47.3
comp=N,102μm,20.2s,MS7.6
EDI AMS AMS 23 09 03.0
comp=E,204μm,18.5s,MS7.6
PPNO Prainha do Nor 83.00 316 eP **P 22 31 36.6 +2.9**
comp=E,474nm,1.3s,mb6.4
EAU Auchinoon 83.01 340 eP **P 22 31 34.0 +0.3**
EAU AMb AMB 22 31 42.9
comp=Z,822nm,1.4s,mb6.6
EAU Auchinoon 83.01 340 eP **P 22 31 34.0 +0.3**
EAU AMb AMB 22 31 42.9
comp=Z,822nm,1.4s,mb6.6
KONO Kongsberg 83.02 348 eP **P 22 31 33.9 +0.1**
KONO Kongsberg 83.02 348 P **P 22 31 33.2 -0.6**
KONO pmax pmax
comp=Z,370nm,1.4s,mb6.2
PBOI Pico dos Bois 83.05 316 eP **P 22 31 37.3 +3.4**
comp=Z,57nm,1.0s,mb5.6
PAMA Santo Amaro 83.06 316 eP **P 22 31 37.6 +3.6**
comp=Z,146nm,1.0s,mb6.0
OSL Oslo 83.08 349 eP **P 22 31 33.4 -0.6**
OSL AMb AMB 22 31 43.5
comp=Z,451nm,1.6s,mb6.3
OSL Oslo 83.08 349 eP **P 22 31 33.4 -0.6**
comp=Z,451nm,1.5s,mb6.3
PICO Pico 83.12 316 eP **P 22 31 35.0 +0.7**
ROSA Rosais 83.12 316 eP **P 22 31 36.5 +2.2**
PCND Candelaria 83.13 316 eP **P 22 31 35.7 +1.4**
comp=Z,92nm,1.0s,mb5.8
PGRA Graciosa 83.13 316 eP **P 22 31 35.4 +1.1**
comp=Z,477nm,1.5s,mb6.3
STGR Santa Cruz 83.17 316 eP **P 22 31 37.1 +2.5**
comp=Z,134nm,1.3s,mb5.8
STAV Stavanger 83.19 346 eP **P 22 31 35.4 +0.8**
STAV AMb AMB 22 31 42.8
comp=Z,350nm,1.3s,mb6.2
STAV Stavanger 83.19 346 eP **P 22 31 35.4 +0.8**
comp=Z,350nm,1.3s,mb6.2
PVIA Vitoria 83.20 316 eP **P 22 31 36.6 +1.9**
comp=Z,189nm,1.3s,mb6.0
GCL Cushendall 83.27 338 eP **P 22 31 35.2 +0.1**
GCL Cushendall 83.27 338 eP **P 22 31 35.2 +0.1**
GMK Mull of Kintyr 83.31 339 eP **P 22 31 34.8 -0.4**
GMK Mull of Kintyr 83.31 339 eP **P 22 31 34.8 -0.4**
KAF Kangasniemi 83.33 357 ep **P 22 31 31.7 -3.7**
comp=Z,188nm,0.9s,mb6.1,baz=169,slow=4.7
KAF Kangasniemi 83.33 357 eP **P 22 31 31.7 -3.7**
KAF pmax pmax
comp=Z,188nm,0.9s,mb6.1
CALA Caldeira 83.35 316 eP **P 22 31 37.4 +1.9**
PCED Cedros 83.37 316 eP **P 22 31 38.9 +3.3**
comp=Z,612nm,1.2s,mb6.5
PTCA Ponta do Capel 83.41 316 eP **P 22 31 39.3 +3.5**
comp=Z,232nm,1.2s,mb6.1
BLS5 Blasjo 83.46 346 eP **P 22 31 36.9 +0.9**
BLS5 AMb AMB 22 31 45.8
comp=Z,317nm,1.5s,mb6.1
BLS5 Blasjo 83.46 346 eP **P 22 31 36.9 +0.9**
comp=Z,317nm,1.5s,mb6.1
KMY Karmoy 83.54 346 eP **P 22 31 36.7 +0.3**
KMY AMb AMB 22 31 43.8
comp=Z,453nm,1.3s,mb6.5
KMY Karmoy 83.54 346 eP **P 22 31 36.7 +0.3**
comp=Z,453nm,1.3s,mb6.4
EAB Aberfoyle 83.58 340 eP **P 22 31 38.0 +1.3**
EAB AMb AMB 22 31 45.4
comp=Z,384nm,1.5s,mb6.3
EAB Aberfoyle 83.58 340 eP **P 22 31 38.0 +1.3**
EAB AMb AMB 22 31 45.4
comp=Z,384nm,1.5s,mb6.3
PLUZ Luz 83.77 316 eP **P 22 31 36.7 -0.9**
comp=Z,198nm,1.3s,mb6.1
ODD1 Odda 83.87 347 eP **P 22 31 37.8 -0.3**
ODD1 AMb AMB 22 31 45.9
comp=Z,548nm,1.2s,mb6.6
ODD1 Odda 83.87 347 eP **P 22 31 37.8 -0.3**
comp=Z,548nm,1.2s,mb6.6
NAO01 NORSAR Array S 83.90 349 eP **P 22 31 37.3 -1.0**
comp=Z,467nm,1.1s,mb6.5
NAO01 LR LR
comp=Z,78μm,20.0s,MS7.1
JOF Joensuu 83.96 359 ep **P 22 31 33.2 -5.4**
comp=Z,70nm,0.8s,mb5.8
JOF Joensuu 83.96 359 eP **P 22 31 33.2 -5.4**
JOF pmax pmax
comp=Z,71nm,0.8s,mb5.8
NB2 NORSAR Subarra 84.02 349 P **P 22 31 37.0 -1.9**
comp=Z,222nm,1.1s,mb6.2,baz=160,slow=5.3
NOA NORSAR Array B 84.02 349 P **P 22 31 37.2 -1.7**
comp=Z,147nm,1.0s,mb6.1,baz=152,slow=4.8,SNR=99
NOA S 22 41 58.6
comp=Z,5.2nm,1.1s,baz=176,slow=6.8,SNR=2.4
NOA LR LR 23 11 49.7
comp=Z,53μm,21.6s,MS6.9,baz=165,slow=38
NOA NORSAR Array B 84.02 349 P **P 22 31 37.2 -1.7**
NOA S 22 41 58.6
MME1 Meikle Cairn 84.08 341 eP **P 22 31 38.5 -0.7**
MME1 Meikle Cairn 84.08 341 eP **P 22 31 38.5 -0.7**
MCD Coleburn Disti 84.39 341⇑ eP **P 22 31 40.1 -0.7**
MCD Coleburn Disti 84.39 341⇑ eP **P 22 31 40.1 -0.7**
EGD Espegrend 84.50 346 eP **P 22 31 41.0 -0.3**
BER Bergen 84.58 346 eP **P 22 31 42.2 +0.5**
BER eP 22 31 42.3
BER AMb AMB 22 31 58.6
comp=Z,538nm,1.2s,mb6.5
BER eS 22 42 06.8
BER AMS AMS 23 17 00.6
comp=Z,76μm,17.4s,MS7.1
BER Bergen 84.58 346 eP **P 22 31 42.2 +0.5**
comp=Z,538nm,1.2s,mb6.5
BER eS 22 42 06.8
BER LR LR
comp=Z,76449μm,17.4s
RUND Rundenannen 84.59 346 eP **P 22 31 43.6 +1.8**
RUND AMb AMB 22 31 50.5
comp=Z,1μm,1.3s,mb6.9
MDO Dochfour 84.61 341 eP **P 22 31 41.5 -0.4**
MDO Dochfour 84.61 341 eP **P 22 31 41.5 -0.4**
ASK Askoy 84.69 346 eP **P 22 31 43.5 +1.2**
ASK AMb AMB 22 31 51.0
comp=Z,696nm,1.7s,mb6.5
ASK Askoy 84.69 346 eP **P 22 31 43.5 +1.2**
comp=Z,696nm,1.7s,mb6.5
QIZ Qiongzhong 84.73 67 i PR 22 31 44.9
QIZ AP pP 22 31 49.1 +1.1
QIZ S 22 42 11.6
QIZ PS 22 43 09.0
QIZ SS SS 22 47 43.8 +2.6
QIZ LR LR
comp=E,148μm,17.5s
QIZ LR LR
comp=Z,138μm,17.5s,MS7.4
QIZ Qiongzhong 84.73 67 P **P 22 31 45.3 +2.8**
QIZ SKSac SKSac 22 42 07.3 +1.3
QIZ Qiongzhong 84.73 67 eP **P 22 31 42.7 +0.2**
comp=Z,343nm,1.6s,mb6.2
QIZ LR LR

comp=Z,128μm,20.0s,MS7.3
MVH1 Achvaich 84.95 341⇑ *e*P **P** **22 31 43.5 -0.2**
MVH1 Achvaich 84.95 341⇑ *e*P **P** **22 31 43.5 -0.2**
CD2 Chengdu 85.03 54 P **P** **22 31 43.4 -0.6**
CD2 XP sP 22 31 51.4 0.0
CD2 PP PP 22 35 00.1 -0.8
CD2 PPP 22 36 58.3
CD2 S 22 42 09.5
CD2 SS SS 22 47 47.6 +1.9
CD2 AMB AMB
comp=Z,110nm,1.4s,mb5.8
CD2 AMB AMB
comp=Z,33μm,10.2s
CD2 LR LR
comp=N,49μm,21.0s
CD2 LR LR
comp=Z,44μm,21.0s,MS6.8
HYA Hoyanger 85.10 347 *e*P **P** **22 31 46.0 +1.7**
HYA AMb AMB 22 31 54.6
comp=Z,783nm,1.4s,mb6.7
HYA Hoyanger 85.10 347 *e*P **P** **22 31 46.0 +1.7**
comp=Z,783nm,1.4s,mb6.7
GYA Guiyang 85.26 59⇓ *i*P **P** **22 31 43.9 -1.3**
GYA AP pP 22 31 48.9 -1.7
GYA PP PP 22 35 04.6 +1.8
GYA PPP 22 37 01.3
GYA S 22 42 15.0
GYA SS SS 22 47 53.3 +4.3
GYA AMB AMB
comp=Z,2μm,1.2s,mb7.1
GYA AMB AMB
comp=Z,48μm,14.6s
GYA LR LR
comp=E,116μm,17.9s
GYA LR LR
comp=Z,108μm,17.9s,MS7.3
SUE Sulen 85.31 346 *e*P **P** **22 31 47.7 +2.3**
DOMB Dombas 85.34 349 *e*P **P** **22 31 46.1 +0.6**
KKM Kota Kinabalu 85.38 82 P **P** **22 31 47.3 +1.5**
KKM Kota Kinabalu 85.38 82 *e*P **P** **22 31 45.2 -0.5**
KKM *e*PP PP 22 35 06.5 +2.7
KKM *e*S 22 41 53.8
RRR Rubha Reidh 85.41 340⇑ *e*P **P** **22 31 45.9 0.0**
RRR Rubha Reidh 85.41 340⇑ *e*P **P** **22 31 45.9 0.0**
REB Eisghbrachaidh 85.45 340 *e*P **P** **22 31 46.1 0.0**
REB Eisghbrachaidh 85.45 340 *e*P **P** **22 31 46.1 0.0**
FITZ Fitzroy Crossi 85.45 108 *e*S 22 42 15.5
FITZ *e*PKKP PKKPbc 22 49 55.7 +5.8
FITZ Fitzroy Crossi 85.45 108 *e*P **P** **22 31 46.1 -0.1**
comp=Z,612nm,1.9s,mb6.4
FITZ *e*S 22 42 15.5
FITZ *e*PKKP PKKPbc 22 49 55.7 +5.8
RSC Scourie 85.60 341⇑ *e*P **P** **22 31 46.9 0.0**
RSC Scourie 85.60 341⇑ *e*P **P** **22 31 46.9 0.0**
FOO Floro 85.73 347 *e*P **P** **22 31 47.8 +0.3**
FOO AMb AMB 22 31 55.6
comp=Z,231nm,1.5s,mb6.2
FOO Floro 85.73 347 *e*P **P** **22 31 47.8 +0.3**
comp=Z,231nm,1.5s,mb6.2
RRH Rhenigidale 85.74 340⇑ *e*P **P** **22 31 47.4 -0.1**
RRH Rhenigidale 85.74 340⇑ *e*P **P** **22 31 47.4 -0.1**
LRW Lerwick 85.94 343 S 22 42 10.4
LRW Lerwick 85.94 343 *e*P **P** **22 31 47.4 -1.1**
LRW *e*S 22 42 10.4
LRW AMS AMS 23 10 58.5
comp=E,39μm,18.6s,MS7.0
LRW AMS AMS 23 11 43.0
comp=N,48μm,18.7s,MS7.0
LRW Lerwick 85.94 343 *e*P **P** **22 31 47.4 -1.1**
LRW *e*S 22 42 10.4
LRW AMS AMS 23 10 58.5
comp=E,39μm,18.6s,MS7.0
LRW AMS AMS 23 11 43.0
comp=N,48μm,18.7s,MS7.0
RTO Tolsta 85.95 340⇑ *e*P **P** **22 31 47.6 -1.1**
RTO Tolsta 85.95 340⇑ *e*P **P** **22 31 47.6 -1.1**
MOL Molde 86.11 348 *e*P **P** **22 31 49.8 +0.4**
MOL AMb AMB 22 31 57.6
comp=Z,454nm,1.8s,mb6.4
MOL Molde 86.11 348 *e*P **P** **22 31 49.8 +0.4**
comp=Z,454nm,1.8s,mb6.4
WAL1 Walls 86.16 343 *e*P **P** **22 31 49.6 -0.1**
WAL1 Walls 86.16 343 *e*P **P** **22 31 49.6 -0.1**
GTA Gaotai 86.43 45 P **P** **22 31 50.3 -0.7**
GTA AP pP 22 31 54.3 -2.1
GTA XP sP 22 31 57.6 -0.8
GTA PP PP 22 35 10.6 -1.7
GTA PPP 22 37 10.8
GTA SKS 22 42 13.0
GTA S 22 42 22.5
GTA SS SS 22 48 05.4 -0.8
GTA AMB AMB
comp=Z,39μm,11.8s
GTA LR LR
comp=N,177μm,22.1s,MS7.7
GTA LR LR
comp=E,289μm,21.3s,MS7.7
GTA LR LR
comp=Z,290μm,20.5s,MS7.7
PLCA Paso Flores 86.43 228 P **P** **22 31 50.4 -0.6**
comp=Z,106nm,1.1s,mb6.0,baz=112,slow=5.2,SNR=23
PLCA S 22 42 18.6
comp=Z,4.2nm,1.1s,baz=328,slow=13,SNR=1.8
PLCA PKKPbc PKKPbc 22 49 48.6 +1.0
comp=Z,3.2nm,0.6s,baz=263,slow=3.4,SNR=5.8
PLCA PKPPKP 22 57 51.6
comp=Z,7.5nm,1.2s,baz=202,slow=4.2,SNR=4.1
PLCA LR LR 23 06 51.0
comp=Z,120μm,20.7s,MS7.3,baz=119,slow=33
PLCA Paso Flores 86.43 228 *e*P **P** **22 31 50.8 -0.2**
PLCA pmax pmax
comp=Z,422nm,1.4s
PLCA MLR MLR
comp=Z,199μm,22.0s
PLCA Paso Flores 86.43 228 *e*P **P** **22 31 50.8 -0.2**
comp=Z,422nm,1.4s,mb6.5
PLCA LR LR
comp=Z,199μm,22.0s,MS7.5
NVS Novosibirsk 86.89 26⇑ *i*P **P** **22 31 51.4 -1.8**
NVS *i* 22 42 28.5
NVS pmax pmax
comp=N,385nm,1.6s
NVS pmax pmax
comp=Z,795nm,1.6s,mb6.7
NSS Namsos 87.18 351 *e*P **P** **22 31 54.5 -0.2**
NSS *e*PP PP 22 35 16.7 -1.7
NSS *e*SKSa 22 42 20.0
NSS *e*SS SS 22 48 16.2 -1.1
NSS AMS AMS 23 20 56.2
comp=Z,79μm,22.6s,MS7.1
NSS Namsos 87.18 351 *e*P **P** **22 31 54.5 -0.2**
NSS *e*PP PP 22 35 16.7 -1.7
NSS *e*SKSac SKSac 22 42 20.0 -1.4
NSS *e*SS SS 22 48 16.2 -1.1
LZH Lanzhou 87.55 50 ⇓P **P** **22 31 56.5 +0.1**
LZH AP pP 22 31 59.8 -2.1
LZH PP PP 22 35 21.5 +0.2
LZH SKS 22 42 23.1
LZH S 22 42 38.0
LZH XS sS 22 42 46.0 -0.2
LZH AMB AMB
comp=Z,2μm,1.3s,mb7.2
LZH AMB AMB
comp=Z,33μm,10.5s
LZH LR LR
comp=N,132μm,18.5s
LZH LR LR
comp=Z,218μm,20.3s,MS7.5
BATP Bataraza 87.86 80 *e*P **P** **22 31 59.0 +1.1**
MOR8 Moi Rana 88.41 352 *e*P **P** **22 32 00.7 +0.2**
MOR8 AMb AMB 22 32 07.8
comp=Z,211nm,1.6s,mb6.1
MOR8 Moi Rana 88.41 352 *e*P **P** **22 32 00.7 +0.2**
comp=Z,211nm,1.6s,mb6.1
APA Apatity 88.61 360⇑ *i*P **P** **22 31 58.7 -2.8**
APA *i* pP 22 32 04.0 -3.0
APA *e* 22 35 25.0
APA *i* S 22 42 50.0
APA MLR MLR
comp=Z,115μm,19.0s,MS7.3
LVZ Lovozero 88.95 0 *e*P **P** **22 32 02.0 -1.0**
LVZ *e* 22 35 31.1
LVZ *i* 22 42 49.6
LVZ pmax pmax
comp=E,43nm,1.3s
LVZ pmax pmax
comp=Z,165nm,1.3s,mb6.2
LVZ pmax pmax
comp=N,43nm,1.5s
LVZ Lovozero 88.95 0 *i*P **P** **22 32 01.9 -1.1**
LVZ LR LR
comp=Z,133μm,20.0s,MS7.4
LMEL Las Melosas 89.09 234 *e*P **P** **22 32 06.6 +2.9**
ENH Enshi 89.15 57⇓ *e*P **P** **22 32 03.7 -0.3**
comp=Z,452nm,1.4s,mb6.6
ENH *e*PP PP 22 35 33.5 -0.7
ENH LR LR
comp=Z,107μm,22.0s,MS7.2
CCHI Chillan 89.29 231 *e*P **P** **22 32 04.7 0.0**
CCHI Chillan 89.29 231 *e*P **P** **22 32 05.7 +1.0**
NICH Los Niches 89.37 233 *e*P **P** **22 32 06.0 +1.0**
FCH Farellones 89.38 234 *e*P **P** **22 32 06.6 +1.5**
ADE Adelaide 89.66 128 *i* Pdr **P** **22 32 07.6 +1.2**
HKC Hong Kong 89.75 66⇓ *i*P **P** **22 32 10.0 +3.2**
HKC *i* S 22 43 00.0
PEL Peldehue 89.76 234 *e*P **P** **22 32 07.2 +0.3**
PEL Peldehue 89.76 234⇓ *i*P **P** **22 32 07.7 +0.9**
ENPP El Nido 90.23 78 *e*P **P** **22 32 09.8 +0.8**
XAN Xi'an 90.33 53 P **P** **22 32 08.8 -0.7**
XAN S 22 43 09.4
XAN AMB AMB
comp=Z,155nm,1.4s,mb6.1
XAN LR LR
comp=N,20μm,19.7s,MS7.2
XAN LR LR
comp=E,88μm,21.9s,MS7.2
XAN LR LR
comp=Z,99μm,21.7s,MS7.2
XAN Xi'an 90.33 53 P **P** **22 32 08.7 -0.8**
KTK1 Kautokeino 90.37 356 *e*P **P** **22 32 12.3 +2.6**
KTK1 AMb AMB 22 32 19.2
comp=Z,313nm,1.9s,mb6.3
KTK1 Kautokeino 90.37 356 *e*P **P** **22 32 12.3 +2.6**
comp=Z,313nm,1.9s,mb6.3
ASPA Alice Springs 90.54 116 *e*P **P** **22 32 12.1 +1.6**
ASAR Alice Springs 90.54 116 P **P** **22 32 10.0 -0.5**
comp=Z,122nm,0.8s,mb6.3,baz=244,slow=3.1,SNR=162
ASAR S 22 42 43.0
comp=Z,1.7nm,1.0s,baz=287,slow=4.6,SNR=1.7
ASAR PKKP PKKPbc 22 49 28.9 -8.6
comp=Z,3.9nm,1.0s,baz=92,slow=2.4,SNR=6.5
ASAR PKKPbc PKKPbc 22 49 39.5 +2.0
comp=Z,5.2nm,0.7s,baz=77,slow=2.3,SNR=14
ASAR PKPPKP 22 57 37.8
comp=Z,2.9nm,1.1s,baz=83,slow=2.8,SNR=3.1
ASAR Alice Springs 90.54 116 P **P** **22 32 10.0 -0.5**
ASAR S 22 42 43.0
ASAR Alice Springs 90.54 116 P **P** **22 32 10.0 -0.5**
ASAR S 22 42 43.0
ASAR PKKP PKKPbc 22 49 28.9 -8.6
ASAR PKKPbc PKKPbc 22 49 39.5 +2.0
ASAR P'P' 22 57 37.8
AS31 Alice Springs 90.54 116 *e*P **P** **22 32 12.1 +1.6**
ARCES ARCESS Array B 90.77 357 P **P** **22 32 09.9 -1.7**
comp=Z,67nm,1.2s,mb5.8,baz=150,slow=2.7,SNR=18
ARCES LR LR 23 20 46.4
comp=Z,70μm,19.8s,MS7.1,baz=178,slow=41
ARE0 ARCESS Array S 90.77 357 *e*P **P** **22 32 09.7 -1.9**
CMCH Combarbala 90.84 236 *e*P **P** **22 32 12.0 +0.1**
KEV Kevo 90.93 358 PFAKE 22 32 20.0 +7.7
KEV LR LR
comp=Z,74μm,19.0s,MS7.1
BUSP Coron 91.22 78 *e*P **P** **22 32 03.1 -11**
TRO Tromso 91.29 355 *e*P **P** **22 32 15.1 +1.1**
TRO AMS AMS 23 20 05.4
comp=Z,69μm,21.6s,MS7.1
CUYO Cuyo Island 91.55 79 *e*P **P** **22 32 15.8 +0.6**
TAU Tasmania Unive 91.78 138 P **P** **22 32 18.5 +2.3**
comp=Z,2μm,1.4s,mb7.1,SNR=9.3
TAU Tasmania Unive 91.78 138 P **P** **22 32 18.3 +2.1**
TAU 22 32 18.6
TAU Tasmania Unive 91.78 138 *e*P **P** **22 32 17.9 +1.6**
comp=Z,668nm,1.4s,mb6.8
TAU *e*PP PP 22 35 58.5 +3.4
TAU LR LR
comp=Z,55μm,21.0s,MS7.0
LUBP Lubang 91.89 76 *e*P **P** **22 32 16.2 -0.5**
SCZP Santa Cruz 92.33 74 *e*P **P** **22 32 18.7 -0.1**
WRA Warramunga Arr 92.39 112 P **P** **22 32 18.4 -0.7**
comp=Z,41nm,1.0s,mb5.7,baz=246,slow=3.0,SNR=85
WRA PP PP 22 35 57.6 -2.2
comp=Z,9.1nm,1.2s,baz=138,slow=24,SNR=7.3
WRA S 22 42 54.1
comp=Z,1.1nm,0.9s,baz=241,slow=9.7,SNR=2.4
WRA PKKPbc PKKPbc 22 49 31.3 -1.5
comp=Z,6.8nm,1.0s,baz=61,slow=3.1,SNR=5.7
WRA PKPPKP 22 57 43.8
comp=Z,4.5nm,1.1s,baz=61,slow=2.1,SNR=7.3
WRA Warramunga Arr 92.39 112 P **P** **22 32 18.4 -0.7**
WRA 22 35 57.7
WRA S 22 42 54.1
WRA 22 49 31.3
WB2 Warramunga Arr 92.40 112 *e*S 22 42 56.5
WB2 *e*PKKP PKKPbc 22 49 34.9 +2.1
WB2 Warramunga Arr 92.40 112 *e*P **P** **22 32 18.5 -0.6**
WB2 *e*S 22 42 56.5
WB2 *e*PKKP PKKPbc 22 49 34.9 +2.1
WRAB Tennant Creek 92.40 112 P **P** **22 32 19.1 0.0**
comp=Z,605nm,1.0s,mb6.9,SNR=13
WRAB Tennant Creek 92.40 112 *e*P **P** **22 32 19.3 +0.2**
WRAB pmax pmax
comp=Z,474nm,1.5s,mb6.6
WRAB MLR MLR
comp=Z,265μm,21.0s,MS7.7
WRAB Tennant Creek 92.40 112 *e*P **P** **22 32 19.3 +0.1**
comp=Z,474nm,1.5s,mb6.6
WRAB LR LR
comp=Z,265μm,21.0s,MS7.7
TGY Tagaytay City 92.65 76 S 22 42 54.2
comp=Z,158nm,0.4s,baz=190,slow=20,SNR=2.9
TGY LR LR 23 13 05.9
comp=Z,481nm,19.0s,baz=200,slow=35
WHN Wuhan 93.10 59 P **P** **22 32 22.5 +0.1**
WHN PP PP 22 36 06.0 +0.5
WHN LR LR
comp=Z,229μm,20.7s,MS7.6
BCPH Baguio City Da 93.15 74⇓ *e*P **P** **22 32 23.9 +1.3**
STKA Stephens Creek 93.20 126 P **P** **22 32 22.1 -0.7**
comp=Z,51nm,0.8s,mb6.0,baz=246,slow=4.2,SNR=57
STKA S 22 42 57.8
comp=Z,2.6nm,0.9s,baz=40,slow=22,SNR=2.1
STKA PKKPbc PKKPbc 22 49 30.2 -0.5
comp=Z,7.8nm,0.7s,baz=59,slow=2.4,SNR=11
STKA PKPPKP 22 57 40.4
comp=Z,2.4nm,0.9s,baz=36,slow=14,SNR=2.6
STKA LR LR 23 08 44.6
comp=Z,199μm,19.9s,MS7.6,baz=234,slow=32
STKA Stephens Creek 93.20 126 *e*P **P** **22 32 22.3 -0.5**
comp=Z,65nm,1.0s,mb6.0
STKA *e*S 22 43 38.1
STKA *e*PKKP PKKPbc 22 49 30.2 -0.5
TOO Toolangi 93.30 132 *e*P **P** **22 32 28.0 +4.8**
comp=Z,40nm,1.1s,mb5.8
TOO *e*PP PP 22 36 13.5 +6.5
TOO *e*S 22 43 07.6
MOY Mondy 93.44 35 *e*P **P** **22 32 24.2 +0.3**
MOY pmax pmax
comp=Z,537nm,3.5s
CEN1 Los Morros 93.50 243 *e*P **P** **22 32 24.9 +0.8**
TBP Tagbilaran 93.75 81 *e*P **P** **22 32 23.4 -1.9**
BTO Baotou 93.91 48 *e*P **P** **22 32 24.9 -1.2**
BTO AMB AMB
comp=Z,14nm,1.0s,mb5.3
ZAK Zakamensk 94.06 37 *e*P **P** **22 32 26.8 0.0**
ZAK pmax pmax
comp=Z,405nm,1.7s,mb6.6
BUKP Musuan 94.22 83 *e*P **P** **22 32 27.4 -0.2**
TIY Taiyuan 94.45 51 ⇑P **P** **22 32 26.0 -2.5**
TIY LR LR
comp=N,184μm,17.0s
QZH Quanzhou 94.50 65 *i* PR 22 32 30.0
QZH AMB AMB
comp=Z,320nm,1.3s,mb6.6
QZH AMB AMB
comp=Z,21μm,11.4s
QZH LR LR
comp=N,131μm,16.8s,MS7.5
QZH LR LR
comp=E,70μm,18.4s,MS7.5
QZH LR LR
comp=Z,192μm,24.6s
LPAZ La Paz 94.62 251 P **P** **22 32 28.7 -0.7**
comp=Z,55nm,1.0s,mb5.9,baz=97,slow=4.8,SNR=64
LPAZ S 22 43 07.4
comp=Z,1.5nm,0.9s,baz=15,slow=21,SNR=1.4
LPAZ PKKPbc PKKPbc 22 49 28.5 +1.5
comp=Z,4.4nm,0.9s,baz=28,slow=3.6,SNR=5.6
LPAZ PKPPKP 22 57 39.2
comp=Z,2.8nm,1.1s,baz=128,slow=4.9,SNR=3.8
LPAZ LR LR 23 12 01.5
comp=Z,313μm,20.4s,MS7.8,baz=273,slow=34
LPAZ La Paz 94.62 251 P **P** **22 32 28.9 -0.4**
LPAZ pmax pmax
comp=Z,623nm,1.3s
LPAZ MLR MLR
comp=Z,323μm,20.0s
LPAZ La Paz 94.62 251 P **P** **22 32 28.9 -0.4**
comp=Z,623nm,1.3s,mb6.9
LPAZ LR LR
comp=Z,323μm,20.0s,MS7.8
SONM Songino Array 94.69 40 P **P** **22 32 27.9 -1.7**
comp=Z,24nm,1.0s,mb5.6,baz=234,slow=4.1,SNR=72
SONM S 22 43 05.5
comp=Z,1.8nm,1.1s,baz=282,slow=4.6,SNR=2.3
SONM PKKPbc PKKPbc 22 49 28.8 +1.9
comp=Z,6.4nm,1.2s,baz=97,slow=2.0,SNR=8.3
SONM PKPPKP 22 57 38.9
comp=Z,2.1nm,1.1s,baz=154,slow=1.3,SNR=3.8
SONM LR LR 23 14 48.6
comp=Z,195μm,21.1s,MS7.5,baz=258,slow=35
CVP Callao Caves 94.73 73 *e*P **P** **22 32 37.0 +7.2**
MSLP Maasin 94.83 81 *e*P **P** **22 32 31.3 +1.0**
OCLP Ormoc 94.92 80 *e*P **P** **22 32 19.6 -11**
HHC Hu-ho-hao-te 95.08 48 ⇓P **P** **22 32 31.0 -0.4**
HHC AP pP 22 32 35.8 -1.1
HHC XP sP 22 32 37.9 -1.0
HHC PP PP 22 36 23.4 +2.5
HHC S 22 43 45.5
HHC XS sS 22 43 52.8 -1.9
HHC AMB AMB
comp=Z,104nm,1.5s,mb6.0
HHC AMB AMB
comp=Z,13μm,9.5s
HHC LR LR
comp=N,19μm,25.0s,MS6.7
HHC LR LR
comp=E,34μm,29.8s,MS6.7
HHC LR LR
comp=Z,44μm,31.0s,MS6.7
BUTP Butuan 95.12 82 *e*P **P** **22 32 28.8 -2.9**
IRK Irkutsk 95.49 36 *e*P **P** **22 32 29.1 -4.2**
IRK *e* 22 43 13.4
IRK *e* 22 45 12.8
IRK pmax pmax
comp=Z,418nm,3.4s
BORG Borgarnes 95.52 339 P **P** **22 32 31.2 -2.2**
comp=Z,27nm,1.1s,mb5.6,baz=184,slow=6.4,SNR=2.0
BORG S 22 43 08.0
comp=Z,19nm,0.8s,baz=19,slow=14,SNR=1.8
BORG LR LR 23 19 33.3
comp=Z,163μm,18.2s,MS7.5,baz=142,slow=38
BORG Borgarnes 95.52 339 P **P** **22 32 31.2 -2.2**
BORG S 22 43 08.0
BORG LR LR 23 19 33.3
BJO Bjornoya 96.04 356 *e*P **P** **22 32 38.6 +2.8**
BJO *e*SS SS 22 50 24.6 -0.2
BJO AMS AMS 23 18 58.2
comp=Z,62μm,16.8s,MS7.2
BJO1 Bjornoya 96.05 356 *e*P **P** **22 32 38.6 +2.8**
BJO1 *e*SS SS 22 50 24.6 -0.4
BJO1 LR LR
comp=Z,61794μm,16.8s
JMIC Jan Mayen 96.58 347 *e*P **P** **22 32 40.8 +2.5**
JMIC AMS AMS 23 22 05.0
comp=Z,57μm,21.1s,MS7.0
JMIC Jan Mayen 96.58 347 P **P** **22 32 36.3 -2.0**
comp=Z,26nm,0.3s,mb6.1,baz=180,slow=11,SNR=1.9
JMIC S 22 43 14.4
comp=Z,30nm,0.4s,baz=144,slow=7.2,SNR=2.6
JMIC LR LR 23 21 28.3
comp=Z,66μm,20.1s,MS7.1,baz=159,slow=39
TATO Taipei 96.97 66 PFAKE 22 32 50.0 +10
TATO LR LR
comp=Z,122μm,19.0s,MS7.4
CNB Canberra Magne 97.13 132 *e*P **P** **22 32 38.6 -2.2**
comp=Z,33nm,1.2s,mb5.6
CNB *e*PP PP 22 36 36.2 -0.6
NJ2 Nanjing 97.24 59 *e*P **P** **22 32 42.4 +1.1**
NJ2 AP pP 22 32 52.4 +5.6
NJ2 XP sP 22 32 56.3 +7.6
NJ2 PP PP 22 36 36.0 -1.6
NJ2 S 22 44 03.0
NJ2 AMB AMB
comp=Z,120nm,1.2s,mb6.2
NJ2 AMB AMB
comp=Z,9μm,10.0s
NJ2 LR LR
comp=N,57μm,24.8s,MS7.2
NJ2 LR LR
comp=E,75μm,23.1s,MS7.2
NJ2 LR LR
comp=Z,21μm,33.7s
TIA Tai'an 97.36 54 *e*P **P** **22 32 41.8 0.0**
TIA AMB AMB
comp=Z,8μm,12.0s
TIA LR LR
comp=N,108μm,20.0s
ARE Arequipa 97.49 249 *e*P **P** **22 32 46.0 +3.6**
BJT Baijiatuau 98.01 50⇓ *e*P **P** **22 32 43.4 -1.3**
BJT pmax pmax
comp=Z,211nm,1.8s
BJT MLR MLR
comp=Z,263μm,21.0s
BJT Baijiatuau 98.01 50⇓ *e*P **P** **22 32 43.4 -1.4**
comp=Z,212nm,1.8s,mb6.4
BJT *e*PP PP 22 36 32.7 -11
BJT LR LR
comp=Z,263μm,21.0s,MS7.7
SSE Sheshan 98.78 60 P **P** **22 32 48.9 +0.7**
SSE PP PP 22 36 50.0 +0.5
SSE S 22 44 19.4
SSE SS SS 22 51 06.3 +2.8
SSE AMB AMB
comp=Z,58nm,1.0s,mb6.1
SSE AMB AMB
comp=Z,9μm,12.0s
SSE LR LR
comp=N,75μm,19.9s,MS7.4
SSE LR LR
comp=E,88μm,19.8s,MS7.4
SSE LR LR
comp=Z,107μm,19.9s,MS7.3
SCO Scoresbysund 99.37 344 *i* P **P** **22 32 53.0 +2.2**
comp=Z,14nm,0.9s,mb5.5
SCO *i* 22 37 03.2
SCO *i* S 22 43 34.5
SCO Scoresbysund 99.37 344 *i* P **P** **22 32 53.0 +2.2**
SCO *i* S 22 43 34.5
SCO pmax pmax
comp=Z,14nm,0.9s,mb5.5
BBL Barber's Block 100.06 283 *e*P Pdif 22 32 59.6 +5.7
LZG Guadaloupe-1 100.54 283 *e*P Pdif 22 33 01.5 +5.5
CIT Chita 100.61 38 *e*P Pdif 22 32 55.4 -0.9
CIT *e* 22 39 20.4
CIT *e* 22 44 25.5
CIT pmax pmax
comp=Z,318nm,1.6s
KBS Kingsbay 100.77 356 *e*P Pdif 22 33 02.1 +5.1
KBS AMS AMS 23 28 04.8
comp=Z,37μm,20.7s,MS6.9
BPA Boggy Peak 100.91 284 *e* SKSac 22 43 42.7 +6.6
DL2 Dalian 101.63 53 PR Pdif 22 33 00.0 -0.9
DL2 SKS 22 43 41.6
DL2 S Sdif 22 44 45.3 +4.1
DL2 LR LR
comp=N,22μm,18.2s,MS7.1
DL2 LR LR
comp=E,54μm,18.7s,MS7.1
DL2 LR LR
comp=Z,88μm,19.3s,MS7.3
SKI Saint Kitts 101.80 284 *e* SKSac 22 43 47.9 +7.5
CTAO Charters Tower 102.41 117 PFAKE 22 33 20.0 +16
CTAO LR LR
comp=Z,212μm,19.0s,MS7.7

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DAG  Danmarks Havn  102.71 349  i P        Pdif    22 33 02.0 -3.7
     comp=Z,28nm,1.1s
DAG                                 pmax    pmax
     comp=Z,76µm,17.0s
DAG  Danmarks Havn  102.71 349  eP         Pdif    22 33 02.0 -3.7
DAG                                 pmax    pmax
     comp=Z,28nm,1.1s
DAG                                 MLR     MLR
     comp=Z,76µm,17.0s,MS7.3
DAG                                 MLR     MLR
     comp=N,49µm,18.0s,MS7.3
DAG                                 MLR     MLR
     comp=E,58µm,16.0s,MS7.3
DAG  Danmarks Havn  102.71 349  eP         Pdif    22 33 02.0 -3.7
     comp=E,28nm,1.1s
DAG                                 LR      LR
     comp=Z,76µm,17.0s,MS7.3
BOD  Bodaibo        102.85  33  eP         Pdif    22 33 05.6 -0.7
BOD                                 pmax    pmax
     comp=Z,30nm,1.4s
JOW  Kunigami       103.35  66  Pdiff      Pdif    22 33 07.5 -1.0
     comp=Z,20nm,1.1s,baz=206,slow=17,SNR=2.6
JOW                                 PP      PP      22 37 22.4 -1.5
     comp=Z,26nm,1.1s,baz=76,slow=26,SNR=2.2
JOW                                 Sdiff   SKSac   22 43 49.4 +1.7
     comp=Z,20nm,0.8s,baz=62,slow=26,SNR=2.9
HIA  Hailar         103.44  42  eP         Pdif    22 33 08.5 -0.4
HIA                                 pmax    pmax
     comp=Z,165nm,1.7s
HIA                                 MLR     MLR
     comp=Z,169µm,21.0s
HIA  Hailar         103.44  42  ePdif      Pdif    22 33 08.5 -0.4
     comp=Z,165nm,1.7s
HIA                                 LR      LR
     comp=Z,169µm,21.0s,MS7.5
SNY  Shenyang       103.91  50  ⇓P         Pdif    22 33 11.1 +0.1
SNY                                 PP      PP      22 37 32.3 +4.2
SNY                                 PPP             22 39 47.8
SNY                                 SKS             22 43 52.0
SNY                                 S       Sdif    22 45 01.6 +1.4
SNY                                 LR      LR
     comp=N,58µm,21.6s,MS7.3
SNY                                 LR      LR
     comp=E,88µm,21.0s,MS7.3
SNY                                 LR      LR
     comp=Z,102µm,19.2s,MS7.4
NNA  Nana           104.08 251  ePdif      Pdif    22 33 14.6 +2.8
     comp=Z,26nm,0.9s
NNA                                 LR      LR
     comp=Z,259µm,20.0s,MS7.8
MTP  Monte Pirata   104.59 284  ePdif      Pdif    22 33 20.0 +6.0
CPD  Cerro la Pandu 104.90 284  eP         Pdif    22 33 22.8 +7.4
SUMG Summit         104.94 343  ePdif      Pdif    22 33 15.6  0.0
     comp=Z,20nm,1.0s
INCN Inchon         105.00  55  PFAKE              22 33 30.0 +14
INCN                                LR      LR
     comp=Z,151µm,22.0s,MS7.5
SJG  San Juan       105.13 284  PFAKE              22 37 40.0 +9.2
SJG                                 LR      LR
     comp=Z,173µm,21.0s,MS7.6
CN2  Changchun      105.76  49  ePDIF      Pdif    22 33 17.9 -1.3
CN2                                 ePP     PP      22 37 43.9 +2.0
CN2                                 ePPP            22 40 00.4
CN2                                 eSKS    SKSac   22 43 54.8 -3.9
CN2                                 eS      Sdif    22 45 09.1 -6.5
CN2                                 ePS     PS      22 46 58.3 -0.1
CN2                                 eSS     SS      22 52 40.0  0.0
CN2                                 LR      LR
     comp=N,81µm,20.0s,MS7.5
CN2                                 LR      LR
     comp=E,102µm,20.0s,MS7.5
CN2                                 LR      LR
     comp=Z,153µm,21.0s,MS7.5
SDV  Santo Domingo  106.33 273  ePdif      Pdif    22 33 25.1 +3.4
     comp=Z,172nm,1.4s
SDV                                 LR      LR
     comp=Z,218µm,20.0s,MS7.7
SFJD Kangerlussuaq  107.16 336  Pdiff      Pdif    22 33 23.0 -2.5
     comp=Z,7.3nm,1.0s,baz=299,slow=22,SNR=2.0
SFJD                                Sdiff   SKSac   22 44 04.7 -0.1
     comp=Z,4.6nm,0.9s,baz=306,slow=20,SNR=1.7
SFJD Kangerlussuaq  107.16 336  i P        Pdif    22 33 29.8 +4.4
     comp=Z,53nm,1.4s
SFJD                                i               22 37 58.0
SFJD                                i S     SKSac   22 44 07.7 +2.8
SFJD                                i               22 45 31.8
SFJD                                i               22 47 07.7
SFJD
     comp=Z,97µm,20.0s
SFJD Kangerlussuaq  107.16 336  i P        Pdif    22 33 29.8 +4.4
SFJD                                i               22 37 58.0
SFJD                                i S     SKSac   22 44 07.7 +2.8
SFJD                                i               22 47 07.7
SFJD                                pmax    pmax
     comp=Z,53nm,1.4s
SFJD                                MLR     MLR
     comp=Z,97µm,20.0s,MS7.4
SFJD Kangerlussuaq  107.16 336  Pdif      Pdif    22 33 23.0 -2.5
SFJD                                ePP     PP      22 37 55.5 +3.3
SFJD                                i               22 37 58.0
SFJD                                Sdif    SKSac   22 44 04.7 -0.1
SFJD                                i S     SKSac   22 44 07.7 +2.8
SFJD                                i               22 45 31.8
SFJD                                i               22 47 07.7
SFJD                                LR      LR
     comp=Z,97µm,20.0s,MS7.4
JNU  Nakatsue       107.24  61  Pdiff      Pdif    22 33 25.6 -0.1
     comp=Z,22nm,1.0s,baz=269,slow=36,SNR=1.9
JNU                                 PP      PP      22 37 50.5 -2.3
     comp=Z,7.0nm,0.4s,baz=92,slow=41,SNR=2.4
JNU                                 Sdiff   SKSac   22 44 07.0 +1.9
     comp=Z,14nm,0.5s,baz=270,slow=41,SNR=3.9
BBSR BB Station     107.80 298  PFAKE              22 37 50.0 +14
BBSR                                LR      LR
     comp=Z,117µm,19.0s,MS7.5
SNZO South Karori   108.03 150  PFAKE              22 37 50.0 +14
SNZO                                LR      LR
     comp=Z,126µm,20.0s,MS7.5
PMG  Port Moresby   108.05 108  PFAKE              22 37 50.0 +14
PMG                                 LR      LR
     comp=Z,243µm,20.0s,MS7.8
NRGR Nerungri       108.17  36  eP         Pdif    22 33 30.9 +1.0
ROSC El Rosal       108.40 268  Pdiff      Pdif    22 33 31.4 +0.5
     comp=Z,3.3nm,0.3s,baz=289,slow=21,SNR=2.0
ROSC                                PP      PP      22 37 59.1 -2.2
     comp=Z,5.7nm,0.4s,baz=271,slow=22,SNR=3.2
ROSC                                Sdiff   SKSac   22 44 13.1 +2.9
     comp=Z,5.8nm,0.3s,baz=103,slow=22,SNR=1.6
MDJ  Mudanjiang     108.84  49  PDIF       Pdif    22 33 33.8 +0.9
MDJ                                 PP      PP      22 38 09.4 +4.9
MDJ                                 LR      LR
     comp=N,90µm,20.6s,MS7.3
MDJ                                 LR      LR
     comp=E,39µm,22.3s,MS7.3
MDJ                                 LR      LR
     comp=Z,81µm,20.6s,MS7.3
MDJ  Mudanjiang     108.84  49  ePdif      Pdif    22 33 32.9 -0.1
     comp=Z,36nm,1.4s
MDJ                                 ePP     PP      22 38 03.5 -1.0
MDJ                                 LR      LR
     comp=Z,85µm,20.0s,MS7.3
VLA  Vladivostok    110.19  51d iP         Pdif    22 33 43.4 +4.5
VLA                                 i               22 38 12.3
VLA                                 i SP    SP      22 47 34.5 -7.0
OTAV Otavalo        110.54 262  ePdif      Pdif    22 33 43.3 +2.8
OTAV                                ePKPdf  PKiKP   22 37 43.4 +2.5
OTAV                                LR      LR
     comp=Z,336µm,20.0s,MS7.9
OTAV Otavalo        110.54 262  ePKKP      SP      22 47 45.6 +0.9
KLR  Kul'dur        111.10  44  eP         Pdif    22 33 38.0 -5.0
KLR                                 e               22 38 26.0
KLR                                 e               22 44 26.0
KLR                                 pmax    pmax
     comp=E,1µm,14.0s
KLR                                 pmax    pmax
     comp=Z,6µm,14.0s
YAK  Yakutsk        111.44  30  eP         Pdif    22 33 48.2 +3.7
YAK                                 eS      SKSac   22 44 27.7 +4.8
YAK                                 pmax    pmax
     comp=Z,2µm,12.9s
YAK                                 pmax    pmax
     comp=N,133nm,14.2s
YAK                                 pmax    pmax
     comp=E,40µm,20.4s
YAK                                 MLR     MLR
     comp=E,40µm,20.0s,MS7.1
YAK                                 MLR     MLR
     comp=Z,56µm,20.0s,MS7.1
YAK                                 MLR     MLR
     comp=N,42µm,23.0s,MS7.1
YAK  Yakutsk        111.44  30  ePdif      Pdif    22 33 44.5  0.0
YAK                                 LR      LR
     comp=Z,102µm,21.0s,MS7.4
TIXI Tiksi          111.72  20  eP         Pdif    22 33 43.1 -2.6
TIXI                                e               22 38 22.0
TIXI                                e               22 44 14.7
TIXI                                eSP     SP      22 47 50.4 -5.2
TIXI                                ePS     PS      22 47 57.0 -0.7
TIXI                                eSSS            22 58 02.4
TIXI                                pmax    pmax
     comp=Z,15nm,1.2s
TIXI                                pmax    pmax
     comp=N,2.0nm,1.0s
TIXI                                pmax    pmax
     comp=E,3.0nm,1.3s
TIXI                                pmax    pmax
     comp=Z,2µm,8.7s
TIXI Tiksi          111.72  20  i PKP      PKiKP   22 37 43.4 +0.2
TIXI                                LR      LR
     comp=Z,120µm,21.0s,MS7.5
MASC Masc           113.04 284  eP         PP      22 38 37.5 +2.8
HABR Khabarovsk     113.17  45  ⇓iP        Pdif    22 33 53.0 +0.8
HABR                                MLR     MLR
     comp=Z,152µm,23.0s,MS7.5
MOAC Moa            113.82 284  eP         PP      22 38 27.4  -13
MAJO Matsushiro     113.84  58  ePKIKP     PKiKP   22 37 43.4 -3.8
MAJO                                e               22 38 46.6
MAJO                                MLR     MLR
     comp=Z,82µm,20.0s,MS7.3
MAT  Matsushiro     113.84  58  PKP        PKiKP   22 37 46.9 -0.3
MAT  Matsushiro     113.84  58  ePKP       PKiKP   22 37 47.0 -0.2
MJAR Matsushiro Arr 113.84  58  Pdiff      Pdif    22 33 54.5 -0.6
     comp=Z,0.6nm,0.5s,baz=224,slow=48,SNR=3.0
MJAR                                PKiKP   PKiKP   22 37 48.4 +1.2
     comp=Z,21nm,1.2s,baz=270,slow=3.0,SNR=7.8
MJAR                                PP      PP      22 38 39.1 -1.3
     comp=Z,8.8nm,1.0s,baz=264,slow=5.8,SNR=4.3
MJAR                                PKKPab  PKKPab  22 48 32.3 -3.9
     comp=Z,2.4nm,0.7s,baz=92,slow=3.6,SNR=5.9
MJAR Matsushiro Arr 113.84  58  P          Pdif    22 33 54.5 -0.7
MJAR                                            22 37 48.4
MJAR                                            22 38 39.1
RCC  Rio Carpintero 114.32 283  eP         PKiKP   22 37 53.3 +5.2
GUMO Guam           114.46  84  PFAKE              22 38 00.0 +12
GUMO                                LR      LR
     comp=Z,27µm,20.0s,MS6.8
HRV  Harvard--Oak R 115.02 308  PFAKE              22 38 00.0 +11
HRV                                 LR      LR
     comp=Z,162µm,22.0s,MS7.6
LBNH Lisbon         115.47 310  PFAKE              22 38 00.0 +10
LBNH                                LR      LR
     comp=Z,152µm,20.0s,MS7.6
LMGC Las Mercedes   115.53 283  eP         Pdif    22 34 06.2 +3.5
PAL  Palisades      116.61 306  PKIKP      PKPdf   22 37 58.1 +5.6
PAL  Palisades      116.61 306  ePKPdf     PKPdf   22 37 50.9 -1.6
PAL                                 ePP     PP      22 38 59.2 -0.7
MIV  Mineville/With 116.61 310  ePKPdf     PKPdf   22 37 50.8 -1.7
MIV                                 ePP     PP      22 38 58.8 -1.1
ACCN Adirondack Com 116.65 309  ePKPdf     PKPdf   22 37 53.0 +0.4
FRNY Flat Rock      116.70 310  ePKPdf     PKPdf   22 37 52.8 +0.1
NCB  Newcomb        117.10 309  ePKPdf     PKPdf   22 37 52.7 -0.8
NCB                                 ePP     PP      22 38 58.2 -5.0
NCB                                 LR      LR
     comp=Z,111µm,19.0s,MS7.5
LONY Lake Ozonia    117.40 310  ePKPdf     PKPdf   22 37 53.8 -0.2
LONY                                ePP     PP      22 39 05.3 -0.1
YSS  Yuzh-Sakhalins 118.25  47  ⇓eP        Pdif    22 34 17.4 +2.6
YSS                                 i               22 39 14.0
YSS                                 e               22 44 58.0
YSS                                 i PS    PS      22 48 58.0 +0.7
YSS                                 eSS     SS      22 55 46.0 +20
YSS                                 pmax    pmax
     comp=Z,2µm,18.0s
YSS                                 pmax    pmax
     comp=N,1µm,12.0s
YSS                                 pmax    pmax
     comp=E,9µm,12.0s
YSS                                 pmax    pmax
     comp=Z,19µm,12.0s
YSS  Yuzh-Sakhalins 118.25  47  ePKPdf     PKPdf   22 37 56.3 +0.7
YSS                                 ePP     PP      22 39 06.0 -5.3
YSS                                 LR      LR
     comp=Z,91µm,20.0s,MS7.4
MVL  Millersville   118.37 305  ePKPdf     PKPdf   22 37 55.8 -0.1
MGV  Manicaragua    118.71 284  eP         PKPdf   22 37 58.7 +2.1
CBN  Corbin         119.00 303  PFAKE              22 38 10.0 +13
CBN                                 LR      LR
     comp=Z,180µm,20.0s,MS7.7
HNR  Honiara        119.15 115  PFAKE              22 38 10.0 +13
HNR                                 LR      LR
     comp=Z,99µm,22.0s,MS7.4
RPN  Rapa Nui       119.92 218  PFAKE              22 38 10.0 +11
RPN                                 LR      LR
     comp=Z,50µm,19.0s,MS7.2
JTS  JuntasAbangare 120.13 270  i PKIKP    PKPdf   22 38 00.9 +1.6
JTS  JuntasAbangare 120.13 270  PFAKE              22 38 10.0 +11
JTS                                 LR      LR
     comp=Z,265µm,22.0s,MS7.8
RES  Resolute Bay   120.16 346  ePKPdf     PKPdf   22 37 57.9 -1.4
RES                                 ePKKP   PKKPbc  22 48 07.0 +0.2
NHSC New Hope       120.75 297  ePKPdf     PKPdf   22 38 02.0 +1.5
NHSC                                LR      LR
     comp=Z,118µm,20.0s,MS7.5
PAYG Puerto Ayora   120.99 256  PKPdf      PKPdf   22 38 03.7 +2.7
PAYG                                PP      PP      22 39 30.5 +0.3
PAYG Puerto Ayora   120.99 256  ePKPdf     PKPdf   22 38 02.6 +1.6
PAYG                                LR      LR
     comp=Z,187µm,19.0s,MS7.8
MCWV Mont Chateau   121.03 304  PFAKE              22 38 10.0 +9.0
MCWV                                LR      LR
     comp=Z,80µm,19.0s,MS7.4
DWPF Disney         121.15 291  ePKPdf     PKPdf   22 38 01.2  0.0
DWPF                                ePP     PP      22 39 34.3 +3.1
DWPF                                LR      LR
     comp=Z,31µm,20.0s,MS7.0
COW  Cow Castle Cre 121.22 297  ePKPdf     PKPdf   22 38 02.7 +1.3
ERPA Erie           121.23 307  ePKPdf     PKPdf   22 38 00.7 -0.8
ERPA                                LR      LR
     comp=Z,98µm,19.0s,MS7.5
RAO  Raoul Island   121.29 148  PFAKE              22 38 10.0 +8.5
RAO                                 LR      LR
     comp=Z,46µm,20.0s,MS7.1
BLA  Blacksburg     121.33 301  ePKIKP     PKPdf   22 38 03.1 +1.5
BLA                                 MLR     MLR
     comp=Z,9µm,20.0s,MS6.4
ALLY Alegheny Colle 121.33 307  ePKPdf     PKPdf   22 38 01.5 -0.1
ALLY                                ePP     PP      22 39 33.4 +0.9
SOR  Soroa          121.59 284  eP         PKPdf   22 38 04.0 +1.9
ELN  Prospectdale   121.60 301  ePKPdf     PKPdf   22 38 03.4 +1.3
FWV  Forest Hill    121.67 302  ePKPdf     PKPdf   22 38 03.7 +1.4
JSC  Jenkinsville   121.77 298  PKIKP      PKPdf   22 38 04.1 +1.7
JSC  Jenkinsville   121.77 298  ePKPdf     PKPdf   22 38 03.6 +1.2
SEY  Seymchan       121.80  28  eP         Pdif    22 34 33.4 +2.9
SEY                                e               22 37 59.9
SEY                                e               22 45 14.3
SEY  Seymchan       121.80  28  i PKP      PKPdf   22 38 01.3 -1.2
MA2  Magadan        121.88  32  eP         Pdif    22 34 38.0 +7.1
MA2                                i               22 38 03.1
MA2                                e               22 38 11.9
MA2                                e               22 39 32.8
MA2                                e               22 45 09.5
MA2                                ePS     PS      22 49 30.3 +0.5
MA2                                eSS     SS      22 56 25.4 +13
MA2                                pmax    pmax
     comp=Z,50nm,1.5s
MA2                                pmax    pmax
     comp=Z,163µm,14.0s
MA2                                MLR     MLR
     comp=Z,337µm,26.0s,MS7.9
MA2  Magadan        121.88  32  ePKPdf     PKPdf   22 38 02.5 -0.1
MA2                                LR      LR
     comp=Z,75µm,20.0s,MS7.3
ACSO Alum Creek Sta 123.46 305  ePKPdf     PKPdf   22 38 06.0 +0.3
ACSO                                LR      LR
     comp=Z,46µm,20.0s,MS7.1
AAM  Ann Arbor      123.95 307  PKIKP      PKPdf   22 38 08.5 +1.9
AAM  Ann Arbor      123.95 307  ePKPdf     PKPdf   22 38 05.5 -1.1
AAM                                ePP     PP      22 39 50.8 +0.6
AAM                                LR      LR
     comp=Z,138µm,20.0s,MS7.6
CPCT Cooper Cave    124.53 299  ePKPdf     PKPdf   22 38 05.6 -2.1
BILL Bilibino       124.94  20  deP        Pdif    22 34 42.8 -1.7
BILL                                e               22 38 07.6
BILL                                e               22 40 02.6
BILL                                ePPP            22 42 37.7
BILL                                e               22 45 08.9
BILL                                i PS    PS      22 49 56.0 -0.9
BILL                                i SS    SS      22 56 51.1 -0.5
BILL                                eSSS            23 01 32.2
BILL                                pmax    pmax
     comp=Z,142nm,1.5s
BILL                                MLR     MLR
     comp=Z,125µm,22.0s,MS7.5
BILL Bilibino       124.94  20  ePKPdf     PKPdf   22 38 06.7 -1.8
BILL                                LR      LR
     comp=Z,114µm,21.0s,MS7.5
SWET Sewanee        125.67 299  ePKPdf     PKPdf   22 38 09.6 -0.3
WCI  Wyandotte Cave 126.02 302  ePKIKP     PKPdf   22 38 11.6 +1.0
WCI  Wyandotte Cave 126.02 302  ePKPdf     PKPdf   22 38 11.1 +0.5
WCI                                LR      LR
     comp=Z,29µm,20.0s,MS7.0
BLO  Bloomington    126.19 304  ePKIKP     PKPdf   22 38 09.4 -1.5
LRAL Lakeview Retre 126.45 296  ePKPdf     PKPdf   22 38 12.7 +1.3
LRAL                                LR      LR
     comp=Z,179µm,22.0s,MS7.7
FCC  Fort Churchill 127.24 329  PKIKP      PKPdf   22 38 11.6 -1.3
FCC  Fort Churchill 127.24 329  ePKPdf     PKPdf   22 38 11.1 -1.8
WVT  Waverly        127.24 300  ePKIKP     PKPdf   22 38 08.0 -4.9
WVT                                MLR     MLR
     comp=Z,92µm,19.0s,MS7.5
PLAL Pickwick Lake  127.42 298  ePKPdf     PKPdf   22 38 09.5 -3.7
PLAL                                ePP     PP      22 40 11.3 -2.1
PLAL                                LR      LR
     comp=Z,99µm,20.0s,MS7.5
PET  Petropavlovsk  127.72  39  d iP        Pdif    22 34 58.4 +1.5
PET                                e               22 40 09.4
PET                                e               22 45 10.3
PET                                pmax    pmax
     comp=Z,2µm,12.9s
PET                                pmax    pmax
     comp=Z,2µm,15.4s
PET                                pmax    pmax
     comp=E,500nm,16.3s
PET                                pmax    pmax
     comp=Z,33µm,14.0s
PET                                pmax    pmax
     comp=E,14µm,14.9s
PET                                pmax    pmax
     comp=Z,31µm,14.2s
PET                                pmax    pmax
     comp=E,12µm,14.1s
PET                                MLR     MLR
     comp=Z,108µm,20.0s,MS7.5
PET                                MLR     MLR
     comp=Z,86µm,19.0s
PET  Petropavlovsk  127.72  39  ePKPdf     PKPdf   22 38 14.1 +0.3
PET                                LR      LR
     comp=Z,94µm,20.0s,MS7.5
UTMT University of  128.08 300  ePKPdf     PKPdf   22 38 13.8 -0.7
SIUC Southern Illin 128.34 302  ePKPdf     PKPdf   22 38 16.0 +1.0
OXF  Oxford         128.51 298  ePKIKP     PKPdf   22 38 12.0 -3.3
OXF                                e               22 38 16.7
OXF                                MLR     MLR
     comp=Z,78µm,20.0s,MS7.4
CCIG Comitan        128.54 274  eP         PKPdf   22 38 15.0 -0.4
EYMN Ely            128.86 315  ePKPdf     PKPdf   22 38 15.1 -0.9
EYMN                                LR      LR
     comp=Z,183µm,22.0s,MS7.7
MET  Memphis--Engin 128.95 298  ePKPdf     PKPdf   22 38 15.7 -0.4
GNAR Gosnell        129.01 300  ePKPdf     PKPdf   22 38 17.3 +1.0
SLM  Saint Louis    129.11 303  ePKPdf     PKPdf   22 38 17.1 +0.6
FVM  French Village 129.29 302  PKHKP              22 37 57.0
FVM                                e               22 38 15.5
FVM  French Village 129.29 302  ePKPdf     PKPdf   22 38 16.3 -0.5
FVM                                ePP     PP      22 40 18.8 -6.7
FVM                                eSKPdf  SKPdf   22 41 41.0  -10
CCM  Cathedral Cave 129.93 302  PKIKP      PKPdf   22 38 12.3 -5.7
CCM  Cathedral Cave 129.93 302  ePKPpre              22 38 08.4
CCM                                ePKPdf  PKPdf   22 38 18.0  0.0
CCM                                LR      LR
     comp=Z,33µm,22.0s,MS7.0
UALR University of  130.93 298  ePKPdf     PKPdf   22 38 20.1 +0.2
ULM  Lac du Bonnet  131.09 319  PKP        PKPdf   22 38 18.4 -1.8
     comp=Z,76nm,1.1s,baz=66,slow=2.3,SNR=56
ULM                                PP      PP      22 40 34.0 -3.2
     comp=Z,7.4nm,0.6s,baz=40,slow=3.5,SNR=1.4
ULM                                SKP             22 41 53.6
     comp=Z,8.2nm,0.9s,baz=251,slow=23,SNR=4.2
PTCN Pitcairn Islan 131.23 200  PFAKE              22 38 30.0 +9.5
PTCN                                LR      LR
     comp=Z,51µm,19.0s,MS7.2
MIAR Mount Ida      131.95 298  ePKIKP     PKPdf   22 38 15.8 -6.1
MIAR Mount Ida      131.95 298  ePKPpre            22 38 14.7
MIAR                                ePKPdf  PKPdf   22 38 23.2 +1.4
MIAR                                LR      LR
     comp=Z,118µm,20.0s,MS7.6
HUIG Huatulco       132.11 272  eP         PKPdf   22 38 24.1 +2.0
INK  Inuvik         132.32 354  ePKHKP             22 38 10.5
INK  Inuvik         132.32 354  ePKPpre            22 38 09.3
INK                                ePKPdf  PKPdf   22 38 19.7 -2.8
FFC  Flin Flon      132.87 326  ePKPpre            22 38 08.5
FFC                                ePKPdf  PKPdf   22 38 23.1 -0.5
FFC                                LR      LR
     comp=Z,211µm,20.0s,MS7.8
NATX Nacogdoches    132.89 294  ePKPdf     PKPdf   22 38 25.2 +1.6
NATX                                LR      LR
     comp=Z,129µm,20.0s,MS7.6
OXX  Oaxaca         133.00 274  eP         PKPdf   22 38 23.5 -0.3
VHO  Vista Hermosa  133.00 274  eP         PKPdf   22 38 20.3 -3.5
YKW3 Yellowknife Ar 133.41 340  ePKPpre            22 38 09.4
YKW3                                ePKPdf  PKPdf   22 38 22.9 -1.7
YKA  Yellowknife Ar 133.45 340  PKhKP             22 38 08.7
     comp=Z,1.1nm,0.6s,baz=43,slow=3.9,SNR=16
YKA                                PKP     PKPdf   22 38 23.5 -1.2
     comp=Z,31nm,0.9s,baz=43,slow=1.8,SNR=41
YKA                                PP      PP      22 40 48.0 -4.5
     comp=Z,8.2nm,0.9s,baz=37,slow=2.4,SNR=2.6
YKA                                SKP             22 41 58.6
     comp=Z,5.7nm,0.8s,baz=31,slow=1.5,SNR=2.7
YKA                                PKKP            22 48 14.1
     comp=Z,1.9nm,0.6s,baz=41,slow=1.7,SNR=4.1
TNA  Tin City       133.60  12  ePKPpre            22 38 14.6
TNA                                ePKPdf  PKPdf   22 38 25.8 +0.8
TNA                                LR      LR
     comp=Z,52µm,20.0s,MS7.2
HKT  Hockley        133.87 291  PKIKP      PKPdf   22 38 22.3 -3.2
HKT  Hockley        133.87 291  ePKPpre            22 38 18.5
HKT                                ePKPdf  PKPdf   22 38 30.0 +4.5
HKT                                LR      LR
     comp=Z,26µm,21.0s,MS6.9
KWAJ Kwajalein Atol 134.10  99  PFAKE              22 38 40.0 +14
KWAJ                                LR      LR
     comp=Z,63µm,20.0s,MS7.3
RKT  Rikitea        134.44 195  ePKIKP     PKPdf   22 38 28.5 +1.9
     comp=Z,284nm,1.5s
RKT  Rikitea        134.44 195  ePP        PP      22 40 54.8 -4.0
     comp=Z,6µm,25.0s
RKT  Rikitea        134.44 195  eSS        SS      22 58 45.2 -3.4
     comp=Z,45µm,32.5s
RKT                                eLR     LR      23 21 11.9
     comp=Z,64µm,24.0s
TBI  Tubuai         135.51 176  ePKIKP     PKPdf   22 38 30.4 +1.8
     comp=Z,222nm,1.3s
TBI  Tubuai         135.51 176  ePP        PP      22 41 02.6 -2.9
     comp=Z,8µm,26.5s
TBI  Tubuai         135.51 176  eSS        SS      22 59 02.3 +0.8
     comp=Z,58µm,30.0s
TBI                                eLR     LR      23 22 14.3
     comp=Z,66µm,30.5s
FX1  Attu Island--F 135.88  34  ePKPdf     PKPdf   22 38 30.0 +0.7
WAKE Wake Island    136.09  84  PFAKE              22 38 40.0 +10
WAKE                                LR      LR
     comp=Z,30µm,19.0s,MS7.0
WMOK Wichita Mounta 136.23 298  PKHKP              22 38 19.1
WMOK Wichita Mounta 136.23 298  ePKPpre            22 38 18.0
WMOK                                LR      LR
     comp=Z,126µm,22.0s,MS7.6
SMY  Shemya         136.44  34  PKHKP             22 38 06.1
SMY  Shemya         136.44  34  PFAKE              22 38 40.0 +10
SMY                                LR      LR
     comp=Z,71µm,20.0s,MS7.4
COLA College        136.45   1  ePKIKP             22 38 22.2
COLA College        136.45   1  ePKPpre            22 38 19.2
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COLA *i* PKP PKPdf 22 38 31.5 +1.2
COLA LR LR
comp=Z,79μm,20.0s,MS7.4
CBKS Cedar Bluff 136.47 304 PKIKP PKPdf 22 38 28.2 -2.1
CBKS Cedar Bluff 136.47 304 *e*PKPdf PKPdf 22 38 27.0 -3.3
CBKS LR LR
comp=Z,120μm,22.0s,MS7.6
ILAR Eielson Array 136.56 0 PKhKP 22 38 17.6
comp=Z,2.5nm,0.6s,baz=324,slow=4.2,SNR=14
ILAR PP PP 22 41 06.8 -5.2
comp=Z,5.3nm,0.9s,baz=331,slow=2.4,SNR=2.5
ILAR PKKP 22 48 09.2
comp=Z,10nm,1.1s,baz=203,slow=2.2,SNR=4.8
DGMT Dagmar 136.80 319 *e*PKPdf PKPdf 22 38 31.4 +0.5
DGMT LR LR
comp=Z,122μm,22.0s,MS7.6
DAWY Dawson 137.01 355 *e*PKPdf 22 38 19.8
DAWY *e*PKPdf PKPdf 22 38 31.4 +0.1
AFI Afiamalu 137.06 142 PFAKE 22 38 40.0 +8.6
AFI LR LR
comp=Z,38μm,19.0s,MS7.1
JCT Junction City 137.30 292 PKHKP 22 38 24.8
JCT Junction City 137.30 292 *e*PKPpre 22 38 21.0
JCT LR LR
comp=Z,121μm,21.0s,MS7.6
MCK McKinley 137.57 2 *e*PKIKP PKPdf 22 38 26.4 -6.0
MCK McKinley 137.57 2 *e*PKPpre 22 38 22.8
MCK *e*PKPdf PKPdf 22 38 33.4 +1.0
MCK LR LR
comp=Z,40μm,19.0s,MS7.2
RSSD Black Hills 138.28 313 *e*PKPdf PKPdf 22 38 35.0 +1.4
RSSD LR LR
comp=Z,4μm,19.0s
LAO LASA Array 138.78 318 *e*PKPpre 22 38 30.6
LAO *e*PKPdf PKPdf 22 38 36.2 +1.6
LAO LR LR
comp=Z,232μm,21.0s,MS7.9
EDM Edmonton 139.32 330 *e*PKIKP PKPdf 22 38 29.8 -5.8
EDM Edmonton 139.32 330 *e*PKPpre 22 38 27.9
SML Sawmill 139.51 1 *e*PKPpre 22 38 25.1
PMR Palmer 139.71 2 PKIKP PKPdf 22 38 29.8 -6.5
PMR Palmer 139.71 2 *e*P PKPdf 22 38 28.8 -7.5
PMR LR LR
comp=Z,75μm,19.0s,MS7.5
FIB Fire Island 140.09 3 *e*PKIKP PKPdf 22 38 34.3 -2.7
FIB MLR MLR
comp=Z,31μm,20.0s,MS7.0
DIV Divide 140.21 359 *e*PKPdf PKPdf 22 38 30.2 -7.0
DIV LR LR
comp=Z,190μm,20.0s,MS7.8
ISCO Idaho Springs 140.70 307 *e*PKHKP 22 38 32.2
ISCO MLR MLR
comp=Z,180μm,20.0s,MS7.8
SLKM Skilak Lake 140.75 3 PKIKP PKPdf 22 38 33.1 -5.1
SLKM Skilak Lake 140.75 3 *e*PKPdf PKPdf 22 38 31.5 -6.6
TVO Taravao 141.05 176 *e*PKIKP PKPdf 22 38 40.6 +1.9
comp=Z,312nm,1.3s
GDL2 Guadalupe Moun 141.10 295 *e*PKPdf PKPdf 22 38 29.4 -9.4
SDCO Great Sand Dun 141.13 304 *e*PKPpre 22 38 32.2
SDCO LR LR
comp=Z,112μm,20.0s,MS7.6
PAE Paea 141.15 175 *e*PKIKP PKPdf 22 38 40.8 +1.9
comp=Z,150nm,1.2s
PPT Papeete 141.24 175 *e*PKIKP PKPdf 22 38 40.2 +1.1
comp=Z,128nm,1.3s
PPT Papeete 141.24 175 *e*PP PP 22 41 38.3 -2.8
comp=Z,11μm,24.5s
GCMT Greycliff 141.32 318 *e*PKPdf PKPdf 22 38 35.8 -3.4
ADK Adak 141.53 30 PFAKE 22 38 50.0 +10
ADK LR LR
comp=Z,57μm,21.0s,MS7.3
MNTX Cornudas Mount 142.01 295 *e*PKPpre 22 38 33.0
MNTX LR LR
comp=Z,114μm,20.0s,MS7.6
HRY Holter Researc 142.20 320 *e*PKPdf PKPdf 22 38 37.8 -3.0
LKWY Lake 142.33 316 *e*PKPdf PKPdf 22 38 38.6 -2.4
LKWY LR LR
comp=Z,318μm,19.0s,MS8.1
ANMO Albuquerque 142.46 300 *e*PKIKP PKPdf 22 38 37.8 -3.4
ANMO *e* 22 41 49.4
ANMO MLR MLR
comp=Z,107μm,21.0s
BW06 Boulder Array 142.52 313 *e*PKPpre 22 38 35.4
BW06 LR LR
comp=Z,95μm,20.0s,MS7.5
PDAR Pinedale Array 142.52 313 PKhKP 22 38 35.5
comp=Z,18nm,0.8s,baz=76,slow=6.3,SNR=32
PDAR PP PP 22 41 48.1 -0.7
comp=Z,22nm,0.9s,baz=122,slow=5.4,SNR=3.0
BOZ Bozeman (W) 142.61 319 *e*PKIKP PKPdf 22 38 39.0 -2.5
YMR Madison River 142.65 317 *e*PKPdf PKPdf 22 38 39.5 -2.1
YMR LR LR
comp=Z,154μm,22.0s,MS7.7
YFT Old Faithful 142.66 317 *e*PKPdf PKPdf 22 38 40.3 -1.3
LPM Los Pinos Moun 142.71 299 *e*PKPdf PKPdf 22 38 39.3 -2.4
BNM Barren Site 142.73 299 *e*PKPdf PKPdf 22 38 39.5 -2.2
QLMT Earthquake Lak 142.87 317 *e*PKPdf PKPdf 22 38 40.2 -1.7
CHMT Chamberlain Mo 142.93 321 *e*PKPdf PKPdf 22 38 40.0 -2.1
MAIG Mazatlaan 142.99 281 *e*P PKPdf 22 38 39.4 -2.8
LENM Lemitar 143.01 299 *e*PKPpre 22 38 38.7
LAZ Ladron 143.10 299 *e*PKPdf PKPdf 22 38 41.3 -1.1
SIT Sitka 143.37 350 *e*P PKPdf 22 38 40.2 -2.7
SIT LR LR
comp=Z,80μm,19.0s,MS7.5
PV01 Paradox Valley 143.38 306 *e*PKPdf PKPdf 22 38 41.1 -1.8
MSO Missoula 143.38 322 *e*PKPpre 22 38 38.1
MSO *e*PKPdf PKPdf 22 38 41.7 -1.1
MSO LR LR
comp=Z,117μm,21.0s,MS7.6
AHID Auburn Hatcher 143.56 314 *e*PKPdf PKPdf 22 38 41.6 -1.6
PV10 Paradox Valley 143.66 306 *e*PKPdf PKPdf 22 38 41.9 -1.5
VAH Vaihoa 143.66 178 *e*PKIKP PKPdf 22 38 44.9 +1.5
comp=Z,360nm,1.1s
MCMT McKenzie Canyo 143.76 318 *e*PKPdf PKPdf 22 38 42.9 -0.6
PMOR Pomariorio Ree 143.89 178 *e*PKIKP PKPdf 22 38 44.9 +1.1
comp=Z,364nm,1.3s
NIKO Nikolski 144.01 23 *e*PKPdf PKPdf 22 38 44.3 +0.3
AKUT Akutan 144.09 19 *e*P PKPdf 22 38 41.0 -3.1
AKUT LR LR
comp=Z,98μm,23.0s,MS7.5
UNV Unalaska Valle 144.10 20 *e*PKPdf PKPdf 22 38 41.8 -2.4
UNV LR LR
comp=Z,182μm,21.0s,MS7.8
NEW Newport 144.29 326 *e*PKIKP PKPdf 22 38 43.0 -1.5
HWUT Hardware Ranch 144.35 313 *e*PKPdf PKPdf 22 38 42.1 -2.5
SDPT Sand Point 144.42 14 *e*P PKPdf 22 38 42.3 -2.4
SDPT LR LR
comp=Z,104μm,23.0s,MS7.5
TCUT Toone Canyon 144.44 312 *e*PKPdf PKPdf 22 38 43.3 -1.4
CRAG Craig 144.46 347 *e*P PKPdf 22 38 45.0 +0.2
CRAG LR LR
comp=Z,103μm,19.0s,MS7.6
SRU San Rafael 144.53 308 *e*PKIKP PKPdf 22 38 43.0 -1.9
DAU Daniels Canyon 144.60 311 *e*PKPdf PKPdf 22 38 43.1 -1.9
CTU Camp Tracy 144.84 311 *e*PKPdf PKPdf 22 38 44.6 -0.8
TMUT Trail Mountain 144.97 309 *e*PKPdf PKPdf 22 38 44.1 -1.5
MPU Maple Canyon 145.02 310 *e*PKPdf PKPdf 22 38 44.7 -1.1
MPU LR LR
comp=Z,165μm,20.0s,MS7.8
SPUT South Promonto 145.08 313 *e*PKPdf PKPdf 22 38 46.1 +0.2
HVU Hansel Valley 145.10 314 *e*PKPdf PKPdf 22 38 44.2 -1.7
NOQ North Oquirrh 145.12 311 *e*PKPdf PKPdf 22 38 44.8 -1.1
NLU North Lily Min 145.35 310 *e*PKPdf PKPdf 22 38 44.1 -2.2
HLID Hailey 145.36 317 *e*PKPdf PKPdf 22 38 45.7 -0.7
BGU Big Grassy Mou 145.64 312 *e*PKPdf PKPdf 22 38 49.3 +2.5
DUG Dugway 145.78 311 *e*PKP2 PKPab 22 38 46.4 -1.5
DUG MLR MLR
comp=Z,133μm,19.0s,MS7.7
MSU Marysvale 145.95 308 *e*PKP2 PKPab 22 38 47.7 -0.8
MVU Marysvale 145.98 308 *e*PKP PKPdf 22 38 53.7 +6.4
MVU LR LR
comp=Z,126μm,21.0s,MS7.7
WUAZ Wupatki 146.25 302 *e*PKPdf PKPdf 22 38 48.6 +0.7
WUAZ LR LR
comp=Z,122μm,20.0s,MS7.7
BMO Blue Mountains 146.43 321 *e*PKHKP 22 38 48.0
BMO MLR MLR
comp=Z,102μm,19.0s,MS7.6
TUC Tucson 146.48 297 PKPdf PKPdf 22 38 48.8 +0.6
TUC PKPdf PKPdf 22 38 52.3 +4.1
TUC SKKSac SKKSac 22 49 11.9 +7.9
TUC SKKSdf SKKSdf 22 55 07.2 +7.0
TUC SS SS 23 01 04.5 -4.9
TUC Tucson 146.48 297 *e*PKPdf PKPdf 22 38 48.7 +0.5
TUC LR LR
comp=Z,90μm,22.0s,MS7.5
HAWA Hanford 146.75 325 *e*PKPbc PKPbc 22 38 49.5 -0.9
HAWA LR LR
comp=Z,14μm,22.0s,MS6.7
PGC Sidney 147.10 332 *e*PKPbc PKPbc 22 38 50.8 -0.6
ARUT Antelope Range 147.14 307 *e*PKP2 PKPab 22 38 52.1 -1.0
ELK Elko 147.23 313 *e*PKPdf PKPdf 22 38 50.8 +1.3
ELK *e*PKPbc PKPbc 22 38 52.3 +0.6
ELK LR LR
comp=Z,113μm,20.0s,MS7.7
OCWA Octopus Mounta 148.10 331 *e*PKPdf PKPdf 22 38 49.9 -1.0
OCWA LR LR
comp=Z,188μm,20.0s,MS7.9
WVOR Wild Horse Val 148.59 318 *e*PKPdf PKPdf 22 38 52.6 +0.9
WVOR LR LR
comp=Z,172μm,19.0s,MS7.9
BMN Battle Mountai 148.71 314 *e*PKPbc PKPbc 22 38 52.9 -2.8
BMN LR LR
comp=Z,161μm,19.0s,MS7.8
NEN Nelson 148.92 304 *e*PKPdf PKPdf 22 38 52.8 +0.6
LDFC Landfair 149.31 303 *e*PKPdf PKPdf 22 38 50.4 -2.5
TAOE Nuku Hiva Isla 149.39 192 *e*PKIKP PKPdf 22 38 54.6 +1.6
comp=Z,5μm,1.4s
TAOE Nuku Hiva Isla 149.39 192 *e*PP PP 22 42 21.5 -8.0
comp=Z,21μm,26.2s
MOD Modoc 149.91 319 *e*PKPdf PKPdf 22 38 54.2 +0.4
MOD LR LR
comp=Z,124μm,20.0s,MS7.7
COR Corvallis 149.93 326 *e*PKIKP PKPdf 22 38 51.7 -2.2
COR *e* 22 38 57.2
COR *e* 22 39 02.1
COR MLR MLR
comp=Z,33μm,22.0s,MS7.1
MNV Mina 150.28 311 *e*PKIKP PKPdf 22 38 55.4 +1.0
MNV MLR MLR
comp=Z,142μm,22.0s,MS7.7
NVAR Mina Array Bea 150.39 311 PKP PKPdf 22 38 53.9 -0.7
comp=Z,28nm,1.1s,baz=72,slow=3.3,SNR=28
NVAR PKPbc PKPbc 22 38 58.6 -1.2
comp=Z,409nm,1.2s,baz=103,slow=2.8,SNR=143
GSC Goldstone 150.54 305 *e*PKPdf PKPdf 22 38 57.2 +2.3
DAC Darwin (Calif) 150.78 307 *e*PKIKP PKPdf 22 38 55.9 +0.7
DAC MLR MLR
comp=Z,112μm,20.0s,MS7.7
PFO Pinyon Flat Ob 150.81 301 *e*PKPdf PKPdf 22 38 57.9 +2.7
PFO LR LR
comp=Z,101μm,21.0s,MS7.6
HUMO Hull Mountain 151.05 323 *e*PKPdf PKPdf 22 38 56.0 +0.4
HUMO LR LR
comp=Z,127μm,22.0s,MS7.7
MIDW Midway 151.15 70 *e*PKPdf PKPdf 22 38 58.2 +2.5
MIDW LR LR
comp=Z,38μm,20.0s,MS7.2
BAR Barrett 151.25 299 *e*PKPdf PKPdf 22 38 57.7 +1.7
YBH Yreka Blue Hor 151.46 321 *e*PKPdf PKPdf 22 38 55.4 -0.9
YBH LR LR
comp=Z,138μm,22.0s,MS7.7
KEBM Edson Butte 151.64 324 *e*PKP PKPdf 22 38 58.9 +2.4
ISA Isabella 151.68 306 PFAKE 22 39 10.0 +13
ISA LR LR
comp=Z,31μm,20.0s,MS7.1
MWC Mount Wilson 151.88 303 *e*PKPdf PKPdf 22 38 59.4 +2.5
CMB Columbia Colle 152.02 312 *e*PKIKP PKPdf 22 38 57.6 +0.5
CMB MLR MLR
comp=Z,121μm,21.0s,MS7.7
KBO Bosley Butte 152.02 323 *e*PKPdf PKPdf 22 38 58.3 +1.2
WDC Whiskeytown Da 152.05 319 *e*PKPdf PKPdf 22 38 57.0 -0.1
WDC LR LR
comp=Z,107μm,20.0s,MS7.7
OHCM Honcut 152.09 316 *e*PKPdf PKPdf 22 38 57.8 +0.6
KHMM Horse Mountain 152.59 320 *e*PKP PKPdf 22 39 00.9 +2.9
PTRM Twissleman Ran 152.97 308 *e*PKP PKPdf 22 39 02.3 +3.8
KIPM Iron Peak 153.09 318 *e*PKP PKPdf 22 39 00.1 +1.4
LRV Little Rabbit 153.22 310 *e*PKP PKPdf 22 39 00.7 +1.9
KCPM Cahto Peak 153.22 318 *e*PKPdf PKPdf 22 39 02.6 +3.8
HOPS Hopland 153.31 317 *e*PKP PKPdf 22 39 00.3 +1.4
HOPS LR LR
comp=Z,132μm,22.0s,MS7.7
SAO San Andreas Ge 153.37 311 *e*PKP PKPdf 22 39 00.4 +1.3
SAO LR LR
comp=Z,95μm,21.0s,MS7.6
SAC San Andreas 153.64 313 *e*PKP PKPdf 22 39 02.7 +3.2
KIP Kipapa 169.22 87 PFAKE 22 39 30.0 +14
KIP LR LR
comp=Z,79μm,20.0s
POHA Pohakuloa 171.35 99 PFAKE 22 39 30.0 +13
POHA LR LR
comp=Z,111μm,20.0s

IDC ***22*** *22:26:51.3± 1.2, 21.17S×33.33E, h0km, mb5.0/4, mb1 5.6/8, mb1mx5.0/24, mbtmp5.6/8, ML5.3/4, Error ellipse: s-maj=33.9km s-min=25.4km az=168.0*
ISCJB ***22*** *22:26:52.8± 4.2, 21.24S×009.0×332.0±0.1, h25km±31km, mb5.2/8, Error ellipse: s-maj=17.4km s-min=14.3km az=57.7*
NEIC ***22*** *22:26:52.6± 0.6, 21.21S×33.31E, h10km, mb5.4/3, Error ellipse: s-maj=14.7km s-min=10.1km az=168.0*
ISC 22 22:26:55.2±3.2, 2115S×007×3318E±007, h29km±24km, n17, σ19.35/21, mb5.2/8, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**7.53**	**320**	Pn	**Pn**	**22 28 45.7**	**+2.7**
	38nm,0.3s,baz=319,slow=16,SNR=2.3						
LSZ				Sn	**Sn**	**22 30 05.5**	**-1.8**
	73nm,0.3s,baz=117,slow=7.1,SNR=2.8						
LSZ	**Lusaka**	**7.53**	**320**	Pn	**Pn**	**22 28 45.7**	**+2.7**
LSZ				Sn	**Sn**	**22 30 05.5**	**-1.8**
LBTB	**Lobatse**	**7.97**	**240**	Pn	**Pn**	**22 28 50.1**	**+0.9**
	52nm,0.3s,baz=300,slow=20,SNR=1.6						
LBTB				Sn	**Sn**	**22 30 16.2**	**-2.2**
	47nm,0.3s,baz=168,slow=19,SNR=3.6						
LBTB				Lg		22 31 03.1	
	74nm,0.3s,baz=334,slow=17,SNR=2.4						
LBTB	**Lobatse**	**7.97**	**240**	Pn	**Pn**	**22 28 50.1**	**+0.9**
LBTB				Sn	**Sn**	**22 30 16.2**	**-2.2**
LBTB				Lg		22 31 03.1	
BOSA	**Boshof**	**10.34**	**222**	Pn	**Pn**	**22 29 21.6**	**0.0**
	22nm,0.3s,baz=43,slow=21,SNR=1.4						
BOSA				Lg		22 32 19.3	
	22nm,0.3s,baz=198,slow=12,SNR=1.9						
OPO	**Ambohidratompo**	**13.43**	**81**	Pn	**Pn**	**22 30 00.9**	**-2.9**
	3.7nm,0.3s,baz=166,slow=22,SNR=2.7						
TSUM	**Tsumeb**	**14.78**	**275**	Pn	**Pn**	**22 30 22.1**	**-0.1**
	11nm,0.3s,baz=54,slow=14,SNR=1.9						
DGAR	**Diego Garcia**	**40.30**	**76**	*e*P	**P**	**22 34 28.9**	**-0.9**
	16nm,0.5s,mb5.0						
TORD	**Torodi Ar. Bea**	**46.03**	**315**	P	**P**	**22 35 16.6**	**+0.5**
	42nm,0.9s,mb5.4,baz=144,slow=9.0,SNR=2.7						
MAW	**Mawson**	**50.05**	**166**	*e*P	**P**	**22 35 47.9**	**+0.6**
COCO	**West Island**	**61.29**	**93**	*e*P	**P**	**22 37 08.1**	**+0.2**
GNI	**Garni**	**61.93**	**10**	*e*P	**P**	**22 37 13.1**	**+0.9**
	138nm,1.6s,mb5.8						
CASY	**Casey**	**65.75**	**154**	*e*P	**P**	**22 37 37.6**	**+0.2**
	37nm,1.1s,mb5.3						
BDFB	**Brasilia**	**76.48**	**258**	P	**P**	**22 38 45.4**	**+3.0**
	16nm,0.8s,mb5.0,baz=161,slow=10.0,SNR=3.8						
BVAR	**Borovoye Array**	**80.61**	**22**	P	**P**	**22 39 05.4**	**+0.3**
	6.9nm,0.9s,mb4.6,baz=218,slow=4.0,SNR=2.6						
TRQA	**Tornquist**	**81.15**	**233**	*e*P	**P**	**22 39 06.3**	**-1.7**
	74nm,1.4s,mb5.4						
ASAR	**Alice Springs**	**90.92**	**116**	P	**P**	**22 39 57.1**	**+0.9**
	7.1nm,1.0s,mb5.0,baz=242,slow=3.3,SNR=4.6						

ISCJB ***22*** *22:29:01.0± 0.4, 21.27S×007.3×341E±008, h10km, mb4.8/21, MS5.9/1, Error ellipse: s-maj=11.1km s-min=10.2km az=165.8*
IDC ***22*** *22:29:01.4± 0.6, 21.24S×334.9E, h0km, mb4.8/18, mb1 5.0/19, mb1mx4.9/24, mbtmp4.8/19, ML5.4/2, Error ellipse: s-maj=20.8km s-min=17.9km az=59.0*
MOS ***22*** *22:29:01.7± 1.4, 21.31S×3332E, h10km, mb5.0/15, Error ellipse: s-maj=16.5km s-min=13.8km az=63.9*
NEIC ***22*** *22:29:02.9± 0.3, 21.33S×3350E, h10km, mb4.9/1, Error ellipse: s-maj=9.4km s-min=8.3km az=149.0*
ISC 22 22:29:02.8±0.4, 2128S±007×3348E±007, h10km, n64, σ09.95/51, mb4.8/21, MS5.9/1, 2C, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**7.80**	**319**	Pn	**Pn**	**22 30 56.7**	**+0.3**
	126nm,0.3s,baz=247,slow=17,SNR=5.2						
LSZ				Sn	**Sn**	**22 32 14.5**	**-10**
	16nm,0.3s,baz=41,slow=9.0,SNR=2.0						
LSZ				Lg		22 32 57.8	
	185nm,0.3s,baz=56,slow=20,SNR=7.9						
LBTB	**Lobatse**	**8.15**	**241**	Pn	**Pn**	**22 31 01.6**	**+0.4**
	60nm,0.3s,baz=329,slow=17,SNR=2.3						
LBTB				Sn	**Sn**	**22 32 25.3**	**-8.0**
	20nm,0.3s,baz=165,slow=19,SNR=2.2						
LBTB				Lg		22 33 06.4	
	92nm,0.3s,baz=162,slow=21,SNR=3.1						
LBTB	**Lobatse**	**8.15**	**241**	P	**Pn**	**22 31 01.6**	**+0.4**
LBTB						22 32 25.3	
LBTB				pmax	pmax		
	comp=Z,60nm,0.3s						
LBTB				smax			
	comp=E,20nm,0.3s						
BOSA	**Boshof**	**10.44**	**224**	Pn	**Pn**	**22 31 29.9**	**-2.6**
	comp=E,33nm,0.3s,baz=304,slow=20,SNR=4.8						
BOSA				Lg		22 34 21.4	
	comp=E,32nm,0.3s,baz=335,slow=17,SNR=3.6						
BOSA	**Boshof**	**10.44**	**224**	Pn	**Pn**	**22 31 29.9**	**-2.6**
BOSA				Lg		22 34 21.4	
OPO	**Ambohidratompo**	**13.17**	**81**	Pn	**Pn**	**22 32 08.1**	**-1.7**
	comp=E,16nm,0.3s,baz=290,slow=18,SNR=3.3						
OPO				Sn	**Sn**	**22 34 29.1**	**-7.3**
	comp=E,7.8nm,0.3s,baz=126,slow=20,SNR=3.2						
TSUM	**Tsumeb**	**15.06**	**275**	Pn	**Pn**	**22 32 31.5**	**-4.1**
	comp=E,7.4nm,0.3s,baz=78,slow=17,SNR=2.4						
TSUM				Lg		22 36 54.1	
	comp=E,9.2nm,0.3s,baz=266,slow=10.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**46.31**	**315**	P	**P**	**22 37 28.7**	**0.0**
	comp=E,45nm,1.0s,mb5.4,baz=124,slow=7.0,SNR=6.3						
VNA2	**Neumayer--Watz**	**55.07**	**195**	*e*	**P**	**22 38 34.7**	**-0.1**
	baz=25,slow=7.2						
VNA2				*e*		22 38 41.6	
VNA2				*e*		22 44 30.4	
VNA2				*e*		22 44 47.0	
VNA2				*e*		22 44 55.1	
VNA2				*e*		22 59 10.3	
VNA3	**Neumayer Olymp**	**55.84**	**196**	*e*	**P**	**22 38 39.4**	**-1.0**
BRTR	**Keskin Array B**	**60.68**	**0**	P	**P**	**22 39 14.7**	**+0.5**
	comp=E,3.1nm,0.8s,mb4.5,baz=166,slow=4.6,SNR=3.2						
COCO	**West Island**	**61.01**	**92**	P	**P**	**22 39 16.9**	**+0.5**
QSPA	**South Pole Qui**	**68.88**	**180**	*e*P	**P**	**22 40 06.4**	**-1.2**
ESDC	**Sonseca Array**	**69.99**	**330**	P	**P**	**22 40 14.9**	**+0.3**
	comp=E,9.8nm,0.8s,mb4.8,baz=146,slow=5.6,SNR=7.9						
GERES	**GERESS Array B**	**72.00**	**346**	P	**P**	**22 40 27.0**	**+0.3**
	comp=E,4.8nm,0.6s,mb4.6,baz=152,slow=4.7,SNR=11						
GERES	**GERESS Array B**	**72.00**	**346**	P	**P**	**22 40 27.0**	**+0.2**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NKC	**Novy Kostel**	**73.59**	**346**	*e*P	**P**	**22 40 45.1**	**+8.9**
NWAO	**Narrogin (SRO)**	**73.71**	**119**	P	**P**	**22 40 38.0**	**+1.1**
	comp=Z,17nm,1.1s,mb4.9,baz=243,slow=6.8,SNR=3.3						
NWAO	**Narrogin (SRO)**	**73.71**	**119**	P	**P**	**22 40 38.0**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,17nm,1.1s						
BRG	**Berggiesshubel**	**73.87**	**347**	*e*P	**P**	**22 40 42.5**	**+4.7**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BRG				MLR	MLR		
	comp=N,2μm,19.1s,MS5.9						
BRG				MLR	MLR		
	comp=E,6μm,18.7s,MS5.9						
BRG				MLR	MLR		
	comp=Z,5μm,18.3s,MS5.9						
AKTK	**Aktyubinsk**	**74.62**	**16**	P	**P**	**22 40 41.4**	**-0.8**
AKTO	**Aktyubinsk**	**74.62**	**16**	P	**P**	**22 40 41.4**	**-0.8**
	comp=Z,5.9nm,0.8s,mb4.6,baz=319,slow=22,SNR=4.1						
AKTO	**Aktyubinsk**	**74.62**	**16**	P	**P**	**22 40 41.4**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
OBN	**Obninsk**	**76.12**	**2**	*e*P	**P**	**22 40 47.5**	**-3.3**
OBN				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
BDFB	**Brasilia**	**76.73**	**258**	P	**P**	**22 40 54.5**	**+0.3**
	comp=Z,18nm,0.6s,mb5.2,baz=122,slow=7.4,SNR=10						
BDFB	**Brasilia**	**76.73**	**258**	P	**P**	**22 40 54.5**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,18nm,0.6s						
VNDA	**Vanda**	**76.93**	**170**	P	**P**	**22 40 56.2**	**+0.9**
	comp=Z,5.4nm,0.7s,mb4.6,baz=262,slow=10,SNR=4.9						
VNDA	**Vanda**	**76.93**	**170**	P	**P**	**22 40 56.3**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MBWA	**Marble Bar**	**79.26**	**109**	*e*P	**P**	**22 41 09.7**	**+1.3**
	comp=Z,11nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**80.62**	**22**	P	**P**	**22 41 15.4**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=220,slow=6.4,SNR=6.9						
BVAR	**Borovoye Array**	**80.62**	**22**	P	**P**	**22 41 15.4**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**80.80**	**32**	P	**P**	**22 41 15.9**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.5,baz=223,slow=5.0,SNR=3.0						
MKAR	**Makanchi Array**	**80.80**	**32**	P	**P**	**22 41 15.9**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**82.44**	**340**	P	**P**	**22 41 25.6**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=140,slow=4.4,SNR=3.9						
EKA	**Eskdalemuir Ar**	**82.44**	**340**	P	**P**	**22 41 25.7**	**+0.4**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**82.64**	**356**	P	**P**	**22 41 26.0**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.6,baz=198,slow=5.4,SNR=3.5						
FINES	**FINESS Array B**	**82.64**	**356**	P	**P**	**22 41 26.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA	**NORSAR Array B**	**83.98**	**349**	P	**P**	**22 41 33.2**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.7,baz=152,slow=4.7,SNR=4.2						
NOA	**NORSAR Array B**	**83.98**	**349**	P	**P**	**22 41 33.3**	**0.0**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PLCA	**Paso Flores**	**86.41**	**228**	P	**P**	**22 41 46.0**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.4,baz=103,slow=6.3,SNR=4.2						
PLCA	**Paso Flores**	**86.41**	**228**	P	**P**	**22 41 46.0**	**+0.6**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**90.61**	**116**	P	**P**	**22 42 06.7**	**+1.3**
	comp=Z,9.2nm,0.8s,mb5.2,baz=239,slow=4.0,SNR=10						
ASAR	**Alice Springs**	**90.61**	**116**	P	**P**	**22 42 06.7**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**92.46**	**112**	P	**P**	**22 42 14.9**	**+0.9**
	comp=Z,3.1nm,0.9s,mb4.6,baz=246,slow=3.1,SNR=4.7						
WRA	**Warramunga Arr**	**92.46**	**112**	P	**P**	**22 42 14.9**	**+0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**93.28**	**126**	P	**P**	**22 42 17.2**	**-0.5**
	comp=Z,5.8nm,0.9s,mb5.0,baz=208,slow=2.4,SNR=3.4						
LPAZ	**La Paz**	**94.57**	**251**	P	**P**	**22 42 25.0**	**+1.3**
	comp=Z,2.9nm,0.7s,mb4.8,baz=346,slow=8.5,SNR=4.5						
LPAZ	**La Paz**	**94.57**	**251**	P	**P**	**22 42 25.0**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FWV	**Forest Hill**	**121.59**	**302**	*e*PKPdf	PKPdf	22 48 04.5	+7.8
JSC	**Jenkinsville**	**121.70**	**298**	*e*PKIKP	PKPdf	22 48 04.8	+7.9
ACSO	**Alum Creek Sta**	**123.39**	**305**	*e*PKPdf	PKPdf	22 48 01.1	+1.0
BILL	**Bilibino**	**124.93**	**20**	*e*PKIKP	PKPdf	22 47 56.8	-6.3
BILL				pmax	pmax		
	comp=Z,28nm,1.7s						
CCM	**Cathedral Cave**	**129.85**	**302**	*e*PKIKP	PKPdf	22 48 13.0	+0.5
YKA	**Yellowknife Ar**	**133.40**	**340**	PKP	PKPdf	22 48 18.5	-0.7
	comp=Z,3.4nm,0.7s,baz=42,slow=2.1,SNR=10						
YKA	**Yellowknife Ar**	**133.40**	**340**	PKIKP	PKPdf	22 48 18.5	-0.7
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**142.45**	**313**	PKhKP		22 48 30

az=107.0
*IDC **22** 22:36:43.1±1.4,2130S×3347E,h0km,mb4.2/8, mb1 4.7/12,mb1mx4.5/24,mbtmp4.6/12,ML4.7/2,Error ellipse: s-maj=49.7km s-min=22.6km az=127.0*
*NEIC **22** 22:36:44.1±0.4,2135S×3348E,h10km,mb4.8/3,Error ellipse: s-maj=12.7km s-min=7.0km az=138.0*
ISC 22 22:36:47.7±3.8,2133S±009×3330E±010,h34km±27km, n26,σ0§85/28,mb4.3/11,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.73**	**320**	Pn	**Pn**	**22 38 37.9**	**+0.1**
	18nm,0.3s,baz=159,slow=22,SNR=2.7						
LSZ				Sn	**Sn**	**22 39 55.9**	**-8.2**
	19nm,0.3s,baz=173,slow=19,SNR=4.6						
LSZ				Lg		22 40 40.5	
	36nm,0.3s,baz=58,slow=22,SNR=6.9						
LBTB	**Lobatse**	**7.97**	**241**	Pn	**Pn**	**22 38 42.6**	**+1.6**
	22nm,0.3s,baz=176,slow=20,SNR=3.3						
LBTB				Sn	**Sn**	**22 40 08.9**	**-1.1**
	26nm,0.3s,baz=145,slow=11,SNR=3.9						
LBTB				Lg		22 40 50.0	
	25nm,0.3s,baz=165,slow=22,SNR=2.5						
BOSA	**Boshof**	**10.28**	**224**	Pn	**Pn**	**22 39 12.2**	**-0.4**
	2.4nm,0.3s,baz=71,slow=13,SNR=2.7						
BOSA				Sn	**Sn**	**22 41 02.4**	**-4.3**
	7.2nm,0.3s,baz=271,slow=11,SNR=2.5						
BOSA				Lg		22 42 06.4	
	4.1nm,0.3s,baz=314,slow=22,SNR=3.7						
OPO	**Ambohidratompo**	**13.35**	**81**	Pn	**Pn**	**22 39 46.9**	**-7.8**
	1.8nm,0.3s,baz=98,slow=16,SNR=4.9						
OPO				Sn	**Sn**	**22 42 11.4**	**-10**
	3.4nm,0.3s,baz=161,slow=18,SNR=4.6						
TSUM	**Tsumeb**	**14.90**	**275**	Pn	**Pn**	**22 40 14.5**	**-1.2**
	1.2nm,0.3s,baz=274,slow=18,SNR=5.8						
TSUM				Lg		22 44 29.2	
	2.9nm,0.3s,baz=232,slow=16,SNR=2.7						
SUR	**Sutherland**	**15.64**	**223**	Pn	**Pn**	**22 40 25.6**	**+0.1**
SUR				Lg		22 45 00.4	
BRTR	**Keskin Array B**	**60.74**	**0**	P	**P**	**22 46 56.6**	**+0.8**
	1.4nm,0.9s,mb4.1,baz=176,slow=10,SNR=3.5						
KOLN	**Koldanda**	**68.90**	**47**	*e*P	**P**	**22 47 48.5**	**-0.5**
GKN	**Gorkha**	**69.75**	**47**	*e*P	**P**	**22 47 53.7**	**-0.6**
DMN	**Daman**	**69.83**	**48**	*e*P	**P**	**22 47 54.4**	**-0.3**
ESDC	**Sonseca Array**	**69.96**	**330**	P	**P**	**22 47 56.8**	**+1.3**
	3.2nm,0.9s,mb4.2,baz=149,slow=6.2,SNR=5.4						
PKI	**Pulchoki**	**70.02**	**48**	*e*P	**P**	**22 47 54.8**	**-1.1**
KKN	**Kakani**	**70.06**	**48**	*e*P	**P**	**22 47 55.6**	**-0.6**
GUN	**Gumba**	**70.55**	**48**	*e*P	**P**	**22 47 59.1**	**-0.1**
JIRN	**Jiri**	**70.62**	**49**	*e*P	**P**	**22 47 59.3**	**-0.2**
	20nm,0.9s,mb5.0						
GERES	**GERESS Array B**	**72.02**	**347**	P	**P**	**22 48 08.7**	**+0.7**
	1.9nm,0.9s,mb4.0,baz=150,slow=5.6,SNR=5.6						
AKTK	**Aktyubinsk**	**74.72**	**16**	P	**P**	**22 48 23.4**	**-0.5**
AKTO	**Aktyubinsk**	**74.72**	**16**	P	**P**	**22 48 23.4**	**-0.5**
	2.6nm,0.9s,mb4.2,baz=149,slow=4.3,SNR=4.1						
BDFB	**Brasilia**	**76.55**	**258**	P	**P**	**22 48 37.1**	**+2.8**
	4.2nm,0.8s,mb4.4,baz=74,slow=11,SNR=3.7						
MBWA	**Marble Bar**	**79.40**	**109**	*e*P	**P**	**22 48 51.3**	**+1.0**
	14nm,1.3s,mb4.7						
ZRNK	**Zerenda**	**80.20**	**21**	*e*P	**P**	**22 48 54.6**	**+0.1**
	5.1nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**80.94**	**32**	P	**P**	**22 48 58.6**	**0.0**
	1.0nm,0.9s,mb3.8,baz=222,slow=7.0,SNR=3.6						
FINES	**FINESS Array B**	**82.69**	**357**	P	**P**	**22 49 08.2**	**+0.4**
	4.5nm,1.1s,mb4.4,baz=153,slow=13,SNR=4.0						
NOA	**NORSAR Array B**	**84.00**	**349**	P	**P**	**22 49 13.9**	**-0.6**
	1.4nm,0.9s,mb4.1,baz=206,slow=4.3,SNR=3.4						
YKA	**Yellowknife Ar**	**133.40**	**340**	PKP	PKPdf	22 56 00.4	+0.2
	0.8nm,1.0s,baz=36,slow=2.0,SNR=5.0						
NVAR	**Mina Array Bea**	**150.22**	**311**	PKPbc	PKPbc	22 56 38.2	+3.2
	2.8nm,0.9s,baz=69,slow=4.5,SNR=9.4						

*CSEM **22** 22:37:55.0±0.1,3907N×2425E,h5km,ML3.1,Error ellipse: s-maj=2.7km s-min=1.6km az=94.0*
*NEIC **22** 22:37:55.6,39.12N×2424E,h7km,ML3.0(THE), ML3.6(ATH),After THE.*
*THE **22** 22:37:55.6,39.12N×2424E,h6km,ML3.1*
*ISCJB **22** 22:37:56.8±0.6,3912N±003×2423E±004,h25km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=47.3*
*ATH **22** 22:37:56.7,39.10N×2409E,h72km±4km,ML3.6*
ISC 22 22:37:55.7±0.6,3912N±003×2423E±004,h9km±4km,n26, σ0§93/35,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.28**	**282**	*e*Pg	**Pg**	**22 38 00.7**	**-0.5**
NEO	**Neokhori**	**0.80**	**284**	*e*P	**Pg**	**22 38 12.5**	**+1.3**
NEO				*e*S	**Sg**	**22 38 24.0**	**+2.4**
XOR	**Xorichti**	**0.84**	**288**	*e*Pg	**Pg**	**22 38 12.0**	**+0.1**
	comp=Z,15nm,0.2s						
PAIG	**Paliouri**	**0.92**	**333**	*e*Pg	**Pg**	**22 38 13.3**	**0.0**
PAIG				*e*Sg	**Sg**	**22 38 26.0**	**+0.7**
MPAR	**Parnis Oros**	**1.04**	**202**	*e*P	**Pg**	**22 38 16.0**	**+0.4**
MPAR				*e*S	**Sg**	**22 38 30.5**	**+1.4**
LOS	**Limnos**	**1.05**	**39**	*e*Pg	**Pg**	**22 38 15.1**	**-0.8**
LOS				*e*Sg	**Sg**	**22 38 29.6**	**0.0**
LOS	**Limnos**	**1.05**	**39**	*e*Pg	**Pg**	**22 38 15.1**	**-0.8**
LOS				*e*Sg	**Sg**	**22 38 29.6**	**0.0**
PTL	**Penteli**	**1.10**	**195**	*e*P	**Pg**	**22 38 16.5**	**-0.4**
ATH	**Athens Observa**	**1.21**	**199**	*e*P	**Pb**	**22 38 18.0**	**-0.8**
OUR	**Ouranopolis**	**1.23**	**351**	*e*Pg	**Pg**	**22 38 18.3**	**-1.1**
	comp=Z,18nm,0.3s						
KVR	**Kavouri**	**1.33**	**196**	*e*P	**Pn**	**22 38 20.0**	**-0.5**
PLG	**Polygyros**	**1.39**	**335**	*e*P	**Pn**	**22 38 20.5**	**-0.8**
NAIG	**Nisos Aigina**	**1.47**	**203**	*e*P	**Pn**	**22 38 22.0**	**-0.4**
AGG	**Agios Georgios**	**1.48**	**267**	*e*Pg	**Pg**	**22 38 21.5**	**-2.6**
	comp=Z,3.5nm,0.9s						
AGG				*e*Sg	**Sg**	**22 38 42.2**	**-1.1**
PRK	**Paraskevi**	**1.59**	**85**	*e*P	**Pn**	**22 38 25.5**	**+1.4**
SRS	**Serrai**	**2.06**	**347**	*e*Pn	**Pn**	**22 38 29.7**	**-0.7**
ALN	**Alexandroupoli**	**2.26**	**38**	*e*Pn	**Pn**	**22 38 32.0**	**-1.3**
ALN				*e*Sn	**Sn**	**22 39 01.8**	**+0.5**
RDO	**Rodhopi**	**2.26**	**26**	*e*P	**Pn**	**22 38 35.0**	**+1.7**
KNT	**Kendrikon**	**2.28**	**334**	*e*Pn	**Pn**	**22 38 33.3**	**-0.3**
	comp=Z,4.0nm,0.8s						
GRG	**Griva**	**2.31**	**323**	*e*Pn	**Pn**	**22 38 33.5**	**-0.5**
GRG				*e*Sn	**Sn**	**22 39 02.7**	**+0.2**
RZN	**Rozhen**	**2.60**	**8**	P	**Pn**	**22 38 38.7**	**+0.8**
FNA	**Florina**	**2.75**	**308**	*e*Pn	**Pn**	**22 38 39.6**	**-0.4**
KKB	**Krupnik**	**2.88**	**343**	P	**Pn**	**22 38 42.0**	**+0.2**
IGT	**Igoumenitsa**	**3.05**	**279**	*e*Pn	**Pn**	**22 38 44.7**	**+0.7**
VTS	**Vitosha**	**3.56**	**348**	P	**Pn**	**22 38 52.0**	**+0.9**
VTS				S	**Sn**	**22 39 32.8**	**-0.4**
JMB	**Yambol**	**3.80**	**27**	*e*Pn	**Pn**	**22 38 54.1**	**-0.3**

*ISCJB **22** 22:45:10.0±0.9,2125S±0.1×333E±0.1,h10km,mb4.3/2, Error ellipse: s-maj=16.8km s-min=12.8km az=113.9*
*IDC **22** 22:45:11.8±1.6,2124S×3328E,h0km,mb4.4/2,mb1 4.7/6, mb1mx4.1/23,mbtmp4.6/6,ML4.8/2,Error ellipse: s-maj=38.0km s-min=28.7km az=130.0*
ISC 22 22:45:12.6±0.9,2125S±01×333E±01,h10km,n10,σ0§96/8, mb4.3/2,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.62**	**320**	Pn	**Pn**	**22 47 02.9**	**-0.8**
	15nm,0.3s,baz=138,slow=13,SNR=6.1						
LBTB	**Lobatse**	**8.06**	**240**	Pn	**Pn**	**22 47 10.3**	**+0.7**
	14nm,0.3s,baz=70,slow=12,SNR=5.5						
BOSA	**Boshof**	**10.40**	**223**	Pn	**Pn**	**22 47 41.2**	**-0.5**
	4.6nm,0.3s,baz=50,slow=14,SNR=7.4						
OPO	**Ambohidratompo**	**13.32**	**81**	Pn	**Pn**	**22 48 21.3**	**-0.3**
	1.5nm,0.3s,baz=248,slow=16,SNR=6.8						
TSUM	**Tsumeb**	**14.89**	**275**	Pn	**Pn**	**22 48 39.6**	**-3.5**
	1.7nm,0.3s,baz=345,slow=11,SNR=6.6						
SUR	**Sutherland**	**15.76**	**222**	Pn	**Pn**	**22 48 54.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.13**	**315**	P	**P**	**22 53 38.6**	**+1.5**
	2.1nm,0.5s,mb4.3,baz=128,slow=6.9,SNR=6.5						
BDFB	**Brasilia**	**76.59**	**258**	P	**P**	**22 57 03.8**	**+0.5**
	2.3nm,0.5s,mb4.4,baz=126,slow=6.2,SNR=4.8						
YKA	**Yellowknife Ar**	**133.25**	**340**	PKP	PKPdf	23 04 29.2	+0.5
	0.2nm,0.7s,baz=43,slow=1.9,SNR=4.6						
NVAR	**Mina Array Bea**	**150.13**	**311**	PKPbc	PKPbc	23 05 06.2	+2.6
	0.3nm,0.4s,baz=58,slow=5.0,SNR=4.1						

IDC 22 22:58:12.7±1.5,2146S×3316E,h0km,mb4.0/2,mb1 4.2/3, mb1mx3.6/20,mbtmp4.1/3,ML4.2/1,Error ellipse: s-maj=49.5km s-min=40.2km az=45.0,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.04**	**253**	*e*P	Pn	22 58 54.8	-7.4
MSNA				*e*S	Sn	22 59 34.1	-5.2
MSNA				AML	AML	22 59 50.8	
	comp=Z,2μm,0.4s						
LSZ	**Lusaka**	**7.75**	**322**	Sn	Sn	23 01 27.3	-7.9
LBTB	**Lobatse**	**7.80**	**242**	Sn	Sn	23 01 37.7	+1.1
	comp=Z,2.2nm,0.3s,baz=158,slow=16,SNR=2.0						
LBTB				Lg		23 02 18.1	
	comp=Z,6.6nm,0.3s,baz=166,slow=21,SNR=7.4						
BOSA	**Boshof**	**10.10**	**224**	Pn	Pn	23 00 38.9	-0.2
	comp=Z,1.3nm,0.3s,baz=48,slow=16,SNR=3.3						
BOSA				Sn	Sn	23 02 30.8	-2.2
	comp=Z,1.1nm,0.3s,baz=306,slow=18,SNR=2.3						
OPO	**Ambohidratompo**	**13.49**	**80**	Sn	Sn	23 03 42.4	-14
	comp=Z,1.7nm,0.3s,baz=354,slow=15,SNR=6.6						
TORD	**Torodi Ar. Bea**	**46.23**	**315**	P	P	23 06 38.9	-0.7
	comp=Z,1.6nm,0.6s,baz=131,slow=6.6,SNR=8.0						
ASAR	**Alice Springs**	**90.81**	**116**	P	P	23 11 17.7	-0.2
	comp=Z,0.7nm,0.9s,baz=256,slow=3.0,SNR=4.7						
NVAR	**Mina Array Bea**	**150.21**	**311**	PKPbc	PKPbc	23 18 07.5	+1.9
	comp=Z,1.1nm,1.0s,baz=43,slow=4.1,SNR=3.4						

*ISCJB **22** 22:59:35.5±0.3,3471N±003×7357E±005,h10km, mb4.0/14,Error ellipse: s-maj=6.0km s-min=3.0km az=120.4*
*IDC **22** 22:59:35.5±0.8,3466N×7340E,h0km,mb4.0/11, mb1 4.2/14,mb1mx4.1/22,mbtmp4.0/14,ML3.9/3,Error ellipse: s-maj=23.7km s-min=17.0km az=34.0*
*NDI **22** 22:59:35.2±2.5,3480N×7300E,h10km,MD3.9,ML4.0*
*MOS **22** 22:59:36.8±1.4,3466N×7355E,h20km,mb5.2/1,Error ellipse: s-maj=15.2km s-min=8.7km az=106.3*
*NEIC **22** 22:59:37.2±0.4,3463N×7350E,h10km,mb4.3/2,Error ellipse: s-maj=11.5km s-min=4.8km az=45.0*
*BJI **22** 22:59:40.1,3460N×7350E,h10km,mb4.8,ML4.0*
*NNC **22** 22:59:45.4±3.5,3487N×7313E,h64km±30km,mb3.7, mpv4.5,Error ellipse: s-maj=28.1km s-min=25.6km az=104.0*
ISC 22 22:59:37.3±0.3,3468N±003×7344E±005,h10km,n68, σ1§21/93,mb4.0/14,4C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.03**	**188**	⇑P	**Pg**	**22 59 56.2**	**-0.9**
CEP	**Cherat**	**1.53**	**236**	P	**Pn**	**23 00 03.1**	**-1.5**
THW	**Thamme Wali**	**2.35**	**217**	P	**Pn**	**23 00 16.8**	**+0.8**
SARP	**Sargodha**	**2.82**	**193**	P	**Pn**	**23 00 23.0**	**+0.5**
SARP				S	**Sn**	**23 01 02.0**	**+5.5**
THN	**Thein Dam**	**2.94**	**139**	*e*P	**Pn**	**23 00 27.1**	**+3.1**
THN				*e*x	**Sg**	**23 01 11.8**	**+0.1**
DLH	**Dalhousie**	**3.00**	**135**	*e*P	**Pn**	**23 00 29.0**	**+4.1**
DLH				*e*S	**Sn**	**23 01 05.0**	**+4.1**
SBDP	**Sheikh Budin**	**3.23**	**224**	P	**Pn**	**23 00 29.4**	**+1.3**
BHK	**Bhakra**	**4.10**	**142**	*e*x	x	23 01 51.3	
SDNR	**Sundarnagar**	**4.34**	**136**	*e*P	**Pn**	**23 00 45.0**	**+1.7**
SDNR				*e*x	**Sn**	**23 01 34.5**	**+0.6**
SMLA	**Simla**	**4.73**	**137**	*e*P	**Pn**	**23 00 51.0**	**+2.3**
SMLA				*e*S	**Sn**	**23 01 45.9**	**+2.3**
KLP	**Kalpa**	**5.11**	**127**	*e*P	**Pn**	**23 00 56.4**	**+2.5**
KLP				*e*S	**Sn**	**23 01 56.2**	**+3.3**
KLP				AML	AML	23 02 03.3	
	comp=E,543nm,0.5s						
KLP				AML	AML	23 02 06.2	
	comp=N,735nm,0.8s						
KSH	**Kashi**	**5.24**	**22**	*e*P	**Pn**	**23 01 02.6**	**+7.0**
KSH				S	**Sn**	**23 02 03.8**	**+7.8**
KSH				Smax			
	comp=N,70nm,0.7s						
KSH				Smax			
	comp=E,80nm,0.3s						
SONA	**Sohna**	**7.12**	**153**	*e*P	**Pn**	**23 01 21.9**	**+0.4**
SONA				*e*S	**Sn**	**23 02 41.3**	**-1.2**
SONA				AML	AML	23 03 30.1	
	comp=N,32nm,0.6s						
SONA				AML	AML	23 03 35.1	
	comp=E,52nm,0.5s						
PTH	**Pithoragarh**	**7.69**	**130**	*e*P	**Pn**	**23 01 30.2**	**+0.8**
PTH				*e*S	**Sn**	**23 02 56.3**	**-0.2**
LGTI	**Lohaghat**	**7.78**	**130**	*e*P	**Pn**	**23 01 33.5**	**+2.9**
LGTI				*e*S	**Sn**	**23 02 58.0**	**-0.7**
AAK	**Ala-Archa**	**7.99**	**6**	*e*P	**Pn**	**23 01 36.4**	**+3.0**
AGRA	**Agra**	**8.37**	**151**	*e*S	**Sn**	**23 03 11.1**	**-2.1**
AGRA				AML	AML	23 04 16.6	
	comp=E,78nm,0.6s						
AGRA				AML	AML	23 04 19.0	
	comp=N,91nm,0.6s						
TKM2	**Tokmak 2**	**8.40**	**11**	⇑P	**Pn**	**23 01 43.0**	**+4.0**
	comp=N,8.9nm,1.0s						
TKM2				⇑S	**Sn**	**23 03 14.2**	**+0.2**
	comp=N,7.6nm,0.6s						
KK31	**Karatay Array**	**8.72**	**346**	P	**Pn**	**23 01 45.0**	**+1.6**
	comp=N,17nm,0.3s,baz=152,slow=10,SNR=868						
KK31				⇓S	**Sn**	**23 03 21.5**	**-0.2**
	comp=N,13nm,0.8s,baz=174,slow=24,SNR=5.9						
KOLN	**Koldanda**	**11.09**	**126**	*e*Pn	**Pn**	**23 02 15.3**	**-0.6**
KOLN				*e*Sn	**Sn**	**23 04 15.3**	**-4.6**
	comp=N,48nm,0.6s						
KOLN	**Koldanda**	**11.09**	**126**	*e*Pn	**Pn**	**23 02 15.3**	**-0.6**
	comp=N,24nm,0.6s						
KOLN				*e*Sn	**Sn**	**23 04 15.3**	**-4.6**
GKN	**Gorkha**	**11.65**	**122**	*e*Pn	**Pn**	**23 02 23.0**	**-0.6**
GKN				*e*Sn	**Sn**	**23 04 26.6**	**-7.2**
	comp=N,103nm,0.7s						
GKN	**Gorkha**	**11.65**	**122**	*e*Pn	**Pn**	**23 02 23.0**	**-0.6**
	comp=N,52nm,0.7s						
GKN				*e*Sn	**Sn**	**23 04 26.6**	**-7.2**
DMN	**Daman**	**12.22**	**122**	*e*Pn	**Pn**	**23 02 30.3**	**-1.1**
DMN				*e*Sn	**Sn**	**23 04 40.4**	**-7.3**
	comp=N,43nm,0.6s						
DMN	**Daman**	**12.22**	**122**	*e*Pn	**Pn**	**23 02 30.3**	**-1.1**
	comp=N,22nm,0.6s						
DMN				*e*Sn	**Sn**	**23 04 40.4**	**-7.3**
KKN	**Kakani**	**12.23**	**121**	*e*Pn	**Pn**	**23 02 30.3**	**-1.3**
KKN				*e*Sn	**Sn**	**23 04 42.0**	**-6.0**
	comp=N,60nm,0.7s						
KKN	**Kakani**	**12.23**	**121**	*e*P	**Pn**	**23 02 30.3**	**-1.3**
KKN				*e*		23 04 42.0	
KKN				pmax	pmax		
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**12.23**	**121**	*e*Pn	**Pn**	**23 02 30.3**	**-1.3**
	comp=Z,30nm,0.7s						
KKN				*e*Sn	**Sn**	**23 04 42.0**	**-6.0**
PKI	**Pulchoki**	**12.46**	**121**	*e*Pn	**Pn**	**23 02 33.4**	**-1.2**
PKI				*e*Sn	**Sn**	**23 04 47.4**	**-6.1**
	comp=Z,49nm,0.7s						
PKI	**Pulchoki**	**12.46**	**121**	*e*P	**Pn**	**23 02 33.4**	**-1.2**
PKI				*e*		23 04 47.4	
PKI				pmax	pmax		
	comp=Z,25nm,0.7s						
PKI	**Pulchoki**	**12.46**	**121**	*e*Pn	**Pn**	**23 02 33.4**	**-1.2**
	comp=Z,25nm,0.7s						
PKI				*e*Sn	**Sn**	**23 04 47.4**	**-6.1**
GUN	**Gumba**	**12.59**	**119**	*e*Pn	**Pn**	**23 02 35.9**	**-0.6**
GUN				*e*Sn	**Sn**	**23 04 50.1**	**-6.6**
	comp=Z,37nm,0.6s						
GUN	**Gumba**	**12.59**	**119**	*e*Pn	**Pn**	**23 02 35.9**	**-0.6**
	comp=Z,18nm,0.6s						
GUN				*e*Sn	**Sn**	**23 04 50.1**	**-6.6**
JIRN	**Jiri**	**12.96**	**119**	*e*Pn	**Pn**	**23 02 39.7**	**-1.8**
JIRN				*e*Sn	**Sn**	**23 04 57.5**	**-8.3**
	comp=Z,32nm,0.4s						
JIRN	**Jiri**	**12.96**	**119**	*e*Pn	**Pn**	**23 02 39.7**	**-1.8**
	comp=Z,16nm,0.4s						
JIRN				*e*Sn	**Sn**	**23 04 57.5**	**-8.3**
MK31	**Makanchi Array**	**13.82**	**26**	⇑P	**Pn**	**23 02 58.8**	**+5.5**
	comp=Z,2.6nm,1.0s,baz=211,slow=13,SNR=27						
MKAR	**Makanchi Array**	**13.82**	**26**	Pn	**Pn**	**23 02 53.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=14,SNR=9.8						
AB31	**Akbulak array**	**17.65**	**330**	⇓P	**Pn**	**23 03 41.6**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=140,slow=12,SNR=54						
VOSK	**Vostochnaya**	**18.12**	**355**	⇓P	**Pn**	**23 03 50.9**	**+1.8**
	comp=Z,12nm,1.9s						
BVA0	**Borovoye Array**	**18.47**	**354**	P	**Pn**	**23 03 53.4**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=236,slow=39,SNR=20						
BVAR	**Borovoye Array**	**18.47**	**354**	P	**Pn**	**23 03 52.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=157,slow=9.0,SNR=14						
ZRNK	**Zerenda**	**18.54**	**352**	⇓P	**Pn**	**23 03 54.5**	**+0.4**
	comp=Z,18nm,2.2s						
ZRNK	**Zerenda**	**18.54**	**352**	*e*P	**Pn**	**23 03 54.1**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**18.54**	**352**	*e*P	**Pn**	**23 03 54.1**	**0.0**
	comp=Z,3.2nm,0.5s						
AKTK	**Aktyubinsk**	**19.35**	**329**	P	**Pn**	**23 04 02.9**	**-1.2**
AKTO	**Aktyubinsk**	**19.35**	**329**	P	**Pn**	**23 04 02.3**	**-1.7**
	comp=Z,1.8nm,0.8s						
AKTO	**Aktyubinsk**	**19.35**	**329**	P	**Pn**	**23 04 02.9**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=139,slow=8.5,SNR=12						
AKTO	**Aktyubinsk**	**19.35**	**329**	P	**Pn**	**23 04 02.9**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**21.29**	**16**	*e*P	**P**	**23 04 22.5**	**-1.4**
GTA	**Gaotai**	**21.54**	**70**	*e*P	**P**	**23 04 33.0**	**+6.3**
GTA				AP		23 04 37.3	
GTA				XP	sP	23 04 40.3	+9.5
GNI	**Garni**	**23.38**	**292**	P	**P**	**23 04 48.4**	**+2.2**
	comp=Z,2.3nm,0.7s,mb3.7,baz=13,slow=4.4,SNR=5.3						
SONM	**Songino Array**	**27.82**	**52**	P	**P**	**23 05 27.9**	**+1.3**
	comp=Z,0.7nm,1.0s,mb3.2,baz=249,slow=8.9,SNR=4.2						
BRTR	**Keskin Array B**	**31.91**	**291**	P	**P**	**23 06 03.6**	**+0.6**
	comp=Z,0.5nm,0.9s,mb3.4,baz=69,slow=7.9,SNR=3.0						
HIA	**Hailar**	**36.78**	**52**	*e*P	**P**	**23 06 44.7**	**-0.4**
MLR	**Muntele Rosu**	**37.41**	**301**	P	**P**	**23 06 51.6**	**+1.2**
	comp=Z,3.3nm,0.8s,mb4.2,baz=105,slow=4.1,SNR=9.0						
JOF	**Joensuu**	**38.43**	**330**	*e*p	**P**	**23 06 59.0**	**-0.1**
	comp=Z,4.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**40.10**	**327**	P	**P**	**23 07 12.3**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=120,slow=11,SNR=10						
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**	**23 07 41.1**	**-0.3**
	comp=Z,3.6nm,0.5s,mb4.4,baz=107,slow=8.1,SNR=18						
NB2	**NORSAR Subarra**	**47.02**	**324**	P	**P**	**23 08 07.4**	**-1.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=103,slow=8.6						
NOA	**NORSAR Array B**	**47.02**	**324**	P	**P**	**23 08 07.5**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**67.70**	**271**	P	**P**	**23 10 33.7**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=52,slow=5.7,SNR=26						
ILAR	**Eielson Array**	**75.97**	**17**	P	**P**	**23 11 23.6**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=315,slow=5.2,SNR=7.9						
WRA	**Warramunga Arr**	**79.34**	**123**	P	**P**	**23 11 43.7**	**+0.5**
	comp=Z,2.8nm,0.5s,mb4.4,baz=323,slow=5.0,SNR=49						
WRAB	**Tennant Creek**	**79.34**	**123**	*e*P	**P**	**23 11 43.8**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
WRAB	**Tennant Creek**	**79.34**	**123**	*e*P	**P**	**23 11 43.8**	**+0.6**
	comp=Z,5.0nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**79.34**	**123**	*e*P	**P**	**23 11 43.6**	**+0.3**
ASAR	**Alice Springs**	**81.58**	**126**	P	**P**	**23 11 55.7**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=312,slow=5.2,SNR=33						
YKA	**Yellowknife Ar**	**82.95**	**4**	P	**P**	**23 12 01.9**	**-0.5**
	comp=Z,0.7nm,0.5s,mb4.0,baz=347,slow=5.2,SNR=20						

*PRE **22** 23:04:49.1±0.9,2073S×33.19E,h5km,ML5.7*
*ISCJB **22** 23:05:02.5±0.6,2186S±007×3330E±008,h10km,mb4.1/9, Error ellipse: s-maj=13.9km s-min=5.2km az=77.7*
*IDC **22** 23:05:05.0±0.7,2141S×3336E,h0km,mb4.2/8, mb1 4.6/13,mb1mx4.3/24,mbtmp4.5/13,ML4.9/5,MS5.3/1, Ms1 5.3/1,ms1mx4.5/26,Error ellipse: s-maj=23.3km s-min=19.4km az=128.0*
*NEIC **22** 23:05:06.7±0.5,2139S×3327E,h10km,mb4.6/2,Error ellipse: s-maj=13.6km s-min=9.2km az=147.0*
ISC 22 23:05:04.9±0.5,2173S±006×3320E±008,h10km,n30, σ1§27/37,mb4.1/9,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.02**	**228**	*e*P	**Pn**	**23 06 29.9**	**-4.0**
SLR				*e*S	**Sn**	**23 07 43.0**	**+0.1**
SLR				AML	AML	23 08 27.8	
	comp=Z,1μm,0.6s						
LBTB	**Lobatse**	**7.71**	**243**	Pn	**Pn**	**23 07 02.7**	**+5.5**
	comp=Z,16nm,0.3s,baz=78,slow=12,SNR=14						
LBTB				Sn	**Sn**	**23 08 28.9**	**+4.3**
	comp=Z,41nm,0.3s,baz=160,slow=14,SNR=7.0						

ERTU	Ertsjaerv	0.86	136	P		Pg	23 13 54.5 -0.7
SALU	Saltoluokta	0.87	285	P		Pg	23 13 54.9 -0.5
	baz=115						
PAJU	Pajala	0.96	98	P		Pg	23 13 56.7 -0.5
	baz=286						
LANU	Lannavaara	1.01	29	P		Pg	23 13 57.3 -0.8
SJUU	Sjulsmark	1.72	167	P		Pn	23 14 09.8 +0.3
	baz=345						

*ISCJB **22** 23:19:24.0±0.4, 3608N±003×5038E±004, h14km, mb3.1/3, Error ellipse: s-maj=5.3km s-min=3.8km az=79.0*
*CSEM **22** 23:19:24.0±0.1, 36.14N×5039E, h16km, mb3.8/3, Error ellipse: s-maj=2.9km s-min=1.6km az=29.0*
*NEIC **22** 23:19:25.4, 36.11N×5041E, h15km, ML4.1(TEH), After TEH.*
*TEH **22** 23:19:25.4, 36.11N×5041E, h15km, Mn4.1*
*THR **22** 23:19:26.0±0.7, 3598N×5045E, h14km±7km, ML3.9*
*NNC **22** 23:19:30.6±3.8, 3737N×4943E, h0km, mb3.6, Error ellipse: s-maj=89.9km s-min=30.1km az=101.0*

ISC 22 23:19:25.7±0.4,**3609N**±003×**5042E**±004,**h14**km,**n45,** σ**1**§**40**/56,**mb3.1**/3,**1C-5D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THKV	Tehran--Karaj	0.41	114	ePG	Pg	23 19 33.7	-0.2
THKV				AML	AML	23 19 43.2	
	comp=N,24μm,0.2s						
IMHD	Mahdasht	0.45	153	ePg	Pg	23 19 34.2	-0.4
IMHD	Mahdasht	0.45	153	ePg	Pg	23 19 34.1	-0.5
IMHD				eSg	Sg	23 19 41.4	+0.8
CHTH	Charan	0.60	107	ePG	Pg	23 19 36.9	-0.6
CHTH	Charan	0.60	107	ePg	Pg	23 19 36.8	-0.7
	SNR=90						
IRAZ	Razeghan	0.79	211	ePg	Pg	23 19 38.1	-2.9
IRAZ	Razeghan	0.79	211	ePn	Pn	23 19 38.3	-4.1
IRAZ				eSg	Sg	23 19 47.3	-4.1
IAFJ	Afjeh	1.07	102	ePg	Pg	23 19 45.0	-1.4
IAFJ				eSg	Sg	23 19 59.9	-0.5
IAFJ	Afjeh	1.07	102	Pg	Pg	23 19 45.0	-1.4
IAFJ				Sg	Sg	23 19 59.8	-0.6
DAMV	Damavand	1.34	109	ePG	Pg	23 19 49.8	-1.7
DAMV				eSG	Sg	23 20 07.5	-1.4
IQOM	Qom	1.35	157	ePg	Pg	23 19 49.4	-2.3
IQOM	Qom	1.35	157	ePg	Pg	23 19 49.2	-2.5
IQOM				eSg	Sg	23 20 08.5	-0.7
IVRN	Varamin	1.52	135	ePg	Pg	23 19 53.3	-1.7
IVRN				eSg	Sg	23 20 15.9	+1.1
IVRN	Varamin	1.52	135	ePn	Pn	23 19 53.2	+0.7
IVRN				eSg	Sg	23 20 15.9	+1.1
ASAO	Ashtian	1.57	192	ePG	Pg	23 19 53.0	-2.8
ASAO				AML	AML	23 20 15.4	
	comp=E,1μm,0.3s						
ASAO				AML	AML	23 20 15.5	
	comp=N,2μm,0.3s						
IFIR	Firoozkooh	1.95	102	ePn	Pn	23 19 59.1	+0.8
SNGE	Sanandaj	2.69	249	ePN	Pn	23 20 11.0	+2.4
IKLH	Kalahroud	2.92	161	ePn	Pn	23 20 13.7	+2.0
IKLH	Kalahroud	2.92	161	ePn	Pn	23 20 13.6	+1.9
IBST	Bostanabad	3.25	301	ePn	Pn	23 20 14.0	-2.3
IPIR	Pirpir	3.42	173	ePn	Pn	23 20 21.1	+2.6
IZEF	Zefreh	3.55	153	ePn	Pn	23 20 22.1	+1.7
IZEF	Zefreh	3.55	153	ePn	Pn	23 20 21.6	+1.2
IGHG	Ghaleghazi	3.61	242	ePn	Pn	23 20 26.8	+5.6
NASN	Na'in	3.83	148	ePN	Pn	23 20 25.9	+1.7
IAZR	Azarshahr	3.90	295	ePn	Pn	23 20 24.0	-1.2
IAZR	Azarshahr	3.90	295	Pn	Pn	23 20 23.9	-1.3
IGAR	Garneh	4.11	158	ePn	Pn	23 20 27.7	-0.3
SHGR	Shooshtar-Gavs	4.19	199	ePN	Pn	23 20 30.0	+0.9
SHGR				AML	AML	23 21 52.0	
	comp=N,89nm,0.6s						
IMRD	Marand	4.58	306	ePn	Pn	23 20 33.7	-0.9
IMRD				eLg		23 21 47.5	
IMRD	Marand	4.58	306	Pn	Pn	23 20 33.6	-1.0
IMRD				Lg		23 21 47.4	
ICHK	Chekchek	5.06	138	ePn	Pn	23 20 42.5	+1.4
IMEH	Mehriz	5.84	142	ePn	Pn	23 20 52.8	+0.9
IBAF	Bafgh	6.20	135	ePn	Pn	23 20 58.2	+1.4
IBAF	Bafgh	6.20	135	Pn	Pn	23 20 58.1	+1.3
AB31	Akbulak array	14.89	25	P	Pn	23 22 49.9	-5.9
	comp=N,0.3nm,0.4s,baz=205,slow=14,SNR=8.0						
AB31				⇓S	Sn	23 25 30.1	-10
	comp=N,1.0nm,0.6s,baz=205,slow=23,SNR=4.5						
AB31	Akbulak array	14.89	25	P	Pn	23 22 49.8	-6.0
	comp=N,0.3nm,0.4s,SNR=8.0						
AB31				S	Sn	23 25 30.1	-10
	comp=N,1.0nm,0.6s,SNR=4.5						
AKTO	Aktyubinsk	15.36	19	⇑P	Pn	23 22 55.5	-6.5
	comp=N,4.3nm,3.1s						
AKTO				⇓S	Sn	23 25 39.1	-13
	comp=N,2.1nm,2.0s						
KK31	Karatay Array	16.98	60	P	Pn	23 23 30.4	+7.6
	comp=N,1.8nm,0.9s,baz=259,slow=9.7,SNR=4.1						
ZRNK	Zerenda	21.34	32	⇓P	P	23 24 11.7	-0.6
	comp=N,52nm,4.8s						
BVA0	Borovoye Array	22.00	33	⇓P	P	23 24 20.2	+0.8
	comp=N,1.3nm,1.5s,mb3.1,baz=268,slow=36,SNR=8.3						
BVAR	Borovoye Array	22.00	33	P	P	23 24 20.2	+0.8
	comp=N,1.3nm,1.5s,mb3.1,SNR=8.3						
VOSK	Vostochnaya	22.06	35	⇓P	P	23 24 21.6	+1.5
	comp=N,18nm,3.2s						
MK31	Makanchi Array	26.01	56	P	P	23 25 04.4	+6.2
	comp=N,0.7nm,0.9s,mb3.2,baz=266,slow=7.6,SNR=4.0						
CLL	Collm	30.65	312	eP	P	23 25 40.0	+0.4

*CSEM **22** 23:23:59.5, 6719N×2071E, h2km, ML3.6, Mining explosion. After UPP*

UPP 22 23:23:59.5,6719N×2071E,h2km,ML3.6,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.09	219	P	Pg	23 24 01.3	+0.1
	baz=38						
ERTU	Ertsjaerv	0.87	137	P	Pg	23 24 15.4	-0.7
SALU	Saltoluokta	0.88	284	P	Pg	23 24 15.8	-0.5
	baz=97						
NIKU	Nikkaluokta	0.94	317	P	Pg	23 24 16.9	-0.6
PAJU	Pajala	0.95	99	P	Pg	23 24 17.3	-0.5
	baz=286						
LANU	Lannavaara	0.99	29	P	Pg	23 24 18.1	-0.5
	baz=221						
SJUU	Sjulsmark	1.73	167	P	Pn	23 24 30.6	0.0
	baz=340						
LILU	Lilltraesk	1.94	191	P	Pn	23 24 34.1	+0.5

*ISCJB **22** 23:26:37.3±0.5, 2192S±009×3372E±008, h10km, mb4.5/33, Error ellipse: s-maj=14.4km s-min=9.7km az=123.0*
*IDC **22** 23:26:37.2±0.9, 2151S×3328E, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.3/25, mbtmp4.2/17, ML4.6/4, Error ellipse: s-maj=25.1km s-min=24.5km az=135.0*
*NEIC **22** 23:26:38.9±0.4, 2144S×3324E, h10km, mb4.8/15, Error ellipse: s-maj=11.9km s-min=8.0km az=153.0*

ISC 22 23:26:38.7±0.5,**2204S**±008×**3371E**±006,**h10**km,**n76,** σ**1**§**44**/71,**mb4.4**/34,**Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	8.02	247	Sn	Sn	23 30 02.9	-3.0
	4.7nm,0.3s,baz=355,slow=20,SNR=2.4						
LBTB				Lg		23 30 41.1	
	16nm,0.3s,baz=166,slow=17,SNR=5.4						
LSZ	Lusaka	8.52	321	Pn	Pn	23 28 31.8	-10
	11nm,0.3s,baz=164,slow=19,SNR=2.6						
LSZ				Sn	Sn	23 29 53.7	-25
	18nm,0.3s,baz=197,slow=14,SNR=7.5						
LSZ				Lg		23 30 36.6	
	38nm,0.3s,baz=51,slow=18,SNR=11						
LSZ	Lusaka	8.52	321	Pn	Pn	23 28 31.8	-10
LSZ				Sn	Sn	23 29 53.7	-25
LSZ				Lg		23 30 36.6	
BOSA	Boshof	10.07	228	Pn	Pn	23 29 05.3	+2.0
	4.6nm,0.3s,baz=41,slow=9.9,SNR=5.1						
BOSA				Sn	Sn	23 30 55.0	-1.3
	3.3nm,0.3s,baz=313,slow=17,SNR=2.0						
BOSA				Lg		23 31 53.4	
	4.1nm,0.3s,baz=311,slow=18,SNR=2.9						
BOSA	Boshof	10.07	228	Pn	Pn	23 29 05.3	+2.0
BOSA				Sn	Sn	23 30 55.0	-1.3
BOSA				Lg		23 31 53.4	
OPO	Ambohidratompo	13.10	77	Pn	Pn	23 29 49.1	+4.3
	2.0nm,0.3s,baz=251,slow=13,SNR=4.1						
OPO				Sn	Sn	23 32 11.5	+0.9
	2.6nm,0.3s,baz=147,slow=18,SNR=5.8						
TSUM	Tsumeb	15.36	278	Pn	Pn	23 30 07.0	-8.5
	1.4nm,0.3s,baz=82,slow=12,SNR=6.8						
TSUM				Lg		23 34 20.8	
	2.6nm,0.3s,baz=216,slow=20,SNR=3.4						
SUR	Sutherland	15.41	225	Pn	Pn	23 30 16.7	+0.6
	2.5nm,0.3s,baz=61,slow=13,SNR=7.4						
SUR				Lg		23 34 41.1	
	1.2nm,0.3s,baz=309,slow=22,SNR=3.3						
SUR	Sutherland	15.41	225	ePn	Pn	23 30 18.9	+2.8
	101nm,1.0s						
SUR				Lg		23 34 41.1	
KMBO	Kilima Mbogo	21.07	10	P	P	23 31 18.7	-4.2
	2.9nm,0.9s,mb3.6,baz=195,slow=12,SNR=4.5						
KMBO	Kilima Mbogo	21.07	10	eP	P	23 31 22.1	-0.8
	1.9nm,0.8s,mb3.5						
TORD	Torodi Ar. Bea	47.00	315	P	P	23 35 05.5	-4.5
	7.4nm,0.9s,mb4.6,baz=130,slow=5.8,SNR=19						
BRTR	Keskin Array B	61.44	360	P	P	23 36 52.2	-3.0
	1.2nm,1.0s,mb4.0,baz=157,slow=6.7,SNR=4.7						
PGF	Pioggiola	68.19	341	eP	P	23 37 39.7	+0.5
	33nm,1.1s,mb5.0						
PGF	Pioggiola	68.19	341	eP	P	23 37 39.7	+0.5
	16nm,1.1s,mb5.0						
KOLN	Koldanda	69.09	47	eP	P	23 37 43.4	-1.5
LMR	La Mourre	69.69	339	eP	P	23 37 49.0	+0.4
SBF	Sospel	69.87	340	eP	P	23 37 50.3	+0.7
	29nm,0.9s,mb4.9						
SBF	Sospel	69.87	340	eP	P	23 37 50.3	+0.7
	14nm,0.9s,mb4.9						
GKN	Gorkha	69.94	47	eP	P	23 37 49.8	-0.3
	13nm,1.0s,mb4.8						
KKN	Kakani	70.25	48	eP	P	23 37 52.1	+0.1
SMRF	Simiane la Rot	70.57	339	eP	P	23 37 55.5	+1.5
	134nm,1.8s,mb5.3						
GUN	Gumba	70.73	48	eP	P	23 37 55.0	+0.1
ESDC	Sonseca Array	70.76	330	P	P	23 37 52.4	-2.7
	4.3nm,0.8s,mb4.4,baz=162,slow=3.9,SNR=4.3						
JIRN	Jiri	70.79	48	eP	P	23 37 55.5	+0.2
	19nm,1.1s,mb4.9						
MBDF	Montbardon	70.85	340	eP	P	23 37 57.2	+1.5
	24nm,1.4s,mb4.7						
MTLF	Montolieu	71.21	336	eP	P	23 37 58.7	+0.9
	5.1nm,0.9s,mb4.2						
LASF	Ste Croix	71.25	338	eP	P	23 37 58.9	+0.8
	34nm,1.3s,mb4.8						
ORIF	Oris-en-Rattie	71.31	340	eP	P	23 37 58.2	-0.2
	12nm,1.1s,mb4.5						
ORIF	Oris-en-Rattie	71.31	340	eP	P	23 37 58.2	-0.2
	6.2nm,1.1s,mb4.5						
LPG	La Plagne	71.55	340	eP	P	23 38 00.8	+0.9
LPL	La Plagne	71.57	340	eP	P	23 38 00.8	+0.8
EPF	Esparros	71.67	335	eP	P	23 38 01.3	+0.7
	11nm,1.1s,mb4.4						
EPF	Esparros	71.67	335	eP	P	23 38 01.3	+0.7
	5.7nm,1.1s,mb4.4						
EVO	Evora	71.84	327	eP	P	23 38 02.8	+1.2
	13nm,0.9s,mb4.6						
ETSF	Etsaut	71.91	334	eP	P	23 38 02.6	+0.5
	16nm,1.1s,mb4.6						
ETSF	Etsaut	71.91	334	eP	P	23 38 02.6	+0.5
	8.2nm,1.1s,mb4.6						
AKASG	Malin Array Be	72.52	357	P	P	23 38 02.5	-3.3
	0.2nm,0.3s,mb3.6,baz=188,slow=6.7,SNR=4.4						
CABF	La Chapelle	72.75	340	eP	P	23 38 08.0	+0.9
	51nm,1.4s,mb5.0						
CABF	La Chapelle	72.75	340	eP	P	23 38 08.0	+0.9
	25nm,1.4s,mb5.0						
GERES	GERESS Array B	72.79	346	P	P	23 38 04.2	-3.1
	1.9nm,1.0s,mb4.0,baz=155,slow=4.4,SNR=8.4						
SMF	Signal de Mont	73.50	339	eP	P	23 38 12.0	+0.5
	19nm,1.2s,mb4.6						
SMF	Signal de Mont	73.50	339	eP	P	23 38 12.0	+0.5
	9.4nm,1.2s,mb4.6						
HINF	Hinteralfeld	73.60	341	eP	P	23 38 12.3	+0.2
TCF	Toulx Ste Croi	73.75	338	eP	P	23 38 14.1	+1.1
	11nm,1.0s,mb4.5						
AVF	Avril sur Loir	73.79	339	eP	P	23 38 13.8	+0.6
	15nm,1.2s,mb4.5						
AVF	Avril sur Loir	73.79	339	eP	P	23 38 13.8	+0.6
	7.7nm,1.2s,mb4.5						
HAU	Haudompre	73.92	341	eP	P	23 38 15.6	+1.6
SSF	Saint Saulge	73.98	339	eP	P	23 38 14.5	+0.2
CDF	Champ du Feu	74.02	342	eP	P	23 38 13.9	-0.6
LOR	Lormes	74.04	339	eP	P	23 38 15.6	+0.9
GRA1	Grafenberg Arr	74.15	345	eP	P	23 38 17.8	+2.5
MFF	Saint Martin d	74.86	337	eP	P	23 38 20.3	+0.8
	12nm,0.9s,mb4.5						
MFF	Saint Martin d	74.86	337	eP	P	23 38 20.3	+0.8
	5.9nm,0.9s,mb4.5						
AKTK	Aktyubinsk	75.28	16	P	P	23 38 19.6	-2.3
AKTO	Aktyubinsk	75.28	16	P	P	23 38 19.6	-2.3
	1.0nm,0.6s,mb4.0,baz=204,slow=7.8,SNR=4.8						
BAIF	Baives	76.39	341	eP	P	23 38 29.1	+0.9
	23nm,1.3s,mb4.7						
BAIF	Baives	76.39	341	eP	P	23 38 29.1	+0.9
	11nm,1.3s,mb4.6						
BVAR	Borovoye Array	81.24	21	P	P	23 38 52.8	-2.1
	2.4nm,0.7s,mb4.2,baz=224,slow=8.3,SNR=13						
MKAR	Makanchi Array	81.33	31	P	P	23 38 53.9	-1.4
	1.2nm,0.8s,mb3.9,baz=222,slow=4.9,SNR=12						
MKAR	Makanchi Array	81.33	31	P	P	23 38 53.9	-1.4
KURK	Kurchatov	82.54	27	eP	P	23 39 01.2	-0.5
	7.4nm,1.1s,mb4.6						
FINES	FINESS Array B	83.41	356	P	P	23 39 03.3	-2.9
	1.3nm,0.8s,mb4.0,baz=186,slow=6.4,SNR=3.6						
HFS	Hagfors	83.49	350	P	P	23 39 03.8	-2.8
	4.3nm,1.1s,mb4.4,baz=241,slow=3.0,SNR=3.2						
NOA	NORSAR Array B	84.76	349	P	P	23 39 10.2	-2.9
	2.0nm,0.9s,mb4.3,baz=152,slow=4.7,SNR=3.5						
ASAR	Alice Springs	90.09	116	P	P	23 39 43.1	+4.2
	1.3nm,0.7s,mb4.3,baz=244,slow=4.2,SNR=13						
LPAZ	La Paz	94.53	251	eP	P	23 40 04.9	+5.5
	8.3nm,1.6s,mb4.9						
SONM	Songino Array	95.14	40	P	P	23 40 01.3	-0.8
	0.4nm,0.8s,mb3.9,baz=230,slow=3.7,SNR=4.5						
YKA	Yellowknife Ar	134.18	340	PKP	PKPdf	23 45 54.7	-1.8
	0.5nm,0.7s,baz=40,slow=1.9,SNR=5.0						
YKA	Yellowknife Ar	134.18	340	PKP	PKPdf	23 45 54.7	-1.8
ILAR	Eielson Array	137.28	0	PKP	PKPdf	23 45 59.9	-2.4
	0.6nm,1.2s,baz=199,slow=3.9,SNR=3.9						
PV10	Paradox Valley	144.21	306	ePKPdf	PKPdf	23 46 14.2	-0.5
DUG	Dugway	146.37	310	ePKPdf	PKPdf	23 46 19.4	+0.9
ELK	Elko	147.83	313	ePKP	PKPdf	23 46 25.0	+4.1
MNV	Mina	150.87	310	ePKP	PKPdf	23 46 29.7	+3.9
NVAR	Mina Array Bea	150.97	311	PKPbc	PKPbc	23 46 29.1	-2.6
	3.0nm,1.0s,baz=81,slow=2.9,SNR=12						

*ISCJB **22** 23:30:59.2±1.0, 17S±02×149W±02, h10km, mb4.6/37, Error ellipse: s-maj=34.7km s-min=13.4km az=98.2*
*IDC **22** 23:30:59.5±1.8, 159S×1489W, h0km, mb4.4/14, mb1 4.4/14, mb1mx4.2/25, mbtmp4.4/14, Error ellipse: s-maj=74.5km s-min=19.3km az=142.0*
*NEIC **22** 23:30:59.8±0.7, 190S×1476W, h10km, mb4.7/7, Error ellipse: s-maj=30.8km s-min=12.0km az=135.0*
*SZGRF **22** 23:31:01.1, 202S×1446W, h33km, mb4.6, North of Ascension Island*
*NAO **22** 23:31:33.5, 199N×1262W, h33km, mb4.2*

ISC 22 23:31:02.0±1.0,**16S**±02×**150W**±02,**h10**km,**n72,** σ**0**§**96**/71,**mb4.6**/37,**8D,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	22.08	48	P	P	23 35 53.9	-3.2
	58nm,1.0s,mb5.0,baz=234,slow=11,SNR=116						
TORD				S	S	23 39 44.9	-16
	8.0nm,1.0s,baz=231,slow=23,SNR=2.9						
BDFB	Brasilia	35.44	245	P	P	23 37 59.2	+0.9
	4.8nm,0.9s,mb4.4,baz=52,slow=5.6,SNR=4.8						
EVO	Evora	40.40	8	eP	P	23 38 40.3	+0.1
	28nm,1.3s,mb4.5						
ETSF	Etsaut	46.12	15	eP	P	23 39 26.2	-0.2
	17nm,1.1s,mb4.6						
SJPF	Ste Jean	46.16	14	eP	P	23 39 26.3	-0.4
EPF	Esparros	46.48	16	eP	P	23 39 29.2	0.0
	9.4nm,0.9s,mb4.4						
MTLF	Montolieu	47.29	17	eP	P	23 39 35.5	-0.1
SIV	San Ignacio	47.60	250	P	P	23 39 36.5	-1.5
	2.4nm,0.9s,mb4.2,baz=72,slow=11,SNR=3.6						
LASF	Ste Croix	48.46	18	eP	P	23 39 44.3	-0.3
	30nm,1.4s,mb4.8						
CAF	Calviac	48.70	16	eP	P	23 39 46.4	-0.1
	14nm,1.1s,mb4.6						
VIVF	Saint-Julien-l	49.41	18	eP	P	23 39 51.6	-0.3
MFF	Saint Martin d	49.70	13	eP	P	23 39 54.6	+0.4
	12nm,1.1s,mb4.5						
ORIF	Oris-en-Rattie	49.86	19	eP	P	23 39 55.0	-0.3
TIP	Timpagrande	49.93	32	eP	P	23 39 55.5	-0.4
MBDF	Montbardon	49.99	20	eP	P	23 39 56.1	-0.2
	30nm,1.4s,mb4.8						
TCF	Toulx Ste Croi	50.00	16	eP	P	23 39 56.0	-0.4
	35nm,1.4s,mb4.9						
BNI	Bardonecchia	50.24	20	eP	P	23 39 58.1	-0.1
	8.0nm,1.0s,mb4.7						
LPG	La Plagne	50.66	20	eP	P	23 40 01.4	0.0
	35nm,1.2s,mb4.9						
LPL	La Plagne	50.67	20	eP	P	23 40 01.5	0.0
	13nm,0.9s,mb4.6						
AQU	L'Aquila	50.67	27	eP	P	23 40 01.7	+0.2
	14nm,0.8s,mb4.9						
AVF	Avril sur Loir	50.77	16	eP	P	23 40 02.4	+0.1
SMF	Signal de Mont	50.78	17	eP	P	23 40 02.3	0.0
SSF	Saint Saulge	51.06	16	eP	P	23 40 04.6	+0.2
	29nm,1.3s,mb4.8						
GRR	Gorron	51.24	12	eP	P	23 40 05.3	-0.4
	20nm,0.9s,mb4.7						
LOR	Lormes	51.35	16	eP	P	23 40 07.4	+0.8
	9.4nm,0.8s,mb4.5						
CABF	La Chapelle	51.43	18	eP	P	23 40 07.4	+0.2
IDI	Anoyia	52.26	42	P	P	23 40 14.1	+0.7
	4.0nm,0.6s,mb4.5,baz=264,slow=18,SNR=5.5						
HAU	Haudompre	52.75	18	eP	P	23 40 17.2	+0.2
	9.6nm,0.8s,mb4.5						
MEZF	Maizieres J'vi	52.81	17	eP	P	23 40 17.5	0.0
DAVOX	Davos	52.86	21	P	P	23 40 16.6	-1.2
	11nm,0.9s,mb4.8,baz=214,slow=4.6,SNR=9.9						
CDF	Champ du Feu	53.40	18	eP	P	23 40 21.9	+0.1
	10nm,0.7s,mb4.5						
BFO	Black Forest	53.66	19	eP	P	23 40 22.7	-1.1
BAIF	Baives	53.99	15	eP	P	23 40 26.5	+0.3
	5.3nm,0.5s,mb4.4						
GRA1	Grafenberg Arr	55.81	20	eP	P	23 40 38.5	-0.8
	9.0nm,1.2s,mb4.7						
GRF	Grafenberg Arr	55.81	20	eP	P	23 40 38.5	-0.8
	comp=Z,9.0nm,1.2s,mb4.7						
VTS	Vitosha	55.81	34	⇓P	P	23 40 42.7	+3.4
GERES	GERESS Array B	56.01	22	P	P	23 40 38.2	-2.6
	comp=Z,2.8nm,0.7s,mb4.4,baz=230,slow=6.3,SNR=15						
KHC	Kasperske Hory	56.20	22	eP	P	23 40 41.3	-0.8
NKC	Novy Kostel	56.69	21	eP	P	23 40 45.1	-0.5
BZS	Buzias	57.04	30	⇓P	P	23 40 50.5	+2.4
BZS	Buzias	57.04	30	⇓P	P	23 40 50.5	+2.4
TREC	Trest	57.07	23	eP	P	23 40 49.6	+1.3
PRU	Pruhonice	57.26	22	eP	P	23 40 51.8	+2.2
PRU				ex	x	23 40 58.3	
VRAC	Vranov	57.52	24	P	P	23 40 50.5	-1.0
	comp=Z,3.2nm,0.9s,mb4.4,baz=224,slow=7.7,SNR=4.0						
EKA	Eskdalemuir Ar	57.52	8	P	P	23 40 49.9	-1.6
	comp=Z,3.1nm,0.8s,mb4.4,baz=190,slow=7.4,SNR=11						
PVCC	Panska Ves	57.71	22	eP	P	23 40 52.0	-0.8
BRG	Berggiesshubel	57.76	21	eP	P	23 40 42.5	-11
	comp=Z,6.5nm,1.5s,mb4.4						
BRG				e		23 42 43.2	
	comp=Z,3.1nm,1.0s						
BRG							
	comp=N,2μm,19.1s						
BRG							
	comp=E,6μm,18.7s						
BRG							
	comp=Z,5μm,18.3s						
BRG	Berggiesshubel	57.76	21	eP	P	23 40 42.5	-11
BRG				e		23 42 43.2	
CLL	Collm	57.78	20	e(P)	P	23 40 55.0	+1.7
CLL				i x	x	23 41 02.6	
DPC	Dobruska-Polom	58.23	23	eP	P	23 40 57.8	+1.3
UPC	Upice	58.24	23	eP	P	23 40 57.2	+0.7
MORC	Moravsky Berou	58.27	24	⇓P	P	23 40 56.3	-0.5
VOIR		58.69	32	⇓P	P	23 40 59.5	-0.1
MLR	Muntele Rosu	59.20	32	⇓P	P	23 41 04.5	+1.3
VRI	Vrincioaia	59.86	33	⇓P	P	23 41 07.4	-0.4
BURAR	Bucovina Array	60.22	30	⇓P	P	23 41 13.7	+3.5
BRTR	Keskin Array B	60.50	42	P	P	23 41 11.8	-0.3
	comp=Z,1.9nm,0.7s,mb4.4,baz=241,slow=5.9,SNR=7.4						
BR131	Keskin Array S	60.50	42	eP	P	23 41 12.2	0.0
	comp=Z,3.8nm,0.8s,mb4.6						
MUD	Monsted U'grnd	61.06	15	i P	P	23 41 18.1	+2.2
	comp=Z,11nm,1.0s,mb4.9						
MUD	Monsted U'grnd	61.06	15	eP	P	23 41 18.1	+2.2
	comp=Z,11nm,1.0s,mb4.9						
MALT	Malatya	63.13	45	eP	P	23 41 29.2	-0.6
	comp=Z,4.5nm,1.0s,mb4.5						
AKASG	Malin Array Be	64.23	30	P	P	23 41 36.2	-0.9
	comp=Z,1.7nm,0.7s,mb4.2,baz=231,slow=7.7,SNR=4.7						
AKASG	Malin Array Be	64.23	30	P	P	23 41 36.2	-0.9
HFS	Hagfors	65.44	15	P	P	23 41 45.5	+0.5
	comp=Z,6.9nm,1.0s,mb4.6,baz=197,slow=4.5,SNR=8.2						
NB2	NORSAR Subarra	65.61	14	P	P	23 41 47.3	+1.2
	comp=Z,3.3nm,0.9s,mb4.4,

42nm,1.2s,mb4.9
LOR Lormes 50.70 16 *e*P P **23 41 46.0 +1.1**
9.5nm,0.9s,mb4.4
CABF La Chapelle 50.77 19 *e*P P **23 41 45.8 +0.3**
9.4nm,1.0s,mb4.4
FLN La Foliniere 51.02 12 *e*P P **23 41 46.3 -1.0**
DAVOX Davos 52.21 21 P P **23 42 01.6 +5.4**
5.6nm,0.9s,mb4.5,baz=186,slow=9.2
CDF Champ du Feu 52.74 18 *e*P P **23 41 58.9 -1.3**
BAIF Baives 53.34 15 *e*P P **23 42 04.5 -0.1**
GRA1 Grafenberg Arr 55.16 20 *e*P P **23 42 22.7 +4.9**
5.0nm,1.0s,mb4.5
GRF Grafenberg Arr 55.16 20 *e*P P **23 42 22.7 +4.9**
comp=Z,5.0nm,1.0s,mb4.5
GERES GERESS Array B 55.36 23 P P **23 42 23.5 +4.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=221,slow=5.3,SNR=3.9
CFAA Coronel Fontan 58.88 233 P P **23 42 43.7 -0.5**
comp=Z,0.3nm,0.6s,baz=86,slow=3.2,SNR=4.0
CFAA Coronel Fontan 58.88 233 P P **23 42 43.7 -0.5**
BR131 Keskin Array S 59.92 42 *e*P P **23 42 55.6 +4.2**
comp=Z,8.3nm,1.3s,mb4.6
BRTR Keskin Array B 59.92 42 P P **23 42 56.9 +5.5**
comp=Z,0.9nm,0.7s,mb3.9,baz=234,slow=6.7,SNR=2.4
NOA NORSAR Array B 64.95 14 P P **23 43 30.5 +5.4**
comp=Z,4.6nm,1.1s,mb4.4,baz=207,slow=6.7,SNR=3.2
DAC Darwin (Calif) 100.83 307 *e*PKP Pdif 23 46 28.8 -5.5

IDC 22 23:36:30.0±1.6,300N×12332E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.6/17,mbtmp3.8/3,Error ellipse: s-maj=203.4km s-min=23.6km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.23**	**155**	P	P	23 41 57.5	-0.1
	1.8nm,0.3s,baz=333,slow=11,SNR=17						
WB2	**Warramunga Arr**	**25.24**	**155**	*e*P		23 41 57.2	-0.4
ASAR	**Alice Springs**	**28.43**	**159**	P	P	23 42 27.1	+0.7
	0.4nm,0.5s,baz=341,slow=7.6,SNR=7.7						
MKAR	**Makanchi Array**	**56.27**	**327**	P	P	23 46 12.3	+0.2
	0.3nm,0.3s,baz=123,slow=7.5,SNR=18						

*ISCJB **22** 23:40:00.1±1.0, 187S±0.1×6704W±0.09, h255km±10km, mb3.7/3, Error ellipse: s-maj=18.4km s-min=14.2km az=1.5*
*IDC **22** 23:40:00.8±1.8, 1861S×6703W, h244km±11km, mb3.6/3, mb1 3.7/5, mb1mx3.4/15, mbtmp4.1/5, Error ellipse: s-maj=28.8km s-min=16.2km az=18.0*
ISC 22 23:40:01.0±1.0,187S±01×6701W±009,h248km±10km,n7, σ1§14/8,mb3.7/3,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.60**	**336**	P	**Pn**	**23 40 50.4**	**+1.3**
	21nm,0.3s,baz=159,slow=4.7,SNR=449						
LPAZ				S	**S**	**23 41 26.4**	**-0.8**
	2.2nm,0.3s,baz=60,slow=23,SNR=14						
SIV	**San Ignacio**	**6.27**	**66**	P	**Pn**	**23 41 33.5**	**+1.1**
	3.9nm,0.3s,baz=255,slow=12,SNR=5.3						
SIV				S	**S**	**23 42 44.8**	**-0.8**
	baz=174,slow=22,SNR=3.2						
CFAA	**Coronel Fontan**	**12.92**	**185**	P	**Pn**	**23 42 55.4**	**-0.5**
	0.1nm,0.3s,baz=3.5,slow=11,SNR=8.2						
ULM	**Lac du Bonnet**	**73.20**	**341**	P	**P**	**23 51 04.0**	**-0.8**
	0.7nm,0.3s,mb3.7,baz=170,slow=5.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**74.73**	**70**	P	**P**	**23 51 14.1**	**+0.5**
	1.3nm,0.5s,mb3.9,baz=252,slow=5.5,SNR=16						
YKA	**Yellowknife Ar**	**89.14**	**340**	P	**P**	**23 52 28.4**	**+0.1**
	0.7nm,0.7s,mb3.6,baz=130,slow=4.4,SNR=15						
SONM	**Songino Array**	**150.42**	**9**	PKPbc	PKPbc	23 59 23.7	+0.7
	0.1nm,0.3s,baz=333,slow=3.0,SNR=5.9						

*PRE **22** 23:44:44.7±1.8, 2003S×3200E, h5km, ML5.4*
*ISCJB **22** 23:44:49.4±2.7, 2122S±006×3324E±008, h13km±17km, mb4.2/17, Error ellipse: s-maj=14.5km s-min=6.5km az=78.5*
*IDC **22** 23:44:49.6±0.7, 2119S×3340E, h0km, mb4.0/12, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, ML4.8/5, Error ellipse: s-maj=22.3km s-min=17.2km az=103.0*
*NEIC **22** 23:44:50.8±0.3, 2129S×3346E, h10km, mb4.7/8, Error ellipse: s-maj=11.4km s-min=7.4km az=135.0*
ISC 22 23:44:51.8±2.8,2129S±006×3333E±007,h17km±18km, n45,σ1§05/48,mb4.2/17,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.40**	**225**	*e*P	**Pn**	**23 46 25.1**	**-0.2**
SLR				*e*S	**Sn**	**23 47 36.4**	**-1.6**
SLR				AML	AML	23 48 18.0	
	comp=Z,675nm,0.5s						
LSZ	**Lusaka**	**7.72**	**320**	Pn	**Pn**	**23 46 43.7**	**+0.3**
	comp=Z,82nm,0.3s,baz=151,slow=13,SNR=45						
LSZ				Sn	**Sn**	**23 48 03.0**	**-7.4**
	comp=Z,42nm,0.3s,baz=50,slow=19,SNR=5.5						
LSZ				Lg		23 48 48.3	
	comp=Z,77nm,0.3s,baz=59,slow=22,SNR=17						
LSZ	**Lusaka**	**7.72**	**320**	*e*Pn	**Pn**	**23 46 44.0**	**+0.6**
	comp=Z,355nm,0.8s						
LBTB	**Lobatse**	**8.02**	**241**	Pn	**Pn**	**23 46 48.7**	**+1.2**
	comp=Z,13nm,0.3s,baz=72,slow=12,SNR=13						
LBTB				Sn	**Sn**	**23 48 16.8**	**-1.0**
	comp=Z,34nm,0.3s,baz=340,slow=23,SNR=6.8						
LBTB				Lg		23 48 59.5	
	comp=Z,30nm,0.3s,baz=154,slow=20,SNR=13						
LBTB	**Lobatse**	**8.02**	**241**	Pn	**Pn**	**23 46 48.9**	**+1.4**
	comp=Z,101nm,0.6s						
BOSA	**Boshof**	**10.33**	**224**	Pn	**Pn**	**23 47 18.9**	**-0.2**
	comp=Z,7.2nm,0.3s,baz=42,slow=12,SNR=15						
BOSA				Sn	**Sn**	**23 49 09.3**	**-5.1**
	comp=Z,8.5nm,0.3s,baz=8.3,slow=21,SNR=3.8						
BOSA				Lg		23 50 14.6	
	comp=Z,13nm,0.3s,baz=139,slow=22,SNR=4.5						
BOSA	**Boshof**	**10.33**	**224**	Pn	**Pn**	**23 47 18.9**	**-0.2**
BOSA				Sn	**Sn**	**23 49 09.3**	**-5.1**
BOSA				Lg		23 50 14.6	
OPO	**Ambohidratompo**	**13.31**	**81**	Pn	**Pn**	**23 47 58.0**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=246,slow=16,SNR=4.4						
OPO				Sn	**Sn**	**23 50 17.2**	**-10**
	comp=Z,5.7nm,0.3s,baz=154,slow=22,SNR=8.9						
GRM	**Grahamstown**	**13.41**	**205**	*e*P	**Pn**	**23 48 06.8**	**+5.4**
GRM				*e*S	**Sn**	**23 50 35.0**	**+5.0**
GRM				AML	AML	23 50 52.9	
	comp=Z,57nm,0.6s						
TSUM	**Tsumeb**	**14.92**	**275**	Pn	**Pn**	**23 48 20.1**	**-1.8**
	comp=Z,3.2nm,0.3s,baz=94,slow=9.9,SNR=15						
TSUM				Sn	**Sn**	**23 50 59.9**	**-6.8**
	comp=Z,2.7nm,0.3s,baz=2.9,slow=20,SNR=4.8						
TSUM				Lg		23 52 37.9	
	comp=Z,5.8nm,0.3s,baz=152,slow=20,SNR=3.5						
TSUM	**Tsumeb**	**14.92**	**275**	*e*Pn	**Pn**	**23 48 19.7**	**-2.2**
	comp=Z,23nm,0.6s						
TSUM				Sn	**Sn**	**23 50 59.9**	**-6.8**
TSUM				Lg		23 52 37.9	
SUR	**Sutherland**	**15.69**	**223**	Pn	**Pn**	**23 48 32.7**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=64,slow=9.5,SNR=9.3						
SUR				Sn	**Sn**	**23 51 17.5**	**-7.9**
	comp=Z,2.0nm,0.3s,baz=329,slow=21,SNR=6.1						
SUR				Lg		23 53 03.6	
	comp=Z,3.1nm,0.3s,baz=318,slow=21,SNR=4.9						
SUR	**Sutherland**	**15.69**	**223**	*e*P	**Pn**	**23 48 32.5**	**+0.5**
	comp=Z,28nm,0.6s						
SUR				Sn	**Sn**	**23 51 17.5**	**-7.9**
SUR				Lg		23 53 03.6	
CER	**Ceres**	**17.30**	**223**	*e*P	**Pn**	**23 48 52.6**	**+0.2**
KMBO	**Kilima Mbogo**	**20.41**	**11**	P	**P**	**23 49 27.4**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=172,slow=18,SNR=3.8						
KMBO				Lg		23 55 23.4	
	comp=Z,13nm,1.1s,baz=277,slow=21,SNR=6.6						
KMBO	**Kilima Mbogo**	**20.41**	**11**	*e*P	**P**	**23 49 29.0**	**+1.1**
	comp=Z,0.9nm,0.4s						
KMBO				Lg		23 55 23.4	
TORD	**Torodi Ar. Bea**	**46.22**	**315**	P	**P**	**23 53 14.9**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.3,baz=124,slow=7.1,SNR=24						
SNAA	**Sanae**	**54.50**	**193**	P	**P**	**23 54 20.0**	**+1.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=294,slow=23,SNR=3.6						
BRTR	**Keskin Array B**	**60.70**	**0**	P	**P**	**23 55 02.9**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.1,baz=169,slow=11,SNR=8.7						
KOLN	**Koldanda**	**68.85**	**47**	*e*P	**P**	**23 55 54.5**	**-0.8**
	comp=Z,10nm,0.9s,mb4.8						
GKN	**Gorkha**	**69.71**	**47**	*e*P	**P**	**23 55 59.8**	**-0.8**
	comp=Z,7.5nm,0.6s,mb4.8						
ESDC	**Sonseca Array**	**69.94**	**330**	P	**P**	**23 56 03.0**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=144,slow=6.3,SNR=7.3						
PKI	**Pulchoki**	**69.97**	**48**	*e*P	**P**	**23 56 01.6**	**-0.6**
KKN	**Kakani**	**70.02**	**48**	*e*P	**P**	**23 56 01.7**	**-0.8**
JIRN	**Jiri**	**70.57**	**49**	*e*P	**P**	**23 56 05.4**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9						
GERES	**GERESS Array B**	**71.98**	**347**	P	**P**	**23 56 14.9**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=157,slow=5.1,SNR=13						
GRA1	**Grafenberg Arr**	**73.34**	**345**	*e*P	**P**	**23 56 24.0**	**+1.5**
	comp=Z,3.0nm,0.8s,mb4.3						
GRF	**Grafenberg Arr**	**73.34**	**345**	*e*P	**P**	**23 56 24.0**	**+1.5**
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**75.28**	**50**	*e*P	**P**	**23 56 34.8**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.3						
BDFB	**Brasilia**	**76.58**	**258**	P	**P**	**23 56 43.7**	**+2.4**
	comp=Z,3.8nm,0.7s,mb4.4,baz=123,slow=10,SNR=3.1						
VNDA	**Vanda**	**76.94**	**170**	P	**P**	**23 56 45.1**	**+1.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=273,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**80.89**	**32**	P	**P**	**23 57 04.0**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.6,baz=213,slow=5.4,SNR=8.2						
KURK	**Kurchatov**	**82.05**	**27**	*e*P	**P**	**23 57 11.0**	**0.0**
	comp=Z,14nm,1.8s,mb4.6						
KURK				*e*PcP	PcP	23 57 15.6	-1.0
FINES	**FINESS Array B**	**82.65**	**356**	P	**P**	**23 57 13.8**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.9,baz=207,slow=2.1,SNR=4.1						
FINES	**FINESS Array B**	**82.65**	**356**	P	**P**	**23 57 13.8**	**-0.4**
ASAR	**Alice Springs**	**90.74**	**116**	P	**P**	**23 57 54.4**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.4,baz=238,slow=4.0,SNR=12						
SONM	**Songino Array**	**94.81**	**40**	P	**P**	**23 58 11.8**	**-0.7**
	comp=Z,0.3nm,0.8s,mb3.8,baz=224,slow=6.0,SNR=2.7						
YKA	**Yellowknife Ar**	**133.37**	**340**	PKP	PKPdf	00 04 06.1	-0.8
PDAR	**Pinedale Array**	**142.36**	**313**	PKP	PKPdf	00 04 23.7	+0.3
	comp=Z,0.2nm,0.5s,baz=60,slow=5.6,SNR=3.8						
TMUT	**Trail Mountain**	**144.79**	**309**	*e*PKPdf	PKPdf	00 04 28.8	+1.1
HAWA	**Hanford**	**146.61**	**325**	*e*PKP	PKPdf	00 04 33.4	+2.6
ELK	**Elko**	**147.06**	**313**	*e*PKPdf	PKPdf	00 04 32.0	+0.4
NVAR	**Mina Array Bea**	**150.22**	**311**	PKPbc	PKPbc	00 04 43.7	+1.9
	comp=Z,2.5nm,0.7s,baz=62,slow=5.2,SNR=10						
NVAR	**Mina Array Bea**	**150.22**	**311**	PKPbc	PKPbc	00 04 43.7	+1.9

*ISCJB **22** 23:49:35.8±0.7, 2128S±0.10×3335E±009, h10km, mb3.9/5, Error ellipse: s-maj=15.0km s-min=11.0km az=124.6*
*IDC **22** 23:49:36.1±1.4, 2126S×3340E, h0km, mb3.9/2, mb1 4.6/7, mb1mx4.0/25, mbtmp4.6/7, ML4.6/5, Error ellipse: s-maj=33.2km s-min=27.8km az=171.0*
*NEIC **22** 23:49:37.8±0.6, 2128S×3340E, h10km, mb3.8/3, Error ellipse: s-maj=15.2km s-min=10.1km az=152.0*
ISC 22 23:49:38.6±4.0,2129S±010×3333E±008,h14km±26km, n15,σ1§06/17,mb3.9/5,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.72**	**320**	Pn	**Pn**	**23 51 30.4**	**-0.2**
	23nm,0.3s,baz=153,slow=16,SNR=4.6						
LSZ				Sn	**Sn**	**23 52 52.5**	**-5.4**
	4.8nm,0.3s,baz=77,slow=22,SNR=2.6						
LSZ				Lg		23 53 34.5	
	24nm,0.3s,baz=48,slow=21,SNR=10						
LSZ	**Lusaka**	**7.72**	**320**	*e*Pn	**Pn**	**23 51 31.2**	**+0.6**
	147nm,0.6s						
LBTB	**Lobatse**	**8.02**	**241**	Pn	**Pn**	**23 51 34.8**	**+0.1**
	3.0nm,0.3s,baz=81,slow=13,SNR=1.8						
LBTB				Sn	**Sn**	**23 53 02.9**	**-2.3**
	7.2nm,0.3s,baz=131,slow=20,SNR=2.7						
LBTB				Lg		23 53 43.7	
	10nm,0.3s,baz=341,slow=22,SNR=8.6						
LBTB	**Lobatse**	**8.02**	**241**	Pn	**Pn**	**23 51 34.8**	**+0.1**
LBTB				Sn	**Sn**	**23 53 02.9**	**-2.3**
LBTB				Lg		23 53 43.7	
BOSA	**Boshof**	**10.33**	**224**	Pn	**Pn**	**23 52 06.1**	**-0.2**
	2.4nm,0.3s,baz=60,slow=14,SNR=1.5						
BOSA				Lg		23 54 50.7	
	3.0nm,0.3s,baz=326,slow=19,SNR=2.2						
OPO	**Ambohidratompo**	**13.31**	**81**	Pn	**Pn**	**23 52 45.0**	**-2.1**
	1.1nm,0.3s,baz=148,slow=16,SNR=8.5						
OPO				Sn	**Sn**	**23 55 03.0**	**-12**
	1.1nm,0.3s,baz=94,slow=23,SNR=4.8						
SUR	**Sutherland**	**15.69**	**223**	Pn	**Pn**	**23 53 20.5**	**+1.3**
	5.8nm,0.3s,baz=135,slow=18,SNR=2.7						
TORD	**Torodi Ar. Bea**	**46.22**	**315**	P	**P**	**23 58 03.4**	**+0.2**
	1.4nm,0.9s,mb3.9,baz=134,slow=7.0,SNR=3.7						
SNAA	**Sanae**	**54.50**	**193**	*e*P	**P**	**23 59 01.3**	**-4.6**
	4.9nm,1.1s,mb4.5						
VNDA	**Vanda**	**76.94**	**170**	*e*P	**P**	**00 01 31.9**	**+1.3**
	0.3nm,0.6s,mb3.4						
MBWA	**Marble Bar**	**79.39**	**109**	*e*P	**P**	**00 01 44.1**	**0.0**
ZRNK	**Zerenda**	**80.16**	**21**	*e*P	**P**	**00 01 48.4**	**0.0**
	0.4nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**90.74**	**116**	P	**P**	**00 02 41.8**	**+0.7**
	0.5nm,0.7s,mb4.0,baz=242,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**133.37**	**340**	PKP	PKPdf	00 08 52.8	-1.5
	0.2nm,0.6s,baz=32,slow=1.7,SNR=5.3						
YKA	**Yellowknife Ar**	**133.37**	**340**	PKP	PKPdf	00 08 52.8	-1.5

*ISCJB **22** 23:57:41.0±1.4, 707N±05×63W±07, h10km, Error ellipse: s-maj=75.6km s-min=7.8km az=50.4*
*NEIC **22** 23:57:43.6, 7105N×602W, h18km, ML3.3(BER), After BER.*
*BER **22** 23:57:44.0±0.6, 7145N×675W, h10km±18km, MD3.5, ML2.9*
ISC 22 23:57:42.7±3.3,708N±06×64W±06,h11km±65km,n6, σ0§36/10,5C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.67**	**287**	⇑*i*P	**Pg**	**23 57 55.9**	**+0.3**
JNE				*e*S	**Sg**	**23 58 05.0**	**+0.6**
JNE				AML	AML	23 58 05.9	
	comp=Z,638nm,0.2s						
JNE	**Jan Mayen East**	**0.67**	**287**	⇑*i*P	**Pg**	**23 57 55.9**	**+0.3**
	SNR=97						
JNE				*e*S	**Sg**	**23 58 05.0**	**+0.6**
	comp=Z,638nm,0.2s,SNR=97						
JNW	**Jan Mayen West**	**0.72**	**289**	⇑*i*P	**Pg**	**23 57 56.5**	**-0.1**
JNW				AML	AML	23 58 11.2	
	comp=Z,486nm,0.2s						
JMIC	**Jan Mayen**	**0.74**	**285**	⇑*i*P	**Pg**	**23 57 56.6**	**-0.3**
JMIC				*e*S	**Sg**	**23 58 05.9**	**-0.6**
JMI	**Jan Mayen**	**0.80**	**280**	⇑*i*P	**Pg**	**23 57 58.2**	**+0.1**
JMI				*e*S	**Sg**	**23 58 08.5**	**+0.1**
NSS	**Namsos**	**9.36**	**123**	*e*Pn	**Pn**	**23 59 57.4**	**0.0**

*CSEM **23** 00:01:14.6±0.4, 3866N×2861W, h10km, ML2.9, Error ellipse: s-maj=9.9km s-min=6.2km az=18.0, After PDA*
*PDA **23** 00:01:14.6±1.6, 3866N×2861W, h10km±8km, MD3.0, ML2.9, Error ellipse: s-maj=5.5km s-min=4.7km az=48.0*
SVSA 23 00:01:14.6±1.6,3866N×2861W,h10km±8km,MD3.0, ML2.9,Error ellipse: s-maj=5.5km s-min=4.7km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.07**	**247**	*i*P	Pg	00 01 16.7	-0.2
PCED				*i*S	Sg	00 01 18.6	0.0
PCED							
	8μm,0.3s						
PCED	**Cedros**	**0.07**	**247**	*i*S	Sg	00 01 18.6	0.0
CALA	**Caldeira**	**0.10**	**222**	*i*P	Pg	00 01 17.3	0.0
CALA				*e*S	Sg	00 01 19.6	+0.4
CALA	**Caldeira**	**0.10**	**222**	*e*S	Sg	00 01 19.6	+0.4
HOR	**Horta**	**0.13**	**185**	*i*P	Pg	00 01 17.1	-0.6
HOR				*i*S	Sg	00 01 19.6	-0.3
HOR	**Horta**	**0.13**	**185**	*i*S	Sg	00 01 19.6	-0.3
PTCA	**Ponta do Capel**	**0.16**	**243**	*i*P	Pg	00 01 18.9	+0.7
PTCA				*e*S	Sg	00 01 21.4	+0.8
PTCA							
	1μm,0.1s						
PTCA	**Ponta do Capel**	**0.16**	**243**	*e*S	Sg	00 01 21.4	+0.8
PICO	**Pico**	**0.22**	**137**	*i*P	Pg	00 01 18.6	-0.5
PICO				*e*S	Sg	00 01 21.7	-0.4
PICO	**Pico**	**0.22**	**137**	*e*S	Sg	00 01 21.7	-0.4
PCND	**Candelaria**	**0.22**	**148**	*i*P	Pg	00 01 19.5	+0.3
PCND				*i*S	Sg	00 01 22.4	0.0
PBOI	**Pico dos Bois**	**0.29**	**140**	*e*P	Pg	00 01 20.4	0.0
PBOI				*e*S	Sg	00 01 24.5	+0.1
PBOI							
	1μm,0.1s						
ROSA	**Rosais**	**0.30**	**78**	*e*P	Pg	00 01 19.9	-0.7
ROSA				*e*S	Sg	00 01 24.0	-0.6
PPNO	**Prainha do Nor**	**0.33**	**124**	*e*P	Pg	00 01 20.5	-0.7
PPNO				*e*S	Sg	00 01 25.3	-0.4
PPNO							
	2μm,0.2s						
PPNO	**Prainha do Nor**	**0.33**	**124**	*e*P	Pg	00 01 20.5	-0.7
PPNO				*e*S	Sg	00 01 25.3	-0.4
PAMA	**Santo Amaro**	**0.34**	**86**	*i*P	Pg	00 01 21.3	-0.1
PAMA				*e*S	Sg	00 01 25.7	-0.2
PAMA							
	2μm,0.3s						
PMAN	**Manadas**	**0.41**	**93**	*i*P	Pg	00 01 21.3	-1.4
PMAN				*e*S	Sg	00 01 26.9	-1.3
PMAN							
	673nm,0.1s						
PMAN	**Manadas**	**0.41**	**93**	*e*S	Sg	00 01 26.9	-1.3
PLUZ	**Luz**	**0.46**	**322**	*e*P	Pg	00 01 25.2	+1.7
PLUZ				*e*S	Sg	00 01 33.3	+3.7
PLUZ							
	137nm,0.1s						
PIED	**Piedade**	**0.50**	**118**	*e*P	Pg	00 01 23.6	-0.8
PVIA	**Vitoria**	**0.60**	**47**	*e*P	Pg	00 01 24.9	-1.4
PVIA				*e*S	Sg	00 01 32.6	-1.6
PVIA							
	35nm,0.2s						
PGRA	**Graciosa**	**0.62**	**53**	*e*P	Pg	00 01 24.4	-2.2
PGRA				*i*S	Sg	00 01 32.4	-2.3
PGRA							
	174nm,0.3s						
PGRA	**Graciosa**	**0.62**	**53**	*e*P	Pg	00 01 24.4	-2.2
PGRA				*i*S	Sg	00 01 32.4	-2.3
STGR	**Santa Cruz**	**0.64**	**48**	*e*P	Pg	00 01 25.6	-1.3
STGR				*e*S	Sg	00 01 32.8	-2.5
STGR							
	174nm,0.2s						
STGR	**Santa Cruz**	**0.64**	**48**	*e*P	Pg	00 01 25.6	-1.3
STGR				*e*S	Sg	00 01 32.8	-2.5
ASBA	**Santa Barbara**	**1.01**	**86**	*e*S	Sg	00 01 42.6	-4.6
ASBA							
	105nm,0.2s						
PSBA	**Serra de Santa**	**1.01**	**83**	*e*P	Pg	00 01 30.0	-4.1
PSBA				*e*S	Sg	00 01 41.9	-5.4
PSBA							
	95nm,0.3s						
PSBA	**Serra de Santa**	**1.01**	**83**	*e*P	Pg	00 01 30.0	-4.1
PSBA				*e*S	Sg	00 01 41.9	-5.4
PPAD	**Pico dos Padre**	**1.04**	**87**	*e*P	Pg	00 01 31.2	-3.4
PPAD				*e*S	Sg	00 01 43.2	-4.9
PPAD							
	52nm,0.2s						
PPAD	**Pico dos Padre**	**1.04**	**87**	*e*P	Pg	00 01 31.2	-3.4
PPAD				*e*S	Sg	00 01 43.2	-4.9
PBIS	**Biscoitos**	**1.07**	**84**	*e*P	Pb	00 01 31.7	-3.5
PBIS				*e*S	Sg	00 01 44.1	-5.0
ADH	**Angra Heroismo**	**1.08**	**90**	*e*S	Sg	00 01 43.9	-5.5
RIB2	**Ribeirinha**	**1.13**	**89**	*e*P	Pb	00 01 32.3	-3.8
RIB2				*e*S	Sb	00 01 45.4	-5.4
RIB2							
	93nm,0.1s						
RIB2	**Ribeirinha**	**1.13**	**89**	*e*P	Pb	00 01 32.3	-3.8
RIB2				*e*S	Sb	00 01 45.4	-5.4
PVNV	**Vila Nova**	**1.15**	**84**	*e*S	Sb	00 01 46.1	-5.2
PVNV							
	20nm,0.1s						
PFAV	**Pico das Favas**	**1.20**	**87**	*e*S	Sb	00 01 47.4	-5.5
PFAV							
	35nm,0.2s						
SET4	**Mosteiros**	**2.35**	**109**	*e*S	Sn	00 02 16.2	-5.8
SET2	**Ginetes**	**2.35**	**109**	*e*S	Sn	00 02 16.0	-6.2
PFET	**Feteiras**	**2.38**	**110**	*e*S	Sn	00 02 16.4	-6.3
FAC	**Faja de Cima**	**2.50**	**110**	*e*S	Sn	00 02 19.1	-6.5
CML	**Cha da Macela**	**2.57**	**109**	*e*S	Sn	00 02 20.8	-6.8
LFA	**Lagoa do Fogo**	**2.62**	**109**	*e*rx	Sn	00 02 22.1	-6.6
PRCH	**Ribeira Ch**	**2.64**	**110**	*e*rx	Sn	00 02 23.1	-6.1

IDC 23 00:08:00.8±5.1,396S×14482E,h149km±58km,mb3.1/4, mb1 3.3/6,mb1mx3.3/13,mbtmp3.6/6,Error ellipse: s-maj=51.3km s-min=27.7km az=121.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.89**	**157**	P	Pn	00 09 26.1	+0.2
	0.9nm,0.3s,baz=321,slow=14,SNR=2.9						
WB2	**Warramunga Arr**	**18.88**	**212**	*e*P	P	00 12 11.2	+1.6
WRA	**Warramunga Arr**	**18.89**	**212**	P	P	00 12 09.8	+0.1
	0.2nm,0.3s,baz=34,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**22.25**	**207**	P	P	00 12 45.8	+0.2
	1.3nm,0.6s,baz=33,slow=10,SNR=21						
SONM	**Songino Array**	**61.58**	**332**	P	P	00 18 02.2	-0.1
	0.6nm,1.1s,baz=131,slow=4.0,SNR=3.3						
MKAR	**Makanchi Array**	**74.55**	**321**	P	P	00 19 23.6	+0.4
	0.3nm,0.8s,baz=101,slow=8.3,SNR=3.2						
ILAR	**Eielson Array**	**84.48**	**24**	P	P	00 20 16.8	-0.1
	0.6nm,0.9s,baz=255,slow=4.7,SNR=6.6						

*ISCJB **23** 00:33:48.0±0.7, 285S±007×768W±0.1, h144km±14km, mb3.8/4, Error ellipse: s-maj=23.2km s-min=10.8km az=159.1*
*NEIC **23** 00:33:48.9±0.8, 283S×7678W, h135km±10km, mb3.9/3, MD4.2(IGQ), Error ellipse: s-maj=15.4km s-min=7.3km az=80.0*
*IDC **23** 00:33:49.3±8.7, 281S×7670W, h138km±83km, mb3.5/4, mb1 3.6/6, mb1mx3.3/20, mbtmp4.0/6, Error ellipse: s-maj

ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 23 00:58:30.8±0.4, 4700N±002×131W±004, h13km±5km, n22, σ0°69/34, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.45**	**202**	Pg	**Pg**	**00 58 39.9**	**+0.1**
LRYF				Sg	**Sg**	**00 58 45.4**	**-0.5**
MFF	**Saint Martin d**	**0.89**	**116**	*e*Pg	**Pg**	**00 58 48.6**	**+0.6**
MFF	**Saint Martin d**	**0.89**	**116**	*e*Pn	**Pn**	**00 58 49.3**	**+0.3**
MFF	**Saint Martin d**	**0.89**	**116**	*e*P	**Pg**	**00 58 50.3**	**+2.3**
MFF				*e*Sg	**Sg**	**00 59 00.8**	**+1.1**
	14nm,0.2s						
CHIF	**Chize**	**1.07**	**144**	Pg	**Pg**	**00 58 52.2**	**+0.9**
CHIF				Sg	**Sg**	**00 59 07.3**	**+2.0**
GRR	**Gorron**	**1.42**	**12**	*e*Pg	**Pg**	**00 58 58.4**	**+0.3**
GRR				*e*Sg	**Sg**	**00 59 17.2**	**+0.7**
	4.0nm,0.2s						
SGMF	**Saint Gilles**	**1.51**	**326**	*e*Pn	**Pn**	**00 58 57.6**	**0.0**
SGMF	**Saint Gilles**	**1.51**	**326**	*e*Pg	**Pg**	**00 59 00.1**	**+0.2**
SGMF				*e*Sg	**Sg**	**00 59 19.5**	**0.0**
	2.2nm,0.2s						
QUIF	**Quistinic**	**1.56**	**307**	*e*Pn	**Pn**	**00 58 58.3**	**+0.1**
QUIF	**Quistinic**	**1.56**	**307**	*e*Pg	**Pg**	**00 59 00.4**	**-0.4**
QUIF				*e*Sg	**Sg**	**00 59 20.9**	**-0.1**
	2.8nm,0.2s						
LDF	**La Druitiere**	**1.78**	**26**	*e*Pg	**Pg**	**00 59 05.0**	**0.0**
LDF				*e*Sg	**Sg**	**00 59 28.5**	**+0.4**
	2.6nm,0.2s						
FLN	**La Foliniere**	**1.85**	**17**	*e*Pn	**Pn**	**00 59 02.6**	**+0.4**
FLN	**La Foliniere**	**1.85**	**17**	*e*Pg	**Pg**	**00 59 06.4**	**+0.2**
FLN				*e*Sg	**Sg**	**00 59 30.1**	**-0.1**
	4.3nm,0.2s						
ROSF	**Rostrenen**	**1.89**	**316**	*e*Pg	**Pg**	**00 59 06.3**	**-0.7**
ROSF				*e*Sg	**Sg**	**00 59 31.1**	**-0.3**
	0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**2.52**	**105**	*e*Pn	**Pn**	**00 59 11.8**	**+0.3**
TCF	**Toulx Ste Croi**	**2.52**	**105**	*e*Pg	**Pg**	**00 59 18.8**	**-0.4**
TCF				*e*Sg	**Sg**	**00 59 50.3**	**-1.6**
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.59**	**130**	*e*Pn	**Pn**	**00 59 12.3**	**-0.1**
RJF	**Les Rejaudoux**	**2.59**	**130**	*e*Pg	**Pg**	**00 59 19.7**	**-0.8**
RJF				*e*Sg	**Sg**	**00 59 53.3**	**-0.8**
	1.3nm,0.3s						
HYF	**Humbligny**	**2.71**	**83**	*e*Pn	**Pn**	**00 59 14.1**	**+0.1**
BGF	**Bois d'Agland**	**2.89**	**97**	*e*Pg	**Pg**	**00 59 25.1**	**-1.0**
BGF				*e*Sg	**Sg**	**01 00 03.0**	**-0.5**
	2.0nm,0.3s						
CAF	**Calviac**	**3.13**	**130**	*e*Pn	**Pn**	**00 59 19.5**	**-0.4**
AVF	**Avril sur Loir**	**3.20**	**92**	*e*Sg	**Sg**	**01 00 13.1**	**-0.5**
	0.3nm,0.2s						

CSEM 23 01:04:16.7±1.4, 3867N×2859W, h6km±8km, ML1.4, Error ellipse: s-maj=5.6km s-min=4.8km az=172.0, After PDA
PDA 23 01:04:16.7±1.4, 3867N×2859W, h6km±8km, MD2.7, ML1.4, Error ellipse: s-maj=5.6km s-min=4.8km az=172.0
SVSA 23 01:04:16.7±1.4, 3867N×2859W, h6km±8km, MD2.7, ML1.4, Error ellipse: s-maj=5.6km s-min=4.8km az=172.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**244**	*e*P	Pg	01 04 18.6	-0.2
PCED				*i* S	Sg	01 04 20.8	+0.5
PCED							
	97nm,0.1s						
PCED	**Cedros**	**0.10**	**244**	*e*P	Pg	01 04 18.6	-0.2
PCED				*i* S	Sg	01 04 20.8	+0.5
CALA	**Caldeira**	**0.12**	**224**	*i* P	Pg	01 04 19.2	-0.1
CALA				*e*S	Sg	01 04 21.6	+0.5
CALA	**Caldeira**	**0.12**	**224**	*e*S	Sg	01 04 21.6	+0.5
HOR	**Horta**	**0.15**	**192**	*e*P	Pg	01 04 18.9	-0.8
PTCA	**Ponta do Capel**	**0.18**	**242**	*e*S	Sg	01 04 23.9	+1.1
PTCA							
	21nm,0.2s						
PICO	**Pico**	**0.21**	**143**	*i* P	Pg	01 04 20.5	-0.4
PICO				*i* S	Sg	01 04 24.0	+0.2
PICO	**Pico**	**0.21**	**143**	*i* S	Sg	01 04 24.0	+0.2
ROSA	**Rosais**	**0.28**	**80**	*e*P	Pg	01 04 21.8	-0.3
ROSA				*e*S	Sg	01 04 25.7	-0.1
PPNO	**Prainha do Nor**	**0.33**	**128**	*e*S	Sg	01 04 27.3	0.0
PPNO							
	32nm,0.1s						
PMAN	**Manadas**	**0.40**	**95**	*e*S	Sg	01 04 29.0	-0.5
PMAN							
	12nm,0.2s						

ISCJB 23 01:06:27.7±0.8, 2148S±010×3311E±009, h10km, mb3.8/8, Error ellipse: s-maj=16.4km s-min=9.1km az=99.2
IDC 23 01:06:28.2±1.0, 2139S×3338E, h0km, mb3.9/7, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, ML4.2/4, Error ellipse: s-maj=27.3km s-min=24.0km az=152.0
NEIC 23 01:06:29.6±0.5, 2136S×3333E, h10km, mb3.8/1, Error ellipse: s-maj=13.7km s-min=9.0km az=157.0
ISC 23 01:06:28.9±0.7, 2156S±010×3324E±008, h10km, n19, σ1°05/23, mb3.8/8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**7.82**	**242**	Pn	**Pn**	**01 08 26.4**	**+3.7**
	5.2nm,0.3s,baz=42,slow=12,SNR=5.3						
LBTB				Sn	**Sn**	**01 09 50.4**	**-0.9**
	5.9nm,0.3s,baz=335,slow=12,SNR=4.1						
LBTB				Lg		01 10 33.9	
	11nm,0.3s,baz=342,slow=21,SNR=7.6						
LSZ	**Lusaka**	**7.87**	**322**	Pn	**Pn**	**01 08 22.9**	**-0.5**
	5.3nm,0.3s,baz=193,slow=9.5,SNR=3.6						
LSZ				Sn	**Sn**	**01 09 43.1**	**-9.4**
	7.5nm,0.3s,baz=197,slow=19,SNR=4.4						
LSZ				Lg		01 10 25.9	
	15nm,0.3s,baz=60,slow=20,SNR=16						
BOSA	**Boshof**	**10.08**	**224**	Pn	**Pn**	**01 08 57.9**	**+4.2**
	1.7nm,0.3s,baz=32,slow=13,SNR=3.9						
BOSA				Sn	**Sn**	**01 10 41.9**	**-4.9**
	1.5nm,0.3s,baz=332,slow=10,SNR=2.7						
BOSA				Lg		01 11 45.1	
	2.8nm,0.3s,baz=148,slow=15,SNR=3.8						
OPO	**Ambohidratompo**	**13.44**	**80**	Pn	**Pn**	**01 09 38.0**	**-1.7**
	0.4nm,0.3s,baz=343,slow=5.5,SNR=3.1						
OPO				Sn	**Sn**	**01 11 58.8**	**-10**
	2.1nm,0.3s,baz=148,slow=23,SNR=7.1						
TSUM	**Tsumeb**	**14.86**	**276**	Pn	**Pn**	**01 09 57.6**	**-1.4**
	0.8nm,0.3s,baz=85,slow=16,SNR=4.9						
TSUM				Sn	**Sn**	**01 12 37.1**	**-6.7**
	0.8nm,0.3s,baz=67,slow=23,SNR=3.8						
TSUM				Lg		01 14 09.1	
	1.4nm,0.3s,baz=49,slow=3.3,SNR=4.4						
TSUM	**Tsumeb**	**14.86**	**276**	*e*Pn	**Pn**	**01 09 58.9**	**-0.2**
	10nm,0.7s						
TSUM				Sn	**Sn**	**01 12 37.1**	**-6.7**
TSUM				Lg		01 14 09.1	
SUR	**Sutherland**	**15.44**	**223**	Pn	**Pn**	**01 10 06.8**	**0.0**
	0.6nm,0.3s,baz=176,slow=15,SNR=2.9						
SUR				Sn	**Sn**	**01 12 51.8**	**-6.0**
	0.4nm,0.3s,baz=242,slow=22,SNR=2.1						
SUR				Lg		01 14 31.8	
	0.9nm,0.3s,baz=323,slow=23,SNR=3.5						
TORD	**Torodi Ar. Bea**	**46.35**	**315**	P	**P**	**01 14 55.2**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=124,slow=6.6,SNR=12						
BRTR	**Keskin Array B**	**60.96**	**0**	P	**P**	**01 16 43.1**	**+0.9**
	0.2nm,0.5s,mb3.5,baz=185,slow=12,SNR=3.2						
ESDC	**Sonseca Array**	**70.12**	**330**	P	**P**	**01 17 42.3**	**+0.9**
	1.1nm,0.8s,mb3.8,baz=142,slow=7.5,SNR=4.2						
GERES	**GERESS Array B**	**72.22**	**347**	P	**P**	**01 17 54.5**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=145,slow=4.9,SNR=5.3						
BDFB	**Brasilia**	**76.45**	**258**	P	**P**	**01 18 21.5**	**+2.8**
	2.2nm,0.6s,mb4.3,baz=110,slow=6.7,SNR=4.3						
ZRNK	**Zerenda**	**80.43**	**21**	*e*P	**P**	**01 18 40.1**	**-0.6**
	0.5nm,0.4s,mb3.8						
MKAR	**Makanchi Array**	**81.16**	**32**	P	**P**	**01 18 44.0**	**-0.7**
	0.3nm,0.7s,mb3.3,baz=206,slow=5.3,SNR=4.0						
MKAR	**Makanchi Array**	**81.16**	**32**	P	**P**	**01 18 44.0**	**-0.7**
ASAR	**Alice Springs**	**90.70**	**116**	P	**P**	**01 19 33.0**	**+1.2**
	1.0nm,0.8s,mb4.2,baz=242,slow=4.1,SNR=9.4						
YKA	**Yellowknife Ar**	**133.59**	**340**	PKP	PKPdf	01 25 45.7	+0.1
	0.1nm,0.5s,baz=32,slow=1.5,SNR=4.7						
YKA	**Yellowknife Ar**	**133.59**	**340**	PKP	PKPdf	01 25 45.7	+0.1
NVAR	**Mina Array Bea**	**150.33**	**311**	PKPbc	PKPbc	01 26 21.3	+0.9
	1.0nm,0.7s,baz=76,slow=4.8,SNR=7.1						

ISCJB 23 01:07:53.9±0.5, 3913N±002×2420E±004, h18km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=55.1
NEIC 23 01:07:53.7, 3913N×2421E, h30km, ML3.3(ATH), After ATH.
ATH 23 01:07:53.7, 3913N×2421E, h30km±2km, MD3.4/11, ML3.3
CSEM 23 01:07:54.4±0.1, 3913N×2421E, h20km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.4km az=122.0
THE 23 01:07:54.6, 3916N×2417E, h14km, ML2.7
ISC 23 01:07:53.5±0.6, 3912N±003×2419E±004, h12km±4km, n33, σ0°97/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**283**	*e*Pg	**Pg**	**01 07 58.9**	**+0.3**
AOS				*e*Sg	**Sg**	**01 08 03.8**	**+1.9**
AOS	**Alonnisos**	**0.24**	**283**	*e*Pg	**Pg**	**01 07 58.8**	**+0.2**
AOS				*e*Sg	**Sg**	**01 08 03.8**	**+1.8**
NEO	**Neokhori**	**0.77**	**284**	*e*PN	**Pn**	**01 08 09.5**	**-0.7**
NEO				*e*SN	**Sn**	**01 08 20.7**	**-1.1**
XOR	**Xorichti**	**0.81**	**288**	*e*Pg	**Pg**	**01 08 10.0**	**+0.8**
	comp=Z,8.0nm,0.2s						
XOR				*e*Sg	**Sg**	**01 08 20.8**	**+1.1**
PAIG	**Paliouri**	**0.90**	**334**	*e*Pg	**Pg**	**01 08 10.8**	**0.0**
PAIG				*e*Sg	**Sg**	**01 08 23.4**	**+0.9**
MPAR	**Parnis Oros**	**1.03**	**200**	*e*PN	**Pn**	**01 08 13.5**	**-0.2**
MPAR				*e*SN	**Sn**	**01 08 29.0**	**+0.9**
LKR	**Lokris**	**1.04**	**244**	*e*PB	**Pb**	**01 08 12.9**	**-0.5**
LKR				*e*SN	**Sn**	**01 08 28.7**	**+0.4**
LOS	**Limnos**	**1.07**	**40**	*e*Pg	**Pg**	**01 08 13.5**	**-0.5**
LOS				*e*Sg	**Sg**	**01 08 28.4**	**+0.4**
PTL	**Penteli**	**1.10**	**193**	*e*PN	**Pn**	**01 08 14.0**	**-0.7**
ATH	**Athens Observa**	**1.20**	**198**	*e*PN	**Pn**	**01 08 16.6**	**+0.5**
ATH				*e*SN	**Sn**	**01 08 32.2**	**-0.2**
OUR	**Ouranopolis**	**1.23**	**353**	*e*Pg	**Pg**	**01 08 15.9**	**-1.1**
	comp=Z,5.0nm,0.5s						
OUR	**Ouranopolis**	**1.23**	**353**	*e*Pg	**Pg**	**01 08 15.9**	**-1.1**
	5.0nm,0.5s						
KVR	**Kavouri**	**1.33**	**194**	*e*PB	**Pb**	**01 08 17.5**	**-0.8**
PLG	**Polygyros**	**1.38**	**336**	*e*PN	**Pn**	**01 08 18.6**	**0.0**
AGG	**Agios Georgios**	**1.45**	**267**	*e*Pg	**Pg**	**01 08 19.2**	**-2.1**
AGG				*e*Sg	**Sg**	**01 08 38.7**	**-1.4**
NAIG	**Nisos Aigina**	**1.46**	**202**	*e*PN	**Pn**	**01 08 20.5**	**+0.8**
PRK	**Paraskevi**	**1.63**	**85**	*e*PB	**Pb**	**01 08 21.7**	**-1.7**
LIT	**Litokhoron**	**1.64**	**307**	*e*Pg	**Pg**	**01 08 21.9**	**-3.0**
SOH	**Sokhos**	**1.82**	**340**	*e*Pb	**Pb**	**01 08 24.2**	**-2.5**
SRS	**Serrai**	**2.05**	**347**	*e*Pn	**Pn**	**01 08 27.3**	**-0.4**
NVR	**Nevrokopi**	**2.24**	**354**	*e*PN	**Pn**	**01 08 30.4**	**-0.1**
KNT	**Kendrikon**	**2.27**	**335**	*e*Pn	**Pn**	**01 08 30.6**	**-0.2**
KNT				*e*Sn	**Sn**	**01 08 57.8**	**-0.9**
RDO	**Rodhopi**	**2.28**	**27**	*e*PN	**Pn**	**01 08 31.0**	**+0.1**
ALN	**Alexandroupoli**	**2.28**	**38**	*e*Pn	**Pn**	**01 08 30.7**	**-0.3**
ALN				*e*Sn	**Sn**	**01 08 59.5**	**+0.5**
GRG	**Griva**	**2.29**	**324**	*e*Pn	**Pn**	**01 08 31.5**	**+0.4**
APE	**Apeiranthos**	**2.30**	**152**	*e*PN	**Pn**	**01 08 30.8**	**-0.5**
MMB	**Musomiste**	**2.49**	**352**	P	**Pn**	**01 08 34.0**	**+0.1**
SMG	**Samos**	**2.51**	**123**	*e*PN	**Pn**	**01 08 35.2**	**+1.1**
VLI	**Veliai**	**2.59**	**203**	*e*PN	**Pn**	**01 08 36.3**	**+1.1**
RZN	**Rozhen**	**2.60**	**9**	P	**Pn**	**01 08 37.0**	**+1.7**
KKB	**Krupnik**	**2.87**	**343**	P	**Pn**	**01 08 40.0**	**+0.9**
IGT	**Igoumenitsa**	**3.02**	**279**	*e*Pn	**Pn**	**01 08 41.7**	**+0.6**
VTS	**Vitosha**	**3.55**	**348**	P	**Pn**	**01 08 50.0**	**+1.6**

NEIC 23 01:17:37.5, 1893N×6511W, h30km, MD3.5(RSPR), After RSPR.
RSPR 23 01:17:37.5, 1893N×6511W, h30km±27km, MD3.5/9, MD3.5/9, 6C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.93**	**207⇓**	*e*P	Pn	01 17 52.0	-2.6
MTP				*e*S	Sn	01 18 04.4	-2.5
CBYP	**Canovanas**	**0.96**	**227⇑**	*e*P	Pn	01 17 52.9	-2.1
CBYP				*e*S	Sn	01 18 05.9	-1.8
HUMP	**Col San Antoni**	**1.05**	**222⇑**	*e*P	Pn	01 17 54.1	-2.0
HUMP				*e*S	Sn	01 18 07.3	-2.5
CPD	**Cerro la Pandu**	**1.17**	**221⇑**	*e*P	Pn	01 17 56.1	-1.7
CPD				*e*S	Sn	01 18 11.5	-1.3
CDVI	**St. Croix**	**1.21**	**164⇓**	*e*P	Pn	01 17 56.6	-1.8
CDVI				*e*S	Sn	01 18 11.8	-2.0
SJG	**San Juan**	**1.28**	**231**	*e*S	Sn	01 18 13.5	-1.9
SJG	**San Juan**	**1.28**	**231⇑**	*e*P	Pn	01 17 57.4	-1.9
SJG				*e*S	Sn	01 18 12.8	-2.6
CELP	**Cerrillos**	**1.63**	**239⇑**	*e*P	Pn	01 18 02.8	-1.3
CELP				*e*S	Sn	01 18 22.6	-1.6
AOPR	**Arecibo Observ**	**1.66**	**250⇓**	*e*P	Pn	01 18 03.8	-0.8
AOPR				*e*S	Sn	01 18 22.6	-2.2
CRPR	**Cabo Rojo, PR**	**2.11**	**245⇑**	*e*P	Pn	01 18 09.8	-0.9
CRPR				*e*S	Sn	01 18 33.2	-2.7

IDC 23 01:17:54.0±0.8, 2116S×3334E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.2/22, mbtmp4.1/16, ML4.7/1, Error ellipse: s-maj=27.6km s-min=21.5km az=59.0
NEIC 23 01:17:53.3±0.4, 2168S×3344E, h10km, mb5.0/11, Error ellipse: s-maj=17.3km s-min=7.9km az=140.0
MOS 23 01:17:54.7±3.2, 2157S×3304E, h10km, mb4.8/16, Error ellipse: s-maj=15.1km s-min=8.2km az=83.3
BJI 23 01:17:55.2, 2170S×3340E, h10km, mB5.3, mb4.9
ISCJB 23 01:17:56.7±0.4, 2123S±005×3263E±005, h10km, mb4.7/60, Error ellipse: s-maj=8.1km s-min=6.3km az=98.8
SZGRF 23 01:18:00.5, 2159S×3445E, h33km, mb4.8, Mozambique
ISC 23 01:17:58.6±0.4, 2123S±005×3271E±005, h10km, n137, σ1°16/133, mb4.7/60, 5C-6D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.32**	**323**	Pn	**Pn**	**01 19 44.5**	**-1.0**
	10nm,0.3s,baz=141,slow=13,SNR=12						
LSZ				Sn	**Sn**	**01 21 09.0**	**+0.5**
	45nm,0.3s,baz=75,slow=16,SNR=12						
LSZ				Lg		01 21 49.9	
	29nm,0.3s,baz=64,slow=14,SNR=3.1						
LSZ	**Lusaka**	**7.32**	**323**	Pn	**Pn**	**01 19 44.5**	**-1.0**
LSZ				Sn	**Sn**	**01 21 09.0**	**+0.5**
LSZ				Lg		01 21 49.9	
LBTB	**Lobatse**	**7.55**	**239**	Pn	**Pn**	**01 19 47.9**	**-0.8**
	6.1nm,0.3s,baz=70,slow=13,SNR=13						
LBTB				Sn	**Sn**	**01 21 19.8**	**+5.4**
	15nm,0.3s,baz=151,slow=22,SNR=7.0						
LBTB				Lg		01 21 56.1	
	25nm,0.3s,baz=115,slow=13,SNR=7.2						
LBTB	**Lobatse**	**7.55**	**239**	P	**Pn**	**01 19 47.9**	**-0.8**
LBTB						01 21 19.8	
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.3s						
LBTB				smax			
	comp=E,15nm,0.3s						
BOSA	**Boshof**	**9.98**	**221**	Pn	**Pn**	**01 20 18.0**	**-4.1**
	comp=E,5.4nm,0.3s,baz=50,slow=12,SNR=17						
BOSA				Sn	**Sn**	**01 22 16.1**	**+1.9**
	comp=E,6.2nm,0.3s,baz=346,slow=10,SNR=5.8						
BOSA				Lg		01 23 13.3	
	comp=E,11nm,0.3s,baz=125,slow=21,SNR=5.2						
BOSA	**Boshof**	**9.98**	**221**	P	**Pn**	**01 20 18.0**	**-4.1**
BOSA						01 22 16.1	
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BOSA				smax			
	comp=E,6.0nm,0.3s						
BOSA	**Boshof**	**9.98**	**221**	Pn	**Pn**	**01 20 18.0**	**-4.1**
BOSA				Sn	**Sn**	**01 22 16.1**	**+1.9**
BOSA				Lg		01 23 13.3	
OPO	**Ambohidratompo**	**13.87**	**82**	Pn	Px	01 21 02.8	
	comp=E,2.2nm,0.3s,baz=257,slow=13,SNR=14						
OPO				Sn	Sx	01 23 26.6	
	comp=E,2.9nm,0.3s,baz=312,slow=21,SNR=4.0						
TSUM	**Tsumeb**	**14.34**	**275**	Pn	**Pn**	**01 21 20.1**	**-1.6**
	comp=E,2.2nm,0.3s,baz=73,slow=9.0,SNR=7.8						
TSUM				Sn	**Sn**	**01 24 02.1**	**+1.4**
	comp=E,1.7nm,0.3s,baz=45,slow=10,SNR=6.1						
TSUM				Lg		01 25 38.7	
	comp=E,4.1nm,0.3s,baz=270,slow=10.0,SNR=4.1						
SUR	**Sutherland**	**15.35**	**221**	Pn	**Pn**	**01 21 32.6**	**-2.7**
	comp=E,729nm,0.8s,SNR=7.9						
SUR	**Sutherland**	**15.35**	**221**	Pn	**Pn**	**01 21 31.3**	**-4.0**
	comp=E,3.9nm,0.3s,baz=54,slow=12,SNR=16						
SUR				Sn	**Sn**	**01 24 19.1**	**-6.2**
	comp=E,1.3nm,0.3s,baz=149,slow=21,SNR=3.5						
SUR				Lg		01 25 55.4	
	comp=E,3.3nm,0.3s,baz=320,slow=23,SNR=3.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**20.47**	**13**	P	**P**	**01 22 35.7**	**-0.7**
	comp=E,4.9nm,0.8s,baz=195,slow=13,SNR=8.7						
KMBO	**Kilima Mbogo**	**20.47**	**13**	P	**P**	**01 22 35.7**	**-0.7**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMBO	**Kilima Mbogo**	**20.47**	**13**	P	**P**	**01 22 35.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**45.77**	**316**	P	**P**	**01 26 19.9**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=130,slow=6.8,SNR=25						
TORD				PP	PP	01 28 05.2	-2.3
	comp=Z,2.3nm,0.8s,baz=129,slow=7.2,SNR=2.4						
VNA2	**Neumayer--Watz**	**54.93**	**195⇓**	*i* P	**P**	**01 27 33.8**	**+4.2**
VNA2				*e*		01 27 49.4	
VNA3	**Neumayer Olymp**	**55.69**	**195⇓**	*i* P	**P**	**01 27 38.8**	**+3.7**
VNA3				*e*		01 27 53.7	
IDI	**Anoyia**	**56.70**	**352**	P	**P**	**01 27 40.9**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=34,slow=9.9,SNR=2.7						
APE	**Apeiranthos**	**58.38**	**353**	*i* P	**P**	**01 27 56.1**	**+2.0**
ISP	**Isparta**	**58.79**	**358**	*i* P	**P**	**01 28 00.0**	**+3.0**
BRTR	**Keskin Array B**	**60.64**	**1**	P	**P**	**01 28 07.0**	**-2.8**
	comp=Z,0.3nm,0.6s,mb3.6,baz=175,slow=9.9,SNR=3.5						
GNI	**Garni**	**62.08**	**10**	*i* P	**P**	**01 28 19.8**	**+0.3**
GNI				pmax	pmax		
	comp=Z,12nm,1.7s						
MDT	**Midelt**	**64.50**	**326**	P	**P**	**01 28 39.1**	**+3.6**
	comp=Z,4.2nm,1.0s,mb4.4,baz=178,slow=5.9,SNR=3.9						
ANN	**Anapa**	**65.85**	**4**	*e*P	**P**	**01 28 50.7**	**+6.4**
ANN				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
MLR	**Muntele Rosu**	**66.68**	**355**	P	**P**	**01 28 48.8**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.3,baz=175,slow=7.7,SNR=6.0						
MLR	**Muntele Rosu**	**66.68**	**355**	⇓P	**P**	**01 28 48.0**	**-1.6**
MLR	**Muntele Rosu**	**66.68**	**355**	P	**P**	**01 28 48.8**	**-0.8**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VOIR		**66.71**	**354**	⇓P	**P**	**01 28 48.5**	**-1.3**
VRI	**Vrincioaia**	**67.00**	**355**	⇑P	**P**	**01 28 54.9**	**+3.3**
PGF	**Pioggiola**	**67.13**	**341**	*e*P	**P**	**01 28 52.2**	**-0.2**
	comp=Z,65nm,1.3s,mb5.2						
BZS	**Buzias**	**67.29**	**352**	⇑P	**P**	**01 28 57.8**	**+4.4**
BZS	**Buzias**	**67.29**	**352**	⇑P	**P**	**01 28 57.8**	**+4.4**
LMR	**La Mourre**	**68.61**	**340**	*e*P	**P**	**01 29 01.4**	**-0.4**
CEY	**Cerknica**	**68.69**	**346**	*e*P	**P**	**01 29 06.5**	**+4.2**
FRF	**La Foret Royal**	**68.78**	**340**	*e*P	**P**	**01 29 02.8**	**0.0**
SBF	**Sospel**	**68.80**	**341**	*e*P	**P**	**01 29 03.0**	**+0.1**
	comp=Z,65nm,1.2s,mb5.1						
BURAR	**Bucovina Array**	**68.86**	**355**	⇓P	**P**	**01 29 07.7**	**+4.4**
GROS	**Grobnik**	**69.15**	**347**	*e*P	**P**	**01 29 09.7**	**+4.5**
KOLN	**Koldanda**	**69.23**	**47**	*e*P	**P**	**01 28 57.7**	**-7.9**
	comp=Z,48nm,1.5s,mb5.2						
SMRF	**Simiane la Rot**	**69.49**	**339**	*e*P	**P**	**01 29 07.3**	**0.0**
ESDC	**Sonseca Array**	**69.60**	**331**	P	**P**	**01 29 06.3**	**-1.6**
	comp=Z,5.6nm,0.9s,mb4.5,baz=145,slow=5.9,SNR=13						
MBDF	**Montbardon**	**69.78**	**341**	*e*P	**P**	**01 29 09.8**	**+0.8**
	comp=Z,15nm,0.9s,mb4.6						
GKN	**Gorkha**	**70.09**	**48**	*e*P	**P**	**01 29 04.2**	**-6.7**
	comp=Z,44nm,1.1s,mb5.3						
LASF	**Ste Croix**	**70.16**	**338**	*e*P	**P**	**01 29 11.8**	**+0.4**
DMN	**Daman**	**70.17**	**48**	*e*P	**P**	**01 29 05.0**	**-6.4**
KBA	**Koelnbreinsper**	**70.20**	**346⇑**	*i* P	**P**	**01 29 16.1**	**+4.5**
	comp=Z,6.6nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**70.24**	**340**	*e*P	**P**	**01 29 11.7**	**-0.1**
KECS	**Kecovo**	**70.25**	**351**	*e*pP	pP	01 29 15.0	-0.2
PKI	**Pulchoki**	**70.36**	**49**	*e*P	**P**	**01 29 06.6**	**-6.0**
KKN	**Kakani**	**70.40**	**48**	*e*P	**P**	**01 29 05.8**	**-7.0**
LPG	**La Plagne**	**70.48**	**341**	*e*P	**P**	**01 29 13.4**	**+0.1**
	comp=Z,27nm,1.2s,mb4.8						
LPL	**La Plagne**	**70.51**	**341**	*e*P	**P**	**01 29 13.5**	**0.0**
CRVS	**Cervenica-Dubn**	**70.53**	**352**	*e*pP	pP	01 29 15.2	-1.7
VIVF	**Saint-Julien-l**	**70.57**	**339**	*e*P	**P**	**01 29 14.2**	**+0.3**
EVO	**Evora**	**70.66**	**327**	*e*P	**P**	**01 29 16.1**	**+1.7**
	comp=Z,39nm,1.4s,mb4.8						
MOA	**Molln**	**70.73**	**347⇑**	*i* P	**P**	**01 29 19.1**	**+4

GRR Gorron 75.53 338 *e*P **P 01 29 43.5 +0.3**
comp=Z,59nm,1.4s,mb5.0
BDFB Brasilia 76.03 258 P **P 01 29 47.0 +0.9**
comp=Z,4.5nm,0.7s,mb4.5,baz=101,slow=10,SNR=3.2
BDFB Brasilia 76.03 258 P **P 01 29 47.0 +0.9**
BDFB pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 76.11 2 *i* P **P 01 29 47.7 +1.2**
OBN *e* 01 30 01.4
OBN *e* 01 32 36.2
OBN pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
MOS Moscow 76.77 3 *e*P **P 01 29 52.7 +2.4**
VNDA Vanda 77.10 170 P **P 01 29 49.6 -2.6**
comp=Z,5.4nm,1.1s,mb4.4,baz=244,slow=8.7,SNR=4.6
VNDA Vanda 77.10 170 P **P 01 29 49.6 -2.5**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
BSEG Bad Segeberg 77.31 347 *e*P **P 01 29 56.8 +3.5**
comp=Z,10.0nm,1.3s,mb4.6
BSEG Bad Segeberg 77.31 347 *e*P **P 01 29 56.8 +3.5**
BSEG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MKAR Makanchi Array 81.14 32 P **P 01 30 07.9 -6.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=203,slow=3.5,SNR=4.7
MKAR Makanchi Array 81.14 32 P **P 01 30 07.9 -6.3**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 82.25 27 *i* P **P 01 30 20.3 +0.2**
FINES FINESS Array B 82.56 357 P **P 01 30 19.1 -2.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=184,slow=9.6,SNR=3.4
FINES FINESS Array B 82.56 357 P **P 01 30 19.2 -2.5**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 83.80 350 Pdif **P 01 30 26.8 -1.3**
comp=Z,8.4nm,1.1s,mb4.8,baz=149,slow=4.4
NOA NORSAR Array B 83.80 350 P **P 01 30 24.8 -3.4**
comp=Z,0.9nm,0.8s,mb4.0,baz=155,slow=20,SNR=2.8
NOA NORSAR Array B 83.80 350 P **P 01 30 24.8 -3.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 83.80 350 P **P 01 30 24.8 -3.4**
CD2 Chengdu 85.62 55 P **P 01 30 37.6 +0.3**
CD2 AMB AMB
comp=Z,20nm,1.4s,mb5.2
GYA Guiyang 85.89 60 ⇓*i*P **P 01 30 38.0 -0.7**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
GTA Gaotai 86.93 46 *e*P **P 01 30 44.3 +0.5**
GTA AP pP 01 30 51.4 +4.3
GTA XP sP 01 30 54.3 +6.0
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.8
NVS Novosibirsk 87.17 27 *e*P **P 01 30 38.3 -6.6**
NVS pmax pmax
comp=Z,11nm,1.6s,mb4.8
NVS pmax pmax
comp=E,10.0nm,1.8s
SIV San Ignacio 87.74 254 P **P 01 30 47.6 -0.1**
comp=E,0.3nm,0.5s,mb3.8,baz=112,slow=11,SNR=1.9
LZH Lanzhou 88.10 50 *e*P **P 01 30 50.0 +0.6**
LZH AP pP 01 30 53.5 +0.8
LZH XP sP 01 30 55.0 +1.1
LZH AMB AMB
comp=Z,35nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,137nm,6.0s
ASAR Alice Springs 91.28 116 P **P 01 30 59.5 -4.8**
comp=Z,2.6nm,0.8s,mb4.6,baz=245,slow=4.1,SNR=7.6
ASAR Alice Springs 91.28 116 P **P 01 30 59.5 -4.8**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ZAK Zakamensk 94.47 37 *e*P **P 01 31 19.1 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.8
SONM Songino Array 95.13 40 P **P 01 31 16.1 -6.0**
comp=Z,0.3nm,0.7s,mb3.9,baz=242,slow=3.1,SNR=2.7
SEY Seymchan 122.10 28 *i* PKIKP PKPdf 01 36 53.2 -0.3
BILL Bilibino 125.13 19 *i* PKIKP PKPdf 01 36 58.7 -0.6
YKA Yellowknife Ar 133.11 340 PKP PKPdf 01 37 09.7 -4.7
comp=Z,0.2nm,0.7s,baz=37,slow=2.2,SNR=7.5
YKA Yellowknife Ar 133.11 340 PKP PKPdf 01 37 09.7 -4.7
ILAR Eielson Array 136.48 360 PKP PKPdf 01 37 17.2 -3.5
comp=Z,0.3nm,1.0s,baz=193,slow=12,SNR=3.5
PDAR Pinedale Array 141.90 313 PKhKP 01 37 23.8
comp=Z,0.4nm,0.7s,baz=102,slow=7.5,SNR=2.7
PV01 Paradox Valley 142.69 306 *e*PKPdf PKPdf 01 37 30.9 -1.1
NVAR Mina Array Bea 149.75 311 PKPbc PKPbc 01 37 47.4 -1.3
comp=Z,2.0nm,0.9s,baz=77,slow=3.4,SNR=12

ECX 23 01:22:02.2±0.3,3062N×11420W,h5km±4km,MD3.8, ML3.9,2C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.17**	**292**	*e*P	Pg	01 22 22.6	-2.1
SPX				*e*S	Sg	01 22 38.8	-1.1
RDX	**Rancho Dowling**	**1.99**	**312**	*e*P	Pn	01 22 36.0	-0.4
RDX				*e*S	Sn	01 23 02.5	+0.7
RDX				⇓*e*		01 23 15.6	
	comp=N,1μm,1.1s						
ECNX	**Esteban Cantu**	**2.31**	**297**	*e*PN	Pn	01 22 40.6	-0.2
ECNX				*e*PN	Pn	01 22 42.7	+2.0
ECNX				*e*S	Sn	01 23 10.4	+0.9
PBX	**Punta Banda**	**2.44**	**298**	*e*PN	Pn	01 22 42.4	-0.3
PBX				⇑*e*		01 23 28.8	
	comp=E,529nm,1.2s						
ENX	**Ensenada**	**2.46**	**301**	*e*PN	Pn	01 22 42.5	-0.4
ENX				⇑*e*		01 23 33.6	
	comp=N,807nm,0.6s						
RMX	**La Rumorosa**	**2.55**	**321**	*e*PN	Pn	01 22 44.3	+0.2
CBX	**Cerro Bola**	**2.70**	**309**	*e*PN	Pn	01 22 46.3	+0.1
CBX				*e*S	Sn	01 23 20.6	+1.3

ISCJB ***23*** *01:23:40.8±0.2,2134S×004×3344E±005,h13km, mb5.1/141,MS5.5/27,Error ellipse: s-maj=6.6km s-min=5.2km az=129.0*
IDC ***23*** *01:23:40.5±0.4,2130S×3338E,h0km,mb4.9/25, mb1 5.0/26,mb1mx5.0/26,mbtmp4.9/26,ML5.0/1,MS5.4/11, Ms1 5.4/11,ms1mx5.2/26,Error ellipse: s-maj=18.2km s-min=12.2km az=89.0*
MOS ***23*** *01:23:40.8±0.9,2130S×3353E,h13km,mb5.3/54, MS5.2/6,Error ellipse: s-maj=13.7km s-min=4.9km az=93.0*
BJI ***23*** *01:23:42.2,2140S×3350E,h10km,mB6.0,mb5.2,Ms5.9, Msz5.4*
HRVD ***23*** *01:23:42.2±0.4,2133S×3318E,h12km,MW5.7/82, Centroid moment Tensor Solution. LP body waves: s33,c40;Mantle waves: s82,c129; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.59±.17; $M_{\theta\theta}$=0.23±.16; $M_{\phi\phi}$=4.36±.15; $M_{r\theta}$=-0.32±.75; $M_{\theta\phi}$=-0.51±.14; $M_{r\phi}$=2.14±.60; Best double couple: M_0=4.99800×10^{17} NP1:ϕ_s=354.00000°,δ32.00000°,λ=-89.00000°. NP2: ϕ_s=172.00000°,δ58.00000°,λ=-91.00000°. Principal axes: T 4.9140, Plg13.0000°, Azm263.0000°; N 0.1700, Plg1.0000°, Azm173.0000°; P -5.0830, Plg77.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *01:23:42.2±0.2,2137S×3353E,h10km,mb5.3/44, MS5.5/10 Error ellipse: s-maj=6.7km s-min=4.9km az=64.0*
NEIC Felt at Beira and Maxixe. Also felt at Nelspruit and Pietersburg, South Africa and at Harare, Zimbabwe.
NAO ***23*** *01:23:46.0,2100S×3400E,h10km,mb4.8*
SZGRF ***23*** *01:23:47.6,2062S×3451E,h33km,mb5.2,Mozambique*

ISC 23 01:23:42.5±0.2,2140S±004×3338E±004,h14km, h14km±1.0km:pP-P,n465,σ0991/372,mb5.1/141,MS5.5/27, 29C-15D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.84**	**320**	Pn	**Pn**	**01 25 32.2**	**-4.0**
	79nm,0.3s,baz=154,slow=12,SNR=11						
LSZ				Sn	**Sn**	**01 26 54.7**	**-10**
	140nm,0.3s,baz=223,slow=20,SNR=11						
LSZ				Lg		01 27 38.0	
	604nm,0.3s,baz=62,slow=21,SNR=11						
LSZ				LR	LR	01 28 20.3	
	comp=Z,12μm,20.0s,baz=138,slow=36						
LSZ	**Lusaka**	**7.84**	**320**	*e*Pn	**Pn**	**01 25 32.6**	**-3.5**
	533nm,0.6s						
LSZ				*e*Sn	**Sn**	**01 26 55.2**	**-9.4**
LBTB	**Lobatse**	**8.01**	**242**	Pn	**Pn**	**01 25 35.7**	**-2.8**
	53nm,0.3s,baz=69,slow=13,SNR=11						
LBTB				Sn	**Sn**	**01 27 03.7**	**-5.1**
	127nm,0.3s,baz=136,slow=13,SNR=6.8						
LBTB				Lg		01 27 43.9	
	178nm,0.3s,baz=336,slow=23,SNR=11						
LBTB				LR	LR	01 28 57.3	
	comp=Z,24μm,21.9s,baz=82,slow=39						
LBTB	**Lobatse**	**8.01**	**242**	Pn	**Pn**	**01 25 35.7**	**-2.8**
LBTB				Sn	**Sn**	**01 27 03.7**	**-5.1**
LBTB				Lg		01 27 43.9	
LBTB				LR	LR	01 28 57.3	
BOSA	**Boshof**	**10.28**	**224**	Pn	**Pn**	**01 26 07.2**	**-2.4**
	22nm,0.3s,baz=51,slow=14,SNR=13						
BOSA				Sn	**Sn**	**01 27 55.7**	**-9.0**
	49nm,0.3s,baz=104,slow=20,SNR=4.7						
BOSA				Lg		01 28 59.4	
	48nm,0.3s,baz=129,slow=9.7,SNR=5.6						
BOSA	**Boshof**	**10.28**	**224**	Pn	**Pn**	**01 26 07.2**	**-2.4**
BOSA				Sn	**Sn**	**01 27 55.7**	**-9.0**
BOSA				Lg		01 28 59.4	
OPO	**Ambohidratompo**	**13.29**	**80**	Pn	**Pn**	**01 26 51.7**	**+1.0**
	7.9nm,0.3s,baz=252,slow=13,SNR=18						
OPO				Sn	**Sn**	**01 29 14.7**	**-3.6**
	17nm,0.3s,baz=342,slow=23,SNR=6.7						
TSUM	**Tsumeb**	**14.98**	**276**	Pn	**Pn**	**01 27 08.1**	**-5.8**
	19nm,0.3s,baz=92,slow=12,SNR=13						
TSUM				Sn	**Sn**	**01 29 47.1**	**-12**
	9.5nm,0.3s,baz=106,slow=13,SNR=5.0						
TSUM				Lg		01 31 28.2	
	20nm,0.3s,baz=352,slow=12,SNR=4.8						
TSUM				LR	LR	01 33 05.4	
	comp=Z,33μm,18.1s,baz=90,slow=38						
SUR	**Sutherland**	**15.64**	**223**	Pn	**Pn**	**01 27 18.8**	**-3.7**
	23nm,0.3s,baz=58,slow=13,SNR=14						
SUR				Sn	**Sn**	**01 30 05.8**	**-10**
	12nm,0.3s,baz=136,slow=22,SNR=6.3						
SUR				Lg		01 31 42.3	
	15nm,0.3s,baz=146,slow=23,SNR=3.4						
SUR				LR	LR	01 34 28.5	
	comp=Z,4μm,19.9s,baz=41,slow=41						
KMBO	**Kilima Mbogo**	**20.50**	**11**	P	**P**	**01 28 21.4**	**+1.1**
	20nm,0.9s,baz=218,slow=12,SNR=11						
KMBO				Lg		01 34 18.9	
	158nm,1.1s,baz=43,slow=23,SNR=5.4						
KMBO				LR	LR	01 37 32.0	
	comp=Z,9μm,19.0s,MS5.2,baz=175,slow=41						
KMBO	**Kilima Mbogo**	**20.50**	**11**	P	**P**	**01 28 21.4**	**+1.1**
KMBO				Lg		01 34 18.9	
KMBO				LR	LR	01 37 32.0	
ATD	**Arta Tunnel**	**34.02**	**17**	P	**P**	**01 30 27.4**	**+1.4**
	4.7nm,0.3s,mb4.8,baz=266,slow=21,SNR=7.5						
DGAR	**Diego Garcia**	**40.19**	**76**	PFAKE			
DGAR				LR	LR	01 31 30.0	+12
	comp=Z,8μm,20.0s,MS5.5						
TRIS	**Tristan da Cun**	**42.41**	**238**	PFAKE			
TRIS				LR	LR	01 31 50.0	+13
	comp=Z,6μm,19.0s,MS5.5						
TORD	**Torodi Ar. Bea**	**46.33**	**315**	P	**P**	**01 32 06.7**	**-1.3**
	comp=Z,18nm,0.6s,mb5.2,baz=126,slow=7.1,SNR=52						
TORD				PP	PP	01 33 55.1	-1.6
	comp=Z,20nm,0.8s,baz=139,slow=8.5,SNR=6.4						
SYO	**Syowa Base**	**47.76**	**177**⇑	*e*P	**P**	**01 32 19.3**	**+0.1**
SYO	**Syowa Base**	**47.76**	**177**⇑	*e*P	**P**	**01 32 23.8**	**+4.6**
ASCN	**Ascension**	**47.89**	**279**	PFAKE			
ASCN				LR	LR	01 32 30.0	+10
	comp=Z,5μm,20.0s,MS5.5						
MAW	**Mawson**	**49.76**	**166**	P	**P**	**01 32 35.2**	**+0.6**
	comp=Z,54nm,1.1s,mb5.5,baz=307,slow=9.4,SNR=5.4						
MAW				LR	LR	01 49 59.7	
	comp=Z,5μm,18.4s,MS5.6,baz=328,slow=32						
EIL	**Elat**	**50.80**	**2**	P	**P**	**01 32 43.6**	**+1.2**
NVL	**N'lazarevskaya**	**50.98**	**189**	*e*P	**P**	**01 32 45.2**	**+1.4**
NVL				*e**PP	pP	01 32 53.4	+5.3
NVL				*e*		01 42 27.2	
NVL				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
RDF	**Al-Radifah**	**51.87**	**16**	*e*P	**P**	**01 32 51.4**	**+0.9**
RDF				AMb	AMB	01 32 54.8	
	comp=Z,59nm,1.2s,mb5.4						
NAY	**Al-Naaiem**	**52.10**	**15**	*e*P	**P**	**01 32 52.3**	**+0.1**
NAY				AMb	AMB	01 32 56.1	
	comp=Z,27nm,1.0s,mb5.1						
UMR	**Umm Al-Rimmam**	**52.51**	**16**	*e*P	**P**	**01 32 56.0**	**+0.8**
UMR				AMb	AMB	01 33 00.1	
	comp=Z,172nm,1.2s,mb5.8						
MIB	**Mutribah**	**52.66**	**15**	*e*P	**P**	**01 32 56.9**	**+0.6**
MIB				AMb	AMB	01 33 00.4	
	comp=Z,97nm,0.9s,mb5.7						
MNGI	**Mangalore**	**53.11**	**54**	*e*P	**P**	**01 33 00.5**	**+0.8**
MNGI				*ex*	x	01 40 35.9	
SNAA	**Sanae**	**54.41**	**193**	P	**P**	**01 33 09.5**	**+0.4**
	comp=Z,19nm,1.2s,mb4.9,baz=39,slow=8.8,SNR=12						
SNAA	**Sanae**	**54.41**	**193**⇑	*i*P	**P**	**01 33 09.8**	**+0.7**
SNAA				*e*	pP	01 33 13.7	+0.2
SNAA				*e*		01 33 28.4	
SNAA	**Sanae**	**54.41**	**193**	*e*P	**P**	**01 33 08.7**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,105nm,1.4s						
SNAA	**Sanae**	**54.41**	**193**	*e*P	**P**	**01 33 08.7**	**-0.4**
	comp=Z,105nm,1.4s,mb5.6						
PALK	**Pallekele**	**54.48**	**64**	PFAKE			
PALK				LR	LR	01 33 20.0	+10
	comp=Z,4μm,20.0s,MS5.5						
VNA2	**Neumayer--Watz**	**54.92**	**195**⇑	*i*P	**P**	**01 33 13.5**	**+0.6**
	baz=48,slow=5.9						
VNA2				*e*	pP	01 33 17.0	-0.2
VNA2				*e*		01 33 29.7	
VNA2				*e*		01 33 54.5	
VNA2				*e*		01 34 14.7	
VNA1	**Neumayer--Stat**	**54.96**	**196**⇑	*i*P	**P**	**01 33 11.4**	**-1.7**
VNA1				*e*	pP	01 33 15.7	-1.8
VNA1				*e*		01 33 28.8	
BHD	**Baghdad**	**55.37**	**11**	*ex*	x	01 32 43.0	
KAD	**Karad**	**55.49**	**49**	*ex*	PcP	01 34 11.3	-5.6
KAD				AMb	AMB	01 34 16.0	
	comp=Z,4.7nm,0.2s,mb5.1						
VNA3	**Neumayer Olymp**	**55.69**	**196**⇑	*i*P	**P**	**01 33 18.7**	**+0.2**
VNA3				*e*	pP	01 33 22.2	-0.6
VNA3				*e*		01 33 36.1	
VNA3				*e*		01 34 02.0	
VNA3				*e*		01 34 19.9	
CSS	**Prodhromos**	**56.05**	**360**	*e*P	**P**	**01 33 21.1**	**+0.1**
	comp=Z,93nm,1.6s,mb5.6						
IDI	**Anoyia**	**56.95**	**352**	P	**P**	**01 33 27.1**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0,baz=173,slow=9.7,SNR=14						
KARN	**Karanos**	**57.20**	**351**	*e*P	**P**	**01 33 29.1**	**-0.1**
SANT	**Santorini**	**57.95**	**352**	*e*P	**P**	**01 33 34.2**	**-0.2**
	comp=Z,48nm,1.1s,mb5.4						
MSL	**Mosul**	**58.11**	**9**	*ex*	x	01 33 39.0	
APE	**Apeiranthos**	**58.63**	**353**	*e*P	**P**	**01 33 40.0**	**+0.8**
APE	**Apeiranthos**	**58.63**	**353**	*e*P	**P**	**01 33 38.9**	**-0.3**
APE	**Apeiranthos**	**58.63**	**353**	⇑P	**P**	**01 33 39.7**	**+0.5**
HYB	**Hyderabad**	**58.72**	**52**	*i* P	**P**	**01 33 38.0**	**-1.9**
HYB	**Hyderabad**	**58.72**	**52**	*e*P	**P**	**01 33 39.0**	**-0.9**
ISP	**Isparta**	**58.99**	**357**	*d* *i*P	**P**	**01 33 41.8**	**+0.1**
SMG	**Samos**	**59.12**	**354**	*e*P	**P**	**01 33 45.0**	**+2.4**
NAIG	**Nisos Aigina**	**59.58**	**351**	*e*P	**P**	**01 33 46.0**	**+0.2**
MALT	**Malatya**	**59.59**	**5**	P	**P**	**01 33 47.1**	**+1.2**
MALT				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
MALT	**Malatya**	**59.59**	**5**	P	**P**	**01 33 47.1**	**+1.2**
	comp=Z,20nm,1.5s,mb4.9						
PTL	**Penteli**	**59.81**	**351**	*e*P	**P**	**01 33 48.5**	**+1.1**
MPAR	**Parnis Oros**	**59.93**	**351**	*e*P	**P**	**01 33 49.0**	**+0.8**
PRK	**Paraskevi**	**60.70**	**354**	*e*P	**P**	**01 33 55.0**	**+1.5**
BRTR	**Keskin Array B**	**60.81**	**0**	P	**P**	**01 33 54.1**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.7,baz=173,slow=8.8,SNR=28						
BRTR				PKKP		01 54 51.6	
	comp=Z,0.5nm,0.5s,baz=54,slow=3.2,SNR=5.4						
BRTR	**Keskin Array B**	**60.81**	**0**	P	**P**	**01 33 54.1**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BR131	**Keskin Array S**	**60.81**	**0**	P	**P**	**01 33 54.0**	**-0.3**
BR131				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
ANTO	**Ankara**	**60.95**	**359**	PFAKE			
ANTO				LR	LR	01 34 10.0	+15
	comp=Z,2μm,19.0s,MS5.3						
AGG	**Agios Georgios**	**60.99**	**350**	*e*P	**P**	**01 33 55.0**	**-0.5**
COCO	**West Island**	**61.10**	**92**	PFAKE			01 34 10.0 +14
COCO				LR	LR		
	comp=Z,4μm,21.0s,MS5.6						
NEO	**Neokhori**	**61.13**	**351**	*e*P	**P**	**01 33 57.0**	**+0.6**
NGP	**Nagpur**	**61.47**	**49**	*e*P	**P**	**01 33 57.7**	**-1.0**
NGP				AMb	AMB	01 34 04.4	
	comp=Z,14nm,1.2s,mb5.0						
PAIG	**Paliouri**	**61.68**	**352**	*e*P	**P**	**01 33 59.5**	**-0.6**
BHPL	**Bhopal**	**61.72**	**47**	*e*P	**P**	**01 33 59.6**	**-0.8**
BHPL				AMb	AMB	01 34 05.8	
	comp=Z,33nm,1.0s,mb5.4						
IGT	**Igoumenitsa**	**61.83**	**349**	*e*P	**P**	**01 34 00.9**	**-0.3**
MEV	**Metsovon**	**61.92**	**349**	*e*P	**P**	**01 34 04.1**	**+2.4**
LIT	**Litokhoron**	**62.02**	**351**	*e*P	**P**	**01 34 01.4**	**-1.0**
OUR	**Ouranopolis**	**62.04**	**352**	*e*P	**P**	**01 34 01.9**	**-0.6**
GNI	**Garni**	**62.14**	**10**	P	**P**	**01 34 04.0**	**+0.8**
GNI				pmax	pmax		
	comp=Z,18nm,1.2s						
GNI				MLR	MLR		
	comp=Z,2μm,21.0s						
GNI	**Garni**	**62.14**	**10**	P	**P**	**01 34 04.0**	**+0.7**
	comp=Z,18nm,1.2s,mb5.1						
GNI				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
TIP	**Timpagrande**	**62.24**	**345**	*e*P	**P**	**01 34 05.2**	**+1.3**
ALN	**Alexandroupoli**	**62.35**	**354**	*e*P	**P**	**01 34 04.4**	**-0.2**
VIS	**Vishakhapatnam**	**62.50**	**55**	*e*P	**P**	**01 34 06.8**	**+1.2**
VIS				AMb	AMB	01 34 10.1	
	comp=Z,13nm,1.0s,mb5.0						
SOH	**Sokhos**	**62.60**	**351**	*e*P	**P**	**01 34 05.6**	**-0.7**
RDO	**Rodhopi**	**62.65**	**353**	*e*P	**P**	**01 34 07.5**	**+0.8**
SRS	**Serrai**	**62.86**	**352**	*e*P	**P**	**01 34 06.8**	**-1.2**
FNA	**Florina**	**62.87**	**350**	*e*P	**P**	**01 34 08.3**	**+0.2**
GRG	**Griva**	**62.87**	**351**	*e*P	**P**	**01 34 08.5**	**+0.3**
KNT	**Kendrikon**	**63.00**	**351**	*e*P	**P**	**01 34 09.3**	**+0.3**
BIA	**Bitola**	**63.10**	**350**	*i* P	**P**	**01 34 09.5**	**-0.2**
VAY	**Valandovo**	**63.20**	**351**	*e*P	**P**	**01 34 10.3**	**0.0**
VAY	**Valandovo**	**63.20**	**351**	*i* P	**P**	**01 34 10.4**	**0.0**
OHR	**Ohrid**	**63.28**	**349**	*i* P	**P**	**01 34 09.8**	**-1.0**
STIP	**Stip**	**63.63**	**351**	*i* P	**P**	**01 34 12.9**	**-0.2**
SKO	**Skopje**	**64.02**	**350**	*i* P	**P**	**01 34 16.4**	**+0.8**
ONI	**Oni**	**64.34**	**8**	P	**P**	**01 34 18.3**	**+0.5**
VTS	**Vitosha**	**64.36**	**352**	⇓P	**P**	**01 34 18.0**	**+0.1**
SOC	**Sochi**	**64.92**	**5**	*e*P	**P**	**01 34 24.1**	**+2.5**
SOC				*e*S	**S**	**01 43 02.1**	**-0.7**
SOC				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
MDT	**Midelt**	**64.99**	**325**	P	**P**	**01 34 22.7**	**+0.7**
	comp=Z,4.8nm,0.6s,mb4.7,baz=150,slow=9.1,SNR=1.8						
NDI	**New Delhi**	**65.33**	**42**	*ex*	**P**	**01 34 22.0**	**-2.3**
CASY	**Casey**	**65.44**	**154**	PFAKE		01 34 40.0	+15
CASY				LR	LR		
	comp=Z,3μm,19.0s,MS5.5						
TIRR	**Tirgusor**	**65.69**	**356**	⇓P	**P**	**01 34 32.4**	**+5.8**
TIRR	**Tirgusor**	**65.69**	**356**	⇓P	**P**	**01 34 32.4**	**+5.8**
ANN	**Anapa**	**65.98**	**3**	*e*P	**P**	**01 34 27.3**	**-1.2**
ANN				*e*S	S	01 43 15.8	0.0
ANN				pmax	pmax		
	comp=Z,756nm,6.2s						
ANN				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.3						
GRUS	**Gruza**	**66.00**	**350**	⇓*i*P	**P**	**01 34 28.7**	**+0.1**
DIVS	**Divcibare**	**66.32**	**350**	*i* P	**P**	**01 34 31.5**	**+0.8**
DIVS	**Divcibare**	**66.32**	**350**	*e*P	**P**	**01 34 31.2**	**+0.6**
CFR	**Carcaliu**	**66.43**	**356**	⇓P	**P**	**01 34 31.5**	**+0.2**
CFR	**Carcaliu**	**66.43**	**356**	⇓P	**P**	**01 34 31.5**	**+0.2**
MLR	**Muntele Rosu**	**66.91**	**354**	⇑P	**P**	**01 34 35.2**	**+0.8**
MLR	**Muntele Rosu**	**66.91**	**354**	⇑P	**P**	**01 34 35.2**	**+0.8**
VOIR		**66.95**	**354**	⇑P	**P**	**01 34 34.8**	**+0.1**
SMLA	**Simla**	**67.03**	**40**	*e*P	**P**	**01 34 32.7**	**-2.5**
SMLA				AMb	AMB	01 34 48.5	
	comp=Z,65nm,1.1s,mb5.6						
CORF	**Corte**	**67.22**	**341**	*e*P	**P**	**01 34 37.3**	**+0.9**
VRI	**Vrincioaia**	**67.22**	**355**	⇑P	**P**	**01 34 36.9**	**+0.5**
VRI	**Vrincioaia**	**67.22**	**355**	⇑P	**P**	**01 34 36.9**	**+0.5**
PGF	**Pioggiola**	**67.49**	**341**	*e*P	**P**	**01 34 37.8**	**-0.3**
	comp=Z,38nm,0.9s,mb5.1						
BZS	**Buzias**	**67.55**	**351**	⇑P	**P**	**01 34 38.8**	**+0.3**
BZS	**Buzias**	**67.55**	**351**	⇑P	**P**	**01 34 38.8**	**+0.3**
PSI	**Prapat**	**68.43**	**78**	P	**P**	**01 34 44.8**	**+0.8**
	comp=Z,12nm,0.8s,mb5.0,baz=240,slow=7.6,SNR=6.2						
PSI	**Prapat**	**68.43**	**78**	P	**P**	**01 34 44.8**	**+0.8**
PSI				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
RHK1	**Bakonya**	**68.60**	**349**	⇓*e*P	**P**	**01 34 41.4**	**-3.6**
PKSM	**Moragy**	**68.61**	**349**	⇓*i*P	**P**	**01 34 44.8**	**-0.3**
QSPA	**South Pole Qui**	**68.75**	**180**	*e*P	**P**	**01 34 46.0**	**0.0**
	comp=Z,32nm,0.9s,mb5.2						
KOLN	**Koldanda**	**68.89**	**47**	*e*P	**P**	**01 34 45.6**	**-1.3**
	comp=Z,56nm,1.0s,mb5.5						
LMR	**La Mourre**	**68.99**	**339**	*e*P	**P**	**01 34 47.2**	**-0.3**
GOLS	**Golise**	**69.00**	**347**	*e*P	**P**	**01 34 48.1**	**+0.5**
GOLS				*e*S	S	01 43 58.8	+6.7
CEY	**Cerknica**	**69.01**	**346**	*e*P	**P**	**01 34 48.0**	**+0.4**
CEY				*e*S	S	01 44 01.1	+9.0
BURAR	**Bucovina Array**	**69.09**	**354**	⇑P	**P**	**01 34 49.5**	**+1.4**
BURAR	**Bucovina Array**	**69.09**	**354**	⇑P	**P**	**01 34 49.5**	**+1.4**
FRF	**La Foret Royal**	**69.15**	**340**	*e*P	**P**	**01 34 48.0**	**-0.5**
	comp=Z,45nm,1.1s,mb5.0						
SBF	**Sospel**	**69.17**	**340**	*e*P	**P**	**01 34 48.5**	**-0.1**
	comp=Z,108nm,1.1s,mb5.4						
AUTN	**L'Aution**	**69.29**	**340**	*e*P	**P**	**01 34 49.6**	**+0.2**
VOY	**Vojsko**	**69.41**	**346**	*e*P	**P**	**01 34 50.2**	**+0.1**
VOY				*e*	pP	01 34 54.1	-0.4
VOY				*e*		01 35 06.3	
GROS	**Grobnik**	**69.46**	**347**	*e*P	**P**	**01 34 50.8**	**+0.4**
ROBS	**Robic**	**69.69**	**345**	*e*P	**P**	**01 34 52.1**	**+0.2**
OBKA	**Obir**	**69.71**	**346**⇑	*i*P	**P**	**01 34 52.9**	**+0.9**
	comp=Z,32nm,1.7s,mb5.0,SNR=7.6

comp=Z,5µm,20.0s
MELF Melles 70.67 335 *e*P **P 01 34 59.2 +1.4**
PBEJ Beja 70.68 327 *e*P **P 01 34 58.6 +0.7**
KOLS Kolonicke sedl 70.71 352 *e*P **P 01 34 56.6 -1.5**
KOLS *es*P sP 01 35 01.1 -3.1
PTEO Sao Teotonio 70.77 326 *e*P **P 01 34 59.3 +0.9**
CRVS Cervenica-Dubn 70.79 352 *e*P **P 01 34 59.3 +0.7**
CRVS *ep*P pP 01 35 03.5 +0.5
ZST Bratislava 70.80 349 *e*P **P 01 34 57.8 -0.8**
LPG La Plagne 70.85 341 *e*P **P 01 34 58.8 -0.1**
comp=Z,45nm,1.1s,mb5.0
LPL La Plagne 70.88 341 *e*P **P 01 34 58.8 -0.3**
comp=Z,53nm,1.1s,mb5.1
VIVF Saint-Julien-I 70.95 339 *e*P **P 01 34 59.6 0.0**
comp=Z,29nm,1.1s,mb4.8
EPF Esparros 70.97 335 *e*P **P 01 34 59.4 -0.2**
comp=Z,91nm,1.2s,mb5.3
VIEF Viey 70.97 335 *e*P **P 01 35 00.4 +0.8**
KULM Kulim 71.02 76 *e*P **P 01 35 00.4 +0.4**
MOA Molln 71.04 347⇑*i*P **P 01 35 00.6 +0.5**
comp=Z,42nm,1.8s,mb5.1,SNR=12
MOA Molln 71.04 347⇑*i*P **P 01 35 00.6 +0.5**
comp=Z,42nm,1.8s,mb5.1
LABF Labassere 71.08 335 *e*P **P 01 35 01.3 +0.9**
EVO Evora 71.14 327 *e*P **P 01 35 00.8 +0.1**
comp=Z,20nm,0.7s,mb4.9
EVO *e*R
comp=Z,5µm,22.8s
SQTA Sankt Quirin 71.17 344⇓*i*P **P 01 35 01.2 +0.4**
comp=Z,67nm,1.8s,mb5.3,SNR=14
SQTA Sankt Quirin 71.17 344⇓*i*P **P 01 35 01.2 +0.3**
SQTA pmax pmax
comp=Z,67nm,1.8s,mb5.3
SQTA Sankt Quirin 71.17 344⇓*i*P **P 01 35 01.2 +0.4**
comp=Z,67nm,1.8s,mb5.3
ETSF Etsaut 71.21 334 *e*P **P 01 35 00.8 -0.3**
comp=Z,40nm,0.9s,mb5.1
REYF Montagne du Re 71.29 335 *e*P **P 01 35 02.5 +0.9**
MOTA Moosalm 71.31 344⇑*i*P **P 01 35 02.0 +0.2**
comp=Z,55nm,1.7s,mb5.2
MOTA Moosalm 71.31 344 ⇑P **P 01 35 02.0 +0.3**
MOTA pmax pmax
comp=Z,55nm,1.7s,mb5.2
MOTA Moosalm 71.31 344 ⇑P **P 01 35 02.0 +0.2**
comp=Z,55nm,1.7s,mb5.2
STHS Stebnicka Huta 71.32 352 *e*P **P 01 35 00.5 -1.3**
KWP Kalwaria 71.35 353 *e*P **P 01 35 02.2 +0.2**
ATE Arette 71.43 334 *e*P **P 01 35 03.1 +0.7**
LARF Larrau 71.50 334 *e*P **P 01 35 03.5 +0.6**
DAVA Damuels 71.58 343 *i* P **P 01 35 03.5 +0.1**
comp=Z,46nm,1.6s,mb5.2,SNR=6.9
SJPF Ste Jean 71.66 334 *e*P **P 01 35 03.5 -0.3**
comp=Z,24nm,0.7s,mb4.9
LBL Lubilhac 71.77 338 *e*P **P 01 35 05.6 +1.1**
AKASG Malin Array Be 71.88 357 P **P 01 35 03.7 -1.5**
comp=Z,4.8nm,0.7s,mb4.6,baz=174,slow=5.7,SNR=25
AKASG Malin Array Be 71.88 357 P **P 01 35 03.7 -1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 71.88 357 P **P 01 35 03.7 -1.5**
CAF Calviac 71.93 337 *e*P **P 01 35 05.4 0.0**
comp=Z,74nm,1.2s,mb5.2
VRAC Vranov 71.96 349 ⇓P **P 01 35 04.9 -0.8**
FUR Furstenfeldbru 72.03 345 *e*P **P 01 35 06.1 0.0**
comp=Z,21nm,1.1s,mb5.0
FUR Furstenfeldbru 72.03 345 *e*P **P 01 35 06.1 0.0**
FUR pmax pmax
comp=Z,21nm,1.1s,mb5.0
CABF La Chapelle 72.06 341 *e*P **P 01 35 06.1 -0.1**
comp=Z,52nm,0.9s,mb5.1
GEC2 GERESS Array S 72.10 346 *e*P **P 01 35 06.1 -0.4**
comp=Z,18nm,1.2s,mb4.9
GEC2 GERESS Array S 72.10 346 *e*P **P 01 35 06.1 -0.4**
GEC2 pmax pmax
comp=Z,18nm,1.2s,mb4.9
GERES GERESS Array B 72.10 346 P **P 01 35 06.6 +0.1**
comp=Z,4.4nm,0.6s,mb4.6,baz=158,slow=5.0,SNR=50
GERES GERESS Array B 72.10 346 P **P 01 35 06.6 +0.1**
GERES pmax pmax
comp=Z,4.0nm,0.6s
TREC Trest 72.16 348 *e*P **P 01 35 05.8 -1.0**
PTOM Tomar 72.17 327 *e*P **P 01 35 06.5 -0.4**
comp=Z,36nm,1.1s,mb5.2
OKC Ostrava-Krasne 72.20 350 *e*P **P 01 35 03.8 -3.3**
MORC Moravsky Berou 72.24 349 P **P 01 35 06.9 -0.4**
PYM Petit Puy Mans 72.31 338 *e*P **P 01 35 08.5 +0.8**
OJC Ojcow 72.31 351 *e*P **P 01 35 07.0 -0.7**
MTE Manteigas 72.33 328 *e*P **P 01 35 07.7 -0.2**
comp=Z,16nm,1.0s,mb4.9
BBS Basel-Blauen 72.40 342 *e*P **P 01 35 08.8 +0.6**
KHC Kasperske Hory 72.40 347 *e*P **P 01 35 07.4 -0.9**
RJF Les Rejaudoux 72.45 337 *e*P **P 01 35 08.3 -0.3**
comp=Z,56nm,1.2s,mb5.1
RJF *e*R
comp=Z,4µm,19.8s
VRSR Storozhevoye 72.48 4 *e*P **P 01 35 07.6 -1.1**
VRSR pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,1.6s
LOMF Lomont 72.49 341 *e*P **P 01 35 10.2 +1.4**
KSH Kashi 72.50 33 P **P 01 35 11.0 +2.1**
KSH *e*AP pP 01 35 15.8 +2.5
KSH *e*XP sP 01 35 18.3 +3.4
KSH *e*PCP PcP 01 35 28.3 +1.8
KSH *e*PP PP 01 37 55.1 +5.1
KSH *e*PPP 01 39 37.3
KSH S S 01 44 33.6 +0.9
KSH XS sS 01 44 43.3 +3.2
KSH *e*PS 01 45 08.1
KSH *e*SKS 01 45 11.0
KSH *e*SCS ScS 01 45 14.3 -1.2
KSH *e*SS SS 01 49 17.3 +5.9
KSH AMB AMB
comp=Z,110nm,1.8s,mb5.5
KSH AMB AMB
comp=Z,1µm,7.8s
KSH LR LR
comp=N,1µm,14.8s,MS5.7
KSH LR LR
comp=E,3µm,17.3s,MS5.7
AGO Saint Agoulin 72.53 338 *e*P **P 01 35 09.0 0.0**
VRHR Novokhopersk 72.55 5 *e*P **P 01 35 08.2 -0.9**
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,1.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
WET Wettzell 72.57 346 *e*P **P 01 35 08.6 -0.7**
comp=Z,31nm,2.1s,mb4.9
WET Wettzell 72.57 346 *e*P **P 01 35 08.6 -0.7**
WET pmax pmax
comp=Z,31nm,2.1s,mb4.9
FELD Feldberg 72.63 342 *e*P **P 01 35 10.3 +0.7**
KK31 Karatay Array 72.72 28 *i* P **P 01 35 09.0 -1.2**
KK31 pmax pmax
comp=Z,101nm,1.6s,mb5.5
KKAR Karatay Array 72.72 28 *i* P **P 01 35 09.0 -1.2**
KKAR pmax pmax
comp=Z,167nm,1.7s,mb5.7
SMF Signal de Mont 72.81 339 *e*P **P 01 35 10.2 -0.5**
comp=Z,23nm,0.8s,mb4.8
MOF Molkenrain 72.86 342 *e*P **P 01 35 11.7 +0.7**
HINF Hinteralfeld 72.91 342 *e*P **P 01 35 10.6 -0.7**
comp=Z,170nm,1.8s,mb5.4
BFO Black Forest 72.95 343 *e*P **P 01 35 11.3 -0.2**
comp=Z,24nm,1.7s,mb4.8
BFO Black Forest 72.95 343 *e*P **P 01 35 11.3 -0.2**
BFO pmax pmax
comp=Z,24nm,1.7s,mb4.8
LIBD Limburg 72.99 342 *e*P **P 01 35 12.9 +1.1**
VOR Voronezh 73.00 4 P **P 01 35 13.0 +1.2**
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.3
PRU Pruhonice 73.01 347 *e*P **P 01 35 12.9 +1.0**
DPC Dobruska-Polom 73.01 349 *e*P **P 01 35 11.0 -0.9**
PBRG Braganca 73.03 330 *e*P **P 01 35 12.1 +0.1**
TCF Toulx Ste Croi 73.05 338 *e*P **P 01 35 12.2 +0.1**
comp=Z,102nm,1.4s,mb5.3
BGF Bois d'Agland 73.06 339 *e*P **P 01 35 11.9 -0.3**
AVF Avril sur Loir 73.09 339 *e*P **P 01 35 11.9 -0.5**
STU Stuttgart 73.12 344 *e*P **P 01 35 12.6 0.0**
comp=Z,62nm,1.8s,mb5.2
STU Stuttgart 73.12 344 *e*P **P 01 35 12.3 -0.3**
STU *e* 01 35 29.3
STU pmax pmax
comp=Z,52nm,1.4s,mb5.3
STU Stuttgart 73.12 344 *e*P **P 01 35 12.3 -0.2**
comp=Z,52nm,1.4s,mb5.3
STU *e*PcP PcP 01 35 29.3 +0.1
MUN Mundaring 73.14 118 *e*P **P 01 35 12.8 +0.1**
ECH Echery 73.18 342 *e*P **P 01 35 13.2 +0.3**
UPC Upice 73.22 349 *e*P **P 01 35 12.6 -0.5**
HAU Haudompre 73.22 341 *e*P **P 01 35 13.6 +0.4**
comp=Z,130nm,1.4s,mb5.4
HAU *e*R
comp=Z,3µm,23.0s
SSF Saint Saulge 73.28 339 *e*P **P 01 35 12.6 -0.9**
comp=Z,17nm,1.1s,mb4.6
WLS Welschbruch 73.30 342 *e*P **P 01 35 14.0 +0.4**
ROTZ Rotzenmuhle 73.31 346 *e*P **P 01 35 13.4 -0.2**
comp=Z,36nm,1.3s,mb5.1
CDF Champ du Feu 73.32 342 *e*P **P 01 35 12.9 -0.8**
comp=Z,92nm,1.6s,mb5.2
LOR Lormes 73.35 339 *e*P **P 01 35 13.2 -0.7**
comp=Z,20nm,0.8s,mb4.8
LOR *e*R
comp=Z,4µm,19.8s
AML Almayashu 73.38 30 P **P 01 35 14.2 +0.1**
SNR=15
GRA1 Grafenberg Arr 73.46 345 *e*P **P 01 35 14.6 0.0**
comp=Z,80nm,1.6s,mb5.4
GRF Grafenberg Arr 73.46 345 *e*P **P 01 35 14.6 0.0**
comp=Z,80nm,1.6s,mb5.4
GRF Grafenberg Arr 73.46 345 *e*P **P 01 35 14.6 0.0**
GRF pmax pmax
comp=Z,80nm,1.6s,mb5.4
GRF Grafenberg Arr 73.46 345 *e*P **P 01 35 14.6 0.0**
GRF pmax pmax
comp=Z,80nm,1.6s,mb5.4
SHL Shillong 73.50 53 *e*P **P 01 35 16.0 +1.2**
SHL *e*P 01 36 10.7
SHL AMb AMB 01 36 19.8
comp=Z,1µm,0.9s
PVCC Panska Ves 73.52 348 *e*P **P 01 35 14.0 -0.9**
THEF They Montfort 73.53 341 *e*P **P 01 35 15.5 +0.5**
LANF Langenberg 73.69 343 *e*P **P 01 35 16.8 +0.9**
NKC Novy Kostel 73.69 346 *e*P **P 01 35 15.5 -0.4**
EKS2 Erkin-Say 73.83 30 P **P 01 35 16.6 -0.1**
SNR=11
WERD Werda 73.92 346 *e*P **P 01 35 17.2 -0.1**
comp=Z,39nm,1.9s,mb5.0
BRG Berggiesshubel 73.97 347 *e*P **P 01 35 16.8 -0.8**
comp=Z,21nm,1.9s,mb4.7
BRG Berggiesshubel 73.97 347 *e*P **P 01 35 17.2 -0.4**
comp=Z,3.9nm,0.9s,mb4.3
BRG Berggiesshubel 73.97 347 *e*P **P 01 35 17.2 -0.4**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TOD Tromm 73.99 344 *e*P **P 01 35 18.3 +0.6**
MEZF Maizieres J'vi 74.06 341 *e*P **P 01 35 18.1 0.0**
comp=Z,88nm,1.3s,mb5.2
KZA Kyzart 74.08 31 P **P 01 35 18.0 -0.2**
SNR=9.2
AAK Ala-Archa 74.14 30 P **P 01 35 18.9 +0.3**
SNR=8.0
AAK Ala-Archa 74.14 30 P **P 01 35 17.5 -1.1**
comp=Z,46nm,0.9s,mb5.4,SNR=5.8
AAK Ala-Archa 74.14 30 *d i*P **P 01 35 17.7 -0.9**
AAK pmax pmax
comp=Z,14nm,1.2s,mb4.8
AAK Ala-Archa 74.14 30 P **P 01 35 18.6 0.0**
MFF Saint Martin d 74.17 337 *e*P **P 01 35 18.4 -0.3**
comp=Z,49nm,1.1s,mb5.1
AB31 Akbulak array 74.22 18 *i* P **P 01 35 17.2 -1.8**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MOX Moxa 74.26 346 *e*P **P 01 35 19.0 -0.2**
comp=Z,27nm,1.8s,mb4.9
MOX Moxa 74.26 346 *e*P **P 01 35 19.3 +0.1**
comp=Z,22nm,1.4s,mb4.9
MOX Moxa 74.26 346 *e*P **P 01 35 19.3 +0.1**
MOX pmax pmax
comp=Z,22nm,1.4s,mb4.9
FRU Bishkek 74.35 30 *e*P **P 01 35 21.0 +1.2**
FRU pmax pmax
comp=Z,300nm,3.0s
KBK Karagaybulak 74.37 31 P **P 01 35 20.1 +0.2**
SNR=19
KLBR Kellerberrin 74.51 118 *e*P **P 01 35 18.3 -2.4**
RUP Ruppelstein 74.55 343 *e*P **P 01 35 20.8 -0.1**
CLL Collm 74.58 347 *e*P **P 01 35 20.6 -0.5**
comp=Z,11nm,0.5s,mb5.0
CLL Collm 74.58 347 *i* P **P 01 35 21.0 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
CLL *i* pP pP 01 35 23.7 -1.9
comp=Z,37nm,1.5s
CLL *i* PcP PcP 01 35 36.9 +1.4
CLL Collm 74.58 347 *i* P **P 01 35 21.0 -0.1**
CLL *i* 01 35 36.9
CLL pmax pmax
comp=Z,37nm,1.5s,mb5.1
CLL MLR MLR
comp=Z,3µm,15.9s,MS5.6
CLL Collm 74.58 347 *i* P **P 01 35 21.0 -0.1**
comp=Z,37nm,1.5s,mb5.1
CLL *i* 01 35 36.9
CLL LR LR
comp=Z,3µm,15.9s,MS5.6
USP Ospenovka 74.63 30 P **P 01 35 21.0 -0.4**
SNR=10
TNS Taunus Mts 74.65 344 *e*P **P 01 35 21.4 -0.1**
comp=Z,26nm,1.6s,mb4.9
TNS Taunus Mts 74.65 344 *e*P **P 01 35 21.4 -0.1**
TNS pmax pmax
comp=Z,26nm,1.6s,mb4.9
WLF Walferdange 74.77 342 P **P 01 35 22.1 -0.1**
WLF AP pP 01 35 24.6 -2.1
UBBA Unterbreizbach 74.80 345 *e*P **P 01 35 22.2 -0.2**
comp=Z,14nm,0.6s,mb5.1
TKM2 Tokmak 2 74.88 31 P **P 01 35 23.0 +0.1**
SNR=20
LSA Lhasa 75.31 50 P **P 01 35 26.5 +1.2**
LSA Lhasa 75.31 50 *e*P **P 01 35 26.3 +1.0**
LSA pmax pmax
comp=Z,16nm,0.7s,mb5.1
LSA Lhasa 75.31 50 *e*P **P 01 35 26.3 +1.0**
comp=Z,16nm,0.7s,mb5.1
RUE Ruedersdorf 75.53 348 *e*P **P 01 35 26.3 -0.3**
comp=Z,24nm,1.1s,mb5.0
RUE Ruedersdorf 75.53 348 *e*P **P 01 35 25.7 -0.9**
comp=Z,16nm,0.4s,mb5.3
GIVF Givet 75.55 341 *e*P **P 01 35 26.3 -0.4**
comp=Z,88nm,1.3s,mb5.2
DOU Dourbes 75.61 341 P **P 01 35 28.5 +1.4**
DOU XP sP 01 35 32.1 -1.1
SUW Suwalki 75.62 354 *e*P **P 01 35 26.7 -0.4**
MEM Membach 75.66 342 P **P 01 35 27.4 +0.1**
MEM AP pP 01 35 30.8 -1.0
CLZ Clausthal 75.66 346 *e*P **P 01 35 27.3 0.0**
comp=Z,26nm,1.8s,mb4.9
CLZ Clausthal 75.66 346 *e*P **P 01 35 27.3 0.0**
CLZ pmax pmax
comp=Z,26nm,1.8s,mb4.9
GKP Gorka Klasztor 75.67 350 *e*P **P 01 35 28.1 +0.7**
BAIF Baives 75.70 341 *e*P **P 01 35 27.2 -0.3**
comp=Z,90nm,1.4s,mb5.2
MNK Minsk 75.74 357 *e*P **P 01 35 27.0 -0.8**
HGN Heimansgroeve 75.82 342 *e*P **P 01 35 28.8 +0.5**
comp=Z,23nm,1.7s,mb4.8
LDF La Druitiere 75.84 338 *e*P **P 01 35 27.5 -0.9**
comp=Z,60nm,1.1s,mb5.1
BUG Bochum--Univer 76.07 344 *e*P **P 01 35 29.8 +0.1**
comp=Z,51nm,1.6s,mb5.2
SNF Seneffe 76.07 341 P **P 01 35 30.7 +1.0**
SNF AP pP 01 35 32.0 -2.1
SNF XP sP 01 35 35.8 0.0
FLN La Foliniere 76.11 338 *e*P **P 01 35 29.0 -0.9**
FLN *e*R
comp=Z,4µm,22.5s
OBN Obninsk 76.25 2 *i* P **P 01 35 30.3 -0.4**
OBN *e* 01 38 24.0
OBN *e* 01 45 19.2
OBN pmax pmax
comp=Z,62nm,1.9s,mb5.2
OBN MLR MLR
comp=Z,1µm,19.0s,MS5.2
UCC Uccle 76.31 342 P **P 01 35 30.6 -0.4**
QUIF Quistinic 76.40 336 *e*P **P 01 35 31.0 -0.5**
comp=Z,67nm,1.3s,mb5.1
SGMF Saint Gilles 76.44 336 *e*P **P 01 35 30.5 -1.3**
comp=Z,92nm,1.4s,mb5.2
BDFB Brasilia 76.61 258 P **P 01 35 33.3 +0.6**
comp=Z,26nm,0.6s,mb5.3,baz=123,slow=4.6,SNR=27
BDFB LR LR 02 06 55.7
comp=Z,10µm,18.5s,MS6.2,baz=117,slow=34
WTSB Winterswijk 76.67 343 *e*P **P 01 35 34.4 +1.3**
comp=Z,36nm,1.7s,mb5.0
IBBN Ibbenburen 76.73 344 *e*P **P 01 35 33.6 +0.2**
comp=Z,16nm,1.4s,mb4.8
ROSF Rostrenen 76.78 336 *e*P **P 01 35 32.6 -1.1**
comp=Z,119nm,1.5s,mb5.3
VNDA Vanda 76.82 170 P **P 01 35 34.6 +0.7**
comp=Z,38nm,1.2s,mb5.2,baz=264,slow=5.6,SNR=26
VNDA Vanda 76.82 170 P **P 01 35 34.7 +0.8**
VNDA pmax pmax
comp=Z,38nm,1.2s
VNDA Vanda 76.82 170 P **P 01 35 35.1 +1.2**
comp=Z,50nm,1.2s,mb5.3
MOS Moscow 76.92 2 *e*P **P 01 35 36.8 +2.3**
MOS *e* 01 35 46.2
MOS pmax pmax
comp=Z,70nm,1.3s,mb5.4
SBA Scott Base 77.35 171 P **P 01 35 39.0 +2.1**
SBA *e* pP 01 35 43.9 +2.5
BSEG Bad Segeberg 77.62 346 *e*P **P 01 35 38.0 -0.4**
comp=Z,70nm,2.1s,mb5.2
USHA Ushuaia 79.31 215 P **P 01 35 49.7 +2.0**
comp=Z,22nm,0.8s,mb5.1,baz=86,slow=5.6,SNR=10
MBWA Marble Bar 79.31 109 *e*P **P 01 35 49.0 +1.3**
comp=Z,65nm,1.5s,mb5.3
VSU Vasula 79.75 356 *i* P **P 01 35 48.7 -1.5**
MUD Monsted U'grnd 80.20 347 *i* P **P 01 35 52.9 +0.3**
comp=Z,20nm,0.7s,mb5.2
MUD Monsted U'grnd 80.20 347 *i* P **P 01 35 52.9 +0.3**
MUD pmax pmax
comp=Z,20nm,0.7s,mb5.2
ZRNK Zerenda 80.24 21 *e*P **P 01 35 51.2 -1.6**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZRNK Zerenda 80.24 21 *e*P **P 01 35 51.2 -1.6**
comp=Z,10nm,0.7s,mb4.9
VOSK Vostochnaya 80.73 22 P **P 01 35 55.4 0.0**
VOSK pmax pmax
comp=Z,14nm,1.8s,mb4.6
BRVK Borovoye 80.76 22 P **P 01 35 54.2 -1.4**
comp=Z,92nm,0.6s,mb5.9,SNR=13
BVA0 Borovoye Array 80.77 22 *i* P **P 01 35 54.0 -1.6**
BVA0 pmax pmax
comp=Z,200nm,3.0s
MK31 Makanchi Array 80.96 32 *i* P **P 01 35 55.1 -1.5**
MK31 pmax pmax
comp=Z,13nm,1.2s,mb4.7
MKAR Makanchi Array 80.96 32 P **P 01 35 55.1 -1.5**
comp=Z,5.9nm,0.8s,mb4.6,baz=218,slow=5.3,SNR=31
MKAR LR LR 02 10 14.0
comp=Z,1µm,21.5s,MS5.2,baz=210,slow=34
MKAR Makanchi Array 80.96 32 *i* P **P 01 35 55.9 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
TRQA Tornquist 81.14 233 P **P 01 35 58.8 +1.2**
comp=Z,45nm,1.4s,mb5.2
CPUP Villa Florida 81.39 245 P **P 01 36 01.7 +2.8**
CPUP pmax pmax
comp=Z,59nm,1.3s
CPUP Villa Florida 81.39 245 P **P 01 36 01.7 +2.8**
comp=Z,59nm,1.3s,mb5.4
KMI Kunming 81.69 59 P **P 01 36 02.5 +2.0**
KMI SS SS 01 51 36.8 +6.6
KMI AMB AMB
comp=Z,15nm,0.9s,mb4.9
KMI LR LR
comp=Z,2µm,38.1s,MS5.1
WMQ Urumqi 81.77 36 *e*P **P 01 36 00.0 -1.0**
WMQ XP sP 01 36 07.0 -0.1
WMQ PP PP 01 39 09.0 +1.1
WMQ S S 01 46 10.0 -3.6
WMQ PS 01 47 01.0
WMQ SS SS 01 51 32.0 +0.6
WMQ AMB AMB
comp=Z,12nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,3µm,7.0s
WMQ LR LR
comp=N,1µm,10.0s,MS5.8
WMQ LR LR
comp=E,2µm,10.0s,MS5.8
WMQ LR LR
comp=Z,1µm,10.0s,MS5.6
KLMR Klimovskoe 82.11 3 *e*P **P 01 36 01.2 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.6s,mb5.0
KURK Kurchatov 82.12 27 P **P 01 36 02.2 -0.6**
comp=Z,132nm,1.4s,mb5.7,SNR=24
KURK Kurchatov 82.12 27 *e*P **P 01 36 02.2 -0.6**
KURK pmax pmax
comp=Z,16nm,0.8s,mb5.0
KURK Kurchatov 82.12 27 *e*P **P 01 36 02.2 -0.6**
comp=Z,16nm,0.8s,mb5.0
FINES FINESS Array B 82.76 356 P **P 01 36 05.5 -0.7**
comp=Z,6.7nm,0.7s,mb4.8,baz=143,slow=6.7,SNR=28
FINES FINESS Array B 82.76 356 P **P 01 36 05.5 -0.6**
FINES pmax pmax
comp=Z,7.0nm,0.7s
SOKR Solikamsk 82.93 12 *e*P **P 01 36 06.9 -0.1**
SOKR pmax pmax
comp=Z,50nm,1.1s,mb5.5
KAF Kangasniemi 83.42 357 *ep* **P 01 36 07.7 -1.8**
comp=Z,12nm,0.7s,mb5.0,baz=170,slow=4.7
KAF Kangasniemi 83.42 357 *e*P **P 01 36 07.7 -1.8**
KAF pmax pmax
comp=Z,13nm,0.7s,mb5.1
JOF Joensuu 84.05 359 *ep* **P 01 36 12.5 -0.3**
comp=Z,5.5nm,0.7s,mb4.8
NB2 NORSAR Subarra 84.08 349 P **P 01 36 11.9 -1.0**
comp=Z,7.4nm,0.9s,mb4.8,baz=159,slow=5.3
NOA NORSAR Array B 84.08 349 P **P 01 36 12.7 -0.2**
comp=Z,7.5nm,0.7s,mb4.9,baz=153,slow=4.8,SNR=22
NOA NORSAR Array B 84.08 349 P **P 01 36 12.7 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 85.21 54⇓*i*P **P 01 36 18.8 +0.2**
CD2 AP pP 01 36 23.5 +0.4
CD2 PP PP 01 39 37.8 +1.7
CD2 S 01 46 43.0
CD2 SS SS 01 52 25.8 +3.5
CD2 AMB AMB
comp=Z,40nm,1.4s,mb5.4
CD2 LR LR
comp=N,840nm,19.8s
CD2 LR LR
comp=Z,840nm,17.4s,MS5.2
GYA Guiyang 85.44 59⇑*i*P **P 01 36 19.9 +0.1**
GYA AP pP 01 36 24.8 +0.5
GYA XP sP 01 36 27.4 +1.5
GYA PP PP 01 39 39.8 +1.8
GYA PPP 01 41 36.1
GYA S 01 46 49.0
GYA SS SS 01 52 27.3 +1.6
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,2µm,3.9s
GYA LR LR
comp=E,1µm,17.8s
GYA LR LR
comp=Z,1µm,17.9s,MS5.4
FITZ Fitzroy Crossi 85.58 108 *e*P **P 01 36 21.7 +1.2**
comp=Z,12nm,0.8s,mb5.2
PLCA Paso Flores 86.25 228 P **P 01 36 25.0 +1.2**
comp=Z,7.7nm,0.9s,mb4.9,baz=103,slow=4.1,SNR=9.8
PLCA LR LR 02 08 37.6
comp=Z,2µm,21.9s,MS5.5,baz=116,slow=31
GTA Gaotai 86.61 45 P **P 01 36 26.0 +0.5**
GTA AP pP 01 36 30.8 +0.7
GTA XP sP 01 36 33.5 +1.8
GTA PP PP 01 39 48.8 +1.4
GTA PPP 01 41 46.8
GTA SKS 01 46 49.8
GTA S 01 46 59.6
GTA SS SS 01 52 41.5 -1.3
GTA AMB AMB
comp=Z,8.0nm,0.8s,mb5.0
GTA AMB AMB

comp=Z,2μm,11.4s
GTA LR LR
comp=N,2μm,22.1s,MS5.7
GTA LR LR
comp=E,3μm,21.7s,MS5.7
GTA LR LR
comp=Z,4μm,19.8s,MS5.8
NVS Novosibirsk 87.04 26 *i* P **P 01 36 25.9 -1.8**
NVS *e* 01 47 07.2
NVS pmax pmax
comp=Z,22nm,0.6s,mb5.6
NVS pmax pmax
comp=N,13nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.6s
LZH Lanzhou 87.73 50 *e*P **P 01 36 31.8 +0.8**
LZH AP pP 01 36 35.3 -0.2
LZH XP sP 01 36 37.6 +0.5
LZH PP PP 01 39 59.9 +3.4
LZH SKS 01 46 58.0
LZH *e*S 01 47 10.5
LZH *e*SS SS 01 53 01.0 +1.8
LZH AMB AMB
comp=Z,140nm,1.6s,mb5.9
LZH AMB AMB
comp=Z,600nm,6.2s
LZH LR LR
comp=E,2μm,15.6s
LZH LR LR
comp=Z,4μm,19.9s,MS5.9
ASAR Alice Springs 90.65 116 P **P 01 36 45.7 +1.0**
comp=Z,11nm,0.8s,mb5.2,baz=244,slow=4.0,SNR=77
ASAR PKKPbc PKKPbc 01 54 10.6 -0.4
comp=Z,0.5nm,0.5s,baz=64,slow=2.2,SNR=3.5
ASAR Alice Springs 90.65 116 P **P 01 36 45.7 +1.0**
ASAR pmax pmax
comp=Z,11nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 90.86 357 P **P 01 36 44.5 -1.2**
comp=Z,3.1nm,0.7s,mb4.7,baz=169,slow=1.2,SNR=5.6
ARCES ARCESS Array B 90.86 357 P **P 01 36 44.5 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 92.50 112 P **P 01 36 54.2 +0.9**
comp=Z,3.0nm,0.8s,mb4.8,baz=247,slow=3.1,SNR=21
WRA PKKPbc PKKPbc 01 54 05.3 -1.0
comp=Z,0.5nm,0.7s,baz=65,slow=3.0,SNR=4.6
WRA Warramunga Arr 92.50 112 P **P 01 36 54.2 +0.9**
WRA 01 54 05.3
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WB2 Warramunga Arr 92.51 112 *e*P **P 01 36 53.9 +0.6**
WRAB Tennant Creek 92.52 112 *i* P **P 01 36 51.0 -2.4**
STKA Stephens Creek 93.28 126 P **P 01 36 56.1 -0.8**
comp=Z,5.2nm,0.7s,mb5.1,baz=307,slow=3.0,SNR=6.5
STKA PKKPbc PKKPbc 01 54 00.9 -3.3
comp=Z,2.2nm,0.7s,baz=135,slow=9.0,SNR=3.0
STKA Stephens Creek 93.28 126 *e*P **P 01 36 56.0 -0.9**
ZAK Zakamensk 94.23 37 *e*P **P 01 37 01.2 0.0**
ZAK pmax pmax
comp=Z,16nm,1.9s,mb5.1
LPAZ La Paz 94.44 251 P **P 01 37 02.8 +0.6**
comp=Z,8.5nm,0.8s,mb5.2,baz=75,slow=5.3,SNR=13
LPAZ LR LR 02 15 21.0
comp=Z,3μm,21.9s,MS5.8,baz=265,slow=33
LPAZ La Paz 94.44 251 *e*P **P 01 37 02.6 +0.4**
LPAZ pmax pmax
comp=Z,30nm,1.4s
LPAZ La Paz 94.44 251 *e*P **P 01 37 02.6 +0.4**
comp=Z,30nm,1.4s,mb5.5
DAV Davao City (W) 94.58 84 P **P 01 37 01.5 -1.4**
SONM Songino Array 94.86 40 P **P 01 37 03.0 -1.1**
comp=Z,2.4nm,0.7s,mb4.7,baz=235,slow=5.0,SNR=22
SONM Songino Array 94.86 40 P **P 01 37 03.0 -1.1**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SSE Sheshan 98.97 60 P **P 01 37 22.8 +0.1**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.9
SSE AMB AMB
comp=Z,2μm,12.0s
MDJ Mudanjiang 109.03 49 PDIF Pdif 01 38 08.6 +1.2
MDJ PP PP 01 42 43.5 +4.0
MDJ S Sdif 01 50 16.8 -0.1
MDJ PS PS 01 52 06.3 +0.7
MDJ SS SS 01 58 00.8 +2.6
MDJ LR LR
comp=N,804nm,22.2s
MDJ LR LR
comp=E,350nm,27.6s
MDJ LR LR
comp=Z,614nm,20.9s,MS5.2
RES Resolute Bay 120.21 346 PKPdf PKPdf 01 42 33.1 0.0
SEY Seymchan 121.96 28 *i* PKIKP PKPdf 01 42 34.6 -1.9
BILL Bilibino 125.08 20 *i* PKIKP PKPdf 01 42 40.1 -2.4
SWET Sewanee 125.58 299 *e*PKPdf PKPdf 01 42 43.2 -0.2
WCI Wyandotte Cave 125.94 302 PKPdf PKPdf 01 42 45.0 +0.9
EYMN Ely 128.81 315 PKPdf PKPdf 01 42 54.5 +4.8
FVM French Village 129.20 302 PKPdf PKPdf 01 42 54.9 +4.5
CCM Cathedral Cave 129.84 302 *e*PKPdf PKPdf 01 42 51.6 +0.1
UALR University of 130.83 298 PKPdf PKPdf 01 42 57.6 +4.1
ULM Lac du Bonnet 131.05 319 PKP PKPdf 01 42 52.8 -1.1
comp=Z,4.3nm,0.6s,baz=94,slow=2.8,SNR=11
YKW3 Yellowknife Ar 133.44 340 PKPdf PKPdf 01 42 57.7 -0.6
YKA Yellowknife Ar 133.49 340 PKP PKPdf 01 42 57.2 -1.3
comp=Z,2.6nm,0.6s,baz=41,slow=2.1,SNR=36
YKA Yellowknife Ar 133.49 340 PKIKP PKPdf 01 42 57.2 -1.3
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 133.49 340 PKP PKPdf 01 42 57.2 -1.3
KSU1 Kansas State U 133.94 304 PKPdf PKPdf 01 43 04.6 +5.3
WMOK Wichita Mounta 136.13 298 PKPdf PKPdf 01 43 05.5 +2.1
ILAR Eielson Array 136.65 0 PKhKP 01 42 49.9
comp=Z,0.2nm,0.6s,baz=349,slow=3.1,SNR=4.9
ILAR PKP PKPdf 01 43 03.2 -1.1
comp=Z,1.4nm,0.9s,baz=304,slow=3.2,SNR=9.6
ILAR Eielson Array 136.65 0 PKHKP 01 42 49.9
ILAR 01 43 03.3
ILAR pmax pmax
comp=Z,1.0nm,0.9s
EDM Edmonton 139.32 330 *e*PKP PKPdf 01 43 05.2 -4.1
SDCO Great Sand Dun 141.04 304 PKPdf PKPdf 01 43 08.8 -3.6
SMCO Snowmass 141.81 307 *e*PKP PKPdf 01 43 11.1 -2.7
MNTX Cornudas Mount 141.91 294 PKPdf PKPdf 01 43 08.6 -5.4
HRY Holter Researc 142.17 320 PKPdf PKPdf 01 43 12.7 -1.8
ANMO Albuquerque 142.36 300 PKPdf PKPdf 01 43 14.5 -0.2
PDAR Pinedale Array 142.47 313 PKhKP 01 43 09.4
comp=Z,2.7nm,0.8s,baz=78,slow=6.5,SNR=18
YFT Old Faithful 142.62 316 PKPdf PKPdf 01 43 16.5 +1.3
QLMT Earthquake Lak 142.83 317 *e*PKPdf PKPdf 01 43 13.1 -2.5
LOHW Long Hollow 142.83 315 PKPdf pPKPdf 01 43 24.7 +4.4
MOOW Moose Ponds 142.86 315 PKPdf PKPdf 01 43 15.9 +0.2
CHMT Chamberlain Mo 142.91 321 *e*PKP PKPdf 01 43 12.6 -3.2
LRM Limekiln Ridge 142.99 319 PKPdf PKPdf 01 43 19.0 +3.2
REDW Red Top Meadow 143.10 315 PKPdf PKPdf 01 43 16.6 +0.5
BSMT Bassoo Peak 143.26 324 PKPdf PKPdf 01 43 14.5 -1.9
PV01 Paradox Valley 143.30 306 PKPdf PKPdf 01 43 15.0 -1.5
DLMT Dillon 143.30 319 *e*PKPdf PKPdf 01 43 16.5 0.0
PV10 Paradox Valley 143.58 306 *e*PKPdf PKPdf 01 43 16.4 -0.5
MCMT McKenzie Canyo 143.72 318 *e*PKPdf PKPdf 01 43 16.2 -0.9
NEW Newport 144.28 326 PKPdf PKPdf 01 43 18.4 +0.2
TCUT Toone Canyon 144.38 312 *e*PKPdf PKPdf 01 43 17.5 -0.8
SRU San Rafael 144.46 308 PKPdf PKPdf 01 43 17.6 -0.8
DAU Daniels Canyon 144.54 310 PKPdf PKPdf 01 43 18.3 -0.3
TMUT Trail Mountain 144.90 309 PKPab PKPdf 01 43 19.4 +0.2
MPU Maple Canyon 144.95 310 PKPab PKPdf 01 43 19.7 +0.4
SPUT South Promonto 145.03 312 *e*PKPbc PKPbc 01 43 20.1 +1.3
HVU Hansel Valley 145.05 313 PKPdf PKPdf 01 43 19.7 +0.2
NOQ North Oquirrh 145.06 311 PKPdf PKPdf 01 43 20.0 +0.5
NLU North Lily Min 145.29 310 *e*PKPdf PKPdf 01 43 17.4 -2.5
HLID Hailey 145.32 317 PKPdf PKPdf 01 43 20.5 +0.6
BGU Big Grassy Mou 145.58 312 *e*PKPdf PKPdf 01 43 24.4 +4.0
OD2 Odessa Site #2 145.66 326 P PKPdf 01 43 20.9 +0.4
DUG Dugway 145.72 311 *e*PKP2 PKPab 01 43 21.5 +0.1
MSU Marysvale 145.88 308 *e*PKP2 PKPab 01 43 23.2 +1.2
MVU Marysvale 145.91 308 *e*PKP pPKPdf 01 43 29.2 +3.6
CBSW Chelan Butte S 146.08 327 P PKPdf 01 43 22.6 +1.4
WTV Waterville 146.10 327 P PKPdf 01 43 22.6 +1.3
EPH Ephrata 146.15 326 P PKPdf 01 43 23.0 +1.7
WUAZ Wupatki 146.17 302 *e*PKPdf PKPdf 01 43 23.5 +2.1
WRD Warden 146.26 325 P PKPdf 01 43 22.9 +1.3
TUC Tucson 146.38 296 *e*PKPdf PKPdf 01 43 23.9 +2.2
BMO Blue Mountains 146.40 321 *e*PKHKP 01 43 23.0
BMO 01 43 25.0
WAH2 Wahluke Slope 146.52 325 P PKPdf 01 43 24.5 +2.5
GBB Gable Butte 146.64 325 P PKPdf 01 43 25.0 +2.8
H2OWA Water 146.67 325 P PKPdf 01 43 25.0 +2.8
MDW Midway 146.71 325 P PKPdf 01 43 24.9 +2.6
HAWA Hanford 146.73 325 PKPdf PKPdf 01 43 24.9 +2.5
MXC Moxie City 147.01 326 P PKPdf 01 43 25.9 +3.1
ARUT Antelope Range 147.06 307 *e*PKP PKPdf 01 43 26.9 +4.0
ELK Elko 147.18 313 *e*PKPdf PKPdf 01 43 25.5 +2.4
GNW Green Mountain 147.60 329 PKPdf PKPdf 01 43 27.7 +3.9
LON Longmire 147.68 327 PKP2 PKPab 01 43 27.2 -1.8
OTR Olympics--Tyee 147.93 331 P PKPdf 01 43 28.9 +4.6
CPW Capitol Peak 148.17 329 P PKPdf 01 43 29.2 +4.5
WVOR Wild Horse Val 148.55 318 *e*PKP PKPdf 01 43 29.3 +3.9
BMN Battle Mountai 148.66 314 *e*PKIKP PKPdf 01 43 27.0 +1.5
SHPR Sheep Range 148.80 306 PKPdf PKPdf 01 43 31.3 +5.5
NEN Nelson 148.84 304 *e*PKPdf PKPdf 01 43 27.3 +1.4
LDFC Landfair 149.22 303 *e*PKP PKPdf 01 43 32.7 +6.3
GLA Glamis 149.56 299 PKPdf PKPdf 01 43 32.8 +5.8
HBO Huckleberry Mo 149.88 324 P PKPdf 01 43 32.9 +5.4
MOD Modoc 149.88 319 *e*PKPdf PKPdf 01 43 29.1 +1.7
NVAR Mina Array Bea 150.33 311 PKP PKPdf 01 43 30.5 +2.3
comp=Z,2.1nm,0.7s,baz=116,slow=2.9,SNR=14
NVAR PKPbc PKPbc 01 43 35.5 +2.1
comp=Z,6.3nm,0.6s,baz=74,slow=3.3,SNR=32
GSC Goldstone 150.46 304 PKPab PKPab 01 43 44.5 +4.3
DAC Darwin (Calif) 150.71 307 *e*PKPdf PKPdf 01 43 29.8 +1.0
PFO Pinyon Flat Ob 150.72 301 PKPdf PKPdf 01 43 35.7 +6.9
HUMO Hull Mountain 151.03 322 *e*PKPdf PKPdf 01 43 30.5 +1.2
WAKR Walker 151.08 312 PKPdf PKPdf 01 43 34.5 +5.1
BAR Barrett 151.15 299 PKPdf PKPdf 01 43 36.2 +6.7
YBH Yreka Blue Hor 151.43 321 *e*PKPdf PKPdf 01 43 30.4 +0.5
YBH PKPdf PKPdf 01 43 34.8 +4.9
ISA Isabella 151.60 306 PKPdf PKPdf 01 43 35.7 +5.5
MWC Mount Wilson 151.80 303 PKPdf PKPdf 01 43 38.1 +7.6
CMB Columbia Colle 151.96 312 PKPdf PKPdf 01 43 37.6 +6.9
OHCM Honcut 152.04 315 PKPdf PKPdf 01 43 37.0 +6.2

*ISCJB **23** 01:24:54.3±0.4, 4260N±002×4347E±003, h6km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=176.0*
*CSEM **23** 01:24:55.1±0.1, 4264N×4363E, h9km, mb3.6, Error ellipse: s-maj=2.5km s-min=1.7km az=42.0, After OBN*
*MOS **23** 01:24:55.7±0.6, 4264N×4363E, h9km, mb3.6/1, Error ellipse: s-maj=12.8km s-min=6.9km az=73.1*

ISC 23 01:24:54.7±0.4, 4258N±002×4346E±003, h10km±4km, n24, σ0§94/46, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.01**	**260**	P	**Pg**	**01 24 56.5**	**+0.2**
ONI				S	**Sg**	**01 24 58.0**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.33**	**15**	*i* Pg	**Pg**	**01 25 01.5**	**+0.3**
DIGR				*e*Sg	**Sg**	**01 25 06.8**	**+1.2**
ZEI	**Tsey**	**0.37**	**59**	*i* Pg	**Pg**	**01 25 02.5**	**+0.5**
ZEI				*i* Sg	**Sg**	**01 25 08.4**	**+1.5**
LACR	**Lac**	**0.66**	**68**	*i* Pg	**Pg**	**01 25 07.2**	**-0.2**
LACR				*i* Sg	**Sg**	**01 25 16.5**	**+0.4**
KORR	**Kora**	**0.67**	**41**	*e*Pg	**Pg**	**01 25 07.3**	**-0.4**
KORR				*e*Sg	**Sg**	**01 25 16.9**	**+0.5**
LSNR	**Lesken**	**0.74**	**20**	*e*Pg	**Pg**	**01 25 08.5**	**-0.4**
LSNR				*e*Sg	**Sg**	**01 25 18.9**	**+0.3**
GOR	**Gori**	**0.76**	**141**	P	**Pg**	**01 25 28.9**	**+19**
GOR				S	**Sg**	**01 25 39.7**	**+20**
BKR	**Bakuriani**	**0.85**	**178**	P	**Pg**	**01 25 10.4**	**-0.6**
BKR				S	**Sg**	**01 25 22.6**	**+0.5**
ARNR	**Ardon**	**0.85**	**44**	*e*PG	**Pg**	**01 25 10.5**	**-0.6**
ARNR				*e*S	**Sg**	**01 25 22.3**	**+0.1**
KMSR	**Komsomolskaya**	**1.00**	**37**	*e*Pg	**Pg**	**01 25 12.8**	**-1.0**
KMSR				*e*Sg	**Sg**	**01 25 26.3**	**-0.5**
VLKR	**Vladikavkaz**	**1.01**	**62**	*e*Pg	**Pg**	**01 25 12.9**	**-1.1**
VLKR				*e*Sg	**Sg**	**01 25 26.6**	**-0.5**
CHVG	**Ch'k'valeri**	**1.03**	**278**	P	**Pg**	**01 25 13.6**	**-0.8**
CHVG				S	**Sg**	**01 25 28.0**	**+0.2**
DUS	**Dusheti**	**1.04**	**118**	S	**Sg**	**01 25 30.9**	**+2.6**
SNJR	**Sundja**	**1.10**	**63**	*e*Pg	**Pg**	**01 25 14.5**	**-1.4**
SNJR				*e*Sg	**Sg**	**01 25 29.3**	**-0.9**
BTKR	**Batakoyurt**	**1.12**	**45**	*e*Pg	**Pg**	**01 25 14.7**	**-1.5**
BTKR				*e*Sg	**Sg**	**01 25 29.6**	**-1.1**
AKH	**Akhalkalaki**	**1.17**	**179**	P	**Pb**	**01 25 15.9**	**-1.2**
AKH				S	**Sb**	**01 25 31.7**	**-0.5**
KUBR	**Kubataba**	**1.22**	**358**	*e*Pg	**Pg**	**01 25 19.4**	**+1.3**
KUBR				*e*Sg	**Sg**	**01 25 36.8**	**+2.9**
TBLG	**Delisi**	**1.27**	**131**	P	**Pn**	**01 25 18.5**	**-0.1**
TBLG				S	**Sb**	**01 25 35.2**	**0.0**
TBLG	**Delisi**	**1.27**	**131**	Pg	**Pg**	**01 25 18.5**	**-0.6**
TBLG				Sg	**Sg**	**01 25 35.1**	**-0.6**
SHAR	**Shatzhatmas**	**1.30**	**334**	*e*Pg	**Pg**	**01 25 19.8**	**+0.2**
SHAR				*e*Sg	**Sg**	**01 25 36.6**	**+0.1**
MTA	**Mtatsminda**	**1.33**	**131**	P	**Pn**	**01 25 21.2**	**+1.9**
MTA				S	**Sb**	**01 25 37.6**	**+0.8**
MTA	**Mtatsminda**	**1.33**	**131**	P	**Pn**	**01 25 20.0**	**+0.6**
MTA				S	**Sb**	**01 25 37.9**	**+1.1**
KIV	**Kislovodsk**	**1.49**	**338**	*e*Pg	**Pg**	**01 25 22.8**	**-0.4**
KIV				*e*Sg	**Sg**	**01 25 42.2**	**-0.3**
DGRG	**David-gareji**	**1.82**	**128**	P	**Pn**	**01 25 29.0**	**+3.0**
DGRG				S	**Sn**	**01 25 53.0**	**+3.9**

IDC 23 01:34:25.8±27.0, 2288S×17360W, h0km, mb4.8/4, mb1 4.9/4, mb1mx4.3/15, mbtmp4.8/4, MS4.4/1, Ms1 4.4/1, ms1mx3.6/23, Error ellipse: s-maj=494.5km s-min=139.7km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.46**	**269**	LR	LR	01 43 32.5	
	comp=Z,1μm,20.5s,baz=208,slow=30						
CTA	**Charters Tower**	**37.38**	**266**	*e*P	P	01 41 41.2	+1.0
	15nm,0.4s						
CTA	**Charters Tower**	**37.38**	**266**	P	P	01 41 41.2	+1.0
	17nm,0.4s,baz=96,slow=11,SNR=39						
STKA	**Stephens Creek**	**40.55**	**247**	*e*P	P	01 42 05.6	-1.1
	1.5nm,0.3s						
STKA	**Stephens Creek**	**40.55**	**247**	P	P	01 42 05.8	-0.9
	1.7nm,0.3s,baz=87,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**48.00**	**258**	P	P	01 43 06.9	+0.5
	4.0nm,0.5s,baz=97,slow=7.1,SNR=44						
ASPA	**Alice Springs**	**48.00**	**258**	*e*P	P	01 43 07.2	+0.8
WB2	**Warramunga Arr**	**48.34**	**263**	*e*P	P	01 43 09.5	+0.4
WRA	**Warramunga Arr**	**48.35**	**263**	P	P	01 43 09.6	+0.5
	9.2nm,0.4s,baz=97,slow=8.3,SNR=211						
FITZ	**Fitzroy Crossi**	**56.78**	**263**	*e*P	P	01 44 14.2	+2.6
	10.0nm,0.8s						
KLBR	**Kellerberrin**	**60.78**	**246**	*e*P	P	01 44 42.4	+3.0
	27nm,1.2s						

FUNV 23 01:44:18.9, 746N×7230W, h17km, MW3.6, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.41**	**358**	‖*e*P	Pg	01 44 26.8	-0.4
CAPV				*e*S	Sg	01 44 33.3	+0.5
SOCV	**Socops**	**1.65**	**60**	‖*e*P	Pn	01 44 46.0	-1.0
SOCV				*e*S	Sn	01 45 07.3	-0.5
VIGV	**El Vigia**	**1.66**	**34**	*e*P	Pn	01 44 47.1	0.0
VIGV				*e*S	Sn	01 45 07.0	-1.0
ELOV	**Elorza**	**2.83**	**99**	*e*P	Pn	01 45 03.0	-0.3
ELOV				*e*S	Sn	01 45 34.6	-2.3
VIRV	**Villa del Rosa**	**3.03**	**358**	*e*P	Pn	01 45 05.8	-0.1
VIRV				*e*S	Sn	01 45 38.9	-2.9
CURV	**Curarigua**	**3.43**	**42**	*e*P	Pn	01 45 11.0	-0.6
CURV				*e*S	Sn	01 45 49.3	-2.5
DABV	**Dabajuro**	**3.81**	**25**	*e*P	Pn	01 45 16.1	-0.7
DABV				*e*S	Sn	01 45 57.9	-3.3
TEPV	**Terepaima**	**3.95**	**51**	*e*P	Pn	01 45 17.6	-1.1
TEPV				*e*S	Sn	01 46 01.8	-2.9
SIQV	**Siquisique**	**4.01**	**38**	*e*P	Pn	01 45 18.6	-0.9
BAUV	**El Baul**	**4.46**	**70**	*e*P	Pn	01 45 23.9	-1.8

IDC 23 01:51:32.5±2.7, 4969S×11814E, h0km, mb3.8/3, mb1 4.2/4, mb1mx4.0/12, mbtmp4.1/4, ML2.6/1, Error ellipse: s-maj=123.0km s-min=26.5km az=94.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.77**	**357**	Pn	Pn	01 55 30.6	+1.9
	1.1nm,0.3s,baz=185,slow=11,SNR=10						
ASAR	**Alice Springs**	**28.77**	**31**	P	P	01 57 32.1	+0.2
	0.8nm,0.7s,baz=211,slow=8.2,SNR=9.3						
WRA	**Warramunga Arr**	**32.38**	**29**	P	P	01 58 03.8	+0.1
	1.2nm,1.0s,baz=200,slow=8.9,SNR=4.8						
VNDA	**Vanda**	**32.40**	**164**	P	P	01 58 04.3	+0.4
	1.5nm,0.8s,baz=294,slow=10,SNR=4.8						
PDAR	**Pinedale Array**	**146.75**	**83**	PKPbc	PKPbc	02 11 14.3	-2.1
	0.9nm,0.9s,baz=158,slow=1.6,SNR=7.3						
YKA	**Yellowknife Ar**	**148.87**	**46**	PKPbc	PKPbc	02 11 19.8	-2.3
	0.8nm,0.8s,baz=279,slow=2.2,SNR=17						

WEL 23 02:06:11.0±0.3, 3720S×17724E, h145km±2km, ML3.5/7, 2D, Error ellipse: s-maj=3.1km s-min=2.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**114**	PN	Pn	02 06 34.6	+0.1
MXZ				SN	Sn	02 06 52.4	-0.2
URZ	**Urewera**	**1.07**	**186**	‖PN	Pn	02 06 35.9	+0.1
URZ				SN	Sn	02 06 54.8	+0.1
MWZ	**Matawai**	**1.16**	**169**	PN	Pn	02 06 36.7	0.0
MWZ				SN	Sn	02 06 56.9	+0.7
PUZ	**Puketiti**	**1.19**	**138**	‖PN	Pn	02 06 37.0	0.0
PUZ				SN	Sn	02 06 56.2	-0.6
KNZ	**Kokohu**	**1.85**	**170**	PN	Pn	02 06 43.5	-0.5
KNZ				SN	Sn	02 07 08.0	-1.4
MRZ	**Mangatainoka R**	**3.70**	**200**	PN	Pn	02 07 04.1	-3.0
MRZ				SN	Sn	02 07 45.8	-4.8
KIW	**Kapiti Island**	**4.09**	**206**	SN	Sn	02 07 54.7	-5.0
MRW	**Makara Radio**	**4.49**	**205**	SN	Sn	02 08 03.7	-5.5
TCW	**Tory Channel**	**4.63**	**209**	PN	Pn	02 07 16.3	-3.0
TUWZ	**Tuamarina**	**4.94**	**210**	*e*PN	Pn	02 07 20.0	-3.5

IDC 23 02:08:25.1±8.8, 1535S×17305W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/16, mbtmp3.7/2, Error ellipse: s-maj=443.3km s-min=26.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**41**	PN	Pn	02 08 57.1	-1.5
	32nm,0.3s,baz=212,slow=9.5,SNR=8.6						
AFI				Sn	Sn	02 09 15.5	-7.7
	114nm,0.3s,baz=230,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**50.18**	**257**	P	P	02 17 22.3	-0.2
	0.4nm,0.5s,baz=91,slow=6.8,SNR=5.8						
ASAR	**Alice Springs**	**50.45**	**252**	P	P	02 17 24.3	-0.2
	0.9nm,0.6s,baz=89,slow=8.0,SNR=11						
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc	PKPbc	02 28 10.0	+2.2
	0.8nm,0.9s,baz=51,slow=2.8,SNR=5.3						

IDC 23 02:15:46.5±4.2, 4913S×11523E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=295.1km s-min=53.3km az=114.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**29.37**	**37**	P	P	02 21 51.1	0.0
	0.6nm,0.7s,baz=210,slow=8.8,SNR=6.0						
WRA	**Warramunga Arr**	**32.91**	**35**	P	P	02 22 22.5	+0.1
	1.1nm,0.9s,baz=201,slow=9.8,SNR=4.6						
PDAR	**Pinedale Array**	**148.59**	**84**	PKPbc	PKPbc	02 35 34.5	-0.9
	0.3nm,0.7s,baz=219,slow=0.6,SNR=3.0						
YKA	**Yellowknife Ar**	**149.83**	**45**	PKPbc	PKPbc	02 35 36.7	-1.8
	0.1nm,0.7s,baz=276,slow=2.3,SNR=5.2						

*ISCJB **23** 02:19:11.8±0.9, 4958S±009×118.1E±04, h10km, mb4.3/6, Error ellipse: s-maj=36.7km s-min=11.5km az=19.2*
*IDC **23** 02:19:12.4±2.1, 4950S×11801E, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.4/12, mbtmp4.4/5, ML2.6/1, Error ellipse: s-maj=78.5km s-min=23.6km az=98.0*
*NEIC **23** 02:19:13.3±0.6, 4958S×11791E, h10km, mb4.4/3, Error ellipse: s-maj=29.2km s-min=8.8km az=99.0*

ISC 23 02:19:13.5±0.9, 4961S±009×1180E±04, h10km, n33, σ0§62/13, mb4.3/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.67**	**358**	Pn	**Pn**	**02 23 07.6**	**+0.3**
	1.0nm,0.3s,baz=186,slow=14,SNR=9.3						
NWAO	**Narrogin (SRO)**	**16.67**	**358**	Pn	**Pn**	**02 23 07.6**	**+0.3**
CASY	**Casey**	**17.16**	**190**	P	**Pn**	**02 23 12.4**	**-1.0**
	20nm,1.1s						
STKA	**Stephens Creek**	**24.98**	**54**	*e*P	**P**	**02 24 36.8**	**-0.4**
	5.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**24.98**	**54**	P	**P**	**02 24 37.0**	**-0.2**
	6.8nm,0.9s,mb4.2,baz=211,slow=9.3,SNR=7.5						
STKA	**Stephens Creek**	**24.98**	**54**	*e*P	**P**	**02 24 36.9**	**-0.3**
ASAR	**Alice Springs**	**28.73**	**31**	P	**P**	**02 25 11.0**	**0.0**
	3.4nm,0.9s,mb4.1,baz=211,slow=8.0,SNR=21						
FITZ	**Fitzroy Crossi**	**32.02**	**14**	*e*P	**P**	**02 25 40.5**	**+0.4**
	8.7nm,1.7s,mb4.3						
WRA	**Warramunga Arr**	**32.34**	**30**	P	**P**	**02 25 42.7**	**-0.2**
	4.0nm,0.8s,mb4.3,baz=200,slow=11,SNR=27						
WB2	**Warramunga Arr**	**32.34**	**30**	*e*P	**P**	**02 25 42.6**	**-0.3**
WRAB	**Tennant Creek**	**32.35**	**30**	*e*P	**P**	**02 25 42.6**	**-0.4**
	7.8nm,0.8s,mb4.6						
VNDA	**Vanda**	**32.50**	**164**	P	**P**	**02 25 45.7**	**+1.4**
	4.3nm,0.8s,mb4.4,baz=287,slow=8.2,SNR=12						
VNDA	**Vanda**	**32.50**	**164**	P	**P**	**02 25 45.7**	**+1.4**
MNTX	**Cornudas Mount**	**143.12**	**103**	*e*PKPdf	PKPdf	02 38 46.6	-1.1
HLID	**Hailey**	**144.07**	**79**	*e*PKPdf	PKPdf	02 38 49.1	-0.3
HVU	**Hansel Valley**	**144.25**	**83**	*e*PKPdf	PKPdf	02 38 47.6	-2.0
NEW	**Newport**	**144.43**	**71**	*e*PKPdf	PKPdf	02 38 48.9	-1.1
PV10	**Paradox Valley**	**144.87**	**90**	*e*PKPdf	PKPdf	02 38 51.5	+0.8
JCT	**Junction City**	**145.78**	**110**	*e*PKPbc	PKPbc	02 38 52.5	-0.2
CHMT	**Chamberlain Mo**	**146.29**	**75**	*e*PKPbc	PKPbc	02 38 53.5	-0.9
SNOW	**Snow King Moun**	**146.37**	**82**	*e*PKPbc	PKPbc	02 38 54.8	+0.3
MOOW	**Moose Ponds**	**146.51**	**81**	*e*PKPbc	PKPbc	02 38 54.6	-0.4
LOHW	**Long Hollow**	**146.54**	**81**	*e*PKPbc	PKPbc	02 38 54.3	-0.7
SMCO	**Snowmass**	**146.65**	**91**	*e*PKPbc	PKPbc	02 38 56.1	+0.8
SDCO	**Great Sand Dun**	**146.81**	**94**	*e*PKPbc	PKPbc	02 38 55.5	-0.4
PDAR	**Pinedale Array**	**146.81**	**83**	PKPbc	PKPbc	02 38 55.2	-0.7
	2.2nm,0.9s,baz=222,slow=2.0,SNR=16						
YKA	**Yellowknife Ar**	**148.86**	**46**	PKPbc	PKPbc	02 38 58.9	-2.4
	1.0nm,0.8s,baz=280,slow=2.1,SNR=19						
**YKA

0.4nm,0.5s,mb3.6,baz=130,slow=6.7,SNR=6.1
YKA Yellowknife Ar 133.25 340 PKP PKPdf 02 40 39.6 -3.2
0.2nm,0.6s,baz=42,slow=1.9,SNR=4.1
HLID Hailey 144.95 317 *e*PKPbc PKPdf 02 41 03.1 -1.1
MSU Marysvale 145.49 308 *e*PKPbc PKPbc 02 41 04.6 -0.6
BMO Blue Mountains 146.06 321 *e*PKPbc PKPbc 02 41 05.5 -1.4

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*NAO **23** 02:22:01.5,2394S×3039E,h33km,mb5.4*
*SZGRF **23** 02:22:05.4,2138S×3492E,h18km,mb5.1,Mozambique*
*BJI **23** 02:22:06.8,2148S×3309E,h27km,mB6.0,mb5.2,Ms5.4, Msz5.1*
*IDC **23** 02:22:06.7±0.4,2128S×3345E,h0km,mb4.8/20, mb1 5.0/24,mb1mx5.0/26,mbtmp4.9/24,ML5.2/4,MS4.9/7, Ms1 4.9/7,ms1mx4.4/26,Error ellipse: s-maj=16.2km s-min=11.1km az=97.0*
*MOS **23** 02:22:07.4±0.9,2112S×3361E,h10km,mb5.4/48,Error ellipse: s-maj=13.6km s-min=4.8km az=95.8*
*ISCJB **23** 02:22:07.4±0.2,2129S±004×3353E±005,h15km, mb5.2/145,MS5.2/10,Error ellipse: s-maj=6.5km s-min=5.3km az=122.8*
*NEIC **23** 02:22:07.7±0.2,2142S×3349E,h10km,mb5.3/65,Error ellipse: s-maj=5.9km s-min=4.7km az=101.0*
ISC 23 02:22:09.3±0.2,2135S±004×3348E±004,h16km, h16km±1.0km:pP-P,n452,σ0:92/380,mb5.2/145,MS5.2/10, 14C-34D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.86**	**319**	Pn	**Pn**	**02 23 59.8**	**-3.1**
	50nm,0.3s,baz=151,slow=12,SNR=31						
LSZ				Sn	**Sn**	**02 25 21.9**	**-10**
	104nm,0.3s,baz=251,slow=21,SNR=7.1						
LSZ				Lg		02 26 06.2	
	304nm,0.3s,baz=38,slow=23,SNR=15						
LSZ				LR	LR	02 27 18.7	
	comp=Z,4μm,20.3s,baz=146,slow=40						
LSZ	**Lusaka**	**7.86**	**319**	*e*Pn	**Pn**	**02 23 59.6**	**-3.3**
LSZ				*e*Sn	**Sn**	**02 25 21.0**	**-10**
LSZ				*e*		02 26 06.6	
LBTB	**Lobatse**	**8.12**	**242**	Pn	**Pn**	**02 24 05.1**	**-1.3**
	30nm,0.3s,baz=67,slow=13,SNR=21						
LBTB				Sn	**Sn**	**02 25 31.4**	**-6.5**
	124nm,0.3s,baz=334,slow=23,SNR=9.7						
LBTB				Lg		02 26 16.3	
	312nm,0.3s,baz=168,slow=23,SNR=11						
LBTB				LR	LR	02 27 26.7	
	comp=Z,9μm,21.9s,baz=83,slow=39						
LBTB	**Lobatse**	**8.12**	**242**	*e*Pn	**Pn**	**02 24 04.7**	**-1.7**
	362nm,0.6s						
LBTB				*e*Sn	**Sn**	**02 25 32.8**	**-5.1**
BOSA	**Boshof**	**10.39**	**224**	Pn	**Pn**	**02 24 35.5**	**-2.1**
	19nm,0.3s,baz=52,slow=14,SNR=22						
BOSA				Sn	**Sn**	**02 26 24.2**	**-9.4**
	75nm,0.3s,baz=34,slow=9.6,SNR=7.8						
BOSA				Lg		02 27 31.1	
	73nm,0.3s,baz=319,slow=20,SNR=7.7						
BOSA				LR	LR	02 28 58.6	
	comp=Z,7μm,19.1s,baz=53,slow=40						
BOSA	**Boshof**	**10.39**	**224**	*e*P	**Pn**	**02 24 34.4**	**-3.1**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOSA	**Boshof**	**10.39**	**224**	*e*Pn	**Pn**	**02 24 34.4**	**-3.1**
	comp=Z,1.2nm,0.8s						
BOSA				*e*Sn	**Sn**	**02 26 23.0**	**-11**
OPO	**Ambohidratompo**	**13.18**	**80**	Pn	**Pn**	**02 25 14.8**	**-0.9**
	comp=Z,4.3nm,0.3s,baz=258,slow=13,SNR=14						
OPO				Sn	**Sn**	**02 27 34.6**	**-7.4**
	comp=Z,28nm,0.3s,baz=309,slow=23,SNR=7.7						
TSUM	**Tsumeb**	**15.07**	**275**	Pn	**Pn**	**02 25 37.8**	**-3.7**
	comp=Z,7.7nm,0.3s,baz=105,slow=12,SNR=17						
TSUM				Sn	**Sn**	**02 28 16.0**	**-12**
	comp=Z,8.7nm,0.3s,baz=218,slow=21,SNR=6.8						
TSUM				Lg		02 29 51.7	
	comp=Z,12nm,0.3s,baz=24,slow=20,SNR=4.2						
TSUM	**Tsumeb**	**15.07**	**275**	*e*Pn	**Pn**	**02 25 37.2**	**-4.2**
	comp=Z,120nm,0.9s						
SUR	**Sutherland**	**15.75**	**223**	Pn	**Pn**	**02 25 46.9**	**-3.4**
	comp=Z,2μm,0.8s,SNR=16						
SUR	**Sutherland**	**15.75**	**223**	Pn	**Pn**	**02 25 47.8**	**-2.5**
	comp=Z,7.7nm,0.3s,baz=51,slow=11,SNR=30						
SUR				Sn	**Sn**	**02 28 33.6**	**-11**
	comp=Z,11nm,0.3s,baz=143,slow=22,SNR=9.7						
SUR				Lg		02 30 14.7	
	comp=Z,12nm,0.3s,baz=323,slow=20,SNR=8.6						
SUR				LR	LR	02 32 13.0	
	comp=Z,4μm,19.1s,baz=50,slow=38						
SUR	**Sutherland**	**15.75**	**223**	*e*Pn	**Pn**	**02 25 47.0**	**-3.3**
	comp=Z,398nm,0.9s						
KMBO	**Kilima Mbogo**	**20.43**	**11**	P	**P**	**02 26 45.5**	**-0.2**
	comp=Z,20nm,1.3s,baz=188,slow=13,SNR=26						
KMBO				S	**S**	**02 30 37.0**	**+2.9**
	comp=Z,4.8nm,1.0s,baz=255,slow=20,SNR=1.9						
KMBO				Lg		02 32 44.1	
	comp=Z,84nm,1.1s,baz=76,slow=23,SNR=7.6						
KMBO	**Kilima Mbogo**	**20.43**	**11**	*e*P	**P**	**02 26 46.1**	**+0.3**
	comp=Z,183nm,1.9s						
TORD	**Torodi Ar. Bea**	**46.36**	**315**	P	**P**	**02 30 33.5**	**-1.1**
	comp=Z,28nm,1.1s,mb5.1,baz=130,slow=6.0,SNR=75						
SYO	**Syowa Base**	**47.81**	**177⇑**	*e*P	**P**	**02 30 46.1**	**+0.2**
SYO	**Syowa Base**	**47.81**	**177⇑**	*e*sP	sP	02 30 52.2	-0.8
SYO	**Syowa Base**	**47.81**	**177⇑**	*e*PcP	PcP	02 32 15.1	+0.5
EIL	**Elat**	**50.74**	**2**	*e*P	**P**	**02 31 09.4**	**+1.1**
	comp=Z,346nm,1.2s,mb6.2						
NAY	**Al-Naaiem**	**52.02**	**15**	*e*P	**P**	**02 31 18.2**	**+0.3**
NAY				AMb	AMB	02 31 19.9	
	comp=Z,35nm,1.2s,mb5.2						
KBD	**Kabd**	**52.07**	**16**	*e*P	**P**	**02 31 18.7**	**+0.5**
KBD				AMb	AMB	02 31 21.3	
	comp=Z,344nm,1.4s,mb6.1						
UMR	**Umm Al-Rimmam**	**52.43**	**16**	*e*P	**P**	**02 31 21.6**	**+0.6**
UMR				AMb	AMB	02 31 24.4	
	comp=Z,234nm,1.2s,mb6.0						
MIB	**Mutribah**	**52.58**	**15**	*e*P	**P**	**02 31 22.3**	**+0.3**
MIB				AMb	AMB	02 31 24.7	
	comp=Z,120nm,1.1s,mb5.8						
PALK	**Pallekele**	**54.37**	**64**	*e*P	**P**	**02 31 35.9**	**+0.7**
	comp=Z,9.5nm,0.4s,mb5.1						
SNAA	**Sanae**	**54.48**	**193**	P	**P**	**02 31 36.4**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7,baz=58,slow=7.1,SNR=14						
SNAA	**Sanae**	**54.48**	**193⇑**	*i*P	**P**	**02 31 37.0**	**+1.0**
SNAA				*e*	pP	02 31 42.7	+1.5
SNAA	**Sanae**	**54.48**	**193**	*i* P	**P**	**02 31 35.0**	**-1.0**
SNAA	**Sanae**	**54.48**	**193**	*e*P	**P**	**02 31 36.0**	**-0.1**
	comp=Z,91nm,1.3s,mb5.5						
VNA2	**Neumayer--Watz**	**55.00**	**195⇑**	*i*P	**P**	**02 31 40.7**	**+0.9**
	baz=43,slow=7.7						
VNA2				*e*	pP	02 31 43.7	-1.3
VNA2				*e*	pP	02 31 46.4	+1.4
VNA1	**Neumayer--Stat**	**55.03**	**196⇑**	*i*P	**P**	**02 31 37.0**	**-3.0**
BOM	**Bombay**	**55.52**	**47**	*ex*	x	02 32 18.3	
VNA3	**Neumayer Olymp**	**55.77**	**196⇑**	*i*P	**P**	**02 31 45.8**	**+0.5**
VNA3				*e*	pP	02 31 48.8	-1.7
VNA3				*e*	pP	02 31 51.6	+1.1
CSS	**Prodhromos**	**56.00**	**360**	*e*P	**P**	**02 31 47.8**	**+0.9**
	comp=Z,64nm,1.4s,mb5.5						
XRY	**Khrisi**	**56.40**	**352**	*e*P	**P**	**02 31 50.5**	**+0.7**
SIVA	**Sivas**	**56.66**	**351**	*e*P	**P**	**02 31 52.2**	**+0.5**
LAST	**Lasithi**	**56.71**	**352**	*e*P	**P**	**02 31 52.2**	**+0.1**
NPS	**Neapolis**	**56.79**	**352**	*e*P	**P**	**02 31 44.5**	**-8.1**
KARP	**Karpathos**	**56.90**	**354**	*e*P	**P**	**02 31 55.0**	**+1.6**
VAM	**Vamos**	**57.13**	**351**	*e*P	**P**	**02 31 57.0**	**+2.0**
ARG	**Arkhangelos**	**57.48**	**355**	*e*P	**P**	**02 32 00.0**	**+2.6**
COBT	**Iskenderun**	**57.61**	**3**	*i* P	**P**	**02 31 58.9**	**+0.4**
ERMK	**Ermenek**	**57.68**	**359**	*i* P	**P**	**02 31 48.3**	**-11**
SANT	**Santorini**	**57.91**	**352**	*e*P	**P**	**02 32 00.3**	**-0.2**
	comp=Z,49nm,1.1s,mb5.5						
GOLH	**Golhisar**	**58.39**	**356**	*i* P	**P**	**02 31 59.8**	**-4.0**
APE	**Apeiranthos**	**58.59**	**353**	*e*P	**P**	**02 32 06.0**	**+0.8**
APE	**Apeiranthos**	**58.59**	**353**	*e*P	**P**	**02 32 04.4**	**-0.9**
APE	**Apeiranthos**	**58.59**	**353**	⇑P	**P**	**02 32 05.9**	**+0.7**
HYB	**Hyderabad**	**58.61**	**52**	*i* P	**P**	**02 32 05.0**	**-0.4**
HYB	**Hyderabad**	**58.61**	**52**	*e*P	**P**	**02 32 05.0**	**-0.4**
AYDN	**Tasoluk**	**58.93**	**355**	*i* P	**P**	**02 32 04.6**	**-3.0**
ISP	**Isparta**	**58.94**	**357**	*i* P	**P**	**02 32 08.2**	**+0.5**
ISP	**Isparta**	**58.94**	**357**	*i* Pr	**P**	**02 32 08.2**	**+0.5**
SMG	**Samos**	**59.07**	**354**	*e*P	**P**	**02 32 10.5**	**+1.9**
TKTP	**Tekketepe**	**59.15**	**357**	*i* P	**P**	**02 32 07.5**	**-1.6**
MALT	**Malatya**	**59.53**	**5**	⇓P	**P**	**02 32 12.9**	**+1.1**
MALT	**Malatya**	**59.53**	**5**	*e*P	**P**	**02 32 11.8**	**+0.1**
	comp=Z,31nm,1.5s,mb5.1						
NAIG	**Nisos Aigina**	**59.54**	**351**	*e*P	**P**	**02 32 12.5**	**+0.7**
KDAG	**Bornova**	**59.72**	**354**	*i* P	**P**	**02 32 10.3**	**-2.7**
ELZG	**Elazig**	**59.75**	**5**	*i* P	**P**	**02 32 09.4**	**-3.9**
PTL	**Penteli**	**59.77**	**351**	*e*P	**P**	**02 32 15.0**	**+1.6**
MPAR	**Parnis Oros**	**59.89**	**351**	*e*P	**P**	**02 32 15.5**	**+1.3**
TVAN	**Van**	**60.28**	**9**	*i* P	**P**	**02 32 17.1**	**+0.1**
ESKT	**Eskisehir**	**60.60**	**358**	*i* P	**P**	**02 32 14.2**	**-4.9**
PRK	**Paraskevi**	**60.65**	**354**	*e*P	**P**	**02 32 21.0**	**+1.5**
CDAG	**Cicekdag**	**60.66**	**1**	*i* P	**P**	**02 32 15.1**	**-4.4**
BRTR	**Keskin Array B**	**60.75**	**0**	P	**P**	**02 32 20.4**	**+0.2**
	comp=Z,8.0nm,1.1s,mb4.8,baz=176,slow=7.3,SNR=49						
BRTR	**Keskin Array B**	**60.75**	**0**	P	**P**	**02 32 20.4**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BR131	**Keskin Array S**	**60.76**	**0**	*e*P	**P**	**02 32 19.7**	**-0.5**
	comp=Z,14nm,1.2s,mb5.0						
ANTO	**Ankara**	**60.90**	**359**	*e*P	**P**	**02 32 21.2**	**0.0**
ANTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ANTO	**Ankara**	**60.90**	**359**	*e*P	**P**	**02 32 21.2**	**0.0**
	comp=Z,4.3nm,0.6s,mb4.8						
AGG	**Agios Georgios**	**60.95**	**350**	*e*P	**P**	**02 32 21.2**	**-0.3**
BORA	**Eskisehir**	**60.98**	**357**	*i* P	**P**	**02 32 14.2**	**-7.5**
ULDT	**Uludag**	**61.30**	**356**	*i* P	**P**	**02 32 22.8**	**-1.1**
NGP	**Nagpur**	**61.36**	**49**	*e*P	**P**	**02 32 23.2**	**-1.1**
NGP				AMb	AMB	02 32 25.6	
	comp=Z,29nm,1.3s,mb5.2						
ELDT	**Eldivan**	**61.52**	**360**	*i* P	**P**	**02 32 20.9**	**-4.5**
BHPL	**Bhopal**	**61.62**	**47**	*e*P	**P**	**02 32 26.4**	**+0.4**
BHPL				AMb	AMB	02 32 28.6	
	comp=Z,73nm,1.0s,mb5.8						
SGKT	**Sivrigoynuk**	**61.62**	**359**	*i* P	**P**	**02 32 22.8**	**-3.2**
CTKT	**Corum**	**61.66**	**1**	*i* P	**P**	**02 32 24.7**	**-1.6**
IGT	**Igoumenitsa**	**61.80**	**348**	*e*P	**P**	**02 32 26.9**	**-0.4**
HENT	**Hendek**	**61.90**	**358**	*i* P	**P**	**02 32 25.7**	**-2.2**
LIT	**Litokhoron**	**61.98**	**350**	*e*P	**P**	**02 32 27.0**	**-1.5**
GNI	**Garni**	**62.07**	**10**	*de*P	**P**	**02 32 28.5**	**-0.6**
GNI				pmax	pmax		
	comp=Z,40nm,1.6s						
GNI	**Garni**	**62.07**	**10**	*e*P	**P**	**02 32 27.8**	**-1.3**
	comp=Z,38nm,1.4s,mb5.3						
GRSN	**GIRESUNGRSN**	**62.11**	**4**	*i* P	**P**	**02 32 26.6**	**-2.7**
TIP	**Timpagrande**	**62.21**	**345**	*e*P	**P**	**02 32 30.2**	**+0.2**
ALN	**Alexandroupoli**	**62.31**	**354**	*e*P	**P**	**02 32 30.7**	**0.0**
VIS	**Vishakhapatnam**	**62.39**	**55**	*e*P	**P**	**02 32 31.3**	**+0.1**
VIS				AMb	AMB	02 32 33.7	
	comp=Z,26nm,1.9s,mb5.0						
BOYT	**Boyabat**	**62.46**	**1**	*i* P	**P**	**02 32 24.7**	**-7.0**
BALT	**Daday**	**62.56**	**360**	*i* P	**P**	**02 32 29.5**	**-2.8**
SOH	**Sokhos**	**62.56**	**351**	*e*P	**P**	**02 32 31.3**	**-1.1**
RDO	**Rodhopi**	**62.61**	**353**	*e*P	**P**	**02 32 34.5**	**+1.8**
ARTV	**Artvin**	**62.71**	**7**	*i* P	**P**	**02 32 27.6**	**-5.7**
FNA	**Florina**	**62.83**	**350**	*e*P	**P**	**02 32 33.0**	**-1.2**
GRG	**Griva**	**62.84**	**351**	*e*P	**P**	**02 32 33.9**	**-0.3**
KNT	**Kendrikon**	**62.96**	**351**	*e*P	**P**	**02 32 34.3**	**-0.7**
BIA	**Bitola**	**63.07**	**350**	*i* P	**P**	**02 32 35.8**	**+0.1**
VAY	**Valandovo**	**63.17**	**351**	*e*P	**P**	**02 32 34.2**	**-2.1**
VAY	**Valandovo**	**63.17**	**351**	*i* P	**P**	**02 32 36.6**	**+0.2**
OHR	**Ohrid**	**63.25**	**349**	*i* P	**P**	**02 32 37.4**	**+0.4**
STIP	**Stip**	**63.59**	**351**	*i* P	**P**	**02 32 39.2**	**0.0**
SKO	**Skopje**	**63.98**	**350**	*i* P	**P**	**02 32 42.8**	**+1.0**
VTS	**Vitosha**	**64.32**	**352**	⇓P	**P**	**02 32 44.0**	**0.0**
ZEI	**Tsey**	**64.52**	**8**	*e*P	**P**	**02 32 46.2**	**+0.9**
ZEI				*i* *PP	pP	02 32 52.1	+1.6
ZEI				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.3						
NDI	**New Delhi**	**65.23**	**42**	*e*P	**P**	**02 32 49.0**	**-0.9**
CASY	**Casey**	**65.45**	**154**	*e*P	**P**	**02 32 50.6**	**-0.7**
	comp=Z,29nm,1.1s,mb5.2						
ANN	**Anapa**	**65.92**	**3**	*e*P	**P**	**02 32 51.7**	**-2.7**
ANN				*e*S	S	02 41 43.2	+2.1
ANN				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.3						
GRUS	**Gruza**	**65.96**	**350**	⇓*i*P	**P**	**02 32 55.7**	**+1.0**
DIVS	**Divcibare**	**66.29**	**349**	*i* P	**P**	**02 32 57.5**	**+0.8**
DIVS	**Divcibare**	**66.29**	**349**	*e*P	**P**	**02 32 59.4**	**+2.6**
CFR	**Carcaliu**	**66.38**	**356**	⇓P	**P**	**02 32 57.0**	**-0.4**
GOF	**Gofitskoye**	**66.66**	**7**	*e*P	**P**	**02 32 58.1**	**-1.0**
MLR	**Muntele Rosu**	**66.87**	**354**	⇓P	**P**	**02 33 01.1**	**+0.6**
MLR	**Muntele Rosu**	**66.87**	**354**	⇓P	**P**	**02 33 01.1**	**+0.6**
VOIR		**66.91**	**354**	⇓P	**P**	**02 33 00.7**	**0.0**
VOIR		**66.91**	**354**	⇓P	**P**	**02 33 00.7**	**0.0**
SMLA	**Simla**	**66.93**	**40**	*e*P	**P**	**02 32 59.6**	**-1.2**
SMLA				AMb	AMB	02 33 01.6	
	comp=Z,90nm,1.2s,mb5.7						
VRI	**Vrincioaia**	**67.17**	**355**	⇓P	**P**	**02 33 02.9**	**+0.5**
VRI	**Vrincioaia**	**67.17**	**355**	⇓P	**P**	**02 33 02.9**	**+0.5**
PGF	**Pioggiola**	**67.47**	**341**	*e*P	**P**	**02 33 04.3**	**0.0**
	comp=Z,61nm,1.2s,mb5.2						
BZS	**Buzias**	**67.51**	**351**	⇓P	**P**	**02 33 05.1**	**+0.6**
BZS	**Buzias**	**67.51**	**351**	⇓P	**P**	**02 33 05.1**	**+0.6**
BOK	**Bokaro**	**67.93**	**52**	*e*P	**P**	**02 33 06.7**	**-0.4**
BOK				AMb	AMB	02 33 09.1	
	comp=Z,32nm,2.0s,mb5.0						
PSI	**Prapat**	**68.32**	**78**	P	**P**	**02 33 10.6**	**+1.0**
	comp=Z,11nm,0.9s,mb4.9,baz=219,slow=7.9,SNR=9.1						
PSI	**Prapat**	**68.32**	**78**	P	**P**	**02 33 10.6**	**+1.0**
PSI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
PKSM	**Moragy**	**68.57**	**349**	⇓*i*P	**P**	**02 33 11.1**	**-0.1**
RCBR	**Riachuelo**	**68.71**	**272**	*e*P	**P**	**02 33 12.3**	**+0.2**
	comp=Z,54nm,1.5s,mb5.3						
KOLN	**Koldanda**	**68.78**	**47**	*e*P	**P**	**02 33 11.7**	**-0.8**
	comp=Z,122nm,1.3s,mb5.7						
QSPA	**South Pole Qui**	**68.81**	**180**	P	**P**	**02 33 13.0**	**+0.3**
	comp=Z,34nm,1.2s,mb5.2						
GCIS	**Gornji Cirnik**	**68.83**	**347**	*e*P	**P**	**02 33 13.5**	**+0.7**
CEY	**Cerknica**	**68.98**	**346**	*e*P	**P**	**02 33 14.3**	**+0.6**
LMR	**La Mourre**	**68.98**	**339**	*e*P	**P**	**02 33 13.7**	**0.0**
	comp=Z,70nm,1.5s,mb5.1						
KOGS	**Kog**	**69.26**	**347**	*e*P	**P**	**02 33 16.0**	**+0.5**
GROS	**Grobnik**	**69.43**	**347**	*e*P	**P**	**02 33 17.1**	**+0.6**
GKN	**Gorkha**	**69.64**	**47**	*e*P	**P**	**02 33 17.0**	**-0.8**
	comp=Z,127nm,1.2s,mb5.7						
ROBS	**Robic**	**69.67**	**345**	*e*P	**P**	**02 33 18.3**	**+0.3**
OBKA	**Obir**	**69.68**	**346**	⇓*i*P	**P**	**02 33 19.0**	**+0.9**
	comp=Z,31nm,1.5s,mb5.0						
DMN	**Daman**	**69.71**	**48**	*e*P	**P**	**02 33 17.8**	**-0.5**
CAM4	**Nova Friburgo**	**69.82**	**253**	⇓*i*P	**P**	**02 33 19.4**	**+0.5**
CAM4				*i*		02 33 22.0	
CAM4				*i*	pP	02 33 25.0	+0.8
SMRF	**Simiane la Rot**	**69.86**	**339**	*e*P	**P**	**02 33 20.3**	**+1.1**
	comp=Z,82nm,1.5s,mb5.1						
PKI	**Pulchoki**	**69.90**	**48**	*e*P	**P**	**02 33 18.7**	**-0.7**
	comp=Z,135nm,1.3s,mb5.7						
PKI	**Pulchoki**	**69.90**	**48**	*e*P	**P**	**02 33 18.7**	**-0.7**
PKI				pmax	pmax		
	comp=Z,68nm,1.3s,mb5.4						
KKN	**Kakani**	**69.95**	**48**	*e*P	**P**	**02 33 19.2**	**-0.5**
	comp=Z,174nm,1.5s,mb5.8						
KKN	**Kakani**	**69.95**	**48**	*e*P	**P**	**02 33 19.2**	**-0.5**
KKN				pmax	pmax		
	comp=Z,87nm,1.5s,mb5.5						
PSZ	**Piszkesteto**	**70.02**	**350**	*e*P	**P**	**02 33 19.4**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,52nm,1.5s,mb5.2						
PSZ	**Piszkesteto**	**70.02**	**350**	*e*P	**P**	**02 33 19.4**	**-0.8**
	comp=Z,52nm,1.5s,mb5.2						
ESDC	**Sonseca Array**	**70.06**	**330**	P	**P**	**02 33 20.6**	**+0.2**
	comp=Z,20nm,1.1s,mb5.0,baz=142,slow=5.5,SNR=31						
ESLA	**Sonseca Array**	**70.06**	**330**	*e*P	**P**	**02 33 20.5**	**+0.1**
	comp=Z,12nm,1.3s,mb4.7						
MBDF	**Montbardon**	**70.14**	**340**	*e*P	**P**	**02 33 21.8**	**+0.9**
	comp=Z,60nm,1.4s,mb5.0						
ARSA	**Arzberg**	**70.17**	**347**	⇓*i*P	**P**	**02 33 21.6**	**+0.5**
	comp=Z,16nm,1.5s,mb4.7						
ARSA	**Arzberg**	**70.17**	**347**	⇓P	**P**	**02 33 21.6**	**+0.5**
	comp=Z,16nm,1.5s,mb4.7						
SALF	**Salau**	**70.39**	**335**	*e*P	**P**	**02 33 22.5**	**0.0**
GUN	**Gumba**	**70.44**	**48**	*e*P	**P**	**02 33 22.5**	**-0.2**
	comp=Z,259nm,1.3s,mb6.0						
BNI	**Bardonecchia**	**70.46**	**340**	*e*P	**P**	**02 33 21.9**	**-0.9**
BNI				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.1						
BNI	**Bardonecchia**	**70.46**	**340**	*e*P	**P**	**02 33 21.9**	**-1.0**
	comp=Z,31nm,1.3s,mb5.1						
KECS	**Kecovo**	**70.48**	**351**	*e*P	**P**	**02 33 22.6**	**-0.4**
KBA	**Koelnbreinsper**	**70.49**	**346**	⇑*i*P	**P**	**02 33 23.7**	**+0.7**
	comp=Z,25nm,1.4s,mb5.0						
KBA	**Koelnbreinsper**	**70.49**	**346**	⇑P	**P**	**02 33 23.7**	**+0.7**
KBA				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
KBA	**Koelnbreinsper**	**70.49**	**346**	⇑P	**P**	**02 33 23.7**	**+0.7**
	comp=Z,25nm,1.4s,mb5.0						
JIRN	**Jiri**	**70.50**	**48**	*e*P	**P**	**02 33 22.5**	**-0.6**
	comp=Z,113nm,1.1s,mb5.7						
MTLF	**Montolieu**	**70.50**	**336**	*e*P	**P**	**02 33 23.1**	**0.0**
LASF	**Ste Croix**	**70.54**	**338**	*e*P	**P**	**02 33 23.8**	**+0.5**
	comp=Z,135nm,1.7s,mb5.3						
ORIF	**Oris-en-Rattie**	**70.59**	**340**	*e*P	**P**	**02 33 24.5**	**+0.8**
	comp=Z,76nm,1.6s,mb5.1						
ORIF				*e*R			
	comp=Z,910nm,20.8s						
MELF	**Melles**	**70.66**	**335**	*e*P	**P**	**02 33 24.4**	**+0.3**
KOLS	**Kolonicke sedl**	**70.67**	**352**	*e*P	**P**	**02 33 24.7**	**+0.5**
CRVS	**Cervenica-Dubn**	**70.75**	**352**	*e*P	**P**	**02 33 26.5**	**+1.9**
ZST	**Bratislava**	**70.77**	**348**	*e*P	**P**	**02 33 24.3**	**-0.4**
LPG	**La Plagne**	**70.83**	**340**	*e*P	**P**	**02 33 25.2**	**+0.1**
	comp=Z,44nm,1.3s,mb4.9						
LPL	**La Plagne**	**70.86**	**340**	*e*P	**P**	**02 33 25.2**	**-0.1**
	comp=Z,67nm,1.4s,mb5.1						
KULM	**Kulim**	**70.91**	**76**	*e*P	**P**	**02 33 25.4**	**-0.2**
VIVF	**Saint-Julien-I**	**70.94**	**339**	*e*P	**P**	**02 33 26.3**	**+0.5**
	comp=Z,61nm,1.5s,mb5.0						
EPF	**Esparros**	**70.96**	**335**	*e*P	**P**	**02 33 26.1**	**+0.2**
	comp=Z,48nm,1.3s,mb5.0						
MOA	**Molln**	**71.01**	**346**	⇓*i*P	**P**	**02 33 26.6**	**+0.4**
	comp=Z,36nm,1.4s,mb5.1						
WTTA	**Wattenberg**	**71.08**	**344**	⇓*i*P	**P**	**02 33 27.0**	**+0.4**
	comp=Z,23nm,1.4s,mb4.9						
WTTA	**Wattenberg**	**71.08**	**344**	⇓P	**P**	**02 33 27.0**	**+0.4**
WTTA				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
SQTA	**Sankt Quirin**	**71.14**	**344**	⇓*i*P	**P**	**02 33 27.4**	**+0.3**
	comp=Z,17nm,1.2s,mb4.9						
SQTA	**Sankt Quirin**	**71.14**	**344**	⇓P	**P**	**02 33 27.4**	**+0.4**
SQTA				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
SQTA	**Sankt Quirin**	**71.14**	**344**	⇓P	**P**	**02 33 27.4**	**+0.3**
	comp=Z,17nm,1.2s,mb4.9						
EVO	**Evora**	**71.15**	**327**	*e*P	**P**	**02 33 27.0**	**-0.1**
	comp=Z,71nm,1.6s,mb5.0						
EVO				*e*R			
	comp=Z,989nm,19.0s						
ETSF	**Etsaut**	**71.21**	**334**	*e*P	**P**	**02 33 27.5**	**+0.1**
	comp=Z,19nm,1.0s,mb4.7						
STHS	**Stebnicka Huta**	**71.28**	**352**	*e*P	**P**	**02 33 28.1**	**+0.2**
MOTA	**Moosalm**	**71.29**	**344**	⇓*i*P	**P**	**02 33 28.0**	**+0.2**
	comp=Z,23nm,1.2s,mb5.0						
MOTA	**Moosalm**	**71.29**	**344**	⇓P	**P**	**02 33 28.0**	**+0.1**
MOTA				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MOTA	**Moosalm**	**71.29**	**344**	⇓P	**P**	**02 33 28.0**	**+0.1**
	comp=Z,23nm,1.2s,mb5.0						
KWP	**Kalwaria**	**71.31**	**353**	*e*P	**P**	**02 33 27.7**	**-0.3**
KWP				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.2						
KWP	**Kalwaria**	**71.31**	**353**	*e*P	**P**	**02 33 27.7**	**-0.3**
	comp=Z,48nm,1.6s,mb5.2						
NIE	**Niedzica**	**71.42**	**351**

STU	**Stuttgart**	73.10	343	*e*P	P	02 33 38.7	0.0
	comp=Z,14nm,0.6s,mb5.1						
ECH	**Echery**	73.16	342	*e*P	P	02 33 39.5	+0.4
UPC	**Upice**	73.19	348	*e*P	P	02 33 38.7	-0.5
UPC				*e*pP	pP	02 33 43.8	-0.8
HAU	**Haudompre**	73.20	341	*e*P	P	02 33 40.1	+0.8
	comp=Z,94nm,1.4s,mb5.2						
HAU				*e*R			
	comp=Z,578nm,18.2s						
SSF	**Saint Saulge**	73.27	339	*e*P	P	02 33 39.2	-0.5
	comp=Z,74nm,1.7s,mb5.0						
ROTZ	**Rotzenmuhle**	73.28	346	*e*P	P	02 33 39.9	+0.1
	comp=Z,49nm,1.4s,mb5.2						
AML	**Almayashu**	73.28	30	P	P	02 33 39.8	0.0
	SNR=21						
CDF	**Champ du Feu**	73.30	342	*e*P	P	02 33 39.4	-0.5
	comp=Z,44nm,1.3s,mb4.9						
LOR	**Lormes**	73.33	339	*e*P	P	02 33 39.7	-0.4
	comp=Z,71nm,1.7s,mb5.0						
LOR				*e*R			
	comp=Z,628nm,19.5s						
GRA1	**Grafenberg Arr**	73.44	345	*e*P	P	02 33 41.0	+0.3
	comp=Z,64nm,1.5s,mb5.3						
GRA1				*e*pP	pP	02 33 46.2	+0.2
GRF	**Grafenberg Arr**	73.44	345	*e*P	P	02 33 41.0	+0.3
	comp=Z,64nm,1.5s,mb5.3						
GRF				*e*pP	pP	02 33 46.2	+0.2
GRF	**Grafenberg Arr**	73.44	345	*e*P	P	02 33 41.0	+0.3
GRF				*e**PP	pP	02 33 46.2	+0.2
GRF				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
GRF	**Grafenberg Arr**	73.44	345	*e*P	P	02 33 41.0	+0.3
GRF				*e**PP	pP	02 33 46.2	+0.2
GRF				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.3						
THEF	**They Montfort**	73.51	341	*e*P	P	02 33 41.9	+0.7
NKC	**Novy Kostel**	73.66	346	*e*P	P	02 33 41.8	-0.2
LANF	**Langenberg**	73.67	343	*e*P	P	02 33 43.1	+1.0
NWAO	**Narrogin (SRO)**	73.67	119	P	P	02 33 41.9	-0.2
	comp=Z,27nm,1.1s,mb5.1,baz=266,slow=4.9,SNR=5.1						
NWAO	**Narrogin (SRO)**	73.67	119	P	P	02 33 41.9	-0.2
NWAO				pmax	pmax		
	comp=Z,27nm,1.1s						
EKS2	**Erkin-Say**	73.73	30	P	P	02 33 42.4	-0.1
	SNR=17						
HYF	**Humbligny**	73.74	339	*e*P	P	02 33 42.5	0.0
UCH	**Uchtor**	73.74	31	P	P	02 33 43.2	+0.6
	SNR=11						
WERD	**Werda**	73.89	346	*e*P	P	02 33 43.6	+0.2
	comp=Z,19nm,1.4s,mb4.8						
BRG	**Berggiesshubel**	73.94	347	*e*P	P	02 33 43.2	-0.5
	comp=Z,9.0nm,1.5s,mb4.5						
BRG	**Berggiesshubel**	73.94	347	*i* P	P	02 33 43.1	-0.5
	comp=Z,8.0nm,1.4s,mb4.5						
BRG				*e*		02 33 59.4	
	comp=Z,4.8nm,1.6s						
BRG				*e*		02 34 42.5	
	comp=Z,21nm,2.0s						
BRG	**Berggiesshubel**	73.94	347	*i* P	P	02 33 43.1	-0.5
	comp=Z,8.0nm,1.4s,mb4.5						
BRG				*e*		02 33 59.4	
BRG				*e*		02 34 42.5	
TOD	**Tromm**	73.97	344	*e*P	P	02 33 44.8	+1.0
KZA	**Kyzart**	73.98	31	P	P	02 33 44.5	+0.6
	SNR=12						
MEZF	**Maizieres J'vi**	74.04	341	*e*P	P	02 33 44.6	+0.3
	comp=Z,107nm,1.5s,mb5.3						
AAK	**Ala-Archa**	74.05	30	P	P	02 33 44.6	+0.3
	SNR=10						
AAK	**Ala-Archa**	74.05	30	P	P	02 33 43.9	-0.4
	comp=Z,67nm,1.2s,mb5.5,SNR=11						
AAK	**Ala-Archa**	74.05	30	*i* P	P	02 33 43.2	-1.1
AAK				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.9						
AAK	**Ala-Archa**	74.05	30	*e*P	P	02 33 43.0	-1.3
	comp=Z,19nm,1.3s,mb4.9						
MFF	**Saint Martin d**	74.15	337	*e*P	P	02 33 45.0	+0.1
	comp=Z,190nm,1.6s,mb5.5						
MOX	**Moxa**	74.23	346	*e*P	P	02 33 45.4	0.0
	comp=Z,10.0nm,1.2s,mb4.6						
MOX	**Moxa**	74.23	346	*e*P	P	02 33 45.7	+0.3
	comp=Z,24nm,1.5s,mb4.9						
MOX	**Moxa**	74.23	346	*e*P	P	02 33 45.7	+0.3
MOX				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
FRU	**Bishkek**	74.26	30	*e*P	P	02 33 46.0	+0.5
FRU				*e*	pP	02 33 51.0	+0.1
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
KBK	**Karagaybulak**	74.28	30	P	P	02 33 46.3	+0.6
	SNR=19						
CHMS	**Chumysh**	74.45	30	P	P	02 33 46.5	-0.2
	SNR=5.4						
RUP	**Ruppelstein**	74.53	343	*e*P	P	02 33 48.0	+0.9
USP	**Ospenovka**	74.54	30	P	P	02 33 46.7	-0.4
	SNR=16						
CLL	**Collm**	74.55	347	*e*P	P	02 33 47.0	-0.2
	comp=Z,14nm,1.3s,mb4.7						
CLL	**Collm**	74.55	347	⇓*i*P	P	02 33 47.1	-0.1
	comp=Z,23nm,1.3s,mb5.0						
CLL				*i* sP	sP	02 33 52.4	-2.1
CLL				Lm		03 12 00.0	
	comp=Z,800nm,18.3s						
CLL	**Collm**	74.55	347	⇓*i*P	P	02 33 47.1	-0.1
CLL				*i*	pP	02 33 52.4	-0.1
CLL				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
CLL				MLR	MLR		
	comp=Z,800nm,18.3s,MS5.0						
ABH	**Alteburg**	74.56	343	*e*P	P	02 33 48.0	+0.7
ULHL	**Ulahol**	74.59	32	P	P	02 33 47.9	+0.5
	SNR=12						
TNS	**Taunus Mts**	74.62	344	*e*P	P	02 33 47.8	+0.1
	comp=Z,10.0nm,1.1s,mb4.7						
TNS	**Taunus Mts**	74.62	344	*e*P	P	02 33 47.8	+0.1
TNS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WLF	**Walferdange**	74.75	342	P	P	02 33 45.5	-2.8
WLF				AP	pP	02 33 49.1	-4.6
UBBA	**Unterbreizbach**	74.78	345	*e*P	P	02 33 48.7	+0.2
	comp=Z,22nm,1.6s,mb4.8						
TKM2	**Tokmak 2**	74.79	31	P	P	02 33 48.8	+0.2
	SNR=22						
LSA	**Lhasa**	75.20	49	P	P	02 33 52.1	+1.1
LSA	**Lhasa**	75.20	49	*e*P	P	02 33 51.7	+0.7
LSA				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.4						
LSA	**Lhasa**	75.20	49	*e*P	P	02 33 51.6	+0.6
	comp=Z,59nm,1.3s,mb5.4						
RUE	**Ruedersdorf**	75.50	348	*e*P	P	02 33 52.6	-0.1
	comp=Z,45nm,1.5s,mb5.2						
RUE	**Ruedersdorf**	75.50	348	*e*P	P	02 33 52.6	-0.1
	comp=Z,7.7nm,0.4s,mb5.0						
GIVF	**Givet**	75.53	341	*e*P	P	02 33 52.8	-0.1
	comp=Z,55nm,1.4s,mb5.0						
SUW	**Suwalki**	75.57	354	*e*P	P	02 33 52.4	-0.7
DOU	**Dourbes**	75.59	341	P	P	02 33 49.5	-3.8
DOU				AP	pP	02 33 54.3	-4.2
DOU				PCP	PcP	02 34 02.9	-3.2
GKP	**Gorka Klasztor**	75.63	350	*e*P	P	02 33 54.0	+0.5
CLZ	**Clausthal**	75.64	345	*e*P	P	02 33 53.7	+0.2
	comp=Z,28nm,1.8s,mb4.9						
CLZ	**Clausthal**	75.64	345	*e*P	P	02 33 53.7	+0.2
CLZ				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.9						
MEM	**Membach**	75.64	342	P	P	02 33 53.5	0.0
MEM				AP	pP	02 33 54.8	-4.0
BAIF	**Baives**	75.68	341	*e*P	P	02 33 53.7	0.0
	comp=Z,90nm,1.4s,mb5.2						
LDF	**La Druitiere**	75.83	338	*e*P	P	02 33 54.0	-0.6
	comp=Z,59nm,1.3s,mb5.0						
GRR	**Gorron**	75.92	337	*e*P	P	02 33 54.6	-0.5
	comp=Z,94nm,1.5s,mb5.2						
BUG	**Bochum--Univer**	76.04	343	*e*P	P	02 33 56.3	+0.5
	comp=Z,19nm,1.0s,mb5.0						
SNF	**Seneffe**	76.05	341	AP	pP	02 33 57.3	-3.9
SNF				PCP	PcP	02 34 01.5	-6.6
OBN	**Obninsk**	76.20	2	*i* P	P	02 33 56.2	-0.5
OBN				*e*		02 36 45.7	
OBN				*e*S	S	02 43 39.5	-0.7
OBN				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
QUIF	**Quistinic**	76.39	336	*e*P	P	02 33 57.5	-0.3
	comp=Z,134nm,1.7s,mb5.3						
SGMF	**Saint Gilles**	76.44	336	*e*P	P	02 33 57.5	-0.5
	comp=Z,86nm,1.4s,mb5.2						
IBBN	**Ibbenburen**	76.70	344	*e*P	P	02 34 00.0	+0.4
	comp=Z,9.0nm,1.0s,mb4.7						
BDFB	**Brasilia**	76.72	258	P	P	02 34 00.8	+1.1
	comp=Z,32nm,1.0s,mb5.2,baz=101,slow=5.1,SNR=28						
BDFB				LR	LR	03 04 58.9	
	comp=Z,2μm,18.0s,MS5.4,baz=116,slow=34						
VNDA	**Vanda**	76.86	170	P	P	02 34 01.9	+1.4
	comp=Z,37nm,1.2s,mb5.2,baz=260,slow=5.8,SNR=32						
VNDA				LR	LR	03 04 55.8	
	comp=Z,600nm,18.6s,MS4.9,baz=221,slow=33						
VNDA	**Vanda**	76.86	170	*e*P	P	02 34 00.2	-0.2
	comp=Z,73nm,1.4s,mb5.4						
MOS	**Moscow**	76.86	2	*e*P	P	02 33 58.4	-2.0
MOS				*e*	pP	02 34 04.3	-1.5
MOS				*e*		02 36 51.0	
MOS				pmax	pmax		
	comp=Z,86nm,1.6s,mb5.4						
SBA	**Scott Base**	77.39	171	*e*P	P	02 34 05.2	+1.8
	comp=Z,143nm,1.3s,mb5.7						
BSEG	**Bad Segeberg**	77.59	346	*e*P	P	02 34 04.3	-0.2
	comp=Z,37nm,1.4s,mb5.1						
BSD	**Bornholm Skovb**	77.79	349	*i* P	P	02 34 05.3	-0.4
	comp=Z,29nm,1.0s,mb5.2						
BSD	**Bornholm Skovb**	77.79	349	*i* P	P	02 34 05.3	-0.4
BSD				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
MBWA	**Marble Bar**	79.23	109	*e*P	P	02 34 14.3	+0.7
	comp=Z,54nm,1.7s,mb5.2						
ZRNK	**Zerenda**	80.16	21	*e*P	P	02 34 17.3	-1.3
ZRNK				*e**PP	pP	02 34 21.7	-2.3
ZRNK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
ZRNK	**Zerenda**	80.16	21	*e*P	P	02 34 17.3	-1.4
	comp=Z,20nm,1.1s,mb5.0						
ZRNK				*e*pP	pP	02 34 21.7	-2.3
MUD	**Monsted U'grnd**	80.18	347	*i* P	P	02 34 19.4	+0.7
	comp=Z,22nm,1.0s,mb5.0						
MUD				*i*		02 34 26.8	
MUD	**Monsted U'grnd**	80.18	347	*i* P	P	02 34 19.4	+0.7
MUD				*i*		02 34 26.8	
MUD				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
BRVK	**Borovoye**	80.68	21	*e*P	P	02 34 20.2	-1.2
BRVK				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
BRVK	**Borovoye**	80.68	21	*e*P	P	02 34 20.2	-1.2
	comp=Z,36nm,1.6s,mb5.0						
MKAR	**Makanchi Array**	80.86	32	P	P	02 34 21.4	-1.0
	comp=Z,4.5nm,1.0s,mb4.4,baz=224,slow=5.1,SNR=33						
MKAR	**Makanchi Array**	80.86	32	P	P	02 34 21.4	-1.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TRQA	**Tornquist**	81.25	233	*e*P	P	02 34 25.0	+0.5
	comp=Z,39nm,1.3s,mb5.2						
CPUP	**Villa Florida**	81.50	245	*e*P	P	02 34 26.4	+0.6
CPUP				pmax	pmax		
	comp=Z,32nm,1.1s						
CPUP	**Villa Florida**	81.50	245	*e*P	P	02 34 26.4	+0.6
	comp=Z,32nm,1.1s,mb5.2						
KMI	**Kunming**	81.58	59	P	P	02 34 25.3	-0.9
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
WMQ	**Urumqi**	81.67	36	P	P	02 34 27.0	+0.3
WMQ				PP	PP	02 37 36.0	+2.6
WMQ				S	S	02 44 37.0	-1.6
WMQ				PS		02 45 28.0	
WMQ				SS	SS	02 49 59.0	+3.1
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,2μm,7.0s						
WMQ				LR	LR		
	comp=N,1μm,10.0s,MS5.8						
WMQ				LR	LR		
	comp=E,2μm,10.0s,MS5.8						
WMQ				LR	LR		
	comp=Z,1μm,10.0s,MS5.6						
KURK	**Kurchatov**	82.03	27	P	P	02 34 28.0	-0.6
	comp=Z,191nm,1.2s,mb5.9,SNR=25						
KURK	**Kurchatov**	82.03	27	*e*P	P	02 34 28.2	-0.4
KURK				pmax	pmax		
	comp=Z,75nm,1.4s,mb5.4						
KURK	**Kurchatov**	82.03	27	*e*P	P	02 34 28.2	-0.4
	comp=Z,76nm,1.4s,mb5.4						
KLMR	**Klimovskoe**	82.06	3	*e*P	P	02 34 26.4	-2.3
KLMR				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
FINES	**FINESS Array B**	82.72	356	P	P	02 34 31.6	-0.6
	comp=Z,6.4nm,1.0s,mb4.6,baz=151,slow=4.4,SNR=11						
FINES	**FINESS Array B**	82.72	356	P	P	02 34 31.6	-0.6
FINES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SOKR	**Solikamsk**	82.86	12⇑	*i*P	P	02 34 32.6	-0.3
SOKR				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.6						
KAF	**Kangasniemi**	83.37	357	*e*p	P	02 34 33.1	-2.5
	comp=Z,10.0nm,1.0s,mb4.8,baz=171,slow=4.9						
KAF	**Kangasniemi**	83.37	357	*e*P	P	02 34 33.1	-2.5
KAF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
NAO01	**NORSAR Array S**	83.92	349	*e*P	P	02 34 37.3	-1.1
	comp=Z,33nm,1.4s,mb5.3						
JOF	**Joensuu**	84.00	359	*e*p	P	02 34 36.4	-2.4
	comp=Z,6.4nm,1.1s,mb4.7						
NB2	**NORSAR Subarra**	84.05	349	P	P	02 34 38.6	-0.4
	comp=Z,52nm,1.7s,mb5.4,baz=162,slow=5.1						
NOA	**NORSAR Array B**	84.05	349	P	P	02 34 38.7	-0.3
	comp=Z,9.2nm,1.0s,mb4.9,baz=153,slow=4.8,SNR=8.6						
NOA	**NORSAR Array B**	84.05	349	P	P	02 34 38.7	-0.3
NOA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NOA	**NORSAR Array B**	84.05	349	P	P	02 34 38.7	-0.3
CD2	**Chengdu**	85.10	54⇓	*i*P	P	02 34 44.8	+0.4
CD2				PP	PP	02 38 04.4	+2.9
CD2				SKS		02 45 07.5	
CD2				S		02 45 11.8	
CD2				SS	SS	02 50 47.3	+0.6
CD2				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.2						
CD2				AMB	AMB		
	comp=Z,330nm,14.4s						
CD2				LR	LR		
	comp=N,310nm,16.2s						
CD2				LR	LR		
	comp=Z,270nm,21.6s						
GYA	**Guiyang**	85.33	59⇑	*i*P	P	02 34 45.8	+0.3
GYA				AP	pP	02 34 50.3	-0.6
GYA				XP	sP	02 34 53.8	+1.0
GYA				PP	PP	02 38 04.6	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,970nm,3.6s						
GYA				LR	LR		
	comp=E,840nm,17.6s						
GYA				LR	LR		
	comp=Z,760nm,17.8s,MS5.1						
KKM	**Kota Kinabalu**	85.44	82	*e*P	P	02 34 46.5	+0.4
FITZ	**Fitzroy Crossi**	85.50	108	*e*P	P	02 34 46.3	-0.1
	comp=Z,15nm,1.0s,mb5.2						
PLCA	**Paso Flores**	86.36	228	P	P	02 34 52.0	+1.3
	comp=Z,5.4nm,1.0s,mb4.7,baz=110,slow=4.9,SNR=6.0						
PLCA	**Paso Flores**	86.36	228	*e*P	P	02 34 50.7	+0.1
PLCA				pmax	pmax		
	comp=Z,17nm,1.3s						
PLCA	**Paso Flores**	86.36	228	*e*P	P	02 34 50.7	+0.1
	comp=Z,17nm,1.3s,mb5.1						
GTA	**Gaotai**	86.50	45	P	P	02 34 51.4	+0.1
GTA				AP	pP	02 34 55.8	-0.9
GTA				XP	sP	02 34 59.0	+0.4
GTA				PP	PP	02 38 16.3	+3.4
GTA				PPP		02 40 14.5	
GTA				SKS		02 45 16.8	
GTA				S		02 45 27.9	
GTA				SS	SS	02 51 14.3	+7.0
GTA				AMB	AMB		
	comp=Z,15nm,1.3s,mb5.1						
GTA				AMB	AMB		
	comp=Z,295nm,9.5s						
GTA				LR	LR		
	comp=N,391nm,19.8s,MS5.0						
GTA				LR	LR		
	comp=E,513nm,17.5s,MS5.0						
GTA				LR	LR		
	comp=Z,656nm,19.4s,MS5.0						
NVS	**Novosibirsk**	86.95	26⇓	*i*P	P	02 34 51.3	-2.2
NVS				pmax	pmax		
	comp=N,25nm,1.9s						
NVS				pmax	pmax		
	comp=Z,42nm,1.9s,mb5.3						
LZH	**Lanzhou**	87.62	50	*e*P	P	02 34 57.3	+0.5
LZH				AP	pP	02 35 01.3	-0.9
LZH				PP	PP	02 38 24.5	+2.6
LZH				SKS		02 45 21.0	
LZH				*e*S		02 45 38.0	
LZH				SS	SS	02 51 28.0	+4.3
LZH				AMB	AMB		
	comp=Z,77nm,1.6s,mb5.7						
LZH				AMB	AMB		
	comp=Z,240nm,5.2s						
LZH				LR	LR		
	comp=N,732nm,15.7s						
LZH				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
ASAR	**Alice Springs**	90.58	116	P	P	02 35 11.8	+1.2
	comp=Z,13nm,0.9s,mb5.2,baz=242,slow=4.0,SNR=60						
ASAR	**Alice Springs**	90.58	116	P	P	02 35 11.9	+1.2
ASAR				pmax	pmax		
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	92.44	112	P	P	02 35 19.9	+0.6
	comp=Z,4.7nm,1.1s,mb4.8,baz=247,slow=3.2,SNR=20						
WRA	**Warramunga Arr**	92.44	112	P	P	02 35 19.9	+0.6
WRA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	92.44	112	*e*P	P	02 35 20.1	+0.8
WRAB	**Tennant Creek**	92.45	112	*e*P	P	02 35 19.5	+0.2
WRAB				pmax	pmax		
	comp=Z,133nm,2.3s,mb5.9						
WRAB	**Tennant Creek**	92.45	112	*e*P	P	02 35 19.5	+0.2
	comp=Z,133nm,2.3s,mb5.9						
STKA	**Stephens Creek**	93.23	126	P	P	02 35 23.1	+0.1
	comp=Z,5.1nm,0.8s,mb5.0,baz=242,slow=5.7,SNR=8.9						
STKA	**Stephens Creek**	93.23	126	*e*P	P	02 35 22.7	-0.2
ZAK	**Zakamensk**	94.13	37	*e*P	P	02 35 26.8	-0.3
ZAK				pmax	pmax		
	comp=Z,19nm,1.9s,mb5.2						
LPAZ	**La Paz**	94.55	251	P	P	02 35 30.7	+1.7
	comp=Z,8.0nm,1.2s,mb5.0,baz=75,slow=6.8,SNR=18						
LPAZ	**La Paz**	94.55	251	P	P	02 35 30.7	+1.7
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LPAZ	**La Paz**	94.55	251	*e*P	P	02 35 30.6	+1.6
	comp=Z,25nm,1.4s,mb5.5						
SONM	**Songino Array**	94.76	40	P	P	02 35 29.7	-0.3
	comp=Z,2.0nm,1.0s,mb4.5,baz=245,slow=4.8,SNR=12						
SONM	**Songino Array**	94.76	40	P	P	02 35 29.7	-0.2
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HHC	**Hu-ho-hao-te**	95.15	48	*e*P	P	02 35 30.8	-1.0
HHC				PP	PP	02 39 24.5	+3.0
HHC				SKS		02 46 04.9	
HHC				S		02 46 45.8	
HHC				SS	SS	02 53 18.9	+6.7
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,310nm,7.2s						
HHC				LR	LR		
	comp=N,497nm,16.8s,MS5.2						
HHC				LR	LR		
	comp=E,346nm,14.4s,MS5.2						
HHC				LR	LR		
	comp=Z,585nm,19.2s,MS5.1						
ULN	**Ulaanbaatar**	95.17	40	*e*P	P	02 35 32.8	+1.0
ULN				*e*	pP	02 35 36.5	-0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb5.2						
ULN	**Ulaanbaatar**	95.17	40	*e*P	P	02 35 32.8	+1.0
	comp=Z,3.6nm,0.4s,mb5.2						
ULN				*e*	pP	02 35 36.5	-0.7
NJ2	**Nanjing**	97.31	59	*e*P	P	02 35 40.1	-1.5
NJ2				AP	pP	02 35 50.5	+3.5
NJ2				XP	sP	02 35 55.1	+6.2
NJ2				PP	PP	02 39 40.5	+2.3
NJ2				S		02 46 57.0	
NJ2				XS	sS	02 47 13.0	-0.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,720nm,14.6s,MS5.5						
NJ2				LR	LR		
	comp=E,790nm,14.7s,MS5.5						
NJ2				LR	LR		
	comp=Z,4μm,14.4s,MS6.1						
SSE	**Sheshan**	98.86	60	P	P	02 35 49.6	+1.1
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.7						
SSE				AMB	AMB		
	comp=Z,505nm,7.9s						
CN2	**Changchun**	105.83	49	*e*PDIF	Pdif	02 36 23.0	+3.5
MDJ	**Mudanjiang**	108.92	49	PDIF	Pdif	02 36 33.5	+0.3
HABR	**Khabarovsk**	113.24	45	*i* P	Pdif	02 36 48.1	-4.4
RES	**Resolute Bay**	120.18	346	*e*PKIKP	PKPdf	02 40 58.7	-0.7
SEY	**Seymchan**	121.87	28	*i* PKIKP	PKPdf	02 41 02.1	-0.5
BILL	**Bilibino**	125.00	20	*i* PKIKP	PKPdf	02 41 07.3	-1.3
WCI	**Wyandotte Cave**	125.99	302	*e*PKIKP	PKPdf	02 41 09.6	-0.9
WVT	**Waverly**	127.20	300	*e*PKIKP	PKPdf	02 41 12.0	-0.8
FCC	**Fort Churchill**	127.24	329	*e*PKIKP	PKPdf	02 41 12.0	-0.9
CCM	**Cathedral Cave**	129.90	302	*e*PKIKP	PKPdf	02 41 18.4	+0.4
ULM	**Lac du Bonnet**	131.07	319	PKP	PKPdf	02 41 19.9	-0.3
	comp=Z,9.1nm,1.1s,baz=47,slow=1.7,SNR=9.6						
ULM	**Lac du Bonnet**	131.07	319	PKP	PKPdf	02 41 19.9	-0.3
INK	**Inuvik**	132.35	354	*e*PKIKP	PKPdf	02 41 21.5	-1.1
FFC	**Flin Flon**	132.86	326	*e*PKIKP	PKPdf	02 41 23.0	-0.6
YKW3	**Yellowknife Ar**	133.42	340	*e*PKPdf	PKPdf	02 41 23.8	-0.9
YKA	**Yellowknife Ar**	133.47	340	PKP	PKPdf	02 41 24.1	-0.6
	comp=Z,2.6nm,0.8s,baz=37,slow=1.6,SNR=28						
YKA				PP	PP	02 43 46.1	-6.5
	comp=Z,0.8nm,1.0s,baz=40,slow=2.9,SNR=3.4						
YKA	**Yellowknife Ar**	133.47	340	PKIKP	PKPdf	02 41 24.1	-0.6
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	133.47	340	PKP	PKPdf	02 41 24.1	-0.6
YKA				PP	PP	02 43 46.1	-6.5
WMOK	**Wichita Mounta**

TMUT	**Trail Mountain**	**144.94 309**	*e*PKPdf	PKPdf	02 41 45.5	-0.1
MPU	**Maple Canyon**	**144.99 310**	*e*PKPdf	PKPdf	02 41 45.6	-0.1
SPUT	**South Promonto**	**145.06 313**	*e*PKPdf	PKPdf	02 41 45.4	-0.4
HVU	**Hansel Valley**	**145.09 313**	*e*PKIKP	PKPdf	02 41 46.1	+0.3
NOQ	**North Oquirrh**	**145.09 311**	*e*PKPdf	PKPdf	02 41 45.5	-0.3
NLU	**North Lily Min**	**145.33 310**	*e*PKPdf	PKPdf	02 41 44.5	-1.7
BGU	**Big Grassy Mou**	**145.62 312**	*e*PKPbc	PKPbc	02 41 50.8	+3.8
DUG	**Dugway**	**145.76 311**	*e*PKP2	PKPab	02 41 47.9	+0.1
MSU	**Marysvale**	**145.92 308**	*e*PKP2	PKPab	02 41 49.3	+0.9
WUAZ	**Wupatki**	**146.22 302**	*e*PKPbc	PKPbc	02 41 50.1	+1.2
VDB	**Vedder Mountai**	**146.22 331**	P	PKPdf	02 41 48.3	+0.5
WRD	**Warden**	**146.27 325**	P	PKPdf	02 41 49.7	+1.8
MBW	**Mount Baker**	**146.30 330**	P	PKPdf	02 41 49.4	+1.5
BMO	**Blue Mountains**	**146.42 321**	*e*PKHKP		02 41 49.3	
TUC	**Tucson**	**146.44 297**	*e*PKP2	PKPab	02 41 49.8	-0.6
BVW	**Beverly**	**146.66 326**	P	PKPdf	02 41 51.9	+3.3
CMW	**Cultus Mountai**	**146.66 330**	P	PKPdf	02 41 49.8	+1.2
HAWA	**Hanford**	**146.74 325**	*e*PKPbc	PKPbc	02 41 50.1	-0.3
ARUT	**Antelope Range**	**147.11 307**	*e*PKPbc	PKPbc	02 41 50.9	-0.5
ELK	**Elko**	**147.21 313**	*e*PKPbc	PKPbc	02 41 51.1	-0.6
RCM	**Mount Rainier-**	**147.59 328**	P	PKPdf	02 41 52.2	+2.1
WVOR	**Wild Horse Val**	**148.57 318**	*e*PKPbc	PKPbc	02 41 53.6	-1.7
BMN	**Battle Mountai**	**148.69 314**	*e*PKPbc	PKPbc	02 41 53.6	-2.0
NEN	**Nelson**	**148.89 304**	*e*PKPbc	PKPbc	02 41 54.5	-1.7
LDFC	**Landfair**	**149.27 303**	*e*PKPbc	PKPbc	02 41 58.3	+1.2
MOD	**Modoc**	**149.90 319**	*e*PKPbc	PKPbc	02 41 55.6	-3.0
MOD			*e*PKPab	PKPab	02 41 60.0	-4.3
MNV	**Mina**	**150.26 311**	*e*PKIKP	PKPdf	02 41 56.9	+2.5
MNV			*e*		02 42 01.2	
NVAR	**Mina Array Bea**	**150.37 311**	PKP	PKPdf	02 41 56.2	+1.6
	comp=Z,9.8nm,1.1s,baz=104,slow=2.9,SNR=42					
NVAR			PKPbc	PKPbc	02 42 01.4	+1.7
	comp=Z,24nm,1.1s,baz=62,slow=2.4,SNR=37					
NVAR	**Mina Array Bea**	**150.37 311**	PKP	PKPdf	02 41 56.2	+1.6
NVAR			PKPbc	PKPbc	02 42 01.4	+1.7
GSC	**Goldstone**	**150.51 305**	*e*PKIKP	PKPbc	02 42 01.6	+1.5
DAC	**Darwin (Calif)**	**150.75 307**	*e*PKIKP	PKPdf	02 41 56.2	+1.1
DAC			*e*		02 42 02.9	
PFO	**Pinyon Flat Ob**	**150.78 301**	*e*PKIKP	PKPbc	02 42 01.7	+0.9
PFO			*e*		02 42 07.3	
HUMO	**Hull Mountain**	**151.04 322**	*e*PKPbc	PKPbc	02 41 57.0	-4.4
HUMO			*e*PKPab	PKPab	02 42 01.8	-7.1
YBH	**Yreka Blue Hor**	**151.45 321**	PKP	PKPdf	02 41 55.8	-0.4
	baz=28,slow=2.8					
YBH			PKPbc	PKPbc	02 42 01.5	-0.8
	baz=335,slow=1.9					
ISA	**Isabella**	**151.65 306**	*e*PKIKP	PKPdf	02 41 57.6	+1.1
ISA			*e*		02 42 03.8	
ISA			*e*		02 42 10.3	
OHCM	**Honcut**	**152.07 316**	*e*PKPdf	PKPdf	02 41 58.2	+1.0

*ISCJB **23** 02:39:36.4±0.8,2135±0.1×334E±0.1,h10km,mb3.8/4,*
Error ellipse: s-maj=17.5km s-min=12.4km az=121.7
*IDC **23** 02:39:37.2±1.1,2131S×3331E,h0km,mb3.9/4,mb1 4.2/9,*
mb1mx3.8/24,mbtmp4.1/9,ML4.0/5,Error ellipse:
s-maj=30.5km s-min=23.4km az=155.0
*NEIC **23** 02:39:38.6±0.7,2136S×3335E,h10km,mb4.1/1,Error*
ellipse: s-maj=18.5km s-min=11.6km az=149.0
ISC 23 02:39:38.7±0.8,214S±01×3336E±010,h10km,n12,
σ1§15/10,mb3.8/4,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.79 320**		Pn	**Pn**	**02 41 32.2**	**+0.2**
	4.9nm,0.3s,baz=152,slow=13,SNR=15						
LBTB	**Lobatse**	**8.02 241**		Pn	**Pn**	**02 41 34.9**	**-0.4**
	1.6nm,0.3s,baz=70,slow=12,SNR=7.5						
BOSA	**Boshof**	**10.31 224**		Pn	**Pn**	**02 42 04.6**	**-2.0**
	0.8nm,0.3s,baz=56,slow=14,SNR=5.0						
OPO	**Ambohidratompo**	**13.29 80**		Pn	**Pn**	**02 42 46.6**	**-0.8**
	0.4nm,0.3s,baz=263,slow=15,SNR=3.0						
SUR	**Sutherland**	**15.67 223**		Pn	**Pn**	**02 43 21.3**	**+1.7**
	0.9nm,0.3s,baz=54,slow=13,SNR=7.6						
SUR	**Sutherland**	**15.67 223**		*e*P	**Pn**	**02 43 21.0**	**+1.4**
	11nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.29 315**		P	**P**	**02 48 04.5**	**+0.1**
	2.0nm,1.0s,mb4.0,baz=128,slow=4.3,SNR=9.9						
BDFB	**Brasilia**	**76.61 258**		P	**P**	**02 51 29.6**	**+0.1**
	2.3nm,0.7s,mb4.2,baz=73,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	**80.92 32**		P	**P**	**02 51 52.5**	**-0.6**
	0.1nm,0.6s,mb2.9,baz=223,slow=5.1,SNR=2.5						
ASAR	**Alice Springs**	**90.68 116**		P	**P**	**02 52 44.2**	**+2.6**
	0.6nm,0.9s,mb3.9,baz=239,slow=3.9,SNR=4.9						
YKA	**Yellowknife Ar**	**133.43 340**		PKP	PKPdf	02 58 54.6	-0.5
	0.0nm,0.4s,baz=33,slow=1.9,SNR=4.4						
BMO	**Blue Mountains**	**146.35 321**		*e*PKPbc	PKPbc	02 59 20.8	+1.1

*ISCJB **23** 02:40:53.4±3.5,2122S±007×3305E±009,h15km±24km,*
mb4.4/23,MS4.7/1,Error ellipse: s-maj=16.1km
s-min=9.0km az=58.6
*IDC **23** 02:40:54.1±0.8,2122S×3306E,h0km,mb4.0/10,*
mb1 4.4/15,mb1mx4.2/24,mbtmp4.3/15,ML4.3/5,Error
ellipse: s-maj=24.1km s-min=17.2km az=117.0
*NEIC **23** 02:40:54.5±0.4,2140S×3342E,h10km,mb4.3/9,Error*
ellipse: s-maj=14.6km s-min=7.1km az=134.0
*BJI **23** 02:40:54.5,2140S×3340E,h10km,mB5.1,mb4.8,Ms4.8,*
Msz4.7
*SZGRF **23** 02:41:00.7,2151S×3367E,h33km,mb4.6,Mozambique*
ISC 23 02:40:55.9±3.8,2123S±007×3312E±008,h14km±23km,
h15km±1.2km:pP-P,n66,σ1§13/50,mb4.4/23,MS4.7/1,
3C-1D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.55 321**		Pn	**Pn**	**02 42 45.0**	**-0.6**
	9.4nm,0.3s,baz=144,slow=13,SNR=21						
LSZ				Sn	**Sn**	**02 44 04.1**	**-6.9**
	67nm,0.3s,baz=205,slow=4.2,SNR=8.8						
LSZ				Lg		02 44 49.1	
	94nm,0.3s,baz=205,slow=22,SNR=12						
LSZ	**Lusaka**	**7.55 321**		*e*Pn	**Pn**	**02 42 45.0**	**-0.6**
	69nm,0.6s						
LBTB	**Lobatse**	**7.88 240**		Pn	**Pn**	**02 42 51.7**	**+1.6**
	8.0nm,0.3s,baz=63,slow=14,SNR=12						
LBTB				Sn	**Sn**	**02 44 18.6**	**-0.6**
	24nm,0.3s,baz=6.6,slow=14,SNR=5.4						
LBTB				Lg		02 44 59.4	
	39nm,0.3s,baz=154,slow=19,SNR=5.6						
LBTB	**Lobatse**	**7.88 240**		*e*Pn	**Pn**	**02 42 52.0**	**+1.9**
	112nm,1.0s						
BOSA	**Boshof**	**10.24 223**		Pn	**Pn**	**02 43 22.2**	**-0.3**
	4.9nm,0.3s,baz=50,slow=13,SNR=19						
BOSA				Sn	**Sn**	**02 45 11.7**	**-5.5**
	6.8nm,0.3s,baz=326,slow=18,SNR=3.8						
BOSA				Lg		02 46 16.9	
	9.0nm,0.3s,baz=140,slow=19,SNR=2.9						
BOSA	**Boshof**	**10.24 223**		*e*Pn	**Pn**	**02 43 22.1**	**-0.4**
	1.7nm,0.3s						
OPO	**Ambohidratompo**	**13.49 81**		Pn	**Pn**	**02 44 02.1**	**-4.9**
	4.6nm,0.3s,baz=248,slow=14,SNR=13						
OPO				Sn	**Sn**	**02 46 23.3**	**-13**
	4.1nm,0.3s,baz=151,slow=23,SNR=3.8						
TSUM	**Tsumeb**	**14.72 275**		Pn	**Pn**	**02 44 21.5**	**-2.2**
	3.5nm,0.3s,baz=99,slow=11,SNR=12						
TSUM				Sn	**Sn**	**02 46 58.3**	**-8.4**
	1.7nm,0.3s,baz=265,slow=20,SNR=4.5						
TSUM				Lg		02 48 33.3	
	3.5nm,0.3s,baz=243,slow=5.6,SNR=6.6						
TSUM	**Tsumeb**	**14.72 275**		*e*Pn	**Pn**	**02 44 22.0**	**-1.7**
SUR	**Sutherland**	**15.61 222**		Pn	**Pn**	**02 44 35.1**	**-0.3**
	6.5nm,0.3s,baz=54,slow=14,SNR=20						
SUR				Sn	**Sn**	**02 47 21.9**	**-6.3**
	3.0nm,0.3s,baz=319,slow=20,SNR=4.3						
SUR				Lg		02 49 01.6	
	3.0nm,0.3s,baz=307,slow=20,SNR=3.0						
SUR	**Sutherland**	**15.61 222**		*e*P	**Pn**	**02 44 35.3**	**-0.1**
	42nm,0.8s						
KMBO	**Kilima Mbogo**	**20.38 12**		P	**P**	**02 45 33.3**	**+1.1**
	7.4nm,1.2s,baz=212,slow=18,SNR=3.2						
KMBO				Lg		02 51 35.8	
	11nm,1.0s,baz=144,slow=14,SNR=5.3						
KMBO	**Kilima Mbogo**	**20.38 12**		P	**P**	**02 45 34.0**	**+1.8**
	2.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.04 315**		P	**P**	**02 49 18.8**	**-0.3**
	2.8nm,0.8s,mb4.2,baz=124,slow=6.8,SNR=6.8						
DBIC	**Dimbokro**	**46.45 303**		P	**P**	**02 49 22.4**	**0.0**
	baz=132,slow=14						
RDF	**Al-Radifah**	**51.77 16**		*e*P	pP	02 50 09.1	+1.7
RDF				AMb	AMB	02 50 11.0	
	comp=Z,25nm,1.0s,mb5.1						
NAY	**Al-Naaiem**	**52.00 16**		*e*P	pP	02 50 10.4	+1.3
NAY				AMb	AMB	02 50 11.9	
	comp=Z,12nm,0.8s,mb4.9						
UMR	**Umm Al-Rimmam**	**52.41 16**		*e*P	pP	02 50 13.6	+1.4
UMR				AMb	AMB	02 50 15.8	
	comp=Z,103nm,1.0s,mb5.7						
MIB	**Mutribah**	**52.55 16**		*e*P	pP	02 50 14.7	+1.5
MIB				AMb	AMB	02 50 16.7	
	comp=Z,50nm,1.0s,mb5.4						
SNAA	**Sanae**	**54.52 193**		P	**P**	**02 50 22.5**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.8,baz=72,slow=19,SNR=5.7						
VNA2	**Neumayer--Watz**	**55.03 195**		*e*P	**P**	**02 50 27.7**	**+0.7**
	baz=31,slow=6.3						
VNA3	**Neumayer Olymp**	**55.80 195**		*e*P	**P**	**02 50 32.7**	**+0.1**
MALT	**Malatya**	**59.43 5**		*e*P	**P**	**02 50 58.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**60.64 0**		P	**P**	**02 51 06.2**	**-0.2**
	comp=Z,0.4nm,0.8s,mb3.6,baz=163,slow=9.0,SNR=3.9						
BR131	**Keskin Array S**	**60.64 0**		*e*P	**P**	**02 51 07.7**	**+1.3**
	comp=Z,0.3nm,0.5s,mb3.7						
CFR	**Carcaliu**	**66.24 356**		⇓P	**P**	**02 51 49.4**	**+5.9**
MLR	**Muntele Rosu**	**66.72 355**		⇑P	**P**	**02 51 53.6**	**+7.0**
VRI	**Vrincioaia**	**67.03 355**		⇑P	**P**	**02 51 49.3**	**+0.8**
BZS	**Buzias**	**67.34 351**		⇑P	**P**	**02 51 50.3**	**-0.2**
ESDC	**Sonseca Array**	**69.79 330**		P	**P**	**02 52 05.8**	**0.0**
	comp=Z,2.2nm,1.0s,mb4.1,baz=140,slow=6.6,SNR=5.8						
AKASG	**Malin Array Be**	**71.69 357**		P	**P**	**02 52 20.4**	**+3.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=182,slow=5.7,SNR=7.3						
GERES	**GERESS Array B**	**71.88 347**		P	**P**	**02 52 18.2**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=186,slow=5.4,SNR=4.9						
GRA1	**Grafenberg Arr**	**73.24 345**		*e*P	**P**	**02 52 33.1**	**+6.5**
	comp=Z,8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**73.24 345**		*e*P	**P**	**02 52 33.1**	**+6.5**
	comp=Z,8.0nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**74.11 30**		*e*P	**P**	**02 52 32.6**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.1						
BDFB	**Brasilia**	**76.41 258**		P	**P**	**02 52 46.7**	**+1.8**
	comp=Z,4.6nm,0.7s,mb4.5,baz=72,slow=2.8,SNR=5.9						
ZRNK	**Zerenda**	**80.17 21**		*e*P	**P**	**02 53 03.5**	**-2.2**
	comp=Z,3.8nm,0.9s,mb4.3						
ZRNK				*e*		02 53 09.8	
BRVK	**Borovoye**	**80.69 22**		P	**P**	**02 53 07.5**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.1						
BRVK				*e*	pP	02 53 12.9	-0.2
MKAR	**Makanchi Array**	**80.94 32**		P	**P**	**02 53 12.0**	**+2.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=225,slow=4.6,SNR=10						
WMQ	**Urumqi**	**81.78 37**		*e*P	**P**	**02 53 14.0**	**-0.3**
WMQ				XP	sP	02 53 21.0	+0.5
WMQ				PP	PP	02 56 23.0	+1.7
WMQ				S	S	03 03 24.0	-3.0
WMQ				SS	SS	03 08 46.0	+1.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,125nm,6.0s						
WMQ				LR	LR		
	comp=Z,987nm,9.0s						
KURK	**Kurchatov**	**82.08 27**		*e*P	**P**	**02 53 14.6**	**-1.3**
	comp=Z,9.8nm,1.1s,mb4.7						
KURK				*e*PcP	PcP	02 53 20.7	-0.7
CD2	**Chengdu**	**85.31 54**		*e*P	**P**	**02 53 31.6**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
GTA	**Gaotai**	**86.66 45**		*e*P	**P**	**02 53 42.9**	**+3.7**
GTA				AP	pP	02 53 47.0	+3.3
GTA				XP	sP	02 53 50.3	+5.0
GTA				PP	PP	02 57 06.4	+5.2
GTA				PPP		02 59 32.8	
GTA				SKS		03 04 07.8	
GTA				XS	sS	03 04 30.9	+7.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,233nm,5.3s						
GTA				LR	LR		
	comp=N,140nm,15.6s,MS4.6						
GTA				LR	LR		
	comp=E,163nm,18.6s,MS4.6						
GTA				LR	LR		
	comp=Z,252nm,17.5s,MS4.7						
LZH	**Lanzhou**	**87.80 50**		*e*P	**P**	**02 53 44.0**	**-0.7**
LZH				AP	pP	02 53 47.5	-1.7
LZH				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**90.94 116**		P	**P**	**02 53 59.5**	**+0.1**
	comp=Z,0.7nm,0.9s,mb4.0,baz=243,slow=3.6,SNR=4.6						
LPAZ	**La Paz**	**94.27 251**		P	**P**	**02 54 17.4**	**+2.6**
	comp=Z,0.7nm,0.9s,mb4.1,baz=93,slow=8.3,SNR=5.0						
HHC	**Hu-ho-hao-te**	**95.32 48**		*e*P	**P**	**02 54 18.4**	**-1.2**
HHC				AP	pP	02 54 23.0	-1.2
HHC				XP	sP	02 54 26.0	+0.2
HHC				PP	PP	02 58 13.3	+3.5
HHC				AMB	AMB		
	comp=Z,53nm,6.0s						
NJ2	**Nanjing**	**97.54 59**		*e*P	**P**	**02 54 28.8**	**-0.9**
CN2	**Changchun**	**106.00 49**		*e*PDIF	Pdif	02 55 09.0	+1.6
YKA	**Yellowknife Ar**	**133.24 340**		PKP	PKPdf	03 00 10.0	-1.4
	comp=Z,0.4nm,0.8s,baz=34,slow=2.1,SNR=6.2						
ILAR	**Eielson Array**	**136.48 0**		PKP	PKPdf	03 00 15.9	-1.5
	comp=Z,0.6nm,1.0s,baz=240,slow=3.2,SNR=4.4						
PDAR	**Pinedale Array**	**142.18 313**		PKP	PKPdf	03 00 26.9	-0.9
	comp=Z,0.6nm,1.0s,baz=30,slow=4.4,SNR=3.1						
DUG	**Dugway**	**145.43 311**		*e*PKPdf	PKPdf	03 00 33.8	+0.3
MSU	**Marysvale**	**145.58 308**		*e*PKPdf	PKPdf	03 00 35.0	+1.2
WUAZ	**Wupatki**	**145.87 302**		*e*PKPbc	PKPbc	03 00 35.7	+0.9
TUC	**Tucson**	**146.08 297**		*e*PKPbc	PKPbc	03 00 36.3	+0.8
TUC				*e*		03 00 43.5	
BMO	**Blue Mountains**	**146.12 321**		*e*PKPdf	PKPdf	03 00 35.6	+0.9
BMO				*e*		03 00 41.8	
ELK	**Elko**	**146.88 313**		*e*PKPbc	PKPbc	03 00 38.6	+0.7
WVOR	**Wild Horse Val**	**148.26 318**		*e*PKPbc	PKPbc	03 00 41.6	0.0
MOD	**Modoc**	**149.59 319**		*e*PKPbc	PKPbc	03 00 45.5	+0.5
MOD				*e*PKPab	PKPab	03 00 52.4	+2.4
MNV	**Mina**	**149.93 311**		*e*PKPbc	PKPbc	03 00 45.6	-0.2
MNV				*e*PKPab	PKPab	03 00 52.1	+0.6
NVAR	**Mina Array Bea**	**150.03 311**		PKP	PKPdf	03 00 43.0	+1.9
	comp=Z,1.1nm,0.8s,baz=81,slow=5.6,SNR=4.8						
NVAR				PKPbc	PKPbc	03 00 47.6	+1.5
	comp=Z,1.5nm,0.8s,baz=81,slow=3.1,SNR=7.3						
GSC	**Goldstone**	**150.17 305**		*e*PKPab	PKPab	03 00 53.9	+1.4
DAC	**Darwin (Calif)**	**150.41 307**		*e*PKPbc	PKPbc	03 00 48.2	+1.3
DAC				*e*PKPab	PKPab	03 00 55.7	+2.3
PFO	**Pinyon Flat Ob**	**150.43 301**		*e*PKPab	PKPab	03 00 54.6	+1.2
HUMO	**Hull Mountain**	**150.74 322**		*e*PKPbc	PKPbc	03 00 48.1	+0.3
HUMO				*e*PKPab	PKPab	03 00 55.5	+0.7

*ISCJB **23** 02:42:37.6±2.5,367N±0.1×697E±0.2,h198km±46km,Error*
ellipse: s-maj=29.3km s-min=21.4km az=114.6
*NNC **23** 02:42:39.7±4.4,3679N×6948E,h130km±137km,mb3.1,*
mpv3.8,Error ellipse: s-maj=45.8km s-min=32.8km
az=67.0
ISC 23 02:42:37.7±2.8,366N±02×697E±02,h130km±64km,n12,
σ0§40/15,4C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.37 28**		P	**Pn**	**02 44 09.4**	**+0.2**
	SNR=36						
KK31	**Karatay Array**	**6.57 5**		Pn	**Pn**	**02 44 12.2**	**+0.3**
	3.0nm,0.5s,baz=181,slow=12,SNR=81						
KK31				⇑Sn	**Sn**	**02 45 25.2**	**-0.3**
	1.3nm,0.4s,baz=188,slow=23,SNR=5.8						
UCH	**Uchtor**	**6.78 32**		P	**Pn**	**02 44 15.1**	**+0.4**
	SNR=15						
EKS2	**Erkin-Say**	**6.86 26**		P	**Pn**	**02 44 16.0**	**+0.2**
	SNR=9.7						
KZA	**Kyzart**	**6.99 36**		P	**Pn**	**02 44 17.2**	**-0.4**
	SNR=9.6						
AAK	**Ala-Archa**	**7.11 30**		P	**Pn**	**02 44 19.4**	**+0.3**
	SNR=8.9						
KBK	**Karagaybulak**	**7.32 32**		P	**Pn**	**02 44 22.4**	**+0.4**
	SNR=6.4						
CHMS	**Chumysh**	**7.52 30**		P	**Pn**	**02 44 24.7**	**0.0**
	SNR=9.9						
USP	**Ospenovka**	**7.65 27**		P	**Pn**	**02 44 25.8**	**-0.6**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.81 34**		P	**Pn**	**02 44 27.9**	**-0.8**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.81 34**		⇑Pn	**Pn**	**02 44 27.8**	**-0.8**
	3.4nm,0.6s						
TKM2				⇑Sn	**Sn**	**02 45 55.8**	**+0.4**
	4.9nm,0.8s						
AB31	**Akbulak array**	**14.56 334**		⇓Pn	**Pn**	**02 45 57.6**	**+0.1**
	1.0nm,0.8s,baz=149,slow=12,SNR=17						
AB31				⇑Sn	**Sn**	**02 48 28.7**	**-10**
	0.6nm,0.4s,baz=158,slow=22,SNR=12						

*ISCJB **23** 02:45:54.5±0.7,2122S±009×3319E±008,h10km,mb3.7/5,*
Error ellipse: s-maj=14.5km s-min=8.2km az=108.0
*IDC **23** 02:45:55.9±1.0,2117S×3333E,h0km,mb3.7/5,*
mb1 4.3/10,mb1mx4.0/24,mbtmp4.2/10,ML4.6/5,Error
ellipse: s-maj=28.3km s-min=23.9km az=141.0
*NEIC **23** 02:45:56.7±0.6,2118S×3324E,h10km,mb4.4/1,Error*
ellipse: s-maj=15.4km s-min=10.3km az=150.0
ISC 23 02:45:56.8±0.7,2120S±009×3322E±008,h10km,n18,
σ1§09/22,mb3.7/5,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.59 320**		Pn	**Pn**	**02 47 47.3**	**-0.2**
	4.8nm,0.3s,baz=143,slow=20,SNR=3.2						
LSZ				Sn	**Sn**	**02 49 07.1**	**-6.4**
	19nm,0.3s,baz=130,slow=7.9,SNR=6.3						
LSZ				Lg		02 49 52.0	
	27nm,0.3s,baz=52,slow=23,SNR=7.0						
LSZ	**Lusaka**	**7.59 320**		Pn	**Pn**	**02 47 47.3**	**-0.2**
LSZ				Sn	**Sn**	**02 49 07.1**	**-6.4**
LSZ				Lg		02 49 52.0	
LBTB	**Lobatse**	**7.98 240**		Pn	**Pn**	**02 47 54.7**	**+1.9**
	7.4nm,0.3s,baz=76,slow=16,SNR=3.2						
LBTB				Sn	**Sn**	**02 49 22.1**	**-1.0**
	5.6nm,0.3s,baz=306,slow=19,SNR=2.9						
LBTB				Lg		02 50 02.7	
	14nm,0.3s,baz=154,slow=23,SNR=3.9						
LBTB	**Lobatse**	**7.98 240**		Pn	**Pn**	**02 47 54.7**	**+1.9**
LBTB				Sn	**Sn**	**02 49 22.1**	**-1.0**
LBTB				Lg		02 50 02.7	
BOSA	**Boshof**	**10.33 223**		Pn	**Pn**	**02 48 24.7**	**-0.3**
	5.6nm,0.3s,baz=83,slow=17,SNR=2.7						
BOSA				Lg		02 51 22.0	
	5.4nm,0.3s,baz=139,slow=21,SNR=4.7						
BOSA	**Boshof**	**10.33 223**		Pn	**Pn**	**02 48 24.7**	**-0.3**
BOSA				Lg		02 51 22.0	
OPO	**Ambohidratompo**	**13.40 81**		Pn	**Pn**	**02 49 05.4**	**-1.5**
	0.6nm,0.3s,baz=267,slow=18,SNR=2.8						
OPO				Sn	**Sn**	**02 51 23.7**	**-12**
	3.1nm,0.3s,baz=149,slow=18,SNR=7.5						
TSUM	**Tsumeb**	**14.82 275**		Pn	**Pn**	**02 49 24.8**	**-1.5**
	baz=198,slow=20,SNR=2.0						
TSUM				Lg		02 53 41.8	
	1.5nm,0.3s,baz=238,slow=19,SNR=3.6						
SUR	**Sutherland**	**15.69 222**		Pn	**Pn**	**02 49 38.1**	**+0.2**
	3.5nm,0.3s,baz=132,slow=19,SNR=3.4						
SUR				Sn	**Sn**	**02 52 23.5**	**-8.3**
	1.8nm,0.3s,baz=343,slow=19,SNR=2.7						
SUR				Lg		02 54 13.5	
	1.8nm,0.3s,baz=144,slow=10.0,SNR=4.4						
SUR	**Sutherland**	**15.69 222**		P	**Pn**	**02 49 38.2**	**+0.2**
	13nm,0.6s						
SUR				Sn	**Sn**	**02 52 23.5**	**-8.3**
SUR				Lg		02 54 13.4	
TORD	**Torodi Ar. Bea**	**46.09 315**		P	**P**	**02 54 22.4**	**+1.5**
	1.4nm,0.7s,mb4.0,baz=127,slow=6.9,SNR=5.3						
BRTR	**Keskin Array B**	**60.61 0**		P	**P**	**02 56 08.1**	**+0.4**
	0.3nm,0.7s,mb3.5,baz=176,slow=6.4,SNR=3.6						
GERES	**GERESS Array B**	**71.88 347**		P	**P**	**02 57 20.2**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=152,slow=4.4,SNR=3.8						
MKAR	**Makanchi Array**	**80.86 32**		P	**P**	**02 58 10.1**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=205,slow=3.9,SNR=4.2						
ASAR	**Alice Springs**	**90.86 116**		P	**P**	**02 59 02.1**	**+1.5**
	0.5nm,0.8s,mb3.9,baz=242,slow=4.0,SNR=4.8						
YKA	**Yellowknife Ar**	**133.25 340**		PKP	PKPdf	03 05 12.4	-0.5
	0.3nm,0.6s,baz=34,slow=2.0,SNR=8.9						
YKA	**Yellowknife Ar**	**133.25 340**		PKP	PKPdf	03 05 12.4	-0.5
NVAR	**Mina Array Bea**	**150.09 311**		PKPbc	PKPbc	03 05 50.1	+2.4
	1.0nm,0.6s,baz=58,slow

1.3nm,0.2s

HINF	Hinteralfeld	3.84	182	*e*Pn	Pn	02 56 29.0 -1.3
LOR	Lormes	4.85	206	*e*Pn	Pn	02 56 42.7 -1.4
	baz=29					
CABF	La Chapelle	5.08	187	*e*Pn	Pn	02 56 46.6 -0.7
SSF	Saint Saulge	5.14	208	*e*Pn	Pn	02 56 46.6 -1.5
HYF	Humbligny	5.24	215	*e*Pn	Pn	02 56 48.8 -0.7
AVF	Avril sur Loir	5.43	208	*e*Pn	Pn	02 56 50.3 -1.8
SMF	Signal de Mont	5.43	204	*e*Pn	Pn	02 56 50.4 -1.7
LDF	La Druitiere	5.53	239	*e*Pn	Pn	02 56 51.4 -2.0
FLN	La Foiniere	5.62	242	*e*Pn	Pn	02 56 53.6 -1.1
	baz=58					
BGF	Bois d'Agland	5.79	210	*e*Pn	Pn	02 56 55.5 -1.5
GRR	Gorron	6.04	240	*e*Pn	Pn	02 56 59.3 -1.2
GRR				*e*Sn	Sn	02 58 04.0 -6.3
TCF	Toulx Ste Croi	6.23	212	*e*Pn	Pn	02 57 01.6 -1.5

IDC 23 02:55:54.0±13.0,5221S×13273W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/13,mbtmp3.6/2,Error ellipse: s-maj=1255.0km s-min=186.3km az=151.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	73.65	253	P	P	03 07 29.1	-0.3
	0.5nm,0.8s,baz=131,slow=6.8,SNR=4.2						
WRA	Warramunga Arr	76.25	255	P	P	03 07 44.8	+0.4
	0.5nm,0.8s,baz=143,slow=5.3,SNR=7.2						
SONM	Songino Array	142.68	287	PKP	PKPdf	03 15 27.5	-1.6
	0.5nm,0.6s,baz=125,slow=4.5,SNR=4.8						

*ISCJB **23** 03:33:34.1±0.7,503S±0.1×1128E±03,h10km,mb4.7/8, Error ellipse: s-maj=33.0km s-min=12.9km az=32.0*
*IDC **23** 03:33:34.1±1.5,5021S×11240E,h0km,mb4.2/4, mb1 4.4/4,mb1mx4.1/12,mbtmp4.2/4,Error ellipse: s-maj=71.9km s-min=21.7km az=110.0*
*NEIC **23** 03:33:35.5±0.6,5029S×11225E,h10km,mb4.8/6,Error ellipse: s-maj=28.7km s-min=10.4km az=109.0*

ISC 23 03:33:35.6±0.7,504S±01×1126E±03,h10km,n26, σ0§70/13,mb4.7/8,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.32	60	*e*P	P	03 39 33.0	+3.6
ASAR	Alice Springs	31.38	40	P	P	03 39 56.2	-0.3
	1.2nm,0.9s,mb3.7,baz=212,slow=8.0,SNR=9.1						
VNDA	Vanda	32.80	162	P	P	03 40 09.6	+0.6
	5.9nm,0.8s,mb4.5,baz=297,slow=8.0,SNR=17						
VNDA	Vanda	32.80	162	*e*P	P	03 40 09.2	+0.1
	7.1nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	33.83	23	*e*P	P	03 40 19.1	+1.2
	15nm,1.0s,mb4.9						
WRA	Warramunga Arr	34.90	37	P	P	03 40 26.8	-0.4
	4.0nm,0.9s,mb4.3,baz=206,slow=8.3,SNR=14						
WB2	Warramunga Arr	34.90	37	*e*P	P	03 40 26.6	-0.7
WRAB	Tennant Creek	34.91	37	*e*P	P	03 40 26.9	-0.5
	13nm,1.1s,mb4.8						
QSPA	South Pole Qui	39.77	180	*e*P	P	03 41 08.6	0.0
	40nm,0.3s,mb5.6						
SNAA	Sanae	50.11	202	P	P	03 42 31.2	+0.3
	3.4nm,0.9s,mb4.3,baz=132,slow=9.3,SNR=7.0						
SNAA	Sanae	50.11	202	*e*P	P	03 42 29.6	-1.3
	14nm,1.1s,mb4.9						
SHL	Shillong	77.79	341	*e*P	P	03 45 33.0	0.0
LSA	Lhasa	81.95	341	P	P	03 45 55.7	+0.2
	3.7nm,0.4s,mb4.7						
WUAZ	Wupatki	145.09	98	*e*PKPdf	PKPdf	03 53 13.1	-0.1
ELK	Elko	145.67	87	*e*PKPbc	PKPbc	03 53 15.1	+0.6
MSU	Marysvale	146.38	93	*e*PKPbc	PKPbc	03 53 18.4	+1.7
DUG	Dugway	146.93	90	*e*PKPbc	PKPbc	03 53 18.4	+0.1
ANMO	Albuquerque	147.82	104	*e*PKPbc	PKPbc	03 53 21.0	+0.3
DLMT	Dillon	149.62	82	*e*PKPbc	PKPbc	03 53 25.6	+0.2
CHMT	Chamberlain Mo	149.86	79	*e*PKPbc	PKPbc	03 53 26.1	+0.1
SMCO	Snowmass	150.09	97	*e*PKPbc	PKPbc	03 53 27.4	+0.9
SDCO	Great Sand Dun	150.18	100	*e*PKPbc	PKPbc	03 53 27.3	+0.6
PDAR	Pinedale Array	150.35	88	PKPbc	PKPbc	03 53 27.4	+0.3
	2.1nm,1.0s,baz=222,slow=2.0,SNR=15						
YKA	Yellowknife Ar	151.90	46	PKPbc	PKPbc	03 53 29.2	-1.5
	1.5nm,0.8s,baz=283,slow=2.0,SNR=24						
YKA	Yellowknife Ar	151.90	46	PKPbc	PKPbc	03 53 29.2	-1.5
WMOK	Wichita Mounta	152.36	112	*e*PKPbc	PKPbc	03 53 31.1	-0.7

*ISCJB **23** 03:51:23.5±0.8,2137S±008×3307E±007,h10km,mb3.7/5, Error ellipse: s-maj=12.0km s-min=8.4km az=115.3*
*IDC **23** 03:51:23.9±1.0,2141S×3339E,h0km,mb3.7/5,mb1 4.2/9, mb1mx3.9/24,mbtmp4.1/9,ML4.4/4,Error ellipse: s-maj=31.7km s-min=24.2km az=129.0*
*NEIC **23** 03:51:25.1±0.8,2153S×3327E,h10km,mb4.1/1,Error ellipse: s-maj=18.4km s-min=12.0km az=133.0*

ISC 23 03:51:24.8±0.8,2161S±007×3317E±008,h10km,n19, σ1§64/26,mb3.7/5,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	7.74	243	Pn	Pn	03 53 21.2	+3.7
	4.4nm,0.3s,baz=66,slow=12,SNR=8.8						
LBTB				Sn	Sn	03 54 47.8	+2.5
	5.2nm,0.3s,baz=348,slow=22,SNR=5.5						
LBTB				Lg		03 55 26.0	
	8.2nm,0.3s,baz=146,slow=14,SNR=5.6						
LBTB	Lobatse	7.74	243	*e*Pn	Pn	03 53 20.0	+2.4
	36nm,0.7s						
LBTB				*e*Sn	Sn	03 54 47.0	+1.8
LBTB				*e*Sg	Sg	03 55 25.3	-7.9
LSZ	Lusaka	7.87	322	Pn	Pn	03 53 20.1	+0.8
	2.6nm,0.3s,baz=159,slow=10,SNR=3.8						
LSZ				Sn	Sn	03 54 42.4	-6.1
	4.5nm,0.3s,baz=199,slow=22,SNR=10						
LSZ				Lg		03 55 25.1	
	10nm,0.3s,baz=61,slow=11,SNR=16						
LSZ	Lusaka	7.87	322	*e*Pn	Pn	03 53 21.0	+1.7
LSZ				*e*Sn	Sn	03 54 39.8	-8.7
LSZ				*e*Sg	Sn	03 55 25.0	+37
BOSA	Boshof	10.00	224	Pn	Pn	03 53 51.5	+3.0
	2.5nm,0.3s,baz=51,slow=14,SNR=12						
BOSA				Sn	Sn	03 55 39.4	-1.4
	3.5nm,0.3s,baz=320,slow=19,SNR=6.0						
BOSA				Lg		03 56 45.2	
	3.6nm,0.3s,baz=321,slow=21,SNR=5.4						
BOSA	Boshof	10.00	224	*e*Pn	Pn	03 53 50.9	+2.4
	16nm,0.6s						
BOSA				*e*Sn	Sn	03 55 38.9	-1.8
OPO	Ambohidratompo	13.52	80	Sn	Sn	03 56 54.3	-13
	0.7nm,0.3s,baz=304,slow=11,SNR=2.8						
TSUM	Tsumeb	14.80	277	Pn	Pn	03 54 53.3	-0.9
	0.3nm,0.3s,baz=93,slow=13,SNR=6.1						
TSUM				Sn	Sn	03 57 37.1	-1.2
	0.2nm,0.3s,baz=164,slow=7.4,SNR=2.6						
TSUM				Lg		03 59 10.9	
	0.7nm,0.3s,baz=116,slow=19,SNR=6.0						
TSUM	Tsumeb	14.80	277	*e*P	Pn	03 54 54.5	+0.3
	9.9nm,1.0s						
SUR	Sutherland	15.36	223	Pn	Pn	03 55 05.1	+3.5
	1.9nm,0.3s,baz=48,slow=11,SNR=11						
SUR				Sn	Sn	03 57 49.8	-2.0
	1.4nm,0.3s,baz=263,slow=16,SNR=5.0						
SUR				Lg		03 59 30.8	
	1.0nm,0.3s,baz=104,slow=7.9,SNR=4.4						
SUR	Sutherland	15.36	223	*e*P	Pn	03 55 03.3	+1.7
	5.1nm,0.4s						
SUR				Sn	Sn	03 57 48.9	-2.8
TORD	Torodi Ar. Bea	46.34	315	P	P	03 59 51.6	+0.7
	2.1nm,1.1s,mb4.0,baz=132,slow=6.4,SNR=6.1						
BRTR	Keskin Array B	61.01	0	P	P	04 01 38.2	-0.3
	0.1nm,0.3s,mb3.4,baz=180,slow=10,SNR=3.3						
BVAR	Borovoye Array	81.03	22	P	P	04 03 38.3	-1.6
	0.9nm,0.7s,mb3.8,baz=232,slow=1.7,SNR=5.0						
MKAR	Makanchi Array	81.23	32	P	P	04 03 38.8	-2.2
	0.3nm,0.8s,mb3.3,baz=223,slow=3.0,SNR=4.0						
ASAR	Alice Springs	90.73	116	P	P	04 04 29.6	+1.6
	0.7nm,0.8s,mb4.0,baz=227,slow=4.2,SNR=6.4						
YKA	Yellowknife Ar	133.61	340	PKP	PKPdf	04 10 41.9	+0.3
	0.1nm,0.6s,baz=41,slow=2.2,SNR=4.5						
YKA	Yellowknife Ar	133.61	340	PKP	PKPdf	04 10 41.9	+0.3
NVAR	Mina Array Bea	150.31	311	PKPbc	PKPbc	04 11 19.1	+2.9
	0.6nm,0.9s,baz=26,slow=5.0,SNR=3.1						

*ISCJB **23** 03:56:44.8±1.1,6766N±004×340E±02,h0km,Error ellipse: s-maj=9.8km s-min=5.3km az=159.8*
*HEL **23** 03:56:48.5±0.2,6769N×3376E,h0km,ML2.3, ML2.2(NAO),Explosion*
*NAO **23** 03:56:49.1±2.8,6767N×3361E,ML2.2*

ISC 23 03:56:47.5±1.0,6767N±003×337E±02,h0km,n17, σ1§28/32,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.29	258	*i*P	Pg	03 56 54.2	+1.2
APA0				*i*S	Sg	03 56 58.2	+1.4
APA0				*e*RG		03 56 59.4	
APA0	Apatity Array	0.29	258	Pg	Pg	03 56 54.2	+1.2
	baz=80,slow=16						
APA0				Lg		03 56 58.2	
	baz=81,slow=37						
APA0				Rg		03 56 59.4	
	baz=80,slow=37						
KU4	Liikasenvaara	2.09	233	*e*P	Pn	03 57 25.8	+2.0
KU4				*e*S	Sn	03 57 50.9	+0.4
SGF	Sodankyl	2.78	269	*e*P	Pn	03 57 33.5	+0.3
SGF				*e*S	Sn	03 58 07.6	+0.2
SGF				MSG		03 58 15.4	
	comp=Z,15nm,0.4s						
KEV	Kevo	3.23	314	*e*P	Pn	03 57 40.9	+1.5
KEV				*e*S	Sn	03 58 18.4	-0.2
KEV				MSG		03 58 29.5	
	comp=Z,9.1nm,0.2s						
ARA0	ARCESS Array S	3.55	306	*e*P	Pn	03 57 45.0	+1.1
ARA0				*e*PG	Pg	03 57 53.6	-2.0
ARA0				*e*S	Sn	03 58 25.4	-1.1
ARA0				*e*SG	Sg	03 58 36.5	-5.2
ARA0	ARCESS Array S	3.55	306	Pn	Pn	03 57 45.0	+1.1
	baz=122,slow=16						
ARA0				Pg	Pg	03 57 53.6	-2.0
	baz=119,slow=16						
ARA0				Sn	Sn	03 58 25.4	-1.1
	baz=119,slow=28						
ARA0				Lg		03 58 36.5	
	baz=121,slow=28						
OUL	Oulu	4.08	234	*e*P	Pn	03 57 52.6	+1.4
KJN	Kajaani	4.36	217	*e*P	Pn	03 57 56.4	+1.4
KJN				*e*S	Sn	03 58 46.5	-0.1
KJN				MSG		03 59 04.1	
	comp=Z,4.6nm,0.3s						
JOF	Joensuu	4.88	193	*e*S	Sn	03 58 58.0	-1.2
KIF	Kilpisjarvi	4.98	292	*e*P	Pn	03 58 04.4	+1.0
KIF				*e*S	Sn	03 58 59.8	-1.8
SUF	Sumiainen	5.90	216	*e*P	Pn	03 58 17.3	+1.1
SUF				*e*S	Sn	03 59 22.9	-1.6
KEF	Keuruu	6.68	218	*e*P	Pn	03 58 26.9	+0.1
KEF				*e*S	Sn	03 59 41.4	-2.2
FIA0	FINESS Array S	7.06	211	Pn	Pn	03 58 31.9	-0.2
	baz=20,slow=16						
FIA0				Sn	Sn	03 59 51.8	-1.2
	baz=14,slow=28						
FIA0				Lg		04 00 22.4	
	baz=24,slow=28						
FIA0	FINESS Array S	7.06	211	*e*P	Pn	03 58 31.9	-0.2
FIA0				*e*S	Sn	03 59 51.8	-1.2
FIA0				*e*SG		04 00 22.4	
SPA0	Spitsbergen Ar	11.64	342	Pn	Pn	03 59 32.4	-2.4
	baz=143,slow=14						
SPA0	Spitsbergen Ar	11.64	342	*e*P	Pn	03 59 32.4	-2.4

*IDC **23** 04:04:02.2±0.5,5465S×168E,h0km,mb4.9/17, mb1 5.0/18,mb1mx5.0/19,mbtmp4.9/18,MS5.5/11, Ms1 5.5/11,ms1mx5.3/17,Error ellipse: s-maj=18.3km s-min=14.1km az=135.0*
*ISCJB **23** 04:04:03.3±0.3,5459S±004×155E±009,h10km,mb5.2/33, MS5.5/33,Error ellipse: s-maj=7.8km s-min=5.9km az=173.1*
*MOS **23** 04:04:03.9±2.0,5461S×172E,h10km,mb5.4/14,MS5.4/6, Error ellipse: s-maj=23.9km s-min=11.3km az=86.1*
*NEIC **23** 04:04:05.0±0.2,5467S×177E,h10km,mb5.5/28, MS5.5/18,MW6.2,Error ellipse: s-maj=9.6km s-min=8.9km az=129.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.80; $M_{\theta\theta}$1.86; $M_{\phi\phi}$-2.64; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.04; $M_{\phi r}$1.39; Best double couple: $M_0$2.50000×10^{18} NP1:ϕ_s223.00000°,δ89.00000°,λ-152.00000°. NP2: ϕ_s133.00000°,δ62.00000°,λ-1.00000°. Principal axes: T 1.9400, Plg19.0000°, Azm355.0000°; N 1.2000, Plg62.0000°, Azm224.0000°; P -3.1400, Plg19.0000°, Azm91.0000°;*
*HRVD **23** 04:04:05.0±0.1,5464S×195E,h12km,MW6.0/108, Centroid moment Tensor Solution. LP body waves: s102,c219;Mantle waves: s108,c248; Half duration: 2§6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13±.01; $M_{\theta\theta}$1.41±.01; $M_{\phi\phi}$-1.28±.01; $M_{r\theta}$-0.13±.04; $M_{\theta\phi}$-0.07±.01; $M_{\phi r}$0.31±.04; Best double couple: $M_0$1.39200×10^{18} NP1:ϕ_s227.00000°,δ76.00000°,λ-174.00000°. NP2: ϕ_s136.00000°,δ84.00000°,λ-14.00000°. Principal axes: T 1.4240, Plg5.0000°, Azm182.0000°; N -0.0650, Plg75.0000°, Azm292.0000°; P -1.3600, Plg14.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 04:04:06.7,5470S×180E,h10km,mB5.7,Ms5.8,Msz5.5*
*SZGRF **23** 04:04:11.3,5431S×240E,h10km,mb5.5,Bouvet Island region*

ISC 23 04:04:04.7±0.3,5459S±004×161E±009,h10km,n196, σ1§22/81,mb5.2/33,MS5.5/33,5C-12D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.70	191	⇓*i*Pn	Pn	04 07 59.6	+0.8
VNA1				*e*		04 08 01.5	
VNA1				*e*		04 08 03.1	
VNA1				*e*		04 08 03.9	
VNA1				*e*		04 08 05.1	
VNA1				*e*		04 08 07.3	
VNA1				*e*		04 08 13.5	
VNA1				*e*		04 08 28.6	
VNA1				*e*		04 11 00.6	
VNA1				*e*		04 11 02.5	
VNA1				*e*		04 11 06.0	
VNA1				*e*		04 11 21.0	
NVL	N'lazarevskaya	16.85	168	⇓*i*P	Pn	04 08 01.2	+0.5
NVL				*i*S	Sn	04 11 10.0	+2.1
NVL				pmax	pmax		
	comp=Z,462nm,1.5s						
NVL				MLR	MLR		
	comp=Z,7μm,15.4s						
NVL				MLR	MLR		
	comp=N,3μm,15.3s						
VNA2	Neumayer--Watz	16.87	190	⇓*i*Pn	Pn	04 08 00.8	-0.1
	baz=16,slow=15						
VNA2				*e*		04 08 02.6	
VNA2				*e*		04 08 04.2	
VNA2				*e*		04 08 05.2	
VNA2				*e*		04 08 05.9	
VNA2				*e*		04 08 08.7	
VNA2				*e*		04 08 14.7	
VNA2				*e*		04 08 29.5	
VNA2				*e*		04 08 57.0	
VNA2				*e*		04 09 20.6	
VNA2				*e*		04 10 04.1	
VNA2				*e*		04 10 11.1	
VNA2				*e*		04 10 21.1	
SNAA	Sanae	17.25	185	P	Pn	04 08 04.0	-1.7
	comp=N,4.2nm,0.3s,baz=6.0,slow=13,SNR=125						
SNAA				S	Sn	04 11 04.0	-14
	comp=N,1.0nm,0.3s,baz=325,slow=21,SNR=4.0						
SNAA				LR	LR	04 13 11.1	
	comp=N,6μm,20.5s,baz=26,slow=32						
SNAA	Sanae	17.25	185	⇓*i*Pn	Pn	04 08 06.3	+0.6
SNAA				*e*		04 08 08.1	
SNAA				*e*		04 08 09.9	
SNAA				*e*		04 08 10.7	
SNAA				*e*		04 08 11.7	
SNAA				*e*		04 08 14.1	
SNAA				*e*		04 08 20.6	
SNAA				*e*		04 08 35.0	
SNAA				*e*		04 11 04.2	
SNAA				*e*		04 11 07.0	
SNAA				*e*		04 11 08.9	
SNAA				*e*		04 11 13.2	
SNAA				*e*		04 11 20.1	
SNAA				*e*		04 11 26.0	
SNAA	Sanae	17.25	185	*e*P	Pn	04 08 03.4	-2.3
	comp=N,2μm,1.3s						
VNA3	Neumayer Olymp	17.43	192	⇓*i*Pn	Pn	04 08 08.0	+0.1
VNA3				*e*		04 08 10.4	
VNA3				*e*		04 08 11.5	
VNA3				*e*		04 08 12.5	
VNA3				*e*		04 08 13.4	
VNA3				*e*		04 08 15.8	
VNA3				*e*		04 08 22.3	
VNA3				*e*		04 08 36.9	
VNA3				*e*		04 09 03.0	
VNA3				*e*		04 09 25.9	
VNA3				*e*		04 10 09.6	
VNA3				*e*		04 10 27.0	
VNA3				*e*		04 11 05.0	
VNA3				*e*		04 11 07.4	
VNA3				*e*		04 11 14.0	
VNA3				*e*		04 11 20.6	
VNA3				*e*		04 11 20.6	
VNA3				*e*		04 11 26.7	
TRIS	Tristan da Cun	19.97	326	*e*P	Pn	04 08 40.0	+1.3
	comp=N,244nm,1.0s						
HOPE	Hope Point	21.99	255	*e*P	P	04 08 59.5	+0.7
	comp=N,210nm,1.1s,mb5.5						
HOPE				LR	LR		
	comp=Z,11μm,21.0s,MS5.3						
SYO	Syowa Base	22.50	145	⇓*e*P	P	04 09 02.8	-1.6
SUR	Sutherland	26.05	39	P	P	04 09 38.0	-0.1
	comp=Z,257nm,1.4s,mb5.6,SNR=5.8						
SUR	Sutherland	26.05	39	P	P	04 09 37.7	-0.4
	comp=Z,38nm,0.9s,mb4.9,baz=240,slow=5.2,SNR=14						
SUR	Sutherland	26.05	39	*e*P	P	04 09 37.8	-0.4
	comp=Z,79nm,1.1s,mb5.2						
SUR				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
BOSA	Boshof	31.11	43	P	P	04 10 21.8	-1.5
	comp=Z,43nm,1.0s,mb5.2,baz=206,slow=8.8,SNR=17						
BOSA				LR	LR	04 20 01.7	
	comp=Z,5μm,19.6s,MS5.2,baz=207,slow=31						
BOSA	Boshof	31.11	43	*e*P	P	04 10 22.8	-0.5
	comp=Z,85nm,1.1s,mb5.5						
BOSA				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
LBTB	Lobatse	34.47	41	P	P	04 10 50.6	-2.0
	comp=Z,20nm,0.7s,mb5.1,baz=219,slow=9.2,SNR=21						
LBTB	Lobatse	34.47	41	P	P	04 10 50.7	-2.0
LBTB				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
LBTB	Lobatse	34.47	41	*e*P	P	04 10 50.4	-2.3
	comp=Z,92nm,1.3s,mb5.5						
LBTB				LR	LR		
	comp=Z,5μm,21.0s,MS5.3						
QSPA	South Pole Qui	35.65	180	⇑*i*P	P	04 11 02.7	-0.1
	comp=Z,441nm,0.6s						
TSUM	Tsumeb	37.38	25	*e*P	P	04 11 17.3	-0.3
	comp=Z,143nm,1.1s,mb5.7						
TSUM				LR	LR		
	comp=Z,10μm,19.0s,MS5.6						
USHA	Ushuaia	38.91	240	P	P	04 11 28.7	-1.8
	comp=Z,17nm,0.8s,mb4.8,baz=96,slow=9.8,SNR=10						
LSZ	Lusaka	44.34	38	*e*P	P	04 12 14.8	-0.2
LSZ				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.3						
LSZ				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.6						
LSZ	Lusaka	44.34	38	*e*P	P	04 12 14.8	-0.2
	comp=Z,110nm,1.6s,mb5.3						
LSZ				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
LPA	La Plata	45.11	271	*de*P	P	04 12 19.0	-2.2
LPA				*ep*P	pP	04 12 24.0	-0.3
LPA				*e*S	S	04 19 03.0	+2.6
LPA				*ep*S		04 19 07.0	
LPA				*e*SCS	ScS	04 22 21.0	+2.6
LPA				*e*SS	SS	04 22 42.0	+19
LPA							
	comp=Z,4μm,20.0s						
TRQA	Tornquist	45.29	264	*e*P	P	04 12 22.5	-0.1
	comp=Z,61nm,0.9s,mb5.4						
TRQA				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
CAM4	Nova Friburgo	46.06	296	⇑*i*P	P	04 12 28.9	+0.3
CAM4				*i*	pP	04 12 33.3	+1.5
CAM4				*i*		04 12 40.9	
CAM4				*i*		04 12 48.9	
CAM3	Guarapari	46.36	300	⇑*i*P	Px	04 12 42.9	
CAM3				*i*	Px	04 12 46.4	
SBA	Scott Base	47.50	176	*e*P	P	04 12 40.1	+0.2
SBA				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.6						
SBA	Scott Base	47.50	176	*e*P	P	04 12 40.1	+0.1
	comp=Z,68nm,1.0s,mb5.6						
VNDA	Vanda	47.58	174	P	P	04 12 39.4	-1.2
	comp=Z,38nm,1.0s,mb5.4,baz=216,slow=7.8,SNR=63						
VNDA				LR	LR	04 32 48.2	
	comp=Z,7μm,18.4s,MS5.6,baz=196,slow=36						
VNDA	Vanda	47.58	174	P	P	04 12 39.4	-1.1
VNDA				pmax	pmax		
	comp=Z,39nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,7μm,18.4s						
VNDA	Vanda	47.58	174	*e*P	P	04 12 38.9	-1.6
	comp=Z,42nm,0.9s,mb5.5						
VNDA				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
CASY	Casey	48.14	149	⇑*i*P	P	04 12 45.0	+0.1
CASY				*e*S	S	04 19 45.2	+1.5
PLCA	Paso Flores	48.39	255	P	P	04 12 46.9	0.0
	comp=Z,17nm,0.8s,mb5.1,baz=126,slow=7.0,SNR=35						
PLCA				LR	LR	04 30 29.6	
	comp=Z,4μm,20.6s,MS5.3,baz=132,slow=33						
PLCA	Paso Flores	48.39	255	*e*P	P	04 12 46.5	-0.3
PLCA				pmax	pmax		
	comp=Z,20nm,0.8s						
PLCA				MLR	MLR		
	comp=Z,4μm,19.0s						
PLCA	Paso Flores	48.39	255	*e*P	P	04 12 46.5	-0.3
	comp=Z,20nm,0.8s,mb5.2						
PLCA				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
CPUP	Villa Florida	51.08	279	*e*P	P	04 13 05.7	-1.6
	comp=Z,176nm,0.8s,mb6.0						
CPUP				LR	LR		
	comp=Z,555nm,20.0s,MS4.6						
BDFB	Brasilia	54.47	296	P	P	04 13 31.0	-1.4
	comp=Z,35nm,1.0s,mb5.3,baz=134,slow=5.7,SNR=34						
BDFB				LR	LR	04 32 02.7	
	comp=Z,13μm,19.9s,MS6.0,baz=151,slow=31						
DRV	Dumont d'Urvil	55.07	161	P	P	04 13 38.0	+1.3
DRV	Dumont d'Urvil	55.07	161	PP	PP	04 15 38.0	-1.9
DRV				S	S	04 21 16.0	-3.3
RCBR	Riachuelo	57.23	314	P	P	04 13 52.0	-0.1
	comp=Z,77nm,1.8s,mb5.4						
RCBR				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
KMBO	Kilima Mbogo	60.74	42	P	P	04 14 17.1	+0.5
	comp=Z,0.8nm,0.4s,baz=177,slow=9.8,SNR=8.6						
KMBO	Kilima Mbogo	60.74	42	P	P	04 14 17.1	+0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	Kilima Mbogo	60.74	42	*e*P	P	04 14 18.0	+1.5

NNA LR LR
comp=Z,3μm,21.0s,MS5.6
MUN Mundaring 77.13 128 *e*P **P 04 15 58.5 +0.1**
MUN *i* S S 04 25 50.0 +2.4
KLBR Kellerberrin 78.17 128 *e*P **P 04 16 04.8 +0.6**
comp=Z,128nm,1.8s,mb5.5
ABTO Aybut 84.06 49 P **P 04 16 37.7 +2.1**
SNR=11
OTAV Otavalo 84.43 278 *e*P **P 04 16 38.7 +1.3**
comp=Z,58nm,1.5s,mb5.5
WHFO Wadi Hawf 84.76 49 P **P 04 16 41.2 +2.1**
SNR=18
ROSC El Rosal 85.84 284 P **P 04 16 45.9 +1.4**
comp=Z,2.3nm,0.3s,mb4.8,baz=96,slow=22,SNR=1.6
ROSC LR LR 04 52 22.5
comp=Z,6μm,19.1s,MS6.0,baz=192,slow=34
CNB Canberra Magne 86.25 154 *e*P **P 04 16 46.8 +0.2**
comp=Z,90nm,1.9s,mb5.7
SDV Santo Domingo 87.10 290 *e*P **P 04 16 53.0 +2.3**
comp=Z,58nm,1.8s,mb5.5
SDV LR LR
comp=Z,4μm,22.0s,MS5.8
MDT Midelt 87.22 355 P **P 04 16 51.7 +0.4**
comp=Z,9.0nm,1.0s,mb5.0,baz=173,slow=3.7,SNR=6.2
STKA Stephens Creek 87.24 147 *e*P **P 04 16 48.5 -2.9**
comp=Z,25nm,1.0s,mb5.4
STKA Stephens Creek 87.24 147 P **P 04 16 48.8 -2.6**
comp=Z,27nm,1.0s,mb5.4,baz=179,slow=3.6,SNR=28
MBWA Marble Bar 87.95 125 *e*P **P 04 16 54.0 -0.8**
comp=Z,51nm,1.5s,mb5.5
MBWA LR LR
comp=Z,4μm,19.0s,MS5.8
EIL Elat 88.70 29 P **P 04 16 59.5 +1.1**
comp=Z,863nm,1.5s
PALK Pallekele 89.60 77 *e*P **P 04 17 01.3 -1.3**
comp=Z,67nm,1.5s,mb5.8
PALK LR LR
comp=Z,3μm,21.0s,MS5.8
BSY Bisya 90.51 50 P **P 04 17 08.2 +1.4**
SNR=6.0
SMDO Samad 91.17 50 ⇑P **P 04 17 11.4 +1.5**
HOQ Hoqain 91.30 49 ⇓P **P 04 17 11.0 +0.5**
ASAR Alice Springs 91.98 137 P **P 04 17 10.9 -2.7**
comp=Z,7.6nm,0.9s,mb5.0,baz=204,slow=4.6,SNR=41
ASAR PP PP 04 20 52.0 -1.1
comp=Z,1.3nm,1.0s,baz=213,slow=7.8,SNR=3.0
ASAR Alice Springs 91.98 137 P **P 04 17 11.0 -2.6**
ASAR 04 20 52.0
ASAR pmax pmax
comp=Z,8.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ESDC Sonseca Array 94.02 356 P **P 04 17 22.8 -0.2**
comp=Z,3.6nm,1.1s,mb4.7,baz=160,slow=4.3,SNR=7.3
RKT Rikitea 94.11 219 *e*SS SS 04 34 49.6 -4.9
comp=Z,1μm,28.0s
RKT *e*LR LR 04 47 31.6
comp=Z,2μm,27.5s
WRA Warramunga Arr 95.50 136 P **P 04 17 28.0 -1.8**
comp=Z,1.1nm,0.8s,mb4.4,baz=203,slow=3.5,SNR=8.5
WRA Warramunga Arr 95.50 136 P **P 04 17 28.0 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.8s
MALT Malatya 97.79 28 *e*P **P 04 17 41.4 +1.2**
MALT pmax pmax
comp=Z,11nm,1.4s,mb5.2
MALT Malatya 97.79 28 *e*P **P 04 17 41.4 +1.1**
comp=Z,11nm,1.4s,mb5.2
BR131 Keskin Array S 97.88 24 *e*P **P 04 17 40.7 +0.1**
comp=Z,0.7nm,0.5s,mb4.5
BR131 LR LR
comp=Z,1μm,20.0s,MS5.4
BRTR Keskin Array B 97.88 24 P **P 04 17 40.4 -0.2**
comp=Z,1.1nm,1.0s,mb4.3,baz=182,slow=8.2,SNR=6.0
BRTR PP PP 04 21 35.5 -3.5
comp=Z,0.9nm,0.9s,baz=172,slow=10.0,SNR=4.8
BRTR Keskin Array B 97.88 24 P **P 04 17 40.4 -0.2**
BRTR 04 21 35.5
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
TBI Tubuai 98.49 207 *e*PS PS 04 30 39.6 +1.9
comp=Z,2μm,31.5s
TBI Tubuai 98.49 207 *e*SKSac SKSac 04 28 19.9 -1.5
comp=Z,629nm,32.2s
TBI *e*SS SS 04 35 56.2 -0.3
comp=Z,2μm,30.2s
TBI *e*LR LR 04 49 20.1
comp=Z,2μm,39.2s
BFO Black Forest 102.70 5 *e*PP PP 04 22 18.6 +3.0
BFO *e*SP SP 04 31 27.9 +6.4
BFO *e*SS SS 04 37 04.5 +9.4
FUR Furstenfeldbru 102.71 7 *e*SP SP 04 31 27.1 +5.6
FUR *e*SS SS 04 37 02.1 +6.9
STU Stuttgart 103.19 5 *e*PP PP 04 22 19.0 -0.2
STU *e*SP SP 04 31 33.4 +6.8
STU *e*SS SS 04 37 11.0 +9.2
GEC2 GERESS Array S 103.57 8 *e*PP PP 04 22 16.0 -6.0
GEC2 *e*SP SP 04 31 36.1 +5.5
GEC2 *e*SS SS 04 37 13.6 +6.6
GERES GERESS Array B 103.57 8 PP PP 04 22 09.5 -13
comp=Z,0.4nm,0.6s,baz=227,slow=7.1,SNR=3.7
WET Wettzell 103.80 8 *e*PP PP 04 22 26.8 +3.1
WET *e*SP SP 04 31 41.0 +8.0
WET *e*SS SS 04 37 20.9 +11
KHC Kasperske Hory 103.84 8 *e*PP PP 04 22 22.0 -2.0
KHC AMS AMS 05 01 10.0
comp=Z,1μm,20.7s
PPT Papeete 104.03 208 *e*PS PS 04 31 35.3 -1.5
comp=Z,2μm,26.2s
PPT Papeete 104.03 208 *e*SKSac SKSac 04 28 46.6 -1.5
comp=Z,651nm,27.2s
PPT *e*SS SS 04 37 18.3 +4.8
comp=Z,2μm,27.5s
PPT *e*LR LR 04 52 16.6
comp=Z,4μm,25.0s
TREC Trest 104.17 9 *e*PP PP 04 22 29.3 +2.8
TREC *e*SP SP 04 31 36.3 -0.6
GRF Grafenberg Arr 104.22 6 *e*PP PP 04 22 26.5 -0.4
GRF *e*SP SP 04 31 45.5 +8.0
GRF *e*SS SS 04 37 25.2 +9.1
GRF *e*L 05 04 42.0
comp=Z,1μm,20.5s
ROTZ Rotzenmuhle 104.37 7 *e*PP PP 04 22 30.0 +2.0
ROTZ *e*SP SP 04 31 47.7 +8.7
ROTZ *e*SS SS 04 37 28.3 +10
TNS Taunus Mts 104.60 5 *e*PP PP 04 22 39.1 +9.4
TNS *e*SP SP 04 31 49.6 +8.2
PRU Pruhonice 104.77 9 *e*PP PP 04 22 34.1 +3.1
PRU *e*SP SP 04 31 43.7 +0.5
PRU AMS AMS 05 01 20.0
comp=Z,1μm,19.0s
NKC Novy Kostel 104.85 7 *e*PP PP 04 22 26.7 -4.8
NKC *e*SP SP 04 31 45.0 +1.0
MOX Moxa 105.20 7 *e*PP PP 04 22 34.5 +0.3
MOX *e*SP SP 04 31 55.8 +8.1
MOX *e*SS SS 04 37 41.6 +12
UBBA Unterbreizbach 105.27 6 *e*PP PP 04 22 49.9 +15
UBBA *e*SP SP 04 31 56.8 +8.3
DPC Dobruska-Polom 105.30 10 *e*PP PP 04 22 36.4 +1.5
DPC AMS AMS 05 01 50.0
comp=Z,1μm,20.0s
BRG Berggiesshubel 105.60 8 *e*PP PP 04 22 38.5 +1.4
BRG *e*SP SP 04 32 00.3 +8.5
BRG *e*SS SS 04 37 43.4 +8.5
BRG Berggiesshubel 105.60 8 *e*P Px 04 22 42.3
comp=Z,6.6nm,1.3s
BRG *i* 04 31 59.0
BRG *i* 04 32 32.0
BRG SS SS 04 37 33.0 -1.9
BRG
comp=N,625nm,26.5s
BRG
comp=E,1μm,31.0s
BRG
comp=Z,2μm,31.9s
BRG Berggiesshubel 105.60 8 *e*P Px 04 22 42.3
BRG *i* 04 31 59.0
BRG *i* 04 32 32.0
BRG SS SS 04 37 33.0 -1.9
BRG LR LR
comp=Z,2μm,31.9s,MS5.4
BUG Bochum--Univer 105.77 4 *e*PP PP 04 22 39.4 +1.0
BUG *e*SP SP 04 32 02.2 +8.6
BUG *e*SS SS 04 37 49.5 +12
CLL Collm 105.96 7 *e*PP PP 04 22 41.0 +1.2
CLL *e*SKSac SKSac 04 29 09.6 +13
CLL *e*PS PS 04 31 58.6 +1.8
CLL *e*PPS 04 32 57.1
CLL *e*SS SS 04 37 48.8 +9.0
CLL *e*SKKSdf SKKSdf 04 41 12.3 -1.2
CLL *e*SSS 04 41 47.4
CLL *e*LQ 04 49 23.0
CLL *e*LR LR 04 54 08.9
CLL *e*L 05 04 39.9
comp=Z,766nm,22.0s
CLL Collm 105.96 7 *e*PP PP 04 22 42.0 +2.2
CLL *e*SKSac SKSac 04 28 56.0 -0.8
CLL *e*PS PS 04 31 58.0 +1.2
CLL *e*PPS 04 32 51.0
CLL *e*x x 04 35 24.0
CLL *e*SS SS 04 37 49.0 +9.2
CLL *e*SKKSdf SKKSdf 04 41 12.0 -1.5
CLL *e*(SSS) 04 42 18.0
CLZ Clausthal 106.31 6 *e*PP PP 04 22 48.2 +5.8
CLZ *e*SP SP 04 32 08.0 +8.7
CLZ *e*SS SS 04 37 55.2 +11
IBBN Ibbenburen 106.65 4 *e*PP PP 04 22 48.0 +3.1
IBBN *e*SP SP 04 32 11.5 +8.8
RUE Ruedersdorf 107.18 8 *e*PP PP 04 22 48.9 +0.1
RUE *e*SP SP 04 32 16.6 +8.4
AKASG Malin Array Be 107.44 18 PP PP 04 22 44.4 -6.3
comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=3.1
BSEG Bad Segeberg 108.40 5 *e*PP PP 04 23 02.1 +4.4
BSEG *e*SP SP 04 32 26.0 +5.3
HLG Helgoland 108.53 4 *e*PP PP 04 23 04.7 +6.0
HLG *e*SP SP 04 32 30.4 +8.4
TAOE Nuku Hiva Isla 109.11 220 *e*SS SS 04 38 21.1 -1.4
comp=Z,5μm,30.4s
TAOE *e*LQ 04 49 45.2
comp=Z,9μm,32.1s
TAOE *e*LR LR 04 54 29.9
comp=Z,6μm,29.5s
RGN Rugen 109.20 7 *e*PP PP 04 23 08.2 +4.7
RGN *e*SP SP 04 32 35.2 +6.4
RGN *e*SS SS 04 38 33.5 +10
AAK Ala-Archa 114.98 51 *e*PKIKP PKiKP 04 22 45.4 -0.5
QIZ Qiongzhong 115.84 93 PDIF Pdif 04 19 03.0 +2.5
QIZ *e*S Sdif 04 31 35.4 -1.5
QIZ PS PS 04 33 32.5 +0.7
QIZ SS SS 04 39 53.8 +2.0
QIZ LR LR
comp=N,700nm,24.5s,MS5.3
QIZ LR LR
comp=E,530nm,21.9s,MS5.3
QIZ LR LR
comp=Z,2μm,36.2s
KMI Kunming 116.43 83 PKP PKPdf 04 22 48.3 -0.4
KMI PP PP 04 23 59.9 +4.8
KMI SS SS 04 40 02.3 +2.7
KMI LR LR
comp=Z,2μm,27.4s,MS5.5
FINES FINESS Array B 117.30 13 *i* PKIKP PKPdf 04 22 56.7 +6.3
FINES pmax pmax
comp=Z,5.0nm,1.1s
ZRNK Zerenda 120.80 41 *e*PKIKP PKPdf 04 22 55.8 -1.3
BRVK Borovoye 121.37 41 *e*PKIKP PKPdf 04 22 57.6 -0.6
CD2 Chengdu 121.39 80 *e*PKP PKPdf 04 22 55.1 -3.1
CD2 PP PP 04 24 30.8 +1.5
CD2 PKS 04 26 30.5
CD2 LR LR
comp=E,420nm,19.2s
CD2 LR LR
comp=Z,440nm,18.0s,MS5.2
MKAR Makanchi Array 121.74 53 PKP PKPdf 04 22 57.4 -1.5
comp=Z,1.0nm,0.8s,baz=243,slow=0.5,SNR=4.9
MKAR Makanchi Array 121.74 53 PKIKP PKPdf 04 22 57.4 -1.5
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 121.74 53 PKP PKPdf 04 22 57.4 -1.5
MKAR *i* PKP PKPdf 04 23 02.1 +3.2
WMQ Urumqi 122.16 59 *e*PKP PKPdf 04 23 00.0 +0.3
WMQ PP PP 04 24 38.0 +3.4
WMQ SKS SKSdf 04 30 10.0 -1.7
WMQ SKKS SKKSac 04 31 29.0 -5.1
WMQ SS SS 04 41 13.0 -0.5
WMQ PP PP
comp=Z,87nm,8.0s
WMQ LR LR
comp=N,3μm,12.0s,MS6.2
WMQ LR LR
comp=E,2μm,12.0s,MS6.2
WMQ LR LR
comp=Z,1μm,12.0s,MS5.8
KURK Kurchatov 122.99 48 *e*PKIKP PKPdf 04 22 59.9 -1.4
KURK *i* 04 23 03.9
WMOK Wichita Mounta 123.21 284 *e*PKIKP PKPdf 04 23 02.0 +0.3
APA Apatity 124.13 14 ⇓*i*PKIKP PKPdf 04 22 58.0 -5.5
APA pmax pmax
comp=Z,96nm,1.5s
MNTX Cornudas Mount 124.76 277 PKPdf PKPdf 04 23 04.5 -0.2
ARCES ARCESS Array B 125.04 10 PKP PKPdf 04 23 01.8 -3.4
comp=Z,12nm,1.0s,baz=8.0,slow=18,SNR=2.7
ARCES ARCESS Array B 125.04 10 PKIKP PKPdf 04 23 01.8 -3.4
ARCES pmax pmax
comp=Z,12nm,1.0s
LZH Lanzhou 125.22 76 *e*PKP PKPdf 04 23 06.1 +0.5
LZH XPKP 04 23 10.6
LZH PP PP 04 25 00.3 +5.1
LZH SKKS SKKSac 04 31 49.0 -4.7
LZH SS SS 04 41 54.0 +1.7
LZH PP PP
comp=Z,175nm,6.0s
LZH LR LR
comp=E,1μm,20.0s
LZH LR LR
comp=Z,2μm,21.0s,MS5.8
GTA Gaotai 125.35 70 *e*PKP PKPdf 04 23 07.5 +1.7
GTA PP PP 04 25 02.0 +6.0
GTA PKS 04 26 42.0
GTA SKS SKSdf 04 30 18.3 +0.6
GTA SKKS SKKSac 04 31 51.1 -3.4
GTA PP PP
comp=Z,124nm,6.1s
GTA LR LR
comp=N,751nm,21.3s,MS5.6
GTA LR LR
comp=E,1μm,21.7s,MS5.6
GTA LR LR
comp=Z,961nm,19.8s,MS5.5
ANMO Albuquerque 127.74 279 ⇓*i*PKIKP PKPdf 04 23 11.1 +0.7
ANMO Albuquerque 127.74 279 *e*PKPdf PKPdf 04 23 11.1 +0.7
NVS Novosibirsk 127.90 46 *e*PKIKP PKPdf 04 23 11.8 +1.1
TUC Tucson 128.34 273 *e*PKIKP PKPdf 04 23 11.3 -0.2
SDCO Great Sand Dun 129.16 282 *e*PKPdf PKPdf 04 23 12.3 -0.8
SUMG Summit 129.88 345 *e*PKPdf PKPdf 04 23 14.2 -0.3
NJ2 Nanjing 130.97 91 *e*PKP PKPdf 04 23 18.8 +2.3
NJ2 PP PP 04 25 40.0 +7.0
NJ2 PKS 04 26 53.0
NJ2 SKS SKSdf 04 30 27.0 -1.1
NJ2 SKKS SKKSac 04 32 25.0 -4.7
NJ2 PP PP
comp=Z,1μm,8.6s
NJ2 LR LR
comp=N,2μm,19.5s,MS5.9
NJ2 LR LR
comp=E,540nm,23.7s,MS5.9
NJ2 LR LR
comp=Z,6μm,25.8s,MS6.2
SMCO Snowmass 130.98 283 *e*PKPdf PKPdf 04 23 18.3 +1.8
SSE Sheshan 131.63 93 PKP PKPdf 04 23 20.3 +2.5
SSE PP PP 04 25 43.8 +6.6
SSE SS SS 04 43 15.5 +3.9
SSE PP PP
comp=Z,340nm,5.4s
SSE LR LR
comp=N,758nm,20.0s,MS5.5
SSE LR LR
comp=E,587nm,20.0s,MS5.5
SSE LR LR
comp=Z,993nm,20.0s,MS5.5
DAG Danmarks Havn 131.73 354 ⇓*i*P PKPdf 04 23 23.1 +5.1
comp=Z,4.2nm,0.5s
DAG Danmarks Havn 131.73 354 ⇓*i*PKIKP PKPdf 04 23 23.1 +5.1
DAG pmax pmax
comp=Z,4.0nm,0.5s
ULM Lac du Bonnet 132.24 301 PKP PKPdf 04 18 23.1 -0.8
comp=Z,1.7nm,0.8s,baz=135,slow=2.9,SNR=2.7
HHC Hu-ho-hao-te 132.88 77 *e*PKP PKPdf 04 23 22.5 +2.4
HHC PP PP 04 25 51.6 +6.3
HHC SKS SKSdf 04 30 30.9 -0.6
HHC SKKS SKKSac 04 32 41.6 +0.1
HHC SS SS 04 43 34.8 +7.9
HHC LR LR
comp=N,648nm,20.4s,MS5.5
HHC LR LR
comp=E,606nm,20.4s,MS5.5
HHC LR LR
comp=Z,852nm,20.4s,MS5.5
SRU San Rafael 132.96 280 *e*PKIKP PKPdf 04 23 21.4 +1.1
MSU Marysvale 133.51 278 *e*PKIKP PKPdf 04 23 23.4 +2.1
MVU Marysvale 133.52 278 *e*PKPdf PKPdf 04 23 21.4 +0.1
MOY Mondy 134.05 59 *e*PKIKP PKPdf 04 23 27.4 +5.1
ZAK Zakamensk 134.43 61 *e*PKIKP PKPdf 04 23 25.0 +2.0
ZAK pmax pmax
comp=Z,9.0nm,1.7s
SONM Songino Array 134.50 66 PKP PKPdf 04 23 19.1 -4.1
comp=Z,0.1nm,0.3s,baz=107,slow=30,SNR=3.4
SONM PP PP 04 25 56.0 +0.4
comp=Z,0.6nm,1.0s,baz=270,slow=5.8,SNR=3.5
SONM Songino Array 134.50 66 PKIKP PKPdf 04 23 19.1 -4.1
SONM 04 25 56.0
SONM pmax pmax
comp=Z,1.0nm,1.0s
PDAR Pinedale Array 134.82 284 PKhKP 04 23 19.1
comp=Z,0.4nm,0.8s,baz=85,slow=3.1,SNR=3.4
LAO LASA Array 135.44 291 *e*PKPdf PKPdf 04 23 25.6 +0.6
SNOW Snow King Moun 135.94 284 *e*PKPdf PKPdf 04 23 25.5 -0.4
LOHW Long Hollow 135.95 285 *e*PKPdf PKPdf 04 23 25.1 -0.8
MOOW Moose Ponds 136.12 285 *e*PKPdf PKPdf 04 23 27.8 +1.6
FCC Fort Churchill 136.40 311 *e*PKIKP PKPdf 04 23 26.7 0.0
ELK Elko 136.76 278 *e*PKIKP PKPdf 04 23 28.0 +0.6
MNV Mina 136.91 274 *e*PKIKP PKPdf 04 23 28.8 +1.1
NVAR Mina Array Bea 137.00 274 PKP PKPdf 04 23 24.5 -3.3
comp=Z,0.1nm,0.3s,baz=157,slow=25,SNR=3.2
HLID Hailey 138.08 282 *e*PKPdf PKPdf 04 23 31.7 +1.9
DLMT Dillon 138.16 285 *e*PKPdf PKPdf 04 23 32.9 +2.9
EGMT Eagleton 138.16 290 *e*PKPdf PKPdf 04 23 31.6 +1.7
HRY Holter Researc 138.54 288 *e*PKPdf PKPdf 04 23 30.2 -0.4
CHMT Chamberlain Mo 139.45 287 *e*PKPdf PKPdf 04 23 34.0 +1.6
WVOR Wild Horse Val 139.79 278 *e*PKIKP PKPdf 04 23 34.2 +1.2
MOD Modoc 140.42 276 *e*PKPdf PKPdf 04 23 35.0 +0.9
BMO Blue Mountains 140.51 282 *e*PKPdf PKPdf 04 23 35.0 +0.7
NEW Newport 142.37 286 *e*PKIKP PKPdf 04 23 37.7 +0.1
CN2 Changchun 142.71 83 *e*PKP PKPdf 04 23 36.9 -1.3
CN2 *e*SS SS 04 45 24.8 +1.5
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,22.0s,MS5.2
CN2 LR LR
comp=E,300nm,22.0s,MS5.2
CN2 LR LR
comp=Z,300nm,21.0s,MS5.0
EDM Edmonton 142.89 295 *e*PKIKP PKPdf 04 23 38.9 +0.4
RES Resolute Bay 143.27 334 *e*PKIKP PKPdf 04 23 34.4 -4.8
RES *e* 04 23 40.2
BOD Bodaibo 143.67 57 *e*PKHKP 04 23 33.8
BOD pmax pmax
comp=Z,14nm,1.5s
MAJO Matsushiro 145.35 103 *e*PKIKP PKPdf 04 23 42.2 -0.6
MAT Matsushiro 145.35 103 PKP PKPdf 04 23 41.7 -1.1
MAT Matsushiro 145.35 103 *e*PKP PKPdf 04 23 42.0 -0.8
MAT LR LR
comp=Z,1μm,22.0s,MS5.6
MJAR Matsushiro Arr 145.35 103 PKPbc PKPbc 04 23 42.3 -0.3
comp=Z,5.0nm,0.7s,baz=208,slow=3.5,SNR=13
MJAR Matsushiro Arr 145.35 103 PKIKP PKPdf 04 23 42.3 -0.5
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MDJ Mudanjiang 145.59 85 PKP PKPdf 04 23 42.8 -0.4
MDJ PP PP 04 27 04.0 +0.3
MDJ PKS 04 27 18.3
MDJ SS SS 04 45 58.3 +1.9
MDJ PP PP
comp=Z,220nm,7.3s
MDJ LR LR
comp=N,762nm,43.4s,MS5.3
MDJ LR LR
comp=E,806nm,43.4s,MS5.3
MDJ LR LR
comp=Z,1μm,45.9s,MS5.2
VLA Vladivostok 146.03 89 *i* PKP2 PKPab 04 23 51.7 +6.4
VLA pmax pmax
comp=Z,52nm,1.3s
YKA Yellowknife Ar 147.10 310 PKPbc PKPbc 04 23 45.4 -2.5
comp=Z,11nm,0.8s,baz=100,slow=2.9,SNR=80
YKA Yellowknife Ar 147.10 310 PKP2 PKPab 04 23 45.4 -4.1
YKA pmax pmax
comp=Z,11nm,0.8s
YKW3 Yellowknife Ar 147.12 310 *e*PKPdf PKPdf 04 23 45.0 -0.8
CLNS Chul'man 148.75 62 *e*PKP2 PKPab 04 23 52.3 -3.7
CLNS pmax pmax
comp=Z,45nm,0.9s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
KLR Kul'dur 149.32 79 *e*PKIKP PKPdf 04 23 49.8 +0.4
TIXI Tiksi 152.00 32 *e*PKIKP PKPdf 04 23 48.5 -5.1
TIXI *i* 04 23 57.2
TIXI *e* 04 27 38.7
TIXI *e* 04 31 00.3
TIXI *e*SS SS 04 47 09.1 +0.8
TIXI pmax pmax
comp=Z,1.0nm,0.9s
TIXI pmax pmax
comp=Z,18nm,1.0s
YAK Yakutsk 152.42 53 *e*PKIKP PKPdf 04 24 02.1 +7.9
YAK pmax pmax
comp=Z,30nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,12nm,1.4s
YSS Yuzh-Sakhalins 154.54 91 *e*PKP2 PKPab 04 24 17.5 -2.7
INK Inuvik 155.27 321 *e*PKIKP PKPdf 04 23 58.8 +0.6
INK *e* 04 24 06.9
ILAR Eielson Array 161.33 316 PKP PKPdf 04 24 03.1 -2.5
comp=E,0.5nm,0.8s,baz=253,slow=1.5,SNR=4.8
ILAR PKPab PKPab 04 24 47.8 -1.7
comp=E,2.2nm,0.9s,baz=61,slow=3.0,SNR=14
ILAR Eielson Array 161.33 316 PKIKP PKPdf 04 24 03.1 -2.5
ILAR 04 24 47.8
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
COLA College 161.69 316 *i* PKP2 PKPab 04 24 46.0 -5.1
SEY Seymchan 162.84 49 *e*PKP2 PKPab 04 24 56.6 +0.5
SEY *e* 04 55 15.6
SEY pmax pmax
comp=E,7.0nm,1.1s
SEY pmax pmax
comp=Z,20nm,1.1s
BILL Bilibino 164.71 22 *i* PKIKP PKPdf 04 24 15.1 +6.3
PET Petropavlovsk 166.35 87 *e*PKIKP PKPdf 04 24 08.1 -2.1
PET *e*PPS 04 42 36.0
PET pmax pmax
comp=Z,300nm,23.2s
PET pmax pmax
comp=Z,400nm,30.2s
PET pmax pmax
comp=Z,600nm,33.0s
PET pmax pmax
comp=Z,300nm,21.4s

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*NEIC **23** 04:17:45.1, 3833S×17574E, h251km, MG4.3(WEL), After WEL.*
WEL 23 04:17:46.4±0.4, 3839S×17573E, h241km±3km, ML4.2/14, 2C-1D, Error ellipse: s-maj=3.1km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.68**	**345**	PN	Pn	04 18 18.9	+0.1
HIZ	**Hauiti**	**0.70**	**259**	PN	Pn	04 18 18.8	-0.1
FWVZ	**Far West T-bar**	**0.88**	**189**	PN	Pn	04 18 19.9	+0.1
TUVZ	**Tukino**	**0.88**	**184**	PN	Pn	04 18 20.2	+0.4
TUVZ				*e*SN	S	04 18 45.2	-0.8

TUVZ	**Tukino**	**0.88**	**184**	P	Pn	04 18 20.3	+0.5
TUVZ				S	S	04 18 48.1	+2.1
WNVZ	**Wahianoa**	**0.95**	**186**	PN	Pn	04 18 20.6	+0.5
WNVZ	**Wahianoa**	**0.95**	**186**	P	Pn	04 18 20.5	+0.4
PKVZ	**Pokaka**	**0.95**	**198**	PN	Pn	04 18 20.2	0.0
BKZ	**Black Stump Fm**	**0.98**	**143**	⇓PN	Pn	04 18 20.8	+0.5
BKZ				SN	S	04 18 47.5	+0.5
BKZ	**Black Stump Fm**	**0.98**	**143**	P	Pn	04 18 20.8	+0.5
BKZ				S	S	04 18 47.5	+0.5
MTVZ	**Mangateitei**	**1.02**	**191**	PN	Pn	04 18 20.5	0.0
MOVZ	**Moawhango**	**1.02**	**179**	PN	Pn	04 18 20.4	-0.1
MOVZ				SN	S	04 18 46.4	-1.0
MOVZ	**Moawhango**	**1.02**	**179**	P	Pn	04 18 20.4	-0.1
URZ	**Urewera**	**1.09**	**84**	PN	Pn	04 18 20.8	-0.2
URZ				SN	S	04 18 47.4	-0.8
URZ	**Urewera**	**1.09**	**84**	P	Pn	04 18 20.8	-0.2
MWZ	**Matawai**	**1.42**	**88**	PN	Pn	04 18 23.5	+0.3
WAZ	**Wanganui**	**1.48**	**203**	PN	Pn	04 18 23.2	-0.5
WAZ				SN	S	04 18 53.0	0.0
WAZ	**Wanganui**	**1.48**	**203**	*e*P	Pn	04 18 23.4	-0.3
TSZ	**Takapari Road**	**1.68**	**174**	PN	Pn	04 18 25.0	-0.3
TSZ				SN	S	04 18 55.2	-0.7
PUZ	**Puketiti**	**2.02**	**82**	SN	S	04 19 00.4	-0.7
MXZ	**Matakaoa Point**	**2.20**	**69**	PN	Pn	04 18 30.0	0.0
MXZ				SN	S	04 19 03.7	-0.5
MXZ	**Matakaoa Point**	**2.20**	**69**	P	Pn	04 18 30.0	+0.1
MXZ				S	S	04 19 05.8	+1.5
MRZ	**Mangatainoka R**	**2.27**	**183**	PN	Pn	04 18 29.2	-1.5
MRZ				SN	S	04 19 03.8	-1.9
MRZ	**Mangatainoka R**	**2.27**	**183**	P	Pn	04 18 29.2	-1.5
BFZ	**Birch Farm**	**2.33**	**170**	PN	Pn	04 18 30.4	-0.8
BFZ	**Birch Farm**	**2.33**	**170**	*e*P	Pn	04 18 30.3	-0.9
KIW	**Kapiti Island**	**2.55**	**194**	PN	Pn	04 18 31.5	-2.0
KIW				SN	S	04 19 07.4	-3.2
KIW	**Kapiti Island**	**2.55**	**194**	P	Pn	04 18 31.5	-2.0
CAW	**Cannon Point**	**2.77**	**190**	PN	Pn	04 18 33.6	-2.2
CAW	**Cannon Point**	**2.77**	**190**	P	Pn	04 18 33.7	-2.0
MTW	**Mount Morrison**	**2.77**	**184**	⇑PN	Pn	04 18 33.6	-2.2
MTW	**Mount Morrison**	**2.77**	**184**	P	Pn	04 18 33.6	-2.2
DUWZ	**D'Urville Isla**	**2.79**	**209**	PN	Pn	04 18 33.4	-2.5
MRW	**Makara Radio**	**2.95**	**195**	PN	Pn	04 18 35.2	-2.5
MRW				SN	S	04 19 14.3	-4.0
MRW	**Makara Radio**	**2.95**	**195**	P	Pn	04 18 35.2	-2.5
PAWZ	**Paruwai Farm**	**3.00**	**184**	PN	Pn	04 18 36.0	-2.3
PAWZ	**Paruwai Farm**	**3.00**	**184**	P	Pn	04 18 36.0	-2.3
TRWZ	**Traveller**	**3.01**	**181**	PN	Pn	04 18 36.4	-1.9
SNZO	**South Karori**	**3.02**	**195**	PN	Pn	04 18 35.8	-2.7
SNZO	**South Karori**	**3.02**	**195**	P	Pn	04 18 35.9	-2.6
TCW	**Tory Channel**	**3.04**	**201**	PN	Pn	04 18 36.1	-2.5
TCW				SN	S	04 19 15.2	-4.8
TCW	**Tory Channel**	**3.04**	**201**	P	Pn	04 18 36.2	-2.5
MSWZ	**Moikau Station**	**3.05**	**187**	⇑PN	Pn	04 18 36.3	-2.5
MSWZ	**Moikau Station**	**3.05**	**187**	P	Pn	04 18 36.3	-2.5
TUWZ	**Tuamarina**	**3.34**	**204**	PN	Pn	04 18 39.2	-2.8
NNZ	**Nelson**	**3.36**	**212**	P	Pn	04 18 39.0	-3.3
QRZ	**Quartz Range**	**3.47**	**224**	*e*P	Pn	04 18 39.3	-4.3
BSWZ	**Blackbirch Sta**	**3.62**	**203**	P	Pn	04 18 41.4	-3.8
THZ	**Tophouse**	**4.01**	**212**	*e*P	Pn	04 18 45.9	-3.9
KHZ	**Kahutara**	**4.36**	**202**	*e*P	Pn	04 18 50.7	-3.3
LTZ	**Lake Taylor**	**5.12**	**210**	*e*P	Pn	04 18 58.9	-4.4
MQZ	**McQueen's Vall**	**5.80**	**203**	*e*P	Pn	04 19 06.5	-5.3
RPZ	**Rata Peaks**	**6.39**	**212**	*e*P	Pn	04 19 13.5	-5.7

*IDC **23** 05:03:01.8±0.9, 3611N×7163E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/22, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=25.4km s-min=18.7km az=12.0*
*BJI **23** 05:03:04.8, 3676N×7117E, h15km, mb4.3, ML4.4*
*NEIC **23** 05:03:06.1±0.7, 3623N×7140E, h10km, mb3.9/3, Error ellipse: s-maj=14.9km s-min=7.2km az=48.0*
*MOS **23** 05:03:06.3±1.5, 3615N×7141E, h33km, mb3.9/1, Error ellipse: s-maj=15.6km s-min=8.8km az=95.8*
*ISCJB **23** 05:03:14.9±0.5, 3648N±003×7185E±006, h125km±7km, mb3.5/11, Error ellipse: s-maj=8.6km s-min=4.9km az=1.9*
*NNC **23** 05:03:20.2±7.2, 3692N×7135E, h122km±91km, mb3.3, mpv4.2, Error ellipse: s-maj=57.5km s-min=37.1km az=14.0*

ISC 23 05:03:16.1±0.4, 3648N±003×7186E±007, h123km±6km, n55, σ1§21/61, mb3.5/11, 9C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.65**	**179**	⇓P	**Pn**	**05 03 59.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.04**	**157**	⇑P	**Pn**	**05 04 06.0**	**+3.1**
THW	**Thamme Wali**	**3.67**	**182**	⇑P	**Pn**	**05 04 11.9**	**+0.6**
SBDP	**Sheikh Budin**	**4.25**	**192**	P	**Pn**	**05 04 19.7**	**+0.6**
KSH	**Kashi**	**4.45**	**46**	*e*PG	**Pn**	**05 04 25.5**	**+3.9**
KSH				*e*S	**Sn**	**05 05 14.3**	**+1.8**
KSH				Smax			
	comp=N,270nm,0.2s						
KSH				Smax			
	comp=E,260nm,0.5s						
SARP	**Sargodha**	**4.59**	**171**	P	**Pn**	**05 04 23.5**	**-0.1**
DRP	**Derazinda**	**4.92**	**197**	P	**Pn**	**05 04 28.6**	**+0.7**
AML	**Almayashu**	**5.83**	**14**	P	**Pn**	**05 04 40.0**	**-0.1**
	SNR=94						
UCH	**Uchtor**	**6.10**	**19**	P	**Pn**	**05 04 44.1**	**+0.2**
	SNR=52						
KZA	**Kyzart**	**6.18**	**24**	P	**Pn**	**05 04 45.1**	**+0.1**
	SNR=19						
EKS2	**Erkin-Say**	**6.35**	**13**	P	**Pn**	**05 04 47.3**	**0.0**
	SNR=19						
AAK	**Ala-Archa**	**6.48**	**17**	P	**Pn**	**05 04 49.5**	**+0.5**
	SNR=42						
AAK	**Ala-Archa**	**6.48**	**17**	⇓*i*PN	**Pn**	**05 04 48.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,18nm,0.3s						
AAK	**Ala-Archa**	**6.48**	**17**	⇓*i*Pn	**Pn**	**05 04 48.2**	**-0.7**
	comp=Z,18nm,0.3s						
AAK				*e*Sn	**Sn**	**05 05 58.6**	**-2.9**
KBK	**Karagaybulak**	**6.62**	**20**	P	**Pn**	**05 04 51.5**	**+0.7**
	SNR=14						
ULHL	**Ulahol**	**6.69**	**29**	P	**Pn**	**05 04 52.0**	**+0.3**
	SNR=42						
FRU	**Bishkek**	**6.70**	**18**	*e*PN	**Pn**	**05 04 53.0**	**+1.1**
KK31	**Karatay Array**	**6.70**	**351**	P	**Pn**	**05 04 50.5**	**-1.5**
	comp=Z,9.2nm,0.5s,baz=176,slow=12,SNR=241						
KK31				⇑S	**Sn**	**05 05 59.7**	**-7.2**
	comp=Z,6.8nm,0.3s,baz=169,slow=20,SNR=14						
CHMS	**Chumysh**	**6.88**	**18**	P	**Pn**	**05 04 54.6**	**+0.1**
	SNR=17						
TKM2	**Tokmak 2**	**7.05**	**23**	P	**Pn**	**05 04 58.0**	**+1.3**
	SNR=26						
TKM2	**Tokmak 2**	**7.05**	**23**	⇑P	**Pn**	**05 04 56.9**	**+0.2**
	comp=Z,11nm,0.6s						
TKM2				⇑S	**Sn**	**05 06 15.7**	**+0.4**
	comp=Z,7.9nm,0.8s						
USP	**Ospenovka**	**7.08**	**16**	P	**Pn**	**05 04 56.6**	**-0.5**
	SNR=7.8						
DDI	**Dehra Dun**	**8.03**	**138**	*e*P	**Sn**	**05 06 44.5**	**+5.5**
MK31	**Makanchi Array**	**12.91**	**34**	⇑P	**Pn**	**05 06 14.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=217,slow=14,SNR=28						
MKAR	**Makanchi Array**	**12.91**	**34**	Pn	**Pn**	**05 06 13.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=215,slow=15,SNR=33						
KOLN	**Koldanda**	**13.19**	**128**	*e*P	**Pn**	**05 06 17.7**	**-0.9**
	comp=Z,4.0nm,0.3s						
KOLN				*e*S	**Sn**	**05 08 34.4**	**-10**
GKN	**Gorkha**	**13.71**	**124**	*e*P	**Pn**	**05 06 23.2**	**-2.1**
GKN				*e*S	**Sn**	**05 08 46.4**	**-10**
KKN	**Kakani**	**14.28**	**124**	*e*P	**Pn**	**05 06 31.3**	**-1.2**
	comp=Z,4.4nm,0.3s						
KKN	**Kakani**	**14.28**	**124**	*e*P	**Pn**	**05 06 31.3**	**-1.2**
KKN				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PKI	**Pulchoki**	**14.51**	**124**	*e*P	**Pn**	**05 06 34.2**	**-1.2**
GUN	**Gumba**	**14.61**	**122**	*e*P	**Pn**	**05 06 35.1**	**-1.6**
	comp=Z,5.2nm,0.3s						
JIRN	**Jiri**	**14.98**	**122**	*e*P	**Pn**	**05 06 39.7**	**-1.7**
	comp=Z,12nm,0.3s						
KURK	**Kurchatov**	**15.04**	**17**	⇑P	**Pn**	**05 06 43.7**	**+1.5**
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**15.04**	**17**	*e*P	**Pn**	**05 06 44.7**	**+2.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**15.04**	**17**	*e*Pn	**Pn**	**05 06 44.7**	**+2.6**
	comp=Z,7.0nm,0.9s						
AB31	**Akbulak array**	**15.45**	**329**	⇑P	**Pn**	**05 06 44.5**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=166,slow=10.0,SNR=21						
AB31				⇓S	S	05 09 23.0	-22
	comp=Z,0.6nm,0.5s,baz=149,slow=23,SNR=5.5						

BVAR	**Borovoye Array**	**16.58**	**357**	Pn	**Pn**	**05 07 00.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=168,slow=11,SNR=5.1						
ZRNK	**Zerenda**	**16.60**	**354**	*e*P	**Pn**	**05 07 02.0**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.60**	**354**	*e*P	**Pn**	**05 07 01.9**	**+0.6**
	comp=Z,1.1nm,0.5s						
AKTK	**Aktyubinsk**	**17.16**	**329**	P	**Pn**	**05 07 06.8**	**-1.4**
AKTO	**Aktyubinsk**	**17.16**	**329**	⇑P	**Pn**	**05 07 08.0**	**-0.1**
	comp=Z,1.5nm,1.6s						
AKTO	**Aktyubinsk**	**17.16**	**329**	P	**Pn**	**05 07 06.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=130,slow=8.0,SNR=8.4						
GNI	**Garni**	**21.56**	**288**	P	**P**	**05 07 54.2**	**-1.3**
	comp=Z,1.7nm,0.4s,mb3.7,baz=112,slow=19,SNR=3.2						
GTA	**Gaotai**	**22.20**	**74**	*e*P	**P**	**05 08 07.4**	**+5.0**
GTA				AP		05 08 11.9	
GTA				XP	sP	05 08 15.0	-26
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**27.78**	**55**	P	**P**	**05 08 56.6**	**+3.3**
	comp=Z,0.9nm,0.7s,mb3.4,baz=253,slow=9.8,SNR=9.5						
BRTR	**Keskin Array B**	**30.10**	**288**	P	**P**	**05 09 14.3**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.0,baz=235,slow=41,SNR=3.3						
FINES	**FINESS Array B**	**37.89**	**326**	P	**P**	**05 10 21.6**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.4,baz=117,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**05 10 51.8**	**+1.4**
	comp=Z,3.4nm,0.8s,mb4.2,baz=122,slow=9.6,SNR=3.9						
ARCES	**ARCESS Array B**	**41.43**	**337**	P	**P**	**05 10 51.8**	**+1.4**
NB2	**NORSAR Subarra**	**44.82**	**323**	P	**P**	**05 11 18.5**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=95,slow=10						
NOA	**NORSAR Array B**	**44.82**	**323**	P	**P**	**05 11 17.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=96,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P	**P**	**05 13 50.8**	**-1.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=49,slow=5.9,SNR=33						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**05 15 19.5**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=351,slow=5.5,SNR=7.8						
WRA	**Warramunga Arr**	**81.39**	**122**	P	**P**	**05 15 20.9**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.3,baz=321,slow=5.0,SNR=6.0						
ASAR	**Alice Springs**	**83.67**	**125**	P	**P**	**05 15 32.6**	**+1.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=307,slow=4.4,SNR=5.2						

*NEIC **23** 05:22:02.0, 3504S×7022W, h156km, MD4.0(GUC), After GUC.*

GUC 23 05:22:02.0±0.5, 3504S×7022W, h156km±4km, MD3.7, ML3.3, 6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.74**	**347**	⇓*i*P	Pn	05 22 25.6	+0.3
SFDO	**San Fernando**	**0.78**	**303**	⇓*i*P	Pn	05 22 25.9	+0.3
SFDO				*i* S	Sn	05 22 44.1	+0.4
CACH	**El Canelo**	**0.97**	**341**	⇑*i*P	Pn	05 22 27.5	+0.4
CACH				*i* S	Sn	05 22 47.0	+0.8
CHCH	**Chadas Angostu**	**1.16**	**342**	⇓*i*P	Pn	05 22 29.1	+0.4
PCH	**Pirque**	**1.44**	**350**	⇓*i*P	Pn	05 22 32.1	+0.8
PCH				*i* S	Sn	05 22 54.7	+0.9
TACH	**Talagante**	**1.50**	**337**	⇑*i*P	Pn	05 22 32.5	+0.4
ANTU	**Antumapu**	**1.51**	**347**	⇓*i*P	Pn	05 22 32.7	+0.6
ANTU				*i* S	Sn	05 22 55.9	+0.8
ANTU				AMP		05 22 57.3	
	comp=N,303nm,0.2s						
ANTU	**Antumapu**	**1.51**	**347**	⇓*i*P	Pn	05 22 32.7	+0.6
ANTU				*i* S	Sn	05 22 55.9	+0.8
FSR	**Penalolen**	**1.58**	**351**	*e*P	Pn	05 22 33.5	+0.8
FSR				*i* S	Sn	05 22 57.6	+1.2
FSR				AMP		05 22 58.3	
	comp=E,193nm,0.1s						
FSR	**Penalolen**	**1.58**	**351**	*e*P	Pn	05 22 33.5	+0.8
FSR				S	Sn	05 22 57.6	+1.2
RCDM	**Rinconada Maip**	**1.62**	**342**	*e*P	Pn	05 22 33.7	+0.5
RCDM				*i* S	Sn	05 22 57.6	+0.4
RCDM				AMP		05 23 00.3	
	comp=E,341nm,0.1s						
RCDM	**Rinconada Maip**	**1.62**	**342**	*e*P	Pn	05 22 33.7	+0.5
RCDM				*i* S	Sn	05 22 57.6	+0.4
FCH	**Farellones**	**1.71**	**358**	⇑*i*P	Pn	05 22 35.1	+0.9
FCH				*i* S	Sn	05 22 60.0	+1.1
FCH				AMP		05 23 02.7	
	comp=E,167nm,0.6s						
LCCH	**Las Cruces**	**1.92**	**324**	⇓*i*P	Pn	05 22 36.9	+0.4
PEL	**Peldehue**	**1.93**	**348**	⇑*i*P	Pn	05 22 37.1	+0.5
PEL				*i* S	Sn	05 23 03.8	+0.5
PEL				AMP		05 23 05.3	
	comp=N,346nm,0.3s						
PEL	**Peldehue**	**1.93**	**348**	⇑*i*P	Pn	05 22 37.1	+0.5
PEL				*i* S	Sn	05 23 03.8	+0.5
ROCH	**El Roble**	**2.16**	**342**	⇑*i*P	Pn	05 22 40.2	+0.9
JACH	**Jahuel**	**2.37**	**352**	*e*P	Pn	05 22 42.8	+1.0
JACH				*i* S	Sn	05 23 13.1	+0.6

*NEIC **23** 05:26:12.1, 3242N×11522W, h7km, ML3.6(PAS), ML3.8(ECX), After ECX.*

ECX 23 05:26:12.1±0.6, 3242N×11522W, h7km, MD3.8, ML3.9, 4C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.38**	**31**	⇓*e*P	Pg	05 26 19.2	-0.3
SGL	**Mount Signal**	**0.49**	**299**	⇑*e*P	Pg	05 26 20.5	-1.0
ERPC	**Ernies Place**	**0.50**	**311**	⇑*e*P	Pg	05 26 21.2	-0.5
COK	**Cook Ranch**	**0.61**	**315**	⇓*e*P	Pg	05 26 22.9	-1.0
YUH	**Yuha Desert**	**0.64**	**291**	⇓*e*P	Pg	05 26 22.9	-1.4
RMX	**La Rumorosa**	**0.75**	**284**	*e*P	Pg	05 26 25.0	-1.5
RMX				*e*S	Sg	05 26 35.6	-0.6
CLIC	**Calipatria**	**0.77**	**340**	⇓*e*P	Pg	05 26 25.2	-1.6
RDX	**Rancho Dowling**	**0.79**	**232**	⇓*e*P	Pg	05 26 25.9	-1.3
RDX				*e*S	Sg	05 26 36.7	-0.6
RDX				*e*		05 26 38.4	
	comp=E,3μm,0.4s						
RDX	**Rancho Dowling**	**0.79**	**232**	*e*P	Pg	05 26 25.9	-1.3
RDX				*e*S	Sg	05 26 36.7	-0.6
ECBX	**El Chinero**	**0.95**	**171**	⇓*e*P	Pg	05 26 35.8	+5.4
ECBX				*e*S	Sg	05 26 55.3	+13
CBX	**Cerro Bola**	**1.23**	**266**	⇓*e*P	Pb	05 26 33.2	-2.4
CBX				*e*S	Sg	05 26 50.2	-1.3
BAR	**Barrett**	**1.25**	**282**	*e*Pn	Pn	05 26 32.8	-3.3
ENX	**Ensenada**	**1.34**	**247**	⇑*e*P	Pn	05 26 35.2	-2.0
ENX				*e*S	Sb	05 26 53.0	-1.8
CCX	**Cicese**	**1.34**	**246**	*e*P	Pn	05 26 35.3	-1.9
SPX	**San Pedro Mart**	**1.38**	**189**	⇑*e*P	Pn	05 26 35.3	-2.5
SPX				*e*S	Sb	05 26 55.3	-0.9
ECNX	**Esteban Cantu**	**1.39**	**237**	⇓*e*P	Pn	05 26 35.8	-2.2
ECNX				*e*P		05 26 35.3	
ECNX				*e*S	Sb	05 26 55.3	-1.1
PBX	**Punta Banda**	**1.45**	**243**	*e*P	Pn	05 26 36.7	-1.9
PBX				*e*S	Sn	05 26 56.4	-1.4
PFO	**Pinyon Flat Ob**	**1.58**	**319**	*e*Pn	Pn	05 26 36.5	-4.0
LDFC	**Landfair**	**2.66**	**2**	*e*Pg	Pg	05 27 03.9	+0.9
MWC	**Mount Wilson**	**2.98**	**308**	*e*Pg	Pg	05 27 08.5	-0.8
NEN	**Nelson**	**3.24**	**5**	*e*Pn	Pn	05 27 01.1	-2.2
NEN				*e*Pg	Pg	05 27 13.4	-0.8
NEN				Sg	Sg	05 28 04.0	+7.8
TUC	**Tucson**	**3.75**	**90**	*e*Pn	Pn	05 27 07.2	-3.2
ISA	**Isabella**	**4.22**	**321**	*e*Pg	Pg	05 27 32.8	-0.1
DAC	**Darwin (Calif)**	**4.32**	**334**	*e*Pg	Pg	05 27 33.9	-1.0
WUAZ	**Wupatki**	**4.45**	**45**	*e*Pn	Pn	05 27 19.0	-0.9
ARUT	**Antelope Range**	**5.55**	**15**	*e*Pn	Pn	05 27 36.4	+1.3
ARUT				*e*Pg	Pg	05 27 57.9	-0.6
MNV	**Mina**	**6.46**	**339**	*e*Pg	Pg	05 28 19.8	+4.0
MSU	**Marysvale**	**6.57**	**21**	*e*Pn	Pn	05 27 52.0	+2.9
MSU				*e*Pg	Pg	05 28 15.4	-2.5
SRU	**San Rafael**	**7.69**	**28**	*e*Pn	Pn	05 28 05.8	+1.3
SRU				*e*Pg	Pg	05 28 33.1	-6.3
PV10	**Paradox Valley**	**7.80**	**39**	*e*Pn	Pn	05 28 05.7	-0.2
MNTX	**Cornudas Mount**	**8.38**	**92**	*e*Pn	Pn	05 28 12.1	-1.8

CASC 23 05:31:27.4±1.6, 1485N×8900W, h20km±999km, MD3.6, 1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.13**	**214**	*e*P	Pn	05 31 51.2	+3.1
RTR				*e*S	Sb	05 32 06.5	+4.0
SNJE	**San Jose**	**1.14**	**211**	⇓*e*P	Pn	05 31 50.8	+2.6
SNJE				*e*S	Sb	05 32 06.7	+4.1
BOQS	**Boqueron**	**1.14**	**194**	*e*P	Pn	05 31 51.3	+3.1
BOQS				*e*S	Sb	05 32 08.1	+5.3
SBLS	**San Blas**	**1.17**	**211**	*e*P	Pn	05 31 50.5	+1.8
SBLS				*e*S	Sb	05 32 07.6	+4.0
LCBS	**La Ceiba**	**1.19**	**179**	*e*P	Pn	05 31 53.4	+4.5
LCBS				*e*S	Sb	05 32 10.0	+5.9
LFRS	**El Faro**	**1.22**	**183**	*e*P	Pn	05 31 52.1	+2.9
LFRS				*e*S	Sb	05 32 08.2	+3.2
SNVI	**San Vicente**	**1.24**	**173**	*e*P	Pn	05 31 55.0	+5.5
SNVI				*e*S	Sb	05 32 12.2	+6.7
IXG	**Ixpaco**	**1.56**	**245**	*e*P	Pn	05 31 54.1	+0.1

*ISCJB **23** 05:45:08.9±0.6, 2132S±006×3275E±006, h10km, mb4.3/8, MS4.9/1, Error ellipse: s-maj=8.8km s-min=7.5km az=91.3*
*IDC **23** 05:45:08.1±0.9, 2133S×3315E, h0km, mb3.9/5, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML3.8/6, Error ellipse: s-maj=24.9km s-min=22.4km az=150.0*
*NEIC **23** 05:45:09.8±0.5, 2132S×3296E, h10km, mb4.4/1, Error ellipse: s-maj=13.3km s-min=9.8km az=131.0*
*BJI **23** 05:45:10.8, 2130S×3300E, h10km, mB5.0, mb4.9, Ms5.2, Msz4.8*

ISC 23 05:45:11.0±0.6, 2140S±005×3272E±005, h10km, n30, σ1§50/35, mb4.3/8, MS4.9/1, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.45**	**324**	Pn	**Pn**	**05 47 00.9**	**+1.1**
	5.3nm,0.3s,baz=153,slow=13,SNR=17						
LSZ				Sn	**Sn**	**05 48 22.5**	**-1.8**
	5.6nm,0.3s,baz=186,slow=14,SNR=9.1						
LSZ				Lg		05 49 07.5	
	12nm,0.3s,baz=234,slow=23,SNR=13						
LSZ	**Lusaka**	**7.45**	**324**	*e*Pn	**Pn**	**05 46 59.6**	**-0.2**
	21nm,0.5s						
LSZ				*e*Sn	**Sn**	**05 48 23.3**	**-1.0**
LBTB	**Lobatse**	**7.47**	**240**	Pn	**Pn**	**05 47 03.2**	**+3.1**
	3.3nm,0.3s,baz=70,slow=12,SNR=14						
LBTB				Sn	**Sn**	**05 48 30.1**	**+5.3**
	12nm,0.3s,baz=343,slow=23,SNR=7.8						
LBTB				Lg		05 49 09.2	
	14nm,0.3s,baz=151,slow=19,SNR=7.5						
LBTB	**Lobatse**	**7.47**	**240**	*e*Pn	**Pn**	**05 47 02.4**	**+2.3**
	65nm,0.7s						
LBTB				*e*Sn	**Sn**	**05 48 25.9**	**+1.0**
LBTB				*e*Sg	**Sg**	**05 49 09.3**	**-1.6**
BOSA	**Boshof**	**9.87**	**222**	Pn	**Pn**	**05 47 34.6**	**+1.7**
	2.2nm,0.3s,baz=50,slow=12,SNR=26						
BOSA				Sn	**Sn**	**05 49 23.8**	**+0.1**
	3.7nm,0.3s,baz=345,slow=8.9,SNR=7.8						
BOSA				Lg		05 50 24.1	
	4.5nm,0.3s,baz=216,slow=5.9,SNR=4.3						
BOSA	**Boshof**	**9.87**	**222**	*e*Pn	**Pn**	**05 47 34.5**	**+1.6**
	6.7nm,0.5s						
BOSA				*e*Sn	**Sn**	**05 49 23.3**	**-0.4**
OPO	**Ambohidratompo**	**13.89**	**81**	Pn	**Pn**	**05 48 19.4**	**-8.6**
	0.4nm,0.3s,baz=271,slow=18,SNR=2.5						
OPO				Sn	**Sn**	**05 50 41.1**	**-21**
	2.4nm,0.3s,baz=183,slow=20,SNR=5.8						
TSUM	**Tsumeb**	**14.37**	**276**	Pn	**Pn**	**05 48 36.6**	**+2.2**
	0.6nm,0.3s,baz=82,slow=7.1,SNR=8.9						
TSUM				Sn	**Sn**	**05 51 14.4**	**+0.7**
	0.5nm,0.3s,baz=274,slow=16,SNR=3.5						
TSUM				Lg		05 52 49.2	
	0.9nm,0.3s,baz=240,slow=10,SNR=3.7						
TSUM	**Tsumeb**	**14.37**	**276**	*e*Pn	**Pn**	**05 48 36.3**	**+1.9**
	7.8nm,0.8s						
TSUM				*e*Sn	**Sn**	**05 51 11.8**	**-2.0**
SUR	**Sutherland**	**15.23**	**222**	Pn	**Pn**	**05 48 47.1**	**+1.0**
	1.5nm,0.3s,baz=70,slow=14,SNR=13						
SUR				Sn	**Sn**	**05 51 34.0**	**-0.9**
	1.1nm,0.3s,baz=341,slow=20,SNR=4.6						
SUR				Lg		05 53 12.1	
	1.5nm,0.3s,baz=139,slow=23,SNR=3.9						
SUR	**Sutherland**	**15.23**	**222**	*e*Pn	**Pn**	**05 48 47.1**	**+1.0**

14nm,0.3s,baz=216,slow=20,SNR=10
LSZ Lg 05 56 36.6
7.3nm,0.3s,baz=46,slow=18,SNR=8.4
LSZ LR LR 05 57 40.5
comp=Z,241nm,18.6s,baz=17,slow=39
LSZ Lusaka 7.27 321 Pn **Pn 05 54 35.6 +3.0**
LSZ Sn **Sn 05 55 54.6 -0.6**
LSZ Lg 05 56 36.6
LSZ *e*Sg **Sg 05 56 40.0 +0.3**
LSZ LR LR 05 57 40.5
LBTB Lobatse 7.79 238 Pn **Pn 05 54 40.4 +0.8**
2.8nm,0.3s,baz=71,slow=13,SNR=11
LBTB Sn **Sn 05 56 06.9 -1.0**
4.7nm,0.3s,baz=136,slow=19,SNR=3.9
LBTB Lg 05 56 49.5
5.6nm,0.3s,baz=339,slow=23,SNR=5.1
LBTB Lobatse 7.79 238 Pn **Pn 05 54 40.4 +0.8**
LBTB Sn **Sn 05 56 06.9 -1.0**
LBTB Lg 05 56 49.5
BOSA Boshof 10.23 221 Pn **Pn 05 55 13.5 +0.3**
1.4nm,0.3s,baz=38,slow=11,SNR=13
BOSA Sn **Sn 05 57 01.0 -6.9**
2.7nm,0.3s,baz=31,slow=5.8,SNR=5.0
BOSA Lg 05 58 04.9
5.0nm,0.3s,baz=312,slow=20,SNR=8.1
OPO Ambohidratompo 13.69 82 Sn **Sn 05 58 15.1 -17**
1.0nm,0.3s,baz=160,slow=18,SNR=3.1
TSUM Tsumeb 14.49 275 Pn **Pn 05 56 12.7 +1.3**
0.7nm,0.3s,baz=80,slow=14,SNR=6.1
TSUM Sn **Sn 05 58 49.8 -2.3**
0.4nm,0.3s,baz=233,slow=21,SNR=3.0
TSUM Lg 06 00 29.3
0.7nm,0.3s,baz=58,slow=16,SNR=4.7
SUR Sutherland 15.60 221 Pn **Pn 05 56 27.5 +1.3**
0.9nm,0.3s,baz=149,slow=14,SNR=9.2
SUR Sn **Sn 05 59 13.7 -5.3**
0.8nm,0.3s,baz=96,slow=21,SNR=3.6
SUR Lg 06 00 55.5
1.1nm,0.3s,baz=147,slow=23,SNR=3.6
SUR Sutherland 15.60 221 P **Pn 05 56 27.7 +1.6**
6.8nm,0.6s
SUR Sn **Sn 05 59 13.7 -5.3**
SUR Lg 06 00 55.5
TORD Torodi Ar. Bea 45.76 315 P **P 06 01 09.0 +1.1**
0.7nm,1.0s,mb3.5,baz=130,slow=6.7,SNR=5.3
MKAR Makanchi Array 80.90 32 P **P 06 04 59.4 -1.2**
0.3nm,0.7s,mb3.3,baz=211,slow=6.8,SNR=3.2
MKAR Makanchi Array 80.90 32 P **P 06 04 59.4 -1.2**
ASAR Alice Springs 91.21 116 P **P 06 05 49.9 -1.8**
0.6nm,0.8s,mb4.0,baz=239,slow=5.6,SNR=6.4
YKA Yellowknife Ar 133.00 340 PKP PKPdf 06 12 01.2 -0.7
0.2nm,0.6s,baz=31,slow=2.0,SNR=5.3
NVAR Mina Array Bea 149.75 311 PKPbc PKPbc 06 12 38.4 +2.0
0.5nm,0.6s,baz=58,slow=4.4,SNR=6.3

NEIC 23 05:55:04.3±2.5,3975N×12661W,h10km,MD3.5(NCEDC), Error ellipse: s-maj=31.4km s-min=6.9km az=75.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCPM	**Cahto Peak**	**2.34**	**91**	*e*Pn	Pn	05 55 42.4	-0.4
KCPM				*e*Sn	Sn	05 56 07.8	-3.8
KIPM	**Iron Peak**	**2.42**	**88**	*e*Pn	Pn	05 55 43.6	-0.2
KIPM				*e*Sn	Sn	05 56 10.5	-2.9
KHMM	**Horse Mountain**	**2.48**	**62**	*e*Pn	Pn	05 55 43.4	-1.2
KHMM				*e*Sn	Sn	05 56 10.3	-4.6
KSXB	**Camp Six Broad**	**2.94**	**44**	P	Pn	05 55 49.7	-1.4
KBO	**Bosley Butte**	**3.06**	**36**	P	Pn	05 55 51.6	-1.0
WDC	**Whiskeytown Da**	**3.23**	**74**	*e*Pn	Pn	05 55 54.7	-0.3
WDC				*e*Sn	Sn	05 56 29.0	-4.5
KTRM	**Thompson Ridge**	**3.27**	**48**	P	Pn	05 55 55.3	-0.3
NSHM	**Saint Helena R**	**3.35**	**110**	*e*Pn	Pn	05 55 56.5	-0.1
NSHM				*e*Sn	Sn	05 56 32.9	-3.5
YBH	**Yreka Blue Hor**	**3.57**	**55**	*e*Pn	Pn	05 55 59.5	-0.1
YBH				*e*Sn	Sn	05 56 40.0	-1.8
LHEM	**Herd Peak**	**3.83**	**59**	P	Pn	05 56 04.0	+0.7
SAC	**San Andreas**	**3.93**	**122**	*e*Pn	Pn	05 56 04.4	-0.2
SAC				*e*Sn	Sn	05 56 48.6	-2.3
HUMO	**Hull Mountain**	**3.97**	**43**	P	Pn	05 56 04.8	-0.4
BUOR	**Burton Butte**	**4.16**	**51**	P	Pn	05 56 09.3	+1.5
LAB	**Little Aspen B**	**4.26**	**52**	P	Pn	05 56 10.3	+1.1
BBOR	**Butler Butte**	**4.32**	**42**	P	Pn	05 56 10.6	+0.6
VSP	**Spence Mountai**	**4.38**	**52**	P	Pn	05 56 11.6	+0.8
HOG	**Hogback Mounta**	**4.47**	**55**	P	Pn	05 56 12.7	+0.6
HSO	**Harness Mounta**	**4.61**	**34**	P	Pn	05 56 14.0	+0.1
RNO	**Roman Nose**	**4.68**	**26**	P	Pn	05 56 14.8	-0.2
SAO	**San Andreas Ge**	**5.04**	**125**	*e*Pn	Pn	05 56 19.6	-0.4
SAO	16nm,0.6s			*e*Sn	Sn	05 57 16.5	-1.7
CMB	**Columbia Colle**	**5.15**	**107**	*e*Pn	Pn	05 56 23.2	+1.8
CMB	12nm,0.4s			*e*Sn	Sn	05 57 21.6	+0.7
HBO	**Huckleberry Mo**	**5.20**	**37**	P	Pn	05 56 23.0	+0.9
BROR	**Big Rock Looko**	**5.48**	**33**	P	Pn	05 56 26.5	+0.6
FRIS	**Frissel Point**	**5.59**	**36**	P	Pn	05 56 28.0	+0.6

ISCJB 23 06:02:18.1±2.4,364S±04×972W±03,h10km,mb3.9/7, Error ellipse: s-maj=65.1km s-min=22.9km az=59.9
IDC 23 06:02:18.2±3.0,3633S×9720W,h0km,mb4.0/7,mb1 4.2/7, mb1mx4.1/16,mbtmp4.0/7,Error ellipse: s-maj=84.1km s-min=24.5km az=25.0
ISC 23 06:02:19.6±2.5,364S±04×973W±03,h10km,n7,σ0§70/7, mb3.9/7,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**21.30**	**110**	P	**P**	**06 07 06.8**	**+0.4**
1.9nm,0.8s,mb3.5,baz=292,slow=8.9,SNR=3.9							
CFAA	**Coronel Fontan**	**24.48**	**87**	P	**P**	**06 07 38.5**	**-0.4**
0.5nm,0.8s,mb3.0,baz=251,slow=13,SNR=7.2							
LPAZ	**La Paz**	**32.69**	**60**	P	**P**	**06 08 53.3**	**+1.3**
7.0nm,0.8s,mb4.6,baz=223,slow=6.8,SNR=34							
SIV	**San Ignacio**	**37.99**	**67**	P	**P**	**06 09 36.8**	**-0.9**
1.0nm,0.3s,mb4.0,baz=232,slow=11,SNR=11							
BDFB	**Brasilia**	**48.26**	**78**	P	**P**	**06 11 00.3**	**-0.4**
2.2nm,0.7s,mb4.3,baz=252,slow=8.6,SNR=4.0							
NVAR	**Mina Array Bea**	**76.94**	**343**	P	**P**	**06 14 12.8**	**+0.5**
1.3nm,0.7s,mb3.9,baz=165,slow=7.1,SNR=12							
PDAR	**Pinedale Array**	**79.57**	**351**	P	**P**	**06 14 26.3**	**-0.5**
1.0nm,0.7s,mb3.9,baz=157,slow=5.5,SNR=12							

ISCJB 23 06:17:01.5±1.4,54N±02×950E±02,h41km,mb3.7/6,Error ellipse: s-maj=34.9km s-min=17.2km az=106.9
IDC 23 06:17:02.2±2.3,520N×9439E,h45km±9km,mb3.3/5, mb1 3.5/6,mb1mx3.3/21,mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=91.9km s-min=16.5km az=59.0
NEIC 23 06:17:03.2±1.4,542N×9495E,mb4.4/1,Error ellipse: s-maj=38.2km s-min=18.7km az=55.0
ISC 23 06:17:03.9±1.4,55N±02×950E±02,h43km, h43km±2.2km:pP-P,n9,σ1§15/9,mb3.7/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.74**	**124**	P	**Pn**	**06 18 18.6**	**+5.8**
1.5nm,0.3s,baz=335,slow=15,SNR=8.8							
KULM	**Kulim**	**5.64**	**92**	*e*Pn	**Pn**	**06 18 25.0**	**-0.2**
MKAR	**Makanchi Array**	**42.60**	**347**	P	**P**	**06 24 55.6**	**-0.2**
0.7nm,0.9s,mb3.4,baz=168,slow=6.7,SNR=7.2							
MKAR				pP	pP	06 25 07.5	-0.2
1.1nm,0.7s,baz=168,slow=8.0,SNR=9.4							
SONM	**Songino Array**	**43.33**	**11**	P	**P**	**06 25 01.9**	**+0.2**
0.6nm,0.8s,mb3.4,baz=184,slow=7.3,SNR=5.8							
WRA	**Warramunga Arr**	**46.20**	**124**	P	**P**	**06 25 26.1**	**+1.6**
0.5nm,0.5s,mb3.7,baz=301,slow=9.3,SNR=6.3							
WRA				pP	pP	06 25 38.5	+1.9
1.3nm,0.8s,baz=303,slow=9.2,SNR=7.7							
WRAB	**Tennant Creek**	**46.21**	**124**	*e*P	**P**	**06 25 23.2**	**-1.4**
5.8nm,1.1s,mb4.4							
ASAR	**Alice Springs**	**47.75**	**129**	P	**P**	**06 25 38.1**	**+1.5**
0.2nm,0.4s,mb3.5,baz=312,slow=8.6,SNR=3.7							
ASAR				pP	pP	06 25 48.7	0.0
0.4nm,0.7s,baz=306,slow=7.7,SNR=3.0							
STKA	**Stephens Creek**	**57.85**	**133**	P	**P**	**06 26 49.6**	**-1.6**
0.7nm,0.6s,mb3.9,baz=315,slow=14,SNR=3.1							
STKA	**Stephens Creek**	**57.85**	**133**	*e*P	**P**	**06 26 49.5**	**-1.7**

ISCJB 23 06:20:36.1±0.5,4316N±003×175W±003,h19km±4km,

Error ellipse: s-maj=4.6km s-min=3.4km az=157.9
MDD 23 06:20:37.0±0.2,4307N×174W,h4km±3km,mbLg2.3/17, Error ellipse: s-maj=2.0km s-min=1.2km az=99.0,PRXIMO
CSEM 23 06:20:36.7±0.1,4307N×173W,h0km,ML2.7/13,Error ellipse: s-maj=1.3km s-min=1.0km az=176.0
LDG 23 06:20:36.6±0.2,4305N×174W,h2km,Md2.8/1,Ml2.8/11, Error ellipse: s-maj=4.1km s-min=1.9km az=32.0
STR 23 06:20:36.3±0.4,4304N×172W,h5km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 23 06:20:35.9±0.4,4310N±002×173W±002,h13km±2km,n86, σ1§06/134,1C-2D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.20**	**54**	⇑Pg	**Pg**	**06 20 41.2**	**+0.9**
24nm,0.1s,SNR=18							
EALK				Lg		06 20 44.8	
174nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.21**	**139**	⇓Pg	**Pg**	**06 20 40.3**	**-0.1**
47nm,0.1s,SNR=18							
IUSE				Lg		06 20 43.1	
147nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.21**	**139**	Pg	**Pg**	**06 20 40.3**	**-0.1**
47nm,0.1s,SNR=18							
IUSE				Lg		06 20 43.1	
147nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**0.35**	**161**	Pg	**Pg**	**06 20 42.5**	**-0.4**
64nm,0.1s,SNR=28							
EARA				Lg		06 20 47.7	
136nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.37**	**88**	*e*Pg	**Pg**	**06 20 43.6**	**+0.2**
SJPF				*e*Sg	**Sg**	**06 20 48.5**	**+0.1**
218nm,0.3s							
SJPF	**Ste Jean**	**0.37**	**88**	*e*Pg	**Pg**	**06 20 43.6**	**+0.2**
SJPF				*e*Sg	**Sg**	**06 20 48.5**	**+0.1**
109nm,0.3s							
OSSF	**Osses**	**0.38**	**66**	Pg	**Pg**	**06 20 43.9**	**+0.4**
OSSF				Sg	**Sg**	**06 20 49.4**	**+0.9**
OSSF	**Osses**	**0.38**	**66**	Pg	**Pg**	**06 20 43.9**	**+0.4**
OSSF				Lg		06 20 49.2	
IUNC	**Unciti**	**0.39**	**154**	Pg	**Pg**	**06 20 43.8**	**+0.1**
25nm,0.1s,SNR=7.9							
IUNC				Lg		06 20 48.6	
53nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**0.39**	**154**	Pg	**Pg**	**06 20 43.8**	**+0.2**
25nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**0.40**	**137**	⇓Pg	**Pg**	**06 20 44.3**	**+0.3**
16nm,0.2s,SNR=18							
IPRE				Lg		06 20 49.8	
66nm,0.3s,SNR=20							
IPRE	**Itoiz**	**0.40**	**137**	Pg	**Pg**	**06 20 44.3**	**+0.3**
16nm,0.2s,SNR=18							
LARF	**Larrau**	**0.55**	**96**	Pg	**Pg**	**06 20 46.8**	**+0.1**
LARF				Sg	**Sg**	**06 20 53.9**	**0.0**
LARF	**Larrau**	**0.55**	**96**	Pg	**Pg**	**06 20 46.8**	**+0.1**
LARF				Lg		06 20 53.9	
ORDF	**Ordiarp**	**0.59**	**79**	Pg	**Pg**	**06 20 48.2**	**+0.7**
ORDF				Sg	**Sg**	**06 20 56.4**	**+1.1**
ORDF	**Ordiarp**	**0.59**	**79**	Pg	**Pg**	**06 20 48.0**	**+0.5**
ORDF				Lg		06 20 56.0	
ATE	**Arette**	**0.76**	**91**	Pg	**Pg**	**06 20 51.0**	**+0.5**
ATE				Lg		06 21 01.1	
ECRI	**Cripan**	**0.76**	**230**	Pg	**Pg**	**06 20 51.2**	**+0.6**
12nm,0.1s,SNR=7.9							
ECRI				Lg		06 21 01.5	
17nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.88**	**103**	*e*Pg	**Pg**	**06 20 52.5**	**-0.5**
ETSF				*e*Sg	**Sg**	**06 21 06.0**	**+1.4**
56nm,0.2s							
ETSF	**Etsaut**	**0.88**	**103**	*e*Pg	**Pg**	**06 20 52.5**	**-0.5**
ETSF				*e*Sg	**Sg**	**06 21 06.0**	**+1.4**
28nm,0.2s							
FDAF	**Les Forges d'A**	**0.90**	**108**	Pg	**Pg**	**06 20 52.8**	**-0.5**
FDAF				Lg		06 21 06.2	
REYF	**Montagne du Re**	**0.98**	**91**	Lg		06 21 07.5	
ELAN	**Lanestosa**	**1.25**	**277**	Pg	**Pg**	**06 21 00.0**	**0.0**
3.7nm,0.2s,SNR=22							
ELAN				Lg		06 21 16.1	
11nm,0.2s,SNR=5.9							
ELAN	**Lanestosa**	**1.25**	**277**	Pg	**Pg**	**06 21 00.0**	**0.0**
3.7nm,0.2s,SNR=22							
VIEF	**Viey**	**1.31**	**99**	Pg	**Pg**	**06 21 00.4**	**-0.6**
VIEF				Sg	**Sg**	**06 21 18.3**	**+0.3**
VIEF	**Viey**	**1.31**	**99**	Pg	**Pg**	**06 21 00.5**	**-0.5**
VIEF				Lg		06 21 17.9	
LABF	**Labassere**	**1.32**	**92**	Lg		06 21 20.0	
EBIE	**Bielsa**	**1.44**	**106**	Pg	**Pg**	**06 21 03.8**	**+0.2**
13nm,0.2s,SNR=99							
EBIE				Lg		06 21 23.4	
21nm,0.1s,SNR=16							
EBIE	**Bielsa**	**1.44**	**106**	Pg	**Pg**	**06 21 03.8**	**+0.2**
13nm,0.2s,SNR=99							
EPF	**Esparros**	**1.52**	**92**	*e*Pn	**Pn**	**06 21 03.7**	**+0.9**
EPF	**Esparros**	**1.52**	**92**	*e*Pg	**Pg**	**06 21 05.5**	**+0.4**
EPF				*e*Sg	**Sg**	**06 21 25.4**	**+0.6**
28nm,0.2s							
EPF	**Esparros**	**1.52**	**92**	Pn	**Pn**	**06 21 03.7**	**+0.9**
EPF				Pg	**Pg**	**06 21 05.5**	**+0.4**
EPF				Lg		06 21 25.4	
14nm,0.2s							
EPF	**Esparros**	**1.52**	**92**	*e*Pg	**Pg**	**06 21 05.5**	**+0.4**
EPF				*e*Sg	**Sg**	**06 21 25.4**	**+0.6**
14nm,0.2s							
RESF	**Ens**	**1.55**	**100**	Pg	**Pg**	**06 21 05.1**	**-0.5**
RESF				Sg	**Sg**	**06 21 26.9**	**+1.1**
RESF	**Ens**	**1.55**	**100**	Pg	**Pg**	**06 21 06.2**	**+0.5**
RESF				Lg		06 21 26.4	
ESAC	**San Caprasio**	**1.67**	**145**	Pg	**Pg**	**06 21 06.5**	**-1.4**
18nm,0.2s,SNR=12							
ESAC				Sn	**Sn**	**06 21 27.6**	**+1.6**
61nm,0.3s,SNR=11							
ESAC	**San Caprasio**	**1.67**	**145**	Pg	**Pg**	**06 21 06.5**	**-1.4**
18nm,0.2s,SNR=12							
EGRA	**Graus**	**1.76**	**120**	Pg	**Pg**	**06 21 09.6**	**-0.1**
5.8nm,0.2s,SNR=18							
EGRA				Lg		06 21 32.7	
10nm,0.3s,SNR=5.8							
MELF	**Melles**	**1.84**	**96**	Pg	**Pg**	**06 21 10.6**	**-0.7**
MELF				Sg	**Sg**	**06 21 35.5**	**+0.3**
MELF	**Melles**	**1.84**	**96**	Pg	**Pg**	**06 21 10.6**	**-0.7**
MELF				Lg		06 21 35.2	
SALF	**Salau**	**2.17**	**98**	Pg	**Pg**	**06 21 16.3**	**-1.3**
SALF				Sg	**Sg**	**06 21 46.8**	**+1.1**
SALF	**Salau**	**2.17**	**98**	Pg	**Pg**	**06 21 15.2**	**-2.4**
SALF				Lg		06 21 45.0	
EARI	**Arriondas**	**2.55**	**276**	Pn	**Pn**	**06 21 19.1**	**+2.1**
0.4nm,0.1s,SNR=7.9							
EARI				Sn	**Sn**	**06 21 48.1**	**+0.2**
0.3nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**2.55**	**276**	Pn	**Pn**	**06 21 19.1**	**+2.1**
0.4nm,0.1s,SNR=7.9							
EARI				Sn	**Sn**	**06 21 48.1**	**+0.2**
0.3nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.64**	**144**	Pn	**Pn**	**06 21 19.2**	**+1.0**
1.3nm,0.1s,SNR=4.0							
ERTA				Sn	**Sn**	**06 21 50.2**	**+0.1**
1.6nm,0.1s,SNR=7.9							
ERTA				Lg		06 21 58.4	
5.5nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.64**	**144**	Pn	**Pn**	**06 21 19.2**	**+1.0**
1.3nm,0.1s,SNR=4.0							
ERTA				Sn	**Sn**	**06 21 50.2**	**+0.1**
1.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**2.69**	**115**	Pn	**Pn**	**06 21 20.4**	**+1.5**
1.4nm,0.2s,SNR=4.0							
EMIR				Pg	**Pg**	**06 21 25.2**	**-2.2**
3.3nm,0.2s,SNR=7.7							
EMIR				Lg		06 22 00.3	
10nm,0.2s,SNR=5.0							
EMIR	**Miracle**	**2.69**	**115**	Pn	**Pn**	**06 21 20.4**	**+1.6**
1.4nm,0.2s,SNR=4.0							
EMIR	**Miracle**	**2.69**	**115**	Pg	**Pg**	**06 21 25.2**	**-2.2**
3.3nm,0.2s,SNR=7.7							
EPOB	**Poblet**	**2.72**	**129**	Pn	**Pn**	**06 21 19.8**	**+0.5**
0.2nm,0.1s,SNR=7.9							
EPOB				Pg	**Pg**	**06 21 26.0**	**-2.1**
3.0nm,0.2s,SNR=7.9							
EPOB				Sn	**Sn**	**06 21 51.3**	**-0.9**
1.9nm,0.2s,SNR=7.9							
EPOB				Lg		06 22 01.1	
5.2nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.72**	**129**	Pn	**Pn**	**06 21 19.8**	**+0.5**
0.2nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**2.72**	**129**	Pg	**Pg**	**06 21 26.0**	**-2.1**
3.0nm,0.2s,SNR=7.9							
EPOB				Sn	**Sn**	**06 21 51.3**	**-0.8**
1.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.89**	**161**	Pn	**Pn**	**06 21 22.3**	**+0.6**
0.1nm,0.1s,SNR=7.9							
EMOS				Pg	**Pg**	**06 21 29.8**	**-1.6**
1.2nm,0.2s,SNR=7.9							
EMOS				Lg		06 22 07.4	
1.8nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**2.89**	**161**	Pn	**Pn**	**06 21 24.1**	**+2.4**
0.1nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.89**	**161**	Pg	**Pg**	**06 21 29.8**	**-1.6**
1.2nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**2.90**	**84**	*e*Pn	**Pn**	**06 21 23.1**	**+1.4**
MTLF	**Montolieu**	**2.90**	**84**	*e*P	**Pn**	**06 21 25.6**	**+3.9**
MTLF	**Montolieu**	**2.90**	**84**	*e*Pg	**Pg**	**06 21 30.2**	**-1.2**
MTLF				*e*Sn	**Sn**	**06 21 55.7**	**-0.7**
6.7nm,0.4s							
MTLF				*e*Sg	**Sg**	**06 22 08.4**	**-0.6**
MTLF	**Montolieu**	**2.90**	**84**	Pn	**Pn**	**06 21 23.1**	**+1.4**
MTLF				Pg	**Pg**	**06 21 30.2**	**-1.2**
MTLF				Sn	**Sn**	**06 21 55.7**	**-0.7**
3.3nm,0.4s							
MTLF				Lg		06 22 08.4	
MTLF	**Montolieu**	**2.90**	**84**	*e*P	**Pn**	**06 21 25.6**	**+3.9**
MTLF	**Montolieu**	**2.90**	**84**	*e*Pg	**Pg**	**06 21 30.2**	**-1.2**
MTLF				*e*Sn	**Sn**	**06 21 55.7**	**-0.7**
3.3nm,0.4s							
MTLF				*e*Sg	**Sg**	**06 22 08.4**	**-0.6**
GUD	**Guadarrama**	**3.05**	**217**	Pn	**Pn**	**06 21 24.9**	**+1.0**
0.8nm,0.3s,SNR=7.9							
GUD				Pg	**Pg**	**06 21 32.0**	**-2.4**
0.9nm,0.2s,SNR=7.9							
GUD				Sn	**Sn**	**06 21 56.8**	**-3.5**
0.9nm,0.2s,SNR=7.9							
GUD				Lg		06 22 10.4	
SNR=7.9							
RJF	**Les Rejaudoux**	**3.21**	**46**	*e*Pn	**Pn**	**06 21 27.6**	**+1.6**
RJF				*e*Sn	**Sn**	**06 22 03.5**	**-0.7**
2.6nm,0.2s							
RJF	**Les Rejaudoux**	**3.21**	**46**	*e*Pn	**Pn**	**06 21 27.6**	**+1.6**
RJF				*e*Sn	**Sn**	**06 22 03.5**	**-0.7**
1.3nm,0.2s							
CAF	**Calviac**	**3.29**	**55**	*e*Pn	**Pn**	**06 21 29.0**	**+1.9**
CAF				*e*Sn	**Sn**	**06 22 05.8**	**-0.3**
4.6nm,0.2s							
CAF	**Calviac**	**3.29**	**55**	*e*Pn	**Pn**	**06 21 29.0**	**+1.9**
CAF				*e*Sn	**Sn**	**06 22 05.8**	**-0.3**
2.3nm,0.2s							
ECHE	**Chera**	**3.56**	**170**	Pg	**Pg**	**06 21 41.9**	**-2.2**
1.0nm,0.4s,SNR=7.9							
ECHE				Lg		06 22 25.5	
0.4nm,0.2s,SNR=4.0							
MFF	**Saint Martin d**	**3.68**	**17**	*e*Pg	**Pg**	**06 21 45.6**	**-0.8**
MFF				*e*Sn	**Sn**	**06 22 14.7**	**-1.0**
1.4nm,0.2s							
MFF	**Saint Martin d**	**3.68**	**17**	*e*Pg	**Pg**	**06 21 45.6**	**-0.8**
MFF				*e*Sn	**Sn**	**06 22 14.7**	**-1.0**
0.7nm,0.2s							
ECAL	**Calabor**	**3.88**	**254**	Pn	**Pn**	**06 21 36.2**	**+1.0**
0.6nm,0.2s,SNR=7.9							
ECAL				Sn	**Sn**	**06 22 19.7**	**-1.0**
2.5nm,0.3s,SNR=7.9							
ECAL				Lg		06 22 36.4	
1.6nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**3.97**	**275**	Sn	**Sn**	**06 22 22.8**	**-0.1**
0.5nm,0.2s,SNR=4.0							
LASF	**Ste Croix**	**4.17**	**75**	*e*Pn	**Pn**	**06 21 39.8**	**+0.5**
LASF	**Ste Croix**	**4.17**	**75**	*e*P	**Pn**	**06 21 43.0**	**+3.7**
LASF				*e*Sn	**Sn**	**06 22 26.8**	**-1.2**
6.5nm,0.5s							
LASF	**Ste Croix**	**4.17**	**75**	Pn	**Pn**	**06 21 39.8**	**+0.5**
LASF				Sn	**Sn**	**06 22 26.8**	**-1.2**
3.2nm,0.5s							
LASF	**Ste Croix**	**4.17**	**75**	*e*P	**Pn**	**06 21 43.0**	**+3.7**
LASF				*e*Sn	**Sn**	**06 22 26.8**	**-1.2**
3.2nm,0.5s							
TCF	**Toulx Ste Croi**	**4.25**	**40**	*e*Pn	**Pn**	**06 21 40.9**	**+0.6**
TCF				*e*Sn	**Sn**	**06 22 28.2**	**-1.6**
1.5nm,0.2s							
TCF	**Toulx Ste Croi**	**4.25**	**40**	*e*Pn	**Pn**	**06 21 40.9**	**+0.6**
TCF				*e*Sn	**Sn**	**06 22 28.2**	**-1.6**
0.8nm,0.2s							
BGF	**Bois d'Agland**	**4.75**	**42**	*e*Pn	**Pn**	**06 21 48.1**	**+0.9**
BGF				*e*Sn	**Sn**	**06 22 40.8**	**-1.3**
BGF				*e*Sg	**Sg**	**06 23 06.4**	**-1.9**
6.5nm,0.4s							
BGF	**Bois d'Agland**	**4.75**	**42**	*e*Pn	**Pn**	**06 21 48.1**	**+0.9**
BGF				*e*Sn	**Sn**	**06 22 40.8**	**-1.3**
BGF				*e*Sg	**Sg**	**06 23 06.4**	**-1.9**
3.2nm,0.4s							
QUIF	**Quistinic**	**4.92**	**349**	*e*Pn	**Pn**	**06 21 50.0**	**+0.5**
QUIF	**Quistinic**	**4.92**	**349**	*e*P	**Pn**	**06 21 54.0**	**+4.5**
QUIF	**Quistinic**	**4.92**	**349**	*e*P	**Pn**	**06 21 54.0**	**+4.5**
VIVF	**Saint-Julien-l**	**4.94**	**67**	*e*Pn	**Pn**	**06 21 50.7**	**+0.8**
VIVF				*e*Sn	**Sn**	**06 22 45.1**	**-1.8**
2.6nm,0.3s							
VIVF	**Saint-Julien-l**	**4.94**	**67**	*e*Pn	**Pn**	**06 21 50.7**	**+0.8**
VIVF				*e*Sn	**Sn**	**06 22 45.1**	**-1.8**
1.3nm,0.3s							
SGMF	**Saint Gilles**	**5.18**	**354**	*e*Pn	**Pn**	**06 21 53.8**	**+0.6**
ROSF	**Rostrenen**	**5.34**	**349**	*e*Pn	**Pn**	**06 21 55.6**	**+0.2**

IDC 23 06:25:51.0±2.1,020N×12809E,h0km,mb3.7/4,mb1 4.0/4, mb1mx3.7/15,mbtmp3.7/4,MS2.7/1,Ms1 2.7/1, ms1mx2.3/30,Error ellipse: s-maj=191.1km s-min=23.5km az=66.0,Halmahera

| Code | Station

KHZ				S*	Sn	06 49 54.2	-0.4
KHZ	**Kahutara**	**1.04**	**198**	*e*P	Pn	06 49 41.1	-0.1
PAWZ	**Paruwai Farm**	**1.09**	**88**	⇑PN	Pn	06 49 41.2	-0.8
PAWZ	**Paruwai Farm**	**1.09**	**88**	P	Pn	06 49 41.2	-0.8
MTW	**Mount Morrison**	**1.18**	**77**	⇑PN	Pn	06 49 42.4	-0.9
MTW	**Mount Morrison**	**1.18**	**77**	P	Pn	06 49 42.4	-0.8
QRZ	**Quartz Range**	**1.25**	**298**	⇑PN	Pn	06 49 44.6	+0.6
QRZ	**Quartz Range**	**1.25**	**298**	P	Pn	06 49 44.6	+0.6
TRWZ	**Traveller**	**1.29**	**89**	PN	Pn	06 49 43.6	-1.1
MRZ	**Mangatainoka R**	**1.44**	**58**	PN	Pn	06 49 46.2	-0.5
MRZ	**Mangatainoka R**	**1.44**	**58**	*e*P	Pn	06 49 46.2	-0.5
DSZ	**Denniston Nort**	**1.66**	**258**	PN	Pn	06 49 50.0	+0.3
DSZ	**Denniston Nort**	**1.66**	**258**	P	Pn	06 49 50.1	+0.4
WAZ	**Wanganui**	**1.84**	**25**	PN	Pn	06 49 53.6	+1.4
WAZ	**Wanganui**	**1.84**	**25**	P	Pn	06 49 54.2	+2.0
LTZ	**Lake Taylor**	**1.85**	**223**	PN	Pn	06 49 51.9	-0.5
LTZ	**Lake Taylor**	**1.85**	**223**	*e*P	Pn	06 49 51.9	-0.5
BFZ	**Birch Farm**	**1.88**	**67**	*e*PN	Pn	06 49 51.1	-1.6
BFZ	**Birch Farm**	**1.88**	**67**	*e*P	Pn	06 49 48.6	-4.1
TSZ	**Takapari Road**	**2.04**	**49**	*e*PN	Pn	06 49 53.3	-1.6
TSZ	**Takapari Road**	**2.04**	**49**	*e*P	Pn	06 49 54.0	-0.9
NEZ	**North Egmont**	**2.16**	**3**	P	Pn	06 49 59.4	+2.8
PKE	**Pukeiti**	**2.23**	**0**	P	Pn	06 49 59.2	+1.6
VRZ	**Vera Road**	**2.38**	**15**	P	Pn	06 50 01.3	+1.7
MOVZ	**Moawhango**	**2.43**	**35**	P	Pn	06 50 01.2	+0.8
WNVZ	**Wahianoa**	**2.44**	**31**	P	Pn	06 50 01.4	+1.0
MQZ	**McQueen's Vall**	**2.48**	**203**	*e*P	Pn	06 49 58.4	-2.5
WTVZ	**West Tongariro**	**2.62**	**29**	P	Pn	06 50 03.5	+0.6
WVZ	**Waitaha Valley**	**2.91**	**235**	P	Pn	06 50 06.8	-0.1
HIZ	**Hauiti**	**2.99**	**13**	*e*P	Pn	06 50 08.0	0.0
FOZ	**Fox Glacier**	**3.82**	**235**	*e*P	Pn	06 50 19.3	-0.1
LBZ	**Lake Benmore**	**4.06**	**222**	*e*PN	Pn	06 50 21.7	-1.0
ODZ	**Otahua Downs**	**4.36**	**213**	PN	Pn	06 50 23.2	-3.5
JCZ	**Jackson Bay**	**4.66**	**234**	*e*P	Pn	06 50 29.9	-1.0

*ISCJB **23** 07:02:07.2±1.2, 76.10N±009×88E±05, h10km, mb3.3/3, MS3.4/1, Error ellipse: s-maj=18.0km s-min=11.2km az=61.2*
*IDC **23** 07:02:08.2±1.3, 7601N×784E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/19, mbtmp3.5/5, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/23, Error ellipse: s-maj=39.0km s-min=15.6km az=51.0*

ISC 23 07:02:08.8±1.2, 7610N±007×92E±04, h10km, n7, σ1§05/8, mb3.3/3, MS3.4/1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.75**	**55**	*e*P	**Pn**	**07 02 39.8**	**+0.5**
HSP				*e*S	**Sn**	**07 03 01.5**	**-0.2**
ARCES	**ARCESS Array B**	**8.14**	**136**	Pn	**Pn**	**07 04 08.7**	**+1.7**
	0.9nm,0.3s,baz=331,slow=10,SNR=15						
ARCES				Sn	**Sn**	**07 05 37.4**	**-1.6**
	0.3nm,0.3s,baz=330,slow=21,SNR=2.8						
FINES	**FINESS Array B**	**15.82**	**149**	Pn	**Pn**	**07 05 52.1**	**+0.5**
	0.1nm,0.3s,baz=358,slow=17,SNR=2.9						
AKTO	**Aktyubinsk**	**32.04**	**115**	LR	LR	07 22 14.8	
	comp=Z,72nm,19.7s,MS3.4,baz=0.0,slow=37						
ILAR	**Eielson Array**	**38.56**	**344**	P	**P**	**07 09 30.7**	**-1.0**
	0.3nm,0.8s,mb3.0,baz=14,slow=6.6,SNR=3.9						
MKAR	**Makanchi Array**	**41.13**	**92**	P	**P**	**07 09 57.0**	**+3.9**
	0.2nm,0.6s,mb2.9,baz=348,slow=5.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**63.07**	**188**	P	**P**	**07 12 36.1**	**-0.2**
	0.5nm,0.5s,mb3.9,baz=359,slow=7.2,SNR=5.5						

*ISCJB **23** 07:03:19.0±4.1, 43S±02×1530E±01, h75km±34km, mb4.0/8, Error ellipse: s-maj=34.6km s-min=22.0km az=139.8*
*IDC **23** 07:03:19.7±2.9, 431S×15299E, h62km±23km, mb3.8/5, mb1 4.0/6, mb1mx3.6/15, mbtmp4.1/6, ML3.2/1, Error ellipse: s-maj=33.2km s-min=16.4km az=140.0*
*NEIC **23** 07:03:21.0±2.2, 431S×15298E, h82km±18km, mb4.5/3, Error ellipse: s-maj=20.8km s-min=14.6km az=172.0*

ISC 23 07:03:19.2±2.4, 42S±02×1530E±01, h66km±19km, n12, σ0§48/12, mb4.0/8, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.77**	**228**	P	**Pn**	**07 05 10.2**	**+0.5**
	1.9nm,0.3s,baz=56,slow=13,SNR=4.7						
PMG				S	**Sn**	**07 06 36.0**	**-0.1**
	2.5nm,0.3s,baz=110,slow=18,SNR=5.2						
DZM	**Mont Dzumac**	**22.02**	**145**	P	**P**	**07 08 08.4**	**+0.4**
	6.0nm,0.5s,mb4.2,baz=169,slow=22,SNR=11						
WRAB	**Tennant Creek**	**23.98**	**228**	*e*P	**P**	**07 08 27.5**	**0.0**
	13nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**23.98**	**228**	⇓*i*P	**P**	**07 08 27.6**	**0.0**
WRA	**Warramunga Arr**	**23.99**	**228**	P	**P**	**07 08 27.7**	**0.0**
	6.6nm,0.5s,mb4.2,baz=53,slow=9.7,SNR=83						
WRA				S	**S**	**07 12 41.0**	**+1.1**
	2.2nm,1.1s,baz=52,slow=16,SNR=5.3						
ASAR	**Alice Springs**	**26.73**	**222**	P	**P**	**07 08 52.5**	**0.0**
	1.8nm,0.4s,mb3.9,baz=56,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**29.54**	**200**	P	**P**	**07 09 16.4**	**-1.1**
	0.6nm,0.4s,mb3.5,baz=25,slow=14,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.13**	**241**	⇑*i*P	**P**	**07 09 22.2**	**-0.5**
	2.9nm,0.3s,mb4.4						
MBWA	**Marble Bar**	**36.45**	**240**	*e*P	**P**	**07 10 17.7**	**0.0**
	3.6nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**81.54**	**22**	P	**P**	**07 15 29.9**	**+0.2**
	0.2nm,0.6s,mb3.1,baz=243,slow=4.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.32**	**289**	PKPbc	PKPbc	07 23 05.5	+2.5
	1.3nm,1.0s,baz=56,slow=1.9,SNR=9.0						
BDFB	**Brasilia**	**151.32**	**134**	PKPbc	PKPbc	07 23 08.6	+3.3
	2.0nm,0.7s,baz=173,slow=16,SNR=4.0						

*ISCJB **23** 07:04:00.9±0.3, 3515N±002×366W±002, h10km, Error ellipse: s-maj=2.9km s-min=2.4km az=29.0*
*CSEM **23** 07:04:00.2±0.1, 3511N×359W, h12km, MD3.7, Error ellipse: s-maj=2.9km s-min=2.3km az=123.0*
*LDG **23** 07:04:00.7±0.1, 3516N×361W, h10km, Ml3.2/3, Error ellipse: s-maj=3.3km s-min=3.1km az=163.0*
*MDD **23** 07:04:02.3±0.3, 3515N×362W, h0km, mbLg2.8/17, Error ellipse: s-maj=3.5km s-min=2.7km az=121.0, PRXIMO*
*IGIL **23** 07:04:02.5, 3520N×350W, h0km, ML2.4*
*CNRM **23** 07:04:02.5, 3513N×358W, h3km, MD3.7*
*SFS **23** 07:04:02.0, 3516N×365W, h0km, ML2.8*
*INMG **23** 07:04:05.0±0.9, 3517N×358W, h31km, ML2.7, Error ellipse: s-maj=5.3km s-min=2.6km az=174.0*

ISC 23 07:04:01.9±0.3, 3516N±002×365W±002, h10km, n88, σ1§35/157, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.21**	**203**	P	**Pg**	**07 04 06.5**	**+0.1**
TOU				S	**Sg**	**07 04 09.5**	**+0.1**
TOU	**Touzarine**	**0.21**	**203**	*i* P	**Pg**	**07 04 06.5**	**+0.1**
MPAL	**Palemas**	**0.24**	**285**	*i* P	**Pg**	**07 04 08.5**	**+1.6**
MELI	**Melilla**	**0.60**	**77**	⇑P	**Pg**	**07 04 12.6**	**-1.0**
MELI				S	**Sg**	**07 04 21.7**	**+0.2**
MELI	**Melilla**	**0.60**	**77**	*i* P	**Pg**	**07 04 12.6**	**-1.0**
MELI				*e*S	**Sg**	**07 04 21.7**	**+0.2**
ZAI	**Zaio**	**0.77**	**104**	*i* P	**Pg**	**07 04 14.5**	**-2.2**
ZAI				*i* S	**Sg**	**07 04 26.5**	**-0.2**
EALB	**Alboran**	**0.93**	**33**	P	**Pg**	**07 04 19.6**	**-0.1**
	118nm,0.1s,SNR=9.4						
EALB				S	**Sg**	**07 04 32.2**	**+0.4**
	1μm,0.2s,SNR=12						
EALB	**Alboran**	**0.93**	**33**	P	**Pg**	**07 04 19.6**	**-0.1**
	118nm,0.1s,SNR=9.4						
EALB				S	**Sg**	**07 04 32.2**	**+0.4**
	1μm,0.2s,SNR=12						
TAF	**Taforalt**	**1.07**	**108**	P	**Pg**	**07 04 17.0**	**-5.6**
TAF				S	**Sg**	**07 04 34.0**	**-2.5**
EMIJ	**Mijas**	**1.67**	**327**	P	**Pn**	**07 04 30.8**	**-0.4**
	12nm,0.2s,SNR=14						
EMIJ				S	**Sn**	**07 04 51.4**	**-1.3**
	49nm,0.2s,SNR=8.7						
MAL	**Malaga**	**1.68**	**339**	*e*P	**Pn**	**07 04 32.7**	**+1.4**
MAL				*e*S	**Sn**	**07 04 51.8**	**-1.1**
EBER	**Berja**	**1.84**	**19**	⇑P	**Pn**	**07 04 32.3**	**-1.2**
	17nm,0.2s,SNR=18						
EBER				S	**Sn**	**07 04 54.0**	**-2.8**
	167nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.84**	**19**	P	**Pn**	**07 04 32.3**	**-1.2**
	17nm,0.2s,SNR=18						
EBER				S	**Sn**	**07 04 54.0**	**-2.9**
	167nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.86**	**356**	P	**Pn**	**07 04 32.5**	**-1.3**
	10nm,0.3s,SNR=4.6						
ERON				S	**Sn**	**07 04 58.3**	**+1.0**
	21nm,0.2s						
EJIF	**Jimena Fronter**	**1.96**	**312**	P	**Pn**	**07 04 36.7**	**+1.6**
	6.9nm,0.3s,SNR=7.8						
EJIF				S	**Sn**	**07 05 01.0**	**+1.3**
	17nm,0.4s,SNR=5.8						
EJIF	**Jimena Fronter**	**1.96**	**312**	P	**Pn**	**07 04 34.5**	**-0.6**
	6.9nm,0.3s,SNR=7.8						
EJIF				S	**Sn**	**07 04 59.6**	**-0.2**
	17nm,0.4s,SNR=5.8						
ELOJ	**Sierra Loja**	**2.02**	**349**	P	**Pn**	**07 04 36.0**	**-0.1**
	5.1nm,0.2s,SNR=10.0						
ELOJ				S	**Sn**	**07 05 01.6**	**+0.2**
	10.0nm,0.2s,SNR=4.0						
IFR	**Ifrane**	**2.04**	**217**	P	**Pn**	**07 04 37.0**	**+0.7**
EQUE	**Quentar**	**2.05**	**5**	⇑P	**Pn**	**07 04 36.3**	**0.0**
	16nm,0.2s,SNR=18						
EQUE				S	**Sn**	**07 05 01.0**	**-0.9**
	56nm,0.5s,SNR=4.5						
ECOG	**Cogollos-Vega**	**2.11**	**2**	P	**Pn**	**07 04 37.6**	**+0.3**
	7.1nm,0.1s,SNR=7.6						
ECOG				S	**Sn**	**07 05 02.7**	**-0.9**
	8.8nm,0.2s,SNR=7.2						
ENIJ	**Nijar**	**2.15**	**33**	P	**Pn**	**07 04 37.0**	**-0.9**
	6.4nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**2.25**	**321**	P	**Pn**	**07 04 41.2**	**+2.2**
LIJA				S	**Sn**	**07 05 10.8**	**+3.9**
LIJA	**Lijar**	**2.25**	**321**	*i* P	**Pn**	**07 04 41.2**	**+2.1**
LIJA				*e*S	**Sn**	**07 05 10.8**	**+3.9**
ELUQ	**Luque**	**2.44**	**349**	P	**Pn**	**07 04 43.0**	**+1.2**
	7.1nm,0.2s,SNR=6.0						
ELUQ				S	**Sn**	**07 05 13.8**	**+2.0**
	11nm,0.2s,SNR=4.0						
ESPR	**Espera**	**2.47**	**314**	P	**Pn**	**07 04 43.7**	**+1.6**
	9.7nm,0.3s,SNR=8.5						
ESPR				S	**Sn**	**07 05 13.4**	**+1.0**
	17nm,0.3s,SNR=9.6						
ESPR	**Espera**	**2.47**	**314**	P	**Pn**	**07 04 43.7**	**+1.5**
	9.7nm,0.3s,SNR=8.5						
ESPR				S	**Sn**	**07 05 13.4**	**+1.1**
	17nm,0.3s,SNR=9.6						
EQES	**Quesada**	**2.68**	**10**	⇓P	**Pn**	**07 04 46.5**	**+1.4**
	18nm,0.2s,SNR=18						
EQES				S	**Sn**	**07 05 20.6**	**+3.0**
	34nm,0.2s						
EQES	**Quesada**	**2.68**	**10**	P	**Pn**	**07 04 46.5**	**+1.5**
	18nm,0.2s,SNR=18						
EQES				S	**Sn**	**07 05 20.0**	**+2.5**
	34nm,0.2s						
EHUE	**Huescar**	**2.78**	**18**	P	**Pn**	**07 04 47.9**	**+1.4**
	7.1nm,0.2s,SNR=23						
EHUE				S	**Sn**	**07 05 21.6**	**+1.4**
	8.8nm,0.2s						
EHUE	**Huescar**	**2.78**	**18**	P	**Pn**	**07 04 47.9**	**+1.4**
	7.1nm,0.2s,SNR=23						
EHUE				S	**Sn**	**07 05 21.9**	**+1.8**
	8.8nm,0.2s						
EBAN	**Banos Encina**	**3.00**	**358**	P	**Pn**	**07 04 50.4**	**+0.9**
	4.6nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**07 05 25.5**	**0.0**
	4.7nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.09**	**346**	P	**Pn**	**07 04 51.3**	**+0.6**
	2.3nm,0.1s,SNR=14						
EADA				S	**Sn**	**07 05 27.6**	**-0.1**
	6.1nm,0.2s						
EADA	**Adamuz**	**3.09**	**346**	P	**Pn**	**07 04 51.3**	**+0.6**
	2.3nm,0.1s,SNR=14						
EADA				S	**Sn**	**07 05 27.6**	**-0.1**
	6.1nm,0.2s						
ZFT	**Errachidia**	**3.17**	**191**	*e*P	**Pn**	**07 04 50.0**	**-1.8**
ZFT				*i* S	**Sn**	**07 05 28.0**	**-1.7**
ECAB	**El Cabril**	**3.24**	**334**	P	**Pn**	**07 04 53.9**	**+1.2**
	1.3nm,0.2s,SNR=12						
ECAB				S	**Sn**	**07 05 32.4**	**+1.1**
	12nm,0.3s,SNR=6.9						
ECAB	**El Cabril**	**3.24**	**334**	P	**Pn**	**07 04 53.9**	**+1.2**
	1.3nm,0.2s,SNR=12						
ECAB				S	**Sn**	**07 05 32.4**	**+1.1**
	12nm,0.3s,SNR=6.9						
KIB	**El Ksiba**	**3.25**	**218**	*e*P	**Pn**	**07 04 54.0**	**+1.0**
KIB				*i* S	**Sn**	**07 05 32.0**	**+0.3**
EMUR	**La Murta**	**3.31**	**35**	P	**Pn**	**07 04 54.2**	**+0.5**
	3.2nm,0.3s,SNR=4.6						
EMUR				S	**Sn**	**07 05 29.7**	**-3.3**
	15nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.31**	**35**	P	**Pn**	**07 04 54.2**	**+0.5**
	3.2nm,0.3s,SNR=4.6						
EMUR				S	**Sn**	**07 05 29.7**	**-3.4**
	15nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.56**	**318**	P	**Pn**	**07 04 57.5**	**+0.3**
	4.4nm,0.2s,SNR=24						
EMIN				S	**Sn**	**07 05 37.3**	**-2.0**
	7.2nm,0.3s						
EMIN	**Mina Concepcio**	**3.56**	**318**	P	**Pn**	**07 04 57.5**	**+0.3**
	4.4nm,0.2s,SNR=24						
EMIN				S	**Sn**	**07 05 37.3**	**-2.0**
	7.2nm,0.3s						
EVIA	**Vianos**	**3.59**	**15**	P	**Pn**	**07 04 59.0**	**+1.4**
	4.8nm,0.2s,SNR=4.0						
AVE	**Averroes**	**3.63**	**240**	P	**Pn**	**07 04 58.0**	**-0.1**
AVE				S	**Sn**	**07 05 46.0**	**+5.1**
TZC	**Tazercounte**	**3.82**	**219**	*e*P	**Pn**	**07 05 02.0**	**+1.2**
TZC				*i* S	**Sn**	**07 05 45.0**	**-0.8**
ETOB	**Tobarra**	**3.87**	**25**	P	**Pn**	**07 05 02.4**	**+1.1**
	4.3nm,0.2s,SNR=15						
ETOB				S	**Sn**	**07 05 45.6**	**-1.2**
	5.4nm,0.3s						
ETOB	**Tobarra**	**3.87**	**25**	P	**Pn**	**07 05 02.4**	**+1.0**
	4.3nm,0.2s,SNR=15						
ETOB				S	**Sn**	**07 05 45.6**	**-1.2**
	5.4nm,0.3s						
EGRO	**El Granado**	**3.89**	**309**	P	**Pn**	**07 05 01.9**	**+0.1**
	8.6nm,0.2s,SNR=18						
EGRO				S	**Sn**	**07 05 45.3**	**-2.2**
	16nm,0.4s						
EGRO	**El Granado**	**3.89**	**309**	P	**Pn**	**07 05 01.9**	**+0.1**
	8.6nm,0.2s,SNR=18						
EGRO				S	**Sn**	**07 05 45.3**	**-2.2**
	16nm,0.4s						
PBEJ	**Beja**	**4.43**	**311**	*e*Pn	**Pn**	**07 05 10.4**	**+1.2**
PBEJ				*e*Sn	**Sn**	**07 05 59.1**	**-1.8**
PBEJ							
	6.6nm,0.5s						
PBEJ	**Beja**	**4.43**	**311**	*e*Pn	**Pn**	**07 05 10.4**	**+1.2**
PBEJ				*e*Sn	**Sn**	**07 05 59.1**	**-1.8**
	6.6nm,0.5s						
EBEN	**Beniarda**	**4.48**	**37**	P	**Pn**	**07 05 10.5**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**07 05 59.3**	**-2.6**
	2.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.48**	**37**	P	**Pn**	**07 05 10.5**	**+0.7**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**07 05 59.3**	**-2.6**
	2.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.48**	**324**	P	**Pn**	**07 05 09.6**	**-0.3**
	2.7nm,0.1s,SNR=13						
EBAD				S	**Sn**	**07 05 59.8**	**-2.3**
	10nm,0.2s,SNR=4.9						
EBAD	**Badajoz**	**4.48**	**324**	P	**Pn**	**07 05 09.6**	**-0.3**
	2.7nm,0.1s,SNR=13						
EBAD				S	**Sn**	**07 05 59.8**	**-2.3**
	10nm,0.2s,SNR=4.9						
MORF	**Marmelete**	**4.57**	**299**	*e*P	**Pn**	**07 05 12.2**	**+1.1**
MORF				*e*S	**Sn**	**07 06 03.0**	**-1.2**
MORF				*e*S	**Sn**	**07 06 03.0**	**-1.2**
MORF				AML	AML	07 06 07.3	
	comp=N,6.1nm,0.1s						
MORF	**Marmelete**	**4.57**	**299**	*e*P	**Pn**	**07 05 12.2**	**+1.1**
MORF				*e*S	**Sn**	**07 06 03.0**	**-1.2**
PTEO	**Sao Teotonio**	**4.73**	**302**	*e*Pn	**Pn**	**07 05 14.8**	**+1.5**
PTEO				*e*Sn	**Sn**	**07 06 06.7**	**-1.5**
PTEO							
	comp=N,11nm,0.4s						
PTEO	**Sao Teotonio**	**4.73**	**302**	*e*Pn	**Pn**	**07 05 14.8**	**+1.5**
PTEO				*e*Sn	**Sn**	**07 06 06.7**	**-1.5**
	comp=N,11nm,0.4s						
EVO	**Evora**	**4.85**	**315**	*e*P	**Pn**	**07 05 16.5**	**+1.6**
EVO				*e*Sn	**Sn**	**07 06 06.9**	**-4.2**
	comp=N,10nm,0.2s						
OUK	**Oukaimeden**	**5.29**	**223**	P	**Pn**	**07 05 22.0**	**+1.0**
OUK				S	**Sn**	**07 06 20.0**	**-2.0**
OUK	**Oukaimeden**	**5.29**	**223**	*e*P	**Pn**	**07 05 22.0**	**+1.0**
GUD	**Guadarrama**	**5.49**	**356**	P	**Pn**	**07 05 24.3**	**+0.6**
	comp=N,1.4nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.55**	**45**	P	**Pn**	**07 05 24.9**	**+0.3**
	comp=N,2.9nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**07 06 23.9**	**-4.5**
	comp=N,12nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.55**	**45**	P	**Pn**	**07 05 24.9**	**+0.3**
	comp=N,2.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**5.57**	**328**	*e*Pn	**Pn**	**07 05 25.6**	**+0.8**
PCBR				*e*Sn	**Sn**	**07 06 26.4**	**-2.5**
CIA	**Chichaoua**	**5.58**	**231**	P	**Pn**	**07 05 25.0**	**+0.1**
CIA				S	**Sn**	**07 06 26.0**	**-3.0**
CIA	**Chichaoua**	**5.58**	**231**	*i* P	**Pn**	**07 05 25.0**	**+0.1**
EMOS	**Mosqueruela**	**5.77**	**25**	P	**Pn**	**07 05 29.3**	**+1.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.77**	**25**	P	**Pn**	**07 05 29.3**	**+1.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**5.84**	**321**	*e*Pn	**Pn**	**07 05 29.3**	**+0.8**
PTOM				*e*Sn	**Sn**	**07 06 32.4**	**-3.2**
PTOM							
	comp=N,8.8nm,0.4s						
MTE	**Manteigas**	**6.07**	**331**	*e*Pn	**Pn**	**07 05 32.9**	**+1.2**
MTE				*e*Sn	**Sn**	**07 06 38.9**	**-2.3**
ERTA	**Horta de San J**	**6.58**	**27**	P	**Pn**	**07 05 39.3**	**+0.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**6.58**	**27**	P	**Pn**	**07 05 39.3**	**+0.6**
	comp=N,0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**6.89**	**334**	*e*Pn	**Pn**	**07 05 43.9**	**+1.0**
PVRL				*e*Sn	**Sn**	**07 06 59.2**	**-2.2**
PVRL							
	comp=N,7.0nm,0.3s						
PBRG	**Braganca**	**7.06**	**341**	*e*Pn	**Pn**	**07 05 46.0**	**+0.7**
PBRG				*e*Sn	**Sn**	**07 07 03.0**	**-2.6**
ECAL	**Calabor**	**7.19**	**341**	P	**Pn**	**07 05 47.9**	**+0.9**
	comp=N,0.7nm,0.1s,SNR=5.7						
ECAL				S	**Sn**	**07 07 06.3**	**-2.4**
	comp=N,2.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.19**	**341**	P	**Pn**	**07 05 47.9**	**+0.9**
	comp=N,0.7nm,0.1s,SNR=5.7						
ELOB	**Lobios**	**7.53**	**334**	P	**Pn**	**07 05 52.5**	**+0.8**
	comp=N,0.7nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**07 07 14.5**	**-2.7**
	comp=N,2.3nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**8.09**	**16**	*e*Pn	**Pn**	**07 05 55.5**	**-3.9**
ETSF	**Etsaut**	**8.09**	**16**	*e*P	**Pn**	**07 06 01.6**	**+2.2**
ETSF				*e*Sn	**Sn**	**07 07 22.0**	**-9.0**
	comp=N,1.2nm,0.3s						
ETSF	**Etsaut**	**8.09**	**16**	P	**Pn**	**07 05 55.5**	**-3.9**
ETSF				S	**Sn**	**07 07 22.0**	**-9.0**
	comp=N,0.6nm,0.3s						
ETSF	**Etsaut**	**8.09**	**16**	*e*P	**Pn**	**07 06 01.6**	**+2.2**
SJPF	**Ste Jean**	**8.16**	**13**	*e*Pn	**Pn**	**07 05 56.6**	**-3.8**
SJPF	**Ste Jean**	**8.16**	**13**	*e*P	**Pn**	**07 06 01.8**	**+1.4**
SJPF				*e*Sn	**Sn**	**07 07 23.5**	**-9.2**
	comp=N,0.8nm,0.3s						
SJPF	**Ste Jean**	**8.16**	**13**	P	**Pn**	**07 05 56.6**	**-3.8**
SJPF				S	**Sn**	**07 07 23.5**	**-9.2**
	comp=N,0.4nm,0.3s						
SJPF	**Ste Jean**	**8.16**	**13**	*e*P	**Pn**	**07 06 01.8**	**+1.4**
FRF	**La Foret Royal**	**11.56**	**40**	*e*Pn	**Pn**	**07 06 42.2**	**-4.8**
PGF	**Pioggiola**	**12.31**	**49**	*e*Pn	**Pn**	**07 06 52.3**	**-4.8**

*ISCJB **23** 07:11:43.7±0.4, 040N±005×9805E±006, h27km, mb4.4/28, Error ellipse: s-maj=9.1km s-min=6.9km az=172.1*
*MOS **23** 07:11:44.6±1.2, 045N×9809E, h33km, mb4.7/8, Error ellipse: s-maj=16.9km s-min=9.9km az=107.2*
*IDC **23** 07:11:46.0±0.8, 048N×9821E, h26km±4km, mb4.2/14, mb1 4.3/15, mb1mx4.2/24, mbtmp4.3/15, ML3.7/1, Error ellipse: s-maj=29.2km s-min=11.5km az=50.0*
*NEIC **23** 07:11:46.1±0.4, 042N×9818E, mb4.7/8, Error ellipse: s-maj=13.1km s-min=7.6km az=56.0*
*BJI **23** 07:11:51.2, 125N×9824E, h28km, mB4.6, mb4.7, Ms4.5, Msz3.8*

ISC 23 07:11:46.3±0.4, 044N±005×9811E±006, h29km, h29km±2.0km: pP-P, n53, σ1§16/51, mb4.4/28, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.48**	**19**	Pn	**Pn**	**07 12 24.0**	**-0.9**
	20nm,0.3s,baz=180,slow=11,SNR=38						
IPM	**Ipoh**	**4.96**	**36**	P	**Pn**	**07 13 01.1**	**+2.2**
KGM	**Kluang**	**5.44**	**73**	P	**Pn**	**07 13 08.1**	**+2.6**
KULM	**Kulim**	**5.45**	**28**	*e*Pn	**Pn**	**07 13 06.9**	**+1.3**
KULM				*e*S	**Sb**	**07 14 25.6**	**0.0**
KKM	**Kota Kinabalu**	**18.91**	**73**	P	**Pn**	**07 16 02.5**	**-3.0**
SHL	**Shillong**	**25.69**	**347**	*e*P	**P**	**07 17 13.5**

BRVK Borovoye 57.33 340 *eP* **P 07 21 30.7 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 57.33 340 *eP* **P 07 21 30.7 -0.9**
comp=Z,3.4nm,0.6s,mb4.5
ZRNK Zerenda 57.67 340 *eP* **P 07 21 33.0 -1.1**
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 57.67 340 *eP* **P 07 21 33.0 -1.1**
comp=Z,5.2nm,0.8s,mb4.6
BOD Bodaibo 58.59 10 *eP* **P 07 21 40.0 -0.5**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
AKTK Aktyubinsk 60.33 332 P **P 07 21 53.5 +1.0**
AKTO Aktyubinsk 60.33 332 P **P 07 21 53.5 +1.0**
comp=Z,3.5nm,0.9s,mb4.4,baz=111,slow=4.6,SNR=6.9
YSS Yuzh-Sakhalins 60.47 34 *eP* **P 07 21 56.0 +2.5**
KMBO Kilima Mbogo 60.87 268 P **P 07 21 58.0 +1.8**
comp=Z,0.5nm,0.4s,mb4.0,baz=53,slow=20,SNR=2.1
BRTR Keskin Array B 70.29 312 P **P 07 22 57.8 +0.8**
comp=Z,0.8nm,0.8s,mb3.7,baz=126,slow=8.4,SNR=5.3
OBN Obninsk 73.74 328 *eP* pP 07 23 26.1 -0.6
OBN *e* 07 23 40.2
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
TIXI Tiksi 73.78 10 *eP* **P 07 23 16.0 -1.9**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AKASG Malin Array Be 76.41 322 P **P 07 23 32.5 -0.6**
comp=Z,0.4nm,0.4s,mb3.7,baz=94,slow=6.2,SNR=2.7
FINES FINESS Array B 81.09 332 P **P 07 23 57.6 -1.2**
comp=Z,0.4nm,0.4s,mb3.7,baz=94,slow=7.9,SNR=5.6
FINES pP pP 07 24 06.7 -1.2
comp=Z,3.3nm,0.9s,baz=93,slow=6.7,SNR=3.8
ARCES ARCESS Array B 83.55 340 P **P 07 24 10.9 -0.8**
comp=Z,6.4nm,0.9s,mb4.8,baz=66,slow=4.5,SNR=3.9
ARCES pP pP 07 24 19.9 -0.9
comp=Z,6.0nm,0.8s,baz=90,slow=6.1,SNR=2.2
VRAC Vranov 84.12 319 P **P 07 24 16.9 +2.3**
comp=Z,3.4nm,0.5s,mb4.8,baz=125,slow=12,SNR=1.2
GERES GERESS Array B 85.98 319 pP pP 07 24 32.8 -0.3
comp=Z,0.3nm,0.5s,baz=176,slow=3.7,SNR=2.5

*ISCJB **23** 07:13:01.2±0.8, 04N±01×979E±01, h28km, mb4.4/10, MS3.8/1, Error ellipse: s-maj=21.2km s-min=11.0km az=111.2*
*IDC **23** 07:13:03.7±1.2, 037N×9803E, h27km±6km, mb4.2/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.4/10, MS3.5/2, Ms1 3.5/2, ms1mx3.2/24, Error ellipse: s-maj=40.2km s-min=15.3km az=52.0*
*NEIC **23** 07:13:03.6±0.7, 032N×9796E, mb4.5/1, Error ellipse: s-maj=19.0km s-min=9.6km az=56.0*
ISC 23 07:13:04.1±0.8, 04N±01×980E±01, h30km, h30km±.7km: pP-P, n17, σ0°80/16, mb4.4/10, MS3.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.56**	**22**	Pn	**Pn**	**07 13 42.5**	**-1.0**
	baz=231,slow=18,SNR=2.1						
PSI				LR	LR	07 14 20.1	
	comp=Z,493nm,19.0s,baz=120,slow=31						
KKM	**Kota Kinabalu**	**19.04**	**73**	P	**Pn**	**07 17 25.6**	**+1.1**
WRA	**Warramunga Arr**	**40.95**	**122**	P	**P**	**07 20 43.8**	**-0.2**
	5.6nm,0.8s,mb4.3,baz=300,slow=9.1,SNR=6.6						
WRAB	**Tennant Creek**	**40.96**	**122**	*eP*	**P**	**07 20 43.8**	**-0.2**
	7.9nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**40.96**	**122**	*eP*	**P**	**07 20 43.8**	**-0.2**
ASAR	**Alice Springs**	**42.30**	**127**	P	**P**	**07 20 54.9**	**0.0**
	4.4nm,0.8s,mb4.2,baz=302,slow=8.0,SNR=8.2						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**07 21 39.6**	**+0.9**
	4.0nm,0.5s,mb4.7,baz=192,slow=8.8,SNR=4.9						
SONM				pP	pP	07 21 47.6	-0.2
	3.9nm,0.7s,baz=189,slow=8.0,SNR=3.5						
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**07 21 42.0**	**+0.3**
	2.8nm,0.6s,mb4.5,baz=157,slow=7.6,SNR=2.8						
MKAR				pP	pP	07 21 51.1	+0.4
	4.2nm,0.6s,baz=162,slow=7.9,SNR=3.6						
MKAR				LR	LR	07 46 01.5	
	comp=Z,102nm,18.3s,MS3.8,baz=174,slow=41						
CTA	**Charters Tower**	**51.45**	**116**	P	**P**	**07 22 06.5**	**+0.1**
	5.2nm,0.7s,mb4.6,baz=293,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**52.25**	**132**	*eP*	**P**	**07 22 12.0**	**-0.4**
	8.8nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**52.25**	**132**	P	**P**	**07 22 12.0**	**-0.4**
	11nm,0.7s,mb4.9,baz=318,slow=7.1,SNR=8.2						
STKA	**Stephens Creek**	**52.25**	**132**	*eP*	**P**	**07 22 12.0**	**-0.4**
BVAR	**Borovoye Array**	**57.25**	**341**	P	**P**	**07 22 48.3**	**-0.3**
	3.3nm,0.6s,mb4.5,baz=144,slow=8.7,SNR=4.4						
AKTK	**Aktyubinsk**	**60.30**	**332**	P	**P**	**07 23 08.9**	**-0.9**
AKTK				pP	pP	07 23 17.8	-1.2
AKTO	**Aktyubinsk**	**60.30**	**332**	P	**P**	**07 23 08.9**	**-0.9**
	1.3nm,0.8s,mb4.0,baz=141,slow=6.5,SNR=2.2						
AKTO				pP	pP	07 23 17.8	-1.3
	3.1nm,0.9s,baz=128,slow=12,SNR=3.7						
BRTR	**Keskin Array B**	**70.22**	**312**	P	**P**	**07 24 16.5**	**+2.3**
	1.1nm,0.8s,mb3.8,baz=123,slow=5.3,SNR=2.6						
GERES	**GERESS Array B**	**85.92**	**319**	pP	pP	07 25 52.0	+1.2
	0.2nm,0.3s,baz=126,slow=6.8,SNR=2.2						

*IDC **23** 07:19:37.3±1.5, 2101S×33.16E, h0km, mb3.8/2, mb1 4.2/6, mb1mx3.7/25, mbtmp4.2/6, ML3.6/4, Error ellipse: s-maj=31.4km s-min=24.6km az=105.0*
*NEIC **23** 07:19:38.0±1.0, 2114S×3330E, h10km, Error ellipse: s-maj=23.0km s-min=11.5km az=116.0*
*ISCJB **23** 07:19:40.6±1.7, 2108S±0.10×327E±0.1, h10km, mb3.7/2, Error ellipse: s-maj=19.3km s-min=14.0km az=173.4*
ISC 23 07:19:42.8±1.7, 2108S±010×327E±01, h10km, n13, σ0°90/14, mb3.7/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.19**	**323**	Pn	**Pn**	**07 21 28.8**	**+0.8**
	5.2nm,0.3s,baz=148,slow=15,SNR=13						
LSZ				Sn	**Sn**	**07 22 42.7**	**-7.0**
	3.8nm,0.3s,baz=39,slow=20,SNR=6.2						
LSZ				Lg		07 23 29.0	
	14nm,0.3s,baz=64,slow=20,SNR=12						
LSZ	**Lusaka**	**7.19**	**323**	Pn	**Pn**	**07 21 28.8**	**+0.8**
LSZ				Sn	**Sn**	**07 22 42.7**	**-7.0**
LSZ				Lg		07 23 29.0	
LBTB	**Lobatse**	**7.62**	**238**	*eP*	**Pn**	**07 21 35.8**	**+1.9**
	11nm,0.6s						
BOSA	**Boshof**	**10.09**	**221**	Pn	**Pn**	**07 22 07.0**	**-0.8**
	1.3nm,0.3s,baz=52,slow=15,SNR=6.5						
BOSA				Sn	**Sn**	**07 23 55.2**	**-5.9**
	2.3nm,0.3s,baz=350,slow=12,SNR=6.9						
BOSA				Lg		07 25 10.0	
	1.7nm,0.3s,baz=133,slow=13,SNR=6.9						
BOSA	**Boshof**	**10.09**	**221**	*ePn*	**Pn**	**07 22 07.1**	**-0.7**
BOSA				Sn	**Sn**	**07 23 55.2**	**-5.9**
BOSA				Lg		07 25 10.0	
TSUM	**Tsumeb**	**14.32**	**275**	Pn	**Pn**	**07 23 05.5**	**-0.1**
	0.5nm,0.3s,baz=88,slow=12,SNR=6.9						
TSUM				Sn	**Sn**	**07 25 44.0**	**-0.4**
	0.2nm,0.3s,baz=229,slow=20,SNR=2.7						
SUR	**Sutherland**	**15.46**	**221**	Pn	**Pn**	**07 23 20.7**	**-0.2**
	1.0nm,0.3s,baz=55,slow=16,SNR=7.2						
TORD	**Torodi Ar. Bea**	**45.66**	**315**	P	**P**	**07 28 02.7**	**-0.9**
	1.1nm,0.8s,mb3.8,baz=129,slow=7.7,SNR=7.8						
BVAR	**Borovoye Array**	**80.71**	**22**	P	**P**	**07 31 49.9**	**-6.3**
	0.4nm,0.5s,mb3.6,baz=237,slow=5.0,SNR=3.8						
YKA	**Yellowknife Ar**	**132.97**	**340**	PKP	PKPdf	07 38 53.5	-4.9
	0.1nm,0.6s,baz=41,slow=1.9,SNR=5.7						
YKA	**Yellowknife Ar**	**132.97**	**340**	PKP	PKPdf	07 38 53.5	-4.9
NVAR	**Mina Array Bea**	**149.64**	**311**	PKPbc	PKPbc	07 39 30.7	-2.0
	0.6nm,0.7s,baz=74,slow=3.9,SNR=5.7						
NVAR	**Mina Array Bea**	**149.64**	**311**	PKPbc	PKPbc	07 39 30.7	-2.0

*IDC **23** 07:23:41.6±2.1, 630S×129.35E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=152.2km s-min=30.4km az=68.0*
*ISCJB **23** 07:23:42.9±1.6, 59S±02×1305E±03, h33km, mb4.0/1, Error ellipse: s-maj=45.8km s-min=17.8km az=145.4*
ISC 23 07:23:45.1±1.6, 59S±01×1306E±03, h35km, n5, σ0°65/5, mb4.0/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.04**	**201**	*eP*	**Pn**	**07 26 47.8**	**0.0**
	1.8nm,0.2s						
FITZ				*eS*	Sx	07 29 00.8	
WRA	**Warramunga Arr**	**14.43**	**166**	Pn	**Pn**	**07 27 06.1**	**-0.7**
	0.2nm,0.3s,baz=343,slow=13,SNR=14						
WRA				Sn	Sx	07 29 32.2	
	0.5nm,0.3s,baz=335,slow=21,SNR=13						
WB2	**Warramunga Arr**	**14.43**	**166**	*eP*	**Pn**	**07 27 07.6**	**+0.8**
WB2				*eS*	Sx	07 29 33.7	
ASAR	**Alice Springs**	**17.95**	**170**	P	**Pn**	**07 27 51.7**	**-0.1**
	0.1nm,0.3s,baz=341,slow=9.1,SNR=6.8						
ASAR				S	Sx	07 30 58.4	
	0.2nm,0.3s,baz=357,slow=28,SNR=6.3						
MKAR	**Makanchi Array**	**67.62**	**326**	P	**P**	**07 34 38.3**	**0.0**
	0.7nm,0.4s,mb4.0,baz=125,slow=7.3,SNR=14						

*IDC **23** 07:24:38.2±0.8, 2565N×1429.1E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, Error ellipse: s-maj=32.6km s-min=15.4km az=78.0*
*ISCJB **23** 07:24:44.0±2.1, 2563N±009×1429E±02, h57km±16km, mb3.9/12, Error ellipse: s-maj=35.4km s-min=14.7km az=164.1*
*NEIC **23** 07:24:44.2±0.6, 2568N×1428.5E, h40km, mb4.3/1, Error ellipse: s-maj=25.1km s-min=11.3km az=84.0*
ISC 23 07:24:44.9±2.2, 2569N±009×1429E±02, h48km±18km, n16, σ0°89/17, mb3.9/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.55**	**335**	Pn	**Pn**	**07 25 09.0**	**-1.1**
	220nm,0.3s,baz=148,slow=3.8,SNR=199						
CBIJ				Sn	**Sn**	**07 25 31.8**	**+2.7**
	146nm,0.3s,baz=103,slow=23,SNR=12						
SONM	**Songino Array**	**36.19**	**317**	P	**P**	**07 31 41.5**	**-1.3**
	0.7nm,0.5s,mb3.8,baz=128,slow=8.1,SNR=8.1						
WB2	**Warramunga Arr**	**46.12**	**191**	*eP*	**P**	**07 33 05.6**	**+1.2**
WRA	**Warramunga Arr**	**46.12**	**191**	P	**P**	**07 33 04.5**	**+0.2**
	1.6nm,0.6s,mb4.2,baz=11,slow=8.7,SNR=8.3						
ASAR	**Alice Springs**	**49.83**	**191**	P	**P**	**07 33 33.8**	**+0.7**
	0.3nm,0.7s,mb3.5,baz=11,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**51.89**	**310**	P	**P**	**07 33 48.5**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=89,slow=9.9,SNR=12						
STKA	**Stephens Creek**	**57.26**	**181**	P	**P**	**07 34 25.9**	**-1.5**
	1.4nm,0.7s,mb4.1,baz=342,slow=13,SNR=3.4						
ILAR	**Eielson Array**	**58.63**	**28**	P	**P**	**07 34 36.5**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=253,slow=6.0,SNR=7.3						
BVAR	**Borovoye Array**	**59.53**	**318**	P	**P**	**07 34 43.4**	**+0.1**
	1.9nm,0.4s,mb4.5,baz=86,slow=6.7,SNR=23						
AKTK	**Aktyubinsk**	**67.51**	**316**	P	**P**	**07 35 35.9**	**-0.1**
AKTO	**Aktyubinsk**	**67.51**	**316**	P	**P**	**07 35 35.9**	**-0.1**
	0.9nm,0.6s,mb4.0,baz=91,slow=15,SNR=4.6						
YKA	**Yellowknife Ar**	**73.06**	**28**	P	**P**	**07 36 10.8**	**+0.9**
	0.1nm,0.4s,mb3.1,baz=293,slow=6.2,SNR=4.9						
JOF	**Joensuu**	**76.64**	**334**	*ep*	**P**	**07 36 31.5**	**+1.0**
	0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**79.03**	**335**	*ep*	**P**	**07 36 43.4**	**-0.4**
	1.7nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**79.50**	**334**	P	**P**	**07 36 46.5**	**0.0**
	1.8nm,0.4s,mb4.3,baz=70,slow=5.4,SNR=25						
FINES	**FINESS Array B**	**79.50**	**334**	P	**P**	**07 36 46.5**	**0.0**

JMA 23 07:38:06.7±0.3, 3188N×14093E, h0km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.55**	**323**	P	Pn	07 38 35.6	+0.1
JIM2	**Oshima 3**	**3.10**	**336**	P	Pn	07 38 58.7	+1.9

IDC 23 07:43:40.9±3.6, 4831N×2722W, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.5/3, MS3.6/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=106.2km s-min=44.1km az=2.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**32.37**	**46**	P	P	07 50 11.8	-0.2
	1.8nm,1.0s,baz=270,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**47.66**	**321**	P	P	07 52 18.3	-0.6
	0.1nm,0.6s,baz=62,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**57.92**	**334**	LR	LR	08 19 58.3	
	comp=Z,43nm,18.3s,baz=356,slow=38						
MKAR	**Makanchi Array**	**67.19**	**45**	P	P	07 54 36.4	-0.3
	1.0nm,0.7s,baz=329,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**151.21**	**38**	PKPbc	PKPbc	08 03 35.9	-0.2
	0.4nm,0.6s,baz=342,slow=2.0,SNR=5.6						

IDC 23 07:44:33.6±1.0, 932S×15889E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/13, mbtmp3.7/5, Error ellipse: s-maj=30.7km s-min=17.2km az=180.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.05**	**96**	Pn	Pn	07 44 55.7	+0.1
	200nm,0.3s,baz=263,slow=8.2,SNR=42						
HNR				Sn	Sn	07 45 11.1	+0.2
	246nm,0.3s,baz=267,slow=2.3,SNR=11						
WRA	**Warramunga Arr**	**25.96**	**243**	P	P	07 50 08.3	+0.6
	0.7nm,0.8s,baz=70,slow=9.9,SNR=4.2						
STKA	**Stephens Creek**	**27.59**	**213**	P	P	07 50 22.4	-0.1
	1.5nm,0.9s,baz=60,slow=15,SNR=3.2						
SONM	**Songino Array**	**73.38**	**326**	P	P	07 56 07.7	+0.3
	0.8nm,0.8s,baz=134,slow=4.9,SNR=6.5						
ILAR	**Eielson Array**	**84.15**	**20**	P	P	07 57 06.9	+0.3
	0.3nm,0.5s,baz=243,slow=5.4,SNR=7.7						
MKAR	**Makanchi Array**	**87.69**	**318**	P	P	07 57 23.8	-0.4
	0.4nm,0.7s,baz=99,slow=6.1,SNR=4.3						

*ISCJB **23** 07:58:22.4±1.4, 148S±02×1702E±02, h648km±20km, mb3.6/10, Error ellipse: s-maj=27.1km s-min=23.7km az=101.7*
*IDC **23** 07:58:22.1±2.5, 1479S×17035E, h630km±32km, mb3.1/9, mb1 3.4/11, mb1mx3.4/15, mbtmp4.2/11, Error ellipse: s-maj=33.2km s-min=22.2km az=136.0*
*NEIC **23** 07:58:22.5±1.0, 1471S×17027E, h632km±14km, mb4.1/1, Error ellipse: s-maj=20.0km s-min=16.9km az=133.0*
ISC 23 07:58:22.4±1.4, 147S±02×1703E±02, h630km±18km, n17, σ0°79/15, mb3.6/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.19**	**206**	P	**P**	**08 00 24.2**	**-0.2**
	7.8nm,0.3s,baz=64,slow=18,SNR=38						
DZM	**Mont Dzumac**	**8.19**	**206**	*eP*	**P**	**08 00 24.7**	**+0.3**
NOUC	**Port Laguerre**	**8.28**	**207**	*eP*	**P**	**08 00 25.5**	**+0.3**
HNR	**Honiara**	**11.40**	**296**	P	**P**	**08 00 55.1**	**-0.3**
	4.7nm,0.3s,baz=248,slow=0.8,SNR=3.7						
STKA	**Stephens Creek**	**31.28**	**232**	P	**P**	**08 03 52.4**	**-1.0**
	4.7nm,0.4s,mb4.5,baz=64,slow=9.2,SNR=28						
WRAB	**Tennant Creek**	**34.67**	**256**	*eP*	**P**	**08 04 21.6**	**-0.1**
	4.8nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**34.68**	**256**	P	**P**	**08 04 22.1**	**+0.3**
	1.1nm,0.7s,mb3.6,baz=83,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**35.43**	**250**	P	**P**	**08 04 28.4**	**+0.4**
	1.6nm,0.4s,mb4.0,baz=74,slow=9.7,SNR=33						
MJAR	**Matsushiro Arr**	**59.29**	**330**	P	**P**	**08 07 25.7**	**+0.3**
	3.1nm,1.0s,mb3.4,baz=166,slow=6.7,SNR=4.9						
SONM	**Songino Array**	**84.24**	**323**	P	**P**	**08 09 50.3**	**+1.0**
	0.2nm,0.3s,mb3.1,baz=79,slow=3.2,SNR=3.7						
NVAR	**Mina Array Bea**	**85.05**	**48**	P	**P**	**08 09 54.4**	**+1.2**
	0.6nm,0.9s,mb3.2,baz=214,slow=5.4,SNR=4.2						
NVAR	**Mina Array Bea**	**85.05**	**48**	P	**P**	**08 09 54.4**	**+1.2**
ILAR	**Eielson Array**	**85.62**	**17**	P	**P**	**08 09 54.0**	**-1.9**
	0.5nm,0.8s,mb3.2,baz=231,slow=5.4,SNR=6.4						
YKA	**Yellowknife Ar**	**96.19**	**27**	P	**P**	**08 10 44.0**	**-0.5**
	0.1nm,0.5s,mb3.4,baz=255,slow=5.0,SNR=5.5						
YKA	**Yellowknife Ar**	**96.19**	**27**	P	**P**	**08 10 44.0**	**-0.5**
MKAR	**Makanchi Array**	**99.22**	**316**	P	Pdif	08 10 58.6	+0.6
	0.4nm,0.8s,baz=117,slow=4.2,SNR=3.9						
ARCES	**ARCESS Array B**	**120.94**	**346**	PKP	PKPdf	08 16 03.6	-1.0
	4.7nm,0.9s,baz=40,slow=2.8,SNR=7.2						

IDC 23 07:58:57.4±2.0, 3491S×17935W, h0km, mb4.1/2, mb1 4.3/3, mb1mx4.0/11, mbtmp4.1/3, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, Error ellipse: s-maj=59.8km s-min=32.1km az=134.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.39**	**219**	Pn	Pn	08 00 05.4	+0.1
	5.9nm,0.3s,baz=102,slow=20,SNR=53						
URZ				Sn	Sn	08 00 56.4	-0.7
	16nm,0.3s,baz=183,slow=23,SNR=17						
DZM	**Mont Dzumac**	**17.85**	**312**	LR	LR	08 08 06.0	
	comp=Z,117nm,19.0s,baz=204,slow=31						
RAR	**Rarotonga**	**21.96**	**57**	LR	LR	08 11 30.2	
	comp=Z,58nm,18.1s,baz=263,slow=34						
ASAR	**Alice Springs**	**41.95**	**273**	P	P	08 06 50.1	+0.3
	2.3nm,0.8s,baz=114,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.34**	**278**	P	P	08 07 01.5	+0.3
	1.2nm,0.4s,baz=118,slow=7.7,SNR=18						
BVAR	**Borovoye Array**	**128.75**	**313**	PKP	PKPdf	08 18 05.9	-0.9
	0.6nm,0.7s,baz=104,slow=0.6,SNR=3.7						
FINES	**FINESS Array B**	**148.90**	**336**	PKPbc	PKPbc	08 18 46.2	-0.9
	2.1nm,0.7s,baz=72,slow=4.5,SNR=7.7						
AKASG	**Malin Array Be**	**153.98**	**316**	PKPbc	PKPbc	08 18 57.6	-1.2
	0.4nm,0.5s,baz=62,slow=1.5,SNR=4.4						

IDC 23 08:00:07.0±2.0, 084N×12651E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=177.7km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.03**	**160**	P	P	08 05 02.4	-0.6
	0.6nm,0.4s,baz=338,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.39**	**164**	P	P	08 05 37.0	+1.0
	1.2nm,0.4s,baz=343,slow=11,SNR=18						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	08 10 14.1	+0.1
	0.3nm,0.7s,baz=115,slow=8.1,SNR=3.5						

*IDC **23** 08:02:30.4±1.3, 3327N×7802E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=38.9km s-min=35.3km az=141.0*
*ISCJB **23** 08:02:32.6±0.6, 3334N±004×7853E±006, h10km, mb3.4/4, Error ellipse: s-maj=8.2km s-min=5.2km az=46.6*
*NDI **23** 08:02:37.9±3.1, 3315N×7839E, h15km±28km, ML3.0*
ISC 23 08:02:34.4±0.6, 3332N±004×7849E±007, h10km, n21, σ1°13/35, mb3.4/4, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**1.80**	**187**	*eP*	**Pn**	**08 03 05.4**	**0.0**
KLP				*eS*	**Sn**	**08 03 26.6**	**-1.6**
KLP				AML	AML	08 03 44.1	
	comp=N,326nm,0.7s						
KLP				AML	AML	08 03 44.2	
	comp=E,257nm,0.7s						
SDNR	**Sundarnagar**	**2.23**	**216**	*eP*	**Pn**	**08 03 12.5**	**+1.2**
SDNR				*eS*	**Sn**	**08 03 36.5**	**-2.4**
DLH	**Dalhousie**	**2.26**	**251**	*eP*	**Pn**	**08 03 13.0**	**+1.2**
DLH				*eS*	**Sn**	**08 03 40.0**	**+0.2**
SMLA	**Simla**	**2.46**	**208**	*eP*	**Pn**	**08 03 14.8**	**+0.3**
SMLA				*eS*	**Sn**	**08 03 43.5**	**-1.1**
SMLA				*eS*	**Sn**	**08 03 44.2**	**-0.5**
SMLA				AML	AML	08 03 47.1	
	comp=N,262nm,0.7s						
SMLA				AML	AML	08 03 47.6	
	comp=E,413nm,0.2s						
THN	**Thein Dam**	**2.50**	**250**	*ex*	**Pn**	**08 03 13.1**	**-1.9**
THN				*eS*	**Sn**	**08 03 44.7**	**-0.9**
PONG	**Pong**	**2.54**	**238**	*eP*	**Pn**	**08 03 17.1**	**+1.4**
BHK	**Bhakra**	**2.59**	**223**	*eP*	**Pg**	**08 03 26.4**	**+2.4**
BHK				*eS*	**Sn**	**08 03 53.0**	**+5.2**
DDI	**Dehra Dun**	**3.02**	**187**	*ex*	**Pn**	**08 03 28.6**	**+6.5**
DDI				*ex*	**Sn**	**08 04 07.1**	**+8.8**
ASOR	**Ausora**	**4.59**	**188**	*ex*	**Pg**	**08 04 04.0**	**+1.6**
NDI	**New Delhi**	**4.75**	**194**	*ex*	**Pb**	**08 03 59.0**	**+1.3**
NDI				*eSB*	**Sb**	**08 04 54.5**	**-0.5**
AYAN	**Aya Nagar**	**4.97**	**194**	*eP*	**Pn**	**08 03 48.3**	**-0.6**
AYAN				*eS*	**Sn**	**08 04 41.2**	**-5.3**
SONA	**Sohna**	**5.20**	**194**	*eP*	**Pn**	**08 03 53.0**	**+0.8**
SONA				*eS*	**Sn**	**08 04 47.7**	**-4.5**
SONA				AML	AML	08 05 18.3	
	comp=N,8.9nm,0.2s						
SONA				AML	AML	08 05 19.2	
	comp=E,11nm,0.1s						
KUDL	**Kundal**	**5.44**	**199**	*eP*	**Pn**	**08 03 55.3**	**-0.2**
KUDL				*eS*	**Sn**	**08 04 53.0**	**-5.2**
KUDL				AML	AML	08 05 31.2	
	comp=N,10nm,0.8s						
KUDL				AML	AML	08 05 31.6	
	comp=E,16nm,0.6s						
KHET	**Khetri**	**5.72**	**205**	*eP*	**Pn**	**08 04 00.0**	**+0.7**
KHET				*eS*	**Sn**	**08 05 00.8**	**-4.2**
KHET				AML	AML	08 05 33.5	
	comp=N,8.2nm,0.1s						
KHET				AML	AML	08 05 33.5	
	comp=E,7.2nm,0.1s						
AGRA	**Agra**	**6.09**	**185**	*eP*	**Pn**	**08 03 59.3**	**-5.1**
AGRA				*eS*	**Sn**	**08 05 02.2**	**-12**
AGRA				AML	AML	08 05 50.0	
	comp=N,76nm,0.3s						
AGRA				AML	AML	08 05 50.5	
	comp=E,46nm,0.4s						
MKAR	**Makanchi Array**	**13.76**	**11**	Pn	**Pn**	**08 05 48.7**	**-0.8**
	comp=E,0.0nm,0.3s,baz=181,slow=12,SNR=3.9						
BVAR	**Borovoye Array**	**20.54**	**346**	P	**P**	**08 07 13.2**	**+0.4**
	comp=E,0.4nm,0.3s,baz=162,slow=6.8,SNR=3.8						
SONM	**Songino Array**	**25.50**	**47**	P	**P**	**08 08 02.8**	**0.0**
	comp=E,0.6nm,0.8s,mb3.2,baz=231,slow=8.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**71.95**	**274**	P	**P**	**08 13 53.3**	**-4.6**
	comp=E,0.6nm,0.8s,mb3.6,baz=53,slow=5.1,SN

ISC 23 08:07:26.1±0.6, 1510N±004×6122W±006, h184km±4km, n52, σ0°84/69, mb3.2/3, 22C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.37**	**170**	⇓*iP*	**Pn**	**08 07 50.8**	**0.0**
FDF				*eS*	**Sn**	**08 08 09.3**	**-0.5**
CRM	**Caraveller**	**0.45**	**139**	⇓*iP*	**Pn**	**08 07 51.0**	**0.0**
CRM				*eS*	**Sn**	**08 08 09.8**	**-0.5**
DWS	**Wesley**	**0.48**	**349**	*eP*	**Pn**	**08 07 52.4**	**+1.2**
DWS				*eS*	**Sn**	**08 08 11.2**	**+0.7**
BBL	**Barber's Block**	**0.49**	**330**	*eP*	**Pn**	**08 07 51.3**	**+0.1**
BIM	**Bigot**	**0.59**	**166**	⇓*iP*	**Pn**	**08 07 51.6**	**0.0**
BIM				*eS*	**Sn**	**08 08 12.9**	**+1.6**
MVM	**Montagne Vaucl**	**0.62**	**150**	⇑*eP*	**Pn**	**08 07 52.0**	**+0.2**
MGG	**Marie-Galante**	**0.82**	**353**	*eP*	**Pn**	**08 07 53.2**	**+0.3**
TBG	**Guadaloupe-3**	**0.86**	**331**	⇑*iP*	**Pn**	**08 07 53.0**	**-0.1**
TBG				*eS*	**Sn**	**08 08 12.2**	**-1.8**
PHG	**Guadaloupe-2**	**1.00**	**336**	⇑*iP*	**Pn**	**08 07 54.6**	**+0.5**
DOG	**Dongo Capester**	**1.01**	**338**	⇑*eP*	**Pn**	**08 07 54.5**	**+0.3**
SCG	**Saint Claude**	**1.03**	**334**	⇑*iP*	**Pn**	**08 07 54.6**	**+0.3**
BCG	**Bois Riant Cap**	**1.06**	**339**	*eP*	**Pn**	**08 07 54.5**	**0.0**
SFG	**Saint Francois**	**1.15**	**1**	⇑*iP*	**Pn**	**08 07 56.2**	**+0.9**
LZG	**Guadaloupe-1**	**1.17**	**333**	⇑*eP*	**Pn**	**08 07 55.5**	**+0.1**
DEG	**La Desirade**	**1.22**	**7**	⇑*iP*	**Pn**	**08 07 56.4**	**+0.6**
SEG	**Port Louis**	**1.33**	**348**	⇑*iP*	**Pn**	**08 07 57.1**	**+0.4**
SVB	**Belmont**	**1.81**	**181**	*eP*	**Pn**	**08 08 01.7**	**+0.3**
SVB				*eS*	**Sn**	**08 08 27.1**	**-1.7**
BPA	**Boggy Peak**	**2.03**	**343**	*eP*	**Pn**	**08 08 04.4**	**+0.7**
BPA				*eS*	**Sn**	**08 08 31.7**	**-1.1**
CPB	**Codrington**	**2.59**	**347**	*eP*	**Pn**	**08 08 10.4**	**+0.4**
CPB				*eS*	**Sn**	**08 08 42.7**	**-1.5**
TRN	**Trinidad (W)**	**4.42**	**182**	*eP*	**Pn**	**08 08 33.0**	**+0.4**
TRN				*eS*	**Sn**	**08 09 21.6**	**-3.3**
TBH	**Brigand Hill**	**4.59**	**178**	*eS*	**Sn**	**08 09 28.7**	**+0.2**
TBVI	**Tortola**	**4.63**	**316**	⇑*eP*	**Pn**	**08 08 33.8**	**-1.5**
TBVI	**Tortola**	**4.63**	**316**	⇑*iP*	**Pn**	**08 08 33.8**	**-1.5**
TBVI	**Tortola**	**4.63**	**316**	⇑*iP*	**Pn**	**08 08 33.8**	**-1.5**
TBVI				*eS*	**Sn**	**08 09 24.7**	**-4.8**
ABV	**Anegada**	**4.68**	**321**	⇓*eP*	**Pn**	**08 08 34.5**	**-1.5**
ABV				*eS*	**Sn**	**08 09 26.2**	**-4.6**
MTP	**Monte Pirata**	**5.12**	**306**	⇑*eP*	**Pn**	**08 08 44.9**	**+3.4**
MTP	**Monte Pirata**	**5.12**	**306**	*eS*	**Sn**	**08 09 45.9**	**+5.0**
MTP	**Monte Pirata**	**5.12**	**306**	⇑*eP*	**Pn**	**08 08 41.1**	**-0.5**
MTP	**Monte Pirata**	**5.12**	**306**	*eS*	**Sn**	**08 09 40.5**	**-0.3**
MTP	**Monte Pirata**	**5.12**	**306**	⇑*eP*	**Pn**	**08 08 41.1**	**-0.5**
MTP				*eS*	**Sn**	**08 09 40.5**	**-0.3**
MTP	**Monte Pirata**	**5.12**	**306**	⇑*eP*	**Pn**	**08 08 44.9**	**+3.4**
MTP				*eS*	**Sn**	**08 09 45.9**	**+5.0**
CPD	**Cerro la Pandu**	**5.37**	**304**	⇓*eP*	**Pn**	**08 08 48.8**	**+4.0**
CPD	**Cerro la Pandu**	**5.37**	**304**	*eS*	**Sn**	**08 09 53.9**	**+7.1**
CPD	**Cerro la Pandu**	**5.37**	**304**	⇑*eP*	**Pn**	**08 08 45.1**	**+0.3**
CPD	**Cerro la Pandu**	**5.37**	**304**	*eS*	**Sn**	**08 09 46.5**	**-0.3**
CPD	**Cerro la Pandu**	**5.37**	**304**	⇑*eP*	**Pn**	**08 08 45.1**	**+0.3**
CPD	**Cerro la Pandu**	**5.37**	**304**	⇓*eP*	**Pn**	**08 08 48.8**	**+4.0**
CPD				*eS*	**Sn**	**08 09 53.9**	**+7.1**
HUMP	**Col San Antoni**	**5.37**	**305**	*eS*	**Sn**	**08 09 47.0**	**+0.2**
HUMP	**Col San Antoni**	**5.37**	**305**	⇑*eP*	**Pn**	**08 08 44.2**	**-0.7**
HUMP				*eS*	**Sn**	**08 09 47.0**	**+0.2**
CBYP	**Canovanas**	**5.45**	**306**	⇑*eP*	**Pn**	**08 08 46.7**	**+0.8**
CBYP	**Canovanas**	**5.45**	**306**	*eS*	**Sn**	**08 09 48.7**	**0.0**
CBYP	**Canovanas**	**5.45**	**306**	*eP*	**Pn**	**08 08 45.8**	**-0.1**
CBYP				*eS*	**Sn**	**08 09 48.7**	**0.0**
CBYP	**Canovanas**	**5.45**	**306**	⇑*eP*	**Pn**	**08 08 46.7**	**+0.8**
CBYP				*eS*	**Sn**	**08 09 48.7**	**0.0**
CELP	**Cerrillos**	**5.93**	**301**	⇓*eP*	**Pn**	**08 08 53.0**	**+0.9**
AOPR	**Arecibo Observ**	**6.21**	**302**	*eS*	**Sn**	**08 10 06.8**	**+0.3**
AOPR	**Arecibo Observ**	**6.21**	**302**	⇑*eP*	**Pn**	**08 08 55.2**	**-0.5**
LRS	**Lares**	**6.26**	**301**	⇓*eP*	**Pn**	**08 08 56.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**6.35**	**298**	⇑*eP*	**Pn**	**08 08 57.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**6.35**	**298**	*eS*	**Sn**	**08 10 12.1**	**+2.3**
PDAR	**Pinedale Array**	**49.62**	**314**	P	**P**	**08 15 58.5**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=104,slow=11,SNR=2.8						
PDAR				pP	pP	08 16 39.0	-0.5
	0.4nm,0.5s,baz=112,slow=9.8,SNR=4.6						
YKA	**Yellowknife Ar**	**60.22**	**335**	P	**P**	**08 17 14.4**	**-0.3**
	0.4nm,0.5s,mb3.5,baz=107,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**74.63**	**334**	P	**P**	**08 18 45.0**	**0.0**
	0.2nm,0.5s,mb3.0,baz=92,slow=5.0,SNR=7.0						

*ISCJB **23** 08:25:54.9±1.6, 214S±02×328E±02, h10km, mb3.6/2, MS2.7/1, Error ellipse: s-maj=32.6km s-min=20.2km az=81.7*
*IDC **23** 08:25:54.8±1.8, 2129S×3290E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.6/3, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.9/6, Error ellipse: s-maj=61.4km s-min=38.6km az=134.0*

ISC 23 08:25:56.9±1.6, 213S±02×328E±02, h10km, n10, σ0°75/5, mb3.6/2, MS2.7/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**10.00**	**222**	Pn	**Pn**	**08 28 21.7**	**+1.1**
	0.6nm,0.3s,baz=45,slow=14,SNR=3.5						
BOSA	**Boshof**	**10.00**	**222**	*e*Pn	**Pn**	**08 28 19.6**	**-1.0**
TSUM	**Tsumeb**	**14.46**	**276**	*e*Pn	**Pn**	**08 29 21.4**	**-0.1**
KMBO	**Kilima Mbogo**	**20.52**	**13**	LR	LR	08 37 41.2	
	comp=Z,36nm,19.6s,MS2.7,baz=93,slow=34						
TORD	**Torodi Ar. Bea**	**45.91**	**315**	P	**P**	**08 34 19.8**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=123,slow=7.3,SNR=5.8						
MKAR	**Makanchi Array**	**81.14**	**32**	P	**P**	**08 38 12.5**	**-0.1**
	0.2nm,0.6s,mb3.2,baz=210,slow=5.5,SNR=3.4						
YKA	**Yellowknife Ar**	**133.22**	**340**	PKP	PKPdf	08 45 10.1	-2.8
	0.2nm,0.8s,baz=26,slow=1.7,SNR=6.8						
YKA	**Yellowknife Ar**	**133.22**	**340**	PKP	PKPdf	08 45 10.2	-2.8
BMO	**Blue Mountains**	**146.01**	**321**	*e*PKPbc	PKPbc	08 45 36.2	-0.7
NVAR	**Mina Array Bea**	**149.88**	**311**	PKPbc	PKPbc	08 45 46.9	-0.4
	0.6nm,0.8s,baz=93,slow=3.6,SNR=4.4						

*ISCJB **23** 08:25:58.9±0.8, 215S±0.1×330E±0.2, h10km, mb3.9/6, Error ellipse: s-maj=25.0km s-min=8.8km az=67.5*
*IDC **23** 08:25:59.6±1.0, 2145S×3302E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=32.2km s-min=19.8km az=114.0*
*NEIC **23** 08:25:59.1±0.9, 2144S×3259E, h10km, mb4.7/1, Error ellipse: s-maj=25.0km s-min=15.6km az=129.0*

ISC 23 08:26:00.8±0.8, 215S±01×331E±02, h10km, n17, σ1°24/13, mb3.9/6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**10.01**	**224**	Pn	**Pn**	**08 28 26.2**	**+1.5**
	1.9nm,0.3s,baz=44,slow=12,SNR=6.4						
BOSA				Sn	**Sn**	**08 30 16.7**	**-0.3**
	1.5nm,0.3s,baz=322,slow=19,SNR=3.5						
BOSA				Lg		08 31 16.9	
	1.8nm,0.3s,baz=86,slow=14,SNR=3.7						
BOSA	**Boshof**	**10.01**	**224**	Sn	**Sn**	**08 30 16.7**	**-0.3**
BOSA				Lg		08 31 16.9	
SUR	**Sutherland**	**15.37**	**223**	*e*P	**Pn**	**08 29 35.6**	**-2.2**
	26nm,0.8s						
KMBO	**Kilima Mbogo**	**20.68**	**12**	P	**P**	**08 30 41.0**	**+0.1**
	0.6nm,0.3s,baz=71,slow=22,SNR=3.9						
TORD	**Torodi Ar. Bea**	**46.23**	**315**	P	**P**	**08 34 25.8**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=128,slow=7.7,SNR=8.8						
DBIC	**Dimbokro**	**46.59**	**303**	P	**P**	**08 34 29.2**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=136,slow=9.8,SNR=4.1						
BRTR	**Keskin Array B**	**60.93**	**0**	P	**P**	**08 36 12.2**	**-1.8**
	0.5nm,0.7s,mb3.7,baz=197,slow=11,SNR=3.6						
BDFB	**Brasilia**	**76.33**	**258**	P	**P**	**08 37 51.6**	**+1.6**
	2.5nm,0.7s,mb4.3,baz=45,slow=12,SNR=4.2						
VNDA	**Vanda**	**76.75**	**170**	P	**P**	**08 37 52.6**	**+0.2**
	2.1nm,1.0s,mb4.0,baz=210,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**81.20**	**32**	P	**P**	**08 38 18.6**	**+1.8**
	0.3nm,0.8s,mb3.3,baz=207,slow=6.4,SNR=4.0						
MKAR	**Makanchi Array**	**81.20**	**32**	P	**P**	**08 38 18.6**	**+1.8**
ENH	**Enshi**	**89.62**	**57**	*e*P	**P**	**08 38 57.6**	**-1.2**
YKA	**Yellowknife Ar**	**133.51**	**340**	PKP	PKPdf	08 45 15.3	-2.1
	0.3nm,0.6s,baz=40,slow=2.0,SNR=14						
YKA	**Yellowknife Ar**	**133.51**	**340**	PKP	PKPdf	08 45 15.3	-2.1
MSU	**Marysvale**	**145.75**	**307**	*e*PKPbc	PKPbc	08 45 35.9	-4.2
MSU				*e*PKPab	PKPab	08 45 41.1	+0.8
MVU	**Marysvale**	**145.78**	**307**	*e*PKPbc	PKPbc	08 45 42.4	+2.3
MVU				*e*PKPab	PKPab	08 45 47.6	+7.1
NVAR	**Mina Array Bea**	**150.21**	**311**	PKPbc	PKPbc	08 45 53.0	+1.0
	0.7nm,0.7s,baz=60,slow=3.6,SNR=7.9						

*IDC **23** 08:51:52.0±5.4, 2158S×3341E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/21, mbtmp3.9/3, ML4.1/1, MS3.3/1, Ms1 3.1/1, ms1mx2.9/11, Error ellipse: s-maj=122.2km s-min=27.2km az=121.0*
*ISCJB **23** 08:51:54.2±1.3, 2121S±006×3286E±0.10, h10km, mb3.9/1, Error ellipse: s-maj=13.6km s-min=8.7km az=32.5*
*NEIC **23** 08:51:55.3±1.4, 2129S×3300E, h10km, mb4.3/1, Error ellipse: s-maj=24.1km s-min=10.5km az=111.0*

ISC 23 08:51:56.7±1.2, 2124S±007×3288E±010, h10km, n7, σ1°03/12, mb3.9/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.41**	**322**	*e*Pn	**Pn**	**08 53 45.1**	**+0.2**
	23nm,0.6s						
LSZ				*e*Sn	**Sn**	**08 55 08.8**	**-0.3**
LBTB	**Lobatse**	**7.68**	**239**	*e*Pn	**Pn**	**08 53 49.2**	**+0.6**
	1.7nm,0.4s						
LBTB				*e*Sn	**Sn**	**08 55 17.9**	**+2.2**
BOSA	**Boshof**	**10.08**	**222**	Pn	**Pn**	**08 54 20.6**	**-0.9**
	1.0nm,0.3s,baz=54,slow=15,SNR=18						
BOSA				Sn	**Sn**	**08 56 09.3**	**-5.4**
	1.6nm,0.3s,baz=350,slow=7.9,SNR=6.0						
BOSA				Lg		08 57 13.2	
	3.8nm,0.3s,baz=276,slow=7.0,SNR=5.2						
BOSA				LR	LR	08 58 24.6	
	comp=Z,142nm,18.6s,baz=82,slow=39						
TSUM	**Tsumeb**	**14.50**	**275**	*e*Pn	**Pn**	**08 55 22.2**	**+0.3**
	4.7nm,0.6s						
TSUM				*e*Sn	**Sn**	**08 58 01.8**	**-0.9**
SUR	**Sutherland**	**15.45**	**222**	*e*P	**Pn**	**08 55 33.7**	**-1.0**
	13nm,0.7s						
SUR				*e*S	**Sn**	**08 58 20.6**	**-5.2**
KMBO	**Kilima Mbogo**	**20.44**	**13**	P	**P**	**08 56 33.6**	**-0.5**
	0.6nm,0.4s,baz=180,slow=9.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**45.89**	**315**	P	**P**	**09 00 21.0**	**+1.7**
	1.6nm,1.0s,mb3.9,baz=121,slow=7.0,SNR=7.7						

*CSEM **23** 09:15:57.9±0.2, 1372N×4556E, h11km, ML3.5, Error ellipse: s-maj=5.7km s-min=3.2km az=102.0, After DHMR*

DHMR 23 09:15:57.9±1.3, 1372N×4556E, h11km±4km, ML3.5, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.26**	**1**	*i*P	Pg	09 16 03.0	-0.1
BDHA				*i*S	Sg	09 16 06.4	-0.3
BDHA				AML	AML	09 16 06.6	
	comp=E,12μm,0.1s						
BDHA	**Al Bayda'**	**0.26**	**1**	*i*P	Pg	09 16 03.0	-0.2
BDHA				*i*S	Sg	09 16 06.4	-0.3
	comp=E,6μm,0.1s						
LBOS		**0.34**	**297**	⇓*iP*	Pg	09 16 05.2	+0.5
LBOS				*i*S	Sg	09 16 10.1	+0.8
ADEN	**Aden**	**1.09**	**211**	*i*P	Pb	09 16 17.8	-1.0
ADEN				*i*S	Sb	09 16 33.5	+0.5
ADEN				AML	AML	09 16 35.9	
	comp=Z,608nm,0.2s						
ADEN	**Aden**	**1.09**	**211**	*i*P	Pb	09 16 17.8	-1.0
ADEN				*i*S	Sb	09 16 33.5	+0.5
	comp=Z,304nm,0.2s						
DHBB	**Dhamar BB**	**1.42**	**307**	*i*P	Pn	09 16 24.3	+0.8
DHBB				*i*S	Sn	09 16 43.9	+1.7
TRBA	**At Turbah**	**1.49**	**251**	*i*P	Pn	09 16 25.1	+0.5
TRBA				*i*S	Sn	09 16 45.2	+1.3
TRBA	**At Turbah**	**1.49**	**251**	*i*P	Pn	09 16 25.0	+0.5
TRBA				*i*S	Sn	09 16 45.2	+1.3
UDYN	**Al 'Udayn**	**1.57**	**279**	*i*P	Pn	09 16 26.6	+1.0
UDYN				*i*S	Sn	09 16 47.5	+1.6
HAJJ	**Hajjah**	**2.73**	**316**	*i*P	Pn	09 16 45.0	+3.3
HAJJ				*i*S	Sn	09 17 21.4	+6.7

*IDC **23** 09:34:56.8±1.9, 3281N×14121E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=46.0km s-min=22.0km az=50.0*
*ISCJB **23** 09:34:58.2±2.0, 3305N±008×1415E±0.1, h33km±18km, mb3.4/3, Error ellipse: s-maj=21.9km s-min=11.5km az=44.9*
*JMA **23** 09:35:00.0±0.5, 3316N×14145E, h64km, M2.8*

ISC 23 09:35:00.3±3.4, 3309N±007×1415E±01, h34km±28km, n10, σ0°88/13, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.37**	**271**	P	**Pn**	**09 35 23.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.40**	**272**	Pn	**Pn**	**09 35 20.1**	**-3.2**
	19nm,0.3s,baz=78,slow=21,SNR=14						
JHJ				Sn	**Sn**	**09 35 40.8**	**+0.3**
	33nm,0.3s,baz=246,slow=23,SNR=6.1						
BSO1	**Boso 1**	**1.61**	**346**	P	**Pn**	**09 35 25.8**	**-0.4**
BSO1				*e*S	**Sn**	**09 35 46.3**	**+0.6**
BSO3	**Boso 3**	**1.87**	**336**	P	**Pn**	**09 35 29.6**	**-0.3**
BSO3				*e*S	**Sn**	**09 35 51.1**	**-1.2**
JOD2	**Odawara 2**	**2.92**	**319**	P	**Pn**	**09 35 44.0**	**-0.2**
JAG	**Ashikaga**	**3.71**	**334**	P	**Pn**	**09 35 55.8**	**+0.7**
MJAR	**Matsushiro Arr**	**4.35**	**323**	Pn	**Pn**	**09 36 04.8**	**+0.9**
	0.6nm,0.3s,baz=149,slow=11,SNR=6.2						
SONM	**Songino Array**	**30.17**	**310**	P	**P**	**09 41 10.7**	**+3.6**
	0.4nm,0.8s,mb3.2,baz=111,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**46.33**	**305**	P	**P**	**09 43 23.0**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=227,slow=48,SNR=4.8						
WRA	**Warramunga Arr**	**53.17**	**188**	P	**P**	**09 44 14.5**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=5.8,slow=7.6,SNR=19						

GUC 23 09:43:25.5±0.8, 2605S×7106W, h36km±20km, MD3.9, ML3.2, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.49**	**126**	⇑*iP*	Pn	09 43 36.8	+0.7
CRCH				*i*S	Sn	09 43 44.1	+0.7
CRCH				AMP		09 43 44.8	
	comp=N,4μm,0.5s						
CDCH	**Caldera**	**1.04**	**168**	*e*P	Pn	09 43 44.1	+0.6
CDCH				*i*S	Sn	09 43 57.6	+0.8
CDCH				AMP		09 44 01.5	
	comp=E,1μm,0.5s						
CPCH	**Copiapo**	**1.45**	**154**	*e*P	Pn	09 43 50.8	+1.6
CPCH				*i*S	Sn	09 44 09.4	+2.5
CPCH				AMP		09 44 11.7	
CPN1	**Cerro Paranal**	**1.54**	**23**	*e*P	Pn	09 43 52.7	+2.2
CPN1				*i*S	Sn	09 44 13.3	+4.0
CPN1				AMP		09 44 21.8	
	comp=E,550nm,0.8s						
CEN1	**Los Morros**	**2.77**	**17**	*i*P	Pn	09 44 05.8	-1.5
CEN1				*i*S	Sn	09 44 36.5	-3.0
CEN1				AMP		09 44 58.6	
	comp=E,82nm,0.8s						

IDC 23 10:03:50.7±2.2, 349S×15159E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/13, mbtmp3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/14, Error ellipse: s-maj=186.6km s-min=29.1km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**217**	LR	LR	10 08 37.5	
	comp=Z,88nm,20.3s,baz=60,slow=39						
HNR	**Honiara**	**10.19**	**126**	LR	LR	10 08 56.3	
	comp=Z,66nm,18.8s,baz=0.9,slow=30						
WRA	**Warramunga Arr**	**23.47**	**224**	P	P	10 09 01.6	-0.4
	0.8nm,0.9s,baz=50,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**26.35**	**219**	P	P	10 09 29.4	+0.9
	0.7nm,0.7s,baz=57,slow=7.8,SNR=7.7						
ILAR	**Eielson Array**	**81.41**	**22**	P	P	10 16 09.2	-0.2
	0.6nm,0.8s,baz=259,slow=5.5,SNR=4.8						

*NAO **23** 10:06:45.9, 4243N×14407E, h33km, mb3.9*
*IDC **23** 10:06:57.5±1.2, 4248N×14289E, h109km±9km, mb3.6/11, mb1 3.8/14, mb1mx3.7/22, mbtmp4.1/14, MS3.6/1, Ms1 3.6/1, ms1mx2.2/33, Error ellipse: s-maj=19.2km s-min=10.9km az=101.0*
*MOS **23** 10:06:57.5±1.1, 4248N×14287E, h129km, mb4.1/10, Error ellipse: s-maj=17.3km s-min=9.5km az=93.3*
*ISCJB **23** 10:06:57.5±0.3, 4257N±003×14282E±004, h123km±2km, mb4.0/19, Error ellipse: s-maj=5.8km s-min=4.7km az=70.4*
*NEIC **23** 10:06:58.8±1.2, 4246N×14287E, h126km±12km, mb4.1/8, Error ellipse: s-maj=19.5km s-min=11.0km az=120.0*
*JMA **23** 10:07:00.0±0.2, 4268N×14288E, h110km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φ±181.00000°, δ6.00000°, λ31.00000°. NP2:φ±60.00000°, δ87.00000°, λ95.00000°. Principal axes: T Plg48.0000°, Azm335.0000°; N Plg5.0000°, Azm239.0000°; P Plg42.0000°, Azm145.0000°;*
*NIED **23** 10:07:00, 4270N×14290E, h95km, Mw3.7 Best double couple: M0:4.37000×10^14 NP1:φ±240.00000°, δ90.00000°, λ-84.00000°. NP2:φ±332.00000°, δ6.00000°, λ-178.00000°.*

ISC 23 10:06:58.5±0.3, 4256N±003×14283E±004, h119km±2km, n60, σ0°91/79, mb4.0/19, 7C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.29**	**191**	⇑P	**Pn**	**10 07 16.7**	**+1.5**
JNBK				*e*S	**Sn**	**10 07 29.5**	**+1.7**
JCH	**Churui**	**0.40**	**83**	⇑P	**Pn**	**10 07 16.0**	**+0.3**
JCH				S	**Sn**	**10 07 27.9**	**-0.8**
JBT2	**Biratori 2**	**0.40**	**302**	⇓P	**Pn**	**10 07 16.2**	**+0.4**
JBT2				*e*S	**Sn**	**10 07 28.5**	**-0.2**
JEM	**Erimo**	**0.60**	**156**	⇑P	**Pn**	**10 07 18.4**	**+1.4**
JEM				*e*S	**Sn**	**10 07 33.2**	**+2.3**
JFR	**Furan**	**0.62**	**344**	⇓P	**Pn**	**10 07 17.0**	**-0.1**
JFR				*e*S	**Sn**	**10 07 30.1**	**-1.1**
JOB	**Onbets**	**0.82**	**65**	⇑P	**Pn**	**10 07 19.2**	**+0.5**
JOB				*e*S	**Sn**	**10 07 33.8**	**-0.1**
JAR	**Ashorobuto**	**1.01**	**43**	⇓P	**Pn**	**10 07 20.5**	**0.0**
JAR				*e*S	**Sn**	**10 07 35.9**	**-1.2**
JAB	**Ashibetsu**	**1.04**	**335**	⇓P	**Pn**	**10 07 20.6**	**-0.2**
JAB				*e*S	**Sn**	**10 07 37.1**	**-0.6**
JEW	**Eniwo**	**1.05**	**286**	⇓P	**Pn**	**10 07 21.4**	**+0.5**
JEW				*e*S	**Sn**	**10 07 37.8**	**-0.1**
JKK2	**Kamakawa 2**	**1.31**	**358**	⇓P	**Pn**	**10 07 23.7**	**0.0**
JHR	**Hokuryu**	**1.43**	**326**	⇓P	**Pn**	**10 07 25.2**	**+0.2**
JHR				*e*S	**Sn**	**10 07 45.1**	**-0.1**
JAK	**Akkeshi**	**1.44**	**72**	⇑P	**Pn**	**10 07 25.2**	**0.0**
JAK				*e*S	**Sn**	**10 07 44.5**	**-1.0**
JKB	**Kayabe**	**1.49**	**244**	⇑P	**Pn**	**10 07 26.1**	**+0.3**
JKB				*e*S	**Sn**	**10 07 45.6**	**-0.9**
ASAJ	**Asahikawa**	**1.56**	**354**	P	**Pn**	**10 07 27.0**	**+0.5**
	125nm,0.3s,baz=212,slow=8.7,SNR=330						
ASAJ				S	**Sn**	**10 07 47.5**	**-0.4**
	22nm,0.3s,baz=44,slow=25,SNR=6.9						
ASAJ	**Asahikawa**	**1.56**	**354**	PN	**Pn**	**10 07 27.0**	**+0.5**
ASAJ				S	**Sn**	**10 07 47.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,125nm,0.3s						
JTKR	**Abashiri--Toko**	**1.61**	**29**	⇓P	**Pn**	**10 07 27.3**	**+0.1**
JTKR				*e*S	**Sn**	**10 07 47.8**	**-1.2**
JOT	**Ohata**	**1.78**	**229**	⇑P	**Pn**	**10 07 29.5**	**+0.4**
JOT				*e*S	**Sn**	**10 07 52.0**	**-0.5**
JSK	**Shakotan**	**1.90**	**295**	⇓P	**Pn**	**10 07 30.4**	**-0.2**
JSK				*e*S	**Sn**	**10 07 54.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.39**	**359**	*e*PN	**Pn**	**10 08 05.2**	**+2.0**
YSS				*i*S	**Sn**	**10 08 55.0**	**+1.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax			
	comp=N,90nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.39**	**359**	*e*Pn	**Pn**	**10 08 04.6**	**+1.4**
YSS				*e*Sn	**Sn**	**10 08 53.5**	**0.0**
MAJO	**Matsushiro**	**6.99**	**212**	*e*PN	**Pn**	**10 08 39.4**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MAJO	**Matsushiro**	**6.99**	**212**	*e*Pn	**Pn**	**10 08 39.4**	**+1.1**
	comp=Z,3.8nm,0.5s						
MJAR	**Matsushiro Arr**	**6.99**	**212**	P	**Pn**	**10 08 36.8**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=5.9						
JHJ	**Hachijo jima 2**	**9.73**	**195**	P	**Pn**	**10 09 13.9**	**-1.5**
	comp=Z,6.7nm,0.3s,baz=53,slow=22,SNR=5.0						
JHJ				S	**Sn**	**10 10 54.8**	**-7.9**
	comp=Z,15nm,0.3s,baz=84,slow=20,SNR=7.1						
CBIJ	**Chichi jima**	**15.44**	**182**	P	**Pn**	**10 10 28.8**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=297,slow=21,SNR=3.0						
HIA	**Hailar**	**17.37**	**301**	*e*P	**Pn**	**10 10 51.9**	**-1.5**
HIA

ellipse: s-maj=16.7km s-min=11.4km az=147.0

ISC 23 10:13:34.5±0.8, 2142S±008×3313E±008, h10km, n12, σ1°45/16, mb3.8/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.70**	**322**	*e*Pn	**Pn**	**10 15 25.5**	**-1.2**
	8.4nm,0.4s						
LSZ				*e*Sn	**Sn**	**10 16 45.9**	**-8.0**
LBTB	**Lobatse**	**7.79**	**241**	*e*Pn	**Pn**	**10 15 29.5**	**+1.6**
	13nm,0.6s						
LBTB				*e*Sn	**Sn**	**10 16 54.3**	**-1.9**
BOSA	**Boshof**	**10.11**	**223**	Pn	**Pn**	**10 15 59.8**	**+0.1**
	1.0nm,0.3s,baz=49,slow=14,SNR=16						
BOSA				Sn	**Sn**	**10 17 47.2**	**-5.9**
	0.4nm,0.3s,baz=351,slow=18,SNR=2.2						
BOSA				Lg		10 18 52.5	
	2.1nm,0.3s,baz=315,slow=22,SNR=4.9						
BOSA				LR	LR	10 19 31.1	
	comp=Z,62nm,18.4s,baz=111,slow=36						
BOSA	**Boshof**	**10.11**	**223**	*e*Pn	**Pn**	**10 16 01.5**	**+1.8**
	4.4nm,0.5s						
BOSA				*e*Sn	**Sn**	**10 17 52.0**	**-1.0**
BOSA				Lg		10 18 52.5	
BOSA				LR	LR	10 19 31.1	
OPO	**Ambohidratompo**	**13.52**	**80**	Pn	**Pn**	**10 16 43.7**	**-2.6**
	0.3nm,0.3s,baz=286,slow=19,SNR=2.5						
OPO				Sn	**Sn**	**10 19 03.7**	**-13**
	0.7nm,0.3s,baz=153,slow=23,SNR=4.0						
TSUM	**Tsumeb**	**14.75**	**276**	*e*Pn	**Pn**	**10 17 02.9**	**-0.2**
	4.0nm,0.7s						
SUR	**Sutherland**	**15.47**	**223**	Pn	**Pn**	**10 17 13.2**	**+0.5**
	0.7nm,0.3s,baz=49,slow=13,SNR=9.7						
SUR				Sn	**Sn**	**10 19 58.3**	**-5.8**
	0.5nm,0.3s,baz=25,slow=14,SNR=4.0						
SUR				Lg		10 21 43.3	
	0.7nm,0.3s,baz=147,slow=20,SNR=4.3						
KMBO	**Kilima Mbogo**	**20.57**	**12**	*e*P	**P**	**10 18 14.3**	**+0.9**
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.18**	**315**	P	**P**	**10 22 00.3**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=136,slow=8.4,SNR=4.5						
ASAR	**Alice Springs**	**90.85**	**116**	P	**P**	**10 26 40.1**	**+2.0**
	0.5nm,0.7s,mb3.9,baz=251,slow=3.3,SNR=7.0						
YKA	**Yellowknife Ar**	**133.42**	**340**	PKP	PKPdf	10 32 51.5	+0.6
	0.1nm,0.6s,baz=38,slow=2.3,SNR=3.9						
NVAR	**Mina Array Bea**	**150.16**	**311**	PKPbc	PKPbc	10 33 29.1	+3.6
	0.4nm,0.7s,baz=77,slow=4.9,SNR=4.4						

JMA 23 10:15:05.4±0.6, 4439N×14930E, h30km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.77**	**250**	P	Pn	10 15 46.7	-1.0
NEM2				*e*S	Sn	10 16 17.6	-2.5
JRA	**Rausu**	**3.04**	**263**	P	Pn	10 15 52.5	+1.1
JNK	**Nakash**	**3.40**	**258**	P	Pn	10 15 56.7	+0.3
JNK				*e*S	Sn	10 16 34.8	-0.9
JAK	**Akkeshi**	**3.62**	**249**	P	Pn	10 15 58.5	-0.9
JTKR	**Abashiri--Toko**	**3.90**	**266**	P	Pn	10 16 05.2	+1.9
JAR	**Ashorobuto**	**4.15**	**257**	P	Pn	10 16 07.6	+1.0
JOB	**Onbets**	**4.24**	**251**	P	Pn	10 16 08.1	+0.2
JCH	**Churui**	**4.67**	**250**	P	Pn	10 16 13.5	-0.3
JCH				*e*S	Sn	10 17 03.0	-4.0
JFR	**Furan**	**5.01**	**258**	P	Pn	10 16 20.8	+2.3
JEM	**Erimo**	**5.08**	**244**	P	Pn	10 16 19.9	+0.5
JNBK	**Urakawa-nobuka**	**5.22**	**248**	P	Pn	10 16 21.1	-0.3
JBT2	**Biratori 2**	**5.29**	**255**	P	Pn	10 16 23.2	+0.9
JNB	**Noboribetsu**	**6.32**	**255**	P	Pn	10 16 37.0	+0.6
JNB				*e*S	Sn	10 17 45.6	-1.9
JKB	**Kayabe**	**6.54**	**250**	P	Pn	10 16 39.1	-0.5
JKB				*e*S	Sn	10 17 46.7	-6.5
JYM2	**Yakumo 2**	**6.90**	**254**	P	Pn	10 16 45.1	+0.6
JANG	**Nango**	**7.02**	**238**	P	Pn	10 16 43.4	-2.7
JANG				*e*S	Sn	10 17 54.3	-11
JTM	**Tenmabayashi**	**7.06**	**242**	P	Pn	10 16 45.2	-1.5
JTM				*e*S	Sn	10 17 57.4	-8.5
JTH	**Tanohata**	**7.09**	**234**	*e*S	Sn	10 17 55.1	-12
OFUJ	**Ofunato**	**7.79**	**230**	P	Pn	10 16 53.3	-3.4
OFUJ				*e*S	Sn	10 18 12.4	-11
JRG	**Rokugo**	**8.16**	**235**	P	Pn	10 17 00.4	-1.4
JIO	**Ouri**	**8.41**	**228**	P	Pn	10 17 01.1	-4.1
JIO				*e*S	Sn	10 18 27.2	-12

*ISCJB **23** 10:27:21.1±2.2, 3148S±009×1795E±03, h400km, mb3.7/4, Error ellipse: s-maj=40.8km s-min=9.9km az=157.1*
*IDC **23** 10:27:24.4±5.5, 3192S×17978E, h459km±66km, mb3.4/4, mb1 3.5/5, mb1mx3.4/14, mbtmp4.3/5, Error ellipse: s-maj=72.2km s-min=32.5km az=12.0*

ISC 23 10:27:24.7±2.1, 3167S±009×1792E±03, h400km, n13, σ0°74/15, mb3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.92**	**187**	PN	**Pn**	**10 28 57.3**	**+0.9**
MWZ	**Matawai**	**6.78**	**191**	*e*PN	**Pn**	**10 29 06.1**	**+0.2**
MWZ				*e*SN	**S**	**10 30 29.4**	**+0.9**
URZ	**Urewera**	**6.78**	**194**	P	**Pn**	**10 29 06.2**	**+0.3**
	6.4nm,0.3s,baz=312,slow=3.0,SNR=50						
URZ				S	**S**	**10 30 29.4**	**+0.8**
	4.8nm,0.3s,baz=21,slow=23,SNR=10						
URZ	**Urewera**	**6.78**	**194**	*e*PN	**Pn**	**10 29 05.2**	**-0.7**
URZ				SN	**S**	**10 30 28.7**	**+0.2**
BKZ	**Black Stump Fm**	**7.79**	**195**	PN	**Pn**	**10 29 17.2**	**0.0**
BKZ				*e*SN	**S**	**10 30 48.6**	**-0.7**
TSZ	**Takapari Road**	**8.76**	**196**	*e*PN	**Pn**	**10 29 27.4**	**-1.0**
MRZ	**Mangatainoka R**	**9.42**	**197**	PN	**Pn**	**10 29 35.1**	**-0.9**
CTA	**Charters Tower**	**31.65**	**283**	P	**P**	**10 33 14.2**	**+1.5**
	2.5nm,0.6s,mb3.7,baz=281,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**31.83**	**260**	P	**P**	**10 33 14.1**	**-0.1**
	6.4nm,0.9s,mb4.0,baz=76,slow=6.8,SNR=8.4						
ASAR	**Alice Springs**	**40.63**	**270**	P	**P**	**10 34 27.4**	**-0.3**
	1.9nm,0.7s,mb3.5,baz=105,slow=7.3,SNR=33						
WRA	**Warramunga Arr**	**41.74**	**275**	P	**P**	**10 34 35.9**	**-0.7**
	3.0nm,0.7s,mb3.8,baz=114,slow=7.5,SNR=32						
KAF	**Kangasniemi**	**144.87**	**338**	*e*p	PKPdf	10 46 07.5	-7.3
	1.0nm,0.4s						
FINES	**FINESS Array B**	**145.44**	**337**	PKPbc	PKPbc	10 46 10.0	-6.7
	1.2nm,0.3s,baz=46,slow=5.0,SNR=14						

IDC 23 10:27:54.5±3.9, 1661S×17837W, h0km, mb4.0/4, mb1 4.4/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=311.5km s-min=25.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.92**	**258**	P	P	10 36 11.6	+0.6
	1.0nm,0.5s,baz=93,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**45.19**	**253**	P	P	10 36 13.3	+0.1
	7.1nm,0.6s,baz=88,slow=8.5,SNR=92						
NVAR	**Mina Array Bea**	**78.47**	**44**	P	P	10 39 59.0	+1.6
	0.4nm,0.6s,baz=215,slow=8.0,SNR=5.1						
PDAR	**Pinedale Array**	**86.39**	**43**	P	P	10 40 37.7	-1.0
	0.2nm,0.7s,baz=225,slow=6.1,SNR=3.7						

*ISCJB **23** 11:06:07.5±0.4, 131N±0.1×8763W±009, h194km±4km, mb3.3/6, Error ellipse: s-maj=25.4km s-min=5.7km az=63.1*
*IDC **23** 11:06:07.3±2.0, 1326N×8747W, h176km±23km, mb3.1/6, mb1 3.5/8, mb1mx3.3/19, mbtmp3.8/8, Error ellipse: s-maj=50.7km s-min=17.2km az=60.0*
*CASC **23** 11:06:09.2±2.2, 1258N×8800W, h167km±11km, MD3.9, ML3.5*

ISC 23 11:06:08.5±0.4, 131N±0.1×8765W±009, h189km±4km, n41, σ1°06/47, mb3.4/6, 10C-8D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.65**	**299**	⇑*i*P	Px	11 06 38.3	
BLLM				*e*S	Sx	11 06 59.2	
VSM	**San Miguel**	**0.67**	**296**	⇑*e*P	Px	11 06 38.6	
VSM				*e*S	Sx	11 06 58.8	
CRIN	**San Cristobal**	**0.72**	**126**	⇓*e*P	**Pn**	**11 06 35.6**	**+0.2**
CRIN				*e*S	**Sn**	**11 06 55.6**	**-0.5**
TELN	**Telica**	**0.95**	**123**	⇓*e*P	**Pn**	**11 06 36.7**	**-0.1**
TELN				*e*S	**Sn**	**11 07 00.2**	**+1.6**
TEL3	**Telica 3**	**0.96**	**125**	⇑*e*P	**Pn**	**11 06 36.7**	**-0.1**
TEL3				*e*S	**Sn**	**11 06 58.3**	**-0.4**
LEON	**Leon**	**1.02**	**133**	⇑*e*P	**Pn**	**11 06 36.8**	**-0.5**
LEON				*e*S	**Sn**	**11 06 56.4**	**-3.1**
CNGN	**Cerro Negro**	**1.12**	**124**	⇓*e*P	**Pn**	**11 06 37.9**	**0.0**
CNGN				*e*S	**Sn**	**11 07 00.6**	**-0.1**
MIRN	**Miramar**	**1.15**	**126**	⇓*e*P	**Pn**	**11 06 38.1**	**0.0**
MIRN				*e*S	**Sn**	**11 07 00.2**	**-0.8**
SNVI	**San Vicente**	**1.25**	**293**	⇑*e*P	Px	11 06 42.7	
SNVI				*e*S	Sx	11 07 06.2	
MOMJ	**Momotombo**	**1.30**	**123**	⇓*e*P	**Pn**	**11 06 39.7**	**+0.3**
MOMJ				*e*S	**Sn**	**11 07 04.0**	**+0.7**
LCBS	**La Ceiba**	**1.39**	**292**	⇑*e*P	Px	11 06 43.5	
LCBS				*e*S	Sx	11 07 07.3	
COPN	**Copaltepe**	**1.40**	**132**	⇓*e*P	**Pn**	**11 06 40.1**	**-0.2**
COPN				*e*S	**Sn**	**11 07 02.3**	**-2.6**
LFRS	**El Faro**	**1.46**	**290**	⇑*i*P	Px	11 06 44.3	
LFRS				*e*S	Sx	11 07 09.3	
APYN	**Apoyeque**	**1.55**	**125**	⇓*e*P	**Pn**	**11 06 42.0**	**+0.4**
APYN				*e*S	**Sn**	**11 07 07.5**	**+0.1**
XAVN	**Gruta Xavier**	**1.62**	**127**	*e*P	**Pn**	**11 06 43.1**	**+0.8**
XAVN				*e*S	**Sn**	**11 07 08.5**	**0.0**
SNET	**Serv Nac Est T**	**1.63**	**290**	*e*P	Px	11 06 40.4	
SNET				*e*S	Sx	11 07 08.1	
MGAN	**Managua**	**1.68**	**125**	⇓*e*P	**Pn**	**11 06 43.3**	**+0.3**
MGAN				*e*S	**Sn**	**11 07 09.8**	**+0.2**
	comp=E,419nm,0.2s						
BOQS	**Boqueron**	**1.69**	**291**	⇑*e*P	Px	11 06 47.0	
BOQS				*e*S	Sx	11 07 14.7	
WILN	**Americas 2**	**1.72**	**124**	*e*P	**Pn**	**11 06 45.2**	**+1.9**
WILN				*e*S	**Sn**	**11 07 11.2**	**+0.9**
TICN	**Ticuantepe**	**1.76**	**128**	⇓*e*P	**Pn**	**11 06 44.4**	**+0.7**
TICN				*e*S	**Sn**	**11 07 11.1**	**+0.1**
APON	**Apoyo**	**1.96**	**128**	*e*S	**Sn**	**11 07 14.7**	**0.0**
SNJE	**San Jose**	**2.04**	**291**	⇑*e*P	Px	11 06 50.3	
SNJE				*e*S	Sx	11 07 19.0	
SBLS	**San Blas**	**2.04**	**291**	*e*P	Px	11 06 50.4	
SBLS				*e*S	Sx	11 07 20.1	
RTR	**El Retiro**	**2.08**	**292**	*e*P	Px	11 06 51.1	
RTR				*e*S	Sx	11 07 20.9	
RBDL	**Robledal**	**2.21**	**297**	*e*P	Px	11 06 52.5	
RBDL				*e*S	Sx	11 07 23.1	
CONN	**Concepcion**	**2.52**	**128**	*e*P	**Pn**	**11 06 52.4**	**+0.5**
CONN				*e*S	**Sn**	**11 07 27.9**	**+2.2**
SSNN	**San Juan del S**	**2.54**	**136**	*e*P	**Pn**	**11 06 51.7**	**-0.4**
SSNN				*e*S	**Sn**	**11 07 23.9**	**-2.2**
IXG	**Ixpaco**	**2.92**	**291**	*e*P	**Pn**	**11 06 55.5**	**-1.0**
IXG				*e*S	**Sn**	**11 07 31.9**	**-2.1**
IXG				*e*S	**Sn**	**11 07 33.0**	**-0.9**
FUG	**Fuego 3**	**3.37**	**293**	*e*P	**Pn**	**11 07 02.5**	**+0.6**
FUG				*e*S	**Sn**	**11 07 45.5**	**+1.8**
JTS	**JuntasAbangare**	**3.87**	**137**	P	**Pn**	**11 07 08.0**	**-0.1**
	comp=E,8.6nm,0.3s,baz=308,slow=18,SNR=27						
JTS				S	**Sn**	**11 07 51.8**	**-3.1**
	comp=E,15nm,0.3s,baz=305,slow=21,SNR=9.7						
JAT	**Jato**	**4.05**	**287**	*e*P	**Pn**	**11 07 04.3**	**-6.1**
JAT				*e*S	**Sn**	**11 07 52.7**	**-6.3**
SDV	**Santo Domingo**	**17.23**	**102**	P	**Pn**	**11 09 57.1**	**-0.9**
	comp=E,0.7nm,0.3s,baz=310,slow=9.0,SNR=14						
LPAZ	**La Paz**	**35.02**	**146**	P	**P**	**11 12 44.6**	**+1.6**
	comp=E,0.5nm,0.4s,mb3.5,baz=47,slow=2.8,SNR=4.7						
PDAR	**Pinedale Array**	**35.09**	**331**	P	**P**	**11 12 44.5**	**+0.9**
	comp=E,0.7nm,0.6s,mb3.5,baz=126,slow=8.4,SNR=7.8						
NVAR	**Mina Array Bea**	**37.07**	**318**	P	**P**	**11 13 01.6**	**+1.2**
	comp=E,0.2nm,0.5s,mb3.0,baz=123,slow=9.8,SNR=3.4						
ULM	**Lac du Bonnet**	**37.63**	**351**	P	**P**	**11 13 03.4**	**-1.7**
	comp=E,1.8nm,0.4s,mb4.0,baz=174,slow=9.2,SNR=6.1						
YKA	**Yellowknife Ar**	**52.91**	**345**	P	**P**	**11 15 04.0**	**-1.0**
	comp=E,0.5nm,0.7s,mb3.3,baz=138,slow=7.7,SNR=20						
ILAR	**Eielson Array**	**65.33**	**336**	P	**P**	**11 16 29.2**	**-1.1**
	comp=E,0.3nm,0.5s,mb3.4,baz=167,slow=4.8,SNR=7.8						
STKA	**Stephens Creek**	**131.27**	**239**	PKP	PKPdf	11 24 57.6	-0.4
	comp=E,1.0nm,0.6s,baz=45,slow=1.4,SNR=4.6						
WRA	**Warramunga Arr**	**139.26**	**255**	PKhKP		11 25 07.1	
	comp=E,0.1nm,0.4s,baz=89,slow=3.5,SNR=5.8						
WRA				PKP	PKPdf	11 25 14.7	+1.8
	comp=E,1.2nm,0.6s,baz=88,slow=2.2,SNR=29						
ASAR	**Alice Springs**	**139.33**	**249**	PKhKP		11 25 07.4	
	comp=E,0.1nm,0.5s,baz=103,slow=3.2,SNR=3.6						
ASAR				PKP	PKPdf	11 25 14.8	+1.8
	comp=E,1.0nm,0.6s,baz=93,slow=1.6,SNR=24						

*ISCJB **23** 11:15:43.4±0.7, 2108S±008×3319E±007, h10km, mb3.8/4, Error ellipse: s-maj=13.2km s-min=8.0km az=124.0*
*IDC **23** 11:15:44.6±1.0, 2112S×3333E, h0km, mb3.8/4, mb1 4.2/8, mb1mx3.9/23, mbtmp4.1/8, ML4.4/5, MS3.1/3, Ms1 3.0/3, ms1mx2.8/23, Error ellipse: s-maj=27.4km s-min=23.4km az=147.0*
*NEIC **23** 11:15:45.8±0.7, 2110S×3323E, h10km, mb4.2/1, Error ellipse: s-maj=17.7km s-min=11.8km az=152.0*

ISC 23 11:15:45.5±0.7, 2095S±007×3317E±006, h10km, n18, σ1°43/26, mb3.8/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.37**	**319**	Pn	**Pn**	**11 17 34.9**	**+1.8**
	6.6nm,0.3s,baz=150,slow=13,SNR=23						
LSZ				Sn	**Sn**	**11 18 54.5**	**-2.2**
	3.9nm,0.3s,baz=207,slow=14,SNR=2.4						
LSZ				Lg		11 19 36.6	
	31nm,0.3s,baz=52,slow=20,SNR=12						
LSZ				LR	LR	11 20 53.7	
	comp=Z,56nm,19.4s,baz=120,slow=41						
LSZ	**Lusaka**	**7.37**	**319**	Pn	**Pn**	**11 17 34.9**	**+1.8**
LSZ				Sn	**Sn**	**11 18 54.5**	**-2.2**
LSZ				Lg		11 19 36.6	
LBTB	**Lobatse**	**8.06**	**238**	Pn	**Pn**	**11 17 44.3**	**+1.7**
	7.3nm,0.3s,baz=70,slow=14,SNR=31						
LBTB				Sn	**Sn**	**11 19 12.8**	**-1.0**
	6.5nm,0.3s,baz=145,slow=17,SNR=3.8						
LBTB				Lg		11 19 50.8	
	9.3nm,0.3s,baz=162,slow=18,SNR=6.2						
LBTB	**Lobatse**	**8.06**	**238**	*e*Pn	**Pn**	**11 17 43.4**	**+0.8**
LBTB				*e*Sn	**Sn**	**11 19 15.3**	**+1.5**
LBTB				Lg		11 19 50.8	
BOSA	**Boshof**	**10.48**	**222**	Pn	**Pn**	**11 18 14.6**	**-1.2**
	2.6nm,0.3s,baz=48,slow=12,SNR=22						
BOSA				Sn	**Sn**	**11 20 03.8**	**-9.3**
	4.6nm,0.3s,baz=89,slow=12,SNR=6.2						
BOSA				Lg		11 21 09.2	
	3.2nm,0.3s,baz=225,slow=5.6,SNR=3.6						
BOSA				LR	LR	11 22 32.6	
	comp=Z,142nm,19.5s,baz=301,slow=39						
BOSA	**Boshof**	**10.48**	**222**	*e*Pn	**Pn**	**11 18 14.9**	**-0.8**
	4.0nm,0.4s						
BOSA				*e*Sn	**Sn**	**11 20 03.3**	**-10**
OPO	**Ambohidratompo**	**13.41**	**82**	Pn	**Pn**	**11 18 54.1**	**-1.7**
	0.7nm,0.3s,baz=270,slow=17,SNR=4.1						
OPO				Sn	**Sn**	**11 21 11.5**	**-13**
	1.4nm,0.3s,baz=123,slow=19,SNR=4.2						
TSUM	**Tsumeb**	**14.75**	**274**	Pn	**Pn**	**11 19 13.5**	**-0.6**
	1.7nm,0.3s,baz=107,slow=9.7,SNR=13						
TSUM				Sn	**Sn**	**11 21 55.0**	**-2.5**
	0.7nm,0.3s,baz=203,slow=17,SNR=3.0						
TSUM				Lg		11 23 27.9	
	1.3nm,0.3s,baz=349,slow=21,SNR=4.3						
TSUM				LR	LR	11 25 02.3	
	comp=Z,86nm,18.8s,baz=0.0,slow=37						
TSUM	**Tsumeb**	**14.75**	**274**	*e*Pn	**Pn**	**11 19 13.6**	**-0.5**
	8.5nm,0.8s						
TSUM				*e*Sn	**Sn**	**11 21 57.9**	**+0.4**
TSUM				Lg		11 23 27.9	
SUR	**Sutherland**	**15.84**	**222**	Pn	**Pn**	**11 19 27.9**	**-0.6**
	1.7nm,0.3s,baz=43,slow=15,SNR=12						
SUR				Sn	**Sn**	**11 22 16.1**	**-8.1**
	0.9nm,0.3s,baz=352,slow=16,SNR=3.7						
SUR				Lg		11 23 57.5	
	1.7nm,0.3s,baz=310,slow=22,SNR=3.6						
SUR	**Sutherland**	**15.84**	**222**	*e*P	**Pn**	**11 19 28.2**	**-0.4**
	11nm,0.6s						
SUR				Sn	**Sn**	**11 22 16.1**	**-8.1**
TORD	**Torodi Ar. Bea**	**45.88**	**315**	P	**P**	**11 24 10.1**	**+2.1**
	2.9nm,0.8s,mb4.2,baz=125,slow=7.2,SNR=17						
BRTR	**Keskin Array B**	**60.36**	**0**	P	**P**	**11 25 57.7**	**+3.0**
	0.5nm,0.7s,mb3.7,baz=157,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**80.68**	**32**	P	**P**	**11 27 58.4**	**-0.3**
	0.4nm,0.9s,mb3.4,baz=241,slow=3.0,SNR=3.3						
ASAR	**Alice Springs**	**91.02**	**116**	P	**P**	**11 28 50.4**	**+0.4**
	0.4nm,0.6s,mb4.0,baz=241,slow=4.1,SNR=12						
YKA	**Yellowknife Ar**	**133.00**	**340**	PKP	PKPdf	11 35 01.7	+0.6
	0.2nm,0.5s,baz=36,slow=1.9,SNR=9.9						
MSU	**Marysvale**	**145.45**	**308**	*e*PKPdf	PKPdf	11 35 26.1	+2.4
NVAR	**Mina Array Bea**	**149.88**	**312**	PKPbc	PKPbc	11 35 39.6	+3.8
	0.7nm,0.7s,baz=56,slow=5.1,SNR=7.3						

CASC 23 11:16:09.2±2.3, 1319N×8747W, h6km±8km, MD3.6, 1C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.37**	**284**	⇑*i*P	Pg	11 16 17.7	+1.3
CNCH				*e*S	Sg	11 16 22.4	+1.2
CRIN	**San Cristobal**	**0.63**	**140**	*e*P	Pg	11 16 21.9	+0.5
BLLM	**Bellamira**	**0.79**	**289**	*e*P	Pg	11 16 25.0	+0.6
BLLM				*e*S	Sg	11 16 35.6	+0.9
VSM	**San Miguel**	**0.82**	**287**	*e*P	Pg	11 16 26.4	+1.4
TELN	**Telica**	**0.85**	**133**	*e*P	Pg	11 16 24.7	-0.8
TELN				*e*S	Sg	11 16 38.5	+1.9
TEL3	**Telica 3**	**0.86**	**135**	⇓*e*P	Pg	11 16 24.9	-0.9
TEL3				*e*S	Sg	11 16 38.3	+1.3
CAHU	**Cacacuatique**	**0.93**	**309**	*e*P	Pg	11 16 28.0	+1.0
CAHU				*e*S	Sg	11 16 39.4	+0.4
LEON	**Leon**	**0.95**	**144**	⇓*e*P	Pg	11 16 25.7	-1.7
CNGN	**Cerro Negro**	**1.01**	**132**	*e*P	Pg	11 16 27.7	-1.0
CNGN				*e*S	Sg	11 16 43.3	+1.4
MIRN	**Miramar**	**1.05**	**135**	*e*P	Pg	11 16 27.8	-1.5
MIRN				*e*S	Sg	11 16 45.0	+2.1
MOMJ	**Momotombo**	**1.19**	**131**	*e*P	Pg	11 16 29.7	-2.4
COPN	**Copaltepe**	**1.32**	**140**	*e*P	Pn	11 16 31.9	-2.3
COPN				*e*S	Sb	11 16 51.3	-0.1
SNVI	**San Vicente**	**1.40**	**288**	*e*P	Pn	11 16 35.2	0.0
SNVI				*e*S	Sb	11 16 54.3	+0.4
APYN	**Apoyeque**	**1.45**	**131**	*e*P	Pn	11 16 34.2	-1.6
XAVN	**Gruta Xavier**	**1.52**	**133**	*e*P	Pn	11 16 34.3	-2.6
LCBS	**La Ceiba**	**1.54**	**288**	*e*P	Pn	11 16 37.6	+0.3
LCBS				*e*S	Sn	11 16 57.0	-0.5
MGAN	**Managua**	**1.58**	**131**	*e*S	Sn	11 16 59.1	+0.7
LFRS	**El Faro**	**1.61**	**286**	*e*P	Pn	11 16 38.6	+0.4
LFRS				*e*S	Sn	11 16 59.7	+0.4

IDC 23 11:35:54.4±3.7, 3128S×17813W, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=88.4km s-min=29.8km az=131.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.03**	**5**	Pn	Pn	11 36 30.0	+0.1
	53nm,0.3s,baz=77,slow=23,SNR=2.8						
RAO				LR	LR	11 36 59.5	
	comp=Z,549nm,21.6s,baz=321,slow=32						
CTA	**Charters Tower**	**33.84**	**281**	P	P	11 42 39.7	+1.3
	5.0nm,0.7s,baz=102,slow=9.3,SNR=4.7						
STKA	**Stephens Creek**	**34.18**	**258**	P	P	11 42 40.0	-1.3
	1.1nm,0.7s,baz=101,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**42.95**	**268**	P	P	11 43 55.2	+0.1
	1.6nm,0.7s,baz=105,slow=7.3,SNR=25						
WRA	**Warramunga Arr**	**44.02**	**273**	P	P	11 44 04.1	+0.4
	1.9nm,0.6s,baz=112,slow=7.9,SNR=46						
KAF	**Kangasniemi**	**145.34**	**340**	*e*p	PKPbc	11 55 32.7	-1.3
	0.9nm,0.5s						
FINES	**FINESS Array B**	**145.93**	**339**	PKPbc	PKPbc	11 55 34.2	-1.7
	2.0nm,0.6s,baz=48,slow=5.6,SNR=7.3						

*IDC **23** 11:55:01.1±1.1, 657N×12694E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.4/5, Error ellipse: s-maj=73.0km s-min=20.6km az=72.0*
*ISCJB **23** 11:55:08.5±2.0, 65N±0.1×127.1E±0.2, h75km±20km, mb3.2/5, Error ellipse: s-maj=33.8km s-min=17.9km az=127.1*

ISC 23 11:55:09.7±2.1, 66N±0.1×1272E±0.2, h67km±20km, n7, σ0°68/9, mb3.2/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.79**	**332**	⇓*i*P	**Pn**	**11 55 37.6**	**-0.8**
BIPH				*i* S	**Sn**	**11 56 00.6**	**+0.5**
CGP	**Cagayan de Oro**	**3.10**	**307**	⇑*i*P	**Pn**	**11 55 51.5**	**-4.7**
CGP				*i* S	**Sn**	**11 56 32.3**	**+0.2**
WRA	**Warramunga Arr**	**27.29**	**165**	P	**P**	**12 00 48.9**	**+1.1**
	0.3nm,0.5s,mb3.1,baz=341,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**30.78**	**168**	P	**P**	**12 01 18.1**	**-0.7**
	0.1nm,0.4s,mb2.9,baz=344,slow=7.3,SNR=5.3						
SONM	**Songino Array**	**44.76**	**340**	P	**P**	**12 03 16.8**

WRAB pmax pmax
comp=Z,11nm,1.0s,mb4.3
WRAB Tennant Creek 25.96 243 *e*P **P** **12 28 01.6 +0.4**
comp=Z,11nm,1.0s,mb4.4
WB2 Warramunga Arr 25.96 243 *e*P **P** **12 28 01.6 +0.4**
WRA Warramunga Arr 25.97 243 P **P** **12 28 00.6 -0.7**
comp=Z,5.6nm,0.9s,mb4.1,baz=70,slow=9.6,SNR=22
WRA Warramunga Arr 25.97 243 P **P** **12 28 00.6 -0.7**
WRA pmax pmax
comp=Z,6.0nm,0.9s
STKA Stephens Creek 27.65 213 *e*P **P** **12 28 14.6 -1.8**
comp=Z,2.6nm,0.7s,mb4.0
STKA Stephens Creek 27.65 213 P **P** **12 28 14.5 -1.9**
comp=Z,2.8nm,0.6s,mb4.1,baz=59,slow=14,SNR=10.0
STKA LR LR 12 38 47.1
comp=Z,119nm,18.0s,MS3.5,baz=24,slow=36
ASAR Alice Springs 27.84 236 P **P** **12 28 17.8 -0.4**
comp=Z,1.9nm,0.8s,mb3.8,baz=67,slow=9.1,SNR=16
ASAR Alice Springs 27.84 236 P **P** **12 28 17.8 -0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
AFI Afiamalu 29.12 102 P **P** **12 28 31.3 +1.7**
comp=Z,7.3nm,0.3s,mb4.9,baz=279,slow=3.9,SNR=3.9
AFI LR LR 12 38 27.1
comp=Z,190nm,19.8s,MS3.7,baz=289,slow=33
AFI Afiamalu 29.12 102 P **P** **12 28 31.3 +1.8**
AFI pmax pmax
comp=Z,7.0nm,0.3s,mb4.9
AFI MLR MLR
comp=Z,190nm,19.8s,MS3.7
URZ Urewera 33.24 153 LR LR 12 40 01.9
comp=Z,143nm,18.2s,MS3.7,baz=210,slow=32
RPZ Rata Peaks 35.95 165 LR LR 12 40 28.9
comp=Z,572nm,18.5s,MS4.4,baz=120,slow=30
NWAO Narrogin (SRO) 45.02 232 LR LR 12 47 42.5
comp=Z,72nm,19.4s,MS3.6,baz=174,slow=34
NJ2 Nanjing 56.09 319 *e*P **P** **12 32 07.9 0.0**
NJ2 AP pP 12 32 17.4 +7.6
NJ2 XP sP 12 32 22.0 +11
NJ2 PP PP 12 34 15.1 +2.2
NJ2 S **S** **12 39 51.0 -6.2**
NJ2 XS sS 12 40 08.0 +7.8
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,200nm,5.4s
HIA Hailar 67.59 333*c i*P **P** **12 33 25.9 +0.5**
HIA Hailar 67.59 333 *e*P **P** **12 33 25.5 +0.1**
comp=Z,7.4nm,1.0s,mb4.7
VNDA Vanda 68.28 179 P **P** **12 33 29.2 -0.5**
comp=Z,5.4nm,0.8s,mb4.6,baz=2.0,slow=4.3,SNR=11
VNDA Vanda 68.28 179 *e*P **P** **12 33 29.9 +0.2**
VNDA pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 68.28 179 *e*P **P** **12 33 29.9 +0.2**
comp=Z,5.0nm,0.7s,mb4.7
ULN Ulaanbaatar 72.96 326 *e*P **P** **12 33 59.0 +0.8**
ULN pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
ULN Ulaanbaatar 72.96 326 *e*P **P** **12 33 59.0 +0.8**
comp=Z,5.4nm,1.3s,mb4.3
GTA Gaotai 72.99 316 *e*P **P** **12 33 59.9 +1.4**
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.1
SONM Songino Array 73.30 326 P **P** **12 34 01.2 +1.0**
comp=Z,5.3nm,0.7s,mb4.6,baz=140,slow=5.6,SNR=51
SONM Songino Array 73.30 326 P **P** **12 34 01.2 +0.9**
SONM pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 74.59 346 *i* P **P** **12 34 07.1 -0.7**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZAK Zakamensk 76.42 327 *e*P **P** **12 34 18.1 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,2.1s,mb4.2
BILL Biiibino 77.26 3 *e*P **P** **12 34 22.2 -0.9**
BILL pmax pmax
comp=Z,15nm,1.0s,mb4.9
QSPA South Pole Qui 80.75 180 *e*P **P** **12 34 41.4 -0.8**
comp=Z,3.4nm,1.1s,mb4.2
PMR Palmer 81.34 22 *e*P **P** **12 34 51.5 +6.1**
comp=Z,3.7nm,0.8s,mb4.4
MCK McKinley 82.74 21 *e*P **P** **12 34 52.6 -0.1**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MCK McKinley 82.74 21 *e*P **P** **12 34 52.6 -0.1**
comp=Z,6.8nm,1.0s,mb4.6
COLA College 83.81 20 *e*P **P** **12 34 58.0 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
COLA College 83.81 20 *e*P **P** **12 34 58.0 -0.2**
comp=Z,6.1nm,0.9s,mb4.7
ILAR Eielson Array 84.08 20 P **P** **12 34 58.6 -1.0**
comp=Z,1.0nm,0.6s,mb4.1,baz=256,slow=4.9,SNR=24
ILAR Eielson Array 84.08 20 P **P** **12 34 58.6 -1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 87.61 318 P **P** **12 35 17.0 -0.1**
comp=Z,2.1nm,0.6s,mb4.5,baz=97,slow=5.8,SNR=23
MKAR Makanchi Array 87.61 318 P **P** **12 35 17.0 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 90.11 51 P **P** **12 35 30.4 +1.5**
comp=Z,1.7nm,0.9s,mb4.4,baz=235,slow=3.7,SNR=11
AAK Ala-Archa 92.07 313 *i* P **P** **12 35 37.7 -0.3**
AAK pmax pmax
comp=Z,3.0nm,1.8s,mb4.3
YKA Yellowknife Ar 96.52 28 P **P** **12 35 57.9 -0.4**
comp=Z,0.1nm,0.5s,mb3.5,baz=264,slow=4.5,SNR=6.7
YKA LR LR 13 10 30.1
comp=Z,34nm,21.7s,MS3.8,baz=55,slow=30
YKA Yellowknife Ar 96.52 28 P **P** **12 35 57.9 -0.5**
PDAR Pinedale Array 97.35 48 P **P** **12 36 02.3 +0.2**
comp=Z,0.3nm,0.8s,mb3.8,baz=291,slow=2.5,SNR=3.0
OBN Obninsk 115.69 327 PKIKP PKPdf 12 41 11.3 +0.1
OBN pmax pmax
comp=Z,1.0nm,1.8s
HFS Hagfors 122.93 340 PKP PKPdf 12 41 23.5 -1.6
comp=Z,1.9nm,0.8s,baz=101,slow=2.9,SNR=2.5
HFS Hagfors 122.93 340 PKIKP PKPdf 12 41 23.5 -1.6
HFS pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra123.04 342 PKPd PKPdf 12 41 24.7 -0.6
comp=Z,1.3nm,0.8s,baz=27,slow=1.8
NOA NORSAR Array B 123.04 342 PKP PKPdf 12 41 24.7 -0.6
comp=Z,1.0nm,0.7s,baz=47,slow=2.0,SNR=4.5
NOA NORSAR Array B 123.04 342 PKIKP PKPdf 12 41 24.7 -0.6
NOA pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 130.92 330 PKP PKPdf 12 41 40.3 -0.1
comp=Z,0.6nm,0.6s,baz=90,slow=1.6,SNR=4.9
GERES GERESS Array B 130.92 330 PKIKP PKPdf 12 41 40.3 -0.1
GERES pmax pmax
comp=Z,1.0nm,0.6s
MDT Midelt 152.00 329 PKPbc PKPbc 12 42 24.9 +0.9
comp=Z,3.6nm,0.8s,baz=65,slow=7.1,SNR=3.8

IDC 23 12:24:09.7±1.3, 4995N×2909W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/22, mbtmp3.7/4, MS3.3/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=41.9km s-min=32.2km az=11.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**24.96**	**48**	LR	LR	12 39 15.6	
	comp=Z,46nm,18.3s,baz=30,slow=36						
DAVOX	**Davos**	**25.88**	**82**	LR	LR	12 39 30.0	
	comp=Z,67nm,19.2s,baz=258,slow=36						
HFS	**Hagfors**	**26.08**	**51**	LR	LR	12 40 12.6	
	comp=Z,110nm,18.9s,baz=267,slow=37						
GERES	**GERESS Array B**	**27.59**	**76**	LR	LR	12 40 14.0	
	comp=Z,62nm,18.3s,baz=281,slow=35						
FINES	**FINESS Array B**	**32.14**	**48**	P	P	12 30 38.0	-0.8
	2.0nm,0.9s,baz=255,slow=7.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**44.51**	**135**	P	P	12 32 22.9	+0.1
	0.5nm,0.6s,baz=342,slow=7.7,SNR=3.7						
YKA	**Yellowknife Ar**	**45.61**	**320**	PcP	PcP	12 34 08.0	-2.0
	0.2nm,0.8s,baz=56,slow=4.3,SNR=5.4						
PDAR	**Pinedale Array**	**53.47**	**295**	P	P	12 33 32.3	+0.7
	0.3nm,0.6s,baz=67,slow=8.2,SNR=3.4						
MKAR	**Makanchi Array**	**66.87**	**44**	P	P	12 35 03.7	+0.2
	1.1nm,0.7s,baz=331,slow=5.5,SNR=14						
ASAR	**Alice Springs**	**150.58**	**33**	PKPbc	PKPbc	12 44 02.8	-0.7
	0.3nm,0.5s,baz=354,slow=1.7,SNR=11						

*ISCJB **23** 12:32:23.4±0.3, 4935N×001×684E±003, h0km, Error ellipse: s-maj=2.5km s-min=2.1km az=3.6*
*STR **23** 12:32:24.7±0.3, 4938N×687E, h1km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **23** 12:32:25.6±0.1, 4935N×693E, h1km, ML2.9/14, Error ellipse: s-maj=1.2km s-min=1.1km az=37.0*
*LDG **23** 12:32:25.8±0.1, 4936N×689E, h1km, Md3.0/2, Ml3.0/16, Error ellipse: s-maj=1.8km s-min=1.6km az=6.0, Suspected Mining induced.*
*BGR **23** 12:32:25.6±0.6, 4934N×688E, h1km, ML2.1/3, Error ellipse: s-maj=8.9km s-min=6.7km az=63.0*

ISC 23 12:32:24.4±0.3, 4935N±001×685E±003, h0km, n50, σ1§02/104, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**22**	Pg	**Pg**	**12 32 31.6**	**0.0**
RUP				Sg	**Sg**	**12 32 35.6**	**-0.9**
WLF	**Walferdange**	**0.55**	**305**	*e*Pg	**Pg**	**12 32 36.4**	**+1.4**
	SNR=3.7						
ABH	**Alteburg**	**0.70**	**40**	Pg	**Pg**	**12 32 37.5**	**-0.3**
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pg	**Pg**	**12 32 43.6**	**+0.3**
	SNR=1.0						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pn	**Pn**	**12 32 44.6**	**-0.9**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**12 32 56.2**	**+0.1**
	35nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pn	**Pn**	**12 32 44.6**	**-0.9**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**12 32 56.2**	**+0.1**
	18nm,0.2s,SNR=1.0						
WLS	**Welschbruch**	**1.00**	**160**	Pg	**Pg**	**12 32 44.9**	**+1.3**
WLS				Sg	**Sg**	**12 32 58.8**	**+2.3**
ECH	**Echery**	**1.16**	**170**	Pg	**Pg**	**12 32 47.6**	**+1.0**
ECH				Sg	**Sg**	**12 33 02.7**	**+1.1**
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**12 32 48.5**	**+1.8**
	baz=51						
RFYF				*e*Sg	**Sg**	**12 33 03.4**	**+1.7**
	52nm,0.3s						
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**12 32 48.5**	**+1.8**
RFYF				*e*Sg	**Sg**	**12 33 03.4**	**+1.7**
	26nm,0.3s						
THEF	**They Montfort**	**1.26**	**207**	Pg	**Pg**	**12 32 49.3**	**+0.6**
THEF				Sg	**Sg**	**12 33 06.1**	**+1.1**
TOD	**Tromm**	**1.30**	**78**	Pg	**Pg**	**12 32 48.8**	**-0.6**
TOD				Sg	**Sg**	**12 33 06.1**	**-0.1**
TNS	**Taunus Mts**	**1.35**	**49**	*e*Pg	**Pg**	**12 32 50.3**	**-0.1**
	SNR=6.3						
TNS				*e*Sg	**Sg**	**12 33 08.7**	**+0.7**
TNS	**Taunus Mts**	**1.35**	**49**	Pg	**Pg**	**12 32 50.3**	**-0.1**
	SNR=6.3						
TNS				Sg	**Sg**	**12 33 08.6**	**+0.7**
HAU	**Haudompre**	**1.39**	**194**	*e*Pn	**Pn**	**12 32 50.8**	**-0.3**
	SNR=1.0						
HAU	**Haudompre**	**1.39**	**194**	*e*Pg	**Pg**	**12 32 52.0**	**+0.9**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**12 33 08.6**	**-1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**12 33 10.0**	**+0.9**
	50nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**194**	*e*Pg	**Pg**	**12 32 52.0**	**+0.9**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**12 33 08.6**	**-1.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**12 33 10.0**	**+0.9**
	25nm,0.4s,SNR=1.0						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**12 32 52.1**	**+0.5**
	SNR=10						
BFO				*e*Sg	**Sg**	**12 33 09.2**	**-0.8**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pn	**Pn**	**12 32 51.8**	**-0.2**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**12 32 53.5**	**+1.1**
	baz=55						
MEZF				*e*Sg	**Sg**	**12 33 12.5**	**+1.2**
	23nm,0.4s						
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**12 32 53.5**	**+1.1**
MEZF				*e*Sg	**Sg**	**12 33 12.5**	**+1.2**
	12nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pn	**Pn**	**12 32 52.7**	**-0.1**
	SNR=1.0						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**12 32 54.4**	**+1.0**
GIVF				*e*Sn	**Sn**	**12 33 12.7**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**12 33 15.0**	**+1.9**
	31nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**12 32 54.4**	**+1.0**
GIVF				*e*Sn	**Sn**	**12 33 12.7**	**-0.5**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**12 33 15.0**	**+1.9**
	15nm,0.4s						
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**12 32 54.1**	**+0.6**
MOF				Sg	**Sg**	**12 33 14.5**	**+1.4**
HGN	**Heimansgroeve**	**1.53**	**338**	*e*Pg	**Pg**	**12 32 52.8**	**-0.9**
HGN				*e*Sg	**Sg**	**12 33 13.2**	**-0.4**
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**12 32 54.4**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**12 33 11.8**	**-2.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**12 33 14.1**	**+0.2**
	78nm,0.2s						
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**12 32 54.4**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**12 33 11.8**	**-2.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**12 33 14.1**	**+0.2**
	39nm,0.2s						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pn	**Pn**	**12 32 54.8**	**0.0**
	baz=50						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pg	**Pg**	**12 32 56.5**	**+0.2**
SFTF				*e*Sn	**Sn**	**12 33 15.4**	**-1.4**
SFTF				*e*Sg	**Sg**	**12 33 18.9**	**+1.1**
	22nm,0.4s						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pg	**Pg**	**12 32 56.5**	**+0.2**
SFTF				*e*Sn	**Sn**	**12 33 15.4**	**-1.4**
SFTF				*e*Sg	**Sg**	**12 33 18.9**	**+1.1**
	11nm,0.4s						
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**12 32 57.9**	**+0.4**
	SNR=1.0						
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**12 33 00.7**	**+0.7**
BAIF				*e*Sn	**Sn**	**12 33 21.0**	**-0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**12 33 25.8**	**+1.8**
	11nm,0.3s,SNR=1.0						
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**12 33 00.7**	**+0.7**
BAIF				*e*Sn	**Sn**	**12 33 21.0**	**-0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**12 33 25.8**	**+1.8**
	5.4nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.79**	**191**	*e*Pn	**Pn**	**12 33 09.4**	**-1.0**
CABF				*e*Sg	**Sg**	**12 33 53.7**	**-0.4**
	9.7nm,0.6s						
CABF	**La Chapelle**	**2.79**	**191**	*e*Pn	**Pn**	**12 33 09.4**	**-1.0**
CABF				*e*Sg	**Sg**	**12 33 53.7**	**-0.4**
	4.8nm,0.6s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**12 33 10.8**	**-0.9**
	baz=53						
LOR				*e*Sn	**Sn**	**12 33 44.2**	**-2.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**12 33 56.7**	**-0.5**
	9.8nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**12 33 10.8**	**-0.9**
LOR				*e*Sn	**Sn**	**12 33 44.2**	**-2.9**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**12 33 56.7**	**-0.5**
	4.9nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**12 33 14.5**	**-1.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**12 34 06.9**	**-0.4**
	10.0nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**12 33 14.5**	**-1.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**12 34 06.9**	**-0.4**
	5.0nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pn	**Pn**	**12 33 18.5**	**+0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**12 33 57.2**	**-2.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**12 34 11.3**	**-1.7**
	5.5nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pn	**Pn**	**12 33 18.5**	**+0.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**12 33 57.2**	**-2.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**12 34 11.3**	**-1.7**
	2.8nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.47**	**224**	*e*Pn	**Pn**	**12 33 18.4**	**-1.3**
AVF				*e*Sn	**Sn**	**12 33 59.6**	**-2.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**12 34 15.2**	**-0.9**
	3.4nm,0.4s						
AVF	**Avril sur Loir**	**3.47**	**224**	*e*Pn	**Pn**	**12 33 18.4**	**-1.3**
AVF				*e*Sn	**Sn**	**12 33 59.6**	**-2.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**12 34 15.2**	**-0.9**
	1.7nm,0.4s						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**12 33 25.0**	**-0.3**
BGF				*e*Sg	**Sg**	**12 34 28.1**	**-1.0**
	29nm,0.5s						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**12 33 25.0**	**-0.3**
BGF				*e*Sg	**Sg**	**12 34 28.1**	**-1.0**
	14nm,0.5s						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**12 33 34.4**	**+0.1**
	SNR=9.6						
LDF	**La Druitiere**	**4.65**	**263**	*e*Pn	**Pn**	**12 33 35.9**	**-0.1**
FLN	**La Foliniere**	**4.86**	**266**	*e*Pn	**Pn**	**12 33 38.5**	**-0.2**
	baz=83						
SGMF	**Saint Gilles**	**6.31**	**264**	*e*Pn	**Pn**	**12 33 58.2**	**-0.5**

PRE 23 12:35:10.1±2.0, 2155S×3380E, h5km, ML4.8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.60**	**257**	*e*P		12 29 01.0	
MSNA				*e*S		12 29 41.2	
MSNA				AML	AML	12 29 55.9	
	comp=Z,700nm,0.5s						
SLR	**Silverton**	**6.55**	**229**	*e*S	Sn	12 38 00.0	-2.2
SLR				AML	AML	12 38 43.2	
	comp=Z,184nm,0.5s						
LBTB	**Lobatse**	**8.29**	**244**	*e*P	Pn	12 37 11.9	+0.9
LBTB				*e*S	Sn	12 38 41.8	-3.3
LBTB				AML	AML	12 39 41.3	
	comp=Z,85nm,0.6s						
BOSA	**Boshof**	**10.46**	**226**	*e*P	Pn	12 37 41.9	+1.2
BOSA				*e*S	Sn	12 39 32.8	-5.5
BOSA				AML	AML	12 41 03.0	
	comp=Z,37nm,0.6s						
SUR	**Sutherland**	**15.81**	**224**	*e*P	Pn	12 38 56.1	+2.7
SUR				*e*S	Sn	12 41 42.2	-6.8

IDC 23 12:43:16.9±48.0, 2977S×17755E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.8/3, Error ellipse: s-maj=850.0km s-min=139.8km az=96.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.86**	**257**	P	P	12 49 34.9	0.0
	0.5nm,0.5s,baz=119,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**39.28**	**268**	P	P	12 50 46.9	-0.5
	0.5nm,0.6s,baz=104,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**40.22**	**274**	P	P	12 50 56.1	+1.0
	0.9nm,0.3s,baz=112,slow=8.0,SNR=22						

*ISCJB **23** 12:44:51.6±0.5, 4041N±002×2582E±003, h2km±4km, Error ellipse: s-maj=4.1km s-min=2.7km az=77.6*
*ATH **23** 12:44:52.7, 4045N×2590E, h24km±2km, MD3.4/3*
*NEIC **23** 12:44:52.7, 4045N×2590E, h24km, MD3.1(SOF), MD3.2(ISK), MD3.4(ATH), ML2.7(THE), After ATH.*
*SOF **23** 12:44:52.0, 4039N×2575E, h6km, MD3.1*
*ISK **23** 12:44:53.5, 4035N×2581E, h30km, MD3.2*
*THE **23** 12:44:53.1, 4043N×2579E, h1km, ML3.3*
*CSEM **23** 12:44:53.6±0.1, 4043N×2591E, h20km, ML3.3, Error ellipse: s-maj=1.9km s-min=1.4km az=12.0*

ISC 23 12:44:52.7±0.4, 4040N±002×2583E±003, h8km±3km, n43, σ1§15/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.52**	**18**	*e*Pg	**Pg**	**12 45 02.7**	**-0.1**
	comp=Z,30nm,0.1s						
ALN				*e*Sg	**Sg**	**12 45 09.7**	**0.0**
EZN	**Ezine**	**0.69**	**146**	PG	**Pg**	**12 45 06.8**	**+0.8**
EZN	**Ezine**	**0.69**	**146**	Pg	**Pg**	**12 45 06.1**	**+0.2**
EZN				Sg	**Sg**	**12 45 14.1**	**-0.8**
LIA	**Limnos Island**	**0.70**	**225**	*e*PN	**Pg**	**12 45 07.9**	**+1.6**
LIA				*e*SN	**Sg**	**12 45 18.8**	**+3.4**
RDO	**Rodhopi**	**0.78**	**344**	*e*PN	**Pg**	**12 45 07.4**	**-0.3**
SART	**Tekirdag**	**1.07**	**74**	*i* P	**Pg**	**12 45 13.6**	**+0.3**
SART				*i* S	**Sg**	**12 45 29.5**	**+2.3**
MFT	**Murefte**	**1.17**	**70**	PN	**Pn**	**12 45 14.3**	**-1.1**
PRK	**Paraskevi**	**1.20**	**163**	*e*PN	**Pn**	**12 45 16.7**	**+0.9**
PRK				*e*SN	**Sn**	**12 45 33.0**	**+0.7**
AYVA	**Ayvalik**	**1.28**	**148**	*i* P	**Pg**	**12 45 18.2**	**+1.0**
AYVA				*i* S	**Sg**	**12 45 36.5**	**+2.8**
KDZ	**Kurdzhali**	**1.29**	**346**	*i* P	**Pn**	**12 45 17.0**	**0.0**
KDZ				Sg	**Sg**	**12 45 33.7**	**-0.4**
MRMT	**Marmara Adasi**	**1.36**	**81**	PN	**Pn**	**12 45 17.3**	**-0.7**
MRMT				SN	**Sn**	**12 45 35.3**	**-1.0**
OUR	**Ouranopolis**	**1.41**	**268**	*e*Pg	**Pg**	**12 45 18.4**	**-1.4**
	comp=Z,10.0nm,0.1s						
RZN	**Rozhen**	**1.54**	**327**	*i* P	**Pn**	**12 45 21.0**	**+0.6**
RZN				Sg	**Sg**	**12 45 41.5**	**-0.7**
EDC	**Edincik**	**1.56**	**91**	PN	**Pn**	**12 45 20.1**	**-0.6**
EDRB	**Edirne**	**1.60**	**25**	PN	**Pn**	**12 45 21.4**	**+0.1**
DIM	**Dimitrovgrad**	**1.66**	**352**	*i* P	**Pn**	**12 45 23.5**	**+1.3**
PAIG	**Paliouri**	**1.71**	**255**	*e*Pb	**Pb**	**12 45 22.5**	**-2.0**
BALB	**Balikesir**	**1.75**	**115**	*e*PN	**Pn**	**12 45 23.3**	**0.0**
BALB	**Balikesir**	**1.75**	**115**	Pn	**Pn**	**12 45 21.4**	**-1.9**
NVR	**Nevrokopi**	**1.77**	**303**	*e*PN	**Pn**	**12 45 23.9**	**+0.3**
NVR				*e*SN	**Sn**	**12 45 47.5**	**+1.2**
PLG	**Polygyros**	**1.82**	**270**	*e*PB	**Pb**	**12 45 24.7**	**-1.6**
SRS	**Serrai**	**1.84**	**294**	*e*Pb	**Pb**	**12 45 24.5**	**-2.2**
PLD	**Plovdiv**	**1.90**	**334**	*i* P	**Pn**	**12 45 28.0**	**+2.5**
SOH	**Sokhos**	**1.93**	**283**	*e*Pb	**Pb**	**12 45 25.8**	**-2.3**
KCT	**Karacabey**	**1.94**	**93**	*e*PN	**Pn**	**12 45 25.5**	**-0.4**
KCT	**Karacabey**	**1.94**	**93**	Pn	**Pn**	**12 45 24.7**	**-1.3**
MMB	**Musomiste**	**1.98**	**307**	*i* P	**Pn**	**12 45 25.5**	**-1.1**
MMB				Sg	**Sg**	**12 45 56.0**	**-0.5**
CTT	**Catalca**	**2.11**	**68**	*e*PN	**Pn**	**12 45 27.9**	**-0.4**
JMB	**Yambol**	**2.14**	**15**	*e*Pn	**Pn**	**12 45 29.3**	**+0.6**
JMB				*e*Sn	**Sn**	**12 45 56.4**	**+0.9**
JMB	**Yambol**	**2.14**	**15**	P	**Pn**	**12 45 30.0**	**+1.2**
JMB				*e*Sn	**Sn**	**12 45 56.4**	**+0.9**
AKS	**Akhisar**	**2.16**	**134**	*e*PN	**Pn**	**12 45 28.9**	**-0.1**
AKS	**Akhisar**	**2.16**	**134**	Pn	**Pn**	**12 45 27.9**	**-1.0**
IZM	**Izmir**	**2.29**	**150**	*e*PN	**Pn**	**12 45 29.3**	**-1.4**
IZM	**Izmir**	**2.29**	**150**	Pn	**Pn**	**12 45 29.2**	**-1.5**
KNT	**Kendrikon**	**2.35**	**290**	*e*Pn	**Pn**	**12 45 32.0**	**+0.3**
	comp=Z,2.5nm,0.6s						
KNT				*e*Sn	**Sn**	**12 46 01.7**	**+1.1**
PGB	**Panagyurishte**	**2.48**	**330**	P	**Pn**	**12 45 34.5**	**+1.0**
KKB	**Krupnik**	**2.54**	**306**	*i* P	**Pn**	**12 45 34.7**	**+0.5**
ULDT	**Uludag**	**2.54**	**95**	*i* P	**Pg**	**12 45 39.3**	**-2

RCDM			*i* S	Sn	12 46 27.4	+1.6
FCH	**Farellones**	**1.32**	**126**	*e*P	Pn	12 46 15.9	+1.7
FCH				*i* S	Sn	12 46 33.4	+2.9
FCH				AMP		12 46 34.6	
	comp=E,43nm,0.2s						
CACH	**El Canelo**	**1.75**	**153**	*e*P	Pn	12 46 21.6	+1.6
CACH				*i* S	Sn	12 46 44.5	+3.4

PRE 23 12:50:06.2±1.3, 2048S×3346E, h5km, ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.70**	**239**	*e*P		12 44 00.7	
MSNA				*e*S		12 44 43.5	
MSNA				AML	AML	12 44 53.6	
	comp=Z,139nm,0.5s						
SLR	**Silverton**	**7.08**	**221**	*e*S	Sn	12 53 09.2	-2.0
SLR				AML	AML	12 53 39.1	
	comp=Z,23nm,0.6s						
LBTB	**Lobatse**	**8.55**	**237**	*e*P	Pn	12 52 11.9	+1.3
LBTB				*e*S	Sn	12 53 43.7	-3.7
LBTB				AML	AML	12 54 34.0	
	comp=Z,20nm,0.6s						
BOSA	**Boshof**	**11.01**	**221**	*e*P	Pn	12 52 45.6	+1.2
BOSA				*e*S	Sn	12 54 42.1	-5.8
BOSA				AML	AML	12 55 58.0	
	comp=Z,5.9nm,0.8s						

CSEM ***23*** *12:50:32.8±0.1, 3805N×1532E, h42km, ML4.4/1, Error ellipse: s-maj=5.5km s-min=3.1km az=126.0, After ROM*

ROM 23 12:50:32.8±0.2, 3805N×1532E, h42km±4km, Md2.2/5, Ml3.0/3, 2C-2D, Error ellipse: s-maj=4.6km s-min=3.8km az=55.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	**Mongiuffi-Meli**	**0.13**	**205**	⇑*i*Pg	Pn	12 50 40.0	+0.2
MMME				Sg	Sn	12 50 45.3	+0.6
	582nm,0.2s						
ATN	**Antennamare**	**0.15**	**47**	Pg	Pn	12 50 40.5	+0.6
	116nm,0.2s						
MSI	**Messina ING**	**0.24**	**50**	⇓*i*Pg	Pn	12 50 41.0	+0.4
	156nm,0.2s						
MSRU	**Castanea**	**0.26**	**35**	⇑*i*Pg	Pn	12 50 40.7	-0.1
MSRU				Sg	Sn	12 50 46.8	+0.5
	641nm,0.2s						
MTTG	**Motta San Giov**	**0.30**	**100**	Pg	Pn	12 50 41.5	+0.3
MTTG				Sg	Sn	12 50 49.3	+2.3
	411nm,0.4s						
AGST	**Augusta-Monte**	**0.80**	**185**	⇓*e*Pg	Pn	12 50 47.9	+0.3
AGST				Sg	Sn	12 50 59.1	+0.8
	918nm,0.2s						
CSLB	**Castelbuono**	**1.00**	**264**	Pg	Pn	12 50 51.3	+0.9
	50nm,0.3s						

IDC 23 12:51:16.2±2.4, 6044S×2724W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/14, mbtmp3.9/2, Error ellipse: s-maj=91.9km s-min=47.2km az=16.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**12.93**	**154**	*e*	Pn	12 54 16.7	-4.5
VNA2	**Neumayer--Watz**	**13.23**	**151**	*e*	Pn	12 54 20.3	-4.9
SNAA	**Sanae**	**14.83**	**149**	*e*	Pn	12 54 43.9	-3.2
LPAZ	**La Paz**	**52.98**	**308**	P	P	13 00 35.0	+0.5
	0.8nm,0.5s,baz=150,slow=8.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**76.92**	**29**	P	P	13 03 10.1	-0.2
	0.7nm,0.5s,baz=196,slow=6.8,SNR=6.6						
SONM	**Songino Array**	**150.72**	**94**	PKPbc	PKPbc	13 11 08.9	-1.3
	0.4nm,0.7s,baz=226,slow=1.1,SNR=5.1						

IDC ***23*** *12:57:06.7±54.0, 2327S×17696W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/13, mbtmp4.4/3, Error ellipse: s-maj=1003.0km s-min=154.0km az=87.0*

ISCJB ***23*** *12:57:36.1±4.9, 241S±09×1796E±05, h33km, mb4.3/4, Error ellipse: s-maj=144.8km s-min=36.1km az=52.1*

ISC 23 12:57:37.1±4.8, 241S±09×1798E±05, h35km, n7, σ0§56/7, mb4.3/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.47**	**248**	P	P	13 04 21.3	-0.2
	1.9nm,0.4s,mb4.4,baz=91,slow=10,SNR=12						
ASAR	**Alice Springs**	**41.81**	**261**	P	P	13 05 23.4	+0.2
	1.1nm,0.4s,mb3.8,baz=93,slow=7.5,SNR=75						
WB2	**Warramunga Arr**	**42.19**	**266**	*e*P	P	13 05 26.8	+0.4
WRA	**Warramunga Arr**	**42.20**	**266**	P	P	13 05 27.1	+0.6
	4.6nm,0.5s,mb4.4,baz=99,slow=7.2,SNR=128						
FITZ	**Fitzroy Crossi**	**50.62**	**266**	*e*P	P	13 06 31.4	-1.1
	4.3nm,0.7s,mb4.5						
VNA3	**Neumayer Olymp**	**84.70**	**177**	*e*	P	13 10 07.4	+0.1
VNA2	**Neumayer--Watz**	**85.11**	**178**	*e*	P	13 10 15.4	+6.0
	baz=273,slow=17						

IDC ***23*** *13:06:19.4±0.5, 4699S×3356E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.5/18, mbtmp4.4/15, ML3.8/1, MS4.1/12, Ms1 4.1/12, ms1mx4.0/19, Error ellipse: s-maj=22.2km s-min=14.7km az=67.0*

ISCJB ***23*** *13:06:20.2±0.4, 4687S±006×335E±02, h10km, mb4.6/21, MS4.0/8, Error ellipse: s-maj=16.0km s-min=8.4km az=151.0*

MOS ***23*** *13:06:20.4±1.1, 4685S×3342E, h10km, mb4.9/12, MS4.0/4, Error ellipse: s-maj=30.2km s-min=12.8km az=96.4*

NEIC ***23*** *13:06:22.0±7.4, 4686S×3356E, h12km±45km, mb4.9/16, Error ellipse: s-maj=19.1km s-min=11.8km az=77.0*

HRVD ***23*** *13:06:22.0±0.3, 47.11S×3293E, h14km±1km, MW4.9/54, Centroid moment Tensor Solution. LP body waves: s24,c27;Mantle waves: s54,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.62±.22; $M_{\theta\theta}$2.20±.16; $M_{\phi\phi}$0.42±.14; $M_{r\theta}$1.21±.35; $M_{\phi\phi}$1.11±.10; $M_{\theta r}$0.71±.35; Best double couple: $M_0$3.02200×10^{16} NP1:φ§67.00000°,δ§31.00000°,λ-86.00000°. NP2: φ§242.00000°,δ§59.00000°,λ-92.00000°. Principal axes: T 3.0760, Plg14.0000°, Azm334.0000°; N -0.1070, Plg2.0000°, Azm243.0000°; P -2.9670, Plg76.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 13:06:21.7±0.4, 4688S±006×336E±02, h10km, n66, σ1§18/51, mb4.6/21, MS4.0/8, 3C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.49**	**321**	P	Pn	13 10 21.8	-3.8
	0.8nm,0.3s,baz=140,slow=12,SNR=8.4						
SUR				LR	LR	13 15 45.4	
	comp=Z,991nm,20.6s,baz=136,slow=32						
SUR	**Sutherland**	**17.49**	**321**	*e*P	Pn	13 10 23.3	-2.3
	116nm,1.5s						
BOSA	**Boshof**	**19.38**	**337**	P	Pn	13 10 46.2	-2.4
	0.2nm,0.3s,baz=172,slow=15,SNR=6.4						
BOSA				LR	LR	13 16 40.9	
	comp=Z,682nm,21.4s,baz=146,slow=32						
BOSA	**Boshof**	**19.38**	**337**	*e*P	Pn	13 10 47.0	-1.7
	22nm,0.9s						
SYO	**Syowa Base**	**22.40**	**174**	⇑*e*P	P	13 11 19.6	-0.6
LBTB	**Lobatse**	**22.74**	**341**	P	P	13 11 22.7	-1.2
	11nm,0.9s,mb4.3,baz=190,slow=6.1,SNR=5.2						
LBTB				LR	LR	13 19 04.5	
	comp=Z,677nm,19.0s,MS4.1,baz=147,slow=34						
LBTB	**Lobatse**	**22.74**	**341**	P	P	13 11 22.7	-1.2
LBTB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
LBTB				MLR	MLR		
	comp=Z,677nm,19.0s,MS4.1						
LBTB	**Lobatse**	**22.74**	**341**	*e*P	P	13 11 23.4	-0.4
	comp=Z,46nm,1.2s,mb4.8						
SNAA	**Sanae**	**30.14**	**202**	P	P	13 12 29.3	-2.4
	comp=Z,3.6nm,1.0s,mb4.1,baz=41,slow=6.7,SNR=5.7						
SNAA				LR	LR	13 21 53.1	
	comp=Z,61nm,21.0s,MS3.2,baz=54,slow=31						
SNAA	**Sanae**	**30.14**	**202**	*e*	P	13 12 32.0	+0.3
SNAA	**Sanae**	**30.14**	**202**	*e*P	P	13 12 32.0	+0.3
SNAA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SNAA	**Sanae**	**30.14**	**202**	*e*P	P	13 12 32.0	+0.3
	comp=Z,7.8nm,0.9s,mb4.4						
TSUM	**Tsumeb**	**30.58**	**329**	*e*P	P	13 12 35.8	+0.3
	comp=Z,21nm,1.4s,mb4.8						
VNA2	**Neumayer--Watz**	**30.98**	**205**	*e*	P	13 12 40.4	+1.3
	baz=69,slow=8.8						
LSZ	**Lusaka**	**31.83**	**350**	*e*P	P	13 12 48.2	+1.6
LSZ				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
LSZ	**Lusaka**	**31.83**	**350**	*e*P	P	13 12 48.2	+1.6
	comp=Z,25nm,1.3s,mb4.9						
QSPA	**South Pole Qui**	**43.34**	**180**	⇑*i*P	P	13 14 22.7	-1.2
	comp=Z,5.3nm,1.0s,mb4.2						
KMBO	**Kilima Mbogo**	**45.68**	**5**	P	P	13 14 43.8	+1.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=176,slow=15,SNR=2.7						
KMBO				LR	LR	13 32 50.5	
	comp=Z,214nm,18.3s,MS4.1,baz=76,slow=35						
KMBO	**Kilima Mbogo**	**45.68**	**5**	P	P	13 14 43.8	+1.2
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO				MLR	MLR		
	comp=Z,214nm,18.3s						
VNDA	**Vanda**	**51.84**	**167**	P	P	13 15 29.1	-0.8
	comp=Z,15nm,0.9s,mb4.9,baz=247,slow=8.7,SNR=19						
VNDA				LR	LR	13 35 39.2	
	comp=Z,376nm,21.7s,MS4.4,baz=206,slow=34						
VNDA	**Vanda**	**51.84**	**167**	*e*P	P	13 15 31.7	+1.7
VNDA				pmax	pmax		
	comp=Z,16nm,0.9s						
VNDA	**Vanda**	**51.84**	**167**	*e*P	P	13 15 31.7	+1.8
	comp=Z,16nm,0.9s,mb4.9						
SBA	**Scott Base**	**52.28**	**169**	*e*P	P	13 15 34.9	+1.6
SBA				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
SBA	**Scott Base**	**52.28**	**169**	*e*P	P	13 15 34.9	+1.6
	comp=Z,43nm,1.0s,mb5.3						
DBIC	**Dimbokro**	**63.29**	**316**	P	P	13 16 50.1	-0.5
	comp=Z,14nm,0.9s,mb5.1,baz=130,slow=8.4,SNR=20						
DBIC	**Dimbokro**	**63.29**	**316**	*e*P	P	13 16 50.0	-0.6
DBIC				pmax	pmax		
	comp=Z,22nm,1.0s						
DBIC	**Dimbokro**	**63.29**	**316**	*e*P	P	13 16 50.0	-0.6
	comp=Z,22nm,1.0s,mb5.2						
TORD	**Torodi Ar. Bea**	**66.25**	**326**	P	P	13 17 10.1	+0.2
	comp=Z,7.6nm,1.0s,mb4.7,baz=163,slow=6.1,SNR=24						
PLCA	**Paso Flores**	**69.80**	**232**	P	P	13 17 30.5	-1.7
	comp=Z,4.1nm,0.8s,mb4.4,baz=122,slow=6.9,SNR=6.4						
PLCA				LR	LR	13 43 34.6	
	comp=Z,54nm,21.4s,MS3.8,baz=147,slow=32						
PLCA	**Paso Flores**	**69.80**	**232**	*e*P	P	13 17 30.1	-2.1
	comp=Z,21nm,1.5s,mb4.8						
RCBR	**Riachuelo**	**71.81**	**281**	*e*P	P	13 17 46.3	+1.8
	comp=Z,32nm,1.6s,mb5.0						
CPUP	**Villa Florida**	**71.90**	**251**	*e*P	P	13 17 46.2	+1.2
CPUP				pmax	pmax		
	comp=Z,28nm,1.0s						
CPUP	**Villa Florida**	**71.90**	**251**	*e*P	P	13 17 46.2	+1.2
	comp=Z,28nm,1.0s,mb5.2						
BDFB	**Brasilia**	**73.08**	**265**	P	P	13 17 52.2	+0.1
	comp=Z,1.8nm,0.4s,mb4.3,baz=204,slow=5.4,SNR=3.0						
BDFB				LR	LR	13 43 57.2	
	comp=Z,128nm,18.2s,MS4.2,baz=157,slow=31						
STKA	**Stephens Creek**	**78.33**	**124**	P	P	13 18 20.1	-2.0
	comp=Z,8.9nm,0.9s,mb4.7,baz=229,slow=3.3,SNR=12						
STKA				LR	LR	13 44 56.2	
	comp=Z,158nm,18.2s,MS4.4,baz=205,slow=30						
STKA	**Stephens Creek**	**78.33**	**124**	*e*P	P	13 18 20.5	-1.6
ASAR	**Alice Springs**	**79.74**	**114**	P	P	13 18 29.2	-0.6
	comp=Z,2.9nm,0.9s,mb4.2,baz=214,slow=6.1,SNR=19						
ASAR	**Alice Springs**	**79.74**	**114**	P	P	13 18 29.3	-0.5
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**82.72**	**111**	P	P	13 18 45.5	-0.2
	comp=Z,3.7nm,1.1s,mb4.3,baz=218,slow=3.9,SNR=15						
WRA	**Warramunga Arr**	**82.72**	**111**	P	P	13 18 45.5	-0.2
WRA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRAB	**Tennant Creek**	**82.73**	**111**	*e*P	P	13 18 45.4	-0.3
WRAB				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
WRAB	**Tennant Creek**	**82.73**	**111**	*e*P	P	13 18 45.4	-0.4
	comp=Z,17nm,1.3s,mb4.9						
LPAZ	**La Paz**	**86.07**	**250**	P	P	13 19 01.6	-1.0
	comp=Z,0.7nm,0.7s,mb4.0,baz=146,slow=3.1,SNR=2.7						
LPAZ				LR	LR	13 53 50.1	
	comp=Z,75nm,18.1s,MS4.1,baz=153,slow=33						
LPAZ	**La Paz**	**86.07**	**250**	*e*P	P	13 19 01.6	-1.1
	comp=Z,16nm,1.8s,mb5.0						
BR131	**Keskin Array S**	**86.22**	**0**	*e*P	P	13 19 03.8	+0.4
	comp=Z,1.6nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**86.22**	**0**	P	P	13 19 03.3	-0.1
	comp=Z,1.3nm,0.8s,mb4.2,baz=180,slow=11,SNR=8.2						
BRTR	**Keskin Array B**	**86.22**	**0**	P	P	13 19 03.3	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GNI	**Garni**	**87.21**	**9**	*i* P	P	13 19 09.7	+1.5
GNI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GNI				MLR	MLR		
	comp=Z,100nm,23.0s						
ESDC	**Sonseca Array**	**92.47**	**332**	P	P	13 19 33.3	+0.4
	comp=Z,0.2nm,0.3s,mb4.0,baz=152,slow=5.8,SNR=3.3						
ESDC	**Sonseca Array**	**92.47**	**332**	P	P	13 19 33.3	+0.4
PMG	**Port Moresby**	**98.75**	**114**	*i* P	P	13 19 53.8	-7.7
SONM	**Songino Array**	**113.63**	**45**	PP	PP	13 25 49.3	-2.9
	comp=Z,0.5nm,1.0s,baz=207,slow=5.0,SNR=3.9						
BOD	**Bodaibo**	**123.59**	**39**	*e*PKIKP	PKPdf	13 25 17.4	-2.0
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s						
RES	**Resolute Bay**	**144.59**	**339**	*e*PKIKP	PKPdf	13 25 56.1	-2.4
ULM	**Lac du Bonnet**	**146.93**	**295**	PKPbc	PKPbc	13 26 01.9	-2.4
	comp=Z,4.4nm,0.9s,baz=30,slow=3.7,SNR=5.0						
ANMO	**Albuquerque**	**147.90**	**263**	*c i* PKP2	PKPab	13 26 07.2	-2.4
BILL	**Bilibino**	**148.10**	**32**	*e*PKP2	PKPab	13 26 07.6	-2.8
PV01	**Paradox Valley**	**151.03**	**266**	*e*PKPbc	PKPbc	13 26 15.4	+0.6
WUAZ	**Wupatki**	**151.55**	**259**	*e*PKPdf	PKPdf	13 26 10.8	+1.0
WUAZ				*e*PKPbc	PKPbc	13 26 15.8	-0.3
WUAZ				*e*PKPab	PKPab	13 26 22.8	-1.7
LAO	**LASA Array**	**152.71**	**284**	*e*PKPbc	PKPbc	13 26 17.3	-1.3
LAO				*e*PKPab	PKPab	13 26 28.3	-1.1
PDAR	**Pinedale Array**	**153.72**	**275**	PKPbc	PKPbc	13 26 18.2	-2.7
	comp=Z,1.6nm,1.1s,baz=113,slow=3.4,SNR=8.1						
QLMT	**Earthquake Lak**	**155.69**	**278**	*e*PKPdif		13 26 22.9	
QLMT				*e*PKPab	PKPab	13 26 41.0	-1.0
YKA	**Yellowknife Ar**	**156.24**	**323**	PKP	PKPdf	13 26 14.6	-1.9
	comp=Z,0.7nm,1.0s,baz=38,slow=1.4,SNR=7.4						
YKA				PKPab	PKPab	13 26 43.3	-1.1
	comp=Z,0.4nm,0.6s,baz=53,slow=2.9,SNR=8.7						
YKA				PP	PP	13 30 08.4	-13
	comp=Z,0.6nm,1.2s,baz=70,slow=8.2,SNR=4.0						
NVAR	**Mina Array Bea**	**157.79**	**258**	PKP	PKPdf	13 26 16.3	-2.2
	comp=Z,0.1nm,0.6s,baz=97,slow=3.1,SNR=2.3						
NVAR				PKPab	PKPab	13 26 50.8	-0.3
	comp=Z,1.0nm,0.9s,baz=150,slow=4.2,SNR=5.1						
ILAR	**Eielson Array**	**162.06**	**1**	PKP	PKPdf	13 26 20.8	-2.5
	comp=Z,0.5nm,1.1s,baz=240,slow=0.7,SNR=3.6						
ILAR				PKPab	PKPab	13 27 08.2	-1.4
	comp=Z,0.6nm,0.8s,baz=336,slow=4.3,SNR=7.3						
ILAR	**Eielson Array**	**162.06**	**1**	PKIKP	PKPdf	13 26 20.8	-2.5
ILAR						13 27 08.3	
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 23 13:30:33.0±10.0, 6221S×17824W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.7/9, mbtmp3.5/2, Error ellipse: s-maj=595.8km s-min=66.8km az=49.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.13**	**298**	P	P	13 39 29.7	-0.3
	0.4nm,0.8s,baz=154,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**53.28**	**300**	P	P	13 39 53.4	-0.1
	0.5nm,0.7s,baz=155,slow=6.9,SNR=5.8						
BRTR	**Keskin Array B**	**150.37**	**235**	PKPbc	PKPbc	13 50 25.0	-1.3
	0.3nm,0.4s,baz=155,slow=4.1,SNR=3.5						

ISCJB ***23*** *14:20:00.6±1.1, 3675N±006×713E±0.1, h33km, Error ellipse: s-maj=17.6km s-min=6.3km az=134.7*

NNC ***23*** *14:20:14.4±4.5, 3795N×7119E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=57.6km s-min=34.0km az=72.0*

ISC 23 14:20:02.1±1.1, 3669N±007×712E±01, h35km, n20, σ1§10/22, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**19**	P	Pn	14 21 26.0	+0.9
	SNR=108						
UCH	**Uchtor**	**6.08**	**24**	P	Pn	14 21 29.9	+0.4
	SNR=42						
KZA	**Kyzart**	**6.21**	**29**	P	Pn	14 21 30.7	-0.7
	SNR=8.0						
EKS2	**Erkin-Say**	**6.28**	**17**	P	Pn	14 21 32.7	+0.5
	SNR=31						
KK31	**Karatay Array**	**6.43**	**355**	⇑Pn	Pn	14 21 36.9	+2.6
	0.6nm,0.3s,baz=161,slow=10,SNR=31						
KK31				⇑Sn	Sn	14 22 40.0	-6.4
	19nm,0.6s,baz=174,slow=21,SNR=22						
AAK	**Ala-Archa**	**6.45**	**22**	P	Pn	14 21 34.8	+0.3
	SNR=39						
KBK	**Karagaybulak**	**6.61**	**25**	P	Pn	14 21 37.1	+0.3
	SNR=13						
ULHL	**Ulahol**	**6.77**	**33**	P	Pn	14 21 37.4	-1.5
	SNR=12						
CHMS	**Chumysh**	**6.86**	**22**	P	Pn	14 21 40.1	-0.1
	SNR=6.1						
TKM2	**Tokmak 2**	**7.07**	**27**	P	Pn	14 21 42.6	-0.5
	SNR=14						
TKM2	**Tokmak 2**	**7.07**	**27**	⇓Pn	Pn	14 21 42.3	-0.8
	19nm,1.1s						
KOLN	**Koldanda**	**13.73**	**127**	*e*P	Pn	14 23 16.8	+2.6
GKN	**Gorkha**	**14.25**	**124**	*e*P	Pn	14 23 22.6	+1.2
	8.6nm,0.3s						
KKN	**Kakani**	**14.82**	**123**	*e*P	Pn	14 23 29.1	0.0
	2.8nm,0.2s						
DMN	**Daman**	**14.82**	**124**	*e*P	Pn	14 23 29.4	+0.2
	7.5nm,0.3s						
AB31	**Akbulak array**	**15.01**	**330**	⇑Pn	Pn	14 23 32.3	+0.7
	0.8nm,0.5s,baz=136,slow=11,SNR=19						
AB31				⇑Sn	Sn	14 26 04.7	-12
	0.7nm,0.5s,baz=149,slow=22,SNR=5.5						
PKI	**Pulchoki**	**15.05**	**123**	*e*P	Pn	14 23 31.0	-1.1
GUN	**Gumba**	**15.16**	**121**	*e*P	Pn	14 23 33.1	-0.4
	5.0nm,0.3s						
JIRN	**Jiri**	**15.53**	**121**	*e*P	Pn	14 23 36.9	-1.4
	11nm,0.4s						
AKTO	**Aktyubinsk**	**16.71**	**329**	⇑Pn	Pn	14 23 51.5	-2.0
	0.4nm,0.4s						

NEIC 23 14:26:29.2, 6222N×14565W, h18km, ML2.7(AEIC), ML3.1(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.76**	**6**	P	Pb	14 26 42.7	-1.2
PAX				S	Sb	14 26 52.8	-1.1
DIV	**Divide**	**1.09**	**183**	P	Pb	14 26 47.6	-1.9
MENT	**Mentasta**	**1.15**	**50**	P	Pn	14 26 49.3	-1.1
MENT				S	Sb	14 27 04.8	-0.3
SML	**Sawmill**	**1.33**	**253**	P	Pn	14 26 50.2	-2.6
BMRM	**Bremner River**	**1.35**	**158**	P	Pn	14 26 51.0	-2.1
GHO	**Glory Hole Cre**	**1.61**	**255**	P	Pn	14 26 56.0	-0.7
EYAK	**Cordova Ski Ar**	**1.67**	**182**	P	Pn	14 26 56.2	-1.4
PMR	**Palmer**	**1.76**	**251**	P	Pn	14 26 57.6	-1.2
MCK	**McKinley**	**2.14**	**317**	*e*Pn	Pn	14 27 06.2	+2.2
FIB	**Fire Island**	**2.40**	**246**	*e*Pn	Pn	14 27 10.0	+2.5
FIB				*e*Sn	Sn	14 27 41.2	+4.8
SLKM	**Skilak Lake**	**2.79**	**234**	*e*Pn	Pn	14 27 15.2	+2.3
COLA	**College**	**2.84**	**341**	*e*Pn	Pn	14 27 19.9	+6.2
DAWY	**Dawson**	**3.39**	**54**	*e*Pn	Pn	14 27 21.3	+0.1
SVW2	**Sparrevohn**	**4.87**	**261**	*e*P	Pn	14 27 41.7	+0.2

IDC 23 14:26:37.0±7.2, 480S×14441E, h105km±77km, mb3.2/3, mb1 3.4/5, mb1mx3.2/13, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=54.8km s-min=30.3km az=142.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**149**	P	Pn	14 27 54.6	+0.4
	0.6nm,0.3s,baz=302,slow=9.5,SNR=3.1						
PMG				S	Sn	14 28 54.9	+0.5
	1.1nm,0.3s,baz=315,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**17.96**	**212**	P	Pn	14 30 39.0	-0.9
	0.2nm,0.3s,baz=34,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.32**	**207**	P	P	14 31 15.8	+0.5
	0.7nm,0.6s,baz=34,slow=12,SNR=18						
MKAR	**Makanchi Array**	**74.94**	**321**	P	P	14 38 06.8	+0.3
	0.2nm,0.4s,baz=108,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**85.41**	**24**	P	P	14 39 02.4	-0.3
	0.7nm,0.7s,baz=253,slow=5.1,SNR=9.3						

IDC ***23*** *14:35:04.7±4.1, 402S×13870E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/10, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=152.6km s-min=17.1km az=92.0*

ISCJB ***23*** *14:35:07.4±3.5, 41S±01×1395E±02, h57km±38km, mb3.9/2, Error ellipse: s-maj=34.1km s-min=14.5km az=44.3*

NEIC ***23*** *14:35:12.1±3.1, 429S×13952E, h92km±33km, mb4.9/3, Error ellipse: s-maj=30.7km s-min=17.5km az=131.0*

ISC 23 14:35:07.5±5.0, 411S±010×1393E±02, h25km±42km, n9, σ1§17/12, mb3.9/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.42**	**124**	Pn	Pn	14 37 21.0	-0.6
	22nm,1.0s						
WRAB	**Tennant Creek**	**16.45**	**197**	*e*Pn	Pn	14 38 56.4	-0.1
	7.6nm,0.8s						
WRAB				*e*Sn	Sn	14 41 57.6	-0.7
WB2	**Warramunga Arr**	**16.46**	**197**	*e*P	Pn	14 38 56.3	-0.3
WRA	**Warramunga Arr**	**16.46**	**197**	Pn	Pn	14 38 55.9	-0.8
	0.2nm,0.3s,baz=20,slow=13,SNR=10						
WRA				Sn	Sn	14 41 57.5	-1.1
	0.1nm,0.3s,baz=15,slow=22,SNR=3.1					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.01 192**		PN	**Pn**	**15 02 06.2**	**+1.8**
MXZ				SN	**S**	**15 03 21.5**	**+6.1**
MXZ	**Matakaoa Point**	**6.01 192**		P	**Pn**	**15 02 06.2**	**+1.8**
MXZ				S	**S**	**15 03 21.5**	**+6.1**
MWZ	**Matawai**	**6.91 196**		PN	**Pn**	**15 02 16.8**	**+1.2**
MWZ				SN	**S**	**15 03 40.5**	**+4.7**
MWZ	**Matawai**	**6.91 196**		*e*P	**Pn**	**15 02 16.8**	**+1.2**
URZ	**Urewera**	**6.95 198**		P	**Pn**	**15 02 17.2**	**+1.2**
	1.1nm,0.3s,baz=330,slow=4.5,SNR=22						
URZ				S	**S**	**15 03 44.9**	**+8.3**
	5.9nm,0.3s,baz=256,slow=22,SNR=21						
URZ	**Urewera**	**6.95 198**		PN	**Pn**	**15 02 17.1**	**+1.1**
URZ				SN	**S**	**15 03 42.4**	**+5.8**
URZ	**Urewera**	**6.95 198**		*e*P	**Pn**	**15 02 17.1**	**+1.1**
BKZ	**Black Stump Fm**	**7.96 199**		PN	**Pn**	**15 02 29.3**	**+0.6**
BKZ	**Black Stump Fm**	**7.96 199**		*e*P	**Pn**	**15 02 29.3**	**+0.6**
PXZ	**Pawanui**	**8.68 196**		*e*PN	**Pn**	**15 02 36.3**	**-1.4**
TSZ	**Takapari Road**	**8.94 200**		PN	**Pn**	**15 02 40.1**	**-0.9**
TSZ	**Takapari Road**	**8.94 200**		*e*P	**Pn**	**15 02 41.8**	**+0.8**
BFZ	**Birch Farm**	**9.45 197**		*e*PN	**Pn**	**15 02 46.7**	**-0.6**
BFZ				SN	**S**	**15 04 35.4**	**+1.4**
BFZ	**Birch Farm**	**9.45 197**		*e*P	**Pn**	**15 02 46.8**	**-0.5**
MRZ	**Mangatainoka R**	**9.61 200**		PN	**Pn**	**15 02 48.0**	**-1.3**
MRZ				*e*SN	**S**	**15 04 37.2**	**-0.6**
MRZ	**Mangatainoka R**	**9.61 200**		*e*P	**Pn**	**15 02 48.0**	**-1.3**
KIW	**Kapiti Island**	**10.00 202**		*e*PN	**Pn**	**15 02 52.8**	**-1.4**
KIW				*e*SN	**S**	**15 04 47.7**	**+0.9**
KIW	**Kapiti Island**	**10.00 202**		P	**Pn**	**15 02 53.8**	**-0.4**
MTW	**Mount Morrison**	**10.09 199**		P	**Pn**	**15 02 53.8**	**-1.6**
CAW	**Cannon Point**	**10.17 201**		P	**Pn**	**15 02 55.0**	**-1.4**
TCW	**Tory Channel**	**10.53 204**		*e*PN	**Pn**	**15 02 59.2**	**-1.6**
TCW				*e*SN	**S**	**15 04 58.7**	**-0.2**
TCW	**Tory Channel**	**10.53 204**		P	**Pn**	**15 03 00.2**	**-0.6**
NNZ	**Nelson**	**10.86 207**		*e*SN	**S**	**15 05 08.9**	**+2.4**
THZ	**Tophouse**	**11.51 207**		*e*PN	**Pn**	**15 03 13.5**	**+0.5**
THZ				*e*SN	**S**	**15 05 23.1**	**+1.6**
THZ	**Tophouse**	**11.51 207**		*e*P	**Pn**	**15 03 13.6**	**+0.6**
KHZ	**Kahutara**	**11.85 204**		*e*PN	**Pn**	**15 03 16.8**	**-0.4**
KHZ				*e*SN	**S**	**15 05 28.7**	**-0.5**
KHZ	**Kahutara**	**11.85 204**		*e*P	**Pn**	**15 03 16.8**	**-0.4**
LTZ	**Lake Taylor**	**12.63 207**		*e*PN	**Pn**	**15 03 26.3**	**-0.4**
LTZ				*e*SN	**S**	**15 05 45.0**	**-2.0**
LTZ	**Lake Taylor**	**12.63 207**		*e*P	**Pn**	**15 03 26.4**	**-0.3**
MQZ	**McQueen's Vall**	**13.29 203**		*e*SN	**S**	**15 05 59.1**	**-3.1**
STKA	**Stephens Creek**	**32.45 259**		P	**P**	**15 06 41.2**	**-0.1**
	1.7nm,1.0s,mb3.5,baz=98,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**32.45 259**		P	**P**	**15 06 41.2**	**-0.1**
ASAR	**Alice Springs**	**41.26 269**		P	**P**	**15 07 56.1**	**+0.9**
	0.5nm,0.7s,mb2.9,baz=106,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**42.37 275**		P	**P**	**15 08 04.2**	**0.0**
	0.4nm,0.5s,mb2.9,baz=112,slow=7.9,SNR=5.1						
SBA	**Scott Base**	**46.63 184**		P	**P**	**15 08 46.2**	**+8.4**
	26nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**58.43 180**		P	**P**	**15 10 05.3**	**+1.4**
	2.1nm,0.9s,mb3.6						
KAF	**Kangasniemi**	**145.12 339**		*e*p	PKPdf	15 19 34.8	-6.7
	1.3nm,0.6s						
FINES	**FINESS Array B**	**145.69 338**		PKP	PKPdf	15 19 37.5	-5.0
	1.3nm,0.4s,baz=57,slow=5.1,SNR=30						
FINES	**FINESS Array B**	**145.69 338**		PKP	PKPdf	15 19 37.5	-5.0
NB2	**NORSAR Subarra**	**149.71 349**		PKPa	PKPbc	15 19 53.8	-0.2
	comp=Z,1.1nm,0.7s,baz=20,slow=2.5						
NOA	**NORSAR Array B**	**149.71 349**		PKPbc	PKPbc	15 19 53.7	-0.4
	comp=Z,0.9nm,0.7s,baz=21,slow=2.8,SNR=3.8						
NOA	**NORSAR Array B**	**149.71 349**		PKPbc	PKPbc	15 19 53.7	-0.4
HFS	**Hagfors**	**150.10 346**		PKP	PKPdf	15 19 49.2	-0.5
	comp=Z,2.3nm,0.9s,baz=44,slow=4.4,SNR=4.3						
HFS				PKPbc	PKPbc	15 19 54.6	-0.3
	comp=Z,1.9nm,0.9s,baz=26,slow=3.7,SNR=4.8						
AKASG	**Malin Array Be**	**151.17 320**		PKPbc	PKPbc	15 19 58.2	+0.7
	comp=Z,0.3nm,0.3s,baz=65,slow=0.8,SNR=6.0						

*IDC **23** 15:11:22.5±1.6, 7.44S×126.96E, h0km, mb3.4/2, mb1 4.0/4, mb1mx3.9/13, mbtmp3.8/4, ML4.2/2, Error ellipse: s-maj=165.2km s-min=28.9km az=65.0*
*ISCJB **23** 15:11:24.9±0.8, 7.1S±0.1×127.8E±0.3, h33km, mb3.7/3, Error ellipse: s-maj=38.7km s-min=10.3km az=137.6*
*NEIC **23** 15:11:27.1±0.7, 7.10S×127.90E, h35km, mb4.1/1, Error ellipse: s-maj=30.9km s-min=8.4km az=69.0*

ISC 23 15:11:27.3±0.8, 71S±01×1279E±0.3, h35km, n11, σ0°58/10, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.16 191**		*e*P	**Pn**	**15 14 04.3**	**0.0**
	2.1nm,0.2s						
FITZ				*e*S	Sx	15 15 53.7	
WRAB	**Tennant Creek**	**14.22 154**		*e*Pn	**Pn**	**15 14 46.2**	**+0.1**
	7.2nm,0.5s						
WRAB				*e*Sn	Sx	15 17 09.1	
WRA	**Warramunga Arr**	**14.22 155**		Pn	**Pn**	**15 14 45.9**	**-0.3**
	1.3nm,0.3s,baz=324,slow=14,SNR=33						
WRA				Sn	Sx	15 17 11.3	
	1.8nm,0.3s,baz=331,slow=22,SNR=12						
WB2	**Warramunga Arr**	**14.23 154**		*e*P	**Pn**	**15 14 45.3**	**-0.9**
WB2				*e*S	Sx	15 17 09.2	
AS31	**Alice Springs**	**17.46 161**		*e*P	**Pn**	**15 15 28.4**	**+0.4**
AS31				*e*S	Sx	15 18 27.8	
ASAR	**Alice Springs**	**17.46 161**		P	**Pn**	**15 15 28.4**	**+0.3**
	0.7nm,0.3s,baz=340,slow=12,SNR=82						
ASAR				S	Sx	15 18 29.4	
	0.5nm,0.3s,baz=331,slow=23,SNR=8.5						
ASPA	**Alice Springs**	**17.46 161**		*e*P	**Pn**	**15 15 28.4**	**+0.4**
ASPA				*e*S	Sx	15 18 27.8	
STKA	**Stephens Creek**	**27.78 154**		*e*P	Px	15 17 42.9	
	1.1nm,0.5s						
SONM	**Songino Array**	**57.89 343**		P	**P**	**15 21 16.8**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=171,slow=6.9,SNR=3.8						
MKAR	**Makanchi Array**	**67.17 328**		P	**P**	**15 22 17.1**	**-0.6**
	0.2nm,0.4s,mb3.5,baz=123,slow=7.7,SNR=9.8						
KURK	**Kurchatov**	**71.52 329**		*e*P	**P**	**15 22 43.9**	**-0.7**
	1.3nm,0.7s,mb4.0						

IDC 23 15:21:00.7±2.1, 360N×9889E, h130km±69km, mb2.9/3, mb1 3.1/3, mb1mx2.9/19, mbtmp3.3/3, Error ellipse: s-maj=280.1km s-min=20.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.79 178**		P	Pn	15 21 23.4	+1.6
	26nm,0.3s,baz=318,slow=6.9,SNR=107						
PSI				S	Sn	15 21 40.2	+2.4
	2.2nm,0.3s,baz=156,slow=23,SNR=11						
WRA	**Warramunga Arr**	**41.95 125**		P	P	15 28 39.1	+0.5
	0.4nm,0.6s,baz=304,slow=9.5,SNR=9.7						
ASAR	**Alice Springs**	**43.56 130**		P	P	15 28 51.8	+0.2
	0.3nm,0.9s,baz=306,slow=8.0,SNR=6.2						
MKAR	**Makanchi Array**	**45.37 344**		P	P	15 29 05.8	-0.2
	0.3nm,0.4s,baz=149,slow=9.1,SNR=12						

*NEIC **23** 15:38:46.8, 35.91S×178.27E, h12km, ML3.9(WEL), After WEL.*

WEL 23 15:38:45.6±1.0, 35.83S×178.18E, h12km, ML3.8/16, Error ellipse: s-maj=11.8km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.73 177**		P*	Pb	15 39 14.0	-3.3
MXZ				S*	Sb	15 39 34.3	-4.7
MXZ	**Matakaoa Point**	**1.73 177**		*e*P	Pn	15 39 14.0	-1.5
MXZ				S	Sn	15 39 34.3	-3.2
PUZ	**Puketiti**	**2.24 178**		PN	Pn	15 39 21.7	-0.7
PUZ				SN	Sn	15 39 46.2	-3.8
PUZ	**Puketiti**	**2.24 178**		P	Pn	15 39 21.7	-0.8
PUZ				S	Sn	15 39 47.0	-3.0
MWZ	**Matawai**	**2.56 192**		P*	Pb	15 39 26.2	-5.1
MWZ				S*	Sb	15 39 55.2	-7.5
MWZ	**Matawai**	**2.56 192**		*e*P	Pn	15 39 26.4	-0.4
URZ	**Urewera**	**2.57 199**		P*	Pb	15 39 26.6	-5.0
URZ				S*	Sb	15 39 56.7	-6.5
URZ	**Urewera**	**2.57 199**		P	Pn	15 39 26.8	-0.2
KNZ	**Kokohu**	**3.21 187**		PN	Pn	15 39 33.8	-2.1
BKZ	**Black Stump Fm**	**3.59 201**		P*	Pb	15 39 38.9	-10
BKZ	**Black Stump Fm**	**3.59 201**		*e*P	Pn	15 39 39.7	-1.3
MOVZ	**Moawhango**	**4.06 208**		*e*P*	Pb	15 39 47.0	-10
MOVZ	**Moawhango**	**4.06 208**		P	Pn	15 39 47.5	0.0
PXZ	**Pawanui**	**4.32 194**		PN	Pn	15 39 46.6	-4.5
PXZ				*e*SN	Sn	15 40 32.4	-9.0
TSZ	**Takapari Road**	**4.57 202**		*e*PN	Pn	15 39 50.5	-4.0
TSZ	**Takapari Road**	**4.57 202**		*e*P	Pn	15 39 52.8	-1.7
BFZ	**Birch Farm**	**5.08 197**		*e*PN	Pn	15 39 56.8	-4.7
BFZ	**Birch Farm**	**5.08 197**		P	Pn	15 39 57.0	-4.5
MRZ	**Mangatainoka R**	**5.24 202**		PN	Pn	15 39 58.4	-5.3
MRZ				*e*SN	Sn	15 40 54.6	-10
KIW	**Kapiti Island**	**5.64 206**		PN	Pn	15 40 04.3	-4.9
CAW	**Cannon Point**	**5.81 204**		*e*PN	Pn	15 40 06.4	-5.1
CAW	**Cannon Point**	**5.81 204**		P	Pn	15 40 06.8	-4.7
TUWZ	**Tuamarina**	**6.50 209**		*e*PN	Pn	15 40 15.8	-5.2
NNZ	**Nelson**	**6.56 214**		*e*PN	Pn	15 40 17.3	-4.6
THZ	**Tophouse**	**7.21 213**		*e*PN	Pn	15 40 26.1	-4.7
THZ	**Tophouse**	**7.21 213**		*e*P	Pn	15 40 26.5	-4.3
MQZ	**McQueen's Vall**	**8.94 207**		*e*SN	Sn	15 42 18.4	-17

NNC 23 15:48:35.1±5.6, 3494N×6934E, h50km±999km, mb3.5, mpv3.3, 2C-2D, Error ellipse: s-maj=668.0km s-min=104.0km az=1.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.21**	**6**	⇓Pn	Pn	15 50 32.4	+0.9
	0.5nm,0.3s,baz=200,slow=14,SNR=18						
KK31				⇓Sn	Sn	15 52 05.5	+2.7
	1.8nm,0.7s,baz=194,slow=23,SNR=4.1						
MK31	**Makanchi Array**	**15.35**	**36**	⇑P	Pn	15 52 08.0	-0.3
	4.7nm,1.8s,baz=205,slow=9.0,SNR=4.7						
AB31	**Akbulak array**	**15.90**	**337**	⇑P	Pn	15 52 15.8	+0.4
	0.3nm,0.5s,baz=162,slow=13,SNR=8.2						

*BJI **23** 15:52:08.1, 598S×131.50E, h35km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*IDC **23** 15:52:08.3±0.6, 526S×131.52E, h0km, mb4.6/11, mb1 4.8/13, mb1mx4.7/16, mbtmp4.7/13, ML4.4/2, MS3.8/10, Ms1 3.8/10, ms1mx3.6/15, Error ellipse: s-maj=25.1km s-min=15.0km az=72.0*
*MOS **23** 15:52:09.2±0.8, 528S×131.45E, h18km, mb4.9/26, MS3.8/6, Error ellipse: s-maj=14.8km s-min=7.8km az=117.4*
*NEIC **23** 15:52:10.7±0.3, 537S×131.59E, h20km, mb5.0/28, Error ellipse: s-maj=11.7km s-min=5.8km az=71.0*
*ISCJB **23** 15:52:10.1±1.5, 554S±003×131.51E±007, h29km±10km, mb4.8/54, MS4.0/15, Error ellipse: s-maj=12.1km s-min=4.9km az=147.4*
*HRVD **23** 15:52:10.7±0.4, 530S×131.59E, h37km±2km, MW4.8/52, Centroid moment Tensor Solution. LP body waves: s15,c19; Mantle waves: s52,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.06±.23; $M_{\theta\theta}$-0.54±.13; $M_{\phi\phi}$1.60±.15; $M_{r\theta}$0.50±.12; $M_{\theta\phi}$1.48±.11; $M_{\phi r}$-1.09±.15; Best double couple: $M_0$2.35300×10^{16} NP1:ϕ_s245.00000°, δ51.00000°, λ-25.00000°. NP2: ϕ_s351.00000°, δ71.00000°, λ-138.00000°. Principal axes: T 2.5210, Plg12.0000°, Azm114.0000°; N -0.3360, Plg44.0000°, Azm11.0000°; P -2.1840, Plg43.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 15:52:09.4±1.7, 537S±004×13171E±007, h10km±10km, h22km±3.8km: pP-P, n131, σ1°11/139, mb4.8/54, MS4.0/15, 1C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.05 104**		P	**Pb**	**15 52 36.4**	**+6.7**
	18μm,0.8s						
PCI	**Palu**	**12.66 290**		P	**Pn**	**15 55 12.2**	**+2.8**
	52nm,1.3s						
FITZ	**Fitzroy Crossi**	**13.97 205**		*e*P	**Pn**	**15 55 25.5**	**-1.9**
	79nm,0.4s						
FITZ				*e*S	**Sn**	**15 57 53.4**	**-9.1**
WRAB	**Tennant Creek**	**14.70 170**		*e*P	**Pn**	**15 55 36.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,192nm,1.2s						
WRAB	**Tennant Creek**	**14.70 170**		*e*Pn	**Pn**	**15 55 36.1**	**-1.2**
	comp=Z,192nm,1.2s						
WRAB				*e*Sn	**Sn**	**15 58 04.0**	**-16**
WRA	**Warramunga Arr**	**14.71 170**		Pn	**Pn**	**15 55 35.9**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=354,slow=12,SNR=94						
WRA				Sn	**Sn**	**15 58 11.1**	**-9.3**
	comp=Z,11nm,0.3s,baz=356,slow=22,SNR=10						
WB2	**Warramunga Arr**	**14.71 170**		⇑*i*P	**Pn**	**15 55 36.6**	**-0.8**
WB2				*i* S	**Sn**	**15 58 10.7**	**-10**
PMG	**Port Moresby**	**15.83 106**		Pn	**Pn**	**15 55 54.7**	**+2.4**
	comp=Z,3.6nm,0.3s,baz=274,slow=10,SNR=18						
PMG	**Port Moresby**	**15.83 106**		*i* P	**Pn**	**15 55 57.0**	**+4.7**
PMG	**Port Moresby**	**15.83 106**		*e*P	**Pn**	**15 55 55.8**	**+3.5**
	comp=Z,264nm,1.4s						
AS31	**Alice Springs**	**18.31 174**		*e*P	**Pn**	**15 56 23.7**	**+0.3**
AS31				*e*S	**Sn**	**15 59 38.1**	**-10**
ASAR	**Alice Springs**	**18.31 174**		P	**Pn**	**15 56 23.8**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=354,slow=11,SNR=242						
ASAR				S	**Sn**	**15 59 38.4**	**-9.5**
	comp=Z,5.0nm,0.3s,baz=356,slow=25,SNR=10.0						
ASAR	**Alice Springs**	**18.31 174**		P	**Pn**	**15 56 23.8**	**+0.4**
ASAR				S	**Sn**	**15 59 38.4**	**-9.5**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAR				smax			
	comp=E,5.0nm,0.3s						
ASPA	**Alice Springs**	**18.31 174**		*e*P	**Pn**	**15 56 23.7**	**+0.3**
ASPA				*e*S	**Sn**	**15 59 38.1**	**-10**
KKM	**Kota Kinabalu**	**19.18 306**		*e*P	**Pn**	**15 56 32.8**	**-1.2**
MBWA	**Marble Bar**	**19.53 215**		*e*P	**Pn**	**15 56 38.7**	**+0.5**
	comp=E,88nm,0.6s						
CTA	**Charters Tower**	**20.35 137**		*e*P	**P**	**15 56 52.1**	**+6.3**
	comp=E,30nm,0.8s						
CTA				*e*S	**S**	**16 00 32.5**	**-1.3**
CTA	**Charters Tower**	**20.35 137**		P	**P**	**15 56 50.4**	**+4.5**
	comp=E,41nm,0.8s,baz=318,slow=13,SNR=19						
CTA				S	**S**	**16 00 31.6**	**-2.2**
CTA	**Charters Tower**	**20.35 137**		P	**P**	**15 56 50.4**	**+4.6**
CTA				S	**S**	**16 00 31.6**	**-2.2**
CTA				pmax	pmax		
	comp=Z,41nm,0.8s						
CTAO	**Charters Tower**	**20.35 137**		*e*P	**P**	**15 56 51.0**	**+5.1**
	comp=Z,62nm,0.9s						
KSM	**Kuching**	**22.43 287**		*e*P	**P**	**15 57 09.4**	**+1.1**
STKA	**Stephens Creek**	**27.95 162**		*e*P	**P**	**15 58 00.7**	**+0.8**
	comp=Z,12nm,1.1s,mb4.5						
STKA				*e*S	S	16 03 17.8	+34
STKA	**Stephens Creek**	**27.95 162**		P	**P**	**15 58 00.9**	**+1.0**
	comp=Z,15nm,1.1s,mb4.6,baz=342,slow=7.3,SNR=15						
STKA				LR	LR	16 10 41.9	
	comp=Z,296nm,18.1s,MS3.9,baz=202,slow=40						
KLBR	**Kellerberrin**	**29.18 205**		⇓*i*P	**P**	**15 58 12.6**	**+1.7**
	comp=Z,42nm,0.6s,mb5.3						
MUN	**Mundaring**	**30.19 207**		*e*P	**P**	**15 58 20.7**	**+0.9**
NWAO	**Narrogin (SRO)**	**30.56 204**		P	**P**	**15 58 24.8**	**+1.7**
	comp=Z,44nm,1.1s,mb5.2,baz=19,slow=10,SNR=15						
NWAO				LR	LR	16 12 44.6	
	comp=Z,119nm,19.8s,MS3.5,baz=7.0,slow=40						
NWAO	**Narrogin (SRO)**	**30.56 204**		P	**P**	**15 58 24.8**	**+1.7**
NWAO				pmax	pmax		
	comp=Z,44nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,119nm,19.8s						
NWAO	**Narrogin (SRO)**	**30.56 204**		*e*P	**P**	**15 58 24.6**	**+1.6**
	comp=Z,24nm,0.9s,mb5.0						
YHNB	**Yeheng**	**31.51 342**		P	**P**	**15 58 30.6**	**-0.8**
QIZ	**Qiongzhong**	**32.44 319**		P	**P**	**15 58 37.8**	**-1.8**
	comp=Z,13nm,0.9s,mb4.8						
KULM	**Kulim**	**32.78 288**		*e*P	**P**	**15 58 40.4**	**-2.2**
PSI	**Prapat**	**33.74 283**		P	**P**	**15 58 48.4**	**-2.6**
	comp=Z,3.4nm,0.5s,mb4.5,baz=141,slow=6.5,SNR=4.7						
PSI	**Prapat**	**33.74 283**		P	**P**	**15 58 48.4**	**-2.6**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SSE	**Sheshan**	**37.63 345**		P	**P**	**15 59 25.6**	**+1.2**
SSE				AP	pP	15 59 31.8	+4.2
SSE				S	**S**	**16 05 15.9**	**+1.9**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,134nm,4.7s						
NJ2	**Nanjing**	**39.18 343**		*e*P	**P**	**15 59 38.4**	**+1.0**
NJ2				AP	pP	15 59 48.1	+7.5
NJ2				XP	sP	15 59 52.8	+11
NJ2				PP	PP	16 01 13.4	+6.2
NJ2				S	**S**	**16 05 38.0**	**+0.6**
NJ2				XS	sS	16 05 54.0	+11
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,400nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,22.3s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,21.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,13.0s						
GYA	**Guiyang**	**39.88 324**		P	**P**	**15 59 44.3**	**+1.1**
GYA				AP	pP	15 59 49.4	+3.0
GYA				PP	PP	16 01 20.6	+5.8
GYA				PCP	PcP	16 01 50.8	+1.9
GYA				S	**S**	**16 05 47.8**	**-0.1**
GYA				SCS	ScS	16 09 49.3	-1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,3.0s						
GYA				LR	LR		
	comp=N,540nm,17.8s,MS4.6						
GYA				LR	LR		
	comp=E,460nm,17.6s,MS4.6						
ENH	**Enshi**	**41.35 330**		P	**P**	**15 59 59.1**	**+3.8**
	comp=E,20nm,0.9s,mb4.8						
ENH			*e*			16 00 12.1	
MJAR	**Matsushiro Arr**	**42.14**	**8**	P	**P**	**16 00 00.9**	**-1.0**
	comp=E,1.4nm,0.7s,mb3.7,baz=190,slow=7.3,SNR=3.9						
MJAR				LR	LR	16 15 11.3	
	comp=E,200nm,21.1s,MS4.0,baz=185,slow=33						
XAN	**Xi'an**	**44.73 333**		P	**P**	**16 00 22.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.4						
CD2	**Chengdu**	**44.90 325**		P	**P**	**16 00 24.3**	**+0.2**
BJT	**Baijiatuau**	**47.38 344**		P	**P**	**16 00 42.1**	**-1.6**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BJT	**Baijiatuau**	**47.38 344**		P	**P**	**16 00 42.1**	**-1.6**
	comp=Z,7.5nm,0.4s,mb5.0						
LZH	**Lanzhou**	**48.82 330**		*e*P	**P**	**16 00 56.8**	**+2.0**
LZH				AP	pP	16 01 01.1	+3.0
LZH				PP	PP	16 02 49.5	+1.5
LZH				*e*S	**S**	**16 07 59.0**	**+1.1**
LZH				SS	SS	16 11 25.0	-3.4
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,52nm,4.0s						
LZH				LR	LR		
	comp=E,478nm,15.0s						
LZH				LR	LR		
	comp=Z,690nm,16.0s,MS4.7						
CN2	**Changchun**	**49.27 354**		*e*P	**P**	**16 01 02.3**	**+4.1**
HHC	**Hu-ho-hao-te**	**49.57 340**		*e*P	**P**	**16 01 00.9**	**+0.4**
HHC				PCP	PcP	16 02 20.9	-1.3
HHC				PP	PP	16 02 59.1	+4.3
HHC				SCP	ScP	16 06 16.1	-1.5
HHC				S	**S**	**16 08 07.3**	**-1.2**
HHC				SCS	ScS	16 10 49.5	-2.9
HHC				SS	SS	16 11 34.9	-5.6
HHC				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,144nm,6.0s						
HHC				LR	LR		
	comp=N,118nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=E,124nm,16.7s,MS4.1						
HHC				LR	LR		
	comp=Z,92nm,16.7s,MS3.9						
MDJ	**Mudanjiang**	**49.80 358**		P	**P**	**16 01 04.8**	**+2.5**
MDJ				PP	PP	16 02 59.6	+2.7
MDJ				PCS	PcS	16 06 21.8	+2.0
MDJ				S	**S**	**16 08 15.8**	**+4.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,100nm,3.6s						
MDJ				LR	LR		
	comp=Z,52nm,22.5s,MS3.5						
MDJ	**Mudanjiang**	**49.80 358**		P	**P**	**16 01 01.0**	**-1.3**
	comp=Z,13nm,1.0s,mb4.9						
LSA	**Lhasa**	**52.24 314**		P	**P**	**16 01 21.0**	**+0.3**
LSA	**Lhasa**	**52.24 314**		*e*P	**P**	**16 01 21.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**52.24 314**		*e*P	**P**	**16 01 21.3**	**+0.6**
	comp=Z,7.4nm,0.6s,mb4.8						
GTA	**Gaotai**	**53.41 329**		P	**P**	**16 01 29.8**	**+0.5**
GTA				PCP	PcP	16 02 37.6	+1.2
GTA				PP	PP	16 03 29.5	-0.1
GTA				PPP		16 04 41.0	
GTA				SCP	ScP	16 06 31.6	-2.6
GTA				PCS	PcS	16 06 33.5	-1.9
GTA				S	**S**	**16 09 01.4**	**0.0**
GTA				SCS	ScS	16 11 16.6	-2.3
GTA				SS	SS	16 12 43.5	+2.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.3						
GTA				AMB	AMB		
	comp=Z,110nm,7.2s						
GTA				LR	LR		
	comp=N,115nm,8.0s						
GTA				LR	LR		
	comp=E,55nm,12.2s						
GTA				LR	LR		
	comp=Z,99nm,11.8s,MS4.1						
JIRN	**Ji

comp=Z,3.0nm,2.0s,mb4.0
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
YAK Yakutsk 67.23 359 *e*P **P 16 03 03.5 -0.3**
YAK pmax pmax
comp=Z,21nm,0.9s,mb5.2
YAK Yakutsk 67.23 359 *e*P **P 16 03 03.5 -0.4**
comp=Z,21nm,0.9s,mb5.2
MK31 Makanchi Array 67.83 326 *i*P **P 16 03 07.6 0.0**
MK31 pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
MKAR Makanchi Array 67.83 326 P **P 16 03 07.9 +0.3**
comp=Z,11nm,0.8s,mb5.0,baz=122,slow=8.0,SNR=122
MKAR LR LR 16 33 08.7
comp=Z,40nm,19.2s,MS3.7,baz=249,slow=36
MKAR Makanchi Array 67.83 326 P **P 16 03 07.9 +0.3**
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR MLR MLR
comp=Z,40nm,19.2s
KZA Kyzart 69.67 319 P **P 16 03 20.6 +1.5**
SNR=11
TKM2 Tokmak 2 69.84 319 P **P 16 03 21.0 +0.8**
SNR=11
SEY Seymchan 69.91 10 *i*P **P 16 03 21.6 +1.0**
UCH Uchtor 70.22 318 P **P 16 03 24.4 +1.9**
SNR=11
AAK Ala-Archa 70.42 319 P **P 16 03 24.0 +0.2**
SNR=6.4
AAK Ala-Archa 70.42 319 P **P 16 03 23.7 0.0**
comp=Z,35nm,1.3s,mb5.1,SNR=6.7
AAK Ala-Archa 70.42 319 *e*P **P 16 03 23.3 -0.4**
AAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
AAK Ala-Archa 70.42 319 *e*P **P 16 03 23.3 -0.5**
comp=Z,7.9nm,1.1s,mb4.6
USP Ospenovka 70.71 319 P **P 16 03 26.0 +0.5**
SNR=14
AML Almayashu 70.72 318 P **P 16 03 27.0 +1.4**
SNR=18
EKS2 Erkin-Say 70.91 319 P **P 16 03 27.7 +1.0**
SNR=14
KURK Kurchatov 72.04 328 P **P 16 03 33.6 +0.1**
comp=Z,69nm,0.9s,mb5.6,SNR=11
KURK Kurchatov 72.04 328 P **P 16 03 32.6 -0.9**
KURK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KURK Kurchatov 72.04 328 *e*P **P 16 03 33.0 -0.5**
comp=Z,19nm,0.9s,mb5.0
NVS Novosibirsk 72.19 333 *e*P **P 16 03 32.2 -2.2**
NVS *e*S S 16 12 52.9 -4.0
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,13nm,2.0s
NVS pmax pmax
comp=Z,29nm,2.0s,mb4.9
NVS smax
comp=N,13nm,2.2s
NVS smax
comp=E,6.0nm,1.8s
KK31 Karatay Array 73.26 318 *i*P **P 16 03 40.7 -0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KKAR Karatay Array 73.26 318 *i*P **P 16 03 40.7 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VNDA Vanda 73.85 173 P **P 16 03 45.3 +1.0**
comp=Z,6.9nm,0.9s,mb4.6,baz=303,slow=6.5,SNR=9.8
VNDA LR LR 16 34 15.8
comp=Z,120nm,19.0s,MS4.2,baz=90,slow=34
VNDA Vanda 73.85 173 P **P 16 03 45.3 +1.0**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA MLR MLR
comp=Z,120nm,19.0s
VNDA Vanda 73.85 173 *e*P **P 16 03 45.7 +1.5**
comp=Z,9.0nm,1.0s,mb4.7
TIXI Tiksi 76.89 359 *i*P **P 16 04 00.9 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VOSK Vostochnaya 77.16 327 P **P 16 04 01.8 -1.4**
BILL Bilibino 77.16 13⇓*e*P **P 16 04 02.8 -0.4**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BVA0 Borovoye Array 77.61 327 *i*P **P 16 04 05.3 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BRVK Borovoye 77.69 327 P **P 16 04 05.9 -0.3**
comp=Z,71nm,0.8s,mb5.7,SNR=8.1
BRVK Borovoye 77.69 327 *e*P **P 16 04 05.5 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRVK Borovoye 77.69 327 *e*P **P 16 04 05.5 -0.7**
comp=Z,7.5nm,0.9s,mb4.6
ZRNK Zerenda 78.33 327 *e*P **P 16 04 09.0 -0.8**
ZRNK *e* 16 04 20.9
ZRNK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZRNK Zerenda 78.33 327 *e*P **P 16 04 09.0 -0.8**
comp=Z,5.8nm,0.8s,mb4.6
ZRNK *e* 16 04 20.9
AB31 Akbulak array 82.31 321 *i*P **P 16 04 30.3 -0.9**
AB31 pmax pmax
comp=Z,14nm,1.1s,mb4.8
OPO Ambohidratompo 83.13 252 P **P 16 04 36.5 +1.1**
comp=Z,4.6nm,0.7s,mb4.6,baz=72,slow=4.6,SNR=12
QSPA South Pole Qui 84.59 180 *e*P **P 16 04 42.7 -0.2**
comp=Z,2.6nm,0.8s,mb4.4
ARU Arti 85.24 328⇓*i*P **P 16 04 45.2 -1.0**
ARU *e* 16 08 02.4
ARU *e*S 16 15 05.4
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ARU Arti 85.24 328 *e*P **P 16 04 44.2 -2.0**
comp=Z,60nm,0.6s,mb5.9
SYO Syowa Base 85.78 201⇓*e*P **P 16 04 50.0 +1.1**
UMR Umm Al-Rimmam 87.41 300 *e*P **P 16 04 56.2 -0.7**
UMR AMb AMB 16 04 57.2
comp=Z,13nm,0.5s,mb5.4
RDF Al-Radifah 87.48 299 *e*P **P 16 04 56.9 -0.3**
RDF AMb AMB 16 05 03.4
comp=Z,21nm,0.9s,mb5.3
MIB Mutribah 87.77 300 *e*P **P 16 04 58.0 -0.6**
MIB AMb AMB 16 05 01.2
comp=Z,16nm,1.2s,mb5.1
NAY Al-Naaiem 87.78 299 *e*P **P 16 04 58.2 -0.5**
NAY AMb AMB 16 04 59.2
comp=Z,14nm,0.7s,mb5.3
ILAR Eielson Array 91.16 25 P **P 16 05 13.2 -1.4**
comp=Z,0.8nm,0.7s,mb4.1,baz=262,slow=4.2,SNR=9.8
ILAR LR LR 16 41 16.7
comp=Z,36nm,19.9s,MS3.8,baz=178,slow=32
ILAR Eielson Array 91.16 25 P **P 16 05 13.2 -1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,36nm,19.9s
KMBO Kilima Mbogo 94.33 268 P **P 16 05 29.6 +0.4**
comp=Z,1.4nm,0.6s,mb4.6,baz=53,slow=7.9,SNR=5.6
KMBO LR LR 16 45 14.1
comp=Z,42nm,18.4s,MS3.9,baz=88,slow=34
KMBO Kilima Mbogo 94.33 268 P **P 16 05 29.6 +0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO MLR MLR
comp=Z,42nm,18.4s
KMBO Kilima Mbogo 94.33 268 *e*P **P 16 05 30.3 +1.2**
comp=Z,3.5nm,1.3s,mb4.6
OBN Obninsk 97.32 325 *e*P **P 16 05 40.4 -2.3**
OBN *e*S 16 16 16.2
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.8
PLCA Paso Flores 129.78 158 PKP PKPdf 16 11 19.1 +0.3
comp=Z,1.7nm,1.0s,baz=195,slow=2.7,SNR=2.6
PLCA Paso Flores 129.78 158 PKIKP PKPdf 16 11 19.2 +0.3
PLCA pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 130.14 283 PKP PKPdf 16 11 21.1 +1.5
comp=Z,2.5nm,0.7s,baz=68,slow=2.0,SNR=14
DBIC Dimbokro 136.80 274 PKP PKPdf 16 11 31.2 -0.9
comp=Z,2.4nm,0.9s,baz=243,slow=2.3,SNR=3.5
DBIC Dimbokro 136.80 274 PKPdf PKPdf 16 11 31.0 -1.1
CPUP Villa Florida 147.29 165 *e*PKIKP PKPdf 16 11 51.9 +1.2
CPUP *e* 16 11 55.4
LPAZ La Paz 150.87 138 PKP PKPdf 16 11 59.6 +3.1
comp=Z,1.7nm,1.1s,baz=328,slow=0.9,SNR=3.9
LPAZ PKPbc PKPbc 16 12 06.2 +4.1
comp=Z,7.3nm,0.9s,baz=86,slow=1.2,SNR=23
LPAZ La Paz 150.87 138 PKIKP PKPdf 16 11 59.6 +3.1
LPAZ 16 12 06.2
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ La Paz 150.87 138 *e*PKPdf PKPdf 16 11 59.9 +3.4
LPAZ *e*PKPbc PKPbc 16 12 06.2 +4.0
BDFB Brasilia 159.12 181 PKPab PKPab 16 12 46.6 +2.1
comp=Z,5.8nm,1.0s,baz=246,slow=1.0,SNR=3.8
BDFB Brasilia 159.12 181 PKP2 PKPab 16 12 46.6 +2.1
BDFB pmax pmax
comp=Z,6.0nm,1.0s

PRE 23 16:14:16.3±1.1, 2063S×3231E, h5km, ML4.1, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.73**	**231**	*e*P		16 08 02.2	
MSNA				*e*S		16 08 35.3	
MSNA				AML	AML	16 08 52.3	
comp=Z,316nm,0.2s							
SLR	**Silverton**	**6.29**	**215**	*e*S	Sn	16 16 59.2	-2.8
SLR				AML	AML	16 17 36.7	
comp=Z,81nm,0.4s							
LBTB	**Lobatse**	**7.58**	**234**	*e*P	Pn	16 16 08.3	+0.9
LBTB				*e*S	Sn	16 17 30.6	-2.9
LBTB				AML	AML	16 18 33.7	
comp=Z,35nm,0.6s							
SUR	**Sutherland**	**15.57**	**219**	*e*P	Pn	16 17 55.0	-1.5
SUR				*e*S	Sn	16 20 42.2	-7.1

IDC 23 16:29:47.4±2.9, 1250N×9615E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=124.8km s-min=23.8km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.13**	**344**	P	P	16 36 51.8	+0.7
0.6nm,0.7s,baz=157,slow=8.2,SNR=7.9							
SONM	**Songino Array**	**36.26**	**12**	P	P	16 36 51.5	-0.7
1.0nm,0.8s,baz=191,slow=9.3,SNR=6.7							
WRA	**Warramunga Arr**	**49.52**	**130**	P	P	16 38 41.8	+2.0
0.3nm,0.3s,baz=301,slow=8.9,SNR=8.3							
ASAR	**Alice Springs**	**51.53**	**134**	P	P	16 38 53.4	-1.5
0.4nm,1.0s,baz=299,slow=7.5,SNR=4.1							

IDC 23 16:58:37.6±2.1, 374N×12667E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, Error ellipse: s-maj=155.0km s-min=26.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.71**	**163**	P	P	17 03 59.9	-0.5
0.4nm,0.3s,baz=342,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.14**	**166**	P	P	17 04 32.6	+1.3
0.1nm,0.3s,baz=339,slow=9.1,SNR=7.2							
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	17 08 28.7	+0.1
0.1nm,0.4s,baz=117,slow=8.4,SNR=5.4							

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*ISCJB **23** 17:07:34.7±3.9, 53S±02×1488E±03, h67km±28km, mb4.0/5, Error ellipse: s-maj=47.5km s-min=28.2km az=163.7*
*NEIC **23** 17:07:35.2±3.2, 529S×1489E, h65km±23km, mb4.3/4, Error ellipse: s-maj=34.9km s-min=21.0km az=80.0*
*IDC **23** 17:07:45.6±8.0, 608S×1487E, h106km±48km, mb3.5/2, mb1 3.7/4, mb1mx3.4/13, mbtmp4.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/12, Error ellipse: s-maj=73.6km s-min=61.0km az=105.0*
ISC 23 17:07:35.2±3.8, 53S±02×1490E±03, h64km±27km, n12, σ0°72/13, mb4.1/5, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.45**	**204**	P	**Pn**	**17 08 40.6**	**+0.4**
14nm,0.3s,baz=27,slow=7.2,SNR=58							
PMG				S	**Sn**	**17 09 22.8**	**-7.9**
16nm,0.3s,baz=1.8,slow=20,SNR=12							
PMG	**Port Moresby**	**4.45**	**204**	P	**Pn**	**17 08 40.6**	**+0.4**
PMG				*e*Sn	**Sn**	**17 09 21.6**	**-9.1**
HNR	**Honiara**	**11.64**	**111**	LR	LR	17 13 26.8	
comp=Z,78nm,19.1s,baz=177,slow=29							
WRAB	**Tennant Creek**	**20.34**	**223**	*e*P	**P**	**17 12 05.6**	**-0.6**
17nm,1.1s							
WB2	**Warramunga Arr**	**20.34**	**223**⇑	*i*P	**P**	**17 12 05.9**	**-0.3**
WRA	**Warramunga Arr**	**20.35**	**223**	P	**P**	**17 12 06.1**	**-0.2**
0.8nm,0.3s,baz=49,slow=11,SNR=23							
ASAR	**Alice Springs**	**23.32**	**217**	P	**P**	**17 12 37.3**	**-0.3**
2.5nm,0.7s,mb3.7,baz=52,slow=9.3,SNR=38							
FITZ	**Fitzroy Crossi**	**26.09**	**239**	*e*P	**P**	**17 13 03.5**	**+0.7**
5.8nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**27.32**	**194**	P	**P**	**17 13 12.7**	**-1.3**
0.9nm,0.5s,mb3.5,baz=24,slow=15,SNR=5.1							
MBWA	**Marble Bar**	**32.43**	**238**	P	**P**	**17 14 00.1**	**+1.1**
5.2nm,1.0s,mb4.3							
NACB	**Ninganchiao**	**39.61**	**319**	P	**P**	**17 14 59.9**	**-0.5**
QSPA	**South Pole Qui**	**84.66**	**180**	*e*P	**P**	**17 20 02.9**	**+1.0**
4.0nm,1.1s,mb4.5							

IDC 23 17:07:44.9±3.7, 2176S×17517W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/16, mbtmp3.9/4, Error ellipse: s-maj=210.2km s-min=26.9km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.01**	**265**	P	P	17 14 48.5	+0.8
7.8nm,1.1s,baz=85,slow=15,SNR=8.2							
ASAR	**Alice Springs**	**46.82**	**257**	P	P	17 16 16.3	0.0
0.8nm,0.7s,baz=82,slow=6.4,SNR=11							
WRA	**Warramunga Arr**	**47.05**	**263**	P	P	17 16 18.1	-0.1
0.5nm,0.4s,baz=100,slow=8.6,SNR=5.4							
NVAR	**Mina Array Bea**	**80.16**	**42**	P	P	17 19 57.1	+0.2
0.7nm,1.0s,baz=198,slow=5.5,SNR=2.9							
AKASG	**Malin Array Be**	**145.37**	**332**	PKPbc	PKPbc	17 27 24.1	-0.5
1.2nm,0.5s,baz=40,slow=4.0,SNR=10							
BRTR	**Keskin Array B**	**149.63**	**313**	PKPbc	PKPbc	17 27 36.6	+0.2
0.8nm,0.7s,baz=113,slow=3.3,SNR=6.8							

PRE 23 17:08:51.6±0.9, 2211S×3362E, h5km, ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.34**	**265**	*e*P		17 02 39.7	
MSNA				*e*S		17 03 18.9	
MSNA				AML	AML	17 03 37.9	
comp=Z,489nm,0.6s							
SLR	**Silverton**	**6.07**	**233**	*e*S	Sn	17 11 29.0	-2.7
SLR				AML	AML	17 12 32.1	
comp=Z,115nm,0.8s							
PRYS	**Parys**	**7.44**	**229**	*e*S	Sn	17 12 02.9	-2.7
PRYS				AML	AML	17 12 35.2	
comp=Z,47nm,0.4s							
LBTB	**Lobatse**	**7.90**	**247**	*e*P	Pn	17 10 48.0	+0.9
LBTB				*e*S	Sn	17 12 13.7	-3.2
LBTB				AML	AML	17 13 27.5	
comp=Z,57nm,0.7s							
BOSA	**Boshof**	**9.95**	**228**	*e*P	Pn	17 11 17.1	+1.9
BOSA				*e*S	Sn	17 13 02.3	-4.9
BOSA				AML	AML	17 14 28.7	
comp=Z,34nm,0.6s							
SUR	**Sutherland**	**15.29**	**225**	*e*P	Pn	17 12 30.5	+2.4
SUR				*e*S	Sn	17 15 10.5	-7.3

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*IDC **23** 17:22:32.9±1.2, 2145S×33.18E, h0km, mb3.7/3, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, ML3.7/5, MS3.1/3, Ms1 3.0/3, ms1mx2.9/19, Error ellipse: s-maj=30.9km s-min=25.0km az=158.0*
*NEIC **23** 17:22:34.1±0.7, 2135S×33.12E, h10km, mb4.4/1, Error ellipse: s-maj=15.4km s-min=10.1km az=156.0*
*BJI **23** 17:22:34.1, 2130S×33.10E, h10km, mB4.9, mb5.0, Ms4.7, Msz4.4*
ISC 23 17:22:36.3±0.6, 2129S±007×3280E±006, h10km, n22, σ1°67/33, mb4.5/7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.42**	**323**	Pn	**Pn**	**17 24 27.3**	**+2.8**
3.8nm,0.3s,baz=148,slow=11,SNR=12							
LSZ				Sn	**Sn**	**17 25 46.7**	**-2.0**
9.1nm,0.3s,baz=56,slow=20,SNR=12							
LSZ				Lg		17 26 28.1	
7.6nm,0.3s,baz=185,slow=11,SNR=4.1							
LSZ				LR	LR	17 27 47.1	
comp=Z,39nm,20.3s,baz=165,slow=40							
LSZ	**Lusaka**	**7.42**	**323**	*e*Pn	**Pn**	**17 24 26.6**	**+2.1**
LSZ				*e*Sn	**Sn**	**17 25 44.0**	**-4.7**
LSZ				*e*Sg	**Sg**	**17 26 29.5**	**-4.8**
LBTB	**Lobatse**	**7.59**	**239**	Pn	**Pn**	**17 24 29.3**	**+2.4**
1.7nm,0.3s,baz=66,slow=12,SNR=15							
LBTB				Sn	**Sn**	**17 25 56.9**	**+3.8**
1.9nm,0.3s,baz=49,slow=12,SNR=4.5							
LBTB				Lg		17 26 37.2	
4.4nm,0.3s,baz=19,slow=16,SNR=10							
LBTB	**Lobatse**	**7.59**	**239**	*e*Pn	**Pn**	**17 24 29.2**	**+2.2**
LBTB				*e*Sn	**Sn**	**17 25 54.4**	**+1.3**
LBTB				*e*Sg	**Sg**	**17 26 35.8**	**-4.2**
BOSA	**Boshof**	**10.00**	**222**	Pn	**Pn**	**17 24 58.4**	**-1.5**
0.2nm,0.3s,baz=55,slow=16,SNR=6.3							
BOSA				Sn	**Sn**	**17 26 51.2**	**-1.0**
0.8nm,0.3s,baz=319,slow=19,SNR=3.2							
BOSA				Lg		17 27 50.7	
1.1nm,0.3s,baz=142,slow=21,SNR=4.4							
BOSA				LR	LR	17 29 11.9	
comp=Z,145nm,18.9s,baz=58,slow=39							
BOSA	**Boshof**	**10.00**	**222**	*e*Pn	**Pn**	**17 24 59.8**	**-0.1**
BOSA				*e*Sn	**Sn**	**17 26 47.6**	**-4.5**
BOSA				*e*Sg	Sn	17 27 50.9	+59
OPO	**Ambohidratompo**	**13.80**	**81**	Pn	**Pn**	**17 25 45.3**	**-6.6**
0.3nm,0.3s,baz=222,slow=16,SNR=3.5							
OPO				Sn	**Sn**	**17 28 05.5**	**-20**
0.7nm,0.3s,baz=150,slow=20,SNR=4.2							
TSUM	**Tsumeb**	**14.43**	**276**	Pn	**Pn**	**17 26 00.9**	**+0.3**
0.4nm,0.3s,baz=107,slow=14,SNR=4.7							
TSUM				Sn	**Sn**	**17 28 40.7**	**+0.1**
0.4nm,0.3s,baz=244,slow=10,SNR=3.0							
TSUM				Lg		17 30 13.1	
1.5nm,0.3s,baz=208,slow=15,SNR=3.6							
TSUM				LR	LR	17 31 45.1	
comp=Z,144nm,19.4s,baz=107,slow=37							
TSUM	**Tsumeb**	**14.43**	**276**	*e*Pn	**Pn**	**17 26 00.8**	**+0.3**
9.8nm,0.8s							
TSUM				*e*Sn	**Sn**	**17 28 37.0**	**-3.7**
TSUM				*e*Sg		17 30 11.5	
SUR	**Sutherland**	**15.36**	**222**	Pn	**Pn**	**17 26 11.5**	**-1.6**
0.4nm,0.3s,baz=45,slow=18,SNR=3.8							
SUR				Sn	**Sn**	**17 28 58.4**	**-4.9**
0.4nm,0.3s,baz=34,slow=15,SNR=3.2							
SUR				Lg		17 30 35.6	
0.5nm,0.3s,baz=143,slow=20,SNR=3.2							
SUR	**Sutherland**	**15.36**	**222**	*e*Pn	**Pn**	**17 26 13.5**	**+0.5**
16nm,0.8s							
SUR				*e*Sn	**Sn**	**17 28 54.4**	**-8.9**
SUR				*e*Sg		17 30 32.3	
TORD	**Torodi Ar. Bea**	**45.88**	**315**	P	**P**	**17 31 00.3**	**+1.5**
0.6nm,0.7s,mb3.7,baz=129,slow=7.2,SNR=4.7							
MKAR	**Makanchi Array**	**81.15**	**32**	P	**P**	**17 34 49.2**	**-2.7**
0.4nm,0.7s,mb3.4,baz=224,slow=6.8,SNR=3.8							
MKAR	**Makanchi Array**	**81.15**	**32**	P	**P**	**17 34 49.2**	**-2.7**
WMQ	**Urumqi**	**82.00**	**37**	*e*P	**P**	**17 34 58.0**	**+1.5**
WMQ				XP	sP	17 35 05.0	+4.0
WMQ				PP	PP	17 38 08.0	+3.9
WMQ				S	S	17 45 09.0	-1.7
WMQ				SS	SS	17 50 32.0	+2.5
WMQ				AMB	AMB		
comp=Z,18nm,1.0s,mb5.0							
WMQ				AMB	AMB		
comp=Z,154nm,6.0s							
WMQ				LR	LR		
comp=N,87nm,7.0s							
WMQ				LR	LR		
comp=E,65nm,8.0s							
WMQ				LR	LR		
comp=Z,57nm,8.0s							
CD2	**Chengdu**	**85.58**	**55**	*e*P	**P**	**17 35 14.1**	**-0.7**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb5.1							
CD2				AMB	AMB		
comp=Z,50nm,7.2s							
LZH	**Lanzhou**	**88.07**	**50**	*e*P	**P**	**17 35 27.8**	**+0.9**
LZH				AP	pP	17 35 32.0	+1.7
LZH				XP	sP	17 35 33.9	+2.5
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb5.0							
LZH				AMB	AMB		
comp=Z,51nm,5.0s							
ASAR	**Alice Springs**	**91.18**	**116**	P	**P**	**17 35 39.4**	**-2.1**
comp=Z,0.6nm,0.8s,mb4.0,baz=229,slow=4.3,SNR=7.9							
HHC	**Hu-ho-hao-te**	**95.59**	**48**	*e*P	**P**	**17 36 02.3**	**+0.5**
HHC				AP	pP	17 36 06.8	+1.7
HHC				XP	sP	17 36 09.3	+3.0
HHC				AMB	AMB		
comp=Z,10.0nm,1.2s,mb5.1							
HHC				AMB	AMB		
comp=Z,60nm,4.2s							
NJ2	**Nanjing**	**97.82**	**59**	*e*P	**P**	**17 36 14.0**	**+2.1**
YKA	**Yellowknife Ar**	**133.20**	**340**	PKP	PKPdf	17 41 50.3	-2.0
comp=Z,0.1nm,0.5s,baz=28,slow=1.7,SNR=2.8							
YKA	**Yellowknife Ar**	**133.20**	**340**	PKP	PKPdf	17 41 50.3	-2.0

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*ISCJB **23** 17:44:14.8±2.0, 398N±01×788E±01, h10km, Error ellipse: s-maj=20.5km s-min=10.8km az=116.2*
*NNC **23** 17:44:16.0±13.0, 4124N×7888E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=103.3km s-min=35.9km az=162.0*
*BJI **23** 17:44:19.9, 4037N×7804E, h13km, ML3.2*
ISC 23 17:44:15.8±2.0, 397N±01×788E±01, h10km, n14, σ1°15/15, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.18**	**266**	PG	**Pn**	**17 44 52.8**	**+0.7**
KSH				SG	**Sn**	**17 45 18.6**	**-0.6**
KSH				Smax			
comp=N,140nm,0.4s							
KSH				Smax			
comp=E,280nm,0.6s							
ULHL	**Ulahol**	**3.19**	**324**	P	**Pn**	**17 45 01.1**	**-5.0**
SNR=30							
KZA	**Kyzart**	**3.59**	**313**	P	**Pn**	**17 45 08.7**	**-2.7**
SNR=19							
TKM2	**Tokmak 2**	**4.02**	**324**	P	**Pn**	**17 45 15.2**	**-2.2**
SNR=9.7							
TKM2	**Tokmak 2**	**4.02**	**324**	⇑Pn	**Pn**	**17 45 12.6**	**-4.8**
comp=E,7.2nm,0.7s							
TKM2				⇑Lg		17 45 56.4	
comp=E,12nm,0.5s							
UCH	**Uchtor**	**4.11**	**309**	P	**Pn**	**17 45 13.7**	**-5.0**
SNR=9.5							
KBK	**Karagaybulak**	**4.14**	**317**	P	**Pn**	**17 45 18.2**	**-0.8**
SNR=22							
AAK	**Ala-Archa**	**4.37**	**314**	P	**Pn**	**17 45 22.1**	**-0.1**
SNR=11							
CHMS	**Chumysh**	**4.49**	**319**	P	**Pn**	**17 45 24.2**	**+0.4**
SNR=14							
AML	**Almayashu**	**4.56**	**304**	P	**Pn**	**17 45 26.4**	**+1.5**
SNR=7.3							
EKS2	**Erkin-Say**	**4.80**	**310**	P	**Sn**	**17 46 24.3**	**+0.4**
SNR=6.3							
USP	**Ospenovka**	**4.81**	**319**	P	**Pn**	**17 45 29.7**	**+1.5**
SNR=32							
KK31	**Karatay Array**	**7.09**	**301**	⇑Pg	**Pb**	**17 46 13.2**	**-5.8**
comp=E,0.9nm,0.6s,baz=119,slow=16,SNR=9.0							
KK31				⇑Lg		17 47 34.9	
comp=E,6.1nm,1.1s,baz=114,slow=27,SNR=6.2							
MK31	**Makanchi Array**	**7.54**	**19**	⇓Pg	**Pn**	**17 46 05.8**	**0.0**
comp=E,1.0nm,0.8s,baz=184,slow=13,SNR=13							
MK31				⇑Lg		17 47 24.2	
comp=E,2.9nm,1.0s,baz=203,slow=26,SNR=5.2							

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*NEIC **23** 18:10:02.2, 3068S×7179W, h11km, ML3.5(GUC), After GUC.*
GUC 23 18:10:02.2±0.8, 3068S×7179W, h11km±12km, MD4.0, ML3.5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.83**	**126**⇑	*i*P	Pg	18 10 18.4	0.0

CMCH			*i* S	Sg	18 10 29.4	+0.2
CMCH			AMP		18 10 34.3	
	comp=E,4μm,0.7s					
CMCH	**Combarbala**	**0.83 126**	⇑*i* P	Pg	18 10 18.4	0.0
CMCH			*i* S	Sg	18 10 29.4	+0.2
ILCH	**Illapel**	**1.09 151**	⇓*i* P	Pb	18 10 21.7	-1.3
ILCH			*i* S	Sb	18 10 36.7	-0.5
ILCH			AMP		18 10 37.4	
	comp=N,2μm,0.4s					
ILCH	**Illapel**	**1.09 151**	⇓*i* P	Pb	18 10 21.7	-1.3
ILCH			*i* S	Sb	18 10 36.7	-0.5
JACH	**Jahuel**	**2.24 153**	⇑*i* P	Pn	18 10 40.3	+1.1
JACH			*i* S	Sn	18 11 09.2	+2.3
PEL	**Peldehue**	**2.63 159**	*e*P	Pn	18 10 45.0	+0.4
PEL			*i* S	Sn	18 11 18.3	+1.9
PEL			AMP		18 11 30.5	
	comp=N,445nm,0.5s					
PEL	**Peldehue**	**2.63 159**	*e*P	Pn	18 10 45.0	+0.4
PEL			*i* S	Sn	18 11 18.3	+1.9
LCCH	**Las Cruces**	**2.79 176**	*e*P	Pn	18 10 47.0	+0.1
FCH	**Farellones**	**2.93 155**	*e*P	Pn	18 10 50.6	+1.9
FCH			*i* S	Sn	18 11 27.1	+3.3
FCH			AMP		18 11 36.5	
	comp=E,112nm,0.3s					
TACH	**Talagante**	**3.05 167**	*e*P	Pn	18 10 50.8	+0.5
PCH	**Pirque**	**3.12 160**	*e*P	Pn	18 10 54.6	+3.2
PCH			*i* S	Sn	18 11 32.8	+4.2

IDC ***23*** *18:18:33.1±9.9, 3580N×21.12E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=177.5km s-min=56.6km az=27.0*
ISCJB ***23*** *18:18:46.6±0.8, 3709N±006×2221E±005, h3km±7km, mb4.0/5, Error ellipse: s-maj=10.6km s-min=5.7km az=40.8*
CSEM ***23*** *18:18:47.6, 37.11N×22.14E, h12km, MD3.6/9, After ATH*
ATH ***23*** *18:18:47.6, 37.11N×22.14E, h12km±2km, MD3.6/9, ML3.5*
NEIC ***23*** *18:18:47.6, 37.11N×22.14E, h12km, ML3.5(ATH), After ATH.*

ISC 23 18:18:47.3±0.8, 3710N±006×2219E±005, h8km±6km, n18, σ0§89/20, mb4.0/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.22**	**290**		*e*PG		**Pg**	**18 18 51.5**	**-0.2**
ITM					*e*SG		**Sg**	**18 18 54.8**	**+0.1**
VLI	**Veliai**	**0.71**	**122**		*e*PG		**Pg**	**18 19 01.6**	**+0.6**
KYTH	**Kithira**	**1.07**	**140**		*e*PN		**Pn**	**18 19 08.5**	**0.0**
RLS	**Riolos of Patr**	**1.11**	**329**		*e*PN		**Pn**	**18 19 08.6**	**-0.5**
RLS					*e*SB		**Sb**	**18 19 23.9**	**+0.6**
NAIG	**Nisos Aigina**	**1.23**	**57**		*e*PG		**Pg**	**18 19 11.0**	**+0.2**
KVR	**Kavouri**	**1.45**	**60**		*e*PG		**Pg**	**18 19 15.0**	**-0.1**
ATH	**Athens Observa**	**1.49**	**54**		*e*PB		**Pb**	**18 19 16.4**	**+1.2**
MPAR	**Parnis Oros**	**1.61**	**49**		*e*PG		**Pg**	**18 19 17.3**	**-0.9**
PTL	**Penteli**	**1.63**	**54**		*e*PB		**Pb**	**18 19 18.0**	**+0.4**
VLS	**Valsamata**	**1.66**	**311**		*e*PB		**Pb**	**18 19 18.6**	**+0.5**
LKR	**Lokris**	**1.67**	**22**		*e*PG		**Pg**	**18 19 18.3**	**-1.0**
NEO	**Neokhori**	**2.35**	**20**		*e*PN		**Pn**	**18 19 29.0**	**+2.9**
BRTR	**Keskin Array B**	**9.36**	**70**		Pn		**Pn**	**18 21 07.2**	**+4.8**
	0.2nm,0.3s,baz=253,slow=14,SNR=5.7								
MIB	**Mutribah**	**22.17**	**102**		*e*P		**P**	**18 23 44.5**	**+0.8**
MIB					AMb		AMB	18 23 46.2	
	comp=Z,9.9nm,0.4s,mb4.6								
NAY	**Al-Naaiem**	**22.34**	**103**		*e*P		**P**	**18 23 44.8**	**-0.7**
NAY					AMb		AMB	18 23 48.0	
	comp=Z,4.7nm,0.5s,mb4.2								
RDF	**Al-Radifah**	**22.73**	**104**		*e*P		**P**	**18 23 45.4**	**-4.2**
RDF					AMb		AMB	18 23 49.1	
	comp=Z,15nm,1.3s,mb4.2								
FINES	**FINESS Array B**	**24.49**	**5**		P		**P**	**18 24 06.0**	**-0.7**
	comp=Z,1.6nm,1.0s,mb3.4,baz=168,slow=9.9,SNR=5.2								
MKAR	**Makanchi Array**	**44.74**	**58**		P		**P**	**18 26 59.3**	**-1.7**
	comp=Z,0.3nm,0.5s,mb3.4,baz=271,slow=7.5,SNR=8.7								

SKHL ***23*** *18:29:17.1±3.7, 4972N×159.13E, h64km, mb6.1/1, mbh5.7/1, Ms4.5/6*
SKHL Felt (II) at Severo-Kurilsk.
ISCJB ***23*** *18:29:20.9±0.2, 4948N±002×15844E±004, h17km, mb4.8/121, MS4.1/20, Error ellipse: s-maj=4.3km s-min=2.8km az=55.2*
BJI ***23*** *18:29:22.3, 4976N×15803E, h13km, mB4.8, mb4.8, Ms4.4, Msz4.2*
NEIC ***23*** *18:29:22.5±0.2, 4943N×15844E, mb4.9/58, Error ellipse: s-maj=6.0km s-min=3.5km az=158.0*
NEIC Felt [II] at Severo-Kuril'sk.
KRSC ***23*** *18:29:22.4±0.8, 4955N×15862E, h19km±13km, ML5.3*
HRVD ***23*** *18:29:22.5±0.6, 4931N×15831E, h20km±1km, MW4.8/56, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s56,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.34±.15; $M_{\theta\theta}$0.60±.09; $M_{\phi\phi}$0.73±.09; $M_{r\theta}$-0.81±.18; $M_{\theta\phi}$0.86±.05; $M_{\phi r}$0.54±.15; Best double couple: $M_0$1.71900×10^{16} NP1:ϕ_s197.00000°, δ49.00000°, λ-131.00000°. NP2: ϕ_s70.00000°, δ55.00000°, λ-53.00000°. Principal axes: T 1.5470, Plg4.0000°, Azm135.0000°; N 0.3470, Plg29.0000°, Azm227.0000°; P -1.8910, Plg60.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***23*** *18:29:23.0±1.0, 4951N×15831E, h31km, mb5.1/48 Error ellipse: s-maj=8.1km s-min=4.5km az=96.6*
MOS Felt (I-II) at Severo-Kuril'sk.
IDC ***23*** *18:29:23.8±4.3, 4939N×15843E, h29km±30km, mb4.4/19, mb1 4.6/22, mb1mx4.6/23, mbtmp4.6/22, ML4.5/3, MS3.9/11, Ms1 3.9/11, ms1mx3.6/31, Error ellipse: s-maj=16.4km s-min=11.6km az=149.0*
SZGRF ***23*** *18:29:32.8, 5122N×15931E, h20km, mb4.7, Off east coast of Kamchatka Peninsula, Russia*
NAO ***23*** *18:29:36.4, 5103N×15673E, h33km, mb5.1*

ISC 23 18:29:22.7±0.2, 4949N±002×15843E±004, h18km, h18km±8km:pP-P, n318, σ0§99/349, mb4.8/121, MS4.1/20, 28C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.91**	**310**		*i* P		**Pn**	**18 29 49.0**	**-5.3**
SKR					AMB		AMB	18 29 50.0	
	2μm,2.0s								
SKR					AMB		AMB	18 29 50.0	
	5μm,2.0s								
SKR					AMB		AMB	18 29 50.0	
	2μm,2.0s								
SKR					AMB		AMB	18 29 50.0	
	5μm,2.0s								
SKR					AMB		AMB	18 29 50.0	
	1μm,0.7s								
SKR					AMB		AMB	18 29 50.0	
	630nm,0.7s								
SKR					AMB		AMB	18 29 50.0	
	3μm,0.7s								
SKR					⇓*i* S		**Sn**	**18 30 12.9**	**-5.0**
SKR					A			18 30 13.6	
	38μm,1.0s								
SKR					A			18 30 13.6	
	20μm,1.0s								
SKR					A			18 30 13.6	
	8μm,1.0s								
SKR					A			18 30 13.6	
	37μm,1.0s								
SKR					A			18 30 13.6	
	20μm,1.0s								
SKR					A			18 30 13.6	
	7μm,1.0s								
SKR					AMS		AMS	18 30 46.0	
	6μm,8.0s								
SKR					AMS		AMS	18 30 46.0	
	6μm,12.0s								
SKR					AMS		AMS	18 30 46.0	
	5μm,12.0s								
PAU	**Pauzhetka**	**2.24**	**333**		*i* P		**Pn**	**18 29 59.1**	**+0.3**
PAU					*e*S		**Sn**	**18 30 26.4**	**+0.5**
PAU					Smax				
	5μm,0.7s								
RUS	**Russkaya**	**2.95**	**1**		P		**Pn**	**18 30 08.1**	**-0.5**
RUS					S		**Sn**	**18 30 40.7**	**-2.8**
RUS	**Russkaya**	**2.95**	**1**		*e*P		**Pn**	**18 30 08.0**	**-0.6**
RUS					*i* S		**Sn**	**18 30 41.2**	**-2.3**
MIPR	**Malaya Ipel'ka**	**2.99**	**340**		*e*P		**Pn**	**18 30 10.0**	**+0.9**
GRL	**Gorelyy**	**3.08**	**356**		*e*P		**Pn**	**18 30 10.7**	**+0.4**
GRL					*e*S		**Sn**	**18 30 45.8**	**-0.9**
KRMR	**Karymshinskiy**	**3.35**	**357**		*e*P		**Pn**	**18 30 14.8**	**+0.7**
KRMR					*i* S		**Sn**	**18 30 53.0**	**-0.5**
APC	**Apacha**	**3.53**	**347**		*i* P		**Pn**	**18 30 17.5**	**+0.9**
APC					*i* S		**Sn**	**18 30 58.1**	**+0.2**
APC					Smax				
	560nm,0.8s								
PET	**Petropavlovsk**	**3.54**	**2**		P		**Pn**	**18 30 16.8**	**0.0**
PET					S		**Sn**	**18 30 55.8**	**-2.4**
PET	**Petropavlovsk**	**3.54**	**2**		*i* P		**Pn**	**18 30 16.8**	**0.0**
PET					*e*S		**Sn**	**18 30 56.0**	**-2.2**
PET	**Petropavlovsk**	**3.54**	**2**		*e*P		**Pn**	**18 30 16.7**	**-0.1**
PET					*e*S		**Sn**	**18 30 46.7**	**-11**
NLC	**Nalytchevo**	**3.73**	**8**		P		**Pn**	**18 30 18.4**	**-1.0**
NLC					S		**Sn**	**18 30 58.3**	**-4.5**
NLC	**Nalytchevo**	**3.73**	**8**		*i* P		**Pn**	**18 30 18.5**	**-0.9**
NLC					*e*S		**Sn**	**18 30 58.7**	**-4.1**
UGLR	**Uglovaya**	**3.73**	**4**		*e*P		**Pn**	**18 30 19.6**	**+0.2**
UGLR					*e*S		**Sn**	**18 30 59.8**	**-3.1**
SPN	**Mys Shipunski**	**3.75**	**15**		P		**Pn**	**18 30 19.4**	**-0.2**
SPN					S		**Sn**	**18 30 59.6**	**-3.7**
SPN	**Mys Shipunski**	**3.75**	**15**		*i* P		**Pn**	**18 30 19.4**	**-0.2**
SPN					*e*S		**Sn**	**18 31 00.0**	**-3.3**
AVH	**Avacha**	**3.79**	**3**		*i* P		**Pn**	**18 30 20.7**	**+0.6**
SMAR	**Somma**	**3.79**	**3**		*e*P		**Pn**	**18 30 20.2**	**+0.1**
SMAR					*e*S		**Sn**	**18 31 03.2**	**-1.0**
KOK	**Koryaka**	**3.81**	**2**		*e*P		**Pn**	**18 30 21.2**	**+0.8**
KOK					*e*S		**Sn**	**18 31 04.5**	**-0.3**
GNL	**Ganaly**	**4.22**	**356**		*e*P		**Pn**	**18 30 27.1**	**+1.0**
GNL					*e*S		**Sn**	**18 31 15.0**	**0.0**
KII	**Karymskiy**	**4.60**	**8**		*e*P		**Pn**	**18 30 32.5**	**+1.2**
KII					*e*S		**Sn**	**18 31 24.4**	**+0.2**
TUMR	**Tumrok**	**5.90**	**10**		*e*P		**Pn**	**18 30 50.6**	**+1.5**
ESO	**Esso**	**6.45**	**1**		*i* P		**Pn**	**18 30 58.1**	**+1.4**
ESO					Smax				
	100nm,1.2s								
ESO	**Esso**	**6.45**	**1**		*i* P		**Pn**	**18 30 58.1**	**+1.4**
ESO					Smax				
	90nm,1.1s								
KPT	**Kopyto**	**6.58**	**9**		*i* P		**Pn**	**18 30 59.8**	**+1.3**
KOZ	**Kozyrevsk**	**6.64**	**7**		*i* P		**Pn**	**18 31 00.8**	**+1.5**
KOZR	**Kozyr**	**6.65**	**7**		PN		**Pn**	**18 31 00.8**	**+1.4**
CIRR	**Tsirk**	**6.79**	**11**		*e*P		**Pn**	**18 31 03.0**	**+1.7**
SRDR	**Sredinnyy**	**6.89**	**6**		*e*P		**Pn**	**18 31 03.6**	**+0.9**
KLY	**Klyuchi**	**6.97**	**10**		P		**Pn**	**18 31 05.5**	**+1.7**
KLY					S		**Sn**	**18 32 19.6**	**-3.0**
KLY	**Klyuchi**	**6.97**	**10**		*i* P		**Pn**	**18 31 05.6**	**+1.8**
KBTR	**Krutoberegovo**	**7.24**	**20**		P		**Pn**	**18 31 07.5**	**0.0**
KBTR					S		**Sn**	**18 32 22.9**	**-6.3**
KBTR	**Krutoberegovo**	**7.24**	**20**		*e*P		**Pn**	**18 31 07.3**	**-0.2**
KBTR					*e*S		**Sn**	**18 32 23.9**	**-5.3**
BDR	**Baidarnaya**	**7.29**	**12**		*i* P		**Pn**	**18 31 09.0**	**+0.8**
SMKR	**Semkarok**	**7.34**	**13**		*i* P		**Pn**	**18 31 09.5**	**+0.6**
BKI	**Bering**	**7.35**	**36**		*e*P		**Pn**	**18 31 07.0**	**-2.1**
BKI					*e*S		**Sn**	**18 32 22.8**	**-9.2**
BKI					Smax				
	320nm,0.4s								
SRKR	**Sorokina**	**7.37**	**12**		*i* P		**Pn**	**18 31 10.1**	**+0.8**
KUR	**Kuril'sk**	**8.34**	**243**		*e*P		**Pn**	**18 31 19.0**	**-3.6**
KUR					AMB		AMB	18 31 25.3	
	50nm,0.7s								
KUR					AMB		AMB	18 31 25.3	
	150nm,0.7s								
KUR					A			18 32 55.0	
	90nm,0.7s								
KUR					A			18 32 55.0	
	40nm,0.7s								
FX1	**Attu Island--F**	**9.86**	**64**		Pn		**Pn**	**18 31 42.5**	**-0.8**
	28nm,0.3s,baz=272,slow=7.3,SNR=57								
FX1					Sn		**Sn**	**18 33 23.2**	**-10**
	92nm,0.3s,baz=66,slow=22,SNR=14								
FX1	**Attu Island--F**	**9.86**	**64**		PN		**Pn**	**18 31 42.5**	**-0.9**
FX1					pmax		pmax		
	comp=Z,28nm,0.3s								
FX1	**Attu Island--F**	**9.86**	**64**		*e*P		**Pn**	**18 31 42.1**	**-1.3**
FX1					*e*S		**Sn**	**18 33 23.6**	**-10**
TYV	**Tymovskoe**	**10.22**	**284**		*e*P		**Pn**	**18 31 49.5**	**+1.2**
TYV					AMB		AMB	18 31 55.0	
	comp=Z,28nm,1.0s								
TYV					AMB		AMB	18 31 55.0	
	comp=Z,65nm,1.4s								
TYV					AMS		AMS	18 37 56.0	
	comp=Z,1μm,14.0s								
TYV					AMS		AMS	18 37 56.0	
	comp=Z,2μm,14.0s								
SMY	**Shemya**	**10.37**	**66**		*e*PN		**Pn**	**18 31 48.7**	**-1.8**
SMY					pmax		pmax		
	comp=Z,132nm,0.8s								
SMY	**Shemya**	**10.37**	**66**		*e*P		**Pn**	**18 31 48.7**	**-1.8**
	comp=Z,132nm,0.8s								
SMY					*e*S		**Sn**	**18 33 34.9**	**-11**
OKH	**Okha**	**10.48**	**299**		*e*P		**Pn**	**18 31 46.0**	**-5.9**
OKH					*e*S		**Sn**	**18 33 43.0**	**-5.8**
OKH					AMS		AMS	18 37 54.0	
	comp=Z,2μm,15.0s								
OKH					AMS		AMS	18 37 54.0	
	comp=Z,2μm,15.0s								
OKH					AMS		AMS	18 37 54.0	
	comp=Z,1μm,12.0s								
UGL	**Uglegorsk**	**10.70**	**274**		*e*PN		**Pn**	**18 31 58.0**	**+3.0**
UGL					pmax		pmax		
	comp=Z,32nm,0.7s								
UGL					MLR		MLR		
	comp=N,800nm,12.0s								
UGL					MLR		MLR		
	comp=E,800nm,12.0s								
UGL					MLR		MLR		
	comp=Z,700nm,12.0s								
YSS	**Yuzh-Sakhalins**	**10.76**	**262**		⇑*e*P		**Pn**	**18 31 58.0**	**+2.2**
YSS					AMB		AMB	18 31 59.0	
	comp=Z,30nm,0.9s								
YSS					sP			18 32 17.0	
YSS					*e*S		**Sn**	**18 33 52.0**	**-3.8**
YSS					A			18 33 54.0	
	comp=Z,20nm,0.9s								
YSS					AMS		AMS	18 38 04.0	
	comp=Z,500nm,14.0s								
YSS	**Yuzh-Sakhalins**	**10.76**	**262**		*e*P		**Pn**	**18 31 57.1**	**+1.2**
	comp=Z,26nm,0.9s								
MA2	**Magadan**	**11.04**	**339**		*e*PN		**Pn**	**18 32 00.7**	**+1.1**
MA2					pmax		pmax		
	comp=Z,6.0nm,0.8s								
MA2					MLR		MLR		
	comp=Z,400nm,15.0s								
NKL	**Nikolayevsk**	**11.69**	**295**		*e*P		**Pn**	**18 32 06.0**	**-2.5**
NKL					AMB		AMB	18 32 08.3	
	comp=Z,31nm,1.2s								
NKL					AMB		AMB	18 32 08.3	
	comp=Z,35nm,1.2s								
NKL					AMS		AMS	18 38 40.0	
	comp=Z,500nm,14.0s								
NKL					AMS		AMS	18 38 40.0	
	comp=Z,600nm,14.0s								
NKL					AMS		AMS	18 38 40.0	
	comp=Z,900nm,14.0s								
ASAJ	**Asahikawa**	**12.10**	**250**		Pn		**Pn**	**18 32 13.5**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=72,slow=17,SNR=28								
ASAJ					LR		LR	18 36 48.5	
	comp=Z,211nm,19.0s,baz=213,slow=37								
ASAJ	**Asahikawa**	**12.10**	**250**		PN		**Pn**	**18 32 13.5**	**-0.6**
ASAJ					pmax		pmax		
	comp=Z,3.0nm,0.3s								
ASAJ					MLR		MLR		
	comp=Z,211nm,19.0s								
KAMR	**Kamenskoye**	**13.69**	**15**		*e*P		**Pn**	**18 32 37.1**	**+1.2**
SEY	**Seymchan**	**13.88**	**348**		*e*P		**Pn**	**18 32 43.5**	**+5.0**
SEY					*e*S		**Sn**	**18 35 21.7**	**+10**
SEY					pmax		pmax		
	comp=N,10.0nm,0.8s								
SEY					pmax		pmax		
	comp=Z,10.0nm,0.8s								
SEY					pmax		pmax		
	comp=E,6.0nm,1.2s								
SEY					smax				
	comp=N,110nm,22.1s								
SEY					smax				
	comp=E,180nm,21.0s								
SEY					MLR		MLR		
	comp=Z,730nm,17.0s								
SEY					MLR		MLR		
	comp=N,340nm,16.0s								
SEY					MLR		MLR		
	comp=E,290nm,19.0s								
GRNR	**Gornyy**	**14.17**	**284**		*e*P		**Pn**	**18 32 44.1**	**+1.7**
GRNR					AMB		AMB	18 32 46.8	
	comp=E,42nm,1.0s								
HABR	**Khabarovsk**	**15.38**	**275**		⇑*e*P		**Pn**	**18 33 04.4**	**+5.8**
HABR					*e*S		**Sn**	**18 35 53.6**	**+5.1**
HABR					pmax		pmax		
	comp=Z,95nm,1.2s								
KLR	**Kul'dur**	**17.36**	**279**		*e*rx		rx	18 33 21.0	
KLR					AMS		AMS	18 39 34.0	
	comp=Z,1μm,17.0s								
KLR					AMS		AMS	18 39 34.0	
	comp=Z,500nm,17.0s								
KLR					AMS		AMS	18 42 44.5	
	comp=Z,2μm,14.0s								
BILL	**Bilibino**	**19.02**	**9**		*e*P		**Pn**	**18 33 44.8**	**+0.6**
BILL					pmax		pmax		
	comp=Z,45nm,1.0s								
BILL	**Bilibino**	**19.02**	**9**		*e*P		**Pn**	**18 33 44.8**	**+0.5**
	comp=Z,45nm,1.0s								
YASR	**Yasnyy**	**19.30**	**293**		*e*P		**Pn**	**18 33 42.3**	**-5.4**
YASR					AMB		AMB	18 33 55.7	
	comp=Z,5.0nm,0.7s								
YASR					AMB		AMB	18 33 55.7	
	comp=Z,9.0nm,0.7s								
YASR					AMB		AMB	18 33 55.7	
	comp=Z,12nm,0.7s								
VLA	**Vladivostok**	**19.35**	**261**		*e*P		**Pn**	**18 33 43.9**	**-4.3**
VLA					pmax		pmax		
	comp=Z,53nm,1.6s								
VLA					MLR		MLR		
	comp=Z,300nm,16.2s								
MAJO	**Matsushiro**	**19.57**	**236**		*e*P		**Pn**	**18 33 49.3**	**-1.6**
MAJO					pmax		pmax		
	comp=Z,12nm,0.6s								
MAJO	**Matsushiro**	**19.57**	**236**		*e*P		**Pn**	**18 33 49.3**	**-1.5**
	comp=Z,12nm,0.6s								
MAT	**Matsushiro**	**19.57**	**236**		P		**Pn**	**18 33 48.8**	**-2.1**
MAT	**Matsushiro**	**19.57**	**236**		*e*P		**Pn**	**18 33 49.0**	**-1.9**
MAT					pmax		pmax		
	comp=Z,14nm,0.8s								
MAT	**Matsushiro**	**19.57**	**236**		*e*P		**Pn**	**18 33 49.0**	**-1.9**
	comp=Z,14nm,0.8s								
MJAR	**Matsushiro Arr**	**19.57**	**236**		P		**Pn**	**18 33 49.3**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=37,slow=8.5,SNR=18								
MJAR					PcP		PcP	18 38 08.0	-1.2
	comp=Z,0.2nm,0.3s,baz=132,slow=1.9,SNR=4.3								
MJAR	**Matsushiro Arr**	**19.57**	**236**		P		**Pn**	**18 33 49.3**	**-1.6**
MJAR					PcP		PcP	18 38 08.0	-1.2
ZEA	**Zeya**	**19.73**	**294**		*e*P		**Pn**	**18 33 48.0**	**-4.8**
ZEA					AMB		AMB	18 33 51.7	
	comp=Z,24nm,1.2s								
ZEA					AMB		AMB	18 33 51.7	
	comp=Z,55nm,1.2s								
ZEA					AMS		AMS	18 43 42.0	
	comp=Z,200nm,11.0s								
ZEA					AMS		AMS	18 43 42.0	
	comp=Z,600nm,14.0s								
KROS	**Kirovskiy**	**19.91**	**296**		*i* P		**Pn**	**18 33 49.3**	**-5.5**
KROS					AMB		AMB	18 33 54.8	
	comp=Z,6.0nm,0.5s								
KROS					AMB		AMB	18 33 54.8	
	comp=Z,10.0nm,0.5s								
MDJ	**Mudanjiang**	**20.18**	**267**		P		**P**	**18 33 56.1**	**0.0**
MDJ					AMB		AMB		
	comp=Z,8.0nm,0.6s								
MDJ					AMB		AMB		
	comp=Z,46nm,5.3s								
MDJ	**Mudanjiang**	**20.18**	**267**		*e*P		**P**	**18 33 56.2**	**+0.1**
	comp=Z,51nm,1.0s								
YAK	**Yakutsk**	**20.26**	**319**		*e*P		**P**	**18 33 55.1**	**-2.0**
YAK					*e*			18 34 08.8	
YAK					*e*PPP			18 34 21.2	
YAK					*e*S		**S**	**18 37 38.3**	**-5.3**
YAK					*e*SS			18 38 02.2	
YAK					pmax		pmax		
	comp=Z,135nm,0.8s								
YAK					pmax		pmax		
	comp=N,44nm,1.3s								
YAK					pmax		pmax		
	comp=E,108nm,1.2s								
YAK					smax				
	comp=N,20nm,1.3s								
YAK					smax				
	comp=E,17nm,1.3s								
YAK					MLR		MLR		
	comp=Z,517nm,18.0s,MS3.9								
YAK					MLR		MLR		
	comp=N,179nm,11.0s								
YAK					MLR		MLR		
	comp=E,442nm,17.0s								
YAK	**Yakutsk**	**20.26**	**319**		*e*P		**P**	**18 33 54.6**	**-2.4**
	comp=E,240nm,0.7s								
NRGR	**Nerungri**	**21.31**	**303**		*e*P		**P**	**18 34 06.0**	**-2.4**
TNA	**Tin City**	**23.76**	**35**		*e*P		**P**	**18 34 33.9**	**-0.2**
	comp=E,13nm,0.9s,mb4.4								
HIA	**Hailar**	**25.01**	**284**		*e*P		**P**	**18 34 44.3**	**-1.1**
HIA					pmax		pmax		
	comp=Z,10.0nm,0.7s								
HIA	**Hailar**	**25.01**	**284**		*e*P		**P**	**18 34 44.3**	**-1.2**
	comp=Z,10nm,0.7s,mb4.5								
KS15	**Wonju Array Si**	**25.05**	**253**		*e*P		**P**	**18 34 46.3**	**+0.5**
KS15					*e*		pP	18 34 51.2	0.0
SNY	**Shenyang**	**25.36**	**266**		⇑P		**P**	**18 34 49.0**	**+0.4**
SNY					AP		pP	18 34 53.0	-1.1
SNY					XP		sP	18 34 56.6	+0.3
SNY					S		**S**	**18 39 17.1**	**+3.0**
SNY					XS		sS	18 39 24.6	+1.4
SNY					SS			18 40 08.5	
SNY					AMB		AMB		
	comp=Z,10.0nm,2.1s,mb4.0								
SNY					AMB		AMB		
	comp=Z,120nm,8.0s								
SNY					LR		LR		
	comp=N,210nm,12.3s,MS4.0								
SNY					LR		LR		
	comp=E,240nm,13.8s,MS4.0								
SNY					LR		LR		
	comp=Z,210nm,13.5s,MS3.8								
TIXI	**Tiksi**	**26.01**	**339**		⇓*e*P		**P**	**18 34 53.4**	**-1.1**
TIXI					pmax		pmax		
	comp=Z,57nm,1.3s,mb4.9								
TIXI					MLR		MLR		
	comp=Z,500nm,20.0s,MS4.0								
BOD	**Bodaibo**	**27.17**	**305**		*e*P		**P**	**18 35 02.7**	**-2.3**
BOD					pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.1								
CIT	**Chita**	**28.16**	**293**		*e*P		**P**	**18 35 13.8**	**-0.1**
KDAK	**Kodiak Island**	**29.61**	**55**		P		**P**	**18 35 24

SONM Songino Array 33.85 288 P **P** **18 36 03.9 -0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=73,slow=7.9,SNR=14
SONM PcP PcP 18 38 42.0 -0.6
comp=Z,2.4nm,0.9s,baz=73,slow=2.1,SNR=7.6
SONM LR LR 18 50 35.3
comp=Z,144nm,18.3s,MS3.7,baz=47,slow=38
SONM Songino Array 33.85 288 P **P** **18 36 03.9 -0.1**
SONM 18 38 42.0
SONM Songino Array 33.85 288 P **P** **18 36 03.9 -0.1**
SONM PcP PcP 18 38 42.0 -0.6
SONM LR LR 18 50 35.3
NJ2 Nanjing 34.19 254 *eP* **P** **18 36 06.9 0.0**
NJ2 AP pP 18 36 19.5 +7.1
NJ2 PP PP 18 37 22.0 -2.4
NJ2 S **S** **18 41 29.0 -3.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 LR LR
comp=N,570nm,14.3s,MS4.5
NJ2 LR LR
comp=E,360nm,12.8s,MS4.5
NJ2 LR LR
comp=Z,5μm,21.6s
ZAK Zakamensk 34.82 293 *eP* **P** **18 36 12.0 -0.4**
ZAK pmax pmax
comp=Z,20nm,1.3s,mb4.9
MOY Mondy 35.74 296 *eP* **P** **18 36 22.6 +2.3**
MOY pmax pmax
comp=Z,22nm,1.3s,mb4.9
INK Inuvik 37.40 35 P **P** **18 36 35.1 +0.6**
comp=Z,11nm,0.8s,mb4.7,baz=281,slow=6.6,SNR=32
INK Inuvik 37.40 35 P **P** **18 36 35.1 +0.6**
INK pmax pmax
comp=Z,11nm,0.8s
INK Inuvik 37.40 35 *eP* **P** **18 36 34.6 +0.1**
comp=Z,17nm,1.0s,mb4.8
KRAR Krasnoyarsk 38.85 305⇑ *eP* **P** **18 36 46.4 -0.3**
KRAR pmax pmax
comp=Z,76nm,1.4s,mb5.2
KRAR MLR MLR
comp=Z,100nm,19.0s,MS3.7
ENH Enshi 41.34 261 *eP* **P** **18 37 06.0 -1.3**
comp=Z,11nm,1.0s,mb4.4
LZH Lanzhou 41.35 272 *eP* **P** **18 37 09.1 +1.7**
LZH AMB AMB
comp=Z,41nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,260nm,5.0s
LZH LR LR
comp=N,435nm,12.8s
LZH LR LR
comp=Z,749nm,14.0s,MS4.7
GTA Gaotai 42.06 279 *eP* **P** **18 37 15.5 +2.3**
GTA AP pP 18 37 19.8 +1.0
GTA XP sP 18 37 22.8 +1.7
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.2
GTA AMB AMB
comp=Z,130nm,6.8s
GTA LR LR
comp=N,290nm,23.2s
GTA LR LR
comp=E,265nm,17.9s
GTA LR LR
comp=Z,860nm,21.3s,MS4.6
NVS Novosibirsk 44.38 307 *eP* **P** **18 37 29.6 -2.3**
NVS *eS* **S** **18 43 57.7 -7.8**
NVS pmax pmax
comp=E,31nm,1.3s
NVS pmax pmax
comp=Z,37nm,1.3s,mb5.0
NVS pmax pmax
comp=N,19nm,1.4s
NVS smax
comp=N,16nm,1.9s
NVS smax
comp=E,13nm,1.9s
CD2 Chengdu 44.63 266 P **P** **18 37 34.3 +0.3**
CD2 PP PP 18 39 19.5 +1.2
CD2 S **S** **18 44 10.1 +0.8**
CD2 SS SS 18 47 20.6 -8.8
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,80nm,4.9s
CD2 LR LR
comp=E,150nm,8.4s
CD2 LR LR
comp=Z,90nm,13.2s,MS3.9
GYA Guiyang 45.75 259 P **P** **18 37 44.8 +1.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
YKW3 Yellowknife Ar 46.54 40 *eP* **P** **18 37 49.3 +0.2**
YKA Yellowknife Ar 46.57 40 P **P** **18 37 49.3 0.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=297,slow=7.7,SNR=51
YKA PcP PcP 18 39 22.5 -0.8
comp=Z,1.0nm,0.5s,baz=302,slow=3.7,SNR=8.2
YKA LR LR 19 00 31.7
comp=Z,49nm,19.0s,MS3.5,baz=65,slow=40
YKA Yellowknife Ar 46.57 40 P **P** **18 37 49.3 0.0**
YKA 18 39 22.5
YKA Yellowknife Ar 46.57 40 P **P** **18 37 49.3 0.0**
YKA PcP PcP 18 39 22.5 -0.8
YKA LR LR 19 00 31.7
RES Resolute Bay 47.07 20 *eP* **P** **18 37 53.4 +0.2**
RES pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RES Resolute Bay 47.07 20 *eP* **P** **18 37 53.4 +0.2**
comp=Z,3.9nm,0.6s,mb4.5
WMQ Urumqi 47.25 291 *eP* **P** **18 37 54.0 -0.6**
WMQ PCP PcP 18 39 26.0 +0.3
WMQ PP PP 18 39 45.0 -0.7
WMQ SCP ScP 18 43 20.0 +1.2
WMQ S **S** **18 44 47.0 +0.1**
WMQ SS SS 18 48 07.0 -7.3
WMQ AMB AMB
comp=Z,18nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,98nm,4.0s
WMQ LR LR
comp=N,175nm,12.0s,MS4.3
WMQ LR LR
comp=E,114nm,11.0s,MS4.3
WMQ LR LR
comp=Z,98nm,11.0s,MS4.0
KURK Kurchatov 48.81 304 *c iP* **P** **18 38 06.3 -0.4**
KURK Kurchatov 48.81 304 *eP* **P** **18 38 05.4 -1.3**
comp=Z,38nm,1.0s,mb5.4
MK31 Makanchi Array 48.84 298 *i P* **P** **18 38 06.3 -0.7**
MK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
MKAR Makanchi Array 48.84 298 P **P** **18 38 06.5 -0.4**
comp=Z,5.4nm,0.5s,mb4.9,baz=57,slow=6.5,SNR=95
KMI Kunming 49.21 261 P **P** **18 38 12.3 +2.5**
KMI AP pP 18 38 15.3 -0.2
KMI PP PP 18 40 06.5 +2.9
KMI S **S** **18 45 19.3 +4.7**
KMI SS SS 18 48 42.5 -3.5
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,113nm,3.2s
KMI LR LR
comp=N,270nm,13.4s,MS4.5
KMI LR LR
comp=E,171nm,15.5s,MS4.5
KMI LR LR
comp=Z,150nm,15.3s,MS4.1
BVA0 Borovoye Array 51.86 310 *i P* **P** **18 38 28.6 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BRVK Borovoye 51.89 310 *eP* **P** **18 38 29.2 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BRVK Borovoye 51.89 310 *eP* **P** **18 38 29.2 -0.8**
comp=Z,10nm,0.7s,mb4.9
ZRNK Zerenda 52.59 310 *eP* **P** **18 38 34.5 -0.7**
ZRNK pmax pmax
comp=Z,17nm,0.6s,mb5.2
ZRNK Zerenda 52.59 310 *eP* **P** **18 38 34.5 -0.8**
comp=Z,17nm,0.6s,mb5.1
YBH Yreka Blue Hor 53.34 66 *eP* **P** **18 38 42.2 +1.4**
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 53.34 66 *eP* **P** **18 38 42.2 +1.4**
comp=Z,7.4nm,1.0s,mb4.6

LSA Lhasa 53.64 275 *eP* **P** **18 38 45.1 +2.1**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSA Lhasa 53.64 275 *eP* **P** **18 38 45.1 +2.1**
comp=Z,6.4nm,0.8s,mb4.6
DAG Danmarks Havn 54.01 359⇑ *iP* **P** **18 38 45.0 -0.6**
comp=Z,6.2nm,0.7s,mb4.7
DAG Danmarks Havn 54.01 359⇑ *iP* **P** **18 38 45.0 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MOD Modoc 54.67 65 *eP* **P** **18 38 51.1 +0.6**
comp=Z,11nm,0.7s,mb5.0
TKM2 Tokmak 2 54.96 297 P **P** **18 38 52.9 +0.3**
SNR=12
WVOR Wild Horse Val 55.32 63 *eP* **P** **18 38 56.1 +0.9**
WVOR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
WVOR Wild Horse Val 55.32 63 *eP* **P** **18 38 56.1 +1.0**
comp=Z,10nm,0.6s,mb5.0
ARU Arti 55.37 318 *d iP* **P** **18 38 54.9 -0.6**
ARU pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.2
ARU Arti 55.37 318 *eP* **P** **18 38 54.7 -0.8**
comp=Z,20nm,0.8s,mb5.2
USP Ospenovka 55.38 298 P **P** **18 38 56.2 +0.6**
SNR=15
CHMS Chumysh 55.40 298 P **P** **18 38 56.5 +0.7**
SNR=10
KBK Karagaybulak 55.50 297 P **P** **18 38 56.9 +0.5**
SNR=10
OHCM Honcut 55.55 68 *eP* **P** **18 38 56.5 -0.3**
CHMT Chamberlain Mo 55.59 56 *eP* **P** **18 38 57.0 -0.2**
KZA Kyzart 55.68 296 P **P** **18 38 59.5 +1.7**
SNR=5.5
AAK Ala-Archa 55.78 297 P **P** **18 38 59.0 +0.6**
SNR=12
AAK Ala-Archa 55.78 297 *eP* **P** **18 38 57.8 -0.7**
AAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
AAK Ala-Archa 55.78 297 *eP* **P** **18 38 57.8 -0.6**
comp=Z,9.8nm,0.7s,mb5.0
KEV Kevo 55.91 342 *ep* **P** **18 38 57.8 -1.6**
comp=Z,5.4nm,0.7s,mb4.7
KEV Kevo 55.91 342 *eP* **P** **18 38 57.8 -1.6**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
EKS2 Erkin-Say 56.17 298 P **P** **18 39 01.1 -0.2**
SNR=17
ARCES ARCESS Array B 56.40 342 P **P** **18 39 02.2 -0.6**
comp=Z,8.0nm,0.7s,mb4.9,baz=45,slow=9.6,SNR=18
ARCES LR LR 19 10 03.3
comp=Z,159nm,18.1s,MS4.2,baz=30,slow=43
AML Almayashu 56.55 297 P **P** **18 39 05.2 +1.2**
SNR=5.7
KSH Kashi 56.86 294 *eP* **P** **18 39 09.0 +2.8**
KSH *e*AP pP 18 39 19.3 +7.3
KSH *e*PCP PcP 18 40 03.1 +1.4
KSH *e*PPP 18 42 37.3
KSH *e*SCP ScP 18 43 59.1 -1.2
KSH *e*PCS PcS 18 44 03.1 +0.6
KSH *e*S **S** **18 46 58.3 -0.6**
KSH *e*SCS ScS 18 48 52.3 -2.4
KSH *e*SS SS 18 50 49.3 +2.2
KSH AMB AMB
comp=Z,20nm,1.2s,mb5.0
KSH AMB AMB
comp=Z,160nm,4.5s
KSH LR LR
comp=N,310nm,5.1s
KSH LR LR
comp=E,350nm,4.6s
FCC Fort Churchill 56.98 36 *eP* **P** **18 39 06.4 -0.6**
FCC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FCC Fort Churchill 56.98 36 *eP* **P** **18 39 06.4 -0.6**
comp=Z,8.0nm,0.9s,mb4.8
SUMG Summit 57.66 6 *eP* **P** **18 39 12.2 +0.4**
comp=Z,16nm,1.0s,mb5.0
KK31 Karatay Array 57.76 300 *i P* **P** **18 39 12.3 -0.2**
KK31 pmax pmax
comp=Z,14nm,0.7s,mb5.1
KKAR Karatay Array 57.76 300 *i P* **P** **18 39 12.3 -0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
QLMT Earthquake Lak 57.89 57 *eP* **P** **18 39 14.2 +0.7**
NVAR Mina Array Bea 58.04 67 P **P** **18 39 15.4 +0.9**
comp=Z,4.4nm,0.7s,mb4.6,baz=302,slow=5.8,SNR=38
JIRN Jiri 58.23 276 *eP* **P** **18 39 16.7 +0.9**
comp=Z,24nm,0.8s,mb5.3
GUN Gumba 58.26 277 *eP* **P** **18 39 16.7 +0.6**
comp=Z,15nm,0.6s,mb5.2
ELK Elko 58.36 63 *eP* **P** **18 39 17.7 +1.0**
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK Elko 58.36 63 *eP* **P** **18 39 17.7 +1.0**
comp=Z,4.6nm,0.8s,mb4.6
KKN Kakani 58.73 277 *eP* **P** **18 39 20.1 +0.8**
comp=Z,41nm,0.9s,mb5.5
KKN Kakani 58.73 277 *eP* **P** **18 39 20.1 +0.8**
KKN pmax pmax
comp=Z,21nm,0.9s,mb5.2
FLWY Flagg Ranch 58.77 57 *eP* **P** **18 39 21.1 +1.5**
comp=Z,32nm,1.6s,mb5.1
PKI Pulchoki 58.80 277 *eP* **P** **18 39 20.1 +0.3**
DMN Daman 58.97 277 *eP* **P** **18 39 22.0 +1.0**
comp=Z,28nm,0.8s,mb5.4
GKN Gorkha 59.00 278 *eP* **P** **18 39 21.9 +0.7**
comp=Z,55nm,1.0s,mb5.5
KLMR Klimovskoe 59.56 330 *eP* **P** **18 39 24.5 -0.5**
KLMR pmax pmax
comp=Z,50nm,1.3s,mb5.4
KOLN Koldanda 59.83 278 *eP* **P** **18 39 27.6 +0.7**
DUG Dugway 60.12 62 *eP* **P** **18 39 29.7 +0.8**
DUG pmax pmax
comp=Z,15nm,1.3s,mb4.9
DUG Dugway 60.12 62 *eP* **P** **18 39 29.7 +0.8**
comp=Z,15nm,1.3s,mb4.9
PDAR Pinedale Array 60.26 58 P **P** **18 39 30.6 +0.7**
comp=Z,5.4nm,0.9s,mb4.6,baz=307,slow=3.0,SNR=35
JOF Joensuu 60.40 335 *ep* **P** **18 39 29.6 -1.3**
comp=Z,10nm,0.8s,mb4.9
MSU Marysvale 61.61 63 *eP* **P** **18 39 40.1 +1.1**
ULM Lac du Bonnet 62.10 44 P **P** **18 39 41.7 -0.6**
comp=Z,4.2nm,0.9s,mb4.6,baz=318,slow=5.3,SNR=7.6
SRU San Rafael 62.16 62 *eP* **P** **18 39 42.8 +0.1**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SRU San Rafael 62.16 62 *eP* **P** **18 39 42.8 +0.1**
comp=Z,6.3nm,0.8s,mb4.8
KAF Kangasniemi 62.39 337 *ep* **P** **18 39 43.2 -1.1**
comp=Z,7.3nm,0.5s,mb5.1,baz=33,slow=6.2
KAF Kangasniemi 62.39 337 *eP* **P** **18 39 43.2 -1.1**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
FINES FINESS Array B 63.02 337 P **P** **18 39 47.9 -0.6**
comp=Z,11nm,0.7s,mb5.1,baz=40,slow=8.1,SNR=65
FINES LR LR 19 11 53.1
comp=Z,114nm,18.1s,MS4.1,baz=340,slow=40
FINES FINESS Array B 63.02 337 P **P** **18 39 47.9 -0.6**
FINES LR LR 19 11 53.1
SMCO Snowmass 64.13 59 *eP* **P** **18 39 56.0 +0.2**
comp=Z,6.5nm,1.0s,mb4.6
MOS Moscow 64.13 327 *eP* **P** **18 39 54.0 -1.8**
OBN Obninsk 65.00 327 *d iP* **P** **18 40 00.5 -1.0**
OBN *e**PP pP 18 40 13.3 +6.0
OBN *e*SS SS 18 52 48.7 -5.8
OBN pmax pmax
comp=Z,29nm,0.8s,mb5.4
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
OBN Obninsk 65.00 327 *eP* **P** **18 40 00.9 -0.6**
comp=Z,27nm,0.9s,mb5.3
VSU Vasula 65.36 334⇓ *eP* **P** **18 40 03.4 -0.5**
NB2 NORSAR Subarra 66.71 343 P **P** **18 40 11.9 -0.6**
comp=Z,18nm,0.7s,mb5.2,baz=23,slow=6.5
NOA NORSAR Array B 66.71 343 P **P** **18 40 12.0 -0.5**
comp=Z,8.3nm,0.7s,mb4.9,baz=22,slow=6.4,SNR=40
NOA LR LR 19 17 23.7
comp=Z,83nm,18.4s,MS4.0,baz=15,slow=43
NAO01 NORSAR Array S 66.95 343 *eP* **P** **18 40 13.5 -0.6**
comp=Z,19nm,0.9s,mb5.1
NAO01 *e* pP 18 40 18.4 -1.5
VRSR Storozhevoye 67.11 323 *eP* **P** **18 40 14.3 -0.8**
VRSR *e* 18 40 41.4

VRSR pmax pmax
comp=E,3.0nm,0.9s
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,5.0nm,0.8s
LAZ Ladron 67.38 63 *eP* **P** **18 40 17.7 +0.9**
ANMO Albuquerque 67.38 62⇑ *eP* **P** **18 40 17.6 +0.8**
SUW Suwalki 70.21 334 *eP* **P** **18 40 34.0 -0.4**
SUW *e* 18 40 47.0
GOF Gofitskoye 70.33 317 *eP* **P** **18 40 34.7 -0.5**
GOF pmax pmax
comp=Z,70nm,0.8s,mb5.6
HYB Hyderabad 70.43 274 *i P* **P** **18 40 36.0 +0.2**
HYB Hyderabad 70.43 274 *eP* **P** **18 40 36.0 +0.2**
AKASG Malin Array Be 71.16 329 P **P** **18 40 39.2 -1.0**
comp=Z,7.7nm,0.6s,mb4.8,baz=31,slow=6.0,SNR=29
AKASG Malin Array Be 71.16 329 P **P** **18 40 39.2 -1.0**
ZEI Tsey 71.73 315 *eP* **P** **18 40 43.1 -0.5**
ZEI *i* *PP pP 18 40 56.1 +6.6
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WRAB Tennant Creek 72.35 204 *eP* **P** **18 40 45.9 -1.4**
WRAB pmax pmax
comp=Z,30nm,0.9s,mb5.2
WRAB Tennant Creek 72.35 204 *eP* **P** **18 40 45.9 -1.5**
comp=Z,30nm,0.9s,mb5.2
WB2 Warramunga Arr 72.36 204⇑ *iP* **P** **18 40 46.3 -1.1**
WRA Warramunga Arr 72.36 204 P **P** **18 40 46.5 -0.9**
comp=Z,16nm,0.9s,mb5.0,baz=20,slow=6.4,SNR=48
GKP Gorka Klasztor 72.49 337 *eP* **P** **18 40 53.0 +4.8**
SOC Sochi 72.96 318 *eP* **P** **18 40 50.1 -0.9**
SOC *e**PP pP 18 41 04.9 +8.0
SOC *e*S S 18 50 08.0 -8.8
SOC *e* 18 50 46.7
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GNI Garni 73.38 313⇑ *eP* **P** **18 40 55.2 +1.7**
GNI pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 73.38 313 *eP* **P** **18 40 54.5 +1.0**
comp=Z,15nm,0.8s,mb5.0
BSEG Bad Segeberg 73.50 341 *eP* **P** **18 40 54.7 +0.5**
comp=Z,9.0nm,1.0s,mb4.7
KWP Kalwaria 74.20 332 *eP* **P** **18 40 58.6 +0.4**
KWP *e* pP 18 41 03.9 -0.3
OJC Ojcow 74.54 334 *eP* **P** **18 41 00.2 0.0**
STHS Stebnicka Huta 74.83 333 *eP* **P** **18 41 02.6 +0.7**
STHS *e*pP pP 18 41 07.9 0.0
STHS *e* 18 41 17.9
KSP Ksiaz 74.94 336 *eP* **P** **18 41 03.0 +0.4**
KSP *e* pP 18 41 08.2 -0.3
KSP Ksiaz 74.94 336 *eP* **P** **18 41 02.5 -0.1**
KOLS Kolonicke sedl 74.95 332 *eP* **P** **18 41 02.5 -0.1**
KOLS *e*pP pP 18 41 07.3 -1.2
KOLS *e* 18 41 17.4
BURAR Bucovina Array 75.16 329 ⇑P **P** **18 41 03.6 -0.2**
BURAR Bucovina Array 75.16 329 ⇑P **P** **18 41 03.6 -0.2**
UPC Upice 75.32 336 *eP* **P** **18 41 04.6 -0.2**
UPC *e*pP pP 18 41 10.2 -0.5
CLL Collm 75.34 338 *eP* **P** **18 41 04.4 -0.5**
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 75.34 338 *i* P **P** **18 41 04.3 -0.6**
comp=Z,16nm,1.3s,mb4.8
CLL *i* pP pP 18 41 10.1 -0.7
CLL *i* PcP PcP 18 41 20.9 +2.8
CLL Collm 75.34 338 *i* P **P** **18 41 04.3 -0.6**
CLL *i* pP 18 41 10.1 -0.7
CLL *i* 18 41 20.9
CLL pmax pmax
comp=Z,16nm,1.3s,mb4.8
OKC Ostrava-Krasne 75.35 335 *eP* **P** **18 41 02.6 -2.3**
OKC *e*pP pP 18 41 08.2 -2.6
DPC Dobruska-Polom 75.38 336 *eP* **P** **18 41 03.9 -1.2**
DPC *e*pP pP 18 41 09.5 -1.5
CLZ Clausthal 75.45 340 *eP* **P** **18 41 05.9 +0.4**
comp=Z,13nm,1.1s,mb4.8
CLZ Clausthal 75.45 340 *eP* **P** **18 41 05.9 +0.4**
CLZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 75.51 338 *eP* **P** **18 41 05.6 -0.3**
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 75.51 338 *eP* **P** **18 41 05.5 -0.4**
comp=Z,12nm,1.9s,mb4.5
BRG Berggiesshubel 75.51 338 *eP* **P** **18 41 05.5 -0.4**
BRG pmax pmax
comp=Z,12nm,1.9s,mb4.5
MORC Moravsky Berou 75.57 335 *eP* **P** **18 41 06.3 +0.1**
MORC pmax pmax
comp=Z,14nm,0.9s,mb4.9
MORC Moravsky Berou 75.57 335 *eP* **P** **18 41 06.3 +0.1**
comp=Z,14nm,0.9s,mb4.9
KECS Kecovo 75.89 333 *eP* **P** **18 41 07.6 -0.4**
KECS *e*pP pP 18 41 13.3 -0.6
KECS *e* 18 41 24.3
AS31 Alice Springs 76.03 203 *eP* **P** **18 41 08.4 -0.4**
ASAR Alice Springs 76.03 203 P **P** **18 41 08.1 -0.7**
comp=Z,3.4nm,0.7s,mb4.4,baz=10,slow=5.3,SNR=25
ASPA Alice Springs 76.03 203 *eP* **P** **18 41 08.4 -0.4**
PRU Pruhonice 76.18 337 *eP* **P** **18 41 09.9 +0.2**
PRU *e*pP pP 18 41 15.1 -0.5
MOX Moxa 76.28 339 *eP* **P** **18 41 10.3 0.0**
comp=Z,5.0nm,1.1s,mb4.4
MOX Moxa 76.28 339 *eP* **P** **18 41 10.2 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 76.28 339 *eP* **P** **18 41 10.2 -0.1**
MOX pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WERD Werda 76.31 338 *eP* **P** **18 41 09.8 -0.6**
comp=Z,4.0nm,1.1s,mb4.3
NKC Novy Kostel 76.47 338 *eP* **P** **18 41 11.4 +0.1**
TREC Trest 76.57 336 *eP* **P** **18 41 11.6 -0.3**
TREC *e*pP pP 18 41 17.4 -0.4
HARR Harsova 76.75 326 ⇓P **P** **18 41 09.1 -3.8**
HARR Harsova 76.75 326 ⇓P **P** **18 41 09.1 -3.8**
MLR Muntele Rosu 76.76 328 ⇑P **P** **18 41 13.0 0.0**
MLR Muntele Rosu 76.76 328 ⇑P **P** **18 41 13.0 0.0**
ROTZ Rotzenmuhle 76.96 338 *eP* **P** **18 41 14.2 +0.1**
comp=Z,11nm,1.1s,mb4.7
KHC Kasperske Hory 77.21 337 *eP* **P** **18 41 15.5 0.0**
KHC *e*pP pP 18 41 21.6 +0.2
KHC AMS AMS 19 20 30.0
comp=Z,300nm,16.5s
GRA1 Grafenberg Arr 77.27 339 *eP* **P** **18 41 16.0 +0.2**
comp=Z,31nm,1.2s,mb5.1
GRA1 *e*pP pP 18 41 21.6 -0.1
GRA1 *e* 18 41 29.3
GRF Grafenberg Arr 77.27 339 *eP* **P** **18 41 16.0 +0.2**
comp=Z,31nm,1.2s,mb5.1
GRF *e*pP pP 18 41 21.6 -0.1
GRF *e* 18 41 29.3
GRF Grafenberg Arr 77.27 339 *eP* **P** **18 41 16.0 +0.2**
GRF *e**PP pP 18 41 21.6 -0.1
GRF *e* 18 41 29.3
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.1
GRF Grafenberg Arr 77.27 339 *eP* **P** **18 41 16.0 +0.2**
GRF *e**PP pP 18 41 21.6 -0.1
GRF *e* 18 41 29.3
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.1
WET Wettzell 77.38 338 *eP* **P** **18 41 16.9 +0.5**
comp=Z,8.0nm,1.1s,mb4.6
WET Wettzell 77.38 338 *eP* **P** **18 41 16.9 +0.5**
WET pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GERES GERESS Array B 77.44 337 P **P** **18 41 16.8 0.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=32,slow=5.2,SNR=18
GERES LR LR 19 22 42.8
comp=Z,129nm,18.1s,MS4.3,baz=12,slow=41
MALT Malatya 77.79 316 *eP* **P** **18 41 19.7 +1.0**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MALT Malatya 77.79 316 *eP* **P** **18 41 19.7 +0.9**
comp=Z,10nm,1.1s,mb4.7
BZS Buzias 78.10 331 ⇑P **P** **18 41 19.9 -0.5**
BZS Buzias 78.10 331 ⇑P **P** **18 41 19.9 -0.6**
GIVF Givet 78.24 343 *eP* **P** **18 41 21.3 +0.1**
BAIF Baives 78.40 343 *eP* **P** **18 41 21.8 -0.3**
WLF Walferdange 78.40 342 *eP* **P** **18 41 23.4 +1.3**
comp=Z,5.0nm,1.2s,mb4.3
ARSA Arzberg 78.43 335⇑ *iP* **P** **18 41 23.0 +0.7**
comp=Z,8.7nm,1.3s,mb4.5
BR131 Keskin Array S 78.72 320 *eP* **P** **18 41 23.8 -0.1**

comp=Z,2.2nm,0.6s,mb4.3
BRTR Keskin Array B 78.72 320 P **P 18 41 24.0 +0.1**
comp=Z,4.9nm,0.9s,mb4.4,baz=51,slow=2.7,SNR=12
BRTR Keskin Array B 78.72 320 *i* P **P 18 41 25.2 +1.3**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
KBA Koelnbreinsper 79.17 337⇑ *i* P **P 18 41 27.6 +1.2**
comp=Z,25nm,0.8s,mb5.2
KBA Koelnbreinsper 79.17 337 ⇑P **P 18 41 27.6 +1.3**
KBA pmax pmax
comp=Z,25nm,0.8s,mb5.2
BFO Black Forest 79.20 340 *e*P **P 18 41 26.9 +0.4**
comp=Z,3.0nm,1.0s,mb4.2
BFO Black Forest 79.20 340 *e*P **P 18 41 26.9 +0.4**
BFO pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CDF Champ du Feu 79.36 341 *e*P **P 18 41 27.0 -0.4**
comp=Z,40nm,1.3s,mb4.9
WTTA Wattenberg 79.43 338⇑ *i* P **P 18 41 28.9 +1.1**
comp=Z,19nm,1.2s,mb4.9
WTTA Wattenberg 79.43 338 ⇑P **P 18 41 28.9 +1.1**
WTTA pmax pmax
comp=Z,19nm,1.2s,mb4.9
MOTA Moosalm 79.48 338⇑ *i* P **P 18 41 28.6 +0.5**
comp=Z,13nm,1.0s,mb4.8
MOTA Moosalm 79.48 338 ⇑P **P 18 41 28.6 +0.5**
MOTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 79.58 338⇑ *i* P **P 18 41 29.4 +0.9**
comp=Z,15nm,1.3s,mb4.8
SQTA Sankt Quirin 79.58 338 ⇑P **P 18 41 29.4 +0.8**
SQTA pmax pmax
comp=Z,15nm,1.3s,mb4.8
DAVA Damuels 79.83 339⇑ *i* P **P 18 41 30.4 +0.4**
comp=Z,8.9nm,1.0s,mb4.6
DAVA Damuels 79.83 339 ⇑P **P 18 41 30.4 +0.4**
comp=Z,8.9nm,1.0s,mb4.7
HAU Haudompre 79.94 341 *e*P **P 18 41 31.0 +0.5**
comp=Z,12nm,0.9s,mb4.5
HAU *e*R
comp=Z,104nm,19.2s
HINF Hinteralfeld 80.01 341 *e*P **P 18 41 31.0 +0.1**
MIB Mutribah 80.16 305 *e*P **P 18 41 30.9 -0.8**
MIB AMb AMB 18 41 32.4
comp=Z,11nm,0.7s,mb4.9
FLN La Foliniere 80.46 346 *e*P **P 18 41 32.9 -0.4**
comp=Z,22nm,1.0s,mb4.8
FLN *e*R
comp=Z,86nm,17.8s
NAY Al-Naaiem 80.65 304 *e*P **P 18 41 32.6 -1.8**
NAY AMb AMB 18 41 34.5
comp=Z,7.6nm,1.0s,mb4.6
QRN Al-Qurain 80.68 304 *e*P **P 18 41 33.5 -1.0**
QRN AMb AMB 18 41 36.2
comp=Z,31nm,1.5s,mb5.0
RDF Al-Radifah 80.73 304 *e*P **P 18 41 34.2 -0.6**
RDF AMb AMB 18 41 35.4
comp=Z,17nm,0.7s,mb5.1
GRR Gorron 80.88 346 *e*P **P 18 41 35.3 -0.3**
comp=Z,48nm,1.2s,mb5.0
LOR Lormes 81.14 343 *e*P **P 18 41 36.5 -0.5**
comp=Z,26nm,1.1s,mb4.8
LOR *e*R
comp=Z,76nm,19.8s
SGMF Saint Gilles 81.27 347 *e*P **P 18 41 37.4 -0.2**
comp=Z,59nm,1.2s,mb5.1
ROSF Rostrenen 81.29 348 *e*P **P 18 41 37.7 -0.1**
CABF La Chapelle 81.32 341 *e*P **P 18 41 38.5 +0.6**
SSF Saint Saulge 81.41 343 *e*P **P 18 41 38.8 +0.4**
comp=Z,17nm,0.9s,mb4.7
AVF Avril sur Loir 81.70 343 *e*P **P 18 41 39.7 -0.2**
comp=Z,18nm,0.9s,mb4.7
SMF Signal de Mont 81.74 343 *e*P **P 18 41 39.9 -0.3**
BGF Bois d'Agland 82.02 343 *e*P **P 18 41 41.4 -0.2**
comp=Z,11nm,0.7s,mb4.6
LPL La Plagne 82.22 340 *e*P **P 18 41 43.2 +0.5**
comp=Z,9.3nm,0.7s,mb4.5
LPG La Plagne 82.23 340 *e*P **P 18 41 43.4 +0.6**
comp=Z,13nm,0.7s,mb4.7
STKA Stephens Creek 82.38 194 *e*P **P 18 41 34.4 -9.1**
comp=Z,3.7nm,1.1s,mb4.2
STKA Stephens Creek 82.38 194 P **P 18 41 40.4 -3.1**
comp=Z,2.3nm,0.8s,mb4.1,baz=358,slow=6.6,SNR=7.2
STKA Stephens Creek 82.38 194 P **P 18 41 40.4 -3.1**
TCF Toulx Ste Croi 82.39 344 *e*P **P 18 41 43.5 -0.1**
comp=Z,20nm,0.9s,mb4.7
MFF Saint Martin d 82.50 345 *e*P **P 18 41 44.2 0.0**
comp=Z,27nm,1.0s,mb4.9
MBDF Montbardon 82.96 340 *e*P **P 18 41 46.3 -0.2**
ORIF Oris-en-Rattie 82.97 341 *e*P **P 18 41 46.9 +0.3**
comp=Z,22nm,1.1s,mb4.8
ORIF *e*R
comp=Z,91nm,17.2s
RJF Les Rejaudoux 83.47 344 *e*P **P 18 41 49.1 -0.1**
RJF *e*R
comp=Z,81nm,17.8s
SBF Sospel 83.63 339 *e*P **P 18 41 49.4 -0.6**
comp=Z,92nm,1.0s,mb5.5
CAF Calviac 83.73 343 *e*P **P 18 41 50.1 -0.4**
comp=Z,10.0nm,0.9s,mb4.7
FRF La Foret Royal 84.10 340 *e*P **P 18 41 51.6 -0.8**
LMR La Mourre 84.34 340 *e*P **P 18 41 53.2 -0.4**
comp=Z,60nm,1.1s,mb5.3
ESDC Sonseca Array 89.87 346 P **P 18 42 19.7 -0.7**
comp=Z,3.6nm,0.8s,mb4.7,baz=8.7,slow=2.4,SNR=5.3
TORD Torodi Ar. Bea 114.35 335 PKP PKiKP 18 48 00.2 -1.0
comp=Z,0.9nm,0.8s,baz=332,slow=1.2,SNR=7.3
TORD PP PP 18 48 53.4 -3.6
comp=Z,1.1nm,0.8s,baz=5.9,slow=7.4,SNR=5.6
DBIC Dimbokro 122.20 340 PKP PKPdf 18 48 15.5 -0.8
comp=Z,3.0nm,0.7s,baz=333,slow=1.1,SNR=7.2
LPAZ La Paz 129.94 65 PKP PKPdf 18 48 30.2 -0.9
comp=Z,0.6nm,0.7s,baz=17,slow=3.8,SNR=3.9
LPAZ La Paz 129.94 65 PKP PKPdf 18 48 30.2 -0.9
PLCA Paso Flores 144.89 95 PKP PKPdf 18 48 56.6 -2.0
comp=Z,8.9nm,1.0s,baz=276,slow=4.0,SNR=11
PLCA Paso Flores 144.89 95 PKIKP PKPdf 18 48 56.6 -2.0
PLCA pmax pmax
comp=Z,9.0nm,1.0s
PLCA Paso Flores 144.89 95 *e*P PKPdf 18 48 56.5 -2.0

IDC 23 19:19:38.8±68.0, 1826S×17627E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1194.0km s-min=137.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.05**	**240**	P	P	19 26 24.9	+0.3
	0.5nm,0.3s,baz=91,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**39.58**	**261**	P	P	19 27 11.8	+0.1
	0.1nm,0.3s,baz=95,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**39.82**	**255**	P	P	19 27 14.2	+0.5
	1.2nm,0.4s,baz=88,slow=8.0,SNR=29						

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*IDC **23** 19:32:39.5±0.9, 423N×12822E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=76.7km s-min=18.1km az=73.0*
*NEIC **23** 19:32:41.0±0.4, 430N×12828E, h10km, mb4.6/6, Error ellipse: s-maj=19.2km s-min=6.2km az=66.0*
*ISCJB **23** 19:32:42.7±0.6, 428N±0.10×1283E±02, h33km, mb4.3/11, Error ellipse: s-maj=28.9km s-min=9.1km az=132.3*
ISC 23 19:32:44.8±0.6, 43N±01×1284E±02, h35km, n20, σ0§52/19, mb4.3/11, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.40**	**360**	LR	LR	19 45 54.2	
	comp=Z,43nm,20.4s,baz=49,slow=35						
WRAB	**Tennant Creek**	**24.80**	**166**	*e*P	P	19 38 02.8	-0.6
WRA	**Warramunga Arr**	**24.80**	**166**	P	P	19 38 03.4	-0.1
	1.3nm,0.4s,mb3.8,baz=343,slow=10,SNR=32						
WB2	**Warramunga Arr**	**24.81**	**166**	*e*P	P	19 38 03.7	+0.2
MBWA	**Marble Bar**	**26.68**	**198**	P	P	19 38 21.5	+1.0
ASAR	**Alice Springs**	**28.32**	**169**	P	P	19 38 34.9	-0.3
	0.1nm,0.3s,baz=349,slow=7.5,SNR=5.5						
STKA	**Stephens Creek**	**38.12**	**162**	P	P	19 39 59.9	-0.5
	1.4nm,0.7s,mb3.8,baz=339,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**38.12**	**162**	*e*P	P	19 40 00.6	+0.1
JIRN	**Jiri**	**46.37**	**305**	*e*P	P	19 41 08.1	+0.5
	17nm,1.0s,mb5.0						
GUN	**Gumba**	**46.72**	**305**	*e*P	P	19 41 10.9	+0.6
	24nm,1.1s,mb5.0						
ULN	**Ulaanbaatar**	**47.10**	**340**	*e*P	P	19 41 13.6	+0.3
	2.9nm,0.8s,mb4.3						
KKN	**Kakani**	**47.16**	**304**	*e*P	P	19 41 13.8	0.0
DMN	**Daman**	**47.24**	**304**	*e*P	P	19 41 14.3	-0.1
SONM	**Songino Array**	**47.30**	**340**	P	P	19 41 15.1	+0.3
	1.2nm,0.7s,mb4.0,baz=151,slow=9.0,SNR=9.9						
GKN	**Gorkha**	**47.77**	**304**	*e*P	P	19 41 18.1	-0.4
KOLN	**Koldanda**	**48.55**	**304**	*e*P	P	19 41 23.9	-0.6
	15nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**58.02**	**324**	P	P	19 42 34.1	0.0
	1.2nm,0.5s,mb4.2,baz=118,slow=8.0,SNR=53						
KURK	**Kurchatov**	**62.14**	**327**	*e*P	P	19 43 01.7	-0.7
	2.9nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**68.47**	**326**	*e*P	P	19 43 42.5	-0.8
	1.3nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**83.89**	**25**	P	P	19 45 11.8	+0.8
	0.5nm,0.8s,mb3.7,baz=233,slow=4.9,SNR=5.2						

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*NAO **23** 20:04:29.3, 2293N×9308E, h33km, mb5.6*
*ISCJB **23** 20:04:50.9±0.5, 2695N±002×9167E±002, h4km±3km, mb5.4/255, MS5.3/182, Error ellipse: s-maj=3.6km s-min=2.5km az=11.6*
*CRAAG **23** 20:04:51.9, 2699N×9165E, Mb5.6*
*LDG **23** 20:04:51.4±0.2, 2700N×9152E, h10km, Mb5.6/43, Ms4.9/8, Error ellipse: s-maj=9.5km s-min=5.5km az=145.0*
*BJI **23** 20:04:52.6, 27.10N×9179E, h11km, mB5.4, mb5.0, ML5.4, Ms5.9, Msz5.5*
*BGS **23** 20:04:53.2±1.8, 2689N×9165E, h10km, mb5.7*
*NEIC **23** 20:04:53.5±0.1, 2691N×9171E, h10km, mb5.5/123, MS5.3/138, MW5.8, Error ellipse: s-maj=4.8km s-min=3.2km az=202.0, Moment Tensor Solution. s7 Moment tensor: Scale 1017Nm; Mrr0.63; Mθθ-5.69; Mφφ5.07; Mrθ0.55; Mrφ-0.07; Mθφ0.10; Best double couple: M0 5.40000×1017 NP1:φs225.00000°, δ87.00000°, λ-4.00000°. NP2:φs315.00000°, δ86.00000°, λ-177.00000°. Principal axes: T 5.0800, Plg1.0000°, Azm270.0000°; N 0.6600, Plg85.0000°, Azm14.0000°; P -5.7300, Plg5.0000°, Azm180.0000°;*
NEIC At least 126 buildings damaged in Tashigang, Bhutan. Felt [V] at Dewathang and Samdrup Jongkar; [IV] at Bomdila, Dhubri, Itanagar and Shillong. Felt at Guwahati and in parts of Nagaland. Also felt [IV] at Thimphu, Bhutan.
*HRVD **23** 20:04:53.5±0.2, 2691N×9194E, h12km, MW5.5/101, Centroid moment Tensor Solution. LP body waves: s75,c120;Mantle waves: s101,c208; Half duration: 1§3 Moment tensor: Scale 1017Nm; Mrr0.21±.03; Mθθ-1.84±.03; Mφφ1.63±.03; Mrθ0.71±.07; Mθφ0.30±.03; Mφr0.12±.07; Best double couple: M0 1.87800×1017 NP1:φs321.00000°, δ73.00000°, λ-173.00000°. NP2: φs229.00000°, δ84.00000°, λ-18.00000°. Principal axes: T 1.6800, Plg8.0000°, Azm276.0000°; N 0.3970, Plg71.0000°, Azm30.0000°; P -2.0760, Plg17.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **23** 20:04:54.8±1.7, 2692N×9162E, h18km±9km, mb5.1/26, mb1 5.2/26, mb1mx5.2/27, mbtmp5.2/26, MS4.9/20, Ms1 4.9/20, ms1mx4.9/23 Error ellipse: s-maj=11.2km s-min=8.9km az=57.0*
*MOS **23** 20:04:54.4±0.9, 2685N×9165E, h29km, mb5.6/70, MS5.3/51, Error ellipse: s-maj=7.4km s-min=3.5km az=123.9*
*CSEM **23** 20:04:57.8, 2738N×9153E, h33km, mb5.6*
*SZGRF **23** 20:05:03.7, 2794N×9119E, h33km, mb5.5, MS5.6, Bhutan*
ISC 23 20:04:54.5±0.6, 2696N±002×9171E±002, h15km±3km, h23km±2.5km: pP-P, n848, σ1§13/826, mb5.4/255, MS5.3/182, 60C-26D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.39**	**174**	*e*P	**Pn**	**20 05 21.4**	**+2.0**
SHL				*e*S	**Sn**	**20 05 42.2**	**+4.7**
LSA	**Lhasa**	**2.78**	**350**	PG	**Pg**	**20 05 41.8**	**-5.9**
LSA				SG	**Sg**	**20 06 22.3**	**-1.4**
LSA	**Lhasa**	**2.78**	**350**	*e*Pn	**Pn**	**20 05 41.2**	**+2.7**
LSA				*e*Pg	**Pg**	**20 05 48.0**	**+0.2**
LSA				*e*Sg	**Sg**	**20 06 20.9**	**-2.8**
SLGI	**Shiliguri**	**2.96**	**266**	*e*P	**Pn**	**20 05 40.3**	**-0.6**
SLGI				*ex*	Sn	20 05 53.5	-23
AGT	**Agartala**	**3.09**	**188**	*i* P	**Pn**	**20 05 46.0**	**+3.3**
JIRN	**Jiri**	**4.96**	**279**	*e*Sn	**Sn**	**20 07 09.5**	**+3.9**
	22μm,1.2s						
GUN	**Gumba**	**5.27**	**282**	*e*Sn	**Sn**	**20 07 17.5**	**+4.3**
	4μm,0.8s						
CAL	**Calcutta**	**5.37**	**216**	*e*P	**Pn**	**20 06 15.6**	**+1.6**
CAL				*e*S	**Sn**	**20 07 14.2**	**-1.4**
CAL				*ex*	x	20 07 54.9	
PKI	**Pulchoki**	**5.64**	**278**	*e*Sn	**Sn**	**20 07 24.4**	**+2.0**
	7μm,0.8s						
PKI	**Pulchoki**	**5.64**	**278**	*e*Pn	**Pn**	**20 06 17.4**	**-0.4**
PKI				*e*Sn	**Sn**	**20 07 24.4**	**+2.0**
KKN	**Kakani**	**5.78**	**280**	*e*Pn	**Pn**	**20 06 19.6**	**-0.1**
KKN	**Kakani**	**5.78**	**280**	*e*Sn	**Sn**	**20 07 28.6**	**+2.9**
	16μm,1.1s						
DMN	**Daman**	**5.91**	**278**	*e*Pn	**Pn**	**20 06 21.1**	**-0.5**
BOK	**Bokaro**	**6.14**	**240**	*e*S	**Sn**	**20 07 30.2**	**-4.4**
GKN	**Gorkha**	**6.37**	**281**	*e*Sn	**Sn**	**20 07 42.4**	**+2.1**
	6μm,0.6s						
GKN	**Gorkha**	**6.37**	**281**	*e*Pn	**Pn**	**20 06 27.6**	**-0.2**
	3μm,0.6s						
GKN				*e*Sn	**Sn**	**20 07 42.4**	**+2.1**
VLK	**Valmikinagar**	**7.00**	**275**	*e*P	**Pn**	**20 06 34.0**	**-2.5**
VLK				*ex*	x	20 06 39.0	
KOLN	**Koldanda**	**7.26**	**278**	*e*Sn	**Sn**	**20 08 01.0**	**-1.1**
	4μm,0.9s						
KOLN	**Koldanda**	**7.26**	**278**	*e*Pn	**Pn**	**20 06 38.9**	**-1.1**
	2μm,0.9s						
KOLN				*e*Sn	**Sn**	**20 08 01.0**	**-1.1**
ALBI	**Allahabad**	**9.05**	**262**	*e*P	**Pn**	**20 07 02.0**	**-2.6**
KMI	**Kunming**	**10.09**	**98**	P	**Pn**	**20 07 19.1**	**+0.3**
KMI				AP		20 07 25.4	
KMI				XP		20 07 29.3	
KMI				PPP		20 07 31.5	
KMI				S	**Sn**	**20 09 11.5**	**-0.1**
KMI				XS		20 09 20.9	
KMI				SS		20 09 28.3	
KMI				AMB	AMB		
	comp=Z,36nm,0.8s						
KMI				LR	LR		
	comp=N,30μm,9.6s						
KMI				LR	LR		
	comp=E,12μm,10.9s						
KMI				LR	LR		
	comp=Z,10μm,14.5s						
LGTI	**Lohaghat**	**10.41**	**286**	*e*P	**Pn**	**20 07 24.0**	**+0.7**
LGTI				*ex*	**Sn**	**20 09 26.0**	**+6.3**
PTH	**Pithoragarh**	**10.46**	**287**	*e*P	**Pn**	**20 07 21.8**	**-2.1**
PTH				*ex*	**Sn**	**20 09 15.0**	**-5.8**
CD2	**Chengdu**	**11.26**	**67**	P	**Pn**	**20 07 35.5**	**+0.6**
CD2				AP		20 07 38.8	
CD2				PP		20 07 44.0	
CD2				S	**Sn**	**20 09 36.4**	**-4.1**
CD2				SS		20 09 53.1	
CD2				AMB	AMB		
	comp=Z,60nm,1.4s						
CD2				AMB	AMB		
	comp=Z,420nm,5.0s						
CD2				LR	LR		
	comp=N,35μm,10.3s						
CD2				LR	LR		
	comp=Z,8μm,13.3s						
VIS	**Vishakhapatnam**	**12.02**	**222**	*e*P	**Pn**	**20 07 43.4**	**-1.9**
VIS				AMb	AMB	20 07 50.3	
	comp=Z,75nm,0.7s						
VIS				*e*S	**Sn**	**20 09 49.0**	**-10**
AGRA	**Agra**	**12.27**	**274**	*e*P	**Pn**	**20 07 45.2**	**-3.4**
DDI	**Dehra Dun**	**12.45**	**289**	*ex*	**Pn**	**20 07 50.8**	**-0.4**
KLP	**Kalpa**	**12.61**	**294**	*e*P	**Pn**	**20 07 51.0**	**-2.3**
KLP				AMb	AMB	20 07 58.6	
	comp=Z,345nm,1.2s						
KLP				*ex*	**Sn**	**20 10 04.8**	**-8.6**
BISR	**Bishrakh**	**12.74**	**281**	*e*P	**Pn**	**20 07 51.7**	**-3.4**
BISR				AMb	AMB	20 07 56.5	
	comp=Z,105nm,1.0s						
NGP	**Nagpur**	**12.93**	**246**	*e*P	**Pn**	**20 07 57.1**	**-0.6**
NGP				*e*S	**Sn**	**20 10 10.8**	**-11**
NDI	**New Delhi**	**12.94**	**281**	*i* P	**Pn**	**20 07 54.0**	**-3.9**
NDI				*ex*	**Sn**	**20 10 11.0**	**-11**
AYAN	**Aya Nagar**	**13.01**	**280**	*e*P	**Pn**	**20 07 54.5**	**-4.3**
AYAN				AMb	AMB	20 07 56.7	
	comp=Z,95nm,0.8s						
SONA	**Sohna**	**13.04**	**279**	*e*P	**Pn**	**20 07 54.7**	**-4.5**
SONA				AMb	AMB	20 07 57.8	
	comp=Z,214nm,0.8s						
GYA	**Guiyang**	**13.38**	**89**⇑	*i* P	**Pn**	**20 08 01.9**	**-1.9**
GYA				AP		20 08 05.3	
GYA				XP		20 08 08.4	
GYA				PP		20 08 12.6	
GYA				S	**Sn**	**20 10 24.3**	**-7.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,660nm,9.0s						
GYA				LR	LR		
	comp=E,17μm,17.0s						
GYA				LR	LR		
	comp=Z,23μm,17.6s						
SMLA	**Simla**	**13.38**	**292**	*e*P	**Pn**	**20 07 59.2**	**-4.7**
SMLA				*ex*	**Sn**	**20 10 24.6**	**-7.8**
BHPL	**Bhopal**	**13.46**	**257**	*i* P	**Pn**	**20 08 01.1**	**-3.9**
KUDL	**Kundal**	**13.56**	**278**	*e*P	**Pn**	**20 08 02.0**	**-4.3**
KUDL				AMb	AMB	20 08 05.2	
	comp=Z,75nm,0.6s						
SDNR	**Sundarnagar**	**13.64**	**293**	*e*P	**Pn**	**20 08 04.0**	**-3.4**
SDNR				*ex*	**Sn**	**20 10 31.5**	**-7.2**
RTK	**Rohtak**	**13.67**	**282**	*e*P	**Pn**	**20 08 03.7**	**-4.1**
NST	**Nakhon Sawan**	**13.69**	**143**	P	**Pn**	**20 08 06.0**	**-2.1**
	comp=Z,96nm,0.5s						
LZH	**Lanzhou**	**13.77**	**46**	*e*P	**Pn**	**20 08 08.6**	**-0.6**
LZH				AP		20 08 11.8	
LZH				XP		20 08 13.5	
LZH				PP		20 08 19.1	
LZH				*e*S	**Sn**	**20 10 36.0**	**-5.8**
LZH				SS		20 10 53.0	
LZH				AMB	AMB		
	comp=Z,319nm,1.5s						
LZH				AMB	AMB		
	comp=Z,2μm,4.0s						
LZH				LR	LR		
	comp=N,46μm,10.8s						
LZH				LR	LR		
	comp=Z,51μm,13.0s						
BHK	**Bhakra**	**14.08**	**292**	*e*P	**Pn**	**20 08 11.0**	**-2.4**
BHK				*ex*	**Sn**	**20 10 50.2**	**+0.9**
GTA	**Gaotai**	**14.14**	**27**	P	**Pn**	**20 08 11.9**	**-2.3**
GTA				AP		20 08 19.3	
GTA				XP	sP	20 08 22.8	-5.1
GTA				S	**Sn**	**20 10 42.3**	**-8.6**
GTA				AMB	AMB		
	comp=Z,85nm,1.5s						
GTA				AMB	AMB		
	comp=Z,765nm,4.9s						
GTA				LR	LR		
	comp=N,24μm,12.9s						
GTA				LR	LR		
	comp=E,41μm,13.7s						
GTA				LR	LR		
	comp=Z,20μm,11.4s						
KHET	**Khetri**	**14.16**	**278**	*e*P	**Pn**	**20 08 12.1**	**-2.4**
KHET				AMb	AMB	20 08 13.1	
	comp=Z,147nm,0.6s						
DLH	**Dalhousie**	**14.76**	**296**	*ex*	**Pn**	**20 08 16.0**	**-6.7**
DLH				*ex*	x	20 10 18.0	
KKTK	**Khon Kaen**	**14.77**	**133**	P	**Pn**	**20 08 24.0**	**+1.2**
	comp=Z,741nm,0.7s						
THN	**Thein Dam**	**14.93**	**295**	*ex*	**Pn**	**20 08 18.1**	**-6.9**
AJM	**Ajmer**	**15.26**	**272**	*e*P	**Pn**	**20 08 27.7**	**-1.7**
AJM				AMb	AMB	20 08 28.3	
	comp=Z,193nm,0.7s						
AJM				*i* x	**Sn**	**20 11 06.0**	**-12**
HYB	**Hyderabad**	**15.44**	**235**	*i* P	**Pn**	**20 08 27.5**	**-4.2**
	comp=Z,170nm,1.0s						
HYB				*e*S	**Sn**	**20 11 38.0**	**+16**
HYB				LR	LR	20 14 00.0	
	comp=Z,27nm,12.0s						
HYB	**Hyderabad**	**15.44**	**235**	*e*P	**Pn**	**20 08 27.5**	**-4.2**
HYB				pmax	pmax		
	comp=Z,170nm,1.0s						
HYB	**Hyderabad**	**15.44**	**235**	*e*P	**Pn**	**20 08 27.5**	**-4.2**
	comp=Z,170nm,1.0s						
HYB				*e*S	**Sn**	**20 11 07.5**	**-15**
ENH	**Enshi**	**15.96**	**74**	*e*Pn	**Pn**	**20 08 37.8**	**-0.6**
	comp=Z,295nm,0.8s						
ENH				*e*Sn	Sn	20 11 14.5	-21
NNT	**Nongplab**	**16.16**	**151**	P	**Pn**	**20 08 43.0**	**+2.0**
XAN	**Xi'an**	**16.42**	**60**	P	**Pn**	**20 08 40.8**	**-3.5**
XAN				S	**Sn**	**20 11 36.3**	**-10**
XAN				AMB	AMB		
	comp=Z,108nm,1.5s						
XAN				AMB	AMB		
	comp=Z,512nm,7.5s						
XAN				LR	LR		
	comp=N,20μm,12.9s						
XAN				LR	LR		
	comp=E,9μm,12.5s						
XAN				LR	LR		
	comp=Z,4μm,13.0s						
WMQ	**Urumqi**	**17.14**	**350**	P	**Pn**	**20 08 52.6**	**-0.8**
WMQ				XP	sP	20 08 59.6	-1.6
WMQ				PP		20 09 07.0	
WMQ				S	**Sn**	**20 12 01.0**	**-2.7**
WMQ				XS	sS	20 12 06.0	-14
WMQ				SS		20 12 21.0	
WMQ				AMB	AMB		
	comp=Z,265nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,1μm,3.0s						
WMQ				LR	LR		
	comp=N,5μm,5.0s						
WMQ				LR	LR		
	comp=E,14μm,6.0s						
WMQ				LR	LR		
	comp=Z,7μm,5.0s						
CHCP	**Chirah Chowk**	**17.26**	**297**	P	**Pn**	**20 08 50.0**	**-5.0**
NIL	**Nilore**	**17.27**	**297**	Pn	**Pn**	**20 08 51.8**	**-3.3**
	comp=Z,1μm,0.7s,SNR=44						
SARP	**Sargodha**	**17.30**	**291**	P	**Pn**	**20 08 51.5**	**-4.0**
MDRS	**Chennai**	**17.50**	**220**	*e*P	**Pn**	**20 08 58.0**	**0.0**
MDRS				AMb	AMB	20 09 05.5	
	comp=Z,180nm,1.1s						
KSH	**Kashi**	**18.14**	**318**⇑	*i* P	**Pn**	**20 09 05.5**	**-0.3**
KSH				AP	pP	20 09 13.1	+2.8
KSH				XP	sP	20 09 18.3	+6.1
KSH				PP		20 09 21.3	
KSH				PPP		20 09 30.3	
KSH				S	**Sn**	**20 12 22.0**	**-5.9**
KSH				XS	sS	20 12 37.3	-2.8
KSH				SS		20 12 48.1	
KSH				AMB	AMB		
	comp=Z,500nm,1.7s						
KSH				LR	LR		
	comp=N,20μm,8.8s						
KSH				LR	LR		
	comp=E,23μm,12.0s						
THW	**Thamme Wali**	**18.26**	**293**	P	**Pn**	**20 09 02.1**	**-5.2**
CEP	**Cherat**	**18.39**	**297**	P	**Pn**	**20 09 03.2**	**-5.7**
QIZ	**Qiongzhong**	**18.45**	**112**	*i* PR		20 09 09.0	
QIZ				XP	sP	20 09 14.3	-1.4
QIZ				S	**Sn**	**20 12 33.8**	**-1.7**
QIZ				SS		20 12 57.9	
QIZ				AMB	AMB		
	comp=Z,2μm,7.3s						
QIZ				LR	LR		
	comp=N,8μm,15.5s						
QIZ				LR	LR		
	comp=E,3μm,13.9s						
QIZ				LR	LR		
	comp=Z,4μm,11.5s						
QIZ	**Qiongzhong**	**18.45**	**112**	*e*P	**Pn**	**20 09 09.4**	**-0.2**
	comp=Z,425nm,1.7s						
POO	**Poona**	**18.47**	**247**	*ex*	x	20 09 37.0	
POO				AMb	AMB	20 09 51.2	
	comp=Z,247nm,1.6s						
BHV	**Bhavnagar**	**18.56**	**258**	*e*P	**Pn**	**20 09 09.0**	**-2.0**
KAD	**Karad**	**18.84**	**243**	*e*P	**Pn**	**20 09 13.1**	**-1.3**
KAD				AMb	AMB	20 09 23.2	
	comp=Z,220nm,1.2s						
SBDP	**Sheikh Budin**	**18.93**	**291**	P	**Pn**	**20 09 13.0**	**-2.4**
BOM	**Bombay**	**19.15**	**249**	*i* P	**Pn**	**20 09 16.0**	**-2.1**
BOM				*ex*	x	20 09 27.5	

comp=Z,393nm,1.4s
BOM ex **Sn** **20 12 40.6 -12**
DRP Derazinda 19.34 289 P **Pn** **20 09 18.2 -2.2**
ULHL Ulahol 19.82 324 P **Pn** **20 09 27.4 +1.3**
SNR=22
WHN Wuhan 20.16 74 eP **P** **20 09 27.5 -0.8**
WHN S **S** **20 13 12.0 -2.1**
WHN LR LR
comp=Z,23μm,16.4s,MS5.6
GOA Goa 20.18 239 eP **P** **20 09 29.0 +0.6**
GOA ex **S** **20 13 06.0 -8.4**
AAA Alma-Ata 20.22 327 i P **P** **20 09 30.2 +1.3**
AAA i S **S** **20 13 15.2 0.0**
AAA MLR MLR
comp=Z,9μm,7.0s
KZA Kyzart 20.23 322 P **P** **20 09 31.2 +2.2**
SNR=78
BHJ Bhuj 20.31 264⇑ eP **P** **20 09 27.4 -2.4**
BHJ AMb AMB 20 09 40.7
comp=Z,378nm,1.2s
BHJ eS **S** **20 13 15.2 -1.9**
BTO Baotou 20.36 43 eP **P** **20 09 30.3 -0.1**
BTO S **S** **20 13 03.6 -15**
BTO LR LR
comp=N,5μm,10.5s,MS5.5
BTO LR LR
comp=E,12μm,12.3s,MS5.5
TIY Taiyuan 20.49 53 eP **P** **20 09 32.0 +0.2**
TIY S **S** **20 13 10.0 -11**
TIY LR LR
comp=N,40μm,14.0s
TKM2 Tokmak 2 20.63 325 P **P** **20 09 34.8 +1.4**
SNR=149
UCH Uchtor 20.74 322 P **P** **20 09 36.4 +1.9**
SNR=90
KBK Karagaybulak 20.79 323 P **P** **20 09 36.5 +1.5**
SNR=200
HKC Hong Kong 20.93 98⇑ eP **P** **20 09 40.0 +3.4**
HKC eS **S** **20 13 30.0 +0.6**
AAK Ala-Archa 21.02 322 P **P** **20 09 39.6 +2.1**
SNR=134
AAK Ala-Archa 21.02 322 P **P** **20 09 38.1 +0.6**
comp=N,2μm,1.3s,mb6.2
AAK Ala-Archa 21.02 322 P **P** **20 09 37.5 0.0**
AAK pmax pmax
comp=Z,370nm,1.1s,mb5.6
AAK Ala-Archa 21.02 322 eP **P** **20 09 37.3 -0.3**
comp=Z,366nm,1.1s,mb5.6
AAK LR LR
comp=Z,4μm,21.0s,MS4.8
FRU Bishkek 21.09 323 i P **P** **20 09 40.0 +1.7**
FRU i S **S** **20 13 36.0 +3.5**
FRU pmax pmax
comp=Z,560nm,2.0s,mb5.5
FRU pmax pmax
comp=Z,4μm,4.0s
FRU smax
comp=E,6μm,10.0s
MNGI Mangalore 21.09 232 eP **P** **20 09 42.3 +4.0**
MNGI eS **S** **20 13 37.9 +5.3**
CHMS Chumysh 21.13 324 P **P** **20 09 39.9 +1.1**
SNR=35
AML Almayashu 21.13 320 P **P** **20 09 41.5 +2.7**
SNR=242
MKAR Makanchi Array 21.15 342 P **P** **20 09 38.1 -0.9**
comp=E,109nm,0.7s,mb5.3,baz=147,slow=13,SNR=220
MKAR S **S** **20 13 33.6 -0.2**
comp=E,16nm,1.0s,baz=132,slow=14,SNR=2.3
MKAR LR LR 20 18 54.2
comp=E,7μm,18.0s,MS5.1,baz=158,slow=40
MKAR Makanchi Array 21.15 342 i P **P** **20 09 44.5 +5.5**
MKAR pmax pmax
comp=Z,138nm,0.7s
EKS2 Erkin-Say 21.43 322 P **P** **20 09 44.2 +2.2**
SNR=71
USP Ospenovka 21.45 324 P **P** **20 09 43.2 +1.1**
SNR=81
HHC Hu-ho-hao-te 21.46 45 ⇑P **P** **20 09 42.8 +0.5**
HHC AP 20 09 47.1
HHC XP sP 20 09 49.8 +1.3
HHC PP 20 10 07.9
HHC AMB AMB
comp=Z,47nm,1.4s,mb4.6
HHC AMB AMB
comp=Z,580nm,6.6s
HHC LR LR
comp=N,27μm,15.0s,MS5.9
HHC LR LR
comp=E,24μm,15.6s,MS5.9
HHC LR LR
comp=Z,10μm,10.2s
PALK Pallekele 22.20 210 P **P** **20 09 51.4 +1.2**
comp=Z,384nm,1.3s,mb5.7,SNR=7.9
PALK Pallekele 22.20 210 eP **P** **20 09 50.8 +0.6**
comp=Z,158nm,1.4s,mb5.2
PALK LR LR
comp=Z,3μm,20.0s,MS4.8
TRD Trivandrum 23.07 220 eP **P** **20 09 59.7 +0.2**
KULM Kulim 23.17 157 eP **P** **20 09 59.5 -1.0**
TIA Tai'an 23.48 61 eP **P** **20 10 02.8 -0.9**
TIA S **S** **20 14 16.0 -0.5**
TIA AMB AMB
comp=Z,55nm,1.0s,mb4.9
TIA LR LR
comp=N,12μm,11.0s,MS5.7
TIA LR LR
comp=E,8μm,11.0s,MS5.7
KKAR Karatay Array 23.58 319 i P **P** **20 10 05.0 +0.3**
KKAR pmax pmax
comp=Z,53nm,0.8s,mb5.0
SONM Songino Array 23.80 25 P **P** **20 10 06.7 -0.1**
comp=Z,27nm,0.6s,mb4.9,baz=208,slow=9.5,SNR=156
SONM S **S** **20 14 25.0 +3.3**
comp=Z,6.1nm,0.9s,baz=207,slow=15,SNR=1.8
SONM ScP ScP 20 17 27.5 -0.2
comp=Z,3.5nm,1.0s,baz=206,slow=3.2,SNR=3.5
SONM LR LR 20 21 21.4
comp=Z,2μm,21.9s,MS4.4,baz=209,slow=41
SONM Songino Array 23.80 25 P **P** **20 10 06.7 -0.1**
SONM S **S** **20 14 25.0 +3.3**
IPM Ipoh 24.06 157 P **P** **20 10 08.0 -1.1**
ULN Ulaanbaatar 24.08 26⇑ iP **P** **20 10 08.9 -0.4**
ULN MLR MLR
comp=Z,5μm,20.0s,MS5.0
BJT Baijiatuau 24.11 51 P **P** **20 10 12.4 +2.8**
BJT pmax pmax
comp=Z,52nm,1.0s
BJT Baijiatuau 24.11 51 eP **P** **20 10 10.0 +0.4**
comp=Z,52nm,1.0s,mb4.9
BJT LR LR
comp=Z,11μm,22.0s,MS5.3
NJ2 Nanjing 24.13 71 eP **P** **20 10 11.3 +1.5**
NJ2 AP 20 10 19.8
NJ2 PP 20 10 42.8
NJ2 S **S** **20 14 26.0 -1.1**
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb4.8
NJ2 AMB AMB
comp=Z,540nm,7.8s
NJ2 LR LR
comp=N,4μm,18.2s,MS5.3
NJ2 LR LR
comp=E,8μm,17.1s,MS5.3
NJ2 LR LR
comp=Z,10μm,13.8s,MS5.5
QZH Quanzhou 24.24 89⇑ iP **P** **20 10 12.0 +1.2**
QZH S **S** **20 14 26.0 -2.8**
QZH AMB AMB
comp=Z,2μm,5.2s
QZH LR LR
comp=N,20μm,9.0s
QZH LR LR
comp=E,4μm,8.8s
QZH LR LR
comp=Z,29μm,14.1s,MS5.9
PSI Prapat 24.99 163 P **P** **20 10 17.9 +0.3**
comp=Z,46nm,0.7s,mb5.1,baz=298,slow=6.9,SNR=33
PSI LR LR 20 22 57.8
comp=Z,3μm,19.4s,MS4.7,baz=338,slow=43
PSI Prapat 24.99 163 P **P** **20 10 17.9 +0.3**
PSI LR LR 20 22 57.8
ZAK Zakamensk 25.01 18 eP **P** **20 10 18.3 +0.5**
ZAK pmax pmax
comp=Z,127nm,2.2s,mb5.1
MOY Mondy 25.66 13 eP **P** **20 10 25.0 +1.4**
MOY pmax pmax
comp=Z,198nm,1.6s,mb5.4
KURK Kurchatov 25.74 341 P **P** **20 10 24.1 -0.3**
comp=Z,482nm,1.0s,mb6.0,SNR=63
KURK Kurchatov 25.74 341 P **P** **20 10 24.0 -0.4**
KURK pmax pmax
comp=Z,76nm,1.1s,mb5.1
KURK Kurchatov 25.74 341⇑ eP **P** **20 10 23.8 -0.6**
comp=Z,126nm,1.0s,mb5.4
KURK LR LR
comp=Z,11μm,22.0s,MS5.3
SSE Sheshan 26.06 74 P **P** **20 10 26.8 -0.5**
SSE AP pP 20 10 35.4 +3.5
SSE XP sP 20 10 39.3 +5.6
SSE S **S** **20 14 56.5 -1.4**
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,404nm,5.4s
SSE LR LR
comp=N,7μm,18.3s
SSE LR LR
comp=Z,5μm,18.3s,MS5.0
TLY Talaya 26.29 17 P **P** **20 10 39.5 +10**
comp=Z,132nm,1.3s,mb5.3,SNR=6.0
TATO Taipei 26.82 88 PFAKE 20 10 50.0 +16
TATO LR LR
comp=Z,12μm,19.0s,MS5.5
IRK Irkutsk 26.96 17 eP **P** **20 10 37.2 +1.7**
IRK e 20 16 29.6
IRK pmax pmax
comp=Z,186nm,2.0s,mb5.3
NACB Ninganchiao 27.07 89 eP **P** **20 10 37.8 +1.4**
KGM Kluang 27.18 154 P **P** **20 10 38.6 +1.2**
DL2 Dalian 27.67 57 P **P** **20 10 40.4 -1.4**
DL2 S **S** **20 15 24.8 +1.6**
DL2 AMB AMB
comp=Z,60nm,1.1s,mb5.1
DL2 AMB AMB
comp=Z,250nm,4.3s
DL2 LR LR
comp=N,4μm,18.7s,MS5.1
DL2 LR LR
comp=E,3μm,15.4s,MS5.1
DL2 LR LR
comp=Z,3μm,12.7s,MS5.0
NVS Novosibirsk 28.54 350 eP **P** **20 10 47.8 -1.8**
NVS pmax pmax
comp=E,102nm,1.4s
NVS pmax pmax
comp=Z,173nm,1.4s,mb5.6
NVS pmax pmax
comp=N,220nm,1.7s
KRAR Krasnoyarsk 29.04 1⇓ eP **P** **20 10 55.8 +1.8**
KRAR pmax pmax
comp=Z,114nm,1.5s,mb5.4
KRAR MLR MLR
comp=Z,5μm,13.0s,MS5.3
CIT Chita 29.95 27 eP **P** **20 11 05.0 +3.0**
SNY Shenyang 29.99 52 ⇑P **P** **20 11 04.3 +1.9**
SNY AP pP 20 11 12.0 +5.0
SNY XP sP 20 11 15.6 +6.8
SNY AMB AMB
comp=Z,30nm,1.1s,mb4.9
SNY AMB AMB
comp=Z,200nm,8.3s
SNY LR LR
comp=E,3μm,12.6s
SNY LR LR
comp=Z,4μm,14.2s,MS5.2
WBK Wadi Bani Khal 29.99 269 ⇑P **P** **20 11 05.0 +2.6**
VOSK Vostochnaya 30.04 335 P **P** **20 11 02.1 -0.8**
VOSK pmax pmax
comp=Z,36nm,0.7s,mb5.2
ABKT Ailbek 30.24 300 P **P** **20 11 06.9 +2.3**
comp=Z,560nm,1.2s,mb6.2,SNR=27
BVA0 Borovoye Array 30.50 334 i P **P** **20 11 06.7 -0.3**
BVA0 pmax pmax
comp=Z,11nm,1.4s,mb4.5
BVAR Borovoye Array 30.50 334 P **P** **20 11 06.6 -0.3**
comp=Z,12nm,0.5s,mb5.0,baz=134,slow=8.9,SNR=68
BVAR ScP ScP 20 17 46.7 -1.1
comp=Z,6.3nm,0.8s,baz=145,slow=5.4,SNR=5.6
BRVK Borovoye 30.57 334 P **P** **20 11 07.0 -0.5**
comp=Z,182nm,0.7s,mb6.0,SNR=13
BRVK Borovoye 30.57 334 P **P** **20 11 07.4 -0.1**
BRVK pmax pmax
comp=Z,36nm,1.2s,mb5.1
BRVK Borovoye 30.57 334 eP **P** **20 11 07.6 +0.1**
comp=Z,36nm,1.2s,mb5.1
BRVK LR LR
comp=Z,3μm,22.0s,MS4.9
SMDO Samad 30.70 270 ⇑P **P** **20 11 10.2 +1.5**
SNR=10
ZRNK Zerenda 30.99 333 eP **P** **20 11 10.8 -0.5**
ZRNK e 20 12 21.5
ZRNK pmax pmax
comp=Z,31nm,0.5s,mb5.4
ZRNK Zerenda 30.99 333 eP **P** **20 11 10.8 -0.5**
comp=Z,30nm,0.5s,mb5.4
ZRNK ePP PP 20 12 21.5 +0.2
KSM Kuching 31.00 142 eP **P** **20 11 12.2 +0.9**
HIA Hailar 31.04 37 P **P** **20 11 12.8 +1.1**
HIA pmax pmax
comp=Z,51nm,0.9s
HIA Hailar 31.04 37 eP **P** **20 11 12.0 +0.3**
comp=Z,51nm,0.9s,mb5.3
HIA LR LR
comp=Z,4μm,22.0s,MS5.0
INCN Inchon 31.19 62 PFAKE 20 11 30.0 +17
INCN LR LR
comp=Z,4μm,21.0s,MS5.1
KKM Kota Kinabalu 31.25 127 P **P** **20 11 17.8 +4.2**
KKM Kota Kinabalu 31.25 127 eP **P** **20 11 14.8 +1.3**
BSY Bisya 31.54 270 ⇓P **P** **20 11 18.3 +2.3**
SNR=7.3
CN2 Changchun 31.96 49 eP **P** **20 11 21.9 +2.1**
CN2 eS **S** **20 16 23.8 -6.7**
CN2 AMB AMB
comp=Z,70nm,1.2s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,10μm,16.0s,MS6.1
CN2 LR LR
comp=E,28μm,16.0s,MS6.1
CN2 LR LR
comp=Z,7μm,13.0s,MS5.5
ASHO Ashiyiah 32.11 274 ⇓P **P** **20 11 23.3 +2.1**
SNR=10
KS15 Wonju Array Si 32.17 62 eP **P** **20 11 23.9 +2.2**
AB31 Akbulak array 33.09 321 eP **P** **20 11 29.7 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
JNU Nakatsue 34.31 70 P **P** **20 11 42.1 +1.8**
comp=Z,42nm,0.9s,mb5.3,baz=94,slow=5.5,SNR=5.2
JNU LR LR 20 26 36.4
comp=Z,3μm,18.7s,MS5.1,baz=222,slow=38
JNU Nakatsue 34.31 70 P **P** **20 11 42.1 +1.8**
JNU LR LR 20 26 36.4
BOD Bodaibo 34.63 21 eP **P** **20 11 43.0 0.0**
BOD pmax pmax
comp=Z,20nm,1.3s,mb4.9
AKTK Aktyubinsk 34.76 322 P **P** **20 11 44.2 +0.1**
AKTK ScP ScP 20 18 01.4 -1.1
AKTO Aktyubinsk 34.76 322 P **P** **20 11 44.2 +0.1**
comp=Z,30nm,0.7s,mb5.3,baz=117,slow=9.6,SNR=50
AKTO ScP ScP 20 18 01.4 -1.1
comp=Z,9.6nm,0.9s,baz=208,slow=7.0,SNR=4.4
AKTO Aktyubinsk 34.76 322 P **P** **20 11 44.1 -0.1**
AKTO pmax pmax
comp=Z,21nm,1.4s,mb4.9
MDJ Mudanjiang 35.04 50 P **P** **20 11 50.1 +3.5**
MDJ PP PP 20 13 06.6 +0.5
MDJ S **S** **20 17 15.5 -2.8**
MDJ SS SS 20 19 34.5 -16
MDJ AMB AMB
comp=Z,22nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,203nm,7.2s
MDJ LR LR
comp=N,14μm,17.2s,MS5.8
MDJ LR LR
comp=E,6μm,15.3s,MS5.8
MDJ LR LR
comp=Z,2μm,11.8s,MS5.2
MDJ Mudanjiang 35.04 50 PFAKE 20 12 00.0 +13
MDJ LR LR
comp=Z,2μm,19.0s,MS4.9
RBK Rabkut 35.86 263 ⇓P **P** **20 11 54.0 +0.3**
SNR=6.2
WHFO Wadi Hawf 36.09 264 P **P** **20 11 55.3 -0.4**
SNR=78
VLA Vladivostok 36.25 53 eP **P** **20 11 57.1 +0.1**
VLA eS **S** **20 17 38.0 +1.1**
VLA pmax pmax
comp=Z,187nm,1.4s,mb5.8
VLA MLR MLR
comp=Z,2μm,11.2s,MS5.2
VLA Vladivostok 36.25 53 i Pr 20 11 59.2
ABTO Aybut 36.72 263 P **P** **20 12 00.8 -0.2**
SNR=17
DAV Davao City (W) 37.75 115 PFAKE 20 12 20.0 +10
DAV LR LR
comp=Z,950nm,20.0s,MS4.6
ARU Arti 37.81 330 P **P** **20 12 10.0 -0.2**
comp=Z,406nm,0.8s,mb6.2,SNR=22
ARU Arti 37.81 330 c iP **P** **20 12 10.0 -0.2**
ARU pmax pmax
comp=Z,100nm,1.5s,mb5.3
ARU MLR MLR
comp=Z,2μm,13.0s,MS5.2
ARU Arti 37.81 330 eP **P** **20 12 09.4 -0.9**
comp=Z,51nm,0.8s,mb5.3
ARU LR LR
comp=Z,1μm,21.0s,MS4.8
NRGR Nerungri 37.88 29 eP **P** **20 12 08.4 -2.5**
NRGR pmax pmax
comp=Z,12nm,0.4s,mb5.0
KLR Kul'dur 37.96 43 eP **P** **20 12 09.2 -2.3**
KLR eS **S** **20 18 00.0 -2.8**
KLR eSSS 20 20 46.0
KLR pmax pmax
comp=E,110nm,1.4s
KLR pmax pmax
comp=Z,130nm,1.4s,mb5.5
KLR smax
comp=N,2μm,8.0s
KLR smax
comp=E,1μm,8.0s
KLR MLR MLR
comp=Z,13μm,12.0s,MS6.0
CLNS Chul'man 38.07 29 eP **P** **20 12 12.6 +0.1**
CLNS e*PP pP 20 12 20.2 +3.1
CLNS e 20 14 28.6
CLNS eS **S** **20 18 04.3 -0.2**
CLNS eSS SS 20 20 41.1 -11
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=Z,31nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS smax
comp=N,188nm,12.1s
CLNS smax
comp=Z,153nm,10.5s
CLNS smax
comp=E,503nm,12.0s
CLNS MLR MLR
comp=Z,3μm,12.0s,MS5.4
CLNS MLR MLR
comp=N,900nm,15.0s,MS5.4
CLNS MLR MLR
comp=E,4μm,13.0s,MS5.4
QRN Al-Qurain 38.60 283 eP **P** **20 12 16.9 0.0**
QRN AMb AMB 20 12 19.0
comp=Z,85nm,0.6s,mb5.6
UMR Umm Al-Rimmam 38.67 284 eP **P** **20 12 17.4 -0.1**
UMR AMb AMB 20 12 22.5
comp=Z,174nm,1.1s,mb5.7
KBD Kabd 38.74 284 eP **P** **20 12 17.6 -0.5**
KBD AMb AMB 20 12 23.1
comp=Z,556nm,1.0s,mb6.2
RDF Al-Radifah 38.90 283 eP **P** **20 12 19.0 -0.4**
RDF AMb AMB 20 12 23.7
comp=Z,231nm,1.0s,mb5.8
DGAR Diego Garcia 38.93 211 PFAKE 20 12 30.0 +10
DGAR LR LR
comp=Z,3μm,21.0s,MS5.1
MIB Mutribah 38.97 285 eP **P** **20 12 19.8 -0.2**
MIB AMb AMB 20 12 23.1
comp=Z,172nm,0.8s,mb5.8
MAK Makhachkala 39.12 306 eP **P** **20 12 17.0 -4.2**
MAK eS **S** **20 18 17.3 -3.0**
MAK eSS SS 20 21 07.5 -5.5
MAK pmax pmax
comp=Z,279nm,1.3s,mb5.8
NAY Al-Naaiem 39.12 284 eP **P** **20 12 20.8 -0.5**
NAY AMb AMB 20 12 26.3
comp=Z,172nm,1.1s,mb5.7
NAY ⇓e 20 12 35.9
COCO West Island 39.23 172 PFAKE 20 12 30.0 +7.8
COCO LR LR
comp=Z,2μm,19.0s,MS5.0
HABR Khabarovsk 39.77 46⇓ iP **P** **20 12 30.9 +4.2**
HABR i S **S** **20 18 34.3 +4.1**
HABR pmax pmax
comp=Z,68nm,1.2s,mb5.2
HABR MLR MLR
comp=Z,6μm,14.0s,MS5.6
MAJO Matsushiro 40.35 64 P **P** **20 12 32.1 +0.6**
MAJO pmax pmax
comp=Z,55nm,0.8s,mb5.3
MAJO Matsushiro 40.35 64 eP **P** **20 12 30.7 -0.8**
comp=Z,55nm,0.8s,mb5.3
MAJO LR LR
comp=Z,2μm,22.0s,MS4.9
MAT Matsushiro 40.35 64 P **P** **20 12 30.5 -1.0**
MAT S **S** **20 18 38.0 -0.8**
MAT Matsushiro 40.35 64 eP **P** **20 12 31.0 -0.5**
MAT eS **S** **20 18 36.0 -2.8**
MAT pmax pmax
comp=Z,128nm,1.2s,mb5.5
MAT MLR MLR
comp=Z,2μm,20.0s,MS4.9
MAT Matsushiro 40.35 64 eP **P** **20 12 31.0 -0.5**
comp=Z,128nm,1.2s,mb5.5
MAT eS **S** **20 18 36.0 -2.8**
MAT LR LR
comp=Z,2μm,20.0s,MS4.9
MJAR Matsushiro Arr 40.35 64 P **P** **20 12 32.3 +0.8**
comp=Z,30nm,0.7s,mb5.2,baz=275,slow=9.1,SNR=43
MJAR LR LR 20 29 03.2
comp=Z,1μm,19.4s,MS4.8,baz=260,slow=36
MJAR Matsushiro Arr 40.35 64 P **P** **20 12 32.3 +0.8**
MJAR LR LR 20 29 03.2
SOKR Solikamsk 40.48 333 i P **P** **20 12 34.8 +2.2**
SOKR i S **S** **20 18 39.4 -1.4**
DGRG David-gareji 40.48 303 S **S** **20 18 40.4 -0.4**
GNI Garni 40.85 301 eP **P** **20 12 37.4 +1.7**
GNI Garni 40.85 301 c iP **P** **20 12 37.7 +2.1**
GNI pmax pmax
comp=Z,204nm,1.9s
GNI MLR MLR
comp=Z,1μm,17.0s
GNI Garni 40.85 301 eP **P** **20 12 37.6 +1.9**
comp=Z,93nm,1.0s,mb5.4
GNI LR LR
comp=Z,2μm,21.0s,MS4.9
MTA Mtatsminda 40.94 303 P **P** **20 12 36.4 0.0**
MTA S **S** **20 18 51.2 +3.6**
TBLG Delisi 40.98 303 P **P** **20 12 37.5 +0.7**
DUS Dusheti 41.05 304 P **P** **20 12 40.0 +2.7**
BHD Baghdad 41.15 291 ex x 20 12 32.0
BHD ex x 20 18 42.0
CLDR Caldiran 41.43 299 eP **P** **20 12 42.6 +2.2**
CUKT Cukurca 41.64 297 eP **P** **20 12 43.4 +1.3**
ZEI Tsey 41.72 305 eP **P** **20 12 44.4 +1.6**
ZEI i *PP pP 20 12 50.1 +2.7
ZEI pmax pmax
comp=Z,155nm,1.5s,mb5.4
JHJ Hachijo jima 2 41.78 70 LR LR 20 30 46.1
comp=Z,3μm,19.6s,MS5.1,baz=292,slow=37
BKR Bakuriani 41.91 303 P **P** **20 12 46.9 +2.6**
DIGO Kars 41.91 301 i P **P** **20 12 46.4 +2.1**
MSL Mosul 42.06 295 ex x 20 12 45.0
MSL ex x 20 19 02.0
GOF Gofitskoye 42.62 308 eP **P** **20 12 50.6 +0.4**
GOF pmax pmax
comp=Z,200nm,1.7s,mb5.6
CHVG Ch'k'valeri 43.04 305 P **P** **20 12 55.8 +2.3**

ARTV	**Artvin**	**43.05 302**	*i* P	**P**	**20 12 55.1 +1.5**
YAK	**Yakutsk**	**43.16 25***c*	*i*P	**P**	**20 12 55.5 +0.9**
YAK			*e**PP	pP	20 13 04.4 +5.2
YAK			*i* S	**S**	**20 19 20.2 -0.3**
YAK			pmax	pmax	
	comp=N,10.0nm,1.4s				
YAK			pmax	pmax	
	comp=E,17nm,1.4s				
YAK			pmax	pmax	
	comp=Z,31nm,1.4s,mb4.8				
YAK			smax		
	comp=N,321nm,10.6s				
YAK			smax		
	comp=Z,141nm,9.4s				
YAK			smax		
	comp=E,354nm,9.6s				
YAK			MLR	MLR	
	comp=N,2μm,16.0s,MS5.3				
YAK			MLR	MLR	
	comp=Z,3μm,16.0s,MS5.3				
YAK			MLR	MLR	
	comp=E,2μm,14.0s,MS5.3				
YAK	**Yakutsk**	**43.16 25**	*e*P	**P**	**20 12 54.8 +0.2**
	comp=E,39nm,0.8s,mb5.2				
BTMT	**Batman**	**43.31 298**	*e*P	**P**	**20 12 57.4 +1.7**
ERZM	**Erzurum**	**43.42 301**	*i* P	**P**	**20 12 59.3 +2.6**
EZM	**Erzurum**	**43.43 301**	*e*P	**P**	**20 12 58.9 +2.2**
BNGL	**BINGOL**	**43.58 299**	*i* P	**P**	**20 13 00.3 +2.4**
MARD	**Mardin**	**43.89 297**	*i* P	**P**	**20 13 01.0 +0.6**
ASAJ	**Asahikawa**	**44.08 53**	P	**P**	**20 13 03.4 +1.5**
	comp=E,13nm,0.5s,mb4.9,baz=261,slow=7.1,SNR=8.5				
ASAJ			LR	LR	20 33 47.1
	comp=E,624nm,20.2s,MS4.5,baz=80,slow=39				
ERM	**Erimo**	**44.34 56**	P	**P**	**20 13 08.1 +4.1**
	comp=E,329nm,0.6s,mb6.2,SNR=5.0				
YSS	**Yuzh-Sakhalins**	**44.53 49**α	*i*P	**P**	**20 13 11.0 +5.5**
YSS			*e*	pP	20 13 16.0 +5.8
YSS			*e*		20 13 22.0
YSS			*e*		20 14 47.0
YSS			*e*S	**S**	**20 19 42.0 +1.6**
YSS			*e*		20 23 04.0
YSS			pmax	pmax	
	comp=Z,140nm,1.0s,mb5.8				
YSS			smax		
	comp=N,2μm,8.0s				
YSS			MLR	MLR	
	comp=Z,4μm,14.0s,MS5.4				
YSS			MLR	MLR	
	comp=N,3μm,13.0s,MS5.5				
YSS			MLR	MLR	
	comp=E,3μm,16.0s,MS5.5				
YSS	**Yuzh-Sakhalins**	**44.53 49**	P	**P**	**20 13 06.5 +1.0**
	comp=E,135nm,1.0s,mb5.7				
YSS			*e*	pP	20 13 10.3 +0.1
YSS			LR	LR	
	comp=Z,3μm,21.0s,MS5.1				
MACK	**Trabzon**	**44.67 302**	*i* P	**P**	**20 13 07.2 +0.6**
VRHR	**Novokhopersk**	**44.68 317**	*e*P	**P**	**20 13 06.0 -0.7**
VRHR			*e*S	**S**	**20 19 40.4 -2.2**
VRHR			pmax	pmax	
	comp=Z,90nm,0.5s,mb5.9				
VRHR			pmax	pmax	
	comp=N,10.0nm,0.4s				
VRHR			pmax	pmax	
	comp=E,30nm,0.6s				
VRHR			smax		
	comp=N,550nm,2.3s				
VRHR			smax		
	comp=Z,70nm,2.0s				
VRHR			smax		
	comp=E,150nm,2.2s				
VRHR			MLR	MLR	
	comp=N,2μm,13.0s				
VRHR			MLR	MLR	
	comp=E,2μm,19.0s				
CBIJ	**Chichi jima**	**44.71 78**	LR	LR	20 30 57.4
	comp=E,2μm,21.8s,MS5.0,baz=192,slow=35				
PECR	**Pechory**	**44.80 324**	*e*P	**P**	**20 13 07.4 -0.3**
PECR			*e*		20 14 58.0
PECR			*e*S	**S**	**20 19 44.8 +0.5**
PECR			pmax	pmax	
	comp=Z,200nm,1.4s,mb5.8				
PECR			pmax	pmax	
	comp=Z,1μm,6.0s				
PECR			MLR	MLR	
	comp=Z,4μm,14.0s,MS5.5				
SOC	**Sochi**	**44.84 306***c*	*i*P	**P**	**20 13 09.1 +1.1**
SOC			*e**PP	pP	20 13 17.1 +4.5
SOC			*e*		20 14 53.6
SOC			*e*S	**S**	**20 19 46.3 +1.4**
SOC			*e**SS	sS	20 20 03.6 +11
SOC			*e*SS	SS	20 23 02.7 -3.2
SOC			*e*SSS		20 23 51.2
SOC			pmax	pmax	
	comp=Z,598nm,3.3s				
SOC			pmax	pmax	
	comp=Z,118nm,1.5s,mb5.5				
SOC			MLR	MLR	
	comp=Z,3μm,19.0s,MS5.2				
SOC	**Sochi**	**44.84 306**	*i* P	**P**	**20 13 08.9 +0.9**
ELZG	**Elazig**	**45.28 299**	*i* P	**P**	**20 13 13.5 +2.0**
URFA	**Urfa**	**45.44 297**	*e*P	**P**	**20 13 13.6 +0.8**
MALT	**Malatya**	**45.72 298**	*e*P	**P**	**20 13 10.7 -4.3**
MALT	**Malatya**	**45.72 298**	P	**P**	**20 13 16.7 +1.7**
MALT			pmax	pmax	
	comp=Z,35nm,1.0s,mb5.2				
MALT	**Malatya**	**45.72 298**	*e*P	**P**	**20 13 16.5 +1.5**
	comp=Z,35nm,1.0s,mb5.2				
GRSN	**GIRESUNGRSN**	**45.81 302**	*i* P	**P**	**20 13 16.3 +0.6**
ATAB	**Bozova**	**45.86 297**	*i* P	**P**	**20 13 18.0 +1.9**
VORD	**Divnogorie**	**46.09 316**	*e*P	**P**	**20 13 18.4 +0.5**
VORD			pmax	pmax	
	comp=Z,60nm,1.4s,mb5.3				
VORD			pmax	pmax	
	comp=E,60nm,0.9s				
VRSR	**Storozhevoye**	**46.20 316**	*e*P	**P**	**20 13 17.9 -0.9**
VRSR			*e*S	**S**	**20 20 03.1 -1.5**
VRSR			pmax	pmax	
	comp=E,10.0nm,1.1s				
VRSR			pmax	pmax	
	comp=Z,8.0nm,1.1s,mb4.6				
VRSR			smax		
	comp=N,20nm,1.7s				
VRSR			smax		
	comp=Z,1.0nm,1.1s				
VRSR			smax		
	comp=E,2.0nm,0.9s				
VRSR			MLR	MLR	
	comp=E,620nm,18.0s,MS4.6				
VRSR			MLR	MLR	
	comp=Z,870nm,18.0s,MS4.8				
VRSR			MLR	MLR	
	comp=N,150nm,17.0s,MS4.6				
VOR	**Voronezh**	**46.30 317**	*e*P	**P**	**20 13 19.0 -0.5**
VOR			S	**S**	**20 20 04.0 -1.9**
VOR			pmax	pmax	
	comp=N,50nm,1.5s				
VOR			pmax	pmax	
	comp=E,150nm,1.5s				
VOR			smax		
	comp=N,220nm,1.7s				
VOR			smax		
	comp=E,70nm,1.7s				
GZT	**Gaziantep**	**46.45 297**	*i* P	**P**	**20 13 21.3 +0.6**
ANN	**Anapa**	**46.55 307**	*e*P	**P**	**20 13 21.9 +0.3**
ANN			*e*		20 15 18.2
ANN			*e*S	**S**	**20 20 10.1 +0.4**
ANN			pmax	pmax	
	comp=Z,86nm,1.5s,mb5.5				
ANN			MLR	MLR	
	comp=Z,3μm,16.0s,MS5.3				
GAZ	**Gaziantep**	**46.74 297**	*e*P	**P**	**20 13 24.5 +1.5**
SVSK	**Karacayir**	**46.78 301**	*e*P	**P**	**20 13 25.5 +2.2**
COBT	**Iskenderun**	**47.55 296**	*i* P	**P**	**20 13 30.4 +1.1**
KOZT	**Kozan**	**47.82 297**	*e*P	**P**	**20 13 30.6 -0.9**
CEYT	**Ceyhan**	**47.92 297**	*e*P	**P**	**20 13 33.8 +1.6**
MOS	**Moscow**	**48.09 322**κ	*i*P	**P**	**20 13 33.5 0.0**
MOS			*e*		20 13 43.2
MOS			*e*		20 15 02.6
MOS			*e*PPP		20 16 11.4
MOS			*e*S	**S**	**20 20 31.0 -0.5**
MOS			pmax	pmax	
	comp=Z,303nm,1.1s,mb6.2				
MOS			pmax	pmax	
	comp=Z,500nm,1.6s,mb6.3				
MOS			MLR	MLR	
	comp=E,2μm,14.1s				
MOS			MLR	MLR	
	comp=Z,4μm,14.1s,MS5.5				
BHL	**Bhannes**	**48.33 293**	*e*P	**P**	**20 13 36.6 +1.2**
BOYT	**Boyabat**	**48.34 303**	*i* P	**P**	**20 13 36.3 +0.9**
BYBT	**Boyabat**	**48.44 303**	*e*P	**P**	**20 13 36.7 +0.4**
KARA	**Karaisali**	**48.45 297**	*e*P	**P**	**20 13 32.6 -3.7**
OBN	**Obninsk**	**48.54 321**	P	**P**	**20 13 36.8 -0.2**
	comp=Z,1μm,0.4s,SNR=13				
OBN	**Obninsk**	**48.54 321***d*	*i*P	**P**	**20 13 36.1 -0.9**
OBN			*e*S	**S**	**20 20 37.1 -0.7**
OBN			pmax	pmax	
	comp=Z,275nm,1.4s,mb6.1				
OBN			MLR	MLR	
	comp=Z,2μm,22.0s,MS5.1				
OBN	**Obninsk**	**48.54 321**	*e*P	**P**	**20 13 36.1 -0.9**
	comp=Z,94nm,0.4s,mb6.2				
OBN			LR	LR	
	comp=Z,2μm,19.0s,MS5.2				
KLMR	**Klimovskoe**	**48.62 329***c*	*i*P	**P**	**20 13 37.1 -0.5**
KLMR			*e*		20 15 29.9
KLMR			pmax	pmax	
	comp=Z,270nm,1.4s,mb6.1				
KLMR			pmax	pmax	
	comp=Z,310nm,5.8s				
KLMR			MLR	MLR	
	comp=Z,4μm,17.0s,MS5.5				
NIG	**Nigde**	**48.73 298**	*e*P	**P**	**20 13 39.7 +1.2**
MERS	**Mersin**	**48.91 297**	*e*P	**P**	**20 13 40.2 +0.4**
SIM	**Simferopol'**	**48.92 307**⇑	*e*P	**P**	**20 13 40.9 +1.0**
SIM			*e*S	**S**	**20 20 45.4 +2.2**
SIM			pmax	pmax	
	comp=Z,62nm,0.9s,mb5.6				
SIM			MLR	MLR	
	comp=Z,2μm,16.0s,MS5.2				
SIM	**Simferopol'**	**48.92 307**	*e*P	**P**	**20 13 40.8 +0.9**
TIXI	**Tiksi**	**49.23 15**	*e*P	**P**	**20 13 38.3 -4.0**
TIXI			*e*		20 15 35.2
TIXI			*e*S	**S**	**20 20 37.4 -10**
TIXI			*e*		20 23 27.4
TIXI			*e*SS	SS	20 24 19.5 +0.6
TIXI			pmax	pmax	
	comp=Z,71nm,0.8s,mb5.8				
TIXI			smax		
	comp=N,268nm,9.4s				
TIXI			smax		
	comp=E,528nm,11.5s				
TIXI			MLR	MLR	
	comp=Z,3μm,14.0s,MS5.4				
TIXI	**Tiksi**	**49.23 15**⇓	*e*P	**P**	**20 13 41.7 -0.6**
TIXI			LR	LR	
	comp=Z,3μm,20.0s,MS5.2				
MEST	**Erdemli**	**49.24 296**	*i* P	**P**	**20 13 42.2 -0.2**
CANT	**Cankiri**	**49.34 302**	*e*P	**P**	**20 13 44.2 +1.1**
KAMT	**Kaman**	**49.34 300**	*e*P	**P**	**20 13 43.3 +0.1**
BR131	**Keskin Array S**	**49.38 300**	*e*P	**P**	**20 13 43.0 -0.4**
	comp=Z,7.6nm,0.6s,mb4.9				
BR131			LR	LR	
	comp=Z,833nm,19.0s,MS4.8				
BRTR	**Keskin Array B**	**49.38 300**	P	**P**	**20 13 43.8 +0.3**
	comp=Z,19nm,1.0s,mb5.1,baz=121,slow=6.0,SNR=45				
BALT	**Daday**	**49.48 303**	*i* P	**P**	**20 13 44.8 +0.6**
ELDT	**Eldivan**	**49.50 301**	*i* P	**P**	**20 13 45.0 +0.7**
EIL	**Elat**	**49.62 287**	*e*P	**P**	**20 13 44.9 -0.4**
	comp=Z,2μm,1.1s				
SAFT	**Safranbolu**	**50.02 302**	*e*P	**P**	**20 13 49.6 +1.3**
ANTO	**Ankara**	**50.02 301**	*e*P	**P**	**20 13 45.3 -3.0**
ANTO	**Ankara**	**50.02 301**	P	**P**	**20 13 49.1 +0.8**
ANTO			pmax	pmax	
	comp=Z,54nm,1.1s,mb5.5				
ANTO	**Ankara**	**50.02 301**	*e*P	**P**	**20 13 48.8 +0.5**
	comp=Z,54nm,1.1s,mb5.5				
ANTO			LR	LR	
	comp=Z,1μm,19.0s,MS4.9				
CSS	**Prodhromos**	**50.09 294**	*e*P	**P**	**20 13 48.7 -0.2**
	comp=Z,25nm,0.7s,mb5.4				
ERMK	**Ermenek**	**50.22 296**	*i* P	**P**	**20 13 47.4 -2.5**
KONT	**Konya--Tatoy**	**50.52 298**	*e*P	**P**	**20 13 53.3 +1.2**
SGKT	**Sivrigoynuk**	**50.53 302**	*i* P	**P**	**20 13 54.1 +1.9**
KIZT	**Kizilcal**	**50.80 299**	*e*P	**P**	**20 13 54.2 -0.1**
MDU	**Mudurnu**	**51.18 302**	*e*P	**P**	**20 13 57.9 +0.8**
GUMO	**Guam**	**51.27 94**	PFAKE		20 14 10.0 +12
GUMO			LR	LR	
	comp=Z,1μm,22.0s,MS5.0				
HENT	**Hendek**	**51.39 302**	*i* P	**P**	**20 13 59.6 +0.9**
ESKT	**Eskisehir**	**51.54 300**	*i* P	**P**	**20 13 59.8 0.0**
MA2	**Magadan**	**51.56 34**⇓	*e*P	**P**	**20 13 59.6 -0.3**
MA2			pmax	pmax	
	comp=Z,32nm,1.3s,mb5.1				
BORA	**Eskisehir**	**51.81 301**	*i* P	**P**	**20 14 01.6 -0.2**
ISP	**Isparta**	**51.98 298**	*e*P	**P**	**20 14 03.1 0.0**
TKTP	**Tekketepe**	**52.11 299**	*i* P	**P**	**20 14 03.3 -0.7**
HRT	**Hereke**	**52.33 302**	*e*P	**P**	**20 14 06.0 +0.4**
AKASG	**Malin Array Be**	**52.40 315**	P	**P**	**20 14 04.9 -1.2**
	comp=Z,46nm,0.5s,mb5.6,baz=82,slow=7.0,SNR=115				
AKASG			S	**S**	**20 21 29.9 -1.6**
	comp=Z,0.2nm,0.3s,baz=92,slow=11,SNR=7.0				
YLV	**Yalova**	**52.57 302**	*e*P	**P**	**20 14 05.4 -2.0**
KIS	**Kishinev**	**52.62 310**	*e*P	**P**	**20 14 07.0 -0.8**
KIS			*e*S	**S**	**20 21 30.0 -4.5**
KIS			MLR	MLR	
	comp=E,2μm,15.0s				
KIS			MLR	MLR	
	comp=Z,2μm,15.0s,MS5.3				
KIS			MLR	MLR	
	comp=Z,2μm,15.0s				
GDZ	**Gediz**	**52.64 300**	*i* P	**P**	**20 14 07.6 -0.3**
PUL	**Pulkovo**	**52.76 326**	P	**P**	**20 14 09.0 +0.2**
PUL			*i*		20 16 09.6
PUL			*i* S	**S**	**20 21 28.5 -7.9**
PUL			*i* SS	SS	20 25 14.7 -0.3
PUL			pmax	pmax	
	comp=N,59nm,0.6s				
PUL			pmax	pmax	
	comp=Z,151nm,0.6s,mb6.1				
PUL			pmax	pmax	
	comp=E,65nm,0.8s				
PUL			smax		
	comp=N,1μm,1.9s				
PUL			smax		
	comp=E,580nm,1.8s				
PUL			smax		
	comp=N,481nm,9.4s				
PUL			smax		
	comp=Z,358nm,9.5s				
PUL			smax		
	comp=E,456nm,11.6s				
PUL			MLR	MLR	
	comp=E,4μm,17.0s,MS5.6				
PUL			MLR	MLR	
	comp=Z,4μm,17.0s,MS5.5				
PUL			MLR	MLR	
	comp=N,1μm,14.0s,MS5.6				
PUL	**Pulkovo**	**52.76 326**	*i* P	**P**	**20 14 09.3 +0.5**
ULDT	**Uludag**	**52.79 301**	*i* P	**P**	**20 14 09.9 +0.9**
JOF	**Joensuu**	**52.94 330**	*e*p	**P**	**20 14 10.4 +0.3**
	comp=N,25nm,0.6s,mb5.3				
TIRR	**Tirgusor**	**52.99 307**	⇑P	**P**	**20 14 11.1 +0.6**
TIRR	**Tirgusor**	**52.99 307**	P	**P**	**20 14 11.6 +1.1**
TIRR	**Tirgusor**	**52.99 307**	⇑P	**P**	**20 14 11.1 +0.5**
LVZ	**Lovozero**	**53.05 337**	P	**P**	**20 14 11.6 +0.6**
	comp=N,449nm,1.3s,mb6.2,SNR=8.7				
LVZ	**Lovozero**	**53.05 337**	*i* P	**P**	**20 14 11.1 +0.1**
LVZ			*i*		20 15 22.3
LVZ			*i*		20 16 07.2
LVZ			*i* S	**S**	**20 21 34.3 -6.2**
LVZ			pmax	pmax	
	comp=Z,59nm,1.0s,mb5.5				
LVZ			pmax	pmax	
	comp=N,20nm,0.9s				
LVZ			pmax	pmax	
	comp=E,45nm,1.3s				
LVZ			smax		
	comp=N,998nm,4.2s				
LVZ			smax		
	comp=Z,2μm,4.0s				
LVZ			smax		
	comp=E,1μm,5.8s				
LVZ			smax		
	comp=N,153nm,7.4s				
LVZ			smax		
	comp=Z,221nm,8.4s				
LVZ			smax		
	comp=E,160nm,7.3s				
LVZ			MLR	MLR	
	comp=Z,4μm,16.0s,MS5.5				
LVZ			MLR	MLR	
	comp=N,735nm,12.0s,MS5.5				
LVZ			MLR	MLR	
	comp=E,3μm,17.0s,MS5.5				
LVZ	**Lovozero**	**53.05 337**	PFAKE		20 14 20.0 +9.0
LVZ			LR	LR	
	comp=Z,4μm,19.0s,MS5.5				
SEY	**Seymchan**	**53.06 30**	*e*P	**P**	**20 14 11.7 +0.6**
SEY			*e*		20 15 12.5
SEY			*e*		20 16 13.5
SEY			*e*S	**S**	**20 21 41.7 +1.1**
SEY					20 24 01.5
SEY			pmax	pmax	
	comp=Z,16nm,0.9s,mb5.0				
SEY			pmax	pmax	
	comp=N,10.0nm,1.1s				
SEY			pmax	pmax	
	comp=E,20nm,1.1s				
SEY			smax		
	comp=N,950nm,23.0s				
SEY			smax		
	comp=E,390nm,19.0s				
SEY			MLR	MLR	
	comp=Z,5μm,22.0s,MS5.5				
SEY			MLR	MLR	
	comp=E,4μm,23.0s				
SEY	**Seymchan**	**53.06 30**⇑	*e*P	**P**	**20 14 11.8 +0.7**
CFR	**Carcaliu**	**53.15 308**	⇑P	**P**	**20 14 11.8 +0.1**
CFR	**Carcaliu**	**53.15 308**	⇑P	**P**	**20 14 12.1 +0.4**
CFR	**Carcaliu**	**53.15 308**	⇑P	**P**	**20 14 11.8 +0.1**
PSN	**Preselentsi**	**53.20 306**	*i* P	**P**	**20 14 13.0 +0.9**
ELBA	**Catalca**	**53.23 303**	*i* P	**P**	**20 14 12.7 +0.4**
HARR	**Harsova**	**53.32 307**	⇑P	**P**	**20 14 13.6 +0.6**
HARR	**Harsova**	**53.32 307**	⇑P	**P**	**20 14 13.6 +0.6**
APA	**Apatity**	**53.39 336**⇓	*i*P	**P**	**20 14 13.4 -0.1**
APA			*i*		20 14 26.7
APA			*e*S	**S**	**20 21 49.0 +3.9**
APA			pmax	pmax	
	comp=Z,29nm,0.7s,mb5.3				
APA			MLR	MLR	
	comp=Z,4μm,16.0s,MS5.6				
MANT	**Manisa**	**53.43 299**	*i* P	**P**	**20 14 13.8 0.0**
MNK	**Minsk**	**53.45 319**	*e*P	**P**	**20 14 12.0 -1.9**
MNK			*e*S	**S**	**20 21 45.0 -0.9**
MNK			MLR	MLR	
	comp=Z,8μm,16.0s,MS5.8				
IAS	**Iasi**	**53.47 310**	P	**P**	**20 14 14.1 0.0**
BTOK	**Tokmak**	**53.68 301**	*i* P	**P**	**20 14 15.6 0.0**
BALB	**Balikesir**	**53.81 301**	*e*P	**P**	**20 14 17.1 +0.6**
VRI	**Vrincioaia**	**54.10 309**	⇑P	**P**	**20 14 19.6 +0.9**
VRI	**Vrincioaia**	**54.10 309**	P	**P**	**20 14 19.5 +0.8**
IDID	**Didziasalis**	**54.14 320**	*i* P	**P**	**20 14 18.6 -0.4**
IDID			AMb	AMB	20 14 23.6
	comp=Z,19nm,1.6s,mb4.8				
VSU	**Vasula**	**54.41 324**⇑	*i*P	**P**	**20 14 20.2 -0.7**
IIGN	**Ignalina**	**54.44 320**	*e*P	**P**	**20 14 21.0 -0.1**
IIGN			AMb	AMB	20 14 23.6
	comp=Z,49nm,0.5s,mb5.7				
IZAR	**Zarasai**	**54.45 321**	*i* P	**P**	**20 14 20.8 -0.4**
IZAR			AMb	AMB	20 14 23.6
	comp=Z,39nm,0.5s,mb5.5				
IZM	**Izmir**	**54.45 299**	*e*P	**P**	**20 14 21.4 +0.2**
JMB	**Yambol**	**54.47 304**	*i* P	**P**	**20 14 23.3 +1.9**
JMB	**Yambol**	**54.47 304**	*e*P	**P**	**20 14 20.9 -0.5**
ISAL	**Salakas**	**54.50 321**	*i* P	**P**	**20 14 21.3 -0.3**
MLR	**Muntele Rosu**	**54.68 308**	⇑P	**P**	**20 14 24.6 +1.7**
MLR	**Muntele Rosu**	**54.68 308**	P	**P**	**20 14 24.4 +1.5**
BUC1	**Bucharest**	**54.70 307**	P	**P**	**20 14 25.1 +2.0**
SZH	**Strazhica**	**54.87 305**	*i* P	**P**	**20 14 25.3 +1.0**
URLA	**Izmir**	**54.98 299**	*i* P	**P**	**20 14 24.2 -0.8**
MBWA	**Marble Bar**	**54.99 148**	*e*P	**P**	**20 14 23.7 -1.5**
	comp=Z,52nm,1.4s,mb5.4				
MBWA			LR	LR	
	comp=Z,1μm,21.0s,MS5.0				
BURAR	**Bucovina Array**	**55.05 311**	⇑P	**P**	**20 14 25.6 0.0**
BURAR	**Bucovina Array**	**55.05 311**	⇑P	**P**	**20 14 25.6 +0.1**
ALN	**Alexandroupoli**	**55.05 303**	*e*P	**P**	**20 14 24.8 -0.7**
KAF	**Kangasniemi**	**55.07 329**	*e*p	**P**	**20 14 25.0 -0.7**
	comp=Z,15nm,0.4s,mb5.4,baz=98,slow=7.2				
KAF	**Kangasniemi**	**55.07 329**	*e*P	**P**	**20 14 25.0 -0.7**
KAF			pmax	pmax	
	comp=Z,15nm,0.4s,mb5.4				
FINES	**FINESS Array B**	**55.08 328**	P	**P**	**20 14 24.8 -1.0**
	comp=Z,34nm,0.5s,mb5.6,baz=102,slow=8.0,SNR=210				
FINES			LR	LR	20 40 09.1
	comp=Z,2μm,18.4s,MS5.2,baz=278,slow=38				
FINES	**FINESS Array B**	**55.08 328**	*i* P	**P**	**20 14 25.1 -0.7**
FINES			pmax	pmax	
	comp=Z,34nm,0.5s				
PET	**Petropavlovsk**	**55.21 43**	*e*P	**P**	**20 14 29.2 +2.4**
PET			*e*S	**S**	**20 22 07.0 -2.6**
PET			*e*		20 24 11.8
PET			*e*SS	SS	20 25 46.8 -7.0
PET			pmax	pmax	
	comp=Z,300nm,5.3s				
PET			smax		
	comp=N,400nm,12.4s				
PET			MLR	MLR	
	comp=Z,4μm,15.0s,MS5.6				
PET			MLR	MLR	
	comp=Z,5μm,15.0s				
PET	**Petropavlovsk**	**55.21 43**	PFAKE		20 14 40.0 +13
PET			LR	LR	
	comp=Z,3μm,19.0s,MS5.4				
VOIR		**55.31 308**	⇑P	**P**	**20 14 27.2 -0.2**
MTUR	**Matau**	**55.32 308**	⇑P	**P**	**20 14 29.8 +2.3**
MTUR	**Matau**	**55.32 308**	P	**P**	**20 14 29.1 +1.6**
FITZ	**Fitzroy Crossi**	**55.59 140**	*e*P	**P**	**20 14 29.0 -0.5**
	comp=Z,12nm,0.8s,mb5.0				
LVV	**L'vov**	**55.73 314**	*e*P	**P**	**20 14 30.1 -0.4**
LVV			*e*S	**S**	**20 22 23.9 +7.4**
APE	**Apeiranthos**	**56.02 298**	⇑P	**P**	**20 14 30.9 -1.6**
SUW	**Suwalki**	**56.16 319**	*e*P	**P**	**20 14 32.9 -0.7**
SANT	**Santorini**	**56.20 297**	*e*P	**P**	**20 14 32.3 -1.6**
PGB	**Panagyurishte**	**56.24 305**	*i* P	**P**	**20 14 34.5 +0.4**
KEV	**Kevo**	**56.26 338**	*e*P	**P**	**20 14 33.1 -1.1**
KEV			pmax	pmax	
	comp=Z,25nm,0.5s,mb5.5				
KEV			MLR	MLR	
	comp=Z,4μm,20.0s,MS5.5				
KEV	**Kevo**	**56.26 338**	*e*P	**P**	**20 14 33.1 -1.1**
	comp=Z,25nm,0.5s,mb5.5				
KEV			LR	LR	
	comp=Z,4μm,20.0s,MS5.5				
CRAR	**CRAIOVA**	**56.30 307**	P	**P**	**20 14 36.0 +1.5**
KWP	**Kalwaria**	**56.60 313**	*e*P	**P**	**20 14 36.8 +0.1**
ARCES	**ARCESS Array B**	**56.72 337**	P	**P**	**20 14 36.9 -0.6**
	comp=Z,16nm,0.6s,mb5.3,baz=99,slow=7.4,SNR=111				
ARCES			LR	LR	20 40 30.8
	comp=Z,4μm,18.4s,MS5.5,baz=103,slow=38				
ARE0	**ARCESS Array S**	**56.72 337**	*e*P	**P**	**20 14 36.7 -0.8**
SRS	**Serrai**	**56.86 303**	*e*P	**P**	**20 14 36.2 -2.3**
KOLS	**Kolonicke sedl**	**56.93 313**	*e*P	**P**	**20 14 39.2 +0.2**
VTS	**Vitosha**	**56.94 305**	*i* P	**P**	**20 14 39.0 -0.1**
VTS	**Vitosha**	**56.94 305**	*e*P	**P**	**20 14 31.0 -8.0**
VTS	**Vitosha**	**56.94 305**	P	**P**	**20 14 40.1 +1.0**
UZH	**Uzhgorod**	**56.94 312**	*e*P	**P**	**20 14 39.0 -0.1**
UZH			*e*S	**S**	**20 22 27.0 -5.5**
PAIG	**Paliouri**	**56.97 302**	*e*P	**P**	**20 14 38.8 -0.5**
KKB	**Krupnik**	**57.13 304**	*i* P	**P**	**20 14 40.7 +0.3**
KNT	**Kendrikon**	**57.37 303**	*e*P	**P**	**20 14 40.1 -2.1**
CRVS	**Cervenica-Dubn**	**57.46 313**	*e*P	**P**	**20 14 44.0 +1.2**
WAR	**Warsaw**	**57.51 317**	*e*P	**P**	**20 14 44.7 +1.5**
STHS	**Stebnicka Huta**	**57.56 313**	*e*P	**P**	**20 14 43.0 -0.5**
VAY	**Valandovo**	**57.59 304**	*i* P	**P**	**20 14 42.1 -1.6**
KARN	**Karanos**	**57.61 296**	*e*P	**P**	**20 14 42.7 -1.2**
BZS	**Buzias**	**57.69 309**	P	**P**	**20 14 45.1 +0.7**
GRG	**Griva**	**57.77 303**	*e*P	**P**	**20 14 43.1 -1.8**
STIP	**Stip**	**57.82 304**	*i* P	**P**	**20 14 44.2 -1.1**
LIT	**Litokhoron**	**57.85 302**	*e*P	**P**	**20 14 42.4 -3.1**
KECS	**Kecovo**	**58.15 312**	*e*P	**P**	**20 14 47.7 +0.1**
AGG	**Agios Georgios**	**58.16 301**	*e*P	**P**	**20 14 44.6 -3.1**
NIE	**Niedzica**	**58.17 313**	*e*Pd		20 14 48.8
SKO	**Skopje**	**58.33 304**	*i* P	**P**	**20 14 48.5 -0.4**
OJC	**Ojcow**	**58.43 314**	*e*P	**P**	**20 14 49.2 -0.4**
OJC			*e*S	**S**	**20 22 45.6 -6.5**
OJC			L		20 44 32.9
	comp=Z,6.8nm,19.7s				
FNA	**Florina**	**58.57 303**	*e*P	**P**	**20 14 48.9 -1.7**
PSZ	**Piszkesteto**	**58.60 312**⇓	*i*P	**P**	**20 14 51.1 +0.3**
PSZ	**Piszkesteto**	**58.60 312**	P	**P**	**20 14 51.2 +0.4**

OHR Ohrid 58.94 304 *i* P **P** **20 14 53.5 +0.3**
TRO Tromso 59.01 337 *eP* **P** **20 14 51.6 -2.0**
TRO AML AML 20 14 55.1
comp=Z,36nm,0.7s
TRO AMS AMS 20 43 14.7
comp=Z,2µm,19.1s,MS5.2
DIVS Divcibare 59.04 307 *eP* **P** **20 14 53.2 -0.7**
DIVS Divcibare 59.04 307 *eP* **P** **20 14 53.6 -0.3**
KMBO Kilima Mbogo 59.34 251 P **P** **20 14 55.8 -0.1**
comp=Z,24nm,1.1s,mb5.2,baz=43,slow=9.5,SNR=39
KMBO S **S** **20 23 04.3 +0.4**
comp=Z,0.7nm,0.7s,baz=69,slow=23,SNR=2.2
KMBO LR LR 20 41 59.8
comp=Z,1µm,18.6s,MS5.1,baz=268,slow=38
KMBO Kilima Mbogo 59.34 251⇑ *eP* **P** **20 14 57.1 +1.1**
comp=Z,33nm,1.1s,mb5.3
KMBO LR LR
comp=Z,774nm,19.0s,MS4.8
BILL Bilibino 59.52 25⇑ *eP* **P** **20 14 58.0 +0.8**
BILL pmax pmax
comp=Z,24nm,0.9s,mb5.2
BILL MLR MLR
comp=Z,6µm,20.0s,MS5.7
BILL Bilibino 59.52 25 *eP* **P** **20 14 57.3 +0.2**
comp=Z,20nm,0.7s,mb5.2
BILL LR LR
comp=Z,4µm,21.0s,MS5.5
OKC Ostrava-Krasne 59.53 314 *eP* **P** **20 14 54.9 -2.3**
OKC *eS* **S** **20 23 05.8 -0.5**
OKC AMS AMS 20 43 50.0
comp=Z,2µm,13.4s
IGT Igoumenitsa 59.58 302 *eP* **P** **20 14 55.0 -2.6**
SRO2 Moca 59.62 311 *eP* **P** **20 14 58.9 +1.0**
SRO2 *es*P sP 20 15 03.8 -0.7
SRO Srobarova 59.67 312 *eP* **P** **20 14 59.5 +1.3**
PKSM Moragy 59.67 310⇓ *iP* **P** **20 14 57.3 -0.9**
PKSM *e* 20 17 30.6
SRO1 Iza 59.73 312 *eP* **P** **20 14 58.6 0.0**
GKP Gorka Klasztor 59.73 318 *eP* **P** **20 14 58.4 -0.2**
PKS9 Tamasi 59.87 310⇓ *eP* **P** **20 14 59.5 0.0**
MORC Moravsky Berou 59.92 314 ⇑P **P** **20 15 00.1 +0.2**
MORC Moravsky Berou 59.92 314 P **P** **20 14 59.8 -0.1**
RHK1 Bakonya 60.08 310 *eP* **P** **20 14 56.4 -4.6**
SMOL Smolenice 60.16 312 *eP* **P** **20 15 02.2 +0.6**
ZST Bratislava 60.42 312 *eP* **P** **20 15 03.0 -0.3**
ZST *e* 20 15 11.8
MOR8 Moi Rana 60.53 333 *eP* **P** **20 15 02.6 -1.5**
MOR8 AMb AMB 20 15 09.9
comp=Z,119nm,1.2s,mb5.9
MOR8 Moi Rana 60.53 333 *eP* **P** **20 15 02.6 -1.5**
comp=Z,119nm,1.2s,mb5.9
KSP Ksiaz 60.58 315 *eP* **P** **20 15 05.0 +0.6**
KSP Ksiaz 60.58 315 *eP* **P** **20 15 04.4 0.0**
KSP *ep*P pP 20 15 09.0 -0.2
KSP *eS* **S** **20 23 16.5 -3.4**
KSP *eSS* SS 20 27 21.5 +3.3
KSP LR LR
comp=Z,9µm,19.8s,MS5.9
VRAC Vranov 60.60 313 ⇑P **P** **20 15 05.0 +0.5**
VRAC Vranov 60.60 313 P **P** **20 15 04.8 +0.2**
DPC Dobruska-Polom 60.63 315 *eP* **P** **20 15 04.8 0.0**
DPC *eS* **S** **20 23 17.4 -3.1**
DPC AMS AMS 20 43 30.0
comp=Z,3µm,17.0s
UPC Upice 60.80 315 *eP* **P** **20 15 05.9 -0.1**
LOF Lofoten 60.88 335 *eP* **P** **20 15 06.8 +0.3**
LOF AMb AMB 20 15 12.2
comp=Z,220nm,2.0s,mb5.9
LOF Lofoten 60.88 335 *eP* **P** **20 15 06.8 +0.3**
comp=Z,220nm,2.0s,mb5.9
BSD Bornholm Skovb 60.91 320 *i* P **P** **20 15 06.2 -0.5**
comp=Z,28nm,0.6s,mb5.6
BSD *i* 20 23 27.1
BSD
comp=Z,2µm,18.0s
BSD Bornholm Skovb 60.91 320 *i* P **P** **20 15 06.2 -0.5**
BSD *i* 20 23 27.1
BSD pmax pmax
comp=Z,28nm,0.6s,mb5.6
BSD MLR MLR
comp=Z,2µm,18.0s,MS5.3
BSD Bornholm Skovb 60.91 320 *i* P **P** **20 15 06.2 -0.5**
comp=Z,28nm,0.6s,mb5.6
BSD *i* 20 23 27.1
STOK Stokkvaagen 61.11 333 *eP* **P** **20 15 07.8 -0.2**
STOK AMb AMB 20 15 13.3
comp=Z,122nm,1.2s,mb5.9
STOK Stokkvaagen 61.11 333 *eP* **P** **20 15 07.8 -0.2**
comp=Z,122nm,1.2s,mb5.9
KOGS Kog 61.27 310 *eP* **P** **20 15 09.8 +0.7**
TREC Trest 61.31 314 *eP* **P** **20 15 09.4 0.0**
NSS Namsos 61.62 331 *eP* **P** **20 15 09.8 -1.7**
NSS AMb AMB 20 15 16.2
comp=Z,85nm,1.5s,mb5.7
NSS AMS AMS 20 42 54.6
comp=Z,2µm,17.3s,MS5.3
NSS Namsos 61.62 331 *eP* **P** **20 15 08.3 -3.2**
comp=Z,85nm,1.5s,mb5.7
ARSA Arzberg 61.62 311 *i* P **P** **20 15 11.2 -0.3**
comp=Z,22nm,0.5s,mb5.5,SNR=29
ARSA Arzberg 61.62 311 *i* P **P** **20 15 11.2 -0.3**
comp=Z,22nm,0.5s,mb5.5
PVCC Panska Ves 61.71 315 *eP* **P** **20 15 11.9 -0.2**
PVCC AMS AMS 20 44 20.0
comp=Z,4µm,16.8s
KBS Kingsbay 61.77 348 *eP* **P** **20 15 11.8 -0.7**
KBS AMS AMS 20 47 50.6
comp=Z,1µm,17.9s,MS5.1
PRU Pruhonice 61.81 314 *eP* **P** **20 15 12.8 0.0**
PRU *eS* **S** **20 23 36.1 +0.5**
PRU AMS AMS 20 44 20.0
comp=Z,2µm,20.0s
RUE Ruedersdorf 61.91 317 *eP* **P** **20 15 12.4 -1.0**
comp=Z,36nm,0.6s,mb5.7
RUE Ruedersdorf 61.91 317 *eP* **P** **20 15 13.2 -0.3**
comp=Z,55nm,0.6s,mb5.9
PERS Pernice 62.01 311 *eP* **P** **20 15 13.6 -0.5**
PERS *e* 20 17 46.8
BRG Berggiesshubel 62.05 315 *eP* **P** **20 15 13.7 -0.7**
comp=Z,24nm,0.6s,mb5.5
BRG Berggiesshubel 62.05 315 *i* P **P** **20 15 14.3 -0.1**
comp=Z,18nm,0.6s,mb5.4
BRG
comp=N,1µm,15.3s
BRG
comp=E,2µm,19.3s
BRG
comp=Z,2µm,17.2s
COP Copenhagen 62.25 321 *i* P **P** **20 15 14.0 -1.7**
COP *i* 20 23 45.8
COP *e* 20 26 11.3
COP
comp=Z,1µm,18.0s
COP Copenhagen 62.25 321 *eP* **P** **20 15 14.0 -1.7**
COP *i* 20 23 45.8
COP MLR MLR
comp=Z,1µm,18.0s,MS5.2
COP Copenhagen 62.25 321 *eP* **P** **20 15 14.0 -1.7**
COP *i* 20 23 45.8
COP *e* 20 26 11.3
COP LR LR
comp=Z,1µm,18.0s,MS5.2
NB2 NORSAR Subarra 62.25 327 P **P** **20 15 13.9 -1.8**
comp=Z,43nm,0.5s,mb5.8,baz=85,slow=6.5
NOA NORSAR Array B 62.25 327 P **P** **20 15 14.3 -1.4**
comp=Z,52nm,0.6s,mb5.8,baz=85,slow=6.7,SNR=164
NOA LR LR 20 43 50.5
comp=Z,2µm,18.1s,MS5.3,baz=85,slow=38
WRA Warramunga Arr 62.29 134 P **P** **20 15 15.4 -0.6**
comp=Z,22nm,0.6s,mb5.5,baz=324,slow=7.0,SNR=398
WRA PKPPKP 20 44 23.7
comp=Z,2.2nm,1.1s,baz=137,slow=1.6,SNR=7.1
WRAB Tennant Creek 62.29 134 P **P** **20 15 15.6 -0.4**
comp=Z,266nm,0.7s,mb6.5,SNR=40
WRAB Tennant Creek 62.29 134 *eP* **P** **20 15 15.3 -0.7**
WRAB pmax pmax
comp=Z,94nm,1.1s,mb5.8
WRAB MLR MLR
comp=Z,883nm,22.0s,MS4.9
WRAB Tennant Creek 62.29 134 *eP* **P** **20 15 15.3 -0.7**
comp=Z,94nm,1.1s,mb5.8
WRAB LR LR
comp=Z,883nm,22.0s,MS4.9
WB2 Warramunga Arr 62.30 134⇓ *iP* **P** **20 15 15.2 -0.9**
MOA Molln 62.36 312 *i* P **P** **20 15 15.7 -0.7**
comp=Z,39nm,0.6s,mb5.8,SNR=60
NAO01 NORSAR Array S 62.43 327 *eP* **P** **20 15 15.5 -1.4**
comp=Z,35nm,0.5s,mb5.7
NAO01 LR LR
comp=Z,3µm,19.0s,MS5.5
LJU Ljubljana 62.52 310 *eP* **P** **20 15 17.1 -0.5**
GEC2 GERESS Array S 62.55 313 *eP* **P** **20 15 17.1 -0.6**
comp=Z,61nm,0.7s,mb5.8
GEC2 GERESS Array S 62.55 313 *eP* **P** **20 15 17.1 -0.6**
GEC2 pmax pmax
comp=Z,61nm,0.7s,mb5.8
GERES GERESS Array B 62.55 313 P **P** **20 15 17.1 -0.6**
comp=Z,53nm,0.6s,mb5.9,baz=74,slow=6.0,SNR=205
GERES LR LR 20 46 52.8
comp=Z,2µm,18.4s,MS5.3,baz=78,slow=40
CLL Collm 62.57 316 *eP* **P** **20 15 17.3 -0.5**
comp=Z,51nm,1.4s,mb5.5
CLL *e*PP PP 20 17 34.8 -0.7
CLL *eS* **S** **20 23 43.4 -1.7**
CLL *e*PS 20 24 02.6
CLL *e*ScS ScS 20 25 12.6 +2.8
CLL *e*SS SS 20 27 53.5 +4.2
CLL *e*SSS 20 30 48.4
CLL *e*LR LR 20 38 49.9
CLL *e*L 20 44 55.2
comp=Z,3µm,20.0s
CLL Collm 62.57 316⇑ *iP* **P** **20 15 17.2 -0.6**
comp=Z,49nm,1.4s,mb5.4
CLL *i* pP pP 20 15 22.1 -0.6
CLL *i* PP PP 20 17 33.2 -2.2
CLL *eS* **S** **20 23 42.0 -3.1**
CLL *e*PS 20 24 01.0
CLL *e*ScS ScS 20 25 07.0 -2.8
CLL *e*SS SS 20 27 54.0 +4.7
CLL *e*SSS 20 30 48.0
CLL LmH 20 41 00.0
comp=N,5µm,20.6s
CLL LmH 20 41 00.0
comp=E,1µm,20.5s
CLL Collm 62.57 316⇑ *eP* **P** **20 15 17.0 -0.8**
CLL *i* pP 20 15 22.1 -0.6
CLL *i* 20 17 33.2
CLL *eS* **S** **20 23 42.0 -3.1**
CLL pmax pmax
comp=Z,49nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,3µm,16.8s,MS5.6
CLL Collm 62.57 316⇑ *eP* **P** **20 15 17.0 -0.8**
comp=Z,49nm,1.4s,mb5.4
CLL *i* pP 20 15 22.1 -0.6
CLL *i* PP 20 17 33.2 -2.2
CLL *eS* **S** **20 23 42.0 -3.1**
CLL LR LR
comp=Z,3µm,16.8s,MS5.6
KHC Kasperske Hory 62.58 314 *eP* **P** **20 15 17.2 -0.7**
KHC AMS AMS 20 46 30.0
comp=Z,2µm,14.9s
KHC Kasperske Hory 62.58 314⇑ *iP* **P** **20 15 17.0 -0.9**
OSL Oslo 62.61 326 *eP* **P** **20 15 17.5 -0.7**
OSL AMb AMB 20 15 20.3
comp=Z,110nm,0.6s,mb6.1
OSL Oslo 62.61 326 *eP* **P** **20 15 17.5 -0.7**
comp=Z,110nm,0.6s,mb6.2
CEY Cerknica 62.65 310 *eP* **P** **20 15 17.8 -0.5**
CEY *e* 20 17 51.3
CEY *eS* **S** **20 23 48.0 +1.9**
CEY *e* 20 25 13.4
VOY Vojsko 62.95 310 *eP* **P** **20 15 19.8 -0.6**
VOY *e* 20 15 29.0
VOY *e* 20 17 53.0
CADS Cadrg 63.02 310 *iP* **P** **20 15 19.9 -1.0**
CADS *i* 20 17 53.0
CADS *eS* **S** **20 23 52.2 +1.4**
WET Wettzell 63.03 314 *eP* **P** **20 15 20.3 -0.6**
comp=Z,21nm,1.1s,mb5.2
WET Wettzell 63.03 314 *eP* **P** **20 15 20.3 -0.6**
WET pmax pmax
comp=Z,21nm,1.1s,mb5.2
MUN Mundaring 63.09 157⇑ *iP* **P** **20 15 20.3 -1.0**
NKC Novy Kostel 63.10 315 *eP* **P** **20 15 21.4 0.0**
NKC AMS AMS 20 45 00.0
comp=Z,4µm,17.0s
KBA Koelnbreinsper 63.12 311 *iP* **P** **20 15 20.8 -0.7**
comp=Z,25nm,0.5s,mb5.6,SNR=32
WERD Werda 63.15 315 *eP* **P** **20 15 20.9 -0.8**
comp=Z,13nm,0.6s,mb5.2
DOMB Dombas 63.16 328 *eP* **P** **20 15 20.8 -1.0**
DOMB AMb AMB 20 15 23.4
comp=Z,100nm,0.7s,mb6.1
DOMB Dombas 63.16 328 *eP* **P** **20 15 20.8 -1.0**
comp=Z,100nm,0.7s,mb6.1
KONO Kongsberg 63.22 326 *eP* **P** **20 15 22.6 +0.4**
KONO Kongsberg 63.22 326 P **P** **20 15 21.6 -0.6**
KONO pmax pmax
comp=Z,33nm,0.6s,mb5.6
KONO Kongsberg 63.22 326 *eP* **P** **20 15 21.1 -1.1**
comp=Z,33nm,0.6s,mb5.6
KONO LR LR
comp=Z,2µm,21.0s,MS5.3
KLBR Kellerberrin 63.30 155 *eP* **P** **20 15 21.8 -0.9**
comp=Z,70nm,1.7s,mb5.5
ROTZ Rotzenmuhle 63.34 314 *eP* **P** **20 15 22.8 -0.2**
comp=Z,60nm,0.7s,mb5.8
MOX Moxa 63.55 316 *eP* **P** **20 15 23.6 -0.8**
comp=Z,27nm,1.2s,mb5.2
MOX Moxa 63.55 316 *eP* **P** **20 15 24.4 +0.1**
comp=Z,40nm,1.1s,mb5.4
MOX *e* 20 15 40.1
MOX
comp=Z,3µm,19.0s
MOX Moxa 63.55 316 *eP* **P** **20 15 24.4 +0.1**
MOX *e* 20 15 40.1
MOX pmax pmax
comp=Z,40nm,1.1s,mb5.4
MOX MLR MLR
comp=Z,3µm,19.0s,MS5.5
BSEG Bad Segeberg 63.73 319 *eP* **P** **20 15 25.0 -0.6**
comp=Z,37nm,0.9s,mb5.4
MOL Molde 63.79 329 *eP* **P** **20 15 27.8 +1.9**
MOL AMb AMB 20 15 30.3
comp=Z,158nm,0.7s,mb6.2
MOL Molde 63.79 329 *eP* **P** **20 15 27.8 +1.9**
comp=Z,158nm,0.7s,mb6.2
MUD Monsted U'grnd 63.94 322⇑ *iP* **P** **20 15 28.0 +1.1**
comp=Z,23nm,0.6s,mb5.4
MUD *i* pP 20 15 33.9 +2.2
MUD *i* 20 24 11.1
MUD *i* 20 24 15.0
MUD
comp=Z,3µm,17.0s
MUD Monsted U'grnd 63.94 322⇑ *iP* **P** **20 15 28.0 +1.1**
MUD *i* pP 20 15 33.9 +2.2
MUD *i* 20 24 11.1
MUD pmax pmax
comp=Z,23nm,0.6s,mb5.4
MUD MLR MLR
comp=Z,3µm,17.0s,MS5.5
MUD Monsted U'grnd 63.94 322⇑ *iP* **P** **20 15 28.0 +1.1**
comp=Z,23nm,0.6s,mb5.4
MUD *i* pP 20 15 33.9 +2.2
MUD *i* 20 24 11.1
MUD *i* 20 24 15.0
FX1 Attu Island--F 63.96 42 P **P** **20 15 25.8 -1.3**
GRA1 Grafenberg Arr 63.98 315 *eP* **P** **20 15 27.2 0.0**
comp=Z,92nm,1.4s,mb5.6
GRA1 *eS* **S** **20 23 59.4 -3.4**
GRA1 LR LR
comp=Z,4µm,18.8s,MS5.6
GRF Grafenberg Arr 63.98 315 *eP* **P** **20 15 27.2 0.0**
comp=Z,92nm,1.4s,mb5.6
GRF *eS* **S** **20 23 59.4 -3.4**
GRF *eL* 20 45 53.3
comp=Z,4µm,18.8s
GRF Grafenberg Arr 63.98 315 *eP* **P** **20 15 27.2 0.0**
GRF *eS* **S** **20 23 59.4 -3.4**
GRF pmax pmax
comp=Z,92nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,4µm,18.8s,MS5.6
GRF Grafenberg Arr 63.98 315 *eP* **P** **20 15 27.2 0.0**
GRF *eS* **S** **20 23 59.4 -3.4**
GRF pmax pmax
comp=Z,92nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,4µm,18.8s,MS5.6
CLZ Clausthal 64.09 317 *eP* **P** **20 15 27.2 -0.7**
comp=Z,48nm,0.7s,mb5.6
CLZ Clausthal 64.09 317 *eP* **P** **20 15 27.2 -0.7**
CLZ pmax pmax
comp=Z,48nm,0.7s,mb5.6
AQU L'Aquila 64.11 306 P **P** **20 15 29.2 +1.2**
AQU pmax pmax
comp=Z,200nm,1.2s,mb6.0
AQU L'Aquila 64.11 306 *eP* **P** **20 15 28.6 +0.6**
comp=Z,198nm,1.2s,mb6.0
WTTA Wattenberg 64.22 312⇓ *iP* **P** **20 15 27.9 -0.8**
comp=Z,56nm,0.5s,mb5.8,SNR=27
WATA Walderalm 64.24 312⇓ *iP* **P** **20 15 27.8 -1.2**
comp=Z,14nm,0.6s,mb5.2,SNR=30
FUR Furstenfeldbru 64.26 313 *eP* **P** **20 15 28.4 -0.7**
comp=Z,67nm,1.0s,mb5.6
FUR Furstenfeldbru 64.26 313 *eP* **P** **20 15 28.4 -0.7**
FUR pmax pmax
comp=Z,67nm,1.0s,mb5.6
NWAO Narrogin (SRO) 64.31 156 PFAKE 20 15 40.0 +11
NWAO LR LR
comp=Z,915nm,21.0s,MS4.9
SQTA Sankt Quirin 64.51 312⇓ *iP* **P** **20 15 29.5 -1.2**
comp=Z,16nm,0.6s,mb5.2,SNR=53
SQTA Sankt Quirin 64.51 312⇓ *iP* **P** **20 15 29.5 -1.2**
comp=Z,16nm,0.6s,mb5.2
MURB Monte Urbino 64.52 307 P **P** **20 15 32.7 +2.0**
UBBA Unterbreizbach 64.52 316 *eP* **P** **20 15 29.9 -0.8**
comp=Z,28nm,1.1s,mb5.2
SMY Shemya 64.54 42 PFAKE 20 15 40.0 +9.1
SMY LR LR
comp=Z,4µm,19.0s,MS5.6
MOTA Moosalm 64.56 312 *i* P **P** **20 15 30.1 -0.9**
comp=Z,32nm,0.8s,mb5.4,SNR=46
BADI Badiali 64.66 308 P **P** **20 15 33.8 +2.2**
ODD1 Odda 64.66 326 *eP* **P** **20 15 31.2 -0.4**
ASPA Alice Springs 64.76 137⇑ *iP* **P** **20 15 31.9 -0.4**
AS31 Alice Springs 64.76 137⇑ *iP* **P** **20 15 31.9 -0.4**
ASAR Alice Springs 64.76 137 P **P** **20 15 31.7 -0.6**
comp=Z,20nm,0.6s,mb5.3,baz=320,slow=6.7,SNR=346
ASAR S **S** **20 24 13.3 +0.9**
comp=Z,0.9nm,1.1s,baz=307,slow=12,SNR=4.3
ASAR PKPPKP 20 44 19.6
comp=Z,1.5nm,0.9s,baz=119,slow=4.0,SNR=4.8
ASAR Alice Springs 64.76 137 P **P** **20 15 31.7 -0.6**
ASAR S **S** **20 24 13.3 +0.9**
PMG Port Moresby 64.77 116 LR LR 20 48 21.4
comp=Z,332nm,19.1s,MS4.5,baz=284,slow=40
PMG Port Moresby 64.77 116 PFAKE 20 15 40.0 +7.6
PMG LR LR
comp=Z,581nm,22.0s,MS4.7
BLS5 Blasjo 64.83 326 *eP* **P** **20 15 34.0 +1.2**
BLS5 AMb AMB 20 15 36.1
comp=Z,34nm,1.1s,mb5.3
BLS5 Blasjo 64.83 326 *eP* **P** **20 15 34.0 +1.2**
comp=Z,34nm,1.1s,mb5.3
RUND Rundenannen 65.18 327 *eP* **P** **20 15 34.8 -0.3**
RUND AMb AMB 20 15 37.7
comp=Z,135nm,0.7s,mb6.1
BER Bergen 65.20 327 *eP* **P** **20 15 35.4 +0.2**
BER *e* 20 24 26.2
BER AMS AMS 20 46 46.0
comp=Z,2µm,16.5s,MS5.3
DAVA Damuels 65.38 312 *i* P **P** **20 15 35.6 -0.8**
comp=Z,89nm,1.0s,mb5.8,SNR=38
DAVA Damuels 65.38 312 *i* P **P** **20 15 35.6 -0.8**
comp=Z,89nm,1.0s,mb5.8
STU Stuttgart 65.48 314 *eP* **P** **20 15 36.2 -0.8**
comp=Z,42nm,0.9s,mb5.5
STU Stuttgart 65.48 314 P **P** **20 15 36.8 -0.2**
STU pmax pmax
comp=Z,94nm,1.0s,mb5.8
STU Stuttgart 65.48 314 *eP* **P** **20 15 36.7 -0.2**
comp=Z,94nm,0.9s,mb5.8
TOD Tromm 65.53 315 *eP* **P** **20 15 38.0 +0.7**
IBBN Ibbenburen 65.57 318 *eP* **P** **20 15 36.8 -0.8**
comp=Z,18nm,0.7s,mb5.2
GSCL Gusciola 65.61 309 P **P** **20 15 39.7 +1.9**
TNS Taunus Mts 65.62 316 *eP* **P** **20 15 37.7 -0.2**
comp=Z,35nm,0.7s,mb5.5
TNS Taunus Mts 65.62 316 *eP* **P** **20 15 37.7 -0.2**
TNS pmax pmax
comp=Z,35nm,0.7s,mb5.5
ERBM Eremo 65.72 309 P **P** **20 15 41.0 +2.5**
VLC Villacollemand 65.80 309 *eP* **P** **20 15 38.5 -0.5**
comp=Z,97nm,1.2s,mb5.7
SPAK Spaichingen 65.90 313 *eP* **P** **20 15 41.5 +1.8**
BUG Bochum--Univer 66.06 317 *eP* **P** **20 15 40.0 -0.7**
comp=Z,28nm,1.2s,mb5.2
BFO Black Forest 66.14 314 *eP* **P** **20 15 40.9 -0.4**
comp=Z,24nm,1.3s,mb5.1
BFO Black Forest 66.14 314 P **P** **20 15 41.7 +0.4**
comp=Z,114nm,0.7s,mb6.0,SNR=5.1
BFO Black Forest 66.14 314 *eP* **P** **20 15 40.9 -0.4**
BFO pmax pmax
comp=Z,24nm,1.3s,mb5.1
WTSB Winterswijk 66.22 318⇑ *iP* **P** **20 15 41.3 -0.4**
comp=Z,52nm,1.1s,mb5.5
ABH Alteburg 66.26 315 *eP* **P** **20 15 42.9 +0.9**
LANF Langenberg 66.32 314 *eP* **P** **20 15 43.2 +0.8**
FELD Feldberg 66.47 313 *eP* **P** **20 15 43.9 +0.6**
RUP Ruppelstein 66.61 315 *eP* **P** **20 15 45.1 +0.8**
LIBD Limburg 66.66 313 *eP* **P** **20 15 45.3 +0.7**
WLS Welschbruch 66.75 314 *eP* **P** **20 15 45.6 +0.4**
CDF Champ du Feu 66.80 314 *eP* **P** **20 15 44.3 -1.2**
comp=Z,83nm,0.8s,mb5.5
BBS Basel-Blauen 66.90 313 *eP* **P** **20 15 46.4 +0.3**
ECH Echery 66.93 314 *eP* **P** **20 15 46.7 +0.4**
MCGN Macugnaga 66.97 311 P **P** **20 15 46.1 -0.5**
MOF Molkenrain 67.04 313 *eP* **P** **20 15 47.5 +0.5**
HGN Heimansgroeve 67.04 317 *eP* **P** **20 15 40.4 -6.6**
comp=Z,23nm,3.0s
HGN *e*Sg S 20 24 36.5 -3.8
HGN *e*SS SS 20 29 03.6 +4.6
ORO Oropa 67.07 311 P **P** **20 15 45.8 -1.4**
comp=Z,15nm,0.5s,mb5.3
WLF Walferdange 67.19 315 *eP* **P** **20 15 47.8 -0.2**
comp=Z,56nm,0.9s,mb5.6
PGF Pioggiola 67.20 307 *eP* **P** **20 15 46.8 -1.2**
comp=Z,201nm,1.2s,mb5.7
HINF Hinteralfeld 67.23 313 *eP* **P** **20 15 46.8 -1.4**
comp=Z,47nm,0.6s,mb5.4
LOMF Lomont 67.37 313 *eP* **P** **20 15 47.7 -1.4**
HAU Haudompre 67.51 314 *eP* **P** **20 15 49.7 -0.3**
comp=Z,45nm,0.6s,mb5.4
HAU *e*R
comp=Z,2µm,22.2s
IMI Imperia 67.60 309 P **P** **20 15 50.7 +0.2**
THEF They Montfort 67.68 314 *eP* **P** **20 15 51.2 +0.2**
OG01 Vacheresse 67.75 312 *eP* **P** **20 15 52.1 +0.6**
SAOF Saorge 67.81 309 *eP* **P** **20 15 52.6 +0.7**
AUTN L'Aution 67.90 309 *eP* **P** **20 15 53.5 +1.1**
GIVF Givet 67.90 316 *eP* **P** **20 15 51.3 -1.1**
comp=Z,41nm,0.8s,mb5.2
SBF Sospel 67.93 309 *eP* **P** **20 15 51.4 -1.2**
comp=Z,123nm,0.8s,mb5.7
LPG La Plagne 67.93 311 *eP* **P** **20 15 52.1 -0.5**
comp=Z,75nm,0.6s,mb5.6
LPL La Plagne 67.94 311 *eP* **P** **20 15 52.1 -0.6**
comp=Z,116nm,0.6s,mb5.8
RSL Roselend 67.96 311 *eP* **P** **20 15 53.4 +0.6**
CABF La Chapelle 68.06 312 *eP* **P** **20 15 52.4 -1.1**
comp=Z,41nm,0.6s,mb5.3
BNI Bardonecchia 68.11 310 *eP* **P** **20 15 53.0 -0.7**
BNI pmax pmax
comp=Z,54nm,1.0s,mb5.5
BNI Bardonecchia 68.11 310 *eP* **P** **20 15 53.0 -0.8**
comp=Z,54nm,1.0s,mb5.5
MVIF Mont Vial 68.12 309 *eP* **P** **20 15 54.3 +0.5**
MBDF Montbardon 68.14 310 *eP* **P** **20 15 52.2 -1.7**
comp=Z,68nm,0.6s,mb5.6
MEZF Maizieres J'vi 68.20 314 *eP* **P** **20 15 53.4 -0.9**
comp=Z,128nm,0.7s,mb5.8
BAIF Baives 68.30 316 *eP* **P** **20 15 53.9 -1.0**
comp=Z,32nm,0.8s,mb5.1
DAG Danmarks Havn 68.45 347⇓ *iP* **P** **20 15 55.7 -0.2**
comp=Z,7.3nm,0.6s,mb4.9
DAG Danmarks Havn 68.45 347⇓ *iP* **P** **20 15 55.7 -0.2**
DAG pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
WAKE Wake Island 68.47 79 PFAKE 20 16 10.0 +14
WAKE LR LR
comp=Z,865nm,22.0s,MS4.9
FRF La Foret Royal 68.56 309 *eP* **P** **20 15 55.3 -1.3**
comp=Z,84nm,1.0s,mb5.3
OG05 Jujurieux 68.64 312 *eP* **P** **20 15 58.2 +1.1**

ORIF Oris-en-Rattie 68.69 310 *eP* **P 20 15 55.8 -1.6**
comp=Z,78nm,0.9s,mb5.3
ORIF *eR*
comp=Z,3µm,22.2s
LMR La Mourre 68.73 309 *eP* **P 20 15 56.4 -1.2**
comp=Z,131nm,1.2s,mb5.4
SMRF Simiane la Rot 69.18 310 *eP* **P 20 15 59.7 -0.7**
comp=Z,109nm,1.2s,mb5.4
LOR Lormes 69.33 313 *eP* **P 20 15 59.8 -1.6**
comp=Z,46nm,0.7s,mb5.2
LOR *eR*
comp=Z,2µm,20.2s
VIVF Saint-Julien-l 69.53 311 *eP* **P 20 16 01.4 -1.2**
comp=Z,109nm,1.2s,mb5.4
SMF Signal de Mont 69.53 313 *eP* **P 20 16 01.2 -1.4**
comp=Z,105nm,0.7s,mb5.6
SSF Saint Saulge 69.62 313 *eP* **P 20 16 01.9 -1.3**
comp=Z,122nm,0.7s,mb5.7
AVF Avril sur Loir 69.81 313 *eP* **P 20 16 02.9 -1.4**
comp=Z,109nm,0.8s,mb5.5
PLDF La Plantade 69.89 312 *eP* **P 20 16 05.3 +0.5**
TNA Tin City 69.93 26 *eP* **P 20 16 05.7 +0.6**
comp=Z,23nm,1.2s,mb5.0
TNA LR LR
comp=Z,2µm,19.0s,MS5.4
COLF Collangettes 69.98 312 *eP* **P 20 16 06.1 +0.7**
ALE Alert 70.03 356 P **P 20 16 05.1 -0.5**
comp=Z,193nm,0.8s,mb6.1,SNR=10
HYF Humbligny 70.12 314 *eP* **P 20 16 05.6 -0.6**
AGO Saint Agoulin 70.19 312 *eP* **P 20 16 06.9 +0.3**
BGF Bois d'Agland 70.21 313 *eP* **P 20 16 05.5 -1.3**
comp=Z,38nm,0.6s,mb5.2
ADK Adak 70.22 41 PFAKE 20 16 20.0 +13
ADK LR LR
comp=Z,2µm,20.0s,MS5.4
LASF Ste Croix 70.33 310 *eP* **P 20 16 06.6 -0.9**
comp=Z,109nm,1.0s,mb5.5
PYM Petit Puy Mans 70.36 312 *eP* **P 20 16 07.9 +0.2**
LBL Lubilhac 70.37 311 *eP* **P 20 16 08.1 +0.4**
CAEH 'Ain El Ouahch 70.55 302 P **P 20 16 10.0 +1.2**
CTA Charters Tower 70.57 126 *eP* **P 20 16 09.2 +0.2**
comp=Z,13nm,0.8s,mb4.9
CTA Charters Tower 70.57 126 P **P 20 16 09.2 +0.2**
comp=Z,13nm,0.9s,mb4.9,baz=324,slow=3.6,SNR=6.4
CTA Charters Tower 70.57 126 *eP* **P 20 16 09.2 +0.2**
CTA pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 70.57 126 PFAKE 20 16 20.0 +11
CTAO LR LR
comp=Z,960nm,20.0s,MS5.0
TCF Toulx Ste Croi 70.72 313 *eP* **P 20 16 09.0 -0.9**
comp=Z,114nm,0.7s,mb5.6
CKFL Kef-Lekhel 70.78 302 P **P 20 16 12.0 +1.8**
FRNF Fournols 70.78 312 *eP* **P 20 16 11.5 +1.3**
ESK Eskdalemuir 70.96 323 P **P 20 16 11.5 +0.2**
comp=Z,290nm,0.6s,mb6.4,SNR=13
ESK Eskdalemuir 70.96 323 P **P 20 16 10.7 -0.6**
ESK pmax pmax
comp=Z,53nm,1.0s,mb5.4
ESK Eskdalemuir 70.96 323 *eP* **P 20 16 10.1 -1.3**
comp=Z,53nm,0.9s,mb5.5
ESK LR LR
comp=Z,2µm,20.0s,MS5.4
CASM Ain Smara 71.00 302 P **P 20 16 13.0 +1.4**
BHH Howats Hill 71.04 323 *eP* **P 20 16 11.5 -0.4**
BHH Howats Hill 71.04 323 *eP* **P 20 16 11.5 -0.4**
BWH Wardlaw 71.25 323 *eP* **P 20 16 12.1 -1.0**
BWH Wardlaw 71.25 323 *eP* **P 20 16 12.1 -1.0**
CAF Calviac 71.26 311 *eP* **P 20 16 12.5 -0.7**
comp=Z,74nm,0.7s,mb5.4
DFRA Djebel Bou Aff 71.36 302 P **P 20 16 14.0 +0.2**
LDF La Druitiere 71.44 316 *eP* **P 20 16 12.8 -1.5**
comp=Z,90nm,0.8s,mb5.4
RJF Les Rejaudoux 71.50 312 *eP* **P 20 16 14.1 -0.5**
comp=Z,98nm,0.7s,mb5.6
RJF *eR*
comp=Z,1µm,20.0s
FLN La Foliniere 71.61 316 *eP* **P 20 16 13.8 -1.5**
comp=Z,96nm,1.2s,mb5.3
FLN *eR*
comp=Z,2µm,19.0s
CMER Merouana 71.67 301 P **P 20 16 21.0 +5.4**
MTLF Montolieu 71.69 310 *eP* **P 20 16 14.8 -1.0**
comp=Z,54nm,0.8s,mb5.2
HLM1 Long Mynd 71.75 320⇑ *eP* **P 20 16 15.3 -0.8**
HLM1 Long Mynd 71.75 320⇑ *eP* **P 20 16 15.3 -0.8**
SBD1 Bryn Du 71.82 321⇑ *eP* **P 20 16 16.3 -0.2**
SBD1 Bryn Du 71.82 321⇑ *eP* **P 20 16 16.3 -0.2**
SET Setif 71.84 302 P **P 20 16 18.0 +1.3**
SSP1 Stoney Pound 71.91 320⇑ *eP* **P 20 16 16.8 -0.3**
SSP1 AMb AMB 20 16 19.3
comp=Z,85nm,0.9s,mb5.7
SSP1 Stoney Pound 71.91 320⇑ *eP* **P 20 16 16.8 -0.3**
SSP1 AMb AMB 20 16 19.3
comp=Z,85nm,0.9s,mb5.7
GAL1 Galloway 71.93 323 *eP* **P 20 16 16.9 -0.3**
GAL1 Galloway 71.93 323 *eP* **P 20 16 16.9 -0.3**
GRR Gorron 71.97 316 *eP* **P 20 16 16.0 -1.5**
comp=Z,60nm,0.7s,mb5.3
MCH1 Michaelchurch 72.00 320⇑ *eP* **P 20 16 16.9 -0.7**
MCH1 AMb AMB 20 16 18.7
comp=Z,59nm,1.2s,mb5.4
MCH1 Michaelchurch 72.00 320⇑ *eP* **P 20 16 16.9 -0.7**
MCH1 AMb AMB 20 16 18.7
comp=Z,59nm,1.2s,mb5.4
HGH Gray Hill 72.01 319⇑ *eP* **P 20 16 17.1 -0.6**
HGH AMb AMB 20 16 18.8
comp=Z,151nm,1.3s,mb5.8
HGH Gray Hill 72.01 319⇑ *eP* **P 20 16 17.1 -0.6**
HGH AMb AMB 20 16 18.8
comp=Z,151nm,1.3s,mb5.8
HTR Trewern Hill 72.12 320 *eP* **P 20 16 18.4 +0.1**
HTR Trewern Hill 72.12 320 *eP* **P 20 16 18.4 +0.1**
LFF La Frestale 72.14 312 *eP* **P 20 16 17.8 -0.7**
comp=Z,71nm,0.6s,mb5.4
MFF Saint Martin d 72.14 314 *eP* **P 20 16 17.1 -1.4**
comp=Z,45nm,0.7s,mb5.2
VALF Valcebollere 72.15 309 *eP* **P 20 16 19.4 +0.9**
WIM Isle of Man 72.17 322 *eP* **P 20 16 18.0 -0.7**
WIM Isle of Man 72.17 322 *eP* **P 20 16 18.0 -0.7**
GMK Mull of Kintyr 72.22 323 *eP* **P 20 16 18.9 -0.1**
GMK Mull of Kintyr 72.22 323 *eP* **P 20 16 18.9 -0.1**
SCO Scoresbysund 72.28 341⇑ *iP* **P 20 16 20.8 +1.5**
comp=Z,13nm,0.9s,mb4.9
SCO Scoresbysund 72.28 341⇑ *iP* **P 20 16 20.8 +1.5**
SCO pmax pmax
comp=Z,13nm,0.9s,mb4.9
WLF1 Llynfaes 72.33 321 *eP* **P 20 16 19.3 -0.2**
WLF1 AMb AMB 20 16 23.2
comp=Z,120nm,1.5s,mb5.6
WLF1 Llynfaes 72.33 321 *eP* **P 20 16 19.3 -0.2**
WLF1 AMb AMB 20 16 23.2
comp=Z,120nm,1.5s,mb5.6
WCB1 Church Bay 72.38 321 *eP* **P 20 16 19.4 -0.4**
WCB1 AMb AMB 20 16 21.3
comp=Z,90nm,1.4s,mb5.5
WCB1 Church Bay 72.38 321 *eP* **P 20 16 19.4 -0.4**
WCB1 AMb AMB 20 16 21.3
comp=Z,90nm,1.4s,mb5.5
YRC Rhoscolyn 72.44 321 *eP* **P 20 16 20.0 -0.3**
YRC AMb AMB 20 16 22.4
comp=Z,81nm,0.8s,mb5.7
YRC Rhoscolyn 72.44 321 *eP* **P 20 16 20.0 -0.3**
YRC AMb AMB 20 16 22.4
comp=Z,81nm,0.8s,mb5.7
YRE Yr Eifl 72.46 321 *eP* **P 20 16 20.0 -0.4**
YRE AMb AMB 20 16 22.8
comp=Z,89nm,0.6s,mb5.9
YRE Yr Eifl 72.46 321 *eP* **P 20 16 20.0 -0.4**
YRE AMb AMB 20 16 22.8
comp=Z,89nm,0.6s,mb5.9
MLS Moulis 72.60 310 *eP* **P 20 16 21.2 0.0**
GCL Cushendall 72.61 323 *eP* **P 20 16 21.1 -0.2**
GCL Cushendall 72.61 323 *eP* **P 20 16 21.1 -0.2**
EMIR Miracle 72.67 309 P **P 20 16 22.6 +1.0**
comp=Z,38nm,0.7s,mb5.4
GMM Mts of Mourne 72.83 322 *eP* **P 20 16 22.3 -0.3**
GMM Mts of Mourne 72.83 322 *eP* **P 20 16 22.3 -0.3**
SGMF Saint Gilles 73.08 316 *eP* **P 20 16 23.0 -1.1**
comp=Z,71nm,0.7s,mb5.4
EPF Esparros 73.09 310 *eP* **P 20 16 22.4 -1.7**
comp=Z,20nm,0.9s,mb4.8
RESF Ens 73.17 310 *eP* **P 20 16 25.7 +1.1**
EPOB Poblet 73.18 308 P **P 20 16 25.3 +0.6**
comp=Z,31nm,0.8s,mb5.3

EBIE Bielsa 73.35 310 P **P 20 16 26.7 +1.1**
comp=Z,12nm,0.6s,mb5.0
VIEF Viey 73.36 310 *eP* **P 20 16 26.8 +1.1**
EGRA Graus 73.41 309 P **P 20 16 27.3 +1.3**
comp=Z,121nm,1.3s,mb5.7
DMUB Kingscourt 73.48 322 *eP* **P 20 16 26.8 +0.4**
ROSF Rostrenen 73.50 316 *eP* **P 20 16 25.4 -1.1**
comp=Z,99nm,0.7s,mb5.6
DLF Lyons Farm 73.51 322 *eP* **P 20 16 26.6 0.0**
KWAJ Kwajalein Atol 73.53 88 PFAKE 20 16 40.0 +13
KWAJ LR LR
comp=Z,976nm,21.0s,MS5.1
QUIF Quistinic 73.58 316 *eP* **P 20 16 25.6 -1.4**
comp=Z,27nm,0.6s,mb5.0
EMHD Djebel Mahouad 73.69 303 P **P 20 16 28.0 +0.3**
ETSF Étsaut 73.75 310 *eP* **P 20 16 27.5 -0.5**
comp=Z,70nm,0.6s,mb5.5
EBR Ebro Roquetas 73.79 308 *eP* **P 20 16 29.5 +1.3**
ERTA Horta de San J 73.85 308 P **P 20 16 29.4 +0.8**
comp=Z,63nm,1.2s,mb5.4
DCN Croghan 73.90 322 *eP* **P 20 16 29.1 +0.2**
LARF Larrau 73.99 310 *eP* **P 20 16 30.3 +0.9**
SJPF Ste Jean 74.12 311 *eP* **P 20 16 29.3 -0.9**
comp=Z,31nm,0.6s,mb5.1
ESAC San Caprasio 74.12 309 P **P 20 16 30.8 +0.6**
comp=Z,48nm,1.0s,mb5.4
EALK Alkurruntz 74.27 311 P **P 20 16 31.8 +0.7**
comp=Z,40nm,0.8s,mb5.4
ELIZ Elizondo 74.31 311 P **P 20 16 31.9 +0.6**
comp=Z,8.3nm,0.6s,mb4.8
LSZ Lusaka 74.57 244 *eP* **P 20 16 32.8 0.0**
LSZ pmax pmax
comp=Z,50nm,1.3s,mb5.3
LSZ MLR MLR
comp=Z,1µm,21.0s,MS5.1
LSZ Lusaka 74.57 244 *eP* **P 20 16 32.8 -0.1**
comp=Z,50nm,1.3s,mb5.3
LSZ LR LR
comp=Z,1µm,21.0s,MS5.1
EMOS Mosqueruela 74.64 308 P **P 20 16 33.9 +0.7**
comp=Z,95nm,1.2s,mb5.6
EBNR Beni Rached 74.73 303 P **P 20 16 32.0 -1.7**
ECHA Ech Chlef 74.90 303 P **P 20 16 33.0 -1.7**
SUMG Summit 75.14 346 *eP* **P 20 16 35.8 -0.3**
comp=Z,104nm,0.9s,mb5.8
EANR 'Ain N'Sour 75.18 303 P **P 20 16 34.0 -2.3**
ECRI Cripan 75.19 310 P **P 20 16 38.0 +1.6**
comp=Z,26nm,0.6s,mb5.3
UNV Unalaska Valle 75.22 37 PFAKE 20 16 50.0 +13
UNV LR LR
comp=Z,6µm,21.0s,MS5.9
ETRT Tiaret 75.24 302 P **P 20 16 38.0 +1.3**
ECHE Chera 75.29 307 P **P 20 16 37.5 +0.5**
comp=Z,31nm,1.0s,mb5.2
HNR Honiara 75.34 109 PFAKE 20 16 50.0 +13
HNR LR LR
comp=Z,609nm,20.0s,MS4.9
STKA Stephens Creek 75.38 138 *eP* **P 20 16 34.8 -2.7**
comp=Z,5.6nm,0.8s,mb4.5
STKA Stephens Creek 75.38 138 P **P 20 16 34.5 -3.0**
comp=Z,9.1nm,1.0s,mb4.7,baz=311,slow=3.9,SNR=12
ELAN Lanestosa 75.57 311 P **P 20 16 39.7 +1.1**
comp=Z,91nm,1.2s,mb5.6
ETOB Tobarra 76.07 306 P **P 20 16 42.7 +1.2**
comp=Z,68nm,1.2s,mb5.5
EMUR La Murta 76.17 305 P **P 20 16 42.5 +0.5**
comp=Z,100nm,1.8s,mb5.4
EARI Arriondas 76.72 312 P **P 20 16 45.4 +0.3**
comp=Z,89nm,1.3s,mb5.5
EVIA Vianos 76.76 307 P **P 20 16 46.1 +0.8**
comp=Z,9.6nm,0.6s,mb4.9
GUD Guadarrama 77.11 309 P **P 20 16 47.7 +0.4**
GUD pmax pmax
comp=Z,37nm,0.7s,mb5.4
GUD Guadarrama 77.11 309 P **P 20 16 47.7 +0.4**
comp=Z,37nm,0.7s,mb5.4
EHUE Huescar 77.16 306 P **P 20 16 48.3 +0.8**
comp=Z,23nm,1.0s,mb5.1
ENIJ Nijar 77.22 305 P **P 20 16 48.6 +0.7**
comp=Z,41nm,1.0s,mb5.3
ESDC Sonseca Array 77.37 308 P **P 20 16 49.1 +0.3**
comp=Z,18nm,0.9s,mb5.0,baz=55,slow=6.2,SNR=20
ESDC PP PP 20 19 45.4 +2.3
comp=Z,6.9nm,1.0s,baz=91,slow=6.5,SNR=4.5
ESLA Sonseca Array 77.37 308 *eP* **P 20 16 48.7 0.0**
comp=Z,5.3nm,0.9s,mb4.5
ESLA LR LR
comp=Z,5µm,19.0s,MS5.9
EQES Quesada 77.51 306 P **P 20 16 49.8 +0.2**
comp=Z,77nm,1.0s,mb5.6
COLA College 77.60 22 P **P 20 16 50.4 +0.3**
COLA pmax pmax
comp=Z,24nm,0.9s,mb5.1
COLA College 77.60 22 *eP* **P 20 16 49.9 -0.2**
comp=Z,24nm,0.8s,mb5.2
COLA LR LR
comp=Z,2µm,21.0s,MS5.5
EBER Berja 77.75 305 P **P 20 16 52.2 +1.3**
comp=Z,39nm,0.8s,mb5.4
EBAN Banos Encina 77.87 307 P **P 20 16 51.9 +0.3**
comp=Z,26nm,0.9s,mb5.2
MCK McKinley 77.93 23 P **P 20 16 53.2 +1.3**
MCK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MCK McKinley 77.93 23 *eP* **P 20 16 52.8 +0.9**
comp=Z,8.6nm,0.8s,mb4.7
MCK LR LR
comp=Z,1µm,20.0s,MS5.2
ILAR Eielson Array 77.99 22 P **P 20 16 51.8 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=295,slow=4.7,SNR=78
EPON Pontenova 78.00 313 P **P 20 16 52.4 +0.1**
comp=Z,17nm,0.6s,mb5.2
ECOG Cogollos-Vega 78.09 306 P **P 20 16 52.5 -0.3**
comp=Z,11nm,0.8s,mb4.8
ECAL Calabor 78.32 311 P **P 20 16 54.0 0.0**
comp=Z,15nm,0.6s,mb5.1
ERON Agron 78.37 306 P **P 20 16 54.4 +0.1**
comp=Z,21nm,0.8s,mb5.1
PBRG Braganca 78.38 311 *eP* **P 20 16 55.9 +1.5**
comp=Z,34nm,1.6s,mb5.0
EADA Adamuz 78.44 307 P **P 20 16 54.5 -0.2**
comp=Z,41nm,1.0s,mb5.3
ELUQ Luque 78.47 306 P **P 20 16 55.5 +0.6**
comp=Z,19nm,0.7s,mb5.1
RES Resolute Bay 78.52 2 P **P 20 16 55.5 +0.4**
RES pmax pmax
comp=Z,27nm,1.2s,mb5.0
RES Resolute Bay 78.52 2 *eP* **P 20 16 55.0 -0.1**
comp=Z,26nm,1.2s,mb5.0
ELOJ Sierra Loja 78.56 306 P **P 20 16 54.9 -0.5**
comp=Z,3.9nm,0.7s,mb4.5
FIB Fire Island 79.02 26 P **P 20 16 53.4 -4.5**
STS Santiago 79.11 313 P **P 20 17 00.3 +1.9**
comp=Z,20nm,0.8s,mb5.1
PMR Palmer 79.16 25 *eP* **P 20 16 58.5 -0.2**
PMR pmax pmax
comp=Z,38nm,1.1s,mb5.2
PMR MLR MLR
comp=Z,2µm,19.0s,MS5.5
PMR Palmer 79.16 25 *eP* **P 20 16 58.5 -0.2**
comp=Z,38nm,1.1s,mb5.2
PMR LR LR
comp=Z,2µm,19.0s,MS5.5
ELOB Lobios 79.24 311 P **P 20 16 58.6 -0.5**
comp=Z,67nm,1.6s,mb5.3
EMIJ Mijas 79.26 305 P **P 20 16 58.1 -1.1**
comp=Z,19nm,0.9s,mb5.0
PVRL Vila Real 79.27 311 *eP* **P 20 17 00.7 +1.4**
comp=Z,41nm,1.2s,mb5.2
INK Inuvik 79.34 16 P **P 20 16 59.9 +0.2**
comp=Z,12nm,0.8s,mb4.8,baz=322,slow=8.7,SNR=14
INK Inuvik 79.34 16 P **P 20 16 59.7 0.0**
INK pmax pmax
comp=Z,37nm,1.1s
INK Inuvik 79.34 16 *eP* **P 20 16 59.0 -0.7**
comp=Z,37nm,1.2s,mb5.2
EMAZ Mazaricos 79.36 313 P **P 20 16 59.7 -0.1**
comp=Z,48nm,1.2s,mb5.3
SLKM Skilak Lake 79.39 26 P pP 20 17 08.6 +3.7
SLKM Skilak Lake 79.39 26 P **P 20 16 60.0 0.0**
MTE Manteigas 79.55 310 *eP* **P 20 17 02.3 +1.5**
comp=Z,93nm,1.1s,mb5.6
MTE Manteigas 79.55 310 *eP* **P 20 17 01.1 +0.4**
comp=Z,57nm,0.9s,mb5.5
PCBR Castelo Branco 79.75 309 *eP* **P 20 17 02.9 +1.0**
comp=Z,36nm,1.1s,mb5.2
EBAD Badajoz 79.91 308 P **P 20 17 03.4 +0.7**

comp=Z,24nm,1.4s,mb4.9
KDAK Kodiak Island 80.02 29 P **P 20 17 03.0 -0.3**
comp=Z,195nm,1.4s,mb5.8,SNR=8.3
EMIN Mina Concepcio 80.10 307 P **P 20 17 05.4 +1.6**
comp=Z,134nm,1.8s,mb5.6
PTOM Tomar 80.49 310 *eP* **P 20 17 06.6 +0.7**
comp=Z,130nm,0.9s,mb5.9
DIV Divide 80.71 24 *eP* **P 20 17 06.5 -0.6**
comp=Z,133nm,1.2s,mb5.8
DIV LR LR
comp=Z,6µm,20.0s,MS5.9
EGRO El Granado 80.78 307 P **P 20 17 07.8 +0.3**
comp=Z,80nm,1.4s,mb5.5
PBEJ Beja 80.83 308 *eP* **P 20 17 08.6 +0.9**
comp=Z,53nm,1.2s,mb5.3
DAWY Dawson 80.88 20 *eP* **P 20 17 07.8 -0.1**
PTEO Sao Teotonio 81.66 308 *eP* **P 20 17 13.6 +1.5**
LBTB Lobatse 82.05 237 P **P 20 17 14.4 +0.2**
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.9
LBTB MLR MLR
comp=Z,761nm,21.0s,MS5.0
LBTB Lobatse 82.05 237 P **P 20 17 14.4 +0.3**
comp=Z,13nm,0.8s,mb4.9
LBTB LR LR
comp=Z,761nm,21.0s,MS5.0
SFJD Kangerlussuaq 82.13 346⇓ *iP* **P 20 17 13.7 -0.9**
comp=Z,35nm,0.9s,mb5.3
SFJD *i* 20 19 46.0
SFJD *i* S S 20 27 29.1 +0.2
SFJD
comp=Z,860nm,18.0s
SFJD Kangerlussuaq 82.13 346⇓ *iP* **P 20 17 13.7 -0.9**
SFJD *i* S S 20 27 29.1 +0.2
SFJD pmax pmax
comp=Z,35nm,0.9s,mb5.3
SFJD MLR MLR
comp=Z,870nm,18.0s,MS5.2
TORD Torodi Ar. Bea 84.17 282 P **P 20 17 25.5 +0.4**
comp=Z,11nm,0.9s,mb5.0,baz=63,slow=4.6,SNR=24
TORD PP PP 20 20 43.5 +4.2
comp=Z,15nm,1.3s,baz=59,slow=6.4,SNR=4.5
BOSA Boshof 84.34 234 P **P 20 17 26.4 +0.4**
comp=Z,5.6nm,1.0s,mb4.7,baz=57,slow=7.6,SNR=7.1
BOSA LR LR 20 51 36.9
comp=Z,891nm,20.2s,MS5.1,baz=64,slow=33
BOSA Boshof 84.34 234 *eP* **P 20 17 28.0 +2.0**
BOSA pmax pmax
comp=Z,38nm,1.4s,mb5.3
BOSA MLR MLR
comp=Z,928nm,20.0s,MS5.2
BOSA Boshof 84.34 234 *eP* **P 20 17 28.0 +2.0**
comp=Z,38nm,1.4s,mb5.3
BOSA LR LR
comp=Z,928nm,20.0s,MS5.2
TSUM Tsumeb 85.22 246 *eP* **P 20 17 31.2 +0.7**
comp=Z,15nm,1.3s,mb5.0
TSUM LR LR
comp=Z,1µm,21.0s,MS5.2
TAU Tasmania Unive 86.30 143 PFAKE 20 17 50.0 +14
TAU LR LR
comp=Z,833nm,21.0s,MS5.1
SIT Sitka 87.41 24 PFAKE 20 17 50.0 +8.8
SIT LR LR
comp=Z,2µm,21.0s,MS5.5
FRB Frobisher Bay 88.27 351 P **P 20 17 44.8 -0.5**
comp=Z,17nm,0.6s,mb5.5,baz=7.1,slow=6.4,SNR=33
YKW3 Yellowknife Ar 88.34 12 *eP* **P 20 17 45.1 -0.5**
YKA Yellowknife Ar 88.40 12 P **P 20 17 45.1 -0.8**
comp=Z,5.1nm,0.8s,mb4.8,baz=334,slow=4.6,SNR=69
YKA PKKPbc PKKPbc 20 35 25.9 -2.3
comp=Z,0.4nm,0.6s,baz=158,slow=2.2,SNR=10.0
YKA LR LR 21 00 12.7
comp=Z,1µm,19.6s,MS5.3,baz=0.0,slow=38
YKA Yellowknife Ar 88.40 12 *iP* **P 20 17 45.0 -0.9**
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 88.40 12 P **P 20 17 45.1 -0.8**
YKA PKKPbc PKKPbc 20 35 25.9 -2.3
YKA LR LR 21 00 12.7
SUR Sutherland 89.61 233 PFAKE 20 18 00.0 +8.4
SUR LR LR
comp=Z,2µm,22.0s,MS5.4
CCAN Las Canadas 92.03 303 P **P 20 18 04.2 +1.4**
comp=Z,29nm,1.1s,mb5.5
DBIC Dimbokro 92.83 279 P **P 20 18 07.2 +0.7**
comp=Z,10nm,0.8s,mb5.3,baz=43,slow=6.2,SNR=16
DBIC LR LR 21 02 57.1
comp=Z,881nm,20.1s,MS5.2,baz=43,slow=38
DBIC Dimbokro 92.83 279 *eP* **P 20 18 07.1 +0.6**
DBIC pmax pmax
comp=Z,23nm,1.2s
DBIC MLR MLR
comp=Z,920nm,19.0s
DBIC Dimbokro 92.83 279 *eP* **P 20 18 07.1 +0.6**
comp=Z,23nm,1.2s,mb5.5
DBIC LR LR
comp=Z,920nm,19.0s,MS5.2
CASY Casey 94.05 172 PFAKE 20 18 20.0 +7.9
CASY LR LR
comp=Z,1µm,20.0s,MS5.4
EDM Edmonton 97.23 15 P **P 20 18 31.6 +4.9**
EDM Edmonton 97.23 15 P **P 20 18 26.6 0.0**
FFC Flin Flon 97.80 8 PFAKE 20 18 40.0 +11
FFC LR LR
comp=Z,3µm,20.0s,MS5.7
OCWA Octopus Mounta 98.93 24 PFAKE 20 18 50.0 +16
OCWA LR LR
comp=Z,1µm,19.0s,MS5.5
HAWA Hanford 101.70 22 PFAKE 20 19 00.0 +13
HAWA LR LR
comp=Z,98nm,19.0s,MS4.3
COR Corvallis 101.94 25 PFAKE 20 19 00.0 +12
COR LR LR
comp=Z,1µm,19.0s,MS5.4
SNZO South Karori 102.39 130 PFAKE 20 19 00.0 +10
SNZO LR LR
comp=Z,1µm,20.0s,MS5.4
SYO Syowa Base 102.89 197⇓ *eP*diff Pdif 20 18 52.8 +0.9
SYO Syowa Base 102.89 197⇓ *eP*P PP 20 23 07.9 +1.9
EGMT Eagleton 102.91 15 PFAKE 20 19 00.0 +8.0
EGMT LR LR
comp=Z,1µm,21.0s,MS5.3
MSO Missoula 102.98 18 PFAKE 20 19 00.0 +7.7
MSO LR LR
comp=Z,1µm,19.0s,MS5.4
DGMT Dagmar 103.58 11 PFAKE 20 19 10.0 +15
DGMT LR LR
comp=Z,2µm,22.0s,MS5.5
HUMO Hull Mountain 103.76 26 PFAKE 20 19 10.0 +14
HUMO LR LR
comp=Z,790nm,22.0s,MS5.2
BMO Blue Mountains 103.78 21 PFAKE 20 19 10.0 +14
BMO LR LR
comp=Z,975nm,19.0s,MS5.4
YBH Yreka Blue Hor 104.60 26 PFAKE 20 19 10.0 +10
YBH LR LR
comp=Z,656nm,20.0s,MS5.2
BOZ Bozeman (W) 104.69 17 PFAKE 20 19 10.0 +10
BOZ LR LR
comp=Z,1µm,20.0s,MS5.5
LAO LASA Array 104.92 13 PFAKE 20 19 10.0 +9.1
LAO LR LR
comp=Z,1µm,19.0s,MS5.5
MOD Modoc 105.36 24 PFAKE 20 23 30.0 +13
MOD LR LR
comp=Z,1µm,19.0s,MS5.4
EYMN Ely 105.39 2 PFAKE 20 23 30.0 +13
EYMN LR LR
comp=Z,2µm,20.0s,MS5.6
WVOR Wild Horse Val 105.49 23 PFAKE 20 23 30.0 +13
WVOR LR LR
comp=Z,1µm,22.0s,MS5.4
WDC Whiskeytown Da 105.65 26 PFAKE 20 23 30.0 +13
WDC LR LR
comp=Z,786nm,19.0s,MS5.3
YMR Madison River 105.77 17 PFAKE 20 23 30.0 +13
YMR LR LR
comp=Z,907nm,20.0s,MS5.3
LKWY Lake 106.01 16 PFAKE 20 23 30.0 +12
LKWY LR LR
comp=Z,2µm,19.0s,MS5.7
HOPS Hopland 106.78 28 PFAKE 20 23 30.0 +11
HOPS LR LR
comp=Z,869nm,20.0s,MS5.3
AHID Auburn Hatcher 107.51 17 PFAKE 20 23 30.0 +9.3

AHID LR LR
comp=Z,860nm,20.0s,MS5.3
LBNH Lisbon 107.58 348 PFAKE 20 23 30.0 +9.2
LBNH LR LR
comp=Z,2μm,20.0s,MS5.7
RSSD Black Hills 107.81 12 PFAKE 20 23 30.0 +8.7
RSSD LR LR
comp=Z,869nm,19.0s,MS5.3
BW06 Boulder Array 107.91 16 PFAKE 20 23 30.0 +8.6
BW06 LR LR
comp=Z,1μm,21.0s,MS5.5
PDAR Pinedale Array 107.91 16 PKiKP PKiKP 20 23 22.1 +0.6
comp=Z,0.5nm,0.8s,baz=338,slow=1.0,SNR=3.7
PDAR PKKPbc PKKPbc 20 34 32.5 -1.5
comp=Z,0.3nm,0.6s,baz=148,slow=5.6,SNR=3.8
ELK Elko 108.14 21 PFAKE 20 23 30.0 +8.1
ELK LR LR
comp=Z,1μm,20.0s,MS5.5
NCB Newcomb 108.25 349 PFAKE 20 23 30.0 +7.9
NCB LR LR
comp=Z,698nm,19.0s,MS5.2
CMB Columbia Colle 108.69 26 PFAKE 20 23 30.0 +7.1
CMB LR LR
comp=Z,714nm,20.0s,MS5.2
NVAR Mina Array Bea 109.14 25 PP PP 20 23 54.4 +2.3
comp=Z,1.4nm,0.9s,baz=329,slow=2.5,SNR=4.6
HRV Harvard--Oak R 109.18 347 PFAKE 20 23 40.0 +16
HRV LR LR
comp=Z,1μm,21.0s,MS5.4
MNV Mina 109.19 24 PFAKE 20 23 40.0 +16
MNV LR LR
comp=Z,1μm,19.0s,MS5.4
WES Weston 109.25 347 PFAKE 20 23 40.0 +16
WES LR LR
comp=Z,1μm,20.0s,MS5.5
SAO San Andreas Ge 109.35 28 PFAKE 20 23 40.0 +16
SAO LR LR
comp=Z,702nm,20.0s,MS5.2
DUG Dugway 109.40 20 PFAKE 20 23 40.0 +16
DUG LR LR
comp=Z,779nm,20.0s,MS5.3
MPU Maple Canyon 109.91 19 PFAKE 20 23 40.0 +15
MPU LR LR
comp=Z,2μm,21.0s,MS5.6
ERPA Erie 110.84 353 PFAKE 20 23 40.0 +13
ERPA LR LR
comp=Z,1μm,22.0s,MS5.5
AAM Ann Arbor 110.96 356 PFAKE 20 23 40.0 +13
AAM LR LR
comp=Z,2μm,19.0s,MS5.7
ARUT Antelope Range 111.41 21 *e*P Pdif 20 19 37.2 +7.4
ISA Isabella 111.50 26 P Pdif 20 19 30.0 -0.2
ISA Isabella 111.50 26 PFAKE 20 23 40.0 +12
ISA LR LR
comp=Z,197nm,19.0s,MS4.7
ISCO Idaho Springs 111.65 14 PFAKE 20 23 40.0 +12
ISCO LR LR
comp=Z,2μm,20.0s,MS5.6
VNDA Vanda 111.97 167 PFAKE 20 23 40.0 +11
VNDA LR LR
comp=Z,1μm,20.0s,MS5.4
ACSO Alum Creek Sta 112.97 356 PFAKE 20 23 40.0 +9.0
ACSO LR LR
comp=Z,826nm,22.0s,MS5.3
MCWV Mont Chateau 113.26 353 PFAKE 20 23 40.0 +8.5
MCWV LR LR
comp=Z,2μm,21.0s,MS5.6
SDCO Great Sand Dun 113.64 15 PFAKE 20 23 40.0 +7.7
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
CBKS Cedar Bluff 113.70 10 PFAKE 20 23 40.0 +7.6
CBKS LR LR
comp=Z,2μm,20.0s,MS5.6
PFO Pinyon Flat Ob 114.09 26 PFAKE 20 23 50.0 +17
PFO LR LR
comp=Z,941nm,21.0s,MS5.4
WUAZ Wupatki 114.15 21 PFAKE 20 23 50.0 +17
WUAZ LR LR
comp=Z,1μm,19.0s,MS5.5
CBN Corbin 114.38 351 PFAKE 20 23 50.0 +16
CBN LR LR
comp=Z,2μm,19.0s,MS5.7
WCI Wyandotte Cave 115.13 358 PFAKE 20 23 50.0 +15
WCI LR LR
comp=Z,1μm,21.0s,MS5.5
CCM Cathedral Cave 115.27 3 PFAKE 20 23 50.0 +15
CCM LR LR
comp=Z,2μm,20.0s,MS5.6
ANMO Albuquerque 116.07 17 *i* PKIKP PKPdf 20 23 40.2 +3.3
ANMO Albuquerque 116.07 17 PFAKE 20 23 50.0 +13
ANMO LR LR
comp=Z,1μm,20.0s,MS5.5
QSPA South Pole Qui 116.76 180 *e*P PKPdf 20 23 36.3 -2.0
WVT Waverly 117.25 360 PFAKE 20 23 50.0 +11
WVT LR LR
comp=Z,994nm,22.0s,MS5.4
TUC Tucson 117.29 21 PFAKE 20 23 50.0 +11
TUC LR LR
comp=Z,788nm,20.0s,MS5.3
WMOK Wichita Mounta 117.84 10 PFAKE 20 23 50.0 +10
WMOK LR LR
comp=Z,1μm,19.0s,MS5.5
VNA2 Neumayer--Watz 118.18 202 *e*PKPdf PKPdf 20 23 41.9 +0.9
baz=48,slow=1.7
VNA2 *e* 20 23 51.7
VNA2 *e* 20 23 55.1
PLAL Pickwick Lake 118.40 360 PFAKE 20 23 50.0 +8.6
PLAL LR LR
comp=Z,1μm,20.0s,MS5.5
MIAR Mount Ida 118.63 5 PFAKE 20 23 50.0 +8.2
MIAR LR LR
comp=Z,2μm,21.0s,MS5.7
OXF Oxford 118.86 1 PFAKE 20 23 50.0 +7.7
OXF LR LR
comp=Z,762nm,19.0s,MS5.3
VNA3 Neumayer Olymp 118.92 201 *e*PKPdf PKPdf 20 23 43.6 +1.2
VNA3 *e* 20 23 54.7
MNTX Cornudas Mount 119.44 17 PFAKE 20 24 00.0 +17
MNTX LR LR
comp=Z,1μm,19.0s,MS5.5
NHSC New Hope 119.77 352 PFAKE 20 24 00.0 +16
NHSC LR LR
comp=Z,990nm,20.0s,MS5.4
LRAL Lakeview Retre 120.33 359 PFAKE 20 24 00.0 +15
LRAL LR LR
comp=Z,1μm,21.0s,MS5.5
NATX Nacogdoches 121.30 6 PFAKE 20 24 00.0 +13
NATX LR LR
comp=Z,1μm,21.0s,MS5.6
JCT Junction City 121.83 12 PKIKP PKPdf 20 23 49.1 +1.1
JCT Junction City 121.83 12 *e*PKPdf PKPdf 20 23 49.0 +0.9
JCT LR LR
comp=Z,1μm,20.0s,MS5.6
HKT Hockley 122.96 8 PFAKE 20 24 00.0 +10
HKT LR LR
comp=Z,2μm,22.0s,MS5.6
DWPF Disney 124.85 353 PFAKE 20 24 10.0 +16
DWPF LR LR
comp=Z,1μm,22.0s,MS5.5
RCBR Riachuelo 125.98 283 PFAKE 20 24 10.0 +14
RCBR LR LR
comp=Z,414nm,21.0s,MS5.1
SJG San Juan 130.31 332 PFAKE 20 24 20.0 +16
SJG LR LR
comp=Z,445nm,20.0s,MS5.2
TEIG Tepich 133.10 360 PFAKE 20 24 20.0 +11
TEIG LR LR
comp=Z,154nm,22.0s,MS4.7
HOPE Hope Point 133.54 219 PFAKE 20 24 20.0 +10
HOPE LR LR
comp=Z,707nm,21.0s,MS5.4
SDV Santo Domingo 140.47 332 *e*PKPpre 20 24 15.8
SDV LR LR
comp=Z,303nm,19.0s,MS5.1
BDFB Brasilia 140.98 278 PKP PKPdf 20 24 25.5 +1.4
comp=Z,1.6nm,0.4s,baz=146,slow=7.0,SNR=3.8
JTS JuntasAbangare 142.83 355 PFAKE 20 24 40.0 +13
JTS LR LR
comp=Z,520nm,21.0s,MS5.3
ROSC El Rosal 145.61 335 PKPbc PKPbc 20 24 34.5 +2.1
comp=Z,132nm,1.0s,baz=89,slow=2.4,SNR=24
EFI East Falkland 146.41 215 PFAKE 20 24 40.0 +6.4
EFI LR LR
comp=Z,479nm,19.0s,MS5.3
OTAV Otavalo 151.35 339 *e*PKPdf PKPdf 20 24 44.4 +2.9
OTAV LR LR
comp=Z,290nm,20.0s,MS5.1
CPUP Villa Florida 152.35 264 *e*PKIKP PKPdf 20 24 43.8 +0.8
CPUP *e* 20 24 49.4
CPUP MLR MLR
comp=Z,112nm,19.0s
TRQA Tornquist 155.29 237 PFAKE 20 25 00.0 +13
TRQA LR LR
comp=Z,3μm,21.0s,MS6.1
LPAZ La Paz 158.49 295 PKP PKPdf 20 24 52.9 +1.6
comp=Z,4.9nm,1.1s,baz=27,slow=11,SNR=12
LPAZ PKPab PKPab 20 25 27.8 +1.7
comp=Z,4.2nm,0.9s,baz=45,slow=12,SNR=6.2
LPAZ La Paz 158.49 295 *e*PKPdf PKPdf 20 24 52.7 +1.4
LPAZ LR LR
comp=Z,446nm,19.0s,MS5.3
PLCA Paso Flores 159.91 222 PKP PKPdf 20 24 53.9 +0.9
comp=Z,7.0nm,1.2s,baz=162,slow=1.6,SNR=3.6
PLCA Paso Flores 159.91 222 PKP PKPdf 20 24 53.9 +0.9
PLCA LR LR
comp=Z,625nm,20.0s,MS5.5
NNA Nana 161.63 322 PFAKE 20 25 10.0 +15
NNA LR LR
comp=Z,624nm,19.0s

NAO ***23*** *20:07:13.7, 2495N×9318E, h33km, mb5.2*
LDG ***23*** *20:07:24.9±0.2, 2699N×9155E, h10km, Mb5.3/41, Error ellipse: s-maj=10.8km s-min=6.1km az=153.0*
ISCJB ***23*** *20:07:24.4±0.2, 2686N±004×9160E±004, h10km, mb5.1/138, MS5.0/3, Error ellipse: s-maj=6.1km s-min=4.3km az=51.2*
BJI ***23*** *20:07:25.9, 2680N×9170E, h18km, mB5.2, mb4.9, ML5.6, Ms5.7, Msz5.4*
NEIC ***23*** *20:07:26.2±0.2, 2686N×9163E, h10km, mb5.2/66, Error ellipse: s-maj=6.1km s-min=4.2km az=216.0*
NEIC Damage is included with the event at 20:04 UTC. Felt [V] at Dewathang and Samdrup Jongkar; [IV] at Dhubri and Itanagar. Also felt [IV] at Thimphu, Bhutan. Felt at Guwahati, India and Syhlet, Bangladesh.
IDC ***23*** *20:07:27.1±3.5, 2694N×9167E, h17km±20km, mb4.8/22, mb1 4.9/22, mb1mx4.9/25, mbtmp4.9/22, MS4.4/1, Ms1 4.4/1, ms1mx3.5/24, Error ellipse: s-maj=19.2km s-min=13.6km az=24.0*
MOS ***23*** *20:07:28.1±1.0, 2686N×9156E, h35km, mb5.3/47, Error ellipse: s-maj=9.1km s-min=5.5km az=115.0*
SZGRF ***23*** *20:07:35.1, 2727N×9117E, h33km, mb5.2, Bhutan*
ISC 23 20:07:24.9±1.7, 2690N±004×9162E±004, h1km±10km, n280, σ0°84/280, mb5.2/138, MS5.0/3, 37C-3D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.83**	**352**	PG	**Pg**	**20 08 16.3**	**-2.7**
LSA				SG	**Sg**	**20 08 53.0**	**-2.7**
LSA				Smax			
	comp=N,50μm,0.5s						
LSA				Smax			
	comp=E,59μm,0.5s						
LSA	**Lhasa**	**2.83**	**352**	Pn	**Pn**	**20 08 14.0**	**+2.8**
LSA				*e*P*g*	**Pg**	**20 08 19.3**	**+0.3**
AGT	**Agartala**	**3.02**	**186**	*i x*	**Pn**	**20 08 12.0**	**-1.9**
ALBI	**Allahabad**	**8.96**	**262**	*ex*	**Pn**	**20 09 35.5**	**0.0**
KMI	**Kunming**	**10.16**	**98**	P	**Pn**	**20 09 54.1**	**+2.2**
KMI				AMB	AMB		
	comp=Z,41nm,1.2s						
CD2	**Chengdu**	**11.36**	**67**	*e*P	**Pn**	**20 10 14.3**	**+5.9**
QIZ	**Qiongzhong**	**18.50**	**111**	*e*P	**Pn**	**20 11 43.1**	**+0.5**
	comp=Z,49nm,1.1s						
AAK	**Ala-Archa**	**21.02**	**323**	*e*P	**P**	**20 12 10.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,61nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**21.02**	**323**	*e*P	**P**	**20 12 10.8**	**+0.8**
	comp=Z,61nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**21.19**	**342**	P	**P**	**20 12 10.8**	**-1.0**
	comp=Z,60nm,0.8s,mb5.0,baz=146,slow=13,SNR=5.2						
MKAR	**Makanchi Array**	**21.19**	**342**	P	**P**	**20 12 10.8**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,60nm,0.8s						
HHC	**Hu-ho-hao-te**	**21.56**	**45**	*e*P	**P**	**20 12 14.9**	**-0.9**
HHC				AP		20 12 19.4	
HHC				XP	sP	20 12 22.3	+6.2
HHC				PP		20 12 40.5	
HHC				SS		20 16 49.9	
HHC				AMB	AMB		
	comp=Z,38nm,1.2s,mb4.7						
HHC				LR	LR		
	comp=N,13μm,12.0s,MS5.6						
HHC				LR	LR		
	comp=E,9μm,13.2s,MS5.6						
HHC				LR	LR		
	comp=Z,6μm,14.4s,MS5.1						
PALK	**Pallekele**	**22.10**	**210**	P	**P**	**20 12 28.3**	**+6.7**
	comp=Z,36nm,1.1s,mb4.7						
KULM	**Kulim**	**23.15**	**157**	*e*P	**P**	**20 12 31.7**	**-1.0**
SONM	**Songino Array**	**23.89**	**25**	P	**P**	**20 12 39.6**	**-0.6**
	comp=Z,36nm,0.9s,mb4.9,baz=215,slow=11,SNR=5.7						
SONM	**Songino Array**	**23.89**	**25**	P	**P**	**20 12 39.6**	**-0.6**
SONM				pmax	pmax		
	comp=Z,36nm,0.9s						
ULN	**Ulaanbaatar**	**24.17**	**26**	*i* P	**P**	**20 12 44.7**	**+2.0**
KURK	**Kurchatov**	**25.77**	**341**	P	**P**	**20 12 55.0**	**-2.3**
KURK				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.1						
KURK	**Kurchatov**	**25.77**	**341**	P	**P**	**20 12 55.0**	**-2.3**
	comp=Z,41nm,0.8s,mb5.1						
NACB	**Ninganchiao**	**27.15**	**89**	*e*P	**P**	**20 13 11.5**	**+1.8**
SNY	**Shenyang**	**30.09**	**52**	⇑P	**P**	**20 13 37.3**	**+1.4**
SNY				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.7						
BVAR	**Borovoye Array**	**30.52**	**334**	P	**P**	**20 13 39.3**	**-0.4**
	comp=Z,4.2nm,0.5s,mb4.7,baz=127,slow=9.6,SNR=5.1						
BVAR				ScP	ScP	20 20 19.3	-3.1
	comp=Z,2.4nm,0.7s,baz=151,slow=3.4,SNR=4.7						
BVAR	**Borovoye Array**	**30.52**	**334**	P	**P**	**20 13 39.3**	**-0.4**
BVAR						20 20 19.3	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR				pmax	pmax		
	comp=E,2.0nm,0.7s						
BRVK	**Borovoye**	**30.59**	**334**	P	**P**	**20 13 39.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**30.59**	**334**	P	**P**	**20 13 39.8**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.7						
KSM	**Kuching**	**31.00**	**142**	*e*P	**P**	**20 13 43.9**	**0.0**
ZRNK	**Zerenda**	**31.01**	**333**	*e*P	**P**	**20 13 43.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
ZRNK	**Zerenda**	**31.01**	**333**	*e*P	**P**	**20 13 43.0**	**-1.0**
	comp=Z,16nm,0.6s,mb5.1						
HIA	**Hailar**	**31.14**	**37**	*e*P	**P**	**20 13 44.6**	**-0.5**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
HIA	**Hailar**	**31.14**	**37**	*e*P	**P**	**20 13 44.6**	**-0.6**
	comp=Z,24nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**34.76**	**322**	P	**P**	**20 14 16.8**	**+0.1**
AKTK				ScP	ScP	20 20 34.6	-2.3
AKTO	**Aktyubinsk**	**34.76**	**322**	P	**P**	**20 14 16.8**	**+0.1**
	comp=Z,8.0nm,0.6s,mb4.8,baz=107,slow=14,SNR=3.0						
AKTO				ScP	ScP	20 20 34.6	-2.3
	comp=Z,3.7nm,0.8s,baz=130,slow=8.2,SNR=3.8						
AKTO	**Aktyubinsk**	**34.76**	**322**	P	**P**	**20 14 16.8**	**0.0**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
AKTO				pmax	pmax		
	comp=E,4.0nm,0.8s						
VLA	**Vladivostok**	**36.35**	**53**	*e*P	**P**	**20 14 30.7**	**+0.2**
VLA				*e*		20 20 18.9	
VLA				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.3						
VLA	**Vladivostok**	**36.35**	**53**	*i* Pr		20 14 31.5	
ARU	**Arti**	**37.82**	**330**	*e*P	**P**	**20 14 41.9**	**-1.1**
	comp=Z,11nm,0.7s,mb4.7						
HABR	**Khabarovsk**	**39.88**	**46**	*i* P	**P**	**20 15 01.5**	**+1.3**
HABR				*i* S	**S**	**20 21 05.8**	**0.0**
HABR				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.0						
MAJO	**Matsushiro**	**40.45**	**64**	*e*P	**P**	**20 15 05.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**40.45**	**64**	*e*P	**P**	**20 15 05.7**	**+0.7**
	comp=Z,35nm,0.8s,mb5.0						
MAT	**Matsushiro**	**40.45**	**64**	P	**P**	**20 15 04.0**	**-0.9**
MAT	**Matsushiro**	**40.45**	**64**	*e*P	**P**	**20 15 04.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.1						
MAT	**Matsushiro**	**40.45**	**64**	*e*P	**P**	**20 15 04.0**	**-0.9**
	comp=Z,37nm,0.8s,mb5.1						
MJAR	**Matsushiro Arr**	**40.45**	**64**	P	**P**	**20 15 05.0**	**+0.1**
	comp=Z,31nm,0.8s,mb5.0,baz=274,slow=9.5,SNR=11						
MJAR	**Matsushiro Arr**	**40.45**	**64**	P	**P**	**20 15 05.0**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,31nm,0.9s						
GNI	**Garni**	**40.81**	**301**	*e*P	**P**	**20 15 10.8**	**+2.9**
GNI				pmax	pmax		
	comp=Z,23nm,0.9s						
GNI	**Garni**	**40.81**	**301**	*e*P	**P**	**20 15 10.8**	**+2.9**
	comp=Z,23nm,0.9s,mb4.9						
JHJ	**Hachijo jima 2**	**41.88**	**70**	P	**P**	**20 15 16.6**	**-0.2**
	comp=Z,224nm,0.7s,mb6.0,baz=48,slow=16,SNR=2.6						
GOF	**Gofitskoye**	**42.60**	**308**	*e*P	**P**	**20 15 19.4**	**-3.2**
YAK	**Yakutsk**	**43.26**	**25***d*	*i* P	**P**	**20 15 29.1**	**+1.2**
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.9						
YAK	**Yakutsk**	**43.26**	**25**	*e*P	**P**	**20 15 26.7**	**-1.2**
	comp=Z,15nm,0.7s,mb4.8						
ASAJ	**Asahikawa**	**44.18**	**53**	P	**P**	**20 15 34.8**	**-0.6**
	comp=Z,14nm,0.9s,mb4.7,baz=234,slow=19,SNR=2.1						
ASAJ	**Asahikawa**	**44.18**	**53**	P	**P**	**20 15 34.8**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
YSS	**Yuzh-Sakhalins**	**44.63**	**49**	⇑*i* P	**P**	**20 15 41.5**	**+2.5**
YSS				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.6						
YSS	**Yuzh-Sakhalins**	**44.63**	**49**	*e*P	**P**	**20 15 38.4**	**-0.5**
	comp=Z,59nm,0.9s,mb5.5						
VRSR	**Storozhevoye**	**46.19**	**316**	*e*P	**P**	**20 15 51.1**	**-0.2**
VRSR				pmax	pmax		
	comp=N,9.0nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
ANN	**Anapa**	**46.53**	**307**	*e*P	**P**	**20 15 52.3**	**-1.7**
ANN				*e*SSS		20 27 02.4	
ANN				pmax	pmax		
	comp=Z,165nm,1.4s,mb6.0						
OBN	**Obninsk**	**48.53**	**321**	*e*P	**P**	**20 16 08.7**	**-0.9**
	comp=Z,30nm,0.4s,mb5.7						
TIXI	**Tiksi**	**49.31**	**15**	*e*P	**P**	**20 16 13.4**	**-2.2**
TIXI				*e*		20 17 31.1	
TIXI				*e*S	**S**	**20 23 12.7**	**-10**
TIXI				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,1μm,12.0s,MS5.1						
TIXI	**Tiksi**	**49.31**	**15**	*i* P	**P**	**20 16 16.9**	**+1.3**
BR131	**Keskin Array S**	**49.34**	**300**	*e*P	**P**	**20 16 16.4**	**+0.7**
	comp=Z,9.5nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**49.34**	**300**	P	**P**	**20 16 15.3**	**-0.5**
	comp=Z,6.4nm,0.8s,mb4.7,baz=120,slow=5.6,SNR=6.8						
BRTR	**Keskin Array B**	**49.34**	**300**	P	**P**	**20 16 15.3**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EIL	**Elat**	**49.56**	**287**	P	**P**	**20 16 16.9**	**-0.5**
	comp=Z,157nm,0.8s,mb6.0						
MA2	**Magadan**	**51.65**	**34**	*e*P	**P**	**20 16 34.7**	**+1.4**
MA2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MA2				pmax	pmax		
	comp=E,10.0nm,1.3s						
MA2				pmax	pmax		
	comp=N,10.0nm,1.2s						
AKASG	**Malin Array Be**	**52.38**	**315**	P	**P**	**20 16 38.0**	**-0.7**
	comp=N,8.4nm,0.4s,mb5.1,baz=83,slow=7.6,SNR=17						
AKASG	**Malin Array Be**	**52.38**	**315**	P	**P**	**20 16 38.1**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.4s						
JOF	**Joensuu**	**52.95**	**330**	*e*p	**P**	**20 16 43.5**	**+0.6**
	comp=Z,19nm,0.8s,mb5.1						
SEY	**Seymchan**	**53.16**	**30**	*i* P	**P**	**20 16 46.4**	**+2.0**
MBWA	**Marble Bar**	**54.98**	**148**	P	**P**	**20 16 56.7**	**-1.1**
	comp=Z,5.9nm,0.8s,mb4.7						
KAF	**Kangasniemi**	**55.08**	**329**	*e*p	**P**	**20 16 58.2**	**-0.3**
	comp=Z,1.4nm,0.3s,mb4.5,baz=96,slow=6.8						
KAF	**Kangasniemi**	**55.08**	**329**	*e*P	**P**	**20 16 58.2**	**-0.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**55.09**	**328**	P	**P**	**20 16 58.0**	**-0.6**
	comp=Z,12nm,0.5s,mb5.2,baz=97,slow=8.5,SNR=8.6						
FINES	**FINESS Array B**	**55.09**	**328**	*i* P	**P**	**20 16 58.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,12nm,0.5s						
SUW	**Suwalki**	**56.16**	**319**	*e*P	**P**	**20 17 05.8**	**-0.4**
SUW				L		20 41 23.5	
	comp=Z,3.5nm,21.5s						
KEV	**Kevo**	**56.28**	**338**	*e*p	**P**	**20 17 06.0**	**-1.1**
	comp=Z,16nm,0.7s,mb5.2						
KEV	**Kevo**	**56.28**	**338**	*e*P	**P**	**20 17 06.0**	**-1.1**
KEV				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
KWP	**Kalwaria**	**56.58**	**313**	*e*P	**P**	**20 17 09.9**	**+0.7**
KWP				L		20 40 22.0	
	comp=Z,2.3nm,23.1s						
ARCES	**ARCESS Array B**	**56.74**	**337**	P	**P**	**20 17 09.8**	**-0.7**
	comp=Z,9.1nm,0.7s,mb4.9,baz=111,slow=7.3,SNR=6.1						
ARCES	**ARCESS Array B**	**56.74**	**337**	P	**P**	**20 17 09.8**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KOLS	**Kolonicke sedl**	**56.91**	**313**	*e*P	**P**	**20 17 11.2**	**-0.4**
KOLS				*e*		20 17 23.6	
KTK1	**Kautokeino**	**57.44**	**337**	*e*P	**P**	**20 17 15.5**	**+0.2**
KTK1				AMb	AMB	20 17 18.3	
	comp=Z,105nm,2.3s,mb5.5						
KTK1	**Kautokeino**	**57.44**	**337**	*e*P	**P**	**20 17 15.5**	**+0.2**
	comp=Z,105nm,2.3s,mb5.5						
CRVS	**Cervenica-Dubn**	**57.45**	**313**	*e*pP	pP	20 17 20.9	+5.3
STHS	**Stebnicka Huta**	**57.55**	**313**	*e*P	**P**	**20 17 15.7**	**-0.4**
KECS	**Kecovo**	**58.13**	**312**	*e*P	**P**	**20 17 20.5**	**+0.3**
KECS				*e*		20 17 35.0	
NIE	**Niedzica**	**58.15**	**313**	*e*P	**P**	**20 17 21.8**	**+1.5**
OJC	**Ojcow**	**58.41**	**314**	*e*P	**P**	**20 17 22.3**	**+0.1**
TRO	**Tromso**	**59.04**	**337**	*e*P	**P**	**20 17 25.1**	**-1.4**
KMBO	**Kilima Mbogo**	**59.24**	**251**	P	**P**	**20 17 29.0**	**+1.1**
	comp=Z,14nm,0.9s,mb5.0,baz=48,slow=12,SNR=8.2						
KMBO	**Kilima Mbogo**	**59.24**	**251**	P	**P**	**20 17 29.0**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,14nm,0.9s						
KMBO	**Kilima Mbogo**	**59.24**	**251**	*e*P	**P**	**20 17 29.6**	**+1.6**
	comp=Z,8.4nm,0.8s,mb4.8						
OKC	**Ostrava-Krasne**	**59.51**	**314**	*e*P	**P**	**20 17 27.6**	**-2.2**
BILL	**Bilibino**	**59.61**	**25**‖	*e*P	**P**	**20 17 32.2**	**+1.7**
BILL				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
BILL	**Bilibino**	**59.61**	**25**	*e*P	**P**	**20 17 30.4**	**-0.1**
	comp=Z,16nm,0.8s,mb5.1						
MORC	**Moravsky Berou**	**59.91**	**314**	*e*P	**P**	**20 17 32.8**	**+0.3**
ZST	**Bratislava**	**60.40**	**312**	*e*P	**P**	**20 17 35.2**	**-0.7**
KSP	**Ksiaz**	**60.57**	**315**	*e*P	**P**	**20 17 37.6**	**+0.5**
KSP				L		20 43 41.2	
	comp=Z,7.5nm,19.8s						
DPC	**Dobruska-Polom**	**60.62**	**315**	*e*P	**P**	**20 17 38.0**	**+0.6**
UPC	**Upice**	**60.79**	**315**	*e*P	**P**	**20 17 39.1**	**+0.5**
LOF	**Lofoten**	**60.90**	**335**	*e*P	**P**	**20 17 39.8**	**+0.4**
TREC	**Trest**	**61.30**	**314**	*e*P	**P**	**20 17 42.7**	**+0.7**
PVCC	**Panska Ves**	**61.70**	**315**	*e*P	**P**	**20 17 45.1**	**+0.4**
PRU	**Pruhonice**	**61.80**	**314**	*e*P	**P**	**20 17 45.6**	**+0.2**
RUE	**Ruedersdorf**	**61.90**	**317**	*e*P	**P**	**20 17 46.3**	**+0.2**
	comp=Z,22nm,0.5s,mb5.6						
BRG	**Berggiesshubel**	**62.04**	**316**	*e*P	**P**	**20 17 47.2**	**+0.2**
	comp=Z,9.0nm,0.5s,mb5.3						
BRG	**Berggiesshubel**	**62.04**	**316**	*i* P	**P**	**20 17 47.1**	**+0.1**
	comp=Z,9.3nm,0.5s,mb5.2						
BRG				*e*		20 18 54.9	
	comp=Z,9.8nm,1.2s						
BRG				*i*		20 23 33.0	
NB2	**NORSAR Subarra**	**62.26**	**327**	P	**P**	**20 17 47.5**	**-1.0**
	comp=Z,26nm,0.8s,mb5.5,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**62.26**	**327**	P	**P**	**20 17 47.5**	**-1.0**
	comp=Z,19nm,0.8s,mb5.4,baz=84,slow=6.8,SNR=8.3						
NOA	**NORSAR Array B**	**62.26**	**327**	P	**P**	**20 17 47.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**62.31**	**134**	P	**P**	**20 17 48.6**	**-0.2**
	comp=Z,15nm,0.6s,mb5.4,baz=323,slow=7.2,SNR=9.1						
WRA	**Warramunga Arr**	**62.31**	**134**	P	**P**	**20 17 48.6**	**-0.2**
WRA				pmax	pmax		

comp=Z,15nm,0.6s
WRAB Tennant Creek 62.31 134 P **P** **20 17 48.6 -0.2**
comp=Z,186nm,0.6s,mb6.5,SNR=6.1
WRAB Tennant Creek 62.31 134 *e*P **P** **20 17 48.5 -0.3**
WRAB pmax pmax
comp=Z,25nm,0.6s,mb5.6
WRAB Tennant Creek 62.31 134 *e*P **P** **20 17 48.5 -0.4**
comp=Z,25nm,0.6s,mb5.6
WB2 Warramunga Arr 62.32 134 ⇓*i*P **P** **20 17 48.8 -0.1**
MOA Molln 62.34 312 ⇑*i*P **P** **20 17 49.1 +0.1**
comp=Z,20nm,0.6s,mb5.5
NAO01 NORSAR Array S 62.44 327 *e*P **P** **20 17 48.2 -1.5**
GEC2 GERESS Array S 62.53 313 *e*P **P** **20 17 50.8 +0.5**
comp=Z,32nm,0.9s,mb5.5
GEC2 GERESS Array S 62.53 313 *e*P **P** **20 17 50.8 +0.5**
GEC2 pmax pmax
comp=Z,32nm,0.9s,mb5.5
GERES GERESS Array B 62.53 313 P **P** **20 17 50.7 +0.4**
comp=Z,20nm,0.5s,mb5.5,baz=69,slow=7.0,SNR=24
GERES GERESS Array B 62.53 313 P **P** **20 17 50.7 +0.4**
GERES pmax pmax
comp=Z,20nm,0.5s
CLL Collm 62.56 316 *e*P **P** **20 17 50.3 -0.2**
comp=Z,5.0nm,0.8s,mb4.7
KHC Kasperske Hory 62.56 314 *e*P **P** **20 17 50.5 0.0**
WET Wettzell 63.01 314 *e*P **P** **20 17 53.9 +0.4**
comp=Z,7.0nm,0.6s,mb5.0
WET Wettzell 63.01 314 *e*P **P** **20 17 53.9 +0.4**
WET pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
MUN Mundaring 63.06 157 *e*P **P** **20 17 53.6 -0.2**
WERD Werda 63.14 315 *e*P **P** **20 17 54.3 0.0**
comp=Z,6.0nm,0.6s,mb4.9
DOMB Dombas 63.17 328 *e*P **P** **20 17 53.8 -0.8**
KLBR Kellerberrin 63.28 155 *e*P **P** **20 17 54.8 -0.5**
comp=Z,94nm,1.6s,mb5.7
ROTZ Rotzenmuhle 63.33 314 *e*P **P** **20 17 56.5 +0.9**
comp=Z,34nm,1.1s,mb5.4
MOX Moxa 63.53 316 *e*P **P** **20 17 57.1 +0.1**
comp=Z,4.0nm,0.8s,mb4.7
BSEG Bad Segeberg 63.72 319 *e*P **P** **20 17 58.7 +0.5**
comp=Z,15nm,0.9s,mb5.2
MOL Molde 63.80 329 *e*P **P** **20 18 00.9 +2.1**
MOL AMb AMB 20 18 12.0
comp=Z,70nm,1.8s,mb5.6
MOL Molde 63.80 329 *e*P **P** **20 18 00.9 +2.1**
comp=Z,70nm,1.8s,mb5.6
GRA1 Grafenberg Arr 63.97 315 *e*P **P** **20 18 00.9 +1.1**
comp=Z,22nm,1.0s,mb5.3
GRF Grafenberg Arr 63.97 315 *e*P **P** **20 18 00.9 +1.1**
comp=Z,22nm,1.0s,mb5.3
GRF Grafenberg Arr 63.97 315 *e*P **P** **20 18 00.9 +1.1**
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.3
GRF Grafenberg Arr 63.97 315 *e*P **P** **20 18 00.9 +1.1**
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.3
CLZ Clausthal 64.08 317 *e*P **P** **20 18 01.0 +0.5**
comp=Z,25nm,0.9s,mb5.4
CLZ Clausthal 64.08 317 *e*P **P** **20 18 01.0 +0.5**
CLZ pmax pmax
comp=Z,25nm,0.9s,mb5.4
AQU L'Aquila 64.08 306 P **P** **20 18 00.9 +0.4**
WTTA Wattenberg 64.20 312 *i*P **P** **20 18 01.2 -0.2**
comp=Z,25nm,0.6s,mb5.7,SNR=8.6
WATA Walderalm 64.22 312 ⇑*i*P **P** **20 18 00.9 -0.6**
comp=Z,7.2nm,0.7s,mb5.0
WATA Walderalm 64.22 312 *i*P **P** **20 18 00.9 -0.6**
WATA pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
FUR Furstenfeldbru 64.25 313 *e*P **P** **20 18 02.2 +0.5**
comp=Z,29nm,1.0s,mb5.5
FUR Furstenfeldbru 64.25 313 *e*P **P** **20 18 02.2 +0.5**
FUR pmax pmax
comp=Z,29nm,1.0s,mb5.5
SQTA Sankt Quirin 64.49 312 ⇑*i*P **P** **20 18 02.7 -0.6**
comp=Z,8.1nm,0.6s,mb5.1,SNR=19
MOTA Moosalm 64.54 312 ⇑*i*P **P** **20 18 02.9 -0.6**
comp=Z,26nm,1.1s,mb5.4
HYA Hoyanger 64.66 328 *e*P **P** **20 18 04.9 +0.5**
ASPA Alice Springs 64.77 137 *e*P **P** **20 18 05.3 +0.2**
AS31 Alice Springs 64.77 137 *e*P **P** **20 18 05.3 +0.2**
ASAR Alice Springs 64.77 137 P **P** **20 18 05.0 -0.1**
comp=Z,9.6nm,0.6s,mb5.2,baz=319,slow=6.4,SNR=10
ASAR Alice Springs 64.77 137 P **P** **20 18 05.1 0.0**
ASAR pmax pmax
comp=Z,10.0nm,0.6s
HLG Helgoland 65.08 320 *e*P **P** **20 18 07.0 -0.1**
comp=Z,73nm,1.0s,mb5.9
DAVA Damuels 65.36 312 ⇑*i*P **P** **20 18 08.4 -0.6**
comp=Z,30nm,0.9s,mb5.5,SNR=7.8
STU Stuttgart 65.46 314 *e*P **P** **20 18 10.1 +0.5**
comp=Z,27nm,0.8s,mb5.5
STU Stuttgart 65.46 314 *e*P **P** **20 18 10.0 +0.4**
STU pmax pmax
comp=Z,31nm,0.8s,mb5.6
STU Stuttgart 65.46 314 *e*P **P** **20 18 10.0 +0.4**
comp=Z,31nm,0.8s,mb5.6
TOD Tromm 65.52 315 *e*P **P** **20 18 10.3 +0.3**
TNS Taunus Mts 65.61 316 *e*P **P** **20 18 10.9 +0.4**
comp=Z,16nm,0.8s,mb5.3
TNS Taunus Mts 65.61 316 *e*P **P** **20 18 10.9 +0.4**
TNS pmax pmax
comp=Z,16nm,0.8s,mb5.3
BUG Bochum--Univer 66.05 317 *e*P **P** **20 18 13.5 +0.1**
comp=Z,8.0nm,0.8s,mb5.0
BFO Black Forest 66.13 314 *e*P **P** **20 18 8.8 +4.9**
comp=Z,14nm,1.4s,mb5.0
BFO Black Forest 66.13 314 *e*P **P** **20 18 8.8 +4.9**
BFO pmax pmax
comp=Z,14nm,1.4s,mb5.0
LANF Langenberg 66.31 314 *e*P **P** **20 18 15.6 +0.6**
FELD Feldberg 66.45 313 *e*P **P** **20 18 15.2 -0.7**
WLS Welschbruch 66.74 314 *e*P **P** **20 18 18.0 +0.2**
CDF Champ du Feu 66.79 314 ⇑*i*P **P** **20 18 18.0 -0.1**
comp=Z,41nm,0.8s,mb5.4
BBS Basel-Blauen 66.88 313 *e*P **P** **20 18 16.7 -2.0**
ECH Echery 66.91 314 *e*P **P** **20 18 19.0 +0.1**
MOF Molkenrain 67.02 313 *e*P **P** **20 18 20.0 +0.4**
PGF Pioggiola 67.18 307 ⇑*i*P **P** **20 18 20.5 -0.1**
comp=Z,25nm,0.6s,mb5.3
WLF Walferdange 67.18 315 *e*P **P** **20 18 21.6 +1.0**
comp=Z,28nm,1.0s,mb5.5
HINF Hinteralfeld 67.22 313 ⇑*i*P **P** **20 18 20.5 -0.3**
comp=Z,17nm,0.6s,mb5.2
HAU Haudompre 67.49 314 *e*P **P** **20 18 23.5 +0.9**
comp=Z,25nm,0.6s,mb5.3
THEF They Montfort 67.67 314 *e*P **P** **20 18 23.8 +0.1**
SAOF Saorge 67.79 309 *e*P **P** **20 18 25.1 +0.7**
AUTN L'Aution 67.87 309 *e*P **P** **20 18 25.1 +0.1**
GIVF Givet 67.89 316 *e*P **P** **20 18 25.1 0.0**
comp=Z,20nm,0.8s,mb5.1
SBF Sospel 67.91 309 ⇑*i*P **P** **20 18 25.1 -0.1**
comp=Z,46nm,0.8s,mb5.5
LPG La Plagne 67.91 311 *e*P **P** **20 18 25.8 +0.6**
comp=Z,73nm,0.9s,mb5.6
LPL La Plagne 67.92 311 ⇑*i*P **P** **20 18 25.8 +0.5**
comp=Z,47nm,0.6s,mb5.6
RSL Roselend 67.94 311 *e*P **P** **20 18 25.8 +0.4**
CABF La Chapelle 68.05 312 *e*P **P** **20 18 26.1 0.0**
comp=Z,27nm,0.7s,mb5.2
BNI Bardonecchia 68.09 310 *e*P **P** **20 18 25.9 -0.4**
MBDF Montbardon 68.12 310 ⇑*i*P **P** **20 18 25.9 -0.6**
comp=Z,34nm,0.7s,mb5.4
MEZF Maizieres J'vi 68.19 314 ⇑*i*P **P** **20 18 27.1 +0.1**
comp=Z,83nm,0.9s,mb5.7
BAIF Baives 68.28 316 ⇑*i*P **P** **20 18 27.6 0.0**
comp=Z,12nm,0.8s,mb4.9
FRF La Foret Royal 68.54 309 ⇑*i*P **P** **20 18 28.9 -0.3**
comp=Z,18nm,0.7s,mb5.1
OG05 Jujurieux 68.63 312 *e*P **P** **20 18 30.1 +0.4**
ORIF Oris-en-Rattie 68.67 310 ⇑*i*P **P** **20 18 29.5 -0.5**
comp=Z,50nm,1.0s,mb5.4
LMR La Mourre 68.70 309 *e*P **P** **20 18 30.1 -0.1**
comp=Z,83nm,1.2s,mb5.5
SMRF Simiane la Rot 69.16 310 *e*P **P** **20 18 33.3 +0.3**
comp=Z,21nm,0.8s,mb5.1
LOR Lormes 69.32 313 ⇑*i*P **P** **20 18 33.4 -0.6**
comp=Z,37nm,0.9s,mb5.3
VIVF Saint-Julien-l 69.51 311 ⇑*i*P **P** **20 18 35.1 -0.1**
comp=Z,31nm,0.9s,mb5.1
SMF Signal de Mont 69.52 313 ⇑*i*P **P** **20 18 35.0 -0.2**
comp=Z,47nm,0.6s,mb5.5
SSF Saint Saulge 69.61 313 ⇑*i*P **P** **20 18 35.6 -0.2**
comp=Z,71nm,0.8s,mb5.6
AVF Avril sur Loir 69.79 313 ⇑*i*P **P** **20 18 36.6 -0.3**
comp=Z,27nm,0.6s,mb5.3
PLDF La Plantade 69.87 312 *e*P **P** **20 18 37.8 +0.4**
TNA Tin City 70.02 26 P **P** **20 18 35.0 -3.3**
HYF Humbligny 70.11 314 ⇑*i*P **P** **20 18 39.3 +0.4**
AGO Saint Agoulin 70.17 312 *e*P **P** **20 18 39.6 +0.4**
BGF Bois d'Agland 70.19 313 ⇑*i*P **P** **20 18 39.2 -0.2**
comp=Z,21nm,0.6s,mb5.1
LASF Ste Croix 70.31 310 ⇑*i*P **P** **20 18 40.4 +0.3**
comp=Z,34nm,0.8s,mb5.2
PYM Petit Puy Mans 70.34 312 *e*P **P** **20 18 40.6 +0.3**
LBL Lubilhac 70.35 311 *e*P **P** **20 18 40.8 +0.4**
CTA Charters Tower 70.60 126 LR LR 20 47 21.9
comp=Z,247nm,21.6s,MS4.4,baz=297,slow=34
TCF Toulx Ste Croi 70.70 313 ⇑*i*P **P** **20 18 42.7 +0.2**
comp=Z,67nm,0.8s,mb5.5
CAF Calviac 71.24 311 ⇑*i*P **P** **20 18 46.1 +0.3**
comp=Z,36nm,0.8s,mb5.2
LDF La Druitiere 71.43 316 ⇑*i*P **P** **20 18 46.5 -0.4**
comp=Z,37nm,0.8s,mb5.3
RJF Les Rejaudoux 71.48 312 ⇑*i*P **P** **20 18 47.8 +0.6**
comp=Z,62nm,0.9s,mb5.5
FLN La Foliniere 71.60 316 *e*P **P** **20 18 47.3 -0.6**
MTLF Montolieu 71.67 310 ⇑*i*P **P** **20 18 48.5 +0.1**
comp=Z,35nm,1.0s,mb5.1
GRR Gorron 71.96 316 ⇑*i*P **P** **20 18 49.8 -0.3**
comp=Z,21nm,0.6s,mb5.1
LFF La Frestale 72.12 312 ⇑*i*P **P** **20 18 51.6 +0.5**
comp=Z,26nm,0.5s,mb5.3
MFF Saint Martin d 72.13 314 ⇑*i*P **P** **20 18 50.8 -0.3**
comp=Z,15nm,0.7s,mb5.0
EMIR Miracle 72.64 309 P **P** **20 18 54.8 +0.6**
comp=Z,131nm,1.7s,mb5.8
EPF Esparros 73.06 310 *e*P **P** **20 18 56.1 -0.6**
SGMF Saint Gilles 73.07 316 ⇑*i*P **P** **20 18 56.7 0.0**
comp=Z,35nm,0.7s,mb5.3
EPOB Poblet 73.16 308 P **P** **20 18 56.3 -0.9**
comp=Z,58nm,1.4s,mb5.5
EBIE Bielsa 73.32 310 P **P** **20 18 58.5 +0.2**
comp=Z,46nm,2.0s,mb5.3
EGRA Graus 73.38 309 P **P** **20 18 58.8 +0.2**
comp=Z,14nm,0.6s,mb5.3
ROSF Rostrenen 73.48 316 ⇑*i*P **P** **20 18 59.2 0.0**
comp=Z,58nm,0.7s,mb5.5
QUIF Quistinic 73.57 316 ⇑*i*P **P** **20 18 59.4 -0.3**
comp=Z,19nm,0.6s,mb5.0
ETSF Etsaut 73.73 310 ⇑*i*P **P** **20 19 01.2 +0.6**
comp=Z,30nm,0.6s,mb5.2
EBR Ebro Roquetas 73.76 308 *e*P **P** **20 19 00.0 -0.8**
ESAC San Caprasio 74.10 309 P **P** **20 19 02.8 0.0**
comp=Z,62nm,1.0s,mb5.6
SJPF Ste Jean 74.10 310 *e*P **P** **20 19 02.9 +0.1**
comp=Z,10nm,0.6s,mb4.7
EALK Alkurruntz 74.25 311 P **P** **20 19 03.7 0.0**
comp=Z,13nm,0.7s,mb5.1
LSZ Lusaka 74.47 244 *e*P **P** **20 19 05.8 +0.8**
ECRI Cripan 75.17 310 P **P** **20 19 10.0 +1.0**
comp=Z,20nm,0.7s,mb5.3
SUMG Summit 75.18 346 *e*P **P** **20 19 08.6 -0.5**
STKA Stephens Creek 75.39 138 P **P** **20 19 07.8 -2.5**
ELAN Lanestosa 75.55 311 P **P** **20 19 11.2 0.0**
comp=Z,55nm,1.3s,mb5.5
ETOB Tobarra 76.04 306 P **P** **20 19 13.6 -0.5**
comp=Z,18nm,0.9s,mb5.2
GUD Guadarrama 77.08 309 P **P** **20 19 20.6 +0.7**
comp=Z,21nm,0.7s,mb5.4
ENIJ Nijar 77.19 305 P **P** **20 19 20.9 +0.4**
comp=Z,8.8nm,0.6s,mb5.1
ESDC Sonseca Array 77.35 308 P **P** **20 19 21.2 -0.1**
comp=Z,7.8nm,0.9s,mb4.9,baz=60,slow=6.1,SNR=5.7
ESLA Sonseca Array 77.35 308 *e*P **P** **20 19 21.1 -0.3**
comp=Z,2.6nm,1.0s,mb4.3
EQES Quesada 77.48 306 P **P** **20 19 22.5 +0.4**
comp=Z,39nm,1.2s,mb5.4
COLA College 77.69 22 *e*P **P** **20 19 23.1 -0.2**
COLA pmax pmax
comp=Z,17nm,0.9s,mb5.2
COLA College 77.69 22 *e*P **P** **20 19 23.1 -0.2**
comp=Z,17nm,0.9s,mb5.2
EBER Berja 77.72 305 P **P** **20 19 24.2 +0.8**
comp=Z,37nm,0.9s,mb5.5
EBAN Banos Encina 77.85 307 P **P** **20 19 24.1 0.0**
comp=Z,11nm,0.8s,mb5.0
EPON Pontenova 77.98 312 P **P** **20 19 24.4 -0.5**
comp=Z,46nm,1.4s,mb5.4
MCK McKinley 78.02 23 P **P** **20 19 24.5 -0.6**
ILAR Eielson Array 78.08 22 P **P** **20 19 24.1 -1.4**
comp=Z,6.3nm,0.8s,mb4.8,baz=310,slow=4.4,SNR=5.3
ILAR PP PP 20 22 22.6 +1.0
comp=Z,2.0nm,0.8s,baz=313,slow=8.2,SNR=4.8
ILAR Eielson Array 78.08 22 P **P** **20 19 24.1 -1.4**
ILAR 20 22 22.7
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ECAL Calabor 78.30 311 P **P** **20 19 26.9 +0.1**
comp=Z,21nm,1.1s,mb5.2
PBRG Braganca 78.36 311 *e*P **P** **20 19 27.7 +0.7**
ELUQ Luque 78.44 306 P **P** **20 19 27.2 -0.3**
comp=Z,8.7nm,0.6s,mb5.1
RES Resolute Bay 78.58 2 *e*P **P** **20 19 29.5 +1.3**
PMR Palmer 79.25 25 *e*P **P** **20 19 31.0 -0.9**
PMR pmax pmax
comp=Z,14nm,0.9s,mb5.0
PMR Palmer 79.25 25 *e*P **P** **20 19 31.0 -0.9**
comp=Z,14nm,0.9s,mb5.0
PVRL Vila Real 79.25 311 *e*P **P** **20 19 32.4 +0.5**
INK Inuvik 79.43 16 P **P** **20 19 32.2 -0.7**
comp=Z,9.7nm,0.9s,mb4.8,baz=3.1,slow=4.0,SNR=3.7
INK Inuvik 79.43 16 P **P** **20 19 32.2 -0.7**
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 79.43 16 *e*P **P** **20 19 31.6 -1.2**
comp=Z,12nm,0.9s,mb4.9
MTE Manteigas 79.52 310 *e*P **P** **20 19 34.5 +1.1**
comp=Z,40nm,1.0s,mb5.3
MTE Manteigas 79.52 310 *e*P **P** **20 19 34.2 +0.8**
comp=Z,30nm,1.0s,mb5.2
PCBR Castelo Branco 79.72 309 *e*P **P** **20 19 35.4 +0.9**
EBAD Badajoz 79.88 308 P **P** **20 19 34.8 -0.6**
comp=Z,32nm,1.0s,mb5.2
EMIN Mina Concepcio 80.08 307 P **P** **20 19 36.7 +0.2**
comp=Z,24nm,1.5s,mb4.9
PTOM Tomar 80.47 310 *e*P **P** **20 19 39.3 +0.8**
comp=Z,36nm,0.7s,mb5.4
DIV Divide 80.80 24 *e*P **P** **20 19 39.1 -1.3**
PBEJ Beja 80.81 308 *e*P **P** **20 19 41.2 +0.9**
LBTB Lobatse 81.95 237 P **P** **20 19 47.5 +1.1**
SFJD Kangerlussuaq 82.17 346 *e*P **P** **20 19 46.3 -1.3**
TORD Torodi Ar. Bea 84.10 282 P **P** **20 19 57.5 -0.1**
comp=Z,28nm,0.7s,mb4.6,baz=79,slow=3.8,SNR=5.8
TSUM Tsumeb 85.12 246 *e*P **P** **20 20 04.7 +2.0**
comp=Z,3.4nm,1.0s,mb4.5
FRB Frobisher Bay 88.32 351 P **P** **20 20 16.8 -1.5**
comp=Z,3.8nm,0.4s,mb5.1,baz=90,slow=20
FRB Frobisher Bay 88.32 351 P **P** **20 20 16.8 -1.5**
FRB pmax pmax
comp=Z,4.0nm,0.4s
FRB Frobisher Bay 88.32 351 P **P** **20 20 16.8 -1.5**
YKW3 Yellowknife Ar 88.42 12 P **P** **20 20 16.7 -2.1**
YKA Yellowknife Ar 88.48 12 P **P** **20 20 17.3 -1.8**
comp=Z,1.6nm,0.9s,mb4.3,baz=333,slow=4.7,SNR=3.9
YKA Yellowknife Ar 88.48 12 P **P** **20 20 17.3 -1.8**
YKA pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 92.76 279 P **P** **20 20 40.0 +0.9**
comp=Z,5.4nm,0.8s,mb5.0,baz=54,slow=7.6,SNR=4.3
DBIC Dimbokro 92.76 279 *e*P **P** **20 20 39.0 0.0**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 92.76 279 *e*P **P** **20 20 39.0 0.0**
comp=Z,4.4nm,0.7s,mb5.0
CPUP Villa Florida 152.27 264 *e*PKIKP PKPdf 20 27 22.1 +6.3

IDC ***23*** *20:15:36.7±2.3,2681N×9218E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/20,mbtmp3.4/4,Error ellipse: s-maj=86.3km s-min=24.5km az=73.0*
ISCJB ***23*** *20:15:40.0±1.0,2686N±008×922E±03,h33km,mb3.4/4, Error ellipse: s-maj=34.8km s-min=10.5km az=20.5*
ISC 23 20:15:41.7±1.0,2683N±008×920E±03,h35km,n5,σ0§34/6, mb3.4/4,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.27**	**186**	*e*P	**Pn**	**20 16 02.5**	**-0.4**
SHL				*e*S	**Sn**	**20 16 19.0**	**+0.3**
MKAR	**Makanchi Array**	**21.36**	**341**	P	**P**	**20 20 25.9**	**0.0**
	0.4nm,0.4s,mb3.1,baz=148,slow=12,SNR=6.4						
SONM	**Songino Array**	**23.80**	**24**	P	**P**	**20 20 51.4**	**+0.3**
	0.4nm,0.7s,mb3.0,baz=205,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**62.01**	**134**	P	**P**	**20 25 58.1**	**-0.2**
	0.6nm,0.9s,mb3.7,baz=326,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**64.48**	**137**	P	**P**	**20 26 14.7**	**0.0**
	0.5nm,0.6s,mb3.8,baz=318,slow=6.6,SNR=7.2						

NEIC 23 20:17:22.7±4.2,2148S×3317E,h10km,mb4.2/1,Error ellipse: s-maj=58.3km s-min=14.6km az=90.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.78**	**322**	Pn	Pn	20 19 16.3	+0.4
LSZ				*e*Sn	Sn	20 20 37.8	-6.2
LSZ				*e*Sg	Sn	20 21 21.4	+37
LBTB	**Lobatse**	**7.80**	**242**	Pn	Pn	20 19 17.3	+1.0
LBTB				*e*Sn	Sn	20 20 48.6	+3.9
LBTB				*e*Sg	Sn	20 21 25.7	+41
BOSA	**Boshof**	**10.09**	**224**	Pn	Pn	20 19 47.5	-0.2
BOSA				*e*Sn	Sn	20 21 40.5	-0.4
BOSA				*e*Sg	Sn	20 22 40.9	+60
TSUM	**Tsumeb**	**14.80**	**276**	*e*Pn	Pn	20 20 51.8	-0.2
	2.6nm,0.6s						
SUR	**Sutherland**	**15.46**	**223**	Pn	Pn	20 21 00.9	+0.2
	13nm,1.0s						
SUR				*e*Sn	Sn	20 23 51.3	-0.6

NAO ***23*** *20:18:56.5,2248N×12209E,h33km,mb4.0*
BJI ***23*** *20:18:58.4,2388N×12137E,h8km,mb4.5,ML4.6,Ms4.3, Msz4.2*
NIED ***23*** *20:19:00,24.10N×12090E,h122km,Mw5.4 Best double couple: M0:1.67000×10^17 NP1:φ§86.00000°,δ§84.00000°, λ-73.00000°. NP2:φ§194.00000°,δ§18.00000°, λ-161.00000°.*
NEIC ***23*** *20:19:02.4±0.6,2384N×12093E,h10km,mb4.7/1, ML4.9(TAP),Error ellipse: s-maj=12.7km s-min=10.1km az=132.0*
NEIC Recorded [4 TAP] in Nan-t'ou; [3 TAP] in Chang-hua; [2 TAP] in Hua-lien, P'eng-hu, T'ai-chung and Yun-lin; [1 TAP] in Chia-i, I-lan, Miao-li and T'ai-tung Counties.
ISCJB ***23*** *20:19:04.2±1.3,2394N±009×12091E±003,h30km±9km, mb3.9/11,Error ellipse: s-maj=14.4km s-min=4.5km az=6.6*
JMA ***23*** *20:19:05.9±0.3,2406N×12092E,h78km,M4.2*
IDC ***23*** *20:19:12.6±4.3,2407N×12147E,h105km±41km,mb3.5/10, mb1 3.7/11,mb1mx3.5/21,mbtmp3.9/11,Error ellipse: s-maj=35.1km s-min=13.8km az=65.0*
ISC 23 20:19:04.9±1.7,2397N±008×12092E±003,h20km±10km, n33,σ0§90/42,mb3.9/11,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.65**	**72**	*e*P	**Pb**	**20 19 17.1**	**-0.6**
YHNB	**Yeheng**	**0.81**	**31**	*e*P	**Pb**	**20 19 19.7**	**-0.7**
TATO	**Taipei**	**1.13**	**27**	*e*P	**Pn**	**20 19 24.5**	**-1.1**
YOJ	**Yonaguni jima**	**1.98**	**75**	P	**Pn**	**20 19 37.6**	**+0.4**
YOJ				*e*S	**Sn**	**20 20 01.8**	**+0.4**
QZH	**Quanzhou**	**2.33**	**295**	P	**Pn**	**20 19 41.8**	**-0.3**
QZH				S	**Sn**	**20 20 10.5**	**+0.4**
QZH				Smax			
	comp=N,6μm,0.9s						
QZH				Smax			
	comp=E,5μm,0.8s						
IRIF	**Iriomote-Funau**	**2.60**	**81**	P	**Pn**	**20 19 46.1**	**+0.3**
IRIF				*e*S	**Sn**	**20 20 16.5**	**-0.3**
HATJ	**Hateruma jima**	**2.64**	**88**	P	**Pn**	**20 19 47.3**	**+0.9**
HATJ				*e*S	**Sn**	**20 20 18.8**	**+0.9**
JKRS	**Kuro-shima**	**2.84**	**84**	P	**Pn**	**20 19 49.8**	**+0.7**
JKRS				*e*S	**Sn**	**20 20 24.0**	**+1.2**
JIJ	**Ishigaki jima**	**2.97**	**82**	P	**Pn**	**20 19 51.3**	**+0.3**
JIJ				*e*S	**Sn**	**20 20 24.6**	**-1.5**
JTJ	**Tarama**	**3.52**	**78**	P	**Pn**	**20 19 59.2**	**+0.7**
JTJ				*e*S	**Sn**	**20 20 39.6**	**+0.1**
JMJ	**Miyako jima 2**	**4.08**	**77**	*e*S	**Sn**	**20 20 52.8**	**-0.5**
JOGS	**Gusukube**	**4.17**	**78**	P	**Pn**	**20 20 08.5**	**+1.1**
JOGS				*e*S	**Sn**	**20 20 55.5**	**-0.1**
JKE	**Kume jima 2**	**5.81**	**65**	P	**Pn**	**20 20 30.9**	**+0.9**
JAGN	**Aguni-jima**	**6.29**	**64**	P	**Pn**	**20 20 37.2**	**+0.6**
JIH	**Iheya**	**7.06**	**63**	P	**Pn**	**20 20 47.5**	**+0.3**
JOW	**Kunigami**	**7.24**	**65**	P	**Pn**	**20 20 48.9**	**-0.7**
JOW	**Kunigami**	**7.24**	**65**	P	**Pn**	**20 20 49.0**	**-0.6**
	comp=E,18nm,0.3s,baz=234,slow=9.7,SNR=34						
JTK	**Tokunoshima**	**8.17**	**61**	P	**Pn**	**20 21 01.2**	**-1.2**
JAM	**Amami Oshima**	**8.97**	**59**	P	**Pn**	**20 21 12.1**	**-1.2**
GYA	**Guiyang**	**13.14**	**284**	P	**Pn**	**20 22 11.5**	**+1.1**
GYA				S	**Sn**	**20 24 50.6**	**+15**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,70nm,3.0s						
GYA				LR	LR		
	comp=E,1μm,12.9s						
GYA				LR	LR		
	comp=Z,1μm,12.3s						
CD2	**Chengdu**	**16.72**	**298**	⇑*i*P	**Pn**	**20 23 02.4**	**+4.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s						
SONM	**Songino Array**	**26.47**	**338**	P	**P**	**20 24 41.2**	**+0.5**
	comp=Z,2.1nm,0.9s,mb3.7,baz=152,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**38.32**	**316**	P	**P**	**20 26 25.1**	**+0.8**
	comp=Z,5.0nm,0.7s,mb4.4,baz=106,slow=11,SNR=55						
WRA	**Warramunga Arr**	**45.57**	**162**	P	**P**	**20 27 21.4**	**-2.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=345,slow=8.6,SNR=13						
BVAR	**Borovoye Array**	**47.68**	**321**	P	**P**	**20 27 39.9**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=104,slow=6.3,SNR=7.8						
ASAR	**Alice Springs**	**49.00**	**164**	P	**P**	**20 27 49.8**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=343,slow=7.0,SNR=8.1						
STKA	**Stephens Creek**	**58.95**	**159**	P	**P**	**20 28 59.1**	**-3.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=320,slow=7.9,SNR=4.3						
ILAR	**Eielson Array**	**69.51**	**27**	P	**P**	**20 30 07.1**	**-5.1**
	comp=Z,0.6nm,1.0s,mb3.5,baz=265,slow=4.4,SNR=3.3						
MALT	**Malatya**	**69.91**	**304**	*e*P	**P**	**20 30 16.4**	**+1.9**
	comp=Z,8.2nm,1.3s,mb4.5						
FINES	**FINESS Array B**	**71.50**	**330**	P	**P**	**20 30 23.6**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=12,slow=9.8,SNR=4.4						
BRTR	**Keskin Array B**	**73.10**	**306**	P	**P**	**20 30 32.2**	**-1.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=98,slow=3.7,SNR=4.3						
NB2	**NORSAR Subarra**	**78.30**	**332**	P	**P**	**20 31 02.8**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=61,slow=5.6						
NOA	**NORSAR Array B**	**78.30**	**332**	P	**P**	**20 31 03.1**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=60,slow=5.5,SNR=4.3						

IDC ***23*** *20:22:44.9±0.7,2690N×9174E,h0km,mb3.9/14, mb1 4.1/14,mb1mx4.0/21,mbtmp3.9/14,Error ellipse: s-maj=24.5km s-min=15.8km az=44.0*
BJI ***23*** *20:22:45.9,2653N×9181E,h32km,mb4.3,ML4.5*
NEIC ***23*** *20:22:46.5±0.5,2683N×9181E,h10km,mb3.9/4,Error ellipse: s-maj=10.5km s-min=8.0km az=191.0*
DMN ***23*** *20:22:47.9±0.8,2641N×9131E,h10km,Ml4.6/6,Error ellipse: s-maj=117.4km s-min=13.0km az=14.0*
ISCJB ***23*** *20:22:51.6±0.8,2695N±006×9160E±005,h65km±9km, mb3.9/17,Error ellipse: s-maj=11.0km s-min=5.8km az=58.9*
NAO ***23*** *20:22:54.7,2781N×9179E,h33km,mb3.8*
ISC 23 20:22:51.6±0.8,2705N±005×9174E±004,h42km±8km,n39, σ0§89/54,mb4.0/17,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.48**	**175**	*e*P	**Pn**	**20 23 16.3**	**+0.6**
SHL				*e*S	**Sn**	**20 23 34.7**	**+0.8**
LSA	**Lhasa**	**2.69**	**349**	P	**Pn**	**20 23 35.8**	**+3.5**
LSA				Smax			
	comp=N,3μm,1.4s						
LSA				Smax			
	comp=E,6μm,0.5s						
LSA	**Lhasa**	**2.69**	**349**	*e*P	**Pn**	**20 23 35.8**	**+3.4**
JIRN	**Jiri**	**4.98**	**278**	*e*Pn	**Pn**	**20 24 04.0**	**+0.3**
JIRN				*e*Sn	**Sn**	**20

GUN	**Gumba**	**5.28 281**	*e*Pn	**Pn**	**20 24 08.3**	**+0.4**
GUN			*e*Sn	**Sn**	**20 25 09.0**	**+1.6**
comp=E,296nm,0.5s						
GUN	**Gumba**	**5.28 281**	*e*Pn	**Pn**	**20 24 08.3**	**+0.4**
comp=E,148nm,0.5s						
GUN			*e*Sn	**Sn**	**20 25 09.0**	**+1.6**
PKI	**Pulchoki**	**5.66 277**	*e*Pn	**Pn**	**20 24 13.1**	**0.0**
PKI			*e*Sn	**Sn**	**20 25 16.6**	**-0.2**
comp=E,170nm,0.7s						
PKI	**Pulchoki**	**5.66 277**	*e*Pn	**Pn**	**20 24 13.1**	**0.0**
comp=E,85nm,0.7s						
PKI			*e*Sn	**Sn**	**20 25 16.6**	**-0.2**
KKN	**Kakani**	**5.79 279**	*e*Pn	**Pn**	**20 24 15.0**	**+0.1**
KKN			*e*Sn	**Sn**	**20 25 19.8**	**-0.2**
comp=E,520nm,1.0s						
KKN	**Kakani**	**5.79 279**	*e*Pn	**Pn**	**20 24 15.0**	**+0.1**
comp=E,260nm,1.0s						
KKN			*e*Sn	**Sn**	**20 25 19.8**	**-0.2**
DMN	**Daman**	**5.93 277**	*e*Pn	**Pn**	**20 24 16.0**	**-0.8**
DMN			*e*Sn	**Sn**	**20 25 22.7**	**-0.8**
comp=E,215nm,0.6s						
DMN	**Daman**	**5.93 277**	*e*Pn	**Pn**	**20 24 16.0**	**-0.8**
comp=E,107nm,0.6s						
DMN			*e*Sn	**Sn**	**20 25 22.7**	**-0.8**
GKN	**Gorkha**	**6.38 280**	*e*Pn	**Pn**	**20 24 23.1**	**+0.1**
GKN			*e*Sn	**Sn**	**20 25 33.5**	**-1.0**
KOLN	**Koldanda**	**7.27 278**	*e*Pn	**Pn**	**20 24 34.2**	**-1.0**
KOLN			*e*Sn	**Sn**	**20 25 54.6**	**-1.9**
comp=E,75nm,0.5s						
KOLN	**Koldanda**	**7.27 278**	*e*Pn	**Pn**	**20 24 34.2**	**-1.0**
comp=E,38nm,0.5s						
KOLN			*e*Sn	**Sn**	**20 25 54.6**	**-1.9**
GTA	**Gaotai**	**14.05 27**	*e*P	**Pn**	**20 26 06.3**	**-1.6**
GTA			AMB	AMB		
comp=Z,4.0nm,1.6s						
HYB	**Hyderabad**	**15.51 235**	*i* P	**Pn**	**20 26 22.0**	**-5.3**
HYB			*e*S	**S**	**20 29 32.0**	**-0.2**
HYB	**Hyderabad**	**15.51 235**	*e*P	**Pn**	**20 26 22.0**	**-5.3**
AAK	**Ala-Archa**	**20.96 322**	*e*P	**P**	**20 27 33.6**	**+2.7**
comp=Z,5.2nm,1.2s						
MKAR	**Makanchi Array**	**21.07 342**	P	**P**	**20 27 32.1**	**0.0**
comp=Z,1.7nm,0.6s,mb3.5,baz=146,slow=12,SNR=8.3						
SONM	**Songino Array**	**23.71 25**	P	**P**	**20 27 59.8**	**+0.3**
comp=Z,1.7nm,0.8s,mb3.5,baz=205,slow=10,SNR=12						
KURK	**Kurchatov**	**25.67 341**	*e*P	**P**	**20 28 17.3**	**-0.1**
comp=Z,2.1nm,0.9s,mb3.7						
BVAR	**Borovoye Array**	**30.43 334**	P	**P**	**20 29 00.8**	**+0.9**
comp=Z,0.7nm,0.8s,mb3.4,baz=133,slow=8.5,SNR=2.9						
ZRNK	**Zerenda**	**30.93 333**	*e*P	**P**	**20 29 04.2**	**-0.1**
comp=Z,2.0nm,0.8s,mb4.0						
MJAR	**Matsushiro Arr**	**40.28 65**	P	**P**	**20 30 24.8**	**+0.3**
comp=Z,2.5nm,0.7s,mb4.0,baz=277,slow=10,SNR=4.5						
BRTR	**Keskin Array B**	**49.35 300**	P	**P**	**20 31 37.0**	**+0.3**
comp=Z,0.8nm,0.8s,mb3.8,baz=110,slow=5.3,SNR=2.5						
AKASG	**Malin Array Be**	**52.35 315**	P	**P**	**20 31 59.0**	**-0.2**
comp=Z,0.6nm,0.4s,mb3.8,baz=81,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**55.02 328**	P	**P**	**20 32 18.3**	**-0.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=3.8,SNR=4.6						
KMBO	**Kilima Mbogo**	**59.40 251**	P	**P**	**20 32 49.1**	**-0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=56,slow=11,SNR=4.2						
NB2	**NORSAR Subarra**	**62.19 327**	P	**P**	**20 33 08.1**	**-0.5**
comp=Z,0.9nm,0.7s,mb4.0,baz=84,slow=6.9						
NOA	**NORSAR Array B**	**62.19 327**	P	**P**	**20 33 08.3**	**-0.2**
comp=Z,1.6nm,0.8s,mb4.2,baz=85,slow=6.7,SNR=5.7						
WRA	**Warramunga Arr**	**62.34 134**	P	**P**	**20 33 08.6**	**-1.0**
comp=Z,1.3nm,0.5s,mb4.3,baz=324,slow=7.0,SNR=24						
WRAB	**Tennant Creek**	**62.34 134**	*e*P	**P**	**20 33 08.9**	**-0.7**
comp=Z,2.5nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**62.34 134**	*e*P	**P**	**20 33 09.2**	**-0.4**
GERES	**GERESS Array B**	**62.51 313**	P	**P**	**20 33 10.8**	**+0.1**
comp=Z,1.5nm,0.6s,mb4.3,baz=76,slow=5.9,SNR=11						
ASAR	**Alice Springs**	**64.81 137**	P	**P**	**20 33 25.2**	**-0.7**
comp=Z,1.6nm,0.6s,mb4.2,baz=319,slow=6.6,SNR=30						
ASAR			PP	PP	20 35 47.8	-1.0
comp=Z,0.4nm,0.9s,baz=304,slow=8.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**84.17 282**	P	**P**	**20 35 19.1**	**+0.8**
comp=Z,0.4nm,0.8s,mb3.6,baz=58,slow=3.8,SNR=3.5						
DBIC	**Dimbokro**	**92.84 279**	P	**P**	**20 36 01.4**	**+1.7**
comp=Z,1.4nm,0.9s,mb4.4,baz=156,slow=1.5,SNR=3.0						

*ISCJB **23** 20:26:11.2±0.4, 43.16N±003×14525E±005, h95km±2km, mb4.1/19, Error ellipse: s-maj=6.6km s-min=4.5km az=87.5*
*MOS **23** 20:26:11.3±1.0, 43.15N×14521E, h98km, mb4.3/4, Error ellipse: s-maj=14.0km s-min=8.9km az=84.7*
*NEIC **23** 20:26:12.4±0.3, 43.19N×145.11E, mb4.3/3, Error ellipse: s-maj=8.9km s-min=5.4km az=115.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*JMA **23** 20:26:12.9±0.1, 43.19N×14521E, h85km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=99.00000°, δ42.00000°, λ-34.00000°. NP2:φs216.00000°, δ68.00000°, λ-127.00000°. Principal axes: T Plg15.0000°, Azm332.0000°; N Plg34.0000°, Azm232.0000°; P Plg52.0000°, Azm82.0000°;*
JMA Felt I J1.
*IDC **23** 20:26:12.5±0.8, 43.11N×145.19E, h88km±6km, mb3.8/15, mb1 4.0/18, mb1mx3.9/24, mbtmp4.2/18, MS4.4/2, Ms1 4.4/2, ms1mx3.5/36 Error ellipse: s-maj=13.1km s-min=9.1km az=26.0*
*NAO **23** 20:26:12.3, 44.83N×147.08E, h33km, mb4.1*
*SKHL **23** 20:26:13.1±0.6, 43.33N×145.16E, h70km±10km, mb4.3/5, Ms4.7/5*

ISC 23 20:26:12.4±0.4, 4317N±003×14524E±005, h89km±2km, h87km±.7km:pP-P, n61, σ0°69/74, mb4.1/19, 5C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.41**	**62**	⇓P	**Pn**	**20 26 26.6**	**+0.2**
NEM2				*e*S	**Sn**	**20 26 36.4**	**-0.4**
JAK	**Akkeshi**	**0.44**	**246**	⇓P	**Pn**	**20 26 26.7**	**+0.2**
JAK				*e*S	**Sn**	**20 26 36.8**	**-0.2**
JNK	**Nakash**	**0.56**	**317**	⇓P	**Pn**	**20 26 27.1**	**-0.4**
JNK				*e*S	**Sn**	**20 26 37.9**	**-0.9**
JRA	**Rausu**	**0.77**	**354**	⇑P	**Pn**	**20 26 29.8**	**+0.3**
JRA				*e*S	**Sn**	**20 26 42.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.97**	**27**	*e*P	**Pn**	**20 26 32.0**	**+0.3**
YUK				AMB	AMB	20 26 34.0	
500nm,0.4s							
YUK				AMB	AMB	20 26 34.0	
520nm,0.4s							
YUK				*e*S	**Sn**	**20 26 46.8**	**+0.7**
YUK				A		20 26 49.0	
15μm,0.5s							
YUK				A		20 26 49.0	
14μm,0.5s							
YUK				A		20 26 49.0	
48μm,1.0s							
YUK				A		20 26 49.0	
18μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**0.97**	**27**	*e*PN	**Pn**	**20 26 32.0**	**+0.3**
YUK				*i* S	**Sn**	**20 26 46.5**	**+0.4**
YUK				pmax	pmax		
comp=Z,2μm,0.4s							
YUK				pmax	pmax		
comp=N,500nm,0.3s							
YUK				pmax	pmax		
comp=E,520nm,0.4s							
YUK				smax			
comp=N,48μm,1.0s							
YUK				smax			
comp=E,18μm,1.0s							
YUK				smax			
comp=N,15μm,0.5s							
YUK				smax			
comp=E,14μm,0.5s							
JOB	**Onbets**	**1.07**	**256**	⇓P	**Pn**	**20 26 33.1**	**+0.4**
JOB				*e*S	**Sn**	**20 26 48.0**	**0.0**
JAR	**Ashorobuto**	**1.08**	**277**	⇓P	**Pn**	**20 26 33.1**	**+0.2**
JAR				*e*S	**Sn**	**20 26 48.0**	**-0.4**
JTKR	**Abashiri--Toko**	**1.25**	**310**	⇑P	**Pn**	**20 26 35.3**	**+0.3**
JTKR				*e*S	**Sn**	**20 26 51.4**	**-0.6**
JCH	**Churui**	**1.49**	**249**	⇓P	**Pn**	**20 26 38.1**	**+0.2**
JCH				*e*S	**Sn**	**20 26 56.5**	**-0.7**
JMP	**Maruseppu**	**1.60**	**302**	⇑P	**Pn**	**20 26 39.7**	**+0.4**
JMP				*e*S	**Sn**	**20 26 59.6**	**-0.2**
ASAJ	**Asahikawa**	**2.14**	**297**	P	**Pn**	**20 26 47.7**	**+1.4**
comp=E,39nm,0.3s,baz=129,slow=11,SNR=395							
ASAJ				S	**Sn**	**20 27 13.2**	**+0.9**
comp=E,38nm,0.3s,baz=46,slow=30,SNR=32							
ASAJ	**Asahikawa**	**2.14**	**297**	PN	**Pn**	**20 26 47.7**	**+1.4**
ASAJ				S	**Sn**	**20 27 13.2**	**+0.9**
ASAJ				pmax	pmax		
comp=Z,39nm,0.3s							
KUR	**Kuril'sk**	**2.79**	**42**	*e*P	**Pn**	**20 26 53.6**	**-1.5**
KUR				AMB	AMB	20 26 56.2	
comp=Z,20nm,0.6s							
KUR				AMB	AMB	20 26 56.2	
comp=Z,40nm,0.6s							
KUR				AMB	AMB	20 26 56.2	
comp=Z,90nm,0.6s							
KUR				*i* S	**Sn**	**20 27 27.0**	**-0.9**
KUR				A		20 27 28.5	
comp=Z,510nm,0.4s							
KUR				A		20 27 28.5	
comp=Z,360nm,0.4s							
KUR				AMS	AMS	20 34 25.0	
comp=Z,4μm,15.0s							
KUR				AMS	AMS	20 34 25.0	
comp=Z,4μm,15.0s							
KUR				AMS	AMS	20 34 25.0	
comp=Z,3μm,15.0s							
YSS	**Yuzh-Sakhalins**	**4.17**	**336**	⇑*i*P	**Pn**	**20 27 14.2**	**+0.5**
YSS				AMB	AMB	20 27 15.2	
comp=Z,50nm,0.8s							
YSS				*e*S	**Sn**	**20 28 02.0**	**+0.8**
YSS				A		20 28 03.2	
comp=Z,60nm,1.0s							
YSS				AMS	AMS	20 32 44.0	
comp=Z,3μm,13.0s							
YSS	**Yuzh-Sakhalins**	**4.17**	**336**	⇑*i*PN	**Pn**	**20 27 14.2**	**+0.5**
YSS				*i* S	**Sn**	**20 28 02.0**	**+0.8**
YSS				pmax	pmax		
comp=Z,50nm,0.8s							
YSS				smax			
comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**4.17**	**336**	*e*P	**Pn**	**20 27 13.9**	**+0.3**
UGL	**Uglegorsk**	**6.30**	**341**	*e*P	**Pn**	**20 27 43.0**	**+0.3**
UGL				AMB	AMB	20 27 45.0	
comp=E,41nm,0.7s							
UGL				AMS	AMS	20 32 22.0	
comp=E,4μm,12.0s							
UGL				AMS	AMS	20 32 22.0	
comp=E,7μm,12.0s							
UGL				AMS	AMS	20 32 22.0	
comp=E,1μm,12.0s							
TYV	**Tymovskoe**	**7.89**	**348**	*e*P	**Pn**	**20 28 05.5**	**+1.2**
TYV				AMB	AMB	20 28 09.0	
comp=E,9.0nm,0.8s							
TYV				AMB	AMB	20 28 09.0	
comp=E,7.0nm,0.8s							
TYV				AMB	AMB	20 28 09.0	
comp=E,12nm,0.8s							
MJAR	**Matsushiro Arr**	**8.55**	**222**	P	**Pn**	**20 28 12.9**	**-0.3**
comp=E,0.9nm,0.3s,baz=28,slow=13,SNR=22							
MAJO	**Matsushiro**	**8.55**	**222**	*e*PN	**Pn**	**20 28 13.1**	**-0.2**
MAJO				pmax	pmax		
comp=Z,7.0nm,0.6s							
MAJO	**Matsushiro**	**8.55**	**222**	*e*P	**Pn**	**20 28 13.1**	**-0.1**
comp=Z,7.3nm,0.6s							
MAT	**Matsushiro**	**8.55**	**222**	P	**Pn**	**20 28 12.5**	**-0.8**
MAT				*e*S	**Sn**	**20 29 49.7**	**+1.7**
MAT	**Matsushiro**	**8.55**	**222**	*e*PN	**Pn**	**20 28 13.0**	**-0.3**
MAT				pmax	pmax		
comp=Z,13nm,0.9s							
MAT	**Matsushiro**	**8.55**	**222**	*e*P	**Pn**	**20 28 13.0**	**-0.3**
comp=Z,13nm,0.9s							
NKL	**Nikolayevsk**	**10.43**	**345**	AMS	AMS	20 33 05.0	
comp=Z,3μm,11.0s							
NKL				AMS	AMS	20 33 05.0	
comp=Z,4μm,11.0s							
OKH	**Okha**	**10.50**	**352**	AMS	AMS	20 33 57.0	
comp=Z,3μm,10.0s							
OKH				AMS	AMS	20 33 57.0	
comp=Z,6μm,13.0s							
JHJ	**Hachijo jima 2**	**10.91**	**205**	P	**Pn**	**20 28 45.1**	**-0.3**
comp=Z,24nm,0.3s,baz=72,slow=20,SNR=2.6							
EKMR	**Ekimchan**	**12.84**	**325**	*e*P	**Pn**	**20 29 11.0**	**-0.4**
EKMR				AMB	AMB	20 29 11.5	
comp=Z,3.0nm,0.5s							
ZEA	**Zeya**	**15.89**	**318**	AMS	AMS	20 28 11.0	
comp=Z,3μm,11.0s							
ZEA				AMS	AMS	20 28 11.0	
comp=Z,5μm,11.0s							
ZEA				AMS	AMS	20 28 11.0	
comp=Z,6μm,13.0s							
SONM	**Songino Array**	**27.42**	**293**	P	**P**	**20 31 49.9**	**+0.3**
comp=Z,4.7nm,0.5s,mb4.3,baz=92,slow=8.5,SNR=51							
SONM				LR	LR	20 44 33.4	
comp=Z,410nm,20.4s,baz=30,slow=40							
ILAR	**Eielson Array**	**42.77**	**36**	P	**P**	**20 34 01.7**	**+0.7**
comp=Z,2.7nm,0.8s,mb4.0,baz=253,slow=5.8,SNR=38							
ILAR				pP	pP	20 34 21.9	-0.2
comp=Z,0.3nm,0.5s,baz=255,slow=5.8,SNR=1.7							
MKAR	**Makanchi Array**	**43.62**	**297**	P	**P**	**20 34 07.6**	**-0.2**
comp=Z,2.2nm,0.6s,mb4.0,baz=82,slow=8.9,SNR=24							
MKAR				pP	pP	20 34 28.0	-1.0
comp=Z,0.5nm,0.5s,baz=76,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**43.62**	**297**	P	**P**	**20 34 07.6**	**-0.2**
MKAR				pP	pP	20 34 28.0	-1.0
KURK	**Kurchatov**	**44.70**	**304**	*e*P	**P**	**20 34 15.8**	**-0.6**
KURK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
KURK	**Kurchatov**	**44.70**	**304**	*e*P	**P**	**20 34 15.8**	**-0.6**
comp=Z,3.8nm,0.7s,mb4.2							
INK	**Inuvik**	**47.60**	**30**	P	**P**	**20 34 39.5**	**+0.3**
comp=Z,1.4nm,0.4s,mb4.1,baz=281,slow=6.9,SNR=11							
BVAR	**Borovoye Array**	**48.79**	**309**	P	**P**	**20 34 48.2**	**-0.2**
comp=Z,1.5nm,0.3s,mb4.3,baz=70,slow=8.8,SNR=28							
BRVK	**Borovoye**	**48.84**	**309**	*e*P	**P**	**20 34 48.2**	**-0.5**
ZRNK	**Zerenda**	**49.60**	**309**	*e*P	**P**	**20 34 54.1**	**-0.4**
ZRNK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**49.60**	**309**	*e*P	**P**	**20 34 54.1**	**-0.4**
comp=Z,3.5nm,0.8s,mb4.3							
AKTK	**Aktyubinsk**	**56.85**	**310**	P	**P**	**20 35 47.2**	**-0.4**
AKTO	**Aktyubinsk**	**56.85**	**310**	P	**P**	**20 35 47.2**	**-0.4**
comp=Z,0.9nm,0.4s,mb4.1,baz=57,slow=10,SNR=5.8							
AKTO	**Aktyubinsk**	**56.85**	**310**	P	**P**	**20 35 47.3**	**-0.4**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
YKA	**Yellowknife Ar**	**57.05**	**33**	P	**P**	**20 35 50.5**	**+1.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=301,slow=6.9,SNR=12							
YKA	**Yellowknife Ar**	**57.05**	**33**	P	**P**	**20 35 50.5**	**+1.4**
ARCES	**ARCESS Array B**	**59.30**	**339**	P	**P**	**20 36 03.9**	**-0.9**
comp=Z,5.8nm,1.0s,mb4.6,baz=19,slow=7.9,SNR=5.0							
JOF	**Joensuu**	**61.94**	**332**	*ep*	**P**	**20 36 22.0**	**-0.7**
comp=Z,1.8nm,0.4s,mb4.5							
WRA	**Warramunga Arr**	**63.60**	**191**	P	**P**	**20 36 33.6**	**-0.1**
comp=Z,0.5nm,0.8s,mb3.4,baz=7.9,slow=6.8,SNR=6.5							
KAF	**Kangasniemi**	**64.20**	**333**	*ep*	**P**	**20 36 36.4**	**-1.2**
comp=Z,1.3nm,0.5s,mb4.0,baz=44,slow=6.2							
KAF	**Kangasniemi**	**64.20**	**333**	*e*P	**P**	**20 36 36.4**	**-1.2**
KAF				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.9							
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**20 36 40.4**	**-0.8**
comp=Z,3.5nm,0.6s,mb4.4,baz=48,slow=7.9,SNR=30							
FINES				pP	pP	20 37 02.5	-1.2
comp=Z,0.5nm,0.4s,baz=51,slow=8.5,SNR=1.6							
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**20 36 40.4**	**-0.8**
FINES				pP	pP	20 37 02.5	-1.2
ASAR	**Alice Springs**	**67.32**	**191**	P	**P**	**20 36 57.7**	**0.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=12,slow=5.7,SNR=12							
ASAR				pP	pP	20 37 19.6	-0.9
comp=Z,0.5nm,0.8s,baz=1.6,slow=6.5,SNR=2.9							
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**20 37 10.5**	**+2.0**
comp=Z,1.0nm,0.7s,mb3.8,baz=304,slow=4.8,SNR=7.3							
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**20 37 10.5**	**+2.0**
NB2	**NORSAR Subarra**	**69.63**	**338**	P	**P**	**20 37 11.4**	**-0.7**
comp=Z,1.0nm,0.5s,mb3.9,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.63**	**338**	P	**P**	**20 37 11.7**	**-0.4**
comp=Z,2.3nm,0.7s,mb4.1,baz=34,slow=6.3,SNR=9.0							
AKASG	**Malin Array Be**	**71.21**	**323**	P	**P**	**20 37 21.4**	**-0.2**
comp=Z,1.1nm,0.4s,mb4.0,baz=42,slow=6.4,SNR=8.2							
PDAR	**Pinedale Array**	**71.34**	**49**	P	**P**	**20 37 23.4**	**+0.9**
comp=Z,1.3nm,0.5s,mb4.0,baz=290,slow=0.2,SNR=18							
PPT	**Papeete**	**84.93**	**120**	LR	LR	21 10 37.6	
comp=Z,300nm,19.4s,baz=296,slow=31							

IDC 23 20:31:45.8±62.0, 1968S×17784W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/24, Error ellipse: s-maj=1142.0km s-min=164.6km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**23.77**	**292**	LR	LR	20 44 24.9	
comp=Z,197nm,20.1s,baz=358,slow=32							
STKA	**Stephens Creek**	**38.29**	**243**	P	P	20 39 07.6	-0.3
1.2nm,0.9s,baz=85,slow=12,SNR=3.4							
ASAR	**Alice Springs**	**44.86**	**256**	P	P	20 40 02.5	+0.7
0.6nm,0.6s,baz=94,slow=8.3,SNR=10							
WRA	**Warramunga Arr**	**44.87**	**261**	P	P	20 40 02.1	+0.2
0.2nm,0.3s,baz=97,slow=7.4,SNR=14							

*IDC **23** 20:35:58.7±6.6, 2748N×57.13E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.7/3, Error ellipse: s-maj=128.9km s-min=52.8km az=114.0*
*ISCJB **23** 20:36:01.7±2.2, 2786N±009×569E±02, h10km, mb3.6/3, Error ellipse: s-maj=27.1km s-min=6.1km az=53.2*
*CSEM **23** 20:36:05.6, 2788N×5667E, h18km, ML3.0, After THR*
*THR **23** 20:36:05.6±0.3, 2788N×5667E, h18km±4km, ML3.0*

ISC 23 20:36:02.0±3.6, 278N±01×570E±02, h5km±13km, n7, σ0°68/10, mb3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.82**	**241**	*e*PG	**Pg**	**20 36 18.4**	**+0.7**
BNDS				*e*SG	**Sg**	**20 36 27.7**	**-0.6**
BNDS				AML	AML	20 36 32.2	
comp=E,945nm,0.5s							
BNDS				AML	AML	20 36 35.8	
comp=N,857nm,0.7s							
BNDS	**Bandar-Abbas**	**0.82**	**241**	*e*Pg	**Pg**	**20 36 18.4**	**+0.7**
SNR=96							
BNDS				*e*Sg	**Sg**	**20 36 27.7**	**-0.6**
comp=N,857nm,0.7s,SNR=96							
KRBR	**Kerman**	**2.19**	**355**	*e*PG	**Pg**	**20 36 43.9**	**0.0**
KRBR				*e*SG	**Sg**	**20 37 11.9**	**-0.3**
GHIR	**Ghir-Karzin**	**3.56**	**279**	*e*PN	**Pn**	**20 36 58.4**	**+0.5**
GHIR				AML	AML	20 38 05.8	
comp=E,40nm,0.4s							
GHIR				AML	AML	20 38 16.2	
comp=N,27nm,0.7s							
BRTR	**Keskin Array B**	**22.69**	**308**	P	**P**	**20 41 05.2**	**+0.9**
comp=N,0.7nm,0.6s,mb3.3,baz=133,slow=12,SNR=5.0							
FINES	**FINESS Array B**	**39.46**	**337**	P	**P**	**20 43 33.1**	**0.0**
comp=N,1.6nm,1.0s,mb3.7,baz=139,slow=7.4,SNR=2.5							
TORD	**Torodi Ar. Bea**	**53.39**	**266**	P	**P**	**20 45 21.2**	**-1.3**
comp=N,0.9nm,0.5s,mb4.0,baz=63,slow=7.3,SNR=5.1							

*NAO **23** 20:36:43.2, 2373N×9229E, h33km, mb3.7*
*ISCJB **23** 20:36:58.5±0.6, 27.19N±004×919E±0.1, h10km, mb3.8/9, Error ellipse: s-maj=17.5km s-min=5.4km az=165.1*
*IDC **23** 20:36:58.3±0.9, 2695N×9171E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=39.5km s-min=17.6km az=51.0*
*BJI **23** 20:36:58.7, 2701N×9154E, h8km, mb4.1, ML4.5*
*NEIC **23** 20:36:59.8±0.7, 2678N×9149E, h10km, mb4.2/2, Error ellipse: s-maj=19.0km s-min=12.4km az=219.0*

ISC 23 20:37:00.6±0.5, 2711N±004×918E±01, h10km, n20, σ0°95/24, mb3.8/10, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.54**	**176**	*e*P	**Pn**	**20 37 29.4**	**+1.2**
SHL				*e*S	**Sn**	**20 37 48.4**	**+0.1**
LSA	**Lhasa**	**2.63**	**348**	PG	**Pg**	**20 37 46.8**	**-4.3**
LSA				SG	**Sg**	**20 38 25.3**	**+0.1**
LSA				Smax			
comp=N,2μm,1.5s							
LSA				Smax			
comp=E,3μm,1.5s							
LSA	**Lhasa**	**2.63**	**348**	*e*P	**Pn**	**20 37 48.3**	**+5.2**
AGT	**Agartala**	**3.25**	**188**	*i* P	**Pn**	**20 37 56.0**	**+4.3**
AGT				*i* S	**Sg**	**20 38 40.0**	**-5.0**
GTA	**Gaotai**	**13.98**	**27**	*e*P	**Pn**	**20 40 18.1**	**-0.7**
GTA				AP		20 40 23.8	
GTA				XP		20 40 26.5	
GTA				AMB	AMB		
comp=Z,3.0nm,1.6s							
HYB	**Hyderabad**	**15.56**	**234**	*i* P	**Pn**	**20 40 38.0**	**-2.0**
HYB				*e*S	**Sn**	**20 43 40.0**	**+7.5**
HYB	**Hyderabad**	**15.56**	**234**	*e*P	**Pn**	**20 40 42.0**	**+2.0**
ENH	**Enshi**	**15.87**	**74**	*e*P	**Pn**	**20 40 48.5**	**+4.4**
comp=Z,19nm,0.9s							
MKAR	**Makanchi Array**	**21.02**	**342**	P	**P**	**20 41 44.5**	**+0.2**
comp=Z,3.9nm,0.7s,mb3.9,baz=149,slow=12,SNR=31							
SONM	**Songino Array**	**23.64**	**25**	P	**P**	**20 42 13.6**	**+1.4**
comp=Z,1.8nm,0.9s,mb3.5,baz=213,slow=10,SNR=16							
KURK	**Kurchatov**	**25.61**	**340**	*e*P	**P**	**20 42 30.6**	**+0.5**
comp=Z,6.5nm,1.4s,mb4.0							
ZRNK	**Zerenda**	**30.88**	**333**	P	**P**	**20 43 17.1**	**-0.1**
BRTR	**Keskin Array B**	**49.34**	**300**	P	**P**	**20 45 50.8**	**+0.8**
comp=Z,0.5nm,0.8s,mb3.6,baz=61,slow=10,SNR=4.0							
AKASG	**Malin Array Be**	**52.32**	**315**	P	**P**	**20 46 11.9**	**-0.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=82,slow=6.4,SNR=4.9							
FINES	**FINESS Array B**	**54.97**	**328**	P	**P**	**20 46 31.6**	**-0.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=79,slow=9.9,SNR=3.9							
NB2	**NORSAR Subarra**	**62.14**	**327**	P	**P**	**20 47 20.9**	**-1.0**
comp=Z,0.6nm,0.8s,mb3.8,baz=86,slow=6.5							
NOA	**NORSAR Array B**	**62.14**	**327**	P	**P**	**20 47 21.3**	**-0.6**

MJAR Matsushiro Arr 40.26 65 P **P** **20 52 11.2 0.0**
comp=Z,1.6nm,0.6s,mb3.9,baz=273,slow=9.6,SNR=5.4
BRTR Keskin Array B 49.37 300 P **P** **20 53 24.4 +0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=98,slow=7.6,SNR=3.7
AKASG Malin Array Be 52.37 315 P **P** **20 53 45.5 -0.8**
comp=Z,0.7nm,0.4s,mb3.9,baz=82,slow=6.2,SNR=6.4
KAF Kangasniemi 55.02 329 *ep* **P** **20 54 06.1 +0.3**
FINES FINESS Array B 55.03 328 P **P** **20 54 04.0 -1.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=107,slow=10.0,SNR=11
ARCES ARCESS Array B 56.65 337 P **P** **20 54 16.4 -1.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=46,slow=8.7,SNR=4.4
KMBO Kilima Mbogo 59.42 251 P **P** **20 54 37.3 +0.4**
comp=Z,0.9nm,0.7s,mb3.9,baz=62,slow=22,SNR=4.2
NB2 NORSAR Subarra 62.20 327 P **P** **20 54 54.9 -1.0**
comp=Z,1.4nm,0.6s,mb4.3,baz=84,slow=6.9
NOA NORSAR Array B 62.20 327 P **P** **20 54 54.7 -1.2**
comp=Z,1.5nm,0.7s,mb4.3,baz=85,slow=6.7,SNR=7.7
WRA Warramunga Arr 62.32 134 P **P** **20 54 55.8 -0.9**
comp=Z,0.6nm,0.4s,mb4.1,baz=326,slow=6.9,SNR=16
GERES GERESS Array B 62.52 313 P **P** **20 54 58.4 +0.4**
comp=Z,1.3nm,0.5s,mb4.3,baz=75,slow=5.7,SNR=14
ASAR Alice Springs 64.80 137 P **P** **20 55 12.9 -0.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=321,slow=6.6,SNR=24
ILAR Eielson Array 77.89 22 P **P** **20 56 31.1 -1.1**
comp=Z,0.6nm,0.7s,mb3.7,baz=302,slow=5.1,SNR=10

IDC 23 21:10:16.7±3.4, 160S×13571E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.3/3, ML3.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.3/12, Error ellipse: s-maj=152.7km s-min=28.4km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.28**	**184**	P	Pn	21 14 31.3	-0.5
0.1nm,0.3s,baz=5.7,slow=12,SNR=5.4							
ASAR	**Alice Springs**	**22.01**	**184**	P	P	21 15 13.2	+0.7
0.9nm,0.7s,baz=10.0,slow=11,SNR=8.7							
AFI	**Afiamalu**	**53.32**	**106**	LR	LR	21 38 23.7	
comp=Z,132nm,20.8s,baz=63,slow=32							
MKAR	**Makanchi Array**	**67.10**	**323**	P	P	21 21 12.2	+0.2
0.1nm,0.4s,baz=117,slow=9.0,SNR=5.5							

*IDC **23** 21:32:04.0±0.5, 2108S×3341E, h0km, mb4.5/20, mb1 4.7/24, mb1mx4.7/26, mbtmp4.6/24, ML5.0/4, MS4.7/17, Ms1 4.7/17, ms1mx4.5/21, Error ellipse: s-maj=18.0km s-min=14.8km az=109.0*

*ISCJB **23** 21:32:04.5±0.3, 2124S±005×3340E±006, h10km, mb4.9/89, MS4.6/22, Error ellipse: s-maj=7.9km s-min=6.2km az=63.5*

*MOS **23** 21:32:04.1±1.3, 2131S×3347E, h10km, mb5.0/35, MS4.5/13, Error ellipse: s-maj=13.2km s-min=6.3km az=82.8*

*NEIC **23** 21:32:05.6±0.3, 2131S×3354E, h10km, mb5.0/32, MS4.4/1, Error ellipse: s-maj=11.0km s-min=7.9km az=129.0*

*HRVD **23** 21:32:05.6±0.2, 2101S×3334E, h12km, MW5.1/77, Centroid moment Tensor Solution. LP body waves: s52,c78;Mantle waves: s77,c127; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.73±.15; $M_{\theta\theta}$-0.16±.14; $M_{\phi\phi}$3.89±.13; $M_{r\theta}$1.53±.41; $M_{\theta\phi}$-2.71±.12; $M_{\phi r}$2.34±.38; Best double couple: $M_0$5.44900×10^16^ NP1:ϕ_s305.00000°, δ44.00000°, λ-137.00000°. NP2: ϕ_s181.00000°, δ61.00000°, λ-54.00000°. Principal axes: T 5.4840, Plg10.0000°, Azm247.0000°; N -0.0720, Plg31.0000°, Azm342.0000°; P -5.4150, Plg58.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **23** 21:32:07.5, 2072S×3390E, h10km, mB5.4, mb4.9, Ms5.2, Msz4.7*

*SZGRF **23** 21:32:13.7, 2028S×3445E, h33km, mb4.9, Mozambique*

ISC 23 21:32:06.3±0.2, 2126S±005×3345E±005, h10km, (h16km±2.1km:pP-P), n247, σ1§15/229, mb4.9/89, MS4.6/22, 16C-5D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.76**	**319**	**Pn**	**Pn**	**21 33 53.2**	**-6.1**
39nm,0.3s,baz=141,slow=14,SNR=147							
LSZ				Sn	**Sn**	**21 35 14.4**	**-13**
44nm,0.3s,baz=84,slow=23,SNR=6.5							
LSZ				Lg		21 35 56.4	
108nm,0.3s,baz=46,slow=23,SNR=15							
LSZ				LR	LR	21 36 53.6	
comp=Z,7μm,18.2s,baz=138,slow=38							
LSZ	**Lusaka**	**7.76**	**319**	*eP*	**Pn**	**21 33 53.2**	**-6.2**
3.2nm,0.8s							
LBTB	**Lobatse**	**8.13**	**241**	Pn	**Pn**	**21 34 03.2**	**-1.2**
18nm,0.3s,baz=65,slow=13,SNR=158							
LBTB				Sn	**Sn**	**21 35 34.0**	**-2.3**
42nm,0.3s,baz=127,slow=19,SNR=7.0							
LBTB				Lg		21 36 12.7	
42nm,0.3s,baz=50,slow=11,SNR=7.5							
LBTB				LR	LR	21 37 21.5	
comp=Z,9μm,18.6s,baz=70,slow=39							
LBTB	**Lobatse**	**8.13**	**241**	*eP*	**Pn**	**21 34 03.3**	**-1.1**
LBTB				*e*		21 35 33.8	
LBTB				pmax	pmax		
comp=Z,4.0nm,0.7s							
LBTB	**Lobatse**	**8.13**	**241**	*eP*	**Pn**	**21 34 03.3**	**-1.1**
comp=Z,3.9nm,0.7s							
LBTB				*e*Sn	**Sn**	**21 35 33.8**	**-2.6**
BOSA	**Boshof**	**10.43**	**224**	Pn	**Pn**	**21 34 35.5**	**-0.4**
comp=Z,14nm,0.3s,baz=52,slow=13,SNR=152							
BOSA				Sn	**Sn**	**21 36 25.7**	**-7.2**
comp=Z,19nm,0.3s,baz=29,slow=11,SNR=6.5							
BOSA				Lg		21 37 31.0	
comp=Z,29nm,0.3s,baz=113,slow=20,SNR=6.5							
BOSA				LR	LR	21 38 55.0	
comp=Z,6μm,19.8s,baz=53,slow=39							
BOSA	**Boshof**	**10.43**	**224**	*e*Pn	**Pn**	**21 34 35.1**	**-0.8**
comp=Z,0.2nm,0.6s							
BOSA				*e*Sn	**Sn**	**21 36 24.5**	**-8.3**
OPO	**Ambohidratompo**	**13.20**	**81**	Pn	**Pn**	**21 35 11.7**	**-2.0**
comp=Z,2.1nm,0.3s,baz=248,slow=12,SNR=24							
OPO				Sn	**Sn**	**21 37 32.4**	**-8.1**
comp=Z,4.9nm,0.3s,baz=322,slow=19,SNR=4.7							
TSUM	**Tsumeb**	**15.03**	**275**	Pn	**Pn**	**21 35 33.1**	**-5.6**
comp=Z,6.5nm,0.3s,baz=100,slow=11,SNR=48							
TSUM				Sn	**Sn**	**21 38 09.3**	**-16**
comp=Z,2.6nm,0.3s,baz=121,slow=14,SNR=3.2							
TSUM				Lg		21 39 49.2	
comp=Z,8.5nm,0.3s,baz=231,slow=12,SNR=3.2							
TSUM				LR	LR	21 41 22.1	
comp=Z,4μm,18.3s,baz=85,slow=37							
TSUM	**Tsumeb**	**15.03**	**275**	*eP*	**Pn**	**21 35 32.2**	**-6.5**
comp=Z,52nm,0.8s							
TSUM				*e*S	**Sn**	**21 38 12.7**	**-12**
SUR	**Sutherland**	**15.79**	**223**	Pn	**Pn**	**21 35 47.2**	**-1.5**
comp=Z,878nm,0.7s,SNR=42							
SUR	**Sutherland**	**15.79**	**223**	Pn	**Pn**	**21 35 47.5**	**-1.2**
comp=Z,5.6nm,0.3s,baz=47,slow=14,SNR=42							
SUR				Sn	**Sn**	**21 38 34.0**	**-10**
comp=Z,4.2nm,0.3s,baz=14,slow=12,SNR=6.9							
SUR				Lg		21 40 17.9	
comp=Z,7.3nm,0.3s,baz=135,slow=23,SNR=4.4							
SUR				LR	LR	21 42 09.6	
comp=Z,5μm,18.8s,baz=52,slow=38							
SUR	**Sutherland**	**15.79**	**223**	*eP*	**Pn**	**21 35 46.6**	**-2.1**
comp=Z,113nm,0.8s							
SUR				*e*Sn	**Sn**	**21 38 32.1**	**-12**
KMBO	**Kilima Mbogo**	**20.35**	**11**	P	**P**	**21 36 40.4**	**-2.4**
comp=Z,2.9nm,0.8s,baz=194,slow=12,SNR=9.6							
KMBO				Lg		21 42 25.6	
comp=Z,9.5nm,0.9s,baz=249,slow=7.6,SNR=4.1							
KMBO				LR	LR	21 43 56.1	
comp=Z,1μm,20.0s,MS4.2,baz=171,slow=35							
KMBO	**Kilima Mbogo**	**20.35**	**11**	*eP*	**P**	**21 36 44.0**	**+1.3**
KMBO				pmax	pmax		
comp=Z,16nm,1.4s							
KMBO	**Kilima Mbogo**	**20.35**	**11**	*eP*	**P**	**21 36 44.0**	**+1.3**
comp=Z,16nm,1.4s							
KMBO				Lg		21 42 25.6	
KMBO				LR	LR	21 43 56.1	
TORD	**Torodi Ar. Bea**	**46.27**	**315**	P	**P**	**21 40 29.5**	**-2.4**
comp=Z,27nm,0.7s,mb5.3,baz=128,slow=6.9,SNR=45							
TORD				PP	PP	21 42 15.9	-4.5
comp=Z,4.2nm,0.8s,baz=128,slow=7.3,SNR=2.3							
DBIC	**Dimbokro**	**46.72**	**302**	P	**P**	**21 40 34.4**	**-1.0**
comp=Z,8.6nm,0.8s,mb4.7,baz=110,slow=10.0,SNR=16							
DBIC				PP	PP	21 42 23.5	-1.6
comp=Z,6.8nm,0.9s,baz=112,slow=11,SNR=4.9							
DBIC				LR	LR	21 58 28.5	
comp=Z,620nm,20.6s,MS4.5,baz=116,slow=34							
DBIC	**Dimbokro**	**46.72**	**302**	P	**P**	**21 40 34.4**	**-1.0**
DBIC						21 42 23.5	
DBIC				pmax	pmax		
comp=Z,9.0nm,0.8s							
DBIC				pmax	pmax		
comp=Z,7.0nm,0.9s							
DBIC				MLR	MLR		
comp=Z,620nm,20.6s							
DBIC	**Dimbokro**	**46.72**	**302**	*eP*	**P**	**21 40 35.5**	**+0.1**
comp=Z,28nm,1.3s,mb5.0							
SYO	**Syowa Base**	**47.90**	**177**‖	*eP*	**P**	**21 40 43.4**	**-1.2**
SYO	**Syowa Base**	**47.90**	**177**‖	*eP*	**P**	**21 40 53.8**	**+9.2**
EIL	**Elat**	**50.65**	**2**	*eP*	**P**	**21 41 06.6**	**+1.0**
NVL	**N'lazarevskaya**	**51.14**	**189**	*eP*	**P**	**21 41 13.0**	**+3.7**
NVL				*e*		21 41 19.0	
NVL				pmax	pmax		
comp=Z,18nm,1.1s,mb4.9							
RDF	**Al-Radifah**	**51.71**	**16**	*eP*	**P**	**21 41 14.0**	**+0.4**
RDF				AMb	AMB	21 41 15.4	
comp=Z,28nm,0.9s,mb5.2							
NAY	**Al-Naaiem**	**51.94**	**15**	*eP*	**P**	**21 41 15.0**	**-0.3**
NAY				AMb	AMB	21 41 16.9	
comp=Z,18nm,0.9s,mb5.0							
KBD	**Kabd**	**51.98**	**16**	*eP*	**P**	**21 41 15.5**	**-0.1**
KBD				AMb	AMB	21 41 20.5	
comp=Z,140nm,1.1s,mb5.8							
MIB	**Mutribah**	**52.49**	**15**	*eP*	**P**	**21 41 19.3**	**-0.2**
MIB				AMb	AMB	21 41 21.2	
comp=Z,55nm,0.8s,mb5.5							
PALK	**Pallekele**	**54.35**	**64**	*eP*	**P**	**21 41 34.1**	**+1.0**
comp=Z,9.1nm,0.7s,mb4.8							
VNA2	**Neumayer--Watz**	**55.08**	**195**⇓	*iP*	**P**	**21 41 40.7**	**+2.3**
baz=49,slow=6.1							
VNA2				*e*		21 41 49.8	
VNA3	**Neumayer Olymp**	**55.85**	**195**⇓	*iP*	**P**	**21 41 46.0**	**+2.1**
VNA3				*e*		21 41 55.3	
HYB	**Hyderabad**	**58.58**	**52**	*i* P	**P**	**21 42 01.0**	**-2.2**
HYB	**Hyderabad**	**58.58**	**52**	*eP*	**P**	**21 42 03.0**	**-0.2**
MALT	**Malatya**	**59.44**	**5**	*eP*	**P**	**21 42 10.8**	**+1.7**
MALT				pmax	pmax		
comp=Z,16nm,1.4s,mb4.9							
MALT	**Malatya**	**59.44**	**5**	*eP*	**P**	**21 42 10.8**	**+1.6**
comp=Z,16nm,1.4s,mb4.9							
BR131	**Keskin Array S**	**60.66**	**0**	*eP*	**P**	**21 42 15.7**	**-1.8**
comp=Z,4.1nm,1.0s,mb4.5							
BRTR	**Keskin Array B**	**60.66**	**0**	P	**P**	**21 42 16.1**	**-1.5**
comp=Z,2.7nm,0.9s,mb4.4,baz=176,slow=8.7,SNR=18							
BRTR	**Keskin Array B**	**60.66**	**0**	P	**P**	**21 42 16.1**	**-1.4**
BRTR				pmax	pmax		
comp=Z,3.0nm,0.9s							
GNI	**Garni**	**61.99**	**10**	*i* P	**P**	**21 42 26.5**	**0.0**
GNI				pmax	pmax		
comp=Z,19nm,1.7s							
GNI				MLR	MLR		
comp=Z,300nm,19.0s							
GNI	**Garni**	**61.99**	**10**	*eP*	**P**	**21 42 25.7**	**-0.8**
ZEI	**Tsey**	**64.43**	**9**	*i* P	**P**	**21 42 42.9**	**+0.2**
ZEI				*i*		21 45 00.6	
ZEI				pmax	pmax		
comp=Z,25nm,1.5s,mb5.0							
ANN	**Anapa**	**65.83**	**3**	*eP*	**P**	**21 42 52.8**	**+1.0**
ANN				*e*S	S	21 51 37.8	-0.8
ANN				pmax	pmax		
comp=Z,106nm,1.4s,mb5.7							
GOF	**Gofitskoye**	**66.57**	**7**	*eP*	**P**	**21 42 57.8**	**+1.3**
GOF				pmax	pmax		
comp=Z,20nm,1.0s,mb5.1							
MLR	**Muntele Rosu**	**66.77**	**354**⇑	P	**P**	**21 42 57.1**	**-0.8**
MLR	**Muntele Rosu**	**66.77**	**354**	P	**P**	**21 42 58.7**	**+0.8**
VOIR		**66.81**	**354**⇑	P	**P**	**21 43 00.2**	**+2.1**
VOIR		**66.81**	**354**⇑	P	**P**	**21 43 00.2**	**+2.2**
VRI	**Vrincioaia**	**67.08**	**355**⇑	P	**P**	**21 43 00.7**	**+0.9**
VRI	**Vrincioaia**	**67.08**	**355**⇑	P	**P**	**21 43 00.7**	**+1.0**
PGF	**Pioggiola**	**67.38**	**341**	*eP*	**P**	**21 43 01.5**	**-0.2**
comp=Z,85nm,1.3s,mb5.3							
BZS	**Buzias**	**67.41**	**351**⇑	P	**P**	**21 43 01.7**	**-0.2**
BZS	**Buzias**	**67.41**	**351**⇑	P	**P**	**21 43 01.7**	**-0.2**
KOLN	**Koldanda**	**68.74**	**47**	*eP*	**P**	**21 43 08.6**	**-1.7**
LMR	**La Mourre**	**68.88**	**339**	*eP*	**P**	**21 43 11.1**	**0.0**
QSPA	**South Pole Qui**	**68.90**	**180**	*eP*	**P**	**21 43 12.5**	**+1.2**
comp=Z,39nm,1.5s,mb5.1							
BURAR	**Bucovina Array**	**68.95**	**354**⇑	P	**P**	**21 43 12.7**	**+1.2**
BURAR	**Bucovina Array**	**68.95**	**354**⇑	P	**P**	**21 43 12.7**	**+1.2**
FRF	**La Foret Royal**	**69.03**	**339**	*eP*	**P**	**21 43 11.8**	**-0.3**
SBF	**Sospel**	**69.05**	**340**	*eP*	**P**	**21 43 12.3**	**+0.1**
comp=Z,37nm,1.0s,mb5.0							
GKN	**Gorkha**	**69.60**	**47**	*eP*	**P**	**21 43 13.9**	**-1.7**
comp=Z,26nm,0.9s,mb5.2							
DMN	**Daman**	**69.67**	**48**	*eP*	**P**	**21 43 14.0**	**-2.0**
SMRF	**Simiane la Rot**	**69.76**	**339**	*eP*	**P**	**21 43 18.1**	**+1.5**
PKI	**Pulchoki**	**69.86**	**48**	*eP*	**P**	**21 43 15.4**	**-1.8**
KKN	**Kakani**	**69.91**	**48**	*eP*	**P**	**21 43 16.0**	**-1.5**
PSZ	**Piszkesteto**	**69.92**	**350**	*eP*	**P**	**21 43 16.4**	**-1.2**
PSZ				pmax	pmax		
comp=Z,35nm,1.4s,mb5.1							
PSZ	**Piszkesteto**	**69.92**	**350**	*eP*	**P**	**21 43 16.4**	**-1.2**
comp=Z,35nm,1.4s,mb5.1							
ESDC	**Sonseca Array**	**69.96**	**330**	P	**P**	**21 43 17.3**	**-0.5**
comp=Z,5.6nm,0.8s,mb4.5,baz=141,slow=5.7,SNR=16							
ESDC				PP	PP	21 45 56.6	+4.1
comp=Z,0.5nm,0.5s,baz=144,slow=9.4,SNR=4.5							
MBDF	**Montbardon**	**70.04**	**340**	*eP*	**P**	**21 43 19.1**	**+0.8**
comp=Z,67nm,1.6s,mb5.0							
SRO1	**Iza**	**70.05**	**349**	*eP*	**P**	**21 43 20.5**	**+2.2**
KECS	**Kecovo**	**70.38**	**351**	*eP*	**P**	**21 43 20.9**	**+0.5**
KECS				*e*		21 43 37.7	
GUN	**Gumba**	**70.40**	**48**	*eP*	**P**	**21 43 19.4**	**-1.1**
comp=Z,18nm,0.4s,mb5.3							
MTLF	**Montolieu**	**70.40**	**336**	*eP*	**P**	**21 43 20.2**	**-0.3**
LASF	**Ste Croix**	**70.44**	**338**	*eP*	**P**	**21 43 21.1**	**+0.4**
comp=Z,139nm,1.5s,mb5.4							
JIRN	**Jiri**	**70.46**	**49**	*eP*	**P**	**21 43 19.2**	**-1.7**
ORIF	**Oris-en-Rattie**	**70.50**	**340**	*eP*	**P**	**21 43 21.7**	**+0.6**
comp=Z,26nm,1.1s,mb4.8							
ORIF				*e*R			
comp=Z,419nm,17.5s							
KOLS	**Kolonicke sedl**	**70.58**	**352**	*e*	**P**	**21 43 31.8**	**+10**
CRVS	**Cervenica-Dubn**	**70.65**	**352**	*e*pP	**P**	**21 43 25.6**	**+3.6**
ZST	**Bratislava**	**70.67**	**348**	*eP*	**P**	**21 43 23.6**	**+1.5**
LPG	**La Plagne**	**70.73**	**340**	*eP*	**P**	**21 43 23.6**	**+1.1**
comp=Z,51nm,1.5s,mb4.9							
LPL	**La Plagne**	**70.76**	**340**	*eP*	**P**	**21 43 22.5**	**-0.2**
VIVF	**Saint-Julien-l**	**70.84**	**339**	*eP*	**P**	**21 43 23.4**	**+0.2**
comp=Z,56nm,1.4s,mb5.0							
EPF	**Esparros**	**70.86**	**335**	*eP*	**P**	**21 43 23.3**	**0.0**
MOA	**Molln**	**70.91**	**346**⇓	*iP*	**P**	**21 43 23.8**	**+0.2**
comp=Z,28nm,1.4s,mb5.0							
DAVOX	**Davos**	**70.99**	**343**	P	**P**	**21 43 22.3**	**-1.8**
comp=Z,3.2nm,0.8s,mb4.3,baz=138,slow=12,SNR=3.3							
ETSF	**Etsaut**	**71.11**	**334**	*eP*	**P**	**21 43 24.7**	**-0.1**
comp=Z,14nm,0.8s,mb4.7							
STHS	**Stebnicka Huta**	**71.19**	**352**	*eP*	**P**	**21 43 24.8**	**-0.5**
STHS				*e*		21 43 40.8	
KWP	**Kalwaria**	**71.21**	**353**	*eP*	**P**	**21 43 25.8**	**+0.4**
SJPF	**Ste Jean**	**71.56**	**334**	*eP*	**P**	**21 43 27.9**	**+0.4**
comp=Z,17nm,0.8s,mb4.7							
AKASG	**Malin Array Be**	**71.73**	**357**	P	**P**	**21 43 26.6**	**-2.0**
comp=Z,0.4nm,0.3s,mb3.8,baz=182,slow=6.0,SNR=19							
CAF	**Calviac**	**71.82**	**337**	*eP*	**P**	**21 43 29.2**	**+0.1**
comp=Z,37nm,1.4s,mb4.8							
FUR	**Furstenfeldbru**	**71.91**	**345**	*eP*	**P**	**21 43 29.3**	**-0.3**
comp=Z,20nm,1.0s,mb5.0							
FUR	**Furstenfeldbru**	**71.91**	**345**	*eP*	**P**	**21 43 29.3**	**-0.3**
FUR				pmax	pmax		
comp=Z,20nm,1.0s,mb5.0							
CABF	**La Chapelle**	**71.94**	**341**	*eP*	**P**	**21 43 29.8**	**0.0**
comp=Z,105nm,1.5s,mb5.2							
GEC2	**GERESS Array S**	**71.98**	**346**	*eP*	**P**	**21 43 30.3**	**+0.3**
comp=Z,36nm,1.5s,mb5.1							
GEC2	**GERESS Array S**	**71.98**	**346**	*eP*	**P**	**21 43 30.3**	**+0.3**
GEC2				pmax	pmax		
comp=Z,36nm,1.5s,mb5.1							
GERES	**GERESS Array B**	**71.98**	**346**	P	**P**	**21 43 28.6**	**-1.5**
comp=Z,1.6nm,0.6s,mb4.1,baz=163,slow=5.6,SNR=15							
GERES				LR	LR	22 19 07.3	
comp=Z,198nm,18.2s,MS4.4,baz=299,slow=39							
GERES	**GERESS Array B**	**71.98**	**346**	P	**P**	**21 43 28.6**	**-1.4**
GERES				pmax	pmax		
comp=Z,2.0nm,0.6s							
GERES				MLR	MLR		
comp=Z,198nm,18.2s							
OJC	**Ojcow**	**72.17**	**351**	*eP*	**P**	**21 43 33.5**	**+2.3**
KHC	**Kasperske Hory**	**72.27**	**346**	*eP*	**P**	**21 43 33.5**	**+1.7**
KHC				AMS	AMS	22 18 40.0	
comp=Z,400nm,20.9s							
KHC	**Kasperske Hory**	**72.27**	**346**	*eP*	**P**	**21 43 23.6**	**-8.2**
KHC				MLR	MLR		
comp=Z,400nm,20.9s,MS4.7							
LFF	**La Frestale**	**72.32**	**336**	*eP*	**P**	**21 43 32.1**	**0.0**
VRSR	**Storozhevoye**	**72.33**	**4**	*eP*	**P**	**21 43 32.4**	**+0.2**
VRSR				pmax	pmax		
comp=N,5.0nm,1.2s							
VRSR				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.2							
VRSR				pmax	pmax		
comp=E,3.0nm,1.0s							
KSH	**Kashi**	**72.34**	**33**	*eP*	**P**	**21 43 33.1**	**+0.9**
KSH				*e*AP	pP	21 43 37.4	+1.9
KSH				*e*XP	sP	21 43 40.4	+3.7
KSH				*e*PCP	PcP	21 43 51.3	+1.1
KSH				*e*PP	PP	21 46 15.3	+2.3
KSH				*e*PPP		21 47 58.1	
KSH				*e*S	S	21 52 54.1	-1.5
KSH				*e*XS	sS	21 53 02.1	+1.1
KSH				*e*PS		21 53 27.3	
KSH				*e*SKS		21 53 32.0	
KSH				*e*SCS	ScS	21 53 35.3	-3.6
KSH				AMB	AMB		
comp=Z,180nm,3.7s							
KSH				LR	LR		
comp=N,160nm,5.0s							
KSH				LR	LR		
comp=E,200nm,4.2s							
RJF	**Les Rejaudoux**	**72.34**	**337**	*eP*	**P**	**21 43 32.2**	**0.0**
RJF				*e*R			
comp=E,439nm,17.8s							
WET	**Wettzell**	**72.44**	**346**	*eP*	**P**	**21 43 33.0**	**+0.2**
comp=Z,8.0nm,1.4s,mb4.5							
WET	**Wettzell**	**72.44**	**346**	*eP*	**P**	**21 43 33.0**	**+0.2**
WET				pmax	pmax		
comp=Z,8.0nm,1.4s,mb4.5							
KKAR	**Karatay Array**	**72.56**	**28**	*i* P	**P**	**21 43 32.0**	**-1.5**
KKAR				pmax	pmax		
comp=Z,25nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**72.69**	**339**	*eP*	**P**	**21 43 34.0**	**-0.3**
HINF	**Hinteralfeld**	**72.79**	**342**	*eP*	**P**	**21 43 34.4**	**-0.5**
BFO	**Black Forest**	**72.83**	**343**	*eP*	**P**	**21 43 34.1**	**-1.0**
comp=Z,11nm,1.7s,mb4.5							
BFO	**Black Forest**	**72.83**	**343**	*eP*	**P**	**21 43 34.1**	**-1.0**
BFO				pmax	pmax		
comp=Z,11nm,1.7s,mb4.5							
DPC	**Dobruska-Polom**	**72.88**	**349**	*eP*	**P**	**21 43 33.8**	**-1.6**
PRU	**Pruhonice**	**72.88**	**347**	*eP*	**P**	**21 43 37.1**	**+1.7**
TCF	**Toulx Ste Croi**	**72.94**	**338**	*eP*	**P**	**21 43 36.0**	**+0.2**
BGF	**Bois d'Agland**	**72.95**	**338**	*eP*	**P**	**21 43 35.8**	**-0.1**
comp=Z,39nm,1.4s,mb4.8							
AVF	**Avril sur Loir**	**72.98**	**339**	*eP*	**P**	**21 43 35.7**	**-0.3**
comp=Z,31nm,1.3s,mb4.8							
STU	**Stuttgart**	**73.00**	**343**	*eP*	**P**	**21 43 36.6**	**+0.5**
UPC	**Upice**	**73.09**	**348**	*eP*	**P**	**21 43 38.2**	**+1.5**
HAU	**Haudompre**	**73.11**	**341**	*eP*	**P**	**21 43 37.4**	**+0.6**
HAU				*e*R			
comp=Z,288nm,18.2s							
SSF	**Saint Saulge**	**73.17**	**339**	*eP*	**P**	**21 43 36.6**	**-0.5**
ROTZ	**Rotzenmuhle**	**73.18**	**346**	*eP*	**P**	**21 43 36.9**	**-0.3**
comp=Z,41nm,1.4s,mb5.2							
CDF	**Champ du Feu**	**73.20**	**342**	*eP*	**P**	**21 43 36.7**	**-0.6**
comp=Z,25nm,1.3s,mb4.7							
LOR	**Lormes**	**73.23**	**339**	*eP*	**P**	**21 43 37.0**	**-0.5**
LOR				*e*R			
comp=Z,298nm,22.5s							
GRA1	**Grafenberg Arr**	**73.34**	**345**	*eP*	**P**	**21 43 38.8**	**+0.6**
comp=Z,72nm,1.6s,mb5.3							
GRF	**Grafenberg Arr**	**73.34**	**345**	*eP*	**P**	**21 43 38.8**	**+0.6**
comp=Z,72nm,1.6s,mb5.3							
GRF	**Grafenberg Arr**	**73.34**	**345**	*eP*	**P**	**21 43 38.8**	**+0.6**
GRF				pmax	pmax		
comp=Z,72nm,1.6s,mb5.3							
GRF	**Grafenberg Arr**	**73.34**	**345**	*eP*	**P**	**21 43 38.8**	**+0.6**
GRF				pmax	pmax		
comp=Z,72nm,1.6s,mb5.3							
NKC	**Novy Kostel**	**73.56**	**346**	*eP*	**P**	**21 43 41.8**	**+2.3**
WERD	**Werda**	**73.79**	**346**	*eP*	**P**	**21 43 41.2**	**+0.4**
comp=Z,14nm,1.4s,mb4.7							
BRG	**Berggiesshubel**	**73.84**	**347**	*eP*	**P**	**21 43 40.8**	**-0.3**
comp=Z,6.0nm,1.4s,mb4.3							
BRG	**Berggiesshubel**	**73.84**	**347**	*eP*	**P**	**21 43 42.9**	**+1.7**
comp=Z,7.4nm,1.5s,mb4.4							
BRG	**Berggiesshubel**	**73.84**	**347**	*eP*	**P**	**21 43 42.9**	**+1.8**
BRG				pmax	pmax		
comp=Z,7.0nm,1.5s,mb4.4							
MEZF	**Maizieres J'vi**	**73.94**	**341**	*eP*	**P**	**21 43 41.9**	**+0.2**
comp=Z,51nm,1.

BDFB pmax pmax
comp=Z,19nm,0.8s
BDFB MLR MLR
comp=Z,1μm,20.5s
MOS Moscow 76.77 2 *eP* **P 21 43 56.7 -1.2**
MOS pmax pmax
comp=Z,200nm,2.4s,mb5.6
MOS pmax pmax
comp=Z,77nm,1.4s,mb5.4
VNDA Vanda 76.96 170 P **P 21 44 00.1 +1.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=235,slow=5.2,SNR=9.5
VNDA LR LR 22 13 40.8
comp=Z,676nm,21.4s,MS4.9,baz=212,slow=32
VNDA Vanda 76.96 170 P **P 21 44 00.1 +1.1**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA MLR MLR
comp=Z,676nm,21.4s
BSEG Bad Segeberg 77.49 346 *eP* **P 21 44 02.1 +0.1**
comp=Z,22nm,1.5s,mb4.9
MBWA Marble Bar 79.30 109 *eP* **P 21 44 13.4 +1.4**
VSU Vasula 79.61 356⇑ *eP* **P 21 44 15.8 +2.1**
ZRNK Zerenda 80.08 21 *eP* **P 21 44 14.1 -2.2**
ZRNK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ZRNK Zerenda 80.08 21 *eP* **P 21 44 14.1 -2.1**
comp=Z,10nm,1.1s,mb4.7
ARU Arti 80.24 14 P **P 21 44 16.9 -0.2**
comp=Z,111nm,1.3s,mb5.6,SNR=6.7
ARU Arti 80.24 14⇓ *eP* **P 21 44 17.1 0.0**
ARU pmax pmax
comp=Z,25nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,500nm,28.0s,MS4.7
ARU Arti 80.24 14 *eP* **P 21 44 15.7 -1.4**
comp=Z,26nm,1.1s,mb5.1
BRVK Borovoye 80.60 22 *eP* **P 21 44 17.5 -1.6**
BRVK pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRVK Borovoye 80.60 22 *eP* **P 21 44 17.5 -1.6**
comp=Z,14nm,1.3s,mb4.7
BVA0 Borovoye Array 80.61 22 *i* P **P 21 44 17.6 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BVAR Borovoye Array 80.61 22 P **P 21 44 17.0 -2.1**
comp=Z,8.8nm,0.9s,mb4.7,baz=219,slow=6.4,SNR=30
BVAR Borovoye Array 80.61 22 P **P 21 44 17.0 -2.1**
BVAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 80.80 32 P **P 21 44 18.8 -1.3**
comp=Z,1.0nm,0.7s,mb3.8,baz=216,slow=2.7,SNR=17
MKAR Makanchi Array 80.80 32 P **P 21 44 18.8 -1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 80.80 32 P **P 21 44 18.8 -1.3**
CPUP Villa Florida 81.51 245 *eP* **P 21 44 28.1 +4.2**
comp=Z,59nm,1.3s,mb5.4
KMI Kunming 81.56 59 P **P 21 44 24.1 0.0**
KMI AP pP 21 44 29.3 +1.8
KMI S S 21 54 36.8 +0.7
KMI XS sS 21 54 45.0 +3.4
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
KMI LR LR
comp=Z,185nm,40.6s,MS4.1
WMQ Urumqi 81.61 36 P **P 21 44 24.0 -0.4**
WMQ XP sP 21 44 31.0 +2.0
WMQ PP PP 21 47 34.0 +3.1
WMQ S S 21 54 35.0 -1.7
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,102nm,6.0s
WMQ LR LR
comp=N,174nm,10.0s,MS4.9
WMQ LR LR
comp=E,194nm,10.0s,MS4.9
WMQ LR LR
comp=Z,175nm,10.0s,MS4.7
KURK Kurchatov 81.96 27 P **P 21 44 26.5 +0.2**
comp=Z,84nm,1.5s,mb5.5,SNR=6.3
KURK Kurchatov 81.96 27 *eP* **P 21 44 25.7 -0.6**
KURK pmax pmax
comp=Z,29nm,1.3s,mb5.0
KURK Kurchatov 81.96 27 *eP* **P 21 44 25.7 -0.5**
comp=Z,29nm,1.3s,mb5.0
FINES FINESS Array B 82.62 356 P **P 21 44 28.5 -1.2**
comp=Z,1.5nm,0.7s,mb4.2,baz=142,slow=7.2,SNR=6.3
FINES FINESS Array B 82.62 356 P **P 21 44 28.5 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 83.95 349 P **P 21 44 35.1 -1.5**
comp=Z,3.3nm,1.1s,mb4.4,baz=150,slow=4.6,SNR=3.3
NOA NORSAR Array B 83.95 349 P **P 21 44 35.1 -1.5**
NOA pmax pmax
comp=Z,3.0nm,1.1s
CD2 Chengdu 85.07 54 P **P 21 44 42.0 -0.3**
CD2 AP pP 21 44 45.5 -0.1
CD2 PP PP 21 48 00.8 +1.5
CD2 PPP 21 49 58.5
CD2 SKS 21 55 04.3
CD2 S 21 55 08.1
CD2 SS SS 22 00 44.0 -0.9
CD2 AMB AMB
comp=Z,20nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,120nm,5.7s
CD2 LR LR
comp=N,180nm,5.2s
CD2 LR LR
comp=Z,130nm,10.2s,MS4.6
GYA Guiyang 85.31 59 P **P 21 44 44.0 +0.5**
GYA AP pP 21 44 48.8 +2.0
GYA XP sP 21 44 52.4 +4.4
GYA PP PP 21 48 03.3 +2.1
GYA S 21 55 13.1
GYA AMB AMB
comp=Z,10.0nm,1.5s,mb4.7
GYA AMB AMB
comp=Z,140nm,4.2s
GYA LR LR
comp=E,790nm,18.4s
GYA LR LR
comp=Z,640nm,18.6s,MS5.0
PLCA Paso Flores 86.40 228 P **P 21 44 48.7 -0.1**
comp=Z,1.9nm,0.8s,mb4.4,baz=156,slow=4.5,SNR=5.2
PLCA LR LR 22 17 55.6
comp=Z,250nm,20.4s,MS4.6,baz=118,slow=32
PLCA Paso Flores 86.40 228 P **P 21 44 48.7 -0.1**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA MLR MLR
comp=Z,250nm,20.4s
PLCA Paso Flores 86.40 228 P **P 21 44 48.7 -0.1**
PLCA LR LR 22 17 55.6
GTA Gaotai 86.46 45 *eP* **P 21 44 52.3 +3.2**
GTA AP pP 21 44 56.8 +4.3
GTA XP sP 21 44 59.6 +5.9
GTA SKS 21 55 16.0
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,133nm,6.1s
GTA LR LR
comp=N,288nm,22.0s,MS4.9
GTA LR LR
comp=E,417nm,21.7s,MS4.9
GTA LR LR
comp=Z,458nm,22.8s,MS4.8
NVS Novosibirsk 86.88 26 *eP* **P 21 44 48.9 -2.3**
NVS pmax pmax
comp=Z,17nm,1.5s,mb5.0
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,3.0nm,1.4s
LZH Lanzhou 87.58 50 *eP* **P 21 44 54.9 +0.3**
LZH AP pP 21 44 58.8 +0.8
LZH XP sP 21 45 00.5 +1.4
LZH PP PP 21 48 23.1 +3.5
LZH SKS 21 55 20.0
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,188nm,5.5s
LZH LR LR
comp=E,529nm,19.5s
LZH LR LR
comp=Z,785nm,21.0s,MS5.1
ASAR Alice Springs 90.65 116 P **P 21 45 09.8 +0.8**
comp=Z,2.8nm,0.7s,mb4.7,baz=243,slow=3.8,SNR=26
ASAR Alice Springs 90.65 116 P **P 21 45 09.9 +0.9**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
KRAR Krasnoyarsk 91.82 29 *i* P **P 21 45 16.0 +1.5**
KRAR MLR MLR
comp=Z,200nm,26.0s,MS4.4
WRA Warramunga Arr 92.50 112 P **P 21 45 18.3 +0.7**
comp=Z,1.6nm,1.0s,mb4.4,baz=247,slow=2.8,SNR=9.6
WRA Warramunga Arr 92.50 112 P **P 21 45 18.3 +0.7**
WRA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 93.31 126 *eP* **P 21 45 22.0 +0.6**
comp=Z,2.8nm,0.9s,mb4.7
STKA Stephens Creek 93.31 126 P **P 21 45 21.3 0.0**
comp=Z,3.1nm,0.9s,mb4.8,baz=277,slow=4.2,SNR=7.0
STKA LR LR 22 24 01.6
comp=Z,298nm,18.4s,MS4.8,baz=208,slow=33
ZAK Zakamensk 94.07 37 *eP* **P 21 45 24.7 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.8s,mb4.8
LPAZ La Paz 94.55 251 P **P 21 45 27.6 +0.6**
comp=Z,1.8nm,0.8s,mb4.5,baz=198,slow=3.3,SNR=5.9
LPAZ LR LR 22 24 53.3
comp=Z,326nm,20.2s,MS4.8,baz=271,slow=34
LPAZ La Paz 94.55 251 P **P 21 45 27.6 +0.6**
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ MLR MLR
comp=Z,326nm,20.2s
LPAZ La Paz 94.55 251 *eP* **P 21 45 29.4 +2.3**
comp=Z,20nm,1.4s,mb5.3
SONM Songino Array 94.70 40 P **P 21 45 26.5 -1.3**
comp=Z,0.6nm,0.9s,mb4.0,baz=242,slow=3.1,SNR=2.5
SONM LR LR 22 27 14.2
comp=Z,288nm,20.5s,MS4.7,baz=264,slow=35
SONM Songino Array 94.70 40 P **P 21 45 26.5 -1.3**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,289nm,20.5s
HHC Hu-ho-hao-te 95.11 48 *eP* **P 21 45 31.3 +1.7**
HHC AP pP 21 45 35.8 +2.8
HHC XP sP 21 45 37.3 +3.1
HHC SKS 21 56 02.3
HHC S 21 56 31.0
HHC AMB AMB
comp=Z,107nm,7.2s
HHC LR LR
comp=N,124nm,16.7s,MS4.6
HHC LR LR
comp=E,106nm,13.1s,MS4.6
HHC LR LR
comp=Z,114nm,16.7s,MS4.4
ULN Ulaanbaatar 95.12 40⇑ *eP* **P 21 45 31.0 +1.4**
NJ2 Nanjing 97.29 59 *eP* **P 21 45 40.9 +1.4**
NJ2 AP pP 21 45 51.3 +8.4
NJ2 PP PP 21 49 37.8 +1.8
NJ2 S 21 56 55.0
NJ2 XS sS 21 57 11.0 +2.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
SSE Sheshan 98.84 60 P **P 21 45 46.8 +0.3**
SSE AP pP 21 45 56.4 +6.6
SSE XP sP 21 46 00.1 +9.1
SSE S 21 57 11.1
SSE XS sS 21 57 27.8 +5.6
SSE SS SS 22 03 54.8 -8.1
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,164nm,4.2s
SSE LR LR
comp=N,78nm,19.8s,MS4.4
SSE LR LR
comp=E,93nm,19.8s,MS4.4
SSE LR LR
comp=Z,126nm,20.0s,MS4.4
CN2 Changchun 105.79 49 *e*PDIF Pdif 21 46 21.0 +3.6
MDJ Mudanjiang 108.88 49 PDIF Pdif 21 46 28.8 -2.3
MDJ S Sdif 21 58 37.1 -3.3
MDJ LR LR
comp=N,114nm,18.1s
MDJ LR LR
comp=E,66nm,26.3s
MDJ LR LR
comp=Z,104nm,27.9s
BILL Bilibino 124.92 20 *e*PKIKP PKPdf 21 51 08.2 +1.7
BILL pmax pmax
comp=Z,5.0nm,1.3s
ULM Lac du Bonnet 130.98 319 PKP PKPdf 21 51 16.6 -1.5
comp=Z,1.6nm,0.6s,baz=60,slow=2.0,SNR=3.1
INK Inuvik 132.25 353 PKP PKPdf 21 51 18.3 -2.2
comp=Z,1.4nm,1.0s,baz=352,slow=2.2,SNR=3.1
INK Inuvik 132.25 353 PKIKP PKPdf 21 51 18.3 -2.2
INK pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 132.25 353 PKP PKPdf 21 51 18.3 -2.2
YKA Yellowknife Ar 133.37 340 PKP PKPdf 21 51 20.4 -2.2
comp=Z,0.5nm,0.5s,baz=36,slow=1.8,SNR=8.3
YKA Yellowknife Ar 133.37 340 PKIKP PKPdf 21 51 20.4 -2.2
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 133.37 340 PKP PKPdf 21 51 20.4 -2.2
ILAR Eielson Array 136.50 0 PKP PKPdf 21 51 25.6 -2.9
comp=Z,0.8nm,1.1s,baz=318,slow=1.2,SNR=3.1
ILAR Eielson Array 136.50 0 PKIKP PKPdf 21 51 25.6 -2.9
ILAR pmax pmax
comp=Z,1.0nm,1.1s
PDAR Pinedale Array 142.42 313 PKP PKPdf 21 51 37.1 -2.1
comp=Z,2.3nm,1.1s,baz=77,slow=7.8,SNR=3.6
LPM Los Pinos Moun 142.60 299 *e*PKPpre 21 51 36.6
PV01 Paradox Valley 143.26 306 *e*PKPdf PKPdf 21 51 39.3 -1.4
HLID Hailey 145.25 317 *e*PKPdf PKPdf 21 51 45.2 +1.0
WUAZ Wupatki 146.14 302 *e*PKPbc PKPbc 21 51 47.6 +1.0
BMO Blue Mountains 146.33 321 *e*PKIKP PKPdf 21 51 47.5 +1.5
HAWA Hanford 146.65 325 *e*PKP PKPdf 21 51 50.6 +4.0
WVOR Wild Horse Val 148.48 318 *e*PKP2 PKPab 21 51 53.5 -3.0
NEN Nelson 148.81 304 *e*PKPbc PKPbc 21 51 53.4 -0.6
MOD Modoc 149.81 319 *e*PKPbc PKPbc 21 51 55.6 -0.9
MNV Mina 150.17 311 *e*PKPbc PKPbc 21 51 54.5 -2.9
NVAR Mina Array Bea 150.28 311 PKPbc PKPbc 21 51 56.1 -1.6
comp=Z,6.0nm,1.0s,baz=92,slow=3.3,SNR=23
DAC Darwin (Calif) 150.67 307 *e*PKIKP PKPdf 21 51 59.0 +5.9
PFO Pinyon Flat Ob 150.70 301 *e*PKIKP PKPdf 21 51 59.1 +6.0
PFO *e* 21 52 04.4
HUMO Hull Mountain 150.95 323 PKPdf PKPdf 21 51 52.6 -0.9
HUMO *e*PKPbc PKPbc 21 51 58.6 -0.6
OHCM Honcut 151.98 316 *e*PKPbc PKPbc 21 52 00.4 -1.2

CSEM ***23*** *22:01:26.5±0.2,4174N×2543E,h5km,MD3.0,Error ellipse: s-maj=4.4km s-min=3.6km az=104.0*
ISCJB ***23*** *22:01:26.4±0.4,4169N±002×2546E±003,h10km,Error ellipse: s-maj=3.4km s-min=3.0km az=74.3*
SOF ***23*** *22:01:26.4,4171N×2547E,h12km,MD3.0*
THE ***23*** *22:01:28.2,4167N×2560E,h22km,ML3.1*
ATH ***23*** *22:01:28.1,4162N×2537E,h5km±2km,MD3.5/3*
NEIC ***23*** *22:01:28.1,4162N×2537E,h5km,MD3.0(SOF), MD3.5(ATH),ML2.7(THE),After ATH.*

ISC 23 22:01:26.8±0.5,4170N±002×2543E±003,h1km±4km,n34,σ1§01/56,4C-1D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.05**	**191**	*i* Pg	Pg	**Pg**	**22 01 29.5**	**+1.8**
KDZ					Sg	**Sg**	**22 01 31.0**	**+2.6**
DIM	**Dimitrovgrad**	**0.36**	**12**	*i* Pg	Pg	**Pg**	**22 01 34.0**	**+0.3**
DIM					Sg	**Sg**	**22 01 39.0**	**+0.6**
RZN	**Rozhen**	**0.53**	**269**	*i* Pg	Pg	**Pg**	**22 01 37.2**	**+0.2**
RZN					Sg	**Sg**	**22 01 44.0**	**+0.1**
RDO	**Rodhopi**	**0.56**	**172**	*e*PB	Pg	**Pg**	**22 01 37.5**	**0.0**
RDO				*e*SB	Sg	**Sg**	**22 01 44.7**	**0.0**
PLD	**Plovdiv**	**0.68**	**307**	*i* Pg	Pg	**Pg**	**22 01 40.0**	**+0.2**
PLD					Sg	**Sg**	**22 01 49.0**	**+0.4**
ALN	**Alexandroupoli**	**0.93**	**150**	*e*Pg	Pg	**Pg**	**22 01 44.3**	**-0.2**
ALN				*e*Sg	Sg	**Sg**	**22 01 56.2**	**-0.3**
JMB	**Yambol**	**1.15**	**48**	*e*Pg	Pg	**Pg**	**22 01 47.3**	**-1.6**
JMB				*e*Sg	Sg	**Sg**	**22 02 02.0**	**-1.8**
JMB	**Yambol**	**1.15**	**48**	P	Pg	**Pg**	**22 01 48.0**	**-0.9**
JMB				Sg	Sg	**Sg**	**22 02 03.0**	**-0.8**
JMB	**Yambol**	**1.15**	**48**	P	Pg	**Pg**	**22 01 48.0**	**-0.9**
JMB				Sg	Sg	**Sg**	**22 02 03.0**	**-0.8**
NVR	**Nevrokopi**	**1.23**	**254**	*e*PG	Pg	**Pg**	**22 01 49.7**	**-0.6**
NVR				*e*SB	Sb	**Sb**	**22 02 06.3**	**-0.8**
PGB	**Panagyurishte**	**1.27**	**313**	*i* P	Pg	**Pg**	**22 01 51.0**	**-0.1**
PGB				Sg	Sg	**Sg**	**22 02 07.0**	**-0.5**
SRS	**Serrai**	**1.50**	**248**	*e*Pg	Pg	**Pg**	**22 01 54.5**	**-1.0**
SRS				*e*Sg	Sg	**Sg**	**22 02 15.4**	**+0.5**
PVL	**Pavlikeni**	**1.52**	**357**	*i* P	Pn	**Pn**	**22 01 54.0**	**-1.1**
SZH	**Strazhica**	**1.61**	**13**	*i* P	Pn	**Pn**	**22 01 56.5**	**+0.2**
OUR	**Ouranopolis**	**1.75**	**219**	*e*Pb	Pb	**Pb**	**22 01 57.2**	**-2.4**
comp=Z,4.0nm,0.5s								
KKB	**Krupnik**	**1.76**	**276**	P	Pn	**Pn**	**22 01 57.5**	**-0.9**
KKB				Sg	Sg	**Sg**	**22 02 23.0**	**-0.4**
SOH	**Sokhos**	**1.79**	**241**	*e*Pb	Pb	**Pb**	**22 01 58.3**	**-2.1**
SOH				*e*Sb	Sb	**Sb**	**22 02 22.6**	**-0.8**
SOH	**Sokhos**	**1.79**	**241**	*e*Pb	Pb	**Pb**	**22 01 58.3**	**-2.1**
SOH				*e*Sb	Sb	**Sb**	**22 02 22.5**	**-0.8**
VTS	**Vitosha**	**1.88**	**299**	*e*Pn	Pn	**Pn**	**22 02 00.3**	**+0.4**
VTS				*e*Sn	Sn	**Sn**	**22 02 24.8**	**+0.5**
VTS	**Vitosha**	**1.88**	**299**	*e*Pn	Pn	**Pn**	**22 02 00.3**	**+0.3**
VTS				*e*Sn	Sn	**Sn**	**22 02 24.8**	**+0.5**
VTS	**Vitosha**	**1.88**	**299**	P	Pn	**Pn**	**22 02 00.3**	**+0.3**
VTS				S	Sn	**Sn**	**22 02 26.0**	**+1.7**
KNT	**Kendrikon**	**1.98**	**255**	*e*Pn	Pn	**Pn**	**22 02 01.9**	**+0.5**
comp=Z,5.0nm,0.5s								
KNT				*e*Sn	Sn	**Sn**	**22 02 27.6**	**+0.8**
PLG	**Polygyros**	**2.00**	**229**	*e*PN	Pn	**Pn**	**22 02 03.2**	**+1.5**
VAY	**Valandovo**	**2.18**	**261**	*e*Pn	Pn	**Pn**	**22 02 04.2**	**+0.1**
VAY	**Valandovo**	**2.18**	**261**	*e*Pn	Pn	**Pn**	**22 02 05.7**	**+1.5**
VAY				*e*Sn	Sn	**Sn**	**22 02 37.5**	**+5.7**
VAY	**Valandovo**	**2.18**	**261**	*e*Pn	Pn	**Pn**	**22 02 04.2**	**+0.1**
VAY				*e*Sn	Sn	**Sn**	**22 02 37.4**	**+5.7**
PAIG	**Paliouri**	**2.21**	**217**	*e*Pn	Pn	**Pn**	**22 02 03.4**	**-1.1**
GRG	**Griva**	**2.40**	**253**	*e*Pn	Pn	**Pn**	**22 02 07.3**	**+0.2**
STIP	**Stip**	**2.43**	**271**	*e*Pn	Pn	**Pn**	**22 02 11.4**	**+3.9**
STIP				*e*Sn	Sn	**Sn**	**22 02 44.7**	**+6.8**
MLR	**Muntele Rosu**	**3.81**	**5**	⇑P	Pn	**Pn**	**22 02 27.9**	**+1.3**
MLR	**Muntele Rosu**	**3.81**	**5**	⇑P	Pn	**Pn**	**22 02 27.9**	**+1.4**
VRI	**Vrincioaia**	**4.27**	**12**	⇑P	Pn	**Pn**	**22 02 35.2**	**+2.3**
VRI	**Vrincioaia**	**4.27**	**12**	⇑P	Pn	**Pn**	**22 02 35.2**	**+2.3**
BZS	**Buzias**	**4.79**	**326**	⇓P	Pn	**Pn**	**22 02 39.6**	**-0.5**

IDC 23 22:09:13.4±5.1,300S×13949E,h0km,mb3.5/2,mb1 3.9/3, mb1mx3.6/11,mbtmp3.7/3,ML3.8/1,Error ellipse: s-maj=201.8km s-min=29.1km az=87.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**17.57**	**196**	*e*P		Pn	22 13 19.6	-0.1
WRA	**Warramunga Arr**	**17.58**	**196**	P		Pn	22 13 19.5	-0.3
0.3nm,0.3s,baz=18,slow=13,SNR=23								
ASAR	**Alice Springs**	**21.25**	**194**	P		P	22 14 01.5	+0.5
1.4nm,0.7s,baz=23,slow=10.0,SNR=15								
MKAR	**Makanchi Array**	**70.49**	**322**	P		P	22 20 30.1	+0.3
0.5nm,0.6s,baz=116,slow=7.4,SNR=8.4								

IDC ***23*** *22:25:16.1±2.0,2344N×12236E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.4/19,mbtmp3.7/3,MS4.4/2,Ms1 4.4/2, ms1mx3.1/33,Error ellipse: s-maj=312.6km s-min=27.5km az=70.0*
ISCJB ***23*** *22:25:19.0±1.0,234N±0.1×12196E±0.10,h33km,mb3.8/3, MS3.8/1,Error ellipse: s-maj=18.2km s-min=7.8km az=102.9*
JMA ***23*** *22:25:27.9±0.2,2428N×12221E,h16km,M3.2*

ISC 23 22:25:21.5±1.0,234N±01×12199E±010,h35km,n11,σ1§50/13,mb3.8/3,MS3.8/1,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.42**	**41**	P		**Pn**	**22 25 42.2**	**-2.6**
YOJ				S		**Sn**	**22 25 52.3**	**-10**
HATJ	**Hateruma jima**	**1.79**	**68**	*e*S		**Sn**	**22 26 13.6**	**+2.2**
IRIF	**Iriomote-Funau**	**1.85**	**59**	P		**Pn**	**22 25 52.7**	**+2.0**
IRIF				S		**Sn**	**22 26 11.6**	**-1.3**
JKRS	**Kuro-shima**	**2.03**	**65**	P		**Pn**	**22 25 56.2**	**+3.0**
JKRS				*e*S		**Sn**	**22 26 17.1**	**-0.3**
JIJ	**Ishigaki jima**	**2.19**	**63**	P		**Pn**	**22 25 58.4**	**+2.9**
JIJ				*e*S		**Sn**	**22 26 20.0**	**-1.4**
JNU	**Nakatsue**	**12.46**	**37**	LR		LR	22 33 37.5	
comp=Z,8μm,20.7s,baz=192,slow=41								
SONM	**Songino Array**	**27.38**	**337**	P		**P**	**22 31 04.0**	**+0.5**
1.2nm,0.8s,mb3.5,baz=134,slow=11,SNR=4.2								
WRA	**Warramunga Arr**	**44.72**	**163**	P		**P**	**22 33 30.9**	**-0.3**
2.1nm,0.6s,mb4.1,baz=346,slow=8.7,SNR=18								
WB2	**Warramunga Arr**	**44.73**	**163**	*e*P		**P**	**22 33 31.0**	**-0.3**
ASAR	**Alice Springs**	**48.19**	**165**	P		**P**	**22 33 57.9**	**-0.6**
0.5nm,0.7s,mb3.6,baz=344,slow=8.7,SNR=4.8								
CTA	**Charters Tower**	**49.27**	**149**	LR		LR	22 51 30.1	
comp=Z,104nm,21.2s,MS3.8,baz=228,slow=32								

ISCJB ***23*** *22:37:23.1±0.3,5142N±002×1613E±002,h0km,mb3.2/3, Error ellipse: s-maj=2.7km s-min=1.7km az=20.8*
BGR ***23*** *22:37:23.9±0.6,5143N×1629E,h1km,ML3.4,Error ellipse: s-maj=5.6km s-min=4.4km az=93.0*
NEIC ***23*** *22:37:24.0,5140N×1630E,h1km,ML3.4(SZGRF),After SZGRF.*
LDG ***23*** *22:37:24.8±0.1,5141N×1612E,h1km,Ml3.7/5,Error ellipse: s-maj=2.9km s-min=2.5km az=166.0,Suspected Mining induced.*
IPEC ***23*** *22:37:25.3±0.3,5143N×1648E,h0km,ML2.8/4,Error ellipse: s-maj=3.1km s-min=1.9km az=95.0*
IDC ***23*** *22:37:25.1±0.6,5145N×1612E,h0km,mb3.3/3, mb1 3.5/11,mb1mx3.4/23,mbtmp3.4/11,ML3.4/8,Error ellipse: s-maj=10.3km s-min=6.0km az=104.0*
WAR ***23*** *22:37:26.0,5145N×1617E,ML3.1,Mining Induced*
CSEM ***23*** *22:37:26.0±0.2,5142N×1613E,h1km,ML3.7/15,Error ellipse: s-maj=3.1km s-min=2.0km az=5.0*
PRU ***23*** *22:37:26.3,5140N×1612E,h0km*
VIE ***23*** *22:37:28.9±0.7,5116N×1621E,h0km,mb2.7/6,ML3.0/7, Error ellipse: s-maj=4.3km s-min=3.1km az=176.0 56 km W of Breslau Suspected Mining induced.*
UPP ***23*** *22:37:50.0,5335N×1564E,h0km,ML3.0,Suspected Mining explosion.*
STR ***23*** *22:38:05.7±2.8,5180N×1294E,h2km±1km,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 22:37:24.0±0.3,5148N±002×1618E±002,h0km,n113,σ1§18/197,mb3.2/3,13C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**173**	*i* Pgd		Pg	**22 37 37.1**	**+0.8**
KSP				e			22 37 43.9	
KSP				*e*Sg		**Sg**	**22 37 44.9**	**+0.3**
KSP	**Ksiaz**	**0.64**	**173**	*e*Pg		**Pg**	**22 37 37.0**	**+0.7**
KSP				*e*Sg		**Sg**	**22 37 43.9**	**-0.7**
KSP	**Ksiaz**	**0.64**	**173**	⇓*i*Pg		**Pg**	**22 37 37.1**	**+0.8**
KSP				*e*Sg		**Sg**	**22 37 43.9**	**-0.7**
KSP				*e*			22 37 44.8	
KSP				*e*			22 37 50.0	
UPC	**Upice**	**0.98**	**186**	*e*PG		**Pg**	**22 37 43.3**	**+0.6**
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*PG		**Pg**	**22 37 45.9**	**+0.2**
DPC				*e*SG		**Sg**	**22 38 00.3**	**-0.1**
125nm,0.4s								
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*Pg		**Pg**	**22 37 45.8**	**+0.1**
DPC				*e*Sg		**Sg**	**22 37 59.1**	**-1.3**
PVCC	**Panska Ves**	**1.39**	**227**	*e*PG		**Pg**	**22 37 51.0**	**+0.3**
PVCC				*e*SG		**Sg**	**22 38 09.5**	**+0.8**
388nm,0.3s								
BRG	**Berggiesshubel**	**1.53**	**248**	*e*Pn		**Pn**	**22 37 52.3**	**-0.2**
BRG				*e*Sg		**Sg**	**22 38 13.5**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**248**	PN		**Pn**	**22 37 52.2**	**-0.4**
BRG				PG		**Pg**	**22 37 53.8**	**+0.5**
BRG				SG		**Sg**	**22 38 14.1**	**+0.9**
82nm,0.5s								
RUE	**Ruedersdorf**	**1.79**	**305**	*e*Pg		**Pg**	**22 37 56.1**	**-2.2**
RUE				*e*Sg		**Sg**	**22 38 23.6**	**+2.1**
RUE	**Ruedersdorf**	**1.79**	**305**	*e*Pg		**Pg**	**22 37 56.1**	**-2.2**
RUE				*e*Sg		**Sg**	**22 38 23.6**	**+2.1**
PRA	**Prague**	**1.79**	**219**	PN		**Pn**	**22 37 56.0**	**-0.2**
PRU	**Pruhonice**	**1.82**	**215**	*e*PN		**Pn**	**22 37 56.5**	**0.0**
PRU				*e*PG		**Pg**	**22 37 58.3**	**-0.5**

PRU *e*SG **Sg** **22 38 22.0 -0.4**
125nnm,0.5s
PRU Pruhonice 1.82 215 *e*Pg **Pg** **22 37 58.3 -0.5**
PRU *e*Sg **Sg** **22 38 22.0 -0.4**
125nnm,0.5s
RAC Raciborz 1.90 137 *e*Pn **Pn** **22 37 56.7 -0.9**
RAC Raciborz 1.90 137 *e*Pg **Pg** **22 38 00.8 +0.5**
RAC *e*Sg **Sg** **22 38 24.5 -0.4**
GKP Gorka Klasztor 1.91 19 *e*Pg **Pg** **22 38 06.9 +6.3**
GKP *e*Sg **Sg** **22 38 36.4 +11**
MORC Moravsky Berou 1.91 152 *e*Pn **Pn** **22 37 57.7 -0.1**
MORC *e*Sg **Sg** **22 38 21.2 -4.3**
MORC Moravsky Berou 1.91 152 *e*Pn **Pn** **22 37 57.8 0.0**
MORC *e*Sn **Sn** **22 38 22.8 +0.2**
CLL Collm 2.00 266 *e*Pn **Pn** **22 37 58.8 -0.2**
CLL *e*Pg **Pg** **22 38 02.0 -0.2**
CLL *e*Sg **Sg** **22 38 29.2 +1.1**
CLL Collm 2.00 266 *e*Pn **Pn** **22 37 59.0 +0.1**
CLL *e*Pg **Pg** **22 38 02.0 -0.2**
CLL *ex* x 22 38 05.0
CLL *i* Sg **Sg** **22 38 29.1 +1.0**
comp=Z,75nm,0.6s
CLL Collm 2.00 266 Pg **Pg** **22 38 02.0 -0.2**
CLL Sg **Sg** **22 38 29.2 +1.1**
CLL Collm 2.00 266 *e*Pn **Pn** **22 37 59.0 +0.1**
CLL *e*Pg **Pg** **22 38 02.0 -0.2**
CLL *i* Sg **Sg** **22 38 29.1 +1.0**
OKC Ostrava-Krasne 2.07 142 *e*PG **Pg** **22 38 01.1 -2.5**
VRAC Vranov 2.19 173 Pn **Pn** **22 38 01.5 -0.1**
comp=Z,8.2nm,0.3s,baz=341,slow=12,SNR=46
VRAC Sn **Sn** **22 38 31.8 +2.4**
comp=Z,10nm,0.3s,baz=250,slow=22,SNR=13
VRAC Vranov 2.19 173 *e*Pn **Pn** **22 38 02.3 +0.7**
VRAC *e*Sg **Sg** **22 38 32.0 -2.3**
comp=Z,54nm,0.5s
TREC Trest 2.23 192 *e*PG **Pg** **22 38 06.0 -0.7**
KRUC Moravsky 2.42 177 *e*Pn **Pn** **22 38 05.3 +0.5**
KRUC *e*Sg **Sg** **22 38 40.4 -1.5**
comp=Z,28nm,0.4s
OJC Ojcow 2.62 117 *e*Pn **Pn** **22 38 06.2 -1.3**
OJC *e*Pg **Pg** **22 38 14.0 -0.2**
OJC *e*Sg **Sg** **22 38 48.4 +0.3**
OJC Ojcow 2.62 117 *e*Pg **Pg** **22 38 14.0 -0.2**
OJC *e*Sg **Sg** **22 38 48.4 +0.3**
WERD Werda 2.66 249 *e*Pn **Pn** **22 38 08.6 +0.6**
WERD *e*Sg **Sg** **22 38 49.0 -0.3**
NKC Novy Kostel 2.67 244 *e*PN **Pn** **22 38 08.8 +0.6**
NKC *e*PG **Pg** **22 38 15.4 +0.2**
NKC *e*SG **Sg** **22 38 50.1 +0.3**
comp=Z,118nm,0.3s
NKC Novy Kostel 2.67 244 *e*Pg **Pg** **22 38 15.4 +0.2**
NKC *e*Sg **Sg** **22 38 50.1 +0.3**
comp=Z,118nm,0.3s
JAVC Velka Javorina 2.79 159 *e*Sg **Sg** **22 38 54.3 +0.6**
comp=Z,55nm,0.7s
KHC Kasperske Hory 2.88 216 *e*PN **Pn** **22 38 11.2 +0.1**
KHC *e*PG **Pg** **22 38 17.7 -1.5**
KHC *e*SG **Sg** **22 38 54.8 -1.8**
comp=Z,64nm,1.0s
KHC Kasperske Hory 2.88 216 *e*Pg **Pg** **22 38 17.7 -1.5**
KHC *e*Sg **Sg** **22 38 54.8 -1.8**
comp=Z,64nm,1.0s
MGBB Grossbuechelbe 2.94 241 ⇓*i*Pn **Pn** **22 38 12.6 +0.7**
MOX Moxa 3.00 256 *e*Pn **Pn** **22 38 13.1 +0.4**
MOX *e*Pg **Pg** **22 38 21.4 0.0**
MOX *e*Sg **Sg** **22 39 00.5 +0.2**
MOX Moxa 3.00 256 Pg **Pg** **22 38 21.4 0.0**
MOX Sg **Sg** **22 39 00.5 +0.2**
MOX Moxa 3.00 256 *e*PN **Pn** **22 38 13.4 +0.7**
MOX *e*PG **Pg** **22 38 21.4 0.0**
MOX *e*SG **Sg** **22 39 01.4 +1.1**
MOX Moxa 3.00 256 *e*Pn **Pn** **22 38 13.4 +0.7**
MOX *e*Pg **Pg** **22 38 21.4 0.0**
MOX *e*Sg **Sg** **22 39 01.4 +1.1**
ROTZ Rotzenmuhle 3.05 237 *e*Pn **Pn** **22 38 14.0 +0.5**
ROTZ *e*Sg **Sg** **22 39 01.7 -0.4**
SMOL Smolenice 3.08 164 *e*PG **Pg** **22 38 23.3 +0.4**
SMOL *e*SG **Sg** **22 39 02.6 -0.2**
GEC2 GERESS Array S 3.08 212 *e*Pn **Pn** **22 38 14.7 +0.8**
GEC2 *e*Sg **Sg** **22 39 02.0 -0.9**
GEC2 GERESS Array S 3.08 212 *e*Pn **Pn** **22 38 14.7 +0.8**
GEC2 *e*Sg **Sg** **22 39 02.0 -0.9**
GERES GERESS Array B 3.08 212 Pn **Pn** **22 38 14.6 +0.8**
comp=Z,1.7nm,0.3s,baz=29,slow=13,SNR=51
GERES Pg **Pg** **22 38 20.8 -2.2**
comp=Z,8.4nm,0.3s,baz=35,slow=17,SNR=61
GERES Lg 22 38 60.0
comp=Z,15nm,0.3s,baz=34,slow=29,SNR=9.5
WET Wettzell 3.15 223 *e*Pn **Pn** **22 38 15.0 +0.2**
WET *e*Sg **Sg** **22 39 03.4 -1.9**
WET Wettzell 3.15 223 *e*Pn **Pn** **22 38 15.0 +0.2**
WET *e*Sg **Sg** **22 39 03.4 -1.8**
VKA Vienna 3.22 178 *i*Pn **Pn** **22 38 18.1 +2.3**
ZST Bratislava 3.34 169 *e*PG **Pg** **22 38 27.5 -0.5**
ZST *e*SG **Sg** **22 39 10.4 -0.9**
NIE Niedzica 3.35 126 *e*Pn **Pn** **22 38 18.3 +0.7**
NIE *e*Pg **Pg** **22 38 28.1 -0.1**
NIE *e*Sg **Sg** **22 39 12.5 +0.8**
NIE Niedzica 3.35 126 *e*Pg **Pg** **22 38 28.1 -0.1**
NIE *e*Sg **Sg** **22 39 12.5 +0.8**
GRA1 Grafenberg Arr 3.63 242 Pn **Pn** **22 38 22.3 +0.9**
GRA1 Sg **Sg** **22 39 20.5 -0.1**
GRA1 Grafenberg Arr 3.63 242 *e*Pn **Pn** **22 38 22.3 +0.9**
GRA1 *e*Sg **Sg** **22 39 20.5 -0.1**
GRF Grafenberg Arr 3.63 242 *e*Pn **Pn** **22 38 22.3 +0.9**
GRF *e*Sg **Sg** **22 39 20.5 -0.1**
GRF Grafenberg Arr 3.63 242 *e*Pn **Pn** **22 38 22.3 +0.9**
GRF *e*Sg **Sg** **22 39 20.5 -0.1**
CLZ Clausthal 3.63 278 *e*Sg **Sg** **22 39 23.2 +2.5**
BSD Bornholm Skovb 3.72 349 *i*P **Pn** **22 38 20.6 -2.1**
BSD *e*S **Sn** **22 39 04.5 -2.7**
BSD *i* 22 39 05.7
MOA Molln 3.84 200 ⇑**Sg** **Sg** **22 39 26.8 -0.5**
comp=Z,50nm,0.6s
MOA Molln 3.84 200 ⇑*i*Pn **Pn** **22 38 25.1 +0.8**
SNR=11
MOA ⇑*i*Sg **Sg** **22 39 26.8 -0.5**
comp=Z,50nm,0.6s
MOA Molln 3.84 200 ⇑*i*Pn **Pn** **22 38 25.1 +0.8**
MOA Sg **Sg** **22 39 26.8 -0.5**
STHS Stebnicka Huta 3.84 121 *e*PN **Pn** **22 38 25.0 +0.7**
STHS *e*PG **Pg** **22 38 39.2 +1.6**
STHS *e*SG **Sg** **22 39 32.8 +5.4**
STHS Stebnicka Huta 3.84 121 *e*Pg **Pg** **22 38 39.2 +1.6**
HROE Hohe Rhon--Fla 3.92 258 ⇑*i*Pn **Pn** **22 38 26.4 +1.0**
KECS Kecovo 4.09 135 *e*PN **Pn** **22 38 27.5 -0.2**
KECS *e*PG **Pg** **22 38 43.6 +1.2**
KECS *e* 22 39 27.2
ARSA Arzberg 4.25 186 ⇑Sg **Sg** **22 39 39.6 -1.1**
comp=Z,29nm,0.8s
ARSA Arzberg 4.25 186 ⇓*i*Pn **Pn** **22 38 31.4 +1.4**
ARSA ⇑*i*Sg **Sg** **22 39 39.6 -1.1**
comp=Z,29nm,0.8s
ARSA Arzberg 4.25 186 ⇓Pn **Pn** **22 38 31.4 +1.4**
ARSA Sg **Sg** **22 39 39.6 -1.1**
CRVS Cervenica-Dubn 4.26 125 *e*PN **Pn** **22 38 30.7 +0.6**
CRVS *e*PG **Pg** **22 38 46.7 +1.0**
CRVS *e*SG **Sg** **22 39 45.4 +4.4**
CRVS Cervenica-Dubn 4.26 125 *e*Pg **Pg** **22 38 46.7 +1.0**
KWP Kalwaria 4.56 111 *e*Pn **Pn** **22 38 34.5 +0.3**
KWP *e*Pg **Pg** **22 38 53.9 +2.6**
KWP *e*Sg **Sg** **22 39 56.1 +5.7**
KWP Kalwaria 4.56 111 *e*Pg **Pg** **22 38 53.9 +2.6**
FUR Furstenfeldbru 4.59 226 *e*Sg **Sg** **22 39 50.4 -1.0**
KOLS Kolonicke sedl 4.67 121 *e*PN **Pn** **22 38 36.3 +0.6**
KOLS *e* 22 38 56.6
KOLS Kolonicke sedl 4.67 121 *e*SG **Sg** **22 39 59.8 +5.7**
KBA Koelnbreinsper 4.78 204 ⇑Sg **Sg** **22 39 57.0 -0.5**
comp=Z,38nm,0.9s
KBA Koelnbreinsper 4.78 204 ⇑*i*Pn **Pn** **22 38 38.2 +1.0**
KBA ⇑*i*Sg **Sg** **22 39 57.0 -0.5**
comp=Z,38nm,0.9s
KBA Koelnbreinsper 4.78 204 ⇑Pn **Pn** **22 38 38.2 +1.0**
KBA Sg **Sg** **22 39 57.0 -0.5**
BLEU Blekinge 4.84 358 P **Pn** **22 38 37.9 -0.2**
SUW Suwalki 4.95 56 *e*Pn **Pn** **22 38 40.2 +0.6**
TNS Taunus Mts 5.06 259 *e*Sg **Sg** **22 40 07.9 +1.5**
TOD Tromm 5.06 251 S **Sn** **22 39 44.1 +3.8**
SQTA Sankt Quirin 5.36 219 ⇑Sg **Sg** **22 40 17.9 +1.8**
comp=Z,9.8nm,0.6s
SQTA Sankt Quirin 5.36 219 ⇓*i*Pn **Pn** **22 38 46.5 +1.3**
SQTA ⇑*i*Sg **Sg** **22 40 17.9 +1.8**
comp=Z,9.8nm,0.6s
SQTA Sankt Quirin 5.36 219 ⇓Pn **Pn** **22 38 46.5 +1.3**
comp=Z,9.8nm,0.6s
SQTA Sg **Sg** **22 40 17.9 +1.8**
LANF Langenberg 5.92 248 P **Pg** **22 39 12.0 -5.5**
BFO Black Forest 5.97 241 *e*Sg **Sg** **22 40 34.7 -1.0**
DAVOX Davos 6.26 224 Pn **Pn** **22 38 57.8 +0.3**
comp=Z,0.4nm,0.3s,baz=111,slow=17,SNR=4.6
CDF Champ du Feu 6.51 245 *e*Pn **Pn** **22 38 59.1 -1.9**
CDF *e*Sg **Sg** **22 40 47.0 -6.2**
comp=Z,31nm,0.9s
CDF Champ du Feu 6.51 245 *e*Pn **Pn** **22 38 59.1 -1.9**
CDF *e*Sg **Sg** **22 40 47.0 -6.2**
comp=Z,16nm,0.9s
HINF Hinteralfeld 7.08 242 *e*Sg **Sg** **22 41 03.4 -7.8**
comp=Z,23nm,1.0s
HINF Hinteralfeld 7.08 242 *e*Sg **Sg** **22 41 03.4 -7.8**
comp=Z,11nm,1.0s
HAU Haudompre 7.25 245 *e*Pn **Pn** **22 39 08.7 -2.5**
HAU *e*Sg **Sg** **22 41 09.8 -7.2**
comp=Z,15nm,0.8s
HAU Haudompre 7.25 245 *e*Pn **Pn** **22 39 08.7 -2.5**
HAU *e*Sg **Sg** **22 41 09.8 -7.2**
comp=Z,7.6nm,0.8s
GIVF Givet 7.33 264 *e*Sg **Sg** **22 41 13.1 -6.2**
comp=Z,35nm,1.1s
GIVF Givet 7.33 264 *e*Sg **Sg** **22 41 13.1 -6.2**
comp=Z,17nm,1.1s
AKASG Malin Array Be 8.25 90 Pn **Pn** **22 39 23.2 -1.8**
comp=Z,1.3nm,0.3s,baz=280,slow=12,SNR=11
AKASG Sn **Sn** **22 40 52.2 -6.7**
comp=Z,0.8nm,0.3s,baz=278,slow=23,SNR=3.0
AKASG Malin Array Be 8.25 90 Pn **Pn** **22 39 23.2 -1.8**
AKASG Sn **Sn** **22 40 52.2 -6.7**
LPL La Plagne 8.65 230 *e*P **Pn** **22 39 32.0 +1.6**
LPG La Plagne 8.66 230 *e*P **Pn** **22 39 31.8 +1.4**
HFS Hagfors 8.79 352 Pn **Pn** **22 39 31.3 -1.0**
comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=9.8
HFS Sn **Sn** **22 41 07.0 -5.0**
comp=Z,0.2nm,0.3s,baz=146,slow=24,SNR=2.4
LOR Lormes 9.07 247 *e*Pn **Pn** **22 39 32.9 -3.3**
MBDF Montbardon 9.23 227 *e*P **Pn** **22 39 41.0 +2.7**
NOA NORSAR Array B 9.97 346 Pn **Pn** **22 39 46.5 -1.9**
comp=Z,0.2nm,0.3s,baz=162,slow=12,SNR=2.7
FINES FINESS Array B 11.37 25 Pn **Pn** **22 40 05.2 -2.5**
comp=Z,0.4nm,0.3s,baz=207,slow=11,SNR=20
FINES Sn **Sn** **22 42 07.1 -8.4**
comp=Z,0.3nm,0.3s,baz=184,slow=20,SNR=4.2
CAF Calviac 11.46 241 *e*Pn **Pn** **22 40 06.7 -2.2**
KAF Kangasniemi 12.00 23 *e*p **Pn** **22 40 12.4 -3.8**
EKA Eskdalemuir Ar 12.16 296 Pn **Pn** **22 40 15.2 -3.2**
comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=3.6
JOF Joensuu 14.05 29 *e*p **Pn** **22 40 41.2 -3.0**
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 18.65 10 Pn **Pn** **22 41 39.4 -4.1**
comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=12
TORD Torodi Ar. Bea 39.99 202 P **P** **22 45 00.7 +0.4**
comp=Z,0.9nm,1.1s,mb3.3,baz=5.1,slow=7.4,SNR=3.5
MKAR Makanchi Array 42.19 69 P **P** **22 45 19.3 +0.9**
comp=Z,0.1nm,0.4s,mb2.9,baz=302,slow=6.5,SNR=5.6
YKA Yellowknife Ar 59.90 336 P **P** **22 47 32.5 +0.8**
comp=Z,0.2nm,0.5s,mb3.4,baz=28,slow=6.7,SNR=5.8

NAO ***23*** *22:36:37.2,2504S×17893W,h33km,mb4.4*
SZGRF ***23*** *22:36:38.0,2458S×17934W,h506km,South of Fiji Islands*
NEIC ***23*** *22:37:32.3±0.2,2472S×17979E,mb4.7/20,Error ellipse: s-maj=9.9km s-min=6.8km az=161.0*
IDC ***23*** *22:37:32.4±0.8,2469S×17974E,h499km±7km,mb3.9/17, mb1 4.1/20,mb1mx4.1/22,mbtmp4.7/20,Error ellipse: s-maj=10.7km s-min=8.2km az=0.0*
BJI ***23*** *22:37:32.2,2470S×17980E,h496km,mB4.8,mb4.6*
ISCJB ***23*** *22:37:33.3±0.7,2484S±006×17971E±005,h518km±8km, mb4.5/34,Error ellipse: s-maj=9.3km s-min=6.9km az=154.7*
ISC 23 22:37:34.0±0.6,2490S±006×17979E±005,h517km±7km, h494km±5.6km:pP-P,n139,σ1°02/82,mb4.5/34,10C-11D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.79**	**155**	P	**P**	**22 39 01.0**	**+1.0**
RAO				S	**S**	**22 40 09.3**	**-1.0**
RAO	**Raoul Island**	**4.79**	**155**	⇓*e*P	**P**	**22 39 00.8**	**+0.8**
RAO				*e*S	**S**	**22 40 10.4**	**+0.1**
DZM	**Mont Dzumac**	**12.56**	**280**	P	**P**	**22 40 19.7**	**+1.3**
	3.6nm,0.3s,baz=88,slow=15,SNR=26						
DZM	**Mont Dzumac**	**12.56**	**280**	*e*P	**P**	**22 40 18.8**	**+0.4**
NOUC	**Port Laguerre**	**12.68**	**280**	*e*P	**P**	**22 40 20.7**	**+1.1**
URZ	**Urewera**	**13.51**	**189**	P	**P**	**22 40 27.0**	**-1.3**
	4.1nm,0.3s,baz=46,slow=2.3,SNR=23						
URZ				S	**S**	**22 42 49.8**	**-2.2**
	2.8nm,0.3s,baz=294,slow=20,SNR=5.7						
AFI	**Afiamalu**	**13.52**	**38**	P	**P**	**22 40 22.1**	**-6.3**
	6.0nm,0.3s,baz=68,slow=8.7,SNR=5.0						
AFI				S	**S**	**22 42 38.4**	**-14**
	1.5nm,0.3s,baz=47,slow=19,SNR=3.0						
RAR	**Rarotonga**	**19.16**	**83**	P	**P**	**22 41 22.2**	**-1.8**
	0.8nm,0.3s,baz=219,slow=6.5,SNR=2.3						
RPZ	**Rata Peaks**	**20.08**	**199**	P	**P**	**22 41 33.8**	**+1.3**
	10nm,0.5s,baz=346,slow=3.1,SNR=10						
HNR	**Honiara**	**24.36**	**306**	P	**P**	**22 42 09.0**	**-1.7**
	232nm,0.6s,baz=251,slow=1.1,SNR=14						
HNR	**Honiara**	**24.36**	**306**	*e*P	**P**	**22 42 08.3**	**-2.4**
	158nm,0.7s						
ARMA	**Armidale**	**25.50**	**251**	*e*P	**P**	**22 42 23.1**	**+2.2**
CTA	**Charters Tower**	**31.30**	**272**	⇓*i*P	**P**	**22 43 12.3**	**+0.9**
	68nm,0.4s,mb5.5						
CTA				*i* SCP	ScP	22 48 48.0	+4.3
CTA	**Charters Tower**	**31.30**	**272**	P	**P**	**22 43 12.3**	**+0.9**
	130nm,0.5s,baz=97,slow=11,SNR=181						
CTA				ScP	ScP	22 48 48.0	+4.3
	9.4nm,0.9s,baz=72,slow=6.4,SNR=3.8						
CTAO	**Charters Tower**	**31.30**	**272**	⇓*i*P	**P**	**22 43 12.2**	**+0.8**
	108nm,0.6s,mb5.6						
STKA	**Stephens Creek**	**34.18**	**249**	⇓*i*P	**P**	**22 43 34.8**	**-1.1**
	6.8nm,0.4s,mb4.5						
STKA				*i* SCP	ScP	22 48 55.2	+1.4
STKA	**Stephens Creek**	**34.18**	**249**	P	**P**	**22 43 34.9**	**-1.0**
	8.9nm,0.5s,mb4.5,baz=94,slow=9.8,SNR=42						
STKA				ScP	ScP	22 48 54.7	+0.9
	5.6nm,1.1s,baz=69,slow=5.5,SNR=4.1						
PMG	**Port Moresby**	**34.65**	**291**	P	**P**	**22 43 39.0**	**-0.8**
	94nm,0.8s,mb5.4,baz=128,slow=4.7,SNR=17						
PMG	**Port Moresby**	**34.65**	**291**	*e*P	**P**	**22 43 39.2**	**-0.6**
	110nm,0.9s,mb5.4						
AS31	**Alice Springs**	**41.69**	**262**	*e*P	**P**	**22 44 37.5**	**+0.4**
AS31				*e*S	**S**	**22 50 16.0**	**-0.2**
ASAR	**Alice Springs**	**41.69**	**262**	P	**P**	**22 44 37.5**	**+0.4**
	11nm,0.5s,mb4.7,baz=98,slow=8.1,SNR=123						
ASAR				pP	pP	22 46 08.8	-1.5
	4.3nm,1.0s,baz=87,slow=7.7,SNR=2.7						
ASAR				ScP	ScP	22 49 25.2	+2.8
	2.0nm,0.7s,baz=104,slow=4.0,SNR=7.3						
ASAR				S	**S**	**22 50 16.3**	**0.0**
	2.7nm,0.8s,baz=94,slow=15,SNR=9.3						
ASPA	**Alice Springs**	**41.69**	**262**	*e*P	**P**	**22 44 37.5**	**+0.4**
ASPA				*e*S	**S**	**22 50 16.0**	**-0.3**
WB2	**Warramunga Arr**	**42.14**	**267**	⇓*i*P	**P**	**22 44 40.5**	**-0.2**
WB2				*i* S	**S**	**22 50 20.6**	**-2.2**
WB2	**Warramunga Arr**	**42.14**	**267**	*e*SCP	ScP	22 49 28.4	+4.1
WRAB	**Tennant Creek**	**42.15**	**267**	⇓*e*P	**P**	**22 44 40.5**	**-0.3**
	66nm,0.8s,mb5.2						
WRAB				*e*		22 49 28.6	
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**22 44 40.2**	**-0.6**
	24nm,0.3s,mb5.2,baz=100,slow=6.9,SNR=574						
WRA				ScP	ScP	22 49 27.6	+3.2
	14nm,1.0s,baz=102,slow=4.2,SNR=24						
WRA				S	**S**	**22 50 21.6**	**-1.4**
	7.5nm,0.8s,baz=104,slow=14,SNR=13						
WRA				PKiKP	PKiKP	22 53 25.6	-1.3
	0.2nm,0.6s,baz=109,slow=0.6,SNR=4.8						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**22 44 40.2**	**-0.6**
WRA				ScP	ScP	22 49 27.6	+3.2
WRA				S	**S**	**22 50 21.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**50.56**	**266**	⇓*i*P	**P**	**22 45 44.8**	**+0.2**
	52nm,0.7s,mb5.0						
VNDA	**Vanda**	**53.37**	**185**	P	**P**	**22 46 06.4**	**+1.6**
	3.6nm,0.8s,mb3.8,baz=39,slow=9.7,SNR=12						
VNDA				PcP	PcP	22 47 04.6	+0.7
	3.2nm,0.8s,baz=345,slow=4.1,SNR=3.6						

KLBR Kellerberrin 54.43 248 *e*P **P** **22 46 12.0 -0.3**
20nm,0.7s,mb4.5
NWAO Narrogin (SRO) 54.65 246 P **P** **22 46 13.8 -0.1**
3.6nm,0.6s,mb3.8,baz=100,slow=6.1,SNR=3.1
NWAO Narrogin (SRO) 54.65 246 P **P** **22 46 13.8 -0.1**
MBWA Marble Bar 55.01 261 *e*P **P** **22 46 16.1 -0.3**
22nm,1.0s,mb4.3
MBWA *e*pP pP 22 47 55.5 -1.6
MUN Mundaring 55.66 247 *e*P **P** **22 46 18.8 -2.1**
QSPA South Pole Qui 65.19 180 *e*P **P** **22 47 25.3 +1.4**
2.7nm,0.8s,mb3.7
MJAR Matsushiro Arr 72.61 326 P **P** **22 48 07.8 -0.9**
6.0nm,0.7s,mb4.1,baz=159,slow=5.6,SNR=17
MAT Matsushiro 72.61 326 P **P** **22 48 07.4 -1.3**
MAT Matsushiro 72.61 326 *e*P **P** **22 48 07.0 -1.7**
9.7nm,0.8s,mb4.3
USHA Ushuaia 81.57 147 P **P** **22 48 57.2 -0.3**
5.8nm,0.9s,mb4.0,baz=328,slow=6.2,SNR=4.1
SYO Syowa Base 82.00 193⇓*e*P **P** **22 48 59.3 -0.4**
SYO Syowa Base 82.00 193⇓*e*PcP PcP 22 49 04.1 +0.5
SYO Syowa Base 82.00 193⇑*e*pP pP 22 50 47.6 -4.1
MDJ Mudanjiang 82.99 326 P **P** **22 49 05.1 +0.4**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
MDJ AMB AMB
comp=Z,83nm,5.3s
SNAA Sanae 83.67 179 *e*P **P** **22 49 07.8 -0.3**
SNAA *e* 22 49 10.0
ISA Isabella 83.85 46 *e*P **P** **22 49 09.3 +0.3**
comp=Z,19nm,0.9s,mb4.6
VNA3 Neumayer Olymp 83.89 177 *e*P **P** **22 49 09.4 +0.2**
VNA3 *e* 22 49 12.1
CMB Columbia Colle 84.06 43⇑*e*P **P** **22 49 09.7 -0.3**
comp=Z,17nm,1.2s,mb4.4
OHCM Honcut 84.19 42 P **P** **22 49 10.4 -0.3**
VNA2 Neumayer--Watz 84.31 178 *e*P **P** **22 49 11.4 +0.2**
baz=183,slow=5.0
VNA2 *e* 22 49 13.4
WDC Whiskeytown Da 84.34 40 *e*P **P** **22 49 11.0 -0.4**
comp=Z,14nm,1.1s,mb4.4
WDC *e* 22 51 28.5
CN2 Changchun 84.58 324 *e*P **P** **22 49 14.0 +1.4**
YBH Yreka Blue Hor 84.98 39 P **P** **22 49 14.8 +0.2**
comp=Z,3.6nm,0.7s,mb4.0,baz=204,slow=1.5,SNR=8.0
YBH Yreka Blue Hor 84.98 39 *e*P **P** **22 49 15.0 +0.4**
comp=Z,6.2nm,1.1s,mb4.0
HUMO Hull Mountain 85.40 39 *e*P **P** **22 49 16.1 -0.4**
comp=Z,19nm,1.3s,mb4.5
HUMO *e* 22 50 59.5
KDAK Kodiak Island 85.56 14 P **P** **22 49 15.9 -1.4**
comp=Z,7.5nm,0.9s,mb4.3,baz=141,slow=13,SNR=3.2
NVAR Mina Array Bea 85.61 44 P **P** **22 49 17.4 -0.1**
comp=Z,4.8nm,0.8s,mb4.2,baz=204,slow=6.7,SNR=27
LDFC Landfair 85.76 48 *e*P **P** **22 49 18.7 +0.4**
ENH Enshi 86.86 305 *e*P **P** **22 49 23.6 +0.1**
comp=Z,6.1nm,0.7s,mb4.3
TUC Tucson 87.28 53 *e*P **P** **22 49 26.7 +1.2**
PLCA Paso Flores 87.71 134 P **P** **22 49 29.3 +1.8**
comp=Z,3.9nm,0.8s,mb4.2,baz=219,slow=4.7,SNR=8.8
WVOR Wild Horse Val 87.79 41 *e*P **P** **22 49 28.0 +0.1**
comp=Z,13nm,1.0s,mb4.6
SLKM Skilak Lake 88.55 14 *e*P **P** **22 49 29.4 -2.0**
WUAZ Wupatki 88.55 50 *e*P **P** **22 49 32.0 +0.6**
ELK Elko 88.88 44 *e*P **P** **22 49 32.9 0.0**
comp=Z,6.2nm,1.0s,mb4.4
KMI Kunming 89.56 298 P **P** **22 49 37.9 +1.8**
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
MSU Marysvale 89.61 47 *e*P **P** **22 49 37.2 +0.8**
HHC Hu-ho-hao-te 90.99 315 *e*P **P** **22 49 43.3 +0.6**
HHC AMB AMB
comp=Z,404nm,4.9s
SRU San Rafael 91.02 47 *e*P **P** **22 49 42.5 -0.4**
comp=Z,25nm,1.1s,mb5.0
DAU Daniels Canyon 91.23 45 *e*P **P** **22 49 44.3 +0.5**
CD2 Chengdu 91.47 303 P **P** **22 49 46.8 +1.9**
CD2 AP pP 22 51 34.8 -4.7
CD2 XP sP 22 52 22.5 -9.2
CD2 PP PP 22 53 34.5 +2.8
CD2 SKS 22 59 32.4
CD2 S 23 00 02.3
CD2 XS sS 23 03 13.8 -11
CD2 SS SS 23 06 24.8 +3.5
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,50nm,9.2s
ANMO Albuquerque 91.72 52 P **P** **22 49 46.2 +0.1**
comp=Z,1.6nm,0.6s,mb4.3,baz=205,slow=5.5,SNR=5.0
ILAR Eielson Array 93.05 14 P **P** **22 49 49.6 -2.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=224,slow=5.4,SNR=15
PDAR Pinedale Array 93.54 44 P **P** **22 49 54.1 -0.3**
comp=Z,1.7nm,0.8s,mb4.3,baz=218,slow=3.5,SNR=13
LZH Lanzhou 93.83 308 *e*P **P** **22 49 57.1 +1.3**
LZH AP pP 22 51 49.5 -1.0
LZH XP sP 22 52 40.6 -2.0
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,46nm,4.5s
CFAA Coronel Fontan 94.11 128 P **P** **22 49 56.8 -0.3**
comp=Z,0.2nm,0.5s,baz=239,slow=5.9,SNR=2.9
SONM Songino Array 97.73 319 pP pP 22 52 08.9 +0.5
comp=Z,1.3nm,1.1s,baz=131,slow=4.5,SNR=5.1
SONM PKKPbc PKKPbc 23 06 45.6 -0.3
comp=Z,0.6nm,0.6s,baz=288,slow=3.0,SNR=4.8
YKA Yellowknife Ar 101.35 26 P Pdif 22 50 29.0 -0.4
comp=Z,0.1nm,0.5s,baz=248,slow=9.8,SNR=3.3
YKA PKKPbc PKKPbc 23 06 35.2 -0.7
comp=Z,0.2nm,0.4s,baz=37,slow=2.5,SNR=6.4
YKA Yellowknife Ar 101.35 26 P Pdif 22 50 29.0 -0.4
YKA PKKPbc PKKPbc 23 06 35.2 -0.7
MKAR Makanchi Array 112.68 312 PKiKP PKiKP 22 55 10.2 -1.4
comp=Z,0.6nm,0.4s,baz=169,slow=0.4,SNR=24
MKAR SKP 22 57 58.2
comp=Z,1.0nm,0.8s,baz=73,slow=0.8,SNR=7.0
MKAR PKKPbc PKKPbc 23 06 01.9 +0.7
comp=Z,0.9nm,0.6s,baz=280,slow=4.6,SNR=11
MKAR PKKPab PKKPab 23 06 11.4 +0.2
comp=Z,0.8nm,0.7s,baz=286,slow=4.2,SNR=7.9
MKAR Makanchi Array 112.68 312 PKPdf PKiKP 22 55 10.2 -1.4
MKAR SKP 22 57 58.2
MKAR PKKPbc PKKPbc 23 06 01.9 +0.7
MKAR PKKPab PKKPab 23 06 11.4 +0.2
AKTK Aktyubinsk 128.88 316 PKP PKPdf 22 55 42.1 -0.5
AKTK SKPbc 22 58 17.1
AKTO Aktyubinsk 128.88 316 PKP PKPdf 22 55 42.1 -0.5
comp=Z,1.7nm,0.6s,baz=80,slow=2.2,SNR=9.7
AKTO SKPbc 22 58 17.1
comp=Z,1.7nm,0.7s,baz=67,slow=5.4,SNR=5.3
KEV Kevo 132.35 348 ep PKPdf 22 55 47.1 -2.1
ARCES ARCESS Array B 132.82 348 PKhKP 22 55 41.6
comp=Z,3.4nm,0.9s,baz=22,slow=0.7,SNR=6.4
ARCES PKP PKPdf 22 55 48.6 -1.5
comp=Z,2.4nm,0.4s,baz=79,slow=2.7,SNR=22
ARCES SKPbc SKPbc 22 58 28.4 -0.7
comp=Z,5.2nm,0.9s,baz=48,slow=1.8,SNR=4.1
ARCES ARCESS Array B 132.82 348 PKP 22 55 41.6
ARCES PKP PKPdf 22 55 48.6 -1.5
ARCES SKPbc SKPbc 22 58 28.4 -0.7
KMBO Kilima Mbogo 135.44 240 PKP PKPdf 22 55 57.8 +2.8
comp=Z,1.1nm,0.8s,baz=185,slow=9.8,SNR=4.1
KMBO SKPbc SKPbc 22 58 41.0 +3.5
comp=Z,1.9nm,0.9s,baz=253,slow=3.2,SNR=5.6
JOF Joensuu 136.60 340 *e*p 22 55 46.5
comp=Z,3.6nm,0.6s
KAF Kangasniemi 138.73 341 *e*p 22 55 50.1
comp=Z,1.2nm,0.4s
FINES FINESS Array B 139.33 341 P

AKASG pPKPbc 22 58 15.3
AKASG SKPbc SKPbc 22 59 05.5 +1.2
SUW Suwalki 146.09 335 *e*PKP PKPdf 22 56 14.2 +0.2
BR131 Keskin Array S 148.01 306 *e*PKP PKPdf 22 56 20.6 +3.4
BRTR Keskin Array B 148.01 306 PKPbc PKPbc 22 56 20.6 -0.5
comp=Z,2.0nm,0.6s,baz=140,slow=3.8,SNR=17
BRTR pPKPbc pPKPbc 22 58 17.9 -3.6
comp=Z,1.4nm,1.0s,baz=339,slow=3.1,SNR=3.5
ANTO Ankara 148.59 306 *e*PKP PKPdf 22 56 22.5 +4.3
GKP Gorka Klasztor 148.77 340 *e*PKP PKPdf 22 56 22.7 +4.3
CFR Carcaliu 149.46 319 ⇑P PKPdf 22 56 24.3 +4.8
KWP Kalwaria 149.54 330 *e*PKP PKPdf 22 56 24.4 +4.8
BURAR Bucovina Array 149.68 325 ⇑P PKPdf 22 56 26.5 +6.6
BURAR Bucovina Array 149.68 325 ⇑P PKPdf 22 56 26.5 +6.7
HARR Harsova 149.84 318 ⇑P PKPdf 22 56 25.9 +5.8
VRI Vrincioaia 149.91 321 ⇓P PKPdf 22 56 24.3 +4.1
BSEG Bad Segeberg 149.95 348 *e*PKPbc PKPbc 22 56 25.2 -0.6
OJC Ojcow 150.35 334 *e*PKP PKPdf 22 56 26.4 +5.5
RUE Ruedersdorf 150.48 343 *e*PKPbc PKPbc 22 56 26.9 -0.1
MLR Muntele Rosu 150.57 321 ⇑P PKPdf 22 56 27.3 +6.1
NIE Niedzica 150.75 332 *e*PKPc 22 56 25.4
KSP Ksiaz 151.15 338 *e*PKP PKPdf 22 56 28.5 +6.4
KSP Ksiaz 151.15 338 *e*PKP PKPdf 22 56 28.0 +5.9
OKC Ostrava-Krasne 151.30 335 *e*PKPbc PKPbc 22 56 26.2 -2.7
DPC Dobruska-Polom 151.55 337 *e*PKPbc PKPbc 22 56 29.3 -0.2
CLL Collm 151.75 342 *e*PKPbc PKPbc 22 56 29.2 -0.7
CLL epPKPbc pPKPbc 22 58 28.3 -2.8
CLL Collm 151.75 342 ⇑*i*PKPbc PKPbc 22 56 29.3 -0.6
comp=Z,21nm,0.7s
CLL *e*pPKPab pPKPab 22 58 28.0 -10
CLL Collm 151.75 342 ⇑*i*P PKPdf 22 56 29.3 +6.3
CLL *i* 22 56 53.6
BRG Berggiesshubel 151.87 341 *e*PKPbc PKPbc 22 56 29.6 -0.6
CLZ Clausthal 151.91 346 *e*PKPbc PKPbc 22 56 29.8 -0.5
IBBN Ibbenburen 151.97 350 *e*PKPbc PKPbc 22 56 30.1 -0.3
WERD Werda 152.72 342 *e*PKPbc PKPbc 22 56 31.5 -0.5
MOX Moxa 152.72 343 *e*PKPbc PKPbc 22 56 31.4 -0.6
BZS Buzias 152.87 325 ⇓P PKPdf 22 56 31.7 +7.1
BZS Buzias 152.87 325 ⇓P PKPdf 22 56 31.7 +7.0
ROTZ Rotzenmuhle 153.36 342 *e*PKPbc PKPbc 22 56 33.2 -0.2
GERES GERESS Array B 153.72 339 PKP PKPdf 22 56 25.1 -0.8
comp=Z,0.3nm,0.6s,baz=326,slow=5.0,SNR=2.3
GERES PKPbc PKPbc 22 56 33.8 -0.4
comp=Z,1.2nm,0.9s,baz=45,slow=0.6,SNR=6.4
TNS Taunus Mts 153.84 347 *e*PKPbc PKPbc 22 56 34.0 -0.5
GIVF Givet 154.54 352 *e*PKP2 PKPab 22 56 51.8 -1.4
BAIF Baives 154.65 353 *e*PKP2 PKPab 22 56 52.2 -1.5
comp=Z,66nm,1.8s
LDF La Druitiere 156.35 360 *e*PKP2 PKPab 22 56 58.6 -2.4
comp=Z,3.7nm,0.5s
HAU Haudompre 156.36 349 *e*PKP2 PKPab 22 57 00.6 -0.4
comp=Z,8.8nm,0.7s
LOR Lormes 157.44 353 *e*PKP2 PKPab 22 57 04.1 -1.6
comp=Z,3.4nm,0.6s
SSF Saint Saulge 157.69 353 *e*PKP2 PKPab 22 57 05.4 -1.4
comp=Z,6.4nm,0.6s
CABF La Chapelle 157.76 348 *e*PKP2 PKPab 22 57 06.0 -1.1
AVF Avril sur Loir 157.97 353 *e*PKP2 PKPab 22 57 06.6 -1.4
SMF Signal de Mont 158.06 353 *e*PKP2 PKPab 22 57 07.0 -1.4
comp=Z,6.3nm,0.5s
BGF Bois d'Agland 158.25 354 *e*PKP2 PKPab 22 57 07.7 -1.5
DBIC Dimbokro 161.33 165 PKP PKPdf 22 56 35.5 +0.4
comp=Z,2.1nm,0.7s,baz=109,slow=2.3,SNR=5.5
DBIC PKPab PKPab 22 57 23.8 +1.1
comp=Z,2.2nm,0.4s,baz=168,slow=5.7,SNR=6.8
ESDC Sonseca Array 164.94 11 PKPab PKPab 22 57 37.2 -1.4
comp=Z,0.8nm,0.4s,baz=344,slow=4.1,SNR=6.0
TORD Torodi Ar. Bea 168.17 189 PKP PKPdf 22 56 41.1 +0.1
comp=Z,1.5nm,0.8s,baz=323,slow=1.0,SNR=13
TORD PKPab PKPab 22 57 53.9 +1.0
comp=Z,5.7nm,0.9s,baz=180,slow=3.5,SNR=22

*ISCJB **23** 22:44:52.6±1.0, 5135N±004×1607E±005, h0km, Error ellipse: s-maj=6.9km s-min=3.7km az=60.8*
*PRU **23** 22:44:53.3, 5140N×1620E, h0km*
*IPEC **23** 22:44:53.3±0.4, 5142N×1645E, h0km, ML1.7/3, Error ellipse: s-maj=3.2km s-min=2.1km az=98.0*
*VIE **23** 22:44:53.6±0.7, 5131N×1600E, h0km, mb2.0/1, ML2.5/3, Error ellipse: s-maj=4.9km s-min=4.2km az=78.0 74 km WNW of Breslau Suspected Mining induced.*
*CSEM **23** 22:44:54.5±0.2, 5137N×1618E, h1km, ML3.1/6, Error ellipse: s-maj=3.5km s-min=2.3km az=7.0*
ISC 23 22:44:52.0±1.0, 5142N±004×1621E±005, h0km, n18, σ0§96/36, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**175**	*e*Pg	**Pg**	**22 45 04.6**	**+1.4**
KSP				*e*Sg	**Sg**	**22 45 12.6**	**+1.9**
KSP	**Ksiaz**	**0.58**	**175**	*e*Pg	**Pg**	**22 45 04.5**	**+1.3**
KSP				*e*Sg	**Sg**	**22 45 11.7**	**+1.0**
UPC	**Upice**	**0.92**	**188**	*e*PG	**Pg**	**22 45 10.8**	**+1.1**
DPC	**Dobruska-Polom**	**1.07**	**176**	*e*PG	**Pg**	**22 45 13.5**	**+0.9**
DPC				*e*SG	**Sg**	**22 45 27.5**	**+0.9**
20nm,0.4s							
DPC	**Dobruska-Polom**	**1.07**	**176**	*e*Pg	**Pg**	**22 45 13.5**	**+0.9**
DPC				*e*Sg	**Sg**	**22 45 26.9**	**+0.3**
PVCC	**Panska Ves**	**1.37**	**230**	*e*PG	**Pg**	**22 45 19.0**	**+0.7**
PVCC				*e*SG	**Sg**	**22 45 37.1**	**+1.0**
72nm,0.4s							
BRG	**Berggiesshubel**	**1.53**	**250**	PG	**Pg**	**22 45 21.4**	**0.0**
BRG				SG	**Sg**	**22 45 41.6**	**+0.4**
19nm,0.4s							
PRU	**Pruhonice**	**1.79**	**217**	*e*PG	**Pg**	**22 45 25.6**	**-0.7**
PRU				*e*SG	**Sg**	**22 45 49.3**	**-0.1**
25nm,0.4s							
MORC	**Moravsky Berou**	**1.85**	**152**	*e*Pn	**Pn**	**22 45 25.5**	**+0.5**
MORC				*e*Sg	**Sg**	**22 45 49.1**	**-2.5**
OKC	**Ostrava-Krasne**	**2.01**	**141**	*e*PG	**Pg**	**22 45 29.6**	**-0.9**
CLL	**Collm**	**2.01**	**268**	*e*Pg	**Pg**	**22 45 29.0**	**-1.7**
CLL				*i* Sg	**Sg**	**22 45 57.3**	**+0.5**
comp=Z,11nm,0.4s							
VRAC	**Vranov**	**2.13**	**173**	*e*Pn	**Pn**	**22 45 30.4**	**+1.5**
VRAC				*e*Sg	**Sg**	**22 45 59.9**	**-0.6**
comp=Z,7.3nm,0.3s							
KRUC	**Moravsky**	**2.37**	**177**	*e*Sg	**Sg**	**22 46 07.4**	**-0.6**
comp=Z,3.8nm,0.2s							
NKC	**Novy Kostel**	**2.67**	**245**	*e*PN	**Pn**	**22 45 36.9**	**+0.7**
NKC				*e*PG	**Pg**	**22 45 42.2**	**-1.0**
NKC				*e*SG	**Sg**	**22 46 17.0**	**-0.7**
comp=Z,21nm,0.3s							
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**22 45 39.2**	**+0.5**
KHC				*e*PG	**Pg**	**22 45 44.7**	**-1.9**
KHC				*e*SN	**Sn**	**22 46 13.8**	**+0.1**
KHC				*e*SG	**Sg**	**22 46 22.3**	**-1.3**
MOX	**Moxa**	**3.00**	**257**	*e*PG	**Pg**	**22 45 49.4**	**-0.2**
MOX				*e*SG	**Sg**	**22 46 29.1**	**+0.5**
MOA	**Molln**	**3.79**	**200**	⇑*i*Pn	**Pn**	**22 45 51.1**	**-0.6**
MOA				⇓*i*Sg	**Sg**	**22 46 53.9**	**0.0**
comp=Z,4.7nm,0.5s							
MOA	**Molln**	**3.79**	**200**	Pn	**Pn**	**22 45 51.1**	**-0.6**
MOA				Sg	**Sg**	**22 46 53.9**	**0.0**
comp=Z,4.7nm,0.5s							

*IDC **23** 23:27:11.8±0.5, 803S×12904E, h0km, mb4.6/11, mb1 4.7/12, mb1mx4.6/16, mbtmp4.6/12, ML3.5/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/25, Error ellipse: s-maj=24.2km s-min=12.7km az=66.0*
*ISCJB **23** 23:27:13.8±0.3, 8325±005×12899E±007, h33km, mb4.6/24, MS3.7/5, Error ellipse: s-maj=11.0km s-min=5.7km az=132.9*
*MOS **23** 23:27:14.2±1.9, 8265×12909E, h33km, mb4.7/15, Error ellipse: s-maj=17.1km s-min=9.0km az=117.7*
*BJI **23** 23:27:14.9, 7795S×12928E, h28km, mB4.9, mb4.6*
*NEIC **23** 23:27:17.0±0.4, 8245×12904E, h40km, mb4.6/13, Error ellipse: s-maj=12.9km s-min=7.8km az=68.0*
ISC 23 23:27:16.2±0.3, 8285±005×12907E±007, h35km, (h22km±2.1km:pP-P), n78, σ1§14/71, mb4.6/24, MS3.7/5, 1C-1D, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32**	**199**	*e*P	**Pn**	**23 29 42.0**	**+0.3**
29nm,0.5s							
FITZ				*e*S	**Sn**	**23 31 25.6**	**-10**
WRAB	**Tennant Creek**	**12.66**	**157**	*e*P	**Pn**	**23 30 12.9**	**-0.8**
WRAB				*e*		23 32 29.0	
WRAB				pmax	pmax		
comp=Z,62nm,0.6s							
WRAB	**Tennant Creek**	**12.66**	**157**	*e*Pn	**Pn**	**23 30 12.9**	**-0.9**
comp=Z,62nm,0.6s							
WRAB				*e*Sn	**Sn**	**23 32 29.0**	**-4.5**
WRA	**Warramunga Arr**	**12.66**	**157**	Pn	**Pn**	**23 30 12.4**	**-1.4**
comp=Z,3.3nm,0.3s,baz=346,slow=13,SNR=131							
WRA				Sn	**Sn**	**23 32 23.7**	**-10**
comp=Z,5.4nm,0.3s,baz=324,slow=26,SNR=9.6							
WB2	**Warramunga Arr**	**12.67**	**157**	*e*P	**Pn**	**23 30 12.8**	**-1.1**
WB2				*e*S	**Sn**	**23 32 18.2**	**-15**
MBWA	**Marble Bar**	**15.66**	**214**	*e*Pn	**Pn**	**23 30 53.6**	**-0.6**
comp=Z,23nm,0.6s							
MBWA				*e*Sn	**Sn**	**23 33 32.9**	**-14**
AS31	**Alice Springs**	**15.98**	**164**	*e*P	**Pn**	**23 30 58.3**	**0.0**
AS31				*e*S	**S**	**23 33 46.9**	**-20**
ASAR	**Alice Springs**	**15.98**	**164**	Pn	**Pn**	**23 30 55.7**	**-2.6**
comp=Z,1.1nm,0.3s,baz=336,slow=12,SNR=32							
ASAR				Sn	**Sn**	**23 33 46.6**	**-7.8**
comp=Z,2.5nm,0.3s,baz=346,slow=25,SNR=8.3							
ASAR	**Alice Springs**	**15.98**	**164**	P	**Pn**	**23 30 55.7**	**-2.6**
ASAR						23 33 46.6	
ASAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAR				smax			
comp=E,3.0nm,0.3s							
ASPA	**Alice Springs**	**15.98**	**164**	*e*P	**Pn**	**23 30 58.3**	**0.0**
ASPA				*e*S	**S**	**23 33 46.9**	**-20**
PMG	**Port Moresby**	**17.91**	**95**	P	**Pn**	**23 31 21.8**	**-0.6**
comp=E,0.6nm,0.3s,baz=266,slow=8.0,SNR=2.8							
PMG	**Port Moresby**	**17.91**	**95**	⇑*e*P	**Pn**	**23 31 22.4**	**0.0**
CTA	**Charters Tower**	**20.35**	**127**	*e*P	**P**	**23 31 51.1**	**+1.6**
comp=E,11nm,0.9s							
CTA	**Charters Tower**	**20.35**	**127**	P	**P**	**23 31 51.5**	**+2.0**
comp=E,16nm,0.9s,baz=302,slow=9.7,SNR=6.9							
CTA				S	**S**	**23 35 39.0**	**+3.3**
comp=E,2.0nm,0.5s,baz=52,slow=23,SNR=2.4							
CTA				LR	LR	23 40 25.9	
comp=E,166nm,19.5s,MS3.4,baz=228,slow=39							
CTA	**Charters Tower**	**20.35**	**127**	P	**P**	**23 31 51.5**	**+2.0**
CTA				S	**S**	**23 35 39.0**	**+3.3**
CTA				pmax	pmax		
comp=Z,16nm,0.9s							
CTA				smax			
comp=E,2.0nm,0.5s							
CTA				MLR	MLR		
comp=Z,166nm,19.5s							
KLBR	**Kellerberrin**	**25.48**	**203**	*e*P	**P**	**23 32 43.5**	**+2.5**
comp=Z,44nm,1.3s,mb4.8							
KLBR				*i* S	S	23 37 25.5	+20
STKA	**Stephens Creek**	**26.21**	**155**	⇓*i*P	**P**	**23 32 48.7**	**+1.1**
comp=Z,11nm,0.8s,mb4.5							
STKA				*e*S	S	23 37 40.1	+23
STKA	**Stephens Creek**	**26.21**	**155**	P	**P**	**23 32 48.8**	**+1.1**
comp=Z,6.8nm,0.6s,mb4.4,baz=328,slow=8.6,SNR=20							
STKA				S	**S**	**23 37 27.9**	**+10**
comp=Z,1.8nm,0.8s,baz=302,slow=18,SNR=1.8							
STKA				LR	LR	23 44 09.8	
comp=Z,210nm,18.9s,MS3.7,baz=26,slow=38							
NWAO	**Narrogin (SRO)**	**26.86**	**202**	P	**P**	**23 32 56.0**	**+2.4**
comp=Z,4.4nm,0.5s,mb4.2,baz=64,slow=7.6,SNR=6.5							
NWAO				LR	LR	23 44 31.8	
comp=Z,98nm,18.8s,MS3.4,baz=128,slow=38							
NWAO	**Narrogin (SRO)**	**26.86**	**202**	P	**P**	**23 32 56.0**	**+2.4**
NWAO				pmax	pmax		
comp=Z,4.0nm,0.5s							
NWAO				MLR	MLR		
comp=Z,98nm,18.8s							
PSI	**Prapat**	**32.02**	**289**	P	**P**	**23 33 38.0**	**-1.3**
comp=Z,7.9nm,0.7s,mb4.6,baz=185,slow=6.8,SNR=6.1							
PSI	**Prapat**	**32.02**	**289**	P	**P**	**23 33 38.0**	**-1.3**
PSI				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.7							
MJAR	**Matsushiro Arr**	**45.40**	**10**	P	**P**	**23 35 29.3**	**-2.0**
comp=Z,2.5nm,0.7s,mb4.2,baz=189,slow=10,SNR=6.6							
MJAR	**Matsushiro Arr**	**45.40**	**10**	P	**P**	**23 35 29.3**	**-2.1**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
LZH	**Lanzhou**	**50.11**	**333**	*e*P	**P**	**23 36 07.6**	**-0.3**
LZH				AP	pP	23 36 14.6	-3.7
LZH				XP	sP	23 36 21.0	-1.5
LZH				AMB	AMB		
comp=Z,19nm,1.3s,mb5.0							
LZH				AMB	AMB		
comp=Z,102nm,5.5s							
RPZ	**Rata Peaks**	**50.80**	**141**	P	**P**	**23 36 14.6**	**+1.6**
comp=Z,22nm,1.0s,mb5.0,baz=18,slow=14,SNR=3.1							
LSA	**Lhasa**	**52.50**	**318**	P	**P**	**23 36 26.8**	**+1.0**
LSA	**Lhasa**	**52.50**	**318**	*e*P	**P**	**23 36 27.1**	**+1.3**
LSA				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
LSA	**Lhasa**	**52.50**	**318**	*e*P	**P**	**23 36 27.1**	**+1.4**
comp=Z,5.5nm,0.8s,mb4.5							
GTA	**Gaotai**	**54.66**	**332**	*e*P	**P**	**23 36 41.5**	**-0.1**
GTA				AP	pP	23 36 48.8	-3.3
GTA				XP	sP	23 36 52.0	-4.3
GTA				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.5							
JIRN	**Jiri**	**54.75**	**312**	*e*P	**P**	**23 36 41.4**	**-0.8**
comp=Z,20nm,1.2s,mb5.0							
GUN	**Gumba**	**55.12**	**312**	*e*P	**P**	**23 36 44.6**	**-0.3**
comp=Z,13nm,0.6s,mb5.1							
PKI	**Pulchoki**	**55.27**	**312**	*e*P	**P**	**23 36 45.8**	**-0.2**
KKN	**Kakani**	**55.49**	**312**	*e*P	**P**	**23 36 47.2**	**-0.4**
DMN	**Daman**	**55.52**	**312**	*e*P	**P**	**23 36 47.7**	**-0.1**
GKN	**Gorkha**	**56.08**	**312**	*e*P	**P**	**23 36 51.5**	**-0.3**
comp=Z,7.0nm,0.5s,mb4.9							
KOLN	**Koldanda**	**56.72**	**311**	*e*P	**P**	**23 36 56.0**	**-0.4**
comp=Z,13nm,0.8s,mb5.0							
ULN	**Ulaanbaatar**	**59.20**	**343**	*e*P	**P**	**23 37 14.1**	**+0.4**
ULN				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
ULN	**Ulaanbaatar**	**59.20**	**343**	*e*P	**P**	**23 37 14.1**	**+0.3**
comp=Z,4.6nm,1.1s,mb4.4							
SONM	**Songino Array**	**59.37**	**342**	P	**P**	**23 37 15.1**	**+0.2**
comp=Z,0.7nm,0.8s,mb3.8,baz=152,slow=6.7,SNR=4.5							
SONM	**Songino Array**	**59.37**	**342**	P	**P**	**23 37 15.1**	**+0.2**
SONM				pmax	pmax		
comp=Z,1.0nm,0.8s							
ZAK	**Zakamensk**	**62.58**	**342**	*e*P	**P**	**23 37 30.6**	**-6.1**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.9s,mb4.4							
MKAR	**Makanchi Array**	**68.80**	**328**	P	**P**	**23 38 16.6**	**-0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=123,slow=8.1,SNR=39							
MKAR	**Makanchi Array**	**68.80**	**328**	P	**P**	**23 38 16.6**	**-0.2**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
VNDA	**Vanda**	**71.30**	**173**	P	**P**	**23 38 34.2**	**+2.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=325,slow=8.1,SNR=4.2							
VNDA				LR	LR	00 05 35.5	
comp=Z,96nm,19.8s,MS4.1,baz=109,slow=32							
VNDA	**Vanda**	**71.30**	**173**	P	**P**	**23 38 34.2**	**+2.0**
VNDA				LR	LR	00 05 35.5	
KURK	**Kurchatov**	**73.13**	**329**	*e*P	**P**	**23 38 42.8**	**-0.3**
KURK				pmax	pmax		
comp=Z,11nm,0.8s,mb4.8							
KURK	**Kurchatov**	**73.13**	**329**	*e*P	**P**	**23 38 42.8**	**-0.3**
comp=Z,11nm,0.8s,mb4.8							
SEY	**Seymchan**	**73.23**	**11**	*i* P	**P**	**23 38 43.9**	**+0.2**
ZRNK	**Zerenda**	**79.35**	**328**	*e*P	**P**	**23 39 17.6**	**-0.8**
ZRNK				*e*	pP	23 39 25.0	-4.4
ZRNK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
ZRNK	**Zerenda**	**79.35**	**328**	*e*P	**P**	**23 39 17.6**	**-0.8**
comp=Z,3.4nm,0.6s,mb4.5							
ZRNK				*e*PcP	PcP	23 39 24.9	-1.5
TIXI	**Tiksi**	**79.76**	**360**	*i* P	**P**	**23 39 20.0**	**-0.6**
QSPA	**South Pole Qui**	**81.70**	**180**	*e*P	**P**	**23 39 32.8**	**+1.8**
comp=Z,3.6nm,1.3s,mb4.1							
KDAK	**Kodiak Island**	**90.78**	**32**	P	**P**	**23 40 16.8**	**+1.1**
comp=Z,11nm,0.8s,mb5.2,baz=134,slow=5.5,SNR=5.1							
KMBO	**Kilima Mbogo**	**91.64**	**269**	P	**P**	**23 40 21.7**	**+2.0**
comp=Z,1.6nm,0.9s,mb4.4,baz=49,slow=7.6,SNR=7.0							
KMBO				LR	LR	00 17 43.3	
comp=Z,36nm,18.2s,MS3.9,baz=82,slow=33							
SML	**Sawmill**	**93.75**	**28**	*e*P	**P**	**23 40 29.7**	**+0.3**
DIV	**Divide**	**94.85**	**29**	*e*P	**P**	**23 40 34.7**	**+0.2**
comp=Z,71nm,1.1s							
ILAR	**Eielson Array**	**94.89**	**25**	P	**P**	**23 40 33.5**	**-1.2**
comp=Z,3.0nm,0.9s,mb4.7,baz=273,slow=5.0,SNR=26							
ILAR	**Eielson Array**	**94.89**	**25**	P	**P**	**23 40 33.5**	**-1.2**
ILAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
DAWY	**Dawson**	**98.06**	**26**	*e*P	**P**	**23 40 50.1**	**+1.1**
ARCES	**ARCESS Array B**	**102.45**	**340**	PKiKP	PKiKP	23 45 30.4	+0.5
comp=Z,2.6nm,0.9s,baz=96,slow=3.6,SNR=3.3							
FINES	**FINESS Array B**	**103.44**	**331**	PKiKP	PKiKP	23 45 32.2	+0.5
comp=Z,2.3nm,1.0s,baz=116,slow=4.4,SNR=4.8							
YKA	**Yellowknife Ar**	**109.30**	**26**	Pdiff	Pdif	23 41 40.0	+1.0
comp=Z,0.5nm,0.7s,baz=289,slow=4.6,SNR=7.2							
YKA				PKiKP	PKiKP	23 45 43.3	+0.7
comp=Z,0.2nm,0.5s,baz=297,slow=2.0,SNR=3.6							
YKA				PKKPbc	PKKPbc	23 56 49.3	+1.1
comp=Z,0.2nm,0.5s,baz=100,slow=2.9,SNR=4.7							
YKA				PKKPab	PKKPab	23 57 01.4	+1.0
comp=Z,0.1nm,0.3s,baz=107,slow=5.0,SNR=3.8							
YKA	**Yellowknife Ar**	**109.30**	**26**	P	Pdif	23 41 40.0	+1.0
YKA						23 56 49.3	
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**109.30**	**26**	Pdif	Pdif	23 41 40.0	+1.0
YKA				PKPdf	PKiKP	23 45 43.3	+0.7
YKA				PKKPbc	PKKPbc	23 56 49.4	+1.1
YKA				PKKPab	PKKPab	23 57 01.4	+1.0
PDAR	**Pinedale Array**	**118.44**	**46**	PKP	PKPdf	23 46 02.2	+2.1
comp=Z,0.5nm,0.6s,baz=177,slow=0.9,SNR=5.7							
PDAR	**Pinedale Array**	**118.44**	**46**	PKP	PKPdf	23 46 02.1	+2.1
ULM	**Lac du Bonnet**	**124.01**	**33**	PKP	PKPdf	23 46 11.2	+0.4
comp=Z,1.6nm,0.6s,baz=320,slow=2.8,SNR=5.1							
CLNB	**Carlsbad**	**125.53**	**56**	*e*PKPdf	PKPdf	23 46 11.7	-1.9
PLCA	**Paso Flores**	**127.98**	**161**	PKP	PKPdf	23 46 21.4	+3.1
comp=Z,0.8nm,0.6s,baz=146,slow=3.5,SNR=4.1							
PLCA	**Paso Flores**	**127.98**	**161**	PKIKP	PKPdf	23 46 21.4	+3.1
PLCA				pmax	pmax		
comp=Z,1.0nm,0.6s							
PLCA	**Paso Flores**	**127.98**	**161**	PKP	PKPdf	23 46 21.4	+3.1
TORD	**Torodi Ar. Bea**	**128.14**	**280**	PKP	PKPdf	23 46 20.4	+1.7
comp=Z,1.8nm,0.7s,baz=70,slow=1.9,SNR=12							
DBIC	**Dimbokro**	**134.31**	**271**	PKP	PKPdf	23 46 33.6	+3.3
comp=Z,2.6nm,0.8s,baz=119,slow=2.9,SNR=6.0							
DBIC	**Dimbokro**	**134.31**	**271**	PKIKP	PKPdf	23 46 33.6	+3.3
DBIC				pmax	pmax		
comp=Z,3.0nm,0.8s							
CPUP	**Villa Florida**	**145.04**	**170**	*e*PKIKP	PKPdf	23 46 52.3	+2.5
LPAZ	**La Paz**	**150.24**	**145**	PKPbc	PKPbc	23 47 08.0	+4.4
comp=Z,2.2nm,0.6s,baz=246,slow=1.7,SNR=8.2							
LPAZ	**La Paz**	**150.24**	**145**	PKIKP	PKPbc	23 47 08.0	+4.5
LPAZ				pmax	pmax		
comp=Z,2.0nm,0.6s							

*NEIC **23** 23:33:01.7, 1579N×6088W, h42km, MD3.0(FDF), MD3.2(TRN), After TRN.*
TRN 23 23:33:00.8, 1576N×6082W, h32km, MD3.3, M3.6(FDF), Md3.0(FDF), 6C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.50**	**288**	*e*P	Pb	**23 33 13.0**	**+1.7**
DWS	**Wesley**	**0.51**	**248**	⇑*i*P	Pb	**23 33 13.4**	**+1.9**
DWS				*e*S	Sb	**23 33 21.7**	**+2.9**
DEG	**La Desirade**	**0.59**	**337**	⇑*e*P	Pb	**23 33 13.3**	**+0.5**
DEG				*e*S	Sb	**23 33 22.6**	**+1.6**
SFG	**Saint Francois**	**0.61**	**323**	⇓*e*P	Pb	**23 33 14.2**	**+1.1**
BBL	**Barber's Block**	**0.67**	**250**	⇓*e*P	Pb	**23 33 15.4**	**+1.3**
BBL				*e*S	Sb	**23 33 25.4**	**+2.3**
DBCT	**Belle View Cho**	**0.70**	**226**	*e*P	Pn	**23 33 16.7**	**+2.1**
DBCT				*e*S	Sb	**23 33 27.1**	**+3.0**
MDN	**Morne-Daniel**	**0.71**	**231**	*e*P	Pn	**23 33 17.1**	**+2.5**
MDN				*e*S	Sb	**23 33 26.4**	**+2.3**
DSHT	**Scott's Head**	**0.76**	**224**	*e*P	Pn	**23 33 18.0**	**+2.6**
DSHT				*e*S	Sb	**23 33 32.4**	**+6.6**
TBG	**Guadaloupe-3**	**0.80**	**276**	*e*P	Pn	**23 33 17.5**	**+1.6**
DOG	**Dongo Capester**	**0.81**	**289**	*e*P	Pn	**23 33 17.9**	**+1.8**
PHG	**Guadaloupe-2**	**0.83**	**288**	⇑*e*P	Pn	**23 33 18.3**	**+2.0**
BCG	**Bois Riant Cap**	**0.83**	**293**	*e*P	Pn	**23 33 17.9**	**+1.6**
SCG	**Saint Claude**	**0.87**	**288**	⇑*e*P	Pn	**23 33 18.8**	**+1.9**
SCG				*e*S	Sn	**23 33 31.2**	**+2.7**
SEG	**Port Louis**	**0.92**	**314**	⇑*e*P	Pn	**23 33 19.1**	**+1.6**
LZG	**Guadaloupe-1**	**0.99**	**292**	⇑*e*P	Pn	**23 33 20.4**	**+1.9**
CRM	**Caravelle**	**1.01**	**185**	*e*P	Pn	**23 33 19.5**	**+0.8**
CRM				*e*S	Sn	**23 33 32.6**	**+0.8**
FDF	**Fort de France**	**1.07**	**197**	⇓*e*P	Pn	**23 33 20.6**	**+0.9**
FDF				*e*S	Sn	**23 33 34.8**	**+1.4**
MVM	**Montagne Vaucl**	**1.20**	**184**	*e*P	Pn	**23 33 22.4**	**+0.9**
MVM				*e*S	Sn	**23 33 37.8**	**+1.1**
BIM	**Bigot**	**1.26**	**191**	⇓*e*P	Pn	**23 33 23.6**	**+1.3**
BIM				*e*S	Sn	**23 33 40.0**	**+1.9**
BPA	**Boggy Peak**	**1.62**	**322**	*e*P	Pn	**23 33 29.0**	**+1.9**
BPA				*e*S	Sn	**23 33 49.3**	**+2.4**
CPB	**Codrington**

ELK	**Elko**	**38.87**	**85**	*e*P	**P**		**23 49 34.8**	**-0.9**
FFC	**Flin Flon**	**39.12**	**59**	*e*P	**P**		**23 49 37.8**	**0.0**
FFC				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4							
FFC	**Flin Flon**	**39.12**	**59**	*e*P	**P**		**23 49 37.8**	**0.0**
	comp=Z,4.4nm,0.6s,mb4.5							
PDAR	**Pinedale Array**	**41.07**	**79**	P	**P**		**23 49 54.6**	**+0.7**
	comp=Z,5.1nm,0.8s,mb4.4,baz=348,slow=3.6,SNR=17							
BOD	**Bodaibo**	**41.07**	**308**	*e*P	**P**		**23 49 53.2**	**-0.7**
BOD				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.1							
BOD				pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.2							
ULM	**Lac du Bonnet**	**44.59**	**62**	P	**P**		**23 50 22.4**	**0.0**
	comp=Z,2.9nm,0.4s,mb4.3,baz=308,slow=9.3,SNR=9.3							
SONM	**Songino Array**	**50.37**	**300**	P	**P**		**23 51 06.9**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=43,slow=8.7,SNR=2.2							
SONM				pP	pP		23 51 28.0	-2.5
	comp=Z,1.1nm,0.8s,baz=44,slow=8.8,SNR=5.1							
SONM				PcP	PcP		23 52 23.3	-0.9
	comp=Z,0.9nm,0.6s,baz=51,slow=2.1,SNR=6.2							
SONM				ScP	ScP		23 56 10.8	-0.4
	comp=Z,2.3nm,0.9s,baz=66,slow=3.5,SNR=11							
SONM	**Songino Array**	**50.37**	**300**	P	**P**		**23 51 06.9**	**-0.2**
SONM							23 52 23.3	
SONM	**Songino Array**	**50.37**	**300**	P	**P**		**23 51 06.9**	**-0.2**
SONM				pP	pP		23 51 27.9	-2.5
SONM				PcP	PcP		23 52 23.3	-0.9
SONM				ScP	ScP		23 56 10.8	-0.4
BVAR	**Borovoye Array**	**62.83**	**324**	P	**P**		**23 52 34.8**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=56,slow=9.1,SNR=6.1							
BVAR				pP	pP		23 52 57.2	-2.4
	comp=Z,1.4nm,0.7s,baz=55,slow=5.4,SNR=2.7							
MKAR	**Makanchi Array**	**62.89**	**312**	P	**P**		**23 52 34.5**	**-1.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=50,slow=6.9,SNR=4.9							
MKAR				pP	pP		23 52 58.2	-1.8
	comp=Z,0.2nm,0.5s,baz=188,slow=24,SNR=4.3							
MKAR				LR	LR		00 24 39.0	
	comp=Z,36nm,18.2s,baz=181,slow=40							
FINES	**FINESS Array B**	**65.25**	**351**	P	**P**		**23 52 49.9**	**-1.2**
	comp=Z,1.7nm,0.8s,mb3.9,baz=15,slow=7.9,SNR=5.4							
FINES				LR	LR		00 21 46.9	
	comp=Z,43nm,18.1s,baz=336,slow=36							
NB2	**NORSAR Subarra**	**66.42**	**359**	P	**P**		**23 52 58.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=4.0,slow=6.9							
NOA	**NORSAR Array B**	**66.42**	**359**	P	**P**		**23 52 57.4**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.8,baz=1.3,slow=6.4,SNR=6.7							
WRA	**Warramunga Arr**	**86.72**	**231**	P	**P**		**23 54 52.3**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=31,slow=6.0,SNR=6.9							
WRA				pP	pP		23 55 15.1	-3.5
	comp=Z,1.0nm,0.9s,baz=32,slow=5.6,SNR=4.4							
PSI	**Prapat**	**88.05**	**272**	P	**P**		**23 54 59.6**	**+0.2**
	comp=Z,5.4nm,0.6s,mb4.8,baz=242,slow=2.8,SNR=6.1							
PSI				pP	pP		23 55 24.2	-0.8
	comp=Z,3.6nm,0.4s,baz=202,slow=4.5,SNR=2.7							
ASAR	**Alice Springs**	**90.14**	**229**	P	**P**		**23 55 08.7**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.4,baz=34,slow=4.5,SNR=19							
ASAR				pP	pP		23 55 32.3	-2.6
	comp=Z,1.7nm,0.9s,baz=33,slow=4.5,SNR=5.4							
ASAR	**Alice Springs**	**90.14**	**229**	P	**P**		**23 55 08.7**	**-0.5**
ASAR				pP	pP		23 55 32.3	-2.6
BOSA	**Boshof**	**153.05**	**328**	PKPbc	PKPbc		00 02 06.2	+0.1
	comp=Z,2.6nm,0.6s,baz=347,slow=8.3,SNR=5.8							
BOSA	**Boshof**	**153.05**	**328**	PKIKP	PKPbc		00 02 06.2	+0.2
BOSA				pmax	pmax			
	comp=Z,3.0nm,0.6s							

*ISCJB **23** 23:46:57.7±0.4,4646N±002×1283E±003,h7km,Error ellipse: s-maj=2.9km s-min=2.6km az=101.5*
*ROM **23** 23:46:57.9±0.1,4648N×1290E,h5km,Md2.2/4,Ml1.9/2, Error ellipse: s-maj=2.3km s-min=1.0km az=40.0*
*VIE **23** 23:46:57.7±0.3,4646N×1284E,h7km,ML1.8/4,Error ellipse: s-maj=2.2km s-min=1.2km az=41.0 6 km NE of Ampezzo*

ISC 23 23:46:58.1±0.6,4645N±002×1283E±003,h11km±8km,n19, σ0°54/37,12C-7D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOU	**Zoufplan**	**0.15**	**42**	⇓*i*Pg	**Pg**	**23 47 01.2**	**-0.2**
ZOU				*i* Sg	**Sg**	**23 47 03.8**	**0.0**
FVI	**Forni Avoltri**	**0.15**	**346**	⇓*e*Pg	**Pg**	**23 47 01.4**	**-0.2**
FVI				Sg	**Sg**	**23 47 03.9**	**-0.1**
	235nm,0.2s						
BOO	**Bordano**	**0.23**	**125**	⇓*i*Pg	**Pg**	**23 47 02.3**	**-0.5**
BOO				*i* Sg	**Sg**	**23 47 06.3**	**+0.3**
MPRI	**Monte Prat**	**0.23**	**152**	⇓*i*Pg	**Pg**	**23 47 02.2**	**-0.8**
MPRI				*i* Sg	**Sg**	**23 47 06.0**	**-0.1**
PLRO	**Paularo**	**0.24**	**65**	⇓*i*Pg	**Pg**	**23 47 03.0**	**-0.1**
PLRO				*i* Sg	**Sg**	**23 47 06.9**	**+0.5**
BUA	**Buia**	**0.30**	**139**	*e*Pg	**Pg**	**23 47 03.8**	**-0.4**
BUA				*e*Sg	**Sg**	**23 47 09.1**	**+0.7**
GMNA	**Gemona**	**0.33**	**122**	⇑*i*Pg	**Pg**	**23 47 03.4**	**-1.3**
GMNA				Sg	**Sg**	**23 47 08.1**	**-1.0**
	84nm,0.2s						
MLNI	**Malnisio**	**0.34**	**207**	⇑*i*Pg	**Pg**	**23 47 04.5**	**-0.3**
MLNI				*i* Sg	**Sg**	**23 47 09.7**	**+0.4**
BAD	**Bernadia**	**0.35**	**126**	⇑*i*Pg	**Pg**	**23 47 04.7**	**-0.4**
BAD				*i* Sg	**Sg**	**23 47 10.6**	**+0.7**
PTCC	**Patocco-Chiusa**	**0.36**	**97**	⇑*i*Pg	**Pg**	**23 47 05.1**	**-0.2**
PTCC				Sg	**Sg**	**23 47 10.9**	**+0.7**
	26nm,0.5s						
CSO	**Casso**	**0.39**	**244**	*e*Pg	**Pg**	**23 47 05.5**	**-0.4**
CSO				*e*Sg	**Sg**	**23 47 11.5**	**+0.4**
COLI	**Coloredo**	**0.49**	**130**	⇑*i*Pg	**Pg**	**23 47 07.4**	**-0.3**
COLI				*i* Sg	**Sg**	**23 47 15.2**	**+1.0**
DRE	**Drenchia**	**0.62**	**116**	*e*Pg	**Pg**	**23 47 09.5**	**-0.7**
DRE				*e*Sg	**Sg**	**23 47 19.0**	**+0.5**
KBA	**Koelnbreinsper**	**0.72**	**29**	⇓*i*Pg	**Pg**	**23 47 12.0**	**-0.1**
KBA				⇑*i*Sg	**Sg**	**23 47 21.3**	**-0.2**
	5.6nm,0.1s						
VOY	**Vojsko**	**0.85**	**119**	*e*Pg	**Pg**	**23 47 14.7**	**+0.3**
VOY				*e*Sg	**Sg**	**23 47 25.4**	**-0.1**
VOY				*e*		23 47 26.3	
CTI	**Castel Tesino**	**0.91**	**244**	⇑*e*Pg	**Pg**	**23 47 16.9**	**+1.2**
	29nm,0.2s						
WTTA	**Wattenberg**	**1.16**	**315**	⇑*i*Pg	**Pg**	**23 47 20.2**	**-0.1**
WTTA				⇓*i*Sg	**Sg**	**23 47 35.7**	**+0.2**
	7.9nm,0.3s						
OBKA	**Obir**	**1.19**	**86**	⇑*i*Pg	**Pg**	**23 47 20.6**	**-0.4**
OBKA				⇑*i*Sg	**Sg**	**23 47 36.5**	**+0.1**
	4.9nm,0.3s						
MOA	**Molln**	**1.71**	**34**	⇑*i*Pg	**Pg**	**23 47 30.7**	**-0.2**
MOA				⇑*i*Sg	**Sg**	**23 47 54.0**	**+0.9**
	1.8nm,0.2s						

*CSEM **23** 23:47:37.7±0.1,3659N×28.13E,h80km,MD3.1,Error ellipse: s-maj=2.6km s-min=1.6km az=79.0*
*ISCJB **23** 23:47:38.4±0.5,3651N±004×2800E±006,h81km±6km, Error ellipse: s-maj=7.7km s-min=5.7km az=148.6*
*HLW **23** 23:47:39.6,3652N×2822E,h33km,Mb3.6*
*ATH **23** 23:47:41.3,3651N×2782E,h59km,MD3.1/3*
*ISK **23** 23:47:41.5,3672N×2808E,h50km,ML3.0*

ISC 23 23:47:39.9±0.5,3654N±003×2800E±005,h72km±7km,n29, σ0°86/41,12C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**163**	*e*P	**Pn**	**23 47 52.7**	**+1.2**
ARG				*e*S	**Sn**	**23 48 00.9**	**+0.8**
DAT	**Datca**	**0.39**	**299**	PG	**Pn**	**23 47 52.0**	**+0.1**
DAT				SG	**Sn**	**23 47 59.8**	**-1.0**
DALT	**Dalyan (Mudla)**	**0.56**	**66**	*e*PG	**Pn**	**23 47 53.4**	**0.0**
BDRM	**Kayabasi**	**0.69**	**319**	*i* P	**Pn**	**23 47 55.1**	**+0.3**
BDRM				*i* S	**Sn**	**23 48 05.0**	**-0.8**
BODT	**Bodrum**	**0.76**	**313**	*e*PG	**Pn**	**23 47 55.7**	**+0.1**
BODT				*e*SG	**Sn**	**23 48 06.9**	**-0.4**
FETY	**Fethiye**	**0.87**	**84**	*e*PG	**Pn**	**23 47 57.7**	**+0.8**
FETY				*e*SG	**Sn**	**23 48 08.0**	**-1.6**
AYDN	**Tasoluk**	**1.12**	**355**	*i* P	**Pn**	**23 48 00.5**	**+0.5**
AYDN				*i* S	**Sn**	**23 48 13.9**	**-1.1**
KARP	**Karpathos**	**1.21**	**215**	*e*P	**Pn**	**23 48 01.5**	**+0.4**
DNZL	**Cakiroluk**	**1.42**	**36**	*i* P	**Pn**	**23 48 04.1**	**+0.3**
DNZL				*i* S	**Sn**	**23 48 24.3**	**+2.4**
GOLH	**Golhisar**	**1.43**	**60**	*i* P	**Pn**	**23 48 04.9**	**+0.9**
GOLH				*i* S	**Sn**	**23 48 25.8**	**+3.7**
DENT	**Denizli**	**1.46**	**34**	*e*PN	**Pn**	**23 48 04.5**	**+0.1**
SMG	**Samos**	**1.49**	**322**	*e*P	**Pn**	**23 48 06.0**	**+1.2**
KDAG	**Bornova**	**1.95**	**343**	*i* P	**Pn**	**23 48 03.6**	**-7.3**
KDAG				*i* S	**Sn**	**23 48 31.1**	**-3.3**
BLCB	**Balcova**	**1.99**	**338**	*e*PN	**Pn**	**23 48 11.1**	**-0.4**
AKS	**Akhisar**	**2.34**	**356**	*e*PN	**Pn**	**23 48 16.1**	**0.0**
AMAG	**Maghara**	**7.31**	**142**	⇓*e*P	**Pn**	**23 49 23.0**	**-1.0**
AMAG				S	**Sn**	**23 50 38.3**	**-7.1**
KOT	**Kottamia**	**7.33**	**153**	⇑*i*P	**Pn**	**23 49 23.1**	**-1.1**
KOT				S	**Sn**	**23 50 39.9**	**-6.1**
SWA1		**7.51**	**196**	⇑*e*P	**Pn**	**23 49 27.7**	**+1.1**
HSAF	**As Saff**	**7.52**	**156**	⇑*e*P	**Pn**	**23 49 26.9**	**+0.1**
SWA2		**7.59**	**197**	⇑*e*P	**Pn**	**23 49 28.8**	**+1.0**
GLL	**Jalalah**	**7.61**	**155**	⇑*e*P	**Pn**	**23 49 27.7**	**-0.3**
SUZ		**7.81**	**147**	⇓P	**Pn**	**23 49 29.7**	**-1.1**
ZAF		**8.18**	**151**	⇑*i*P	**Pn**	**23 49 35.9**	**0.0**
AWBH		**8.23**	**174**	⇑P	**Pn**	**23 49 37.1**	**+0.6**
HNKL	**Nakhl**	**8.28**	**141**	⇑*e*P	**Pn**	**23 49 36.8**	**-0.3**
HNKL				S	**Sn**	**23 51 01.9**	**-7.2**
GRB	**Gharib**	**9.18**	**153**	⇑*e*P	**Pn**	**23 49 49.4**	**-0.2**
HKAT	**Jabal Katrina**	**9.46**	**146**	⇑P	**Pn**	**23 49 53.0**	**-0.2**
TR2		**9.46**	**148**	⇑*e*P	**Pn**	**23 49 52.6**	**-0.7**
TR1		**9.88**	**148**	⇑P	**Pn**	**23 49 58.6**	**-0.5**

*IDC **23** 23:49:05.2±1.0,2685N×9158E,h0km,mb3.5/8,mb1 3.7/8, mb1mx3.5/21,mbtmp3.6/8,Error ellipse: s-maj=50.5km s-min=18.1km az=56.0*
*NEIC **23** 23:49:06.6±0.7,2677N×9152E,h10km,mb3.6/3,Error ellipse: s-maj=23.3km s-min=11.9km az=62.0*
*ISCJB **23** 23:49:10.6±0.9,2690N±006×915E±02,h53km±10km, mb3.5/11,Error ellipse: s-maj=29.3km s-min=8.1km az=154.1*

ISC 23 23:49:11.6±1.0,2692N±006×916E±02,h43km±11km,n15, σ0°73/17,mb3.5/11,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.37**	**168**	*e*Pn	**Pn**	**23 49 33.0**	**-1.3**
SHL				*e*S	**Sn**	**23 49 52.0**	**+0.7**
LSA	**Lhasa**	**2.80**	**353**	*e*Pn	**Pn**	**23 49 55.3**	**+1.4**
LSA				*e*Sn	**Sn**	**23 50 25.6**	**-0.8**
MKAR	**Makanchi Array**	**21.16**	**342**	P	**P**	**23 53 52.2**	**-0.8**
	0.6nm,0.5s,mb3.2,baz=149,slow=13,SNR=13						
MKAR	**Makanchi Array**	**21.16**	**342**	P	**P**	**23 53 52.2**	**-0.8**
SONM	**Songino Array**	**23.90**	**25**	P	**P**	**23 54 21.0**	**-0.3**
	0.5nm,0.6s,mb3.1,baz=214,slow=11,SNR=5.0						
ULN	**Ulaanbaatar**	**24.18**	**26**	*e*P	**P**	**23 54 24.4**	**+0.6**
	0.9nm,0.6s,mb3.4						
KURK	**Kurchatov**	**25.74**	**341**	*e*P	**P**	**23 54 37.9**	**-0.1**
	0.6nm,0.4s,mb3.5						
BVAR	**Borovoye Array**	**30.49**	**335**	P	**P**	**23 55 21.5**	**+1.1**
	0.4nm,0.6s,mb3.3,baz=162,slow=7.3,SNR=2.4						
ZRNK	**Zerenda**	**30.98**	**333**	*e*P	**P**	**23 55 24.8**	**+0.1**
	0.6nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**55.05**	**328**	P	**P**	**23 58 39.1**	**+0.2**
	1.2nm,0.9s,mb3.9,baz=101,slow=8.1,SNR=3.5						
NOA	**NORSAR Array B**	**62.22**	**327**	P	**P**	**23 59 28.2**	**-0.6**
	0.5nm,0.7s,mb3.8,baz=104,slow=4.1,SNR=3.1						
WRA	**Warramunga Arr**	**62.36**	**134**	P	**P**	**23 59 30.0**	**+0.3**
	0.4nm,0.6s,mb3.8,baz=326,slow=6.8,SNR=9.4						
GERES	**GERESS Array B**	**62.48**	**313**	P	**P**	**23 59 30.6**	**+0.1**
	0.2nm,0.4s,mb3.6,baz=68,slow=7.8,SNR=5.3						
ASAR	**Alice Springs**	**64.82**	**137**	P	**P**	**23 59 45.3**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=319,slow=6.8,SNR=3.2						
ASAR	**Alice Springs**	**64.82**	**137**	P	**P**	**23 59 45.3**	**-0.6**

*ISCJB **23** 23:53:48.3±2.7,1906N±009×1453E±03,h210km±25km, mb3.4/8,Error ellipse: s-maj=40.5km s-min=14.9km az=3.6*
*IDC **23** 23:53:49.2±3.7,1901N×14548E,h206km±35km,mb3.2/7, mb1 3.5/8,mb1mx3.2/20,mbtmp3.8/8,Error ellipse: s-maj=32.5km s-min=14.1km az=91.0*

ISC 23 23:53:48.6±2.7,1909N±010×1453E±03,h197km±25km, n10,σ1°04/11,mb3.4/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.48**	**341**	P	**Pn**	**23 55 50.0**	**+1.9**
	5.0nm,0.3s,baz=124,slow=18,SNR=4.4						
CBIJ				S	**Sn**	**23 57 21.9**	**-1.5**
	2.4nm,0.3s,baz=162,slow=18,SNR=2.3						
WB2	**Warramunga Arr**	**40.26**	**196**	*e*P	**P**	**00 01 05.8**	**-0.3**
WRA	**Warramunga Arr**	**40.26**	**196**	P	**P**	**00 01 05.9**	**-0.3**
	1.9nm,0.5s,mb3.8,baz=20,slow=8.3,SNR=46						
FITZ	**Fitzroy Crossi**	**41.72**	**209**	*e*P	**P**	**00 01 18.2**	**+0.1**
	2.7nm,0.2s,mb4.3						
ASAR	**Alice Springs**	**43.94**	**195**	P	**P**	**00 01 35.4**	**-0.4**
	0.8nm,0.5s,mb3.3,baz=15,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**57.95**	**314**	P	**P**	**00 03 21.9**	**+1.7**
	0.1nm,0.5s,mb2.7,baz=96,slow=7.6,SNR=3.4						
BVAR	**Borovoye Array**	**65.96**	**320**	P	**P**	**00 04 14.0**	**+0.5**
	0.5nm,0.5s,mb3.4,baz=97,slow=6.7,SNR=8.0						
YKA	**Yellowknife Ar**	**77.80**	**28**	P	**P**	**00 05 23.7**	**-0.2**
	0.2nm,0.6s,mb2.9,baz=290,slow=5.2,SNR=3.4						
NVAR	**Mina Array Bea**	**83.16**	**52**	P	**P**	**00 05 52.9**	**+0.4**
	0.4nm,0.6s,mb3.3,baz=271,slow=8.8,SNR=4.6						
FINES	**FINESS Array B**	**86.39**	**335**	P	**P**	**00 06 06.8**	**-1.7**
	0.2nm,0.3s,mb3.4,baz=346,slow=6.9,SNR=5.4						

*MOS **24** 00:09:24.2±0.8,433N×12818E,h33km,mb4.7/7,Error ellipse: s-maj=34.3km s-min=11.1km az=103.9*
*NEIC **24** 00:09:25.9±0.4,427N×12839E,h35km,mb4.7/8,Error ellipse: s-maj=22.2km s-min=7.9km az=75.0*
*IDC **24** 00:09:30.0±7.5,420N×12831E,h75km±68km,mb3.9/13, mb1 4.1/13,mb1mx4.0/20,mbtmp4.2/13,MS3.5/1, Ms1 3.5/1,ms1mx2.5/30,Error ellipse: s-maj=37.9km s-min=17.0km az=73.0*
*ISCJB **24** 00:09:30.5±5.1,420N±009×1283E±02,h95km±48km, mb4.3/23,Error ellipse: s-maj=27.3km s-min=11.5km az=138.0*
*BJI **24** 00:09:30.9,428N×12844E,h101km,mB5.0,mb4.6*

ISC 24 00:09:35.5±4.9,418N±009×1283E±02,h127km±47km,n44, σ0°91/42,mb4.3/23,3C,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.68**	**166**	*e*P	**P**	**00 14 45.8**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**24.68**	**166**	*e*P	**P**	**00 14 45.8**	**+1.3**
	comp=Z,12nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**24.69**	**166**	P	**P**	**00 14 45.3**	**+0.7**
	comp=Z,3.3nm,0.4s,mb4.1,baz=344,slow=10,SNR=22						
WB2	**Warramunga Arr**	**24.69**	**166**	*e*P	**P**	**00 14 43.0**	**-1.6**
MBWA	**Marble Bar**	**26.56**	**198**	*e*P	**P**	**00 15 01.9**	**+0.5**
ENH	**Enshi**	**31.47**	**328**	*e*P	**P**	**00 15 44.5**	**-0.5**
MJAR	**Matsushiro Arr**	**33.46**	**15**	P	**P**	**00 16 01.0**	**-1.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=183,slow=8.8,SNR=4.1						
MJAR				LR	LR	00 27 45.6	
	comp=Z,83nm,20.1s,baz=190,slow=33						
XAN	**Xi'an**	**34.77**	**331**	P	**P**	**00 16 12.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
XAN	**Xi'an**	**34.77**	**331**	P	**P**	**00 16 12.8**	**-0.8**
	comp=Z,16nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**38.02**	**162**	P	**P**	**00 16 40.1**	**-1.1**
	comp=Z,1.7nm,0.3s,mb4.3,baz=341,slow=12,SNR=2.6						
LZH	**Lanzhou**	**38.95**	**328**	*e*P	**P**	**00 16 50.3**	**+1.3**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.3s						
LZH	**Lanzhou**	**38.95**	**328**	*e*P	**P**	**00 16 50.3**	**+1.3**
	comp=Z,28nm,1.0s,mb5.0						
SHL	**Shillong**	**40.91**	**305**	*e*P	**P**	**00 17 05.0**	**-0.2**
GTA	**Gaotai**	**43.55**	**328**	*e*P	**P**	**00 17 26.9**	**+0.3**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
GTA	**Gaotai**	**43.55**	**328**	*e*P	**P**	**00 17 26.9**	**+0.3**
	comp=Z,7.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**47.21**	**341**	*e*P	**P**	**00 17 55.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**47.21**	**341**	*e*P	**P**	**00 17 55.7**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.5						
SONM	**Songino Array**	**47.40**	**340**	P	**P**	**00 17 57.1**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.1,baz=154,slow=9.6,SNR=18						
BOD	**Bodaibo**	**54.66**	**351**	*e*P	**P**	**00 18 50.6**	**-0.5**
MKAR	**Makanchi Array**	**58.11**	**324**	P	**P**	**00 19 16.1**	**+0.6**
	comp=Z,3.2nm,0.5s,mb4.6,baz=118,slow=8.0,SNR=102						
MKAR	**Makanchi Array**	**58.11**	**324**	P	**P**	**00 19 16.2**	**+0.7**
KURK	**Kurchatov**	**62.23**	**327**	*i* P	**P**	**00 19 44.3**	**+0.7**
TIXI	**Tiksi**	**67.38**	**0**	*e*P	**P**	**00 20 16.8**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
TIXI	**Tiksi**	**67.38**	**0**	*e*P	**P**	**00 20 16.8**	**-0.2**
	comp=Z,3.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**67.82**	**326**	P	**P**	**00 20 20.0**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=120,slow=8.8,SNR=9.1						
BVAR	**Borovoye Array**	**67.82**	**326**	P	**P**	**00 20 20.0**	**+0.2**
BRVK	**Borovoye**	**67.89**	**326**	*e*P	**P**	**00 20 20.6**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**67.89**	**326**	*e*P	**P**	**00 20 20.6**	**+0.4**
	comp=Z,5.0nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**68.56**	**326**	*e*P	**P**	**00 20 24.6**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
BILL	**Bilibino**	**68.71**	**14**	⇑*e*P	**P**	**00 20 35.4**	**+10**
BILL				*e*PP	pP	00 20 53.4	-3.0
BILL				*e*S	S	00 29 31.9	+14
BILL				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.9						
AKTK	**Aktyubinsk**	**74.31**	**321**	P	**P**	**00 20 59.0**	**+0.2**
AKTO	**Aktyubinsk**	**74.31**	**321**	P	**P**	**00 20 59.0**	**+0.2**
	comp=Z,1.8nm,0.8s,mb3.8,baz=105,slow=7.7,SNR=5.8						
SML	**Sawmill**	**83.18**	**28**	*e*P	**P**	**00 21 48.1**	**+0.8**
ILAR	**Eielson Array**	**84.01**	**25**	P	**P**	**00 21 52.5**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.7,baz=243,slow=4.7,SNR=11						
OBN	**Obninsk**	**87.61**	**325**	⇑*e*P	**P**	**00 22 06.5**	**-2.8**
OBN				*e*		00 25 38.8	
OBN				*e*S		00 32 28.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
OBN	**Obninsk**	**87.61**	**325**	⇑*e*P	**P**	**00 22 06.5**	**-2.8**
	comp=Z,5.0nm,0.6s,mb4.7						
OBN				*e*		00 25 38.8	
OBN				*e*S		00 32 28.4	
INK	**Inuvik**	**89.16**	**22**	P	**P**	**00 22 16.2**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=248,slow=8.4,SNR=4.8						
ARCES	**ARCESS Array B**	**90.58**	**340**	P	**P**	**00 22 23.3**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.6,baz=55,slow=6.9,SNR=2.4						
FINES	**FINESS Array B**	**92.19**	**332**	P	**P**	**00 22 29.1**	**-1.6**
	comp=Z,1.2nm,0.8s,mb4.2,baz=64,slow=3.2,SNR=3.6						
AKASG	**Malin Array Be**	**92.55**	**321**	P	**P**	**00 22 31.0**	**-1.4**
	comp=Z,0.6nm,0.4s,mb4.3,baz=68,slow=5.3,SNR=3.4						
YKA	**Yellowknife Ar**	**98.42**	**25**	P	**P**	**00 23 00.6**	**+1.6**
	comp=Z,0.3nm,0.6s,mb4.0,baz=300,slow=4.4,SNR=7.8						
YKA	**Yellowknife Ar**	**98.42**	**25**	P	**P**	**00 23 00.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**124.30**	**289**	PKP	PKPdf	00 28 21.6	+2.4
	comp=Z,1.8nm,0.8s,baz=26,slow=1.3,SNR=7.3						
DBIC	**Dimbokro**	**132.05**	**283**	PKP	PKPdf	00 28 36.8	+2.9
	comp=Z,1.6nm,0.8s,baz=270,slow=1.0,SNR=3.0						

*BJI **24** 00:09:44.9,7.10S×15600E,h90km,mb4.8*
*ISCJB **24** 00:09:46.3±1.3,7.11S±008×15593E±007,h99km±12km, mb4.7/19,Error ellipse: s-maj=14.3km s-min=10.0km az=44.3*
*NEIC **24** 00:09:46.9±1.2,7.07S×15595E,h91km±12km,mb4.8/11, Error ellipse: s-maj=12.4km s-min=10.1km az=202.0*
*IDC **24** 00:09:47.8±1.9,7.13S×15591E,h100km±18km,mb4.3/7, mb1 4.2/11,mb1mx4.1/18,mbtmp4.6/11,MS3.5/6, Ms1 3.5/6,ms1mx3.2/22,Error ellipse: s-maj=18.7km s-min=15.6km az=15.0*

ISC 24 00:09:48.1±1.1,714S±008×15593E±007,h98km±11km, n33,σ0°95/28,mb4.7/19,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.58**	**120**	P	**Pn**	**00 10 53.4**	**-1.7**
	15nm,0.3s,baz=263,slow=6.4,SNR=4.5						
HNR				S	**Sn**	**

ILAR Eielson Array 84.86 23 P P 00 25 53.2 -0.4
0.5nm,0.8s,baz=254,slow=5.0,SNR=5.4

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*ISCJB **24** 00:16:54.9±0.7,3026S±005×1780W±01,h102km±7km, mb4.1/7, Error ellipse: s-maj=18.0km s-min=6.0km az=33.5*
*IDC **24** 00:16:55.9±1.3,3008S×17781W,h103km±7km,mb3.9/6, mb1 4.0/8,mb1mx3.9/16,mbtmp4.3/8,MS3.1/1,Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=27.5km s-min=15.6km az=121.0*
*NEIC **24** 00:16:56.3±1.0,3028S×17786W,h107km±9km,mb4.1/2, Error ellipse: s-maj=17.2km s-min=11.1km az=118.0*
ISC 24 00:16:56.0±0.7,3025S±005×1780W±01,h94km±7km,n31, σ1§27/36,mb4.1/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**2**	P	**Pn**	**00 17 16.5**	**+0.6**
	869nm,0.3s,baz=85,slow=10,SNR=77						
RAO				S	**Sn**	**00 17 29.6**	**-1.3**
	1μm,0.3s,baz=90,slow=20,SNR=42						
MXZ	**Matakaoa Point**	**7.93**	**202**	*e*PN	**Pn**	**00 18 50.8**	**+2.3**
MXZ				*e*SN	**Sn**	**00 20 23.5**	**+7.0**
PUZ	**Puketiti**	**8.41**	**201**	*e*PN	**Pn**	**00 18 55.1**	**0.0**
PUZ				SN	**Sn**	**00 20 32.5**	**+4.3**
PUZ	**Puketiti**	**8.41**	**201**	P	**Pn**	**00 18 55.1**	**+0.1**
PUZ				S	**Sn**	**00 20 32.5**	**+4.3**
MWZ	**Matawai**	**8.89**	**204**	PN	**Pn**	**00 19 02.7**	**+1.2**
MWZ				*e*SN	**Sn**	**00 20 47.3**	**+7.5**
MWZ	**Matawai**	**8.89**	**204**	*e*P	**Pn**	**00 19 02.8**	**+1.3**
URZ	**Urewera**	**8.97**	**206**	P	**Pn**	**00 19 04.4**	**+1.7**
	0.8nm,0.3s,baz=174,slow=18,SNR=6.4						
URZ				S	**Sn**	**00 20 48.1**	**+6.2**
	14nm,0.3s,baz=138,slow=16,SNR=16						
URZ				LR	LR	00 22 06.7	
	comp=Z,102nm,18.6s,baz=176,slow=34						
URZ	**Urewera**	**8.97**	**206**	*e*PN	**Pn**	**00 19 04.3**	**+1.6**
URZ				*e*SN	**Sn**	**00 20 48.4**	**+6.5**
URZ	**Urewera**	**8.97**	**206**	*e*P	**Pn**	**00 19 01.7**	**-1.0**
KNZ	**Kokohu**	**9.46**	**201**	*e*SN	**Sn**	**00 20 59.2**	**+5.4**
BFZ	**Birch Farm**	**11.43**	**203**	*e*SN	**Sn**	**00 21 42.6**	**+0.9**
MRZ	**Mangatainoka R**	**11.64**	**205**	*e*SN	**Sn**	**00 21 44.1**	**-2.8**
KIW	**Kapiti Island**	**12.07**	**207**	*e*SN	**Sn**	**00 21 55.8**	**-1.5**
TRWZ	**Traveller**	**12.26**	**203**	*e*SN	**Sn**	**00 22 01.4**	**-0.5**
PAWZ	**Paruwai Farm**	**12.33**	**204**	*e*SN	**Sn**	**00 22 02.3**	**-1.4**
THZ	**Tophouse**	**13.65**	**210**	*e*PN	**Pn**	**00 20 02.4**	**-3.2**
THZ				*e*SN	**Sn**	**00 22 32.9**	**-2.8**
KHZ	**Kahutara**	**13.93**	**207**	*e*SN	**Sn**	**00 22 37.8**	**-4.7**
RPZ	**Rata Peaks**	**16.03**	**210**	P	**Pn**	**00 20 37.1**	**+1.2**
	2.0nm,0.3s,baz=36,slow=9.6,SNR=7.8						
RAR	**Rarotonga**	**18.67**	**65**	P	**Pn**	**00 21 08.2**	**+0.2**
	6.1nm,0.3s,baz=231,slow=3.8,SNR=5.9						
CTA	**Charters Tower**	**33.81**	**279**	P	**P**	**00 23 30.2**	**+1.1**
	3.3nm,0.6s,mb4.4,baz=90,slow=14,SNR=5.5						
CTAO	**Charters Tower**	**33.81**	**279**	*e*P	**P**	**00 23 30.8**	**+1.7**
	2.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**34.55**	**257**	P	**P**	**00 23 36.0**	**+0.5**
	2.8nm,0.6s,mb4.3,baz=93,slow=10.0,SNR=12						
PMG	**Port Moresby**	**38.58**	**295**	P	**P**	**00 24 09.7**	**0.0**
	32nm,1.0s,mb5.1,baz=86,slow=15,SNR=2.6						
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**00 24 47.1**	**-0.2**
	1.0nm,0.6s,mb3.7,baz=100,slow=7.9,SNR=9.0						
WRAB	**Tennant Creek**	**44.13**	**272**	*e*P	**P**	**00 24 55.1**	**+0.1**
	1.2nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**44.13**	**272**	P	**P**	**00 24 54.6**	**-0.5**
	1.4nm,0.6s,mb3.9,baz=111,slow=7.7,SNR=8.7						
SNAA	**Sanae**	**78.30**	**178**	*e*P	**P**	**00 28 42.0**	**-3.8**
NVAR	**Mina Array Bea**	**88.10**	**43**	P	**P**	**00 29 34.6**	**-1.5**
	0.7nm,0.8s,mb3.7,baz=220,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**145.02**	**340**	PKP	PKPdf	00 36 18.8	-3.5
	0.9nm,0.4s,baz=51,slow=4.1,SNR=18						
NOA	**NORSAR Array B**	**148.61**	**351**	PKPbc	PKPbc	00 36 28.9	-3.2
	0.5nm,0.6s,baz=17,slow=4.3,SNR=2.9						
HFS	**Hagfors**	**149.11**	**349**	PKPbc	PKPbc	00 36 30.6	-2.8
	0.7nm,0.6s,baz=45,slow=2.2,SNR=3.1						

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*ISCJB **24** 00:17:06.6±0.4,1892N±006×6975W±003,h80km±6km, mb3.9/11, Error ellipse: s-maj=9.7km s-min=3.3km az=29.9*
*IDC **24** 00:17:09.1±0.7,1883N×6968W,h85km±5km,mb3.7/11, mb1 3.9/12,mb1mx3.7/21,mbtmp4.0/12,Error ellipse: s-maj=16.9km s-min=9.3km az=22.0*
*NEIC **24** 00:17:10.6,1924N×6927W,h138km,mb4.2/1, MD4.4(RSPR),After RSPR.*
*RSPR **24** 00:17:10.6,1924N×6927W,h138km±10km,MD4.4/15, MD4.4/15*
ISC 24 00:17:08.0±0.3,1900N±006×6972W±002,h70km±5km, h84km±.6km:pP-P,n47,σ1§22/72,mb3.9/11,15C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.53**	**102⇑**	*e*P	**Pn**	**00 17 47.8**	**+1.0**
AGPR				*e*S	**Sn**	**00 18 16.3**	**-0.1**
MPR	**Mayaguez**	**2.57**	**107⇑**	*e*P	**Pn**	**00 17 48.7**	**+1.4**
MPR				*e*S	**Sn**	**00 18 18.4**	**+1.0**
LSP	**Las Mesas**	**2.63**	**108⇑**	*e*P	**Pn**	**00 17 50.2**	**+2.1**
LSP				*e*S	**Sn**	**00 18 19.8**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.67**	**111⇑**	*i*P	**Pn**	**00 17 49.5**	**+0.9**
CRPR				*e*S	**Sn**	**00 18 20.9**	**+1.0**
MGP	**Maguayo**	**2.68**	**111⇓**	*e*P	**Pn**	**00 17 49.7**	**+0.9**
MGP				*e*S	**Sn**	**00 18 21.4**	**+1.2**
LRS	**Lares**	**2.81**	**104⇑**	*e*P	**Pn**	**00 17 51.4**	**+0.7**
AOPR	**Arecibo Observ**	**2.89**	**102⇓**	*e*P	**Pn**	**00 17 52.4**	**+0.7**
AOPR				*e*S	**Sn**	**00 18 24.3**	**-0.9**
OBIP	**Obispado Ponce**	**3.10**	**107⇑**	*e*P	**Pn**	**00 17 55.4**	**+0.8**
OBIP				*e*S	**Sn**	**00 18 31.0**	**+0.5**
CELP	**Cerrillos**	**3.12**	**107⇑**	*e*P	**Pn**	**00 17 55.6**	**+0.8**
CELP				*e*S	**Sn**	**00 18 29.7**	**-1.1**
ICM	**Isla Caja Muer**	**3.23**	**109⇑**	*e*P	**Pn**	**00 17 56.4**	**+0.2**
ICM				*e*S	**Sn**	**00 18 33.4**	**-0.2**
SJG	**San Juan**	**3.50**	**104⇑**	*e*P	**Pn**	**00 17 59.6**	**-0.4**
SJG	**San Juan**	**3.50**	**104**	*e*S	**Sn**	**00 18 38.3**	**-1.9**
SJG	**San Juan**	**3.50**	**104**	P	**Pn**	**00 18 00.3**	**+0.3**
	102nm,0.3s,baz=303,slow=8.5,SNR=148						
SJG				S	**Sn**	**00 18 41.8**	**+1.6**
	100nm,0.3s,baz=157,slow=23,SNR=17						
SJG	**San Juan**	**3.50**	**104⇑**	*e*P	**Pn**	**00 17 59.6**	**-0.4**
SJG				*e*S	**Sn**	**00 18 38.3**	**-1.9**
CPD	**Cerro la Pandu**	**3.73**	**104⇑**	*e*P	**Pn**	**00 18 03.1**	**0.0**
CPD				*e*S	**Sn**	**00 18 44.9**	**-1.0**
CBYP	**Canovanas**	**3.73**	**101⇓**	*e*P	**Pn**	**00 18 02.3**	**-0.9**
CBYP				*e*S	**Sn**	**00 18 43.5**	**-2.4**
HUMP	**Col San Antoni**	**3.77**	**102⇑**	*e*P	**Pn**	**00 18 02.9**	**-0.7**
HUMP				*e*S	**Sn**	**00 18 43.2**	**-3.5**
MTP	**Monte Pirata**	**4.05**	**102⇑**	*e*P	**Pn**	**00 18 06.8**	**-0.7**
MTP				*e*S	**Sn**	**00 18 51.4**	**-2.3**
MASC	**Masc**	**4.41**	**286**	*e*P	**Pn**	**00 18 13.2**	**+0.8**
	baz=103						
MASC				*e*S	**Sn**	**00 19 02.8**	**+0.3**
	comp=N,3.3nm,0.1s						
MASC				*e*			
	comp=E,3.8nm,0.1s						
CDVI	**St. Croix**	**4.86**	**104⇑**	*e*P	**Pn**	**00 18 17.3**	**-1.3**
CDVI				*e*S	**Sn**	**00 19 10.3**	**-3.3**
TBVI	**Tortola**	**4.88**	**96⇑**	*e*P	**Pn**	**00 18 17.4**	**-1.4**
TBVI				*e*S	**Sn**	**00 19 10.1**	**-3.9**
MOAC	**Moa**	**5.20**	**289**	*e*P	**Pn**	**00 18 22.9**	**-0.4**
MOAC				*e*S	**Sn**	**00 19 19.8**	**-2.1**
	comp=N,4.5nm,0.1s						
MOAC				*e*			
	comp=E,4.3nm,0.1s						
SABC	**Sabc**	**5.33**	**286**	*e*P	**Pn**	**00 18 27.1**	**+2.1**
SABC				*e*S	**Sn**	**00 19 26.6**	**+1.4**
RCC	**Rio Carpintero**	**5.72**	**281**	*e*P	**Pn**	**00 18 31.9**	**+1.5**
	baz=113						
RCC				*e*S	**Sn**	**00 19 27.5**	**-7.2**
	comp=N,98nm,0.5s						
RCC				*e*			
	comp=E,79nm,0.6s						
PINC	**Pinares de May**	**5.91**	**286**	*e*P	**Pn**	**00 18 31.2**	**-1.7**
PINC				*e*S	**Sn**	**00 19 36.7**	**-2.5**
HLGC	**Holguin**	**6.25**	**289**	*e*P	**Pn**	**00 18 38.9**	**+1.3**
	baz=105						
HLGC				*e*S	**Sn**	**00 19 46.1**	**-1.6**
	comp=N,5.0nm,0.3s						
HLGC				*e*			
	comp=E,4.7nm,0.2s						
LMGC	**Las Mercedes**	**6.95**	**280**	*e*P	**Pn**	**00 18 43.5**	**-3.7**
LMGC				*e*S	**Sn**	**00 19 59.1**	**-5.7**
	comp=N,21nm,0.6s						
LMGC				*e*			
	comp=E,21nm,0.4s						
LZG	**Guadaloupe-1**	**8.09**	**109**	*e*P	**Pn**	**00 19 02.8**	**0.0**
LZG				*e*S	**Sn**	**00 20 34.6**	**+2.0**
SEG	**Port Louis**	**8.24**	**107**	*e*P	**Pn**	**00 19 05.0**	**+0.2**
DEG	**La Desirade**	**8.68**	**107**	*e*P	**Pn**	**00 19 10.1**	**-0.6**
SDV	**Santo Domingo**	**10.09**	**185**	P	**Pn**	**00 19 30.3**	**+0.3**
	comp=E,1.4nm,0.3s,baz=34,slow=8.4,SNR=13						
SDV				S	**Sn**	**00 21 20.1**	**-1.5**
	comp=E,1.3nm,0.3s,baz=344,slow=18,SNR=6.8						
SDV	**Santo Domingo**	**10.09**	**185**	P	**Pn**	**00 19 30.3**	**+0.3**
SDV				S	**Sn**	**00 21 20.1**	**-1.5**
OTAV	**Otavalo**	**20.52**	**206**	*e*P	**P**	**00 21 41.5**	**+1.0**
	comp=E,12nm,1.1s						
SIV	**San Ignacio**	**35.79**	**166**	P	**P**	**00 23 57.2**	**-3.2**
	comp=E,0.9nm,0.9s,mb3.7,baz=129,slow=21,SNR=2.4						
NVAR	**Mina Array Bea**	**46.22**	**305**	P	**P**	**00 25 28.8**	**+2.7**
	comp=E,1.8nm,0.8s,mb3.8,baz=88,slow=8.7,SNR=15						
NVAR				pP	pP	00 25 48.6	+5.1
	comp=E,0.5nm,0.6s,baz=97,slow=9.3,SNR=3.2						
NVAR				sP	sP	00 25 59.0	+7.6
	comp=E,0.6nm,0.8s,baz=103,slow=8.4,SNR=2.7						
YKA	**Yellowknife Ar**	**53.28**	**336**	P	**P**	**00 26 19.3**	**-0.3**
	comp=E,0.9nm,0.6s,mb4.0,baz=114,slow=7.2,SNR=16						
YKA				pP	pP	00 26 40.1	+2.6
	comp=E,0.7nm,0.8s,baz=115,slow=6.9,SNR=4.7						
YKA				sP	sP	00 26 48.9	+3.5
	comp=E,0.6nm,0.7s,baz=113,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**53.28**	**336**	P	**P**	**00 26 19.3**	**-0.3**
YKA				pP	pP	00 26 40.1	+2.6
YKA				sP	sP	00 26 48.9	+3.5
ESDC	**Sonseca Array**	**59.63**	**55**	P	**P**	**00 27 05.1**	**+0.4**
	comp=E,1.0nm,0.6s,mb4.0,baz=281,slow=7.8,SNR=5.8						
DBIC	**Dimbokro**	**64.11**	**92**	P	**P**	**00 27 34.0**	**-0.8**
	comp=E,1.3nm,0.5s,mb4.0,baz=300,slow=5.0,SNR=12						
DBIC				pP	pP	00 27 55.5	+2.4
	comp=E,1.3nm,0.7s,baz=120,slow=3.6,SNR=2.8						
ILAR	**Eielson Array**	**67.52**	**333**	P	**P**	**00 27 56.5**	**-0.2**
	comp=E,0.3nm,0.7s,mb3.2,baz=111,slow=5.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**68.47**	**83**	P	**P**	**00 28 01.9**	**-0.8**
	comp=E,1.5nm,0.7s,mb4.0,baz=299,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**74.18**	**21**	P	**P**	**00 28 36.9**	**-0.3**
	comp=E,12nm,1.2s,mb4.5,baz=343,slow=3.8,SNR=4.2						
FINES	**FINESS Array B**	**76.24**	**29**	P	**P**	**00 28 49.2**	**+0.3**
	comp=E,0.6nm,0.6s,mb3.5,baz=270,slow=6.9,SNR=5.4						
MLR	**Muntele Rosu**	**80.55**	**45**	P	**P**	**00 29 14.1**	**+1.4**
	comp=E,1.7nm,0.8s,mb3.9,baz=231,slow=6.4,SNR=5.7						
BRTR	**Keskin Array B**	**87.86**	**49**	P	**P**	**00 29 49.8**	**0.0**
	comp=E,0.8nm,0.7s,mb3.9,baz=311,slow=3.9,SNR=5.0						
WRA	**Warramunga Arr**	**157.30**	**264**	PKPab	PKPab	00 37 27.7	+0.4
	comp=E,0.4nm,0.6s,baz=88,slow=4.0,SNR=6.6						
ASAR	**Alice Springs**	**157.52**	**254**	PKPab	PKPab	00 37 27.9	-0.4
	comp=E,0.8nm,0.7s,baz=102,slow=4.9,SNR=8.9						

IDC 24 00:17:09.1±1.2,420N×12803E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.7/17,mbtmp3.7/4,Error ellipse: s-maj=70.6km s-min=25.3km az=71.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.78**	**166**	P	P	00 22 33.0	+0.5
	0.9nm,0.5s,baz=344,slow=11,SNR=14						
SONM	**Songino Array**	**47.28**	**340**	P	P	00 25 44.4	+0.2
	0.8nm,0.7s,baz=153,slow=8.5,SNR=6.3						
MKAR	**Makanchi Array**	**57.92**	**324**	P	P	00 27 03.4	+0.4
	0.7nm,0.6s,baz=121,slow=8.0,SNR=18						
ILAR	**Eielson Array**	**84.13**	**25**	P	P	00 29 41.1	-0.8
	0.4nm,0.8s,baz=246,slow=6.1,SNR=4.9						

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*ISCJB **24** 00:21:57.2±0.4,5158N±002×702E±004,h0km, Error ellipse: s-maj=3.5km s-min=2.7km az=43.1*
*BNS **24** 00:21:57.7±0.8,5170N×698E,h1km,ML1.8*
*BUG **24** 00:21:58.2,5160N×705E,h1km,ML1.3*
*LDG **24** 00:21:58.5±0.3,5170N×702E,h1km,Ml2.6/7,Error ellipse: s-maj=4.9km s-min=3.6km az=38.0,Suspected Mining induced.*
*CSEM **24** 00:21:58.4±0.2,5169N×704E,h1km,ML2.4/5,Error ellipse: s-maj=4.1km s-min=2.0km az=82.0*
*BGR **24** 00:21:59.0±0.6,5160N×698E,h1km,ML1.9/4,Error ellipse: s-maj=7.8km s-min=3.3km az=115.0*
ISC 24 00:21:58.2±0.4,5163N±002×700E±004,h0km,n41, σ1§09/63,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.08**	**267**	Pg	**Pg**	**00 22 00.7**	**+0.9**
BZER				Sg	**Sg**	**00 22 02.9**	**+2.0**
BUG	**Bochum--Univer**	**0.25**	**138**	*e*Pg	**Pg**	**00 22 04.3**	**+1.3**
	SNR=18						
LAUG	**Laupendahl**	**0.28**	**188**	*e*Pg	**Pg**	**00 22 04.2**	**+0.6**
WTSB	**Winterswijk**	**0.36**	**340**	*i* Pg	**Pg**	**00 22 05.6**	**+0.4**
	25nm,0.5s						
WTSB				*e*Sg	**Sg**	**00 22 10.0**	**+0.1**
BNS	**Bensberg**	**0.67**	**171**	*e*Pg	**Pg**	**00 22 12.2**	**+1.1**
HOBG	**Hohbusch**	**0.68**	**162**	*e*Pg	**Pg**	**00 22 11.7**	**+0.6**
HOBG				*e*Sg	**Sg**	**00 22 22.7**	**+2.7**
RODG	**Roetgen-Dahlhe**	**0.71**	**227**	*e*Pg	**Pg**	**00 22 13.3**	**+1.5**
RODG				*e*Sg	**Sg**	**00 22 22.7**	**+1.8**
IBBN	**Ibbenburen**	**0.83**	**34**	*e*Pg	**Pg**	**00 22 15.8**	**+1.7**
	SNR=3.0						
IBBN				*e*Sg	**Sg**	**00 22 26.1**	**+1.3**
STB	**Steinbach**	**1.04**	**186**	*e*Pg	**Pg**	**00 22 18.8**	**+0.7**
STB				*e*Sg	**Sg**	**00 22 33.8**	**+2.2**
	20nm,0.3s						
KLL	**Kalltalsperre**	**1.07**	**204**	*e*Pg	**Pg**	**00 22 18.4**	**-0.4**
KLL				*e*Sg	**Sg**	**00 22 34.0**	**+1.3**
HGN	**Heimansgroeve**	**1.09**	**218**	*e*Pn	**Pn**	**00 22 19.5**	**-1.2**
HGN				*i* Pg	**Pg**	**00 22 20.1**	**+0.9**
	11nm,0.2s						
HGN				*e*Sg	**Sg**	**00 22 34.9**	**+1.5**
HGN	**Heimansgroeve**	**1.09**	**218**	*e*Pn	**Pn**	**00 22 19.5**	**-1.3**
BGG	**Burgeitz**	**1.44**	**171**	*e*Pg	**Pg**	**00 22 25.0**	**-0.7**
BGG				*e*Sg	**Sg**	**00 22 43.8**	**-0.7**
TNS	**Taunus Mts**	**1.68**	**146**	*e*Pg	**Pg**	**00 22 29.6**	**-0.7**
	SNR=2.5						
TNS				*e*Sg	**Sg**	**00 22 52.1**	**0.0**
WLF	**Walferdange**	**2.04**	**196**	*e*Pg	**Pg**	**00 22 37.0**	**-0.3**
	SNR=1.8						
WLF				*e*Sg	**Sg**	**00 23 02.2**	**-1.5**
GIVF	**Givet**	**2.06**	**223**	*e*Pn	**Pn**	**00 22 33.8**	**-0.2**
GIVF	**Givet**	**2.06**	**223**	*e*Pg	**Pg**	**00 22 37.7**	**0.0**
GIVF				*e*Sg	**Sg**	**00 23 04.2**	**-0.1**
	9.1nm,0.2s						
GIVF	**Givet**	**2.06**	**223**	*e*Pg	**Pg**	**00 22 37.7**	**0.0**
GIVF				*e*Sg	**Sg**	**00 23 04.2**	**-0.1**
	4.6nm,0.2s						
CLZ	**Clausthal**	**2.11**	**83**	*e*Pg	**Pg**	**00 22 38.0**	**-0.6**
	SNR=2.2						
CLZ				*e*Sg	**Sg**	**00 23 06.7**	**+0.7**
BAIF	**Baives**	**2.37**	**230**	*e*Pn	**Pn**	**00 22 37.8**	**-0.5**
BAIF	**Baives**	**2.37**	**230**	*e*Pg	**Pg**	**00 22 43.9**	**+0.3**
BAIF				*e*Sg	**Sg**	**00 23 14.9**	**+0.6**
	4.6nm,0.3s						
BAIF	**Baives**	**2.37**	**230**	*e*Pg	**Pg**	**00 22 43.9**	**+0.3**
BAIF				*e*Sg	**Sg**	**00 23 14.9**	**+0.6**
	2.3nm,0.3s						
CDF	**Champ du Feu**	**3.22**	**177**	*e*Pn	**Pn**	**00 22 49.3**	**-0.7**
CDF				*e*Sg	**Sg**	**00 23 42.3**	**+0.6**
	2.2nm,0.4s						
CDF	**Champ du Feu**	**3.22**	**177**	*e*Pn	**Pn**	**00 22 49.3**	**-0.7**
CDF				*e*Sg	**Sg**	**00 23 42.3**	**+0.6**
	1.1nm,0.4s						
MEZF	**Maizieres J'vi**	**3.37**	**203**	*e*Sg	**Sg**	**00 23 47.0**	**+0.5**
	1.3nm,0.3s						
MEZF	**Maizieres J'vi**	**3.37**	**203**	*e*Sg	**Sg**	**00 23 47.0**	**+0.5**
	0.6nm,0.3s						
BFO	**Black Forest**	**3.41**	**165**	*e*Pn	**Pn**	**00 22 52.2**	**-0.4**
	SNR=2.5						
HAU	**Haudompre**	**3.65**	**187**	*e*Pn	**Pn**	**00 22 55.9**	**0.0**
SFTF	**Sexfontaines**	**3.65**	**201**	*e*Pn	**Pn**	**00 22 55.0**	**-1.0**
SFTF	**Sexfontaines**	**3.65**	**201**	*e*Pg	**Pg**	**00 23 07.7**	**-0.5**
	baz=21						
SFTF				*e*Sg	**Sg**	**00 23 55.8**	**+0.2**
	4.5nm,0.3s						
SFTF	**Sexfontaines**	**3.65**	**201**	*e*Pg	**Pg**	**00 23 07.7**	**-0.5**
SFTF				*e*Sg	**Sg**	**00 23 55.8**	**+0.2**
	2.2nm,0.3s						
LOR	**Lormes**	**4.82**	**206**	*e*Pn	**Pn**	**00 23 10.6**	**-1.4**
	baz=30						
CABF	**La Chapelle**	**5.05**	**187**	*e*Pn	**Pn**	**00 23 14.5**	**-0.7**
SSF	**Saint Saulge**	**5.11**	**208**	*e*Pn	**Pn**	**00 23 14.5**	**-1.5**
AVF	**Avril sur Loir**	**5.40**	**208**	*e*Pn	**Pn**	**00 23 18.3**	**-1.7**
SMF	**Signal de Mont**	**5.40**	**204**	*e*Pn	**Pn**	**00 23 18.6**	**-1.4**
LDF	**La Druitiere**	**5.50**	**239**	*e*Pn	**Pn**	**00 23 19.3**	**-2.0**
FLN	**La Foliniere**	**5.60**	**242**	*e*Pn	**Pn**	**00 23 21.3**	**-1.4**
	baz=57						
BGF	**Bois d'Agland**	**5.76**	**210**	*e*Pn	**Pn**	**00 23 23.4**	**-1.5**
GRR	**Gorron**	**6.01**	**240**	*e*Pn	**Pn**	**00 23 27.2**	**-1.2**
GRR				*e*Sn	**Sn**	**00 24 31.8**	**-6.2**
TCF	**Toulx Ste Croi**	**6.20**	**212**	*e*Pn	**Pn**	**00 23 29.5**	**-1.5**

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*BJI **24** 00:33:53.1,355N×12864E,h35km,mB5.0,mb4.8,Ms4.2, Msz4.1*
*ISCJB **24** 00:33:58.0±0.3,434N±005×128.17E±008,h24km, mb4.7/46,MS3.8/11,Error ellipse: s-maj=12.7km s-min=5.1km az=121.5*
*MOS **24** 00:33:59.5±1.1,441N×128.17E,h33km,mb4.9/15,Error ellipse: s-maj=21.1km s-min=8.4km az=113.8*
*IDC **24** 00:34:00.9±2.9,432N×12807E,h31km±19km,mb4.1/14, mb1 4.2/14,mb1mx4.2/19,mbtmp4.3/14,MS3.7/9, Ms1 3.7/9,ms1mx3.4/27,Error ellipse: s-maj=37.4km s-min=12.0km az=72.0*
*NEIC **24** 00:34:01.3±0.3,429N×128.18E,h35km,mb5.0/18,Error ellipse: s-maj=12.3km s-min=6.1km az=71.0*
*HRVD **24** 00:34:01.3±0.9,419N×12834E,h26km±2km,MW4.8/38, Centroid moment Tensor Solution. LP body waves: s17,c17;Mantle waves: s38,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.48±.25; $M_{\theta\theta}$0.20±.14; $M_{\phi\phi}$-1.68±.16; $M_{r\theta}$-0.71±.30; $M_{\theta\phi}$0.27±.11; $M_{\phi r}$0.91±.26; Best double couple: $M_0$1.98200×10^{16} NP1:ϕ_s191.00000°, δ32.00000°,λ122.00000°. NP2:ϕ_s334.00000°,δ63.00000°, λ72.00000°. Principal axes: T 1.9480, Plg67.0000°, Azm211.0000°; N 0.0680, Plg16.0000°, Azm343.0000°; P -2.0170, Plg17.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 00:34:00.1±0.3,435N±005×12824E±009,h26km, h26km±3.7km:pP-P,n85,σ1§09/80,mb4.7/46,MS3.8/11, 1C-1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.72**	**318**	*e*P	**Pn**	**00 35 16.0**	**+6.4**
BUKP				*e*S	**Sb**	**00 36 14.4**	**-4.0**
CTBH	**Cotabato--PC H**	**4.89**	**306⇑**	*e*P	**Pn**	**00 35 17.0**	**+5.0**
CGP	**Cagayan de Oro**	**5.39**	**319⇓**	*e*P	**Pn**	**00 35 28.5**	**+10**
CGP				*i* S	**Sb**	**00 36 35.4**	**-2.2**
FITZ	**Fitzroy Crossi**	**22.45**	**186**	*e*P	**P**	**00 38 55.6**	**-1.5**
	4.5nm,0.6s,mb4.1						
PMG	**Port Moresby**	**23.29**	**126**	LR	LR	00 47 30.8	
	comp=Z,226nm,20.7s,MS3.6,baz=246,slow=35						
WRAB	**Tennant Creek**	**24.87**	**166**	P	**P**	**00 39 21.6**	**+1.1**
	80nm,0.7s,mb5.4,SNR=6.0						
WRAB	**Tennant Creek**	**24.87**	**166**	*e*P	**P**	**00 39 21.9**	**+1.4**
WRAB				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**24.87**	**166**	*e*P	**P**	**00 39 21.9**	**+1.4**
	comp=Z,35nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**24.87**	**166**	P	**P**	**00 39 20.0**	**-0.6**
	comp=Z,3.2nm,0.5s,mb4.1,baz=342,slow=10,SNR=32						
WRA				S	**S**	**00 43 44.3**	**+2.2**
	comp=Z,2.9nm,1.0s,baz=342,slow=19,SNR=5.1						
WRA				ScP	ScP	00 46 32.6	-0.6
	comp=Z,0.4nm,0.5s,baz=337,slow=3.0,SNR=5.5						
WRA	**Warramunga Arr**	**24.87**	**166**	P	**P**	**00 39 20.0**	**-0.6**
WRA				S	**S**	**00 43 44.3**	**+2.2**
WB2	**Warramunga Arr**	**24.88**	**166**	*e*P	**P**	**00 39 20.2**	**-0.4**
WB2				*e*S	**S**	**00 43 40.4**	**-1.7**
CBIJ	**Chichi jima**	**26.25**	**29**	LR	LR	00 49 26.2	
	comp=Z,79nm,19.5s,MS3.3,baz=120,slow=35						
MBWA	**Marble Bar**	**26.68**	**198**	*e*P	**P**	**00 39 36.9**	**-0.1**
	comp=Z,6.9nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**28.39**	**169**	P	**P**	**00 39 54.0**	**+1.8**
	comp=Z,0.9nm,0.6s,mb3.6,baz=352,slow=7.8,SNR

HYB	**Hyderabad**	**50.33**	**289**	*e*P	**P**	**00 42 55.0**	**+0.4**
ZAK	**Zakamensk**	**50.46**	**339**	*e*P	**P**	**00 42 54.2**	**-1.4**
ZAK				*e*		00 44 12.7	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
IRK	**Irkutsk**	**51.71**	**341**	*e*P	**P**	**00 43 03.7**	**-1.3**
IRK				*e*		00 43 19.4	
IRK				*e*		00 44 14.6	
IRK				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
MOY	**Mondy**	**52.33**	**339**	*e*P	**P**	**00 43 10.9**	**+1.2**
WMQ	**Urumqi**	**53.10**	**324**	*e*P	**P**	**00 43 16.0**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
DDI	**Dehra Dun**	**53.85**	**305**	*e*P	**P**	**00 43 24.8**	**+4.0**
BOD	**Bodaibo**	**54.49**	**351**	*e*P	**P**	**00 43 24.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
MKAR	**Makanchi Array**	**57.92**	**324**	P	**P**	**00 43 50.5**	**+0.5**
	comp=Z,4.5nm,0.7s,mb4.6,baz=118,slow=8.0,SNR=60						
MKAR				LR	LR	01 13 21.1	
	comp=Z,66nm,18.3s,MS3.8,baz=2.1,slow=41						
NVS	**Novosibirsk**	**62.01**	**332**	*e*P	**P**	**00 44 16.5**	**-1.6**
NVS				pmax	pmax		
	comp=N,5.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
KURK	**Kurchatov**	**62.04**	**327**	P	**P**	**00 44 18.1**	**-0.2**
	comp=Z,82nm,0.7s,mb6.0,SNR=8.0						
KURK	**Kurchatov**	**62.04**	**327**	*e*P	**P**	**00 44 18.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
KURK	**Kurchatov**	**62.04**	**327**	*e*P	**P**	**00 44 18.5**	**+0.3**
	comp=Z,16nm,0.8s,mb5.2						
KKAR	**Karatay Array**	**63.82**	**316**	*i* P	**P**	**00 44 30.3**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
VOSK	**Vostochnaya**	**67.18**	**326**	P	**P**	**00 44 50.5**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TIXI	**Tiksi**	**67.22**	**0**	*e*P	**P**	**00 44 47.6**	**-4.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**67.63**	**326**	P	**P**	**00 44 54.4**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.4,baz=113,slow=6.9,SNR=12						
BVAR				PcP	PcP	00 45 19.8	-1.8
	comp=Z,2.9nm,0.7s,baz=121,slow=5.7,SNR=4.0						
BRVK	**Borovoye**	**67.70**	**326**	*e*P	**P**	**00 44 55.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**67.70**	**326**	*e*P	**P**	**00 44 55.0**	**-0.1**
	comp=Z,8.1nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**68.37**	**326**	*e*P	**P**	**00 44 59.2**	**-0.1**
ZRNK				*e**PP	pP	00 45 08.8	+1.4
ZRNK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**68.37**	**326**	*e*P	**P**	**00 44 59.1**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8						
ZRNK				*e*pP	pP	00 45 08.8	+1.4
AB31	**Akbulak array**	**72.63**	**320**	*i* P	**P**	**00 45 25.0**	**-0.3**
AKTK	**Aktyubinsk**	**74.12**	**321**	P	**P**	**00 45 33.5**	**-0.6**
AKTO	**Aktyubinsk**	**74.12**	**321**	P	**P**	**00 45 33.5**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=93,slow=8.0,SNR=9.1						
KBD	**Kabd**	**79.64**	**299**	*e*P	**P**	**00 46 04.4**	**-0.8**
KBD				AMb	AMB	00 46 04.7	
	comp=Z,39nm,1.0s,mb5.3						
MIB	**Mutribah**	**79.96**	**299**	*e*P	**P**	**00 46 05.0**	**-1.9**
MIB				AMb	AMB	00 46 08.0	
	comp=Z,26nm,0.9s,mb5.2						
NAY	**Al-Naaiem**	**80.04**	**299**	*e*P	**P**	**00 46 04.7**	**-2.7**
NAY				AMb	AMB	00 46 08.4	
	comp=Z,7.8nm,0.8s,mb4.7						
MCK	**McKinley**	**82.94**	**26**	*e*P	**P**	**00 46 20.9**	**-1.8**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MCK	**McKinley**	**82.94**	**26**	*e*P	**P**	**00 46 20.9**	**-1.8**
	comp=Z,5.9nm,1.0s,mb4.6						
SML	**Sawmill**	**83.08**	**28**	*e*P	**P**	**00 46 24.7**	**+1.3**
ILAR	**Eielson Array**	**83.90**	**25**	P	**P**	**00 46 27.9**	**+0.2**
	comp=Z,1.5nm,0.9s,mb4.1,baz=230,slow=5.6,SNR=12						
DIV	**Divide**	**84.28**	**29**	*e*P	**P**	**00 46 30.2**	**+0.7**
	comp=Z,50nm,1.0s,mb5.6						
ARCES	**ARCESS Array B**	**90.39**	**340**	P	**P**	**00 46 59.8**	**+0.6**
	comp=Z,7.4nm,1.0s,mb5.0,baz=69,slow=10.0,SNR=3.5						
BRTR	**Keskin Array B**	**90.78**	**310**	P	**P**	**00 47 00.4**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.9,baz=77,slow=6.2,SNR=3.4						
FINES	**FINESS Array B**	**92.00**	**332**	P	**P**	**00 47 05.2**	**-1.4**
	comp=Z,0.6nm,0.7s,mb4.0,baz=96,slow=5.6,SNR=2.6						
AKASG	**Malin Array Be**	**92.36**	**321**	P	**P**	**00 47 07.0**	**-1.3**
	comp=Z,0.5nm,0.4s,mb4.2,baz=77,slow=2.5,SNR=4.2						
YKA	**Yellowknife Ar**	**98.32**	**25**	P	**P**	**00 47 35.7**	**+0.3**
	comp=Z,0.5nm,0.7s,mb4.2,baz=300,slow=4.5,SNR=13						
YKA				LR	LR	01 33 00.2	
	comp=Z,34nm,18.1s,MS3.9,baz=60,slow=36						
YKA	**Yellowknife Ar**	**98.32**	**25**	P	**P**	**00 47 35.7**	**+0.3**
YKA				LR	LR	01 33 00.2	
NOA	**NORSAR Array B**	**98.90**	**334**	LR	LR	01 33 19.6	
	comp=Z,39nm,18.8s,MS3.9,baz=50,slow=36						
TORD	**Torodi Ar. Bea**	**124.15**	**289**	PKP	PKPdf	00 52 56.4	+0.1
	comp=Z,1.6nm,0.7s,baz=53,slow=1.8,SNR=11						
DBIC	**Dimbokro**	**131.91**	**283**	PKP	PKPdf	00 53 11.4	+0.4
	comp=Z,1.5nm,0.7s,baz=141,slow=4.0,SNR=6.2						
LPAZ	**La Paz**	**160.02**	**128**	PKPab	PKPab	00 54 38.9	+2.3
	comp=Z,2.1nm,0.9s,baz=225,slow=2.9,SNR=5.7						

*IDC **24** 00:41:24.1±2.3, 469S×12909E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, MS4.0/3, Ms1 4.0/3, ms1mx3.4/18, Error ellipse: s-maj=171.9km s-min=28.7km az=68.0*

*ISCJB **24** 00:41:25.8±1.6, 46S±02×1297E±03, h33km, mb3.5/1, MS4.0/3, Error ellipse: s-maj=49.7km s-min=18.0km az=145.1*

ISC 24 00:41:28.1±1.6, 46S±02×1297E±03, h35km, n8, σ0§65/5, mb3.5/1, MS4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.05**	**196**	*e*P	**Pn**	**00 44 44.4**	**-0.1**
	4.4nm,0.6s						
FITZ				*e*S	Sx	00 46 42.1	
WRA	**Warramunga Arr**	**15.93**	**164**	Pn	**Pn**	**00 45 08.8**	**-0.7**
	0.5nm,0.3s,baz=344,slow=13,SNR=27						
WB2	**Warramunga Arr**	**15.94**	**164**	*e*P	**Pn**	**00 45 09.7**	**+0.2**
WB2				*e*S	Sx	00 47 27.9	
ASAR	**Alice Springs**	**19.42**	**168**	P	**Pn**	**00 45 53.2**	**+0.7**
	0.2nm,0.3s,baz=338,slow=8.6,SNR=9.4						
STKA	**Stephens Creek**	**29.36**	**159**	LR	LR	00 58 47.7	
	comp=Z,153nm,18.3s,MS3.7,baz=22,slow=35						
MKAR	**Makanchi Array**	**66.06**	**326**	P	**P**	**00 52 11.3**	**0.0**
	0.2nm,0.4s,mb3.5,baz=122,slow=6.9,SNR=8.9						
RAR	**Rarotonga**	**70.17**	**111**	LR	LR	01 17 58.0	
	comp=Z,184nm,20.2s,MS4.3,baz=88,slow=31						
VNDA	**Vanda**	**74.89**	**173**	LR	LR	01 23 54.1	
	comp=Z,106nm,18.6s,MS4.2,baz=96,slow=34						

*NEIC **24** 00:45:14.5, 2966S×7189W, h38km, MD4.3(GUC), After GUC.*

GUC 24 00:45:14.5±0.5, 2966S×7189W, h38km±12km, MD4.3, ML4.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.70**	**153**	⇓*i*P	Pn	00 45 43.1	+1.5
CMCH				*i* S	Sn	00 46 04.5	+2.4
CMCH				AMP		00 46 17.8	
	comp=N,9μm,0.7s						
CMCH	**Combarbala**	**1.70**	**153**	⇓*i*P	Pn	00 45 43.1	+1.5
CMCH				*i* S	Sn	00 46 04.5	+2.4
CPCH	**Copiapo**	**2.66**	**31**	*e*P	Pn	00 45 56.0	+1.2
CPCH				*i* S	Sn	00 46 27.7	+1.9
CDCH	**Caldera**	**2.74**	**20**	*e*P	Pn	00 45 55.5	-0.4
CDCH				*i* S	Sn	00 46 29.5	+1.7
JACH	**Jahuel**	**3.21**	**160**	*e*P	Pn	00 46 04.9	+2.5
ROCH	**El Roble**	**3.39**	**167**	*i* P	Pn	00 46 06.6	+1.7
PEL	**Peldehue**	**3.63**	**164**	*e*P	Pn	00 46 09.4	+1.2
FCH	**Farellones**	**3.91**	**160**	*e*P	Pn	00 46 14.4	+2.4
FCH				*i* S	Sn	00 46 59.3	+2.7
PCH	**Pirque**	**4.12**	**164**	*e*P	Pn	00 46 16.5	+1.5
CHCH	**Chadas Angostu**	**4.39**	**166**	*e*P	Pn	00 46 20.1	+1.5
CACH	**El Canelo**	**4.58**	**166**	*e*P	Pn	00 46 23.4	+2.1
SFDO	**San Fernando**	**5.00**	**172**	*e*P	Pn	00 46 27.9	+1.0

IDC 24 00:46:54.0±3.4, 367S×13603E, h0km, mb3.5/1, mb1 4.0/3, mb1mx3.7/11, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=147.8km s-min=30.7km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.26**	**186**	Pn	**Pn**	00 50 45.3	+1.6
	0.3nm,0.3s,baz=4.9,slow=12,SNR=7.7						
WRA				Sn	Sn	00 53 27.9	-17
	0.1nm,0.3s,baz=359,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**19.99**	**186**	P	Pn	00 51 27.8	-1.9
	0.3nm,0.3s,baz=7.3,slow=11,SNR=16						
MKAR	**Makanchi Array**	**68.94**	**324**	P	P	00 58 01.1	+0.2
	0.3nm,0.5s,baz=110,slow=7.8,SNR=6.2						

*ISCJB **24** 00:52:54.1±1.0, 21.10S±006×3273E±008, h10km, mb3.4/2, Error ellipse: s-maj=12.1km s-min=7.9km az=53.3*

*IDC **24** 00:52:54.6±1.8, 21.15S×3280E, h0km, mb3.4/3, mb1 4.0/7, mb1mx3.7/24, mbtmp3.9/7, ML4.2/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/8, Error ellipse: s-maj=28.0km s-min=17.4km az=133.0*

*NEIC **24** 00:52:55.7±1.6, 21.16S×3278E, h10km, mb4.3/1, Error ellipse: s-maj=27.0km s-min=11.8km az=110.0*

ISC 24 00:52:56.0±1.0, 2119S±005×3274E±009, h10km, n11, σ1§19/17, mb3.4/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.29**	**323**	Pn	**Pn**	**00 54 42.2**	**-0.4**
	4.9nm,0.3s,baz=150,slow=15,SNR=30						
LSZ				Sn	**Sn**	**00 56 03.1**	**-2.4**
	14nm,0.3s,baz=94,slow=14,SNR=8.9						
LSZ				Lg		00 56 47.1	
	26nm,0.3s,baz=234,slow=24,SNR=12						
LSZ	**Lusaka**	**7.29**	**323**	Pn	**Pn**	**00 54 42.2**	**-0.4**
LSZ				Sn	**Sn**	**00 56 03.1**	**-2.4**
LSZ				Lg		00 56 47.1	
LBTB	**Lobatse**	**7.59**	**239**	Pn	**Pn**	**00 54 48.5**	**+1.7**
	1.8nm,0.3s,baz=63,slow=14,SNR=28						
LBTB				Sn	**Sn**	**00 56 17.2**	**+4.4**
	7.7nm,0.3s,baz=117,slow=12,SNR=6.2						
LBTB				Lg		00 56 59.7	
	22nm,0.3s,baz=154,slow=22,SNR=9.8						
LBTB				LR	LR	00 58 12.0	
	comp=Z,54nm,18.2s,baz=262,slow=41						
BOSA	**Boshof**	**10.04**	**221**	Pn	**Pn**	**00 55 19.4**	**-0.8**
	1.3nm,0.3s,baz=47,slow=12,SNR=34						
BOSA				Sn	**Sn**	**00 57 11.6**	**-1.3**
	2.7nm,0.3s,baz=323,slow=10.0,SNR=6.2						
BOSA				Lg		00 58 16.1	
	3.8nm,0.3s,baz=323,slow=22,SNR=3.8						
BOSA				LR	LR	00 59 34.8	
	comp=Z,99nm,20.1s,baz=56,slow=40						
TSUM	**Tsumeb**	**14.36**	**275**	Pn	**Pn**	**00 56 19.7**	**+0.3**
	0.7nm,0.3s,baz=87,slow=12,SNR=27						
TSUM				Sn	**Sn**	**00 59 00.6**	**+1.9**
	0.5nm,0.3s,baz=106,slow=20,SNR=4.1						
TSUM				Lg		01 00 34.5	
	2.2nm,0.3s,baz=195,slow=14,SNR=6.0						
TSUM				LR	LR	01 02 13.5	
	comp=Z,54nm,18.5s,baz=294,slow=39						
SUR	**Sutherland**	**15.40**	**221**	*e*Pn	**Pn**	**00 56 34.4**	**+1.1**
	10nm,0.6s						
SUR				*e*Sn	**Sn**	**00 59 22.6**	**-1.4**
KMBO	**Kilima Mbogo**	**20.42**	**13**	P	**P**	**00 57 33.2**	**-0.1**
	0.7nm,0.5s,baz=207,slow=17,SNR=3.6						
KMBO				Lg		01 03 16.2	
	0.7nm,0.3s,baz=79,slow=23,SNR=3.6						
KMBO	**Kilima Mbogo**	**20.42**	**13**	P	**P**	**00 57 33.2**	**-0.1**
KMBO				Lg		01 03 16.2	
TORD	**Torodi Ar. Bea**	**45.76**	**315**	P	**P**	**01 01 17.9**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=130,slow=7.1,SNR=7.0						
MKAR	**Makanchi Array**	**81.09**	**32**	P	**P**	**01 05 11.8**	**+0.4**
	0.3nm,0.9s,mb3.2,baz=222,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**81.09**	**32**	P	**P**	**01 05 11.8**	**+0.4**

WEL 24 01:09:26.0±0.3, 3856S×17586E, h126km±2km, ML3.6/14, 2C, Error ellipse: s-maj=1.6km s-min=1.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTVZ	**Taurewa**	**0.60**	**201**	PN	Pn	01 09 45.5	+0.2
WTVZ				*e*SN	Sn	01 09 59.5	-0.3
TWVZ	**Taurewa**	**0.61**	**213**	PN	Pn	01 09 45.4	+0.1
OTVZ	**Oturere**	**0.62**	**194**	PN	Pn	01 09 46.0	+0.6
NGZ	**Ngauruhoe**	**0.65**	**198**	PN	Pn	01 09 46.0	+0.4
NGZ				*e*SN	Sn	01 10 01.4	+0.9
WPVZ	**Whakapapa**	**0.69**	**201**	PN	Pn	01 09 46.3	+0.3
TUVZ	**Tukino**	**0.73**	**193**	PN	Pn	01 09 46.6	+0.4
BKZ	**Black Stump Fm**	**0.78**	**141**	⇑PN	Pn	01 09 46.6	-0.1
BKZ				SN	Sn	01 10 02.4	+0.2
HIZ	**Hauiti**	**0.79**	**273**	⇑PN	Pn	01 09 46.3	-0.4
HIZ				SN	Sn	01 10 02.3	-0.1
WNVZ	**Wahianoa**	**0.80**	**195**	PN	Pn	01 09 47.2	+0.4
PKVZ	**Pokaka**	**0.83**	**209**	PN	Pn	01 09 47.2	+0.1
MOVZ	**Moawhango**	**0.85**	**186**	PN	Pn	01 09 47.1	-0.1
MOVZ				*e*SN	Sn	01 10 03.0	-0.3
MTVZ	**Mangateitei**	**0.88**	**200**	PN	Pn	01 09 47.6	+0.1
URZ	**Urewera**	**1.02**	**73**	PN	Pn	01 09 48.4	-0.4
URZ				SN	Sn	01 10 05.8	-0.3
VRZ	**Vera Road**	**1.03**	**236**	PN	Pn	01 09 49.0	+0.1
MWZ	**Matawai**	**1.33**	**81**	PN	Pn	01 09 52.3	+0.3
MWZ				SN	Sn	01 10 11.8	+0.2
WAZ	**Wanganui**	**1.38**	**209**	PN	Pn	01 09 52.4	-0.1
KNZ	**Kokohu**	**1.49**	**109**	PN	Pn	01 09 54.2	+0.5
TSZ	**Takapari Road**	**1.50**	**177**	PN	Pn	01 09 53.2	-0.6
TSZ				SN	Sn	01 10 13.4	-1.7
PXZ	**Pawanui**	**1.66**	**153**	PN	Pn	01 09 55.7	0.0
MRZ	**Mangataiinoka R**	**2.11**	**186**	PN	Pn	01 09 59.9	-1.2
MRZ				SN	Sn	01 10 25.3	-2.8
BFZ	**Birch Farm**	**2.14**	**172**	PN	Pn	01 10 01.2	-0.3
MXZ	**Matakaoa Point**	**2.17**	**64**	PN	Pn	01 10 01.8	0.0
KIW	**Kapiti Island**	**2.42**	**197**	PN	Pn	01 10 03.1	-1.9
MTW	**Mount Morrison**	**2.61**	**186**	PN	Pn	01 10 05.2	-2.3
CAW	**Cannon Point**	**2.62**	**193**	PN	Pn	01 10 05.4	-2.2

*IGIL **24** 01:11:48.1, 3660N×1190W, h2km, ML2.2*

*ISCJB **24** 01:11:51.0±1.3, 3690N±005×1160W±009, h10km, Error ellipse: s-maj=10.1km s-min=7.5km az=146.0*

*MDD **24** 01:11:50.9±0.6, 3648N×1194W, h72km±20km, mb3.2/6, Error ellipse: s-maj=5.0km s-min=3.8km az=79.0, PRXIMO*

*CSEM **24** 01:11:51.0±0.5, 3632N×1126W, h2km, ML2.0, Error ellipse: s-maj=10.5km s-min=8.3km az=51.0*

*NEIC **24** 01:11:51.2, 3672N×1162W, h0km, MN2.6(MDD), After MDD.*

*INMG **24** 01:11:51.0±0.9, 3654N×1174W, h10km, ML2.0, Error ellipse: s-maj=6.0km s-min=5.2km az=59.0*

ISC 24 01:11:52.4±1.3, 3681N±005×1154W±008, h10km, n40, σ1§10/70, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.36**	**77**	*e*P	**Pn**	**01 12 30.9**	**-0.4**
MORF				*e*S	**Sn**	**01 13 01.5**	**+1.2**
MORF				*e*S	**Sn**	**01 13 01.6**	**+1.3**
MORF				AML	AML	01 13 04.2	
	comp=E,4.4nm,0.1s						
MORF				AML	AML	01 13 05.8	
	comp=N,5.7nm,0.1s						
MORF	**Marmelete**	**2.36**	**77**	*e*P	**Pn**	**01 12 30.9**	**-0.4**
MORF				*e*S	**Sn**	**01 13 01.5**	**+1.2**
PTEO	**Sao Teotonio**	**2.37**	**71**	*e*Sn	**Sn**	**01 13 02.2**	**+1.8**
PTEO							
	comp=N,3.7nm,0.3s						
PTEO	**Sao Teotonio**	**2.37**	**71**	S	**Sn**	**01 13 02.2**	**+1.8**
	comp=N,1.9nm,0.3s						
PLOU	**Loures**	**2.81**	**42**	*e*Pn	**Pn**	**01 12 38.0**	**+0.6**
PLOU				*e*Sn	**Sn**	**01 13 14.1**	**+2.8**
PLOU							
	comp=N,6.3nm,0.3s						
PLOU	**Loures**	**2.81**	**42**	*e*Pn	**Pn**	**01 12 38.0**	**+0.6**
	comp=N,6.3nm,0.3s						
PLOU				*e*Sn	**Sn**	**01 13 14.1**	**+2.8**
MOE	**Montemor**	**3.06**	**55**	*e*Sn	**Sn**	**01 13 19.1**	**+1.7**
PBEJ	**Beja**	**3.17**	**66**	*e*Pn	**Pn**	**01 12 43.4**	**+1.1**
PBEJ				*e*Sn	**Sn**	**01 13 21.0**	**+0.8**
EGRO	**El Granado**	**3.32**	**76**	P	**Pn**	**01 12 44.5**	**+0.1**
	comp=N,1.5nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**01 13 23.7**	**-0.2**
	comp=N,1.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.32**	**76**	P	**Pn**	**01 12 44.5**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**01 13 23.7**	**-0.2**
	comp=N,1.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.32**	**76**	P	**Pn**	**01 12 45.3**	**+0.9**
EGRO				S	**Sn**	**01 13 22.9**	**-1.0**
PTOM	**Tomar**	**3.74**	**40**	*e*Pn	**Pn**	**01 12 50.8**	**+0.7**
PTOM				*e*Sn	**Sn**	**01 13 34.8**	**+0.6**
PTOM							
	comp=N,4.5nm,0.2s						
PTOM	**Tomar**	**3.74**	**40**	*e*Pn	**Pn**	**01 12 50.8**	**+0.7**
PTOM				*e*Sn	**Sn**	**01 13 34.8**	**+0.6**
EMIN	**Mina Concepcio**	**4.00**	**75**	P	**Pn**	**01 12 53.6**	**-0.1**
	comp=N,0.6nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**01 13 39.9**	**-0.8**
	comp=N,1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.00**	**75**	P	**Pn**	**01 12 53.6**	**-0.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**01 13 39.9**	**-0.7**
	comp=N,1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.00**	**75**	P	**Pn**	**01 12 54.0**	**+0.2**
EMIN				S	**Sn**	**01 13 40.2**	**-0.4**
EBAD	**Badajoz**	**4.08**	**60**	P	**Pn**	**01 12 55.3**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**01 13 42.5**	**-0.1**
	comp=N,2.1nm,0.2s,SNR=5.6						
EBAD	**Badajoz**	**4.08**	**60**	P	**Pn**	**01 12 55.3**	**+0.4**
	comp=N,0.4nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**01 13 42.5**	**-0.2**
	comp=N,2.1nm,0.2s,SNR=5.6						
EBAD	**Badajoz**	**4.08**	**60**	P	**Pn**	**01 12 55.0**	**+0.2**
EBAD				S	**Sn**	**01 13 42.7**	**0.0**
PCBR	**Castelo Branco**	**4.40**	**45**	*e*Pn	**Pn**	**01 12 59.7**	**+0.4**
PCBR				*e*Sn	**Sn**	**01 13 51.2**	**+0.6**
ESPR	**Espera**	**4.56**	**88**	P	**Pn**	**01 13 00.4**	**-1.1**
	comp=N,0.8nm,0.1s,SNR=4.8						
ESPR				S	**Sn**	**01 13 51.5**	**-3.0**
	comp=N,18nm,0.2s,SNR=4.7						
ESPR	**Espera**	**4.56**	**88**	P	**Pn**	**01 13 00.4**	**-1.1**
	comp=N,0.4nm,0.1s,SNR=4.8						
ESPR				S	**Sn**	**01 13 51.5**	**-3.0**
	comp=N,18nm,0.2s,SNR=4.7						
ESPR	**Espera**	**4.56**	**88**	P	**Pn**	**01 13 00.5**	**-1.0**
ESPR				S	**Sn**	**01 13 51.2**	**-3.3**
MTE	**Manteigas**	**4.76**	**40**	*e*Sn	**Sn**	**01 14 00.7**	**+1.2**
PVRL	**Vila Real**	**5.37**	**33**	*e*Sn	**Sn**	**01 14 13.7**	**-0.6**
PVRL							
	comp=N,2.8nm,0.1s						
PVRL	**Vila Real**	**5.37**	**33**	S	**Sn**	**01 14 13.7**	**-0.6**
	comp=N,1.4nm,0.1s						
PCAB	**Cabril**	**5.61**	**28**	*e*Pn	**Pn**	**01 13 15.8**	**0.0**
PCAB				*e*Sn	**Sn**	**01 14 19.3**	**-1.0**
EADA	**Adamuz**	**5.70**	**74**	P	**Pn**	**01 13 17.2**	**0.0**
	comp=N,0.4nm,0.2s,SNR=14						
EADA				S	**Sn**	**01 14 20.7**	**-1.9**
	comp=N,1.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.70**	**74**	P	**Pn**	**01 13 17.2**	**+0.1**
EADA				S	**Sn**	**01 14 20.7**	**-1.9**
	comp=N,1.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.70**	**74**	P	**Pn**	**01 13 16.9**	**-0.2**
EADA				S	**Sn**	**01 14 20.7**	**-1.9**
ELOB	**Lobios**	**5.73**	**27**	P	**Pn**	**01 13 17.4**	**-0.1**
	comp=N,0.8nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**01 14 21.6**	**-1.8**
	comp=N,2.2nm,0.1s,SNR=8.5						
ELOB	**Lobios**	**5.73**	**27**	P	**Pn**	**01 13 17.5**	**0.0**
	comp=N,0.5nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**01 14 21.6**	**-1.7**
	comp=N,2.2nm,0.1s,SNR=8.5						
ELOB	**Lobios**	**5.73**	**27**	P	**Pn**	**01 13 17.4**	**-0.1**
ELOB				S	**Sn**	**01 14 22.1**	**-1.3**
PBRG	**Braganca**	**6.23**	**35**	*e*Sn	**Sn**	**01 14 34.6**	**-1.0**
ECAL	**Calabor**	**6.33**	**34**	S	**Sn**	**01 14 36.5**	**-1.8**
	comp=N,0.7nm,0.2s,SNR=4.6						
ECAL	**Calabor**	**6.33**	**34**	S	**Sn**	**01 14 36.5**	**-1.8**
	comp=N,0.7nm,0.2s,SNR=4.6						
EMAZ	**Mazaricos**	**6.45**	**17**	S	**Sn**	**01 14 35.8**	**-5.1**
	comp=N,1.6nm,0.1s,SNR=6.0						
EMAZ	**Mazaricos**	**6.45**	**17**	S	**Sn**	**01 14 35.8**	**-5.2**
	comp=N,1.6nm,0.1s,SNR=6.0						
EQES	**Quesada**	**6.82**	**79**	P	**Pn**	**01 13 32.3**	**-0.2**
	comp=N,0.2nm,0.2s,SNR=4.0						
EQES				S	**Sn**	**01 14 47.0**	**-3.3**
	comp=N,0.5nm,0.2s,SNR=7.9		

comp=Z,26nm,0.2s
YLYR smax
BOD Bodaibo 1.73 16 *e*Pg Pg 01 28 07.3 -3.2
BOD *e*Sg Sg 01 28 29.9 -3.0
BOD Pmax
comp=E,17nm,0.2s
BOD Smax
comp=E,440nm,0.2s
BOD Bodaibo 1.73 16 *e*PN Pn 01 28 07.1 +0.3
BOD *e* 01 28 29.6
BOD pmax pmax
comp=Z,17nm,0.2s
BOD smax
comp=E,436nm,0.2s
NIZ Nizh Angarsk 2.04 260 *e*Pn Pn 01 28 12.4 +1.3
NIZ *e*Pg Pg 01 28 13.6 -2.8
NIZ *e*Sg Sg 01 28 41.0 -1.9
NIZ Pmax
comp=E,25nm,0.3s
NIZ Smax
comp=E,111nm,0.3s
CRS Chara 2.96 74 *e*Pn Pn 01 28 24.6 +0.9
CRS *e*Pg Pg 01 28 30.6 -3.3
CRS *e*Sg Sg 01 29 09.1 -3.1
CRS Pmax
comp=E,44nm,1.0s
CRS Smax
comp=E,52nm,0.6s
SYVR Suvo 3.09 217 *e*Pn Pn 01 28 25.8 +0.3
SYVR *e*Pg Pg 01 28 31.8 -4.7
SYVR *e*Sg Sg 01 29 12.4 -4.1
SYVR Pmax
comp=E,7.0nm,0.5s
SYVR Smax
comp=E,30nm,0.5s
MXMB Maximikha 3.85 223 *e*Sg Sg 01 29 36.2 -4.9
MXMB Smax
comp=E,55nm,0.9s
OGRR Ongureny 4.06 234 *e*Pn Pn 01 28 40.1 +1.2
OGRR *e*Pg Pg 01 28 49.9 -5.2
OGRR *e*Sg Sg 01 29 43.0 -4.7
OGRR Pmax
comp=E,5.0nm,0.3s
OGRR Smax
comp=E,15nm,0.9s
CIT Chita 4.17 176 *e*Pg Pg 01 28 52.4 -4.7
CIT *e*Sg Sg 01 29 46.9 -4.2
CIT Pmax
comp=E,9.0nm,0.2s
CIT Smax
comp=E,31nm,0.5s
TUP Tupik 4.29 111 *e*Pn Pn 01 28 42.8 +0.8
TUP *e*Sn Sn 01 29 30.8 -1.0
TUP *e*Sg Sg 01 29 49.8 -5.2
TUP Smax
comp=E,37nm,0.9s
KELR Kotokel 4.50 223 *e*Sg Sg 01 29 56.7 -5.1
KELR Smax
comp=E,39nm,0.4s
TRTB Turuntaevo 5.09 221 *e*Sg Sg 01 30 15.3 -5.3
TRTB Smax
comp=E,12nm,1.0s
TRG Tyrgan 5.21 232 *e* Pn 01 29 08.0 +13
TRG *e*Sg Sg 01 30 17.8 -6.8
TRG Smax
comp=E,9.0nm,0.7s
HRMR Khuramsha 5.82 221 *e*Sg Sg 01 30 38.3 -5.8
HRMR Smax
comp=E,45nm,0.8s
KPC Khapcheranga 6.49 184 *e*Pg Pg 01 29 34.2 -7.4
KPC *e*Sg Sg 01 30 58.7 -6.9
KPC Pmax
comp=E,1.0nm,0.4s
KPC Smax
comp=E,13nm,1.0s

*CSEM **24** 01:37:06.3±1.1, 3579N×3105E, h2km±5km, MD3.5, Error ellipse: s-maj=18.1km s-min=8.6km az=42.0*
*ISCJB **24** 01:37:07.6±1.4, 3577N±009×3110E±008, h2km, Error ellipse: s-maj=14.3km s-min=7.5km az=51.5*
*ISK **24** 01:37:07.8, 3567N×3099E, h23km, MD3.5*
ISC 24 01:37:08.2±1.5, 358N±01×3110E±009, h2km, n8, σ1§20/13, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**1.70**	**59**	*i* P	**Pn**	**01 37 37.2**	**-1.7**
ERMK				*i* S	**Sn**	**01 38 02.2**	**+0.9**
BCK	**Bucak**	**1.73**	**346**	PN	**Pn**	**01 37 38.4**	**-0.9**
BCK				SN	**Sn**	**01 38 01.3**	**-0.7**
CSS	**Prodhromos**	**2.00**	**113**	*e*PN	**Pn**	**01 37 41.6**	**-1.3**
IKL	**Isikli**	**2.15**	**77**	PN	**Pn**	**01 37 45.2**	**+0.2**
IKL				SN	**Sn**	**01 38 11.8**	**-0.4**
KONT	**Konya--Tatoy**	**2.39**	**25**	*e*PN	**Pn**	**01 37 47.8**	**-0.6**
DNZL	**Cakiroluk**	**2.53**	**320**	*i* P	**Pn**	**01 37 52.5**	**+2.3**
DNZL				*i* S	**Sn**	**01 38 26.8**	**+5.2**
MEST	**Erdemli**	**2.59**	**71**	*i* P	**Pn**	**01 37 52.9**	**+1.7**
MEST				*i* S	**Sn**	**01 38 27.7**	**+4.4**
MERS	**Mersin**	**2.97**	**67**	*e*PN	**Pn**	**01 37 57.3**	**+0.9**

*IDC **24** 01:37:04.1±1.1, 1490N×9345E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=92.9km s-min=19.7km az=51.0*
*ISCJB **24** 01:37:06.5±0.9, 149N±02×934E±02, h33km, mb4.0/7, Error ellipse: s-maj=28.7km s-min=15.2km az=87.4*
*NEIC **24** 01:37:08.1±0.9, 1485N×9335E, h35km, mb4.2/2, Error ellipse: s-maj=29.4km s-min=14.3km az=53.0*
ISC 24 01:37:09.4±0.9, 150N±02×934E±02, h35km, n9, σ0§94/9, mb4.0/7, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**11.99**	**143**	*e*P	**Pn**	**01 39 53.1**	**-4.7**
QIZ	**Qiongzhong**	**16.21**	**73**	P	**Pn**	**01 40 54.9**	**+0.4**
MKAR	**Makanchi Array**	**33.03**	**346**	P	**P**	**01 43 40.8**	**-0.5**
	0.4nm,0.7s,mb3.5,baz=169,slow=8.2,SNR=6.9						
KURK	**Kurchatov**	**37.57**	**345**	P	**P**	**01 44 19.1**	**-1.3**
	2.0nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**53.16**	**130**	P	**P**	**01 46 23.9**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=309,slow=7.6,SNR=21						
WRA				PcP	PcP	01 47 30.3	-1.3
	0.4nm,0.6s,baz=321,slow=3.2,SNR=6.5						
WRAB	**Tennant Creek**	**53.16**	**130**	*e*P	**P**	**01 46 23.4**	**-0.4**
	1.8nm,0.4s,mb4.3						
ASAR	**Alice Springs**	**55.17**	**134**	P	**P**	**01 46 38.3**	**-0.2**
	0.9nm,0.4s,mb4.2,baz=313,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**57.39**	**308**	P	**P**	**01 46 54.4**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=99,slow=7.6,SNR=5.0						
FINES	**FINESS Array B**	**66.14**	**331**	P	**P**	**01 47 55.7**	**+2.5**
	1.3nm,0.8s,mb4.0,baz=128,slow=25,SNR=6.5						

*ISCJB **24** 01:38:18.3±0.7, 4602N±002×302E±005, h12km±9km, Error ellipse: s-maj=5.5km s-min=3.9km az=40.4*
*LDG **24** 01:38:19.6±0.1, 4603N×302E, h5km, Md1.5/3, Ml1.3/4, Error ellipse: s-maj=2.5km s-min=1.2km az=136.0*
*STR **24** 01:38:20.1±0.7, 4601N×307E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 24 01:38:19.4±0.7, 4603N±002×302E±005, h6km±12km, n11, σ0§37/17, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.08**	**70**	Pg	**Pg**	**01 38 21.3**	**0.0**
AGO				Sg	**Sg**	**01 38 22.5**	**-0.1**
PLDF	**La Plantade**	**0.42**	**97**	Pg	**Pg**	**01 38 27.9**	**+0.4**
PLDF				Sg	**Sg**	**01 38 33.1**	**+0.1**
BGF	**Bois d'Agland**	**0.55**	**347**	*e*Pg	**Pg**	**01 38 30.4**	**+0.5**
BGF				*e*Sg	**Sg**	**01 38 37.1**	**+0.1**
	3.2nm,0.3s						
TCF	**Toulx Ste Croi**	**0.62**	**295**	*e*Pg	**Pg**	**01 38 31.4**	**0.0**
TCF				*e*Sg	**Sg**	**01 38 39.9**	**+0.4**
	0.9nm,0.2s						
AVF	**Avril sur Loir**	**0.80**	**17**	*e*Pg	**Pg**	**01 38 34.5**	**-0.2**
AVF				*e*Sg	**Sg**	**01 38 45.0**	**-0.1**
	1.8nm,0.2s						
LBL	**Lubilhac**	**0.81**	**169**	Pg	**Pg**	**01 38 35.7**	**+0.8**
LBL				Sg	**Sg**	**01 38 45.0**	**-0.4**
SMF	**Signal de Mont**	**0.84**	**42**	*e*Sg	**Sg**	**01 38 46.8**	**+0.3**
	0.7nm,0.2s						
SSF	**Saint Saulge**	**1.09**	**18**	*e*Sg	**Sg**	**01 38 54.0**	**-0.4**
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**1.28**	**236**	*e*Sg	**Sg**	**01 39 00.1**	**-0.4**
	0.7nm,0.2s						
CAF	**Calviac**	**1.29**	**212**	*e*Sg	**Sg**	**01 39 00.4**	**-0.4**
	0.6nm,0.2s						
LOR	**Lormes**	**1.37**	**25**	*e*Sg	**Sg**	**01 39 02.9**	**-0.6**
	0.4nm,0.2s						

*PRE **24** 01:48:23.9±1.2, 2100S×3330E, h5km, ML5.3*
*ISCJB **24** 01:48:31.2±0.6, 2145S±006×3296E±007, h10km, mb4.0/9, MS3.8/4, Error ellipse: s-maj=11.3km s-min=5.7km az=79.8*
*IDC **24** 01:48:32.5±0.9, 2121S×3331E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/24, mbtmp4.2/12, ML4.3/3, MS3.9/9, Ms1 3.9/9, ms1mx3.6/20, Error ellipse: s-maj=28.2km s-min=21.8km az=177.0*
*NEIC **24** 01:48:33.2±0.5, 2136S×3320E, h10km, mb4.5/2, Error ellipse: s-maj=13.8km s-min=9.0km az=144.0*
ISC 24 01:48:32.9±0.6, 2145S±006×3308E±007, h10km, n29, σ1§45/33, mb4.0/9, MS3.8/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.70**	**322**	Pn	**Pn**	**01 50 24.4**	**-0.7**
	3.7nm,0.3s,baz=147,slow=14,SNR=45						
LSZ				Sn	**Sn**	**01 51 48.1**	**-4.3**
	7.3nm,0.3s,baz=210,slow=20,SNR=7.9						
LSZ				Lg		01 52 30.0	
	28nm,0.3s,baz=59,slow=21,SNR=9.8						
LSZ	**Lusaka**	**7.70**	**322**	Pn	**Pn**	**01 50 24.4**	**-0.7**
LSZ				Sn	**Sn**	**01 51 48.1**	**-4.3**
LSZ				Lg		01 52 30.0	
LBTB	**Lobatse**	**7.74**	**241**	Pn	**Pn**	**01 50 28.7**	**+3.0**
	7.0nm,0.3s,baz=67,slow=13,SNR=59						
LBTB				Sn	**Sn**	**01 51 54.1**	**+0.7**
	6.0nm,0.3s,baz=341,slow=18,SNR=4.3						
LBTB				Lg		01 52 33.8	
	20nm,0.3s,baz=341,slow=19,SNR=9.0						
LBTB				LR	LR	01 53 49.6	
	comp=Z,450nm,18.9s,baz=80,slow=39						
SEK	**Senekal**	**8.45**	**215**	*e*S	**Sn**	**01 52 10.2**	**-0.5**
SEK				AML	AML	01 53 17.0	
	comp=Z,616nm,0.7s						
BOSA	**Boshof**	**10.06**	**223**	Pn	**Pn**	**01 50 59.0**	**+1.5**
	comp=Z,3.6nm,0.3s,baz=51,slow=13,SNR=36						
BOSA				Sn	**Sn**	**01 52 48.6**	**-1.6**
	comp=Z,4.4nm,0.3s,baz=313,slow=19,SNR=6.1						
BOSA				Lg		01 53 48.1	
	comp=Z,8.3nm,0.3s,baz=131,slow=22,SNR=3.9						
BOSA				LR	LR	01 55 12.1	
	comp=Z,735nm,19.0s,baz=52,slow=38						
OPO	**Ambohidratompo**	**13.56**	**80**	Pn	**Pn**	**01 51 42.6**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=235,slow=16,SNR=7.5						
OPO				Sn	**Sn**	**01 54 00.5**	**-16**
	comp=Z,2.3nm,0.3s,baz=164,slow=20,SNR=6.0						
TSUM	**Tsumeb**	**14.71**	**276**	Pn	**Pn**	**01 52 00.8**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=100,slow=13,SNR=19						
TSUM				Sn	**Sn**	**01 54 41.3**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=16,slow=16,SNR=5.4						
TSUM				Lg		01 56 16.6	
	comp=Z,2.5nm,0.3s,baz=198,slow=22,SNR=3.0						
TSUM				LR	LR	01 57 46.0	
	comp=Z,414nm,18.6s,baz=89,slow=37						
SUR	**Sutherland**	**15.42**	**223**	*e*P	**Pn**	**01 52 10.9**	**+0.4**
SUR				*e*S	**Sn**	**01 54 57.5**	**-3.8**
SUR	**Sutherland**	**15.42**	**223**	Pn	**Pn**	**01 52 11.1**	**+0.6**
	comp=Z,2.7nm,0.3s,baz=56,slow=16,SNR=33						
SUR				Sn	**Sn**	**01 54 59.1**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=326,slow=9.3,SNR=6.7						
SUR				Lg		01 56 30.9	
	comp=Z,1.5nm,0.3s,baz=141,slow=19,SNR=3.1						
SUR	**Sutherland**	**15.42**	**223**	*e*Pn	**Pn**	**01 52 12.8**	**+2.3**
	comp=Z,48nm,0.8s						
SUR				Sn	**Sn**	**01 54 59.1**	**-2.3**
SUR				Lg		01 56 30.9	
KMBO	**Kilima Mbogo**	**20.61**	**12**	P	**P**	**01 53 13.9**	**+1.7**
	comp=Z,2.2nm,0.9s,baz=200,slow=12,SNR=7.1						
KMBO				Lg		01 59 03.2	
	comp=Z,3.9nm,1.0s,baz=137,slow=22,SNR=3.5						
KMBO				LR	LR	02 00 39.2	
	comp=Z,90nm,19.4s,MS3.1,baz=104,slow=36						
KMBO	**Kilima Mbogo**	**20.61**	**12**	*e*P	**P**	**01 53 12.5**	**+0.3**
	comp=Z,2.1nm,0.8s						
KMBO				Lg		01 59 03.2	
KMBO				LR	LR	02 00 39.2	
TORD	**Torodi Ar. Bea**	**46.17**	**315**	P	**P**	**01 56 59.4**	**+1.6**
	comp=Z,4.7nm,0.8s,mb4.5,baz=128,slow=7.1,SNR=26						
TORD				PP	PP	01 58 49.5	+3.5
	comp=Z,1.4nm,0.7s,baz=132,slow=8.9,SNR=4.0						
DBIC	**Dimbokro**	**46.54**	**303**	P	**P**	**01 57 02.8**	**+2.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=98,slow=16,SNR=5.9						
DBIC				LR	LR	02 15 06.5	
	comp=Z,81nm,19.3s,MS3.7,baz=211,slow=34						
DBIC	**Dimbokro**	**46.54**	**303**	*e*P	**P**	**01 57 03.7**	**+3.1**
	comp=Z,1.5nm,0.8s,mb4.0						
DBIC				LR	LR	02 15 06.5	
BRTR	**Keskin Array B**	**60.86**	**0**	P	**P**	**01 58 44.9**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.9,baz=165,slow=11,SNR=2.7						
COCO	**West Island**	**61.37**	**92**	*e*P	**P**	**01 58 55.1**	**+6.0**
ESDC	**Sonseca Array**	**69.96**	**330**	P	**P**	**01 59 45.3**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.2,baz=132,slow=4.8,SNR=6.4						
AKTK	**Aktyubinsk**	**74.89**	**16**	P	**P**	**02 00 13.2**	**-0.6**
AKTO	**Aktyubinsk**	**74.89**	**16**	P	**P**	**02 00 13.2**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=176,slow=1.9,SNR=3.6						
BDFB	**Brasilia**	**76.33**	**258**	P	**P**	**02 00 25.7**	**+3.6**
	comp=Z,3.9nm,0.7s,mb4.5,baz=119,slow=4.6,SNR=6.2						
BDFB				LR	LR	02 29 55.1	
	comp=Z,163nm,19.0s,MS4.4,baz=7.5,slow=32						
BVAR	**Borovoye Array**	**80.92**	**22**	P	**P**	**02 00 46.7**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=227,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**81.14**	**32**	P	**P**	**02 00 47.7**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=236,slow=6.6,SNR=2.9						
PLCA	**Paso Flores**	**86.02**	**228**	LR	LR	02 32 50.5	
	comp=Z,69nm,20.0s,MS4.0,baz=333,slow=31						
ASAR	**Alice Springs**	**90.87**	**116**	P	**P**	**02 01 38.4**	**+1.7**
	comp=Z,1.9nm,0.9s,mb4.4,baz=252,slow=4.0,SNR=14						
YKA	**Yellowknife Ar**	**133.44**	**340**	PKP	PKPdf	02 07 49.6	+0.3
	comp=Z,0.3nm,0.6s,baz=33,slow=2.0,SNR=4.0						
PDAR	**Pinedale Array**	**142.30**	**313**	PKP	PKPdf	02 08 05.7	0.0
	comp=Z,0.2nm,0.5s,baz=73,slow=2.4,SNR=2.7						
NVAR	**Mina Array Bea**	**150.15**	**311**	PKP	PKPdf	02 08 19.9	+1.0
	comp=Z,0.2nm,0.4s,baz=132,slow=1.3,SNR=4.4						
NVAR				PKPbc	PKPbc	02 08 26.4	+2.5
	comp=Z,0.9nm,0.8s,baz=46,slow=4.3,SNR=6.8						
NVAR	**Mina Array Bea**	**150.15**	**311**	PKP	PKPdf	02 08 19.9	+1.0
NVAR				PKPbc	PKPbc	02 08 26.4	+2.5

IDC 24 01:49:42.7±8.6, 909N×10369W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.7/5, MS3.7/4, Ms1 3.7/4, ms1mx3.3/22, Error ellipse: s-maj=183.0km s-min=127.0km az=123.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**18.51**	**85**	LR	LR	01 59 39.1	
	comp=Z,240nm,18.5s,baz=355,slow=32						
ANMO	**Albuquerque**	**25.86**	**355**	P	P	01 55 17.3	+1.3
	2.2nm,1.1s,baz=173,slow=12,SNR=3.3						
ROSC	**El Rosal**	**29.43**	**96**	LR	LR	02 05 12.2	
	comp=Z,123nm,19.2s,baz=5.4,slow=32						
NVAR	**Mina Array Bea**	**32.03**	**338**	P	P	01 56 11.2	+0.3
	0.5nm,0.8s,baz=161,slow=8.5,SNR=4.5						
NVAR				LR	LR	02 06 37.8	
	comp=Z,86nm,19.5s,baz=175,slow=32						
PDAR	**Pinedale Array**	**33.94**	**352**	P	P	01 56 27.3	-0.2
	1.5nm,1.0s,baz=156,slow=14,SNR=9.0						
ULM	**Lac du Bonnet**	**41.54**	**8**	LR	LR	02 14 45.7	
	comp=Z,190nm,18.3s,baz=1.6,slow=36						
YKA	**Yellowknife Ar**	**53.89**	**354**	P	P	01 59 07.1	-0.6
	0.5nm,0.7s,baz=167,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**63.23**	**341**	P	P	02 00 12.8	0.0
	1.8nm,0.9s,baz=154,slow=5.1,SNR=17						

IDC 24 01:54:39.3±65.0, 2119S×17910W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1184.0km s-min=158.5km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.56**	**245**	P	P	02 01 45.0	-1.8
	0.8nm,0.4s,baz=73,slow=9.6,SNR=4.8						
ASAR	**Alice Springs**	**43.36**	**258**	P	P	02 02 44.0	+0.8
	0.7nm,0.6s,baz=96,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**43.49**	**263**	P	P	02 02 45.7	+1.4
	0.3nm,0.5s,baz=92,slow=8.2,SNR=13						

*NIED **24** 01:55:00, 2480N×12230E, h38km, Mw4.7 Best double couple: M0 1.31000×10^16 NP1:φs245.00000°, δ89.00000°, λ-172.00000°. NP2:φs155.00000°, δ82.00000°, λ-1.00000°.*
*ISCJB **24** 01:55:48.9±0.2, 2473N±003×12229E±002, h20km, mb4.7/61, MS4.3/19, Error ellipse: s-maj=4.0km s-min=2.3km az=18.6*
*JMA **24** 01:55:49.5±0.2, 2484N×12230E, h39km, M4.9*
*BJI **24** 01:55:50.4, 2498N×122.17E, h10km, mB4.8, mb4.6, ML5.0, Ms4.8, Msz4.7*
*NEIC **24** 01:55:50.4, 2472N×12222E, h9km, mb4.9/26, ML5.3(TAP), After TAP.*
NEIC Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien and T'ai-pei; [1 TAP] in Hsin-chu and T'ao-yuan Counties.
*MOS **24** 01:55:50.7±1.2, 2470N×122.15E, h33km, mb5.0/27, MS4.3/12, Error ellipse: s-maj=11.0km s-min=6.5km az=109.0*
*HRVD **24** 01:55:50.4±0.4, 2472N×122.14E, h16km±1km, MW4.8/68, Centroid moment Tensor Solution. LP body waves: s33,c36;Mantle waves: s68,c107; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.92±.16; Mθθ2.26±.11; Mφφ-0.34±.10; Mrθ0.32±.26; Mφθ0.06±.07; Mφr-0.17±.40; Best double couple: M0 2.12500×10^16 NP1:φs82.00000°, δ41.00000°, λ-100.00000°. NP2: φs275.00000°, δ50.00000°, λ-82.00000°. Principal axes: T 2.2860, Plg4.0000°, Azm359.0000°; N -0.3230, Plg6.0000°, Azm90.0000°; P -1.9640, Plg82.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **24** 01:55:55.5±3.6, 2478N×122.40E, h68km±34km, mb4.1/18, mb1 4.2/19, mb1mx4.2/23, mbtmp4.4/19, ML3.5/1, MS4.0/13, Ms1 4.0/13, ms1mx3.7/27 Error ellipse: s-maj=19.4km s-min=11.6km az=70.0*
*NAO **24** 01:55:58.4, 2592N×122.38E, h33km, mb4.5*
ISC 24 01:55:50.5±0.2, 2473N±003×12229E±002, h20km, h20km±2.2km: pP-P, n156, σ1§24/175, mb4.7/61, MS4.3/19, 10C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**112**	P	**Pb**	**01 56 03.7**	**-0.5**
YOJ				S	**Sb**	**01 56 13.8**	**+0.3**
TATO	**Taipei**	**0.77**	**289**	Pn	**Pn**	**01 56 05.0**	**-1.1**
TATO				*e*Sn	**Sn**	**01 56 16.1**	**-1.0**
YHNB	**Yeheng**	**0.83**	**266**	‖*e*P	**Pb**	**01 56 05.2**	**-1.0**
YHNB				*e*S	**Sb**	**01 56 16.1**	**-0.8**
NACB	**Ninganchiao**	**0.84**	**229**	*e*P	**Pb**	**01 56 05.7**	**-0.6**
NACB				*e*S	**Sb**	**01 56 17.0**	**-0.1**
IRIF	**Iriomote-Funau**	**1.37**	**106**	P	**Pn**	**01 56 13.0**	**-1.5**
IRIF				S	**Sn**	**01 56 30.9**	**-1.1**
HATJ	**Hateruma jima**	**1.54**	**115**	P	**Pn**	**01 56 16.0**	**-0.8**
HATJ				*e*S	**Sn**	**01 56 35.4**	**-0.7**
JKRS	**Kuro-shima**	**1.64**	**107**	P	**Pn**	**01 56 17.4**	**-0.8**
JKRS				S	**Sn**	**01 56 38.1**	**-0.6**
JIJ	**Ishigaki jima**	**1.73**	**102**	P	**Pn**	**01 56 18.1**	**-1.3**
JIJ				S	**Sn**	**01 56 39.1**	**-1.7**
JTJ	**Tarama**	**2.20**	**92**	P	**Pn**	**01 56 25.8**	**-0.1**
JMJ	**Miyako jima 2**	**2.74**	**88**	*e*S	**Sn**	**01 57 04.2**	**-1.5**
QZH	**Quanzhou**	**3.36**	**274**	P	**Pn**	**01 56 41.0**	**-0.9**
QZH				S	**Sn**	**01 57 19.4**	**-1.8**
QZH				Smax			
	comp=N,3μm,0.9s						
QZH				Smax			
	comp=E,2μm,1.0s						
QZH				LR	LR		
	comp=N,12μm,9.4s						
QZH				LR	LR		
	comp=E,16μm,8.5s						
QZH				LR	LR		
	comp=Z,16μm,11.3s						
JKE	**Kume jima 2**	**4.37**	**68**	P	**Pn**	**01 56 56.6**	**+0.9**
JAGN	**Aguni-jima**	**4.84**	**66**	P	**Pn**	**01 57 09.0**	**+6.8**
JIH	**Iheya**	**5.61**	**65**	P	**Pn**	**01 57 15.5**	**+2.8**
JOW	**Kunigami**	**5.79**	**67**	P	**Pn**	**01 57 16.4**	**+1.2**
JOW	**Kunigami**	**5.79**	**67**	P	**Pn**	**01 57 16.5**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=236,slow=11,SNR=8.1						
SSE	**Sheshan**	**6.42**	**352**	P	**Pn**	**01 57 21.4**	**-2.5**
SSE				S	**Sn**	**01 58 35.5**	**-1.0**
SSE				Smax			
	comp=N,229nm,0.9s						
SSE				Smax			
	comp=E,267nm,1.2s						
SSE				LR	LR		
	comp=N,4μm,11.1s						
SSE				LR	LR		
	comp=E,1μm,11.2s						
SSE				LR	LR		
	comp=Z,4μm,10.4s						
JTK	**Tokunoshima**	**6.71**	**62**	P	**Pn**	**01 57 28.5**	**+0.6**
CVP	**Callao Caves**	**7.00**	**184**	‖*e*P	**Pn**	**01 57 34.0**	**+2.1**
NJ2	**Nanjing**	**7.90**	**338**	*e*P	**Pn**	**01 57 42.0**	**-2.2**
NJ2				AP		01 57 44.8	
NJ2				XP		01 57 48.9	
NJ2				S	**Sn**	**01 59 11.3**	**-1.6**
NJ2				XS		01 59 22.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s						
NJ2				Smax			
	comp=N,310nm,0.9s						
NJ2				Smax			
	comp=E,190nm,0.6s						
NJ2				LR	LR		
	comp=N,3μm,9.2s						
NJ2				LR	LR		
	comp=E,2μm,7.1s						
NJ2				LR	LR		
	comp=Z,2μm,8.4s						
WHN	**Wuhan**	**9.11**	**311**	‖P	Pn	**01 58 00.0**	**-0.8**
WHN				S	**Sn**	**01 59 36.0**	**-6.8**
WHN				Smax			
	comp=N,839nm,1.3s						
WHN				Smax			
	comp=E,326nm,1.0s						
JNU	**Nakatsue**	**11.25**	**40**	P	**Pn**	**01 58 41.5**	**+11**
	comp=E,0.7nm,0.3s,baz=172,slow=23,SNR=4.3						
JNU				LR	LR	02 03 25.4	
	comp=E,686nm,19.1s,baz=27,slow=40						
TIA	**Tai'an**	**12.28**	**340**	*e*P	**Pn**	**01 58 49.0**	**+4.8**
TIA				LR	LR		
	comp=E,4μm,11.0s						
QIZ	**Qiongzhong**	**12.86**	**246**	P	**Pn**	**01 58 54.8**	**+2.7**
QIZ				S	**Sn**	**02 01 15.3**	**+0.6**
QIZ				LR	LR		
	comp=N,1μm,16.0s						
QIZ				LR	LR		
	comp=E,774nm,10.3s						
QIZ				LR	LR		
	comp=Z,1μm,12.6s						
KS15	**Wonju Array Si**	**13.55**	**19**	Pn	**Pn**	**01 59 00.7**	**-0.8**
DL2	**Dalian**	**14.15**	**358**	*e*P	**Pn**	**01 59 14.8**	**+5.1**
DL2				*e*S	**Sn**	**02 01 54.3**	**+8.3**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
DL2				AMB	AMB		
	comp=Z,130nm,4.4s						
DL2				LR	LR		
	comp=N,1μm,11.5s						
DL2				LR	LR		
	comp=E,650nm,11.1s						
DL2				LR	LR		
	comp=Z,1μm,11.1s						
GYA	**Guiyang**	**14.20**	**280**	P	**Pn**	**01 59 15.4**	**+5.0**
GYA				AP		01 59 19.9	
GYA				XP	sP	01 59 23.5	-2.6
GYA				PP		01 59 26.8	
GYA				S	**Sn**	**02 01 51.3**	**+3.9**
GYA				SS		02 02 05.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
GYA				AMB	AMB		
	comp=Z,1μm,3.0s						
GYA				LR	LR		
	comp=E,2μm,9.6s						
GYA			

comp=Z,3μm,9.3s
XAN Xi'an 14.88 312 P Pn 01 59 18.8 -0.9
XAN AP pP 01 59 27.3 -3.7
XAN AMB AMB
comp=Z,6.0nm,0.8s
XAN LR LR
comp=N,1μm,10.1s
XAN LR LR
comp=E,2μm,12.2s
XAN LR LR
comp=Z,2μm,10.3s
SNY Shenyang 17.09 3 ⇑P Pn 01 59 48.8 +0.7
SNY AP pP 01 59 56.1 +0.6
SNY XP sP 02 00 01.5 +3.4
SNY PP 02 00 03.5
SNY AMB AMB
comp=Z,10.0nm,1.5s
SNY AMB AMB
comp=Z,280nm,4.9s
SNY LR LR
comp=N,2μm,10.7s
SNY LR LR
comp=E,820nm,13.8s
SNY LR LR
comp=Z,3μm,11.2s
CD2 Chengdu 17.50 295 P Pn 01 59 53.3 +0.1
CD2 XP sP 02 00 01.8 -0.9
CD2 PP 02 00 09.0
CD2 S **Sn 02 03 05.8 -1.7**
CD2 XS sS 02 03 14.8 -10
CD2 SS 02 03 26.8
CD2 AMB AMB
comp=Z,10.0nm,1.2s
CD2 LR LR
comp=N,1μm,13.8s
CD2 LR LR
comp=Z,1μm,10.8s
KMI Kunming 17.73 275 P Pn 01 59 57.6 +1.4
KMI AP pP 02 00 01.1 -1.5
KMI XP sP 02 00 04.4 -0.9
KMI PP 02 00 12.6
KMI PPP 02 00 20.9
KMI S **Sn 02 03 11.8 -1.4**
KMI XS sS 02 03 19.1 -10
KMI SS 02 03 34.3
KMI AMB AMB
comp=Z,13nm,0.9s
KMI AMB AMB
comp=Z,191nm,5.2s
KMI LR LR
comp=N,848nm,8.9s
KMI LR LR
comp=E,2μm,9.9s
KMI LR LR
comp=Z,2μm,11.3s
DAV Davao City (W) 17.84 169 Pn Pn 01 59 49.6 -7.8
MAT Matsushiro 18.04 46 P Pn 02 00 01.7 +1.8
MAT S **Sn 02 03 28.0 +7.5**
MAT Matsushiro 18.04 46 P Pn 02 00 02.0 +2.1
MAT *e*S **Sn 02 03 28.0 +7.5**
MAT pmax pmax
comp=Z,10.0nm,1.0s
MAT Matsushiro 18.04 46 P Pn 02 00 02.0 +2.1
comp=Z,10.0nm,1.0s
MAT *e*S **Sn 02 03 28.0 +7.5**
MJAR Matsushiro Arr 18.04 46 P Pn 02 00 03.0 +3.1
comp=Z,0.4nm,0.3s,baz=235,slow=8.7,SNR=5.7
MJAR LR LR 02 07 48.1
comp=Z,477nm,19.1s,baz=220,slow=40
MJAR ScP ScP 02 08 07.0 -1.1
comp=Z,0.8nm,0.3s,baz=200,slow=6.3,SNR=4.5
HHC Hu-ho-hao-te 18.41 333 ⇑P Pn 02 00 06.3 +1.9
HHC AP pP 02 00 10.5 +0.5
HHC XP sP 02 00 14.5 +1.8
HHC PP 02 00 23.8
HHC AMB AMB
comp=Z,30nm,1.3s
HHC AMB AMB
comp=Z,272nm,5.4s
HHC LR LR
comp=N,2μm,9.0s
HHC LR LR
comp=E,2μm,12.0s
HHC LR LR
comp=Z,1μm,9.0s
BTO Baotou 18.87 330 *e*P Pn 02 00 11.9 +1.9
BTO T
comp=E,3μm,12.6s
CN2 Changchun 19.20 7 ⇓P Pn 02 00 14.8 +0.8
CN2 *e*XP sP 02 00 23.9 +2.4
CN2 AMB AMB
comp=Z,50nm,1.1s
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,2μm,11.0s
CN2 LR LR
comp=E,1μm,11.0s
CN2 LR LR
comp=Z,2μm,12.0s
LZH Lanzhou 19.49 310 *e*P Pn 02 00 19.8 +2.4
LZH AP pP 02 00 25.8 +3.9
LZH XP sP 02 00 28.6 +4.0
LZH PP 02 00 38.0
LZH S **Sn 02 03 54.0 -1.5**
LZH XS sS 02 04 02.0 -2.5
LZH SS 02 04 14.0
LZH AMB AMB
comp=Z,50nm,1.2s
LZH AMB AMB
comp=Z,230nm,4.8s
LZH LR LR
comp=N,2μm,10.0s
LZH LR LR
comp=Z,3μm,12.5s
VLA Vladivostok 19.98 21 *c i*P Pn 02 00 24.0 +0.7
VLA pmax pmax
comp=Z,154nm,1.2s
VLA MLR MLR
comp=Z,900nm,13.0s
MDJ Mudanjiang 20.71 15 P P 02 00 31.0 +1.5
MDJ AP 02 00 33.9
MDJ S **S 02 04 22.8 +2.9**
MDJ PCP PcP 02 04 38.4 -0.4
MDJ SCP ScP 02 08 14.9 +0.7
MDJ PCS PcS 02 08 16.6 0.0
MDJ SCS ScS 02 11 58.9 +1.4
MDJ AMB AMB
comp=Z,38nm,1.3s
MDJ AMB AMB
comp=Z,155nm,5.6s
MDJ LR LR
comp=N,601nm,19.0s
MDJ LR LR
comp=E,2μm,13.3s
MDJ LR LR
comp=Z,1μm,11.4s
MDJ Mudanjiang 20.71 15 *e*P P 02 00 30.0 +0.5
comp=Z,110nm,1.6s
GTA Gaotai 23.93 313 P P 02 01 04.1 +1.0
GTA AP 02 01 08.8
GTA XP sP 02 01 12.0 +0.2
GTA AMB AMB
comp=Z,18nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,245nm,6.9s
GTA LR LR
comp=N,1μm,18.3s,MS4.5
GTA LR LR
comp=E,924nm,17.6s,MS4.5
GTA LR LR
comp=Z,834nm,14.5s,MS4.3
HIA Hailar 24.58 356 *e*P P 02 01 09.5 +0.5
HIA pmax pmax
comp=Z,76nm,1.5s
HIA Hailar 24.58 356 *e*P P 02 01 09.5 +0.5
comp=Z,76nm,1.5s,mb5.0
ASAJ Asahikawa 25.47 36 P P 02 01 16.5 -0.6
comp=Z,21nm,0.9s,mb4.7,baz=197,slow=7.9,SNR=4.2
ASAJ LR LR 02 11 30.3
comp=Z,681nm,19.5s,MS4.2,baz=314,slow=37
KLR Kul'dur 25.56 14 *e*P P 02 01 15.3 -2.6
KLR *e*S **S 02 05 50.5 +5.9**
KLR pmax pmax
comp=Z,50nm,1.8s,mb4.7
KLR smax
comp=N,900nm,14.0s
KLR smax
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,8μm,13.0s,MS5.4
ULN Ulaanbaatar 26.06 336 P P 02 01 23.3 +0.8
ULN *PP pP 02 01 29.7 +1.1
ULN pmax pmax
comp=Z,50nm,1.1s,mb5.0
ULN Ulaanbaatar 26.06 336 P P 02 01 23.3 +0.8
comp=Z,50nm,1.1s,mb5.0
ULN pP pP 02 01 29.7 +1.0
SONM Songino Array 26.28 335 P P 02 01 25.5 +1.1
comp=Z,32nm,1.2s,mb4.7,baz=146,slow=8.4,SNR=56
SONM LR LR 02 12 07.7
comp=Z,557nm,18.0s,MS4.2,baz=41,slow=37
YSS Yuzh-Sakhalins 27.54 31⇑ *e*P P 02 01 39.0 +3.2
YSS *i* *SP sP 02 01 46.0 +1.4
YSS *e* 02 02 32.2
YSS *e*S **S 02 06 19.0 +3.1**
YSS *e*SSS 02 07 57.0
YSS pmax pmax
comp=N,40nm,1.1s
YSS pmax pmax
comp=Z,60nm,1.1s,mb5.1
YSS pmax pmax
comp=Z,130nm,1.1s,mb5.5
YSS pmax pmax
comp=N,90nm,1.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.1
YSS Yuzh-Sakhalins 27.54 31 *e*P P 02 01 37.6 +1.8
comp=Z,140nm,1.1s,mb5.5
YSS pP pP 02 01 45.8 +3.8
CIT Chita 28.06 348 *e*P P 02 01 40.8 +0.4
CIT *e* 02 02 40.4
CIT pmax pmax
comp=Z,58nm,1.5s,mb5.0
PSI Prapat 31.35 230 P P 02 02 10.2 +0.6
comp=Z,6.8nm,0.7s,mb4.6,baz=72,slow=5.8,SNR=6.0
JIRN Jiri 32.45 283 *e*P P 02 02 20.5 +1.2
comp=Z,37nm,1.2s,mb5.1
GUN Gumba 32.71 284 *e*P P 02 02 23.1 +1.5
comp=Z,54nm,1.2s,mb5.4
PKI Pulchoki 33.15 283 *e*P P 02 02 26.3 +0.9
KKN Kakani 33.25 283 *e*P P 02 02 27.1 +0.8
comp=Z,23nm,0.9s,mb5.1
KKN Kakani 33.25 283 *e*P P 02 02 27.1 +0.8
KKN pmax pmax
comp=Z,12nm,0.9s,mb4.8
DMN Daman 33.41 283 *e*P P 02 02 28.7 +1.0
comp=Z,41nm,1.2s,mb5.2
BOD Bodaibo 33.59 352 *e*P P 02 02 28.9 -0.4
BOD pmax pmax
comp=Z,4.0nm,2.0s,mb4.0
GKN Gorkha 33.80 284 *e*P P 02 02 31.8 +0.7
comp=Z,42nm,1.0s,mb5.3
WMQ Urumqi 34.02 313 P P 02 02 35.6 +2.7
WMQ XP sP 02 02 44.6 +2.9
WMQ PP PP 02 03 49.6 -0.4
WMQ PCP PcP 02 05 12.6 +2.1
WMQ S **S 02 08 00.0 +2.9**
WMQ SS SS 02 10 07.0 -17
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,125nm,4.0s
WMQ LR LR
comp=N,574nm,10.0s
WMQ LR LR
comp=E,243nm,9.0s
WMQ LR LR
comp=Z,225nm,9.0s
KOLN Koldanda 34.73 284 *e*P P 02 02 40.1 +0.9
comp=Z,27nm,0.9s,mb5.2
YAK Yakutsk 37.63 6 *e*P P 02 03 08.8 +4.9
YAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK MLR MLR
comp=Z,360nm,11.0s,MS4.4
YAK MLR MLR
comp=N,312nm,10.0s,MS4.4
YAK MLR MLR
comp=E,126nm,10.0s,MS4.4
KRAR Krasnoyarsk 37.90 333 *i* P P 02 03 07.0 +0.8
KRAR MLR MLR
comp=Z,800nm,18.0s,MS4.6
MK31 Makanchi Array 38.66 315 *i* P P 02 03 12.6 0.0
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
MKAR Makanchi Array 38.66 315 P P 02 03 12.8 +0.3
comp=Z,1.8nm,0.6s,mb4.0,baz=100,slow=9.9,SNR=25
DDI Dehra Dun 39.43 288 *e*P P 02 03 24.5 +5.5
MA2 Magadan 40.10 22 P P 02 03 25.2 +0.5
MA2 *e*S **S 02 09 30.5 +0.7**
MA2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
MA2 MLR MLR
comp=Z,300nm,22.0s,MS4.1
NVS Novosibirsk 41.60 327 *e*P P 02 03 35.2 -1.8
NVS pmax pmax
comp=N,12nm,2.2s
NVS pmax pmax
comp=E,15nm,2.2s
NVS pmax pmax
comp=Z,22nm,2.2s,mb4.4
PMG Port Moresby 41.71 141 LR LR 02 20 18.9
comp=Z,304nm,18.0s,MS4.2,baz=11,slow=35
KURK Kurchatov 42.33 319 P P 02 03 43.0 +0.1
KURK *e*PP pP 02 03 48.1 -1.2
KURK pmax pmax
comp=Z,31nm,1.3s,mb4.8
KURK Kurchatov 42.33 319 P P 02 03 43.0 0.0
comp=Z,31nm,1.3s,mb4.8
KURK *e*pP pP 02 03 48.1 -1.2
FITZ Fitzroy Crossi 42.69 175 *e*P P 02 03 45.2 -0.7
comp=Z,7.3nm,0.9s,mb4.4
FRU Bishkek 42.92 307 *e*P P 02 03 51.0 +3.2
FRU MLR MLR
comp=Z,700nm,14.0s,MS4.7
AAK Ala-Archa 42.98 307⇑ *e*P P 02 03 48.7 +0.5
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
AAK MLR MLR
comp=Z,400nm,17.0s,MS4.4
SEY Seymchan 43.13 20 *e*P P 02 03 55.7 +6.3
SEY *e* 02 05 37.8
SEY SS SS 02 13 38.3 +11
SEY pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SEY pmax pmax
comp=E,4.0nm,0.5s
SEY MLR MLR
comp=Z,240nm,20.0s,MS4.1
SEY MLR MLR
comp=N,50nm,15.0s,MS4.1
SEY MLR MLR
comp=E,201nm,16.0s,MS4.1
MBWA Marble Bar 45.68 183 *e*P P 02 04 09.2 -0.6
comp=E,5.6nm,0.4s,mb4.8
WRAB Tennant Creek 45.92 164 *d i*P P 02 04 12.3 +0.6
WRAB Tennant Creek 45.92 164 *e*P P 02 04 12.4 +0.7
WRA Warramunga Arr 45.92 164 P **P 02 04 12.3 +0.5**
comp=E,120nm,0.8s,baz=346,slow=8.7,SNR=422
WB2 Warramunga Arr 45.93 164⇓ *i*P P 02 04 12.2 +0.4
TIXI Tiksi 47.10 3 P P 02 04 19.8 -1.2
TIXI *PP pP 02 04 26.3 -1.1
VOSK Vostochnaya 47.47 320 P P 02 04 22.9 -1.0
VOSK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BVAR Borovoye Array 47.90 320 P P 02 04 26.6 -0.5
comp=Z,1.0nm,0.6s,mb4.0,baz=228,slow=41,SNR=9.3
BRVK Borovoye 47.97 320 P P 02 04 27.6 -0.1
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRVK Borovoye 47.97 320 P P 02 04 27.6 -0.1
comp=Z,7.9nm,0.9s,mb4.7
ZRNK Zerenda 48.69 320 P P 02 04 33.4 +0.1
ZRNK pmax pmax
comp=Z,13nm,0.9s,mb5.0
ZRNK Zerenda 48.69 320 P P 02 04 33.4 +0.1
comp=Z,12nm,0.9s,mb4.9
ASAR Alice Springs 49.41 166 P P 02 04 39.7 +0.9
comp=Z,34nm,0.8s,mb5.4,baz=344,slow=6.8,SNR=262
CTA Charters Tower 50.28 150 *e*P P 02 04 46.5 +1.1
comp=Z,14nm,1.0s,mb5.0
CTA Charters Tower 50.28 150 P P 02 04 46.6 +1.2
comp=Z,18nm,1.0s,mb5.1,baz=305,slow=12,SNR=6.3
CTA LR LR 02 26 20.4
comp=Z,94nm,19.5s,MS3.8,baz=45,slow=36
CTA Charters Tower 50.28 150 *e*P P 02 04 46.5 +1.1
CTA pmax pmax
comp=Z,14nm,1.0s
CTAO Charters Tower 50.28 150 P P 02 04 46.7 +1.3
CTAO pmax pmax
comp=Z,38nm,1.2s,mb5.3
CTAO Charters Tower 50.28 150 P P 02 04 46.7 +1.3
comp=Z,38nm,1.2s,mb5.3
BILL Bilibino 50.84 20 *e*P P 02 04 50.9 +1.3
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BILL Bilibino 50.84 20 *e*P P 02 04 50.9 +1.3
comp=Z,4.7nm,0.9s,mb4.4
AB31 Akbulak array 53.78 314 *i* P P 02 05 11.4 -0.1
AB31 pmax pmax
comp=Z,26nm,1.2s,mb5.0
AKTK Aktyubinsk 55.09 315 P P 02 05 20.9 -0.1
AKTO Aktyubinsk 55.09 315 P P 02 05 20.9 -0.1
comp=Z,3.5nm,0.9s,mb4.4,baz=70,slow=12,SNR=6.6
ARU Arti 55.28 323 *e*P P 02 05 22.1 -0.3
ARU *e* 02 07 23.7
ARU *e*PPP 02 08 37.2
ARU *e*S **S 02 13 05.0 -0.1**
ARU *e*SS SS 02 16 49.0 -0.5
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.3
ARU MLR MLR
comp=N,100nm,15.0s,MS4.3
ARU MLR MLR
comp=E,200nm,17.0s,MS4.3
STKA Stephens Creek 59.23 161 *e*P P 02 05 48.7 -1.6
comp=E,6.3nm,0.8s,mb4.7
STKA Stephens Creek 59.23 161 P P 02 05 48.5 -1.8
comp=E,7.7nm,0.9s,mb4.8,baz=345,slow=8.2,SNR=14
KLMR Klimovskoe 65.24 328 *e*P P 02 06 32.2 +1.6
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.0
GNI Garni 65.32 305 *i* P P 02 06 32.7 +1.6
GNI pmax pmax
comp=Z,10.0nm,1.9s
GNI MLR MLR
comp=Z,100nm,25.0s
ZEI Tsey 65.40 308 *e*P P 02 06 30.4 -1.2
ZEI *i* *PP pP 02 06 39.9 +1.7
ZEI pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
VRHR Novokhopersk 65.42 317 *e*P P 02 06 29.2 -2.5
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
UMR Umm Al-Rimmam 65.48 293 *e*P P 02 06 32.4 +0.3
UMR AMb AMB 02 06 35.2
comp=Z,24nm,1.3s,mb5.0
QRN Al-Qurain 65.53 292 *e*P P 02 06 32.3 -0.2
QRN AMb AMB 02 06 33.9
comp=Z,54nm,1.1s,mb5.5
GOF Gofitskoye 65.57 310 *e*P P 02 06 37.5 +4.8
KBD Kabd 65.61 292 *e*P P 02 06 32.8 -0.2
KBD AMb AMB 02 06 34.7
comp=Z,109nm,1.0s,mb5.8
MIB Mutribah 65.73 293 *e*P P 02 06 33.3 -0.5
MIB AMb AMB 02 06 35.3
comp=Z,27nm,0.8s,mb5.3
RDF Al-Radifah 65.79 292 *e*P P 02 06 33.8 -0.4
RDF AMb AMB 02 06 35.8
comp=Z,36nm,0.8s,mb5.4
NAY Al-Naaiem 65.97 292 *e*P P 02 06 35.1 -0.1
NAY AMb AMB 02 06 36.8
comp=Z,14nm,1.1s,mb4.9
OBN Obninsk 67.70 322⇑ *e*P P 02 06 45.0 -1.3
OBN *e* 02 09 11.8
OBN pmax pmax
comp=N,26μm,1.7s
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.5
SOC Sochi 68.21 309 *e*P P 02 06 47.3 -2.2
SOC *e* 02 07 17.3
SOC *e* 02 09 17.2
SOC *e*PPP 02 10 54.1
SOC *e*S S 02 15 44.7 -4.0
SOC pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
SOC MLR MLR
comp=Z,179nm,15.0s,MS4.4
ILAR Eielson Array 68.27 27 P P 02 06 47.8 -2.1
comp=Z,0.2nm,0.8s,baz=275,slow=11,SNR=4.2
ILAR LR LR 02 39 17.2
comp=Z,91nm,19.0s,baz=80,slow=38
ARCES ARCESS Array B 69.41 338 P P 02 06 55.0 -2.0
comp=Z,2.2nm,0.8s,mb4.2,baz=55,slow=6.4,SNR=4.0
ANN Anapa 69.50 311 *e*P P 02 07 01.8 +4.3
ANN *i* 02 07 13.5
ANN pmax pmax
comp=Z,45nm,1.0s,mb5.3
MALT Malatya 70.53 304 P P 02 07 05.0 +1.2
MALT *e*PP pP 02 07 10.0 -0.5
MALT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MALT Malatya 70.53 304 P P 02 07 05.0 +1.2
comp=Z,8.7nm,0.8s,mb4.7
MALT *e*pP pP 02 07 10.0 -0.5
FINES FINESS Array B 71.49 330 P P 02 07 08.8 -0.8
comp=Z,1.4nm,0.7s,mb4.0,baz=65,slow=7.0,SNR=7.1
DAWY Dawson 71.60 27 *e*P P 02 07 09.4 -0.9
DAWY pP pP 02 07 15.4 -1.5
DAWY *e*sP sP 02 07 19.2 -0.2
INK Inuvik 72.35 22 P P 02 07 15.8 +1.0
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 72.35 22 P P 02 07 15.8 +1.0
comp=Z,10nm,1.3s,mb4.6
INK pP pP 02 07 20.1 -1.4
AKASG Malin Array Be 73.13 318 P P 02 07 18.6 -0.9
comp=Z,1.5nm,0.7s,mb4.1,baz=61,slow=5.8,SNR=7.0
BR131 Keskin Array S 73.66 307 P P 02 07 22.9 +0.4
comp=Z,8.7nm,1.1s,mb4.6
BR131 *e*pP pP 02 07 28.2 -1.0
BR131 *e*PcP PcP 02 07 36.6 -1.7
BRTR Keskin Array B 73.66 307 P P 02 07 22.8 +0.2
comp=Z,3.8nm,0.9s,mb4.3,baz=104,slow=5.2,SNR=20
RES Resolute Bay 77.97 9 P P 02 07 50.5 +3.3
RES *e* 02 07 58.7
RES pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
RES Resolute Bay 77.97 9 P P 02 07 50.5 +3.2
comp=Z,4.7nm,1.1s,mb4.3
RES *e* 02 07 58.7
NB2 NORSAR Subarra 78.22 332 P P 02 07 48.7 +0.1
comp=Z,6.6nm,1.2s,mb4.4,baz=59,slow=5.9
NOA NORSAR Array B 78.22 332 P P 02 07 47.5 -1.0
comp=Z,1.4nm,0.8s,mb3.9,baz=59,slow=5.3,SNR=3.7
OJC Ojcow 78.90 320 *e*P P 02 07 58.7 +6.3
DPC Dobruska-Polom 80.84 321 *e*P P 02 08 09.0 +6.1
PVCC Panska Ves 81.74 322 *e*P P 02 08 18.9 +11
PRU Pruhonice 82.02 322 *e*P P 02 08 11.9 +2.8
YKA Yellowknife Ar 82.08 23 P P 02 08 07.7 -1.7
comp=Z,1.2nm,0.7s,mb3.9,baz=312,slow=4.9,SNR=22
YKA LR LR 02 47 23.2
comp=Z,70nm,18.8s,MS4.0,baz=65,slow=38
CLL Collm 82.22 323 *e*P P 02 08 12.0 +1.8
CLL *e*pP pP 02 08 16.0 -0.9
CLL *e*x x 02 08 21.0
CLL Collm 82.22 323 *e*P P 02 08 12.0 +1.8
CLL *e*pP pP 02 08 16.0 -0.9
KHC Kasperske Hory 82.99 321 *e*P P 02 08 22.3 +8.1
GERES GERESS Array B 83.06 321 P P 02 08 14.8 +0.2
comp=Z,0.8nm,0.7s,mb3.9,baz=72,slow=3.2,SNR=2.9
GERES LR LR 02 48 04.4
comp=Z,172nm,18.2s,MS4.5,baz=81,slow=38
KMBO Kilima Mbogo 85.95 267 P P 02 08 29.0 -0.2
comp=Z,1.9nm,0.9s,mb4.3,baz=31,slow=2.9,SNR=6.9
KMBO LR LR 02 49 41.3
comp=Z,78nm,18.3s,MS4.1,baz=90,slow=38

KMBO	Kilima Mbogo	85.95	267	*i* P	P	02 08 31.0	+1.8
KMBO				pmax	pmax		
comp=Z,2.0nm,0.9s							
KMBO	Kilima Mbogo	85.95	267	P	P	02 08 30.9	+1.8
comp=Z,4.1nm,1.2s,mb4.5							
CMB	Columbia Colle	94.27	45	P	P	02 09 07.6	-0.7
CMB				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.9							
CMB	Columbia Colle	94.27	45	P	P	02 09 07.6	-0.7
comp=Z,4.8nm,1.1s,mb4.8							
NVAR	Mina Array Bea	95.35	43	P	P	02 09 11.1	-2.1
comp=Z,0.9nm,0.9s,mb4.2,baz=300,slow=1.5,SNR=4.7							
LBTB	Lobatse	105.72	249	P	Pdif	02 09 59.7	+0.1
LBTB				pmax	pmax		
comp=Z,14nm,0.9s							
LBTB	Lobatse	105.72	249	P	Pdif	02 09 59.7	+0.1
comp=Z,14nm,0.9s							
SNAA	Sanae	124.06	198	⇑*i*PKIKP	PKPdf	02 14 51.5	+4.1
VNA2	Neumayer--Watz	125.71	198	⇑*i*PKPdf	PKPdf	02 14 53.8	+3.3
VNA3	Neumayer Olymp	126.18	197	⇑*i*PKPdf	PKPdf	02 14 51.6	+0.2
SDV	Santo Domingo	144.29	22	*e*PKPdf	PKPdf	02 15 28.1	+3.1
OTAV	Otavalo	148.08	42	*e*PKPdf	PKPdf	02 15 31.8	+0.4

NAO ***24*** *02:10:17.6,2504S×17952W,h33km,mb3.9*
ISCJB ***24*** *02:10:53.6±1.2,266S±0.1×179.1W±0.2,h380km±11km, mb3.8/6, Error ellipse: s-maj=27.1km s-min=17.5km az=147.0*
IDC ***24*** *02:10:54.5±2.2,2648S×17897W,h383km±21km,mb3.8/4, mb1 3.9/5,mb1mx3.6/14,mbtmp4.6/5, Error ellipse: s-maj=40.0km s-min=22.0km az=7.0*
NEIC ***24*** *02:10:55.1±1.3,2669S×17879W,h401km±14km,mb4.2/4, Error ellipse: s-maj=26.2km s-min=19.0km az=190.0*

ISC 24 02:10:55.0±1.2,**267S**±01×**1790W**±02,**h380**km±10km,**n26,** σ0**82**/21,**mb3.8/6,2C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.75**	**159**	P	**Pn**	**02 11 55.6**	**+1.1**
463nm,0.3s,baz=62,slow=20,SNR=30							
RAO				S	**S**	**02 12 40.7**	**-1.9**
171nm,0.3s,baz=108,slow=19,SNR=3.4							
RAO	**Raoul Island**	**2.75**	**159**	*e*Pn	**Pn**	**02 11 54.8**	**+0.2**
RAO				*e*S	**S**	**02 12 43.0**	**+0.3**
URZ	**Urewera**	**12.00**	**195**	P	**P**	**02 13 36.3**	**+0.9**
2.2nm,0.3s,baz=26,slow=0.9,SNR=8.7							
URZ				S	**S**	**02 15 47.7**	**-0.3**
2.9nm,0.3s,baz=65,slow=18,SNR=15							
DZM	**Mont Dzumac**	**14.01**	**286**	P	**P**	**02 14 01.9**	**+4.5**
2.3nm,0.3s,baz=98,slow=9.0,SNR=22							
DZM	**Mont Dzumac**	**14.01**	**286**	*e*P	**P**	**02 14 01.7**	**+4.3**
ARMA	**Armidale**	**26.01**	**255**	*e*P	**P**	**02 15 58.5**	**+3.5**
CTA	**Charters Tower**	**32.46**	**274**	*e*P	**P**	**02 16 51.7**	**+0.2**
9.6nm,0.4s,mb4.4							
CTA	**Charters Tower**	**32.46**	**274**	P	**P**	**02 16 52.0**	**+0.5**
11nm,0.4s,mb4.4,baz=100,slow=11,SNR=23							
CTAO	**Charters Tower**	**32.46**	**274**	*e*P	**P**	**02 16 52.9**	**+1.4**
12nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**34.60**	**252**	P	**P**	**02 17 10.4**	**+0.6**
1.8nm,0.5s,mb3.5,baz=91,slow=13,SNR=5.5							
STKA				PcP	PcP	02 19 33.5	-0.7
1.9nm,0.7s,baz=90,slow=5.1,SNR=3.8							
STKA	**Stephens Creek**	**34.60**	**252**	*e*P	**P**	**02 17 10.0**	**+0.3**
STKA				PcP	PcP	02 19 33.5	-0.7
ASAR	**Alice Springs**	**42.52**	**263**	P	**P**	**02 18 14.6**	**-0.1**
6.2nm,0.7s,mb3.9,baz=98,slow=7.9,SNR=43							
WB2	**Warramunga Arr**	**43.15**	**269**	*e*P	**P**	**02 18 18.8**	**-0.9**
WRAB	**Tennant Creek**	**43.16**	**269**	*e*P	**P**	**02 18 19.2**	**-0.6**
3.0nm,0.6s,mb3.6							
WRA	**Warramunga Arr**	**43.16**	**269**	P	**P**	**02 18 19.2**	**-0.6**
2.1nm,0.4s,mb3.6,baz=107,slow=6.1,SNR=40							
FITZ	**Fitzroy Crossi**	**51.54**	**267**	*e*P	**P**	**02 19 23.3**	**-0.2**
3.2nm,0.4s,mb4.0							
VNA3	**Neumayer Olymp**	**82.07**	**177**	⇑*i*	**P**	**02 22 34.1**	**+0.2**
VNA2	**Neumayer--Watz**	**82.50**	**177**	⇑*i*	**P**	**02 22 35.8**	**-0.3**
baz=189,slow=6.2							
ARCES	**ARCESS Array B**	**134.77**	**348**	PKP	PKPdf	02 29 27.6	-1.4
10nm,1.1s,baz=37,slow=6.1,SNR=4.2							
FINES	**FINESS Array B**	**141.34**	**341**	PKP	PKPdf	02 29 41.2	+0.2
0.8nm,0.5s,baz=71,slow=6.0,SNR=5.5							
FINES	**FINESS Array B**	**141.34**	**341**	PKP	PKPdf	02 29 41.2	+0.2
NB2	**NORSAR Subarra**	**144.94**	**351**	PKPa	PKPdf	02 29 44.7	-2.7
comp=Z,1.5nm,0.7s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**144.94**	**351**	PKP	PKPdf	02 29 44.8	-2.6
comp=Z,1.9nm,0.7s,baz=15,slow=4.5,SNR=7.3							
AKASG	**Malin Array Be**	**147.76**	**326**	PKPbc	PKPbc	02 29 53.4	-2.2
comp=Z,1.9nm,0.5s,baz=45,slow=4.4,SNR=8.6							
BRTR	**Keskin Array B**	**149.90**	**304**	PKPbc	PKPbc	02 29 59.8	-1.1
comp=Z,0.5nm,0.4s,baz=131,slow=2.4,SNR=4.4							
TORD	**Torodi Ar. Bea**	**166.53**	**183**	PKPab	PKPab	02 31 20.4	+0.5
comp=Z,0.3nm,0.4s,baz=169,slow=3.7,SNR=6.6							

IDC ***24*** *02:16:18.7±0.7,1100N×141.18E,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.1/18,mbtmp4.0/10,MS3.6/2, Ms1 3.6/2,ms1mx2.8/25,Error ellipse: s-maj=32.7km s-min=16.8km az=83.0*
ISCJB ***24*** *02:16:21.7±0.5,1085N±008×1409E±02,h33km,mb4.0/15, MS3.5/2,Error ellipse: s-maj=26.3km s-min=11.0km az=155.1*
NEIC ***24*** *02:16:23.5±0.6,1092N×141.05E,h35km,mb4.5/3,Error ellipse: s-maj=28.3km s-min=12.4km az=76.0*

ISC 24 02:16:23.9±0.5,**1090N**±008×**1410E**±02,**h35**km,**n18,** σ1**29**/17,**mb4.0**/15,**MS3.5**/2,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.08**	**163**	P	**P**	**02 21 05.1**	**0.0**
25nm,0.9s,mb4.5,baz=311,slow=8.5,SNR=3.8							
PMG				LR	LR	02 28 39.6	
comp=Z,148nm,18.2s,MS3.4,baz=74,slow=35							
MJAR	**Matsushiro Arr**	**25.65**	**355**	P	**P**	**02 21 51.8**	**+1.5**
2.5nm,0.5s,mb4.0,baz=154,slow=4.6,SNR=7.0							
WRA	**Warramunga Arr**	**31.35**	**192**	P	**P**	**02 22 41.4**	**+0.3**
1.4nm,0.8s,mb3.9,baz=11,slow=9.5,SNR=9.6							
ASAR	**Alice Springs**	**35.06**	**191**	P	**P**	**02 23 14.6**	**+1.2**
0.6nm,0.5s,mb3.8,baz=18,slow=14,SNR=7.5							
ASAR				PcP	PcP	02 25 46.5	+1.7
0.6nm,0.6s,baz=27,slow=2.7,SNR=5.8							
DZM	**Mont Dzumac**	**41.17**	**143**	P	**P**	**02 24 05.7**	**+0.8**
7.0nm,0.9s,mb4.3,baz=298,slow=15,SNR=3.1							
STKA	**Stephens Creek**	**42.54**	**179**	P	**P**	**02 24 13.9**	**-2.1**
0.9nm,0.5s,mb3.8,baz=337,slow=9.6,SNR=3.5							
SONM	**Songino Array**	**46.90**	**328**	P	**P**	**02 24 52.3**	**+1.5**
0.4nm,0.7s,mb3.5,baz=143,slow=8.1,SNR=4.0							
NWAO	**Narrogin (SRO)**	**49.14**	**207**	LR	LR	02 47 18.4	
comp=Z,64nm,19.6s,MS3.6,baz=270,slow=38							
MKAR	**Makanchi Array**	**60.88**	**318**	P	**P**	**02 26 33.7**	**+0.8**
0.5nm,0.4s,mb4.0,baz=103,slow=8.1,SNR=15							
MKAR	**Makanchi Array**	**60.88**	**318**	P	**P**	**02 26 33.7**	**+0.8**
KURK	**Kurchatov**	**64.26**	**321**	*e*P	**P**	**02 26 55.4**	**-0.1**
9.3nm,1.3s,mb4.7							
BRVK	**Borovoye**	**69.80**	**323**	*e*P	**P**	**02 27 28.2**	**-2.5**
1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**70.55**	**322**	*e*P	**P**	**02 27 35.3**	**0.0**
5.0nm,1.0s,mb4.4							
ZRNK				*e*	pP	02 27 48.1	+2.0
ILAR	**Eielson Array**	**72.58**	**25**	P	**P**	**02 27 45.5**	**-2.0**
0.7nm,0.7s,mb3.7,baz=249,slow=6.1,SNR=14							
YKA	**Yellowknife Ar**	**86.94**	**27**	P	**P**	**02 29 05.0**	**-0.3**
0.7nm,0.4s,mb4.2,baz=289,slow=5.1,SNR=14							
YKA	**Yellowknife Ar**	**86.94**	**27**	P	**P**	**02 29 05.0**	**-0.3**
NVAR	**Mina Array Bea**	**91.52**	**51**	P	**P**	**02 29 28.1**	**+1.3**
0.6nm,0.8s,mb4.0,baz=264,slow=7.7,SNR=6.4							
FINES	**FINESS Array B**	**91.97**	**334**	P	**P**	**02 29 27.1**	**-1.8**
0.8nm,0.7s,mb4.2,baz=69,slow=3.3,SNR=5.9							

NAO ***24*** *02:36:21.7,2483N×9309E,h33km,mb4.0*
NEIC ***24*** *02:36:28.4±2.3,2639N×9242E,h10km,mb3.8/3,Error ellipse: s-maj=37.3km s-min=33.5km az=169.0*
IDC ***24*** *02:36:29.5±5.1,2671N×9217E,h0km,mb3.5/6,mb1 3.7/6, mb1mx3.5/21,mbtmp3.6/6,Error ellipse: s-maj=98.8km s-min=48.2km az=154.0*
ISCJB ***24*** *02:36:32.2±1.3,2645N±008×922E±0.1,h48km±15km, mb3.6/9,Error ellipse: s-maj=20.5km s-min=12.6km az=32.3*

ISC 24 02:36:31.9±2.0,**2638N**±009×**925E**±02,**h37**km±17km,**n15,** σ0**85**/18,**mb3.6/9,Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.97**	**213**	*e*P	**Pn**	**02 36 48.8**	**-0.2**
SHL				*i* x	x	02 36 49.5	
SHL				*e*S	**Sn**	**02 37 01.0**	**-0.5**
SHL				AML	AML	02 38 15.0	
comp=N,4μm,0.1s							
SHL				AML	AML	02 38 15.3	
comp=E,12μm,0.2s							
LSA	**Lhasa**	**3.50**	**341**	*e*Pn	**Pn**	**02 37 23.7**	**-0.1**
LSA				*e*Sn	**Sn**	**02 37 57.9**	**-6.2**
BOK	**Bokaro**	**6.51**	**248**	*i* P	**Pn**	**02 38 06.4**	**+1.4**
BOK				*i* S	**Sn**	**02 39 12.4**	**-5.6**
ALBI	**Allahabad**	**9.67**	**266**	*e*P	**Pn**	**02 38 48.5**	**+0.1**
NGP	**Nagpur**	**13.35**	**250**	*e*P	**Pn**	**02 39 38.5**	**-0.3**
AAK	**Ala-Archa**	**21.89**	**322**	*e*P	**P**	**02 41 22.9**	**+1.3**
comp=E,1.3nm,0.7s,mb3.5							
MKAR	**Makanchi Array**	**21.91**	**341**	P	**P**	**02 41 19.9**	**-1.9**
comp=E,0.7nm,0.5s,mb3.4,baz=146,slow=13,SNR=19							
SONM	**Songino Array**	**24.04**	**23**	P	**P**	**02 41 44.6**	**+1.1**
comp=E,0.3nm,0.6s,mb2.9,baz=229,slow=6.6,SNR=2.7							
ULN	**Ulaanbaatar**	**24.31**	**24**	*e*P	**P**	**02 41 52.9**	**+7.1**
comp=E,1.2nm,0.6s,mb3.5							
BVAR	**Borovoye Array**	**31.32**	**334**	P	**P**	**02 42 47.6**	**-1.0**
comp=E,0.4nm,0.6s,mb3.4,baz=153,slow=9.7,SNR=3.2							
ZRNK	**Zerenda**	**31.82**	**333**	P	**P**	**02 42 52.5**	**-0.5**
comp=E,0.7nm,0.3s,mb4.0							
FINES	**FINESS Array B**	**55.93**	**328**	P	**P**	**02 46 05.9**	**-0.2**
comp=E,0.6nm,0.7s,mb3.8,baz=94,slow=11,SNR=4.8							
NB2	**NORSAR Subarra**	**63.10**	**327**	P	**P**	**02 46 55.9**	**+0.3**
comp=Z,1.7nm,0.9s,mb4.2,baz=84,slow=6.5							
NOA	**NORSAR Array B**	**63.10**	**327**	P	**P**	**02 46 56.0**	**+0.4**
comp=Z,0.9nm,0.8s,mb4.0,baz=96,slow=5.4,SNR=4.0							
GERES	**GERESS Array B**	**63.44**	**314**	P	**P**	**02 46 58.2**	**+0.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=90,slow=8.4,SNR=5.4							

ISCJB ***24*** *02:46:54.3±0.7,4601N±002×302E±004,h14km±8km, Error ellipse: s-maj=5.4km s-min=3.6km az=47.4*
LDG ***24*** *02:46:55.8±0.1,4602N×302E,h5km,Md1.8/3,Ml1.4/4, Error ellipse: s-maj=1.7km s-min=0.9km az=127.0*
STR ***24*** *02:46:55.7±0.6,4600N×304E,h2km±1km,Ml1.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 02:46:55.3±0.6,**4601N**±002×**303E**±004,**h9**km±10km,**n11,** σ0**32**/21,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.08**	**62**	Pg	**Pg**	**02 46 57.6**	**+0.1**
AGO				Sg	**Sg**	**02 46 58.8**	**-0.2**
PLDF	**La Plantade**	**0.41**	**96**	Pg	**Pg**	**02 47 03.1**	**-0.3**
PLDF				Sg	**Sg**	**02 47 09.5**	**+0.6**
BGF	**Bois d'Agland**	**0.56**	**347**	*e*Pg	**Pg**	**02 47 06.7**	**+0.6**
BGF				*e*Sg	**Sg**	**02 47 13.3**	**-0.2**
4.2nm,0.3s							
TCF	**Toulx Ste Croi**	**0.63**	**296**	*e*Pg	**Pg**	**02 47 07.6**	**+0.1**
TCF				*e*Sg	**Sg**	**02 47 16.2**	**+0.4**
0.8nm,0.2s							
LBL	**Lubilhac**	**0.80**	**169**	Pg	**Pg**	**02 47 11.0**	**+0.3**
LBL				Sg	**Sg**	**02 47 20.7**	**-0.3**
AVF	**Avril sur Loir**	**0.81**	**16**	*e*Pg	**Pg**	**02 47 10.8**	**-0.1**
AVF				*e*Sg	**Sg**	**02 47 21.3**	**-0.1**
1.8nm,0.2s							
SMF	**Signal de Mont**	**0.85**	**41**	*e*Pg	**Pg**	**02 47 11.7**	**+0.1**
SMF				*e*Sg	**Sg**	**02 47 23.1**	**+0.5**
0.6nm,0.2s							
SSF	**Saint Saulge**	**1.10**	**17**	*e*Pg	**Pg**	**02 47 16.5**	**+0.1**
SSF				*e*Sg	**Sg**	**02 47 30.3**	**-0.4**
0.3nm,0.1s							
RJF	**Les Rejaudoux**	**1.28**	**237**	*e*Pg	**Pg**	**02 47 19.6**	**-0.2**
RJF				*e*Sg	**Sg**	**02 47 36.4**	**0.0**
1.5nm,0.3s							
CAF	**Calviac**	**1.28**	**212**	*e*Pg	**Pg**	**02 47 19.6**	**-0.4**
CAF				*e*Sg	**Sg**	**02 47 36.7**	**+0.1**
0.6nm,0.2s							
LOR	**Lormes**	**1.38**	**24**	*e*Sg	**Sg**	**02 47 39.2**	**-0.5**
0.4nm,0.2s							

NAO ***24*** *02:50:45.4,2952S×17839W,h33km,mb4.0*
ISCJB ***24*** *02:51:20.8±0.8,2975S±007×1794W±02,h338km±10km, mb4.0/8,Error ellipse: s-maj=22.0km s-min=10.0km az=26.0*
IDC ***24*** *02:51:21.7±1.2,2972S×17921W,h342km±11km,mb3.9/5, mb1 4.0/6,mb1mx3.7/14,mbtmp4.5/6,Error ellipse: s-maj=24.0km s-min=17.0km az=151.0*
NEIC ***24*** *02:51:21.5±0.7,2976S×179.14W,h348km±8km,mb4.2/5, Error ellipse: s-maj=22.4km s-min=12.5km az=145.0*

ISC 24 02:51:21.8±0.9,**2982S**±007×**1793W**±02,**h336**km±10km, **n38,** σ0**95**/33,**mb4.0**/8,**3D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**65**	P	**Pn**	**02 52 07.6**	**0.0**
258nm,0.3s,baz=83,slow=8.4,SNR=21							
RAO				S	**S**	**02 52 37.1**	**-7.3**
102nm,0.3s,baz=252,slow=20,SNR=2.7							
MXZ	**Matakaoa Point**	**7.97**	**194**	*e*PN	**Pn**	**02 53 15.4**	**0.0**
MXZ				SN	**S**	**02 54 47.0**	**-0.9**
PUZ	**Puketiti**	**8.48**	**193**	*e*PN	**Pn**	**02 53 22.3**	**+0.9**
PUZ				*e*SN	**S**	**02 54 57.9**	**-1.0**
MWZ	**Matawai**	**8.89**	**196**	*e*PN	**Pn**	**02 53 27.9**	**+1.5**
URZ	**Urewera**	**8.93**	**199**	P	**Pn**	**02 53 28.2**	**+1.4**
1.9nm,0.3s,baz=314,slow=6.9,SNR=44							
URZ				S	**S**	**02 55 10.2**	**+1.3**
6.8nm,0.3s,baz=96,slow=22,SNR=13							
URZ	**Urewera**	**8.93**	**199**	*e*PN	**Pn**	**02 53 27.0**	**+0.2**
URZ				*e*SN	**S**	**02 55 09.8**	**+0.9**
BFZ	**Birch Farm**	**11.43**	**197**	*e*PN	**Pn**	**02 53 58.1**	**+1.2**
MRZ	**Mangatainoka R**	**11.59**	**200**	*e*PN	**Pn**	**02 53 58.5**	**-0.4**
KIW	**Kapiti Island**	**11.98**	**202**	*e*PN	**Pn**	**02 54 02.6**	**-0.8**
TCW	**Tory Channel**	**12.51**	**203**	*e*PN	**Pn**	**02 54 09.0**	**-0.7**
TCW				*e*SN	**S**	**02 56 23.6**	**-4.7**
TUWZ	**Tuamarina**	**12.81**	**203**	*e*PN	**Pn**	**02 54 11.9**	**-1.5**
THZ	**Tophouse**	**13.48**	**206**	*e*PN	**Pn**	**02 54 21.6**	**+0.3**
KHZ	**Kahutara**	**13.83**	**203**	*e*PN	**Pn**	**02 54 24.3**	**-1.1**
DZM	**Mont Dzumac**	**14.96**	**298**	P	**P**	**02 54 41.3**	**+4.8**
1.1nm,0.3s,baz=90,slow=19,SNR=4.4							
CTA	**Charters Tower**	**32.59**	**279**	*e*P	**P**	**02 57 24.8**	**+2.0**
4.4nm,0.4s,mb4.0							
CTA	**Charters Tower**	**32.59**	**279**	P	**P**	**02 57 24.1**	**+1.3**
5.1nm,0.5s,mb4.0,baz=94,slow=10,SNR=10.0							
STKA	**Stephens Creek**	**33.51**	**256**	⇓*i*P	**P**	**02 57 30.3**	**-0.4**
2.6nm,0.4s,mb3.8							
STKA	**Stephens Creek**	**33.51**	**256**	P	**P**	**02 57 30.4**	**-0.3**
2.9nm,0.4s,mb3.9,baz=102,slow=9.6,SNR=17							
ASAR	**Alice Springs**	**42.01**	**267**	P	**P**	**02 58 41.4**	**+0.2**
5.3nm,0.8s,mb3.7,baz=105,slow=7.8,SNR=44							
ASAR				PcP	PcP	03 00 28.9	-0.2
0.4nm,0.4s,baz=114,slow=3.9,SNR=4.7							
WB2	**Warramunga Arr**	**42.94**	**272**	*e*P	**P**	**02 58 47.7**	**-0.8**
WRAB	**Tennant Creek**	**42.94**	**272**	*e*P	**P**	**02 58 48.4**	**-0.1**
18nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**42.95**	**272**	P	**P**	**02 58 48.9**	**+0.3**
15nm,0.5s,mb4.4,baz=110,slow=7.5,SNR=156							
FITZ	**Fitzroy Crossi**	**51.23**	**270**	*e*P	**P**	**02 59 52.4**	**+0.4**
9.2nm,0.8s,mb4.1							
MBWA	**Marble Bar**	**55.16**	**264**	*e*P	**P**	**03 00 19.8**	**-0.6**
6.6nm,0.7s,mb4.1							
VNA3	**Neumayer Olymp**	**78.95**	**177**	⇓*i*	**P**	**03 02 49.7**	**+1.0**
VNA2	**Neumayer--Watz**	**79.37**	**177**	⇓*i*	**P**	**03 02 51.9**	**+0.9**
baz=197,slow=5.3							
ILAR	**Eielson Array**	**97.62**	**13**	P	**P**	**03 04 16.4**	**-2.1**
0.9nm,1.2s,mb3.9,baz=218,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**116.54**	**311**	PKP	PKPdf	03 09 24.1	-1.9
0.1nm,0.4s,baz=99,slow=0.3,SNR=4.5							
JOF	**Joensuu**	**141.46**	**338**	*ep*	PKPdf	03 10 05.9	-7.1
16nm,2.1s							
KAF	**Kangasniemi**	**143.62**	**340**	*ep*	PKPdf	03 10 11.4	-5.4
11nm,1.6s,baz=14,slow=3.9							
FINES	**FINESS Array B**	**144.21**	**339**	PKP	PKPdf	03 10 14.3	-3.5
4.8nm,0.4s,baz=55,slow=4.4,SNR=93							
FINES	**FINESS Array B**	**144.21**	**339**	PKP	PKPdf	03 10 14.3	-3.5
NB2	**NORSAR Subarra**	**148.00**	**350**	PKPa	PKPbc	03 10 25.4	-2.4
comp=Z,1.7nm,0.5s,baz=16,slow=2.8							
NOA	**NORSAR Array B**	**148.00**	**350**	PKPbc	PKPbc	03 10 25.7	-2.1
comp=Z,2.8nm,0.7s,baz=16,slow=4.3,SNR=12							
NOA	**NORSAR Array B**	**148.00**	**350**	PKPbc	PKPbc	03 10 25.7	-2.1
AKASG	**Malin Array Be**	**150.16**	**322**	PKPbc	PKPbc	03 10 31.0	-2.1
comp=Z,1.5nm,0.5s,baz=48,slow=2.8,SNR=12							
BRTR	**Keskin Array B**	**151.33**	**299**	PKPbc	PKPbc	03 10 34.9	-0.9
comp=Z,0.5nm,0.5s,baz=147,slow=6.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**163.38**	**183**	PKPab	PKPab	03 11 38.5	+1.0
comp=Z,1.2nm,0.5s,baz=184,slow=3.4,SNR=30							

IDC ***24*** *03:00:15.0±0.6,1059S×16424E,h0km,mb4.6/13, mb1 4.7/13,mb1mx4.7/15,mbtmp4.5/13,ML5.6/1,MS4.7/18, Ms1 4.7/18,ms1mx4.6/20,Error ellipse: s-maj=22.2km s-min=15.8km az=99.0*
ISCJB ***24*** *03:00:17.9±0.2,1076S±004×16443E±004,h31km, mb4.9/65,MS4.8/29,Error ellipse: s-maj=5.9km s-min=5.2km az=144.5*
MOS ***24*** *03:00:18.5±1.4,1057S×16439E,h33km,mb5.1/25, MS4.6/6,Error ellipse: s-maj=9.9km s-min=9.4km az=92.2*
NAO ***24*** *03:00:19.1,1000S×16400E,h33km,mb4.8*
NEIC ***24*** *03:00:20.8±1.4,1063S×16438E,h41km±13km,mb4.9/38, Error ellipse: s-maj=9.1km s-min=8.6km az=196.0*
HRVD ***24*** *03:00:20.8±0.2,1051S×16439E,h22km±1km,MW5.5/98, Centroid moment Tensor Solution. LP body waves: s92,c161;Mantle waves: s98,c201; Half duration: 1ŝ3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06±.03; $M_{\theta\theta}$1.93±.03; $M_{\phi\phi}$-1.86±.04; $M_{r\theta}$-0.55±.05; $M_{\theta\phi}$0.25±.03; $M_{\phi r}$0.24±.05; Best double couple: $M_0$2.00100×10^{17} NP1:ϕ_s221.00000°,δ74.00000°,λ176.00000°. NP2: ϕ_s312.00000°,δ86.00000°,λ16.00000°. Principal axes: T 2.0820, Plg14.0000°, Azm177.0000°; N -0.1570, Plg73.0000°, Azm324.0000°; P -1.9190, Plg9.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***24*** *03:00:21.1,10.10S×16447E,h29km,mB5.1,mb4.9,Ms5.2, Msz4.8*

ISC 24 03:00:20.1±0.2,**1068S**±004×**16447E**±004,**h33**km, **h33**km±1.1km:**pP-P,n146,**σ1**$\hat{s}$32**/131,**mb4.9**/65,**MS4.8**/29, **6C-4D,Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**285**	Pn	**Pn**	**03 01 27.1**	**-0.6**
493nm,0.3s,baz=111,slow=1.7,SNR=70							
HNR				Sn	**Sn**	**03 02 20.4**	**+0.2**
518nm,0.3s,baz=77,slow=22,SNR=7.6							
HNR				LR	LR	03 02 59.5	
comp=Z,8μm,21.6s,baz=172,slow=38							
HNR	**Honiara**	**4.62**	**285**	P	**Pn**	**03 01 27.1**	**-0.6**
HNR						03 02 20.4	
HNR				pmax	pmax		
comp=Z,493nm,0.3s							
HNR				MLR	MLR		
comp=Z,8μm,21.6s							
HNR	**Honiara**	**4.62**	**285**	*e*Pn	**Pn**	**03 01 26.9**	**-0.7**
BKM	**Butte a Klehm**	**7.85**	**153**	⇑*i*P	**Pn**	**03 02 11.4**	**-0.5**
DZM	**Mont Dzumac**	**11.48**	**171**	Pn	**Pn**	**03 03 02.5**	**+0.8**
comp=Z,36nm,0.3s,baz=352,slow=13,SNR=125							
DZM				Sn	**Sn**	**03 05 07.8**	**-0.9**
comp=Z,1.7nm,0.3s,baz=131,slow=19,SNR=3.2							
DZM				LR	LR	03 06 49.3	
comp=Z,2μm,18.7s,baz=14,slow=34							
DZM	**Mont Dzumac**	**11.48**	**171**	*e*P	**Pn**	**03 03 02.4**	**+0.7**
NOUC	**Port Laguerre**	**11.49**	**171**	*e*P	**Pn**	**03 03 02.7**	**+0.9**
PMG	**Port Moresby**	**17.09**	**273**	*e*P	**Pn**	**03 04 18.5**	**+2.0**
PMG				pmax	pmax		
comp=Z,53nm,1.1s							
PMG	**Port Moresby**	**17.09**	**273**	*e*P	**Pn**	**03 04 18.5**	**+2.1**
comp=Z,53nm,1.1s							
CTA	**Charters Tower**	**19.88**	**240**	⇑*i*P	**Pn**	**03 04 49.3**	**-1.0**
comp=Z,163nm,0.9s							
CTA	**Charters Tower**	**19.88**	**240**	P	**Pn**	**03 04 48.9**	**-1.4**
comp=Z,3.4nm,0.3s,baz=65,slow=12,SNR=28							
CTA				LR	LR	03 11 02.9	
comp=Z,1μm,21.1s,baz=58,slow=33							
CTA	**Charters Tower**	**19.88**	**240**	⇑*i*P	**Pn**	**03 04 49.3**	**-1.0**
CTA				pmax	pmax		
comp=Z,163nm,0.9s							
AFI	**Afiamalu**	**23.42**	**100**	LR	LR	03 12 59.3	
comp=Z,3μm,19.6s,MS4.8,baz=267,slow=32							
RAO	**Raoul Island**	**24.74**	**141**	LR	LR	03 11 59.4	
comp=Z,876nm,20.8s,MS4.2,baz=172,slow=28

comp=Z,600nm,18.0s,MS4.8
YSS MLR MLR
comp=N,600nm,17.0s
NJ2 Nanjing 60.89 316 *e*P **P** **03 10 35.3 +5.8**
NJ2 AP pP 03 10 45.4 +5.8
NJ2 XP sP 03 10 48.3 +4.8
NJ2 PP PP 03 12 51.0 +7.3
NJ2 S **S** **03 18 49.0 +4.0**
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,8.0s
NJ2 LR LR
comp=N,3μm,20.9s,MS5.5
NJ2 LR LR
comp=E,1μm,22.0s,MS5.5
NJ2 LR LR
comp=Z,430nm,19.0s,MS4.6
VLA Vladivostok 61.25 333 *e*P **P** **03 10 35.5 +3.6**
VLA *e*S **S** **03 18 59.6 +10**
VLA pmax pmax
comp=Z,42nm,1.5s,mb5.3
VLA MLR MLR
comp=Z,500nm,16.0s,MS4.8
QIZ Qiongzhong 61.41 299 P **P** **03 10 34.9 +1.9**
QIZ S **S** **03 18 53.6 +1.9**
QIZ XS sS 03 19 11.3 +2.9
QIZ LR LR
comp=E,437nm,18.7s
QIZ LR LR
comp=Z,443nm,22.0s,MS4.6
MDJ Mudanjiang 63.45 333 P **P** **03 10 48.4 +1.7**
MDJ AP pP 03 10 57.4 +0.6
MDJ XP sP 03 11 01.3 +0.6
MDJ PCP PcP 03 11 24.9 +1.7
MDJ PP PP 03 13 10.9 +4.6
MDJ S **S** **03 19 22.0 +4.6**
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,151nm,6.7s
MDJ LR LR
comp=N,463nm,40.2s
MDJ LR LR
comp=E,433nm,45.4s
MDJ LR LR
comp=Z,539nm,18.2s
HABR Khabarovsk 64.39 339 *e*P **P** **03 10 50.6 -2.2**
HABR *e*S **S** **03 19 26.6 -2.4**
HABR pmax pmax
comp=Z,23nm,0.9s,mb5.2
HABR MLR MLR
comp=Z,440μm,19.0s
CN2 Changchun 64.79 330 *e*P **P** **03 10 54.6 -0.9**
CN2 *e*XP sP 03 11 07.3 -2.2
CN2 *e*S **S** **03 19 36.6 +2.6**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,17.0s,MS5.0
CN2 LR LR
comp=E,500nm,17.0s,MS5.0
CN2 LR LR
comp=Z,600nm,21.0s,MS4.8
KLR Kul'dur 66.23 337 *e*P **P** **03 11 01.9 -2.9**
ENH Enshi 66.70 310 *e*P **P** **03 11 08.1 +0.4**
comp=Z,8.5nm,0.7s,mb4.9
ENH *e* pP 03 11 16.6 -1.4
VNDA Vanda 66.84 181 P **P** **03 11 10.4 +1.8**
comp=Z,7.8nm,0.9s,mb4.7,baz=6.1,slow=8.6,SNR=3.6
VNDA LR LR 03 37 03.7
comp=Z,451nm,18.0s,MS4.7,baz=3.3,slow=33
GYA Guiyang 67.18 305 P **P** **03 11 12.3 +1.5**
GYA AP pP 03 11 22.8 +1.8
GYA XP sP 03 11 26.5 +1.6
GYA PP PP 03 13 39.0 0.0
GYA S S 03 19 53.9 -9.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,80nm,3.0s
GYA LR LR
comp=N,670nm,18.2s,MS5.0
GYA LR LR
comp=E,480nm,18.8s,MS5.0
XAN Xi'an 68.95 313 P **P** **03 11 24.3 +2.4**
XAN AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
HHC Hu-ho-hao-te 70.75 320 *e*P **P** **03 11 38.3 +5.3**
HHC AP pP 03 11 47.9 +4.6
HHC XP sP 03 11 52.8 +5.7
HHC PCP PcP 03 11 56.3 +2.6
HHC AMB AMB
comp=Z,118nm,8.4s
HHC LR LR
comp=N,451nm,19.2s,MS4.8
HHC LR LR
comp=E,387nm,22.8s,MS4.8
HHC LR LR
comp=Z,467nm,28.8s
MA2 Magadan 70.89 353 *i*P **P** **03 11 33.0 -0.8**
MA2 MLR MLR
comp=Z,500nm,23.0s,MS4.7
CD2 Chengdu 71.39 308 P **P** **03 11 38.8 +1.9**
CD2 AP pP 03 11 48.8 +1.6
CD2 PCP PcP 03 11 57.9 +1.5
CD2 PP PP 03 14 19.8 +4.4
CD2 PPP 03 16 03.1
CD2 S S 03 20 56.4 +3.7
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 LR LR
comp=N,260nm,10.2s
CD2 LR LR
comp=Z,160nm,16.8s
HIA Hailar 71.44 331 *e*P **P** **03 11 37.6 +0.4**
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 71.44 331 *e*P **P** **03 11 37.6 +0.4**
comp=Z,14nm,0.8s,mb4.9
LZH Lanzhou 73.59 313 *e*P **P** **03 11 54.1 +4.1**
LZH AP pP 03 12 02.6 +2.3
LZH XP sP 03 12 07.5 +3.4
LZH PP PP 03 14 41.0 +6.8
LZH *e*S S 03 21 25.0 +7.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,100nm,5.9s
LZH LR LR
comp=E,709nm,16.2s
LZH LR LR
comp=Z,997nm,17.5s,MS5.2
SEY Seymchan 73.98 354⇑ *e*P **P** **03 11 51.2 -1.1**
CIT Chita 76.22 330 *e*P **P** **03 12 05.4 +0.2**
CIT pmax pmax
comp=Z,50nm,1.5s,mb5.2
ULN Ulaanbaatar 77.28 324 *e*P **P** **03 12 11.1 0.0**
ULN pmax pmax
comp=Z,23nm,0.9s,mb5.1
ULN Ulaanbaatar 77.28 324 *e*P **P** **03 12 11.1 0.0**
comp=Z,22nm,0.9s,mb5.1
ULN *e* 03 12 30.1
YAK Yakutsk 77.40 344 *e*P **P** **03 12 09.9 -1.9**
YAK *e* 03 12 29.3
YAK pmax pmax
comp=Z,12nm,1.1s,mb4.7
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.9
YAK pmax pmax
comp=N,3.0nm,1.1s
SONM Songino Array 77.64 324 P **P** **03 12 13.7 +0.5**
comp=N,4.5nm,0.9s,mb4.4,baz=123,slow=3.0,SNR=13
SONM LR LR 03 45 16.2
comp=N,362nm,19.8s,MS4.7,baz=108,slow=35
GTA Gaotai 77.91 314 P **P** **03 12 16.4 +1.8**
GTA AP pP 03 12 26.8 +1.8
GTA XP sP 03 12 30.8 +1.9
GTA PP PP 03 15 14.9 +4.2
GTA PPP 03 17 03.8
GTA S S 03 22 07.4 +1.9
GTA XS sS 03 22 24.1 +1.4
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.1
GTA AMB AMB
comp=Z,101nm,7.3s
GTA LR LR
comp=N,276nm,16.8s
GTA LR LR
comp=E,228nm,25.2s
GTA LR LR
comp=Z,359nm,22.6s
BILL Biiibino 78.53 1 *i*P **P** **03 12 16.0 -2.1**
BILL pmax pmax
comp=Z,12nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,300nm,16.0s,MS4.7
BILL Bilibino 78.53 1 *e*P **P** **03 12 15.8 -2.2**
comp=Z,20nm,1.0s,mb5.0
TNA Tin City 78.76 11 *e*P **P** **03 12 18.9 -0.4**
comp=Z,7.0nm,1.6s,mb4.3
TNA *e* pP 03 12 30.3 +0.6
QSPA South Pole Qui 79.32 180 *e*P **P** **03 12 22.8 +0.4**
comp=Z,15nm,1.0s,mb4.9
SLKM Skilak Lake 79.51 21 *e*P **P** **03 12 21.9 -1.6**
BOD Bodaibo 79.67 335 *e*P **P** **03 12 24.2 -0.1**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
PMR Palmer 80.65 21 *e*P **P** **03 12 29.7 +0.1**
PMR pmax pmax
comp=Z,13nm,1.2s,mb4.7
PMR Palmer 80.65 21 *e*P **P** **03 12 29.7 +0.1**
comp=Z,13nm,1.2s,mb4.8
ZAK Zakamensk 80.69 325 *e*P **P** **03 12 30.6 +0.8**
ZAK pmax pmax
comp=Z,14nm,1.5s,mb4.7
LSA Lhasa 81.10 302 P **P** **03 12 34.3 +2.3**
MCK McKinley 82.21 19 *e*P **P** **03 12 37.0 -0.8**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MCK McKinley 82.21 19 *e*P **P** **03 12 37.0 -0.8**
comp=Z,8.5nm,1.0s,mb4.6
COLA College 83.34 19 *d*P **P** **03 12 44.0 +0.3**
COLA College 83.34 19 *e*P **P** **03 12 43.4 -0.3**
comp=Z,22nm,0.8s,mb5.2
ILAR Eielson Array 83.57 19 P **P** **03 12 43.4 -1.6**
comp=Z,14nm,0.7s,mb5.2,baz=225,slow=4.5,SNR=63
ILAR LR LR 03 43 17.0
comp=Z,430nm,21.6s,MS4.8,baz=102,slow=31
YBH Yreka Blue Hor 84.54 46 *e*P **P** **03 12 51.2 +1.4**
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 84.54 46 *e*P **P** **03 12 51.2 +1.4**
comp=Z,6.7nm,1.0s,mb4.7
MAW Mawson 84.58 202 LR LR 03 43 18.7
comp=Z,500nm,20.4s,MS4.9,baz=92,slow=30
HUMO Hull Mountain 84.66 45 *e*P **P** **03 12 50.3 -0.1**
comp=Z,12nm,1.3s,mb4.8
JIRN Jiri 84.72 299 *e*P **P** **03 12 51.1 +0.3**
comp=Z,88nm,1.5s,mb5.7
GUN Gumba 85.05 299 *e*P **P** **03 12 52.7 +0.3**
comp=Z,69nm,1.3s,mb5.6
PKI Pulchoki 85.37 299 *e*P **P** **03 12 54.1 +0.1**
comp=Z,57nm,1.3s,mb5.5
PKI Pulchoki 85.37 299 *e*P **P** **03 12 54.1 +0.1**
PKI pmax pmax
comp=Z,29nm,1.3s,mb5.2
TIXI Tiksi 85.50 349 *e*P **P** **03 12 51.2 -3.5**
TIXI *e*S 03 23 15.5
TIXI pmax pmax
comp=Z,14nm,1.3s,mb5.0
TIXI MLR MLR
comp=Z,265nm,16.0s,MS4.7
KKN Kakani 85.53 299 *e*P **P** **03 12 54.5 -0.3**
comp=Z,30nm,0.9s,mb5.5
KKN Kakani 85.53 299 *e*P **P** **03 12 54.5 -0.3**
KKN pmax pmax
comp=Z,15nm,0.9s,mb5.2
DMN Daman 85.64 299 *e*P **P** **03 12 55.4 +0.1**
comp=Z,83nm,1.2s,mb5.8
DAWY Dawson 85.67 21 *e*P **P** **03 12 55.3 -0.2**
GKN Gorkha 86.14 299 *e*P **P** **03 12 58.0 +0.2**
comp=Z,37nm,1.1s,mb5.5
MOD Modoc 86.30 46 *e*P **P** **03 12 56.0 -2.6**
comp=Z,3.3nm,1.0s,mb4.5
NVAR Mina Array Bea 86.75 50 P **P** **03 13 02.6 +1.8**
comp=Z,1.0nm,0.8s,mb4.1,baz=221,slow=4.4,SNR=7.1
NVAR LR LR 03 44 45.7
comp=Z,156nm,20.2s,MS4.4,baz=275,slow=31
MNV Mina 86.86 50 *e*P **P** **03 13 01.6 +0.2**
MNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MNV Mina 86.86 50 *e*P **P** **03 13 01.6 +0.2**
comp=Z,7.1nm,1.0s,mb4.8
KOLN Koldanda 86.97 299 *e*P **P** **03 13 02.2 +0.3**
comp=Z,18nm,1.0s,mb5.3
WVOR Wild Horse Val 87.64 46 *e*P **P** **03 13 05.1 0.0**
WVOR pmax pmax
comp=Z,15nm,1.3s,mb5.1
WVOR Wild Horse Val 87.64 46 *e*P **P** **03 13 05.1 0.0**
comp=Z,15nm,1.3s,mb5.0
WMQ Urumqi 87.95 315 *e*P **P** **03 13 07.5 +0.9**
WMQ XP sP 03 13 22.0 +1.0
WMQ PP PP 03 16 37.0 +3.9
WMQ S 03 23 47.0
WMQ SS SS 03 29 39.0 +3.5
WMQ AMB AMB
comp=Z,17nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,105nm,5.0s
WMQ LR LR
comp=N,652nm,14.0s,MS5.2
WMQ LR LR
comp=E,325nm,14.0s,MS5.2
WMQ LR LR
comp=Z,312nm,12.0s,MS4.9
ELK Elko 89.64 48 *e*P **P** **03 13 15.0 +0.4**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 89.64 48 *e*P **P** **03 13 15.0 +0.4**
comp=Z,3.0nm,1.0s,mb4.6
INK Inuvik 89.97 19 *e*P **P** **03 13 15.8 -0.3**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 89.97 19 *e*P **P** **03 13 15.8 -0.3**
comp=Z,3.1nm,0.9s,mb4.6
ARUT Antelope Range 90.30 52 *e*P **P** **03 13 18.1 +0.5**
HLID Hailey 90.92 46 *e*P **P** **03 13 20.8 +0.3**
comp=Z,5.5nm,1.0s,mb4.8
DUG Dugway 91.31 49 P **P** **03 13 22.5 +0.1**
DUG *e* 03 13 39.2
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
DUG Dugway 91.31 49 P **P** **03 13 22.5 +0.1**
comp=Z,2.1nm,0.9s,mb4.5
DUG *e* 03 13 39.2
MSU Marysvale 91.43 51 *e*P **P** **03 13 24.3 +1.4**
MKAR Makanchi Array 92.40 317 P **P** **03 13 27.3 -0.1**
comp=Z,4.8nm,1.0s,mb4.8,baz=92,slow=5.1,SNR=20
MKAR LR LR 03 53 56.9
comp=Z,201nm,18.1s,MS4.6,baz=160,slow=35
HWUT Hardware Ranch 92.54 48 P **P** **03 13 27.8 -0.3**
comp=Z,3.9nm,1.0s,mb4.8
NVS Novosibirsk 93.65 325 *e*P **P** **03 13 31.6 -1.5**
NVS pmax pmax
comp=Z,16nm,1.8s,mb5.2
NVS pmax pmax
comp=N,10.0nm,1.8s
NVS pmax pmax
comp=E,10.0nm,1.3s
BW06 Boulder Array 94.23 47 P **P** **03 13 36.1 +0.3**
comp=E,2.5nm,0.9s,mb4.6
PDAR Pinedale Array 94.23 47 P **P** **03 13 36.2 +0.4**
comp=E,0.3nm,0.5s,mb4.0,baz=225,slow=1.9,SNR=4.4
PDAR LR LR 03 51 03.8
comp=E,216nm,18.4s,MS4.7,baz=256,slow=32
YKA Yellowknife Ar 95.23 27 P **P** **03 13 38.3 -2.1**
comp=E,1.2nm,0.9s,mb4.3,baz=256,slow=4.5,SNR=13
YKA LR LR 03 53 07.2
comp=E,371nm,18.7s,MS4.9,baz=255,slow=33
YKA Yellowknife Ar 95.23 27 P **P** **03 13 38.3 -2.1**
YKA LR LR 03 53 07.2
ANMO Albuquerque 95.27 56 *i*P **P** **03 13 37.7 -2.9**
KURK Kurchatov 95.56 320 *i*P **P** **03 13 42.0 +0.1**
ZRNK Zerenda 101.73 322 *e*P Pdif 03 14 12.9 +3.4
comp=E,2.0nm,1.0s
ARCES ARCESS Array B 115.67 345 PKP PKPdf 03 18 57.4 -1.6
comp=E,5.7nm,1.0s,baz=82,slow=2.6,SNR=3.7
OBN Obninsk 119.84 328⇑ *e*PKIKP PKPdf 03 18 59.4 -7.5
OBN *e*S SKSac 03 26 00.4 -0.6
OBN *e*SS SS 03 37 11.4 +18
OBN pmax pmax
comp=Z,10.0nm,2.0s
SDV Santo Domingo 125.73 87 PKP PKPdf 03 19 18.4 +0.2
comp=Z,1.1nm,0.4s,baz=270,slow=7.1,SNR=2.8
SDV Santo Domingo 125.73 87 PKP PKPdf 03 19 18.4 +0.2
AKASG Malin Array Be 125.87 326 PKP PKPdf 03 19 19.9 +1.3
comp=Z,0.2nm,0.3s,baz=39,slow=0.7,SNR=3.3
NB2 NORSAR Subarra 126.02 344 PKPd PKPdf 03 19 15.6 -3.2
comp=Z,2.8nm,1.0s,baz=34,slow=2.0
NOA NORSAR Array B 126.02 344 PKhKP 03 19 15.4
comp=Z,1.3nm,0.9s,baz=32,slow=2.0,SNR=4.1
BRTR Keskin Array B 127.80 312 PKP PKPdf 03 19 22.4 +0.2
comp=Z,0.6nm,0.9s,baz=56,slow=3.6,SNR=2.4
KHC Kasperske Hory 134.66 333 *e*PKP pPKPdf 03 19 43.5 -2.5
GIVF Givet 137.25 341 *e*PKIKP PKPdf 03 19 39.9 -0.1
CDF Champ du Feu 137.82 337 *e*PKIKP PKPdf 03 19 40.7 -0.3
HAU Haudompre 138.50 338 *e*PKIKP PKPdf 03 19 42.0 -0.3
HAU *e*R
comp=Z,244nm,18.5s
LOR Lormes 140.02 339 *e*PKIKP PKPdf 03 19 44.9 -0.2
comp=Z,22nm,1.3s
LOR *e*R
comp=Z,264nm,21.5s
SSF Saint Saulge 140.32 340 *e*PKIKP PKPdf 03 19 45.8 +0.2
LPL La Plagne 140.40 335 *e*PKIKP PKPdf 03 19 45.9 +0.2
LPG La Plagne 140.41 335 *e*PKIKP PKPdf 03 19 46.0 +0.2
comp=Z,70nm,1.7s
ROSF Rostrenen 141.08 347 *e*PKIKP PKPdf 03 19 46.9 -0.1
comp=Z,144nm,1.7s
TCF Toulx Ste Croi 141.43 340 *e*PKIKP PKPdf 03 19 48.2 +0.6
LASF Ste Croix 142.74 337 *e*PKIKP PKPdf 03 19 50.5 +0.6
comp=Z,126nm,1.7s
MTLF Montolieu 143.99 338 *e*PKIKP PKPdf 03 19 51.9 -0.2
comp=Z,35nm,1.0s
ETSF Etsaut 145.35 340 *e*PKIKP PKPdf 03 19 53.7 -0.8
comp=Z,53nm,1.1s
ESDC Sonseca Array 149.35 342 PKPbc PKPbc 03 20 06.0 +0.5
comp=Z,0.6nm,0.6s,baz=55,slow=4.9,SNR=3.5
TORD Torodi Ar. Bea 162.97 280 PKP PKPdf 03 20 21.1 +2.2
comp=Z,1.1nm,1.0s,baz=42,slow=2.2,SNR=2.9
TORD PKPab PKPab 03 21 08.6 +0.1
comp=Z,1.7nm,1.0s,baz=119,slow=3.5,SNR=4.2

*IDC **24** 03:15:14.5±21.0, 16.10S×169.13E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=360.5km s-min=59.9km az=72.0*
*ISCJB **24** 03:15:31.7±2.3, 169S±03×1672E±02, h10km, mb3.8/3, Error ellipse: s-maj=41.5km s-min=15.9km az=43.2*
ISC 24 03:15:32.8±2.6, 169S±03×1673E±02, h10km, n5, σ0°58/5, mb3.8/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.17**	**131⇑**	*i*P	**Pb**	**03 15 55.1**	**0.0**
DZM	**Mont Dzumac**	**5.22**	**189**	P	**Pn**	**03 16 51.1**	**+0.2**
1.9nm,0.3s,baz=22,slow=20,SNR=15							
STKA	**Stephens Creek**	**27.68**	**233**	P	**P**	**03 21 20.1**	**-0.8**
1.3nm,0.7s,mb3.7,baz=52,slow=9.3,SNR=3.6							
WRA	**Warramunga Arr**	**31.41**	**259**	P	**P**	**03 21 54.1**	**+0.1**
0.5nm,0.6s,mb3.5,baz=89,slow=9.0,SNR=3.8							
ASAR	**Alice Springs**	**32.01**	**252**	P	**P**	**03 21 59.6**	**+0.4**
2.2nm,0.6s,mb4.2,baz=79,slow=8.7,SNR=20							

*NEIC **24** 03:21:12.7, 3028S×7141W, h7km, ML3.7(GUC), After GUC.*
GUC 24 03:21:12.7±1.0, 3028S×7141W, h7km±15km, MD4.1, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.96**	**158**	*e*P	Pg	03 21 31.2	+0.1
CMCH				*i*S	Sg	03 21 44.3	+0.8
CMCH				AMP		03 21 46.7	
comp=E,6μm,0.5s							
CMCH	**Combarbala**	**0.96**	**158**	*e*P	Pg	03 21 31.2	+0.1
CMCH				*i*S	Sg	03 21 44.3	+0.8
ILCH	**Illapel**	**1.36**	**171**	*e*P	Pn	03 21 36.8	-1.3
ILCH				*i*S	Sb	03 21 53.8	-2.5
ILCH				AMP		03 21 57.2	
comp=N,2μm,0.7s							
ILCH	**Illapel**	**1.36**	**171**	*e*P	Pn	03 21 36.8	-1.3
ILCH				S	Sb	03 21 53.8	-2.5
PACH	**Papudo**	**2.25**	**181**	*e*P	Pn	03 21 51.6	+1.3
JACH	**Jahuel**	**2.49**	**164**	*e*P	Pn	03 21 55.2	+1.6
JACH				*i*S	Sn	03 22 27.1	+2.8
ROCH	**El Roble**	**2.70**	**173⇓**	*i*P	Pn	03 21 57.9	+1.3
ROCH				*i*S	Sn	03 22 32.3	+2.8
PEL	**Peldehue**	**2.92**	**168**	*e*P	Pn	03 21 59.6	+0.1
PEL				*i*S	Sn	03 22 36.4	+1.5
PEL				AMP		03 22 44.6	
comp=E,449nm,0.4s							
PEL	**Peldehue**	**2.92**	**168**	*e*P	Pn	03 21 59.6	+0.1
PEL				*i*S	Sn	03 22 36.4	+1.5
FCH	**Farellones**	**3.18**	**163**	*e*P	Pn	03 22 03.8	+0.6
FCH				*i*S	Sn	03 22 43.5	+2.1
FCH				AMP		03 22 52.9	
comp=E,131nm,0.5s							
RCDM	**Rinconada Maip**	**3.24**	**171**	*e*P	Pn	03 22 03.5	-0.4
TACH	**Talagante**	**3.38**	**173**	*e*P	Pn	03 22 05.2	-0.7
PCH	**Pirque**	**3.42**	**167**	*e*P	Pn	03 22 08.6	+2.3

*ISCJB **24** 03:39:20.6±1.5, 4408N±004×8.16E±009, h5km, Error ellipse: s-maj=9.1km s-min=5.5km az=16.1*
*LDG **24** 03:39:22.0±0.2, 4405N×8.16E, h5km, Md1.8/1, Ml1.9/6, Error ellipse: s-maj=3.8km s-min=1.9km az=91.0*
*STR **24** 03:39:26.1±1.1, 44.19N×792E, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 24 03:39:21.0±1.7, 4405N±004×821E±010, h5km, n11, σ1°00/20, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.47**	**263**	Pg	**Pg**	**03 39 33.4**	**+3.3**
SAOF				Sg	**Sg**	**03 39 37.0**	**+0.7**
AUTN	**L'Aution**	**0.56**	**265**	Pg	**Pg**	**03 39 33.1**	**+1.2**
AUTN				Sg	**Sg**	**03 39 39.8**	**+0.6**
SBF	**Sospel**	**0.59**	**252**	*e*Pg	**Pg**	**03 39 32.9**	**+0.6**
SBF				*e*Sg	**Sg**	**03 39 40.4**	**+0.5**
16nm,0.3s							
MVIF	**Mont Vial**	**0.78**	**259**	Pg	**Pg**	**03 39 38.1**	**+2.2**
MVIF				Sg	**Sg**	**03 39 47.0**	**+1.0**
FRF	**La Foret Royal**	**1.23**	**247**	*e*Pg	**Pg**	**03 39 44.3**	**-0.3**
FRF				*e*Sg	**Sg**	**03 39 59.9**	**-0.7**
5.0nm,0.2s							
MBDF	**Montbardon**	**1.23**	**304**	*e*Pg	**Pg**	**03 39 44.5**	**-0.1**
MBDF				*e*Sg	**Sg**	**03 39 59.9**	**-0.7**
1.4nm,0.2s							
LMR	**La Mourre**	**1.43**	**240**	*e*Pn	**Pn**	**03 39 46.7**	**-0.8**
LMR	**La Mourre**	**1.43**	**240**	*e*Pg	**Pg**	**03 39 48.0**	**-0.3**
LMR				*e*Sn	**Sn**	**03 40 04.0**	**-2.6**
2.0nm,0.3s							
LMR				*e*Sg	**Sg**	**03 40 05.9**	**-0.9**
LPG	**La Plagne**	**1.78**	**325**	*e*Sg	**Sg**	**03 40 18.3**	**+0.1**
0.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.88**	**298**	*e*Pg	**Pg**	**03 39 56.6**	**-0.4**
ORIF				*e*Sg	**Sg**	**03 40 20.8**	**-0.6**
1.1nm,0.3s							
SMRF	**Simiane la Rot**	**1.90**	**269**	*e*Sg	**Sg**	**03 40 21.2**	**-0.9**
2.8nm,0.3s							

NNC 24 03:40:19.3±2.2, 4285N×7067E, h19km±6km, mb3.6, mpv3.2, 11C-1D, Error ellipse: s-maj=26.2km s-min=11.8km az=21.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.28**	**336**	⇓P	Pg	03 40 26.9	+1.4
8.3nm,0.1s,baz=158,slow=12,SNR=8330							
KK31				⇑S	Sg	03 40 33.0	+3.2
76nm,0.2s,baz=164,slow=29,SNR=6.1							
TKM2	**Tokmak 2**	**3.62**	**87**	⇑Pn	Pn	03 41 19.7	+5.3
2.7nm,0.6s							

TKM2 ⇑Pg Pg 03 41 28.5 -0.2
13nm,0.5s
TKM2 ⇑Lg 03 42 11.6
15nm,0.7s
MK31 Makanchi Array 9.15 61 ⇑Pn Pn 03 42 32.0 +1.8
0.4nm,0.5s,baz=247,slow=14,SNR=19
MK31 ⇑Sn Sn 03 44 35.2 +23
0.5nm,0.5s,baz=248,slow=24
MK31 ⇑Lg 03 45 08.6
10.0nm,0.8s,baz=251,slow=30
AB31 Akbulak array 9.82 314 ⇑Pn Pn 03 42 39.6 +0.2
0.2nm,0.3s,baz=126,slow=14,SNR=7.5
AB31 ⇑Sn Sn 03 44 28.0 -1.0
0.3nm,0.4s,baz=119,slow=24,SNR=6.0
ZRNK Zerenda 10.17 354 ⇑Pn Pn 03 42 46.2 +2.1
0.4nm,0.2s
ZRNK ⇑Sn Sn 03 44 39.2 +1.7
0.3nm,0.2s

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*MEX **24** 03:47:00.2±0.5, 1357N×9104W, h80km±10km, MD4.1*
*INET **24** 03:47:02.7, 1389N×9028W, h17km, ML3.7*
*SSS **24** 03:47:09.1, 1376N×9075W, h50km, MD4.0*

CASC 24 03:46:57.5±2.2, 1361N×9071W, h29km±16km, MD4.0, ML4.2, 1C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.61**	**24**	⇓*eP*	Pn	03 47 09.6	-0.1
IXG				*eS*	Sb	03 47 18.8	+0.8
IXG				AML	AML	03 47 23.1	
	comp=E,66μm,0.4s						
RTR	**El Retiro**	**1.07**	**74**	⇓*iP*	Pn	03 47 28.6	+12
RTR				*eS*	Sn	03 47 43.3	+13
SBLS	**San Blas**	**1.08**	**78**	⇓*eP*	Pn	03 47 28.4	+12
SBLS				*eS*	Sn	03 47 44.1	+13
SNJE	**San Jose**	**1.10**	**76**	⇓*iP*	Pn	03 47 28.8	+12
RBDL	**Robledal**	**1.11**	**63**	*eP*	Pn	03 47 29.3	+12
RBDL				*eS*	Sn	03 47 44.7	+13
BOQS	**Boqueron**	**1.40**	**85**	⇑*eP*	Pn	03 47 32.8	+12
BOQS				*eS*	Sn	03 47 51.5	+13
SNET	**Serv Nac Est T**	**1.44**	**87**	*eP*	Pn	03 47 22.0	+0.4
SNET				*eS*	Sn	03 47 40.9	+1.3
MTO2	**Montecristo 2**	**1.53**	**59**	*eP*	Pn	03 47 34.1	+11
MTO2				*eS*	Sn	03 47 54.0	+12
LFU	**La Fuente**	**1.56**	**85**	*eP*	Pn	03 47 35.5	+12
LFRS	**El Faro**	**1.60**	**89**	*eP*	Pn	03 47 36.1	+12
LBRS	**Las Brisas**	**1.63**	**85**	*eP*	Pn	03 47 36.2	+12
LCBS	**La Ceiba**	**1.69**	**88**	*eP*	Pn	03 47 36.9	+12
LCBS				*eS*	Sn	03 47 59.0	+13
SNVI	**San Vicente**	**1.82**	**90**	*eP*	Pn	03 47 38.9	+12
SNVI				*eS*	Sn	03 48 01.8	+13
VSM	**San Miguel**	**2.38**	**94**	*eP*	Pn	03 47 47.7	+13
VSM				*eS*	Sn	03 48 18.3	+16
CCIG	**Comitan**	**2.99**	**333**	*iP*	Pn	03 47 43.3	+0.3
CCIG				*iS*	Sn	03 48 16.8	-1.1
SCX	**San Cristobal**	**3.62**	**329**	*eP*	Pn	03 47 51.0	-0.6
CRIN	**San Cristobal**	**3.68**	**104**	*eP*	Pn	03 47 53.6	+1.1
LEON	**Leon**	**3.91**	**107**	*eP*	Pn	03 47 56.0	+0.4
LEON				*eS*	Sn	03 48 38.5	-1.9
LEON				*i*		03 48 55.3	
	comp=Z,154nm,0.6s						
TEL3	**Telica 3**	**3.91**	**105**	*eP*	Pn	03 47 55.6	0.0
MIRN	**Miramar**	**4.07**	**106**	*eP*	Pn	03 47 58.4	+0.6
COPN	**Copaltepe**	**4.26**	**109**	*eP*	Pn	03 48 01.0	+0.6
COPN				*eS*	Sn	03 48 50.2	+1.0
XAVN	**Gruta Xavier**	**4.52**	**108**	*eP*	Pn	03 48 05.5	+1.5
TICN	**Ticuantepe**	**4.64**	**109**	*eP*	Pn	03 48 07.2	+1.5
CMIG	**Matias Romero**	**5.31**	**311**	*iP*	Pn	03 48 13.4	-1.4
CMIG				*iS*	Sn	03 49 09.9	-5.1
HUIG	**Huatulco**	**5.65**	**293**	*eP*	Pn	03 48 17.0	-2.5
OXX	**Oaxaca**	**6.75**	**302**	*eP*	Pn	03 48 31.5	-3.1
VHO	**Vista Hermosa**	**6.75**	**301**	*iP*	Pn	03 48 35.4	+0.8
VHO				*iS*	Sn	03 49 41.0	-10
PPM	**Popocatepetl**	**9.34**	**307**	*iP*	Pn	03 49 06.0	-4.0

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*CSEM **24** 03:58:17.6±0.5, 3865N×2862W, h13km±3km, ML1.5, Error ellipse: s-maj=2.5km s-min=2.4km az=75.0, After PDA*
*PDA **24** 03:58:17.6±0.5, 3865N×2862W, h13km±3km, MD2.6, ML1.5, Error ellipse: s-maj=2.5km s-min=2.4km az=75.0*

SVSA 24 03:58:17.6±0.5, 3865N×2862W, h13km±3km, MD2.6, ML1.5, Error ellipse: s-maj=2.5km s-min=2.4km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.07**	**254**	*iP*	Pg	03 58 19.9	-0.3
PCED				*eS*	Sg	03 58 21.8	-0.4
PCED							
	125nm,0.1s						
PCED	**Cedros**	**0.07**	**254**	*eS*	Sg	03 58 21.8	-0.4
CALA	**Caldeira**	**0.09**	**225**	*iP*	Pg	03 58 20.4	-0.1
CALA				*eS*	Sg	03 58 22.5	-0.1
CALA	**Caldeira**	**0.09**	**225**	*eS*	Sg	03 58 22.5	-0.1
HOR	**Horta**	**0.12**	**183**	*eP*	Pg	03 58 20.5	-0.4
HOR				*eS*	Sg	03 58 22.5	-0.7
PTCA	**Ponta do Capel**	**0.15**	**246**	*eS*	Sg	03 58 25.2	+1.3
PTCA							
	29nm,0.2s						
PICO	**Pico**	**0.21**	**133**	*eP*	Pg	03 58 21.8	-0.5
PICO				*eS*	Sg	03 58 25.1	-0.3
PCND	**Candelaria**	**0.22**	**145**	*eS*	Sg	03 58 26.3	+0.7
PCND							
	27nm,0.1s						
ROSA	**Rosais**	**0.31**	**76**	*iP*	Pg	03 58 23.2	-0.7
ROSA				*eS*	Sg	03 58 27.2	-0.9
ROSA	**Rosais**	**0.31**	**76**	*eS*	Sg	03 58 27.2	-0.9
PAMA	**Santo Amaro**	**0.35**	**84**	*eS*	Sg	03 58 29.5	+0.1
PMAN	**Manadas**	**0.42**	**92**	*eS*	Sg	03 58 30.0	-1.5
PMAN							
	14nm,0.1s						

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*IDC **24** 03:58:26.0±1.3, 3781N×14496E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.5/20, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=42.3km s-min=25.6km az=120.0*
*NEIC **24** 03:58:27.4±0.8, 3788N×14486E, h10km, mb4.0/1, Error ellipse: s-maj=24.1km s-min=9.4km az=151.0*
*ISCJB **24** 03:58:29.1±0.8, 3818N±005×14463E±006, h33km, mb3.6/4, Error ellipse: s-maj=7.5km s-min=5.7km az=89.7*
*JMA **24** 03:58:29.9±0.2, 3805N×14456E, h55km, M4.0*

ISC 24 03:58:31.0±0.7, 3819N±004×14464E±006, h35km, n20, σ0°96/30, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.49**	**292**	P	**Pn**	**03 59 09.1**	**+0.1**
OFUJ				S	**Sn**	**03 59 38.6**	**+0.5**
JIO	**Ouri**	**2.60**	**277**	P	**Pn**	**03 59 10.1**	**-0.4**
JIO				S	**Sn**	**03 59 39.9**	**-1.0**
MIYJ	**Miyakonagasawa**	**2.60**	**303**	P	**Pn**	**03 59 10.7**	**+0.2**
MIYJ				S	**Sn**	**03 59 41.7**	**+0.8**
JMK	**Ichinoseki**	**2.78**	**287**	P	**Pn**	**03 59 13.4**	**+0.3**
JOT	**Ohata**	**4.22**	**320**	S	**Sn**	**04 00 21.4**	**+0.5**
JCH	**Churui**	**4.53**	**348**	P	**Pn**	**03 59 37.6**	**+0.5**
JCH				S	**Sn**	**04 00 28.5**	**0.0**
JKB	**Kayabe**	**4.62**	**324**	S	**Sn**	**04 00 30.3**	**-0.3**
JRY	**Ryogami san**	**5.07**	**246**	P	**Pn**	**03 59 42.8**	**-1.7**
JRY				S	**Sn**	**04 00 36.7**	**-5.1**
NEM2	**Nemuro 2**	**5.24**	**9**	P	**Pn**	**03 59 45.4**	**-1.5**
NEM2				S	**Sn**	**04 00 42.8**	**-3.2**
JOD2	**Odawara 2**	**5.33**	**238**	S	**Sn**	**04 00 42.7**	**-5.4**
MJAR	**Matsushiro Arr**	**5.38**	**254**	Pn	**Pn**	**03 59 49.0**	**+0.2**
MJAR				Sn	**Sn**	**04 00 49.5**	**+0.1**
	2.6nm,0.3s,baz=82,slow=15,SNR=17						
	0.7nm,0.3s,baz=88,slow=28,SNR=3.8						
MAJO	**Matsushiro**	**5.38**	**254**	*e*Pn	**Pn**	**03 59 49.1**	**+0.4**
	13nm,0.4s						
MAT	**Matsushiro**	**5.38**	**254**	P	**Pn**	**03 59 49.1**	**+0.4**
MAT				*eS*	**Sn**	**04 00 49.7**	**+0.3**
MAT	**Matsushiro**	**5.38**	**254**	*eP*	**Pn**	**03 59 49.0**	**+0.3**
	8.4nm,0.5s						
MAT				S	**Sn**	**04 00 54.0**	**+4.6**
JTKR	**Abashiri--Toko**	**5.80**	**355**	P	**Pn**	**03 59 55.3**	**+0.7**
JTKR				S	**Sn**	**04 00 58.3**	**-1.6**
ASAJ	**Asahikawa**	**6.12**	**346**	Pn	**Pn**	**04 00 04.1**	**+5.2**
	1.8nm,0.3s,baz=197,slow=11,SNR=5.9						
BILL	**Bilibino**	**32.23**	**15**	P	**P**	**04 04 57.5**	**+1.6**
	1.1nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**47.15**	**33**	P	**P**	**04 07 00.5**	**+0.6**
	0.5nm,0.9s,mb3.5,baz=255,slow=7.1,SNR=5.1						
WRA	**Warramunga Arr**	**58.62**	**191**	P	**P**	**04 08 22.6**	**-1.9**
	0.5nm,0.5s,mb3.8,baz=9.4,slow=7.0,SNR=6.7						
PDAR	**Pinedale Array**	**75.02**	**47**	P	**P**	**04 10 10.4**	**+1.5**
	0.3nm,0.5s,mb3.4,baz=318,slow=2.0,SNR=3.9						

IDC 24 04:03:13.1±4.0, 1728S×17829W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=302.8km s-min=28.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**44.85**	**259**	*e*P	P	04 11 30.9	+1.9
WRA	**Warramunga Arr**	**44.86**	**259**	P	P	04 11 31.1	+2.0
	1.1nm,0.5s,baz=91,slow=8.4,SNR=35						
ASAR	**Alice Springs**	**45.07**	**254**	P	P	04 11 29.2	-1.5
	0.8nm,0.7s,baz=90,slow=9.0,SNR=8.1						
NVAR	**Mina Array Bea**	**78.90**	**44**	P	P	04 15 18.8	+0.5
	0.3nm,0.7s,baz=228,slow=7.9,SNR=3.8						
AKASG	**Malin Array Be**	**140.06**	**333**	PKP	PKPdf	04 22 43.4	-0.1
	0.3nm,0.3s,baz=44,slow=3.5,SNR=4.2						

GUC 24 04:05:57.3±0.5, 3437S×7001W, h9km±4km, MD3.8, ML2.3, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.34**	**278**	⇑*iP*	Pg	04 06 04.1	+0.1
CICH				*iS*	Sg	04 06 08.8	+0.2
LMEL	**Las Melosas**	**0.54**	**343**	*iP*	Pg	04 06 07.8	0.0
LMEL				*iS*	Sg	04 06 15.9	+1.0
LMEL				AMP		04 06 17.9	
	comp=N,275nm,0.2s						
CACH	**El Canelo**	**0.55**	**297**	⇓*iP*	Pg	04 06 07.6	-0.3
CACH				*iS*	Sg	04 06 15.1	0.0
CHCH	**Chadas Angostu**	**0.69**	**309**	⇑*iP*	Pg	04 06 10.4	-0.1
CHCH				*iS*	Sg	04 06 20.0	+0.6
SFDO	**San Fernando**	**0.86**	**253**	⇑*iP*	Pg	04 06 13.5	-0.4
SFDO				*iS*	Sg	04 06 25.3	+0.1
ANTU	**Antumapu**	**0.95**	**327**	*iP*	Pg	04 06 14.8	-0.7
ANTU				*iS*	Sg	04 06 28.2	+0.3
ANTU				AMP		04 06 29.7	
	comp=N,173nm,0.1s						
FCH	**Farellones**	**1.06**	**347**	*e*P	Pg	04 06 17.5	-0.2
FCH				*iS*	Sg	04 06 32.5	+1.0
FCH				AMP		04 06 35.7	
	comp=N,95nm,0.2s						
RCDM	**Rinconada Maip**	**1.10**	**323**	*iP*	Pg	04 06 17.7	-0.7
RCDM				*iS*	Sg	04 06 32.8	+0.2
RCDM				AMP		04 06 33.3	
	comp=E,315nm,0.1s						
PEL	**Peldehue**	**1.34**	**335**	*e*P	Pn	04 06 21.8	-0.5
PEL				*iS*	Sb	04 06 40.6	+0.6
PEL				AMP		04 06 45.9	
	comp=N,107nm,0.3s						

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*ATH **24** 04:37:44.8, 3908N×2427E, h34km±2km, MD3.2/6, ML3.1*
*ISCJB **24** 04:37:45.7±0.9, 3909N±005×2424E±008, h62km±21km, Error ellipse: s-maj=10.0km s-min=7.9km az=37.5*
*CSEM **24** 04:37:45.7±0.1, 3912N×2422E, h55km±1km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.4km az=147.0*
*NEIC **24** 04:37:45.2, 3911N×2427E, h37km, MD2.9(SOF), MD2.9(ATH), After ATH.*
*SOF **24** 04:37:55.3, 4013N×2434E, h3km, MD2.9*

ISC 24 04:37:46.6±0.9, 3906N±005×2425E±008, h48km±38km, n12, σ0°53/15, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.84**	**287**	*e*PN	**Pn**	**04 38 01.6**	**-0.4**
NEO				*e*SN	**Sn**	**04 38 13.5**	**+0.2**
PTL	**Penteli**	**1.06**	**197**	*e*PB	**Pn**	**04 38 04.3**	**-0.7**
LKR	**Lokris**	**1.06**	**248**	*e*PN	**Pn**	**04 38 05.0**	**-0.1**
LIA	**Limnos Island**	**1.10**	**41**	*e*PN	**Pn**	**04 38 05.4**	**-0.2**
LIA				*e*SN	**Sn**	**04 38 19.9**	**+0.3**
ATH	**Athens Observa**	**1.17**	**201**	*e*PN	**Pn**	**04 38 07.3**	**+0.8**
KVR	**Kavouri**	**1.29**	**197**	*e*PN	**Pn**	**04 38 08.5**	**+0.3**
PLG	**Polygyros**	**1.45**	**335**	*e*PN	**Pn**	**04 38 09.7**	**-0.6**
PRK	**Paraskevi**	**1.58**	**83**	*e*PN	**Pn**	**04 38 12.2**	**+0.1**
MMB	**Musomiste**	**2.56**	**351**	*i*Pg	**Pn**	**04 38 25.0**	**-0.5**
RZN	**Rozhen**	**2.65**	**8**	*i*P	**Pn**	**04 38 26.0**	**-0.7**
KKB	**Krupnik**	**2.94**	**343**	*i*P	**Pn**	**04 38 30.5**	**-0.2**
VTS	**Vitosha**	**3.61**	**348**	*i*P	**Pn**	**04 38 41.0**	**+1.0**
VTS				*i*Sg	**Sn**	**04 39 22.0**	**+0.6**

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*CSEM **24** 04:41:19.7±0.4, 3344N×2031E, h30km, ML3.7, Error ellipse: s-maj=15.4km s-min=2.8km az=67.0*
*ISCJB **24** 04:41:21.7±1.3, 3374N±006×2111E±02, h10km, Error ellipse: s-maj=20.2km s-min=4.8km az=137.3*
*HLW **24** 04:41:22.5, 3353N×2039E, h25km, Mb3.7*

ISC 24 04:41:23.9±1.3, 3369N±006×209E±02, h10km, n15, σ1°26/24, 4C-4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWA2		**5.88**	**138**	⇑P	**Pn**	**04 42 50.4**	**-0.6**
SWA2				S	**Sn**	**04 43 54.5**	**-3.8**
SWA1		**6.01**	**136**	⇓P	**Pn**	**04 42 52.1**	**-0.7**
SWA1				S	**Sn**	**04 43 58.2**	**-3.4**
BIA	**Bitola**	**7.32**	**2**	*e*Pn	**Pn**	**04 43 10.9**	**+0.1**
BIA				*e*Sn	**Sn**	**04 44 33.9**	**0.0**
BIA	**Bitola**	**7.32**	**2**	*e*Pn	**Pn**	**04 43 10.8**	**0.0**
BIA				*e*Sn	**Sn**	**04 44 33.9**	**-0.1**
OHR	**Ohrid**	**7.41**	**359**	*e*Pn	**Pn**	**04 43 11.5**	**-0.5**
OHR				*e*Sn	**Sn**	**04 44 35.1**	**-0.9**
OHR	**Ohrid**	**7.41**	**359**	*e*Pn	**Pn**	**04 43 11.4**	**-0.6**
OHR				*e*Sn	**Sn**	**04 44 35.1**	**-1.0**
VAY	**Valandovo**	**7.72**	**9**	*e*Pn	**Pn**	**04 43 17.9**	**+1.5**
VAY				*e*Sn	**Sn**	**04 44 43.4**	**-0.5**
VAY	**Valandovo**	**7.72**	**9**	*e*Pn	**Pn**	**04 43 17.8**	**+1.4**
VAY				*e*Sn	**Sn**	**04 44 43.4**	**-0.5**
HBRG	**Burj al 'Arab**	**8.16**	**110**	⇓P	**Pn**	**04 43 24.8**	**+2.4**
HBRG				S	**Sn**	**04 44 53.5**	**-1.1**
AWBH		**8.68**	**126**	⇑P	**Pn**	**04 43 30.3**	**+0.9**
HFRF	**Wahat Farafira**	**9.11**	**134**	⇓P	**Pn**	**04 43 35.2**	**-0.1**
HNAT	**Natroun**	**9.19**	**114**	⇓P	**Pn**	**04 43 38.8**	**+2.4**
HNAT	**Natroun**	**9.19**	**114**	P	**Pn**	**04 43 38.8**	**+2.4**
	291nm,0.4s						
AMAG	**Maghara**	**10.83**	**103**	⇑P	**Pn**	**04 44 02.2**	**+3.3**
HDK1	**Dakhla**	**10.96**	**136**	⇑P	**Pn**	**04 43 59.7**	**-1.0**

CASC 24 04:44:41.6±4.7, 1349N×9141W, h28km±66km, MD3.7, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.85**	**345**	*e*P	Pn	04 44 57.3	-0.4
FUG	**Fuego 3**	**1.10**	**30**	*e*P	Pn	04 45 02.5	+1.3
IXG	**Ixpaco**	**1.16**	**54**	*e*P	Pn	04 45 01.3	-0.5
IXG				*e*S	Sn	04 45 18.7	+2.0
RTR	**El Retiro**	**1.77**	**76**	*e*P	Pn	04 45 22.9	+13
RTR				*e*S	Sn	04 45 43.7	+12
SBLS	**San Blas**	**1.78**	**78**	*e*P	Pn	04 45 22.8	+12
SBLS				*e*S	Sn	04 45 44.4	+12
SNJE	**San Jose**	**1.80**	**78**	⇓*e*P	Pn	04 45 23.8	+13
SNJE				*e*S	Sn	04 45 44.5	+12
BOQS	**Boqueron**	**2.09**	**83**	*e*P	Pn	04 45 28.1	+13
BOQS				*e*S	Sn	04 45 51.6	+12

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*IDC **24** 04:45:24.4±1.2, 2699N×9162E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=54.1km s-min=20.1km az=60.0*
*ISCJB **24** 04:45:25.3±0.5, 2697N±004×9154E±007, h10km, mb3.7/9, Error ellipse: s-maj=9.2km s-min=6.3km az=3.8*
*NEIC **24** 04:45:26.1±1.0, 2686N×9146E, h10km, mb3.8/5, Error ellipse: s-maj=23.4km s-min=13.6km az=46.0*
*BJI **24** 04:45:29.3, 2684N×9194E, h64km, ML4.2*

ISC 24 04:45:26.5±0.5, 2692N±004×9166E±008, h10km, n15, σ1°15/18, mb3.7/10, 2C-1D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.37**	**172**	*e*P	**Pn**	**04 45 51.5**	**-0.1**
SHL				*e*S	**Sb**	**04 46 09.0**	**-0.6**
LSA	**Lhasa**	**2.80**	**351**	P	**Pn**	**04 46 12.8**	**+1.5**
LSA				S	**Sn**	**04 46 51.6**	**+6.4**
LSA				Smax			
	comp=N,310nm,0.7s						
LSA				Smax			
	comp=E,430nm,0.6s						
AGT	**Agartala**	**3.05**	**187**	⇑*i*PG	**Pg**	**04 46 30.0**	**+5.1**
AGT				⇓*ix*	x	04 47 14.0	
BOK	**Bokaro**	**6.08**	**240**	⇑*iP*	**Pn**	**04 46 57.4**	**+1.0**
BOK				*iS*	**Sn**	**04 48 06.4**	**+0.3**
ENH	**Enshi**	**16.01**	**74**	*e*Pn	**Pn**	**04 49 15.1**	**+3.5**
	comp=E,9.9nm,0.7s						
AAK	**Ala-Archa**	**21.02**	**323**	P	**P**	**04 50 10.6**	**+0.4**
	comp=E,3.0nm,0.9s,mb3.6						
MKAR	**Makanchi Array**	**21.17**	**342**	P	**P**	**04 50 12.0**	**+0.1**
	comp=E,2.8nm,0.6s,mb3.8,baz=145,slow=14,SNR=25						
SONM	**Songino Array**	**23.85**	**25**	P	**P**	**04 50 38.7**	**-1.2**
	comp=E,0.9nm,0.6s,mb3.4,baz=214,slow=12,SNR=9.4						
ULN	**Ulaanbaatar**	**24.13**	**26**	*e*P	**P**	**04 50 43.1**	**+0.7**
	comp=E,1.4nm,0.5s,mb3.6						
KURK	**Kurchatov**	**25.76**	**341**	*e*P	**P**	**04 50 55.9**	**-1.4**
	comp=E,1.3nm,0.8s,mb3.5						
ZRNK	**Zerenda**	**31.00**	**333**	*e*P	**P**	**04 51 44.3**	**+0.2**
	comp=E,0.9nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**55.09**	**328**	P	**P**	**04 54 57.5**	**-1.1**
	comp=E,0.9nm,0.6s,mb4.0,baz=114,slow=9.2,SNR=3.8						
NOA	**NORSAR Array B**	**62.26**	**327**	P	**P**	**04 55 46.5**	**-2.0**
	comp=E,0.6nm,0.6s,mb3.9,baz=85,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**62.30**	**134**	P	**P**	**04 55 47.9**	**-0.9**
	comp=E,0.3nm,0.4s,mb3.8,baz=325,slow=7.0,SNR=9.6						
ASAR	**Alice Springs**	**64.77**	**137**	P	**P**	**04 56 07.2**	**+2.0**
	comp=E,0.4nm,0.5s,mb3.7,baz=323,slow=6.5,SNR=6.5						

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*SZGRF **24** 04:48:10.9, 5329N×16092E, h33km, mb5.2, Near east coast of Kamchatka Peninsula, Russia*
*IDC **24** 04:48:11.3±4.8, 5368N×16030E, h30km±36km, mb4.0/19, mb1 4.2/19, mb1mx4.1/21, mbtmp4.1/19, ML4.8/1, Error ellipse: s-maj=17.3km s-min=12.8km az=161.0*
*MOS **24** 04:48:12.1±1.0, 5353N×16054E, h57km, mb4.6/18, Error ellipse: s-maj=11.0km s-min=6.0km az=86.1*
MOS Felt (II) at Petropavlovsk-Kamchatskii.
*ISCJB **24** 04:48:13.2±0.4, 5353N±003×16052E±005, h65km±2km, mb4.4/72, Error ellipse: s-maj=6.1km s-min=3.1km az=67.4*
*KRSC **24** 04:48:13.2±0.8, 5352N×16062E, h40km±8km, ML4.6*
*BJI **24** 04:48:13.5, 5360N×16030E, h74km, mB4.7, mb4.4, Ms4.3, Msz4.0*
*NEIC **24** 04:48:15.6±1.0, 5356N×16025E, h74km±9km, mb4.4/21, Error ellipse: s-maj=9.1km s-min=6.8km az=157.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
*NAO **24** 04:48:18.6, 5454N×15895E, h33km, mb4.4*

ISC 24 04:48:14.3±0.3, 5353N±003×16047E±006, h63km±2km, h94km±3.9km: pP-P, n175, σ1°09/203, mb4.5/72, 10C-8D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.51**	**212**	*iP*	**Pn**	**04 48 24.7**	**-1.9**
SPN				*eS*	**Sn**	**04 48 33.0**	**-2.6**
NLC	**Nalytchevo**	**0.77**	**242**	P	**Pn**	**04 48 28.6**	**-0.9**
NLC				S	**Sn**	**04 48 39.5**	**-1.1**
NLC	**Nalytchevo**	**0.77**	**242**	*iP*	**Pn**	**04 48 28.6**	**-0.9**
NLC				*eS*	**Sn**	**04 48 40.0**	**-0.6**
KII	**Karymskiy**	**0.79**	**310**	P	**Pn**	**04 48 29.0**	**-0.7**
KII	**Karymskiy**	**0.79**	**310**	*eP*	**Pn**	**04 48 29.1**	**-0.6**
SMAR	**Somma**	**1.03**	**256**	*iP*	**Pn**	**04 48 32.9**	**0.0**
UGLR	**Uglovaya**	**1.04**	**252**	*iP*	**Pn**	**04 48 33.2**	**+0.3**
UGLR				*eS*	**Sn**	**04 48 47.3**	**+0.6**
AVH	**Avacha**	**1.07**	**256**	*iP*	**Pn**	**04 48 33.7**	**+0.4**
KOK	**Koryaka**	**1.12**	**258**	*iP*	**Pn**	**04 48 34.4**	**+0.4**
PET	**Petropavlovsk**	**1.20**	**246**	P	**Pn**	**04 48 35.0**	**-0.1**
PET				S	**Sn**	**04 48 50.8**	**+0.2**
PET	**Petropavlovsk**	**1.20**	**246**	*iP*	**Pn**	**04 48 35.0**	**-0.1**
PET				*eS*	**Sn**	**04 48 51.1**	**+0.5**
PET	**Petropavlovsk**	**1.20**	**246**	⇓*iP*n	**Pn**	**04 48 34.9**	**-0.1**
GNL	**Ganaly**	**1.51**	**277**	*iP*	**Pn**	**04 48 40.1**	**+0.9**
GNL				*eS*	**Sn**	**04 49 00.2**	**+2.2**
RUS	**Russkaya**	**1.62**	**228**	P	**Pn**	**04 48 40.2**	**-0.4**
RUS				S	**Sn**	**04 48 59.8**	**-0.6**
RUS	**Russkaya**	**1.62**	**228**	*eP*	**Pn**	**04 48 40.2**	**-0.4**
RUS				*eS*	**Sn**	**04 48 59.9**	**-0.5**
GRL	**Gorelyy**	**1.75**	**237**	*eP*	**Pn**	**04 48 43.1**	**+0.8**
GRL				*eS*	**Sn**	**04 49 05.3**	**+1.7**
TUMR	**Tumrok**	**1.76**	**354**	*iP*	**Pn**	**04 48 42.7**	**+0.1**
APC	**Apacha**	**2.08**	**254**	*iP*	**Pn**	**04 48 48.5**	**+1.6**
APC				*eS*	**Sn**	**04 49 15.7**	**+4.0**
APC				Smax			
	640nm,1.1s						
KPT	**Kopyto**	**2.44**	**357**	*eP*	**Pn**	**04 48 52.4**	**+0.6**
KPT				*eS*	**Sn**	**04 49 20.7**	**+0.2**
KOZ	**Kozyrevsk**	**2.55**	**352**	P	**Pn**	**04 48 53.7**	**+0.4**
KOZ				S	**Sn**	**04 49 22.6**	**-0.6**
KOZ	**Kozyrevsk**	**2.55**	**352**	*iP*	**Pn**	**04 48 53.6**	**+0.3**
KOZ				*eS*	**Sn**	**04 49 22.2**	**-1.0**
KOZR	**Kozyr**	**2.56**	**353**	PN	**Pn**	**04 48 53.7**	**+0.3**
KOZR				S	**Sn**	**04 49 22.6**	**-0.8**
MIPR	**Malaya Ipel'ka**	**2.58**	**242**	*eP*	**Pn**	**04 48 55.7**	**+2.1**
CIRR	**Tsirk**	**2.59**	**3**	*iP*	**Pn**	**04 48 54.9**	**+1.1**
CIRR				*eS*	**Sn**	**04 49 24.7**	**+0.5**
ESO	**Esso**	**2.61**	**338**	*eP*	**Pn**	**04 48 54.3**	**+0.3**
ESO				Smax			
	520nm,0.7s						
KLY	**Klyuchi**	**2.79**	**2**	P	**Pn**	**04 48 57.2**	**+0.7**
KLY

comp=Z,6.0nm,1.4s,mb3.8
MDJ AMB AMB
comp=Z,47nm,3.8s
TIXI Tiksi 22.78 335⇓ *e*P **P** 04 53 11.2 -0.1
TIXI pmax pmax
comp=Z,9.0nm,1.7s,mb3.9
TIXI MLR MLR
comp=Z,100nm,25.0s
MAJO Matsushiro 23.00 231 *e*P **P** 04 53 11.3 -2.4
MAJO pmax pmax
comp=Z,21nm,0.9s,mb4.6
MAJO Matsushiro 23.00 231 *e*P **P** 04 53 11.3 -2.3
comp=Z,21nm,0.9s,mb4.6
MAT Matsushiro 23.00 231 P **P** 04 53 12.7 -1.0
MAT Matsushiro 23.00 231 P **P** 04 53 13.0 -0.7
MAT pmax pmax
comp=Z,13nm,0.9s,mb4.4
MAT Matsushiro 23.00 231 P **P** 04 53 13.0 -0.7
comp=Z,13nm,0.9s,mb4.4
MJAR Matsushiro Arr 23.00 231 P **P** 04 53 15.0 +1.3
comp=Z,12nm,0.8s,mb4.4,baz=23,slow=11,SNR=21
CN2 Changchun 24.86 261 *e*P **P** 04 53 27.3 -3.5
BOD Bodaibo 26.13 298 *e*P **P** 04 53 40.8 -1.6
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.3
COLA College 27.93 46 *i*P **P** 04 53 58.0 -0.5
ILAR Eielson Array 28.35 46 P **P** 04 54 01.4 -0.7
comp=Z,1.5nm,0.8s,mb3.7,baz=263,slow=8.5,SNR=18
ILAR PcP PcP 04 57 11.9 -1.6
comp=Z,0.4nm,0.6s,baz=287,slow=3.7,SNR=7.2
INK Inuvik 33.38 38 P **P** 04 54 45.4 -1.1
comp=Z,2.2nm,0.8s,mb4.2,baz=290,slow=7.7,SNR=8.6
INK Inuvik 33.38 38 *e*P **P** 04 54 46.4 -0.2
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 33.38 38 *e*P **P** 04 54 46.4 -0.2
comp=Z,2.2nm,0.8s,mb4.1
ULN Ulaanbaatar 33.62 282 *i*P **P** 04 54 48.9 +0.3
SONM Songino Array 34.02 283 P **P** 04 54 51.6 -0.5
comp=Z,1.1nm,0.8s,mb3.8,baz=62,slow=6.6,SNR=7.0
SONM PcP PcP 04 57 29.6 +0.9
comp=Z,1.2nm,0.7s,baz=64,slow=1.2,SNR=8.0
HHC Hu-ho-hao-te 34.88 269 *e*P **P** 04 54 55.6 -3.9
SSE Sheshan 36.03 247 P **P** 04 55 06.6 -2.8
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,92nm,6.5s
NJ2 Nanjing 36.61 251 *e*P **P** 04 55 11.9 -2.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
YKW3 Yellowknife Ar 42.65 43 *e*P **P** 04 56 03.4 -1.1
YKA Yellowknife Ar 42.69 43 P **P** 04 56 04.6 -0.2
comp=Z,1.5nm,0.6s,mb3.9,baz=299,slow=8.0,SNR=26
YKA Yellowknife Ar 42.69 43 P **P** 04 56 04.6 -0.2
ZAL Zalesovo 42.75 302 P **P** 04 56 03.6 -1.7
comp=Z,0.9nm,0.7s,mb3.6,baz=54,slow=6.0,SNR=6.0
GTA Gaotai 42.78 276 *e*P **P** 04 56 05.8 +0.2
GTA AP pP 04 56 27.3 +5.8
GTA PP PP 04 57 48.8 +3.0
GTA PCP PcP 04 57 53.9 -2.0
GTA PPP 04 58 26.8
GTA SCP ScP 05 01 36.3 -5.1
GTA PCS PcS 05 01 46.0 -2.2
GTA S **S** **05 02 23.4 -1.6**
GTA SS SS 05 05 31.9 -5.9
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,124nm,4.6s
GTA LR LR
comp=N,91nm,22.2s
GTA LR LR
comp=E,159nm,22.2s
GTA LR LR
comp=Z,80nm,14.9s
RES Resolute Bay 42.83 22 *e*P **P** 04 56 05.2 -0.8
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
RES Resolute Bay 42.83 22 *e*P **P** 04 56 05.2 -0.8
comp=Z,2.7nm,0.7s,mb4.1
CD2 Chengdu 46.24 264 *e*P **P** 04 56 30.6 -2.5
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,60nm,4.9s
WMQ Urumqi 47.04 289 *e*P **P** 04 56 38.0 -1.4
WMQ AP pP 04 57 01.0 +5.5
WMQ PP PP 04 58 29.0 -1.5
WMQ S **S** **05 03 20.0 -6.5**
WMQ SS SS 05 06 40.0 -14
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,104nm,4.0s
WMQ LR LR
comp=N,102nm,10.0s
WMQ LR LR
comp=E,78nm,9.0s
WMQ LR LR
comp=Z,98nm,9.0s
KURK Kurchatov 47.69 302⇑ *e*P **P** 04 56 43.9 -0.6
KURK Kurchatov 47.69 302 *e*P **P** 04 56 41.8 -2.7
comp=Z,3.8nm,0.8s,mb4.5
MKAR Makanchi Array 48.17 296 P **P** 04 56 46.9 -1.2
comp=Z,0.9nm,0.6s,mb4.0,baz=57,slow=6.5,SNR=13
BVAR Borovoye Array 50.29 308 P **P** 04 57 02.0 -2.4
comp=Z,0.9nm,0.4s,mb4.2,baz=64,slow=7.4,SNR=8.8
BRVK Borovoye 50.32 308 *e*P **P** 04 57 01.0 -3.6
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 50.32 308 *e*P **P** 04 57 01.0 -3.6
comp=Z,1.6nm,0.9s,mb4.0
ZRNK Zerenda 50.99 309 *e*P **P** 04 57 06.9 -2.7
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 50.99 309 *e*P **P** 04 57 06.9 -2.6
comp=Z,2.3nm,0.9s,mb4.1
FFC Flin Flon 52.56 46 P **P** 04 57 21.1 -0.2
FFC pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
FFC Flin Flon 52.56 46 P **P** 04 57 21.1 -0.2
comp=Z,5.7nm,1.3s,mb4.3
ARCES ARCESS Array B 52.94 342 P **P** 04 57 23.4 -0.7
comp=Z,7.9nm,1.0s,mb4.6,baz=39,slow=12,SNR=3.6
ARU Arti 53.23 317⇑ *i*P **P** 04 57 25.1 -1.1
ARU *e*PPP 05 00 31.8
ARU *e*S **S** **05 04 51.3 -1.3**
ARU *e*SS SS 05 08 30.1 -2.7
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SUMG Summit 53.50 7 *e*P **P** 04 57 28.0 -0.2
comp=Z,16nm,1.0s,mb4.9
NVAR Mina Array Bea 55.38 71 P **P** 04 57 43.6 +1.8
comp=Z,1.0nm,0.7s,mb3.9,baz=307,slow=5.6,SNR=9.4
ELK Elko 55.48 67 *e*P **P** 04 57 44.2 +1.7
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 55.48 67 *e*P **P** 04 57 44.2 +1.6
comp=Z,1.0nm,0.6s,mb4.0
LOHW Long Hollow 55.98 61 P **P** 04 57 47.8 +1.7
comp=Z,2.1nm,0.9s,mb4.2
HWUT Hardware Ranch 56.87 64 *e*P **P** 04 57 53.5 +1.1
comp=Z,2.2nm,0.7s,mb4.3
BW06 Boulder Array 57.11 61 *e*P **P** 04 57 55.0 +0.8
comp=Z,2.2nm,0.9s,mb4.2
PDAR Pinedale Array 57.11 61 P **P** 04 57 55.5 +1.3
comp=Z,1.3nm,0.8s,mb4.0,baz=316,slow=3.6,SNR=10
DUG Dugway 57.19 65 *e*P **P** 04 57 55.8 +1.1
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
DUG Dugway 57.19 65 *e*P **P** 04 57 55.8 +1.1
comp=Z,2.4nm,0.9s,mb4.2
JOF Joensuu 57.26 335 *e*p **P** 04 57 55.3 +0.1
comp=Z,6.0nm,0.9s,mb4.6
ULM Lac du Bonnet 58.36 47 P **P** 04 58 03.1 +0.2
comp=Z,0.9nm,0.3s,mb4.2,baz=322,slow=9.4,SNR=4.0
KAF Kangasniemi 59.17 337 *e*p **P** 04 58 07.5 -1.0
comp=Z,3.5nm,0.7s,mb4.5,baz=32,slow=6.2
KAF Kangasniemi 59.17 337 *e*P **P** 04 58 07.5 -1.0
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FINES FINESS Array B 59.81 337 P **P** 04 58 11.9 -1.1
comp=Z,3.7nm,0.7s,mb4.5,baz=32,slow=8.4,SNR=22
OBN Obninsk 62.27 327 *i*P **P** 04 58 29.0 -0.6
OBN *e*PP pP 04 58 52.2 +5.8
OBN *e* 05 00 50.3
OBN *e*S **S** **05 06 41.0 -10**
OBN pmax pmax
comp=Z,20nm,2.1s,mb4.9
NB2 NORSAR Subarra 63.18 344 P **P** 04 58 34.6 -1.1
comp=Z,2.8nm,0.6s,mb4.6,baz=21,slow=6.9
NOA NORSAR Array B 63.18 344 P **P** 04 58 35.1 -0.5
comp=Z,5.5nm,0.8s,mb4.8,baz=20,slow=6.6,SNR=23
NAO01 NORSAR Array S 63.42 344 *e*P **P** 04 58 36.0 -1.3
comp=Z,6.0nm,0.8s,mb4.8
ANMO Albuquerque 64.45 65 *i*P **P** 04 58 45.1 +1.1
MNTX Cornudas Mount 67.50 67 *e*P **P** 04 59 04.6 +1.0
comp=Z,1.6nm,0.9s,mb4.0
AKASG Malin Array Be 68.35 329 P **P** 04 59 07.5 -1.4
comp=Z,3.0nm,0.6s,mb4.5,baz=30,slow=6.0,SNR=13
WMOK Wichita Mounta 68.69 60 *e*P **P** 04 59 11.3 +0.2
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WMOK Wichita Mounta 68.69 60 *e*P **P** 04 59 11.3 +0.2
comp=Z,5.5nm,0.9s,mb4.5
KWP Kalwaria 71.21 333 *e*P **P** 04 59 27.0 +0.5
KSP Ksiaz 71.73 337 *e*P **P** 04 59 29.8 +0.2
STHS Stebnicka Huta 71.80 333 *e*P **P** 04 59 31.3 +1.2
STHS *e* 04 59 34.5
KOLS Kolonicke sedl 71.96 332 *e*P **P** 04 59 31.5 +0.5
CLL Collm 72.02 339⇓ *i*P **P** 04 59 31.3 -0.1
CLL *e*PP pP 04 59 47.0 -1.5
CLL pmax pmax
comp=Z,13nm,1.1s,mb4.8
CLL Collm 72.02 339⇓ *i*P **P** 04 59 31.3 -0.1
comp=Z,13nm,1.1s,mb4.8
CLL *e*pP pP 04 59 47.0 -1.5
DPC Dobruska-Polom 72.18 337 *e*P **P** 04 59 28.7 -3.6
OKC Ostrava-Krasne 72.21 335 *e*P **P** 04 59 30.9 -1.6
BURAR Bucovina Array 72.31 330⇑ P **P** 04 59 32.7 -0.4
BURAR Bucovina Array 72.31 330⇑ P **P** 04 59 32.7 -0.4
PRU Pruhonice 72.93 338 *e*P **P** 04 59 36.8 0.0
MOX Moxa 72.94 340 *e*P **P** 04 59 37.0 +0.2
MOX pmax pmax
comp=Z,13nm,1.3s,mb4.7
MOX Moxa 72.94 340 *e*P **P** 04 59 37.0 +0.2
comp=Z,13nm,1.3s,mb4.7
WVT Waverly 73.01 52 *e*P **P** 04 59 37.2 0.0
WVT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WVT Waverly 73.01 52 *e*P **P** 04 59 37.2 0.0
comp=Z,3.1nm,0.7s,mb4.3
NKC Novy Kostel 73.16 339 *e*P **P** 04 59 38.4 +0.3
TREC Trest 73.36 337 *e*P **P** 04 59 39.5 +0.2
VRI Vrincioaia 73.41 328⇑ P **P** 04 59 38.7 -0.9
VRI Vrincioaia 73.41 328⇑ P **P** 04 59 38.7 -0.9
GRF Grafenberg Arr 73.92 340 *e*P **P** 04 59 42.9 +0.3
comp=Z,47nm,1.8s,mb5.1
GRF Grafenberg Arr 73.92 340 *e*P **P** 04 59 42.9 +0.3
GRF pmax pmax
comp=Z,47nm,1.8s,mb5.1
KHC Kasperske Hory 73.95 338 *e*P **P** 04 59 43.4 +0.6
KHC Kasperske Hory 73.95 338⇑ *e*P **P** 04 59 43.9 +1.1
MLR Muntele Rosu 73.99 329⇑ P **P** 04 59 42.8 -0.2
GERES GERESS Array B 74.19 338 P **P** 04 59 44.3 +0.1
comp=Z,1.7nm,0.7s,mb4.1,baz=29,slow=3.0,SNR=9.0
VOIR 74.32 329⇓ P **P** 04 59 45.4 +0.5
VOIR 74.32 329⇓ P **P** 04 59 45.4 +0.5
SWET Sewanee 74.64 51 *e*P **P** 04 59 46.2 -0.5
GIVF Givet 74.72 344 *e*P **P** 04 59 47.0 -0.2
CDF Champ du Feu 75.92 342 *e*P **P** 04 59 54.3 +0.2
comp=Z,27nm,1.1s,mb4.8
KBA Koelnbreinsper 75.94 338⇑ *i*P **P** 04 59 55.4 +1.2
comp=Z,21nm,0.9s,mb5.0
MOTA Moosalm 76.18 339⇓ *i*P **P** 04 59 56.4 +0.8
comp=Z,9.4nm,1.0s,mb4.7
MEZF Maizieres J'vi 76.23 343 *e*P **P** 04 59 56.1 +0.2
SQTA Sankt Quirin 76.27 339⇑ *i*P **P** 04 59 57.5 +1.4
comp=Z,6.2nm,0.9s,mb4.5
HAU Haudompre 76.48 342 *e*P **P** 04 59 57.3 0.0
HINF Hinteralfeld 76.57 342 *e*P **P** 04 59 57.8 0.0
WRA Warramunga Arr 76.57 205 P **P** 04 59 58.2 +0.4
comp=Z,2.6nm,1.0s,mb4.1,baz=24,slow=6.4,SNR=9.5
WRA Warramunga Arr 76.57 205 *i*P **P** 04 59 58.7 +0.9
WRA pmax pmax
comp=Z,3.0nm,1.0s
FLN La Foliniere 76.81 347 *e*P **P** 04 59 58.8 -0.4
comp=Z,19nm,0.9s,mb4.7
LDF La Druitiere 76.93 347 *e*P **P** 04 59 59.8 0.0
GRR Gorron 77.23 347 *e*P **P** 05 00 01.4 -0.1
comp=Z,42nm,1.2s,mb5.0
SGMF Saint Gilles 77.57 348 *e*P **P** 05 00 02.7 -0.7
comp=Z,50nm,1.2s,mb5.0
ROSF Rostrenen 77.58 349 *e*P **P** 05 00 03.2 -0.2
comp=Z,46nm,1.2s,mb5.0
LOR Lormes 77.62 344 *e*P **P** 05 00 03.7 0.0
comp=Z,9.9nm,0.9s,mb4.5
CABF La Chapelle 77.87 342 *e*P **P** 05 00 05.6 +0.5
comp=Z,43nm,1.2s,mb5.0
SSF Saint Saulge 77.88 344 *e*P **P** 05 00 05.4 +0.2
comp=Z,8.8nm,0.9s,mb4.4
QUIF Quistinic 77.98 349 *e*P **P** 05 00 05.7 0.0
comp=Z,19nm,1.0s,mb4.7
AVF Avril sur Loir 78.17 344 *e*P **P** 05 00 07.0 +0.2
comp=Z,5.7nm,0.7s,mb4.3
SMF Signal de Mont 78.23 344 *e*P **P** 05 00 07.5 +0.4
BGF Bois d'Agland 78.48 344 *e*P **P** 05 00 08.7 +0.2
LPL La Plagne 78.81 342 *e*P **P** 05 00 11.7 +1.4
comp=Z,27nm,0.9s,mb4.9
LPG La Plagne 78.82 341 *e*P **P** 05 00 12.0 +1.7
comp=Z,34nm,0.9s,mb5.0
TCF Toulx Ste Croi 78.84 345 *e*P **P** 05 00 10.8 +0.3
comp=Z,11nm,1.0s,mb4.4
ORIF Oris-en-Rattie 79.55 342 *e*P **P** 05 00 15.5 +1.2
comp=Z,64nm,1.3s,mb5.1
MBDF Montbardon 79.56 341 *e*P **P** 05 00 15.3 +0.9
comp=Z,14nm,0.9s,mb4.6
VIVF Saint-Julien-l 79.82 343 *e*P **P** 05 00 16.7 +0.9
RJF Les Rejaudoux 79.91 345 *e*P **P** 05 00 16.9 +0.6
CAF Calviac 80.19 345 *e*P **P** 05 00 18.8 +1.0
ASAR Alice Springs 80.25 205 P **P** 05 00 19.6 +1.5
comp=Z,3.3nm,1.0s,mb4.2,baz=17,slow=5.7,SNR=20
SBF Sospel 80.26 341 *e*P **P** 05 00 19.7 +1.5
comp=Z,35nm,0.9s,mb5.0
MTLF Montolieu 81.71 344 *e*P **P** 05 00 27.1 +1.2
comp=Z,40nm,1.3s,mb4.9
ESDC Sonseca Array 86.20 348 P **P** 05 00 49.6 +0.9
comp=Z,0.4nm,0.4s,mb4.0,baz=8.0,slow=7.0,SNR=4.7
STKA Stephens Creek 86.62 196 P **P** 05 00 49.2 -1.6
comp=Z,2.6nm,0.8s,mb4.5,baz=347,slow=4.7,SNR=6.4

IDC 24 04:51:59.5±17.0, 1314S×16417E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=311.5km s-min=44.4km az=44.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.14**	**167**	Pn	Pn	04 54 12.9	+0.2
	1.1nm,0.3s,baz=24,slow=22,SNR=11						
STKA	**Stephens Creek**	**27.88**	**224**	P	P	04 57 51.4	+0.5
	2.1nm,0.6s,baz=82,slow=9.3,SNR=7.8						
WRA	**Warramunga Arr**	**29.36**	**253**	P	P	04 58 04.3	+0.2
	1.3nm,0.6s,baz=84,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**30.50**	**246**	P	P	04 58 14.6	+0.3
	1.5nm,0.6s,baz=69,slow=9.5,SNR=22						

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*CSEM **24** 05:05:42.6±0.7, 1313N×4373E, h20km, ML3.8, Error ellipse: s-maj=16.8km s-min=7.9km az=59.0, After DHMR*

DHMR 24 05:05:42.6±1.4, 1313N×4373E, h21km±4km, ML3.8, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**0.39**	**75⇓**	*i*P	Pb	05 05 50.0	-0.8
TRBA				*i*S	Sb	05 05 56.9	+0.5
UDYN	**Al 'Udayn**	**0.86**	**16**	*i*P	Pb	05 05 59.3	+0.4
UDYN				*i*S	Sb	05 06 11.6	+1.6
UDYN				AML	AML	05 06 14.4	
	comp=N,4μm,0.4s						
UDYN	**Al 'Udayn**	**0.86**	**16**	*i*P	Pb	05 05 59.3	+0.4
UDYN				*i*S	Sb	05 06 11.6	+1.6
ADEN	**Aden**	**1.27**	**106⇓**	*i*P	Pn	05 06 06.1	+0.9
ADEN				*i*S	Sn	05 06 22.9	+1.3
ADEN				AML	AML	05 06 24.8	
	comp=E,1μm,0.3s						
ADEN	**Aden**	**1.27**	**106⇓**	*i*P	Pn	05 06 06.1	+0.9
ADEN				*i*S	Sn	05 06 22.9	+1.3
DHBB	**Dhamar BB**	**1.57**	**24**	*i*P	Pn	05 06 10.3	+1.1
DHBB				*i*S	Sn	05 06 32.0	+3.1
LBOS		**1.65**	**63**	*i*P	Pn	05 06 11.5	+1.1
LBOS				*i*S	Sn	05 06 34.8	+3.8
BDHA	**Al Bayda'**	**1.98**	**65⇑**	*i*P	Pn	05 06 17.1	+2.3
BDHA				*i*S	Sn	05 06 42.8	+3.8
BDHA				AML	AML	05 06 47.7	
	comp=N,543nm,0.6s						
BDHA	**Al Bayda'**	**1.98**	**65⇑**	*i*P	Pn	05 06 17.1	+2.3
BDHA				*i*S	Sn	05 06 42.8	+3.8
SANA	**San'a**	**2.29**	**12**	*i*P	Pn	05 06 20.9	+1.7
SANA				*i*S	Sn	05 06 52.9	+6.2
SANA				AML	AML	05 06 58.4	
	comp=E,2μm,0.3s						

CASC 24 05:09:59.3±1.9, 1173N×8779W, h75km±100km, MD3.8, ML3.3, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.11**	**52**	*e*P	Pn	05 10 19.8	+0.4
CRIN	**San Cristobal**	**1.20**	**37**	*e*P	Pn	05 10 21.7	+1.1
TEL3	**Telica 3**	**1.25**	**48**	*e*P	Pn	05 10 21.7	+0.6
COPN	**Copaltepe**	**1.26**	**69**	*i*P	Pn	05 10 21.4	+0.1
MIRN	**Miramar**	**1.27**	**56**	*e*P	Pn	05 10 21.7	+0.2
TELN	**Telica**	**1.28**	**47**	*e*P	Pn	05 10 21.9	+0.4
CNGN	**Cerro Negro**	**1.31**	**54**	*e*P	Pn	05 10 22.4	+0.4
MOMJ	**Momotombo**	**1.40**	**61**	*e*P	Pn	05 10 23.1	+0.1
XAVN	**Gruta Xavier**	**1.49**	**74**	*e*P	Pn	05 10 24.2	-0.1
APYN	**Apoyeque**	**1.50**	**70**	*e*P	Pn	05 10 24.6	+0.3
TICN	**Ticuantepe**	**1.56**	**79**	*e*P	Pn	05 10 25.6	+0.5
TICN				*e*S	Sn	05 10 45.6	+0.9
MGAN	**Managua**	**1.57**	**75**	*e*P	Pn	05 10 25.6	+0.3
MGAN				*e*S	Sn	05 10 45.3	+0.4
MGAN				*e*S	Sn	05 10 45.6	+0.7
MGAN				*i*		05 10 45.9	
	comp=E,406nm,0.3s						
WILN	**Americas 2**	**1.63**	**75**	*e*P	Pn	05 10 25.9	-0.2
WILN				*e*S	Sn	05 10 47.1	+0.8
APON	**Apoyo**	**1.70**	**84**	*e*P	Pn	05 10 26.4	-0.6
LCBS	**La Ceiba**	**2.23**	**329⇑**	*e*P	Pn	05 10 48.4	+14
LCBS				*e*S	Sn	05 11 15.2	+14
LFRS	**El Faro**	**2.25**	**327**	*e*P	Pn	05 10 48.2	+14
LFRS				*e*S	Sn	05 11 15.9	+15
LBRS	**Las Brisas**	**2.34**	**329**	*e*P	Pn	05 10 50.0	+14
LBRS				*e*S	Sn	05 11 18.8	+15
RTR	**El Retiro**	**2.81**	**320**	*e*P	Pn	05 10 56.8	+15
RTR				*e*S	Sn	05 11 28.2	+13

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*ISCJB **24** 05:15:20.8±0.5, 5011N±003×1842E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=21.5*
*CSEM **24** 05:15:22.9±0.1, 5009N×1847E, h1km, ML3.1/4, Error ellipse: s-maj=3.7km s-min=1.5km az=179.0*
*IPEC **24** 05:15:23.0±0.1, 5005N×1850E, h6km±2km, ML2.1/3, Error ellipse: s-maj=2.2km s-min=0.7km az=163.0*
*WAR **24** 05:15:23.4, 5009N×1850E, ML2.5, Mining Induced*
*PRU **24** 05:15:24.2, 5007N×1839E, h0km*
*VIE **24** 05:15:24.8±0.8, 4987N×1836E, h0km, mb1.6/2, ML2.5/3, Error ellipse: s-maj=5.0km s-min=4.6km az=9.0 9 km ENE of Ostrava Suspected Mining induced.*

ISC 24 05:15:22.2±0.5, 5006N±003×1845E±003, h0km, n24, σ1§08/41, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**277**	*e*Pg	**Pg**	**05 15 27.8**	**+2.4**
RAC				*e*Sg	**Sg**	**05 15 31.4**	**+3.8**
OKC	**Ostrava-Krasne**	**0.30**	**221**	*e*PG	**Pg**	**05 15 27.3**	**-0.7**
OKC				*e*SG	**Sg**	**05 15 32.4**	**+0.5**
	176nm,0.6s						
MORC	**Moravsky Berou**	**0.65**	**244**	*e*Pg	**Pg**	**05 15 35.9**	**+1.1**
MORC				*e*Sg	**Sg**	**05 15 44.5**	**+1.3**
	41nm,0.3s						
OJC	**Ojcow**	**0.88**	**79**	*e*Pg	**Pg**	**05 15 39.2**	**0.0**
OJC				*e*Sg	**Sg**	**05 15 51.1**	**+0.5**
OJC	**Ojcow**	**0.88**	**79**	*e*Pg	**Pg**	**05 15 39.1**	**-0.1**
OJC				*e*Sg	**Sg**	**05 15 49.9**	**-0.7**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pg**	**05 15 49.1**	**+0.6**
NIE				*e*		05 16 06.3	
NIE				*e*Sg	**Sg**	**05 16 07.6**	**+1.3**
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG	**Pg**	**05 15 49.2**	**+0.2**
DPC				*e*SG	**Sg**	**05 16 07.9**	**+0.8**
	32nm,0.4s						
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*Pg	**Pg**	**05 15 49.2**	**+0.2**
DPC				*e*Sg	**Sg**	**05 16 08.0**	**+0.9**
VRAC	**Vranov**	**1.42**	**239**	*e*Pg	**Pg**	**05 15 49.5**	**0.0**
VRAC				*e*Sg	**Sg**	**05 16 08.1**	**+0.1**
	26nm,0.4s						
KSP	**Ksiaz**	**1.58**	**300**	*e*Pg	**Pg**	**05 15 51.7**	**-0.9**
KSP				*e*Sg	**Sg**	**05 16 12.7**	**-0.4**
UPC	**Upice**	**1.62**	**287**	*e*PG	**Pg**	**05 15 53.2**	**-0.2**
UPC				*e*SG	**Sg**	**05 16 14.3**	**-0.2**
KRUC	**Moravsky**	**1.67**	**234**	*e*Pn	**Pn**	**05 15 53.0**	**+0.2**
KRUC				*e*Sg	**Sg**	**05 16 15.9**	**-0.1**
	16nm,0.4s						
SMOL	**Smolenice**	**1.69**	**204**	*e*SN	**Sn**	**05 16 17.4**	**+2.1**
STHS	**Stebnicka Huta**	**1.93**	**109**	*e*SN	**Sn**	**05 16 26.8**	**+5.6**
KECS	**Kecovo**	**2.07**	**139**	*e*	**Pn**	**05 15 57.7**	**-0.5**
KECS				*e*	**Sn**	**05 16 22.9**	**-1.8**
TREC	**Trest**	**2.07**	**249**	*e*PG	**Pg**	**05 15 59.7**	**-2.3**
CRVS	**Cervenica-Dubn**	**2.28**	**119**	*e*SN	**Sn**	**05 16 36.4**	**+6.4**
PRU	**Pruhonice**	**2.52**	**270**	*e*PG	**Pg**	**05 16 09.3**	**-1.3**
PRU				*e*SG	**Sg**	**05 16 41.6**	**-1.7**
KHC	**Kasperske Hory**	**3.30**	**255**	*e*PN	**Pn**	**05 16 15.5**	**+0.3**
KHC				*e*PG	**Pg**	**05 16 23.7**	**-1.9**
KHC				*e*SG	**Sg**	**05 17 07.6**	**-0.8**
	16nm,0.5s						
MOA	**Moliu**	**3.54**	**233⇓**	*i*Pn	**Pn**	**05 16 18.5**	**0.0**
MOA				⇑*i*Sg	**Sg**	**05 17 14.9**	**-1.0**
	3.1nm,0.3s						
CLL	**Collm**	**3.68**	**292**	*e*Sg	**Sg**	**05 17 22.0**	**+1.5**
CLL	**Collm**	**3.68**	**292**	*e*Sg	**Sg**	**05 17 22.0**	**+1.5**
MOX	**Moxa**	**4.41**	**280**	*e*SG	**Sg**	**05 17 45.2**	**+1.1**
MOX	**Moxa**	**4.41**	**280**	*e*Sg	**Sg**	**05 17 45.2**	**+1.1**

CASC 24 05:41:53.5±3.0, 1299N×8921W, h47km±120km, MD3.6, ML3.7, 5C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.65**	**13⇑**	*i*P	Pn	05 42 19.7	+13
LFRS				*e*S	Sn	05 42 29.2	+13
SNET	**Serv Nac Est T**	**0.70**	**358**	*e*P	Pn	05 42 07.5	+0.4
SNET				*e*S	Sn	05 42 18.1	+1.2
LCBS	**La Ceiba**	**0.70**	**18⇑**	*e*P	Pn	05 42 20.3	+13
LCBS				*e*S	Sn	05 42 31.2	+14
SNVI	**San Vicente**	**0.72**	**30⇓**	*e*P	Pn	05 42 21.1	+14
SNVI				*e*S	Sn	05 42 31.3	+14
BOQS	**Boqueron**	**0.75**	**355⇓**	*e*P	Pn	05 42 21.4	+14
BOQS				*e*S	Sn	05 42 31.9	+14
LBRS	**Las Brisas**	**0.77**	**12⇑**	*e*P	Pn	05 42 21.7	+14
LBRS				*e*S	Sn	05 42 34.1	+16
SBLS	**San Blas**	**0.94**	**335**	*e*P	Pn	05 42 21.4	+11
SBLS				*e*S	Sn	05 42 37.2	+15
SNJE	**San Jose**	**0.96**	**336⇑**	*e*P	Pn	05 42 23.9	+13
SNJE				*e*S	Sn	05 42 36.9	+14
RTR	**El Retiro**	**1.00**	**335**	*e*P	Pn	05 42 24.5	+13
RTR				*e*S	Sn	05 42 39.0	+15
VSM	**San Miguel**	**1.01**	**64⇓**	*e*P	Pn	05 42 25.7	+14
VSM				*e*S	Sn	05 42 40.2	+16
BLLM	**Bellamira**	**1.05**	**64⇓**	*e*P	Pn	05 42 25.8	+14
BLLM				*e*S	Sn	05 42 40.0	+15
CAHU	**Cacacuatique**	**1.25**	**51⇑**	*e*P	Pn	05 42 29.6	+15
CAHU				*e*S	Sn	05 42 46.0	+16
IXG	**Ixpaco**	**1.69**	**314**	*e*P	Pn	05 42 21.1	+0.5
IXG				*e*S	Sn	05 42 40.8	-0.3
IXG				AML	AML	05 42 42.8	
	comp=N,2μm,0.3s						
IXG				AML	AML	05 42 43.0	
	comp=E,4μm,0.3s						
TEL3	**Telica 3**	**2.34**	**100⇓**	*e*	Pn	05 42 30.6	+1.1
TEL3				⇓*e*P		05 42 30.6	
MIRN	**Miramar**	**2.49**	**102⇓**	*e*P	Pn	05 42 32.4	+0.8
MIRN				*e*S	Sn	05 43 01.7	+0.9
MIRN				*i*		05 43 12.1	
	comp=Z,156nm,0.6s						
COPN	**Copaltepe**	**2.68**	**107**	*e*P	Pn	05 42 34.8	+0.7
COPN				*e*S	Sn	05 43 04.8	-0.4

MGAN Managua **3.01 106** *e*S Sn 05 43 13.7 +0.3

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*ATH **24** 05:50:11.6, 4000N×2062E, h25km±1km, MD3.1/5*
*CSEM **24** 05:50:12.4±0.1, 3998N×2059E, h5km, MD3.1, Error ellipse: s-maj=2.2km s-min=2.0km az=84.0*
*ISCJB **24** 05:50:12.7±0.5, 3991N±003×2058E±004, h24km±6km, Error ellipse: s-maj=5.4km s-min=4.7km az=62.8*
*NEIC **24** 05:50:12.4, 3996N×2057E, h9km, MD3.1(ATH), After THE.*
*THE **24** 05:50:12.4, 3996N×2057E, h9km, ML2.9*
*SKO **24** 05:50:13.2, 3989N×2071E, h6km, M2.2, ML2.5*

ISC 24 05:50:12.5±0.5, 3994N±002×2060E±004, h19km±4km, n17, σ1°08/29, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.35**	**146**	*e*PB	**Pg**	**05 50 19.6**	**-0.3**
JAN				*e*SB	**Sg**	**05 50 25.9**	**+1.0**
IGT	**Igoumenitsa**	**0.46**	**207**	*e*Pg	**Pg**	**05 50 20.8**	**-1.1**
IGT				*e*Sg	**Sg**	**05 50 28.4**	**+0.2**
MEV	**Metsovon**	**0.51**	**108**	*e*Pg	**Pg**	**05 50 22.6**	**-0.2**
	comp=Z,10.0nm,0.4s						
TPE	**Tepelena**	**0.57**	**308**	*i* Pg	**Pg**	**05 50 22.7**	**-1.2**
TPE				*i* Sg	**Sg**	**05 50 32.4**	**+0.8**
KEK	**Kerkira**	**0.66**	**250**	*e*PN	**Pn**	**05 50 25.0**	**-1.9**
KEK				*e*SN	**Sb**	**05 50 35.5**	**+1.3**
KZN	**Kozani**	**0.97**	**68**	*e*PN	**Pn**	**05 50 30.0**	**-1.1**
FNA	**Florina**	**1.03**	**35**	*e*Pg	**Pg**	**05 50 31.3**	**-1.2**
	comp=Z,5.0nm,0.5s						
FNA				*e*Sg	**Sg**	**05 50 47.2**	**+1.2**
OHR	**Ohrid**	**1.18**	**7**	*e*Pg	**Pg**	**05 50 35.6**	**+0.3**
OHR				*e*Sg	**Sg**	**05 50 52.5**	**+1.8**
BIA	**Bitola**	**1.21**	**27**	*e*Pg	**Pg**	**05 50 34.3**	**-1.6**
BIA				*e*Sg	**Sg**	**05 50 51.9**	**+0.2**
BIA	**Bitola**	**1.21**	**27**	⇑*i*Pg	**Pg**	**05 50 34.3**	**-1.6**
BIA				*i* Sg	**Sg**	**05 50 51.7**	**0.0**
BIA				*e*Lg		05 50 54.5	
	comp=E,53nm,0.4s						
BIA				*e*Lg		05 50 54.6	
	comp=N,78nm,0.5s						
BIA	**Bitola**	**1.21**	**27**	⇑*i*Pg	**Pg**	**05 50 34.2**	**-1.7**
BIA				*e*Sg	**Sg**	**05 50 51.9**	**+0.2**
EVR	**Evrytania**	**1.39**	**137**	*e*PN	**Pn**	**05 50 37.7**	**+0.8**
AGG	**Agios Georgios**	**1.62**	**124**	*e*Pb	**Pb**	**05 50 40.7**	**-1.3**
AGG				*e*Sb	**Sb**	**05 51 02.7**	**+0.7**
GRG	**Griva**	**1.71**	**53**	*e*Pb	**Pb**	**05 50 42.2**	**-1.2**
GRG				*e*Sb	**Sb**	**05 51 04.8**	**+0.4**
GRG	**Griva**	**1.71**	**53**	*e*Pb	**Pb**	**05 50 42.2**	**-1.1**
GRG				*e*Sb	**Sb**	**05 51 04.8**	**+0.4**
VLS	**Valsamata**	**1.77**	**180**	*e*PN	**Pn**	**05 50 44.0**	**+1.9**
SOH	**Sokhos**	**2.28**	**66**	*e*Pn	**Pn**	**05 50 49.6**	**+0.4**

HLW 24 06:01:14.3, 3245N×2517E, h25km, Mb3.7, 3C-8D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DABA	**Dabaa**	**3.02**	**118**	⇓P	Pn	06 01 60.0	-0.5
SWA2		**3.21**	**176**	⇓P	Pn	06 02 01.7	-1.3
SWA2				S	Sn	06 02 37.0	-3.4
SWA2		**3.21**	**176**	P	Pn	06 02 01.7	-1.4
SWA2				S	Sn	06 02 37.0	-3.4
SWA1		**3.21**	**172**	⇓P	Pn	06 02 02.2	-0.9
SWA1				S	Sn	06 02 37.1	-3.4
HBRG	**Burj al 'Arab**	**4.40**	**114**	⇓P	Pn	06 02 19.3	-0.2
HBRG				S	Sn	06 03 05.9	-4.1
AWBH		**5.23**	**141**	⇓P	Pn	06 02 30.4	-0.4
HNAT	**Natroun**	**5.45**	**120**	⇓P	Pn	06 02 33.5	-0.5
FYM	**Al Fayyum**	**5.74**	**117**	⇑P	Pn	06 02 37.3	-0.6
AYT	**Al 'Ayyat**	**5.82**	**117**	⇑P	Pn	06 02 38.5	-0.5
HFRF	**Wahat Farafira**	**5.95**	**152**	P	Pn	06 02 40.1	-0.6
HSAF	**As Saff**	**6.16**	**116**	⇑P	Pn	06 02 43.6	-0.1
GLL	**Jalalah**	**6.30**	**115**	⇓P	Pn	06 02 45.4	-0.2
AMAG	**Maghara**	**7.09**	**103**	⇓P	Pn	06 02 56.2	-0.2
GRB	**Gharib**	**7.79**	**120**	P	Pn	06 03 05.5	-0.4
AKRG	**Al Kharijah**	**8.35**	**145**	P	Pn	06 03 13.6	-0.1

KRSC 24 06:02:41.6±1.4, 5032N×15665E, h63km±13km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.50**	**317**	*i* P	Pn	06 02 54.0	+0.2
SKR				*i* S	Sn	06 03 04.4	+1.8
PAU	**Pauzhetka**	**1.15**	**5**	*i* P	Pn	06 03 03.3	+1.6
PAU				*e*S	Sn	06 03 18.1	+1.4
PAU				Smax			
	3μm,0.4s						
MIPR	**Malaya Ipel'ka**	**1.96**	**2**	*i* P	Pn	06 03 13.1	+0.6
MIPR				*e*S	Sn	06 03 35.7	-0.4
GRL	**Gorelyy**	**2.41**	**21**	*i* P	Pn	06 03 21.0	+2.4
GRL				*e*S	Sn	06 03 49.1	+2.2
RUS	**Russkaya**	**2.42**	**28**	P	Pn	06 03 19.8	+1.1
RUS				S	Sn	06 03 46.6	-0.6
RUS	**Russkaya**	**2.42**	**28**	*e*P	Pn	06 03 19.8	+1.1
RUS				*e*S	Sn	06 03 46.8	-0.4
APC	**Apacha**	**2.63**	**7**	*e*P	Pn	06 03 22.2	+0.6
APC				Smax			
	80nm,0.9s						
KRMR	**Karymshinskiy**	**2.68**	**20**	*i* P	Pn	06 03 24.2	+1.9
KRMR				*e*S	Sn	06 03 54.1	+0.5
PET	**Petropavlovsk**	**2.98**	**24**	P	Pn	06 03 28.5	+2.1
PET				S	Sn	06 04 01.5	+0.5
PET	**Petropavlovsk**	**2.98**	**24**	*e*P	Pn	06 03 28.5	+2.1
PET				*e*S	Sn	06 04 02.8	+1.8
UGLR	**Uglovaya**	**3.19**	**24**	*e*P	Pn	06 03 31.9	+2.6
AVH	**Avacha**	**3.22**	**23**	*e*P	Pn	06 03 32.7	+3.0
AVH				*e*S	Sn	06 04 09.5	+2.6
KOK	**Koryaka**	**3.22**	**22**	*i* P	Pn	06 03 32.9	+3.2
SMAR	**Somma**	**3.24**	**24**	*e*P	Pn	06 03 32.4	+2.5
NLC	**Nalytchevo**	**3.31**	**29**	P	Pn	06 03 31.3	+0.4
NLC				S	Sn	06 04 06.2	-2.9
NLC	**Nalytchevo**	**3.31**	**29**	*i* P	Pn	06 03 31.4	+0.5
GNL	**Ganaly**	**3.47**	**13**	*e*P	Pn	06 03 34.8	+1.6
SPN	**Mys Shipunski**	**3.48**	**36**	P	Pn	06 03 34.7	+1.4
SPN				S	Sn	06 04 11.8	-1.5
SPN	**Mys Shipunski**	**3.48**	**36**	*e*P	Pn	06 03 34.6	+1.3
SPN				*e*S	Sn	06 04 12.7	-0.6
KBTR	**Krutoberegovo**	**6.96**	**30**	*e*P	Pn	06 04 20.7	-0.2

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*STR **24** 06:05:35.1±0.8, 4328N×083W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **24** 06:05:36.2±0.1, 4315N×092W, h10km, MdL1.7/2, Ml1.3/1, Error ellipse: s-maj=4.1km s-min=1.6km az=21.0*

MDD 24 06:05:37.0±0.2, 4316N×093W, h0km, mbLg1.3/10, Error ellipse: s-maj=2.0km s-min=1.4km az=20.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.05**	**357**	Pg	Pg	06 05 38.5	+0.5
ORDF				Sg	Sg	06 05 40.0	+1.3
ORDF	**Ordiarp**	**0.05**	**357**	Pg	Pg	06 05 38.5	+0.5
ORDF				Lg		06 05 40.1	
LARF	**Larrau**	**0.13**	**198**	Pg	Pg	06 05 39.5	+0.1
LARF				Lg		06 05 41.7	
ATE	**Arette**	**0.18**	**113**	Pg	Pg	06 05 39.9	-0.6
ATE				Sg	Sg	06 05 42.6	-0.3
ATE	**Arette**	**0.18**	**113**	Pg	Pg	06 05 40.0	-0.6
ATE				Lg		06 05 42.9	
SJPF	**Ste Jean**	**0.22**	**258**	*e*Pg	Pg	06 05 41.1	-0.1
SJPF				*e*Sg	Sg	06 05 44.7	+0.7
	25nm,0.2s						
SJPF	**Ste Jean**	**0.22**	**258**	Pg	Pg	06 05 41.1	-0.1
SJPF				Lg		06 05 44.7	
	12nm,0.2s						
OSSF	**Osses**	**0.26**	**292**	Pg	Pg	06 05 41.7	-0.3
OSSF				Sg	Sg	06 05 45.4	+0.1
OSSF	**Osses**	**0.26**	**292**	Pg	Pg	06 05 41.6	-0.3
OSSF				Lg		06 05 45.2	
ETSF	**Etsaut**	**0.38**	**134**	*e*Pg	Pg	06 05 43.1	-1.1
ETSF				*e*Sg	Sg	06 05 49.1	0.0
	3.0nm,0.2s						
ETSF	**Etsaut**	**0.38**	**134**	Pg	Pg	06 05 43.1	-1.1
ETSF				Lg		06 05 49.1	
	1.5nm,0.2s						
EALK	**Alkurruntz**	**0.42**	**278**	Pg	Pg	06 05 44.5	-0.6
	1.3nm,0.1s,SNR=17						
EALK				Lg		06 05 50.2	
	10nm,0.2s,SNR=27						
ELIZ	**Elizondo**	**0.44**	**271**	Pg	Pg	06 05 45.0	-0.4
	1.2nm,0.1s,SNR=7.9						
ELIZ				Lg		06 05 50.9	
	8.3nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.47**	**222**	Pg	Pg	06 05 46.7	+0.7
	0.3nm,0.1s,SNR=4.0						
IPRE				Lg		06 05 52.5	
	7.9nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**0.50**	**245**	Pg	Pg	06 05 46.5	0.0
	1.3nm,0.1s,SNR=7.9						
IUSE				Lg		06 05 53.0	
	4.0nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.58**	**226**	Lg		06 05 56.1	
	3.1nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.61**	**231**	Pg	Pg	06 05 48.3	-0.5
	4.7nm,0.2s,SNR=4.0						
EARA				Lg		06 05 57.5	
	3.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.92**	**121**	Pg	Pg	06 05 52.8	-1.9
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		06 06 04.0	
	1.4nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.94**	**97**	*e*Sg	Sg	06 06 06.6	-0.6
	0.9nm,0.3s						
EPF	**Esparros**	**0.94**	**97**	Lg		06 06 06.6	
	0.4nm,0.3s						
ECRI	**Cripan**	**1.28**	**245**	Lg		06 06 17.8	
	1.5nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.48**	**166**	Lg		06 06 24.4	
	5.3nm,0.2s,SNR=4.0						

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*INMG **24** 06:44:41.9±1.1, 4281N×723W, h11km±3km, ML2.4, Error ellipse: s-maj=2.5km s-min=1.5km az=81.0*

MDD 24 06:44:41.7±0.2, 4282N×724W, h7km±4km, mbLg2.6/15, 1C-1D, Error ellipse: s-maj=3.5km s-min=1.8km az=90.0, PRXIMO II O INCIO SEOANE I A POBRA DE SAN N TRIACASTELA, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.43**	**171**	⇓Pg	Pg	06 44 49.7	-0.4
	15nm,0.2s,SNR=18						
ERUA				Lg		06 44 55.0	
	50nm,0.2s						
EPON	**Pontenova**	**0.51**	**7**	Pg	Pg	06 44 51.2	-0.4
	24nm,0.1s,SNR=78						
EPON				Lg		06 44 57.9	
	49nm,0.1s,SNR=11						
ECAL	**Calabor**	**0.95**	**157**	Pg	Pg	06 44 59.3	-0.7
	25nm,0.1s,SNR=87						
ECAL				Lg		06 45 11.9	
	45nm,0.1s,SNR=14						
STS	**Santiago**	**0.97**	**275**	Pg	Pg	06 45 00.0	-0.3
	71nm,0.1s,SNR=12						
STS				Lg		06 45 12.8	
	138nm,0.2s,SNR=37						
PBRG	**Braganca**	**1.07**	**160**	*e*P	Pg	06 45 01.7	-0.7
PBRG				*e*S	Sg	06 45 15.7	-0.6
PBRG							
	34nm,0.1s						
ELOB	**Lobios**	**1.13**	**213**	Pn	Pn	06 45 02.1	-1.8
	0.6nm,0.1s,SNR=86						
ELOB				Pg	Pg	06 45 03.4	0.0
	17nm,0.1s,SNR=9.5						
ELOB				Sn	Sn	06 45 17.1	-2.5
	25nm,0.2s,SNR=6.4						
ELOB				Lg		06 45 18.4	
	40nm,0.1s,SNR=15						
PCAB	**Cabril**	**1.25**	**208**	*e*P	Pn	06 45 03.9	-1.7
PCAB				*e*S	Sb	06 45 21.8	-0.2
PCAB							
	107nm,0.1s						
EZAM	**Zamans**	**1.27**	**239**	Pn	Pn	06 45 04.3	-1.6
	1.6nm,0.1s,SNR=20						
EZAM				Pg	Pg	06 45 05.8	-0.3
	13nm,0.1s,SNR=7.9						
EZAM				Lg		06 45 22.3	
	21nm,0.1s,SNR=11						
EMAZ	**Mazaricos**	**1.29**	**276**	Pn	Pn	06 45 04.3	-1.8
	1.0nm,0.1s,SNR=66						
EMAZ				Pg	Pg	06 45 05.9	-0.5
	22nm,0.1s,SNR=7.0						
EMAZ				Sn	Sn	06 45 20.4	-3.2
	14nm,0.1s,SNR=4.9						
EMAZ				Lg		06 45 22.8	
	65nm,0.1s,SNR=13						
EARI	**Arriondas**	**1.56**	**71**	⇑Pg	Pg	06 45 10.5	-1.1
	7.4nm,0.1s,SNR=18						
EARI				Lg		06 45 30.5	
	28nm,0.2s,SNR=9.7						
PVRL	**Vila Real**	**1.58**	**193**	*e*Pn	Pn	06 45 08.9	-1.2
PVRL				*e*Sn	Sn	06 45 28.3	-2.5
PVRL				*e*Sg	Sg	06 45 32.2	-0.4
PVRL							
	66nm,0.2s						
PVRL	**Vila Real**	**1.58**	**193**	Pn	Pn	06 45 08.9	-1.2
PVRL				Sn	Sn	06 45 28.3	-2.5
PVRL				Lg		06 45 32.2	
	33nm,0.2s						
MTE	**Manteigas**	**2.43**	**186**	*e*Sn	Sn	06 45 49.9	-1.8
MTE				*e*Sg	Sg	06 45 58.7	-1.0
MTE							
	12nm,0.4s						
GUD	**Guadarrama**	**3.17**	**132**	Pn	Pn	06 45 31.9	0.0
	0.3nm,0.1s,SNR=4.0						
GUD				Pg	Pg	06 45 39.7	-2.8
	0.6nm,0.2s,SNR=7.9						
GUD				Lg		06 46 19.3	
	4.9nm,0.2s,SNR=7.7						
ECRI	**Cripan**	**3.49**	**92**	Pn	Pn	06 45 37.0	+0.7
	0.8nm,0.2s,SNR=7.9						
ECRI				Pg	Pg	06 45 46.5	-2.1
	1.8nm,0.2s,SNR=7.9						
ECRI				Lg		06 46 26.6	
	2.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.06**	**178**	Pn	Pn	06 45 43.8	-0.5
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	06 46 28.7	-3.3
	0.8nm,0.1s,SNR=4.5						
EBAD				Lg		06 46 48.6	
	4.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.06**	**175**	Lg		06 47 18.6	
	0.9nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**5.43**	**89**	Pn	Pn	06 46 02.9	-0.2
	0.3nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	06 47 00.9	-5.0
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.63**	**114**	Sn	Sn	06 47 07.7	-3.0
	1.5nm,0.2s,SNR=7.9						

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*ISCJB **24** 06:50:38.7±0.4, 4279N±003×7.12W±003, h8km, Error ellipse: s-maj=4.5km s-min=3.3km az=115.9*
*MDD **24** 06:50:40.9±0.2, 4282N×723W, h8km±4km, mbLg2.8/19, Error ellipse: s-maj=3.3km s-min=2.1km az=90.0, II-III TRIACASTELA SAMOS BECERRE.LU II SARRIA BARALLA PEDRAFITA DO CEBREIRO II O INCIO SEOANE I A POBRA DE SAN N PRXIMO*
MDD EMS: III AS NOGAIS.
*CSEM **24** 06:50:40.7±0.1, 4282N×7.19W, h10km, ML3.0/7, Error ellipse: s-maj=1.8km s-min=1.6km az=175.0*
*INMG **24** 06:50:40.9±1.2, 4281N×723W, h10km±3km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.6km az=83.0*

ISC 24 06:50:40.3±0.5, 4281N±003×721W±003, h17km±3km, n43, σ1°09/67, 1C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.42**	**174**	⇓Pg	**Pg**	**06 50 48.8**	**+0.1**
	24nm,0.1s,SNR=18						
ERUA				Lg		06 50 54.1	
	60nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**0.52**	**4**	Pg	**Pg**	**06 50 50.2**	**-0.5**
	27nm,0.1s,SNR=108						
EPON				Lg		06 50 57.0	
	99nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**0.52**	**4**	Pg	**Pg**	**06 50 50.2**	**-0.5**
	27nm,0.1s,SNR=108						
ECAL	**Calabor**	**0.93**	**158**	⇓Pg	**Pg**	**06 50 58.4**	**+0.1**
	32nm,0.1s,SNR=18						
ECAL				Lg		06 51 11.0	
	74nm,0.1s,SNR=14						
ECAL	**Calabor**	**0.93**	**158**	Pg	**Pg**	**06 50 58.4**	**0.0**
	32nm,0.1s,SNR=18						
STS	**Santiago**	**0.99**	**275**	⇑Pg	**Pg**	**06 50 59.2**	**-0.3**
	44nm,0.1s,SNR=18						
STS				Lg		06 51 11.9	
	228nm,0.2s,SNR=44						
PBRG	**Braganca**	**1.06**	**161**	*e*P	**Pb**	**06 51 00.9**	**+0.8**
PBRG				*e*S	**Sb**	**06 51 14.8**	**+1.2**
PBRG							
	49nm,0.2s						
PBRG	**Braganca**	**1.06**	**161**	*e*P	**Pb**	**06 51 00.9**	**+0.8**
PBRG				*e*S	**Sb**	**06 51 14.8**	**+1.2**
	49nm,0.2s						
ELOB	**Lobios**	**1.13**	**214**	⇓Pn	**Pn**	**06 51 01.3**	**0.0**
	0.7nm,0.1s,SNR=18						
ELOB				Pg	**Pg**	**06 51 02.4**	**+0.2**
	15nm,0.1s,SNR=7.9						
ELOB				Lg		06 51 16.3	
	48nm,0.1s,SNR=18						
ELOB	**Lobios**	**1.13**	**214**	Pn	**Pn**	**06 51 01.3**	**0.0**
	0.7nm,0.1s,SNR=18						
ELOB	**Lobios**	**1.13**	**214**	Pg	**Pg**	**06 51 02.4**	**+0.2**
	15nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**1.25**	**209**	*e*P	**Pn**	**06 51 03.1**	**+0.1**
PCAB				S	**Sb**	**06 51 19.9**	**+0.6**
PCAB							
	140nm,0.1s						
EZAM	**Zamans**	**1.28**	**240**	Pn	**Pn**	**06 51 03.3**	**-0.1**
	2.1nm,0.1s,SNR=7.9						
EZAM				Pg	**Pg**	**06 51 04.9**	**-0.1**
	23nm,0.1s,SNR=31						
EZAM				Lg		06 51 20.9	
	32nm,0.2s,SNR=15						
EMAZ	**Mazaricos**	**1.31**	**277**	Pn	**Pn**	**06 51 03.5**	**-0.2**
	1.2nm,0.1s,SNR=7.9						
EMAZ				Pg	**Pg**	**06 51 05.0**	**-0.5**
	28nm,0.1s,SNR=102						
EMAZ				Sn	**Sn**	**06 51 19.6**	**-1.2**
	18nm,0.1s,SNR=7.9						
EMAZ				Lg		06 51 22.1	
	109nm,0.2s,SNR=5.6						
EMAZ	**Mazaricos**	**1.31**	**277**	Pn	**Pn**	**06 51 03.5**	**-0.2**
	1.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.31**	**277**	Pg	**Pg**	**06 51 05.0**	**-0.5**
	28nm,0.1s,SNR=102						
EMAZ				Sn	**Sn**	**06 51 19.6**	**-1.2**
	18nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**1.54**	**71**	Pg	**Pg**	**06 51 09.0**	**-1.0**
	15nm,0.1s,SNR=194						
EARI				Lg		06 51 29.4	
	33nm,0.2s,SNR=6.3						
PVRL	**Vila Real**	**1.58**	**194**	*e*Pn	**Pn**	**06 51 08.1**	**+0.7**
PVRL	**Vila Real**	**1.58**	**194**	*e*Pg	**Pg**	**06 51 10.7**	**+0.1**
PVRL				*e*Sn	**Sn**	**06 51 27.4**	**0.0**
PVRL				*e*Sg	**Sg**	**06 51 31.3**	**+0.2**
PVRL							
	94nm,0.1s						
PVRL	**Vila Real**	**1.58**	**194**	Pn	**Pn**	**06 51 08.1**	**+0.7**
PVRL				Pg	**Pg**	**06 51 10.7**	**+0.1**
PVRL				Sn	**Sn**	**06 51 27.4**	**0.0**
PVRL				Lg		06 51 31.3	
	47nm,0.1s						
PVRL	**Vila Real**	**1.58**	**194**	*e*Pg	**Pg**	**06 51 10.7**	**+0.1**
PVRL				*e*Sn	**Sn**	**06 51 27.4**	**0.0**
PVRL				*e*Sg	**Sg**	**06 51 31.3**	**+0.2**
	94nm,0.1s						
MTE	**Manteigas**	**2.42**	**186**	*e*Pg	**Pg**	**06 51 26.3**	**-0.3**
MTE				*e*Sg	**Sg**	**06 51 57.8**	**-0.2**
MTE							
	23nm,0.3s						
PCBR	**Castelo Branco**	**2.97**	**184**	*e*Sn	**Sn**	**06 52 01.5**	**-0.3**
PCBR							
	13nm,0.5s						
PCBR	**Castelo Branco**	**2.97**	**184**	Sn	**Sn**	**06 52 01.5**	**-0.3**
	6.4nm,0.5s						
GUD	**Guadarrama**	**3.14**	**132**	Pn	**Pn**	**06 51 30.2**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
GUD				Pg	**Pg**	**06 51 38.5**	**-2.0**
	1.7nm,0.2s,SNR=5.1						
GUD				Lg		06 52 16.3	
	14nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**3.47**	**92**	Pn	**Pn**	**06 51 35.3**	**+1.9**
	1.1nm,0.1s,SNR=7.9						
ECRI				Pg	**Pg**	**06 51 45.7**	**-0.9**
	4.4nm,0.2s,SNR=7.9						
ECRI				Lg		06 52 27.3	
	6.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.05**	**178**	Pn	**Pn**	**06 51 42.9**	**+1.5**
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**06 52 27.5**	**-0.9**
	3.2nm,0.2s,SNR=4.9						
EBAD				Lg		06 52 47.9	
	6.4nm,0.2s,SNR=5.8						
EBAD	**Badajoz**	**4.05**	**178**	Pn	**Pn**	**06 51 42.9**	**+1.5**
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**06 52 27.5**	**-0.9**
	3.2nm,0.2s,SNR=4.9						
EALK	**Alkurruntz**	**4.20**	**82**	Pn	**Pn**	**06 51 44.9**	**+1.4**
	0.2nm,0.1s,SNR=4.0						
EALK				Sn	**Sn**	**06 52 31.9**	**-0.1**
	0.6nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**4.20**	**82**	Pn	**Pn**	**06 51 44.8**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
EALK				Sn	**Sn**	**06 52 32.7**	**+0.6**
	0.6nm,0.2s,SNR=4.0						
ECAB	**El Cabril**	**4.92**	**163**	Pn	**Pn**	**06 51 54.1**	**+0.7**
	0.6nm,0.2s,SNR=4.9						
ECAB				Sn	**Sn**	**06 52 48.5**	**-1.3**
	1.2nm,0.2s,SNR=4.9						
ECAB				Lg		06 53 13.9	
	2.5nm,0.3s,SNR=5.0						
ECAB	**El Cabril**	**4.92**	**163**	Pn	**Pn**	**06 51 54.1**	**+0.8**
	0.6nm,0.2s,SNR=4.9						
ECAB				Sn	**Sn**	**06 52 48.5**	**-1.3**
	1.2nm,0.2s,SNR=4.9						
EADA	**Adamuz**	**5.05**	**156**	Sn	**Sn**	**06 52 50.3**	**-2.7**
	0.8nm,0.2s,SNR=4.0						
EADA				Lg		06 53 18.6	
	1.4nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.05**	**156**	Sn	**Sn**	**06 52 50.3**	**-2.7**
	0.8nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.05**	**175**	Sn	**Sn**	**06 52 50.1**	**-3.0**
	0.3nm,0.1s,SNR=7.9						
EMIN				Lg		06 53 18.0	
	2.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.05**	**175**	Sn	**Sn**	**06 52 50.1**	**-3.0**
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**5.12**	**100**	Sn	**Sn**	**06 52 52.7**	**-2.0**
	14nm,0.3s,SNR=7.9						
ESAC				Lg		06 53 24.0	
	12nm,0.2s,SNR=7.9						
ESAC	**San Caprasio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.74**	**18**	*e*P	**Pn**	**07 01 14.1**	**+0.2**
MORF				*e*S	**Sn**	**07 01 37.1**	**+1.0**
MORF				*e*S	**Sn**	**07 01 37.1**	**+1.0**
MORF				AML	AML	07 01 39.3	
	comp=N,23nm,0.2s						
MORF	**Marmelete**	**1.74**	**18**	*e*P	**Pn**	**07 01 14.1**	**+0.2**
MORF				*e*S	**Sn**	**07 01 37.1**	**+0.9**
PTEO	**Sao Teotonio**	**1.96**	**14**	*e*Pn	**Pn**	**07 01 17.0**	**+0.1**
PTEO				*e*Sn	**Sn**	**07 01 42.3**	**+0.9**
EGRO	**El Granado**	**2.39**	**37**	P	**Pn**	**07 01 23.5**	**+0.6**
	comp=N,3.6nm,0.1s,SNR=32						
EGRO				S	**Sn**	**07 01 53.0**	**+0.8**
	comp=N,6.9nm,0.1s,SNR=8.4						
EGRO	**El Granado**	**2.39**	**37**	P	**Pn**	**07 01 23.5**	**+0.6**
	comp=N,3.6nm,0.1s,SNR=32						
EGRO				S	**Sn**	**07 01 53.0**	**+0.8**
	comp=N,6.9nm,0.1s,SNR=8.4						
PBEJ	**Beja**	**2.65**	**26**	*e*Pn	**Pn**	**07 01 26.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**07 01 59.5**	**+1.0**
PBEJ							
	comp=N,3.5nm,0.1s						
MOE	**Montemor**	**2.98**	**15**	*e*Sn	**Sn**	**07 02 07.0**	**+0.4**
EMIN	**Mina Concepcio**	**3.00**	**44**	P	**Pn**	**07 01 31.2**	**0.0**
	comp=N,2.3nm,0.2s,SNR=17						
EMIN				S	**Sn**	**07 02 06.6**	**-0.6**
	comp=N,1.0nm,0.2s						
EMIN	**Mina Concepcio**	**3.00**	**44**	P	**Pn**	**07 01 31.2**	**0.0**
	comp=N,2.3nm,0.2s,SNR=17						
EMIN				S	**Sn**	**07 02 06.6**	**-0.6**
	comp=N,0.6nm,0.1s						
ESPR	**Espera**	**3.05**	**65**	P	**Pn**	**07 01 31.3**	**-0.6**
	comp=N,6.2nm,0.2s,SNR=7.4						
ESPR				S	**Sn**	**07 02 08.7**	**+0.3**
	comp=N,1.4nm,0.1s						
ESPR	**Espera**	**3.05**	**65**	P	**Pn**	**07 01 31.3**	**-0.6**
	comp=N,6.2nm,0.2s,SNR=7.4						
ESPR				S	**Sn**	**07 02 08.7**	**+0.3**
	comp=N,1.4nm,0.1s						
EJIF	**Jimena Fronter**	**3.22**	**74**	P	**Pn**	**07 01 34.2**	**0.0**
	comp=N,2.8nm,0.2s,SNR=7.9						
PLOU	**Loures**	**3.24**	**2**	*e*Sn	**Sn**	**07 02 11.5**	**-1.6**
EBAD	**Badajoz**	**3.61**	**30**	P	**Pn**	**07 01 39.5**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=11						
EBAD				S	**Sn**	**07 02 22.7**	**+0.5**
	comp=N,2.1nm,0.1s						
EBAD	**Badajoz**	**3.61**	**30**	P	**Pn**	**07 01 39.5**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=11						
EBAD				S	**Sn**	**07 02 22.7**	**+0.5**
	comp=N,2.1nm,0.1s						
EMIJ	**Mijas**	**3.79**	**75**	P	**Pn**	**07 01 41.8**	**-0.3**
	comp=N,1.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.96**	**51**	P	**Pn**	**07 01 44.5**	**+0.2**
	comp=N,0.7nm,0.1s,SNR=8.9						
ECAB				S	**Sn**	**07 02 30.4**	**-0.4**
	comp=N,0.4nm,0.1s						
ECAB	**El Cabril**	**3.96**	**51**	P	**Pn**	**07 01 44.5**	**+0.2**
	comp=N,0.7nm,0.1s,SNR=8.9						
ECAB				S	**Sn**	**07 02 30.4**	**-0.4**
	comp=N,0.4nm,0.1s						
PTOM	**Tomar**	**4.03**	**10**	*e*Pn	**Pn**	**07 01 46.0**	**+0.6**
PTOM				*e*Sn	**Sn**	**07 02 31.7**	**-0.9**
EADA	**Adamuz**	**4.55**	**55**	P	**Pn**	**07 01 52.4**	**-0.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**07 02 44.9**	**-0.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.55**	**55**	P	**Pn**	**07 01 52.4**	**-0.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**07 02 44.9**	**-0.7**
	comp=N,0.7nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.95**	**16**	*e*Sn	**Sn**	**07 02 53.7**	**-1.6**

*ISCJB **24** 07:16:02.0±1.1, 174S±02×1735W±02, h10km, mb4.0/7, Error ellipse: s-maj=40.3km s-min=9.0km az=77.8*
*IDC **24** 07:16:01.4±1.1, 1770S×17329W, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/18, mbtmp3.9/8, ML1.5/1, Error ellipse: s-maj=49.8km s-min=19.2km az=133.0*
*NEIC **24** 07:16:02.8±0.8, 1765S×17331W, h10km, mb4.4/1, Error ellipse: s-maj=30.0km s-min=11.1km az=130.0*

ISC 24 07:16:03.5±1.0, 175S±02×1734W±02, h10km, n10, σ0°94/11, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.85**	**24**	Pn	**Pn**	**07 17 02.6**	**-0.1**
	1.9nm,0.3s,baz=71,slow=18,SNR=2.3						
AFI				Sn	**Sn**	**07 17 46.9**	**-1.1**
	5.8nm,0.3s,baz=131,slow=20,SNR=3.6						
URZ	**Urewera**	**22.34**	**200**	P	**P**	**07 20 58.3**	**-3.1**
	8.1nm,0.5s,mb4.4,baz=18,slow=3.1,SNR=18						
STKA	**Stephens Creek**	**43.05**	**242**	P	**P**	**07 24 02.4**	**-1.0**
	0.3nm,0.3s,mb3.5,baz=94,slow=12,SNR=3.1						
WB2	**Warramunga Arr**	**49.40**	**258**	*e*P	**P**	**07 24 53.3**	**0.0**
WRAB	**Tennant Creek**	**49.41**	**258**	*e*P	**P**	**07 24 53.9**	**+0.5**
	5.0nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**49.41**	**258**	P	**P**	**07 24 53.3**	**-0.2**
	1.2nm,0.4s,mb4.3,baz=97,slow=7.1,SNR=52						
ASAR	**Alice Springs**	**49.51**	**254**	P	**P**	**07 24 54.6**	**+0.4**
	1.9nm,0.5s,mb4.4,baz=94,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**75.84**	**42**	P	**P**	**07 27 50.5**	**+0.7**
	0.5nm,0.9s,mb3.5,baz=211,slow=8.9,SNR=4.0						
PDAR	**Pinedale Array**	**83.78**	**42**	P	**P**	**07 28 33.6**	**+0.7**
	0.6nm,1.0s,mb3.7,baz=204,slow=3.3,SNR=4.2						
ILAR	**Eielson Array**	**84.44**	**11**	P	**P**	**07 28 37.6**	**+1.3**
	0.2nm,0.7s,baz=216,slow=5.7,SNR=5.2						

IDC 24 07:41:23.3±1.9, 216N×12789E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, Error ellipse: s-maj=132.9km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**164**	P	P	07 46 28.6	+0.5
	3.3nm,0.5s,baz=343,slow=11,SNR=38						
WB2	**Warramunga Arr**	**22.86**	**164**	*e*P	P	07 46 28.5	+0.4
ASAR	**Alice Springs**	**26.32**	**167**	P	P	07 47 02.7	+2.0
	0.5nm,0.5s,baz=343,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**36.26**	**160**	*e*P	P	07 48 26.5	-1.6
	2.4nm,0.9s						
STKA	**Stephens Creek**	**36.26**	**160**	P	P	07 48 26.4	-1.7
	1.7nm,0.5s,baz=351,slow=9.6,SNR=7.5						
MKAR	**Makanchi Array**	**59.50**	**325**	P	P	07 51 28.6	+0.4
	0.5nm,0.6s,baz=111,slow=8.7,SNR=3.8						

IDC 24 07:48:02.4±60.0, 1732S×17790W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=1110.0km s-min=171.2km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.34**	**241**	P	P	07 55 33.4	+0.1
	0.5nm,0.5s,baz=67,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**45.22**	**259**	P	P	07 56 21.6	+0.3
	0.3nm,0.3s,baz=94,slow=7.4,SNR=9.5						
ASAR	**Alice Springs**	**45.42**	**254**	P	P	07 56 23.3	+0.4
	1.1nm,0.5s,baz=88,slow=8.5,SNR=26						

*ISCJB **24** 07:57:48.8±0.5, 4259N±002×4346E±003, h11km±5km, mb3.6/1, Error ellipse: s-maj=3.9km s-min=3.1km az=47.0*
*CSEM **24** 07:57:49.5±0.1, 4255N×4350E, h20km, mb4.1, Error ellipse: s-maj=2.2km s-min=2.0km az=127.0*
*MOS **24** 07:57:50.5±1.9, 4257N×4362E, h11km, mb4.1/1, Error ellipse: s-maj=10.8km s-min=5.8km az=81.2*
*NNC **24** 07:57:55.0±2.5, 4284N×4431E, h0km, mb3.4, Error ellipse: s-maj=92.3km s-min=22.3km az=141.0*

ISC 24 07:57:49.4±0.3, 4255N±002×4347E±002, h9km±3km, n49, σ1°08/82, mb3.6/1, 5C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**338**	P	**Pg**	**07 57 51.3**	**+0.2**
ONI				S	**Sg**	**07 57 53.0**	**+0.7**
LACR	**Lac**	**0.67**	**65**	*i* Pg	**Pg**	**07 58 01.9**	**-0.4**
LACR				*i* Sg	**Sg**	**07 58 11.6**	**+0.5**
KORR	**Kora**	**0.69**	**39**	*e*Pg	**Pg**	**07 58 02.5**	**-0.3**
KORR				*e*Sg	**Sg**	**07 58 12.6**	**+0.7**
LSNR	**Lesken**	**0.77**	**19**	*e*Pg	**Pg**	**07 58 03.9**	**-0.3**
LSNR				*e*Sg	**Sg**	**07 58 14.9**	**+0.7**
ARNR	**Ardon**	**0.88**	**43**	*e*PG	**Pg**	**07 58 05.8**	**-0.4**
ARNR				*e*S	**Sg**	**07 58 18.2**	**+0.6**
VLKR	**Vladikavkaz**	**1.02**	**60**	*e*Pg	**Pg**	**07 58 08.5**	**-0.5**
VLKR				*e*Sg	**Sg**	**07 58 22.9**	**+0.7**
KMSR	**Komsomolskaya**	**1.02**	**36**	*e*Pg	**Pg**	**07 58 08.5**	**-0.5**
KMSR				*e*Sg	**Sg**	**07 58 22.9**	**+0.7**
DUS	**Dusheti**	**1.02**	**116**	P	**Pg**	**07 58 08.5**	**-0.6**
DUS				S	**Sg**	**07 58 24.2**	**+1.9**
CHVG	**Ch'k'valeri**	**1.03**	**280**	P	**Pg**	**07 58 08.4**	**-0.8**
CHVG				S	**Sg**	**07 58 21.4**	**-1.3**
SNJR	**Sundja**	**1.12**	**62**	*e*Pg	**Pg**	**07 58 10.1**	**-0.7**
SNJR				*e*Sg	**Sg**	**07 58 25.8**	**+0.4**
AKH	**Akhalkalaki**	**1.14**	**179**	P	**Pb**	**07 58 09.9**	**-1.3**
AKH				S	**Sg**	**07 58 26.0**	**-0.1**
BTKR	**Batakoyurt**	**1.14**	**43**	*e*Pg	**Pg**	**07 58 10.5**	**-0.8**
BTKR				*e*Sg	**Sg**	**07 58 26.6**	**+0.5**
KUBR	**Kubataba**	**1.25**	**358**	*i* Pg	**Pg**	**07 58 13.9**	**+0.5**
KUBR				*e*Sg	**Sg**	**07 58 31.9**	**+2.3**
TBLG	**Delisi**	**1.25**	**130**	P	**Pn**	**07 58 12.5**	**-0.5**
TBLG				S	**Sb**	**07 58 28.6**	**-0.7**
TBLG	**Delisi**	**1.25**	**130**	P	**Pn**	**07 58 12.2**	**-0.8**
TBLG				S	**Sb**	**07 58 29.2**	**-0.1**
TBLG	**Delisi**	**1.25**	**130**	*e*Pg	**Pg**	**07 58 12.5**	**-0.9**
TBLG				Sg	**Sg**	**07 58 28.6**	**-1.0**
MTA	**Mtatsminda**	**1.31**	**130**	P	**Pn**	**07 58 13.3**	**-0.4**
MTA				S	**Sb**	**07 58 30.5**	**-0.4**
SAMG	**Sameba**	**1.32**	**130**	P	**Pn**	**07 58 13.3**	**-0.6**
SAMG				S	**Sb**	**07 58 31.1**	**-0.1**
SHAR	**Shatzhatmas**	**1.33**	**334**	*i* Pg	**Pg**	**07 58 14.6**	**-0.3**
SHAR				*e*Sg	**Sg**	**07 58 32.9**	**+0.8**
PRTR	**Priterechnaya**	**1.34**	**26**	*e*Pg	**Pg**	**07 58 13.8**	**-1.3**
PRTR				*e*Sg	**Sg**	**07 58 32.2**	**-0.3**
PYA	**Pyatigorsk**	**1.51**	**349**	*e*Pg	**Pg**	**07 58 18.1**	**-0.3**
PYA				*e*Sg	**Sg**	**07 58 38.0**	**0.0**
KIV	**Kislovodsk**	**1.52**	**338**	*i* Pg	**Pg**	**07 58 17.8**	**-0.7**
KIV				*e*Sg	**Sg**	**07 58 38.5**	**+0.4**
ARTV	**Artvin**	**1.78**	**221**	*i* P	**Pn**	**07 58 20.8**	**+0.5**
ARTV				*i* S	**Sn**	**07 58 44.2**	**+1.1**
KARS	**Kars**	**1.96**	**188**	PN	**Pn**	**07 58 24.1**	**+1.4**
KARS				SN	**Sn**	**07 58 49.3**	**+2.0**
DIGO	**Kars**	**2.13**	**182**	*i* P	**Pn**	**07 58 27.5**	**+2.3**
DIGO				*i* S	**Sn**	**07 58 56.9**	**+5.1**
GOF	**Gofitskoye**	**2.53**	**353**	⇑*i*PN	**Pg**	**07 58 37.7**	**-0.1**
GOF				*i* S	**Sg**	**07 59 11.1**	**+0.5**
GOF				pmax	pmax		
	comp=Z,60nm,0.6s						
GOF				smax			
	comp=N,500nm,1.0s						
GOF				smax			
	comp=E,280nm,1.0s						
GNI	**Garni**	**2.58**	**158**	*e*PN	**Pn**	**07 58 36.0**	**+4.7**
GNI	**Garni**	**2.58**	**158**	*i* Pn	**Pn**	**07 58 35.4**	**+4.1**
	comp=E,61nm,0.8s						
GNI	**Garni**	**2.58**	**158***c*	*i*PN	**Pn**	**07 58 35.4**	**+4.1**
GNI				*i* S	**Sg**	**07 59 21.5**	**+9.1**
GNI				pmax	pmax		
	comp=Z,61nm,0.8s						
GNI				smax			
	comp=Z,133nm,0.9s						
SOC	**Sochi**	**2.94**	**292**	*e*PN	**Pg**	**07 58 43.4**	**-2.2**
SOC				*e*	**Sn**	**07 59 20.4**	**+8.9**
SOC				pmax	pmax		
	comp=Z,27nm,0.6s						
SOC				smax			
	comp=N,112nm,0.7s						
SOC				MLR	MLR		
	comp=Z,113nm,6.0s						
ERZM	**Erzurum**	**3.08**	**212**	*i* P	**Pn**	**07 58 40.9**	**+2.7**
ERZM				*i* S	**Sn**	**07 59 23.4**	**+8.3**
EZM	**Erzurum**	**3.08**	**212**	*e*PN	**Pn**	**07 58 38.5**	**+0.3**
CLDR	**Caldiran**	**3.42**	**174**	*e*PN	**Pn**	**07 58 46.9**	**+4.1**
GUMT	**Gumushane**	**3.65**	**236**	*e*PN	**Pn**	**07 58 44.5**	**-1.5**
KELT	**Kelkit**	**3.98**	**234**	*i* P	**Pn**	**07 58 51.8**	**+1.4**
GRSN	**GIRESUNGRSN**	**4.21**	**249**	*i* P	**Pn**	**07 58 52.6**	**-1.1**
GRSN				*i* S	**Sn**	**07 59 39.9**	**-3.1**
BOYT	**Boyabat**	**6.48**	**263**	*i* P	**Pn**	**07 59 25.1**	**+0.3**
BOYT	**Boyabat**	**6.48**	**263**	*i* P	**Pn**	**07 59 25.1**	**+0.2**
BRTR	**Keskin Array B**	**7.94**	**252**	*i* P	**Pn**	**07 59 46.5**	**+1.7**
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**7.94**	**252**	*i* P	**Pn**	**07 59 46.5**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**12.74**	**47**	⇑P	**Pn**	**08 00 48.1**	**-2.5**
	comp=Z,0.6nm,0.9s						
AKTO				⇑S	**Sn**	**08 03 05.7**	**-6.9**
	comp=Z,4.3nm,3.4s						
AB31	**Akbulak array**	**13.28**	**54**	P	**Pn**	**08 00 56.8**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=238,slow=9.7,SNR=34						
AB31				⇓S	**Sn**	**08 03 17.1**	**-8.6**
	comp=Z,2.0nm,0.8s,baz=240,slow=22,SNR=6.7						
OBN	**Obninsk**	**13.36**	**343**	*e*P	**Pn**	**08 01 00.8**	**+1.7**
	comp=Z,5.0nm,0.6s						
OBN	**Obninsk**	**13.36**	**343**	*e*P	**Pn**	**08 01 00.8**	**+1.7**
OBN				*e*S	**Sn**	**08 03 25.2**	**-2.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
KK31	**Karatay Array**	**19.82**	**79**	P	**Pn**	**08 02 19.9**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=312,slow=49,SNR=6.1						
BVA0	**Borovoye Array**	**20.78**	**50**	⇑P	**P**	**08 02 30.9**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=237,slow=11,SNR=15						
BVAR	**Borovoye Array**	**20.78**	**50**	P	**P**	**08 02 30.9**	**+0.2**
	comp=Z,0.8nm,0.9s,SNR=15						
VOSK	**Vostochnaya**	**21.02**	**52**	P	**P**	**08 02 32.6**	**-0.7**
	comp=Z,5.9nm,1.7s,mb3.6						
MKAR	**Makanchi Array**	**27.74**	**68**	*i* P	**P**	**08 03 39.9**	**+1.8**

IDC 24 08:11:08.1±2.7, 902S×11420E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=152.8km s-min=25.7km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**121**	P	P	08 16 07.1	+0.2
	0.8nm,0.4s,baz=296,slow=12,SNR=10						
ASAR	**Alice Springs**	**23.82**	**130**	P	P	08 16 23.1	+0.3
	0.5nm,0.5s,baz=305,slow=8.7,SNR=9.3						
MKAR	**Makanchi Array**	**62.42**	**336**	P	P	08 21 33.0	+0.2
	0.1nm,0.4s,baz=151,slow=6.9,SNR=6.5						

*IDC **24** 08:28:51.9±0.9, 041N×12479E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=84.3km s-min=17.7km az=65.0*
*ISCJB **24** 08:28:54.8±0.7, 06N±01×125.1E±03, h33km, mb4.0/10, Error ellipse: s-maj=40.3km s-min=11.3km az=141.4*
*NEIC **24** 08:29:00.6±5.6, 046N×12508E, h72km±55km, mb4.0/4, Error ellipse: s-maj=30.6km s-min=16.5km az=68.0*

ISC 24 08:28:58.7±6.4, 05N±02×1251E±03, h52km±63km, n13, σ0°54/12, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.49**	**178**	*e*P	**Pn**	**08 33 11.3**	**+0.2**
	5.1nm,0.7s						
MBWA	**Marble Bar**	**22.16**	**193**	*e*P	**P**	**08 33 49.8**	**-0.4**
	2.4nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**22.24**	**156**	*e*P	**P**	**08 33 50.8**	**-0.2**
	10nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**22.24**	**156**	P	**P**	**08 33 50.6**	**-0.5**
	1.9nm,0.5s,mb3.8,baz=338,slow=10,SNR=22						
ASAR	**Alice Springs**	**25.50**	**161**	P	**P**	**08 34 23.2**	**+1.1**
	1.5nm,0.6s,mb3.7,baz=342,slow=7.4,SNR=19						
ASAR				PcP	PcP	08 37 54.2	+1.6
	0.4nm,0.4s,baz=348,slow=2.3,SNR=7.4						
STKA	**Stephens Creek**	**35.79**	**156**	P	**P**	**08 35 52.7**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=336,slow=9.7,SNR=3.4						
STKA	**Stephens Creek**	**35.79**	**156**	P	**P**	**08 35 52.7**	**-0.1**
SONM	**Songino Array**	**49.87**	**344**	P	**P**	**08 37 47.4**	**+0.7**
	0.4nm,0.5s,mb3.7,baz=157,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**59.32**	**327**	P	**P**	**08 38 55.3**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=124,slow=8.0,SNR=33						
KURK	**Kurchatov**	**63.61**	**329**	*e*P	**P**	**08 39 23.9**	**-0.3**
	1.5nm,0.4s,mb4.4						
KMBO	**Kilima Mbogo**	**87.86**	**269**	P	**P**	**08 41 43.0**	**+0.5**
	1.2nm,0.8s,mb4.2,baz=68,slow=19,SNR=3.9						
FINES	**FINESS Array B**	**93.89**	**332**	P	**P**	**08 42 09.7**	**-0.9**
	0.8nm,0.8s,mb4.2,baz=67,slow=6.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.30**	**286**	PKP	PKPdf	08 47 48.8	+0.9
	0.5nm,0.6s,baz=16,slow=1.8,SNR=4.4						

*ISCJB **24** 08:40:16.1±0.5, 5081N±005×10166W±005, h10km, Error ellipse: s-maj=6.6km s-min=4.1km az=154.6*
*IDC **24** 08:40:19.5±1.0, 5069N×10177W, h0km, mb1 3.5/3, mb1mx3.3/22, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=12.3km s-min=8.5km az=165.0*
*NEIC **24** 08:40:20.6, 5071N×10174W, h1km, MN2.8(OTT), After OTT.*
*OTT **24** 08:40:20.6±0.2, 5071N×10174W, h1km, MN2.8/9, Near Esterhazy, Sk 16km south from Langenburg, Sk*

ISC 24 08:40:18.8±0.4, 5078N±004×10169W±004, h10km, n32, σ1°63/59, Manitoba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGMT	**Dagmar**	**2.83**	**216**	*e*Pn	**Pn**	**08 41 04.4**	**+0.3**
DGMT				*e*Sn	**Sn**	**08 41 38.6**	**+0.4**
ULM	**Lac du Bonnet**	**3.75**	**96**	Pn	**Pn**	**08 41 18.9**	**+2.2**
	0.2nm,0.3s,baz=284,slow=14,SNR=4.5						
ULM				Pg	**Pg**	**08 41 26.9**	**-3.8**
	0.9nm,0.3s,baz=284,slow=16,SNR=5.2						
ULM				Lg		08 42 16.3	
	3.2nm,0.3s,baz=7.1,slow=21,SNR=9.5						
ULM	**Lac du Bonnet**	**3.75**	**96**	PN	**Pn**	**08 41 19.0**	**+2.3**
ULM				SN	**Sn**	**08 42 02.4**	**+1.5**
ULM				Trac		08 42 23.5	
	comp=Z,6.3nm,0.2s						
FFC	**Flin Flon**	**3.96**	**358**	PN	**Pn**	**08 41 21.9**	**+2.4**
FFC				SN	**Sn**	**08 42 05.3**	**-0.7**
FFC	**Flin Flon**	**3.96**	**358**	*e*Pn	**Pn**	**08 41 21.4**	**+1.8**
FFC				*e*Sn	**Sn**	**08 42 07.4**	**+1.4**
RLKO	**Red Lake**	**5.02**	**84**	PN	**Pn**	**08 41 36.1**	**+1.9**
RLKO				SN	**Sn**	**08 42 33.6**	**+1.3**
RLKO				Trac		08 43 02.6	
	comp=Z,9.1nm,0.3s						
RLKO	**Red Lake**	**5.02**	**84**	Pn	**Pn**	**08 41 36.1**	**+1.9**
RLKO				Sn	**Sn**	**08 42 33.6**	**+1.3**
EPLO	**Experimental L**	**5.23**	**99**	PN	**Pn**	**08 41 39.1**	**+2.0**
EPLO				SN	**Sn**	**08 42 36.9**	**-0.6**
EPLO				Trac		08 42 41.5	
	comp=Z,77nm,0.2s						
EPLO	**Experimental L**	**5.23**	**99**	Pn	**Pn**	**08 41 39.1**	**+2.0**
EPLO				Sn	**Sn**	**08 42 36.9**	**-0.6**
EGMT	**Eagleton**	**5.94**	**245**	*e*Pn	**Pn**	**08 41 47.0**	**+0.1**
	20nm,0.6s						
SOLO	**Sioux Lookout**	**6.19**	**93**	PN	**Pn**	**08 41 52.0**	**+1.7**
SOLO				SN	**Sn**	**08 43 00.0**	**-1.1**
SOLO				Trac		08 43 05.1	
	comp=Z,3.0nm,0.2s						
SOLO	**Sioux Lookout**	**6.19**	**93**	Pn	**Pn**	**08 41 52.0**	**+1.7**
SOLO				Sn	**Sn**	**08 43 00.0**	**-1.1**
ATKO	**Atikokan Iron**	**6.82**	**103**	PN	**Pn**	**08 41 59.9**	**+1.0**
ATKO				SN	**Sn**	**08 43 14.5**	**-2.0**
ATKO				Trac		08 44 04.4	
	comp=Z,118nm,0.4s						
ATKO	**Atikokan Iron**	**6.82**	**103**	Pn	**Pn**	**08 41 59.9**	**+1.0**
ATKO				Sn	**Sn**	**08 43 14.5**	**-2.0**
PKLO	**Pickle Lake**	**7.17**	**80**	PN	**Pn**	**08 42 05.2**	**+1.5**
PKLO				SN	**Sn**	**08 43 22.4**	**-2.8**
PKLO				Trac		08 44 21.9	
	comp=Z,3.0nm,0.3s						
PKLO	**Pickle Lake**	**7.17**	**80**	Pn	**Pn**	**08 42 05.2**	**+1.5**
PKLO				Sn	**Sn**	**08 43 22.4**	**-2.8**
EYMN	**Ely**	**7.23**	**109**	PN	**Pn**	**08 42 06.2**	**+1.5**
EYMN				SN	**Sn**	**08 43 24.5**	**-2.3**
EYMN				Trac		08 44 17.6	
	comp=Z,2.7nm,0.3s						
EYMN	**Ely**	**7.23**	**109**	Pn	**Pn**	**08 42 06.2**	**+1.5**
EYMN				Sn	**Sn**	**08 43 24.5**	**-2.3**
TBO	**Thunder Bay**	**8.24**	**100**	PN	**Pn**	**08 42 19.8**	**+1.4**
TBO				SN	**Sn**	**08 43 48.3**	**-3.3**
TBO				Trac		08 44 31.0	
	comp=Z,1.8nm,0.1s						
CHMT	**Chamberlain Mo**	**8.55**	**248**	*e*Pn	**Pn**	**08 42 21.3**	**-1.3**
MSO	**Missoula**	**9.00**	**249**	*e*Pn	**Pn**	**08 42 27.4**	**-1.5**
	2.4nm,0.5s						
FCC	**Fort Churchill**	**9.12**	**26**	PN	**Pn**	**08 42 31.5**	**+1.0**
FCC				SN	**Sn**	**08 44 10.7**	**-2.4**
FCC				Trac		08 45 47.5	
	comp=Z,1.7nm,0.1s						
FCC	**Fort Churchill**	**9.12**	**26**	*e*Pn	**Pn**	**08 42 31.2**	**+0.8**
FCC				*e*Sn	**Sn**	**08 44 01.5**	**-12**
NANO	**Nakina Ontario**	**9.38**	**87**	PN	**Pn**	**08 42 34.6**	**+0.6**
NANO				SN	**Sn**	**08 44 15.4**	**-4.2**
NANO				Trac		08 45 03.6	
	comp=Z,0.9nm,0.1s						
GTO	**Geraldton**	**9.49**	**91**	PN	**Pn**	**08 42 36.6**	**+1.0**
GTO				SN	**Sn**	**08 44 17.3**	**-5.0**
GTO				Trac		08 44 18.9	
	comp=Z,2.5nm,0.2s						
PDAR	**Pinedale Array**	**9.66**	**217**	Pn	**Pn**	**08 42 37.4**	**-0.5**
	0.2nm,0.3s,baz=50,slow=14,SNR=9.0						
PDAR				Pg

IDC 24 09:38:44.6±2.6, 2159S×6841W, h106km±22km, mb3.3/2, mb1 3.3/5, mb1mx3.2/16, mbtmp3.5/5, Error ellipse: s-maj=45.0km s-min=26.7km az=96.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.29**	**3**	P	Pn	09 40 02.8	+1.6
	0.9nm,0.3s,baz=195,slow=6.2,SNR=24						
SIV	**San Ignacio**	**8.90**	**52**	P	Pn	09 40 49.6	-0.8
	0.4nm,0.3s,baz=247,slow=14,SNR=18						
CFAA	**Coronel Fontan**	**9.97**	**179**	P	Pn	09 41 04.9	+0.1
	0.1nm,0.3s,baz=4.0,slow=14,SNR=9.0						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	P	09 50 26.1	+0.6
	0.4nm,0.6s,baz=248,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**91.43**	**340**	P	P	09 51 37.4	-1.4
	0.2nm,0.5s,baz=130,slow=4.2,SNR=7.4						
MKAR	**Makanchi Array**	**145.43**	**36**	PKPbc	PKPbc	09 58 10.8	+0.5
	0.4nm,0.8s,baz=323,slow=5.0,SNR=3.6						

IDC 24 09:41:30.4±1.8, 170N×12462E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=194.9km s-min=24.9km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.53**	**157**	P	P	09 46 42.2	-0.1
	0.4nm,0.5s,baz=335,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**26.79**	**161**	P	P	09 47 12.8	+0.9
	0.2nm,0.5s,baz=344,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**58.05**	**327**	P	P	09 51 25.1	-0.1
	0.2nm,0.4s,baz=123,slow=7.9,SNR=8.3						

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*NEIC **24** 09:46:40.8, 3673S×17702E, h33km, ML3.9(WEL), After WEL.*

WEL 24 09:46:41.6±0.2, 3715S×17744E, h134km±2km, ML3.1/4, 1C, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**121**	⇑PN	Pn	09 47 03.2	+0.1
MXZ				eSN	Sn	09 47 19.7	+0.3
MXZ	**Matakaoa Point**	**0.80**	**121**	P	Pn	09 47 03.2	0.0
MXZ				S	Sn	09 47 20.0	+0.5
PUZ	**Puketiti**	**1.13**	**145**	PN	Pn	09 47 06.0	-0.1
PUZ				SN	Sn	09 47 24.1	-0.5
PUZ	**Puketiti**	**1.13**	**145**	P	Pn	09 47 06.0	0.0
URZ	**Urewera**	**1.14**	**193**	PN	Pn	09 47 06.3	+0.1
URZ				SN	Sn	09 47 25.0	+0.2
URZ	**Urewera**	**1.14**	**193**	P	Pn	09 47 06.3	+0.1
MWZ	**Matawai**	**1.19**	**177**	PN	Pn	09 47 06.6	0.0
MWZ				SN	Sn	09 47 25.6	-0.1
MWZ	**Matawai**	**1.19**	**177**	eP	Pn	09 47 06.7	+0.1
MWZ				S	Sn	09 47 25.6	0.0
BKZ	**Black Stump Fm**	**2.15**	**200**	ePN	Pn	09 47 18.1	+0.5
BKZ				eSN	Sn	09 47 45.8	+0.6

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*NIED **24** 09:56:00, 4400N×14790E, h44km, Mw3.9 Best double couple: M0:8.79000×10^14 NP1:φs:359.00000°, δ78.00000°, λ71.00000°. NP2:φs:237.00000°, δ22.00000°, λ146.00000°.*
*ISCJB **24** 09:56:28.3±0.5, 4436N±004×14843E±005, h33km, mb4.1/15, Error ellipse: s-maj=6.6km s-min=4.4km az=106.9*
*SKHL **24** 09:56:29.9±1.8, 4441N×14853E, h34km±1km, mb4.7/4*
*MOS **24** 09:56:30.4±1.4, 4443N×148.17E, h59km, mb4.1/1, Error ellipse: s-maj=14.1km s-min=12.5km az=97.2*
*JMA **24** 09:56:32.3±0.3, 4404N×14791E, h0km, M4.9*
*NEIC **24** 09:56:33.0±1.4, 4434N×148.15E, h59km±12km, mb4.8/2, Error ellipse: s-maj=17.4km s-min=12.4km az=125.0*
*IDC **24** 09:56:34.4±3.2, 4444N×14801E, h72km±28km, mb3.5/12, mb1 3.6/14, mb1mx3.6/21, mbtmp3.8/14, MS3.0/3, Ms1 3.0/3, ms1mx2.6/22, Error ellipse: s-maj=21.9km s-min=16.4km az=109.0*
*NAO **24** 09:56:48.9, 4736N×14677E, h33km, mb4.2*

ISC 24 09:56:30.0±0.5, 4444N±004×14845E±006, h35km, n55, σ1§41/70, mb4.1/15, 5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.90**	**333**	⇓iP	**Pn**	**09 56 45.4**	**-0.7**
KUR				AMB	AMB	09 56 46.2	
	4μm,1.0s						
KUR				AMB	AMB	09 56 46.2	
	430nm,0.5s						
KUR				AMB	AMB	09 56 46.2	
	290nm,0.5s						
KUR				AMB	AMB	09 56 46.2	
	1μm,0.5s						
KUR				*i* S	**Sn**	**09 56 57.0**	**-0.8**
KUR				A		09 59 59.5	
	3μm,0.4s						
KUR				A		09 59 59.5	
	6μm,0.4s						
KUR	**Kuril'sk**	**0.90**	**333**	⇓iPN	**Pn**	**09 56 45.4**	**-0.7**
KUR				*i* S	**Sn**	**09 56 57.0**	**-0.8**
KUR				pmax	pmax		
	comp=N,430nm,0.5s						
KUR				pmax	pmax		
	comp=E,290nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				smax			
	comp=N,3μm,0.4s						
KUR				smax			
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**259**	⇓*i*P	**Pn**	**09 56 59.8**	**-0.1**
YUK				AMB	AMB	09 57 02.9	
	comp=E,810nm,0.5s						
YUK				AMB	AMB	09 57 02.9	
	comp=E,740nm,0.5s						
YUK				AMB	AMB	09 57 02.9	
	comp=E,930nm,0.5s						
YUK				*i* rx	rx	09 57 06.0	
YUK				*i* S	**Sn**	**09 57 19.0**	**-3.6**
YUK				A		09 57 24.3	
	comp=E,4μm,0.5s						
YUK				A		09 57 24.3	
	comp=E,2μm,0.5s						
YUK				A		09 57 24.7	
	comp=E,5μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**259**	⇓iPN	**Pn**	**09 56 59.8**	**-0.1**
YUK				*i* S	**Sn**	**09 57 19.0**	**-3.6**
YUK				pmax	pmax		
	comp=N,810nm,0.5s						
YUK				pmax	pmax		
	comp=E,740nm,0.5s						
YUK				pmax	pmax		
	comp=Z,930nm,0.5s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=E,5μm,0.9s						
NEM2	**Nemuro 2**	**2.23**	**242**	P	**Pn**	**09 57 03.6**	**-0.8**
NEM2				*e*S	**Sn**	**09 57 26.1**	**-4.6**
JRA	**Rausu**	**2.44**	**259**	P	**Pn**	**09 57 08.4**	**+1.0**
JRA				*e*S	**Sn**	**09 57 35.1**	**-0.9**
JNK	**Nakash**	**2.82**	**254**	P	**Pn**	**09 57 13.1**	**+0.5**
JNK				*e*S	**Sn**	**09 57 42.3**	**-3.0**
JAK	**Akkeshi**	**3.08**	**243**	P	**Pn**	**09 57 15.9**	**-0.2**
JAK				*e*S	**Sn**	**09 57 47.2**	**-4.4**
JTKR	**Abashiri--Toko**	**3.30**	**263**	P	**Pn**	**09 57 20.1**	**+1.0**
JTKR				*e*S	**Sn**	**09 57 59.2**	**+2.2**
JAR	**Ashorobuto**	**3.57**	**253**	P	**Pn**	**09 57 24.2**	**+1.4**
JAR				*e*S	**Sn**	**09 58 02.4**	**-1.4**
JOB	**Onbets**	**3.68**	**247**	P	**Pn**	**09 57 29.4**	**+0.5**
JOB				*e*S	**Sn**	**09 58 03.7**	**-2.8**
JMP	**Maruseppu**	**3.68**	**265**	P	**Pn**	**09 57 25.6**	**+1.2**
JCH	**Churui**	**4.12**	**246**	P	**Pn**	**09 57 30.4**	**0.0**
JCH				*e*S	**Sn**	**09 58 13.0**	**-4.4**
JKK2	**Kamakawa 2**	**4.14**	**264**	P	**Pn**	**09 57 33.1**	**+2.4**
JSE	**Soyaes**	**4.21**	**279**	P	**Pn**	**09 57 33.1**	**+1.4**
ASAJ	**Asahikawa**	**4.21**	**268**	P	**Pn**	**09 57 32.4**	**+0.7**
	comp=E,4.7nm,0.3s,baz=73,slow=14,SNR=21						
ASAJ				S	**Sn**	**09 58 33.3**	**+14**
	comp=E,5.5nm,0.3s,baz=22,slow=32,SNR=6.1						
ASAJ				LR	LR	09 58 59.6	
	comp=E,139nm,20.0s,baz=173,slow=37						
JFR	**Furan**	**4.42**	**255**	P	**Pn**	**09 57 36.9**	**+2.3**
JFR				*e*S	**Sn**	**09 58 24.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.68**	**245**	P	**Pn**	**09 57 38.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.71**	**304**	*e*P	**Pn**	**09 57 40.7**	**+2.1**
YSS				AMB	AMB	09 57 41.1	
	comp=E,40nm,0.7s						
YSS				*e*pP		09 57 51.5	
YSS				*e*sP		09 57 56.1	
YSS				*e*S	**Sn**	**09 58 33.9**	**+1.9**
YSS				A		09 58 35.3	
	comp=E,30nm,0.5s						
YSS				A		09 58 35.3	
	comp=E,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.71**	**304**	⇓*e*PN	**Pn**	**09 57 41.1**	**+2.5**
YSS				*e*S	**Sn**	**09 58 33.9**	**+1.9**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax			
	comp=N,30nm,0.5s						
YSS				smax			
	comp=E,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.71**	**304**	*e*Pn	**Pn**	**09 57 40.3**	**+1.7**
JWK2	**Keihoku**	**4.74**	**283**	P	**Pn**	**09 57 41.7**	**+2.8**
JHR	**Hokuryu**	**4.89**	**264**	P	**Pn**	**09 57 44.4**	**+3.4**
JEW	**Eniwo**	**5.32**	**255**	P	**Pn**	**09 57 50.4**	**+3.5**
JEW				*e*S	**Sn**	**09 58 49.1**	**+2.1**
TYV	**Tymovskoe**	**7.52**	**331**	*e*P	**Pn**	**09 58 21.0**	**+3.8**
MJAR	**Matsushiro Arr**	**11.08**	**228**	P	**Pn**	**09 59 05.3**	**-0.7**
	comp=E,0.4nm,0.3s,baz=28,slow=14,SNR=5.3						
MJAR				LR	LR	10 03 41.3	
	comp=E,58nm,21.3s,baz=190,slow=39						
MAJO	**Matsushiro**	**11.08**	**228**	PN	**Pn**	**09 59 05.7**	**-0.2**
KLR	**Kul'dur**	**12.39**	**299**	*e*P	**Pn**	**09 59 22.0**	**-1.8**
EKMR	**Ekimchan**	**13.36**	**316**	*e*P	**Pn**	**09 59 35.5**	**-1.6**
EKMR				AMB	AMB	09 59 37.5	
	comp=E,4.0nm,0.6s						
YASR	**Yasnyy**	**16.07**	**311**	*e*P	**Pn**	**10 00 12.0**	**-1.2**
SONM	**Songino Array**	**29.07**	**292**	P	**P**	**10 02 25.8**	**-1.3**
	comp=E,0.4nm,0.5s,mb3.4,baz=86,slow=9.1,SNR=4.6						
ILAR	**Eielson Array**	**40.38**	**37**	P	**P**	**10 04 06.4**	**+1.9**
	comp=E,0.6nm,0.8s,mb3.4,baz=270,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**10 04 41.9**	**-0.8**
	comp=E,1.4nm,0.7s,mb3.9,baz=78,slow=8.3,SNR=17						
MKAR				PcP	PcP	10 06 22.3	-0.6
	comp=E,0.7nm,0.6s,baz=65,slow=4.2,SNR=8.6						
MKAR				LR	LR	10 22 47.9	
	comp=E,37nm,19.0s,baz=181,slow=35						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**10 04 41.9**	**-0.8**
MKAR						10 06 22.3	
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**10 04 41.9**	**-0.8**
MKAR				PcP	PcP	10 06 22.3	-0.6
MKAR				LR	LR	10 22 47.9	
KURK	**Kurchatov**	**45.92**	**304**	*e*P	**P**	**10 04 47.5**	**-1.7**
BVAR	**Borovoye Array**	**49.79**	**309**	PcP	PcP	10 06 39.0	-0.7
	comp=E,0.5nm,0.4s,baz=80,slow=3.5,SNR=3.4						
GUN	**Gumba**	**51.91**	**274**	*e*P	**P**	**10 05 35.2**	**+0.1**
	comp=E,12nm,0.6s,mb5.0						
KKN	**Kakani**	**52.40**	**274**	*e*P	**P**	**10 05 38.7**	**-0.1**
	comp=E,6.6nm,0.4s,mb4.9						
DMN	**Daman**	**52.63**	**274**	*e*P	**P**	**10 05 40.4**	**-0.1**
	comp=E,13nm,0.6s,mb5.0						
GKN	**Gorkha**	**52.74**	**274**	*e*P	**P**	**10 05 40.8**	**-0.5**
	comp=E,8.9nm,0.4s,mb5.0						
KOLN	**Koldanda**	**53.62**	**275**	*e*P	**P**	**10 05 47.6**	**-0.1**
YKA	**Yellowknife Ar**	**54.71**	**34**	P	**P**	**10 05 57.2**	**+1.5**
	comp=E,1.1nm,0.6s,mb4.1,baz=299,slow=7.0,SNR=18						
YKA	**Yellowknife Ar**	**54.71**	**34**	P	**P**	**10 05 57.2**	**+1.5**
FINES	**FINESS Array B**	**64.69**	**333**	P	**P**	**10 07 01.6**	**-2.7**
	comp=E,0.4nm,0.3s,mb3.9,baz=50,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**65.35**	**195**	P	**P**	**10 07 08.0**	**-0.7**
	comp=E,0.3nm,0.7s,baz=16,slow=6.8,SNR=5.0						
PDAR	**Pinedale Array**	**68.75**	**51**	P	**P**	**10 07 32.5**	**+2.2**
	comp=E,0.4nm,0.6s,mb3.5,baz=336,slow=3.3,SNR=3.7						
ASAR	**Alice Springs**	**69.06**	**194**	P	**P**	**10 07 32.9**	**+0.7**
	comp=E,0.6nm,0.8s,mb3.6,baz=12,slow=6.2,SNR=7.5						
NB2	**NORSAR Subarra**	**69.30**	**339**	P	**P**	**10 07 32.5**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.30**	**339**	P	**P**	**10 07 32.8**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=31,slow=6.2,SNR=3.9						
HFS	**Hagfors**	**69.42**	**338**	P	**P**	**10 07 32.6**	**-1.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=62,slow=3.5,SNR=5.0						
AKASG	**Malin Array Be**	**71.58**	**324**	P	**P**	**10 07 45.9**	**-1.7**
AKASG	**Malin Array Be**	**71.58**	**324**	P	**P**	**10 07 45.9**	**-1.7**
STKA	**Stephens Creek**	**76.20**	**186**	P	**P**	**10 08 13.6**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=0.0,slow=8.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**115.21**	**324**	PKP	PKiKP	10 15 06.5	-1.1
	comp=Z,0.2nm,0.4s,baz=346,slow=1.7,SNR=4.5						

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*IDC **24** 09:59:24.1±3.3, 6451N×3165E, h0km, mb1 3.0/4, mb1mx2.9/20, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=48.0km s-min=11.7km az=110.0*
*ISCJB **24** 09:59:25.6±0.9, 6471N±004×305E±02, h0km, Error ellipse: s-maj=9.8km s-min=5.6km az=173.0*
*HEL **24** 09:59:27.3±0.4, 6470N×3057E, h0km, ML2.1, Explosion*

ISC 24 09:59:26.5±0.8, 6470N±004×305E±02, h0km, n9, σ0§97/14, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.37**	**244**	*e*P	**Pg**	**09 59 51.4**	**-1.3**
KU4	**Liikasenvaara**	**1.72**	**347**	*e*P	**Pn**	**09 59 57.2**	**-0.4**
KU4				*e*S	**Sn**	**10 00 20.6**	**+0.4**
JOF	**Joensuu**	**1.82**	**169**	*e*P	**Pn**	**09 59 58.9**	**-0.2**
JOF				*e*S	**Sn**	**10 00 23.9**	**+1.0**
OUL	**Oulu**	**2.01**	**283**	*e*P	**Pn**	**10 00 02.5**	**+0.8**
OUL				*e*S	**Sn**	**10 00 29.1**	**+1.7**
OUL				MSG		10 00 33.6	
	comp=Z,23nm,0.1s						
SUF	**Sumiainen**	**2.78**	**226**	*e*P	**Pn**	**10 00 14.0**	**+1.8**
SUF				*e*SB	**Sb**	**10 00 51.0**	**-0.6**
SUF				MSG		10 00 56.1	
	comp=Z,2.7nm,0.2s						
FINES	**FINESS Array B**	**3.84**	**214**	Pn	**Pn**	**10 00 26.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=4.0						
FINES				Lg		10 01 26.9	
	comp=Z,0.9nm,0.3s,baz=33,slow=22,SNR=9.7						
ARCES	**ARCESS Array B**	**5.23**	**340**	Pn	**Pn**	**10 00 44.8**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=149,slow=13,SNR=9.9						
ARCES				Sn	**Sn**	**10 01 41.0**	**-6.0**
	comp=Z,0.3nm,0.3s,baz=146,slow=21,SNR=3.4						
HFS	**Hagfors**	**9.03**	**247**	Pn	**Pn**	**10 01 37.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=57,slow=10,SNR=3.2						
NOA	**NORSAR Array B**	**9.54**	**256**	Pn	**Pn**	**10 01 44.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=76,slow=11,SNR=2.2						

IDC 24 10:03:11.6±1.8, 1590S×17341W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=58.7km s-min=31.4km az=120.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**39**	Pn	Pn	10 03 48.4	-5.6
	6.7nm,0.3s,baz=8.3,slow=16,SNR=6.2						
AFI				Sn	Sn	10 04 13.8	-12
	25nm,0.3s,baz=238,slow=23,SNR=9.7						
AFI				T		10 06 19.5	
	10nm,0.3s,baz=224,slow=19,SNR=3.9						
URZ	**Urewera**	**23.79**	**199**	P	P	10 08 25.9	0.0
	9.7nm,0.9s,baz=313,slow=16,SNR=4.5						
HNR	**Honiara**	**26.76**	**281**	LR	LR	10 18 41.7	
	comp=Z,70nm,18.1s,baz=358,slow=35						
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	10 12 05.2	-0.2
	0.3nm,0.5s,baz=94,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**49.95**	**252**	P	P	10 12 08.2	+1.0
	0.9nm,0.5s,baz=87,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**82.94**	**11**	P	P	10 15 38.0	-0.3
	0.3nm,0.6s,baz=234,slow=6.4,SNR=7.4						

IDC 24 10:10:51.9±2.1, 1837N×14616E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=164.5km s-min=30.8km az=116.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.80**	**198**	P	P	10 18 26.9	+0.2
	0.7nm,0.6s,baz=19,slow=9.1,SNR=2.4						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	P	10 22 52.3	-0.2
	0.2nm,0.6s,baz=289,slow=5.5,SNR=4.5						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	P	10 23 19.7	+0.8
	0.4nm,0.6s,baz=263,slow=8.4,SNR=5.2						
LPAZ	**La Paz**	**147.23**	**92**	PKPbc	PKPbc	10 30 38.0	+0.9
	0.8nm,0.5s,baz=246,slow=0.8,SNR=6.5						

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*CSEM **24** 10:11:02.1±0.2, 4267N×4365E, h7km, mb3.7, Error ellipse: s-maj=5.2km s-min=3.0km az=160.0, After OBN*

MOS 24 10:11:02.9±0.7, 4267N×4365E, h7km, mb3.7/1, Error ellipse: s-maj=15.1km s-min=8.1km az=82.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.17**	**240**	P	Pg	10 11 02.9	-3.5
ONI				S	Sg	10 11 04.6	-4.1
ZEI	**Tsey**	**0.21**	**60**	*i* Pg	Pg	10 11 08.8	+1.7
ZEI				*i* Sg	Sg	10 11 14.8	+4.8
DIGR	**Digorskoe uzhe**	**0.24**	**348**	*i* Pg	Pg	10 11 08.1	+0.5
DIGR				*i* Sg	Sg	10 11 13.9	+3.0
LACR	**Lac**	**0.50**	**71**	*i* Pg	Pg	10 11 13.5	+0.9
LACR				*i* Sg	Sg	10 11 23.2	+4.0
KORR	**Kora**	**0.52**	**36**	*e*Pg	Pg	10 11 14.2	+1.2
KORR				*i* Sg	Sg	10 11 24.0	+4.2
LSNR	**Lesken**	**0.62**	**11**	*e*Pg	Pg	10 11 15.6	+0.7
LSNR				*e*Sg	Sg	10 11 26.5	+3.6
ARNR	**Ardon**	**0.70**	**41**	*e*PG	Pg	10 11 17.5	+1.1
ARNR				*e*S	Sg	10 11 29.8	+4.3
BKR	**Bakuriani**	**0.94**	**187**	P	Pg	10 11 16.1	-4.8
BKR				S	Sg	10 11 27.8	-5.3
BTKR	**Batakoyurt**	**0.96**	**43**	*e*Pg	Pg	10 11 21.9	+0.5
BTKR				*e*Sg	Sg	10 11 37.7	+3.8
KUBR	**Kubataba**	**1.15**	**351**	*e*Pg	Pg	10 11 26.3	+1.4
KUBR				*e*Sg	Sg	10 11 44.1	+4.3
TBLG	**Delisi**	**1.23**	**139**	P	Pb	10 11 26.2	-0.4
TBLG				S	Sg	10 11 46.4	+3.8
TBLG	**Delisi**	**1.23**	**139**	*e*Pg	Pg	10 11 26.2	-0.4
TBLG				Sg	Sg	10 11 46.4	+3.8
AKH	**Akhalkalaki**	**1.26**	**185**	P	Pn	10 11 21.5	-5.4
AKH				S	Sb	10 11 37.5	-5.8
MTA	**Mtatsminda**	**1.29**	**138**	P	Pn	10 11 27.4	0.0
MTA				S	Sb	10 11 46.8	+2.5
SHAR	**Shatzhatmas**	**1.29**	**327**	*i* Pg	Pg	10 11 26.7	-1.0
SHAR				*e*Sg	Sg	10 11 44.2	-0.3
KIV	**Kislovodsk**	**1.47**	**332**	*e*Pg	Pg	10 11 29.9	-1.2
KIV				*e*Sg	Sg	10 11 50.4	+0.3
DGRG	**David-gareji**	**1.77**	**133**	P	Pn	10 11 34.3	+0.4
DGRG				S	Sn	10 12 01.5	+4.9

IDC 24 10:13:02.2±1.5, 261S×13911E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.7/11, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=70.5km s-min=26.2km az=97.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**17.84**	**195**	*e*P	Pn	10 17 11.3	-0.5
WRA	**Warramunga Arr**	**17.85**	**195**	P	Pn	10 17 11.0	-0.9
	0.3nm,0.3s,baz=17,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.53**	**193**	P	P	10 17 53.4	+0.5
	0.9nm,0.7s,baz=19,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**69.95**	**322**	P	P	10 24 15.5	+0.2
	0.5nm,0.6s,baz=112,slow=7.5,SNR=7.7						
ILAR	**Eielson Array**	**85.58**	**24**	P	P	10 25 42.5	+0.1
	0.3nm,0.6s,baz=263,slow=4.3,SNR=8.1						

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*SOF **24** 10:36:39.8, 4172N×2547E, h20km, MD3.1*
*CSEM **24** 10:36:40.3±0.1, 4177N×2551E, h2km, MD3.1, Error ellipse: s-maj=1.4km s-min=1.2km az=163.0*
*ISCJB **24** 10:36:40.1±0.3, 4175N±002×2543E±003, h2km, Error ellipse: s-maj=3.4km s-min=2.7km az=174.1*
*THE **24** 10:36:41.7, 4172N×2555E, h10km, ML3.2*
*NEIC **24** 10:36:41.7, 4164N×2541E, h25km, MD3.1(SOF), MD3.3(ATH), After ATH.*
NEIC Felt at Kurdzhali.
*ATH **24** 10:36:41.7, 4164N×2541E, h25km±1km, MD3.3/4*
*SKO **24** 10:36:42.5, 4177N×2541E, h0km*

ISC 24 10:36:40.9±0.4, 4173N±002×2544E±003, h2km±4km, n39, σ1§04/55, 5C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.08**	**193**	*i* Pg	**Pg**	**10 36 44.0**	**+1.5**
KDZ				*i* Sg	**Sg**	**10 36 45.0**	**+1.4**
RZN	**Rozhen**	**0.54**	**266**	*i* Pg	**Pg**	**10 36 51.5**	**+0.1**
RDO	**Rodhopi**	**0.59**	**173**	⇑iPN	**Pg**	**10 36 52.1**	**-0.1**
RDO				*e*SN	**Sg**	**10 36 59.6**	**-0.2**
PLD	**Plovdiv**	**0.67**	**305**	*i* Sg	**Sg**	**10 37 03.5**	**+1.1**
ALN	**Alexandroupoli**	**0.95**	**151**	*e*Pg	**Pg**	**10 36 58.9**	**-0.2**
ALN				*e*Sg	**Sg**	**10 37 12.3**	**+0.9**
EDRB	**Edirne**	**0.98**	**83**	PG	**Pg**	**10 36 59.0**	**-0.7**
EDRB				SG	**Sg**	**10 37 12.6**	**+0.1**
JMB	**Yambol**	**1.12**	**49**	*e*Pg	**Pg**	**10 37 01.9**	**-0.6**
JMB				*e*Sg	**Sg**	**10 37 17.0**	**-0.1**
JMB	**Yambol**	**1.12**	**49**	*e*Pg	**Pg**	**10 37 01.9**	**-0.6**
JMB				*i* Sg	**Sg**	**10 37 17.0**	**-0.1**
JMB	**Yambol**	**1.12**	**49**	*i* Pg	**Pg**	**10 37 02.5**	**0.0**
JMB				*i* Sg	**Sg**	**10 37 17.0**	**-0.1**
NVR	**Nevrokopi**	**1.25**	**253**	*e*PN	**Pn**	**10 37 04.4**	**-0.9**
NVR				*e*SN	**Sn**	**10 37 21.5**	**-1.1**
PGB	**Panagyurishte**	**1.25**	**311**	*i* Pg	**Pg**	**10 37 05.0**	**0.0**
MMB	**Musomiste**	**1.29**	**264**	*i* Pg	**Pg**	**10 37 05.0**	**-0.7**
PVL	**Pavlikeni**	**1.49**	**357**	*i* Pg	**Pg**	**10 37 08.5**	**-1.0**
SRS	**Serrai**	**1.52**	**247**	*e*Pg	**Pg**	**10 37 08.9**	**-1.1**
SZH	**Strazhica**	**1.58**	**13**	*i* Pg	**Pg**	**10 37 11.0**	**-0.2**
MFT	**Murefte**	**1.68**	**124**	*e*PN	**Pn**	**10 37 11.6**	**+0.4**

MXZ			S	Sn	10 53 45.4	+5.8
PUZ	**Puketiti**	**3.29 213**	*e*PN	Pn	10 53 11.9	0.0
PUZ			*e*SN	Sn	10 53 55.9	+5.9
PUZ	**Puketiti**	**3.29 213**	*e*P	Pn	10 53 12.4	+0.5
MWZ	**Matawai**	**3.84 218**	PN	Pn	10 53 19.5	0.0
MWZ			*e*SN	Sn	10 54 09.8	+6.3
MWZ	**Matawai**	**3.84 218**	*e*P	Pn	10 53 20.5	+1.1
URZ	**Urewera**	**4.00 222**	Pn	Pn	10 53 21.5	-0.1
	6.2nm,0.3s,baz=31,slow=4.5,SNR=63					
URZ			Sn	Sn	10 54 13.9	+6.5
	8.6nm,0.3s,baz=336,slow=23,SNR=9.7					
URZ	**Urewera**	**4.00 222**	*e*PN	Pn	10 53 22.2	+0.5
URZ			*e*SN	Sn	10 54 10.9	+3.5
URZ	**Urewera**	**4.00 222**	P	Pn	10 53 22.2	+0.5
KNZ	**Kokohu**	**4.33 211**	*e*PN	Pn	10 53 25.3	-0.7
BKZ	**Black Stump Fm**	**5.00 219**	*e*PN	Pn	10 53 35.4	+0.3
BKZ	**Black Stump Fm**	**5.00 219**	*e*P	Pn	10 53 35.2	0.0
WCZ	**Waipu Caves**	**5.07 261**	PN	Pn	10 53 36.3	+0.2
WCZ	**Waipu Caves**	**5.07 261**	*e*P	Pn	10 53 36.3	+0.2
OUZ	**Omahuta**	**5.67 269**	PN	Pn	10 53 43.9	-0.4
OUZ	**Omahuta**	**5.67 269**	*e*P	Pn	10 53 43.9	-0.4
TSZ	**Takapari Road**	**5.95 216**	*e*PN	Pn	10 53 47.4	-0.6
TSZ	**Takapari Road**	**5.95 216**	P	Pn	10 53 47.8	-0.3
BFZ	**Birch Farm**	**6.32 211**	*e*P	Pn	10 53 53.1	0.0
MRZ	**Mangatainoka R**	**6.60 215**	*e*PN	Pn	10 53 55.6	-1.3
MRZ			*e*SN	Sn	10 55 11.7	+1.1
MRZ	**Mangatainoka R**	**6.60 215**	*e*P	Pn	10 53 55.7	-1.2
THZ	**Tophouse**	**8.76 221**	*e*SN	Sn	10 56 03.1	-0.4
KHZ	**Kahutara**	**8.92 215**	*e*SN	Sn	10 56 03.3	-4.1
DSZ	**Denniston Nort**	**9.36 224**	*e*SN	Sn	10 56 16.7	-1.4
LTZ	**Lake Taylor**	**9.82 218**	*e*SN	Sn	10 56 25.2	-4.1
MQZ	**McQueen's Vall**	**10.33 214**	*e*SN	Sn	10 56 35.8	-6.0
RPZ	**Rata Peaks**	**11.11 218**	Sn	Sn	10 56 55.4	-5.2
	1.1nm,0.3s,baz=11,slow=4.0,SNR=6.3					
ASAR	**Alice Springs**	**41.87 273**	P	P	11 00 04.5	+0.5
	3.2nm,0.8s,mb4.1,baz=115,slow=7.9,SNR=51					
WRAB	**Tennant Creek**	**43.30 278**	*e*P	P	11 00 15.6	0.0
	7.4nm,0.8s,mb4.5					
WRA	**Warramunga Arr**	**43.30 278**	P	P	11 00 15.7	0.0
	3.7nm,0.7s,mb4.2,baz=120,slow=7.5,SNR=38					
FINES	**FINESS Array B**	**149.25 336**	PKPbc	PKPbc	11 11 59.3	-1.7
	1.8nm,0.8s,baz=355,slow=6.7,SNR=3.4					
DBIC	**Dimbokro**	**151.05 169**	PKPbc	PKPbc	11 12 09.9	+4.6
	1.5nm,0.8s,baz=210,slow=2.0,SNR=3.7					

*ISCJB **24** 10:53:16.2±1.5,4151N±007×7497E±006,h10km, Error ellipse: s-maj=10.7km s-min=6.2km az=168.4*
*KNET **24** 10:53:16.5±1.1,4160N×7499E,h19km±3km,ml1.6, Error ellipse: s-maj=6.4km s-min=2.7km az=2.0*
*NNC **24** 10:53:21.2±18.0,4170N×7520E,h0km,mb2.0,mpv1.9, Error ellipse: s-maj=182.4km s-min=59.5km az=139.0*

ISC 24 10:53:15.8±1.4,4150N±007×7495E±005,h10km,n10,
σ0°82/19,10C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.62**	**21**	⇑P	**Pg**	**10 53 27.6**	**-0.2**
	4.9nm,0.1s,SNR=17						
KZA				⇓S	**Sg**	**10 53 35.6**	**-0.3**
	40nm,0.2s						
UCH	**Uchtor**	**0.79**	**336**	P	**Pg**	**10 53 31.2**	**0.0**
	29nm,0.1s,SNR=122						
UCH				⇑S	**Sg**	**10 53 41.7**	**+0.2**
	26nm,0.2s						
AML	**Almayashu**	**1.13**	**304**	⇓P	**Pb**	**10 53 37.3**	**-0.1**
	1.6nm,0.1s,SNR=13						
AML				⇑S	**Sb**	**10 53 52.4**	**+0.3**
	7.1nm,0.2s						
KBK	**Karagaybulak**	**1.15**	**0**	⇓P	**Pb**	**10 53 37.6**	**-0.3**
	2.9nm,0.1s,SNR=16						
KBK				⇓S	**Sb**	**10 53 53.1**	**+0.2**
	28nm,0.1s						
AAK	**Ala-Archa**	**1.18**	**344**	⇓P	**Pb**	**10 53 38.1**	**-0.2**
	4.8nm,0.2s,SNR=5.9						
AAK				⇑S	**Sb**	**10 53 53.2**	**-0.5**
	6.2nm,0.2s						
ULHL	**Ulahol**	**1.22**	**52**	⇓P	**Pn**	**10 53 38.4**	**-0.5**
	2.1nm,0.1s,SNR=14						
ULHL				⇑S	**Sb**	**10 53 53.8**	**-1.0**
	3.6nm,0.1s						
TKM2	**Tokmak 2**	**1.50**	**19**	⇓P	**Pn**	**10 53 44.0**	**+1.2**
	1.3nm,0.1s,SNR=7.5						
TKM2				⇑S	**Sn**	**10 54 03.3**	**+1.0**
	9.2nm,0.1s						
TKM2	**Tokmak 2**	**1.50**	**19**	⇑P	**Pn**	**10 53 43.5**	**+0.7**
	0.3nm,0.3s						
TKM2				⇑S	**Sn**	**10 54 03.1**	**+0.8**
	0.8nm,0.1s						
USP	**Ospenovka**	**1.79**	**350**	⇑P	**Pn**	**10 53 49.1**	**+2.3**
	3.5nm,0.2s,SNR=9.1						
KK31	**Karatay Array**	**3.66**	**297**	⇓Pn	**Pg**	**10 54 25.6**	**-0.3**
	0.1nm,0.2s,baz=131,slow=17						
KK31				⇑Sn	**Sg**	**10 55 10.1**	**-3.2**
	1.4nm,0.5s,baz=105,slow=26						

*IDC **24** 10:53:41.6±2.3,1671S×7270W,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.9/16,mbtmp3.7/7,MS3.5/1,Ms1 3.5/1, ms1mx3.1/21, Error ellipse: s-maj=136.8km s-min=21.5km az=145.0*
*NEIC **24** 10:53:44.7±1.8,1583S×7319W,h10km,mb4.4/1, Error ellipse: s-maj=104.0km s-min=14.5km az=142.0*
*ISCJB **24** 10:53:48.0±1.9,154S±06×1735W±05,h33km,mb3.8/8, MS3.4/1, Error ellipse: s-maj=104.4km s-min=9.3km az=104.3*

ISC 24 10:53:50.4±1.8,154S±05×1734W±04,h35km,n11,
σ1°10/12,mb3.8/8,MS3.4/1,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**48**	Pn	**Pn**	**10 54 22.0**	**-1.5**
	15nm,0.3s,baz=81,slow=2.6,SNR=15						
AFI				Sn	**Sn**	**10 54 48.1**	**-0.7**
	42nm,0.3s,baz=75,slow=23,SNR=9.4						
AFI				T		10 56 57.5	
	21nm,0.3s,baz=90,slow=19,SNR=3.6						
AFI	**Afiamalu**	**2.13**	**48**	Pn	**Pn**	**10 54 22.0**	**-1.5**
AFI				Sn	**Sn**	**10 54 48.1**	**-0.7**
PPT	**Papeete**	**22.95**	**99**	LR	LR	11 05 45.2	
	comp=Z,122nm,18.9s,MS3.4,baz=253,slow=33						
STKA	**Stephens Creek**	**44.05 240**		P	**P**	**11 01 50.4**	**-4.4**
	1.8nm,0.8s,mb3.9,baz=104,slow=5.9,SNR=4.9						
WRAB	**Tennant Creek**	**49.84 257**		*e*P	**P**	**11 02 40.2**	**+0.3**
	4.2nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**49.85 257**		P	**P**	**11 02 39.2**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=92,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**50.12 252**		P	**P**	**11 02 41.3**	**-0.8**
	2.5nm,0.8s,mb4.3,baz=88,slow=8.2,SNR=21						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**11 05 24.5**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=225,slow=8.8,SNR=3.8						
PDAR	**Pinedale Array**	**82.23**	**42**	P	**P**	**11 06 08.2**	**+0.2**
	0.6nm,1.0s,mb3.5,baz=189,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**82.40**	**11**	P	**P**	**11 06 11.3**	**+2.5**
	0.5nm,0.6s,mb3.6,baz=232,slow=6.4,SNR=14						
YKA	**Yellowknife Ar**	**90.06**	**23**	P	**P**	**11 06 47.3**	**+0.8**
	0.1nm,0.5s,mb3.4,baz=285,slow=7.9,SNR=3.2						

IDC 24 11:09:59.9±38.0,4142S×7761E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/14,mbtmp3.7/3,MS3.5/2,Ms1 3.4/2, ms1mx3.1/18,Error ellipse: s-maj=742.0km s-min=175.7km az=89.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**27.44 192**		LR	LR	11 24 40.3	
	comp=Z,105nm,18.7s,baz=247,slow=32						
ASAR	**Alice Springs**	**49.78**	**87**	P	P	11 18 54.0	-0.3
	0.6nm,0.8s,baz=245,slow=5.0,SNR=6.4						
STKA	**Stephens Creek**	**51.17 101**		P	P	11 19 04.8	0.0
	1.6nm,0.8s,baz=256,slow=6.3,SNR=3.6						
WRA	**Warramunga Arr**	**52.30**	**84**	P	P	11 19 13.6	+0.4
	0.9nm,0.8s,baz=232,slow=7.3,SNR=11						
KMBO	**Kilima Mbogo**	**54.13 307**		LR	LR	11 38 26.8	
	comp=Z,31nm,19.4s,baz=96,slow=32						

*ISCJB **24** 11:10:09.2±0.7,2149S±010×3334E±010,h10km,mb4.0/9, MS3.5/2, Error ellipse: s-maj=17.5km s-min=8.0km az=95.8*
*IDC **24** 11:10:11.9±0.8,2104S×3335E,h0km,mb4.0/10, mb1 4.4/15,mb1mx4.3/24,mbtmp4.3/15,ML4.8/5,MS3.7/9, Ms1 3.8/9,ms1mx3.6/19,Error ellipse: s-maj=22.3km s-min=21.4km az=169.0*
*NEIC **24** 11:10:13.9±0.6,2106S×3321E,h10km,mb4.0/2,Error ellipse: s-maj=17.9km s-min=10.9km az=121.0*
*PRE **24** 11:10:13.6±1.5,2216S×3366E,h5km,ML5.3*

ISC 24 11:10:11.5±0.7,2146S±010×334E±01,h10km,n37,
σ1°09/40,mb4.0/9,MS3.5/2,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.33 227**		*e*P	**Pn**	**11 11 44.6**	**-0.3**
SLR				*e*S	**Sn**	**11 12 51.1**	**-6.2**
SLR				AML	AML	11 13 44.9	
	comp=Z,521nm,0.5s						
PRYS	**Parys**	**7.74 224**		*e*P	**Pn**	**11 11 57.5**	**-6.8**
LSZ	**Lusaka**	**7.89 320**		Pn	Px	11 12 01.6	
	comp=Z,28nm,0.3s,baz=140,slow=14,SNR=116						
LSZ				Sn	Sx	11 13 22.6	
	comp=Z,13nm,0.3s,baz=244,slow=22,SNR=6.2						
LSZ				Lg		11 14 01.6	
	comp=Z,66nm,0.3s,baz=129,slow=8.4,SNR=9.5						
LSZ				LR	LR	11 14 38.7	
	comp=Z,137nm,18.4s,baz=293,slow=35						
LSZ	**Lusaka**	**7.89 320**		*e*Pn	Px	11 12 01.2	
	comp=Z,221nm,0.7s						
LSZ				*e*Sn	Sx	11 13 26.5	
LSZ				*e*Sb	Sx	11 13 56.0	
LSZ				*e*Sg	Sx	11 14 06.0	
LBTB	**Lobatse**	**8.00 242**		*e*P	**Pn**	**11 12 11.1**	**+3.3**
LBTB				*e*S	**Sn**	**11 13 35.4**	**-2.8**
LBTB				AML	AML	11 14 31.8	
	comp=Z,347nm,0.7s						
LBTB	**Lobatse**	**8.00 242**		Pn	**Pn**	**11 12 12.1**	**+4.4**
	comp=Z,9.4nm,0.3s,baz=67,slow=13,SNR=131						
LBTB				Sn	**Sn**	**11 13 41.8**	**+3.5**
	comp=Z,18nm,0.3s,baz=343,slow=15,SNR=5.8						
LBTB				Lg		11 14 20.4	
	comp=Z,20nm,0.3s,baz=2.7,slow=13,SNR=7.3						
LBTB				LR	LR	11 15 27.5	
	comp=Z,1μm,18.8s,baz=63,slow=39						
LBTB	**Lobatse**	**8.00 242**		*e*Pn	**Pn**	**11 12 12.0**	**+4.3**
	comp=Z,925nm,1.8s						
LBTB				*e*Sn	**Sn**	**11 13 42.2**	**+4.0**
LBTB				*e*Sg	Sn	11 14 29.6	+51
SEK	**Senekal**	**8.61 216**		*e*S	**Sn**	**11 13 38.9**	**-14**
SEK				AML	AML	11 15 12.9	
	comp=Z,452nm,0.7s						
BOSA	**Boshof**	**10.25 224**		*e*P	**Pn**	**11 12 39.2**	**+0.5**
BOSA				*e*S	**Sn**	**11 14 24.9**	**-8.8**
BOSA				AML	AML	11 15 59.3	
	comp=Z,160nm,0.8s						
BOSA	**Boshof**	**10.25 224**		Pn	**Pn**	**11 12 43.6**	**+4.9**
	comp=Z,9.0nm,0.3s,baz=50,slow=13,SNR=94						
BOSA				Sn	**Sn**	**11 14 34.0**	**+0.3**
	comp=Z,7.6nm,0.3s,baz=308,slow=16,SNR=6.7						
BOSA				Lg		11 15 35.5	
	comp=Z,6.6nm,0.3s,baz=292,slow=6.4,SNR=5.0						
BOSA				LR	LR	11 17 01.3	
	comp=Z,732nm,19.1s,baz=50,slow=39						
BOSA	**Boshof**	**10.25 224**		*e*Pn	**Pn**	**11 12 43.2**	**+4.6**
	comp=Z,3.3nm,1.0s						
BOSA				*e*Sn	**Sn**	**11 14 44.0**	**+10**
OPO	**Ambohidratompo**	**13.28**	**80**	Pn	**Pn**	**11 13 19.7**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=248,slow=14,SNR=9.2						
OPO				Sn	**Sn**	**11 15 39.8**	**-7.9**
	comp=Z,1.7nm,0.3s,baz=161,slow=23,SNR=4.9						
TSUM	**Tsumeb**	**15.00 276**		Pn	**Pn**	**11 13 40.3**	**-3.3**
	comp=Z,1.8nm,0.3s,baz=103,slow=9.9,SNR=29						
TSUM				Sn	**Sn**	**11 16 18.2**	**-12**
	comp=Z,1.6nm,0.3s,baz=164,slow=17,SNR=2.7						
TSUM				Lg		11 17 54.9	
	comp=Z,3.5nm,0.3s,baz=212,slow=21,SNR=3.0						
TSUM				LR	LR	11 19 38.5	
	comp=Z,212nm,21.4s,baz=15,slow=38						
TSUM	**Tsumeb**	**15.00 276**		*e*Pn	**Pn**	**11 13 40.1**	**-3.5**
	comp=Z,14nm,0.6s						
TSUM				*e*Sn	**Sn**	**11 16 35.1**	**+5.4**
SUR	**Sutherland**	**15.61 223**		*e*P	**Pn**	**11 13 52.5**	**+0.9**
SUR				*e*S	**Sn**	**11 16 32.6**	**-12**
SUR	**Sutherland**	**15.61 223**		Pn	**Pn**	**11 13 57.0**	**+5.4**
	comp=Z,2.9nm,0.3s,baz=56,slow=14,SNR=21						
SUR				Sn	**Sn**	**11 16 43.0**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=10,slow=17,SNR=4.4						
SUR				Lg		11 18 26.6	
	comp=Z,3.2nm,0.3s,baz=308,slow=23,SNR=6.1						
SUR				LR	LR	11 20 15.7	
	comp=Z,643nm,18.7s,baz=170,slow=38						
SUR	**Sutherland**	**15.61 223**		*e*Pn	**Pn**	**11 13 56.4**	**+4.8**
	comp=Z,49nm,0.8s						
SUR				*e*Sn	**Sn**	**11 16 53.7**	**+9.0**
KMBO	**Kilima Mbogo**	**20.56**	**11**	P	**P**	**11 14 47.1**	**-3.2**
	comp=Z,0.5nm,0.4s,baz=68,slow=22,SNR=2.5						
KMBO				Lg		11 20 41.0	
	comp=Z,15nm,1.0s,baz=97,slow=19,SNR=6.0						
KMBO				LR	LR	11 23 36.7	
	comp=Z,44nm,19.6s,MS2.8,baz=96,slow=40						
KMBO	**Kilima Mbogo**	**20.56**	**11**	*e*P	**P**	**11 14 50.9**	**+0.6**
	comp=Z,1.2nm,0.9s						
KMBO				Lg		11 20 41.0	
TORD	**Torodi Ar. Bea**	**46.39 315**		P	**P**	**11 18 38.0**	**0.0**
	comp=Z,12nm,0.9s,mb4.8,baz=127,slow=7.2,SNR=33						
DBIC	**Dimbokro**	**46.80 302**		P	**P**	**11 18 41.9**	**+0.7**
	comp=Z,3.0nm,1.0s,mb4.2,baz=118,slow=11,SNR=3.5						
DBIC	**Dimbokro**	**46.80 302**		P	**P**	**11 18 41.9**	**+0.7**
BRTR	**Keskin Array B**	**60.87**	**0**	P	**P**	**11 20 24.6**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.7,baz=143,slow=37,SNR=3.0						
ESDC	**Sonseca Array**	**70.12 330**		P	**P**	**11 21 23.2**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.7,baz=146,slow=28,SNR=3.0						
AKASG	**Malin Array Be**	**71.94 357**		P	**P**	**11 21 34.2**	**-0.8**
	comp=Z,0.2nm,0.2s,mb3.6,baz=350,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**81.00**	**32**	P	**P**	**11 22 26.0**	**-0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=211,slow=4.4,SNR=5.1						
FINES	**FINESS Array B**	**82.82 356**		P	**P**	**11 22 37.3**	**+1.3**
	comp=Z,2.3nm,1.0s,mb4.2,baz=54,slow=3.3,SNR=3.2						
ASAR	**Alice Springs**	**90.60 116**		P	**P**	**11 23 18.5**	**+4.5**
	comp=Z,1.7nm,0.8s,mb4.5,baz=238,slow=4.1,SNR=20						
WRA	**Warramunga Arr**	**92.46 112**		P	**P**	**11 23 26.4**	**+3.7**
	comp=Z,1.3nm,1.1s,mb4.2,baz=252,slow=2.9,SNR=6.5						
LPAZ	**La Paz**	**94.44 251**		LR	LR	12 02 08.8	
	comp=Z,57nm,18.7s,MS4.1,baz=194,slow=33						
YKA	**Yellowknife Ar**	**133.55 340**		PKP		11 29 28.8	+0.6
	comp=Z,0.2nm,0.6s,baz=43,slow=2.1,SNR=4.9						
MSU	**Marysvale**	**145.93 308**		*e*PKPdf	PKPdf	11 29 55.7	+5.1
TUC	**Tucson**	**146.42 296**		*e*PKPdf	PKPdf	11 29 56.9	+5.5
BMO	**Blue Mountains**	**146.46 321**		*e*PKPdf	PKPdf	11 29 54.0	+2.6
NVAR	**Mina Array Bea**	**150.38 311**		PKPbc	PKPbc	11 30 03.4	+0.3
	comp=Z,1.4nm,0.8s,baz=72,slow=4.5,SNR=9.9						
NVAR	**Mina Array Bea**	**150.38 311**		PKPbc	PKPbc	11 30 03.4	+0.3
ISA	**Isabella**	**151.65 306**		*e*PKPbc	PKPbc	11 30 10.1	+4.0
ISA				*e*PKPab	PKPab	11 30 17.5	+2.7

*ISCJB **24** 11:42:20.2±0.8,3986N±004×1418E±01,h78km±4km, mb3.2/3, Error ellipse: s-maj=13.4km s-min=6.5km az=161.6*
*JMA **24** 11:42:21.6,3987N×14175E,h70km±1km,M3.3 Broadband fault plane solution: P waves. NP1: φs340.00000°,δ5.00000°,λ69.00000°. NP2:φs182.00000°, δ85.00000°,λ92.00000°. Principal axes: T Plg50.0000°, Azm94.0000°; N Plg2.0000°, Azm2.0000°; P Plg40.0000°, Azm270.0000°;*
JMA Felt I J1.
*IDC **24** 11:42:46.0±23.0,3861N×13877E,h212km±71km,mb2.8/3, mb1 2.9/4,mb1mx2.7/20,mbtmp3.1/4 Error ellipse: s-maj=578.6km s-min=23.1km az=60.0*

ISC 24 11:42:21.3±0.8,3986N±004×1418E±01,h72km±4km,n15,
σ0°48/24,mb3.2/3,9C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.10**	**43**	⇑P	**Pn**	**11 42 32.1**	**+0.3**
JTH				S	**Sn**	**11 42 39.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.29 173**		⇓P	**Pn**	**11 42 33.0**	**+0.3**
MIYJ				S	**Sn**	**11 42 41.0**	**0.0**
JKZ	**Kuzumaki**	**0.36 289**		⇑P	**Pn**	**11 42 33.3**	**+0.1**
JKZ				S	**Sn**	**11 42 41.6**	**-0.2**
JOM	**Ohasama**	**0.54 224**		⇑P	**Pn**	**11 42 34.6**	**-0.1**
JOM				S	**Sn**	**11 42 44.1**	**-0.4**
JANG	**Nango**	**0.55 339**		⇑P	**Pn**	**11 42 34.7**	**-0.1**
JANG				S	**Sn**	**11 42 44.2**	**-0.4**
JAH	**Hinai**	**0.93 291**		⇑P	**Pn**	**11 42 39.0**	**-0.1**
JAH				S	**Sn**	**11 42 52.4**	**+0.1**
JMK	**Ichinoseki**	**1.01 205**		⇑P	**Pn**	**11 42 40.0**	**0.0**
JMK				S	**Sn**	**11 42 53.3**	**-0.6**
JTM	**Tenmabayashi**	**1.07 330**		⇑P	**Pn**	**11 42 40.9**	**+0.2**
JTM				S	**Sn**	**11 42 55.0**	**-0.2**
JIO	**Ouri**	**1.45 193**		P	**Pn**	**11 42 45.8**	**+0.2**
JIO				S	**Sn**	**11 43 03.5**	**-0.4**
JYK	**Kaneyama**	**1.45 230**		⇑P	**Pn**	**11 42 45.8**	**+0.2**
JIW	**Iwasaki**	**1.54 299**		⇑P	**Pn**	**11 42 47.3**	**+0.5**
MJAR	**Matsushiro Arr**	**4.35 221**		P	**Pn**	**11 43 26.8**	**+2.0**
	0.7nm,0.3s,baz=307,slow=12,SNR=8.5						
MKAR	**Makanchi Array**	**42.91 300**		P	**P**	**11 50 12.2**	**-0.5**
	0.4nm,0.6s,mb3.3,baz=74,slow=8.0,SNR=7.3						
WRA	**Warramunga Arr**	**59.90 188**		P	**P**	**11 52 19.5**	**-0.1**
	0.2nm,0.7s,mb3.3,baz=3.8,slow=7.1,SNR=3.7						
ASAR	**Alice Springs**	**63.62 188**		P	**P**	**11 52 44.1**	**-0.6**
	0.3nm,0.9s,mb3.1,baz=359,slow=6.5,SNR=6.1						

*ISCJB **24** 11:46:12.4±0.5,6014N±004×1532W±01,h141km±7km, mb3.4/2, Error ellipse: s-maj=8.7km s-min=6.6km az=42.2*
*IDC **24** 11:46:12.6±1.7,6008N×15334W,h128km±28km,mb3.2/2, mb1 3.5/6,mb1mx3.3/20,mbtmp3.8/6,Error ellipse: s-maj=35.2km s-min=17.1km az=116.0*
*NEIC **24** 11:46:15.1,6015N×15325W,h140km,MG3.3(AEIC), After AEIC.*

ISC 24 11:46:13.4±0.5,6013N±004×1532W±01,h135km±8km,n32,
σ0°82/39,mb3.4/2,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**1.52 311**		P	**Pn**	**11 46 42.8**	**+0.8**
SLKM	**Skilak Lake**	**1.53**	**75**	P	**Pn**	**11 46 43.2**	**+1.1**
FIB	**Fire Island**	**1.82**	**54**	P	**Pn**	**11 46 47.1**	**+1.7**
RC01	**Rabbit Creek A**	**1.96**	**59**	P	**Pn**	**11 46 47.7**	**+0.5**
KDAK	**Kodiak Island**	**2.38 172**		P	**Pn**	**11 46 52.0**	**-0.3**
	6.4nm,0.3s,baz=17,slow=10,SNR=44						
KDAK				S	**Sn**	**11 47 20.1**	**-2.1**
	37nm,0.3s,baz=266,slow=20,SNR=58						
KDAK	**Kodiak Island**	**2.38 172**		P	**Pn**	**11 46 52.0**	**-0.3**
KDAK				S	**Sn**	**11 47 21.7**	**-0.5**
PMR	**Palmer**	**2.47**	**52**	P	**Pn**	**11 46 53.0**	**-0.5**
PMR				S	**Sn**	**11 47 23.2**	**-1.0**
GHO	**Glory Hole Cre**	**2.66**	**50**	P	**Pn**	**11 46 55.8**	**0.0**
SML	**Sawmill**	**2.91**	**53**	P	**Pn**	**11 46 58.8**	**-0.2**
TT01	**Tatalina**	**3.09 335**		P	**Pn**	**11 47 01.9**	**+0.6**
KTH	**Kantishna Hill**	**3.60**	**17**	P	**Pn**	**11 47 08.5**	**+0.5**
KTH				S	**Sn**	**11 47 48.5**	**-1.7**
TRF	**Thorofare Moun**	**3.61**	**21**	P	**Pn**	**11 47 08.7**	**+0.6**
TRF				S	**Sn**	**11 47 49.2**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.73**	**80**	P	**Pn**	**11 47 10.4**	**+0.7**
DIV	**Divide**	**3.80**	**72**	*e*Pn	**Pn**	**11 47 09.4**	**-1.1**
MCK	**McKinley**	**4.14**	**27**	P	**Pn**	**11 47 15.7**	**+0.7**
BMRM	**Bremner River**	**4.33**	**75**	P	**Pn**	**11 47 18.3**	**+0.6**
BMRM				S	**Sn**	**11 48 06.2**	**-1.3**
PAX	**Paxson**	**4.67**	**49**	P	**Pn**	**11 47 22.6**	**+0.4**
COLA	**College**	**5.37**	**25**	P	**Pn**	**11 47 31.3**	**-0.1**
IL1	**Eielson Array**	**5.50**	**30**	P	**Pn**	**11 47 33.0**	**-0.3**
ILAR	**Eielson Array**	**5.50**	**29**	P	**Pn**	**11 47 33.0**	**-0.3**
	9.8nm,0.3s,baz=215,slow=13,SNR=1222						
ILAR				S	**Sn**	**11 48 30.9**	**-4.5**
	2.4nm,0.3s,baz=212,slow=23,SNR=10						
DOT	**Dot Lake**	**5.58**	**47**	P	**Pn**	**11 47 34.4**	**+0.1**
SDPT	**Sand Point**	**6.17 222**		P	**Pn**	**11 47 41.4**	**-0.9**
PCA	**Pinnacle**	**6.48**	**85**	P	**Pn**	**11 47 47.5**	**+1.2**
PNL	**Peninsula**	**6.96**	**88**	P	**Pn**	**11 47 53.3**	**+0.4**
COLD	**Coldfoot**	**7.25**	**9**	P	**Pn**	**11 47 57.1**	**+0.5**
DAWY	**Dawson**	**7.58**	**53**	P	**Pn**	**11 48 01.7**	**+0.5**
BM3	**Burnt Mountain**	**8.24**	**24**	P	**Pn**	**11 48 09.4**	**-0.6**
INK	**Inuvik**	**11.80**	**38**	P	**Pn**	**11 48 57.4**	**+0.1**
	0.4nm,0.3s,baz=246,slow=14,SNR=11						
INK	**Inuvik**	**11.80**	**38**	P	**Pn**	**11 48 57.4**	**+0.1**
YKA	**Yellowknife Ar**	**18.49**	**66**	P	**P**	**11 50 19.6**	**+0.6**
	baz=280,slow=11,SNR=22						
SONM	**Songino Array**	**54.63 306**		P	**P**	**11 55 28.0**	**0.0**
	0.9nm,0.7s,mb3.6,baz=45,slow=7.7,SNR=6.7						
MKAR	**Makanchi Array**	**64.26 321**		P	**P**	**11 56 32.8**	**-1.3**
	0.2nm,0.4s,mb3.3,baz=36,slow=7.1,SNR=6.0						

*ISCJB **24** 12:48:31.2±4.4,53N±03×946E±03,h64km±35km,mb3.7/5, Error ellipse: s-maj=65.4km s-min=19.8km az=104.4*
*IDC **24** 12:48:

*ISCJB **24** 13:29:47.1±2.0, 93S×06×1186E±07, h33km, mb3.4/1, Error ellipse: s-maj=130.0km s-min=20.0km az=104.1*

ISC 24 13:29:50.2±1.9, 92S±05×1188E±07, h35km, n4, σ0⁝62/5, mb3.4/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.10**	**144**	*eP*	**Pn**	**13 32 26.0**	**-0.4**
	1.7nm,0.4s						
FITZ				*eS*	**Sn**	**13 34 20.0**	**-9.2**
WRA	**Warramunga Arr**	**18.45**	**127**	P	**Pn**	**13 34 02.8**	**-0.3**
	0.0nm,0.3s,baz=303,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**20.42**	**137**	P	**P**	**13 34 24.9**	**+0.7**
	0.5nm,0.5s,baz=308,slow=9.8,SNR=23						
MKAR	**Makanchi Array**	**64.50**	**333**	P	**P**	**13 40 23.2**	**-0.1**
	0.3nm,0.7s,mb3.4,baz=155,slow=5.5,SNR=3.8						

*IDC **24** 13:31:17.4±2.1, 6.16N×125.66E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=181.4km s-min=24.3km az=65.0*

*ISCJB **24** 13:31:18.5±1.1, 68N±01×127.1E±0.1, h33km, mb3.5/3, Error ellipse: s-maj=24.0km s-min=9.3km az=111.7*

ISC 24 13:31:20.8±1.1, 68N±01×1271E±01, h35km, n6, σ1⁝09/8, mb3.5/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.52**	**333**	⇓*eP*	**Pn**	**13 31 45.3**	**-0.2**
BIPH				*eS*	**Sn**	**13 32 03.5**	**-0.6**
BUKP	**Musuan**	**2.24**	**298**	*eP*	**Pn**	**13 31 55.7**	**+0.4**
BUKP				*eS*	**Sn**	**13 32 21.5**	**-0.2**
BUTP	**Butuan**	**2.57**	**327**	*eP*	**Pn**	**13 32 02.9**	**+3.1**
WRA	**Warramunga Arr**	**27.54**	**165**	P	**P**	**13 37 05.3**	**+1.2**
	0.5nm,0.6s,mb3.3,baz=342,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**31.02**	**168**	P	**P**	**13 37 33.1**	**-1.9**
	0.4nm,0.4s,mb3.6,baz=342,slow=6.6,SNR=13						
MKAR	**Makanchi Array**	**55.24**	**324**	P	**P**	**13 40 50.3**	**0.0**
	0.4nm,0.5s,mb3.7,baz=117,slow=8.1,SNR=14						

*ISCJB **24** 13:34:60.0±0.3, 4170N±002×2546E±002, h5km, Error ellipse: s-maj=3.1km s-min=2.3km az=158.6*

*SOF **24** 13:34:59.6, 4169N×2549E, h17km, MD3.2*

*CSEM **24** 13:34:59.9±0.1, 4174N×2548E, h5km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.3km az=9.0*

*NEIC **24** 13:34:59.6, 4169N×2549E, h17km, MD3.2(SOF), MD3.4(ATH), After SOF.*

*ATH **24** 13:35:01.8, 4160N×2538E, h25km±1km, MD3.4/5*

*SKO **24** 13:35:02.1, 4175N×2543E, h0km*

*THE **24** 13:35:03.4, 4163N×2561E, h21km, ML3.6*

ISC 24 13:35:00.6±0.4, 4169N±002×2547E±002, h1km±3km, n52, σ1⁝03/74, 6C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.05**	**223**	*i Pg*	**Pg**	**13 35 03.6**	**+2.0**
KDZ				*i Sg*	**Sg**	**13 35 05.3**	**+3.0**
DIM	**Dimitrovgrad**	**0.36**	**8**	*i Pg*	**Pg**	**13 35 08.3**	**+0.7**
RDO	**Rodhopi**	**0.55**	**174**	⇑*iPB*	**Pg**	**13 35 11.6**	**+0.6**
RDO				*eSB*	**Sg**	**13 35 18.9**	**+0.8**
RZN	**Rozhen**	**0.56**	**270**	*i Pg*	**Pg**	**13 35 11.5**	**+0.2**
RZN				*i Sg*	**Sg**	**13 35 18.6**	**0.0**
PLD	**Plovdiv**	**0.70**	**306**	*i Pg*	**Pg**	**13 35 14.5**	**+0.4**
ALN	**Alexandroupoli**	**0.90**	**151**	*ePg*	**Pg**	**13 35 18.4**	**+0.5**
	comp=Z,30nm,0.2s						
ALN				*eSg*	**Sg**	**13 35 29.6**	**-0.1**
EDRB	**Edirne**	**0.97**	**80**	PG	**Pg**	**13 35 18.6**	**-0.6**
EDRB				SG	**Sg**	**13 35 31.3**	**-0.5**
JMB	**Yambol**	**1.14**	**47**	*ePg*	**Pg**	**13 35 21.7**	**-0.7**
JMB				*i Sg*	**Sg**	**13 35 37.0**	**-0.2**
JMB	**Yambol**	**1.14**	**47**	*i Pg*	**Pg**	**13 35 22.7**	**+0.3**
JMB				*i Sg*	**Sg**	**13 35 37.0**	**-0.2**
NVR	**Nevrokopi**	**1.25**	**255**	*ePN*	**Pn**	**13 35 24.2**	**-1.0**
NVR				*eSN*	**Sn**	**13 35 40.4**	**-2.3**
PGB	**Panagyurishte**	**1.29**	**312**	*i P*	**Pg**	**13 35 24.5**	**-0.9**
MMB	**Musomiste**	**1.31**	**266**	*i Pg*	**Pg**	**13 35 25.5**	**-0.1**
MMB				*i Sg*	**Sg**	**13 35 43.2**	**+0.7**
SRS	**Serrai**	**1.52**	**249**	*ePg*	**Pg**	**13 35 28.9**	**-0.8**
SRS				*eSg*	**Sg**	**13 35 49.1**	**-0.4**
PVL	**Pavlikeni**	**1.53**	**356**	*i Pg*	**Pg**	**13 35 28.7**	**-1.2**
SZH	**Strazhica**	**1.61**	**12**	*i Pg*	**Pg**	**13 35 31.4**	**-0.1**
MFT	**Murefte**	**1.64**	**123**	PN	**Pn**	**13 35 31.1**	**+0.5**
OUR	**Ouranopolis**	**1.76**	**220**	*ePb*	**Pb**	**13 35 31.2**	**-2.5**
LOS	**Limnos**	**1.78**	**190**	*ePb*	**Pb**	**13 35 31.1**	**-2.9**
KKB	**Krupnik**	**1.79**	**276**	*i Pg*	**Pg**	**13 35 34.2**	**-0.7**
KKB				*i Sg*	**Sg**	**13 35 58.8**	**+0.7**
LIA	**Limnos Island**	**1.80**	**187**	*ePN*	**Pn**	**13 35 32.2**	**-0.6**
SOH	**Sokhos**	**1.81**	**242**	*ePb*	**Pb**	**13 35 33.6**	**-1.0**
SOH				*eSb*	**Sb**	**13 35 56.7**	**-1.0**
VTS	**Vitosha**	**1.91**	**299**	*i P*	**Pn**	**13 35 34.3**	**+0.1**
VTS				*i Pg*	**Pg**	**13 35 36.1**	**-1.0**
VTS	**Vitosha**	**1.91**	**299**	*ePn*	**Pn**	**13 35 34.4**	**+0.2**
VTS				*eSn*	**Sn**	**13 36 00.5**	**+1.7**
VTS	**Vitosha**	**1.91**	**299**	*i Pg*	**Pg**	**13 35 36.1**	**-1.0**
VTS				*eSn*	**Sn**	**13 36 00.5**	**+1.6**
VTS	**Vitosha**	**1.91**	**299**	*i P*	**Pn**	**13 35 34.3**	**+0.1**
VTS				*i Pg*	**Pg**	**13 35 36.1**	**-1.0**
VTS				*i S*	**Sn**	**13 36 00.4**	**+1.5**
EZN	**Ezine**	**1.97**	**160**	PN	**Pn**	**13 35 35.5**	**+0.4**
KNT	**Kendrikon**	**2.00**	**256**	*ePn*	**Pn**	**13 35 36.4**	**+0.9**
	comp=Z,20nm,0.2s						
KNT				*eSn*	**Sn**	**13 36 01.0**	**-0.2**
PLG	**Polygyros**	**2.02**	**230**	*ePN*	**Pn**	**13 35 34.3**	**-1.4**
PRD	**Provadia**	**2.08**	**43**	*i Pg*	**Pg**	**13 35 40.0**	**-0.5**
THE	**Thessaloniki**	**2.16**	**242**	*ePn*	**Pn**	**13 35 38.0**	**+0.2**
VAY	**Valandovo**	**2.21**	**261**	*ePn*	**Pn**	**13 35 39.5**	**+1.2**
VAY				*eSg*	**Sg**	**13 36 11.2**	**-0.2**
PAIG	**Paliouri**	**2.22**	**218**	*ePn*	**Pn**	**13 35 37.9**	**-0.7**
PAIG				*eSn*	**Sn**	**13 36 04.7**	**-1.9**
PAIG	**Paliouri**	**2.22**	**218**	*eSn*	**Sn**	**13 36 04.7**	**-2.0**
GRG	**Griva**	**2.42**	**253**	*ePn*	**Pn**	**13 35 42.2**	**+0.9**
GRG				*eSn*	**Sn**	**13 36 11.6**	**+0.1**
STIP	**Stip**	**2.46**	**271**	*ePn*	**Pn**	**13 35 43.9**	**+2.1**
STIP				*eSg*	**Sg**	**13 36 19.8**	**+0.3**
PRK	**Paraskevi**	**2.52**	**166**	*ePN*	**Pn**	**13 35 42.6**	**0.0**
BALB	**Balikesir**	**2.75**	**137**	*ePN*	**Pn**	**13 35 46.3**	**+0.5**
DST	**Dursunbey**	**3.18**	**130**	*ePN*	**Pn**	**13 35 52.9**	**+1.1**
FNA	**Florina**	**3.21**	**255**	*ePn*	**Pn**	**13 35 52.9**	**+0.7**
IZI	**Iznik**	**3.32**	**113**	*ePN*	**Pn**	**13 35 53.8**	**+0.1**
HARR	**Harsova**	**3.50**	**30**	⇓P	**Pg**	**13 36 06.3**	**-1.4**
HARR	**Harsova**	**3.50**	**30**	⇓P	**Pg**	**13 36 06.2**	**-1.4**
TIRR	**Tirgusor**	**3.51**	**37**	⇓P	**Pn**	**13 36 02.3**	**+6.0**
TIRR	**Tirgusor**	**3.51**	**37**	⇓P	**Pn**	**13 36 02.2**	**+6.0**
AGG	**Agios Georgios**	**3.58**	**223**	*ePn*	**Pn**	**13 35 57.5**	**+0.2**
VOIR		**3.76**	**356**	⇑P	**Pg**	**13 36 11.6**	**-1.0**
MLR	**Muntele Rosu**	**3.82**	**5**	⇑P	**Pn**	**13 36 02.5**	**+2.0**
MLR	**Muntele Rosu**	**3.82**	**5**	⇑P	**Pn**	**13 36 02.5**	**+1.9**
VRI	**Vrincioaia**	**4.28**	**12**	⇓P	**Pn**	**13 36 07.7**	**+0.9**
VRI	**Vrincioaia**	**4.28**	**12**	⇓P	**Pn**	**13 36 07.7**	**+0.8**
BZS	**Buzias**	**4.82**	**326**	⇑P	**Pn**	**13 36 16.4**	**+2.1**
BZS	**Buzias**	**4.82**	**326**	⇑P	**Pn**	**13 36 16.4**	**+2.2**

IDC 24 13:36:25.9±5.5, 2306S×17585W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, Error ellipse: s-maj=220.6km s-min=38.6km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.31**	**267**	*eP*	P	**13 43 24.8**	**+2.2**
	7.1nm,0.9s						
CTA	**Charters Tower**	**35.31**	**267**	P	P	13 43 24.8	+2.2
	4.5nm,0.4s,baz=85,slow=9.6,SNR=7.4						
ASAR	**Alice Springs**	**45.94**	**259**	P	P	13 44 49.8	-0.7
	0.7nm,0.3s,baz=94,slow=7.0,SNR=66						
ASPA	**Alice Springs**	**45.94**	**259**	*eP*	P	13 44 49.8	-0.6
WB2	**Warramunga Arr**	**46.27**	**264**	*eP*	P	13 44 52.8	-0.2
WRA	**Warramunga Arr**	**46.28**	**264**	P	P	13 44 52.9	-0.2
	2.5nm,0.4s,baz=102,slow=8.0,SNR=79						
FITZ	**Fitzroy Crossi**	**54.70**	**264**	*eP*	P	13 45 56.6	-0.2
	3.0nm,0.9s						
ILAR	**Eielson Array**	**90.37**	**12**	P	P	13 49 28.5	-0.5
	1.3nm,1.3s,baz=220,slow=9.9,SNR=5.0						

IDC 24 14:07:42.5±2.4, 612N×12564E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=208.8km s-min=26.8km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.28**	**162**	P	P	14 13 29.0	+0.4
	0.5nm,0.6s,baz=341,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**30.69**	**165**	P	P	14 13 59.2	+0.3
	0.2nm,0.8s,baz=339,slow=7.4,SNR=8.6						
MKAR	**Makanchi Array**	**54.98**	**325**	P	P	14 17 15.6	+0.1
	0.1nm,0.4s,baz=125,slow=7.6,SNR=5.6						

*NAO **24** 14:14:27.4, 1847S×17858W, h520km, mb4.9*

*CSEM **24** 14:14:44.8, 1790S×17924W, h33km, mb6.5*

*MOS **24** 14:15:42.9±0.9, 1785S×17958W, h601km, mb5.9/49, Error ellipse: s-maj=7.8km s-min=6.1km az=59.7*

*ISCJB **24** 14:15:44.0±0.1, 1804S±002×17957W±002, h621km, mb5.7/146, Error ellipse: s-maj=3.3km s-min=2.6km az=79.5*

*IDC **24** 14:15:44.7±0.4, 1798S×17954W, h614km±3km, mb5.2/28, mb1 5.2/31, mb1mx5.2/31, mbtmp6.1/31, Error ellipse: s-maj=6.3km s-min=5.8km az=168.0*

*BJI **24** 14:15:44.2, 1738S×17954W, h600km, mB5.4, mb5.4*

*HRVD **24** 14:15:45.2±0.1, 1794S×17942W, h641km, MW6.1/106, Centroid moment Tensor Solution. LP body waves: s106, c235; Mantle waves: s76, c89; Half duration: 2⁝6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.52±.01; $M_{\theta\theta}$1.05±.01; $M_{\phi\phi}$-0.53±.02; $M_{r\theta}$0.80±.01; $M_{r\phi}$0.03±.01; $M_{\theta\phi}$-1.18±.01; Best double couple: $M_0$1.66500×10^{18} NP1:ϕ_s312.00000°, δ80.00000°, λ-60.00000°. Principal axes: T 1.5050, Plg29.0000°, Azm18.0000°; N 0.3220, Plg30.0000°, Azm126.0000°; P -1.8250, Plg46.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*SZGRF **24** 14:15:45.5, 1802S×178.13W, h635km, Fiji Islands region*

*CRAAG **24** 14:15:45.8, 1787S×17972E, Mw6.0*

*NEIC **24** 14:15:45.2±0.1, 1800S×17959W, mb5.9/98, ME5.7, MW6.0, Error ellipse: s-maj=4.2km s-min=2.6km az=123.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.26; $M_{\theta\theta}$0.80; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.65; $M_{\theta\phi}$0.12; $M_{r\phi}$-1.09; Best double couple: $M_0$1.40000×10^{18} NP1: ϕ_s315.00000°, δ85.00000°, λ-61.00000°. NP2:ϕ_s53.00000°, δ30.00000°, λ-171.00000°. Principal axes: T 1.2200, Plg34.0000°, Azm21.0000°; N 0.3900, Plg29.0000°, Azm133.0000°; P -1.6200, Plg42.0000°, Azm253.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*

ISC 24 14:15:45.6±0.1, 1804S±002×17953W±003, h623km, h623km±1.2km; pP-P, n1085, σ1⁝05/520, mb5.8/139, 84C-77D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.51**	**62**	P	**P**	**14 17 46.9**	**-3.5**
	304nm,0.3s,baz=234,slow=3.5,SNR=186						
AFI				S	**S**	**14 19 23.3**	**-9.5**
	baz=202,slow=22,SNR=1.3						
AFI				ScP	ScP	14 25 45.3	+2.6
	2.6nm,0.3s,baz=258,slow=9.4,SNR=6.1						
AFI	**Afiamalu**	**8.51**	**62**	P	**P**	**14 17 46.9**	**-3.5**
AFI				S	**S**	**14 19 23.3**	**-9.4**
AFI				pmax	pmax		
	comp=Z,304nm,0.3s						
AFI				pmax	pmax		
	comp=E,3.0nm,0.3s						
AFI	**Afiamalu**	**8.51**	**62**	⇓*iP*	**P**	**14 17 46.4**	**-4.1**
	comp=E,6μm,1.0s						
AFI				*eS*	**S**	**14 19 26.9**	**-5.8**
AFI				*e*ScP	ScP	14 25 45.5	+2.8
RAO	**Raoul Island**	**11.26**	**173**	P	**P**	**14 18 15.1**	**-2.0**
	comp=E,466nm,0.3s,baz=301,slow=4.6,SNR=18						
RAO				S	**S**	**14 20 17.4**	**-4.1**
	comp=E,87nm,0.3s,baz=87,slow=23,SNR=3.3						
RAO	**Raoul Island**	**11.26**	**173**	P	**P**	**14 18 15.1**	**-2.0**
RAO				S	**S**	**14 20 17.4**	**-4.1**
RAO				pmax	pmax		
	comp=Z,466nm,0.3s						
RAO				smax			
	comp=E,87nm,0.3s						
RAO	**Raoul Island**	**11.26**	**173**	*eP*	**P**	**14 18 14.6**	**-2.5**
	comp=E,2μm,0.7s						
RAO				*e*S	**S**	**14 20 16.2**	**-5.3**
BKM	**Butte a Klehm**	**11.65**	**270**	⇑*iP*	**P**	**14 18 22.4**	**+1.4**
BKM				S	**S**	**14 20 35.9**	**+7.3**
DZM	**Mont Dzumac**	**13.78**	**251**	P	**P**	**14 18 41.6**	**+0.1**
	comp=E,58nm,0.3s,baz=75,slow=16,SNR=131						
DZM				S	**S**	**14 21 03.0**	**-2.2**
	baz=303,slow=23,SNR=1.2						
DZM				ScP	ScP	14 25 53.0	+2.9
	comp=E,1.0nm,0.3s,baz=94,slow=2.5,SNR=10						
DZM				ScS	ScS	14 29 31.2	+3.6
	comp=E,0.0nm,0.3s,baz=325,slow=17,SNR=1.8						
DZM	**Mont Dzumac**	**13.78**	**251**	*eP*	**P**	**14 18 40.0**	**-1.6**
DZM				*e*S	**S**	**14 20 49.8**	**-15**
OUZ	**Omahuta**	**18.17**	**198**	PN	**P**	**14 19 23.9**	**+2.1**
	comp=Z,178nm,0.5s						
OUZ				ScP	ScP	14 26 01.7	+3.0
OUZ	**Omahuta**	**18.17**	**198**	*eP*	**P**	**14 19 24.4**	**+2.6**
WCZ	**Waipu Caves**	**18.64**	**196**	PN	**P**	**14 19 28.3**	**+2.3**
	comp=Z,230nm,0.6s						
WCZ				ScP	ScP	14 26 02.6	+2.8
WCZ	**Waipu Caves**	**18.64**	**196**	*eP*	**P**	**14 19 28.2**	**+2.2**
RAR	**Rarotonga**	**18.87**	**103**	P	**P**	**14 19 27.4**	**-0.7**
	comp=Z,3.6nm,0.3s,baz=251,slow=6.6,SNR=52						
RAR				ScP	ScP	14 26 02.7	+2.4
	comp=Z,0.7nm,0.3s,baz=244,slow=6.8,SNR=5.0						
RAR				ScS	ScS	14 29 46.8	+4.5
	comp=Z,0.8nm,0.3s,baz=323,slow=21,SNR=2.1						
RAR	**Rarotonga**	**18.87**	**103**	P	**P**	**14 19 27.4**	**-0.7**
RAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RAR				pmax	pmax		
	comp=E,1.0nm,0.3s						
RAR				pmax	pmax		
	comp=E,1.0nm,0.3s						
KUZ	**Kuaotunu**	**19.10**	**192**	PN	**P**	**14 19 31.4**	**+1.2**
KUZ	**Kuaotunu**	**19.10**	**192**	*eP*	**P**	**14 19 31.4**	**+1.2**
MTAZ	**Motutapu**	**19.31**	**194**	P	**P**	**14 19 34.2**	**+2.1**
KAAZ	**Kauri Point**	**19.39**	**194**	P	**P**	**14 19 34.6**	**+1.8**
OTAZ	**Otara**	**19.46**	**193**	PN	**P**	**14 19 35.3**	**+1.9**
OTAZ	**Otara**	**19.46**	**193**	P	**P**	**14 19 35.3**	**+1.9**
WTAZ	**Waiatarua**	**19.53**	**194**	P	**P**	**14 19 35.8**	**+1.8**
MXZ	**Matakaoa Point**	**19.54**	**185**	PN	**P**	**14 19 33.1**	**-1.0**
MXZ				*e*SN	**S**	**14 22 32.9**	**-5.9**
MXZ	**Matakaoa Point**	**19.54**	**185**	*eP*	**P**	**14 19 33.2**	**-1.0**
PUZ	**Puketiti**	**20.05**	**185**	*e*PN	**P**	**14 19 36.9**	**-1.9**
PUZ				*e*SN	**S**	**14 22 42.6**	**-4.2**
PUZ				ScS	ScS	14 29 47.3	+0.9
PUZ	**Puketiti**	**20.05**	**185**	*eP*	**P**	**14 19 36.9**	**-1.9**
URZ	**Urewera**	**20.36**	**188**	P	**P**	**14 19 39.9**	**-1.6**
	comp=E,81nm,0.6s,baz=53,slow=2.0,SNR=46						
URZ				S	**S**	**14 22 43.8**	**-7.8**
	comp=E,30nm,0.8s,baz=350,slow=16,SNR=3.3						
URZ				ScS	ScS	14 29 43.6	-3.9
	comp=E,101nm,0.9s,baz=199,slow=23,SNR=17						
URZ	**Urewera**	**20.36**	**188**	*e*PN	**P**	**14 19 38.0**	**-3.5**
URZ				*e*SN	**S**	**14 22 45.0**	**-6.7**
URZ				ScP	ScP	14 26 04.4	+0.6
URZ				PcS	PcS	14 26 59.1	-4.3
URZ	**Urewera**	**20.36**	**188**	P	**P**	**14 19 38.7**	**-2.8**
MWZ	**Matawai**	**20.39**	**187**	PN	**P**	**14 19 40.5**	**-1.2**
MWZ				S	**S**	**14 22 45.7**	**-6.4**
MWZ				ScP	ScP	14 26 05.9	+2.0
MWZ				PcS	PcS	14 27 01.8	-1.7
MWZ				ScS	ScS	14 29 45.9	-1.7
MWZ	**Matawai**	**20.39**	**187**	*eP*	**P**	**14 19 40.6**	**-1.1**
BKZ	**Black Stump Fm**	**21.34**	**189**	PN	**P**	**14 19 48.8**	**-1.4**
BKZ				*e*SN	**S**	**14 23 02.1**	**-4.9**
BKZ	**Black Stump Fm**	**21.34**	**189**	*eP*	**P**	**14 19 48.8**	**-1.4**
HNR	**Honiara**	**21.68**	**291**	P	**P**	**14 19 52.2**	**-1.1**
	comp=E,202nm,0.7s,mb5.8,baz=141,slow=0.6,SNR=28						
HNR				S	S	14 22 41.7	-31
	comp=E,51nm,0.8s,baz=92,slow=11,SNR=1.4						
HNR				ScS	ScS	14 29 53.1	+0.8
	comp=E,8.7nm,0.3s,baz=271,slow=23,SNR=2.9						
HNR	**Honiara**	**21.68**	**291**	P	**P**	**14 19 52.2**	**-1.1**
HNR						14 29 53.1	
HNR				pmax	pmax		
	comp=Z,202nm,0.7s,mb5.9						
HNR				pmax	pmax		
	comp=E,9.0nm,0.3s						
HNR	**Honiara**	**21.68**	**291**	*eP*	**P**	**14 19 52.3**	**-1.0**
	comp=E,306nm,0.9s,mb5.9						
HNR				*e*ScP	ScP	14 26 07.5	+0.4
WAZ	**Wanganui**	**22.16**	**191**	PN	**P**	**14 19 57.9**	**+0.3**
WAZ	**Wanganui**	**22.16**	**191**	P	**P**	**14 19 58.1**	**+0.6**
TSZ	**Takapari Road**	**22.29**	**189**	*e*PN	**P**	**14 19 57.3**	**-1.4**
TSZ				*e*SN	**S**	**14 23 15.3**	**-6.7**
TSZ	**Takapari Road**	**22.29**	**189**	*eP*	**P**	**14 19 57.4**	**-1.3**
BFZ	**Birch Farm**	**22.86**	**188**	*e*PN	**P**	**14 20 02.6**	**-1.1**
BFZ	**Birch Farm**	**22.86**	**188**	*eP*	**P**	**14 20 02.4**	**-1.3**
MRZ	**Mangatainoka R**	**22.94**	**190**	*e*PN	**P**	**14 20 01.9**	**-2.5**
MRZ				S	**S**	**14 23 26.1**	**-6.1**
MRZ				ScP	ScP	14 26 12.1	+1.7
MRZ	**Mangatainoka R**	**22.94**	**190**	*eP*	**P**	**14 20 02.5**	**-1.9**
DUWZ	**D'Urville Isla**	**23.38**	**193**	PN	**P**	**14 20 07.1**	**-1.2**
CAW	**Cannon Point**	**23.46**	**190**	PN	**P**	**14 20 07.8**	**-1.2**
CAW	**Cannon Point**	**23.46**	**190**	P	**P**	**14 20 07.6**	**-1.4**
TCW	**Tory Channel**	**23.70**	**192**	*e*PN	**P**	**14 20 10.8**	**-0.4**
TCW	**Tory Channel**	**23.70**	**192**	P	**P**	**14 20 10.8**	**-0.4**
SNZO	**South Karori**	**23.72**	**191**	*eP*	**P**	**14 20 10.5**	**-0.9**
SNZO				*e*S	**S**	**14 23 37.0**	**-7.5**
QRZ	**Quartz Range**	**23.72**	**195**	*e*PN	**P**	**14 20 11.7**	**+0.3**
QRZ				*e*SN	**S**	**14 23 43.7**	**-0.8**
QRZ	**Quartz Range**	**23.72**	**195**	*eP*	**P**	**14 20 11.9**	**+0.5**
NNZ	**Nelson**	**23.89**	**193**	PN	**P**	**14 20 11.8**	**-1.1**
NNZ				*e*SN	**S**	**14 23 43.0**	**-4.2**
NNZ				ScS	ScS	14 29 56.5	-4.6
TUWZ	**Tuamarina**	**23.98**	**192**	PN	**P**	**14 20 11.8**	**-1.8**
THZ	**Tophouse**	**24.52**	**194**	*e*PN	**P**	**14 20 16.5**	**-1.9**
THZ				SN	**S**	**14 23 52.2**	**-4.8**
THZ				ScS	ScS	14 29 59.1	-4.6
THZ	**Tophouse**	**24.52**	**194**	*eP*	**P**	**14 20 17.5**	**-0.9**
DSZ	**Denniston Nort**	**24.77**	**196**	PN	**P**	**14 20 20.8**	**+0.2**
DSZ	**Denniston Nort**	**24.77**	**196**	P	**P**	**14 20 20.8**	**+0.2**
KHZ	**Kahutara**	**25.01**	**192**	PN	**P**	**14 20 20.9**	**-1.8**
KHZ	**Kahutara**	**25.01**	**192**	*eP*	**P**	**14 20 22.0**	**-0.7**
LTZ	**Lake Taylor**	**25.63**	**194**	PN	**P**	**14 20 26.6**	**-1.6**
	comp=Z,407nm,0.5s,mb6.3						
LTZ				*e*SN	**S**	**14 24 11.8**	**-2.6**
LTZ	**Lake Taylor**	**25.63**	**194**	P	**P**	**14 20 26.6**	**-1.6**
WVZ	**Waitaha Valley**	**26.29**	**196**	PN	**P**	**14 20 32.6**	**-1.4**
WVZ				pP		14 22 02.5	
WVZ				*e*SN	**S**	**14 24 20.7**	**-4.0**
WVZ				ScP	ScP	14 26 20.7	+0.7
WVZ				PcS	PcS	14 27 14.4	-5.6
WVZ				ScS	ScS	14 30 06.9	-4.4
WVZ	**Waitaha Valley**	**26.29**	**196**	*eP*	**P**	**14 20 33.2**	**-0.8**
RPZ	**Rata Peaks**	**26.80**	**195**	P	**P**	**14 20 37.4**	**-1.0**
	comp=Z,277nm,0.6s,mb6.1,baz=350,slow=1.3,SNR=133						
RPZ				S	**S**	**14 24 24.3**	**-8.4**
	comp=Z,18nm,0.8s,baz=301,slow=18,SNR=1.3						
RPZ				ScP	ScP	14 26 22.9	+1.4
	comp=Z,56nm,1.0s,baz=73,slow=4.8,SNR=3.7						
RPZ				ScS	ScS	14 30 12.3	-1.3
	comp=Z,31nm,1.3s,baz=301,slow=22,SNR=4.2						
RPZ	**Rata Peaks**	**26.80**	**195**	PN	**P**	**14 20 36.5**	**-2.0**
RPZ				ScP	ScP	14 26 22.8	+1.3
RPZ	**Rata Peaks**	**26.80**	**195**	*eP*	**P**	**14 20 37.3**	**-1.2**
FOZ	**Fox Glacier**	**27.03**	**197**	PN	**P**	**14 20 39.0**	**-1.5**
FOZ				pP		14 22 07.1	
FOZ				sP	sP	14 23 39.2	+10
FOZ				ScS	ScS	14 30 12.9	-1.8
FOZ	**Fox Glacier**	**27.03**	**197**	*eP*	**P**	**14 20 39.0**	**-1.4**
LBZ	**Lake Benmore**	**27.66**	**196**	PN	**P**	**14 20 43.7**	**-2.1**
LBZ				ScP	ScP	14 26 26.2	+2.0
LBZ	**Lake Benmore**	**27.66**	**196**	*eP*	**P**	**14 20 44.2**	**-1.7**
JCZ	**Jackson Bay**	**27.77**	**198**	PN	**P**	**14 20 46.5**	**-0.3**
JCZ				pP		14 22 06.2	
JCZ				sP	sP	14 23 43.7	+7.8
JCZ				ScP	ScP	14 26 27.0	+2.5
JCZ	**Jackson Bay**	**27.77**	**198**	*eP*	**P**	**14 20 46.5**	**-0.3**
ODZ	**Otahua Downs**	**28.15**	**195**	PN	**P**	**14 20 48.9**	**-1.3**
ODZ				ScP	ScP	14 26 27.9	+2.2
ODZ	**Otahua Downs**	**28.15**	**195**	*eP*	**P**	**14 20 48.9**	**-1.3**
WKZ	**Wanaka**	**28.38**	**197**	PN	**P**	**14 20 51.0**	**-1.2**
WKZ				ScP	ScP	14 26 29.1	+2.6
WKZ	**Wanaka**	**28.38**	**197**	*eP*	**P**	**14 20 51.0**	**-1.2**
PAE	**Paea**	**28.50**	**94

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CTA                                   pmax    pmax
     comp=E,218nm,1.1s
CTA                                   pmax    pmax
     comp=E,10.0nm,1.0s
CTAO Charters Tower     32.38 261 eP          P       14 21 26.7 +0.5
CTAO                                  pmax    pmax
     comp=Z,1µm,0.8s,mb6.6
CTAO Charters Tower     32.38 261 eP          P       14 21 26.7 +0.4
     comp=Z,1µm,0.8s,mb6.6
CTAO                                  eScP    ScP     14 26 42.5 +2.8
CNB  Canberra Magne     32.51 232⇓iP          P       14 21 28.7 +1.4
     comp=Z,2µm,0.6s,mb6.8
CNB                                   eSCP    ScP     14 26 44.1 +3.9
CNB                                   eSCS    ScS     14 30 46.4 +4.8
PMG  Port Moresby       33.43 280 P           P       14 21 36.1 +1.0
     comp=Z,2µm,0.8s,mb6.8,baz=83,slow=5.2,SNR=253
PMG                                   S       S       14 26 17.0 +2.8
     comp=Z,39nm,1.1s,baz=34,slow=20,SNR=5.9
PMG                                   ScP     ScP     14 26 45.7 +2.2
     comp=Z,77nm,1.2s,baz=52,slow=7.3,SNR=3.9
PMG                                   SS      SS      14 29 24.4 -3.4
     comp=Z,7.4nm,0.8s,baz=20,slow=17,SNR=1.6
PMG                                   ScS     ScS     14 30 47.9 +1.4
     comp=Z,12nm,0.9s,baz=273,slow=22,SNR=2.9
PMG  Port Moresby       33.43 280 P           P       14 21 36.1 +1.0
PMG                                   S       S       14 26 17.0 +2.8
PMG                                                   14 30 47.9
PMG                                   smax
     comp=E,39nm,1.1s
PMG                                   pmax    pmax
     comp=E,77nm,1.2s
PMG                                   pmax    pmax
     comp=E,7.0nm,0.8s
PMG                                   pmax    pmax
     comp=E,12nm,0.9s
PMG  Port Moresby       33.43 280⇓eP          P       14 21 35.9 +0.8
PMG                                   eS      S       14 26 16.8 +2.6
TOO  Toolangi           36.27 230⇓iP          P       14 21 59.8 +1.3
     comp=E,2µm,1.0s,mb6.6
TOO                                   iSCP    ScP     14 26 57.8 +3.9
TOO                                   i                14 30 28.7
TOO  Toolangi           36.27 230⇓iP          P       14 21 59.8 +1.3
TOO                                   i                14 26 57.8
TOO                                   pmax    pmax
     comp=Z,2µm,1.0s,mb6.6
TAU  Tasmania Unive     37.44 221 P           P       14 22 09.0 +1.0
     comp=Z,6µm,0.8s,SNR=72
TAU  Tasmania Unive     37.44 221⇓eP          P       14 22 09.2 +1.2
TAU                                   eScP    ScP     14 27 00.1 +1.8
STKA Stephens Creek     37.64 241⇓iP          P       14 22 09.0 -0.6
     comp=Z,1µm,0.5s,mb6.6
STKA                                  eSCP    ScP     14 27 00.7 +1.6
STKA                                  eSCS    ScS     14 31 11.9 +1.8
STKA Stephens Creek     37.64 241 P           P       14 22 09.4 -0.2
     comp=Z,1µm,0.6s,mb6.7,baz=86,slow=8.7,SNR=1167
STKA                                  pP              14 23 51.9
     comp=Z,46nm,0.6s,baz=359,slow=23,SNR=1.2
STKA                                  ScP     ScP     14 27 00.4 +1.3
     comp=Z,96nm,1.0s,baz=35,slow=2.6,SNR=5.8
STKA                                  S       S       14 27 15.2 -1.4
     comp=Z,57nm,1.1s,baz=212,slow=19,SNR=2.9
STKA                                  SS      SS      14 30 35.9 -1.4
     comp=Z,8.1nm,0.8s,baz=26,slow=8.8,SNR=2.2
STKA                                  ScS     ScS     14 31 11.8 +1.7
     comp=Z,7.0nm,0.8s,baz=150,slow=22,SNR=2.7
STKA                                  P3KPbc          14 52 11.5
     comp=Z,9.4nm,1.0s,baz=251,slow=4.0,SNR=13
WAKE Wake Island        39.49 339⇑iP          P       14 22 23.9 -0.6
MCQ  Macquarie Isla     39.98 199 eP          P       14 22 29.4 +1.0
ADE  Adelaide           40.67 237⇓iP          P       14 22 35.0 +1.1
RKT  Rikitea            41.90 105 eP          P       14 22 43.3 -0.2
     comp=Z,362nm,1.1s,mb5.8
RKT                                   eScP    ScP     14 27 18.3 +2.5
     comp=Z,120nm,1.1s
WB2  Warramunga Arr     43.55 260⇓iP          P       14 22 56.1 -0.2
WB2                                   eSCP    ScP     14 27 25.8 +3.2
WB2                                   eS      S       14 28 34.1 -7.7
WB2                                   iSCS    ScS     14 31 49.7 +3.2
WRAB Tennant Creek      43.55 260 P           P       14 22 56.0 -0.3
     comp=Z,9µm,0.6s
WRAB Tennant Creek      43.55 260⇓eP          P       14 22 55.9 -0.4
WRAB                                  eScP    ScP     14 27 24.1 +1.6
WRA  Warramunga Arr     43.56 260 P           P       14 22 56.3 -0.2
     comp=Z,666nm,0.5s,mb6.4,baz=96,slow=6.9,SNR=1796
WRA                                   PcP     PcP     14 24 30.1 +0.5
     comp=Z,102nm,0.8s,baz=88,slow=4.1,SNR=5.1
WRA                                   ScP     ScP     14 27 25.5 +2.9
     comp=Z,93nm,1.1s,baz=88,slow=4.2,SNR=18
WRA                                   S       S       14 28 38.5 -3.4
     comp=Z,15nm,0.7s,baz=99,slow=12,SNR=3.2
WRA                                   ScS     ScS     14 31 44.0 -2.5
     comp=Z,14nm,1.2s,baz=121,slow=4.2,SNR=6.1
WRA                                   P3KPbc          14 51 48.8
     comp=Z,1.3nm,0.8s,baz=296,slow=2.7,SNR=8.2
WRA                                   PKP2bc          14 54 54.1
     comp=Z,4.6nm,1.0s,baz=294,slow=2.9,SNR=14
WRA                                   PKP2ab          14 55 42.5
     comp=Z,3.4nm,1.0s,baz=295,slow=2.8,SNR=3.0
WRA                                   P4KPbc          15 00 42.7
     comp=Z,2.2nm,0.8s,baz=91,slow=4.1,SNR=18
WRA  Warramunga Arr     43.56 260 P           P       14 22 56.3 -0.1
WRA                                                   14 24 30.1
WRA                                   S       S       14 28 38.5 -3.4
WRA                                                   14 31 44.0
WRA                                   pmax    pmax
     comp=Z,666nm,0.5s
WRA                                   pmax    pmax
     comp=Z,102nm,0.8s
WRA                                   pmax    pmax
     comp=E,93nm,1.1s
WRA                                   smax
     comp=E,15nm,0.7s
WRA                                   pmax    pmax
     comp=E,14nm,1.2s
WRA                                   pmax    pmax
     comp=Z,1.0nm,0.8s
WRA                                   pmax    pmax
     comp=Z,5.0nm,1.0s
WRA                                   pmax    pmax
     comp=Z,3.0nm,1.0s
WRA                                   pmax    pmax
     comp=Z,2.0nm,0.8s
WRA  Warramunga Arr     43.56 260 P           P       14 22 56.3 -0.2
WRA                                   PcP     PcP     14 24 30.1 +0.5
WRA                                   ScP     ScP     14 27 25.5 +2.9
WRA                                   S       S       14 28 38.5 -3.5
WRA                                   ScS     ScS     14 31 44.0 -2.5
WRA                                   e               14 51 48.8
WRA                                   ⇑e              14 54 54.1
WRA                                   P'P'ab          14 55 42.5
AS31 Alice Springs      43.73 254⇓iP          P       14 22 58.3 +0.6
AS31                                  eScP    ScP     14 27 26.8 +3.5
AS31                                  eS      S       14 28 44.0 -0.3
AS31                                  iScS    ScS     14 31 50.2 +2.6
ASAR Alice Springs      43.73 254 P           P       14 22 58.4 +0.6
     comp=Z,6µm,0.6s,baz=88,slow=8.2
ASAR                                  PcP     PcP     14 24 30.8 +0.6
     comp=Z,135nm,0.8s,baz=102,slow=3.6,SNR=4.4
ASAR                                  pP      pP      14 24 45.5 +0.2
     comp=Z,19nm,0.5s,baz=256,slow=40,SNR=1.2
ASAR                                  ScP     ScP     14 27 26.4 +3.0
     comp=Z,106nm,0.9s,baz=99,slow=3.9,SNR=16
ASAR                                  S       S       14 28 43.9 -0.5
     comp=Z,78nm,0.9s,baz=90,slow=15,SNR=16
ASAR                                  ScS     ScS     14 31 49.8 +2.2
     comp=Z,12nm,1.1s,baz=90,slow=8.2,SNR=4.8
ASAR                                  P3KPbc          14 51 47.0
     comp=Z,0.7nm,0.6s,baz=279,slow=3.8,SNR=10
ASAR                                  PKP2bc          14 54 54.2
     comp=Z,2.9nm,0.9s,baz=272,slow=4.0,SNR=12
ASAR                                  PKP2ab          14 55 38.2
     comp=Z,1.8nm,1.0s,baz=283,slow=3.4,SNR=4.5
ASAR                                  P4KPbc          15 00 42.1
     comp=Z,0.9nm,0.6s,baz=90,slow=4.7,SNR=18
ASAR Alice Springs      43.73 254 P           P       14 22 58.4 +0.7
ASAR                                                  14 24 30.8
ASAR                                  *PP     pP      14 24 45.5 +0.2
ASAR                                  S       S       14 28 43.9 -0.4
ASAR                                                  14 31 49.8
ASAR                                  pmax    pmax
     comp=Z,135nm,0.8s
ASAR                                  pmax    pmax
     comp=Z,19nm,0.5s
ASAR                                  pmax    pmax
     comp=E,106nm,0.9s
ASAR                                  smax
     comp=E,78nm,1.0s
ASAR                                  pmax    pmax
     comp=E,12nm,1.1s
ASAR                                  pmax    pmax
     comp=Z,1.0nm,0.6s
ASAR                                  pmax    pmax
     comp=Z,3.0nm,0.9s
ASAR                                  pmax    pmax
     comp=Z,2.0nm,1.0s
ASAR                                  pmax    pmax
     comp=Z,1.0nm,0.6s
ASAR Alice Springs      43.73 254 P           P       14 22 58.4 +0.6
ASAR                                  PcP     PcP     14 24 30.8 +0.6
ASAR                                  pP      pP      14 24 45.5 +0.2
ASAR                                  ScP     ScP     14 27 26.4 +3.0
ASAR                                  S       S       14 28 43.9 -0.5
ASAR                                  ScS     ScS     14 31 49.8 +2.2
ASAR                                  e               14 51 47.0
ASAR                                  ⇑e              14 54 54.2
ASAR                                  P'P'ab          14 55 38.2
ASPA Alice Springs      43.73 254⇓iP          P       14 22 58.3 +0.6
ASPA                                  eSCP    ScP     14 27 26.8 +3.5
ASPA                                  eS      S       14 28 44.0 -0.4
ASPA                                  iSCS    ScS     14 31 50.2 +2.6
HON  Honolulu           44.44  29 P           P       14 23 02.9 -0.2
HON                                   eScP    ScP     14 27 25.3 -1.0
KIP  Kipapa             44.52  29⇑eP          P       14 23 02.2 -1.6
KIP                                   pmax    pmax
     comp=Z,580nm,0.9s,mb6.1
KIP  Kipapa             44.52  29⇑eP          P       14 23 02.2 -1.6
     comp=Z,580nm,0.9s,mb6.1
KIP                                   eScP    ScP     14 27 29.1 +2.5
MIDW Midway             46.03   3⇑iP          P       14 23 13.8 -1.4
     comp=Z,488nm,1.0s,mb6.0
PTCN Pitcairn Islan     46.30 108 eP          P       14 23 18.3 +1.0
     comp=Z,313nm,0.8s,mb5.9
PTCN                                  epP     pP      14 25 06.0 -0.8
GUMO Guam               47.13 309 P           P       14 23 23.5 +0.1
GUMO                                  pmax    pmax
     comp=Z,402nm,0.8s,mb6.0
GUMO Guam               47.13 309 P           P       14 23 23.5  0.0
     comp=Z,402nm,0.8s,mb6.0
FITZ Fitzroy Crossi     51.96 261⇓iP          P       14 23 59.4 +0.7
     comp=Z,863nm,0.9s,mb6.1
FITZ                                  eS      S       14 30 38.2 +1.4
DRV  Dumont d'Urvil     55.20 198 P           P       14 24 38.0 +17
DRV                                   S       S       14 31 53.0 +34
DRV                                   SS      SS      14 35 40.0 +23
DRV                                   L               14 39 00.0
MBWA Marble Bar         57.01 256 P           P       14 24 33.9 +0.1
     comp=Z,835nm,0.8s,mb6.0
MBWA                                  epP     pP      14 26 32.5 +1.6
MBWA                                  eScP    ScP     14 28 17.1 -3.4
KLBR Kellerberrin       57.82 244⇓iP          P       14 24 39.1 -0.2
     comp=Z,2µm,0.7s,mb6.3
NWAO Narrogin (SRO)     58.21 242 P           P       14 24 42.0 +0.1
     comp=Z,202nm,0.4s,mb5.6,baz=102,slow=5.8,SNR=167
NWAO                                  pP      pP      14 26 39.5 -0.3
     comp=Z,38nm,0.6s,baz=71,slow=8.2,SNR=2.0
NWAO                                  PP      PP      14 27 01.7 +0.5
     comp=Z,79nm,0.9s,baz=69,slow=7.0,SNR=4.8
NWAO                                  S       S       14 31 58.4 +0.8
     comp=Z,5.1nm,0.5s,baz=162,slow=20,SNR=1.5
NWAO Narrogin (SRO)     58.21 242 P           P       14 24 42.0 +0.1
NWAO                                  *PP     pP      14 26 39.6 -0.2
NWAO                                                  14 27 01.7
NWAO                                  S       S       14 31 58.4 +0.8
NWAO                                  pmax    pmax
     comp=Z,202nm,0.4s
NWAO                                  pmax    pmax
     comp=Z,38nm,0.6s
NWAO                                  pmax    pmax
     comp=Z,79nm,0.9s
NWAO                                  smax
     comp=E,5.0nm,0.5s
NWAO Narrogin (SRO)     58.21 242 eP          P       14 24 41.8 -0.1
     comp=E,803nm,1.2s,mb5.7
NWAO                                  epP     pP      14 26 39.1 -0.7
CBIJ Chichi jima        58.24 319 P           P       14 24 41.6 -0.6
     comp=E,86nm,0.6s,mb5.1,baz=252,slow=8.4,SNR=7.0
CBIJ                                  S       S       14 31 57.4 -0.7
     comp=E,43nm,0.8s,baz=307,slow=19,SNR=2.3
CBIJ                                  ScS     ScS     14 33 32.9 +3.8
     comp=E,33nm,0.7s,baz=287,slow=22,SNR=3.3
MUN  Mundaring          59.12 243 eP          P       14 24 48.6 +0.6
MUN                                   epP     pP      14 26 45.5 -1.0
MUN                                   eSCS    ScS     14 33 34.4 -1.2
MUN                                   esS     sS      14 35 47.1 +6.0
SBA  Scott Base         60.23 183 P           P       14 24 57.3 +2.0
VNDA Vanda              60.23 185 P           P       14 24 56.1 +0.8
     comp=E,117nm,0.9s,mb5.1,baz=358,slow=7.6,SNR=115
VNDA                                  ScP     ScP     14 28 36.4 +1.6
     comp=E,29nm,1.0s,baz=308,slow=3.3,SNR=3.9
VNDA                                  S       S       14 32 24.0 +1.2
     comp=E,4.1nm,0.9s,baz=28,slow=3.8,SNR=1.8
VNDA                                  ScS     ScS     14 33 44.5 +0.5
     comp=E,1.2nm,0.7s,baz=80,slow=21,SNR=2.5
VNDA Vanda              60.23 185 P           P       14 24 56.1 +0.8
VNDA                                  S       S       14 32 24.0 +1.2
VNDA                                                  14 33 44.5
VNDA                                  pmax    pmax
     comp=Z,117nm,0.9s
VNDA                                  pmax    pmax
     comp=E,29nm,1.0s
VNDA                                  smax
     comp=E,4.0nm,0.9s
VNDA                                  pmax    pmax
     comp=E,1.0nm,0.7s
VNDA Vanda              60.23 185 P           P       14 24 56.1 +0.7
VNDA                                  eScP    ScP     14 28 35.6 +0.9
BUTP Butuan             60.43 292 eP          P       14 24 57.1 +0.4
BUKP Musuan             60.45 290 eP          P       14 24 58.1 +1.3
CTBH Cotabato--PC H     60.90 289⇓eP          P       14 25 00.2 +0.5
SCPH Surigao            60.91 293⇓eP          P       14 24 59.2 -0.6
CGP  Cagayan de Oro     61.03 291⇓eP          P       14 25 02.1 +1.5
CGP  Cagayan de Oro     61.03 291⇓eP          S       14 32 36.6 +4.0
MSLP Maasin             61.62 293 eP          P       14 25 04.6 +0.1
PAGZ Pagadian           61.94 290 eP          P       14 25 07.1 +0.6
OCLP Ormoc              62.26 293 eP          P       14 25 08.6  0.0
DCPH Dipolog City       62.28 290⇑eP          P       14 25 09.5 +0.9
TBP  Tagbilaran         62.31 292 eP          P       14 25 08.3 -0.6
SNPH Sibulan            62.71 291 eP          P       14 25 11.0 -0.4
CNP  Catarman           62.88 295 eP          P       14 25 12.8 +0.3
PVCP Virac              63.82 296 eP          P       14 25 19.2 +0.7
GUIM Jordan             63.84 292 eP          P       14 25 17.7 -0.9
JHJ  Hachijo jima 2     64.02 323 S           S       14 33 09.9 +1.0
     comp=E,166nm,0.5s,baz=29,slow=22,SNR=1.9
RPN  Rapa Nui           64.73 112 P           P       14 25 25.6 +1.4
     comp=E,146nm,0.8s,mb5.5,baz=300,slow=4.0,SNR=9.7
RPN  Rapa Nui           64.73 112 P           P       14 25 26.6 +2.4
     comp=E,710nm,1.4s,mb5.9
AUQP San Andres         64.97 295 eP          P       14 25 28.6 +2.9
OTRP Odiongan           65.11 293 eP          P       14 25 27.2 +0.6
CUYO Cuyo Island        65.33 291 eP          P       14 25 28.9 +1.0
CASY Casey              65.57 205 eP          P       14 25 29.7 +0.2
CASY                                  eS      S       14 33 27.4  0.0
CASY                                  e               14 38 01.2
BOAC Boac               65.75 294 eP          P       14 25 30.2 -0.3
BUSP Coron              66.55 292 eP          P       14 25 35.5  0.0
TGY  Tagaytay City      66.83 295 P           P       14 25 36.7 -0.5
     comp=E,291nm,0.4s,baz=141,slow=3.9,SNR=7.1
TGY                                   S       S       14 33 44.2 +2.1
     comp=E,31nm,0.3s,baz=139,slow=23,SNR=1.9
TGY                                   ScS     ScS     14 34 41.0 +6.1
     comp=E,58nm,0.3s,baz=160,slow=8.3,SNR=2.2
TGY  Tagaytay City      66.83 295 P           P       14 25 36.7 -0.5
TGY                                   S       S       14 33 44.2 +2.1
TGY                                                   14 34 41.0
TGY                                   pmax    pmax
     comp=Z,291nm,0.4s
TGY                                   smax
     comp=E,31nm,0.3s
TGY                                   pmax    pmax
     comp=E,58nm,0.3s
ENPP El Nido            66.89 291 eP          P       14 25 38.3 +0.7
LUBP Lubang             67.26 294 eP          P       14 25 38.9 -1.0
BATP Bataraza           67.36 288 eP          P       14 25 41.2 +0.7
MJAR Matsushiro Arr     67.38 324 P           P       14 25 39.2 -1.3
     comp=E,33nm,0.5s,mb5.0,baz=154,slow=6.0,SNR=130
MJAR                                  S       S       14 33 48.2 -0.3
     comp=E,1.9nm,0.8s,baz=311,slow=40,SNR=2.7
MJAR                                  ScS     ScS     14 34 44.0 +4.8
     comp=E,1.0nm,0.8s,baz=205,slow=44,SNR=2.1
MJAR                                  PKPPKP          14 53 53.9
     comp=E,1.6nm,0.8s,baz=320,slow=2.8,SNR=4.2
MJAR Matsushiro Arr     67.38 324 P           P       14 25 39.3 -1.3
MJAR                                  S       S       14 33 48.2 -0.4
MJAR                                                  14 34 44.1
MJAR                                  pmax    pmax
     comp=Z,33nm,0.5s
MJAR                                  smax
     comp=E,2.0nm,0.8s
MJAR                                  pmax    pmax
     comp=E,1.0nm,0.8s
MJAR                                  pmax    pmax
     comp=Z,2.0nm,0.8s
MAJO Matsushiro         67.38 324 P           P       14 25 39.1 -1.5
MAT  Matsushiro         67.38 324 P           P       14 25 39.7 -0.9
MAT                                   S       S       14 33 49.0 +0.4
MAT  Matsushiro         67.38 324 eP          P       14 25 40.0 -0.6
MAT                                   eS      S       14 33 49.0 +0.4
MAT                                   pmax    pmax
     comp=Z,37nm,0.5s,mb5.1
MAT  Matsushiro         67.38 324 eP          P       14 25 40.0 -0.6
     comp=Z,37nm,0.5s,mb5.1
MAT                                   eS      S       14 33 49.0 +0.4
JOW  Kunigami           67.49 310 P           P       14 25 41.9 +0.7
     comp=Z,76nm,0.7s,mb5.2,baz=157,slow=7.8,SNR=16
JOW                                   S       S       14 33 53.6 +3.8
     comp=Z,15nm,1.0s,baz=250,slow=28,SNR=3.1
JOW                                   ScS     ScS     14 34 44.3 +4.2
     comp=Z,13nm,0.8s,baz=48,slow=21,SNR=1.8
CVP  Callao Caves       67.74 298 eP          P       14 25 43.0 +0.2
KKM  Kota Kinabalu      67.74 285 P           P       14 25 43.5 +0.7
KKM  Kota Kinabalu      67.74 285⇓eP          P       14 25 43.1 +0.3
APYP Conner             68.30 298 eP          P       14 25 46.3 +0.1
SCZP Santa Cruz         68.47 296 eP          P       14 25 47.2 +0.1
ABRA Dolores            68.64 298 eP          P       14 25 49.3 +1.1
PIP  Pasuquin           69.04 298⇑eP          P       14 25 50.6  0.0
YUK  Yuzh-Kuril'sk      69.42 334 S           S       14 34 12.0 +0.1
YUK                                   smax
     comp=E,6µm,6.0s
YUK                                   pmax    pmax
     comp=Z,2µm,1.5s,mb6.3
YUK  Yuzh-Kuril'sk      69.42 334 P           P       14 25 36.0 -17
JNU  Nakatsue           69.50 317 P           P       14 25 53.1 -0.2
     comp=Z,23nm,0.8s,baz=34,slow=6.1,SNR=8.1
JNU                                   S       S       14 34 15.6 +2.6
     comp=Z,5.7nm,0.8s,baz=41,slow=31,SNR=2.1
ADK  Adak               69.67   2 P           P       14 25 52.7 -1.6
ADK                                   S       S       14 34 11.1 -3.7
ADK                                   ScS     ScS     14 34 57.1 -0.3
ADK  Adak               69.67   2 P           P       14 25 52.8 -1.5
SMY  Shemya             70.69 356 eP          P       14 25 58.7 -1.6
SMY                                   pmax    pmax
     comp=Z,1µm,1.2s,mb6.3
SMY  Shemya             70.69 356 eP          P       14 25 58.7 -1.6
     comp=Z,1µm,1.2s,mb6.3
ASAJ Asahikawa          70.89 332 P           P       14 26 02.3 +0.8
     comp=Z,103nm,0.5s,mb5.6,baz=207,slow=7.9,SNR=162
ASAJ                                  S       S       14 34 27.8 -0.8
     comp=Z,4.2nm,0.8s,baz=120,slow=23,SNR=2.0
ASAJ                                  ScS     ScS     14 35 08.2 +1.2
     comp=Z,6.7nm,1.0s,baz=65,slow=28,SNR=2.3
ASAJ Asahikawa          70.89 332 P           P       14 26 02.3 +0.8
ASAJ                                  S       S       14 34 27.8 -0.7
ASAJ                                                  14 35 08.3
ASAJ                                  pmax    pmax
     comp=Z,103nm,0.5s
ASAJ                                  smax
     comp=E,4.0nm,0.8s
ASAJ                                  pmax    pmax
     comp=E,7.0nm,1.0s
FX1  Attu Island--F     70.91 355 P           P       14 26 00.1 -1.5
NACB Ninganchiao        71.11 304 eP          P       14 26 01.9 -0.9
NIKO Nikolski           71.32   7 P           P       14 26 02.0 -1.9
YHNB Yeheng             71.53 305 eP          P       14 26 05.0 -0.2
KSM  Kuching            71.65 278 eP          P       14 26 06.8 +0.9
KSM                                   epP     pP      14 28 14.2 +2.9
KSM                                   ePP     PP      14 28 48.9 -7.7
QSPA South Pole Qui     72.02 180 P           P       14 26 08.4 +0.4
QSPA                                  S       S       14 34 41.6 +0.5
QSPA South Pole Qui     72.02 180⇓iP          P       14 26 08.5 +0.5
     comp=E,502nm,0.9s,mb6.0
UNV  Unalaska Valle     72.46   8 P           P       14 26 08.3 -2.3
     comp=E,986nm,0.6s,mb6.5
AKUT Akutan             72.84   8 eP          P       14 26 10.9 -1.9
     comp=E,507nm,0.8s,mb6.1
YSS  Yuzh-Sakhalins     73.06 334κ iP         P       14 26 14.5 +0.5
YSS                                   e               14 26 32.0
YSS                                   e*PP    pP      14 28 16.5 -3.7
YSS                                   e               14 29 08.0
YSS                                   iS      S       14 34 55.0 +2.4
YSS                                   i               14 35 29.0
YSS                                   pmax    pmax
     comp=N,90nm,1.2s
YSS                                   pmax    pmax
     comp=E,190nm,1.2s
YSS                                   pmax    pmax
     comp=Z,360nm,1.2s,mb5.8
YSS                                   pmax    pmax
     comp=Z,600nm,2.0s,mb5.8
YSS                                   smax
     comp=N,1µm,8.0s
YSS                                   smax
     comp=E,5µm,8.0s
YSS                                   smax
     comp=Z,6µm,8.0s
YSS                                   MLR     MLR
     comp=Z,300nm,15.0s
YSS  Yuzh-Sakhalins     73.06 334 P           P       14 26 14.0  0.0
     comp=Z,290nm,1.0s,mb5.8
YSS                                   ePP     PP      14 28 48.7 -20
PET  Petropavlovsk      73.25 346 P           P       14 26 13.8 -1.2
PET                                   pmax    pmax
     comp=Z,160nm,0.6s,mb5.7
PET  Petropavlovsk      73.25 346 P           P       14 26 13.8 -1.3
     comp=Z,159nm,0.6s,mb5.7
QZH  Quanzhou           73.86 304 P           P       14 26 19.0 +0.5
QZH                                   S       S       14 35 02.8 +1.4
QZH                                   AMB     AMB
     comp=Z,370nm,0.6s,mb6.1
QZH                                   AMB     AMB
     comp=Z,3µm,3.4s
KS15 Wonju Array Si     74.11 319 eP          P       14 26 20.4 +0.5
SDPT Sand Point         74.87  11 eP          P       14 26 22.0 -2.2
     comp=Z,508nm,0.6s,mb6.2
INCN Inchon             74.92 318 P           P       14 26 24.5  0.0
SSE  Sheshan            75.01 310 P           P       14 26 24.5 -0.4
SSE                                   PCP     PcP     14 26 34.0 -1.1
SSE                                   AP      pP      14 28 32.8 +0.7
SSE                                   PP      PP      14 29 25.0 +0.4
SSE                                   S       S       14 35 14.9 +1.1
SSE                                   SS      SS      14 40 24.1 +3.4
SSE                                   AMB     AMB
     comp=Z,44nm,0.7s,mb5.1
SSE                                   AMB     AMB
     comp=Z,423nm,6.5s
VLA  Vladivostok        75.45 325c iP         P       14 26 27.4  0.0
VLA                                   iS      S       14 35 22.0 +3.5
VLA                                   e               14 35 45.2
VLA                                   pmax    pmax
     comp=Z,144nm,1.5s,mb5.3
VLA  Vladivostok        75.45 325⇑iP          P       14 26 26.5 -0.9
SAC  San Andreas        77.08  43 P           P       14 26 36.7 +0.4
SAC                                   e*PP    pP      14 28 45.4 +1.0
NJ2  Nanjing            77.20 310 eP          P       14 26 37.3 +0.3
NJ2                                   AP      pP      14 28 42.1 -3.0
NJ2                                   XP      sP      14 29 41.6 -6.7
NJ2                                   PP      PP      14 29 43.3 +0.6
NJ2                                   S       S       14 35 39.0 +1.9
NJ2                                   AMB     AMB
     comp=Z,470nm,6.0s
SAO  San Andreas Ge     77.26  44 P           P       14 26 37.7 +0.5
SAO                                   e*PP    pP      14 28 45.6 +0.1
SAO                                   pmax    pmax
     comp=Z,513nm,1.0s,mb5.9
SAO  San Andreas Ge     77.26  44 P           P       14 26 37.7 +0.5
     comp=Z,513nm,1.0s,mb5.9
SAO                                   epP     pP      14 28 45.6 +0.1
LRV  Little Rabbit      77.36  45 eP          P       14 26 38.4 +0.6
HOPS Hopland            77.48  42 P           P       14 26 39.0 +0.6
     comp=Z,588nm,1.3s,mb5.9
HOPS                                  epP     pP      14 28 49.1 +2.4
HOPS                                  ePP     PP      14 29 40.5 -4.4
PTRM Twissleman Ran     77.48  46 eP          P       14 26 39.1 +0.7
PTRM                                  epP     pP      14 28 47.3 +0.6
NSHM Saint Helena R     77.50  42 eP          P       14 26 38.5  0.0
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NSHM *e*pP pP 14 28 48.0 +1.1
KCPM Cahto Peak 77.56 41⇑*i*P P 14 26 39.4 +0.5
HABR Khabarovsk 77.60 331⇓*i*P P 14 26 39.6 +0.5
HABR *i* S S 14 35 42.4 +1.1
HABR pmax pmax
comp=Z,401nm,1.6s,mb5.6
MDJ Mudanjiang 77.68 325 P P 14 26 39.6 +0.1
MDJ AP pP 14 28 46.6 -1.4
MDJ XP sP 14 29 47.5 -3.6
MDJ S S 14 35 44.9 +2.8
MDJ AMB AMB
comp=Z,109nm,1.3s,mb5.1
MDJ AMB AMB
comp=Z,205nm,4.0s
MDJ Mudanjiang 77.68 325 *e*P P 14 26 39.6 +0.1
comp=Z,115nm,1.1s,mb5.2
KIPM Iron Peak 77.70 41⇑*e*P P 14 26 40.4 +0.8
KIPM *e*pP pP 14 28 50.1 +2.1
KHMM Horse Mountain 78.17 40 P P 14 26 43.2 +1.1
KHMM pP pP 14 28 54.0 +3.2
KHMM *e*sP sP 14 29 50.1 -3.7
MWC Mount Wilson 78.21 48 P P 14 26 42.3 -0.1
MWC *PP pP 14 28 52.1 +1.1
MWC Mount Wilson 78.21 48⇑*i*P P 14 26 42.1 -0.3
MWC pP pP 14 28 52.1 +1.1
MWC *e*sP sP 14 29 49.7 -4.4
BAR Barrett 78.42 50 P P 14 26 43.3 -0.2
BAR *e*pP pP 14 28 51.8 -0.5
BAR *e*PP PP 14 29 49.1 -3.6
BAR *e*sP sP 14 29 56.5 +1.2
KGM Kluang 78.42 276 P P 14 26 44.6 +1.1
QIZ Qiongzhong 78.53 294 P P 14 26 42.6 -1.5
QIZ XP sP 14 29 53.3 -2.6
QIZ S S 14 35 52.9 +2.0
QIZ AMB AMB
comp=Z,844nm,9.2s
QIZ Qiongzhong 78.53 294 *e*P P 14 26 44.3 +0.2
comp=Z,35nm,0.9s
CMB Columbia Colle 78.67 44 P P 14 26 44.5 -0.3
CMB *PP pP 14 28 54.7 +1.1
CMB pmax pmax
comp=Z,405nm,0.9s,mb5.8
CMB Columbia Colle 78.67 44 P P 14 26 44.5 -0.2
comp=Z,404nm,0.9s,mb5.8
CMB pP pP 14 28 54.7 +1.1
ISA Isabella 78.68 47 P P 14 26 45.0 +0.2
ISA pmax pmax
comp=Z,460nm,1.0s,mb5.8
ISA Isabella 78.68 47 P P 14 26 45.0 +0.2
comp=Z,460nm,1.0s,mb5.8
ISA *e*pP pP 14 28 55.0 +1.3
ISA *e*PP PP 14 29 53.6 -1.1
ISA *e*sP sP 14 30 01.1 +4.4
KBO Bosley Butte 78.68 39⇑*i*P P 14 26 45.3 +0.5
KBO *e*pP pP 14 28 53.7 0.0
OHCM Honcut 78.68 42 P P 14 26 44.9 0.0
OHCM pP pP 14 28 56.0 +2.2
WDC Whiskeytown Da 78.73 41 P P 14 26 45.1 0.0
WDC *e**PP pP 14 28 55.1 +1.1
WDC *e* 14 29 53.0
WDC pmax pmax
comp=Z,391nm,1.2s,mb5.6
WDC Whiskeytown Da 78.73 41 P P 14 26 45.1 0.0
comp=Z,391nm,1.2s,mb5.6
WDC *e*pP pP 14 28 55.1 +1.1
WDC *e*PP PP 14 29 53.0 -2.2
KDAK Kodiak Island 78.79 14 P P 14 26 44.6 -0.8
comp=Z,2μm,1.1s,mb6.4,SNR=28
KDAK Kodiak Island 78.79 14 P P 14 26 44.5 -0.9
comp=Z,227nm,0.9s,mb5.5,baz=210,slow=3.8,SNR=54
KDAK S S 14 35 50.3 -3.2
comp=Z,13nm,1.1s,baz=79,slow=16,SNR=2.9
DL2 Dalian 78.96 317 P P 14 26 46.8 +0.5
DL2 S S 14 35 58.0 +2.7
DL2 SCS ScS 14 36 15.5 +3.2
DL2 SS SS 14 41 22.6 +3.3
DL2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,140nm,4.3s
KEBM Edson Butte 79.01 38⇑*i*P P 14 26 46.9 +0.3
PFO Pinyon Flat Ob 79.05 49 P P 14 26 47.0 +0.2
comp=Z,643nm,1.4s,mb5.8,SNR=44
PFO Pinyon Flat Ob 79.05 49⇑*i*P P 14 26 46.3 -0.5
PFO *e*pP pP 14 28 55.6 -0.2
PFO *e*PP PP 14 29 56.1 -1.6
YBH Yreka Blue Hor 79.30 40 P P 14 26 48.4 +0.3
YBH *e**PP pP 14 28 58.4 +1.1
YBH *e* 14 29 56.6
YBH pmax pmax
comp=Z,566nm,1.1s
YBH Yreka Blue Hor 79.30 40 P P 14 26 48.4 +0.3
comp=Z,566nm,1.1s,mb5.8
YBH *e*pP pP 14 28 58.4 +1.1
YBH *e*PP PP 14 29 56.6 -3.2
SNY Shenyang 79.40 320 ⇓P P 14 26 48.5 -0.2
SNY S S 14 36 03.8 +3.9
SNY AMB AMB
comp=Z,30nm,1.0s
SNY AMB AMB
comp=Z,290nm,12.0s
CN2 Changchun 79.48 323 ⇓P P 14 26 48.9 -0.1
CN2 *e*AP pP 14 28 55.5 -2.8
CN2 *e*XP sP 14 29 53.3 -7.9
CN2 *e*S S 14 36 04.8 +4.2
CN2 SS SS 14 41 25.3 -1.7
CN2 AMB AMB
comp=Z,200nm,3.0s
LHEM Herd Peak 79.54 40 P P 14 26 50.0 +0.7
WAKR Walker 79.55 44 P P 14 26 49.8 +0.4
DAC Darwin (Calif) 79.61 46 P P 14 26 49.7 0.0
DAC *e**PP pP 14 28 58.5 -0.5
DAC *e* 14 30 01.2
DAC pmax pmax
comp=Z,353nm,1.4s,mb5.5
DAC Darwin (Calif) 79.61 46 P P 14 26 49.6 -0.1
comp=Z,353nm,1.4s,mb5.5
DAC *e*pP pP 14 28 58.5 -0.5
DAC *e*PP PP 14 30 01.1 -1.2
GSC Goldstone 79.65 48 P P 14 26 50.0 0.0
GSC *e**PP pP 14 29 01.2 +1.9
HUMO Hull Mountain 79.67 39⇑*i*P P 14 26 50.2 +0.2
comp=Z,438nm,1.1s,mb5.7
HUMO *e*pP pP 14 28 59.9 +0.5
KLR Kul'dur 79.69 330 *e*P P 14 26 47.0 -3.1
KLR *e*S S 14 36 03.5 +0.7
KLR pmax pmax
comp=E,50nm,1.4s
KLR pmax pmax
comp=Z,120nm,1.4s,mb5.0
KLR smax
comp=N,4μm,13.5s
KLR smax
comp=E,3μm,13.5s
WCN Washoe City 79.78 43⇑*i*P P 14 26 50.8 +0.2
WCN *e**PP pP 14 29 01.0 +1.0
WCN pmax pmax
comp=Z,411nm,1.0s,mb5.7
WCN Washoe City 79.78 43⇑*i*P P 14 26 50.8 +0.2
comp=Z,411nm,1.0s,mb5.7
WCN *e*pP pP 14 29 01.0 +1.0
WHN Wuhan 79.83 307 ⇓P P 14 26 51.5 +0.6
WHN S S 14 36 07.5 +3.3
WHN AMB AMB
comp=Z,43nm,0.9s,mb4.8
WHN AMB AMB
comp=Z,3μm,3.4s
GLA Glamis 79.95 50 P P 14 26 52.4 +0.9
GLA *e**PP pP 14 29 01.4 +0.4
NVAR Mina Array Bea 80.26 44 P P 14 26 53.2 +0.2
comp=Z,207nm,0.8s,mb5.5,baz=212,slow=7.2,SNR=1084
NVAR pP pP 14 29 02.6 -0.1
comp=Z,4.0nm,0.8s,baz=69,slow=22,SNR=2.4
NVAR S S 14 36 12.4 +3.9
comp=Z,3.3nm,1.2s,baz=233,slow=16,SNR=4.2
NVAR PKKPbc PKKPbc 14 45 32.6 +2.8
comp=Z,2.4nm,0.8s,baz=80,slow=3.8,SNR=11
NVAR PKPPKP 14 53 31.6
comp=Z,1.7nm,0.8s,baz=76,slow=5.1,SNR=9.4
COCO West Island 80.35 260 P P 14 26 56.1 +2.5
comp=Z,2μm,1.2s,mb6.4,SNR=6.8
COCO West Island 80.35 260 P P 14 26 56.2 +2.6
comp=Z,664nm,1.1s,mb5.9
MNV Mina 80.36 44 P P 14 26 53.6 0.0
MNV pmax pmax
comp=Z,550nm,1.1s,mb5.8
MNV Mina 80.36 44 P P 14 26 53.6 0.0
comp=Z,546nm,1.1s,mb5.8
MNV *e*pP pP 14 28 59.6 -3.6
MNV *e*PP PP 14 30 06.6 -1.8
MPOR Mary's Peak 80.45 37 P P 14 26 54.7 +0.6
TIA Tai'an 80.55 313 *e*P P 14 26 49.8 -4.8
COR Corvallis 80.64 37 P P 14 26 55.3 +0.2
COR pmax pmax
comp=Z,350nm,1.0s,mb5.7
COR Corvallis 80.64 37 P P 14 26 55.3 +0.3
comp=Z,349nm,1.0s,mb5.7
LDFC Landfair 80.74 49 *e*P P 14 26 56.5 +0.9
LDFC *e*pP pP 14 29 06.5 +1.2
MOD Modoc 80.87 41 P P 14 26 56.3 0.0
MA2 Magadan 81.05 345 *d*i P P 14 26 55.2 -1.9
MA2 *i* *PP pP 14 29 04.6 -2.5
MA2 *i* *SP sP 14 30 16.9 +7.1
MA2 *i* S S 14 36 11.6 -4.9
MA2 *e*SP 14 37 07.8
MA2 pmax pmax
comp=Z,100nm,1.2s,mb5.1
MA2 pmax pmax
comp=E,20nm,1.0s
MA2 pmax pmax
comp=N,40nm,1.2s
MA2 Magadan 81.05 345 P P 14 26 55.2 -1.9
comp=N,157nm,0.9s,mb5.4
SVW2 Sparrevohn 81.17 12 *e*P P 14 26 56.2 -1.6
WIFE Three Sisters- 81.19 38 P P 14 26 58.4 +0.5
NEN Nelson 81.21 48⇑*i*P P 14 26 58.4 +0.4
NEN *e*pP pP 14 29 08.9 +0.9
NEN *e*PP PP 14 30 13.9 -1.5
NEN *e*S S 14 36 23.4 +5.3
UBT Ubonrachathani 81.36 289 P P 14 27 00.5 +1.7
IPM Ipoh 81.38 278 P P 14 26 59.9 +1.1
SHPR Sheep Range 81.41 47 P P 14 26 59.7 +0.7
ON2 Olympics--North 81.75 35 P P 14 27 01.3 +0.5
SLKM Skilak Lake 81.77 14 P P 14 26 59.5 -1.4
MID Middleton Isla 81.81 16 *e*P P 14 26 59.5 -1.5
KULM Kulim 82.00 278 *e*P P 14 27 02.8 +0.8
KULM *e*PP PP 14 30 19.6 -2.1
BMN Battle Mountai 82.03 43 P P 14 27 02.3 +0.2
BMN pmax pmax
comp=Z,590nm,1.0s,mb6.1
BMN Battle Mountai 82.03 43 P P 14 27 02.2 +0.1
comp=Z,594nm,1.1s,mb6.0
OCWA Octopus Mounta 82.07 34 P P 14 27 02.8 +0.5
WVOR Wild Horse Val 82.20 41⇑*e*P P 14 27 01.9 -1.1
comp=Z,669nm,1.0s,mb6.1
WVOR *e*pP pP 14 29 15.0 +1.6
FIB Fire Island 82.37 14 P P 14 27 03.0 -0.8
TUC Tucson 82.62 53 P P 14 27 06.1 +1.0
TUC pmax pmax
comp=Z,383nm,1.3s,mb5.8
TUC Tucson 82.62 53 P P 14 27 06.1 +1.0
comp=Z,383nm,1.3s,mb5.8
GNW Green Mountain 82.69 35 P P 14 27 05.3 -0.1
GNW pP pP 14 29 19.4 +3.3
LON Longmire 82.76 36 P P 14 27 04.9 -0.9
PSI Prapat 82.83 275 P P 14 27 06.2 0.0
comp=Z,384nm,0.9s,mb5.9,baz=88,slow=4.1,SNR=155
PSI PP PP 14 30 26.9 -1.5
comp=Z,55nm,0.9s,baz=117,slow=5.3,SNR=9.8
PSI S S 14 36 29.6 -4.7
comp=Z,2.8nm,0.4s,baz=165,slow=23,SNR=9.4
PSI PKKPbc PKKPbc 14 45 24.5 +0.5
comp=Z,5.7nm,0.9s,baz=274,slow=13,SNR=3.7
PSI Prapat 82.83 275 P P 14 27 06.2 0.0
PSI 14 30 26.9
PSI S S 14 36 29.6 -4.7
PSI pmax pmax
comp=Z,384nm,0.9s,mb5.9
PSI pmax pmax
comp=Z,55nm,1.0s,mb5.0
PSI smax
comp=E,3.0nm,0.4s
PSI pmax pmax
comp=Z,6.0nm,0.9s
PSI Prapat 82.83 275 P P 14 27 06.2 0.0
PSI PP PP 14 30 26.9 -1.5
PSI S S 14 36 29.6 -4.7
PSI PKKPbc PKKPbc 14 45 24.5 +0.5
PMR Palmer 82.98 14 *e*P P 14 27 05.0 -1.9
PMR pmax pmax
comp=Z,896nm,1.4s,mb6.1
PMR Palmer 82.98 14 *e*P P 14 27 05.0 -1.9
comp=Z,896nm,1.4s,mb6.1
PGC Sidney 83.00 34 P P 14 27 06.5 -0.5
PGC pP pP 14 29 20.5 +2.7
CRAG Craig 83.07 25 *e*P P 14 27 06.4 -1.0
comp=Z,421nm,1.2s,mb5.8
BJT Baijiatuau 83.13 316 *e*P P 14 27 05.4 -2.2
BJT pmax pmax
comp=Z,137nm,1.4s
BJT Baijiatuau 83.13 316 *e*P P 14 27 05.4 -2.2
comp=Z,138nm,1.4s,mb5.3
ARUT Antelope Range 83.24 47 *e*P P 14 27 08.8 +0.6
MAW Mawson 83.38 200 *e*P P 14 27 08.6 -0.3
comp=Z,280nm,0.6s,mb6.0
MAW *i* S S 14 36 39.8 +0.2
MAW Mawson 83.38 200 P P 14 27 09.4 +0.6
comp=Z,341nm,0.8s,mb6.0,baz=133,slow=6.5,SNR=56
MAW S S 14 36 31.5 -8.1
comp=Z,54nm,1.2s,baz=273,slow=9.4,SNR=2.3
MAW SS SS 14 42 27.4 +3.3
comp=Z,48nm,1.2s,baz=69,slow=14,SNR=1.9
MAW Mawson 83.38 200 *e*P P 14 27 08.6 -0.3
MAW *i* S S 14 36 39.8 +0.2
MAW pmax pmax
comp=Z,280nm,0.6s
SIT Sitka 83.40 23 *e*P P 14 27 08.4 -0.6
SIT pmax pmax
comp=Z,405nm,1.3s,mb5.8
SIT Sitka 83.40 23 *e*P P 14 27 08.4 -0.6
comp=Z,405nm,1.3s,mb5.8
DIV Divide 83.41 16 P P 14 27 06.5 -2.5
ENH Enshi 83.47 305⇓*i*P P 14 27 09.7 +0.3
comp=Z,207nm,0.8s,mb5.7
ELK Elko 83.48 44 P P 14 27 09.4 0.0
ELK pmax pmax
comp=Z,328nm,1.2s
ELK Elko 83.48 44 P P 14 27 09.4 0.0
comp=Z,328nm,1.2s,mb5.7
WUAZ Wupatki 83.64 50 P P 14 27 11.1 +0.9
SEY Seymchan 83.67 347 *e*P P 14 27 09.0 -1.3
SEY *PP pP 14 29 20.1 -1.3
SEY *e*S S 14 36 34.1 -8.3
SEY SS SS 14 42 23.9 -4.4
SEY SSS 14 45 59.0
SEY pmax pmax
comp=Z,110nm,1.2s,mb5.3
SEY pmax pmax
comp=N,40nm,1.0s
SEY pmax pmax
comp=E,50nm,1.0s
SEY smax
comp=N,3μm,19.0s
SEY smax
comp=E,4μm,23.8s
SEY Seymchan 83.67 347⇑*i*P P 14 27 09.1 -1.2
TBM Table Mountain 83.68 36 P P 14 27 10.4 0.0
KKTK Khon Kaen 83.72 289 P P 14 27 12.0 +1.4
comp=E,2μm,0.5s,mb6.9
TNA Tin City 83.81 5 P P 14 27 08.6 -2.4
comp=E,235nm,1.1s,mb5.6
HAWA Hanford 83.85 37 P P 14 27 10.9 -0.3
PMSA Palmer Station 84.11 157 *e*P P 14 27 09.6 -2.8
comp=E,61nm,1.1s,mb5.0
GYA Guiyang 84.18 300⇓*i*P P 14 27 13.5 +0.7
GYA AP pP 14 29 22.3 -1.8
GYA XP sP 14 30 21.5 -5.0
GYA PP PP 14 30 39.6 +0.5
GYA SKS 14 36 41.4
GYA S 14 36 47.0
GYA XS sS 14 40 33.6 -7.7
GYA AMB AMB
comp=Z,30nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,600nm,7.6s
SFJM Santa Fe 84.18 66 *i*P P 14 27 14.0 +1.2
WRD Warden 84.30 37 P P 14 27 13.8 +0.4
BMO Blue Mountains 84.31 39 P P 14 27 13.3 -0.2
comp=Z,294nm,1.3s,mb5.7
MVU Marysvale 84.43 47 P P 14 27 21.6 +7.5
MSU Marysvale 84.46 47 P P 14 27 15.3 +1.1
ZIIG Zihuatanejo 84.54 70⇑*i*P P 14 27 16.0 +1.4
DUG Dugway 84.82 45 P P 14 27 16.1 +0.2
OD2 Odessa Site #2 84.87 37 P P 14 27 15.9 -0.3
MCK McKinley 84.91 13 P P 14 27 14.2 -2.1
MCK pmax pmax
comp=Z,220nm,1.0s,mb5.7
MCK McKinley 84.91 13 P P 14 27 14.2 -2.2
comp=Z,223nm,1.1s,mb5.7
BGU Big Grassy Mou 85.03 44 *e*P P 14 27 20.0 +3.1
BGU *e*PP PP 14 30 47.2 +1.3
NLU North Lily Min 85.21 45 P P 14 27 16.5 -1.3
NNT Nongplab 85.25 285 P P 14 27 20.5 +2.5
HLID Hailey 85.43 41 P P 14 27 19.1 +0.3
comp=Z,284nm,1.0s,mb5.8
MENT Mentasta 85.46 16 *e*P P 14 27 17.6 -1.4
TMUT Trail Mountain 85.49 46 P P 14 27 20.1 +1.0
XAN Xi'an 85.50 308 P P 14 27 19.9 +0.7
XAN S 14 37 03.3
XAN AMB AMB
comp=Z,68nm,1.0s,mb5.2
XAN AMB AMB
comp=Z,549nm,5.4s
NOQ North Oquirrh 85.50 45 P P 14 27 20.0 +0.8
MOIG Morelia 85.51 68⇑*i*P P 14 27 20.6 +1.3
MPU Maple Canyon 85.53 46 P P 14 27 19.9 +0.6
SPUT South Promonto 85.60 44 P P 14 27 20.1 +0.4
HVU Hansel Valley 85.61 44 P P 14 27 20.1 +0.4
ACX Acapulco 85.67 71 *e*P P 14 27 20.0 0.0
HIA Hailar 85.86 325 *e*P P 14 27 20.2 -0.7
HIA pmax pmax
comp=Z,91nm,1.4s
HIA Hailar 85.86 325 *e*P P 14 27 20.2 -0.7
comp=Z,91nm,1.4s,mb5.2
SRU San Rafael 85.88 47 P P 14 27 21.3 +0.3
NST Nakhon Sawan 85.92 288 P P 14 27 22.5 +1.3
comp=Z,67nm,0.9s,mb5.3
DAU Daniels Canyon 85.97 45 P P 14 27 22.0 +0.6
COLA College 86.14 13⇑*i*P P 14 27 19.9 -2.3
COLA *e**PP pP 14 29 33.6 -0.8
COLA *e*S 14 36 43.5
TCUT Toone Canyon 86.20 45 P P 14 27 23.2 +0.8
TCUT PP PP 14 30 54.4 -0.8
NEW Newport 86.24 36 *e*P P 14 27 21.8 -0.9
NEW *e* 14 30 51.1
NEW pmax pmax
comp=Z,221nm,1.0s
NEW Newport 86.24 36 *e*P P 14 27 21.8 -0.9
comp=Z,222nm,1.0s,mb5.8
NEW *e*PP PP 14 30 51.1 -4.4
ILAR Eielson Array 86.26 13 P P 14 27 20.4 -2.4
comp=Z,102nm,0.8s,mb5.5,baz=225,slow=4.0,SNR=532
ILAR pP pP 14 29 33.2 -1.7
comp=Z,27nm,1.1s,baz=223,slow=5.5,SNR=7.1
ILAR PKiKP PKiKP 14 32 23.4 -2.0
comp=Z,2.5nm,0.9s,baz=277,slow=2.8,SNR=5.0
ILAR S 14 36 47.0
comp=Z,3.9nm,1.0s,baz=233,slow=5.4,SNR=8.9
ILAR PKKP PKKPbc 14 45 13.6 -2.6
comp=Z,1.2nm,0.5s,baz=327,slow=2.7,SNR=10
ILAR PKPPKP 14 53 15.6
comp=Z,1.4nm,0.8s,baz=340,slow=2.7,SNR=9.4
ILAR Eielson Array 86.26 13 P P 14 27 20.4 -2.4
ILAR *PP pP 14 29 33.3 -1.7
ILAR S 14 36 47.0
ILAR pmax pmax
comp=Z,102nm,0.8s
ILAR pmax pmax
comp=Z,27nm,1.1s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR smax
comp=E,4.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 86.26 13 P P 14 27 20.4 -2.4
ILAR pP pP 14 29 33.2 -1.7
LAZ Ladron 86.28 52 *e*P P 14 27 23.7 +0.8
LAZ *e*pP pP 14 29 36.4 +1.3
LAZ *e*PP PP 14 30 53.7 -2.1
LENM Lemitar 86.30 52 P P 14 27 23.8 +0.8
LENM *e*pP pP 14 29 35.6 +0.4
LENM *e*PP PP 14 30 52.6 -3.4
HWUT Hardware Ranch 86.32 44 P P 14 27 23.1 +0.1
comp=Z,376nm,1.5s,mb5.8
BILL Bilibino 86.46 355*c i*P P 14 27 22.2 -1.5
BILL pmax pmax
comp=Z,336nm,1.7s,mb5.7
BILL Bilibino 86.46 355 *e*P P 14 27 23.0 -0.8
comp=Z,141nm,0.8s,mb5.7
MNTX Cornudas Mount 86.52 55⇑*i*P P 14 27 24.5 +0.4
comp=Z,153nm,0.9s,mb5.7
MNTX *e*pP pP 14 29 34.9 -1.5
MNTX *e*PP PP 14 30 55.4 -2.4
BNM Barren Site 86.56 53 P P 14 27 24.8 +0.6
BNM *e*pP pP 14 29 34.2 -2.3
BNM *e*PP PP 14 30 45.8 -12
PLIG Platanillo 86.56 70⇑*i*P P 14 27 26.2 +2.0
PV10 Paradox Valley 86.59 48 *e*P P 14 27 24.6 +0.3
PV10 *e*pP pP 14 29 37.7 +1.0
PV10 *e*PP PP 14 30 55.5 -2.7
HHC Hu-ho-hao-te 86.61 315 *e*P P 14 27 24.9 +0.5
HHC S 14 37 14.6
HHC AMB AMB
comp=Z,47nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,495nm,6.9s
LPM Los Pinos Moun 86.62 52 P P 14 27 25.1 +0.6
LPM *e*pP pP 14 29 37.2 +0.3
LPM *e*PP PP 14 30 55.2 -3.3
PV01 Paradox Valley 86.82 48 P P 14 27 25.7 +0.3
KMI Kunming 86.94 297 P P 14 27 27.8 +1.8
KMI AP pP 14 29 39.3 +0.8
KMI XP sP 14 30 39.0 -1.6
KMI PP PP 14 31 04.3 +3.2
KMI PPP 14 33 05.9
KMI SKS 14 36 54.5
KMI S 14 37 14.0
KMI PS 14 39 43.1
KMI XS sS 14 41 06.0 -3.6
KMI SS SS 14 43 18.8 +3.1
KMI SSS 14 46 57.3
KMI AMB AMB
comp=Z,115nm,0.9s,mb5.6
KMI AMB AMB
comp=Z,885nm,7.3s
USHA Ushuaia 86.97 147 P P 14 27 26.5 +0.4
comp=Z,19nm,0.7s,mb5.0,baz=196,slow=3.4,SNR=12
USHA S 14 36 55.8
comp=Z,3.8nm,0.7s,baz=39,slow=15,SNR=3.1
ANMO Albuquerque 87.01 52 pP pP 14 29 38.6 -0.2
comp=Z,19nm,1.1s,baz=222,slow=6.0,SNR=4.5
ANMO PP PP 14 30 59.1 -2.4
comp=Z,3.8nm,0.9s,baz=237,slow=5.8,SNR=3.2
ANMO S 14 36 57.1
comp=Z,0.9nm,0.4s,baz=80,slow=22,SNR=23
ANMO Albuquerque 87.01 52 P P 14 27 26.9 +0.6
ANMO *e**PP pP 14 29 39.2 +0.3
ANMO *e* 14 30 59.1
MCMT McKenzie Canyo 87.03 41⇑*e*P P 14 27 26.8 +0.4
MCMT *e*pP pP 14 29 39.9 +0.9
MCMT *e*PP PP 14 30 58.0 -3.7
YAIG Yautepec 87.11 69 *i*P P 14 27 28.4 +1.6
PNIG Pinotepa 87.12 72 *i*P P 14 27 28.1 +1.3
AHID Auburn Hatcher 87.17 43⇑*i*P P 14 27 27.1 +0.1
comp=Z,747nm,1.5s,mb6.2
AHID *e*PP PP 14 31 00.3 -2.5
MSO Missoula 87.35 39 P P 14 27 27.1 -0.8
comp=Z,222nm,1.4s,mb5.7
MSO *e*pP pP 14 29 41.8 +1.2
MSO *e*PP PP 14 30 58.1 -6.1
BSMT Bassoo Peak 87.36 38 P P 14 27 27.5 -0.4
DLMT Dillon 87.44 40⇑*i*P P 14 27 28.5 +0.1
comp=Z,396nm,1.1s,mb6.1
DLMT *e*pP pP 14 29 41.1 +0.1
DLMT *e*PP PP 14 31 00.3 -4.7
DAWY Dawson 87.51 16 P P 14 27 27.2 -1.4
DAWY *e*pP pP 14 29 39.4 -2.0
DAWY *e*PP PP 14 31 07.8 +2.3

GDL2 Guadalupe Moun 87.52 55 P **P** **14 27 29.7 +1.0**
GDL2 pP pP 14 29 45.4 +3.9
GDL2 *e*PP PP 14 31 03.4 -2.1
BTO Baotou 87.55 314 *e*P **P** **14 27 28.5 -0.3**
PPM Popocatepetl 87.57 69⇑*i*P **P** **14 27 31.3 +2.4**
REDW Red Top Meadow 87.61 43 P **P** **14 27 29.8 +0.7**
comp=Z,854nm,1.1s,mb6.4
REDW *e*pP pP 14 29 42.7 +0.8
REDW *e*PP PP 14 31 02.3 -4.0
SNOW Snow King Moun 87.71 43⇑*i*P **P** **14 27 30.3 +0.7**
LRM Limekiln Ridge 87.76 40 P **P** **14 27 29.8 0.0**
NRGR Nerungri 87.76 333 *e*P **P** **14 27 26.8 -3.0**
NRGR pmax pmax
comp=Z,55nm,0.4s,mb5.6
CLNS Chul'man 87.80 333 *e*P **P** **14 27 29.6 -0.4**
CLNS *e* 14 30 34.5
CLNS *e*S 14 37 23.0
CLNS pmax pmax
comp=Z,106nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,85nm,1.4s
CLNS pmax pmax
comp=E,44nm,1.2s
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS smax
comp=N,138nm,1.5s
CLNS smax
comp=Z,25nm,1.7s
CLNS smax
comp=E,123nm,1.5s
CHMT Chamberlain Mo 87.80 39⇑*e*P **P** **14 27 29.4 -0.6**
CHMT *e*PP PP 14 31 01.3 -6.5
MOOW Moose Ponds 87.85 43⇑*i*P **P** **14 27 30.6 +0.4**
comp=E,247nm,1.2s,mb5.8
LOHW Long Hollow 87.88 43 P **P** **14 27 30.6 +0.3**
comp=E,363nm,1.2s,mb6.0
LOHW *e*pP pP 14 29 43.9 +0.7
LOHW *e*PP PP 14 31 02.1 -6.3
CLNB Carlsbad 87.92 55 *e*P **P** **14 27 31.0 +0.4**
CLNB *e*pP pP 14 29 46.3 +2.9
QLMT Earthquake Lak 87.92 41 P **P** **14 27 31.6 +1.0**
QLMT *e*pP pP 14 29 45.4 +1.9
QLMT *e*PP PP 14 31 06.0 -2.7
FLWY Flagg Ranch 88.03 42 *e*P **P** **14 27 31.7 +0.6**
comp=E,833nm,1.4s,mb6.3
FLWY *e*pP pP 14 29 45.3 +1.3
FLWY *e*PP PP 14 31 07.2 -2.4
YFT Old Faithful 88.12 42⇑*i*P **P** **14 27 33.1 +1.7**
YFT *e*pP pP 14 29 46.8 +2.3
YFT *e*PP PP 14 31 01.5 -8.8
YMR Madison River 88.14 42 *e*P **P** **14 27 32.5 +0.9**
comp=E,410nm,1.2s,mb6.0
YMR *e*PP PP 14 31 07.7 -2.7
BOZ Bozeman (W) 88.18 41 P **P** **14 27 31.9 +0.1**
BOZ *e**PP pP 14 29 45.5 +0.8
BOZ *e* 14 31 05.1
BOZ pmax pmax
comp=Z,412nm,1.3s,mb6.0
BOZ Bozeman (W) 88.18 41 P **P** **14 27 31.9 +0.2**
comp=Z,412nm,1.3s,mb6.0
BOZ *e*pP pP 14 29 45.5 +0.7
BOZ *e*PP PP 14 31 05.1 -5.7
BW06 Boulder Array 88.18 44⇑*i*P **P** **14 27 31.6 -0.1**
comp=Z,281nm,1.1s,mb5.9
BW06 *e*pP pP 14 29 47.2 +2.4
BW06 *e*PP PP 14 31 01.3 -9.5
PDAR Pinedale Array 88.18 44 P **P** **14 27 31.6 -0.2**
comp=Z,232nm,1.1s,mb5.8,baz=213,slow=2.5,SNR=636
PDAR pP pP 14 29 44.8 +0.1
comp=Z,21nm,1.1s,baz=215,slow=4.9,SNR=4.7
PDAR PP PP 14 31 07.5 -3.2
comp=Z,16nm,1.0s,baz=242,slow=6.4,SNR=7.6
PDAR S 14 37 03.3
comp=Z,2.3nm,1.2s,baz=101,slow=6.3,SNR=2.9
PDAR PKKP PKKPbc 14 45 08.1 -3.5
comp=Z,3.0nm,0.7s,baz=91,slow=4.0,SNR=11
PDAR SKKPbc 14 47 54.1
comp=Z,2.9nm,0.9s,baz=88,slow=4.1,SNR=8.9
PDAR PKPPKP 14 53 13.2
comp=Z,0.8nm,0.8s,baz=105,slow=3.7,SNR=5.4
CD2 Chengdu 88.25 303⇓*i*P **P** **14 27 32.9 +0.8**
CD2 PPP 14 33 29.3
CD2 SKS 14 37 02.8
CD2 S 14 37 30.6
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,360nm,5.9s
SMCO Snowmass 88.39 48⇑*i*P **P** **14 27 33.2 +0.4**
comp=Z,450nm,1.3s,mb6.0
SMCO *e*pP pP 14 29 49.4 +3.6
SMCO *e*PP PP 14 31 08.2 -4.2
LKWY Lake 88.45 42 P **P** **14 27 34.9 +1.9**
LKWY pmax pmax
comp=Z,280nm,1.1s,mb5.9
LKWY Lake 88.45 42 P **P** **14 27 34.9 +1.9**
comp=Z,283nm,1.2s,mb5.9
HRY Holter Researc 88.56 40 P **P** **14 27 33.6 +0.1**
HRY *e*pP pP 14 29 47.3 +0.7
VHO Vista Hermosa 88.60 72⇑*i*P **P** **14 27 35.6 +1.9**
OXX Oaxaca 88.62 72 *e*P **P** **14 27 36.0 +2.2**
HUIG Huatulco 88.75 73⇑*i*P **P** **14 27 35.0 +0.6**
SYO Syowa Base 88.79 193⇑*e*P **P** **14 27 33.3 -1.3**
SYO Syowa Base 88.79 193⇑*i*P **P** **14 27 45.9 +11**
SDCO Great Sand Dun 88.86 50 P **P** **14 27 35.2 +0.3**
comp=Z,425nm,1.6s,mb6.0
SDCO *e*pP pP 14 29 48.9 +0.8
SDCO *e*PP PP 14 31 10.8 -5.2
PAYG Puerto Ayora 89.07 90 P **P** **14 27 37.7 +1.8**
comp=Z,115nm,1.2s,mb5.6
RWWY Rawlins 89.28 46 P **P** **14 27 37.0 +0.2**
comp=Z,675nm,1.3s,mb6.3
RWWY *e*PP PP 14 31 15.5 -3.9
YAK Yakutsk 89.31 339 *e*P **P** **14 27 35.3 -1.7**
YAK *e**PP pP 14 29 43.4 -6.9
YAK *e* 14 31 15.1
YAK *e*S 14 37 04.4
YAK *e* 14 37 30.3
YAK pmax pmax
comp=Z,81nm,1.2s,mb5.4
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=Z,48nm,1.4s,mb5.1
YAK pmax pmax
comp=E,24nm,1.3s
YAK smax
comp=E,35nm,1.3s
YAK smax
comp=Z,4.0nm,0.9s
YAK smax
comp=N,106nm,2.4s
YAK Yakutsk 89.31 339 P **P** **14 27 34.8 -2.2**
comp=N,272nm,1.4s,mb5.9
YAK *e*PP PP 14 31 14.9 -4.6
GCMT Greycliff 89.47 41 *e*P **P** **14 27 37.9 +0.2**
GCMT *e*pP pP 14 29 52.1 +1.0
GCMT *e*PP PP 14 31 17.0 -3.9
ISCO Idaho Springs 89.61 48 P **P** **14 27 39.1 +0.7**
ISCO *e* 14 31 16.4
ISCO pmax pmax
comp=Z,214nm,1.4s,mb5.8
ISCO Idaho Springs 89.61 48 P **P** **14 27 39.1 +0.8**
comp=Z,214nm,1.4s,mb5.8
ISCO *e*pP pP 14 29 54.8 +3.0
ISCO *e*PP PP 14 31 16.4 -5.5
LVIG Laguna Verde 89.75 69⇑*i*P **P** **14 27 39.5 +0.5**
LZH Lanzhou 90.13 308 *e*P **P** **14 27 41.6 +0.8**
LZH AP pP 14 29 54.5 +0.2
LZH PP PP 14 31 31.0 +5.0
LZH PPP 14 33 32.5
LZH *e*SKS 14 37 13.0
LZH *e*S 14 37 46.0
LZH *e*SS SS 14 44 02.0 +0.8
LZH AMB AMB
comp=Z,150nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,740nm,4.9s
CMIG Matias Romero 90.28 72 *i*P **P** **14 27 42.2 +0.7**
PHWY Pilot Hill 90.32 46 P **P** **14 27 41.9 +0.3**
PHWY *e*PP PP 14 31 25.5 -2.0
EGMT Eagleton 90.42 39⇑*i*P **P** **14 27 41.6 -0.5**
comp=Z,148nm,1.2s,mb5.7
EGMT *e*pP pP 14 29 53.6 -2.1
EGMT *e*PP PP 14 31 22.0 -6.2
SNAA Sanae 90.49 179 P **P** **14 27 41.4 -1.1**
SNAA pmax pmax
comp=Z,130nm,0.9s
SNAA Sanae 90.49 179 P **P** **14 27 41.4 -1.1**
comp=Z,129nm,0.9s,mb5.8
JCT Junction City 90.50 58 *e*P **P** **14 27 42.4 -0.1**
comp=Z,168nm,1.1s,mb5.9
JCT *e*pP pP 14 29 56.7 +0.6
JCT *e*PP PP 14 31 26.1 -2.7
CIT Chita 90.66 325 *e*P **P** **14 27 42.7 -0.5**
CIT *e* 14 31 25.2
CIT pmax pmax
comp=Z,132nm,1.4s,mb5.7
VNA3 Neumayer Olymp 90.67 177⇑*i*P **P** **14 27 42.8 -0.5**
VNA3 *e* 14 27 44.1
VNA3 *e* 14 27 45.0
VNA3 *e* 14 27 51.5
VNA3 *e* 14 28 06.4
VNA3 *e* 14 28 12.7
EDM Edmonton 90.85 33 P **P** **14 27 43.0 -1.1**
EDM Edmonton 90.85 33⇑*i*P **P** **14 27 42.8 -1.4**
EDM *e*pP pP 14 29 57.4 -0.4
EDM *e*PP PP 14 31 25.3 -6.3
NVL N'lazarevskaya 91.07 184⇓*i*P **P** **14 27 45.5 +0.3**
NVL *e*PPP sP 14 30 50.0 -10
NVL *e* 14 37 44.0
NVL *e*SS SP 14 39 08.7 +3.7
NVL pmax pmax
comp=Z,100nm,0.8s,mb5.8
VNA2 Neumayer--Watz 91.10 177⇑*i*P **P** **14 27 45.1 -0.2**
VNA2 *e* 14 27 46.5
VNA2 *e* 14 27 47.5
VNA2 *e* 14 27 52.5
VNA2 *e* 14 28 08.3
VNA2 *e* 14 28 14.3
VNA2 *e* 14 28 27.9
VNA2 *e* 14 28 55.9
VNA1 Neumayer--Stat 91.33 177⇑*i*P **P** **14 27 47.2 +0.8**
VNA1 *e* 14 27 48.4
LAO LASA Array 92.01 41 P **P** **14 27 50.2 +0.8**
comp=Z,541nm,1.1s,mb6.5
PLCA Paso Flores 92.01 134 P **P** **14 27 50.1 +0.7**
comp=Z,5.9nm,0.6s,mb4.8,baz=254,slow=6.4,SNR=22
PLCA pP pP 14 30 03.2 +0.1
comp=Z,6.6nm,1.3s,baz=214,slow=6.2,SNR=3.0
PLCA S 14 37 23.3
comp=Z,1.3nm,0.8s,baz=338,slow=23,SNR=3.0
PLCA PKKPbc PKKPbc 14 45 02.4 +0.2
comp=Z,3.6nm,0.9s,baz=62,slow=1.4,SNR=8.7
PLCA SKKPbc 14 47 44.0
comp=Z,1.7nm,0.9s,baz=196,slow=11,SNR=3.2
PLCA Paso Flores 92.01 134 P **P** **14 27 50.1 +0.7**
PLCA *PP pP 14 30 03.3 +0.1
PLCA S 14 37 23.3
PLCA pmax pmax
comp=Z,6.0nm,0.6s
PLCA pmax pmax
comp=Z,7.0nm,1.3s
PLCA smax
comp=E,1.0nm,0.8s
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA pmax pmax
comp=E,2.0nm,1.0s
PLCA Paso Flores 92.01 134 P **P** **14 27 50.6 +1.2**
comp=E,30nm,1.2s,mb5.2
PLCA *e*pP pP 14 30 06.1 +2.9
INK Inuvik 92.29 16 P **P** **14 27 48.5 -2.2**
comp=E,140nm,1.0s,mb5.9,baz=216,slow=5.5,SNR=23
INK PP PP 14 31 38.6 -4.1
comp=E,10nm,0.8s,baz=215,slow=7.2,SNR=3.9
INK PKiKP PKiKP 14 32 33.3 -2.2
comp=E,2.9nm,0.8s,baz=0.2,slow=2.7,SNR=1.6
INK S 14 37 22.8
comp=E,4.2nm,0.9s,baz=132,slow=32,SNR=35
INK SKKPbc 14 47 43.1
comp=E,1.3nm,0.6s,baz=32,slow=7.9,SNR=5.5
INK Inuvik 92.29 16 P **P** **14 27 48.5 -2.3**
INK 14 31 38.7
INK S 14 37 22.8
INK pmax pmax
comp=Z,140nm,1.0s
INK pmax pmax
comp=Z,10.0nm,0.9s
INK pmax pmax
comp=Z,3.0nm,0.8s
INK smax
comp=E,4.0nm,0.9s
INK pmax pmax
comp=E,1.0nm,0.6s
INK Inuvik 92.29 16 *e*P **P** **14 27 48.6 -2.1**
INK *e*PP pP 14 29 59.9 -4.7
RSSD Black Hills 92.40 44 P **P** **14 27 50.9 -0.3**
RSSD pmax pmax
comp=Z,120nm,1.0s,mb5.9
RSSD Black Hills 92.40 44 P **P** **14 27 50.9 -0.3**
comp=Z,122nm,1.0s,mb5.9
RSSD *e*pP pP 14 30 05.2 +0.1
RSSD *e*PP PP 14 31 40.0 -3.5
ULN Ulaanbaatar 92.56 320 *e*P **P** **14 27 51.1 -0.9**
ULN pmax pmax
comp=Z,32nm,1.3s,mb5.2
ULN Ulaanbaatar 92.56 320 *e*P **P** **14 27 51.1 -0.9**
comp=Z,32nm,1.3s,mb5.2
ULN *e*pP pP 14 30 09.9 +4.1
WMOK Wichita Mounta 92.78 54 P **P** **14 27 52.3 -0.7**
comp=Z,54nm,1.3s,mb5.4
SONM Songino Array 92.96 320 P **P** **14 27 52.1 -1.7**
comp=Z,2.7nm,0.5s,baz=118,slow=3.9,SNR=23
SONM pP pP 14 30 06.7 -0.9
comp=Z,3.9nm,1.1s,baz=121,slow=3.6,SNR=2.6
SONM PKiKP PKiKP 14 32 35.8 -0.9
comp=Z,2.2nm,0.7s,baz=82,slow=1.8,SNR=4.2
SONM SS SS 14 44 39.0 -2.2
comp=Z,0.1nm,0.5s,baz=235,slow=38,SNR=2.7
SONM PKKP PKKPbc 14 44 58.5 -1.2
comp=Z,2.1nm,0.9s,baz=294,slow=3.4,SNR=6.0
SONM SKKPbc 14 47 40.7
comp=Z,2.1nm,1.0s,baz=260,slow=1.8,SNR=5.3
SONM PKPPKP 14 53 06.0
comp=Z,1.6nm,1.1s,baz=170,slow=1.0,SNR=6.0
SONM Songino Array 92.96 320 P **P** **14 27 52.1 -1.7**
SONM *PP pP 14 30 06.7 -0.9
SONM SS SS 14 44 39.0 -2.2
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=E,2.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 92.96 320 P **P** **14 27 52.1 -1.7**
SONM pP pP 14 30 06.7 -0.9
BOD Bodaibo 93.25 331 *e*P **P** **14 27 52.4 -2.7**
BOD pmax pmax
comp=Z,18nm,1.4s,mb4.9
CBKS Cedar Bluff 93.46 50 P **P** **14 27 56.3 +0.2**
CBKS *e*PP PP 14 31 48.0 -3.7
HKT Hockley 93.56 60 P **P** **14 27 56.9 +0.3**
HKT *e**PP pP 14 30 11.5 +1.1
HKT pmax pmax
comp=Z,105nm,1.4s,mb5.8
HKT Hockley 93.56 60 P **P** **14 27 56.9 +0.3**
comp=Z,105nm,1.4s,mb5.8
HKT *e*pP pP 14 30 11.5 +1.1
EFI East Falkland 93.92 148 *e*P **P** **14 27 56.9 -1.3**
comp=Z,38nm,1.0s,mb5.5
DGMT Dagmar 93.98 40 P **P** **14 27 58.4 0.0**
comp=Z,546nm,1.1s,mb6.6
DGMT *e*pP pP 14 30 10.7 -1.6
DGMT *e*pP PP 14 31 50.4 -5.3
GTA Gaotai 94.30 310 P **P** **14 28 00.1 +0.2**
GTA AP pP 14 30 13.1 -0.8
GTA XP sP 14 31 10.5 -4.9
GTA PP PP 14 32 00.4 +2.3
GTA PPP 14 34 09.5
GTA S 14 38 19.1
GTA XS sS 14 42 11.6 -8.4
GTA AMB AMB
comp=Z,23nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,314nm,5.3s
YKA Yellowknife Ar 94.90 25 P **P** **14 28 00.7 -1.9**
comp=Z,54nm,1.0s,mb5.6,baz=244,slow=4.2,SNR=275
YKA pP pP 14 30 14.7 -1.9
comp=Z,1.6nm,0.8s,baz=241,slow=4.7,SNR=2.6
YKA PP PP 14 31 55.3 -7.3
comp=Z,8.1nm,0.8s,baz=240,slow=7.8,SNR=12
YKA PKiKP PKiKP 14 32 38.1 -2.0
comp=Z,1.1nm,0.7s,baz=240,slow=1.5,SNR=5.7
YKA S 14 37 37.1
comp=Z,2.7nm,1.0s,baz=233,slow=5.4,SNR=6.8
YKA PKKPbc PKKPbc 14 44 55.0 +0.2
comp=Z,2.0nm,0.5s,baz=41,slow=2.1,SNR=18
YKA SKKPbc 14 47 43.3
comp=Z,0.5nm,0.8s,baz=50,slow=4.9,SNR=3.9
YKA PKPPKP 14 53 03.4
comp=Z,0.7nm,0.9s,baz=43,slow=2.9,SNR=5.6
YKA Yellowknife Ar 94.90 25 P **P** **14 28 00.7 -1.9**
YKA *PP pP 14 30 14.7 -1.9
YKA S 14 37 37.1
YKA pmax pmax
comp=Z,54nm,1.0s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA smax
comp=E,3.0nm,1.0s
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA pmax pmax
comp=E,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 94.90 25 P **P** **14 28 00.8 -1.8**
YKA pP pP 14 30 14.7 -1.9
YKA PP PP 14 31 55.4 -7.3
YKW3 Yellowknife Ar 94.93 25 P **P** **14 28 01.2 -1.5**
YKW3 *e*PP PP 14 31 54.8 -8.1
NATX Nacogdoches 95.09 58 *e*P **P** **14 28 04.1 +0.6**
comp=Z,128nm,1.1s,mb6.0
NATX *e*pP pP 14 30 24.1 +6.6
ZAK Zakamensk 95.82 321 *e*P **P** **14 28 05.3 -1.5**
ZAK *e* 14 38 33.3
ZAK pmax pmax
comp=Z,17nm,1.7s,mb5.0
ZAK pmax pmax
comp=Z,7.0nm,2.0s
ZAK pmax pmax
comp=Z,11nm,1.5s,mb4.9
ZAK pmax pmax
comp=Z,13nm,1.5s,mb4.9
KSU1 Kansas State U 95.86 51 P **P** **14 28 07.6 +0.7**
KSU1 *e*PP PP 14 32 03.8 -6.1
IRK Irkutsk 95.92 323 *e*P **P** **14 28 04.7 -2.5**
IRK *e* 14 37 43.7
IRK pmax pmax
comp=Z,17nm,2.4s,mb4.8
TIXI Tiksi 96.01 346 *e*P **P** **14 28 03.3 -4.3**
TIXI *e**PP pP 14 30 13.8 -8.0
TIXI *e**SP sP 14 31 12.8 -10
TIXI *e* 14 38 25.7
TIXI *e*SSS 14 49 12.2
TIXI pmax pmax
comp=Z,32nm,1.1s,mb5.5
TIXI Tiksi 96.01 346⇑*i*P **P** **14 28 05.4 -2.2**
SHL Shillong 96.37 295 *e*P **P** **14 28 09.5 +0.3**
MIAR Mount Ida 96.80 56 P **P** **14 28 11.5 +0.4**
MIAR Mount Ida 96.80 56 *e*P **P** **14 28 07.9 -3.2**
comp=Z,12nm,0.9s,mb5.1
MIAR *e*pP pP 14 30 26.8 +1.5
JTS JuntasAbangare 97.43 82 P Pdif 14 28 15.5 +1.6
comp=Z,20nm,1.1s
JTS pP pP 14 30 28.8 +0.5
comp=Z,23nm,1.2s,baz=312,slow=8.1,SNR=4.1
JTS PP PP 14 32 22.9 +1.1
comp=Z,14nm,0.9s,baz=330,slow=4.9,SNR=7.2
JTS S 14 37 56.8
comp=Z,2.2nm,0.4s,baz=328,slow=18,SNR=3.7
JTS JuntasAbangare 97.43 82 P Pdif 14 28 15.5 +1.6
JTS *PP pP 14 30 28.8 +0.5
JTS 14 32 22.9
JTS S 14 37 56.8
JTS pmax pmax
comp=Z,20nm,1.1s
JTS pmax pmax
comp=Z,23nm,1.2s
JTS pmax pmax
comp=Z,14nm,0.9s
JTS smax
comp=E,2.0nm,0.4s
JTS JuntasAbangare 97.43 82 Pdif Pdif 14 28 15.6 +1.7
comp=E,27nm,1.0s
JTS *e*pP pP 14 30 28.6 +0.4
JTS *e*PP PP 14 32 20.9 -0.9
FFC Flin Flon 97.57 35 P Pdif 14 28 13.2 -1.4
CFAA Coronel Fontan 97.72 127 P Pdif 14 28 13.9 -1.3
comp=E,0.8nm,0.8s,baz=233,slow=4.0,SNR=8.5
CFAA pP pP 14 30 28.3 -1.3
comp=E,0.1nm,0.3s,baz=255,slow=9.5,SNR=1.8
CFAA PP PP 14 32 23.1 -0.8
comp=E,0.7nm,0.8s,baz=232,slow=5.4,SNR=5.8
CFAA S SKSac 14 37 52.9 -0.5
comp=E,0.1nm,0.3s,baz=19,slow=19,SNR=3.7
CFAA PKKPbc PKKPbc 14 44 47.1 -0.2
comp=E,0.2nm,0.3s,baz=358,slow=4.0,SNR=4.0
CFAA Coronel Fontan 97.72 127 P Pdif 14 28 13.9 -1.3
CFAA pP pP 14 30 28.3 -1.3
CFAA PP PP 14 32 23.1 -0.8
CFAA S SKSac 14 37 52.9 -0.5
CFAA PKKPbc PKKPbc 14 44 47.1 -0.2
UALR University of 97.83 56 *e*Pdif Pdif 14 28 15.8 +0.1
comp=E,28nm,1.1s
UALR *e*pP pP 14 30 33.6 +3.5
LSA Lhasa 98.16 298 P Pdif 14 28 17.5 +0.3
LSA Lhasa 98.16 298 *e*P Pdif 14 28 17.2 0.0
comp=E,7.2nm,0.6s
TRQA Tornquist 99.12 135 P Pdif 14 28 22.1 +0.6
comp=E,13nm,1.3s
HBAR Harrisburg 99.37 56 *e*Pdif Pdif 14 28 20.8 -1.8
CCM Cathedral Cave 99.58 53⇓P Pdif 14 28 24.3 +0.8
CCM Cathedral Cave 99.58 53 *e*Pdif Pdif 14 28 22.5 -1.0
comp=E,25nm,1.0s
ULM Lac du Bonnet 99.70 40 P Pdif 14 28 22.1 -2.0
comp=E,14nm,1.0s,baz=252,slow=4.6,SNR=15
ULM PP PP 14 32 32.4 -6.3
comp=E,28nm,1.2s,baz=261,slow=8.6,SNR=7.7
ULM S SKSac 14 37 59.9 -3.2
comp=E,0.6nm,0.4s,baz=78,slow=21,SNR=3.3
ULM PKKPbc PKKPbc 14 44 41.0 -0.9
comp=E,5.8nm,0.5s,baz=67,slow=3.7,SNR=11
ULM PKKP PKKPbc 14 44 46.9 +5.1
comp=E,2.4nm,0.8s,baz=153,slow=2.1,SNR=3.1
ULM Lac du Bonnet 99.70 40 P Pdif 14 28 22.1 -2.0
ULM PP PP 14 32 32.4 -6.3
ULM S SKSac 14 37 59.9 -3.2
ULM PKKPbc PKKPbc 14 44 41.0 -0.9
ULM PKKP PKKPbc 14 44 46.9 +5.1
FVM French Village 100.19 53 Pdif Pdif 14 28 25.5 -0.7
comp=E,34nm,1.1s
FVM *e*pP pP 14 30 43.0 +2.2
WVT Waverly 101.74 56 *e*P Pdif 14 28 33.6 +0.5
WVT *e* 14 32 50.3
WVT pmax pmax
comp=Z,6.0nm,0.9s
WVT Waverly 101.74 56 *e*Pdif Pdif 14 28 33.6 +0.5
comp=Z,6.2nm,0.9s
WVT *e*PKPdf PKiKP 14 32 50.3 -1.9
JIRN Jiri 101.84 295 *e*P Pdif 14 28 34.0 +0.5
comp=Z,9.6nm,0.5s
JIRN Jiri 101.84 295 *e*P PKiKP 14 32 45.0 -7.4
comp=Z,32nm,0.6s

VIS	**Vishakhapatnam**	**101.88 285**	AMb	AMB	14 32 57.6		
	comp=Z,64nm,1.2s						
GUN	**Gumba**	**102.17 296**	*e*P	Pdif	14 28 33.0	-2.0	
	comp=Z,6.3nm,0.4s						
GUN	**Gumba**	**102.17 296**	*e*P	PKiKP	14 32 49.6	-3.4	
	comp=Z,434nm,2.0s						
PKI	**Pulchoki**	**102.49 295**	*e*P	Pdif	14 28 37.5	+1.1	
	comp=Z,10nm,0.5s						
PKI	**Pulchoki**	**102.49 295**	*e*P	PKiKP	14 32 51.5	-2.1	
	comp=Z,37nm,0.8s						
KKN	**Kakani**	**102.65 295**	*e*P	Pdif	14 28 36.5	-0.7	
	comp=Z,23nm,0.8s						
KKN	**Kakani**	**102.65 295**	*e*P	PKiKP	14 32 53.6	-0.3	
	comp=Z,72nm,1.1s						
DMN	**Daman**	**102.76 295**	*e*P	Pdif	14 28 38.3	+0.7	
	comp=Z,34nm,0.9s						
DMN	**Daman**	**102.76 295**	*e*P	PKiKP	14 32 53.8	-0.3	
	comp=Z,98nm,1.1s						
FCC	**Fort Churchill**	**102.90 32**	⇓P	Pdif	14 28 36.7	-1.6	
GKN	**Gorkha**	**103.26 295**	*e*P	PKiKP	14 33 00.1	+5.1	
	comp=Z,113nm,1.2s						
KOLN	**Koldanda**	**104.10 295**	*e*P	Pdif	14 28 43.4	-0.2	
	comp=Z,16nm,0.8s						
LPAZ	**La Paz**	**104.33 113**	Pdiff	Pdif	14 28 45.4	+0.7	
	comp=Z,1.8nm,0.9s,baz=5.8,slow=19,SNR=3.9						
LPAZ			PKiKP	PKiKP	14 32 58.7	+1.7	
	comp=Z,1.0nm,0.5s,baz=253,slow=5.9,SNR=4.6						
LPAZ			PP	PP	14 33 14.6	+1.8	
	comp=Z,5.4nm,1.0s,baz=264,slow=5.0,SNR=7.8						
LPAZ			Sdiff	SKSac	14 38 26.4	+1.7	
	comp=Z,2.0nm,0.8s,baz=324,slow=24,SNR=8.8						
LPAZ			PKKPbc	PKKPbc	14 44 29.1	+0.5	
	comp=Z,4.0nm,0.7s,baz=212,slow=1.0,SNR=10.0						
LPAZ	**La Paz**	**104.33 113**	P	Pdif	14 28 45.4	+0.8	
LPAZ					14 33 14.6		
LPAZ			S	SKSac	14 38 26.4	+1.7	
LPAZ			pmax	pmax			
	comp=Z,2.0nm,0.9s						
LPAZ			pmax	pmax			
	comp=Z,1.0nm,0.5s						
LPAZ			pmax	pmax			
	comp=Z,5.0nm,1.0s						
LPAZ			smax				
	comp=E,2.0nm,0.8s						
LPAZ			pmax	pmax			
	comp=Z,4.0nm,0.7s						
LPAZ	**La Paz**	**104.33 113**	Pdif	Pdif	14 28 45.4	+0.7	
LPAZ			*e*PP	PP	14 33 13.9	+1.1	
TZTN	**Tazewell**	**105.20 56**	*e*PKPdf	PKiKP	14 32 60.0	+1.4	
TZTN			*e*PP	PP	14 33 15.2	-3.9	
TRD	**Trivandrum**	**105.38 274**	*ex*	x	14 33 16.7		
TRD			AMb	AMB	14 33 18.5		
	comp=Z,68nm,1.1s						
RES	**Resolute Bay**	**105.84 16**	P	Pdif	14 28 50.3	-1.1	
RES			*e*		14 33 19.8		
RES			pmax	pmax			
	comp=Z,10.0nm,1.1s						
RES	**Resolute Bay**	**105.84 16**	Pdif	Pdif	14 28 50.3	-1.0	
	comp=Z,10nm,1.1s						
RES			*e*PKPdf	PKiKP	14 32 57.2	-2.5	
RES			*e*PP	PP	14 33 19.8	-4.0	
HYB	**Hyderabad**	**106.21 283**	*i* Pdiff	Pdif	14 28 59.0	+6.0	
HYB			*e*PKP	PKiKP	14 33 00.0	-0.5	
HYB			*e*PP	PP	14 33 22.0	-4.4	
HYB			*e*		14 35 20.0		
HYB			*e*SKP		14 35 36.0		
HYB			*e*SKS	SKSac	14 38 30.0	-3.0	
HYB			*e*SKKS	SKKSac	14 39 24.0	-1.5	
HYB			*e*Sdiff	Sdif	14 40 00.0	+1.3	
HYB			*e*PKKP	PKKPbc	14 44 34.0	+11	
HYB			*e*		14 44 43.0		
HYB			*e*SS	SS	14 47 34.0	-9.1	
HYB	**Hyderabad**	**106.21 283**	*e*P	PKiKP	14 33 00.0	-0.5	
HYB	**Hyderabad**	**106.21 283**	*e*P	Pdif	14 28 59.0	+6.0	
JSC	**Jenkinsville**	**106.61 59**	*e*PP	PP	14 33 26.4	-2.9	
MKAR	**Makanchi Array**	**108.46 314**	Pdiff	Pdif	14 29 04.2	+1.2	
	comp=Z,1.1nm,0.5s,baz=82,slow=6.5,SNR=21						
MKAR			PKiKP	PKiKP	14 33 02.9	-1.8	
	comp=Z,14nm,0.8s,baz=107,slow=0.6,SNR=36						
MKAR			PKKPbc	PKKPbc	14 44 16.0	-0.1	
	comp=Z,2.0nm,0.4s,baz=269,slow=3.3,SNR=22						
MKAR			PKPPKP		14 52 38.6		
	comp=Z,1.4nm,1.1s,baz=338,slow=2.6,SNR=4.5						
MKAR	**Makanchi Array**	**108.46 314**	P	Pdif	14 29 04.2	+1.2	
MKAR			pmax	pmax			
	comp=Z,1.0nm,0.5s						
MKAR			pmax	pmax			
	comp=Z,14nm,0.8s						
MKAR			pmax	pmax			
	comp=Z,2.0nm,0.4s						
MKAR			pmax	pmax			
	comp=Z,1.0nm,1.1s						
DDI	**Dehra Dun**	**109.36 296**	*ex*	PP	14 33 38.9	-10	
DDI			*ex*	SKSac	14 38 33.9	-12	
SIV	**San Ignacio**	**110.59 115**	PKiKP	PKiKP	14 33 08.2	-0.5	
	comp=Z,2.3nm,0.8s,baz=218,slow=3.6,SNR=5.7						
SIV			PP	PP	14 33 58.1	+0.4	
	comp=Z,11nm,1.2s,baz=238,slow=8.4,SNR=14						
SIV			PKKPbc	PKKPbc	14 44 08.5	-0.8	
	comp=Z,6.7nm,0.7s,baz=96,slow=4.3,SNR=16						
SIV			PKKPab	PKKPab	14 44 23.2	+0.8	
	comp=Z,6.1nm,0.8s,baz=100,slow=5.4,SNR=8.9						
KURK	**Kurchatov**	**111.21 318***c*	*i*PKIKP	PKiKP	14 33 08.1	-1.8	
KURK	**Kurchatov**	**111.21 318**	*e*PKPdf	PKiKP	14 33 07.8	-2.0	
AJM	**Ajmer**	**111.66 292**	*ex*	PP	14 33 55.1	-10	
KSH	**Kashi**	**112.29 306**	PKP	PKiKP	14 33 14.0	+2.1	
KSH			PP	PP	14 34 14.1	+4.5	
KSH			XPKP		14 36 29.3		
KSH			PPP		14 36 42.1		
KSH			PKS		14 36 49.3		
KSH			SKS	SKSdf	14 39 30.1	+4.2	
KSH			SKKS	SKKSac	14 40 05.3	-1.9	
KSH			SS	SS	14 49 05.3	+1.9	
KSH			PP	PP			
	comp=Z,210nm,7.8s						
TKM2	**Tokmak 2**	**112.85 310**	P	PKiKP	14 33 12.0	-1.0	
	SNR=15						
KZA	**Kyzart**	**113.05 309**	P	PKiKP	14 33 13.3	-0.1	
	SNR=8.1						
KBK	**Karagaybulak**	**113.31 309**	P	PKiKP	14 33 13.1	-0.8	
	SNR=12						
CHMS	**Chumysh**	**113.47 310**	P	PKiKP	14 33 13.0	-1.1	
	SNR=8.5						
FRU	**Bishkek**	**113.56 309**	*e*PKIKP	PKiKP	14 33 14.0	-0.4	
FRU			*e*		14 34 26.5		
FRU			*e*		14 39 05.0		
UCH	**Uchtor**	**113.60 309**	P	PKiKP	14 33 14.5	0.0	
	SNR=15						
AAK	**Ala-Archa**	**113.64 309**	P	PKiKP	14 33 13.6	-0.9	
	SNR=7.5						
AAK	**Ala-Archa**	**113.64 309**	*e*PKPdf	PKiKP	14 33 12.0	-2.5	
AAK			*ep*PKPdf		14 35 10.2		
USP	**Ospenovka**	**113.67 310**	P	PKiKP	14 33 13.7	-0.9	
	SNR=19						
EKS2	**Erkin-Say**	**114.17 309**	P	PKiKP	14 33 14.9	-0.6	
	SNR=9.2						
AML	**Almayashu**	**114.21 309**	P	PKiKP	14 33 15.2	-0.4	
	SNR=21						
BHJ	**Bhuj**	**115.58 288**	*ex*	PP	14 34 24.4	-8.0	
VOSK	**Vostochnaya**	**115.94 320**	PKIKP	PKPdf	14 33 16.9	-2.0	
VOSK			pmax	pmax			
	comp=Z,24nm,0.8s						
BVA0	**Borovoye Array**	**116.27 321**	*i* PKIKP	PKPdf	14 33 17.9	-1.7	
BVA0			pmax	pmax			
	comp=Z,5.0nm,0.8s						
BVAR	**Borovoye Array**	**116.27 321**	PKP	PKPdf	14 33 17.9	-1.6	
	comp=Z,17nm,0.3s,baz=127,slow=1.8,SNR=103						
BVAR			PP	PP	14 34 34.2	-3.0	
	comp=Z,2.0nm,0.6s,baz=71,slow=6.9,SNR=2.0						
BVAR			SKP		14 35 57.4		
	comp=Z,14nm,0.9s,baz=126,slow=2.6,SNR=5.6						
BVAR			PKKPbc	PKKPbc	14 43 50.3	-0.2	
	comp=Z,1.0nm,0.6s,baz=246,slow=3.8,SNR=5.3						
BVAR	**Borovoye Array**	**116.27 321**	PKIKP	PKPdf	14 33 17.9	-1.7	
BVAR					14 34 34.2		
BVAR			pmax	pmax			
	comp=Z,17nm,0.3s						
BVAR			pmax	pmax			
	comp=Z,2.0nm,0.6s						
BVAR			pmax	pmax			
	comp=E,14nm,0.9s						
BVAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**116.33 321**	*e*PKPdf	PKPdf	14 33 18.1	-1.6	
BRVK			*e*SKP		14 35 53.4		
KK31	**Karatay Array**	**116.58 310**	*e*PKIKP	PKPdf	14 33 18.8	-1.4	
KK31			pmax	pmax			
	comp=Z,4.0nm,0.4s						
KK31	**Karatay Array**	**116.58 310**	*e*P	PKPdf	14 33 18.9	-1.3	
KKAR	**Karatay Array**	**116.58 310**	*i* PKIKP	PKPdf	14 33 18.8	-1.4	
KKAR			pmax	pmax			
	comp=Z,2.0nm,0.4s						
ZRNK	**Zerenda**	**117.11 321**	*e*PKPdf	PKPdf	14 33 19.1	-2.1	
ZRNK			*e*SKP		14 35 57.1		
DAG	**Danmarks Havn**	**120.43 5**⇑	*i*P	PKPdf	14 33 24.8	-2.8	
	comp=Z,8.2nm,0.7s						
DAG			*i*		14 35 00.2		
DAG	**Danmarks Havn**	**120.43 5**⇑	*i*PKIKP	PKPdf	14 33 24.8	-2.8	
DAG			*i*		14 35 00.2		
DAG			pmax	pmax			
	comp=Z,8.0nm,0.7s						
SUMG	**Summit**	**121.10 13**	*e*PKPdf	PKPdf	14 33 27.5	-1.3	
SUMG			*e*PP	PP	14 34 55.8	-14	
SFJD	**Kangerlussuaq**	**121.19 21**	PKKPbc	PKKPbc	14 43 32.7	-0.5	
	comp=Z,19nm,0.9s,baz=97,slow=1.9,SNR=5.9						
SFJD	**Kangerlussuaq**	**121.19 21**	*i* P	PKPdf	14 33 26.2	-2.8	
	comp=Z,56nm,1.1s						
SFJD	**Kangerlussuaq**	**121.19 21**	*i* P	PP	14 35 05.1	-5.3	
	comp=Z,60nm,1.3s						
SFJD	**Kangerlussuaq**	**121.19 21**	*i* PKIKP	PKPdf	14 33 26.2	-2.8	
SFJD			pmax	pmax			
	comp=Z,56nm,1.1s						
BDFB	**Brasilia**	**121.67 122**	PKP	PKPdf	14 33 29.7	-0.2	
	comp=Z,17nm,0.7s,baz=247,slow=2.2,SNR=17						
BDFB			PKKPbc	PKKPbc	14 43 31.9	+0.5	
	comp=Z,8.6nm,0.8s,baz=155,slow=1.3,SNR=8.5						
BDFB	**Brasilia**	**121.67 122**	PKIKP	PKPdf	14 33 29.7	-0.3	
BDFB			pmax	pmax			
	comp=Z,17nm,0.7s						
BDFB			pmax	pmax			
	comp=Z,9.0nm,0.8s						
CAM4	**Nova Friburgo**	**121.83 132**⇓	*i*P	PKPdf	14 33 30.3	0.0	
CAM4			*i*		14 33 40.5		
SOKR	**Solikamsk**	**122.24 330**⇑	*i*PKIKP	PKPdf	14 33 29.5	-1.5	
SOKR			pmax	pmax			
	comp=Z,170nm,1.5s						
ARU	**Arti**	**122.37 326**	*i* PKIKP	PKPdf	14 33 29.8	-1.5	
ARU			*e*		14 35 13.2		
ARU			*e*		14 39 33.3		
ARU	**Arti**	**122.37 326**	*e*PKPdf	PKPdf	14 33 29.7	-1.6	
ARU			*e*PP	PP	14 35 07.9	-10	
ARU			*e*SKP		14 36 08.7		
AB31	**Akbulak array**	**123.31 318**	*i* PKIKP	PKPdf	14 33 31.6	-1.5	
AB31			pmax	pmax			
	comp=Z,34nm,1.1s						
AKTK	**Aktyubinsk**	**124.28 319**	PKP	PKPdf	14 33 33.7	-1.2	
AKTK			SKP		14 36 12.5		
AKTK			PKKPbc	PKKPbc	14 43 20.9	-0.7	
AKTO	**Aktyubinsk**	**124.28 319**	PKP	PKPdf	14 33 33.7	-1.2	
	comp=Z,43nm,0.8s,baz=69,slow=2.2,SNR=89						
AKTO			SKP		14 36 12.5		
	comp=Z,8.3nm,1.0s,baz=360,slow=3.3,SNR=5.3						
AKTO			PKKPbc	PKKPbc	14 43 20.9	-0.7	
	comp=Z,3.0nm,0.8s,baz=260,slow=3.0,SNR=5.9						
AKTO	**Aktyubinsk**	**124.28 319**	PKIKP	PKPdf	14 33 33.7	-1.2	
AKTO			pmax	pmax			
	comp=Z,43nm,0.8s						
AKTO			pmax	pmax			
	comp=E,8.0nm,1.0s						
AKTO			pmax	pmax			
	comp=Z,3.0nm,0.8s						
KEV	**Kevo**	**125.79 349**	*ep*	PKPdf	14 33 36.0	-1.8	
	comp=Z,44nm,0.9s						
SCO	**Scoresbysund**	**125.84 9**	*i* P	PKPdf	14 33 36.5	-1.4	
	comp=Z,17nm,1.1s						
SCO			*e*		14 35 31.9		
BIDO	**Bidbid**	**126.11 286**	P	PKPdf	14 33 39.2	+0.7	
	SNR=11						
SMDO	**Samad**	**126.14 286**	P	PKPdf	14 33 39.4	+0.9	
	SNR=7.2						
APA	**Apatity**	**126.21 345**⇓	*e*PKIKP	PKPdf	14 33 36.5	-2.1	
APA			pmax	pmax			
	comp=Z,45nm,1.0s						
SUR	**Sutherland**	**126.22 201**	PP	PP	14 35 43.0	-0.6	
	comp=Z,14nm,0.9s,baz=122,slow=5.5,SNR=4.0						
SUR			SKPab		14 36 00.5		
	comp=Z,37nm,0.9s,baz=22,slow=1.8,SNR=6.1						
SUR			PKKPbc	PKKPbc	14 43 13.9	-0.1	
	comp=Z,9.5nm,0.8s,baz=95,slow=1.2,SNR=4.5						
SUR	**Sutherland**	**126.22 201**	*e*PKPdf	PKPdf	14 33 39.5	+0.9	
SUR			*e*PP	PP	14 35 41.9	-1.7	
SUR			*ep*PKPdf	pPKPdf	14 35 59.9	-1.7	
ARCES	**ARCESS Array B**	**126.25 349**	PKhKP		14 33 28.2		
	comp=Z,3.3nm,0.7s,baz=35,slow=4.4,SNR=4.8						
ARCES			PKP	PKPdf	14 33 36.1	-2.6	
	comp=Z,26nm,0.7s,baz=31,slow=1.5,SNR=45						
ARCES			SKP		14 36 16.0		
	comp=Z,27nm,0.9s,baz=11,slow=1.2,SNR=5.4						
ARCES			PKKPbc	PKKPbc	14 43 13.1	-0.7	
	comp=Z,4.0nm,0.5s,baz=206,slow=2.6,SNR=18						
ARCES	**ARCESS Array B**	**126.25 349**	PKIKP		14 33 28.2		
ARCES			pmax	pmax			
	comp=Z,3.0nm,0.7s						
ARCES			pmax	pmax			
	comp=Z,26nm,0.7s						
ARCES			pmax	pmax			
	comp=E,27nm,0.9s						
ARCES			pmax	pmax			
	comp=Z,4.0nm,0.5s						
HOQ	**Hoqain**	**126.87 286**	P	PKPdf	14 33 40.1	+0.2	
	SNR=7.4						
ARQ	**Araqi**	**127.56 286**	P	PKPdf	14 33 42.0	+0.8	
	SNR=6.5						
SHAO	**Shalim**	**127.73 279**	P	PKPdf	14 33 42.9	+1.4	
	SNR=13						
BOSA	**Boshof**	**127.80 208**	PKhKP		14 33 26.9		
	comp=Z,1.7nm,0.5s,baz=86,slow=1.9,SNR=4.4						
BOSA			PKP	PKPdf	14 33 42.7	+1.0	
	comp=Z,24nm,0.7s,baz=144,slow=1.9,SNR=28						
BOSA			PP	PP	14 35 57.0	+3.2	
	comp=Z,57nm,1.0s,baz=154,slow=7.0,SNR=14						
BOSA			SKPbc		14 36 06.2		
	comp=Z,70nm,1.1s,baz=137,slow=4.6,SNR=7.7						
BOSA	**Boshof**	**127.80 208**	PKHKP		14 33 26.9		
BOSA					14 33 42.7		
BOSA					14 35 57.0		
BOSA			pmax	pmax			
	comp=Z,2.0nm,0.5s						
BOSA			pmax	pmax			
	comp=Z,24nm,0.7s						
BOSA			pmax	pmax			
	comp=Z,57nm,1.0s						
BOSA			pmax	pmax			
	comp=E,71nm,1.2s						
BOSA	**Boshof**	**127.80 208**	PKP		14 33 26.9		
BOSA			*e*PKPdf	PKPdf	14 33 42.0	+0.3	
BOSA			*e*PP	PP	14 35 54.2	+0.4	
BOSA			*ep*PKPdf	pPKPdf	14 36 05.8	+1.3	
ASHO	**Ashiyiah**	**128.10 288**	P	PKPdf	14 33 42.5	+0.3	
	SNR=5.2						
KLMR	**Klimovskoe**	**129.06 337***c*	*i*PKIKP	PKPdf	14 33 42.2	-1.9	
KLMR			*e*		14 36 07.1		
KLMR			pmax	pmax			
	comp=Z,100nm,1.3s						
WHFO	**Wadi Hawf**	**129.46 279**	P	PKPdf	14 33 45.1	+0.2	
	SNR=20						
ABTO	**Aybut**	**129.82 278**	P	PKPdf	14 33 45.5	0.0	
	SNR=10						
JOF	**Joensuu**	**130.36 342**	*ep*	PKPdf	14 33 46.0	-0.5	
	comp=Z,8.0nm,0.4s						
LBTB	**Lobatse**	**130.70 211**	PKP	PKPdf	14 33 48.3	+1.1	
	comp=Z,29nm,0.8s						
LBTB			SKPbc	SKPbc	14 36 15.2	+1.0	
	comp=Z,52nm,1.0s,baz=156,slow=6.4,SNR=34						
LBTB	**Lobatse**	**130.70 211**	PKIKP	PKPdf	14 33 48.3	+1.1	
LBTB					14 36 15.2		
LBTB			pmax	pmax			
	comp=Z,29nm,0.8s						
LBTB			pmax	pmax			
	comp=E,52nm,1.0s						
LBTB	**Lobatse**	**130.70 211**	*e*PKPpre		14 33 44.1		
LBTB			PKP	PKPdf	14 33 48.3	+1.1	
LBTB			*ep*PKPdf	pPKPdf	14 36 07.7	-2.4	
LBTB			*e*SKP		14 36 14.9		
LBTB			SKPbc	SKPbc	14 36 15.2	+1.0	
KAF	**Kangasniemi**	**132.40 344**	*ep*		14 33 36.8		
	comp=E,14nm,0.5s						
FINES	**FINESS Array B**	**133.02 344**	PKhKP		14 33 33.3		
	comp=E,3.8nm,1.0s,baz=70,slow=4.9,SNR=11						
FINES			PKP	PKPdf	14 33 48.5	-3.1	
	comp=E,15nm,0.7s,baz=40,slow=3.5,SNR=28						
FINES			SKPbc	SKPbc	14 36 21.8	-0.4	
	comp=E,60nm,0.9s,baz=48,slow=5.7,SNR=35						
FINES	**FINESS Array B**	**133.02 344**	PKHKP		14 33 33.3		
FINES					14 33 48.5		
FINES					14 36 21.8		
FINES			pmax	pmax			
	comp=Z,4.0nm,1.0s						
FINES			pmax	pmax			
	comp=Z,15nm,0.7s						
FINES			pmax	pmax			
	comp=E,60nm,0.9s						
FINES	**FINESS Array B**	**133.02 344**	PKP		14 33 33.3		
FINES			PKP	PKPdf	14 33 48.5	-3.1	
FINES			SKPbc	SKPbc	14 36 21.8	-0.4	
VRHR	**Novokhopersk**	**133.68 325**	*e*PKIKP	PKPdf	14 33 51.4	-1.4	
VRHR			pmax	pmax			
	comp=N,20nm,0.6s						
VRHR			pmax	pmax			
	comp=Z,30nm,0.6s						
VRHR			pmax	pmax			
	comp=E,20nm,1.0s						
OBN	**Obninsk**	**133.92 332**⇑	*i*PKIKP	PKPdf	14 33 51.8	-1.4	
OBN			*e**PP		14 36 08.2		
OBN			pmax	pmax			
	comp=Z,52nm,0.9s						
OBN	**Obninsk**	**133.92 332**	*e*PKPdf	PKPdf	14 33 50.5	-2.7	
OBN			*e*SKP		14 36 25.5		
VOR	**Voronezh**	**134.64 327**	PKIKP	PKPdf	14 33 53.0	-1.6	
VOR			pmax	pmax			
	comp=Z,80nm,1.4s						
VRSR	**Storozhevoye**	**134.93 326**	*e*PKIKP	PKPdf	14 33 54.0	-1.1	
VRSR			pmax	pmax			
	comp=Z,10.0nm,1.5s						
VRSR			pmax	pmax			
	comp=N,4.0nm,0.8s						
VRSR			pmax	pmax			
	comp=E,3.0nm,0.9s						
VSU	**Vasula**	**135.26 341**	*i* PKIKP	PKPdf	14 33 55.9	+0.2	
GOF	**Gofitskoye**	**135.55 317**	*e*PKIKP	PKPdf	14 33 56.0	-0.3	
GOF			pmax	pmax			
	comp=Z,70nm,1.3s						
RDF	**Al-Radifah**	**135.74 293**	*e*P	PKPdf	14 33 43.8	-13	
RDF			AMb	AMB	14 33 47.5		
	comp=Z,34nm,0.9s						
ZEI	**Tsey**	**135.81 313**	*e*PKIKP	PKPdf	14 33 57.0	+0.2	
MIB	**Mutribah**	**135.86 294**	*e*P	PKPdf	14 33 43.5	-13	
MIB			AMb	AMB	14 33 44.6		
	comp=Z,13nm,0.8s						
NAY	**Al-Naaiem**	**135.98 294**	*e*P	PKPdf	14 33 43.7	-13	
NAY			AMb	AMB	14 33 45.3		
	comp=Z,8.5nm,0.8s						
GNI	**Garni**	**136.05 310**	*e*PKPdf	PKPdf	14 33 57.3	+0.1	
GNI			*e*SKPbc	SKPbc	14 36 30.4	-1.2	
GNI			*e*SKPdf	SKPdf	14 36 33.2	-0.8	
GNI			*e*SKPab		14 36 39.4		
KIV	**Kislovodsk**	**136.21 315**	*i* PKIKP	PKPdf	14 33 54.1	-3.4	
KIV			*e*		14 36 41.4		
KIV			*e*SSS		14 59 09.1		
KIV			pmax	pmax			
	comp=Z,40nm,1.1s						
NOA	**NORSAR Array B**	**136.37 352**	PKhKP		14 33 45.9		
	comp=Z,2.9nm,0.7s,baz=39,slow=2.3,SNR=12						
NOA			PKP	PKPdf	14 33 56.0	-1.7	
	comp=Z,13nm,0.8s,baz=15,slow=3.9,SNR=23						
NOA			SKPbc	SKPbc	14 36 32.5	-0.1	
	comp=Z,44nm,0.9s,baz=15,slow=4.5,SNR=25						
NOA			SKPab		14 36 40.4		
	comp=Z,60nm,1.0s,baz=14,slow=3.1,SNR=21						
NOA			SKKPbc		14 45 29.7		
	comp=Z,9.4nm,1.0s,baz=188,slow=4.3,SNR=5.9						
NOA	**NORSAR Array B**	**136.37 352**	PKHKP		14 33 45.9		
NOA					14 33 56.1		
NOA			pmax	pmax			
	comp=Z,3.0nm,0.7s						
NOA			pmax	pmax			
	comp=Z,13nm,0.8s						
NOA			pmax	pmax			
	comp=E,44nm,0.9s						
NOA			pmax	pmax			
	comp=E,60nm,1.0s						
NOA			pmax	pmax			
	comp=E,9.0nm,1.0s						
NAO01	**NORSAR Array S**	**136.60 353**	*e*PKPpre		14 33 47.7		
NAO01			*e*SKP		14 36 33.4		
CLDR	**Caldiran**	**136.95 308**	*e*P	PKPdf	14 34 00.5	+1.7	
DIGO	**Kars**	**136.96 310**	*i* P	PKPdf	14 33 54.3	-4.6	
RCBR	**Riachuelo**	**136.98 120**	*e*PKPpre		14 33 49.3		
RCBR			*e*SKP		14 36 34.8		
LSZ	**Lusaka**	**137.08 221**	*e*PKPpre		14 33 47.4		
LSZ			*e*SKP		14 36 30.5		
TVAN	**Van**	**137.50 308**	*i* P	PKPdf	14 33 56.8	-3.1	
CUKT	**Cukurca**	**137.69 306**	*e*P	PKPdf	14 33 49.6	-11	
KONO	**Kongsberg**	**137.92 353**	*e*PKPpre		14 33 50.2		
KONO			*e*PKPdf	PKPdf	14 34 01.1	+0.4	
KONO			*e*SKP		14 36 37.5		
KONO			*e*SKPab		14 36 47.3		
SOC	**Sochi**	**138.32 316**	*i* PKIKP	PKPdf	14 34 00.8	-0.6	
SOC			*e*		14 36 57.3		
SOC			*e*PPP		14 40 05.1		
SOC			*e*		14 40 16.0		
SOC			*e*		14 49 32.7		
SOC			pmax	pmax			
	comp=Z,36nm,1.2s						
ERZM	**Erzurum**	**138.58 310**	*i* P	PKPdf	14 33 54.1	-7.7	
BNGL	**BINGOL**	**139.06 309**	*i* P	PKPdf	14 33 57.7	-5.0	
KMBO	**Kilima Mbogo**	**139.10 246**	PKhKP		14 33 55.5		
	comp=Z,13nm,0.8s,baz=69,slow=4.1,SNR=34						
KMBO			SKPbc	SKPbc	14 36 41.6	+1.3	
	comp=Z,68nm,1.1s,baz=78,slow=2.8,SNR=29						
KMBO			SKPab		14 36 54.8		
	comp=Z,41nm,1.1s,baz=112,slow=1.6,SNR=7.6						
KMBO			PP	PP	14 37 07.1	+2.6	
	comp=Z,14nm,1.1s,baz=357,slow=1.8,SNR=2.1						
KMBO			SKKPbc		14 45 22.5		
	comp=Z,6.4nm,1.0s,baz=317,slow=3.4,SNR=13						
KMBO	**Kilima Mbogo**	**139.10 246**	PKHKP		14 33 55.5		
KMBO					14 37 07.1		
KMBO			pmax	pmax			
	comp=Z,13nm,0.8s						
KMBO			pmax	pmax			
	comp=E,68nm,1.1s						
KMBO		

ELZG Elazig 140.80 309 *i* P PKPdf 14 34 01.1 -4.8
MUD Monsted U'grnd 141.09 352 *i* P PKPdf 14 34 00.5 -5.9
comp=E,57nm,1.2s
MUD Monsted U'grnd 141.09 352 *i* PKHKP 14 34 00.5
MUD pmax pmax
comp=Z,57nm,1.2s
SIM Simferopol' 141.19 321 PKHKP 14 34 02.4
SIM pmax pmax
comp=Z,43nm,0.8s
MYA Malataya 141.28 309 *e*P PKPdf 14 34 04.5 -2.2
MALT Malatya 141.28 309 *e*P PKPdf 14 33 59.5 -7.2
MALT Malatya 141.28 309 ⇓PKIKP PKPdf 14 34 04.6 -2.1
MALT Malatya 141.28 309 *e*PKPpre 14 34 02.2
MALT *e*PKPdf PKPdf 14 34 04.8 -1.9
MALT *e*SKPdf SKPdf 14 36 44.4 +1.1
MALT *e*SKPbc SKPbc 14 36 48.0 +2.0
COP Copenhagen 141.34 349 *i* P PKPdf 14 33 59.5 -7.3
comp=Z,35nm,0.9s
COP Copenhagen 141.34 349 *e*PKHKP 14 33 59.5
COP pmax pmax
comp=Z,35nm,0.9s
BSD Bornholm Skovb 141.38 347 *i* P PKPdf 14 34 00.9 -6.0
comp=Z,63nm,1.1s
BSD Bornholm Skovb 141.38 347 *i* PKHKP 14 34 00.9
BSD pmax pmax
comp=Z,63nm,1.1s
SVSK Karacayir 141.70 312 *e*P PKPdf 14 34 04.7 -2.8
WAR Warsaw 142.24 339 *e*PKP PKPdf 14 34 05.4 -3.0
BOYT Boyabat 142.47 316 *i* P PKPdf 14 34 06.8 -2.0
GMK Mull of Kintyr 142.47 6 *e*P PKPdf 14 34 04.8 -4.1
GMK Mull of Kintyr 142.47 6 *e*P PKPdf 14 34 04.8 -4.1
GKP Gorka Klasztor 142.49 343 *e*PKP PKPdf 14 34 05.8 -3.1
GKP *e* 14 36 50.7
BYBT Boyabat 142.54 316 *e*P PKPdf 14 34 06.2 -2.7
ESK Eskdalemuir 142.68 3 *e*PKPdf PKPdf 14 34 04.7 -4.5
GCL Cushendall 142.69 6 *e*P PKPdf 14 34 03.9 -5.3
GCL Cushendall 142.69 6 *e*P PKPdf 14 34 03.9 -5.3
KIS Kishinev 142.90 327α *i*PKHKP 14 34 06.0
KIS pmax pmax
comp=Z,600nm,1.0s
KIS pmax pmax
comp=Z,500nm,1.0s
GAL1 Galloway 143.03 5 *e*P PKPdf 14 34 05.6 -4.2
GAL1 Galloway 143.03 5 *e*P PKPdf 14 34 05.6 -4.2
LVV L'vov 143.07 334*d* *i*PKIKP PKPdf 14 34 07.1 -2.8
TOS Tosya 143.24 316 *e*P PKPdf 14 34 09.1 -1.1
BSEG Bad Segeberg 143.37 350 *e*PKPbc PKPdf 14 34 08.5 -1.9
BSEG Bad Segeberg 143.37 350 *e*PKPbc 14 36 51.2
BALT Daday 143.42 317 *i* P PKPdf 14 34 09.8 -0.7
KOZT Kozan 143.50 309 *e*P PKPdf 14 34 08.4 -2.2
COBT Iskenderun 143.53 308 *i* P PKPdf 14 34 10.1 -0.6
GMM Mts of Mourne 143.53 6 *e*P PKPdf 14 34 07.2 -3.5
GMM Mts of Mourne 143.53 6 *e*P PKPdf 14 34 07.2 -3.5
CANT Cankiri 143.71 315 *e*P PKPdf 14 34 10.7 -0.3
CEYT Ceyhan 143.73 309 *e*P PKPdf 14 34 09.5 -1.5
WIM Isle of Man 143.74 5 *e*P PKPdf 14 34 08.7 -2.3
WIM AMb AMB 14 34 10.7
comp=Z,676nm,1.4s
WIM Isle of Man 143.74 5 *e*P PKPdf 14 34 08.7 -2.3
WIM AMb AMB 14 34 10.7
comp=Z,676nm,1.4s
DMUB Kingscourt 143.75 7⇓*i* P PKPdf 14 34 09.0 -2.1
HTY Hatay 143.76 307 *e*P PKPdf 14 34 10.5 -0.6
KWP Kalwaria 143.76 335 *e*PKP PKPdf 14 34 10.0 -1.1
KWP *e* 14 36 53.8
ELDT Eldivan 143.90 315 *i* P PKPdf 14 34 11.2 -0.1
RUE Ruedersdorf 144.08 346 *e*PKPdf PKPdf 14 34 10.3 -1.3
RUE *e*SKPbc SKPbc 14 36 53.6 +0.9
BR131 Keskin Array S 144.11 314 *e*PKPdf PKPdf 14 34 10.9 -0.7
BRTR Keskin Array B 144.11 314 PKP PKPdf 14 34 11.2 -0.5
comp=Z,106nm,0.8s,baz=130,slow=4.3,SNR=190
BRTR SKPbc SKPbc 14 36 53.9 +1.1
comp=Z,32nm,1.0s,baz=132,slow=1.8,SNR=8.7
BRTR SKKPbc 14 44 59.1
comp=Z,18nm,1.1s,baz=191,slow=2.5,SNR=14
BRTR Keskin Array B 144.11 314 PKIKP PKPdf 14 34 11.2 -0.5
BRTR pmax pmax
comp=Z,106nm,0.8s
BRTR pmax pmax
comp=E,32nm,1.0s
BRTR pmax pmax
comp=E,18nm,1.1s
FKH Fakeheh 144.16 304 *e*P PKPdf 14 34 12.3 +0.5
BURAR Bucovina Array 144.22 331 ⇓P PKPdf 14 34 12.6 +0.7
KAMT Kaman 144.22 313 *e*P PKPdf 14 34 11.4 -0.5
DCN Croghan 144.25 8⇓*i* P PKPdf 14 34 10.6 -1.3
OJC Ojcow 144.36 339 *e*PKPbc PKPdf 14 34 11.6 -0.5
OJC *e* 14 36 54.3
OJC Ojcow 144.36 339 *e*PKPbc PKPdf 14 34 11.6 -0.5
OJC *e* 14 36 54.3
DLF Lyons Farm 144.39 7⇓*i* P PKPdf 14 34 10.9 -1.3
KOLS Kolonicke sedl 144.48 335 *i* PKP PKPdf 14 34 12.5 +0.2
KOLS *i* pP 14 36 55.4
KOLS *es*P 14 37 01.8
KOLS *e* 14 44 56.9
STHS Stebnicka Huta 144.50 336 *i* PKP PKPdf 14 34 12.5 +0.2
STHS *e* 14 34 35.6
STHS *i* pP 14 36 55.2
STHS *e* 14 37 07.1
WCB1 Church Bay 144.52 5 *e*P PKPdf 14 34 10.7 -1.7
WCB1 AMb AMB 14 34 13.2
comp=Z,839nm,1.3s
WCB1 Church Bay 144.52 5 *e*P PKPdf 14 34 10.7 -1.7
WCB1 AMb AMB 14 34 13.2
comp=Z,839nm,1.3s
WME Myndd Eilian 144.52 5 *e*P PKPdf 14 34 11.6 -0.8
WME AMb AMB 14 34 14.0
comp=Z,848nm,1.6s
WME Myndd Eilian 144.52 5 *e*P PKPdf 14 34 11.6 -0.8
WME AMb AMB 14 34 14.0
comp=Z,848nm,1.6s
BSTP Nigde 144.56 311 *i* P PKPdf 14 34 12.9 +0.4
WLF1 Llynfaes 144.62 5 *e*P PKPdf 14 34 11.3 -1.3
WLF1 AMb AMB 14 34 14.3
comp=Z,1μm,1.5s
WLF1 Llynfaes 144.62 5 *e*P PKPdf 14 34 11.3 -1.3
WLF1 AMb AMB 14 34 14.3
comp=Z,1μm,1.5s
ANTO Ankara 144.62 315 *e*P PKPdf 14 34 11.1 -1.5
ANTO Ankara 144.62 315 *e*PKPdf PKPdf 14 34 12.1 -0.4
ANTO *ep*PKPdf pPKPdf 14 36 36.8 +1.0
ANTO *e*SKPdf SKPdf 14 36 51.4 +2.7
ANTO *e*SKPbc SKPbc 14 36 55.4 +1.5
YRC Rhoscolyn 144.64 5 *e*P PKPdf 14 34 10.9 -1.7
YRC AMb AMB 14 34 14.2
comp=Z,980nm,1.5s
YRC Rhoscolyn 144.64 5 *e*P PKPdf 14 34 10.9 -1.7
YRC AMb AMB 14 34 14.2
comp=Z,980nm,1.5s
UZH Uzhgorod 144.72 335 *e*PKIKP PKPdf 14 34 12.0 -0.7
VRI Vrincioaia 144.73 328 ⇑P PKPdf 14 34 13.1 +0.4
VRI Vrincioaia 144.73 328 ⇑P PKPdf 14 34 13.1 +0.3
TIRR Tirgusor 144.76 324 *e*PKPdf PKPdf 14 34 12.6 -0.2
TIRR *e*SKP 14 36 51.3
SGKT Sivrigoynuk 144.77 316 *i* P PKPdf 14 34 12.7 -0.2
KBI1 Birley Grange 144.82 2 *e*P PKPdf 14 34 11.2 -1.7
KBI1 Birley Grange 144.82 2 *e*P PKPdf 14 34 11.2 -1.7
CRVS Cervenica-Dubn 144.83 336 *e*PKP PKPdf 14 34 14.0 +1.1
CRVS *e* 14 36 56.8
NIE Niedzica 144.84 337 *e*PKP PKPdf 14 34 13.1 +0.2
NIE *e* 14 36 56.5
NIE Niedzica 144.84 337 *e*PKP PKPdf 14 34 13.1 +0.2
NIE *e* 14 36 56.5
BHL Bhannes 144.85 304 *e*P PKPdf 14 34 13.9 +1.0
HARR Harsova 144.88 325 ⇓P PKPdf 14 34 13.5 +0.5
HARR Harsova 144.88 325 ⇓P PKPdf 14 34 13.5 +0.5
YRE Yr Eifl 144.92 5 *e*P PKPdf 14 34 12.1 -1.0
YRE AMb AMB 14 34 16.2
comp=Z,795nm,1.8s
YRE Yr Eifl 144.92 5 *e*P PKPdf 14 34 12.1 -1.0
YRE AMb AMB 14 34 16.2
comp=Z,795nm,1.8s
KSP Ksiaz 144.93 342 *e*PKP PKPdf 14 34 13.8 +0.7
KSP *e* 14 36 56.7
KSP Ksiaz 144.93 342 *i* PKIKP PKPdf 14 34 13.6 +0.5
KSP *e*SS SS 14 55 37.0 -2.8
KSP Ksiaz 144.93 342 *e*PKPdf PKPdf 14 34 12.8 -0.3
KSP *i* PKPab PKPdf 14 34 13.6 +0.5
KSP *ep*PKP pPKPdf 14 36 37.6 +1.3
KSP *i* 14 36 55.8
KSP *e*SS SS 14 55 37.0 -2.8
WIT Witteveen 144.96 353 *e*PKP PKPdf 14 34 13.4 +0.2
comp=Z,3μm,1.4s
RAC Raciborz 145.01 340 *e*PKIKP PKPdf 14 34 14.1 +0.9
KWE Weaver Farm 145.05 2 *e*P PKPdf 14 34 12.7 -0.6
KWE Weaver Farm 145.05 2 *e*P PKPdf 14 34 12.7 -0.6
MEST Erdemli 145.08 309 *i* P PKPdf 14 34 14.0 +0.7
SBD1 Bryn Du 145.08 4 *e*P PKPdf 14 34 12.9 -0.5
SBD1 Bryn Du 145.08 4 *e*P PKPdf 14 34 12.9 -0.5
VAL Valentia 145.13 12⇑*i* P PKPdf 14 34 13.2 -0.2
OKC Ostrava-Krasne 145.24 340⇑*e*PKPB PKPdf 14 34 12.3 -1.3
OKC *e*SKP SKPdf 14 36 54.0 +4.3
UPC Upice 145.31 343 *e*PKPDF PKPdf 14 34 13.2 -0.5
UPC ⇑*e*PKPB PKPbc 14 34 14.9 -0.2
UPC *ep*PKP pPKPdf 14 36 39.8 +2.8
UPC *e*SKP 14 36 56.4
UPC Upice 145.31 343 *e*PKIKP PKPdf 14 34 13.2 -0.5
UPC *e* 14 34 14.9
CLL Collm 145.35 346 *e*PKPdf PKPdf 14 34 13.3 -0.5
CLL *i* PKPbc PKPbc 14 34 14.5 -0.7
comp=Z,637nm,1.3s
CLL *ep*PKPdf pPKPdf 14 36 37.9 +0.9
CLL *e*SKPbc SKPbc 14 36 56.1 +0.5
CLL *e*SKSdf SKSdf 14 40 30.6 +5.8
CLL *e*SKKSac SKKSac 14 43 28.8 -2.8
CLL *e*SKSP 14 46 57.7
CLL *e*PPS 14 50 34.0
CLL *e*SS SS 14 55 45.6 +1.0
CLL *es*SS 14 59 47.2
CLL Collm 145.35 346 *e*PKPbc 14 36 56.3
CLL Collm 145.35 346 *e*PKPdf PKPdf 14 34 13.0 -0.8
CLL ⇓*e*PKPbc PKPbc 14 34 14.6 -0.6
comp=Z,617nm,1.3s
CLL *i* PKiKP PKiKP 14 34 16.5 -1.6
CLL *ep*PKPdf pPKPdf 14 36 34.0 -3.0
CLL *i* SKPbc SKPbc 14 36 57.0 +1.4
comp=Z,185nm,0.9s
CLL *ex* x 14 37 18.0
CLL *e*(SKSdf) 14 40 31.0
CLL *e*SKKSac SKKSac 14 43 25.0 -6.6
CLL *e*SKKPbc 14 44 53.0
CLL *e*SKSP 14 47 00.0
CLL *e*PSKS 14 47 55.0
CLL *e*PPS 14 50 36.0
CLL *ex* x 14 52 15.0
CLL *es*SS SS 14 55 40.0 -4.6
CLL *es*SS 14 59 36.0
CLL *e*SSS 15 01 12.0
CLL *es*SSS 15 05 18.0
CLL *ex* x 15 13 42.0
CLL Collm 145.35 346⇓*e*PKP2 PKPab 14 34 14.6 -2.1
CLL pmax pmax
comp=Z,617nm,1.3s
CLL Collm 145.35 346⇓*e*PKP PKPdf 14 34 14.6 +0.8
CLL *ep*PKP pPKPdf 14 36 34.0 -3.0
CLL *i* SKP 14 36 57.0
CLL *e*SKKS SKKSac 14 43 25.0 -6.6
DPC Dobruska-Polom 145.36 342⇑*e*PKPB PKPdf 14 34 15.2 +1.4
DPC *ep*PKP pPKPdf 14 36 39.9 +2.8
DPC *e*SKP 14 36 55.6
MDU Mudurnu 145.37 317 *e*P PKPdf 14 34 14.3 +0.5
CLZ Clausthal 145.38 349 *e*PKPbc PKPbc 14 34 14.8 -0.5
CLZ Clausthal 145.38 349 *e*PKPbc 14 36 56.8
PSN Preselentsi 145.38 324 *e*P PKPdf 14 34 15.0 +1.1
MLR Muntele Rosu 145.38 328 ⇓P PKPdf 14 34 14.6 +0.7
MLR Muntele Rosu 145.38 328 PKIKP PKPdf 14 34 13.6 -0.3
MLR Muntele Rosu 145.38 328 ⇓P PKPdf 14 34 14.6 +0.7
HENT Hendek 145.39 317 *i* P PKPdf 14 34 10.2 -3.7
MORC Moravsky Berou 145.49 340 *e*PKPdf PKPdf 14 34 12.8 -1.3
MORC *ep*PKPdf pPKPdf 14 36 38.1 +0.8
MORC *e*SKPbc SKPbc 14 36 56.2 +0.2
MORC *e*PP PP 14 37 39.0 -3.3
HLM1 Long Mynd 145.49 4 *e*P PKPdf 14 34 14.3 +0.2
HLM1 AMb AMB 14 34 16.4
comp=Z,675nm,1.3s
HLM1 Long Mynd 145.49 4 *e*P PKPdf 14 34 14.3 +0.2
HLM1 AMb AMB 14 34 16.4
comp=Z,675nm,1.3s
BRG Berggiesshubel 145.53 345 *e*PKPdf PKPdf 14 34 13.6 -0.5
BRG *e*PKPbc PKPbc 14 34 15.2 -0.5
BRG *ep*PKPbc 14 36 39.6
BRG Berggiesshubel 145.53 345 *e*PKPbc 14 36 56.4
BRG Berggiesshubel 145.53 345 *i* PKP PKPdf 14 34 13.9 -0.2
comp=Z,252nm,1.1s
BRG *i* 14 34 22.0
BRG *i* 14 34 35.4
BRG *i* pPKP pPKPdf 14 36 35.0 -2.4
BRG *i* 14 36 39.7
comp=Z,47nm,1.4s
BRG *i* 14 36 57.2
comp=Z,76nm,0.9s
BRG PP Px 14 39 01.8
comp=Z,5.1nm,1.0s
BRG *e* 14 43 33.7
BRG SS SS 14 55 38.0 -8.6
BRG Berggiesshubel 145.53 345 *i* PKIKP PKPdf 14 34 13.9 -0.2
BRG pmax pmax
comp=Z,252nm,1.1s
BRG pmax pmax
comp=Z,47nm,1.4s
BRG pmax pmax
comp=Z,76nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 145.55 336 *i* PKP PKPdf 14 34 15.3 +1.2
KECS *e* 14 36 57.5
KECS *es*P 14 37 05.1
SSP1 Stoney Pound 145.58 4 *e*P PKPdf 14 34 14.3 +0.1
SSP1 Stoney Pound 145.58 4 *e*P PKPdf 14 34 14.3 +0.1
LIKS Likavka 145.58 338 *e*PKP PKPdf 14 34 16.5 +2.3
LIKS *e* 14 36 58.7
PVCC Panska Ves 145.68 344⇑*e*PKPB PKPdf 14 34 15.9 +1.5
PVCC *ep*PKP pPKPdf 14 36 40.2 +2.6
PVCC *e*SKP 14 36 57.8
SNX Sinaia 145.70 328 ⇓P PKPdf 14 34 16.7 +2.3
SNX Sinaia 145.70 328 ⇓P PKPdf 14 34 16.7 +2.3
KIZT Kizilcal 145.71 314 *e*P PKPdf 14 34 14.1 -0.3
KONT Konya--Tatoy 145.81 312 *e*P PKPdf 14 34 15.5 +1.0
VOIR 145.87 329 ⇑P PKPdf 14 34 16.4 +1.7
VOIR 145.87 329 ⇑P PKPdf 14 34 16.4 +1.7
ERMK Ermenek 145.97 310 *i* P PKPdf 14 34 13.1 -1.8
HAE Alders End 145.99 3 *e*P PKPdf 14 34 15.7 +0.8
HAE AMb AMB 14 34 20.1
comp=Z,1μm,1.4s
HAE Alders End 145.99 3 *e*P PKPdf 14 34 15.7 +0.8
HAE AMb AMB 14 34 20.1
comp=Z,1μm,1.4s
MCH1 Michaelchurch 146.00 4 *e*P PKPdf 14 34 14.8 -0.1
MCH1 AMb AMB 14 34 18.2
comp=Z,547nm,1.8s
MCH1 Michaelchurch 146.00 4 *e*P PKPdf 14 34 14.8 -0.1
MCH1 AMb AMB 14 34 18.2
comp=Z,547nm,1.8s
MTUR Matau 146.01 328 PKP2 PKPab 14 34 16.7 -2.7
GPA Golpazari 146.06 317 *e*P PKPdf 14 34 17.1 +2.1
SSW Stow on the Wo 146.10 3 *e*P PKPdf 14 34 16.4 +1.3
SSW Stow on the Wo 146.10 3 *e*P PKPdf 14 34 16.4 +1.3
ESKT Eskisehir 146.10 315 *i* P PKPdf 14 34 14.2 -0.8
PRD Provadia 146.13 324 *e*P PKPdf 14 34 16.0 +0.9
PRA Prague 146.14 344 ⇑PKPB PKPdf 14 34 17.0 +1.9
HSA Swansea 146.17 5 *e*P PKPdf 14 34 16.0 +0.9
HSA Swansea 146.17 5 *e*P PKPdf 14 34 16.0 +0.9
BORA Eskisehir 146.18 316 *i* P PKPdf 14 34 17.1 +2.0
HRT Hereke 146.18 318 *e*P PKPdf 14 34 16.5 +1.3
PRU Pruhonice 146.18 344 *e*PKPDF PKPdf 14 34 14.3 -0.9
PRU ⇑*e*PKPB PKPbc 14 34 17.1 -0.4
PRU *ep*PKP pPKPdf 14 36 41.4 +2.9
PRU *e*SKP 14 36 58.8
PRU Pruhonice 146.18 344 *e*PKIKP PKPdf 14 34 14.3 -0.9
PRU *e* 14 34 17.1
VRAC Vranov 146.20 341 ⇑PKP2 PKPab 14 34 17.2 -2.9
VRAC Vranov 146.20 341 P PKPdf 14 34 15.9 +0.7
VRAC ⇑P 14 34 17.2
PSZ Piszkesteto 146.24 336⇓*e*PKP/F PKPdf 14 34 16.8 +1.5
PSZ Piszkesteto 146.24 336 PKIKP PKPdf 14 34 15.3 0.0
PSZ Piszkesteto 146.24 336 *e*PKPdf PKPdf 14 34 13.1 -2.2
PSZ ⇓*e*P 14 34 16.8
BUG Bochum--Univer 146.24 352 *e*PKPdf PKPdf 14 34 14.7 -0.6
BUG *e*PKPbc PKPbc 14 34 16.7 -1.0
BUG Bochum--Univer 146.24 352 *e*PKPbc 14 36 58.0
MOX Moxa 146.27 347 *e*PKPdf PKPdf 14 34 15.2 -0.2
MOX *e*PKPbc PKPbc 14 34 16.6 -1.2
MOX Moxa 146.27 347 *e*PKPbc 14 36 58.4
MOX Moxa 146.27 347 *e*PKP PKPdf 14 34 14.7 -0.7
comp=Z,476nm,1.8s
MOX Moxa 146.27 347 *e*PKIKP PKPdf 14 34 14.7 -0.7
MOX pmax pmax
comp=Z,476nm,1.8s
TANN Tannenbergstha 146.30 346 *e*PKPdf PKPdf 14 34 14.7 -0.7
TANN *e*PKPbc PKPbc 14 34 17.1 -0.8
TANN Tannenbergstha 146.30 346 *e*PKPbc 14 36 58.2
CSS Prodhromos 146.31 307 P PKPdf 14 34 18.7 +3.3
comp=Z,1.9nm,0.6s
CSS Prodhromos 146.31 307 *e*PKPdf PKPdf 14 34 13.8 -1.6
CSS *e*PKPbc PKPbc 14 34 17.7 -0.2
HGH Gray Hill 146.38 4 *e*P PKPdf 14 34 16.4 +0.9
HGH AMb AMB 14 34 18.7
comp=Z,678nm,1.2s
HGH Gray Hill 146.38 4 *e*P PKPdf 14 34 16.4 +0.9
HGH AMb AMB 14 34 18.7
comp=Z,678nm,1.2s
SKP1 Kophill 146.38 1 *e*P PKPdf 14 34 16.5 +1.0
SKP1 Kophill 146.38 1 *e*P PKPdf 14 34 16.5 +1.0
UBBA Unterbreizbach 146.42 349 *e*PKPdf PKPdf 14 34 14.8 -0.8
UBBA *e*PKPab PKPab 14 34 20.4 -0.6
UBBA Unterbreizbach 146.42 349 *e*PKPbc 14 36 58.1
NKC Novy Kostel 146.48 346 *e*PKPDF PKPdf 14 34 15.5 -0.2
NKC ⇑*e*PKPB PKPbc 14 34 18.0 -0.3
NKC *ep*PKP pPKPdf 14 36 42.2 +3.2
NKC *e*SKP 14 36 58.4
NKC Novy Kostel 146.48 346 *e*PKIKP PKPdf 14 34 15.5 -0.2
NKC *e* 14 34 18.0
EIL Elat 146.53 297 *e*PKPdf PKPdf 14 34 15.2 -0.6
EIL *e*PKPbc PKPbc 14 34 18.8 +0.3
EIL *ep*PKPdf pPKPdf 14 36 38.1 -1.0
EIL *e*SKPbc SKPbc 14 36 60.0 +1.7
TREC Trest 146.54 342 *e*PKPDF PKPdf 14 34 15.0 -0.8
TREC ⇑*e*PKPB PKPbc 14 34 18.1 -0.4
TREC *e*SKP 14 36 59.3
TREC Trest 146.54 342 *e*PKIKP PKPdf 14 34 15.0 -0.8
TREC *e* 14 34 18.1
SWN1 Swindon 146.55 3 *e*P PKPdf 14 34 17.0 +1.1
SWN1 Swindon 146.55 3 *e*P PKPdf 14 34 17.0 +1.1
SMOL Smolenice 146.62 339 *i* PKP PKPdf 14 34 18.9 +3.0
SZAC Souni-Zanaja 146.72 306 P PKPdf 14 34 19.9 +3.8
ALFC Alevga 146.79 307 P PKPdf 14 34 19.6 +3.4
comp=Z,13nm,0.5s
ALT Altintas 146.83 315 *e*P PKPdf 14 34 17.5 +1.2
HEX Exmoor 146.87 5 *e*P PKPdf 14 34 17.8 +1.5
HEX Exmoor 146.87 5 *e*P PKPdf 14 34 17.8 +1.5
HTL Hartland 146.88 6 *e*P PKPdf 14 34 18.3 +2.0
HTL Hartland 146.88 6 *e*P PKPdf 14 34 18.3 +2.0
ULDT Uludag 146.89 318 *i* P PKPdf 14 34 15.9 -0.5
SWK Warminster 146.90 3 *e*P PKPdf 14 34 18.0 +1.6
SWK Warminster 146.90 3 *e*P PKPdf 14 34 18.0 +1.6
SZH Strazhica 146.90 325 *e*P PKPdf 14 34 19.0 +2.6
SRO Srobarova 146.91 338 *e*PKP PKPdf 14 34 19.3 +2.9
BUD Budapest 146.93 337⇑*e*PKP/B PKPdf 14 34 19.2 +2.8
ROTZ Rotzenmuhle 146.97 346 *e*PKPbc PKPbc 14 34 19.4 -0.2
ROTZ *ep*PKPbc pPKPbc 14 36 41.5 +1.3
ROTZ Rotzenmuhle 146.97 346 *e*PKPbc 14 36 59.2
SRO1 Iza 146.98 338 *e*PKP PKPdf 14 34 19.3 +2.8
AKMC Akamas 147.04 307 P PKPdf 14 34 19.8 +3.2
BEBN Eben Emael 147.06 354 PKPbc PKPbc 14 34 18.9 -0.9
BEBN PKPab PKPab 14 34 22.6 -1.0
JMB Yambol 147.06 323 *e*P PKPdf 14 34 19.0 +2.3
PPCY Paphos 147.09 307 P PKPdf 14 34 20.1 +3.4
TKTP Tekketepe 147.19 314 *i* P PKPdf 14 34 19.5 +2.6
MEM Membach 147.21 353 PKP PKPdf 14 34 16.4 -0.5
MEM PKPbc PKPbc 14 34 19.7 -0.6
KHC Kasperske Hory 147.22 344 *e*PKPDF PKPdf 14 34 16.1 -0.8
KHC ⇑*e*PKPB PKPbc 14 34 19.9 -0.4
KHC x x 14 34 49.5
KHC x x 14 35 55.0
KHC *e*SKP 14 37 00.7
KHC *e*SKKS SKKSac 14 43 44.0 +1.9
KHC *ex* x 14 44 00.0
KHC SKKP 14 44 45.0
PKSG 147.24 337⇓*e*P PKPdf 14 34 19.4 +2.4
GRF Grafenberg Arr 147.26 347 *e*PKPdf PKPdf 14 34 16.3 -0.7
GRF *e*PKPbc PKPbc 14 34 20.2 -0.2
GRF *e*PKPab PKPab 14 34 24.1 -0.3
GRF *ep*PKPbc pPKPbc 14 36 42.4 +1.2
GRF Grafenberg Arr 147.26 347 *e*PKPbc 14 37 00.0
GRF Grafenberg Arr 147.26 347 *e*PKP2 PKPab 14 34 20.2 -4.2
GRF Grafenberg Arr 147.26 347 *e*PKIKP PKPdf 14 34 16.3 -0.7
GRF *e* 14 34 24.1
PVL Pavlikeni 147.26 325 *e*P PKPdf 14 34 19.0 +2.0
TNS Taunus Mts 147.26 351 *e*PKPdf PKPdf 14 34 16.5 -0.5
TNS *e*PKPbc PKPbc 14 34 20.0 -0.4
TNS Taunus Mts 147.26 351 *e*PKPbc 14 37 00.2
BZS Buzias 147.36 332 ⇓P PKPdf 14 34 19.8 +2.6
BZS Buzias 147.36 332 P PKPdf 14 34 16.5 -0.7
BZS ⇓P 14 34 19.8
WET Wettzell 147.39 345 *e*PKPbc PKPbc 14 34 20.4 -0.3
WET *e*PKPab PKPab 14 34 24.7 -0.2
GEC2 GERESS Array S 147.45 344 *e*PKPbc PKPbc 14 34 20.3 -0.6
GEC2 *e*PKPab PKPab 14 34 24.9 -0.3
GERES GERESS Array B 147.45 344 PKP PKPdf 14 34 15.7 -1.6
comp=Z,49nm,0.7s,baz=260,slow=5.2,SNR=93
GERES PKPbc PKPbc 14 34 20.7 -0.2
comp=Z,49nm,0.6s,baz=29,slow=3.0,SNR=105
GERES SKPbc SKPbc 14 37 01.5 +1.2
comp=Z,17nm,0.9s,baz=11,slow=1.4,SNR=5.5
GERES GERESS Array B 147.45 344 PKHKP 14 34 15.7
GERES pmax pmax
comp=Z,49nm,0.7s
GERES pmax pmax
comp=Z,49nm,0.6s
GERES pmax pmax
comp=E,17nm,0.9s
SNF Seneffe 147.46 355 PKP PKPdf 14 34 17.2 -0.1
SNF PKPbc PKPbc 14 34 20.2 -0.7
SNF PKPab PKPab 14 34 24.2 -1.0
CSA1 St Austell 147.48 6 *e*P PKPdf 14 34 19.1 +1.8
CSA1 St Austell 147.48 6 *e*P PKPdf 14 34 19.1 +1.8
BNT Bandirma 147.54 319 *e*P PKPdf 14 34 20.2 +2.7
PKS8 Sarbogard 147.56 336⇓*i* P PKPdf 14 34 20.1 +2.6
CPZ Penzance 147.59 7 *e*P PKPdf 14 34 19.2 +1.7
CPZ Penzance 147.59 7 *e*P PKPdf 14 34 19.2 +1.7
KHL Karahalli 147.60 315 *e*P PKPdf 14 34 20.9 +3.4
SOP Sopron 147.63 340⇓*i* PKP/B PKPdf 14 34 21.0 +3.4
DJES Djerdap 147.69 330⇓*i* PKP PKPdf 14 34 20.3 +2.6
CGW Gweek 147.69 7 *e*P PKPdf 14 34 20.5 +2.8
CGW Gweek 147.69 7 *e*P PKPdf 14 34 20.5 +2.8
CMA1 Manaccan 147.72 7 *e*P PKPdf 14 34 20.2 +2.4
CMA1 Manaccan 147.72 7 *e*P PKPdf 14 34 20.2 +2.4
ABH Alteburg 147.73 351 PKP PKPdf 14 34 21.3 +3.5
TOD Tromm 147.80 350 PKP PKPdf 14 34 21.5 +3.6
BTOK Tokmak 147.81 318 *i* P PKPdf 14 34 20.2 +2.3
GIVF Givet 147.82 355 *e*PKIKP PKPdf 14 34 17.4 -0.5
comp=E,160nm,1.3s
DOU Dourbes 147.85 355 PKP PKPdf 14 34 17.0 -1.0
DOU PKPbc PKPbc 14 34 20.6 -1.3
BAIF Baives 147.92 355 *e*PKIKP PKPdf 14 34 17.7 -0.4
comp=E,69nm,1.2s
DIM Dimitrovgrad 147.92 324 *e*P PKPdf 14 34 22.0 +3.9
RUP Ruppelstein 147.97 352 PKP PKPdf 14 34 22.4 +4.2
ELL Elmali 148.09 312 *e*P PKPdf 14 34 21.5 +3.1
WLF Walferdange 148.12 353 PKP PKPdf 14 34 18.4 0.0
WLF PKPbc PKPbc 14 34 22.6 0.0
WLF PKPab PKPab 14 34 26.7 -1.2
WLF Walferdange 148.12 353 *e*PKPdf PKPdf 14 34 18.2 -0.2
WLF *e*PKPbc PKPbc 14 34 22.6 0.0
WLF *e*PKPab PKPab 14 34 26.7 -1.2
WLF *ep*PKPdf pPKPdf 14 36 44.3 +2.6
PKSM Moragy 148.13 336 PKIKP PKPdf 14 34 17.3 -1.1
PKSM Moragy 148.13 336⇓*e*P PKPdf 14 34 17.2 -1.2
PKSM *e* 14 36 43.5
MANT Manisa 148.16 316 *i* P PKPdf 14 34 22.7 +4.3
KTD Kalmit 148.19 351 PKP PKPdf 14 34 22.6 +4.1
MOA Molln 148.20 342⇑*i* P PKPdf 14 34 17.6 -0.9
comp=E,251nm,1.4s,SNR=24
DENT Denizli 148.22 314 *e*P PKPdf 14 34 22.1 +3.6
DNZL Cakiroluk 148.24 314 *i* P PKPdf 14 34 23.0 +4.4
PGB Panagyurishte 148.34 326 *e*P PKPdf 14 34 23.0 +4.2
PLD Plovdiv 148.35 324 *e*P PKPdf 14 34 22.0 +3.2
ARSA Arzberg 148.35 340⇓*i* P PKPdf 14 34 18.6 -0.1
comp=E,97nm,1.5s,SNR=17
ALN Alexandroupoli 148.36 321 *e*P PKPdf 14 34 20.7 +1.9
AKS Akhisar 148.44 317 *e*P PKPdf 14 34 22.4 +3.5
RHK1 Bakonya 148.45 336 *e*P PKPdf 14 34 14.0 -4.9
RHK1 *i* 14 34 18.5
BEO Belgrade 148.49 332⇓*i* PKP PKPdf 14 34 22.5 +3.5

RDO	Rodhopi	148.50	322	eP	PKPdf	14 34 23.0	+4.0
STU	Stuttgart	148.54	349	ePKPdf	PKPdf	14 34 18.6	-0.5
STU				ePKPbc	PKPbc	14 34 23.2	-0.4
STU				ePKPab	PKPab	14 34 28.6	-1.1
STU	Stuttgart	148.54	349	ePKPdf	PKPdf	14 34 18.7	-0.3
STU				ePKPbc	PKPbc	14 34 23.2	-0.4
STU				ePKPab	PKPab	14 34 29.2	-0.5
SVIS	Svilajnac	148.55	331 ⇓	iPKP	PKPdf	14 34 22.9	+3.8
BOLS	Boljevac	148.55	329 ⇑	iPKP	PKPdf	14 34 22.7	+3.6
LANF	Langenberg	148.57	351	PKP	PKPdf	14 34 23.7	+4.6
KSL	Kastellorizon	148.60	311	eP	PKPdf	14 34 22.0	+2.8
RZN	Rozhen	148.62	324	eP	PKPdf	14 34 18.0	-1.2
FUR	Furstenfeldbru	148.69	346	ePKPdf	PKPdf	14 34 18.8	-0.5
FUR				ePKPbc	PKPbc	14 34 23.6	-0.4
FUR				ePKPab	PKPab	14 34 30.1	-0.2
FUR				epPKPbc	pPKPbc	14 36 46.8	+1.4
VTS	Vitosha	148.82	327	eP	PKPdf	14 34 21.0	+1.5
VTS				⇓P		14 34 24.2	
AYVA	Ayvalik	148.92	318	iP	PKPdf	14 34 23.6	+3.9
YER	Yerkesik	149.04	314	eP	PKPdf	14 34 24.1	+4.2
AYDN	Tasoluk	149.05	315	iP	PKPdf	14 34 25.7	+5.8
KDAG	Bornova	149.06	316	iP	PKPdf	14 34 23.6	+3.7
IZM	Izmir	149.06	316	eP	PKPdf	14 34 23.9	+3.9
BFO	Black Forest	149.12	350	ePKPdf	PKPdf	14 34 19.7	-0.3
BFO				ePKPbc	PKPbc	14 34 24.4	-0.6
BFO	Black Forest	149.12	350	ePKPdf	PKPdf	14 34 18.7	-1.3
BFO				ePKPbc	PKPbc	14 34 24.5	-0.5
BFO				ePKPab	PKPab	14 34 31.5	-0.6
BFO				epPKPdf	pPKPdf	14 36 44.2	+0.8
BFO				eSKP		14 37 05.1	
KBA	Koelnbreinsper	149.16	343 ⇑	iP	PKPdf	14 34 21.9	+1.8
	comp=E,103nm,0.7s,SNR=23						
WLS	Welschbruch	149.19	351	PKP	PKPdf	14 34 25.2	+5.1
CDF	Champ du Feu	149.20	351	ePKIKP	PKPdf	14 34 19.4	-0.7
PRK	Paraskevi	149.22	319	eP	PKPdf	14 34 24.5	+4.3
MMB	Musomiste	149.24	325	eP	PKPdf	14 34 24.0	+3.8
SPAK	Spaichingen	149.26	349	PKP	PKPdf	14 34 25.0	+4.8
DIVS	Divcibare	149.27	332 ⇓	iPKP	PKPdf	14 34 24.9	+4.7
DIVS	Divcibare	149.27	332	eP	PKPdf	14 34 20.9	+0.6
OBKA	Obir	149.32	341 ⇑	iP	PKPdf	14 34 20.1	-0.2
	comp=E,104nm,1.1s,SNR=19						
FLN	La Foliniere	149.34	1	ePKIKP	PKPdf	14 34 19.7	-0.7
FLN				eR			
	comp=E,296nm,19.8s						
MEZF	Maizieres J'vi	149.39	354	ePKIKP	PKPdf	14 34 20.2	-0.2
WATA	Walderalm	149.39	345 ⇓	iP	PKPdf	14 34 20.2	-0.2
	comp=E,135nm,1.0s,SNR=18						
KKB	Krupnik	149.40	326	eP	PKPdf	14 34 25.0	+4.6
LIBD	Limburg	149.41	351	PKP	PKPdf	14 34 25.4	+4.9
ECH	Echery	149.41	351	PKP	PKPdf	14 34 25.4	+4.9
WTTA	Wattenberg	149.44	345 ⇑	iP	PKPdf	14 34 20.1	-0.5
	comp=E,263nm,1.0s,SNR=28						
MOTA	Moosalm	149.50	346 ⇑	iP	PKPdf	14 34 20.0	-0.6
	comp=E,260nm,1.4s,SNR=14						
LDF	La Druitiere	149.52	1	ePKIKP	PKPdf	14 34 19.7	-0.9
	comp=E,223nm,1.6s						
THEF	They Montfort	149.56	353	PKP	PKPdf	14 34 25.8	+5.1
SQTA	Sankt Quirin	149.59	345 ⇑	iP	PKPdf	14 34 20.4	-0.4
	comp=E,478nm,1.7s,SNR=25						
FELD	Feldberg	149.61	350	PKP	PKPdf	14 34 21.7	+0.9
ROSF	Rostrenen	149.63	5	ePKIKP	PKPdf	14 34 21.0	+0.2
SRS	Serrai	149.63	324	eP	PKPdf	14 34 20.2	-0.6
BBLS	Bajina Basta -	149.71	332	ePKP	PKPdf	14 34 27.0	+6.1
GRR	Gorron	149.71	2	ePKIKP	PKPdf	14 34 20.4	-0.5
SMG	Samos	149.72	316	eP	PKPdf	14 34 26.0	+5.1
HAU	Haudompre	149.73	352	ePKIKP	PKPdf	14 34 21.3	+0.3
HAU				eR			
	comp=E,170nm,21.5s						
DAT	Datca	149.74	313	eP	PKPdf	14 34 24.5	+3.5
LJU	Ljubljana	149.74	340	ePKPdf	PKPdf	14 34 20.4	-0.6
LJU				ePKPbc	PKPbc	14 34 25.7	-0.7
LJU				ePKPab	PKPab	14 34 33.6	-1.0
LJU				epPKPbc	pPKPbc	14 36 50.3	+2.1
LJU				epPKPab	pPKPab	14 36 57.3	+6.4
LJU				e		14 37 08.0	
LJU				ePP	PP	14 38 13.7	+6.9
LJU	Ljubljana	149.74	340	ePKPdf	PKPdf	14 34 20.4	-0.6
LJU				ePKPbc	PKPbc	14 34 25.7	-0.7
LJU				ePKPab	PKPab	14 34 33.6	-1.0
LJU				epPKPbc	pPKPbc	14 36 50.3	+2.1
LJU				epPKPab	pPKPab	14 36 57.3	+6.4
LJU				ePP	PP	14 38 13.7	+6.9
FVI	Forni Avoltri	149.76	343	P	PKPdf	14 34 25.1	+4.1
SGMF	Saint Gilles	149.76	4	ePKIKP	PKPdf	14 34 21.4	+0.4
MOF	Molkenrain	149.77	351	PKP	PKPdf	14 34 26.3	+5.3
PTCC	Patocco-Chiusa	149.77	342	P	PKPdf	14 34 20.9	-0.1
DAVA	Damuels	149.82	347 ⇑	iP	PKPdf	14 34 20.5	-0.6
	comp=E,394nm,1.7s,SNR=25						
HINF	Hinteralfeld	149.84	351	ePKIKP	PKPdf	14 34 20.3	-0.8
	comp=E,98nm,1.4s						
GMNA	Gemona	149.92	342	P	PKPdf	14 34 21.0	-0.3
OUR	Ouranopolis	149.93	323	eP	PKPdf	14 34 23.8	+2.5
BRES	Bressanone	149.94	344	P	PKPdf	14 34 21.9	+0.6
VOY	Vojsko	149.95	341	ePKPdf	PKPdf	14 34 20.5	-0.8
VOY				ePKPbc	PKPbc	14 34 25.8	-1.2
VOY				e		14 34 43.6	
VOY				e		14 34 56.8	
SOH	Sokhos	149.96	324	eP	PKPdf	14 34 23.4	+2.1
BOJS	Bojanci	149.97	339	ePKPdf	PKPdf	14 34 20.9	-0.4
BOJS				ePKPbc	PKPbc	14 34 26.9	-0.2
BOJS				i PKPab	PKPab	14 34 36.7	+1.0
BOJS				epPKPbc	pPKPbc	14 36 51.0	+2.2
KNT	Kendrikon	149.98	325	eP	PKPdf	14 34 24.9	+3.5
STIP	Stip	149.99	326	ePKP	PKPdf	14 34 26.1	+4.8
VAY	Valandovo	150.05	325	ePKP	PKPdf	14 34 25.3	+3.9
QUIF	Quistinic	150.05	5	ePKIKP	PKPdf	14 34 22.0	+0.5
BBS	Basel-Blauen	150.09	350	PKP	PKPdf	14 34 27.1	+5.6
PLE	Pljevlja	150.14	332 ⇓	iPKP	PKPdf	14 34 26.6	+5.0
SKO	Skopje	150.18	328	ePKP	PKPdf	14 34 27.4	+5.7
PLG	Polygyros	150.21	323	eP	PKPdf	14 34 26.0	+4.3
IVA	Berane	150.26	330 ⇓	iPKP	PKPdf	14 34 27.1	+5.3
APPI	Appiano	150.28	345	P	PKPdf	14 34 23.1	+1.3
LOMF	Lomont	150.31	351	PKP	PKPdf	14 34 27.5	+5.7
THE	Thessaloniki	150.31	324	eP	PKPdf	14 34 22.1	+0.3
ASCN	Ascension	150.33	149	ePKPdf	PKPdf	14 34 22.4	+0.5
ASCN				ePKPbc	PKPbc	14 34 27.9	0.0
GRG	Griva	150.40	325	eP	PKPdf	14 34 26.0	+4.0
PVY	Plav	150.44	330 ⇓	iPKP	PKPdf	14 34 27.3	+5.2
UPM	Unac-Piva	150.46	332 ⇓	iPKP	PKPdf	14 34 27.1	+5.1
CTI	Castel Tesino	150.57	344	P	PKPdf	14 34 22.4	+0.1
KARP	Karpathos	150.62	312	eP	PKPdf	14 34 27.5	+5.2
LOR	Lormes	150.72	355	ePKIKP	PKPdf	14 34 22.1	-0.4
	comp=E,154nm,1.5s						
LOR				eR			
	comp=E,238nm,22.8s						
NKY	Niksic	150.72	331 ⇓	iPKP	PKPdf	14 34 28.1	+5.6
HYF	Humbligny	150.79	357	ePKIKP	PKPdf	14 34 22.7	+0.1
BRY	Bratogost	150.86	332 ⇓	iPKP	PKPdf	14 34 28.1	+5.4
TTG	Podgorica	150.90	331 ⇓	iPKP	PKPdf	14 34 28.3	+5.5
BIA	Bitola	150.93	326	ePKP	PKPdf	14 34 23.4	+0.6
	comp=Z,21nm,0.7s						
BIA				epPK		14 34 27.9	
APE	Apeiranthos	150.94	316	eP	PKPdf	14 34 27.5	+4.7
APE	Apeiranthos	150.94	316	⇑P	PKPdf	14 34 27.8	+5.0
SSF	Saint Saulge	150.95	356	ePKIKP	PKPdf	14 34 22.5	-0.3
	comp=Z,129nm,1.4s						
XOR	Xorichti	151.02	322	eP	PKPdf	14 34 24.4	+1.5
FNA	Florina	151.07	326	eP	PKPdf	14 34 25.5	+2.5
CABF	La Chapelle	151.13	352	ePKIKP	PKPdf	14 34 23.3	+0.2
	comp=Z,134nm,1.3s						
OHR	Ohrid	151.14	327	ePKP	PKPdf	14 34 23.5	+0.4
	comp=Z,303nm,1.0s						
OHR				ePKP	PKPdf	14 34 28.3	+5.2
BUM	Brajici-Budva	151.17	331 ⇓	iPKP	PKPdf	14 34 28.8	+5.6
KZN	Kozani	151.19	325	eP	PKPdf	14 34 27.0	+3.8
AVF	Avril sur Loir	151.23	356	ePKIKP	PKPdf	14 34 22.5	-0.7
	comp=Z,83nm,1.5s						
HCY	Herceg Novi	151.24	332 ⇓	iPKP	PKPdf	14 34 28.7	+5.4
ULC	Ulcinj	151.27	330 ⇓	iPKP	PKPdf	14 34 28.9	+5.6
SMF	Signal de Mont	151.34	355	ePKIKP	PKPdf	14 34 22.8	-0.6
	comp=Z,75nm,1.4s						
SANT	Santorini	151.38	315	ePKPbc	PKPbc	14 34 28.6	-1.6
PTL	Penteli	151.44	319	eP	PKPdf	14 34 28.0	+4.4
MPAR	Parnis Oros	151.46	319	eP	PKPdf	14 34 29.0	+5.4
BGF	Bois d'Agland	151.49	357	ePKIKP	PKPdf	14 34 23.5	-0.1
MFF	Saint Martin d	151.51	1	ePKIKP	PKPdf	14 34 23.1	-0.6
	comp=Z,183nm,1.5s						
ATH	Athens Observa	151.58	319	eP	PKPdf	14 34 27.0	+3.2
AGG	Agios Georgios	151.75	322	eP	PKPdf	14 34 23.0	-1.0
ORO	Oropa	151.79	349	P	PKPdf	14 34 24.3	+0.2
TCF	Toulx Ste Croi	151.79	357	ePKIKP	PKPdf	14 34 23.8	-0.3
	comp=Z,68nm,1.1s						
MEV	Metsovon	151.85	325	eP	PKPdf	14 34 23.4	-0.8
NPS	Neapolis	151.85	313	eP	PKPdf	14 34 31.0	+6.8
NAIG	Nisos Aigina	151.86	319	eP	PKPdf	14 34 29.5	+5.3
AGO	Saint Agoulin	151.98	356	PKP	PKPdf	14 34 24.6	+0.2
LPL	La Plagne	152.11	351	ePKIKP	PKPdf	14 34 24.9	+0.3
EVR	Evrytania	152.12	323	eP	PKPdf	14 34 25.5	+0.9
LPG	La Plagne	152.12	351	ePKIKP	PKPdf	14 34 24.8	+0.2
JAN	Janina	152.15	325	eP	PKPdf	14 34 26.0	+1.4
PYM	Petit Puy Mans	152.29	356	PKP	PKPdf	14 34 25.5	+0.7
ERBM	Eremo	152.41	345	P	PKPdf	14 34 25.0	0.0
GSCL	Gusciola	152.43	344	P	PKPdf	14 34 23.6	-1.4
FNVD	Fontana Vidola	152.45	343	P	PKPdf	14 34 24.8	-0.3
IGT	Igoumenitsa	152.52	325	eP	PKPdf	14 34 27.0	+1.9
BNI	Bardonecchia	152.57	350	ePKPdf	PKPdf	14 34 24.7	-0.5
BNI				ePKPbc	PKPbc	14 34 32.2	-0.6
BNI				ePKPab	PKPab	14 34 38.0	-8.7
BNI				eSKPdf	SKPdf	14 36 57.3	-3.1
BNI				ePP	PP	14 38 16.8	-5.9
VLC	Villacollemand	152.66	344	ePKPbc	PKPbc	14 34 31.4	-1.7
VLC				ePKPab	PKPab	14 34 43.4	-3.6
KEK	Kerkira	152.68	326	eP	PKPdf	14 34 32.5	+7.1
LBL	Lubilhac	152.79	356	PKP	PKPdf	14 34 26.0	+0.5
RJF	Les Rejaudoux	152.80	358	ePKIKP	PKPdf	14 34 25.1	-0.5
	comp=Z,128nm,1.4s						
RJF				eR			
	comp=Z,203nm,22.2s						
ORIF	Oris-en-Rattie	152.82	352	ePKIKP	PKPdf	14 34 25.5	-0.1
	comp=Z,58nm,1.4s						
ORIF				eR			
	comp=Z,228nm,21.5s						
VLI	Veliai	152.84	318	eP	PKPdf	14 34 33.0	+7.4
MBDF	Montbardon	152.87	350	ePKIKP	PKPdf	14 34 25.5	-0.2
LKD	Levkas	152.93	324	eP	PKPdf	14 34 27.4	+1.7
VIVF	Saint-Julien-l	153.03	353	ePKIKP	PKPdf	14 34 25.8	-0.1
	comp=Z,104nm,1.5s						
NRCA	Norcia	153.05	339	P	PKPdf	14 34 25.5	-0.4
CAF	Calviac	153.16	357	ePKIKP	PKPdf	14 34 25.9	-0.2
	comp=Z,67nm,1.4s						
AQU	L'Aquila	153.38	338	ePKPdf	PKPdf	14 34 28.4	+2.0
AQU				ePKPbc	PKPbc	14 34 33.5	-1.1
GRFL	Gerfalco	153.44	343	P	PKPdf	14 34 25.0	-1.5
SBF	Sospel	153.59	349	ePKIKP	PKPdf	14 34 26.0	-0.7
	comp=Z,145nm,1.2s						
PTQR	Pietraquaria	153.67	338	P	PKPdf	14 34 26.5	-0.3
SMRF	Simiane la Rot	153.79	352	ePKIKP	PKPdf	14 34 26.0	-1.0
LASF	Ste Croix	153.89	354	ePKIKP	PKPdf	14 34 27.2	+0.1
	comp=Z,108nm,1.4s						
EMAZ	Mazaricos	153.91	16	PKP	PKPdf	14 34 26.7	-0.4
EMAZ				PKPab	PKPab	14 34 50.0	-2.3
EPON	Pontenova	153.98	13	PKP	PKPdf	14 34 32.5	+5.2
EPON				PKPab	PKPab	14 34 51.0	-1.6
FRF	La Foret Royal	154.03	350	ePKIKP	PKPdf	14 34 26.7	-0.6
STS	Santiago	154.07	15	PKP	PKPdf	14 34 27.8	+0.5
STS				PKPab	PKPab	14 34 52.6	-0.5
LMR	La Mourre	154.27	350	ePKIKP	PKPdf	14 34 27.3	-0.3
	comp=Z,35nm,1.0s						
EARI	Arriondas	154.36	10	PKP	PKPdf	14 34 24.6	-3.2
EARI				PKPab	PKPab	14 34 52.5	-1.8
PGF	Pioggiola	154.51	345	ePKIKP	PKPdf	14 34 27.2	-0.8
	comp=Z,123nm,1.1s						
TIP	Timpagrande	154.62	329	ePKPdf	PKPdf	14 34 29.0	+0.9
TIP				ePKPbc	PKPdf	14 34 36.4	+8.2
TIP				ePKPab	PKPab	14 34 55.0	-0.4
ELAN	Lanestosa	154.67	7	PKP	PKPdf	14 34 27.7	-0.5
ELAN				PKPab	PKPab	14 34 53.6	-2.1
EZAM	Zamans	154.73	16	PKP	PKPdf	14 34 33.5	+5.2
EZAM				PKPab	PKPab	14 34 55.1	-0.8
MTLF	Montolieu	154.73	357	ePKIKP	PKPdf	14 34 27.9	-0.3
	comp=Z,38nm,1.1s						
EALK	Alkurruntz	154.84	3	PKP	PKPdf	14 34 27.7	-0.7
EALK				PKPab	PKPab	14 34 54.3	-2.1
ERUA	La Rua	154.87	13	PKP	PKPdf	14 34 28.3	-0.1
ERUA				PKPab	PKPab	14 34 55.7	-0.8
ELIZ	Elizondo	154.90	3	PKP2	PKPab	14 34 55.3	-1.3
SJPF	Ste Jean	154.96	3	ePKIKP	PKPdf	14 34 28.7	+0.1
	comp=Z,88nm,1.3s						
EPF	Esparros	155.09	0	ePKIKP	PKPdf	14 34 28.8	+0.1
	comp=Z,113nm,1.4s						
ELOB	Lobios	155.16	15	PKP	PKPdf	14 34 27.6	-1.2
ELOB				PKPab	PKPab	14 34 56.6	-1.1
ETSF	Etsaut	155.20	2	ePKIKP	PKPdf	14 34 29.0	+0.1
	comp=Z,69nm,1.3s						
ECRI	Cripan	155.38	5	PKP2	PKPab	14 34 57.6	-1.1
ECAL	Calabor	155.39	13	PKP	PKPdf	14 34 36.3	+7.2
ECAL				PKPab	PKPab	14 34 56.6	-2.2
EBIE	Bielsa	155.43	1	PKP	PKPdf	14 34 29.8	+0.6
EBIE				PKPab	PKPab	14 34 58.3	-0.6
PBRG	Braganca	155.52	13	ePKPab	PKPab	14 34 58.4	-0.9
EGRA	Graus	155.92	0	PKP	PKPdf	14 34 25.1	-4.7
EGRA				PKPab	PKPab	14 35 00.4	-0.6
EMIR	Miracle	156.19	358	PKPab	PKPab	14 35 00.1	-2.1
MTE	Manteigas	156.67	16	ePKPdf	PKPdf	14 34 30.9	+0.1
MTE	Manteigas	156.67	16	ePKPdf	PKPdf	14 34 30.6	-0.2
MTE				ePKPab	PKPab	14 35 03.0	-1.2
EPOB	Poblet	156.76	359	PKP	PKPdf	14 34 27.9	-3.0
EPOB				PKPab	PKPab	14 35 03.5	-1.1
GUD	Guadarrama	157.12	9	PKP	PKPdf	14 34 30.5	-0.9
GUD				PKPab	PKPab	14 35 05.1	-1.2
ERTA	Horta de San J	157.16	0	PKP	PKPdf	14 34 30.4	-1.0
ERTA				PKPab	PKPab	14 35 04.7	-1.7
PCBR	Castelo Branco	157.21	16	ePKPdf	PKPdf	14 34 31.6	+0.1
EBR	Ebro Roquetas	157.30	360	ePKPpB	PKPab	14 35 04.0	-3.0
PLOU	Loures	157.60	20	ePKPab	PKPab	14 35 08.1	-0.2
EMOS	Mosqueruela	157.74	2	PKP	PKPdf	14 34 31.4	-0.7
ESDC	Sonseca Array	158.10	9	PKP	PKPdf	14 34 32.0	-0.6
	comp=Z,3.5nm,0.8s,baz=347,slow=2.5,SNR=9.3						
ESDC				PKPab	PKPab	14 35 09.6	-0.9
	comp=Z,29nm,0.8s,baz=346,slow=3.9,SNR=30						
ESDC				PP	PP	14 38 51.5	-1.5
	comp=Z,19nm,1.3s,baz=352,slow=5.1,SNR=4.3						
ESDC	Sonseca Array	158.10	9	PKP	PKPdf	14 34 31.5	-1.1
ESDC				PKPab	PKPab	14 35 09.1	-1.5
EVO	Evora	158.28	18	ePKP2	PKPab	14 35 10.3	-1.0
	comp=Z,348nm,1.3s						
EBAD	Badajoz	158.35	16	PKP	PKPdf	14 34 31.7	-1.1
EBAD				PKPab	PKPab	14 35 09.6	-2.0
ECHE	Chera	158.49	3	PKP	PKPdf	14 34 33.1	+0.1
ECHE				PKPab	PKPab	14 35 11.4	-0.8
PBEJ	Beja	158.79	18	ePKPdf	PKPdf	14 34 33.3	0.0
PTEO	Sao Teotonio	158.96	21	ePKPab	PKPab	14 35 13.6	-0.6
EVIA	Vianos	159.31	7	PKP	PKPdf	14 34 33.8	-0.1
EGRO	El Granado	159.36	18	PKP	PKPdf	14 34 33.6	-0.4
EGRO				PKPab	PKPab	14 35 14.5	-1.5
EMIN	Mina Concepcio	159.37	16	PKP	PKPdf	14 34 33.6	-0.4
EMIN				PKPab	PKPab	14 35 14.8	-1.3
ECAB	El Cabril	159.38	13	PKP	PKPdf	14 34 32.5	-1.5
ECAB				PKPab	PKPab	14 35 14.1	-2.0
ETOB	Tobarra	159.39	5	PKP	PKPdf	14 34 33.6	-0.5
ETOB				PKPab	PKPab	14 35 15.6	-0.6
EADA	Adamuz	159.47	11	PKP	PKPdf	14 34 33.3	-0.9
EADA				PKPab	PKPab	14 35 15.0	-1.5
EBAN	Banos Encina	159.61	10	PKP	PKPdf	14 34 33.8	-0.5
EBAN				PKPab	PKPab	14 35 16.5	-0.6
EQES	Quesada	160.07	8	PKP	PKPdf	14 34 32.6	-2.1
EQES				PKPab	PKPab	14 35 18.1	-1.1
EHUE	Huescar	160.12	7	PKP	PKPdf	14 34 34.9	0.0
EHUE				PKPab	PKPab	14 35 18.8	-0.5
EHIG	Higuera	160.24	55	PKP	PKPdf	14 34 37.0	+2.0
EHIG				PKPab	PKPab	14 35 20.0	+0.1
ESPR	Espera	160.43	15	PKP	PKPdf	14 34 34.8	-0.4
ESPR				PKPab	PKPab	14 35 20.0	-0.7
ECOG	Cogollos-Vega	160.51	10	PKP	PKPdf	14 34 34.4	-0.9
ECOG				PKPab	PKPab	14 35 19.6	-1.4
ELOJ	Sierra Loja	160.53	11	PKP	PKPdf	14 34 35.7	+0.4
ELOJ				PKPab	PKPab	14 35 20.7	-0.5
ERON	Agron	160.72	10	PKP	PKPdf	14 34 36.0	+0.5
ERON				PKPab	PKPab	14 35 21.7	-0.3
EGOM	La Gomera	160.89	55	PKP	PKPdf	14 34 36.0	+0.3
EGOM				PKPab	PKPab	14 35 22.3	-0.4
EJIF	Jimena Fronter	160.92	15	PKP	PKPdf	14 34 38.5	+2.8
EJIF				PKPab	PKPab	14 35 22.5	-0.4
EMIJ	Mijas	160.97	13	PKP	PKPdf	14 34 42.8	+7.0
CCAN	Las Canadas	161.33	54	PKP	PKPdf	14 34 35.6	-0.5
CCAN				PKPab	PKPab	14 35 25.1	+0.5
EBAJ	Bajamar	161.37	53	PKP	PKPdf	14 34 36.2	+0.1
EBAJ				PKPab	PKPab	14 35 24.7	-0.1
EMHD	Djebel Mahouad	161.78	354	P	PKPab	14 35 27.0	+0.4
EBNR	Beni Rached	161.79	357	P	PKPab	14 35 32.0	+5.3
ECHA	Ech Chlef	161.94	358	P	PKPab	14 35 28.4	+1.1
EANR	'Ain N'Sour	162.15	358	P	PKPab	14 35 28.2	-0.1
ETRT	Tiaret	162.70	358	P	PKPab	14 35 30.6	-0.1
MDT	Midelt	164.59	16	PKP	PKPdf	14 34 39.9	+0.7
	comp=Z,20nm,0.8s,baz=303,slow=0.7,SNR=13						
MDT				PKPab	PKPab	14 35 38.9	-0.1
	comp=Z,89nm,0.9s,baz=344,slow=4.3,SNR=31						
MDT				SKP		14 37 15.2	
	comp=Z,16nm,1.2s,baz=49,slow=2.1,SNR=3.5						
DBIC	Dimbokro	167.56	155	PKP	PKPdf	14 34 41.0	-0.5
	comp=Z,15nm,0.7s,baz=134,slow=2.3,SNR=25						
DBIC				PKPab	PKPab	14 35 53.1	+1.0
	comp=Z,23nm,0.7s,baz=178,slow=5.6,SNR=14						
DBIC				SKP		14 37 14.9	
	comp=Z,8.7nm,1.0s,baz=150,slow=3.5,SNR=4.0						
DBIC				PP	PP	14 39 43.5	+1.4
	comp=Z,15nm,0.9s,baz=174,slow=5.7,SNR=7.7						
DBIC	Dimbokro	167.56	155	PKIKP	PKPdf	14 34 41.0	-0.5
DBIC						14 35 53.1	
DBIC						14 39 43.5	
DBIC				pmax	pmax		
	comp=Z,15nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,23nm,0.7s						
DBIC				pmax	pmax		
	comp=E,9.0nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,15nm,0.9s						
DBIC	Dimbokro	167.56	155	ePKPdf	PKPdf	14 34 40.8	-0.7
DBIC				ePKPab	PKPab	14 35 52.9	+0.7
DBIC				eSKP		14 37 11.8	
DBIC				ePP	PP	14 39 41.7	-0.4
TORD	Torodi Ar. Bea	175.00	194	PKP	PKPdf	14 34 44.0	-1.1
	comp=Z,20nm,0.8s,baz=338,slow=0.6,SNR=63						
TORD				PKPab	PKPab	14 36 25.4	+0.3
	comp=Z,22nm,0.8s,baz=147,slow=2.8,SNR=19						
TORD				pPKP	pPKPdf	14 37 08.1	-1.7
	comp=Z,6.6nm,1.0s,baz=357,slow=2.6,SNR=1.4						
TORD				pPKPab	pPKPab	14 38 38.9	-0.9
	comp=Z,19nm,1.1s,baz=173,slow=2.3,SNR=4.1						
TORD				PP	PP	14 40 18.2	-0.1
	comp=Z,16nm,0.9s,baz=164,slow=4.8,SNR=7.2						

*ISCJB **24** 14:32:45.6±1.1, 183S±01×1790W±02, h658km±18km, mb4.3/19, Error ellipse: s-maj=24.8km s-min=14.3km az=71.0*
*IDC **24** 14:32:45.3±1.6, 18.18S×179.16W, h619km±20km, mb3.8/9, mb1 3.8/11, mb1mx3.6/21, mbtmp4.8/11, Error ellipse: s-maj=24.1km s-min=16.5km az=128.0*
*NEIC **24** 14:32:45.7±1.1, 1802S×17925W, h620km±15km, mb4.4/14, Error ellipse: s-maj=19.6km s-min=12.4km az=136.0*

ISC 24 14:32:46.3±1.1, 181S±01×1792W±02, h628km±19km, n36, σ0997/33, mb4.4/19, 5.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.24	61	P	P	14 34 49.2	+0.5
	6.4nm,0.3s,baz=273,slow=14,SNR=5.1						
AFI	Afiamalu	8.24	61	ePn	P	14 34 48.3	-0.5
DZM	Mont Dzumac	14.07	251	P	P	14 35 45.0	+0.3
	1.2nm,0.3s,baz=100,slow=17,SNR=11				

UTMO	**Huajuapan**	**1.81**	**98**	*i* P	Pn	14 43 22.7	+1.2
UTMO				*i* S	Sn	14 43 40.7	-4.1

*CSEM **24** 14:43:18.2±0.1, 3777N×2630W, h5km, ML3.3, Error ellipse: s-maj=8.6km s-min=1.9km az=24.0, After PDA*
*PDA **24** 14:43:18.2±1.8, 3777N×2630W, h5km±6km, MD3.1, ML3.3, Error ellipse: s-maj=7.3km s-min=2.6km az=27.0*

SVSA 24 14:43:18.2±1.8, 3777N×2630W, h5km±6km, MD3.1, ML3.3, Error ellipse: s-maj=7.3km s-min=2.6km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET2	**Ginetes**	**0.40**	**80**	*e*P	Pg	14 43 25.2	-0.6
PFET	**Feteiras**	**0.41**	**84**	*e*P	Pg	14 43 25.3	-0.7
SET4	**Mosteiros**	**0.41**	**75**	*e*P	Pg	14 43 25.3	-0.8
PSAN	**Santo Antonio**	**0.46**	**80**	*e*P	Pg	14 43 26.1	-1.0
PSET	**Sete Cidades**	**0.46**	**84**	*i* P	Pg	14 43 25.2	-1.9
PSET				*e*S	Sg	14 43 31.1	-2.0
PSET	2μm,0.2s						
PSET	**Sete Cidades**	**0.46**	**84**	*e*S	Sg	14 43 31.1	-2.0
PDA	**Ponta Delgada**	**0.51**	**93**	*e*P	Pg	14 43 27.6	-0.3
PDA				*e*S	Sg	14 43 34.2	-0.3
FAC	**Faja de Cima**	**0.51**	**90**	*e*P	Pg	14 43 27.4	-0.7
FAC				*e*S	Sg	14 43 33.1	-1.7
CML	**Cha da Macela**	**0.60**	**90**	*e*P	Pg	14 43 28.5	-1.2
CML				*e*S	Sg	14 43 36.0	-1.4
PVER	**Pico Vermelho**	**0.62**	**88**	*e*P	Pg	14 43 28.7	-1.5
PVER				*e*S	Sg	14 43 36.7	-1.5
PVER	336nm,0.3s						
PVER	**Pico Vermelho**	**0.62**	**88**	*e*P	Pg	14 43 28.7	-1.5
PVER				*e*S	Sg	14 43 36.7	-1.5
LFA	**Lagoa do Fogo**	**0.65**	**90**	*i* P	Pg	14 43 29.2	-1.4
PRCH	**Ribeira Ch**	**0.65**	**94**	*e*P	Pg	14 43 29.3	-1.4
PRCH				*e*S	Sg	14 43 37.7	-1.5
PRCH	674nm,0.1s						
PRCH	**Ribeira Ch**	**0.65**	**94**	*e*P	Pg	14 43 29.3	-1.4
PRCH				*e*S	Sg	14 43 37.7	-1.5
PMAT	**Coroa da Mata**	**0.66**	**86**	*i* P	Pg	14 43 29.3	-1.5
PMAT				*e*S	Sg	14 43 37.5	-1.9
PMAT	37nm,0.2s						
PMAT	**Coroa da Mata**	**0.66**	**86**	*e*S	Sg	14 43 37.5	-1.9
MESC	**Monte Escuro**	**0.68**	**88**	*i* P	Pg	14 43 28.9	-2.3
MESC				*e*S	Sg	14 43 37.6	-2.4
MESC	**Monte Escuro**	**0.68**	**88**	*e*S	Sg	14 43 37.6	-2.4
VIF	**Vila Franca**	**0.68**	**92**	*e*P	Pg	14 43 29.2	-2.1
VIF				*e*S	Sg	14 43 38.5	-1.6
VIF	272nm,0.1s						
VIF	**Vila Franca**	**0.68**	**92**	*e*P	Pg	14 43 29.2	-2.1
VIF				*e*S	Sg	14 43 38.5	-1.6
PCNG	**Congro**	**0.72**	**90**	*e*P	Pg	14 43 29.6	-2.3
PCNG				*e*S	Sg	14 43 39.1	-2.1
PCNG	403nm,0.2s						
PCNG	**Congro**	**0.72**	**90**	*e*P	Pg	14 43 29.6	-2.3
PCNG				*e*S	Sg	14 43 39.1	-2.1
PFAD	**Fenais da Ajud**	**0.78**	**85**	*i* P	Pg	14 43 30.2	-2.9
MIRA	**Miradouro**	**0.81**	**89**	*e*P	Pg	14 43 30.9	-2.8
PFAV	**Pico das Favas**	**1.12**	**327**	*i* P	Pg	14 43 35.8	-3.9
PFAV				*i* S	Sg	14 43 48.9	-5.4
PFAV	319nm,0.2s						
PSCM	**Serra do Cume**	**1.13**	**325**	*i* P	Pg	14 43 34.9	-4.9
PSCM				*e*S	Sg	14 43 48.2	-6.3
PSCM	1μm,0.1s						
RIB2	**Ribeirinha**	**1.13**	**323**	*i* P	Pg	14 43 36.2	-3.7
RIB2				*i* S	Sg	14 43 49.3	-5.3
RIB2	284nm,0.1s						
ADH	**Angra Heroismo**	**1.15**	**320**	*e*P	Pg	14 43 35.2	-5.0
ADH				*e*S	Sg	14 43 48.5	-6.6
PVNV	**Vila Nova**	**1.20**	**326**	*i* P	Pg	14 43 36.9	-4.2
PVNV				*i* S	Sg	14 43 50.7	-5.9
PVNV	268nm,0.1s						
PPAD	**Pico dos Padre**	**1.21**	**320**	*i* P	Pg	14 43 37.2	-4.2
PPAD				*e*S	Sg	14 43 51.0	-6.1
PPAD	129nm,0.1s						
PSMA	**Santa Maria**	**1.21**	**129**	*e*S	Sg	14 44 03.1	+5.9
PBIS	**Biscoitos**	**1.24**	**323**	*i* P	Pg	14 43 37.4	-4.6
PBIS				*e*S	Sg	14 43 51.8	-6.3
PBIS	98nm,0.2s						
ASBA	**Santa Barbara**	**1.24**	**320**	*e*P	Pg	14 43 37.7	-4.4
ASBA				*e*S	Sg	14 43 52.2	-6.0
ASBA	202nm,0.1s						
ASBA	**Santa Barbara**	**1.24**	**320**	*e*P	Pg	14 43 37.7	-4.4
ASBA				*e*S	Sg	14 43 52.2	-6.0
PSMN	**Pico do Norte,**	**1.25**	**128**	*e*P	Pg	14 43 37.6	-4.5
PSMN				*e*S	Sg	14 43 52.1	-6.2
PSBA	**Serra de Santa**	**1.28**	**321**	*i* P	Pg	14 43 37.3	-5.4
PSBA				*e*S	Sg	14 43 52.6	-6.7
PSBA	252nm,0.2s						
PIED	**Piedade**	**1.53**	**296**	*erx*	Pn	14 43 43.5	-2.6
PMAN	**Manadas**	**1.65**	**302**	*e*S	Sn	14 44 00.1	-9.3
PMAN	262nm,0.3s						
PPNO	**Prainha do Nor**	**1.70**	**295**	*e*P	Pn	14 43 42.8	-5.7
PPNO				*e*S	Sn	14 44 02.2	-8.4
PPNO	275nm,0.2s						
PPNO	**Prainha do Nor**	**1.70**	**295**	*e*P	Pn	14 43 42.8	-5.7
PPNO				*e*S	Sn	14 44 02.2	-8.4
PAMA	**Santo Amaro**	**1.74**	**302**	*e*S	Sn	14 44 03.1	-8.4
PAMA	68nm,0.3s						
PBOI	**Pico dos Bois**	**1.77**	**293**	*e*S	Sn	14 44 04.8	-7.5
PBOI	74nm,0.2s						
ROSA	**Rosais**	**1.80**	**302**	*e*P	Pn	14 43 45.1	-4.7
ROSA				*e*S	Sn	14 44 04.7	-8.3
PGRA	**Graciosa**	**1.82**	**314**	*e*P	Pn	14 43 45.1	-5.1
PGRA				*e*S	Sn	14 44 04.8	-8.8
PGRA	136nm,0.3s						
PGRA	**Graciosa**	**1.82**	**314**	*e*P	Pn	14 43 45.1	-5.1
PGRA				*e*S	Sn	14 44 04.8	-8.8
PICO	**Pico**	**1.83**	**294**	*e*P	Pn	14 43 45.7	-4.6
PICO				*e*S	Sn	14 44 05.7	-8.1
PCND	**Candelaria**	**1.84**	**293**	*e*S	Sn	14 44 06.0	-8.1
PCND	41nm,0.2s						
STGR	**Santa Cruz**	**1.87**	**315**	*e*S	Sn	14 44 06.6	-8.2
STGR	76nm,0.1s						
PVIA	**Vitoria**	**1.89**	**314**	*e*S	Sn	14 44 06.6	-8.7
PVIA	27nm,0.2s						
HOR	**Horta**	**1.99**	**293**	*e*P	Pn	14 43 48.1	-4.3
HOR				*e*S	Sn	14 44 09.5	-8.2
CALA	**Caldeira**	**2.06**	**294**	*e*P	Pn	14 43 48.7	-4.7
CALA				*e*S	Sn	14 44 11.7	-7.8
PCED	**Cedros**	**2.08**	**295**	*e*S	Sn	14 44 11.0	-8.9
PCED	100nm,0.2s						
PLUZ	**Luz**	**2.44**	**301**	*erx*	Pn	14 44 04.9	+6.2

*NAO **24** 15:16:18.6, 3569S×17227E, h33km, mb3.8*
*ISCJB **24** 15:16:20.5±1.3, 3196S±006×1775W±02, h70km±11km, mb4.7/7, Error ellipse: s-maj=27.9km s-min=8.5km az=26.9*
*NEIC **24** 15:16:23.6±1.1, 3183S×17791W, h54km±9km, mb4.8/5, Error ellipse: s-maj=18.1km s-min=9.8km az=102.0*
*IDC **24** 15:16:25.3±2.4, 3167S×17838W, h44km±21km, mb4.5/3, mb1 4.7/5, mb1mx4.2/14, mbtmp4.6/5, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/26, Error ellipse: s-maj=36.1km s-min=18.4km az=117.0*

ISC 24 15:16:21.9±1.3, 3191S±007×1775W±02, h68km±10km, n46, σ0°91/48, mb4.7/7, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.68**	**351**	P	Pn	15 17 02.9	+0.3
RAO	91nm,0.3s,baz=293,slow=24,SNR=3.8			S	Sn	15 17 28.2	-5.9
RAO	386nm,0.3s,baz=116,slow=21,SNR=7.6			LR	LR	15 17 37.3	
RAO	**Raoul Island**	**2.68**	**351**	*e*Pn	Pn	15 17 02.0	-0.6
RAO				*e*Sn	Sn	15 17 24.9	-9.2
RAO				S	Sn	15 17 28.2	-5.9
RAO				LR	LR	15 17 37.3	
MXZ	**Matakaoa Point**	**6.63**	**211**	*e*PN	Pn	15 17 57.2	+0.6
MXZ				*e*SN	Sn	15 19 12.3	+1.6
MXZ	**Matakaoa Point**	**6.63**	**211**	P	Pn	15 17 57.8	+1.2
MXZ				S	Sn	15 19 13.4	+2.7
PUZ	**Puketiti**	**7.08**	**209**	*e*PN	Pn	15 18 03.3	+0.5
PUZ				*e*SN	Sn	15 19 20.4	-1.3
PUZ	**Puketiti**	**7.08**	**209**	*e*P	Pn	15 18 03.7	+0.9
PUZ				S	Sn	15 19 22.8	+1.0
MWZ	**Matawai**	**7.61**	**211**	*e*PN	Pn	15 18 10.1	+0.1
MWZ				*e*SN	Sn	15 19 34.1	-0.7
MWZ	**Matawai**	**7.61**	**211**	*e*P	Pn	15 18 10.6	+0.6
URZ	**Urewera**	**7.74**	**214**	P	Pn	15 18 12.1	+0.3
URZ	1.2nm,0.3s,baz=330,slow=3.6,SNR=21			S	Sn	15 19 37.1	-0.8
URZ	6.4nm,0.3s,baz=91,slow=22,SNR=16						
URZ	**Urewera**	**7.74**	**214**	*e*PN	Pn	15 18 11.0	-0.8
URZ				*e*SN	Sn	15 19 37.4	-0.5
URZ	**Urewera**	**7.74**	**214**	*e*P	Pn	15 18 11.0	-0.8
WCZ	**Waipu Caves**	**7.91**	**237**	*e*PN	Pn	15 18 18.2	+4.1
WCZ	**Waipu Caves**	**7.91**	**237**	P	Pn	15 18 18.9	+4.8
OUZ	**Omahuta**	**8.16**	**244**	PN	Pn	15 18 19.5	+2.0
OUZ	**Omahuta**	**8.16**	**244**	*e*P	Pn	15 18 19.5	+1.9
BKZ	**Black Stump Fm**	**8.75**	**213**	*e*PN	Pn	15 18 24.1	-1.6
BKZ	**Black Stump Fm**	**8.75**	**213**	*e*P	Pn	15 18 25.5	-0.2
PXZ	**Pawanui**	**9.31**	**208**	*e*PN	Pn	15 18 32.3	-1.0
TSZ	**Takapari Road**	**9.72**	**211**	*e*PN	Pn	15 18 39.2	+0.4
MRZ	**Mangatainoka R**	**10.38**	**211**	*e*PN	Pn	15 18 46.1	-1.7
MRZ				*e*SN	Sn	15 20 36.2	-6.3
MRZ	**Mangatainoka R**	**10.38**	**211**	*e*P	Pn	15 18 43.5	-4.4
TUWZ	**Tuamarina**	**11.73**	**214**	*e*PN	Pn	15 19 02.6	-3.7
NNZ	**Nelson**	**11.85**	**216**	*e*SN	Sn	15 21 09.1	-9.2
THZ	**Tophouse**	**12.49**	**215**	*e*PN	Pn	15 19 12.1	-4.6
THZ				*e*SN	Sn	15 21 24.8	-9.2
MQZ	**McQueen's Vall**	**14.12**	**211**	*e*SN	Sn	15 22 00.8	-13
CTA	**Charters Tower**	**34.52**	**281**	⇑*i*P	P	15 23 04.5	+0.9
CTAO	5.5nm,0.4s,mb4.7 **Charters Tower**	**34.52**	**281**	*e*P	P	15 23 04.2	+0.6
	9.9nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**34.62**	**259**	P	P	15 23 04.1	-0.3
	1.1nm,0.3s,mb4.1,baz=111,slow=11,SNR=3.7						
AS31	**Alice Springs**	**43.51**	**268**	*e*P	P	15 24 18.6	0.0
ASAR	**Alice Springs**	**43.51**	**268**	P	P	15 24 18.6	+0.1
	5.7nm,0.3s,mb4.7,baz=106,slow=7.1,SNR=291						
ASPA	**Alice Springs**	**43.51**	**268**	*e*P	P	15 24 18.6	0.0
WB2	**Warramunga Arr**	**44.62**	**273**	⇑*i*P	P	15 24 27.1	-0.4
WRAB	**Tennant Creek**	**44.63**	**273**	*e*P	P	15 24 27.1	-0.5
	24nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**44.63**	**273**	P	P	15 24 27.2	-0.4
	16nm,0.4s,mb5.1,baz=112,slow=7.9,SNR=541						
FITZ	**Fitzroy Crossi**	**52.83**	**271**	*e*P	P	15 25 30.4	0.0
	3.2nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**58.20**	**180**	*e*P	P	15 26 09.9	+0.9
	5.2nm,0.7s,mb4.7						
USHA	**Ushuaia**	**74.42**	**145**	LR	LR	15 51 19.1	
	comp=Z,90nm,21.9s,baz=58,slow=28						
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	PKPdf	15 35 06.5	+3.5
	0.2nm,0.4s,baz=224,slow=2.1,SNR=11						
JOF	**Joensuu**	**143.99**	**338**	*ep*	PKPdf	15 35 51.3	+1.7
KAF	**Kangasniemi**	**146.12**	**340**	*ep*	PKPdf	15 35 56.1	+2.8
FINES	**FINESS Array B**	**146.72**	**340**	PKPbc	PKPbc	15 35 59.2	+3.2
	4.4nm,0.7s,baz=47,slow=4.4,SNR=26						
FINES	**FINESS Array B**	**146.72**	**340**	PKPbc	PKPbc	15 35 59.2	+3.2
NB2	**NORSAR Subarra**	**150.31**	**351**	PKPa	PKPab	15 36 09.5	-2.3
	comp=Z,0.8nm,0.5s,baz=34,slow=2.6						
NOA	**NORSAR Array B**	**150.31**	**351**	PKPbc	PKPbc	15 36 09.7	+4.3
	comp=Z,0.7nm,0.4s,baz=16,slow=4.1,SNR=4.7						
AKASG	**Malin Array Be**	**152.77**	**321**	PKPbc	PKPbc	15 36 14.6	+3.6
	comp=Z,0.2nm,0.3s,baz=45,slow=2.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.31**	**177**	PKPab	PKPab	15 37 07.4	+8.6
	comp=Z,1.0nm,0.8s,baz=182,slow=2.6,SNR=4.6						

*IDC **24** 15:24:54.9±2.0, 1655S×17926W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/13, mbtmp3.9/5, Error ellipse: s-maj=130.7km s-min=22.2km az=147.0*
*ISCJB **24** 15:25:51.8±1.4, 180S±04×1795W±03, h600km, mb3.9/6, Error ellipse: s-maj=61.2km s-min=15.1km az=116.4*
*NEIC **24** 15:25:52.6±1.2, 1805S×17942W, h600km, mb3.9/3, Error ellipse: s-maj=59.4km s-min=14.9km az=148.0*

ISC 24 15:25:53.2±1.4, 181S±04×1794W±03, h600km, n13, σ0°79/13, mb3.9/6, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.71**	**241**	P	P	15 32 18.6	-0.5
	1.7nm,0.4s,mb3.9,baz=103,slow=13,SNR=5.6						
STKA	**Stephens Creek**	**37.71**	**241**	*e*P	P	15 32 18.4	-0.8
	3.1nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**43.64**	**260**	*e*P	P	15 33 05.4	-0.6
WRAB	**Tennant Creek**	**43.64**	**260**	*e*P	P	15 33 05.3	-0.7
	2.5nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**43.65**	**260**	P	P	15 33 05.7	-0.4
	1.9nm,0.5s,mb3.9,baz=95,slow=6.9,SNR=89						
AS31	**Alice Springs**	**43.81**	**254**	⇓*i*P	P	15 33 07.9	+0.5
ASAR	**Alice Springs**	**43.81**	**254**	P	P	15 33 07.9	+0.5
	18nm,0.6s,mb4.8,baz=89,slow=7.8,SNR=583						
ASPA	**Alice Springs**	**43.82**	**254**	⇓*i*P	P	15 33 07.9	+0.5
FITZ	**Fitzroy Crossi**	**52.04**	**261**	*e*P	P	15 34 09.1	+0.7
	1.6nm,0.6s,mb3.5						
KS15	**Wonju Array Si**	**74.18**	**319**	P	P	15 36 30.2	+0.5
NVAR	**Mina Array Bea**	**80.20**	**44**	P	P	15 37 03.0	+0.8
	0.5nm,0.7s,baz=225,slow=10,SNR=4.6						
ILAR	**Eielson Array**	**86.24**	**13**	P	P	15 37 29.3	-3.0
	0.4nm,0.7s,mb3.1,baz=220,slow=5.4,SNR=4.4						
PDAR	**Pinedale Array**	**88.12**	**44**	P	P	15 37 41.0	0.0
	0.2nm,0.5s,baz=242,slow=1.5,SNR=3.8						

*ISCJB **24** 15:32:25.5±0.5, 4122N±004×142.12E±006, h66km±6km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=5.0km az=80.5*
*IDC **24** 15:32:25.8±4.0, 4107N×142.17E, h58km±37km, mb3.3/4, mb1 3.5/5, mb1mx3.2/19, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=38.1km s-min=25.6km az=92.0*
*JMA **24** 15:32:26.4±0.1, 4126N×142.13E, h53km±2km, M3.2*

ISC 24 15:32:26.3±0.5, 4122N±004×14212E±006, h59km±7km, n17, σ0°56/26, mb3.6/4, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.82**	**282**	⇓P	Pn	15 32 42.0	0.0
JOT				*e*S	Sn	15 32 53.5	0.0
JTM	**Tenmabayashi**	**0.91**	**242**	⇓P	Pn	15 32 43.4	+0.3
JTM				*e*S	Sn	15 32 55.7	+0.3
JANG	**Nango**	**0.96**	**209**	⇑P	Pn	15 32 43.8	0.0
JANG				*e*S	Sn	15 32 56.2	-0.5
JKB	**Kayabe**	**1.05**	**310**	⇓P	Pn	15 32 44.8	-0.2
JEM	**Erimo**	**1.11**	**44**	P	Pn	15 32 45.6	-0.2
JEM				*e*S	Sn	15 32 59.9	-0.3
JNBK	**Urakawa-nobuka**	**1.16**	**24**	P	Pn	15 32 46.1	-0.3
JNBK				*e*S	Sn	15 33 00.9	-0.5
JSR	**Shiriuchi**	**1.32**	**284**	⇓P	Pn	15 32 49.1	+0.6
JSR				*e*S	Sn	15 33 04.7	-0.4
JNB	**Noboribetsu**	**1.49**	**327**	P	Pn	15 32 50.3	-0.4
JNB				*e*S	Sn	15 33 08.3	-0.8
JCH	**Churui**	**1.67**	**33**	⇓P	Pn	15 32 53.7	+0.4
JCH				*e*S	Sn	15 33 13.5	-0.2
JEW	**Eniwo**	**1.69**	**343**	P	Pn	15 32 53.9	+0.3
JOM	**Ohasama**	**1.86**	**200**	P	Pn	15 32 56.3	+0.5
JFR	**Furan**	**1.97**	**10**	P	Pn	15 32 57.8	+0.4
ASAJ	**Asahikawa**	**2.92**	**7**	P	Pn	15 33 11.4	+1.2
ASAJ	5.4nm,0.3s,baz=208,slow=10,SNR=40			S	Sn	15 33 47.8	+3.7
	2.9nm,0.3s,baz=60,slow=32,SNR=6.8						
MKAR	**Makanchi Array**	**42.48**	**298**	P	P	15 40 16.1	+0.5
	0.3nm,0.5s,mb3.1,baz=84,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**45.70**	**34**	P	P	15 40 41.4	+0.1
	0.6nm,1.0s,mb3.5,baz=264,slow=5.6,SNR=5.2						
WRA	**Warramunga Arr**	**61.27**	**188**	P	P	15 42 34.1	-1.3
	0.3nm,0.8s,mb3.5,baz=6.1,slow=6.9,SNR=3.8						
FINES	**FINESS Array B**	**65.38**	**332**	P	P	15 43 02.4	-0.1
	4.5nm,1.1s,mb4.4,baz=44,slow=8.5,SNR=5.9						

*IDC **24** 15:42:27.8±1.9, 1671S×17921W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.1/13, mbtmp4.0/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=123.4km s-min=21.3km az=147.0*
*ISCJB **24** 15:43:25.2±0.8, 179S±02×1796W±02, h600km, mb3.9/11, Error ellipse: s-maj=35.2km s-min=14.6km az=123.2*
*NEIC **24** 15:43:26.2±0.6, 1786S×17957W, h600km, mb4.0/5, Error ellipse: s-maj=28.7km s-min=12.1km az=151.0*

ISC 24 15:43:26.4±0.8, 179S±02×1795W±02, h600km, n16, σ0°71/15, mb3.9/11, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.41**	**261**	LR	LR	15 59 22.7	
	comp=Z,48nm,21.7s,baz=76,slow=31						
STKA	**Stephens Creek**	**37.71**	**241**	P	P	15 49 51.6	-0.7
	4.0nm,0.5s,mb4.2,baz=71,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**37.71**	**241**	⇓*e*P	P	15 49 51.5	-0.8
WB2	**Warramunga Arr**	**43.58**	**260**	⇓*i*P	P	15 50 38.6	-0.1
WRAB	**Tennant Creek**	**43.59**	**260**	*e*P	P	15 50 38.3	-0.5
	7.5nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**43.59**	**260**	P	P	15 50 38.7	-0.1
	2.6nm,0.5s,mb4.0,baz=92,slow=7.7,SNR=108						
AS31	**Alice Springs**	**43.78**	**254**	⇓*i*P	P	15 50 40.8	+0.6
ASAR	**Alice Springs**	**43.78**	**254**	P	P	15 50 40.9	+0.7
	26nm,0.7s,mb4.9,baz=88,slow=7.4,SNR=640						
ASPA	**Alice Springs**	**43.78**	**254**	⇓*i*P	P	15 50 40.8	+0.5
FITZ	**Fitzroy Crossi**	**51.99**	**261**	*e*P	P	15 51 42.1	+0.9
	1.6nm,0.3s,mb3.8						
MBWA	**Marble Bar**	**57.05**	**256**	*e*P	P	15 52 16.3	-0.2
	4.2nm,0.7s,mb3.8						
KLBR	**Kellerberrin**	**57.89**	**244**	*e*P	P	15 52 21.6	-0.6
	10nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**72.16**	**180**	*e*P	P	15 53 51.3	-0.1
	5.2nm,1.1s,mb4.0						
NVAR	**Mina Array Bea**	**80.15**	**44**	P	P	15 54 36.3	+1.1
	0.8nm,0.8s,mb3.1,baz=229,slow=12,SNR=5.4						
ILAR	**Eielson Array**	**86.11**	**13**	P	P	15 55 03.1	-1.7
	0.4nm,0.8s,mb3.1,baz=212,slow=5.9,SNR=5.4						
PDAR	**Pinedale Array**	**88.07**	**44**	P	P	15 55 14.3	+0.3
	0.6nm,0.8s,mb3.4,baz=222,slow=2.0,SNR=4.5						

*BJI **24** 15:50:19.3, 3036N×14099E, h115km, mB4.3, mb4.2*
*ISCJB **24** 15:50:20.0±0.4, 3046N±004×1410E±01, h115km±6km, mb3.9/10, Error ellipse: s-maj=18.0km s-min=4.3km az=152.4*
*JMA **24** 15:50:20.4±0.1, 3053N×14128E, h130km, M4.2*
*MOS **24** 15:50:21.0±1.5, 3036N×14080E, h122km, mb4.3/2, Error ellipse: s-maj=32.2km s-min=9.5km az=100.5*
*NEIC **24** 15:50:22.2±0.5, 3033N×14077E, mb4.5/6, Error ellipse: s-maj=19.8km s-min=5.9km az=83.0*
*IDC **24** 15:50:22.6±1.2, 3027N×14071E, h113km±13km, mb3.3/7, mb1 3.5/10, mb1mx3.5/17, mbtmp3.8/10, Error ellipse: s-maj=34.8km s-min=9.3km az=73.0*

ISC 24 15:50:21.4±0.4, 3047N±004×1410E±01, h109km±5km, n44, σ1°17/55, mb3.9/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.82**	**339**	P	Pn	15 51 06.5	+2.0
JHJ2				*e*S	Sn	15 51 38.2	-0.3
JHJ	**Hachijo jima 2**	**2.84**	**339**	P	Pn	15 51 06.7	+1.9
	47nm,0.3s,baz=91,slow=20,SNR=4.6						
JHJ				S	Sn	15 51 36.9	-2.0
	123nm,0.3s,baz=65,slow=22,SNR=7.9						
CBIJ	**Chichi jima**	**3.52**	**163**	P	Pn	15 51 14.3	+0.4
CBIJ				*e*S	Sn	15 51 53.7	-1.3
CBIJ	**Chichi jima**	**3.52**	**163**	P	Pn	15 51 14.6	+0.6
	39nm,0.3s,baz=350,slow=5.9,SNR=62						
CBIJ				S	Sn	15 51 54.2	-0.8
	86nm,0.3s,baz=322,slow=22,SNR=7.0						
JHHJ	**Haha-jima-NKT**	**3.96**	**165**	P	Pn	15 51 20.6	+0.6
JHHJ				*e*S	Sn	15 52 05.5	-0.2
BSO1	**Boso 1**	**4.17**	**360**	P	Pn	15 51 22.9	+0.1
BSO1				*e*S	Sn	15 52 08.9	-1.8
BSO2	**Boso 2**	**4.28**	**357**	*e*S	Sn	15 52 12.5	-0.7
BSO3	**Boso 3**	**4.34**	**355**	P	Pn	15 51 25.1	0.0
BSO3				*e*S	Sn	15 52 13.0	-1.8
BSO4	**Boso 4**	**4.54**	**353**	P	Pn	15 51 28.9	+1.1
JOD2	**Odawara 2**	**5.04**	**342**	P	Pn	15 51 35.1	+0.4
JOD2				*e*S	Sn	15 52 32.9	+1.1
JIE	**Ise**	**5.34**	**318**	P	Pn	15 51 39.6	+0.9
JWZ	**Kozaga**	**5.43**	**306**	P	Pn	15 51 39.3	-0.6
JRY	**Ryogami san**	**5.81**	**343**	P	Pn	15 51 45.4	+0.4
JRY				*e*S	Sn	15 52 48.2	-2.1
MJAR	**Matsushiro Arr**	**6.49**	**340**	P	Pn	15 51 56.3	+2.0
	4.5nm,0.3s,baz=166,slow=12,SNR=53						
MJAR				S	Sn	15 53 14.0	+7.1
	1.8nm,0.3s,baz=177,slow=31,SNR=4.3						
MAJO	**Matsushiro**	**6.49**	**340**	*e*P	Pn	15 51 56.6	+2.3
MAJO				pmax	pmax		
	comp=Z,16nm,0.3s						
MAJO	**Matsushiro**	**6.49**	**340**	*e*Pn	Pn	15 51 56.6	+2.3
	comp=Z,16nm,0.3s						
MAT	**Matsushiro**	**6.49**	**340**	P	Pn	15 51 56.6	+2.3
MAT				*e*S	Sn	15 53 05.3	-1.6
MAT	**Matsushiro**	**6.49**	**340**	*e*P	Pn	15 51 57.0	+2.7
MAT		

az=45.1
*IDC **24** 15:53:08.7±1.3, 3513S×17920W, h0km, mb4.3/3, mb1 4.5/5, mb1mx4.2/12, mbtmp4.4/5, ML4.0/2, MS3.8/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=38.0km s-min=26.5km az=145.0*
*NEIC **24** 15:53:22.2±2.6, 3574S×17977W, h98km±19km, mb4.6/5, Error ellipse: s-maj=31.6km s-min=14.2km az=220.0*
ISC 24 15:53:10.6±1.6, 354S±01×1787W±02, h45km±13km, n43, σ1§09/46, mb4.5/7, MS3.5/1, 2C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.25**	**227**	*e*Pn	**Pn**	**15 53 60.0**	**+1.0**
MXZ				*e*SN	**Sn**	**15 54 37.1**	**+0.7**
MXZ				T		15 57 01.4	
MXZ	**Matakaoa Point**	**3.25**	**227**	*e*P	**Pn**	**15 54 00.0**	**+1.0**
PUZ	**Puketiti**	**3.63**	**222**	PN	**Pn**	**15 54 05.7**	**+1.5**
PUZ				*e*SN	**Sn**	**15 54 45.3**	**-0.4**
PUZ	**Puketiti**			P	**Pn**	**15 54 05.7**	**+1.5**
MWZ	**Matawai**	**4.22**	**225**	*e*PN	**Pn**	**15 54 13.4**	**+1.0**
MWZ				*e*SN	**Sn**	**15 55 01.2**	**+0.8**
MWZ	**Matawai**	**4.22**	**225**	*e*P	**Pn**	**15 54 13.4**	**+1.0**
URZ	**Urewera**	**4.42**	**229**	Pn	**Pn**	**15 54 16.0**	**+0.9**
	7.3nm,0.3s,baz=21,slow=3.7,SNR=66						
URZ				Sn	**Sn**	**15 55 06.1**	**+0.8**
	11nm,0.3s,baz=155,slow=21,SNR=8.4						
URZ	**Urewera**	**4.42**	**229**	PN	**Pn**	**15 54 15.5**	**+0.4**
URZ				SN	**Sn**	**15 55 05.1**	**-0.2**
URZ	**Urewera**	**4.42**	**229**	*e*P	**Pn**	**15 54 15.5**	**+0.4**
KNZ	**Kokohu**	**4.64**	**218**	SN	**Sn**	**15 55 12.9**	**+2.3**
KUZ	**Kuaotunu**	**4.73**	**252**	PN	**Pn**	**15 54 18.5**	**-0.9**
KUZ	**Kuaotunu**	**4.73**	**252**	P	**Pn**	**15 54 18.4**	**-0.9**
BKZ	**Black Stump Fm**	**5.38**	**224**	PN	**Pn**	**15 54 28.3**	**+0.1**
BKZ				*e*SN	**Sn**	**15 55 29.0**	**+0.1**
BKZ	**Black Stump Fm**	**5.38**	**224**	*e*P	**Pn**	**15 54 28.7**	**+0.4**
WCZ	**Waipu Caves**	**5.70**	**263**	⇑PN	**Pn**	**15 54 31.9**	**-0.8**
WCZ	**Waipu Caves**	**5.70**	**263**	*e*P	**Pn**	**15 54 31.9**	**-0.8**
PXZ	**Pawanui**	**5.82**	**216**	*e*PN	**Pn**	**15 54 34.2**	**-0.1**
PXZ				*e*SN	**Sn**	**15 55 39.7**	**+0.1**
TSZ	**Takapari Road**	**6.29**	**221**	*e*PN	**Pn**	**15 54 40.5**	**-0.4**
TSZ				*e*SN	**Sn**	**15 55 49.6**	**-1.9**
TSZ	**Takapari Road**	**6.29**	**221**	*e*P	**Pn**	**15 54 40.6**	**-0.3**
MRZ	**Mangatainoka R**	**6.93**	**219**	*e*PN	**Pn**	**15 54 48.2**	**-1.4**
MRZ				SN	**Sn**	**15 56 04.2**	**-3.0**
MRZ	**Mangatainoka R**	**6.93**	**219**	*e*P	**Pn**	**15 54 48.4**	**-1.2**
THZ	**Tophouse**	**9.15**	**224**	*e*PN	**Pn**	**15 55 17.3**	**-2.6**
THZ				*e*SN	**Sn**	**15 56 55.4**	**-6.1**
MQZ	**McQueen's Vall**	**10.65**	**216**	*e*SN	**Sn**	**15 57 28.5**	**-10**
RPZ	**Rata Peaks**	**11.47**	**221**	Pn	**Pn**	**15 55 51.8**	**+0.1**
	1.2nm,0.3s,baz=354,slow=20,SNR=8.4						
RPZ				Sn	**Sn**	**15 57 47.6**	**-11**
	1.3nm,0.3s,baz=6.9,slow=19,SNR=6.8						
STKA	**Stephens Creek**	**33.10**	**265**	P	**P**	**15 59 44.4**	**+2.2**
	1.4nm,0.7s,mb4.0,baz=90,slow=15,SNR=3.3						
STKA				LR	LR	16 12 12.9	
	comp=Z,96nm,19.5s,MS3.5,baz=26,slow=35						
CTA	**Charters Tower**	**34.37**	**287**	P	**P**	**15 59 54.4**	**+1.2**
CTAO	**Charters Tower**	**34.37**	**287**	*e*P	**P**	**15 59 53.7**	**+0.5**
	14nm,1.0s,mb4.8						
AS31	**Alice Springs**	**42.52**	**273**	*e*P	**P**	**16 01 01.5**	**-0.1**
ASAR	**Alice Springs**	**42.52**	**273**	P	**P**	**16 01 02.4**	**+0.8**
	7.5nm,0.7s,mb4.5,baz=117,slow=7.6,SNR=124						
ASPA	**Alice Springs**	**42.52**	**273**	*e*P	**P**	**16 01 01.5**	**-0.1**
WB2	**Warramunga Arr**	**43.94**	**278**	⇑*i*P	**P**	**16 01 12.7**	**-0.4**
WRAB	**Tennant Creek**	**43.95**	**278**	*e*P	**P**	**16 01 12.5**	**-0.6**
	5.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**43.95**	**278**	P	**P**	**16 01 12.7**	**-0.5**
	4.0nm,0.6s,mb4.3,baz=120,slow=7.6,SNR=39						
FITZ	**Fitzroy Crossi**	**51.96**	**274**	*e*P	**P**	**16 02 15.7**	**+0.6**
	6.2nm,1.5s,mb4.3						
QSPA	**South Pole Qui**	**54.72**	**180**	*e*P	pP	16 02 43.7	-4.3
	3.6nm,0.8s						
MBWA	**Marble Bar**	**55.26**	**267**	*e*P	**P**	**16 02 37.4**	**-1.9**
	10nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**120.47**	**308**	PKP	PKPdf	16 12 00.1	+3.0
	0.3nm,0.8s,baz=93,slow=6.1,SNR=3.9						
JOF	**Joensuu**	**146.78**	**335**	*e*p	PKPdf	16 12 50.3	+4.4
	5.3nm,0.5s						
KAF	**Kangasniemi**	**149.00**	**337**	*e*p	PKPdf	16 12 55.3	+5.8
FINES	**FINESS Array B**	**149.57**	**337**	PKPbc	PKPbc	16 12 57.6	+2.6
	4.3nm,0.8s,baz=28,slow=6.7,SNR=14						
DBIC	**Dimbokro**	**150.85**	**167**	PKPbc	PKPbc	16 13 05.3	+7.2
	1.1nm,0.7s,baz=190,slow=6.1,SNR=3.7						
NOA	**NORSAR Array B**	**153.57**	**349**	PKPbc	PKPbc	16 13 07.7	+3.4
	1.3nm,0.9s,baz=26,slow=1.9,SNR=3.4						
BRTR	**Keskin Array B**	**154.10**	**289**	PKPbc	PKPbc	16 13 08.7	+3.3
	0.8nm,0.7s,baz=154,slow=6.5,SNR=5.2						

*NEIC **24** 16:14:16.6±0.8, 1794S×17943W, h606km±12km, mb4.5/12, Error ellipse: s-maj=13.8km s-min=8.4km az=150.0*
*ISCJB **24** 16:14:17.5±1.1, 180S±01×17954W±0.10, h636km±16km, mb4.3/16, Error ellipse: s-maj=20.9km s-min=12.0km az=130.6*
*IDC **24** 16:14:17.3±1.5, 1792S×17958W, h616km±21km, mb3.3/7, mb1 3.6/9, mb1mx3.4/17, mbtmp4.4/9, Error ellipse: s-maj=24.5km s-min=11.8km az=149.0*
ISC 24 16:14:17.9±1.1, 180S±01×1795W±01, h623km±16km, n27, σ0§93/32, mb4.4/16, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.43**	**62**	P	**P**	**16 16 20.3**	**-1.7**
	8.0nm,0.3s,baz=276,slow=0.5,SNR=12						
AFI	**Afiamalu**	**8.43**	**62**	*e*Pn	**P**	**16 16 19.8**	**-2.2**
	43nm,0.6s						
DZM	**Mont Dzumac**	**13.85**	**251**	P	**P**	**16 17 14.2**	**-0.4**
	1.8nm,0.3s,baz=102,slow=19,SNR=12						
URZ	**Urewera**	**20.44**	**188**	P	**P**	**16 18 14.8**	**+0.3**
	3.0nm,0.6s,baz=284,slow=15,SNR=3.9						
RPZ	**Rata Peaks**	**26.89**	**195**	P	**P**	**16 19 10.2**	**-1.3**
	9.2nm,0.8s,mb4.5,baz=33,slow=19,SNR=7.4						
CTA	**Charters Tower**	**32.44**	**261**	*e*P	**P**	**16 20 00.0**	**+0.9**
	8.1nm,0.7s,mb4.5						
CTAO	**Charters Tower**	**32.44**	**261**	*e*P	**P**	**16 19 59.4**	**+0.3**
	15nm,0.8s,mb4.7						
CNB	**Canberra Magne**	**32.59**	**232**	*e*P	**P**	**16 20 01.9**	**+1.5**
	9.1nm,0.4s,mb4.8						
PMG	**Port Moresby**	**33.47**	**280**	*e*P	**P**	**16 20 08.6**	**+0.9**
	36nm,0.9s,mb5.0						
TAU	**Tasmania Unive**	**37.52**	**221**	P	**P**	**16 20 40.9**	**-0.1**
	34nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**37.72**	**241**	⇓*i*P	**P**	**16 20 42.1**	**-0.5**
	8.8nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**37.72**	**241**	P	**P**	**16 20 42.1**	**-0.5**
	11nm,0.5s,mb4.7,baz=87,slow=9.4,SNR=27						
STKA	**Stephens Creek**	**37.72**	**241**	*e*P	**P**	**16 20 41.7**	**-0.9**
WB2	**Warramunga Arr**	**43.62**	**260**	⇓*i*P	**P**	**16 21 29.1**	**0.0**
WB2				*e*S	**S**	**16 27 12.4**	**-2.6**
WRAB	**Tennant Creek**	**43.62**	**260**	*e*P	**P**	**16 21 29.2**	**+0.1**
	12nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**43.63**	**260**	P	**P**	**16 21 29.1**	**-0.1**
	6.9nm,0.5s,mb4.4,baz=93,slow=6.9,SNR=276						
WRA				S	**S**	**16 27 13.2**	**-2.0**
	0.3nm,0.6s,baz=101,slow=15,SNR=4.6						
AS31	**Alice Springs**	**43.80**	**254**	⇓*i*P	**P**	**16 21 31.3**	**+0.7**
AS31				*e*S	**S**	**16 27 16.4**	**-1.2**
ASAR	**Alice Springs**	**43.80**	**254**	P	**P**	**16 21 31.4**	**+0.8**
	65nm,0.6s,mb5.4,baz=88,slow=8.3,SNR=1071						
ASAR				ScP	ScP	16 25 58.3	+2.4
	0.5nm,0.8s,baz=94,slow=3.9,SNR=4.9						
ASAR				S	**S**	**16 27 16.7**	**-0.9**
	1.5nm,0.9s,baz=90,slow=16,SNR=8.4						
ASPA	**Alice Springs**	**43.81**	**254**	⇓*i*P	**P**	**16 21 31.3**	**+0.7**
ASPA				*e*S	**S**	**16 27 16.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.02**	**261**	*e*P	**P**	**16 22 32.5**	**+1.1**
	2.8nm,0.5s,mb3.9						
MBWA	**Marble Bar**	**57.08**	**256**	*e*P	**P**	**16 23 06.7**	**+0.1**
	28nm,1.2s,mb4.4						
KLBR	**Kellerberrin**	**57.90**	**244**	*e*P	**P**	**16 23 12.2**	**+0.1**
	13nm,0.7s,mb4.2						
NWAO	**Narrogin (SRO)**	**58.29**	**242**	*e*P	**P**	**16 23 15.1**	**+0.4**
	16nm,1.0s,mb4.1						
QSPA	**South Pole Qui**	**72.09**	**180**	*e*P	**P**	**16 24 40.9**	**+0.2**
	2.8nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**80.17**	**44**	P	**P**	**16 25 26.1**	**+1.1**
	0.4nm,0.5s,baz=206,slow=7.9,SNR=8.7						
ILAR	**Eielson Array**	**86.17**	**13**	P	**P**	**16 25 53.2**	**-1.5**
	0.7nm,0.8s,mb3.3,baz=237,slow=6.3,SNR=6.9						
PDAR	**Pinedale Array**	**88.09**	**44**	P	**P**	**16 26 04.2**	**+0.6**
	0.8nm,0.9s,mb3.5,baz=174,slow=1.5,SNR=5.5						

*BJI **24** 16:16:09.7, 4370N×128.10W, h10km, mB4.7, mb4.7, Ms4.8, Msz4.5*
*IDC **24** 16:16:11.9±1.8, 4375N×128.17W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.7/23, mbtmp3.6/9, ML3.7/4, MS3.4/5, Ms1 3.4/5, ms1mx3.2/19, Error ellipse: s-maj=34.1km s-min=14.9km az=40.0*
*ISCJB **24** 16:16:12.9±0.5, 4382N±004×12803W±006, h10km, mb4.3/10, MS3.7/4, Error ellipse: s-maj=6.8km s-min=4.7km az=86.6*
*NEIC **24** 16:16:13.8±0.8, 4373N×12808W, h10km, mb4.2/4, Error ellipse: s-maj=10.4km s-min=6.2km az=56.0*
ISC 24 16:16:14.3±0.5, 4382N±004×12808W±006, h10km, n66, σ1§19/70, mb4.3/10, MS3.7/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.89**	**108**	*e*Pn	**Pn**	**16 16 56.9**	**-3.5**
KEBM				*e*Sn	**Sn**	**16 17 26.8**	**-8.3**
RNO	**Roman Nose**	**3.14**	**87**	P	**Pn**	**16 17 02.2**	**-1.6**
MPOR	**Mary's Peak**	**3.33**	**77**	P	**Pn**	**16 17 04.8**	**-1.7**
HEBO	**Mount Hebo**	**3.40**	**64**	P	**Pn**	**16 17 06.6**	**-0.7**
COR	**Corvallis**	**3.52**	**76**	*e*Pn	**Pn**	**16 17 07.8**	**-1.2**
DBO	**Dodson Butte**	**3.59**	**100**	P	**Pn**	**16 17 08.4**	**-1.5**
HSO	**Harness Mounta**	**3.63**	**93**	P	**Pn**	**16 17 09.2**	**-1.3**
HUMO	**Hull Mountain**	**3.94**	**106**	*e*Pn	**Pn**	**16 17 12.1**	**-2.6**
HUMO				*e*Sn		16 17 47.4	
HUMO				*e*Sg	**Sn**	**16 17 58.4**	**-2.5**
NLO	**Nicolai Mounta**	**4.00**	**54**	P	**Pn**	**16 17 15.4**	**-0.1**
BROR	**Big Rock Looko**	**4.08**	**82**	P	**Pn**	**16 17 16.5**	**-0.2**
WPO	**West Portland**	**4.16**	**63**	P	**Pn**	**16 17 18.4**	**+0.6**
SSOR	**Sweet Springs**	**4.17**	**74**	P	**Pn**	**16 17 18.1**	**+0.3**
HBO	**Huckleberry Mo**	**4.17**	**88**	P	**Pn**	**16 17 17.6**	**-0.3**
IRO	**Indian Ridge**	**4.21**	**85**	P	**Pn**	**16 17 17.8**	**-0.7**
FRIS	**Frissel Point**	**4.33**	**83**	P	**Pn**	**16 17 19.9**	**-0.2**
RVW	**Rose Valley**	**4.45**	**57**	P	**Pn**	**16 17 22.1**	**+0.3**
YBH	**Yreka Blue Hor**	**4.47**	**116**	Pn	**Pn**	**16 17 21.4**	**-0.7**
	1.8nm,0.3s,baz=310,slow=11,SNR=21						
YBH				Sn	**Sn**	**16 18 14.1**	**+0.1**
	0.5nm,0.3s,baz=71,slow=20,SNR=3.1						
YBH				LR	LR	16 18 49.2	
	comp=Z,111nm,21.0s,baz=296,slow=35						
YBH	**Yreka Blue Hor**	**4.47**	**116**	*e*Pn	**Pn**	**16 17 21.1**	**-1.0**
WIFE	**Three Sisters-**	**4.53**	**85**	P	**Pn**	**16 17 22.7**	**-0.2**
LVP	**Lakeview Peak**	**4.61**	**59**	P	**Pn**	**16 17 24.6**	**+0.6**
BKCOR	**Black Crater**	**4.63**	**82**	P	**Pn**	**16 17 24.2**	**0.0**
VLMM	**Larch Mountain**	**4.64**	**66**	P	**Pn**	**16 17 25.1**	**+0.7**
OSR	**Olympics--Salm**	**4.69**	**37**	P	**Pn**	**16 17 25.4**	**+0.4**
FL2	**Flat Top 2**	**4.71**	**58**	P	**Pn**	**16 17 26.2**	**+0.9**
MTMW	**Mount Mitchell**	**4.72**	**60**	P	**Pn**	**16 17 26.2**	**+0.7**
TDH	**Tom, Dick, Har**	**4.73**	**70**	P	**Pn**	**16 17 26.2**	**+0.6**
OCWA	**Octopus Mounta**	**4.79**	**33**	*e*Pn	**Pn**	**16 17 26.4**	**-0.1**
OCWA				*e*Sn	**Sn**	**16 18 18.5**	**-3.4**
VLL	**Laurance Lake**	**4.86**	**68**	P	**Pn**	**16 17 28.3**	**+0.9**
VFP	**Flag Point**	**4.96**	**70**	P	**Pn**	**16 17 29.4**	**+0.6**
WDC	**Whiskeytown Da**	**5.23**	**126**	*e*Pn	**Pn**	**16 17 32.2**	**-0.3**
	12nm,1.3s						
PGC	**Sidney**	**5.80**	**32**	*e*Pn	**Pn**	**16 17 40.4**	**0.0**
PGC				*e*Sn	**Sn**	**16 18 46.5**	**-0.5**
HAWA	**Hanford**	**6.58**	**64**	*e*Pn	**Pn**	**16 17 51.1**	**+0.2**
	1.0nm,0.8s						
OHCM	**Honcut**	**6.67**	**130**	*e*Pn	**Pn**	**16 17 53.8**	**+1.5**
BMO	**Blue Mountains**	**7.80**	**79**	*e*Pn	**Pn**	**16 18 06.7**	**-1.0**
	2.7nm,0.6s						
CMB	**Columbia Colle**	**8.20**	**132**	*e*Pn	**Pn**	**16 18 12.0**	**-1.2**
	4.0nm,0.3s						
BBB	**Bella Bella**	**8.37**	**360**	Pn	**Pn**	**16 18 18.3**	**+2.6**
	0.7nm,0.3s,baz=164,slow=6.2,SNR=6.5						
BBB				LR	LR	16 20 58.3	
	comp=Z,229nm,18.3s,baz=271,slow=34						
NEW	**Newport**	**8.82**	**56**	Pn	**Pn**	**16 18 22.4**	**+0.5**
	0.8nm,0.3s,baz=270,slow=11,SNR=4.1						
NEW	**Newport**	**8.82**	**56**	*e*Pn	**Pn**	**16 18 21.5**	**-0.3**
	6.2nm,0.9s						
NVAR	**Mina Array Bea**	**9.13**	**123**	Pn	**Pn**	**16 18 28.3**	**+2.3**
	baz=301,slow=13,SNR=5.2						
NVAR	**Mina Array Bea**	**9.13**	**123**	Pn	**Pn**	**16 18 28.3**	**+2.3**
MNV	**Mina**	**9.22**	**122**	*e*Pn	**Pn**	**16 18 29.1**	**+1.9**
ELK	**Elko**	**10.00**	**103**	Pn	**Pn**	**16 18 40.6**	**+2.7**
	0.1nm,0.3s,baz=294,slow=13,SNR=4.8						
ELK	**Elko**	**10.00**	**103**	*e*Pn	**Pn**	**16 18 39.0**	**+1.0**
	2.5nm,0.9s						
CHMT	**Chamberlain Mo**	**10.88**	**68**	*e*Pn	**Pn**	**16 18 50.1**	**+0.1**
QLMT	**Earthquake Lak**	**11.97**	**79**	*e*Pn	**Pn**	**16 19 08.8**	**+3.9**
NEN	**Nelson**	**13.04**	**124**	*e*Pn	**Pn**	**16 19 22.6**	**+3.1**
PDAR	**Pinedale Array**	**13.54**	**88**	Pn	**Pn**	**16 19 29.4**	**+3.1**
	0.0nm,0.3s,baz=302,slow=8.5,SNR=7.0						
WUAZ	**Wupatki**	**15.29**	**117**	*e*Pn	**Pn**	**16 19 55.1**	**+5.1**
	13nm,1.2s						
DGMT	**Dagmar**	**17.17**	**66**	*e*Pn	**Pn**	**16 20 17.6**	**+3.4**
	8.1nm,0.8s						
LAZ	**Ladron**	**18.73**	**113**	*e*P	**Pn**	**16 20 35.6**	**+2.1**
FFC	**Flin Flon**	**20.11**	**48**	*e*P	**P**	**16 20 48.9**	**+0.8**
	16nm,1.2s						
YKA	**Yellowknife Ar**	**20.30**	**18**	P	**P**	**16 20 50.7**	**+0.6**
	0.9nm,0.7s,baz=206,slow=11,SNR=15						
YKA	**Yellowknife Ar**	**20.30**	**18**	P	**P**	**16 20 50.7**	**+0.6**
DAWY	**Dawson**	**21.29**	**346**	*e*P	**P**	**16 20 59.9**	**-1.0**
ULM	**Lac du Bonnet**	**22.75**	**62**	P	**P**	**16 21 17.6**	**+1.1**
	6.1nm,0.8s,mb4.1,baz=271,slow=9.8,SNR=10						
ULM				LR	LR	16 30 22.7	
	comp=Z,133nm,19.3s,MS3.4,baz=223,slow=37						
ILAR	**Eielson Array**	**23.50**	**340**	P	**P**	**16 21 24.4**	**-0.1**
	0.6nm,0.9s,mb3.0,baz=140,slow=8.1,SNR=9.0						
ILAR				LR	LR	16 30 26.6	
	comp=Z,79nm,19.2s,MS3.2,baz=179,slow=36						
WMOK	**Wichita Mounta**	**24.32**	**102**	*e*P	**P**	**16 21 32.3**	**+0.3**
	8.1nm,1.0s,mb4.1						
INK	**Inuvik**	**24.72**	**355**	LR	LR	16 31 01.2	
	comp=Z,204nm,18.6s,MS3.6,baz=157,slow=36						
MDJ	**Mudanjiang**	**68.13**	**311**	P	**P**	**16 27 11.8**	**-2.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,42nm,6.0s						
CN2	**Changchun**	**70.90**	**313**	*e*P	**P**	**16 27 32.3**	**+0.8**
SONM	**Songino Array**	**76.91**	**326**	P	**P**	**16 28 04.7**	**-2.0**
	comp=Z,0.3nm,0.8s,mb3.2,baz=91,slow=1.9,SNR=3.7						
HHC	**Hu-ho-hao-te**	**80.10**	**318**	*e*P	**P**	**16 28 23.5**	**-0.8**
HHC				AP	pP	16 28 28.4	+0.8
HHC				XP	sP	16 28 31.0	+2.2
HHC				PP	PP	16 31 30.0	+3.7
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,104nm,8.4s						
HHC				LR	LR		
	comp=N,255nm,20.4s,MS4.7						
HHC				LR	LR		
	comp=E,306nm,21.6s,MS4.7						
HHC				LR	LR		
	comp=Z,181nm,14.4s						
NJ2	**Nanjing**	**82.90**	**308**	*e*P	**P**	**16 28 40.8**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
WMQ	**Urumqi**	**87.08**	**335**	*e*P	**P**	**16 29 00.0**	**-0.2**
WMQ				XP	sP	16 29 07.0	+2.3
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,72nm,6.0s						
WMQ				LR	LR		
	comp=N,36nm,10.0s						
WMQ				LR	LR		
	comp=E,67nm,9.0s						
WMQ				LR	LR		
	comp=Z,84nm,9.0s						
LZH	**Lanzhou**	**87.54**	**320**	*e*P	**P**	**16 29 01.5**	**-0.9**
LZH				AP	pP	16 29 04.6	-1.1
LZH				XP	sP	16 29 06.4	-0.5
LZH				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.6						
CD2	**Chengdu**	**91.82**	**317**	*e*P	**P**	**16 29 21.8**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						

IDC 24 16:18:12.0±1.3, 1079N×4107W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, MS3.4/1, Ms1 3.3/1, ms1mx3.0/15, Error ellipse: s-maj=43.0km s-min=31.8km az=159.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**27.15**	**195**	LR	LR	16 33 40.2	
	comp=Z,72nm,18.4s,baz=198,slow=34						
LPAZ	**La Paz**	**37.96**	**225**	P	P	16 25 32.3	+1.0
	0.8nm,0.8s,baz=22,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**41.87**	**82**	P	P	16 26 04.2	+0.3
	1.7nm,0.9s,baz=273,slow=8.0,SNR=7.6						
YKA	**Yellowknife Ar**	**72.90**	**332**	P	P	16 29 41.9	-1.0
	0.1nm,0.3s,baz=98,slow=5.8,SNR=4.7						
ILAR	**Eielson Array**	**86.94**	**336**	P	P	16 30 59.9	+1.0
	0.4nm,0.9s,baz=86,slow=3.7,SNR=5.0						

*NIED **24** 16:29:00, 3320N×14140E, h5km, Mw4.4 Best double couple: M0:5.19000×10^15 NP1:φ0=41.00000°, δ78.00000°, λ102.00000°. NP2:φ0=176.00000°, δ17.00000°, λ47.00000°.*
*JMA **24** 16:29:30.0±0.5, 3319N×14145E, h6km, M4.3*
*MOS **24** 16:29:31.7±0.9, 3308N×14136E, h33km, mb4.5/15, Error ellipse: s-maj=18.3km s-min=7.4km az=115.7*
*ISCJB **24** 16:29:32.6±0.7, 3313N±003×14144E±005, h41km±5km, mb4.4/44, MS3.8/5, Error ellipse: s-maj=7.1km s-min=5.1km az=166.8*
*IDC **24** 16:29:33.6±6.3, 3308N×14141E, h28km±44km, mb4.0/13, mb1 4.2/15, mb1mx4.1/20, mbtmp4.2/15, ML4.2/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=17.3km s-min=15.1km az=67.0*
*BJI **24** 16:29:33.8, 3333N×14155E, h56km, mB4.7, mb4.4, Ms4.2, Msz3.8*
*NEIC **24** 16:29:35.6±1.0, 3314N×14131E, h46km±8km, mb4.6/22, MW4.4(NIED), Error ellipse: s-maj=8.6km s-min=6.3km az=99.0*
*NAO **24** 16:29:38.3, 3388N×14121E, h33km, mb4.1*
ISC 24 16:29:33.0±1.4, 3315N±003×14144E±005, h27km±10km, h51km±3.4km: pP-P, n99, σ1§13/115, mb4.4/44, MS3.8/5, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.36**	**269**	P	**Pn**	**16 29 56.0**	**-0.3**
JHJ2				*e*S	**Sn**	**16 30 14.0**	**+0.5**
JHJ	**Hachijo jima 2**	**1.39**	**269**	Pn	**Pn**	**16 29 56.2**	**-0.5**
	487nm,0.3s,baz=142,slow=10,SNR=25						
JHJ				Sn	**Sn**	**16 30 14.1**	**-0.1**
	618nm,0.3s,baz=67,slow=24,SNR=7.9						
BSO1	**Boso 1**	**1.55**	**346**	P	**Pn**	**16 29 57.8**	**-1.1**
BSO1				S	**Sn**	**16 30 19.6**	**+1.5**
BSO3	**Boso 3**	**1.82**	**335**	P	**Pn**	**16 30 01.5**	**-1.1**
BSO4	**Boso 4**	**2.05**	**334**	P	**Pn**	**16 30 05.9**	**+0.1**
JKO	**Kozu shima**	**2.18**	**299**	P	**Pn**	**16 30 07.1**	**-0.5**
JKO				*e*S	**Sn**	**16 30 34.7**	**+1.0**
KTR	**Katsuura**	**2.20**	**335**	P	**Pn**	**16 30 05.5**	**-2.3**
KTR				*e*S	**Sn**	**16 30 32.8**	**-1.4**
JIM2	**Oshima 3**	**2.29**	**314**	P	**Pn**	**16 30 09.0**	**0.0**
JIZS	**Izushimoda**	**2.64**	**307**	P	**Pn**	**16 30 13.1**	**-0.8**
JOD2	**Odawara 2**	**2.87**	**318**	P	**Pn**	**16 30 16.7**	**-0.3**
JHU	**Hanno**	**3.23**	**327**	*e*S	**Sn**	**16 31 01.0**	**+1.4**
JYT	**Yasato**	**3.24**	**342**	P	**Pn**	**16 30 22.7**	**+0.6**
JYT				*e*S	**Sn**	**16 31 02.6**	**+2.8**
JHO	**Hitachi**	**3.53**	**349**	P	**Pn**	**16 30 24.8**	**-1.3**
JAG	**Ashikaga**	**3.66**	**334**	P	**Pn**	**16 30 27.8**	**0.0**
JAG				*e*S	**Sn**	**16 31 10.1**	**+0.1**
JNY	**Yasuok**	**3.69**	**308**	P	**Pn**	**16 30 31.0**	**+2.7**
MJAR	**Matsushiro Arr**	**4.30**	**323**	Pn	**Pn**	**16 30 37.5**	**+0.8**
	5.6nm,0.3s,baz=145,slow=11,SNR=60						
MJAR				Sn	**Sn**	**16 31 27.1**	**+1.0**
	6.5nm,0.3s,baz=168,slow=23,SNR=7.5						
MJAR				LR	LR	16 32 25.0	
	comp=Z,361nm,21.3s,baz=135,slow=40						
MJAR	**Matsushiro Arr**	**4.30**	**323**	P	**Pn**	**16 30 37.5**	**+0.8**
MJAR						16 31 27.1	
MAJO	**Matsushiro**	**4.30

ENH Enshi 27.28 273 *e*P **P 16 35 11.9 -3.3**
comp=E,13nm,0.9s,mb4.5
CIT Chita 27.61 321 *e*P **P 16 35 19.0 +0.8**
CIT pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ULN Ulaanbaatar 29.71 310 *e*P **P 16 35 37.5 +0.7**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ULN Ulaanbaatar 29.71 310 *e*P **P 16 35 37.5 +0.7**
comp=Z,7.6nm,0.8s,mb4.5
SONM Songino Array 30.13 310 P **P 16 35 41.9 +1.4**
comp=Z,6.9nm,1.0s,mb4.3,baz=106,slow=7.7,SNR=30
SONM LR LR 16 48 03.6
comp=Z,135nm,19.6s,MS3.6,baz=201,slow=37
BOD Bodaibo 30.88 331 *e*P **P 16 35 46.0 -1.2**
BOD *e* pP 16 35 53.1 -2.0
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
LZH Lanzhou 30.95 286 *e*P **P 16 35 49.0 +1.2**
LZH AP pP 16 36 03.8 +8.1
LZH XP sP 16 36 13.0 +14
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,50nm,4.3s
CD2 Chengdu 31.91 276 *e*P **P 16 35 56.3 0.0**
CD2 AP pP 16 36 11.0 +6.9
CD2 XP sP 16 36 18.3 +11
CD2 PP PP 16 37 02.5 -6.0
CD2 S **S 16 40 59.6 -6.0**
CD2 XS sS 16 41 25.1 +6.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,90nm,7.2s
CD2 LR LR
comp=E,280nm,15.6s
CD2 LR LR
comp=Z,200nm,14.4s,MS3.9
ZAK Zakamensk 32.82 313 *e*P **P 16 36 04.5 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.9s,mb4.1
GTA Gaotai 33.91 293 *e*P **P 16 36 13.3 -0.4**
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
KMI Kunming 34.58 267 P **P 16 36 23.5 +4.0**
KMI AP pP 16 36 36.0 +8.6
KMI XP sP 16 36 43.8 +13
KMI S **S 16 41 43.8 -3.3**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
KMI AMB AMB
comp=Z,107nm,4.2s
KMI LR LR
comp=N,174nm,9.2s
KMI LR LR
comp=E,192nm,10.4s
KMI LR LR
comp=Z,119nm,14.1s,MS3.8
TIXI Tiksi 39.14 354 *e*P **P 16 36 56.0 -2.3**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
LSA Lhasa 42.72 279 P **P 16 37 30.1 +2.3**
LSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
LSA Lhasa 42.72 279 P **P 16 37 30.1 +2.3**
comp=Z,2.6nm,0.9s,mb4.0
WMQ Urumqi 42.73 301 *e*P **P 16 37 27.6 -0.2**
WMQ AP pP 16 37 43.0 +7.1
WMQ XP sP 16 37 50.0 +11
WMQ PP PP 16 39 10.0 +2.9
WMQ SCP ScP 16 43 03.0 -5.2
WMQ S **S 16 43 46.0 -3.8**
WMQ SS SS 16 46 50.0 -11
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,204nm,4.0s
WMQ LR LR
comp=N,89nm,7.0s
WMQ LR LR
comp=E,95nm,7.0s
WMQ LR LR
comp=Z,87nm,7.0s
MKAR Makanchi Array 46.29 305 P **P 16 37 56.2 -0.1**
comp=Z,2.8nm,0.6s,mb4.4,baz=87,slow=9.4,SNR=71
MKAR LR LR 16 59 01.4
comp=Z,82nm,18.3s,MS3.7,baz=43,slow=38
JIRN Jiri 47.51 279 *e*P **P 16 38 06.0 +0.2**
comp=Z,17nm,0.7s,mb5.2
GUN Gumba 47.68 279 *e*P **P 16 38 07.3 +0.2**
comp=Z,16nm,0.8s,mb5.1
KKN Kakani 48.22 279 *e*P **P 16 38 10.2 -1.1**
comp=Z,12nm,0.8s,mb4.9
KKN Kakani 48.22 279 *e*P **P 16 38 10.2 -1.1**
KKN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KURK Kurchatov 48.42 311 *e*P **P 16 38 11.7 -1.1**
KURK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KURK Kurchatov 48.42 311 *e*P **P 16 38 11.7 -1.1**
comp=Z,5.0nm,0.7s,mb4.7
DMN Daman 48.43 279 *e*P **P 16 38 12.3 -0.6**
comp=Z,10nm,1.0s,mb4.8
GKN Gorkha 48.67 280 *e*P **P 16 38 14.0 -0.8**
comp=Z,6.9nm,0.6s,mb4.9
KOLN Koldanda 49.61 280 *e*P **P 16 38 21.1 -0.9**
comp=Z,9.0nm,0.8s,mb4.9
MCK McKinley 51.88 32 *e*P **P 16 38 39.9 +0.8**
MCK pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
MCK McKinley 51.88 32 *e*P **P 16 38 39.9 +0.9**
comp=Z,9.0nm,1.5s,mb4.5
AAK Ala-Archa 52.43 301 *e*P **P 16 38 41.2 -2.0**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
AAK Ala-Archa 52.43 301 *e*P **P 16 38 41.2 -2.0**
comp=Z,1.5nm,0.8s,mb4.0
ILAR Eielson Array 52.79 31 P **P 16 38 45.5 -0.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=264,slow=6.1,SNR=28
FITZ Fitzroy Crossi 53.15 199 *e*P **P 16 38 49.3 +0.8**
comp=Z,3.3nm,0.5s,mb4.5
WRAB Tennant Creek 53.21 188 *e*P **P 16 38 48.7 -0.3**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.9
WRAB Tennant Creek 53.21 188 *e*P **P 16 38 48.7 -0.2**
comp=Z,12nm,0.8s,mb4.9
WB2 Warramunga Arr 53.22 188⇓ *i*P **P 16 38 48.5 -0.5**
WRA Warramunga Arr 53.23 188 P **P 16 38 48.6 -0.5**
comp=Z,7.9nm,0.6s,mb4.8,baz=5.6,slow=7.6,SNR=256
BRVK Borovoye 53.31 315 *e*P **P 16 38 49.2 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 53.31 315 *e*P **P 16 38 49.2 -0.5**
comp=Z,3.4nm,0.8s,mb4.3
ZRNK Zerenda 54.09 315 *e*P **P 16 38 54.7 -0.7**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 54.09 315 *e*P **P 16 38 54.7 -0.7**
comp=Z,4.0nm,0.8s,mb4.4
AS31 Alice Springs 56.95 188 *e*P **P 16 39 16.1 +0.2**
ASAR Alice Springs 56.95 188 P **P 16 39 15.9 0.0**
comp=Z,2.0nm,0.5s,mb4.4,baz=358,slow=7.3,SNR=55
ASPA Alice Springs 56.95 188 *e*P **P 16 39 16.1 +0.1**
MBWA Marble Bar 57.84 204 *e*P **P 16 39 22.4 +0.1**
comp=Z,12nm,1.1s,mb4.8
INK Inuvik 57.85 26 P **P 16 39 23.6 +1.3**
comp=Z,1.1nm,0.5s,mb4.1,baz=261,slow=5.2,SNR=5.6
INK Inuvik 57.85 26 P **P 16 39 23.6 +1.3**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 57.85 26 *e*P **P 16 39 22.3 +0.1**
comp=Z,3.2nm,1.0s,mb4.3
ARU Arti 59.32 320 *e*P **P 16 39 32.2 -0.3**
ARU Arti 59.32 320 *e*P **P 16 39 31.7 -0.8**
comp=Z,7.3nm,0.8s,mb4.8
STKA Stephens Creek 64.67 180 P **P 16 40 09.6 +1.1**
RES Resolute Bay 66.36 14 *e*P **P 16 40 18.9 -0.5**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RES Resolute Bay 66.36 14 *e*P **P 16 40 18.9 -0.5**
comp=Z,4.1nm,1.0s,mb4.4
YKA Yellowknife Ar 67.17 29 P **P 16 40 24.3 -0.2**
comp=Z,1.2nm,0.8s,mb4.0,baz=296,slow=6.3,SNR=16
YKA Yellowknife Ar 67.17 29 P **P 16 40 24.3 -0.2**
NWAO Narrogin (SRO) 69.57 202 *e*P **P 16 40 39.1 -0.4**
NWAO pmax pmax
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 69.57 202 *e*P **P 16 40 39.1 -0.4**
comp=Z,13nm,0.9s,mb4.9
FINES FINESS Array B 72.27 333 P **P 16 40 56.1 +0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=48,slow=6.6,SNR=7.7
NVAR Mina Array Bea 77.32 52 P **P 16 41 27.4 +2.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=287,slow=5.0,SNR=7.0
AKASG Malin Array Be 77.39 323 P **P 16 41 25.9 +0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=47,slow=5.7,SNR=13
NB2 NORSAR Subarra 77.78 338 P **P 16 41 27.6 -0.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=41,slow=5.9
NOA NORSAR Array B 77.78 338 P **P 16 41 27.9 +0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=41,slow=5.6,SNR=9.7
NOA NORSAR Array B 77.78 338 P **P 16 41 27.9 +0.2**
PDAR Pinedale Array 80.39 45 P **P 16 41 43.0 +1.0**
comp=Z,0.3nm,0.7s,mb3.4,baz=304,slow=6.4,SNR=3.7
BRTR Keskin Array B 81.45 312 P **P 16 41 49.0 +1.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=105,slow=4.8,SNR=8.7
LPAZ La Paz 148.48 65 PKPbc PKPbc 16 49 18.7 +1.5
comp=Z,1.5nm,0.5s,baz=355,slow=2.5,SNR=9.5
LPAZ La Paz 148.48 65 *e*PKPbc PKPbc 16 49 17.9 +0.7

MOS 24 16:43:49.3±0.7, 4267N×4362E, h8km, mb3.7/1, Error ellipse: s-maj=14.0km s-min=7.3km az=70.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.15**	**233**	P	Pg	16 43 49.4	-3.2
ONI				S	Sg	16 43 51.0	-3.8
DIGR	**Digorskoe uzhe**	**0.23**	**353**	*i* PG	Pg	16 43 54.4	+0.5
DIGR				*i* S	Sg	16 43 59.9	+3.0
ZEI	**Tsey**	**0.23**	**65**	*e*PG	Pg	16 43 55.5	+1.6
ZEI				*e*		16 44 01.5	
LACR	**Lac**	**0.52**	**73**	*i* PG	Pg	16 44 00.3	+0.9
LACR				*i* S	Sg	16 44 10.0	+3.7
KORR	**Kora**	**0.53**	**39**	*e*PG	Pg	16 44 00.5	+1.0
KORR				*e*S	Sg	16 44 10.5	+4.0
LSNR	**Lesken**	**0.62**	**14**	*e*PG	Pg	16 44 01.7	+0.5
LSNR				*e*S	Sg	16 44 12.5	+3.2
ARNR	**Ardon**	**0.71**	**43**	*e*PG	Pg	16 44 03.8	+0.8
ARNR				*e*S	Sg	16 44 16.2	+4.0
KMSR	**Komsomolskaya**	**0.85**	**35**	*e*PG	Pg	16 44 06.5	+0.8
KMSR				*e*S	Sg	16 44 20.6	+3.7
VLKR	**Vladikavkaz**	**0.86**	**64**	*e*PG	Pg	16 44 06.6	+0.7
VLKR				*e*S	Sg	16 44 20.9	+3.7
BKR	**Bakuriani**	**0.94**	**185**	P	Pg	16 44 03.2	-4.2
BKR				S	Sg	16 44 16.0	-3.7
SNJR	**Sundja**	**0.96**	**65**	*e*PG	Pg	16 44 08.2	+0.4
SNJR				*e*S	Sg	16 44 23.6	+3.3
KUBR	**Kubataba**	**1.14**	**352**	*e*PG	Pg	16 44 12.7	+1.6
KUBR				*e*S	Sg	16 44 30.5	+4.7
PRTR	**Priterechnaya**	**1.18**	**24**	*e*PG	Pg	16 44 11.5	-0.5
PRTR				*e*S	Sg	16 44 29.4	+2.1
SHAR	**Shatzhatmas**	**1.27**	**327**	*e*PG	Pg	16 44 12.5	-1.2
SHAR				*e*S	Sb	16 44 29.7	-0.3
KIV	**Kislovodsk**	**1.45**	**332**	*e*PG	Pg	16 44 15.9	-1.2
KIV				*e*S	Sn	16 44 35.5	+0.5

IDC 24 16:45:01.0±2.1, 162N×12670E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=178.4km s-min=25.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**161**	P	P	16 50 04.6	+0.5
	0.4nm,0.4s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.09**	**165**	P	P	16 50 36.5	+0.2
	0.1nm,0.4s,baz=345,slow=7.8,SNR=6.5						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	16 55 04.4	+0.1
	0.2nm,0.5s,baz=120,slow=7.3,SNR=5.4						

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*ISCJB **24** 16:49:39.9±0.3, 5096N±002×601E±003, h10km, Error ellipse: s-maj=3.2km s-min=1.9km az=78.7*
*BGR **24** 16:49:42.0±2.0, 5095N×6.19E, h10km, ML2.1/3, Error ellipse: s-maj=16.7km s-min=6.7km az=117.0*
*BNS **24** 16:49:41.8±0.6, 5100N×608E, h11km±7km, ML1.8*
*LDG **24** 16:49:41.9±0.1, 5098N×608E, h11km, Ml2.6/12, Error ellipse: s-maj=1.2km s-min=0.8km az=139.0*

ISC 24 16:49:40.6±0.3, 5098N±002×600E±003, h10km, n47, σ1$06/83, 6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODG	**Roetgen-Dahlhe**	**0.20**	**34**⇑	*e*Pg	**Pg**	**16 49 45.5**	**+0.8**
RODG				*e*Sg	**Sg**	**16 49 48.7**	**+1.2**
	533nm,0.1s						
HGN	**Heimansgroeve**	**0.22**	**192**⇑	*i*Pg	**Pg**	**16 49 46.7**	**+1.5**
	12nm,0.1s,baz=200						
HGN				*i* Sg	**Sg**	**16 49 50.2**	**+1.9**
JUE	**Julich**	**0.27**	**106**⇑	*i*Pg	**Pg**	**16 49 47.1**	**+1.1**
JUE				*e*Sg	**Sg**	**16 49 51.2**	**+1.6**
BEBN	**Eben Emael**	**0.28**	**228**⇑	P	**Pg**	**16 49 47.8**	**+1.6**
BEBN				S	**Sg**	**16 49 52.5**	**+2.6**
BD11	**Borschemich**	**0.29**	**69**⇑	*i*Pg	**Pg**	**16 49 47.0**	**+0.7**
BD11				*e*Sg	**Sg**	**16 49 51.0**	**+0.8**
BD09	**Hochneukirch**	**0.31**	**68**⇑	*i*Pg	**Pg**	**16 49 47.4**	**+0.6**
BD09				*e*Sg	**Sg**	**16 49 51.6**	**+0.6**
MEM	**Membach**	**0.37**	**180**⇓	P	**Pg**	**16 49 49.3**	**+1.4**
MEM				S	**Sg**	**16 49 54.5**	**+1.6**
KLL	**Kalltalsperre**	**0.39**	**150**⇓	*i*Pg	**Pg**	**16 49 49.2**	**+1.0**
KLL				*e*Sg	**Sg**	**16 49 54.3**	**+0.9**
	40nm,0.3s						
BA05	**Sindorf**	**0.42**	**99**	*e*Pg	**Pg**	**16 49 50.1**	**+1.3**
STB	**Steinbach**	**0.66**	**126**⇓	*e*Pg	**Pg**	**16 49 54.0**	**+0.8**
STB				*e*Sg	**Sg**	**16 50 02.2**	**+0.3**
	41nm,0.1s						
LAUG	**Laupendahl**	**0.70**	**58**	*e*Pg	**Pg**	**16 49 53.5**	**-0.5**
LAUG				*e*Sg	**Sg**	**16 50 02.6**	**-0.6**
	27nm,0.1s						
BNS	**Bensberg**	**0.74**	**91**	*e*Pg	**Pg**	**16 49 55.1**	**+0.2**
BNS				*e*Sg	**Sg**	**16 50 04.1**	**-0.5**
	56nm,0.1s						
HILG	**Hillesheim**	**0.81**	**148**	*e*Sg	**Sg**	**16 50 07.2**	**+0.3**
HOBG	**Hohbusch**	**0.84**	**89**⇓	*e*Pg	**Pg**	**16 49 56.8**	**+0.1**
HOBG				*e*Sg	**Sg**	**16 50 07.4**	**-0.3**
	57nm,0.5s						
BUG	**Bochum--Univer**	**0.92**	**60**	*e*Pg	**Pg**	**16 49 57.7**	**-0.6**
	SNR=2.4						
BUG				*e*Sg	**Sg**	**16 50 09.3**	**-0.9**
WTSB	**Winterswijk**	**1.10**	**26**	*e*Pn	**Pn**	**16 50 00.7**	**-1.3**
WTSB				*e*Pg	**Pg**	**16 50 01.5**	**-0.3**
WTSB				*e*Sn	**Sn**	**16 50 14.7**	**-2.6**
WTSB				*e*Sg	**Sg**	**16 50 16.0**	**-0.1**
BGG	**Burgeitz**	**1.15**	**132**	*e*Pg	**Pg**	**16 50 02.2**	**-0.4**
BGG				*e*Sg	**Sg**	**16 50 17.0**	**-0.7**
	21nm,0.2s						
GIVF	**Givet**	**1.16**	**221**	*e*Pn	**Pn**	**16 50 03.1**	**+0.3**
GIVF	**Givet**	**1.16**	**221**	*e*Pg	**Pg**	**16 50 04.4**	**+1.6**
GIVF				*e*Sn	**Sn**	**16 50 18.3**	**-0.4**
	24nm,0.2s						
GIVF	**Givet**	**1.16**	**221**	*e*Pg	**Pg**	**16 50 04.4**	**+1.6**
GIVF				*e*Sn	**Sn**	**16 50 18.3**	**-0.4**
	12nm,0.2s						
DOU	**Dourbes**	**1.26**	**226**⇓	P	**Pn**	**16 50 04.7**	**+0.5**
DOU				S	**Sb**	**16 50 22.1**	**+1.4**
	comp=E,6.4nm,0.2s						
WLF	**Walferdange**	**1.32**	**176**	*e*Sg	**Sg**	**16 50 23.2**	**+0.1**
BAIF	**Baives**	**1.47**	**232**	*e*Pn	**Pn**	**16 50 07.3**	**+0.2**
BAIF	**Baives**	**1.47**	**232**	*e*Pg	**Pg**	**16 50 10.1**	**+1.3**
BAIF				*e*Sn	**Sn**	**16 50 25.9**	**-0.5**
	comp=E,14nm,0.3s						
BAIF	**Baives**	**1.47**	**232**	*e*Pg	**Pg**	**16 50 10.1**	**+1.3**
BAIF				*e*Sn	**Sn**	**16 50 25.9**	**-0.5**
	comp=E,6.9nm,0.3s						
TNS	**Taunus Mts**	**1.73**	**115**	*e*Pg	**Pg**	**16 50 12.9**	**-0.9**
	SNR=1.6						
TNS				*e*Sg	**Sg**	**16 50 33.3**	**-3.0**
RFYF	**Reffroy**	**2.38**	**188**	*e*Sg	**Sg**	**16 50 57.4**	**+0.3**
	comp=E,12nm,0.2s						
RFYF	**Reffroy**	**2.38**	**188**	*e*Sg	**Sg**	**16 50 57.4**	**+0.3**
	comp=E,6.0nm,0.2s						
MEZF	**Maizieres J'vi**	**2.56**	**194**	*e*Pn	**Pn**	**16 50 21.9**	**-0.2**
MEZF	**Maizieres J'vi**	**2.56**	**194**	*e*Pg	**Pg**	**16 50 29.8**	**+0.2**
MEZF				*e*Sg	**Sg**	**16 51 02.5**	**-0.3**
	comp=E,3.8nm,0.3s						
MEZF	**Maizieres J'vi**	**2.56**	**194**	*e*Pg	**Pg**	**16 50 29.8**	**+0.2**
MEZF				*e*Sg	**Sg**	**16 51 02.5**	**-0.3**
	comp=E,1.9nm,0.3s						
CDF	**Champ du Feu**	**2.70**	**162**	*e*Pn	**Pn**	**16 50 23.3**	**-0.7**
CDF				*e*Sn	**Sn**	**16 50 54.5**	**-2.3**
CDF				*e*Sg	**Sg**	**16 51 06.6**	**-0.8**
	comp=E,2.1nm,0.3s						
CDF	**Champ du Feu**	**2.70**	**162**	*e*Pn	**Pn**	**16 50 23.3**	**-0.7**
CDF				*e*Sn	**Sn**	**16 50 54.5**	**-2.3**
CDF				*e*Sg	**Sg**	**16 51 06.6**	**-0.8**
	comp=E,1.0nm,0.3s						
SFTF	**Sexfontaines**	**2.85**	**193**	*e*Sn	**Sn**	**16 50 58.4**	**-2.0**
SFTF				*e*Sg	**Sg**	**16 51 11.5**	**-0.6**
	comp=E,3.0nm,0.2s						
SFTF	**Sexfontaines**	**2.85**	**193**	*e*Sn	**Sn**	**16 50 58.4**	**-2.0**
SFTF				*e*Sg	**Sg**	**16 51 11.5**	**-0.6**
	comp=E,1.5nm,0.2s						
HAU	**Haudompre**	**2.99**	**176**	*e*Sg	**Sg**	**16 51 15.8**	**-0.7**
	comp=E,3.1nm,0.2s						
HAU	**Haudompre**	**2.99**	**176**	*e*Sg	**Sg**	**16 51 15.8**	**-0.7**
	comp=E,1.5nm,0.2s						
HINF	**Hinteralfeld**	**3.22**	**170**	*e*Sg	**Sg**	**16 51 22.8**	**-1.1**
	comp=E,1.6nm,0.2s						
HINF	**Hinteralfeld**	**3.22**	**170**	*e*Sg	**Sg**	**16 51 22.8**	**-1.1**
	comp=E,0.8nm,0.2s						
LOR	**Lormes**	**3.98**	**202**	*e*Pn	**Pn**	**16 50 41.2**	**-0.3**
LOR	**Lormes**	**3.98**	**202**	*e*Pg	**Pg**	**16 50 55.7**	**-1.0**
LOR				*e*Sg	**Sg**	**16 51 46.9**	**-1.3**
	comp=E,2.3nm,0.3s						
LOR	**Lormes**	**3.98**	**202**	*e*Pg	**Pg**	**16 50 55.7**	**-1.0**
LOR				*e*Sg	**Sg**	**16 51 46.9**	**-1.3**
	comp=E,1.1nm,0.3s						
SSF	**Saint Saulge**	**4.25**	**204**	*e*Pn	**Pn**	**16 50 45.3**	**-0.1**
SSF				*e*Sg	**Sg**	**16 51 55.4**	**-1.8**
	comp=E,1.4nm,0.2s						
SSF	**Saint Saulge**	**4.25**	**204**	*e*Pn	**Pn**	**16 50 45.3**	**-0.1**
SSF				*e*Sg	**Sg**	**16 51 55.4**	**-1.8**
	comp=E,0.7nm,0.2s						
LDF	**La Druitiere**	**4.63**	**241**	*e*Pn	**Pn**	**16 50 49.9**	**-0.7**
FLN	**La Foliniere**	**4.75**	**245**	*e*Pn	**Pn**	**16 50 50.8**	**-1.3**
GRR	**Gorron**	**5.16**	**242**	*e*Pn	**Pn**	**16 50 57.8**	**0.0**
GRR				*e*Sn	**Sn**	**16 51 55.3**	**-2.0**

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*ISCJB **24** 16:55:31.0±0.4, 5154N±002×703E±004, h0km, Error ellipse: s-maj=3.7km s-min=3.1km az=36.9*
*BUG **24** 16:55:31.8, 5159N×705E, h1km, ML1.4*
*CSEM **24** 16:55:31.9±0.2, 5169N×708E, h1km, ML2.6/3, Error ellipse: s-maj=3.8km s-min=2.4km az=77.0*
*BGR **24** 16:55:32.7±0.6, 5155N×698E, h1km, ML1.9/4, Error ellipse: s-maj=7.8km s-min=4.4km az=113.0*
*BNS **24** 16:55:32.1±0.7, 5163N×703E, h1km, ML1.8*
*LDG **24** 16:55:32.2±0.3, 5166N×709E, h1km, Ml2.7/4, Error ellipse: s-maj=5.4km s-min=3.3km az=36.0, Suspected Mining induced.*

ISC 24 16:55:32.1±0.4, 5158N±002×701E±004, h0km, n34, σ1$08/52, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.10**	**298**	Pg	**Pg**	**16 55 34.2**	**+0.3**
BZER				Sg	**Sg**	**16 55 36.4**	**+1.2**
BUG	**Bochum--Univer**	**0.21**	**129**	*e*Pg	**Pg**	**16 55 37.6**	**+1.5**
	SNR=9.2						
LAUG	**Laupendahl**	**0.23**	**190**	*e*Pg	**Pg**	**16 55 37.3**	**+0.9**
WTSB	**Winterswijk**	**0.41**	**342**	*e*Pg	**Pg**	**16 55 39.0**	**-1.0**
	40nm,0.4s						
WTSB	**Winterswijk**	**0.41**	**342**	*e*Pg	**Pg**	**16 55 39.0**	**-0.9**
	40nm,0.4s						
BNS	**Bensberg**	**0.62**	**170**	*e*Pg	**Pg**	**16 55 45.0**	**+0.9**
HOBG	**Hohbusch**	**0.63**	**161**	*e*Pg	**Pg**	**16 55 45.0**	**+0.8**
IBBN	**Ibbenburen**	**0.87**	**32**	*e*Pg	**Pg**	**16 55 49.4**	**+0.7**
	SNR=1.8						
IBBN				*e*Sg	**Sg**	**16 56 00.6**	**+0.7**
STB	**Steinbach**	**0.99**	**186**	*e*Pg	**Pg**	**16 55 51.8**	**+0.8**
STB				*e*Sg	**Sg**	**16 56 06.6**	**+2.7**
	29nm,0.3s						
KLL	**Kalltalsperre**	**1.03**	**205**	*e*Pg	**Pg**	**16 55 52.4**	**+0.6**
KLL				*e*Sg	**Sg**	**16 56 07.3**	**+2.2**
HGN	**Heimansgroeve**	**1.06**	**220**	*e*Pn	**Pn**	**16 55 52.8**	**-1.3**
	6.5nm,0.3s						
HGN	**Heimansgroeve**	**1.06**	**220**	*i* Pg	**Pg**	**16 55 53.6**	**+1.2**
	15nm,0.2s						
HGN				*e*Sg	**Sg**	**16 56 08.3**	**+2.2**
HGN	**Heimansgroeve**	**1.06**	**220**	*e*Pn	**Pn**	**16 55 52.8**	**-1.3**
	6.5nm,0.3s						
HGN				*i* Pg	**Pg**	**16 55 53.6**	**+1.2**
	15nm,0.2s						
HGN				*e*Sg	**Sg**	**16 56 08.3**	**+2.3**
BGG	**Burgeitz**	**1.39**	**171**	*e*Pg	**Pg**	**16 55 58.1**	**-0.6**
BGG				*e*Sg	**Sg**	**16 56 15.5**	**-1.1**
TNS	**Taunus Mts**	**1.63**	**145**	*e*Pg	**Pg**	**16 56 03.0**	**-0.4**
	SNR=3.4						
TNS				*e*Sg	**Sg**	**16 56 23.4**	**-1.1**
WLF	**Walferdange**	**1.99**	**196**	*e*Pg	**Pg**	**16 56 10.2**	**-0.1**
	SNR=1.7						
WLF				*e*Sg	**Sg**	**16 56 34.5**	**-1.5**
GIVF	**Givet**	**2.02**	**224**	*e*Pn	**Pn**	**16 56 06.8**	**-0.6**
GIVF	**Givet**	**2.02**	**224**	*e*Pg	**Pg**	**16 56 11.9**	**+1.0**
GIVF				*e*Sn	**Sn**	**16 56 32.5**	**-0.9**
	12nm,0.2s						
GIVF	**Givet**	**2.02**	**224**	*e*Pg	**Pg**	**16 56 11.9**	**+1.0**
GIVF				*e*Sn	**Sn**	**16 56 32.5**	**-0.9**
	6.1nm,0.2s						
CLZ	**Clausthal**	**2.11**	**81**	*e*Sg	**Sg**	**16 56 40.9**	**+0.9**
BAIF	**Baives**	**2.34**	**231**	*e*Pg	**Pg**	**16 56 17.6**	**+0.7**
BAIF				*e*Sn	**Sn**	**16 56 39.9**	**-1.2**
BAIF				*e*Sg	**Sg**	**16 56 48.7**	**+1.6**
	5.8nm,0.3s						
BAIF	**Baives**	**2.34**	**231**	*e*Pg	**Pg**	**16 56 17.6**	**+0.7**
BAIF				*e*Sn	**Sn**	**16 56 39.9**	**-1.2**
BAIF				*e*Sg	**Sg**	**16 56 48.7**	**+1.6**
	2.9nm,0.3s						
CDF	**Champ du Feu**	**3.17**	**177**	*e*Pn	**Pn**	**16 56 22.8**	**-0.4**
CDF				*e*Sg	**Sg**	**16 57 14.5**	**+0.5**
	2.8nm,0.4s						
CDF	**Champ du Feu**	**3.17**	**177**	*e*Pn	**Pn**	**16 56 22.8**	**-0.4**
CDF				*e*Sg	**Sg**	**16 57 14.5**	**+0.5**
	1.4nm,0.4s						
BFO	**Black Forest**	**3.36**	**165**	*e*Pn	**Pn**	**16 56 25.5**	**-0.3**
	SNR=2.5						
SFTF	**Sexfontaines**	**3.61**	**201**	*e*Pn	**Pn**	**16 56 28.9**	**-0.3**
LOR	**Lormes**	**4.78**	**207**	*e*Pn	**Pn**	**16 56 44.2**	**-1.1**
	baz=33						
CABF	**La Chapelle**	**5.01**	**187**	*e*Pn	**Pn**	**16 56 48.0**	**-0.4**
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**16 56 47.9**	**-1.3**
SMF	**Signal de Mont**	**5.36**	**204**	*e*Pn	**Pn**	**16 56 52.1**	**-1.1**
LDF	**La Druitiere**	**5.47**	**240**	*e*Pn	**Pn**	**16 56 54.0**	**-0.9**
FLN	**La Foliniere**	**5.58**	**243**	*e*Pn	**Pn**	**16 56 55.1**	**-1.2**
	baz=61						
BGF	**Bois d'Agland**	**5.72**	**210**	*e*Pn	**Pn**	**16 56 57.0**	**-1.2**
GRR	**Gorron**	**5.99**	**241**	*e*Pn	**Pn**	**16 57 00.7**	**-1.3**

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*IDC **24** 17:02:45.0±1.2, 2398N×12196E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.3/4, Error ellipse: s-maj=65.6km s-min=24.0km az=68.0*
*NEIC **24** 17:02:48.4±2.6, 2394N×12192E, h22km±19km, Error ellipse: s-maj=45.5km s-min=14.3km az=75.0*
*ISCJB **24** 17:02:49.3±0.9, 2395N±008×12168E±005, h40km±8km, mb3.3/4, Error ellipse: s-maj=13.7km s-min=5.8km az=35.8*
*JMA **24** 17:02:50.6±0.2, 2404N×12174E, h70km, M3.2*

**ISC 24 17:02:50.3±0.9, 2399N±006×12168E±005, h33km±5km, n14, σ0$65/23, mb3.3/4, Taiwan

JIJ	Ishigaki jima	2.28	80		Pn	17 03 25.5	0.0
JIJ				S	Sn	17 03 50.9	-1.5
JTJ	Tarama	2.83	76	P	Pn	17 03 33.6	+0.5
JTJ				S	Sn	17 04 06.2	+0.2
MKAR	Makanchi Array	38.80	316	P	P	17 10 12.8	+1.1
0.2nm,0.4s,mb3.2,baz=102,slow=10,SNR=10							
WRA	Warramunga Arr	45.37	163	P	P	17 11 03.9	-1.4
0.1nm,0.4s,mb3.0,baz=346,slow=8.7,SNR=8.5							
ASAR	Alice Springs	48.83	165	P	P	17 11 32.2	0.0
0.3nm,0.8s,mb3.4,baz=340,slow=7.1,SNR=8.5							
YKA	Yellowknife Ar	82.98	23	P	P	17 15 11.2	-0.7
0.3nm,0.6s,mb3.5,baz=314,slow=5.1,SNR=5.6							
YKA	Yellowknife Ar	82.98	23	P	P	17 15 11.2	-0.7

*LDG **24** 17:04:53.3±0.1, 4446N×725E, h2km, Md1.8/1, Ml2.0/3, Error ellipse: s-maj=2.2km s-min=0.8km az=58.0*

STR 24 17:04:53.6±0.2, 4445N×723E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.30	276	Pg	Pg	17 04 59.7	+0.3
SURF				Sg	Sg	17 05 04.1	+0.7
MBDF	Montbardon	0.43	310	*e*Pg	Pg	17 05 02.0	+0.1
MBDF				*e*Sg	Sg	17 05 07.7	+0.2
17nm,0.3s							
AUTN	L'Aution	0.48	163	Pg	Pg	17 05 02.7	-0.1
AUTN				Sg	Sg	17 05 09.1	+0.1
MVIF	Mont Vial	0.56	186	Pg	Pg	17 05 04.2	-0.1
MVIF				Sg	Sg	17 05 12.0	+0.5
SBF	Sospel	0.60	166	*e*Pg	Pg	17 05 05.2	0.0
SBF				*e*Sg	Sg	17 05 13.4	+0.3
0.9nm,0.1s							
FRF	La Foret Royal	0.98	206	*e*Pg	Pg	17 05 12.1	-0.4
FRF				*e*Sg	Sg	17 05 25.3	+0.1
4.2nm,0.2s							
ORIF	Oris-en-Rattie	1.07	296	*e*Pg	Pg	17 05 13.5	-0.6
ORIF				*e*Sg	Sg	17 05 26.5	-1.5
1.3nm,0.2s							
LMR	La Mourre	1.23	205	*e*Sg	Sg	17 05 32.5	-0.7
3.8nm,0.2s							

NNC 24 17:13:54.1±4.1, 3692N×7036E, h167km±106km, mb2.4, mpv3.1, 2C-1D, Error ellipse: s-maj=90.6km s-min=38.4km az=68.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.18	1	⇑P	Pn	17 15 23.3	0.0
0.4nm,0.2s,baz=178,slow=12,SNR=41							
KK31				⇑S	Sn	17 16 33.9	+0.5
2.4nm,0.6s,baz=185,slow=25							
TKM2	Tokmak 2	7.22	32	P	Pn	17 15 36.9	-0.2
AB31	Akbulak array	14.47	332	⇓P	Pn	17 17 11.1	-0.1
0.3nm,0.4s,baz=152,slow=13,SNR=16							

IDC 24 17:27:13.4±14.0, 1624N×14605E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/24, Error ellipse: s-maj=401.8km s-min=41.9km az=176.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	48.22	259	LR	LR	17 53 33.1	
comp=Z,60nm,19.9s,baz=19,slow=33							
MKAR	Makanchi Array	60.41	315	P	P	17 37 25.3	+0.7
0.2nm,0.3s,baz=91,slow=8.9,SNR=14							
ILAR	Eielson Array	65.70	26	P	P	17 37 59.7	0.0
0.4nm,0.5s,baz=252,slow=6.0,SNR=6.8							
BVAR	Borovoye Array	68.58	321	P	P	17 38 17.5	-0.5
0.4nm,0.3s,baz=107,slow=6.9,SNR=8.7							
YKA	Yellowknife Ar	80.00	28	P	P	17 39 24.4	-0.2
0.3nm,0.5s,baz=290,slow=5.7,SNR=5.6							

WEL 24 17:32:08.7±0.1, 3712S×17706E, h171km±1km, ML3.7/14, 6C-1D, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.09	115	⇑PN	Pn	17 32 36.2	+0.1
MXZ				SN	Sn	17 32 57.4	+0.1
URZ	Urewera	1.15	178	⇑PN	Pn	17 32 36.8	+0.2
URZ				SN	Sn	17 32 58.2	+0.1
MWZ	Matawai	1.27	163	⇑PN	Pn	17 32 37.8	+0.1
MWZ				SN	Sn	17 33 00.5	+0.4
PUZ	Puketiti	1.35	135	⇑PN	Pn	17 32 38.5	+0.1
PUZ				SN	Sn	17 33 00.7	-0.7
KNZ	Kokohu	1.96	166	⇑PN	Pn	17 32 44.4	-0.3
KNZ				*e*SN	Sn	17 33 11.7	-0.8
BKZ	Black Stump Fm	2.10	192	⇑PN	Pn	17 32 45.6	-0.6
BKZ				SN	Sn	17 33 14.1	-1.1
TUVZ	Tukino	2.42	207	PN	Pn	17 32 49.9	+0.1
WNVZ	Wahianoa	2.49	207	PN	Pn	17 32 50.5	-0.2
MOVZ	Moawhango	2.51	204	PN	Pn	17 32 50.0	-0.9
PXZ	Pawanui	2.92	183	⇓PN	Pn	17 32 54.4	-1.4
PXZ				SN	Sn	17 33 29.7	-2.8
TSZ	Takapari Road	3.06	196	PN	Pn	17 32 55.7	-2.0
TSZ				SN	Sn	17 33 33.2	-2.5
BFZ	Birch Farm	3.62	190	PN	Pn	17 33 02.1	-2.5
MRZ	Mangatainoka R	3.73	198	PN	Pn	17 33 03.3	-2.6
KIW	Kapiti Island	4.10	203	*e*PN	Pn	17 33 07.8	-2.9
MTW	Mount Morrison	4.22	196	PN	Pn	17 33 08.7	-3.6
SNZO	South Karori	4.57	203	PN	Pn	17 33 12.8	-4.0
NNZ	Nelson	5.00	214	PN	Pn	17 33 18.7	-3.7
NNZ				SN	Sn	17 34 15.7	-4.4
THZ	Tophouse	5.64	213	PN	Pn	17 33 27.6	-3.3
KHZ	Kahutara	5.95	206	PN	Pn	17 33 30.1	-4.7

*IDC **24** 17:44:25.4±2.1, 620S×12931E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=117.7km s-min=31.1km az=68.0*
*ISCJB **24** 17:44:26.5±1.7, 58S±02×1305E±03, h33km, mb3.4/1, Error ellipse: s-maj=47.8km s-min=17.8km az=144.1*

ISC 24 17:44:28.8±1.6, 58S±02×1306E±03, h35km, n6, σ0°79/7, mb3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.16	201	*e*P	Pn	17 47 33.0	-0.2
4.9nm,1.4s							
WRA	Warramunga Arr	14.53	166	Pn	Pn	17 47 50.4	-1.4
0.1nm,0.3s,baz=339,slow=14,SNR=8.4							
WRA				Sn	Sn	17 50 21.6	-10
0.2nm,0.3s,baz=357,slow=21,SNR=8.4							
WB2	Warramunga Arr	14.54	166	*e*P	Pn	17 47 51.9	0.0
ASAR	Alice Springs	18.06	170	P	Pn	17 48 37.2	+0.4
0.1nm,0.3s,baz=347,slow=10,SNR=24							
ASPA	Alice Springs	18.06	170	*e*P	Pn	17 48 38.1	+1.3
MKAR	Makanchi Array	67.55	326	P	P	17 55 21.4	-0.1
0.2nm,0.5s,mb3.4,baz=113,slow=8.8,SNR=5.9							

IDC 24 17:51:25.1±3.0, 035N×9914E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=119.8km s-min=19.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.44	355	Pn	Pn	17 52 04.3	-1.8
6.9nm,0.3s,baz=130,slow=19,SNR=17							
WRA	Warramunga Arr	39.95	122	P	P	17 59 01.5	+0.4
0.2nm,0.6s,baz=304,slow=8.5,SNR=4.0							
ASAR	Alice Springs	41.35	128	P	P	17 59 12.8	+0.1
0.1nm,0.6s,baz=311,slow=9.0,SNR=3.4							
SONM	Songino Array	47.71	7	P	P	18 00 04.5	+1.0
0.3nm,0.6s,baz=192,slow=10.0,SNR=3.1							
MKAR	Makanchi Array	48.55	345	P	P	18 00 09.9	0.0
1.0nm,0.7s,baz=149,slow=7.6,SNR=12							
ZAL	Zalesovo	54.71	350	P	P	18 00 55.5	-0.5
1.2nm,0.5s							

IDC 24 17:54:23.1±1.2, 1731S×6508W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/16, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=36.9km s-min=16.0km az=12.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.10	289	Pn	Pn	17 55 16.0	+2.8
19nm,0.3s,baz=105,slow=12,SNR=112							
LPAZ				Pg	Pg	17 55 19.6	-2.8
25nm,0.3s,baz=121,slow=14,SNR=228							
LPAZ				Lg		17 56 00.3	
90nm,0.3s,baz=27,slow=22,SNR=12							
PLCA	Paso Flores	23.82	190	P	P	17 59 37.6	-0.2
0.7nm,0.7s,baz=3.1,slow=11,SNR=3.1							
DBIC	Dimbokro	64.08	73	P	P	18 04 59.9	+1.0
0.9nm,0.7s,baz=231,slow=6.5,SNR=3.9							
TORD	Torodi Ar. Bea	72.53	70	P	P	18 05 52.2	+0.4
1.5nm,0.6s,baz=255,slow=5.9,SNR=21							

*NNC **24** 17:59:35.9±7.3, 4445N×8555E, h19km±33km, mb3.0, mpv2.7, Error ellipse: s-maj=124.4km s-min=41.0km az=56.0*

BJI 24 17:59:33.1, 4423N×8553E, h24km, ML3.3, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.61	104	⇓*i*PG	Pn	18 00 01.9	+1.8
WMQ				SG	Sn	18 00 24.4	+4.3
WMQ				Smax			
comp=N,197nm,0.4s							
WMQ				Smax			
comp=E,186nm,0.4s							
MK31	Makanchi Array	3.43	320	Pn	Pn	18 00 26.5	+1.5
comp=E,0.2nm,0.3s,baz=134,slow=14,SNR=106							
MK31				⇑Pg	Pn	18 00 33.8	+8.8
comp=E,0.7nm,0.2s,baz=132,slow=17,SNR=38							
MK31				⇑Lg		18 01 17.6	
comp=E,22nm,0.7s,baz=124,slow=31,SNR=8.7							
KURK	Kurchatov	8.00	327	⇑Pn	Pn	18 01 28.7	+0.9
comp=E,0.3nm,0.2s							
KURK				⇓Sn	Sn	18 02 56.4	-1.0
comp=E,0.7nm,0.2s							
KURK				⇑Lg		18 03 46.2	
comp=E,1.1nm,0.4s							

IDC 24 18:14:37.9±0.9, 664N×3352W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/22, mbtmp3.8/7, MS3.6/10, Ms1 3.6/10, ms1mx3.4/24, Error ellipse: s-maj=36.8km s-min=20.7km az=157.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	26.39	213	LR	LR	18 29 41.7	
comp=Z,141nm,19.4s,baz=278,slow=34							
DBIC	Dimbokro	28.47	88	P	P	18 20 35.0	+0.4
1.9nm,0.8s,baz=242,slow=6.2,SNR=4.1							
DBIC				LR	LR	18 29 25.3	
comp=Z,108nm,19.4s,baz=202,slow=31							
SJG	San Juan	33.78	293	LR	LR	18 30 32.0	
comp=Z,46nm,18.8s,baz=283,slow=28							
TORD	Torodi Ar. Bea	35.26	77	P	P	18 21 34.2	0.0
0.9nm,0.8s,baz=267,slow=8.7,SNR=5.6							
SIV	San Ignacio	35.35	230	P	P	18 21 35.6	+0.6
0.8nm,0.9s,baz=63,slow=6.3,SNR=6.4							
ROSC	El Rosal	40.63	270	LR	LR	18 39 26.8	
comp=Z,57nm,18.0s,baz=303,slow=37							
LPAZ	La Paz	41.13	236	P	P	18 22 24.7	+1.0
1.7nm,0.7s,baz=54,slow=9.4,SNR=5.9							
LPAZ				LR	LR	18 37 23.9	
comp=Z,53nm,21.5s,baz=82,slow=33							
GERES	GERESS Array B	57.86	35	LR	LR	18 45 39.2	
comp=Z,99nm,20.9s,baz=5.8,slow=36							
PLCA	Paso Flores	58.13	213	LR	LR	18 49 35.4	
comp=Z,99nm,20.9s,baz=5.8,slow=36							
BOSA	Boshof	66.55	125	LR	LR	18 47 25.1	
comp=Z,46nm,21.9s,baz=81,slow=30							
AKASG	Malin Array Be	67.79	38	P	P	18 25 38.3	+0.8
1.0nm,0.9s,baz=249,slow=8.2,SNR=4.0							
KMBO	Kilima Mbogo	71.05	93	LR	LR	18 57 29.9	
comp=Z,42nm,18.1s,baz=266,slow=36							
PDAR	Pinedale Array	75.27	312	P	P	18 26 23.2	+0.5
0.9nm,1.0s,baz=98,slow=7.6,SNR=4.7							
GNI	Garni	76.78	50	LR	LR	19 01 27.2	
comp=Z,38nm,18.8s,baz=314,slow=37							
YKA	Yellowknife Ar	80.02	332	P	P	18 26 48.9	-0.3
0.5nm,0.7s,baz=93,slow=5.6,SNR=10							

*NIED **24** 18:33:00, 3120N×12880E, h8km, Mw3.5 Best double couple: M0=2.29000×10^14 NP1:φs=101.00000°, δ81.00000°, λ-17.00000°. NP2:φs=194.00000°, δ73.00000°, λ-170.00000°.*

JMA 24 18:33:19.4±0.2, 3116N×12883E, h7km±2km, M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.92	55	P	Pg	18 33 36.9	-0.1
JSJ				*e*S	Sg	18 33 49.4	+0.5
JKC	Kuchinoerabu	1.37	120	P	Pn	18 33 44.4	-0.5
JKC				S	Sb	18 34 03.0	+0.1
JSU	Suzuyama	1.43	76	P	Pn	18 33 45.9	+0.1
JSU				*e*S	Sn	18 34 04.7	-0.2
JFU	Fukue jima 2	1.49	357	P	Pn	18 33 46.9	+0.3
JFU				*e*S	Sn	18 34 06.3	0.0
JNN	Nakanoshima	1.59	145	P	Pn	18 33 48.3	+0.3
JTN	Tanegashima 3	1.92	105	P	Pn	18 33 53.3	+0.9
JTZ	Takazaki	2.06	68	P	Pn	18 33 54.9	+0.4

*ISCJB **24** 18:39:08.8±1.2, 178S±02×1796W±0.1, h617km±18km, mb3.9/9, Error ellipse: s-maj=30.5km s-min=13.2km az=133.3*
*IDC **24** 18:39:08.9±1.7, 1775S×17956W, h598km±21km, mb3.3/6, mb1 3.6/8, mb1mx3.4/15, mbtmp4.3/8, Error ellipse: s-maj=30.1km s-min=14.8km az=149.0*
*NEIC **24** 18:39:09.1±0.8, 1777S×17951W, h605km±11km, mb4.1/3, Error ellipse: s-maj=21.7km s-min=9.4km az=154.0*

ISC 24 18:39:09.4±1.2, 178S±02×1795W±01, h606km±18km, n19, σ0°82/21, mb3.9/9, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.38	63	P	P	18 41 11.7	-0.7
5.0nm,0.3s,baz=207,slow=6.8,SNR=5.6							
AFI	Afiamalu	8.38	63	P	P	18 41 11.7	-0.7
DZM	Mont Dzumac	13.88	252	P	P	18 42 07.8	+0.8
0.4nm,0.3s,baz=319,slow=19,SNR=3.9							
STKA	Stephens Creek	37.77	241	⇓*i*P	P	18 45 34.6	-0.9
6.2nm,0.5s,mb4.4							
STKA	Stephens Creek	37.77	241	P	P	18 45 34.6	-0.8
7.5nm,0.5s,mb4.5,baz=92,slow=9.3,SNR=42							
WB2	Warramunga Arr	43.62	260	⇓*i*P	P	18 46 21.6	-0.1
WB2				*e*S	S	18 52 05.8	-2.7
WRAB	Tennant Creek	43.63	260	*e*P	P	18 46 21.6	-0.1
5.4nm,0.8s,mb4.1							
WRA	Warramunga Arr	43.63	260	P	P	18 46 21.6	-0.2
3.9nm,0.5s,mb4.2,baz=96,slow=6.9,SNR=179							
AS31	Alice Springs	43.82	254	⇓*i*P	P	18 46 23.8	+0.6
AS31				*e*S	S	18 52 07.4	-3.9
ASAR	Alice Springs	43.82	254	P	P	18 46 23.9	+0.6
42nm,0.6s,mb5.2,baz=89,slow=7.9,SNR=1703							
ASAR				PcP	PcP	18 47 56.0	+0.3
1.1nm,0.6s,baz=111,slow=3.5,SNR=4.5							
ASAR				ScP	ScP	18 50 51.6	+1.2
0.6nm,0.8s,baz=90,slow=5.1,SNR=4.4							
ASPA	Alice Springs	43.83	254	⇓*i*P	P	18 46 23.8	+0.5
ASPA				*e*S	S	18 52 07.4	-3.9
FITZ	Fitzroy Crossi	52.03	261	*e*P	P	18 47 24.8	+0.7
2.3nm,0.4s,mb3.9							
MBWA	Marble Bar	57.10	256	*e*P	P	18 47 59.3	-0.1
VNDA	Vanda	60.44	185	P	P	18 48 21.8	+0.1
4.5nm,1.1s,mb3.6,baz=54,slow=4.6,SNR=4.2							
QSPA	South Pole Qui	72.23	180	*e*P	P	18 49 33.9	-0.5
QSPA				*e*P		18 49 34.1	
NVAR	Mina Array Bea	80.08	44	P	P	18 50 18.9	+1.5
0.5nm,0.6s,mb3.0,baz=220,slow=6.9,SNR=5.5							
ILAR	Eielson Array	86.04	13	P	P	18 50 45.6	-1.4
0.6nm,0.7s,mb3.3,baz=226,slow=5.5,SNR=5.3							
PDAR	Pinedale Array	88.00	44	P	P	18 50 56.5	+0.4
0.4nm,0.7s,mb3.3,baz=220,slow=4.8,SNR=4.0							
BVAR	Borovoye Array	116.13	321	PKiKP	PKiKP	18 56 43.4	-1.3
0.3nm,0.5s,baz=158,slow=0.8,SNR=4.1							

*NEIC **24** 18:42:37.0±2.0, 3627N×7012E, h167km±23km, mb4.4/7, Error ellipse: s-maj=25.3km s-min=6.6km az=57.0*
*ISCJB **24** 18:42:40.0±1.7, 3656N±008×705E±0.1, h216km±23km, mb3.4/4, Error ellipse: s-maj=22.0km s-min=7.0km az=119.8*
*IDC **24** 18:42:41.4±9.5, 3637N×7017E, h211km±106km, mb3.2/4, mb1 3.2/7, mb1mx2.9/22, mbtmp3.7/7, Error ellipse: s-maj=76.9km s-min=48.7km az=95.0*
*NNC **24** 18:42:45.5±14.0, 3704N×7007E, h159km±162km, mb2.8, mpv3.8, Error ellipse: s-maj=121.3km s-min=64.4km az=7.0*

ISC 24 18:42:40.8±1.9, 3656N±009×706E±02, h202km±23km, n27, σ0°82/31, mb3.4/4, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.54	360	P	Pn	18 44 14.7	-0.3
1.0nm,0.2s,baz=180,slow=12,SNR=150							
KK31				⇑S	Sn	18 45 22.3	-7.3
2.9nm,0.4s,baz=188,slow=27,SNR=7.1							
KK31	Karatay Array	6.54	360	P	Pn	18 44 14.7	-0.3
KK31				S	Sn	18 45 22.3	-7.3
AAK	Ala-Archa	6.79	25	*e*P	Pn	18 44 18.2	0.0
3.6nm,0.3s							
AAK				*e*S	Sn	18 45 34.6	-0.9
TKM2	Tokmak 2	7.45	30	⇑P	Pn	18 44 28.1	+1.3
5.5nm,0.5s							
TKM2				⇓S	Sn	18 45 49.9	-1.2
3.2nm,0.8s							
MK31	Makanchi Array	13.46	37	P	Pn	18 45 48.2	+4.3
0.5nm,0.5s,baz=206,slow=9.7,SNR=5.8							
MK31	Makanchi Array	13.46	37	P	Pn	18 45 48.2	+4.3
MKAR	Makanchi Array	13.46	37	P	Pn	18 45 49.0	+5.1
0.1nm,0.3s,baz=224,slow=9.4,SNR=8.1							
MKAR	Makanchi Array	13.46	37	P	Pn	18 45 49.0	+5.1
KOLN	Koldanda	14.09	125	*e*P	Pn	18 45 51.0	-0.7
4.2nm,0.2s							
GKN	Gorkha	14.64	122	*e*P	Pn	18 45 59.0	+0.6
13nm,0.3s							
AB31	Akbulak array	14.86	332	P	Pn	18 46 01.6	+0.5
0.7nm,0.3s,baz=141,slow=11,SNR=55							
DMN	Daman	15.21	122	*e*P	Pn	18 46 04.3	-1.1
KKN	Kakani	15.22	121	*e*P	Pn	18 46 04.9	-0.6
12nm,0.3s							
PKI	Pulchoki	15.44	121	*e*P	Pn	18 46 09.1	+0.9
19nm,0.5s							
GUN	Gumba	15.56	119	*e*P	Pn	18 46 10.3	+0.7
17nm,0.5s							
JIRN	Jiri	15.93	119	*e*P	Pn	18 46 14.6	+0.5
29nm,0.6s							
ZRNK	Zerenda	16.43	357	P	P	18 46 20.1	+1.0
BVA0	Borovoye Array	16.47	360	P	P	18 46 20.4	+0.8
0.1nm,0.3s,baz=157,slow=10,SNR=10							
BVAR	Borovoye Array	16.47	360	P	P	18 46 20.4	+0.8
0.3nm,0.3s,baz=167,slow=9.1,SNR=11							
BRVK	Borovoye	16.50	359	*e*P	P	18 46 19.8	-0.2
AKTK	Aktyubinsk	16.55	331	P	P	18 46 20.9	+0.4
AKTO	Aktyubinsk	16.55	331	⇓P	P	18 46 20.9	+0.4
0.7nm,0.8s							
AKTO	Aktyubinsk	16.55	331	P	P	18 46 20.9	+0.4
0.5nm,0.3s,baz=145,slow=11,SNR=14							
FINES	FINESS Array B	37.23	326	P	P	18 49 32.4	-0.4
0.9nm,0.6s,mb3.5,baz=117,slow=11,SNR=5.9							
ARCES	ARCESS Array B	40.95	338	P	P	18 50 03.7	+0.1
4.9nm,0.8s,mb4.0,baz=99,slow=7.5,SNR=7.0							
NOA	NORSAR Array B	44.12	323	P	P	18 50 28.1	-1.0
0.7nm,0.9s,mb3.0,baz=148,slow=8.5,SNR=3.7							
TORD	Torodi Ar. Bea	65.36	268	P	P	18 52 59.4	-2.0
0.3nm,0.5s,mb3.2,baz=51,slow=6.0,SNR=5.1							

*IDC **24** 18:57:09.8±2.7, 3438S×17908W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.9/11, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=66.2km s-min=36.2km az=122.0*
*ISCJB **24** 18:57:13.1±2.4, 3451S±009×179.1W±04, h33km, mb3.8/3, Error ellipse: s-maj=44.9km s-min=8.7km az=26.6*
*NEIC **24** 18:57:14.4±1.8, 3442S×179.11W, h30km, mb4.0/1, Error ellipse: s-maj=36.4km s-min=19.1km az=106.0*

ISC 24 18:57:14.1±2.5, 345S±01×1789W±04, h35km, n12, σ0°38/15, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.79	216	*e*PN	Pn	18 58 10.4	+0.5
PUZ	Puketiti	4.22	212	*e*PN	Pn	18 58 15.6	-0.3
PUZ				SN	Sn	18 59 03.2	-0.8
MWZ	Matawai	4.77	216	PN	Pn	18 58 23.6	+0.2
MWZ				*e*SN	Sn	18 59 17.6	+0.1
URZ	Urewera	4.92	220	Pn	Pn	18 58 26.0	+0.4
5.5nm,0.3s,baz=106,slow=1.0,SNR=33							
URZ				Sn	Sn	18 59 22.1	+0.8
2.2nm,0.3s,baz=100,slow=22,SNR=5.6							
URZ	Urewera	4.92	220	PN	Pn	18 58 25.5	0.0
URZ				*e*SN	Sn	18 59 21.2	-0.1
AS31	Alice Springs	42.30	272	*e*P	P	19 05 04.6	+0.3
ASAR	Alice Springs	42.30	272	P	P	19 05 04.3	0.0
0.9nm,0.4s,mb3.7,baz=114,slow=7.3,SNR=42							
ASAR				PcP	PcP	19 06 57.6	+0.1
0.2nm,0.4s,baz=120,slow=4.0,SNR=6.1							
ASPA	Alice Springs	42.30	272	*e*P	P	19 05 04.6	+0.3
WB2	Warramunga Arr	43.65	277	*e*P	P	19 05 14.9	-0.3
WRAB	Tennant Creek	43.65	277	*e*P	P	19 05 14.9	-0.3
2.0nm,0.6s,mb4.0							
WRA	Warramunga Arr	43.66	277	P	P	19 05 15.0	-0.3
0.7nm,0.5s,mb3.7,baz=118,slow=7.8,SNR=20							
FINES	FINESS Array B	148.69	337	PKPbc	PKPbc	19 16 57.4	-0.1
1.1nm,0.9s,baz=29,slow=3.2,SNR=4.0							

*FUNV **24** 19:06:52.9, 1075N×6245W, h82km, MW2.2*
*ISCJB **24** 19:06:55.2±1.1, 1076N±006×6254W±004, h62km±13km, Error ellipse: s-maj=9.9km s-min=6.0km az=22.5*
*TRN **24** 19:06:57.2, 1086N×6234W, h15km, MD3.1*

ISC 24 19:06:55.7±1.1, 1076N±006×6255W±004, h61km±13km, n9, σ0°90/17, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.34	109	*e*P	Pn	19 07 05.2	-0.9
GUIV				*e*S	Sn	19 07 13.7	0.0
CRUV	Carupano	0.68	263	*e*P	Pn	19 07 09.1	-0.6
CRUV				*e*S	Sn	19 07 20.8	+0.7
GUNV	Guanoco	0.71	213	*e*P	Pn	19 07 08.7	-1.4
GUNV				*e*S	Sn	19 07 21.3	+0.7
ITEV	Isla Los Testi	0.83	316	*e*P	Pn	19 07 10.6	-0.9
ITEV				*e*S	Sn	19 07 23.5	+0.4
TRN	Trinidad (W)	1.13	95	⇑*i*P	Pn	19 07 15.3	-0.1

az=159.8
*NEIC **24** 19:16:50.0±1.9, 4.33S×152.77E, h62km±17km, mb4.7/7, Error ellipse: s-maj=16.6km s-min=11.8km az=148.0*
ISC 24 19:16:50.2±1.6, 434S±009×15282E±007, h68km±15km, n36, σ0°91/32, mb4.3/15, 5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.54**	**228**	P	**Pn**	**19 18 37.8**	**+0.3**
	6.2nm,0.3s,baz=52,slow=13,SNR=26						
PMG				LR	LR	19 20 49.6	
	comp=Z,94nm,21.9s,baz=101,slow=32						
HNR	**Honiara**	**8.70**	**126**	P	**Pn**	**19 18 53.8**	**+0.5**
	5.3nm,0.3s,baz=240,slow=3.6,SNR=2.4						
HNR				S	**Sn**	**19 20 29.6**	**-0.2**
	baz=275,slow=18,SNR=2.2						
HNR	**Honiara**	**8.70**	**126**	*eP*	**Pn**	**19 18 53.4**	**+0.1**
	49nm,0.8s						
CTA	**Charters Tower**	**16.91**	**202**	⇓*iP*	**Pn**	**19 20 44.0**	**+1.6**
	8.1nm,1.1s						
CTA	**Charters Tower**	**16.91**	**202**	P	**Pn**	**19 20 42.9**	**+0.5**
	0.5nm,0.3s,baz=22,slow=12,SNR=6.2						
CTA				LR	LR	19 26 22.4	
	comp=Z,159nm,21.1s,baz=23,slow=34						
CTAO	**Charters Tower**	**16.91**	**202**	P	**Pn**	**19 20 43.5**	**+1.1**
DZM	**Mont Dzumac**	**22.03**	**144**	P	**P**	**19 21 38.6**	**-0.4**
	5.2nm,0.6s,mb4.1,baz=216,slow=8.7,SNR=9.3						
WRAB	**Tennant Creek**	**23.75**	**228**	*eP*	**P**	**19 21 55.7**	**-0.5**
	67nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**23.76**	**228**	⇓*iP*	**P**	**19 21 56.1**	**-0.2**
WRA	**Warramunga Arr**	**23.76**	**228**	P	**P**	**19 21 56.1**	**-0.2**
	43nm,0.7s,mb4.9,baz=54,slow=10,SNR=246						
WRA				S	**S**	**19 26 07.5**	**+0.7**
	0.6nm,0.7s,baz=22,slow=36,SNR=5.6						
WRA				ScP	ScP	19 29 15.6	+4.9
	3.0nm,1.0s,baz=49,slow=3.1,SNR=10.0						
AS31	**Alice Springs**	**26.50**	**222**	⇓*iP*	**P**	**19 22 21.0**	**-0.2**
ASAR	**Alice Springs**	**26.50**	**222**	P	**P**	**19 22 21.1**	**-0.1**
	4.3nm,0.5s,mb4.3,baz=55,slow=8.9,SNR=149						
ASAR				ScP	ScP	19 29 22.8	+4.4
	1.8nm,0.9s,baz=46,slow=3.0,SNR=12						
ASPA	**Alice Springs**	**26.50**	**222**	⇓*iP*	**P**	**19 22 21.0**	**-0.2**
STKA	**Stephens Creek**	**29.35**	**200**	*eP*	**P**	**19 22 44.4**	**-2.2**
	2.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**29.35**	**200**	P	**P**	**19 22 44.9**	**-1.7**
	3.3nm,0.6s,mb4.2,baz=29,slow=11,SNR=8.7						
STKA				LR	LR	19 34 57.0	
	comp=Z,86nm,18.3s,baz=205,slow=37						
FITZ	**Fitzroy Crossi**	**29.90**	**241**	⇓*iP*	**P**	**19 22 51.1**	**-0.3**
	7.4nm,0.4s,mb4.7						
MBWA	**Marble Bar**	**36.22**	**240**	*eP*	**P**	**19 23 45.6**	**-0.8**
KLBR	**Kellerberrin**	**42.63**	**226**	*eP*	**P**	**19 24 39.4**	**-0.5**
	72nm,1.9s,mb5.1						
NWAO	**Narrogin (SRO)**	**43.72**	**225**	LR	LR	19 42 23.1	
	comp=Z,86nm,20.4s,baz=23,slow=35						
SONM	**Songino Array**	**65.94**	**328**	P	**P**	**19 27 31.0**	**+1.8**
	0.6nm,0.5s,mb3.7,baz=145,slow=6.0,SNR=8.8						
BILL	**Bilibino**	**72.83**	**5**	*eP*	**P**	**19 28 11.6**	**0.0**
	2.4nm,0.6s,mb4.2						
VNDA	**Vanda**	**73.29**	**178**	P	**P**	**19 28 16.1**	**+1.8**
	3.1nm,0.6s,mb4.3,baz=351,slow=6.2,SNR=8.0						
MKAR	**Makanchi Array**	**79.99**	**319**	P	**P**	**19 28 52.4**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=105,slow=5.4,SNR=6.6						
MKAR	**Makanchi Array**	**79.99**	**319**	P	**P**	**19 28 52.4**	**+0.3**
ILAR	**Eielson Array**	**81.72**	**22**	P	**P**	**19 29 00.0**	**-1.4**
	1.7nm,0.6s,mb4.1,baz=246,slow=5.7,SNR=22						
QSPA	**South Pole Qui**	**85.62**	**180**	*eP*	**P**	**19 29 24.0**	**+2.7**
	10nm,0.7s,mb4.9						
INK	**Inuvik**	**88.02**	**21**	P	**P**	**19 29 32.3**	**-0.6**
	2.0nm,0.7s,mb4.3,baz=267,slow=5.3,SNR=9.7						
INK	**Inuvik**	**88.02**	**21**	*eP*	**P**	**19 29 31.8**	**-1.2**
BRVK	**Borovoye**	**88.95**	**323**	P	**P**	**19 29 37.4**	**+0.1**
YKA	**Yellowknife Ar**	**95.01**	**28**	P	**P**	**19 30 05.5**	**+0.2**
	0.5nm,0.6s,mb4.2,baz=272,slow=5.0,SNR=12						
YKA				LR	LR	20 08 52.0	
	comp=Z,70nm,19.5s,baz=75,slow=33						
YKA	**Yellowknife Ar**	**95.01**	**28**	P	**P**	**19 30 05.5**	**+0.2**
YKA				LR	LR	20 08 52.0	
GERES	**GERESS Array B**	**123.67**	**329**	PKP	PKPdf	19 35 43.0	+3.0
	1.1nm,0.6s,baz=79,slow=5.1,SNR=3.6						
LPAZ	**La Paz**	**134.62**	**118**	PKP	PKPdf	19 36 04.5	+3.7
	1.7nm,0.6s,baz=256,slow=3.4,SNR=10						
TORD	**Torodi Ar. Bea**	**150.18**	**289**	PKPbc	PKPbc	19 36 34.5	+1.2
	2.5nm,0.4s,baz=71,slow=2.3,SNR=42						
BDFB	**Brasilia**	**151.38**	**134**	PKPbc	PKPbc	19 36 38.0	+1.9
	8.2nm,0.7s,baz=226,slow=2.3,SNR=12						
DBIC	**Dimbokro**	**157.66**	**277**	PKPab	PKPab	19 37 12.8	+1.6
	0.8nm,0.5s,baz=47,slow=4.2,SNR=5.5						

*IDC **24** 19:33:05.4±1.5, 3429N×138.95E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=53.5km s-min=18.2km az=69.0*
*ISCJB **24** 19:33:06.7±0.4, 3459N±003×139.84E±003, h33km, mb3.3/2, Error ellipse: s-maj=4.1km s-min=3.8km az=8.5*
*JMA **24** 19:33:07.2, 3459N×139.83E, h23km±1km, M3.4*
ISC 24 19:33:07.1±0.4, 3460N±003×13983E±003, h35km, n16, σ1°03/28, mb3.3/2, 3C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.35**	**290**	⇓P	**Pn**	**19 33 14.9**	**-0.8**
JIM2				S	**Sn**	**19 33 20.1**	**-1.4**
TATJ	**Tateyama 2**	**0.43**	**6**	P	**Pn**	**19 33 16.6**	**-0.2**
TATJ				*eS*	**Sn**	**19 33 23.1**	**-0.4**
NJJJ	**Nii jima 2**	**0.50**	**247**	P	**Pn**	**19 33 17.5**	**-0.1**
BSO4	**Boso 4**	**0.57**	**47**	⇑P	**Pn**	**19 33 18.7**	**0.0**
BSO4				*eS*	**Sn**	**19 33 26.5**	**-0.3**
JMY	**Miyakejima3**	**0.59**	**207**	P	**Pn**	**19 33 18.5**	**-0.5**
JMY				S	**Sn**	**19 33 26.5**	**-0.8**
BSO3	**Boso 3**	**0.59**	**70**	⇑P	**Pn**	**19 33 18.8**	**-0.2**
BSO3				S	**Sn**	**19 33 26.9**	**-0.5**
JKO	**Kozu shima**	**0.71**	**235**	P	**Pn**	**19 33 20.6**	**0.0**
KTJJ	**Kamata 2**	**0.71**	**297**	⇓P	**Pn**	**19 33 19.9**	**-0.7**
KTJJ				S	**Sn**	**19 33 28.8**	**-1.5**
JIZS	**Izushimoda**	**0.80**	**279**	P	**Pn**	**19 33 21.6**	**-0.2**
JIZS				S	**Sn**	**19 33 31.9**	**-0.5**
JOD2	**Odawara 2**	**0.90**	**317**	⇓P	**Pn**	**19 33 22.8**	**-0.4**
JOD2				S	**Sn**	**19 33 34.5**	**-0.5**
BSO1	**Boso 1**	**0.94**	**86**	⇑P	**Pn**	**19 33 23.0**	**-0.8**
BSO1				S	**Sn**	**19 33 35.4**	**-0.7**
JHJ	**Hachijo jima 2**	**1.48**	**182**	Pn	**Pn**	**19 33 32.6**	**+1.4**
JHJ				Sn	**Sn**	**19 33 50.3**	**+1.1**
	130nm,0.3s,baz=286,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**2.35**	**326**	Pn	**Pn**	**19 33 45.2**	**+2.1**
	11nm,0.3s,baz=164,slow=14,SNR=112						
MJAR				Sn	**Sn**	**19 34 12.8**	**+2.1**
	6.2nm,0.3s,baz=154,slow=26,SNR=9.7						
MAT	**Matsushiro**	**2.35**	**326**	P	**Pn**	**19 33 45.1**	**+2.0**
MAT				S	**Sn**	**19 34 13.6**	**+2.9**
WRA	**Warramunga Arr**	**54.49**	**186**	P	**P**	**19 42 31.1**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=4.1,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**58.22**	**186**	P	**P**	**19 42 59.3**	**+1.6**
	0.1nm,0.4s,mb3.2,baz=21,slow=11,SNR=3.6						

*ISCJB **24** 19:37:52.7±0.8, 3867N±005×21.18E±004, h12km±5km, Error ellipse: s-maj=8.5km s-min=5.7km az=152.5*
*CSEM **24** 19:37:53.9±0.1, 3874N×2112E, h4km, ML2.8, Error ellipse: s-maj=2.3km s-min=1.6km az=147.0*
*NEIC **24** 19:37:53.9, 3860N×2102E, h37km, MD3.2(ATH), After THE.*
*ATH **24** 19:37:53.3, 3870N×2114E, h20km±5km, MD3.2/4*
*THE **24** 19:37:53.9, 3860N×2102E, h26km, ML2.8*
*SKO **24** 19:37:55.6, 3879N×2123E, h0km*
ISC 24 19:37:53.3±0.9, 3857N±007×2116E±005, h26km±8km, n17, σ1°28/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.42**	**289**	*ePg*	**Pb**	**19 38 00.8**	**-1.4**
LKD				*eSg*	**Sb**	**19 38 08.5**	**+0.3**
VLS	**Valsamata**	**0.59**	**228**	*ePN*	**Pn**	**19 38 07.0**	**+0.9**
EVR	**Evrytania**	**0.61**	**56**	*ePN*	**Pn**	**19 38 03.8**	**-2.5**
EVR				*eSN*	**Sn**	**19 38 13.0**	**-2.4**
AGG	**Agios Georgios**	**1.02**	**64**	*ePg*	**Pn**	**19 38 12.2**	**+0.2**
	comp=Z,3.0nm,0.5s						
AGG				*eSg*	**Sb**	**19 38 26.8**	**+1.4**
AGG	**Agios Georgios**	**1.02**	**64**	*ePg*	**Pn**	**19 38 12.1**	**+0.2**
	3.0nm,0.5s						
AGG				*eSg*	**Sb**	**19 38 26.8**	**+1.4**
JAN	**Janina**	**1.11**	**348**	*ePN*	**Pn**	**19 38 11.9**	**-1.2**
IGT	**Igoumenitsa**	**1.15**	**326**	*ePg*	**Pn**	**19 38 11.8**	**-1.9**
MEV	**Metsovon**	**1.21**	**3**	*ePg*	**Pn**	**19 38 13.7**	**-0.9**
	comp=Z,11nm,0.6s						
MEV				*eSg*	**Sn**	**19 38 29.2**	**-0.9**
KEK	**Kerkira**	**1.55**	**318**	*ePN*	**Pn**	**19 38 20.5**	**+1.3**
XOR	**Xorichti**	**1.77**	**63**	*ePb*	**Pb**	**19 38 24.2**	**-0.9**
FNA	**Florina**	**2.21**	**4**	*ePn*	**Pn**	**19 38 28.8**	**+0.5**
FNA				*eSn*	**Sn**	**19 38 54.7**	**-0.2**
BIA	**Bitola**	**2.45**	**3**	*ePn*	**Pn**	**19 38 34.1**	**+2.6**
BIA				*eSn*	**Sn**	**19 39 01.4**	**+0.8**
BIA	**Bitola**	**2.45**	**3**	*ePn*	**Pn**	**19 38 34.0**	**+2.5**
BIA				*eSn*	**Sn**	**19 39 01.3**	**+0.7**
GRG	**Griva**	**2.57**	**22**	*ePn*	**Pn**	**19 38 33.6**	**+0.4**
KNT	**Kendrikon**	**2.91**	**27**	*ePn*	**Pn**	**19 38 38.6**	**+0.6**
VAY	**Valandovo**	**2.95**	**21**	*ePn*	**Pn**	**19 38 41.1**	**+2.7**
VAY				*eSn*	**Sn**	**19 39 13.7**	**+0.6**
VAY	**Valandovo**	**2.95**	**21**	*ePn*	**Pn**	**19 38 41.1**	**+2.6**
VAY				*eSn*	**Sn**	**19 39 13.6**	**+0.6**

*IDC **24** 19:44:11.2±1.7, 2333S×175.40W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/15, mbtmp4.2/6, ML4.7/1, MS3.6/4, Ms1 3.5/4, ms1mx3.3/19, Error ellipse: s-maj=90.5km s-min=25.7km az=157.0*
*ISCJB **24** 19:44:14.9±0.8, 229S±03×175.5W±0.1, h33km, mb4.3/7, MS3.6/2, Error ellipse: s-maj=37.2km s-min=13.7km az=165.2*
*NEIC **24** 19:44:15.6±0.6, 2292S×175.49W, h25km, mb4.8/3, Error ellipse: s-maj=31.5km s-min=12.7km az=171.0*
ISC 24 19:44:17.0±0.8, 228S±03×175.4W±01, h35km, n15, σ1°13/11, mb4.3/7, MS3.6/2, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.62**	**87**	Pn	**Pn**	**19 47 40.6**	**-0.7**
	3.6nm,0.3s,baz=228,slow=8.8,SNR=6.5						
CTA	**Charters Tower**	**35.69**	**267**	P	**P**	**19 51 12.9**	**+1.0**
	4.0nm,0.7s,mb4.5,baz=98,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**35.69**	**267**	*eP*	**P**	**19 51 11.8**	**-0.1**
	5.4nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**39.00**	**247**	P	**P**	**19 51 37.6**	**-2.3**
	0.9nm,0.5s,mb3.7,baz=230,slow=17,SNR=5.3						
STKA				LR	LR	20 05 35.6	
	comp=Z,88nm,20.5s,MS3.6,baz=196,slow=33						
AS31	**Alice Springs**	**46.34**	**259**	*eP*	**P**	**19 52 40.9**	**+1.4**
ASAR	**Alice Springs**	**46.35**	**259**	P	**P**	**19 52 38.8**	**-0.8**
	2.7nm,0.8s,mb4.2,baz=92,slow=6.9,SNR=22						
ASPA	**Alice Springs**	**46.35**	**259**	*eP*	**P**	**19 52 40.9**	**+1.3**
WRAB	**Tennant Creek**	**46.66**	**264**	*eP*	**P**	**19 52 41.2**	**-0.8**
	14nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**46.67**	**264**	P	**P**	**19 52 41.3**	**-0.8**
	3.2nm,0.8s,mb4.3,baz=99,slow=8.4,SNR=16						
NWAO	**Narrogin (SRO)**	**59.48**	**244**	LR	LR	20 15 35.3	
	comp=Z,55nm,20.7s,MS3.7,baz=178,slow=32						
QSPA	**South Pole Qui**	**67.25**	**180**	*eP*	**P**	**19 55 08.9**	**+1.1**
	12nm,1.3s,mb4.8						
ILAR	**Eielson Array**	**90.08**	**12**	P	**P**	**19 57 13.9**	**+0.7**
	1.3nm,1.1s,mb4.2,baz=219,slow=4.2,SNR=3.9						
MKAR	**Makanchi Array**	**114.52**	**312**	PKP	PKiKP	20 02 53.4	+0.2
	0.2nm,0.7s,baz=74,slow=3.8,SNR=3.1						
AKASG	**Malin Array Be**	**146.20**	**332**	PKPbc	PKPbc	20 03 53.8	+0.3
	0.3nm,0.3s,baz=45,slow=4.1,SNR=6.7						
BRTR	**Keskin Array B**	**150.16**	**311**	PKPbc	PKPbc	20 04 05.5	+1.5
	1.3nm,0.7s,baz=130,slow=4.8,SNR=5.9						

BJI 24 19:45:52.8, 2757N×11995E, h19km, ML3.5, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.89**	**205**	P	Pn	19 46 40.0	+2.3
QZH				S	Sn	19 47 15.6	+3.7
QZH				Smax			
	comp=N,140nm,0.4s						
QZH				Smax			
	comp=E,260nm,0.7s						
NJ2	**Nanjing**	**4.57**	**348**	*eP*	Pn	19 47 04.3	+3.5
NJ2				SG	Sg	19 48 20.4	+1.0
NJ2				Smax			
	comp=N,110nm,0.8s						
NJ2				Smax			
	comp=E,70nm,0.6s						

NEIC 24 19:58:32.6, 3442N×11906W, h15km, ML3.1(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**0.85**	**103**	*eP*	Pb	19 58 47.3	-1.8
MWC				*eS*	Sg	19 58 58.6	-1.8
ISA	**Isabella**	**1.33**	**21**	*eP*	Pn	19 58 55.9	-0.7
ISA				*eS*	Sn	19 59 15.0	+0.9
PTRM	**Twissleman Ran**	**1.55**	**323**	*eP*	Pn	19 58 59.4	-0.3
GSC	**Goldstone**	**2.05**	**64**	*eP*	Pn	19 59 05.7	-0.9
DAC	**Darwin (Calif)**	**2.21**	**32**	*ePn*	Pn	19 59 08.3	-0.4
DAC				*ePg*	Pg	19 59 13.1	-1.8
DAC				*eSn*	Sn	19 59 43.0	+7.3
PFO	**Pinyon Flat Ob**	**2.31**	**110**	*eP*	Pn	19 59 12.0	+1.8
PFO				*eS*	Sn	19 59 37.1	-1.2
LRV	**Little Rabbit**	**2.56**	**322**	P	Pn	19 59 13.7	+0.1
BAR	**Barrett**	**2.64**	**130**	*eP*	Pn	19 59 12.9	-1.8
SAO	**San Andreas Ge**	**3.04**	**321**	*eP*	Pn	19 59 18.6	-1.6
LDFC	**Landfair**	**3.32**	**77**	*eP*	Pn	19 59 21.6	-2.4
NEN	**Nelson**	**3.67**	**69**	*eP*	Pn	19 59 28.6	-0.3
CMB	**Columbia Colle**	**3.76**	**344**	*eP*	Pn	19 59 31.4	+1.3
CMB				*eS*	Sn	20 00 16.3	+2.2
GLA	**Glamis**	**3.78**	**110**	P	Pn	19 59 35.4	+5.1
MNV	**Mina**	**4.07**	**10**	*ePn*	Pn	19 59 35.1	+0.8
MNV				*eP*		19 59 45.1	
MNV				*eS*	Sn	20 00 34.3	+13
HRY	**Holter Researc**	**13.44**	**22**	*eP*	Pn	20 01 39.5	-3.3

*NAO **24** 20:14:33.0, 2504S×179.52W, h33km, mb3.8*
*IDC **24** 20:15:30.9±1.1, 2421S×179.87E, h515km±10km, mb3.8/12, mb1 3.9/15, mb1mx3.8/19, mbtmp4.7/15, Error ellipse: s-maj=13.9km s-min=10.5km az=10.0*
*ISCJB **24** 20:15:30.5±0.9, 2420S±007×179.82E±007, h523km±11km, mb4.3/21, Error ellipse: s-maj=11.4km s-min=8.6km az=122.5*
*MOS **24** 20:15:30.4±0.9, 2414S×179.87E, h520km, mb4.8/5, Error ellipse: s-maj=14.2km s-min=13.3km az=30.1*
*NEIC **24** 20:15:31.4±0.7, 2425S×179.94E, h526km±8km, mb4.3/8, Error ellipse: s-maj=9.3km s-min=7.9km az=156.0*
*SZGRF **24** 20:15:38.1, 22.13S×178.84E, h534km, South of Fiji Islands*
ISC 24 20:15:31.5±0.8, 2424S±007×179.94E±006, h528km±9km, n96, σ1°04/57, mb4.3/21, 2C-8D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.35**	**159**	P	**P**	**20 17 02.3**	**-0.8**
	149nm,0.3s,baz=88,slow=22,SNR=5.1						
DZM	**Mont Dzumac**	**12.60**	**277**	P	**P**	**20 18 18.1**	**+1.8**
	2.5nm,0.3s,baz=86,slow=15,SNR=22						
AFI	**Afiamalu**	**12.91**	**39**	P	**P**	**20 18 19.8**	**+0.3**
	1.6nm,0.3s,baz=11,slow=13,SNR=3.6						
URZ	**Urewera**	**14.19**	**189**	P	**P**	**20 18 31.0**	**-1.8**
	6.8nm,0.3s,baz=19,slow=1.7,SNR=30						
SNZO	**South Karori**	**17.58**	**193**	*eP*	**P**	**20 19 05.8**	**-0.7**
RPZ	**Rata Peaks**	**20.76**	**198**	P	**P**	**20 19 34.5**	**-0.9**
	19nm,0.9s,baz=40,slow=6.4,SNR=7.6						
HNR	**Honiara**	**24.09**	**304**	P	**P**	**20 20 04.2**	**-1.1**
	24nm,0.3s,mb5.3,baz=120,slow=2.4,SNR=4.0						
CTA	**Charters Tower**	**31.42**	**271**	⇓*iP*	**P**	**20 21 10.7**	**+1.4**
	38nm,0.3s,mb5.4						
CTA	**Charters Tower**	**31.42**	**271**	P	**P**	**20 21 10.8**	**+1.4**
	43nm,0.3s,mb5.4,baz=94,slow=11,SNR=179						
CTA	**Charters Tower**	**31.42**	**271**	⇓*iP*	**P**	**20 21 10.7**	**+1.4**
CTA				pmax	pmax		
	comp=Z,38nm,0.3s						
CTAO	**Charters Tower**	**31.42**	**271**	*eP*	**P**	**20 21 10.5**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,29nm,0.3s,mb5.3						
CTAO	**Charters Tower**	**31.42**	**271**	*eP*	**P**	**20 21 10.5**	**+1.2**
	comp=Z,29nm,0.3s,mb5.3						
STKA	**Stephens Creek**	**34.55**	**249**	*eP*	**P**	**20 21 34.9**	**-0.9**
	comp=Z,1.2nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.55**	**249**	P	**P**	**20 21 34.6**	**-1.1**
	comp=Z,1.7nm,0.4s,mb3.9,baz=103,slow=11,SNR=11						
STKA				PcP	PcP	20 23 54.8	-0.7
	comp=Z,2.3nm,0.6s,baz=107,slow=3.3,SNR=5.1						
PMG	**Port Moresby**	**34.55**	**290**	P	**P**	**20 21 36.4**	**+0.6**
	comp=Z,34nm,0.7s,mb5.0,baz=103,slow=5.8,SNR=16						
PMG	**Port Moresby**	**34.55**	**290**	*eP*	**P**	**20 21 35.9**	**+0.1**
AS31	**Alice Springs**	**41.93**	**261**	⇓*iP*	**P**	**20 22 36.5**	**+0.8**
AS31				*e*		20 27 23.9	
AS31				*eS*	**S**	**20 28 15.7**	**-0.1**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**20 22 36.5**	**+0.8**
	comp=Z,1.9nm,0.3s,mb4.0,baz=91,slow=7.7,SNR=48						
ASAR				PcP	PcP	20 24 19.0	+0.1
	comp=Z,0.7nm,0.5s,baz=96,slow=9.2,SNR=4.4						
ASAR				ScP	ScP	20 27 24.0	+5.1
	comp=Z,3.4nm,0.8s,baz=107,slow=4.1,SNR=13						
ASAR				S	**S**	**20 28 16.2**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=97,slow=14,SNR=11						
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**20 22 36.6**	**+0.9**
ASAR						20 24 19.0	
ASAR				S	**S**	**20 28 16.3**	**+0.5**
ASPA	**Alice Springs**	**41.93**	**261**	⇓*iP*	**P**	**20 22 36.5**	**+0.7**
ASPA				*e*		20 27 23.9	
ASPA				*eS*	**S**	**20 28 15.7**	**-0.1**
WB2	**Warramunga Arr**	**42.32**	**267**	⇓*iP*	**P**	**20 22 39.0**	**+0.2**
WB2				*e*		20 27 25.9	
WB2				*eS*	**S**	**20 28 19.5**	**-1.9**
WRAB	**Tennant Creek**	**42.32**	**267**	*eP*	**P**	**20 22 38.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**42.32**	**267**	*eP*	**P**	**20 22 38.8**	**0.0**
	comp=Z,12nm,0.5s,mb4.7						
WRAB				*e*ScP	ScP	20 27 25.3	+4.8
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**20 22 39.2**	**+0.3**
	comp=Z,4.0nm,0.4s,mb4.3,baz=91,slow=6.0,SNR=344						
WRA				PcP	PcP	20 24 20.8	+0.6
	comp=Z,0.8nm,0.6s,baz=103,slow=3.5,SNR=4.6						
WRA				ScP	ScP	20 27 26.0	+5.5
	comp=Z,6.5nm,1.0s,baz=104,slow=4.2,SNR=17						
WRA				S	**S**	**20 28 20.9**	**-0.7**
	comp=Z,6.5nm,1.2s,baz=97,slow=14,SNR=10						
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**20 22 39.2**	**+0.3**
WRA						20 24 20.8	
WRA				S	**S**	**20 28 20.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.75**	**266**	*eP*	**P**	**20 23 43.7**	**+1.1**
	comp=Z,4.9nm,0.6s,mb4.0						
VNDA	**Vanda**	**54.04**	**185**	P	**P**	**20 24 07.2**	**+1.0**
	comp=Z,3.2nm,0.7s,mb3.7,baz=338,slow=5.0,SNR=4.9						
VNDA				PcP	PcP	20 25 02.8	-0.2
	comp=Z,3.5nm,0.7s,baz=68,slow=5.4,SNR=3.9						
KLBR	**Kellerberrin**	**54.81**	**247**	*eP*	**P**	**20 24 11.6**	**0.0**
	comp=Z,12nm,0.8s,mb4.2						
MUN	**Mundaring**	**56.05**	**247**	*eP*	**P**	**20 24 20.8**	**+0.6**
QSPA	**South Pole Qui**	**65.85**	**180**	⇑*iP*	**P**	**20 25 26.0**	**+1.3**
	comp=Z,26nm,0.8s,mb4.8						
VLA	**Vladivostok**	**80.28**	**326**	*eP*	**P**	**20 26 46.1**	**-1.2**
VLA				pmax	pmax		
	comp=Z,75nm,1.7s,mb4.7						
SYO	**Syowa Base**	**82.67**	**193**	⇓*eP*	**P**	**20 26 59.2**	**-0.4**
CMB	**Columbia Colle**	**83.48**	**43**	*eP*	**P**	**20 27 04.5**	**+0.9**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
CMB	**Columbia Colle**	**83.48**	**43**	*eP*	**P**	**20 27 04.5**	**+0.8**
	comp=Z,9.6nm,1.1s,mb4.2						
OHCM	**Honcut**	**83.60**	**42**	*eP*	**P**	**20 27 04.8**	**+0.6**
SNAA	**Sanae**	**84.33**	**179**	P	**P**	**20 27 07.4**	**-0.5**
	comp=Z,1.4nm,0.5s,mb3.8,baz=197,slow=11,SNR=18						
VNA3	**Neumayer Olymp**	**84.55**	**177**	⇓*iP*	**P**	**20 27 07.8**	**-1.1**
VNA3				*e*		20 27 11.2	
HUMO	**Hull Mountain**	**84.79**	**38**	*eP*	**P**	**20 27 11.4**	**+1.3**
	comp=Z,3.8nm,0.9s,mb3.9						
VNA2	**Neumayer--Watz**	**84.96**	**178**	⇓*iP*	**P**	**20 27 11.7**	**+0.8**
	baz=195,slow=4.8						
VNA2				*e*		20 27 15.5	
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**20 27 12.2**	**+1.0**
	comp=Z,2.1nm,0.8s,mb3.7,baz=225,slow=8.6,SNR=14						
LDFC	**Landfair**	**85.21**	**48**	*eP*	**P**	**20 27 13.7**	**+1.6**
MA2	**Magadan**	**86.89**	**346**	*eP*	**P**	**20 27 18.2**	**-1.9**
MA2				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.5						
SLKM	**Skilak Lake**	**87.87**	**14**	*eP*	**P**	**20 27 24.4**	**-0.3**
PLCA	**Paso Flores**	**88

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CLL                                     pmax    pmax
     comp=Z,23nm,0.8s
BRG  Berggiesshubel  151.29 341  ePKPbc   PKPbc   20 34 25.5 +0.3
BRG  Berggiesshubel  151.29 341  i P      PKPdf   20 34 25.5 +6.8
     comp=Z,8.3nm,0.5s
BRG                              e                  20 36 29.9
     comp=Z,8.5nm,1.4s
BRG  Berggiesshubel  151.29 341  i PKIKP  PKPdf   20 34 25.5 +6.8
BRG                              e                  20 36 29.9
BRG                                     pmax    pmax
     comp=Z,8.0nm,0.5s
BRG                                     pmax    pmax
     comp=Z,9.0nm,1.4s
CLZ  Clausthal       151.30 346  ePKPbc   PKPbc   20 34 25.8 +0.5
CLZ                              ePKPbc   pPKPbc  20 36 30.1 +1.4
PVCC Panska Ves      151.40 340  ePKPbc   PKPbc   20 34 25.8 +0.3
PRU  Pruhonice       151.88 340  ePKPbc   PKPbc   20 34 26.7 +0.1
KHC  Kasperske Hory  152.94 340  ePKPbc   PKPbc   20 34 29.2 +0.3
KHC                              PKPab    PKPab   20 34 44.0 +1.2
TNS  Taunus Mts      153.23 348  ePKPbc   PKPbc   20 34 30.3 +0.8
DBIC Dimbokro        161.94 164  PKP      PKPdf   20 34 32.4 +0.3
     comp=Z,4.6nm,1.1s,baz=67,slow=2.5,SNR=4.4
DBIC                             PKPab    PKPab   20 35 23.0 +1.2
     comp=Z,4.7nm,0.9s,baz=118,slow=4.8,SNR=4.9
TORD Torodi Ar. Bea  168.85 189  PKP      PKPdf   20 34 37.9 +0.1
     comp=Z,2.7nm,1.0s,baz=228,slow=0.3,SNR=11
TORD                             PKPab    PKPab   20 35 53.1 +0.8
     comp=Z,3.7nm,0.7s,baz=184,slow=3.6,SNR=20
```

*IDC **24** 21:14:57.0±2.0, 4463S×7533W, h0km, mb4.0/4, mb1 3.8/6, mb1mx3.8/14, mbtmp3.8/6, ML3.0/2, MS3.1/3, Ms1 3.0/3, ms1mx3.0/14, Error ellipse: s-maj=64.5km s-min=30.1km az=119.0*
*NEIC **24** 21:14:57.4±2.6, 4467S×7554W, h10km, mb4.8/1, Error ellipse: s-maj=52.8km s-min=34.0km az=104.0*
*ISCJB **24** 21:15:00.5±2.2, 445S±02×754W±05, h33km, mb4.1/5, Error ellipse: s-maj=52.9km s-min=28.4km az=29.8*
ISC 24 21:15:02.7±2.5, 446S±02×752W±06, h35km, n11, σ0§83/11, mb4.1/5, Off coast of southern Chile

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Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
PLCA Paso Flores         5.16  43  Pn                    Pn       21 16 18.3 +0.9
     0.1nm,0.3s,baz=220,slow=13,SNR=8.4
PLCA                                Pg                    Pn       21 16 35.7 +18
     0.8nm,0.3s,baz=213,slow=17,SNR=15
PLCA                                Lg                             21 17 44.1
     1.6nm,0.3s,baz=294,slow=20,SNR=2.8
PLCA Paso Flores         5.16  43  Pn                    Pn       21 16 18.3 +0.9
PLCA                                Pg                    Pn       21 16 35.7 +18
PLCA                                Lg                             21 17 44.1
USHA Ushuaia            11.16 159  LR                    LR       21 21 28.5
     comp=Z,164nm,19.4s,baz=9.8,slow=35
CFAA Coronel Fontan     14.06  25  Pn                    Pn       21 18 18.4 -1.0
     0.1nm,0.3s,baz=218,slow=21,SNR=3.8
CFAA                                LR                    LR       21 23 54.1
     comp=Z,18nm,19.4s,baz=227,slow=38
CPUP Villa Florida      23.23  44  eP                    P        21 20 07.8 +1.0
     29nm,0.9s,mb4.7
LPAZ La Paz             28.83  14  P                     P        21 20 58.4 +0.8
     0.4nm,0.5s,mb3.4,baz=153,slow=4.5,SNR=1.7
LPAZ La Paz             28.83  14  P                     P        21 20 58.4 +0.8
BDFB Brasilia           36.89  47  P                     P        21 22 06.7 -1.2
     3.9nm,0.7s,mb4.3,baz=232,slow=8.5,SNR=4.5
BDFB                                LR                    LR       21 36 51.0
     comp=Z,48nm,18.9s,baz=210,slow=36
DBIC Dimbokro           80.92  71  P                     P        21 27 13.6 +0.2
     2.7nm,1.0s,mb4.2,baz=206,slow=5.0,SNR=3.9
TORD Torodi Ar. Bea     90.03  72  P                     P        21 27 58.4 -0.3
     0.5nm,0.8s,mb3.9,baz=242,slow=3.1,SNR=2.6
MKAR Makanchi Array    164.13  74  PKPab                 PKPab    21 35 57.1 +1.2
     0.9nm,1.0s,baz=262,slow=6.4,SNR=3.3
```

*ISCJB **24** 21:16:34.1±0.5, 2533N±008×12221E±005, h229km±4km, mb3.3/7, Error ellipse: s-maj=12.8km s-min=7.6km az=164.1*
*IDC **24** 21:16:34.6±2.9, 2550N×12240E, h221km±29km, mb3.0/6, mb1 3.3/7, mb1mx3.1/19, mbtmp3.7/7, Error ellipse: s-maj=28.2km s-min=14.3km az=75.0*
*NEIC **24** 21:16:34.7±0.4, 2544N×12229E, h224km±4km, mb3.9/1, Error ellipse: s-maj=12.1km s-min=9.6km az=84.0*
*JMA **24** 21:16:38.3±0.2, 2525N×12231E, h207km±4km, M4.0*
ISC 24 21:16:35.0±0.5, 2536N±008×12222E±005, h222km±4km, n25, σ1§01/37, mb3.3/7, Taiwan region

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Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
TATO Taipei              0.77 240  eP                    Pn       21 17 06.6 +0.9
YHNB Yeheng              1.03 228  eP                    Pn       21 17 07.9 +0.7
YHNB                               eS                    S        21 17 32.0 -0.3
YOJ  Yonaguni jima       1.15 141  P                     Pn       21 17 09.1 +1.1
YOJ                                S                     S        21 17 32.8 -0.9
NACB Ninganchiao         1.31 206  eP                    Pn       21 17 09.5 +0.3
NACB                               eS                    S        21 17 33.3 -2.5
IRIF Iriomote-Funau      1.71 126  P                     Pn       21 17 13.5 +1.0
IRIF                               eS                    S        21 17 40.8 -1.0
HATJ Hateruma jima       1.94 132  P                     Pn       21 17 15.8 +1.2
HATJ                               eS                    S        21 17 44.5 -1.1
JKRS Kuro-shima          1.98 124  P                     Pn       21 17 16.1 +1.2
JKRS                               S                     S        21 17 45.4 -0.8
JIJ  Ishigaki jima       2.01 119  P                     Pn       21 17 15.9 +0.6
JIJ                                S                     S        21 17 45.1 -1.7
JTJ  Tarama              2.37 107  P                     Pn       21 17 20.2 +1.4
JTJ                                eS                    S        21 17 52.9 -0.3
JMJ  Miyako jima 2       2.84 100  P                     Pn       21 17 25.7 +1.7
JMJ                                eS                    S        21 18 01.9 -0.6
JOGS Gusukube            2.95 101  P                     Pn       21 17 27.2 +1.9
JOGS                               eS                    S        21 18 04.8 0.0
JKE  Kume jima 2         4.23  76  P                     Pn       21 17 40.9 +0.6
JAGN Aguni-jima          4.68  74  P                     Pn       21 17 46.4 +0.4
JJT2 Tamagusuku 2        5.05  80  P                     Pn       21 17 51.1 +0.6
JIH  Iheya               5.43  71  P                     Pn       21 17 54.7 -0.6
JOW  Kunigami            5.64  74  P                     Pn       21 17 57.2 -0.8
JOW                                eS                    S        21 18 58.0 -5.9
JOW  Kunigami            5.64  74  P                     Pn       21 17 56.9 -1.1
     7.5nm,0.3s,baz=131,slow=17,SNR=32
JOW                                S                     S        21 18 58.6 -5.3
     8.2nm,0.3s,baz=118,slow=24,SNR=9.9
SONM Songino Array      25.68 335  P                     P        21 21 43.4 -1.2
     1.6nm,1.2s,mb3.5,baz=154,slow=9.6,SNR=4.4
MKAR Makanchi Array     38.17 314  P                     P        21 23 33.0 -0.1
     0.1nm,0.4s,mb2.7,baz=105,slow=8.7,SNR=5.2
WRAB Tennant Creek      46.54 164  eP                    P        21 24 40.2 -0.2
     3.4nm,0.7s,mb3.8
WRA  Warramunga Arr     46.55 164  P                     P        21 24 40.6 +0.1
     1.9nm,0.5s,mb3.7,baz=347,slow=8.8,SNR=41
WB2  Warramunga Arr     46.55 164  eP                    P        21 24 40.5 0.0
ASAR Alice Springs      50.04 166  P                     P        21 25 07.8 +0.7
     0.9nm,0.5s,mb3.4,baz=347,slow=6.8,SNR=12
ILAR Eielson Array      67.74  28  P                     P        21 27 06.8 -1.8
     0.2nm,0.6s,mb2.9,baz=272,slow=5.9,SNR=4.9
YKA  Yellowknife Ar     81.52  23  P                     P        21 28 26.5 -1.2
     0.3nm,0.6s,mb3.1,baz=315,slow=4.8,SNR=7.3
```

*SOF **24** 21:26:34.7, 4197N×2300E, h16km, MD2.8*
*ISCJB **24** 21:26:34.5±0.4, 4193N±002×2295E±003, h13km±5km, Error ellipse: s-maj=4.3km s-min=3.0km az=123.1*
*NEIC **24** 21:26:35.3, 4192N×2295E, h10km, MD2.8(SOF), ML2.4(THE), After THE.*
*CSEM **24** 21:26:35.1±0.2, 4194N×2293E, h10km, MD2.8, Error ellipse: s-maj=3.7km s-min=2.4km az=177.0*
*SKO **24** 21:26:35.3, 4192N×2295E, h15km, M1.7, ML2.0*
*THE **24** 21:26:35.3, 4192N×2295E, h10km, ML2.7*
ISC 24 21:26:35.6±0.4, 4192N±002×2295E±003, h11km±5km, n26, σ0§89/48, Northwestern Balkan Peninsula

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Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
KKB  Krupnik             0.12 118  i Pg                  Pg       21 26 39.2 +0.7
KKB                                i Sg                  Sg       21 26 41.5 +0.9
STIP Stip                0.61 249  i Pg                  Pg       21 26 47.1 -0.4
STIP                               i Sg                  Sg       21 26 55.5 -0.1
STIP                               eLg                            21 26 56.1
     comp=N,43nm,0.3s
STIP                               eLg                            21 26 56.2
     comp=E,39nm,0.3s
STIP Stip                0.61 249  i Pg                  Pg       21 26 47.1 -0.4
STIP                               i Sg                  Sg       21 26 55.5 -0.1
VAY  Valandovo           0.66 205  ePg                   Pg       21 26 48.0 -0.4
VAY                                eSg                   Sg       21 26 57.3 +0.1
VAY  Valandovo           0.66 205  i Pg                  Pg       21 26 48.4 -0.1
VAY                                i Sg                  Sg       21 26 57.5 +0.4
VAY                                eLg                            21 26 57.7
     comp=E,134nm,0.3s
VAY                                eLg                            21 26 57.7
     comp=N,107nm,0.2s
VAY  Valandovo           0.66 205  ePg                   Pg       21 26 48.0 -0.5
VAY                                i Sg                  Sg       21 26 57.5 +0.3
MMB  Musomiste           0.67 119  i Pg                  Pg       21 26 49.2 +0.6
MMB                                i Sg                  Sg       21 26 57.8 +0.4
VTS  Vitosha             0.70  16  ePg                   Pg       21 26 48.8 -0.3
VTS                                eSg                   Sg       21 26 58.0 -0.3
VTS  Vitosha             0.70  16  ePg                   Pg       21 26 48.8 -0.3
VTS                                i Sg                  Sg       21 26 58.0 -0.2
VTS  Vitosha             0.70  16  i Pg                  Pg       21 26 48.7 -0.4
VTS                                i Sg                  Sg       21 26 58.0 -0.2
KNT  Kendrikon           0.76 183  ePg                   Pg       21 26 50.1 -0.2
     comp=N,28nm,0.2s
KNT                                eSg                   Sg       21 27 00.3 +0.1
SRS  Serrai              0.94 149  ePg                   Pg       21 26 53.3 -0.4
SRS                                eSg                   Sg       21 27 06.0 0.0
GRG  Griva               1.05 203  ePg                   Pg       21 26 55.0 -0.7
GRG                                eSg                   Sg       21 27 09.6 +0.2
PGB  Panagyurishte       1.10  55  i Pg                  Pg       21 26 55.0 -1.8
SKO  Skopje              1.13 273  ePn                   Pn       21 26 59.0 +1.8
SKO                                eSg                   Sg       21 27 12.8 +0.9
SKO                                eLg                            21 27 14.5
     comp=E,21nm,0.4s
SKO                                eLg                            21 27 14.8
     comp=N,23nm,0.4s
SKO  Skopje              1.13 273  ePn                   Pn       21 26 59.0 +1.7
SKO                                eSg                   Sg       21 27 12.8 +0.9
SOH  Sokhos              1.14 164  ePg                   Pg       21 26 56.9 -0.6
SOH                                eSg                   Sg       21 27 12.0 -0.3
PLD  Plovdiv             1.32  81  i Pg                  Pg       21 27 02.0 +1.0
PLD                                i Sg                  Sg       21 27 19.5 +1.4
RZN  Rozhen              1.34  99  i Pg                  Pg       21 27 00.0 -1.4
RZN                                i Sg                  Sg       21 27 20.0 +1.2
BIA  Bitola              1.52 234  ePn                   Pn       21 27 04.3 +1.6
BIA                                eSg                   Sg       21 27 24.2 -0.2
BIA                                eLg                            21 27 24.7
     comp=E,8.3nm,0.3s
BIA                                eLg                            21 27 24.8
     comp=N,8.4nm,0.4s
BIA  Bitola              1.52 234  ePn                   Pn       21 27 04.2 +1.6
BIA                                eSg                   Sg       21 27 24.2 -0.2
FNA  Florina             1.64 227  ePb                   Pb       21 27 03.4 -2.4
KDZ  Kurdzhali           1.87  98  i Sg                  Sg       21 27 34.0 -1.6
DIM  Dimitrovgrad        1.93  85  i Pg                  Pg       21 27 13.0 +0.3
ALN  Alexandroupoli      2.54 113  ePn                   Pn       21 27 16.3 -0.5
ALN                                eSn                   Sn       21 27 48.1 +0.4
SZH  Strazhica           2.58  58  i Pg                  Pg       21 27 24.5 -0.6
SZH                                i Sg                  Sg       21 27 58.5 -0.1
```

*NEIC **24** 21:33:00.0, 3637S×17749E, h185km, MG3.9(WEL), After WEL.*
WEL 24 21:33:00.6±0.4, 3637S×17744E, h177km±6km, ML3.8/13, Error ellipse: s-maj=7.6km s-min=5.0km az=90.0, Off east coast of North Island

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
MXZ  Matakaoa Point      1.38 150  Pn                    Pn       21 33 31.1  0.0
MXZ                                SN                    Sn       21 33 54.5 -0.3
MXZ  Matakaoa Point      1.38 150  P                     Pn       21 33 31.1 -0.1
MXZ                                S                     Sn       21 33 54.6 -0.2
PUZ  Puketiti            1.82 159  PN                    Pn       21 33 35.8 +0.3
PUZ                                SN                    Sn       21 34 02.0 -0.6
PUZ  Puketiti            1.82 159  P                     Pn       21 33 35.8 +0.3
PUZ                                S                     Sn       21 34 02.4 -0.2
URZ  Urewera             1.91 188  PN                    Pn       21 33 37.1 +0.7
URZ                                SN                    Sn       21 34 05.1 +1.0
URZ  Urewera             1.91 188  P                     Pn       21 33 37.2 +0.8
MWZ  Matawai             1.96 178  PN                    Pn       21 33 37.4 +0.3
MWZ                                SN                    Sn       21 34 05.7 +0.4
MWZ  Matawai             1.96 178  eP                    Pn       21 33 37.4 +0.4
KNZ  Kokohu              2.66 176  PN                    Pn       21 33 44.7 -0.2
KNZ                                SN                    Sn       21 34 18.2 -1.2
KNZ  Kokohu              2.66 176  eP                    Pn       21 33 44.7 -0.2
BKZ  Black Stump Fm      2.89 195  PN                    Pn       21 33 48.0 +0.2
BKZ                                SN                    Sn       21 34 23.9 -0.5
BKZ  Black Stump Fm      2.89 195  eP                    Pn       21 33 48.0 +0.2
MOVZ Moawhango           3.31 203  PN                    Pn       21 33 53.0 +0.1
MOVZ Moawhango           3.31 203  P                     Pn       21 33 53.1 +0.2
PXZ  Pawanui             3.69 187  PN                    Pn       21 33 56.4 -1.2
PXZ                                SN                    Sn       21 34 39.1 -3.0
TSZ  Takapari Road       3.86 197  ePN                   Pn       21 33 58.5 -1.3
TSZ                                SN                    Sn       21 34 45.6 -0.5
TSZ  Takapari Road       3.86 197  P                     Pn       21 33 58.7 -1.1
BFZ  Birch Farm          4.41 192  ePN                   Pn       21 34 04.8 -1.9
BFZ  Birch Farm          4.41 192  eP                    Pn       21 34 04.8 -2.0
MRZ  Mangatainoka R      4.53 198  PN                    Pn       21 34 06.2 -2.2
MRZ                                SN                    Sn       21 34 57.8 -3.6
MRZ  Mangatainoka R      4.53 198  eP                    Pn       21 34 06.2 -2.1
KIW  Kapiti Island       4.90 203  ePN                   Pn       21 34 10.7 -2.5
KIW  Kapiti Island       4.90 203  P                     Pn       21 34 10.9 -2.3
MTW  Mount Morrison      5.02 197  P                     Pn       21 34 11.9 -2.7
CAW  Cannon Point        5.08 201  P                     Pn       21 34 12.8 -2.7
MSWZ Moikau Station      5.32 198  P                     Pn       21 34 15.4 -3.2
TCW  Tory Channel        5.43 206  P                     Pn       21 34 17.1 -2.9
```

*PRE **24** 21:34:27.4±2.0, 2131S×3340E, h5km, ML4.8*
*ISCJB **24** 21:34:28.2±0.5, 2133S±006×3311E±007, h10km, mb4.2/17, MS3.6/3, Error ellipse: s-maj=11.8km s-min=5.8km az=79.5*
*IDC **24** 21:34:28.5±0.6, 2130S×3335E, h0km, mb4.2/17, mb1 4.4/21, mb1mx4.3/24, mbtmp4.3/21, ML4.6/5, MS3.6/7, Ms1 3.6/7, ms1mx3.4/23, Error ellipse: s-maj=18.2km s-min=15.6km az=102.0*
*NEIC **24** 21:34:30.2±0.4, 2133S×3328E, h10km, mb4.2/2, Error ellipse: s-maj=14.0km s-min=9.2km az=120.0*
ISC 24 21:34:29.8±0.4, 2137S±006×3323E±007, h10km, n43, σ1§26/47, mb4.2/17, MS3.6/3, Mozambique

```
Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
SLR  Silverton           6.29 225  eP                    Pn       21 36 03.5 +0.9
SLR                                eS                    Sn       21 37 14.9 +0.5
SLR                                AML                   AML      21 37 53.9
     comp=Z,256nm,0.6s
LSZ  Lusaka              7.72 321  Pn                    Pn       21 36 21.1 -1.2
     comp=Z,52nm,0.3s,baz=144,slow=15,SNR=120
LSZ                                Sn                    Sn       21 37 41.5 -8.2
     comp=Z,32nm,0.3s,baz=241,slow=22,SNR=9.7
LSZ                                Lg                             21 38 25.3
     comp=Z,89nm,0.3s,baz=58,slow=20,SNR=14
LSZ                                LR                    LR       21 39 38.6
     comp=Z,274nm,18.9s,baz=326,slow=40
LSZ  Lusaka              7.72 321  Pn                    Pn       21 36 21.1 -1.2
LSZ                                Sn                    Sn       21 37 41.5 -8.2
LSZ                                Lg                             21 38 25.3
LSZ                                LR                    LR       21 39 38.6
LBTB Lobatse             7.90 241  Pn                    Pn       21 36 26.1 +1.3
     comp=Z,12nm,0.3s,baz=66,slow=13,SNR=92
LBTB                               Sn                    Sn       21 37 52.0 -2.3
     comp=Z,22nm,0.3s,baz=266,slow=7.7,SNR=6.1
LBTB                               Lg                             21 38 34.2
     comp=Z,46nm,0.3s,baz=162,slow=21,SNR=17
LBTB                               LR                    LR       21 39 46.8
     comp=Z,345nm,21.9s,baz=75,slow=40
LBTB Lobatse             7.90 241  ePn                   Pn       21 36 26.2 +1.4
LBTB                               eSn                   Sn       21 37 52.2 -2.0
LBTB                               eSg                   Sn       21 38 34.0 +40
LBTB                               Lg                             21 38 34.2
LBTB                               LR                    LR       21 39 46.8
SEK  Senekal             8.59 215  eS                    Sn       21 38 08.8 -2.4
SEK                                AML                   AML      21 38 43.3
     comp=Z,77nm,0.8s
BOSA Boshof             10.21 223  Pn                    Pn       21 36 56.6 +0.2
     comp=Z,4.2nm,0.3s,baz=54,slow=13,SNR=44
BOSA                               Sn                    Sn       21 38 44.5 -6.5
     comp=Z,5.4nm,0.3s,baz=78,slow=13,SNR=4.7
BOSA                               Lg                             21 39 51.1
     comp=Z,5.4nm,0.3s,baz=322,slow=21,SNR=5.5
BOSA                               LR                    LR       21 41 19.4
     comp=Z,256nm,20.8s,baz=178,slow=40
BOSA Boshof             10.21 223  ePn                   Pn       21 36 56.1 -0.4
BOSA                               eSn                   Sn       21 38 44.2 -6.8
BOSA                               Lg                             21 39 51.1
BOSA                               LR                    LR       21 41 19.4
OPO  Ambohidratompo     13.41  80  Pn                    Pn       21 37 37.8 -2.4
     comp=Z,0.7nm,0.3s,baz=252,slow=15,SNR=6.6
OPO                                Sn                    Sn       21 39 57.6 -12
     comp=Z,6.2nm,0.3s,baz=331,slow=23,SNR=13
TSUM Tsumeb             14.84 276  Pn                    Pn       21 37 57.1 -2.6
     comp=Z,3.6nm,0.3s,baz=100,slow=12,SNR=106
TSUM                               Sn                    Sn       21 40 37.0 -7.0
     comp=Z,1.1nm,0.3s,baz=243,slow=16,SNR=4.0
TSUM                               Lg                             21 42 17.2
     comp=Z,4.2nm,0.3s,baz=99,slow=20,SNR=3.8
TSUM                               LR                    LR       21 43 52.8
     comp=Z,281nm,18.0s,baz=204,slow=38
TSUM Tsumeb             14.84 276  ePn                   Pn       21 37 58.7 -0.9
TSUM                               eSn                   Sn       21 40 31.0 -13
TSUM                               Sn                    Sn       21 40 37.0 -7.0
TSUM                               Lg                             21 42 17.2
TSUM                               LR                    LR       21 43 52.8
SUR  Sutherland         15.58 223  Pn                    Pn       21 38 09.2 -0.2
     comp=Z,2.2nm,0.3s,baz=52,slow=13,SNR=25
SUR                                Sn                    Sn       21 40 54.5 -7.5
     comp=Z,2.2nm,0.3s,baz=344,slow=18,SNR=4.9
SUR                                Lg                             21 42 35.0
     comp=Z,2.2nm,0.3s,baz=299,slow=20,SNR=3.8
SUR  Sutherland         15.58 223  ePn                   Pn       21 38 09.8 +0.4
SUR                                eSn                   Sn       21 40 54.2 -7.8
SUR                                Sn                    Sn       21 40 54.5 -7.5
KMBO Kilima Mbogo       20.50  12  P                     P        21 39 07.7 -0.2
     comp=Z,1.3nm,0.6s,baz=204,slow=14,SNR=4.8
KMBO                               Lg                             21 45 05.2
     comp=Z,2.7nm,0.8s,baz=84,slow=21,SNR=4.7
KMBO                               LR                    LR       21 46 49.0
     comp=Z,102nm,19.7s,MS3.2,baz=269,slow=36
KMBO Kilima Mbogo       20.50  12  eP                    P        21 39 08.4 +0.5
     comp=Z,6.5nm,1.3s
KMBO                               Lg                             21 45 05.2
KMBO                               LR                    LR       21 46 49.0
ATD  Arta Tunnel        34.03  17  P                     P        21 41 13.5 -0.4
     comp=Z,1.5nm,0.3s,mb4.4,baz=191,slow=18,SNR=8.6
TORD Torodi Ar. Bea     46.21 315  P                     P        21 42 55.3 +0.4
     comp=Z,5.5nm,0.7s,mb4.6,baz=126,slow=7.0,SNR=102
TORD                               PP                    PP       21 44 40.8 -2.5
     comp=Z,2.5nm,1.0s,baz=134,slow=9.4,SNR=3.7
DBIC Dimbokro           46.61 303  P                     P        21 42 58.8 +0.7
     comp=Z,3.4nm,0.7s,mb4.4,baz=128,slow=11,SNR=12
DBIC                               LR                    LR       22 01 14.8
     comp=Z,68nm,21.2s,MS3.6,baz=111,slow=34
DBIC Dimbokro           46.61 303  eP                    P        21 42 58.4 +0.3
     comp=Z,4.7nm,0.8s,mb4.5
DBIC                               LR                    LR       22 01 14.8
BRTR Keskin Array B     60.77   0  P                     P        21 44 42.2 +0.4
     comp=Z,0.6nm,0.7s,mb3.9,baz=173,slow=13,SNR=2.9
ESDC Sonseca Array      69.95 330  P                     P        21 45 42.3 +1.0
     comp=Z,1.5nm,0.7s,mb4.0,baz=150,slow=6.4,SNR=6.6
GERES GERESS Array B    72.04 347  P                     P        21 45 54.1 +0.2
     comp=Z,0.8nm,0.5s,mb3.9,baz=190,slow=4.9,SNR=1.9
BDFB Brasilia           76.48 258  P                     P        21 46 22.0 +2.1
     comp=Z,7.7nm,0.7s,mb4.7,baz=123,slow=3.8,SNR=12
VNDA Vanda              76.88 170  P                     P        21 46 23.2 +1.1
     comp=Z,4.8nm,1.1s,mb4.4,baz=234,slow=3.9,SNR=3.3
VNDA                               LR                    LR       22 21 41.6
     comp=Z,101nm,19.1s,MS4.2,baz=68,slow=37
MKAR Makanchi Array     81.00  32  P                     P        21 46 43.6 -1.1
     comp=Z,0.7nm,0.8s,mb3.7,baz=219,slow=5.8,SNR=9.4
FINES FINESS Array B    82.72 357  P                     P        21 46 53.3 -0.4
     comp=Z,0.8nm,0.6s,mb3.9,baz=152,slow=8.4,SNR=4.2
NOA  NORSAR Array B     84.02 349  P                     P        21 47 00.7 +0.3
     comp=Z,1.3nm,0.8s,mb4.1,baz=154,slow=4.9,SNR=3.0
PLCA Paso Flores        86.17 228  P                     P        21 47 13.4 +2.1
     comp=Z,1.1nm,0.9s,mb4.1,baz=133,slow=4.5,SNR=2.9
ASAR Alice Springs      90.79 116  P                     P        21 47 34.1 +0.9
     comp=Z,2.7nm,0.8s,mb4.7,baz=244,slow=4.1,SNR=23
WRA  Warramunga Arr     92.64 112  P                     P        21 47 42.0 +0.2
     comp=Z,0.9nm,0.9s,mb4.2,baz=247,slow=3.0,SNR=7.0
STKA Stephens Creek     93.41 126  P                     P        21 47 44.4 -1.0
     comp=Z,1.7nm,1.0s,mb4.4,baz=333,slow=9.0,SNR=2.2
LPAZ La Paz             94.32 251  P                     P        21 47 51.5 +2.0
     comp=Z,0.6nm,0.6s,mb4.2,baz=135,slow=8.6,SNR=2.7
SONM Songino Array      94.92  40  P                     P        21 47 49.7 -2.6
     comp=Z,0.3nm,0.7s,mb3.8,baz=238,slow=3.3,SNR=3.7
YKA  Yellowknife Ar     133.41 340 PKP                   PKPdf    21 53 45.9 -0.3
     comp=Z,0.5nm,0.7s,baz=40,slow=2.1,SNR=7.7
YKA  Yellowknife Ar     133.41 340 PKP                   PKPdf    21 53 45.9 -0.3
HLID Hailey             145.19 317 ePKPdf                PKPdf    21 54 09.5 +1.9
DUG  Dugway             145.59 311 ePKPdf                PKPdf    21 54 09.4 +1.1
MSU  Marysvale          145.75 308 ePKPdf                PKPdf    21 54 11.4 +2.8
MSU                                e                              21 54 18.2
WUAZ Wupatki            146.03 302 ePKPdf                PKPdf    21 54 10.6 +1.5
WUAZ                               e                              21 54 19.4
TUC  Tucson             146.24 296 ePKPbc                PKPbc    21 54 13.1 +2.6
TUC                                e                              21 54 20.1
BMO  Blue Mountains     146.29 321 ePKPdf                PKPdf    21 54 11.7 +2.2
MOD  Modoc              149.76 319 PKPdf                 PKPdf    21 54 16.4 +1.2
MOD                                ePKPbc                PKPbc    21 54 23.1 +1.4
NVAR Mina Array Bea     150.20 311 PKPbc                 PKPbc    21 54 23.3 +2.3
     comp=Z,1.8nm,0.7s,baz=90,slow=2.8,SNR=10.0
```

*IDC **24** 21:39:32.6±1.1, 2430N×12177E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.6/5, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=42.8km s-min=21.2km az=65.0*
*NEIC **24** 21:39:33.7±1.1, 2444N×12225E, h10km, MG3.6(JMA), Error ellipse: s-maj=17.4km s-min=11.6km az=221.0*
*JMA **24** 21:39:36.4±0.2, 2454N×12184E, h40km±4km, M3.6*
*ISCJB **24** 21:39:37.2±0.5, 2436N±006×12187E±004, h50km±6km, mb3.5/4, Error ellipse: s-maj=10.9km s-min=5.1km az=22.6*
ISC 24 21:39:38.2±0.5, 2438N±006×12188E±003, h40km±7km, n14, σ0§54/23, mb3.5/4, Taiwan

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Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
NACB Ninganchiao         0.33 232  eP                    Pn       21 39 46.4 -0.4
NACB                               eS                    Sn       21 39 53.2 +0.5
YHNB Yeheng              0.54 303  eP                    Pn       21 39 49.5 0.0
YHNB                               eS                    Sn       21 39 56.9 -0.5
TATO Taipei              0.69 330  eP                    Pn       21 39 51.6 0.0
TATO                               eS                    Sn       21 40 01.6 +0.5
YOJ  Yonaguni jima       1.04  85  P                     Pn       21 39 55.2 -1.1
YOJ                                S                     Sn       21 40 09.2 -0.4
IRIF Iriomote-Funau      1.69  91  P                     Pn       21 40 05.0 -0.2
IRIF                               eS                    Sn       21 40 25.7 0.0
HATJ Hateruma jima       1.79 100  P                     Pn       21 40 06.7 +0.1
HATJ                               eS                    Sn       21 40 28.8 +0.7
JKRS Kuro-shima          1.95  94  P                     Pn       21 40 09.0 +0.2
JKRS                               eS                    Sn       21 40 32.7 +0.6
JIJ  Ishigaki jima       2.07  90  P                     Pn       21 40 10.3 -0.1
JIJ                                eS                    Sn       21 40 34.0 -0.9
JTJ  Tarama              2.59  84  P                     Pn       21 40 17.7 +0.1
JTJ                                eS                    Sn       21 40 48.3 +0.5
JOW  Kunigami            6.27  66  Pn                    Pn       21 41 08.1 -0.1
     5.0nm,0.3s,baz=269,slow=16,SNR=7.3
SONM Songino Array      26.44 336  P                     P        21 45 12.3 +1.0
     0.7nm,0.7s,mb3.3,baz=150,slow=9.1,SNR=6.5
MKAR Makanchi Array     38.64 315  P                     P        21 46 57.0 -0.7
     0.8nm,1.0s,mb3.4,baz=96,slow=9.3,SNR=8.2
WRA  Warramunga Arr     45.69 164  P                     P        21 47 54.4 -0.7
     0.4nm,0.6s,mb3.5,baz=347,slow=8.4,SNR=8.7
ASAR Alice Springs      49.16 165  P                     P        21 48 22.7 +0.6
     0.2nm,0.3s,mb3.6,baz=337,slow=7.2,SNR=3.8
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*JMA **24** 22:08:58.1, 3454N×13534E, h408km, M2.9*
*ISCJB **24** 22:08:59.2±0.7, 344N±01×1356E±01, h399km±8km, mb2.9/3, Error ellipse: s-maj=23.8km s-min=12.4km az=119.1*
*IDC **24** 22:09:00.1±1.4, 3435N×13553E, h384km±18km, mb2.6/3, mb1 2.8/5, mb1mx2.6/20, mbtmp3.3/5, Error ellipse: s-maj=35.8km s-min=20.2km az=60.0*
ISC 24 22:09:00.3±0.7, 345N±01×1355E±01, h391km±8km, n18, σ0§79/20, mb2.9/3, Near south coast of western Honshu

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Code Station Name        Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
JKN2 Miekihoku           0.65 110  P                     Pn       22 09 49.7 +0.3
JWT  Wachi               0.83 352  P                     Pn       22 09 49.5 -0.3
JWZ  Kozaga              0.94 171  P                     Pn       22 09 50.4 +0.2
JIE  Ise                 0.97  94  P                     Pn       22 09 50.9 +0.6
JEG  Eigenji             0.97  46  P                     Pn       22 09 50.6 +0.3
JAI  Aioi                1.12 234  P                     Pn       22 09 50.6 -0.2
JGM  Miyama              1.57  38  P                     Pn       22 09 53.1 +0.2
JAO  Obara               1.63  60  P                     Pn       22 09 53.8 +0.6
```

JKG Kaga 1.92 19 P **Pn 22 09 54.5 -0.4**
JNY Yasuok 2.11 64 P **Pn 22 09 56.6 +0.5**
MJAR Matsushiro Arr 3.01 46 P **Pn 22 10 03.1 +0.3**
0.6nm,0.3s,baz=227,slow=7.8,SNR=11
JHU Hanno 3.37 65 *e*S **S 22 11 00.2 +1.2**
JAG Ashikaga 3.75 57 P **Pn 22 10 08.8 -0.6**
JAG S **S 22 11 02.7 -2.6**
JNU Nakatsue 4.10 252 P **Pn 22 10 11.8 -1.0**
0.9nm,0.3s,baz=356,slow=15,SNR=4.1
JHO Hitachi 4.63 61 P **Pn 22 10 17.6 -0.4**
JHO *e*S **S 22 11 16.1 -4.9**
SONM Songino Array 25.52 310 P **P 22 13 54.6 -0.5**
0.6nm,0.7s,mb3.1,baz=109,slow=7.8,SNR=5.0
MKAR Makanchi Array 41.50 304 P **P 22 16 12.5 +1.5**
0.3nm,0.8s,mb2.7,baz=89,slow=8.0,SNR=3.4
WRA Warramunga Arr 54.11 181 P **P 22 17 46.0 -0.5**
0.2nm,0.4s,mb2.7,baz=358,slow=7.5,SNR=8.8

*ISCJB **24** 22:14:41.6±2.3, 8.1S±0.1×1187E±02, h86km±22km, mb3.6/4, Error ellipse: s-maj=31.3km s-min=11.8km az=99.8*
*NEIC **24** 22:14:45.8±3.8, 865S×118.18E, h124km±40km, mb3.8/1, Error ellipse: s-maj=75.1km s-min=18.1km az=52.0*
*IDC **24** 22:14:47.7±3.2, 826S×11870E, h133km±26km, mb3.3/4, mb1 3.4/5, mb1mx3.3/17, mbtmp3.7/5, Error ellipse: s-maj=69.6km s-min=11.5km az=51.0*
ISC 24 22:14:47.8±2.0, 83S±01×1188E±02, h127km±19km, n13, σ1§10/16, mb3.6/4, 1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.84**	**146**	*e*P	**Pn**	**22 17 30.8**	**-1.7**
	4.6nm,0.7s						
WRA	**Warramunga Arr**	**19.02**	**129**	P	**P**	**22 19 00.3**	**+0.6**
	0.5nm,0.3s,baz=301,slow=12,SNR=41						
WRA				S	**S**	**22 22 27.1**	**-1.8**
	0.3nm,0.3s,baz=303,slow=26,SNR=6.5						
WRA				ScP	ScP	22 26 41.1	-2.2
	0.0nm,0.3s,baz=325,slow=2.0,SNR=5.7						
WRAB	**Tennant Creek**	**19.03**	**129**	*e*P	**P**	**22 19 00.5**	**+0.7**
	3.2nm,0.7s						
WRAB				*e*S	**S**	**22 22 29.6**	**+0.7**
WB2	**Warramunga Arr**	**19.03**	**129**	⇓*i*P	**P**	**22 19 00.4**	**+0.6**
WB2				*e*S	**S**	**22 22 24.8**	**-4.3**
ASPA	**Alice Springs**	**21.09**	**138**	*e*P	**P**	**22 19 22.9**	**+1.0**
AS31	**Alice Springs**	**21.09**	**138**	*e*P	**P**	**22 19 22.9**	**+0.9**
ASAR	**Alice Springs**	**21.09**	**138**	P	**P**	**22 19 22.6**	**+0.6**
	1.9nm,0.4s,mb3.7,baz=311,slow=9.2,SNR=38						
ASAR				S	**S**	**22 23 15.7**	**+6.2**
	1.0nm,0.7s,baz=313,slow=24,SNR=4.8						
KLBR	**Kellerberrin**	**23.22**	**182**	*e*P	pP	22 20 02.0	-6.3
	7.8nm,0.8s						
KLBR				*e*S	**S**	**22 23 46.5**	**+0.7**
STKA	**Stephens Creek**	**31.66**	**141**	P	**P**	**22 20 57.1**	**-1.8**
	0.8nm,0.4s,mb3.8,baz=315,slow=10.0,SNR=3.8						
SONM	**Songino Array**	**56.92**	**350**	P	**P**	**22 24 20.2**	**+0.6**
	0.4nm,0.4s,mb3.8,baz=170,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**22 25 04.5**	**-1.2**
	0.1nm,0.3s,mb3.1,baz=152,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**22 25 04.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**118.11**	**280**	PKP	PKPdf	22 33 18.4	-1.2
	0.3nm,0.5s,baz=54,slow=2.2,SNR=5.1						

*NIED **24** 23:01:00, 4360N×146.40E, h74km, Mw3.8 Best double couple: M0:6.33000×10^14 NP1:φ=220.00000°, δ=88.00000°, λ=112.00000°. NP2:φ=314.00000°, δ=22.00000°, λ=5.00000°.*
*ISCJB **24** 23:01:42.0±0.7, 4365N±005×146.42E±009, h86km±5km, mb3.7/14, Error ellipse: s-maj=10.7km s-min=8.3km az=42.4*
*MOS **24** 23:01:42.0±1.5, 4362N×146.32E, h90km, mb3.9/6, Error ellipse: s-maj=19.0km s-min=12.7km az=113.2*
*NEIC **24** 23:01:43.8±1.0, 4364N×146.21E, h85km±8km, mb3.7/1, Error ellipse: s-maj=15.4km s-min=11.8km az=107.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*JMA **24** 23:01:43.7±0.1, 4358N×146.40E, h73km±1km, M4.2*
JMA Felt I J1.
*SKHL **24** 23:01:43.5±0.6, 4359N×146.29E, h60km±7km, mb5.3/2*
*IDC **24** 23:01:46.9±2.9, 4372N×146.14E, h110km±25km, mb3.5/13, mb1 3.7/14, mb1mx3.6/22, mbtmp3.9/14, Error ellipse: s-maj=19.5km s-min=16.3km az=93.0*
ISC 24 23:01:43.0±0.7, 4365N±005×14640E±009, h81km±5km, n40, σ0§98/54, mb3.7/14, 6C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.55**	**314**	*i* P	**Pn**	**23 01 56.5**	**-0.8**
YUK				AMB	AMB	23 01 56.8	
	7μm,0.6s						
YUK				AMB	AMB	23 01 58.0	
	3μm,0.2s						
YUK				AMB	AMB	23 01 58.0	
	2μm,0.2s						
YUK				AMB	AMB	23 01 58.0	
	6μm,0.2s						
YUK				*i* S	**Sn**	**23 02 06.5**	**-1.3**
YUK				A		23 02 08.0	
	28μm,1.0s						
YUK				A		23 02 08.0	
	28μm,1.0s						
YUK				A		23 02 09.0	
	16μm,0.3s						
YUK				A		23 02 09.0	
	7μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.55**	**314**	*i* PN	**Pn**	**23 01 56.5**	**-0.8**
YUK				*i* S	**Sn**	**23 02 06.5**	**-1.3**
YUK				pmax	pmax		
	comp=Z,7000μm,0.6s						
YUK				pmax	pmax		
	comp=N,3μm,0.2s						
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=E,2μm,0.3s						
YUK				smax			
	comp=N,28μm,0.7s						
YUK				smax			
	comp=E,28μm,0.8s						
YUK				smax			
	comp=N,16μm,0.4s						
YUK				smax			
	comp=E,7μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.55**	**314**	*i* Pn	**Pn**	**23 01 56.5**	**-0.8**
YUK				*i* S	**Sn**	**23 02 06.5**	**-1.3**
NEM2	**Nemuro 2**	**0.56**	**239**	⇑P	**Pn**	**23 01 57.1**	**-0.3**
NEM2				S	**Sn**	**23 02 06.8**	**-1.2**
JRA	**Rausu**	**0.97**	**288**	⇑P	**Pn**	**23 02 02.2**	**+0.4**
JRA				*e*S	**Sn**	**23 02 16.3**	**+0.5**
JNK	**Nakash**	**1.23**	**267**	⇑P	**Pn**	**23 02 04.8**	**-0.1**
JNK				*e*S	**Sn**	**23 02 20.5**	**-0.8**
JAK	**Akkeshi**	**1.41**	**243**	⇓P	**Pn**	**23 02 07.1**	**-0.1**
JAK				*e*S	**Sn**	**23 02 24.6**	**-0.8**
JTKR	**Abashiri--Toko**	**1.83**	**281**	⇓P	**Pn**	**23 02 13.7**	**+1.0**
JTKR				*e*S	**Sn**	**23 02 36.5**	**+1.2**
JAR	**Ashorobuto**	**1.95**	**260**	⇓P	**Pn**	**23 02 15.1**	**+0.8**
JAR				*e*S	**Sn**	**23 02 38.5**	**+0.5**
JOB	**Onbets**	**2.02**	**249**	⇓P	**Pn**	**23 02 15.8**	**+0.6**
JOB				*e*S	**Sn**	**23 02 39.7**	**0.0**
JMP	**Maruseppu**	**2.23**	**280**	⇓P	**Pn**	**23 02 19.2**	**+1.2**
JCH	**Churui**	**2.46**	**246**	⇓P	**Pn**	**23 02 21.1**	**+0.1**
ASAJ	**Asahikawa**	**2.79**	**281**	P	**Pn**	**23 02 27.4**	**+1.8**
	comp=E,12nm,0.3s,baz=107,slow=11,SNR=53						
ASAJ				S	**Sn**	**23 03 08.6**	**+10**
	comp=E,11nm,0.3s,baz=28,slow=33,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**4.19**	**323**	⇑*i*P	**Pn**	**23 02 46.5**	**+2.0**
YSS				AMB	AMB	23 02 47.5	
	comp=E,30nm,0.6s						
YSS				*e*pP		23 03 20.0	
YSS				*e*sP		23 03 29.0	
YSS				*e*S	**Sn**	**23 03 31.6**	**-0.5**
YSS				A		23 03 36.0	
	comp=E,60nm,0.9s						
YSS				A		23 03 36.0	
	comp=E,120nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.19**	**323**	⇑*i*PN	**Pn**	**23 02 46.5**	**+2.0**
YSS				*e*S	**Sn**	**23 03 31.6**	**-0.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax			
	comp=E,120nm,1.0s						
YSS				smax			
	comp=N,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.19**	**323**	⇑*i*Pn	**Pn**	**23 02 46.5**	**+2.0**
YSS				*e*S	**Sn**	**23 03 31.6**	**-0.5**
MJAR	**Matsushiro Arr**	**9.47**	**224**	P	**Pn**	**23 03 55.7**	**-0.9**
	comp=N,0.6nm,0.3s,baz=28,slow=13,SNR=5.1						
ULN	**Ulaanbaatar**	**27.57**	**293**	*e*P	**P**	**23 07 21.3**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**27.57**	**293**	*e*P	**P**	**23 07 21.3**	**-1.0**
	comp=Z,1.1nm,0.4s,mb3.7						
SONM	**Songino Array**	**28.01**	**293**	P	**P**	**23 07 26.4**	**+0.1**
	comp=Z,2.2nm,0.7s,mb3.8,baz=86,slow=8.7,SNR=14						
ZAL	**Zalesovo**	**40.64**	**307**	P	**P**	**23 09 14.7**	**-0.4**
	comp=Z,1.1nm,0.3s,mb4.1,baz=7.7,slow=7.3,SNR=4.6						
ZAL				PcP	PcP	23 11 15.9	+0.4
	comp=Z,0.4nm,0.4s,baz=334,slow=13,SNR=3.3						
ZAL	**Zalesovo**	**40.64**	**307**	P	**P**	**23 09 14.7**	**-0.4**
ZAL				*e*		23 11 15.9	
ILAR	**Eielson Array**	**41.89**	**36**	P	**P**	**23 09 25.6**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.3,baz=259,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**44.15**	**297**	P	**P**	**23 09 42.2**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.0,baz=78,slow=8.5,SNR=30						
MKAR	**Makanchi Array**	**44.15**	**297**	P	**P**	**23 09 42.3**	**-1.2**
BVAR	**Borovoye Array**	**49.15**	**309**	P	**P**	**23 10 21.6**	**-0.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=79,slow=8.5,SNR=9.9						
BVAR	**Borovoye Array**	**49.15**	**309**	P	**P**	**23 10 21.6**	**-1.0**
YKA	**Yellowknife Ar**	**56.18**	**34**	P	**P**	**23 11 16.2**	**+1.7**
	comp=Z,0.1nm,0.5s,mb3.1,baz=299,slow=6.8,SNR=3.3						
WRA	**Warramunga Arr**	**64.24**	**193**	P	**P**	**23 12 10.0**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=8.5,slow=6.7,SNR=13						
FINES	**FINESS Array B**	**64.72**	**333**	P	**P**	**23 12 10.4**	**-2.1**
	comp=Z,1.5nm,0.8s,mb3.9,baz=61,slow=9.0,SNR=6.3						
FINES	**FINESS Array B**	**64.72**	**333**	P	**P**	**23 12 10.5**	**-2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**67.96**	**192**	P	**P**	**23 12 34.1**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=8.3,slow=6.0,SNR=10.0						
ASAR	**Alice Springs**	**67.96**	**192**	P	**P**	**23 12 34.1**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**68.09**	**57**	P	**P**	**23 12 35.6**	**+1.6**
	comp=Z,0.2nm,0.5s,mb3.2,baz=300,slow=5.9,SNR=5.0						
NOA	**NORSAR Array B**	**69.50**	**339**	P	**P**	**23 12 41.8**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.8,baz=16,slow=4.8,SNR=3.3						
NOA	**NORSAR Array B**	**69.50**	**339**	P	**P**	**23 12 41.8**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**69.57**	**337**	P	**P**	**23 12 42.4**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=25,slow=8.2,SNR=8.6						
HFS	**Hagfors**	**69.57**	**337**	P	**P**	**23 12 42.4**	**-0.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**78.06**	**343**	P	**P**	**23 13 32.0**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=21,slow=4.9,SNR=5.5						
EKA	**Eskdalemuir Ar**	**78.06**	**343**	P	**P**	**23 13 32.1**	**-0.8**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NEIC **24** 23:03:50.6, 4553S×17101E, h12km, ML3.7(WEL), After WEL.*
WEL 24 23:03:53.6±0.2, 4536S×17043E, h0km, ML2.6/6, Quarry: Macraes Flat Mining induced., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**0.35**	**26**	PG	Pg	23 04 00.9	+0.6
ODZ	**Otahua Downs**	**0.35**	**26**	P	Pg	23 04 00.9	+0.6
TUZ	**Tuapeka**	**0.82**	**223**	P*	Pb	23 04 09.4	-1.3
TUZ	**Tuapeka**	**0.82**	**223**	P	Pg	23 04 09.5	+0.2
LBZ	**Lake Benmore**	**0.99**	**350**	P*	Pb	23 04 12.9	-0.7
LBZ	**Lake Benmore**	**0.99**	**350**	*e*P	Pg	23 04 12.9	+0.4
LBZ				S	Sg	23 04 30.2	+4.8
WKZ	**Wanaka**	**1.13**	**297**	P*	Pb	23 04 15.5	-0.5
WKZ	**Wanaka**	**1.13**	**297**	*e*P	Pg	23 04 15.8	+0.5
MLZ	**Mavora Lakes**	**1.59**	**270**	PN	Pn	23 04 24.4	+1.4
MLZ	**Mavora Lakes**	**1.59**	**270**	*e*P	Pn	23 04 24.1	+1.1
JCZ	**Jackson Bay**	**1.75**	**317**	*e*PN	Pn	23 04 27.1	+1.9
JCZ	**Jackson Bay**	**1.75**	**317**	*e*P	Pn	23 04 27.6	+2.4

IDC 24 23:08:52.3±4.5, 063S×13121E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=311.4km s-min=27.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.44**	**171**	P	Pn	23 13 18.9	-2.5
	0.1nm,0.3s,baz=352,slow=11,SNR=10						
WRA				S	Sn	23 16 41.1	-19
	0.1nm,0.3s,baz=358,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**23.05**	**174**	P	P	23 14 00.5	+1.3
	1.7nm,0.7s,baz=353,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**63.67**	**325**	P	P	23 19 25.6	+0.2
	0.4nm,0.5s,baz=119,slow=6.9,SNR=4.7						

*IDC **24** 23:14:27.9±1.6, 6715N×1335E, h0km, mb1 3.0/4, mb1mx2.9/20, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=19.9km s-min=7.6km az=121.0*
*ISCJB **24** 23:14:29.5±0.5, 6708N±003×1415E±008, h10km, Error ellipse: s-maj=4.8km s-min=3.5km az=54.3*
*NAO **24** 23:14:29.2±1.9, 6704N×1374E, ML2.3*
*BER **24** 23:14:30.8±5.2, 6709N×1369E, h0km±16km, MD2.4, ML2.2, ML2.3(NAO)*
*HEL **24** 23:14:31.4±0.1, 6711N×1355E, h22km±2km, ML2.4, ML2.1(UPP), ML2.2(BER)*
ISC 24 23:14:30.7±0.5, 6708N±003×1392E±009, h10km, n42, σ1§38/64, 2C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.83**	**206**	⇑*i*P	**Pg**	**23 14 45.4**	**-1.3**
STOK				*i* S	**Sg**	**23 14 56.5**	**-0.9**
STOK	**Stokkvaagen**	**0.83**	**206**	⇑*i*P	**Pg**	**23 14 45.4**	**-1.3**
STOK				*e*S	**Sg**	**23 14 56.5**	**-0.9**
STOK				AML	AML	23 14 57.2	
	comp=N,85nm,0.2s						
MOR8	**Moi Rana**	**0.93**	**167**	*e*P	**Pg**	**23 14 47.8**	**-0.8**
MOR8				*e*S	**Sg**	**23 15 01.0**	**+0.2**
LOF	**Lofoten**	**1.07**	**352**	*e*P	**Pg**	**23 14 50.2**	**-1.1**
LOF				*e*S	**Sg**	**23 15 02.0**	**-3.2**
LOF				AML	AML	23 15 07.7	
	comp=Z,86nm,0.2s						
LOF	**Lofoten**	**1.07**	**352**	*e*P	**Pg**	**23 14 50.2**	**-1.1**
LOF				*e*S	**Sg**	**23 15 02.0**	**-3.2**
LOF				*e*		23 15 06.4	
LOF				AML	AML	23 15 07.7	
	comp=Z,86nm,0.2s						
SALU	**Saltoluokta**	**1.81**	**78**	*e*P	**Pn**	**23 15 03.9**	**+2.0**
NIKU	**Nikkaluokta**	**2.12**	**66**	*e*P	**Pn**	**23 15 08.2**	**+1.9**
DUNU	**Dundret**	**2.60**	**86**	*e*P	**Pn**	**23 15 14.2**	**+1.4**
KUA	**Kurravaara**	**2.62**	**67**	*e*P	**Pn**	**23 15 14.7**	**+1.6**
NSS	**Namsos**	**2.68**	**198**	*e*P	**Pn**	**23 15 11.7**	**-2.2**
NSS				*e*S	**Sn**	**23 15 47.8**	**+1.4**
NSS				AML	AML	23 15 52.9	
	comp=Z,20nm,0.6s						
LILU	**Lilltraesk**	**3.00**	**124**	*e*P	**Pn**	**23 15 19.7**	**+1.4**
KIF	**Kilpisjarvi**	**3.23**	**50**	*e*P	**Pn**	**23 15 23.8**	**+2.3**
LANU	**Lannavaara**	**3.25**	**69**	*e*P	**Pn**	**23 15 23.3**	**+1.6**
ETU	**Ertsjaerv**	**3.31**	**95**	*e*P	**Pn**	**23 15 23.8**	**+1.2**
SJUU	**Sjulsmark**	**3.48**	**113**	*e*P	**Pn**	**23 15 26.5**	**+1.6**
BREU	**Bredtraesk**	**3.74**	**147**	*e*P	**Pn**	**23 15 29.4**	**+0.9**
BURU	**Burvik**	**3.96**	**126**	*e*P	**Pn**	**23 15 33.0**	**+1.5**
SOLU	**Sollefteaa**	**4.09**	**158**	*e*P	**Pn**	**23 15 34.6**	**+1.2**
UMAU	**Umeaa**	**4.27**	**136**	*e*P	**Pn**	**23 15 37.0**	**+1.4**
SGF	**Sodankyl**	**4.91**	**80**	*e*S	**Sn**	**23 16 40.5**	**-0.8**
ARA0	**ARCESS Array S**	**4.96**	**55**	Pn	**Pn**	**23 15 45.4**	**+0.2**
	baz=237,slow=14						
ARA0				Sn	**Sn**	**23 16 41.1**	**-1.5**
	baz=237,slow=22						
ARA0				Lg		23 17 06.8	
	baz=238,slow=28						
ARA0	**ARCESS Array S**	**4.96**	**55**	*e*P	**Pn**	**23 15 45.4**	**+0.2**
ARA0				*e*S	**Sn**	**23 16 41.1**	**-1.5**
ARA0				*e*		23 17 06.8	
ARCES	**ARCESS Array B**	**4.96**	**55**	Pn	**Pn**	**23 15 44.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=250,slow=13,SNR=3.5						
ARCES				Sn	**Sn**	**23 16 40.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=240,slow=20,SNR=5.0						
ARCES				Lg		23 17 06.7	
	comp=Z,1.1nm,0.3s,baz=237,slow=27,SNR=7.7						
OUL	**Oulu**	**5.27**	**107**	*e*P	**Pn**	**23 15 50.8**	**+1.4**
OUL				*e*S	**Sn**	**23 16 49.6**	**-0.6**
VAF	**Ylistaro**	**5.49**	**133**	*e*S	**Sn**	**23 16 56.2**	**+0.7**
KEV	**Kevo**	**5.53**	**55**	*e*S	**Sn**	**23 16 54.2**	**-2.3**
NB2	**NORSAR Subarra**	**6.17**	**192**	Pn	**Pn**	**23 16 00.3**	**-1.6**
	baz=351,slow=22						
NB2				Lg		23 17 40.8	
	baz=17,slow=37						
NB2	**NORSAR Subarra**	**6.17**	**192**	*e*P	**Pn**	**23 16 00.3**	**-1.6**
NB2				*e*		23 17 40.8	
NOA	**NORSAR Array B**	**6.17**	**192**	Pn	**Pn**	**23 15 58.3**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=13,SNR=2.5						
NOA				Sn	**Sn**	**23 17 08.4**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=45,slow=24,SNR=2.6						
NOA				Lg		23 17 42.3	
	comp=Z,0.7nm,0.3s,baz=27,slow=19,SNR=4.8						
KU4	**Liikasenvaara**	**6.25**	**89**	*e*P	**Pn**	**23 16 03.3**	**+0.3**
KU4				*e*S	**Sn**	**23 17 12.1**	**-2.3**
KJN	**Kajaani**	**6.45**	**111**	*e*S	**Sn**	**23 17 18.0**	**-1.5**
KJN				MSN		23 17 20.3	
	comp=Z,1.1nm,0.2s						
SUF	**Sumiainen**	**6.79**	**124**	*e*P	**Pn**	**23 16 11.5**	**+1.1**
SUF				*e*S	**Sn**	**23 17 26.9**	**-0.9**
SUF				MSN		23 17 30.7	
	comp=Z,0.8nm,0.2s						
KEF	**Keuruu**	**6.81**	**131**	*e*P	**Pn**	**23 16 11.5**	**+0.9**
KEF				*e*S	**Sn**	**23 17 27.0**	**-1.1**
KEF				MSN		23 17 27.9	
	comp=Z,0.8nm,0.2s						
HFS	**Hagfors**	**6.97**	**181**	Pn	**Pn**	**23 16 12.4**	**-0.5**
	baz=359,slow=12						
HFS				Sn	**Sn**	**23 17 28.9**	**-3.3**
	baz=20,slow=28						
HFS				Lg		23 18 02.2	
	baz=12,slow=28						
HFS	**Hagfors**	**6.97**	**181**	*e*P	**Pn**	**23 16 12.4**	**-0.5**
HFS				*e*S	**Sn**	**23 17 28.9**	**-3.3**
HFS				*e*		23 18 02.2	
HFS	**Hagfors**	**6.97**	**181**	Pn	**Pn**	**23 16 12.4**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=354,slow=13,SNR=3.9						
HFS				Sn	**Sn**	**23 17 28.9**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=3.9,slow=24,SNR=6.8						
HFS				Lg		23 18 06.5	
	comp=Z,0.3nm,0.3s,baz=350,slow=31,SNR=3.5						
KAF	**Kangasniemi**	**7.28**	**127**	*e*P	**Pn**	**23 16 17.4**	**+0.3**
KAF				*e*S	**Sn**	**23 17 35.8**	**-4.0**
KAF				MSN		23 17 40.6	
	comp=Z,0.4nm,0.2s						
FIA0	**FINESS Array S**	**7.73**	**131**	*e*P	**Pn**	**23 16 23.8**	**+0.5**
FIA0				*e*S	**Sn**	**23 17 48.6**	**-2.3**
FIA0	**FINESS Array S**	**7.73**	**131**	Pn	**Pn**	**23 16 24.2**	**+1.0**
	baz=331,slow=14						
FIA0				Sn	**Sn**	**23 17 46.6**	**-4.3**
	baz=326,slow=22						
FIA0				Lg		23 18 30.8	
	baz=326,slow=28						
FINES	**FINESS Array B**	**7.73**	**131**	Pn	**Pn**	**23 16 24.1**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=323,slow=13,SNR=5.1						
FINES				Sn	**Sn**	**23 17 49.3**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=326,slow=25,SNR=5.5						
FINES				Lg		23 18 37.7	
	comp=Z,0.5nm,0.3s,baz=326,slow=28,SNR=5.3						
PVF	**Pernaja**	**8.40**	**136**	*e*S	**Sn**	**23 18 05.7**	**-1.7**
JOF	**Joensuu**	**8.45**	**111**	*e*P	**Pn**	**23 16 33.4**	**+0.3**
JOF				*e*S	**Sn**	**23 18 07.9**	**-0.6**
JOF				MSN		23 18 10.2	
	comp=Z,0.4nm,0.2s						

*ISCJB **24** 23:24:38.1±0.3, 2119S±006×3324E±007, h10km, mb4.7/44, MS4.1/7, Error ellipse: s-maj=10.9km s-min=5.7km az=88.1*
*IDC **24** 23:24:38.7±0.6, 2105S×3339E, h0km, mb4.4/19, mb1 4.6/24, mb1mx4.5/29, mbtmp4.4/24, ML4.5/5, MS3.9/10, Ms1 3.9/10, ms1mx3.7/25, Error ellipse: s-maj=18.9km s-min=16.2km az=106.0*
*MOS **24** 23:24:38.8±1.5, 2113S×3326E, h10km, mb4.7/23, Error ellipse: s-maj=14.5km s-min=8.2km az=84.5*
*PRE **24** 23:24:38.6±0.8, 2204S×3382E, h5km, ML5.1*
*BJI **24** 23:24:40.0, 2120S×3360E, h10km, mB5.1, mb5.1, Ms4.8, Msz4.4*
*NEIC **24** 23:24:40.0±0.5, 2122S×3365E, h10km, mb4.8/13, Error ellipse: s-maj=17.8km s-min=12.3km az=113.0*
*SZGRF **24** 23:24:43.5, 2098S×3392E, h33km, mb5.2, Mozambique*
*NAO **24** 23:24:43.1, 2100S×3300E, h10km, mb4.5*
ISC 24 23:24:40.2±2.9, 2124S±006×3332E±006, h12km±18km, h19km±5.1km: pP-P, n113, σ1§42/114, mb4.7/44, MS4.1/7, 7C-8D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.43**	**225**	*e*P	**Pn**	**23 26 13.1**	**-1.6**
SLR				*e*S	**Sn**	**23 27 21.2**	**-6.9**
SLR				AML	AML	23 28 12.2	
	comp=Z,406nm,0.8s						
LSZ	**Lusaka**	**7.68**	**320**	Pn	**Pn**	**23 26 28.5**	**-3.3**
	comp=Z,9.4nm,0.3s,baz=145,slow=14,SNR=114						
LSZ				Sn	**Sn**	**23 27 49.1**	**-10**
	comp=Z,8.9nm,0.3s,baz=199,slow=14,SNR=3.8						
LSZ				Lg		23 28 30.2	
	comp=Z,51nm,0.3s,baz=52,slow=22,SNR=13						
LSZ				LR	LR	23 29 45.5	
	comp=Z,248nm,20.2s,baz=141,slow=40						
LSZ	**Lusaka**	**7.68**	**320**	P	**Pn**	**23 26 28.5**	**-3.3**
LSZ						23 27 49.1	
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
LSZ				smax			
	comp=E,9.0nm,0.3s						
LSZ				MLR	MLR		
	comp=Z,248nm,20.2s						
LSZ	**Lusaka**	**7.68**	**320**	*e*Pn	**Pn**	**23 26 29.3**	**-2.6**
	comp=Z,220nm,0.6s						
LSZ				*e*Sn	**Sn**	**23 27

TSUM				LR	LR	23 33 54.3		
	comp=Z,512nm,18.1s,baz=88,slow=37							
TSUM	**Tsumeb**	**14.91**	**275**	*e*Pn	**Pn**	**23 28 09.8**	**-11.0**	
	comp=Z,26nm,0.8s							
TSUM				Sn	**Sn**	**23 30 43.7**	**-12**	
TSUM				Lg		23 32 23.5		
TSUM				LR	LR	23 33 54.3		
SUR	**Sutherland**	**15.72**	**223**	Pn	**Pn**	**23 28 23.8**	**+2.3**	
	comp=Z,2.9nm,0.3s,baz=57,slow=15,SNR=31							
SUR				Sn	**Sn**	**23 31 04.8**	**-11**	
	comp=Z,0.7nm,0.3s,baz=234,slow=8.7,SNR=2.3							
SUR				Lg		23 32 51.2		
	comp=Z,1.3nm,0.3s,baz=315,slow=22,SNR=4.5							
SUR				LR	LR	23 34 42.8		
	comp=Z,695nm,19.7s,baz=164,slow=38							
SUR	**Sutherland**	**15.72**	**223**	*e*Pn	**Pn**	**23 28 24.1**	**+2.6**	
	comp=Z,54nm,0.8s							
CER	**Ceres**	**17.33**	**223**	*e*P	**Pn**	**23 28 41.9**	**0.0**	
KMBO	**Kilima Mbogo**	**20.36**	**11**	P	**P**	**23 29 16.5**	**0.0**	
	comp=Z,2.4nm,0.6s,baz=199,slow=12,SNR=9.8							
KMBO				Lg		23 34 56.5		
	comp=Z,4.6nm,0.9s,baz=114,slow=21,SNR=3.2							
KMBO				LR	LR	23 36 28.4		
	comp=Z,144nm,20.4s,MS3.3,baz=105,slow=35							
KMBO	**Kilima Mbogo**	**20.36**	**11**	*e*P	**P**	**23 29 18.4**	**+1.9**	
	comp=Z,4.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**46.18**	**315**	P	**P**	**23 33 03.9**	**-0.9**	
	comp=Z,24nm,0.8s,mb5.2,baz=128,slow=6.3,SNR=79							
TORD				PP	PP	23 34 53.1	0.0	
	comp=Z,1.9nm,0.9s,baz=127,slow=8.9,SNR=4.0							
DBIC	**Dimbokro**	**46.62**	**302**	P	**P**	**23 33 09.3**	**+1.1**	
	comp=Z,3.1nm,0.8s,mb4.3,baz=122,slow=12,SNR=6.4							
DBIC				PP	PP	23 34 56.8	-0.8	
	comp=Z,1.0nm,0.7s,baz=106,slow=11,SNR=3.4							
DBIC				LR	LR	23 51 10.2		
	comp=Z,97nm,18.2s,MS3.8,baz=116,slow=34							
DBIC	**Dimbokro**	**46.62**	**302**	P	**P**	**23 33 09.3**	**+1.1**	
DBIC						23 34 56.8		
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.8s							
DBIC				pmax	pmax			
	comp=Z,1.0nm,0.7s							
DBIC				MLR	MLR			
	comp=Z,97nm,18.2s							
DBIC	**Dimbokro**	**46.62**	**302**	P	**P**	**23 33 09.3**	**+1.1**	
DBIC				PP	PP	23 34 56.8	-0.8	
DBIC				LR	LR	23 51 10.2		
RDF	**Al-Radifah**	**51.73**	**16**	*e*P	**P**	**23 33 47.4**	**+0.1**	
RDF				AMb	AMB	23 33 51.8		
	comp=Z,45nm,1.1s,mb5.3							
NAY	**Al-Naaiem**	**51.96**	**15**	*e*P	**P**	**23 33 48.6**	**-0.5**	
NAY				AMb	AMB	23 33 52.8		
	comp=Z,24nm,1.0s,mb5.1							
KBD	**Kabd**	**52.00**	**16**	*e*P	**P**	**23 33 49.5**	**+0.1**	
KBD				AMb	AMB	23 33 53.5		
	comp=Z,110nm,1.0s,mb5.8							
UMR	**Umm Al-Rimmam**	**52.37**	**16**	*e*P	**P**	**23 33 51.9**	**-0.1**	
UMR				AMb	AMB	23 33 56.1		
	comp=Z,126nm,0.8s,mb5.9							
MIB	**Mutribah**	**52.51**	**15**	*e*P	**P**	**23 33 52.4**	**-0.8**	
MIB				AMb	AMB	23 33 57.0		
	comp=Z,82nm,0.8s,mb5.7							
BRTR	**Keskin Array B**	**60.65**	**0**	P	**P**	**23 34 50.8**	**-0.2**	
	comp=Z,1.9nm,0.9s,mb4.2,baz=170,slow=9.1,SNR=6.5							
BRTR	**Keskin Array B**	**60.65**	**0**	P	**P**	**23 34 50.8**	**-0.2**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GNI	**Garni**	**61.99**	**10**	*e*P	**P**	**23 35 01.9**	**+1.8**	
GNI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GNI	**Garni**	**61.99**	**10**	*e*P	**P**	**23 35 01.9**	**+1.8**	
	comp=Z,6.3nm,1.1s,mb4.7							
KIV	**Kislovodsk**	**65.44**	**7**	*e*P	**P**	**23 35 22.0**	**-0.9**	
KIV				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
MLR	**Muntele Rosu**	**66.75**	**354**	P	**P**	**23 35 31.3**	**0.0**	
	comp=Z,7.3nm,0.9s,mb4.7,baz=292,slow=5.7,SNR=5.8							
MLR	**Muntele Rosu**	**66.75**	**354**	⇓P	**P**	**23 35 33.3**	**+2.0**	
MLR	**Muntele Rosu**	**66.75**	**354**	⇓P	**P**	**23 35 33.3**	**+2.0**	
VOIR		**66.78**	**354**	⇑P	**P**	**23 35 34.0**	**+2.5**	
VOIR		**66.78**	**354**	⇑P	**P**	**23 35 34.0**	**+2.5**	
VRI	**Vrincioaia**	**67.05**	**355**	⇓P	**P**	**23 35 35.5**	**+2.3**	
VRI	**Vrincioaia**	**67.05**	**355**	⇓P	**P**	**23 35 35.5**	**+2.2**	
BZS	**Buzias**	**67.38**	**351**	⇑P	**P**	**23 35 35.2**	**-0.1**	
BZS	**Buzias**	**67.38**	**351**	⇑P	**P**	**23 35 35.2**	**-0.1**	
KOLN	**Koldanda**	**68.82**	**47**	*e*P	**P**	**23 35 42.4**	**-1.9**	
	comp=Z,9.3nm,0.9s,mb4.7							
QSPA	**South Pole Qui**	**68.92**	**180**	*e*P	**P**	**23 35 45.0**	**+0.1**	
	comp=Z,14nm,1.3s,mb4.7							
BURAR	**Bucovina Array**	**68.92**	**354**	⇓P	**P**	**23 35 48.6**	**+3.6**	
BURAR	**Bucovina Array**	**68.92**	**354**	⇓P	**P**	**23 35 48.6**	**+3.6**	
GKN	**Gorkha**	**69.67**	**47**	*e*P	**P**	**23 35 48.1**	**-1.5**	
	comp=Z,14nm,0.7s,mb5.0							
ESDC	**Sonseca Array**	**69.89**	**330**	P	**P**	**23 35 51.1**	**+0.1**	
	comp=Z,5.3nm,0.9s,mb4.5,baz=144,slow=6.1,SNR=15							
KKN	**Kakani**	**69.98**	**48**	*e*P	**P**	**23 35 49.0**	**-2.5**	
KECS	**Kecovo**	**70.35**	**351**	*e*P	**P**	**23 35 55.4**	**+1.6**	
GUN	**Gumba**	**70.47**	**48**	*e*P	**P**	**23 35 53.1**	**-1.4**	
	comp=Z,28nm,1.0s,mb5.1							
JIRN	**Jiri**	**70.54**	**49**	*e*P	**P**	**23 35 53.3**	**-1.6**	
	comp=Z,13nm,0.8s,mb4.9							
DAVOX	**Davos**	**70.94**	**343**	P	**P**	**23 35 57.7**	**+0.3**	
	comp=Z,4.3nm,0.7s,mb4.5,baz=183,slow=7.5,SNR=5.0							
STHS	**Stebnicka Huta**	**71.16**	**352**	*e*P	**P**	**23 35 56.1**	**-2.6**	
AKASG	**Malin Array Be**	**71.72**	**357**	P	**P**	**23 36 00.0**	**-2.0**	
	comp=Z,2.0nm,0.7s,mb4.2,baz=177,slow=5.5,SNR=10							
AKASG	**Malin Array Be**	**71.72**	**357**	P	**P**	**23 36 00.0**	**-2.1**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**71.94**	**347**	P	**P**	**23 36 03.3**	**-0.1**	
	comp=Z,2.1nm,0.8s,mb4.1,baz=137,slow=6.6,SNR=5.8							
GERES	**GERESS Array B**	**71.94**	**347**	P	**P**	**23 36 03.3**	**-0.1**	
GERES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KHC	**Kasperske Hory**	**72.23**	**347**	⇑*e*P	**P**	**23 36 05.6**	**+0.4**	
VRSR	**Storozhevoye**	**72.32**	**4**	*e*P	**P**	**23 36 06.8**	**+1.1**	
VRSR				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.0							
VRSR				pmax	pmax			
	comp=N,2.0nm,0.9s							
VRSR				pmax	pmax			
	comp=E,3.0nm,1.0s							
GRF	**Grafenberg Arr**	**73.30**	**345**	*e*P	**P**	**23 36 13.3**	**+1.8**	
	comp=Z,26nm,1.4s,mb5.0							
GRF	**Grafenberg Arr**	**73.30**	**345**	*e*P	**P**	**23 36 13.3**	**+1.8**	
GRF				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.0							
GRF	**Grafenberg Arr**	**73.30**	**345**	*e*P	**P**	**23 36 13.3**	**+1.8**	
GRF				pmax	pmax			
	comp=Z,26nm,1.4s,mb5.0							
AAK	**Ala-Archa**	**74.03**	**30**	*e*P	**P**	**23 36 16.7**	**+0.9**	
AAK				pmax	pmax			
	comp=Z,7.0nm,1.7s,mb4.3							
CLL	**Collm**	**74.41**	**347**	*e*P	**P**	**23 36 20.0**	**+2.0**	
	comp=Z,20nm,1.6s,mb4.8							
CLL				LmV		23 49 00.0		
	comp=Z,400nm,20.0s							
AKTK	**Aktyubinsk**	**74.63**	**16**	P	**P**	**23 36 18.0**	**-1.3**	
AKTK				LR	LR	00 10 14.4		
AKTO	**Aktyubinsk**	**74.63**	**16**	P	**P**	**23 36 18.0**	**-1.3**	
	comp=Z,5.5nm,0.9s,mb4.5,baz=204,slow=5.7,SNR=15							
AKTO				LR	LR	00 10 14.4		
	comp=Z,71nm,18.9s,MS4.0,baz=0.0,slow=37							
AKTO	**Aktyubinsk**	**74.63**	**16**	P	**P**	**23 36 18.0**	**-1.3**	
AKTO				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
AKTO				MLR	MLR			
	comp=Z,71nm,18.9s,MS4.0							
LSA	**Lhasa**	**75.25**	**50**	P	**P**	**23 36 23.1**	**+0.2**	
OBN	**Obninsk**	**76.09**	**2**	⇓*e*P	**P**	**23 36 28.2**	**+0.5**	
OBN				*e*S	S	23 46 16.3	+5.2	
OBN				pmax	pmax			
	comp=Z,22nm,1.7s,mb4.8							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s,MS4.2							
BDFB	**Brasilia**	**76.59**	**258**	P	**P**	**23 36 32.5**	**+2.0**	
	comp=Z,4.8nm,0.7s,mb4.6,baz=119,slow=5.3,SNR=8.4							
BDFB	**Brasilia**	**76.59**	**258**	P	**P**	**23 36 32.5**	**+2.0**	
BDFB				pmax	pmax			
	comp=Z,5.0nm,0.7s							
VNDA	**Vanda**	**76.99**	**170**	P	**P**	**23 36 34.9**	**+2.2**	
	comp=Z,2.5nm,0.8s,mb4.2,baz=146,slow=3.6,SNR=3.7							
VNDA	**Vanda**	**76.99**	**170**	P	**P**	**23 36 34.9**	**+2.1**	
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
VNDA	**Vanda**	**76.99**	**170**	P	**P**	**23 36 34.9**	**+2.1**	

ZRNK	**Zerenda**	**80.11**	**21**	*e*P	**P**	**23 36 48.3**	**-1.7**	
ZRNK				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
ZRNK	**Zerenda**	**80.11**	**21**	*e*P	**P**	**23 36 48.2**	**-1.7**	
	comp=Z,6.9nm,0.9s,mb4.6							
ARU	**Arti**	**80.25**	**14**	⇓*i*P	**P**	**23 36 49.6**	**-1.2**	
ARU				*e*		23 39 52.7		
ARU				*e*S	S	23 46 54.1	-1.8	
ARU				*e*SS	SS	23 52 02.9	-3.9	
ARU				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
BRVK	**Borovoye**	**80.63**	**22**	*e*P	**P**	**23 36 50.9**	**-1.9**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
BRVK	**Borovoye**	**80.63**	**22**	*e*P	**P**	**23 36 50.9**	**-1.9**	
	comp=Z,5.5nm,1.0s,mb4.4							
MKAR	**Makanchi Array**	**80.85**	**32**	P	**P**	**23 36 52.3**	**-1.6**	
	comp=Z,1.3nm,0.7s,mb4.0,baz=214,slow=4.7,SNR=14							
MKAR	**Makanchi Array**	**80.85**	**32**	⇑*e*P	**P**	**23 36 55.2**	**+1.3**	
WMQ	**Urumqi**	**81.67**	**36**	*e*P	**P**	**23 37 01.0**	**+2.7**	
WMQ				PP	PP	23 40 10.0	+5.0	
WMQ				S	S	23 47 10.0	-0.7	
WMQ				SS	SS	23 52 31.0	+3.0	
WMQ				AMB	AMB			
	comp=Z,17nm,1.0s,mb4.9							
WMQ				AMB	AMB			
	comp=Z,113nm,6.0s							
WMQ				LR	LR			
	comp=N,102nm,9.0s							
WMQ				LR	LR			
	comp=E,68nm,9.0s							
WMQ				LR	LR			
	comp=Z,57nm,9.0s							
KURK	**Kurchatov**	**82.00**	**27**	*e*P	**P**	**23 36 59.0**	**-1.1**	
KURK				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
KURK	**Kurchatov**	**82.00**	**27**	*e*P	**P**	**23 36 59.0**	**-1.0**	
	comp=Z,11nm,1.1s,mb4.7							
FINES	**FINESS Array B**	**82.60**	**356**	P	**P**	**23 37 03.0**	**-0.2**	
	comp=Z,2.6nm,0.9s,mb4.3,baz=163,slow=8.0,SNR=5.0							
FINES	**FINESS Array B**	**82.60**	**356**	P	**P**	**23 37 03.0**	**-0.2**	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SOKR	**Solíkamsk**	**82.79**	**12**	*e*P	**P**	**23 37 06.1**	**+1.9**	
SOKR				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1							
NB2	**NORSAR Subarra**	**83.92**	**349**	P	**P**	**23 37 11.5**	**+1.5**	
	comp=Z,5.0nm,1.1s,mb4.6,baz=160,slow=5.3							
NOA	**NORSAR Array B**	**83.92**	**349**	P	**P**	**23 37 09.1**	**-0.9**	
	comp=Z,1.8nm,0.9s,mb4.2,baz=163,slow=4.2,SNR=3.7							
NOA	**NORSAR Array B**	**83.92**	**349**	P	**P**	**23 37 09.1**	**-0.9**	
NOA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NOA	**NORSAR Array B**	**83.92**	**349**	P	**P**	**23 37 09.1**	**-0.9**	
CD2	**Chengdu**	**85.16**	**54**	*e*P	**P**	**23 37 16.0**	**-0.3**	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.0							
CD2				AMB	AMB			
	comp=Z,50nm,5.9s							
GTA	**Gaotai**	**86.53**	**45**	*e*P	**P**	**23 37 23.0**	**-0.1**	
GTA				AP	pP	23 37 27.8	+0.7	
GTA				XP	sP	23 37 30.8	+2.3	
GTA				PP	PP	23 40 47.9	+3.2	
GTA				PPP		23 42 45.4		
GTA				SKS		23 47 46.8		
GTA				S		23 47 58.4		
GTA				XS	sS	23 48 07.8	+1.8	
GTA				SS	SS	23 53 43.8	+4.1	
GTA				AMB	AMB			
	comp=Z,66nm,5.3s							
GTA				LR	LR			
	comp=N,118nm,14.9s							
GTA				LR	LR			
	comp=E,104nm,21.0s							
GTA				LR	LR			
	comp=Z,165nm,19.9s,MS4.4							
ZAL	**Zalesovo**	**86.96**	**28**	P	**P**	**23 37 24.9**	**-0.3**	
	comp=Z,0.5nm,0.6s,mb3.9,baz=330,slow=20,SNR=2.4							
ZAL	**Zalesovo**	**86.96**	**28**	P	**P**	**23 37 24.9**	**-0.3**	
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
LZH	**Lanzhou**	**87.66**	**50**	*e*P	**P**	**23 37 33.5**	**+4.9**	
LZH				AP	pP	23 37 37.3	+4.7	
LZH				AMB	AMB			
	comp=Z,9.0nm,1.0s,mb5.0							
ASAR	**Alice Springs**	**90.76**	**116**	P	**P**	**23 37 44.5**	**+1.4**	
	comp=Z,1.7nm,0.9s,mb4.4,baz=239,slow=4.1,SNR=13							
ASAR	**Alice Springs**	**90.76**	**116**	P	**P**	**23 37 44.6**	**+1.5**	
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**92.61**	**112**	P	**P**	**23 37 51.7**	**0.0**	
	comp=Z,1.3nm,1.1s,mb4.3,baz=245,slow=2.7,SNR=6.5							
WRA	**Warramunga Arr**	**92.61**	**112**	P	**P**	**23 37 51.7**	**0.0**	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
LPAZ	**La Paz**	**94.44**	**251**	P	**P**	**23 38 03.2**	**+3.1**	
	comp=Z,1.1nm,0.7s,mb4.4,baz=135,slow=8.6,SNR=3.8							
LPAZ				LR	LR	00 15 58.7		
	comp=Z,78nm,20.3s,MS4.2,baz=273,slow=33							
HHC	**Hu-ho-hao-te**	**95.19**	**48**	*e*P	**P**	**23 38 06.4**	**+2.8**	
HHC				AP	pP	23 38 16.1	+8.5	
HHC				PP	PP	23 42 00.3	+7.0	
HHC				SKS		23 48 40.8		
HHC				S		23 49 22.8		
HHC				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb5.1							
HHC				AMB	AMB			
	comp=Z,56nm,3.6s							
HHC				LR	LR			
	comp=N,139nm,16.8s,MS4.8							
HHC				LR	LR			
	comp=E,222nm,19.2s,MS4.8							
HHC				LR	LR			
	comp=Z,123nm,13.2s							
SSE	**Sheshan**	**98.93**	**60**	P	**P**	**23 38 21.8**	**+1.3**	
SSE				AMB	AMB			
	comp=Z,37nm,4.0s							
CN2	**Changchun**	**105.87**	**49**	*e*PDIF	Pdif	23 38 53.7	+2.4	
LRAL	**Lakeview Retre**	**126.23**	**296**	*e*PKPdf	PKPdf	23 43 44.7	+2.0	
YKA	**Yellowknife Ar**	**133.32**	**340**	PKP	PKPdf	23 43 55.7	-0.3	
	comp=Z,0.5nm,0.7s,baz=42,slow=2.0,SNR=5.8							
YKA	**Yellowknife Ar**	**133.32**	**340**	PKIKP	PKPdf	23 43 55.7	-0.4	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**136.49**	**0**	PKhKP		23 43 57.5		
	comp=Z,0.9nm,1.1s,baz=276,slow=2.6,SNR=3.2							
ILAR	**Eielson Array**	**136.49**	**0**	PKIKP	PKPdf	23 43 57.5	-4.5	
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BMO	**Blue Mountains**	**146.25**	**321**	*e*PKPdf	PKPdf	23 44 20.8	+1.4	
TUC	**Tucson**	**146.26**	**297**	*e*PKPdf	PKPdf	23 44 22.0	+2.5	
MNV	**Mina**	**150.08**	**311**	*e*PKPdf	PKPdf	23 44 27.6	+1.9	

CASC 24 23:27:55.8±3.0, 136.1°N×91.10°W, h96km±43km, MD4.0, ML4.2, 8C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.84**	**48**	⇑*e*P	Pn	23 28 14.4	+0.2
IXG				*e*S	Sn	23 28 30.1	+2.1
FUG	**Fuego 3**	**0.87**	**17**	⇑*i*P	Pn	23 28 14.9	+0.4
JAT	**Jato**	**0.88**	**324**	⇑*e*P	Pn	23 28 13.9	-0.6
PCG	**Pacaya**	**0.91**	**32**	*e*P	Pn	23 28 16.3	+1.4
PCG				*e*S	Sn	23 28 30.8	+1.5
TP2	**Tecpan 2**	**1.17**	**4**	⇑*e*P	Pn	23 28 18.5	+0.7
TP2				*e*S	Sn	23 28 33.8	-0.6
RTR	**El Retiro**	**1.44**	**78**	⇓*e*P	Pn	23 28 43.9	+23
RTR				*e*S	Sn	23 29 04.1	+24
SBLS	**San Blas**	**1.45**	**81**	⇑*e*P	Pn	23 28 43.5	+22
SBLS				*e*S	Sn	23 29 04.3	+24
SNJE	**San Jose**	**1.47**	**80**	⇑*e*P	Pn	23 28 43.9	+22
SNJE				*e*S	Sn	23 29 05.5	+25
BOQS	**Boqueron**	**1.77**	**86**	⇑*e*P	Pn	23 28 48.3	+23
BOQS				*e*S	Sn	23 29 12.0	+24
MTO2	**Montecristo 2**	**1.86**	**65**	⇑*e*P	Pn	23 28 49.5	+23
MTO2				*e*S	Sn	23 29 15.5	+26
LFRS	**El Faro**	**1.98**	**89**	⇓*e*P	Pn	23 28 51.6	+24
LFRS				*e*S	Sn	23 29 17.2	+25
LBRS	**Las Brisas**	**2.00**	**86**	⇓*e*P	Pn	23 28 52.1	+24
LBRS				*e*S	Sn	23 29 15.5	+23
LCBS	**La Ceiba**	**2.06**	**89**	⇓*e*P	Pn	23 28 52.9	+24
LCBS				*e*S	Sn	23 29 18.5	+24

*ISCJB **24** 23:28:37.6±0.7, 45.22N±0.04×60.0E±0.04, h13km±6km, Error ellipse: s-maj=7.6km s-min=4.8km az=138.7*
*LDG **24** 23:28:38.2±0.1, 45.23N×5.99E, h3km, Md1.8/2, Ml2.1/1, Error ellipse: s-maj=2.9km s-min=1.6km az=146.0*
*STR **24** 23:28:38.1±0.2, 45.29N×6.01E, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 23:38:38.0±0.7, 45.22N±0.04×59.9E±0.04, h12km±6km, n7, σ0§23/14, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.09**	**100**	Pg	**Pg**	**23 28 40.6**	**-0.1**
GDM				Sg	**Sg**	**23 28 42.3**	**-0.4**
GRN	**Grenoble**	**0.17**	**277**	Pg	**Pg**	**23 28 42.0**	**+0.1**
GRN				Sg	**Sg**	**23 28 44.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.31**	**194**	*e*Pg	**Pg**	**23 28 44.3**	**0.0**
ORIF				*e*Sg	**Sg**	**23 28 48.4**	**-0.2**
	38nm,0.2s						
LPL	**La Plagne**	**0.60**	**60**	*e*Pg	**Pg**	**23 28 49.6**	**-0.1**
LPL				*e*Sg	**Sg**	**23 28 57.6**	**-0.1**
	1.1nm,0.2s						
LPG	**La Plagne**	**0.60**	**62**	*e*Pg	**Pg**	**23 28 49.8**	**0.0**
LPG				*e*Sg	**Sg**	**23 28 57.9**	**+0.1**
	1.5nm,0.2s						
MBDF	**Montbardon**	**0.74**	**131**	*e*Pg	**Pg**	**23 28 52.8**	**+0.4**
MBDF				*e*Sg	**Sg**	**23 29 02.4**	**+0.3**
	1.4nm,0.2s						
VIVF	**Saint-Julien-l**	**1.00**	**249**	*e*Pg	**Pg**	**23 28 57.4**	**+0.1**
VIVF				*e*Sn	**Sn**	**23 29 11.5**	**-0.3**
	4.1nm,0.2s						

IDC 24 23:35:40.2±3.0, 151S×129.73E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/14, Error ellipse: s-maj=263.7km s-min=24.1km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**166**	P	Pn	23 40 01.1	-1.3
	0.2nm,0.3s,baz=351,slow=11,SNR=18						
WRA				S	Sn	23 43 30.3	-3.7
	0.1nm,0.3s,baz=358,slow=24,SNR=4.9						
PMG	**Port Moresby**	**19.03**	**115**	LR	LR	23 47 40.3	
	1.7nm,0.8s,baz=355,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**22.39**	**170**	P	P	23 40 40.4	+0.3
	0.5nm,0.6s,baz=116,slow=7.9,SNR=7.3						
MKAR	**Makanchi Array**	**63.54**	**326**	P	P	23 46 10.9	-1.5
MKAR				PcP	PcP	23 46 51.9	+2.9
	0.2nm,0.4s,baz=138,slow=6.7,SNR=7.5						
ZAL	**Zalesovo**	**66.59**	**333**	LR	LR	00 15 33.3	
	comp=Z,77nm,20.1s,baz=131,slow=36						

*NAO **24** 23:38:25.5, 77.3N×82.81W, h33km, mb3.9*
*IDC **24** 23:38:28.2±0.6, 95.8N×82.64W, h0km, mb4.3/11, mb1 4.5/14, mb1mx4.4/19, mbtmp4.4/14, ML3.9/1, MS4.0/4, Ms1 4.0/4, ms1mx3.4/30, Error ellipse: s-maj=23.4km s-min=13.0km az=48.0*
*ISCJB **24** 23:38:30.7±0.7, 94.2N±0.04×82.69W±0.03, h25km±6km, mb4.5/25, MS4.7/5, Error ellipse: s-maj=7.3km s-min=3.7km az=60.3*
*BJI **24** 23:38:31.3, 94.0N×82.80W, h19km, mB5.4, Ms5.3, Msz4.8*
*NEIC **24** 23:38:31.4±0.3, 93.8N×82.77W, mb4.7/14, Error ellipse: s-maj=6.9km s-min=4.9km az=46.0*
*CASC **24** 23:38:31.2±2.6, 93.7N×82.78W, h6km±7km, MD4.5, ML4.7, MW5.3, mb4.7(NEIC)*
*MOS **24** 23:38:33.4±1.2, 93.4N×82.89W, h52km, mb5.1/11, Error ellipse: s-maj=17.1km s-min=10.1km az=113.4*

ISC 24 23:38:29.4±0.8, 94.6N±0.03×82.70W±0.03, h1km±5km, n104, σ1§02/102, mb4.6/25, MS4.7/5, 13C-20D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.56**	**186**	⇓*i*P	**Pg**	**23 38 40.7**	**+0.5**
LIO	**Limon**	**0.64**	**329**	⇓*i*P	**Pg**	**23 38 44.0**	**+2.5**
LIO	**Limon**	**0.64**	**329**	⇓*i*P	**Pg**	**23 38 44.1**	**+2.6**
BRU2	**Volcan**	**0.66**	**179**	⇓*i*P	**Pg**	**23 38 42.6**	**+0.6**
BRU2				*e*S	**Sg**	**23 38 51.2**	**+0.6**
BRU2	**Volcan**	**0.66**	**179**	⇓*i*P	**Pg**	**23 38 42.8**	**+0.7**
BRU2				*e*S	**Sg**	**23 38 51.2**	**+0.6**
ACR	**Cerro Adams**	**0.92**	**210**	⇓*e*P	**Pg**	**23 38 46.5**	**-0.6**
ACR				⇑*e*P		23 38 46.5	
ACR				*e*S	**Sg**	**23 38 58.4**	**-0.7**
BUS	**Buena Vista**	**1.05**	**275**	⇓*i*P	**Pg**	**23 38 49.1**	**-0.4**
BUS	**Buena Vista**	**1.05**	**275**	⇓*i*P	**Pg**	**23 38 49.1**	**-0.4**
ICR	**Volcan Irazu**	**1.23**	**295**	*e*P	**Pg**	**23 38 52.9**	**0.0**
LCR2	**La Lucha 2**	**

comp=Z,2.0nm,0.7s,mb4.0
MIAR Mount Ida 26.88 340 P **P 23 44 12.6 +1.0**
comp=Z,2.2nm,0.7s,mb4.0
WVT Waverly 26.96 351 *e*P **P 23 44 12.4 +0.1**
WVT *e**SP sP 23 44 21.4 +8.5
WVT pmax pmax
comp=Z,12nm,1.1s,mb4.5
WVT Waverly 26.96 351 *e*P **P 23 44 12.4 +0.1**
comp=Z,12nm,1.1s,mb4.5
WVT *e*pP 23 44 17.6
WVT *e*sP sP 23 44 21.4 +8.5
WCI Wyandotte Cave 28.83 354 *e*P **P 23 44 29.3 +0.2**
WCI pmax pmax
comp=Z,26nm,0.9s,mb5.1
WCI Wyandotte Cave 28.83 354 *e*P **P 23 44 29.3 +0.2**
comp=Z,26nm,0.9s,mb5.1
WCI *e*pP 23 44 35.8
LPAZ La Paz 29.37 150 P **P 23 44 34.3 +0.5**
comp=Z,2.1nm,1.2s,mb3.9,baz=297,slow=6.8,SNR=3.0
MNTX Cornudas Mount 30.54 320 *e*P **P 23 44 44.1 -0.1**
comp=Z,1.5nm,0.8s,mb4.0
MNTX pP 23 44 49.2
ACSO Alum Creek Sta 30.65 360 *e*P **P 23 44 45.5 +0.3**
comp=Z,18nm,1.1s,mb4.9
HWUT Hardware Ranch 40.89 326 *e*P **P 23 46 12.2 -0.8**
HWUT *e*pP 23 46 18.0
HWUT *e*PcP PcP 23 48 13.7 0.0
ULM Lac du Bonnet 42.11 347 P **P 23 46 20.8 -2.2**
comp=Z,8.4nm,0.8s,mb4.5,baz=152,slow=8.4,SNR=19
ULM PcP PcP 23 48 15.8 -1.9
comp=Z,1.6nm,0.4s,baz=164,slow=4.9,SNR=3.8
BDFB Brasilia 42.45 126 P **P 23 46 25.7 -0.1**
comp=Z,6.2nm,0.9s,mb4.3,baz=302,slow=7.8,SNR=7.4
NVAR Mina Array Bea 43.02 318 P **P 23 46 29.9 -0.5**
comp=Z,0.7nm,0.7s,mb3.5,baz=123,slow=6.6,SNR=2.5
CFAA Coronel Fontan 43.12 162 P **P 23 46 31.4 +0.2**
comp=Z,0.3nm,0.6s,baz=327,slow=8.0,SNR=5.7
LRV Little Rabbit 43.88 314 P **P 23 46 38.7 +1.4**
EDM Edmonton 50.15 336 *e*P **P 23 47 24.9 -1.4**
PLCA Paso Flores 51.18 168 P **P 23 47 34.1 0.0**
comp=Z,6.2nm,0.6s,mb4.7,baz=342,slow=9.4,SNR=22
PLCA Paso Flores 51.18 168⇓ *e*P **P 23 47 34.1 0.0**
PLCA pmax pmax
comp=Z,6.0nm,0.6s
PLCA Paso Flores 51.18 168⇓ *e*P **P 23 47 34.0 -0.1**
comp=Z,5.5nm,0.6s,mb4.7
YKA Yellowknife Ar 57.76 343 P **P 23 48 20.4 -1.5**
comp=Z,2.5nm,0.6s,mb4.4,baz=138,slow=7.0,SNR=57
YKA PcP PcP 23 49 11.9 -2.8
comp=Z,1.8nm,0.9s,baz=147,slow=4.7,SNR=5.5
RES Resolute Bay 65.56 356 *e*P **P 23 49 12.8 -1.8**
RES pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
RES Resolute Bay 65.56 356 *e*P **P 23 49 12.8 -1.9**
comp=Z,4.9nm,0.7s,mb4.8
INK Inuvik 67.46 342 *e*P **P 23 49 26.1 -0.7**
INK pmax pmax
comp=Z,20nm,1.2s
INK Inuvik 67.46 342 *e*P **P 23 49 26.1 -0.7**
comp=Z,20nm,1.2s,mb5.2
SUMG Summit 68.37 13 *e*P **P 23 49 30.9 -1.6**
SUMG *e*pP 23 49 37.1
SUMG *e*sP sP 23 49 38.9 +5.9
ILAR Eielson Array 70.63 336 P **P 23 49 44.8 -1.6**
comp=Z,2.6nm,0.8s,mb4.4,baz=112,slow=4.4,SNR=32
COLA College 71.06 336 *e*P **P 23 49 49.9 +0.9**
PMSA Palmer Station 75.34 172 *e*P **P 23 50 11.5 -2.8**
comp=Z,188nm,1.5s
PMSA *e*pP 23 50 18.1
ESDC Sonseca Array 75.37 51 P **P 23 50 14.3 -0.2**
comp=Z,5.2nm,0.8s,mb4.6,baz=280,slow=5.7,SNR=18
ESLA Sonseca Array 75.37 51 *e*P **P 23 50 14.5 0.0**
comp=Z,2.3nm,0.9s,mb4.2
ESLA *e*pP 23 50 20.7
DBIC Dimbokro 76.99 85 P **P 23 50 23.4 -0.3**
comp=Z,5.7nm,0.9s,mb4.7,baz=254,slow=5.6,SNR=8.2
DBIC Dimbokro 76.99 85 *e*P **P 23 50 24.0 +0.3**
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC Dimbokro 76.99 85 *e*P **P 23 50 24.0 +0.3**
comp=Z,7.6nm,1.0s,mb4.8
TORD Torodi Ar. Bea 82.49 78 P **P 23 50 51.9 -1.7**
comp=Z,1.6nm,0.8s,mb4.2,baz=287,slow=6.3,SNR=28
NB2 NORSAR Subarra 83.69 29 P **P 23 50 58.4 -1.4**
comp=Z,0.7nm,0.7s,mb4.0,baz=277,slow=5.1
NOA NORSAR Array B 83.69 29 P **P 23 50 58.4 -1.4**
comp=Z,1.6nm,0.8s,mb4.3,baz=278,slow=4.9,SNR=4.7
VRAC Vranov 88.90 40 LR LR 00 25 24.1
comp=Z,111nm,18.6s,MS4.3,baz=251,slow=32
BILL Bilibino 88.96 339 *e*P **P 23 51 25.1 -0.6**
BILL pmax pmax
comp=Z,12nm,1.3s,mb5.0
BILL MLR MLR
comp=Z,100nm,24.0s,MS4.2
BILL Bilibino 88.96 339 *e*P **P 23 51 25.2 -0.5**
comp=Z,26nm,1.1s,mb5.4
BILL *e*pP 23 51 31.3
TIXI Tiksi 96.40 350 *e*P **P 23 51 56.3 -3.7**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.8
OBN Obninsk 98.25 30⇑ *e*P **P 23 52 08.6 +0.2**
OBN pmax pmax
comp=Z,15nm,1.7s,mb5.5
MA2 Magadan 99.11 336 *e*P **P 23 52 12.1 -0.2**
MA2 pmax pmax
comp=Z,7.0nm,1.3s,mb5.2
LBTB Lobatse 110.47 113 PKIKP PKiKP 23 57 01.8 -1.6
MDJ Mudanjiang 118.77 334 PKP PKPdf 23 57 19.3 0.0
CN2 Changchun 121.15 336 *e*PKP PKPdf 23 57 22.3 -1.6
SONM Songino Array 122.39 353 PKP PKPdf 23 57 23.4 -2.9
comp=Z,0.2nm,0.6s,baz=268,slow=0.8,SNR=3.6
WMQ Urumqi 126.26 9 *e*PKP PKPdf 23 57 33.0 -0.7
HHC Hu-ho-hao-te 128.24 346 *e*PKP PKPdf 23 57 34.8 -2.7
HHC PP PP
comp=Z,79nm,10.8s
HHC LR LR
comp=N,159nm,18.0s,MS5.0
HHC LR LR
comp=E,294nm,20.4s,MS5.0
HHC LR LR
comp=Z,138nm,15.6s,MS4.8
SSE Sheshan 133.62 331 PKP PKPdf 23 57 44.9 -2.8
NJ2 Nanjing 133.87 334 *e*PKP PKPdf 23 57 46.0 -2.1
NJ2 XPKP 23 58 00.0
NJ2 PP PP
comp=Z,110nm,6.6s
NJ2 LR LR
comp=N,430nm,27.4s
NJ2 LR LR
comp=E,280nm,37.8s
NJ2 LR LR
comp=Z,210nm,33.2s
LZH Lanzhou 134.28 353 *e*PKP PKPdf 23 57 46.0 -2.9
LZH XPKP 23 57 55.5
LZH PP PP
comp=Z,140nm,7.7s
LZH LR LR
comp=E,270nm,19.5s
LZH LR LR
comp=Z,440nm,21.0s,MS5.2
CD2 Chengdu 139.39 351 *e*PKP PKPdf 23 57 55.5 -2.9
ASAR Alice Springs 142.31 243 PKhKP 23 57 58.6
comp=Z,2.0nm,0.6s,baz=121,slow=3.7,SNR=24
WRAB Tennant Creek 142.76 250 *e*PKIKP PKPdf 23 58 01.2 -3.2
WRA Warramunga Arr 142.77 249 PKhKP 23 57 59.8
comp=Z,2.7nm,0.6s,baz=93,slow=3.7,SNR=50
KMI Kunming 145.22 351 PKP PKPdf 23 58 08.8 +0.1
KMI XPKP 23 58 19.9
KMI LR LR
comp=N,217nm,17.1s,MS5.1
KMI LR LR
comp=E,230nm,18.8s,MS5.1
KMI LR LR
comp=Z,270nm,21.2s,MS5.0
FITZ Fitzroy Crossi 151.20 250 *e*P PKPdf 23 58 24.7 +6.2
comp=Z,16nm,0.7s

SKO 24 23:39:16.7,4181N×2288E,h0km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.52**	**206**	*e*Pg		23 39 26.7	
VAY				*e*Sg		23 39 33.3	
STIP	**Stip**	**0.52**	**260**	*e*Pg		23 39 26.2	
STIP				*e*Sg		23 39 33.5	

SKO 24 23:39:27.3,4181N×2283E,h0km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.52**	**206**	*e*Pg		23 39 37.6	
VAY				*e*Sg		23 39 43.1	
STIP	**Stip**	**0.52**	**260**	*e*Pg		23 39 36.9	
STIP				*e*Sg		23 39 42.8	

*ISCJB **24** 23:39:59.8±0.4,4179N±003×2289E±003,h15km, Error ellipse: s-maj=4.1km s-min=2.9km az=100.9*
*CSEM **24** 23:40:00.3±0.1,4181N×2288E,h15km,MD2.6, Error ellipse: s-maj=1.5km s-min=1.1km az=126.0*
*NEIC **24** 23:40:00.5,4185N×2295E,h19km,MD2.6(SOF),After SOF.*
*SKO **24** 23:40:00.8,4180N×2281E,h17km,M1.5,ML2.0*
*SOF **24** 23:40:00.5,4185N×2295E,h19km,MD2.6*
*THE **24** 23:40:00.5,4179N×2287E,h7km,ML2.7*
ISC 24 23:40:00.5±0.5,4179N±003×2289E±003,h15km±6km,n24, σ0s74/40,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.17**	**61**	*i* Pg	**Pg**	**23 40 05.0**	**+0.3**
KKB				*i* Sg	**Sg**	**23 40 07.2**	**-0.2**
VAY	**Valandovo**	**0.52**	**207**	*e*Pg	**Pg**	**23 40 10.7**	**-0.1**
VAY				*e*Sg	**Sg**	**23 40 17.9**	**0.0**
VAY	**Valandovo**	**0.52**	**207**	*e*Pg	**Pg**	**23 40 11.4**	**+0.5**
VAY				*e*Sg	**Sg**	**23 40 18.2**	**+0.3**
VAY				*e*Lg		23 40 18.3	
	comp=N,112nm,0.4s						
VAY				*e*Lg		23 40 18.6	
	comp=E,227nm,0.3s						
VAY	**Valandovo**	**0.52**	**207**	*e*Pg	**Pg**	**23 40 10.7**	**-0.2**
VAY				*e*Sg	**Sg**	**23 40 18.2**	**+0.3**
STIP	**Stip**	**0.53**	**260**	*i* Pg	**Pg**	**23 40 10.8**	**-0.3**
STIP				*e*Sg	**Sg**	**23 40 18.2**	**0.0**
STIP				*e*Lg		23 40 18.3	
	comp=N,55nm,0.3s						
STIP				*e*Lg		23 40 18.7	
	comp=E,28nm,0.3s						
STIP	**Stip**	**0.53**	**260**	*i* Pg	**Pg**	**23 40 10.7**	**-0.4**
STIP				*e*Sg	**Sg**	**23 40 18.2**	**0.0**
KNT	**Kendrikon**	**0.62**	**179**	*e*Pg	**Pg**	**23 40 12.9**	**+0.2**
	comp=E,22nm,0.2s						
KNT				*e*Sg	**Sg**	**23 40 21.1**	**+0.1**
MMB	**Musomiste**	**0.66**	**107**	*i* Pg	**Pg**	**23 40 14.2**	**+0.8**
MMB				*i* Sg	**Sg**	**23 40 23.5**	**+1.4**
VTS	**Vitosha**	**0.84**	**16**	*e*Pg	**Pg**	**23 40 16.5**	**-0.3**
VTS				*e*Sg	**Sg**	**23 40 27.9**	**0.0**
VTS	**Vitosha**	**0.84**	**16**	*i* Pg	**Pg**	**23 40 17.0**	**+0.2**
VTS				*e*Sg	**Sg**	**23 40 27.9**	**0.0**
VTS	**Vitosha**	**0.84**	**16**	*i* Pg	**Pg**	**23 40 17.0**	**+0.2**
VTS				*i* Sg	**Sg**	**23 40 27.5**	**-0.4**
SRS	**Serrai**	**0.85**	**141**	*e*Pg	**Pg**	**23 40 16.9**	**-0.1**
SRS				*e*Sg	**Sg**	**23 40 29.1**	**+0.9**
GRG	**Griva**	**0.91**	**204**	*e*Pg	**Pg**	**23 40 17.8**	**-0.3**
GRG				*e*Sg	**Sg**	**23 40 30.1**	**+0.1**
GRG	**Griva**	**0.91**	**204**	*e*Pg	**Pg**	**23 40 17.8**	**-0.3**
GRG				*e*Sg	**Sg**	**23 40 30.0**	**0.0**
SOH	**Sokhos**	**1.02**	**160**	*e*Pg	**Pg**	**23 40 19.8**	**-0.5**
THE	**Thessaloniki**	**1.15**	**177**	*e*Pg	**Pg**	**23 40 22.2**	**-0.6**
PGB	**Panagyurishte**	**1.22**	**51**	*i* Pg	**Pg**	**23 40 23.5**	**-0.5**
RZN	**Rozhen**	**1.37**	**93**	*i* Pg	**Pg**	**23 40 26.0**	**-0.9**
PLD	**Plovdiv**	**1.39**	**76**	*i* Sg	**Sg**	**23 40 46.5**	**+1.1**
BIA	**Bitola**	**1.41**	**237**	*e*Pn	**Pn**	**23 40 26.9**	**+1.4**
BIA				*e*Sg	**Sg**	**23 40 45.9**	**0.0**
BIA				*e*Lg		23 40 46.1	
	comp=E,6.5nm,0.5s						
BIA				*e*Lg		23 40 46.3	
	comp=N,9.0nm,0.4s						
BIA	**Bitola**	**1.41**	**237**	*e*Pn	**Pn**	**23 40 26.9**	**+1.3**
BIA				*e*Sg	**Sg**	**23 40 45.8**	**-0.1**
OUR	**Ouranopolis**	**1.67**	**150**	*e*Pb	**Pb**	**23 40 29.1**	**-1.8**
	comp=N,3.0nm,0.3s						
KDZ	**Kurdzhali**	**1.90**	**93**	*i* Sg	**Sg**	**23 41 00.0**	**-1.6**
DIVS	**Divcibare**	**3.14**	**318**	*i* Pn	**Pn**	**23 40 49.9**	**+0.4**

*MOS **25** 00:16:16.6±1.2,2028S×6803E,h10km,mb5.1/11, Error ellipse: s-maj=19.4km s-min=12.2km az=91.3*
*BJI **25** 00:16:16.9,2083S×6773E,h38km,mB5.0,mb5.0,Ms4.7, Msz4.4*
*IDC **25** 00:16:16.7±0.8,2039S×6787E,h0km,mb4.4/17, mb1 4.4/18,mb1mx4.4/23,mbtmp4.4/18,ML3.6/1,MS4.2/13, Ms1 4.2/13,ms1mx4.0/26,Error ellipse: s-maj=29.5km s-min=15.4km az=23.0*
*ISCJB **25** 00:16:16.1±0.5,2043S±007×6788E±007,h10km, mb4.9/47,MS4.3/16,Error ellipse: s-maj=11.0km s-min=9.3km az=49.1*
*NEIC **25** 00:16:19.9±0.3,2036S×6792E,mb5.0/14,Error ellipse: s-maj=11.5km s-min=7.5km az=26.0*
*HRVD **25** 00:16:19.9±0.3,2032S×6789E,h14km±1km,MW5.0/73, Centroid moment Tensor Solution. LP body waves: s39,c56;Mantle waves: s73,c125; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.67±.13; $M_{\theta\theta}$3.85±.13; $M_{\phi\phi}$-3.17±.12; $M_{r\theta}$-0.21±.21; $M_{\theta\phi}$-1.47±.11; $M_{r\phi}$0.99±.29; Best double couple: $M_0$3.96300×10^{16} NP1:ϕ_s237.00000°,δ75.00000°,λ-171.00000°. NP2: ϕ_s145.00000°,δ82.00000°,λ-15.00000°. Principal axes: T 4.1790, Plg5.0000°, Azm192.0000°; N -0.4240, Plg72.0000°, Azm297.0000°; P -3.7470, Plg17.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 00:16:18.2±0.5,2042S±007×6783E±007,h10km, (h24km±1.9km:pP-P),n98,σ0s87/85,mb4.9/47,MS4.3/16, 4C,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.55**	**272**	P	**Pn**	**00 20 46.6**	**-0.7**
	0.2nm,0.3s,baz=90,slow=12,SNR=4.9						
KMBO	**Kilima Mbogo**	**35.50**	**299**	P	**P**	**00 23 15.2**	**+0.2**
	2.0nm,0.8s,mb4.1,baz=76,slow=8.5,SNR=7.1						
KMBO				LR	LR	00 35 38.0	
	comp=Z,376nm,18.5s,MS4.2,baz=272,slow=33						
KMBO	**Kilima Mbogo**	**35.50**	**299**	*e*P	**P**	**00 23 15.8**	**+0.7**
KMBO				*e**PP	pP	00 23 22.6	+4.5
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KMBO	**Kilima Mbogo**	**35.50**	**299**	*e*P	**P**	**00 23 15.8**	**+0.8**
	comp=Z,8.9nm,1.3s,mb4.5						
KMBO				*e*pP	pP	00 23 22.6	+4.4
KMBO				LR	LR	00 35 38.0	
HYB	**Hyderabad**	**39.05**	**16⇑**	*i*P	**P**	**00 23 42.0**	**-3.1**
	comp=Z,50nm,1.0s,mb5.2						
HYB				*e*S	**S**	**00 29 40.0**	**-4.3**
HYB	**Hyderabad**	**39.05**	**16⇑**	*e*P	**P**	**00 23 44.0**	**-1.1**
HYB				*e*S	**S**	**00 29 44.0**	**-0.3**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.2						
HYB	**Hyderabad**	**39.05**	**16⇑**	*e*P	**P**	**00 23 44.0**	**-1.1**
	comp=Z,50nm,1.0s,mb5.2						
HYB				*e*S	**S**	**00 29 44.0**	**-0.3**
POO	**Poona**	**39.16**	**9**	*ex*	x	00 24 13.3	
POO				AMb	AMB	00 24 15.9	
	comp=Z,32nm,0.5s,mb5.3						
BOSA	**Boshof**	**39.42**	**250**	LR	LR	00 35 21.4	
	comp=Z,154nm,21.8s,MS3.8,baz=92,slow=29						
ATD	**Arta Tunnel**	**40.15**	**320**	P	**P**	**00 23 56.0**	**+1.7**
	comp=Z,7.6nm,0.9s,mb4.4,baz=250,slow=9.2,SNR=4.7						
VIS	**Vishakhapatnam**	**40.84**	**23**	*e*P	**P**	**00 24 01.3**	**+1.3**
VIS				AMb	AMB	00 24 03.8	
	comp=Z,27nm,1.3s,mb4.7						
KULM	**Kulim**	**41.14**	**55**	*e*P	**P**	**00 24 01.1**	**-1.4**
NGP	**Nagpur**	**42.75**	**16**	*e*P	**P**	**00 24 16.5**	**+0.9**
BHPL	**Bhopal**	**44.39**	**13**	*e*P	**P**	**00 24 29.2**	**+0.3**
BHPL				AMb	AMB	00 24 30.2	
	comp=Z,33nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**45.50**	**116**	LR	LR	00 39 29.9	
	comp=Z,323nm,20.7s,MS4.2,baz=100,slow=31						
AJM	**Ajmer**	**47.09**	**8**	*e*P	**P**	**00 24 50.5**	**+0.3**
MAW	**Mawson**	**47.28**	**183**	LR	LR	00 40 15.4	
	comp=Z,357nm,18.6s,MS4.4,baz=31,slow=30						
BOK	**Bokaro**	**47.34**	**23**	*e*P	**P**	**00 24 52.7**	**+0.5**
BOK				AMb	AMB	00 24 54.3	
	comp=Z,23nm,1.2s,mb5.0						
MBWA	**Marble Bar**	**48.34**	**101**	P	**P**	**00 24 59.1**	**-0.9**
	comp=Z,54nm,1.6s,mb5.3						
KOLN	**Koldanda**	**50.28**	**18**	*e*P	**P**	**00 25 15.3**	**+0.6**
	comp=Z,268nm,1.3s						
DMN	**Daman**	**50.59**	**20**	*e*P	**P**	**00 25 17.6**	**+0.5**
	comp=Z,123nm,1.0s,mb5.8						
PKI	**Pulchoki**	**50.65**	**20**	*e*P	**P**	**00 25 17.7**	**+0.1**
	comp=Z,52nm,1.0s,mb5.4						
GKN	**Gorkha**	**50.81**	**19**	*e*P	**P**	**00 25 19.1**	**+0.3**
	comp=Z,115nm,1.0s,mb5.8						
KKN	**Kakani**	**50.81**	**20**	*e*P	**P**	**00 25 19.1**	**+0.3**
	comp=Z,108nm,0.9s,mb5.8						
JIRN	**Jiri**	**50.99**	**21**	*e*P	**P**	**00 25 20.7**	**+0.6**
	comp=Z,98nm,1.0s,mb5.7						
GUN	**Gumba**	**51.12**	**21**	*e*P	**P**	**00 25 21.8**	**+0.7**
	comp=Z,126nm,1.0s,mb5.8						
SHL	**Shillong**	**51.34**	**28⇑**	*i*P	**P**	**00 25 24.0**	**+1.3**
DDI	**Dehra Dun**	**51.40**	**11**	*e*P	**P**	**00 25 27.4**	**+4.2**
FITZ	**Fitzroy Crossi**	**54.38**	**98**	*e*P	**P**	**00 25 46.3**	**+1.1**
	comp=Z,12nm,0.8s,mb4.9						
LSA	**Lhasa**	**54.66**	**25**	P	**P**	**00 25 48.8**	**+1.6**
LSA	**Lhasa**	**54.66**	**25**	*e*P	**P**	**00 25 47.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**54.66**	**25**	*e*P	**P**	**00 25 47.4**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0						
KMI	**Kunming**	**56.58**	**38**	P	**P**	**00 26 01.9**	**+0.9**
KMI				PP	PP	00 28 08.3	+1.4
KMI				S	**S**	**00 33 41.8**	**-11**
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,63nm,3.5s						
KMI				LR	LR		
	comp=N,223nm,20.0s,MS4.3						
KMI				LR	LR		
	comp=E,156nm,21.0s,MS4.3						
KMI				LR	LR		
	comp=Z,270nm,20.5s,MS4.3						
KSH	**Kashi**	**60.11**	**7**	*e*P	**P**	**00 26 27.1**	**+1.4**
KSH				*e*AP	pP	00 26 37.3	+8.4
KSH				*e*XP	sP	00 26 43.0	+13
KSH				AMB	AMB		
	comp=Z,180nm,7.2s						
ASAR	**Alice Springs**	**60.84**	**106**	P	**P**	**00 26 30.9**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.6,baz=262,slow=6.0,SNR=30						
CD2	**Chengdu**	**61.61**	**35**	P	**P**	**00 26 35.3**	**-0.6**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**62.01**	**102**	P	**P**	**00 26 39.3**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.6,baz=258,slow=6.2,SNR=22						
WB2	**Warramunga Arr**	**62.02**	**102**	*e*P	**P**	**00 26 39.1**	**+0.4**
WRAB	**Tennant Creek**	**62.02**	**102**	*e*P	**P**	**00 26 38.9**	**+0.2**
WRAB				*e**PP	pP	00 26 44.6	+2.7
WRAB				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.4						
WRAB	**Tennant Creek**	**62.02**	**102**	*e*P	**P**	**00 26 38.9**	**+0.3**
	comp=Z,56nm,1.6s,mb5.4						
WRAB				*e*pP	pP	00 26 44.6	+2.7
AML	**Almayashu**	**62.47**	**5**	P	**P**	**00 26 41.6**	**-0.1**
	SNR=8.6						
EKS2	**Erkin-Say**	**63.00**	**5**	P	**P**	**00 26 45.8**	**+0.5**
	SNR=10						
AAK	**Ala-Archa**	**63.04**	**6**	*e*P	**P**	**00 26 44.7**	**-0.8**
AAK				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
AAK	**Ala-Archa**	**63.04**	**6**	*e*P	**P**	**00 26 44.6**	**-0.8**
	comp=Z,21nm,1.3s,mb5.1						
KBK	**Karagaybulak**	**63.10**	**6**	P	**P**	**00 26 45.8**	**-0.1**
	SNR=6.8						
TKM2	**Tokmak 2**	**63.43**	**6**	P	**P**	**00 26 47.6**	**-0.5**
	SNR=11						
USP	**Ospenovka**	**63.66**	**5**	P	**P**	**00 26 48.8**	**-0.8**
	SNR=8.2						
GNI	**Garni**	**63.99**	**340**	P	**P**	**00 26 52.9**	**+1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=98,slow=3.6,SNR=6.1						
GNI				LR	LR	00 52 40.9	
	comp=Z,106nm,19.8s,MS4.0,baz=356,slow=34						
ENH	**Enshi**	**64.39**	**40**	*e*P	**P**	**00 26 53.9**	**-0.5**
	comp=Z,21nm,0.9s,mb5.2						
ENH				*e*pP	pP	00 26 59.3	+1.7
LZH	**Lanzhou**	**65.72**	**31**	*e*P	**P**	**00 27 03.1**	**0.0**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,80nm,4.0s						
LZH				LR	LR		
	comp=N,320nm,15.0s						
LZH				LR	LR		
	comp=Z,550nm,16.3s,MS4.8						
STKA	**Stephens Creek**	**66.08**	**117**	P	**P**	**00 27 06.5**	**+1.2**
	comp=Z,2.3nm,0.7s,mb4.3,baz=287,slow=5.8,SNR=3.7						
STKA				LR	LR	00 51 37.5	
	comp=Z,223nm,21.9s,MS4.3,baz=205,slow=32						
STKA	**Stephens Creek**	**66.08**	**117**	*e*P	**P**	**00 27 05.7**	**+0.4**
STKA				LR	LR	00 51 37.5	
WMQ	**Urumqi**	**66.47**	**16**	P	**P**	**00 27 07.5**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.2						
GTA	**Gaotai**	**66.61**	**27**	P	**P**	**00 27 08.9**	**+0.2**
GTA				AP	pP	00 27 19.3	+7.3
GTA				XP	sP	00 27 23.8	+11
GTA				PPP		00 31 21.5	
GTA				SCP		00 31 32.8	
GTA				PCS		00 31 37.3	
GTA				S	S	00 36 05.5	+5.5
GTA				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,117nm,6.5s						
GTA				LR	LR		
	comp=N,169nm,15.3s,MS4.5						
GTA				LR	LR		
	comp=E,133nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=Z,208nm,16.8s,MS4.4						
XAN	**Xi'an**	**66.81**	**36**	P	**P**	**00 27 09.1**	**-0.9**
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.2						
BRTR	**Keskin Array B**	**67.82**	**332**	P	**P**	**00 27 17.9**	**+1.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=160,slow=5.8,SNR=14						
BR131	**Keskin Array S**	**67.82**	**332**	*e*P	**P**	**00 27 17.2**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.4						
BR131				*e*		00 27 22.8	
MKAR	**Makanchi Array**	**68.16**	**11**	P	**P**	**00 27 17.3**	**-1.3**
	comp=Z,9.9nm,0.9s,mb4.8,baz=191,slow=5.7,SNR=74						
MKAR				LR	LR	00 56 44.7	
	comp=Z,173nm,19.5s,MS4.3,baz=213,slow=36						
MKAR	**Makanchi Array**	**68.16**	**11**	P	**P**	**00 27 17.3**	**-1.3**
MKAR				LR	LR	00 56 44.7	
QSPA	**South Pole Qui**	**69.69**	**180**	*e*P	**P**	**00 27 27.7**	**-0.4**
	comp=Z,4.8nm,0.5s,mb4.7						
QSPA				*e*pP	pP	00 27 34.8	+3.4
VNDA	**Vanda**	**71.08**	**167**	LR	LR	00 53 54.1	
	comp=Z,122nm,19.3s,MS4.2,baz=257,slow=32						
KURK	**Kurchatov**	**71.46**	**7**	P	**P**	**00 27 37.4**	**-1.5**
	comp=Z,104nm,1.0s,mb5.7,SNR=11						
KURK	**Kurchatov**	**71.46**	**7**	*e*P	**P**	**00 27 37.8**	**-1.1**
KURK				*e**PP	pP	00 27 44.6	+2.5
KURK				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
KURK	**Kurchatov**	**71.46**	**7**	*e*P	**P**	**00 27 37.8**	**-1.1**
	comp=Z,28nm,1.2s,mb5.1						
KURK				*e*pP	pP	00 27 44.6	+2.5
KURK				*e*		00 27 49.2	
BTO	**Baotou**	**72.29**	**32**	*e*P	**P**	**00 27 43.3**	**-0.6**
CTA	**Charters Tower**	**72.82**	**105**	LR	LR	00 56 37.6	
	comp=Z,260nm,20.5s,MS4.5,baz=231,slow=33						
ZRNK	**Zerenda**	**73.07**	**1**	*e*P	**P**	**00 27 46.8**	**-1.7**
ZRNK				*e**PP	pP	00 27 53.7	+1.9
ZRNK				*e*		00 28 04.6	
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**73.07**	**1**	*e*P	**P**	**00 27 46.8**	**-1.6**
	comp=Z,7.4nm,0.

BRVK e*PP pP 00 27 54.5 +2.0
BRVK e 00 28 05.4
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 73.20 2 e**P** **P** **00 27 47.6 -1.7**
comp=Z,4.6nm,0.8s,mb4.5
BRVK epP pP 00 27 54.5 +2.0
BRVK esP sP 00 27 57.9 +4.1
BRVK ePcP PcP 00 28 05.4 -0.4
ZAL Zalesovo 75.48 10 e**P** **P** **00 28 01.1 -1.4**
comp=Z,5.1nm,0.8s,mb4.5,baz=278,slow=6.2,SNR=40
ZAL LR LR 01 01 32.3
comp=Z,180nm,19.0s,MS4.4,baz=254,slow=36
SONM Songino Array 76.24 26 e**P** **P** **00 28 06.6 -0.3**
comp=Z,5.5nm,1.0s,mb4.4,baz=223,slow=5.2,SNR=30
DBIC Dimbokro 76.28 283 e**P** **P** **00 28 08.0 +0.9**
comp=Z,2.9nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=4.5
DBIC LR LR 00 58 22.6
comp=Z,172nm,21.5s,MS4.3,baz=89,slow=33
DBIC Dimbokro 76.28 283 e**P** **P** **00 28 08.0 +0.9**
DBIC LR LR 00 58 22.6
ULN Ulaanbaatar 76.53 26 e**P** **P** **00 28 08.4 -0.2**
ULN e*PP pP 00 28 14.3 +2.4
ULN e 00 28 19.2
ULN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ULN Ulaanbaatar 76.53 26 e**P** **P** **00 28 08.4 -0.2**
comp=Z,9.7nm,1.0s,mb4.7
ULN epP pP 00 28 14.3 +2.4
ULN ePcP PcP 00 28 19.2 -1.0
ARU Arti 76.95 355 e**P** **P** **00 28 09.3 -1.6**
AKASG Malin Array Be 78.56 336 P **P** **00 28 20.0 +0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=140,slow=4.7,SNR=4.1
SOKR Solikamsk 80.21 354 e**P** **P** **00 28 28.8 -0.1**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb4.9
BOD Bodaibo 86.87 23 e**P** **P** **00 29 00.3 -2.8**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
MJAR Matsushiro Arr 87.25 49 P **P** **00 29 05.0 0.0**
comp=Z,6.5nm,0.8s,mb4.9,baz=225,slow=5.5,SNR=14
MJAR LR LR 01 06 08.6
comp=Z,165nm,19.7s,MS4.4,baz=225,slow=34
FINES FINESS Array B 88.16 341 P **P** **00 29 09.5 +0.2**
comp=Z,1.6nm,0.9s,mb4.3,baz=279,slow=3.7,SNR=4.7
KLR Kul'dur 89.52 36 e**P** **P** **00 29 11.7 -4.0**
ESDC Sonseca Array 89.68 313 P **P** **00 29 16.0 -0.4**
comp=Z,0.4nm,0.6s,mb4.0,baz=117,slow=4.8,SNR=2.6
ARCES ARCESS Array B 94.63 346 P **P** **00 29 40.2 +0.9**
comp=Z,3.1nm,0.7s,mb4.8,baz=126,slow=2.1,SNR=7.4
ARCES LR LR 01 11 08.1
comp=Z,82nm,19.4s,MS4.2,baz=284,slow=35
TIXI Tiksi 100.67 16 e**P** Pdif 00 30 01.6 -5.0
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TBI Tubuai 123.31 138 eLR LR 01 13 32.0
comp=Z,55nm,26.0s
PPT Papeete 127.35 133 eLR LR 01 15 23.6
comp=Z,67nm,24.2s
ILAR Eielson Array 130.07 19 PKP PKPdf 00 35 28.2 -0.1
comp=Z,0.2nm,0.7s,baz=258,slow=4.2,SNR=3.1
ILAR PP PP 00 37 40.5 -0.2
comp=Z,0.7nm,1.1s,baz=281,slow=3.7,SNR=4.5
YKA Yellowknife Ar 137.93 2 PKhKP 00 35 38.2
comp=Z,0.1nm,0.4s,baz=13,slow=2.9,SNR=4.6
YKA PKP PKPdf 00 35 42.7 -0.3
comp=Z,0.9nm,0.9s,baz=2.8,slow=2.4,SNR=5.3
YKA PP PP 00 38 27.8 -2.8
comp=Z,0.8nm,0.9s,baz=356,slow=6.9,SNR=8.8
YKA Yellowknife Ar 137.93 2 PKP PKPdf 00 35 38.2 -4.8
YKA PKP PKPdf 00 35 42.7 -0.3
YKA PP PP 00 38 27.8 -2.8
FFC Flin Flon 144.89 350 ePKIKP PKPdf 00 35 54.3 -1.2
FFC e 00 36 00.1
EDM Edmonton 147.25 1 ePKPbc PKPbc 00 36 02.1 +0.3
EDM epPKPdf pPKPdf 00 36 07.8 +4.9
ULM Lac du Bonnet 147.55 340 PKPbc PKPbc 00 36 02.1 -0.6
comp=Z,2.5nm,0.6s,baz=42,slow=3.9,SNR=6.0
EGMT Eagleton 152.39 357 ePKPbc PKPbc 00 36 12.9 -1.6
NVAR Mina Array Bea 161.28 15 PKPab PKPab 00 37 03.1 +0.3
comp=Z,1.5nm,1.0s,baz=4.5,slow=3.9,SNR=4.8

ISCJB ***25*** *00:20:14.5±0.5,6782N±002×2021E±007,h0km,Error ellipse: s-maj=4.4km s-min=3.3km az=82.7*
CSEM ***25*** *00:20:14.4±0.4,6781N×2001E,h1km,ML2.8,Error ellipse: s-maj=14.3km s-min=10.2km az=149.0,Mining explosion.*
UPP ***25*** *00:20:14.9,6784N×2021E,h1km,ML2.8,Suspected Mining explosion.*
HEL ***25*** *00:20:15.7±0.1,6784N×2019E,h0km,ML1.6,ML2.8(UPP), Explosion*
ISC 25 00:20:15.0±0.5,6782N±002×2021E±007,h0km,n14, σ0§95/28,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**19**	*i* P	**Pg**	**00 20 17.4**	**-0.4**
KUA				*i* S	**Sg**	**00 20 19.2**	**-0.5**
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P	**Pg**	**00 20 23.3**	**-0.3**
NIKU				*i* S	**Sg**	**00 20 29.5**	**0.0**
LANU	**Lannavaara**	**0.71**	**70**	*i* P	**Pg**	**00 20 28.1**	**-0.5**
LANU				*i* S	**Sg**	**00 20 37.7**	**-0.2**
DUNU	**Dundret**	**0.71**	**169**	*i* P	**Pg**	**00 20 28.6**	**-0.1**
DUNU				*i* S	**Sg**	**00 20 38.7**	**+0.8**
SALU	**Saltoluokta**	**0.79**	**237**	*i* P	**Pg**	**00 20 29.8**	**-0.3**
SALU				*i* S	**Sg**	**00 20 40.6**	**+0.3**
KIF	**Kilpisjarvi**	**1.21**	**10**	e*P*	**Pg**	**00 20 38.8**	**+0.5**
KIF				e*S*	**Sg**	**00 20 53.9**	**-0.2**
KIF	**Kilpisjarvi**	**1.21**	**10**	P	**Pg**	**00 20 38.7**	**+0.4**
KIF				S	**Sg**	**00 20 53.8**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**148**	e*P*	**Pn**	**00 20 42.3**	**-0.7**
SGF	**Sodankyl**	**2.44**	**96**	e*P*	**Pn**	**00 20 58.0**	**+1.8**
SGF				e*S*	**Sn**	**00 21 28.1**	**+1.4**
SGF				MSG		00 21 33.4	
comp=Z,1.2nm,0.1s
SGF Sodankyl 2.44 96 P **Pn** **00 20 57.9 +1.7**
SGF S **Sn** **00 21 28.1 +1.3**
comp=Z,1.2nm,0.1s
KEV Kevo 3.15 49 e*P* **Pn** **00 21 08.2 +2.4**
KEV e*S* **Sn** **00 21 44.0 -0.1**
KEV e*SB* **Sb** **00 21 49.7 -1.0**
KEV MSG 00 21 52.7
comp=Z,2.2nm,0.3s
KEV Kevo 3.15 49 P **Pn** **00 21 08.1 +2.3**
KEV S **Sn** **00 21 43.9 -0.1**
OUL Oulu 3.57 138 e*PG* **Pg** **00 21 19.2 -4.2**
OUL e*SG* **Sg** **00 22 08.7 -1.0**
OUL MSG 00 22 12.0
comp=Z,1.1nm,0.3s
VAF Ylistaro 4.90 167 e*S* **Sn** **00 22 28.5 +1.0**
VAF e*SG* **Sg** **00 22 50.3 -2.3**

CSEM ***25*** *00:20:23.8±0.1,3852N×1338E,h2km,ML3.7/4,Error ellipse: s-maj=2.1km s-min=1.1km az=48.0*
ISCJB ***25*** *00:20:24.6±0.3,3862N±002×1327E±003,h24km±3km, mb3.8/8,MS3.0/2,Error ellipse: s-maj=4.2km s-min=2.8km az=85.2*
NEIC ***25*** *00:20:24.7,3861N×1333E,h17km,ML3.8(ROM),After ROM.*
ROM ***25*** *00:20:24.7±0.1,3861N×1333E,h17km±3km,Md3.4/7, Ml3.8/15,Error ellipse: s-maj=2.5km s-min=2.4km az=4.0*
LDG ***25*** *00:20:26.4±0.2,3844N×1324E,h10km,Ml3.8/7,Error ellipse: s-maj=6.1km s-min=4.1km az=48.0*
IDC ***25*** *00:20:26.3±0.8,3860N×1317E,h20km±5km,mb3.6/9, mb1 3.8/13,mb1mx3.7/25,mbtmp3.8/13,ML3.6/4,MS3.1/4, Ms1 3.2/4,ms1mx2.8/29,Error ellipse: s-maj=20.2km s-min=9.8km az=67.0*
NAO ***25*** *00:20:51.2,4083N×1380E,h33km,mb3.9*
ISC 25 00:20:25.1±0.4,3857N±002×1333E±003,h14km±3km, n110,σ1§15/130,mb3.8/8,MS3.0/2,10C-1D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.18**	**321**	⇓*i* Pg	**Pg**	**00 20 29.3**	**-0.1**
USI				Sg	**Sg**	**00 20 32.1**	**-0.2**
ERC	**Erice**	**0.79**	**228**	Pg	**Pg**	**00 20 39.6**	**-0.8**
GIB	**Gibilmanna**	**0.80**	**136**	Pg	**Pg**	**00 20 40.4**	**-0.2**
GIB				Sg	**Sg**	**00 20 52.2**	**+1.1**
16μm,0.5s

MFNL Monte Finestre 0.84 203 Pg **Pg** **00 20 41.8 +0.4**
CSLB Castelbuono 0.85 137⇑e*Pg* **Pg** **00 20 41.2 -0.4**
CSLB Sg **Sg** **00 20 53.6 +0.8**
MCT Mte Cammarata 0.96 165 Pg **Pg** **00 20 45.5 +1.7**
LVI Isola Levanzo 0.97 234 Pg **Pg** **00 20 42.4 -1.5**
IFIL Filicudi I Eol 0.97 90⇑e*Pg* **Pg** **00 20 42.7 -1.2**
IFIL Sg **Sg** **00 20 56.5 -0.1**
15μm,0.5s
CLTB Caltabellotta 0.99 185 Pg **Pg** **00 20 44.0 -0.3**
MNO Monte Soro 1.25 120 Pn **Pn** **00 20 47.7 -0.5**
LLI Lipari 1.28 95 Pn **Pn** **00 20 47.4 -1.2**
6μm,0.5s
VPL Vulcano Piano 1.31 98 Pn **Pn** **00 20 47.4 -1.7**
2μm,0.5s
FAVR Favara 1.32 168 Pn **Pn** **00 20 51.5 +2.3**
VAE Valguarnera 1.38 141 Pg **Pg** **00 20 52.1 +0.4**
15nm,0.3s,baz=69,slow=22,SNR=60
VAE Lg 00 21 15.0
144nm,0.3s,baz=275,slow=11,SNR=13
VAE Valguarnera 1.38 141 Pg **Pg** **00 20 52.1 +0.4**
VAE Lg 00 21 15.0
ESLN Serra La Nave 1.56 123 Pn **Pn** **00 20 51.8 -0.7**
MMME Mongiuffi-Meli 1.64 112 Pn **Pn** **00 20 53.2 -0.4**
942nm,0.4s
ATN Antennamare 1.73 103 Pn **Pn** **00 20 53.6 -1.2**
MSRU Castanea 1.74 99⇑e*Pn* **Pn** **00 20 53.4 -1.6**
918nm,0.7s
HVZN Vizzini 1.77 141⇑e*Pn* **Pn** **00 20 55.9 +0.5**
HVZN Sn **Sn** **00 21 20.1 +2.4**
5μm,0.8s
MSI Messina ING 1.79 101 Pn **Pn** **00 20 54.2 -1.4**
155nm,0.4s
MTTG Motta San Giov 1.95 106 Pn **Pn** **00 20 57.5 -0.3**
206nm,0.5s
HMDC Modica 1.98 144⇑e*Pn* **Pn** **00 20 58.7 +0.5**
HMDC Sn **Sn** **00 21 24.4 +1.6**
2μm,0.6s
AGST Augusta-Monte 1.99 130⇑e*Pn* **Pn** **00 20 58.1 -0.3**
522nm,0.6s
HAVL Avola 2.15 138 Pn **Pn** **00 21 01.0 +0.5**
942nm,0.3s
CMPR Campora 2.32 41 Pn **Pn** **00 21 01.9 -1.1**
MGR Morigerati 2.33 47 Pn **Pn** **00 21 04.1 +1.0**
48nm,0.5s
GRI Girifalco 2.43 83 Pn **Pn** **00 21 04.1 -0.4**
240nm,0.9s
PLAC Placanica 2.44 92⇑*i Pn* **Pn** **00 21 04.1 -0.5**
88nm,0.6s
CDRU Civita di Ruta 2.46 38 Pn **Pn** **00 21 04.7 -0.1**
CDRU Sn **Sn** **00 21 32.1 -2.5**
182nm,0.2s
MCRV Calabrutti - M 2.63 32 Pn **Pn** **00 21 07.1 -0.1**
91nm,0.3s
TIP Timpagrande 2.75 76 e*Pn* **Pn** **00 21 08.5 -0.3**
TIP Timpagrande 2.75 76 e*Pn* **Pn** **00 21 08.5 -0.3**
MRLC Muro Lucano 2.75 37 Pn **Pn** **00 21 10.1 +1.2**
ORI Oriolo Calabro 2.85 57 Pn **Pn** **00 21 10.7 +0.5**
CAFE Carife 2.87 30 Pn **Pn** **00 21 11.1 +0.7**
GIUL Giuliano Di Ro 2.99 359 Pn **Pn** **00 21 11.2 -0.9**
68nm,0.6s
FG4 Candela 3.07 33 Pn **Pn** **00 21 14.6 +1.4**
FG5 Orsara di Pugl 3.10 28 Pn **Pn** **00 21 15.5 +1.9**
22nm,0.3s
CGL Cagliari Serpe 3.24 285 Pn **Pn** **00 21 12.7 -2.9**
CII Carovilli 3.24 13 Pn **Pn** **00 21 17.6 +2.0**
235nm,1.9s
AMUR Altamura 3.44 46 Pn **Pn** **00 21 19.0 +0.6**
AMUR Sn **Sn** **00 21 57.0 -2.0**
NOCI Noci 3.64 51 Pn **Pn** **00 21 21.0 -0.1**
PE1 Pezze di Greco 3.87 53 e*Pn* **Pn** **00 21 24.7 +0.4**
LCI Lecce 4.10 63 Pn **Pn** **00 21 27.6 +0.1**
223nm,1.4s
MAON Monte Argentar 4.21 337 Pn **Pn** **00 21 28.1 -0.8**
38nm,0.5s
NRCA Norcia 4.27 358 Pn **Pn** **00 21 31.9 +2.2**
5.0nm,0.1s
GRFL Gerfalco 4.91 339 Pn **Pn** **00 21 39.7 +1.1**
11nm,0.6s
CSNT Castellina Chi 5.14 343 Pn **Pn** **00 21 43.6 +1.9**
10.0nm,0.4s
PGF Pioggiola 5.17 322 e*Pn* **Pn** **00 21 41.3 -0.7**
PGF e*Sn* **Sn** **00 22 37.4 -4.0**
46nm,0.5s
PGF Pioggiola 5.17 322 e*Pn* **Pn** **00 21 41.3 -0.7**
PGF e*Sn* **Sn** **00 22 37.4 -4.0**
23nm,0.5s
STON Ston 5.43 36 *i Pn* **Pn** **00 21 46.0 +0.3**
STON *i* Sn **Sn** **00 22 43.8 -4.3**
PII Pisa 5.57 339 Pn **Pn** **00 21 49.3 +1.7**
12nm,0.8s
MEV Metsovon 6.26 76 e*P* **Pn** **00 21 56.0 -1.0**
OHR Ohrid 6.29 64 e*Pn* **Pn** **00 21 57.5 +0.1**
FNA Florina 6.59 68 e*P* **Pn** **00 22 01.7 +0.1**
BIA Bitola 6.63 66 e*Pn* **Pn** **00 22 02.1 0.0**
IMI Imperia 6.73 324 Pn **Pn** **00 22 02.5 -1.0**
14nm,0.4s
SBF Sospel 6.91 322 e*Pn* **Pn** **00 22 04.0 -2.0**
SBF e*Sn* **Sn** **00 23 16.9 -7.5**
33nm,0.6s
LMR La Mourre 7.02 315 e*Pn* **Pn** **00 22 04.9 -2.6**
LMR e*Sn* **Sn** **00 23 19.1 -8.1**
4.6nm,0.4s
AGG Agios Georgios 7.05 83 e*P* **Pn** **00 22 07.2 -0.7**
BOJS Bojanci 7.08 11 e*Pn* **Pn** **00 22 11.1 +2.8**
FRF La Foret Royal 7.09 317 e*Pn* **Pn** **00 22 06.1 -2.5**
GRG Griva 7.39 68 e*P* **Pn** **00 22 11.7 -0.9**
STIP Stip 7.47 62 e*Pn* **Pn** **00 22 13.2 -0.5**
STIP e*Sn* 00 22 59.0
STIP Stip 7.47 62 e*Pn* **Pn** **00 22 13.1 -0.6**
VAY Valandovo 7.62 66 e*Pn* **Pn** **00 22 15.3 -0.4**
ROBS Robic 7.67 1 e*Pn* **Pn** **00 22 18.3 +1.8**
XOR Xorichti 7.73 81 e*P* **Pn** **00 22 15.4 -1.8**
DOBS Dobrina 7.74 11 e*Pn* **Pn** **00 22 20.2 +2.8**
KNT Kendrikon 7.80 68 e*P* **Pn** **00 22 17.8 -0.5**
MBDF Montbardon 7.87 324 e*Pn* **Pn** **00 22 19.7 +0.5**
MBDF e*Sn* **Sn** **00 23 44.2 -3.9**
15nm,0.8s
SMRF Simiane la Rot 7.95 315 e*Pn* **Pn** **00 22 19.0 -1.3**
SMRF e*Sn* **Sn** **00 23 44.9 -5.2**
28nm,1.1s
SMRF Simiane la Rot 7.95 315 e*Pn* **Pn** **00 22 19.0 -1.3**
SMRF e*Sn* **Sn** **00 23 44.9 -5.2**
14nm,1.1s
AOS Alonnisos 8.26 83 e*P* **Pn** **00 22 23.3 -1.2**
SRS Serrai 8.30 69 e*P* **Pn** **00 22 24.1 -0.9**
ORIF Oris-en-Rattie 8.44 321 e*Pn* **Pn** **00 22 26.8 -0.2**
LPG La Plagne 8.48 327 e*Pn* **Pn** **00 22 28.3 +0.8**
LPL La Plagne 8.50 327 e*Pn* **Pn** **00 22 29.3 +1.5**
KBA Koelnbreinsper 8.51 0⇑*i Pn* **Pn** **00 22 30.8 +2.8**
7.9nm,0.7s
DAVOX Davos 8.59 344 Pn **Pn** **00 22 30.5 +1.4**
1.3nm,0.3s,baz=183,slow=15,SNR=14
DAVOX LR LR 00 25 53.8
comp=Z,127nm,20.1s,baz=85,slow=38
LASF Ste Croix 9.00 311 e*Pn* **Pn** **00 22 32.5 -2.2**
LASF e*Sn* **Sn** **00 24 07.9 -8.0**
28nm,1.2s
LASF Ste Croix 9.00 311 e*Pn* **Pn** **00 22 32.5 -2.2**
LASF e*Sn* **Sn** **00 24 07.9 -8.0**
14nm,1.2s
VIVF Saint-Julien-l 9.02 317 e*Pn* **Pn** **00 22 33.6 -1.3**
DAVA Damuels 9.07 345⇑*i Pn* **Pn** **00 22 38.8 +3.1**
5.9nm,0.6s
MOA Molln 9.30 4⇑*i Pn* **Pn** **00 22 40.0 +1.1**
7.5nm,0.8s
MTLF Montolieu 9.66 303 e*Pn* **Pn** **00 22 43.3 -0.4**
MTLF e*Sn* **Sn** **00 24 25.1 -7.0**
5.2nm,0.5s
MTLF Montolieu 9.66 303 e*Pn* **Pn** **00 22 43.3 -0.4**
MTLF e*Sn* **Sn** **00 24 25.1 -7.0**
2.6nm,0.5s
GERES GERESS Array B 10.28 1 Pn **Pn** **00 22 52.5 +0.2**
0.3nm,0.3s,baz=173,slow=14,SNR=4.9
GERES LR LR 00 27 22.5
comp=Z,97nm,21.6s,baz=117,slow=41
HINF Hinteralfeld 10.38 335 e*Pn* **Pn** **00 22 55.2 +1.6**
CAF Calviac 10.54 311 e*Pn* **Pn** **00 22 55.3 -0.5**
KHC Kasperske Hory 10.56 1 e*P* **Pn** **00 22 57.3 +1.2**
KHC x x 00 23 06.5
SMF Signal de Mont 10.67 322 e*Pn* **Pn** **00 22 57.5 -0.1**
HAU Haudompre 10.71 334 e*Pn* **Pn** **00 22 59.9 +1.7**
CDF Champ du Feu 10.77 338 e*Pn* **Pn** **00 22 59.9 +0.9**
BGF Bois d'Agland 11.11 319 e*Pn* **Pn** **00 23 03.6 +0.1**
ETSF Etsaut 11.39 297 e*Pn* **Pn** **00 23 07.1 -0.3**

PRU Pruhonice 11.45 4 e*P* **Pn** **00 23 08.0 -0.3**
BRTR Keskin Array B 15.80 79 Pn **Pn** **00 24 08.1 +0.9**
0.1nm,0.3s,baz=0.0,slow=5.8,SNR=3.4
AKASG Malin Array Be 16.55 38 Pn **Pn** **00 24 17.4 +0.7**
0.2nm,0.3s,baz=231,slow=12,SNR=4.2
EKA Eskdalemuir Ar 20.11 332 P **P** **00 24 58.8 +0.3**
2.6nm,1.0s,baz=82,slow=12,SNR=3.0
HFS Hagfors 21.59 0 P **P** **00 25 14.4 -0.1**
2.0nm,0.6s,mb3.7,baz=181,slow=11,SNR=5.7
HFS LR LR 00 33 29.8
comp=Z,73nm,19.4s,MS3.1,baz=253,slow=36
NB2 NORSAR Subarra 22.54 357 P **P** **00 25 23.9 -0.7**
comp=Z,8.4nm,1.2s,mb4.0,baz=174,slow=11
NOA NORSAR Array B 22.54 357 P **P** **00 25 24.3 -0.3**
comp=Z,1.7nm,0.8s,mb3.5,baz=173,slow=11,SNR=4.7
NOA pP 00 25 29.8
comp=Z,2.5nm,0.7s,baz=175,slow=10,SNR=6.5
NOA LR LR 00 33 48.0
comp=Z,45nm,19.1s,MS2.9,baz=300,slow=36
FINES FINESS Array B 24.23 15 P **P** **00 25 41.1 -0.4**
comp=Z,3.1nm,0.7s,mb3.8,baz=181,slow=9.4,SNR=16
TORD Torodi Ar. Bea 27.34 205 P **P** **00 26 09.8 +0.1**
comp=Z,0.6nm,0.6s,mb3.3,baz=19,slow=9.9,SNR=8.1
TORD sP sP 00 26 18.4 +2.9
comp=Z,0.4nm,0.7s,baz=17,slow=8.7,SNR=3.0
MKAR Makanchi Array 49.88 57 P **P** **00 29 18.1 +0.1**
comp=Z,3.8nm,0.6s,mb4.6,baz=281,slow=6.9,SNR=50
LBTB Lobatse 64.28 168 P **P** **00 31 00.4 +0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=35,slow=5.9,SNR=3.5
SONM Songino Array 64.50 48 P **P** **00 31 01.9 +0.5**
comp=Z,0.5nm,0.8s,mb3.6,baz=268,slow=6.8,SNR=3.7
YKA Yellowknife Ar 70.97 337 P **P** **00 31 41.7 -0.5**
comp=Z,0.2nm,0.5s,mb3.3,baz=44,slow=5.9,SNR=4.2
YKA pP pP 00 31 47.7 +1.1
comp=Z,0.4nm,0.5s,baz=43,slow=5.9,SNR=5.0

ISCJB ***25*** *00:21:20.4±0.7,3133N±006×1409E±02,h89km±12km, mb3.5/5,Error ellipse: s-maj=31.6km s-min=6.3km az=150.1*
JMA ***25*** *00:21:21.1±0.3,3131N×14074E,h94km,M3.7*
IDC ***25*** *00:21:23.8±1.9,3102N×14036E,h132km±19km,mb3.3/5, mb1 3.5/7,mb1mx3.2/19,mbtmp3.6/7,Error ellipse: s-maj=35.6km s-min=15.5km az=81.0*
ISC 25 00:21:22.0±0.7,3143N±005×1413E±02,h72km±13km,n18, σ1§23/26,mb3.4/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.23**	**356**	P	**Pn**	**00 22 13.0**	**+2.8**
BSO3	**Boso 3**	**3.42**	**350**	P	**Pn**	**00 22 14.1**	**+1.2**
BSO3				e*S*	**Sn**	**00 22 52.9**	**+0.6**
BSO4	**Boso 4**	**3.64**	**348**	P	**Pn**	**00 22 17.6**	**+1.8**
BSO4				e*S*	**Sn**	**00 22 58.4**	**+0.9**
JOD2	**Odawara 2**	**4.23**	**335**	P	**Pn**	**00 22 24.3**	**+0.3**
JOD2				e*S*	**Sn**	**00 23 14.5**	**+2.4**
CBIJ	**Chichi jima**	**4.39**	**169**	P	**Pn**	**00 22 26.2**	**+0.1**
CBIJ	**Chichi jima**	**4.39**	**169**	P	**Pn**	**00 22 26.5**	**+0.4**
5.7nm,0.3s,baz=300,slow=20,SNR=6.4
CBIJ S **Sn** **00 23 14.8 -1.2**
12nm,0.3s,baz=288,slow=20,SNR=3.8
JHU Hanno 4.71 340 P **Pn** **00 22 30.3 -0.2**
JNY Yasuok 4.84 325 P **Pn** **00 22 32.3 0.0**
JRY Ryogami san 4.98 337 P **Pn** **00 22 33.6 -0.6**
JRY e*S* **Sn** **00 23 30.7 +0.3**
JHO Hitachi 5.20 354 P **Pn** **00 22 37.3 +0.1**
JHO e*S* **Sn** **00 23 34.1 -1.8**
JAG Ashikaga 5.21 344 P **Pn** **00 22 36.0 -1.2**
JAG e*S* **Sn** **00 23 33.2 -2.7**
MJAR Matsushiro Arr 5.69 334 P **Pn** **00 22 48.7 +4.8**
0.7nm,0.3s,baz=153,slow=12,SNR=3.6
MJAR S **Sn** **00 23 46.1 -1.8**
0.6nm,0.3s,baz=215,slow=23,SNR=3.3
JMK Ichinoseki 7.51 360 e*S* **Sn** **00 24 30.5 -1.8**
WRA Warramunga Arr 51.50 188 P **P** **00 30 13.1 -7.1**
0.2nm,0.3s,mb3.7,baz=6.8,slow=7.7,SNR=7.9
ILAR Eielson Array 54.35 30 P **P** **00 30 41.5 +0.4**
0.7nm,0.8s,mb3.7,baz=269,slow=6.1,SNR=9.0
YKA Yellowknife Ar 68.74 29 P **P** **00 32 17.7 -0.3**
0.1nm,0.4s,mb3.0,baz=296,slow=6.2,SNR=3.7
FINES FINESS Array B 73.72 333 P **P** **00 32 41.6 -6.5**
1.4nm,0.8s,mb3.7,baz=86,slow=12,SNR=5.9
NVAR Mina Array Bea 78.50 52 P **P** **00 33 15.8 +0.6**
0.2nm,0.7s,mb3.0,baz=286,slow=6.6,SNR=5.5

IDC ***25*** *00:33:40.9±1.6,2949N×13020E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/20,mbtmp3.4/4,ML2.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/19,Error ellipse: s-maj=79.0km s-min=23.6km az=111.0*
ISCJB ***25*** *00:33:41.2±1.3,2954N±005×1302E±01,h19km±12km, mb3.5/3,Error ellipse: s-maj=17.7km s-min=5.0km az=41.7*
JMA ***25*** *00:33:41.6±0.2,2957N×13020E,h19km±4km,M3.2*
ISC 25 00:33:41.5±2.0,2956N±005×1302E±01,h14km±12km,n12, σ0§94/16,mb3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.40**	**315**	P	**Pg**	**00 33 49.5**	**0.0**
JNN				S	**Sg**	**00 33 55.3**	**+0.5**
JKC	**Kuchinoerabu**	**0.90**	**360**	P	**Pb**	**00 33 58.3**	**-0.5**
JKC				S	**Sb**	**00 34 10.6**	**0.0**
JAM	**Amami Oshima**	**1.25**	**205**	P	**Pn**	**00 34 03.4**	**-1.1**
JAM				S	**Sb**	**00 34 19.4**	**-1.5**
JTN	**Tanegashima 3**	**1.29**	**32**	P	**Pn**	**00 34 04.6**	**-0.3**
JTSR	**Tashiro 2**	**1.72**	**21**	P	**Pn**	**00 34 10.6**	**-0.3**
JTSR				S	**Sn**	**00 34 31.7**	**-1.0**
JSU	**Suzuyama**	**1.95**	**6**	P	**Pn**	**00 34 13.7**	**-0.4**
JTK	**Tokunoshima**	**2.08**	**212**	e*S*	**Sn**	**00 34 40.6**	**-0.9**
JOW	**Kunigami**	**3.20**	**212**	Pn	**Pn**	**00 34 32.1**	**+0.8**
2.0nm,0.3s,baz=135,slow=17,SNR=3.2
JOW Sn **Sn** **00 35 10.0 +0.8**
3.5nm,0.3s,baz=90,slow=20,SNR=3.3
CBIJ Chichi jima 10.84 100 LR LR 00 39 48.5
comp=Z,88nm,21.9s,baz=129,slow=34
WRA Warramunga Arr 49.37 175 P **P** **00 42 30.9 +0.5**
0.8nm,0.7s,mb3.9,baz=354,slow=8.2,SNR=9.6
ASAR Alice Springs 53.04 176 P **P** **00 43 00.0 +2.1**
0.3nm,0.5s,mb3.5,baz=6.4,slow=15,SNR=6.1
YKA Yellowknife Ar 74.78 26 P **P** **00 45 22.9 +1.8**
0.2nm,0.7s,mb3.1,baz=300,slow=5.0,SNR=4.5

WEL 25 00:34:44.2±0.4,3972S×17429E,h194km±3km,ML3.6/15, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.43**	**11**	PN	Pn	00 35 10.5	+0.1
RAEZ				SN	Sn	00 35 28.7	-2.0
NEZ	**North Egmont**	**0.47**	**341**	PN	Pn	00 35 10.7	+0.2
NRZ	**Ngariki Road**	**0.47**	**324**	PN	Pn	00 35 10.4	-0.2
WAZ	**Wanganui**	**0.54**	**95**	PN	Pn	00 35 11.6	+0.8
WAZ				SN	Sn	00 35 30.8	-0.6
PKE	**Pukeiti**	**0.57**	**336**	PN	Pn	00 35 10.5	-0.4
VRZ	**Vera Road**	**0.69**	**32**	PN	Pn	00 35 10.7	-0.9
MTVZ	**Mangateitei**	**0.97**	**71**	PN	Pn	00 35 13.3	+0.1
MTVZ				SN	Sn	00 35 35.2	-0.4
FWVZ	**Far West T-bar**	**1.08**	**65**	SN	Sn	00 35 36.2	-0.8
WNVZ	**Wahianoa**	**1.08**	**69**	SN	Sn	00 35 36.5	-0.5
WPVZ	**Whakapapa**	**1.10**	**63**	PN	Pn	00 35 13.9	-0.1
DUWZ	**D'Urville Isla**	**1.12**	**194**	PN	Pn	00 35 14.3	0.0
DUWZ				SN	Sn	00 35 37.1	-0.4
MOVZ	**Moawhango**	**1.17**	**75**	PN	Pn	00 35 14.2	-0.4
MOVZ				SN	Sn	00 35 36.5	-1.6
KRVZ	**Karewarewa**	**1.22**	**60**	PN	Pn	00 35 14.7	-0.3
KIW	**Kapiti Island**	**1.24**	**158**	PN	Pn	00 35 15.2	+0.1
KIW				SN	Sn	00 35 39.0	-0.1
HIZ	**Hauiti**	**1.28**	**20**	PN	Pn	00 35 14.0	-1.4
TSZ	**Takapari Road**	**1.33**	**106**	PN	Pn	00 35 16.1	+0.2
TSZ				SN	Sn	00 35 40.2	-0.3
MRZ	**Mangatainoka R**	**1.37**	**134**	PN	Pn	00 35 16.2	0.0
MRZ				SN	Sn	00 35 40.3	-0.7
TCW	**Tory Channel**	**1.50**	**180**	PN	Pn	00 35 17.4	0.0
CAW	**Cannon Point**	**1.51**	**157**	PN	Pn	00 35 17.5	-0.1
CAW				SN	Sn	00 35 43.3	-0.1
MRW	**Makara Radio**	**1.54**	**168**	PN	Pn	00 35 17.7	-0.1
NNZ	**Nelson**	**1.66**	**205**	PN	Pn	00 35 18.3	-0.5
NNZ				SN	Sn	00 35 44.3	-1.4
MTW	**Mount Morrison**	**1.71**	**148**	PN	Pn	00

QRZ	Quartz Range	1.75	230	PN	Pn	00 35 18.1	-1.6
BFZ	Birch Farm	1.78	123	PN	Pn	00 35 20.1	+0.1
BKZ	Black Stump Fm	1.79	73	PN	Pn	00 35 19.4	-0.7
MSWZ	Moikau Station	1.85	157	PN	Pn	00 35 20.3	-0.4
PAWZ	Paruwai Farm	1.88	153	PN	Pn	00 35 20.6	-0.4
BSWZ	Blackbirch Sta	2.02	189	PN	Pn	00 35 22.7	+0.2
THZ	Tophouse	2.30	207	PN	Pn	00 35 24.5	-1.0
URZ	Urewera	2.63	57	PN	Pn	00 35 26.7	-2.6
KNZ	Kokohu	2.71	76	PN	Pn	00 35 29.2	-1.0
DSZ	Denniston Nort	2.77	222	PN	Pn	00 35 29.0	-1.8
MWZ	Matawai	2.87	62	PN	Pn	00 35 30.1	-2.0
LTZ	Lake Taylor	3.42	206	PN	Pn	00 35 37.0	-1.6
PUZ	Puketiti	3.50	63	PN	Pn	00 35 37.3	-2.3
MXZ	Matakaoa Point	3.81	57	PN	Pn	00 35 40.8	-2.5
MQZ	McQueen's Vall	4.17	197	PN	Pn	00 35 45.5	-2.4
ODZ	Otahua Downs	5.97	206	PN	Pn	00 36 08.4	-2.6

*ISCJB **25** 00:38:36.1±1.2, 37N±03×1254E±06, h33km, mb4.0/7, Error ellipse: s-maj=94.5km s-min=13.5km az=130.6*
*NEIC **25** 00:38:38.4±1.1, 367N×12546E, h35km, mb4.0/2, Error ellipse: s-maj=78.9km s-min=14.1km az=66.0*
*IDC **25** 00:39:12.7±19.0, 293N×1248 3E, h380km±229km, mb3.3/5, mb1 3.4/5, mb1mx3.1/19, mbtmp4.0/5, Error ellipse: s-maj=171.1km s-min=38.8km az=63.0*

ISC 25 00:38:38.4±1.1, 37N±03×1254E±06, h35km, n10, σ0§87/10, mb4.0/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.66	179	eP	P	00 43 25.8	0.0
	2.4nm,0.3s,mb4.1						
WRAB	Tennant Creek	25.07	160	eP	P	00 43 60.0	+0.5
	4.5nm,1.3s,mb3.8						
WRA	Warramunga Arr	25.08	160	P	P	00 43 60.0	+0.5
	2.9nm,0.3s,mb4.3,baz=336,slow=10,SNR=111						
WB2	Warramunga Arr	25.08	160	eP	P	00 43 59.9	+0.4
ASAR	Alice Springs	28.43	163	P	P	00 44 29.5	-0.2
	0.5nm,0.3s,mb3.6,baz=344,slow=7.6,SNR=9.7						
STKA	Stephens Creek	38.58	158	P	P	00 45 56.6	-1.2
	1.2nm,0.4s,mb4.0,baz=339,slow=9.9,SNR=5.1						
MKAR	Makanchi Array	56.84	326	P	P	00 48 21.2	+1.9
	0.8nm,0.5s,mb4.0,baz=118,slow=8.0,SNR=20						
MKAR	Makanchi Array	56.84	326	P	P	00 48 21.2	+1.9
AKTK	Aktyubinsk	72.87	322	P	P	00 50 02.8	-0.9
AKTO	Aktyubinsk	72.87	322	P	P	00 50 02.8	-0.9
	0.7nm,0.4s,mb4.0,baz=102,slow=6.8,SNR=3.6						

*NIED **25** 00:38:00, 2460N×12190E, h23km, Mw3.7 Best double couple: M0 3.98000×10^14 NP1:φs=359.00000°, δ73.00000°, λ68.00000°. NP2:φs=233.00000°, δ28.00000°, λ140.00000°.*

JMA 25 00:38:50.8±0.2, 2463N×12186E, h46km, M3.7, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.06	99	P	Pn	00 39 09.6	+0.4
YOJ				S	Sn	00 39 23.4	+0.5
IRIF	Iriomote-Funau	1.73	99	P	Pn	00 39 18.8	+0.4
IRIF				S	Sn	00 39 40.1	+0.9
HATJ	Hateruma jima	1.86	107	P	Pn	00 39 21.3	+1.1
HATJ				eS	Sn	00 39 43.2	+0.7
JKRS	Kuro-shima	2.00	101	P	Pn	00 39 23.2	+1.1
JKRS				S	Sn	00 39 46.9	+1.1
JIJ	Ishigaki jima	2.10	97	P	Pn	00 39 24.2	+0.8
JIJ				S	Sn	00 39 48.2	-0.1
JTJ	Tarama	2.59	89	P	Pn	00 39 32.0	+1.9
JTJ				eS	Sn	00 40 02.5	+2.2

*NEIC **25** 00:44:21.9, 3839N×2192E, h2km, ML2.9(THE), After THE.*
*THE **25** 00:44:21.9, 3839N×2192E, h1km, ML3.0*
*CSEM **25** 00:44:23.9±0.1, 3860N×2175E, h2km, MD3.3, Error ellipse: s-maj=3.4km s-min=2.2km az=114.0*
*ISCJB **25** 00:44:23.6±0.4, 3858N±003×2184E±004, h2km, Error ellipse: s-maj=4.9km s-min=3.9km az=61.2*
*ATH **25** 00:44:23.0, 3861N×2152E, h22km±1km, MD3.3/12*
*SKO **25** 00:44:23.1, 3839N×2199E, h2km*

ISC 25 00:44:24.1±0.4, 3857N±003×2181E±005, h2km, n33, σ1§21/37, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.35	0	i/iPB	Pg	00 44 30.8	+0.1
EVR				eSB	Sg	00 44 37.5	+2.3
RLS	Riolos of Patr	0.58	208	ePN	Pg	00 44 33.9	-1.2
RLS				eSN	Sg	00 44 42.6	-0.1
AGG	Agios Georgios	0.61	42	ePg	Pg	00 44 35.3	-0.4
	comp=Z,11nm,0.2s						
LKD	Levkas	0.92	279	ePg	Pg	00 44 40.2	-1.4
LKD				eSg	Sg	00 44 57.0	+3.4
VLS	Valsamata	1.03	248	ePN	Pn	00 44 39.9	-5.7
MEV	Metsovon	1.29	340	ePg	Pg	00 44 48.6	-0.3
	comp=Z,15nm,0.9s						
JAN	Janina	1.32	326	ePN	Pn	00 44 44.6	-4.9
NEO	Neokhori	1.33	56	ePN	Pn	00 44 50.0	+0.4
XOR	Xorichti	1.34	53	ePg	Pg	00 44 48.0	-1.7
	comp=Z,2.8nm,0.5s						
XOR				eSg	Sg	00 45 06.8	-0.3
ITM	Ithomi	1.39	176	ePN	Pn	00 44 50.5	0.0
IGT	Igoumenitsa	1.50	310	ePb	Pb	00 44 52.1	-0.5
NAIG	Nisos Aigina	1.55	121	ePN	Pn	00 44 54.5	+1.8
MPAR	Parnis Oros	1.57	105	ePB	Pb	00 44 54.3	+0.4
LIT	Litokhoron	1.62	19	ePb	Pb	00 44 52.6	-2.1
	comp=Z,2.3nm,0.8s						
PTL	Penteli	1.70	107	ePN	Pn	00 44 56.5	+1.7
AOS	Alonnisos	1.72	69	ePb	Pn	00 44 52.3	-2.8
KZN	Kozani	1.73	359	ePN	Pn	00 44 54.5	-0.7
VLI	Veliai	2.06	154	ePN	Pn	00 45 00.5	+0.9
PLG	Polygyros	2.20	35	ePN	Pn	00 45 01.0	-0.7
FNA	Florina	2.23	352	ePn	Pn	00 45 02.9	+0.7
GRG	Griva	2.43	11	ePn	Pn	00 45 04.0	-0.7
BIA	Bitola	2.47	351	ePn	Pn	00 45 05.3	-0.1
BIA	Bitola	2.47	351	ePn	Pn	00 45 07.7	+2.3
BIA	Bitola	2.47	351	ePn	Pn	00 45 07.6	+2.2
OHR	Ohrid	2.65	343	ePn	Pn	00 45 10.4	+2.5
KNT	Kendrikon	2.72	18	ePn	Pn	00 45 08.4	-0.4
VAY	Valandovo	2.81	12	ePn	Pn	00 45 10.4	+0.4
SRS	Serrai	2.89	28	ePn	Pn	00 45 10.0	-1.1
STIP	Stip	3.13	5	ePn	Pn	00 45 15.5	+1.0
MMB	Musomiste	3.35	25	i P	Pn	00 45 17.0	-0.5
KKB	Krupnik	3.43	16	i P	Pn	00 45 17.0	-1.6
RZN	Rozhen	3.83	35	i P	Pn	00 45 25.0	+1.0
VTS	Vitosha	4.16	14	i P	Pn	00 45 30.0	+1.5

PRE 25 00:53:48.7±0.9, 2325S×3341E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.25	285	eP		00 47 26.6	
MSNA				eS		00 48 04.7	
MSNA				AML	AML	00 48 20.6	
	comp=Z,124nm,0.2s						
LBTB	Lobatse	7.35	255	eP	Pn	00 55 37.4	+0.7
LBTB				eS	Sn	00 56 57.5	-3.0
LBTB				AML	AML	00 57 59.8	
	comp=Z,13nm,0.6s						
BOSA	Boshof	9.08	232	eP	Pn	00 56 02.3	+1.9
BOSA				eS	Sn	00 57 38.6	-4.3
BOSA				AML	AML	00 59 13.4	
	comp=Z,5.8nm,0.7s						

*NAO **25** 00:54:36.3, 347S×97.13E, h33km, mb4.5*
*IDC **25** 00:54:50.8±0.7, 168N×9767E, h0km, mb4.4/14, mb1 4.4/14, mb1mx4.3/23, mbtmp4.4/14, MS3.6/2, Ms1 3.6/2, ms1mx3.0/32, Error ellipse: s-maj=29.5km s-min=14.2km az=49.0*
*ISCJB **25** 00:54:52.6±0.5, 168N±007×9769E±007, h27km, mb4.5/40, MS4.1/3, Error ellipse: s-maj=11.6km s-min=8.0km az=74.9*
*BJI **25** 00:54:53.1, 175N×9809E, h27km, mB4.8, mb4.7, Ms4.6, Msz4.0*
*MOS **25** 00:54:54.0±0.9, 185N×9788E, h33km, mb4.8/18, Error ellipse: s-maj=18.1km s-min=8.2km az=108.9*
*NEIC **25** 00:54:55.3±0.4, 170N×9776E, h30km, mb4.5/14, Error ellipse: s-maj=12.8km s-min=7.0km az=224.0*

ISC 25 00:54:55.2±0.5, 173N±007×9776E±007, h29km, h29km±2.1km: pP-P, n67, σ1§02/67, mb4.5/40, MS4.1/3, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.58	48	Pn	Pn	00 55 21.8	+0.6
	54nm,0.3s,baz=231,slow=5.4,SNR=183						
PSI				LR	LR	00 56 12.0	
	comp=Z,1μm,20.7s,baz=314,slow=50						
IPM	Ipoh	4.25	50	P	Pn	00 56 00.7	+2.7
KULM	Kulim	4.56	39	ePn	Pn	00 56 03.6	+1.4
KGM	Kluang	5.57	87	P	Pn	00 56 20.5	+4.5
HYB	Hyderabad	24.48	311	i P	P	01 00 15.0	+3.3
HYB	Hyderabad	24.48	311	eP	P	01 00 15.0	+3.3
JIRN	Jiri	28.06	338	eP	P	01 00 42.6	-1.4
	13nm,0.7s,mb4.7						
PKI	Pulchoki	28.29	336	eP	P	01 00 46.2	+0.2
	11nm,0.6s,mb4.7						
PKI	Pulchoki	28.29	336	eP	P	01 00 46.2	+0.2
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
GUN	Gumba	28.41	337	eP	P	01 00 48.1	+1.0
	comp=Z,31nm,0.8s,mb5.0						
LSA	Lhasa	28.52	348	eP	P	01 00 48.2	+0.1
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
LSA	Lhasa	28.52	348	eP	P	01 00 48.2	+0.1
	comp=Z,7.9nm,1.0s,mb4.4						
KKN	Kakani	28.53	336	eP	P	01 00 48.2	0.0
	comp=Z,15nm,0.7s,mb4.8						
KKN	Kakani	28.53	336	eP	P	01 00 48.2	0.0
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
GKN	Gorkha	28.98	336	eP	P	01 00 53.3	+1.1
KOLN	Koldanda	29.23	334	eP	P	01 00 55.7	+1.3
	comp=Z,29nm,0.8s,mb5.1						
NJ2	Nanjing	36.12	31	eP	P	01 01 54.1	-0.6
NJ2				AP	pP	01 02 03.8	+0.5
NJ2				XP	sP	01 02 07.8	+1.0
NJ2				PP	PP	01 03 16.3	-0.7
NJ2				S	S	01 07 30.0	-2.4
NJ2				XS	sS	01 07 48.0	+1.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,130nm,7.9s						
NJ2				LR	LR		
	comp=N,370nm,11.4s,MS4.4						
NJ2				LR	LR		
	comp=E,220nm,12.4s,MS4.4						
NJ2				LR	LR		
	comp=Z,160nm,13.8s,MS4.0						
SSE	Sheshan	36.66	35	P	P	01 01 57.5	-1.7
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,81nm,4.6s						
GTA	Gaotai	37.55	3	P	P	01 02 07.3	+0.5
GTA				AP	pP	01 02 12.6	-2.8
GTA				XP	sP	01 02 15.8	-3.1
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
WRA	Warramunga Arr	41.85	123	P	P	01 02 42.2	-0.3
	comp=Z,4.6nm,0.5s,mb4.4,baz=302,slow=9.2,SNR=32						
WRA				PcP	PcP	01 04 39.9	+1.8
	comp=Z,1.3nm,0.7s,baz=314,slow=2.7,SNR=7.6						
WRAB	Tennant Creek	41.85	123	eP	P	01 02 43.3	+0.7
WRAB	Tennant Creek	41.85	123	eP	P	01 02 42.7	+0.2
	comp=Z,7.5nm,0.6s,mb4.5						
WB2	Warramunga Arr	41.86	123	eP	P	01 02 43.2	+0.6
ASAR	Alice Springs	43.27	128	P	P	01 02 55.0	+0.9
	comp=Z,1.0nm,0.5s,mb3.8,baz=297,slow=7.8,SNR=9.5						
ASAR				PcP	PcP	01 04 44.3	+1.5
	comp=Z,1.3nm,0.8s,baz=296,slow=3.1,SNR=8.6						
AAK	Ala-Archa	45.74	336	eP	P	01 03 14.8	+1.0
AAK				*PP	pP	01 03 23.0	+0.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	Ala-Archa	45.74	336	eP	P	01 03 14.8	+0.9
	comp=Z,1.6nm,0.6s,mb4.1						
AAK				pP	pP	01 03 22.9	+0.3
SONM	Songino Array	46.53	8	P	P	01 03 19.7	-0.4
	comp=Z,4.9nm,0.9s,mb4.5,baz=188,slow=8.4,SNR=40						
SONM				PcP	PcP	01 04 54.4	+0.4
	comp=Z,1.1nm,0.8s,baz=185,slow=3.9,SNR=3.8						
ULN	Ulaanbaatar	46.66	9	eP	P	01 03 20.9	-0.1
ULN				e*PP	pP	01 03 29.4	-0.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	46.66	9	eP	P	01 03 20.9	-0.1
	comp=Z,2.3nm,0.8s,mb4.2						
ULN				epP	pP	01 03 29.4	-0.4
MKAR	Makanchi Array	46.87	345	P	P	01 03 23.0	+0.3
	comp=Z,16nm,0.8s,mb5.0,baz=158,slow=8.0,SNR=134						
ZAK	Zakamensk	48.70	5	eP	P	01 03 30.6	-6.3
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
PMG	Port Moresby	50.44	104	P	P	01 03 49.0	-1.1
PMG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMG	Port Moresby	50.44	104	P	P	01 03 49.0	-1.1
	comp=Z,3.4nm,0.3s,mb4.8						
HIA	Hailar	50.96	18	eP	P	01 03 55.7	+1.6
KURK	Kurchatov	51.43	345	eP	P	01 03 58.0	+0.4
KURK				e		01 04 11.5	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KURK	Kurchatov	51.43	345	eP	P	01 03 58.0	+0.4
	comp=Z,5.8nm,0.8s,mb4.6						
KURK				e		01 04 11.5	
ZAL	Zalesovo	53.12	350	P	P	01 04 10.1	-0.1
	comp=Z,9.7nm,0.5s,mb5.0,baz=311,slow=5.3,SNR=46						
STKA	Stephens Creek	53.30	133	P	P	01 04 11.2	-0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=324,slow=10,SNR=5.1						
STKA				LR	LR	01 26 15.1	
	comp=Z,81nm,19.6s,MS3.8,baz=187,slow=35						
STKA	Stephens Creek	53.30	133	eP	P	01 04 11.2	-0.3
STKA				epP	pP	01 04 20.8	+0.5
STKA				sP	sP	01 04 24.7	+0.8
STKA				LR	LR	01 26 15.1	
NVS	Novosibirsk	54.26	350	eP	P	01 04 16.4	-2.0
BVAR	Borovoye Array	55.94	340	P	P	01 04 30.4	-0.2
	comp=Z,6.3nm,0.7s,mb4.7,baz=142,slow=8.6,SNR=46						
BRVK	Borovoye	56.00	340	eP	P	01 04 30.8	-0.2
BRVK				*PP	pP	01 04 38.9	-1.1
BRVK				e*SP	sP	01 04 43.6	+0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	Borovoye	56.00	340	eP	P	01 04 30.8	-0.2
	comp=Z,4.5nm,0.8s,mb4.5						
BRVK				pP	pP	01 04 38.9	-1.1
BRVK				esP	sP	01 04 43.6	+0.1
ZRNK	Zerenda	56.35	340	eP	P	01 04 33.4	-0.1
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ZRNK	Zerenda	56.35	340	eP	P	01 04 33.4	-0.2
	comp=Z,6.5nm,0.9s,mb4.7						
BOD	Bodaibo	57.39	10	eP	P	01 04 39.7	-1.2
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AKTK	Aktyubinsk	59.03	332	P	P	01 04 52.0	-0.4
AKTO	Aktyubinsk	59.03	332	P	P	01 04 52.0	-0.4
	comp=Z,1.5nm,0.6s,mb4.2,baz=124,slow=7.3,SNR=5.7						
YSS	Yuzh-Sakhalins	59.60	34	d iP	P	01 04 56.5	+0.2
YSS				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
GNI	Garni	61.30	316	P	P	01 05 09.1	+1.2
	comp=Z,2.0nm,0.7s,mb4.3,baz=47,slow=18,SNR=4.2						
YAK	Yakutsk	64.76	16	eP	P	01 05 28.3	-2.6
YAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
SOC	Sochi	66.10	318	eP	P	01 05 38.9	-0.7
SOC				eS	S	01 14 26.3	+0.2
SOC				e		01 15 29.6	
SOC				eSS	SS	01 18 37.1	-4.7
SOC				eSSS		01 21 30.5	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SOC				MLR	MLR		
	comp=Z,127nm,14.0s,MS4.3						
BRTR	Keskin Array B	69.17	312	P	P	01 05 59.8	+0.8
	comp=Z,1.2nm,0.7s,mb3.9,baz=125,slow=7.1,SNR=7.3						
MA2	Magadan	70.62	26	eP	P	01 06 07.2	-0.6
OBN	Obninsk	72.46	328	eP	P	01 06 17.9	-1.1
OBN				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
TIXI	Tiksi	72.57	10	eP	P	01 06 18.4	-1.2
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SEY	Seymchan	73.06	23	eP	P	01 06 20.9	-1.6
AKASG	Malin Array Be	75.18	322	P	P	01 06 34.7	-0.2
	comp=Z,3.0nm,0.6s,mb4.4,baz=91,slow=5.1,SNR=13						
JOF	Joensuu	77.91	335	ep	P	01 06 50.8	+0.5
	comp=Z,1.9nm,0.7s,mb4.1						
FINES	FINESS Array B	79.79	332	P	P	01 07 00.9	+0.2
	comp=Z,2.4nm,0.6s,mb4.3,baz=98,slow=5.6,SNR=27						
KAF	Kangasniemi	79.86	333	ep	P	01 07 00.3	-0.8
	comp=Z,2.5nm,0.6s,mb4.3						
KAF	Kangasniemi	79.86	333	eP	P	01 07 00.3	-0.8
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BILL	Bilibino	80.47	21	eP	P	01 07 06.7	+2.4
BILL				pmax	pmax		
	comp=Z,17nm,2.7s,mb4.5						
ARCES	ARCESS Array B	82.23	340	P	P	01 07 13.9	+0.3
	comp=Z,5.3nm,1.0s,mb4.4,baz=91,slow=4.9,SNR=7.7						
NB2	NORSAR Subarra	86.82	331	P	P	01 07 36.9	+0.1
	comp=Z,2.0nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	NORSAR Array B	86.82	331	P	P	01 07 37.1	+0.3
	comp=Z,2.6nm,0.7s,mb4.5,baz=94,slow=4.9,SNR=9.9						
NVAR	Mina Array Bea	128.03	36	PKP	PKPdf	01 14 00.6	+2.3
	comp=Z,0.5nm,0.8s,baz=245,slow=1.9,SNR=4.2						
NVAR				PP	PP	01 16 00.8	-0.5
	comp=Z,0.1nm,0.3s,baz=282,slow=6.5,SNR=3.5						

*NIED **25** 01:03:00, 2960N×13020E, h8km, Mw4.2 Best double couple: M0 2.22000×10^15 NP1:φs=295.00000°, δ54.00000°, λ-79.00000°. NP2:φs=97.00000°, δ37.00000°, λ-104.00000°.*
*JMA **25** 01:03:09.6±0.1, 2957N×130.17E, h23km±3km, M4.2*
JMA Felt II J1.
*ISCJB **25** 01:03:09.4±0.8, 2954N±003×130.17E±007, h24km±6km, mb3.9/11, Error ellipse: s-maj=11.4km s-min=4.2km az=41.3*
*NEIC **25** 01:03:09.8, 2957N×130.17E, h23km, mb3.9/1, After JMA.*
*BJI **25** 01:03:10.1, 2889N×130.04E, h23km, mB4.7, mb3.9*
*IDC **25** 01:03:13.3±2.1, 2958N×130.07E, h40km±20km, mb3.6/8, mb1 3.9/11, mb1mx3.7/22, mbtmp3.9/11, ML3.7/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/35, Error ellipse: s-maj=23.0km s-min=11.5km az=104.0*

ISC 25 01:03:10.0±1.2, 2955N±004×13014E±008, h17km±7km, n30, σ1§07/34, mb3.9/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.38	322	P	Pg	01 03 17.6	-0.2
JNN				S	Sg	01 03 23.4	+0.3
JKC	Kuchinoerabu	0.91	3	P	Pb	01 03 26.4	-1.0
JKC				eS	Sb	01 03 38.2	-1.0
JAM	Amami Oshima	1.23	203	P	Pn	01 03 31.4	-0.9
JAM				S	Sb	01 03 47.1	-1.0
JZK	Kikaishima	1.24	187	P	Pn	01 03 32.4	0.0
JTN	Tanegashima 3	1.32	33	P	Pn	01 03 32.7	-0.9
JTSR	Tashiro 2	1.75	22	P	Pn	01 03 38.6	-0.9
JTSR				eS	Sn	01 04 00.5	-0.9
JTK	Tokunoshima	2.04	211	P	Pn	01 03 42.9	-0.6
JTK				eS	Sn	01 04 08.0	-0.6
JIH	Iheya	3.15	218	P	Pn	01 03 57.5	-1.3
JIH				eS	Sn	01 04 34.6	-1.4
JOW	Kunigami	3.17	212	P	Pn	01 04 00.5	+1.5
	22nm,0.3s,baz=96,slow=19,SNR=21						
JOW				S	Sn	01 04 37.3	+1.0
	36nm,0.3s,baz=140,slow=27,SNR=7.1						
JOW				LR	LR	01 05 19.6	
	comp=Z,510nm,21.6s,baz=198,slow=40						
JNU	Nakatsue	3.62	10	P	Pn	01 04 06.5	+1.2
	7.7nm,0.3s,baz=227,slow=8.9,SNR=16						
JHJ	Hachijo jima 2	8.98	64	LR	LR	01 08 08.6	
	comp=Z,267nm,19.6s,baz=352,slow=33						
MJAR	Matsushiro Arr	9.72	42	P	Pn	01 05 30.8	+1.9
	0.8nm,0.3s,baz=236,slow=14,SNR=4.6						
CBIJ	Chichi jima	10.89	100	LR	LR	01 09 29.8	
	comp=Z,85nm,19.6s,baz=142,slow=34						
CN2	Changchun	14.71	347	eP	Pn	01 06 46.0	+8.8
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
ASAJ	Asahikawa	17.60	31	LR	LR	01 14 26.8	
	comp=Z,146nm,20.2s,baz=312,slow=38						
ENH	Enshi	17.93	277	ePn	Pn	01 07 20.8	+2.5
	comp=Z,4.1nm,0.4s						
CD2	Chengdu	22.82	280	P	P	01 08 12.0	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
SONM	Songino Array	25.85	322	P	P	01 08 40.9	+0.4
	comp=Z,1.3nm,0.8s,mb3.5,baz=139,slow=9.4,SNR=8.7						
MKAR	Makanchi Array	40.69	309	P	P	01 10 50.2	+0.8
	comp=Z,0.2nm,0.5s,mb3.0,baz=92,slow=7.2,SNR=3.0						
MKAR				PcP	PcP	01 12 50.3	-0.6
	comp=Z,0.2nm,0.6s,baz=69,slow=4.5,SNR=4.9						
MKAR	Makanchi Array	40.69	309	P	P	01 10 50.2	+0.8
MKAR				PcP	PcP	01 12 50.3	-0.6
ZAL	Zalesovo	40.73	320	P	P	01 10 52.7	+3.0
	comp=Z,0.5nm,0.4s,mb3.5,baz=355,slow=13,SNR=3.5						
ZAL	Zalesovo	40.73	320	P	P	01 10 52.7	+3.0
FITZ	Fitzroy Crossi	47.57	186	eP	P	01 11 45.2	+0.6
	comp=Z,6.9nm,0.8s,mb4.7						
BVAR	Borovoye Array	49.00	316	P	P	01 11 55.3	-0.3
	comp=Z,0.5nm,0.6s,mb3.7,baz=96,slow=7.2,SNR=5.0						
WRA	Warramunga Arr	49.37	175	P	P	01 11 58.9	+0.5
	comp=Z,7.6nm,1.0s,mb4.7,baz=350,slow=8.2,SNR=40						
WB2	Warramunga Arr	49.37	175	eP	P	01 11 58.9	+0.5
ASAR	Alice Springs	53.03	176	P	P	01 12 26.9	+1.0
	comp=Z,2.7nm,0.8s,mb4.2,baz=359,slow=6.5,SNR=22						
ILAR	Eielson Array	60.73	29	P	P	01 13 19.9	-0.6
	comp=Z,0.6nm,0.9s,mb3.7,baz=234,slow=7.2,SNR=4.3						
FINES	FINESS Array B	70.82	330	P	P	01 14 23.2	-2.4
	comp=Z,1.4nm,0.9s,mb3.9,baz=38,slow=7.2,SNR=6.2						
YKA	Yellowknife Ar	74.82	26	P	P	01 14 49.8	+0.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=214,slow=5.2,SNR=7.4

0.5nm,0.3s,baz=57,slow=7.2,SNR=7.2
BOSA Boshof 19.24 338 P **Pn 01 23 11.8 +0.9**
0.3nm,0.3s,baz=194,slow=8.0,SNR=5.8
BOSA Boshof 19.24 338 *eP* **Pn 01 23 10.6 -0.3**
5.3nm,1.0s
SYO Syowa Base 22.48 174⇑*eP* **P 01 23 47.6 +2.7**
LBTB Lobatse 22.62 341 P **P 01 23 47.5 +1.1**
3.0nm,0.8s,mb3.8,baz=205,slow=14,SNR=3.7
LBTB Lobatse 22.62 341 *eP* **P 01 23 46.8 +0.5**
3.3nm,0.8s,mb3.8
QSPA South Pole Qui 43.41 180 *eP* **P 01 26 46.9 -1.4**
7.8nm,1.2s,mb4.3
VNDA Vanda 51.95 168 P **P 01 27 55.2 +0.6**
5.6nm,1.1s,mb4.4,baz=230,slow=7.9,SNR=3.1
VNDA LR LR 01 48 01.1
comp=Z,93nm,18.8s,MS3.8,baz=195,slow=34
VNDA Vanda 51.95 168 P **P 01 27 55.2 +0.6**
VNDA LR LR 01 48 01.1
COCO West Island 63.09 79 P **P 01 29 13.6 +0.5**
25nm,0.6s,mb5.5
DBIC Dimbokro 63.12 316 P **P 01 29 12.1 -1.2**
2.3nm,0.8s,mb4.4,baz=126,slow=6.8,SNR=4.6
DBIC Dimbokro 63.12 316 P **P 01 29 12.1 -1.2**
TORD Torodi Ar. Bea 66.10 326 P **P 01 29 35.3 +2.5**
2.6nm,0.8s,mb4.3,baz=161,slow=6.6,SNR=18
PLCA Paso Flores 69.71 232 P **P 01 29 55.2 -0.3**
1.2nm,0.8s,mb3.9,baz=129,slow=6.8,SNR=3.9
PLCA Paso Flores 69.71 232 P **P 01 29 55.2 -0.3**
STKA Stephens Creek 78.51 124 P **P 01 30 45.2 -1.6**
1.8nm,0.7s,mb4.1,baz=168,slow=4.1,SNR=4.9
STKA Stephens Creek 78.51 124 *eP* **P 01 30 46.1 -0.8**
SANT Santorini 83.11 354 *eP* **P 01 31 10.2 -1.3**
62nm,0.6s

CSEM ***25*** *01:21:14.9±0.4,3865N×1334E,h18km,ML3.7/1,Error ellipse: s-maj=17.2km s-min=4.6km az=32.0,After ROM*
NEIC ***25*** *01:21:14.9,3865N×1334E,h18km,ML2.9(ROM),After ROM.*
ROM 25 01:21:14.9±0.4,3865N×1334E,h18km±8km,Md2.7/6,Ml2.9/1,3C-1D,Error ellipse: s-maj=8.5km s-min=3.8km az=154.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.14**	**293**	⇓*i*Pg	Pg	01 21 19.2	+0.3
USI				Sg	Sg	01 21 22.1	+0.4
GIB	**Gibilmanna**	**0.85**	**141**	⇑*e*Pn	Pn	01 21 31.1	-0.9
GIB				Sn	Sn	01 21 42.4	-1.7
309nm,0.5s							
ERC	**Erice**	**0.85**	**224**	⇑*e*Pn	Pn	01 21 30.3	-1.8
297nm,0.5s							
CSLB	**Castelbuono**	**0.91**	**142**	Pn	Pn	01 21 31.5	-1.3
CSLB				Sn	Sn	01 21 43.7	-1.8
MFNL	**Monte Finestre**	**0.92**	**201**	Pn	Pn	01 21 32.5	-0.5
124nm,0.4s							
CLTB	**Caltabellotta**	**1.08**	**185**	⇑*e*Pn	Pn	01 21 35.5	+0.4
111nm,0.3s							

PRE ***25*** *01:30:20.3±1.1,2135S×3341E,h5km,ML5.3*
ISCJB ***25*** *01:30:22.4±0.4,2128S±006×3318E±006,h10km, mb4.4/17,MS4.2/1,Error ellipse: s-maj=10.7km s-min=5.6km az=92.8*
IDC ***25*** *01:30:23.4±0.8,2125S×3334E,h0km,mb4.1/10, mb1 4.2/14,mb1mx4.1/26,mbtmp4.2/14,ML4.4/5,MS3.8/4, Ms1 3.8/4,ms1mx3.4/22,Error ellipse: s-maj=24.3km s-min=18.9km az=147.0*
NEIC ***25*** *01:30:24.6±0.5,2125S×3331E,h10km,mb4.4/5,Error ellipse: s-maj=12.2km s-min=8.8km az=143.0*
ISC 25 01:30:24.3±0.4,2137S±006×3323E±006,h10km,n47, σ1$29/62,mb4.4/17,MS4.2/1,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.13**	**251**	*eP*	Px	01 24 11.6	
MSNA				*eS*	Sx	01 24 50.7	
MSNA				AML	AML	01 25 03.8	
comp=Z,2μm,0.7s							
SLR	**Silverton**	**6.29**	**225**	*eP*	**Pn**	**01 31 57.0**	**0.0**
SLR				*eS*	**Sn**	**01 33 07.0**	**-1.9**
SLR				AML	AML	01 33 49.3	
comp=Z,362nm,0.6s							
LSZ	**Lusaka**	**7.72**	**321**	Pn	**Pn**	**01 32 15.9**	**-0.7**
comp=Z,19nm,0.3s,baz=149,slow=13,SNR=152							
LSZ				Sn	**Sn**	**01 33 37.2**	**-7.0**
comp=Z,17nm,0.3s,baz=178,slow=14,SNR=8.0							
LSZ				Lg		01 34 21.3	
comp=Z,33nm,0.3s,baz=240,slow=21,SNR=14							
LSZ	**Lusaka**	**7.72**	**321**	*e*Pn	**Pn**	**01 32 16.1**	**-0.5**
comp=Z,213nm,0.7s							
LSZ				*e*Sn	**Sn**	**01 33 36.8**	**-7.3**
LSZ				Sn	**Sn**	**01 33 37.2**	**-7.0**
LBTB	**Lobatse**	**7.90**	**241**	*eP*	**Pn**	**01 32 19.6**	**+0.4**
LBTB				*eS*	**Sn**	**01 33 45.9**	**-2.8**
LBTB				AML	AML	01 34 58.0	
comp=Z,389nm,0.8s							
LBTB	**Lobatse**	**7.90**	**241**	Pn	**Pn**	**01 32 22.1**	**+2.8**
comp=Z,5.8nm,0.3s,baz=67,slow=13,SNR=47							
LBTB				Sn	**Sn**	**01 33 50.0**	**+1.3**
comp=Z,14nm,0.3s,baz=25,slow=5.2,SNR=11							
LBTB				Lg		01 34 32.4	
comp=Z,33nm,0.3s,baz=174,slow=16,SNR=12							
LBTB				LR	LR	01 35 44.0	
comp=Z,473nm,21.9s,baz=101,slow=40							
LBTB	**Lobatse**	**7.90**	**241**	*e*Pn	**Pn**	**01 32 22.0**	**+2.8**
comp=Z,9.7nm,0.7s							
LBTB				Sn	**Sn**	**01 33 50.0**	**+1.3**
LBTB				*e*Sn	**Sn**	**01 33 51.6**	**+2.9**
LBTB				Lg		01 34 32.4	
LBTB				*e*Sg	Sn	01 34 38.6	+50
LBTB				LR	LR	01 35 44.0	
SEK	**Senekal**	**8.59**	**215**	*eS*	**Sn**	**01 34 01.9**	**-3.7**
SEK				AML	AML	01 35 12.7	
comp=Z,585nm,0.7s							
BOSA	**Boshof**	**10.21**	**223**	*eP*	**Pn**	**01 32 49.9**	**-1.0**
BOSA				*eS*	**Sn**	**01 34 40.8**	**-4.6**
BOSA				AML	AML	01 36 06.4	
comp=Z,159nm,0.8s							
BOSA	**Boshof**	**10.21**	**223**	Pn	**Pn**	**01 32 52.8**	**+2.0**
comp=Z,1.9nm,0.3s,baz=53,slow=13,SNR=51							
BOSA				Sn	**Sn**	**01 34 42.3**	**-3.1**
comp=Z,3.4nm,0.3s,baz=297,slow=20,SNR=5.7							
BOSA				Lg		01 35 46.3	
comp=Z,6.8nm,0.3s,baz=126,slow=18,SNR=4.3							
BOSA	**Boshof**	**10.21**	**223**	*e*Pn	**Pn**	**01 32 53.1**	**+2.2**
BOSA				*e*Sn	**Sn**	**01 34 41.5**	**-3.9**
BOSA				Sn	**Sn**	**01 34 42.3**	**-3.1**
BOSA				Lg		01 35 46.3	
OPO	**Ambohidratompo**	**13.41**	**80**	Pn	**Pn**	**01 33 32.3**	**-2.3**
comp=Z,1.2nm,0.3s,baz=256,slow=15,SNR=16							
OPO				Sn	**Sn**	**01 35 51.1**	**-13**
comp=Z,5.6nm,0.3s,baz=156,slow=19,SNR=10							
TSUM	**Tsumeb**	**14.84**	**276**	Pn	**Pn**	**01 33 52.7**	**-1.4**
comp=Z,1.9nm,0.3s,baz=94,slow=12,SNR=53							
TSUM				Sn	**Sn**	**01 36 30.8**	**-7.7**
comp=Z,1.2nm,0.3s,baz=15,slow=20,SNR=6.6							
TSUM				Lg		01 38 08.6	
comp=Z,3.0nm,0.3s,baz=0.0,slow=20,SNR=4.0							
TSUM				LR	LR	01 39 40.4	
comp=Z,466nm,18.4s,baz=84,slow=37							
TSUM	**Tsumeb**	**14.84**	**276**	*e*Pn	**Pn**	**01 33 52.8**	**-1.2**
TSUM				Sn	**Sn**	**01 36 30.8**	**-7.7**
TSUM				*e*Sn	**Sn**	**01 36 36.1**	**-2.4**
TSUM				Lg		01 38 08.6	
TSUM				LR	LR	01 39 40.4	
SUR	**Sutherland**	**15.58**	**223**	*eP*	**Pn**	**01 34 05.3**	**+1.5**
SUR				*eS*	**Sn**	**01 36 48.5**	**-7.9**
SUR	**Sutherland**	**15.58**	**223**	Pn	**Pn**	**01 34 04.8**	**+0.9**
comp=Z,1.8nm,0.3s,baz=51,slow=14,SNR=21							
SUR				Sn	**Sn**	**01 36 51.0**	**-5.5**
comp=Z,3.7nm,0.3s,baz=330,slow=21,SNR=7.5							
SUR				Lg		01 38 35.2	
comp=Z,3.0nm,0.3s,baz=332,slow=23,SNR=5.5							
SUR	**Sutherland**	**15.58**	**223**	*e*Pn	**Pn**	**01 34 06.1**	**+2.3**
SUR				*e*		01 36 48.8	
SUR				Sn	**Sn**	**01 36 51.0**	**-5.5**
SUR				Lg		01 38 35.2	
CER	**Ceres**	**17.18**	**223**	*eP*	**Pn**	**01 34 27.0**	**+2.7**
KMBO	**Kilima Mbogo**	**20.50**	**12**	P	**P**	**01 35 01.6**	**-0.8**
comp=Z,1.0nm,0.5s,baz=200,slow=14,SNR=4.5							
KMBO				Lg		01 40 59.7	
comp=Z,12nm,1.0s,baz=282,slow=23,SNR=8.0							
KMBO	**Kilima Mbogo**	**20.50**	**12**	*eP*	**P**	**01 35 01.6**	**-0.7**
comp=Z,2.1nm,0.6s							
KMBO				*eS*	**S**	**01 38 44.9**	**-6.7**
KMBO				Lg		01 40 59.7	
TORD	**Torodi Ar. Bea**	**46.21**	**315**	P	**P**	**01 38 50.1**	**+0.7**
comp=Z,4.9nm,1.0s,mb4.4,baz=128,slow=7.3,SNR=22							
DBIC	**Dimbokro**	**46.61**	**303**	P	**P**	**01 38 52.9**	**+0.3**
comp=Z,4.8nm,1.0s,mb4.4,baz=122,slow=8.7,SNR=4.8							
DBIC	**Dimbokro**	**46.61**	**303**	*eP*	**P**	**01 38 53.1**	**+0.6**
comp=Z,8.1nm,1.1s,mb4.6							
NAY	**Al-Naaiem**	**52.10**	**16**	*eP*	**P**	**01 39 34.8**	**+0.3**
NAY				AMb	AMB	01 39 36.6	
comp=Z,9.7nm,0.9s,mb4.7							
UMR	**Umm Al-Rimmam**	**52.51**	**16**	*eP*	**P**	**01 39 38.2**	**+0.7**
UMR				AMb	AMB	01 39 40.0	
comp=Z,47nm,0.7s,mb5.5							
MIB	**Mutribah**	**52.66**	**15**	*eP*	**P**	**01 39 39.3**	**+0.7**
MIB				AMb	AMB	01 39 40.5	
comp=Z,28nm,0.7s,mb5.3							
MALT	**Malatya**	**59.56**	**5**	P	**P**	**01 40 27.7**	**-0.3**
comp=Z,0.8nm,0.4s,mb4.1							
BRTR	**Keskin Array B**	**60.77**	**0**	P	**P**	**01 40 37.0**	**+0.8**
comp=Z,0.6nm,0.8s,mb3.8,baz=172,slow=12,SNR=3.9							
QSPA	**South Pole Qui**	**68.79**	**180**	*eP*	**P**	**01 41 29.4**	**+0.8**
comp=Z,6.6nm,1.0s,mb4.5							
KOLN	**Koldanda**	**68.97**	**47**	*eP*	**P**	**01 41 28.5**	**-1.1**
GKN	**Gorkha**	**69.82**	**47**	*eP*	**P**	**01 41 33.1**	**-1.8**
DMN	**Daman**	**69.90**	**48**	*eP*	**P**	**01 41 35.5**	**+0.1**
ESDC	**Sonseca Array**	**69.95**	**330**	P	**P**	**01 41 37.4**	**+1.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=139,slow=5.8,SNR=5.9							
PKI	**Pulchoki**	**70.08**	**48**	*eP*	**P**	**01 41 36.3**	**-0.3**
GUN	**Gumba**	**70.62**	**48**	*eP*	**P**	**01 41 39.4**	**-0.4**
comp=Z,26nm,0.9s,mb5.2							
JIRN	**Jiri**	**70.68**	**49**	*eP*	**P**	**01 41 39.5**	**-0.7**
comp=Z,17nm,0.8s,mb5.0							
BDFB	**Brasilia**	**76.48**	**258**	P	**P**	**01 42 17.4**	**+3.1**
comp=Z,4.3nm,0.9s,mb4.4,baz=92,slow=4.1,SNR=5.7							
BDFB				LR	LR	02 13 16.1	
comp=Z,114nm,18.2s,MS4.2,baz=105,slow=34							
BVAR	**Borovoye Array**	**80.79**	**22**	P	**P**	**01 42 37.6**	**-0.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=221,slow=6.7,SNR=16							
MKAR	**Makanchi Array**	**81.00**	**32**	P	**P**	**01 42 38.4**	**-0.7**
comp=Z,0.5nm,0.7s,mb3.5,baz=230,slow=5.7,SNR=6.9							
ASAR	**Alice Springs**	**90.79**	**116**	P	**P**	**01 43 29.3**	**+1.6**
comp=Z,1.3nm,0.7s,mb4.3,baz=237,slow=3.9,SNR=12							
STKA	**Stephens Creek**	**93.41**	**126**	P	**P**	**01 43 40.2**	**+0.5**
LPAZ	**La Paz**	**94.32**	**251**	*eP*	**P**	**01 43 47.4**	**+3.4**
comp=Z,0.9nm,0.6s,mb4.4							
SONM	**Songino Array**	**94.92**	**40**	P	**P**	**01 43 47.0**	**+0.3**
comp=Z,0.1nm,0.5s,mb3.5,baz=245,slow=6.2,SNR=3.0							
YKA	**Yellowknife Ar**	**133.41**	**340**	PKP	PKPdf	01 49 40.7	+0.1
comp=Z,0.1nm,0.4s,baz=47,slow=2.1,SNR=4.6							
YKA	**Yellowknife Ar**	**133.41**	**340**	PKP	PKPdf	01 49 40.7	+0.1
ELK	**Elko**	**147.05**	**313**	PKPbc	PKPbc	01 50 10.1	+2.8
comp=Z,1.0nm,0.7s,baz=358,slow=0.7,SNR=6.3							
NVAR	**Mina Array Bea**	**150.20**	**311**	PKPbc	PKPbc	01 50 14.6	-0.8
comp=Z,2.0nm,0.8s,baz=73,slow=3.7,SNR=7.7							

ISCJB ***25*** *01:39:18.9±0.1,4574N±001×7532W±001,h10km,mb4.1/9, Error ellipse: s-maj=1.7km s-min=1.4km az=164.7*
IDC ***25*** *01:39:21.6±2.2,4555N×7529W,h14km±13km,mb3.7/6, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,ML2.7/2,Error ellipse: s-maj=19.9km s-min=11.5km az=169.0*
NEIC ***25*** *01:39:22.0,4566N×7523W,h18km,ML4.0(LDO), MN4.5(OTT),After OTT.*
NEIC Felt [IV] at Rockland and Embrun; [III] at Kanata, Osgoode and Ottawa, Ontario. Also felt at Arnprior, Cornwall, Hawkesbury, Kingston and Prescott. Felt [III] at Buckingham and Rigaud and [II] at Montreal, Quebec. Also felt at Lachute, Maniwaki, Papineauville, Saint-Jerome, Saint-Jovite, Shawville and Thurso. Felt [IV] at Elizabethtown; [III] at Canton, Ogdensburg and Waddington; [II] at Alexandria Bay, Massena, Potsdam and Vermontville, New York. Also felt at Boonville, Carthage, Cicero, Colton, Dexter, Glenfield, Henderson, Herkimer, Lake Placid, Lisbon, Madrid, Nicholville, Norfolk, Norwood, Parishville, Plattsburgh and Renssalaer Falls. Felt [III] at Burlington, Vermont and [II] at Warren, New Hampshire. Also felt at Concord, Vermont.
OTT ***25*** *01:39:22.4±0.0,4566N×7524W,h18km,MN4.5/52*
OTT 7km northeast from Thurso, Qc. Felt. Western Quebec Seismic Zone.
BJI ***25*** *01:39:22.0,4570N×7520W,h18km,mB5.2,mb4.9,Ms4.9, Msz4.5*
ISC 25 01:39:21.5±0.3,4567N±001×7527W±001,h18km±1km, n155,σ1$20/286,mb4.1/9,5C-13D,Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAC	**Glen Almond**	**0.15**	**283**	⇑PG	**Pg**	**01 39 27.0**	**+1.3**
GAC				⇑PG	**Pg**	**01 39 27.0**	**+1.3**
GAC				⇑PG	**Pg**	**01 39 27.0**	**+1.3**
GAC				SG	**Sg**	**01 39 30.0**	**+1.5**
GAC				SG	**Sg**	**01 39 30.1**	**+1.6**
GAC				Trac		01 39 30.2	
comp=Z,33μm,0.3s							
GAC				Trac		01 39 30.3	
comp=Z,11μm,0.1s							
GAC	**Glen Almond**	**0.15**	**283**	P	**Pg**	**01 39 27.0**	**+1.3**
GAC				S	**Sg**	**01 39 30.1**	**+1.5**
ALFO	**Alfred**	**0.27**	**98**	⇓PG	**Pg**	**01 39 27.9**	**+0.3**
ALFO				SG	**Sg**	**01 39 31.6**	**-0.1**
ALFO				Trac		01 39 31.6	
comp=Z,15μm,0.1s							
OTT	**Ottawa**	**0.42**	**229**	⇓PG	**Pg**	**01 39 30.8**	**+0.7**
OTT				⇓PG	**Pg**	**01 39 30.8**	**+0.7**
OTT				SG	**Sg**	**01 39 36.6**	**+0.8**
OTT				SG	**Sg**	**01 39 36.7**	**+0.9**
OTT				Trac		01 39 37.0	
comp=Z,4μm,0.1s							
OTT				Trac		01 39 37.0	
comp=Z,3μm,0.1s							
OTT	**Ottawa**	**0.42**	**229**	P	**Pg**	**01 39 30.8**	**+0.7**
OTT				S	**Sg**	**01 39 36.6**	**+0.8**
WBO	**Williamsburg**	**0.67**	**180**	⇓PG	**Pg**	**01 39 34.5**	**-0.1**
WBO				SG	**Sg**	**01 39 43.2**	**-0.4**
WBO				Trac		01 39 44.0	
comp=Z,1μm,0.1s							
WBO	**Williamsburg**	**0.67**	**180**	P	**Pb**	**01 39 34.5**	**-0.1**
WBO				S	**Sb**	**01 39 43.0**	**-0.6**
TRQ	**Mont Tremblant**	**0.74**	**42**	⇓PG	**Pg**	**01 39 35.8**	**-0.3**
TRQ				SG	**Sg**	**01 39 45.8**	**-0.1**
TRQ				Trac		01 39 47.5	
comp=Z,2μm,0.1s							
GRQ	**Grand Remous**	**1.02**	**337**	⇓PG	**Pg**	**01 39 41.2**	**-0.2**
GRQ				SG	**Sg**	**01 39 54.6**	**-0.2**
GRQ				Trac		01 39 55.0	
comp=Z,3μm,0.2s							
BGR	**Bangor (NY)**	**1.05**	**143**	P	**Pb**	**01 39 40.5**	**-0.6**
BGR				S	**Sb**	**01 39 53.9**	**-0.7**
PTN	**Potsdam (NY)**	**1.12**	**169**	PG	**Pg**	**01 39 42.0**	**-1.1**
PTN				SG	**Sg**	**01 39 56.1**	**-1.7**
PTN	**Potsdam (NY)**	**1.12**	**169**	P	**Pn**	**01 39 41.9**	**-0.3**
PTN				S	**Sb**	**01 39 55.9**	**-0.6**
MPPO	**Murphy's Point**	**1.14**	**218**	⇓PG	**Pg**	**01 39 42.5**	**-1.1**
MPPO				SG	**Sg**	**01 39 58.4**	**-0.1**
MPPO				Trac		01 40 00.9	
comp=Z,7μm,0.2s							
LONY	**Lake Ozonia**	**1.16**	**155**	*e*Pg	**Pg**	**01 39 42.3**	**-1.6**
LONY				*e*S	**Sb**	**01 39 56.6**	**-1.0**
MNT	**Montreal**	**1.17**	**98**	⇓PG	**Pg**	**01 39 42.2**	**-1.9**
MNT				SG	**Sg**	**01 39 57.4**	**-1.9**
MNT				Trac		01 39 57.9	
comp=Z,1μm,0.1s							
MNT	**Montreal**	**1.17**	**98**	P	**Pn**	**01 39 42.2**	**-0.7**
MNT				S	**Sb**	**01 39 57.3**	**-0.6**
PEMO	**Pembroke**	**1.39**	**271**	⇓PN	**Pn**	**01 39 47.2**	**+1.3**
PEMO				SN	**Sn**	**01 40 05.6**	**+1.8**
PEMO				Trac		01 40 09.5	
comp=Z,779nm,0.1s							
PLVO	**Plevna**	**1.42**	**244**	⇓PN	**Pn**	**01 39 47.5**	**+1.1**
PLVO				SN	**Sn**	**01 40 06.7**	**+2.0**
PLVO				Trac		01 40 14.0	
comp=Z,1μm,0.1s							
FRNY	**Flat Rock**	**1.45**	**124**	*e*P	**Pn**	**01 39 46.6**	**-0.3**
FRNY				*e*S	**Sn**	**01 40 05.6**	**+0.2**
PNZ	**Plattsburgh**	**1.46**	**124**	P	**Pn**	**01 39 47.0**	**+0.1**
CRLO	**Chalk River**	**1.52**	**285**	PN	**Pn**	**01 39 48.8**	**+1.0**
CRLO				SN	**Sn**	**01 40 10.0**	**+2.8**
CRLO				Trac		01 40 15.6	
comp=Z,4μm,0.2s							
KGNO	**Kingston**	**1.68**	**212**	⇓PN	**Pn**	**01 39 51.2**	**+1.2**
KGNO				SN	**Sn**	**01 40 13.3**	**+2.1**
KGNO				Trac		01 40 19.4	
comp=Z,2μm,0.3s							
NCB	**Newcomb**	**1.85**	**156**	*e*P	**Pn**	**01 39 53.4**	**+1.0**
NCB				*e*S	**Sn**	**01 40 17.2**	**+1.8**
ALGO	**Algonquin Park**	**1.97**	**279**	PN	**Pn**	**01 39 55.1**	**+1.1**
ALGO				SN	**Sn**	**01 40 20.2**	**+2.1**
ALGO				Trac		01 40 26.9	
comp=Z,3μm,0.1s							
BANO	**Bancroft**	**1.98**	**252**	PN	**Pn**	**01 39 55.3**	**+1.2**
BANO				SN	**Sn**	**01 40 20.5**	**+1.9**
BANO				SG	**Sg**	**01 40 25.5**	**+0.2**
BANO				Trac		01 40 26.9	
comp=Z,801nm,0.1s							
DPQ	**Saint Jean**	**2.01**	**59**	⇓PN	**Pn**	**01 39 55.8**	**+1.4**
DPQ				SN	**Sn**	**01 40 21.4**	**+2.3**
DPQ				Trac		01 40 25.5	
comp=Z,789nm,0.1s							
MIV	**Mineville/With**	**2.02**	**142**	PN	**Pn**	**01 39 55.5**	**+0.9**
MIV				SG	**Sg**	**01 40 22.5**	**-3.9**
MIV	**Mineville/With**	**2.02**	**142**	*e*P	**Pn**	**01 39 55.5**	**+0.9**
MIV				*e*S	**Sn**	**01 40 21.2**	**+1.9**
DELO	**Deloro Mine**	**2.02**	**236**	⇓PN	**Pn**	**01 39 55.6**	**+0.9**
DELO				SN	**Sn**	**01 40 22.1**	**+2.6**
DELO				Trac		01 40 26.9	
comp=Z,723nm,0.1s							
PECO	**Prince Edward**	**2.12**	**216**	PN	**Pn**	**01 39 57.4**	**+1.3**
PECO				SN	**Sn**	**01 40 22.8**	**+0.8**
PECO				Trac		01 40 31.3	
comp=Z,675nm,0.1s							
MOQ	**Mont Orford**	**2.15**	**98**	⇑PN	**Pn**	**01 39 57.6**	**+1.2**
MOQ				SN	**Sn**	**01 40 24.3**	**+1.6**
MOQ				Trac		01 40 32.4	
comp=Z,323nm,0.1s							
MDV	**Middlebury**	**2.23**	**138**	*e*Pn	**Pn**	**01 39 55.7**	**-1.9**
MDV				*e*S	**Sn**	**01 40 21.9**	**-2.8**
ACCN	**Adirondack Com**	**2.56**	**153**	*e*Pn	**Pn**	**01 40 03.0**	**+1.0**
ACCN				*e*Sn	**Sn**	**01 40 35.9**	**+3.2**
LBNH	**Lisbon**	**2.77**	**120**	PN	**Pn**	**01 40 05.8**	**+0.8**
LBNH				SN	**Sn**	**01 40 37.2**	**-0.8**
LBNH				Trac		01 40 55.2	
comp=Z,272nm,0.2s							
LBNH	**Lisbon**	**2.77**	**120**	*e*Pn	**Pn**	**01 40 05.5**	**+0.6**
LBNH				*e*Pg	**Pg**	**01 40 13.7**	**-0.9**
LBNH				*e*Sn	**Sn**	**01 40 45.6**	**+7.6**
LINO	**Lindsay**	**2.82**	**243**	PN	**Pn**	**01 40 05.6**	**0.0**
LINO				SN	**Sn**	**01 40 39.6**	**+0.5**
LINO				Trac		01 40 53.5	
comp=Z,811nm,0.2s							
EEO	**Eldee**	**2.82**	**292**	⇑PN	**Pn**	**01 40 06.7**	**+1.0**
EEO				SN	**Sn**	**01 40 39.9**	**+0.7**
EEO				SG	**Sg**	**01 40 50.7**	**-1.4**
EEO				Trac		01 40 56.2	
comp=Z,242nm,0.1s							
WLVO	**Wesleyville**	**2.83**	**233**	PN	**Pn**	**01 40 06.6**	**+0.8**
WLVO				SN	**Sn**	**01 40 40.6**	**+1.2**
WLVO				Trac		01 40 54.7	
comp=Z,388nm,0.1s							
VLDQ	**Val d'Or**	**2.87**	**329**	PN	**Pn**	**01 40 09.9**	**+3.6**
VLDQ				SN	**Sn**	**01 40 44.5**	**+4.1**
VLDQ				Trac		01 41 05.1	
comp=Z,386nm,0.3s							
SADO	**Sadowa**	**2.88**	**253**	Pn	**Pn**	**01 40 06.9**	**+0.4**
3.7nm,0.3s,baz=87,slow=13,SNR=60							
SADO				Pg	**Pg**	**01 40 11.8**	**-4.9**
100nm,0.3s,baz=83,slow=17,SNR=135							
SADO				Sn	**Sn**	**01 40 39.7**	**-1.0**
159nm,0.3s,baz=158,slow=9.1,SNR=14							
SADO				Lg		01 40 49.0	
210nm,0.3s,baz=350,slow=23,SNR=42							
SADO	**Sadowa**	**2.88**	**253**	PN	**Pn**	**01 40 06.8**	**+0.4**
SADO				SN	**Sn**	**01 40 39.6**	**-1.1**
SADO				Trac		01 40 55.2	
comp=Z,317nm,0.1s							
HNH	**Hanover**	**2.90**	**132**	*e*Pn	**Pn**	**01 40 07.1**	**+0.4**
HNH				*e*S	**Sn**	**01 40 40.9**	**-0.1**
BUKO	**Buck Lake**	**2.91**	**267**	PN	**Pn**	**01 40 07.3**	**+0.4**
BUKO				SN	**Sn**	**01 40 40.8**	**-0.6**
BUKO				Trac		01 40 57.4	
comp=Z,490nm,0.2s							
QCQ	**Quebec**	**2.99**	**67**	PN	**Pn**	**01 40 09.4**	**+1.4**
QCQ				LG		01 40 50.7	
QCQ				Trac		01 40 57.8	
comp=Z,751nm,0.3s							
RSPO	**Restoule Provi**	**3.16**	**279**	PN	**Pn**	**01 40 11.4**	**+1.0**
RSPO				SN	**Sn**	**01 40 47.8**	**+0.1**
RSPO				LG		01 41 01.3	
RSPO				Trac		01 41 03.9	
comp=Z,719nm,0.3s							
PKRO	**Pickering**	**3.20**	**239**	PN	**Pn**	**01 40 11.4**	**+0.5**
PKRO				SN	**Sn**	**01 40 49.5**	**+0.9**
PKRO				Trac		01 41 11.1	
comp=Z,3μm,0.3s							
MEDO	**Medina**	**3.39**	**223**	PN	**Pn**	**01 40 14.2**	**+0.7**
MEDO				SN	**Sn**	**01 40 52.9**	**-0.3**
MEDO				LG		01 41 08.6	
MEDO				Trac		01 41 14.9	
comp=Z,855nm,0.3s							
FFD	**Franklin Falls**	**3.39**	**129**	*e*Pn	**Pn**	**01 40 14.2**	**+0.7**
FFD				*e*Sn	**Sn**	**01 41 00.1**	**+6.8**
HSMO	**Haileybury Sch**	**3.48**	**301**	PN	**Pn**	**01 40 15.4**	**+0.7**
HSMO				SN	**Sn**	**01 40 55.7**	**+0.2**
HSMO				LG		01 41 11.8	
HSMO				Trac		01 41 17.1	
comp=Z,188nm,0.2s							
KLBO	**Killbear Provi**	**3.49**	**267**	PN	**Pn**	**01 40 15.0**	**+0.1**
KLBO				SN	**Sn**	**01 40 53.5**	**-2.2**
KLBO				Trac		01 41 11.4	
comp=Z

HRV			*e*Sn	**Sn**	**01 41 09.5**	**-2.3**
KILO	**Kirkland Lake**	**4.16 315**	PN	**Pn**	**01 40 24.9**	**+0.9**
KILO			SN	**Sn**	**01 41 10.7**	**-1.4**
KILO			Trac		01 41 34.1	
	comp=Z,56nm,0.1s					
TYNO	**Tyneside**	**4.18 234**	PN	**Pn**	**01 40 25.3**	**+0.9**
TYNO			SN	**Sn**	**01 41 11.1**	**-1.8**
TYNO			Trac		01 41 36.2	
	comp=Z,195nm,0.1s					
ELGO	**Elora Gorge**	**4.19 243**	PN	**Pn**	**01 40 24.9**	**+0.4**
ELGO			SN	**Sn**	**01 41 11.8**	**-1.2**
ELGO			Trac		01 41 38.4	
	comp=Z,278nm,0.2s					
A64	**Saint Simeon**	**4.28 58**	PN	**Pn**	**01 40 25.9**	**+0.2**
A64			SN	**Sn**	**01 41 16.0**	**+0.8**
A64			Trac		01 41 33.2	
	comp=Z,262nm,0.2s					
SUNO	**Sudbury Onapin**	**4.33 285**	PN	**Pn**	**01 40 27.1**	**+0.6**
SUNO			SN	**Sn**	**01 41 15.3**	**-1.2**
SUNO			LG		01 41 34.9	
SUNO			Trac		01 41 40.2	
	comp=Z,273nm,0.2s					
WES	**Weston**	**4.34 138**	*e*Pn	**Pn**	**01 40 26.8**	**+0.2**
WES			*e*S	**Sn**	**01 41 25.6**	**+8.8**
A21	**Saint Andre**	**4.35 60**	PN	**Pn**	**01 40 27.1**	**+0.5**
A21			SN	**Sn**	**01 41 18.4**	**+1.5**
A21			LG		01 41 34.2	
A21			Trac		01 41 36.2	
	comp=Z,380nm,0.2s					
HGVO	**Hagersville**	**4.41 234**	PN	**Pn**	**01 40 27.2**	**-0.4**
HGVO			SN	**Sn**	**01 41 17.5**	**-1.0**
HGVO			LG		01 41 37.0	
HGVO			Trac		01 41 46.8	
	comp=Z,290nm,0.2s					
TOBO	**Tobermory, Bru**	**4.42 266**	PN	**Pn**	**01 40 28.5**	**+0.8**
TOBO			SN	**Sn**	**01 41 18.6**	**-0.2**
TOBO			Trac		01 41 42.5	
	comp=Z,196nm,0.2s					
BRCO	**Bruce Peninsul**	**4.61 254**	PN	**Pn**	**01 40 31.3**	**+1.1**
BRCO			SN	**Sn**	**01 41 21.8**	**-1.5**
BRCO			Trac		01 41 51.9	
	comp=Z,653nm,0.2s					
PAL	**Palisades**	**4.77 168**	*e*Pn	**Pn**	**01 40 33.4**	**+0.9**
PAL			*e*	**Pb**	**01 40 44.1**	**-0.4**
PAL			*e*S	**Sb**	**01 41 43.9**	**+2.4**
ERPA	**Erie**	**4.92 226**	*e*Pg	**Pg**	**01 40 50.2**	**-5.5**
ERPA			*e*S	**Sg**	**01 41 52.1**	**-7.4**
CPNY	**Central Park**	**4.97 168**	Pn	**Pn**	**01 40 36.1**	**+1.0**
CPNY			*e*Sn	**Sn**	**01 41 32.5**	**+0.3**
TIMO	**Timmins Ontari**	**4.98 306**	PN	**Pn**	**01 40 36.8**	**+1.5**
TIMO			SN	**Sn**	**01 41 30.8**	**-1.7**
TIMO			LG		01 41 54.3	
TIMO			Trac		01 41 57.2	
	comp=Z,161nm,0.3s					
ELFO	**Elginfield**	**4.99 242**	PN	**Pn**	**01 40 35.0**	**-0.4**
ELFO			SN	**Sn**	**01 41 30.6**	**-2.0**
ELFO			LG		01 41 58.5	
ELFO			Trac		01 41 59.5	
	comp=Z,456nm,0.2s					
BRNJ	**Basking Ridge**	**5.01 174**	*e*Sn	**Sn**	**01 41 31.0**	**-2.2**
MALO	**McAlpine Lake**	**5.30 327**	PN	**Pn**	**01 40 40.6**	**+0.7**
MALO			SN	**Sn**	**01 41 38.1**	**-2.3**
MALO			Trac		01 42 15.2	
	comp=Z,79nm,0.2s					
ALLY	**Alegheny Colle**	**5.35 223**	Pn	**Pn**	**01 40 42.1**	**+1.7**
ALLY			*e*S	**Sg**	**01 42 03.8**	**-10**
MVL	**Millersville**	**5.72 188**	*e*Pn	**Pn**	**01 40 46.9**	**+1.3**
MVL			*e*S	**Sn**	**01 41 49.8**	**-1.0**
GGN	**Saint George**	**5.96 92**	PN	**Pn**	**01 40 48.8**	**-0.1**
GGN			PN	**Sn**	**01 41 55.2**	**-1.4**
GGN			LG		01 42 27.2	
GGN			LG		01 42 28.0	
GGN			Trac		01 42 29.2	
	comp=Z,238nm,0.9s					
CNQ	**Baie Comeau**	**6.08 51**	PN	**Pn**	**01 40 49.8**	**-0.7**
CNQ			SN	**Sn**	**01 41 56.5**	**-3.1**
CNQ			LG		01 42 29.1	
CNQ			Trac		01 42 33.3	
	comp=Z,252nm,0.3s					
KAPO	**Kapuskasing**	**6.19 310**	PN	**Pn**	**01 40 52.4**	**+0.5**
KAPO			SN	**Sn**	**01 41 59.2**	**-3.0**
KAPO			SN	**Sn**	**01 41 59.3**	**-2.9**
KAPO			LG		01 42 31.2	
KAPO			LG		01 42 32.8	
KAPO			Trac		01 42 40.5	
	comp=Z,78nm,0.3s					
OTRO	**Otter Rapids**	**6.22 319**	PN	**Pn**	**01 40 53.2**	**+0.9**
OTRO			SN	**Sn**	**01 42 00.5**	**-2.4**
OTRO			Trac		01 42 04.7	
	comp=Z,115nm,0.1s					
OTRO			LG		01 42 37.9	
GSQ	**Grosses Roches**	**6.43 57**	PN	**Pn**	**01 40 55.2**	**0.0**
GSQ			SN	**Sn**	**01 42 03.5**	**-4.7**
GSQ			LG		01 42 38.4	
GSQ			Trac		01 42 46.4	
	comp=Z,231nm,0.5s					
MNQ	**Manicouagan**	**6.53 39**	PN	**Pn**	**01 40 56.5**	**-0.1**
MNQ			SN	**Sn**	**01 42 07.6**	**-2.9**
MNQ			LG		01 42 43.5	
MNQ			Trac		01 42 55.1	
	comp=Z,326nm,0.6s					
BATG	**Bathurst New B**	**6.56 73**	PN	**Pn**	**01 40 56.6**	**-0.5**
BATG			PN	**Sn**	**01 42 06.0**	**-5.4**
BATG			Trac		01 42 08.7	
	comp=Z,26nm,0.1s					
PLIO	**Pelee Island,**	**6.62 236**	PN	**Pn**	**01 40 56.8**	**-1.0**
PLIO			SN	**Sn**	**01 42 09.7**	**-3.1**
PLIO			LG		01 42 44.4	
PLIO			LG		01 42 50.1	
PLIO			Trac		01 42 54.4	
	comp=Z,133nm,0.2s					
ICQ	**Pointe Anglais**	**6.64 52**	PN	**Pn**	**01 40 57.6**	**-0.6**
ICQ			SN	**Sn**	**01 42 11.4**	**-2.0**
ICQ			LG		01 42 44.4	
ICQ			Trac		01 42 49.3	
	comp=Z,522nm,0.9s					
MCWV	**Mont Chateau**	**6.89 211**	*e*Pn	**Pn**	**01 41 01.6**	**0.0**
MCWV			*e*S	**Sb**	**01 42 51.2**	**+8.7**
AAM	**Ann Arbor**	**6.92 244**	*e*Pn	**Pn**	**01 41 04.9**	**+2.9**
AAM			*e*S	**Sn**	**01 42 25.3**	**+5.0**
LMN	**Caledonia Moun**	**7.32 85**	PN	**Pn**	**01 41 07.4**	**-0.1**
LMN			SN	**Sn**	**01 42 26.2**	**-4.0**
LMN			Trac		01 42 29.9	
	comp=Z,5.3nm,0.1s					
SMQ	**Clarke City**	**7.34 49**	PN	**Pn**	**01 41 07.0**	**-0.7**
SMQ			SN	**Sn**	**01 42 25.7**	**-4.8**
SMQ			LG		01 43 06.3	
SMQ			Trac		01 43 18.1	
	comp=Z,102nm,0.4s					
YOSQ	**Ashton Mining**	**7.48 14**	PN	**Pn**	**01 41 09.1**	**-0.5**
YOSQ			SN	**Sn**	**01 42 29.8**	**-4.2**
YOSQ			LG		01 43 09.9	
YOSQ			LG		01 43 14.9	
YOSQ			Trac		01 43 18.1	
	comp=Z,40nm,0.2s					
CBN	**Corbin**	**7.62 193**	Pn	**Pn**	**01 41 13.7**	**+2.0**
CBN			*e*Sn	**Sn**	**01 42 35.9**	**-1.7**
ACSO	**Alum Creek Sta**	**7.84 229**	*e*Pn	**Pn**	**01 41 15.4**	**+0.7**
ACSO			*e*S	**Sn**	**01 42 42.1**	**-0.9**
LG4Q	**La Grande 4**	**8.00 5**	PN	**Pn**	**01 41 16.6**	**-0.3**
LG4Q			SN	**Sn**	**01 42 42.4**	**-4.5**
LG4Q			Trac		01 43 30.8	
	comp=Z,110nm,0.4s					
PNPO	**Pukaskwa Natio**	**8.06 295**	PN	**Pn**	**01 41 17.8**	**+0.1**
PNPO			SN	**Sn**	**01 42 44.4**	**-4.0**
PNPO			LG		01 43 33.8	
PNPO			LG		01 43 34.6	
PNPO			Trac		01 43 35.2	
	comp=Z,98nm,0.5s					
HAL	**Halifax**	**8.32 93**	SN	**Sn**	**01 42 55.3**	**+0.6**
HAL			LG		01 43 43.6	
MALG	**Malagash, Nova**	**8.36 85**	SN	**Sn**	**01 42 53.1**	**-2.5**
TIGG	**Tignish, PEI**	**8.59 77**	PN	**Pn**	**01 41 15.5**	**-9.5**
TIGG			SN	Sn	01 42 39.4	-22
TIGG			Trac		01 42 42.0	
	comp=Z,6.7nm,0.1s					
TIGG			LG		01 43 34.9	
GTO	**Geraldton**	**8.88 302**	PN	**Pn**	**01 41 28.3**	**-0.5**
GTO			SN	**Sn**	**01 43 02.7**	**-5.7**
GTO			LG		01 43 58.0	
GTO			Trac		01 44 00.3	
	comp=Z,11nm,0.1s					
VIMO	**Victor Mine**	**9.05 325**	PN	**Pn**	**01 41 30.0**	**-1.1**
VIMO			SN	**Sn**	**01 43 06.7**	**-5.9**
VIMO			Trac		01 44 18.4	
	comp=Z,24nm,0.3s					
FWV	**Forest Hill**	**9.08 209**	*e*Pn	**Pn**	**01 41 32.1**	**+0.5**
FWV			*e*Sn	**Sn**	**01 43 11.3**	**-2.1**
NANO	**Nakina Ontario**	**9.13 305**	PN	**Pn**	**01 41 31.2**	**-1.1**
NANO			SN	**Sn**	**01 43 08.0**	**-6.7**
NANO			Trac		01 44 19.0	
	comp=Z,19nm,0.3s					
ELN	**Prospectdale**	**9.38 208**	*e*Pn	**Pn**	**01 41 35.3**	**-0.5**
MADG	**Magdalen Islan**	**9.51 75**	PN	**Pn**	**01 41 36.9**	**-0.6**
MADG			Trac		01 43 26.4	
	comp=Z,11nm,0.2s					
NATG	**Natashquan Que**	**9.54 57**	PN	**Pn**	**01 41 37.1**	**-0.9**
NATG			SN	**Sn**	**01 43 17.9**	**-6.9**
NATG			LG		01 44 18.5	
NATG			Trac		01 44 25.3	
	comp=Z,14nm,0.3s					
GBN	**Guysborough**	**9.66 87**	PN	**Pn**	**01 41 38.9**	**-0.7**
GBN			SN	**Sn**	**01 43 23.4**	**-4.2**
GBN			Trac		01 43 40.3	
	comp=Z,4.7nm,0.3s					
GBN			LG		01 44 30.7	
TBO	**Thunder Bay**	**10.08 292**	PN	**Pn**	**01 41 44.6**	**-0.8**
TBO			Trac		01 44 46.5	
	comp=Z,11nm,0.3s					
CHEG	**Cheticamp, Nov**	**10.18 78**	PN	**Pn**	**01 41 45.6**	**-1.1**
CHEG			SN	**Sn**	**01 43 33.0**	**-7.4**
CHEG			Trac		01 43 41.2	
	comp=Z,9.4nm,0.3s					
LDIO	**Lac des Isle M**	**10.32 295**	PN	**Pn**	**01 41 48.1**	**-0.5**
LDIO			SN	**Sn**	**01 43 37.3**	**-6.6**
LDIO			Trac		01 44 53.9	
	comp=Z,146nm,0.2s					
BLO	**Bloomington**	**10.55 236**	Pn	**Pn**	**01 41 51.8**	**+0.1**
BLO			*e*Sn	**Sn**	**01 43 44.8**	**-4.6**
BLO			*e*Lg		01 44 45.6	
SILO	**Sutton Inlier**	**10.77 328**	PN	**Pn**	**01 41 52.9**	**-1.9**
SILO			SN	**Sn**	**01 43 46.8**	**-8.1**
SILO			Trac		01 45 04.1	
	comp=Z,8.6nm,0.3s					
TZTN	**Tazewell**	**11.04 217**	Pn	**Pn**	**01 41 58.3**	**-0.2**
TZTN			*e*Sn	**Sn**	**01 43 55.0**	**-6.6**
TZTN			*e*Lg		01 45 04.8	
WCI	**Wyandotte Cave**	**11.07 232**	*e*Pn	**Pn**	**01 41 57.2**	**-1.7**
WCI			*e*Sn	**Sn**	**01 43 56.9**	**-5.2**
EYMN	**Ely**	**11.35 287**	PN	**Pn**	**01 42 01.7**	**-1.1**
EYMN			SN	**Sn**	**01 44 01.6**	**-7.6**
EYMN			Trac		01 45 35.0	
	comp=Z,4.6nm,0.3s					
EYMN	**Ely**	**11.35 287**	*e*Pn	**Pn**	**01 41 59.7**	**-3.1**
EYMN			*e*Sn	**Sn**	**01 44 02.7**	**-6.5**
ATKO	**Atikokan Iron**	**11.54 292**	PN	**Pn**	**01 42 04.3**	**-1.1**
ATKO			SN	**Sn**	**01 44 05.5**	**-8.2**
ATKO			Trac		01 44 40.5	
	comp=Z,64nm,0.2s					
ATKO			LG		01 45 20.0	
PKLO	**Pickle Lake**	**11.56 306**	PN	**Pn**	**01 42 04.5**	**-1.1**
PKLO			SN	**Sn**	**01 44 08.7**	**-5.5**
PKLO			LG		01 45 16.9	
PKLO			Trac		01 45 23.1	
	comp=Z,12nm,0.3s					
MUMO	**Musselwhite Mi**	**12.08 311**	PN	**Pn**	**01 42 11.1**	**-1.7**
MUMO			SN	**Sn**	**01 44 19.2**	**-7.8**
MUMO			LG		01 45 35.2	
MUMO			Trac		01 45 47.1	
	comp=Z,4.5nm,0.3s					
SOLO	**Sioux Lookout**	**12.10 297**	PN	**Pn**	**01 42 12.9**	**-0.1**
SOLO			SN	**Sn**	**01 44 19.7**	**-7.8**
SOLO			LG		01 45 35.3	
SOLO			Trac		01 45 42.5	
	comp=Z,20nm,0.4s					
CPCT	**Cooper Cave**	**12.39 218**	*e*Pn	**Pn**	**01 42 13.7**	**-3.2**
CPCT			*e*Sn	**Sn**	**01 44 32.4**	**-2.1**
CPCT			*e*Lg		01 45 45.4	
DRLN	**Deer Lake**	**12.54 67**	PN	**Pn**	**01 42 17.4**	**-1.7**
DRLN			SN	**Sn**	**01 44 28.8**	**-10**
DRLN			Trac		01 44 41.2	
	comp=Z,2.4nm,0.2s					
EPLO	**Experimental L**	**13.06 294**	PN	**Pn**	**01 42 20.1**	**-6.0**
EPLO			SN	**Sn**	**01 44 42.9**	**-8.1**
EPLO			Trac		01 46 17.1	
	comp=Z,105nm,0.3s					
RLKO	**Red Lake**	**13.41 300**	PN	**Pn**	**01 42 31.4**	**+0.5**
RLKO			SN	**Sn**	**01 44 49.9**	**-10**
RLKO			LG		01 46 12.3	
RLKO			Trac		01 46 29.6	
	comp=Z,7.1nm,0.3s					
WVT	**Waverly**	**13.44 229**	*e*Pn	**Pn**	**01 42 27.8**	**-3.5**
FVM	**French Village**	**13.65 241**	Pn	**Pn**	**01 42 32.3**	**-1.8**
FVM			*e*Sn	**Sn**	**01 44 56.0**	**-9.3**
CCM	**Cathedral Cave**	**14.11 243**	*e*Pn	**Pn**	**01 42 37.9**	**-2.6**
PLAL	**Pickwick Lake**	**14.45 227**	*e*Pn	**Pn**	**01 42 40.5**	**-4.6**
PLAL			*e*Sn	**Sn**	**01 45 14.5**	**-10**
ULM	**Lac du Bonnet**	**14.53 296**	Pn	**Pn**	**01 42 41.8**	**-4.4**
	0.3nm,0.3s,baz=84,slow=8.2,SNR=2.3					
ULM			Sn	**Sn**	**01 45 14.6**	**-12**
	0.8nm,0.3s,baz=45,slow=5.3,SNR=5.8					
ULM			Lg		01 46 47.4	
	1.6nm,0.3s,baz=339,slow=20,SNR=3.3					
ULM	**Lac du Bonnet**	**14.53 296**	PN	**Pn**	**01 42 41.4**	**-4.9**
ULM			SN	**Sn**	**01 45 17.1**	**-10**
ULM			LG		01 46 47.8	
ULM			Trac		01 47 08.3	
	comp=Z,3.2nm,0.3s					
FCC	**Fort Churchill**	**17.37 326**	PN	**Pn**	**01 43 18.6**	**-4.4**
FCC			SN	**Sn**	**01 46 22.7**	**-13**
FCC			Trac		01 47 05.6	
	comp=Z,1.0nm,0.3s					
FCC			LG		01 48 16.2	
FCC	**Fort Churchill**	**17.37 326**	*e*Pn	**Pn**	**01 43 17.8**	**-5.2**
FCC			*e*Sn	**Sn**	**01 46 25.5**	**-10**
FFC	**Flin Flon**	**19.25 308**	LG		01 49 10.3	
YRTN	**Rankin Inlet**	**19.68 337**	PN	**Pn**	**01 43 49.1**	**-1.9**
QILN	**Qililuqaq Expl**	**21.86 348**	PN	**P**	**01 44 14.0**	**+0.9**
YKA	**Yellowknife Ar**	**27.96 321**	P	**P**	**01 45 11.7**	**+0.8**
	0.8nm,0.5s,mb3.6,baz=105,slow=9.9,SNR=13					
YKA	**Yellowknife Ar**	**27.96 321**	P	**P**	**01 45 11.7**	**+0.7**
ILAR	**Eielson Array**	**42.36 323**	P	**P**	**01 47 15.8**	**+1.3**
	0.5nm,0.5s,mb3.4,baz=83,slow=5.9,SNR=27					
FINES	**FINESS Array B**	**56.02 35**	P	**P**	**01 48 59.8**	**+0.8**
	1.4nm,0.7s,mb4.1,baz=298,slow=9.9,SNR=6.5					
LPAZ	**La Paz**	**62.00 172**	P	**P**	**01 49 42.1**	**+1.6**
	0.7nm,0.5s,mb4.1,baz=287,slow=13,SNR=3.7					
TORD	**Torodi Ar. Bea**	**71.63 90**	P	**P**	**01 50 42.0**	**+0.2**
	0.5nm,0.9s,mb3.5,baz=303,slow=4.1,SNR=5.9					
SONM	**Songino Array**	**86.87 359**	P	**P**	**01 52 06.3**	**+1.2**
	0.4nm,0.8s,mb3.7,baz=350,slow=7.3,SNR=3.2					
MDJ	**Mudanjiang**	**87.44 343**	P	**P**	**01 52 08.5**	**+0.7**
MDJ			AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.8					
MDJ			AMB	AMB		
	comp=Z,58nm,4.1s					
CN2	**Changchun**	**89.03 345**	*e*P	**P**	**01 52 16.6**	**+1.2**
WMQ	**Urumqi**	**89.62 12**	*e*P	**P**	**01 52 20.0**	**+1.9**
WMQ			AMB	AMB		
	comp=Z,12nm,1.0s,mb5.2					
LZH	**Lanzhou**	**98.62 1**	*e*P	**P**	**01 53 04.0**	**+4.6**
LZH			AP	pP	01 53 08.6	+3.3
LZH			XP	sP	01 53 12.5	+5.0
LZH			AMB	AMB		
	comp=Z,5.0nm,1.0s,mb5.0					
NJ2	**Nanjing**	**101.59 348**	*e*P	Pdif	01 53 12.9	+0.3
NJ2			AP		01 53 23.5	
NJ2			XP		01 53 27.4	
NJ2			PP	PP	01 57 26.3	+3.6
NJ2			S	Sdif	02 04 47.0	-5.7
NJ2			XS		02 05 05.0	
NJ2			AMB	AMB		
	comp=Z,130nm,7.4s					
SSE	**Sheshan**	**102.15 346**	P	Pdif	01 53 15.0	-0.1
SSE			AMB	AMB		
	comp=Z,81nm,4.0s					
WRA	**Warramunga Arr**	**144.61 307**	PKP	PKPdf	01 58 55.9	-1.1
	comp=Z,1.2nm,0.7s,baz=37,slow=3.4,SNR=25					
ASAR	**Alice Springs**	**147.77 303**	PKPbc	PKPbc	01 59 05.2	0.0
	comp=Z,0.6nm,0.5s,baz=40,slow=2.4,SNR=6.6					

IGQ 25 02:13:58.0, 021S×7851W, h9km±2km, Mb4.0, Ms3.8, 1C-9D, Error ellipse: s-maj=1.6km s-min=1.1km az=91.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GGP	**Refugio Guagua**	**0.09**	**293**	⇓P	Pg	02 14 01.3	+0.9
PINO	**Pino**	**0.11**	**298**	⇓P	Pg	02 14 01.6	+1.0
YANA	**Yana**	**0.11**	**326**	⇓P	Pg	02 14 01.4	+0.8
ANTI	**Antisana**	**0.42**	**124**	⇓P	Pg	02 14 06.8	+0.6
VC1	**Cotopaxi 1**	**0.44**	**166**	⇑P	Pg	02 14 07.3	+0.7
TAMB	**Tambo**	**0.50**	**164**	P	Pg	02 14 08.3	+0.6
CAYR	**Refugio Cayamb**	**0.55**	**66**	⇓P	Pg	02 14 09.6	+1.0
CAYR				S	Sg	02 14 17.1	+1.3
ANGU	**Angureal**	**0.56**	**63**	⇓P	Pg	02 14 09.7	+0.8
COTA	**Cotacachi**	**0.57**	**18**	⇓P	Pg	02 14 09.5	+0.5
LAV3	**Lava3-Reventad**	**0.89**	**83**	⇓P	Pg	02 14 15.2	+0.2
LAV3				S	Sg	02 14 28.1	+1.6
MAG1	**Magdalena**	**1.27**	**276**	⇓P	Pn	02 14 22.3	+0.4
MAG1				S	Sb	02 14 36.4	-2.1

*ISCJB **25** 02:47:34.0±0.8, 3852N±003×2183E±003, h1km±6km, Error ellipse: s-maj=5.2km s-min=4.5km az=35.4*
*THE **25** 02:47:33.8, 3841N×2187E, h5km, ML3.2*
*ATH **25** 02:47:35.0, 3853N×2183E, h18km±1km, MD3.4/17, ML3.3*
*NEIC **25** 02:47:35.0, 3853N×2183E, h18km, ML3.0(THE), ML3.3(ATH), After ATH.*
*CSEM **25** 02:47:35.3±0.1, 3855N×2183E, h4km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.4km az=97.0*
*SKO **25** 02:47:38.8, 3877N×2194E, h0km*
ISC 25 02:47:35.3±0.6, 3853N±003×2185E±003, h6km±4km, n43, σ1§01/51, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.39**	**356**	⇑*i*PB	**Pg**	**02 47 42.6**	**-0.2**
EVR				*e*SB	**Sg**	**02 47 49.5**	**+1.6**
RLS	**Riolos of Patr**	**0.56**	**212**	*e*PN	**Pg**	**02 47 45.6**	**-0.4**
RLS				*e*SN	**Sg**	**02 47 54.2**	**+1.0**
AGG	**Agios Georgios**	**0.62**	**37**	*e*Pg	**Pg**	**02 47 46.9**	**-0.3**
	comp=Z,20nm,0.3s						
AGG				*e*Sg	**Sg**	**02 47 57.7**	**+2.4**
LKR	**Lokris**	**0.91**	**82**	*e*PB	**Pb**	**02 47 52.2**	**-1.3**
LKR				*e*SN	**Sn**	**02 48 05.7**	**-2.4**
LKD	**Levkas**	**0.95**	**281**	*e*Pg	**Pg**	**02 47 52.0**	**-1.5**
VLS	**Valsamata**	**1.05**	**251**	*e*PN	**Pn**	**02 47 54.5**	**-2.0**
NEO	**Neokhori**	**1.33**	**54**	*e*PN	**Pn**	**02 47 59.9**	**-0.4**
NEO				*e*SN	**Sn**	**02 48 19.0**	**+0.7**
XOR	**Xorichti**	**1.34**	**51**	*e*Pg	**Pg**	**02 47 59.7**	**-1.3**
	comp=Z,7.0nm,0.5s						
XOR				*e*Sg	**Sg**	**02 48 18.7**	**+0.3**
MEV	**Metsovon**	**1.34**	**339**	*e*Pg	**Pg**	**02 48 00.0**	**-1.0**
	comp=Z,18nm,0.6s						
ITM	**Ithomi**	**1.35**	**177**	*e*PN	**Pn**	**02 48 01.2**	**+0.6**
JAN	**Janina**	**1.37**	**326**	*e*PN	**Pn**	**02 48 00.5**	**-0.4**
JAN				*e*SN	**Sn**	**02 48 19.7**	**+0.4**
NAIG	**Nisos Aigina**	**1.51**	**120**	*e*PN	**Pn**	**02 48 04.0**	**+1.2**
MPAR	**Parnis Oros**	**1.53**	**104**	*e*PN	**Pn**	**02 48 04.0**	**+0.8**
IGT	**Igoumenitsa**	**1.55**	**311**	*e*Pb	**Pb**	**02 48 03.1**	**-1.2**
IGT				*e*Sb	**Sb**	**02 48 24.4**	**+0.3**
ATH	**Athens Observa**	**1.57**	**110**	*e*PN	**Pn**	**02 48 04.1**	**+0.4**
LIT	**Litokhoron**	**1.65**	**17**	*e*Pb	**Pb**	**02 48 04.1**	**-1.9**
	comp=Z,3.5nm,0.8s						
PTL	**Penteli**	**1.66**	**106**	*e*PN	**Pn**	**02 48 05.5**	**+0.6**
KVR	**Kavouri**	**1.67**	**114**	*e*PN	**Pn**	**02 48 06.0**	**+1.0**
KZN	**Kozani**	**1.78**	**358**	⇑*i*PN	**Pn**	**02 48 07.2**	**+0.7**
LSK	**Leskovik**	**1.89**	**330**	*i* Pg	**Pg**	**02 48 11.8**	**+0.4**
KEK	**Kerkira**	**1.98**	**307**	*e*PN	**Pn**	**02 48 10.2**	**+0.9**
PAIG	**Paliouri**	**2.00**	**45**	*e*Pn	**Pn**	**02 48 08.0**	**-1.5**
VLI	**Veliai**	**2.00**	**154**	*e*PN	**Pn**	**02 48 11.0**	**+1.4**
VLI	**Veliai**	**2.00**	**154**	*e*PN	**Pn**	**02 48 10.1**	**+0.5**
VLI	**Veliai**	**2.00**	**154**	*e*Pn	**Pn**	**02 48 10.1**	**+0.5**
PLG	**Polygyros**	**2.22**	**33**	*e*PN	**Pn**	**02 48 12.2**	**-0.4**
FNA	**Florina**	**2.28**	**351**	*e*Pn	**Pn**	**02 48 14.3**	**+0.9**
OUR	**Ouranopolis**	**2.45**	**42**	*e*Pn	**Pn**	**02 48 15.1**	**-0.7**
	comp=Z,3.5nm,0.6s						
GRG	**Griva**	**2.46**	**10**	*e*Pn	**Pn**	**02 48 15.7**	**-0.3**
BIA	**Bitola**	**2.52**	**351**	*e*Pn	**Pn**	**02 48 17.1**	**+0.3**
BIA	**Bitola**	**2.52**	**351**	*e*Pn	**Pn**	**02 48 17.6**	**+0.9**
BIA	**Bitola**	**2.52**	**351**	*e*Pn	**Pn**	**02 48 17.6**	**+0.9**
SOH	**Sokhos**	**2.57**	**26**	*e*Pn	**Pn**	**02 48 17.1**	**-0.3**
SOH	**Sokhos**	**2.57**	**26**	*e*Pn	**Pn**	**02 48 17.0**	**-0.4**
OHR	**Ohrid**	**2.70**	**343**	*e*Pn	**Pn**	**02 48 22.1**	**+2.9**
OHR	**Ohrid**	**2.70**	**343**	*e*Pn	**Pn**	**02 48 22.0**	**+2.8**
KNT	**Kendrikon**	**2.75**	**17**	*e*Pn	**Pn**	**02 48 19.7**	**-0.2**
	comp=Z,2.3nm,0.6s						
SRS	**Serrai**	**2.91**	**27**	*e*Pn	**Pn**	**02 48 21.5**	**-0.6**
STIP	**Stip**	**3.17**	**5**	*e*Pn	**Pn**	**02 48 26.6**	**+0.9**
MMB	**Musomiste**	**3.38**	**25**	*i* P	**Pn**	**02 48 28.2**	**-0.4**
KKB	**Krupnik**	**3.47**	**15**	*i* P	**Pn**	**02 48 29.0**	**-0.7**
RZN	**Rozhen**	**3.85**	**34**	*i* P	**Pn**	**02 48 35.0**	**0.0**
VTS	**Vitosha**	**4.19**	**14**	*i* P	**Pn**	**02 48 40.5**	**+0.8**

*ISCJB **25** 02:54:00.9±0.7, 3850N±002×2180E±003, h6km±5km, mb3.4/5, Error ellipse: s-maj=4.1km s-min=4.0km az=69.9*
*THE **25** 02:54:00.5, 3842N×2186E, h10km, ML3.4*
*ATH **25** 02:54:01.9, 3853N×2182E, h20km±1km, MD3.5/17, ML3.5*
*NEIC **25** 02:54:01.9, 3853N×2182E, h20km, ML3.3(THE), ML3.5(ATH), After ATH.*
*IDC **25** 02:54:01.1±1.3, 3851N×2181E, h0km, mb3.5/5, mb1 3.5/8, mb1mx3.4/22, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=28.4km s-min=17.3km az=135.0*
*CSEM **25** 02:54:02.3±0.1, 3855N×2182E, h8km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=98.0*
*SKO **25** 02:54:02.9, 3851N×2186E, h10km*
*NAO **25** 02:54:03.7, 3821N×2141E, h33km, mb3.3*
**ISC 25 02:54:02.2±0.6, 3852N±002×2185E±003, h7km±4km

SOH	Sokhos	2.57	26	ePn	Pn	02 54 44.3	0.0
KNT	Kendrikon	2.76	17	ePn	Pn	02 54 46.9	0.0
comp=Z,2.5nm,0.6s							
VAY	Valandovo	2.85	11	ePn	Pn	02 54 48.9	+0.7
VAY	Valandovo	2.85	11	ePn	Pn	02 54 48.8	+0.6
SRS	Serrai	2.92	27	ePn	Pn	02 54 48.5	-0.6
STIP	Stip	3.18	5	ePn	Pn	02 54 53.4	+0.7
STIP	Stip	3.18	5	ePn	Pn	02 54 53.3	+0.6
NVR	Nevrokopi	3.22	28	ePN	Pn	02 54 53.5	+0.3
MMB	Musomiste	3.39	25	iP	Pn	02 54 55.5	0.0
KKB	Krupnik	3.47	15	iP	Pn	02 54 56.0	-0.7
RZN	Rozhen	3.85	34	iP	Pn	02 55 01.0	-0.9
TIP	Timpagrande	4.03	281	ePn	Pn	02 55 04.0	-0.4
IDI	Anoyia	4.04	142	Pn	Pn	02 55 00.1	-4.4
0.5nm,0.3s,baz=285,slow=20,SNR=7.2							
IDI				Sn	Sn	02 55 53.1	+1.0
1.8nm,0.3s,baz=3.6,slow=19,SNR=2.5							
VTS	Vitosha	4.20	14	iP	Pn	02 55 07.0	+0.4
VAE	Valguarnera	5.97	262	Pn	Pn	02 55 31.9	+1.0
0.3nm,0.3s,baz=44,slow=14,SNR=2.5							
VAE				Sn	Sn	02 56 40.6	+1.1
0.6nm,0.3s,baz=208,slow=16,SNR=2.1							
VAE	Valguarnera	5.97	262	Pn	Pn	02 55 31.9	+0.9
VAE				Sn	Sn	02 56 40.6	+1.1
AQU	L'Aquila	7.50	303	ePn	Pn	02 55 58.2	+6.3
MLR	Muntele Rosu	7.60	22	Pn	Pn	02 55 56.0	+2.6
0.8nm,0.3s,baz=305,slow=6.2,SNR=9.4							
BR131	Keskin Array S	9.24	79	ePn	Pn	02 56 18.8	+2.9
BR131	Keskin Array S	9.24	79	ePn	Pn	02 56 18.8	+2.9
BRTR	Keskin Array B	9.24	79	Pn	Pn	02 56 14.7	-1.2
0.1nm,0.3s,baz=263,slow=13,SNR=2.8							
PSZ	Piszkesteto	9.50	352	Pn	Pn	02 56 25.5	+6.0
HFS	Hagfors	22.24	349	P	P	02 58 58.5	-1.1
0.9nm,0.6s,mb3.4,baz=148,slow=12,SNR=5.0							
FINES	FINESS Array B	23.10	5	P	P	02 59 09.1	+0.4
1.1nm,0.9s,mb3.3,baz=187,slow=7.7,SNR=3.9							
FINES	FINESS Array B	23.10	5	P	P	02 59 09.1	+0.4
NB2	NORSAR Subarra	23.50	347	P	P	02 59 11.7	-1.2
comp=Z,0.9nm,0.7s,mb3.3,baz=160,slow=10							
NOA	NORSAR Array B	23.50	347	P	P	02 59 10.7	-2.3
comp=Z,1.9nm,1.0s,mb3.5,baz=158,slow=7.6,SNR=3.2							
TORD	Torodi Ar. Bea	30.96	221	P	P	03 00 20.0	+0.1
comp=Z,0.8nm,0.7s,mb3.6,baz=30,slow=9.0,SNR=14							
MKAR	Makanchi Array	44.23	59	P	P	03 02 12.1	0.0
comp=Z,0.4nm,0.4s,mb3.5,baz=272,slow=7.6,SNR=19							

IDC 25 02:54:17.7±2.3, 374N×12694E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=192.8km s-min=25.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.63	163	P	P	02 59 38.6	-1.2
0.9nm,0.4s,baz=342,slow=11,SNR=26							
ASAR	Alice Springs	28.07	166	P	P	03 00 13.1	+2.2
0.2nm,0.3s,baz=329,slow=8.9,SNR=5.3							
MKAR	Makanchi Array	57.67	325	P	P	03 04 09.8	0.0
0.3nm,0.5s,baz=122,slow=7.8,SNR=6.7							

*IDC **25** 03:00:15.7±1.7, 467S×13338E, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.7/12, mbtmp3.8/4, ML3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/12, Error ellipse: s-maj=92.6km s-min=26.2km az=67.0*
*ISCJB **25** 03:00:18.3±1.5, 47S±01×1337E±02, h33km, mb3.4/1, Error ellipse: s-maj=31.1km s-min=17.7km az=152.7*
*NEIC **25** 03:00:20.1±1.4, 479S×13333E, h30km, mb3.9/2, Error ellipse: s-maj=47.1km s-min=17.9km az=75.0*
ISC 25 03:00:20.5±1.5, 47S±01×1337E±02, h35km, n9, σ1§35/10, mb3.4/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	15.19	178	eP	Pn	03 03 51.8	-0.4
1.5nm,0.3s							
WRA	Warramunga Arr	15.20	178	Pn	Pn	03 03 50.1	-2.3
0.3nm,0.3s,baz=352,slow=13,SNR=17							
WRA				Sn	Sn	03 06 34.2	-5.3
0.1nm,0.3s,baz=359,slow=23,SNR=4.3							
WB2	Warramunga Arr	15.20	178	eP	Pn	03 03 50.6	-1.8
FITZ	Fitzroy Crossi	15.50	210	eP	Pn	03 03 56.7	+0.3
3.1nm,0.3s							
AS31	Alice Springs	18.89	179	eP	Pn	03 04 40.8	+2.2
ASAR	Alice Springs	18.89	179	P	Pn	03 04 38.8	+0.1
0.3nm,0.3s,baz=7.9,slow=11,SNR=31							
ASPA	Alice Springs	18.89	179	eP	Pn	03 04 40.8	+2.2
CTA	Charters Tower	19.61	142	P	Pn	03 04 47.6	+0.4
0.4nm,0.3s,baz=331,slow=13,SNR=5.2							
MKAR	Makanchi Array	68.38	325	P	P	03 11 18.1	-0.3
0.3nm,0.8s,mb3.4,baz=126,slow=5.3,SNR=3.3							

MAN 25 03:07:13.5, 889N×12596E, h2km, mb2.7, ML4.1, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.81	150	⇓iP	Pg	03 07 27.7	-1.3
BIPH				iS	Sg	03 07 45.2	+5.8

*NEIC **25** 03:22:16.6±1.5, 1728S×69.40W, h162km±9km, Error ellipse: s-maj=45.7km s-min=13.5km az=186.0*
*ISCJB **25** 03:22:17.8±2.6, 171S±04×692W±0.1, h183km±13km, mb3.8/4, Error ellipse: s-maj=64.7km s-min=15.9km az=20.3*
*IDC **25** 03:22:20.1±2.8, 1693S×69.12W, h181km±12km, mb3.6/5, mb1 3.7/6, mb1mx3.4/15, mbtmp4.2/6, Error ellipse: s-maj=62.7km s-min=19.3km az=19.0*
ISC 25 03:22:16.5±1.8, 174S±03×6936W±009, h165km±10km, n12, σ1§15/13, mb3.8/4, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.59	48	P	Pn	03 22 49.3	+1.2
19nm,0.3s,baz=251,slow=3.8,SNR=416							
LPAZ				S	Sn	03 23 13.0	+0.6
7.3nm,0.3s,baz=170,slow=6.4,SNR=12							
LPAZ	La Paz	1.59	48	⇓iPn	Pn	03 22 49.2	+1.1
LPAZ				eSn	Sn	03 23 12.5	+0.1
ARE	Arequipa	2.23	293	⇑iP	Pn	03 22 54.2	-0.9
SIV	San Ignacio	8.06	81	P	Pn	03 24 10.4	-0.1
5.0nm,0.3s,baz=270,slow=11,SNR=96							
SIV				S	Sn	03 25 37.4	-3.1
baz=12,slow=20,SNR=4.0							
BDFB	Brasilia	20.54	88	P	P	03 26 44.3	+2.3
2.2nm,0.4s,baz=278,slow=8.0,SNR=8.1							
DBIC	Dimbokro	68.03	75	P	P	03 32 57.3	-0.6
4.5nm,1.1s,mb4.1,baz=134,slow=1.7,SNR=4.9							
ULM	Lac du Bonnet	71.26	342	P	P	03 33 17.1	-0.6
2.1nm,0.4s,mb4.2,baz=149,slow=6.8,SNR=7.7							
TORD	Torodi Ar. Bea	76.41	71	P	P	03 33 48.0	+0.4
0.6nm,0.7s,mb3.3,baz=253,slow=5.6,SNR=7.6							
YKA	Yellowknife Ar	87.16	341	P	P	03 34 44.0	+0.2
0.3nm,0.3s,mb3.5,baz=134,slow=4.4,SNR=12							
YKA	Yellowknife Ar	87.16	341	P	P	03 34 44.0	+0.2
WRA	Warramunga Arr	136.23	213	PKP	PKPdf	03 41 20.2	+2.1
0.4nm,1.0s,baz=149,slow=1.9,SNR=5.2							
SONM	Songino Array	149.41	6	PKPbc	PKPbc	03 41 47.5	+1.6
0.4nm,0.4s,baz=307,slow=1.4,SNR=5.1							

*CRAAG **25** 03:44:22.0, 3680N×380E, Ml2.0*
*MDD **25** 03:44:25.6±2.1, 37.12N×371E, h0km, mb3.8/11, Error ellipse: s-maj=22.7km s-min=8.6km az=111.0, PRXIMO*
*ISCJB **25** 03:44:26.6±1.2, 3724N±005×347E±008, h10km, Error ellipse: s-maj=9.9km s-min=6.7km az=41.2*
*CSEM **25** 03:44:26.9±0.4, 37.12N×364E, h10km, ML2.5/5, Error ellipse: s-maj=9.1km s-min=4.7km az=112.0*
*NEIC **25** 03:44:26.8, 37.17N×366E, h4km, MG3.5(MDD), After MDD.*
ISC 25 03:44:27.5±1.2, 3721N±005×352E±009, h10km, n32, σ0§81/56, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.46	184	P	Pg	03 44 29.2	-7.3
ABA	Alger-Bouzarea	0.56	224	P	Pg	03 44 37.0	-1.4
EMHD	Djebel Mahouad	1.10	204	P	Pb	03 44 42.6	-6.1
EIBI	Ibiza	2.50	317	P	Pn	03 45 08.5	+0.4
4.7nm,0.2s,SNR=7.9							
EIBI				S	Sn	03 45 40.1	+1.4
5.2nm,0.2s,SNR=7.9							
EIBI	Ibiza	2.50	317	Pn	Pn	03 45 08.5	+0.3
4.7nm,0.2s,SNR=7.9							
EIBI				Sn	Sn	03 45 39.8	+1.1
EIBI	Ibiza	2.50	317	Pn	Pn	03 45 08.7	+0.5
EIBI				Sn	Sn	03 45 39.8	+1.1
ETOS	Mallorca	2.61	348	P	Pn	03 45 09.2	-0.6
2.5nm,0.1s,SNR=12							
ETOS				S	Sn	03 45 40.9	-0.7
1.7nm,0.2s,SNR=7.9							
ETOS	Mallorca	2.61	348	Pn	Pn	03 45 09.1	-0.7
ETOS				Sn	Sn	03 45 40.4	-1.1
1.7nm,0.2s,SNR=7.9							
ETOS	Mallorca	2.61	348	Pn	Pn	03 45 09.1	-0.7
ETOS				Sn	Sn	03 45 40.4	-1.2
EBEN	Beniarda	3.31	298	P	Pn	03 45 19.2	-0.2
1.5nm,0.4s,SNR=7.9							
EBEN				S	Sn	03 45 57.8	-1.0
0.5nm,0.1s,SNR=7.9							
EBEN	Beniarda	3.31	298	Pn	Pn	03 45 19.2	-0.2
0.3nm,0.1s,SNR=7.9							
EBEN				Sn	Sn	03 45 57.8	-1.0
0.5nm,0.1s,SNR=7.9							
EBEN	Beniarda	3.31	298	Pn	Pn	03 45 18.9	-0.5
EBEN				Sn	Sn	03 45 57.9	-1.0
ECHE	Chera	4.25	305	P	Pn	03 45 33.7	+1.4
1.5nm,0.2s,SNR=10.0							
ETOB	Tobarra	4.25	291	P	Pn	03 45 32.9	+0.6
1.2nm,0.3s,SNR=7.5							
ETOB				S	Sn	03 46 21.1	-0.9
0.9nm,0.2s,SNR=7.9							
ETOB	Tobarra	4.25	291	Pn	Pn	03 45 33.0	+0.7
ETOB				Sn	Sn	03 46 21.1	-0.9
0.9nm,0.2s,SNR=7.9							
EMOS	Mosqueruela	4.43	317	P	Pn	03 45 35.4	+0.7
1.0nm,0.3s,SNR=6.7							
EMOS				S	Sn	03 46 27.3	+0.9
0.6nm,0.2s,SNR=7.9							
EMOS	Mosqueruela	4.43	317	Pn	Pn	03 45 35.4	+0.6
0.5nm,0.1s,SNR=6.7							
EMOS				Sn	Sn	03 46 27.3	+0.9
0.6nm,0.2s,SNR=7.9							
EMOS	Mosqueruela	4.43	317	Pn	Pn	03 45 35.6	+0.8
EMOS				Sn	Sn	03 46 26.4	0.0
ERTA	Horta de San J	4.49	327	P	Pn	03 45 35.4	-0.1
1.4nm,0.5s,SNR=7.9							
ERTA				S	Sn	03 46 27.7	-0.1
0.3nm,0.1s,SNR=4.0							
ERTA	Horta de San J	4.49	327	Sn	Sn	03 46 27.7	-0.1
0.3nm,0.1s,SNR=4.0							
EPOB	Poblet	4.55	336	P	Pn	03 45 36.6	+0.2
1.4nm,0.2s,SNR=7.9							
EPOB				S	Sn	03 46 28.9	-0.4
0.5nm,0.2s,SNR=7.9							
EPOB	Poblet	4.55	336	Pn	Pn	03 45 36.6	+0.2
0.9nm,0.1s,SNR=7.9							
EPOB				Sn	Sn	03 46 28.5	-0.8
EPOB	Poblet	4.55	336	Pn	Pn	03 45 36.1	-0.3
EPOB				Sn	Sn	03 46 28.4	-0.9
EMIR	Miracle	4.95	342	P	Pn	03 45 42.6	+0.8
1.3nm,0.1s,SNR=9.3							
EMIR				S	Sn	03 46 39.4	+0.4
0.5nm,0.1s,SNR=7.9							
EMIR	Miracle	4.95	342	Pn	Pn	03 45 42.6	+0.8
1.3nm,0.1s,SNR=9.3							
EMIR				Sn	Sn	03 46 38.0	-1.0
EMIR	Miracle	4.95	342	Pn	Pn	03 45 42.6	+0.8
EMIR				Sn	Sn	03 46 38.0	-1.0
EJON	La Jonquera	5.26	355	P	Pn	03 45 45.8	-0.3
2.0nm,0.1s,SNR=7.9							
EJON	La Jonquera	5.26	355	Pn	Pn	03 45 45.9	-0.2
EJON	La Jonquera	5.26	355	Pn	Pn	03 45 45.9	-0.2
EQES	Quesada	5.27	278	P	Pn	03 45 47.3	+1.0
1.5nm,0.4s,SNR=7.9							
EQES				S	Sn	03 46 48.0	+0.9
1.0nm,0.3s,SNR=7.9							
EQES	Quesada	5.27	278	Pn	Pn	03 45 47.3	+1.0
EQES				Sn	Sn	03 46 46.9	-0.2
EQES	Quesada	5.27	278	Pn	Pn	03 45 47.3	+1.0
EQES				Sn	Sn	03 46 46.9	-0.3

*ISCJB **25** 04:02:07.9±0.4, 4505N±002×335E±004, h13km±6km, Error ellipse: s-maj=4.3km s-min=3.5km az=164.9*
*LDG **25** 04:02:09.9±0.1, 4502N×333E, h10km, Md2.0/1, Ml1.9/12, Error ellipse: s-maj=1.0km s-min=0.9km az=62.0*
*STR **25** 04:02:09.9±0.6, 4506N×336E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 25 04:02:09.0±0.4, 4504N±002×334E±004, h16km±6km, n19, σ0§45/30, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBL	Lubilhac	0.21	342	Pg	Pg	04 02 14.0	+0.2
LBL				Sg	Sg	04 02 17.0	-0.1
CAF	Calviac	0.91	264	ePg	Pg	04 02 26.5	-0.1
CAF	Calviac	0.91	264	ePn	Pn	04 02 27.1	+0.1
CAF				eSg	Sg	04 02 39.2	+0.6
2.8nm,0.2s							
PLDF	La Plantade	0.96	12	Pg	Pg	04 02 27.0	-0.5
PLDF				Sg	Sg	04 02 40.5	+0.4
VIVF	Saint-Julien-l	0.97	100	ePg	Pg	04 02 28.3	+0.6
VIVF				eSg	Sg	04 02 40.9	+0.5
6.5nm,0.2s							
LASF	Ste Croix	1.03	159	ePg	Pg	04 02 29.2	+0.3
LASF				eSg	Sg	04 02 42.6	+0.2
2.3nm,0.2s							
RJF	Les Rejaudoux	1.31	282	ePn	Pn	04 02 32.7	+0.1
RJF	Les Rejaudoux	1.31	282	ePg	Pg	04 02 34.4	+0.1
RJF				eSg	Sg	04 02 51.6	+0.1
5.5nm,0.3s							
TCF	Toulx Ste Croi	1.48	328	ePn	Pn	04 02 34.9	0.0
TCF	Toulx Ste Croi	1.48	328	ePg	Pg	04 02 37.9	+0.4
TCF				eSg	Sg	04 02 57.2	+0.4
1.0nm,0.2s							
BGF	Bois d'Agland	1.56	348	ePg	Pg	04 02 39.3	+0.3
BGF				eSg	Sg	04 02 58.8	-0.5
2.3nm,0.2s							
SMF	Signal de Mont	1.65	12	ePn	Pn	04 02 37.3	+0.1
SMF	Signal de Mont	1.65	12	ePg	Pg	04 02 40.9	+0.2
SMF				eSg	Sg	04 03 01.6	-0.5
0.8nm,0.2s							
AVF	Avril sur Loir	1.75	0	ePg	Pg	04 02 43.2	+0.5
AVF				eSg	Sg	04 03 05.5	0.0
0.8nm,0.2s							
MTLF	Montolieu	1.88	206	ePg	Pg	04 02 44.5	-0.5
MTLF				eSg	Sg	04 03 08.2	-1.2
2.0nm,0.3s							
SSF	Saint Saulge	2.03	3	eSg	Sg	04 03 13.1	-1.2
0.9nm,0.2s							
LOR	Lormes	2.26	9	eSg	Sg	04 03 21.8	+0.1
0.7nm,0.2s							
LPG	La Plagne	2.46	78	ePg	Pg	04 02 55.8	-0.3
MBDF	Montbardon	2.46	96	ePg	Pg	04 02 55.8	-0.4

IDC 25 04:13:46.8±9.0, 4998N×2757W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.9/3, Error ellipse: s-maj=239.3km s-min=40.8km az=90.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	31.39	48	P	P	04 20 08.9	-0.4
2.4nm,1.1s,baz=262,slow=6.6,SNR=5.4							
TORD	Torodi Ar. Bea	43.84	137	P	P	04 21 54.5	-0.1
1.3nm,1.1s,baz=321,slow=7.7,SNR=3.9							
MKAR	Makanchi Array	66.16	45	P	P	04 24 35.8	-0.3
0.7nm,0.8s,baz=320,slow=6.7,SNR=7.5							

*IDC **25** 05:03:51.1±18.0, 14.17N×94.14W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/17, Error ellipse: s-maj=369.2km s-min=133.7km az=176.0*
*ISCJB **25** 05:04:02.9±1.1, 15.17N±008×9509W±004, h33km, mb3.6/3, Error ellipse: s-maj=11.4km s-min=6.1km az=5.5*
*NEIC **25** 05:04:05.4, 1521N×95.10W, h22km, MD4.0(MEX), After MEX.*
*MEX **25** 05:04:05.4±0.7, 1521N×95.10W, h22km±21km, MD4.0*
ISC 25 05:04:04.0±1.2, 1516N±009×9512W±004, h35km, n11, σ1§27/18, mb3.6/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.13	302	iP	Pn	05 04 22.4	-0.9
HUIG				iS	Sn	05 04 36.1	-1.5
CMIG	Matias Romero	1.93	7	iP	Pn	05 04 33.4	-1.0
CMIG				iS	Sn	05 04 55.2	-2.2
VHO	Vista Hermosa	2.45	321	iP	Pn	05 04 42.2	+0.7
VHO				iS	Sn	05 05 10.4	+0.2
OXX	Oaxaca	2.45	321	eP	Pn	05 04 43.0	+1.5
OXX				iS	Sn	05 05 12.0	+1.7
TUIG	Tuzandepetl	2.93	13	eP	Pn	05 04 47.8	-0.3
TUIG				iS	Sn	05 05 24.2	+2.1
CCIG	Comitan	3.08	68	iP	Pn	05 04 50.7	+0.6
CCIG				iS	Sn	05 05 24.2	-1.5
PNIG	Pinotepa	3.14	293	eP	Pn	05 04 51.2	+0.2
PNIG				iS	Sn	05 05 25.4	-1.9
PPM	Popocatepetl	5.13	320	eP	Pn	05 05 23.6	+5.2
NVAR	Mina Array Bea	30.90	323	P	P	05 10 21.6	+4.4
0.4nm,0.7s,mb3.4,baz=153,slow=9.1,SNR=4.0							
YKA	Yellowknife Ar	49.24	348	P	P	05 12 49.8	+0.8
0.5nm,0.6s,mb3.7,baz=155,slow=7.1,SNR=9.8							
ILAR	Eielson Array	60.60	337	P	P	05 14 12.2	+1.1
0.9nm,1.1s,mb3.8,baz=108,slow=4.8,SNR=5.1							

*CASC **25** 05:06:54.7±2.9, 1433N×8920W, h32km±11km, MD3.7, ML4.0*
*ISCJB **25** 05:06:55.8±1.0, 133N±02×896W±0.1, h41km±19km, mb3.1/2, Error ellipse: s-maj=40.9km s-min=5.7km az=58.6*
*IDC **25** 05:07:03.3±5.3, 1394N×8847W, h122km±75km, mb2.8/2, mb1 3.2/3, mb1mx3.0/17, mbtmp3.3/3, Error ellipse: s-maj=96.2km s-min=48.0km az=47.0*
ISC 25 05:06:54.7±3.0, 135N±03×895W±02, h10km±25km, n23, σ0§58/15, mb3.1/2, 5C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.32	44	⇑eP	Px	05 07 31.2	
BOQS				eS	Sx	05 07 41.1	
SNET	Serv Nac Est T	0.32	56	⇑iP	Px	05 07 08.0	
SNET				eS	Sx	05 07 17.2	
SBLS	San Blas	0.35	341	⇓eP	Px	05 07 30.6	
SBLS				eS	Sx	05 07 40.2	
SNJE	San Jose	0.37	345	⇓eP	Px	05 07 30.9	
SNJE				eS	Sx	05 07 40.0	
RTR	El Retiro	0.41	341	⇓eP	Px	05 07 31.4	
RTR				eS	Sx	05 07 41.2	
LFRS	El Faro	0.45	75	⇓eP	Px	05 07 32.1	
LFRS				eS	Sx	05 07 42.2	
LBRS	Las Brisas	0.51	63	⇓iP	Px	05 07 33.5	
LBRS				eS	Sx	05 07 42.9	
LCBS	La Ceiba	0.54	74	⇓iP	Px	05 07 33.2	
LCBS				eS	Sx	05 07 45.5	
SNVI	San Vicente	0.66	81	⇓eP	Px	05 07 34.8	
SNVI				eS	Sx	05 07 47.7	
IXG	Ixpaco	1.14	306	eP	Pb	05 07 15.7	-0.7
IXG				eS	Sb	05 07 31.4	+0.3
IXG				AML	AML	05 07 34.0	
comp=E,13μm,0.3s							
VSM	San Miguel	1.20	93	⇑eP	Px	05 07 42.1	
VSM				eS	Sx	05 08 00.7	
BLLM	Bellamira	1.24	93	⇑eP	Px	05 07 42.5	
BLLM				eS	Sx	05 08 01.1	
FUG	Fuego 3	1.60	306	eP	Pn	05 07 23.4	+0.5
JAT	Jato	2.22	292	eP	Pn	05 07 31.1	-0.3
CRIN	San Cristobal	2.52	108	eP	Pn	05 07 36.5	+0.9
TEL3	Telica 3	2.75	109	⇑eP	Pn	05 07 38.9	0.0
TEL3				eS	Sn	05 08 11.7	-0.4
comp=Z,318nm,0.3s							
LEON	Leon	2.77	113	⇓eP	Pn	05 07 38.0	-1.0
MIRN	Miramar	2.92	111	eP	Pn	05 07 40.7	-0.4
MIRN				eS	Sn	05 08 16.2	-0.1
comp=Z,393nm,0.2s							
COPN	Copaltepe	3.13	115	⇓eP	Pn	05 07 45.2	+1.2
JTS	JuntasAbangare	5.48	125	P	Pn	05 08 16.5	+0.1
comp=Z,1.3nm,0.3s,baz=313,slow=21,SNR=8.5							
JTS				S	Sn	05 09 13.5	-5.9
comp=Z,1.2nm,0.3s,baz=274,slow=19,SNR=2.0							
NVAR	Mina Array Bea	35.60	319	P	P	05 13 52.2	0.0
comp=Z,0.1nm,0.5s,mb3.0,baz=121,slow=11,SNR=2.8							
YKA	Yellowknife Ar	52.08	346	P	P	05 15 59.0	-5.7
comp=Z,0.1nm,0.3s,mb3.2,baz=139,slow=7.8,SNR=4.6							
WRA	Warramunga Arr	137.62	255	PKP	PKPdf	05 26 15.5	-3.3
comp=Z,0.5nm,1.0s,baz=88,slow=2.9,SNR=5.0							

*CSEM **25** 05:09:13.1±0.1, 4144N×2024E, h15km, MD2.5, Error ellipse: s-maj=4.3km s-min=2.2km az=29.0*
*ISCJB **25** 05:09:13.8±0.4, 4139N±003×2025E±003, h10km, Error ellipse: s-maj=4.7km s-min=2.3km az=60.8*
*THE **25** 05:09:13.1, 4148N×2028E, h10km*
*SKO **25** 05:09:14.4, 4144N×2020E, h9km, M1.8, ML2.2*
*PDG **25** 05:09:15.3±0.2, 4135N×1988E, h9km*
*NEIC **25** 05:09:15.3, 4135N×1988E, h9km, MD2.5(PDG), ML2.2(THE), After PDG.*
ISC 25 05:09:14.2±0.4, 4139N±003×2023E±003, h10km, n33, σ1§48/62, 6C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.28	262	ePg	Pg	05 09 18.9	-0.9
TIR				eSg	Sg	05 09 25.4	+1.8
QSH	Qafa e Shtames	0.28	299	iPg	Pg	05 09 20.4	+0.6
QSH				iSg	Sg	05 09 26.4	+2.8
OHR	Ohrid	0.51	122	ePg	Pg	05 09 23.2	-0.8
OHR				eSg	Sg	05 09 31.2	+0.5
OHR	Ohrid	0.51	122	iPg	Pg	05 09 23.6	-0.5
OHR				eSg	Sg	05 09 32.7	+1.9
PUK	Puka	0.70	339	iPg	Pg	05 09 26.1	-1.7
PUK				iSg	Sg	05 09 37.3	+0.3
SAMO	Samokov	0.75	65	iPg	Pg	05 09 27.0	-1.6
SAMO				iSg	Sg	05 09 38.1	-0.3
BIA	Bitola	0.90	114	ePg	Pg	05 09 30.2	-1.3
BIA				eSg	Sg	05 09 43.6	+0.3
BIA	Bitola	0.90	114	iPg	Pg	05 09 30.2	-1.3
BIA				eSg	Sg	05 09 44.6	+1.3
BIA				eLg		05 09 44.8	
comp=N,46nm,0.3s							
BIA				eLg		05 09 46.4	
comp=E,37nm,0.2s							
BIA	Bitola	0.90	114	iPg	Pg	05 09 30.2	-1.3
BIA				eSg	Sg	05 09 44.5	+1.2
ULC	Ulcinj	0.94	308

HCY eSg **Sg** **05 10 06.2 -1.7**
HCY Herceg Novi 1.67 310⇑ iPg **Pg** **05 09 43.0 -3.3**
HCY eSg **Sg** **05 10 06.2 -1.8**
GRG Griva 1.69 104 ePb **Pb** **05 09 43.2 -2.2**
NKY Niksic 1.70 328⇓ iPn **Pn** **05 09 44.9 +1.0**
NKY eSn **Sn** **05 10 08.6 +3.0**
VAY Valandovo 1.76 91 ePn **Pn** **05 09 45.3 +0.6**
VAY eSn **Sn** **05 10 08.4 +1.2**
BRY Bratogost 1.97 321⇓ iPn **Pn** **05 09 48.2 +0.6**
BRY eSn **Sn** **05 10 13.8 +1.6**
KNT Kendrikon 2.02 95 ePn **Pn** **05 09 47.5 -0.8**
PLE Pljevlja 2.04 343⇑ iPn **Pn** **05 09 50.6 +2.1**
PLE eSn **Sn** **05 10 17.9 +3.9**
UPM Unac-Piva 2.06 332⇓ iPn **Pn** **05 09 50.1 +1.2**
UPM eSn **Sn** **05 10 17.9 +3.3**

*NEIC **25** 05:12:34.5, 4536S×16728E, h103km, MG4.2(WEL), After WEL.*
WEL 25 05:12:34.3±0.7, 4537S×16724E, h104km±4km, ML2.6/4, Error ellipse: s-maj=5.5km s-min=3.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.12**	**210**	PN	Pn	05 12 48.4	-0.4
DCZ				SN	Sn	05 12 59.0	-0.6
DCZ	**Deep Cove**	**0.12**	**210**	P	Pn	05 12 48.5	-0.3
MLZ	**Mavora Lakes**	**0.66**	**88**	PN	Pn	05 12 51.5	-0.3
MLZ				SN	Sn	05 13 04.0	-0.8
MLZ	**Mavora Lakes**	**0.66**	**88**	eP	Pn	05 12 51.5	-0.2
MSZ	**Milford Sound**	**0.85**	**35**	PN	Pn	05 12 53.8	+0.3
MSZ	**Milford Sound**	**0.85**	**35**	P	Pn	05 12 53.8	+0.3
MSZ				S	Sn	05 13 05.5	-2.4
WKZ	**Wanaka**	**1.37**	**67**	PN	Pn	05 12 59.1	-0.1
WKZ				SN	Sn	05 13 17.1	-0.9
JCZ	**Jackson Bay**	**1.69**	**40**	PN	Pn	05 13 02.5	-0.5
JCZ				SN	Sn	05 13 23.8	-1.1
JCZ	**Jackson Bay**	**1.69**	**40**	eP	Pn	05 13 02.5	-0.6
TUZ	**Tuapeka**	**1.78**	**110**	PN	Pn	05 13 03.8	-0.3
TUZ	**Tuapeka**	**1.78**	**110**	eP	Pn	05 13 03.9	-0.3

*IDC **25** 05:30:19.0±2.2, 532S×13091E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=110.5km s-min=31.0km az=71.0*
*ISCJB **25** 05:30:23.7±1.6, 57S±02×1299E±03, h33km, mb3.2/1, Error ellipse: s-maj=47.3km s-min=17.8km az=143.5*
ISC 25 05:30:25.9±1.6, 57S±02×1300E±03, h35km, n5, σ0°97/5, mb3.2/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 3.7nm,0.9s	**13.07**	**199**	eP	**Pn**	**05 33 29.2**	**+0.1**
FITZ				eS	Sx	05 35 39.4	
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=348,slow=12,SNR=22	**14.80**	**164**	Pn	**Pn**	**05 33 52.5**	**-0.1**
WRA	0.5nm,0.3s,baz=338,slow=22,SNR=8.8			Sn	Sx	05 36 23.4	
WB2	**Warramunga Arr**	**14.80**	**164**	eP	**Pn**	**05 33 53.7**	**+1.1**
WB2				eS	Sx	05 36 24.1	
ASAR	**Alice Springs** 0.2nm,0.3s,baz=343,slow=9.8,SNR=15	**18.28**	**169**	P	**Pn**	**05 34 35.6**	**-1.1**
ASAR	0.2nm,0.3s,baz=356,slow=28,SNR=5.3			S	Sx	05 37 49.5	
MKAR	**Makanchi Array** 0.1nm,0.4s,mb3.2,baz=133,slow=6.8,SNR=5.5	**67.13**	**327**	P	**P**	**05 41 16.0**	**0.0**

*ISCJB **25** 05:35:35.8±0.3, 5007N±009×2899W±005, h10km, mb4.3/56, MS3.5/9, Error ellipse: s-maj=12.7km s-min=4.1km az=12.6*
*BJI **25** 05:35:35.1, 4990N×2890W, h10km, mB4.9, mb4.6, Ms4.6, Msz4.2*
*IDC **25** 05:35:35.5±0.9, 4992N×2902W, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/27, mbtmp4.1/17, ML3.6/1, MS3.5/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=25.1km s-min=14.2km az=10.0*
*MOS **25** 05:35:36.7±1.3, 5026N×2908W, h10km, mb4.6/16, Error ellipse: s-maj=15.5km s-min=10.3km az=52.6*
*NEIC **25** 05:35:37.1±0.4, 4994N×2893W, h10km, mb4.4/20, Error ellipse: s-maj=14.0km s-min=4.8km az=175.0*
*CSEM **25** 05:35:38.3±0.1, 4998N×2895W, h33km, mb4.4/30, Ms3.2, Error ellipse: s-maj=6.3km s-min=1.6km az=4.0*
*SZGRF **25** 05:35:42.8, 49.10N×2873W, h33km, Northern Mid-Atlantic Ridge*
*NAO **25** 05:35:44.4, 4976W×2774W, h33km, mb4.4*
ISC 25 05:35:37.4±0.3, 5010N±009×2892W±005, h10km, n156, σ1°02/150, mb4.3/56, MS3.5/9, 2C-2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar** 0.1nm,0.3s,baz=266,slow=12,SNR=5.4	**16.42**	**61**	Pn	**Pn**	**05 39 27.2**	**-0.6**
ROSF	**Rostrenen** 240nm,1.6s	**16.83**	**86**	eP	**Pn**	**05 39 32.9**	**-0.2**
ROSF	**Rostrenen** 120nm,1.6s	**16.83**	**86**	eP	**Pn**	**05 39 32.9**	**-0.2**
QUIF	**Quistinic** 329nm,1.8s	**17.02**	**87**	eP	**Pn**	**05 39 34.7**	**-0.8**
QUIF	**Quistinic** 165nm,1.8s	**17.02**	**87**	eP	**Pn**	**05 39 34.7**	**-0.8**
SGMF	**Saint Gilles**	**17.31**	**86**	eP	**Pn**	**05 39 39.5**	**+0.4**
FLN	**La Foliniere** 122nm,1.6s	**18.50**	**83**	eP	**Pn**	**05 39 52.9**	**-1.0**
FLN	227nm,22.5s			eR			
FLN	**La Foliniere** 61nm,1.6s	**18.50**	**83**	eP	**Pn**	**05 39 52.9**	**-1.0**
MFF	**Saint Martin d** 122nm,1.7s	**19.39**	**89**	eP	**Pn**	**05 40 04.3**	**-0.2**
MFF	**Saint Martin d** 61nm,1.7s	**19.39**	**89**	eP	**Pn**	**05 40 04.3**	**-0.2**
SJPF	**Ste Jean**	**20.19**	**100**	eP	**P**	**05 40 15.7**	**+3.5**
ESDC	**Sonseca Array** 1.9nm,0.8s,baz=308,slow=9.6,SNR=7.0	**20.43**	**111**	P	**P**	**05 40 13.9**	**-0.9**
ETSF	**Etsaut** 37nm,1.4s	**20.72**	**99**	eP	**P**	**05 40 21.7**	**+3.7**
ETSF	**Etsaut** 18nm,1.4s	**20.72**	**99**	eP	**P**	**05 40 21.7**	**+3.7**
TCF	**Toulx Ste Croi** 18nm,0.9s,mb4.1	**21.02**	**88**	eP	**P**	**05 40 22.1**	**+0.9**
TCF	**Toulx Ste Croi** 9.1nm,0.9s,mb4.1	**21.02**	**88**	eP	**P**	**05 40 22.1**	**+0.9**
SNF	**Seneffe** comp=Z,4.7nm,0.9s,mb3.8	**21.12**	**76**	P	**P**	**05 40 22.6**	**+0.4**
EPF	**Esparros**	**21.23**	**98**	eP	**P**	**05 40 26.5**	**+3.0**
DOU	**Dourbes**	**21.41**	**77**	P	**P**	**05 40 25.9**	**+0.6**
DOU	comp=Z,14nm,0.7s			AP		05 40 28.7	
DOU				XP	sP	05 40 30.7	+1.3
DOU	**Dourbes**	**21.41**	**77**	P	**P**	**05 40 28.7**	**+3.4**
CAF	**Calviac**	**21.47**	**92**	eP	**P**	**05 40 27.6**	**+1.6**
GIVF	**Givet** comp=Z,26nm,0.8s,mb4.4	**21.55**	**77**	eP	**P**	**05 40 25.7**	**-1.2**
GIVF	**Givet** comp=Z,13nm,0.8s,mb4.4	**21.55**	**77**	eP	**P**	**05 40 25.7**	**-1.2**
AVF	**Avril sur Loir** comp=Z,28nm,1.2s,mb4.3	**21.57**	**86**	eP	**P**	**05 40 27.2**	**+0.1**
AVF	**Avril sur Loir** comp=Z,14nm,1.2s,mb4.3	**21.57**	**86**	eP	**P**	**05 40 27.2**	**+0.1**
SSF	**Saint Saulge**	**21.58**	**86**	eP	**P**	**05 40 27.3**	**+0.1**
LOR	**Lormes**	**21.73**	**85**	eP	**P**	**05 40 28.4**	**-0.4**
LOR	comp=Z,236nm,17.8s			eR			
SMF	**Signal de Mont**	**21.94**	**86**	eP	**P**	**05 40 31.2**	**+0.2**
MEZF	**Maizieres J'vi**	**22.11**	**81**	eP	**P**	**05 40 33.0**	**+0.1**
LASF	**Ste Croix** comp=Z,26nm,1.2s,mb4.2	**22.99**	**93**	eP	**P**	**05 40 42.8**	**+0.5**
LASF	**Ste Croix** comp=Z,13nm,1.2s,mb4.2	**22.99**	**93**	eP	**P**	**05 40 42.8**	**+0.5**
HAU	**Haudompre** comp=Z,28nm,1.0s,mb4.3	**23.08**	**82**	eP	**P**	**05 40 42.0**	**-1.2**
HAU	comp=Z,134nm,21.8s			eR			
HAU	**Haudompre** comp=Z,14nm,1.0s,mb4.3	**23.08**	**82**	eP	**P**	**05 40 42.0**	**-1.2**
VIVF	**Saint-Julien-l**	**23.18**	**90**	eP	**P**	**05 40 44.1**	**-0.1**
CABF	**La Chapelle**	**23.39**	**85**	eP	**P**	**05 40 45.3**	**-1.2**
HINF	**Hinteralfeld** comp=Z,17nm,1.0s,mb4.1	**23.46**	**82**	eP	**P**	**05 40 45.4**	**-1.8**
HINF	**Hinteralfeld** comp=Z,8.5nm,1.0s,mb4.1	**23.46**	**82**	eP	**P**	**05 40 45.4**	**-1.8**
CDF	**Champ du Feu**	**23.55**	**80**	eP	**P**	**05 40 46.4**	**-1.7**
SMRF	**Simiane la Rot**	**24.14**	**91**	eP	**P**	**05 40 54.0**	**+0.5**
LPG	**La Plagne**	**24.25**	**87**	eP	**P**	**05 40 54.1**	**-0.4**
MBDF	**Montbardon** comp=Z,30nm,1.3s,mb4.4	**24.58**	**89**	eP	**P**	**05 40 57.4**	**-0.1**
MBDF	**Montbardon** comp=Z,15nm,1.3s,mb4.4	**24.58**	**89**	eP	**P**	**05 40 57.4**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,20nm,1.4s,mb4.5,baz=260,slow=10	**24.78**	**48**	P	**P**	**05 40 59.2**	**-0.2**
NOA	**NORSAR Array B** comp=Z,5.5nm,1.1s,mb4.0,baz=260,slow=9.5,SNR=4.8	**24.78**	**48**	P	**P**	**05 40 59.4**	**+0.1**
NOA				LR	LR	05 50 04.5	
GRA1	**Grafenberg Arr** comp=Z,6.0nm,0.8s,mb4.2	**25.65**	**75**	eP	**P**	**05 41 10.4**	**+3.1**
GRF	**Grafenberg Arr** comp=Z,6.0nm,0.8s,mb4.2	**25.65**	**75**	eP	**P**	**05 41 10.4**	**+3.1**
GRF	**Grafenberg Arr**	**25.65**	**75**	eP	**P**	**05 41 10.4**	**+3.1**
GRF	comp=Z,6.0nm,0.8s,mb4.2			pmax	pmax		
GRF	**Grafenberg Arr**	**25.65**	**75**	eP	**P**	**05 41 10.4**	**+3.1**
GRF	comp=Z,6.0nm,0.8s,mb4.2			pmax	pmax		
DAVOX	**Davos** comp=Z,122nm,18.1s,MS3.5,baz=298,slow=36	**25.76**	**82**	LR	LR	05 51 20.0	
HFS	**Hagfors** comp=Z,2.3nm,0.9s,mb3.7,baz=270,slow=7.4,SNR=11	**25.91**	**51**	P	**P**	**05 41 10.8**	**+1.3**
HFS				LR	LR	05 50 30.3	
CLL	**Collm** comp=Z,7.0nm,0.9s,mb4.2	**26.32**	**71**	eP	**P**	**05 41 14.0**	**+0.6**
GERES	**GERESS Array B** comp=Z,1.3nm,0.9s,mb3.5,baz=282,slow=9.4,SNR=4.2	**27.46**	**76**	P	**P**	**05 41 23.4**	**-0.1**
GERES	comp=Z,108nm,18.9s,MS3.5,baz=299,slow=34			LR	LR	05 51 05.3	
FINES	**FINESS Array B** comp=Z,6.0nm,0.8s,mb4.5,baz=266,slow=7.7,SNR=30	**31.96**	**48**	P	**P**	**05 42 04.2**	**+0.8**
FINES	comp=Z,57nm,18.1s,MS3.3,baz=321,slow=35			LR	LR	05 54 28.4	
FINES	**FINESS Array B**	**31.96**	**48**	P	**P**	**05 42 04.2**	**+0.7**
ARCES	**ARCESS Array B** comp=Z,8.2nm,1.1s,mb4.5,baz=0.9,slow=7.8,SNR=4.6	**32.02**	**33**	P	**P**	**05 42 06.1**	**+2.1**
KAF	**Kangasniemi** comp=Z,7.6nm,0.8s,mb4.6	**32.02**	**47**	ep	**P**	**05 42 02.1**	**-1.9**
KAF	**Kangasniemi**	**32.02**	**47**	eP	**P**	**05 42 02.1**	**-1.9**
KAF	comp=Z,8.0nm,0.8s,mb4.6			pmax	pmax		
SADO	**Sadowa** comp=Z,5.6nm,0.8s,mb4.5,baz=41,slow=11,SNR=3.2	**33.85**	**281**	P	**P**	**05 42 19.7**	**-0.3**
JOF	**Joensuu** comp=Z,6.2nm,0.9s,mb4.5	**34.26**	**45**	ep	**P**	**05 42 19.7**	**-3.8**
LVZ	**Lovozero**	**35.26**	**36⇑**	eP	**P**	**05 42 30.0**	**-2.2**
LVZ	comp=Z,140nm,2.5s,mb5.5			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.7nm,0.7s,mb4.1,baz=289,slow=8.8,SNR=6.0	**36.24**	**66**	P	**P**	**05 42 40.6**	**0.0**
OBN	**Obninsk** comp=Z,17nm,1.1s,mb4.7	**38.77**	**57**	eP	**P**	**05 43 03.5**	**+1.4**
OBN	**Obninsk**	**38.77**	**57**	eP	**P**	**05 43 03.5**	**+1.4**
OBN	comp=Z,17nm,1.1s,mb4.7			pmax	pmax		
ULM	**Lac du Bonnet** comp=Z,3.6nm,0.7s,mb4.1,baz=55,slow=7.2,SNR=7.1	**41.55**	**297**	P	**P**	**05 43 23.9**	**-1.1**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.8s,mb3.6,baz=311,slow=4.7,SNR=3.6	**44.29**	**79**	P	**P**	**05 43 47.0**	**-0.2**
BRTR	**Keskin Array B**	**44.29**	**79**	P	**P**	**05 43 47.0**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,6.5nm,1.1s,mb4.4,baz=336,slow=7.6,SNR=17	**44.54**	**135**	P	**P**	**05 43 48.6**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.7s,mb3.6,baz=61,slow=7.9,SNR=6.5	**45.57**	**320**	P	**P**	**05 43 57.2**	**-0.2**
YKA	comp=Z,0.6nm,0.8s,baz=59,slow=4.1,SNR=9.4			PcP	PcP	05 45 34.6	-1.4
YKA				LR	LR	06 00 59.0	
YKA	**Yellowknife Ar** comp=Z,141nm,21.9s,MS3.9,baz=65,slow=33	**45.57**	**320**	PcP	PcP	05 45 34.6	-1.4
YKA	**Yellowknife Ar**	**45.57**	**320**	P	**P**	**05 43 57.2**	**-0.3**
YKA						05 45 34.6	
YKA	**Yellowknife Ar**	**45.57**	**320**	P	**P**	**05 43 57.2**	**-0.2**
YKA				PcP	PcP	05 45 34.6	-1.4
YKA				LR	LR	06 00 59.0	
LAO	**LASA Array** comp=Z,8.4nm,1.0s,mb4.7	**49.28**	**298**	eP	**P**	**05 44 26.8**	**+0.4**
LAO	**LASA Array** comp=Z,8.4nm,1.0s,mb4.7	**49.28**	**298**	eP	**P**	**05 44 26.8**	**+0.4**
ARU	**Arti** comp=Z,16nm,1.7s,mb4.8	**49.32**	**47**	eP	**P**	**05 44 27.3**	**+0.6**
ARU	**Arti** comp=Z,16nm,1.7s,mb4.8	**49.32**	**47**	eP	**P**	**05 44 27.3**	**+0.6**
ARU				pmax	pmax		
INK	**Inuvik** comp=Z,2.8nm,0.9s,mb4.3,baz=65,slow=9.6,SNR=4.9	**49.47**	**332**	P	**P**	**05 44 26.0**	**-1.8**
INK	**Inuvik**	**49.47**	**332**	P	**P**	**05 44 26.0**	**-1.8**
GNI	**Garni** comp=Z,6.0nm,1.2s,mb4.4	**50.94**	**71**	eP	**P**	**05 44 41.1**	**+2.1**
GNI	**Garni** comp=Z,6.0nm,1.2s	**50.94**	**71⇓**	eP	**P**	**05 44 41.1**	**+2.1**
GNI				pmax	pmax		
GCMT	**Greycliff**	**51.75**	**298**	eP	**P**	**05 44 45.4**	**+0.3**
GCMT	**Greycliff**	**51.75**	**298**	eP	**P**	**05 44 45.4**	**+0.3**
WMOK	**Wichita Mounta** comp=Z,2.0nm,0.9s,mb4.0	**51.93**	**281**	eP	**P**	**05 44 45.6**	**-0.8**
WMOK	**Wichita Mounta**	**51.93**	**281**	eP	**P**	**05 44 45.6**	**-0.8**
WMOK	comp=Z,2.0nm,0.9s,mb4.0			pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,2.0nm,0.9s,mb4.0	**51.93**	**281**	eP	**P**	**05 44 45.6**	**-0.8**
PHWY	**Pilot Hill**	**51.98**	**292**	eP	**P**	**05 44 46.9**	**+0.2**
PHWY	**Pilot Hill**	**51.98**	**292**	eP	**P**	**05 44 46.9**	**+0.2**
HRY	**Holter Researc**	**52.42**	**301**	eP	**P**	**05 44 49.9**	**-0.2**
HRY	**Holter Researc**	**52.42**	**301**	eP	**P**	**05 44 49.9**	**-0.2**
BOZ	**Bozeman (W)** comp=Z,3.4nm,0.9s,mb4.3	**52.95**	**299**	eP	**P**	**05 44 54.1**	**+0.2**
BOZ	**Bozeman (W)**	**52.95**	**299**	eP	**P**	**05 44 54.1**	**+0.2**
BOZ	comp=Z,3.0nm,0.9s,mb4.2			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,3.4nm,0.9s,mb4.3	**52.95**	**299**	eP	**P**	**05 44 54.1**	**+0.2**
CHMT	**Chamberlain Mo**	**53.09**	**301**	eP	**P**	**05 44 55.0**	**0.0**
CHMT	**Chamberlain Mo**	**53.09**	**301**	eP	**P**	**05 44 55.0**	**0.0**
BW06	**Boulder Array** comp=Z,2.7nm,0.8s,mb4.2	**53.51**	**295**	eP	**P**	**05 44 57.1**	**-0.9**
BW06	**Boulder Array** comp=Z,2.7nm,0.8s,mb4.2	**53.51**	**295**	eP	**P**	**05 44 57.1**	**-1.0**
MOOW	**Moose Ponds** comp=Z,3.9nm,1.2s,mb4.2	**53.59**	**297**	eP	**P**	**05 44 58.6**	**-0.1**
MOOW	**Moose Ponds** comp=Z,3.9nm,1.2s,mb4.2	**53.59**	**297**	eP	**P**	**05 44 58.6**	**-0.1**
LOHW	**Long Hollow** comp=Z,2.9.9nm,1.8s,mb4.4	**53.59**	**297**	eP	**P**	**05 44 59.0**	**+0.3**
LOHW	**Long Hollow** comp=Z,9.9nm,1.8s,mb4.4	**53.59**	**297**	eP	**P**	**05 44 59.0**	**+0.3**
SMCO	**Snowmass** comp=Z,1.7nm,0.7s,mb4.1	**54.20**	**290**	eP	**P**	**05 45 03.8**	**+0.7**
SMCO	**Snowmass** comp=Z,1.7nm,0.7s,mb4.1	**54.20**	**290**	eP	**P**	**05 45 03.8**	**+0.7**
JCT	**Junction City** comp=Z,4.8nm,0.7s,mb4.6	**55.37**	**278**	eP	**P**	**05 45 11.8**	**+0.2**
JCT	**Junction City** comp=Z,5.0nm,0.7s,mb4.7	**55.37**	**278**	eP	**P**	**05 45 11.8**	**+0.2**
JCT				pmax	pmax		
JCT	**Junction City** comp=Z,4.8nm,0.7s,mb4.6	**55.37**	**278**	eP	**P**	**05 45 11.8**	**+0.1**
HWUT	**Hardware Ranch** comp=Z,5.0nm,0.8s,mb4.6	**55.40**	**295**	eP	**P**	**05 45 11.1**	**-0.7**
HWUT	**Hardware Ranch** comp=Z,5.0nm,0.8s,mb4.6	**55.40**	**295**	eP	**P**	**05 45 11.1**	**-0.7**
HLID	**Hailey** comp=Z,6.6nm,1.4s,mb4.5	**55.80**	**299**	eP	**P**	**05 45 15.3**	**+0.6**
HLID	**Hailey** comp=Z,6.6nm,1.4s,mb4.5	**55.80**	**299**	eP	**P**	**05 45 15.3**	**+0.7**
ILAR	**Eielson Array** comp=Z,1.0nm,0.8s,mb3.9,baz=47,slow=5.3,SNR=12	**55.82**	**333**	P	**P**	**05 45 15.4**	**+0.6**
ILAR	comp=Z,0.7nm,0.9s,baz=19,slow=3.7,SNR=4.7			PcP	PcP	05 46 12.9	-0.8
ILAR				LR	LR	06 07 34.2	
ILAR	**Eielson Array** comp=Z,53nm,18.5s,MS3.7,baz=182,slow=34	**55.82**	**333**	PcP	PcP	05 46 13.0	-0.8
ILAR	**Eielson Array**	**55.82**	**333**	P	**P**	**05 45 15.5**	**+0.7**
ILAR						05 46 13.0	
PV10	**Paradox Valley**	**55.95**	**291**	eP	**P**	**05 45 16.3**	**+0.5**
PV10	**Paradox Valley**	**55.95**	**291**	eP	**P**	**05 45 16.3**	**+0.5**
COLA	**College**	**56.03**	**333**	eP	**P**	**05 45 11.5**	**-4.8**
ANMO	**Albuquerque**	**56.60**	**286**	iP	**P**	**05 45 20.5**	**+0.1**
ANMO	**Albuquerque** comp=Z,4.1nm,1.3s,mb4.3	**56.60**	**286**	eP	**P**	**05 45 21.2**	**+0.8**
BRVK	**Borovoye** comp=Z,3.4nm,0.9s,mb4.4	**56.79**	**45**	eP	**P**	**05 45 22.6**	**+0.9**
BRVK	**Borovoye**	**56.79**	**45**	eP	**P**	**05 45 22.6**	**+0.9**
BRVK	comp=Z,3.0nm,0.9s,mb4.3			pmax	pmax		
BRVK	**Borovoye** comp=Z,3.4nm,0.9s,mb4.4	**56.79**	**45**	eP	**P**	**05 45 22.6**	**+0.9**
DUG	**Dugway** comp=Z,3.9nm,0.9s,mb4.4	**57.02**	**295**	eP	**P**	**05 45 24.1**	**+0.7**
DUG	**Dugway**	**57.02**	**295**	eP	**P**	**05 45 24.1**	**+0.7**
DUG	comp=Z,4.0nm,0.9s,mb4.5			pmax	pmax		
DUG	**Dugway** comp=Z,3.9nm,0.9s,mb4.4	**57.02**	**295**	eP	**P**	**05 45 24.1**	**+0.7**
TIXI	**Tiksi** comp=Z,1.0nm,0.8s,mb3.9	**57.54**	**8**	eP	**P**	**05 45 25.2**	**-1.8**
TIXI	**Tiksi** comp=Z,1.0nm,0.8s,mb3.9	**57.54**	**8**	eP	**P**	**05 45 25.2**	**-1.8**
TIXI				pmax	pmax		
MSU	**Marysvale**	**57.74**	**293**	eP	**P**	**05 45 29.1**	**+0.6**
MSU	**Marysvale**	**57.74**	**293**	eP	**P**	**05 45 29.1**	**+0.6**
ELK	**Elko** comp=Z,1.5nm,0.9s,mb4.0	**58.07**	**297**	eP	**P**	**05 45 31.3**	**+0.5**
ELK	**Elko** comp=Z,1.0nm,0.9s	**58.07**	**297**	eP	**P**	**05 45 31.3**	**+0.5**
ELK				pmax	pmax		
ELK	**Elko** comp=Z,1.5nm,0.9s,mb4.0	**58.07**	**297**	eP	**P**	**05 45 31.3**	**+0.5**
WVOR	**Wild Horse Val** comp=Z,5.3nm,1.1s,mb4.5	**58.89**	**300**	eP	**P**	**05 45 37.0**	**+0.5**
WVOR	**Wild Horse Val** comp=Z,5.0nm,1.1s,mb4.5	**58.89**	**300**	eP	**P**	**05 45 37.0**	**+0.5**
WVOR				pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,5.3nm,1.1s,mb4.5	**58.89**	**300**	eP	**P**	**05 45 37.0**	**+0.5**
ROSC	**El Rosal** comp=Z,51nm,19.0s,MS3.7,baz=31,slow=31	**59.01**	**236**	LR	LR	06 05 41.2	
TUC	**Tucson** comp=Z,1.0nm,0.8s,mb4.0	**61.04**	**287**	eP	**P**	**05 45 52.0**	**+0.7**
TUC	**Tucson** comp=Z,1.0nm,0.8s,mb4.0	**61.04**	**287**	eP	**P**	**05 45 52.1**	**+0.8**
TUC				pmax	pmax		
TUC	**Tucson** comp=Z,1.0nm,0.8s,mb4.0	**61.04**	**287**	eP	**P**	**05 45 52.0**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,47nm,19.8s,MS3.6,baz=180,slow=36	**61.38**	**297**	LR	LR	06 12 37.8	
BILL	**Bilibino**	**61.64**	**354**	eP	**P**	**05 45 50.8**	**-4.5**
BILL	comp=Z,5.0nm,1.2s,mb4.5			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.2nm,1.0s,mb4.5	**62.15**	**43**	eP	**P**	**05 45 58.9**	**+0.1**
KURK	**Kurchatov**	**62.15**	**43⇑**	iP	**P**	**05 45 59.5**	**+0.7**
KURK	**Kurchatov** comp=Z,4.2nm,1.0s,mb4.5	**62.15**	**43**	eP	**P**	**05 45 58.9**	**+0.1**
OTAV	**Otavalo** comp=Z,9.1nm,1.4s,mb4.6	**65.09**	**237**	eP	**P**	**05 46 17.5**	**-0.7**
OTAV	**Otavalo** comp=Z,9.1nm,1.4s,mb4.6	**65.09**	**237**	eP	**P**	**05 46 17.5**	**-0.7**
AAK	**Ala-Archa** comp=Z,7.0nm,1.3s,mb4.5	**66.05**	**52**	eP	**P**	**05 46 26.2**	**+1.8**
AAK	**Ala-Archa**	**66.05**	**52⇓**	eP	**P**	**05 46 26.2**	**+1.8**
AAK	comp=Z,7.0nm,1.3s,mb4.5			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,4.1nm,0.8s,mb4.5,baz=322,slow=5.5,SNR=36	**66.69**	**44**	P	**P**	**05 46 28.9**	**+0.5**
MKAR	**Makanchi Array**	**66.69**	**44**	P	**P**	**05 46 28.9**	**+0.4**
WMQ	**Urumqi**	**71.40**	**43**	eP	**P**	**05 46 59.8**	**+2.1**
WMQ				AMB	AMB		
SONM	**Songino Array** comp=Z,1.1nm,0.8s,mb3.8,baz=300,slow=6.5,SNR=7.9	**75.12**	**29**	P	**P**	**05 47 21.2**	**+1.5**
MDJ	**Mudanjiang**	**83.83**	**15**	P	**P**	**05 48 05.5**	**-1.6**
MDJ	comp=Z,187nm,3.8s			AMB	AMB		
CN2	**Changchun**	**83.85**	**18**	eP	**P**	**05 48 06.1**	**-1.1**
LZH	**Lanzhou**	**84.58**	**37**	eP	**P**	**05 48 10.0**	**-1.0**
LZH	comp=Z,5.0nm,1.0s,mb4.6			AMB	AMB		
CD2	**Chengdu**	**89.10**	**39**	eP	**P**	**05 48 32.6**	**-0.3**
CD2	comp=Z,10.0nm,0.9s,mb5.2			AMB	AMB		
NJ2	**Nanjing**	**93.36**	**27**	eP	**P**	**05 48 51.1**	**-1.6**
NJ2	comp=Z,10.0nm,0.6s,mb5.4			AMB	AMB		
SSE	**Sheshan**	**94.92**	**25**	P	**P**	**05 48 59.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.7nm,0.7s,baz=341,slow=2.1,SNR=7.2	**150.40**	**33**	PKPbc	PKPbc	05 55 28.8	-0.3

IDC 25 05:45:37.9±7.6, 2003S×17838W, h638km±88km, mb3.0/5, mb1 3.4/5, mb1mx3.1/12, mbtmp4.0/5, Error ellipse: s-maj=71.1km s-min=35.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.5nm,0.5s,baz=94,slow=7.6,SNR=19	**44.29**	**256**	P	P	05 52 53.8	+0.5
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=96,slow=7.6,SNR=63	**44.32**	**262**	P	P	05 52 53.8	+0.3
MJAR	**Matsushiro Arr** 0.7nm,0.4s,baz=152,slow=6.3,SNR=4.2	**69.62**	**324**	P	P	05 55 45.4	+0.3
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=239,slow=10.0,SNR=4.0	**80.92**	**44**	P	P	05 56 48.2	+0.8
ILAR	**Eielson Array** 1.3nm,0.7s,baz=215,slow=5.2,SNR=28	**87.93**	**13**	P	P	05 57 20.6	-1.0
ARCES	**ARCESS Array B** 6.6nm,1.0s,baz=69,slow=5.1,SNR=3.7	**128.40**	**350**	PKP	PKPdf	06 03 33.3	-0.2
AKASG	**Malin Array Be** 1.7nm,0.5s,baz=43,slow=4.2,SNR=16	**142.43**	**331**	PKP	PKPdf	06 03 57.3	-2.2
KHC	**Kasperske Hory**	**149.42**	**344**	eP	PKPdf	06 04 18.0	+6.8
KHC				x	x	06 04 26.0	
GERES	**GERESS Array B** 0.6nm,0.6s,baz=22,slow=1.4,SNR=4.6	**149.65**	**344**	PKPbc	PKPbc	06 04 17.8	+0.7

*IDC **25** 05:48:49.8±2.3, 2684N×9148E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, MS3.1/1, Ms1

*ISCJB **25** 06:11:22.4±0.6, 3.14S×2858E±007, h10km, mb3.9/8, Error ellipse: s-maj=11.9km s-min=9.3km az=131.9*
*IDC **25** 06:11:23.4±0.9, 3.13S×2841E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/21, mbtmp4.0/10, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=24.6km s-min=18.8km az=101.0*
*NEIC **25** 06:11:24.7±0.6, 3.14S×2849E, h10km, mb4.1/2, Error ellipse: s-maj=16.0km s-min=10.5km az=104.0*
ISC 25 06:11:24.9±0.6, 313S×008×2853E±007, h10km, n14, σ0°71/17, mb3.9/8, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.94**	**77**	Pn	**Pn**	**06 13 33.9**	**-0.2**
	0.8nm,0.3s,baz=234,slow=19,SNR=9.1						
KMBO				Sn	**Sn**	**06 15 14.1**	**-0.7**
	1.7nm,0.3s,baz=162,slow=24,SNR=7.4						
KMBO				Lg		06 16 04.2	
	2.0nm,0.3s,baz=1.3,slow=21,SNR=6.7						
LSZ	**Lusaka**	**12.07**	**182**	Pn	**Pn**	**06 14 16.6**	**-0.3**
	0.5nm,0.3s,baz=353,slow=13,SNR=3.6						
LSZ				Sn	**Sn**	**06 16 23.7**	**-7.8**
	0.8nm,0.3s,baz=128,slow=21,SNR=5.6						
LSZ				Lg		06 17 40.5	
	1.5nm,0.3s,baz=98,slow=17,SNR=6.5						
LSZ				LR	LR	06 19 09.8	
	comp=Z,110nm,19.5s,baz=344,slow=39						
LSZ	**Lusaka**	**12.07**	**182**	Pn	**Pn**	**06 14 16.6**	**-0.3**
LSZ				Sn	**Sn**	**06 16 23.7**	**-7.8**
LSZ				Lg		06 17 40.5	
LSZ				LR	LR	06 19 09.8	
LBTB	**Lobatse**	**21.94**	**187**	P	**P**	**06 16 17.9**	**-0.6**
	3.0nm,0.9s,mb3.7,baz=30,slow=14,SNR=3.0						
LBTB	**Lobatse**	**21.94**	**187**	*e*P	**P**	**06 16 19.7**	**+1.2**
	6.6nm,1.1s,mb4.0						
BOSA	**Boshof**	**25.53**	**187**	P	**P**	**06 16 54.7**	**+1.1**
	2.5nm,0.7s,mb3.9,baz=7.6,slow=12,SNR=6.7						
BOSA	**Boshof**	**25.53**	**187**	*e*P	**P**	**06 16 53.3**	**-0.3**
	4.1nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**31.17**	**302**	P	**P**	**06 17 43.3**	**-0.6**
	4.6nm,0.7s,mb4.4,baz=111,slow=8.0,SNR=28						
DBIC	**Dimbokro**	**34.73**	**286**	P	**P**	**06 18 14.2**	**-0.8**
	2.6nm,0.8s,mb4.2,baz=94,slow=7.5,SNR=5.1						
BRTR	**Keskin Array B**	**42.91**	**6**	P	**P**	**06 19 24.5**	**+0.9**
	0.7nm,0.7s,mb3.5,baz=198,slow=7.8,SNR=5.6						
GERES	**GERESS Array B**	**53.35**	**348**	P	**P**	**06 20 43.7**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=185,slow=5.4,SNR=3.6						
KHC	**Kasperske Hory**	**53.65**	**348**	*e*P	**P**	**06 20 46.5**	**0.0**
MKAR	**Makanchi Array**	**68.52**	**37**	P	**P**	**06 22 28.6**	**+1.1**
	1.2nm,0.9s,mb3.8,baz=245,slow=7.5,SNR=10.0						
ZAL	**Zalesovo**	**73.50**	**31**	P	**P**	**06 22 58.2**	**+0.6**
	0.8nm,0.5s,mb3.9,baz=214,slow=3.2,SNR=7.1						

*IDC **25** 06:25:49.7±1.1, 4992N×2900W, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, MS3.5/7, Ms1 3.5/7, ms1mx3.2/31, Error ellipse: s-maj=31.1km s-min=21.5km az=28.0*
*CSEM **25** 06:25:58.4±0.2, 5091N×2897W, h33km, mb4.3/3, Ms3.1, Error ellipse: s-maj=13.3km s-min=3.6km az=26.0*
NEIC 25 06:25:51.1±1.1, 4989N×2900W, h10km, Error ellipse: s-maj=28.0km s-min=15.0km az=202.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**20.21**	**99**	*e*P	P	06 30 34.9	+8.8
	86nm,1.6s						
SJPF	**Ste Jean**	**20.21**	**99**	*e*P	P	06 30 34.9	+8.8
	43nm,1.6s						
ESDC	**Sonseca Array**	**20.41**	**110**	P	P	06 30 28.8	+0.6
	0.4nm,0.4s,baz=294,slow=12,SNR=3.3						
ESDC	**Sonseca Array**	**20.41**	**110**	P	P	06 30 28.8	+0.6
ETSF	**Etsaut**	**20.74**	**99**	*e*P	P	06 30 40.5	+8.7
TCF	**Toulx Ste Croi**	**21.08**	**88**	*e*P	P	06 30 41.4	+6.0
	9.4nm,0.7s						
TCF	**Toulx Ste Croi**	**21.08**	**88**	*e*P	P	06 30 41.4	+6.0
	4.7nm,0.7s						
EPF	**Esparros**	**21.25**	**98**	*e*P	P	06 30 46.3	+9.0
BGF	**Bois d'Agland**	**21.39**	**87**	*e*P	P	06 30 46.5	+7.7
	22nm,0.6s						
BGF	**Bois d'Agland**	**21.39**	**87**	*e*P	P	06 30 46.5	+7.7
	11nm,0.6s						
CAF	**Calviac**	**21.51**	**91**	*e*P	P	06 30 47.1	+7.0
AVF	**Avril sur Loir**	**21.64**	**86**	*e*P	P	06 30 45.4	+3.9
GIVF	**Givet**	**21.64**	**76**	*e*P	P	06 30 45.5	+4.0
SSF	**Saint Saulge**	**21.64**	**85**	*e*P	P	06 30 46.4	+4.9
HAU	**Haudompre**	**23.16**	**81**	*e*P	P	06 31 01.1	+3.4
HAU				*e*R			
	128nm,18.0s						
HINF	**Hinteralfeld**	**23.55**	**81**	*e*P	P	06 31 04.4	+2.7
CDF	**Champ du Feu**	**23.63**	**80**	*e*P	P	06 31 06.1	+3.6
NOA	**NORSAR Array B**	**24.96**	**48**	P	P	06 31 14.8	+0.2
	1.3nm,0.9s,baz=264,slow=10,SNR=3.7						
NOA				LR	LR	06 38 56.3	
	comp=Z,45nm,19.1s,baz=30,slow=32						
LMR	**La Mourre**	**25.09**	**91**	*e*P	P	06 31 23.5	+7.7
SBF	**Sospel**	**25.44**	**90**	*e*P	P	06 31 26.5	+7.5
	15nm,0.8s						
SBF	**Sospel**	**25.44**	**90**	*e*P	P	06 31 26.5	+7.5
	7.5nm,0.8s						
DAVOX	**Davos**	**25.84**	**82**	LR	LR	06 40 05.9	
	comp=Z,88nm,20.0s,baz=289,slow=33						
HFS	**Hagfors**	**26.08**	**51**	P	P	06 31 24.6	-0.1
	2.5nm,0.9s,baz=222,slow=2.0,SNR=4.1						
HFS				LR	LR	06 40 25.2	
	comp=Z,90nm,18.9s,baz=258,slow=34						
PGF	**Pioggiola**	**27.07**	**91**	*e*P	P	06 31 41.9	+8.2
GERES	**GERESS Array B**	**27.56**	**76**	LR	LR	06 42 21.9	
	comp=Z,81nm,18.4s,baz=307,slow=36						
FINES	**FINESS Array B**	**32.14**	**48**	P	P	06 32 17.0	-1.6
	1.6nm,0.7s,baz=255,slow=7.3,SNR=8.2						
FINES				LR	LR	06 44 45.7	
	comp=Z,99nm,18.1s,baz=196,slow=35						
FINES	**FINESS Array B**	**32.14**	**48**	P	P	06 32 17.0	-1.6
FINES				LR	LR	06 44 45.7	
TORD	**Torodi Ar. Bea**	**44.43**	**135**	P	P	06 34 02.6	+0.6
	1.7nm,0.9s,baz=336,slow=7.2,SNR=7.8						
YKA	**Yellowknife Ar**	**45.69**	**320**	P	P	06 34 11.8	-0.3
	0.2nm,0.7s,baz=60,slow=8.1,SNR=3.9						
YKA				PcP	PcP	06 35 48.8	-1.2
	0.3nm,0.6s,baz=62,slow=4.1,SNR=5.3						
YKA	**Yellowknife Ar**	**45.69**	**320**	PcP	PcP	06 35 48.8	-1.2
ILAR	**Eielson Array**	**55.98**	**333**	P	P	06 35 29.6	0.0
	0.6nm,0.9s,baz=41,slow=4.7,SNR=7.2						
ILAR				PcP	PcP	06 36 26.7	-1.3
	0.5nm,0.9s,baz=6.6,slow=3.5,SNR=5.6						
ILAR	**Eielson Array**	**55.98**	**333**	P	P	06 35 29.6	0.0
ILAR	**Eielson Array**	**55.98**	**333**	PcP	PcP	06 36 26.7	-1.3
BVAR	**Borovoye Array**	**57.04**	**45**	P	P	06 35 37.0	-0.2
	1.9nm,0.6s,baz=298,slow=6.4,SNR=6.3						
MKAR	**Makanchi Array**	**66.87**	**44**	P	P	06 36 43.0	-0.3
	1.9nm,0.7s,baz=324,slow=5.9,SNR=21						
MKAR				LR	LR	07 04 56.6	
	comp=Z,41nm,21.1s,baz=74,slow=35						
SONM	**Songino Array**	**75.33**	**29**	P	P	06 37 35.2	+0.7
	1.1nm,0.9s,baz=316,slow=6.8,SNR=8.6						
KMBO	**Kilima Mbogo**	**75.79**	**109**	LR	LR	07 08 38.4	
	comp=Z,28nm,18.7s,baz=231,slow=34						
WRA	**Warramunga Arr**	**147.30**	**30**	PKPbc	PKPbc	06 45 33.9	-0.9
	0.4nm,0.7s,baz=334,slow=2.6,SNR=4.6						
ASAR	**Alice Springs**	**150.60**	**33**	PKPbc	PKPbc	06 45 42.3	-0.9
	0.7nm,0.6s,baz=349,slow=1.7,SNR=7.2						

MAN 25 06:30:40.8, 981N×12499E, h1km, mb2.3, ML3.9, MS1.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.50**	**94**	*e*P	Pg	06 30 50.5	+0.2
SCPH				*e*S	Sg	06 31 04.1	+7.4
PLP	**Palo**	**1.34**	**360**	*e*P	Pg	06 31 06.0	-0.5
PLP				*i* S	Sg	06 31 28.4	+4.5

IDC 25 06:35:19.0±2.0, 338N×12820E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=163.6km s-min=25.4km az=66.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**166**	P	P	06 40 36.0	+1.2
	0.4nm,0.4s,baz=345,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**37.30**	**161**	P	P	06 42 31.9	-0.9
	0.6nm,0.4s,baz=343,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**58.69**	**325**	P	P	06 45 18.6	+0.3
	0.2nm,0.3s,baz=111,slow=8.1,SNR=9.8						

*CSEM **25** 06:43:08.8±0.1, 3808N×2674E, h8km, MD2.9, Error ellipse: s-maj=3.6km s-min=1.9km az=88.0*
*ATH **25** 06:43:08.9, 3800N×2672E, h29km, MD3.1/3*
*ISCJB **25** 06:43:09.1±0.7, 3805N±003×2671E±005, h6km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=158.6*
*ISK **25** 06:43:10.0, 3807N×2684E, h7km, MD2.9*
ISC 25 06:43:09.7±0.6, 3806N±002×2672E±005, h10km±5km, n14, σ0°60/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.32**	**343**	*i* P	**Pg**	**06 43 15.7**	**-0.3**
URLA				*i* S	**Sg**	**06 43 21.1**	**+0.8**
SMG	**Samos**	**0.36**	**165**	*e*PB	**Pg**	**06 43 16.8**	**-0.1**
SMG				*e*SB	**Sg**	**06 43 22.1**	**+0.4**
BLCB	**Balcova**	**0.41**	**38**	*i* PG	**Pg**	**06 43 17.2**	**-0.7**
BLCB				*i* SG	**Sg**	**06 43 22.9**	**-0.5**
IZM	**Izmir**	**0.55**	**52**	*i* PG	**Pg**	**06 43 20.1**	**-0.3**
KDAG	**Bornova**	**0.55**	**51**	*i* P	**Pg**	**06 43 20.1**	**-0.3**
KDAG				*i* S	**Sg**	**06 43 28.2**	**+0.4**
AYDN	**Tasoluk**	**1.00**	**113**	*i* P	**Pg**	**06 43 28.8**	**-0.2**
AYDN				*i* S	**Sg**	**06 43 41.8**	**-0.2**
BODT	**Bodrum**	**1.10**	**154**	PG	**Pg**	**06 43 31.2**	**+0.3**
BODT				SG	**Sg**	**06 43 45.8**	**+0.6**
BDRM	**Kayabasi**	**1.15**	**150**	*i* P	**Pb**	**06 43 31.6**	**-0.1**
BDRM				*i* S	**Sb**	**06 43 46.7**	**+0.1**
BDRM	**Kayabasi**	**1.15**	**150**	*i* P	**Pb**	**06 43 31.5**	**-0.2**
BDRM				*i* S	**Sb**	**06 43 46.7**	**+0.1**
AKS	**Akhisar**	**1.19**	**46**	PN	**Pn**	**06 43 32.1**	**-0.3**
PRK	**Paraskevi**	**1.24**	**344**	*e*PN	**Pn**	**06 43 32.3**	**-0.8**
PRK				*e*SN	**Sn**	**06 43 50.7**	**+0.9**
APE	**Apeiranthos**	**1.36**	**224**	*e*PN	**Pn**	**06 43 33.5**	**-1.4**
MANT	**Manisa**	**1.51**	**73**	*i* P	**Pn**	**06 43 38.0**	**+1.1**
MANT				*i* S	**Sn**	**06 43 56.3**	**-0.4**
BALB	**Balikesir**	**1.82**	**30**	*e*PN	**Pn**	**06 43 42.0**	**+0.8**

*IDC **25** 06:43:32.8±0.7, 1835N×6863W, h138km±7km, mb3.1/6, mb1 3.6/9, mb1mx3.4/20, mbtmp3.8/9, Error ellipse: s-maj=15.6km s-min=9.8km az=19.0*
*ISCJB **25** 06:43:33.3±0.7, 1842N±009×6852W±006, h155km±6km, mb3.4/6, Error ellipse: s-maj=14.4km s-min=9.6km az=152.0*
*BJI **25** 06:43:33.5, 1830N×6840W, h160km, mB4.4*
*NEIC **25** 06:43:34.6, 1826N×6843W, h160km, MD4.4(RSPR), After RSPR.*
*RSPR **25** 06:43:34.6, 1826N×6843W, h160km±2km, MD4.4/20, MD4.4/20*
ISC 25 06:43:33.2±0.5, 1850N±008×6865W±005, h137km±6km, h138km±..5km: pP-P, n54, σ1°00/67, mb3.4/6, 13C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.46**	**91**	*e*P	**Pn**	**06 44 03.1**	**+1.8**
MPR	**Mayaguez**	**1.46**	**101**	*e*S	**Sn**	**06 44 24.1**	**+1.3**
MPR	**Mayaguez**	**1.46**	**101⇑**	*e*P	**Pn**	**06 44 02.8**	**+1.5**
MPR				*e*S	**Sn**	**06 44 24.1**	**+1.3**
LSP	**Las Mesas**	**1.52**	**102**	*e*S	**Sn**	**06 44 25.0**	**+1.1**
LSP	**Las Mesas**	**1.52**	**102⇓**	*e*P	**Pn**	**06 44 03.5**	**+1.5**
LSP				*e*S	**Sn**	**06 44 25.0**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.54**	**108**	*e*S	**Sn**	**06 44 23.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.54**	**108⇑**	*e*P	**Pn**	**06 44 02.1**	**-0.1**
CRPR				*e*S	**Sn**	**06 44 23.6**	**-0.8**
MGP	**Maguayo**	**1.56**	**108⇓**	*e*P	**Pn**	**06 44 02.4**	**0.0**
LRS	**Lares**	**1.72**	**97⇓**	*e*P	**Pn**	**06 44 04.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.81**	**94**	*e*S	**Sn**	**06 44 30.5**	**+0.7**
AOPR	**Arecibo Observ**	**1.81**	**94⇓**	*e*P	**Pn**	**06 44 05.6**	**+0.4**
AOPR				*e*S	**Sn**	**06 44 30.5**	**+0.7**
OBIP	**Obispado Ponce**	**1.99**	**103**	*e*S	**Sn**	**06 44 34.3**	**+0.6**
OBIP	**Obispado Ponce**	**1.99**	**103⇓**	*e*P	**Pn**	**06 44 07.8**	**+0.4**
OBIP				*e*S	**Sn**	**06 44 34.3**	**+0.6**
CELP	**Cerrillos**	**2.01**	**102⇓**	*e*P	**Pn**	**06 44 08.1**	**+0.4**
CELP				*e*S	**Sn**	**06 44 32.7**	**-1.3**
ICM	**Isla Caja Muer**	**2.11**	**106**	*e*S	**Sn**	**06 44 34.8**	**-1.4**
ICM	**Isla Caja Muer**	**2.11**	**106⇑**	*e*P	**Pn**	**06 44 08.9**	**0.0**
ICM				*e*S	**Sn**	**06 44 34.8**	**-1.4**
SJG	**San Juan**	**2.40**	**99⇓**	*e*P	**Pn**	**06 44 12.3**	**-0.2**
SJG	**San Juan**	**2.40**	**99**	*e*S	**Sn**	**06 44 42.4**	**-0.3**
SJG	**San Juan**	**2.40**	**99⇑**	*e*P	**Pn**	**06 44 12.5**	**0.0**
SJG	**San Juan**	**2.40**	**99**	P	**Pn**	**06 44 11.8**	**-0.6**
	70nm,0.3s,baz=312,slow=13,SNR=59						
SJG				S	**Sn**	**06 44 42.2**	**-0.5**
	169nm,0.3s,baz=275,slow=22,SNR=38						
SJG	**San Juan**	**2.40**	**99⇓**	*e*P	**Pn**	**06 44 12.3**	**-0.2**
SJG				*e*S	**Sn**	**06 44 42.4**	**-0.3**
CPD	**Cerro la Pandu**	**2.64**	**100**	*e*S	**Sn**	**06 44 46.6**	**-1.3**
CPD	**Cerro la Pandu**	**2.64**	**100⇑**	*e*P	**Pn**	**06 44 15.8**	**+0.4**
CPD				*e*S	**Sn**	**06 44 46.6**	**-1.3**
CBYP	**Canovanas**	**2.66**	**94**	*e*S	**Sn**	**06 44 48.2**	**-0.2**
CBYP	**Canovanas**	**2.66**	**94⇑**	*e*P	**Pn**	**06 44 15.2**	**-0.5**
CBYP				*e*S	**Sn**	**06 44 48.2**	**-0.2**
HUMP	**Col San Antoni**	**2.68**	**97**	*e*S	**Sn**	**06 44 48.2**	**-0.7**
HUMP	**Col San Antoni**	**2.68**	**97⇑**	*e*P	**Pn**	**06 44 15.8**	**-0.2**
HUMP				*e*S	**Sn**	**06 44 48.2**	**-0.7**
MTP	**Monte Pirata**	**2.96**	**97**	*e*S	**Sn**	**06 44 55.5**	**+0.1**
MTP	**Monte Pirata**	**2.96**	**97⇑**	*e*P	**Pn**	**06 44 19.6**	**+0.1**
MTP				*e*S	**Sn**	**06 44 55.5**	**+0.1**
STVI	**Saint Thomas**	**3.50**	**92**	*e*S	**Sn**	**06 45 07.1**	**-0.7**
STVI	**Saint Thomas**	**3.50**	**92⇑**	*e*P	**Pn**	**06 44 26.1**	**-0.4**
STVI				*e*S	**Sn**	**06 45 07.1**	**-0.7**
CDVI	**St. Croix**	**3.77**	**101**	*e*S	**Sn**	**06 45 13.4**	**-0.6**
CDVI	**St. Croix**	**3.77**	**101⇑**	*e*P	**Pn**	**06 44 29.5**	**-0.5**
CDVI				*e*S	**Sn**	**06 45 13.4**	**-0.6**
TBVI	**Tortola**	**3.83**	**91**	*e*S	**Sn**	**06 45 13.3**	**-2.3**
TBVI	**Tortola**	**3.83**	**91⇑**	*e*P	**Pn**	**06 44 30.3**	**-0.6**
TBVI				*e*S	**Sn**	**06 45 13.3**	**-2.3**
MASC	**Masc**	**5.53**	**288**	*e*P	**Pn**	**06 44 51.0**	**-2.5**
	baz=68						
MASC				*e*S	**Sn**	**06 45 53.1**	**-2.9**
	comp=N,0.7nm,0.0s						
MASC				*e*			
	comp=E,0.8nm,0.0s						
MOAC	**Moa**	**6.33**	**291**	*e*P	**Pn**	**06 45 19.7**	**+16**
	baz=164						
MOAC				*e*S	**Sn**	**06 46 09.0**	**-6.2**
	comp=N,2.6nm,0.9s						
MOAC				*e*			
	comp=E,4.3nm,0.5s						
LZG	**Guadaloupe-1**	**6.97**	**109**	*e*P	**Pn**	**06 45 12.7**	**-0.1**
SEG	**Port Louis**	**7.13**	**106**	*e*P	**Pn**	**06 45 16.7**	**+1.8**
BBL	**Barber's Block**	**7.47**	**112**	*e*P	**Pn**	**06 45 21.2**	**+1.6**
SDV	**Santo Domingo**	**9.75**	**192**	P	**Pn**	**06 45 49.9**	**-0.2**
	comp=E,9.8nm,0.3s,baz=55,slow=5.0,SNR=110						
SDV				S	**Sn**	**06 47 32.2**	**-5.5**
	comp=E,0.5nm,0.3s,baz=29,slow=19,SNR=2.8						
ROSC	**El Rosal**	**14.65**	**203**	P	**Pn**	**06 46 54.2**	**+0.4**
	comp=E,1.4nm,0.3s,baz=87,slow=12,SNR=9.2						
LPAZ	**La Paz**	**34.57**	**179**	P	**P**	**06 50 08.5**	**-0.2**
	comp=E,0.4nm,0.4s,mb3.4,baz=16,slow=7.4,SNR=4.3						
NVAR	**Mina Array Bea**	**47.34**	**306**	P	**P**	**06 51 54.4**	**+1.3**
	comp=E,0.8nm,0.8s,mb3.4,baz=84,slow=9.0,SNR=6.3						
NVAR				pP	pP	06 52 25.6	+1.4
	comp=E,1.2nm,1.1s,baz=97,slow=9.6,SNR=4.2						
YKA	**Yellowknife Ar**	**54.15**	**336**	P	**P**	**06 52 43.8**	**-0.4**
	comp=E,0.3nm,0.6s,mb3.2,baz=112,slow=7.7,SNR=3.4						
YKA				pP	pP	06 53 15.6	-0.5
	comp=E,1.3nm,1.0s,baz=111,slow=7.2,SNR=7.7						
PLCA	**Paso Flores**	**58.95**	**182**	P	**P**	**06 53 15.9**	**-2.2**
	comp=E,1.1nm,0.7s,mb3.8,baz=7.9,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**67.53**	**83**	P	**P**	**06 54 15.6**	**+1.0**
	comp=E,0.6nm,0.7s,mb3.4,baz=286,slow=7.0,SNR=3.9						
TORD				pP	pP	06 54 48.4	+0.6
	comp=E,0.4nm,0.9s,baz=304,slow=8.8,SNR=1.9						
ILAR	**Eielson Array**	**68.42**	**333**	P	**P**	**06 54 20.8**	**+0.6**
	comp=E,0.2nm,0.6s,mb3.0,baz=98,slow=4.4,SNR=5.5						
MDJ	**Mudanjiang**	**115.02**	**346**	PKP	PKiKP	07 01 56.5	-1.4
CN2	**Changchun**	**116.67**	**349**	*e*PKP	PKPdf	07 02 00.0	-1.1
NJ2	**Nanjing**	**129.23**	**352**	*e*PKP	PKPdf	07 02 25.0	-0.2
STKA	**Stephens Creek**	**149.68**	**238**	PKPbc	PKPbc	07 03 04.7	-2.0
	comp=E,2.7nm,0.7s,baz=3.2,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**158.25**	**262**	PKPab	PKPab	07 03 48.4	-0.3
	comp=E,0.7nm,0.6s,baz=85,slow=3.8,SNR=7.0						
ASAR	**Alice Springs**	**158.35**	**252**	PKPab	PKPab	07 03 48.9	-0.2
	comp=E,1.9nm,0.9s,baz=97,slow=4.2,SNR=13						

PRE 25 06:50:05.6±1.6, 2323S×3231E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.29**	**292**	*e*P		06 43 37.3	
MSNA				*e*S		06 44 06.0	
MSNA				AML	AML	06 44 11.7	
	comp=Z,255nm,0.1s						
SLR	**Silverton**	**4.44**	**235**	*e*S	Sn	06 52 04.5	-1.0
SLR				AML	AML	06 52 38.9	
	comp=Z,35nm,0.4s						
LBTB	**Lobatse**	**6.38**	**252**	*e*P	Pn	06 51 41.9	+1.6
LBTB				*e*S	Sn	06 52 50.2	-3.3
LBTB				AML	AML	06 53 38.5	
	comp=Z,19nm,0.6s						
BOSA	**Boshof**	**8.31**	**228**	*e*P	Pn	06 52 07.9	+1.2
BOSA				*e*S	Sn	06 53 37.8	-3.1
BOSA				AML	AML	06 54 44.3	
	comp=Z,7.4nm,0.6s						

IDC 25 07:06:30.3±8.2, 1605S×17352W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML1.3/1, Error ellipse: s-maj=387.9km s-min=28.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**39**	Pn	Pn	07 07 14.4	-0.7
	2.7nm,0.3s,baz=252,slow=9.6,SNR=4.0						
AFI				Sn	Sn	07 07 41.7	-6.9
	12nm,0.3s,baz=59,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	07 15 23.0	-0.1
	0.1nm,0.4s,baz=94,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**49.80**	**252**	P	P	07 15 25.1	+0.4
	0.6nm,0.5s,baz=88,slow=8.2,SNR=19						
BRTR	**Keskin Array B**	**146.59**	**320**	PKPbc	PKPbc	07 26 14.6	+0.9
	0.4nm,0.6s,baz=49,slow=6.6,SNR=3.7						

*CSEM **25** 07:24:01.8±0.3, 3863N×2861W, h17km±3km, MD2.6, Error ellipse: s-maj=1.9km s-min=1.8km az=150.0, After PDA*
*PDA **25** 07:24:01.8±0.3, 3863N×2861W, h17km±3km, MD2.6, Error ellipse: s-maj=1.9km s-min=1.8km az=150.0*
SVSA 25 07:24:01.8±0.3, 3863N×2861W, h17km±3km, MD2.6, Error ellipse: s-maj=1.9km s-min=1.8km az=150.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.09**	**233**	*i* P	Pg	07 24 04.8	-0.4
CALA				*e*S	Sg	07 24 07.1	-0.3
CALA	**Caldeira**	**0.09**	**233**	*e*S	Sg	07 24 07.1	-0.3
HOR	**Horta**	**0.11**	**188**	*e*P	Pg	07 24 04.8	-0.6
HOR				*e*S	Sg	07 24 07.1	-0.7
PICO	**Pico**	**0.20**	**132**	*e*P	Pg	07 24 06.0	-0.6
PICO				*e*S	Sg	07 24 09.1	-0.7
ROSA	**Rosais**	**0.30**	**73**	*e*S	Sg	07 24 11.3	-1.4

*CSEM **25** 07:47:14.1±0.9, 3861N×2867W, h19km±6km, ML1.6, Error ellipse: s-maj=5.7km s-min=4.1km az=57.0, After PDA*
*PDA **25** 07:47:14.1±0.9, 3861N×2867W, h19km±6km, MD2.8, ML1.6, Error ellipse: s-maj=5.7km s-min=4.1km az=57.0*
SVSA 25 07:47:14.1±0.9, 3861N×2867W, h19km±6km, MD2.8, ML1.6, Error ellipse: s-maj=5.7km s-min=4.1km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.03**	**309**	*i* P	Pg	07 47 16.8	-0.6
PCED				*e*S	Sg	07 47 18.9	-0.7
PCED							
	37nm,0.1s						
PCED	**Cedros**	**0.03**	**309**	*e*S	Sg	07 47 18.9	-0.7
CALA	**Caldeira**	**0.04**	**223**	*i* P	Pg	07 47 17.4	0.0
CALA				*e*S	Sg	07 47 19.6	0.0
CALA	**Caldeira**	**0.04**	**223**	*e*S	Sg	07 47 19.6	0.0
HOR	**Horta**	**0.09**	**159**	*e*P	Pg	07 47 17.1	-0.6
HOR				*e*S	Sg	07 47 19.3	-0.9
PTCA	**Ponta do Capel**	**0.10**	**257**	*e*S	Sg	07 47 24.6	+4.2
PTCA							
	47nm,0.2s						
PCND	**Candelaria**	**0.21**	**130**	*e*P	Pg	07 47 19.5	+0.2
PCND				*e*S	Sg	07 47 23.0	+0.1
PCND							
	40nm,0.2s						
PICO	**Pico**	**0.22**	**119**	*e*P	Pg	07 47 18.6	-0.8
PICO				*e*S	Sg	07 47 22.0	-1.0
PBOI	**

1.5nm,0.7s,baz=308,slow=7.2,SNR=10
MKAR Makanchi Array 66.82 44 P P 08 35 18.0 -0.6
1.3nm,0.7s,baz=326,slow=6.0,SNR=9.5
SONM Songino Array 75.28 29 P P 08 36 09.9 0.0
0.7nm,0.9s,baz=313,slow=5.7,SNR=5.6
KMBO Kilima Mbogo 75.78 109 LR LR 09 12 33.9
comp=Z,29nm,19.2s,baz=93,slow=38
ASAR Alice Springs 150.56 33 PKPbc PKPbc 08 44 17.8 -1.1
0.4nm,0.5s,baz=353,slow=2.1,SNR=8.9

*IDC **25** 08:26:48.6±4.1,37.37N×78.76E,h0km,mb3.5/2,mb1 3.6/3, mb1mx3.2/20,mbtmp3.4/3,ML3.2/1,Error ellipse: s-maj=131.6km s-min=31.5km az=124.0*
*ISCJB **25** 08:26:52.3±2.0,37.3N±0.1×79.7E±0.1,h33km,mb3.0/2, Error ellipse: s-maj=18.0km s-min=12.0km az=133.0*
*BJI **25** 08:26:56.1,37.39N×79.77E,h23km,ML3.6*
*NNC **25** 08:26:59.7±13.0,38.02N×78.98E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=115.6km s-min=54.8km az=162.0*
ISC 25 08:26:52.8±1.8,37.1N±01×79.7E±01,h35km,n7,σ1§10/11, mb3.0/2,1C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.77**	**311**	*e*P	**Pn**	**08 27 53.8**	**+5.4**
KSH				S	**Sn**	**08 28 31.0**	**-0.5**
KSH				Smax			
	comp=N,100nm,0.3s						
KSH				Smax			
	comp=E,190nm,0.6s						
TKM2	**Tokmak 2**	**6.59**	**333**	⇓Pg	**Pn**	**08 28 38.4**	**+11**
	comp=E,1.0nm,0.4s						
TKM2				⇓Lg		08 29 55.9	
	comp=E,5.2nm,0.5s						
KK31	**Karatay Array**	**9.22**	**313**	⇑Pn	**Pn**	**08 29 04.5**	**+1.3**
	comp=E,0.2nm,0.4s,baz=137,slow=13,SNR=9.3						
KK31				⇓Sn	**Sn**	**08 30 39.6**	**-6.0**
	comp=E,0.8nm,0.6s,baz=147,slow=22,SNR=2.5						
MK31	**Makanchi Array**	**9.88**	**11**	⇓Pn	**Pn**	**08 29 13.8**	**+1.5**
	comp=E,0.4nm,0.3s,baz=200,slow=14,SNR=12						
MK31				⇓Sn	**Sn**	**08 31 01.6**	**-0.4**
	comp=E,4.0nm,0.8s,baz=205,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**9.88**	**11**	Pn	**Pn**	**08 29 10.9**	**-1.4**
	comp=E,0.2nm,0.3s,baz=198,slow=15,SNR=11						
MKAR				Sn	**Sn**	**08 31 02.1**	**+0.1**
	comp=E,0.8nm,0.3s,baz=198,slow=23,SNR=10						
TORD	**Torodi Ar. Bea**	**72.65**	**274**	P	**P**	**08 38 14.1**	**-2.7**
	comp=E,0.1nm,0.5s,mb3.0,baz=38,slow=5.3,SNR=4.9						
YKA	**Yellowknife Ar**	**80.09**	**7**	P	**P**	**08 38 59.1**	**+0.1**
	comp=E,0.1nm,0.5s,mb3.0,baz=345,slow=5.4,SNR=4.4						

*ISCJB **25** 09:07:04.8±2.0,150S±08×175.7W±05,h308km±39km, mb3.5/5,Error ellipse: s-maj=148.9km s-min=21.9km az=112.5*
*IDC **25** 09:07:05.5±1.8,1502S×175.61W,h301km±30km,mb3.3/5, mb1 3.5/6,mb1mx3.3/14,mbtmp3.9/6,Error ellipse: s-maj=95.4km s-min=14.6km az=146.0*
ISC 25 09:07:05.6±2.3,149S±08×175.7W±05,h296km±43km,n8, σ1§21/8,mb3.4/5,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.91**	**77**	P	**Pn**	**09 08 09.9**	**-0.8**
	4.5nm,0.3s,baz=252,slow=9.6,SNR=8.3						
AFI				S	**S**	**09 09 03.3**	**+0.6**
	3.5nm,0.3s,baz=261,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**42.40**	**239**	P	**P**	**09 14 30.1**	**-1.5**
	1.2nm,0.4s,mb3.5,baz=84,slow=4.6,SNR=10						
WRA	**Warramunga Arr**	**47.81**	**256**	P	**P**	**09 15 13.7**	**-0.1**
	0.2nm,0.3s,mb2.9,baz=89,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**48.17**	**251**	P	**P**	**09 15 17.6**	**+1.1**
	4.2nm,0.5s,mb4.0,baz=88,slow=7.7,SNR=98						
ASPA	**Alice Springs**	**48.18**	**251**	*e*P	**P**	**09 15 17.6**	**+1.0**
NVAR	**Mina Array Bea**	**75.43**	**43**	P	**P**	**09 18 17.7**	**+0.5**
	0.4nm,0.7s,mb3.1,baz=225,slow=9.8,SNR=1.2						
ILAR	**Eielson Array**	**82.36**	**12**	P	**P**	**09 18 53.9**	**-0.7**
	0.7nm,0.6s,mb3.6,baz=220,slow=5.9,SNR=12						
BRTR	**Keskin Array B**	**144.32**	**320**	PKP	PKPdf	09 26 06.6	+0.2
	2.4nm,0.8s,baz=92,slow=3.6,SNR=9.6						

BJI 25 09:12:53.0,42.16N×84.16E,h15km,ML3.0,1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.08**	**56**	*e*PG	Pg	09 13 49.5	-2.5
WMQ				S	Sn	09 14 25.5	+7.9
WMQ				Smax			
	comp=N,42nm,0.5s						
WMQ				Smax			
	comp=E,38nm,0.5s						
MK31	**Makanchi Array**	**4.82**	**345**	⇑Pn	Pn	09 14 20.9	+16
	comp=E,0.9nm,0.3s,baz=154,slow=15,SNR=27						
MK31				⇓Lg		09 15 23.4	
	comp=E,4.7nm,0.5s,baz=166,slow=27,SNR=9.6						

*CASC **25** 09:26:05.9±1.5,36.7N×82.91W,h0km±420km,MD4.6, mb4.7(NEIC)*
*IDC **25** 09:26:06.1±0.6,36.6N×82.65W,h0km,mb4.2/12, mb1 4.4/13,mb1mx4.3/19,mbtmp4.2/13,ML4.9/1,MS4.1/16, Ms1 4.1/16,ms1mx4.1/23,Error ellipse: s-maj=31.0km s-min=13.0km az=61.0*
*NEIC **25** 09:26:09.6±0.2,34.6N×82.84W,mb4.7/21,Error ellipse: s-maj=8.2km s-min=4.7km az=59.0*
*MOS **25** 09:26:09.9±1.3,35.6N×82.85W,h33km,mb4.9/11,Error ellipse: s-maj=18.3km s-min=9.3km az=114.7*
*ISCJB **25** 09:26:09.3±0.3,35.7N±004×82.92W±004,h33km,mb4.5/31, MS4.3/18,Error ellipse: s-maj=6.3km s-min=4.4km az=113.0*
*BJI **25** 09:26:09.5,35.0N×82.80W,h23km,mB5.4,Ms4.9,Msz4.5*
ISC 25 09:26:11.4±0.3,35.4N±003×82.93W±005,h35km, (h19km±3.6km;pP-P),n124,σ1§24/90,mb4.5/31,MS4.3/18, 5C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**5.55**	**126**	*e*Pn	**Pn**	**09 27 27.4**	**-4.1**
	76nm,0.8s						
OTAV				*e*Sn	**Sn**	**09 28 29.0**	**-4.9**
BUS	**Buena Vista**	**6.03**	**352**	⇑*e*P	**Pn**	**09 27 35.5**	**-2.6**
BUS				*e*S	**Sn**	**09 28 45.7**	**-0.2**
LCR2	**La Lucha 2**	**6.25**	**350**	⇓*e*P	**Pn**	**09 27 38.2**	**-2.9**
LAJ	**Bijagual**	**6.39**	**349**	*e*P	**Pn**	**09 27 38.8**	**-4.3**
OCM	**Ochomogo**	**6.40**	**351**	*e*P	**Pn**	**09 27 40.4**	**-2.7**
OCM				*e*P		09 27 40.8	
CAO	**Cobano**	**6.49**	**341**	*e*P	**Pn**	**09 27 41.1**	**-3.3**
VTU	**Volcan Turrial**	**6.49**	**353**	⇑*e*P	**Pn**	**09 27 43.1**	**-1.3**
PRS1	**Puriscal**	**6.55**	**348**	*e*P	**Pn**	**09 27 41.4**	**-3.8**
PRS1				*e*S	**Sn**	**09 28 56.5**	**-2.1**
CGA2	**Cerro Gallo 2**	**6.61**	**347**	*e*P	**Pn**	**09 27 44.5**	**-1.6**
EPA	**Esparza**	**6.62**	**346**	*e*P	**Pn**	**09 27 43.1**	**-3.0**
JTS	**JuntasAbangare**	**7.00**	**343**	Pn	**Pn**	**09 27 48.7**	**-2.7**
	23nm,0.3s,baz=142,slow=8.1,SNR=108						
JTS				Sn	**Sn**	**09 29 09.3**	**-0.4**
	2.9nm,0.3s,baz=306,slow=21,SNR=6.6						
JTS				LR	LR	09 30 09.6	
	comp=Z,4μm,20.9s,baz=169,slow=35						
JTS	**JuntasAbangare**	**7.00**	**343**	*e*Pn	**Pn**	**09 27 48.5**	**-2.9**
	120nm,0.8s						
PAYG	**Puerto Ayora**	**8.46**	**240**	*e*Pn	**Pn**	**09 28 11.6**	**+0.2**
	110nm,1.3s						
ROSC	**El Rosal**	**8.67**	**81**	Pn	**Pn**	**09 28 16.9**	**+2.6**
	11nm,0.3s,baz=289,slow=2.6,SNR=43						
ROSC				Sn	**Sn**	**09 29 54.0**	**+3.1**
	baz=82,slow=23,SNR=1.6						
SDV	**Santo Domingo**	**13.32**	**66**	Pn	**Pn**	**09 29 18.4**	**+0.5**
	1.1nm,0.3s,baz=259,slow=9.9,SNR=28						
SDV				LR	LR	09 34 18.6	
	comp=Z,2μm,21.8s,baz=214,slow=38						
SDV	**Santo Domingo**	**13.32**	**66**	*e*Pn	**Pn**	**09 29 18.0**	**0.0**
	63nm,0.8s						
SDV				Sn	**Sn**	**09 31 46.3**	**+1.5**
NNA	**Nana**	**16.57**	**159**	P	**Pn**	**09 29 59.5**	**-1.5**
	188nm,1.1s						
NNA				*e*pP	pP	09 30 09.8	-2.5
TEIG	**Tepich**	**17.39**	**343**	P	**Pn**	**09 30 12.1**	**+0.9**
SJG	**San Juan**	**21.90**	**47**	P	**P**	**09 31 05.3**	**+3.9**
	49nm,1.0s,mb4.9,baz=264,slow=2.4,SNR=5.9						
SJG				LR	LR	09 39 38.1	
	comp=Z,275nm,20.1s,MS3.7,baz=250,slow=38						
SJG	**San Juan**	**21.90**	**47**	P	**P**	**09 31 02.6**	**+1.2**
SJG				pmax	pmax		
	comp=Z,75nm,1.2s						
SJG	**San Juan**	**21.90**	**47**	P	**P**	**09 31 02.5**	**+1.1**
	comp=Z,75nm,1.2s,mb5.0						
SJG				*e*pP		09 31 10.2	
CPD	**Cerro la Pandu**	**22.03**	**48**	*e*P	**P**	**09 31 03.8**	**+1.0**
ARE	**Arequipa**	**22.86**	**151**	*e*P	**P**	**09 31 12.0**	**+0.4**
LPAZ	**La Paz**	**24.54**	**144**	P	**P**	**09 31 28.1**	**+0.5**
	comp=Z,30nm,0.9s,mb4.8,baz=331,slow=9.1,SNR=52						
LPAZ	**La Paz**	**24.54**	**144**	*e*P	**P**	**09 31 28.1**	**+0.5**
LPAZ				*e*PP		09 31 35.8	
LPAZ				pmax	pmax		
	comp=Z,90nm,1.3s						
LPAZ	**La Paz**	**24.54**	**144**	*e*P	**P**	**09 31 28.1**	**+0.4**
	comp=Z,90nm,1.3s,mb5.1						
LPAZ				*e*pP		09 31 35.8	
SIV	**San Ignacio**	**29.05**	**132**	P	**P**	**09 32 06.9**	**-1.3**
	comp=Z,2.2nm,0.9s,mb3.9,baz=314,slow=8.2,SNR=8.5						
JCT	**Junction City**	**31.18**	**331**	*e*P	**P**	**09 32 28.7**	**+1.6**
JCT				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
JCT	**Junction City**	**31.18**	**331**	*e*P	**P**	**09 32 28.7**	**+1.6**
	comp=Z,24nm,1.3s,mb4.9						
UALR	**University of**	**32.29**	**345**	P	**P**	**09 32 37.2**	**+0.4**
	comp=Z,26nm,1.4s,mb4.9						
ACSO	**Alum Creek Sta**	**36.53**	**360**	*e*P	**P**	**09 33 12.9**	**-0.6**
	comp=Z,7.3nm,0.9s,mb4.5						
CFAA	**Coronel Fontan**	**37.64**	**159**	P	**P**	**09 33 22.4**	**-0.6**
	comp=Z,0.8nm,0.9s,mb3.4,baz=347,slow=6.2,SNR=9.6						
ANMO	**Albuquerque**	**38.12**	**328**	⇑*i*P	**P**	**09 33 26.3**	**-0.7**
CPUP	**Villa Florida**	**38.67**	**142**	*e*P	**P**	**09 33 29.8**	**-1.8**
CPUP				pmax	pmax		
	comp=Z,16nm,0.8s						
CPUP	**Villa Florida**	**38.67**	**142**	*e*P	**P**	**09 33 29.8**	**-1.8**
	comp=Z,16nm,0.8s,mb4.8						
BDFB	**Brasilia**	**39.46**	**120**	P	**P**	**09 33 37.0**	**-1.2**
	comp=Z,2.8nm,0.7s,mb4.1,baz=296,slow=8.9,SNR=3.7						
BDFB				LR	LR	09 49 20.6	
	comp=Z,237nm,18.3s,MS4.1,baz=291,slow=36						
RPN	**Rapa Nui**	**39.74**	**218**	LR	LR	09 45 19.9	
	comp=Z,233nm,20.1s,MS4.0,baz=55,slow=29						
SDCO	**Great Sand Dun**	**39.83**	**332**	*e*P	**P**	**09 33 43.3**	**+2.0**
	comp=Z,16nm,1.1s,mb4.7						
WUAZ	**Wupatki**	**41.29**	**324**	*e*P	**P**	**09 33 54.4**	**+1.1**
	comp=Z,10nm,0.9s,mb4.5						
WUAZ				*e*pP	pP	09 34 00.6	-3.0
PV01	**Paradox Valley**	**41.64**	**329**	P	**P**	**09 33 56.3**	**0.0**
SMCO	**Snowmass**	**41.66**	**332**	*e*P	**P**	**09 33 58.6**	**+2.2**
	comp=Z,15nm,1.0s,mb4.6						
PV10	**Paradox Valley**	**42.07**	**329**	*e*P	**P**	**09 34 00.5**	**+0.7**
NEN	**Nelson**	**43.48**	**321**	*e*P	**P**	**09 34 12.6**	**+1.5**
MSU	**Marysvale**	**43.84**	**326**	*e*P	**P**	**09 34 15.0**	**+0.9**
ARUT	**Antelope Range**	**44.05**	**325**	P	**P**	**09 34 17.5**	**+1.7**
DAU	**Daniels Canyon**	**44.73**	**329**	*e*P	**P**	**09 34 22.6**	**+1.4**
PLCA	**Paso Flores**	**45.49**	**167**	P	**P**	**09 34 26.2**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=348,slow=11,SNR=8.0						
PLCA	**Paso Flores**	**45.49**	**167**	*e*P	**P**	**09 34 26.6**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PLCA	**Paso Flores**	**45.49**	**167**	*e*P	**P**	**09 34 26.6**	**-0.7**
	comp=Z,9.9nm,1.2s,mb4.5						
TRQA	**Tornquist**	**45.72**	**157**	*e*P	**P**	**09 34 27.6**	**-1.4**
	comp=Z,4.8nm,1.1s,mb4.3						
HWUT	**Hardware Ranch**	**45.77**	**330**	*e*P	**P**	**09 34 30.3**	**+0.9**
	comp=Z,5.4nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**47.38**	**322**	P	**P**	**09 34 43.4**	**+1.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=125,slow=8.7,SNR=18						
NVAR				PcP	PcP	09 36 12.8	+0.5
	comp=Z,0.6nm,0.8s,baz=140,slow=5.7,SNR=2.0						
NVAR	**Mina Array Bea**	**47.38**	**322**	P	**P**	**09 34 43.4**	**+1.4**
NVAR				PcP	PcP	09 36 12.8	+0.4
ULM	**Lac du Bonnet**	**47.82**	**349**	P	**P**	**09 34 44.2**	**-1.2**
	comp=Z,5.4nm,0.8s,mb4.6,baz=152,slow=6.1,SNR=13						
ULM				LR	LR	09 57 03.4	
	comp=Z,127nm,19.3s,MS3.9,baz=130,slow=39						
ULM	**Lac du Bonnet**	**47.82**	**349**	P	**P**	**09 34 44.2**	**-1.2**
ULM				LR	LR	09 57 03.4	
GCMT	**Greycliff**	**48.12**	**335**	P	**P**	**09 34 48.1**	**+0.3**
GCMT				*e*pP	pP	09 34 55.5	-2.7
QLMT	**Earthquake Lak**	**48.15**	**333**	*e*P	**P**	**09 34 49.9**	**+1.9**
QLMT				*e*pP	pP	09 34 54.8	-3.6
MCMT	**McKenzie Canyo**	**48.80**	**332**	*e*P	**P**	**09 34 55.0**	**+2.0**
MCMT				*e*pP	pP	09 35 02.2	-1.3
HRY	**Holter Researc**	**49.78**	**334**	*e*P	**P**	**09 35 01.4**	**+0.9**
OHCM	**Honcut**	**49.91**	**321**	*e*P	**P**	**09 35 01.3**	**-0.1**
EGMT	**Eagleton**	**49.95**	**337**	*e*P	**P**	**09 35 02.2**	**+0.4**
	comp=Z,8.0nm,1.1s,mb4.7						
NEW	**Newport**	**53.33**	**332**	P	**P**	**09 35 26.7**	**-0.3**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NEW	**Newport**	**53.33**	**332**	P	**P**	**09 35 26.7**	**-0.3**
	comp=Z,6.0nm,1.0s,mb4.5						
EDM	**Edmonton**	**55.49**	**338**	*e*P	**P**	**09 35 42.4**	**-0.3**
FCC	**Fort Churchill**	**55.76**	**353**	*e*P	**P**	**09 35 45.5**	**+0.8**
FCC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
FCC	**Fort Churchill**	**55.76**	**353**	*e*P	**P**	**09 35 45.5**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.7						
USHA	**Ushuaia**	**59.40**	**170**	LR	LR	09 57 41.9	
	comp=Z,174nm,20.3s,MS4.2,baz=319,slow=32						
YKA	**Yellowknife Ar**	**63.34**	**344**	P	**P**	**09 36 35.8**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=139,slow=6.5,SNR=26						
YKA				LR	LR	10 08 12.3	
	comp=Z,144nm,18.3s,MS4.2,baz=115,slow=40						
YKA	**Yellowknife Ar**	**63.34**	**344**	P	**P**	**09 36 35.9**	**-1.1**
YKA				LR	LR	10 08 12.3	
PPT	**Papeete**	**68.96**	**250**	*e*LR	LR	09 58 17.9	
	comp=Z,501nm,25.0s,baz=79						
PPT	**Papeete**	**68.96**	**250**	LR	LR	09 59 51.1	
	comp=Z,274nm,18.7s,MS4.5,baz=94,slow=29						
TBI	**Tubuai**	**70.05**	**244**	*e*LR	LR	09 58 47.8	
	comp=Z,297nm,29.8s						
RES	**Resolute Bay**	**71.42**	**357**	P	**P**	**09 37 28.1**	**+0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
RES	**Resolute Bay**	**71.42**	**357**	P	**P**	**09 37 28.1**	**+0.1**
	comp=Z,5.1nm,1.0s,mb4.4						
INK	**Inuvik**	**72.99**	**343**	*e*P	**P**	**09 37 38.0**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**72.99**	**343**	*e*P	**P**	**09 37 38.0**	**+0.6**
	comp=Z,3.8nm,0.9s,mb4.3						
SUMG	**Summit**	**74.15**	**13**	*e*P	**P**	**09 37 44.1**	**-0.2**
	comp=Z,24nm,1.0s,mb5.1						
ILAR	**Eielson Array**	**75.92**	**337**	P	**P**	**09 37 54.0**	**-0.5**
	comp=Z,1.5nm,1.1s,mb3.9,baz=129,slow=3.5,SNR=8.9						
ILAR				LR	LR	10 14 23.6	
	comp=Z,116nm,21.8s,MS4.2,baz=170,slow=38						
COLA	**College**	**76.34**	**337**	⇑*e*P	**P**	**09 37 56.5**	**-0.3**
MCK	**McKinley**	**76.38**	**335**	*e*P	**P**	**09 37 57.5**	**+0.5**
MCK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
MCK	**McKinley**	**76.38**	**335**	*e*P	**P**	**09 37 57.5**	**+0.5**
	comp=Z,12nm,1.6s,mb4.6						
DBIC	**Dimbokro**	**77.76**	**84**	P	**P**	**09 38 04.3**	**-0.5**
	comp=Z,3.8nm,1.1s,mb4.3,baz=307,slow=10,SNR=2.7						
DBIC				LR	LR	10 11 12.2	
	comp=Z,74nm,18.0s,MS4.0,baz=232,slow=35						
DBIC	**Dimbokro**	**77.76**	**84**	P	**P**	**09 38 04.3**	**-0.5**
DBIC				LR	LR	10 11 12.2	
ESDC	**Sonseca Array**	**79.25**	**50**	P	**P**	**09 38 12.3**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=9.2,slow=38,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.97**	**77**	P	**P**	**09 38 38.0**	**0.0**
	comp=Z,1.8nm,1.1s,mb4.1,baz=259,slow=2.8,SNR=6.4						
MEM	**Membach**	**86.61**	**40**	AP	pP	09 38 57.8	-4.4
	comp=Z,6.5nm,1.0s						
WLF	**Walferdange**	**86.73**	**41**	AP	pP	09 38 58.0	-4.8
	comp=Z,10.0nm,1.0s						
DAVOX	**Davos**	**89.37**	**43**	LR	LR	10 15 47.1	
	comp=Z,72nm,18.8s,MS4.1,baz=82,slow=34						
HFS	**Hagfors**	**90.26**	**30**	LR	LR	10 18 51.7	
	comp=Z,108nm,18.5s,MS4.3,baz=58,slow=35						
KHC	**Kasperske Hory**	**91.61**	**41**	*i* P	**P**	**09 39 10.3**	**-4.4**
GERES	**GERESS Array B**	**91.72**	**41**	LR	LR	10 13 42.4	
	comp=Z,94nm,18.7s,MS4.3,baz=286,slow=31						
QSPA	**South Pole Qui**	**93.56**	**180**	*e*P	**P**	**09 39 23.7**	**0.0**
	comp=Z,9.1nm,1.2s,mb5.1						
BILL	**Bilibino**	**94.39**	**339**	*e*P	**P**	**09 39 27.5**	**0.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
BILL				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.5						
FINES	**FINESS Array B**	**95.88**	**27**	LR	LR	10 16 07.3	
	comp=Z,77nm,19.6s,MS4.2,baz=352,slow=31						
PUL	**Pulkovo**	**98.42**	**28**	*e*P	**P**	**09 39 45.3**	**-0.5**
VNDA	**Vanda**	**98.76**	**191**	LR	LR	10 15 44.7	
	comp=Z,120nm,18.5s,MS4.4,baz=139,slow=30						
ZAL	**Zalesovo**	**121.82**	**9**	PKP	PKPdf	09 45 03.9	+2.2
	comp=Z,1.1nm,0.4s,baz=66,slow=1.2,SNR=5.8						
KURK	**Kurchatov**	**123.68**	**14**	⇑*i*PKIKP	PKPdf	09 45 08.2	+2.9
MDJ	**Mudanjiang**	**123.93**	**332**	PKP	PKPdf	09 45 05.5	-0.2
MJAR	**Matsushiro Arr**	**124.68**	**320**	PKP	PKPdf	09 45 09.1	+1.9
	comp=Z,0.3nm,0.3s,baz=20,slow=6.2,SNR=3.3						
CN2	**Changchun**	**126.41**	**335**	*e*PKP	PKPdf	09 45 08.8	-1.7
ULN	**Ulaanbaatar**	**128.07**	**351**	*i* PKIKP	PKPdf	09 45 13.3	-0.4
SONM	**Songino Array**	**128.19**	**352**	PKP	PKPdf	09 45 14.3	+0.4
	comp=Z,1.0nm,0.9s,baz=70,slow=0.6,SNR=3.4						
MKAR	**Makanchi Array**	**128.21**	**13**	PKP	PKPdf	09 45 14.9	+1.0
	comp=Z,1.1nm,0.8s,baz=48,slow=1.8,SNR=3.7						
WMQ	**Urumqi**	**132.11**	**9**	*e*PKP	PKPdf	09 45 20.0	-1.3
GTA	**Gaotai**	**137.19**	**357**	PKP	PKPdf	09 45 33.0	+2.2
SSE	**Sheshan**	**138.59**	**328**	PKP	PKPdf	09 45 31.5	-1.9
SSE				PP	PP	09 48 26.8	+2.7
SSE				SS	SS	10 06 35.0	-0.6
SSE				LR	LR		
	comp=N,24nm,24.9s,MS4.1						
SSE				LR	LR		
	comp=E,35nm,24.9s,MS4.1						
SSE				LR	LR		
	comp=Z,45nm,23.6s,MS4.1						
NJ2	**Nanjing**	**139.00**	**331**	*e*PKP	PKPdf	09 45 32.0	-2.2
NJ2				XPKP		09 45 46.5	
NJ2				PP	PP	09 48 29.0	+2.4
NJ2				PKS		09 49 07.0	
NJ2				SKS	SKSdf	09 52 37.0	-5.0
NJ2				SKKS	SKKSac	09 55 15.0	-3.1
NJ2				PP	PP		
	comp=Z,320nm,8.8s						
NJ2				LR	LR		
	comp=N,690nm,23.6s,MS5.4						
NJ2				LR	LR		
	comp=E,360nm,25.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,200nm,22.2s,MS4.8						
ASAR	**Alice Springs**	**139.20**	**237**	PKP	PKPdf	09 45 35.2	+0.7
	comp=Z,0.8nm,0.9s,baz=127,slow=3.1,SNR=6.7						
LZH	**Lanzhou**	**140.07**	**351**	*e*PKP	PKPdf	09 45 35.0	-1.1
LZH				XPKP		09 45 45.5	
WRAB	**Tennant Creek**	**140.17**	**243**	*i* PKIKP	PKPdf	09 45 38.5	+2.2
WRA	**Warramunga Arr**	**140.18**	**243**	PKP	PKPdf	09 45 35.9	-0.4
	comp=Z,0.5nm,0.6s,baz=106,slow=2.5,SNR=8.7						
ENH	**Enshi**	**144.34**	**341**	*e*PKPdf	PKPdf	09 45 45.0	+1.3
CD2	**Chengdu**	**145.16**	**350**	*e*PKP	PKPdf	09 45 43.5	-1.6
NWAO	**Narrogin (SRO)**	**145.20**	**211**	PKPbc	PKPbc	09 45 47.8	+2.9
	comp=Z,10nm,0.9s,baz=172,slow=6.1,SNR=3.1						
KOLN	**Koldanda**	**146.27**	**22**	*e*P	PKPdf	09 45 49.5	+2.5
GKN	**Gorkha**	**146.43**	**20**	*e*P	PKPdf	09 45 49.6	+2.3
	comp=Z,31nm,0.9s						
LSA	**Lhasa**	**146.47**	**9**	PKP	PKPdf	09 45 43.8	-3.6
KKN	**Kakani**	**146.84**	**19**	*e*P	PKPdf	09 45 51.0	+3.0
	comp=Z,35nm,0.9s						
GUN	**Gumba**	**146.93**	**18**	*e*P	PKPdf	09 45 51.1	+3.0
DMN	**Daman**	**146.95**	**20**	*e*P	PKPdf	09 45 49.2	+1.0
	comp=Z,25nm,0.8s						
PKI	**Pulchoki**	**147.09**	**19**	*e*P	PKPdf	09 45 50.9	+2.5
	comp=Z,36nm,1.0s						
JIRN	**Jiri**	**147.26**	**18**	*e*P	PKPdf	09 45 50.9	+2.2
	comp=Z,39nm,1.2s						
KMI	**Kunming**	**150.98**	**349**	PKP	PKPdf	09 45 54.0	-0.7
KMI				LR	LR		
	comp=Z,41nm,24.3s,MS4.1						

*IDC **25** 09:31:49.0±3.0,50.14S×161.49E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.9/10,mbtmp3.8/4,ML3.7/1,Error ellipse: s-maj=75.5km s-min=39.1km az=180.0*
*ISCJB **25** 09:31:58.9±1.7,49.3S±02×161.3E±0.1,h33km,mb3.7/3, Error ellipse: s-maj=34.2km s-min=7.5km az=147.5*
ISC 25 09:32:01.3±1.7,49.3S±02×161.2E±01,h35km,n18, σ1§15/22,mb3.7/3,North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**5.57**	**49**	PN	**Pn**	**09 33 21.9**	**+0.3**
DCZ				SN	**Sn**	**09 34 23.7**	**-0.6**
WHZ	**Wether Hill Ro**	**5.70**	**56**	PN	**Pn**	**09 33 23.1**	**-0.2**
WHZ				SN	**Sn**	**09 34 26.8**	**-0.7**
**MLZ

*NEIC **25** 09:40:30.9±0.7, 30.12S×177.05W, h10km, mb4.6/3, Error ellipse: s-maj=18.3km s-min=10.7km az=102.0*
*ISCJB **25** 09:40:31.1±1.5, 30.11S±004×176.9W±02, h33km, mb4.5/6, MS3.9/1, Error ellipse: s-maj=22.4km s-min=6.2km az=172.1*
*NAO **25** 09:40:39.3, 28.46S×174.54W, h33km, mb4.0*

ISC 25 09:40:33.2±1.5, 3003S±005×1769W±02, h35km, n30, σ1°46/24, mb4.5/6, MS3.9/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**312**	Pn	**Pn**	**09 40 52.2**	**-0.7**
	3μm,0.3s,baz=113,slow=2.2,SNR=67						
RAO				Sn	**Sn**	**09 41 06.1**	**-1.4**
	3μm,0.3s,baz=56,slow=23,SNR=12						
RAO				LR	LR	09 41 17.2	
	comp=Z,3μm,20.4s,baz=66,slow=42						
MXZ	**Matakaoa Point**	**8.49**	**207**	Pn	**Pn**	**09 42 32.7**	**-0.9**
MXZ				SN	**Sn**	**09 44 11.3**	**+3.1**
PUZ	**Puketiti**	**8.96**	**205**	Pn	**Pn**	**09 42 38.0**	**-2.1**
PUZ				SN	**Sn**	**09 44 19.9**	**+0.3**
MWZ	**Matawai**	**9.47**	**208**	PN	**Pn**	**09 42 45.1**	**-1.9**
MWZ				SN	**Sn**	**09 44 34.4**	**+2.3**
URZ	**Urewera**	**9.57**	**209**	Pn	**Pn**	**09 42 47.0**	**-1.5**
	0.6nm,0.3s,baz=345,slow=21,SNR=7.9						
NNZ	**Nelson**	**13.65**	**213**	PN	**Pn**	**09 43 44.8**	**+0.6**
RPZ	**Rata Peaks**	**16.68**	**212**	Pn	**Pn**	**09 44 22.1**	**-2.0**
	0.6nm,0.3s,baz=12,slow=19,SNR=5.8						
RPZ				Sn	**Sn**	**09 47 16.6**	**-12**
	0.7nm,0.3s,baz=272,slow=21,SNR=7.4						
RPZ	**Rata Peaks**	**16.68**	**212**	Pn	**Pn**	**09 44 22.1**	**-2.0**
RPZ				Sn	**Sn**	**09 47 16.6**	**-12**
DZM	**Mont Dzumac**	**16.90**	**294**	Pn	**Pn**	**09 44 31.9**	**+4.9**
	0.6nm,0.3s,baz=116,slow=17,SNR=5.9						
CTA	**Charters Tower**	**34.66**	**278**	*e*P	**P**	**09 47 22.8**	**+3.5**
	6.8nm,1.0s,mb4.5						
CTA	**Charters Tower**	**34.66**	**278**	P	**P**	**09 47 22.2**	**+3.0**
	6.4nm,0.5s,mb4.8,baz=99,slow=11,SNR=16						
STKA	**Stephens Creek**	**35.46**	**256**	*e*P	**P**	**09 47 28.0**	**+1.8**
	8.2nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**35.46**	**256**	P	**P**	**09 47 27.4**	**+1.2**
	11nm,0.8s,mb4.8,baz=79,slow=8.9,SNR=16						
STKA				LR	LR	10 00 50.5	
	comp=Z,187nm,18.6s,MS3.9,baz=27,slow=34						
ASAR	**Alice Springs**	**44.06**	**266**	P	**P**	**09 48 38.7**	**+1.1**
	1.7nm,0.5s,mb4.0,baz=98,slow=7.6,SNR=27						
ASAR				PcP	PcP	09 50 25.1	+2.5
	0.9nm,0.6s,baz=116,slow=4.4,SNR=5.2						
WB2	**Warramunga Arr**	**45.00**	**271**	*e*P	**P**	**09 48 46.1**	**+1.0**
WRA	**Warramunga Arr**	**45.01**	**271**	P	**P**	**09 48 46.0**	**+0.8**
	12nm,0.8s,mb4.8,baz=110,slow=7.5,SNR=92						
WRA				PcP	PcP	09 50 27.9	+2.0
	1.4nm,0.8s,baz=106,slow=3.3,SNR=4.6						
QSPA	**South Pole Qui**	**60.08**	**180**	*e*P	**P**	**09 50 41.7**	**+4.9**
	3.6nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**78.47**	**325**	P	**P**	**09 52 31.8**	**+1.3**
	1.7nm,0.8s,mb4.0,baz=151,slow=4.2,SNR=3.9						
MKAR	**Makanchi Array**	**118.25**	**310**	PKP	PKPdf	09 59 16.9	+0.3
	0.4nm,0.6s,baz=147,slow=0.7,SNR=5.1						
MKAR	**Makanchi Array**	**118.25**	**310**	PKP	PKPdf	09 59 16.9	+0.3
BVAR	**Borovoye Array**	**126.79**	**316**	PKP	PKPdf	09 59 34.5	+1.5
	2.3nm,1.0s,baz=127,slow=3.9,SNR=5.8						
AKTK	**Aktyubinsk**	**134.54**	**313**	PKP	PKPdf	09 59 50.3	+2.6
AKTO	**Aktyubinsk**	**134.54**	**313**	P*	PKPdf	09 59 50.3	+2.6
	0.6nm,0.4s,baz=71,slow=4.5,SNR=4.7						
KAF	**Kangasniemi**	**144.51**	**341**	*e*pkp	PKPdf	10 00 02.7	-3.1
	7.1nm,0.9s						
FINES	**FINESS Array B**	**145.11**	**341**	PKPbc	PKPbc	10 00 07.3	+0.9
	16nm,0.8s,baz=62,slow=3.8,SNR=73						
NB2	**NORSAR Subarra**	**148.52**	**352**	PKPa	PKPbc	10 00 17.6	+1.4
	comp=Z,2.4nm,0.7s,baz=9.4,slow=2.9						
NOA	**NORSAR Array B**	**148.52**	**352**	PKPbc	PKPbc	10 00 17.9	+1.6
	comp=Z,4.2nm,0.8s,baz=17,slow=4.4,SNR=8.8						
AKASG	**Malin Array Be**	**151.56**	**324**	PKPbc	PKPbc	10 00 25.2	+1.7
	comp=Z,23nm,1.1s,baz=45,slow=2.5,SNR=18						
AKASG				PKPab	PKPab	10 00 33.5	+1.3
	comp=Z,4.0nm,0.6s,baz=47,slow=3.6,SNR=11						
BRTR	**Keskin Array B**	**153.23**	**299**	PKPbc	PKPbc	10 00 28.9	+1.5
	comp=Z,1.0nm,0.9s,baz=72,slow=4.0,SNR=3.6						
BRTR				PKPab	PKPab	10 00 43.2	+4.0
	comp=Z,0.9nm,0.7s,baz=106,slow=3.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**163.15**	**175**	PKPab	PKPab	10 01 25.2	+3.2
	comp=Z,0.6nm,0.6s,baz=185,slow=4.0,SNR=3.6						

WEL 25 09:45:25.3±0.2, 3858S×17788E, h24km±1km, ML3.5/9, 1D, Error ellipse: s-maj=1.9km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.37**	**312**	⇓P*	Pb	09 45 32.6	-0.7
MWZ				S*	Sb	09 45 38.8	+0.1
KNZ	**Kokohu**	**0.47**	**200**	P*	Pb	09 45 34.9	0.0
KNZ				S*	Sb	09 45 43.0	+1.6
PUZ	**Puketiti**	**0.59**	**30**	P*	Pb	09 45 36.6	-0.3
PUZ				S*	Sb	09 45 46.6	+1.7
URZ	**Urewera**	**0.69**	**298**	P*	Pb	09 45 38.1	-0.5
URZ				S*	Sb	09 45 48.8	+1.1
URZ				S*	Sb	09 45 48.9	+1.2
MXZ	**Matakaoa Point**	**1.07**	**18**	PN	Pn	09 45 44.1	-0.7
MXZ				SN	Sn	09 45 59.7	+0.8
MARZ	**Manawahe**	**1.12**	**302**	PN	Pn	09 45 45.2	-0.3
TAZ	**Tarawera**	**1.13**	**288**	PN	Pn	09 45 45.5	-0.2
BKZ	**Black Stump Fm**	**1.23**	**241**	PN	Pn	09 45 46.2	-0.8
PATZ	**Paeroa**	**1.29**	**278**	PN	Pn	09 45 47.4	-0.4
KRVZ	**Karewarewa**	**1.82**	**253**	PN	Pn	09 45 54.4	-0.8
TSZ	**Takapari Road**	**2.10**	**225**	PN	Pn	09 45 56.8	-2.1

*INMG **25** 09:54:29.0±0.8, 3935N×9.12W, h5km, ML1.3, Error ellipse: s-maj=5.8km s-min=1.8km az=112.0*
*ISCJB **25** 09:54:30.1±0.9, 3920N±004×885W±007, h0km, Error ellipse: s-maj=9.1km s-min=4.4km az=65.9*
*MDD **25** 09:54:30.5±0.7, 3927N×896W, h0km, mbLg1.6/5, Error ellipse: s-maj=7.9km s-min=2.8km az=126.0, PRXIMO*

ISC 25 09:54:29.5±1.3, 3928N±005×898W±009, h5km±6km, n9, σ1°09/18, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.42**	**199**	*e*Pg	**Pg**	**09 54 37.5**	**-0.1**
PLOU				*e*Sg	**Sg**	**09 54 44.2**	**+1.2**
PTOM	**Tomar**	**0.55**	**52**	*e*Pg	**Pg**	**09 54 40.4**	**+0.3**
PTOM				*e*Sg	**Sg**	**09 54 48.3**	**+1.0**
MOE	**Montemor**	**0.90**	**147**	*e*P	**Pg**	**09 54 47.2**	**+0.4**
MOE				*e*S	**Sg**	**09 55 01.3**	**+2.8**
PCBR	**Castelo Branco**	**1.29**	**64**	*e*P	**Pn**	**09 54 54.1**	**0.0**
PCBR				S	**Sg**	**09 55 11.9**	**+1.1**
PCBR							
	4.9nm,0.4s						
PBEJ	**Beja**	**1.52**	**145**	*e*Pn	**Pn**	**09 54 57.5**	**+0.2**
PBEJ				*e*Sn	**Sn**	**09 55 18.4**	**+0.9**
EBAD	**Badajoz**	**1.62**	**108**	Pg	**Pg**	**09 54 59.4**	**-1.1**
	1.5nm,0.1s,SNR=8.4						
EBAD				Lg		09 55 21.3	
	5.5nm,0.2s,SNR=5.1						
EGRO	**El Granado**	**2.10**	**146**	Pn	**Pn**	**09 55 05.0**	**-0.3**
	0.2nm,0.1s,SNR=4.5						
EGRO				Pg	**Pg**	**09 55 08.2**	**-1.6**
	0.7nm,0.2s,SNR=7.9						
EGRO				Lg		09 55 37.4	
	1.2nm,0.1s						
EMIN	**Mina Concepcio**	**2.36**	**129**	Pn	**Pn**	**09 55 08.5**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**09 55 12.6**	**-2.0**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**09 55 37.9**	**-0.1**
	1.0nm,0.3s,SNR=4.0						
EMIN				Lg		09 55 44.5	
	1.5nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.03**	**112**	Pn	**Pn**	**09 55 18.0**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
ECAB				Pg	**Pg**	**09 55 25.5**	**-2.1**
	0.3nm,0.2s,SNR=4.0						
ECAB				Lg		09 56 06.8	
	2.2nm,0.3s,SNR=7.9						

*CSEM **25** 10:02:42.8±1.1, 3906N×284.9W, h5km, ML1.9, Error ellipse: s-maj=6.9km s-min=3.7km az=131.0, After PDA*
*PDA **25** 10:02:42.8±1.1, 3906N×284.9W, h5km, MD3.0, ML1.9, Error ellipse: s-maj=6.9km s-min=3.7km az=131.0*

SVSA 25 10:02:42.8±1.1, 3906N×2849W, h5km, MD3.0, ML1.9, Error ellipse: s-maj=6.9km s-min=3.7km az=131.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.34**	**88**	*e*S	Sg	10 02 56.1	+2.2
PVIA							
	20nm,0.1s						
SRBC	**Serra Branca**	**0.35**	**94**	*e*S	Sg	10 02 54.0	-0.2
STGR	**Santa Cruz**	**0.38**	**87**	*e*P	Pg	10 02 50.8	+0.7
STGR				*e*S	Sg	10 02 55.6	+0.5
STGR							
	60nm,0.2s						
STGR	**Santa Cruz**	**0.38**	**87**	*e*P	Pg	10 02 50.8	+0.7
STGR				*e*S	Sg	10 02 55.6	+0.5
PLUZ	**Luz**	**0.38**	**264**	*e*S	Sg	10 02 56.5	+1.4
PLUZ							
	52nm,0.3s						
ROSA	**Rosais**	**0.39**	**150**	*e*P	Pg	10 02 49.4	-0.9
ROSA				*e*S	Sg	10 02 54.7	-0.7
PGRA	**Graciosa**	**0.40**	**94**	*e*P	Pg	10 02 50.0	-0.5
PGRA				*e*S	Sg	10 02 55.1	-0.6
PGRA							
	84nm,0.3s						
PGRA	**Graciosa**	**0.40**	**94**	*e*P	Pg	10 02 50.0	-0.5
PGRA				*e*S	Sg	10 02 55.1	-0.6
PAMA	**Santo Amaro**	**0.45**	**147**	*e*P	Pg	10 02 53.2	+1.7
PCED	**Cedros**	**0.46**	**201**	*e*rx	Sg	10 02 57.0	-0.7
CALA	**Caldeira**	**0.51**	**199**	*e*P	Pg	10 02 51.4	-1.1
PMAN	**Manadas**	**0.53**	**143**	*e*P	Pg	10 02 52.3	-0.7
PMAN				*e*S	Sg	10 02 59.1	-0.8
PMAN							
	53nm,0.2s						
PMAN	**Manadas**	**0.53**	**143**	*e*P	Pg	10 02 52.3	-0.7
PMAN				*e*S	Sg	10 02 59.1	-0.8
PICO	**Pico**	**0.56**	**175**	*e*P	Pg	10 02 52.7	-0.9
PICO				*e*S	Sg	10 02 59.7	-1.1
PPNO	**Prainha do Nor**	**0.61**	**163**	*e*rx	Sg	10 03 02.2	-0.3
PPNO				*e*rx		10 03 02.2	

*IDC **25** 11:03:39.6±9.1, 3238S×179.18W, h81km±87km, mb3.6/2, mb1 3.8/3, mb1mx3.6/11, mbtmp3.9/3, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/11, Error ellipse: s-maj=72.6km s-min=58.3km az=157.0*
*ISCJB **25** 11:03:42.7±2.9, 3252S±008×1796W±05, h100km, mb3.8/2, Error ellipse: s-maj=54.3km s-min=11.2km az=4.8*

ISC 25 11:03:43.4±2.9, 3251S±008×1794W±05, h100km, n8, σ0°25/10, mb3.8/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.38**	**200**	PN	**Pn**	**11 05 01.3**	**+0.1**
MXZ				SN	**Sn**	**11 06 02.1**	**+0.2**
MWZ	**Matawai**	**6.33**	**202**	PN	**Pn**	**11 05 13.7**	**-0.4**
MWZ				SN	**Sn**	**11 06 24.9**	**0.0**
URZ	**Urewera**	**6.40**	**205**	P	**Pn**	**11 05 15.3**	**+0.1**
	0.7nm,0.3s,baz=193,slow=15,SNR=13						
URZ				S	**Sn**	**11 06 27.1**	**+0.4**
	1.0nm,0.3s,baz=327,slow=24,SNR=7.6						
URZ	**Urewera**	**6.40**	**205**	PN	**Pn**	**11 05 15.3**	**+0.2**
URZ				SN	**Sn**	**11 06 26.1**	**-0.6**
RPZ	**Rata Peaks**	**13.46**	**211**	LR	LR	11 12 04.8	
	comp=Z,208nm,19.2s,baz=226,slow=37						
ASAR	**Alice Springs**	**41.84**	**270**	P	**P**	**11 11 23.4**	**0.0**
	0.7nm,0.6s,mb3.6,baz=108,slow=7.5,SNR=7.6						
WRA	**Warramunga Arr**	**43.02**	**275**	P	**P**	**11 11 33.0**	**+0.1**
	1.2nm,0.4s,mb4.0,baz=113,slow=8.0,SNR=62						
FINES	**FINESS Array B**	**146.67**	**338**	PKPbc	PKPbc	11 23 09.9	-3.5
	2.2nm,0.9s,baz=318,slow=2.6,SNR=3.7						

CASC 25 11:13:04.6±1.5, 1373N×9055W, h68km±17km, MD3.6, ML4.4, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.45**	**11**	*e*P	Pn	11 13 16.4	-0.4
IXG				*e*S	Sn	11 13 26.8	+1.1
IXG				AML	AML	11 13 28.7	
	comp=E,34μm,0.3s						
PCG	**Pacaya**	**0.66**	**355⇑**	*e*P	Pn	11 13 20.3	+1.4
PCG				*e*S	Sn	11 13 31.1	+1.6
FUG	**Fuego 3**	**0.77**	**338**	*e*P	Pn	11 13 20.6	+0.4
RTR	**El Retiro**	**0.89**	**79**	*e*P	Pn	11 13 46.8	+25
RTR				*e*S	Sn	11 13 59.6	+25
SNJE	**San Jose**	**0.93**	**81**	*e*P	Pn	11 13 47.0	+25
SNJE				*e*S	Sn	11 14 00.8	+26
JAT	**Jato**	**1.21**	**299⇑**	*e*P	Pn	11 13 25.5	-0.1
BOQS	**Boqueron**	**1.23**	**90**	*e*P	Pn	11 13 51.2	+25
BOQS				*e*S	Sn	11 14 08.4	+27
LFU	**La Fuente**	**1.39**	**89**	*e*P	Pn	11 13 53.4	+25
LFRS	**El Faro**	**1.45**	**94**	*e*P	Pn	11 13 53.9	+25
LFRS				*e*S	Sn	11 14 13.2	+26
LBRS	**Las Brisas**	**1.46**	**89**	*e*P	Pn	11 13 54.2	+25
LCBS	**La Ceiba**	**1.53**	**93**	*e*P	Pn	11 13 55.1	+25
BLLM	**Bellamira**	**2.26**	**97**	*e*P	Pn	11 14 06.1	+26

*ISCJB **25** 11:26:47.0±1.0, 4311N±009×069W±005, h18km±8km, Error ellipse: s-maj=15.9km s-min=5.8km az=17.8*
*LDG **25** 11:26:46.7±0.2, 4312N×068W, h18km±1km, Md1.6/2, Error ellipse: s-maj=4.3km s-min=1.5km az=8.0*
*MDD **25** 11:26:47.0±0.6, 4320N×065W, h0km, mbLg0.7/4, Error ellipse: s-maj=4.8km s-min=2.5km az=7.0, PRXIMO*
*STR **25** 11:26:47.1±0.2, 4297N×064W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 11:26:46.6±1.2, 4312N±010×068W±005, h19km±9km, n11, σ0°22/16, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**205**	Pg	**Pg**	**11 26 50.1**	**+0.1**
ATE				Sg	**Sg**	**11 26 52.2**	**-0.1**
ATE	**Arette**	**0.04**	**205**	Pg	**Pg**	**11 26 50.1**	**+0.1**
ATE				Lg		11 26 52.2	
ETSF	**Etsaut**	**0.24**	**159**	*e*Pg	**Pg**	**11 26 52.4**	**+0.2**
ETSF				*e*Sg	**Sg**	**11 26 55.8**	**-0.3**
	10nm,0.2s						
ETSF	**Etsaut**	**0.24**	**159**	Pg	**Pg**	**11 26 52.4**	**+0.2**
ETSF				Lg		11 26 55.8	
	5.1nm,0.2s						
LARF	**Larrau**	**0.24**	**250**	Pg	**Pg**	**11 26 52.4**	**+0.1**
LARF				Sg	**Sg**	**11 26 56.6**	**+0.4**
LARF	**Larrau**	**0.24**	**250**	Pg	**Pg**	**11 26 52.5**	**+0.2**
LARF				Lg		11 26 56.1	
SJPF	**Ste Jean**	**0.40**	**269**	*e*Pg	**Pg**	**11 26 54.8**	**-0.2**
SJPF				*e*Sg	**Sg**	**11 27 00.2**	**-0.4**
	3.1nm,0.2s						
SJPF	**Ste Jean**	**0.40**	**269**	Pg	**Pg**	**11 26 54.8**	**-0.2**
SJPF				Lg		11 27 00.2	
	1.6nm,0.2s						
EBIE	**Bielsa**	**0.74**	**126**	Pg	**Pg**	**11 27 01.2**	**0.0**
	0.8nm,0.1s,SNR=13						
EBIE				Lg		11 27 10.4	
	1.6nm,0.3s,SNR=7.2						
EPF	**Esparros**	**0.75**	**97**	*e*Pg	**Pg**	**11 27 01.3**	**0.0**
EPF				*e*Sg	**Sg**	**11 27 11.4**	**0.0**
	1.7nm,0.3s						
EPF	**Esparros**	**0.75**	**97**	Pg	**Pg**	**11 27 01.3**	**0.0**
EPF				Lg		11 27 11.4	
	0.9nm,0.3s						

*ATH **25** 11:29:26.9, 3705N×285.4E, h43km, MD3.1/3*
*CSEM **25** 11:29:28.8±0.1, 3696N×2802E, h2km, MD3.1, Error ellipse: s-maj=1.7km s-min=1.3km az=22.0*
*ISCJB **25** 11:29:29.8±0.6, 3696N±003×2804E±005, h4km±8km, Error ellipse: s-maj=6.2km s-min=5.5km az=173.2*
*ISK **25** 11:29:29.0, 3697N×2801E, h23km, ML2.7*

ISC 25 11:29:30.3±0.6, 3697N±003×2803E±004, h14km±8km, n12, σ0°71/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.39**	**329**	PG	**Pg**	**11 29 37.2**	**-0.8**
MLSB				SG	**Sg**	**11 29 43.7**	**+0.5**
DAT	**Datca**	**0.43**	**237**	PG	**Pg**	**11 29 38.4**	**-0.4**
DAT				SG	**Sg**	**11 29 44.9**	**+0.3**
BDRM	**Kayabasi**	**0.48**	**282**	*i* P	**Pg**	**11 29 38.9**	**-0.8**
BDRM				*i* S	**Sg**	**11 29 46.2**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.53**	**112**	*e*PG	**Pg**	**11 29 40.5**	**-0.1**
BODT	**Bodrum**	**0.58**	**280**	PG	**Pg**	**11 29 41.0**	**-0.6**
BODT				SG	**Sg**	**11 29 49.6**	**+0.3**
AYDN	**Tasoluk**	**0.70**	**351**	*i* P	**Pg**	**11 29 43.9**	**-0.1**
AYDN				*i* S	**Sg**	**11 29 54.2**	**+0.9**
ARG	**Arkhangelos**	**0.75**	**174**	*e*P	**Pg**	**11 29 44.2**	**-0.7**
ARG				*e*S	**Sg**	**11 29 56.9**	**+2.1**
FETY	**Fethiye**	**0.91**	**111**	*e*PG	**Pg**	**11 29 47.0**	**-0.9**
DNZL	**Cakiroluk**	**1.09**	**48**	*i* P	**Pb**	**11 29 51.4**	**+0.5**
DNZL				*i* S	**Sb**	**11 30 09.4**	**+4.5**
DNZL	**Cakiroluk**	**1.09**	**48**	*i* P	**Pb**	**11 29 51.4**	**+0.5**
DNZL				*i* S	**Sb**	**11 30 09.4**	**+4.4**
SMG	**Samos**	**1.20**	**308**	*e*P	**Pn**	**11 29 52.7**	**0.0**
KARP	**Karpathos**	**1.58**	**207**	*e*P	**Pn**	**11 29 57.8**	**-0.1**

MAN 25 12:07:54.0, 1816N×12029E, h29km, mb1.9, ML3.7, MS3.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.36**	**62**	⇓*i* P	Pb	12 08 04.0	+1.8
PIP				*e*S	Sb	12 08 10.9	+3.2

*ISCJB **25** 12:08:22.5±5.4, 3524N±008×894E±02, h7km±36km, mb3.6/6, Error ellipse: s-maj=22.3km s-min=12.7km az=143.6*
*IDC **25** 12:08:22.7±0.9, 3510N×8945E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, ML3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=36.2km s-min=19.7km az=57.0*
*NEIC **25** 12:08:25.0±0.6, 3524N×8953E, h10km, mb3.5/1, Error ellipse: s-maj=17.5km s-min=9.3km az=72.0*

ISC 25 12:08:25.9±5.6, 3526N±008×895E±02, h17km±37km, n12, σ0°88/12, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.72**	**165**	P	**Pn**	**12 09 49.8**	**-0.2**
MKAR	**Makanchi Array**	**12.73**	**337**	Pn	**Pn**	**12 11 25.6**	**-0.5**
	0.0nm,0.3s,baz=153,slow=16,SNR=2.1						
SONM	**Songino Array**	**17.79**	**40**	P	**Pn**	**12 12 33.0**	**+0.4**
	0.1nm,0.3s,baz=221,slow=12,SNR=7.4						
ULN	**Ulaanbaatar**	**18.16**	**41**	P	**Pn**	**12 12 36.6**	**-0.6**
	5.0nm,1.3s						
ZAL	**Zalesovo**	**18.96**	**351**	P	**Pn**	**12 12 46.6**	**-0.3**
	0.2nm,0.3s,baz=282,slow=19,SNR=4.1						
BVAR	**Borovoye Array**	**22.31**	**329**	P	**P**	**12 13 24.2**	**+1.7**
	0.2nm,0.5s,mb2.9,baz=158,slow=12,SNR=2.1						
KKM	**Kota Kinabalu**	**38.09**	**134**	P	**P**	**12 15 45.1**	**+1.4**
GERES	**GERESS Array B**	**55.65**	**309**	P	**P**	**12 18 01.1**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=92,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**69.46**	**135**	P	**P**	**12 19 31.6**	**-1.7**
	2.0nm,1.0s,mb4.0,baz=326,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**71.04**	**22**	P	**P**	**12 19 42.7**	**-0.2**
	0.8nm,1.0s,mb3.6,baz=298,slow=4.0,SNR=5.1						
ASAR	**Alice Springs**	**72.15**	**138**	P	**P**	**12 19 50.3**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=327,slow=5.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**80.75**	**280**	P	**P**	**12 20 37.5**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=46,slow=5.4,SNR=4.2						

NNC 25 12:09:03.4±5.5, 3727N×6919E, h0km, mb3.7, mpv3.5, 3C-1D, Error ellipse: s-maj=58.9km s-min=42.8km az=105.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.92**	**9**	⇑Pn	Pn	12 10 34.4	+2.2
	0.7nm,0.3s,baz=202,slow=14,SNR=7.9						
KK31				⇑Sn	Sn	12 11 47.7	+6.9
	13nm,0.8s,baz=206,slow=34,SNR=7.5						
TKM2	**Tokmak 2**	**7.48**	**39**	⇓Pn	Pn	12 10 56.7	+2.9
	9.7nm,1.4s						
TKM2				⇑Sn	Sn	12 12 19.1	-0.2
	4.8nm,0.9s						
AB31	**Akbulak array**	**13.73**	**334**	Pn	Pn	12 12 19.5	+0.2
	0.3nm,0.5s,baz=164,slow=9.1,SNR=6.9						

*ISCJB **25** 12:26:26.6±0.4, 3842N±002×150W±002, h2km±2km, Error ellipse: s-maj=3.5km s-min=2.2km az=119.6*
*MDD **25** 12:26:28.8±0.2, 3825N×133W, h0km, mbLg3.1/33, Error ellipse: s-maj=2.4km s-min=1.3km az=77.0, PRXIMO II-III*
N BLANCA CIEZA ULEA II MOLINA DE SEGURA
RICOTE I ARCHENA FORTUNA LORQU.MU
MDD EMS: III ESTACISN DE BLANCA.
*SFS **25** 12:26:28.0, 3825N×130W, h6km, ML3.0*
*INMG **25** 12:26:28.8±1.2, 3822N×139W, h8km±2km, ML3.2, Error ellipse: s-maj=2.1km s-min=1.6km az=150.0*
*NEIC **25** 12:26:28.9, 3825N×130W, h6km, MN3.0(MDD), After MDD.*
*CSEM **25** 12:26:29.4±0.1, 3823N×135W, h10km, ML3.4/15, Error ellipse: s-maj=1.7km s-min=1.1km az=146.0*
*LDG **25** 12:26:30.0±0.2, 3823N×136W, h10km, Ml3.5/5, Error ellipse: s-maj=5.9km s-min=2.5km az=135.0*

ISC 25 12:26:28.2±0.3, 3830N±002×140W±002, h9km±2km, n152, σ1°09/239, 5C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOB	**Tobarra**	**0.36**	**342**	⇓Pg	**Pg**	**12 26 36.9**	**+1.7**
	122nm,0.2s,SNR=18						
ETOB				Lg		12 26 43.1	
	506nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**0.36**	**342**	Pg	**Pg**	**12 26 37.0**	**+1.7**
ETOB				Lg		12 26 42.9	
ETOB	**Tobarra**	**0.36**	**342**	Pg	**Pg**	**12 26 37.0**	**+1.8**
ETOB				Lg		12 26 42.9	
EMUR	**La Murta**	**0.48**	**164**	⇓Pg	**Pg**	**12 26 36.1**	**-1.4**
	SNR=18						
EMUR				Lg	

ENIJ	**Nijar**	**1.47 206**	Pn	**Pn**	**12 26 54.0**	**-0.9**
ENIJ			Lg		12 27 18.1	
EBER	**Berja**	**1.83 221**	Pn	**Pn**	**12 26 59.8**	**0.0**
	31nm,0.4s,SNR=22					
EBER			Lg		12 27 28.0	
	167nm,0.5s,SNR=7.7					
EBER	**Berja**	**1.83 221**	Pn	**Pn**	**12 27 00.6**	**+0.7**
EBER	**Berja**	**1.83 221**	Pn	**Pn**	**12 27 00.6**	**+0.7**
EBER			Lg		12 27 30.5	
EBAN	**Banos Encina**	**1.88 267**	⇑Pn	**Pn**	**12 27 01.0**	**+0.5**
	33nm,0.1s,SNR=18					
EBAN			Sn	**Sn**	**12 27 23.9**	**-0.5**
	14nm,0.1s,SNR=7.6					
EBAN			Lg		12 27 30.3	
	SNR=7.9					
EBAN	**Banos Encina**	**1.88 267**	Pn	**Pn**	**12 27 01.0**	**+0.5**
	33nm,0.1s,SNR=18					
EBAN			Sn	**Sn**	**12 27 23.9**	**-0.5**
	14nm,0.1s,SNR=7.6					
EBAN	**Banos Encina**	**1.88 267**	Pn	**Pn**	**12 27 01.0**	**+0.5**
EBAN			Lg		12 27 30.4	
EQUE	**Quentar**	**1.95 236**	Pn	**Pn**	**12 27 03.1**	**+1.6**
	2.3nm,0.2s,SNR=7.9					
EQUE			Pg	**Pg**	**12 27 05.2**	**-0.4**
	69nm,0.5s,SNR=48					
EQUE			Lg		12 27 31.8	
	129nm,0.4s,SNR=15					
ECOG	**Cogollos-Vega**	**2.00 240**	Pg	**Pg**	**12 27 05.8**	**-0.6**
	48nm,0.4s,SNR=17					
ECOG			Lg		12 27 33.5	
	87nm,0.4s,SNR=13					
EMOS	**Mosqueruela**	**2.18 19**	Pn	**Pn**	**12 27 04.9**	**+0.2**
	1.6nm,0.2s,SNR=14					
EMOS			Pg	**Pg**	**12 27 10.5**	**+0.5**
	45nm,0.5s,SNR=35					
EMOS			Lg		12 27 40.1	
	42nm,0.5s,SNR=5.0					
EMOS	**Mosqueruela**	**2.18 19**	Pn	**Pn**	**12 27 05.2**	**+0.5**
EMOS	**Mosqueruela**	**2.18 19**	Pg	**Pg**	**12 27 11.1**	**+1.1**
	45nm,0.5s,SNR=35					
EMOS	**Mosqueruela**	**2.18 19**	Pn	**Pn**	**12 27 05.2**	**+0.5**
EIBI	**Ibiza**	**2.27 71**	Pn	**Pn**	**12 27 05.7**	**-0.1**
	2.6nm,0.1s,SNR=7.9					
EIBI			Sn	**Sn**	**12 27 33.3**	**-0.6**
	26nm,0.3s,SNR=7.9					
EIBI	**Ibiza**	**2.27 71**	Pn	**Pn**	**12 27 05.7**	**-0.2**
	2.6nm,0.1s,SNR=7.9					
EIBI			Sn	**Sn**	**12 27 33.3**	**-0.6**
	26nm,0.3s,SNR=7.9					
ERON	**Agron**	**2.30 237**	Pg	**Pg**	**12 27 11.2**	**-1.0**
	27nm,0.4s,SNR=10					
ERON			Lg		12 27 43.6	
	26nm,0.4s,SNR=4.5					
ERON	**Agron**	**2.30 237**	Pg	**Pg**	**12 27 11.4**	**-0.8**
ERON	**Agron**	**2.30 237**	Pg	**Pg**	**12 27 11.4**	**-0.8**
ELUQ	**Luque**	**2.38 253**	Pn	**Pn**	**12 27 08.7**	**+1.3**
	24nm,0.4s,SNR=16					
ELUQ			Pg	**Pg**	**12 27 13.7**	**-0.2**
	37nm,0.4s,SNR=13					
ELUQ			Lg		12 27 45.8	
	48nm,0.3s,SNR=5.0					
ELUQ	**Luque**	**2.38 253**	Pg	**Pg**	**12 27 13.7**	**-0.2**
	37nm,0.4s,SNR=13					
ESDC	**Sonseca Array**	**2.42 305**	Pn	**Pn**	**12 27 08.1**	**+0.2**
	2.4nm,0.1s,baz=119,slow=13,SNR=14					
ESDC			Pg	**Pg**	**12 27 14.8**	**+0.2**
	60nm,0.3s,baz=122,slow=17,SNR=80					
ESDC			Lg		12 27 46.1	
	70nm,0.2s,baz=118,slow=31,SNR=10					
ESDC	**Sonseca Array**	**2.42 305**	Pn	**Pn**	**12 27 08.2**	**+0.3**
ESDC	**Sonseca Array**	**2.42 305**	Pg	**Pg**	**12 27 15.0**	**+0.4**
ESDC	**Sonseca Array**	**2.42 305**	Pn	**Pn**	**12 27 08.2**	**+0.3**
ESDC			Pg	**Pg**	**12 27 15.0**	**+0.4**
ESDC			Sn	**Sn**	**12 27 43.5**	**+5.8**
ESLA	**Sonseca Array**	**2.42 305**	*e*Pn	**Pn**	**12 27 08.0**	**+0.1**
ESLA	**Sonseca Array**	**2.42 305**	*e*Pg	**Pg**	**12 27 14.9**	**+0.3**
ESLA			*e*Sg	**Sg**	**12 27 50.0**	**+4.1**
ESLA	**Sonseca Array**	**2.42 305**	*e*Pn	**Pn**	**12 27 08.0**	**+0.1**
ESLA			*e*Pg	**Pg**	**12 27 14.9**	**+0.3**
ESLA			*e*Sn	**Sn**	**12 27 41.6**	**+3.9**
ESLA			*e*Sb	**Sb**	**12 27 46.7**	**+4.8**
ESLA			*e*Sg	**Sg**	**12 27 50.0**	**+4.1**
ELOJ	**Sierra Loja**	**2.47 243**	Pn	**Pn**	**12 27 09.6**	**+1.1**
	8.1nm,0.5s,SNR=10					
ELOJ			Pg	**Pg**	**12 27 15.1**	**-0.4**
	9.1nm,0.2s,SNR=11					
ELOJ			Lg		12 27 48.8	
	19nm,0.4s,SNR=5.0					
ELOJ	**Sierra Loja**	**2.47 243**	Pg	**Pg**	**12 27 15.1**	**-0.4**
	9.1nm,0.2s,SNR=11					
ELOJ	**Sierra Loja**	**2.47 243**	Pn	**Pn**	**12 27 10.4**	**+1.8**
EADA	**Adamuz**	**2.50 268**	⇑Pn	**Pn**	**12 27 09.1**	**0.0**
	9.3nm,0.1s,SNR=18					
EADA			Pg	**Pg**	**12 27 16.4**	**+0.2**
	9.6nm,0.1s,SNR=43					
EADA			Sn	**Sn**	**12 27 39.5**	**-0.2**
	17nm,0.2s,SNR=7.9					
EADA			Lg		12 27 50.2	
	58nm,0.2s,SNR=6.4					
EADA	**Adamuz**	**2.50 268**	Pn	**Pn**	**12 27 09.1**	**0.0**
	9.3nm,0.1s,SNR=18					
EADA	**Adamuz**	**2.50 268**	Pg	**Pg**	**12 27 16.4**	**+0.2**
	9.6nm,0.1s,SNR=43					
EADA			Sn	**Sn**	**12 27 39.0**	**-0.7**
	17nm,0.2s,SNR=7.9					
EADA	**Adamuz**	**2.50 268**	Pn	**Pn**	**12 27 09.1**	**0.0**
EADA			Pg	**Pg**	**12 27 17.9**	**+1.7**
EBR	**Ebro Roquetas**	**2.91 30**	*e*PG	**Pg**	**12 27 25.0**	**+1.0**
EBR			*e*Rs		12 27 56.0	
EBR			*e*S*	**Sb**	**12 28 00.0**	**+4.0**
ERTA	**Horta de San J**	**2.97 26**	Pn	**Pn**	**12 27 16.1**	**+0.6**
	1.6nm,0.1s,SNR=10					
ERTA			Pg	**Pg**	**12 27 23.3**	**-1.8**
	11nm,0.4s,SNR=8.9					
ERTA			Sn	**Sn**	**12 27 51.3**	**+0.1**
	11nm,0.3s,SNR=5.0					
ERTA			Lg		12 28 03.8	
	25nm,0.5s,SNR=5.0					
ERTA	**Horta de San J**	**2.97 26**	Pn	**Pn**	**12 27 16.1**	**+0.6**
	1.6nm,0.1s,SNR=10					
ERTA	**Horta de San J**	**2.97 26**	Pg	**Pg**	**12 27 23.3**	**-1.8**
	11nm,0.4s,SNR=8.9					
ERTA			Sn	**Sn**	**12 27 51.3**	**0.0**
	11nm,0.3s,SNR=5.0					
ERTA	**Horta de San J**	**2.97 26**	Pn	**Pn**	**12 27 17.9**	**+2.4**
GUD	**Guadarrama**	**3.16 319**	Pn	**Pn**	**12 27 19.7**	**+1.6**
	0.6nm,0.1s,SNR=7.9					
GUD			Pg	**Pg**	**12 27 28.8**	**+0.1**
	11nm,0.3s,SNR=16					
GUD			Lg		12 28 10.4	
	88nm,0.4s,SNR=13					
GUD	**Guadarrama**	**3.16 319**	Lg		12 30 39.8	
	3.6nm,0.3s,SNR=7.9					
GUD	**Guadarrama**	**3.16 319**	Pn	**Pn**	**12 27 19.7**	**+1.6**
	0.6nm,0.1s,SNR=7.9					
GUD	**Guadarrama**	**3.16 319**	Pg	**Pg**	**12 27 28.8**	**0.0**
	11nm,0.3s,SNR=16					
ECAB	**El Cabril**	**3.17 267**	⇑Pn	**Pn**	**12 27 18.1**	**-0.2**
	20nm,0.3s,SNR=18					
ECAB			Pg	**Pg**	**12 27 28.1**	**-0.9**
	23nm,0.4s,SNR=4.0					
ECAB			Sn	**Sn**	**12 27 56.3**	**+0.1**
	14nm,0.2s,SNR=6.1					
ECAB			Lg		12 28 10.6	
	52nm,0.3s,SNR=6.0					
ECAB	**El Cabril**	**3.17 267**	Pn	**Pn**	**12 27 18.1**	**-0.2**
	20nm,0.3s,SNR=18					
ECAB	**El Cabril**	**3.17 267**	Pg	**Pg**	**12 27 28.1**	**-0.9**
	23nm,0.4s,SNR=4.0					
ECAB			Sn	**Sn**	**12 27 56.3**	**+0.1**
	14nm,0.2s,SNR=6.1					
EMIJ	**Mijas**	**3.19 238**	Pn	**Pn**	**12 27 19.8**	**+1.2**
	1.5nm,0.1s,SNR=5.1					
EMIJ			Pg	**Pg**	**12 27 27.6**	**-1.8**
	11nm,0.4s,SNR=6.1					
EMIJ			Lg		12 28 11.1	
	36nm,0.4s,SNR=5.0					
EMIJ	**Mijas**	**3.19 238**	Pg	**Pg**	**12 27 29.8**	**+0.4**
	11nm,0.4s,SNR=6.1					
EMIJ	**Mijas**	**3.19 238**	Pg	**Pn**	**12 27 20.4**	**+1.9**
LIJA	**Lijar**	**3.47 248**	Pn	**Pn**	**12 27 23.2**	**+0.9**
LIJA			Lg		12 28 22.0	
LIJA	**Lijar**	**3.47 248**	*i* P	**Pn**	**12 27 23.2**	**+0.8**
ESAC	**San Caprasio**	**3.49 12**	Pn	**Pn**	**12 27 23.6**	**+0.9**
	10nm,0.2s,SNR=7.9					
ESAC			Pg	**Pg**	**12 27 34.2**	**-0.9**
	27nm,0.2s,SNR=7.9					
ESAC			Lg		12 28 21.5	
	299nm,0.6s,SNR=5.4					
ESAC	**San Caprasio**	**3.49 12**	Pn	**Pn**	**12 27 23.6**	**+1.0**
	10nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**3.49 12**	Pg	**Pg**	**12 27 34.2**	**-0.9**
	27nm,0.2s,SNR=7.9					
ETOS	**Mallorca**	**3.59 65**	Pn	**Pn**	**12 27 24.0**	**-0.1**
	1.2nm,0.1s,SNR=7.6					
ETOS			Sn	**Sn**	**12 28 06.1**	**-0.6**
	11nm,0.4s,SNR=7.9					
ETOS	**Mallorca**	**3.59 65**	Pn	**Pn**	**12 27 24.0**	**-0.1**
	1.2nm,0.1s,SNR=7.6					
ETOS			Sn	**Sn**	**12 28 06.1**	**-0.6**
	11nm,0.4s,SNR=7.9					
ETOS	**Mallorca**	**3.59 65**	Pn	**Pn**	**12 27 25.8**	**+1.7**
EPOB	**Poblet**	**3.60 31**	Pn	**Pn**	**12 27 24.2**	**+0.1**
	2.4nm,0.2s,SNR=9.7					
EPOB			Pg	**Pg**	**12 27 34.3**	**-2.7**
	5.2nm,0.3s,SNR=4.0					
EPOB			Sn	**Sn**	**12 28 05.8**	**-0.9**
	1.8nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**3.60 31**	Pn	**Pn**	**12 27 24.2**	**+0.1**
	2.4nm,0.2s,SNR=9.7					
EPOB	**Poblet**	**3.60 31**	Pg	**Pg**	**12 27 34.3**	**-2.8**
	5.2nm,0.3s,SNR=4.0					
EPOB			Sn	**Sn**	**12 28 05.8**	**-0.9**
	1.8nm,0.3s,SNR=7.9					
EJIF	**Jimena Fronter**	**3.73 242**	Pn	**Pn**	**12 27 27.4**	**+1.5**
	1.8nm,0.3s,SNR=7.7					
ESPR	**Espera**	**3.82 249**	Pn	**Pn**	**12 27 27.7**	**+0.6**
	4.1nm,0.2s,SNR=9.9					
ESPR			Lg		12 28 32.7	
	46nm,0.5s,SNR=7.9					
ESPR	**Espera**	**3.82 249**	Pn	**Pn**	**12 27 27.7**	**+0.6**
	4.1nm,0.2s,SNR=9.9					
EGRA	**Graus**	**4.10 18**	Pg	**Pg**	**12 27 45.2**	**-1.6**
	12nm,0.6s,SNR=8.9					
EGRA			Lg		12 28 39.6	
	16nm,0.6s,SNR=5.3					
EMIN	**Mina Concepcio**	**4.19 264**	⇑Pn	**Pn**	**12 27 31.8**	**-0.5**
	1.0nm,0.1s,SNR=18					
EMIN			Sn	**Sn**	**12 28 20.4**	**-1.1**
	2.4nm,0.2s,SNR=6.2					
EMIN			Lg		12 28 43.3	
	25nm,0.5s,SNR=6.4					
EMIN	**Mina Concepcio**	**4.19 264**	Pn	**Pn**	**12 27 31.8**	**-0.5**
	1.0nm,0.1s,SNR=18					
EMIN			Sn	**Sn**	**12 28 19.2**	**-2.2**
	2.4nm,0.2s,SNR=6.2					
EMIR	**Miracle**	**4.25 31**	Pn	**Pn**	**12 27 33.6**	**+0.5**
	5.8nm,0.2s,SNR=5.4					
EMIR	**Miracle**	**4.25 31**	Pn	**Pn**	**12 27 33.6**	**+0.5**
	5.8nm,0.2s,SNR=5.4					
ECRI	**Cripan**	**4.38 349**	Pn	**Pn**	**12 27 37.3**	**+2.3**
	3.9nm,0.2s,SNR=7.9					
ECRI			Lg		12 28 50.2	
	9.6nm,0.4s,SNR=4.0					
EBAD	**Badajoz**	**4.42 278**	Pn	**Pn**	**12 27 34.9**	**-0.5**
	1.5nm,0.1s,SNR=15					
EBAD			Sn	**Sn**	**12 28 25.9**	**-1.2**
	18nm,0.3s,SNR=5.7					
EBAD			Lg		12 28 48.8	
	64nm,0.4s,SNR=4.8					
EBAD	**Badajoz**	**4.42 278**	Pn	**Pn**	**12 27 34.9**	**-0.6**
	1.5nm,0.1s,SNR=15					
EBAD			Sn	**Sn**	**12 28 25.9**	**-1.2**
	18nm,0.3s,SNR=5.7					
IUNC	**Unciti**	**4.45 359**	Pn	**Pn**	**12 27 37.4**	**+1.5**
	2.4nm,0.2s,SNR=7.9					
IUNC			Lg		12 28 53.4	
	8.9nm,0.4s,SNR=7.9					
IUNC	**Unciti**	**4.45 359**	Pn	**Pn**	**12 27 37.4**	**+1.6**
	2.4nm,0.2s,SNR=7.9					
EBIE	**Bielsa**	**4.53 15**	Pn	**Pn**	**12 27 38.4**	**+1.4**
	2.2nm,0.3s,SNR=6.2					
EBIE			Pg	**Pg**	**12 27 56.5**	**+1.5**
	3.9nm,0.4s,SNR=7.9					
EBIE			Lg		12 28 53.6	
	4.3nm,0.6s,SNR=7.9					
EBIE	**Bielsa**	**4.53 15**	Pn	**Pn**	**12 27 38.4**	**+1.4**
	2.2nm,0.3s,SNR=6.2					
ETSF	**Etsaut**	**4.64 8**	*e*Pn	**Pn**	**12 27 39.4**	**+1.0**
ETSF	**Etsaut**	**4.64 8**	*e*Pg	**Pg**	**12 27 56.3**	**-0.7**
ETSF			*e*Sn	**Sn**	**12 28 30.5**	**-1.8**
ETSF			*e*Sg	**Sg**	**12 28 57.7**	**+0.6**
	36nm,0.9s					
ETSF	**Etsaut**	**4.64 8**	Pn	**Pn**	**12 27 39.4**	**+1.0**
ETSF			Pg	**Pg**	**12 27 56.3**	**-0.7**
ETSF			Sn	**Sn**	**12 28 30.5**	**-1.8**
ETSF			Lg		12 28 57.7	
	18nm,0.9s					
ETSF	**Etsaut**	**4.64 8**	*e*Pg	**Pg**	**12 27 56.3**	**-0.7**
ETSF			*e*Sn	**Sn**	**12 28 30.5**	**-1.8**
ETSF			*e*Sg	**Sg**	**12 28 57.7**	**+0.6**
	18nm,0.9s					
SJPF	**Ste Jean**	**4.81 2**	*e*Pn	**Pn**	**12 27 42.4**	**+1.6**
SJPF	**Ste Jean**	**4.81 2**	*e*Pg	**Pg**	**12 27 59.5**	**-0.8**
SJPF			*e*Sg	**Sg**	**12 29 02.6**	**0.0**
	26nm,0.8s					
SJPF	**Ste Jean**	**4.81 2**	Pn	**Pn**	**12 27 42.4**	**+1.6**
SJPF			Pg	**Pg**	**12 27 59.5**	**-0.8**
SJPF			Lg		12 29 02.6	
	13nm,0.8s					
SJPF	**Ste Jean**	**4.81 2**	*e*Pg	**Pg**	**12 27 59.5**	**-0.8**
SJPF			*e*Sg	**Sg**	**12 29 02.6**	**0.0**
	13nm,0.8s					
EGRO	**El Granado**	**4.87 263**	Pn	**Pn**	**12 27 41.1**	**-0.5**
	7.9nm,0.1s,SNR=55					
EGRO			Sn	**Sn**	**12 28 36.3**	**-1.7**
	7.9nm,0.3s,SNR=4.6					
EGRO			Lg		12 29 05.8	
	23nm,0.5s,SNR=5.0					
EGRO	**El Granado**	**4.87 263**	Pn	**Pn**	**12 27 41.1**	**-0.5**
	7.9nm,0.1s,SNR=55					
EGRO			Sn	**Sn**	**12 28 36.3**	**-1.8**
	7.9nm,0.3s,SNR=4.6					
EPF	**Esparros**	**4.91 15**	*e*Pn	**Pn**	**12 27 43.7**	**+1.6**
EPF	**Esparros**	**4.91 15**	*e*Pg	**Pg**	**12 28 01.5**	**-0.7**
EPF			*e*Sn	**Sn**	**12 28 37.3**	**-1.7**
EPF			*e*Sg	**Sg**	**12 29 03.6**	**-2.1**
	13nm,0.6s					
EPF	**Esparros**	**4.91 15**	Pn	**Pn**	**12 27 43.7**	**+1.6**
EPF			Pg	**Pg**	**12 28 01.5**	**-0.7**
EPF			Sn	**Sn**	**12 28 37.3**	**-1.7**
EPF			Lg		12 29 03.6	
	6.3nm,0.6s					
EPF	**Esparros**	**4.91 15**	*e*Pg	**Pg**	**12 28 01.5**	**-0.7**
EPF			*e*Sn	**Sn**	**12 28 37.3**	**-1.7**
EPF			*e*Sg	**Sg**	**12 29 03.6**	**-2.1**
	6.3nm,0.6s					
EALK	**Alkurruntz**	**4.91 359**	Pg	**Pg**	**12 27 59.1**	**-3.1**
	2.3nm,0.1s,SNR=4.0					
EALK			Sn	**Sn**	**12 28 38.8**	**-0.4**
	13nm,0.4s,SNR=7.9					
EALK			Lg		12 29 08.0	
	20nm,0.4s,SNR=7.9					
EALK	**Alkurruntz**	**4.91 359**	Pg	**Pg**	**12 27 59.2**	**-3.1**
	2.3nm,0.1s,SNR=4.0					
EALK			Sn	**Sn**	**12 28 38.8**	**-0.4**
	13nm,0.4s,SNR=7.9					
PCBR	**Castelo Branco**	**4.97 290**	*e*Pn	**Pn**	**12 27 43.4**	**+0.4**
PCBR			*e*Sn	**Sn**	**12 28 39.6**	**-1.0**
PCBR			*e*Sg	**Sg**	**12 29 07.7**	**-0.1**
PCBR						
	28nm,0.5s					
PCBR	**Castelo Branco**	**4.97 290**	*e*Pn	**Pn**	**12 27 43.4**	**+0.4**
PCBR			*e*Sn	**Sn**	**12 28 39.6**	**-1.0**
PCBR			*e*Sg	**Sg**	**12 29 07.7**	**-0.1**
	28nm,0.5s					
PBEJ	**Beja**	**5.10 269**	*e*Pn	**Pn**	**12 27 44.9**	**+0.1**
PBEJ			*e*Sn	**Sn**	**12 28 43.1**	**-0.7**
PBEJ						
	16nm,0.6s					
PBEJ	**Beja**	**5.10 269**	*e*Pn	**Pn**	**12 27 44.9**	**+0.1**
PBEJ			*e*Sn	**Sn**	**12 28 43.1**	**-0.7**
	16nm,0.6s					
ELAN	**Lanestosa**	**5.16 343**	Pn	**Pn**	**12 27 47.5**	**+1.9**
	1.0nm,0.1s,SNR=5.5					
ELAN			Pg	**Pg**	**12 28 03.8**	**-3.2**
	0.7nm,0.3s,SNR=7.9					
ELAN			Lg		12 29 14.7	
	18nm,0.4s,SNR=7.9					
ELAN	**Lanestosa**	**5.16 343**	Pn	**Pn**	**12 27 47.5**	**+1.9**
	1.0nm,0.1s,SNR=5.5					
ELAN	**Lanestosa**	**5.16 343**	Pg	**Pg**	**12 28 03.8**	**-3.2**
	0.7nm,0.3s,SNR=7.9					
EVO	**Evora**	**5.20 275**	*e*Pn	**Pn**	**12 27 46.8**	**+0.7**
EVO	**Evora**	**5.20 275**	*e*Pg	**Pg**	**12 28 06.1**	**-1.6**
EVO			*e*Sn	**Sn**	**12 28 46.0**	**-0.2**
EVO			*e*Sg	**Sg**	**12 29 16.0**	**+1.0**
	86nm,0.4s					
MTE	**Manteigas**	**5.20 296**	*e*Sn	**Sn**	**12 28 45.9**	**-0.4**
MTE			*e*Sg	**Sg**	**12 29 13.2**	**-2.0**
MTE						
	29nm,0.5s					
MTE	**Manteigas**	**5.20 296**	*e*Sn	**Sn**	**12 28 45.9**	**-0.4**
MTE			*e*Sg	**Sg**	**12 29 13.2**	**-2.0**
	29nm,0.5s					
PBRG	**Braganca**	**5.38 312**	*e*Pn	**Pn**	**12 27 49.6**	**+0.9**
PBRG			*e*Sn	**Sn**	**12 28 48.6**	**-2.2**
PBRG			*e*Sg	**Sg**	**12 29 21.0**	**-0.1**
PBRG						
	46nm,0.6s					
PBRG	**Braganca**	**5.38 312**	Pn	**Pn**	**12 27 49.6**	**+0.9**
PBRG			Sn	**Sn**	**12 28 48.6**	**-2.2**
PBRG			Lg		12 29 21.0	
	23nm,0.6s					
PBRG	**Braganca**	**5.38 312**	*e*Pn	**Pn**	**12 27 49.6**	**+0.9**
PBRG			*e*Sn	**Sn**	**12 28 48.6**	**-2.2**
MOE	**Montemor**	**5.46 274**	*e*Sn	**Sn**	**12 28 51.1**	**-1.6**
MOE			*e*Sg	**Sg**	**12 29 23.7**	**+0.2**
ECAL	**Calabor**	**5.47 313**	Pn	**Pn**	**12 27 50.4**	**+0.5**
	17nm,0.4s,SNR=23					
ECAL			Sn	**Sn**	**12 28 51.3**	**-1.5**
	9.9nm,0.3s,SNR=4.0					
ECAL			Lg		12 29 24.0	
	63nm,0.4s,SNR=5.0					
ECAL	**Calabor**	**5.47 313**	Pn	**Pn**	**12 27 50.4**	**+0.5**
	17nm,0.4s,SNR=23					
PTOM	**Tomar**	**5.62 286**	*e*Pn	**Pn**	**12 27 52.2**	**+0.3**
PTOM			*e*Sn	**Sn**	**12 28 55.2**	**-1.3**
PTOM			*e*Sg	**Sg**	**12 29 28.9**	**+0.4**
PTOM						
	34nm,0.3s					
PTOM	**Tomar**	**5.62 286**	Pn	**Pn**	**12 27 52.2**	**+0.3**
PTOM			Sn	**Sn**	**12 28 55.2**	**-1.3**
PTOM			Lg		12 29 28.9	
	17nm,0.3s					
PTOM	**Tomar**	**5.62 286**	*e*Pn	**Pn**	**12 27 52.2**	**+0.3**
PTOM			*e*Sn	**Sn**	**12 28 55.2**	**-1.3**
PVRL	**Vila Real**	**5.70 303**	*e*Sn	**Sn**	**12 28 58.9**	**+0.4**
PVRL			*e*Sg	**Sg**	**12 29 32.6**	**+1.5**
PVRL						
	27nm,0.4s					
MTLF	**Montolieu**	**5.73 27**	*e*Pn	**Pn**	**12 27 54.2**	**+0.7**
MTLF			*e*Sg	**Sg**	**12 29 31.2**	**-1.1**
	7.9nm,0.7s					
MTLF	**Montolieu**	**5.73 27**	*e*Pn	**Pn**	**12 27 54.2**	**+0.7**
MTLF			*e*Sg	**Sg**	**12 29 31.2**	**-1.1**
	4.0nm,0.7s					
EARI	**Arriondas**	**5.77 331**	Pn	**Pn**	**12 27 55.0**	**+1.0**
	0.9nm,0.2s,SNR=9.4					
EARI			Pg	**Pg**	**12 28 17.7**	**-1.0**
	8.5nm,0.4s,SNR=7.9					
EARI			Lg		12 29 32.5	
	8.0nm,0.5s,SNR=7.9					
ERUA	**La Rua**	**5.99 315**	Pn	**Pn**	**12 27 58.1**	**+1.1**
	4.2nm,0.4s,SNR=7.9					
ERUA			Sn	**Sn**	**12 29 03.8**	**-2.0**
	3.8nm,0.3s,SNR=8.2					
ERUA			Lg		12 29 41.3	
	25nm,0.5s,SNR=7.9					
PCAB	**Cabril**	**6.12 306**	*e*Sg	**Sg**	**12 29 46.4**	**+1.8**
PCAB						
	28nm,0.5s					
PCAB	**Cabril**	**6.12 306**	Lg		12 29 46.4	
	14nm,0.5s					
ELOB	**Lobios**	**6.22 307**	Pn	**Pn**	**12 28 00.7**	**+0.4**
	0.8nm,0.1s,SNR=4.9					
ELOB			Lg		12 29 47.6	
	24nm,0.4s,SNR=6.6					
EPON	**Pontenova**	**6.65 321**	Pn	**Pn**	**12 28 06.2**	**+0.1**
	0.6nm,0.1s,SNR=7.9					
EPON			Pg	**Pg**	**12 28 33.7**	**-1.8**
	4.1nm,0.3s,SNR=7.9					
EPON			Sn	**Sn**	**12 29 16.5**	**-5.3**
	0.9nm,0.2s,SNR=7.9					
EPON			Lg		12 30 00.1	
	16nm,0.4s,SNR=7.9					
LFF	**La Frestale**	**6.82 13**	*e*Pn	**Pn**	**12 28 08.7**	**+0.3**
LASF	**Ste Croix**	**7.00 33**	*e*Pn	**Pn**	**12 28 11.3**	**+0.4**
CAF	**Calviac**	**7.11 20**	*e*Pn	**Pn**	**12 28 13.0**	**+0.6**
EMAZ	**Mazaricos**	**7.39 311**	Pn	**Pn**	**12 28 16.9**	**+0.6**
	0.9nm,0.1s,SNR=7.9					
EMAZ			Sn	**Sn**	**12 29 35.8**	**-4.5**
	0.7nm,0.2s,SNR=7.9					
EMAZ			Lg		12 30 23.6	
	1.2nm,0.3s,SNR=7.9					
MFF	**Saint Martin d**	**8.35 6**	*e*Pn	**Pn**	**12 28 29.7**	**+0.4**
TCF	**Toulx Ste Croi**	**8.42 17**	*e*Pn	**Pn**	**12 28 30.2**	**-0.1**
PGF	**Pioggiola**	**8.99 59**	*e*Pn	**Pn**	**12 28 38.0**	**-0.2**
QUIF	**Quistinic**	**9.70 353**	*e*Pn	**Pn**	**12 28 48.4**	**+0.6**
ROSF	**Rostrenen**	**10.12 353**	*e*Pn	**Pn**	**12 28 53.7**	**0.0**

IDC ***25*** *12:26:32.5±0.8, 360N×8293W, h0km, mb3.9/10, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML3.7/3, MS3.9/16, Ms1 3.9/16, ms1mx3.7/31, Error ellipse: s-maj=33.0km s-min=14.1km az=55.0*

ISCJB ***25*** *12:26:35.9±0.4, 377N±006×8275W±009, h33km, mb4.3/23, MS3.9/7, Error ellipse: s-maj=14.2km s-min=5.8km az=123.8*

NEIC ***25*** *12:26:35.3±5.4, 359N×8290W, h19km±33km, mb4.6/16, Error ellipse: s-maj=18.9km s-min=7.9km az=61.0*

ISC 25 12:26:37.9±0.4, 370N±006×8279W±009, h35km, n50, σ1§36/47, mb4.3/23, MS3.9/7, 1C-3D, South of Panama

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

BDFB LR LR 12 52 21.8
comp=Z,222nm,18.2s,MS4.0,baz=302,slow=39
SDCO Great Sand Dun 39.75 331 *e*P **P 12 34 08.5 +1.3**
9.3nm,1.1s,mb4.4
PV01 Paradox Valley 41.58 329 P **P 12 34 24.3 +2.1**
PV10 Paradox Valley 42.00 329 P **P 12 34 26.5 +0.9**
RSSD Black Hills 44.41 338 P **P 12 34 47.4 +2.3**
6.5nm,1.2s,mb4.2
PLCA Paso Flores 45.62 167 P **P 12 34 53.7 -1.1**
1.9nm,0.9s,mb4.0,baz=351,slow=14,SNR=4.8
PLCA Paso Flores 45.62 167 P **P 12 34 52.4 -2.4**
11nm,1.4s,mb4.6
HWUT Hardware Ranch 45.70 330 P **P 12 34 56.4 +1.0**
3.0nm,1.1s,mb4.1
REDW Red Top Meadow 46.67 332 *e*P **P 12 35 02.2 -0.8**
15nm,1.5s,mb4.7
NVAR Mina Array Bea 47.34 322 P **P 12 35 09.5 +1.3**
1.8nm,1.0s,mb4.0,baz=132,slow=7.7,SNR=8.4
NVAR LR LR 12 53 47.6
comp=Z,113nm,19.6s,MS3.8,baz=110,slow=34
ULM Lac du Bonnet 47.68 349 P **P 12 35 10.9 0.0**
1.6nm,0.6s,mb4.2,baz=162,slow=8.9,SNR=4.7
ULM LR LR 12 57 37.5
comp=Z,72nm,19.5s,MS3.6,baz=61,slow=39
CMB Columbia Colle 48.42 320 P **P 12 35 18.8 +2.2**
3.5nm,1.3s,mb4.2
WVOR Wild Horse Val 50.06 326 *e*P **P 12 35 29.5 +0.3**
10nm,1.2s,mb4.7
EDM Edmonton 55.39 338 P **P 12 36 08.3 -0.2**
YKA Yellowknife Ar 63.22 344 P **P 12 37 02.1 -0.5**
0.7nm,0.8s,mb3.9,baz=139,slow=6.5,SNR=11
YKA LR LR 13 08 35.1
comp=Z,61nm,21.5s,MS3.7,baz=60,slow=40
YKA Yellowknife Ar 63.22 344 P **P 12 37 02.1 -0.5**
YKA LR LR 13 08 35.1
PPT Papeete 69.15 250 LR LR 12 58 36.4
comp=Z,102nm,19.3s,MS4.1,baz=98,slow=28
INK Inuvik 72.88 342 P **P 12 38 01.3 -1.9**
4.3nm,1.0s,mb4.3
SUMG Summit 73.96 13 *e*P **P 12 38 09.2 -0.4**
8.9nm,0.9s,mb4.7
ILAR Eielson Array 75.83 337 P **P 12 38 19.7 -0.7**
1.0nm,1.0s,mb3.7,baz=154,slow=3.6,SNR=6.1
ILAR LR LR 13 14 41.8
comp=Z,75nm,19.4s,MS4.0,baz=356,slow=38
COLA College 76.25 337 P **P 12 38 22.6 -0.2**
MCK McKinley 76.29 335 P **P 12 38 22.7 -0.3**
6.0nm,1.4s,mb4.3
TORD Torodi Ar. Bea 83.80 77 P **P 12 39 04.5 +0.9**
3.1nm,1.2s,mb4.3,baz=262,slow=3.0,SNR=4.0
QSPA South Pole Qui 93.73 180 *e*P **P 12 39 49.8 -1.2**
4.9nm,1.1s,mb4.8
SONM Songino Array 128.05 352 PKP PKPdf 12 45 42.4 +2.3
0.6nm,0.9s,baz=36,slow=2.3,SNR=4.3
ASAR Alice Springs 139.40 237 PKP PKPdf 12 46 01.1 -0.4
0.3nm,0.7s,baz=121,slow=2.7,SNR=3.6
WRA Warramunga Arr 140.38 243 PKP PKPdf 12 46 03.1 0.0
0.9nm,1.0s,baz=104,slow=2.7,SNR=6.4

CSEM ***25*** *12:39:38.9,3632N×5841E,h20km,ML3.8,After TEH*
TEH 25 12:40:10.5,3632N×5841E,h20km,Mn3.8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	**Payeh**	**0.49**	**75**	*e*Pg	Pg	12 40 19.6	-0.9
IMOG	**Moghan**	**0.78**	**106**	*e*Pg	Pg	12 40 24.9	-1.0
IMYA	**Miamay**	**1.37**	**89**	*e*Pg	Pg	12 40 35.4	-1.5
IMYA				*e*Sg	Sg	12 40 53.5	-1.3
IANJ	**Anjiloo**	**3.75**	**258**	*e*Pn	Pn	12 41 07.0	-0.2
IKIA	**Kiasar**	**3.82**	**270**	*e*Pn	Pn	12 41 08.0	-0.2
ISHM	**Shahmirzad**	**4.18**	**264**	*e*Pn	Pn	12 41 12.8	-0.3
IFIR	**Firoozkooh**	**4.64**	**263**	*e*Pn	Pn	12 41 19.0	-0.4
ICHK	**Chekchek**	**5.25**	**220**	*e*Pn	Pn	12 41 27.2	-0.6
IAFJ	**Afjeh**	**5.44**	**267**	*e*Pn	Pn	12 41 30.0	-0.5
IAFJ				*e*Sn	Sn	12 42 28.6	-3.9

ISCJB ***25*** *12:52:21.2±0.5,4992N±009×2894W±007,h10km, mb4.2/34,MS3.6/3,Error ellipse: s-maj=13.3km s-min=5.7km az=28.9*
IDC ***25*** *12:52:21.6±0.8,4995N×2902W,h0km,mb4.1/18, mb1 4.2/19,mb1mx4.1/27,mbtmp4.1/19,ML3.6/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/32,Error ellipse: s-maj=22.3km s-min=14.8km az=18.0*
CSEM ***25*** *12:52:23.8±0.1,4990N×2892W,h33km,mb4.3/15,Ms3.0, Error ellipse: s-maj=7.7km s-min=2.2km az=10.0*
NEIC ***25*** *12:52:23.0±0.4,4993N×2897W,h10km,mb4.3/7,Error ellipse: s-maj=10.6km s-min=5.6km az=189.0*
ISC 25 12:52:23.0±0.5,4998N±009×2891W±007,h10km,n81,σ0§89/77,mb4.2/34,MS3.6/3,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.47**	**61**	Pn	**Pn**	**12 56 14.7**	**+0.5**
EKA	**Eskdalemuir Ar**	**16.47**	**61**	Pn	**Pn**	**12 56 14.6**	**+0.5**
ROSF	**Rostrenen**	**16.83**	**86**	*e*P	**Pn**	**12 56 18.5**	**-0.2**
111nm,1.3s							
ROSF	**Rostrenen**	**16.83**	**86**	*e*P	**Pn**	**12 56 18.5**	**-0.2**
56nm,1.3s							
QUIF	**Quistinic**	**17.02**	**87**	*e*P	**Pn**	**12 56 20.5**	**-0.5**
SGMF	**Saint Gilles**	**17.31**	**86**	*e*P	**Pn**	**12 56 24.5**	**-0.3**
GRR	**Gorron**	**18.37**	**84**	*e*P	**Pn**	**12 56 36.7**	**-1.1**
LDF	**La Druitiere**	**18.79**	**83**	*e*P	**Pn**	**12 56 42.4**	**-0.5**
128nm,1.7s							
LDF	**La Druitiere**	**18.79**	**83**	*e*P	**Pn**	**12 56 42.4**	**-0.5**
64nm,1.7s							
MFF	**Saint Martin d**	**19.38**	**89**	*e*P	**Pn**	**12 56 49.8**	**-0.3**
66nm,1.3s							
MFF	**Saint Martin d**	**19.38**	**89**	*e*P	**Pn**	**12 56 49.8**	**-0.3**
33nm,1.3s							
ESDC	**Sonseca Array**	**20.39**	**111**	P	**P**	**12 57 00.4**	**+0.4**
0.9nm,0.6s,baz=307,slow=9.7,SNR=6.3							
ESLA	**Sonseca Array**	**20.39**	**111**	P	**P**	**12 56 58.2**	**-1.7**
4.5nm,1.3s							
ESLA	**Sonseca Array**	**20.39**	**111**	P	**P**	**12 56 58.2**	**-1.7**
4.5nm,1.3s							
LFF	**La Frestale**	**20.60**	**93**	*e*P	**P**	**12 57 05.1**	**+2.9**
ETSF	**Etsaut**	**20.70**	**99**	*e*P	**P**	**12 57 05.0**	**+1.7**
9.3nm,0.8s							
ETSF	**Etsaut**	**20.70**	**99**	*e*P	**P**	**12 57 05.0**	**+1.7**
4.7nm,0.8s							
RJF	**Les Rejaudoux**	**20.95**	**91**	*e*P	**P**	**12 57 06.9**	**+0.9**
RJF				*e*R			
75nm,20.0s							
TCF	**Toulx Ste Croi**	**21.02**	**88**	*e*P	**P**	**12 57 06.9**	**+0.2**
34nm,1.1s,mb4.3							
TCF	**Toulx Ste Croi**	**21.02**	**88**	*e*P	**P**	**12 57 06.9**	**+0.2**
17nm,1.1s,mb4.3							
EPF	**Esparros**	**21.21**	**98**	*e*P	**P**	**12 57 12.5**	**+3.7**
BGF	**Bois d'Agland**	**21.33**	**87**	*e*P	**P**	**12 57 10.1**	**0.0**
31nm,0.9s,mb4.3							
BGF	**Bois d'Agland**	**21.33**	**87**	*e*P	**P**	**12 57 10.1**	**0.0**
15nm,0.9s,mb4.3							
GIVF	**Givet**	**21.57**	**77**	*e*P	**P**	**12 57 11.8**	**-0.9**
18nm,0.8s,mb4.3							
GIVF	**Givet**	**21.57**	**77**	*e*P	**P**	**12 57 11.8**	**-0.9**
8.9nm,0.8s,mb4.3							
AVF	**Avril sur Loir**	**21.57**	**86**	*e*P	**P**	**12 57 12.8**	**+0.1**
16nm,1.0s,mb4.1							
AVF	**Avril sur Loir**	**21.57**	**86**	*e*P	**P**	**12 57 12.8**	**+0.1**
8.1nm,1.0s,mb4.1							
SSF	**Saint Saulge**	**21.58**	**85**	*e*P	**P**	**12 57 12.6**	**-0.2**
26nm,1.1s,mb4.3							
SSF	**Saint Saulge**	**21.58**	**85**	*e*P	**P**	**12 57 12.6**	**-0.2**
13nm,1.1s,mb4.3							
LOR	**Lormes**	**21.74**	**85**	*e*P	**P**	**12 57 13.7**	**-0.8**
38nm,1.4s,mb4.3							
LOR				*e*R			
207nm,17.0s							
LOR	**Lormes**	**21.74**	**85**	*e*P	**P**	**12 57 13.7**	**-0.8**
19nm,1.4s,mb4.3							
SMF	**Signal de Mont**	**21.94**	**86**	*e*P	**P**	**12 57 16.7**	**+0.1**
MEZF	**Maizieres J'vi**	**22.12**	**81**	*e*P	**P**	**12 57 18.0**	**-0.6**
74nm,1.3s,mb4.7							
MEZF	**Maizieres J'vi**	**22.12**	**81**	*e*P	**P**	**12 57 18.0**	**-0.6**
37nm,1.3s,mb4.7							
SUMG	**Summit**	**23.07**	**353**	P	**P**	**12 57 29.6**	**+0.9**
2.8nm,0.8s,mb3.7							
SUMG	**Summit**	**23.07**	**353**	P	**P**	**12 57 29.6**	**+0.9**
2.8nm,0.8s,mb3.7							
HAU	**Haudompre**	**23.09**	**81**	*e*P	**P**	**12 57 27.4**	**-1.5**
15nm,0.8s,mb4.2							
HAU				*e*R			
121nm,17.0s							
HAU	**Haudompre**	**23.09**	**81**	*e*P	**P**	**12 57 27.4**	**-1.5**
7.5nm,0.8s,mb4.2							
HINF	**Hinteralfeld**	**23.48**	**81**	*e*P	**P**	**12 57 31.4**	**-1.5**
7.7nm,0.8s,mb3.9							
HINF	**Hinteralfeld**	**23.48**	**81**	*e*P	**P**	**12 57 31.4**	**-1.5**
3.8nm,0.8s,mb3.9							
CDF	**Champ du Feu**	**23.56**	**80**	*e*P	**P**	**12 57 32.2**	**-1.6**
NOA	**NORSAR Array B**	**24.85**	**48**	P	**P**	**12 57 46.0**	**+0.4**
7.8nm,1.1s,mb4.2,baz=261,slow=9.6,SNR=3.8							
DAVOX	**Davos**	**25.77**	**82**	LR	LR	13 07 47.9	
comp=Z,126nm,18.7s,MS3.5,baz=263,slow=36							
HFS	**Hagfors**	**25.98**	**51**	P	**P**	**12 57 56.5**	**+0.7**
1.6nm,0.5s,mb3.8,baz=270,slow=7.4,SNR=11							
CLL	**Collm**	**26.36**	**71**	*e*P	**P**	**12 58 02.0**	**+2.8**
GERES	**GERESS Array B**	**27.48**	**76**	P	**P**	**12 58 10.3**	**+1.0**
0.5nm,0.6s,mb3.2,baz=273,slow=11,SNR=4.2							
FINES	**FINESS Array B**	**32.03**	**48**	P	**P**	**12 58 50.1**	**+0.4**
4.8nm,0.7s,mb4.5,baz=271,slow=7.5,SNR=29							
KAF	**Kangasniemi**	**32.09**	**47**	*e*p	**P**	**12 58 50.0**	**-0.2**
5.5nm,0.8s,mb4.4							
ARCES	**ARCESS Array B**	**32.11**	**33**	P	**P**	**12 58 50.5**	**+0.1**
11nm,1.0s,mb4.7,baz=340,slow=6.6,SNR=4.3							
JOF	**Joensuu**	**34.34**	**45**	*e*p	**P**	**12 59 09.0**	**-0.8**
7.7nm,0.9s,mb4.6							
AKASG	**Malin Array Be**	**36.28**	**66**	P	**P**	**12 59 25.9**	**-0.6**
1.2nm,0.5s,mb4.1,baz=290,slow=8.7,SNR=4.4							
ULM	**Lac du Bonnet**	**41.60**	**297**	P	**P**	**13 00 10.2**	**-0.9**
2.9nm,0.5s,mb4.2,baz=130,slow=10,SNR=8.2							
ULM				LR	LR	13 15 53.2	
comp=Z,78nm,21.1s,MS3.5,baz=300,slow=34							
BRTR	**Keskin Array B**	**44.31**	**78**	P	**P**	**13 00 33.9**	**+0.9**
0.7nm,0.7s,mb3.5,baz=299,slow=6.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**44.45**	**135**	P	**P**	**13 00 34.2**	**0.0**
2.2nm,0.4s,mb4.0,baz=331,slow=7.5,SNR=12							
YKA	**Yellowknife Ar**	**45.66**	**320**	P	**P**	**13 00 42.8**	**-1.0**
0.8nm,0.9s,mb3.7,baz=65,slow=8.4,SNR=6.4							
YKA	**Yellowknife Ar**	**45.66**	**320**	P	**P**	**13 00 42.8**	**-1.0**
DBIC	**Dimbokro**	**47.65**	**147**	P	**P**	**13 01 00.4**	**+1.0**
3.9nm,1.0s,mb4.4,baz=291,slow=8.8,SNR=3.1							
LAO	**LASA Array**	**49.34**	**298**	*e*P	**P**	**13 01 12.6**	**+0.2**
9.5nm,1.1s,mb4.7							
LAO	**LASA Array**	**49.34**	**298**	*e*P	**P**	**13 01 12.7**	**+0.2**
9.5nm,1.1s,mb4.7							
INK	**Inuvik**	**49.58**	**332**	P	**P**	**13 01 13.3**	**-0.9**
1.9nm,0.9s,mb4.1,baz=52,slow=13,SNR=3.8							
EDM	**Edmonton**	**49.62**	**308**	*e*P	**P**	**13 01 12.6**	**-1.9**
EDM	**Edmonton**	**49.62**	**308**	*e*P	**P**	**13 01 12.7**	**-1.9**
AKTK	**Aktyubinsk**	**52.47**	**54**	P	**P**	**13 01 36.4**	**+0.5**
AKTK	**Aktyubinsk**	**52.47**	**54**	P	**P**	**13 01 36.4**	**+0.5**
AKTO	**Aktyubinsk**	**52.47**	**54**	P	**P**	**13 01 36.4**	**+0.5**
4.4nm,0.9s,mb4.4,baz=304,slow=7.7,SNR=9.4							
HRY	**Holter Researc**	**52.49**	**301**	*e*P	**P**	**13 01 35.9**	**-0.2**
HRY	**Holter Researc**	**52.49**	**301**	*e*P	**P**	**13 01 35.9**	**-0.3**
DLMT	**Dillon**	**53.72**	**300**	*e*P	**P**	**13 01 45.3**	**+0.1**
2.5nm,0.9s,mb4.1							
ILAR	**Eielson Array**	**55.93**	**333**	P	**P**	**13 02 01.5**	**+0.3**
0.8nm,0.8s,mb3.8,baz=45,slow=5.4,SNR=13							
ILAR				LR	LR	13 27 49.3	
comp=Z,71nm,20.6s,MS3.7,baz=32,slow=38							
PV10	**Paradox Valley**	**56.00**	**291**	*e*P	**P**	**13 02 02.6**	**+0.9**
PV10	**Paradox Valley**	**56.00**	**291**	*e*P	**P**	**13 02 02.6**	**+0.9**
ZRNK	**Zerenda**	**56.34**	**46**	*e*P	**P**	**13 02 04.8**	**+0.6**
2.7nm,1.0s,mb4.2							
BVAR	**Borovoye Array**	**56.94**	**45**	P	**P**	**13 02 09.1**	**+0.8**
3.5nm,0.8s,mb4.5,baz=314,slow=6.4,SNR=16							
WVOR	**Wild Horse Val**	**58.95**	**300**	*e*P	**P**	**13 02 22.6**	**+0.1**
7.4nm,1.4s,mb4.5							
WVOR	**Wild Horse Val**	**58.95**	**300**	*e*P	**P**	**13 02 22.6**	**0.0**
7.4nm,1.4s,mb4.5							
NVAR	**Mina Array Bea**	**61.44**	**297**	P	**P**	**13 02 40.0**	**+0.4**
0.2nm,0.7s,mb3.4,baz=54,slow=6.8,SNR=2.9							
MKAR	**Makanchi Array**	**66.77**	**44**	P	**P**	**13 03 14.8**	**+0.2**
2.2nm,0.6s,mb4.3,baz=319,slow=5.1,SNR=27							
SONM	**Songino Array**	**75.22**	**29**	P	**P**	**13 04 06.5**	**+0.6**
1.1nm,0.9s,mb3.8,baz=329,slow=6.6,SNR=7.8							
WRA	**Warramunga Arr**	**147.19**	**30**	PKPbc	PKPbc	13 12 05.9	-0.6
0.9nm,1.0s,baz=341,slow=3.4,SNR=5.5							
ASAR	**Alice Springs**	**150.50**	**33**	PKPbc	PKPbc	13 12 14.3	-0.6
0.6nm,0.7s,baz=343,slow=1.9,SNR=7.4							
ASAR				PKPab	PKPab	13 12 20.2	-1.3
1.4nm,1.0s,baz=347,slow=2.3,SNR=6.3							
ASAR	**Alice Springs**	**150.50**	**33**	PKPab	PKPab	13 12 20.2	-1.3
0.3nm,0.5s,mb3.2,baz=325,slow=5.0,SNR=7.3							
ASAR	**Alice Springs**	**84.62**	**125**	P	**P**	**13 07 44.8**	**-7.1**
0.1nm,0.3s,mb3.0,baz=310,slow=5.0,SNR=4.4							

ISCJB ***25*** *13:07:32.4±0.5,208S±01×6785E±008,h10km,mb4.4/27, MS4.2/13,Error ellipse: s-maj=14.7km s-min=11.3km az=171.0*
IDC ***25*** *13:07:32.6±0.7,2081S×6785E,h0km,mb4.1/13, mb1 4.2/13,mb1mx4.1/22,mbtmp4.1/13,MS4.1/11, Ms1 4.1/11,ms1mx3.8/27,Error ellipse: s-maj=26.8km s-min=16.5km az=0.0*
MOS ***25*** *13:07:32.6±2.0,2086S×6790E,h10km,mb4.8/12,Error ellipse: s-maj=15.3km s-min=13.3km az=99.9*
BJI ***25*** *13:07:32.4,2080S×6780E,h10km,mB5.4,mb4.6,Msz4.5*
NEIC ***25*** *13:07:34.3±0.4,2077S×6781E,h10km,mb4.6/13,Error ellipse: s-maj=13.3km s-min=10.4km az=177.0*
ISC 25 13:07:34.6±0.5,208S±01×6783E±008,h10km,n62,σ1§17/51,mb4.4/27,MS4.2/13,2C,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**35.67**	**299**	P	**P**	**13 14 35.1**	**+2.2**
3.4nm,0.9s,mb4.3,baz=82,slow=7.2,SNR=7.1							
KMBO				LR	LR	13 26 24.4	
comp=Z,272nm,19.1s,MS4.0,baz=98,slow=32							
KMBO	**Kilima Mbogo**	**35.67**	**299**	P	**P**	**13 14 32.9**	**0.0**
KMBO				pmax	pmax		
comp=Z,4.0nm,1.2s							
KMBO	**Kilima Mbogo**	**35.67**	**299**	P	**P**	**13 14 32.9**	**0.0**
comp=Z,3.9nm,1.2s,mb4.2							
KMBO				LR	LR	13 26 24.4	
LSZ	**Lusaka**	**38.02**	**272**	P	**P**	**13 14 52.8**	**-0.1**
comp=Z,5.2nm,1.1s,mb4.2,baz=107,slow=8.0,SNR=5.2							
LSZ	**Lusaka**	**38.02**	**272**	*e*P	**P**	**13 14 52.2**	**-0.7**
LSZ				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
LSZ	**Lusaka**	**38.02**	**272**	*e*P	**P**	**13 14 52.2**	**-0.7**
comp=Z,9.1nm,1.0s,mb4.5							
LBTB	**Lobatse**	**39.02**	**256**	P	**P**	**13 15 01.7**	**+0.4**
comp=Z,2.4nm,0.8s,mb4.0,baz=108,slow=9.4,SNR=4.2							
LBTB	**Lobatse**	**39.02**	**256**	*e*P	**P**	**13 15 01.1**	**-0.2**
LBTB				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.4							
LBTB	**Lobatse**	**39.02**	**256**	*e*P	**P**	**13 15 01.1**	**-0.2**
comp=Z,9.0nm,1.2s,mb4.4							
BOSA	**Boshof**	**39.30**	**250**	P	**P**	**13 15 04.0**	**+0.4**
comp=Z,1.2nm,0.8s,mb3.7,baz=241,slow=11,SNR=2.6							
BOSA	**Boshof**	**39.30**	**250**	P	**P**	**13 15 04.6**	**+1.0**
NWAO	**Narrogin (SRO)**	**45.34**	**116**	LR	LR	13 30 34.2	
comp=Z,226nm,19.7s,MS4.1,baz=105,slow=30							
MAW	**Mawson**	**46.93**	**183**	LR	LR	13 31 12.0	
comp=Z,209nm,19.0s,MS4.1,baz=164,slow=30							
MBWA	**Marble Bar**	**48.28**	**100**	P	**P**	**13 16 16.3**	**+0.5**
comp=Z,24nm,1.4s,mb5.0							
SHL	**Shillong**	**51.65**	**28**	*e*P	**P**	**13 16 40.0**	**-1.4**
LSA	**Lhasa**	**54.98**	**25**	P	**P**	**13 17 05.0**	**-0.9**
LSA				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
LSA	**Lhasa**	**54.98**	**25**	P	**P**	**13 17 05.0**	**-0.9**
comp=Z,2.8nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**60.74**	**106**	P	**P**	**13 17 46.0**	**-0.4**
comp=Z,1.9nm,0.7s,mb4.3,baz=263,slow=6.0,SNR=20							
WRA	**Warramunga Arr**	**61.93**	**102**	P	**P**	**13 17 54.2**	**-0.3**
comp=Z,2.6nm,0.8s,mb4.4,baz=259,slow=6.1,SNR=13							
WRAB	**Tennant Creek**	**61.95**	**102**	*e*P	**P**	**13 17 53.7**	**-0.8**
WRAB				pmax	pmax		
comp=Z,14nm,1.1s,mb5.0							
WRAB	**Tennant Creek**	**61.95**	**102**	*e*P	**P**	**13 17 53.7**	**-0.8**
comp=Z,14nm,1.1s,mb5.0							
AAK	**Ala-Archa**	**63.39**	**5**	P	**P**	**13 18 03.8**	**-0.4**
AAK				pmax	pmax		
comp=Z,10.0nm,1.5s,mb4.7							
AAK	**Ala-Archa**	**63.39**	**5**	P	**P**	**13 18 03.8**	**-0.4**
comp=Z,9.8nm,1.5s,mb4.7							
GNI	**Garni**	**64.32**	**341**	*e*P	**P**	**13 18 16.1**	**+5.8**
GNI				pmax	pmax		
comp=Z,22nm,1.3s							
STKA	**Stephens Creek**	**65.93**	**117**	LR	LR	13 42 41.9	
comp=Z,166nm,21.4s,MS4.2,baz=206,slow=32							
GTA	**Gaotai**	**66.92**	**26**	*e*P	**P**	**13 18 30.3**	**+3.2**
GTA				AP	pP	13 18 36.3	+5.9
GTA				XP	sP	13 18 39.5	+7.9
GTA				AMB	AMB		
comp=Z,5.0nm,2.0s,mb4.2							
BRTR	**Keskin Array B**	**68.13**	**332**	P	**P**	**13 18 33.4**	**-1.4**
comp=Z,0.8nm,0.7s,mb3.9,baz=143,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**68.51**	**11**	P	**P**	**13 18 37.1**	**0.0**
comp=Z,0.7nm,0.8s,mb3.7,baz=210,slow=5.0,SNR=6.2							
MKAR	**Makanchi Array**	**68.51**	**11⇑**	*e*P	**P**	**13 18 33.5**	**-3.6**
SOC	**Sochi**	**69.05**	**338**	*e*P	**P**	**13 18 41.5**	**+1.0**
SOC				*e*		13 19 07.1	
SOC				*e*PPP		13 22 59.5	
SOC				*e*S	S	13 27 44.9	-0.7
SOC				*e**SS	sS	13 28 12.3	+21
SOC				*e*		13 28 33.1	
SOC				pmax	pmax		
comp=Z,28nm,0.9s,mb5.2							
QSPA	**South Pole Qui**	**69.34**	**180**	*e*P	**P**	**13 18 42.4**	**+0.1**
comp=Z,8.6nm,1.2s,mb4.6							
VNDA	**Vanda**	**70.74**	**167**	LR	LR	13 45 34.5	
comp=Z,98nm,19.1s,MS4.1,baz=85,slow=32							
NJ2	**Nanjing**	**71.72**	**44**	*e*P	**P**	**13 19 01.0**	**+4.2**
NJ2				PP	PP	13 21 41.3	+5.3
NJ2				S	S	13 28 14.0	-2.8
NJ2				XS	sS	13 28 31.0	+8.8
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
NJ2				AMB	AMB		
comp=Z,130nm,4.4s							
NJ2				LR	LR		
comp=Z,300nm,19.8s,MS4.6							
KURK	**Kurchatov**	**71.81**	**7**	*e*P	**P**	**13 18 58.5**	**+1.2**
KURK				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
KURK	**Kurchatov**	**71.81**	**7**	*e*P	**P**	**13 18 58.5**	**+1.2**
comp=Z,8.4nm,1.0s,mb4.6							
CTA	**Charters Tower**	**72.73**	**105**	LR	LR	13 48 11.0	
comp=Z,215nm,18.2s,MS4.5,baz=233,slow=34							
TORD	**Torodi Ar. Bea**	**73.20**	**291**	P	**P**	**13 19 04.1**	**-1.5**
comp=Z,1.2nm,1.1s,mb3.7,baz=101,slow=3.0,SNR=4.4							
ZRNK	**Zerenda**	**73.42**	**1**	*e*P	**P**	**13 19 06.2**	**-0.7**
ZRNK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
ZRNK	**Zerenda**	**73.42**	**1**	*e*P	**P**	**13 19 06.2**	**-0.8**
comp=Z,4.7nm,1.0s,mb4.4							
BRVK	**Borovoye**	**73.55**	**2**	*e*P	**P**	**13 19 06.2**	**-1.5**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
BRVK	**Borovoye**	**73.55**	**2**	*e*P	**P**	**13 19 06.2**	**-1.6**
comp=Z,2.7nm,1.0s,mb4.1							
ZAL	**Zalesovo**	**75.83**	**10**	P	**P**	**13 19 19.8**	**-1.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=267,slow=9.0,SNR=4.0							
ZAL				LR	LR	13 51 25.3	
comp=Z,124nm,19.4s,MS4.2,baz=247,slow=35							
ZAL	**Zalesovo**	**75.83**	**10**	P	**P**	**13 19 19.8**	**-1.1**
ZAL				LR	LR	13 51 25.3	
DBIC	**Dimbokro**	**76.35**	**283**	LR	LR	13 51 38.9	
comp=Z,104nm,18.5s,MS4.2,baz=106,slow=35							
DBIC	**Dimbokro**	**76.35**	**283**	P	**P**	**13 19 23.0**	**-0.9**
DBIC				pmax	pmax		
comp=Z,26nm,1.7s							
DBIC	**Dimbokro**	**76.35**	**283**	P	**P**	**13 19 23.0**	**-0.9**
comp=Z,26nm,1.7s,mb4.9							
SONM	**Songino Array**	**76.56**	**26**	P	**P**	**13 19 25.7**	**+0.6**
comp=Z,2.9nm,1.0s,mb4.2,baz=213,slow=2.4,SNR=11							
SONM				LR	LR	13 51 59.3	
comp=Z,110nm,20.4s,MS4.2,baz=219,slow=35							
PMG	**Port Moresby**	**76.81**	**95⇑**	*e*P	**P**	**13 19 33.9**	**+7.4**
ULN	**Ulaanbaatar**	**76.85**	**26**	*e*P	**P**	**13 19 27.7**	**+1.0**
ULN				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
ULN	**Ulaanbaatar**	**76.85**	**26**	*e*P	**P**	**13 19 27.6**	**+0.9**
comp=Z,4.1nm,1.1s,mb4.3							
ARU	**Arti**	**77.30**	**355**	*i*P	**P**	**13 19 33.0**	**+3.8**
AKASG	**Malin Array Be**	**78.88**	**336**	P	**P**	**13 19 37.5**	**-0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=140,slow=4.8,SNR=5.0							
OBN	**Obninsk**	**80.16**	**342**	*e*P	**P**	**13 19 48.8**	**+3.8**
OBN				pmax	pmax		
comp=Z,13nm,1.0s,mb4.8							
OBN				MLR	MLR		
comp=Z,100nm,23.0s,MS4.1							
HIA	**Hailar**	**83.58**	**31**	*e*P	**P**	**13 20 07.3**	**+4.3**
GERES	**GERESS Array B**	**84.40**	**327**	LR	LR	14 00 08.8	
comp=Z,42nm,18.4s,MS3.9,baz=64,slow=37							

KHC	Kasperske Hory	84.65	328	eP		P	13 20 10.0	+1.6
VSU	Vasula	85.95	340	eP		P	13 20 17.5	+2.6
MJAR	Matsushiro Arr	87.48	49	P		P	13 20 23.6	+1.2
	comp=Z,2.3nm,0.9s,mb4.4,baz=240,slow=6.5,SNR=4.0							
ARCES	ARCESS Array B	94.98	346	LR		LR	14 00 18.1	
	comp=Z,86nm,21.2s,MS4.2,baz=12,slow=33							
YKA	Yellowknife Ar	138.28	2	PKP		PKPdf	13 27 00.5	+0.5
	comp=Z,0.1nm,0.3s,baz=27,slow=1.5,SNR=2.9							
EDM	Edmonton	147.60	1	PKP2		PKPab	13 27 16.9	-4.4
ULM	Lac du Bonnet	147.88	340	PKPbc		PKPbc	13 27 19.9	0.0
	comp=Z,0.7nm,0.4s,baz=0.0,slow=1.0,SNR=2.6							

ISCJB ***25*** *13:30:28.6±0.7,369N±008×829W±0.1,h10km,mb3.9/7, MS3.3/2,Error ellipse: s-maj=16.5km s-min=8.5km az=112.3*

IDC ***25*** *13:30:28.5±1.5,351N×8298W,h0km,mb3.7/4,mb1 4.1/7, mb1mx3.9/19,mbtmp4.0/7,ML3.5/3,MS3.5/7,Ms1 3.6/7, ms1mx3.4/22,Error ellipse: s-maj=44.3km s-min=22.5km az=46.0*

NEIC ***25*** *13:30:29.6±0.8,352N×8289W,h10km,mb4.2/4,Error ellipse: s-maj=20.5km s-min=10.7km az=48.0*

ISC 25 13:30:30.5±0.7,364N±008×830W±01,h10km,n21, σ1§12/22,mb3.9/7,MS3.3/2,1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	5.63	127	ePn		Pn	13 31 49.3	-4.9
	6.7nm,0.6s							
BUS	Buena Vista	5.93	352	eP		Pn	13 31 57.6	-0.7
LCR2	La Lucha 2	6.15	350	ePn		Pn	13 32 00.3	-1.0
URSC	Urasca	6.21	353	‖eP		Pn	13 32 01.7	-0.4
LAJ	Bijagual	6.29	350	eP		Pn	13 32 01.3	-2.0
JTS	JuntasAbangare	6.90	343	Pn		Pn	13 32 11.5	-0.1
	2.5nm,0.3s,baz=108,slow=15,SNR=15							
JTS				LR		LR	13 34 20.8	
	comp=Z,395nm,21.5s,baz=178,slow=33							
JTS	JuntasAbangare	6.90	343	ePn		Pn	13 32 11.1	-0.5
JTS				Pn		Pn	13 32 11.5	-0.1
JTS				LR		LR	13 34 20.8	
ROSC	El Rosal	8.69	82	Pn		Pn	13 32 37.3	+1.0
	2.9nm,0.3s,baz=287,slow=15,SNR=5.2							
ROSC				LR		LR	13 35 53.5	
	comp=Z,270nm,19.5s,baz=352,slow=37							
SDV	Santo Domingo	13.31	66	Pn		Pn	13 33 40.9	+1.3
	0.5nm,0.3s,baz=271,slow=17,SNR=3.6							
SDV				LR		LR	13 38 40.0	
	comp=Z,332nm,20.9s,baz=29,slow=37							
SDV	Santo Domingo	13.31	66	ePn		Pn	13 33 38.7	-0.8
	7.0nm,0.9s							
SDV				LR		LR	13 38 40.0	
NNA	Nana	16.67	159	ePn		Pn	13 34 22.6	-1.6
	24nm,1.1s							
LPAZ	La Paz	24.64	144	P		P	13 35 50.5	-0.6
	6.2nm,1.2s,mb4.0,baz=342,slow=9.9,SNR=7.7							
LPAZ				LR		LR	13 46 12.5	
	comp=Z,106nm,21.3s,MS3.3,baz=60,slow=38							
ANMO	Albuquerque	38.02	328	P		P	13 37 51.2	+2.5
	1.6nm,0.9s,mb3.8							
SDCO	Great Sand Dun	39.72	332	eP		P	13 38 02.6	-0.4
	6.7nm,1.2s,mb4.2							
PV10	Paradox Valley	41.97	329	eP		P	13 38 22.6	+1.1
PV10				e			13 38 28.7	
RSSD	Black Hills	44.40	338	P		P	13 38 41.9	+0.6
	2.9nm,0.8s,mb4.1							
NVAR	Mina Array Bea	47.28	322	P		P	13 39 05.6	+1.6
	0.7nm,0.8s,mb3.6,baz=130,slow=7.5,SNR=5.3							
NVAR				LR		LR	14 00 09.2	
	comp=Z,34nm,21.2s,MS3.3,baz=20,slow=38							
NVAR	Mina Array Bea	47.28	322	P		P	13 39 05.6	+1.6
NVAR				LR		LR	14 00 09.2	
YKA	Yellowknife Ar	63.23	344	P		P	13 40 58.7	-0.3
	0.4nm,0.7s,mb3.6,baz=138,slow=6.6,SNR=6.9							
YKA	Yellowknife Ar	63.23	344	P		P	13 40 58.7	-0.3
TORD	Torodi Ar. Bea	83.99	77	P		P	13 43 01.7	+0.7
	0.5nm,0.8s,mb3.7,baz=270,slow=7.2,SNR=3.3							

GUC 25 13:32:54.2±0.9,3505N×7172W,h56km±7km,MD3.7, ML3.6,6C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.41	84	‖iP		Pn	13 33 05.3	+0.5
NICH				i S		Sn	13 33 13.2	+0.8
SFDO	San Fernando	0.72	54	⇑iP		Pn	13 33 08.7	+0.2
LNCH	Linares	0.80	173	⇑iP		Pn	13 33 09.6	+0.1
LNCH				i S		Sn	13 33 21.3	+0.6
LNCH				AMP			13 33 36.5	
	comp=N,2μm,0.5s							
CNCO	Chanco	0.95	224	‖iP		Pn	13 33 11.6	+0.2
CNCO				i S		Sn	13 33 25.0	+0.8
CNCO				AMP			13 33 28.7	
	comp=E,2μm,0.4s							
LNV	Longovilo	1.12	13	⇑iP		Pn	13 33 14.1	+0.5
LNV				i S		Sn	13 33 28.6	+0.5
CICH	Cipreses	1.29	56	⇑iP		Pn	13 33 16.6	+0.6
CICH				i S		Sn	13 33 33.5	+1.2
CACH	El Canelo	1.31	45	‖iP		Pn	13 33 16.6	+0.4
CACH				i S		Sn	13 33 33.7	+1.1
CHCH	Chadas Angostu	1.42	39	eP		Pn	13 33 18.0	+0.3
CHCH				i S		Sn	13 33 36.6	+1.3
TACH	Talagante	1.54	25	eP		Pn	13 33 19.7	+0.4
TACH				i S		Sn	13 33 39.5	+1.3
CCHI	Chillan	1.58	190	eP		Pn	13 33 20.4	+0.6
CCHI				i S		Sn	13 33 40.5	+1.3
CCHI				AMP			13 33 46.6	
	comp=N,538nm,0.7s							
ANTU	Antumapu	1.73	32	⇑iP		Pn	13 33 22.8	+0.9
ANTU				i S		Sn	13 33 44.3	+1.5
ANTU				AMP			13 33 48.6	
	comp=E,1μm,0.3s							
RCDM	Rinconada Maip	1.73	26	eP		Pn	13 33 21.9	0.0
RCDM				i S		Sn	13 33 43.5	+0.6
RCDM				AMP			13 33 47.6	
	comp=E,1μm,0.2s							
LMEL	Las Melosas	1.73	47	eP		Pn	13 33 23.1	+1.2
LMEL				i S		Sn	13 33 45.0	+2.0
LMEL				AMP			13 33 47.8	
	comp=N,1μm,0.6s							
PCH	Pirque	1.74	35	⇑iP		Pn	13 33 22.7	+0.7
PCH				i S		Sn	13 33 44.1	+1.0
SJCH	San Jose de Ma	1.80	39	i P		Pn	13 33 23.3	+0.4
SJCH				i S		Sn	13 33 45.9	+1.2
SJCH				AMP			13 33 48.4	
	comp=N,449nm,0.3s							
SAN	Santiago	1.82	29	i S		Sn	13 33 46.3	+1.3
SAN				AMP			13 33 52.5	
	comp=N,785nm,0.3s							
CLCH	Cerro Calan	1.92	31	eP		Pn	13 33 25.1	+0.7
CLCH				i S		Sn	13 33 49.0	+1.6
CLCH				AMP			13 33 56.0	
	comp=E,832nm,0.4s							
CLCH				AMP			13 33 56.6	
	comp=E,1μm,0.4s							
PEL	Peldehue	2.08	25	eP		Pn	13 33 27.5	+0.8
PEL				i S		Sn	13 33 52.6	+1.1
PEL				AMP			13 34 03.6	
	comp=E,1μm,0.3s							
FCH	Farellones	2.09	35	eP		Pn	13 33 27.6	+0.8
FCH				i S		Sn	13 33 53.7	+2.2
FCH				AMP			13 33 59.6	
	comp=N,542nm,0.2s							
JACH	Jahuel	2.54	22	eP		Pn	13 33 33.1	+0.2

NNC ***25*** *14:02:01.7±2.0,4283N×7802E,h0km,mb3.2,mpv3.2, Error ellipse: s-maj=20.0km s-min=10.2km az=6.0*

ISCJB ***25*** *14:02:05.3±1.2,429N±0.1×7807E±008,h10km,Error ellipse: s-maj=16.1km s-min=8.1km az=148.5*

KNET ***25*** *14:02:05.6±0.5,4276N×7771E,h1km±2km,ml2.7,Error ellipse: s-maj=4.9km s-min=2.7km az=156.0*

ISC 25 14:02:06.9±1.1,429N±01×7799E±008,h10km,n12, σ1§31/21,14C-9D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	0.81	292	⇑P		Pg	14 02 17.1	-5.4
	178nm,0.5s							
KNDC				⇑S		Sg	14 02 31.0	-2.0
	566nm,0.4s							
ULHL	Ulahol	1.46	243	⇑P		Pn	14 02 28.6	-4.7
	12nm,0.1s,SNR=74							
ULHL				⇓S		Sn	14 02 46.7	-5.7
	87nm,0.2s							
TKM2	Tokmak 2	1.76	271	‖P		Pn	14 02 35.5	-2.0
	11nm,0.1s,SNR=38							
TKM2				⇓S		Sn	14 02 58.9	-1.0
	54nm,0.1s							
TKM2	Tokmak 2	1.76	271	⇑P		Pn	14 02 35.1	-2.3
	5.8nm,0.3s							
TKM2				⇑S		Sn	14 02 58.2	-1.6
	18nm,0.3s							
KZA	Kyzart	2.19	248	⇑P		Pn	14 02 41.8	-1.6
	11nm,0.3s,SNR=23							
KZA				⇓S		Sn	14 03 10.1	-0.5
	32nm,0.3s							
KBK	Karagaybulak	2.25	264	‖P		Pn	14 02 43.9	-0.3
	14nm,0.2s,SNR=30							
KBK				⇓S		Sn	14 03 13.4	+1.3
	44nm,0.2s							
CHMS	Chumysh	2.38	273	⇑P		Pn	14 02 46.1	+0.1
	4.4nm,0.1s,SNR=7.3							
CHMS				⇑S		Sn	14 03 16.9	+1.7
	25nm,0.2s							
USP	Ospenovka	2.58	279	⇑P		Pn	14 02 48.6	-0.1
	7.8nm,0.2s,SNR=13							
USP				⇑S		Sn	14 03 23.2	+3.0
	25nm,0.2s							
AAK	Ala-Archa	2.59	265	⇑P		Pn	14 02 48.7	-0.1
	5.6nm,0.2s,SNR=12							
AAK				⇓S		Sn	14 03 22.8	+2.4
	15nm,0.2s							
UCH	Uchtor	2.66	256	‖P		Pn	14 02 49.8	0.0
	6.3nm,0.4s,SNR=9.8							
MK31	Makanchi Array	4.93	37	⇑Pn		Pn	14 03 21.9	+0.8
	0.2nm,0.2s,baz=212,slow=14,SNR=37							
MK31				‖Lg			14 04 37.4	
	0.3nm,0.4s,baz=217,slow=29,SNR=5.5							
KK31	Karatay Array	5.49	274	⇑Pg		Pb	14 03 43.8	+1.0
	1.1nm,0.6s,baz=90,slow=16,SNR=12							
KK31				⇑Lg			14 04 53.3	
	1.7nm,0.5s,baz=92,slow=29,SNR=15							

ISCJB ***25*** *14:02:46.9±0.5,373N±005×8299W±008,h10km,mb4.2/16, MS3.8/7,Error ellipse: s-maj=11.6km s-min=6.6km az=136.6*

IDC ***25*** *14:02:47.6±1.0,373N×8289W,h0km,mb3.9/8,mb1 4.2/11, mb1mx4.1/20,mbtmp4.0/11,ML3.7/3,MS3.9/13,Ms1 3.9/13, ms1mx3.8/20,Error ellipse: s-maj=35.8km s-min=16.7km az=56.0*

NEIC ***25*** *14:02:48.2±0.5,355N×8293W,h10km,mb4.5/11,Error ellipse: s-maj=13.2km s-min=10.4km az=224.0*

ISC 25 14:02:49.0±0.5,371N±005×8301W±007,h10km,n42, σ1§10/37,mb4.2/16,MS3.8/7,1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	5.71	127	eP		Pn	14 04 09.2	-4.7
	15nm,0.6s							
BUS	Buena Vista	5.86	353	‖eP		Pn	14 04 16.3	+0.4
LCR2	La Lucha 2	6.08	351	eP		Pn	14 04 18.9	-0.1
URSC	Urasca	6.14	353	eP		Pn	14 04 20.5	+0.8
LAJ	Bijagual	6.22	350	eP		Pn	14 04 20.0	-0.8
CAO	Cobano	6.31	341	eP		Pn	14 04 21.1	-0.9
PRS1	Puriscal	6.37	348	eP		Pn	14 04 22.5	-0.5
EPA	Esparza	6.44	346	eP		Pn	14 04 22.8	-1.1
JTS	JuntasAbangare	6.82	344	Pn		Pn	14 04 29.7	+0.6
	8.1nm,0.3s,baz=132,slow=6.0,SNR=20							
JTS				LR		LR	14 06 49.9	
	comp=Z,2μm,20.4s,baz=153,slow=36							
JTS	JuntasAbangare	6.82	344	eP		Pn	14 04 27.5	-1.6
JTS	JuntasAbangare	6.82	344	ePn		Pn	14 04 25.6	-3.5
	27nm,0.4s							
JTS				LR		LR	14 06 49.9	
PAYG	Puerto Ayora	8.47	239	eP		Pn	14 04 51.2	-0.6
	43nm,1.2s							
ROSC	El Rosal	8.73	82	Pn		Pn	14 04 55.2	-0.1
	4.4nm,0.3s,baz=105,slow=17,SNR=7.4							
ROSC				LR		LR	14 08 13.5	
	comp=Z,863nm,21.8s,baz=332,slow=38							
SDV	Santo Domingo	13.33	67	Pn		Pn	14 05 58.6	+0.4
	0.4nm,0.3s,baz=248,slow=16,SNR=7.5							
SDV				LR		LR	14 10 59.5	
	comp=Z,700nm,21.4s,baz=209,slow=37							
SDV	Santo Domingo	13.33	67	ePn		Pn	14 05 58.5	+0.2
	16nm,0.9s							
NNA	Nana	16.75	159	eP		Pn	14 06 43.4	-0.3
	32nm,1.1s							
SJG	San Juan	21.85	48	LR		LR	14 16 27.7	
	comp=Z,101nm,18.5s,MS3.3,baz=87,slow=38							
LPAZ	La Paz	24.72	144	P		P	14 08 09.2	-1.2
	5.8nm,1.1s,mb4.0,baz=327,slow=10,SNR=11							
LPAZ	La Paz	24.72	144	eP		P	14 08 08.3	-2.1
	16nm,1.2s,mb4.4							
SIV	San Ignacio	29.22	133	P		P	14 08 52.4	+1.5
	0.8nm,0.7s,mb3.6,baz=341,slow=8.2,SNR=3.9							
MIAR	Mount Ida	32.22	344	P		P	14 09 22.2	+4.9
	12nm,1.4s,mb4.5							
CFAA	Coronel Fontan	37.83	159	LR		LR	14 23 13.6	
	comp=Z,6.4nm,20.9s,baz=357,slow=32							
SDCO	Great Sand Dun	39.64	332	eP		P	14 10 23.7	+2.8
	9.5nm,1.1s,mb4.4							
PV01	Paradox Valley	41.46	329	P		P	14 10 37.6	+1.6
RSSD	Black Hills	44.32	338	eP		P	14 11 06.8	+7.7
	4.2nm,0.9s,mb4.2							
PLCA	Paso Flores	45.67	167	P		P	14 11 11.6	+1.7
	1.9nm,1.0s,mb4.0,baz=337,slow=7.1,SNR=3.7							
PLCA	Paso Flores	45.67	167	eP		P	14 11 11.2	+1.3
	5.6nm,1.1s,mb4.4							
NVAR	Mina Array Bea	47.20	322	P		P	14 11 23.8	+1.9
	1.7nm,0.8s,mb4.0,baz=141,slow=6.6,SNR=8.1							
NVAR				LR		LR	14 31 06.5	
	comp=Z,92nm,21.6s,MS3.7,baz=135,slow=36							
ULM	Lac du Bonnet	47.64	349	P		P	14 11 25.1	-0.2
	2.5nm,0.8s,mb4.3,baz=85,slow=2.4,SNR=3.6							
ULM				LR		LR	14 32 19.2	
	comp=Z,85nm,18.2s,MS3.8,baz=273,slow=37							
YBH	Yreka Blue Hor	51.88	323	LR		LR	14 32 60.0	
	comp=Z,125nm,21.0s,MS3.9,baz=135,slow=35							
EDM	Edmonton	55.31	338	eP		P	14 12 22.8	+0.1
FCC	Fort Churchill	55.59	353	eP		P	14 12 23.6	-1.2
	13nm,1.4s,mb4.8							
USHA	Ushuaia	59.57	170	LR		LR	14 34 14.7	
	comp=Z,99nm,18.0s,MS4.0,baz=160,slow=32							
YKA	Yellowknife Ar	63.16	344	P		P	14 13 16.9	-0.1
	0.8nm,0.8s,mb3.9,baz=139,slow=6.6,SNR=8.7							
YKA				LR		LR	14 42 27.1	
	comp=Z,78nm,21.2s,MS3.9,baz=70,slow=38							
YKA	Yellowknife Ar	63.16	344	P		P	14 13 16.9	-0.1
YKA				LR		LR	14 42 27.1	
RES	Resolute Bay	71.25	357	P		P	14 14 11.9	+3.4
	14nm,1.6s,mb4.6							
SUMG	Summit	74.01	13	P		P	14 14 25.0	+0.1
	8.8nm,1.0s,mb4.6							
ILAR	Eielson Array	75.74	337	P		P	14 14 34.8	-0.1
	0.6nm,0.9s,mb3.5,baz=110,slow=4.1,SNR=4.4							
ILAR				LR		LR	14 50 54.3	
	comp=Z,65nm,21.6s,MS3.9,baz=143,slow=38							
MCK	McKinley	76.19	335	eP		P	14 14 41.6	+4.2
	3.3nm,1.2s,mb4.1							
TORD	Torodi Ar. Bea	84.02	77	P		P	14 15 19.0	-0.6
	0.8nm,1.1s,mb3.8,baz=298,slow=2.4,SNR=4.5							
QSPA	South Pole Qui	93.73	180	P		P	14 16 04.4	-1.6
	25nm,1.8s,mb5.3							
ENH	Enshi	144.16	341	ePKPdf		PKPdf	14 22 23.0	-2.1

MOS ***25*** *14:02:56.2±1.1,1294N×14472E,h81km,mb4.5/8,Error ellipse: s-maj=24.3km s-min=10.8km az=99.2*

ISCJB ***25*** *14:02:57.3±0.8,1297N±007×1448E±01,h89km±6km, mb4.3/32,Error ellipse: s-maj=16.6km s-min=11.7km az=162.7*

IDC ***25*** *14:02:57.9±10.0,1295N×14471E,h77km±93km,mb3.6/9, mb1 3.9/9,mb1mx3.8/19,mbtmp3.9/9,MS3.8/4,Ms1 3.8/4, ms1mx3.1/25,Error ellipse: s-maj=47.2km s-min=17.1km az=92.0*

BJI ***25*** *14:02:57.1,1313N×14475E,h78km,mB5.0,mb4.6,Ms4.6, Msz4.0*

NEIC ***25*** *14:02:58.2±1.0,1296N×14473E,h83km±8km,mb4.6/14, Error ellipse: s-maj=14.1km s-min=9.7km az=96.0*

ISC 25 14:02:58.9±0.8,1303N±007×1449E±01,h87km±6km, h77km±.5km:pP-P,n56,σ1§10/56,mb4.3/32,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.56	2	ePg		Pn	14 03 13.5	-0.3
GUMO				eSg		Sn	14 03 24.2	-0.7
PMG	Port Moresby	22.41	174	P		P	14 07 57.9	+7.7
PMG				pmax	pmax			
	comp=Z,54nm,1.4s							
PMG	Port Moresby	22.41	174	P		P	14 07 57.9	+7.7
	comp=Z,54nm,1.4s,mb4.7							
MJAR	Matsushiro Arr	24.16	347	P		P	14 08 07.8	+1.0
	comp=Z,3.7nm,0.7s,mb3.8,baz=166,slow=7.8,SNR=9.1							
MJAR				LR		LR	14 16 34.1	
	comp=Z,128nm,19.7s,baz=215,slow=34							
MAJO	Matsushiro	24.16	347	eP		P	14 08 06.3	-0.6
MAJO				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.0							
MAJO	Matsushiro	24.16	347	eP		P	14 08 06.3	-0.6
	comp=Z,7.3nm,0.8s,mb4.1							
MAT	Matsushiro	24.16	347	P		P	14 08 08.0	+1.1
MAT	Matsushiro	24.16	347	eP		P	14 08 08.0	+1.1
SSE	Sheshan	28.25	313	P		P	14 08 42.8	-1.0
SSE				AMB		AMB		
	comp=Z,19nm,0.8s,mb4.7							
SSE				AMB		AMB		
	comp=Z,117nm,3.4s							
NJ2	Nanjing	30.44	313	eP		P	14 09 04.8	+1.7
NJ2				AP		pP	14 09 22.5	-0.6
NJ2				XP		sP	14 09 31.8	-1.4
NJ2				PP		PP	14 10 05.3	-8.0
NJ2				S		S	14 13 55.0	-2.7
NJ2				XS		sS	14 14 25.0	-7.2
NJ2				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,160nm,4.6s							
NJ2				LR		LR		
	comp=N,980nm,11.1s							
NJ2				LR		LR		
	comp=E,190nm,12.4s							
NJ2				LR		LR		
	comp=Z,240nm,12.4s							
ASAJ	Asahikawa	31.04	357	LR		LR	14 19 52.8	
	comp=Z,59nm,20.7s,baz=276,slow=33							
MDJ	Mudanjiang	34.08	340	P		P	14 09 34.0	-0.9
MDJ				AMB		AMB		
	comp=Z,12nm,2.4s,mb4.3							
WRAB	Tennant Creek	34.35	198	P		P	14 09 42.9	+5.7
WRA	Warramunga Arr	34.36	198	P		P	14 09 35.6	-1.8
	comp=Z,2.1nm,0.8s,mb4.0,baz=21,slow=9.7,SNR=9.8							
CN2	Changchun	34.91	335	eP		P	14 09 44.5	+2.4
ENH	Enshi	36.88	303	eP		P	14 09 59.0	+0.1
	comp=Z,8.6nm,0.9s,mb4.7							
ASAR	Alice Springs	38.01	196	P		P	14 10 07.8	-0.6
	comp=Z,0.3nm,0.6s,mb3.3,baz=22,slow=12,SNR=3.0							
KMI	Kunming	41.41	293	P		P	14 10 37.5	+0.8
KMI				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.5							
CD2	Chengdu	41.77	302	P		P	14 10 40.5	+0.9
CD2				AP		pP	14 10 59.0	-1.3
CD2				XP		sP	14 11 08.0	-2.3
CD2				S		S	14 16 49.0	-1.5
CD2				XS		sS	14 17 20.5	-5.5
CD2				SS		SS	14 19 50.0	-9.5
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
CD2				AMB		AMB		
	comp=Z,50nm,5.9s							
CD2				LR		LR		
	comp=E,70nm,8.4s							
CD2				LR		LR		
	comp=Z,60nm,8.4s							
LZH	Lanzhou	43.36	309	eP		P	14 10 53.8	+1.3
LZH				AP		pP	14 11 12.5	-0.7
LZH				XP		sP	14 11 20.5	-2.7
LZH				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.5							
STKA	Stephens Creek	44.76	184	P		P	14 11 03.6	-0.1
	comp=Z,1.4nm,0.6s,mb3.9,baz=348,slow=9.3,SNR=2.1							
MA2	Magadan	46.67	4	eP		P	14 11 18.8	+0.1
MA2				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4							
MA2	Magadan	46.67	4	eP		P	14 11 18.8	+0.1
	comp=Z,5.9nm,0.8s,mb4.4							
ULN	Ulaanbaatar	46.83	326	eP		P	14 11 18.6	-1.4
ULN				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
ULN	Ulaanbaatar	46.83	326	eP		P	14 11 18.6	-1.3
	comp=Z,2.8nm,0.7s,mb4.1							
SONM	Songino Array	47.18	325	P		P	14 11 23.5	+0.8
	comp=Z,0.6nm,0.7s,mb3.4,baz=140,slow=7.9,SNR=4.5							
GTA	Gaotai	47.53	312	eP		P	14 11 26.3	+0.9
GTA				AP		pP	14 11 45.3	-1.2
GTA				XP		sP	14 11 55.0	-1.3
GTA				PCP		PcP	14 12 56.0	+1.9
GTA				PP		PP	14 13 17.5	0.0
GTA				PPP			14 14 06.0	
GTA				SCP		ScP	14 16 43.5	+3.1
GTA				PCS		PcS	14 16 52.3	+2.7
GTA				S		S	14 18 12.0	-1.8
GTA				XS		sS	14 18 42.8	-7.1
GTA				SCS		ScS	14 21 11.0	+0.5
GTA				SS		SS	14 21 33.0	-10
GTA				AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.3							
GTA				AMB		AMB		
	comp=Z,92nm,5.7s							
GTA				LR		LR		
	comp=N,153nm,15.7s							
GTA				LR		LR		
	comp=E,176nm,18.0s							
GTA				LR		LR		
	comp=Z,71nm,14.9s							
YAK	Yakutsk	50.13	351	eP		P	14 11 43.4	-1.9
YAK				pmax	pmax			
	comp=Z,22nm,0.7s,mb5.2							
YAK	Yakutsk	50.13	351	eP		P	14 11 43.4	-1.9
	comp=Z,22nm,0.7s,mb5.2							
RAO	Raoul Island	55.30	140	LR		LR	14 30 42.1	
	comp=Z,430nm,21.1s,baz=126,slow=30							
JIRN	Jiri	56.43	295	eP		P	14 12 32.1	+0.7
	comp=Z,5.0nm,0.5s,mb4.8							
GUN	Gumba	56.71	295	eP		P	14 12 33.8	+0.4
	comp=Z,39nm,1.2s,mb5.3							
BILL	Bilibino	56.71	9	eP		P	14 12 33.5	+0.1
BILL				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
BILL	Bilibino	56.71	9	eP		P	14 12 33.5	+0.1
	comp=Z,4.3nm,0.9s,mb4.5							
PKI	Pulchoki	57.12	294	e

comp=Z,1.0nm,1.0s,mb3.6
ZRNK Zerenda 71.19 322 *e*P **P 14 14 08.3 0.0**
comp=Z,1.5nm,1.0s,mb3.8
YKA Yellowknife Ar 83.36 27 P **P 14 15 16.8 +0.5**
comp=Z,1.3nm,0.9s,mb3.8,baz=289,slow=5.4,SNR=9.4
YKA Yellowknife Ar 83.36 27 P **P 14 15 16.8 +0.5**
RES Resolute Bay 85.10 13 *e*P **P 14 15 26.3 +1.2**
RES pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RES Resolute Bay 85.10 13 *e*P **P 14 15 26.3 +1.2**
comp=Z,3.7nm,0.8s,mb4.4
NVAR Mina Array Bea 87.28 51 P **P 14 15 38.9 +3.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=268,slow=5.6,SNR=11
YMR Madison River 90.77 44 P **P 14 15 47.6 -4.6**
comp=Z,8.0nm,1.1s,mb4.8
FINES FINESS Array B 91.66 335 P **P 14 15 55.1 -1.3**
comp=Z,0.9nm,0.8s,mb4.1,baz=58,slow=5.0,SNR=4.2
TORD Torodi Ar. Bea 135.17 304 PKP PKPdf 14 22 09.9 +1.7
comp=Z,1.0nm,1.0s,baz=172,slow=5.4,SNR=3.6
DBIC Dimbokro 144.10 301 PKP PKPdf 14 22 23.8 -0.6
comp=Z,9.4nm,0.8s,baz=78,slow=3.8,SNR=12

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*IDC **25** 14:10:08.6±5.3, 241S×13905E, h37km±44km, mb3.9/9, mb1 4.1/10, mb1mx4.0/13, mbtmp4.1/10, ML4.2/1, MS3.9/4, Ms1 3.9/4, ms1mx3.3/22, Error ellipse: s-maj=34.9km s-min=12.2km az=91.0*
*ISCJB **25** 14:10:11.3±2.7, 250S±007×1389E±01, h77km±25km, mb4.3/17, Error ellipse: s-maj=18.2km s-min=11.4km az=36.0*
*NEIC **25** 14:10:14.6±2.0, 254S×13895E, h96km±20km, mb4.5/12, Error ellipse: s-maj=15.2km s-min=10.3km az=111.0*
ISC 25 14:10:13.5±2.5, 248S±009×1390E±01, h84km±24km, n31, σ0§99/32, mb4.3/16, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.66**	**131**	Pn	**Pn**	**14 12 44.6**	**+1.4**
	20nm,0.9s						
WRAB	**Tennant Creek**	**17.93**	**194**	*e*Pn	**Pn**	**14 14 16.8**	**-0.4**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**14 17 20.0**	**-17**
WB2	**Warramunga Arr**	**17.93**	**194**	*e*P	**Pn**	**14 14 16.0**	**-1.3**
WRA	**Warramunga Arr**	**17.94**	**194**	P	**Pn**	**14 14 15.7**	**-1.6**
	0.9nm,0.3s,baz=18,slow=13,SNR=16						
WRA				S	**S**	**14 17 29.0**	**-8.6**
	0.2nm,0.3s,baz=8.9,slow=23,SNR=5.0						
CTAO	**Charters Tower**	**18.89**	**158**	Pn	**Pn**	**14 14 27.5**	**-1.2**
	21nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.30**	**219**	*e*P	**P**	**14 14 46.3**	**+3.8**
	4.4nm,0.6s						
AS31	**Alice Springs**	**21.62**	**193**	*e*P	**P**	**14 14 57.6**	**+0.8**
ASAR	**Alice Springs**	**21.63**	**193**	P	**P**	**14 14 57.2**	**+0.4**
	2.5nm,0.7s,mb3.7,baz=27,slow=11,SNR=15						
ASAR				S	**S**	**14 18 55.7**	**+4.2**
	1.0nm,0.8s,baz=4.5,slow=25,SNR=4.4						
ASPA	**Alice Springs**	**21.63**	**193**	*e*P	**P**	**14 14 57.6**	**+0.8**
MBWA	**Marble Bar**	**26.38**	**224**	P	**P**	**14 15 44.4**	**+2.5**
	23nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**29.35**	**175**	P	**P**	**14 16 08.0**	**-0.3**
	2.0nm,0.7s,mb3.8,baz=214,slow=5.6,SNR=5.8						
STKA	**Stephens Creek**	**29.35**	**175**	P	**P**	**14 16 06.7**	**-1.7**
KULM	**Kulim**	**39.05**	**281**	*e*P	**P**	**14 17 28.6**	**-3.5**
PSI	**Prapat**	**40.37**	**277**	P	**P**	**14 17 43.2**	**+0.1**
	6.2nm,1.0s,mb4.4,baz=230,slow=7.5,SNR=3.6						
PSI	**Prapat**	**40.37**	**277**	P	**P**	**14 17 43.2**	**+0.1**
SONM	**Songino Array**	**57.62**	**335**	P	**P**	**14 19 55.5**	**+0.7**
	0.5nm,0.8s,mb3.6,baz=145,slow=5.3,SNR=3.4						
SONM				LR	LR	14 44 40.1	
	comp=Z,44nm,18.7s,baz=242,slow=36						
MKAR	**Makanchi Array**	**69.76**	**322**	P	**P**	**14 21 15.4**	**+0.8**
	6.0nm,1.0s,mb4.4,baz=113,slow=6.9,SNR=30						
ZAL	**Zalesovo**	**71.87**	**330**	P	**P**	**14 21 27.2**	**-0.1**
	0.9nm,0.5s,mb3.9,baz=3.1,slow=7.1,SNR=7.1						
KURK	**Kurchatov**	**73.67**	**325**	*e*P	**P**	**14 21 37.7**	**-0.3**
	7.2nm,1.0s,mb4.4						
VNDA	**Vanda**	**75.99**	**175**	P	**P**	**14 21 52.7**	**+1.3**
	2.0nm,0.7s,mb4.0,baz=326,slow=4.9,SNR=6.6						
VNDA				LR	LR	14 55 52.3	
	comp=Z,98nm,18.6s,baz=39,slow=36						
VNDA	**Vanda**	**75.99**	**175**	*e*P	**P**	**14 21 52.3**	**+0.9**
	3.0nm,0.8s,mb4.1						
VNDA				LR	LR	14 55 52.3	
ZRNK	**Zerenda**	**80.04**	**325**	*e*P	**P**	**14 22 13.8**	**0.0**
	15nm,1.4s,mb4.6						
PMR	**Palmer**	**83.64**	**27**	*e*P	**P**	**14 22 32.3**	**-0.4**
	6.1nm,0.7s,mb4.5						
MCK	**McKinley**	**84.36**	**25**	*e*P	**P**	**14 22 36.2**	**-0.2**
	7.7nm,1.3s,mb4.4						
DIV	**Divide**	**85.08**	**28**	*e*P	**P**	**14 22 39.9**	**-0.1**
	28nm,0.8s,mb5.2						
COLA	**College**	**85.15**	**24**	*e*P	**P**	**14 22 39.4**	**-1.0**
	3.7nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**85.52**	**24**	P	**P**	**14 22 41.3**	**-0.9**
	5.4nm,0.9s,mb4.5,baz=261,slow=4.8,SNR=42						
QSPA	**South Pole Qui**	**87.47**	**180**	*e*P	**P**	**14 22 52.2**	**+0.5**
	4.5nm,0.8s,mb4.5						
DAWY	**Dawson**	**88.55**	**26**	*e*P	**P**	**14 22 57.6**	**+0.8**
YKA	**Yellowknife Ar**	**99.74**	**27**	P	Pdif	14 23 47.6	-0.4
	0.1nm,0.4s,baz=296,slow=4.5,SNR=2.4						
DBIC	**Dimbokro**	**143.71**	**278**	*e*PKPdf	PKPdf	14 29 37.6	-1.2

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*ISCJB **25** 14:13:00.4±1.3, 196S±02×1763W±02, h350km, mb3.8/8, Error ellipse: s-maj=24.7km s-min=23.0km az=36.9*
*IDC **25** 14:13:02.8±8.4, 197.4S×176.16W, h370km±91km, mb3.5/5, mb1 3.7/7, mb1mx3.4/16, mbtmp4.3/7, Error ellipse: s-maj=47.7km s-min=31.6km az=13.0*
*NEIC **25** 14:13:27.2±3.4, 2132S×17797W, h495km±38km, mb4.3/5, Error ellipse: s-maj=29.8km s-min=22.9km az=214.0*
ISC 25 14:13:00.8±5.8, 196S±02×1762W±02, h348km±55km, n16, σ0§70/16, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.45**	**258**	P	**P**	**14 16 32.0**	**+0.7**
	0.4nm,0.3s,baz=108,slow=16,SNR=4.1						
URZ	**Urewera**	**19.48**	**196**	P	**P**	**14 17 02.9**	**-0.6**
	0.9nm,0.3s,baz=28,slow=2.9,SNR=7.5						
CTA	**Charters Tower**	**35.31**	**263**	*e*P	**P**	**14 19 24.6**	**+0.5**
	9.0nm,1.0s,mb4.0						
CTA	**Charters Tower**	**35.31**	**263**	P	**P**	**14 19 24.4**	**+0.3**
	7.7nm,0.4s,mb4.3,baz=94,slow=9.9,SNR=19						
CTAO	**Charters Tower**	**35.31**	**263**	*e*P	**P**	**14 19 24.6**	**+0.4**
	18nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**39.74**	**243**	P	**P**	**14 20 00.1**	**-0.8**
	1.2nm,0.5s,mb3.4,baz=86,slow=13,SNR=7.3						
STKA	**Stephens Creek**	**39.74**	**243**	*e*P	**P**	**14 19 59.3**	**-1.6**
AS31	**Alice Springs**	**46.41**	**256**	*e*P	**P**	**14 20 54.2**	**+0.4**
ASAR	**Alice Springs**	**46.42**	**256**	P	**P**	**14 20 54.2**	**+0.4**
	6.6nm,0.5s,mb4.0,baz=92,slow=8.5,SNR=48						
ASPA	**Alice Springs**	**46.42**	**256**	*e*P	**P**	**14 20 54.2**	**+0.4**
WB2	**Warramunga Arr**	**46.44**	**261**	*e*P	**P**	**14 20 53.8**	**-0.1**
WRAB	**Tennant Creek**	**46.44**	**261**	*e*P	**P**	**14 20 52.6**	**-1.3**
	6.5nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**46.45**	**261**	P	**P**	**14 20 54.0**	**0.0**
	2.2nm,0.5s,mb3.6,baz=97,slow=7.1,SNR=54						
NWAO	**Narrogin (SRO)**	**60.32**	**243**	P	**P**	**14 22 28.3**	**-5.6**
	20nm,1.3s,mb4.4						
QSPA	**South Pole Qui**	**70.45**	**180**	P	**P**	**14 23 39.3**	**+1.1**
	3.3nm,1.1s,mb4.0						
ILAR	**Eielson Array**	**87.08**	**12**	P	**P**	**14 25 07.5**	**-0.3**
	0.2nm,0.6s,mb3.1,baz=232,slow=5.2,SNR=4.8						

IDC 25 14:13:20.4±1.2, 2883N×13955E, h404km±35km, mb2.8/5, mb1 3.1/6, mb1mx2.9/18, mbtmp3.6/6, Error ellipse: s-maj=91.7km s-min=25.4km az=10.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.90**	**126**	P	Pn	14 14 23.7	+0.6
	15nm,0.3s,baz=285,slow=23,SNR=5.5						
CBIJ				S	S	14 15 14.1	+0.2
	37nm,0.3s,baz=182,slow=23,SNR=18						
SONM	**Songino Array**	**31.85**	**316**	P	P	14 19 10.0	+0.2
	0.4nm,0.5s,baz=125,slow=8.2,SNR=8.3						
ILAR	**Eielson Array**	**57.33**	**29**	P	P	14 22 27.6	-0.4
	0.2nm,0.4s,baz=249,slow=5.5,SNR=11						
YKA	**Yellowknife Ar**	**71.73**	**28**	P	P	14 23 59.6	-0.4
	0.2nm,0.5s,baz=297,slow=6.0,SNR=5.0						
FINES	**FINESS Array B**	**75.36**	**333**	P	P	14 24 20.4	-0.5
	1.4nm,0.9s,baz=58,slow=5.5,SNR=8.6						
NVAR	**Mina Array Bea**	**81.27**	**51**	P	P	14 24 53.7	+0.9
	0.2nm,0.5s,baz=292,slow=6.3,SNR=3.8						

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*IDC **25** 14:18:51.3±1.2, 586N×12527E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=74.6km s-min=22.8km az=70.0*
*ISCJB **25** 14:18:58.5±1.4, 64N±02×1264E±02, h98km±19km, mb3.6/3, Error ellipse: s-maj=37.4km s-min=24.9km az=170.7*
*MAN **25** 14:18:58.5, 660N×12654E, h8km, mb3.4, ML4.6, MS8.5*
ISC 25 14:18:59.7±1.5, 64N±01×1264E±02, h87km±20km, n6, σ1§32/6, mb3.6/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.13**	**307**	||*i*P	**Pn**	**14 19 20.7**	**0.0**
BIPH	**Bislig**	**1.76**	**358**	||*i*P	**Pn**	**14 19 28.9**	**+0.2**
BIPH				*i* S	**Sn**	**14 19 50.5**	**-0.2**
WRA	**Warramunga Arr**	**27.32**	**164**	P	**P**	**14 24 37.5**	**+1.3**
	0.5nm,0.4s,mb3.4,baz=346,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**30.77**	**167**	P	**P**	**14 25 05.4**	**-1.4**
	0.2nm,0.3s,mb3.3,baz=341,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**55.20**	**324**	P	**P**	**14 28 23.5**	**+0.1**
	0.9nm,0.5s,mb4.0,baz=117,slow=7.3,SNR=19						
ILAR	**Eielson Array**	**82.83**	**26**	P	PcP	14 31 24.3	+5.3
	0.5nm,0.9s,baz=236,slow=6.4,SNR=4.2						

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*CSEM **25** 14:27:24.4±0.4, 3843N×2852W, h13km±1km, ML1.5, Error ellipse: s-maj=4.9km s-min=1.4km az=7.0, After PDA*
*PDA **25** 14:27:24.4±0.4, 3843N×2852W, h13km±1km, MD3.0, ML1.5, Error ellipse: s-maj=4.9km s-min=1.4km az=7.0*
SVSA 25 14:27:24.4±0.4, 3843N×2852W, h13km±1km, MD3.0, ML1.5, Error ellipse: s-maj=4.9km s-min=1.4km az=7.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	**Candelaria**	**0.06**	**51**	*e*P	Pg	14 27 28.1	+1.2
PCND				*e*S	Sg	14 27 29.9	+1.2
PCND							
	24nm,0.1s						
PICO	**Pico**	**0.10**	**48**	*i* P	Pg	14 27 27.2	-0.2
PICO				*e*S	Sg	14 27 29.3	-0.2
PICO	**Pico**	**0.10**	**48**	*e*S	Sg	14 27 29.3	-0.2
HOR	**Horta**	**0.13**	**319**	*e*P	Pg	14 27 27.3	-0.4
HOR				*e*S	Sg	14 27 29.6	-0.4
CALA	**Caldeira**	**0.21**	**317**	*i* P	Pg	14 27 28.6	-0.3
CALA				*e*S	Sg	14 27 31.7	-0.3
CALA	**Caldeira**	**0.21**	**317**	*e*S	Sg	14 27 31.7	-0.3
ROSA	**Rosais**	**0.36**	**37**	*e*rx		14 27 30.1	
PMAN	**Manadas**	**0.40**	**59**	*e*P	Pg	14 27 31.4	-0.9
PMAN				*e*S	Sg	14 27 36.3	-1.3
PMAN							
	21nm,0.1s						

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*BJI **25** 14:49:35.6, 1157N×14191E, h59km, mB5.3, mb5.0, Ms4.8, Msz4.6*
*IDC **25** 14:49:35.5±0.5, 1220N×14142E, h0km, mb4.6/18, mb1 4.8/18, mb1mx4.7/22, mbtmp4.6/18, MS4.5/23, Ms1 4.5/23, ms1mx4.3/36, Error ellipse: s-maj=22.9km s-min=11.9km az=81.0*
*MOS **25** 14:49:40.7±1.0, 1213N×14124E, h49km, mb5.3/31, MS4.4/6, Error ellipse: s-maj=10.3km s-min=5.9km az=110.5*
*ISCJB **25** 14:49:40.7±0.3, 1209N±003×14131E±005, h50km, mb5.0/74, MS4.6/45, Error ellipse: s-maj=6.9km s-min=4.9km az=153.2*
*NEIC **25** 14:49:43.8±1.2, 1215N×14124E, h60km±11km, mb5.2/27, Error ellipse: s-maj=7.4km s-min=4.8km az=84.0*
*HRVD **25** 14:49:43.8±0.3, 1192N×14129E, h87km±4km, MW5.3/79, Centroid moment Tensor Solution. LP body waves: s3,c3;Mantle waves: s79,c138; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.08±.05; $M_{\theta\theta}$-0.38±.04; $M_{\phi\phi}$-0.69±.04; $M_{r\theta}$-0.28±.03; $M_{\theta\phi}$0.33±.03; $M_{\phi r}$-0.38±.03; Best double couple: $M_0$1.07800×10^{17} NP1:ϕ_s313.00000°, δ42.00000°, λ64.00000°. NP2: ϕ_s167.00000°, δ53.00000°, λ112.00000°. Principal axes: T 1.2340, Plg72.0000°, Azm134.0000°; N -0.3090, Plg17.0000°, Azm333.0000°; P -0.9220, Plg6.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 14:49:42.9±0.3, 1211N±003×14136E±005, h52km, h52km±2.8km: pP-P, n172, σ1§10/181, mb5.0/74, MS4.6/45, 10C-10D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.73**	**66**	*e*P	**Pn**	**14 50 39.4**	**+1.5**
CBIJ	**Chichi jima**	**14.93**	**3**	LR	LR	14 57 34.6	
	comp=Z,2μm,21.5s,baz=140,slow=32						
JOW	**Kunigami**	**19.12**	**322**	LR	LR	14 59 45.1	
	comp=Z,2μm,20.6s,baz=101,slow=32						
TGY	**Tagaytay City**	**19.99**	**278**	P	**Pn**	**14 54 11.9**	**-1.1**
	142nm,0.3s,baz=77,slow=14,SNR=8.0						
BCPH	**Baguio City Da**	**20.57**	**284**	*e*P	**P**	**14 54 19.5**	**+2.2**
JHJ	**Hachijo jima 2**	**20.96**	**356**	LR	LR	15 00 46.8	
	comp=Z,2μm,18.1s,MS4.6,baz=111,slow=32						
PMG	**Port Moresby**	**22.14**	**165**	P	**P**	**14 54 34.7**	**+0.6**
	27nm,0.8s,mb4.7,baz=1.4,slow=6.5,SNR=8.4						
PMG	**Port Moresby**	**22.14**	**165**	*e*P	**P**	**14 54 34.2**	**+0.1**
PMG				*i* *PP		14 54 45.3	
PMG	**Port Moresby**	**22.14**	**165**	P	**P**	**14 54 35.0**	**+1.0**
	92nm,1.3s,mb5.0						
JNU	**Nakatsue**	**23.01**	**337**	P	**P**	**14 54 42.2**	**-1.1**
	23nm,1.1s,mb4.5,baz=179,slow=11,SNR=4.3						
MJAR	**Matsushiro Arr**	**24.49**	**354**	P	**P**	**14 54 56.0**	**-1.1**
	1.9nm,0.7s,baz=204,slow=6.3,SNR=6.0						
MJAR				LR	LR	15 03 09.0	
	comp=Z,738nm,21.3s,baz=175,slow=33						
MAT	**Matsushiro**	**24.49**	**354**	P	**P**	**14 54 57.5**	**+0.4**
MAT				S	**S**	**14 59 15.0**	**+1.1**
MAT	**Matsushiro**	**24.49**	**354**	*e*P	**P**	**14 54 58.0**	**+0.9**
MAT				*e*S	**S**	**14 59 15.0**	**+1.1**
QZH	**Quanzhou**	**25.02**	**304**	P	**P**	**14 55 07.0**	**+5.0**
QZH				S	**S**	**14 59 30.5**	**+8.1**
QZH				LR	LR		
	comp=Z,1μm,13.2s,MS4.7						
SSE	**Sheshan**	**26.54**	**319**	P	**P**	**14 55 16.8**	**+1.2**
SSE				XP	sP	14 55 39.5	+4.5
SSE				S	**S**	**14 59 44.8**	**-1.5**
SSE				XS	sS	15 00 10.8	+2.1
SSE				AMB	AMB		
	comp=Z,38nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,320nm,4.6s						
SSE				LR	LR		
	comp=N,596nm,26.5s,MS4.1						
SSE				LR	LR		
	comp=E,424nm,26.5s,MS4.1						
SSE				LR	LR		
	comp=Z,1μm,21.3s						
NJ2	**Nanjing**	**28.67**	**317**	*e*P	**P**	**14 55 37.0**	**+2.2**
NJ2				AP	pP	14 55 49.0	+1.0
NJ2				XP	sP	14 55 54.3	+0.1
NJ2				PP	PP	14 56 30.3	-10
NJ2				S	**S**	**15 00 22.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,5.6s						
NJ2				LR	LR		
	comp=N,1μm,11.8s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,16.3s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,27.2s						
WHN	**Wuhan**	**31.00**	**310**	*e*P	**P**	**14 55 56.3**	**+1.0**
WHN				S	**S**	**15 01 02.0**	**+5.6**
WHN				LR	LR		
	comp=Z,2μm,19.1s,MS4.8						
QIZ	**Qiongzhong**	**31.09**	**287**	P	**P**	**14 55 57.5**	**+1.4**
QIZ				S	**S**	**15 00 57.0**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,310nm,5.9s						
QIZ				LR	LR		
	comp=E,683nm,15.9s						
QIZ				LR	LR		
	comp=Z,943nm,19.3s,MS4.5						
DL2	**Dalian**	**31.93**	**330**	*e*P	**P**	**14 56 04.8**	**+1.3**
DL2				*e*S	**S**	**15 01 13.3**	**+2.3**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
DL2				AMB	AMB		
	comp=Z,210nm,3.9s						
DL2				LR	LR		
	comp=N,770nm,16.2s,MS4.6						
DL2				LR	LR		
	comp=E,810nm,17.9s,MS4.6						
DL2				LR	LR		
	comp=Z,750nm,19.5s,MS4.4						
CTA	**Charters Tower**	**32.35**	**171**	*e*P	**P**	**14 56 09.7**	**+2.5**
	comp=Z,19nm,0.7s,mb5.0						
CTA	**Charters Tower**	**32.35**	**171**	P	**P**	**14 56 07.9**	**+0.7**
	comp=Z,22nm,0.7s,mb5.1,baz=332,slow=9.9,SNR=21						
CTA				LR	LR	15 07 58.4	
	comp=Z,981nm,21.0s,MS4.5,baz=349,slow=34						
CTA	**Charters Tower**	**32.35**	**171**	*e*P	**P**	**14 56 09.7**	**+2.5**
CTA				pmax	pmax		
	comp=Z,19nm,0.7s						
CTAO	**Charters Tower**	**32.35**	**171**	*e*P	**P**	**14 56 09.0**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.0						
CTAO	**Charters Tower**	**32.35**	**171**	*e*P	**P**	**14 56 09.0**	**+1.8**
	comp=Z,18nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**32.58**	**192**	P	**P**	**14 56 09.0**	**-0.2**
	comp=Z,328nm,0.8s,SNR=20						
WRAB	**Tennant Creek**	**32.58**	**192**	*d*P	**P**	**14 56 09.7**	**+0.5**
WRAB	**Tennant Creek**	**32.58**	**192**	*e*P	**P**	**14 56 09.6**	**+0.4**
	comp=Z,65nm,0.8s,mb5.6						
WB2	**Warramunga Arr**	**32.59**	**192**	||*i*P	**P**	**14 56 09.9**	**+0.6**
WRA	**Warramunga Arr**	**32.59**	**192**	P	**P**	**14 56 09.9**	**+0.6**
	comp=Z,36nm,0.8s,mb5.4,baz=11,slow=9.6,SNR=117						
WRA				PcP	PcP	14 58 55.9	+1.2
	comp=Z,1.7nm,0.6s,baz=8.3,slow=3.4,SNR=5.3						
SNY	**Shenyang**	**33.43**	**336**	⇑P	**P**	**14 56 18.0**	**+1.3**
SNY				AP	pP	14 56 30.8	+0.8
SNY				S	**S**	**15 01 37.0**	**+2.7**
SNY				SS	SS	15 03 47.5	-13
SNY				AMB	AMB		
	comp=Z,200nm,12.3s						
SNY				LR	LR		
	comp=N,820nm,23.5s,MS4.7						
SNY				LR	LR		
	comp=E,1μm,23.3s,MS4.7						
SNY				LR	LR		
	comp=Z,2μm,16.5s						
FITZ	**Fitzroy Crossi**	**33.79**	**208**	||*i*P	**P**	**14 56 18.5**	**-1.3**
	comp=Z,18nm,1.0s,mb5.0						
MDJ	**Mudanjiang**	**33.93**	**345**	P	**P**	**14 56 21.5**	**+0.5**
MDJ				AP	pP	14 56 34.5	+0.1
MDJ				XP	sP	14 56 40.3	-0.2
MDJ				PP	PP	14 57 36.3	-2.2
MDJ				PCP	PcP	14 58 57.0	-1.4
MDJ				S	**S**	**15 01 44.0**	**+2.0**
MDJ				SCP	ScP	15 02 37.5	-1.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,115nm,5.9s						
MDJ				LR	LR		
	comp=N,739nm,22.7s						
MDJ				LR	LR		
	comp=E,443nm,14.6s						
MDJ				LR	LR		
	comp=Z,1μm,30.3s						
CN2	**Changchun**	**34.43**	**339**	*e*P	**P**	**14 56 26.5**	**+1.2**
CN2				*e*XP	sP	14 56 48.8	+3.9
CN2				PP	PP	14 57 43.5	-0.5
CN2				*e*S	**S**	**15 01 49.0**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,900nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=E,900nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=Z,900nm,22.0s,MS4.5						
ENH	**Enshi**	**34.60**	**306**	*e*P	**P**	**14 56 27.2**	**+0.5**
	comp=Z,20nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**34.75**	**2**	⇑*i*P	**P**	**14 56 29.3**	**+1.2**
YSS				*e*S	**S**	**15 01 52.0**	**-2.7**
YSS				*e*SSS		15 04 38.0	
YSS				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
GYA	**Guiyang**	**35.58**	**299**	⇑*i*P	**P**	**14 56 36.3**	**+1.1**
GYA				AP	pP	14 56 51.5	+2.8
GYA				XP	sP	14 56 59.0	+4.2
GYA				PP	PP	14 57 58.0	+1.2
GYA				PCP	PcP	14 59 02.3	-0.9
GYA				S	**S**	**15 02 07.3**	**-0.2**
GYA				SCP	ScP	15 02 41.0	-3.7
GYA				SS	SS	15 04 43.5	-0.4
GYA				SCS	ScS	15 06 44.3	-5.2
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,280nm,4.0s						
GYA				LR	LR		
	comp=N,870nm,17.6s,MS4.7						
GYA				LR	LR		
	comp=E,740nm,17.4s,MS4.7						
BJT	**Baijiatuau**	**35.59**	**326**	*e*P	**P**	**14 56 35.7**	**+0.4**
AS31	**Alice Springs**	**36.29**	**192**	*e*P	**P**	**14 56 42.3**	**+1.0**
ASAR	**Alice Springs**	**36.29**	**192**	P	**P**	**14 56 42.1**	**+0.8**
	comp=E,5.6nm,0.7s,mb4.6,baz=18,slow=12,SNR=68						
ASAR				PcP	PcP	14 59 06.3	+1.1
	comp=E,2.5nm,0.7s,baz=22,slow=2.9,SNR=7.4						
ASPA	**Alice Springs**	**36.30**	**192**	*e*P	**P**	**14 56 42.3**	**+1.0**
XAN	**Xi'an**	**36.72**	**312**	P	**P**	**14 56 43.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,56nm,0.8s,mb5.5						
KLR	**Kul'dur**	**37.86**	**350**	*e*P	**P**	**14 56 51.0**	**-3.6**
KLR				*e*PPP		14 58 49.5	
KLR				*e*S	**S**	**15 02 41.5**	**-0.6**
KLR				smax			
	comp=N,800nm,13.0s						
KLR				smax			
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=N,700nm,13.5s,MS4.7						
KLR				MLR	MLR		
	comp=E,500nm,13.5s,MS4.7						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS5.1						
KMI	**Kunming**	**38.67**	**295**	P	**P**	**14 57 03.0**	**+1.6**
KMI				AP	pP	14 57 14.0	-1.0
KMI				XP	sP	14 57 19.5	-1.6
KMI				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,242nm,4.9s

CD2 AMB AMB
comp=Z,160nm,6.6s
CD2 LR LR
comp=N,410nm,13.8s
CD2 LR LR
comp=Z,420nm,15.6s,MS4.4
BTO Baotou 39.54 322 *e*P **P 14 57 08.8 +0.1**
LZH Lanzhou 41.35 312 *e*P **P 14 57 24.8 +1.1**
LZH AP pP 14 57 39.0 +1.7
LZH XP sP 14 57 46.0 +2.6
LZH PP PP 14 59 04.3 +4.4
LZH PCP PcP 14 59 21.8 +0.6
LZH *e*S **S 15 03 34.0 -0.5**
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,159nm,4.9s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=Z,2μm,17.5s,MS5.0
DZM Mont Dzumac 41.95 144 P **P 14 57 31.8 +3.3**
comp=Z,24nm,0.9s,mb4.8,baz=342,slow=13
DZM LR LR 15 12 57.1
comp=Z,559nm,18.4s,MS4.5,baz=6.3,slow=33
PSI Prapat 43.02 261 P **P 14 57 36.8 -0.5**
comp=Z,4.7nm,0.7s,mb4.3,baz=102,slow=7.8,SNR=4.1
PSI LR LR 15 14 10.0
comp=Z,154nm,19.1s,MS3.9,baz=195,slow=34
PET Petropavlovsk 43.10 15 *e*P **P 14 57 38.7 +0.8**
PET *e* pP 14 57 55.1 +3.5
PET *e*PPP 14 59 51.1
PET *e*S **S 15 04 03.9 +3.7**
PET *e* 15 07 29.2
PET pmax pmax
comp=Z,36nm,1.0s,mb5.1
PET smax
comp=E,300nm,18.7s
PET smax
comp=N,600nm,19.7s
PET pmax pmax
comp=E,700nm,26.3s
PET MLR MLR
comp=Z,300nm,17.0s,MS4.3
PET MLR MLR
comp=N,200nm,14.0s,MS4.4
PET MLR MLR
comp=E,300nm,17.0s,MS4.4
STKA Stephens Creek 43.73 180⇓ *i*P **P 14 57 41.6 -1.4**
comp=E,16nm,0.8s,mb4.8
STKA Stephens Creek 43.73 180 P **P 14 57 41.7 -1.3**
comp=E,19nm,0.7s,mb4.9,baz=353,slow=8.2,SNR=46
STKA LR LR 15 16 50.7
comp=E,694nm,18.0s,MS4.6,baz=10,slow=37
GTA Gaotai 45.66 314 P **P 14 57 58.5 +0.2**
GTA AP pP 14 58 14.0 +1.9
GTA XP sP 14 58 21.3 +3.1
GTA PCP PcP 14 59 34.5 -1.2
GTA PP PP 14 59 49.0 +3.1
GTA PPP 15 00 31.3
GTA SCP ScP 15 03 21.0 -3.2
GTA PCS PcS 15 03 27.5 -2.4
GTA S **S 15 04 39.3 +1.9**
GTA XS sS 15 05 04.3 +3.7
GTA SCS ScS 15 07 45.0 -4.8
GTA SS SS 15 07 56.0 -6.1
GTA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,245nm,5.0s
GTA LR LR
comp=N,539nm,18.0s
GTA LR LR
comp=E,476nm,23.7s
GTA LR LR
comp=Z,727nm,19.9s,MS4.6
CIT Chita 45.70 336 *e*P **P 14 57 59.5 +0.9**
CIT pmax pmax
comp=Z,69nm,4.2s
ULN Ulaanbaatar 45.72 328⇓ *e*P **P 14 57 58.9 +0.1**
ULN Ulaanbaatar 45.72 328 P **P 14 57 59.0 +0.2**
comp=Z,7.9nm,0.8s,mb4.7
SONM Songino Array 46.05 328 P **P 14 58 01.5 +0.1**
comp=Z,2.8nm,0.8s,mb4.3,baz=140,slow=6.8,SNR=24
SONM PcP PcP 14 59 36.7 -0.3
comp=Z,1.6nm,0.7s,baz=140,slow=5.1,SNR=3.0
SONM LR LR 15 17 43.4
comp=Z,777nm,18.6s,MS4.7,baz=153,slow=37
SONM Songino Array 46.05 328 P **P 14 58 01.5 +0.1**
SONM 14 59 36.7
CLNS Chul'man 46.40 348 *e*P **P 14 58 04.2 +0.1**
CLNS pmax pmax
comp=N,19nm,1.3s
CLNS pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLNS pmax pmax
comp=E,3.0nm,0.8s
CNB Canberra Magne 47.77 171 *e*P **P 14 58 16.3 +1.5**
comp=E,16nm,0.9s,mb5.1
MA2 Magadan 47.90 6 P **P 14 58 15.9 +0.1**
MA2 pmax pmax
comp=Z,18nm,0.7s,mb5.2
MA2 Magadan 47.90 6 P **P 14 58 15.9 +0.1**
comp=Z,18nm,0.7s,mb5.2
SHL Shillong 48.43 293 *e*P **P 14 58 20.0 +0.1**
SHL *e*S **S 15 05 24.0 +7.1**
KLBR Kellerberrin 48.99 207 *e*P **P 14 58 23.9 -0.3**
comp=Z,20nm,1.1s,mb5.1
ZAK Zakamensk 49.23 329 *e*P **P 14 58 26.2 +0.2**
ZAK pmax pmax
comp=Z,43nm,1.8s,mb5.2
LSA Lhasa 49.66 299 P **P 14 58 26.0 -3.3**
LSA LR LR
comp=E,310nm,19.9s
LSA LR LR
comp=Z,400nm,22.9s,MS4.4
LSA Lhasa 49.66 299 P **P 14 58 30.6 +1.3**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.3
LSA Lhasa 49.66 299 P **P 14 58 30.6 +1.3**
comp=Z,26nm,0.8s,mb5.3
IRK Irkutsk 49.90 331 *e*P **P 14 58 31.4 +0.3**
IRK *e* pP 14 58 44.6 -0.5
IRK pmax pmax
comp=Z,49nm,3.8s
MUN Mundaring 50.02 208 *e*P **P 14 58 31.5 -0.5**
BOD Bodaibo 50.14 341 *e*P **P 14 58 31.1 -1.8**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
NWAO Narrogin (SRO) 50.36 207 LR LR 15 20 28.8
comp=Z,374nm,18.4s,MS4.4,baz=29,slow=37
YAK Yakutsk 50.55 353 *e*P **P 14 58 36.3 +0.2**
YAK *e*S sS 15 06 07.7 -2.4
YAK pmax pmax
comp=Z,38nm,0.8s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK Yakutsk 50.55 353 *e*P **P 14 58 35.5 -0.6**
comp=N,83nm,0.7s,mb5.8
MOY Mondy 51.16 329 *e*P **P 14 58 41.2 +0.6**
MOY pmax pmax
comp=Z,74nm,3.2s
SEY Seymchan 51.35 6 *e*P **P 14 58 43.2 +1.1**
SEY *e* 14 59 55.0
SEY *e* 15 00 41.9
SEY *e*S **S 15 06 02.0 +4.4**
SEY 15 08 18.3
SEY pmax pmax
comp=E,5.0nm,0.8s
SEY pmax pmax
comp=Z,14nm,0.8s,mb4.9
SEY pmax pmax
comp=N,10.0nm,1.1s
SEY smax
comp=N,310nm,15.1s
SEY smax
comp=E,190nm,15.1s
SEY MLR MLR
comp=E,340nm,19.0s,MS4.4
SEY MLR MLR
comp=Z,230nm,19.0s,MS4.2
SEY MLR MLR
comp=N,130nm,18.0s,MS4.4
CAL Calcutta 51.44 289 *e*P **P 14 58 50.0 +7.2**

CAL *e*x x 15 06 26.4
JIRN Jiri 53.72 295 *e*P **P 14 58 59.8 +0.2**
comp=N,75nm,0.7s,mb5.7
GUN Gumba 54.01 296 *e*P **P 14 59 01.6 -0.1**
comp=N,190nm,0.7s
PKI Pulchoki 54.40 295 *e*P **P 14 59 04.3 -0.2**
comp=N,46nm,0.8s,mb5.5
KKN Kakani 54.53 295 *e*P **P 14 59 05.2 -0.3**
comp=N,61nm,0.8s,mb5.7
KKN Kakani 54.53 295 *e*P **P 14 59 05.2 -0.3**
KKN pmax pmax
comp=Z,30nm,0.8s,mb5.4
DMN Daman 54.67 295 *e*P **P 14 59 06.3 -0.2**
comp=Z,77nm,0.7s,mb5.8
GKN Gorkha 55.12 296 *e*P **P 14 59 09.3 -0.4**
comp=Z,82nm,0.7s,mb5.9
WMQ Urumqi 55.72 315⇓ *i*P **P 14 59 14.3 +0.3**
WMQ AP pP 14 59 30.0 +1.8
WMQ XP sP 14 59 37.0 +2.8
WMQ PP PP 15 01 21.0 +2.3
WMQ S **S 15 06 54.0 -2.7**
WMQ SCS ScS 15 08 55.0 -3.7
WMQ SS SS 15 10 49.0 +6.4
WMQ AMB AMB
comp=Z,26nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,325nm,5.0s
WMQ LR LR
comp=N,445nm,12.0s,MS5.0
WMQ LR LR
comp=E,521nm,12.0s,MS5.0
WMQ LR LR
comp=Z,638nm,12.0s,MS4.9
KOLN Koldanda 56.02 295 *e*P **P 14 59 16.1 -0.1**
comp=Z,87nm,0.8s,mb5.8
RAO Raoul Island 56.88 137 LR LR 15 18 43.1
comp=Z,449nm,21.4s,MS4.5,baz=122,slow=31
KRAR Krasnoyarsk 57.55 330⇓ *e*P **P 14 59 27.5 +0.4**
KRAR pmax pmax
comp=Z,19nm,0.6s,mb5.3
KRAR MLR MLR
comp=Z,400nm,19.0s,MS4.5
BILL Bilibino 58.21 11 *d i*P **P 14 59 31.1 -0.6**
BILL *e* pP 14 59 40.2 -5.8
BILL *e*S **S 15 07 48.5 +19**
BILL pmax pmax
comp=Z,27nm,0.8s,mb5.3
BILL MLR MLR
comp=Z,400nm,19.0s,MS4.5
BILL Bilibino 58.21 11 *e*P **P 14 59 31.6 -0.1**
comp=Z,28nm,0.9s,mb5.3
TIXI Tiksi 59.99 355⇓ *i*P **P 14 59 41.8 -2.2**
TIXI *e* 15 01 58.8
TIXI *e*S **S 15 07 41.6 -11**
TIXI pmax pmax
comp=Z,16nm,1.0s,mb5.0
TIXI pmax pmax
comp=Z,53nm,10.1s
TIXI Tiksi 59.99 355 P **P 14 59 43.2 -0.8**
MK31 Makanchi Array 60.21 317 *i* P **P 14 59 45.6 +0.1**
MK31 pmax pmax
comp=Z,27nm,1.0s,mb5.2
MKAR Makanchi Array 60.21 317 P **P 14 59 45.6 +0.2**
comp=Z,20nm,0.9s,mb5.1,baz=96,slow=9.0,SNR=149
MKAR LR LR 15 25 31.4
comp=Z,453nm,20.0s,MS4.6,baz=271,slow=36
MKAR Makanchi Array 60.21 317 *i* P **P 14 59 45.6 +0.1**
MKAR pmax pmax
comp=Z,27nm,1.0s
HYB Hyderabad 60.74 283 *i* P **P 14 59 49.0 -0.1**
HYB Hyderabad 60.74 283 *e*P **P 14 59 49.0 -0.1**
ZAL Zalesovo 60.87 326 P **P 14 59 49.5 -0.5**
comp=Z,5.3nm,0.8s,mb4.7,baz=16,slow=6.6,SNR=24
ZAL LR LR 15 27 21.2
comp=Z,728nm,18.7s,MS4.8,baz=18,slow=37
DDI Dehra Dun 61.01 298 *e*P **P 14 59 48.2 -2.7**
SDNR Sundarnagar 62.00 299 *e*P **P 14 59 57.7 +0.1**
SDNR *e*S S
KSH Kashi 63.43 308 *e*P **P 15 00 10.0 +2.8**
KSH *e*AP pP 15 00 26.3 +4.7
KSH *e*XP sP 15 00 33.3 +5.8
KSH *e*PP PP 15 02 29.3 +2.2
KSH *e*S **S 15 08 35.8 -0.4**
KSH *e*SCS ScS 15 09 52.0 -3.9
KSH AMB AMB
comp=Z,210nm,5.1s
KSH LR LR
comp=N,330nm,5.6s
KSH LR LR
comp=E,330nm,6.5s
TNA Tin City 63.44 21 P **P 15 00 07.7 +0.5**
KURK Kurchatov 63.53 321 P **P 15 00 07.9 +0.1**
comp=E,643nm,0.7s,SNR=71
KURK Kurchatov 63.53 321⇓ *e*P **P 15 00 06.3 -1.5**
KURK Kurchatov 63.53 321 *e*P **P 15 00 07.3 -0.5**
TKM2 Tokmak 2 64.13 312 P **P 15 00 12.1 +0.4**
SNR=7.7
KZA Kyzart 64.27 311 P **P 15 00 14.0 +1.3**
SNR=20
KBK Karagaybulak 64.57 312 P **P 15 00 14.6 0.0**
SNR=13
CHMS Chumysh 64.75 312 P **P 15 00 15.6 -0.2**
SNR=14
FRU Bishkek 64.83 312 *e*P **P 15 00 16.0 -0.3**
FRU *e* pP 15 00 27.5 -3.3
FRU MLR MLR
comp=Z,600nm,19.0s,MS4.8
UCH Uchtor 64.83 311 P **P 15 00 17.6 +1.2**
SNR=24
AAK Ala-Archa 64.89 311 P **P 15 00 16.5 -0.2**
SNR=9.5
AAK Ala-Archa 64.89 311 P **P 15 00 15.7 -1.0**
comp=Z,58nm,0.9s,mb5.6,SNR=11
AAK Ala-Archa 64.89 311 P **P 15 00 15.8 -0.9**
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AAK Ala-Archa 64.89 311 P **P 15 00 15.8 -0.9**
comp=Z,9.6nm,0.9s,mb4.8
USP Ospenovka 64.97 312 P **P 15 00 17.0 -0.2**
SNR=7.2
EKS2 Erkin-Say 65.42 311 P **P 15 00 20.4 +0.2**
SNR=9.7
AML Almayashu 65.43 311 P **P 15 00 21.1 +0.9**
SNR=17
KDAK Kodiak Island 67.13 32 LR LR 15 24 59.2
comp=Z,318nm,21.6s,MS4.5,baz=250,slow=32
KK31 Karatay Array 67.86 312 *i* P **P 15 00 34.8 -0.9**
KK31 pmax pmax
comp=Z,24nm,1.2s,mb5.1
KKAR Karatay Array 67.86 312 P **P 15 00 34.8 -0.9**
KKAR pmax pmax
comp=Z,29nm,1.2s,mb5.2
VOSK Vostochnaya 68.58 322 P **P 15 00 39.0 -1.2**
VOSK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVA0 Borovoye Array 68.98 322 P **P 15 00 42.0 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 69.04 322 P **P 15 00 42.6 -0.5**
comp=Z,368nm,0.7s,SNR=34
BRVK Borovoye 69.04 322 *e*P **P 15 00 42.6 -0.5**
BRVK pmax pmax
comp=Z,25nm,0.7s,mb5.2
BRVK Borovoye 69.04 322 *e*P **P 15 00 42.6 -0.4**
comp=Z,25nm,0.7s,mb5.2
ZRNK Zerenda 69.80 322 P **P 15 00 47.2 -0.5**
ZRNK pmax pmax
comp=Z,25nm,0.9s,mb5.1
ZRNK Zerenda 69.80 322 *e*P **P 15 00 46.9 -0.9**
comp=Z,36nm,0.8s,mb5.3
SML Sawmill 70.13 28 *e*P **P 15 00 50.8 +1.0**
MCK McKinley 70.27 26 P **P 15 00 50.9 +0.3**
COLA College 70.98 25⇑ *e*P **P 15 00 53.2 -1.8**
ILAR Eielson Array 71.37 25 P **P 15 00 55.4 -1.9**
comp=Z,2.9nm,0.8s,mb4.3,baz=253,slow=4.6,SNR=30
ILAR LR LR 15 31 23.9
comp=Z,374nm,20.9s,MS4.6,baz=290,slow=35
PPT Papeete 74.29 112 *e*S S 15 10 53.4 +8.8
comp=Z,499nm,28.8s
PPT *e*LR LR 15 23 32.8
comp=Z,1μm,30.5s,baz=294
PPT Papeete 74.29 112 LR LR 15 29 00.1
comp=Z,290nm,18.4s,MS4.6,baz=270,slow=32
DAWY Dawson 74.49 27 *e*P **P 15 01 16.0 +0.2**
AB31 Akbulak array 75.34 318 P **P 15 01 19.8 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ARU Arti 76.03 325 P **P 15 01 23.7 -0.9**
comp=Z,176nm,0.7s,mb6.1,SNR=5.7
ARU Arti 76.03 325 *e*P **P 15 01 23.5 -1.1**
ARU pmax pmax
comp=Z,21nm,0.7s,mb5.2
ARU Arti 76.03 325 *e*P **P 15 01 23.5 -1.1**
comp=Z,21nm,0.7s,mb5.2
TBI Tubuai 76.27 118 *e*S S 15 11 15.8 +9.2
comp=Z,108nm,34.2s
TBI *e*LR LR 15 24 41.8
comp=Z,697nm,32.8s,baz=292
SOKR Solikamsk 76.91 329⇑ *i*P **P 15 01 29.5 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
YKA Yellowknife Ar 85.73 27 P **P 15 02 16.1 -0.2**
comp=Z,1.1nm,0.6s,mb4.3,baz=289,slow=5.1,SNR=16
YKA LR LR 15 41 25.3
comp=Z,303nm,18.3s,MS4.7,baz=310,slow=36
YKA Yellowknife Ar 85.73 27 P **P 15 02 16.1 -0.2**
YKA LR LR 15 41 25.2
RES Resolute Bay 86.76 13 P **P 15 02 21.3 -0.1**
RES pmax pmax
comp=Z,15nm,1.3s,mb5.1
RES Resolute Bay 86.76 13 P **P 15 02 21.2 -0.1**
comp=Z,15nm,1.3s,mb5.1
UMR Umm Al-Rimmam 87.24 299 *e*P **P 15 02 22.4 -1.3**
UMR AMb AMB 15 02 24.5
comp=Z,16nm,0.7s,mb5.4
GNI Garni 87.28 310 LR LR 15 46 23.5
comp=Z,204nm,19.3s,MS4.5,baz=138,slow=39
GNI Garni 87.28 310⇑ *e*P **P 15 02 22.7 -1.2**
GNI pmax pmax
comp=Z,11nm,1.5s
ARCES ARCESS Array B 87.41 342 P **P 15 02 23.6 -1.0**
comp=Z,8.5nm,0.9s,mb5.0,baz=58,slow=4.6,SNR=9.0
ARCES LR LR 15 42 29.4
comp=Z,655nm,18.9s,MS5.1,baz=60,slow=36
MIB Mutribah 87.51 300 *e*P **P 15 02 23.4 -1.6**
MIB AMb AMB 15 02 25.8
comp=Z,24nm,0.8s,mb5.5
NAY Al-Naaiem 87.71 299 *e*P **P 15 02 24.1 -1.9**
NAY AMb AMB 15 02 26.7
comp=Z,18nm,0.9s,mb5.3
VRSR Storozhevoye 88.14 322 *e*P **P 15 02 25.7 -2.3**
VRSR pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
VRSR pmax pmax
comp=N,1.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.9s
JOF Joensuu 88.17 335 *e*p **P 15 02 25.2 -3.0**
comp=E,3.3nm,0.8s,mb4.6
OBN Obninsk 88.44 326⇑ *e*P **P 15 02 27.5 -1.9**
OBN *i* *PP pP 15 02 38.0 -6.5
OBN *e*S 15 12 48.4
OBN pmax pmax
comp=Z,31nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.2
SOC Sochi 90.01 315 *e*P **P 15 02 33.6 -3.2**
SOC *e**PP pP 15 02 55.0 +3.1
SOC *e*S 15 12 58.0
SOC *e*SS SS 15 19 17.8 -6.9
SOC pmax pmax
comp=Z,31nm,0.8s,mb5.7
SOC MLR MLR
comp=Z,492nm,22.0s,MS4.9
VNDA Vanda 90.24 176 P **P 15 02 37.2 -0.6**
comp=Z,2.7nm,0.9s,mb4.6,baz=58,slow=8.6,SNR=3.3
VNDA LR LR 15 41 08.7
comp=Z,135nm,20.3s,MS4.4,baz=349,slow=34
VNDA Vanda 90.24 176 P **P 15 02 37.2 -0.6**
VNDA LR LR 15 41 08.7
NVAR Mina Array Bea 90.51 51 P **P 15 02 39.8 +0.7**
comp=Z,0.8nm,0.7s,mb4.2,baz=259,slow=4.7,SNR=9.1
KAF Kangasniemi 90.62 335 *e*p **P 15 02 36.1 -3.5**
comp=Z,5.4nm,0.8s,mb4.9
KAF Kangasniemi 90.62 335 *e*P **P 15 02 36.1 -3.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
FINES FINESS Array B 91.03 334 P **P 15 02 39.5 -2.0**
comp=Z,3.4nm,0.6s,mb4.8,baz=65,slow=5.3,SNR=36
FINES LR LR 15 44 50.4
comp=Z,317nm,18.9s,MS4.8,baz=356,slow=36
FINES FINESS Array B 91.03 334 P **P 15 02 39.5 -2.0**
FINES LR LR 15 44 50.4
ANN Anapa 91.21 316 *e*P **P 15 02 32.5 -10**
ANN pmax pmax
comp=Z,46nm,1.0s,mb5.8
VSU Vasula 92.11 331⇑ *e*P **P 15 02 44.6 -1.9**
MAW Mawson 96.76 202 LR LR 15 44 52.2
comp=Z,145nm,18.9s,MS4.5,baz=254,slow=34
NOA NORSAR Array B 97.17 338 P **P 15 03 09.3 -0.4**
comp=Z,0.9nm,0.7s,mb4.3,baz=52,slow=4.8,SNR=2.8
NOA LR LR 15 51 55.6
comp=Z,327nm,18.9s,MS4.8,baz=40,slow=38
NOA NORSAR Array B 97.17 338 P **P 15 03 09.3 -0.4**
NOA LR LR 15 51 55.6
PLCA Paso Flores 140.03 141 PKP PKPdf 15 09 07.3 +1.9
comp=Z,2.5nm,0.6s,baz=198,slow=2.8,SNR=12
FCH Farellones 144.20 131⇑ *i*P PKPdf 15 09 13.6 +0.7
CFAA Coronel Fontan 146.55 130 PKPbc PKPbc 15 09 19.6 +1.2
comp=Z,1.7nm,0.7s,baz=258,slow=5.6,SNR=10
LPAZ La Paz 151.13 102 PKPbc PKPbc 15 09 33.1 +2.9
comp=Z,16nm,0.6s,baz=339,slow=2.4,SNR=3.5
LPAZ La Paz 151.13 102 *e*PKPdf PKPdf 15 09 26.9 +2.6
LPAZ *e*PKPbc PKPbc 15 09 32.6 +2.5

IDC ***25*** *14:55:23.2±0.9, 1223N×1417.5E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=42.7km s-min=17.5km az=84.0*
ISCJB ***25*** *14:55:26.6±0.6, 12.19N±006×141.4E±0.1, h30km, mb4.6/23, Error ellipse: s-maj=19.6km s-min=8.9km az=165.6*
NEIC ***25*** *14:55:28.2±0.5, 12.20N×141.52E, mb4.7/16, Error ellipse: s-maj=16.0km s-min=9.2km az=85.0*
ISC 25 14:55:28.7±0.6, 1223N±006×1416E±01, h32km, h32km±.1km:pP-P, n31, σ0§93/30, mb4.6/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)** 0.1nm,0.6s	**16.56**	**253**	P	**Pn**	**14 59 20.3**	**+1.8**
WRAB	**Tennant Creek** 15nm,0.9s,mb4.9	**32.73**	**193**	*e*P	**P**	**15 01 58.2**	**-0.2**
WB2	**Warramunga Arr**	**32.74**	**193**	*e*P	**P**	**15 01 58.5**	**0.0**
WRA	**Warramunga Arr** 6.4nm,0.8s,mb4.6,baz=12,slow=9.6,SNR=25	**32.74**	**193**	P	**P**	**15 01 58.5**	**0.0**
AS31	**Alice Springs**	**36.45**	**192**	*e*P	**P**	**15 02 31.5**	**+0.9**
ASAR	**Alice Springs** 0.7nm,0.4s,mb3.9,baz=21,slow=11,SNR=15	**36.45**	**192**	*e*P	**P**	**15 02 30.9**	**+0.4**
ASPA	**Alice Springs**	**36.45**	**192**	*e*P	**P**	**15 02 31.5**	**+0.9**
STKA	**Stephens Creek** 3.1nm,0.6s,mb4.2,baz=344,slow=9.1,SNR=7.4	**43.85**	**180**	P	**P**	**15 03 30.5**	**-1.4**
STKA	**Stephens Creek**	**43.85**	**180**	*e*P	**P**	**15 03 29.8**	**-2.1**
ULN	**Ulaanbaatar** 1.6nm,0.8s,mb4.0	**45.73**	**328**	*e*P	**P**	**15 03 48.4**	**+1.5**
SONM	**Songino Array** 0.6nm,0.8s,mb3.6,baz=138,slow=6.2,SNR=4.2	**46.05**	**327**	P	**P**	**15 03 50.5**	**+1.1**
MA2	**Magadan** 3.4nm,0.6s,mb4.5	**47.76**	**6**	*e*P	**P**	**15 04 04.6**	**+1.8**
LSA	**Lhasa** 4.3nm,0.9s,mb4.5	**49.77**	**299**	*e*P	**P**	**15 04 19.1**	**+0.9**
YAK	**Yakutsk** 12nm,0.8s,mb5.0	**50.46**	**353**	*e*P	**P**	**15 04 24.0**	**+0.5**
JIRN	**Jiri** 15nm,0.7s,mb5.0	**53.84**	**295**	*e*P	**P**	**15 04 48.4**	**-0.2**
GUN	**Gumba** 35nm,0.7s,mb5.4	**54.14**	**296**	*e*P	**P**	**15 04 50.4**	**-0.3**
PKI	**Pulchoki** 6.9nm,0.5s,mb4.9	**54.53**	**295**	*e*P	**P**	**15 04 52.5**	**-1.1**
KKN	**Kakani**	**54.66**	**295**	*e*P	**P**	**15 04 53.8**	**-0.7**
DMN	**Daman** 18nm,0.8s,mb5.1	**54.80**	**295**	*e*P	**P**	**15 04 55.0**	**-0.5**
GKN	**Gorkha** 20nm,0.9s,mb5.2	**55.24**	**296**	*e*P	**P**	**15 04 57.9**	**-0.8**
KOLN	**Koldanda** 14nm,0.8s,mb5.1	**56.14**	**295**	*e*P	**P**	**15 05 04.6**	**-0.6**
BILL	**Bilibino** 5.2nm,1.0s,mb4.5	**58.06**	**11**	*e*P	**P**	**15 05 19.2**	**+0.4**
MKAR	**Makanchi Array** 2.5nm,0.8s,mb4.3,baz=99,slow=7.6,SNR=15	**60.25**	**317**	P	**P**	**15 05 34.4**	**+0.4**
ZAL	**Zalesovo**	**60.89**	**326**	P	**P**	**15 05 38.2**	**0.0**

0.6nm,0.9s,mb3.7,baz=320,slow=8.7,SNR=3.4
KURK Kurchatov 63.56 321 *e*P **P 15 05 56.0 -0.2**
14nm,0.9s,mb5.0
KURK *e*pP pP 15 06 05.5 -0.6
AAK Ala-Archa 64.97 311 *e*P **P 15 06 04.0 -1.4**
1.7nm,0.9s,mb4.1
BRVK Borovoye 69.07 322 *e*P **P 15 06 31.4 -0.1**
9.6nm,1.3s,mb4.6
BRVK *e*pP pP 15 06 40.8 -0.6
ZRNK Zerenda 69.83 322 *e*P **P 15 06 35.6 -0.5**
11nm,1.2s,mb4.7
ZRNK *e*pP pP 15 06 44.9 -1.2
ILAR Eielson Array 71.18 25 P **P 15 06 44.0 -0.3**
0.3nm,0.6s,baz=259,slow=5.6,SNR=5.7
FINES FINESS Array B 91.01 334 P **P 15 08 27.6 -2.1**
0.5nm,0.5s,mb4.1,baz=64,slow=4.4,SNR=8.2
LPAZ La Paz 150.96 102 PKPbc PKPbc 15 15 18.7 +0.5
3.0nm,0.7s,baz=274,slow=2.0,SNR=10

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*ISCJB **25** 15:03:57.7±1.7, 177S±02×1679E±05, h38km±44km, mb3.9/4, Error ellipse: s-maj=93.9km s-min=14.3km az=42.9*
*IDC **25** 15:04:02.8±6.2, 1816S×16859E, h105km±58km, mb3.6/5, mb1 3.7/6, mb1mx3.6/14, mbtmp4.0/6, Error ellipse: s-maj=76.5km s-min=45.4km az=125.0*
ISC 25 15:03:59.0±1.3, 177S±02×1681E±06, h40km±29km, n7, σ0°37/8, mb3.9/4, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.13**	**67**	⇑*i*P	**Pn**	**15 04 05.6**	**-0.1**
DZM	**Mont Dzumac**	**4.61**	**200**	P	**Pn**	**15 05 06.5**	**+0.4**
	4.5nm,0.3s,baz=282,slow=11,SNR=37						
DZM				S	**Sn**	**15 05 58.2**	**-0.1**
	5.5nm,0.3s,baz=159,slow=22,SNR=11						
CTA	**Charters Tower**	**20.82**	**260**	P	**P**	**15 08 42.0**	**+5.1**
	3.5nm,0.6s,baz=101,slow=18,SNR=4.1						
STKA	**Stephens Creek**	**27.81**	**235**	P	**P**	**15 09 43.8**	**-0.5**
	1.4nm,0.5s,mb3.8,baz=53,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**32.02**	**261**	P	**P**	**15 10 21.7**	**+0.1**
	0.7nm,0.7s,mb3.6,baz=83,slow=6.9,SNR=6.8						
ASAR	**Alice Springs**	**32.50**	**254**	P	**P**	**15 10 25.8**	**0.0**
	2.5nm,0.5s,mb4.3,baz=80,slow=8.8,SNR=61						
SONM	**Songino Array**	**85.37**	**323**	P	**P**	**15 16 32.1**	**+0.1**
	0.5nm,0.8s,mb3.7,baz=133,slow=4.1,SNR=4.2						

IDC 25 15:10:04.7±3.8, 1215N×14147E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=176.6km s-min=21.7km az=78.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.65**	**193**	P	P	15 16 39.2	+0.9
	1.6nm,0.7s,baz=10,slow=9.6,SNR=9.3						
ASAR	**Alice Springs**	**36.35**	**192**	P	P	15 17 11.4	+1.0
	0.2nm,0.5s,baz=19,slow=12,SNR=6.3						
STKA	**Stephens Creek**	**43.77**	**180**	P	P	15 18 10.2	-1.8
	2.0nm,0.8s,baz=353,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**60.26**	**317**	P	P	15 20 15.3	+0.6
	0.6nm,0.8s,baz=93,slow=6.7,SNR=6.9						
BVAR	**Borovoye Array**	**69.02**	**322**	P	P	15 21 11.8	-0.2
	1.3nm,0.6s,baz=110,slow=7.9,SNR=12						

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*IDC **25** 15:18:21.1±0.8, 1222N×14132E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, Error ellipse: s-maj=44.6km s-min=15.9km az=79.0*
*MOS **25** 15:18:25.8±0.7, 1219N×14124E, h47km, mb4.6/10, Error ellipse: s-maj=16.1km s-min=11.2km az=112.4*
*ISCJB **25** 15:18:27.2±2.6, 1216N±007×1413E±0.1, h64km±27km, mb4.3/23, Error ellipse: s-maj=23.7km s-min=11.3km az=167.3*
*NEIC **25** 15:18:28.0±1.7, 1218N×14125E, h50km±17km, mb4.5/13, Error ellipse: s-maj=13.4km s-min=7.0km az=81.0*
ISC 25 15:18:30.3±2.3, 1219N±007×1414E±01, h74km±25km, n43, σ0°64/40, mb4.3/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.63**	**67**	P	**Pn**	**15 19 23.9**	**-0.2**
CTA	**Charters Tower**	**32.42**	**172**	P	**P**	**15 24 54.8**	**+1.7**
	4.1nm,0.7s,mb4.3,baz=338,slow=5.4,SNR=3.9						
CTAO	**Charters Tower**	**32.42**	**172**	P	**P**	**15 24 54.2**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**32.42**	**172**	P	**P**	**15 24 54.2**	**+1.1**
	comp=Z,4.3nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**32.67**	**192**	*e*P	**P**	**15 24 55.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**32.67**	**192**	*e*P	**P**	**15 24 55.0**	**-0.3**
	comp=Z,7.6nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**32.68**	**192**	*e*P	**P**	**15 24 55.6**	**+0.3**
WRA	**Warramunga Arr**	**32.68**	**192**	P	**P**	**15 24 55.4**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.3,baz=12,slow=9.6,SNR=30						
ASAR	**Alice Springs**	**36.38**	**192**	P	**P**	**15 25 27.7**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=19,slow=12,SNR=13						
STKA	**Stephens Creek**	**43.81**	**180**	P	**P**	**15 26 27.1**	**-1.6**
	comp=Z,6.6nm,1.1s,mb4.3,baz=346,slow=9.3,SNR=7.8						
STKA	**Stephens Creek**	**43.81**	**180**	*e*P	**P**	**15 26 27.0**	**-1.8**
SONM	**Songino Array**	**46.02**	**327**	P	**P**	**15 26 46.4**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.2,baz=108,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**46.02**	**327**	P	**P**	**15 26 46.4**	**+0.1**
ZAK	**Zakamensk**	**49.20**	**329**	*e*P	**P**	**15 27 11.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
LSA	**Lhasa**	**49.68**	**299**	*e*P	**P**	**15 27 15.7**	**+1.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**49.68**	**299**	*e*P	**P**	**15 27 15.7**	**+1.2**
	comp=Z,4.4nm,1.0s,mb4.3						
JIRN	**Jiri**	**53.75**	**295**	*e*P	**P**	**15 27 44.8**	**0.0**
	comp=Z,8.6nm,0.7s,mb4.9						
GUN	**Gumba**	**54.04**	**296**	*e*P	**P**	**15 27 47.5**	**+0.5**
	comp=Z,22nm,0.8s,mb5.3						
PKI	**Pulchoki**	**54.43**	**295**	*e*P	**P**	**15 27 49.1**	**-0.7**
KKN	**Kakani**	**54.56**	**295**	*e*P	**P**	**15 27 50.6**	**-0.2**
	comp=Z,11nm,0.8s,mb4.9						
KKN	**Kakani**	**54.56**	**295**	*e*P	**P**	**15 27 50.6**	**-0.2**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
DMN	**Daman**	**54.70**	**295**	*e*P	**P**	**15 27 51.7**	**-0.1**
	comp=Z,6.4nm,0.5s,mb4.9						
GKN	**Gorkha**	**55.15**	**296**	*e*P	**P**	**15 27 54.6**	**-0.4**
KOLN	**Koldanda**	**56.05**	**295**	*e*P	**P**	**15 28 01.4**	**0.0**
	comp=Z,13nm,0.8s,mb5.0						
BILL	**Bilibino**	**58.12**	**11**	*e*P	**P**	**15 28 16.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BILL	**Bilibino**	**58.12**	**11**	*e*P	**P**	**15 28 16.7**	**+0.6**
	comp=Z,3.4nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**60.20**	**317**	P	**P**	**15 28 31.2**	**+0.8**
	comp=Z,1.3nm,0.8s,mb4.0,baz=94,slow=9.9,SNR=4.5						
KURK	**Kurchatov**	**63.52**	**321**	*e*P	**P**	**15 28 52.4**	**-0.3**
KURK				*e*		15 29 02.0	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**63.52**	**321**	*e*P	**P**	**15 28 52.4**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.2						
KURK				*e*		15 29 02.0	
AAK	**Ala-Archa**	**64.90**	**311**	*e*P	**P**	**15 29 00.6**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**64.90**	**311**	*e*P	**P**	**15 29 00.6**	**-1.2**
	comp=Z,3.1nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**68.96**	**322**	P	**P**	**15 29 27.6**	**+0.2**
	comp=Z,3.0nm,0.6s,mb4.3,baz=106,slow=7.6,SNR=16						
BRVK	**Borovoye**	**69.03**	**322**	*e*P	**P**	**15 29 28.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**69.03**	**322**	*e*P	**P**	**15 29 27.9**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**69.78**	**322**	*e*P	**P**	**15 29 32.4**	**-0.1**
ZRNK				*e*PP	pP	15 29 41.6	-11
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**69.78**	**322**	*e*P	**P**	**15 29 32.4**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.3						
ZRNK				*e*pP	pP	15 29 41.6	-11
ILAR	**Eielson Array**	**71.27**	**25**	P	**P**	**15 29 41.9**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.2,baz=263,slow=5.1,SNR=2.7						
AKTK	**Aktyubinsk**	**76.53**	**319**	P	**P**	**15 30 12.4**	**+0.1**
AKTO	**Aktyubinsk**	**76.53**	**319**	P	**P**	**15 30 12.4**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=93,slow=13,SNR=4.0						
RKT	**Rikitea**	**88.94**	**114**	*e*LR	LR	15 30 25.1	
	comp=Z,462nm,31.2s,baz=291						
FINES	**FINESS Array B**	**90.99**	**334**	P	**P**	**15 31 24.6**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.9,baz=46,slow=8.2,SNR=4.2						
LPAZ	**La Paz**	**151.08**	**102**	PKPbc	PKPbc	15 38 18.8	+4.1
	comp=Z,1.6nm,0.6s,baz=254,slow=3.6,SNR=8.8						
LPAZ	**La Paz**	**151.08**	**102**	PKPbc	PKPbc	15 38 18.8	+4.1

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*IDC **25** 15:32:14.3±0.9, 1220N×14150E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/31, Error ellipse: s-maj=43.3km s-min=17.0km az=81.0*
*ISCJB **25** 15:32:16.9±0.4, 1219N±006×14135E±009, h28km, mb4.4/25, Error ellipse: s-maj=12.6km s-min=8.6km az=173.4*
*MOS **25** 15:32:17.7±0.8, 1217N×14136E, h33km, mb4.7/9, Error ellipse: s-maj=16.1km s-min=11.4km az=105.5*
*NEIC **25** 15:32:18.8±0.3, 1218N×14137E, mb4.6/14, Error ellipse: s-maj=10.4km s-min=7.6km az=85.0*
ISC 25 15:32:20.7±2.5, 1221N±006×1415E±01, h43km±27km, n43, σ0°83/42, mb4.4/25, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.60**	**67**	*e*P	**Pn**	**15 33 13.4**	**-0.5**
WRAB	**Tennant Creek**	**32.70**	**192**	*e*P	**P**	**15 38 49.0**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**32.70**	**192**	*e*P	**P**	**15 38 49.0**	**0.0**
	comp=Z,8.5nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**32.70**	**192**	*e*P	**P**	**15 38 49.2**	**+0.2**
WRA	**Warramunga Arr**	**32.71**	**192**	P	**P**	**15 38 49.0**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.6,baz=12,slow=9.6,SNR=41						
AS31	**Alice Springs**	**36.41**	**192**	*e*P	**P**	**15 39 22.0**	**+1.0**
ASAR	**Alice Springs**	**36.41**	**192**	P	**P**	**15 39 21.5**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=22,slow=11,SNR=26						
ASPA	**Alice Springs**	**36.41**	**192**	*e*P	**P**	**15 39 22.0**	**+0.9**
STKA	**Stephens Creek**	**43.83**	**180**	P	**P**	**15 40 20.9**	**-1.6**
	comp=Z,3.7nm,0.8s,mb4.2,baz=351,slow=12,SNR=9.0						
STKA	**Stephens Creek**	**43.83**	**180**	*e*P	**P**	**15 40 20.6**	**-1.9**
ULN	**Ulaanbaatar**	**45.69**	**328**	P	**P**	**15 40 37.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**45.69**	**328**	P	**P**	**15 40 37.5**	**+0.2**
	comp=Z,3.1nm,1.1s,mb4.2						
SONM	**Songino Array**	**46.02**	**327**	P	**P**	**15 40 41.0**	**+1.1**
	comp=Z,0.9nm,1.0s,mb3.6,baz=142,slow=5.6,SNR=5.2						
MA2	**Magadan**	**47.79**	**6**	P	**P**	**15 40 55.7**	**+2.0**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MA2	**Magadan**	**47.79**	**6**	P	**P**	**15 40 55.7**	**+2.0**
	comp=Z,8.2nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**49.20**	**328**	*e*P	**P**	**15 41 03.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.4						
LSA	**Lhasa**	**49.70**	**299**	*e*P	**P**	**15 41 09.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**49.70**	**299**	*e*P	**P**	**15 41 09.5**	**+1.1**
	comp=Z,4.1nm,0.9s,mb4.5						
YAK	**Yakutsk**	**50.47**	**353**	*e*P	**P**	**15 41 15.2**	**+1.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
YAK	**Yakutsk**	**50.47**	**353**	*e*P	**P**	**15 41 15.2**	**+1.0**
	comp=Z,11nm,0.8s,mb5.0						
JIRN	**Jiri**	**53.76**	**295**	*e*P	**P**	**15 41 38.9**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.7						
GUN	**Gumba**	**54.06**	**296**	*e*P	**P**	**15 41 41.0**	**+0.1**
	comp=Z,22nm,0.7s,mb5.2						
PKI	**Pulchoki**	**54.45**	**295**	*e*P	**P**	**15 41 43.5**	**-0.2**
KKN	**Kakani**	**54.58**	**295**	*e*P	**P**	**15 41 44.1**	**-0.5**
DMN	**Daman**	**54.72**	**295**	*e*P	**P**	**15 41 45.4**	**-0.3**
	comp=Z,13nm,0.9s,mb4.9						
GKN	**Gorkha**	**55.16**	**296**	*e*P	**P**	**15 41 48.5**	**-0.4**
	comp=Z,10nm,0.9s,mb4.9						
KOLN	**Koldanda**	**56.06**	**295**	*e*P	**P**	**15 41 54.7**	**-0.6**
	comp=Z,9.1nm,0.8s,mb4.9						
BILL	**Bilibino**	**58.10**	**11**	*e*P	**P**	**15 42 10.1**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
BILL	**Bilibino**	**58.10**	**11**	P	**P**	**15 42 09.2**	**-0.5**
	comp=Z,7.8nm,1.1s,mb4.7						
TIXI	**Tiksi**	**59.90**	**355**	*e*P	**P**	**15 42 22.9**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
MKAR	**Makanchi Array**	**60.20**	**317**	P	**P**	**15 42 24.7**	**+0.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=96,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**60.20**	**317**	P	**P**	**15 42 24.7**	**+0.4**
ZAL	**Zalesovo**	**60.84**	**326**	P	**P**	**15 42 28.5**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.2,baz=355,slow=8.9,SNR=4.1						
KURK	**Kurchatov**	**63.52**	**321**	*e*P	**P**	**15 42 46.6**	**+0.1**
KURK				*e*PP	pP	15 42 55.6	-3.3
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**63.52**	**321**	*e*P	**P**	**15 42 46.6**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.8						
KURK				*e*pP	pP	15 42 55.6	-3.3
BRVK	**Borovoye**	**69.03**	**322**	*e*P	**P**	**15 43 18.5**	**-3.3**
	comp=Z,5.4nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**69.78**	**322**	*e*P	**P**	**15 43 26.4**	**-0.1**
ZRNK				*e*PP	pP	15 43 34.7	-4.3
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
ZRNK	**Zerenda**	**69.78**	**322**	*e*P	**P**	**15 43 26.4**	**-0.1**
	comp=Z,8.9nm,1.3s,mb4.5						
ZRNK				*e*pP	pP	15 43 34.7	-4.3
ILAR	**Eielson Array**	**71.23**	**25**	P	**P**	**15 43 35.2**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.4,baz=244,slow=5.7,SNR=4.2						
AKTK	**Aktyubinsk**	**76.53**	**319**	P	**P**	**15 44 05.9**	**-0.4**
AKTO	**Aktyubinsk**	**76.53**	**319**	P	**P**	**15 44 05.9**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=69,slow=14,SNR=4.5						
FINES	**FINESS Array B**	**90.98**	**334**	P	**P**	**15 45 18.3**	**-1.9**
	comp=Z,2.5nm,1.0s,mb4.5,baz=48,slow=2.1,SNR=4.1						
LPAZ	**La Paz**	**151.05**	**102**	PKPbc	PKPbc	15 52 11.3	+2.4
	comp=Z,2.2nm,0.6s,baz=222,slow=0.7,SNR=8.9						

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*SOF **25** 15:39:24.1, 4002N×2391E, h2km, MD2.7*
*ISCJB **25** 15:39:24.3±0.5, 3995N±002×2386E±004, h3km±5km, Error ellipse: s-maj=4.9km s-min=3.4km az=163.6*
*ATH **25** 15:39:25.8, 3999N×2343E, h42km±1km, MD2.9/3*
*THE **25** 15:39:25.3, 3994N×2386E, h4km, ML2.7*
*NEIC **25** 15:39:25.3, 3994N×2386E, h4km, MD2.7(SOF), ML2.2(THE), After THE.*
*CSEM **25** 15:39:25.3±0.1, 3993N×2383E, h12km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.4km az=83.0*
ISC 25 15:39:25.1±0.4, 3994N±002×2385E±004, h8km±4km, n23, σ0°91/36, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.13**	**266**	*e*Pg	**Pg**	**15 39 28.1**	**0.0**
OUR	**Ouranopolis**	**0.41**	**14**	*e*Pg	**Pg**	**15 39 34.0**	**+0.8**
PLG	**Polygyros**	**0.54**	**325**	⇑*i*P	**Pg**	**15 39 35.0**	**-0.5**
PLG				*e*S	**Sg**	**15 39 42.3**	**-0.2**
XOR	**Xorichti**	**0.76**	**222**	*e*Pg	**Pg**	**15 39 39.7**	**-0.1**
	comp=Z,9.0nm,0.3s						
XOR				*e*Sg	**Sg**	**15 39 51.0**	**+1.2**
AOS	**Alonnisos**	**0.77**	**178**	*e*Pg	**Pg**	**15 39 39.4**	**-0.5**
AOS				*e*Sg	**Sg**	**15 39 50.5**	**+0.6**
NEO	**Neokhori**	**0.79**	**218**	*e*P	**Pg**	**15 39 40.2**	**-0.2**
LOS	**Limnos**	**0.95**	**90**	*e*Pg	**Pg**	**15 39 43.2**	**-0.2**
LOS				*e*Sg	**Sg**	**15 39 56.1**	**+0.5**
SOH	**Sokhos**	**0.96**	**337**	*e*Pg	**Pg**	**15 39 43.9**	**+0.3**
SOH				*e*Sg	**Sg**	**15 39 57.6**	**+1.5**
THE	**Thessaloniki**	**0.97**	**316**	*e*Pg	**Pg**	**15 39 43.9**	**+0.1**
THE				*e*Sg	**Sg**	**15 39 57.8**	**+1.4**
LIT	**Litokhoron**	**1.06**	**279**	*e*Pg	**Pg**	**15 39 45.1**	**-0.3**
SRS	**Serrai**	**1.20**	**351**	*e*Pg	**Pg**	**15 39 47.4**	**-0.7**
SRS				*e*Sg	**Sg**	**15 40 03.9**	**+0.3**
NVR	**Nevrokopi**	**1.41**	**0**	*e*P	**Pn**	**15 39 50.7**	**-0.4**
LKR	**Lokris**	**1.44**	**207**	*e*P	**Pn**	**15 39 50.2**	**-1.3**
GRG	**Griva**	**1.50**	**313**	*e*Pg	**Pg**	**15 39 52.7**	**-1.3**
GRG				*e*Sg	**Sg**	**15 40 12.9**	**-0.6**
KZN	**Kozani**	**1.64**	**284**	*e*P	**Pn**	**15 39 49.0**	**-5.1**
MMB	**Musomiste**	**1.65**	**357**	*i* P	**Pn**	**15 39 54.0**	**-0.4**
MMB				*i* S	**Sn**	**15 40 14.3**	**-1.5**
MMB				*i* Sg	**Sg**	**15 40 18.0**	**-0.3**
RDO	**Rodhopi**	**1.77**	**46**	*e*P	**Pn**	**15 39 57.8**	**+1.9**
RZN	**Rozhen**	**1.87**	**20**	*e*P	**Pn**	**15 39 57.5**	**+0.2**
RZN				*i* S	**Sn**	**15 40 23.0**	**+1.9**
ALN	**Alexandroupoli**	**1.93**	**60**	*e*Pb	**Pb**	**15 39 58.2**	**-2.4**
PRK	**Paraskevi**	**2.00**	**109**	*e*P	**Pn**	**15 40 03.2**	**+4.1**
KKB	**Krupnik**	**2.01**	**343**	*i* P	**Pn**	**15 39 59.5**	**+0.2**
KKB				*i* S	**Sn**	**15 40 25.0**	**+0.3**
PGB	**Panagyurishte**	**2.62**	**5**	*e*Pg	**Pg**	**15 40 14.0**	**-1.4**
PGB				*e*Sg	**Sg**	**15 40 49.0**	**-0.4**
VTS	**Vitosha**	**2.70**	**350**	*e*P	**Pn**	**15 40 09.5**	**+0.8**

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*NEIC **25** 15:41:45.5, 3993N×2386E, h7km, MD3.3(SOF), ML2.3(THE), After THE.*
*SOF **25** 15:41:45.0, 4008N×2399E, h2km, MD3.3*
*CSEM **25** 15:41:45.6±0.1, 3994N×2385E, h15km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.4km az=95.0*
*ISCJB **25** 15:41:45.5±0.5, 3992N±003×2387E±005, h19km±7km, Error ellipse: s-maj=6.5km s-min=4.2km az=35.9*
*ATH **25** 15:41:45.1, 3994N×2384E, h25km, MD3.0/3*
*THE **25** 15:41:45.5, 3993N×2386E, h7km, ML2.9*
ISC 25 15:41:45.1±0.5, 3992N±002×2384E±005, h12km±4km, n23, σ0°94/33, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.43**	**15**	*e*Pg	**Pg**	**15 41 53.5**	**0.0**
	comp=Z,27nm,0.2s						
PLG	**Polygyros**	**0.55**	**326**	⇑*i*PN	**Pg**	**15 41 55.4**	**-0.3**
PLG				*e*SN	**Sg**	**15 42 03.2**	**+0.2**
XOR	**Xorichti**	**0.75**	**222**	*e*Pg	**Pg**	**15 42 00.3**	**+0.8**
	comp=Z,9.0nm,0.2s						
XOR				*e*Sg	**Sg**	**15 42 10.7**	**+1.4**
AOS	**Alonnisos**	**0.75**	**178**	*e*Pg	**Pg**	**15 41 59.8**	**+0.3**
AOS				*e*Sg	**Sg**	**15 42 10.3**	**+0.9**
NEO	**Neokhori**	**0.78**	**218**	⇑*i*PN	**Pn**	**15 42 00.9**	**-0.9**
NEO				*e*SN	**Sn**	**15 42 12.0**	**-1.4**
LOS	**Limnos**	**0.95**	**89**	*e*Pg	**Pg**	**15 42 03.3**	**-0.1**
SOH	**Sokhos**	**0.97**	**338**	*e*Pg	**Pg**	**15 42 03.8**	**-0.1**
THE	**Thessaloniki**	**0.98**	**317**	*e*Pg	**Pg**	**15 42 03.8**	**-0.2**
LIA	**Limnos Island**	**1.03**	**91**	*e*PN	**Pn**	**15 42 04.9**	**-0.4**
LIT	**Litokhoron**	**1.05**	**280**	*e*Pg	**Pg**	**15 42 05.0**	**-0.4**
SRS	**Serrai**	**1.21**	**351**	*e*Pg	**Pg**	**15 42 07.5**	**-0.8**
SRS				*e*Sg	**Sg**	**15 42 24.3**	**+0.2**
LKR	**Lokris**	**1.43**	**208**	*e*PB	**Pb**	**15 42 10.9**	**-0.7**
NVR	**Nevrokopi**	**1.43**	**1**	*e*PN	**Pn**	**15 42 11.2**	**+0.4**
GRG	**Griva**	**1.51**	**314**	*e*Pg	**Pg**	**15 42 12.9**	**-1.2**
GRG				*e*Sg	**Sg**	**15 42 33.4**	**-0.3**
KZN	**Kozani**	**1.63**	**284**	*e*PN	**Pn**	**15 42 14.8**	**+1.2**
MMB	**Musomiste**	**1.67**	**357**	*i* P	**Pn**	**15 42 13.3**	**-0.8**
MMB				*i* Sg	**Sg**	**15 42 34.5**	**-4.3**
RDO	**Rodhopi**	**1.78**	**46**	*e*PN	**Pn**	**15 42 16.4**	**+0.8**
EVR	**Evrytania**	**1.87**	**238**	*e*PB	**Pb**	**15 42 17.5**	**-1.6**
RZN	**Rozhen**	**1.89**	**20**	*i* P	**Pn**	**15 42 18.0**	**+0.9**
RZN				*i* S	**Sn**	**15 42 41.0**	**+0.2**
ALN	**Alexandroupoli**	**1.95**	**59**	*e*Pb	**Pb**	**15 42 18.1**	**-2.3**
	comp=Z,2.5nm,0.4s						
KKB	**Krupnik**	**2.03**	**344**	*i* P	**Pn**	**15 42 20.0**	**+1.0**
KKB				*i* S	**Sn**	**15 42 43.0**	**-1.3**
FNA	**Florina**	**2.07**	**295**	*e*Pn	**Pn**	**15 42 20.3**	**+0.7**
VTS	**Vitosha**	**2.71**	**350**	*e*P	**Pn**	**15 42 30.0**	**+1.6**
VTS				*e*S	**Sn**	**15 43 03.0**	**+1.9**

ATH 25 15:42:27.2, 3987N×2384E, h18km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.59**	**329**	*e*PN	Pn	15 42 38.3	-2.3
PLG				*e*SN	Sg	15 42 46.2	-0.5
NEO	**Neokhori**	**0.74**	**220**	*e*PN	Pn	15 42 41.4	-1.3
LIA	**Limnos Island**	**1.03**	**88**	*e*PN	Pn	15 42 46.9	+0.1
LKR	**Lokris**	**1.38**	**208**	*e*PN	Pn	15 42 53.3	+1.7
NVR	**Nevrokopi**	**1.48**	**1**	*e*PN	Pn	15 42 55.0	+2.1

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*ISCJB **25** 15:48:29.9±0.8, 230S±01×168.1E±0.1, h10km, mb4.5/13, MS3.5/4, Error ellipse: s-maj=17.7km s-min=16.8km az=24.4*
*IDC **25** 15:48:30.2±1.1, 2293S×168.10E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.2/12, mbtmp4.1/7, MS3.5/4, Ms1 3.5/4, ms1mx3.0/19, Error ellipse: s-maj=33.3km s

TORD	**Torodi Ar. Bea**	**163.94**	**235**	PKP	PKPdf	16 08 35.1	+0.4
	comp=Z,0.6nm,1.0s,baz=228,slow=3.7,SNR=2.6						
TORD				PKPab	PKPab	16 09 28.7	+1.2
	comp=Z,0.5nm,0.9s,baz=114,slow=4.5,SNR=2.4						

*ISCJB **25** 15:51:16.1±0.4,3992N±002×2385E±003,h4km±3km, mb3.4/2,Error ellipse: s-maj=3.9km s-min=2.8km az=29.1*
*ATH **25** 15:51:16.9,3994N×2385E,h28km,MD3.5/12,ML3.5*
*SOF **25** 15:51:16.9,3998N×2386E,h10km,MD3.5*
*NEIC **25** 15:51:17.7,3994N×2387E,h0km,MD3.5(SOF), ML3.2(THE),ML3.5(ATH),After THE.*
*THE **25** 15:51:17.7,3994N×2387E,h10km,ML3.3*
*IDC **25** 15:51:17.3±1.4,3989N×2381E,h0km,mb3.5/2,mb1 3.6/6, mb1mx3.4/22,mbtmp3.5/6,ML3.6/4,Error ellipse: s-maj=26.7km s-min=15.5km az=105.0*
*CSEM **25** 15:51:18.0±0.1,3992N×2386E,h20km,ML3.3,Error ellipse: s-maj=1.3km s-min=1.0km az=100.0*
*SKO **25** 15:51:18.6,3994N×2386E,h8km*

ISC 25 15:51:17.1±0.4,3990N±002×2384E±003,h6km±3km,n75, σ1§25/106,mb3.4/2,13C-8D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.45**	**15**	*e*Pg	**Pg**	**15 51 26.4**	**+0.6**
PLG	**Polygyros**	**0.56**	**328**	⇑*i*PN	**Pg**	**15 51 27.5**	**-0.4**
PLG				*e*SN	**Sg**	**15 51 35.2**	**+0.1**
XOR	**Xorichti**	**0.73**	**223**	*e*Pg	**Pg**	**15 51 32.4**	**+1.3**
AOS	**Alonnisos**	**0.73**	**177**	*e*Pg	**Pg**	**15 51 32.0**	**+0.8**
NEO	**Neokhori**	**0.76**	**219**	*e*PN	**Pn**	**15 51 33.1**	**-1.3**
NEO				*e*SN	**Sg**	**15 51 44.0**	**+2.4**
LOS	**Limnos**	**0.96**	**88**	*e*Pg	**Pg**	**15 51 35.5**	**-0.1**
THE	**Thessaloniki**	**0.99**	**318**	*e*Pg	**Pg**	**15 51 35.6**	**-0.4**
	comp=Z,15nm,0.4s						
SOH	**Sokhos**	**0.99**	**338**	*e*Pg	**Pg**	**15 51 35.5**	**-0.6**
LIA	**Limnos Island**	**1.04**	**90**	⇑*i*PN	**Pn**	**15 51 37.0**	**-1.2**
LIA				*e*SN	**Sn**	**15 51 50.9**	**-2.2**
LIT	**Litokhoron**	**1.05**	**281**	*e*Pg	**Pg**	**15 51 37.4**	**+0.1**
	comp=Z,7.0nm,0.2s						
LIT	**Litokhoron**	**1.05**	**281**	*e*Pg	**Pg**	**15 51 37.3**	**0.0**
	7.0nm,0.2s						
SRS	**Serrai**	**1.23**	**351**	*e*Pg	**Pg**	**15 51 39.6**	**-1.0**
LKR	**Lokris**	**1.41**	**208**	*e*PB	**Pb**	**15 51 42.5**	**-1.3**
LKR				*e*SN	**Sn**	**15 52 01.6**	**-0.6**
NVR	**Nevrokopi**	**1.45**	**1**	⇑*i*PN	**Pn**	**15 51 43.0**	**-0.9**
NVR				*e*SN	**Sn**	**15 52 01.5**	**-1.7**
KNT	**Kendrikon**	**1.45**	**331**	*e*Pg	**Pg**	**15 51 44.2**	**-0.7**
	comp=Z,17nm,0.2s						
GRG	**Griva**	**1.52**	**314**	*e*Pg	**Pg**	**15 51 45.3**	**-0.9**
KZN	**Kozani**	**1.63**	**285**	*e*PN	**Pn**	**15 51 46.1**	**-0.3**
KZN				*e*SN	**Sn**	**15 52 07.1**	**-0.7**
MMB	**Musomiste**	**1.69**	**357**	*i* P	**Pn**	**15 51 46.1**	**-1.1**
MMB				*i* S	**Sn**	**15 52 06.8**	**-2.3**
VAY	**Valandovo**	**1.71**	**326**	*e*Pb	**Pb**	**15 51 47.3**	**-1.8**
VAY	**Valandovo**	**1.71**	**326**	*e*Pn	**Pn**	**15 51 48.2**	**+0.7**
VAY				*e*Sn	**Sn**	**15 52 10.8**	**+1.0**
MPAR	**Parnis Oros**	**1.75**	**183**	*e*PN	**Pn**	**15 51 48.0**	**0.0**
RDO	**Rodhopi**	**1.80**	**46**	*e*PB	**Pb**	**15 51 47.3**	**-3.1**
PTL	**Penteli**	**1.85**	**179**	*e*PN	**Pn**	**15 51 49.0**	**-0.4**
EVR	**Evrytania**	**1.85**	**239**	*e*PB	**Pb**	**15 51 49.2**	**-2.2**
RZN	**Rozhen**	**1.91**	**20**	*i* P	**Pn**	**15 51 50.1**	**-0.1**
RZN				*i* S	**Sn**	**15 52 12.5**	**-2.0**
ATH	**Athens Observa**	**1.93**	**183**	*e*PB	**Pb**	**15 51 50.5**	**-2.2**
ALN	**Alexandroupoli**	**1.96**	**59**	*e*Pb	**Pb**	**15 51 49.7**	**-3.5**
PRK	**Paraskevi**	**1.99**	**108**	*e*PN	**Pn**	**15 51 50.7**	**-0.7**
KKB	**Krupnik**	**2.04**	**344**	*i* P	**Pn**	**15 51 52.0**	**-0.1**
KKB				*i* Pg	**Pg**	**15 51 55.4**	**-0.9**
KKB	**Krupnik**	**2.04**	**344**	*i* Pg	**Pg**	**15 51 55.4**	**-0.9**
KKB				*i* S	**Sn**	**15 52 16.8**	**-1.1**
KKB	**Krupnik**	**2.04**	**344**	*i* P	**Pn**	**15 51 52.0**	**-0.1**
KKB				*i* Pg	**Pg**	**15 51 55.4**	**-0.9**
KKB				*i* S	**Sn**	**15 52 16.8**	**-1.1**
KVR	**Kavouri**	**2.07**	**181**	*e*PN	**Pn**	**15 51 52.0**	**-0.5**
FNA	**Florina**	**2.08**	**296**	*e*Pn	**Pn**	**15 51 52.9**	**+0.4**
	comp=Z,3.0nm,0.4s						
KDZ	**Kurdzhali**	**2.12**	**34**	*i* P	**Pn**	**15 51 51.5**	**-1.6**
KDZ				*i* S	**Sn**	**15 52 15.9**	**-3.9**
KDZ				*i* Sg	**Sg**	**15 52 24.2**	**-1.0**
NAIG	**Nisos Aigina**	**2.16**	**187**	*e*PN	**Pn**	**15 51 53.5**	**-0.1**
STIP	**Stip**	**2.19**	**326**	*e*Pn	**Pn**	**15 51 56.0**	**+2.0**
BIA	**Bitola**	**2.22**	**301**	*e*Pn	**Pn**	**15 51 56.1**	**+1.7**
BIA				*e*Sn	**Sn**	**15 52 22.4**	**+0.1**
BIA	**Bitola**	**2.22**	**301**	*e*Pn	**Pn**	**15 51 56.1**	**+1.6**
BIA				*e*Sn	**Sn**	**15 52 22.3**	**+0.1**
PLD	**Plovdiv**	**2.30**	**16**	*i* Pg	**Pg**	**15 52 03.0**	**+1.9**
PLD				*i* S	**Sn**	**15 52 25.8**	**+1.6**
PLD				*i* Sg	**Sg**	**15 52 34.2**	**+3.3**
PLD	**Plovdiv**	**2.30**	**16**	*i* P	**Pn**	**15 51 56.0**	**+0.4**
PLD				*i* Pg	**Pg**	**15 52 03.0**	**+1.9**
PLD				*i* S	**Sn**	**15 52 25.8**	**+1.6**
PLD				*i* Sg	**Sg**	**15 52 34.2**	**+3.3**
JAN	**Janina**	**2.31**	**265**	*e*PN	**Pn**	**15 51 55.4**	**-0.4**
DIM	**Dimitrovgrad**	**2.50**	**30**	*i* P	**Pn**	**15 51 58.5**	**+0.1**
DIM				*i* Pg	**Pg**	**15 52 05.7**	**+0.6**
DIM	**Dimitrovgrad**	**2.50**	**30**	*i* Pg	**Pg**	**15 52 05.7**	**+0.6**
PGB	**Panagyurishte**	**2.66**	**5**	*e*Pg	**Pg**	**15 52 06.0**	**-2.0**
PGB				*e*S	**Sn**	**15 52 35.4**	**+2.3**
PGB				*e*Sg	**Sg**	**15 52 42.9**	**+0.4**
PGB	**Panagyurishte**	**2.66**	**5**	*e*P	**Pn**	**15 52 00.4**	**-0.1**
PGB				*e*Pg	**Pg**	**15 52 06.0**	**-2.0**
PGB				*e*S	**Sn**	**15 52 35.4**	**+2.3**
PGB				*e*Sg	**Sg**	**15 52 42.9**	**+0.4**
IGT	**Igoumenitsa**	**2.73**	**263**	*e*Pn	**Pn**	**15 52 03.8**	**+2.3**
VTS	**Vitosha**	**2.73**	**350**	*e*Pn	**Pn**	**15 52 01.6**	**+0.1**
VTS	**Vitosha**	**2.73**	**350**	*e*Pn	**Pn**	**15 52 01.5**	**0.0**
VTS	**Vitosha**	**2.73**	**350**	*i* P	**Pn**	**15 52 02.2**	**+0.7**
VTS				*i* Pg	**Pg**	**15 52 20.4**	**+11**
VTS				*i* S	**Sn**	**15 52 35.0**	**+0.2**
VTS				*i* Sg	**Sg**	**15 52 44.6**	**-0.2**
JMB	**Yambol**	**3.30**	**38**	*e*Pn	**Pn**	**15 52 10.1**	**+0.8**
SZH	**Strazhica**	**3.71**	**24**	*i* P	**Pn**	**15 52 16.8**	**+1.8**
IDI	**Anoyia**	**4.68**	**169**	Pn	**Pn**	**15 52 31.0**	**+2.7**
	1.4nm,0.3s,baz=348,slow=14,SNR=11						
MTUR	**Matau**	**5.40**	**9**	⇑P	**Pn**	**15 52 38.9**	**+0.7**
CVD	**Cernavoda**	**5.40**	**34**	⇑P	**Pn**	**15 52 44.5**	**+6.3**
ISR	**Istrita**	**5.58**	**20**	⇓P	**Pn**	**15 52 43.9**	**+3.2**
ISR	**Istrita**	**5.58**	**20**	⇓P	**Pn**	**15 52 43.9**	**+3.2**
SNX	**Sinaia**	**5.59**	**12**	⇑P	**Pn**	**15 52 42.0**	**+1.2**
SNX	**Sinaia**	**5.59**	**12**	⇑P	**Pn**	**15 52 42.0**	**+1.2**
VOIR		**5.60**	**9**	⇑P	**Pn**	**15 52 41.7**	**+0.7**
VOIR		**5.60**	**9**	⇑P	**Pn**	**15 52 41.7**	**+0.7**
TIRR	**Tirgusor**	**5.68**	**35**	⇓P	**Pn**	**15 52 43.1**	**+1.0**
TIRR	**Tirgusor**	**5.68**	**35**	⇓P	**Pn**	**15 52 43.1**	**+1.0**
MLR	**Muntele Rosu**	**5.80**	**15**	**Pn**	**Pn**	**15 52 45.7**	**+2.0**
	1.9nm,0.3s,baz=168,slow=8.4,SNR=13						
MLR				Lg		15 54 24.5	
	0.2nm,0.3s,baz=162,slow=20,SNR=2.1						
MLR	**Muntele Rosu**	**5.80**	**15**	⇓P	**Pn**	**15 52 45.1**	**+1.4**
MLR	**Muntele Rosu**	**5.80**	**15**	⇓P	**Pn**	**15 52 45.1**	**+1.4**
BZS	**Buzias**	**5.94**	**345**	⇓P	**Pn**	**15 52 45.2**	**-0.4**
BZS	**Buzias**	**5.94**	**345**	⇓P	**Pn**	**15 52 45.1**	**-0.5**
VRI	**Vrincioaia**	**6.33**	**19**	⇑P	**Pn**	**15 52 53.1**	**+2.1**
VRI	**Vrincioaia**	**6.33**	**19**	⇑P	**Pn**	**15 52 53.1**	**+2.1**
BRTR	**Keskin Array B**	**7.55**	**88**	Pn	**Pn**	**15 53 09.2**	**+1.5**
	0.2nm,0.3s,baz=268,slow=12,SNR=5.3						
BRTR				Lg		15 55 13.6	
	baz=249,slow=28,SNR=2.4						
BURAR	**Bucovina Array**	**7.78**	**7**	⇑P	**Pn**	**15 53 11.4**	**+0.6**
BURAR	**Bucovina Array**	**7.78**	**7**	⇑P	**Pn**	**15 53 11.4**	**+0.6**
AKASG	**Malin Array Be**	**11.44**	**18**	Pn	**Pn**	**15 53 59.7**	**-1.4**
	0.6nm,0.3s,baz=206,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	**33.02**	**222**	P	**P**	**15 57 53.2**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=32,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**42.20**	**61**	P	**P**	**15 59 12.8**	**+2.0**
	0.5nm,0.6s,mb3.4,baz=281,slow=6.1,SNR=9.8						

*NEIC **25** 15:56:49.4,16.15N×99.14W,h15km,MD3.7(MEX),After MEX.*

MEX 25 15:56:49.4±0.9,1615N×9914W,h15km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.03**	**314**	*i* P	Pb	15 57 04.5	-4.4
ACX				*i* S	Sb	15 57 18.5	-3.7
CAIG	**El Cayaco**	**1.40**	**310**	*i* P	Pn	15 57 11.4	-3.0
CAIG				*i* S	Sn	15 57 27.3	-5.2
MEIG	**Mezcala**	**1.82**	**346**	*i* P	Pn	15 57 17.4	-2.8
MEIG				*i* S	Sn	15 57 37.8	-5.2
PLIG	**Platanillo**	**2.25**	**351**	*e*P	Pn	15 57 23.9	-2.2
PLIG				*i* S	Sn	15 57 48.6	-5.0
PPM	**Popocatepetl**	**2.94**	**10**	*e*P	Pn	15 57 34.5	-1.1
PPM				*i* S	Sn	15 58 07.9	-2.7

MAN 25 16:05:54.6,925N×12558E,h3km,mb2.1,ML3.8,MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.54**	**350**	*e*P	Pg	16 06 04.9	0.0
SCPH				*e*S	Sg	16 06 19.2	+7.3

IDC 25 16:08:03.4±2.1,421S×15216E,h0km,mb3.4/3,mb1 3.7/4, mb1mx3.5/14,mbtmp3.5/4,ML2.5/1,Error ellipse: s-maj=141.0km s-min=25.7km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.16**	**224**	Pn	Pn	16 09 51.2	+1.8
	0.5nm,0.3s,baz=35,slow=12,SNR=3.1						
PMG				Sn	Sn	16 11 08.2	-3.2
	0.8nm,0.3s,baz=150,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**23.37**	**227**	P	P	16 13 12.8	-0.9
	0.6nm,0.6s,baz=52,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**26.16**	**221**	P	P	16 13 40.4	+1.0
	0.4nm,0.9s,baz=58,slow=9.4,SNR=7.4						
ILAR	**Eielson Array**	**81.86**	**22**	P	P	16 20 24.4	-0.2
	0.6nm,0.8s,baz=240,slow=6.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**149.52**	**289**	PKPbc	PKPbc	16 27 55.2	+0.6
	0.5nm,0.7s,baz=63,slow=2.2,SNR=3.6						

*NEIC **25** 16:28:58.4,3693S×17688E,h253km,MG3.8(WEL),After WEL.*

WEL 25 16:28:58.2±0.3,3692S×17692E,h258km±3km,ML3.8/15, Error ellipse: s-maj=5.0km s-min=3.8km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.28**	**121**	*e*PN	Pn	16 29 35.6	0.0
MXZ				SN	S	16 30 04.4	-0.8
MXZ	**Matakaoa Point**	**1.28**	**121**	*e*P	Pn	16 29 35.6	0.0
MXZ				S	S	16 30 04.4	-0.8
URZ	**Urewera**	**1.35**	**174**	PN	Pn	16 29 36.3	+0.3
URZ				SN	S	16 30 05.6	-0.4
URZ	**Urewera**	**1.35**	**174**	*e*P	Pn	16 29 36.3	+0.2
MWZ	**Matawai**	**1.50**	**161**	PN	Pn	16 29 37.5	+0.4
MWZ				SN	S	16 30 07.5	-0.3
MWZ	**Matawai**	**1.50**	**161**	*e*P	Pn	16 29 37.5	+0.4
PUZ	**Puketiti**	**1.57**	**138**	PN	Pn	16 29 37.9	+0.3
PUZ				SN	S	16 30 07.8	-1.0
PUZ	**Puketiti**	**1.57**	**138**	P	Pn	16 29 37.9	+0.2
KNZ	**Kokohu**	**2.18**	**164**	PN	Pn	16 29 43.0	+0.1
KNZ				SN	S	16 30 17.5	-0.7
KNZ	**Kokohu**	**2.18**	**164**	*e*P	Pn	16 29 43.0	+0.1
BKZ	**Black Stump Fm**	**2.27**	**188**	PN	Pn	16 29 43.5	-0.2
BKZ	**Black Stump Fm**	**2.27**	**188**	*e*P	Pn	16 29 43.5	-0.2
MTVZ	**Mangateitei**	**2.71**	**204**	PN	Pn	16 29 48.5	+0.4
PXZ	**Pawanui**	**3.11**	**181**	PN	Pn	16 29 51.7	-0.5
WAZ	**Wanganui**	**3.21**	**208**	PN	Pn	16 29 53.4	0.0
WAZ	**Wanganui**	**3.21**	**208**	*e*P	Pn	16 29 53.4	0.0
TSZ	**Takapari Road**	**3.23**	**193**	PN	Pn	16 29 52.7	-0.7
TSZ	**Takapari Road**	**3.23**	**193**	*e*P	Pn	16 29 52.7	-0.8
BFZ	**Birch Farm**	**3.79**	**188**	*e*P	Pn	16 29 58.8	-1.1
MRZ	**Mangatainoka R**	**3.88**	**195**	P	Pn	16 29 59.1	-1.8
KIW	**Kapiti Island**	**4.24**	**201**	P	Pn	16 30 03.2	-1.8
MTW	**Mount Morrison**	**4.38**	**194**	P	Pn	16 30 05.1	-1.5
CAW	**Cannon Point**	**4.42**	**198**	P	Pn	16 30 05.2	-2.0
MRW	**Makara Radio**	**4.64**	**201**	P	Pn	16 30 07.9	-1.9
SNZO	**South Karori**	**4.71**	**201**	*e*P	Pn	16 30 08.3	-2.3
TCW	**Tory Channel**	**4.75**	**205**	P	Pn	16 30 09.1	-2.1
QRZ	**Quartz Range**	**5.19**	**220**	*e*P	Pn	16 30 13.7	-2.8
BSWZ	**Blackbirch Sta**	**5.34**	**205**	P	Pn	16 30 15.1	-3.1
THZ	**Tophouse**	**5.75**	**212**	*e*P	Pn	16 30 20.9	-2.4
KHZ	**Kahutara**	**6.08**	**204**	*e*P	Pn	16 30 25.2	-2.2
DSZ	**Denniston Nort**	**6.24**	**218**	*e*P	Pn	16 30 25.8	-3.6
LTZ	**Lake Taylor**	**6.86**	**210**	*e*P	Pn	16 30 34.3	-2.8
MQZ	**McQueen's Vall**	**7.52**	**204**	*e*P	Pn	16 30 41.8	-3.6

*ISCJB **25** 16:33:01.8±0.6,3366N±004×7149E±007,h10km,Error ellipse: s-maj=8.2km s-min=5.5km az=133.3*
*NNC **25** 16:33:04.0±13.0,3379N×7202E,h0km,mb3.3,Error ellipse: s-maj=158.2km s-min=135.8km az=71.0*

ISC 25 16:33:03.3±0.6,3361N±004×7149E±006,h10km,n16, σ1§05/21,4C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**0.41**	**58**	⇓P	**Pg**	**16 33 11.0**	**-0.4**
THW	**Thamme Wali**	**0.84**	**165**	⇑P	**Pg**	**16 33 18.1**	**-1.3**
SBDP	**Sheikh Budin**	**1.42**	**204**	⇑P	**Pn**	**16 33 29.2**	**0.0**
CHCP	**Chirah Chowk**	**1.48**	**87**	⇓P	**Pn**	**16 33 30.4**	**+0.4**
SARP	**Sargodha**	**1.95**	**149**	⇑P	**Pn**	**16 33 36.1**	**-0.4**
DRP	**Derazinda**	**2.15**	**211**	P	**Pn**	**16 33 40.6**	**+1.4**
THN	**Thein Dam**	**3.74**	**107**	*e*P	**Pn**	**16 34 01.0**	**-0.1**
THN				*ex*	**Sg**	**16 34 58.5**	**-5.0**
DLH	**Dalhousie**	**3.91**	**105**	*e*P	**Pn**	**16 34 02.0**	**-1.4**
DLH				*ex*	**Sn**	**16 34 51.0**	**+1.7**
SDNR	**Sundarnagar**	**5.08**	**113**	*e*P	**Pn**	**16 34 19.3**	**-0.2**
SDNR				*e*S	**Sg**	**16 35 41.3**	**-5.2**
SMLA	**Simla**	**5.40**	**116**	*e*P	**Pn**	**16 34 23.9**	**0.0**
SMLA				*e*S	**Sg**	**16 35 47.7**	**-9.1**
DDI	**Dehra Dun**	**6.47**	**119**	*ex*	**Sg**	**16 36 30.3**	**-0.7**
NDI	**New Delhi**	**6.94**	**133**	*ex*	**Sn**	**16 36 06.0**	**+1.9**
KK31	**Karatay Array**	**9.51**	**356**	P	**Pn**	**16 35 21.8**	**+1.5**
	0.7nm,0.3s,baz=174,slow=12,SNR=32						
KK31				⇓S	**Sn**	**16 37 07.6**	**+0.4**
	0.6nm,0.4s,baz=167,slow=25						
MK31	**Makanchi Array**	**15.52**	**29**	⇓P	**Pn**	**16 36 42.2**	**0.0**
	0.2nm,0.5s,baz=110,slow=15,SNR=10.0						
AB31	**Akbulak array**	**17.84**	**335**	⇑P	**Pn**	**16 37 09.6**	**-1.9**
	0.4nm,0.6s,baz=154,slow=11,SNR=7.9						
BVA0	**Borovoye Array**	**19.43**	**358**	P	**Pn**	**16 37 30.6**	**-0.3**
	2.3nm,2.7s,baz=168,slow=10,SNR=7.0						

IDC 25 16:36:52.5±2.9,671S×12849E,h0km,mb3.4/1,mb1 3.3/3, mb1mx3.2/14,mbtmp3.1/3,ML3.1/2,Error ellipse: s-maj=324.2km s-min=31.1km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.33**	**157**	Pn	Pn	16 40 15.5	-1.0
	0.1nm,0.3s,baz=334,slow=13,SNR=9.0						
WRA				Sn	Sn	16 42 43.5	-13
	0.2nm,0.3s,baz=340,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**17.64**	**163**	P	Pn	16 41 00.8	+1.2
	0.1nm,0.3s,baz=347,slow=9.6,SNR=7.0						
ASAR				S	Sn	16 44 12.8	-4.0
	0.0nm,0.3s,baz=341,slow=24,SNR=4.1						
MKAR	**Makanchi Array**	**67.17**	**327**	P	P	16 47 48.4	+0.2
	0.2nm,0.3s,baz=113,slow=8.2,SNR=7.9						

*BJI **25** 17:23:17.8,1825S×17538W,h236km,mB4.9,mb4.6*
*ISCJB **25** 17:23:18.4±1.4,1757S±0.10×1752W±0.1,h237km±13km, mb4.5/21,Error ellipse: s-maj=20.8km s-min=10.7km az=81.2*
*MOS **25** 17:23:18.9±1.1,1732S×17540W,h231km,mb4.6/7,Error ellipse: s-maj=18.6km s-min=13.3km az=156.7*
*NEIC **25** 17:23:18.6±1.1,1758S×175.17W,h230km±11km,mb4.6/9, Error ellipse: s-maj=17.5km s-min=9.1km az=140.0*
*IDC **25** 17:23:19.1±2.0,1761S×175.18W,h235km±18km,mb4.1/6, mb1 4.2/7,mb1mx4.0/14,mbtmp4.7/7,Error ellipse: s-maj=21.3km s-min=11.8km az=122.0*

ISC 25 17:23:19.5±1.4,1762S±009×1751W±01,h239km±13km, h225km±1.5km:pP-P,n59,σ1§14/46,mb4.5/21,6C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.85**	**41**	P	**Pn**	**17 24 32.8**	**-0.3**
	16nm,0.3s,baz=88,slow=0.9,SNR=32						
AFI				S	**S**	**17 25 25.7**	**-5.9**
	202nm,0.3s,baz=35,slow=23,SNR=21						
AFI	**Afiamalu**	**4.85**	**41**	*e*Pn	**Pn**	**17 24 32.6**	**-0.5**
AFI				*e*Sn	**S**	**17 25 24.5**	**-7.1**
DZM	**Mont Dzumac**	**17.96**	**253**	P	**P**	**17 27 14.9**	**+2.6**
	0.6nm,0.3s,baz=84,slow=19,SNR=15						
URZ	**Urewera**	**21.68**	**197**	P	**P**	**17 27 52.0**	**+0.6**
	15nm,0.5s,mb4.8,baz=27,slow=7.8,SNR=25						
URZ				S	**S**	**17 31 34.3**	**-0.1**
	14nm,0.8s,baz=245,slow=20,SNR=10						
CNB	**Canberra Magne**	**36.16**	**234**	*e*P	**P**	**17 29 59.5**	**+0.3**
	20nm,0.7s,mb4.8						
CTA	**Charters Tower**	**36.65**	**260**	*e*P	**P**	**17 30 02.8**	**-0.5**
	9.7nm,0.6s,mb4.5						
CTA	**Charters Tower**	**36.65**	**260**	P	**P**	**17 30 03.2**	**-0.1**
	14nm,0.7s,mb4.6,baz=90,slow=11,SNR=18						
CTA	**Charters Tower**	**36.65**	**260**	*e*P	**P**	**17 30 02.8**	**-0.5**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	**Charters Tower**	**36.65**	**260**	*e*P	**P**	**17 30 02.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**36.65**	**260**	*e*P	**P**	**17 30 02.8**	**-0.5**
	comp=Z,14nm,0.7s,mb4.6						
PMG	**Port Moresby**	**37.58**	**278**	P	**P**	**17 30 12.3**	**+1.2**
PMG				pmax	pmax		
	comp=Z,13nm,0.7s						
PMG	**Port Moresby**	**37.58**	**278**	P	**P**	**17 30 12.3**	**+1.1**
	comp=Z,13nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**41.58**	**242**	⇓*i*P	**P**	**17 30 42.1**	**-1.9**
	comp=Z,18nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**41.58**	**242**	P	**P**	**17 30 42.6**	**-1.4**
	comp=Z,18nm,0.8s,mb4.6,baz=79,slow=8.1,SNR=29						
WB2	**Warramunga Arr**	**47.82**	**259**	⇓*i*P	**P**	**17 31 32.2**	**-0.9**
WRAB	**Tennant Creek**	**47.82**	**259**	*e*P	**P**	**17 31 32.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**47.82**	**259**	*e*P	**P**	**17 31 32.2**	**-0.9**
	comp=Z,14nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**47.83**	**259**	P	**P**	**17 31 32.2**	**-1.0**
	comp=Z,17nm,0.7s,mb4.5,baz=96,slow=7.2,SNR=158						
ASAR	**Alice Springs**	**47.95**	**254**	P	**P**	**17 31 33.2**	**-0.9**
	comp=Z,73nm,0.7s,mb5.1,baz=92,slow=7.9,SNR=88						
ASAR				S	**S**	**17 38 09.5**	**-3.6**
	comp=Z,0.7nm,0.9s,baz=97,slow=13,SNR=4.0						
MBWA	**Marble Bar**	**61.25**	**255**	*e*P	**P**	**17 33 08.5**	**-0.9**
	comp=Z,17nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**61.82**	**243**	*e*P	**P**	**17 33 12.8**	**-0.4**
	comp=Z,14nm,0.7s,mb4.7						
MUN	**Mundaring**	**63.10**	**243**	*e*P	**P**	**17 33 21.6**	**-0.1**
MJAR	**Matsushiro Arr**	**69.64**	**321**	P	**P**	**17 34 02.8**	**-0.2**
	comp=Z,2.7nm,0.8s,mb3.9,baz=156,slow=6.4,SNR=7.7						
QSPA	**South Pole Qui**	**72.44**	**180**	*e*P	**P**	**17 34 20.3**	**+0.5**
	comp=Z,2.6nm,0.8s,mb3.9						
KSM	**Kuching**	**75.83**	**276**	*e*P	**P**	**17 34 41.0**	**+1.6**
KS15	**Wonju Array Si**	**76.67**	**317**	*e*P	**P**	**17 34 43.9**	**-0.2**
NVAR	**Mina Array Bea**	**77.03**	**42**	P	**P**	**17 34 47.1**	**+1.1**
	comp=Z,0.6nm,0.9s,mb3.2,baz=216,slow=7.1,SNR=4.0						
SSE	**Sheshan**	**78.05**	**308**	P	**P**	**17 34 53.3**	**+1.6**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,119nm,5.3s						
MDJ	**Mudanjiang**	**79.83**	**323**	P	**P**	**17 35 04.5**	**+3.1**
NJ2	**Nanjing**	**80.26**	**308**	*e*P	**P**	**17 35 04.5**	**+0.8**
NJ2				AP	pP	17 35 58.5	-2.0
NJ2				XP	sP	17 36 21.8	-3.9
NJ2				PP	PP	17 38 11.5	+1.8
NJ2				S	S	17 44 49.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,150nm,5.6s						
NJ2				LR	L

*ISCJB **25** 17:33:15.0±0.8, 466N±02×1482E±03, h448km±16km, mb3.2/3, Error ellipse: s-maj=48.5km s-min=14.9km az=101.0*
*IDC **25** 17:33:15.9±2.5, 4784N×14753E, h366km±50km, mb2.9/3, mb1 3.0/5, mb1mx2.7/20, mbtmp3.6/5, Error ellipse: s-maj=66.1km s-min=28.3km az=160.0*
ISC 25 17:33:16.1±0.8, 463N±03×1483E±03, h456km±15km, n17, σ0§99/23, mb3.2/3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**3.28**	**224**	P	**P**	**17 34 25.3**	**-0.3**
NEM2	**Nemuro 2**	**3.47**	**212**	P	**P**	**17 34 26.5**	**-0.6**
NEM2				*e*S	**S**	**17 35 23.8**	**-1.1**
JTKR	**Abashiri--Toko**	**3.89**	**234**	P	**P**	**17 34 30.6**	**0.0**
JAK	**Akkeshi**	**4.20**	**219**	P	**P**	**17 34 33.6**	**+0.3**
JAK				*e*S	**S**	**17 35 36.1**	**-0.1**
JAR	**Ashorobuto**	**4.42**	**228**	P	**P**	**17 34 36.1**	**+0.8**
ASAJ	**Asahikawa**	**4.59**	**243**	P	**P**	**17 34 36.9**	**0.0**
	1.5nm,0.3s,baz=63,slow=8.0,SNR=16						
JKK2	**Kamakawa 2**	**4.63**	**240**	P	**P**	**17 34 37.7**	**+0.5**
JCH	**Churui**	**5.12**	**225**	P	**P**	**17 34 42.5**	**+0.7**
JCH				*e*S	**S**	**17 35 50.5**	**-1.3**
JFR	**Furan**	**5.14**	**234**	P	**P**	**17 34 43.7**	**+1.6**
JNBK	**Urakawa-nobuka**	**5.67**	**226**	P	**P**	**17 34 47.9**	**+0.7**
JNBK				*e*S	**S**	**17 36 00.9**	**-0.8**
JKB	**Kayabe**	**6.85**	**232**	P	**P**	**17 35 01.1**	**+1.7**
JKB				*e*S	**S**	**17 36 22.5**	**-1.4**
JOT	**Ohata**	**7.20**	**229**	P	**P**	**17 35 04.7**	**+1.7**
JOT				*e*S	**S**	**17 36 30.0**	**-0.6**
JANG	**Nango**	**7.73**	**222**	*e*S	**S**	**17 36 41.5**	**+0.6**
MJAR	**Matsushiro Arr**	**12.35**	**221**	P	**P**	**17 36 10.8**	**+12**
	0.1nm,0.3s,baz=22,slow=10,SNR=4.9						
ILAR	**Eielson Array**	**38.95**	**38**	P	**P**	**17 40 00.4**	**-1.0**
	0.8nm,0.5s,mb3.4,baz=251,slow=6.1,SNR=20						
YKA	**Yellowknife Ar**	**53.22**	**35**	P	**P**	**17 41 50.4**	**-0.2**
	0.3nm,0.4s,mb2.9,baz=304,slow=7.3,SNR=6.3						
FINES	**FINESS Array B**	**62.95**	**333**	P	**P**	**17 42 53.6**	**-3.2**
	0.5nm,0.6s,mb3.2,baz=50,slow=9.2,SNR=3.2						

GUC 25 17:39:42.4±0.6, 2419S×6719W, h200km, ML3.8, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.87**	**285**	*e*P	Pn	17 40 33.0	+2.5
CEN1				*i* S	Sn	17 41 11.5	+3.4
CEN1				AMP		17 41 14.1	
	comp=N,106nm,0.2s						
CPN1	**Cerro Paranal**	**2.97**	**261**	*e*P	Pn	17 40 34.1	+2.6
CPN1				*i* S	Sn	17 41 13.6	+3.5
CPN1				AMP		17 41 20.4	
	comp=E,204nm,0.4s						
ANCH	**Antofagasta**	**2.99**	**279**	⇑*i*P	Pn	17 40 30.9	-1.0
ANCH				*i* S	Sn	17 41 09.7	-1.0
CRCH	**Chaqaral**	**3.78**	**235**	*i* S	Sn	17 41 30.3	+2.6
CDCH	**Caldera**	**4.37**	**228**	*i* S	Sn	17 41 43.2	+2.3

*IDC **25** 17:57:33.1±1.4, 2018S×169.17E, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.5/14, mbtmp4.5/9, ML4.5/1, MS3.6/11, Ms1 3.6/11, ms1mx3.5/21, Error ellipse: s-maj=63.0km s-min=19.5km az=145.0*
*LDG **25** 17:57:36.9±0.4, 1973S×16869E, h10km, Mb4.6/2, Error ellipse: s-maj=35.5km s-min=5.6km az=121.0*
*ISCJB **25** 17:57:38.0±1.8, 2012S±009×1689E±01, h38km±13km, mb4.5/14, MS3.6/8, Error ellipse: s-maj=22.7km s-min=11.3km az=62.6*
*NEIC **25** 17:57:38.8±7.3, 2007S×16903E, h34km±49km, mb4.8/9, Error ellipse: s-maj=21.2km s-min=17.7km az=218.0*
ISC 25 17:57:39.0±4.8, 2012S±010×1690E±01, h32km±33km, n50, σ0§82/25, mb4.5/14, MS3.6/8, 1C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.54**	**344**	⇑*i*P	**Pn**	**17 58 17.4**	**-0.5**
DZM	**Mont Dzumac**	**3.06**	**230**	Pn	**Pn**	**17 58 25.0**	**-0.2**
	56nm,0.3s,baz=58,slow=16,SNR=409						
DZM				Sn	**Sn**	**17 58 59.4**	**-1.3**
	27nm,0.3s,baz=133,slow=22,SNR=5.2						
HNR	**Honiara**	**13.75**	**319**	LR	LR	18 05 07.8	
	comp=Z,114nm,21.4s,baz=179,slow=33						
AFI	**Afiamalu**	**19.40**	**74**	LR	LR	18 07 58.3	
	comp=Z,184nm,19.7s,baz=75,slow=32						
URZ	**Urewera**	**19.40**	**160**	LR	LR	18 08 09.2	
	comp=Z,270nm,19.6s,baz=203,slow=33						
CTA	**Charters Tower**	**21.34**	**266**	⇓*i*P	**P**	**18 02 25.1**	**+1.7**
	18nm,0.5s,mb4.7						
CTA	**Charters Tower**	**21.34**	**266**	P	**P**	**18 02 25.7**	**+2.3**
	22nm,0.6s,mb4.7,baz=95,slow=11,SNR=51						
CTA				LR	LR	18 09 35.6	
	comp=Z,104nm,20.5s,MS3.2,baz=82,slow=34						
CTAO	**Charters Tower**	**21.34**	**266**	*e*P	**P**	**18 02 25.3**	**+1.9**
	27nm,0.6s,mb4.8						
RPZ	**Rata Peaks**	**23.59**	**176**	LR	LR	18 10 46.7	
	comp=Z,256nm,19.8s,MS3.7,baz=186,slow=34						
STKA	**Stephens Creek**	**27.18**	**239**	*e*P	**P**	**18 03 19.3**	**-0.2**
	3.9nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**27.18**	**239**	P	**P**	**18 03 19.2**	**-0.3**
	4.1nm,0.8s,mb4.0,baz=78,slow=10,SNR=13						
STKA				LR	LR	18 13 04.5	
	comp=Z,127nm,18.1s,MS3.5,baz=28,slow=34						
STKA	**Stephens Creek**	**27.18**	**239**	*e*P	**P**	**18 03 19.0**	**-0.5**
WB2	**Warramunga Arr**	**32.50**	**264**	*e*P	**P**	**18 04 06.1**	**-0.6**
WRAB	**Tennant Creek**	**32.50**	**264**	*e*P	**P**	**18 04 05.8**	**-0.9**
	11nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**32.51**	**264**	P	**P**	**18 04 06.4**	**-0.4**
	4.1nm,0.5s,mb4.6,baz=96,slow=8.3,SNR=112						
AS31	**Alice Springs**	**32.69**	**257**	*e*P	**P**	**18 04 08.8**	**+0.5**
ASAR	**Alice Springs**	**32.69**	**257**	P	**P**	**18 04 08.7**	**+0.4**
	25nm,0.6s,mb5.4,baz=85,slow=9.0,SNR=663						
ASPA	**Alice Springs**	**32.69**	**257**	*e*P	**P**	**18 04 08.8**	**+0.5**
TBI	**Tubuai**	**38.65**	**102**	*e*LR	LR	18 15 29.2	
	34nm,28.2s						
PPT	**Papeete**	**39.24**	**93**	*e*LR	LR	18 15 50.7	
	69nm,26.5s						
FITZ	**Fitzroy Crossi**	**40.92**	**265**	⇓*i*P	**P**	**18 05 19.0**	**+0.7**
	7.8nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**45.95**	**260**	*e*P	**P**	**18 05 59.8**	**+0.9**
	27nm,1.0s,mb5.1						
KLBR	**Kellerberrin**	**47.12**	**245**	*e*P	**P**	**18 06 08.2**	**+0.2**
	14nm,0.6s,mb5.1						
NWAO	**Narrogin (SRO)**	**47.60**	**243**	P	**P**	**18 06 12.2**	**+0.4**
	16nm,0.7s,mb5.2,baz=98,slow=7.8,SNR=16						
NWAO				LR	LR	18 26 39.0	
	comp=Z,135nm,19.6s,MS3.9,baz=172,slow=37						
NWAO	**Narrogin (SRO)**	**47.60**	**243**	*e*P	**P**	**18 06 11.8**	**+0.1**
	15nm,0.7s,mb5.1						
NWAO				LR	LR	18 26 39.0	
VNDA	**Vanda**	**57.55**	**182**	LR	LR	18 26 49.6	
	comp=Z,59nm,19.6s,MS3.7,baz=97,slow=30						
VNDA	**Vanda**	**57.55**	**182**	P	**P**	**18 07 25.6**	**+0.1**
	4.3nm,1.0s,mb4.4						
QSPA	**South Pole Qui**	**69.94**	**180**	*e*P	**P**	**18 08 47.6**	**+0.5**
	3.3nm,0.7s,mb4.4						
FX1	**Attu Island--F**	**72.78**	**3**	LR	LR	18 41 00.5	
	comp=Z,4.5nm,18.5s,MS2.8,baz=359,slow=36						
MAW	**Mawson**	**77.53**	**202**	LR	LR	18 37 54.6	
	comp=Z,142nm,19.9s,MS4.3,baz=243,slow=31						
SONM	**Songino Array**	**87.77**	**323**	P	**P**	**18 10 24.9**	**+0.1**
	1.0nm,0.7s,mb4.1,baz=150,slow=4.9,SNR=10						
NVAR	**Mina Array Bea**	**89.56**	**49**	P	**P**	**18 10 33.5**	**+0.2**
	0.2nm,0.6s,mb3.6,baz=263,slow=7.0,SNR=2.7						
NVAR				LR	LR	18 43 01.0	
	comp=Z,29nm,21.9s,MS3.7,baz=310,slow=30						
ILAR	**Eielson Array**	**91.14**	**17**	P	**P**	**18 10 38.1**	**-2.5**
	0.3nm,0.6s,mb3.8,baz=239,slow=4.9,SNR=5.8						
ARCES	**ARCESS Array B**	**125.85**	**345**	PKP	PKPdf	18 16 35.1	-2.4
	4.7nm,1.0s,baz=21,slow=3.9,SNR=3.7						
KHC	**Kasperske Hory**	**144.99**	**332**	*e*P	PKPdf	18 17 13.5	+0.6
GERES	**GERESS Array B**	**145.14**	**331**	PKPbc	PKPbc	18 17 13.1	+0.3
	1.7nm,0.7s,baz=14,slow=2.8,SNR=11						
CDF	**Champ du Feu**	**148.15**	**337**	*e*PKP1	PKPbc	18 17 22.1	+0.6
HAU	**Haudompre**	**148.83**	**337**	*e*PKP1	PKPbc	18 17 23.5	+0.2
MEZF	**Maizieres J'vi**	**148.86**	**339**	*e*PKP1	PKPbc	18 17 24.0	+0.6
CABF	**La Chapelle**	**150.10**	**336**	*e*PKP1	PKPbc	18 17 26.5	+0.1
	23nm,1.0s						
FLN	**La Foliniere**	**150.19**	**346**	*e*PKP1	PKPbc	18 17 27.0	+0.4
LOR	**Lormes**	**150.33**	**339**	*e*PKP1	PKPbc	18 17 26.8	-0.2
	21nm,1.1s						
SSF	**Saint Saulge**	**150.63**	**340**	*e*PKP1	PKPbc	18 17 27.6	-0.1
	4.7nm,0.7s						
LPG	**La Plagne**	**150.75**	**334**	*e*PKP1	PKPbc	18 17 28.0	0.0
	16nm,0.9s						
SGMF	**Saint Gilles**	**151.11**	**348**	*e*PKP1	PKPbc	18 17 29.5	+0.7
MBDF	**Montbardon**	**151.36**	**333**	*e*PKP1	PKPbc	18 17 29.3	-0.1
	4.1nm,0.7s						
ORIF	**Oris-en-Rattie**	**151.58**	**334**	*e*PKP1	PKPbc	18 17 29.6	-0.3
	14nm,0.7s						
PGF	**Pioggiola**	**151.99**	**327**	*e*PKP1	PKPbc	18 17 30.2	-0.6
	27nm,0.8s						
VIVF	**Saint-Julien-l**	**152.11**	**336**	*e*PKP1	PKPbc	18 17 30.8	-0.3
FRF	**La Foret Royal**	**152.34**	**332**	*e*PKP1	PKPbc	18 17 31.0	-0.6

*ISCJB **25** 18:04:25.5±0.4, 3993N±002×2388E±003, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=33.9*
*CSEM **25** 18:04:26.5±0.1, 3993N×2389E, h15km, ML3.3, Error ellipse: s-maj=1.4km s-min=1.0km az=89.0*
*NEIC **25** 18:04:26.9, 3993N×2387E, h3km, MD3.7(SOF), ML3.2(THE), ML3.5(ATH), After THE.*
*ATH **25** 18:04:26.0, 3994N×2386E, h27km±1km, MD3.6/13, ML3.5*
*THE **25** 18:04:26.9, 3993N×2387E, h3km, ML3.3*
*SKO **25** 18:04:27.8, 3992N×2385E, h9km*
*SOF **25** 18:04:27.2, 3999N×2385E, h16km, MD3.7*
ISC 25 18:04:26.2±0.4, 3991N±002×2388E±003, h8km±3km, n69, σ1§07/102, 12C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.16**	**277**	*e*Pg	**Pg**	**18 04 29.8**	**+0.3**
PAIG				*e*Sg	**Sg**	**18 04 32.3**	**+0.5**
OUR	**Ouranopolis**	**0.43**	**10**	*e*Pg	**Pg**	**18 04 35.9**	**+1.2**
OUR	**Ouranopolis**	**0.43**	**10**	*e*Pg	**Pg**	**18 04 35.8**	**+1.2**
PLG	**Polygyros**	**0.57**	**324**	⇑*i*PN	**Pg**	**18 04 36.7**	**-0.6**
PLG				*e*SN	**Sg**	**18 04 44.0**	**-0.8**
AOS	**Alonnisos**	**0.74**	**180**	*e*Pg	**Pg**	**18 04 41.0**	**+0.5**
XOR	**Xorichti**	**0.76**	**225**	*e*Pg	**Pg**	**18 04 41.4**	**+0.5**
	comp=Z,30nm,0.1s						
XOR				*e*Sg	**Sg**	**18 04 52.2**	**+1.5**
NEO	**Neokhori**	**0.79**	**220**	*e*PN	**Pn**	**18 04 42.1**	**-1.5**
NEO				*e*SN	**Sg**	**18 04 53.2**	**+1.6**
LOS	**Limnos**	**0.92**	**88**	*e*Pg	**Pg**	**18 04 44.7**	**+0.7**
LOS				*e*Sg	**Sg**	**18 04 57.3**	**+1.3**
SOH	**Sokhos**	**1.00**	**336**	*e*Pg	**Pg**	**18 04 44.7**	**-0.7**
SOH				*e*Sg	**Sg**	**18 04 58.9**	**+0.5**
LIA	**Limnos Island**	**1.00**	**90**	*e*PN	**Pn**	**18 04 46.2**	**-0.4**
LIA				*e*SN	**Sn**	**18 04 59.7**	**-1.1**
THE	**Thessaloniki**	**1.01**	**316**	*e*Pg	**Pg**	**18 04 45.4**	**-0.2**
	comp=Z,14nm,0.4s						
LIT	**Litokhoron**	**1.08**	**281**	*e*Pg	**Pg**	**18 04 46.8**	**-0.2**
	comp=Z,9.0nm,0.3s						
SRS	**Serrai**	**1.23**	**350**	*e*Pg	**Pg**	**18 04 49.2**	**-0.6**
SRS				*e*Sg	**Sg**	**18 05 06.6**	**+0.9**
LKR	**Lokris**	**1.43**	**209**	⇑*i*PB	**Pb**	**18 04 51.7**	**-1.4**
NVR	**Nevrokopi**	**1.44**	**359**	⇑*i*PN	**Pn**	**18 04 52.1**	**-0.5**
KNT	**Kendrikon**	**1.46**	**329**	*e*Pg	**Pg**	**18 04 52.8**	**-1.4**
	comp=Z,18nm,0.2s						
KNT				*e*Sg	**Sg**	**18 05 12.8**	**-0.3**
GRG	**Griva**	**1.54**	**313**	*e*Pg	**Pg**	**18 04 54.2**	**-1.5**
GRG				*e*Sg	**Sg**	**18 05 15.1**	**-0.7**
KZN	**Kozani**	**1.67**	**284**	⇑*i*PN	**Pn**	**18 04 56.1**	**+0.4**
KZN				*e*SN	**Sn**	**18 05 16.9**	**-0.3**
MMB	**Musomiste**	**1.68**	**356**	*i* P	**Pn**	**18 04 57.0**	**+1.1**
MMB				*i* S	**Sn**	**18 05 16.7**	**-0.9**
MMB				*i* Sg	**Sg**	**18 05 19.6**	**-0.7**
VAY	**Valandovo**	**1.73**	**325**	*e*Pb	**Pb**	**18 04 56.4**	**-1.8**
VAY	**Valandovo**	**1.73**	**325**	*e*Pn	**Pn**	**18 04 57.9**	**+1.3**
VAY				*e*Sn	**Sn**	**18 05 20.0**	**+1.3**
VAY	**Valandovo**	**1.73**	**325**	*e*Pn	**Pn**	**18 04 57.8**	**+1.3**
VAY				*e*Sn	**Sn**	**18 05 20.0**	**+1.3**
MPAR	**Parnis Oros**	**1.76**	**184**	*e*PB	**Pb**	**18 04 56.8**	**-1.9**
RDO	**Rodhopi**	**1.77**	**45**	⇑*i*PB	**Pb**	**18 04 56.3**	**-2.6**
PTL	**Pentelí**	**1.86**	**180**	*e*PN	**Pn**	**18 04 58.0**	**-0.3**
EZN	**Ezine**	**1.88**	**92**	PN	**Pn**	**18 05 02.7**	**+4.0**
EVR	**Evrytania**	**1.89**	**239**	*e*PN	**Pn**	**18 04 58.8**	**+0.1**
RZN	**Rozhen**	**1.89**	**19**	*i* P	**Pn**	**18 04 59.0**	**+0.3**
RZN				*i* Pg	**Pg**	**18 05 04.4**	**+2.0**
RZN	**Rozhen**	**1.89**	**19**	*i* Pg	**Pg**	**18 05 04.4**	**+2.0**
RZN				*i* S	**Sn**	**18 05 22.5**	**-0.2**
RZN				*i* Sg	**Sg**	**18 05 29.0**	**+2.1**
RZN	**Rozhen**	**1.89**	**19**	*i* P	**Pn**	**18 04 59.0**	**+0.3**
RZN				*i* Pg	**Pg**	**18 05 04.4**	**+2.0**
RZN				*i* S	**Sn**	**18 05 22.5**	**-0.2**
RZN				*i* Sg	**Sg**	**18 05 29.0**	**+2.1**
ALN	**Alexandroupoli**	**1.93**	**58**	*e*Pb	**Pb**	**18 04 59.3**	**-2.3**
	comp=Z,2.5nm,0.4s						
ATH	**Athens Observa**	**1.94**	**184**	*e*PN	**Pn**	**18 04 59.1**	**-0.3**
PRK	**Paraskevi**	**1.96**	**109**	*e*PB	**Pb**	**18 05 00.4**	**-1.8**
MEV	**Metsovon**	**2.04**	**267**	*e*Pn	**Pn**	**18 05 01.9**	**+1.0**
	comp=Z,3.5nm,0.4s						
KKB	**Krupnik**	**2.05**	**343**	*i* P	**Pn**	**18 05 01.3**	**+0.4**
KKB				*i* Pg	**Pg**	**18 05 04.8**	**-0.7**
KKB	**Krupnik**	**2.05**	**343**	*i* Pg	**Pg**	**18 05 04.8**	**-0.7**
KKB				*i* S	**Sn**	**18 05 26.2**	**-0.4**
KKB				*i* Sg	**Sg**	**18 05 30.7**	**-1.3**
KKB	**Krupnik**	**2.05**	**343**	*i* P	**Pn**	**18 05 01.3**	**+0.4**
KKB				*i* Pg	**Pg**	**18 05 04.8**	**-0.7**
KKB				*i* S	**Sn**	**18 05 26.2**	**-0.4**
KKB				*i* Sg	**Sg**	**18 05 30.7**	**-1.3**
KVR	**Kavouri**	**2.08**	**182**	*e*PN	**Pn**	**18 05 01.0**	**-0.4**
KDZ	**Kurdzhali**	**2.09**	**33**	*i* P	**Pn**	**18 05 02.4**	**+0.8**
KDZ				*i* Pg	**Pg**	**18 05 03.9**	**-2.5**
KDZ	**Kurdzhali**	**2.09**	**33**	*i* Pg	**Pg**	**18 05 03.9**	**-2.5**
KDZ				*i* S	**Sn**	**18 05 27.9**	**+0.1**
KDZ				*i* Sg	**Sg**	**18 05 33.0**	**-0.5**
KDZ	**Kurdzhali**	**2.09**	**33**	*i* P	**Pn**	**18 05 02.4**	**+0.8**
KDZ				*i* Pg	**Pg**	**18 05 03.9**	**-2.5**
KDZ				*i* S	**Sn**	**18 05 27.9**	**+0.1**
KDZ				*i* Sg	**Sg**	**18 05 33.0**	**-0.5**
FNA	**Florina**	**2.10**	**295**	*e*Pn	**Pn**	**18 05 02.0**	**+0.2**
	comp=Z,2.1nm,0.6s						
NAIG	**Nisos Aigina**	**2.17**	**188**	*e*PN	**Pn**	**18 05 02.5**	**-0.1**
STIP	**Stip**	**2.20**	**325**	*e*Pn	**Pn**	**18 05 04.0**	**+1.0**
STIP	**Stip**	**2.20**	**325**	*e*Pn	**Pn**	**18 05 03.9**	**+0.9**
JAN	**Janina**	**2.35**	**265**	*e*PN	**Pn**	**18 05 04.5**	**-0.6**
PGB	**Panagyurishte**	**2.65**	**5**	*i* P	**Pn**	**18 05 08.5**	**-0.7**
VTS	**Vitosha**	**2.73**	**350**	*i* P	**Pn**	**18 05 11.0**	**+0.7**
VTS	**Vitosha**	**2.73**	**350**	*e*Pn	**Pn**	**18 05 10.9**	**+0.6**
MFT	**Murefte**	**2.74**	**70**	*e*PN	**Pn**	**18 05 09.3**	**-1.1**
EDRB	**Edirne**	**2.91**	**47**	*e*PN	**Pn**	**18 05 19.9**	**+7.1**
BALB	**Balikesir**	**3.09**	**94**	*e*PN	**Pn**	**18 05 21.0**	**+5.6**
BNT	**Bandirma**	**3.13**	**81**	*e*PN	**Pn**	**18 05 17.2**	**+1.4**
JMB	**Yambol**	**3.27**	**38**	*e*Pn	**Pn**	**18 05 18.6**	**+0.9**
JMB	**Yambol**	**3.27**	**38**	*e*Pn	**Pn**	**18 05 18.6**	**+0.9**
DIVS	**Divcibare**	**5.09**	**327**	*i* Pn	**Pn**	**18 05 43.5**	**+0.8**
CVD	**Cernavoda**	**5.38**	**34**	⇑P	**Pn**	**18 05 53.8**	**+7.1**
MTUR	**Matau**	**5.38**	**9**	⇓P	**Pn**	**18 05 47.9**	**+1.1**
MTUR	**Matau**	**5.38**	**9**	⇓P	**Pn**	**18 05 47.9**	**+1.1**
VOIR		**5.59**	**8**	⇓P	**Pn**	**18 05 50.9**	**+1.2**
VOIR		**5.59**	**8**	⇓P	**Pn**	**18 05 50.9**	**+1.3**
MLR	**Muntele Rosu**	**5.78**	**15**	⇓P	**Pn**	**18 05 53.1**	**+0.8**
MLR	**Muntele Rosu**	**5.78**	**15**	⇓P	**Pn**	**18 05 53.1**	**+0.8**
BZS	**Buzias**	**5.94**	**344**	⇑P	**Pn**	**18 05 50.0**	**-4.5**
BZS	**Buzias**	**5.94**	**344**	⇑P	**Pn**	**18 05 50.0**	**-4.5**
VRI	**Vrincioaia**	**6.31**	**18**	⇑P	**Pn**	**18 06 02.1**	**+2.6**
VRI	**Vrincioaia**	**6.31**	**18**	⇑P	**Pn**	**18 06 02.1**	**+2.6**
BURAR	**Bucovina Array**	**7.76**	**7**	⇑P	**Pn**	**18 06 20.4**	**+0.9**
BURAR	**Bucovina Array**	**7.76**	**7**	⇑P	**Pn**	**18 06 20.4**	**+0.9**

*ISCJB **25** 18:04:36.5±0.5, 4646N±002×1287E±003, h11km±5km, Error ellipse: s-maj=3.9km s-min=3.3km az=136.5*
*ROM **25** 18:04:36.5±0.1, 4648N×1291E, h5km, Md2.2/4, Ml1.8/1, Error ellipse: s-maj=1.8km s-min=0.9km az=38.0*
*VIE **25** 18:04:36.8±0.4, 4647N×1287E, h8km, mb1.5/1, ML1.8/4, Error ellipse: s-maj=3.4km s-min=1.9km az=37.0 5 km S of Comeglians*
*PRU **25** 18:04:41.3, 4664N×1274E, h0km*
ISC 25 18:04:37.1±0.4, 4646N±002×1287E±003, h8km±5km, n16, σ0§87/32, 7C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOU	**Zoufplan**	**0.12**	**35**	⇓*i*Pg	**Pg**	**18 04 39.7**	**-0.1**
ZOU				*i* Sg	**Sg**	**18 04 42.0**	**+0.4**
FVI	**Forni Avoltri**	**0.15**	**335**	*e*Pg	**Pg**	**18 04 39.9**	**-0.4**
FVI				Sg	**Sg**	**18 04 42.3**	**-0.2**
	215nm,0.1s						
PLRO	**Paularo**	**0.21**	**65**	⇓*i*Pg	**Pg**	**18 04 41.3**	**0.0**
PLRO				*i* Sg	**Sg**	**18 04 45.1**	**+0.9**
BOO	**Bordano**	**0.21**	**132**	⇓*i*Pg	**Pg**	**18 04 40.8**	**-0.6**
BOO				*i* Sg	**Sg**	**18 04 44.5**	**+0.3**
MPRI	**Monte Prat**	**0.23**	**160**	⇓*i*Pg	**Pg**	**18 04 41.2**	**-0.5**
MPRI				*i* Sg	**Sg**	**18 04 45.3**	**+0.4**
BUA	**Buia**	**0.30**	**144**	⇓*i*Pg	**Pg**	**18 04 42.3**	**-0.6**
BUA				*i* Sg	**Sg**	**18 04 47.9**	**+0.9**
GMNA	**Gemona**	**0.31**	**126**	Pg	**Pg**	**18 04 41.9**	**-1.4**
GMNA				Sg	**Sg**	**18 04 46.6**	**-0.8**
	55nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.34**	**99**	Pg	**Pg**	**18 04 43.8**	**+0.1**
PTCC				Sg	**Sg**	**18 04 49.3**	**+1.1**
	9.0nm,0.2s						
BAD	**Bernadia**	**0.34**	**131**	⇑*i*Pg	**Pg**	**18 04 43.2**	**-0.5**
BAD				*i* Sg	**Sg**	**18 04 49.1**	**+0.8**
MLNI	**Malnisio**	**0.36**	**211**	⇑*i*Pg	**Pg**	**18 04 43.0**	**-1.2**
MLNI				*i* Sg	**Sg**	**18 04 48.6**	**-0.3**
KBA	**Koelnbreinsper**	**0.70**	**27**	⇓*i*Pg	**Pg**	**18 04 49.9**	**-0.7**
KBA				⇑*i*Sg	**Sg**	**18 05 00.3**	**+0.6**
	7.8nm,0.2s						
CTI	**Castel Tesino**	**0.94**	**245**	Pg	**Pg**	**18 04 55.4**	**+0.1**
CTI				Sg	**Sg**	**18 05 09.4**	**+1.9**
WTTA	**Wattenberg**	**1.17**	**314**	⇑*i*Pg	**Pg**	**18 04 58.7**	**-0.8**
WTTA				⇑*i*Sg	**Sg**	**18 05 14.2**	**-0.6**
	9.0nm,0.4s						
MOTA	**Moosalm**	**1.50**	**307**	⇓*i*Pn	**Pn**	**18 05 05.1**	**+0.8**
MOTA				⇓*i*Sg	**Sg**	**18 05 27.4**	**+2.0**
	2.9nm,0.5s						
MOA	**Molln**	**1.68**	**34**	⇑*i*Pg	**Pg**	**18 05 09.1**	**-0.3**
MOA				⇑*i*Sg	**Sg**	**18 05 32.4**	**+1.2**
	2.1nm,0.3s						
KHC	**Kasperske Hory**	**2.71**	**10**	*e*SN	**Sn**	**18 05 54.0**	**0.0**
KHC				*e*SG	**Sg**	**18 06 02.1**	**-2.2**

IDC 25 18:08:26.7±1.4, 1225N×14147E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=71.5km s-min=24.2km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.75**	**192**	P	P	18 15 01.6	+0.5
	2.2nm,0.8s,baz=10,slow=9.6,SNR=8.8						
ASAR	**Alice Springs**	**36.45**	**192**	P	P	18 15 34.3	+1.1
	0.3nm,0.4s,baz=29,slow=6.6,SNR=8.5						
STKA	**Stephens Creek**	**43.87**	**180**	P	P	18 16 33.0	-1.8
	0.7nm,0.4s,baz=359,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**60.18**	**317**	P	P	18 18 37.1	+0.8
	0.9nm,0.7s,baz=86,slow=7.8,SNR=6.1						
FINES	**FINESS Array B**	**90.95**	**334**	P	P	18 21 30.6	-1.9
	0.6nm,0.7s,baz=102,slow=5.8,SNR=3.8						
LPAZ	**La Paz**	**151.05**	**101**	PKPbc	PKPbc	18 28 24.4	+2.8
	0.6nm,0.5s,baz=315,slow=1.4,SNR=3.8						

*ISCJB **25** 18:42:20.0±0.5, 4808N±003×697E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.0km az=110.1*
*LDG **25** 18:42:20.7±0.1, 4808N×704E, h5km, Md2.1/2, Ml1.8/7, Error ellipse: s-maj=2.1km s-min=1.3km az=130.0*
*STR **25** 18:42:20.1±0.3, 4810N×703E, h10km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 25 18:42:20.4±1.2, 4808N±003×701E±005, h13km±14km, n13, σ0§50/19, France

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

ZAL	**Zalesovo**	**23.61**	**6**	P	**P**	**18 56 25.8**	**+2.5**
	comp=E,0.6nm,0.4s,mb3.4,baz=289,slow=5.3,SNR=3.7						
BVAR	**Borovoye Array**	**23.83**	**344**	P	**P**	**18 56 24.8**	**-0.5**
	comp=E,0.2nm,0.4s,mb2.9,baz=178,slow=14,SNR=3.2						
SONM	**Songino Array**	**26.06**	**41**	P	**P**	**18 56 53.8**	**+8.3**
	comp=E,0.2nm,0.6s,mb2.8,baz=251,slow=8.7,SNR=2.5						
FINES	**FINESS Array B**	**47.08**	**328**	P	**P**	**18 59 42.5**	**-1.6**
	comp=E,1.1nm,0.9s,mb3.8,baz=91,slow=7.6,SNR=3.6						

*NEIC **25** 18:52:17.2, 1660N×9416W, h88km, MD3.8(MEX), After MEX.*

MEX 25 18:52:17.2±0.9, 1660N×9416W, h88km±24km, MD3.8, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.85**	**305**	⇓*i*P	Pn	18 52 33.7	-1.3
CMIG				*i*S	Sn	18 52 47.1	-1.3
CCIG	**Comitan**	**1.96**	**99**	*i*P	Pn	18 52 48.8	-0.1
CCIG				*i*S	Sn	18 53 10.4	-2.5
HUIG	**Huatulco**	**2.05**	**247**	*i*P	Pn	18 52 49.2	-0.7
HUIG				*i*S	Sn	18 53 12.4	-2.4
OXX	**Oaxaca**	**2.50**	**282**	*i*P	Pn	18 52 54.0	-2.0
OXX				*i*S	Sn	18 53 25.0	-0.7
TPIG	**Tehuac#an**	**3.56**	**301**	*i*S	Sn	18 53 49.6	-1.5

*NEIC **25** 19:01:46.1, 45.10S×167.39E, h123km, MG3.7(WEL), After WEL.*

WEL 25 19:01:46.8±0.3, 4510S×16741E, h117km±24km, ML3.5/6, Error ellipse: s-maj=2.9km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**205**	PN	Pn	19 02 03.5	-0.4
DCZ				SN	Sn	19 02 16.1	-0.7
DCZ	**Deep Cove**	**0.41**	**205**	P	Pn	19 02 03.5	-0.4
DCZ				S	Sn	19 02 16.1	-0.7
MSZ	**Milford Sound**	**0.57**	**41**	PN	Pn	19 02 05.1	+0.2
MSZ				SN	Sn	19 02 18.2	-0.3
MSZ	**Milford Sound**	**0.57**	**41**	P	Pn	19 02 05.1	+0.2
MLZ	**Mavora Lakes**	**0.59**	**115**	PN	Pn	19 02 04.8	-0.2
MLZ				SN	Sn	19 02 17.9	-0.9
WHZ	**Wether Hill Ro**	**0.88**	**155**	PN	Pn	19 02 07.4	0.0
WHZ				SN	Sn	19 02 22.3	-0.6
WHZ	**Wether Hill Ro**	**0.88**	**155**	P	Pn	19 02 07.4	0.0
WKZ	**Wanaka**	**1.18**	**77**	PN	Pn	19 02 10.5	+0.1
WKZ				SN	Sn	19 02 27.4	-0.9
WKZ	**Wanaka**	**1.18**	**77**	*e*P	Pn	19 02 10.5	+0.1
JCZ	**Jackson Bay**	**1.41**	**44**	PN	Pn	19 02 12.7	-0.3
TUZ	**Tuapeka**	**1.78**	**119**	PN	Pn	19 02 17.2	-0.2
TUZ	**Tuapeka**	**1.78**	**119**	*e*P	Pn	19 02 17.2	-0.2
LBZ	**Lake Benmore**	**2.10**	**71**	PN	Pn	19 02 20.0	-1.4
LBZ	**Lake Benmore**	**2.10**	**71**	*e*P	Pn	19 02 20.0	-1.4
FOZ	**Fox Glacier**	**2.25**	**48**	*e*P	Pn	19 02 22.9	-0.3
ODZ	**Otahua Downs**	**2.29**	**90**	PN	Pn	19 02 22.8	-1.0
ODZ	**Otahua Downs**	**2.29**	**90**	*e*P	Pn	19 02 22.8	-1.0
RPZ	**Rata Peaks**	**2.96**	**63**	PN	Pn	19 02 30.5	-2.0
RPZ	**Rata Peaks**	**2.96**	**63**	*e*P	Pn	19 02 30.5	-2.0

*ISCJB **25** 19:15:58.7±1.0, 500N±0.1×289W±0.2, h10km, mb3.9/9, MS3.1/6, Error ellipse: s-maj=23.6km s-min=9.8km az=77.1*
*IDC **25** 19:15:58.4±1.7, 4990N×2901W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/25, mbtmp3.8/7, MS3.2/6, Ms1 3.3/6, ms1mx3.1/30, Error ellipse: s-maj=44.4km s-min=32.3km az=61.0*
*NEIC **25** 19:16:00.4±0.8, 4991N×2891W, h10km, mb3.6/8, Error ellipse: s-maj=22.4km s-min=7.9km az=215.0*
*CSEM **25** 19:16:01.4±0.1, 4992N×2884W, h33km, mb4.0/2, Error ellipse: s-maj=5.8km s-min=2.7km az=34.0*

ISC 25 19:16:00.5±1.0, 500N±01×289W±02, h10km, n40, σ0§66/32, mb3.9/9, MS3.1/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**15.37**	**110**	P	**Pn**	**19 19 35.8**	**-1.6**
	1.0nm,0.2s,SNR=5.6						
EMAZ	**Mazaricos**	**15.37**	**110**	P	**Pn**	**19 19 35.8**	**-1.5**
EZAM	**Zamans**	**15.99**	**112**	P	**Pn**	**19 19 45.1**	**-0.5**
	1.6nm,0.2s,SNR=4.0						
EZAM	**Zamans**	**15.99**	**112**	P	**Pn**	**19 19 45.1**	**-0.5**
	1.6nm,0.2s						
EPON	**Pontenova**	**16.28**	**106**	P	**Pn**	**19 19 48.5**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**16.28**	**106**	P	**Pn**	**19 19 48.5**	**-0.8**
	0.3nm,0.2s						
ELOB	**Lobios**	**16.54**	**111**	P	**Pn**	**19 19 52.2**	**-0.4**
	0.9nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**16.54**	**111**	P	**Pn**	**19 19 52.2**	**-0.3**
	0.9nm,0.2s						
ERUA	**La Rua**	**16.80**	**109**	P	**Pn**	**19 19 56.6**	**+0.8**
	1.0nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**16.80**	**109**	P	**Pn**	**19 19 56.6**	**+0.8**
	1.0nm,0.3s						
ECAL	**Calabor**	**17.30**	**109**	P	**Pn**	**19 20 03.8**	**+1.7**
	SNR=7.9						
ECAL	**Calabor**	**17.30**	**109**	P	**Pn**	**19 20 03.8**	**+1.7**
EARI	**Arriondas**	**17.51**	**103**	P	**Pn**	**19 20 04.6**	**-0.1**
	0.4nm,0.2s,SNR=5.3						
EARI	**Arriondas**	**17.51**	**103**	P	**Pn**	**19 20 04.6**	**-0.1**
	0.4nm,0.2s						
ELAN	**Lanestosa**	**18.66**	**101**	P	**Pn**	**19 20 19.8**	**+0.9**
	0.8nm,0.2s,SNR=4.4						
ELAN	**Lanestosa**	**18.66**	**101**	P	**Pn**	**19 20 19.8**	**+0.9**
	0.8nm,0.2s						
EBIE	**Bielsa**	**21.21**	**99**	P	pP	19 20 56.1	+6.9
	SNR=7.9						
EBIE	**Bielsa**	**21.21**	**99**	P	pP	19 20 56.1	+6.9
NOA	**NORSAR Array B**	**24.83**	**48**	LR	LR	19 29 15.3	
	comp=Z,51nm,19.7s,MS3.0,baz=335,slow=32						
DAVOX	**Davos**	**25.73**	**82**	LR	LR	19 31 27.2	
	comp=Z,86nm,18.2s,MS3.3,baz=322,slow=36						
HFS	**Hagfors**	**25.95**	**51**	LR	LR	19 30 28.1	
	comp=Z,22nm,20.5s,MS2.7,baz=259,slow=33						
GERES	**GERESS Array B**	**27.44**	**76**	LR	LR	19 31 40.7	
	comp=Z,58nm,19.0s,MS3.2,baz=290,slow=34						
FINES	**FINESS Array B**	**32.01**	**48**	P	**P**	**19 22 27.1**	**+0.1**
	1.1nm,0.7s,mb3.8,baz=251,slow=12,SNR=4.6						
FINES				LR	LR	19 33 34.4	
	comp=Z,38nm,19.4s,MS3.1,baz=135,slow=33						
FINES	**FINESS Array B**	**32.01**	**48**	P	**P**	**19 22 27.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**44.41**	**135**	P	**P**	**19 24 11.3**	**-0.1**
	1.2nm,0.8s,mb3.6,baz=341,slow=7.9,SNR=5.4						
AKTK	**Aktyubinsk**	**52.44**	**54**	P	**P**	**19 25 13.1**	**-0.1**
AKTK	**Aktyubinsk**	**52.44**	**54**	P	**P**	**19 25 13.1**	**-0.1**
AKTO	**Aktyubinsk**	**52.44**	**54**	P	**P**	**19 25 13.1**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=300,slow=9.7,SNR=4.3						
ILAR	**Eielson Array**	**55.96**	**333**	P	**P**	**19 25 38.4**	**-0.5**
	0.4nm,0.9s,mb3.5,baz=34,slow=2.8,SNR=4.9						
PV10	**Paradox Valley**	**56.04**	**291**	*e*P	**P**	**19 25 39.9**	**+0.4**
PV10	**Paradox Valley**	**56.04**	**291**	*e*P	**P**	**19 25 39.9**	**+0.4**
ZRNK	**Zerenda**	**56.32**	**46**	P	**P**	**19 25 41.6**	**+0.1**
	1.7nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**56.32**	**46**	P	**P**	**19 25 41.6**	**+0.1**
	1.7nm,1.0s,mb4.0						
BRVK	**Borovoye**	**56.84**	**45**	*e*P	**P**	**19 25 45.1**	**-0.1**
	1.2nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**56.91**	**45**	P	**P**	**19 25 46.2**	**+0.5**
	1.3nm,0.7s,mb4.1,baz=298,slow=5.9,SNR=10						
MKAR	**Makanchi Array**	**66.75**	**44**	P	**P**	**19 26 52.0**	**+0.1**
	1.5nm,0.7s,mb4.1,baz=331,slow=5.6,SNR=18						
MKAR	**Makanchi Array**	**66.75**	**44**	P	**P**	**19 26 52.0**	**0.0**
LPAZ	**La Paz**	**74.50**	**219**	LR	LR	19 57 40.5	
	comp=Z,20nm,18.5s,MS3.4,baz=82,slow=34						
SONM	**Songino Array**	**75.21**	**29**	P	**P**	**19 27 42.9**	**-0.4**
	0.8nm,0.8s,mb3.7,baz=310,slow=4.6,SNR=7.8						
ASAR	**Alice Springs**	**150.48**	**33**	PKPbc	PKPbc	19 35 51.3	-1.1
	0.3nm,0.5s,baz=351,slow=2.3,SNR=14						

*ISCJB **25** 19:35:00.4±1.1, 7005N±008×1434W±02, h10km, Error ellipse: s-maj=12.8km s-min=6.7km az=129.0*
*NEIC **25** 19:35:01.7, 6996N×14331W, h1km, mb3.9/1, ML3.8(AEIC), After AEIC.*
*PGC **25** 19:35:06.3, 6996N×14340W, h15km, ML2.9/1, Northeastern Alaska.*

ISC 25 19:35:02.3±1.1, 7007N±008×1434W±02, h10km, n18, σ1§09/29, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**2.69**	**190**	P	**Pn**	**19 35 45.0**	**-0.6**
BM3				S	**Sn**	**19 36 18.3**	**0.0**
COLD	**Coldfoot**	**3.78**	**224**	P	**Pn**	**19 36 00.6**	**0.0**
COLD				S	**Sn**	**19 36 47.7**	**+2.6**
INK	**Inuvik**	**3.94**	**112**	Pn	**Pn**	**19 36 04.9**	**+2.1**
INK				Sn	**Sn**	**19 36 49.1**	**0.0**
INK				Trac		19 36 59.5	
	comp=Z,8.0nm,0.3s						
INK	**Inuvik**	**3.94**	**112**	*e*Pn	**Pn**	**19 36 04.4**	**+1.7**
IL1	**Eielson Array**	**5.48**	**196**	P	**Pn**	**19 36 23.1**	**-0.9**
COLA	**College**	**5.49**	**200**	P	**Pn**	**19 36 22.6**	**-1.5**
IM01	**Indian Mountai**	**5.63**	**228**	P	**Pn**	**19 36 25.8**	**-0.1**
DAWY	**Dawson**	**6.22**	**164**	Pn	**Pn**	**19 36 34.9**	**+0.8**
DAWY				Sn	**Sn**	**19 37 39.9**	**-5.4**
DAWY				Trac		19 37 42.5	
	comp=Z,26nm,0.8s						
DAWY	**Dawson**	**6.22**	**164**	P	**Pn**	**19 36 34.6**	**+0.4**
DAWY				S	**Sn**	**19 37 40.6**	**-4.7**
DOT	**Dot Lake**	**6.45**	**183**	P	**Pn**	**19 36 37.0**	**-0.3**
MCK	**McKinley**	**6.72**	**202**	P	**Pn**	**19 36 40.0**	**-1.0**
PAX	**Paxson**	**7.17**	**188**	P	**Pn**	**19 36 46.9**	**-0.3**
HYT	**Haines Junctio**	**9.59**	**162**	Pn	**Pn**	**19 37 21.6**	**+1.2**
WHY	**Whitehorse**	**10.07**	**155**	Pn	**Pn**	**19 37 27.8**	**+0.8**
WHY				Trac		19 39 16.8	
	comp=Z,2.0nm,0.4s						
YKW3	**Yellowknife Ar**	**13.65**	**109**	Pn	**Pn**	**19 38 13.3**	**-2.6**
YKW3				Pn	**Pn**	**19 38 14.3**	**-1.6**
YKW3				Sn	**Sn**	**19 40 36.1**	**-12**
YKW3				Sn	**Sn**	**19 40 37.5**	**-10**
YKW3				Trac		19 40 39.5	
	comp=Z,2.0nm,0.4s						
YKW3				Trac		19 40 39.6	
	comp=Z,2.0nm,0.4s						
YKW3	**Yellowknife Ar**	**13.65**	**109**	*e*Pn	**Pn**	**19 38 13.7**	**-2.3**
YKW3				*e*Sn	**Sn**	**19 40 37.7**	**-10**
RES	**Resolute Bay**	**14.99**	**50**	Pn	**Pn**	**19 38 35.1**	**+1.0**
RES				Sn	**Sn**	**19 41 11.4**	**-8.8**
RES				Trac		19 41 19.6	
	comp=Z,1.0nm,0.4s						
RES	**Resolute Bay**	**14.99**	**50**	*e*Pn	**Pn**	**19 38 34.2**	**+0.1**
	1.6nm,0.4s						
RES				*e*Sn	**Sn**	**19 41 14.7**	**-5.5**

*ISCJB **25** 19:45:53.5±0.6, 4444N±002×7.19E±005, h5km, Error ellipse: s-maj=5.7km s-min=2.6km az=128.2*
*STR **25** 19:45:53.9±0.1, 4445N×725E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **25** 19:45:54.0±0.1, 4446N×724E, h2km, Md1.7/1, Ml1.9/5, Error ellipse: s-maj=1.4km s-min=0.6km az=63.0*

ISC 25 19:45:53.6±0.8, 4445N±003×722E±006, h17km±9km, n13, σ0§34/23, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.29**	**276**	Pg	**Pg**	**19 46 00.3**	**+0.4**
SURF				Sg	**Sg**	**19 46 04.6**	**+0.5**
OG22	**Abries**	**0.42**	**333**	Pg	**Pg**	**19 46 02.2**	**0.0**
OG22				Sg	**Sg**	**19 46 07.9**	**0.0**
MBDF	**Montbardon**	**0.42**	**311**	*e*Pg	**Pg**	**19 46 02.6**	**+0.4**
MBDF				*e*Sg	**Sg**	**19 46 08.2**	**+0.2**
	21nm,0.3s						
AUTN	**L'Aution**	**0.48**	**161**	Pg	**Pg**	**19 46 03.3**	**+0.1**
AUTN				Sg	**Sg**	**19 46 09.5**	**-0.2**
SAOF	**Saorge**	**0.52**	**152**	Pg	**Pg**	**19 46 04.0**	**0.0**
SAOF				Sg	**Sg**	**19 46 10.7**	**-0.4**
MVIF	**Mont Vial**	**0.55**	**185**	Pg	**Pg**	**19 46 05.0**	**+0.4**
MVIF				Sg	**Sg**	**19 46 12.3**	**+0.2**
SBF	**Sospel**	**0.61**	**165**	*e*Pg	**Pg**	**19 46 05.8**	**+0.2**
SBF				*e*Sg	**Sg**	**19 46 13.5**	**-0.2**
	2.1nm,0.2s						
FRF	**La Foret Royal**	**0.98**	**205**	*e*Pg	**Pg**	**19 46 12.6**	**0.0**
FRF	**La Foret Royal**	**0.98**	**205**	*e*Pn	**Pn**	**19 46 13.0**	**+0.5**
FRF				*e*Sg	**Sg**	**19 46 25.4**	**0.0**
	4.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.06**	**297**	*e*Pg	**Pg**	**19 46 14.0**	**-0.2**
ORIF				*e*Sg	**Sg**	**19 46 27.0**	**-1.1**
	2.0nm,0.2s						
LPG	**La Plagne**	**1.10**	**343**	*e*Sg	**Sg**	**19 46 29.1**	**-0.2**
	1.4nm,0.3s						
LMR	**La Mourre**	**1.23**	**205**	*e*Pg	**Pg**	**19 46 17.0**	**-0.3**
LMR				*e*Sg	**Sg**	**19 46 33.0**	**-0.3**
	5.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.27**	**249**	*e*Sg	**Sg**	**19 46 34.7**	**0.0**
	0.7nm,0.1s						

*IDC **25** 20:04:44.7±2.9, 4428N×12922W, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.5/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/20, Error ellipse: s-maj=48.2km s-min=20.5km az=53.0*
*ISCJB **25** 20:04:47.9±1.9, 4426N±005×1292W±02, h33km±20km, mb3.5/2, MS3.2/3, Error ellipse: s-maj=20.3km s-min=8.3km az=159.1*
*NEIC **25** 20:04:47.2±1.2, 4427N×12925W, h10km, ML3.7, Error ellipse: s-maj=14.1km s-min=6.7km az=72.0*

ISC 25 20:04:50.3±1.6, 4427N±005×1292W±02, h43km±20km, n41, σ0§90/41, mb3.5/2, MS3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLO	**Nicolai Mounta**	**4.46**	**64**	P	**Pn**	**20 05 55.1**	**-0.2**
BMW	**Boistfort Moun**	**4.75**	**60**	P	**Pn**	**20 05 58.3**	**-1.1**
BROR	**Big Rock Looko**	**4.85**	**88**	P	**Pn**	**20 06 00.5**	**-0.2**
OOW	**Octopus West**	**4.92**	**43**	P	**Pn**	**20 06 01.3**	**-0.4**
OCWA	**Octopus Mounta**	**4.94**	**43**	*e*Pn	**Pn**	**20 06 00.9**	**-1.0**
OCWA				*e*Sn	**Sn**	**20 06 57.8**	**+0.1**
BBOR	**Butler Butte**	**4.94**	**104**	P	**Pn**	**20 05 59.9**	**-2.0**
HBO	**Huckleberry Mo**	**4.98**	**93**	P	**Pn**	**20 06 02.8**	**+0.3**
IRO	**Indian Ridge**	**5.01**	**91**	P	**Pn**	**20 06 03.2**	**+0.4**
CPW	**Capitol Peak**	**5.04**	**55**	P	**Pn**	**20 06 02.4**	**-1.0**
OTR	**Olympics--Tyee**	**5.09**	**40**	P	**Pn**	**20 06 04.1**	**+0.1**
FRIS	**Frissel Point**	**5.10**	**88**	P	**Pn**	**20 06 04.0**	**-0.2**
OSD	**Olympics--Snow**	**5.22**	**45**	P	**Pn**	**20 06 05.6**	**-0.2**
YBH	**Yreka Blue Hor**	**5.39**	**116**	Pn	**Pn**	**20 06 09.4**	**+1.2**
	0.3nm,0.3s,baz=286,slow=12,SNR=10						
YBH				LR	LR	20 07 52.2	
	comp=Z,160nm,19.0s,baz=243,slow=35						
LMW	**Ladd Mountain**	**5.42**	**61**	P	**Pn**	**20 06 08.7**	**+0.1**
GMW	**Gold Mountain**	**5.55**	**52**	P	**Pn**	**20 06 10.1**	**-0.2**
ASR	**Mount Adams--S**	**5.70**	**68**	P	**Pn**	**20 06 12.8**	**+0.5**
LON	**Longmire**	**5.76**	**62**	P	**Pn**	**20 06 13.8**	**+0.6**
GLK	**Glacier Lake**	**5.82**	**64**	P	**Pn**	**20 06 14.7**	**+0.7**
WPW	**White Pass**	**5.91**	**63**	P	**Pn**	**20 06 15.3**	**+0.1**
FMW	**Mount Fremont**	**5.92**	**61**	P	**Pn**	**20 06 15.5**	**+0.1**
MCW	**Mount Constitu**	**6.23**	**43**	P	**Pn**	**20 06 20.0**	**+0.4**
CMW	**Cultus Mountai**	**6.42**	**47**	P	**Pn**	**20 06 23.3**	**+0.9**
TBM	**Table Mountain**	**6.69**	**61**	P	**Pn**	**20 06 26.4**	**+0.6**
RPW	**Rockport**	**6.76**	**49**	P	**Pn**	**20 06 26.9**	**-0.1**
HAWA	**Hanford**	**7.14**	**69**	*e*Pn	**Pn**	**20 06 29.7**	**-2.4**
	0.4nm,0.6s						
H2OWA	**Water**	**7.21**	**69**	P	**Pn**	**20 06 33.7**	**+0.5**
OHCM	**Honcut**	**7.58**	**128**	*e*Pn	**Pn**	**20 06 38.1**	**-0.1**
BBB	**Bella Bella**	**7.95**	**5**	Pn	**Pn**	**20 06 45.2**	**+1.9**
	1.0nm,0.3s,baz=222,slow=11,SNR=10						
CMB	**Columbia Colle**	**9.11**	**130**	*e*Pn	**Pn**	**20 06 58.5**	**-0.6**
	8.5nm,1.4s						
NEW	**Newport**	**9.27**	**60**	Pn	**Pn**	**20 06 60.0**	**-1.4**
	0.3nm,0.3s,baz=248,slow=17,SNR=4.2						
NEW				LR	LR	20 10 32.1	
	comp=Z,202nm,19.4s,baz=240,slow=37						
NVAR	**Mina Array Bea**	**10.05**	**122**	Pn	**Pn**	**20 07 11.3**	**-0.8**
	0.2nm,0.3s,baz=300,slow=13,SNR=12						
NVAR	**Mina Array Bea**	**10.05**	**122**	Pn	**Pn**	**20 07 11.3**	**-0.8**
CHMT	**Chamberlain Mo**	**11.49**	**71**	*e*Pn	**Pn**	**20 07 33.2**	**+1.6**
GCMT	**Greycliff**	**13.90**	**77**	*e*Pn	**Pn**	**20 08 13.5**	**+8.9**
NEN	**Nelson**	**13.96**	**123**	*e*Pn	**Pn**	**20 08 01.4**	**-4.1**
LDFC	**Landfair**	**14.20**	**125**	*e*Pn	**Pn**	**20 08 09.7**	**+1.1**
PV01	**Paradox Valley**	**16.68**	**104**	*e*Pn	**Pn**	**20 08 43.9**	**+3.1**
YKA	**Yellowknife Ar**	**20.13**	**20**	P	**P**	**20 09 20.3**	**-0.3**
	1.2nm,0.8s,baz=212,slow=11,SNR=10						
ILAR	**Eielson Array**	**22.80**	**340**	P	**P**	**20 09 48.5**	**-0.8**
	2.4nm,1.1s,mb3.5,baz=163,slow=7.9,SNR=10						
ILAR				LR	LR	20 18 47.1	
	comp=Z,66nm,18.3s,MS3.1,baz=177,slow=37						
ULM	**Lac du Bonnet**	**23.26**	**63**	P	**P**	**20 09 54.1**	**+0.1**
	0.9nm,0.6s,mb3.4,baz=293,slow=7.7,SNR=2.8						
ULM				LR	LR	20 19 25.8	
	comp=Z,126nm,19.2s,MS3.4,baz=222,slow=38						
INK	**Inuvik**	**24.20**	**356**	LR	LR	20 17 37.5	
	comp=Z,56nm,21.6s,MS3.0,baz=325,slow=32						

WEL 25 20:12:11.8±0.4, 3885S×17781E, h46km±4km, ML3.6/5, 1C, Error ellipse: s-maj=3.3km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.21**	**211**	PN	Pn	20 12 19.7	-0.1
KNZ				SN	Sn	20 12 25.8	+0.4
KNZ				SN	Sn	20 12 26.0	+0.6
MWZ	**Matawai**	**0.56**	**336**	⇑PN	Pn	20 12 22.6	-0.8
MWZ				SN	Sn	20 12 31.1	-0.8
URZ	**Urewera**	**0.80**	**316**	PN	Pn	20 12 26.7	0.0
URZ				SN	Sn	20 12 37.9	+0.3
PUZ	**Puketiti**	**0.85**	**25**	PN	Pn	20 12 26.8	-0.4
PUZ				SN	Sn	20 12 38.7	0.0
BKZ	**Black Stump Fm**	**1.08**	**252**	PN	Pn	20 12 30.0	-0.4
TAZ	**Tarawera**	**1.19**	**300**	PN	Pn	20 12 32.8	+0.8
PATZ	**Paeroa**	**1.30**	**290**	PN	Pn	20 12 34.5	+1.0
MXZ	**Matakaoa Point**	**1.34**	**17**	PN	Pn	20 12 34.0	+0.1
WIZ	**White Island**	**1.40**	**339**	PN	Pn	20 12 35.3	+0.4

IDC 25 20:13:28.4±2.8, 307S×12663E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=374.8km s-min=26.9km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.38**	**156**	P	Pn	20 17 44.1	-0.5
	0.1nm,0.3s,baz=332,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**21.65**	**162**	P	P	20 18 21.1	+0.8
	0.4nm,0.7s,baz=343,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**63.13**	**327**	P	P	20 23 58.0	+0.1
	0.4nm,0.7s,baz=119,slow=8.2,SNR=6.0						

MAN 25 20:14:50.5, 962N×12633E, h26km, mb3.5, ML4.7, MS2.8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.85**	**281**	*e*P	Pb	20 15 06.6	+0.1
SCPH				*e*S	Sb	20 15 18.5	+0.9
BIPH	**Bislig**	**1.43**	**179**	⇓*i*P	Pn	20 15 25.7	+11
CGP	**Cagayan de Oro**	**1.99**	**235**	⇓*e*P	Pn	20 15 23.9	+1.4
CGP				*e*S	Sn	20 15 53.9	+7.4
PLP	**Palo**	**2.03**	**319**	*e*P	Pn	20 15 23.2	+0.1

*ISCJB **25** 20:25:07.2±0.2, 4723N±001×1444E±002, h8km, Error ellipse: s-maj=2.2km s-min=1.7km az=58.7*
*VIE **25** 20:25:07.9±0.3, 4720N×1449E, h8km±9km, mb2.2/5, ML3.1/5, Error ellipse: s-maj=2.0km s-min=1.6km az=105.0 1 km SSW of Sankt Georgen ob Judenburg felt 4 EMS98 at Unzmarkt / STYRIA*
*LDG **25** 20:25:08.9±0.2, 4710N×1465E, h10km, Ml3.1/9, Error ellipse: s-maj=4.5km s-min=3.4km az=155.0*
*NEIC **25** 20:25:09.6±0.6, 4714N×1459E, h15km, ML2.9(BRG), ML3.0(FUR), ML3.5(SZGRF), Error ellipse: s-maj=9.1km s-min=7.9km az=81.0*
*CSEM **25** 20:25:09.0±0.1, 4711N×1451E, h2km, ML3.4/8, Error ellipse: s-maj=1.3km s-min=1.0km az=117.0*
*BGR **25** 20:25:09.3±0.3, 4722N×1450E, h10km, ML2.8, Error ellipse: s-maj=6.7km s-min=4.4km az=49.0*
*PRU **25** 20:25:13.4, 4746N×1460E, h0km*

ISC 25 20:25:08.6±0.2, 4722N±001×1447E±002, h8km, n112, σ1§31/176, 29C-13D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.65**	**348**	⇓Sg	**Sg**	**20 25 29.8**	**+0.2**
	comp=E,74nm,0.2s						
MOA	**Molln**	**0.65**	**348**	⇓*e*Pg	**Pg**	**20 25 20.1**	**-1.0**
	36nm,0.3s,SNR=17						
MOA				⇓*i*Sg	**Sg**	**20 25 29.8**	**+0.2**
	74nm,0.2s						
MOA	**Molln**	**0.65**	**348**	*e*Pg	**Pg**	**20 25 21.5**	**+0.4**
MOA				*e*Sg	**Sg**	**20 25 31.3**	**+1.7**
MOA	**Molln**	**0.65**	**348**	Pg	**Pg**	**20 25 20.1**	**-1.0**
	36nm,0.3s,SNR=17						
MOA				Sg	**Sg**	**20 25 29.8**	**+0.2**
	74nm,0.2s						
OBKA	**Obir**	**0.71**	**176**	*e*Pg	**Pg**	**20 25 21.1**	**-1.2**
	comp=Z,104nm,0.2s,SNR=275						
OBKA	**Obir**	**0.71**	**176**	⇓Sg	**Sg**	**20 25 31.2**	**-0.3**
	comp=E,233nm,0.3s						
OBKA	**Obir**	**0.71**	**176**	⇓*i*Pg	**Pg**	**20 25 22.0**	**-0.3**

SCE	Schlegeis	1.89	266	⇓iPg	Pg	20 25 43.5	-1.4
WTTA	Wattenberg	1.93	272	⇑ePg	Pg	20 25 44.5	-1.1
	comp=Z,18nm,0.2s,SNR=45						
WTTA	Wattenberg	1.93	272	⇑Sg	Sg	20 26 12.8	+2.2
	comp=Z,87nm,0.6s						
WTTA	Wattenberg	1.93	272	⇑ePg	Pg	20 25 44.4	-1.2
	comp=Z,18nm,0.2s,SNR=45						
WTTA				⇑iSg	Sg	20 26 12.8	+2.2
	comp=Z,87nm,0.6s						
WATA	Walderalm	1.97	275	⇑Sg	Sg	20 26 13.9	+1.9
	comp=Z,24nm,0.3s						
WATA	Walderalm	1.97	275	⇑ePg	Pg	20 25 45.7	-0.7
	comp=Z,9.1nm,0.2s,SNR=15						
WATA				⇑iSg	Sg	20 26 13.9	+1.9
	comp=Z,24nm,0.3s						
KHC	Kasperske Hory	2.01	343	ePN	Pn	20 25 43.8	+1.0
KHC				x	x	20 25 57.5	
KHC				eSG	Sg	20 26 10.3	-2.8
	comp=Z,112nm,0.2s						
ZST	Bratislava	2.03	60	ePN	Pn	20 25 45.1	+2.0
ZST				eSN	Sn	20 26 10.7	+2.1
WET	Wettzell	2.20	332	ePn	Pn	20 25 47.2	+1.8
WET				eSg	Sg	20 26 18.9	-0.5
SQTA	Sankt Quirin	2.22	271	⇑Sg	Sg	20 26 22.4	+2.4
	comp=Z,34nm,0.3s						
SQTA	Sankt Quirin	2.22	271	⇑ePg	Pg	20 25 50.0	-1.2
	comp=Z,8.4nm,0.2s,SNR=17						
SQTA				⇑iSg	Sg	20 26 22.4	+2.4
	comp=Z,34nm,0.3s						
CTI	Castel Tesino	2.27	240	Pn	Pn	20 25 49.2	+2.9
MOTA	Moosalm	2.29	274	⇓eSg	Sg	20 26 23.9	+1.6
	comp=Z,53nm,0.5s,SNR=15						
MOTA	Moosalm	2.29	274	⇓ePn	Pn	20 25 49.8	+3.2
	comp=Z,2.3nm,0.2s						
MOTA				⇓eSg	Sg	20 26 23.9	+1.6
	comp=Z,53nm,0.5s,SNR=15						
MOTA	Moosalm	2.29	274	Pn	Pn	20 25 49.8	+3.1
	comp=Z,2.3nm,0.2s						
MOTA				Sg	Sg	20 26 23.9	+1.6
	comp=Z,53nm,0.5s,SNR=15						
APPI	Appiano	2.34	253	Pn	Pn	20 25 50.2	+2.8
SMOL	Smolenice	2.38	56	eSG	Sg	20 26 23.8	-1.3
VRAC	Vranov	2.53	33	ePn	Pn	20 25 50.3	+0.4
SRO	Srobarova	2.67	76	ePN	Pn	20 25 54.0	+2.1
SRO				eSG	Sg	20 26 35.6	+1.1
PRU	Pruhonice	2.78	1	eSG	Sg	20 26 33.4	-4.4
ROTZ	Rotzenmuhle	2.96	330	eSn	Sn	20 26 33.0	+1.4
ROTZ				eSg	Sg	20 26 42.2	-1.6
MANZ	Manzenberg	3.19	331	ePn	Pn	20 26 00.7	+1.8
MANZ				eSg	Sg	20 26 49.8	-1.2
MORC	Moravsky Berou	3.28	37	ePn	Pn	20 26 01.5	+1.3
MORC	Moravsky Berou	3.28	37	ePn	Pn	20 26 01.5	+1.2
MORC				eSn	Sn	20 26 42.6	+3.2
GRA1	Grafenberg Arr	3.29	320	Pn	Pn	20 26 01.8	+1.4
GRA1				Sg	Sg	20 26 53.5	-0.7
GRF	Grafenberg Arr	3.29	320	ePn	Pn	20 26 01.8	+1.5
GRF				eSg	Sg	20 26 53.5	-0.7
GRF	Grafenberg Arr	3.29	320	ePn	Pn	20 26 01.8	+1.4
GRF				eSg	Sg	20 26 53.5	-0.7
NKC	Novy Kostel	3.30	337	eSG	Sg	20 26 52.8	-1.9
	comp=Z,45nm,0.5s						
DPC	Dobruska-Polom	3.37	21	eSG	Sg	20 26 53.4	-3.4
	comp=Z,46nm,0.6s						
TANN	Tannenbergstha	3.47	338	ePn	Pn	20 26 04.8	+2.0
TANN				eSg	Sg	20 26 58.3	-1.6
WERD	Werda	3.54	337	ePn	Pn	20 26 05.5	+1.7
WERD				eSg	Sg	20 27 00.9	-1.3
BRG	Berggiesshubel	3.68	355	eSn	Sn	20 26 48.4	-0.8
BRG	Berggiesshubel	3.68	355	PN	Pn	20 26 07.0	+1.3
BRG				PG	Pg	20 26 17.5	-1.6
BRG				SN	Sn	20 26 48.2	-1.0
BRG				SG	Sg	20 27 03.2	-3.5
	comp=Z,11nm,0.4s						
BRG	Berggiesshubel	3.68	355	Pn	Pn	20 26 07.0	+1.3
BRG				Sn	Sn	20 26 48.4	-0.8
FBE	Freiberg	3.78	349	eSn	Sn	20 26 52.4	+0.6
KSP	Ksiaz	3.82	18	ePn	Pn	20 26 09.5	+1.8
KSP				ePg	Pg	20 26 18.6	-3.3
KSP				eSg	Sg	20 27 08.5	-2.9
MOX	Moxa	3.91	332	ePn	Pn	20 26 10.4	+1.5
MOX				eSg	Sg	20 27 12.2	-2.1
MOX	Moxa	3.91	332	ePn	Pn	20 26 10.4	+1.4
MOX				eSn	Sn	20 26 56.0	+0.9
MOX	Moxa	3.91	332	ePN	Pn	20 26 10.4	+1.4
MOX				eSN	Sn	20 26 56.0	+0.9
MOX				eSG	Sg	20 27 12.6	-1.7
CLL	Collm	4.21	347	ePg	Pg	20 26 29.0	-0.2
CLL				e(Sn)	Sn	20 27 05.0	+2.7
CLL				eSg	Sg	20 27 20.0	-3.7
	comp=Z,21nm,0.8s						
CDF	Champ du Feu	4.99	287	ePn	Pn	20 26 24.5	+0.7
CDF	Champ du Feu	4.99	287	ePg	Pg	20 26 42.6	-1.6
CDF				eSg	Sg	20 27 50.0	+1.1
	comp=Z,7.3nm,0.5s						
CDF	Champ du Feu	4.99	287	ePg	Pg	20 26 42.6	-1.6
CDF				eSg	Sg	20 27 50.0	+1.1
	comp=Z,3.7nm,0.5s						
HINF	Hinteralfeld	5.20	279	ePn	Pn	20 26 26.8	+0.2
HINF				eSn	Sn	20 27 23.7	-3.0
	comp=Z,6.9nm,0.4s						
HINF				eSg	Sg	20 27 55.8	+0.4
	comp=Z,6.0nm,0.5s						
HINF	Hinteralfeld	5.20	279	ePn	Pn	20 26 26.8	+0.2
HINF				eSn	Sn	20 27 23.7	-3.0
	comp=Z,3.5nm,0.4s						
HINF				eSg	Sg	20 27 55.8	+0.4
	comp=Z,3.0nm,0.5s						
HAU	Haudompre	5.55	281	ePn	Pn	20 26 33.0	+1.6
HAU				eSg	Sg	20 28 06.4	-0.4
	comp=Z,6.5nm,0.4s						
HAU	Haudompre	5.55	281	ePn	Pn	20 26 33.0	+1.6
HAU				eSg	Sg	20 28 06.4	-0.4
	comp=Z,3.2nm,0.4s						
LPG	La Plagne	5.61	255	ePn	Pn	20 26 32.7	+0.4
LPG	La Plagne	5.61	255	eP	Pn	20 26 35.4	+3.1
LPG	La Plagne	5.61	255	eP	Pn	20 26 35.4	+3.1
LPL	La Plagne	5.62	255	ePn	Pn	20 26 31.5	-0.9
LPL	La Plagne	5.62	255	eP	Pn	20 26 35.1	+2.7
LPL	La Plagne	5.62	255	eP	Pn	20 26 35.1	+2.7
CABF	La Chapelle	5.78	267	ePn	Pn	20 26 33.0	-1.5
CABF				eSn	Sn	20 27 38.3	-2.6
	comp=Z,1.3nm,0.3s						
MBDF	Montbardon	5.91	248	ePn	Pn	20 26 36.0	-0.4
MBDF	Montbardon	5.91	248	eP	Pn	20 26 40.9	+4.5
MBDF	Montbardon	5.91	248	eP	Pn	20 26 40.9	+4.5
ORIF	Oris-en-Rattie	6.40	252	ePn	Pn	20 26 42.9	-0.2
ORIF	Oris-en-Rattie	6.40	252	eP	Pn	20 26 46.1	+3.0
ORIF	Oris-en-Rattie	6.40	252	eP	Pn	20 26 46.1	+3.0
SFTF	Sexfontaines	6.44	282	eSg	Sg	20 28 33.1	-2.3
	comp=Z,5.2nm,0.5s						
SFTF	Sexfontaines	6.44	282	eSg	Sg	20 28 33.1	-2.3
	comp=Z,2.6nm,0.5s						
MEZF	Maizieres J'vi	6.47	285	eSg	Sg	20 28 36.4	+0.2
	comp=Z,2.3nm,0.4s						
SMRF	Simiane la Rot	7.03	246	ePn	Pn	20 26 51.5	-0.3
VIVF	Saint-Julien-l	7.21	254	ePn	Pn	20 26 53.9	-0.4
SSF	Saint Saulge	7.48	273	ePn	Pn	20 26 59.2	+1.3
AVF	Avril sur Loir	7.61	271	ePn	Pn	20 26 59.8	0.0
BGF	Bois d'Agland	7.99	270	ePn	Pn	20 27 05.4	+0.4
BGF				eSn	Sn	20 28 31.4	-4.1
	comp=Z,2.5nm,0.3s						
LASF	Ste Croix	8.07	251	ePn	Pn	20 27 06.1	0.0
MFF	Saint Martin d	10.02	272	ePn	Pn	20 27 32.6	-0.2

JMA 25 20:35:05.9±0.3, 4400N×14826E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.93	252	P	Pn	20 35 40.6	+0.6
NEM2				eS	Sn	20 36 05.9	+0.9
JRA	Rausu	2.27	270	P	Pn	20 35 45.2	+0.6
JRA				eS	Sn	20 36 14.5	+1.3
JNK	Nakash	2.60	262	P	Pn	20 35 50.0	+0.9
JNK				eS	Sn	20 36 22.8	+1.4
JAK	Akkeshi	2.78	250	P	Pn	20 35 52.5	+0.8
JAK				eS	Sn	20 36 27.0	+1.1
JTKR	Abashiri--Toko	3.14	271	P	Pn	20 35 57.3	+0.7
JAR	Ashorobuto	3.33	259	P	Pn	20 36 00.9	+1.6
JAR				eS	Sn	20 36 41.9	+2.3
JCH	Churui	3.83	251	P	Pn	20 36 06.9	+0.8
JCH				eS	Sn	20 36 52.8	+0.9
JNBK	Urakawa-nobuka	4.38	249	P	Pn	20 36 14.4	+0.7
JNBK				eS	Sn	20 37 06.0	+0.6
JKB	Kayabe	5.71	251	P	Pn	20 36 32.5	+0.6
JKB				eS	Sn	20 37 35.4	-2.7
JOT	Ohata	5.92	246	P	Pn	20 36 35.2	+0.3
JOT				eS	Sn	20 37 40.9	-2.5
JANG	Nango	6.18	236	eS	Sn	20 37 46.7	-3.1

*ISCJB **25** 20:44:32.3±0.6, 4808N±003×699E±005, h10km, Error ellipse: s-maj=5.7km s-min=3.3km az=100.6*
*LDG **25** 20:44:32.9±0.1, 4808N×704E, h5km, Md1.5/2, Ml1.5/4, Error ellipse: s-maj=2.8km s-min=1.6km az=126.0*
*STR **25** 20:44:32.0±1.4, 4809N×701E, h10km±1km, Ml1.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 25 20:44:32.7±1.3, 4808N±004×702E±006, h12km±16km, n9, σ0°65/15, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.16	35	Pg	Pg	20 44 36.3	-0.1
ECH				Sg	Sg	20 44 38.7	-0.3
HINF	Hinteralfeld	0.29	203	ePg	Pg	20 44 38.7	+0.1
HINF				eSg	Sg	20 44 42.4	-0.2
	2.6nm,0.2s						
CDF	Champ du Feu	0.37	27	ePg	Pg	20 44 40.3	+0.2
CDF				eSg	Sg	20 44 44.8	-0.3
	2.1nm,0.2s						
WLS	Welschbruch	0.40	34	Pg	Pg	20 44 41.0	+0.4
WLS				Sg	Sg	20 44 46.3	+0.4
HAU	Haudompre	0.46	260	ePg	Pg	20 44 42.8	+1.1
HAU				eSg	Sg	20 44 48.5	+0.7
	2.3nm,0.2s						
THEF	They Montfort	0.71	282	Pg	Pg	20 44 44.6	-1.8
THEF				Sg	Sg	20 44 55.7	+0.1
SFTF	Sexfontaines	1.33	276	eSg	Sg	20 45 16.2	+0.6
	0.8nm,0.2s						
MEZF	Maizieres J'vi	1.38	288	eSg	Sg	20 45 16.3	-0.8
	0.5nm,0.2s						
CABF	La Chapelle	1.60	204	eSg	Sg	20 45 23.9	-0.4
	0.2nm,0.2s						

*ISCJB **25** 21:10:05.2±1.0, 190S±01×1778W±0.1, h535km±16km, mb4.0/4, Error ellipse: s-maj=25.6km s-min=12.5km az=102.7*
*IDC **25** 21:10:06.5±2.7, 1908S×17780W, h539km±31km, mb3.5/7, mb1 3.7/8, mb1mx3.6/14, mbtmp4.3/8, Error ellipse: s-maj=25.5km s-min=14.1km az=147.0*
*NEIC **25** 21:10:07.2±0.4, 1901S×17775W, h550km, mb4.3/8, Error ellipse: s-maj=17.4km s-min=9.1km az=145.0*
ISC 25 21:10:06.2±1.0, 190S±01×1777W±01, h537km±16km, n32, σ0°99/23, mb4.0/14, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.61	49	eP	P	21 12 01.1	+1.6
	65nm,1.1s						
AFI				eS	S	21 13 31.1	-1.4
URZ	Urewera	19.72	192	P	P	21 13 58.4	-1.8
	1.1nm,0.3s,baz=161,slow=3.3,SNR=9.7						
RPZ	Rata Peaks	26.39	199	P	P	21 14 51.7	-8.0
	3.5nm,0.5s,mb4.3,baz=119,slow=20,SNR=4.3						
CTA	Charters Tower	33.95	262	⇓iP	P	21 16 05.6	+0.8
	7.6nm,0.6s,mb4.4						
CTAO	Charters Tower	33.95	262	eP	P	21 16 05.6	+0.7
	18nm,0.8s,mb4.7						
STKA	Stephens Creek	38.71	243	P	P	21 16 42.9	-1.2
	6.6nm,0.8s,mb4.2,baz=86,slow=8.7,SNR=14						
STKA	Stephens Creek	38.71	243	eP	P	21 16 43.4	-0.7
WB2	Warramunga Arr	45.10	261	⇓iP	P	21 17 34.3	-0.1
WRAB	Tennant Creek	45.10	261	eP	P	21 17 34.3	-0.1
	5.8nm,0.4s,mb4.5						
WRA	Warramunga Arr	45.11	260	P	P	21 17 34.3	-0.2
	7.3nm,0.6s,mb4.4,baz=98,slow=7.8,SNR=214						
WRA				PcP	PcP	21 19 04.6	+0.9
	0.7nm,0.5s,baz=89,slow=3.9,SNR=4.8						
AS31	Alice Springs	45.15	255	⇓iP	P	21 17 35.4	+0.6
ASAR	Alice Springs	45.16	255	P	P	21 17 35.5	+0.6
	15nm,0.7s,mb4.6,baz=90,slow=8.0,SNR=282						
ASAR				PcP	PcP	21 19 04.4	+0.6
	1.5nm,0.8s,baz=103,slow=3.6,SNR=6.4						
ASAR				S	S	21 23 33.4	-1.8
	0.4nm,0.9s,baz=88,slow=13,SNR=5.4						
ASPA	Alice Springs	45.16	255	⇓iP	P	21 17 35.4	+0.5
FITZ	Fitzroy Crossi	53.52	261	⇓iP	P	21 18 37.1	+0.6
	4.1nm,0.4s,mb4.1						
MBWA	Marble Bar	58.47	256	eP	P	21 19 10.4	-0.3
	5.0nm,0.7s,mb3.9						
KLBR	Kellerberrin	58.95	244	eP	P	21 19 14.1	+0.1
	8.0nm,0.7s,mb4.1						
MJAR	Matsushiro Arr	69.18	323	P	P	21 20 18.6	-0.4
	1.5nm,0.6s,mb3.7,baz=157,slow=6.0,SNR=7.9						
QSPA	South Pole Qui	71.06	180	eP	P	21 20 31.4	+1.4
	8.0nm,1.0s,mb4.2						
NVAR	Mina Array Bea	79.75	43	P	P	21 21 20.2	+1.8
	0.8nm,0.7s,mb3.2,baz=225,slow=8.8,SNR=7.9						
ILAR	Eielson Array	86.80	13	P	P	21 21 52.5	-1.0
	0.7nm,0.6s,mb3.5,baz=223,slow=4.8,SNR=27						
YKA	Yellowknife Ar	95.04	25	P	P	21 22 30.6	-0.9
	0.4nm,0.7s,mb3.7,baz=244,slow=4.5,SNR=5.4						
MKAR	Makanchi Array	110.38	314	PKiKP	PKiKP	21 27 35.9	-1.4
	0.4nm,0.5s,baz=168,slow=0.7,SNR=12						
ARCES	ARCESS Array B	127.50	350	PKP	PKPdf	21 28 08.8	-1.3
	2.5nm,0.8s,baz=29,slow=2.8,SNR=7.5						
ARCES	ARCESS Array B	127.50	350	PKP	PKPdf	21 28 08.8	-1.3
BOSA	Boshof	127.72	206	PKP	PKPdf	21 28 12.3	+1.8
	1.0nm,0.8s,baz=0.0,slow=3.0,SNR=2.4						
BOSA	Boshof	127.72	206	PKP	PKPdf	21 28 12.3	+1.8
FINES	FINESS Array B	134.42	344	PKhKP		21 28 16.1	
	2.0nm,1.0s,baz=210,slow=21,SNR=2.9						
AKASG	Malin Array Be	141.84	332	PKhKP		21 28 31.4	
	0.9nm,0.4s,baz=40,slow=4.2,SNR=8.4						
BR131	Keskin Array S	146.03	314	ePKPbc	PKPbc	21 28 45.8	-0.2
BRTR	Keskin Array B	146.03	314	PKPbc	PKPbc	21 28 46.0	+0.1
	1.9nm,0.7s,baz=123,slow=3.8,SNR=11						
KHC	Kasperske Hory	148.60	346	ePKPbc	PKPbc	21 28 53.0	+0.3
KHC				PKPab	PKPab	21 28 59.5	+1.2
GERES	GERESS Array B	148.84	345	PKPbc	PKPbc	21 28 53.2	-0.1
	1.6nm,0.8s,baz=29,slow=3.0,SNR=13						

GUC 25 21:35:16.0±0.9, 3184S×7104W, h91km±4km, MD3.9, ML4.1, 15C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.23	331	⇑iP	Pn	21 35 30.0	+0.8
ILCH				i S	Sn	21 35 40.0	+1.0
CMCH	Combarbala	0.66	3	⇑iP	Pn	21 35 32.1	-0.2
CMCH				i S	Sn	21 35 44.8	+0.4
CMCH				AMP		21 35 45.9	
	comp=N,20μm,0.5s						
JACH	Jahuel	0.92	156	⇑iP	Pn	21 35 35.4	+0.5
JACH				i S	Sn	21 35 50.0	+1.0
ROCH	El Roble	1.13	179	⇑iP	Pn	21 35 37.8	+0.6
ROCH				i S	Sn	21 35 54.5	+1.3
IHA	Instituto Hidr	1.29	203	⇓iP	Pn	21 35 39.8	+0.6
IHA				i S	Sn	21 35 57.2	+0.5
PEL	Peldehue	1.33	167	⇑iP	Pn	21 35 40.4	+0.6
PEL				i S	Sn	21 35 58.6	+1.0
PEL				AMP		21 35 59.7	
	comp=E,12μm,0.3s						
CLCH	Cerro Calan	1.61	165	⇓iP	Pn	21 35 43.7	+0.5
CLCH				i S	Sn	21 36 04.7	+0.9
CLCH				AMP		21 36 06.3	
	comp=N,3μm,0.5s						
CLCH				AMP		21 36 06.9	
	comp=N,3μm,0.5s						
FCH	Farellones	1.61	157	⇓iP	Pn	21 35 44.4	+1.2
FCH				i S	Sn	21 36 05.6	+1.7
FCH				AMP		21 36 06.5	
	comp=E,2μm,0.2s						
SAN	Santiago	1.64	169	⇑iP	Pn	21 35 44.4	+0.8
SAN				i S	Sn	21 36 05.6	+1.1
SAN				AMP		21 36 06.8	
	comp=E,2μm,0.6s						
RCDM	Rinconada Maip	1.66	173	i P	Pn	21 35 44.1	+0.3
RCDM				i S	Sn	21 36 05.6	+0.7
RCDM				AMP		21 36 08.4	
	comp=N,4μm,0.1s						
FSR	Penalolen	1.69	165	⇑iP	Pn	21 35 45.1	+0.9
FSR				i S	Sn	21 36 06.8	+1.1
FSR				AMP		21 36 11.4	
	comp=N,1μm,0.3s						
LCCH	Las Cruces	1.69	195	⇑iP	Pn	21 35 44.9	+0.7
LCCH				i S	Sn	21 36 06.0	+0.3
ANTU	Antumapu	1.76	169	⇑iP	Pn	21 35 45.7	+0.6
ANTU				i S	Sn	21 36 07.8	+0.6
ANTU				AMP		21 36 10.5	
	comp=E,2μm,0.4s						
TACH	Talagante	1.81	177	⇑iP	Pn	21 35 46.3	+0.6
TACH				i S	Sn	21 36 08.7	+0.3
PCH	Pirque	1.83	166	⇑iP	Pn	21 35 46.4	+0.4
PCH				i S	Sn	21 36 09.9	+1.0
SJCH	San Jose de Ma	1.89	162	⇓iP	Pn	21 35 47.1	+0.4
SJCH				i S	Sn	21 36 11.0	+0.9
SJCH				AMP		21 36 12.5	
	comp=N,907nm,0.3s						
CHCH	Chadas Angostu	2.11	171	⇑iP	Pn	21 35 50.1	+0.4
CHCH				i S	Sn	21 36 16.1	+0.6
LMEL	Las Melosas	2.12	161	⇑iP	Pn	21 35 51.2	+1.4
LMEL				i S	Sn	21 36 17.4	+1.7
LMEL				AMP		21 36 19.9	
	comp=N,2μm,0.2s						
LNV	Longovilo	2.13	188	⇓iP	Pn	21 35 50.0	0.0
LNV				i S	Sn	21 36 16.1	+0.1
CACH	El Canelo	2.30	171	⇓iP	Pn	21 35 53.0	+0.8
CACH				i S	Sn	21 36 21.4	+1.5
CICH	Cipreses	2.53	168	⇑iP	Pn	21 35 56.0	+0.8
CICH				i S	Sn	21 36 26.4	+1.2
SFDO	San Fernando	2.77	180	⇑iP	Pn	21 35 59.0	+0.5
SFDO				i S	Sn	21 36 31.4	+0.4

*SZGRF **25** 21:39:42.1, 1874S×174.18W, h33km, Tonga Islands*
*ISCJB **25** 21:39:55.1±0.4, 1909S±006×17572W±007, h148km, mb4.8/39, Error ellipse: s-maj=11.0km s-min=6.6km az=80.6*
*NEIC **25** 21:39:56.7±0.3, 1901S×17572W, h150km, mb5.2/15, Error ellipse: s-maj=14.4km s-min=10.4km az=151.0*
*BJI **25** 21:39:56.7, 1900S×17570W, h150km, mB5.2, mb4.8*
*MOS **25** 21:39:57.1±1.9, 1885S×17591W, h149km, mb4.9/13, Error ellipse: s-maj=14.2km s-min=10.8km az=16.8*
*IDC **25** 21:40:07.7±1.8, 1928S×17571W, h261km±17km, mb4.4/12, mb1 4.5/14, mb1mx4.4/19, mbtmp5.0/14, Error ellipse: s-maj=14.8km s-min=9.3km az=135.0*
ISC 25 21:39:56.7±0.4, 1910S±007×17563W±008, h150km, h150km±3.2km; pP-P, n183, σ1°16/85, mb4.8/39, 28C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.35	36	P	Pn	21 41 32.2	+4.2
	23nm,0.3s,baz=182,slow=2.5,SNR=20						
AFI				S	Sn	21 42 39.5	+0.1
	25nm,0.3s,baz=69,slow=22,SNR=8.6						
AFI	Afiamalu	6.35	36	ePn	Pn	21 41 32.1	+4.1
	69nm,0.3s						
AFI				eSn	Sn	21 42 40.0	+0.5
RAR	Rarotonga	15.04	101	P	Pn	21 43 24.1	+2.6
	0.6nm,0.3s,baz=174,slow=10,SNR=3.0						
BKM	Butte a Klehm	15.37	273	⇑iP	Pn	21 43 33.4	+7.8
DZM	Mont Dzumac	17.04	257	P	Pn	21 43 50.1	+4.2
	2.0nm,0.3s,baz=80,slow=15,SNR=20						
DZM	Mont Dzumac	17.04	257	eP	Pn	21 43 50.7	+4.7
NOUC	Port Laguerre	17.17	257	eP	Pn	21 43 52.8	+5.3
URZ	Urewera	20.11	197	P	P	21 44 19.4	+0.6
	14nm,0.3s,baz=31,slow=3.3,SNR=86						
URZ				S	S	21 47 50.5	-5.9
	1.3nm,0.3s,baz=332,slow=17,SNR=9.3						
TBI	Tubuai	24.75	104	eT		22 09 47.3	
	5.5nm,0.3s						
PAE	Paea	24.76	91	eT		22 09 40.2	
	18nm,0.3s						
PPT	Papeete	24.78	91	eLR	LR	21 50 30.7	
	108nm,27.5s						
HNR	Honiara	25.51	289	P	P	21 45 12.3	+1.2
	39nm,0.4s,mb5.4,baz=262,slow=4.4,SNR=5.0						
HNR	Honiara	25.51	289	eP	P	21 45 12.2	+1.0
HNR				pP	pP	21 45 44.7	+2.3
RPZ	Rata Peaks	26.98	202	P	P	21 45 27.0	+2.7
	5.8nm,0.4s,mb4.5,baz=81,slow=1.8,SNR=7.1						
CTA	Charters Tower	35.87	262	⇓iP	P	21 46 42.9	+0.8
	65nm,0.7s,mb5.4						
CTA	Charters Tower	35.87	262	P	P	21 46 43.1	+1.1
	105nm,0.7s,mb5.6,baz=88,slow=12						
CTA	Charters Tower	35.87	262	⇓iP	P	21 46 42.9	+0.8
CTA				pmax	pmax		
	comp=Z,65nm,0.7s						
CTAO	Charters Tower	35.87	262	eP	P	21 46 43.0	+0.9
CTAO				pmax	pmax		
	comp=Z,139nm,0.9s,mb5.6						
CTAO	Charters Tower	35.87	262	eP	P	21 46 43.0	+0.9
	comp=Z,140nm,0.9s,mb5.6						
PMG	Port Moresby	37.25	280	P	P	21 46 54.6	+0.8
	comp=Z,90nm,0.9s,mb5.4,baz=111,slow=3.2,SNR=15						
PMG	Port Moresby	37.25	280	eP	P	21 46 55.1	+1.3
PMG				pmax	pmax		
	comp=Z,96nm,1.0s						
PMG	Port Moresby	37.25	280	eP	P	21 46 55.0	+1.2
	comp=Z,96nm,1.0s,mb5.4						
RKT	Rikitea	38.06	103	eT		22 26 19.2	
	comp=Z,2.1nm,0.3s						
STKA	Stephens Creek	40.41	243	⇑iP	P	21 47 18.7	-1.3
	comp=Z,10.0nm,0.8s,mb4.5						
STKA	Stephens Creek	40.41	243	P	P	21 47 18.7	-1.3
	comp=Z,15nm,0.8s,mb4.7,baz=85,slow=10.0,SNR=15						
STKA	Stephens Creek	40.41	243	eP	P	21 47 18.7	-1.3
WB2	Warramunga Arr	47.01	260	eP	P	21 48 12.1	-0.7
WRAB	Tennant Creek	47.01	260	P	P	21 48 12.5	-0.3
	comp=Z,246nm,0.7s,m

comp=Z,26nm,0.9s,mb5.0
MAT Matsushiro 70.44 322 *e*P **P 21 50 54.0 -0.7**
comp=Z,26nm,0.9s,mb5.0
QSPA South Pole Qui 70.97 180 *e*P **P 21 50 58.6 +0.8**
comp=Z,8.8nm,0.8s,mb4.5
PET Petropavlovsk 75.20 344 *i* P **P 21 51 25.6 +2.9**
YSS Yuzh-Sakhalins 75.67 332⇑*e*P **P 21 51 25.0 -0.4**
YSS pmax pmax
comp=Z,20nm,1.3s,mb4.6
KS15 Wonju Array Si 77.36 317 *e*P **P 21 51 35.1 +0.2**
VLA Vladivostok 78.45 324⇑*e*P **P 21 51 42.2 +1.3**
VLA pmax pmax
comp=Z,246nm,2.5s,mb5.4
NVAR Mina Array Bea 78.48 42 P **P 21 51 40.9 -0.2**
comp=Z,2.6nm,0.9s,mb3.9,baz=215,slow=7.3,SNR=12
SSE Sheshan 78.53 309 P **P 21 51 41.8 +0.5**
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,305nm,4.0s
MDJ Mudanjiang 80.68 324 P **P 21 51 53.5 +0.5**
MDJ AP pP 21 52 30.8 +0.7
MDJ XP sP 21 52 46.8 +0.8
MDJ PP PP 21 54 58.8 0.0
MDJ S S 22 01 46.8 -1.2
MDJ SS SS 22 07 08.5 +4.4
MDJ AMB AMB
comp=Z,16nm,1.6s,mb4.4
MDJ AMB AMB
comp=Z,71nm,3.4s
MDJ Mudanjiang 80.68 324 *e*P **P 21 51 53.0 +0.1**
comp=Z,39nm,1.4s,mb4.8
NJ2 Nanjing 80.73 308 *e*P **P 21 51 55.0 +1.8**
NJ2 AP pP 21 52 30.3 -0.1
NJ2 XP sP 21 52 45.5 -0.8
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
NJ2 AMB AMB
comp=Z,150nm,5.6s
ELK Elko 81.75 42 P **P 21 51 59.1 +0.6**
comp=Z,1.3nm,0.9s,mb3.5,baz=180,slow=19
ELK Elko 81.75 42 P **P 21 51 59.2 +0.6**
ELK pmax pmax
comp=Z,1.0nm,0.9s
CN2 Changchun 82.58 321 *e*P **P 21 52 03.5 +0.6**
CN2 *e*S S 22 02 07.5 +0.1
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
WHN Wuhan 83.43 305 *e*P **P 21 52 09.0 +1.7**
TMUT Trail Mountain 83.59 45⇓*e*P **P 21 52 09.1 +1.0**
TMUT *e*PcP PcP 21 52 12.7 +0.7
MCK McKinley 85.14 12 *e*P **P 21 52 14.4 -1.5**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MCK McKinley 85.14 12 *e*P **P 21 52 14.4 -1.5**
comp=Z,8.3nm,0.9s,mb4.5
SEY Seymchan 85.54 346 *e*P **P 21 52 16.7 -1.2**
SEY pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
ILAR Eielson Array 86.47 12 P **P 21 52 20.8 -1.7**
comp=Z,3.2nm,1.0s,mb4.0,baz=219,slow=4.9,SNR=18
ILAR Eielson Array 86.47 12 P **P 21 52 20.8 -1.7**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ENH Enshi 87.12 303 *e*P **P 21 52 25.6 0.0**
comp=Z,35nm,1.3s,mb5.0
BILL Bilibino 87.89 353⇑*i*P **P 21 52 27.8 -1.5**
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
GYA Guiyang 87.91 299 P **P 21 52 30.3 +0.9**
GYA AP pP 21 53 10.8 +3.6
GYA XP sP 21 53 27.8 +4.9
GYA PP PP 21 56 03.3 +5.8
GYA SKS 22 02 42.0
GYA S 22 03 00.8
GYA XS sS 22 04 10.3 +5.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.0s
GYA LR LR
comp=E,870nm,18.6s
GYA LR LR
comp=Z,790nm,19.2s
SYO Syowa Base 88.57 192⇑*e*P **P 21 52 29.8 -2.7**
XAN Xi'an 89.07 307 P **P 21 52 35.0 +0.2**
XAN AMB AMB
comp=Z,20nm,1.3s,mb4.9
HHC Hu-ho-hao-te 89.99 314 *e*P **P 21 52 39.5 +0.4**
HHC AP pP 21 53 15.5 -1.5
HHC XP sP 21 53 30.3 -2.4
HHC AMB AMB
comp=Z,17nm,0.8s,mb5.0
HHC AMB AMB
comp=Z,79nm,4.6s
HHC LR LR
comp=N,113nm,35.7s
HHC LR LR
comp=E,474nm,34.5s
HHC LR LR
comp=Z,126nm,34.5s
KMI Kunming 90.71 296 P **P 21 52 43.0 +0.5**
KMI AMB AMB
comp=Z,11nm,1.5s,mb4.7
YAK Yakutsk 91.67 337⇓*e*P **P 21 52 43.9 -3.0**
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
CD2 Chengdu 91.92 302 *e*P **P 21 52 50.3 +2.2**
CD2 AP pP 21 53 26.3 +0.3
CD2 XP sP 21 53 41.3 -0.4
CD2 PP PP 21 56 35.3 +5.9
CD2 SKS 22 03 08.5
CD2 S 22 03 38.3
CD2 XS sS 22 04 41.3 -1.4
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,90nm,5.2s
LZH Lanzhou 93.70 307 *e*P **P 21 52 57.0 +0.7**
LZH AP pP 21 53 35.5 +1.3
LZH XP sP 21 53 51.5 +1.6
LZH PP PP 21 56 47.5 +4.2
LZH SKS 22 03 20.0
LZH *e*S 22 03 53.0
LZH XS sS 22 04 57.3 -1.3
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,111nm,4.9s
LZH LR LR
comp=E,330nm,16.8s
LZH LR LR
comp=Z,690nm,18.0s
YKA Yellowknife Ar 94.32 24 P **P 21 52 56.1 -3.0**
comp=Z,0.9nm,0.8s,mb4.0,baz=239,slow=4.2,SNR=14
ULN Ulaanbaatar 95.77 319 *e*P **P 21 53 05.2 -0.5**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
ULN Ulaanbaatar 95.77 319 *e*P **P 21 53 05.2 -0.5**
comp=Z,1.5nm,0.8s,mb4.4
SONM Songino Array 96.17 318 P **P 21 53 06.5 -1.0**
comp=Z,1.5nm,1.1s,mb4.2,baz=132,slow=4.3,SNR=6.5
SONM Songino Array 96.17 318 P **P 21 53 06.5 -1.1**
SONM pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 97.98 345 *e*P **P 21 53 12.2 -3.5**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
MKAR Makanchi Array 111.85 314 PKiKP PKiKP 21 58 11.1 -2.7
comp=Z,0.7nm,0.6s,baz=71,slow=0.6,SNR=15
MKAR Makanchi Array 111.85 314 *i* PKiKP PKiKP 21 58 11.1 -2.7
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 114.47 318⇓*i*PKiKP PKiKP 21 58 12.6 -6.2
ARCES ARCESS Array B 127.92 351 PKP PKPdf 21 58 42.1 -2.5
comp=Z,4.1nm,0.7s,baz=48,slow=1.8,SNR=14
ARCES ARCESS Array B 127.92 351 PKIKP PKPdf 21 58 42.1 -2.5
ARCES pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 132.45 344 *ep* PKPdf 21 58 50.0 -3.2
comp=Z,2.7nm,0.7s
FINES FINESS Array B 135.02 345 PKhKP 21 58 44.0
comp=Z,2.4nm,1.1s,baz=48,slow=2.8,SNR=2.8
FINES PKP PKPdf 21 58 55.7 -2.4
comp=Z,1.7nm,0.9s,baz=3.8,slow=4.2,SNR=6.1
FINES FINESS Array B 135.02 345 PKIKP PKPdf 21 58 55.7 -2.3
KMBO Kilima Mbogo 141.96 242 PKP PKPdf 21 59 10.8 +0.1
comp=Z,1.2nm,0.8s,baz=40,slow=7.8,SNR=4.0
KMBO Kilima Mbogo 141.96 242 PKIKP PKPdf 21 59 10.8 +0.1
KMBO pmax pmax
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 141.96 242 PKP PKPdf 21 59 10.8 +0.1
ANN Anapa 142.43 320 *i* PKHKP 21 58 59.9
ANN pmax pmax
comp=Z,50nm,1.4s
AKASG Malin Array Be 142.81 334 PKhKP 21 59 06.3
comp=Z,0.9nm,0.3s,baz=43,slow=4.1,SNR=17
AKASG Malin Array Be 142.81 334 PKHKP 21 59 06.3
AKASG pmax pmax
comp=Z,1.0nm,0.3s
MALT Malatya 144.79 310 *e*PKIKP PKPdf 21 59 15.2 -0.5
BSEG Bad Segeberg 144.93 354 *e*PKPbc PKPdf 21 59 13.6 -2.3
KWP Kalwaria 146.17 338 *e*PKP PKPdf 21 59 18.5 +0.5
KWP Kalwaria 146.17 338 *e*PKPdf PKPdf 21 59 17.9 -0.1
OJC Ojcow 146.59 342 *e*PKP PKPdf 21 59 19.5 +0.7
IBBN Ibbenburen 146.75 356 *e*PKPbc PKPbc 21 59 19.5 -1.5
STHS Stebnicka Huta 146.85 340 *e*PKP PKPdf 21 59 20.5 +1.3
STHS *e* 21 59 23.4
BURAR Bucovina Array 146.86 334⇑P PKPdf 21 59 20.9 +1.7
BURAR Bucovina Array 146.86 334⇑P PKPdf 21 59 20.9 +1.7
KOLS Kolonicke sedl 146.91 338 *e*PKP PKPdf 21 59 20.2 +0.9
KSP Ksiaz 146.94 346 *e*PKP PKPdf 21 59 21.0 +1.7
KSP Ksiaz 146.94 346 *e*PKP PKPdf 21 59 20.7 +1.4
CLZ Clausthal 146.98 353 *e*PKPbc PKPbc 21 59 20.4 -1.2
CLL Collm 147.14 350 *i* PKPbc PKPbc 21 59 20.8 -1.3
comp=Z,27nm,0.7s
CLL *e*PKPab PKPab 21 59 22.7 -1.4
comp=Z,24nm,0.8s
CLL *ep*PKPbc pPKPbc 21 59 59.9 -1.4
CLL Collm 147.14 350⇓*i*PKPbc PKPbc 21 59 20.9 -1.2
comp=Z,27nm,0.7s
CLL ⇑*i*PKPab PKPab 21 59 22.7 -1.4
comp=Z,24nm,0.8s
CLL Collm 147.14 350⇓*i*PKP PKPdf 21 59 20.9 +1.2
CLL *e*PKP PKPdf 21 59 23.0 +3.3
NIE Niedzica 147.15 341 *e*PKP PKPdf 21 59 21.7 +2.0
CRVS Cervenica-Dubn 147.22 339 *e*PKP PKPdf 21 59 21.7 +1.9
UPC Upice 147.32 346⇑*e*PKPB PKPbc 21 59 21.6 -1.0
CFR Carcaliu 147.35 328 ⇑P PKPdf 21 59 20.8 +0.8
CFR Carcaliu 147.35 328 ⇑P PKPdf 21 59 20.8 +0.8
DPC Dobruska-Polom 147.39 346⇑*e*PKPB PKPbc 21 59 22.2 -0.6
BRG Berggiesshubel 147.40 349 *e*PKPbc PKPbc 21 59 21.4 -1.4
BRG Berggiesshubel 147.40 349 *i* PKP PKPdf 21 59 21.8 +1.7
comp=Z,8.3nm,0.7s
OKC Ostrava-Krasne 147.41 343⇑*e*PKPB PKPbc 21 59 19.4 -3.4
OKC *e*PKPAB PKPab 21 59 22.3 -2.8
BR131 Keskin Array S 147.48 315 *e*PKPbc PKPbc 21 59 21.9 -1.1
BRTR Keskin Array B 147.48 315 PKPbc PKPbc 21 59 21.4 -1.6
comp=Z,6.7nm,0.6s,baz=136,slow=4.4,SNR=41
BRTR Keskin Array B 147.48 315 PKIKP PKPdf 21 59 21.4 +1.2
BRTR pmax pmax
comp=Z,7.0nm,0.6s
VRI Vrincioaia 147.53 330 ⇑P PKPdf 21 59 19.8 -0.5
VRI Vrincioaia 147.53 330 ⇑P PKPdf 21 59 19.8 -0.5
PVCC Panska Ves 147.60 348⇑*e*PKPB PKPbc 21 59 22.6 -0.7
MORC Moravsky Berou 147.62 344 *e*PKIKP PKPdf 21 59 22.3 +1.8
BUG Bochum--Univer 147.64 357 *e*PKPbc PKPbc 21 59 21.5 -1.9
TIRR Tirgusor 147.72 327 ⇓P PKPdf 21 59 21.9 +1.3
TIRR Tirgusor 147.72 327 ⇓P PKPdf 21 59 21.9 +1.3
HARR Harsova 147.80 328 ⇓P PKPbc 21 59 23.3 -0.6
KECS Kecovo 147.91 340 *e*PKP PKPbc 21 59 22.6 -1.5
KECS *e* 21 59 26.8
ANTO Ankara 147.96 316 *e*PKIKP PKPbc 21 59 23.3 -1.0
MOX Moxa 148.00 351 *e*PKPbc PKPbc 21 59 22.8 -1.6
MOX Moxa 148.00 351 *e*PKP PKPbc 21 59 23.4 -1.0
comp=Z,14nm,1.3s
TANN Tannenbergstha 148.09 350 *e*PKPbc PKPbc 21 59 23.2 -1.4
PRU Pruhonice 148.12 348⇑*e*PKPB PKPbc 21 59 23.4 -1.3
MLR Muntele Rosu 148.18 331 ⇓P PKPdf 21 59 21.9 +0.5
NKC Novy Kostel 148.27 350⇑*e*PKPB PKPbc 21 59 24.1 -1.0
NKC *e*PKPAB PKPab 21 59 27.1 -1.5
MEM Membach 148.53 358 PKPbc PKPbc 21 59 24.5 -1.2
VOIR 148.63 331 ⇑P PKPdf 21 59 23.0 +0.9
VOIR 148.63 331 ⇑P PKPdf 21 59 22.9 +0.8
ROTZ Rotzenmuhle 148.76 350 *e*PKPbc PKPbc 21 59 25.3 -1.0
TNS Taunus Mts 148.77 355 *e*PKPbc PKPbc 21 59 25.1 -1.3
GRF Grafenberg Arr 148.99 351 *e*PKPbc PKPbc 21 59 25.8 -1.1
GIVF Givet 149.06 359 *e*PKP1 PKPbc 21 59 25.7 -1.4
comp=Z,30nm,0.8s
DOU Dourbes 149.07 360 PKPbc PKPbc 21 59 26.1 -1.0
DOU APKP 22 00 16.0
KHC Kasperske Hory 149.13 348⇑*e*PKPB PKPbc 21 59 26.5 -0.8
KHC *e*PKPAB PKPab 21 59 31.1 -1.0
ZST Bratislava 149.19 343 *e*PKP PKPbc 21 59 26.4 -1.0
GEC2 GERESS Array S 149.38 348 *e*PKPbc PKPbc 21 59 26.5 -1.4
GERES GERESS Array B 149.38 348 PKP PKPdf 21 59 22.1 -1.3
comp=Z,3.6nm,0.9s,baz=35,slow=3.3,SNR=4.8
GERES PKPbc PKPbc 21 59 27.1 -0.8
comp=Z,5.5nm,0.9s,baz=29,slow=3.0,SNR=29
GERES GERESS Array B 149.38 348 PKIKP PKPdf 21 59 22.1 -1.2
GERES 21 59 27.1
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES pmax pmax
comp=Z,6.0nm,0.9s
WLF Walferdange 149.47 358 PKPbc PKPbc 21 59 27.8 -0.4
BZS Buzias 149.94 335 ⇓P PKPdf 21 59 22.8 -1.4
BZS Buzias 149.94 335 ⇓P PKPdf 21 59 22.8 -1.4
STU Stuttgart 150.14 354 *e*PKPbc PKPbc 21 59 28.5 -1.2
FLN La Foiniere 150.15 6 *e*PKP1 PKPbc 21 59 28.0 -1.7
comp=Z,47nm,1.0s
LDF La Druitiere 150.35 6 *e*PKP1 PKPbc 21 59 28.4 -1.8
comp=Z,25nm,1.0s
SGMF Saint Gilles 150.38 9 *e*PKP1 PKPbc 21 59 28.1 -2.2
comp=Z,169nm,1.5s
FUR Furstenfeldbru 150.47 351 *e*PKPbc PKPbc 21 59 29.0 -1.5
GRR Gorron 150.47 7 *e*PKP1 PKPbc 21 59 28.9 -1.6
comp=Z,28nm,0.9s
BFO Black Forest 150.66 355 *e*PKPbc PKPbc 21 59 29.4 -1.6
CDF Champ du Feu 150.66 356 *e*PKP1 PKPbc 21 59 29.6 -1.4
comp=Z,28nm,1.0s
MEZF Maizieres J'vi 150.66 359 *e*PKP1 PKPbc 21 59 29.8 -1.2
comp=Z,34nm,1.0s
HAU Haudompre 151.12 357 *e*PKP1 PKPbc 21 59 30.8 -1.2
comp=Z,27nm,1.0s
KBA Koelnbreinsper 151.14 347⇑*i*PKPbc PKPbc 21 59 31.1 -1.0
comp=Z,8.1nm,0.6s
WATA Walderaim 151.22 350⇓*i*PKPbc PKPbc 21 59 31.0 -1.3
comp=Z,9.4nm,1.2s
HINF Hinteralfeld 151.28 357 *e*PKP1 PKPbc 21 59 30.6 -1.8
WTTA Wattenberg 151.28 350⇑*i*PKPbc PKPbc 21 59 31.1 -1.3
comp=Z,16nm,0.5s
MOTA Moosalm 151.29 350⇑*i*PKPbc PKPbc 21 59 31.3 -1.1
comp=Z,11nm,1.1s
SQTA Sankt Quirin 151.40 350⇑*i*PKPbc PKPbc 21 59 31.6 -1.1
comp=Z,3.8nm,0.8s
DAVA Damuels 151.52 352⇑*i*PKiKP PKiKP 21 59 32.7 -0.7
comp=Z,19nm,1.1s
HYF Humbligny 151.87 2 *e*PKP1 PKPbc 21 59 32.7 -1.0
LOR Lormes 151.90 1 *e*PKP1 PKPbc 21 59 32.4 -1.4
comp=Z,10.0nm,0.8s
SSF Saint Saulge 152.10 1 *e*PKP1 PKPbc 21 59 33.0 -1.3
comp=Z,15nm,0.9s
CABF La Chapelle 152.52 357 *e*PKP1 PKPbc 21 59 34.3 -0.9
TCF Toulx Ste Croi 152.82 3 *e*PKP1 PKPbc 21 59 34.2 -1.7
LPL La Plagne 153.58 356 *e*PKP1 PKPbc 21 59 36.8 -0.7
LPG La Plagne 153.60 356 *e*PKP1 PKPbc 21 59 36.9 -0.7
ORIF Oris-en-Rattie 154.22 358 *e*PKP1 PKPbc 21 59 37.7 -1.2
comp=Z,8.4nm,0.9s
MBDF Montbardon 154.37 356 *e*PKP1 PKPbc 21 59 37.9 -1.3
comp=Z,10nm,0.9s
TORD Torodi Ar. Bea 173.55 156 PKP PKPdf 21 59 46.0 -2.1
comp=Z,0.9nm,0.9s,baz=122,slow=1.1,SNR=4.2

PDA ***25*** *21:46:57.3±1.5, 39.16N×2855W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.4km s-min=3.5km az=137.0*
CSEM ***25*** *21:46:57.3±1.5, 39.16N×2855W, h5km, ML2.2, Error ellipse: s-maj=7.4km s-min=3.5km az=137.0, After PDA*
SVSA 25 21:46:57.3±1.5, 3916N×2855W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.4km s-min=3.5km az=137.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.36**	**247**	*e*S	Sg	21 47 11.3	+2.3
PLUZ	59nm,0.2s						
PVIA	**Vitoria**	**0.40**	**103**	*e*S	Sg	21 47 10.0	-0.2
PVIA	34nm,0.2s						
STGR	**Santa Cruz**	**0.43**	**100**	*e*P	Pg	21 47 05.2	-0.4
STGR				*e*S	Sg	21 47 10.7	-0.6
STGR	68nm,0.3s						
STGR	**Santa Cruz**	**0.43**	**100**	*e*P	Pg	21 47 05.2	-0.4
STGR				*e*S	Sg	21 47 10.7	-0.6
PGRA	**Graciosa**	**0.46**	**106**	*e*P	Pg	21 47 05.4	-0.8
PGRA				*e*S	Sg	21 47 11.3	-0.9
PGRA	282nm,0.4s						
PGRA	**Graciosa**	**0.46**	**106**	*e*P	Pg	21 47 05.4	-0.8
PGRA				*e*S	Sg	21 47 11.3	-0.9
ROSA	**Rosais**	**0.50**	**151**	*e*P	Pg	21 47 05.6	-1.3
ROSA				*i* rx		21 47 10.8	
ROSA				*e*S	Sg	21 47 12.9	-0.5
PCED	**Cedros**	**0.54**	**193**	*i* P	Pg	21 47 06.3	-1.4
PCED				*e*S	Sg	21 47 13.6	-1.2
PCED	112nm,0.2s						
PCED	**Cedros**	**0.54**	**193**	*e*S	Sg	21 47 13.6	-1.2
PAMA	**Santo Amaro**	**0.56**	**149**	*e*P	Pg	21 47 07.3	-0.7
PAMA				*e*S	Sg	21 47 14.0	-1.3
PAMA	36nm,0.3s						
CALA	**Caldeira**	**0.59**	**192**	*e*P	Pg	21 47 07.4	-1.2
CALA				*i* rx		21 47 11.5	
CALA				*e*S	Sg	21 47 14.9	-1.3
PTCA	**Ponta do Capel**	**0.60**	**199**	*e*rx		21 47 16.4	
HOR	**Horta**	**0.63**	**186**	*e*S	Sg	21 47 16.5	-1.2
PMAN	**Manadas**	**0.64**	**145**	*e*P	Pg	21 47 07.4	-2.1
PMAN				*e*S	Sg	21 47 15.6	-2.2
PMAN	62nm,0.2s						
PMAN	**Manadas**	**0.64**	**145**	*e*P	Pg	21 47 07.4	-2.1
PMAN				*e*S	Sg	21 47 15.6	-2.2
PICO	**Pico**	**0.66**	**171**	*e*P	Pg	21 47 08.2	-1.8
PICO				*e*S	Sg	21 47 17.3	-1.4
PCND	**Candelaria**	**0.69**	**174**	*e*S	Sg	21 47 17.3	-2.3
PCND	37nm,0.2s						
PPNO	**Prainha do Nor**	**0.72**	**162**	*e*P	Pg	21 47 09.8	-1.3
PPNO				*e*S	Sg	21 47 17.8	-2.7
PPNO	88nm,0.2s						
PBOI	**Pico dos Bois**	**0.73**	**169**	*e*P	Pg	21 47 09.5	-1.9

IDC ***25*** *21:51:50.1±2.1, 1660N×10059W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/19, mbtmp4.1/6, ML3.2/1, MS3.9/11, Ms1 3.9/11, ms1mx3.8/17, Error ellipse: s-maj=78.4km s-min=40.0km az=83.0*
ISCJB ***25*** *21:51:59.6±0.7, 1730N±004×10131W±003, h25km±5km, mb4.1/7, MS3.9/5, Error ellipse: s-maj=6.4km s-min=3.6km az=48.7*
NEIC ***25*** *21:52:00.9, 1727N×10144W, h20km, mb4.5/4, MD4.5(MEX), After MEX.*
MEX ***25*** *21:52:00.9±0.7, 1727N×10144W, h20km±12km, MD4.5*
ISC 25 21:52:00.1±0.8, 1731N±004×10128W±003, h14km±5km, n52, σ1°§15/81, mb4.1/7, MS3.9/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.34**	**328**	*i* P	**Pg**	**21 52 06.7**	**-0.4**
ZIIG				*i* S	**Sg**	**21 52 11.3**	**-0.4**
CAIG	**El Cayaco**	**1.00**	**105**	*i* P	**Pb**	**21 52 18.3**	**-0.9**
CAIG				*i* S	**Sb**	**21 52 33.1**	**+0.9**
ACX	**Acapulco**	**1.37**	**109**	*i* P	**Pn**	**21 52 23.0**	**-1.8**
ACX				*i* S	**Sn**	**21 52 42.0**	**-0.8**
MEIG	**Mezcala**	**1.69**	**69**	*i* P	**Pn**	**21 52 29.1**	**-0.1**
MEIG				*i* S	**Sn**	**21 52 50.4**	**-0.3**
PLIG	**Platanillo**	**2.00**	**57**	*i* P	**Pn**	**21 52 34.3**	**+0.9**
PLIG				*i* S	**Sn**	**21 52 58.2**	**-0.1**
MOIG	**Morelia**	**2.35**	**2**	*i* P	**Pn**	**21 52 37.9**	**-0.4**
MOIG				*i* S	**Sn**	**21 53 05.4**	**-1.6**
MRX	**Morelia**	**2.38**	**2**	*e*P	**Pn**	**21 52 37.8**	**-0.9**
MRX				*i* S	**Sn**	**21 53 01.2**	**-6.4**
YAIG	**Yautepec**	**2.60**	**53**	*i* P	**Pn**	**21 52 41.9**	**+0.2**
YAIG				*i* S	**Sn**	**21 53 11.7**	**-1.5**
CHVM	**Chichinautzin**	**2.69**	**49**	*i* P	**Pn**	**21 52 43.4**	**+0.6**
CHVM				*i* S	**Sn**	**21 53 16.4**	**+1.2**
IIZ	**Mezontepec**	**2.69**	**46**	*e*P	**Pn**	**21 52 43.0**	**+0.1**
SZVM	**Salazar**	**2.69**	**42**	*e*P	**Pn**	**21 52 43.3**	**+0.3**
SZVM				*i* S	**Sn**	**21 53 16.6**	**+1.2**
CIVM	**Cilcuayo**	**2.81**	**50**	*e*P	**Pn**	**21 52 44.6**	**0.0**
CIVM				*i* S	**Sn**	**21 53 18.7**	**+0.4**
UNM	**Universidad Na**	**2.83**	**45**	*i* P	**Pn**	**21 52 45.8**	**+1.0**
UNM				*i* S	**Sn**	**21 53 18.6**	**0.0**
UNM				*i* S	**Sn**	**21 53 18.8**	**+0.1**
UNM				*i* S	**Sn**	**21 53 18.9**	**+0.2**
UNM	**Universidad Na**	**2.83**	**45**	*e*P	**Pn**	**21 52 44.1**	**-0.7**
UNM				*i* P		21 52 45.8	
UNM				*e*P		21 52 46.5	
UNM				*i* S	**Sn**	**21 53 18.6**	**0.0**
UNM				*i* S	**Sn**	**21 53 18.8**	**+0.1**
UNM				*i* S	**Sn**	**21 53 18.9**	**+0.2**
PBVM	**Pinon**	**2.97**	**44**	*e*P	**Pn**	**21 52 46.4**	**-0.4**
PBVM				*i* S	**Sn**	**21 53 20.9**	**-1.2**
PTVM	**Pico Tres Padr**	**3.06**	**42**	*e*P	**Pn**	**21 52 48.0**	**-0.1**
PTVM				*i* S	**Sn**	**21 53 23.9**	**-0.5**
PPM	**Popocatepetl**	**3.06**	**55**	*e*P	**Pn**	**21 52 47.6**	**-0.5**
PPM				*e*P		21 52 48.2	
PPM				*i* P		21 52 48.5	
PPM				*i* S	**Sn**	**21 53 24.8**	**+0.3**
PPM				*i* S	**Sn**	**21 53 25.7**	**+1.1**
PPM				*i* S	**Sn**	**21 53 25.8**	**+1.2**
PNIG	**Pinotepa**	**3.15**	**106**	*e*P	**Pn**	**21 52 50.9**	**+1.6**
PNIG				*i* S	**Sn**	**21 53 26.8**	**+0.1**
UTMO	**Huajuapan**	**3.35**	**81**	*e*P	**Pn**	**21 52 52.7**	**+0.7**
UTMO				*i* S	**Sn**	**21 53 32.5**	**+0.8**
SFJM	**Santa Fe**	**3.57**	**332**	*i* P	**Pn**	**21 52 53.5**	**-1.5**
SFJM				*i* S	**Sn**	**21 53 33.1**	**-3.9**
CJM	**Chamela**	**4.18**	**302**	*e*P	**Pn**	**21 53 00.5**	**-3.0**
CJM				*e*S	**Sn**	**21 53 46.6**	**-5.6**
VHO	**Vista Hermosa**	**4.35**	**92**	*e*P	**Pn**	**21 53 06.1**	**+0.4**
VHO				*e*S	**Sn**	**21 53 55.7**	**-0.5**
OXX	**Oaxaca**	**4.36**	**92**	*e*P	**Pn**	**21 53 06.0**	**+0.1**
OXX				*i* S	**Sn**	**21 53 57.2**	**+0.8**
HUIG	**Huatulco**	**5.19**	**106**	*e*S	**Sn**	**21 54 16.2**	**-0.8**
LVIG	**Laguna Verde**	**5.20**	**62**	*e*P	**Pn**	**21 53 18.5**	**+1.1**
LVIG				*e*S	**Sn**	**21 54 16.4**	**-0.7**
ZAIG	**Zacatecas**	**5.56**	**348**	*e*P	**Pn**	**21 53 23.3**	**+0.9**
ZAIG				*e*S	**Sn**	**21 54 28.6**	**+2.5**
EVV	**El Vigia**	**5.76**	**78**	*e*P	**Pn**	**21 53 28.9**	**+3.8**
CMIG	**Matias Romero**	**6.11**	**91**	*e*P	**Pn**	**21 53 29.8**	**-0.2**
CMIG				*i* S	**Sn**	**21 54 36.7**	**-3.0**
TEIG	**Tepich**	**12.65**	**75**	Pn	**Pn**	**21 55 12.1**	**+13**
TEIG				*e*Sn	**Sn**	**21 57 26.8**	**+6.6**
GDL2	**Guadalupe Moun**	**15.08**	**350**	*e*P	**Pn**	**21 55 39.1**	**+6.4**
BNM	**Barren Site**	**17.44**	**345**	*e*P	**Pn**	**21 56 06.7**	**+3.8**
LAZ	**Ladron**	**17.81**	**344**	P	**Pn**	**21 56 09.5**	**+2.0**
ANMO	**Albuquerque**	**18.16**	**346**	P	**Pn**	**21 56 12.4**	**+0.5**
ANMO	0.1nm,0.3s,baz=146,slow=12,SNR=4.8			LR	LR	22 03 54.3	
WUAZ	**Wupatki**	**20.23**	**336**	*e*P	**P**	**21 56 37.0**	**+2.2**
SDCO	32nm,1.1s						
SDCO	**Great Sand Dun**	**20.69**	**350**	*e*P	**P**	**21 56 40.1**	**+0.3**
SDCO	29nm,1.3s			*ep*P		21 56 47.8	
PLAL	**Pickwick Lake**	**21.18**	**31**	P	**P**	**21 56 41.1**	**-3.9**
PFO	**Pinyon Flat Ob**	**21.20**	**323**	*e*P	**P**	**21 56 46.6**	**+1.5**
PV01	**Paradox Valley**	**21.71**	**344**	*e*P	**P**	**21 56 51.4**	**+0.7**
NEN	**Nelson**	**21.89**	**329**	*e*P	**P**	**21 56 53.6**	**+1.0**
NEN				*ep*P		21 57 03.2	
ARUT	**Antelope Range**	**23.03**	**335**	*e*P	**P**	**21 57 05.2**	**+0.5**
ARUT				*ep*P		21 57 14.1	
MNV	**Mina**	**25.71**	**328**	*e*P	**P**	**21 57 31.2**	**+1.4**
MNV	20nm,1.3s,mb4.5			*ep*P	pP	21 57 39.3	+5.3
NVAR	**Mina Array Bea**	**25.78**	**328**	P	**P**	**21 57 32.0**	**+1.5**
ELK	9.3nm,0.9s,mb4.3,baz=145,slow=11,SNR=29						
ELK	**Elko**	**26.28**	**336**	P	**P**	**21 57 36.0**	**+1.0**
ELK	2.8nm,1.2s,mb3.7,baz=154,slow=6.5,SNR=5.4			LR	LR	22 08 40.0	
	comp=Z,377nm,19.2s,MS4.0,baz=153,slow=37						

ELK	**Elko**	**26.28**	**336**	P	**P**	**21 57 36.0**	**+1.0**
ELK				LR	LR	22 08 40.0	
ULM	**Lac du Bonnet**	**33.14**	**6**	P	**P**	**21 58 33.8**	**-2.1**
	2.6nm,1.0s,mb4.1,baz=272,slow=5.5,SNR=3.2						
ULM				LR	LR	22 12 26.5	
	comp=Z,120nm,19.2s,MS3.6,baz=238,slow=37						
EDM	**Edmonton**	**37.06**	**348**	*e*P	**P**	**21 59 07.4**	**-2.3**
YKA	**Yellowknife Ar**	**46.09**	**351**	P	**P**	**22 00 22.1**	**-1.5**
	3.1nm,0.8s,mb4.3,baz=160,slow=7.2,SNR=35						
YKA				PcP	PcP	22 01 55.3	-4.4
	0.5nm,0.8s,baz=158,slow=3.5,SNR=5.5						
YKA				LR	LR	22 21 19.9	
	comp=Z,182nm,21.5s,MS4.0,baz=115,slow=38						
YKA	**Yellowknife Ar**	**46.09**	**351**	P	**P**	**22 00 22.1**	**-1.6**
YKA				PcP	PcP	22 01 55.4	-4.4
YKA				LR	LR	22 21 19.9	
ILAR	**Eielson Array**	**56.38**	**338**	P	**P**	**22 01 39.1**	**-1.8**
	1.1nm,0.9s,mb3.9,baz=153,slow=5.3,SNR=8.7						
ILAR				LR	LR	22 27 04.1	
	comp=Z,73nm,18.4s,MS3.8,baz=166,slow=37						
NOA	**NORSAR Array B**	**85.38**	**27**	LR	LR	22 47 39.5	
	comp=Z,48nm,18.1s,MS3.9,baz=330,slow=39						
WRA	**Warramunga Arr**	**127.43**	**258**	PKP	PKPdf	22 10 58.1	-6.4
	0.2nm,1.0s,baz=104,slow=3.3,SNR=2.2						
HYB	**Hyderabad**	**145.49**	**0**	*i* PKP	PKPdf	22 11 37.0	-0.7

*CSEM **25** 22:01:29.9±0.1, 39.19N×2948E, h10km, MD3.3, Error ellipse: s-maj=1.5km s-min=1.4km az=53.0*
*ISCJB **25** 22:01:30.3±0.6, 39.19N±002×2945E±003, h5km±5km, Error ellipse: s-maj=3.9km s-min=3.5km az=19.3*
*NEIC **25** 22:01:30.0, 39.18N×2947E, h10km, ML3.5(ISK), After ISK.*
*ISK **25** 22:01:30.1, 39.17N×2945E, h9km, MD3.3, ML3.4*
ISC 25 22:01:31.0±0.4, 3918N±002×2946E±003, h8km±3km, n57, σ0.66/70, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.09**	**170**	*i* P	**Pg**	**22 01 33.2**	**-0.1**
GDZ				*i* S	**Sg**	**22 01 35.5**	**+0.7**
ALT	**Altintas**	**0.52**	**103**	*i* PG	**Pg**	**22 01 40.9**	**-0.2**
ALT				*i* SG	**Sg**	**22 01 47.9**	**0.0**
DST	**Dursunbey**	**0.77**	**304**	*i* PG	**Pg**	**22 01 45.2**	**-0.7**
KHL	**Karahalli**	**0.85**	**177**	*i* PG	**Pg**	**22 01 47.1**	**-0.4**
KHL				*i* SG	**Sg**	**22 01 58.0**	**-0.6**
ORLT	**Orhaneli**	**0.97**	**333**	*i* PG	**Pg**	**22 01 49.6**	**-0.1**
ULDT	**Uludag**	**0.99**	**345**	*i* P	**Pg**	**22 01 49.4**	**-0.7**
ULDT				*i* S	**Sg**	**22 02 03.8**	**+0.7**
ULDT	**Uludag**	**0.99**	**345**	*i* S	**Sg**	**22 02 03.8**	**+0.7**
BORA	**Eskisehir**	**1.04**	**47**	*i* P	**Pg**	**22 01 50.4**	**-0.6**
BORA				*i* S	**Sg**	**22 02 05.3**	**+0.8**
ESKT	**Eskisehir**	**1.13**	**72**	*i* P	**Pg**	**22 01 52.0**	**-0.7**
ESKT				*i* S	**Sg**	**22 02 08.4**	**+1.1**
ESKT	**Eskisehir**	**1.13**	**72**	*i* Pn	**Pn**	**22 01 52.1**	**-1.1**
SEYT	**Eskypehyr**	**1.13**	**72**	*i* P	**Pg**	**22 01 52.0**	**-0.7**
SEYT				*i* S	**Sg**	**22 02 08.4**	**+1.0**
IZI	**Iznik**	**1.16**	**0**	*i* PN	**Pn**	**22 01 52.8**	**-0.7**
BTOK	**Tokmak**	**1.25**	**298**	*i* P	**Pn**	**22 01 54.2**	**-0.6**
BTOK				*i* S	**Sb**	**22 02 13.5**	**+2.4**
GPA	**Golpazari**	**1.29**	**30**	*i* PN	**Pn**	**22 01 55.6**	**+0.3**
BALB	**Balíkesir**	**1.31**	**291**	*i* PN	**Pn**	**22 01 54.9**	**-0.7**
AKS	**Akhisar**	**1.32**	**257**	*i* PN	**Pn**	**22 01 55.0**	**-0.8**
KCT	**Karacabey**	**1.38**	**322**	*i* PN	**Pn**	**22 01 56.8**	**+0.2**
YLV	**Yalova**	**1.39**	**357**	*i* PN	**Pn**	**22 01 56.2**	**-0.5**
ARMT	**Armutlu**	**1.46**	**342**	PN	**Pn**	**22 01 57.9**	**+0.2**
DENT	**Denizli**	**1.46**	**193**	*i* PN	**Pn**	**22 01 57.6**	**-0.1**
DNZL	**Cakiroluk**	**1.52**	**192**	*i* P	**Pn**	**22 01 58.6**	**+0.1**
DNZL				*i* S	**Sn**	**22 02 19.0**	**+0.5**
HRT	**Hereke**	**1.65**	**5**	PN	**Pn**	**22 01 59.8**	**-0.5**
BNT	**Bandirma**	**1.67**	**315**	PN	**Pn**	**22 01 59.9**	**-0.7**
BADT	**Buyukada**	**1.69**	**351**	PN	**Pn**	**22 02 00.0**	**-0.9**
EDC	**Edincik**	**1.70**	**314**	PN	**Pn**	**22 02 00.9**	**-0.1**
MDU	**Mudurnu**	**1.86**	**46**	PN	**Pn**	**22 02 03.5**	**+0.2**
KDAG	**Bornova**	**1.88**	**246**	*i* P	**Pn**	**22 02 04.2**	**+0.7**
KDAG				*i* S	**Sn**	**22 02 32.5**	**+5.0**
KIZT	**Kizilcal**	**1.91**	**98**	PN	**Pn**	**22 02 04.7**	**+0.8**
ISK	**Istanbul-Kandi**	**1.91**	**351**	PN	**Pn**	**22 02 03.0**	**-0.9**
BCK	**Bucak**	**1.93**	**152**	PN	**Pn**	**22 02 03.7**	**-0.5**
AYDN	**Tasoluk**	**1.96**	**220**	*i* P	**Pn**	**22 02 06.3**	**+1.7**
AYDN				*i* S	**Sn**	**22 02 33.5**	**+4.2**
MRMT	**Marmara Adasi**	**2.02**	**315**	PN	**Pn**	**22 02 05.5**	**+0.1**
BLCB	**Balcova**	**2.05**	**248**	PN	**Pn**	**22 02 06.1**	**+0.3**
CTT	**Catalca**	**2.12**	**338**	PN	**Pn**	**22 02 06.2**	**-0.6**
MLSB	**Milas**	**2.30**	**216**	*e*PN	**Pn**	**22 02 08.9**	**-0.4**
SART	**Tekirdag**	**2.31**	**311**	*i* P	**Pn**	**22 02 10.1**	**+0.6**
SART				*i* S	**Sn**	**22 02 44.4**	**+6.3**
MFT	**Murefte**	**2.32**	**314**	PN	**Pn**	**22 02 10.2**	**+0.7**
SGKT	**Sivrigoynuk**	**2.44**	**54**	*i* P	**Pn**	**22 02 11.5**	**+0.4**
SGKT				*i* S	**Sn**	**22 02 48.7**	**+7.6**
DALT	**Dalyan (Mudla)**	**2.49**	**195**	*e*PN	**Pn**	**22 02 11.9**	**0.0**
EZN	**Ezine**	**2.51**	**286**	*e*PN	**Pn**	**22 02 12.2**	**0.0**
FETY	**Fethiye**	**2.56**	**187**	*e*PN	**Pn**	**22 02 12.5**	**-0.3**
KONT	**Konya--Tatoy**	**2.58**	**118**	*e*PN	**Pn**	**22 02 12.8**	**-0.4**
LOD	**Lodumlu**	**2.65**	**73**	*e*PN	**Pn**	**22 02 14.6**	**+0.5**
ANTO	**Ankara**	**2.67**	**74**	*e*PN	**Pn**	**22 02 14.9**	**+0.6**
ANTO	**Ankara**	**2.67**	**74**	*e*P	**Pn**	**22 02 22.2**	**+7.9**
BODT	**Bodrum**	**2.71**	**219**	*e*PN	**Pn**	**22 02 15.7**	**+0.8**
DAT	**Datca**	**2.86**	**212**	*e*PN	**Pn**	**22 02 16.2**	**-0.8**
SAFT	**Safranbolu**	**3.22**	**49**	*e*PN	**Pn**	**22 02 21.7**	**-0.2**
KAMT	**Kaman**	**3.31**	**85**	*e*PN	**Pn**	**22 02 23.5**	**+0.4**
TIRR	**Tirgusor**	**5.33**	**352**	⇓P	**Pn**	**22 02 51.1**	**+0.1**
TIRR	**Tirgusor**	**5.33**	**352**	⇓P	**Pn**	**22 02 51.1**	**+0.2**
HARR	**Harsova**	**5.62**	**349**	⇑P	**Pn**	**22 02 55.3**	**+0.3**
HARR	**Harsova**	**5.62**	**349**	⇑P	**Pn**	**22 02 55.3**	**+0.3**
CFR	**Carcaliu**	**6.08**	**351**	⇑P	**Pn**	**22 03 00.8**	**-0.4**
CFR	**Carcaliu**	**6.08**	**351**	⇑P	**Pn**	**22 03 00.8**	**-0.3**
VRI	**Vrincioaia**	**6.98**	**344**	⇓P	**Pn**	**22 03 14.4**	**+0.8**
VRI	**Vrincioaia**	**6.98**	**344**	⇓P	**Pn**	**22 03 14.4**	**+0.8**

*CSEM **25** 22:08:28.5±1.2, 3876N×2930W, h2km±11km, ML2.1, Error ellipse: s-maj=16.4km s-min=7.6km az=77.0, After PDA*
*PDA **25** 22:08:28.5±1.2, 3876N×2930W, h2km±11km, MD3.2, ML2.1, Error ellipse: s-maj=16.4km s-min=7.6km az=77.0*
SVSA 25 22:08:28.5±1.2, 3876N×2930W, h2km±11km, MD3.2, ML2.1, Error ellipse: s-maj=16.4km s-min=7.6km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.43**	**114**	*e*S	Sg	22 08 42.3	0.0
PTCA							
	34nm,0.2s						
PCED	**Cedros**	**0.48**	**106**	*e*P	Pg	22 08 37.5	-0.3
PCED				*e*S	Sg	22 08 43.4	-0.7
PCED							
	70nm,0.2s						
PCED	**Cedros**	**0.48**	**106**	*e*P	Pg	22 08 37.5	-0.3
PCED				*e*S	Sg	22 08 43.4	-0.7
CALA	**Caldeira**	**0.50**	**111**	*e*P	Pg	22 08 37.3	-0.8
CALA				*e*S	Sg	22 08 44.0	-0.5
HOR	**Horta**	**0.57**	**114**	*e*P	Pg	22 08 38.2	-1.3
HOR				*e*S	Sg	22 08 45.6	-1.3
PCND	**Candelaria**	**0.71**	**114**	*e*S	Sg	22 08 49.9	-1.6
PCND							
	14nm,0.1s						
PICO	**Pico**	**0.73**	**111**	*e*P	Pg	22 08 40.9	-1.6
PICO				*e*S	Sg	22 08 50.4	-1.6
PBOI	**Pico dos Bois**	**0.79**	**114**	*e*S	Sg	22 08 51.8	-2.1
PBOI							
	13nm,0.1s						
ROSA	**Rosais**	**0.83**	**93**	*e*S	Sg	22 08 51.7	-3.3
PPNO	**Prainha do Nor**	**0.86**	**109**	*e*S	Sg	22 08 53.2	-2.9
PPNO							
	31nm,0.1s						
PMAN	**Manadas**	**0.95**	**97**	*e*S	Sg	22 08 55.5	-3.6
PMAN							
	11nm,0.1s						
PGRA	**Graciosa**	**1.06**	**75**	*e*S	Sg	22 08 58.4	-4.2
PGRA							
	26nm,0.2s						

IDC 25 22:08:49.5±2.8, 3006S×17742W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.8/11, mbtmp3.7/2, Error ellipse: s-maj=57.7km s-min=25.6km az=84.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**332**	Pn	Pn	22 09 10.2	+0.5
	172nm,0.3s,baz=86,slow=21,SNR=12						
RAO				Sn	Sn	22 09 23.1	-0.5
	630nm,0.3s,baz=96,slow=18,SNR=10						
ASAR	**Alice Springs**	**43.63**	**266**	P	P	22 16 56.0	+0.2
	0.2nm,0.3s,baz=106,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**44.59**	**271**	P	P	22 17 03.6	+0.2
	0.8nm,0.3s,baz=110,slow=8.1,SNR=42						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPdf	22 28 26.5	-2.2
	0.9nm,0.7s,baz=46,slow=4.0,SNR=6.1						

*CSEM **25** 22:26:03.9±1.3, 3886N×2915W, h1km±11km, ML2.1, Error ellipse: s-maj=19.3km s-min=5.4km az=82.0, After PDA*
*PDA **25** 22:26:03.9±1.3, 3886N×2915W, h1km±11km, MD3.2, ML2.1, Error ellipse: s-maj=19.3km s-min=5.4km az=82.0*
SVSA 25 22:26:03.9±1.3, 3886N×2915W, h1km±11km, MD3.2, ML2.1, Error ellipse: s-maj=19.3km s-min=5.4km az=82.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.39**	**135**	*e*S	Sg	22 26 16.6	+0.1
PTCA							
	39nm,0.1s						
PCED	**Cedros**	**0.42**	**124**	*e*P	Pg	22 26 11.8	-0.2
PCED				*e*S	Sg	22 26 17.3	-0.1
PCED							
	63nm,0.2s						
PCED	**Cedros**	**0.42**	**124**	*e*P	Pg	22 26 11.8	-0.2
PCED				*e*S	Sg	22 26 17.3	-0.1
CALA	**Caldeira**	**0.45**	**129**	*e*S	Sg	22 26 18.2	-0.1
HOR	**Horta**	**0.53**	**129**	*e*S	Sg	22 26 20.1	-0.7
PCND	**Candelaria**	**0.67**	**126**	*e*S	Sg	22 26 24.6	-0.7
PCND							
	26nm,0.2s						
PICO	**Pico**	**0.67**	**122**	*e*P	Pg	22 26 15.3	-1.5
PICO				*e*S	Sg	22 26 24.6	-0.9
ROSA	**Rosais**	**0.72**	**101**	*e*P	Pg	22 26 16.2	-1.6
ROSA				*e*S	Sg	22 26 24.9	-2.3
PBOI	**Pico dos Bois**	**0.74**	**125**	*e*S	Sg	22 26 25.9	-1.8
PBOI							
	9.0nm,0.1s						
PPNO	**Prainha do Nor**	**0.80**	**119**	*e*S	Sg	22 26 27.6	-1.9
PPNO							
	81nm,0.2s						
PMAN	**Manadas**	**0.86**	**105**	*e*S	Sg	22 26 28.8	-2.7
PMAN							
	59nm,0.2s						
PGRA	**Graciosa**	**0.93**	**79**	*e*S	Sg	22 26 30.8	-2.8
PGRA							
	16nm,0.2s						

*CSEM **25** 22:40:43.3±1.5, 3875N×2903W, h4km±10km, ML2.0, Error ellipse: s-maj=18.8km s-min=9.7km az=43.0, After PDA*
*PDA **25** 22:40:43.3±1.5, 3875N×2903W, h4km±10km, MD3.0, ML2.0, Error ellipse: s-maj=18.8km s-min=9.7km az=43.0*
SVSA 25 22:40:43.3±1.5, 3875N×2903W, h4km±10km, MD3.0, ML2.0, Error ellipse: s-maj=18.8km s-min=9.7km az=43.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.28**	**114**	*e*P	Pg	22 40 48.3	-0.5
PCED				*e*S	Sg	22 40 52.3	-0.2
PCED							
	43nm,0.2s						
PCED	**Cedros**	**0.28**	**114**	*e*P	Pg	22 40 48.3	-0.5
PCED				*e*S	Sg	22 40 52.3	-0.2
CALA	**Caldeira**	**0.31**	**122**	*e*S	Sg	22 40 53.3	+0.1
PICO	**Pico**	**0.53**	**117**	*e*P	Pg	22 40 52.5	-1.0
PICO				*e*S	Sg	22 41 00.1	-0.4
ROSA	**Rosais**	**0.62**	**92**	*e*P	Pg	22 40 54.1	-1.1
ROSA				*e*S	Sg	22 41 02.0	-1.2
PPNO	**Prainha do Nor**	**0.66**	**114**	*e*rx		22 41 03.5	
PPNO				*e*rx		22 41 03.7	
PPNO				*e*rx		22 41 03.9	
PMAN	**Manadas**	**0.75**	**98**	*e*P	Pg	22 40 56.0	-1.6
PMAN				*e*S	Sg	22 41 04.3	-3.0
PMAN							
	32nm,0.1s						

*ISCJB **25** 22:41:20.5±1.1, 3823N±004×2651E±007, h11km±7km, Error ellipse: s-maj=9.7km s-min=6.6km az=137.8*
*ISK **25** 22:41:20.5, 38.19N×2660E, h17km, MD2.8*
*CSEM **25** 22:41:21.4±0.1, 3824N×2668E, h24km±1km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.9km az=53.0*
*ATH **25** 22:41:21.1, 3823N×2642E, h23km, MD3.1/3*
ISC 25 22:41:20.8±1.0, 3827N±004×2648E±007, h12km±6km, n12, σ0.94/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**45**	*i* P	**Pg**	**22 41 24.1**	**+0.1**
URLA				*i* S	**Sg**	**22 41 26.7**	**+0.5**
BLCB	**Balcova**	**0.46**	**75**	*i* PG	**Pg**	**22 41 29.2**	**-0.6**
BLCB				*i* SG	**Sg**	**22 41 35.1**	**-0.8**
SMG	**Samos**	**0.62**	**153**	*e*PB	**Pb**	**22 41 33.0**	**-0.6**
SMG				*e*SN	**Sg**	**22 41 42.4**	**+1.3**
KDAG	**Bornova**	**0.64**	**77**	*i* P	**Pg**	**22 41 32.4**	**-0.7**
KDAG				*i* S	**Sg**	**22 41 41.9**	**+0.4**
PRK	**Paraskevi**	**0.99**	**351**	*e*PB	**Pb**	**22 41 40.0**	**+0.1**
PRK				*e*SN	**Sn**	**22 41 55.7**	**+1.2**
AKS	**Akhisar**	**1.21**	**59**	PN	**Pn**	**22 41 43.0**	**-0.6**
AYDN	**Tasoluk**	**1.26**	**118**	*i* P	**Pn**	**22 41 43.9**	**-0.3**
AYDN				*i* S	**Sb**	**22 42 02.1**	**+1.4**
BODT	**Bodrum**	**1.37**	**151**	PN	**Pn**	**22 41 43.8**	**-2.0**
APE	**Apeiranthos**	**1.41**	**212**	*e*PN	**Pn**	**22 41 45.6**	**-0.7**
APE	**Apeiranthos**	**1.41**	**212**	*e*Pn	**Pn**	**22 41 46.8**	**+0.5**
BDRM	**Kayabasi**	**1.42**	**147**	*i* P	**Pn**	**22 41 48.0**	**+1.6**
BDRM				*i* S	**Sn**	**22 42 09.8**	**+4.6**
DAT	**Datca**	**1.77**	**150**	*e*PN	**Pn**	**22 41 50.2**	**-1.0**

*ISCJB **25** 23:04:57.2±2.8, 6262S±005×1653E±02, h2km±16km, mb5.1/19, MS4.8/21, Error ellipse: s-maj=17.5km s-min=8.3km az=157.3*
*IDC **25** 23:04:58.2±0.6, 6266S×16529E, h0km, mb4.8/8, mb1 5.0/10, mb1mx4.9/13, mbtmp4.9/10, ML4.9/2, MS4.8/15, Ms1 4.8/15, ms1mx4.6/22, Error ellipse: s-maj=27.3km s-min=16.6km az=68.0*
*HRVD **25** 23:05:01.6±0.2, 6257S×16569E, h12km, MW5.4/87, Centroid moment Tensor Solution. LP body waves: s87,c145;Mantle waves: s68,c119; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.31±.03; $M_{\theta\theta}$1.58±.03; $M_{\phi\phi}$-1.26±.03; $M_{r\theta}$-0.36±.06; $M_{\theta\phi}$-0.34±.03; $M_{\phi r}$0.16±.07; Best double couple: $M_0$1.50300×10^{17} NP1:ϕ_s231.00000°, δ78.00000°, λ177.00000°. NP2: ϕ_s322.00000°, δ87.00000°, λ12.00000°. Principal axes: T 1.6910, Plg11.0000°, Azm187.0000°; N -0.3690, Plg77.0000°, Azm334.0000°; P -1.3150, Plg7.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 23:05:01.5, 6270S×16520E, h20km, mB5.8, mb5.8, Ms5.1, Msz4.7*
*NEIC **25** 23:05:01.6±0.3, 6267S×16523E, mb5.2/14, Error ellipse: s-maj=11.7km s-min=5.8km az=80.0*
*MOS **25** 23:05:02.7±1.6, 6271S×16500E, h33km, mb5.5/8, Error ellipse: s-maj=51.3km s-min=10.5km az=94.8*
ISC 25 23:05:00.2±3.0, 6266S±005×1653E±02, h13km±18km, h21km±1.7km; pP-P, n102, σ0.69/46, mb5.1/19, MS4.8/21, 10C-8D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.98**	**183**	Pn	**Pn**	**23 08 31.5**	**0.0**
	7.8nm,0.3s,baz=351,slow=13,SNR=121						
VNDA				LR	LR	23 13 25.6	
	comp=Z,9μm,18.1s,baz=14,slow=34						
VNDA	**Vanda**	**14.98**	**183**	*e*P	**Pn**	**23 08 31.3**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,133nm,0.8s						
VNDA	**Vanda**	**14.98**	**183**	*e*P	**Pn**	**23 08 31.3**	**-0.2**
	comp=Z,133nm,0.8s						
SBA	**Scott Base**	**15.28**	**179**	*e*P	**Pn**	**23 08 36.4**	**+0.9**
SBA				pmax	pmax		
	comp=Z,657nm,1.4s						
SBA	**Scott Base**	**15.28**	**179**	*e*P	**Pn**	**23 08 36.4**	**+1.0**
	comp=Z,657nm,1.4s						
RPZ	**Rata Peaks**	**19.27**	**13**	P	**Pn**	**23 09 25.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=170,slow=9.9,SNR=13						
RPZ				LR	LR	23 15 40.8	
	comp=Z,7μm,20.2s,baz=215,slow=33						
CASY	**Casey**	**23.22**	**237**	P	**P**	**23 10 06.6**	**-0.3**
	comp=Z,92nm,1.4s,mb5.0						
URZ	**Urewera**	**25.48**	**22**	P	**P**	**23 10 27.8**	**-0.1**
	comp=Z,40nm,1.0s,mb4.9,baz=192,slow=5.2,SNR=14						
URZ				LR	LR	23 19 15.1	
	comp=Z,4μm,19.2s,MS4.9,baz=357,slow=34						
QSPA	**South Pole Qui**	**27.43**	**180**	*e*P	**P**	**23 10 45.7**	**+0.1**
	comp=Z,98nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**34.32**	**323**	⇓*i*P	**P**	**23 11 46.4**	**+0.1**
	comp=Z,16nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**34.32**	**323**	P	**P**	**23 11 46.2**	**-0.1**
	comp=Z,18nm,0.9s,mb5.0,baz=148,slow=9.3,SNR=24						
RAO	**Raoul Island**	**35.16**	**26**	LR	LR	23 23 52.3	
	comp=Z,942nm,19.8s,MS4.5,baz=147,slow=32						
MAW	**Mawson**	**38.62**	**217**	LR	LR	23 28 27.8	
	comp=Z,4μm,18.0s,MS5.3,baz=126,slow=36						
NOUC	**Port Laguerre**	**40.54**	**1**	*e*P	**P**	**23 12 39.4**	**+0.4**
DZM	**Mont Dzumac**	**40.57**	**2**	LR	LR	23 25 47.5	
	comp=Z,662nm,19.6s,MS4.5,baz=200,slow=31						
SYO	**Syowa Base**	**43.08**	**205**	⇑*e*P	**P**	**23 12 57.7**	**-2.1**
SYO				⇓*e*pP	pP	23 13 02.3	-1.6
SYO				⇑*i*sP	sP	23 13 06.6	+1.1
ASAR	**Alice Springs**	**44.31**	**317**	P	**P**	**23 13 09.8**	**+0.1**
	comp=Z,19nm,0.8s,mb4.9,baz=160,slow=8.0,SNR=181						
CTA	**Charters Tower**	**44.51**	**334**	*e*P	**P**	**23 13 12.5**	**+1.2**
	comp=Z,27nm,1.1s,mb5.0						
CTA	**Charters Tower**	**44.51**	**334**	*e*P	**P**	**23 13 12.5**	**+1.2**
CTA				pmax	pmax		
	comp=Z,27nm,1.1s						
CTAO	**Charters Tower**	**44.51**	**334**	*e*P	**P**	**23 13 12.1**	**+0.8**
CTAO				*e**PP	pP	23 13 18.6	+3.2
CTAO				pmax	pmax		
	comp=Z,46nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**44.51**	**334**	*e*P	**P**	**23 13 12.1**	**+0.8**
	comp=Z,46nm,1.2s,mb5.2						
CTAO				*e*pP	pP	23 13 18.6	+3.2
NVL	**N'lazarevskaya**	**45.57**	**192**	⇓*i*P	**P**	**23 13 21.0**	**+1.2**
NVL				*e**PP	pP	23 13 29.8	+6.0
NVL				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
NVL				MLR	MLR		
	comp=N,2μm,15.6s,MS5.1						
NVL				MLR	MLR		
	comp=E,886nm,15.6s,MS5.1						
NVL				MLR	MLR		
	comp=Z,3μm,14.7s,MS5.3						
SNAA	**Sanae**	**45.70**	**185**	*e*P	**P**	**23 13 20.7**	**0.0**
SNAA				*e**PP	pP	23 13 26.7	+1.9
SNAA				pmax	pmax		
	comp=Z,29nm,0.8s						
SNAA	**Sanae**	**45.70**	**185**	*e*P	**P**	**23 13 20.7**	**-0.1**
	comp=Z,29nm,0.8s,mb5.2						
SNAA				*e*pP	pP	23 13 26.7	+1.9
VNA3	**Neumayer Olymp**	**46.33**	**182**	*e*P	**P**	**23 13 26.1**	**+0.4**
VNA3				*e*	pP	23 13 30.8	+1.0
VNA3				*e*		23 13 32.9	
VNA3				*e*		23 13 48.5	
VNA2	**Neumayer--Watz**	**46.60**	**183**	*e*P	**P**	**23 13 27.5**	**-0.3**
VNA2				*e*	pP	23 13 32.5	+0.6
VNA2				*e*		23 13 34.8	
VNA2				*e*		23 13 50.3	
WB2	**Warramunga Arr**	**47.67**	**319**	*e*P	**P**	**23 13 35.9**	**-0.3**
WRA	**Warramunga Arr**	**47.67**	**319**	P	**P**	**23 13 35.9**	**-0.4**
	comp=Z,6.6nm,0.9s,mb4.7,baz=163,slow=7.3,SNR=29						
WRA				PcP	PcP	23 15 05.0	-0.5
	comp=Z,5.0nm,0.9s,baz=168,slow=3.1,SNR=9.5						
WRAB	**Tennant Creek**	**47.68**	**319**	P	**P**	**23 13 36.0**	**-0.3**
	comp=Z,96nm,1.6s,mb5.6,SNR=6.8						
WRAB	**Tennant Creek**	**47.68**	**319**	*e*P	**P**	**23 13 35.7**	**-0.6**
WRAB				*e**PP	pP	23 13 43.2	+2.8
WRAB				*e*		23 15 03.3	
WRAB						23 15 26.3	
WRAB				pmax	pmax		
	comp=Z,81nm,1.5s,mb5.5						
WRAB	**Tennant Creek**	**47.68**	**319**	*e*P	**P**	**23 13 35.7**	**-0.6**
	comp=Z,81nm,1.5s,mb5.5						
WRAB				*e*pP	pP	23 13 43.2	+2.8
WRAB				*e*PcP	PcP	23 15 03.3	-2.2
WRAB				PP	PP	23 15 26.2	-1.6
RAR	**Rarotonga**	**47.76**	**46**	LR	LR	23 27 45.4	
	comp=Z,2μm,20.1s,MS5.0,baz=230,slow=29						
TBI	**Tubuai**	**49.59**	**59**	*e*S	**S**	**23 20 59.2**	**+0.4**
	comp=Z,571nm,28.2s						
TBI				*e*LQ		23 25 15.6	
	comp=Z,3μm,27.0s						
TBI				*e*LR	LR	23 27 30.8	
	baz=209						
AFI	**Afiamalu**	**51.33**	**29**	LR	LR	23 32 05.9	
	comp=Z,450nm,19.2s,MS4.5,baz=307,slow=32						
FITZ	**Fitzroy Crossi**	**52.26**	**310**	*e*P	**P**	**23 14 11.6**	**+0.6**
	comp=Z,20nm,1.2s,mb4.9						
HNR	**Honiara**	**53.27**	**353**	LR	LR	23 32 46.9	
	comp=Z,764nm,19.2s,MS4.8,baz=176,slow=31						
PMG	**Port Moresby**	**54.76**	**338**	*e*P	**P**	**23 14 29.3**	**-0.1**
PMG				pmax	pmax		
	comp=Z,94nm,1.2s						
PMG	**Port Moresby**	**54.76**	**338**	*e*P	**P**	**23 14 29.2**	**-0.1**
	comp=Z,94nm,1.2s,mb5.7						
PPT	**Papeete**	**54.78**	**56**	*e*S

SSE	**Sheshan**	**99.86 323**	P	Pdif	23 18 45.0	+0.6
SSE			AP		23 18 53.3	
SSE			S		23 30 15.0	
SSE			AMB	AMB		
	comp=Z,33nm,0.8s,mb5.8					
SSE			AMB	AMB		
	comp=Z,247nm,3.8s					
SSE			LR	LR		
	comp=N,44nm,22.9s,MS4.5					
SSE			LR	LR		
	comp=E,186nm,22.8s,MS4.5					
SSE			LR	LR		
	comp=Z,140nm,22.6s,MS4.4					
KMI	**Kunming**	**100.45 305**	P	Pdif	23 18 52.5	+5.5
KMI			AP		23 18 59.3	
KMI			XP		23 19 01.8	
KMI			S	Sdif	23 30 24.8	+1.6
KMI			XS		23 30 37.3	
KMI			SS	SS	23 37 21.0	+2.4
KMI			AMB	AMB		
	comp=Z,8.0nm,1.1s					
KMI			AMB	AMB		
	comp=Z,71nm,4.1s					
KMI			LR	LR		
	comp=N,133nm,31.1s,MS4.5					
KMI			LR	LR		
	comp=E,210nm,27.3s,MS4.5					
KMI			LR	LR		
	comp=Z,172nm,31.3s,MS4.4					
CD2	**Chengdu**	**105.31 308**	*e*PDIF	Pdif	23 19 08.3	-0.3
CD2			PP	PP	23 23 33.3	+3.4
CD2			PPP		23 25 48.3	
CD2			S	Sdif	23 30 58.0	-5.7
CD2			PP	PP		
	comp=Z,90nm,9.8s					
CD2			LR	LR		
	comp=E,170nm,13.2s					
CD2			LR	LR		
	comp=Z,170nm,22.8s					
LZH	**Lanzhou**	**109.95 311**	*e*PKP	PKiKP	23 23 31.5	+0.3
LZH			XPKP		23 23 41.0	
LZH			PP	PP		
	comp=Z,70nm,6.9s					
LZH			LR	LR		
	comp=E,269nm,19.0s					
LZH			LR	LR		
	comp=Z,405nm,20.0s,MS5.0					
MDJ	**Mudanjiang**	**110.67 334**	PDIF	Pdif	23 19 32.8	+0.4
MDJ			PP	PP	23 24 16.5	+7.4
MDJ			PP	PP		
	comp=Z,99nm,3.5s					
MDJ			LR	LR		
	comp=N,71nm,25.7s					
MDJ			LR	LR		
	comp=E,69nm,30.8s					
MDJ			LR	LR		
	comp=Z,140nm,28.3s,MS4.4					
CN2	**Changchun**	**110.80 330**	*e*PKP	PKiKP	23 23 31.8	-1.0
CN2			XPKP		23 23 45.0	
CN2			*e*PP	PP	23 24 15.0	+5.0
CN2			PP	PP		
	comp=Z,300nm,6.0s					
CN2			LR	LR		
	comp=N,200nm,21.0s,MS4.9					
CN2			LR	LR		
	comp=E,300nm,21.0s,MS4.9					
CN2			LR	LR		
	comp=Z,400nm,22.0s,MS5.0					
HHC	**Hu-ho-hao-te**	**111.75 319**	*e*PKP	PKiKP	23 23 34.0	-0.6
HHC			PP	PP	23 24 25.0	+8.1
HHC			SKS	SKSdf	23 30 40.8	-5.6
HHC			SKKS	SKKSac	23 31 15.3	-4.0
HHC			LR	LR		
	comp=N,105nm,30.9s,MS4.6					
HHC			LR	LR		
	comp=E,198nm,30.9s,MS4.6					
HHC			LR	LR		
	comp=Z,106nm,30.9s,MS4.2					
PET	**Petropavlovsk**	**115.45 356**	*i* PKIKP	PKPdf	23 23 37.2	-4.5
SONM	**Songino Array**	**119.65 318**	PKP	PKPdf	23 23 49.3	-0.4
	comp=Z,0.3nm,0.7s,baz=134,slow=1.7,SNR=3.1					
WMQ	**Urumqi**	**122.69 303**	*e*PKP	PKPdf	23 23 53.5	-2.1
DBIC	**Dimbokro**	**123.66 192**	PKP	PKPdf	23 23 58.0	+0.5
	comp=Z,2.8nm,0.8s,baz=3.1,slow=4.6,SNR=3.6					
FLWY	**Flagg Ranch**	**125.47 62**	*e*PKPdf	PKPdf	23 24 00.9	-0.1
FLWY			*ep*PKPdf	pPKPdf	23 24 08.5	+3.1
AAK	**Ala-Archa**	**127.10 292**	*e*PKIKP	PKPdf	23 24 03.9	-0.2
YAK	**Yakutsk**	**127.24 340** ⇑	*i*PKIKP	PKPdf	23 24 02.7	-1.6
MKAR	**Makanchi Array**	**127.28 301**	PKP	PKPdf	23 24 02.7	-1.7
	comp=Z,1.2nm,1.0s,baz=169,slow=1.2,SNR=7.8					
MKAR	**Makanchi Array**	**127.28 301**	PKP	PKPdf	23 24 02.7	-1.7
TORD	**Torodi Ar. Bea**	**129.19 201**	PKP	PKPdf	23 24 07.7	-0.3
	comp=Z,2.7nm,0.9s,baz=263,slow=0.9,SNR=11					
KURK	**Kurchatov**	**131.88 302**	*e*PKIKP	PKPdf	23 24 14.6	+1.5
ILAR	**Eielson Array**	**131.96 25**	PKP	PKPdf	23 24 11.4	-1.8
	comp=Z,2.5nm,1.1s,baz=258,slow=2.4,SNR=10					
TIXI	**Tiksi**	**136.35 344** ⇑	*i*PKIKP	PKPdf	23 24 17.5	-4.0
BVAR	**Borovoye Array**	**136.94 298**	PKP	PKPdf	23 24 22.9	+0.2
	comp=Z,0.7nm,0.8s,baz=103,slow=2.0,SNR=4.7					
BRVK	**Borovoye**	**137.01 298**	*i* PKIKP	PKPdf	23 24 27.6	+4.9
YKA	**Yellowknife Ar**	**138.49 44**	PKhKP		23 24 20.1	
	comp=Z,0.7nm,0.7s,baz=217,slow=2.5,SNR=6.5					
YKA			PKP	PKPdf	23 24 24.6	-0.9
	comp=Z,0.7nm,0.7s,baz=218,slow=2.4,SNR=9.8					
YKA	**Yellowknife Ar**	**138.49 44**	PKP		23 24 20.1	
YKA			PKP	PKPdf	23 24 24.6	-0.9
GOF	**Gofitskoye**	**143.16 269**	*e*PKIKP	PKPdf	23 24 31.7	-2.2
BRTR	**Keskin Array B**	**143.25 254**	PKhKP		23 24 29.7	
	comp=Z,2.0nm,0.8s,baz=128,slow=8.0,SNR=9.8					
BRTR			PKP	PKPdf	23 24 33.9	-0.1
	comp=Z,1.8nm,0.8s,baz=147,slow=3.4,SNR=6.1					
ARU	**Arti**	**144.22 294**	*e*PKHKP		23 24 20.6	
SOKR	**Solikamsk**	**146.93 298** ⇑	*i*PKP2	PKPab	23 24 41.2	-2.5
SOKR			pmax	pmax		
	comp=Z,40nm,1.4s					
VRHR	**Novokhopersk**	**148.19 275**	*e*PKIKP	PKPdf	23 24 42.3	-0.2
VRHR			pmax	pmax		
	comp=N,10.0nm,1.4s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,1.4s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.8s					
TIRR	**Tirgusor**	**149.36 254** ⇑	P	PKiKP	23 24 50.4	+0.5
TIRR	**Tirgusor**	**149.36 254** ⇑	P	PKiKP	23 24 50.4	+0.5
CFR	**Carcaliu**	**150.05 254** ⇓	P	PKPdf	23 24 46.1	+0.6
CFR	**Carcaliu**	**150.05 254** ⇓	P	PKPdf	23 24 46.1	+0.6
RES	**Resolute Bay**	**151.17 33**	*e*PKIKP	PKPdf	23 24 50.5	+3.3
RES			*e*		23 24 57.7	
VRI	**Vrincioaia**	**151.21 254** ⇑	P	PKPab	23 25 00.4	-0.6
MLR	**Muntele Rosu**	**151.26 252**	PKPbc	PKPbc	23 24 51.4	-1.9
	comp=E,4.4nm,0.9s,baz=74,slow=2.4,SNR=4.6					
MLR	**Muntele Rosu**	**151.26 252** ⇓	P	PKPbc	23 24 52.1	-1.2
MLR	**Muntele Rosu**	**151.26 252** ⇓	P	PKPbc	23 24 52.1	-1.2
VOIR	**Voiron**	**151.61 251** ⇓	P	PKPbc	23 24 54.8	+0.7
OBN	**Obninsk**	**153.11 278**	*i* PKIKP	PKPdf	23 24 53.0	+2.9
OBN			*e*		23 25 02.3	
OBN			pmax	pmax		
	comp=Z,13nm,1.3s					
BZS	**Buzias**	**153.24 247** ⇑	P	PKPbc	23 24 56.5	-1.3
BZS	**Buzias**	**153.24 247** ⇑	P	PKPbc	23 24 56.5	-1.3
AKASG	**Malin Array Be**	**153.63 264**	PKPbc	PKPbc	23 24 55.5	-3.1
	comp=Z,0.3nm,0.4s,baz=100,slow=1.1,SNR=4.8					
AKASG			PKPab	PKPab	23 25 10.3	-0.9
	comp=Z,0.4nm,0.4s,baz=130,slow=3.3,SNR=6.9					
AKASG	**Malin Array Be**	**153.63 264**	PKPbc	PKPbc	23 24 55.5	-3.1
AKASG			PKPab	PKPab	23 25 10.3	-1.0
GERES	**GERESS Array B**	**159.09 242**	PKPab	PKPab	23 25 35.4	+0.7
	comp=Z,1.0nm,0.9s,baz=150,slow=2.9,SNR=5.0					

*INMG **25** 23:14:43.3±1.3, 4206N×807W, h18km±4km, ML2.1, Error ellipse: s-maj=2.5km s-min=2.5km az=106.0*
MDD 25 23:14:43.1±0.2, 4207N×808W, h20km±3km, mbLg2.3/15, 2C-2D, Error ellipse: s-maj=3.2km s-min=2.1km az=41.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.20**	**177**	⇑Pg	Pg	23 14 47.9	-0.2
	9.7nm,0.1s,SNR=18						
ELOB				Lg		23 14 51.3	
	218nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.36**	**174**	*e*Pg	Pg	23 14 50.4	-0.3
PCAB				*e*Sg	Sg	23 14 55.5	-0.3
PCAB							
	167nm,0.2s						
EZAM	**Zamans**	**0.47**	**281**	⇓Pg	Pg	23 14 52.2	-0.5
	13nm,0.1s,SNR=18						
EZAM				Lg		23 14 58.6	
	83nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**0.77**	**64**	Pg	Pg	23 14 57.1	-1.0
	20nm,0.2s						
ERUA				Lg		23 15 07.7	
	39nm,0.1s,SNR=24						
PVRL	**Vila Real**	**0.83**	**161**	*e*P	Pb	23 14 58.3	-0.6
PVRL				*e*S	Sb	23 15 09.8	+0.1
PVRL							
	121nm,0.2s						
STS	**Santiago**	**0.89**	**337**	⇓Pg	Pg	23 14 59.3	-1.2
	20nm,0.1s,SNR=18						
STS				Lg		23 15 10.7	
	86nm,0.1s,SNR=55						
ECAL	**Calabor**	**1.01**	**97**	⇑Pn	Pn	23 15 00.9	-1.2
	1.6nm,0.1s,SNR=18						
ECAL				Pg	Pg	23 15 01.7	-0.9
	3.8nm,0.1s,SNR=42						
ECAL				Lg		23 15 14.6	
	40nm,0.2s,SNR=48						
PBRG	**Braganca**	**1.03**	**104**	*e*P	Pb	23 15 01.1	-1.1
PBRG				*e*S	Sb	23 15 15.5	+0.2
PBRG							
	25nm,0.1s						
EMAZ	**Mazaricos**	**1.11**	**323**	Pn	Pn	23 15 01.9	-1.5
	0.9nm,0.2s,SNR=4.0						
EMAZ				Pg	Pg	23 15 02.8	-1.7
	3.6nm,0.1s,SNR=7.9						
EMAZ				Lg		23 15 17.3	
	17nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.44**	**28**	Pn	Pn	23 15 06.1	-1.8
	0.8nm,0.1s,SNR=16						
EPON				Pg	Pg	23 15 09.1	-1.7
	1.4nm,0.1s,SNR=7.9						
EPON				Sn	Sn	23 15 24.4	-1.9
	1.7nm,0.1s,SNR=4.0						
EPON				Lg		23 15 27.1	
	4.9nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.71**	**166**	*e*Sg	Sg	23 15 35.7	-2.6
MTE							
	12nm,0.4s						
MTE	**Manteigas**	**1.71**	**166**	Lg		23 15 35.7	
	6.1nm,0.4s						
PCBR	**Castelo Branco**	**2.27**	**168**	*e*Sg	Sg	23 15 53.6	-2.5
PCBR							
	5.2nm,0.3s						
PCBR	**Castelo Branco**	**2.27**	**168**	Lg		23 15 53.6	
	2.6nm,0.3s						
EARI	**Arriondas**	**2.45**	**59**	Pn	Pn	23 15 21.6	-0.3
	0.1nm,0.2s,SNR=7.9						
EARI				Pg	Pg	23 15 26.9	-3.1
	0.4nm,0.1s,SNR=7.9						
EARI				Sn	Sn	23 15 49.5	-1.7
	1.3nm,0.2s,SNR=7.9						
EARI				Lg		23 15 58.1	
	1.2nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.46**	**186**	*e*Sg	Sg	23 15 59.8	-2.3
PTOM							
	4.8nm,0.2s						
PTOM	**Tomar**	**2.46**	**186**	Lg		23 15 59.8	
	2.4nm,0.2s						
EBAD	**Badajoz**	**3.40**	**166**	Sn	Sn	23 16 10.6	-4.2
	1.6nm,0.2s,SNR=7.9						
EBAD				Lg		23 16 27.9	
	1.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.62**	**70**	Pn	Pn	23 15 38.0	0.0
	0.1nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	23 16 17.4	-2.7
	0.1nm,0.1s,SNR=7.9						
ELAN				Lg		23 16 34.1	
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.42**	**165**	Sn	Sn	23 16 35.3	-4.7
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		23 16 59.6	
	0.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.55**	**174**	Sn	Sn	23 16 39.3	-3.8
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.73**	**144**	Pn	Pn	23 15 51.8	-1.4
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	23 16 42.7	-4.8
	0.3nm,0.1s,SNR=7.9						
EADA				Lg		23 17 09.1	
	0.1nm,0.1s,SNR=4.0						

*IDC **25** 23:14:51.1±1.4, 6637N×1367E, h0km, mb1 3.1/4, mb1mx3.0/19, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=17.8km s-min=7.1km az=118.0*
*CSEM **25** 23:14:51.5±0.2, 6636N×1382E, h30km, ML2.7, Error ellipse: s-maj=3.5km s-min=3.3km az=113.0*
*NAO **25** 23:14:51.3±2.7, 6654N×1351E, h10km±17km, ML2.8*
HEL 25 23:14:50.3±0.1, 6644N×1333E, h9km±1km, ML2.8, MD2.8(BER), ML2.7(BER), 5C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.17**	**229** ⇑	*i*P	Pg	23 14 53.5	-0.4
STOK				*i* S	Sg	23 14 55.8	-0.4
STOK				AML	AML	23 14 56.0	
	comp=Z,5μm,0.2s						
STOK	**Stokkvaagen**	**0.17**	**229** ⇑	*i*P	Pg	23 14 53.5	-0.4
STOK				*e*S	Sg	23 14 55.8	-0.5
STOK				AML	AML	23 14 56.0	
	comp=Z,5μm,0.2s						
MOR8	**Moi Rana**	**0.53**	**121** ⇑	*i*P	Pg	23 15 00.4	-0.1
MOR8				*i* S	Sg	23 15 08.4	+1.0
MOR8				*i* S	Sg	23 15 09.0	+1.6
MOR8	**Moi Rana**	**0.53**	**121** ⇑	*i*P	Pg	23 15 00.4	-0.1
MOR8				*e*S	Sg	23 15 08.4	+1.0
MOR8				*e*S	Sg	23 15 09.0	+1.6
MOR8	**Moi Rana**	**0.53**	**121** ⇑	*i*P	Pg	23 15 00.4	-0.1
	SNR=96						
MOR8				*e*S	Sg	23 15 08.4	+0.9
	SNR=96						
LOF	**Lofoten**	**1.70**	**3**	*e*P	Pn	23 15 20.5	+0.4
LOF				*e*		23 15 41.8	
LOF				*e*S	Sn	23 15 42.2	+0.3
LOF				AML	AML	23 15 47.4	
	comp=Z,40nm,0.3s						
LOF	**Lofoten**	**1.70**	**3**	*e*P	Pn	23 15 20.5	+0.4
	SNR=50						
LOF				*e*S	Sn	23 15 42.2	+0.3
	comp=Z,40nm,0.3s,SNR=50						
NSS	**Namsos**	**2.00**	**197**	*e*P	Pn	23 15 24.1	-0.1
NSS				*e*S	Sn	23 15 51.0	+1.7
NSS				AML	AML	23 15 53.0	
	comp=Z,68nm,0.2s						
KIF	**Kilpisjarvi**	**3.84**	**44**	*e*P	Pn	23 15 50.2	+0.8
KIF				*e*S	Sn	23 16 33.3	-1.3
KIF				*e*SG	Sg	23 16 51.8	-1.7
KIF	**Kilpisjarvi**	**3.84**	**44**	P	Pn	23 15 50.2	+0.7
KIF				S	Sn	23 16 33.3	-1.3
MOL	**Molde**	**4.62**	**215**	*e*P	Pn	23 16 02.3	+2.1
MOL				*e*S	Sn	23 16 54.5	+0.6
DOMB	**Dombas**	**4.79**	**205**	*e*P	Pn	23 16 02.8	+0.2
VAF	**Ylistaro**	**5.26**	**126**	*e*P	Pn	23 16 10.2	+1.2
VAF				*e*S	Sn	23 17 07.9	-1.8
VAF				MSN		23 17 11.1	
	comp=Z,5.8nm,0.2s						
VAF				*e*SG	Sg	23 17 33.6	-5.5
SGF	**Sodankyl**	**5.29**	**73**	*e*P	Pn	23 16 09.0	-0.4
SGF				*e*S	Sn	23 17 08.6	-1.8
SGF				MSN		23 17 11.1	
	comp=Z,4.7nm,0.2s						
SGF				*e*SG	Sg	23 17 32.3	-7.7
SGF	**Sodankyl**	**5.29**	**73**	P	Pn	23 16 08.9	-0.5
SGF				S	Sn	23 17 08.5	-1.9
	comp=Z,4.7nm,0.2s						
OUL	**Oulu**	**5.36**	**99**	*e*P	Pn	23 16 09.4	-0.9
OUL				*e*S	Sn	23 17 08.9	-3.2
OUL				MSN		23 17 10.8	
	comp=Z,5.4nm,0.2s						
OUL				*e*SG	Sg	23 17 35.1	-7.1
OUL	**Oulu**	**5.36**	**99**	P	Pn	23 16 09.4	-0.9
OUL				S	Sn	23 17 08.8	-3.3
	comp=Z,5.4nm,0.2s						
NB2	**NORSAR Subarra**	**5.50**	**191**	Pn	Pn	23 16 14.1	+1.7
	baz=14,slow=14						
NB2				Lg		23 17 37.4	
	baz=12,slow=37						
NOA	**NORSAR Array B**	**5.50**	**191**	Pn	Pn	23 16 13.4	+1.0
	comp=Z,0.3nm,0.3s,baz=0.5,slow=14,SNR=2.8						
NOA				Sn	Sn	23 17 13.6	-2.2
	comp=Z,1.1nm,0.3s,baz=47,slow=15,SNR=3.9						
NOA				Lg		23 17 40.8	
	comp=Z,3.0nm,0.3s,baz=320,slow=10,SNR=6.9						
ARA0	**ARCESS Array S**	**5.53**	**50**	Pn	Pn	23 16 12.1	-0.7
	baz=235,slow=14						
ARA0				Sn	Sn	23 17 13.6	-2.8
	baz=232,slow=22						
ARA0				Lg		23 17 40.5	
	baz=232,slow=28						
ARCES	**ARCESS Array B**	**5.53**	**50**	Pn	Pn	23 16 12.4	-0.3
	comp=Z,0.2nm,0.3s,baz=236,slow=15,SNR=13						
ARCES				Sn	Sn	23 17 13.6	-2.8
	comp=Z,3.6nm,0.3s,baz=238,slow=20,SNR=9.9						
ARCES				Lg		23 17 40.6	
	comp=Z,3.6nm,0.3s,baz=235,slow=28,SNR=7.8						
KEV	**Kevo**	**6.10**	**51**	*e*P	Pn	23 16 20.0	-0.6
KEV				*e*S	Sn	23 17 27.5	-2.9
KEV				MSN		23 17 33.6	
	comp=Z,2.6nm,0.2s						
KEV				*e*SG	Sg	23 17 57.8	-8.3
KEV	**Kevo**	**6.10**	**51**	P	Pn	23 16 19.9	-0.6
KEV				S	Sn	23 17 27.4	-3.0
	comp=Z,2.6nm,0.2s						
HFS	**Hagfors**	**6.34**	**178**	Pn	Pn	23 16 24.9	+1.1
	baz=1.4,slow=10						
HFS				Lg		23 18 05.1	
	baz=360,slow=28						
HFS	**Hagfors**	**6.34**	**178**	Pn	Pn	23 16 24.8	+1.0
	comp=Z,0.2nm,0.3s,baz=5.7,slow=12,SNR=10						
HFS				Sn	Sn	23 17 33.5	-2.8
	comp=Z,0.5nm,0.3s,baz=358,slow=19,SNR=3.4						
HFS				Lg		23 18 05.3	
	comp=Z,1.6nm,0.3s,baz=14,slow=26,SNR=6.6						
KJN	**Kajaani**	**6.48**	**105**	*e*P	Pn	23 16 24.2	-1.6
KJN				*e*S	Sn	23 17 35.5	-4.3
KJN				*e*SG	Sg	23 18 11.0	-7.3
KJN	**Kajaani**	**6.48**	**105**	P	Pn	23 16 24.1	-1.7
KJN				S	Sn	23 17 35.4	-4.4
KU4	**Liikasenvaara**	**6.53**	**83**	*e*P	Pn	23 16 25.1	-1.3
KU4				*e*S	Sn	23 17 36.3	-4.6
KU4				MSN		23 17 41.8	
	comp=Z,2.0nm,0.2s						
KU4				*e*SG	Sg	23 18 11.3	-8.4
KU4	**Liikasenvaara**	**6.53**	**83**	P	Pn	23 16 25.1	-1.3
KU4				S	Sn	23 17 36.2	-4.7
	comp=Z,2.0nm,0.2s						
KEF	**Keuruu**	**6.60**	**125**	*e*P	Pn	23 16 26.5	-0.9
KEF				*e*S	Sn	23 17 38.8	-3.9
KEF				MSN		23 17 44.0	
	comp=Z,2.5nm,0.2s						
KEF				*e*SG	Sg	23 18 14.2	-7.9
KEF	**Keuruu**	**6.60**	**125**	P	Pn	23 16 26.5	-0.9
KEF				S	Sn	23 17 38.8	-3.9
	comp=Z,2.5nm,0.2s						
RAF	**Rauma**	**6.60**	**142**	*e*P	Pn	23 16 27.5	+0.1
RAF				*e*S	Sn	23 17 39.3	-3.4
RAF				*e*SG	Sg	23 18 13.8	-8.3
RAF	**Rauma**	**6.60**	**142**	P	Pn	23 16 27.5	+0.1
RAF				S	Sn	23 17 39.3	-3.4
SUF	**Sumiainen**	**6.66**	**118**	*e*P	Pn	23 16 26.8	-1.5
SUF				*e*S	Sn	23 17 39.7	-4.5
SUF				MSN		23 17 45.6	
	comp=Z,2.2nm,0.2s						
SUF				*e*SG	Sg	23 18 15.4	-8.6
SUF	**Sumiainen**	**6.66**	**118**	P	Pn	23 16 26.7	-1.6
SUF				S	Sn	23 17 39.7	-4.5
	comp=Z,2.2nm,0.2s						
KAF	**Kangasniemi**	**7.12**	**122**	*e*P	Pn	23 16 33.5	-1.0
KAF				*e*S	Sn	23 17 52.4	-3.1
KAF				MSN		23 17 55.7	
	comp=Z,1.3nm,0.2s						
KAF				*e*SG	Sg	23 18 29.4	-9.4
KAF	**Kangasniemi**	**7.12**	**122**	P	Pn	23 16 33.5	-1.0
KAF				S	Sn	23 17 52.4	-3.1
	comp=Z,1.3nm,0.2s						
FIA0	**FINESS Array S**	**7.52**	**126**	Pn	Pn	23 16 38.9	-1.1
	baz=323,slow=12						
FIA0				Sn	Sn	23 18 03.6	-1.7
	baz=325,slow=28						
FIA0				Lg		23 18 40.4	
	baz=326,slow=28						
FIA0	**FINESS Array S**	**7.52**	**126**	*e*P	Pn	23 16 38.8	-1.2
FIA0				*e*S	Sn	23 18 00.5	-4.9
FIA0				*e*SG	Sg	23 18 40.9	-11
FIA0	**FINESS Array S**	**7.52**	**126**	P	Pn	23 16 38.8	-1.2
FIA0				S	Sn	23 18 00.4	-5.0
FINES	**FINESS Array B**	**7.52**	**126**	Pn	Pn	23 16 38.9	-1.2
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=12						
FINES				Sn	Sn	23 18 01.7	-3.6
	comp=Z,0.7nm,0.3s,baz=323,slow=15,SNR=4.2						
FINES				Lg		23 18 40.9	
	comp=Z,1.1nm,0.3s,baz=325,slow=25,SNR=5.8						
APA0	**Apatity Array**	**7.78**	**72**	Pn	Pn	23 16 42.6	-0.9
	baz=266,slow=12						
APA0				Sn	Sn	23 18 05.0	-6.7
	baz=276,slow=28						
MEF	**Metsahovi**	**7.98**	**136**	*e*P	Pn	23 16 45.1	-1.2
MEF				*e*S	Sn	23 18 11.9	-4.7
MEF				MSN		23 18 19.3	
	comp=Z,2.1nm,0.2s						
MEF				*e*SG	Sn	23 18 55.3	+39
MEF	**Metsahovi**	**7.98**	**136**	P	Pn	23 16 45.1	-1.2
PVF	**Pernaja**	**8.14**	**131**	*e*P	Pn	23 16 47.4	-1.2
PVF				*e*S	Sn	23 18 15.2	-5.4
PVF				MSN		23 18 19.4	
	comp=Z,2.0nm,0.2s						
PVF				*e*SG	Sn	23 19 02.2	+42
JOF	**Joensuu**	**8.47**	**106**	*e*P	Pn	23 16 52.1	-0.9
JOF				*e*S	Sn	23 18 23.5	-5.2
JOF				*e*SG	Sn	23 19 11.4	+43

*NIED **25** 23:38:00, 3530N×14130E, h17km, Mw4.0 Best double couple: M0 1.32000×10^15 NP1:φs=44.00000°, δ=87.00000°, λ=67.00000°. NP2:φs=308.00000°, δ=23.00000°, λ=173.00000°.*
*JMA **25** 23:38:20.5±0.1, 3528N×14125E, h39km±2km, M3.8*
*ISCJB **25** 23:38:20.3±0.9, 3527N±003×14129E±008, h33km±8km, mb4.0/14, MS3.9/2, Error ellipse: s-maj=10.7km s-min=5.6km az=0.8*
*NEIC **25** 23:38:20.6, 3528N×14126E, h39km, MG3.8(JMA), After JMA.*
*IDC **25** 23:38:23.0±4.7, 3519N×141.11E, h35km±36km, mb3.8/10, mb1 4.0/13, mb1mx3.8/21, mbtmp4.1/13, ML3.9/3, MS3.7/3, Ms1 3.7/3, ms1mx2.8/29, Error ellipse: s-maj=31.9km s-min=14.3km az=73.0*
*MOS **25** 23:38:23.1±0.6, 3517N×14106E, h56km, mb4.1/10, Error ellipse: s-maj=25.8km s-min=10.6km az=128.1*
ISC 25 23:38:20.8±1.0, 3526N±003×14126E±007, h25km±7km, n47, o0.93/56, mb4.0/14, MS3.9/2, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**323**	P	**Pb**	**23 38 31.7**	**-0.1**
CHOJ				S	**Sb**	**23 38 39.2**	**-0.1**
BSO1	**Boso 1**	**0.65**	**201**	P	**Pb**	**23 38 33.2**	**-0.

comp=Z,12nm,0.3s
MAJO Matsushiro 2.79 298 *e*P **Pn 23 39 06.0 +2.1**
MAT Matsushiro 2.79 298 P **Pn 23 39 05.3 +1.4**
MAT S **Sn 23 39 53.0 +16**
MAT Matsushiro 2.79 298 *e*P **Pn 23 39 05.0 +1.1**
MAT *e*S **Sn 23 39 53.0 +16**
CBIJ Chichi jima 8.18 174 Pn **Pn 23 40 16.8 -1.1**
comp=Z,9.8nm,0.3s,baz=320,slow=13,SNR=4.1
CBIJ Sn **Sn 23 41 47.2 -2.3**
comp=Z,5.3nm,0.3s,baz=261,slow=19,SNR=2.2
ASAJ Asahikawa 8.90 6 Pn **Pn 23 40 26.8 -1.0**
comp=Z,2.9nm,0.3s,baz=210,slow=9.6,SNR=12
ASAJ LR LR 23 44 23.2
comp=Z,127nm,21.4s,baz=161,slow=40
ASAJ Asahikawa 8.90 6 P **Pn 23 40 26.8 -1.0**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,127nm,21.4s
SONM Songino Array 28.71 307 P **P 23 44 16.1 +0.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=111,slow=9.1,SNR=13
SONM Songino Array 28.71 307 P **P 23 44 16.1 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.5s
BOD Bodaibo 28.98 330 *e*P **P 23 44 18.2 -0.1**
TIXI Tiksi 37.03 354⇑*i*P **P 23 45 24.6 -3.9**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb3.9
TIXI MLR MLR
comp=Z,67nm,17.0s,MS3.5
MKAR Makanchi Array 44.98 304 P **P 23 46 34.5 +0.5**
comp=Z,1.6nm,0.6s,mb4.0,baz=88,slow=8.7,SNR=8.8
MKAR Makanchi Array 44.98 304 P **P 23 46 34.5 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 46.95 309 *e*P **P 23 46 49.2 -0.2**
comp=Z,9.1nm,0.2s
KDAK Kodiak Island 48.51 41 LR LR 00 06 33.6
comp=Z,286nm,21.2s,MS4.2,baz=99,slow=35
ILAR Eielson Array 51.06 32 P **P 23 47 22.5 +1.5**
comp=Z,0.7nm,0.9s,mb3.6,baz=251,slow=7.2,SNR=5.4
ILAR Eielson Array 51.06 32 P **P 23 47 22.5 +1.5**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 51.69 313 P **P 23 47 25.9 +0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=95,slow=7.5,SNR=7.6
BVAR Borovoye Array 51.69 313 P **P 23 47 25.9 +0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
ZRNK Zerenda 52.52 313 *e*P **P 23 47 32.1 +0.2**
comp=Z,1.2nm,0.3s,mb4.3
WRAB Tennant Creek 55.28 188 *e*P **P 23 47 51.9 -0.1**
comp=Z,25nm,1.3s,mb5.1
WRA Warramunga Arr 55.29 188 P **P 23 47 52.2 +0.1**
comp=Z,6.4nm,1.0s,mb4.6,baz=5.8,slow=7.6,SNR=27
WRA Warramunga Arr 55.29 188 P **P 23 47 52.2 +0.1**
WRA pmax pmax
comp=Z,6.0nm,1.0s
ASAR Alice Springs 59.02 188 P **P 23 48 19.5 +1.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=17,slow=12,SNR=11
ASAR Alice Springs 59.02 188 P **P 23 48 19.5 +1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 67.47 332 *e*p **P 23 49 14.6 +0.1**
comp=Z,1.8nm,0.7s,mb4.2
JOF Joensuu 67.47 332 *e*P **P 23 49 14.6 +0.1**
JOF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
FINES FINESS Array B 70.33 332 P **P 23 49 32.5 +0.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=64,slow=6.6,SNR=4.8
FINES FINESS Array B 70.33 332 P **P 23 49 32.5 +0.3**
FINES pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 75.62 323 P **P 23 50 03.7 0.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=49,slow=5.6,SNR=5.0
AKASG Malin Array Be 75.62 323 P **P 23 50 03.7 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 75.77 337 P **P 23 50 05.3 +0.8**
comp=Z,1.2nm,0.9s,mb3.8,baz=45,slow=5.1,SNR=2.5
NOA NORSAR Array B 75.77 337 P **P 23 50 05.3 +0.8**
NOA pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 84.15 328 P **P 23 50 50.2 +0.5**
comp=Z,0.6nm,0.8s,mb3.8,baz=44,slow=4.1,SNR=4.8
GERES GERESS Array B 84.15 328 P **P 23 50 50.2 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s

MEX 25 23:50:37.2±0.8, 1656N×9823W, h40km±268km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UTMO	**Huajuapan**	**1.32**	**18**	*e*P	Pn	23 50 57.7	-1.5
UTMO				*i* S	Sn	23 51 14.4	-1.2
VHO	**Vista Hermosa**	**1.52**	**70**	*i* P	Pn	23 51 00.5	-1.3
VHO				*i* S	Sn	23 51 17.9	-2.5
OXX	**Oaxaca**	**1.53**	**70**	*i* P	Pn	23 51 02.0	0.0
OXX				*i* S	Sn	23 51 19.5	-1.2
TPIG	**Tehuac#an**	**2.02**	**24**	*i* P	Pn	23 51 08.3	-0.5
TPIG				*i* S	Sn	23 51 30.8	-2.0
PLIG	**Platanillo**	**2.19**	**326**	*e*P	Pn	23 51 08.7	-2.3
PLIG				*i* S	Sn	23 51 34.0	-2.9
PPM	**Popocatepetl**	**2.52**	**351**	*i* P	Pn	23 51 18.0	+2.4
PPM				*i* S	Sn	23 51 48.0	+3.0

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*ISCJB **25** 23:51:52.6±2.0, 361S±02×1796W±02, h47km±20km, mb3.8/3, Error ellipse: s-maj=37.0km s-min=17.2km az=70.6*
*IDC **25** 23:51:52.1±2.9, 3575S×17990E, h0km, mb3.9/2, mb1 4.2/3, mb1mx4.0/11, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=69.9km s-min=42.9km az=130.0*
*NEIC **25** 23:51:54.0±2.9, 3611S×17955W, h45km, mb4.1/1, Error ellipse: s-maj=44.5km s-min=14.2km az=92.0*
ISC 25 23:51:53.8±2.9, 360S±01×1796W±03, h34km±30km, n20, σ0§73/26, mb3.8/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.27**	**227**	PN	**Pn**	**23 52 29.3**	**+0.6**
MXZ				SN	**Sn**	**23 52 55.3**	**-0.2**
MXZ	**Matakaoa Point**	**2.27**	**227**	*e*P	**Pn**	**23 52 29.3**	**+0.5**
MXZ				S	**Sn**	**23 53 02.3**	**+6.8**
PUZ	**Puketiti**	**2.66**	**219**	PN	**Pn**	**23 52 34.6**	**+0.5**
PUZ				SN	**Sn**	**23 53 06.1**	**+1.0**
PUZ	**Puketiti**	**2.66**	**219**	*e*P	**Pn**	**23 52 35.1**	**+0.9**
PUZ				S	**Sn**	**23 53 06.1**	**+0.9**
MWZ	**Matawai**	**3.24**	**224**	PN	**Pn**	**23 52 42.9**	**+0.7**
MWZ				SN	**Sn**	**23 53 20.2**	**+0.7**
MWZ	**Matawai**	**3.24**	**224**	*e*P	**Pn**	**23 52 42.9**	**+0.7**
MWZ				S	**Sn**	**23 53 19.7**	**+0.1**
URZ	**Urewera**	**3.44**	**229**	Pn	**Pn**	**23 52 45.1**	**+0.3**
	12nm,0.3s,baz=352,slow=1.7,SNR=55						
URZ				Sn	**Sn**	**23 53 23.0**	**-1.3**
	13nm,0.3s,baz=29,slow=23,SNR=6.0						
URZ	**Urewera**	**3.44**	**229**	PN	**Pn**	**23 52 45.1**	**+0.3**
URZ	**Urewera**	**3.44**	**229**	P	**Pn**	**23 52 45.1**	**+0.2**
KUZ	**Kuaotunu**	**3.83**	**258**	PN	**Pn**	**23 52 50.3**	**+0.1**
KUZ	**Kuaotunu**	**3.83**	**258**	*e*P	**Pn**	**23 52 50.3**	**0.0**
BKZ	**Black Stump Fm**	**4.40**	**223**	PN	**Pn**	**23 52 58.8**	**+0.6**
BKZ	**Black Stump Fm**	**4.40**	**223**	P	**Pn**	**23 52 57.3**	**-0.8**
BFZ	**Birch Farm**	**5.67**	**214**	*e*P	**Pn**	**23 53 14.5**	**-1.1**
MRZ	**Mangatainoka R**	**5.97**	**218**	PN	**Pn**	**23 53 18.9**	**-0.8**
MRZ	**Mangatainoka R**	**5.97**	**218**	*e*P	**Pn**	**23 53 18.2**	**-1.5**
ASAR	**Alice Springs**	**41.79**	**274**	P	**P**	**23 59 40.3**	**+0.4**
	1.1nm,0.7s,mb3.6,baz=120,slow=7.7,SNR=15						
WRAB	**Tennant Creek**	**43.29**	**279**	*e*P	**P**	**23 59 51.7**	**-0.4**
	1.7nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**43.29**	**279**	P	**P**	**23 59 52.2**	**+0.1**
	1.4nm,0.6s,mb3.9,baz=119,slow=7.7,SNR=28						
FINES	**FINESS Array B**	**149.83**	**336**	PKPbc	PKPbc	00 11 41.8	+1.6
	0.9nm,0.6s,baz=46,slow=6.0,SNR=9.0						

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*IDC **25** 23:56:18.6±3.2, 3574S×17943E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/11, mbtmp3.6/3, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=70.2km s-min=34.5km az=113.0*
*ISCJB **25** 23:56:19.5±2.4, 3635S±03×1796W±03, h77km±31km, mb3.4/2, Error ellipse: s-maj=66.6km s-min=22.1km az=104.9*
*WEL **25** 23:56:20.3±0.4, 3595S×17993W, h33km, ML3.9/6, Error ellipse: s-maj=6.5km s-min=4.6km az=90.0*
*NEIC **25** 23:56:21.1, 3596S×18000E, h33km, ML3.6(WEL), After WEL.*
ISC 25 23:56:20.4±2.3, 361S±04×1798W±04, h51km±41km, n17, σ0§63/20, mb3.4/2, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.10**	**225**	PN	**Pn**	**23 56 53.4**	**+0.5**
MXZ				SN	**Sn**	**23 57 17.8**	**-0.1**
MXZ	**Matakaoa Point**	**2.10**	**225**	*e*P	**Pn**	**23 56 53.1**	**+0.1**
PUZ	**Puketiti**	**2.50**	**217**	PN	**Pn**	**23 56 58.8**	**+0.2**
PUZ				SN	**Sn**	**23 57 28.3**	**+0.4**
PUZ	**Puketiti**	**2.50**	**217**	*e*P	**Pn**	**23 56 59.3**	**+0.7**
MWZ	**Matawai**	**3.08**	**222**	PN	**Pn**	**23 57 06.6**	**+0.2**
MWZ				SN	**Sn**	**23 57 42.2**	**+0.3**
MWZ	**Matawai**	**3.08**	**222**	P	**Pn**	**23 57 06.6**	**+0.2**
URZ	**Urewera**	**3.26**	**227**	Pn	**Pn**	**23 57 09.1**	**+0.1**
	7.4nm,0.3s,baz=57,slow=3.8,SNR=25						
URZ				Sn	**Sn**	**23 57 46.7**	**+0.1**
	9.5nm,0.3s,baz=337,slow=20,SNR=8.4						
URZ	**Urewera**	**3.26**	**227**	PN	**Pn**	**23 57 09.0**	**0.0**
URZ				SN	**Sn**	**23 57 45.2**	**-1.3**
URZ	**Urewera**	**3.26**	**227**	P	**Pn**	**23 57 09.0**	**0.0**
BKZ	**Black Stump Fm**	**4.24**	**222**	PN	**Pn**	**23 57 23.2**	**+0.8**
BKZ	**Black Stump Fm**	**4.24**	**222**	*e*P	**Pn**	**23 57 22.2**	**-0.1**
MRZ	**Mangatainoka R**	**5.82**	**217**	PN	**Pn**	**23 57 42.4**	**-1.6**
MRZ	**Mangatainoka R**	**5.82**	**217**	*e*P	**Pn**	**23 57 42.3**	**-1.7**
RAO	**Raoul Island**	**7.00**	**14**	LR	LR	00 00 16.9	
	comp=Z,419nm,19.0s,baz=117,slow=35						
ASAR	**Alice Springs**	**41.61**	**274**	P	**P**	**00 04 03.7**	**+0.3**
	0.4nm,0.5s,mb3.3,baz=120,slow=7.7,SNR=8.1						
WRA	**Warramunga Arr**	**43.12**	**279**	P	**P**	**00 04 15.4**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=119,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**149.80**	**335**	PKPbc	PKPbc	00 16 07.7	+3.1
	0.8nm,0.8s,baz=59,slow=5.4,SNR=3.6						

IDC 26 00:08:31.4±49.0, 2382S×17912W, h469km±163km, mb3.5/4, mb1 3.7/4, mb1mx3.3/13, mbtmp4.4/4, Error ellipse: s-maj=649.8km s-min=106.8km az=79.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.28**	**270**	P	P	00 14 21.2	+0.9
	8.9nm,0.5s,baz=112,slow=5.4,SNR=10						
STKA	**Stephens Creek**	**35.50**	**248**	P	P	00 14 46.2	-1.2
	1.0nm,0.5s,baz=79,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**42.84**	**260**	P	P	00 15 47.5	+0.5
	2.6nm,0.7s,baz=92,slow=7.9,SNR=42						
ASAR				ScP	ScP	00 20 33.0	-0.6
	0.4nm,0.9s,baz=116,slow=3.6,SNR=4.4						
WB2	**Warramunga Arr**	**43.21**	**266**	*e*P	P	00 15 49.7	-0.1
WRA	**Warramunga Arr**	**43.22**	**266**	P	P	00 15 49.9	0.0
	4.2nm,0.3s,baz=96,slow=8.4,SNR=280						
WRA				ScP	ScP	00 20 35.8	+0.8
	0.1nm,0.3s,baz=99,slow=3.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**51.64**	**265**	*e*P	P	00 16 54.8	+1.3
	3.7nm,0.7s						

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*ISCJB **26** 00:21:59.4±0.5, 4736N±003×1172E±003, h11km±7km, Error ellipse: s-maj=4.7km s-min=3.9km az=146.9*
*CSEM **26** 00:22:00.3±0.1, 4731N×1167E, h12km, ML2.5/5, Error ellipse: s-maj=2.2km s-min=1.6km az=163.0*
*VIE **26** 00:22:00.1±0.2, 4733N×1169E, h8km±1km, ML2.0/6, Error ellipse: s-maj=2.1km s-min=0.8km az=171.0 2 km NW of Maria Sieg*
*PRU **26** 00:22:00.8, 4732N×1182E, h0km*
*ROM **26** 00:22:02.0±0.8, 4729N×1170E, h10km, Md2.6/3, Ml1.7/3, Error ellipse: s-maj=9.6km s-min=4.6km az=164.0*
ISC 26 00:22:00.5±0.5, 4735N±003×1170E±003, h8km±7km, n20, σ0§60/31, 14C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.09**	**261**	*e*Pg	**Pg**	**00 22 02.7**	**0.0**
	comp=Z,66nm,0.1s,SNR=133						
WATA	**Walderalm**	**0.09**	**261**	⇑*i*Pg	**Pg**	**00 22 02.7**	**0.0**
	75nm,0.1s,SNR=133						
WATA				⇑*i*Sg	**Sg**	**00 22 04.2**	**0.0**
	388nm,0.1s						
WTTA	**Wattenberg**	**0.10**	**208**	*e*Pg	**Pg**	**00 22 03.0**	**+0.2**
	comp=Z,111nm,0.1s,SNR=715						
WTTA	**Wattenberg**	**0.10**	**208**	⇓*e*Pg	**Pg**	**00 22 03.0**	**+0.2**
	111nm,0.1s,SNR=715						
WTTA				⇑*i*Sg	**Sg**	**00 22 04.2**	**-0.2**
	353nm,0.1s						
SQTA	**Sankt Quirin**	**0.36**	**249**	⇑*e*Pg	**Pg**	**00 22 07.3**	**-0.3**
	comp=Z,14nm,0.1s,SNR=91						
SQTA	**Sankt Quirin**	**0.36**	**249**	⇑*i*Pg	**Pg**	**00 22 07.2**	**-0.4**
	11nm,0.1s,SNR=91						
SQTA				⇑*i*Sg	**Sg**	**00 22 12.3**	**0.0**
	34nm,0.1s						
MOTA	**Moosalm**	**0.41**	**270**	⇑*e*Pg	**Pg**	**00 22 07.8**	**-0.6**
	comp=Z,3.3nm,0.1s,SNR=35						
MOTA	**Moosalm**	**0.41**	**270**	⇑*i*Pg	**Pg**	**00 22 07.8**	**-0.6**
	3.3nm,0.1s,SNR=35						
MOTA				⇓*i*Sg	**Sg**	**00 22 13.6**	**-0.2**
	8.5nm,0.1s						
APPI	**Appiano**	**0.93**	**201**	Pg	**Pg**	**00 22 18.4**	**0.0**
APPI				Sg	**Sg**	**00 22 30.0**	**-0.5**
	14nm,0.3s						
FVI	**Forni Avoltri**	**1.05**	**135**	Pg	**Pg**	**00 22 20.9**	**+0.1**
FVI				Sg	**Sg**	**00 22 34.3**	**-0.2**
	8.0nm,0.6s						
KBA	**Koelnbreinsper**	**1.15**	**103**	⇑*e*Pg	**Pg**	**00 22 22.5**	**-0.1**
	0.5nm,0.1s						
KBA				⇑*i*Sg	**Sg**	**00 22 38.1**	**+0.5**
	1.2nm,0.2s						
DAVA	**Damuels**	**1.24**	**268**	⇑*e*Pg	**Pg**	**00 22 24.7**	**+0.3**
	comp=Z,6.8nm,0.2s,SNR=12						
DAVA	**Damuels**	**1.24**	**268**	⇑Sg	**Sg**	**00 22 40.8**	**+0.4**
	comp=N,9.2nm,0.2s						
DAVA	**Damuels**	**1.24**	**268**	⇓*i*Pg	**Pg**	**00 22 25.4**	**+1.1**
	6.8nm,0.2s,SNR=12						
DAVA				⇓*i*Sg	**Sg**	**00 22 42.5**	**+2.1**
	8.2nm,0.3s						
DAVA	**Damuels**	**1.24**	**268**	Pg	**Pg**	**00 22 25.4**	**+1.1**
	6.8nm,0.2s,SNR=12						
CTI	**Castel Tesino**	**1.30**	**182**	Pg	**Pg**	**00 22 25.3**	**-0.2**
CTI				Sg	**Sg**	**00 22 42.2**	**-0.2**
	27nm,0.4s						
MOA	**Molln**	**1.81**	**73**	⇑*i*Pg	**Pg**	**00 22 35.1**	**-0.1**
	0.9nm,0.2s						
MOA				⇓*i*Sg	**Sg**	**00 23 00.0**	**+1.5**
	1.9nm,0.2s						
KHC	**Kasperske Hory**	**2.18**	**34**	*e*PN	**Pn**	**00 22 37.0**	**-0.1**
KHC				*ex*	x	00 22 41.3	
KHC				*e*SG	**Sg**	**00 23 10.4**	**-0.1**
NKC	**Novy Kostel**	**2.93**	**9**	*e*SG	**Sg**	**00 23 34.8**	**+0.2**
PRU	**Pruhonice**	**3.24**	**34**	*e*SG	**Sg**	**00 23 43.0**	**-1.7**

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*ISCJB **26** 00:35:39.2±0.4, 6779N±002×2011E±007, h0km, Error ellipse: s-maj=3.8km s-min=3.5km az=56.3*
*HEL **26** 00:35:40.9±0.1, 6783N×2019E, h0km, ML2.1, ML1.8(UPP), ML1.8(BER), Explosion*
*NAO **26** 00:35:40.9±2.9, 6773N×2047E, ML2.0*
*BER **26** 00:35:42.4±3.4, 6779N×2026E, h0km, ML1.8, ML2.0(NAO), Suspected explosion*
ISC 26 00:35:40.0±0.4, 6778N±002×2019E±006, h0km, n26, σ1§01/34, 2D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**18**	⇓*i*P	**Pg**	**00 35 42.8**	**-0.7**
KUA				*i* S	**Sg**	**00 35 44.8**	**-1.1**
NIKU	**Nikkaluokta**	**0.45**	**282**	⇓*i*P	**Pg**	**00 35 48.4**	**-0.1**
DUNU	**Dundret**	**0.68**	**167**	*i* P	**Pg**	**00 35 53.5**	**+0.5**
DUNU				*i* S	**Sg**	**00 36 03.7**	**+2.0**
SALU	**Saltoluokta**	**0.76**	**239**	*i* P	**Pg**	**00 35 54.7**	**+0.2**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P	**Pg**	**00 36 04.3**	**+0.3**
KIF				*e*S	**Sg**	**00 36 20.0**	**-0.2**
PAJU	**Pajala**	**1.36**	**123**	*e*P	**Pg**	**00 36 05.3**	**-0.8**
PAJU				*e*S	**Sg**	**00 36 23.7**	**-0.1**
ERTU	**Ertsjaerv**	**1.46**	**147**	*e*P	**Pn**	**00 36 07.4**	**-0.2**
KTK1	**Kautokeino**	**1.68**	**41**	*e*P	**Pn**	**00 36 10.7**	**+0.1**
KTK1				*e*SN	**Sn**	**00 36 34.8**	**+2.1**
KTK1				AML	AML	00 36 36.8	
	comp=Z,11nm,0.5s						
SGF	**Sodankyl**	**2.45**	**95**	*e*P	**Pn**	**00 36 21.9**	**+0.6**
SGF				*e*S	**Sn**	**00 36 53.8**	**+1.9**
LOF	**Lofoten**	**2.53**	**281**	*e*SG	**Sg**	**00 37 02.2**	**+0.8**
ARA0	**ARCESS Array S**	**2.63**	**45**	Pn	**Pn**	**00 36 23.5**	**-0.1**
	baz=230,slow=14						
ARA0				Sn	**Sn**	**00 36 56.2**	**0.0**
	baz=227,slow=28						
ARA0	**ARCESS Array S**	**2.63**	**45**	*e*P	**Pn**	**00 36 23.5**	**-0.1**
ARA0				*e*S	**Sn**	**00 36 56.2**	**0.0**
MOR8	**Moi Rana**	**2.78**	**237**	*e*SG	**Sg**	**00 37 03.1**	**-6.2**
MOR8				AML	AML	00 37 05.8	
	comp=Z,13nm,0.6s						
STOK	**Stokkvaagen**	**3.16**	**246**	*e*SG	**Sg**	**00 37 22.3**	**+0.7**
KEV	**Kevo**	**3.18**	**48**	*e*P	**Pn**	**00 36 31.6**	**+0.3**
KEV				*e*S	**Sn**	**00 37 10.0**	**+0.2**
KEV				MSG		00 37 18.1	
	comp=Z,5.7nm,0.3s						
OUL	**Oulu**	**3.55**	**137**	*e*PB	**Pb**	**00 36 42.8**	**-0.8**
OUL				*e*SB	**Sb**	**00 37 26.2**	**-1.0**
NSS	**Namsos**	**4.66**	**229**	*e*SG	**Sg**	**00 38 07.2**	**-2.7**
VAF	**Ylistaro**	**4.87**	**167**	*e*SG	**Sg**	**00 38 12.0**	**-4.5**
VAF				MSG		00 38 20.1	
	comp=Z,2.0nm,0.4s						
APA0	**Apatity Array**	**4.88**	**86**	Pn	**Pn**	**00 36 53.9**	**-0.8**
	baz=293,slow=14						
APA0				Sn	**Sn**	**00 37 48.4**	**-3.5**
	baz=280,slow=28						
APA0				Lg		00 38 09.9	
	baz=288,slow=37						
APA0	**Apatity Array**	**4.88**	**86**	*e*P	**Pn**	**00 36 53.9**	**-0.8**
APA0				*e*S	**Sn**	**00 37 48.4**	**-3.5**
APA0				*e*SG	**Sg**	**00 38 09.9**	**-7.0**
FIA0	**FINESS Array S**	**6.84**	**156**	Lg		00 39 13.8	
	baz=348,slow=37						
FIA0	**FINESS Array S**	**6.84**	**156**	*e*SG	**Sg**	**00 39 13.8**	**-5.9**
FIA0	**FINESS Array S**	**6.84**	**156**	Lg		00 39 13.8	
	baz=348,slow=37						
HFS	**Hagfors**	**8.18**	**203**	Lg		00 39 58.0	
	baz=20,slow=37						
HFS	**Hagfors**	**8.18**	**203**	*e*		00 39 58.0	
HFS	**Hagfors**	**8.18**	**203**	Lg		00 39 58.0	
	baz=20,slow=37						

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*NEIC **26** 00:36:00.9, 1693N×10031W, h33km, MD3.7(MEX), After MEX.*
MEX 26 00:36:00.9±0.5, 1693N×10031W, h33km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.12**	**19**	*i* P	Pb	00 36 05.6	-1.3
CAIG				*i* S	Sb	00 36 09.2	-1.7
ACX	**Acapulco**	**0.38**	**99**	*i* P	Pb	00 36 08.0	-1.8
ACX				*i* S	Sb	00 36 14.0	-1.8
MEIG	**Mezcala**	**1.19**	**33**	*i* P	Pn	00 36 19.3	-1.9
MEIG				*i* S	Sn	00 36 33.4	-2.8
PLIG	**Platanillo**	**1.65**	**28**	*i* P	Pn	00 36 26.2	-1.2
PLIG				*i* S	Sn	00 36 45.1	-2.3
UTMO	**Huajuapan**	**2.56**	**69**	*e*P	Pn	00 36 38.5	-1.4
UTMO				*i* S	Sn	00 37 08.9	-1.0
PPM	**Popocatepetl**	**2.66**	**37**	*i* P	Pn	00 36 41.0	-0.4
PPM				*e*P		00 36 42.0	
PPM				*i* S	Sn	00 37 11.9	-0.6

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*ISCJB **26** 00:36:47.3±2.6, 361N±02×264E±009, h10km, Error ellipse: s-maj=32.0km s-min=9.6km az=169.2*
*MDD **26** 00:36:49.1±1.2, 3622N×276E, h0km, mb3.4/6, Error ellipse: s-maj=21.4km s-min=6.1km az=28.0, PRXIMO SOLUCIN POBRE MAGNITUD POBRE*
*CRAAG **26** 00:36:50.2, 3626N×273E, Ml2.6*
*CSEM **26** 00:36:53.4±0.2, 3656N×253E, h10km, mb3.3/6, Error ellipse: s-maj=4.3km s-min=3.3km az=157.0*
ISC 26 00:36:49.0±2.0, 361N±02×275E±008, h10km, n16, σ1§16/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMHD	**Djebel Mahouad**	**0.18**	**66**	P	**Pg**	**00 36 52.0**	**-1.0**
ABA	**Alger-Bouzarea**	**0.71**	**19**	P	**Pg**	**00 37 04.0**	**+1.2**
ABMS	**Boumerdes**	**0.86**	**43**	P	**Pg**	**00 37 07.0**	**+1.4**
EBNR	**Beni Rached**	**1.00**	**280**	P	**Pg**	**00 37 10.7**	**+2.5**
EIBI	**Ibiza**	**3.10**	**339**	P	**Pn**	**00 37 37.0**	**-1.0**
	5.3nm,0.3s,SNR=7.0						
EIBI				S	Sx	00 38 12.5	
	2.0nm,0.2s						
EIBI	**Ibiza**	**3.10**	**339**	P	**Pn**	**00 37 37.0**	**-1.0**
	5.3nm,0.3s,SNR=7.0						
EIBI				S	Sx	00 38 12.5	
	2.0nm,0.2s						
EBEN	**Beniarda**	**3.49**	**318**	P	**Pn**	**00 37 43.3**	**-0.1**
	0.2nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**3.49**	**318**	P	**Pn**	**00 37 43.3**	**-0.1**
	0.2nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**3.63**	**1**	P	**Pn**	**00 37 44.9**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
ETOS				S	Sx	00 38 24.0	
	0.7nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.63**	**1**	P	**Pn**	**00 37 44.9**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
ETOS				S	Sx	00 38 24.0	
	0.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.24**	**308**	P	**Pn**	**00 37 52.4**	**-1.3**
	0.9nm,0.2s,SNR=5.6						
ETOB				S	Sx	00 38 40.9	
	0.6nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.24**	**308**	P	**Pn**	**00 37 52.4**	**-1.3**
	0.9nm,0.2s,SNR=5.6						
ETOB				S	Sx	00 38 40.9	
	0.6nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.93**	**330**	P	**Pn**	**00 38 02.2**	**-0.9**
	0.7nm,0.2s,SNR=7.9						
EMOS				S	Sx	00 38 55.8	
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.93**	**330**	P	**Pn**	**00 38 02.2**	**-0.9**
	0.7nm,0.2s,SNR=7.9						
EMOS				S	Sx	00 38 55.8	
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.95**	**291**	P	**Pn**	**00 38 03.2**	**-0.2**
	0.7nm,0.3s,SNR=7.9						
EQES				S	Sx	00 38 57.8	
	0.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.95**	**291**	P	**Pn**	**00 38 04.8**	**+1.4**
	0.7nm,0.3s,SNR=7.9						
EQES				S	Sx	00 38 57

OUL MSG 00 40 22.1
comp=Z,2.1nm,0.4s

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*IDC **26** 00:38:23.9±65.0, 1823S×17893W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/30, Error ellipse: s-maj=1184.0km s-min=167.1km az=79.0*
*ISCJB **26** 00:38:43.2±1.1, 1825S±02×1789W±02, h200km, mb4.0/7, Error ellipse: s-maj=36.5km s-min=22.3km az=109.8*
*NEIC **26** 00:38:44.3±0.8, 1825S×17878W, h200km, mb4.4/4, Error ellipse: s-maj=29.5km s-min=18.1km az=145.0*
ISC 26 00:38:44.4±1.1, 183S±02×1788W±02, h200km, n9, σ0°44/9, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.18**	**241**	P	**P**	**00 45 44.0**	**-0.5**
	0.9nm,0.4s,mb3.6,baz=66,slow=10.0,SNR=3.0						
STKA	**Stephens Creek**	**38.18**	**241**	P	**P**	**00 45 44.0**	**-0.6**
WRAB	**Tennant Creek**	**44.24**	**260**	*e*P	**P**	**00 46 33.5**	**-0.3**
	1.5nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**44.25**	**260**	P	**P**	**00 46 34.2**	**+0.2**
	1.0nm,0.5s,mb3.4,baz=94,slow=8.2,SNR=28						
ASAR	**Alice Springs**	**44.39**	**255**	P	**P**	**00 46 35.3**	**+0.3**
	3.7nm,0.6s,mb3.9,baz=88,slow=8.7,SNR=77						
KS15	**Wonju Array Si**	**74.77**	**319**	*e*P	**P**	**00 50 03.2**	**+0.7**
WCN	**Washoe City**	**79.44**	**43**	P	**P**	**00 50 28.1**	**-0.3**
	2.0nm,0.3s,mb4.2						
WCN				*e*PP	PP	00 53 24.5	-6.9
HIA	**Hailar**	**86.47**	**325**	P	**P**	**00 51 04.0**	**-0.5**
	6.7nm,0.8s,mb4.4						
SNAA	**Sanae**	**90.25**	**179**	P	**P**	**00 51 22.7**	**+0.4**
	12nm,1.1s,mb4.6						

MDD 26 00:39:09.2±2.8, 3615N×1048W, h0km, mbLg2.6/13, Error ellipse: s-maj=22.6km s-min=17.2km az=72.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.98**	**45**	*e*Pn	Pn	00 39 45.4	+1.5
PTEO				*e*Sn	Sn	00 40 07.6	-1.7
PTEO							
	9.5nm,0.2s						
EGRO	**El Granado**	**2.77**	**59**	P	Pn	00 39 53.8	-1.0
	1.8nm,0.1s,SNR=7.9						
EGRO				S	Sn	00 40 26.6	-2.3
	7.4nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.80**	**47**	*e*Pn	Pn	00 39 54.7	-0.5
PBEJ				*e*Sn	Sn	00 40 27.1	-2.6
PBEJ							
	5.1nm,0.1s						
PLOU	**Loures**	**2.92**	**21**	*e*Sn	Sn	00 40 29.9	-2.8
PLOU							
	9.0nm,0.1s						
PLOU	**Loures**	**2.92**	**21**	S	Sn	00 40 29.9	-2.8
	4.5nm,0.1s						
EMIN	**Mina Concepcio**	**3.45**	**61**	P	Pn	00 40 02.6	-1.4
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	00 40 42.9	-2.7
	1.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.79**	**46**	P	Pn	00 40 07.8	-0.9
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 40 50.7	-3.3
	2.9nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.79**	**78**	S	Sn	00 40 50.4	-3.6
	12nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.83**	**25**	*e*Sn	Sn	00 40 51.3	-3.7
PTOM							
	4.8nm,0.1s						
PTOM	**Tomar**	**3.83**	**25**	S	Sn	00 40 51.3	-3.7
	2.4nm,0.1s						
PCBR	**Castelo Branco**	**4.38**	**32**	*e*Sn	Sn	00 41 04.6	-4.0
EMIJ	**Mijas**	**4.62**	**83**	S	Sn	00 41 06.7	-7.9
	0.2nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**5.12**	**65**	P	Pn	00 40 25.7	-1.4
	2.8nm,0.2s,SNR=7.9						
EADA				S	Sn	00 41 22.6	-4.3
	1.6nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.71**	**67**	P	Pn	00 40 33.4	-1.7
	0.9nm,0.2s,SNR=7.9						
EBAN				S	Sn	00 41 34.3	-7.0
	1.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.75**	**77**	S	Sn	00 41 37.3	-5.1
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.01**	**17**	S	Sn	00 41 42.4	-6.4
	1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.15**	**72**	P	Pn	00 40 39.3	-1.9
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	00 41 48.0	-4.3
	0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.23**	**54**	S	Sn	00 41 49.5	-4.8
	0.7nm,0.2s,baz=240,slow=24,SNR=7.9						
PBRG	**Braganca**	**6.35**	**26**	*e*Sn	Sn	00 41 51.7	-5.5
ECAL	**Calabor**	**6.47**	**26**	S	Sn	00 41 54.3	-5.9
	1.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.89**	**9**	S	Sn	00 42 00.8	-10
	1.3nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**7.53**	**68**	S	Sn	00 42 20.2	-6.0
	0.4nm,0.1s,SNR=4.0						

MAN 26 00:40:24.6, 969N×12476E, h2km, mb3.3, ML4.5, MS1.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.45**	**13**	*e*P	Pg	00 40 33.5	+0.2
MSLP				*e*S	Sg	00 40 43.8	+4.7
TBP	**Tagbilaran**	**0.88**	**270**	*e*P	Pg	00 40 42.0	+0.4
TBP				*e*S	Sg	00 40 54.5	+1.4
LLP	**Lapu-Lapu**	**1.00**	**309**	*e*P	Pg	00 40 43.0	-0.8
LLP				*e*S	Sg	00 40 57.6	+0.8
OCLP	**Ormoc**	**1.36**	**354**	*e*P	Pn	00 40 49.1	-1.5
SNPH	**Sibulan**	**1.54**	**257**	*e*P	Pn	00 40 53.0	-0.1
DCPH	**Dipolog City**	**1.77**	**232⇑**	*e*P	Pn	00 40 55.3	-1.0
DCPH				*e*S	Sn	00 41 15.3	-4.1
BUKP	**Musuan**	**1.83**	**171**	*e*P	Pn	00 40 57.6	+0.5
BUKP				*e*S	Sn	00 41 24.4	+3.6
PAGZ	**Pagadian**	**2.28**	**217**	*e*P	Pn	00 41 03.4	0.0
GUIM	**Jordan**	**2.33**	**294**	*e*P	Pn	00 41 05.3	+1.4
GUIM				*e*S	Sn	00 41 34.7	+1.5

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*ISCJB **26** 00:51:39.7±0.3, 1241S±005×7492W±005, h36km, mb4.6/35, MS4.4/9, Error ellipse: s-maj=9.3km s-min=5.7km az=85.3*
*NEIC **26** 00:51:41.4±0.2, 1247S×7502W, mb4.8/28, Error ellipse: s-maj=9.9km s-min=5.3km az=57.0*
NEIC Felt [V] at Nuevo Occoro.
*BJI **26** 00:51:41.3, 1250S×7500W, h36km, mB5.5, Ms5.2, Msz4.4*
*IDC **26** 00:51:44.2±3.6, 1238S×7490W, h61km±32km, mb4.2/12, mb1 4.2/13, mb1mx4.2/19, mbtmp4.4/13, MS4.1/9, Ms1 4.1/9, ms1mx3.8/23, Error ellipse: s-maj=25.6km s-min=15.5km az=67.0*
ISC 26 00:51:41.9±0.3, 1246S±005×7497W±006, h38km, h38km±1.7km: pP-P, n78, σ1°02/64, mb4.6/35, MS4.4/9, 1C-3D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.89**	**284**	⇓*i*Pn	**Pn**	**00 52 10.3**	**-1.4**
NNA				*e*Sn	**Sn**	**00 52 34.9**	**+0.7**
ARE	**Arequipa**	**5.22**	**140**	*e*P	**Pn**	**00 53 03.0**	**+5.6**
LPAZ	**La Paz**	**7.64**	**121**	P	**Pn**	**00 53 33.1**	**+2.4**
	0.7nm,0.3s,baz=296,slow=8.0,SNR=19						
LPAZ				Lg		00 55 49.9	
	1.1nm,0.3s,baz=12,slow=22,SNR=2.9						
LPAZ				LR	LR	00 56 04.2	
	comp=Z,91nm,21.7s,baz=311,slow=34						
LPAZ	**La Paz**	**7.64**	**121**	*e*Pn	**Pn**	**00 53 33.6**	**+2.9**
	0.6nm,0.9s						
OTAV	**Otavalo**	**13.07**	**344**	*e*Pn	**Pn**	**00 54 46.8**	**+1.8**
	26nm,1.1s						
SIV	**San Ignacio**	**13.92**	**106**	P	**Pn**	**00 54 53.7**	**-2.9**
	0.2nm,0.3s,baz=286,slow=12,SNR=6.3						
SIV				Lg		00 59 07.4	
	2.6nm,0.3s,baz=9.9,slow=13,SNR=7.0						
ROSC	**El Rosal**	**17.21**	**2**	P	**Pn**	**00 55 42.7**	**+3.4**
	1.1nm,0.3s,baz=195,slow=9.0,SNR=4.8						
ROSC				Lg		01 00 48.1	
	baz=229,slow=19,SNR=3.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**20.04**	**163**	P	**P**	**00 56 12.8**	**+1.1**
	0.8nm,0.8s,baz=332,slow=11,SNR=7.3						
CFAA				LR	LR	01 04 05.6	
	comp=Z,17nm,18.6s,baz=16,slow=37						
FCH	**Farellones**	**21.21**	**169**	*i* P	**P**	**00 56 24.8**	**+0.5**
CPUP	**Villa Florida**	**21.58**	**132**	*e*Pn	**P**	**00 56 27.8**	**-0.4**
	76nm,1.4s,mb4.9						
SDV	**Santo Domingo**	**21.64**	**12**	P	**P**	**00 56 29.3**	**+0.5**
	61nm,0.9s,mb5.0,baz=231,slow=8.1,SNR=42						
SDV				Lg		01 02 59.1	
	8.9nm,1.0s,baz=48,slow=10,SNR=3.3						
SDV				LR	LR	01 05 43.3	
	comp=Z,524nm,21.4s,MS3.9,baz=222,slow=39						
SDV	**Santo Domingo**	**21.64**	**12**	*e*P	**P**	**00 56 29.1**	**+0.3**
	78nm,1.0s,mb5.1						
JTS	**JuntasAbangare**	**24.68**	**336**	P	**P**	**00 57 00.3**	**+1.2**
	2.7nm,0.5s,mb4.0,baz=175,slow=17,SNR=3.9						
JTS				LR	LR	01 06 01.8	
	comp=Z,267nm,20.1s,MS3.7,baz=10.0,slow=35						
JTS	**JuntasAbangare**	**24.68**	**336**	*e*P	**P**	**00 57 00.5**	**+1.3**
	11nm,0.8s,mb4.5						
JTS				LR	LR	01 06 01.8	
BDFB	**Brasilia**	**26.33**	**100**	P	**P**	**00 57 14.8**	**+0.7**
	1.7nm,0.5s,mb3.8,baz=260,slow=9.4,SNR=4.8						
BDFB				LR	LR	01 08 22.2	
	comp=Z,378nm,18.7s,MS4.0,baz=245,slow=38						
PLCA	**Paso Flores**	**28.43**	**173**	P	**P**	**00 57 34.1**	**+1.2**
	4.2nm,0.8s,mb4.1,baz=344,slow=8.6,SNR=9.3						
PLCA	**Paso Flores**	**28.43**	**173**	*e*P	**P**	**00 57 31.7**	**-1.3**
	4.2nm,0.8s,mb4.1						
PLCA				*e*pP	pP	00 57 41.8	-1.8
PLCA				*e*sP	sP	00 57 46.9	-1.4
CPD	**Cerro la Pandu**	**31.59**	**17**	*e*P	**P**	**00 58 00.7**	**-0.2**
SJG	**San Juan**	**31.59**	**16**	P	**P**	**00 58 00.2**	**-0.7**
	24nm,0.9s,mb5.0,baz=189,slow=3.3,SNR=5.4						
SJG	**San Juan**	**31.59**	**16**	*e*P	**P**	**00 58 00.3**	**-0.6**
	20nm,0.9s,mb5.0						
SJG				*e*		00 58 25.0	
MTP	**Monte Pirata**	**31.74**	**17**	P	**P**	**00 58 02.1**	**-0.1**
TEIG	**Tepich**	**35.02**	**338**	*e*P	**P**	**00 58 31.3**	**+0.5**
	17nm,1.7s,mb4.7						
TEIG				*e*pP	pP	00 58 41.7	+0.2
RCBR	**Riachuelo**	**39.09**	**84**	P	**P**	**00 59 06.6**	**+1.3**
	25nm,1.3s,mb4.8						
RCBR				pP	pP	00 59 16.1	-0.1
SWET	**Sewanee**	**48.53**	**348**	*e*P	**P**	**01 00 18.9**	**-2.3**
WVT	**Waverly**	**49.82**	**346**	*e*P	**P**	**01 00 29.3**	**-1.7**
	14nm,1.3s,mb4.8						
WVT				*e*PcP	PcP	01 01 52.1	+0.8
WVT				*e*PP	PP	01 02 24.4	-1.6
MIAR	**Mount Ida**	**49.97**	**340**	*e*P	**P**	**01 00 32.1**	**0.0**
	18nm,1.0s,mb5.1						
FVM	**French Village**	**52.22**	**345**	*e*P	**P**	**01 00 48.1**	**-0.9**
	13nm,1.1s,mb4.8						
KSU1	**Kansas State U**	**55.12**	**340**	P	**P**	**01 01 10.2**	**0.0**
ANMO	**Albuquerque**	**55.81**	**329**	*e*P	**P**	**01 01 15.4**	**+0.3**
	4.0nm,1.1s,mb4.4						
SDCO	**Great Sand Dun**	**57.57**	**332**	*e*P	**P**	**01 01 28.3**	**+0.6**
	17nm,1.2s,mb4.9						
WUAZ	**Wupatki**	**58.84**	**326**	*e*P	**P**	**01 01 37.8**	**+1.2**
	7.6nm,1.0s,mb4.7						
PV01	**Paradox Valley**	**59.35**	**330**	*e*P	**P**	**01 01 40.9**	**+0.8**
ARUT	**Antelope Range**	**61.63**	**326**	*e*P	**P**	**01 01 57.2**	**+1.5**
RSSD	**Black Hills**	**62.21**	**337**	*e*P	**P**	**01 01 59.9**	**+0.3**
	11nm,1.4s,mb4.8						
DAU	**Daniels Canyon**	**62.43**	**329**	*e*P	**P**	**01 02 01.9**	**+0.9**
DUG	**Dugway**	**63.06**	**328**	*e*P	**P**	**01 02 06.1**	**+0.8**
	15nm,1.3s,mb5.0						
HWUT	**Hardware Ranch**	**63.49**	**330**	*e*P	**P**	**01 02 08.1**	**0.0**
	7.9nm,0.9s,mb4.8						
NVAR	**Mina Array Bea**	**64.83**	**323**	P	**P**	**01 02 16.9**	**0.0**
	1.2nm,0.7s,mb4.0,baz=136,slow=5.9,SNR=8.1						
FLWY	**Flagg Ranch**	**64.98**	**332**	*e*P	**P**	**01 02 18.2**	**+0.3**
	16nm,1.1s,mb5.0						
ULM	**Lac du Bonnet**	**65.07**	**345**	P	**P**	**01 02 17.0**	**-1.4**
	6.0nm,0.8s,mb4.7,baz=153,slow=6.3,SNR=9.6						
ULM	**Lac du Bonnet**	**65.07**	**345**	P	**P**	**01 02 17.0**	**-1.4**
CMB	**Columbia Colle**	**65.80**	**322**	P	**P**	**01 02 23.6**	**+0.5**
	1.9nm,0.7s,mb4.2						
GCMT	**Greycliff**	**65.87**	**334**	*e*P	**P**	**01 02 24.1**	**+0.4**
HLID	**Hailey**	**66.35**	**330**	*e*P	**P**	**01 02 27.1**	**+0.4**
	2.6nm,0.9s,mb4.3						
MCMT	**McKenzie Canyo**	**66.54**	**332**	*e*P	**P**	**01 02 28.3**	**+0.4**
HRY	**Holter Researc**	**67.53**	**333**	*e*P	**P**	**01 02 34.6**	**+0.5**
NEW	**Newport**	**71.07**	**332**	*e*P	**P**	**01 02 55.7**	**-0.4**
	6.3nm,1.4s,mb4.3						
DBIC	**Dimbokro**	**72.22**	**79**	P	**P**	**01 03 03.1**	**+0.1**
	1.5nm,0.4s,mb4.2,baz=240,slow=5.0,SNR=8.7						
DBIC				LR	LR	01 33 19.7	
	comp=Z,135nm,18.1s,MS4.3,baz=222,slow=35						
DBIC	**Dimbokro**	**72.22**	**79**	*e*P	**P**	**01 03 02.8**	**-0.2**
	8.8nm,1.1s,mb4.6						
DBIC				LR	LR	01 33 19.7	
SNAA	**Sanae**	**72.66**	**162**	*e*P	**P**	**01 03 05.3**	**-0.3**
	4.0nm,0.8s,mb4.4						
FCC	**Fort Churchill**	**72.66**	**350**	*e*P	**P**	**01 03 04.8**	**-0.8**
	93nm,2.2s,mb5.3						
EDM	**Edmonton**	**73.19**	**337**	*e*P	**P**	**01 03 07.9**	**-0.9**
QSPA	**South Pole Qui**	**77.68**	**180**	*e*P	**P**	**01 03 34.3**	**-0.2**
	10nm,1.2s,mb4.6						
TORD	**Torodi Ar. Bea**	**80.15**	**74**	P	**P**	**01 03 48.1**	**0.0**
	4.7nm,0.8s,mb4.5,baz=265,slow=4.3,SNR=28						
YKA	**Yellowknife Ar**	**80.82**	**343**	P	**P**	**01 03 50.9**	**-0.8**
	4.0nm,0.8s,mb4.4,baz=138,slow=5.8,SNR=53						
YKW3	**Yellowknife Ar**	**80.88**	**343**	*e*P	**P**	**01 03 51.0**	**-1.0**
SYO	**Syowa Base**	**86.93**	**161**	⇓*e*pP	pP	01 04 34.2	-0.5
SYO	**Syowa Base**	**86.93**	**161**	⇓*e*P	**P**	**01 04 21.5**	**-1.3**
SYO				⇓*e*pP	pP	01 04 34.2	-0.5
SUMG	**Summit**	**88.16**	**10**	*e*P	**P**	**01 04 29.1**	**+0.3**
	14nm,1.1s,mb5.1						
INK	**Inuvik**	**90.54**	**342**	*e*P	**P**	**01 04 37.6**	**-2.3**
	6.1nm,1.0s,mb4.9						
INK				pP	pP	01 04 48.6	-3.2
ILAR	**Eielson Array**	**93.65**	**336**	P	**P**	**01 04 53.5**	**-0.8**
	0.9nm,1.0s,mb4.2,baz=123,slow=3.3,SNR=6.4						
ILAR				LR	LR	01 53 51.9	
	comp=Z,93nm,19.1s,MS4.3,baz=152,slow=40						
COLA	**College**	**94.07**	**336**	*e*P	**P**	**01 04 54.2**	**-2.0**
	3.5nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**98.39**	**42**	P	**P**	**01 05 15.2**	**-0.7**
	0.2nm,0.6s,mb3.8,baz=231,slow=7.3,SNR=3.4						
GERES				LR	LR	01 48 20.3	
	comp=Z,68nm,18.2s,MS4.2,baz=101,slow=35						
LSZ	**Lusaka**	**99.12**	**108**	P	**P**	**01 05 20.1**	**+1.0**
	2.2nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**134.32**	**218**	PKP	PKPdf	01 10 56.0	+0.3
	0.4nm,0.8s,baz=130,slow=1.4,SNR=3.8						
WRAB	**Tennant Creek**	**136.77**	**222**	PKPdf	PKPdf	01 11 01.7	+1.5
WRA	**Warramunga Arr**	**136.77**	**222**	PKP	PKPdf	01 11 00.5	+0.3
	0.7nm,0.8s,baz=135,slow=1.9,SNR=6.2						
MJAR	**Matsushiro Arr**	**141.76**	**315**	PKP	PKPdf	01 11 07.3	-2.0
	1.7nm,0.8s,baz=44,slow=1.7,SNR=4.4						
CN2	**Changchun**	**144.16**	**334**	*e*PKP	PKPdf	01 11 14.0	+0.5
ULN	**Ulaanbaatar**	**144.66**	**358**	*e*PKPdf	PKPdf	01 11 14.3	0.0
SONM	**Songino Array**	**144.71**	**358**	PKP	PKPdf	01 11 14.5	0.0
	7.0nm,0.9s,baz=333,slow=2.6,SNR=18						
JNU	**Nakatsue**	**148.68**	**315**	PKPbc	PKPbc	01 11 25.4	+0.4
	15nm,1.1s,baz=153,slow=2.3,SNR=3.0						
HHC	**Hu-ho-hao-te**	**151.14**	**350**	*e*PKP	PKPdf	01 11 25.0	0.0
HHC				XPKP		01 11 39.5	
HHC				PP	PP	01 15 12.0	+2.9
HHC				SKS	SKSdf	01 18 27.5	-2.1
HHC				SKKS	SKKSac	01 21 57.0	+0.1
HHC				SS	SS	01 34 30.3	+1.3
HHC				LR	LR		
	comp=N,139nm,28.5s,MS4.7						
HHC				LR	LR		
	comp=E,131nm,29.7s,MS4.7						
HHC				LR	LR		
	comp=Z,85nm,32.1s,MS4.3						
SSE	**Sheshan**	**156.20**	**324**	*e*PKP	PKPdf	01 11 31.5	-0.8
LZH	**Lanzhou**	**156.45**	**2**	*e*PKP	PKPdf	01 11 32.0	-0.6
LZH				APKP		01 11 42.8	
LZH				XPKP		01 11 46.3	
LZH				PP	PP	01 15 41.5	+2.5
LZH				*e*SKS	SKSdf	01 18 32.8	-2.9
LZH				SKKS	SKKSac	01 22 25.0	-0.6
LZH				PP	PP		
	comp=Z,236nm,5.6s						
LZH				LR	LR		
	comp=N,356nm,19.6s						
LZH				LR	LR		
	comp=Z,451nm,20.8s,MS5.3						
NJ2	**Nanjing**	**156.72**	**329**	*e*PKP	PKPdf	01 11 33.3	+0.4
NJ2				APKP		01 11 44.0	
NJ2				XPKP		01 11 47.5	
NJ2				PKP2	PKPab	01 12 04.8	+2.4
NJ2				PKS		01 15 06.0	
NJ2				PP	PP	01 15 45.0	+4.5
NJ2				SKS	SKSdf	01 18 35.0	-1.0
NJ2				SKKS	SKKSac	01 22 27.0	0.0
NJ2				PP	PP		
	comp=Z,460nm,8.4s						
NJ2				LR	LR		
	comp=Z,570nm,25.7s,MS5.3						
CD2	**Chengdu**	**161.60**	**3**	*e*PKP	PKPdf	01 11 38.0	-0.6
KMI	**Kunming**	**167.21**	**9**	PKP	PKPdf	01 11 43.0	-0.6

NNC 26 00:58:47.9±8.1, 4235N×8216E, h14km±35km, mb3.7, mpv3.3, 5C-2D, Error ellipse: s-maj=69.0km s-min=18.2km az=144.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**4.42**	**1**	⇓*i*Pn	Pn	00 59 54.8	+0.3
	1.6nm,0.5s,baz=186,slow=12						
MK02				⇓Pg	Pg	01 00 07.6	-4.9
	10nm,0.6s,baz=172,slow=15						
MK02				⇑Lg		01 01 09.6	
	20nm,0.8s,baz=176,slow=27						
TKM2	**Tokmak 2**	**4.88**	**279**	⇑Pn	Pn	01 00 00.7	-0.1
	3.2nm,0.6s						
TKM2				⇑Lg		01 01 24.3	
	18nm,0.9s						
KK31	**Karatay Array**	**8.61**	**279**	⇑Pg	Pn	01 01 25.9	+34
	0.6nm,0.7s,baz=94,slow=16,SNR=5.2						
KK31				⇑Lg		01 03 22.5	
	1.4nm,0.7s,baz=94,slow=25,SNR=4.1						

IDC 26 00:58:56.4±2.1, 613S×12919E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=153.6km s-min=31.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.61**	**160**	Pn	Pn	01 02 23.6	-0.7
	0.2nm,0.3s,baz=343,slow=13,SNR=19						
WRA				Sn	Sn	01 04 46.2	-21
	1.0nm,0.3s,baz=331,slow=23,SNR=11						
ASAR	**Alice Springs**	**18.02**	**166**	P	Pn	01 03 08.8	+0.7
	0.1nm,0.3s,baz=340,slow=10,SNR=11						
ASAR				S	Sn	01 06 03.5	-26
	0.1nm,0.3s,baz=344,slow=24,SNR=3.6						
SONM	**Songino Array**	**57.37**	**342**	P	P	01 08 46.6	+0.2
	0.5nm,0.8s,baz=152,slow=6.5,SNR=3.3						

JMA 26 01:03:10.7±0.3, 2510N×12262E, h5km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**151**	P	Pg	01 03 24.8	+0.1
YOJ				S	Sg	01 03 34.2	+0.1
IRIF	**Iriomote-Funau**	**1.27**	**127**	P	Pg	01 03 34.0	-1.0
IRIF				*e*S	Sg	01 03 51.8	+0.4
HATJ	**Hateruma jima**	**1.50**	**134**	P	Pn	01 03 38.4	+0.2
HATJ				*e*S	Sn	01 03 59.6	+1.5
JKRS	**Kuro-shima**	**1.53**	**124**	P	Pn	01 03 38.4	-0.2
JKRS				*e*S	Sn	01 03 58.8	-0.1
JIJ	**Ishigaki jima**	**1.57**	**118**	P	Pn	01 03 39.0	-0.2
JIJ				*e*S	Sn	01 03 59.6	-0.2

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*NNC **26** 01:03:17.5±7.3, 4185N×8244E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=69.9km s-min=27.0km az=151.0*
BJI 26 01:03:20.1, 4191N×8257E, h14km, ML3.5, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.22**	**61**	PG	Pg	01 04 35.5	-5.5
WMQ				S	Sn	01 05 16.8	+3.7
WMQ				Smax			
	comp=N,61nm,0.7s						
WMQ				Smax			
	comp=E,75nm,0.6s						
MK02	**Makanchi Array**	**4.86**	**358**	⇑Pn	Pn	01 04 33.4	+0.6
	comp=E,1.5nm,0.3s,baz=186,slow=11						
MK02				⇑Pg	Pg	01 04 46.8	-6.4
	comp=E,16nm,0.6s,baz=173,slow=15						
MK02				⇓Lg		01 05 52.6	
	comp=E,30nm,0.8s,baz=172,slow=26						
TKM2	**Tokmak 2**	**5.26**	**283**	⇑Pg	Pg	01 04 51.3	-10
	comp=E,7.0nm,0.8s						
TKM2				⇑Lg		01 06 03.4	
	comp=E,24nm,0.8s						
KK31	**Karatay Array**	**8.99**	**282**	⇑Pg	Pn	01 05 59.0	+30
	comp=E,1.0nm,0.7s,baz=93,slow=16,SNR=4.6						
KK31				⇑Lg		01 08 01.0	
	comp=E,2.3nm,0.7s,baz=72,slow=30,SNR=3.0						

IDC 26 01:05:15.4±2.1, 117N×9693E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=52.5km s-min=29.8km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.57**	**51**	Pn	Pn	01 05 57.8	-0.5
	2.6nm,0.3s,baz=268,slow=4.8,SNR=8.5						
WRA	**Warramunga Arr**	**42.25**	**122**	P	P	01 13 10.6	+0.3
	0.5nm,0.7s,baz=302,slow=9.0,SNR=4.4						
SONM	**Songino Array**	**47.20**	**9**	P

CMIG				*i* S	**Sn**	**01 16 34.0**	**-0.2**
ANMO	**Albuquerque**	**17.49**	**344**	P	**Pn**	**01 18 11.1**	**+3.1**
0.1nm,0.3s,baz=150,slow=13,SNR=6.0							
KSU1	**Kansas State U**	**21.19**	**9**	P	**P**	**01 18 52.2**	**+3.4**
NVAR	**Mina Array Bea**	**25.35**	**326**	P	**P**	**01 19 31.7**	**+1.9**
1.5nm,0.9s,mb3.5,baz=153,slow=11,SNR=7.5							
OTAV	**Otavalo**	**28.24**	**127**	P	**P**	**01 19 59.5**	**+3.8**
7.0nm,1.5s,mb4.1							
SDV	**Santo Domingo**	**30.66**	**103**	P	**P**	**01 20 14.7**	**-2.5**
3.8nm,0.4s,mb4.6,baz=298,slow=6.5,SNR=9.1							
SDV	**Santo Domingo**	**30.66**	**103**	*e*P	**P**	**01 20 14.6**	**-2.6**
4.4nm,0.5s,mb4.5							
SDV				*e*pP	pP	01 20 29.5	-1.7
SADO	**Sadowa**	**32.12**	**30**	P	**P**	**01 20 27.6**	**-2.4**
2.9nm,0.4s,mb4.5,baz=256,slow=10,SNR=8.1							
ULM	**Lac du Bonnet**	**32.27**	**6**	P	**P**	**01 20 29.5**	**-1.8**
1.5nm,0.4s,mb4.1,baz=178,slow=9.8,SNR=4.1							
YKA	**Yellowknife Ar**	**45.35**	**351**	P	**P**	**01 22 18.4**	**-2.2**
0.8nm,0.7s,mb3.6,baz=158,slow=7.3,SNR=8.0							
YKA	**Yellowknife Ar**	**45.35**	**351**	P	**P**	**01 22 18.4**	**-2.2**
LPAZ	**La Paz**	**46.94**	**135**	P	**P**	**01 22 32.5**	**-0.7**
0.4nm,0.3s,mb3.8,baz=322,slow=12,SNR=4.6							
LPAZ	**La Paz**	**46.94**	**135**	*e*P	**P**	**01 22 35.4**	**+2.3**
0.4nm,0.4s,mb3.7							
LPAZ				pP	pP	01 22 49.8	+2.1
CPUP	**Villa Florida**	**61.11**	**135**	P	**P**	**01 24 16.5**	**+0.1**
48nm,1.6s,mb5.4							
TBI	**Tubuai**	**62.95**	**231**	*e*LR	LR	01 24 37.1	
102nm,24.8s							
DBIC	**Dimbokro**	**93.52**	**82**	P	**P**	**01 27 18.8**	**+1.0**
40nm,1.8s,mb5.5							

IDC 26 01:39:37.2±3.8,512S×15259E,h0km,mb3.5/2,mb1 3.8/2, mb1mx3.4/12,mbtmp3.6/2,Error ellipse: s-maj=167.3km s-min=49.5km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**229**	P	P	01 44 43.9	-0.3
0.7nm,0.5s,baz=53,slow=10.0,SNR=9.2							
ASAR	**Alice Springs**	**25.77**	**222**	P	P	01 45 10.3	+0.7
0.6nm,0.3s,baz=57,slow=9.8,SNR=15							
TORD	**Torodi Ar. Bea**	**150.20**	**288**	PKPbc	PKPbc	01 59 31.1	+1.0
0.3nm,0.6s,baz=92,slow=2.7,SNR=4.3							

IDC 26 01:45:47.0±1.1,3327N×8931E,h0km,mb3.7/4,mb1 3.7/5, mb1mx3.5/19,mbtmp3.6/5,ML2.9/1,Error ellipse: s-maj=46.3km s-min=24.0km az=47.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.43**	**36**	P	Pn	01 50 15.1	-0.9
0.0nm,0.3s,baz=231,slow=9.1,SNR=4.5							
BRTR	**Keskin Array B**	**44.61**	**295**	P	P	01 54 01.2	+0.2
0.4nm,0.8s,baz=64,slow=9.8,SNR=3.6							
FINES	**FINESS Array B**	**48.69**	**325**	P	P	01 54 32.5	-0.5
2.7nm,1.1s,baz=96,slow=9.1,SNR=4.5							
WRA	**Warramunga Arr**	**68.16**	**134**	P	P	01 56 49.1	+0.1
0.6nm,0.5s,baz=326,slow=6.6,SNR=15							
ASAR	**Alice Springs**	**70.78**	**137**	P	P	01 57 05.5	+0.4
0.4nm,0.7s,baz=327,slow=6.2,SNR=7.3							

*ISCJB **26** 01:57:00.9±1.6,3812N±006×2014E±007,h3km±10km, mb3.4/3,Error ellipse: s-maj=11.2km s-min=6.4km az=84.0*
*IDC **26** 01:57:02.2±4.6,3824N×2034E,h0km,mb3.4/3,mb1 3.5/5, mb1mx3.3/20,mbtmp3.4/5,ML3.1/2,Error ellipse: s-maj=123.1km s-min=23.5km az=52.0*
*THE **26** 01:57:03.9,3815N×2037E,h10km,ML2.9*
*CSEM **26** 01:57:03.7±0.2,3818N×2030E,h2km,MD3.5,Error ellipse: s-maj=5.1km s-min=2.2km az=63.0*
*ATH **26** 01:57:04.2,3816N×2041E,h15km±2km,MD3.5/9*
*NEIC **26** 01:57:04.2,3816N×2041E,h15km,MD3.5(ATH), ML2.9(THE),After ATH.*
*SKO **26** 01:57:05.7,3831N×2043E,h0km*

ISC 26 01:57:03.5±1.3,3817N±005×2028E±006,h7km±7km,n33, σ1°07/40,mb3.4/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**88**	*e*PB	**Pg**	**01 57 07.9**	**-0.4**
VLS				*e*SB	**Sg**	**01 57 11.4**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**96**	*e*PN	**Pg**	**01 57 19.6**	**-2.0**
IGT	**Igoumenitsa**	**1.36**	**2**	*e*Pg	**Pg**	**01 57 28.8**	**-0.8**
IGT				*e*Sg	**Sg**	**01 57 49.8**	**+2.4**
EVR	**Evrytania**	**1.42**	**58**	*e*PN	**Pn**	**01 57 30.0**	**+0.5**
JAN	**Janina**	**1.55**	**17**	*e*PN	**Pn**	**01 57 33.0**	**+1.6**
ITM	**Ithomi**	**1.64**	**126**	*e*PN	**Pn**	**01 57 33.8**	**+1.2**
MEV	**Metsovon**	**1.78**	**24**	*e*Pb	**Pb**	**01 57 35.9**	**-0.4**
comp=Z,7.0nm,0.8s							
AGG	**Agios Georgios**	**1.82**	**61**	*e*Pb	**Pb**	**01 57 35.9**	**-1.2**
comp=Z,2.1nm,0.6s							
AGG				*e*Sb	**Sb**	**01 57 58.8**	**-1.2**
LKR	**Lokris**	**2.19**	**76**	*e*PB	**Pn**	**01 57 40.2**	**0.0**
KZN	**Kozani**	**2.43**	**28**	*e*PB	**Pn**	**01 57 45.1**	**+1.6**
VLI	**Veliai**	**2.56**	**124**	*e*PN	**Pn**	**01 57 47.0**	**+1.7**
NEO	**Neokhori**	**2.57**	**63**	*e*PN	**Pn**	**01 57 46.8**	**+1.4**
FNA	**Florina**	**2.75**	**18**	*e*Pn	**Pn**	**01 57 48.9**	**+1.1**
BIA	**Bitola**	**2.96**	**16**	*e*Pn	**Pn**	**01 57 51.7**	**+0.9**
BIA	**Bitola**	**2.96**	**16**	*e*Pn	**Pn**	**01 57 51.8**	**+1.0**
OHR	**Ohrid**	**2.97**	**8**	*e*Pn	**Pn**	**01 57 51.8**	**+0.9**
GRG	**Griva**	**3.23**	**30**	*e*Pn	**Pn**	**01 57 54.9**	**+0.3**
SOH	**Sokhos**	**3.56**	**41**	*e*Pn	**Pn**	**01 57 59.6**	**+0.6**
OUR	**Ouranopolis**	**3.60**	**52**	*e*Pn	**Pn**	**01 57 60.0**	**+0.4**
STIP	**Stip**	**3.82**	**22**	*e*Pn	**Pn**	**01 58 02.4**	**-0.2**
STIP	**Stip**	**3.82**	**22**	*e*Pn	**Pn**	**01 58 02.3**	**-0.3**
SRS	**Serrai**	**3.90**	**40**	*e*Pn	**Pn**	**01 58 03.6**	**-0.2**
IDI	**Anoyia**	**4.69**	**126**	Pn	**Pn**	**01 58 15.4**	**+0.9**
0.3nm,0.3s,baz=284,slow=12,SNR=3.3							
IDI				Sn	**Sn**	**01 59 07.6**	**-1.5**
0.9nm,0.3s,baz=326,slow=22,SNR=7.8							
STON	**Ston**	**5.09**	**338**	*i* Pn	**Pn**	**01 58 19.2**	**-0.9**
STON				*i* Sn	**Sn**	**01 59 15.7**	**-3.5**
STON	**Ston**	**5.09**	**338**	*i* Pn	**Pn**	**01 58 19.2**	**-0.9**
STON				*i* Sn	**Sn**	**01 59 15.6**	**-3.5**
BOJS	**Bojanci**	**8.23**	**335**	*i* Pn	**Pn**	**01 59 03.3**	**+0.1**
BOJS				*e*Sn	**Sn**	**02 00 33.3**	**-3.1**
CRES	**Cresnjev**	**8.45**	**336**	*e*Pn	**Pn**	**01 59 05.8**	**-0.4**
CEY	**Cerknica**	**8.73**	**332**	*e*Pn	**Pn**	**01 59 10.0**	**0.0**
PDKS	**Podkum**	**8.81**	**335**	*e*Pn	**Pn**	**01 59 11.4**	**+0.3**
GERES	**GERESS Array B**	**11.69**	**338**	Pn	**Pn**	**01 59 50.3**	**-0.3**
0.1nm,0.3s,baz=160,slow=14,SNR=4.5							
HFS	**Hagfors**	**22.38**	**351**	P	**P**	**02 02 01.5**	**-0.6**
1.6nm,0.5s,mb3.7,baz=159,slow=9.5,SNR=8.8							
FINES	**FINESS Array B**	**23.58**	**7**	P	**P**	**02 02 13.9**	**-0.9**
2.2nm,1.0s,mb3.5,baz=171,slow=9.8,SNR=5.5							
NOA	**NORSAR Array B**	**23.59**	**349**	P	**P**	**02 02 13.6**	**-1.3**
0.4nm,0.7s,mb3.0,baz=157,slow=9.6,SNR=3.0							

*NEIC **26** 02:00:35.3,1742N×9473W,h152km,MD3.7(MEX),After MEX.*

MEX 26 02:00:35.3±1.0,1742N×9473W,h152km±9km,MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.36**	**205**	*i* P	Pn	02 00 55.0	-1.2
CMIG				*i* S	Sn	02 01 09.7	-2.4
OXX	**Oaxaca**	**1.94**	**260**	*i* P	Pn	02 01 08.0	-1.8
OXX				*i* S	Sn	02 01 35.0	-1.2
VHO	**Vista Hermosa**	**1.95**	**260**	*i* P	Pn	02 01 08.6	-1.3
VHO				*i* S	Sn	02 01 35.6	-0.8
HUIG	**Huatulco**	**2.11**	**219**	*i* P	Pn	02 01 09.5	-2.2
HUIG				*i* S	Sn	02 01 38.5	-1.2
CCIG	**Comitan**	**2.73**	**114**	*i* P	Pn	02 01 19.2	-0.1
CCIG				*i* S	Sn	02 01 51.3	-1.9

*SZGRF **26** 02:13:47.4,3416N×9015E,h33km,mb5.1,MS5.2, Qinghai, China*
*ISCJB **26** 02:13:48.9±0.1,3519N±002×8952E±002,h12km, mb5.0/183,MS5.1/60,Error ellipse: s-maj=2.7km s-min=2.1km az=21.5*
*IDC **26** 02:13:48.4±0.4,3518N×8959E,h0km,mb4.8/25, mb1 4.9/27,mb1mx4.9/27,mbtmp4.8/27,ML4.0/2,MS4.9/23, Ms1 4.9/23,ms1mx4.8/38,Error ellipse: s-maj=16.5km s-min=10.7km az=43.0*
*LDG **26** 02:13:49.1±0.1,3537N×8929E,h10km,Mb5.5/40,Ms4.8/7, Error ellipse: s-maj=6.4km s-min=3.7km az=119.0*
*BJI **26** 02:13:49.3,3529N×8968E,h10km,mB5.3,mb4.9,Ms5.6, Msz5.3*
*MOS **26** 02:13:50.1±0.8,3524N×8952E,h19km,mb5.3/100, MS5.1/43,Error ellipse: s-maj=6.0km s-min=3.3km az=124.6*
*HRVD **26** 02:13:50.4±0.1,3536N×8967E,h12km,MW5.5/80, Centroid moment Tensor Solution. LP body waves: s64,c112;Mantle waves: s80,c159; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.11±.04; $M_{\theta\theta}$-0.93±.04; $M_{\phi\phi}$2.04±.03; $M_{r\theta}$-0.23±.09; $M_{\theta\phi}$0.89±.03; $M_{\phi r}$-0.04±.08; Best double couple: $M_0$1.81900×10^{17} NP1:ϕ_s158.00000°,δ61.00000°,λ-150.00000°. NP2: ϕ_s52.00000°,δ64.00000°,λ-33.00000°. Principal axes: T 2.2890, Plg2.0000°, Azm106.0000°; N -0.9340, Plg49.0000°, Azm198.0000°; P -1.3500, Plg41.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NAO **26** 02:13:50.6,3507N×9011E,h33km,mb4.9*
*NEIC **26** 02:13:50.4±0.1,3528N×8960E,h10km,mb5.2/119, MS4.9/12,MW5.4,Error ellipse: s-maj=3.4km s-min=2.7km az=51.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.20; $M_{\theta\theta}$0.10; $M_{\phi\phi}$1.10; $M_{r\theta}$-0.55; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.82; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s29.00000°,δ65.00000°,λ-82.00000°. NP2: ϕ_s191.00000°,δ27.00000°,λ-106.00000°. Principal axes: T 1.5900, Plg19.0000°, Azm113.0000°; N -0.0200, Plg7.0000°, Azm205.0000°; P -1.5600, Plg69.0000°, Azm315.0000°;*

ISC 26 02:13:50.9±0.1,3522N±002×8956E±002,h13km, h13km±1.9km:pP-P,n530,σ0°94/577,mb5.0/184,MS5.1/60, 18C-42D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.67**	**166**	*e*P	**Pn**	**02 15 19.2**	**+4.4**
LSA				pmax	pmax		
comp=Z,403nm,1.0s							
LSA	**Lhasa**	**5.67**	**166**	*e*Pn	**Pn**	**02 15 19.2**	**+4.4**
comp=Z,403nm,1.0s							
LSA				*e*Pg	**Pg**	**02 15 37.3**	**-2.1**
GUN	**Gumba**	**7.93**	**204**	*e*P	**Pn**	**02 15 48.6**	**+2.7**
comp=Z,227nm,1.0s							
JIRN	**Jiri**	**8.06**	**202**	*e*P	**Pn**	**02 15 50.5**	**+2.8**
comp=Z,123nm,0.8s							
KKN	**Kakani**	**8.26**	**207**	*e*P	**Pn**	**02 15 52.7**	**+2.4**
GKN	**Gorkha**	**8.32**	**212**	*e*P	**Pn**	**02 15 53.5**	**+2.2**
comp=Z,213nm,1.2s							
PKI	**Pulchoki**	**8.41**	**206**	*e*P	**Pn**	**02 15 55.3**	**+2.9**
comp=Z,1μm,2.2s							
PKI	**Pulchoki**	**8.41**	**206**	*e*P	**Pn**	**02 15 55.3**	**+2.9**
PKI				pmax	pmax		
comp=Z,652nm,2.2s							
DMN	**Daman**	**8.48**	**208**	*e*P	**Pn**	**02 15 55.1**	**+1.6**
comp=Z,233nm,0.8s							
WMQ	**Urumqi**	**8.71**	**351**	P	**Pn**	**02 15 58.5**	**+1.9**
WMQ				XP		02 16 04.8	
WMQ				S	**Sn**	**02 17 39.0**	**+4.4**
WMQ				XS		02 17 44.0	
WMQ				AMB	AMB		
comp=Z,107nm,1.0s							
WMQ				AMB	AMB		
comp=Z,624nm,3.0s							
WMQ				LR	LR		
comp=N,7μm,6.0s							
WMQ				LR	LR		
comp=E,27μm,6.0s							
WMQ				LR	LR		
comp=Z,4μm,8.0s							
KOLN	**Koldanda**	**9.00**	**216**	*e*P	**Pn**	**02 16 00.3**	**-0.2**
GTA	**Gaotai**	**9.18**	**60**	*e*P	**Pn**	**02 16 03.8**	**+0.8**
GTA				AP		02 16 07.8	
GTA				XP		02 16 10.0	
GTA				S	**Sn**	**02 17 48.0**	**+1.8**
GTA				AMB	AMB		
comp=Z,46nm,1.2s							
GTA				AMB	AMB		
comp=Z,463nm,7.6s							
GTA				LR	LR		
comp=N,27μm,17.5s							
GTA				LR	LR		
comp=E,16μm,14.5s							
GTA				LR	LR		
comp=Z,21μm,9.9s							
KLP	**Kalpa**	**10.14**	**252**	*e*P	**Pn**	**02 16 19.3**	**+3.1**
KLP	**Kalpa**	**10.14**	**252**	*e*P	**Pn**	**02 16 16.4**	**+0.2**
DDI	**Dehra Dun**	**10.84**	**246**	*e*P	**Pn**	**02 16 25.9**	**+0.2**
DDI	**Dehra Dun**	**10.84**	**246**	*e*P	**Pn**	**02 16 25.9**	**+0.2**
AGT	**Agartala**	**11.39**	**172**	*i* x	**Pn**	**02 16 41.0**	**+7.7**
AGT				*i* x	x	02 17 31.0	
BHK	**Bhakra**	**11.62**	**255**	*ex*	**Pn**	**02 16 45.4**	**+8.9**
BHK				*ex*	x	02 20 21.6	
KSH	**Kashi**	**11.62**	**296**	*i* PR	**Pn**	**02 16 40.0**	**+3.5**
KSH				AP		02 16 45.3	
KSH				XP		02 16 47.0	
KSH				PP		02 16 50.0	
KSH				PPP		02 16 56.0	
KSH				S	**Sn**	**02 18 52.0**	**+5.8**
KSH				XS		02 18 57.3	
KSH				SS		02 19 06.3	
KSH				AMB	AMB		
comp=Z,3μm,3.6s							
KSH				LR	LR		
comp=N,18μm,6.8s							
KSH				LR	LR		
comp=E,28μm,7.2s							
LZH	**Lanzhou**	**11.66**	**82**	*e*P	**Pn**	**02 16 36.3**	**-0.7**
LZH				AP		02 16 42.0	
LZH				XP		02 16 46.0	
LZH				S	**Sn**	**02 18 52.0**	**+5.0**
LZH				XS		02 18 59.0	
LZH				AMB	AMB		
comp=Z,430nm,1.4s							
LZH				AMB	AMB		
comp=Z,1μm,4.0s							
LZH				LR	LR		
comp=N,16μm,9.6s							
LZH				LR	LR		
comp=Z,21μm,11.2s							
BOK	**Bokaro**	**11.82**	**197**	*i* P	**Pn**	**02 16 38.3**	**-0.9**
BOK				*e*P		02 16 38.5	
BOK				AMb	AMB	02 16 42.8	
comp=Z,98nm,1.9s							
BOK				*e*S	**Sn**	**02 18 41.7**	**-9.3**
BOK	**Bokaro**	**11.82**	**197**	*i* P	**Pn**	**02 16 38.3**	**-0.9**
BOK				*e*P		02 16 38.5	
BOK				AMb	AMB	02 16 42.8	
comp=Z,98nm,1.9s							
BOK				*e*S	**Sn**	**02 18 41.7**	**-9.3**
THN	**Thein Dam**	**11.84**	**260**	*e*P	**Pn**	**02 16 38.8**	**-0.6**
THN	**Thein Dam**	**11.84**	**260**	*e*P	**Pn**	**02 16 38.8**	**-0.6**
ALBI	**Allahabad**	**11.93**	**216**	*e*P	**Pn**	**02 16 39.0**	**-1.6**
ALBI	**Allahabad**	**11.93**	**216**	*e*P	**Pn**	**02 16 39.0**	**-1.6**
BISR	**Bishrakh**	**12.24**	**241**	*e*P	**Pn**	**02 16 45.0**	**+0.2**
BISR				AMb	AMB	02 16 47.5	
comp=Z,14nm,1.3s							
BISR	**Bishrakh**	**12.24**	**241**	*e*P	**Pn**	**02 16 45.0**	**+0.2**
NDI	**New Delhi**	**12.33**	**242**	*e*P	**Pn**	**02 16 45.8**	**-0.4**
NDI				*ex*	**Sn**	**02 19 11.0**	**+7.5**
AYAN	**Aya Nagar**	**12.51**	**241**	*e*P	**Pn**	**02 16 47.9**	**-0.8**
AYAN				AMb	AMB	02 17 04.5	
comp=Z,47nm,0.8s							
AYAN	**Aya Nagar**	**12.51**	**241**	*e*P	**Pn**	**02 16 47.9**	**-0.8**
AYAN				AMb	AMB	02 17 04.5	
comp=Z,47nm,0.8s							
ULHL	**Ulahol**	**12.53**	**308**	P	**Pn**	**02 16 50.9**	**+1.9**
SNR=14							
AAA	**Alma-Ata**	**12.64**	**313**	*i* P	**Pn**	**02 16 53.9**	**+3.4**
AAA				*i* S	**Sn**	**02 19 13.4**	**+2.3**
AAA				pmax	pmax		
comp=Z,3μm,5.2s							
AAA				smax			
comp=N,3μm,8.5s							
AAA				MLR	MLR		
comp=Z,9μm,11.6s							
CD2	**Chengdu**	**12.66**	**106**	⇑ *i*P	**Pn**	**02 16 52.5**	**+1.8**
CD2				AP		02 16 56.3	
CD2				PP		02 17 03.0	
CD2				S	**Sn**	**02 19 13.5**	**+2.0**
CD2				XS		02 19 18.5	
CD2				SS		02 19 28.0	
CD2				AMB	AMB		
comp=Z,30nm,0.9s							
CD2				AMB	AMB		
comp=Z,490nm,4.5s							
CD2				LR	LR		
comp=N,14μm,6.7s							
CD2				LR	LR		
comp=Z,9μm,9.3s							
CAL	**Calcutta**	**12.68**	**185**	⇓ *i*P	**Pn**	**02 16 51.4**	**+0.5**
CAL				*ex*	x	02 19 30.3	
SONA	**Sohna**	**12.68**	**240**	*e*P	**Pn**	**02 16 51.1**	**+0.2**
SONA				AMb	AMB	02 16 57.9	
comp=Z,74nm,2.5s							
SONA	**Sohna**	**12.68**	**240**	*e*P	**Pn**	**02 16 51.1**	**+0.2**
MKAR	**Makanchi Array**	**12.79**	**337**	Pn	**Pn**	**02 16 50.5**	**-1.9**
comp=Z,0.6nm,0.3s,baz=148,slow=13,SNR=20							
KZA	**Kyzart**	**13.10**	**306**	P	**Pn**	**02 16 59.5**	**+2.8**
SNR=6.5							
KUDL	**Kundal**	**13.17**	**241**	*e*P	**Pn**	**02 16 57.7**	**+0.1**
KUDL				AMb	AMB	02 17 03.8	
comp=Z,58nm,1.3s							
KUDL	**Kundal**	**13.17**	**241**	*e*P	**Pn**	**02 16 57.7**	**+0.1**
TKM2	**Tokmak 2**	**13.28**	**310**	P	**Pn**	**02 16 59.5**	**+0.4**
SNR=6.2							
TKM2	**Tokmak 2**	**13.28**	**310**	P	**Pn**	**02 16 59.2**	**0.0**
TKM2				pmax	pmax		
comp=Z,163nm,2.3s							
UCH	**Uchtor**	**13.66**	**305**	P	**Pn**	**02 17 16.7**	**+12**
SNR=10							
KHET	**Khetri**	**13.70**	**242**	*e*P	**Pn**	**02 17 04.2**	**-0.7**
KHET				AMb	AMB	02 17 06.9	
comp=Z,131nm,1.4s							
KHET	**Khetri**	**13.70**	**242**	*e*P	**Pn**	**02 17 04.2**	**-0.7**
KHET				AMb	AMB	02 17 06.9	
comp=Z,131nm,1.4s							
AAK	**Ala-Archa**	**13.85**	**307**	P	**Pn**	**02 17 10.9**	**+4.0**
SNR=9.4							
AAK	**Ala-Archa**	**13.85**	**307**	Pn	**Pn**	**02 17 09.8**	**+2.8**
comp=Z,302nm,0.7s,SNR=7.1							
AAK	**Ala-Archa**	**13.85**	**307**	*e*P	**Pn**	**02 17 08.2**	**+1.2**
AAK				pmax	pmax		
comp=Z,45nm,0.9s							
AAK	**Ala-Archa**	**13.85**	**307**	*e*Pn	**Pn**	**02 17 08.2**	**+1.3**
comp=Z,45nm,0.9s							
AAK				*e*		02 17 17.6	
CHMS	**Chumysh**	**13.86**	**309**	P	**Pn**	**02 17 17.8**	**+11**
SNR=5.7							
FRU	**Bishkek**	**13.87**	**308**	*e*P	**Pn**	**02 17 12.0**	**+4.9**
FRU				*e*		02 19 37.0	
FRU				pmax	pmax		
comp=Z,580nm,3.5s							
USP	**Ospenovka**	**14.15**	**309**	P	**Pn**	**02 17 20.8**	**+10**
SNR=6.8							
AML	**Almayashu**	**14.17**	**304**	P	**Pn**	**02 17 15.1**	**+3.8**
SNR=16							
EKS2	**Erkin-Say**	**14.34**	**306**	P	**Pn**	**02 17 16.8**	**+3.2**
SNR=6.6							
BLSP	**Bilaspur**	**14.57**	**208**	*e*P	**Pn**	**02 17 16.0**	**-0.7**
BLSP	**Bilaspur**	**14.57**	**208**	*e*P	**Pn**	**02 17 16.0**	**-0.7**
JBP	**Jabalpur**	**14.62**	**217**	*e*P	**Pn**	**02 17 16.1**	**-1.3**
JBP				AMb	AMB	02 17 20.4	
comp=Z,85nm,1.7s							
JBP	**Jabalpur**	**14.62**	**217**	*e*P	**Pn**	**02 17 16.1**	**-1.3**
JBP				AMb	AMB	02 17 20.4	
comp=Z,85nm,1.7s							
KMI	**Kunming**	**15.19**	**128**	P	**Pn**	**02 17 24.5**	**-0.6**
KMI				AP	pP	02 17 30.8	-3.0
KMI				XP	sP	02 17 34.0	-1.4
KMI				S	**Sn**	**02 20 14.0**	**+0.8**
KMI				XS	sS	02 20 24.8	-11
KMI				SS		02 20 33.8	
KMI				AMB	AMB		
comp=Z,62nm,1.3s							
KMI				AMB	AMB		
comp=Z,206nm,3.4s							
KMI				LR	LR		
comp=N,12μm,8.8s							
KMI				LR	LR		
comp=E,12μm,9.4s							
KMI				LR	LR		
comp=Z,9μm,9.7s							
AJM	**Ajmer**	**15.47**	**240**	*e*P	**Pn**	**02 17 28.2**	**-0.6**
AJM				AMb	AMB	02 17 36.0	
comp=Z,102nm,1.0s							
AJM	**Ajmer**	**15.47**	**240**	*e*P	**Pn**	**02 17 28.2**	**-0.6**
AJM				AMb	AMB	02 17 36.0	
comp=Z,102nm,1.0s							
BHPL	**Bhopal**	**15.94**	**225**	*i* P	**Pn**	**02 17 32.0**	**-2.9**
BHPL				*e*P		02 17 32.9	
BHPL	**Bhopal**	**15.94**	**225**	*i* P	**Pn**	**02 17 32.0**	**-2.9**
BHPL				*e*P		02 17 32.9	
BHPL				AMb	AMB	02 17 39.7	
comp=Z,167nm,1.5s							
BHPL				*ex*	x	02 20 21.7	
XAN	**Xi'an**	**15.99**	**89**	P	**Pn**	**02 17 33.0**	**-2.5**
XAN				AP	pP	02 17 44.0	+1.4
XAN				LR	LR		
comp=N,16μm,14.0s							
KKAR	**Karatay Array**	**16.71**	**304**	*i* P	**Pn**	**02 17 45.8**	**+1.0**
KKAR				pmax	pmax		
comp=Z,381nm,1.7s							
BTO	**Baotou**	**17.01**	**66**	*e*P	**Pn**	**02 17 49.5**	**+1.0**
BTO				S	**Sn**	**02 20 44.8**	**-13**
BTO				AMB	AMB		
comp=Z,67nm,1.2s							
BTO				LR	LR		
comp=N,3μm,5.1s							
BTO				LR	LR		
comp=E,8μm,11.8s							
GYA	**Guiyang**	**17.07**	**116**	⇓ *i*P	**Pn**	**02 17 48.8**	**-0.5**
GYA				AP	pP	02 17 52.8	-1.8
GYA				XP	sP	02 17 55.8	-0.5
GYA				PP		02 18 03.0	
GYA				S	**Sn**	**02 20 56.0**	**-3.0**
GYA				XS	sS	02 21 01.3	-13
GYA				SS		02 21 12.8	
GYA				AMB	AMB		
comp=Z,140nm,1.1s							
GYA				AMB	AMB		
comp=Z,530nm,3.3s							
GYA				LR	LR		
comp=E,11μm,10.2s							
GYA				LR	LR		
comp=Z,14μm,10.4s							
KURK	**Kurchatov**	**17.40**	**336**	Pn	**Pn**	**02 17 51.7**	**-1.7**
comp=Z,243nm,0.9s,SNR=20							
KURK	**Kurchatov**	**17.40**	**336**	*e*P	**Pn**	**02 17 50.5**	**-2.9**
KURK				pmax	pmax		
comp=Z,39nm,0.9s							
KURK	**Kurchatov**	**17.40**	**336**	*e*P	**Pn**	**02 17 50.5**	**-2.9**
comp=Z,39nm,0.9s							
ENH	**Enshi**	**17.47**	**101**	*e*P	**Pn**	**02 17 52.1**	**-2.1**
comp=Z,128nm,1.4s							
SONM	**Songino Array**	**17.78**	**40**	P	**Pn**	**02 17 57.4**	**-0.7**
comp=Z,0.6nm,0.3s,baz=226,slow=10,SNR=65

HHC				LR	LR		
	comp=E,9μm,18.4s						
HHC				LR	LR		
	comp=Z,9μm,14.3s						
VIS	**Vishakhapatnam**	**18.29**	**199**	*e*P	**Pn**	**02 18 03.3**	**-1.0**
VIS				AMb	AMB	02 18 12.0	
	comp=Z,339nm,2.1s						
VIS				*e*x	x	02 21 37.3	
MOY	**Mondy**	**18.38**	**23**	*e*P	**Pn**	**02 18 06.4**	**+0.9**
MOY				pmax	pmax		
	comp=Z,256nm,1.9s						
TIY	**Taiyuan**	**18.56**	**76**	⇑P	**Pn**	**02 18 03.0**	**-4.7**
TIY				S	**Sn**	**02 21 39.0**	**+4.0**
TIY				LR	LR		
	comp=N,6μm,11.0s						
TLY	**Talaya**	**19.32**	**27**	P	**Pn**	**02 18 19.4**	**+2.6**
	comp=N,97nm,1.8s,SNR=8.9						
IRK	**Irkutsk**	**20.00**	**27**	*e*P	**P**	**02 18 24.1**	**+0.9**
IRK				pmax	pmax		
	comp=Z,271nm,0.8s						
NVS	**Novosibirsk**	**20.11**	**349**	*e*P	**P**	**02 18 24.2**	**-0.2**
NVS				pmax	pmax		
	comp=N,57nm,1.8s						
NVS				pmax	pmax		
	comp=Z,79nm,1.8s						
NVS				pmax	pmax		
	comp=E,30nm,2.0s						
HYB	**Hyderabad**	**20.26**	**212**	⇓*i*P	**P**	**02 18 26.0**	**0.0**
	comp=E,80nm,1.0s						
HYB				*e*S	**S**	**02 22 22.0**	**+9.1**
HYB				LR	LR	02 26 44.0	
	comp=E,21nm,12.0s						
HYB	**Hyderabad**	**20.26**	**212**	⇓*e*P	**P**	**02 18 26.0**	**0.0**
HYB				pmax	pmax		
	comp=Z,80nm,1.0s						
HYB	**Hyderabad**	**20.26**	**212**	⇓*e*P	**P**	**02 18 26.0**	**0.0**
	comp=Z,80nm,1.0s						
HYB				*e*S	**S**	**02 22 20.0**	**+7.0**
BHJ	**Bhuj**	**21.02**	**241**	*e*P	**P**	**02 18 30.8**	**-3.4**
BHJ				AMb	AMB	02 18 43.5	
	comp=Z,283nm,2.3s,mb5.2						
BHJ				*e*S	**S**	**02 22 22.0**	**-6.0**
WHN	**Wuhan**	**21.32**	**96**	P	**P**	**02 18 38.0**	**+0.5**
WHN				S	**S**	**02 22 38.0**	**+4.1**
WHN				LR	LR		
	comp=Z,18μm,10.2s,MS5.8						
BJT	**Baijiatuau**	**21.58**	**69**	*e*P	**P**	**02 18 40.8**	**+0.5**
BJT				pmax	pmax		
	comp=Z,79nm,1.0s						
BJT	**Baijiatuau**	**21.58**	**69**	*e*P	**P**	**02 18 40.8**	**+0.5**
	comp=Z,79nm,1.0s,mb5.1						
NST	**Nakhon Sawan**	**21.65**	**151**	P	**P**	**02 18 42.5**	**+1.4**
	comp=Z,50nm,1.0s,mb4.9						
POO	**Poona**	**21.69**	**224**	*e*x	x	02 19 12.9	
POO				AMb	AMB	02 19 15.9	
	comp=Z,195nm,1.5s,mb5.3						
VOSK	**Vostochnaya**	**21.91**	**329**	P	**P**	**02 18 43.2**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,173nm,1.8s,mb5.2						
KKTK	**Khon Kaen**	**22.23**	**144**	P	**P**	**02 18 48.1**	**+0.8**
	comp=Z,432nm,0.9s,mb5.9						
BVA0	**Borovoye Array**	**22.38**	**329**	*i* P	**P**	**02 18 49.2**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,28nm,1.9s,mb4.4						
BVAR	**Borovoye Array**	**22.38**	**329**	P	**P**	**02 18 48.7**	**-0.1**
	comp=Z,11nm,0.7s,mb4.4,baz=134,slow=8.5,SNR=54						
BVAR				PcP	PcP	02 22 42.0	-1.7
	comp=Z,3.9nm,0.9s,baz=131,slow=1.5,SNR=5.2						
TIA	**Tai'an**	**22.38**	**79**	*e*P	**P**	**02 18 49.0**	**+0.1**
TIA				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.7						
BRVK	**Borovoye**	**22.45**	**329**	P	**P**	**02 18 49.2**	**-0.3**
	comp=Z,302nm,1.4s,mb5.5,SNR=11						
BRVK	**Borovoye**	**22.45**	**329**	*e*P	**P**	**02 18 48.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,41nm,1.1s,mb4.8						
BRVK	**Borovoye**	**22.45**	**329**	*e*P	**P**	**02 18 48.5**	**-1.1**
	comp=Z,41nm,1.1s,mb4.8						
KAD	**Karad**	**22.49**	**221**	*e*P	**P**	**02 18 47.9**	**-2.1**
KAD				AMb	AMB	02 18 58.3	
	comp=Z,270nm,2.0s,mb5.3						
KAD				*e*S	**S**	**02 22 50.0**	**-6.7**
ZRNK	**Zerenda**	**22.93**	**327**	*e*P	**P**	**02 18 54.7**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,37nm,1.2s,mb4.7						
ZRNK	**Zerenda**	**22.93**	**327**	*e*P	**P**	**02 18 54.6**	**0.0**
	comp=Z,37nm,1.2s,mb4.7						
GZH	**Guangzhou**	**23.97**	**114**	P	**P**	**02 19 04.5**	**-0.5**
GZH				S	**S**	**02 23 18.8**	**-2.6**
GZH				LR	LR		
	comp=N,5μm,7.4s						
GZH				LR	LR		
	comp=E,5μm,7.8s						
GZH				LR	LR		
	comp=Z,8μm,10.8s,MS5.4						
CIT	**Chita**	**23.99**	**38**	*e*P	**P**	**02 19 05.7**	**+0.5**
CIT				*e*		02 19 54.7	
CIT				*e*		02 22 42.4	
CIT				pmax	pmax		
	comp=Z,215nm,2.4s,mb5.2						
QIZ	**Qiongzhong**	**24.13**	**127**	*e*P	**P**	**02 19 06.5**	**0.0**
QIZ				XP	sP	02 19 12.3	+0.3
QIZ				PPP		02 19 49.8	
QIZ				S	**S**	**02 23 20.5**	**-3.5**
QIZ				XS	sS	02 23 27.3	-3.1
QIZ				LR	LR		
	comp=N,6μm,12.3s,MS5.4						
QIZ				LR	LR		
	comp=E,6μm,12.6s,MS5.4						
QIZ				LR	LR		
	comp=Z,7μm,10.3s,MS5.5						
QIZ	**Qiongzhong**	**24.13**	**127**	*e*P	**P**	**02 19 06.5**	**0.0**
	comp=Z,124nm,1.6s,mb5.1						
NJ2	**Nanjing**	**24.56**	**89**	*e*P	**P**	**02 19 11.0**	**+0.6**
NJ2				AP		02 19 15.0	
NJ2				XP	sP	02 19 17.8	+1.9
NJ2				S	**S**	**02 23 28.0**	**-2.9**
NJ2				XS	sS	02 23 35.0	-2.3
NJ2				SS		02 24 25.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,490nm,4.5s						
NJ2				LR	LR		
	comp=N,12μm,15.1s,MS5.5						
NJ2				LR	LR		
	comp=E,9μm,19.5s,MS5.5						
NJ2				LR	LR		
	comp=Z,3μm,18.0s,MS4.8						
HKC	**Hong Kong**	**25.05**	**114**	P	**P**	**02 19 20.0**	**+5.2**
HKC				S	**S**	**02 23 46.0**	**+7.3**
ABKT	**Ailbek**	**25.33**	**285**	P	**P**	**02 19 19.1**	**+1.7**
	comp=Z,72nm,1.2s,mb5.1,SNR=11						
DL2	**Dalian**	**25.79**	**72**	*e*P	**P**	**02 19 25.5**	**+4.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
DL2				AMB	AMB		
	comp=Z,320nm,3.9s						
DL2				LR	LR		
	comp=N,4μm,17.0s,MS5.1						
DL2				LR	LR		
	comp=E,2μm,14.9s,MS5.1						
DL2				LR	LR		
	comp=Z,3μm,16.0s,MS5.0						
AB31	**Akbulak array**	**25.83**	**312**	*i* P	**P**	**02 19 21.9**	**0.0**
AB31				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.7						
HIA	**Hailar**	**26.18**	**48**	*e*P	**P**	**02 19 26.2**	**+1.1**
HIA				pmax	pmax		
	comp=Z,97nm,1.8s						
HIA				MLR	MLR		
	comp=Z,2μm,20.0s						
HIA	**Hailar**	**26.18**	**48**	*e*P	**P**	**02 19 26.2**	**+1.1**
	comp=Z,97nm,1.8s,mb5.0						
HIA				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
SSE	**Sheshan**	**26.74**	**90**	*e*P	**P**	**02 19 29.5**	**-0.6**
SSE				AP	pP	02 19 32.5	-1.5
SSE				XP	sP	02 19 34.0	-1.7
SSE				PCP	PcP	02 22 54.5	+1.3
SSE				S	**S**	**02 24 03.8**	**-1.7**
SSE				XS	sS	02 24 08.5	-3.4
SSE				SCS	ScS	02 30 24.0	+0.4
SSE				AMB	AMB		
	comp=Z,53nm,0.8s,mb5.1						
SSE				LR	LR		
	comp=N,3μm,21.5s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,21.5s,MS4.8						
SSE				LR	LR		
	comp=Z,1μm,20.7s,MS4.4						
QZH	**Quanzhou**	**27.05**	**104**	⇑*i*P	**P**	**02 19 36.0**	**+3.1**
QZH				S	**S**	**02 24 11.5**	**+1.2**
QZH				LR	LR		
	comp=N,20μm,10.8s,MS6.0						
QZH				LR	LR		
	comp=E,11μm,10.1s,MS6.0						
QZH				LR	LR		
	comp=Z,9μm,9.0s						
SNY	**Shenyang**	**27.30**	**66**	⇓P	**P**	**02 19 35.8**	**+0.6**
SNY				S	**S**	**02 24 16.0**	**+1.7**
SNY				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.6						
SNY				LR	LR		
	comp=N,19μm,19.2s						
SNY				LR	LR		
	comp=Z,6μm,17.1s,MS5.2						
AKTK	**Aktyubinsk**	**27.42**	**313**	P	**P**	**02 19 36.6**	**+0.3**
AKTK				PcP	PcP	02 22 54.0	-0.8
AKTK				LR	LR	02 31 43.7	
AKTO	**Aktyubinsk**	**27.42**	**313**	P	**P**	**02 19 36.6**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.2,baz=107,slow=9.6,SNR=14						
AKTO				PcP	PcP	02 22 54.0	-0.8
	comp=Z,4.4nm,1.0s,baz=292,slow=3.2,SNR=3.9						
AKTO				LR	LR	02 31 43.7	
	comp=Z,2μm,19.4s,MS4.7,baz=0.0,slow=39						
AKTO	**Aktyubinsk**	**27.42**	**313**	P	**P**	**02 19 36.6**	**+0.3**
AKTO						02 22 54.1	
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
AKTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKTO				MLR	MLR		
	comp=Z,2μm,19.4s,MS4.7						
BOD	**Bodaibo**	**27.89**	**28**	*e*P	**P**	**02 19 39.9**	**-0.6**
BOD				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.6						
CN2	**Changchun**	**28.81**	**62**	*e*P	**P**	**02 19 49.5**	**+0.9**
CN2				*e*AP	pP	02 19 54.0	+1.4
CN2				*e*XP	sP	02 19 56.5	+2.3
CN2				*e*S	**S**	**02 24 37.5**	**-0.6**
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,16.0s,MS5.4						
CN2				LR	LR		
	comp=E,6μm,16.0s,MS5.4						
CN2				LR	LR		
	comp=Z,7μm,12.0s,MS5.5						
ARU	**Arti**	**29.86**	**325**	P	**P**	**02 19 58.7**	**+0.8**
	comp=Z,92nm,1.4s,mb5.3,SNR=8.3						
ARU	**Arti**	**29.86**	**325**	⇓*i*P	**P**	**02 19 58.1**	**+0.2**
ARU				*e*		02 22 58.1	
ARU				*e*S	**S**	**02 24 52.8**	**-1.7**
ARU				*e*SS	SS	02 26 25.1	-36
ARU				*e*		02 30 39.3	
ARU				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.8						
ARU				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,2μm,16.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,1μm,17.0s,MS4.9						
ARU	**Arti**	**29.86**	**325**	*e*P	**P**	**02 19 58.0**	**0.0**
	comp=E,33nm,1.4s,mb4.9						
ARU				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
KULM	**Kulim**	**31.50**	**158**	*e*P	**P**	**02 20 12.9**	**+0.5**
MDJ	**Mudanjiang**	**31.84**	**61**	P	**P**	**02 20 15.8**	**+0.4**
MDJ				AP	pP	02 20 17.5	-1.9
MDJ				S	**S**	**02 25 23.0**	**-2.6**
MDJ				XS	sS	02 25 32.0	-0.1
MDJ				PCS	PcS	02 26 49.0	-1.8
MDJ				SCS	ScS	02 30 46.5	-1.0
MDJ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,199nm,3.9s						
MDJ				LR	LR		
	comp=N,7μm,14.5s,MS5.5						
MDJ				LR	LR		
	comp=E,2μm,11.4s,MS5.5						
MDJ				LR	LR		
	comp=Z,6μm,11.4s,MS5.5						
MDJ	**Mudanjiang**	**31.84**	**61**	*e*P	**P**	**02 20 15.6**	**+0.1**
	comp=Z,43nm,1.3s,mb5.1						
MDJ				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
NRGR	**Nerungri**	**31.98**	**37**	*e*P	**P**	**02 20 09.3**	**-7.4**
NRGR				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.0						
SOKR	**Solikamsk**	**32.37**	**329**	*e*P	**P**	**02 20 21.1**	**+1.0**
SOKR				*i* S	**S**	**02 25 28.5**	**-5.3**
SOKR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.0						
MAK	**Makhachkala**	**33.26**	**296***c*	*i*P	**P**	**02 20 27.0**	**-0.9**
MAK				*e*PPP		02 21 48.8	
MAK				*i* S	**S**	**02 25 44.8**	**-3.0**
MAK				*i* SSS		02 28 07.1	
MAK				pmax	pmax		
	comp=Z,98nm,2.5s,mb5.3						
MAK				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.3						
PSI	**Prapat**	**33.41**	**163**	P	**P**	**02 20 29.2**	**0.0**
	comp=Z,21nm,1.0s,mb5.0,baz=304,slow=5.0,SNR=7.6						
PSI				PcP	PcP	02 23 11.0	+0.5
	comp=Z,5.3nm,0.7s,baz=21,slow=2.8,SNR=5.2						
PSI				LR	LR	02 35 35.4	
	comp=Z,2μm,18.1s,MS4.8,baz=134,slow=39						
PSI	**Prapat**	**33.41**	**163**	P	**P**	**02 20 29.2**	**0.0**
PSI						02 23 11.0	
PSI	**Prapat**	**33.41**	**163**	P	**P**	**02 20 29.2**	**0.0**
PSI				PcP	PcP	02 23 11.0	+0.5
PSI				LR	LR	02 35 35.4	
VLA	**Vladivostok**	**33.47**	**63**	*e*P	**P**	**02 20 33.4**	**+3.7**
VLA				pmax	pmax		
	comp=Z,190nm,1.7s,mb5.8						
VLA				MLR	MLR		
	comp=Z,3μm,13.2s,MS5.2						
KLR	**Kul'dur**	**33.78**	**52**	*e*P	**P**	**02 20 29.8**	**-2.6**
KLR				*e*S	**S**	**02 25 51.5**	**-4.3**
KLR				pmax	pmax		
	comp=E,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.2						
KLR				MLR	MLR		
	comp=Z,25μm,13.0s,MS6.1						
TBLG	**Delisi**	**35.37**	**294**	P	**P**	**02 20 39.1**	**-7.1**
GNI	**Garni**	**35.52**	**292**	P	**P**	**02 20 47.8**	**+0.4**
	comp=Z,9.7nm,0.7s,mb4.8,baz=44,slow=6.3,SNR=5.4						
GNI	**Garni**	**35.52**	**292**	P	**P**	**02 20 47.8**	**+0.4**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GNI	**Garni**	**35.52**	**292**	*e*P	**P**	**02 20 47.6**	**+0.1**
	comp=Z,37nm,1.3s,mb5.2						
GNI				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
UMR	**Umm Al-Rimmam**	**35.59**	**273**	*e*P	**P**	**02 20 48.2**	**+0.1**
UMR				AMb	AMB	02 20 50.1	
	comp=Z,60nm,0.8s,mb5.6						
KBD	**Kabd**	**35.74**	**272**	*e*P	**P**	**02 20 50.2**	**+0.9**
KBD				AMb	AMB	02 20 56.6	
	comp=Z,207nm,1.3s,mb5.9						
MIB	**Mutribah**	**35.81**	**273**	*e*P	**P**	**02 20 50.4**	**+0.4**
MIB				AMb	AMB	02 20 56.5	
	comp=Z,88nm,1.2s,mb5.6						
HABR	**Khabarovsk**	**35.86**	**54**	*i* P	**P**	**02 20 51.2**	**+0.8**
HABR				*e*S	**S**	**02 26 27.1**	**-0.7**
HABR				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.5						
HABR				MLR	MLR		
	comp=Z,2μm,11.0s,MS5.0						
ZEI	**Tsey**	**35.92**	**296**	*e*P	**P**	**02 20 51.3**	**+0.4**
ZEI				*i*		02 22 09.9	
ZEI				*i*		02 23 16.0	
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
RDF	**Al-Radifah**	**35.94**	**272**	*e*P	**P**	**02 20 52.2**	**+1.1**
RDF				AMb	AMB	02 20 57.9	
	comp=Z,86nm,1.1s,mb5.6						
NAY	**Al-Naaiem**	**36.08**	**273**	*e*P	**P**	**02 20 53.4**	**+1.2**
NAY				AMb	AMB	02 20 58.7	
	comp=Z,55nm,0.9s,mb5.5						
GOF	**Gofitskoye**	**36.46**	**300**	⇓*i*P	**P**	**02 20 55.0**	**-0.5**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YAK	**Yakutsk**	**36.73**	**31**	*e*P	**P**	**02 20 57.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.3						
YAK	**Yakutsk**	**36.73**	**31**	*e*P	**P**	**02 20 57.7**	**-0.1**
	comp=Z,32nm,0.6s,mb5.3						
KIV	**Kislovodsk**	**36.74**	**298**	*e*P	**P**	**02 20 56.3**	**-1.6**
KIV				*e*		02 22 20.9	
KIV				*e*PPP		02 22 35.5	
KIV				*e*S	**S**	**02 26 41.2**	**-0.1**
KIV				*e*SS	SS	02 29 10.1	-12
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.0						
VRHR	**Novokhopersk**	**37.67**	**310**	*e*P	**P**	**02 21 05.7**	**-0.1**
VRHR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
KKM	**Kota Kinabalu**	**38.02**	**134**	*e*P	**P**	**02 21 09.5**	**+0.7**
KSM	**Kuching**	**38.73**	**146**	*e*P	**P**	**02 21 16.1**	**+1.3**
SOC	**Sochi**	**38.91**	**298***d*	*i*P	**P**	**02 21 16.4**	**+0.2**
SOC				*e**PP	pP	02 21 25.6	+5.4
SOC				*e*PPP		02 23 05.7	
SOC				*e*		02 23 23.2	
SOC				*e*S	**S**	**02 27 11.4**	**-2.8**
SOC				*e*SSS		02 30 23.3	
SOC				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
SOC				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.0						
MAJO	**Matsushiro**	**39.11**	**73**	*e*P	**P**	**02 21 16.9**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
MAJO				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.8						
MAJO	**Matsushiro**	**39.11**	**73**	*e*P	**P**	**02 21 16.9**	**-1.0**
	comp=Z,15nm,0.9s,mb4.7						
MAJO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
MAT	**Matsushiro**	**39.11**	**73**	P	**P**	**02 21 17.4**	**-0.5**
MAT				S	**S**	**02 27 20.0**	**+2.8**
MAT	**Matsushiro**	**39.11**	**73**	*e*P	**P**	**02 21 19.0**	**+1.1**
MAT				*e*S	**S**	**02 27 20.0**	**+2.8**
MJAR	**Matsushiro Arr**	**39.11**	**73**	P	**P**	**02 21 15.7**	**-2.2**
	comp=Z,6.1nm,1.0s,mb4.3,baz=291,slow=9.8,SNR=7.8						
MJAR				LR	LR	02 38 04.0	
	comp=Z,1μm,18.6s,MS4.7,baz=275,slow=37						
VRSR	**Storozhevoye**	**39.21**	**310**	*e*P	**P**	**02 21 18.6**	**-0.2**
VRSR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
VRSR				MLR	MLR		
	comp=Z,230nm,15.0s,MS4.1						
VRSR				MLR	MLR		
	comp=N,90nm,14.0s,MS4.0						
VRSR				MLR	MLR		
	comp=E,140nm,16.0s,MS4.0						
VOR	**Voronezh**	**39.24**	**311**	P	**P**	**02 21 18.0**	**-1.0**
VOR				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.2						
ANN	**Anapa**	**40.44**	**300**	*e*P	**P**	**02 21 31.4**	**+2.4**
ANN				*e*		02 23 04.5	
ANN				*e*S	**S**	**02 27 36.7**	**-0.5**
ANN				*e*SS	SS	02 30 38.1	+1.7
ANN				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0						
ANN				MLR	MLR		
	comp=N,1μm,19.0s,MS4.9						
ANN				MLR	MLR		
	comp=E,1μm,19.0s,MS4.9						
ANN				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.9						
MOS	**Moscow**	**40.62**	**317**κ	*i*P	**P**	**02 21 30.8**	**+0.3**
MOS				*e*S	**S**	**02 27 43.2**	**+3.3**
MOS				pmax	pmax		
	comp=Z,129nm,1.2s,mb5.4						
MOS				MLR	MLR		
	comp=Z,2μm,10.7s,MS5.3						
MOS				MLR	MLR		
	comp=E,800nm,11.8s						
MALT	**Malatya**	**40.65**	**290**	⇓P	**P**	**02 21 32.7**	**+2.0**
MALT	**Malatya**	**40.65**	**290**	*e*P	**P**	**02 21 31.8**	**+1.1**
	comp=E,22nm,1.5s,mb4.6						
KLMR	**Klimovskoe**	**40.71**	**325***d*	*i*P	**P**	**02 21 30.9**	**-0.3**
KLMR				*e*S	**S**	**02 27 31.9**	**-9.2**
KLMR				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.3						
KLMR				pmax	pmax		
	comp=Z,170nm,5.6s						
KLMR				smax			
	comp=N,40nm,4.6s						
KLMR				smax			
	comp=E,2μm,5.3s						
KLMR				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**41.04**	**57**	*e*P	**P**	**02 21 34.0**	**0.0**
YSS				*e**SP	sP	02 21 36.0	-3.6
YSS				*e*S	**S**	**02 27 48.0**	**+1.9**
YSS				*e*SSS		02 31 23.0	
YSS				MLR	MLR		
	comp=Z,4μm,13.0s,MS5.4						
YSS				MLR	MLR		
	comp=E,6μm,12.0s						
OBN	**Obninsk**	**41.14**	**316**	⇓*e*P	**P**	**02 21 34.5**	**-0.3**
OBN				*e*		02 23 16.6	
OBN				*e*S	**S**	**02 27 48.9**	**+1.3**
OBN				*e*SS	SS	02 30 40.1	-10
OBN				SSS		02 31 23.0	
OBN				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.9						
ASAJ	**Asahikawa**	**41.16**	**61**	P	**P**	**02 21 35.3**	**+0.3**
	comp=Z,14nm,1.0s,mb4.5,baz=265,slow=18,SNR=4.4						
ASAJ				LR	LR	02 38 17.5	
	comp=Z,2μm,18.8s,MS5.1,baz=301,slow=36						
ASAJ	**Asahikawa**	**41.16**	**61**	P	**P**	**02 21 35.3**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.8s						
TIXI	**Tiksi**	**41.82**	**18**	*e*P	**P**	**02 21 37.0**	**-3.4**
TIXI				*e*S	**S**	**02 27 47.7**	**-10**
TIXI				*e*SS	SS	02 31 00.7	-3.1
TIXI				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
TIXI				smax			
	comp=N,258nm,10.7s						
TIXI				smax			
	comp=E,19nm,6.6s						
TIXI				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.3						
SIM	**Simferopol'**	**42.77**	**301**	⇑*e*P	**P**	**02 21 49.9**	**+1.8**
SIM						02 23 36.5	
SIM				*e*S	**S**	**02 28 11.9**	**+0.2**
SIM				*e*SS	SS	02 31 17.9	-4.6
SIM				pmax	pmax		
	comp=Z,99nm,7.4s						
SIM				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
BR131	**Keskin Array S**	**44.00**	**293**	*e*P	**P**	**02 21 58.0**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**44.00**	**293**	P	**P**	**02 21 58.8**	**+0.8**
	comp=Z,6.8nm,0.8s,mb4.4,baz=95,slow=8.5,SNR=53						
BRTR				PcP	PcP	02 23 43.7	+0.1
	comp=Z,1.9nm,1.0s,baz=93,slow=5.9,SNR=3.1						
ANTO	**Ankara**	**44.60**	**294**	*e*P	**P**	**02 22 03.1**	**+0.2**
ANTO				*e*	pP	02 22 07.6	+0.7
ANTO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						

ANTO Ankara 44.60 294 *e*P **P 02 22 03.1 +0.3**
comp=Z,16nm,0.8s,mb4.9
ANTO *e* pP 02 22 07.6 +0.7
LVZ Lovozero 44.80 334⇑*e*P **P 02 22 04.0 -0.4**
LVZ *e*S **S 02 28 46.8 +5.5**
LVZ pmax pmax
comp=Z,77nm,1.5s,mb5.3
LVZ smax
comp=N,1μm,5.8s
LVZ MLR MLR
comp=Z,3μm,16.0s,MS5.3
LVZ MLR MLR
comp=N,2μm,12.0s,MS5.3
LVZ MLR MLR
comp=E,1μm,11.0s,MS5.3
JOF Joensuu 44.95 327 *e*p **P 02 22 05.7 +0.1**
PUL Pulkovo 45.00 322⇑*e*P **P 02 22 06.6 +0.6**
PUL *e*S **S 02 28 51.1 +6.9**
PUL pmax pmax
comp=Z,36nm,0.5s,mb5.5
PUL pmax pmax
comp=E,97nm,0.6s
PUL smax
comp=N,1μm,4.8s
PUL MLR MLR
comp=E,2μm,11.0s
PUL MLR MLR
comp=Z,2μm,11.0s,MS5.4
LBOS 45.10 253 *e*P **P 02 22 08.2 +1.4**
APA Apatity 45.16 333 *e*P **P 02 22 07.4 +0.2**
APA *e*S **S 02 28 44.0 -2.5**
APA MLR MLR
comp=Z,4μm,14.0s,MS5.4
AKASG Malin Array Be 45.51 309 P **P 02 22 09.4 -0.6**
comp=Z,11nm,0.8s,mb4.8,baz=78,slow=6.3,SNR=42
AKASG PcP PcP 02 23 47.9 -0.9
comp=Z,4.9nm,1.0s,baz=77,slow=3.1,SNR=6.6
EIL Elat 45.93 279 *e*P **P 02 22 14.0 +0.6**
comp=Z,913nm,1.4s
MA2 Magadan 45.98 38 *e*P **P 02 22 14.3 +0.5**
MA2 *e*S **S 02 28 54.5 -3.9**
MA2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MA2 MLR MLR
comp=Z,3μm,23.0s,MS5.1
MA2 Magadan 45.98 38 *e*P **P 02 22 13.8 0.0**
comp=Z,17nm,0.9s,mb5.0
MA2 *e*PcP PcP 02 23 49.8 -0.6
KIS Kishinev 46.17 304 *e*P **P 02 22 15.0 -0.3**
KIS *e* 02 24 10.0
KIS *e*S **S 02 29 00.0 -1.1**
KIS MLR MLR
comp=N,1μm,15.0s,MS5.0
KIS MLR MLR
comp=E,1μm,15.0s,MS5.0
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.1
KIS MLR MLR
comp=Z,700nm,15.0s
CFR Carcaliu 46.93 302 ⇓P **P 02 22 21.4 +0.2**
CFR Carcaliu 46.93 302 ⇓P **P 02 22 21.4 +0.1**
SEY Seymchan 47.03 34 *e*P **P 02 22 22.6 +0.6**
SEY 02 23 53.8
SEY 02 24 13.8
SEY *e*S **S 02 29 09.3 -4.1**
SEY 02 32 13.6
SEY pmax pmax
comp=Z,13nm,0.9s,mb4.9
SEY smax
comp=N,570nm,27.3s
SEY smax
comp=E,460nm,31.2s
SEY MLR MLR
comp=Z,2μm,18.0s,MS5.1
SEY MLR MLR
comp=N,1μm,20.0s,MS5.0
SEY MLR MLR
comp=E,540nm,17.0s,MS5.0
KAF Kangasniemi 47.16 325 *e*p **P 02 22 22.1 -0.9**
baz=94,slow=7.8
HARR Harsova 47.16 301 ⇓P **P 02 22 23.8 +0.8**
FINES FINESS Array B 47.22 324 P **P 02 22 23.4 -0.1**
comp=E,6.8nm,0.7s,mb4.7,baz=93,slow=9.5,SNR=42
FINES LR LR 02 43 55.2
comp=E,2μm,18.7s,MS5.2,baz=266,slow=38
FINES FINESS Array B 47.22 324 P **P 02 22 23.4 -0.1**
FINES LR LR 02 43 55.2
VRI Vrincioaia 47.78 303 ⇓P **P 02 22 28.8 +1.0**
VRI Vrincioaia 47.78 303 ⇓P **P 02 22 28.8 +0.9**
MLR Muntele Rosu 48.39 303 LR LR 02 45 59.0
comp=E,2μm,20.5s,MS5.1,baz=66,slow=40
MLR Muntele Rosu 48.39 303 ⇑P **P 02 22 34.1 +1.5**
MLR Muntele Rosu 48.39 303 ⇑P **P 02 22 34.1 +1.6**
ARCES ARCESS Array B 48.44 335 P **P 02 22 32.7 -0.2**
comp=E,8.1nm,0.8s,mb4.8,baz=96,slow=7.4,SNR=22
ARCES LR LR 02 43 58.0
comp=E,2μm,18.9s,MS5.0,baz=101,slow=37
ARCES ARCESS Array B 48.44 335 P **P 02 22 32.7 -0.2**
ARCES LR LR 02 43 58.0
BURAR Bucovina Array 48.50 305 ⇑P **P 02 22 33.8 +0.4**
BURAR Bucovina Array 48.50 305 ⇑P **P 02 22 33.8 +0.4**
SUW Suwalki 48.92 314 *e*P **P 02 22 36.4 -0.2**
VOIR 49.02 303 ⇓P **P 02 22 37.0 -0.4**
VOIR 49.02 303 ⇓P **P 02 22 37.0 -0.4**
KWP Kalwaria 49.80 308 *e*P **P 02 22 44.0 +0.7**
KWP *e*PP PP 02 24 40.4 +2.4
KWP L 02 46 55.9
comp=Z,2.6nm,18.8s
KWP Kalwaria 49.80 308 *e*P **P 02 22 44.0 +0.7**
KWP *e*PP PP 02 24 40.4 +2.4
KOLS Kolonicke sedl 50.20 308 *e*P **P 02 22 45.6 -0.8**
PET Petropavlovsk 50.66 47 *e*P **P 02 22 50.8 +1.0**
PET *e* 02 24 51.7
PET *e*S **S 02 30 04.0 -0.4**
PET *e*SS SS 02 33 36.9 -1.8
PET pmax pmax
comp=Z,100nm,17.4s
PET pmax pmax
comp=Z,200nm,14.0s
PET smax
comp=N,300nm,24.5s
PET smax
comp=E,300nm,22.6s
PET MLR MLR
comp=Z,2μm,16.0s,MS5.2
PET MLR MLR
comp=Z,2μm,14.0s
STHS Stebnicka Huta 50.77 308 *i* P **P 02 22 50.8 +0.1**
STHS *e*sP sP 02 22 55.4 -1.0
VTS Vitosha 50.97 299 ⇓P **P 02 22 52.9 +0.7**
BZS Buzias 51.33 304 ⇓P **P 02 22 55.0 +0.1**
BZS Buzias 51.33 304 ⇓P **P 02 22 55.0 0.0**
NIE Niedzica 51.37 309 *e*Pd 02 22 56.1
KECS Kecovo 51.45 307 *i* P **P 02 22 56.1 +0.3**
KECS *e*pP pP 02 23 00.9 +1.0
OJC Ojcow 51.54 310 *e*P **P 02 22 56.4 -0.1**
IDI Anoyia 51.92 290 LR LR 02 48 51.1
comp=Z,223nm,19.9s,MS4.2,baz=293,slow=40
PSZ Piszkesteto 51.96 307 *e*P **P 02 22 59.0 -0.6**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PSZ Piszkesteto 51.96 307 *e*P **P 02 22 59.0 -0.6**
comp=Z,3.5nm,0.7s,mb4.4
GKP Gorka Klasztor 52.53 314 *e*P **P 02 23 04.5 +0.7**
GKP L 02 47 04.3
comp=Z,1.5nm,21.0s
OKC Ostrava-Krasne 52.66 309 *e*P **P 02 23 02.7 -2.1**
OKC AMS AMS 02 48 50.0
comp=Z,2μm,17.4s
BILL Bilibino 52.94 27κ *i*P **P 02 23 07.3 +0.4**
BILL 02 24 17.0
BILL S **S 02 30 42.0 +6.2**
BILL pmax pmax
comp=Z,41nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,1μm,16.0s,MS5.1
BILL Bilibino 52.94 27 *e*P **P 02 23 06.6 -0.3**
comp=Z,21nm,1.1s,mb5.0
SRO Srobarova 53.02 307 *e*P **P 02 23 08.6 +1.1**
MORC Moravsky Berou 53.06 310 ⇓P **P 02 23 08.2 +0.5**
MORC Moravsky Berou 53.06 310 *e*P **P 02 23 07.8 +0.1**
comp=Z,28nm,1.5s,mb5.0
KSP Ksiaz 53.60 311 *e*P **P 02 23 12.2 +0.5**
KSP L 02 49 15.9
comp=Z,2.9nm,19.8s

KSP Ksiaz 53.60 311 *e*P **P 02 23 11.6 -0.1**
KSP *e*S **S 02 30 41.0 -3.8**
KSP *e*SS SS 02 34 29.0 +3.8
KSP LR LR
comp=Z,3μm,19.8s,MS5.4
DPC Dobruska-Polom 53.69 310 *e*P **P 02 23 13.2 +0.8**
DPC *e*S **S 02 30 49.3 +3.2**
DPC AMS AMS 02 49 50.0
comp=Z,2μm,9.7s
VRAC Vranov 53.77 309 ⇓P **P 02 23 13.6 +0.6**
UPC Upice 53.85 311 *e*P **P 02 23 14.0 +0.4**
NB2 NORSAR Subarra 54.41 324 P **P 02 23 16.6 -1.0**
comp=Z,15nm,0.8s,mb5.0,baz=80,slow=7.4
NOA NORSAR Array B 54.41 324 P **P 02 23 16.2 -1.4**
comp=Z,8.1nm,0.8s,mb4.7,baz=81,slow=7.2,SNR=23
NOA LR LR 02 48 17.6
comp=Z,3μm,18.5s,MS5.3,baz=80,slow=38
NAO01 NORSAR Array S 54.60 324 *e*P **P 02 23 17.7 -1.3**
comp=Z,12nm,0.8s,mb5.0
PRU Pruhonice 54.89 310 *e*P **P 02 23 21.3 +0.2**
PRU *e*S **S 02 31 03.4 +1.2**
PRU AMS AMS 02 50 30.0
comp=Z,2μm,13.3s
BRG Berggiesshubel 55.03 312 *e*P **P 02 23 21.8 -0.4**
comp=Z,14nm,0.9s,mb5.0
BRG Berggiesshubel 55.03 312 *i* P **P 02 23 22.2 0.0**
comp=Z,14nm,0.9s,mb5.0
BRG *e* 02 24 28.0
BRG PP PP 02 25 28.0 +2.7
BRG S **S 02 31 09.0 +4.8**
BRG SS SS 02 34 50.0 +2.1
BRG Berggiesshubel 55.03 312 *i* P **P 02 23 22.2 0.0**
BRG *e* 02 24 28.0
BRG 02 25 28.0
BRG S **S 02 31 09.0 +4.8**
BRG SS SS 02 34 50.0 +2.1
BRG pmax pmax
comp=Z,14nm,0.9s,mb5.0
PERS Pernice 55.43 306 *e*P **P 02 23 24.7 -0.4**
CLL Collm 55.50 312⇓*i*P **P 02 23 25.2 -0.3**
comp=Z,20nm,1.0s,mb5.1
CLL *e*PcP PcP 02 24 25.4 -0.1
CLL *e*PP PP 02 25 27.4 -2.1
CLL *e*S **S 02 31 13.4 +3.0**
CLL *e*SS SS 02 35 06.7 +12
CLL *e*LR LR 02 40 36.6
CLL *e*L 02 50 22.5
comp=Z,1μm,20.0s
CLL Collm 55.50 312⇓*i*P **P 02 23 25.4 -0.1**
comp=Z,22nm,1.1s,mb5.1
CLL *i* pP pP 02 23 28.3 -1.4
CLL *i* sP sP 02 23 30.7 -0.5
CLL *e*PcP PcP 02 24 26.0 +0.5
CLL *e*PP PP 02 25 31.0 +1.5
CLL *e*S **S 02 31 14.0 +3.6**
CLL *e*SS SS 02 35 00.0 +4.8
CLL *e*(SSS) 02 37 12.0
CLL Collm 55.50 312⇓*i*P **P 02 23 25.4 -0.1**
CLL *i* pP 02 23 28.3 -1.4
CLL *e**PP pP 02 23 37.0 +7.3
CLL *e*S **S 02 31 14.0 +3.6**
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.1
CLL MLR MLR
comp=Z,2μm,16.6s,MS5.2
CLL Collm 55.50 312⇓*i*P **P 02 23 25.4 -0.1**
comp=Z,22nm,1.1s,mb5.1
CLL *i* pP 02 23 28.3 -1.4
CLL *e*pP pP 02 23 37.0 +7.3
CLL *e*S **S 02 31 14.0 +3.6**
CLL LR LR
comp=Z,2μm,16.6s,MS5.2
MOA Molln 55.64 308⇓*i*P **P 02 23 26.6 +0.1**
comp=Z,13nm,1.2s,mb4.8,SNR=6.2
BOJS Bojanci 55.67 305 *e*P **P 02 23 27.0 +0.2**
KHC Kasperske Hory 55.72 310 *e*P **P 02 23 27.4 +0.3**
KHC AMS AMS 02 51 30.0
comp=Z,2μm,18.1s
GEC2 GERESS Array S 55.72 309 *e*P **P 02 23 27.1 -0.1**
comp=Z,39nm,1.3s,mb5.3
GEC2 GERESS Array S 55.72 309 *e*P **P 02 23 27.1 -0.1**
GEC2 pmax pmax
comp=Z,39nm,1.3s,mb5.3
GERES GERESS Array B 55.72 309 P **P 02 23 27.7 +0.5**
comp=Z,13nm,0.9s,mb4.9,baz=74,slow=5.8,SNR=85
GERES LR LR 02 51 56.2
comp=Z,2μm,18.6s,MS5.2,baz=78,slow=41
VISS Visnje 55.86 305 *e*P **P 02 23 28.2 +0.1**
TANN Tannenbergstha 56.07 311 *e*P **P 02 23 29.2 -0.4**
NKC Novy Kostel 56.12 311 *e*P **P 02 23 30.2 +0.2**
NKC AMS AMS 02 51 00.0
comp=Z,2μm,13.6s
WET Wettzell 56.16 310 *e*P **P 02 23 30.1 -0.2**
comp=Z,14nm,1.1s,mb4.9
WET Wettzell 56.16 310 *e*P **P 02 23 30.1 -0.2**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.9
BSEG Bad Segeberg 56.40 316 *e*P **P 02 23 31.9 -0.1**
comp=Z,17nm,1.2s,mb5.0
ROTZ Rotzenmuhle 56.40 311 *e*P **P 02 23 32.2 +0.2**
KBA Koelnbreinsper 56.46 307⇑*i*P **P 02 23 32.8 +0.4**
comp=Z,7.2nm,0.8s,mb4.7
MOX Moxa 56.52 312 *e*P **P 02 23 32.4 -0.5**
comp=Z,15nm,1.3s,mb4.9
MOX Moxa 56.52 312 *e*P **P 02 23 33.0 +0.1**
comp=Z,29nm,1.4s,mb5.1
MOX
comp=Z,1μm,21.0s
MOX Moxa 56.52 312 *e*P **P 02 23 33.0 +0.1**
MOX pmax pmax
comp=Z,29nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,1μm,21.0s,MS5.0
ROBS Robic 56.61 306 *e*P **P 02 23 32.2 -1.3**
CLZ Clausthal 56.94 313 *e*P **P 02 23 35.5 -0.3**
comp=Z,43nm,1.3s,mb5.3
CLZ Clausthal 56.94 313 *e*P **P 02 23 35.5 -0.3**
CLZ pmax pmax
comp=Z,43nm,1.3s,mb5.3
GRA1 Grafenberg Arr 57.04 311 *e*P **P 02 23 36.8 +0.3**
comp=Z,48nm,0.9s,mb5.5
GRF Grafenberg Arr 57.04 311 *e*P **P 02 23 36.8 +0.3**
comp=Z,48nm,0.9s,mb5.5
GRF *e*L 02 52 15.5
comp=Z,2μm,18.4s
GRF Grafenberg Arr 57.04 311 *e*P **P 02 23 36.8 +0.3**
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,2μm,18.4s,MS5.2
FUR Furstenfeldbru 57.47 309 *e*P **P 02 23 39.6 +0.1**
comp=Z,36nm,1.0s,mb5.4
FUR Furstenfeldbru 57.47 309 *e*P **P 02 23 39.6 +0.1**
FUR pmax pmax
comp=Z,36nm,1.0s,mb5.4
WTTA Wattenberg 57.52 308 *i* P **P 02 23 39.9 0.0**
comp=Z,26nm,1.1s,mb5.2,SNR=9.9
WATA Walderalm 57.53 308⇓*i*P **P 02 23 39.7 -0.3**
comp=Z,32nm,1.5s,mb5.1,SNR=7.6
SQTA Sankt Quirin 57.80 308⇓*i*P **P 02 23 41.5 -0.4**
comp=Z,34nm,1.6s,mb5.1,SNR=11
MOTA Moosalm 57.83 308⇓*i*P **P 02 23 41.8 -0.4**
comp=Z,27nm,1.1s,mb5.2,SNR=17
AQU L'Aquila 57.95 302 *e*P **P 02 23 42.5 -0.5**
AQU pmax pmax
comp=Z,19nm,1.1s,mb5.0
AQU L'Aquila 57.95 302 *e*P **P 02 23 42.5 -0.5**
comp=Z,19nm,1.1s,mb5.0
IBBN Ibbenburen 58.34 314 *e*P **P 02 23 45.2 -0.5**
TOD Tromm 58.56 311 *e*P **P 02 23 47.5 +0.3**
TNS Taunus Mts 58.58 312 *e*P **P 02 23 46.9 -0.5**
comp=Z,21nm,1.3s,mb5.0
TNS Taunus Mts 58.58 312 *e*P **P 02 23 46.9 -0.5**
TNS pmax pmax
comp=Z,21nm,1.3s,mb5.0
STU Stuttgart 58.59 310 *e*P **P 02 23 47.0 -0.4**
comp=Z,38nm,1.4s,mb5.2
STU Stuttgart 58.59 310 *e*P **P 02 23 47.2 -0.2**
STU pmax pmax
comp=Z,50nm,1.4s,mb5.3
STU Stuttgart 58.59 310 *e*P **P 02 23 47.2 -0.2**
comp=Z,50nm,1.4s,mb5.3
DAVA Damuels 58.64 308⇓*i*P **P 02 23 47.8 +0.1**
comp=Z,18nm,1.0s,mb5.1
BUG Bochum--Univer 58.90 314 *e*P **P 02 23 49.2 -0.4**

SPAK Spaichingen 59.06 310 *e*P **P 02 23 51.2 +0.5**
BFO Black Forest 59.27 310 *e*P **P 02 23 51.5 -0.7**
comp=Z,24nm,1.2s,mb5.1
BFO Black Forest 59.27 310 P **P 02 23 52.2 0.0**
comp=Z,134nm,1.2s,mb5.8,SNR=7.3
BFO Black Forest 59.27 310 *e*P **P 02 23 51.5 -0.7**
BFO pmax pmax
comp=Z,24nm,1.2s,mb5.1
LANF Langenberg 59.38 311 *e*P **P 02 23 53.6 +0.7**
RUP Ruppelstein 59.60 312 *e*P **P 02 23 55.1 +0.7**
FELD Feldberg 59.63 309 *e*P **P 02 23 54.9 +0.2**
LIBD Limburg 59.79 310 *e*P **P 02 23 56.3 +0.5**
WLS Welschbruch 59.86 310 *e*P **P 02 23 56.6 +0.4**
CDF Champ du Feu 59.91 310 *e*P **P 02 23 56.2 -0.3**
comp=Z,91nm,1.2s,mb5.4
CDF Champ du Feu 59.91 310 *e*P **P 02 23 56.2 -0.3**
CDF pmax pmax
comp=Z,46nm,1.2s,mb5.4
CDF Champ du Feu 59.91 310 *e*P **P 02 23 56.2 -0.3**
comp=Z,46nm,1.2s,mb5.4
MEM Membach 59.93 313 ⇑P **P 02 23 57.2 +0.5**
comp=Z,8.7nm,1.0s,mb4.7
DAG Danmarks Havn 60.02 345⇑*i*P **P 02 23 56.2 -1.1**
comp=Z,6.3nm,0.5s,mb4.9
DAG Danmarks Havn 60.02 345⇑*i*P **P 02 23 56.2 -1.1**
DAG pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ECH Echery 60.05 310 *e*P **P 02 23 57.9 +0.4**
BEBN Eben Emael 60.06 313 ⇑P **P 02 23 58.0 +0.4**
BBS Basel-Blauen 60.09 309 *e*P **P 02 23 57.9 +0.1**
WLF Walferdange 60.16 312 ⇑P **P 02 23 59.0 +0.7**
comp=Z,12nm,1.3s,mb4.8
MOF Molkenrain 60.19 310 *e*P **P 02 23 59.0 +0.5**
HINF Hinteralfeld 60.38 310 *e*P **P 02 23 59.2 -0.6**
comp=Z,130nm,1.4s,mb5.5
HINF Hinteralfeld 60.38 310 *e*P **P 02 23 59.2 -0.6**
HINF pmax pmax
comp=Z,65nm,1.4s,mb5.5
HINF Hinteralfeld 60.38 310 *e*P **P 02 23 59.2 -0.6**
comp=Z,65nm,1.4s,mb5.5
HAU Haudompre 60.63 310 *e*P **P 02 24 00.8 -0.7**
comp=Z,33nm,1.0s,mb5.1
HAU *e*R
comp=Z,1μm,17.8s
HAU Haudompre 60.63 310 *e*P **P 02 24 00.8 -0.7**
HAU pmax pmax
comp=Z,17nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,1μm,17.8s,MS5.1
HAU Haudompre 60.63 310 *e*P **P 02 24 00.8 -0.7**
comp=Z,17nm,1.0s,mb5.1
HAU LR LR
comp=Z,1μm,17.8s,MS5.1
KMBO Kilima Mbogo 60.70 245 P **P 02 24 01.7 -0.3**
comp=Z,9.2nm,0.9s,mb4.9,baz=39,slow=9.7,SNR=24
KMBO LR LR 02 51 04.9
comp=Z,609nm,19.2s,MS4.8,baz=266,slow=37
KMBO Kilima Mbogo 60.70 245 *e*P **P 02 24 02.3 +0.3**
KMBO pmax pmax
comp=Z,19nm,1.5s
KMBO Kilima Mbogo 60.70 245 *e*P **P 02 24 02.3 +0.3**
comp=Z,20nm,1.5s,mb5.0
GIVF Givet 60.81 313 *e*P **P 02 24 02.4 -0.4**
comp=Z,71nm,1.1s,mb5.4
GIVF Givet 60.81 313 *e*P **P 02 24 02.4 -0.4**
GIVF pmax pmax
comp=Z,35nm,1.1s,mb5.4
GIVF Givet 60.81 313 *e*P **P 02 24 02.4 -0.4**
comp=Z,35nm,1.1s,mb5.4
UCC Uccle 60.84 314 ⇓P **P 02 24 02.7 -0.2**
PGF Pioggiola 60.92 303 *e*P **P 02 24 02.8 -0.7**
comp=Z,61nm,1.4s,mb5.2
PGF Pioggiola 60.92 303 *e*P **P 02 24 02.8 -0.7**
PGF pmax pmax
comp=Z,30nm,1.4s,mb5.2
PGF Pioggiola 60.92 303 *e*P **P 02 24 02.8 -0.7**
comp=Z,30nm,1.4s,mb5.2
DOU Dourbes 60.95 313 ⇓P **P 02 24 03.8 0.0**
comp=Z,6.6nm,1.1s,mb4.7
DOU AP pP 02 24 07.0 -0.9
DOU XP sP 02 24 08.0 -1.4
SNF Seneffe 60.99 313 ⇑P **P 02 24 04.0 0.0**
comp=Z,6.8nm,1.2s,mb4.7
SNF AP pP 02 24 07.3 -0.8
SNF XP sP 02 24 08.6 -1.1
MEZF Maizieres J'vi 61.26 311 *e*P **P 02 24 05.5 -0.3**
comp=Z,219nm,1.5s,mb5.8
MEZF Maizieres J'vi 61.26 311 *e*P **P 02 24 05.5 -0.3**
comp=Z,219nm,1.5s,mb6.1
LPG La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.4**
comp=Z,143nm,1.2s,mb5.7
LPG La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.4**
LPG pmax pmax
comp=Z,71nm,1.2s,mb5.7
LPG La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.4**
comp=Z,71nm,1.2s,mb5.7
LPL La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.3**
comp=Z,137nm,1.1s,mb5.7
LPL La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.3**
LPL pmax pmax
comp=Z,69nm,1.1s,mb5.7
LPL La Plagne 61.30 307 *e*P **P 02 24 06.4 +0.3**
comp=Z,68nm,1.1s,mb5.7
CABF La Chapelle 61.31 309 *e*P **P 02 24 05.5 -0.6**
comp=Z,13nm,0.8s,mb4.8
CABF La Chapelle 61.31 309 *e*P **P 02 24 05.5 -0.6**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CABF La Chapelle 61.31 309 *e*P **P 02 24 05.5 -0.6**
comp=Z,6.7nm,0.8s,mb4.8
RSL Roselend 61.31 308 *e*P **P 02 24 06.6 +0.5**
SAOF Saorge 61.34 305 *e*P **P 02 24 06.8 +0.5**
AUTN L'Aution 61.42 306 *e*P **P 02 24 07.9 +1.0**
SBF Sospel 61.47 305 *e*P **P 02 24 06.8 -0.4**
comp=Z,91nm,0.9s,mb5.6
SBF Sospel 61.47 305 *e*P **P 02 24 06.8 -0.4**
SBF pmax pmax
comp=Z,45nm,0.9s,mb5.6
SBF Sospel 61.47 305 *e*P **P 02 24 06.8 -0.4**
comp=Z,45nm,0.9s,mb5.6
BNI Bardonecchia 61.52 307 *e*P **P 02 24 06.7 -0.8**
BNI pmax pmax
comp=Z,29nm,1.3s,mb5.2
BNI Bardonecchia 61.52 307 *e*P **P 02 24 06.7 -0.8**
comp=Z,29nm,1.3s,mb5.2
MBDF Montbardon 61.58 306 *e*P **P 02 24 07.6 -0.3**
comp=Z,26nm,0.9s,mb5.0
MBDF Montbardon 61.58 306 *e*P **P 02 24 07.6 -0.3**
MBDF pmax pmax
comp=Z,13nm,0.9s,mb5.1
MBDF Montbardon 61.58 306 *e*P **P 02 24 07.6 -0.3**
comp=Z,13nm,0.9s,mb5.0
SURF Saint Ours 61.65 306 *e*P **P 02 24 08.8 +0.4**
GRN Grenoble 62.05 307 *e*P **P 02 24 11.9 +0.8**
ORIF Oris-en-Rattie 62.09 307 *e*P **P 02 24 10.6 -0.8**
comp=Z,39nm,1.0s,mb5.2
ORIF *e*R
comp=Z,2μm,23.0s
ORIF Oris-en-Rattie 62.09 307 *e*P **P 02 24 10.6 -0.8**
ORIF pmax pmax
comp=Z,20nm,1.0s,mb5.2
ORIF Oris-en-Rattie 62.09 307 *e*P **P 02 24 10.6 -0.8**
comp=Z,20nm,1.0s,mb5.2
FRF La Foret Royal 62.11 305 *e*P **P 02 24 10.7 -0.8**
comp=Z,30nm,1.2s,mb5.0
FRF La Foret Royal 62.11 305 *e*P **P 02 24 10.7 -0.8**
FRF pmax pmax
comp=Z,15nm,1.2s,mb5.0
FRF La Foret Royal 62.11 305 *e*P **P 02 24 10.7 -0.8**
comp=Z,15nm,1.2s,mb5.0
LMR La Mourre 62.30 305 *e*P **P 02 24 12.1 -0.7**
comp=Z,43nm,1.3s,mb5.1
LMR La Mourre 62.30 305 *e*P **P 02 24 12.1 -0.7**
LMR pmax pmax
comp=Z,22nm,1.3s,mb5.1
LMR La Mourre 62.30 305 *e*P **P 02 24 12.1 -0.7**
comp=Z,22nm,1.3s,mb5.1
LOR Lormes 62.47 310 *e*P **P 02 24 12.7 -1.2**
comp=Z,57nm,1.2s,mb5.3
LOR *e*R
comp=Z,962nm,18.0s
LOR Lormes 62.47 310 *e*P **P 02 24 12.7 -1.2**
LOR pmax pmax
comp=Z,29nm,1.2s,mb5.3
LOR MLR MLR
comp=Z,960nm,18.0s,MS5.0

LOR Lormes 62.47 310 *eP* **P 02 24 12.7 -1.2**
comp=Z,28nm,1.2s,mb5.3
LOR LR LR
comp=Z,960nm,18.0s,MS5.0
SMRF Simiane la Rot 62.66 306 *eP* **P 02 24 14.8 -0.4**
SMF Signal de Mont 62.72 309 *eP* **P 02 24 14.9 -0.7**
comp=Z,100nm,1.1s,mb5.6
SMF Signal de Mont 62.72 309 *eP* **P 02 24 14.9 -0.7**
SMF pmax pmax
comp=Z,50nm,1.1s,mb5.6
SMF Signal de Mont 62.72 309 *eP* **P 02 24 14.9 -0.7**
comp=Z,50nm,1.1s,mb5.6
SSF Saint Saulge 62.77 310 *eP* **P 02 24 15.1 -0.8**
comp=Z,80nm,1.2s,mb5.4
SSF Saint Saulge 62.77 310 *eP* **P 02 24 15.1 -0.8**
SSF pmax pmax
comp=Z,40nm,1.2s,mb5.4
SSF Saint Saulge 62.77 310 *eP* **P 02 24 15.1 -0.8**
comp=Z,40nm,1.2s,mb5.4
VIVF Saint-Julien-l 62.90 307 *eP* **P 02 24 16.2 -0.6**
comp=Z,75nm,1.3s,mb5.4
VIVF Saint-Julien-l 62.90 307 *eP* **P 02 24 16.2 -0.6**
VIVF pmax pmax
comp=Z,37nm,1.3s,mb5.3
VIVF Saint-Julien-l 62.90 307 *eP* **P 02 24 16.2 -0.6**
comp=Z,37nm,1.3s,mb5.4
MBWA Marble Bar 62.96 148 *eP* **P 02 24 17.4 +0.3**
comp=Z,15nm,0.9s,mb5.1
AVF Avril sur Loir 62.98 310 *eP* **P 02 24 16.4 -0.9**
comp=Z,97nm,1.2s,mb5.5
AVF Avril sur Loir 62.98 310 *eP* **P 02 24 16.4 -0.9**
AVF pmax pmax
comp=Z,48nm,1.2s,mb5.5
AVF Avril sur Loir 62.98 310 *eP* **P 02 24 16.4 -0.9**
comp=Z,48nm,1.2s,mb5.5
FITZ Fitzroy Crossi 63.12 141 *eP* **P 02 24 18.1 -0.2**
comp=Z,19nm,1.2s,mb5.1
PLDF La Plantade 63.13 309 *eP* **P 02 24 18.5 +0.2**
HYF Humbligny 63.23 310 *eP* **P 02 24 18.7 -0.3**
BGF Bois d'Agland 63.39 310 *eP* **P 02 24 19.2 -0.8**
comp=Z,78nm,1.3s,mb5.4
BGF Bois d'Agland 63.39 310 *eP* **P 02 24 19.2 -0.8**
BGF pmax pmax
comp=Z,39nm,1.3s,mb5.4
BGF Bois d'Agland 63.39 310 *eP* **P 02 24 19.2 -0.8**
comp=Z,39nm,1.3s,mb5.4
AGO Saint Agoulin 63.41 309 *eP* **P 02 24 20.2 0.0**
LBL Lubilhac 63.67 308 *eP* **P 02 24 22.0 +0.1**
LASF Ste Croix 63.75 307 *eP* **P 02 24 21.4 -1.0**
comp=Z,129nm,1.5s,mb5.4
TCF Toulx Ste Croi 63.90 310 *eP* **P 02 24 23.1 -0.3**
comp=Z,142nm,1.2s,mb5.6
TCF Toulx Ste Croi 63.90 310 *eP* **P 02 24 23.1 -0.3**
TCF pmax pmax
comp=Z,71nm,1.2s,mb5.6
TCF Toulx Ste Croi 63.90 310 *eP* **P 02 24 23.1 -0.3**
comp=Z,71nm,1.2s,mb5.6
SCO Scoresbysund 63.91 340 *i* P **P 02 24 24.1 +0.6**
comp=Z,4.0nm,0.9s,mb4.5
SCO Scoresbysund 63.91 340 *i* P **P 02 24 24.1 +0.6**
SCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LDF La Druitiere 64.38 313 *eP* **P 02 24 25.5 -1.1**
comp=Z,44nm,0.9s,mb5.2
LDF La Druitiere 64.38 313 *eP* **P 02 24 25.5 -1.1**
LDF pmax pmax
comp=Z,22nm,0.9s,mb5.2
LDF La Druitiere 64.38 313 *eP* **P 02 24 25.5 -1.1**
comp=Z,22nm,0.9s,mb5.2
FLN La Foliniere 64.53 313 *eP* **P 02 24 26.5 -1.0**
FLN *eR*
comp=Z,2μm,18.8s
FLN La Foliniere 64.53 313 *eP* **P 02 24 26.5 -1.0**
FLN LR LR
comp=Z,2μm,18.8s,MS5.3
CAF Calviac 64.56 308 *eP* **P 02 24 27.1 -0.7**
comp=Z,55nm,1.2s,mb5.2
CAF Calviac 64.56 308 *eP* **P 02 24 27.1 -0.7**
CAF pmax pmax
comp=Z,28nm,1.2s,mb5.2
CAF Calviac 64.56 308 *eP* **P 02 24 27.1 -0.7**
comp=Z,28nm,1.2s,mb5.2
RJF Les Rejaudoux 64.75 309 *eP* **P 02 24 28.6 -0.4**
comp=Z,274nm,1.8s,mb5.7
RJF *eR*
comp=Z,1μm,22.8s
RJF Les Rejaudoux 64.75 309 *eP* **P 02 24 28.6 -0.4**
RJF pmax pmax
comp=Z,137nm,1.8s,mb5.7
RJF MLR MLR
comp=Z,1μm,22.8s,MS5.0
RJF Les Rejaudoux 64.75 309 *eP* **P 02 24 28.6 -0.4**
comp=Z,137nm,1.8s,mb5.7
RJF LR LR
comp=Z,1μm,22.8s,MS5.0
GRR Gorron 64.91 313 *eP* **P 02 24 29.1 -0.9**
comp=Z,108nm,1.1s,mb5.5
GRR Gorron 64.91 313 *eP* **P 02 24 29.1 -0.9**
GRR pmax pmax
comp=Z,54nm,1.1s,mb5.5
GRR Gorron 64.91 313 *eP* **P 02 24 29.1 -0.9**
comp=Z,54nm,1.1s,mb5.5
MTLF Montolieu 65.14 307 *eP* **P 02 24 31.1 -0.4**
comp=Z,29nm,1.1s,mb4.9
MTLF Montolieu 65.14 307 *eP* **P 02 24 31.1 -0.4**
MTLF pmax pmax
comp=Z,15nm,1.1s,mb4.9
MTLF Montolieu 65.14 307 *eP* **P 02 24 31.1 -0.4**
comp=Z,15nm,1.1s,mb4.9
MFF Saint Martin d 65.24 311 *eP* **P 02 24 31.3 -0.9**
comp=Z,28nm,0.9s,mb5.0
MFF Saint Martin d 65.24 311 *eP* **P 02 24 31.3 -0.9**
MFF pmax pmax
comp=Z,14nm,0.9s,mb5.0
MFF Saint Martin d 65.24 311 *eP* **P 02 24 31.3 -0.9**
comp=Z,14nm,0.9s,mb5.0
SGMF Saint Gilles 65.99 313 *eP* **P 02 24 36.4 -0.6**
comp=Z,138nm,1.2s,mb5.6
SGMF Saint Gilles 65.99 313 *eP* **P 02 24 36.4 -0.6**
SGMF pmax pmax
comp=Z,69nm,1.2s,mb5.6
SGMF Saint Gilles 65.99 313 *eP* **P 02 24 36.4 -0.6**
comp=Z,69nm,1.2s,mb5.6
EMIR Miracle 66.23 305 P **P 02 24 38.6 +0.1**
comp=Z,16nm,0.9s,mb5.0
ROSF Rostrenen 66.38 313 *eP* **P 02 24 38.8 -0.7**
QUIF Quistinic 66.51 313 *eP* **P 02 24 39.6 -0.7**
comp=Z,67nm,1.1s,mb5.3
QUIF Quistinic 66.51 313 *eP* **P 02 24 39.6 -0.7**
QUIF pmax pmax
comp=Z,33nm,1.1s,mb5.3
QUIF Quistinic 66.51 313 *eP* **P 02 24 39.6 -0.7**
comp=Z,33nm,1.1s,mb5.3
EPF Esparros 66.51 307 *eP* **P 02 24 39.4 -0.9**
comp=Z,22nm,1.1s,mb4.8
EPF Esparros 66.51 307 *eP* **P 02 24 39.4 -0.9**
EPF pmax pmax
comp=Z,11nm,1.1s,mb4.8
EPF Esparros 66.51 307 *eP* **P 02 24 39.4 -0.9**
comp=Z,11nm,1.1s,mb4.8
SUMG Summit 66.70 345 *eP* **P 02 24 41.3 -0.3**
comp=Z,35nm,1.1s,mb5.3
EPOB Poblet 66.78 305 P **P 02 24 40.9 -1.1**
comp=Z,11nm,0.9s,mb4.9
EBIE Bielsa 66.80 307 P **P 02 24 42.2 +0.1**
comp=Z,7.2nm,0.8s,mb4.8
EGRA Graus 66.91 306 P **P 02 24 43.0 +0.1**
comp=Z,10nm,0.7s,mb5.0
ETSF Etsaut 67.16 307 *eP* **P 02 24 43.4 -1.1**
comp=Z,45nm,1.0s,mb5.2
ETSF Etsaut 67.16 307 *eP* **P 02 24 43.4 -1.1**
ETSF pmax pmax
comp=Z,23nm,1.0s,mb5.2
ETSF Etsaut 67.16 307 *eP* **P 02 24 43.4 -1.1**
comp=Z,23nm,1.0s,mb5.2
SJPF Ste Jean 67.49 308 *eP* **P 02 24 45.9 -0.7**
comp=Z,77nm,1.4s,mb5.2
SJPF Ste Jean 67.49 308 *eP* **P 02 24 45.9 -0.7**
SJPF pmax pmax
comp=Z,38nm,1.4s,mb5.2
SJPF Ste Jean 67.49 308 *eP* **P 02 24 45.9 -0.7**
comp=Z,38nm,1.4s,mb5.2
EALK Alkurruntz 67.63 308 P **P 02 24 47.3 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
ECRI Cripan 68.56 308 P **P 02 24 53.2 -0.1**
ECRI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ECRI Cripan 68.56 308 P **P 02 24 53.2 -0.1**
comp=Z,7.7nm,0.8s,mb4.7
ELAN Lanestosa 68.86 309 P **P 02 24 55.9 +0.7**
comp=Z,17nm,0.8s,mb5.0
ECHE Chera 68.98 304 P **P 02 24 55.6 -0.3**
ECHE pmax pmax
comp=Z,1.0nm,1.5s
ECHE Chera 68.98 304 P **P 02 24 55.6 -0.4**
comp=Z,0.5nm,1.5s
WRAB Tennant Creek 69.39 135 P **P 02 24 58.9 +0.5**
comp=Z,175nm,1.3s,mb5.8,SNR=12
WRAB Tennant Creek 69.39 135 *eP* **P 02 24 58.4 0.0**
WRAB pmax pmax
comp=Z,34nm,0.9s,mb5.3
WRAB Tennant Creek 69.39 135 *eP* **P 02 24 58.4 0.0**
comp=Z,34nm,0.9s,mb5.3
WRA Warramunga Arr 69.39 135 P **P 02 24 58.8 +0.4**
comp=Z,21nm,1.0s,mb5.0,baz=330,slow=6.4,SNR=118
WRA PKPPKP 02 53 08.1
comp=Z,2.0nm,1.1s,baz=124,slow=2.4,SNR=6.7
WB2 Warramunga Arr 69.39 135 ⇓ *iP* **P 02 24 58.8 +0.3**
ETOB Tobarra 69.84 303 P **P 02 25 00.6 -0.6**
comp=Z,7.8nm,0.7s,mb4.8
EMUR La Murta 70.02 303 P **P 02 25 00.8 -1.5**
comp=Z,12nm,0.9s,mb4.8
PMG Port Moresby 70.14 118 *eP* **P 02 25 03.0 -0.1**
PMG pmax pmax
comp=Z,21nm,0.7s
PMG Port Moresby 70.14 118 *eP* **P 02 25 03.0 -0.1**
comp=Z,21nm,0.7s,mb5.2
RES Resolute Bay 70.33 1 *eP* **P 02 25 03.6 -0.7**
RES pmax pmax
comp=Z,29nm,1.6s,mb5.0
RES Resolute Bay 70.33 1 *eP* **P 02 25 03.6 -0.7**
comp=Z,29nm,1.6s,mb5.0
GUD Guadarrama 70.60 306 P **P 02 25 06.7 +0.8**
GUD pmax pmax
comp=Z,14nm,0.8s,mb4.9
GUD Guadarrama 70.60 306 P **P 02 25 06.7 +0.8**
comp=Z,14nm,0.8s,mb4.9
COLA College 70.68 22 *eP* **P 02 25 06.1 -0.3**
COLA pmax pmax
comp=Z,25nm,1.0s,mb5.1
COLA College 70.68 22 *eP* **P 02 25 06.1 -0.3**
comp=Z,25nm,1.0s,mb5.1
ESDC Sonseca Array 70.96 305 P **P 02 25 08.2 +0.1**
comp=Z,16nm,0.9s,mb4.9,baz=52,slow=6.3,SNR=18
ESDC Sonseca Array 70.96 305 P **P 02 25 08.1 0.0**
comp=Z,10nm,0.8s,mb4.8
ESLA Sonseca Array 70.96 305 *eP* **P 02 25 07.9 -0.2**
comp=Z,2.6nm,0.9s,mb4.2
EHUE Huescar 70.96 303 P **P 02 25 08.0 -0.1**
EHUE pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EHUE Huescar 70.96 303 P **P 02 25 08.0 -0.1**
comp=Z,3.1nm,0.8s,mb4.3
ILAR Eielson Array 71.05 22 P **P 02 25 08.2 -0.5**
comp=Z,10nm,1.0s,mb4.7,baz=303,slow=4.8,SNR=51
ILAR PP PP 02 27 45.2 -0.9
comp=Z,1.9nm,1.0s,baz=312,slow=7.3,SNR=5.9
ILAR PKPPKP 02 53 00.4
comp=Z,0.8nm,1.0s,baz=185,slow=3.0,SNR=4.5
ILAR LR LR 03 02 45.1
comp=Z,464nm,19.3s,MS4.8,baz=174,slow=41
ILAR Eielson Array 71.05 22 P **P 02 25 08.2 -0.4**
ILAR 02 27 45.3
MCK McKinley 71.11 24 *eP* **P 02 25 08.8 -0.2**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MCK McKinley 71.11 24 *eP* **P 02 25 08.8 -0.2**
comp=Z,5.0nm,1.1s,mb4.4
ENIJ Nijar 71.12 302 P **P 02 25 08.8 -0.2**
ENIJ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ENIJ Nijar 71.12 302 P **P 02 25 08.8 -0.3**
comp=Z,5.0nm,0.7s,mb4.5
EQES Quesada 71.30 303 P **P 02 25 10.6 +0.5**
comp=Z,27nm,1.1s,mb5.1
EBAN Banos Encina 71.60 304 P **P 02 25 12.4 +0.4**
EBAN pmax pmax
comp=Z,17nm,0.8s,mb5.0
EBAN Banos Encina 71.60 304 P **P 02 25 12.4 +0.4**
comp=Z,17nm,0.8s,mb5.0
ECAL Calabor 71.62 309 P **P 02 25 12.7 +0.7**
comp=Z,12nm,0.8s,mb4.9
EBER Berja 71.63 302 P **P 02 25 12.1 0.0**
comp=Z,5.7nm,0.7s,mb4.6
ECOG Cogollos-Vega 71.90 303 P **P 02 25 14.1 +0.3**
ECOG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ECOG Cogollos-Vega 71.90 303 P **P 02 25 14.1 +0.3**
comp=Z,3.3nm,0.5s,mb4.5
ASPA Alice Springs 72.08 138 *eP* **P 02 25 15.2 +0.4**
AS31 Alice Springs 72.08 138 *eP* **P 02 25 15.2 +0.4**
ASAR Alice Springs 72.08 138 P **P 02 25 15.3 +0.5**
comp=Z,13nm,0.9s,mb4.8,baz=324,slow=5.7,SNR=90
EADA Adamuz 72.13 304 P **P 02 25 15.3 +0.2**
comp=Z,14nm,1.0s,mb4.9
ERON Agron 72.20 303 P **P 02 25 15.1 -0.5**
comp=Z,2.9nm,0.3s,mb4.7
ELUQ Luque 72.23 304 P **P 02 25 15.9 +0.1**
ELUQ pmax pmax
comp=Z,23nm,0.7s,mb5.2
ELUQ Luque 72.23 304 P **P 02 25 15.9 +0.1**
comp=Z,23nm,0.7s,mb5.2
ELOB Lobios 72.50 309 P **P 02 25 17.2 -0.2**
comp=Z,18nm,0.8s,mb5.0
NWAO Narrogin (SRO) 72.59 156 P **P 02 25 17.1 -0.8**
comp=Z,12nm,1.0s,mb4.8,baz=275,slow=5.7,SNR=3.4
SML Sawmill 72.63 25 *eP* **P 02 25 17.8 -0.3**
EBAD Badajoz 73.46 306 P **P 02 25 25.1 +2.1**
comp=Z,8.9nm,1.0s,mb4.7
EJIF Jimena Fronter 73.63 303 P **P 02 25 24.4 +0.3**
SFJD Kangerlussuaq 73.69 345 ⇓ *iP* **P 02 25 23.3 -1.1**
comp=Z,34nm,1.1s,mb5.2
SFJD
comp=Z,460nm,20.0s
SFJD Kangerlussuaq 73.69 345 ⇓ *iP* **P 02 25 23.3 -1.1**
SFJD pmax pmax
comp=Z,34nm,1.1s,mb5.2
SFJD MLR MLR
comp=Z,460nm,20.0s,MS4.8
EMIN Mina Concepcio 73.75 305 P **P 02 25 26.3 +1.5**
comp=Z,36nm,1.2s,mb5.2
DAWY Dawson 73.79 20 *eP* **P 02 25 24.6 -0.3**
LSZ Lusaka 76.80 240 *eP* **P 02 25 42.4 +0.1**
LSZ pmax pmax
comp=Z,16nm,1.0s,mb4.9
LSZ Lusaka 76.80 240 *eP* **P 02 25 42.4 +0.1**
comp=Z,16nm,1.0s,mb4.9
CTA Charters Tower 76.91 126 *eP* **P 02 25 44.0 +1.1**
comp=Z,13nm,0.9s,mb4.8
CTA Charters Tower 76.91 126 P **P 02 25 43.5 +0.6**
comp=Z,16nm,0.9s,mb5.0,baz=293,slow=5.8,SNR=10
CTA Charters Tower 76.91 126 *eP* **P 02 25 44.0 +1.1**
CTA pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 76.91 126 *eP* **P 02 25 43.9 +1.0**
CTAO pmax pmax
comp=Z,48nm,1.3s,mb5.3
CTAO Charters Tower 76.91 126 *eP* **P 02 25 43.9 +1.0**
comp=Z,48nm,1.3s,mb5.3
YKW3 Yellowknife Ar 80.64 11 *eP* **P 02 26 02.6 -0.8**
YKA Yellowknife Ar 80.70 11 P **P 02 26 03.1 -0.6**
comp=Z,10nm,1.1s,mb4.7,baz=339,slow=5.1,SNR=67
YKA PKKPbc PKKPbc 02 44 40.2 -2.8
comp=Z,0.1nm,0.5s,baz=161,slow=2.5,SNR=5.4
YKA LR LR 03 03 07.1
comp=Z,448nm,21.5s,MS4.8,baz=335,slow=37
YKA Yellowknife Ar 80.70 11 P **P 02 26 03.1 -0.6**
YKA 02 44 40.2
YKA Yellowknife Ar 80.70 11 P **P 02 26 03.1 -0.6**
YKA PKKPbc PKKPbc 02 44 40.2 -2.8
YKA LR LR 03 03 07.1
TORD Torodi Ar. Bea 80.82 280 P **P 02 26 04.6 +0.2**
comp=Z,29nm,0.9s,mb5.2,baz=46,slow=4.6,SNR=155
STKA Stephens Creek 82.72 137 ⇓ *iP* **P 02 26 11.9 -2.5**
comp=Z,5.4nm,0.9s,mb4.6
STKA Stephens Creek 82.72 137 P **P 02 26 12.1 -2.3**
comp=Z,7.7nm,0.9s,mb4.8,baz=344,slow=7.1,SNR=12
LBTB Lobatse 85.14 235 *eP* **P 02 26 27.1 +0.3**
LBTB pmax pmax
comp=Z,40nm,1.0s,mb5.5
LBTB Lobatse 85.14 235 *eP* **P 02 26 27.1 +0.4**
comp=Z,40nm,1.0s,mb5.5
FCC Fort Churchill 86.32 2 *eP* **P 02 26 31.0 -1.6**
FCC pmax pmax
comp=Z,20nm,1.2s,mb5.2
FCC Fort Churchill 86.32 2 *eP* **P 02 26 31.0 -1.7**
comp=Z,20nm,1.2s,mb5.2
TSUM Tsumeb 87.03 244 *eP* **P 02 26 36.0 -0.1**
comp=Z,16nm,1.0s,mb5.2
BOSA Boshof 87.78 232 P **P 02 26 39.3 -0.4**
comp=Z,14nm,0.9s,mb5.2,baz=39,slow=6.2,SNR=23
BOSA LR LR 03 07 02.5
comp=Z,352nm,19.6s,MS4.8,baz=51,slow=36
BOSA Boshof 87.78 232 P **P 02 26 39.3 -0.4**
BOSA pmax pmax
comp=Z,14nm,0.9s,mb5.2
BOSA MLR MLR
comp=Z,353nm,19.7s,MS4.8
BOSA Boshof 87.78 232 *eP* **P 02 26 39.0 -0.7**
comp=Z,15nm,0.9s,mb5.2
EDM Edmonton 89.70 14 *eP* **P 02 26 48.7 -0.1**
DBIC Dimbokro 89.79 278 P **P 02 26 48.9 -0.3**
comp=Z,11nm,1.1s,mb5.1,baz=14,slow=8.8,SNR=9.1
DBIC Dimbokro 89.79 278 *eP* **P 02 26 48.9 -0.3**
DBIC pmax pmax
comp=Z,15nm,1.2s
DBIC Dimbokro 89.79 278 *eP* **P 02 26 48.9 -0.3**
comp=Z,15nm,1.2s,mb5.2
FFC Flin Flon 89.87 7 P **P 02 26 49.5 -0.1**
comp=Z,107nm,1.3s,mb6.0,SNR=8.7
FFC Flin Flon 89.87 7 *eP* **P 02 26 48.5 -1.1**
FFC pmax pmax
comp=Z,28nm,1.2s,mb5.5
FFC Flin Flon 89.87 7 *eP* **P 02 26 48.5 -1.1**
comp=Z,28nm,1.2s,mb5.5
SUR Sutherland 93.14 232 *eP* **P 02 27 05.0 +0.3**
comp=Z,63nm,1.7s,mb5.8
NEW Newport 93.54 17 *eP* **P 02 27 06.8 +0.2**
NEW pmax pmax
comp=Z,3.0nm,1.1s
NEW Newport 93.54 17 *eP* **P 02 27 06.8 +0.2**
comp=Z,2.9nm,1.1s,mb4.6
ULM Lac du Bonnet 94.77 3 P **P 02 27 11.0 -1.2**
comp=Z,2.6nm,0.6s,mb4.8,baz=326,slow=3.3,SNR=6.1
DGMT Dagmar 95.78 9 *eP* **P 02 27 16.8 0.0**
comp=Z,13nm,1.0s,mb5.3
BOZ Bozeman (W) 97.26 15 *eP* **P 02 27 24.0 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
BOZ Bozeman (W) 97.26 15 *eP* **P 02 27 24.0 +0.5**
comp=Z,6.3nm,1.3s,mb4.9
NVAR Mina Array Bea 102.31 22 PP PP 02 32 02.9 +4.5
comp=Z,0.4nm,0.8s,baz=357,slow=3.6,SNR=3.7
MNTX Cornudas Mount 111.97 14 *e*PKP PKiKP 02 32 26.5 +0.7
QSPA South Pole Qui 125.00 180 ⇑ *iP* PKPdf 02 32 49.3 -1.5
SDV Santo Domingo 132.31 333 *e*PKPdf PKPdf 02 33 04.3 -0.4
ROSC El Rosal 137.35 336 PKP PKPdf 02 33 15.0 +0.8
comp=Z,23nm,1.1s,baz=254,slow=3.7,SNR=6.7
OTAV Otavalo 142.99 340 *e*PKPdf PKPdf 02 33 24.1 -0.2
CPUP Villa Florida 150.31 278 *e*PKIKP PKPdf 02 33 41.4 +4.7
LPAZ La Paz 152.56 308 PKP PKPdf 02 33 40.8 +0.7
comp=Z,5.4nm,1.3s,baz=285,slow=2.1,SNR=6.3
LPAZ PKPbc PKPbc 02 33 48.0 +1.0
comp=Z,7.2nm,1.0s,baz=176,slow=2.8,SNR=16
LPAZ La Paz 152.56 308 PKIKP PKPdf 02 33 40.8 +0.7
LPAZ 02 33 48.0
LPAZ pmax pmax
comp=Z,5.0nm,1.3s
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ La Paz 152.56 308 *e*PKPdf PKPdf 02 33 40.7 +0.6
LPAZ *e*PKPbc PKPbc 02 33 48.1 +1.0
NNA Nana 153.79 329 PKPdf PKPdf 02 33 41.3 -0.6
NNA *e*PKPbc PKPbc 02 33 50.7 +1.0

TEH ***26*** *02:18:47.5, 3589N×4507E, h32km, Mn3.5*
CSEM 26 02:18:43.6±0.2, 3589N×4530E, h5km, ML3.5, Error ellipse: s-maj=6.4km s-min=4.6km az=48.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.48**	**143**	*e*Pn	Pn	02 19 12.0	+1.1
MSL	**Mosul**	**1.84**	**283**	*e*x	x	02 19 13.5	
MSL				*e*x	x	02 19 36.0	
IAZR	**Azarshahr**	**1.87**	**17**	*e*Pn	Pn	02 19 18.0	+1.8
IGHG	**Ghaleghazi**	**1.87**	**146**	*e*Pn	Pn	02 19 18.7	+2.5
ITBZ	**Tabriz**	**2.44**	**16**	*e*Pn	Pn	02 19 25.8	+1.8
IKOM	**Komasi**	**2.49**	**133**	*e*Pn	Pn	02 19 27.6	+2.8
IKOM				*e*Sn	Sn	02 19 57.3	+1.7
IMRD	**Marand**	**2.84**	**6**	*e*Pn	Pn	02 19 30.6	+1.1

ISCJB ***26*** *02:20:27.8±0.6, 3586N×005×28.10E±005, h86km±8km, Error ellipse: s-maj=9.2km s-min=6.7km az=41.6*
CSEM ***26*** *02:20:27.2±0.1, 3592N×2808E, h100km, ML3.7, Error ellipse: s-maj=5.0km s-min=2.3km az=41.0*
HLW ***26*** *02:20:28.0, 3592N×28.12E, h23km, Mb3.7*
ATH ***26*** *02:20:28.6, 3600N×2801E, h80km±2km*
ISC 26 02:20:29.3±0.6, 3588N±005×2807E±005, h77km±9km, n32, σ0§74/38, 15C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**8**	*e*P	**Pn**	**02 20 41.8**	**+0.3**
ARG				*e*S	**Sn**	**02 20 50.0**	**-0.5**
KARP	**Karpathos**	**0.81**	**246**	*e*P	**Pn**	**02 20 46.8**	**+0.9**
KARP				*e*S	**Sn**	**02 20 58.7**	**+0.5**
NISR	**Nisiros**	**1.06**	**314**	*e*P	**Pn**	**02 20 48.5**	**-0.3**
KSL	**Kastellorizon**	**1.26**	**77**	*e*P	**Pn**	**02 20 52.0**	**+0.6**
SMG	**Samos**	**2.08**	**332**	*e*P	**Pn**	**02 21 00.5**	**-1.6**
NPS	**Neapolis**	**2.09**	**254**	*e*P	**Pn**	**02 21 03.0**	**+0.7**
NPS				*e*S	**Sn**	**02 21 27.0**	**-0.5**
APE	**Apeiranthos**	**2.37**	**301**	*e*P	**Pn**	**02 21 05.0**	**-1.0**
VAM	**Vamos**	**3.19**	**263**	*e*P	**Pn**	**02 21 18.0**	**+0.9**
HMAT	**Matruh**	**4.84**	**190**	⇑P	**Pn**	**02 21 39.3**	**-0.2**
HMAT				S	**Sn**	**02 22 31.6**	**-2.7**
DABA	**Dabaa**	**4.86**	**178**	⇑P	**Pn**	**02 21 39.3**	**-0.5**
HMYD	**Mayadein**	**6.48**	**158**	⇑P	**Pn**	**02 22 02.2**	**+0.2**
SQR		**6.53**	**155**	⇑P	**Pn**	**02 22 02.5**	**-0.2**
HNAT	**Natroun**	**6.58**	**160**	⇑P	**Pn**	**02 22 03.3**	**-0.1**
FYM	**Al Fayyum**	**6.66**	**157**	⇑P	**Pn**	**02 22 04.4**	**0.0**
KOT	**Kottamia**	**6.72**	**151**	⇓P	**Pn**	**02 22 05.3**	**+0.1**
KOT				S	**Sn**	**02 23 16.3**	**-4.0**
AMAG	**Maghara**	**6.76**	**139**	⇑P	**Pn**	**02 22 05.1**	**-0.8**
SWA1		**6.89**	**197**	P	**Pn**	**02 22 08.1**	**+0.5**
SWA1				S	**Sn**	**02 23 20.9**	**-3.5**
HSAF	**As Saff**	**6.89**	**154**	⇑P	**Pn**	**02 22 07.7**	**+0.1**
SWA2		**6.97**	**199**	⇑P	**Pn**	**02 22 09.2**	**+0.5**
GLL	**Jalalah**	**6.99**	**153**	⇑P	**Pn**	**02 22 08.9**	**0.0**
SUZ		**7.23**	**145**	⇓P	**Pn**	**02 22 12.4**	**+0.2**
SRN	**Sarande**	**7.53**	**304**	*i* Pg	**Pn**	**02 22 17.0**	**+0.7**
AWBH		**7.56**	**174**	⇑P	**Pn**	**02 22 16.6**	**-0.2**
AWBH		**7.56**	**174**	P	**Pn**	**02 22 16.6**	**-0.2**
ZAF		**7.58**	**149**	⇑P	**Pn**	**02 22 17.0**	**-0.1**
HNKL	**Nakhl**	**7.74**	**138**	P	**Pn**	**02 22 19.3**	**+0.2**
HFRF	**Wahat Farafira**	**8.70**	**179**	⇑P	**Pn**	**02 22 32.8**	**+0.5**
TR2		**8.87**	**146**	⇑P	**Pn**	**02 22 34.8**	**+0.1**
TR1		**9.30**	**146**	P	**Pn**	**02 22 40.7**	**+0.2**
HDK1	**Dakhla**	**10.36**	**173**	⇑P	**Pn**	**02 22 56.3**	**+1.3**
NVLJ	**Novalja**	**13.29**	**315**	*i* P	**Pn**	**02 23 29.7**	**-5.0**
NVLJ	**Novalja**	**13.29**	**315**	*i* P	**Pn**	**02 23 29.6**	**-5.1**

ISCJB ***26*** *02:27:22.8±2.0, 674N±005×1284E±005, h15km±13km, mb3.7/4, Error ellipse: s-maj=8.1km s-min=7.9km az=150.8*
IDC ***26*** *02:27:22.8±2.6, 651N×12359E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=334.1km s-min=27.7km az=63.0*
MAN ***26*** *02:27:23.9, 691N×12379E, h4km, mb3.9, ML4.9, MS8.9*
ISC 26 02:27:23.3±1.4, 682N±005×12384E±004, h9km±7km, n12, σ0§86/18, mb3.7/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.57**	**45**	⇓ *iP*	**Pg**	**02 27 34.9**	**+0.6**
CTBH				*i* S	**Sg**	**02 27 41.8**	**0.0**
PAGZ	**Pagadian**	**1.12**	**336**	*e*P	**Pb**	**02 27 42.8**	**-1.9**
PAGZ				*e*S	**Sg**	**02 27 59.9**	**+0.7**
IPIL	**Ipil**	**1.58**	**308**	*e*P	**Pn**	**02 27 52.0**	**+0.7**
IPIL				*e*S	**Sn**	**02 28 11.7**	**-0.2**
BUKP	**Musuan**	**1.61**	**49**	*e*P	**Pn**	**02 27 51.7**	**-0.1**
BUKP				*e*S	**Sn**	**02 28 13.2**	**+0.6**
DCPH	**Dipolog City**	**1.82**	**345**	*e*P	**Pn**	**02 27 54.1**	**-0.5**

CGP	Cagayan de Oro	1.83	28	⇑	*i*P	Pn	02 27 56.0	+1.1
CGP					*i* S	Sn	02 28 17.5	-0.7
SNPH	Sibulan	2.58	347		*e*P	Pb	02 28 09.0	-0.6
BUTP	Butuan	2.77	39		*e*P	Pb	02 28 13.4	+0.4
BUTP					*e*S	Sg	02 28 51.6	-0.8
WRA	Warrramunga Arr	28.53	159		P	P	02 33 19.0	0.0
	0.7nm,0.4s,mb3.7,baz=337,slow=9.8,SNR=11							
ASAR	Alice Springs	31.85	162		P	P	02 33 48.5	0.0
	0.6nm,0.7s,mb3.5,baz=331,slow=6.5,SNR=6.7							
STKA	Stephens Creek	42.05	157		P	P	02 35 13.8	-1.2
	5.0nm,0.7s,mb4.3,baz=332,slow=8.1,SNR=12							
MKAR	Makanchi Array	53.39	325		P	P	02 36 45.1	+2.0
	0.4nm,0.8s,mb3.4,baz=123,slow=5.3,SNR=3.0							

GUC 26 02:30:19.1±0.8, 3392S×7028W, h113km±3km, MD3.7, ML4.1, 7C-14D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.09	42	⇓ *i*P	Pn	02 30 34.8	+0.2
LMEL				*i* S	Sn	02 30 46.8	+0.5
LMEL				AMP		02 30 51.2	
	comp=N,7μm,0.2s						
SJCH	San Jose de Ma	0.28	346	*e*P	Pn	02 30 35.1	0.0
SJCH				*i* S	Sn	02 30 47.8	+0.7
SJCH				AMP		02 30 49.5	
	comp=E,5μm,0.2s						
CHCH	Chadas Angostu	0.31	267	⇓ *i*P	Pn	02 30 35.6	+0.3
CHCH				*i* S	Sn	02 30 48.2	+0.9
CACH	El Canelo	0.34	233	⇑ *i*P	Pn	02 30 36.0	+0.7
CACH				*e*S	Sn	02 30 48.8	+1.2
PCH	Pirque	0.35	326	⇓ *i*P	Pn	02 30 36.0	+0.6
PCH				*i* S	Sn	02 30 48.4	+0.7
CICH	Cipreses	0.42	197	⇓ *i*P	Pn	02 30 36.4	+0.6
ANTU	Antumapu	0.46	319	⇑ *i*P	Pn	02 30 36.5	+0.5
ANTU				*i* S	Sn	02 30 49.2	+0.6
ANTU				AMP		02 30 50.0	
	comp=E,8μm,0.2s						
FSR	Penalolen	0.48	334	*e*P	Pn	02 30 36.8	+0.6
FSR				*i* S	Sn	02 30 50.0	+1.0
FSR				AMP		02 30 50.6	
	comp=N,16μm,0.2s						
CLCH	Cerro Calan	0.56	337	⇑ *i*P	Pn	02 30 37.3	+0.6
CLCH				*i* S	Sn	02 30 51.0	+1.1
CLCH				AMP		02 30 52.6	
	comp=E,8μm,0.3s						
CLCH				AMP		02 30 53.1	
	comp=E,12μm,0.7s						
SAN	Santiago	0.56	325	⇓ *i*P	Pn	02 30 37.0	+0.3
SAN				*i* S	Sn	02 30 50.2	+0.3
SAN				AMP		02 30 50.9	
	comp=E,5μm,0.4s						
FCH	Farellones	0.59	359	⇓ *i*P	Pn	02 30 37.7	+0.8
FCH				*i* S	Sn	02 30 52.0	+1.8
FCH				AMP		02 30 53.6	
	comp=N,8μm,0.4s						
TACH	Talagante	0.61	295	⇓ *i*P	Pn	02 30 37.5	+0.4
RCDM	Rinconada Maip	0.61	314	*e*P	Pn	02 30 37.4	+0.3
RCDM				*i* S	Sn	02 30 51.1	+0.6
RCDM				AMP		02 30 51.6	
	comp=E,16μm,0.1s						
PEL	Peldehue	0.84	336	⇓ *i*P	Pn	02 30 39.6	+0.6
PEL				*i* S	Sn	02 30 55.0	+1.0
PEL				AMP		02 30 56.7	
	comp=N,10μm,0.3s						
SFDO	San Fernando	0.93	221	⇓ *i*P	Pn	02 30 40.6	+0.8
LNV	Longovilo	0.94	267	⇑ *i*P	Pn	02 30 40.1	+0.1
ROCH	El Roble	1.12	327	⇓ *i*P	Pn	02 30 42.4	+0.6
ROCH				*i* S	Sn	02 31 00.3	+1.3
LCCH	Las Cruces	1.17	292	⇓ *i*P	Pn	02 30 42.6	+0.4
LCCH				*i* S	Sn	02 30 59.8	0.0
JACH	Jahuel	1.26	348	⇓ *i*P	Pn	02 30 44.0	+0.8
JACH				*i* S	Sn	02 31 02.3	+0.7
NICH	Los Niches	1.34	216	⇓ *i*P	Pn	02 30 44.9	+0.7
NICH				*i* S	Sn	02 31 03.6	+0.3
IHA	Instituto Hidr	1.45	307	⇑ *i*P	Pn	02 30 46.1	+0.7
IHA				*i* S	Sn	02 31 05.7	+0.3
PACH	Papudo	1.68	324	⇑ *i*P	Pn	02 30 48.3	0.0
LNCH	Linares	2.21	209	*i* P	Pn	02 30 55.5	+0.6
LNCH				*i* S	Sn	02 31 22.9	+0.5
LNCH				AMP		02 31 25.1	
	comp=E,802nm,0.5s						
ILCH	Illapel	2.39	341	⇑ *i*P	Pn	02 30 57.5	+0.2
ILCH				AMP		02 31 26.8	
	comp=N,1μm,0.3s						
CMCH	Combarbala	2.80	347	AMP		02 31 41.0	
	comp=E,2μm,0.5s						
CCHI	Chillan	3.06	208	⇓ *i*P	Pn	02 31 05.9	0.0
CCHI				*i* S	Sn	02 31 41.7	-0.4
CCHI				AMP		02 31 45.5	
	comp=E,435nm,0.3s						
CCHI				AMP		02 31 51.9	
	comp=N,247nm,0.3s						

*CSEM **26** 02:38:43.6±1.2, 3883N×2922W, h0km±10km, ML2.1, Error ellipse: s-maj=20.7km s-min=8.2km az=58.0, After PDA*
*PDA **26** 02:38:43.6±1.2, 3883N×2922W, h0km±10km, MD3.2, ML2.1, Error ellipse: s-maj=20.7km s-min=8.2km az=58.0*
SVSA 26 02:38:43.6±1.2, 3883N×2922W, h0km±10km, MD3.2, ML2.1, Error ellipse: s-maj=20.7km s-min=8.2km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.46	116	*e*P	Pg	02 38 51.8	-0.5
PCED				*e*S	Sg	02 38 58.3	+0.1
PCED							
	56nm,0.2s						
PCED	Cedros	0.46	116	*e*P	Pg	02 38 51.8	-0.5
PCED				*e*S	Sg	02 38 58.3	+0.1
CALA	Caldeira	0.48	121	*e*P	Pg	02 38 52.4	-0.3
CALA				*e*S	Sg	02 38 59.1	+0.2
HOR	Horta	0.55	123	*e*S	Sg	02 39 00.5	-0.9
PICO	Pico	0.70	118	*i* P	Pg	02 38 56.0	-1.1
PICO				*e*S	Sg	02 39 05.6	-0.7
PICO	Pico	0.70	118	*e*S	Sg	02 39 05.6	-0.7
ROSA	Rosais	0.77	98	*e*P	Pg	02 38 56.8	-1.6
ROSA				*e*S	Sg	02 39 06.4	-2.1
PPNO	Prainha do Nor	0.83	115	*e*P	Pg	02 38 57.7	-1.8
PPNO				*e*S	Sg	02 39 08.8	-1.5
PPNO							
	22nm,0.2s						
PPNO	Prainha do Nor	0.83	115	*e*P	Pg	02 38 57.7	-1.8
PPNO				*e*S	Sg	02 39 08.8	-1.5
PMAN	Manadas	0.91	102	*e*rx	Sg	02 39 11.3	-1.5
PMAN				*e*rx		02 39 11.3	
PMAN				*e*rx		02 39 11.3	

*SZGRF **26** 02:39:51.4, 2766N×1557E, h33km, mb4.6, Libya*
*ISCJB **26** 02:42:29.8±0.4, 3999N±005×1269E±005, h520km±7km, mb3.7/3, Error ellipse: s-maj=8.5km s-min=5.4km az=119.9*
*NEIC **26** 02:42:29.9±0.4, 3993N×1265E, h522km±6km, mb3.7/17, Error ellipse: s-maj=8.3km s-min=5.2km az=187.0*
*IDC **26** 02:42:30.3±1.2, 3997N×1268E, h516km±20km, mb2.9/4, mb1 3.0/14, mb1mx2.8/28, mbtmp3.8/14, Error ellipse: s-maj=19.7km s-min=13.0km az=106.0*
*CSEM **26** 02:42:30.2±0.1, 4005N×1265E, h520km±1km, mb3.7/17, Error ellipse: s-maj=4.4km s-min=1.9km az=157.0*
ISC 26 02:42:30.5±0.4, 3999N±005×1270E±005, h523km±7km, n101, σ0§80/103, mb3.7/3, 6C, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	L'Aquila	2.42	13	Pn	P	02 43 40.0	+0.3
NRCA	Norcia	2.86	6	P	P	02 43 42.2	-0.1
TIP	Timpagrande	3.24	103	*e*Pn	P	02 43 43.9	-1.0
ARV	Arcevia	3.51	3	P	P	02 43 46.5	-0.2
PII	Pisa	4.06	337	P	P	02 43 51.4	+0.5
GSCL	Gusciola	4.63	341	P	P	02 43 55.5	0.0
LMR	La Mourre	5.71	308	*e*P	P	02 44 04.6	-0.5
FRF	La Foret Royal	5.76	310	*e*P	P	02 44 05.3	-0.2
CTI	Castel Tesino	6.10	353	P	P	02 44 07.8	-0.9
	5.7nm,0.3s						
PTCC	Patocco-Chiusa	6.43	4	P	P	02 44 11.3	-0.6
MBDF	Montbardon	6.45	319	*e*P	P	02 44 12.9	+0.8
	5.0nm,0.6s						
MBDF	Montbardon	6.45	319	*e*P	P	02 44 12.9	+0.8
	2.5nm,0.6s						
LPG	La Plagne	7.03	323	*e*P	P	02 44 17.0	-0.7
	1.6nm,0.2s						
LPG	La Plagne	7.03	323	*e*P	P	02 44 17.0	-0.7
	0.8nm,0.2s						
LPL	La Plagne	7.05	323	*e*P	P	02 44 17.3	-0.6
	2.6nm,0.3s						
LPL	La Plagne	7.05	323	*e*P	P	02 44 17.3	-0.6
	1.3nm,0.3s						
DAVOX	Davos	7.09	344	P	P	02 44 17.9	-0.4
	1.5nm,0.3s,baz=255,slow=2.5,SNR=20						
DAVOX				S	S	02 45 47.2	+0.6
	baz=18,slow=20						
SQTA	Sankt Quirin	7.30	352	⇑ *i*P	P	02 44 20.6	+0.2
	4.8nm,0.7s						
SQTA	Sankt Quirin	7.30	352	P	P	02 44 20.6	+0.2
	4.8nm,0.7s						
WTTA	Wattenberg	7.31	354	⇑ *i*P	P	02 44 21.1	+0.6
	2.1nm,1.3s						
WTTA	Wattenberg	7.31	354	*e*P	P	02 44 21.0	+0.5
WATA	Walderalm	7.38	354	⇑ *i*P	P	02 44 21.5	+0.2
	3.2nm,0.9s						
MOTA	Moosalm	7.44	352	⇑ P	P	02 44 21.4	-0.4
	comp=Z,4.1nm,0.9s						
MOTA	Moosalm	7.44	352	⇑ *i*P	P	02 44 21.5	-0.3
	4.1nm,0.9s						
ARSA	Arzberg	7.54	15	⇑ *i*P	P	02 44 23.5	+0.7
	6.2nm,0.6s						
DAVA	Damuels	7.57	345	*e*P	P	02 44 24.6	+1.5
LASF	Ste Croix	7.74	305	*e*P	P	02 44 24.9	+0.1
CABF	La Chapelle	8.18	326	*e*P	P	02 44 27.5	-1.8
	6.7nm,0.6s						
CABF	La Chapelle	8.18	326	*e*P	P	02 44 27.5	-1.8
	3.3nm,0.6s						
FUR	Furstenfeldbru	8.23	353	*e*P	P	02 44 29.7	-0.1
MTLF	Montolieu	8.53	296	*e*P	P	02 44 32.3	-0.5
EMIR	Miracle	8.67	286	P	P	02 44 34.8	+0.6
	2.1nm,0.4s,SNR=7.9						
GEC2	GERESS Array S	8.88	4	*e*P	P	02 44 35.8	-0.6
GERES	GERESS Array B	8.88	4	P	P	02 44 36.6	+0.2
	2.6nm,0.3s,baz=178,slow=10,SNR=137						
GERES				S	S	02 46 19.4	-0.4
	baz=193,slow=21,SNR=2.0						
HINF	Hinteralfeld	8.88	334	*e*P	P	02 44 33.2	-3.2
	3.8nm,0.5s						
HINF	Hinteralfeld	8.88	334	*e*P	P	02 44 33.2	-3.2
	1.9nm,0.5s						
BFO	Black Forest	8.90	341	*e*P	P	02 44 36.7	0.0
EPOB	Poblet	8.93	282	P	P	02 44 37.3	+0.3
	3.3nm,0.5s,SNR=7.9						
STU	Stuttgart	9.13	345	*e*P	P	02 44 39.8	+0.8
STU	Stuttgart	9.13	345	*e*Pn	P	02 44 39.2	+0.3
	6.8nm,0.5s						
WET	Wettzell	9.15	1	*e*P	P	02 44 39.7	+0.5
KHC	Kasperske Hory	9.16	4	*e*P	P	02 44 39.4	+0.1
HAU	Haudompre	9.22	332	*e*P	P	02 44 39.3	-0.6
	2.4nm,0.3s						
HAU	Haudompre	9.22	332	*e*P	P	02 44 39.3	-0.6
	1.2nm,0.3s						
CDF	Champ du Feu	9.27	337	*e*P	P	02 44 38.8	-1.7
	4.1nm,0.4s						
CDF	Champ du Feu	9.27	337	*e*P	P	02 44 38.8	-1.7
	2.0nm,0.4s						
PSZ	Piszkesteto	9.47	31	*e*Pn	P	02 44 41.9	-0.6
	2.6nm,0.9s						
ERTA	Horta de San J	9.47	280	P	P	02 44 43.1	+0.6
	0.8nm,0.2s,SNR=7.9						
EGRA	Graus	9.60	287	P	P	02 44 44.4	+0.5
	1.4nm,0.5s,SNR=7.9						
AVF	Avril sur Loir	9.61	318	*e*P	P	02 44 43.4	-0.6
LOR	Lormes	9.69	322	*e*P	P	02 44 44.2	-0.6
VRAC	Vranov	9.72	15	P	P	02 44 45.9	+0.8
	0.2nm,0.3s,baz=178,slow=6.6,SNR=5.2						
EPF	Esparros	9.75	292	*e*P	P	02 44 44.5	-1.0
	3.7nm,0.6s						
EPF	Esparros	9.75	292	*e*P	P	02 44 44.5	-1.0
	1.9nm,0.6s						
GRA1	Grafenberg Arr	9.75	354	*e*P	P	02 44 46.3	+0.8
	16nm,0.7s						
GRF	Grafenberg Arr	9.75	354	*e*P	P	02 44 46.3	+0.8
	comp=Z,16nm,0.7s						
EBIE	Bielsa	9.82	290	P	P	02 44 47.3	+1.2
	comp=Z,0.5nm,0.2s,SNR=8.9						
PRU	Pruhonice	10.08	7	*e*P	P	02 44 49.1	+0.2
EMOS	Mosqueruela	10.09	276	P	P	02 44 49.9	+1.0
	comp=Z,0.6nm,0.3s,SNR=7.9						
EBEN	Beniarda	10.09	267	P	P	02 44 50.2	+1.2
	comp=Z,0.8nm,0.4s,SNR=7.9						
ESAC	San Caprasio	10.12	284	P	P	02 44 49.2	-0.1
	comp=Z,4.8nm,0.2s,SNR=7.9						
ETSF	Etsaut	10.37	291	*e*P	P	02 44 52.3	+0.4
	comp=Z,7.5nm,0.5s						
ETSF	Etsaut	10.37	291	*e*P	P	02 44 52.3	+0.4
	comp=Z,3.8nm,0.5s						
MORC	Moravsky Berou	10.37	18	*e*Pn	P	02 44 52.3	+0.4
	comp=Z,1.1nm,0.5s						
TANN	Tannenbergstha	10.42	359	*e*P	P	02 44 53.4	+0.9
ECHE	Chera	10.53	272	P	P	02 44 54.9	+1.4
	comp=Z,0.7nm,0.3s,SNR=7.9						
TNS	Taunus Mts	10.66	345	*e*P	P	02 44 56.0	+1.1
DPC	Dobruska-Polom	10.67	13	*e*P	P	02 44 55.6	+0.6
MOX	Moxa	10.68	356	*e*P	P	02 44 56.0	+0.9
IDI	Anoyia	10.75	112	P	P	02 44 54.9	-1.0
	comp=Z,0.4nm,0.3s,baz=310,slow=17,SNR=4.7						
UPC	Upice	10.77	11	*e*P	P	02 44 56.8	+0.7
SJPF	Ste Jean	10.89	291	*e*P	P	02 44 56.6	-0.7
UBBA	Unterbreizbach	10.99	351	*e*P	P	02 44 59.2	+0.8
ELIZ	Elizondo	11.12	291	P	P	02 45 00.1	+0.4
	comp=Z,0.7nm,0.3s,SNR=7.9						
ETOB	Tobarra	11.12	268	P	P	02 45 00.7	+1.0
	comp=Z,1.0nm,0.3s,SNR=7.9						
MLR	Muntele Rosu	11.18	56	P	P	02 45 01.2	+0.8
	comp=Z,0.6nm,0.3s,baz=326,slow=10,SNR=21						
ENIJ	Nijar	12.06	260	P	P	02 45 09.5	-0.1
	comp=Z,1.7nm,0.5s,SNR=7.9						
EQES	Quesada	12.48	265	P	P	02 45 14.9	+0.9
	comp=Z,0.9nm,0.3s,SNR=7.9						
LDF	La Druitiere	12.56	317	*e*P	P	02 45 13.3	-1.6
EBER	Berja	12.60	261	P	P	02 45 16.5	+1.2
	comp=Z,1.2nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	12.81	274	P	P	02 45 17.2	-0.3
	comp=Z,0.5nm,0.3s,baz=74,slow=11,SNR=6.5						
GRR	Gorron	12.83	315	*e*P	P	02 45 16.3	-1.4
FLN	La Foliniere	12.86	317	*e*P	P	02 45 16.5	-1.4
ELUQ	Luque	13.46	265	P	P	02 45 23.9	-0.3
	comp=Z,0.8nm,0.5s,SNR=7.9						
EADA	Adamuz	13.54	268	P	P	02 45 25.3	+0.2
	comp=Z,0.7nm,0.4s,SNR=7.9						
EMIJ	Mijas	14.14	262	P	P	02 45 30.2	-1.2
	comp=Z,2.9nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	15.25	268	P	P	02 45 42.0	-0.9
	comp=Z,0.8nm,0.3s,SNR=7.9						
MDT	Midelt	15.66	248	P	P	02 45 45.7	-1.4
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=4.4						
AKASG	Malin Array Be	15.76	42	P	P	02 45 46.5	-1.7
	comp=Z,0.6nm,0.3s,baz=231,slow=9.8,SNR=4.6						
AKASG	Malin Array Be	15.76	42	P	P	02 45 46.5	-1.7
BR131	Keskin Array S	16.09	84	P	P	02 45 51.1	-0.4
	comp=Z,0.2nm,0.3s						
BR131	Keskin Array S	16.09	84	P	P	02 45 51.1	-0.4
	comp=Z,0.2nm,0.3s						
BRTR	Keskin Array B	16.09	84	P	P	02 45 51.2	-0.3
	comp=Z,0.1nm,0.3s,baz=270,slow=9.6,SNR=4.7						
EKA	Eskdalemuir Ar	18.62	331	P	P	02 46 15.1	-0.3
	comp=Z,0.2nm,0.3s,baz=142,slow=10,SNR=4.7						
MALT	Malatya	20.01	87	P	P	02 46 29.1	+1.1
	comp=Z,0.3nm,0.3s						
MALT	Malatya	20.01	87	P	P	02 46 29.1	+1.2
	comp=Z,0.4nm,0.3s						
HFS	Hagfors	20.17	1	P	P	02 46 29.2	-0.3
	comp=Z,1.5nm,0.8s,baz=190,slow=7.5,SNR=7.1						
FINES	FINESS Array B	23.00	17	P	P	02 46 55.2	+0.3
	comp=Z,1.3nm,0.6s,mb3.7,baz=183,slow=8.6,SNR=14						
FINES	FINESS Array B	23.00	17	P	P	02 46 55.2	+0.3
TORD	Torodi Ar. Bea	28.44	203	P	P	02 47 43.3	+0.4
	comp=Z,0.6nm,0.4s,mb3.5,baz=11,slow=9.3,SNR=17						
ARCES	ARCESS Array B	30.38	9	P	P	02 47 59.4	-0.3
	comp=Z,2.9nm,0.9s,mb3.8,baz=196,slow=9.4,SNR=3.2						

*CSEM **26** 02:48:52.8±0.5, 3549N×27.16E, h111km±6km, MD3.3, Error ellipse: s-maj=12.1km s-min=3.3km az=161.0*
*ISCJB **26** 02:48:54.2±0.7, 3537N±008×2736E±009, h52km±13km, Error ellipse: s-maj=14.1km s-min=10.0km az=76.5*
*HLW **26** 02:48:56.8, 3526N×2731E, h33km, Mb3.0*
*NEIC **26** 02:48:57.1, 3562N×2694E, h33km, MD3.3(ATH), After ATH.*
*ATH **26** 02:48:57.1, 3562N×2694E, h33km±2km, MD3.3/7*
ISC 26 02:48:56.5±0.7, 3524N±005×2722E±007, h26km±8km, n17, σ0§72/19, 2C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.31	351	*e*PB	Pb	02 49 04.0	+0.3
KARP				*e*SB	Sb	02 49 08.5	-0.2
ARG	Arkhangelos	1.22	37	*e*PN	Pn	02 49 18.3	+0.5
ARG				*e*SN	Sn	02 49 34.0	+0.6
XRY	Khrisi	1.30	254	*e*PN	Pn	02 49 20.0	+1.0
NPS	Neapolis	1.32	271	*e*PN	Pn	02 49 18.7	-0.4
NISR	Nisiros	1.37	357	*e*PN	Pn	02 49 16.0	-3.8
APE	Apeiranthos	2.28	324	*e*PN	Pn	02 49 28.0	-4.4
VAM	Vamos	2.48	275	*e*PN	Pn	02 49 34.4	-0.7
HMAT	Matruh	4.14	181	P	Pn	02 49 58.4	+0.4
DABA	Dabaa	4.32	168	⇑ P	Pn	02 50 00.1	-0.3
SWA1		6.10	193	⇓ P	Pn	02 50 25.3	+0.4
SWA2		6.17	195	⇓ P	Pn	02 50 25.9	+0.1
HSAF	As Saff	6.70	146	⇑ P	Pn	02 50 33.4	+0.3
GLL	Jalalah	6.80	145	P	Pn	02 50 34.6	+0.1
AMAG	Maghara	6.81	131	⇓ P	Pn	02 50 33.2	-1.4
AWBH		7.05	168	P	Pn	02 50 38.2	+0.3
SUZ		7.17	137	P	Pn	02 50 39.5	-0.1
HNKL	Nakhl	7.78	131	P	Pn	02 50 47.8	-0.2

*ISCJB **26** 02:49:13.3±0.9, 3535S±03×783E±01, h10km, mb4.2/11, Error ellipse: s-maj=42.1km s-min=15.2km az=14.0*
*IDC **26** 02:49:13.9±1.8, 3499S×7840E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=93.1km s-min=25.0km az=14.0*
*NEIC **26** 02:49:15.2±0.7, 3516S×7835E, h10km, mb4.5/5, Error ellipse: s-maj=30.8km s-min=11.3km az=188.0*
ISC 26 02:49:15.7±0.9, 3513S±03×784E±01, h10km, n13, σ0§55/12, mb4.1/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	48.95	281	*e*P	P	02 58 02.2	+0.1
	5.7nm,0.9s,mb4.6						
ASAR	Alice Springs	49.16	92	P	P	02 58 03.5	-0.2
	1.4nm,1.0s,mb4.0,baz=252,slow=6.0,SNR=7.6						
KMBO	Kilima Mbogo	51.01	302	P	P	02 58 18.9	+1.2
	0.8nm,0.8s,mb3.7,baz=224,slow=6.6,SNR=2.7						
KMBO	Kilima Mbogo	51.01	302	P	P	02 58 18.9	+1.2
WRA	Warramunga Arr	51.26	88	P	P	02 58 20.0	+0.4
	2.1nm,1.0s,mb4.0,baz=241,slow=7.4,SNR=6.6						
WRAB	Tennant Creek	51.27	88	P	P	02 58 20.1	+0.4
	4.2nm,0.9s,mb4.4						
TSUM	Tsumeb	55.58	270	*e*P	P	02 58 50.8	-0.5
	4.5nm,1.1s,mb4.4						
AAK	Ala-Archa	77.39	357	*e*P	P	03 01 10.9	+0.1
	2.5nm,1.0s,mb4.1						
BRTR	Keskin Array B	85.09	327	P	P	03 01 51.5	-0.2
	0.8nm,0.8s,mb3.9,baz=157,slow=6.7,SNR=5.2						
KURK	Kurchatov	85.39	0	*e*P	P	03 01 53.4	+0.2
	4.8nm,1.1s,mb4.5						
SONM	Songino Array	86.24	18	P	P	03 01 56.4	-1.1
	0.4nm,0.8s,mb3.7,baz=208,slow=5.7,SNR=3.4						
TORD	Torodi Ar. Bea	86.85	288	P	P	03 02 00.1	-0.3
	1.8nm,1.0s,mb4.2,baz=131,slow=4.4,SNR=7.7						
YKA	Yellowknife Ar	151.35	13	PKPbc	PKPbc	03 09 08.0	-1.5
	1.9nm,1.0s,baz=344,slow=2.8,SNR=17						

IDC 26 02:54:08.9±3.9, 5045×15239E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/12, mbtmp3.3/2, Error ellipse: s-maj=168.4km s-min=49.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.98	228	P	P	02 59 14.5	-0.6
	0.7nm,0.7s,baz=53,slow=9.9,SNR=8.4						
ASAR	Alice Springs	25.70	222	P	P	02 59 41.5	+0.8
	0.3nm,0.3s,baz=58,slow=9.8,SNR=13						
TORD	Torodi Ar. Bea	149.99	288	PKPbc	PKPbc	03 14 02.3	+1.0
	0.2nm,0.9s,baz=68,slow=0.7,SNR=4.5						

*ISCJB **26** 03:07:56.9±0.3, 5150N±002×16.13E±002, h0km, Error ellipse: s-maj=2.9km s-min=1.9km az=34.7*
*CSEM **26** 03:07:58.9±0.2, 5155N×16.15E, h1km, ML3.6/6, Error ellipse: s-maj=3.1km s-min=1.9km az=31.0*
*NEIC **26** 03:07:58.9±0.4, 5159N×16.16E, h5km, ML2.5(BRG), ML2.9(CLL), Error ellipse: s-maj=6.3km s-min=5.1km az=109.0*
*WAR **26** 03:08:00.1, 5152N×16.12E, ML2.7, Mining Induced*
*IPEC **26** 03:08:00.6±0.3, 5144N×1652E, h0km, ML2.4/4, Error ellipse: s-maj=3.0km s-min=1.9km az=96.0*
*UPP **26** 03:08:01.9, 5176N×1594E, h0km, ML2.9, Suspected Mining explosion.*
*BGR **26** 03:08:01.6±0.7, 5144N×1603E, h1km, ML3.0/8, Error ellipse: s-maj=10.0km s-min=6.7km az=0.0*
*PRU **26** 03:08:01.4, 5139N×1608E, h0km*
*IDC **26** 03:08:01.0±1.0, 5145N×1602E, h0km, mb1 3.4/6, mb1mx3.2/20, mbtmp3.3/6, ML3.0/6, Error ellipse: s-maj=15.1km s-min=8.6km az=122.0*
*VIE **26** 03:08:02.3±0.7, 5128N×1603E, h0km, mb2.6/4, ML3.0/4, Error ellipse: s-maj=4.1km s-min=2.7km az=17.0 71 km WNW of Breslau Suspected Mining induced.*
ISC 26 03:07:58.5±0.3, 5152N±002×1613E±002, h0km, n68, σ0§99/122, 5C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	171	⇓ *i*Pg	Pg	03 08 12.6	+0.9
KSP				*e*Sg	Sg	03 08 21.2	+0.6
UPC	Upice	1.02	184	*e*PG	Pg	03 08 18.6	+0.5
DPC	D

VRAC	**Vranov**	**2.24 172**	*e*Pn	**Pn**	**03 08 37.2**	**+0.4**
VRAC			*e*Sg	**Sg**	**03 09 07.2**	**-3.2**
KRUC	**Moravsky**	**2.47 176**	*e*Pn	**Pn**	**03 08 40.8**	**+0.8**
KRUC	**Moravsky**	**2.47 176**	*e*Pg	**Pg**	**03 08 44.5**	**-1.4**
TANN	**Tannenbergstha**	**2.57 246**	*e*Pn	**Pn**	**03 08 42.0**	**+0.6**
TANN			*e*Sg	**Sg**	**03 09 20.8**	**-0.4**
WERD	**Werda**	**2.65 247**	*e*Sg	**Sg**	**03 09 23.7**	**+0.1**
OJC	**Ojcow**	**2.66 118**	*e*Pg	**Pg**	**03 08 49.2**	**-0.4**
OJC			*e*Sg	**Sg**	**03 09 24.6**	**+0.5**
NKC	**Novy Kostel**	**2.67 242**	*e*PN	**Pn**	**03 08 43.5**	**+0.8**
NKC			*e*PG	**Pg**	**03 08 49.8**	**+0.2**
NKC			*e*SG	**Sg**	**03 09 25.2**	**+1.0**
	comp=Z,60nm,0.2s					
NKC	**Novy Kostel**	**2.67 242**	*e*Pg	**Pg**	**03 08 49.8**	**+0.2**
NKC			*e*Sg	**Sg**	**03 09 25.2**	**+1.0**
	comp=Z,60nm,0.2s					
NEUB	**Neuenburg**	**2.75 265**	*e*Sg	**Sg**	**03 09 27.2**	**+0.4**
JAVC	**Velka Javorina**	**2.84 159**	*e*Sg	**Sg**	**03 09 29.3**	**-0.6**
	comp=Z,38nm,0.9s					
KHC	**Kasperske Hory**	**2.90 215**	*e*PN	**Pn**	**03 08 46.0**	**+0.1**
KHC			*e*PG	**Pg**	**03 08 52.4**	**-1.7**
KHC			*e*SN	**Sn**	**03 09 20.8**	**-0.7**
KHC			*e*SG	**Sg**	**03 09 29.7**	**-2.0**
	comp=Z,21nm,0.6s					
KHC	**Kasperske Hory**	**2.90 215**	*e*Pg	**Pg**	**03 08 52.4**	**-1.7**
KHC			*e*Sn	**Sn**	**03 09 20.8**	**-0.7**
KHC			*e*Sg	**Sg**	**03 09 29.7**	**-2.0**
	comp=Z,21nm,0.6s					
MOX	**Moxa**	**2.98 255**	*e*Pn	**Pn**	**03 08 48.1**	**+1.1**
MOX			*e*Sg	**Sg**	**03 09 35.5**	**+1.2**
MOX	**Moxa**	**2.98 255**	*e*PN	**Pn**	**03 08 47.9**	**+0.9**
MOX			*e*PG	**Pg**	**03 08 55.7**	**0.0**
MOX			*e*SG	**Sg**	**03 09 35.4**	**+1.1**
MANZ	**Manzenberg**	**2.98 241**	*e*Pn	**Pn**	**03 08 47.5**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.06 236**	*e*Pn	**Pn**	**03 08 48.6**	**+0.6**
GEC2	**GERESS Array S**	**3.10 211**	*e*Pn	**Pn**	**03 08 50.0**	**+1.3**
GEC2			*e*Sg	**Sg**	**03 09 36.0**	**-2.2**
GEC2	**GERESS Array S**	**3.10 211**	*e*Pn	**Pn**	**03 08 50.0**	**+1.3**
GEC2			*e*Sg	**Sg**	**03 09 36.0**	**-2.2**
GERES	**GERESS Array B**	**3.10 211**	Pn	**Pn**	**03 08 49.6**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=30,slow=12,SNR=56					
GERES			Pg	**Pg**	**03 08 56.4**	**-1.6**
	comp=Z,2.9nm,0.3s,baz=27,slow=16,SNR=42					
GERES			Lg		03 09 36.4	
	comp=Z,4.1nm,0.3s,baz=27,slow=27,SNR=11					
GERES	**GERESS Array B**	**3.10 211**	Pg	**Pg**	**03 08 56.4**	**-1.6**
SMOL	**Smolenice**	**3.13 164**	*e*PG	**Pg**	**03 08 57.8**	**-0.6**
SMOL			*e*SG	**Sg**	**03 09 39.1**	**+0.1**
WET	**Wettzell**	**3.17 222**	*e*Pn	**Pn**	**03 08 49.9**	**+0.4**
WET	**Wettzell**	**3.17 222**	*e*Pn	**Pn**	**03 08 49.9**	**+0.3**
ZST	**Bratislava**	**3.39 169**	*e*SG	**Sg**	**03 09 45.8**	**-1.6**
NIE	**Niedzica**	**3.40 127**	*e*P	**Pg**	**03 09 03.7**	**0.0**
NIE			S	**Sg**	**03 09 49.3**	**+1.5**
NIE	**Niedzica**	**3.40 127**	*e*P	**Pg**	**03 09 03.7**	**0.0**
NIE			*e*S	**Sg**	**03 09 49.3**	**+1.5**
GRA1	**Grafenberg Arr**	**3.62 242**	Pn	**Pn**	**03 08 57.3**	**+1.4**
GRA1			Sg	**Sg**	**03 09 55.8**	**+0.8**
GRA1	**Grafenberg Arr**	**3.62 242**	*e*Pn	**Pn**	**03 08 57.4**	**+1.5**
GRA1			*e*Sg	**Sg**	**03 09 55.8**	**+0.8**
GRF	**Grafenberg Arr**	**3.62 242**	*e*Pn	**Pn**	**03 08 57.4**	**+1.5**
GRF			*e*Sg	**Sg**	**03 09 55.8**	**+0.8**
BSD	**Bornholm Skovb**	**3.67 349**	*i* P	**Pn**	**03 08 55.5**	**-1.0**
BSD			*i* S	**Sn**	**03 09 35.5**	**-5.0**
MOA	**Molln**	**3.87 199**	⇑Sg	**Sg**	**03 10 03.2**	**+0.3**
	comp=Z,22nm,0.5s					
MOA	**Molln**	**3.87 199**	*i* Pn	**Pn**	**03 09 00.1**	**+0.8**
MOA	SNR=15		⇑*i*Sg	**Sg**	**03 10 03.2**	**+0.3**
	comp=Z,22nm,0.5s					
STHS	**Stebnicka Huta**	**3.89 121**	*e*PN	**Pn**	**03 09 02.3**	**+2.8**
STHS			*e*PG	**Pg**	**03 09 14.3**	**+1.3**
STHS			*e*SG	**Sg**	**03 10 06.2**	**+2.8**
STHS	**Stebnicka Huta**	**3.89 121**	*e*Pg	**Pg**	**03 09 14.3**	**+1.3**
KECS	**Kecovo**	**4.14 136**	*e*PG	**Pg**	**03 09 18.0**	**+0.1**
KECS			*e*		03 10 10.4	
CRVS	**Cervenica-Dubn**	**4.31 125**	*e*PG	**Pg**	**03 09 22.5**	**+1.3**
CRVS			*e*SG	**Sg**	**03 10 21.9**	**+4.8**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*	**Pg**	**03 09 29.6**	**+0.7**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*SG	**Sg**	**03 10 34.8**	**+4.7**
BLEU	**Blekinge**	**4.79 358**	P	**Pn**	**03 09 10.6**	**-1.4**
BLEU			S	**Sn**	**03 10 03.4**	**-4.8**
KBA	**Koelnbreinsper**	**4.81 203**	⇑Sg	**Sg**	**03 10 32.6**	**-0.4**
	comp=Z,12nm,0.5s					
KBA	**Koelnbreinsper**	**4.81 203**	⇑*i*Pn	**Pn**	**03 09 13.2**	**+1.0**
KBA			⇑*i*Sg	**Sg**	**03 10 32.6**	**-0.4**
	comp=Z,12nm,0.5s					
VXJU	**Vaexsjoe**	**5.46 353**	P	**Pn**	**03 09 20.3**	**-0.7**
VXJU			S	**Sn**	**03 10 19.8**	**-4.7**
OSKU	**Oskarshamn**	**5.68 360**	P	**Pn**	**03 09 23.7**	**-0.5**
DAVOX	**Davos**	**6.27 223**	Pn	**Pn**	**03 09 33.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=20,slow=17,SNR=5.2					
DAVOX			Lg		03 11 19.2	
	comp=Z,0.3nm,0.3s,baz=195,slow=20,SNR=3.6					
AKASG	**Malin Array Be**	**8.28 91**	Pn	**Pn**	**03 10 00.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=6.1					
FINES	**FINESS Array B**	**11.35 25**	Pn	**Pn**	**03 10 40.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=6.2					
FINES	**FINESS Array B**	**11.35 25**	Pn	**Pn**	**03 10 40.2**	**-1.7**
ARCES	**ARCESS Array B**	**18.61 10**	Pn	**Pn**	**03 12 16.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=4.1					

NAO ***26*** *03:07:26.5,2531S×179.15E,h460km,mb5.9*
CRAAG ***26*** *03:07:29.5,2438S×17956E,Mb6.4*
ORF ***26*** *03:07:30.6,2365S×17988E,h30km,mb6.7*
MOS ***26*** *03:08:26.0±0.8,2338S×17999W,h512km,mb6.0/49, MS5.4/6,Error ellipse: s-maj=7.9km s-min=6.3km az=64.0*
ISCJB ***26*** *03:08:27.1±0.1,2360S±002×17999E±003,h533km, mb5.8/152,Error ellipse: s-maj=3.2km s-min=2.1km az=45.8*
NEIC ***26*** *03:08:27.8±0.1,2361S×17999W,mb5.9/118,ME5.9, MW6.4,Error ellipse: s-maj=4.2km s-min=2.3km az=114.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^{18}Nm; M_{rr}3.77; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$-2.94; $M_{r\theta}$0.52; $M_{\theta\phi}$-1.26; $M_{\phi r}$-2.94; Best double couple: $M_0$4.70000×10^{18} NP1: ϕ_s185.00000°,δ65.00000°,λ74.00000°. NP2:ϕ_s39.00000°, δ30.00000°,λ120.00000°. Principal axes: T 5.0300, Plg67.0000°, Azm66.0000°; N -0.6900, Plg14.0000°, Azm192.0000°; P -4.3400, Plg18.0000°, Azm287.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s5.00000°,δ20.00000°,λ90.00000°. NP2:ϕ_s185.00000°, δ70.00000°,λ90.00000°. Principal axes: T Plg65.0000°, Azm95.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm275.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
BJI ***26*** *03:08:27.2,2324S×17936W,h542km,mB5.5,mb5.3*
HRVD ***26*** *03:08:27.8±0.1,2359S×17982W,h554km,MW6.4/110, Centroid moment Tensor Solution. LP body waves: s110,c281;Mantle waves: s95,c164; Half duration: 3±8 Moment tensor: Scale 10^{18}Nm; M_{rr}3.22±.03; $M_{\theta\theta}$-1.09±.04; $M_{\phi\phi}$-2.13±.04; $M_{r\theta}$0.22±.04; $M_{\theta\phi}$-2.18±.04; $M_{\phi r}$-2.82±.04; Best double couple: $M_0$4.55800×10^{18} NP1:ϕ_s61.00000°,δ35.00000°,λ132.00000°. NP2: ϕ_s194.00000°,δ65.00000°,λ65.00000°. Principal axes: T 4.6450, Plg62.0000°, Azm65.0000°; N -0.1730, Plg22.0000°, Azm205.0000°; P -4.4710, Plg17.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
IDC ***26*** *03:08:28.3±0.3,2356S×17999W,h532km±2km,mb5.4/30, mb1 5.4/32,mb1mx5.4/32,mbtmp6.2/32 Error ellipse: s-maj=6.9km s-min=6.1km az=4.0*

ISC 26 03:08:28.2±0.1,2367S±002×17995W±002,h534km, h534km±1.4km:pP-P,n1365,σ1§11/589,mb5.8/148, 253C-67D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.85**	**162**	P	**P**	**03 10 05.6**	**+1.0**
	2μm,0.3s,baz=59,slow=1.6,SNR=47						
RAO				S	**S**	**03 11 20.1**	**-3.4**
	1μm,0.3s,baz=98,slow=19,SNR=3.4						
RAO	**Raoul Island**	**5.85**	**162**	⇓*e*P	**P**	**03 10 05.5**	**+0.9**
RAO				*e*S	**S**	**03 11 23.6**	**+0.1**
RAO				pmax	pmax		
	comp=Z,10μm,1.1s						
RAO	**Raoul Island**	**5.85**	**162**	⇓*e*Pn	**P**	**03 10 05.5**	**+0.9**
	comp=Z,26μm,1.1s						
RAO				*e*S	**S**	**03 11 23.6**	**0.0**
AFI	**Afiamalu**	**12.41**	**40**	P	**P**	**03 11 05.2**	**-5.7**
	comp=Z,21nm,0.3s,baz=58,slow=4.8,SNR=28						
AFI				S	**S**	**03 13 13.6**	**-11**
	comp=Z,49nm,0.3s,baz=18,slow=22,SNR=8.8						
AFI	**Afiamalu**	**12.41**	**40**	*e*P	**P**	**03 11 06.1**	**-4.8**
AFI				*e*S	**S**	**03 13 12.7**	**-12**
AFI				pmax	pmax		
	comp=Z,516nm,0.8s						
AFI	**Afiamalu**	**12.41**	**40**	*e*P	**P**	**03 11 06.1**	**-4.7**
	comp=Z,516nm,0.8s						
AFI				*e*S	**S**	**03 13 12.7**	**-12**
BKM	**Butte a Klehm**	**12.56**	**296**	⇓*i*P	**P**	**03 11 12.5**	**+0.1**
DZM	**Mont Dzumac**	**12.64**	**275**	P	**P**	**03 11 14.6**	**+1.3**
	comp=Z,24nm,0.3s,baz=89,slow=13,SNR=76						
DZM				S	**S**	**03 13 31.5**	**+2.2**
	comp=Z,3.9nm,0.3s,baz=149,slow=18,SNR=1.4						
DZM				ScP	ScP	03 18 50.9	+4.0
	comp=Z,7.0nm,0.3s,baz=97,slow=7.5,SNR=12						
DZM	**Mont Dzumac**	**12.64**	**275**	*e*P	**P**	**03 11 14.7**	**+1.3**
DZM				*e*S	**S**	**03 13 16.3**	**-13**
OUZ	**Omahuta**	**12.81**	**205**	*e*PN	**P**	**03 11 18.2**	**+3.2**
OUZ				SN	**S**	**03 13 39.8**	**+7.3**
OUZ	**Omahuta**	**12.81**	**205**	*e*P	**P**	**03 11 18.2**	**+3.2**
WCZ	**Waipu Caves**	**13.19**	**201**	PN	**P**	**03 11 21.9**	**+2.8**
WCZ				*e*SN	**S**	**03 13 49.0**	**+9.2**
WCZ	**Waipu Caves**	**13.19**	**201**	*e*P	**P**	**03 11 21.9**	**+2.9**
KUZ	**Kuaotunu**	**13.56**	**195**	PN	**P**	**03 11 24.2**	**+1.4**
KUZ				*e*SN	**S**	**03 13 49.9**	**+3.2**
KUZ	**Kuaotunu**	**13.56**	**195**	*e*P	**P**	**03 11 22.2**	**-0.7**
MTAZ	**Motutapu**	**13.81**	**198**	P	**P**	**03 11 28.0**	**+2.6**
KAAZ	**Kauri Point**	**13.90**	**198**	PN	**P**	**03 11 29.2**	**+2.9**
KAAZ	**Kauri Point**	**13.90**	**198**	P	**P**	**03 11 29.2**	**+2.8**
MXZ	**Matakaoa Point**	**13.93**	**186**	*e*PN	**P**	**03 11 24.0**	**-2.7**
MXZ				SN	**S**	**03 13 54.2**	**+0.4**
MXZ	**Matakaoa Point**	**13.93**	**186**	*e*P	**P**	**03 11 24.5**	**-2.2**
OTAZ	**Otara**	**13.96**	**197**	*e*P	**P**	**03 11 29.5**	**+2.5**
WIZ	**White Island**	**14.03**	**189**	PN	**P**	**03 11 29.4**	**+1.6**
WIZ	**White Island**	**14.03**	**189**	P	**P**	**03 11 29.4**	**+1.6**
WTAZ	**Waiatarua**	**14.04**	**198**	PN	**P**	**03 11 29.8**	**+2.0**
WTAZ	**Waiatarua**	**14.04**	**198**	P	**P**	**03 11 29.8**	**+2.0**
MKAZ	**Moumakai**	**14.04**	**196**	SN	**S**	**03 13 58.6**	**+2.7**
MKAZ	**Moumakai**	**14.04**	**196**	*e*P	**P**	**03 11 29.4**	**+1.5**
PUZ	**Puketiti**	**14.44**	**186**	PN	**P**	**03 11 29.0**	**-3.0**
PUZ				SN	**S**	**03 13 56.5**	**-6.9**
PUZ	**Puketiti**	**14.44**	**186**	*e*P	**P**	**03 11 30.2**	**-1.8**
PUZ				S	**S**	**03 13 56.5**	**-6.9**
TOZ	**Tahuroa Road**	**14.55**	**194**	PN	**P**	**03 11 34.2**	**+1.1**
TOZ				SN	**S**	**03 14 12.5**	**+7.0**
TOZ	**Tahuroa Road**	**14.55**	**194**	*e*P	**P**	**03 11 34.2**	**+1.1**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**03 11 32.1**	**-3.2**
	comp=Z,57nm,0.3s,baz=344,slow=1.0,SNR=198						
URZ				S	**S**	**03 14 04.4**	**-5.1**
	comp=Z,60nm,0.3s,baz=209,slow=22,SNR=11						
URZ				ScS	ScS	03 22 24.0	-4.8
	comp=Z,3.6nm,0.3s,baz=4.5,slow=23,SNR=13						
URZ	**Urewera**	**14.76**	**189**	PN	**P**	**03 11 31.6**	**-3.7**
URZ				SN	**S**	**03 14 02.1**	**-7.4**
URZ	**Urewera**	**14.76**	**189**	*e*P	**P**	**03 11 32.1**	**-3.2**
MWZ	**Matawai**	**14.78**	**188**	PN	**P**	**03 11 33.4**	**-2.1**
MWZ				SN	**S**	**03 14 05.5**	**-4.3**
MWZ	**Matawai**	**14.78**	**188**	*e*P	**P**	**03 11 33.5**	**-2.0**
MWZ				S	**S**	**03 14 05.5**	**-4.3**
TAZ	**Tarawera**	**14.83**	**191**	P	**P**	**03 11 35.9**	**-0.1**
UTU	**Utuhina**	**14.84**	**192**	PN	**P**	**03 11 36.3**	**+0.3**
UTU	**Utuhina**	**14.84**	**192**	P	**P**	**03 11 37.2**	**+1.1**
PATZ	**Paeroa**	**15.02**	**192**	P	**P**	**03 11 38.5**	**+0.5**
KNZ	**Kokohu**	**15.44**	**187**	PN	**P**	**03 11 40.6**	**-1.7**
KNZ				SN	**S**	**03 14 13.5**	**-8.7**
KNZ	**Kokohu**	**15.44**	**187**	*e*P	**P**	**03 11 41.5**	**-0.8**
WATZ	**Wairara**	**15.44**	**193**	PN	**P**	**03 11 42.1**	**-0.2**
WATZ	**Wairara**	**15.44**	**193**	P	**P**	**03 11 42.7**	**+0.4**
HIZ	**Hauiti**	**15.45**	**195**	PN	**P**	**03 11 43.2**	**+0.8**
HIZ				SN	**S**	**03 14 31.1**	**+8.7**
HIZ	**Hauiti**	**15.45**	**195**	*e*P	**P**	**03 11 43.5**	**+1.1**
HATZ	**Hinemaiaia**	**15.55**	**192**	P	**P**	**03 11 42.2**	**-1.2**
RATZ	**Rangitukua**	**15.59**	**193**	PN	**P**	**03 11 43.0**	**-0.8**
RATZ				SN	**S**	**03 14 25.7**	**+0.8**
RATZ	**Rangitukua**	**15.59**	**193**	P	**P**	**03 11 43.5**	**-0.3**
BKZ	**Black Stump Fm**	**15.74**	**190**	PN	**P**	**03 11 41.6**	**-3.8**
BKZ				SN	**S**	**03 14 21.5**	**-6.2**
BKZ	**Black Stump Fm**	**15.74**	**190**	*e*P	**P**	**03 11 42.1**	**-3.3**
KRVZ	**Karewarewa**	**15.83**	**193**	PN	**P**	**03 11 44.7**	**-1.7**
TWVZ	**Taurewa**	**15.85**	**193**	PN	**P**	**03 11 44.9**	**-1.6**
TWVZ	**Taurewa**	**15.85**	**193**	P	**P**	**03 11 44.9**	**-1.6**
WTVZ	**West Tongariro**	**15.86**	**193**	P	**P**	**03 11 44.6**	**-2.0**
OTVZ	**Oturere**	**15.89**	**193**	SN	**S**	**03 14 29.3**	**-0.9**
NGZ	**Ngauruhoe**	**15.92**	**193**	*e*P	**P**	**03 11 45.8**	**-1.4**
WPVZ	**Whakapapa**	**15.96**	**193**	PN	**P**	**03 11 46.0**	**-1.6**
WPVZ	**Whakapapa**	**15.96**	**193**	P	**P**	**03 11 47.1**	**-0.5**
TUVZ	**Tukino**	**15.99**	**192**	PN	**P**	**03 11 46.0**	**-2.0**
TUVZ	**Tukino**	**15.99**	**192**	P	**P**	**03 11 47.0**	**-1.0**
FWVZ	**Far West T-bar**	**16.00**	**193**	P	**P**	**03 11 48.1**	**0.0**
VRZ	**Vera Road**	**16.05**	**195**	PN	**P**	**03 11 49.1**	**+0.5**
VRZ				SN	**S**	**03 14 34.6**	**+1.8**
VRZ	**Vera Road**	**16.05**	**195**	*e*P	**P**	**03 11 49.1**	**+0.5**
WNVZ	**Wahianoa**	**16.06**	**193**	PN	**P**	**03 11 46.7**	**-2.0**
WNVZ				SN	**S**	**03 14 30.9**	**-2.1**
WNVZ	**Wahianoa**	**16.06**	**193**	P	**P**	**03 11 47.4**	**-1.3**
MOVZ	**Moawhango**	**16.11**	**192**	P	**P**	**03 11 46.3**	**-2.9**
RAEZ	**Rainy Point**	**16.30**	**196**	PN	**P**	**03 11 51.9**	**+0.8**
RAEZ	**Rainy Point**	**16.30**	**196**	*e*P	**P**	**03 11 52.8**	**+1.7**
PKE	**Pukeiti**	**16.31**	**197**	PN	**P**	**03 11 53.0**	**+1.8**
PKE	**Pukeiti**	**16.31**	**197**	*e*P	**P**	**03 11 53.0**	**+1.7**
NEZ	**North Egmont**	**16.36**	**197**	P	**P**	**03 11 54.2**	**+2.5**
NWEZ	**Newall Road**	**16.42**	**197**	*e*P	**P**	**03 11 54.5**	**+2.3**
NRZ	**Ngariki Road**	**16.46**	**197**	P	**P**	**03 11 55.3**	**+2.7**
PXZ	**Pawanui**	**16.54**	**189**	PN	**P**	**03 11 50.8**	**-2.5**
PXZ				SN	**S**	**03 14 33.6**	**-7.2**
WAZ	**Wanganui**	**16.60**	**194**	PN	**P**	**03 11 52.5**	**-1.4**
WAZ				SN	**S**	**03 14 40.3**	**-1.6**
WAZ	**Wanganui**	**16.60**	**194**	*e*P	**P**	**03 11 53.0**	**-0.9**
TSZ	**Takapari Road**	**16.70**	**191**	PN	**P**	**03 11 50.9**	**-3.9**
TSZ				SN	**S**	**03 14 36.7**	**-6.9**
TSZ	**Takapari Road**	**16.70**	**191**	*e*P	**P**	**03 11 50.9**	**-4.0**
BFZ	**Birch Farm**	**17.26**	**190**	PN	**P**	**03 11 57.1**	**-2.9**
BFZ				SN	**S**	**03 14 49.7**	**-3.1**
BFZ	**Birch Farm**	**17.26**	**190**	*e*P	**P**	**03 11 57.5**	**-2.5**
MRZ	**Mangatainoka R**	**17.36**	**191**	PN	**P**	**03 11 58.2**	**-2.7**
MRZ				SN	**S**	**03 14 48.0**	**-6.3**
MRZ	**Mangatainoka R**	**17.36**	**191**	*e*P	**P**	**03 11 58.2**	**-2.6**
KIW	**Kapiti Island**	**17.68**	**193**	PN	**P**	**03 12 02.0**	**-1.8**
KIW	**Kapiti Island**	**17.68**	**193**	P	**P**	**03 12 02.0**	**-1.8**
MTW	**Mount Morrison**	**17.85**	**191**	PN	**P**	**03 12 03.0**	**-2.4**
MTW	**Mount Morrison**	**17.85**	**191**	P	**P**	**03 12 03.2**	**-2.2**
CAW	**Cannon Point**	**17.89**	**192**	P	**P**	**03 12 04.8**	**-0.9**
MRW	**Makara Radio**	**18.08**	**193**	PN	**P**	**03 12 06.3**	**-1.2**
MRW	**Makara Radio**	**18.08**	**193**	P	**P**	**03 12 06.3**	**-1.1**
PAWZ	**Paruwai Farm**	**18.08**	**191**	P	**P**	**03 12 06.0**	**-1.5**
MSWZ	**Moikau Station**	**18.15**	**192**	PN	**P**	**03 12 05.8**	**-2.2**
MSWZ				SN	**S**	**03 15 01.3**	**-5.9**
MSWZ	**Moikau Station**	**18.15**	**192**	*e*P	**P**	**03 12 06.4**	**-1.7**
TCW	**Tory Channel**	**18.15**	**194**	P	**P**	**03 12 07.5**	**-0.6**
SNZO	**South Karori**	**18.15**	**193**	*e*P	**P**	**03 12 07.2**	**-0.9**
BHW	**Baring Head**	**18.21**	**193**	P	**P**	**03 12 06.2**	**-2.5**
QRZ	**Quartz Range**	**18.24**	**199**	PN	**P**	**03 12 10.5**	**+1.5**
QRZ				SN	**S**	**03 15 09.9**	**+1.2**
QRZ	**Quartz Range**	**18.24**	**199**	*e*P	**P**	**03 12 10.5**	**+1.6**
NNZ	**Nelson**	**18.37**	**196**	PN	**P**	**03 12 09.5**	**-0.6**
NNZ				SN	**S**	**03 15 06.0**	**-4.8**
NNZ	**Nelson**	**18.37**	**196**	*e*P	**P**	**03 12 09.6**	**-0.5**
BSWZ	**Blackbirch Sta**	**18.72**	**195**	*e*P	**P**	**03 12 12.2**	**-1.1**
RAR	**Rarotonga**	**18.81**	**86**	P	**P**	**03 12 13.4**	**-0.7**
	comp=Z,4.2nm,0.3s,baz=246,slow=5.8,SNR=25						
THZ	**Tophouse**	**19.01**	**197**	PN	**P**	**03 12 15.5**	**-0.4**
THZ				SN	**S**	**03 15 16.4**	**-4.6**
THZ	**Tophouse**	**19.01**	**197**	*e*P	**P**	**03 12 15.5**	**-0.4**
DSZ	**Denniston Nort**	**19.30**	**199**	PN	**P**	**03 12 19.5**	**+0.9**
DSZ				SN	**S**	**03 15 23.4**	**-2.4**
DSZ	**Denniston Nort**	**19.30**	**199**	*e*P	**P**	**03 12 19.5**	**+0.9**
KHZ	**Kahutara**	**19.47**	**195**	PN	**P**	**03 12 19.5**	**-0.6**
KHZ				SN	**S**	**03 15 25.3**	**-3.2**
KHZ	**Kahutara**	**19.47**	**195**	*e*P	**P**	**03 12 19.8**	**-0.3**
LTZ	**Lake Taylor**	**20.13**	**197**	PN	**P**	**03 12 25.8**	**-0.3**
LTZ				SN	**S**	**03 15 34.1**	**-5.0**
LTZ	**Lake Taylor**	**20.13**	**197**	P	**P**	**03 12 25.8**	**-0.3**
MQZ	**McQueen's Vall**	**20.90**	**195**	PN	**P**	**03 12 33.1**	**+0.1**
MQZ				SN	**S**	**03 15 49.5**	**-1.8**
MQZ	**McQueen's Vall**	**20.90**	**195**	*e*P	**P**	**03 12 33.1**	**0.0**
RPZ	**Rata Peaks**	**21.33**	**198**	P	**P**	**03 12 37.6**	**+0.7**
	comp=Z,399nm,0.5s,mb6.3,baz=13,slow=1.9,SNR=86						
RPZ				S	**S**	**03 15 54.7**	**-3.3**
	comp=Z,262nm,1.0s,baz=166,slow=21,SNR=4.3						
RPZ				ScP	ScP	03 19 05.5	+0.6
	comp=Z,103nm,0.6s,baz=288,slow=1.3,SNR=6.7						
RPZ				ScS	ScS	03 22 44.3	-5.2
	comp=Z,9.6nm,0.7s,baz=166,slow=4.2,SNR=3.3						
RPZ	**Rata Peaks**	**21.33**	**198**	PN	**P**	**03 12 36.9**	**-0.1**
RPZ	**Rata Peaks**	**21.33**	**198**	*e*P	**P**	**03 12 36.9**	**0.0**
FOZ	**Fox Glacier**	**21.61**	**201**	PN	**P**	**03 12 38.8**	**-0.7**
FOZ				SN	**S**	**03 15 55.1**	**-7.3**
FOZ	**Fox Glacier**	**21.61**	**201**	*e*P	**P**	**03 12 39.1**	**-0.3**
LBZ	**Lake Benmore**	**22.19**	**199**	PN	**P**	**03 12 43.3**	**-1.4**
LBZ	**Lake Benmore**	**22.19**	**199**	*e*P	**P**	**03 12 43.5**	**-1.2**
JCZ	**Jackson Bay**	**22.37**	**202**	PN	**P**	**03 12 46.0**	**-0.3**
JCZ				SN	**S**	**03 16 10.7**	**-3.8**
JCZ	**Jackson Bay**	**22.37**	**202**	*e*P	**P**	**03 12 46.3**	**0.0**
WKZ	**Wanaka**	**22.95**	**200**	PN	**P**	**03 12 50.6**	**-0.9**
WKZ				SN	**S**	**03 16 18.1**	**-5.6**
WKZ	**Wanaka**	**22.95**	**200**	P	**P**	**03 12 50.8**	**-0.7**
MLZ	**Mavora Lakes**	**23.69**	**201**	PN	**P**	**03 12 58.9**	**+0.9**
MLZ	**Mavora Lakes**	**23.69**	**201**	*e*P	**P**	**03 12 59.4**	**+1.4**
TUZ	**Tuapeka**	**23.78**	**198**	PN	**P**	**03 12 58.7**	**-0.2**
TUZ	**Tuapeka**	**23.78**	**198**	*e*P	**P**	**03 12 58.7**	**-0.2**
HNR	**Honiara**	**23.86**	**303**	P	**P**	**03 12 58.4**	**-1.2**
	comp=Z,2μm,0.9s,mb6.8,baz=228,slow=1.2,SNR=42						
HNR				S	**S**	**03 16 33.1**	**-4.9**
	comp=Z,69nm,0.7s,baz=239,slow=12,SNR=2.9						
HNR	**Honiara**	**23.86**	**303**	*e*P	**P**	**03 12 58.4**	**-1.2**
HNR				pmax	pmax		
	comp=Z,3μm,0.9s						
HNR	**Honiara**	**23.86**	**303**	*e*P	**P**	**03 12 58.4**	**-1.2**
	comp=Z,3μm,0.9s						
DCZ	**Deep Cove**	**24.15**	**203**	PN	**P**	**03 13 03.0**	**+0.9**
DCZ	**Deep Cove**	**24.15**	**203**	*e*P	**P**	**03 13 03.0**	**+0.9**
WHZ	**Wether Hill Ro**	**24.25**	**201**	PN	**P**	**03 13 03.8**	**+0.8**
WHZ	**Wether Hill Ro**	**24.25**	**201**	*e*P	**P**	**03 13 03.8**	**+0.8**
RIV	**Riverview**	**27.20**	**242**	⇓*i*P	**P**	**03 13 31.1**	**+2.1**
RIV				*e*S	**S**	**03 17 32.5**	**+2.2**
RIV				*e*SCP	ScP	03 19 24.3	+2.9
RIV				*e*SCS	ScS	03 23 19.4	+5.6
RIV	**Riverview**	**27.20**	**242**	⇓*i*P	**P**	**03 13 31.1**	**+2.1**
RIV				*e*S	**S**	**03 17 32.5**	**+2.2**
RIV				*e*		03 23 19.4	
TBI	**Tubuai**	**27.94**	**96**	⇑*i*P	**P**	**03 13 35.8**	**+0.3**
	comp=Z,803nm,

comp=Z,137nm,0.9s,baz=113,slow=4.0,SNR=14
ASAR S **S** **03 21 13.9 -0.5**
comp=Z,99nm,1.0s,baz=95,slow=16,SNR=59
ASAR ScS ScS 03 24 37.5 +2.3
comp=Z,41nm,0.9s,baz=97,slow=7.0,SNR=9.7
ASAR P3KPbc 03 44 44.9
comp=Z,4.9nm,0.9s,baz=284,slow=3.7,SNR=22
ASAR P3KP 03 46 22.9
comp=Z,2.7nm,1.1s,baz=294,slow=1.1,SNR=4.3
ASAR PKP2ab 03 48 42.4
comp=Z,3.4nm,0.9s,baz=298,slow=3.3,SNR=5.8
ASAR P4KPbc 03 53 28.4
comp=Z,1.0nm,0.7s,baz=106,slow=4.5,SNR=15
ASAR Alice Springs 42.12 260 P **P** **03 15 34.2 +0.7**
ASAR *PP pP 03 17 09.2 0.0
ASAR S **S** **03 21 13.9 -0.5**
ASAR 03 24 37.6
ASAR Alice Springs 42.12 260 P **P** **03 15 34.2 +0.7**
ASAR pP pP 03 17 09.2 0.0
ASAR ScP ScP 03 20 18.6 +3.4
ASAR S **S** **03 21 13.9 -0.5**
ASAR ScS ScS 03 24 37.5 +2.3
ASAR *e* 03 44 44.9
ASAR PKKKP 03 46 22.9
ASPA Alice Springs 42.12 260⇓ *iP* **P** **03 15 34.2 +0.7**
ASPA *e*SCP ScP 03 20 18.7 +3.5
ASPA *e*S **S** **03 21 13.8 -0.7**
ASPA *e*SCS ScS 03 24 37.3 +2.0
WB2 Warramunga Arr 42.46 266⇓ *iP* **P** **03 15 36.2 +0.1**
WB2 *e*SCP ScP 03 20 20.2 +3.7
WB2 *e*S **S** **03 21 16.8 -2.5**
WB2 *e*SCS ScS 03 24 39.7 +2.3
WRAB Tennant Creek 42.46 266 P **P** **03 15 36.0 -0.2**
comp=Z,10μm,0.9s
WRAB Tennant Creek 42.46 266⇓ *iP* **P** **03 15 36.3 +0.1**
WRAB *e*S **S** **03 21 17.3 -2.0**
WRAB pmax pmax
comp=Z,2μm,0.8s,mb6.6
WRAB Tennant Creek 42.46 266⇓ *iP* **P** **03 15 36.3 +0.1**
comp=Z,2μm,0.8s,mb6.6
WRAB *e*ScP ScP 03 20 18.7 +2.1
WRAB *e*S **S** **03 21 17.2 -2.1**
WRA Warramunga Arr 42.47 266 P **P** **03 15 36.4 +0.2**
comp=Z,1μm,0.6s,mb6.5,baz=102,slow=8.5,SNR=893
WRA pP pP 03 17 11.1 -1.1
comp=Z,38nm,0.6s,baz=100,slow=7.1,SNR=1.1
WRA S **S** **03 21 17.1 -2.3**
comp=Z,483nm,1.2s,baz=100,slow=14,SNR=11
WRA ScS ScS 03 24 40.7 +3.3
comp=Z,35nm,1.1s,baz=100,slow=11,SNR=5.7
WRA P3KPbc 03 44 44.6
comp=Z,5.5nm,0.9s,baz=293,slow=3.1,SNR=22
WRA P3KP 03 46 23.4
comp=Z,1.2nm,0.9s,baz=204,slow=1.9,SNR=4.7
WRA Warramunga Arr 42.47 266 P **P** **03 15 36.4 +0.2**
WRA *PP pP 03 17 11.1 -1.1
WRA S **S** **03 21 17.1 -2.3**
WRA 03 24 40.7
WRA Warramunga Arr 42.47 266 P **P** **03 15 36.4 +0.2**
WRA pP pP 03 17 11.1 -1.1
WRA S **S** **03 21 17.1 -2.3**
WRA ScS ScS 03 24 40.7 +3.2
WRA *e* 03 44 44.6
WRA PKKKP 03 46 23.4
WAKE Wake Island 44.65 342⇑ *eP* **P** **03 15 52.0 -1.1**
comp=Z,1μm,1.3s,mb6.3
PTCN Pitcairn Islan 45.23 102⇑ *eP* **P** **03 15 58.4 +0.8**
comp=Z,2μm,1.3s,mb6.4
POHA Pohakuloa 49.29 31 *eP* **P** **03 16 27.1 -1.0**
comp=Z,647nm,0.8s,mb6.2
POHA *e*PcP PcP 03 17 41.6 +0.6
HON Honolulu 49.56 27⇓ *iP* **P** **03 16 29.2 -1.0**
HON *e* 03 17 42.9
KIP Kipapa 49.65 27⇑ *iP* **P** **03 16 29.7 -1.1**
KIP *e* 03 17 43.3
KIP pmax pmax
comp=Z,603nm,1.3s,mb5.9
KIP Kipapa 49.65 27⇑ *iP* **P** **03 16 29.7 -1.1**
comp=Z,603nm,1.3s,mb5.9
KIP *e*PcP PcP 03 17 43.3 +1.0
DRV Dumont d'Urvil 49.78 200 S **S** **03 23 21.0 +20**
DRV L 03 29 00.0
GUMO Guam 50.54 313 P **P** **03 16 37.5 +0.2**
GUMO pmax pmax
comp=Z,1μm,0.9s,mb6.3
GUMO Guam 50.54 313⇓ *iP* **P** **03 16 37.1 -0.2**
comp=Z,1μm,0.8s,mb6.3
FITZ Fitzroy Crossi 50.89 265⇓ *iP* **P** **03 16 40.6 +0.7**
comp=Z,1μm,1.3s,mb6.1
FITZ *e*SCP ScP 03 20 55.6 +3.6
FITZ *e*S **S** **03 23 16.0 -0.4**
FITZ *e*SCS ScS 03 25 37.8 +4.3
FITZ *e*sS sS 03 26 23.0 +4.4
MIDW Midway 51.64 3 *eP* **P** **03 16 43.5 -1.8**
comp=Z,177nm,0.8s,mb5.4
SBA Scott Base 54.61 183 *eP* **P** **03 17 09.4 +3.0**
SBA pmax pmax
comp=Z,708nm,1.4s,mb5.7
SBA Scott Base 54.61 183 *eP* **P** **03 17 09.4 +3.0**
comp=Z,708nm,1.4s,mb5.7
VNDA Vanda 54.61 185 P **P** **03 17 08.4 +2.0**
comp=Z,55nm,0.7s,mb4.9,baz=359,slow=7.4,SNR=43
VNDA PcP PcP 03 18 01.6 +0.4
comp=Z,53nm,0.7s,baz=335,slow=4.6,SNR=7.5
VNDA pP pP 03 18 48.6 -0.9
comp=Z,17nm,0.9s,baz=133,slow=4.7,SNR=1.3
VNDA ScP ScP 03 21 09.8 +1.6
comp=Z,35nm,0.7s,baz=347,slow=4.6,SNR=8.2
VNDA Vanda 54.61 185 *eP* **P** **03 17 08.9 +2.5**
VNDA *e* 03 18 01.1
VNDA pmax pmax
comp=Z,56nm,0.8s
VNDA Vanda 54.61 185 *eP* **P** **03 17 08.9 +2.5**
comp=Z,56nm,0.8s,mb4.8
VNDA *e*PcP PcP 03 18 01.1 -0.1
VNDA *e*ScP ScP 03 21 09.3 +1.0
KLBR Kellerberrin 55.12 247⇓ *iP* **P** **03 17 10.4 +0.4**
comp=Z,918nm,0.8s,mb6.1
KLBR *e* 03 17 45.6
KLBR *e*pP pP 03 18 52.9 -0.5
KLBR *e*SCP ScP 03 21 11.6 +1.1
KLBR *e*S **S** **03 24 09.9 -2.5**
KLBR *e*SCS ScS 03 26 02.3 -1.3
NWAO Narrogin (SRO) 55.37 245⇓ *iP* **P** **03 17 12.2 +0.5**
NWAO *e**PP pP 03 18 56.2 +1.0
NWAO *e*S **S** **03 24 15.1 -0.6**
NWAO pmax pmax
comp=Z,358nm,1.0s
NWAO Narrogin (SRO) 55.37 245⇓ *iP* **P** **03 17 12.2 +0.5**
comp=Z,358nm,1.0s,mb5.5
NWAO *e*pP pP 03 18 56.2 +1.0
NWAO *e*ScP ScP 03 21 08.7 -2.9
NWAO *e*S **S** **03 24 15.1 -0.6**
MBWA Marble Bar 55.46 260⇓ *iP* **P** **03 17 12.5 +0.1**
comp=Z,90nm,1.1s,mb4.9
MBWA *e*pP pP 03 18 57.3 +1.4
MUN Mundaring 56.37 246⇓ *iP* **P** **03 17 19.2 +0.6**
MUN *e*S **S** **03 24 23.4 -5.1**
MUN *e*SCS ScS 03 26 11.9 -0.8
CASY Casey 60.34 206⇑ *iP* **P** **03 17 45.5 +0.1**
CASY *e*pP pP 03 19 31.3 -0.2
CASY *e*S **S** **03 25 17.1 -1.7**
CASY *e*SCS ScS 03 26 40.6 -1.7
CASY *e*sS sS 03 28 29.7 +1.0
BUKP Musuan 62.17 293 *eP* **P** **03 17 57.5 +0.1**
BUTP Butuan 62.28 295 *eP* **P** **03 17 58.5 +0.4**
CGP Cagayan de Oro 62.79 294⇓ *iP* **P** **03 18 02.4 +1.0**
SCPH Surigao 62.83 295 *eP* **P** **03 18 01.4 -0.3**
RPN Rapa Nui 63.11 110 P **P** **03 18 05.3 +1.8**
comp=Z,5μm,1.2s,mb6.8,SNR=9.9
RPN Rapa Nui 63.11 110 P **P** **03 18 05.4 +1.9**
comp=Z,479nm,0.8s,mb6.0,baz=280,slow=4.6,SNR=31
RPN Rapa Nui 63.11 110⇑ *iP* **P** **03 18 05.3 +1.8**
comp=Z,653nm,0.9s,mb6.1
MSLP Maasin 63.54 295 *eP* **P** **03 18 06.1 -0.2**
PAGZ Pagadian 63.58 292 *eP* **P** **03 18 07.0 +0.5**
TBP Tagbilaran 64.13 294 *eP* **P** **03 18 06.1 -3.9**
comp=Z,1615μm,25.0s
IPIL Ipil 64.23 292 *eP* **P** **03 18 11.0 +0.4**
OCLP Ormoc 64.24 296 *eP* **P** **03 18 10.9 +0.2**
LLP Lapu-Lapu 64.38 295 *eP* **P** **03 18 10.8 -0.8**
comp=Z,270μm,1.2s
SNPH Sibulan 64.47 294 *eP* **P** **03 18 11.5 -0.7**
CNP Cataman 65.00 298 *eP* **P** **03 18 15.7 +0.2**

GUIM Jordan 65.69 295 *eP* **P** **03 18 18.1 -1.7**
PVCP Virac 66.01 298 *eP* **P** **03 18 22.0 +0.2**
QSPA South Pole Qui 66.42 180⇑ *iP* **P** **03 18 26.1 +1.8**
comp=Z,591nm,0.7s,mb6.2
AUQP San Andres 67.06 297 *eP* **P** **03 18 30.1 +1.8**
OTRP Odiongan 67.08 296 *eP* **P** **03 18 27.6 -0.8**
CUYO Cuyo Island 67.12 294 *eP* **P** **03 18 28.7 +0.1**
MIR Mirnyy 67.37 206 *d iP* **P** **03 18 31.0 +0.8**
MIR *i* pP 03 20 21.0 +1.5
MIR *i* S S 03 26 42.0 -1.7
MIR *e*PS 03 27 34.0
MIR *e*PS 03 27 34.0
MIR pmax pmax
comp=Z,387μm,1.2s
MIR pmax pmax
comp=Z,1μm,2.8s,mb6.0
MIR pmax pmax
comp=E,606μm,4.8s
MIR smax
comp=N,2μm,14.0s
MIR smax
comp=E,2μm,14.0s
MIR MLR MLR
comp=N,620nm,18.0s
MIR MLR MLR
comp=E,930nm,18.0s
MIR MLR MLR
comp=Z,2μm,18.0s
GQP Guinayangan 67.56 297⇓ *eP* **P** **03 18 31.2 -0.2**
BOAC Boac 67.81 297 *eP* **P** **03 18 32.0 -0.9**
BUSP Coron 68.40 295 *eP* **P** **03 18 36.5 0.0**
POLP Polilio Island 68.42 298 *eP* **P** **03 18 35.9 -0.7**
ENPP El Nido 68.64 293 *eP* **P** **03 18 38.0 0.0**
BATP Bataraza 68.82 298 *eP* **P** **03 18 39.7 +0.6**
KKM Kota Kinabalu 68.88 287 P **P** **03 18 40.0 +0.6**
KKM Kota Kinabalu 68.88 287⇓ *iP* **P** **03 18 39.9 +0.5**
KKM *e*pP pP 03 20 29.4 +0.1
KKM *e*S S 03 26 59.8 -1.4
TGY Tagaytay City 68.90 297 P **P** **03 18 40.4 +0.9**
comp=Z,240nm,0.4s,baz=176,slow=5.0,SNR=17
LUBP Lubang 69.27 296 *eP* **P** **03 18 39.3 -2.4**
CVP Callao Caves 70.15 301⇓ *eP* **P** **03 18 47.6 +0.6**
SGCP Mt. Cagua 70.28 301 *eP* **P** **03 18 47.6 -0.1**
SCZP Santa Cruz 70.63 298 *eP* **P** **03 18 48.7 -1.1**
APYP Conner 70.70 300 *eP* **P** **03 18 49.9 -0.3**
JOW Kunigami 70.87 312 P **P** **03 18 52.0 +0.7**
comp=Z,521nm,1.0s,mb6.0,baz=141,slow=7.6,SNR=34
BOLP Bolinao 70.95 298 *eP* **P** **03 18 51.5 -0.2**
ABRA Dolores 71.00 300 *eP* **P** **03 18 53.0 +1.0**
MJAR Matsushiro Arr 71.73 326 P **P** **03 18 55.6 -0.7**
comp=Z,31nm,0.8s,mb4.8,baz=158,slow=5.7,SNR=54
MJAR pP pP 03 20 45.3 -2.2
comp=Z,6.6nm,0.8s,baz=155,slow=3.8,SNR=2.5
MJAR S S 03 27 32.6 -0.9
comp=Z,6.4nm,1.1s,baz=106,slow=4.6,SNR=4.4
MJAR PKPPKP 03 46 34.7
comp=Z,9.6nm,1.0s,baz=335,slow=3.5,SNR=10
MJAR Matsushiro Arr 71.73 326 P **P** **03 18 55.6 -0.7**
MJAR *PP pP 03 20 45.3 -2.1
MJAR S S 03 27 32.6 -1.0
MJAR Matsushiro Arr 71.73 326 P **P** **03 18 55.6 -0.7**
MJAR pP pP 03 20 45.3 -2.2
MJAR S S 03 27 32.6 -0.9
MJAR P'P' 03 46 34.7
MAJO Matsushiro 71.73 326 P **P** **03 18 55.8 -0.5**
MAJO pmax pmax
comp=Z,130nm,1.3s,mb5.2
MAJO Matsushiro 71.73 326 *eP* **P** **03 18 55.4 -0.8**
comp=Z,132nm,1.3s,mb5.2
MAT Matsushiro 71.73 326 P **P** **03 18 55.2 -1.1**
MAT S S 03 27 32.0 -1.6
MAT Matsushiro 71.73 326 *eP* **P** **03 18 55.0 -1.3**
MAT *e*S S 03 27 34.0 +0.4
MAT pmax pmax
comp=Z,237nm,1.6s,mb5.4
MAT Matsushiro 71.73 326 *eP* **P** **03 18 55.0 -1.3**
comp=Z,237nm,1.6s,mb5.4
MAT *e*S S 03 27 34.0 +0.4
KSM Kuching 72.11 280⇓ *iP* **P** **03 18 59.0 +0.5**
KSM *e*pP pP 03 20 49.2 -0.6
KSM *e*S S 03 27 34.2 -3.6
NACB Ninganchiao 74.00 306⇓ *iP* **P** **03 19 08.8 -0.5**
NACB *e*pP pP 03 21 01.7 +0.3
YUK Yuzh-Kuril'sk 74.30 335 *eP* **P** **03 19 11.0 0.0**
YUK *i* S S 03 28 04.0 +2.0
YUK *i* 03 28 37.0
YUK pmax pmax
comp=Z,3μm,1.8s,mb6.4
YUK smax
comp=N,16μm,5.0s
YUK smax
comp=E,12μm,5.0s
YHNB Yeheng 74.45 306 *eP* **P** **03 19 11.2 -0.7**
YHNB *e*PP PP 03 22 06.2 -1.5
TATO Taipei 74.55 307⇑ *eP* **P** **03 19 11.5 -0.9**
comp=E,709nm,1.0s,mb6.0
ADK Adak 75.28 2⇑ *iP* **P** **03 19 14.7 -1.8**
ADK pmax pmax
comp=Z,398nm,0.8s,mb5.9
ADK Adak 75.28 2⇑ *iP* **P** **03 19 14.7 -1.7**
comp=Z,398nm,0.8s,mb5.9
SMY Shemya 76.25 356 *eP* **P** **03 19 20.1 -1.7**
SMY pmax pmax
comp=Z,786nm,1.2s,mb6.0
SMY Shemya 76.25 356 *eP* **P** **03 19 20.1 -1.7**
comp=Z,786nm,1.2s,mb6.0
FX1 Attu Island--F 76.46 356 P **P** **03 19 21.7 -1.2**
comp=Z,162nm,0.7s,mb5.6,baz=142,slow=6.5,SNR=27
FX1 S S 03 28 24.6 -0.6
comp=Z,85nm,1.2s,baz=67,slow=19,SNR=5.8
FX1 Attu Island--F 76.46 356 *eP* **P** **03 19 21.4 -1.6**
QZH Quanzhou 76.69 305 *i* PR **P** **03 19 25.3 +1.1**
QZH AP pP 03 21 17.3 -0.1
QZH XP sP 03 22 15.0 +2.6
QZH PP PP 03 22 29.3 +3.1
QZH S S 03 28 28.5 +0.9
QZH SCS ScS 03 28 47.5 -3.5
QZH AMB AMB
comp=Z,290nm,0.9s,mb5.7
QZH AMB AMB
comp=Z,3μm,9.0s
NIKO Nikolski 76.92 7⇑ *iP* **P** **03 19 23.5 -2.0**
YSS Yuzh-Sakhalins 77.94 335 *e iP* **P** **03 19 32.2 +1.1**
YSS *e* 03 19 45.0
YSS *e**PP pP 03 21 22.0 -2.7
YSS *e**SP sP 03 22 12.0 -7.6
YSS *e* 03 22 38.0
YSS *i* S S 03 28 44.0 +3.2
YSS *e* 03 28 55.0
YSS *e* 03 29 02.0
YSS *e*SS SS 03 34 02.0 +5.3
YSS pmax pmax
comp=E,70nm,1.0s
YSS pmax pmax
comp=Z,150nm,1.0s,mb5.3
YSS pmax pmax
comp=Z,1μm,4.0s
YSS pmax pmax
comp=Z,80nm,1.0s,mb5.0
YSS pmax pmax
comp=Z,1μm,4.0s
YSS smax
comp=N,14μm,8.0s
YSS smax
comp=E,2μm,8.0s
YSS Yuzh-Sakhalins 77.94 335⇑ *iP* **P** **03 19 31.2 +0.2**
comp=E,170nm,0.9s,mb5.4
YSS *e*pP pP 03 21 25.8 +1.2
MAW Mawson 77.98 200⇓ *iP* **P** **03 19 32.6 +1.3**
comp=E,249nm,0.8s,mb5.6
MAW Mawson 77.98 200 P **P** **03 19 32.2 +0.9**
comp=E,246nm,0.8s,mb5.6,baz=130,slow=6.5,SNR=43
MAW S S 03 28 40.4 -0.9
comp=E,45nm,1.1s,baz=315,slow=20,SNR=2.5
MAW Mawson 77.98 200⇓ *iP* **P** **03 19 32.6 +1.3**
MAW pmax pmax
comp=Z,249nm,0.8s
UNV Unalaska Valle 78.06 8⇑ *iP* **P** **03 19 29.7 -2.0**
comp=Z,984nm,0.9s,mb6.1
KS15 Wonju Array Si 78.11 320 *eP* **P** **03 19 32.3 +0.3**
SSE Sheshan 78.37 311 *eP* **P** **03 19 34.0 +0.6**
SSE PCP PcP 03 19 40.5 +0.2
SSE AP pP 03 21 27.3 +0.2
SSE XP sP 03 22 23.5 +1.5

SSE PP PP 03 22 38.5 -1.6
SSE S S 03 28 44.0 -1.3
SSE SCS ScS 03 29 03.5 -1.2
SSE XS sS 03 32 08.8 +0.7
SSE AMB AMB
comp=Z,84nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,658nm,6.4s
PET Petropavlovsk 78.61 347⇑ *iP* **P** **03 19 33.0 -1.6**
PET pmax pmax
comp=Z,90nm,0.9s,mb5.1
PET Petropavlovsk 78.61 347⇑ *iP* **P** **03 19 33.0 -1.6**
comp=Z,90nm,0.9s,mb5.1
PET pP pP 03 21 30.3 +1.8
HKC Hong Kong 78.67 300⇓ *iP* **P** **03 19 30.0 -5.0**
HKC *i* S S 03 28 50.0 +1.5
KGM Kluang 78.68 277 P **P** **03 19 36.2 +1.2**
INCN Inchon 78.88 319 *eP* **P** **03 19 36.6 +0.6**
comp=Z,69nm,1.0s,mb4.9
PMSA Palmer Station 79.10 157 *eP* **P** **03 19 36.6 -0.6**
comp=Z,202nm,1.0s,mb5.4
GZH Guangzhou 79.73 301 P **P** **03 19 42.5 +1.9**
GZH S S 03 28 54.3 -5.1
SDPT Sand Point 80.44 11 *eP* **P** **03 19 42.4 -1.9**
comp=Z,778nm,1.2s,mb5.9
QIZ Qiongzhong 80.54 296 *i* PR **P** **03 19 44.0 -0.8**
QIZ S S 03 29 05.3 -2.3
QIZ AMB AMB
comp=Z,688nm,9.4s
QIZ Qiongzhong 80.54 296 *eP* **P** **03 19 45.8 +1.0**
comp=Z,84nm,1.5s,mb5.0
NJ2 Nanjing 80.54 311 *eP* **P** **03 19 46.0 +1.2**
NJ2 AP pP 03 21 42.3 +2.9
NJ2 S S 03 29 07.0 -0.7
NJ2 XS sS 03 32 31.0 -0.8
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,460nm,8.9s
SAC San Andreas 81.45 43 *eP* **P** **03 19 49.6 +0.1**
SAO San Andreas Ge 81.56 44⇑ *iP* **P** **03 19 50.3 +0.3**
SAO pmax pmax
comp=Z,441nm,1.0s,mb5.8
SAO San Andreas Ge 81.56 44⇑ *iP* **P** **03 19 50.3 +0.2**
comp=Z,441nm,1.0s,mb5.8
LRV Little Rabbit 81.62 44 *eP* **P** **03 19 50.9 +0.5**
PTRM Twissleman Ran 81.68 45 *eP* **P** **03 19 51.2 +0.5**
IPM Ipoh 81.78 279 P **P** **03 19 52.1 +1.0**
NSHM Saint Helena R 81.92 42 *eP* **P** **03 19 52.2 +0.3**
HOPS Hopland 81.94 41⇑ *iP* **P** **03 19 52.4 +0.5**
comp=Z,617nm,1.1s,mb6.0
KCPM Cahto Peak 82.07 40⇑ *iP* **P** **03 19 53.4 +0.7**
MDJ Mudanjiang 82.10 326 P **P** **03 19 53.0 +0.2**
MDJ AP pP 03 21 47.5 -0.4
MDJ XP sP 03 22 42.3 -0.1
MDJ PP PP 03 23 11.5 +1.0
MDJ S S 03 29 16.8 -6.5
MDJ XS sS 03 32 50.0 +1.5
MDJ AMB AMB
comp=Z,77nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,427nm,3.8s
MDJ Mudanjiang 82.10 326 *eP* **P** **03 19 52.4 -0.4**
comp=Z,214nm,1.4s,mb5.4
MDJ *e*pP pP 03 21 49.2 +1.3
KIPM Iron Peak 82.21 40 *eP* **P** **03 19 54.2 +0.9**
MWC Mount Wilson 82.27 48⇑ *iP* **P** **03 19 53.9 +0.2**
HABR Khabarovsk 82.33 332⇑ *iP* **P** **03 19 54.9 +0.9**
HABR *i* S S 03 29 22.7 -2.9
HABR pmax pmax
comp=Z,363nm,1.5s,mb5.6
BAR Barrett 82.34 49⇑ *iP* **P** **03 19 54.1 0.0**
KULM Kulim 82.45 279⇓ *iP* **P** **03 19 55.5 +0.9**
KULM *e*pP pP 03 21 49.0 -0.8
KULM *e*PP PP 03 23 12.8 -0.5
USHA Ushuaia 82.47 147 P **P** **03 19 55.6 +0.9**
comp=Z,90nm,1.1s,mb5.1,baz=210,slow=7.4,SNR=19
USHA PKKPbc PKKPbc 03 38 15.7 -0.4
comp=Z,8.3nm,0.8s,baz=40,slow=5.4,SNR=3.7
LPIG La Paz 82.56 60⇑ *iP* **P** **03 19 55.6 +0.4**
KHMM Horse Mountain 82.74 39⇑ *iP* **P** **03 19 57.0 +1.0**
DL2 Dalian 82.82 318 P **P** **03 19 58.5 +2.1**
DL2 AP pP 03 21 52.0 +0.2
DL2 PP PP 03 23 14.5 -1.8
DL2 SKS 03 29 24.0
DL2 S S 03 29 32.5 +2.0
DL2 XS sS 03 32 57.8 +1.6
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
ISA Isabella 82.83 46⇑ *iP* **P** **03 19 56.8 +0.3**
ISA pmax pmax
comp=Z,4.0nm,0.2s
ISA Isabella 82.83 46⇑ *iP* **P** **03 19 56.8 +0.3**
comp=Z,3.7nm,0.2s
CMB Columbia Colle 83.00 43⇑ *iP* **P** **03 19 57.4 +0.1**
CMB pmax pmax
comp=Z,435nm,1.0s,mb5.9
CMB Columbia Colle 83.00 43⇑ *iP* **P** **03 19 57.4 0.0**
comp=Z,435nm,1.0s,mb5.9
PFO Pinyon Flat Ob 83.02 49 P **P** **03 19 58.0 +0.6**
comp=Z,922nm,1.4s,mb6.1,SNR=75
PFO Pinyon Flat Ob 83.02 49⇑ *iP* **P** **03 19 57.9 +0.5**
PFO pmax pmax
comp=Z,275nm,1.3s,mb5.6
PFO Pinyon Flat Ob 83.02 49⇑ *iP* **P** **03 19 57.9 +0.4**
comp=Z,275nm,1.3s,mb5.6
OHCM Honcut 83.11 42⇑ *eP* **P** **03 19 57.8 -0.1**
SYO Syowa Base 83.25 193⇑ *iPcP* PcP 03 19 59.5 -2.2
SYO Syowa Base 83.25 193⇓ *e*pP pP 03 21 54.4 +0.3
SYO Syowa Base 83.25 193⇓ *e*PKiKP PKiKP 03 25 08.7 -3.2
SYO Syowa Base 83.25 193⇓ *iP* **P** **03 19 58.1 -0.5**
SYO ⇑ *i*PcP PcP 03 19 59.5 -2.2
WDC Whiskeytown Da 83.25 40⇑ *iP* **P** **03 19 58.9 +0.3**
WDC pmax pmax
comp=Z,475nm,1.1s,mb5.9
WDC Whiskeytown Da 83.25 40⇑ *iP* **P** **03 19 58.9 +0.3**
comp=Z,475nm,1.1s,mb5.9
KBO Bosley Butte 83.31 38⇑ *iP* **P** **03 19 59.8 +0.9**
SNY Shenyang 83.50 321 ⇑P **P** **03 19 59.5 -0.3**
SNY XP sP 03 22 49.0 -0.8
SNY PP PP 03 23 20.3 -1.4
SNY SKS 03 29 27.3
SNY S S 03 29 40.5 +3.4
SNY AMB AMB
comp=Z,40nm,0.8s,mb5.0
KEBM Edson Butte 83.68 38⇑ *iP* **P** **03 20 01.4 +0.7**
CN2 Changchun 83.73 324 *eP* **P** **03 20 00.8 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.2s
CN2 AMB AMB
comp=Z,200nm,4.0s
YBH Yreka Blue Hor 83.88 39 P **P** **03 20 02.4 +0.7**
comp=Z,196nm,0.9s,mb5.6,baz=176,slow=2.4,SNR=161
YBH S S 03 29 36.6 -4.2
comp=Z,0.5nm,0.3s,baz=131,slow=11,SNR=2.5
YBH Yreka Blue Hor 83.88 39 P **P** **03 20 02.1 +0.4**
YBH pmax pmax
comp=Z,170nm,0.9s
YBH Yreka Blue Hor 83.88 39⇑ *iP* **P** **03 20 02.2 +0.5**
comp=Z,165nm,0.9s,mb5.6
TIA Tai'an 84.11 314 ⇑P **P** **03 20 03.3 +0.5**
TIA S 03 29 35.0
TIA AMB AMB
comp=Z,221nm,1.6s,mb5.4
WCN Washoe City 84.16 43⇑ *iP* **P** **03 20 03.4 +0.3**
WCN pmax pmax
comp=Z,438nm,1.1s,mb5.9
WCN Washoe City 84.16 43⇑ *iP* **P** **03 20 03.4 +0.3**
comp=Z,438nm,1.1s,mb5.9
HUMO Hull Mountain 84.29 38⇑ *iP* **P** **03 20 04.4 +0.7**
comp=Z,481nm,1.1s,mb5.9
HUMO *e*pP pP 03 22 01.4 +1.8
KDAK Kodiak Island 84.31 14 P **P** **03 20 03.3 -0.5**
comp=Z,1μm,1.1s,mb6.3,SNR=11
KDAK Kodiak Island 84.31 14 P **P** **03 20 02.8 -1.0**
comp=Z,142nm,0.9s,mb5.5,baz=180,slow=3.0,SNR=27
KDAK S 03 29 43.9
comp=Z,18nm,1.1s,baz=125,slow=19,SNR=4.1
KLR Kul'dur 84.35 331 *eP* **P** **03 20 01.5 -2.5**
KLR *e* pP 03 21 55.0 -5.0
KLR *e* 03 23 25.0
KLR *i* S 03 29 31.5
KLR *i* 03 29 48.0
KLR pmax pmax

comp=E,600nm,8.0s
KLR pmax pmax
comp=Z,2µm,8.0s
KLR pmax pmax
comp=E,230nm,3.0s
KLR pmax pmax
comp=Z,900nm,3.0s
TAKO Tahkenitch 84.39 37 P **P 03 20 04.7 +0.4**
BUOR Burton Butte 84.49 39 P **P 03 20 05.3 +0.6**
NVAR Mina Array Bea 84.55 44 P **P 03 20 05.2 +0.2**
comp=Z,200nm,1.0s,mb5.6,baz=211,slow=5.0,SNR=312
NVAR pP pP 03 22 00.9 -0.1
comp=Z,0.8nm,0.5s,baz=242,slow=31,SNR=1.7
NVAR S 03 29 40.5
comp=Z,1.6nm,1.1s,baz=262,slow=6.9,SNR=2.0
NVAR PKKPbc PKKPbc 03 38 14.0 +2.7
comp=Z,1.6nm,0.8s,baz=68,slow=4.8,SNR=8.5
NVAR PKPPKP 03 46 11.9
comp=Z,1.7nm,1.0s,baz=91,slow=4.3,SNR=6.3
NVAR Mina Array Bea 84.55 44 P **P 03 20 05.2 +0.2**
NVAR pP pP 03 22 00.9 -0.1
NVAR S 03 29 40.5
NVAR PKKPbc PKKPbc 03 38 14.0 +2.7
NVAR P'P' 03 46 11.9
BBOR Butler Butte 84.62 38 P **P 03 20 05.7 +0.4**
MNV Mina 84.65 44⇑*i*P **P 03 20 05.4 -0.1**
MNV *e**PP pP 03 22 03.0 +1.5
MNV pmax pmax
comp=Z,214nm,1.0s,mb5.6
MNV Mina 84.65 44⇑*i*P **P 03 20 05.4 -0.1**
comp=Z,214nm,1.0s,mb5.6
MNV *e*pP pP 03 22 03.0 +1.4
LDFC Landfair 84.76 48⇑*i*P **P 03 20 07.0 +0.9**
HOG Hogback Mounta 84.78 39 P **P 03 20 06.7 +0.6**
SNAA Sanae 84.90 179 P **P 03 20 06.2 -0.5**
comp=Z,19nm,0.6s,mb4.8,baz=207,slow=6.4,SNR=101
SNAA pP pP 03 22 03.2 +0.4
comp=Z,48nm,1.1s,baz=218,slow=5.7,SNR=3.4
SNAA S 03 29 38.3
comp=Z,3.8nm,0.8s,baz=184,slow=23,SNR=11
SNAA PKKPbc PKKPbc 03 38 09.9 -0.7
comp=Z,2.3nm,0.7s,baz=262,slow=19,SNR=8.9
SNAA Sanae 84.90 179⇑*i*P **P 03 20 06.0 -0.7**
SNAA *e**PP pP 03 22 03.3 +0.5
SNAA pmax pmax
comp=Z,64nm,0.7s
SNAA Sanae 84.90 179⇑*i*P **P 03 20 06.0 -0.7**
comp=Z,64nm,0.7s,mb5.3
SNAA *e*pP pP 03 22 03.3 +0.5
VNA3 Neumayer Olymp 85.10 177⇑*i*P **P 03 20 07.4 -0.3**
VNA3 *e* 03 20 09.6
VNA3 *e* 03 20 28.9
VNA3 *e* 03 21 11.2
VNA3 *e* pP 03 22 05.5 +1.6
VNA3 *e* 03 22 12.0
VNA3 *e* 03 29 51.7
VNA3 *e* 03 38 07.6
EUO Eugene 85.13 37 P **P 03 20 08.3 +0.4**
KKTK Khon Kaen 85.24 290⇓*i*P **P 03 20 10.0 +1.6**
comp=Z,741nm,0.8s,mb6.3
MAIG Mazatlaan 85.24 62⇑*i*P **P 03 20 09.2 +0.8**
NEN Nelson 85.25 48 *e*P **P 03 20 08.5 +0.1**
NEN *e*PP PP 03 23 34.5 -1.3
COR Corvallis 85.36 37 P **P 03 20 09.4 +0.4**
COR SKSac SKSac 03 29 42.4 -0.5
COR ScS ScS 03 29 59.9 -2.2
COR Corvallis 85.36 37⇑*i*P **P 03 20 09.2 +0.3**
COR pmax pmax
comp=Z,128nm,0.9s,mb5.5
COR Corvallis 85.36 37⇑*i*P **P 03 20 09.2 +0.3**
comp=Z,128nm,0.9s,mb5.5
MOD Modoc 85.39 40⇑*i*P **P 03 20 09.2 +0.1**
comp=Z,358nm,1.0s,mb5.8
HBO Huckleberry Mo 85.43 38 P **P 03 20 09.6 +0.3**
NVL N'lazarevskaya 85.46 184⇓*i*P **P 03 20 11.2 +1.8**
NVL *e**PP pP 03 22 08.6 +2.9
NVL *e* 03 25 37.2
NVL pmax pmax
comp=Z,237nm,0.8s,mb5.8
VNA2 Neumayer--Watz 85.52 178⇑*i*P **P 03 20 09.7 0.0**
VNA2 *e* 03 20 11.8
VNA2 *e* 03 20 16.0
VNA2 *e* 03 20 30.4
VNA2 *e* 03 21 12.7
VNA2 *e* pP 03 22 07.5 +1.4
VNA2 *e* 03 22 14.8
VNA2 *e* 03 29 41.3
VNA2 *e* 03 29 56.1
VNA2 *e* 03 38 07.3
BKCOR Black Crater 86.07 38 P **P 03 20 12.7 +0.4**
PINOR Pine Mountain 86.23 38 P **P 03 20 13.9 +0.8**
NNT Nongplab 86.32 285 P **P 03 20 16.5 +3.0**
TUC Tucson 86.34 52 P **P 03 20 15.0 +1.3**
TUC SKSac SKSac 03 29 51.6 +2.7
TUC ScS ScS 03 30 13.7 +3.4
TUC sSKSac 03 33 37.2
TUC Tucson 86.34 52 P **P 03 20 14.6 +1.0**
TUC pmax pmax
comp=Z,470nm,1.0s,mb6.1
TUC Tucson 86.34 52⇑*i*P **P 03 20 14.7 +1.1**
comp=Z,468nm,1.0s,mb6.1
ENH Enshi 86.35 305 *e*P **P 03 20 13.6 -0.1**
comp=Z,183nm,1.1s,mb5.6
ENH *e*pP pP 03 22 10.5 +0.2
MA2 Magadan 86.36 346⇑*i*P **P 03 20 12.2 -1.5**
MA2 pmax pmax
comp=Z,290nm,0.9s,mb5.9
MA2 Magadan 86.36 346⇑*i*P **P 03 20 12.2 -1.5**
comp=Z,290nm,0.9s,mb5.9
MA2 *e*pP pP 03 22 11.9 +1.5
GYA Guiyang 86.67 301 P **P 03 20 16.0 +0.8**
GYA AP pP 03 22 13.8 +1.9
GYA XP sP 03 23 07.5 +1.4
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,390nm,6.5s
WVOR Wild Horse Val 86.70 41⇑*i*P **P 03 20 15.4 +0.1**
WVOR pmax pmax
comp=Z,540nm,1.3s,mb6.0
WVOR Wild Horse Val 86.70 41⇑*i*P **P 03 20 15.4 0.0**
comp=Z,540nm,1.3s,mb6.0
SVW2 Sparrevohn 86.74 12 *e*P **P 03 20 13.7 -1.8**
SFJM Santa Fe 86.80 66 *i*P **P 03 20 16.0 +0.2**
BJT Baijiatuau 86.89 316 *e*P **P 03 20 16.1 -0.1**
BJT *e**PP pP 03 22 12.5 -0.5
BJT pmax pmax
comp=Z,55nm,0.9s
BJT Baijiatuau 86.89 316 *e*P **P 03 20 16.1 -0.1**
comp=Z,55nm,0.9s,mb5.2
BJT *e*pP pP 03 22 12.5 -0.5
OCWA Octopus Mounta 86.93 34⇑*i*P **P 03 20 17.1 +0.7**
comp=Z,521nm,1.1s,mb6.1
NST Nakhon Sawan 87.28 288 P **P 03 20 20.0 +2.0**
comp=Z,167nm,0.9s,mb5.7
SLKM Skilak Lake 87.30 14 *e*P **P 03 20 16.7 -1.4**
SLKM *e*pP pP 03 22 15.7 +0.6
ARUT Antelope Range 87.36 47 *e*P **P 03 20 18.9 +0.5**
LON Longmire 87.54 36 P **P 03 20 19.0 -0.2**
WUAZ Wupatki 87.57 49⇑*i*P **P 03 20 19.8 +0.4**
comp=Z,377nm,1.2s,mb6.0
WUAZ *e*pP pP 03 22 17.5 +1.1
WUAZ *e*PP PP 03 23 52.1 -2.1
CAIG El Cayaco 87.66 70⇑*i*P **P 03 20 21.0 +1.1**
ELK Elko 87.82 43 P **P 03 20 20.7 +0.1**
comp=Z,123nm,0.9s,mb5.6,baz=231,slow=4.5,SNR=171
ELK S 03 30 01.0
comp=Z,1.3nm,0.8s,baz=78,slow=16,SNR=5.7
ELK PKKPbc PKKPbc 03 38 05.0 +1.4
comp=Z,2.5nm,1.0s,baz=102,slow=8.6,SNR=3.9
ELK PKPPKP 03 46 08.3
comp=Z,0.4nm,0.4s,baz=117,slow=4.5,SNR=2.4
ELK Elko 87.82 43⇑*i*P **P 03 20 20.6 0.0**
ELK *e**PP pP 03 22 19.0 +1.3
ELK pmax pmax
comp=Z,143nm,0.9s
ELK Elko 87.82 43⇑*i*P **P 03 20 20.6 0.0**
comp=Z,143nm,0.9s,mb5.7
ELK *e*pP pP 03 22 19.0 +1.3
FIB Fire Island 87.90 14 P **P 03 20 20.1 -0.8**
FIB pmax pmax
comp=Z,390nm,0.9s,mb6.1
FIB Fire Island 87.90 14⇑*e*P **P 03 20 20.0 -0.9**
comp=Z,391nm,0.9s,mb6.1
RMW Rattlesnake Mo 87.98 35 P **P 03 20 21.5 +0.2**
MOIG Morelia 88.01 68⇑*i*P **P 03 20 22.0 +0.6**
MRX Morelia 88.02 68 *e*P **P 03 20 21.5 0.0**
BBB Bella Bella 88.03 29 P **P 03 20 21.6 0.0**
comp=Z,295nm,0.9s,mb6.0,baz=242,slow=5.3,SNR=42
CRAG Craig 88.33 25 *e*P **P 03 20 23.1 +0.1**
comp=Z,340nm,1.1s,mb6.0
PLCA Paso Flores 88.39 134 P **P 03 20 24.9 +1.6**
comp=Z,121nm,1.2s,mb5.5,baz=241,slow=3.9,SNR=44
PLCA pP pP 03 22 23.0 +2.4
comp=Z,22nm,1.1s,baz=240,slow=4.9,SNR=5.1
PLCA PKKPbc PKKPbc 03 38 02.1 -0.1
comp=Z,5.2nm,0.9s,baz=42,slow=3.1,SNR=8.1
PLCA SKKPbc 03 40 51.5
comp=Z,2.8nm,0.9s,baz=68,slow=2.1,SNR=3.8
PLCA PKPPKP 03 46 06.8
comp=Z,5.7nm,1.0s,baz=39,slow=3.6,SNR=6.2
PLCA Paso Flores 88.39 134⇑*i*P **P 03 20 24.7 +1.5**
PLCA *e**PP pP 03 22 23.7 +3.1
PLCA pmax pmax
comp=Z,325nm,1.4s
PLCA Paso Flores 88.39 134⇑*i*P **P 03 20 24.7 +1.5**
comp=Z,325nm,1.4s,mb5.9
PLCA *e*pP pP 03 22 23.7 +3.2
TBM Table Mountain 88.45 36 P **P 03 20 23.6 +0.1**
PMR Palmer 88.51 14 *e*P **P 03 20 22.2 -1.6**
PMR pmax pmax
comp=Z,458nm,1.2s,mb6.2
PMR Palmer 88.51 14 *e*P **P 03 20 22.2 -1.6**
comp=Z,458nm,1.2s,mb6.2
HAWA Hanford 88.56 37⇑*i*P **P 03 20 23.9 -0.1**
comp=Z,31nm,0.9s,mb5.1
MSU Marysvale 88.59 47⇑*e*P **P 03 20 25.1 +0.9**
SIT Sitka 88.72 23 P **P 03 20 24.4 -0.4**
SIT pmax pmax
comp=Z,190nm,1.0s,mb5.9
SIT Sitka 88.72 23 *e*P **P 03 20 24.6 -0.2**
comp=Z,271nm,1.2s,mb6.0
SML Sawmill 88.88 14⇑*i*P **P 03 20 23.9 -1.6**
SML *e**PP pP 03 22 22.8 -0.2
PLIG Platanillo 88.89 69⇑*i*P **P 03 20 27.1 +1.5**
DIV Divide 88.90 16⇑*i*P **P 03 20 23.1 -2.5**
comp=Z,1µm,1.0s,mb6.6
DIV *e*pP pP 03 22 21.4 -1.7
BMO Blue Mountains 88.90 39⇑*i*P **P 03 20 25.3 -0.3**
comp=Z,204nm,0.9s,mb6.0
SEY Seymchan 89.05 348 *i*P **P 03 20 25.6 -0.7**
SEY *PP pP 03 22 23.0 -0.8
SEY *SP sP 03 23 15.8 -1.9
SEY 03 24 06.6
SEY *e*PPP 03 26 05.9
SEY *e* 03 30 01.1
SEY *e*S 03 30 25.2
SEY pmax pmax
comp=Z,90nm,1.0s,mb5.5
SEY pmax pmax
comp=N,40nm,0.8s
SEY pmax pmax
comp=E,70nm,0.8s
SEY smax
comp=N,7µm,20.3s
SEY smax
comp=E,8µm,25.7s
SEY Seymchan 89.05 348⇑*i*P **P 03 20 25.4 -0.9**
DUG Dugway 89.07 45⇑*i*P **P 03 20 26.3 -0.1**
DUG *e* 03 24 04.2
DUG pmax pmax
comp=Z,178nm,1.2s,mb5.8
DUG Dugway 89.07 45⇑*i*P **P 03 20 26.3 -0.1**
comp=Z,178nm,1.2s,mb5.8
DUG *e*PP PP 03 24 04.2 -1.8
WTV Waterville 89.12 36 P **P 03 20 26.3 -0.3**
KMI Kunming 89.20 298 P **P 03 20 28.5 +1.5**
KMI PP PP 03 24 09.8 +2.8
KMI SKS 03 30 08.0
KMI S 03 30 34.5
KMI XS sS 03 34 05.5 +4.9
KMI AMB AMB
comp=Z,69nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,345nm,3.1s
PNIG Pinotepa 89.24 72⇑*i*P **P 03 20 28.0 +0.8**
BGU Big Grassy Mou 89.32 44⇑*i*P **P 03 20 31.1 +3.6**
BGU *e*PP PP 03 24 07.9 -0.1
EFI East Falkland 89.38 148 P **P 03 20 28.2 +0.4**
comp=Z,648nm,0.9s,mb6.5,SNR=12
NLU North Lily Min 89.42 45⇑*i*P **P 03 20 26.1 -1.9**
TNA Tin City 89.42 5⇑*i*P **P 03 20 26.9 -1.2**
comp=Z,152nm,1.1s,mb5.7
TNA *e*pP pP 03 22 24.1 -1.5
PAYG Puerto Ayora 89.42 90 P **P 03 20 30.4 +2.3**
PAYG Puerto Ayora 89.42 90⇑*i*P **P 03 20 30.4 +2.3**
comp=Z,246nm,1.3s,mb5.9
YAIG Yautepec 89.47 69⇑*i*P **P 03 20 29.3 +1.1**
UNM Universidad Na 89.57 69⇑*i*P **P 03 20 29.3 +0.6**
OD2 Odessa Site #2 89.61 37 P **P 03 20 28.7 -0.2**
TMUT Trail Mountain 89.65 46⇑*i*P **P 03 20 30.0 +1.0**
TMUT *e*pP pP 03 22 29.1 +2.4
TMUT *e*PP PP 03 24 09.4 -1.1
MPU Maple Canyon 89.74 46⇑*i*P **P 03 20 29.8 +0.3**
comp=Z,298nm,0.9s,mb6.1
NOQ North Oquirrh 89.76 45⇑*i*P **P 03 20 29.6 0.0**
comp=Z,336nm,1.0s,mb6.1
HLID Hailey 89.89 41⇑*i*P **P 03 20 30.4 +0.2**
comp=Z,25nm,0.4s,mb5.4
HLID *e*pP pP 03 22 29.5 +1.7
HLID *e*PP PP 03 24 11.1 -1.3
SPUT South Promonto 89.89 44⇑*i*P **P 03 20 30.4 +0.2**
SPUT *e*pP pP 03 22 29.2 +1.4
SPUT *e*PP PP 03 24 11.2 -1.3
PPM Popocatepetl 89.93 69 *i*P **P 03 20 31.0 +0.6**
HVU Hansel Valley 89.94 44⇑*i*P **P 03 20 30.6 +0.2**
HVU *e* 03 24 11.6
HVU pmax pmax
comp=Z,380nm,1.0s,mb6.2
HVU Hansel Valley 89.94 44⇑*i*P **P 03 20 30.6 +0.2**
comp=Z,380nm,1.0s,mb6.2
HVU *e*PP PP 03 24 11.6 -1.2
SRU San Rafael 90.00 47⇑*i*P **P 03 20 30.9 +0.2**
SRU *e**PP pP 03 22 30.3 +1.9
SRU *e* 03 24 10.3
SRU pmax pmax
comp=Z,716nm,1.0s,mb6.5
SRU San Rafael 90.00 47⇑*i*P **P 03 20 30.9 +0.2**
comp=Z,716nm,1.0s,mb6.5
SRU *e*pP pP 03 22 30.3 +1.9
SRU *e*PP PP 03 24 10.3 -3.0
CTU Camp Tracy 90.02 45 *e*P **P 03 20 30.9 +0.2**
comp=Z,438nm,1.0s,mb6.2
LAZ Ladron 90.03 52 *e*P **P 03 20 31.3 +0.5**
LAZ *e*pP pP 03 22 31.1 +2.6
LENM Lemitar 90.03 52 *e*P **P 03 20 31.5 +0.7**
LENM *e*pP pP 03 22 30.5 +2.0
MNTX Cornudas Mount 90.04 55⇑*i*P **P 03 20 31.4 +0.5**
comp=Z,215nm,0.9s,mb6.0
DAU Daniels Canyon 90.19 45 *e*P **P 03 20 32.0 +0.4**
HIA Hailar 90.23 325 P **P 03 20 31.1 -0.7**
HIA pP pP 03 22 27.5 -2.0
HIA SKSac SKSac 03 30 09.6 -2.1
HIA S 03 30 40.9
HIA Hailar 90.23 325⇑*i*P **P 03 20 30.8 -1.0**
HIA *e* 03 24 12.3
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 90.23 325⇑*i*P **P 03 20 30.8 -1.0**
comp=Z,21nm,0.9s,mb5.0
HIA *e*pP pP 03 22 30.6 +1.2
HIA *e*PP PP 03 24 12.3 -2.8
LTX Lajitas 90.27 58⇑*i*P **P 03 20 32.8 +0.9**
LTX pmax pmax
comp=Z,238nm,0.9s,mb6.0
LTX Lajitas 90.27 58⇑*i*P **P 03 20 32.8 +0.8**
comp=Z,238nm,0.9s,mb6.0
BNM Barren Site 90.28 53⇑*e*P **P 03 20 32.5 +0.6**
BNM *e*pP pP 03 22 31.6 +2.0
HHC Hu-ho-hao-te 90.29 315 *e*P **P 03 20 33.0 +1.0**
HHC AP pP 03 22 34.0 +4.3
HHC XP sP 03 23 27.5 +4.0
HHC PP PP 03 24 18.8 +3.3
HHC SKS 03 30 12.0
HHC S 03 30 40.5
HHC SS SS 03 37 00.3 +3.8
HHC AMB AMB
comp=Z,55nm,1.6s,mb5.1
HHC AMB AMB
comp=Z,445nm,3.9s
LPM Los Pinos Moun 90.35 52 *e*P **P 03 20 32.8 +0.5**
LPM *e*pP pP 03 22 32.8 +2.8
MCK McKinley 90.45 13⇑*i*P **P 03 20 30.8 -2.0**
MCK *e**PP pP 03 22 29.5 -1.0
MCK pmax pmax
comp=Z,13nm,0.3s,mb5.2
MCK McKinley 90.45 13⇑*i*P **P 03 20 30.8 -2.0**
comp=Z,13nm,0.3s,mb5.2
MCK *e*pP pP 03 22 29.5 -1.0
TCUT Toone Canyon 90.46 45⇑*i*P **P 03 20 33.3 +0.4**
TCUT *e*PP PP 03 24 14.7 -2.2
HWUT Hardware Ranch 90.62 44⇑*i*P **P 03 20 33.2 -0.3**
comp=Z,153nm,0.9s,mb5.9
HWUT *e*PP PP 03 24 16.6 -1.5
PV10 Paradox Valley 90.64 48 *e*P **P 03 20 33.3 -0.3**
VHO Vista Hermosa 90.74 72⇑*i*P **P 03 20 35.3 +1.2**
HUIG Huatulco 90.75 73⇑*i*P **P 03 20 35.4 +1.2**
OXX Oaxaca 90.75 72 *i*P **P 03 20 35.0 +0.8**
ANMO Albuquerque 90.78 52 P **P 03 20 34.7 +0.4**
comp=Z,212nm,1.0s,mb6.0,baz=225,slow=5.0,SNR=208
ANMO S 03 30 15.7
comp=Z,0.3nm,0.4s,baz=59,slow=20,SNR=6.9
ANMO SKKP 03 40 43.5
comp=Z,1.6nm,0.9s,baz=126,slow=3.9,SNR=3.6
ANMO PKPPKP 03 46 08.2
comp=Z,0.4nm,0.3s,baz=135,slow=1.4,SNR=4.1
ANMO Albuquerque 90.78 52⇑*i*P **P 03 20 34.5 +0.2**
ANMO *e* 03 24 17.0
ANMO pmax pmax
comp=Z,287nm,1.1s
ANMO Albuquerque 90.78 52⇑*i*P **P 03 20 34.5 +0.2**
comp=Z,287nm,1.1s,mb6.1
ANMO *e*PP PP 03 24 17.0 -2.3
PV01 Paradox Valley 90.84 48 *e*P **P 03 20 34.3 -0.3**
MENT Mentasta 90.96 16 *e*P **P 03 20 33.9 -1.2**
NEW Newport 90.98 36 P **P 03 20 34.4 -0.8**
comp=Z,39nm,0.8s,mb5.4,baz=229,slow=3.3,SNR=55
NEW PKKPbc PKKPbc 03 37 57.4 +1.5
comp=Z,1.1nm,0.6s,baz=68,slow=5.4,SNR=5.5
NEW Newport 90.98 36⇑*i*P **P 03 20 34.1 -1.2**
comp=Z,40nm,0.8s,mb5.4
CD2 Chengdu 90.99 303 P **P 03 20 36.8 +1.5**
CD2 PP PP 03 24 19.5 -1.5
CD2 SKS 03 30 11.8
CD2 S 03 30 45.0
CD2 SS SS 03 37 05.8 -0.7
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,250nm,5.7s
GDL2 Guadalupe Moun 91.04 55 *e*P **P 03 20 35.8 +0.3**
BTO Baotou 91.17 314 *e*P **P 03 20 36.0 -0.1**
AHID Auburn Hatcher 91.51 43⇑*i*P **P 03 20 37.5 -0.2**
comp=Z,375nm,1.0s,mb6.4
MCMT McKenzie Canyo 91.52 41 *e*P **P 03 20 37.7 0.0**
MCMT *e*pP pP 03 22 39.0 +3.4
COLA College 91.68 13⇑*i*P **P 03 20 35.9 -2.5**
COLA pmax pmax
comp=Z,115nm,0.9s,mb5.9
COLA College 91.68 13⇑*i*P **P 03 20 35.9 -2.6**
comp=Z,115nm,0.9s,mb5.9
COLA *e*pP pP 03 22 37.2 +0.9
CPRX Cap Rock 91.79 55 *e*P **P 03 20 40.0 +1.1**
CPRX *e*PP PP 03 24 27.1 -0.1
ILAR Eielson Array 91.79 14 P **P 03 20 36.6 -2.4**
comp=Z,40nm,0.9s,mb5.5,baz=221,slow=4.4,SNR=155
ILAR pP pP 03 22 37.6 +0.8
comp=Z,12nm,1.0s,baz=223,slow=5.6,SNR=4.2
ILAR PKiKP PKiKP 03 25 24.4 -1.6
comp=Z,3.9nm,0.8s,baz=308,slow=2.2,SNR=8.4
ILAR S 03 30 19.5
comp=Z,1.8nm,0.9s,baz=224,slow=2.2,SNR=6.2
ILAR ScS ScS 03 30 51.5 -4.1
comp=Z,5.4nm,1.1s,baz=226,slow=9.9,SNR=8.1
ILAR PKKP PKKPbc 03 37 52.8 -1.1
comp=Z,1.5nm,0.5s,baz=345,slow=2.8,SNR=14
ILAR SKKP 03 40 38.8
comp=Z,2.4nm,1.1s,baz=332,slow=3.1,SNR=4.0
ILAR PKPPKP 03 45 56.4
comp=Z,0.9nm,0.8s,baz=353,slow=2.9,SNR=4.8
ILAR Eielson Array 91.79 14 P **P 03 20 36.6 -2.4**
ILAR pP pP 03 22 37.6 +0.8
DLMT Dillon 91.96 41⇑*i*P **P 03 20 39.6 -0.1**
comp=Z,127nm,1.1s,mb5.9
DLMT *e*PP PP 03 24 25.8 -2.7
MSO Missoula 91.96 39⇑*i*P **P 03 20 38.4 -1.4**
comp=Z,24nm,0.9s,mb5.2
MSO *e*PP PP 03 24 26.4 -2.1
REDW Red Top Meadow 91.98 43⇑*i*P **P 03 20 39.9 +0.1**
comp=Z,4µm,0.8s
BILL Bilibino 92.00 355α*i*P **P 03 20 38.6 -1.3**
BILL *i* *PP pP 03 22 35.9 -1.9
BILL *i* 03 30 19.1
BILL *i* 03 30 51.8
BILL *i* SS SS 03 37 16.0 -4.8
BILL pmax pmax
comp=Z,207nm,1.2s,mb6.0
BILL Bilibino 92.00 355⇑*i*P **P 03 20 38.3 -1.6**
comp=Z,135nm,0.8s,mb6.0
SNOW Snow King Moun 92.09 43⇑*i*P **P 03 20 40.4 +0.1**
comp=Z,346nm,1.2s,mb6.3
LVIG Laguna Verde 92.10 70⇑*i*P **P 03 20 40.4 0.0**
PBA Port Blair 92.17 282 *ex* x 03 22 43.0
PBA *ex* x 03 28 41.3
MOOW Moose Ponds 92.24 43⇑*i*P **P 03 20 40.8 -0.2**
comp=Z,190nm,1.6s,mb5.9
MOOW *e*pP pP 03 22 40.7 +1.8
LOHW Long Hollow 92.26 43⇑*i*P **P 03 20 41.0 -0.1**
comp=Z,155nm,1.3s,mb5.9
FCH Farallones 92.29 128 *e*P **P 03 20 37.0 -4.3**
CMIG Matias Romero 92.36 72⇑*i*P **P 03 20 42.1 +0.6**
QLMT Earthquake Lak 92.38 42 *e*P **P 03 20 42.0 +0.3**
CHMT Chamberlain Mo 92.40 39⇑*e*P **P 03 20 40.7 -1.1**
SMCO Snowmass 92.44 48⇑*i*P **P 03 20 41.9 0.0**
comp=Z,186nm,0.9s,mb6.1
FLWY Flagg Ranch 92.44 42⇑*i*P **P 03 20 42.3 +0.3**
comp=Z,162nm,1.1s,mb6.0
FLWY *e*PP PP 03 24 30.5 -1.8
BW06 Boulder Array 92.49 44⇑*i*P **P 03 20 41.5 -0.7**
comp=Z,70nm,1.2s,mb5.6
BW06 *e*PP PP 03 24 30.4 -2.2
YFT Old Faithful 92.55 42⇑*i*P **P 03 20 43.6 +1.2**
NRGR Nerungri 92.56 333 *e*P **P 03 20 35.2 -7.3**
YMR Madison River 92.58 42⇑*i*P **P 03 20 43.1 +0.5**
comp=Z,60nm,0.8s,mb5.7
CLNS Chul'man 92.61 333 *e*P **P 03 20 35.7 -7.0**
CLNS *e*S 03 30 20.8
CLNS *e*SPP 03 30 59.9
CLNS *e**SS SP 03 32 16.1 -1.4
CLNS pmax pmax
comp=Z,32nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.2s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS smax
comp=E,76nm,1.2s
CLNS smax
comp=Z,5.0nm,0.8s
CLNS smax
comp=N,36nm,1.0s
BOZ Bozeman (W) 92.69 41⇑*e*P **P 03 20 42.9 -0.2**
BOZ *e* 03 24 30.3
BOZ pmax pmax
comp=Z,149nm,1.1s,mb5.9
BOZ Bozeman (W) 92.69 41⇑*e*P **P 03 20 42.9 -0.2**
comp=Z,149nm,1.1s,mb5.9
BOZ *e*pP pP 03 22 44.9 +3.9
BOZ *e*PP PP 03 24 30.3 -3.8
SDCO Great Sand Dun 92.78 50⇑*i*P **P 03 20 43.4 -0.1**
comp=Z,143nm,1.1s,mb5.9
CMCH Combarbala 92.84 126⇓*e*P **P 03 20 44.1 +0.3**
LKWY Lake 92.87 42⇑*i*P **P 03 20 45.0 +1.1**
LKWY pmax pmax
comp=Z,67nm,0.9s,mb5.7
LKWY Lake 92.87 42⇑*i*P **P 03 20 45.0 +1.1**
comp=Z,66nm,0.9s,mb5.7

DAWY	**Dawson**	**92.99**	**17⇑**	*i*P	**P**	**03 20 43.2**	**-1.3**
DAWY				*e*pP	pP	03 22 42.4	0.0
DAWY				*e*PP	PP	03 24 33.3	-3.2
HRY	**Holter Researc**	**93.12**	**40**	*e*P	**P**	**03 20 44.3**	**-0.8**
HRY				*e*pP	pP	03 22 44.2	+1.2
HRY				*e*PP	PP	03 24 35.7	-1.8
LZH	**Lanzhou**	**93.27**	**308**	*e*P	**P**	**03 20 46.5**	**+0.8**
LZH				AP	pP	03 22 43.3	-0.4
LZH				XP	sP	03 23 38.5	+1.1
LZH				PP	PP	03 24 47.0	+8.4
LZH				SKS		03 30 28.0	
LZH				S		03 31 11.0	
LZH				PS	PS	03 33 46.0	+10
LZH				XS	sS	03 34 45.0	+6.1
LZH				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.5						
LZH				AMB	AMB		
	comp=Z,380nm,6.0s						
LZH				LR	LR		
	comp=E,2µm,17.9s						
LZH				LR	LR		
	comp=Z,3µm,18.8s						
RWWY	**Rawlins**	**93.48**	**46⇑**	*i*P	**P**	**03 20 46.4**	**-0.3**
	comp=Z,127nm,1.0s,mb5.9						
RWWY				*e*PP	PP	03 24 37.7	-2.6
MDZ	**Mendoza**	**93.56**	**128**	*e*P	**P**	**03 20 49.6**	**+2.5**
ISCO	**Idaho Springs**	**93.66**	**48⇑**	*i*P	**P**	**03 20 47.6**	**+0.1**
ISCO				*e*		03 24 39.9	
ISCO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.5						
ISCO	**Idaho Springs**	**93.66**	**48⇑**	*i*P	**P**	**03 20 47.6**	**+0.1**
	comp=Z,34nm,0.8s,mb5.5						
ISCO				*e*PP	PP	03 24 39.9	-1.7
JCT	**Junction City**	**93.78**	**58**	P	**P**	**03 20 47.7**	**-0.4**
JCT				pmax	pmax		
	comp=Z,100nm,0.9s,mb6.0						
JCT	**Junction City**	**93.78**	**58⇑**	*i*P	**P**	**03 20 47.4**	**-0.6**
	comp=Z,104nm,0.9s,mb6.0						
GCMT	**Greycliff**	**93.94**	**41**	*e*P	**P**	**03 20 48.7**	**-0.1**
GCMT				*e*PP	PP	03 24 41.2	-2.6
YAK	**Yakutsk**	**94.38**	**339**	*e*P	**P**	**03 20 48.7**	**-2.1**
YAK				*e**PP	pP	03 22 46.8	-2.0
YAK				*i* S		03 30 29.0	
YAK				*i*		03 31 14.9	
YAK				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.8						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.0s						
YAK				pmax	pmax		
	comp=Z,154nm,10.2s						
YAK				smax			
	comp=N,432nm,7.0s						
YAK				smax			
	comp=E,898nm,16.0s						
YAK	**Yakutsk**	**94.38**	**339**	*e*P	**P**	**03 20 48.9**	**-1.9**
	comp=E,100nm,0.7s,mb6.0						
CCIG	**Comitan**	**94.45**	**74⇑**	*i*P	**P**	**03 20 52.6**	**+1.5**
PHWY	**Pilot Hill**	**94.46**	**47⇑**	*i*P	**P**	**03 20 50.6**	**-0.5**
PHWY				*e*PP	PP	03 24 46.3	-1.4
CFAA	**Coronel Fontan**	**94.66**	**127**	P	**P**	**03 20 52.5**	**+0.4**
	comp=E,7.9nm,1.0s,mb4.8,baz=241,slow=3.9,SNR=46						
CFAA				S		03 30 35.6	
	comp=E,0.1nm,0.4s,baz=68,slow=22,SNR=7.2						
CFAA				PKKPbc	PKKPbc	03 37 46.7	+0.1
	comp=E,0.3nm,0.5s,baz=92,slow=1.6,SNR=5.2						
CFAA	**Coronel Fontan**	**94.66**	**127**	P	**P**	**03 20 52.5**	**+0.4**
CFAA				S		03 30 35.6	
CFAA				PKKPbc	PKKPbc	03 37 46.7	+0.1
EGMT	**Eagleton**	**95.01**	**39⇑**	*i*P	**P**	**03 20 52.9**	**-0.8**
	comp=E,29nm,0.9s,mb5.4						
EGMT				*e*PP	PP	03 24 48.9	-3.1
CIT	**Chita**	**95.04**	**325**	*e*P	**P**	**03 20 52.0**	**-1.8**
CIT				*e*	pP	03 22 49.0	-2.9
CIT				pmax	pmax		
	comp=Z,49nm,2.3s,mb5.2						
TRQA	**Tornquist**	**95.42**	**136⇑**	*i*P	**P**	**03 20 55.9**	**+0.4**
	comp=Z,109nm,1.7s,mb5.7						
TRQA				*e*PP	PP	03 24 55.4	+0.3
EDM	**Edmonton**	**95.74**	**34⇑**	*i*P	**P**	**03 20 55.4**	**-1.5**
EDM				*e*PP	PP	03 24 46.2	-11
WMOK	**Wichita Mounta**	**96.34**	**55**	*e*P	**P**	**03 20 58.5**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.0						
WMOK	**Wichita Mounta**	**96.34**	**55**	*e*P	**P**	**03 20 58.5**	**-1.2**
	comp=Z,14nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**96.58**	**320⇑**	*i*P	**P**	**03 21 00.0**	**-0.7**
ULN				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**96.58**	**320⇑**	*i*P	**P**	**03 20 60.0**	**-0.8**
	comp=Z,11nm,0.9s,mb5.1						
HKT	**Hockley**	**96.70**	**60**	*e*P	**P**	**03 21 01.0**	**-0.3**
HKT				*e*		03 25 04.1	
HKT				pmax	pmax		
	comp=Z,379nm,2.4s,mb6.2						
HKT	**Hockley**	**96.70**	**60**	*e*P	**P**	**03 21 01.0**	**-0.2**
	comp=Z,379nm,2.4s,mb6.2						
HKT				*e*PP	PP	03 25 04.1	-0.7
SONM	**Songino Array**	**96.96**	**319**	P	**P**	**03 21 01.6**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=132,slow=3.5,SNR=24						
SONM				pP	pP	03 23 00.9	+0.2
	comp=Z,6.2nm,1.1s,baz=123,slow=2.4,SNR=3.5						
SONM				PP	PP	03 25 01.3	-5.4
	comp=Z,26nm,1.2s,baz=128,slow=5.7,SNR=5.6						
SONM				S		03 30 46.5	
	comp=Z,3.6nm,1.0s,baz=154,slow=4.1,SNR=8.3						
SONM				PKKP	PKKPbc	03 37 41.4	+1.0
	comp=Z,12nm,0.7s,baz=278,slow=2.8,SNR=28						
SONM				PKPPKP		03 45 49.9	
	comp=Z,1.5nm,1.0s,baz=279,slow=1.8,SNR=5.2						
SONM	**Songino Array**	**96.96**	**319**	P	**P**	**03 21 01.6**	**-0.8**
SONM				*PP	pP	03 23 00.9	+0.2
SONM						03 25 01.3	
SONM				S		03 30 46.5	
CBKS	**Cedar Bluff**	**97.32**	**51⇑**	*i*P	**P**	**03 21 03.3**	**-0.7**
CBKS				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.9						
CBKS	**Cedar Bluff**	**97.32**	**51⇑**	*i*P	**P**	**03 21 03.2**	**-0.8**
	comp=Z,91nm,1.1s,mb5.9						
CBKS				*e*PP	PP	03 24 59.0	-11
GTA	**Gaotai**	**97.58**	**310**	*e*P	**P**	**03 21 05.8**	**+0.6**
GTA				AP	pP	03 23 05.0	+1.5
GTA				XP	sP	03 23 58.0	+0.8
GTA				SKS		03 30 48.8	
GTA				S		03 31 48.0	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.9						
GTA				AMB	AMB		
	comp=Z,139nm,5.7s						
INK	**Inuvik**	**97.79**	**16**	P	Pdif	03 21 04.2	-1.9
	comp=Z,58nm,1.0s,baz=221,slow=4.4,SNR=78						
INK				pP	pP	03 23 03.4	-1.1
	comp=Z,13nm,1.2s,baz=197,slow=9.0,SNR=2.3						
INK				PKiKP	PKiKP	03 25 34.8	-1.7
	comp=Z,8.0nm,0.8s,baz=185,slow=5.8,SNR=8.1						
INK				S		03 30 50.2	
	comp=Z,3.2nm,1.0s,baz=338,slow=31,SNR=17						
INK				PKKPbc	PKKPbc	03 37 38.3	+0.1
	comp=Z,2.4nm,0.6s,baz=21,slow=3.2,SNR=5.8						
INK				PKPPKP		03 45 48.8	
	comp=Z,0.9nm,0.8s,baz=70,slow=8.5,SNR=3.3						
INK	**Inuvik**	**97.79**	**16⇑**	*i*P	Pdif	03 21 04.1	-2.0
INK				pmax	pmax		
	comp=Z,51nm,0.9s						
INK	**Inuvik**	**97.79**	**16⇑**	*i*P	Pdif	03 21 04.1	-2.0
	comp=Z,51nm,0.9s						
SHL	**Shillong**	**98.33**	**294**	*e*P	Pdif	03 21 09.0	+0.5
SHL				*e*S	SKSac	03 30 54.0	-0.7
NATX	**Nacogdoches**	**98.33**	**59**	*e*Pdif	Pdif	03 21 08.7	+0.1
	comp=Z,42nm,1.0s						
DGMT	**Dagmar**	**98.50**	**41**	*e*Pdif	Pdif	03 21 08.6	-0.6
	comp=Z,65nm,0.9s						
DGMT				*e*PP	PP	03 25 16.1	-2.2
JTS	**JuntasAbangare**	**98.59**	**83**	P	Pdif	03 21 10.9	+1.2
	comp=Z,48nm,1.0s,baz=293,slow=4.5,SNR=16						
JTS				PP	PP	03 25 18.3	-0.8
	comp=Z,14nm,1.1s,baz=214,slow=9.5,SNR=7.4						
JTS	**JuntasAbangare**	**98.59**	**83**	*e*P	Pdif	03 21 10.8	+1.1
JTS				pmax	pmax		
	comp=Z,90nm,1.1s						
JTS	**JuntasAbangare**	**98.59**	**83**	*e*Pdif	Pdif	03 21 10.8	+1.1
	comp=Z,90nm,1.1s						
ARE	**Arequipa**	**99.56**	**113**	*e*P	Pdif	03 21 18.0	+4.0
KSU1	**Kansas State U**	**99.67**	**52**	*e*Pdif	Pdif	03 21 15.1	+0.6
LPA	**La Plata**	**99.91**	**135**	*c*eP	Pdif	03 21 11.0	-4.6
LPA				*e*sP	sP	03 24 09.0	+1.3
LPA				*e*PP	PP	03 25 31.0	+2.1
LPA				*e*SP	SP	03 33 37.0	+0.7
LPA				*e*PS	PS	03 34 45.0	+0.2
ZAK	**Zakamensk**	**99.92**	**321**	*e*P	Pdif	03 21 14.7	-0.9
ZAK				*e*		03 23 12.8	
ZAK				pmax	pmax		
	comp=Z,14nm,2.0s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,14nm,2.0s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,23nm,1.7s,mb5.3						
YKA	**Yellowknife Ar**	**100.13**	**25**	P	Pdif	03 21 14.9	-1.6
	comp=Z,14nm,1.0s,baz=242,slow=4.1,SNR=82						
YKA				pP	pP	03 23 15.2	+0.2
	comp=Z,0.5nm,0.7s,baz=92,slow=34,SNR=1.8						
YKA				PP	PP	03 25 26.6	-4.0
	comp=Z,0.1nm,0.3s,baz=338,slow=9.1,SNR=4.1						
YKA				PKiKP	PKiKP	03 25 39.9	-0.7
	comp=Z,5.4nm,0.8s,baz=237,slow=1.4,SNR=16						
YKA				PKKPbc	PKKPbc	03 37 31.8	+0.1
	comp=Z,1.7nm,0.5s,baz=43,slow=2.5,SNR=11						
YKA				SKKP		03 40 21.2	
	comp=Z,0.8nm,0.7s,baz=39,slow=2.4,SNR=4.0						
YKA				PKPPKP		03 45 48.7	
	comp=Z,2.2nm,1.1s,baz=54,slow=2.7,SNR=7.3						
YKA	**Yellowknife Ar**	**100.13**	**25**	P	Pdif	03 21 14.9	-1.6
YKA				pP	pP	03 23 15.2	+0.2
YKA				PP	PP	03 25 26.6	-4.0
YKW3	**Yellowknife Ar**	**100.17**	**25**	*e*Pdif	Pdif	03 21 14.4	-2.3
MIAR	**Mount Ida**	**100.22**	**57**	P	Pdif	03 21 18.5	+1.6
MIAR				pmax	pmax		
	comp=Z,11nm,1.0s						
MIAR	**Mount Ida**	**100.22**	**57**	*e*Pdif	Pdif	03 21 18.7	+1.7
	comp=Z,11nm,1.0s						
CAL	**Calcutta**	**100.23**	**290**	*e*P	pP	03 23 15.4	-0.1
CAL				*e*S	SKSac	03 31 07.4	+3.4
CAL				*e*S	SKSac	03 31 07.9	+3.9
UALR	**University of**	**101.25**	**57**	*e*Pdif	Pdif	03 21 22.3	+0.8
	comp=Z,23nm,1.1s						
TIXI	**Tiksi**	**101.34**	**345**	*e*P	Pdif	03 21 17.9	-4.0
TIXI				*e*S	SP	03 33 49.2	-2.1
TIXI				*e**SS		03 34 47.3	
TIXI				*e*SS	SS	03 39 22.6	-8.2
TIXI				*e*SSS		03 43 25.6	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LPAZ	**La Paz**	**102.47**	**114**	P	Pdif	03 21 29.5	+2.5
	comp=Z,6.2nm,0.8s,baz=243,slow=2.0,SNR=22						
LPAZ				PKiKP	PKiKP	03 25 46.2	+1.3
	comp=Z,4.7nm,1.0s,baz=254,slow=5.9,SNR=4.9						
LPAZ	**La Paz**	**102.47**	**114**	*e*P	Pdif	03 21 29.3	+2.4
LPAZ				*e*		03 25 47.4	
LPAZ				pmax	pmax		
	comp=Z,37nm,1.6s						
LPAZ	**La Paz**	**102.47**	**114**	*e*Pdif	Pdif	03 21 29.3	+2.4
	comp=Z,37nm,1.6s						
LPAZ				*e*PKP	PKiKP	03 25 47.4	+2.5
CCM	**Cathedral Cave**	**103.22**	**54**	*e*P	Pdif	03 21 31.5	+1.2
CCM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CCM	**Cathedral Cave**	**103.22**	**54**	*e*Pdif	Pdif	03 21 31.5	+1.3
	comp=Z,9.0nm,0.9s						
FVM	**French Village**	**103.80**	**54**	*e*P	Pdif	03 21 32.7	-0.2
FVM				*e*		03 25 55.4	
FVM				pmax	pmax		
	comp=Z,18nm,1.1s						
FVM	**French Village**	**103.80**	**54**	*e*Pdif	Pdif	03 21 32.7	-0.2
	comp=Z,18nm,1.1s						
FVM				*e*PP	PP	03 25 55.4	-2.3
JIRN	**Jiri**	**103.83**	**294**	*e*P	Pdif	03 21 34.9	+1.9
	comp=Z,13nm,0.6s						
GUN	**Gumba**	**104.17**	**294**	*e*P	Pdif	03 21 36.8	+2.3
	comp=Z,26nm,0.7s						
ULM	**Lac du Bonnet**	**104.20**	**41**	Pdiff	Pdif	03 21 34.1	-0.5
	comp=Z,5.8nm,0.9s,baz=249,slow=6.9,SNR=8.5						
ULM				PKiKP	PKiKP	03 25 46.8	-1.3
	comp=Z,17nm,0.9s,baz=257,slow=2.0,SNR=12						
ULM				PKKPbc	PKKPbc	03 37 20.0	0.0
	comp=Z,5.5nm,0.6s,baz=80,slow=3.9,SNR=9.8						
ULM				PKPPKP		03 45 41.0	
	comp=Z,1.2nm,0.3s,baz=153,slow=4.4,SNR=3.0						
KKN	**Kakani**	**104.64**	**294**	*e*P	Pdif	03 21 38.2	+1.6
	comp=Z,18nm,0.7s						
KKN	**Kakani**	**104.64**	**294**	*e*P	Pdif	03 21 38.2	+1.6
KKN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
DMN	**Daman**	**104.72**	**294**	*e*P	Pdif	03 21 39.4	+2.5
	comp=Z,26nm,0.8s						
GKN	**Gorkha**	**105.24**	**294**	*e*P	PKiKP	03 25 50.7	+0.7
KOLN	**Koldanda**	**106.04**	**294**	*e*P	Pdif	03 21 46.7	+3.9
KOLN	**Koldanda**	**106.04**	**294**	*e*P	PKiKP	03 25 51.8	+0.3
ROSC	**El Rosal**	**106.23**	**92**	PKiKP	PKiKP	03 25 53.1	+1.2
	comp=Z,3.4nm,0.3s,baz=188,slow=7.1,SNR=4.1						
SWET	**Sewanee**	**106.36**	**58**	*e*PKP	PKiKP	03 25 50.9	-1.2
SWET				*e*PP	PP	03 26 14.1	-2.3
WCI	**Wyandotte Cave**	**106.98**	**55**	*e*PKP	PKiKP	03 25 53.1	-0.1
HYB	**Hyderabad**	**107.05**	**282**	*i* Pdiff		03 23 44.0	
HYB				*e*		03 24 29.0	
HYB				*e*PKP	PKiKP	03 25 53.0	-0.4
HYB				*e*PP	PP	03 26 14.0	-7.3
HYB				*e*SKS	SKSac	03 31 36.0	+1.0
HYB				*e*		03 32 28.0	
HYB				*e*		03 34 56.0	
HYB				*e*PKKP	PKKPbc	03 37 13.0	+1.5
HYB				*e*		03 37 19.0	
HYB	**Hyderabad**	**107.05**	**282**	*e*PKP	PKiKP	03 25 53.0	-0.4
HYB				*e*PP	PP	03 26 14.0	-7.3
HYB				*e*SKS	SKSac	03 31 36.0	+1.0
HYB				*e*		03 32 28.0	
WMQ	**Urumqi**	**107.62**	**311**	*e*PDIF	Pdif	03 21 50.0	+0.2
WMQ				PP	PP	03 26 29.0	+3.6
WMQ				SS	SS	03 40 57.0	+1.3
WMQ				PP	PP		
	comp=Z,302nm,9.0s						
FCC	**Fort Churchill**	**107.83**	**33**	*e*PKP	PKiKP	03 25 52.6	-2.2
FCC				*e*PP	PP	03 26 22.8	-4.1
SIV	**San Ignacio**	**108.46**	**117**	Pdiff	Pdif	03 21 58.8	+5.3
	comp=Z,2.9nm,1.1s,baz=250,slow=3.6,SNR=5.7						
SIV				PKiKP	PKiKP	03 25 55.9	-0.1
	comp=Z,5.2nm,0.8s,baz=241,slow=2.3,SNR=15						
SIV				PKKPbc	PKKPbc	03 37 08.7	+1.5
	comp=Z,2.9nm,0.6s,baz=140,slow=2.6,SNR=8.5						
SIV				PKPPKP		03 45 31.3	
	comp=Z,1.4nm,0.9s,baz=120,slow=3.3,SNR=5.0						
ACSO	**Alum Creek Sta**	**110.00**	**54**	*e*PKP	PKiKP	03 25 57.5	-1.3
ELN	**Prospectdale**	**110.94**	**58**	*e*P	PKiKP	03 25 59.8	-0.9
SDV	**Santo Domingo**	**111.16**	**89**	PKiKP	PKiKP	03 26 01.7	+0.7
	baz=227,slow=14						
SDV				PKKPbc	PKKPbc	03 37 02.0	+3.5
	comp=Z,2.9nm,0.5s,baz=338,slow=9.2,SNR=6.9						
SDV	**Santo Domingo**	**111.16**	**89**	*e*PKP	PKiKP	03 26 00.6	-0.5
SDV				*e*PP	PP	03 26 48.9	-1.8
RES	**Resolute Bay**	**111.33**	**17**	P	Pdif	03 22 06.3	0.0
RES				*e*		03 25 58.8	
RES	**Resolute Bay**	**111.33**	**17**	*e*Pdif	Pdif	03 22 05.4	-0.9
RES				*e*PKP	PKiKP	03 25 58.7	-2.7
DDI	**Dehra Dun**	**111.42**	**295**	*e*P	PKiKP	03 25 58.5	-3.1
DDI				*e*S	SKSac	03 31 37.5	-16
POO	**Poona**	**111.64**	**281**	*e*x	x	03 26 31.6	
NDI	**New Delhi**	**111.69**	**293**	*e*P	PKiKP	03 26 01.5	-0.6
NDI				*e*S	SKSac	03 31 51.5	-2.7
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	PKiKP	03 26 01.4	-1.4
	comp=Z,27nm,0.7s,baz=60,slow=1.7,SNR=40						
MKAR				PP	PP	03 26 55.9	-0.9
	comp=Z,14nm,1.0s,baz=87,slow=3.0,SNR=2.9						
MKAR				SKP		03 28 47.4	
	comp=Z,11nm,0.8s,baz=57,slow=4.5,SNR=4.9						
MKAR				PKKPbc	PKKPbc	03 36 57.2	+1.5
	comp=Z,15nm,0.9s,baz=296,slow=3.9,SNR=19						
MKAR				PKKPab	PKKPab	03 37 06.2	-0.4
	comp=Z,15nm,0.7s,baz=272,slow=3.1,SNR=17						
MKAR				PKPPKP		03 45 24.4	
	comp=Z,2.6nm,0.9s,baz=299,slow=2.5,SNR=9.9						
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	PKiKP	03 26 01.4	-1.3
MKAR						03 26 55.9	
MKAR						03 28 47.4	
MKAR						03 36 57.2	
NVS	**Novosibirsk**	**112.86**	**321**	*e*PKIKP	PKiKP	03 26 00.9	-3.4
NVS				*i*		03 31 57.6	
NVS				pmax	pmax		
	comp=Z,24nm,1.0s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,23nm,2.5s						
MVL	**Millersville**	**114.91**	**55**	*e*PKPdf	PKPdf	03 26 07.7	-0.6
KURK	**Kurchatov**	**115.06**	**317**	*e*PKIKP	PKPdf	03 26 06.3	-2.3
KSH	**Kashi**	**115.18**	**304**	*e*PKP	PKPdf	03 26 10.3	+1.5
KSH				*e*PKS		03 29 47.0	
KSH				*e*PPP		03 30 12.0	
KSH				*e*SKS	SKSdf	03 32 32.0	+1.8
KSH				PP	PP		
	comp=Z,400nm,7.2s						
ULHL	**Ulahol**	**115.46**	**307**	P	PKPdf	03 26 09.3	0.0
	SNR=12						
TKM2	**Tokmak 2**	**116.04**	**308**	P	PKPdf	03 26 09.6	-0.8
	SNR=44						
TKM2	**Tokmak 2**	**116.04**	**308**	PKIKP	PKPdf	03 26 08.9	-1.5
TKM2				pmax	pmax		
	comp=Z,28nm,0.7s						
TKM2	**Tokmak 2**	**116.04**	**308**	*i* PKP	PKPdf	03 26 08.0	-2.4
KZA	**Kyzart**	**116.16**	**307**	P	PKPdf	03 26 11.0	+0.4
	SNR=25						
KBK	**Karagaybulak**	**116.47**	**307**	P	PKPdf	03 26 10.8	-0.4
	SNR=32						
CHMS	**Chumysh**	**116.66**	**308**	P	PKPdf	03 26 10.8	-0.8
	SNR=38						
UCH	**Uchtor**	**116.72**	**307**	P	PKPdf	03 26 12.1	+0.4
	SNR=58						
FRU	**Bishkek**	**116.74**	**307**	*e*PKIKP	PKPdf	03 26 12.0	+0.2
FRU				*e*		03 28 58.0	
FRU				*e*		03 32 14.5	
FRU				pmax	pmax		
	comp=Z,63nm,1.2s						
BHJ	**Bhuj**	**116.78**	**285**	*e*P	PKPdf	03 26 12.8	+1.0
AAK	**Ala-Archa**	**116.80**	**307**	P	PKPdf	03 26 11.4	-0.5
	SNR=25						
AAK	**Ala-Archa**	**116.80**	**307**	PKIKP	PKPdf	03 26 10.4	-1.5
AAK	**Ala-Archa**	**116.80**	**307**	*e*PKPdf	PKPdf	03 26 10.2	-1.7
USP	**Ospenovka**	**116.88**	**308**	P	PKPdf	03 26 11.2	-0.9
	SNR=51						
NCB	**Newcomb**	**117.10**	**51**	*e*PKPdf	PKPdf	03 26 10.8	-1.7
AML	**Almayashu**	**117.31**	**307**	P	PKPdf	03 26 13.1	+0.2
	SNR=65						
EKS2	**Erkin-Say**	**117.33**	**307**	P	PKPdf	03 26 12.6	-0.3
	SNR=40						
MIV	**Mineville/With**	**117.61**	**51**	*e*PKPdf	PKPdf	03 26 12.2	-1.2
OPO	**Ambohidratompo**	**117.73**	**232**	PKP	PKPdf	03 26 14.9	+1.2
	comp=Z,16nm,0.6s,baz=138,slow=0.9,SNR=34						
OPO				SKP		03 28 59.2	
	comp=Z,6.0nm,0.7s,baz=135,slow=1.4,SNR=6.8						
OPO				PKKPbc	PKKPbc	03 36 34.7	-1.8
	comp=Z,4.4nm,0.8s,baz=296,slow=4.3,SNR=6.6						
CAM4	**Nova Friburgo**	**118.27**	**135⇓**	*e*P	PKPdf	03 26 13.9	-0.8
CAM4				*i*		03 26 15.5	
CAM4				*i*		03 26 26.5	
SJG	**San Juan**	**118.37**	**81**	PKIKP	PKPdf	03 26 13.7	-1.2
SJG	**San Juan**	**118.37**	**81**	*e*PKPdf	PKPdf	03 26 13.5	-1.5
CPD	**Cerro la Pandu**	**118.56**	**82**	PKIKP	PKPdf	03 26 14.5	-0.8
CPD	**Cerro la Pandu**	**118.56**	**82**	*e*PKPdf	PKPdf	03 26 14.4	-0.9
LBNH	**Lisbon**	**118.78**	**51**	PKIKP	PKPdf	03 26 15.1	-0.6
LBNH	**Lisbon**	**118.78**	**51**	*e*PKPdf	PKPdf	03 26 14.9	-0.8
BRYW	**Bryant College**	**118.80**	**54**	*e*PKPdf	PKPdf	03 26 15.8	0.0
FFD	**Franklin Falls**	**118.89**	**52**	*e*PKPdf	PKPdf	03 26 14.9	-1.0
MTP	**Monte Pirata**	**118.91**	**82**	*e*PKPdf	PKPdf	03 26 15.1	-0.9
BDFB	**Brasilia**	**118.91**	**125**	PKP	PKPdf	03 26 16.0	0.0
	comp=Z,58nm,0.8s,baz=289,slow=1.0,SNR=61						
BDFB				SKP		03 29 00.1	
	comp=Z,5.8nm,0.7s,baz=152,slow=2.0,SNR=3.1						
BDFB				PKKPbc	PKKPbc	03 36 34.8	+2.4
	comp=Z,6.4nm,0.6s,baz=328,slow=1.0,SNR=12						
BDFB	**Brasilia**	**118.91**	**125**	PKIKP	PKPdf	03 26 16.0	+0.1
BDFB						03 29 00.1	
KK31	**Karatay Array**	**119.76**	**307**	*i* PKIKP	PKPdf	03 26 16.4	-1.2
KKAR	**Karatay Array**	**119.76**	**307**	PKIKP	PKPdf	03 26 16.4	-1.2
KKAR				pmax	pmax		
	comp=Z,60nm,0.7s						
VOSK	**Vostochnaya**	**119.94**	**318**	PKIKP	PKPdf	03 26 16.3	-1.6
VOSK				pmax	pmax		
	comp=Z,70nm,0.8s						
TRN	**Trinidad (W)**	**120.26**	**91**	*e*P	PKPdf	03 26 19.5	+0.9
BVA0	**Borovoye Array**	**120.30**	**319**	*i* PKIKP	PKPdf	03 26 17.1	-1.5
BVA0				pmax	pmax		
	comp=Z,11nm,0.9s						
BVAR	**Borovoye Array**	**120.30**	**319**	PKP	PKPdf	03 26 17.3	-1.4
	comp=Z,82nm,0.7s,baz=124,slow=1.3,SNR=120						
BVAR				PP	PP	03 27 45.9	-7.8
	comp=Z,10.0nm,0.9s,baz=100,slow=5.0,SNR=2.5						
BVAR				pPKP	pPKPdf	03 28 24.2	+0.3
	comp=Z,7.8nm,0.8s,baz=135,slow=1.9,SNR=1.4						
BVAR				SKP		03 29 03.7	
	comp=Z,20nm,0.9s,baz=114,slow=1.1,SNR=4.2						
BVAR				PKKPbc	PKKPbc	03 36 29.1	+1.8
	comp=Z,12nm

comp=Z,11nm,1.0s,baz=94,slow=6.7,SNR=3.0
AKTO SKP 03 29 20.3
comp=Z,21nm,0.8s,baz=99,slow=1.2,SNR=4.2
AKTO SKKPbc 03 38 56.9
comp=Z,2.2nm,0.7s,baz=166,slow=4.2,SNR=4.2
ARQ Araqi 128.52 282 P PKPdf 03 26 34.3 -0.1
SNR=6.4
RBK Rabkut 129.18 274 P PKPdf 03 26 36.9 +1.3
SNR=7.9
RBK Rabkut 129.18 274 P SKPdf 03 29 10.1 -10
SNR=17
ASHO Ashiyiah 129.20 283 P PKPdf 03 26 35.9 +0.2
SNR=14
ASHO Ashiyiah 129.20 283 P SKPdf 03 29 09.9 -10
SNR=8.2
BANOM Banah 129.22 285 P SKPdf 03 29 10.1 -10
SNR=8.6
WHFO Wadi Hawf 129.69 274 P PKPdf 03 26 39.0 +2.4
SNR=6.5
WHFO Wadi Hawf 129.69 274 P SKPdf 03 29 11.4 -10
SNR=27
ABTO Aybut 129.97 273 P PKPdf 03 26 39.7 +2.6
SNR=6.0
ABTO Aybut 129.97 273 P SKPbc 03 29 12.9 +3.0
SNR=21
LVZ Lovozero 130.93 343*c i*PKIKP PKPdf 03 26 35.2 -3.7
LVZ *e* 03 29 09.8
LVZ *e* 03 32 02.8
LVZ Lovozero 130.93 343⇓*i*PKP PKPdf 03 26 38.5 -0.4
KEV Kevo 131.20 348 PKIKP PKPdf 03 26 38.9 -0.5
KEV Kevo 131.20 348 *e*PKP PKPdf 03 26 30.5 -8.9
KEV *e*PKPdf PKPdf 03 26 38.4 -1.1
KEV *e*SKP 03 29 13.3
SCO Scoresbysund 131.43 10 *i* P PKPdf 03 26 39.9 0.0
comp=Z,61nm,0.8s
SCO *i* 03 29 17.5
APA Apatity 131.49 344 *e*PKIKP PKPdf 03 26 40.2 +0.2
APA *i* *PP 03 29 15.0
APA *e* 03 32 04.0
ARCES ARCESS Array B 131.67 348 PKhKP 03 26 29.5
comp=Z,10nm,0.6s,baz=95,slow=0.8,SNR=20
ARCES PKP PKPdf 03 26 38.2 -2.1
comp=Z,135nm,0.8s,baz=31,slow=1.1,SNR=84
ARCES SKPbc SKPbc 03 29 15.6 -0.5
comp=Z,120nm,0.9s,baz=31,slow=2.8,SNR=18
ARCES PKKPbc 03 35 46.2
comp=Z,4.3nm,0.8s,baz=213,slow=3.0,SNR=5.4
ARCES PKKP 03 36 34.3
comp=Z,4.2nm,0.8s,baz=222,slow=2.1,SNR=6.2
ARCES ARCESS Array B 131.67 348 PKIKP PKPdf 03 26 38.2 -2.1
ARCES 03 29 15.6
ARCES ARCESS Array B 131.67 348 PKP PKPdf 03 26 38.2 -2.2
ARCES SKPbc SKPbc 03 29 15.6 -0.5
ARCES PKKPbc 03 35 46.2
ARCES PKKP 03 36 34.3
ARCES ARCESS Array B 131.67 348 PKP PKPdf 03 26 29.5 -11
ARE0 ARCESS Array S 131.67 348 *e*PKPdf PKPdf 03 26 38.7 -1.7
ARE0 *e* 03 29 15.2
JMIC Jan Mayen 132.40 4 *e*PKPd PKPdf 03 26 40.8 -0.9
JMIC *ep*PKP pPKPdf 03 28 46.8 -0.3
JMIC *e*SKSa 03 33 00.2
JMIC Jan Mayen 132.40 4 PKPdf 03 26 42.9 +1.2
comp=Z,89nm,0.6s,baz=261,slow=3.6,SNR=5.1
LSZ Lusaka 132.52 218 PKP PKPdf 03 26 43.2 +1.3
comp=Z,34nm,0.5s,baz=133,slow=1.6,SNR=15
LSZ pPKP pPKPdf 03 28 49.0 +1.7
comp=Z,2.6nm,0.4s,baz=149,slow=14,SNR=1.8
LSZ SKPbc SKPbc 03 29 21.4 +2.3
comp=Z,52nm,0.6s,baz=146,slow=2.2,SNR=19
LSZ PKKP 03 36 33.9
comp=Z,5.1nm,0.8s,baz=282,slow=1.0,SNR=4.2
LSZ Lusaka 132.52 218 *e*PKIKP PKPdf 03 26 38.1 -3.8
LSZ *e* 03 29 20.7
LSZ Lusaka 132.52 218 *e*PKPpre 03 26 38.1
LSZ *e*PKPdf PKPdf 03 26 42.6 +0.7
LSZ PKP PKPdf 03 26 43.2 +1.3
LSZ pPKP pPKPdf 03 28 49.0 +1.7
LSZ *e*SKP 03 29 20.7
LSZ SKPbc SKPbc 03 29 21.4 +2.3
LSZ PKKP 03 36 33.9
KTK1 Kautokeino 132.53 349 *e*P PKPdf 03 26 42.3 +0.3
TRO Tromso 132.66 351 *e*P PKPdf 03 26 40.5 -1.7
KLMR Klimovskoe 133.99 334 *e*PKHKP 03 26 36.8
KLMR *i* 03 26 42.3
KLMR *e* 03 29 22.8
KLMR *e*SS SS 03 46 24.3 -4.4
KLMR pmax pmax
comp=Z,140nm,1.3s
TSUM Tsumeb 134.09 203 PKhKP 03 26 35.3
comp=Z,3.2nm,0.6s,baz=148,slow=4.7,SNR=13
TSUM PKP PKPdf 03 26 45.8 +0.9
comp=Z,22nm,0.7s,baz=31,slow=0.6,SNR=13
TSUM pPKP pPKPdf 03 28 51.5 +1.2
comp=Z,13nm,1.0s,baz=225,slow=7.6,SNR=3.6
TSUM SKPbc SKPbc 03 29 23.0 -1.2
comp=Z,13nm,0.8s,baz=157,slow=5.1,SNR=4.7
TSUM PKKP 03 36 31.2
comp=Z,4.7nm,0.9s,baz=0.0,slow=4.0,SNR=4.0
TSUM Tsumeb 134.09 203 PKP 03 26 35.3
TSUM *e*PKPdf PKPdf 03 26 46.5 +1.7
TSUM *e* 03 29 22.7
RCBR Riachuelo 134.28 125 *e*PKPdf PKPdf 03 26 46.4 +1.2
RCBR *e* 03 29 24.3
PECR Pechory 134.33 327 *e*PKIKP PKPdf 03 26 43.6 -1.7
PECR *i* 03 29 24.6
PECR *e* 03 40 36.0
PECR *e* 03 41 36.0
PECR *e* 03 46 26.0
PECR pmax pmax
comp=Z,100nm,1.6s
PECR pmax pmax
comp=Z,1μm,5.4s
LOF Lofoten 134.76 353⇑*i*P PKPdf 03 26 41.9 -4.2
LOF *e*PP PP 03 29 27.8 +0.3
JOF Joensuu 135.53 340 *e*pkp 03 26 35.6
JOF Joensuu 135.53 340 *e*pkp SKPbc 03 29 28.5 -0.2
KMBO Kilima Mbogo 136.25 241 PKhKP 03 26 40.8
comp=Z,4.4nm,0.8s,baz=166,slow=4.0,SNR=12
KMBO PKP PKPdf 03 26 49.6 +0.7
comp=Z,12nm,0.7s,baz=92,slow=1.6,SNR=9.3
KMBO pPKP pPKPdf 03 28 55.8 +1.5
comp=Z,3.7nm,1.0s,baz=69,slow=20,SNR=1.9
KMBO SKPbc SKPbc 03 29 32.9 +2.0
comp=Z,57nm,1.1s,baz=88,slow=2.1,SNR=28
KMBO Kilima Mbogo 136.25 241 *e*PKHKP 03 26 39.6
KMBO 03 26 49.6
KMBO *e* 03 29 33.5
KMBO Kilima Mbogo 136.25 241 *e*PKPpre 03 26 39.6
KMBO *e*PKPdf PKPdf 03 26 49.3 +0.4
KMBO PKP PKPdf 03 26 49.6 +0.7
KMBO pPKP pPKPdf 03 28 55.8 +1.5
KMBO SKPbc SKPbc 03 29 32.9 +2.0
KMBO *e*SKP 03 29 33.5
LBOS 136.27 265 *e*P SKPdf 03 29 33.9 +0.7
MOR8 Moi Rana 136.52 352 *e*P PKPdf 03 26 39.7 -10
MOR8 AMb AMB 03 26 42.1
comp=Z,108nm,1.7s
MAK Makhachkala 136.57 308⇓*i*PKIKP PKPdf 03 26 49.4 -0.1
BORG Borgarnes 136.62 13 PKhKP 03 26 41.7
comp=Z,35nm,1.1s,baz=304,slow=3.6,SNR=3.6
BORG PKP PKPdf 03 26 48.4 -1.2
comp=Z,30nm,0.8s,baz=12,slow=2.9,SNR=4.1
BORG Borgarnes 136.62 13 PKP 03 26 41.7
BORG PKP PKPdf 03 26 48.4 -1.2
QRN Al-Qurain 136.98 287 *e*P PKPdf 03 26 51.5 +1.3
QRN AMb AMB 03 26 55.1
comp=Z,187nm,0.7s
QRN Al-Qurain 136.98 287 *e*P SKPdf 03 29 34.7 +0.2
KBD Kabd 137.21 288 *e*P SKPdf 03 29 35.4 +0.5
KBD AMb AMB 03 29 39.7
comp=Z,1μm,1.7s
UMR Umm Al-Rimmam 137.22 289 *e*P PKPdf 03 26 52.5 +1.8
UMR AMb AMB 03 26 55.6
comp=Z,148nm,0.8s
UMR Umm Al-Rimmam 137.22 289 *e*P SKPdf 03 29 35.3 +0.4
UMR AMb AMB 03 29 40.5
comp=Z,616nm,1.6s
DHBB Dhamar BB 137.28 266 *e*P SKPdf 03 29 36.9 +1.9
RDF Al-Radifah 137.31 288 *e*P PKPdf 03 26 51.4 +0.5
RDF AMb AMB 03 26 54.6
comp=Z,130nm,1.0s
RDF Al-Radifah 137.31 288 *e*P SKPdf 03 29 35.6 +0.5
RDF AMb AMB 03 29 40.9
comp=Z,827nm,1.7s

MIB Mutribah 137.56 289 *e*P PKPdf 03 26 51.5 +0.2
MIB AMb AMB 03 26 55.1
comp=Z,165nm,0.8s
MIB Mutribah 137.56 289 *e*P SKPdf 03 29 36.1 +0.6
MIB AMb AMB 03 29 41.3
comp=Z,485nm,1.5s
NAY Al-Naaiem 137.61 288 *e*P PKPdf 03 26 50.8 -0.6
NAY AMb AMB 03 26 55.2
comp=Z,57nm,1.0s
NAY Al-Naaiem 137.61 288 *e*P SKPdf 03 29 35.9 +0.3
NAY AMb AMB 03 29 40.6
comp=Z,224nm,1.9s
ATD Arta Tunnel 137.62 261 PKhKP 03 26 45.3
comp=Z,7.0nm,0.6s,baz=241,slow=20,SNR=4.3
ATD PKP PKPdf 03 26 52.1 +0.7
comp=Z,20nm,0.9s,baz=34,slow=2.0,SNR=8.4
ATD SKPbc SKPbc 03 29 37.5 +2.6
comp=Z,31nm,1.0s,baz=265,slow=3.7,SNR=12
ATD Arta Tunnel 137.62 261 PKP 03 26 45.3
ATD PKP PKPdf 03 26 52.1 +0.7
ATD SKPbc SKPbc 03 29 37.5 +2.6
KAF Kangasniemi 137.64 342 *e*pkp 03 26 38.3
baz=22,slow=2.8
KAF Kangasniemi 137.64 342 *e*pkp SKPbc 03 29 33.4 -1.5
baz=36,slow=2.6
MOS Moscow 137.75 329 *e*PKIKP PKPdf 03 26 47.7 -3.9
MOS *e* 03 29 35.5
MOS *i* 03 29 42.1
MOS *e* 03 33 10.6
MOS *i* 03 41 08.8
MOS pmax pmax
comp=Z,103nm,0.8s
VRHR Novokhopersk 137.93 321 *e*PKIKP PKPdf 03 26 50.3 -1.7
VRHR pmax pmax
comp=Z,100nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.8s
PUL Pulkovo 138.16 338*c i*PKIKP PKPdf 03 26 51.5 -0.9
PUL Pulkovo 138.16 338⇓*i*PKP PKPdf 03 26 53.0 +0.6
FINES FINESS Array B 138.24 342 PKhKP 03 26 40.3
comp=E,8.6nm,0.5s,baz=54,slow=3.3,SNR=40
FINES PKP PKPdf 03 26 51.9 -0.7
comp=E,52nm,0.7s,baz=83,slow=3.2,SNR=25
FINES SKP 03 29 36.0
comp=E,92nm,0.8s,baz=64,slow=4.4,SNR=20
FINES SKKPbc 03 38 18.4
comp=E,2.7nm,0.5s,baz=213,slow=3.0,SNR=14
FINES FINESS Array B 138.24 342 PKHKP 03 26 40.3
FINES 03 26 51.9
NSS Namsos 138.40 352 *e*P PKPdf 03 26 40.9 -12
NSS *e*PP SKPdf 03 29 35.7 -1.3
DGRG David-gareji 138.41 306 P PKPdf 03 26 53.6 +0.8
DGRG S 03 29 40.1
OBN Obninsk 138.60 329⇓*e*PKHKP 03 26 44.3
OBN *i* 03 26 52.1
OBN *e* 03 28 54.1
OBN *e* 03 29 45.5
OBN *i* 03 41 20.4
OBN *e*SS SS 03 47 20.7 -2.2
OBN *e*SSS 03 52 35.6
OBN pmax pmax
comp=Z,16nm,0.6s
OBN pmax pmax
comp=Z,150nm,1.7s
OBN Obninsk 138.60 329 *e*PKPpre 03 26 43.8
OBN *e*PKPdf PKPdf 03 26 52.5 -0.7
OBN *e*SKP 03 29 37.1
SAMG Sameba 138.77 307 P PKPdf 03 26 52.9 -0.6
MTA Mtatsminda 138.78 307 P PKPdf 03 26 53.3 -0.2
MTA S 03 29 40.6
TBLG Delisi 138.82 307 P PKPdf 03 26 52.1 -1.5
TBLG S 03 29 37.5
VOR Voronezh 139.01 323 PKIKP PKPdf 03 26 50.0 -3.9
VOR pmax pmax
comp=Z,210nm,2.0s
GNI Garni 139.11 305 PKhKP 03 26 43.1
comp=Z,1.1nm,0.3s,baz=86,slow=19,SNR=3.3
GNI PKP PKPdf 03 26 53.1 -1.0
comp=Z,31nm,0.8s,baz=31,slow=11,SNR=7.4
GNI SKPbc SKPbc 03 29 41.1 +2.1
comp=Z,17nm,0.9s,baz=34,slow=18,SNR=6.7
GNI Garni 139.11 305 *e*PKHKP 03 26 49.2
GNI *e* 03 26 54.7
GNI 03 29 41.1
GNI Garni 139.11 305 *e*PKPpre 03 26 49.2
GNI PKP PKPdf 03 26 53.1 -1.0
GNI ⇑*e*PKP PKPdf 03 26 54.7 +0.6
GNI *e*PKPdf PKPdf 03 26 54.9 +0.7
GNI *e*SKP 03 29 39.9
GNI SKPbc SKPbc 03 29 41.1 +2.1
GNI Garni 139.11 305 PKP 03 26 43.1
ZEI Tsey 139.20 309 *e*PKHKP 03 26 47.2
GOF Gofitskoye 139.20 312 *e*PKHKP 03 26 46.0
GOF pmax pmax
comp=Z,450nm,3.4s
VRSR Storozhevoye 139.25 323 *i* PKIKP PKPdf 03 26 54.4 0.0
VRSR *e* 03 33 09.1
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
KIV Kislovodsk 139.75 311 *e*PKHKP 03 26 46.8
KIV pmax pmax
comp=Z,51nm,1.0s
AKH Akhalkalaki 139.80 307 P PKPdf 03 26 51.0 -4.4
CLDR Caldiran 139.91 303 *e*P PKPdf 03 26 52.2 -3.4
BHD Baghdad 140.12 294 *ex* x 03 26 36.0
MOL Molde 140.78 355 *e*P PKPdf 03 26 54.5 -2.7
MSL Mosul 140.95 299 *ex* x 03 26 51.5
MSL *ex* x 03 32 37.0
ARTV Artvin 141.00 307 *i* P PKPdf 03 26 51.4 -6.2
DOMB Dombas 141.15 353 *e*P PKPdf 03 26 51.3 -6.6
DOMB AMb AMB 03 26 54.9
comp=Z,119nm,0.8s
ERZM Erzurum 141.70 305 *i* P PKPdf 03 26 55.6 -3.2
EZM Erzurum 141.70 305 *e*P PKPdf 03 26 56.0 -2.8
NB2 NORSAR Subarra141.86 351 PKPa 03 26 53.8
comp=Z,168nm,0.8s,baz=18,slow=3.1
NB2 NORSAR Subarra141.86 351 PKPa PKPdf 03 26 53.8 -5.3
baz=18,slow=3.1
NOA NORSAR Array B141.86 351 PKhKP 03 26 53.6
comp=Z,165nm,0.8s,baz=16,slow=4.7,SNR=206
NOA SKPbc SKPbc 03 29 45.7 -0.4
comp=Z,44nm,0.9s,baz=15,slow=4.2,SNR=11
NOA SKKPab 03 38 06.2
comp=Z,3.8nm,0.8s,baz=194,slow=4.1,SNR=4.4
NOA NORSAR Array B141.86 351 PKP PKPdf 03 26 53.6 -5.4
NOA SKPbc SKPbc 03 29 45.7 -0.4
NOA SKKPab 03 38 06.2
SOC Sochi 141.92 311 *i* PKHKP 03 26 49.7
SOC *e*PPP 03 33 15.1
SOC *e* 03 33 22.4
SOC *e* 03 41 53.2
SOC *e*SSS 03 53 28.6
SOC pmax pmax
comp=Z,46nm,0.7s
FOO Floro 141.94 356 *e*P PKPdf 03 26 53.7 -5.5
FOO AMb AMB 03 26 55.9
comp=Z,171nm,0.9s
BTMT Batman 141.94 302 *e*P PKPdf 03 26 57.7 -1.5
NAO01 NORSAR Array S 142.09 351 *e*PKPpre 03 26 54.1
HYA Hoyanger 142.28 355 *e*P PKPdf 03 26 56.1 -3.7
HYA AMb AMB 03 27 03.7
comp=Z,209nm,1.2s
HFS Hagfors 142.33 349 PKhKP 03 26 54.7
comp=Z,313nm,0.6s,baz=58,slow=3.9,SNR=916
HFS SKKPbc 03 38 04.9
comp=Z,5.4nm,0.6s,baz=132,slow=2.2,SNR=11
SUE Sulen 142.49 356 *e*P PKPdf 03 26 55.8 -4.4
SUE AMb AMB 03 26 58.0
comp=Z,370nm,0.7s
IZAR Zarasai 142.60 336 *e*P PKPdf 03 26 56.5 -3.8
IZAR AMb AMB 03 27 00.1
comp=Z,123nm,0.7s
IZAR *e* 03 29 48.2
IZAR *e*PP PP 03 30 05.4 -10
MARD Mardin 142.65 301 *i* P PKPdf 03 26 52.0 -8.4
IDID Didziasalis 142.73 335 *e*P PKPdf 03 26 57.0 -3.6
IDID AMb AMB 03 27 00.5
comp=Z,71nm,0.9s

IDID *e* 03 29 48.8
IDID *e*PP PP 03 30 05.2 -11
ISAL Salakas 142.78 336 *e*P PKPdf 03 26 57.3 -3.4
ISAL AMb AMB 03 27 00.7
comp=Z,71nm,0.9s
ISAL *e* 03 29 48.5
ISAL *e*PP PP 03 30 06.4 -10
MNK Minsk 142.88 333⇑*e*PKHKP 03 26 55.0
MNK pmax pmax
comp=Z,2μm,1.0s
IIGN Ignalina 142.91 335 *e*P PKPdf 03 26 57.7 -3.2
IIGN AMb AMB 03 27 01.1
comp=Z,88nm,1.0s
IIGN *e* 03 29 49.0
DIY Diyarbakir 142.98 302 *e*P PKPdf 03 26 59.5 -1.5
OSL Oslo 142.99 351 *e*P PKPdf 03 26 57.4 -3.6
OSL AMb AMB 03 26 59.2
comp=Z,478nm,0.8s
ASK Askoy 143.03 356 *e*P PKPdf 03 26 57.7 -3.4
ASK AMb AMB 03 26 59.9
comp=Z,850nm,0.8s
ANN Anapa 143.03 314 *i* PKHKP 03 26 58.0
ANN pmax pmax
comp=N,120nm,1.1s
ANN pmax pmax
comp=E,80nm,1.1s
ANN pmax pmax
comp=Z,502nm,1.1s
RUND Rundenannen 143.09 356⇑*i*P PKPdf 03 26 58.0 -3.2
RUND AMb AMB 03 27 00.1
comp=Z,2μm,0.8s
BER Bergen 143.12 356 *e*P PKPdf 03 26 57.9 -3.5
BER *e*PKPd PKPdf 03 26 59.2 -2.1
BER AMb AMB 03 27 00.4
comp=Z,909nm,0.0s
BER *ep*PKP pPKPdf 03 29 03.3 -3.6
BER *e*PP PP 03 30 15.7 -2.7
EGD Espegrend 143.24 356 *e*P PKPdf 03 26 58.4 -3.1
EGD AMb AMB 03 27 00.6
comp=Z,1μm,0.9s
WAL1 Walls 143.42 1 *e*P PKPdf 03 26 58.5 -3.3
WAL1 Walls 143.42 1 *e*P PKPdf 03 26 58.5 -3.3
KONO Kongsberg 143.42 352 *e*P PKPdf 03 26 58.6 -3.3
KONO *ep*PKP pPKPdf 03 29 04.1 -3.3
KONO *e*PP PP 03 30 18.2 -1.9
KONO Kongsberg 143.42 352 PKIKP PKPdf 03 26 58.7 -3.1
KONO Kongsberg 143.42 352 *e*PKPdf PKPdf 03 26 58.5 -3.3
ODD1 Odda 143.49 354⇑*i*P PKPdf 03 26 58.1 -3.8
ODD1 AMb AMB 03 27 00.5
comp=Z,530nm,0.9s
LRW Lerwick 143.55 1 *e*P PKPdf 03 26 58.4 -3.6
LRW Lerwick 143.55 1 *e*P PKPdf 03 26 58.4 -3.6
SAN1 Sandwick 143.66 1 *e*P PKPdf 03 26 59.3 -2.9
SAN1 Sandwick 143.66 1 *e*P PKPdf 03 26 59.3 -2.9
GRSN GIRESUNGRSN 143.74 308 *i* P PKPdf 03 27 00.4 -2.0
ELZG Elazig 143.81 303 *i* P PKPdf 03 27 03.2 +0.7
BLS5 Blasjo 143.99 354⇑*i*P PKPdf 03 27 02.0 -0.8
BLS5 AMb AMB 03 27 04.3
comp=Z,377nm,0.9s
URFA Urfa 144.16 302 *e*P PKPdf 03 27 03.6 +0.5
MALT Malatya 144.28 303 *e*P PKPdf 03 27 03.2 -0.1
MALT Malatya 144.28 303 *e*PKPbc PKPdf 03 27 03.3 0.0
MALT *e*SKP 03 29 51.2
KMY Karmoy 144.29 355⇑*i*P PKPdf 03 27 01.2 -2.1
KMY AMb AMB 03 27 03.6
comp=Z,968nm,1.0s
STAV Stavanger 144.53 355⇑*i*P PKPdf 03 27 02.4 -1.3
STAV AMb AMB 03 27 05.0
comp=Z,610nm,1.2s
ATAB Bozova 144.56 302 *i* P PKPdf 03 27 03.9 +0.1
AKASG Malin Array Be 144.80 327 PKP PKPdf 03 27 03.4 -0.9
comp=Z,268nm,0.6s,baz=45,slow=4.2,SNR=426
AKASG pPKP pPKPdf 03 29 09.8 -0.1
comp=Z,33nm,0.8s,baz=45,slow=3.4,SNR=5.0
AKASG SKPbc SKPbc 03 29 53.1 0.0
comp=Z,101nm,0.8s,baz=48,slow=2.7,SNR=15
AKASG PKKP 03 36 10.1
comp=Z,0.6nm,0.4s,baz=252,slow=2.3,SNR=4.3
AKASG SKKPbc 03 37 54.6
comp=Z,2.5nm,0.6s,baz=247,slow=3.9,SNR=7.6
AKASG Malin Array Be 144.80 327 PKIKP PKPdf 03 27 03.4 -0.8
AKASG 03 29 53.2
AKASG Malin Array Be 144.80 327 PKP PKPdf 03 27 03.4 -0.9
AKASG pPKP pPKPdf 03 29 09.8 -0.1
AKASG SKPbc SKPbc 03 29 53.1 0.0
AKASG PKKP 03 36 10.1
AKASG SKKPbc 03 37 54.6
SNART Snartemo 144.98 353⇑*i*P PKPdf 03 27 04.0 -0.5
SNART AMb AMB 03 27 06.4
comp=Z,325nm,0.9s
RTO Tolsta 145.03 6 *e*P PKPdf 03 27 03.9 -0.7
RTO Tolsta 145.03 6 *e*P PKPdf 03 27 03.9 -0.7
SUW Suwalki 145.07 336 *e*PKPc 03 27 04.6
SUW *e*PKiKP PKiKP 03 27 07.2 -1.6
SUW *ep*PKP pPKPdf 03 29 13.4 +3.1
SIM Simferopol' 145.13 316⇑*e*PKIKP PKPdf 03 27 04.1 -0.7
SIM PPP 03 29 55.1
SIM pmax pmax
comp=Z,392nm,0.8s
SIM pmax pmax
comp=Z,900nm,9.6s
RSC Scourie 145.15 5 *e*P PKPdf 03 27 03.4 -1.4
RSC Scourie 145.15 5 *e*P PKPdf 03 27 03.4 -1.4
GZT Gaziantep 145.16 302 *i* P PKPdf 03 27 05.4 +0.6
TOKT Tokat 145.17 307 *e*P PKPdf 03 27 05.1 +0.3
KVT Kavak 145.29 309 *e*P PKPdf 03 27 07.8 +2.7
REB Eisghbrachaidh 145.37 5 *e*P PKPdf 03 27 04.2 -1.0
REB Eisghbrachaidh 145.37 5 *e*P PKPdf 03 27 04.2 -1.0
RRH Rhenigidale 145.44 6 *e*P PKPdf 03 27 04.7 -0.6
RRH Rhenigidale 145.44 6 *e*P PKPdf 03 27 04.7 -0.6
ASCN Ascension 145.58 154 *e*PKPdf PKPdf 03 27 06.0 +0.4
RRR Rubha Reidh 145.58 6 *e*P PKPdf 03 27 05.3 -0.3
RRR Rubha Reidh 145.58 6 *e*P PKPdf 03 27 05.3 -0.3
MVH1 Achvaich 145.64 4 *e*P PKPdf 03 27 05.0 -0.6
MVH1 Achvaich 145.64 4 *e*P PKPdf 03 27 05.0 -0.6
BOYT Boyabat 145.99 310 *i* P PKPdf 03 27 06.3 0.0
MCD Coleburn Disti 146.03 3 *e*P PKPdf 03 27 06.1 -0.2
MCD Coleburn Disti 146.03 3 *e*P PKPdf 03 27 06.1 -0.2
MDO Dochfour 146.11 4 *e*P PKPdf 03 27 06.6 +0.1
MDO Dochfour 146.11 4 *e*P PKPdf 03 27 06.6 +0.1
MME1 Meikle Cairn 146.32 3 *e*P PKPdf 03 27 06.4 -0.4
MME1 Meikle Cairn 146.32 3 *e*P PKPdf 03 27 06.4 -0.4
KOZT Kozan 146.47 303 *e*P PKPdf 03 27 06.9 -0.2
MUD Monsted U'grnd 146.57 351 *i* P PKPdf 03 27 07.2 0.0
comp=Z,509nm,0.9s
MUD *e* 03 29 10.5
MUD *i* 03 29 16.4
MUD *i* S 03 36 39.9
CEYT Ceyhan 146.65 302 *e*P PKPdf 03 27 07.5 +0.1
FKH Fakeheh 146.65 297 *e*P PKPdf 03 27 11.1 +3.7
BSD Bornholm Skovb 146.71 344 *i* P PKPdf 03 27 06.2 -1.2
comp=Z,646nm,0.8s
BSD *e* 03 29 11.1
BSD *i* 03 29 17.0
COP Copenhagen 146.74 347 *i* P PKPdf 03 27 06.7 -0.8
comp=Z,301nm,0.7s
COP *e* 03 29 07.6
COP *i* 03 30 06.5
COP *e* 03 33 25.9
COP *i* 03 36 38.2
COP Copenhagen 146.74 347 *i* PKIKP PKPdf 03 27 06.7 -0.8
COP *e* 03 29 07.6
COP *e* 03 33 25.9
TOS Tosya 146.75 310 *e*P PKPdf 03 27 11.1 +3.6
KARA Karaisali 147.12 303 *e*P PKPdf 03 27 07.9 -0.2
CANT Cankiri 147.19 309 *e*P PKPdf 03 27 10.6 +2.4
KIS Kishinev 147.26 322α *i* PKHKP 03 27 06.0
KIS *e* 03 33 33.0
KIS pmax pmax
comp=Z,600nm,1.0s
KIS pmax pmax
comp=Z,2μm,1.0s
WAR Warsaw 147.27 336 *e*PKP PKPdf 03 27 11.3 +2.9
WAR *e*PKiKP PKiKP 03 27 12.8 -0.5
WAR *ep*PKP pPKPdf 03 29 15.6 +1.5
WAR Warsaw 147.27 336 *i* PKP2 PKPab 03 27 12.8 -2.4
BHL Bhannes 147.31 296 *e*P PKPdf 03 27 08.2 -0.2
EAB Aberfoyle 147.36 5 *e*P PKPdf 03 27 08.0 -0.5
EAB Aberfoyle 147.36 5 *e*P PKPdf 03 27 08.0 -0.5
ELDT Eldivan 147.37 309 *i* P PKPdf 03 27 07.8 -0.7
BR131 Keskin Array S 147.47 307 *e*PKPdf PKPdf 03 27 08.1 -0.6
BR131 *e*PKPbc PKPbc 03 27 11.9 -0.2

BR131 *e*PKPdf pPKPdf 03 29 16.9 +2.4
BRTR Keskin Array B 147.47 307 PKP PKPdf 03 27 07.8 -0.9
comp=Z,11nm,0.5s,baz=137,slow=2.0,SNR=59
BRTR PKPbc PKPbc 03 27 12.0 -0.1
comp=Z,51nm,0.7s,baz=142,slow=4.6,SNR=95
BRTR pPKPbc pPKPbc 03 29 15.1 -0.8
comp=Z,21nm,0.9s,baz=143,slow=2.8,SNR=3.6
KAMT Kaman 147.54 307 *e*P PKPdf 03 27 08.2 -0.6
RGN Rugen 147.60 346 *e*PKPbc PKPbc 03 27 11.8 -0.7
MERS Mersin 147.63 302 *e*P PKPdf 03 27 08.8 -0.2
EDI Edinburgh 147.69 3 *e*P PKPdf 03 27 08.4 -0.6
EDI AMb AMB 03 27 13.3
comp=Z,641nm,1.0s
EDI Edinburgh 147.69 3 *e*P PKPdf 03 27 08.4 -0.6
EDI AMb AMB 03 27 13.3
comp=Z,641nm,1.0s
GKP Gorka Klasztor 147.70 341 *e*PKP PKPdf 03 27 08.6 -0.5
GKP *e*PKiKP PKiKP 03 27 12.8 -1.4
GKP *ep*PKP pPKPdf 03 29 16.7 +1.9
GKP Gorka Klasztor 147.70 341 *e*PKIKP PKPdf 03 27 08.6 -0.5
GKP *e* 03 27 12.8
EAU Auchinoon 147.76 4 *e*P PKPdf 03 27 07.8 -1.3
EAU AMb AMB 03 27 09.5
comp=Z,116nm,2.3s
EAU Auchinoon 147.76 4 *e*P PKPdf 03 27 07.8 -1.3
EAU AMb AMB 03 27 09.5
comp=Z,116nm,2.3s
IAS Iasi 147.84 324 PKP2 PKPab 03 27 13.2 -4.3
EBL Broad Law 147.85 3 *e*P PKPdf 03 27 09.0 -0.3
EBL AMb AMB 03 27 13.8
comp=Z,848nm,0.9s
EBL Broad Law 147.85 3 *e*P PKPdf 03 27 09.0 -0.3
EBL AMb AMB 03 27 13.8
comp=Z,848nm,0.9s
ANTO Ankara 148.04 308 *e*PKPdf PKPdf 03 27 09.1 -0.5
ANTO *e*PKPbc PKPbc 03 27 13.2 -0.4
ANTO *ep*PKPdf pPKPdf 03 29 17.3 +1.9
GMK Mull of Kintyr 148.09 6 *e*P PKPdf 03 27 09.3 -0.4
GMK Mull of Kintyr 148.09 6 *e*P PKPdf 03 27 09.3 -0.4
EKA Eskdalemuir Ar 148.28 3 PKP PKPdf 03 27 08.1 -1.9
comp=Z,162nm,1.0s,baz=341,slow=3.0,SNR=108
EKA PKPbc PKPbc 03 27 13.7 -0.5
comp=Z,298nm,0.9s,baz=330,slow=2.7,SNR=136
GCL Cushendall 148.30 7 *e*P PKPdf 03 27 09.7 -0.3
GCL Cushendall 148.30 7 *e*P PKPdf 03 27 09.7 -0.3
ESK Eskdalemuir 148.30 4 *e*P PKPdf 03 27 09.4 -0.6
ESK AMb AMB 03 27 14.6
comp=Z,386nm,1.0s
ESK Eskdalemuir 148.30 4 *e*P PKPdf 03 27 09.4 -0.6
ESK AMb AMB 03 27 14.6
comp=Z,386nm,1.0s
ESK Eskdalemuir 148.30 4 *e*PKPdf PKPdf 03 27 09.2 -0.8
ESK *e*PKPbc PKPbc 03 27 13.5 -0.7
ESK *e*PKPab PKPab 03 27 18.4 -0.9
SGKT Sivrigoynuk 148.31 310 *i* P PKPdf 03 27 09.0 -1.1
EIL Elat 148.33 289 *e*PKPdf PKPdf 03 27 09.7 -0.4
EIL *e*PKPbc PKPbc 03 27 14.3 0.0
EIL *ep*PKPdf pPKPdf 03 29 17.2 +1.4
PHNC Paralimni 148.44 299 ⇑P PKPbc 03 27 14.6 0.0
PHNC Paralimni 148.44 299 ⇑*e*P PKPbc 03 27 14.6 0.0
IKL Isikli 148.44 301 *e*P PKPdf 03 27 07.8 -2.5
KWP Kalwaria 148.59 331 *e*PKP PKPdf 03 27 10.1 -0.4
KWP *e*PKiKP PKiKP 03 27 15.3 -0.7
KWP *ep*PKP pPKPdf 03 29 18.2 +1.9
KWP *e*SKS SKSdf 03 33 28.7 +0.6
GAL1 Galloway 148.64 5 *e*P PKPdf 03 27 09.0 -1.6
GAL1 Galloway 148.64 5 *e*P PKPdf 03 27 09.0 -1.6
CFR Carcaliu 148.69 320 ⇓P PKPdf 03 27 10.4 -0.3
CFR Carcaliu 148.69 320 ⇓P PKPdf 03 27 10.4 -0.2
BSEG Bad Segeberg 148.80 348 *e*PKPdf PKPdf 03 27 09.9 -1.0
BSEG *e*PKPbc PKPbc 03 27 15.0 -0.5
BSEG *e*PKPab PKPab 03 27 21.7 +0.2
BSEG *ep*PKPbc pPKPbc 03 29 24.5 +4.9
BSEG Bad Segeberg 148.80 348 *e*PKIKP PKPdf 03 27 09.9 -1.0
BSEG *e* 03 27 21.7
BURAR Bucovina Array 148.80 326 ⇑P PKPdf 03 27 11.0 +0.1
BURAR Bucovina Array 148.80 326 ⇑P PKPdf 03 27 11.0 +0.1
TIRR Tirgusor 148.91 319 ⇓P PKPdf 03 27 10.6 -0.4
ERMK Ermenek 148.94 302 *i* P PKPdf 03 27 06.2 -4.9
CSS Prodhromos 149.01 299 ⇑P PKPbc 03 27 16.1 +0.1
CSS Prodhromos 149.01 299 *e*P PKPdf 03 27 10.2 -1.0
CSS Prodhromos 149.01 299 *e*PKPdf PKPdf 03 27 11.9 +0.7
CSS *e*PKPbc PKPbc 03 27 15.8 -0.1
CSS *ep*PKPdf pPKPdf 03 29 19.7 +2.8
HENT Hendek 149.02 311 *i* P PKPdf 03 27 10.7 -0.6
KIZT Kizilcal 149.04 307 *e*P PKPdf 03 27 11.3 +0.1
MAMC Mammari 149.06 299 ⇑P PKPbc 03 27 16.3 +0.2
HARR Harsova 149.08 320 ⇑P PKPdf 03 27 11.3 0.0
HARR Harsova 149.08 320 ⇑P PKPdf 03 27 11.3 0.0
VRI Vrincioaia 149.09 322 ⇑P PKPbc 03 27 15.7 -0.5
VRI Vrincioaia 149.09 322 ⇑P PKPbc 03 27 15.7 -0.4
GMM Mts of Mourne 149.14 7 *e*P PKPdf 03 27 11.0 -0.4
GMM Mts of Mourne 149.14 7 *e*P PKPdf 03 27 11.0 -0.4
KOLS Kolonicke sedl 149.29 331 *e*PKP PKPdf 03 27 11.2 -0.4
KOLS *e* 03 27 16.5
KOLS *e* 03 29 21.8
OJC Ojcow 149.35 335 *e*PKPdf PKPdf 03 27 11.6 -0.1
OJC *e*PKiKP PKiKP 03 27 16.3 -1.3
OJC *ep*PKPdf pPKPdf 03 29 20.1 +2.6
OJC *e*SKKSac SKKSac 03 36 49.7 -2.2
OJC L 04 29 52.9
comp=Z,5.1nm,22.9s
WIM Isle of Man 149.36 5 *e*P PKPdf 03 27 11.4 -0.4
WIM AMb AMB 03 27 17.9
comp=Z,977nm,0.8s
WIM Isle of Man 149.36 5 *e*P PKPdf 03 27 11.4 -0.4
WIM AMb AMB 03 27 17.9
comp=Z,977nm,0.8s
DMUB Kingscourt 149.36 8 ⇓*i*P PKPdf 03 27 10.7 -1.0
DMUB Kingscourt 149.36 8 ⇑*i*P PKPbc 03 27 15.8 -1.0
DMUB Kingscourt 149.36 8 ⇑*i*P PKPbc 03 27 15.8 -1.0
RUE Ruedersdorf 149.38 343 *e*PKPdf PKPdf 03 27 11.2 -0.5
RUE *e*PKPbc PKPbc 03 27 16.2 -0.6
RUE *ep*PKPdf pPKPdf 03 29 20.9 +3.4
STHS Stebnicka Huta 149.38 332 *e*PKP PKPdf 03 27 11.4 -0.4
STHS *i* 03 27 17.3
STHS *e* 03 29 22.6
SZAC Souni-Zanaja 149.41 299 P PKPbc 03 27 17.3 +0.4
PSN Preselentsi 149.47 318 *e*P PKPdf 03 27 11.5 -0.4
ESKT Eskisehir 149.56 309 *e*P PKPdf 03 27 12.2 +0.1
ESKT Eskisehir 149.56 309 *i* P PKPdf 03 27 11.0 -1.1
GPA Golpazari 149.65 310 *e*P PKPbc 03 27 17.7 +0.2
CRVS Cervenica-Dubn 149.68 332 *e*PKP PKPbc 03 27 18.9 +1.3
CRVS *e* 03 29 24.0
CRVS *e* 03 43 00.0
CRVS *e*SS SS 03 49 27.6 -0.7
CRVS Cervenica-Dubn 149.68 332 *e*PKHKP 03 27 13.8
CRVS *e* 03 43 00.0
CRVS *e*SS SS 03 49 27.6 -0.7
BORA Eskisehir 149.71 309 *i* P PKPdf 03 27 11.1 -1.2
MLR Muntele Rosu 149.76 322 PKP PKPdf 03 27 11.2 -1.2
comp=Z,18nm,0.9s,baz=28,slow=2.5,SNR=20
MLR PKPbc PKPbc 03 27 18.2 +0.5
comp=Z,138nm,1.0s,baz=6.0,slow=6.9,SNR=92
MLR pPKPbc pPKPbc 03 29 22.0 -0.1
comp=Z,146nm,1.2s,baz=343,slow=1.8,SNR=1.3
MLR Muntele Rosu 149.76 322 ⇑P PKPdf 03 27 11.5 -0.9
MLR Muntele Rosu 149.76 322 ⇑P PKPdf 03 27 11.5 -0.9
NIE Niedzica 149.77 333 *e*PKPdf PKPdf 03 27 12.0 -0.4
NIE *e*PKiKP PKiKP 03 27 18.2 -0.3
NIE *ep*PKPdf pPKPdf 03 29 19.9 +1.7
AKMC Akamas 149.80 299 ⇑P PKPbc 03 27 17.1 -0.8
AKMC Akamas 149.80 299 ⇑*i*P PKPbc 03 27 17.1 -0.8
PPCY Paphos 149.82 299 ⇑P PKPbc 03 27 17.3 -0.6
DCN Croghan 149.85 9 ⇓*i*P PKPdf 03 27 11.6 -0.9
DCN Croghan 149.85 9 ⇑*i*P PKPbc 03 27 16.9 -1.1
DCN Croghan 149.85 9 ⇑*i*P PKPbc 03 27 16.9 -1.1
HRT Hereke 149.87 312 *e*P PKPbc 03 27 16.9 -1.1
DLF Lyons Farm 150.00 8 ⇓*i*P PKPdf 03 27 12.0 -0.7
DLF Lyons Farm 150.00 8 ⇑*i*P PKPbc 03 27 17.1 -1.2
DLF Lyons Farm 150.00 8 ⇑*i*P PKPbc 03 27 17.1 -1.2
KSP Ksiaz 150.09 339 *e*PKP PKPdf 03 27 12.4 -0.5
KSP *e*PKiKP PKiKP 03 27 18.7 -0.4
KSP *ep*PKP pPKPdf 03 29 18.2 -0.5
KSP Ksiaz 150.09 339 *e*PKPdf PKPdf 03 27 12.0 -0.9
KSP *i* PKPdf PKPdf 03 27 18.5 +5.6
KSP *ep*PKP pPKPdf 03 29 17.5 -1.2
KSP *e*SS SS 03 49 29.0 -3.8
WCB1 Church Bay 150.13 6 *e*P PKPdf 03 27 12.4 -0.5
WCB1 AMb AMB 03 27 19.3
comp=Z,1μm,0.8s
WCB1 Church Bay 150.13 6 *e*P PKPdf 03 27 12.4 -0.5
WCB1 AMb AMB 03 27 19.3
comp=Z,1μm,0.8s
WME Myndd Eilian 150.13 5 *e*P PKPdf 03 27 12.5 -0.4
WME AMb AMB 03 27 19.5
comp=Z,1μm,0.8s
WME Myndd Eilian 150.13 5 *e*P PKPdf 03 27 12.5 -0.4
WME AMb AMB 03 27 19.5
comp=Z,1μm,0.8s
PRD Provadia 150.21 317 *e*P PKPdf 03 27 13.0 -0.1
WLF1 Llynfaes 150.23 5 *e*P PKPdf 03 27 11.4 -1.7
WLF1 AMb AMB 03 27 19.7
comp=Z,799nm,0.8s
WLF1 Llynfaes 150.23 5 *e*P PKPdf 03 27 11.4 -1.7
WLF1 AMb AMB 03 27 19.7
comp=Z,799nm,0.8s
YRC Rhoscolyn 150.25 6 *e*P PKPdf 03 27 12.6 -0.6
YRC AMb AMB 03 27 19.6
comp=Z,508nm,0.9s
YRC Rhoscolyn 150.25 6 *e*P PKPdf 03 27 12.6 -0.6
YRC AMb AMB 03 27 19.6
comp=Z,508nm,0.9s
OKC Ostrava-Krasne 150.28 336 *e*PKPDF PKPdf 03 27 10.1 -3.1
OKC ⇑*e*PKPB PKPbc 03 27 16.1 -2.9
OKC *e*PKPAB PKPab 03 27 23.6 -4.0
OKC *ep*PKP pPKPdf 03 29 21.3 +2.3
VOIR 150.29 323 ⇑P PKPdf 03 27 13.2 0.0
VOIR 150.29 323 ⇑P PKPdf 03 27 13.2 0.0
BUC1 Bucharest 150.39 321 PKIKP PKPbc 03 27 18.7 -0.5
MTUR Matau 150.41 323 PKIKP PKPbc 03 27 19.1 -0.2
KECS Kecovo 150.42 332 *e*PKP PKPdf 03 27 13.3 -0.1
KECS *e* 03 27 18.8
KECS *e* 03 27 28.8
KECS *e* 03 29 24.2
KBI1 Birley Grange 150.43 2 *e*P PKPdf 03 27 13.1 -0.3
KBI1 Birley Grange 150.43 2 *e*P PKPdf 03 27 13.1 -0.3
UPC Upice 150.47 339 *e*PKPDF PKPdf 03 27 12.7 -0.8
UPC ⇑*e*PKPB PKPbc 03 27 19.2 -0.2
UPC *ep*PKP pPKPdf 03 29 23.7 +4.4
BCK Bucak 150.48 305 *e*P PKPdf 03 27 16.1 +2.7
DPC Dobruska-Polom 150.50 339 *e*PKPDF PKPdf 03 27 12.7 -0.8
DPC ⇑*e*PKPB PKPbc 03 27 19.5 0.0
DPC *e*PKPAB PKPab 03 27 28.2 -0.3
DPC *ep*PKP pPKPdf 03 29 24.7 +5.3
DPC Dobruska-Polom 150.50 339 *e*PKIKP PKPdf 03 27 12.7 -0.8
DPC *e* 03 27 28.2
ULDT Uludag 150.52 311 *i* P PKPdf 03 27 12.7 -0.8
YRE Yr Eifl 150.53 6 *e*P PKPdf 03 27 12.9 -0.7
YRE AMb AMB 03 27 19.6
comp=Z,361nm,0.9s
YRE Yr Eifl 150.53 6 *e*P PKPdf 03 27 12.9 -0.7
YRE AMb AMB 03 27 19.6
comp=Z,361nm,0.9s
LIKS Likavka 150.55 334 *e*PKP PKPdf 03 27 14.9 +1.3
LIKS *e* 03 27 20.9
LIKS *e* 03 43 02.2
MORC Moravsky Berou 150.56 337 *e*PKPdf PKPdf 03 27 12.5 -1.1
MORC *e*PKPbc PKPbc 03 27 19.4 -0.2
CTT Catalca 150.56 313 *e*P PKPdf 03 27 10.1 -3.5
ANTB Antalya 150.60 304 *e*P PKPdf 03 27 10.6 -3.1
CLL Collm 150.65 343 *e*PKPdf PKPdf 03 27 13.0 -0.7
CLL *e*PKPbc PKPbc 03 27 19.4 -0.4
comp=Z,1μm,0.8s
CLL *e*PKPab PKPab 03 27 28.2 -1.0
CLL *ep*PKPbc pPKPbc 03 29 24.3 -0.1
CLL *e*SKKSac SKKSac 03 36 57.5 -1.6
CLL *e*SKSP 03 40 29.6
CLL *e*PPS 03 44 04.7
CLL *e*SS SS 03 49 35.6 -3.3
CLL *e*SSS 03 55 17.2
CLL *e*SSSS 03 59 18.4
CLL Collm 150.65 343 *e*PKPdf PKPdf 03 27 13.0 -0.7
CLL ⇑*i*PKPbc PKPbc 03 27 19.4 -0.4
comp=Z,1μm,0.8s
CLL *e*x x 03 27 24.0
CLL *i* PKPab PKPab 03 27 28.2 -1.0
comp=Z,183nm,0.7s
CLL *i* x x 03 27 40.9
CLL *ep*PKPbc pPKPbc 03 29 24.0 -0.4
CLL *ep*PKPab pPKPab 03 29 29.0 +0.1
CLL *es*PKPab 03 30 20.0
CLL *e*SKKSac SKKSac 03 36 57.0 -2.1
CLL *e*x x 03 37 35.0
CLL *e*x x 03 39 21.0
CLL *e*SKSP 03 40 30.0
CLL *e*PSKS 03 41 24.0
CLL *e*PPS 03 44 06.0
CLL *e*x x 03 45 45.0
CLL *e*x x 03 46 13.0
CLL *e*x x 03 46 57.0
CLL *e*x x 03 49 05.0
CLL *e*SS SS 03 49 31.0 -7.9
CLL *e*x x 03 50 37.0
CLL *e*x x 03 54 12.0
CLL *e*SSS 03 55 16.0
CLL *e*SSSS 03 59 06.0
CLL Collm 150.65 343 *e*PKIKP PKPdf 03 27 13.0 -0.7
CLL *i* 03 27 28.2
CLL Collm 150.65 343 *e*PKP PKPdf 03 27 13.0 -0.7
CLL *i* PKP PKPbc 03 27 19.4 -0.4
CLL *i* PKP PKPab 03 27 28.2 -1.0
CLL *ep*PKP pPKPab 03 29 29.0 +0.1
CLL *e*SKKS SKKSac 03 36 57.0 -2.1
KWE Weaver Farm 150.66 2 *e*P PKPdf 03 27 12.8 -1.0
KWE Weaver Farm 150.66 2 *e*P PKPdf 03 27 12.8 -1.0
SBD1 Bryn Du 150.70 4 *e*P PKPdf 03 27 12.2 -1.7
SBD1 AMb AMB 03 27 21.1
comp=Z,915nm,0.7s
SBD1 Bryn Du 150.70 4 *e*P PKPdf 03 27 12.2 -1.7
SBD1 AMb AMB 03 27 21.1
comp=Z,915nm,0.7s
GDZ Gediz 150.71 309 *i* P PKPdf 03 27 12.5 -1.3
ORLT Orhaneli 150.73 311 *e*P PKPbc 03 27 18.0 -2.1
CLZ Clausthal 150.77 347 *e*PKPdf PKPdf 03 27 13.1 -0.8
CLZ *e*PKPbc PKPbc 03 27 19.8 -0.3
BRG Berggiesshubel 150.78 342 *e*PKPdf PKPdf 03 27 13.1 -0.8
BRG *e*PKPbc PKPbc 03 27 20.1 0.0
BRG *ep*PKPbc pPKPbc 03 29 29.5 +4.8
BRG Berggiesshubel 150.78 342 *i* PKP PKPdf 03 27 13.2 -0.7
comp=Z,78nm,1.6s
BRG *i* 03 27 19.9
comp=Z,353nm,0.9s
BRG *i* pPKP pPKPdf 03 29 25.5 +5.7
comp=Z,205nm,1.3s
BRG *i* e 03 36 59.0
BRG *e* 03 37 00.7
comp=Z,7.2nm,1.4s
BRG SS SS 03 49 29.0 -11
IBBN Ibbenburen 150.80 350 *e*PKPdf PKPdf 03 27 12.9 -1.1
IBBN *e*PKPbc PKPbc 03 27 19.7 -0.5
IBBN *ep*PKPbc pPKPbc 03 29 29.2 +4.4
KHL Karahalli 150.97 307 *e*P PKPbc 03 27 19.8 -0.7
PLUZ Luz 151.02 51 *e*PKP PKPbc 03 27 24.1 +3.4
SZH Strazhica 151.07 319 *e*P PKPdf 03 27 14.5 +0.1
JMB Yambol 151.10 317 *e*P PKPdf 03 27 14.5 +0.1
DST Dursunbey 151.10 310 *e*P PKPdf 03 27 18.0 +3.5
PSZ Piszkesteto 151.10 332 ⇑*e*PKP/F PKPdf 03 27 13.4 -1.0
PSZ *i* pPKP/A pPKPdf 03 29 25.6 +5.3
HLM1 Long Mynd 151.11 4 *e*P PKPdf 03 27 14.3 -0.2
HLM1 AMb AMB 03 27 21.9
comp=Z,596nm,0.9s
HLM1 Long Mynd 151.11 4 *e*P PKPdf 03 27 14.3 -0.2
HLM1 AMb AMB 03 27 21.9
comp=Z,596nm,0.9s
SSP1 Stoney Pound 151.19 4 *e*P PKPdf 03 27 14.4 -0.1
SSP1 Stoney Pound 151.19 4 *e*P PKPdf 03 27 14.4 -0.1
ELL Elmali 151.22 304 *e*P PKPdf 03 27 16.1 +1.5
BNT Bandirma 151.27 312 *e*P PKPbc 03 27 20.6 -0.7
WTSB Winterswijk 151.28 351 ⇑*i*PKiKP PKiKP 03 27 13.3 -8.2
comp=Z,213nm,3.2s
WTSB *i* PKPpre 03 27 20.5
comp=Z,558nm,1.1s
WTSB *i* PKPab PKPab 03 27 30.0 -1.8
comp=Z,202nm,2.3s
WTSB *i* pPKP pPKPdf 03 29 20.9 +0.3
VRAC Vranov 151.29 337 PKP PKPdf 03 27 13.8 -0.9
comp=Z,9.0nm,0.9s,baz=3.1,slow=1.1,SNR=17
VRAC PKPbc PKPbc 03 27 22.0 +0.7
comp=Z,123nm,1.0s,baz=56,slow=2.0,SNR=69
VRAC PKPab PKPab 03 27 32.2 +0.4
comp=Z,160nm,0.8s,baz=29,slow=5.0,SNR=27
VRAC pPKPbc pPKPbc 03 29 24.0 -2.0
comp=Z,31nm,1.1s,baz=65,slow=6.6,SNR=1.8
VRAC Vranov 151.29 337 ⇑P PKPdf 03 27 14.3 -0.4
GOLH Golhisar 151.32 305 *i* P PKPdf 03 27 09.4 -5.4
PTCA Ponta do Capel 151.32 52 *e*PKP PKPbc 03 27 22.7 +1.3
EDRB Edirne 151.32 316 *e*P PKPdf 03 27 08.8 -6.0
PRA Prague 151.35 340 PKPDF PKPdf 03 27 14.0 -0.8
PRA ⇑PKPB PKPbc 03 27 20.0 -1.4
PRA PKPAB PKPab 03 27 31.0 -1.1
PRA pPKP pPKPdf 03 29 30.0 +9.3
PCED Cedros 151.37 52 *e*PKP PKPbc 03 27 22.4 +0.9
PRU Pruhonice 151.39 340 *e*PKPDF PKPdf 03 27 13.8 -1.1
PRU ⇑*e*PKPB PKPbc 03 27 21.0 -0.5
PRU *ep*PKP pPKPdf 03 29 26.1 +5.3
CALA Caldeira 151.39 52 *e*PKP PKPbc 03 27 23.1 +1.6
PVL Pavlikeni 151.46 319 *e*P PKPdf 03 27 14.2 -0.8
HOR Horta 151.47 52 *e*PKP PKPbc 03 27 23.0 +1.3
DENT Denizli 151.53 306 *e*P PKPdf 03 27 12.5 -2.6
TANN Tannenbergstha 151.60 343 *e*PKPdf PKPdf 03 27 14.2 -1.0
TANN *e*PKPbc PKPbc 03 27 21.6 -0.4
MOX Moxa 151.61 344 *e*PKPdf PKPdf 03 27 14.2 -1.0
MOX *e*PKPbc PKPbc 03 27 21.5 -0.5
MOX Moxa 151.61 344 *e*PKP PKPdf 03 27 14.1 -1.1
MOX *e* 03 27 21.4
comp=Z,328nm,1.4s
MOX *e* 03 27 32.3
MOX *e* 03 29 26.8
MOX
comp=Z,600nm,22.0s
MOX Moxa 151.61 344 *e*PKIKP PKPdf 03 27 14.1 -1.1
MOX *e* 03 27 32.3
MOX MLR MLR
comp=Z,600nm,22.0s
PCND Candelaria 151.61 52 *e*PKP PKPbc 03 27 23.7 +1.7
BALB Balikesir 151.61 311 *e*P PKPdf 03 27 14.4 -0.8
SART Tekirdag 151.61 313 *i* P PKPdf 03 27 11.2 -4.0
MCH1 Michaelchurch 151.62 4 *e*P PKPdf 03 27 14.8 -0.5
MCH1 AMb AMB 03 27 22.9
comp=Z,599nm,0.8s
MCH1 Michaelchurch 151.62 4 *e*P PKPdf 03 27 14.8 -0.5
MCH1 AMb AMB 03 27 22.9
comp=Z,599nm,0.8s
PICO Pico 151.62 52 *e*PKP PKPbc 03 27 23.3 +1.3
SMOL Smolenice 151.64 335 *e*PKP PKPdf 03 27 15.2 0.0
SMOL *e* 03 27 22.2
SMOL *e* 03 27 33.5
SMOL *e* 03 29 28.7
SMOL Smolenice 151.64 335 *e*PKIKP PKPdf 03 27 15.2 0.0
SMOL *e* 03 27 33.5
KSL Kastellorizon 151.66 303 *e*P PKPbc 03 27 21.0 -1.1
PVIA Vitoria 151.66 51 *e*PKP PKPbc 03 27 22.7 +0.6
ROSA Rosais 151.67 51 *e*PKP PKPbc 03 27 23.5 +1.4
CRAR CRAIOVA 151.68 322 PKIKP PKPbc 03 27 23.4 +1.2
PBOI Pico dos Bois 151.69 52 *e*PKP PKPbc 03 27 23.7 +1.5
STGR Santa Cruz 151.69 51 *e*PKP PKPbc 03 27 22.7 +0.5
BUG Bochum--Univer 151.72 350 *e*PKPdf PKPdf 03 27 14.2 -1.2
BUG *e*PKPbc PKPbc 03 27 21.3 -0.9
PGRA Graciosa 151.73 51 *e*PKP PKPbc 03 27 23.7 +1.4
PAMA Santo Amaro 151.73 51 *e*PKP PKPbc 03 27 22.9 +0.6
PPNO Prainha do Nor 151.75 52 *e*PKP PKPbc 03 27 24.9 +2.6
NKC Novy Kostel 151.77 343 *e*PKPDF PKPdf 03 27 14.1 -1.3
NKC ⇑*e*PKPB PKPbc 03 27 21.9 -0.5
NKC *e*PKPAB PKPab 03 27 32.6 -1.3
NKC *ep*PKP pPKPdf 03 29 26.7 +5.3
NKC Novy Kostel 151.77 343 *e*PKIKP PKPdf 03 27 14.1 -1.3
NKC *e* 03 27 32.6
HSA Swansea 151.78 6 *e*P PKPdf 03 27 15.1 -0.4
HSA Swansea 151.78 6 *e*P PKPdf 03 27 15.1 -0.4
PMAN Manadas 151.81 51 *e*PKP PKPbc 03 27 23.3 +0.8
BUD Budapest 151.81 332 *e*PKP/F PKPdf 03 27 14.4 -1.1
BUD *i* 03 27 22.3
UBBA Unterbreizbach 151.82 347 *e*PKPdf PKPdf 03 27 14.3 -1.2
UBBA *e*PKPbc PKPbc 03 27 21.8 -0.7
SRO Srobarova 151.85 333 *e*PKP PKPdf 03 27 14.5 -1.1
SRO *e* 03 27 22.5
SRO *e* 03 27 35.2
SRO *e* 03 29 33.6
SRO2 Moca 151.86 333 *e*PKP PKPdf 03 27 14.8 -0.8
SRO2 *e* 03 27 22.2
SRO2 *e* 03 27 28.8
SRO2 *e* 03 29 24.4
FETY Fethiye 151.88 304 *e*P PKPdf 03 27 15.3 -0.3
AKS Akhisar 151.98 309 *e*P PKPdf 03 27 12.5 -3.3
BZS Buzias 151.98 327 ⇑P PKPdf 03 27 15.0 -0.7
BZS Buzias 151.98 327 ⇑P PKPdf 03 27 15.0 -0.7
DIM Dimitrovgrad 151.98 317 *e*P PKPdf 03 27 15.5 -0.2
SKP1 Kophill 151.99 1 *e*P PKPdf 03 27 15.3 -0.4
SKP1 Kophill 151.99 1 *e*P PKPdf 03 27 15.3 -0.4
HGH Gray Hill 151.99 4 *e*P PKPdf 03 27 15.3 -0.5
HGH AMb AMB 03 27 18.4
comp=Z,151nm,1.0s
HGH Gray Hill 151.99 4 *e*P PKPdf 03 27 15.3 -0.5
HGH AMb AMB 03 27 18.4
comp=Z,151nm,1.0s
ZST Bratislava 152.03 335 *e*PKP PKPdf 03 27 15.5 -0.3
ZST *e* 03 27 23.2
ZST *e* 03 27 35.5
ZST *e* 03 29 24.4
ZST *e* 03 43 15.0
ZST *e*SS SS 03 49 50.0 -3.9
ZST *e* 03 50 07.6
ZST Bratislava 152.03 335 *e*PKIKP PKPdf 03 27 15.5 -0.3
ZST *e* 03 43 15.0
ZST *e*SS SS 03 49 50.0 -3.9
SWN1 Swindon 152.16 2 *e*P PKPdf 03 27 14.5 -1.5
SWN1 Swindon 152.16 2 *e*P PKPdf 03 27 14.5 -1.5
DALT Dalyan (Mudla) 152.18 305 *e*P PKPdf 03 27 16.0 -0.1
ROTZ Rotzenmuhle 152.26 343 *e*PKPdf PKPdf 03 27 15.1 -1.1
ROTZ *e*PKPbc PKPbc 03 27 23.1 -0.3
KDZ Kurdzhali 152.27 316 *e*P PKPdf 03 27 15.5 -0.7
PSBA Serra de Santa 152.30 51 *e*PKP PKPbc 03 27 25.3 +1.8
ASBA Santa Barbara 152.32 51 *e*PKP PKPbc 03 27 25.4 +1.8
PBIS Biscoitos 152.36 51 *e*PKP PKPbc 03 27 25.3 +1.6
PPAD Pico dos Padre 152.36 51 *e*PKP PKPbc 03 27 25.4 +1.7
ADH Angra Heroismo 152.41 51 *e*PKP PKPbc 03 27 24.4 +0.6
PVNV Vila Nova 152.43 51 *e*PKP PKPbc 03 27 25.2 +1.4
PKS8 Sarbogard 152.43 332 *e*P PKPdf 03 27 14.7 -1.7
PKS8 *i* 03 27 22.9
KHC Kasperske Hory 152.44 341 *e*PKPDF PKPdf 03 27 15.5 -0.9
KHC ⇑*e*PKPB PKPbc 03 27 23.4 -0.4
KHC *e*PKPab PKPab 03 27 36.8 +0.1
KHC *ep*PKP pPKPdf 03 29 28.2 +5.8
KHC *ex* x 03 29 29.0
KHC Kasperske Hory 152.44 341 *e*PKIKP PKPdf 03 27 15.5 -0.9
KHC *e* 03 27 36.8
RIB2 Ribeirinha 152.45 51 *e*PKP PKPbc 03 27 25.1 +1.2
RDO Rodhopi 152.46 315 *e*P PKPdf 03 27 15.5 -0.9
PLD Plovdiv 152.47 318 *e*P PKPdf 03 27 16.0 -0.5
PSCM Serra do Cume 152.48 51 *e*PKP PKPdf 03 27 18.7 +2.2
HEX Exmoor 152.49 5 *e*P PKPdf 03 27 14.8 -1.7
HEX Exmoor 152.49 5 *e*P PKPdf 03 27 14.8 -1.7
PFAV Pico das Favas 152.50 51 *e*PKP PKPbc 03 27 25.6 +1.6
SWK Warminster 152.51 3 *e*P PKPdf 03 27 16.2 -0.3
SWK Warminster 152.51 3 *e*P PKPdf 03 27 16.2 -0.3
PGB Panagyurishte 152.54 319 *e*P PKPdf 03 27 15.0 -1.6
BEBN Eben Emael 152.57 352 PKP PKPdf 03 27 15.2 -1.4
BEBN PKPbc PKPbc 03 27 23.1 -1.0
BEBN PKPab PKPab 03 27 36.8 -0.5
BEBN APKP 03 29 23.0
BEBN APKPbc 03 29 29.4
HGN Heimansgroeve 152.57 352 ⇑*i*PKiKP PKiKP 03 27 15.7 -8.6
comp=Z,131nm,2.9s
HGN *i* PKPpre 03 27 23.0
comp=Z,234nm,2.7s
HGN *i* PKPab PKPab 03 27 36.1 -1.1
comp=Z,217nm,1.1s
HGN *ep*PKP pPKPdf 03 29 24.0 +1.5
GRA1 Grafenberg Arr 152.59 344 *e*PKPdf PKPdf 03 27 16.1 -0.5
GRA1 *e*PKPbc PKPbc 03 27 23.9 -0.3
GRA1 *e*PKPab PKPab 03 27 36.9 -0.4
GRA1 *ep*PKPbc pPKPbc 03 29 33.5 +4.5
GRF Grafenberg Arr 152.59 344 *e*PKPdf PKPdf 03 27 16.1 -0.5
GRF *e*PKPbc PKPbc 03 27 23.9 -0.3
GRF *e*PKPab PKPab 03 27 36.9 -0.4
GRF *ep*PKPbc pPKPbc 03 29 33.5 +4.5
GRF Grafenberg Arr 152.59 344 *e*PKIKP PKPdf 03 27 16.1 -0.5
GRF *e* 03 27 36.9
GRF Grafenberg Arr 152.59 344 *e*PKIKP PKPdf 03 27 16.1 -0.5
GRF *e* 03 27 36.9
MLSB Milas 152.63 306 *e*P PKPdf 03 27 16.3 -0.4
WET Wettzell 152.64 342 *e*PKPdf PKPdf 03 27 15.9 -0.8

WET *e*PKPbc PKPbc 03 27 23.6 -0.7
GEC2 GERESS Array S 152.66 340 *e*PKPdf PKPdf 03 27 15.8 -0.9
GEC2 *e*PKPbc PKPbc 03 27 23.8 -0.5
GERES GERESS Array B 152.66 340 PKP PKPdf 03 27 15.7 -1.0
comp=Z,14nm,0.9s,baz=90,slow=1.3,SNR=55
GERES PKPbc PKPbc 03 27 25.1 +0.8
comp=Z,79nm,0.8s,baz=50,slow=1.5,SNR=79
GERES PKPab PKPab 03 27 38.0 +0.3
comp=Z,30nm,0.8s,baz=51,slow=4.3,SNR=9.3
GERES pPKPbc pPKPbc 03 29 28.5 -0.7
comp=Z,7.9nm,1.0s,baz=45,slow=28,SNR=1.6
SOP Sopron 152.66 335 *e*PKP/F PKPdf 03 27 16.3 -0.4
SOP *i* 03 27 23.9
SOP *i* PKP/p PKPab 03 27 37.7 +0.1
SOP Sopron 152.66 335 *e*P PKPdf 03 27 16.3 -0.4
SOP *i* 03 27 23.9
SOP *e* 03 27 37.7
RZN Rozhen 152.69 317 *e*P PKPdf 03 27 16.0 -0.8
TNS Taunus Mts 152.69 348 *e*PKPdf PKPdf 03 27 15.9 -0.9
TNS *e*PKPbc PKPbc 03 27 24.1 -0.3
MEM Membach 152.71 352 PKP PKPdf 03 27 15.7 -1.1
MEM PKPbc PKPbc 03 27 23.6 -0.8
MEM PKPab PKPab 03 27 38.8 +0.9
MEM Membach 152.71 352 APKP 03 29 25.5
MEM APKPbc 03 29 33.0
MEM APKPab 03 29 41.0
UCC Uccle 152.71 354 PKP PKPdf 03 27 15.7 -1.1
UCC PKPbc PKPbc 03 27 23.6 -0.8
UCC PKPab PKPab 03 27 36.2 -1.7
UCC APKP 03 29 22.5
UCC APKPbc 03 29 29.0
UCC APKPab 03 29 36.2
BLCB Balcova 152.74 309 *e*P PKPdf 03 27 15.9 -0.9
ARG Arkhangelos 152.75 304 *e*P PKPdf 03 27 16.0 -0.9
PRK Paraskevi 152.90 311 *e*P PKPdf 03 27 17.5 +0.4
PKSM Moragy 152.96 331 ⇑*i*P PKPdf 03 27 16.1 -1.1
PKSM *i* 03 27 25.0
PKSM *e* 03 29 25.5
DAT Datca 152.99 305 *e*P PKPdf 03 27 16.1 -1.1
SNF Seneffe 153.00 354 PKP PKPdf 03 27 16.3 -0.9
SNF PKPbc PKPbc 03 27 24.4 -0.7
SNF PKPab PKPab 03 27 38.1 -1.0
SNF APKPbc 03 29 34.4
BODT Bodrum 153.06 306 *e*P PKPdf 03 27 16.1 -1.2
URLA Izmir 153.06 309 *i* P PKPdf 03 27 14.7 -2.6
CSA1 St Austell 153.09 7 *e*P PKPdf 03 27 17.8 +0.5
CSA1 St Austell 153.09 7 *e*P PKPdf 03 27 17.8 +0.5
VTS Vitosha 153.09 320 *e*P PKPdf 03 27 15.8 -1.5
VTS Vitosha 153.09 320 ⇓PKIKP PKPdf 03 27 16.9 -0.4
ABH Alteburg 153.18 349 PKP PKPdf 03 27 16.4 -1.1
CCA1 Carnmenellis 153.21 8 *e*P PKPdf 03 27 17.4 -0.1
CCA1 Carnmenellis 153.21 8 *e*P PKPdf 03 27 17.4 -0.1
TOD Tromm 153.21 347 PKIKP PKPdf 03 27 16.4 -1.1
RHK1 Bakonya 153.31 331 *e*P PKPdf 03 27 12.1 -5.6
RHK1 *i* 03 27 20.8
MOA Molln 153.34 338 ⇑*i*PKPdf PKPdf 03 27 16.2 -1.5
comp=Z,892nm,3.6s,SNR=10.0
MOA ⇓*i*PKiKP PKiKP 03 27 25.8 0.0
comp=Z,65nm,1.1s
MOA ⇑*i*PKPab PKPab 03 27 41.6 +1.0
comp=Z,110nm,1.1s
GIVF Givet 153.35 353 *e*PKIKP PKPdf 03 27 16.9 -0.8
MMB Musomiste 153.36 318 *e*P PKPdf 03 27 16.5 -1.2
DOU Dourbes 153.38 353 PKP PKPdf 03 27 17.5 -0.3
DOU PKPbc PKPbc 03 27 25.2 -0.7
DOU PKPab PKPab 03 27 39.8 -1.0
ARSA Arzberg 153.41 336 *i* PKPdf PKPdf 03 27 16.4 -1.4
comp=Z,992nm,3.3s,SNR=20
ARSA ⇓*i*PKiKP PKiKP 03 27 26.4 +0.4
comp=Z,40nm,1.0s
ARSA ⇑*i*PKPab PKPab 03 27 41.0 +0.2
comp=Z,63nm,0.8s
RUP Ruppelstein 153.44 350 PKIKP PKPdf 03 27 16.6 -1.2
KKB Krupnik 153.59 319 *e*P PKPdf 03 27 18.0 -0.1
WLF Walferdange 153.61 351 PKP PKPdf 03 27 17.5 -0.6
WLF PKPbc PKPbc 03 27 36.6 +10
WLF PKPab PKPab 03 27 41.8 +0.1
WLF APKPbc 03 29 30.4
KARP Karpathos 153.71 303 *e*P PKPdf 03 27 17.5 -0.7
SET4 Mosteiros 153.77 51 *e*PKP PKPab 03 27 44.8 +2.4
PSET Sete Cidades 153.84 51 *e*PKP PKPdf 03 27 20.6 +2.2
FAC Faja de Cima 153.92 51 *e*PKP PKPab 03 27 41.1 -1.9
STU Stuttgart 153.92 346 *e*PKPdf PKPdf 03 27 17.7 -0.8
STU *e*PKPbc PKPbc 03 27 26.0 -1.0
STU *e*PKPab PKPab 03 27 42.5 -0.6
STU Stuttgart 153.92 346 *e*PKPdf PKPdf 03 27 17.4 -1.1
STU *e*PKPbc PKPbc 03 27 26.9 -0.2
STU *e*PKPab PKPab 03 27 41.7 -1.4
FUR Furstenfeldbru 153.97 343 *e*PKPdf PKPdf 03 27 17.7 -0.9
FUR *e*PKPbc PKPbc 03 27 27.2 +0.1
FUR *e*PKPab PKPab 03 27 43.1 -0.2
FUR *e*pPKPbc pPKPbc 03 29 37.2 +5.1
FUR Furstenfeldbru 153.97 343 *e*PKIKP PKPdf 03 27 17.7 -0.9
FUR *e* 03 27 43.1
CML Cha da Macela 153.99 51 *e*PKP PKPdf 03 27 21.0 +2.4
LANF Langenberg 154.00 348 PKP PKPdf 03 27 17.6 -1.0
PVER Pico Vermelho 154.00 51 *e*PKP PKPdf 03 27 21.4 +2.8
PMAT Coroa da Mata 154.03 51 *e*PKP PKPdf 03 27 24.2 +5.5
LFA Lagoa do Fogo 154.04 51 *e*PKP PKPdf 03 27 21.4 +2.7
PRCH Ribeira Ch 154.06 51 *e*PKP PKPdf 03 27 22.7 +4.0
VIF Vila Franca 154.08 51 *e*PKP PKPdf 03 27 21.9 +3.2
PCNG Congro 154.10 51 *e*PKP PKPdf 03 27 22.3 +3.5
PFAD Fenais da Ajud 154.12 51 *e*PKP PKPdf 03 27 22.2 +3.4
FRA1 Furnas 154.14 51 *e*PKP PKPdf 03 27 26.2 +7.4
VAY Valandovo 154.23 318 *i* PKP PKPdf 03 27 16.6 -2.3
comp=Z,200nm,1.5s
VAY *e*PKP PKPbc 03 27 26.2 -1.4
VAY *e*PKP PKPab 03 27 43.2 -1.1
VAY *e*pPK 03 29 18.7
STIP Stip 154.23 320 *i* PKP PKPdf 03 27 17.8 -1.2
comp=Z,19nm,0.7s
STIP *e*PKP PKPbc 03 27 27.0 -0.6
STIP *e*PKP PKPab 03 27 42.9 -1.5
KBA Koelnbreinsper 154.32 339 ⇑*i*P PKPdf 03 27 15.9 -3.2
comp=Z,732nm,3.0s,SNR=26
KBA Koelnbreinsper 154.32 339 ⇓*i*PKPdf PKPdf 03 27 17.7 -1.4
comp=Z,732nm,3.0s,SNR=26
KBA ⇓*i*PKiKP PKiKP 03 27 27.9 +0.1
comp=Z,78nm,1.2s
KBA ⇑*i*PKPab PKPab 03 27 45.1 +0.3
comp=Z,44nm,0.7s
APE Apeiranthos 154.37 307 *e*P PKPdf 03 27 19.0 -0.1
SKO Skopje 154.50 321 *i* PKP PKPdf 03 27 18.8 -0.5
comp=Z,516nm,1.7s
SKO *e*PKP PKPab 03 27 45.1 -0.4
SKO *e*pPK 03 29 19.0
BFO Black Forest 154.53 347 *e*PKPdf PKPdf 03 27 18.1 -1.3
WLS Welschbruch 154.63 349 PKP PKPdf 03 27 18.3 -1.2
SPAK Spaichingen 154.65 346 PKP PKPdf 03 27 18.3 -1.2
WATA Walderalm 154.65 341 ⇑*i*P PKPdf 03 27 18.3 -1.2
comp=Z,154nm,1.4s,SNR=25
CDF Champ du Feu 154.65 349 *e*PKIKP PKPdf 03 27 18.4 -1.1
comp=Z,150nm,1.3s
PSMN Pico do Norte, 154.66 53 *e*PKP PKPdf 03 27 21.2 +1.7
WTTA Wattenberg 154.69 341 *i* PKPdf PKPdf 03 27 18.5 -1.0
comp=Z,1μm,3.0s,SNR=44
WTTA ⇓*i*PKPbc PKPdf 03 27 28.2 +8.6
comp=Z,97nm,0.8s
WTTA ⇓*i*PKPab PKPab 03 27 46.4 +0.1
comp=Z,218nm,1.2s
SANT Santorini 154.70 306 *e*PKPdf PKPdf 03 27 18.3 -1.3
SANT *e*PKPbc PKPdf 03 27 27.7 +8.1
SANT *e*PKPab PKPab 03 27 46.1 -0.3
MOTA Moosalm 154.77 342 ⇑*i*P PKPdf 03 27 18.4 -1.3
comp=Z,102nm,1.0s,SNR=66
LJU Ljubljana 154.79 336 *i* PKPdf PKPdf 03 27 18.8 -0.9
LJU *e*PKPbc PKPdf 03 27 28.4 +8.7
LJU *i* PKPab PKPab 03 27 46.5 -0.2
LJU *e*pPKPbc pPKPbc 03 29 24.2 -10
LJU Ljubljana 154.79 336 *i* PKIKP PKPdf 03 27 18.8 -0.9
LJU *i* 03 27 46.6
LIBD Limburg 154.84 348 PKIKP PKPdf 03 27 18.1 -1.7
SQTA Sankt Quirin 154.85 342 ⇑*i*P PKPdf 03 27 18.6 -1.2
comp=Z,80nm,1.1s,SNR=46
ECH Echery 154.86 349 PKP PKPdf 03 27 17.6 -2.2
MEZF Maizieres J'vi 154.90 352 *e*PKIKP PKPdf 03 27 19.3 -0.6
comp=Z,463nm,1.5s
PTCC Patocco-Chiusa 154.91 338 PKP PKPdf 03 27 18.4 -1.5
FVI Forni Avoltri 154.93 339 PKIKP PKPdf 03 27 18.3 -1.6
FLN La Foliniere 154.95 1 *e*PKIKP PKPdf 03 27 19.0 -0.9
comp=Z,293nm,1.1s
FLN *e*R
comp=Z,1μm,20.5s
FLN La Foliniere 154.95 1 *e*PKPdf PKPdf 03 27 19.0 -0.9
FLN LR LR
comp=Z,1μm,20.5s
BOJS Bojanci 154.96 334 *e*PKPdf PKPdf 03 27 19.1 -0.8
BOJS *e*PKPbc PKPdf 03 27 28.9 +9.0
BOJS *e*PKPab PKPab 03 27 46.2 -1.3
BOJS *e*pPKPbc pPKPbc 03 29 25.1 -9.2
ROBS Robic 154.99 338 *e*PKPdf PKPdf 03 27 18.3 -1.7
ROBS *e*PKPab PKPab 03 27 45.9 -1.7
ROBS *e*pPKPbc pPKPbc 03 29 23.4 -11
NPS Neapolis 155.00 303 *e*P PKPdf 03 27 20.5 +0.5
FELD Feldberg 155.02 347 PKP PKPdf 03 27 18.5 -1.5
SLE Schleitheim 155.03 346 ⇑*i*PKPdf PKPdf 03 27 18.6 -1.4
comp=Z,982nm,2.8s
STEIN Stein am Rhein 155.03 346 ⇑*i*PKPdf PKPdf 03 27 18.6 -1.4
comp=Z,806nm,2.5s
VOY Vojsko 155.04 337 *e*PKPdf PKPdf 03 27 18.7 -1.3
VOY *e*PKPbc PKPdf 03 27 29.4 +9.4
VOY *e*PKPab PKPab 03 27 47.5 -0.3
THEF They Montfort 155.04 351 PKP PKPdf 03 27 19.0 -1.1
GMNA Gemona 155.06 338 PKP PKPdf 03 27 18.9 -1.2
XRY Khrisi 155.07 302 *e*P PKPdf 03 27 20.5 +0.4
TRULL Truellikon 155.10 346 ⇑*i*PKPdf PKPdf 03 27 18.6 -1.5
comp=Z,579nm,2.5s
LDF La Druitiere 155.12 0 *e*PKIKP PKPdf 03 27 19.1 -1.1
comp=Z,315nm,1.3s
WEIN Weingarten 155.14 346 ⇑*i*PKPdf PKPdf 03 27 18.7 -1.5
comp=Z,681nm,2.7s
DAVA Damuels 155.15 344 *i* P PKPdf 03 27 19.3 -0.9
comp=Z,1μm,3.8s,SNR=14
BIA Bitola 155.16 319 *i* PKP PKPdf 03 27 18.6 -1.6
MPAR Parnis Oros 155.17 311 *e*P PKPdf 03 27 30.0 +10
HAU Haudompre 155.20 350 *e*PKIKP PKPdf 03 27 19.2 -1.1
comp=Z,168nm,1.2s
HAU *e*R
comp=Z,924nm,22.2s
HAU Haudompre 155.20 350 *e*PKPdf PKPdf 03 27 19.2 -1.1
HAU LR LR
comp=Z,920nm,22.3s
MOF Molkenrain 155.22 349 PKP PKPdf 03 27 19.2 -1.1
LIENZ Alp Oberkamor 155.24 345 ⇑*i*PKPdf PKPdf 03 27 18.8 -1.5
comp=Z,949nm,2.8s
ROSF Rostrenen 155.24 5 *e*PKIKP PKPdf 03 27 19.5 -0.8
WILA Wila 155.27 346 ⇑*i*PKPdf PKPdf 03 27 18.9 -1.5
comp=Z,1μm,3.1s
KVR Kavouri 155.30 310 *e*P PKPdf 03 27 30.0 +10
HINF Hinteralfeld 155.30 349 *e*PKIKP PKPdf 03 27 19.3 -1.1
comp=Z,205nm,1.2s
KZN Kozani 155.31 317 *e*P PKPdf 03 27 26.5 +6.1
GRR Gorron 155.32 1 *e*PKIKP PKPdf 03 27 19.4 -1.0
comp=Z,236nm,1.2s
SULZ Sulz-Cheisache 155.33 347 ⇑*i*PKPdf PKPdf 03 27 19.3 -1.1
comp=Z,949nm,2.9s
SGMF Saint Gilles 155.38 4 *e*PKIKP PKPdf 03 27 19.2 -1.3
ZUR Zurich 155.38 346 ⇑*i*PKPdf PKPdf 03 27 19.1 -1.4
comp=Z,925nm,2.6s
OHR Ohrid 155.41 320 *i* PKP PKPdf 03 27 19.0 -1.6
comp=Z,184nm,0.7s
OHR *e*PKP PKPab 03 27 47.9 -1.6
OHR *e*pPK pPKPdf 03 29 20.7 -5.9
PLONS Plons 155.50 344 ⇑*i*PKPdf PKPdf 03 27 19.2 -1.5
comp=Z,886nm,2.6s
BBS Basel-Blauen 155.52 348 PKIKP PKPdf 03 27 19.4 -1.3
APPI Appiano 155.52 341 PKP PKPdf 03 27 18.4 -2.3
IDI Anoyia 155.54 304 PKP PKPdf 03 27 20.8 0.0
comp=Z,33nm,0.8s,baz=136,slow=4.9,SNR=13
BALST Balsthal 155.60 347 ⇑*i*PKPdf PKPdf 03 27 20.9 +0.1
comp=Z,907nm,2.6s
DAVOX Davos 155.62 343 PKP PKPdf 03 27 20.2 -0.6
comp=Z,42nm,0.9s,baz=244,slow=3.8
DAVOX PKPab PKPab 03 27 49.9 -0.5
comp=Z,131nm,0.6s,baz=347,slow=2.3,SNR=18
DAVOX Davos 155.62 343 ⇑*i*PKPdf PKPdf 03 27 19.6 -1.2
comp=Z,1μm,2.9s
BOURR Bourrignon 155.64 348 ⇑*i*PKPdf PKPdf 03 27 20.1 -0.7
comp=Z,1μm,2.9s
QUIF Quistinic 155.67 5 *e*PKIKP PKPdf 03 27 20.1 -0.8
comp=Z,152nm,1.1s
FUORN Ofenpass 155.67 343 ⇑*i*PKPdf PKPdf 03 27 19.3 -1.6
comp=Z,1μm,3.1s
MUO Muotathal 155.75 346 ⇑*i*PKPdf PKPdf 03 27 20.1 -0.9
comp=Z,894nm,2.4s
LOMF Lomont 155.75 349 PKP PKPdf 03 27 20.0 -1.0
BRMO Bormio 155.77 342 PKP PKPdf 03 27 19.3 -1.7
LLS Linth-Limmern 155.78 345 ⇑*i*PKPdf PKPdf 03 27 19.8 -1.2
comp=Z,1μm,4.5s
CTI Castel Tesino 155.78 340 PKIKP PKPdf 03 27 19.8 -1.2
NVLJ Novalja 155.89 333 ⇑*i*PKP PKPdf 03 27 19.4 -1.8
BNALP Bannalp 155.89 346 ⇑*i*PKPdf PKPdf 03 27 20.3 -0.9
comp=Z,990nm,3.4s
BERNI Berninapass 155.92 343 ⇑*i*PKPdf PKPdf 03 27 19.9 -1.3
comp=Z,1μm,3.3s
VDL Val di Lei 156.00 344 ⇑*i*PKPdf PKPdf 03 27 20.1 -1.2
comp=Z,1μm,2.9s
VAM Vamos 156.02 305 *e*P PKPdf 03 27 21.5 +0.2
HASLI Hasliberg 156.06 346 ⇑*i*PKPdf PKPdf 03 27 20.3 -1.1
comp=Z,852nm,2.7s
EVR Evrytania 156.07 315 *e*P PKPdf 03 27 19.0 -2.4
FUSIO Fusio 156.23 345 ⇑*i*PKPdf PKPdf 03 27 20.4 -1.2
comp=Z,1μm,4.3s
LOR Lormes 156.25 354 *e*PKIKP PKPdf 03 27 20.8 -0.8
comp=Z,88nm,0.9s
LOR *e*R
comp=Z,945nm,22.8s
LOR Lormes 156.25 354 *e*PKPdf PKPdf 03 27 20.8 -0.8
LOR LR LR
comp=Z,940nm,22.8s
WIMIS Wimmis 156.26 347 ⇑*i*PKPdf PKPdf 03 27 20.4 -1.3
comp=Z,854nm,3.2s
JAN Janina 156.26 317 *e*P PKPdf 03 27 23.0 +1.3
TORNY Torny 156.28 348 ⇑*i*PKPdf PKPdf 03 27 20.4 -1.3
comp=Z,994nm,2.4s
HYF Humbligny 156.36 356 *e*PKIKP PKPdf 03 27 21.3 -0.5
SSF Saint Saulge 156.49 354 *e*PKIKP PKPdf 03 27 21.1 -0.9
comp=Z,278nm,1.2s
LKBD Leukerbad 156.52 347 ⇑*i*PKPdf PKPdf 03 27 20.7 -1.3
comp=Z,442nm,2.4s
CABF La Chapelle 156.60 349 *e*PKIKP PKPdf 03 27 21.8 -0.3
comp=Z,332nm,1.2s
SENIN Lac Senin 156.61 347 ⇑*i*PKPdf PKPdf 03 27 20.8 -1.3
comp=Z,1μm,3.2s
MUGIO Muggio 156.63 344 ⇑*i*PKPdf PKPdf 03 27 20.5 -1.6
comp=Z,1μm,3.1s
GIMEL Gimel 156.64 349 ⇑*i*PKPdf PKPdf 03 27 21.6 -0.5
comp=Z,2μm,3.8s
AIGLE Aigle 156.70 348 ⇑*i*PKPdf PKPdf 03 27 21.3 -0.9
comp=Z,1μm,3.4s
GRYON Gryon 156.76 348 ⇑*i*PKPdf PKPdf 03 27 21.5 -0.8
comp=Z,538nm,2.3s
MMK Mattmark 156.77 346 ⇑*i*PKPdf PKPdf 03 27 21.2 -1.1
comp=Z,1μm,2.8s
AVF Avril sur Loir 156.78 354 *e*PKIKP PKPdf 03 27 20.9 -1.4
comp=Z,173nm,1.4s
MCGN Macugnaga 156.85 346 PKP PKPdf 03 27 22.0 -0.4
DIX Grande Dixence 156.86 347 ⇑*i*PKPdf PKPdf 03 27 21.7 -0.7
comp=Z,1μm,4.3s
SMF Signal de Mont 156.87 353 *e*PKIKP PKPdf 03 27 21.4 -1.0
comp=Z,256nm,1.4s
SALAN Lac Salanfe 156.89 348 ⇑*i*PKPdf PKPdf 03 27 21.7 -0.8
comp=Z,415nm,2.4s
EMV Vieux Emosson 156.98 348 ⇑*i*PKPdf PKPdf 03 27 21.9 -0.7
comp=Z,1μm,3.4s
BGF Bois d'Agland 157.05 355 *e*PKIKP PKPdf 03 27 21.9 -0.8
comp=Z,410nm,1.2s
MFF Saint Martin d 157.12 0 *e*PKIKP PKPdf 03 27 22.0 -0.7
comp=Z,148nm,1.0s
ORO Oropa 157.16 346 PKIKP PKPdf 03 27 21.5 -1.3
OG05 Jujurieux 157.25 350 PKP PKPdf 03 27 24.0 +1.1
TCF Toulx Ste Croi 157.36 356 *e*PKIKP PKPdf 03 27 22.3 -0.7
comp=Z,309nm,1.1s
RSL Roselend 157.39 348 PKP PKPdf 03 27 22.2 -0.9
AGO Saint Agoulin 157.53 354 PKP PKPdf 03 27 23.3 +0.1
LPL La Plagne 157.54 348 *e*PKIKP PKPdf 03 27 23.0 -0.3
ARV Arcevia 157.55 335 PKIKP PKPdf 03 27 22.8 -0.5
CING Cingoli 157.55 334 PKP PKPdf 03 27 22.7 -0.6
LPG La Plagne 157.55 348 *e*PKIKP PKPdf 03 27 23.1 -0.2
PLDF La Plantade 157.56 353 PKP PKPdf 03 27 22.8 -0.5
FNVD Fontana Vidola 157.62 339 PKP PKPdf 03 27 22.8 -0.6
ERBM Eremo 157.63 340 PKP PKPdf 03 27 23.1 -0.3
GSCL Gusciola 157.63 340 PKP PKPdf 03 27 22.7 -0.7
PIEI Pieia 157.67 336 PKP PKPdf 03 27 23.0 -0.4
BADI Badiali 157.80 336 PKP PKPdf 03 27 21.2 -2.4
CRE Caprese Michel 157.82 337 PKIKP PKPdf 03 27 22.4 -1.2
VLC Villacollemand 157.87 340 *e*PKPdf PKPdf 03 27 23.0 -0.7
BDI Bagni Di Lucca 157.89 339 PKIKP PKPdf 03 27 21.2 -2.5
MURB Monte Urbino 157.91 335 PKP PKPdf 03 27 22.4 -1.3
GDM Grand'Maison 157.96 349 PKP PKPdf 03 27 23.0 -0.8
GRN Grenoble 157.98 349 PKP PKPdf 03 27 23.1 -0.7
BNI Bardonecchia 157.99 347 *e*PKIKP PKPdf 03 27 23.1 -0.7
BNI *e* 03 28 00.4
COLF Collangettes 158.00 353 PKP PKPdf 03 27 23.1 -0.7
NRCA Norcia 158.03 334 PKP PKPdf 03 27 22.9 -1.0
CSNT Castellina Chi 158.18 338 PKP PKPdf 03 27 21.8 -2.2
PII Pisa 158.22 339 PKIKP PKPdf 03 27 22.0 -2.1
FRNF Fournols 158.24 355 PKP PKPdf 03 27 24.2 +0.1
ORIF Oris-en-Rattie 158.27 349 *e*PKIKP PKPdf 03 27 23.4 -0.7
comp=Z,145nm,1.3s
ORIF *e*R
comp=Z,582nm,21.6s
MBDF Montbardon 158.29 347 *e*PKIKP PKPdf 03 27 23.5 -0.7
AQU L'Aquila 158.31 332 PKIKP PKPdf 03 27 24.1 -0.1
LBL Lubilhac 158.33 354 PKP PKPdf 03 27 24.9 +0.7
RJF Les Rejaudoux 158.38 357 *e*PKIKP PKPdf 03 27 23.7 -0.6
comp=Z,188nm,1.2s
RJF *e*R
comp=Z,1μm,23.0s
RJF Les Rejaudoux 158.38 357 *e*PKPdf PKPdf 03 27 23.7 -0.6
RJF LR LR
comp=Z,1μm,23.0s
DOI San Damiano 158.40 346 PKIKP PKPdf 03 27 22.4 -1.9
CII Carovilli 158.42 330 PKP PKPdf 03 27 24.6 +0.3
FIAM Fiamignano 158.50 333 PKP PKPdf 03 27 23.6 -0.8
MIDA Miranda 158.51 330 PKP PKPdf 03 27 23.5 -0.9
SURF Saint Ours 158.51 347 PKP PKPdf 03 27 24.3 -0.1
VIVF Saint-Julien-l 158.53 351 *e*PKIKP PKPdf 03 27 24.0 -0.5
comp=Z,256nm,1.5s
PTQR Pietraquaria 158.58 332 PKP PKPdf 03 27 23.6 -0.9
MNS Montasola 158.59 334 PKIKP PKPdf 03 27 22.6 -1.9
MRLC Muro Lucano 158.59 326 PKP PKPdf 03 27 23.5 -1.0
OCF Saint Nazaire 158.70 350 PKP PKPdf 03 27 24.4 -0.3
OG26 St.-Nazaire-De 158.70 350 PKP PKPdf 03 27 24.4 -0.3
CAF Calviac 158.73 356 *e*PKIKP PKPdf 03 27 24.4 -0.3
comp=Z,52nm,0.8s
SAOF Saorge 158.81 345 PKP PKPdf 03 27 23.3 -1.5
AUTN L'Aution 158.84 345 PKP PKPdf 03 27 23.7 -1.1
SBF Sospel 158.96 345 *e*PKIKP PKPdf 03 27 24.3 -0.7
MVIF Mont Vial 158.99 346 PKP PKPdf 03 27 23.8 -1.2
TIP Timpagrande 159.02 321 *e*PKPdf PKPdf 03 27 23.9 -1.1
REVF Revere 159.09 345 PKP PKPdf 03 27 24.0 -1.1
SMRF Simiane la Rot 159.24 349 *e*PKIKP PKPdf 03 27 25.1 -0.2
comp=Z,268nm,1.5s
EMAZ Mazaricos 159.37 19 PKP PKPdf 03 27 25.3 -0.1
LASF Ste Croix 159.40 352 *e*PKIKP PKPdf 03 27 25.1 -0.4
FRF La Foret Royal 159.43 346 *e*PKIKP PKPdf 03 27 24.6 -0.9
EPON Pontenova 159.51 15 PKP PKPdf 03 27 24.5 -1.1
STS Santiago 159.55 18 PKIKP PKPdf 03 27 25.9 +0.3
LMR La Mourre 159.67 346 *e*PKIKP PKPdf 03 27 24.7 -1.1
PGF Pioggiola 159.76 341 *e*PKIKP PKPdf 03 27 24.8 -1.1
comp=Z,54nm,0.8s
EARI Arriondas 159.94 11 PKP PKPdf 03 27 25.8 -0.2
ELAN Lanestosa 160.28 8 PKP PKPdf 03 27 27.0 +0.6
MTLF Montolieu 160.30 355 *e*PKIKP PKPdf 03 27 25.9 -0.6
comp=Z,204nm,1.2s
ERUA La Rua 160.39 16 PKIKP PKPdf 03 27 26.5 -0.1
EALK Alkurruntz 160.46 3 PKP PKPdf 03 27 26.2 -0.5
ELIZ Elizondo 160.51 3 PKIKP PKPdf 03 27 27.4 +0.7
SJPF Ste Jean 160.58 3 *e*PKIKP PKPdf 03 27 26.6 -0.2
comp=Z,207nm,1.3s
ATE Arette 160.62 2 PKP PKPdf 03 27 26.1 -0.7
ELOB Lobios 160.63 19 PKP PKPdf 03 27 26.3 -0.5
REYF Montagne du Re 160.65 1 PKP PKPdf 03 27 26.8 0.0
LARF Larrau 160.66 2 PKP PKPdf 03 27 26.9 +0.1
LABF Labassere 160.67 360 PKP PKPdf 03 27 26.0 -0.9
LRDF Laroque-de-Fa 160.67 354 PKP PKPdf 03 27 26.3 -0.6
EPF Esparros 160.69 359 *e*PKIKP PKPdf 03 27 26.6 -0.3
comp=Z,185nm,1.1s
MLS Moulis 160.74 358 PKP PKPdf 03 27 26.0 -0.9
PCAB Cabril 160.78 19 *e*PKPdf PKPdf 03 27 27.1 +0.1
PCAB Cabril 160.78 19 *e*PKPab PKPab 03 28 12.5 -0.4
ETSF Etsaut 160.81 1 *e*PKIKP PKPdf 03 27 27.1 +0.1
comp=Z,121nm,0.9s
VIEF Viey 160.84 0 PKP PKPdf 03 27 26.9 -0.1
MELF Melles 160.84 358 PKP PKPdf 03 27 26.9 -0.1
RESF Ens 160.91 359 PKP PKPdf 03 27 27.1 0.0
ECAL Calabor 160.92 16 PKP PKPdf 03 27 26.9 -0.2
ECRI Cripan 160.99 6 PKIKP PKPdf 03 27 27.0 -0.2
EBIE Bielsa 161.03 360 PKP PKPdf 03 27 26.9 -0.4
FILF Fillols 161.04 354 PKP PKPdf 03 27 26.6 -0.6
PBRG Braganca 161.04 16 *e*PKPdf PKPdf 03 27 26.8 -0.4
PBRG Braganca 161.04 16 *e*PKPab PKPab 03 28 13.4 -0.6
EJON La Jonquera 161.12 353 PKP PKPdf 03 27 25.1 -2.2
VALF Valcebollere 161.25 355 PKP PKPdf 03 27 27.3 -0.2
PVRL Vila Real 161.28 19 *e*PKPdf PKPdf 03 27 27.7 +0.2
PVRL Vila Real 161.28 19 *e*PKPab PKPab 03 28 14.1 -0.9
EGRA Graus 161.52 359 PKP PKPdf 03 27 27.6 -0.2
VAE Valguarnera 161.53 321 PKP PKPdf 03 27 27.4 -0.4
comp=Z,14nm,0.9s,baz=217,slow=20,SNR=2.3
EMIR Miracle 161.76 356 PKP PKPdf 03 27 27.0 -1.0
ESAC San Caprasio 161.91 1 PKP PKPdf 03 27 28.8 +0.6
CLTB Caltabellotta 162.12 324 PKP PKPdf 03 27 28.6 +0.3
MTE Manteigas 162.13 19 *e*PKPdf PKPdf 03 27 28.8 +0.4
MTE Manteigas 162.13 19 *e*PKPab PKPab 03 28 17.6 -1.2
MTE Manteigas 162.13 19 *e*PKPdf PKPdf 03 27 27.9 -0.5
MTE *e*PKPab PKPab 03 28 18.0 -0.7
EPOB Poblet 162.34 357 PKP PKPdf 03 27 26.5 -2.1
DBIC Dimbokro 162.45 164 PKP PKPdf 03 27 28.8 +0.1
comp=Z,79nm,0.9s,baz=142,slow=1.2,SNR=70
DBIC PKPab PKPab 03 28 21.0 +0.8
comp=Z,57nm,0.9s,baz=175,slow=6.0,SNR=14
DBIC pPKP pPKPdf 03 29 36.0 +0.9
comp=Z,32nm,1.2s,baz=108,slow=9.5,SNR=1.4
DBIC pPKPab pPKPab 03 30 25.4 +6.4
comp=Z,65nm,1.1s,baz=184,slow=5.1,SNR=7.6
DBIC Dimbokro 162.45 164 *e*PKIKP PKPdf 03 27 28.8 +0.1
DBIC *e* 03 28 20.6
DBIC Dimbokro 162.45 164 *e*PKPdf PKPdf 03 27 28.8 +0.2
DBIC *e*PKPab PKPab 03 28 20.6 +0.4
DBIC *e*pPKPdf pPKPdf 03 29 39.0 +3.9
DBIC *e* 03 30 25.9
PTOM Tomar 162.56 22 *e*PKPdf PKPdf 03 27 29.1 +0.3
PTOM Tomar 162.56 22 *e*PKPab PKPab 03 28 19.6 -1.0
PCBR Castelo Branco 162.66 20 *e*PKPdf PKPdf 03 27 29.2 +0.3
GUD Guadarrama 162.71 11 PKIKP PKPdf 03 27 29.9 +1.0
ERTA Horta de San J 162.76 359 PKP PKPdf 03 27 27.3 -1.6
EBR Ebro Roquetas 162.89 359 *e*PKPDF PKPdf 03 27 30.0 +0.9
EBR *e*PKPpB PKPab 03 28 21.0 -1.1
PLOU Loures 162.93 25 *e*PKPdf PKPdf 03 27 29.4 +0.3
PLOU Loures 162.93 25 *e*PKPab PKPab 03 28 21.8 -0.5
LIS Lisbon 163.08 25 *e*P PKPdf 03 27 28.4 -0.9
EHIG Higuera 163.24 69 PKP PKPdf 03 27 30.2 +0.8
CHIE El Hierro 163.27 72 PKP PKPdf 03 27 30.5 +1.1
EMOS Mosqueruela 163.35 1 PKP PKPdf 03 27 29.1 -0.5
MOE Montemor 163.55 24 *e*PKPdf PKPdf 03 27 30.7 +1.0
MOE Montemor 163.55 24 *e*PKPab PKPab 03 28 24.2 -0.8
ESDC Sonseca Array 163.68 11 PKP PKPdf 03 27 29.4 -0.4
comp=Z,4.3nm,0.7s,baz=348,slow=3.0,SNR=17
ESDC PKPab PKPab 03 28 24.6 -1.0
comp=Z,90nm,0.9s,baz=344,slow=4.4,SNR=49
ESDC pPKPab pPKPab 03 30 25.2 +0.8
comp=Z,0.6nm,0.5s,baz=317,slow=32,SNR=2.0
ESDC PP PP 03 32 15.0 +2.4
comp=Z,5.7nm,0.9s,baz=0.4,slow=6.7,SNR=4.3
ESDC Sonseca Array 163.68 11 PKP PKPdf 03 27 28.5 -1.3
ESLA Sonseca Array 163.68 11 *e*PKPdf PKPdf 03 27 30.2 +0.3
ESLA *e*PKPab PKPab 03 28 24.8 -0.8
ETOS Mallorca 163.78 352 PKP PKPdf 03 27 29.7 -0.2
EBAD Badajoz 163.80 20 PKP PKPdf 03 27 29.2 -0.8
EGOM La Gomera 163.84 70 PKP PKPdf 03 27 29.0 -1.0
ECHE Chera 164.10 3 PKIKP PKPdf 03 27 30.3 +0.1
PBEJ Beja 164.17 23 *e*PKPdf PKPdf 03 27 31.1 +0.8
PTEO Sao Teotonio 164.25 27 *e*PKPdf PKPdf 03 27 31.4 +1.1
PTEO Sao Teotonio 164.25 27 *e*PKPab PKPab 03 28 26.9 -1.2
CCAN Las Canadas 164.35 70 PKP PKPdf 03 27 31.9 +1.4
MORF Marmelete 164.49 27 *e*P PKPdf 03 27 29.1 -1.4
MORF Marmelete 164.49 27 *e

ESPR	**Espera**	**165.89**	**20**	PKP	PKPdf	03 27 30.9	-0.8
CKFL	**Kef-Lekhel**	**166.06**	**337**	P	PKPdf	03 27 33.0	+1.2
ECOG	**Cogollos-Vega**	**166.08**	**12**	PKIKP	PKPdf	03 27 31.8	-0.1
ELOJ	**Sierra Loja**	**166.09**	**14**	PKIKP	PKPdf	03 27 31.2	-0.7
DFRA	**Djebel Bou Aff**	**166.22**	**340**	P	PKPdf	03 27 34.5	+2.5
CASM	**Ain Smara**	**166.27**	**338**	P	PKPdf	03 27 32.0	0.0
ERON	**Agron**	**166.29**	**13**	PKP	PKPdf	03 27 31.2	-0.8
EJIF	**Jimena Fronter**	**166.40**	**19**	PKIKP	PKPdf	03 27 34.0	+1.9
CFTV	**Fuerteventura**	**166.45**	**67**	PKP	PKPdf	03 27 32.4	+0.2
CTEI	**Djebel Teioual**	**166.48**	**337**	P	PKPdf	03 27 34.0	+1.8
EMIJ	**Mijas**	**166.49**	**17**	PKP	PKPdf	03 27 32.2	0.0
EGUA	**Guajares**	**166.51**	**13**	PKIKP	PKPdf	03 27 32.0	-0.2
EBER	**Berja**	**166.57**	**10**	PKP	PKPdf	03 27 32.2	0.0
ENIJ	**Nijar**	**166.60**	**8**	PKP	PKPdf	03 27 31.5	-0.8
ENIJ				PKP	PKPdf	03 27 32.9	+0.7
CMER	**Merouana**	**167.05**	**338**	P	PKPdf	03 27 29.0	-3.6
EMHD	**Djebel Mahouad**	**167.26**	**349**	P	PKPdf	03 27 32.0	-0.7
EBNR	**Beni Rached**	**167.35**	**355**	P	PKPdf	03 27 34.0	+1.2
ECHA	**Ech Chlef**	**167.51**	**355**	P	PKPdf	03 27 33.5	+0.6
EANR	**'Ain N'Sour**	**167.73**	**356**	P	PKPdf	03 27 33.0	-0.1
ETRT	**Tiaret**	**168.27**	**355**	P	PKPdf	03 27 33.6	+0.2
ODJA	**Bouhanifia**	**168.38**	**1**	P	PKPdf	03 27 35.0	+1.5
TORD	**Torodi Ar. Bea**	**169.42**	**189**	PKP	PKPdf	03 27 33.8	-0.4
	comp=Z,64nm,0.9s,baz=335,slow=0.7,SNR=123						
TORD				PKPab	PKPab	03 28 52.0	+1.0
	comp=Z,58nm,0.8s,baz=165,slow=3.9,SNR=28						
TORD				pPKP	pPKPdf	03 29 42.8	+2.0
	comp=Z,48nm,1.2s,baz=198,slow=0.1,SNR=3.7						
TORD				pPKPab	pPKPab	03 30 50.6	+1.0
	comp=Z,33nm,1.2s,baz=185,slow=3.4,SNR=4.2						
MDT	**Midelt**	**170.00**	**23**	PKP	PKPdf	03 27 35.5	+1.1
	comp=Z,77nm,0.9s,baz=335,slow=0.7,SNR=45						
MDT				PKPab	PKPab	03 28 54.2	+0.6
	comp=Z,31nm,0.9s,baz=330,slow=3.6,SNR=8.3						

*IDC **26** 03:10:22.1±2.9, 4266S×7338W, h0km, mb4.5/7, mb1 4.4/8, mb1mx4.3/15, mbtmp4.4/8, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx3.3/31, Error ellipse: s-maj=89.0km s-min=20.7km az=90.0*

*NEIC **26** 03:10:23.8±0.7, 4263S×7440W, mb4.9/14, Error ellipse: s-maj=15.6km s-min=12.8km az=92.0*

*ISCJB **26** 03:10:27.0±3.0, 4245S±008×741W±02, h68km±22km, mb4.6/18, Error ellipse: s-maj=27.5km s-min=13.7km az=162.9*

*BJI **26** 03:10:27.1, 4260S×7420W, h58km, mB5.6, Msz4.6*

ISC 26 03:10:25.5±2.8, 4254S±009×743W±02, h43km±21km, h33km±2.9km: pP-P, n30, σ1§01/30, mb4.7/18, 1C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.36**	**59**	Pn	**Pn**	**03 11 16.9**	**+1.5**
	4.8nm,0.3s,baz=231,slow=12,SNR=128						
PLCA				Lg		03 12 03.2	
	31nm,0.3s,baz=217,slow=11,SNR=4.7						
PLCA				LR	LR	03 12 38.7	
	comp=Z,1μm,18.8s,baz=87,slow=48						
PLCA	**Paso Flores**	**3.36**	**59**	*e*Pn	**Pn**	**03 11 16.9**	**+1.4**
TRQA	**Tornquist**	**10.44**	**69**	*e*Pn	**Pn**	**03 12 53.2**	**+0.7**
	8.7nm,0.8s						
CFAA	**Coronel Fontan**	**11.95**	**26**	Pn	**Pn**	**03 13 11.3**	**-1.8**
	0.1nm,0.3s,baz=194,slow=13,SNR=6.3						
CFAA				Sn	**Sn**	**03 15 23.6**	**-1.4**
	0.1nm,0.3s,baz=323,slow=10,SNR=2.9						
CFAA				LR	LR	03 18 23.2	
	comp=Z,60nm,18.6s,baz=177,slow=41						
CFAA	**Coronel Fontan**	**11.95**	**26**	Pn	**Pn**	**03 13 11.3**	**-1.8**
CFAA				Sn	**Sn**	**03 15 23.6**	**-1.4**
CFAA				LR	LR	03 18 23.2	
CPUP	**Villa Florida**	**21.34**	**46**	*e*P	**P**	**03 15 09.3**	**+0.5**
	73nm,0.4s,mb5.4						
LPAZ	**La Paz**	**26.70**	**13**	P	**P**	**03 16 03.6**	**+3.1**
	2.6nm,0.7s,mb3.9,baz=199,slow=8.7,SNR=11						
LPAZ	**La Paz**	**26.70**	**13**	*e*P	**P**	**03 16 02.7**	**+2.2**
	2.9nm,0.8s,mb3.9						
SIV	**San Ignacio**	**28.80**	**27**	P	**P**	**03 16 19.5**	**+0.3**
	2.2nm,0.9s,mb3.9,baz=210,slow=9.8,SNR=12						
BDFB	**Brasilia**	**35.04**	**48**	P	**P**	**03 17 12.8**	**-1.2**
	6.5nm,0.8s,mb4.6,baz=212,slow=5.5,SNR=8.6						
OTAV	**Otavalo**	**42.75**	**354**	*e*P	**P**	**03 18 23.1**	**+4.6**
	9.7nm,1.2s,mb4.4						
SNAA	**Sanae**	**44.50**	**155**	P	**P**	**03 18 31.4**	**-1.2**
	3.4nm,0.8s,mb4.1,baz=262,slow=11,SNR=8.0						
RCBR	**Riachuelo**	**49.91**	**54**	P	**P**	**03 19 15.3**	**+0.6**
	41nm,1.4s,mb5.3						
SDV	**Santo Domingo**	**51.29**	**5**	*e*P	**P**	**03 19 26.0**	**+0.9**
	4.1nm,0.8s,mb4.4						
SYO	**Syowa Base**	**58.64**	**157**	‖ *i*P	**P**	**03 20 11.0**	**-7.2**
SYO	**Syowa Base**	**58.64**	**157**	‖ *i*P	**P**	**03 20 23.0**	**+4.8**
SYO	**Syowa Base**	**58.64**	**157**	‖ *es*P	sP	03 20 30.1	-5.5
SJG	**San Juan**	**60.82**	**9**	*e*P	**P**	**03 20 33.1**	**-0.1**
	11nm,0.8s,mb5.0						
SUR	**Sutherland**	**72.36**	**118**	*e*P	**P**	**03 21 47.4**	**+0.6**
	13nm,0.8s,mb4.9						
JCT	**Junction City**	**76.35**	**338**	P	**P**	**03 22 08.5**	**-1.5**
	35nm,1.0s,mb5.2						
BOSA	**Boshof**	**77.72**	**117**	P	**P**	**03 22 17.1**	**-0.6**
	4.5nm,0.6s,mb4.6,baz=217,slow=5.4,SNR=25						
BOSA	**Boshof**	**77.72**	**117**	*e*P	**P**	**03 22 16.9**	**-0.7**
	11nm,0.9s,mb4.8						
TSUM	**Tsumeb**	**78.64**	**106**	*e*P	**P**	**03 22 22.2**	**-0.5**
	2.7nm,0.9s,mb4.2						
TSUM				*e*	pP	03 22 33.0	-2.7
MNTX	**Cornudas Mount**	**79.20**	**333**	P	**P**	**03 22 26.3**	**+0.4**
	158nm,1.8s,mb5.6						
MNTX				*e*pP	pP	03 22 34.6	-4.1
WVT	**Waverly**	**79.26**	**349**	*e*P	**P**	**03 22 27.3**	**+1.1**
	3.1nm,0.3s,mb4.7						
DBIC	**Dimbokro**	**79.65**	**71**	P	**P**	**03 22 28.9**	**+0.7**
	7.3nm,0.7s,mb4.7,baz=212,slow=7.9,SNR=11						
DBIC	**Dimbokro**	**79.65**	**71**	*e*P	**P**	**03 22 28.3**	**0.0**
	8.9nm,0.8s,mb4.8						
DBIC				*e*pP	pP	03 22 39.1	-2.1
LBTB	**Lobatse**	**80.35**	**115**	*e*P	**P**	**03 22 31.3**	**-0.7**
	12nm,0.8s,mb4.9						
TORD	**Torodi Ar. Bea**	**88.76**	**71**	P	**P**	**03 23 14.5**	**0.0**
	3.8nm,0.9s,mb4.8,baz=234,slow=4.1,SNR=19						
CN2	**Changchun**	**165.51**	**282**	*e*PKP	PKPdf	03 30 21.5	-3.7

BJI 26 03:19:05.5, 4426N×8543E, h12km, ML3.0, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.69**	**104**	‖ *i*PG	Pg	03 19 34.0	-4.0
WMQ				SG	Sg	03 19 56.3	-3.6
WMQ				Smax			
	comp=N,102nm,0.5s						
WMQ				Smax			
	comp=E,98nm,0.4s						
MK02	**Makanchi Array**	**3.33**	**320**	⇑Pn	Pn	03 19 53.8	-3.6
	comp=E,0.6nm,0.9s						
MK02				⇑Pg	Pg	03 20 02.9	-6.5
	comp=E,1.0nm,0.4s,baz=125,slow=18						
MK02				⇓Lg		03 20 51.4	
	comp=E,11nm,0.8s,baz=126,slow=30						

*LDG **26** 03:25:21.6±0.1, 4600N×303E, h7km, Md1.8/2, Ml1.7/6, Error ellipse: s-maj=2.1km s-min=1.5km az=124.0*

STR 26 03:25:21.3±0.5, 4604N×305E, h10km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.06**	**78**	Pg	Pg	03 25 23.5	+0.1
AGO				Sg	Sg	03 25 24.8	-0.1
PLDF	**La Plantade**	**0.40**	**100**	Pg	Pg	03 25 29.8	+0.6
PLDF				Sg	Sg	03 25 35.5	+0.9
BGF	**Bois d'Agland**	**0.54**	**345**	*e*Pg	Pg	03 25 32.4	+0.7
BGF				*e*Sg	Sg	03 25 40.0	+1.2
	6.1nm,0.3s						
TCF	**Toulx Ste Croi**	**0.63**	**293**	*e*Pg	Pg	03 25 33.7	+0.1
TCF				*e*Sg	Sg	03 25 42.0	+0.1
TCF				*e*Sn	Sg	03 25 45.2	+3.3
	2.1nm,0.2s						
AVF	**Avril sur Loir**	**0.78**	**15**	*e*Pg	Pg	03 25 37.0	+0.7
AVF				*e*Sg	Sg	03 25 47.3	+0.8
	3.6nm,0.3s						
SMF	**Signal de Mont**	**0.82**	**42**	*e*Pg	Pg	03 25 38.2	+1.2
SMF				*e*Sg	Sg	03 25 49.5	+1.8
	2.6nm,0.3s						
LBL	**Lubilhac**	**0.82**	**170**	Pg	Pg	03 25 37.7	+0.6
LBL				Sg	Sg	03 25 47.5	-0.3
SSF	**Saint Saulge**	**1.07**	**17**	*e*Pg	Pg	03 25 42.5	+0.6
SSF				*e*Sg	Sg	03 25 56.4	+0.6
	1.2nm,0.2s						
HYF	**Humbligny**	**1.26**	**347**	*e*Sg	Sg	03 26 03.4	+1.5
RJF	**Les Rejaudoux**	**1.30**	**236**	*e*Sg	Sg	03 26 01.4	-1.8
	1.6nm,0.3s						
CAF	**Calviac**	**1.31**	**212**	*e*Pg	Pg	03 25 44.9	-1.6
CAF				*e*Sg	Sg	03 26 02.8	-0.7
	1.5nm,0.2s						
LOR	**Lormes**	**1.35**	**24**	*e*Sg	Sg	03 26 05.2	+0.5
	0.8nm,0.2s,baz=201						
VIVF	**Saint-Julien-l**	**1.65**	**135**	*e*Sg	Sg	03 26 13.2	-1.0
	2.1nm,0.3s						

*IDC **26** 03:29:19.3±0.9, 3529N×8971E, h0km, mb4.1/5, mb1 4.2/7, mb1mx3.9/20, mbtmp4.0/7, ML3.4/2, Error ellipse: s-maj=42.4km s-min=21.2km az=55.0*

*ISCJB **26** 03:29:20.6±0.7, 353N±01×893E±01, h33km, mb4.0/6, Error ellipse: s-maj=16.2km s-min=15.6km az=160.9*

ISC 26 03:29:23.1±0.7, 353N±01×894E±01, h35km, n11, σ1§07/10, mb4.0/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**11.50**	**254**	*ex*	**Pn**	**03 32 04.4**	**-0.3**
MKAR	**Makanchi Array**	**12.63**	**337**	Pn	**Pn**	**03 32 19.7**	**-0.5**
	0.2nm,0.3s,baz=148,slow=14,SNR=4.8						
SONM	**Songino Array**	**17.80**	**40**	P	**Pn**	**03 33 27.8**	**-0.1**
	0.1nm,0.3s,baz=226,slow=12,SNR=4.9						
BVAR	**Borovoye Array**	**22.20**	**329**	P	**P**	**03 34 19.9**	**+3.7**
	4.0nm,0.8s,mb3.9,baz=127,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**69.58**	**135**	P	**P**	**03 40 29.0**	**+0.5**
	4.1nm,0.9s,mb4.4,baz=330,slow=6.3,SNR=22						
WB2	**Warramunga Arr**	**69.58**	**135**	*e*P	**P**	**03 40 28.9**	**+0.4**
ASAR	**Alice Springs**	**72.27**	**138**	P	**P**	**03 40 45.4**	**+0.6**
	2.2nm,0.9s,mb4.1,baz=325,slow=6.2,SNR=14						
YKA	**Yellowknife Ar**	**80.62**	**11**	P	**P**	**03 41 32.0**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=332,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**80.64**	**279**	P	**P**	**03 41 35.9**	**+3.7**
	2.5nm,0.8s,mb4.2,baz=44,slow=4.3,SNR=4.0						
STKA	**Stephens Creek**	**82.91**	**137**	P	**P**	**03 41 42.0**	**-2.1**
	1.9nm,0.8s,mb4.2,baz=315,slow=8.6,SNR=3.9						
SIV	**San Ignacio**	**147.31**	**299**	PKPbc	PKPbc	03 49 05.5	+2.6
	1.1nm,0.8s,baz=104,slow=4.2,SNR=5.8						

WEL 26 03:30:47.2±0.8, 3866S×17625E, h156km±6km, ML3.6/4, 1D, Error ellipse: s-maj=8.9km s-min=5.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.79**	**60**	‖ PN	Pn	03 31 11.1	+0.1
URZ				SN	Sn	03 31 28.6	-0.4
URZ				SN	Sn	03 31 29.0	-0.1
WNVZ	**Wahianoa**	**0.84**	**217**	PN	Pn	03 31 11.4	+0.1
BFZ	**Birch Farm**	**2.02**	**180**	PN	Pn	03 31 23.6	+0.7
MRZ	**Mangatainoka R**	**2.06**	**194**	PN	Pn	03 31 23.3	-0.1
MRZ				SN	Sn	03 31 50.6	-0.7
MTW	**Mount Morrison**	**2.56**	**193**	PN	Pn	03 31 28.6	-0.8
MSWZ	**Moikau Station**	**2.86**	**195**	PN	Pn	03 31 31.8	-1.2
TCW	**Tory Channel**	**2.97**	**210**	PN	Pn	03 31 32.0	-2.3
TCW				SN	Sn	03 32 07.6	-3.2
NNZ	**Nelson**	**3.37**	**220**	SN	Sn	03 32 16.3	-3.8
MQZ	**McQueen's Vall**	**5.72**	**207**	SN	Sn	03 33 06.8	-8.5

MEX 26 03:36:27.7±0.3, 1915N×9636W, h28km±15km, MD3.5, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.57**	**354**	*i* P	Pb	03 36 37.0	-2.2
LVIG				*i* S	Sb	03 36 44.7	-2.3
TPIG	**Tehuac#an**	**1.20**	**233**	*i* P	Pn	03 36 46.4	-2.2
TPIG				*i* S	Sn	03 37 00.9	-3.0

*PRE **26** 03:53:20.0±0.6, 2160S×3371E, h5km, ML4.4*

*ISCJB **26** 03:53:25.2±0.9, 2118S±006×3288E±008, h10km, mb3.9/4, Error ellipse: s-maj=10.5km s-min=8.7km az=28.6*

*IDC **26** 03:53:26.1±1.5, 2129S×3289E, h0km, mb3.9/3, mb1 4.1/8, mb1mx3.7/26, mbtmp4.1/8, ML3.9/4, MS3.6/1, Ms1 3.5/1, ms1mx3.1/24, Error ellipse: s-maj=23.1km s-min=20.3km az=129.0*

*NEIC **26** 03:53:26.7±1.0, 2122S×3297E, h10km, mb4.3/2, Error ellipse: s-maj=17.4km s-min=12.4km az=113.0*

ISC 26 03:53:27.3±0.9, 2117S±005×3293E±007, h10km, n16, σ0§97/29, mb3.9/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.39**	**322**	Pn	**Pn**	**03 55 15.9**	**+0.6**
	2.1nm,0.3s,baz=148,slow=14,SNR=34						
LSZ				Sn	**Sn**	**03 56 39.2**	**0.0**
	1.9nm,0.3s,baz=244,slow=23,SNR=6.1						
LSZ				Lg		03 57 21.8	
	3.6nm,0.3s,baz=54,slow=20,SNR=5.5						
LSZ	**Lusaka**	**7.39**	**322**	Pn	**Pn**	**03 55 15.9**	**+0.6**
LSZ				Sn	**Sn**	**03 56 39.2**	**0.0**
LSZ				Lg		03 57 21.8	
LSZ				*e*Sg	**Sg**	**03 57 23.7**	**-0.9**
LBTB	**Lobatse**	**7.76**	**239**	*e*P	**Pn**	**03 55 20.7**	**+0.4**
LBTB				*e*S	**Sn**	**03 56 49.0**	**+0.8**
LBTB				AML	AML	03 57 36.3	
	comp=Z,54nm,0.7s						
LBTB	**Lobatse**	**7.76**	**239**	Pn	**Pn**	**03 55 21.2**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=68,slow=14,SNR=20						
LBTB				Sn	**Sn**	**03 56 48.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=317,slow=19,SNR=2.6						
LBTB				Lg		03 57 28.6	
	comp=Z,4.2nm,0.3s,baz=279,slow=7.4,SNR=5.8						
LBTB	**Lobatse**	**7.76**	**239**	Pn	**Pn**	**03 55 21.2**	**+0.9**
LBTB				Sn	**Sn**	**03 56 48.6**	**+0.4**
LBTB				Lg		03 57 28.6	
BOSA	**Boshof**	**10.17**	**222**	*e*P	**Pn**	**03 55 50.8**	**-2.5**
BOSA				*e*S	**Sn**	**03 57 40.9**	**-6.4**
BOSA				AML	AML	03 58 52.2	
	comp=Z,18nm,0.6s						
BOSA	**Boshof**	**10.17**	**222**	Pn	**Pn**	**03 55 51.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=55,slow=14,SNR=13						
BOSA				Sn	**Sn**	**03 57 42.4**	**-4.9**
	comp=Z,0.6nm,0.3s,baz=68,slow=9.8,SNR=4.9						
BOSA				Lg		03 58 44.2	
	comp=Z,1.2nm,0.3s,baz=322,slow=18,SNR=6.1						
BOSA				LR	LR	03 59 57.3	
	comp=Z,347nm,21.8s,baz=261,slow=39						
BOSA	**Boshof**	**10.17**	**222**	Pn	**Pn**	**03 55 51.8**	**-1.4**
BOSA				Sn	**Sn**	**03 57 42.4**	**-4.9**
BOSA				Lg		03 58 44.2	
BOSA				LR	LR	03 59 57.3	
TSUM	**Tsumeb**	**14.54**	**275**	Pn	**Pn**	**03 56 53.0**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=103,slow=12,SNR=15						
TSUM				Sn	**Sn**	**03 59 34.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=109,slow=19,SNR=4.7						
TSUM				Lg		04 01 04.9	
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=4.8						
TSUM	**Tsumeb**	**14.54**	**275**	*e*Pn	**Pn**	**03 56 52.8**	**-0.3**
TSUM				Sn	**Sn**	**03 59 34.7**	**+0.3**
TSUM				Lg		04 01 04.9	
SUR	**Sutherland**	**15.53**	**222**	Pn	**Pn**	**03 57 04.3**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=56,slow=16,SNR=11						
SUR				Sn	**Sn**	**03 59 51.4**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=180,slow=19,SNR=3.1						
SUR				Lg		04 01 31.7	
	comp=Z,0.4nm,0.3s,baz=139,slow=19,SNR=4.7						
SUR	**Sutherland**	**15.53**	**222**	*e*P	**Pn**	**03 57 05.3**	**-1.0**
	comp=Z,12nm,1.0s						
SUR				Sn	**Sn**	**03 59 51.4**	**-7.0**
SUR				Lg		04 01 31.7	
TORD	**Torodi Ar. Bea**	**45.88**	**315**	P	**P**	**04 01 51.1**	**+1.4**
	comp=Z,1.0nm,1.0s,mb3.7,baz=131,slow=6.9,SNR=9.3						
ANTO	**Ankara**	**60.72**	**360**	P	**P**	**04 03 38.0**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.4						
BDFB	**Brasilia**	**76.25**	**258**	P	**P**	**04 05 17.3**	**+1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=163,slow=1.4,SNR=4.1						
ASAR	**Alice Springs**	**91.12**	**116**	P	**P**	**04 06 32.5**	**+0.2**
	comp=Z,0.2nm,0.8s,mb3.5,baz=247,slow=3.7,SNR=4.5						

*IDC **26** 04:18:36.5±0.5, 1538S×17614W, h0km, mb4.7/23, mb1 4.8/25, mb1mx4.8/26, mbtmp4.7/25, ML4.1/2, MS5.6/22, Ms1 5.6/22, ms1mx5.5/30, Error ellipse: s-maj=18.7km s-min=10.6km az=154.0*

*ISCJB **26** 04:18:40.6±0.2, 1527S±005×17627W±004, h32km, mb5.3/110, MS5.8/67, Error ellipse: s-maj=8.0km s-min=4.8km az=131.4*

*BJI **26** 04:18:42.1, 1530S×17620W, h32km, mB5.6, mb5.0, Ms6.0, Msz5.6*

*NEIC **26** 04:18:42.1±0.2, 1528S×17624W, mb5.5/79, MS5.9/24, MW6.0, Error ellipse: s-maj=9.5km s-min=4.8km az=148.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.08; $M_{\theta\theta}$=0.62; $M_{\phi\phi}$=-0.53; $M_{r\theta}$=0.46; $M_{\theta\phi}$=1.06; $M_{\phi r}$=-0.09; Best double couple: M_0=1.30000×10^{18} NP1: ϕ_s=284.00000°, δ89.00000°, λ-21.00000°. NP2: ϕ_s=14.00000°, δ69.00000°, λ-179.00000°. Principal axes: T 1.3300, Plg14.0000°, Azm331.0000°; N -0.0800, Plg69.0000°, Azm101.0000°; P -1.2500, Plg16.0000°, Azm237.0000°;*

*HRVD **26** 04:18:42.1±0.1, 1520S×17592W, h13km, MW6.0/107, Centroid moment Tensor Solution. LP body waves: s97, c202; Mantle waves: s107, c346; Half duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.10±.01; $M_{\theta\theta}$=0.57±.01; $M_{\phi\phi}$=-0.46±.01; $M_{r\theta}$=0.02±.02; $M_{\theta\phi}$=0.98±.01; $M_{\phi r}$=-0.02±.02; Best double couple: M_0=1.10600×10^{18} NP1: ϕ_s=14.00000°, δ89.00000°, λ-179.00000°. NP2: ϕ_s=284.00000°, δ89.00000°, λ-1.00000°. Principal axes: T 1.1570, Plg0.0000°, Azm329.0000°; N -0.1010, Plg88.0000°, Azm70.0000°; P -1.0540, Plg2.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **26** 04:18:42.9±1.9, 1500S×17627W, h33km, mb5.6/45, MS5.8/27 Error ellipse: s-maj=11.1km s-min=7.6km az=58.3*

*ORF **26** 04:18:59.5, 955S×17545E, h30km, mb5.8*

ISC 26 04:18:42.7±0.2, 1527S±005×17627W±004, h34km, h34km±1.0km: pP-P, n426, σ1§12/248, mb5.3/110, MS5.8/67, 17C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.55**	**73**	Pn	**Pn**	**04 19 38.1**	**-11**
	26nm,0.3s,baz=73,slow=15,SNR=20						
AFI				Sn	**Sn**	**04 20 34.3**	**-6.5**
	46nm,0.3s,baz=92,slow=23,SNR=7.3						
AFI				LR	LR	04 21 17.7	
	comp=Z,132μm,19.9s,baz=215,slow=36						
AFI				T		04 23 44.9	
	57nm,0.3s,baz=116,slow=22,SNR=5.0						
AFI	**Afiamalu**	**4.55**	**73**	*e*Pn	**Pn**	**04 19 38.2**	**-11**
RAO	**Raoul Island**	**14.00**	**186**	LR	LR	04 26 27.7	
	comp=Z,44μm,20.1s,baz=215,slow=34						
RAR	**Rarotonga**	**16.74**	**113**	Pn	**Pn**	**04 22 28.8**	**-5.6**
	0.6nm,0.3s,baz=310,slow=3.9,SNR=6.3						
RAR				Sn	**Sn**	**04 25 25.6**	**-14**
	0.4nm,0.3s,baz=270,slow=20,SNR=1.7						
RAR				T		04 39 04.4	
	8.7nm,0.3s,baz=124,slow=20,SNR=4.3						
RAR	**Rarotonga**	**16.74**	**113**	Pn	**Pn**	**04 22 28.9**	**-5.6**
RAR				Sn	**Sn**	**04 25 25.6**	**-14**
DZM	**Mont Dzumac**	**17.72**	**245**	P	**Pn**	**04 22 47.0**	**+0.4**
	0.7nm,0.3s,baz=55,slow=18,SNR=11						
DZM				S	**Sn**	**04 26 17.9**	**+15**
	0.1nm,0.3s,baz=338,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**17.72**	**245**	*e*P	**Pn**	**04 22 47.2**	**+0.6**
URZ	**Urewera**	**23.64**	**193**	P	**P**	**04 23 48.8**	**-2.1**
	14nm,0.7s,mb4.5,baz=79,slow=5.4,SNR=12						
URZ				LR	LR	04 31 45.4	
	comp=Z,27μm,21.6s,MS5.7,baz=26,slow=34						
HNR	**Honiara**	**23.94**	**281**	P	**P**	**04 23 55.4**	**+1.8**
	17nm,0.3s,mb4.9,baz=240,slow=5.5,SNR=2.1						
HNR				S	**S**	**04 28 20.6**	**+13**
	45nm,0.5s,baz=96,slow=15,SNR=2.2						
HNR				LR	LR	04 30 22.4	
	comp=Z,17μm,21.4s,MS5.5,baz=166,slow=29						
PAE	**Paea**	**25.69**	**99**	*e*P	**P**	**04 24 10.7**	**+1.1**
	74nm,1.0s,mb5.2						
PPT	**Papeete**	**25.70**	**99**	*e*P	**P**	**04 24 11.2**	**+1.6**
	81nm,1.4s,mb5.1						
PPT	**Papeete**	**25.70**	**99**	*e*LR	LR	04 30 21.9	
	18μm,26.0s						
PPT	**Papeete**	**25.70**	**99**	P	**P**	**04 24 06.9**	**-2.7**
	27nm,0.9s,mb4.8,baz=210,slow=8.1,SNR=2.6						
PPT				LR	LR	04 31 01.3	
	comp=Z,8μm,21.3s,MS5.2,baz=272,slow=29						
PPT				T		04 50 56.3	
	21nm,0.4s,baz=93,slow=11,SNR=4.3						
PPT	**Papeete**	**25.70**	**99**	P	**P**	**04 24 06.9**	**-2.7**
PPT				LR	LR	04 31 01.3	
TBI	**Tubuai**	**26.51**	**112**	*e*P	**P**	**04 24 18.4**	**+1.5**
	437nm,1.4s,mb5.8						
TBI				*e*LR	LR	04 30 50.6	
	6μm,22.2s						
PMOR	**Pomariorio Ree**	**27.38**	**93**	*e*P	**P**	**04 24 26.1**	**+1.3**
	363nm,1.5s,mb5.7						
TAOE	**Nuku Hiva Isla**	**35.85**	**84**	*e*LR	LR	04 34 45.7	
	95μm,27

comp=Z,23nm,0.8s,mb5.2,baz=84,slow=7.7,SNR=68
ASPA Alice Springs 47.53 252 *e*P **P 04 27 17.1 +2.5**
FITZ Fitzroy Crossi 55.53 258 *e*P **P 04 28 16.6 +2.1**
comp=Z,49nm,1.8s,mb5.2
DRV Dumont d'Urvil 58.81 199 S **S 04 36 47.0 +6.3**
DRV SS SS 04 40 39.0 +4.8
DRV R 04 47 00.0
MBWA Marble Bar 60.74 254 *e*P **P 04 28 55.7 +4.8**
comp=Z,150nm,1.6s,mb5.9
KLBR Kellerberrin 61.86 242 *e*P **P 04 28 56.8 -1.7**
comp=Z,62nm,1.1s,mb5.7
NWAO Narrogin (SRO) 62.27 241 P **P 04 29 02.9 +1.6**
comp=Z,20nm,1.3s,mb5.1,baz=73,slow=3.9,SNR=4.3
RPN Rapa Nui 62.89 113 LR LR 04 48 60.0
comp=Z,3μm,21.5s,MS5.4,baz=80,slow=29
VNDA Vanda 63.24 185 P **P 04 29 05.7 -2.0**
comp=Z,9.0nm,1.0s,mb4.8,baz=64,slow=6.3,SNR=2.8
VNDA LR LR 04 50 58.9
comp=Z,3μm,21.4s,MS5.5,baz=26,slow=31
VNDA Vanda 63.24 185 P **P 04 29 07.1 -0.6**
VNDA pmax pmax
comp=Z,36nm,1.1s
VNDA Vanda 63.24 185 P **P 04 29 07.1 -0.6**
comp=Z,36nm,1.1s,mb5.4
MJAR Matsushiro Arr 67.08 321 P **P 04 29 31.1 -1.5**
comp=Z,2.3nm,0.9s,mb4.2,baz=152,slow=10,SNR=4.8
MJAR LR LR 04 53 48.9
comp=Z,4μm,20.6s,MS5.6,baz=140,slow=31
MAT Matsushiro 67.08 321 P **P 04 29 31.0 -1.6**
MAT S S 04 38 31.0 +6.8
MAT Matsushiro 67.08 321 *e*P **P 04 29 31.0 -1.6**
MAT *e*S S 04 38 32.0 +7.8
MAT LR LR
comp=Z,5μm,21.0s,MS5.7
YUK Yuzh-Kuril'sk 68.39 332 P **P 04 29 49.0 +8.1**
YUK S S 04 39 03.0 +23
TGY Tagaytay City 68.61 292 LR LR 04 55 42.2
comp=Z,28nm,19.1s,baz=300,slow=32
PET Petropavlovsk 71.37 344 *e*P **P 04 29 59.5 +0.4**
PET *e*S S 04 39 14.6 -0.2
PET *e*PS 04 39 45.4
PET *e*PPS 04 39 54.7
PET pmax pmax
comp=Z,500nm,13.5s
PET smax
comp=N,2μm,18.1s
PET MLR MLR
comp=Z,2μm,16.0s,MS5.6
PET MLR MLR
comp=Z,3μm,20.0s
PET Petropavlovsk 71.37 344⇑ *e*P **P 04 29 59.2 +0.1**
YSS Yuzh-Sakhalins 72.03 332 P **P 04 30 01.0 -2.1**
YSS *e* 04 30 07.5
YSS *e*S S 04 39 28.0 +5.6
YSS *e*PS 04 39 58.0
YSS MLR MLR
comp=N,2μm,18.0s,MS5.7
YSS MLR MLR
comp=Z,3μm,18.0s,MS5.5
YSS MLR MLR
comp=E,3μm,16.0s,MS5.7
YSS Yuzh-Sakhalins 72.03 332 *e*P **P 04 30 00.8 -2.3**
comp=E,50nm,1.0s,mb5.4
SAO San Andreas Ge 73.11 43 *e*P **P 04 30 09.1 -0.4**
SAO pmax pmax
comp=Z,53nm,1.4s,mb5.3
SAO MLR MLR
comp=Z,3μm,19.0s,MS5.6
SAO San Andreas Ge 73.11 43 *e*P **P 04 30 09.1 -0.5**
comp=Z,53nm,1.4s,mb5.3
SAO LR LR
comp=Z,3μm,19.0s,MS5.6
LRV Little Rabbit 73.20 44 *e*P **P 04 30 11.7 +1.6**
LRV *e* pP 04 30 23.8 +3.1
HOPS Hopland 73.34 41 *e*P **P 04 30 12.2 +1.3**
comp=Z,130nm,1.7s,mb5.6
MWC Mount Wilson 74.05 47 *e*P **P 04 30 15.1 0.0**
MWC *PP pP 04 30 25.5 -0.2
BAR Barrett 74.25 49 *e*P **P 04 30 17.5 +1.2**
KSM Kuching 74.42 276 P **P 04 30 16.8 -0.5**
CMB Columbia Colle 74.52 43 *e*P **P 04 30 17.7 -0.1**
CMB pmax pmax
comp=Z,38nm,1.4s,mb5.1
CMB MLR MLR
comp=Z,3μm,19.0s,MS5.6
CMB Columbia Colle 74.52 43 *e*P **P 04 30 17.7 -0.1**
comp=Z,38nm,1.4s,mb5.1
CMB LR LR
comp=Z,3μm,19.0s,MS5.6
OHCM Honcut 74.55 41 *e*P **P 04 30 18.0 +0.1**
WDC Whiskeytown Da 74.61 40 *e*P **P 04 30 18.3 0.0**
WDC pmax pmax
comp=Z,83nm,1.6s,mb5.4
WDC Whiskeytown Da 74.61 40 *e*P **P 04 30 18.3 0.0**
comp=Z,83nm,1.6s,mb5.4
QSPA South Pole Qui 74.77 180⇑ *i*P **P 04 30 19.8 +0.5**
comp=Z,131nm,1.6s,mb5.6
PFO Pinyon Flat Ob 74.88 48 *e*P **P 04 30 19.9 0.0**
PFO *PP pP 04 30 29.9 -0.6
PFO pmax pmax
comp=Z,48nm,1.5s,mb5.2
PFO Pinyon Flat Ob 74.88 48 *e*P **P 04 30 19.9 0.0**
comp=Z,48nm,1.5s,mb5.2
PFO pP pP 04 30 29.9 -0.6
QZH Quanzhou 75.02 301 P **P 04 30 22.8 +2.1**
QZH S S 04 40 02.3 +6.1
QZH LR LR
comp=N,3μm,11.6s,MS5.9
QZH LR LR
comp=E,3μm,12.6s,MS5.9
QZH LR LR
comp=Z,13μm,38.8s
YBH Yreka Blue Hor 75.19 39 P **P 04 30 21.7 +0.1**
comp=Z,14nm,0.8s,mb4.9,baz=173,slow=3.2,SNR=14
YBH S S 04 40 02.1 +4.0
comp=Z,0.8nm,0.7s,baz=136,slow=12,SNR=1.8
YBH LR LR 04 57 49.8
comp=Z,7μm,18.9s,MS6.0,baz=236,slow=31
YBH Yreka Blue Hor 75.19 39 *e*P **P 04 30 22.1 +0.4**
YBH pmax pmax
comp=Z,58nm,1.3s
YBH MLR MLR
comp=Z,6μm,19.0s
YBH Yreka Blue Hor 75.19 39 *e*P **P 04 30 22.1 +0.4**
comp=Z,58nm,1.3s,mb5.3
YBH LR LR
comp=Z,6μm,19.0s,MS5.9
KDAK Kodiak Island 75.37 13 P **P 04 30 22.7 0.0**
comp=Z,13nm,0.8s,mb4.9,baz=231,slow=6.5,SNR=4.0
HUMO Hull Mountain 75.57 38 *e*P **P 04 30 23.5 -0.3**
comp=Z,84nm,1.6s,mb5.4
HUMO *e*pP pP 04 30 34.7 +0.2
WCN Washoe City 75.63 42 *e*P **P 04 30 24.2 0.0**
WCN *e* 04 30 39.1
WCN pmax pmax
comp=Z,35nm,1.2s,mb5.2
WCN Washoe City 75.63 42 *e*P **P 04 30 24.2 0.0**
comp=Z,35nm,1.2s,mb5.2
WCN *e* 04 30 39.1
SSE Sheshan 75.69 308 *e*P **P 04 30 23.3 -1.2**
SSE AP pP 04 30 33.0 -2.2
SSE PCP PcP 04 30 36.0 -1.2
SSE S S 04 40 02.3 -1.3
SSE XS sS 04 40 19.3 -1.9
SSE SCS ScS 04 40 35.0 -0.9
SSE AMB AMB
comp=Z,42nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,225nm,3.5s
SSE LR LR
comp=N,2μm,35.9s,MS5.5
SSE LR LR
comp=E,4μm,35.9s,MS5.5
SSE LR LR
comp=Z,5μm,26.0s
NVAR Mina Array Bea 76.11 43 P **P 04 30 26.8 -0.1**
comp=Z,8.5nm,0.9s,mb4.7,baz=214,slow=7.4,SNR=28
NVAR Mina Array Bea 76.11 43 P **P 04 30 26.8 -0.1**
MNV Mina 76.20 43 *e*P **P 04 30 27.3 -0.2**
MNV pmax pmax
comp=Z,88nm,1.4s,mb5.5
MNV Mina 76.20 43 *e*P **P 04 30 27.3 -0.2**
comp=Z,88nm,1.4s,mb5.5
LDFC Landfair 76.57 48 *e*P **P 04 30 29.9 +0.3**
LDFC *e*pP pP 04 30 41.6 +1.4
LDFC *e*sP sP 04 30 46.1 +1.9

MOD Modoc 76.75 39 *e*P **P 04 30 30.0 -0.6**
comp=Z,30nm,1.0s,mb5.2
MOD pP pP 04 30 39.0 -2.2
MOD *e*sP sP 04 30 43.5 -1.7
MOD LR LR
comp=Z,7μm,19.0s,MS6.0
HABR Khabarovsk 76.78 329 *e*P **P 04 30 26.6 -4.1**
HABR *e*S S 04 40 06.6 -9.0
HABR pmax pmax
comp=Z,81nm,1.6s,mb5.4
HABR MLR MLR
comp=Z,2μm,19.0s,MS5.3
NEN Nelson 77.05 47 *e*P **P 04 30 32.1 -0.1**
MDJ Mudanjiang 77.26 324 P **P 04 30 33.5 +0.1**
MDJ AP pP 04 30 42.5 -1.6
MDJ PP PP 04 33 27.0 -0.6
MDJ S S 04 40 21.5 +0.7
MDJ SS SS 04 45 20.0 +0.9
MDJ AMB AMB
comp=Z,16nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,122nm,3.1s
MDJ LR LR
comp=N,3μm,24.8s,MS5.8
MDJ LR LR
comp=E,5μm,24.8s,MS5.8
MDJ LR LR
comp=Z,8μm,29.9s
SVW2 Sparrevohn 77.88 10 *e*P **P 04 30 37.1 +0.2**
NJ2 Nanjing 77.89 308 *e*P **P 04 30 38.0 +1.0**
NJ2 AP pP 04 30 48.5 +0.8
NJ2 PP PP 04 33 35.0 +2.0
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,250nm,8.9s
NJ2 LR LR
comp=N,9μm,29.0s,MS6.1
NJ2 LR LR
comp=E,12μm,33.7s,MS6.1
NJ2 LR LR
comp=Z,6μm,34.3s,MS5.7
WVOR Wild Horse Val 78.07 40 *e*P **P 04 30 37.9 -0.1**
WVOR *e**PP pP 04 30 48.9 +0.2
WVOR *e* 04 30 52.6
WVOR pmax pmax
comp=Z,71nm,1.4s,mb5.4
WVOR Wild Horse Val 78.07 40 *e*P **P 04 30 37.9 -0.1**
comp=Z,71nm,1.4s,mb5.4
WVOR *e*pP pP 04 30 48.9 +0.2
WVOR *e* 04 30 52.6
SLKM Skilak Lake 78.36 13 *e*P **P 04 30 38.3 -1.3**
TUC Tucson 78.47 52 *e*P **P 04 30 40.8 +0.7**
TUC pmax pmax
comp=Z,102nm,1.4s,mb5.6
TUC MLR MLR
comp=Z,6μm,20.0s,MS5.9
TUC Tucson 78.47 52 *e*P **P 04 30 40.8 +0.6**
comp=Z,102nm,1.4s,mb5.6
TUC LR LR
comp=Z,6μm,20.0s,MS5.9
KLR Kul'dur 78.93 328 *e*P **P 04 30 46.2 +3.5**
KLR *e*S S 04 40 46.0 +7.2
ARUT Antelope Range 79.07 46 *e*P **P 04 30 44.7 +1.2**
ARUT *e**PP pP 04 30 54.2 0.0
DL2 Dalian 79.13 315 *e*P **P 04 30 48.0 +4.2**
DL2 SKS 04 40 58.0
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,230nm,9.4s
DL2 LR LR
comp=N,1μm,21.9s,MS5.4
DL2 LR LR
comp=E,1μm,23.1s,MS5.4
DL2 LR LR
comp=Z,2μm,22.7s,MS5.4
CN2 Changchun 79.23 321 *e*P **P 04 30 45.3 +1.0**
CN2 *e*S S 04 40 41.5 -0.5
CN2 SS SS 04 45 51.0 +2.2
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.8
CN2 LR LR
comp=E,3μm,18.0s,MS5.8
CN2 LR LR
comp=Z,3μm,19.0s,MS5.6
MA2 Magadan 79.23 344 P **P 04 30 45.6 +1.3**
MA2 *e* 04 35 34.6
MA2 *e*S S 04 40 32.3 -10
MA2 *e*PS 04 41 23.2
MA2 *e*SS SS 04 45 53.4 +4.6
MA2 pmax pmax
comp=Z,20nm,1.6s,mb4.8
MA2 MLR MLR
comp=Z,2μm,22.0s,MS5.3
MA2 Magadan 79.23 344 *e*P **P 04 30 42.1 -2.2**
comp=Z,46nm,1.4s,mb5.2
ELK Elko 79.33 43 *e*P **P 04 30 44.8 -0.1**
ELK pmax pmax
comp=Z,46nm,1.4s
ELK MLR MLR
comp=Z,3μm,19.0s
ELK Elko 79.33 43 *e*P **P 04 30 44.8 -0.1**
comp=Z,46nm,1.4s,mb5.2
ELK LR LR
comp=Z,3μm,19.0s,MS5.7
WUAZ Wupatki 79.47 49 *e*P **P 04 30 46.0 +0.3**
comp=Z,59nm,1.4s,mb5.3
PMR Palmer 79.58 13 *e*P **P 04 30 46.4 +0.2**
PMR pmax pmax
comp=Z,102nm,1.7s,mb5.5
PMR MLR MLR
comp=Z,2μm,19.0s,MS5.4
PMR Palmer 79.58 13 *e*P **P 04 30 46.4 +0.2**
comp=Z,102nm,1.7s,mb5.5
PMR LR LR
comp=Z,2μm,19.0s,MS5.4
HAWA Hanford 79.77 36 *e*P **P 04 30 46.9 -0.4**
comp=Z,4.8nm,1.5s,mb4.2
DIV Divide 79.93 14 *e*P **P 04 30 45.8 -2.3**
comp=Z,208nm,1.3s,mb5.9
DIV *e* 04 30 59.4
SML Sawmill 79.94 13 P **P 04 30 49.0 +0.8**
SML *e* 04 31 02.9
SFJM Santa Fe 80.21 66 *e*P **P 04 30 50.0 +0.4**
BMO Blue Mountains 80.21 38 *e*P **P 04 30 48.8 -0.9**
BMO pmax pmax
comp=Z,31nm,1.3s,mb5.1
BMO MLR MLR
comp=Z,8μm,20.0s,MS6.0
BMO Blue Mountains 80.21 38 *e*P **P 04 30 48.8 -0.8**
comp=Z,32nm,1.3s,mb5.1
BMO LR LR
comp=Z,8μm,20.0s,MS6.0
MSU Marysvale 80.29 46 *e*P **P 04 30 50.7 +0.6**
MSU *e* pP 04 31 02.5 +1.7
DUG Dugway 80.67 44 *e*P **P 04 30 51.9 -0.2**
DUG *e**PP pP 04 31 02.6 -0.2
DUG pmax pmax
comp=Z,36nm,1.4s,mb5.1
DUG Dugway 80.67 44 *e*P **P 04 30 51.9 -0.2**
comp=Z,36nm,1.4s,mb5.1
DUG *e*pP pP 04 31 02.6 -0.2
TNA Tin City 80.83 4 *e*P **P 04 30 52.4 -0.6**
comp=Z,126nm,1.6s,mb5.6
TNA *e*pP pP 04 31 01.6 -2.1
TNA *e*sP sP 04 31 06.3 -1.3
BGU Big Grassy Mou 80.88 43 *e*P **P 04 30 55.3 +2.1**
NLU North Lily Min 81.05 44 *e*P **P 04 30 54.0 -0.2**
HLID Hailey 81.30 40 *e*P **P 04 30 55.6 +0.1**
comp=Z,79nm,1.5s,mb5.4
TMUT Trail Mountain 81.33 45 *e*P **P 04 30 56.3 +0.6**
NOQ North Oquirrh 81.35 44 *e*P **P 04 30 55.3 -0.4**
comp=Z,71nm,1.4s,mb5.4
MPU Maple Canyon 81.38 45 *e*P **P 04 30 55.7 -0.2**
comp=Z,50nm,1.6s,mb5.2
SPUT South Promonto 81.44 43 *e*P **P 04 30 56.5 +0.3**
HVU Hansel Valley 81.46 43 P **P 04 30 56.5 +0.2**
HVU pmax pmax
comp=Z,110nm,1.6s,mb5.5
HVU Hansel Valley 81.46 43 *e*P **P 04 30 56.0 -0.3**

comp=Z,108nm,1.7s,mb5.5
MCK McKinley 81.54 12 P **P 04 30 55.7 -1.0**
MCK pmax pmax
comp=Z,39nm,1.3s,mb5.2
MCK McKinley 81.54 12 *e*P **P 04 30 54.8 -1.9**
comp=Z,39nm,1.4s,mb5.2
SEY Seymchan 81.70 346 *e*P **P 04 30 56.2 -1.4**
SEY *e*S S 04 41 02.5 -5.4
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.2
SEY smax
comp=N,3μm,24.6s
SEY smax
comp=E,800nm,18.5s
SEY MLR MLR
comp=Z,3μm,22.0s,MS5.5
SEY MLR MLR
comp=N,2μm,18.0s,MS5.6
SEY MLR MLR
comp=E,2μm,18.0s,MS5.6
SEY Seymchan 81.70 346⇑ *i*P **P 04 30 56.1 -1.5**
SRU San Rafael 81.72 46 P **P 04 30 57.6 -0.1**
SRU pmax pmax
comp=Z,69nm,1.6s,mb5.3
SRU San Rafael 81.72 46 *e*P **P 04 30 57.2 -0.5**
comp=Z,69nm,1.6s,mb5.3
DAU Daniels Canyon 81.82 44 *e*P **P 04 30 59.5 +1.3**
MENT Mentasta 81.99 14 *e*P **P 04 30 58.6 -0.5**
TCUT Toone Canyon 82.04 44 *e*P **P 04 30 59.3 -0.1**
LENM Lemitar 82.14 52 *e*P **P 04 31 00.7 +0.8**
HWUT Hardware Ranch 82.17 43 *e*P **P 04 30 59.1 -1.0**
comp=Z,46nm,1.4s,mb5.2
NEW Newport 82.18 35 P **P 04 30 59.1 -1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=239,slow=3.2,SNR=6.6
NEW Newport 82.18 35 *e*P **P 04 30 58.6 -1.5**
NEW pmax pmax
comp=Z,47nm,1.8s
NEW MLR MLR
comp=Z,5μm,20.0s
NEW Newport 82.18 35 *e*P **P 04 30 58.6 -1.5**
comp=Z,47nm,1.8s,mb5.1
NEW LR LR
comp=Z,5μm,20.0s,MS5.9
MNTX Cornudas Mount 82.38 54 *e*P **P 04 31 00.9 -0.2**
comp=Z,120nm,1.5s,mb5.6
MNTX LR LR
comp=Z,7μm,20.0s,MS6.0
BNM Barren Site 82.40 52 *e*P **P 04 31 01.6 +0.4**
PV10 Paradox Valley 82.42 47 *e*P **P 04 31 02.5 +1.1**
LPM Los Pinos Moun 82.46 52 *e*P **P 04 31 01.8 +0.2**
PV01 Paradox Valley 82.65 47 *e*P **P 04 31 02.1 -0.5**
COLA College 82.77 12 P **P 04 31 01.5 -1.7**
COLA pmax pmax
comp=Z,50nm,1.2s,mb5.4
COLA College 82.77 12 *e*P **P 04 31 01.1 -2.1**
comp=Z,50nm,1.3s,mb5.4
COLA LR LR
comp=Z,2μm,20.0s,MS5.6
LTX Lajitas 82.85 57 P **P 04 31 04.4 +0.8**
LTX pmax pmax
comp=Z,150nm,1.6s,mb5.8
LTX Lajitas 82.85 57 *e*P **P 04 31 03.5 -0.1**
comp=Z,150nm,1.6s,mb5.8
ANMO Albuquerque 82.85 51 P **P 04 31 03.7 +0.1**
comp=Z,49nm,1.3s,mb5.4,baz=256,slow=4.7,SNR=16
ANMO Albuquerque 82.85 51 P **P 04 31 03.9 +0.3**
ANMO pmax pmax
comp=Z,120nm,1.6s
ANMO Albuquerque 82.85 51 *e*P **P 04 31 03.8 +0.2**
comp=Z,117nm,1.6s,mb5.7
ANMO LR LR
comp=Z,6μm,19.0s,MS6.0
ILAR Eielson Array 82.88 12 P **P 04 31 01.8 -2.0**
comp=Z,5.2nm,1.0s,mb4.5,baz=221,slow=3.0,SNR=30
ILAR LR LR 05 05 13.2
comp=Z,1μm,18.8s,MS5.2,baz=51,slow=34
MCMT McKenzie Canyo 82.91 40 *e*P **P 04 31 03.9 0.0**
AHID Auburn Hatcher 83.02 42 *e*P **P 04 31 04.9 +0.4**
comp=Z,21nm,0.9s,mb5.2
AHID *e*pP pP 04 31 15.8 +0.5
MSO Missoula 83.25 38 *e*P **P 04 31 04.7 -1.0**
comp=Z,46nm,1.7s,mb5.2
DLMT Dillon 83.33 40 *e*P **P 04 31 05.7 -0.3**
comp=Z,72nm,1.2s,mb5.6
GDL2 Guadalupe Moun 83.37 54 *e*P **P 04 31 06.6 +0.3**
BJT Baijiatuau 83.38 314 *e*P **P 04 31 05.6 -0.8**
BJT pmax pmax
comp=Z,57nm,1.3s
BJT MLR MLR
comp=Z,5μm,22.0s
BJT Baijiatuau 83.38 314 *e*P **P 04 31 05.6 -0.8**
comp=Z,57nm,1.3s,mb5.4
BJT LR LR
comp=Z,5μm,22.0s,MS5.8
REDW Red Top Meadow 83.46 42 *e*P **P 04 31 06.7 -0.1**
comp=Z,124nm,1.4s,mb5.8
SNOW Snow King Moun 83.57 42 *e*P **P 04 31 07.4 0.0**
comp=Z,60nm,1.1s,mb5.6
CHMT Chamberlain Mo 83.70 38 *e*P **P 04 31 06.7 -1.3**
MOOW Moose Ponds 83.71 42 *e*P **P 04 31 07.8 -0.3**
comp=Z,54nm,1.4s,mb5.5
LOHW Long Hollow 83.74 42 *e*P **P 04 31 07.6 -0.6**
comp=Z,67nm,1.4s,mb5.6
CLNB Carlsbad 83.78 54 *e*P **P 04 31 09.9 +1.6**
QLMT Earthquake Lak 83.79 40 *e*P **P 04 31 08.8 +0.3**
FLWY Flagg Ranch 83.90 41 *e*P **P 04 31 09.1 +0.1**
comp=Z,115nm,1.3s,mb5.8
YFT Old Faithful 83.98 41 *e*P **P 04 31 11.0 +1.6**
DAWY Dawson 84.00 15 *e*P **P 04 31 08.0 -1.5**
YMR Madison River 84.00 41 *e*P **P 04 31 09.8 +0.2**
comp=Z,133nm,1.5s,mb5.8
BW06 Boulder Array 84.03 43 *e*P **P 04 31 08.2 -1.5**
comp=Z,17nm,0.9s,mb5.2
BW06 LR LR
comp=Z,2μm,20.0s,MS5.5
BILL Bilibino 84.04 353 P **P 04 31 08.0 -1.7**
BILL *e* pP 04 31 17.7 -2.8
BILL *e* 04 31 22.4
BILL *i* 04 41 33.7
BILL *e*SS SS 04 47 04.2 +3.8
BILL pmax pmax
comp=Z,21nm,1.7s,mb5.0
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.5
BILL Bilibino 84.04 353 *e*P **P 04 31 07.4 -2.4**
comp=Z,18nm,0.9s,mb5.2
BOZ Bozeman (W) 84.06 40 P **P 04 31 09.7 -0.1**
BOZ pmax pmax
comp=Z,90nm,1.6s,mb5.7
BOZ Bozeman (W) 84.06 40 *e*P **P 04 31 09.3 -0.5**
comp=Z,90nm,1.6s,mb5.7
BOZ LR LR
comp=Z,7μm,19.0s,MS6.0
SMCO Snowmass 84.22 47 *e*P **P 04 31 10.4 -0.2**
comp=Z,63nm,1.3s,mb5.6
LKWY Lake 84.31 41 *e*P **P 04 31 12.1 +1.0**
LKWY pmax pmax
comp=Z,15nm,0.4s,mb5.5
LKWY Lake 84.31 41 *e*P **P 04 31 12.1 +1.0**
comp=Z,15nm,0.4s,mb5.5
ENH Enshi 84.53 303 *e*P **P 04 31 12.1 -0.1**
comp=Z,129nm,1.8s,mb5.8
SDCO Great Sand Dun 84.69 49 *e*P **P 04 31 13.4 +0.4**
comp=Z,38nm,1.4s,mb5.3
SDCO *e*pP pP 04 31 25.1 +1.3
SDCO LR LR
comp=Z,6μm,20.0s,MS6.0
VHO Vista Hermosa 84.76 71 *e*P **P 04 31 12.2 -1.2**
OXX Oaxaca 84.77 71 *e*P **P 04 31 10.0 -3.4**
RWWY Rawlins 85.12 45 *e*P **P 04 31 15.6 +0.4**
comp=Z,119nm,1.4s,mb5.8
GCMT Greycliff 85.34 40 *e*P **P 04 31 16.5 +0.2**
ISCO Idaho Springs 85.44 47 P **P 04 31 18.3 +1.5**
ISCO pmax pmax
comp=Z,33nm,1.4s,mb5.3
ISCO Idaho Springs 85.44 47 *e*P **P 04 31 17.2 +0.4**
comp=Z,33nm,1.5s,mb5.2
GYA Guiyang 85.55 299 *e*P **P 04 31 23.0 +5.7**
GYA XP sP 04 31 33.5 +1.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,180nm,4.0s
GYA LR LR

comp=N,1µm,18.4s,MS5.5
GYA LR LR
comp=E,1µm,18.0s,MS5.5
PSI Prapat 85.73 274 P **P** **04 31 20.5 +2.3**
comp=E,12nm,1.1s,mb5.0,baz=142,slow=9.3,SNR=3.6
EGMT Eagleton 86.31 38 *e*P **P** **04 31 20.8 -0.3**
comp=E,69nm,1.7s,mb5.6
XAN Xi'an 86.32 307 P **P** **04 31 24.5 +3.3**
XAN AP pP 04 31 32.5 +0.5
XAN XP sP 04 31 36.5 +0.6
JCT Junction City 86.39 57 P **P** **04 31 23.2 +1.7**
JCT pmax pmax
comp=Z,34nm,1.2s,mb5.5
JCT Junction City 86.39 57 *e*P **P** **04 31 22.1 +0.6**
comp=Z,34nm,1.2s,mb5.5
JCT LR LR
comp=Z,5µm,20.0s,MS5.9
CMIG Matias Romero 86.45 71 *e*P **P** **04 31 21.6 -0.2**
EDM Edmonton 86.84 32 *e*P **P** **04 31 23.1 -0.6**
EDM Edmonton 86.84 32 *e*P **P** **04 31 22.1 -1.6**
HHC Hu-ho-hao-te 86.92 314 *e*P **P** **04 31 26.8 +2.7**
HHC SKS 04 41 49.5
HHC S 04 42 04.0
HHC AMB AMB
comp=Z,28nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,573nm,5.6s
HHC LR LR
comp=N,2µm,19.0s,MS5.6
HHC LR LR
comp=E,1µm,23.8s,MS5.6
HHC LR LR
comp=Z,3µm,26.2s,MS5.6
MAW Mawson 87.02 199 LR LR 05 06 39.4
comp=Z,6µm,20.8s,MS6.0,baz=118,slow=33
USHA Ushuaia 87.57 147 LR LR 05 00 50.3
comp=Z,4µm,21.4s,MS5.8,baz=229,slow=29
LAO LASA Array 87.88 40 *e*P **P** **04 31 28.3 -0.4**
comp=Z,68nm,1.4s,mb5.7
LAO LR LR
comp=Z,3µm,21.0s,MS5.7
BTO Baotou 87.91 313 *e*P **P** **04 31 30.3 +1.4**
YAK Yakutsk 87.92 338 *e*P pP 04 31 41.6 +1.9
YAK *e* 04 42 11.5
YAK pmax pmax
comp=N,160nm,8.8s
YAK Yakutsk 87.92 338⇑ *e*P **P** **04 31 25.5 -3.4**
KMI Kunming 88.48 296 P **P** **04 31 31.5 -0.1**
KMI AP pP 04 31 41.8 -0.6
KMI XP sP 04 31 47.0 +0.7
KMI PP PP 04 34 59.8 0.0
KMI S 04 42 11.3
KMI XS sS 04 42 30.3 -2.6
KMI SS SS 04 48 09.3 +3.7
KMI SSS 04 51 32.3
KMI AMB AMB
comp=Z,13nm,1.8s,mb4.9
KMI AMB AMB
comp=Z,386nm,5.5s
KMI LR LR
comp=N,2µm,20.9s,MS5.7
KMI LR LR
comp=E,3µm,22.9s,MS5.7
KMI LR LR
comp=Z,4µm,22.9s,MS5.8
WMOK Wichita Mounta 88.64 54 *e*P **P** **04 31 30.6 -1.7**
WMOK pmax pmax
comp=Z,13nm,1.5s,mb5.0
WMOK MLR MLR
comp=Z,7µm,20.0s,MS6.1
WMOK Wichita Mounta 88.64 54 *e*P **P** **04 31 30.6 -1.7**
comp=Z,13nm,1.5s,mb5.0
WMOK LR LR
comp=Z,7µm,20.0s,MS6.1
CCIG Comitan 88.74 73 *e*P **P** **04 31 29.8 -3.0**
INK Inuvik 88.82 15 P **P** **04 31 32.8 -0.3**
comp=Z,4.7nm,1.2s,mb4.7,baz=205,slow=10,SNR=4.4
INK Inuvik 88.82 15 *e*P **P** **04 31 33.8 +0.7**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 88.82 15 *e*P **P** **04 31 33.8 +0.7**
comp=Z,14nm,1.2s,mb5.2
CBKS Cedar Bluff 89.29 49 *e*P **P** **04 31 36.1 +0.7**
CBKS pmax pmax
comp=Z,29nm,1.5s,mb5.4
CBKS Cedar Bluff 89.29 49 *e*P **P** **04 31 36.1 +0.7**
comp=Z,29nm,1.5s,mb5.4
CD2 Chengdu 89.39 302 P **P** **04 31 36.0 +0.2**
CD2 AP pP 04 31 47.3 +0.6
CD2 S 04 42 22.5
CD2 XS sS 04 42 41.8 +0.3
CD2 SS SS 04 48 18.5 -0.3
CD2 AMB AMB
comp=Z,330nm,6.6s
CD2 LR LR
comp=N,1µm,22.2s
CD2 LR LR
comp=Z,1µm,19.2s,MS5.4
HKT Hockley 89.47 59 *e*P **P** **04 31 37.5 +1.3**
HKT pmax pmax
comp=Z,97nm,1.8s,mb5.8
HKT Hockley 89.47 59 *e*P **P** **04 31 37.5 +1.3**
comp=Z,97nm,1.8s,mb5.8
DGMT Dagmar 89.86 39 *e*P **P** **04 31 37.7 -0.4**
comp=Z,111nm,1.5s,mb6.0
CIT Chita 90.20 324 *e*P **P** **04 31 42.7 +3.1**
CIT pmax pmax
comp=Z,77nm,3.3s
LZH Lanzhou 90.93 307 *e*P **P** **04 31 43.0 0.0**
LZH AP pP 04 31 53.8 -0.1
LZH XP sP 04 31 57.5 -0.3
LZH PP PP 04 35 21.5 +2.3
LZH *e*S 04 42 35.0
LZH XS sS 04 42 52.5 -3.2
LZH *e*SS SS 04 48 42.0 +1.0
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,145nm,6.1s
NATX Nacogdoches 90.97 57 *e*P **P** **04 31 45.5 +2.3**
comp=Z,88nm,1.5s,mb5.9
YKA Yellowknife Ar 91.09 24 P **P** **04 31 42.9 -0.9**
comp=Z,2.0nm,0.9s,mb4.4,baz=242,slow=4.5,SNR=18
YKA PKiKP PKiKP 04 36 34.0 -2.6
comp=Z,0.3nm,0.6s,baz=239,slow=3.7,SNR=5.7
YKA LR LR 05 04 48.5
comp=Z,4µm,21.1s,MS5.8,baz=250,slow=30
YKW3 Yellowknife Ar 91.12 24 *e*P **P** **04 31 43.3 -0.6**
PLCA Paso Flores 91.64 133 P **P** **04 31 46.0 -0.2**
comp=Z,2.7nm,1.0s,mb4.5,baz=256,slow=5.3,SNR=3.1
PLCA LR LR 05 04 43.6
comp=Z,3µm,21.1s,MS5.8,baz=230,slow=30
PLCA Paso Flores 91.64 133 *e*P **P** **04 31 46.4 +0.1**
PLCA pmax pmax
comp=Z,44nm,1.9s
PLCA Paso Flores 91.64 133 *e*P **P** **04 31 46.4 +0.1**
comp=Z,44nm,1.9s,mb5.5
SYO Syowa Base 92.16 192⇑ *e*pP pP 04 31 55.7 -3.9
SYO Syowa Base 92.16 192⇓ *e*P **P** **04 31 47.5 -1.2**
SYO *e*PP pP 04 31 55.7 -3.9
ULN Ulaanbaatar 92.51 319 *e*P **P** **04 31 50.8 +0.5**
ULN pmax pmax
comp=Z,26nm,1.6s,mb5.4
ULN Ulaanbaatar 92.51 319 *e*P **P** **04 31 50.8 +0.4**
comp=Z,26nm,1.6s,mb5.4
SONM Songino Array 92.92 319 P **P** **04 31 53.1 +0.9**
comp=Z,1.6nm,1.0s,mb4.4,baz=121,slow=2.3,SNR=8.2
SONM PP PP 04 35 41.3 +6.4
comp=Z,1.7nm,1.2s,baz=114,slow=3.3,SNR=4.2
SONM LR LR 05 09 46.8
comp=Z,2µm,20.1s,MS5.6,baz=136,slow=33
SONM Songino Array 92.92 319 P **P** **04 31 53.1 +0.9**
SONM 04 35 41.3
SNAA Sanae 93.16 178 LR LR 05 09 32.5
comp=Z,2µm,20.2s,MS5.4,baz=201,slow=33
SNAA Sanae 93.16 178 *e*P **P** **04 31 52.1 -1.2**
SNAA pmax pmax
comp=Z,21nm,1.2s
SNAA Sanae 93.16 178 *e*P **P** **04 31 52.1 -1.3**
comp=Z,21nm,1.2s,mb5.4
VNA3 Neumayer Olymp 93.22 176 *e*P **P** **04 31 51.6 -2.0**
VNA3 *e* 04 31 56.4
FFC Flin Flon 93.53 34 *e*P **P** **04 31 55.6 +0.6**
FFC *e**PP pP 04 32 03.8 -2.1
FFC pmax pmax
comp=Z,59nm,1.9s,mb5.7
FFC Flin Flon 93.53 34 *e*P **P** **04 31 55.6 +0.6**
comp=Z,59nm,1.9s,mb5.7
FFC *e*pP pP 04 32 03.8 -2.1
VNA2 Neumayer--Watz 93.68 176 *e*P **P** **04 31 54.8 -0.9**
VNA2 *e* 04 31 59.3
JTS JuntasAbangare 93.91 80 LR LR 05 04 23.1
comp=Z,7µm,19.8s,MS6.1,baz=327,slow=29
TIXI Tiksi 94.14 345⇓ *e*P **P** **04 31 57.5 -0.3**
GTA Gaotai 94.95 309 *e*P **P** **04 32 05.3 +3.8**
GTA S 04 43 14.3
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,175nm,4.6s
GTA LR LR
comp=N,667nm,23.6s,MS5.2
GTA LR LR
comp=E,485nm,21.3s,MS5.2
GTA LR LR
comp=Z,638nm,25.1s,MS5.0
CCM Cathedral Cave 95.42 52 *e*P **P** **04 32 05.0 +1.3**
CCM pmax pmax
comp=Z,45nm,1.7s,mb5.6
CCM Cathedral Cave 95.42 52 *e*P **P** **04 32 05.0 +1.3**
comp=Z,45nm,1.7s,mb5.6
ULM Lac du Bonnet 95.58 39 P **P** **04 32 04.2 -0.2**
comp=Z,0.8nm,0.3s,mb4.6,baz=258,slow=1.2,SNR=3.5
ULM LR LR 05 09 20.8
comp=Z,5µm,20.1s,MS6.0,baz=257,slow=32
ZAK Zakamensk 95.66 321 *e*P **P** **04 32 02.7 -2.1**
ZAK *e* 04 36 04.0
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.8
ZAK pmax pmax
comp=Z,14nm,1.8s,mb5.1
ZAK pmax pmax
comp=Z,13nm,1.8s,mb5.1
CFAA Coronel Fontan 96.80 125 LR LR 05 05 25.1
comp=Z,618nm,21.4s,MS5.1,baz=240,slow=29
FCC Fort Churchill 98.91 32 P **P** **04 32 19.6 +0.2**
FCC pmax pmax
comp=Z,28nm,1.8s,mb5.5
FCC Fort Churchill 98.91 32 P **P** **04 32 19.6 +0.1**
comp=Z,28nm,1.8s,mb5.5
MKAR Makanchi Array 108.77 315 PKiKP PKiKP 04 37 08.2 0.0
comp=Z,0.5nm,0.7s,baz=43,slow=2.1,SNR=4.8
MKAR PP PP 04 37 38.9 +4.2
comp=Z,1.0nm,1.0s,baz=78,slow=5.6,SNR=4.1
MKAR Makanchi Array 108.77 315 PKPdf PKiKP 04 37 08.2 0.0
MKAR PP PP 04 37 38.9 +4.2
KURK Kurchatov 111.22 319 *e*PKIKP PKiKP 04 37 12.8 0.0
KZA Kyzart 113.74 310 P PKiKP 04 37 17.5 -0.1
SNR=57
UCH Uchtor 114.28 310 P PKiKP 04 37 15.7 -3.0
SNR=178
EKS2 Erkin-Say 114.81 310 P PKiKP 04 37 17.4 -2.3
SNR=118
BVAR Borovoye Array 116.08 322 PKP PKPdf 04 37 21.7 -0.4
comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=5.0
ZRNK Zerenda 116.92 322 *e*PKIKP PKPdf 04 37 23.1 -0.6
ZRNK *e* 04 38 30.2
ARU Arti 121.77 328 *i* PKIKP PKPdf 04 37 31.8 -1.2
ARU *e* SKSac 04 44 26.2 -3.7
ARU MLR MLR
comp=Z,7µm,20.5s,MS6.3
ARU MLR MLR
comp=N,2µm,20.0s,MS6.2
ARU MLR MLR
comp=E,5µm,20.0s,MS6.2
AKTK Aktyubinsk 124.16 321 PKP PKPdf 04 37 37.5 -0.1
AKTO Aktyubinsk 124.16 321 PKP PKPdf 04 37 37.5 -0.1
comp=E,2.1nm,0.9s,baz=329,slow=2.0,SNR=4.8
APA Apatity 124.30 347 *i* PKIKP PKPdf 04 37 34.5 -3.4
APA MLR MLR
comp=Z,5µm,19.0s,MS6.2
KLMR Klimovskoe 127.70 339 *i* PKIKP PKPdf 04 37 49.1 +4.7
KLMR pmax pmax
comp=Z,40nm,1.6s
OBN Obninsk 132.85 335⇑ *i* PKIKP PKPdf 04 37 56.4 +2.2
OBN 04 44 54.0
OBN *e*SS SS 04 58 26.3 +28
OBN *e*SSS 05 02 58.3
OBN pmax pmax
comp=Z,44nm,1.9s
OBN MLR MLR
comp=Z,3µm,20.0s,MS6.0
OBN Obninsk 132.85 335⇑ *e*PKP PKPdf 04 37 55.2 +1.0
OBN LR LR
comp=Z,3µm,20.0s,MS6.0
VOR Voronezh 133.93 330 PKIKP PKPdf 04 38 00.0 +3.8
VOR pmax pmax
comp=Z,80nm,2.0s
KIV Kislovodsk 136.31 319 *i* PKIKP PKPdf 04 38 04.5 +3.9
KIV *e* 04 40 40.3
KIV *e*PPP 04 43 38.2
KIV *e*SS SS 04 58 34.3 -5.8
KIV *e*SSS 05 03 39.4
KIV pmax pmax
comp=Z,7.0nm,1.1s
GNI Garni 136.58 313⇑ *e*PKIKP PKPdf 04 38 04.1 +3.0
SOC Sochi 138.36 320 *i* PKIKP PKPdf 04 38 05.6 +1.2
SOC *e*SS SS 04 58 56.6 -7.8
SOC pmax pmax
comp=Z,14nm,1.0s
ANN Anapa 139.06 323 *i* PKHKP 04 37 53.4
ANN pmax pmax
comp=Z,47nm,1.4s
ANN MLR MLR
comp=N,4µm,21.0s,MS6.2
ANN MLR MLR
comp=E,3µm,21.0s,MS6.2
ANN MLR MLR
comp=Z,3µm,21.0s,MS5.9
AKASG Malin Array Be 139.11 335 PKP PKPdf 04 38 06.6 +0.8
comp=Z,0.8nm,0.5s,baz=33,slow=1.8,SNR=11
AKASG Malin Array Be 139.11 335 PKP PKPdf 04 38 06.6 +0.8
LSZ Lusaka 141.21 220 *e*PKIKP PKPdf 04 38 10.0 +0.4
MALT Malatya 141.80 314 *e*PKIKP PKPdf 04 38 10.6 -0.1
KIS Kishinev 142.10 332 *e*PKIKP PKPdf 04 38 20.0 +8.8
KIS *e* 04 41 20.0
KIS MLR MLR
comp=N,4µm,20.0s,MS6.2
KIS MLR MLR
comp=E,2µm,20.0s,MS6.2
KIS MLR MLR
comp=Z,5µm,20.0s,MS6.2
KIS MLR MLR
comp=Z,3µm,20.0s
KWP Kalwaria 142.40 340 *e*PKIKP PKPdf 04 38 10.7 -1.0
KWP *e* 04 41 18.0
OJC Ojcow 142.78 343 *e*PKP PKPdf 04 38 14.1 +1.7
IBBN Ibbenburen 142.91 356 *e*PKP PKPdf 04 38 12.7 +0.1
STHS Stebnicka Huta 143.06 341 *e*PKP PKPdf 04 38 13.9 +1.0
KMBO Kilima Mbogo 143.07 247 PKP PKPdf 04 38 12.1 -0.9
comp=Z,2.4nm,0.8s,baz=78,slow=5.5,SNR=7.2
KMBO Kilima Mbogo 143.07 247 *e*PKPdf PKPdf 04 38 13.1 +0.2
KSP Ksiaz 143.10 347 *e*PKIKP PKPdf 04 38 10.9 -2.1
KSP *e*SS SS 05 00 03.0 +3.2
KSP MLR MLR
comp=Z,7µm,23.0s,MS6.4
TSUM Tsumeb 143.13 202 *e*PKPdf PKPdf 04 38 13.8 +0.8
KOLS Kolonicke sedl 143.15 340 *e*PKP PKPdf 04 38 13.9 +0.8
BURAR Bucovina Array 143.16 336⇑ P PKPdf 04 38 18.8 +5.7
BURAR Bucovina Array 143.16 336⇑ P PKPdf 04 38 18.8 +5.7
CLL Collm 143.29 350 *e*PKPdf PKPdf 04 38 16.0 +2.7
comp=Z,13nm,1.1s
CLL *e*PP PP 04 41 28.3 +4.1
CLL *e*SKKSac SKKSac 04 48 17.8 +3.2
CLL *e*PSKS 04 51 50.6
CLL *e*SS SS 05 00 02.8 +0.8
CLL *e*SSS 05 05 32.8
CLL *e*LR LR 05 26 10.9
CLL *e*L 05 42 01.3
comp=Z,3µm,22.0s
CLL Collm 143.29 350 *i* PKiKP PKiKP 04 38 16.4 -0.2
comp=Z,13nm,1.1s
CLL *e*x x 04 50 22.0
CLL *e*PSKS 04 52 00.0
CLL *e*SKKSdf SKKSdf 04 55 00.0 +25
CLL *e*SS SS 04 59 59.0 -3.0
CLL *e*x x 05 02 48.0
CLL *e*SSS 05 05 30.0
CLL Collm 143.29 350 *i* PKP PKPdf 04 38 16.4 +3.1
CLL LR LR
comp=Z,3µm,20.6s,MS6.1
CRVS Cervenica-Dubn 143.44 340 *e* PKPdf 04 38 20.3 +6.7
UPC Upice 143.47 347 *e*PKP PKPdf 04 38 15.4 +1.8
BRG Berggiesshubel 143.54 349 *e*PKP PKPdf 04 38 18.5 +4.7
comp=Z,8.3nm,1.4s
BRG SS SS 05 00 09.0 +4.1
DPC Dobruska-Polom 143.55 346 *e*PKP PKPdf 04 38 13.4 -0.4
DPC AMS AMS 05 41 00.0
comp=Z,5µm,22.4s
OKC Ostrava-Krasne 143.58 344 *e*PKP PKPdf 04 38 04.2 -10
OKC AMS AMS 05 36 20.0
comp=Z,3µm,23.1s
MORC Moravsky Berou 143.79 345 ⇑PKIKP PKPdf 04 38 12.9 -1.3
MORC Moravsky Berou 143.79 345 *e*PKPdf PKPdf 04 38 12.7 -1.5
KECS Kecovo 144.12 341 *e*PKP PKPdf 04 38 14.0 -0.8
MOX Moxa 144.14 351 *e*PKP PKPdf 04 38 14.1 -0.7
MOX Moxa 144.14 351 *e*PKP PKPdf 04 38 15.1 +0.3
comp=Z,47nm,1.9s
MOX *e* 04 38 28.1
MOX
comp=Z,2µm,22.0s
TIRR Tirgusor 144.16 329 ⇓P PKPdf 04 38 17.0 +2.2
ADH Angra Heroismo 144.17 43 *i* LR LR 05 26 27.5
PRA Prague 144.22 348 PKP PKPdf 04 38 18.0 +3.1
PRU Pruhonice 144.27 348 *e*PKP PKPdf 04 38 15.7 +0.7
PRU AMS AMS 05 38 30.0
comp=Z,3µm,24.6s
BR131 Keskin Array S 144.28 319 *e*PKPdf PKPdf 04 38 12.9 -2.2
BRTR Keskin Array B 144.28 319 PKP PKPdf 04 38 13.0 -2.0
comp=Z,18nm,0.9s,baz=80,slow=2.5,SNR=42
NKC Novy Kostel 144.42 350 *e*PKP PKPdf 04 38 04.8 -10
NKC AMS AMS 05 41 20.0
comp=Z,2µm,21.0s
MLR Muntele Rosu 144.54 333 ⇓P PKPdf 04 38 16.9 +1.4
MLR Muntele Rosu 144.54 333 ⇓P PKPdf 04 38 16.9 +1.4
ANTO Ankara 144.73 320 *e*PKIKP PKPdf 04 38 15.2 -0.6
PSZ Piszkesteto 144.81 341⇑ *e*PKP/p PKPdf 04 38 17.0 +1.0
ROTZ Rotzenmuhle 144.91 350 *e*PKP PKPdf 04 38 16.6 +0.5
VOIR 144.97 334 ⇑P PKPdf 04 38 18.5 +2.2
VOIR 144.97 334 ⇑P PKPdf 04 38 18.5 +2.2
SMOL Smolenice 144.98 344 *e*PKP PKPdf 04 38 16.8 +0.5
GRA1 Grafenberg Arr 145.13 351 *e*PKP PKPdf 04 38 15.2 -1.3
GRF Grafenberg Arr 145.13 351 *e*PKP PKPdf 04 38 15.2 -1.3
GIVF Givet 145.25 359 *e*PKIKP PKPdf 04 38 19.3 +2.6
DOU Dourbes 145.26 359 APKP 04 38 25.2
DOU XPKiKP 04 38 33.1
KHC Kasperske Hory 145.28 349 *e*PKP PKPdf 04 38 15.6 -1.2
KHC pPKP pPKPdf 04 38 24.0 -4.0
KHC AMS AMS 05 38 50.0
comp=Z,4µm,24.2s
ABH Alteburg 145.34 356 PKP PKPdf 04 38 12.5 -4.4
ZST Bratislava 145.36 344 *e*PKP PKPdf 04 38 16.2 -0.7
ZST *e* 05 13 22.2
SRO Srobarova 145.38 343 *e*PKP PKPdf 04 38 16.5 -0.4
WET Wettzell 145.40 349 *e*PKP PKPdf 04 38 17.9 +0.9
SRO2 Moca 145.40 343 *e*PKP PKPdf 04 38 18.8 +1.8
TOD Tromm 145.51 354 PKHKP 04 38 12.5
GEC2 GERESS Array S 145.53 348 *e*PKP PKPdf 04 38 15.4 -1.8
GERES GERESS Array B 145.53 348 PKPbc PKPbc 04 38 16.4 -0.9
comp=Z,2.4nm,0.8s,baz=342,slow=0.4,SNR=19
RUP Ruppelstein 145.55 356 PKHKP 04 38 12.7
WLF Walferdange 145.64 357 PKP PKPdf 04 38 16.5 -0.9
WLF APKP 04 38 27.4
BZS Buzias 146.21 337 ⇓P PKPdf 04 38 18.8 +0.4
BZS Buzias 146.21 337 ⇓P PKPdf 04 38 18.8 +0.4
LANF Langenberg 146.22 355 PKP PKPdf 04 38 22.1 +3.7
LANF Langenberg 146.22 355 PKP PKPdf 04 38 19.5 +1.1
STU Stuttgart 146.29 353 *e*PKP PKPdf 04 38 18.8 +0.3
STU Stuttgart 146.29 353 *e*PKPdf PKPdf 04 38 18.2 -0.3
MOA Molln 146.36 347⇑ *i*PKPab PKPab 04 38 19.7 -1.1
comp=Z,48nm,1.3s
FLN La Foliniere 146.42 5 *e*PKIKP PKPdf 04 38 20.5 +1.8
comp=Z,15nm,0.7s
FLN *e*R
comp=Z,4µm,21.0s
FLN La Foliniere 146.42 5 *e*PKPdf PKPdf 04 38 20.5 +1.8
FLN LR LR
comp=Z,4µm,21.0s,MS6.1
ROSF Rostrenen 146.52 8 *e*PKIKP PKPdf 04 38 21.4 +2.5
comp=Z,47nm,1.2s
FUR Furstenfeldbru 146.61 351 *e*PKP PKPdf 04 38 19.6 +0.6
LDF La Druitiere 146.62 5 *e*PKIKP PKPdf 04 38 21.2 +2.1
DJES Djerdap 146.68 335 *e*P pPKPdf 04 38 29.4 -0.9
SGMF Saint Gilles 146.70 8 *e*PKIKP PKPdf 04 38 21.3 +2.1
PKSM Moragy 146.72 341⇓ *e*PKP2 PKPab 04 38 21.0 -1.1
GRR Gorron 146.76 6 *e*PKIKP PKPdf 04 38 21.4 +2.1
comp=Z,306nm,1.7s
BFO Black Forest 146.81 354 *e*PKP PKPdf 04 38 20.1 +0.7
WLS Welschbruch 146.81 356 PKP PKPdf 04 38 24.6 +5.2
CDF Champ du Feu 146.82 356 *e*PKIKP PKPdf 04 38 22.2 +2.8
comp=Z,175nm,1.5s
MEZF Maizieres J'vi 146.84 358 *e*PKIKP PKPdf 04 38 22.4 +3.0
comp=Z,109nm,1.4s
QUIF Quistinic 146.95 9 *e*PKIKP PKPdf 04 38 22.0 +2.4
CSS Prodhromos 146.99 312 *e*PKPbc PKPbc 04 38 20.8 -1.0
ECH Echery 147.03 356 PKP PKPdf 04 38 24.3 +4.6
ECH Echery 147.03 356 PKP PKPdf 04 38 23.4 +3.7
THEF They Montfort 147.08 357 PKP PKPdf 04 38 25.8 +6.0
HAU Haudompre 147.28 357 *e*PKIKP PKPdf 04 38 23.4 +3.2
comp=Z,164nm,1.6s
HAU *e*R
comp=Z,3µm,22.2s
HAU Haudompre 147.28 357 *e*PKPdf PKPdf 04 38 23.4 +3.2
HAU LR LR
comp=Z,3µm,22.3s,MS6.0
KBA Koelnbreinsper 147.29 348⇓ *i*PKPab PKPab 04 38 23.2 -1.2
comp=Z,26nm,1.4s
BEO Belgrade 147.32 338 *e*P PKPdf 04 38 30.0 +10
MOF Molkenrain 147.39 356 PKP PKPdf 04 38 25.6 +5.2
WTTA Wattenberg 147.43 350⇑ *i*PKPab PKPab 04 38 24.1 -0.9
comp=Z,46nm,1.4s
HINF Hinteralfeld 147.44 356 *e*PKIKP PKPdf 04 38 23.6 +3.2
SVIS Svilajnac 147.47 336 *e*P pPKPab 04 38 36.8 +0.7
DAVA Damuels 147.67 352⇑ *i*PKiKP PKiKP 04 38 25.6 -0.1
comp=Z,40nm,1.2s
FVI Forni Avoltri 147.86 348 PKP 04 38 40.9
LOMF Lomont 147.91 356 PKP PKPdf 04 38 27.5 +6.3
EIL Elat 147.91 302 *e*PKPbc PKPbc 04 38 24.1 -0.2
PTCC Patocco-Chiusa 147.93 347 PKP PKPdf 04 38 27.5 +6.3
BRES Bressanone 147.96 350 PKP PKPdf 04 38 16.2 -5.1
LJU Ljubljana 148.01 346 *e*PKPdf PKPbc 04 38 28.1 +3.6
LJU *e*PKPbc pPKPdf 04 38 37.8 +5.2
VTS Vitosha 148.04 332 ⇓PKP2 PKPab 04 38 26.7 -0.7
GMNA Gemona 148.08 347 PKP PKPdf 04 38 24.7 +3.2
HYF Humbligny 148.08 1 *e*PKIKP PKPdf 04 38 24.0 +2.5
LOR Lormes 148.09 360 *e*PKIKP PKPdf 04 38 23.7 +2.2
comp=Z,135nm,1.6s
LOR *e*R
comp=Z,4µm,21.8s
LOR Lormes 148.09 360 *e*PKPdf PKPdf 04 38 23.7 +2.2
LOR LR LR
comp=Z,4µm,21.8s,MS6.2
DIVS Divcibare 148.11 338 *i* P PKPdf 04 38 26.7 +5.1
VOY Vojsko 148.17 347 *e*PKPdf PKPdf 04 38 25.5 +3.9
VOY *e* 04 38 43.5
SSF Saint Saulge 148.30 0 *e*PKIKP PKPdf 04 38 24.5 +2.6
comp=Z,239nm,1.8s
BOJS Bojanci 148.34 344 *i* PKPdf PKPdf 04 38 23.4 +1.5
BOJS PKPbc pPKPdf 04 38 36.4 +3.3
BRMO Bormio 148.40 351 PKP PKPdf 04 38 25.9 +3.9
AVF Avril sur Loir 148.57 1 *e*PKIKP PKPdf 04 38 25.1 +2.8
comp=Z,59nm,1.3s
MFF Saint Martin d 148.59 5 *e*PKIKP PKPdf 04 38 24.6 +2.3
CTI Castel Tesino 148.60 349 PKIKP PKPdf 04 38 25.6 +3.2
CABF La Chapelle 148.69 357 *e*PKIKP PKPdf 04 38 27.9 +5.4
comp=Z,141nm,1.5s
SMF Signal de Mont 148.72 360 *e*PKIKP PKPdf 04 38 25.1 +2.6
comp=Z,139nm,1.6s
BGF Bois d'Agland 148.80 1 *e*PKIKP PKPdf 04 38 25.6 +2.9
comp=Z,114nm,1.4s
TCF Toulx Ste Croi 149.05 2 *e*PKIKP PKPdf 04 38 26.0 +2.9
comp=Z,216nm,1.7s
MCGN Macugnaga 149.20 354 PKP PKPdf 04 38 27.6 +4.3
STIP Stip 149.21 332 *e*PKP PKPdf 04 38 22.1 -1.2
AGO Saint Agoulin 149.31 1 PKP 04 38 13.6
AGO Saint Agoulin 149.31 1 PKP PKPdf 04 38 26.0 +2.5
NVLJ Novalja 149.31 344 *i* PKP PKPdf 04 38 29.5 +6.1
SKO Skopje 149.32 334 *e*PKP PKPdf 04 38 22.3 -1.2
VAY Valandovo 149.34 332 *e*PKP PKPdf 04 38 22.4 -1.1
PLDF La Plantade 149.39 0 PKIKP PKPdf 04 38 24.6 +1.0
ORO Oropa 149.53 354 PKP2 PKPab 04 38 30.8 -2.6
LPL La Plagne 149.74 356 *e*PKIKP PKPdf 04 38 28.0 +3.8
comp=Z,100nm,1.5s

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	149.76	356	*e*PKIKP	PKPdf		04 38 28.0	+3.8
	comp=Z,156nm,1.6s							
FRNF	**Fournols**	149.96	2	PKP	PKPdf		04 38 29.9	+5.4
RJF	**Les Rejaudoux**	150.00	3	*e*PKIKP	PKPdf		04 38 27.1	+2.5
RJF				*e*R				
	comp=Z,4μm,21.5s							
RJF	**Les Rejaudoux**	150.00	3	*e*PKPdf	PKPdf		04 38 27.1	+2.5
RJF				LR	LR			
	comp=Z,4μm,21.5s,MS6.2							
LBL	**Lubilhac**	150.13	1	PKP			04 38 12.0	
LBL	**Lubilhac**	150.13	1	PKHKP			04 38 26.2	
BIA	**Bitola**	150.14	333	*e*PKP	PKPdf		04 38 23.0	-1.8
BNI	**Bardonecchia**	150.21	356	*e*PKHKP			04 38 29.6	
BNI				*e*			04 38 35.2	
OHR	**Ohrid**	150.30	333	*e*PKP	PKPdf		04 38 24.1	-1.0
ORIF	**Oris-en-Rattie**	150.39	357	*e*PKIKP	PKPdf		04 38 28.0	+2.8
ORIF				*e*R				
	comp=Z,6μm,23.0s							
ERBM	**Eremo**	150.40	350	PKP	PKPdf		04 38 34.5	+9.3
CAF	**Calviac**	150.40	2	*e*PKIKP	PKPdf		04 38 27.7	+2.5
GSCL	**Gusciola**	150.43	350	PKP	PKPdf		04 38 29.1	+3.8
VIVF	**Saint-Julien-I**	150.50	359	*e*PKIKP	PKPdf		04 38 27.8	+2.4
FNVD	**Fontana Vidola**	150.52	349	PKP	PKPdf		04 38 30.0	+4.6
MBDF	**Montbardon**	150.52	356	*e*PKIKP	PKPdf		04 38 28.3	+2.9
BDI	**Bagni Di Lucca**	150.71	350	PKP			04 38 44.0	
SURF	**Saint Ours**	150.77	355	PKP	PKPdf		04 38 23.6	-2.2
PIEI	**Pieia**	150.84	347	PKP	PKPdf		04 38 34.8	+8.9
CING	**Cingoli**	150.84	346	PKP	PKPdf		04 38 32.9	+7.0
MURB	**Monte Urbino**	151.10	347	PKP	pPKPdf		04 38 37.9	+0.4
LASF	**Ste Croix**	151.29	360	*e*PKIKP	PKPdf		04 38 28.9	+2.3
NRCA	**Norcia**	151.37	346	PKP	PKPdf		04 38 34.0	+7.3
AQU	**L'Aquila**	151.75	345	*e*PKIKP	PKPdf		04 38 33.2	+5.9
AQU							04 38 37.7	
MNS	**Montasola**	151.90	346	PKIKP	PKPdf		04 38 36.6	+9.1
MTLF	**Montolieu**	151.99	2	*e*PKIKP	PKPdf		04 38 29.9	+2.3
	comp=Z,148nm,1.8s							
PTQR	**Pietraquaria**	152.06	345	PKP	PKPdf		04 38 32.3	+4.5
EPF	**Esparros**	152.18	5	*e*PKIKP	PKPdf		04 38 30.5	+2.6
	comp=Z,69nm,1.6s							
ETSF	**Etsaut**	152.22	7	*e*PKIKP	PKPdf		04 38 30.4	+2.4
TIP	**Timpagrande**	153.58	337	*e*PKPdf	PKPdf		04 38 29.1	-0.9
TORD	**Torodi Ar. Bea**	177.11	137	PKP	PKPdf		04 38 49.3	-0.1
	comp=Z,9.1nm,1.4s,baz=271,slow=0.9,SNR=7.5							
TORD				PKPab	PKPab		04 40 34.0	+0.5
	comp=Z,3.5nm,1.1s,baz=250,slow=1.3,SNR=6.9							

NAO ***26*** *04:34:59.8,3285N×7057E,h33km,mb4.1*
ISCJB ***26*** *04:35:37.0±0.7,3627N±003×7028E±008,h190km±8km, mb3.8/16, Error ellipse: s-maj=11.7km s-min=3.6km az=136.2*
MOS ***26*** *04:35:37.3±0.8,3636N×7031E,h189km,mb4.0/3, Error ellipse: s-maj=16.7km s-min=7.1km az=93.1*
NEIC ***26*** *04:35:38.1±2.3,3629N×7034E,h181km±19km,mb4.0/4, Error ellipse: s-maj=19.4km s-min=11.4km az=188.0*
BJI ***26*** *04:35:39.0,3675N×7015E,h175km,mb4.8*
IDC ***26*** *04:35:39.5±4.8,3627N×7030E,h198km±43km,mb3.4/12, mb1 3.5/15,mb1mx3.4/23,mbtmp4.0/15, Error ellipse: s-maj=25.0km s-min=14.8km az=173.0*
NNC ***26*** *04:35:44.7±2.9,3685N×7033E,h190km±27km,mb3.2, mpv4.6, Error ellipse: s-maj=25.5km s-min=15.0km az=10.0*

ISC 26 04:35:36.8±0.7,3621N±003×7024E±008,h174km±8km, n69,σ1°±14/82,mb3.8/16,9C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	6.49	23	P	**Pn**		**04 37 10.7**	**+0.6**
KK31	**Karatay Array**	6.88	2	⇑P	**Pn**		**04 37 15.3**	**0.0**
	7.7nm,0.3s,baz=182,slow=13,SNR=502							
KK31				⇓S	**Sn**		**04 38 27.2**	**-5.8**
	6.0nm,0.3s,baz=185,slow=21,SNR=6.1							
KKAR	**Karatay Array**	6.88	2	PN	**Pn**		**04 37 15.3**	**0.0**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.2s							
BHK	**Bhakra**	7.02	131	*ex*	**Sn**		**04 38 44.5**	**+8.3**
AAK	**Ala-Archa**	7.21	26	P	**Pn**		**04 37 20.2**	**+0.7**
	SNR=59							
AAK	**Ala-Archa**	7.21	26	*e*Pn	**Pn**		**04 37 18.2**	**-1.3**
AAK				*e*Sn	**Sn**		**04 38 33.1**	**-7.5**
SDNR	**Sundarnagar**	7.31	128	*e*P	**Pn**		**04 37 26.3**	**+5.4**
SDNR				*ex*	x		04 38 48.1	
KBK	**Karagaybulak**	7.39	28	P	**Pn**		**04 37 22.9**	**+0.9**
	SNR=13							
ULHL	**Ulahol**	7.61	36	P	**Pn**		**04 37 25.0**	**+0.1**
	SNR=13							
CHMS	**Chumysh**	7.62	26	P	**Pn**		**04 37 25.3**	**+0.3**
	SNR=17							
SMLA	**Simla**	7.68	129	*e*P	**Pn**		**04 37 29.5**	**+3.7**
SMLA				*e*P			04 37 30.3	
SMLA				*e*S	**Sn**		**04 38 52.1**	**+0.1**
SMLA				*e*S	**Sn**		**04 38 52.3**	**+0.2**
SMLA				AML	AML		04 38 56.5	
	comp=N,152nm,0.3s							
SMLA				AML	AML		04 38 56.6	
	comp=E,165nm,0.2s							
USP	**Ospenovka**	7.77	24	P	**Pn**		**04 37 26.8**	**-0.2**
	SNR=19							
TKM2	**Tokmak 2**	7.87	30	P	**Pn**		**04 37 28.7**	**+0.4**
	SNR=58							
TKM2	**Tokmak 2**	7.87	30	⇓P	**Pn**		**04 37 28.6**	**+0.3**
	comp=E,51nm,0.5s							
TKM2				⇓S	**Sn**		**04 38 51.1**	**-5.4**
	comp=E,17nm,0.8s							
TKM2	**Tokmak 2**	7.87	30	PN	**Pn**		**04 37 28.5**	**+0.2**
TKM2				pmax	pmax			
	comp=Z,26nm,0.5s							
KLP	**Kalpa**	8.13	123	*e*P	**Pn**		**04 37 34.9**	**+3.1**
KLP				*e*S	**Sn**		**04 39 03.3**	**+0.5**
KLP				AML	AML		04 39 08.5	
	comp=N,226nm,0.6s							
KLP				AML	AML		04 39 09.8	
	comp=E,137nm,0.3s							
DDI	**Dehra Dun**	8.79	130	*ex*	x		04 37 56.0	
JASL	**Jaisalmer**	9.28	176	*e*P	**Pn**		**04 37 52.9**	**+6.0**
KHET	**Khetri**	9.39	148	*e*P	**Pn**		**04 37 51.7**	**+3.4**
KHET				*e*S	**Sn**		**04 39 33.3**	**+0.6**
KHET				AML	AML		04 39 36.1	
	comp=N,65nm,0.5s							
KHET				AML	AML		04 39 39.3	
	comp=E,82nm,0.2s							
NDI	**New Delhi**	9.54	140	*e*P	**Pn**		**04 37 56.0**	**+5.7**
NDI				*e*S	**Sn**		**04 39 35.0**	**-1.5**
NDI				*e*S	**Sn**		**04 39 35.7**	**-0.8**
KUDL	**Kundal**	9.63	145	*e*P	**Pn**		**04 37 55.9**	**+4.4**
KUDL				*e*S	**Sn**		**04 39 38.0**	**-0.6**
KUDL				AML	AML		04 39 41.3	
	comp=E,50nm,0.3s							
KUDL				AML	AML		04 39 42.1	
	comp=N,39nm,0.4s							
AYAN	**Aya Nagar**	9.66	141	*e*P	**Pn**		**04 37 56.1**	**+4.3**
AYAN				*e*S	**Sn**		**04 39 38.1**	**-1.2**
AYAN				AML	AML		04 39 42.5	
	comp=Z,48nm,0.5s							
SONA	**Sohna**	9.83	142	*e*S	**Sn**		**04 39 42.1**	**-1.2**
SONA				AML	AML		04 39 45.4	
	comp=N,59nm,0.3s							
SONA				AML	AML		04 39 45.8	
	comp=E,76nm,0.4s							
AJM	**Ajmer**	10.41	158	*e*P	**Pn**		**04 38 06.5**	**+4.9**
AJM				*e*S	**Sn**		**04 39 56.6**	**-0.6**
AJM				AML	AML		04 40 01.7	
	comp=N,30nm,0.5s							
AJM				AML	AML		04 40 02.6	
	comp=E,42nm,0.3s							
AGRA	**Agra**	11.10	142	*ex*	x		04 38 41.7	
AGRA				*e*S	**Sn**		**04 40 12.1**	**-1.6**
AGRA				AML	AML		04 41 08.1	
	comp=E,102nm,0.6s							
AGRA				AML	AML		04 41 29.8	
	comp=N,122nm,0.7s							
MK02	**Makanchi Array**	13.88	37	⇑P	**Pn**		**04 38 47.6**	**+1.5**
	comp=N,2.9nm,0.8s							
MKAR	**Makanchi Array**	13.88	37	P	**Pn**		**04 38 47.7**	**+1.5**
	comp=N,0.5nm,0.3s,baz=220,slow=13,SNR=25							
MKAR	**Makanchi Array**	13.88	37	P	**Pn**		**04 38 47.7**	**+1.5**
BHPL	**Bhopal**	14.35	152	*e*P	**Pn**		**04 39 01.4**	**+9.4**
BHPL				*ex*	**Sn**		**04 41 27.4**	**-4.3**
AB31	**Akbulak array**	15.05	333	P	**Pn**		**04 38 59.5**	**-1.1**
	comp=N,2.2nm,0.3s,baz=148,slow=11,SNR=151							
AB31	**Akbulak array**	15.05	333	*e*P	**Pn**		**04 38 59.5**	**-1.1**
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	15.70	20	*e*P	**Pn**		**04 39 07.9**	**-0.7**
VOSK	**Vostochnaya**	16.52	2	⇑P	**Pn**		**04 39 17.7**	**-0.8**
	comp=Z,1.3nm,0.5s							
AKTK	**Aktyubinsk**	16.73	332	P	**Pn**		**04 39 20.7**	**-0.3**
AKTO	**Aktyubinsk**	16.73	332	⇑P	**Pn**		**04 39 21.0**	**-0.1**
	comp=Z,1.8nm,0.9s							
AKTO	**Aktyubinsk**	16.73	332	P	**Pn**		**04 39 20.7**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=143,slow=9.7,SNR=27							
AKTO	**Aktyubinsk**	16.73	332	P	**Pn**		**04 39 20.7**	**-0.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZRNK	**Zerenda**	16.76	357	⇑P	**Pn**		**04 39 20.7**	**-0.7**
	comp=Z,2.3nm,0.4s							
ZRNK	**Zerenda**	16.76	357	*e*P	**Pn**		**04 39 20.4**	**-1.0**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
ZRNK	**Zerenda**	16.76	357	*e*P	**Pn**		**04 39 20.4**	**-1.0**
	comp=Z,4.4nm,0.4s							
BVA0	**Borovoye Array**	16.81	0	⇑P	**Pn**		**04 39 21.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=168,slow=9.4,SNR=19							
BVAR	**Borovoye Array**	16.81	0	P	**Pn**		**04 39 20.9**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=172,slow=8.0,SNR=16							
BRVK	**Borovoye**	16.84	0	*e*P	**Pn**		**04 39 21.3**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	16.84	0	*e*P	**Pn**		**04 39 21.3**	**-1.1**
	comp=Z,2.2nm,0.6s							
ZAL	**Zalesovo**	20.42	25	P	**P**		**04 39 59.3**	**-1.0**
	comp=Z,8.4nm,0.3s,baz=253,slow=5.6,SNR=27							
ARU	**Arti**	21.71	342	⇑*i*P	**P**		**04 40 14.1**	**+0.1**
ARU				*e*			04 40 42.6	
ARU				*e*S	**S**		**04 44 03.9**	**+1.4**
ARU				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.2							
ARU	**Arti**	21.71	342	*e*P	**P**		**04 40 15.1**	**+1.0**
	comp=Z,6.9nm,0.4s,mb4.4							
BRTR	**Keskin Array B**	28.94	288	P	**P**		**04 41 22.1**	**+2.6**
	comp=Z,0.4nm,0.6s,mb3.3,baz=98,slow=9.5,SNR=2.9							
SONM	**Songino Array**	29.00	55	P	**P**		**04 41 21.1**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=269,slow=9.0,SNR=9.2							
OBN	**Obninsk**	29.76	320	*cP*	**P**		**04 41 26.3**	**-0.5**
AKASG	**Malin Array Be**	32.65	309	P	**P**		**04 41 52.3**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.7,baz=80,slow=7.1,SNR=5.7							
JOF	**Joensuu**	35.81	331	*ep*	**P**		**04 42 19.9**	**+0.5**
FINES	**FINESS Array B**	37.38	327	P	**P**		**04 42 32.8**	**+0.2**
	comp=Z,1.8nm,0.6s,mb3.9,baz=116,slow=9.9,SNR=22							
KAF	**Kangasniemi**	37.54	328	*ep*	**P**		**04 42 33.4**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.6,baz=112,slow=8.4							
KAF	**Kangasniemi**	37.54	328	*e*P	**P**		**04 42 33.4**	**-0.5**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.5							
NJ2	**Nanjing**	40.12	81	*e*P	**P**		**04 43 01.8**	**+6.4**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.6							
ARCES	**ARCESS Array B**	41.18	338	P	**P**		**04 43 04.0**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.3,baz=107,slow=7.6,SNR=28							
SSE	**Sheshan**	42.32	82	*e*P	**P**		**04 43 15.0**	**+1.6**
SSE				AMB	AMB			
	comp=Z,36nm,1.0s,mb5.0							
NB2	**NORSAR Subarra**	44.24	323	P	**P**		**04 43 28.3**	**-0.4**
	comp=Z,2.5nm,0.8s,mb3.9,baz=99,slow=7.9							
NOA	**NORSAR Array B**	44.24	323	P	**P**		**04 43 28.2**	**-0.5**
	comp=Z,1.6nm,0.9s,mb3.7,baz=103,slow=7.3,SNR=5.9							
TIXI	**Tiksi**	46.27	22	⇑*i*P	**P**		**04 43 42.2**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.0							
TORD	**Torodi Ar. Bea**	65.10	268	P	**P**		**04 45 59.0**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=49,slow=5.8,SNR=18							
DBIC	**Dimbokro**	74.07	267	P	**P**		**04 46 55.3**	**+1.7**
	comp=Z,4.5nm,1.1s,mb4.1,baz=315,slow=7.1,SNR=4.1							
INK	**Inuvik**	74.28	9	P	**P**		**04 46 54.5**	**-0.3**
	baz=326,slow=7.3							
INK	**Inuvik**	74.28	9	P	**P**		**04 46 54.5**	**-0.3**
ILAR	**Eielson Array**	75.22	16	P	**P**		**04 46 59.2**	**-1.0**
	comp=Z,0.3nm,0.8s,mb3.0,baz=308,slow=4.4,SNR=3.6							
YKA	**Yellowknife Ar**	81.56	2	P	**P**		**04 47 34.0**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.3,baz=349,slow=5.5,SNR=9.3							
YKA				pP	pP		04 48 24.5	+6.8
	comp=Z,0.2nm,0.4s,baz=354,slow=5.5,SNR=4.1							
YKA	**Yellowknife Ar**	81.56	2	P	**P**		**04 47 34.0**	**-0.9**
YKA				pP	pP		04 48 24.5	+6.8
ASAR	**Alice Springs**	84.60	124	P	**P**		**04 47 50.2**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.0,baz=306,slow=4.6,SNR=5.7							

ISCJB ***26*** *04:51:37.4±3.6,49S±0.1×1533E±0.1,h64km±30km, mb4.2/17, Error ellipse: s-maj=23.1km s-min=17.6km az=6.1*
IDC ***26*** *04:51:37.6±5.1,494S×15333E,h54km±43km,mb4.0/9, mb1 4.2/11,mb1mx4.1/16,mbtmp4.3/11,ML3.5/2,MS3.8/1, Ms1 3.8/1,ms1mx3.1/29, Error ellipse: s-maj=31.6km s-min=19.1km az=77.0*
NEIC ***26*** *04:51:41.4±2.6,502S×15325E,h90km±22km,mb4.3/8, Error ellipse: s-maj=21.5km s-min=12.8km az=86.0*

ISC 26 04:51:40.1±3.0,50S±01×1533E±01,h77km±25km,n27, σ0°92/26,mb4.1/17,1C,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	7.53	234	P	**Pn**		**04 53 25.9**	**-1.2**
	4.7nm,0.3s,baz=54,slow=5.7,SNR=12							
PMG				S	**Sn**		**04 54 50.5**	**-0.3**
	5.8nm,0.3s,baz=266,slow=7.6,SNR=3.7							
PMG				LR	LR		04 55 38.6	
	comp=Z,749nm,19.5s,baz=141,slow=32							
PMG	**Port Moresby**	7.53	234	*e*Pn	**Pn**		**04 53 27.7**	**+0.6**
PMG				*e*Sn	**Sn**		**04 54 52.1**	**+1.3**
CTA	**Charters Tower**	16.52	204	P	**Pn**		**04 55 25.3**	**-1.6**
	0.1nm,0.3s,baz=22,slow=5.4,SNR=3.8							
CTAO	**Charters Tower**	16.52	204	P	**Pn**		**04 55 27.7**	**+0.8**
	5.0nm,0.8s							
WRAB	**Tennant Creek**	23.70	229	*e*P	**P**		**04 56 45.6**	**+0.8**
	9.1nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	23.71	229	*e*P	**P**		**04 56 44.8**	**0.0**
WRA	**Warramunga Arr**	23.72	229	P	**P**		**04 56 44.5**	**-0.4**
	7.2nm,0.7s,mb4.1,baz=53,slow=9.2,SNR=38							
WRA				PcP	PcP		05 00 28.8	+1.9
	3.0nm,0.8s,baz=64,slow=2.0,SNR=8.6							
ASAR	**Alice Springs**	26.37	223	P	**P**		**04 57 09.5**	**+0.5**
	1.2nm,0.5s,mb3.6,baz=58,slow=8.8,SNR=24							
ASAR				PcP	PcP		05 00 34.5	+1.6
	1.5nm,0.8s,baz=60,slow=2.8,SNR=8.4							
STKA	**Stephens Creek**	28.93	201	P	**P**		**04 57 29.4**	**-2.4**
	2.4nm,0.7s,mb4.0,baz=25,slow=12,SNR=9.1							
STKA	**Stephens Creek**	28.93	201	*e*P	**P**		**04 57 29.6**	**-2.3**
RPZ	**Rata Peaks**	41.65	161	P	**P**		**04 59 20.8**	**+0.1**
	10nm,0.7s,mb4.7,baz=357,slow=3.5,SNR=7.3							
SONM	**Songino Array**	66.73	328	P	**P**		**05 02 24.1**	**+1.2**
	0.7nm,0.6s,mb3.7,baz=142,slow=5.1,SNR=10							
VNDA	**Vanda**	72.65	178	P	**P**		**05 03 00.2**	**+0.9**
	4.3nm,0.7s,mb4.4,baz=9.2,slow=4.2,SNR=5.6							
VNDA	**Vanda**	72.65	178	P	**P**		**05 03 00.2**	**+0.9**
MKAR	**Makanchi Array**	80.78	319	P	**P**		**05 03 46.0**	**+1.0**
	2.2nm,0.8s,mb4.0,baz=88,slow=7.5,SNR=15							
MCK	**McKinley**	80.82	22	*e*P	**P**		**05 03 45.9**	**+0.6**
	1.3nm,0.8s,mb3.8							
ZAL	**Zalesovo**	81.58	326	P	**P**		**05 03 49.0**	**-0.3**
	0.8nm,0.4s,mb3.9,baz=218,slow=2.4,SNR=5.8							
COLA	**College**	81.82	22	*e*P	**P**		**05 03 50.6**	**+0.1**
	2.4nm,0.8s,mb4.1							
ILAR	**Eielson Array**	82.12	22	P	**P**		**05 03 52.5**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=246,slow=5.5,SNR=20							
QSPA	**South Pole Qui**	85.00	180	⇑*i*P	**P**		**05 04 07.4**	**+0.5**
	4.6nm,0.8s,mb4.5							
AAK	**Ala-Archa**	85.14	313	*e*P	**P**		**05 04 08.0**	**+0.4**
	2.4nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	89.67	323	P	**P**		**05 04 28.5**	**-1.0**
	2.9nm,0.7s,mb4.5,baz=115,slow=6.7,SNR=13							
BRVK	**Borovoye**	89.74	323	P	**P**		**05 04 28.2**	**-1.5**
	2.3nm,0.9s,mb4.3							
ZRNK	**Zerenda**	90.49	323	*e*P	**P**		**05 04 31.8**	**-1.4**
	4.6nm,1.2s,mb4.5							
GERES	**GERESS Array B**	124.46	329	PKP	PKPdf		05 10 30.6	+0.4
	0.3nm,0.8s,baz=82,slow=1.9,SNR=3.5							
BDFB	**Brasilia**	150.59	134	PKPbc	PKPbc		05 11 22.4	-0.5
	1.7nm,0.7s,baz=72,slow=7.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	150.84	288	PKPbc	PKPbc		05 11 24.9	+1.3
	6.1nm,0.7s,baz=66,slow=1.9,SNR=64							

NAO ***26*** *04:53:32.0,2513S×17944W,h33km,mb3.9*
ISCJB ***26*** *04:54:34.2±1.9,237S±0.1×17985E±007,h550km±24km, mb4.3/37, Error ellipse: s-maj=16.0km s-min=8.7km az=149.0*
NEIC ***26*** *04:54:34.9±1.2,2387S×17997E,h557km±14km,mb4.4/29, Error ellipse: s-maj=14.8km s-min=6.8km az=169.0*
BJI ***26*** *04:54:34.9,2390S×18000E,h557km,mB5.1,mb4.9*
IDC ***26*** *04:54:35.7±2.1,2396S×17999W,h566km±24km,mb3.8/9, mb1 3.9/10,mb1mx3.8/15,mbtmp4.7/10, Error ellipse: s-maj=28.9km s-min=12.4km az=161.0*

ISC 26 04:54:34.2±1.9,238S±01×17998E±007,h544km±23km, n92,σ0°92/57,mb4.3/37,6C-5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	12.56	40	S	**S**		**04 59 21.9**	**-12**
	8.8nm,0.3s,baz=143,slow=20,SNR=7.1							
URZ	**Urewera**	14.61	189	P	**P**		**04 57 38.1**	**-1.6**
	1.0nm,0.3s,baz=8.0,slow=10,SNR=13							
URZ				S	**S**		**05 00 12.3**	**-0.2**
	0.6nm,0.3s,baz=333,slow=23,SNR=6.1							
CTA	**Charters Tower**	31.45	270	⇓*i*P	**P**		**05 00 12.6**	**+1.2**
	15nm,0.4s,mb4.9							
CTA	**Charters Tower**	31.45	270	P	**P**		**05 00 12.7**	**+1.3**
	23nm,0.4s,mb5.0,baz=98,slow=11,SNR=60							
CTAO	**Charters Tower**	31.45	270	*e*P	**P**		**05 00 12.1**	**+0.7**
	26nm,0.3s,mb5.2							
PMG	**Port Moresby**	34.44	289	P	**P**		**05 00 37.2**	**+0.6**
	37nm,0.9s,mb4.9,baz=140,slow=6.4,SNR=5.9							
PMG	**Port Moresby**	34.44	289	*e*P	**P**		**05 00 37.1**	**+0.5**
	47nm,1.0s,mb5.0							
STKA	**Stephens Creek**	34.74	248	⇓*i*P	**P**		**05 00 38.3**	**-0.8**
	6.3nm,0.9s,mb4.2							
STKA	**Stephens Creek**	34.74	248	P	**P**		**05 00 38.3**	**-0.7**
	5.5nm,0.6s,mb4.2,baz=74,slow=8.0,SNR=12							
AS31	**Alice Springs**	42.03	261	*e*P	**P**		**05 01 38.8**	**+0.6**
ASAR	**Alice Springs**	42.03	261	P	**P**		**05 01 38.9**	**+0.7**
	18nm,0.9s,mb4.6,baz=92,slow=8.3,SNR=95							
ASAR				ScP	ScP		05 06 21.6	+2.5
	3.4nm,0.9s,baz=102,slow=4.2,SNR=14							
ASAR				S	**S**		**05 07 18.3**	**+0.3**
	0.4nm,0.8s,baz=100,slow=15,SNR=4.1							
ASPA	**Alice Springs**	42.03	261	*e*P	**P**		**05 01 38.8**	**+0.6**
WB2	**Warramunga Arr**	42.38	266	⇓*i*P	**P**		**05 01 41.0**	**+0.1**
WB2				*e*S	**S**		**05 07 21.5**	**-1.5**
WRAB	**Tennant Creek**	42.38	266	*e*P	**P**		**05 01 40.6**	**-0.3**
	38nm,1.0s,mb4.9							
WRA	**Warramunga Arr**	42.39	266	P	**P**		**05 01 41.2**	**+0.2**
	5.7nm,0.3s,mb4.5,baz=90,slow=5.9,SNR=48							
WRA				ScP	ScP		05 06 23.4	+2.9
	2.9nm,0.9s,baz=105,slow=4.1,SNR=6.2							
WRA				S	**S**		**05 07 22.3**	**-0.9**
	2.7nm,0.9s,baz=102,slow=14,SNR=6.1							
FITZ	**Fitzroy Crossi**	50.81	266	*e*P	**P**		**05 02 45.8**	**+1.2**
	14nm,0.9s,mb4.3							
MBWA	**Marble Bar**	55.37	260	*e*P	**P**		**05 03 17.1**	**+0.1**
	8.1nm,0.8s,mb4.0							
MJAR	**Matsushiro Arr**	71.81	326	P	**P**		**05 05 01.8**	**-0.1**
	0.8nm,0.7s,mb3.2,baz=163,slow=6.5,SNR=4.5							
PMSA	**Palmer Station**	79.00	157	P	**P**		**05 05 47.0**	**+5.1**
	44nm,1.1s,mb4.7							
MDJ	**Mudanjiang**	82.18	326	P	**P**		**05 05 59.0**	**+0.6**
MDJ				AMB	AMB			
	comp=Z,11nm,1.1s,mb4.2							
MDJ				AMB	AMB			
	comp=Z,128nm,4.1s							
SYO	**Syowa Base**	83.09	193	‖*e*PP	PP		05 09 24.4	+0.5
OHCM	**Honcut**	83.26	42	*e*P	**P**		**05 06 03.3**	**-0.5**
CN2	**Changchun**	83.80	324	*e*P	**P**		**05 06 04.0**	**-2.5**
NVAR	**Mina Array Ba**	84.70	44	P	**P**		**05 06 11.5**	**+0.6**
	comp=Z,2.6nm,0.9s,mb3.8,baz=206,slow=6.5,SNR=16							
LDFC	**Landfair**	84.90	48	*e*P	**P**		**05 06 12.8**	**+0.9**
NEN	**Nelson**	85.40	48	*e*P	**P**		**05 06 14.4**	**+0.1

comp=Z,1.0nm,0.6s,baz=150,slow=5.3,SNR=7.7
BRTR PKPab PKPab 05 13 22.1 +0.9
comp=Z,2.1nm,0.7s,baz=84,slow=3.9,SNR=12
BRTR pPKPbc pPKPbc 05 15 24.8 +1.8
comp=Z,1.0nm,0.9s,baz=42,slow=1.3,SNR=3.7
ANTO Ankara 148.07 308 *e*PKPdf PKPdf 05 13 13.5 -1.2
ANTO *e*PKPbc PKPbc 05 13 19.3 +0.6
EIL Elat 148.31 288 *e*PKPbc PKPbc 05 13 19.3 0.0
EKA Eskdalemuir Ar 148.43 3 PKPbc PKPbc 05 13 17.9 -1.7
comp=Z,3.0nm,0.9s,baz=128,slow=12,SNR=3.5
KWP Kalwaria 148.68 331 *e*PKPbc PKPbc 05 13 19.8 -0.5
KOLS Kolonicke sedl 149.38 331 *e*PKP PKPdf 05 13 22.2 +5.4
OJC Ojcow 149.44 335 *e*PX PKPbc 05 13 21.8 -0.3
STHS Stebnicka Huta 149.47 332 *e*PKP PKPdf 05 13 22.5 +5.5
MLR Muntele Rosu 149.83 322 PKPbc PKPbc 05 13 22.7 -0.3
comp=Z,1.4nm,0.5s,baz=20,slow=4.2,SNR=4.8
NIE Niedzica 149.87 333 *e*PX PKPbc 05 13 23.6 +0.5
KSP Ksiaz 150.20 339 *e*PKPdf PKPbc 05 13 24.0 +0.1
UPC Upice 150.58 339⇑ *e*PKPB PKPbc 05 13 24.9 +0.2
UPC *e*PKPAB PKPab 05 13 34.3 +0.3
DPC Dobruska-Polom 150.61 338⇑ *e*PKPB PKPbc 05 13 24.8 0.0
DPC *e*PKPAB PKPab 05 13 33.1 -1.0
MORC Moravsky Berou 150.66 336 *e*PKPbc PKPbc 05 13 24.2 -0.8
MORC *e*PKPab PKPab 05 13 33.6 -0.7
CLL Collm 150.76 343 *i* PKPbc PKPbc 05 13 24.7 -0.5
comp=Z,17nm,0.9s
CLL *e*PKPab PKPab 05 13 33.9 -0.9
CLL *ep*PKPbc pPKPbc 05 15 34.0 +2.3
CLL Collm 150.76 343⇑ *i* PKPbc PKPbc 05 13 24.9 -0.3
comp=Z,17nm,0.9s
CLL ⇓*i*PKPab PKPab 05 13 34.2 -0.6
CLL *ep*PKPbc pPKPbc 05 15 34.0 +2.3
PRU Pruhonice 151.50 340⇑ *e*PKPB PKPbc 05 13 26.4 -0.4
PRU *e*PKPAB PKPab 05 13 37.7 -0.2
NKC Novy Kostel 151.89 343⇑ *e*PKPB PKPbc 05 13 27.6 -0.1
NKC *e*PKPAB PKPab 05 13 39.4 -0.1
KHC Kasperske Hory 152.55 340⇑ *e*PKPB PKPbc 05 13 28.9 -0.2
KHC *e*PKPAB PKPab 05 13 41.9 -0.4
GRF Grafenberg Arr 152.70 344 *e*PKP PKPab 05 13 43.2 +0.2
GERES GERESS Array B 152.76 340 PKPbc PKPbc 05 13 29.1 -0.5
comp=Z,1.3nm,0.8s,baz=39,slow=0.9,SNR=10
GERES pPKPbc pPKPbc 05 15 38.6 +2.1
comp=Z,0.6nm,0.8s,baz=64,slow=3.7,SNR=4.4
DAVOX Davos 155.74 343 PKPab PKPab 05 13 56.2 +0.2
baz=0.0,slow=9.1
TORD Torodi Ar. Bea 169.27 189 PKP PKPdf 05 13 38.5 -0.5
comp=Z,2.0nm,1.1s,baz=109,slow=1.8,SNR=3.7

*IDC **26** 04:59:58.3±1.2, 3516N×8952E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, ML3.1/3, Error ellipse: s-maj=41.5km s-min=22.1km az=56.0*
*NEIC **26** 04:59:59.0±0.6, 3502N×8953E, h10km, mb3.7/3, Error ellipse: s-maj=13.8km s-min=8.1km az=76.0*
*BJI **26** 05:00:01.4, 3531N×8955E, h22km, mb4.1, Ms4.2*
*ISCJB **26** 05:00:02.4±4.1, 352N±0.1×896E±02, h42km±36km, mb3.8/7, Error ellipse: s-maj=31.8km s-min=14.7km az=91.0*
ISC 26 05:00:04.8±3.0, 352N±01×896E±02, h50km±27km, n18, σ0°71/18, mb3.8/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.66**	**166**	PG	**Pn**	**05 01 44.0**	**+18**
LSA	**Lhasa**	**5.66**	**166**	*e*Pg	**Pn**	**05 01 44.0**	**+18**
15nm,0.8s							
GTA	**Gaotai**	**9.17**	**60**	*e*P	**Pn**	**05 02 15.5**	**+1.0**
GTA				AP		05 02 21.3	
GTA				XP		05 02 24.0	
GTA				AMB	AMB		
comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**12.80**	**337**	Pn	**Pn**	**05 02 59.2**	**-4.9**
comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=6.5							
MKAR	**Makanchi Array**	**12.80**	**337**	Pn	**Pn**	**05 02 59.2**	**-4.9**
GYA	**Guiyang**	**17.06**	**116**	P	**Pn**	**05 03 59.0**	**-0.8**
GYA				AMB	AMB		
comp=Z,10.0nm,1.1s							
KURK	**Kurchatov**	**17.41**	**336**	*e*P	**Pn**	**05 03 58.7**	**-5.4**
comp=Z,8.1nm,1.1s							
SONM	**Songino Array**	**17.78**	**40**	P	**Pn**	**05 04 08.9**	**+0.2**
comp=Z,0.1nm,0.3s,baz=226,slow=10,SNR=9.2							
ULN	**Ulaanbaatar**	**18.14**	**41**	*e*P	**Pn**	**05 04 13.0**	**-0.1**
comp=Z,1.5nm,0.8s							
ZAL	**Zalesovo**	**19.02**	**351**	P	**Pn**	**05 04 22.3**	**-1.3**
comp=Z,0.2nm,0.3s,baz=306,slow=13,SNR=6.4							
BVAR	**Borovoye Array**	**22.39**	**329**	P	**P**	**05 04 59.0**	**+0.1**
comp=Z,2.8nm,0.9s,mb3.7,baz=145,slow=8.8,SNR=4.9							
BRVK	**Borovoye**	**22.46**	**329**	*e*P	**P**	**05 05 00.0**	**+0.4**
comp=Z,3.2nm,0.8s,mb3.8							
SSE	**Sheshan**	**26.73**	**90**	*e*P	**P**	**05 05 38.5**	**-1.0**
FINES	**FINESS Array B**	**47.23**	**324**	P	**P**	**05 08 32.6**	**-0.2**
comp=Z,1.5nm,1.0s,mb3.9,baz=61,slow=11,SNR=2.6							
GERES	**GERESS Array B**	**55.74**	**309**	P	**P**	**05 09 36.5**	**+0.1**
comp=Z,0.6nm,0.9s,mb3.6,baz=98,slow=7.0,SNR=5.1							
ILAR	**Eielson Array**	**71.05**	**22**	P	**P**	**05 11 17.4**	**-0.2**
comp=Z,1.9nm,1.2s,mb3.9,baz=304,slow=4.8,SNR=4.7							
ASAR	**Alice Springs**	**72.07**	**138**	P	**P**	**05 11 24.6**	**+0.9**
comp=Z,1.4nm,0.9s,mb3.9,baz=330,slow=7.0,SNR=13							
YKA	**Yellowknife Ar**	**80.70**	**11**	P	**P**	**05 12 13.4**	**+0.8**
comp=Z,0.4nm,0.7s,mb3.4,baz=330,slow=5.5,SNR=6.7							

*NEIC **26** 05:07:54.9, 1686N×10049W, h5km, MD4.1(MEX), After MEX.*
MEX 26 05:07:54.9±0.6, 1686N×10049W, h5km±4km, MD4.1, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**49⇑**	*i*P	Pg	05 07 59.8	-0.6
CAIG				*i* S	Sg	05 08 04.6	+0.5
ACX	**Acapulco**	**0.55**	**90**	*i* P	Pg	05 08 05.0	-0.5
ACX				*i* S	Sg	05 08 13.0	+0.4
MEIG	**Mezcala**	**1.34**	**38**	*i* P	Pn	05 08 17.2	-3.1
MEIG				*i* S	Sb	05 08 33.4	-4.6
PLIG	**Platanillo**	**1.79**	**32**	*e*P	Pn	05 08 23.6	-2.8
PLIG				*i* S	Sn	05 08 44.8	-4.7
YAIG	**Yautepec**	**2.41**	**34**	*i* P	Pn	05 08 32.6	-2.3
YAIG				*i* S	Sn	05 09 00.1	-4.6
UTMO	**Huajuapan**	**2.74**	**69**	*e*P	Pn	05 08 36.8	-2.7
UTMO				*i* S	Sn	05 09 08.6	-4.3
UNM	**Universidad Na**	**2.75**	**27**	*e*P	Pn	05 08 37.3	-2.3
UNM				*i* S	Sn	05 09 09.0	-4.3
UNM	**Universidad Na**	**2.75**	**27**	*e*P	Pn	05 08 37.3	-2.3
UNM				*e*P		05 08 40.0	
UNM				*e*P		05 08 40.2	
UNM				*i* S	Sn	05 09 09.0	-4.3
UNM				*i* S	Sn	05 09 09.1	-4.1
UNM				*i* S	Sn	05 09 13.0	-0.2
PPM	**Popocatepetl**	**2.82**	**39**	*e*P	Pn	05 08 38.4	-2.1
PPM				*i* S	Sn	05 09 12.0	-2.8
PPM	**Popocatepetl**	**2.82**	**39**	*e*P	Pn	05 08 38.4	-2.1
PPM				*e*P		05 08 42.0	
PPM				*i* S	Sn	05 09 12.0	-2.8
PPM				*i* S	Sn	05 09 17.0	+2.1
MOIG	**Morelia**	**2.88**	**347**	*e*P	Pn	05 08 38.8	-2.5
MOIG				*i* S	Sn	05 09 11.0	-5.3
MRX	**Morelia**	**2.90**	**347**	*e*P	Pn	05 08 40.0	-1.7
MRX				*i* S	Sn	05 09 13.0	-3.9
VHO	**Vista Hermosa**	**3.60**	**86**	*e*P	Pn	05 08 57.9	+6.6
VHO				*i* S	Sn	05 09 31.2	-3.0
OXX	**Oaxaca**	**3.61**	**86**	*e*P	Pn	05 08 49.0	-2.5
OXX				*i* S	Sn	05 09 35.0	+0.5
SFJM	**Santa Fe**	**4.34**	**327**	*e*P	Pn	05 09 06.0	+4.6
SFJM				*i* S	Sn	05 09 54.0	+1.6
CMIG	**Matias Romero**	**5.37**	**87**	*e*P	Pn	05 09 17.9	+2.2
CMIG				*i* S	Sn	05 10 13.8	-4.0

*ISCJB **26** 05:08:55.1±0.5, 4337N±003×4586E±003, h2km±3km, mb3.5/4, Error ellipse: s-maj=5.4km s-min=3.1km az=163.7*
*CSEM **26** 05:08:55.5±0.1, 4333N×4590E, h10km, mb3.7, Error ellipse: s-maj=4.7km s-min=2.5km az=169.0*
*IDC **26** 05:08:56.9±0.9, 4342N×4577E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.4/21, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=22.4km s-min=9.1km az=113.0*
*MOS **26** 05:08:56.5±1.2, 4334N×4585E, h11km, mb3.7/1, Error ellipse: s-maj=9.8km s-min=6.9km az=174.5*
*NEIC **26** 05:09:02.5±1.4, 4342N×4592E, h43km±23km, mb3.3/1, Error ellipse: s-maj=18.6km s-min=11.6km az=151.0*
*NNC **26** 05:09:05.2±5.7, 4379N×4644E, h0km, mb3.5, Error ellipse: s-maj=123.8km s-min=48.6km az=139.0*
ISC 26 05:08:56.4±0.5, 4330N±003×4584E±003, h1km±4km, n45, σ1°24/75, mb3.6/4, 4C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.78**	**111**	*i* Pg	**Pg**	**05 09 09.8**	**-1.4**
58nm,0.2s							
DBC				*i* Sg	**Sg**	**05 09 22.8**	**+1.5**
DBC	**Dubki**	**0.78**	**111**	*i* PG	**Pg**	**05 09 09.8**	**-1.4**
DBC				*i* S	**Sg**	**05 09 22.8**	**+1.5**
DBC				pmax	pmax		
comp=Z,58nm,0.2s							
SNJR	**Sundja**	**0.79**	**253**	*e*Pg	**Pg**	**05 09 11.9**	**+0.4**
SNJR				*i* Sg	**Sg**	**05 09 22.2**	**+0.4**
VLKR	**Vladikavkaz**	**0.89**	**254**	*e*Pg	**Pg**	**05 09 13.5**	**0.0**
VLKR				*e*Sg	**Sg**	**05 09 25.0**	**0.0**
UNCR	**Uncukul**	**0.91**	**130**	*e*Pg	**Pg**	**05 09 12.0**	**-1.9**
comp=Z,72nm,0.2s							
UNCR				*e*Sg	**Sg**	**05 09 30.0**	**+4.3**
UNCR	**Uncukul**	**0.91**	**130**	*e*PG	**Pg**	**05 09 12.0**	**-1.9**
UNCR				*e*S	**Sg**	**05 09 30.0**	**+4.3**
UNCR				pmax	pmax		
comp=Z,72nm,0.2s							
BTKR	**Batakoyurt**	**0.95**	**275**	*e*Pg	**Pg**	**05 09 15.9**	**+1.3**
BTKR				*e*Sg	**Sg**	**05 09 28.9**	**+1.9**
KMSR	**Komsomolskaya**	**1.13**	**274**	*e*Pg	**Pg**	**05 09 18.7**	**+0.6**
KMSR				*e*Sg	**Sg**	**05 09 33.9**	**+1.1**
ARNR	**Ardon**	**1.15**	**265**	*e*PG	**Pg**	**05 09 18.4**	**0.0**
ARNR				*e*S	**Sg**	**05 09 33.5**	**+0.2**
PRTR	**Priterechnaya**	**1.22**	**292**	*e*Pg	**Pg**	**05 09 21.0**	**+1.2**
PRTR				*e*Sg	**Sg**	**05 09 38.3**	**+2.7**
LACR	**Lac**	**1.23**	**248**	*e*Pg	**Pg**	**05 09 18.7**	**-1.3**
LACR				*e*Sg	**Sg**	**05 09 34.2**	**-1.7**
MAK	**Makhachkala**	**1.26**	**105**	*e*Pg	**Pg**	**05 09 23.6**	**+3.0**
comp=Z,149nm,0.3s							
MAK				*i* Sg	**Sg**	**05 09 44.1**	**+7.1**
MAK	**Makhachkala**	**1.26**	**105**	*e*PG	**Pg**	**05 09 23.6**	**+3.0**
MAK				*i*		05 09 44.1	
MAK				pmax	pmax		
comp=Z,149nm,0.3s							
MAK				smax			
comp=N,591nm,0.3s							
MAK				smax			
comp=E,442nm,0.3s							
KORR	**Kora**	**1.32**	**261**	*e*Pg	**Pg**	**05 09 20.7**	**-0.9**
KORR				*e*Sg	**Sg**	**05 09 37.6**	**-1.1**
DUS	**Dusheti**	**1.48**	**215**	P	**Pn**	**05 09 23.0**	**-1.1**
DUS				S	**Sb**	**05 09 44.7**	**+0.9**
LSNR	**Lesken**	**1.48**	**270**	*e*Pg	**Pg**	**05 09 23.5**	**-1.3**
LSNR				*e*Sg	**Sg**	**05 09 42.6**	**-1.4**
MNSR	**Manas**	**1.50**	**113**	*e*Pg	**Pg**	**05 09 25.2**	**+0.1**
comp=E,128nm,0.3s							
MNSR	**Manas**	**1.50**	**113**	*e*PG	**Pg**	**05 09 25.2**	**+0.1**
MNSR				*i* S	**Sn**	**05 09 49.0**	**+4.3**
MNSR				pmax	pmax		
comp=Z,128nm,0.3s							
ZEI	**Tsey**	**1.52**	**250**	*e*Pg	**Pg**	**05 09 23.0**	**-2.6**
DIGR	**Digorskoe uzhe**	**1.71**	**257**	*e*Pn	**Pn**	**05 09 26.0**	**-1.3**
TBLG	**Delisi**	**1.77**	**208**	P	**Pn**	**05 09 27.4**	**-0.8**
TBLG				S	**Sn**	**05 09 51.3**	**-0.1**
MTA	**Mtatsminda**	**1.79**	**206**	P	**Pn**	**05 09 28.8**	**+0.4**
MTA				S	**Sn**	**05 09 50.4**	**-1.3**
ONI	**Oni**	**1.90**	**248**	P	**Pn**	**05 09 29.5**	**-0.5**
ONI				S	**Sn**	**05 09 55.2**	**+0.7**
BKR	**Bakuriani**	**2.33**	**229**	P	**Pn**	**05 09 37.3**	**+1.4**
BKR				S	**Sn**	**05 10 06.6**	**+1.3**
AKH	**Akhalkalaki**	**2.57**	**223**	P	**Pn**	**05 09 41.0**	**+1.8**
AKH				S	**Sn**	**05 10 14.2**	**+3.1**
GOF	**Gofitskoye**	**2.68**	**312**	*e*Pn	**Pn**	**05 09 49.0**	**+8.4**
comp=Z,37nm,1.3s							
GOF				*i* Sg	**Sg**	**05 10 31.0**	**+8.6**
GOF	**Gofitskoye**	**2.68**	**312**	*e*PN	**Pn**	**05 09 49.0**	**+8.4**
GOF				*i* S	**Sg**	**05 10 31.0**	**+8.6**
GOF				pmax	pmax		
comp=Z,37nm,1.3s							
GOF				smax			
comp=E,180nm,1.7s							
CHVG	**Ch'k'valeri**	**2.82**	**259**	P	**Pn**	**05 09 39.1**	**-3.5**
GNI	**Garni**	**3.26**	**195**	Pn	**Pn**	**05 09 53.0**	**+4.4**
comp=E,3.6nm,0.3s,baz=296,slow=3.3,SNR=13							
GNI				Sn	**Sn**	**05 10 36.5**	**+8.5**
comp=E,4.4nm,0.3s,baz=27,slow=2.3,SNR=4.0							
GNI				Lg		05 10 42.9	
comp=E,3.7nm,0.3s,baz=302,slow=19,SNR=6.9							
GNI	**Garni**	**3.26**	**195**	Pn	**Pn**	**05 09 53.1**	**+4.5**
GNI				Sn	**Sn**	**05 10 36.5**	**+8.5**
AKTK	**Aktyubinsk**	**10.96**	**45**	P	**Pn**	**05 11 34.3**	**0.0**
comp=E,1.0nm,0.3s							
AKTK				S	**Sn**	**05 13 29.9**	**-7.7**
AKTK	**Aktyubinsk**	**10.96**	**45**	Pn	**Pn**	**05 11 34.2**	**-0.1**
AKTK				Sn	**Sn**	**05 13 29.9**	**-7.7**
AKTO	**Aktyubinsk**	**10.96**	**45**	⇑P	**Pn**	**05 11 34.7**	**+0.4**
comp=E,0.6nm,1.1s							
AKTO				⇑S	**Sn**	**05 13 31.2**	**-6.4**
comp=E,0.6nm,1.4s							
AKTO	**Aktyubinsk**	**10.96**	**45**	Pn	**Pn**	**05 11 34.2**	**-0.1**
comp=E,0.5nm,0.3s,baz=225,slow=8.6,SNR=6.4							
AKTO				Sn	**Sn**	**05 13 29.9**	**-7.7**
comp=E,0.1nm,0.3s,baz=18,slow=20,SNR=5.0							
AKTO	**Aktyubinsk**	**10.96**	**45**	P	**Pn**	**05 11 34.3**	**0.0**
AKTO						05 13 29.9	
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**11.42**	**54**	⇑P	**Pn**	**05 11 40.3**	**-0.4**
comp=Z,0.5nm,0.3s,baz=244,slow=12,SNR=24							
AB31				⇑S	**Sn**	**05 13 44.1**	**-4.9**
comp=Z,0.4nm,0.3s,baz=257,slow=26,SNR=6.4							
ZRNK	**Zerenda**	**18.15**	**50**	P	**Pn**	**05 13 10.3**	**+0.6**
comp=Z,3.0nm,1.1s							
ZRNK	**Zerenda**	**18.15**	**50**	P	**Pn**	**05 13 10.3**	**+0.6**
ZRNK				pmax	pmax		
comp=Z,3.0nm,1.1s							
ZRNK	**Zerenda**	**18.15**	**50**	P	**Pn**	**05 13 10.3**	**+0.5**
comp=Z,3.0nm,1.1s							
BVAR	**Borovoye Array**	**18.96**	**51**	P	**Pn**	**05 13 19.1**	**-0.4**
comp=Z,0.4nm,0.3s,baz=247,slow=14,SNR=6.3							
FINES	**FINESS Array B**	**21.65**	**334**	P	**P**	**05 13 48.7**	**+0.5**
comp=Z,1.4nm,0.8s,mb3.4,baz=147,slow=13,SNR=4.3							
FINES	**FINESS Array B**	**21.65**	**334**	P	**P**	**05 13 48.7**	**+0.5**
HFS	**Hagfors**	**25.71**	**322**	P	**P**	**05 14 26.0**	**-2.2**
comp=Z,1.1nm,0.6s,mb3.7,baz=106,slow=11,SNR=6.3							
MKAR	**Makanchi Array**	**25.84**	**69**	P	**P**	**05 14 28.6**	**-0.7**
comp=Z,0.3nm,0.8s,mb3.0,baz=289,slow=7.6,SNR=3.6							
ARCES	**ARCESS Array B**	**28.30**	**345**	P	**P**	**05 14 51.1**	**-0.4**
comp=Z,4.2nm,1.0s,mb4.2,baz=150,slow=9.4,SNR=2.1							

*ISCJB **26** 05:20:31.7±0.4, 3526N×004×8970E±009, h10km, mb3.8/11, Error ellipse: s-maj=10.3km s-min=5.8km az=23.0*
*IDC **26** 05:20:31.1±0.8, 3509N×8953E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, ML3.3/2, Error ellipse: s-maj=34.4km s-min=17.0km az=53.0*
*NEIC **26** 05:20:33.8±0.5, 3530N×8972E, h10km, mb3.8/4, Error ellipse: s-maj=11.5km s-min=6.2km az=103.0*
*MOS **26** 05:20:34.6±1.1, 3523N×8970E, h33km, mb4.2/3, Error ellipse: s-maj=17.6km s-min=10.3km az=92.4*
*BJI **26** 05:20:35.5, 3555N×8923E, h10km, mb4.4, ML3.9, Ms4.0*
ISC 26 05:20:33.7±0.4, 3535N±004×8970E±008, h10km, n34, σ1°09/34, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.77**	**167**	*e*Pg	**Pb**	**05 22 15.7**	**+1.3**
20nm,0.8s							
GUN	**Gumba**	**8.10**	**205**	*e*P	**Pn**	**05 22 31.3**	**-0.1**
32nm,1.0s							
JIRN	**Jiri**	**8.23**	**202**	*e*P	**Pn**	**05 22 33.0**	**-0.2**
KKN	**Kakani**	**8.43**	**208**	*e*P	**Pn**	**05 22 35.8**	**-0.1**
GKN	**Gorkha**	**8.50**	**212**	*e*P	**Pn**	**05 22 37.8**	**+0.9**
WMQ	**Urumqi**	**8.60**	**350**	*e*P	**Pn**	**05 22 42.5**	**+4.3**
WMQ				AMB	AMB		
comp=Z,23nm,1.0s							
DMN	**Daman**	**8.66**	**208**	*e*P	**Pn**	**05 22 39.3**	**+0.3**
comp=Z,34nm,0.8s							
KOLN	**Koldanda**	**9.17**	**216**	*e*P	**Pn**	**05 22 46.2**	**+0.1**
SHL	**Shillong**	**9.93**	**168**	*e*P	**Pn**	**05 22 56.0**	**-0.5**
KSH	**Kashi**	**11.67**	**295**	*e*P	**Pn**	**05 23 21.0**	**+0.7**
MKAR	**Makanchi Array**	**12.71**	**336**	Pn	**Pn**	**05 23 31.3**	**-3.3**
comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=11							
AAK	**Ala-Archa**	**13.87**	**306**	P	**Pn**	**05 23 52.2**	**+1.9**
AAK				pmax	pmax		
comp=Z,12nm,1.0s							
AAK	**Ala-Archa**	**13.87**	**306**	Pn	**Pn**	**05 23 52.2**	**+1.9**
comp=Z,12nm,1.0s							
KURK	**Kurchatov**	**17.33**	**336**	*e*P	**Pn**	**05 24 32.6**	**-3.1**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**17.33**	**336**	*e*P	**Pn**	**05 24 32.6**	**-3.0**
comp=Z,4.4nm,0.9s							
SONM	**Songino Array**	**17.60**	**40**	P	**Pn**	**05 24 40.9**	**+1.8**
comp=Z,0.1nm,0.3s,baz=227,slow=12,SNR=19							
ULN	**Ulaanbaatar**	**17.97**	**41**	*e*P	**Pn**	**05 24 45.0**	**+1.4**
ULN				pmax	pmax		
comp=Z,2.0nm,0.7s							
ULN	**Ulaanbaatar**	**17.97**	**41**	*e*P	**Pn**	**05 24 45.0**	**+1.4**
comp=Z,2.2nm,0.7s							
ZAK	**Zakamensk**	**17.98**	**29**	*e*P	**Pn**	**05 24 43.3**	**-0.4**
ZAK				pmax	pmax		
comp=Z,8.0nm,2.0s							
ZAL	**Zalesovo**	**18.90**	**351**	P	**Pn**	**05 24 54.3**	**-0.6**
baz=299,slow=13							
BVAR	**Borovoye Array**	**22.32**	**328**	P	**P**	**05 25 30.9**	**-0.6**
comp=Z,2.1nm,0.8s,mb3.6,baz=139,slow=9.9,SNR=13							
BRVK	**Borovoye**	**22.39**	**328**	*e*P	**P**	**05 25 32.5**	**+0.3**
BRVK				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.0							
BRVK	**Borovoye**	**22.39**	**328**	*e*P	**P**	**05 25 32.5**	**+0.3**
comp=Z,7.0nm,1.2s,mb4.0							
ZRNK	**Zerenda**	**22.88**	**327**	*e*P	**P**	**05 25 37.5**	**+0.1**
ZRNK				pmax	pmax		
comp=Z,7.0nm,1.3s,mb3.9							
ZRNK	**Zerenda**	**22.88**	**327**	*e*P	**P**	**05 25 37.5**	**+0.1**
comp=Z,7.1nm,1.3s,mb3.9							
TIXI	**Tiksi**	**41.66**	**18**	*e*P	**P**	**05 28 21.9**	**-0.4**
TIXI				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.7							
AKASG	**Malin Array Be**	**45.52**	**309**	P	**P**	**05 28 53.9**	**+0.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=73,slow=7.6,SNR=4.3							
FINES	**FINESS Array B**	**47.18**	**324**	P	**P**	**05 29 07.1**	**+0.6**
comp=Z,1.9nm,1.0s,mb4.0,baz=90,slow=7.6,SNR=4.1							
FINES	**FINESS Array B**	**47.18**	**324**	P	**P**	**05 29 07.1**	**+0.6**
GERES	**GERESS Array B**	**55.73**	**309**	P	**P**	**05 30 09.2**	**-1.3**
comp=Z,0.4nm,0.7s,mb3.5,baz=48,slow=2.0,SNR=3.9							
WRA	**Warramunga Arr**	**69.40**	**135**	P	**P**	**05 31 40.1**	**-1.7**
comp=Z,3.5nm,0.9s,mb4.3,baz=332,slow=6.0,SNR=15							
ASAR	**Alice Springs**	**72.10**	**138**	P	**P**	**05 31 56.8**	**-1.4**
comp=Z,1.8nm,0.8s,mb4.0,baz=328,slow=6.0,SNR=15							
YKA	**Yellowknife Ar**	**80.55**	**11**	P	**P**	**05 32 47.4**	**+1.2**
comp=Z,0.7nm,0.8s,mb3.6,baz=336,slow=5.6,SNR=11							
TORD	**Torodi Ar. Bea**	**80.91**	**280**	P	**P**	**05 32 46.5**	**-1.6**
comp=Z,1.8nm,0.9s,mb4.0,baz=43,slow=5.7,SNR=7.4							

*INMG **26** 05:42:56.1±0.8, 3866N×981W, h31km, ML1.4, Error ellipse: s-maj=5.9km s-min=2.4km az=90.0*
MDD 26 05:42:56.4±1.5, 3863N×975W, h43km±18km, mb3.3/5, Error ellipse: s-maj=15.7km s-min=8.1km az=76.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.53**	**62**	*e*Pg	Pn	05 43 07.1	-0.5
PLOU				*e*Sg	Sn	05 43 14.9	-0.7
PLOU							
19nm,0.2s							
MOE	**Montemor**	**1.10**	**95**	S	Sn	05 43 28.7	-0.6
PTEO	**Sao Teotonio**	**1.35**	**143**	*e*P	Pn	05 43 18.1	-0.7
PTEO				*e*S	Sn	05 43 34.2	-1.4
PTEO							
5.3nm,0.4s							
PTOM	**Tomar**	**1.43**	**46**	*e*P	Pn	05 43 19.8	-0.1
PTOM							
5.9nm,0.2s							
PBEJ	**Beja**	**1.60**	**112**	S	Sn	05 43 40.7	-0.9
EGRO	**El Granado**	**2.10**	**121**	P	Pn	05 43 28.3	-0.7
2.1nm,0.3s,SNR=7.9							
EGRO				S	Sn	05 43 52.4	-1.4
1.5nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**2.13**	**55**	*e*Pn	Pn	05 43 29.4	-0.1
EBAD	**Badajoz**	**2.14**	**86**	P	Pn	05 43 29.3	-0.4
0.2nm,0.2s,SNR=13							
EBAD				S	Sn	05 43 52.9	-2.0
4.8nm,0.2s,SNR=10							
EMIN	**Mina Concepcio**	**2.57**	**109**	P	Pn	05 43 34.9	-0.7
0.7nm,0.3s,SNR=7.9							
EMIN				S	Sn	05 44 02.9	-2.7
1.5nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**3.48**	**21**	P	Pn	05 43 47.3	-0.6
1.1nm,0.4s,SNR=7.9							
ELOB				S	Sn	05 44 23.7	-4.2
0.4nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**4.03**	**34**	P	Pn	05 43 55.3	-0.2
1.1nm,0.3s,SNR=4.0							
ECAL				S	Sn	05 44 37.3	-4.1
0.5nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**4.09**	**95**	P	Pn	05 43 54.4	-1.9
0.4nm,0.2s,SNR=4.0							
E

PLRO				*e*Sg		**Sg**	**06 22 18.1 +0.3**
MPRI	**Monte Prat**	**0.24**	**154**	⇓*i*Pg		**Pg**	**06 22 14.3 -0.2**
MPRI				*i* Sg		**Sg**	**06 22 18.1 +0.3**
BUA	**Buia**	**0.31**	**140**	⇓*e*Pg		**Pg**	**06 22 15.3 -0.5**
BUA				*e*Sg		**Sg**	**06 22 20.4 +0.4**
GMNA	**Gemona**	**0.33**	**123**	⇑*i*Pg		**Pg**	**06 22 14.9 -1.3**
GMNA				Sg		**Sg**	**06 22 19.4 -1.2**
	84nm,0.2s						
MLNI	**Malnisio**	**0.34**	**207**	⇓*e*Pg		**Pg**	**06 22 15.9 -0.5**
MLNI				*e*Sg		**Sg**	**06 22 21.4 +0.3**
BAD	**Bernadia**	**0.36**	**127**	⇑*i*Pg		**Pg**	**06 22 16.2 -0.5**
BAD				*i* Sg		**Sg**	**06 22 21.9 +0.5**
PTCC	**Patocco-Chiusa**	**0.36**	**98**	⇑*i*Pg		**Pg**	**06 22 16.5 -0.3**
PTCC				Sg		**Sg**	**06 22 22.1 +0.5**
	22nm,0.5s						
CSO	**Casso**	**0.40**	**243**	⇓*e*Pg		**Pg**	**06 22 17.1 -0.3**
CSO				*e*Sg		**Sg**	**06 22 22.6 -0.2**
COLI	**Coloredo**	**0.49**	**130**	⇑*i*Pg		**Pg**	**06 22 18.8 -0.4**
COLI				*i* Sg		**Sg**	**06 22 26.7 +0.9**
ROBS	**Robic**	**0.51**	**114**	*i* Pg		**Pg**	**06 22 19.0 -0.6**
ROBS				*i* Sg		**Sg**	**06 22 26.8 +0.5**
ROBS							
	comp=Z,3.0nm,0.1s						
ROBS	**Robic**	**0.51**	**114**	Pg		**Pg**	**06 22 19.0 -0.6**
ROBS				*i* Sg		**Sg**	**06 22 26.8 +0.5**
	comp=Z,3.0nm,0.1s						
DRE	**Drenchia**	**0.62**	**116**	*e*Pg		**Pg**	**06 22 20.9 -0.8**
DRE				*e*Sg		**Sg**	**06 22 30.6 +0.6**
DRE	**Drenchia**	**0.62**	**116**	*e*Pg		**Pg**	**06 22 20.9 -0.8**
DRE				*e*Sg		**Sg**	**06 22 30.5 +0.5**
CADS	**Cadrg**	**0.66**	**110**	*i* Pg		**Pg**	**06 22 21.4 -1.0**
CADS				*i* Sg		**Sg**	**06 22 32.0 +0.8**
CADS							
	comp=Z,7.0nm,0.2s						
CADS	**Cadrg**	**0.66**	**110**	*i* Pg		**Pg**	**06 22 21.4 -1.1**
CADS				*i* Sg		**Sg**	**06 22 32.0 +0.9**
	comp=Z,7.0nm,0.2s						
KBA	**Koelnbreinsper**	**0.72**	**29**	⇓*i*Pg		**Pg**	**06 22 23.4 -0.1**
KBA				⇓*i*Sg		**Sg**	**06 22 32.9 +0.1**
	comp=Z,4.4nm,0.1s						
GORS	**Gorjuse**	**0.81**	**99**	*i* Pg		**Pg**	**06 22 25.1 -0.2**
VOJS	**Vojsko**	**0.84**	**120**	*i* Pg		**Pg**	**06 22 25.2 -0.6**
VOY	**Vojsko**	**0.85**	**120**	*e*Sg		**Sg**	**06 22 38.9 +1.9**
CTI	**Castel Tesino**	**0.92**	**244**	⇑*e*Pg		**Pg**	**06 22 27.9 +0.6**
CTI				Sg		**Sg**	**06 22 42.1 +2.8**
	comp=Z,22nm,0.3s						
WTTA	**Wattenberg**	**1.16**	**315**	⇓*i*Pg		**Pg**	**06 22 31.6 -0.2**
WTTA				⇓*i*Sg		**Sg**	**06 22 47.3 +0.4**
	comp=Z,4.3nm,0.4s						
MOA	**Molln**	**1.70**	**34**	⇓*i*Pg		**Pg**	**06 22 41.9 -0.3**
MOA				⇓*i*Sg		**Sg**	**06 23 05.5 +1.1**
	comp=Z,2.2nm,0.3s						
MOA	**Molln**	**1.70**	**34**	Pg		**Pg**	**06 22 41.9 -0.4**
MOA				Sg		**Sg**	**06 23 05.5 +1.1**
	comp=Z,2.2nm,0.3s						

*ISCJB **26** 06:50:09.4±1.9, 7437N±008×12.1E±07, h10km, mb3.4/2, Error ellipse: s-maj=28.9km s-min=7.1km az=145.5*
*IDC **26** 06:50:09.0±1.5, 7377N×903E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/19, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=44.1km s-min=20.5km az=49.0*
*NAO **26** 06:50:09.9±7.6, 7440N×1141E, h4km±57km, ML2.5*

ISC 26 06:50:10.4±2.0, 7436N±008×116E±07, h10km, n6, σ0°99/9, mb3.4/2, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.00**	**14**	Pn	**Pn**	**06 51 11.2**	**-0.5**
	baz=200,slow=14						
SPA0				Sn	**Sn**	**06 51 58.5**	**-0.1**
	baz=202,slow=18						
ARA0	**ARCESS Array S**	**6.48**	**131**	Pn	**Pn**	**06 51 46.2**	**+0.5**
	baz=322,slow=12						
ARA0				Sn	**Sn**	**06 52 59.1**	**-0.6**
	baz=323,slow=18						
ARCES	**ARCESS Array B**	**6.48**	**131**	Pn	**Pn**	**06 51 47.3**	**+1.5**
	0.4nm,0.3s,baz=316,slow=13,SNR=8.6						
ARCES				Sn	**Sn**	**06 53 00.1**	**+0.3**
	0.9nm,0.3s,baz=322,slow=19,SNR=7.6						
FINES	**FINESS Array B**	**14.00**	**150**	Pn	**Pn**	**06 53 27.3**	**-1.5**
	0.1nm,0.3s,baz=334,slow=14,SNR=2.5						
ILAR	**Eielson Array**	**40.40**	**346**	P	**P**	**06 57 51.6**	**+3.0**
	0.3nm,0.8s,mb3.1,baz=0.1,slow=7.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**61.46**	**191**	P	**P**	**07 00 21.3**	**-5.8**
	0.5nm,0.9s,mb3.6,baz=0.0,slow=6.2,SNR=3.5						

CASC 26 07:06:11.3±3.4, 1421N×9175W, h53km±20km, MD3.9, ML4.1, 8C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.16**	**45**	⇑*e*P	Pn	07 06 20.6	+1.0
JAT				*e*S	Sn	07 06 25.4	-0.3
FUG	**Fuego 3**	**0.91**	**75**	⇓*i*P	Pn	07 06 28.5	+0.6
PCG	**Pacaya**	**1.12**	**80**	⇑*e*P	Pn	07 06 32.0	+1.3
IXG	**Ixpaco**	**1.26**	**91**	*e*P	Pn	07 06 32.7	+0.2
IXG				*e*S	Sn	07 06 49.9	+1.5
IXG				AML	AML	07 06 55.7	
	comp=E,9μm,0.5s						
RTR	**El Retiro**	**2.07**	**98**	⇑*e*P	Pn	07 06 52.4	+8.8
RTR				*e*S	Sn	07 07 18.9	+11
SBLS	**San Blas**	**2.10**	**100**	⇑*e*P	Pn	07 06 52.7	+8.7
SBLS				*e*S	Sn	07 07 19.6	+11
SNJE	**San Jose**	**2.11**	**99**	⇓*e*P	Pn	07 06 53.4	+9.2
SNJE				*e*S	Sn	07 07 19.7	+11
BOQS	**Boqueron**	**2.44**	**101**	⇑*e*P	Pn	07 06 57.7	+9.0
BOQS				*e*S	Sn	07 07 28.3	+11
SNET	**Serv Nac Est T**	**2.50**	**102**	*e*P	Pn	07 06 48.8	-0.7
SNET				*e*S	Sn	07 07 19.6	+0.8
LFU	**La Fuente**	**2.60**	**100**	⇑*e*P	Pn	07 07 00.8	+10
LFU				*e*S	Sn	07 07 30.8	+10
LBRS	**Las Brisas**	**2.67**	**100**	*e*P	Pn	07 07 00.8	+9.0
LBRS				*e*S	Sn	07 07 30.6	+7.7
LFRS	**El Faro**	**2.68**	**102**	⇑*e*P	Pn	07 07 00.9	+9.1
LFRS				*e*S	Sn	07 07 32.3	+9.2
LCBS	**La Ceiba**	**2.75**	**101**	⇑*e*P	Pn	07 07 02.2	+9.3
LCBS				*e*S	Sn	07 07 37.5	+13
SNVI	**San Vicente**	**2.89**	**101**	*e*P	Pn	07 07 04.0	+9.2
SNVI				*e*S	Sn	07 07 38.1	+10

*ISCJB **26** 07:11:49.8±4.4, 12.1S±0.1×7487W±008, h8km±30km, mb3.8/3, Error ellipse: s-maj=23.5km s-min=11.5km az=27.1*
*NEIC **26** 07:11:52.5±5.1, 12.17S×7498W, h19km±36km, ML3.8(LIM), Error ellipse: s-maj=26.9km s-min=12.1km az=210.0*
NEIC Felt [III] at Nuevo Occoro.
*IDC **26** 07:11:54.2±9.3, 1243S×7507W, h35km±66km, mb3.7/3, mb1 3.6/5, mb1mx3.5/18, mbtmp3.7/5, ML3.1/2, MS2.7/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=79.0km s-min=33.1km az=56.0*

ISC 26 07:11:51.8±4.9, 122S±01×7496W±008, h9km±34km, n9, σ1°28/9, mb3.8/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.86**	**276**	*e*Pn	**Pn**	**07 12 22.8**	**-0.9**
NNA				*e*Sn	**Sn**	**07 12 48.0**	**+0.7**
LPAZ	**La Paz**	**7.76**	**122**	Pn	**Pn**	**07 13 47.0**	**+2.1**
	0.1nm,0.3s,baz=307,slow=10,SNR=5.3						
LPAZ				Lg		07 16 03.7	
	0.1nm,0.3s,baz=202,slow=21,SNR=3.1						
LPAZ				LR	LR	07 17 27.9	
	comp=Z,52nm,18.7s,baz=228,slow=43						
OTAV	**Otavalo**	**12.84**	**344**	*e*Pn	**Pn**	**07 14 54.3**	**-0.2**
SIV	**San Ignacio**	**13.98**	**107**	Pn	**Pn**	**07 15 09.0**	**-1.1**
	0.1nm,0.3s,baz=299,slow=13,SNR=3.1						
SIV				Lg		07 19 17.2	
	0.2nm,0.3s,baz=65,slow=19,SNR=3.1						
SDV	**Santo Domingo**	**21.39**	**12**	P	**P**	**07 16 42.5**	**+2.8**
	7.0nm,0.9s,mb4.0,baz=198,slow=9.4,SNR=7.6						
TORD	**Torodi Ar. Bea**	**80.07**	**74**	P	**P**	**07 24 00.8**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=260,slow=5.5,SNR=5.6						
YKA	**Yellowknife Ar**	**80.59**	**343**	P	**P**	**07 24 04.0**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=140,slow=6.2,SNR=11						
YKA	**Yellowknife Ar**	**80.59**	**343**	P	**P**	**07 24 04.0**	**-0.7**
SONM	**Songino Array**	**144.47**	**358**	PKP	PKPdf	07 31 27.4	-1.1
	0.8nm,0.7s,baz=334,slow=3.0,SNR=7.7						

*CSEM **26** 07:16:18.2±0.1, 38.18N×2667E, h8km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.3km az=79.0*
*ISK **26** 07:16:18.7, 3821N×2666E, h14km, ML3.0*
*ATH **26** 07:16:18.3, 38.10N×2652E, h29km±12km, MD3.2/4*
*ISCJB **26** 07:16:19.3±0.6, 38.18N±003×2661E±006, h19km, Error ellipse: s-maj=6.4km s-min=3.9km az=153.7*
*NEIC **26** 07:16:19.0, 38.19N×2675E, h19km, MD3.0(ISK), MD3.2(ATH), After ISK.*

ISC 26 07:16:19.6±0.5, 3817N±003×2663E±005, h19km, n28, σ0°98/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**351**	*i* P	**Pg**	**07 16 23.1**	**-1.3**
URLA				*i* S	**Sg**	**07 16 28.2**	**+0.4**
URLA	**Izmir**	**0.19**	**351**	*i* P	**Pg**	**07 16 23.1**	**-1.4**
BLCB	**Balcova**	**0.39**	**57**	*i* PG	**Pg**	**07 16 26.4**	**-1.3**
BLCB				*i* SG	**Sg**	**07 16 31.3**	**-1.8**
BLCB	**Balcova**	**0.39**	**57**	Pg	**Pg**	**07 16 26.6**	**-1.1**
SMG	**Samos**	**0.49**	**161**	*e*PB	**Pb**	**07 16 28.6**	**-1.0**
SMG				*e*SB	**Sb**	**07 16 35.6**	**-0.8**
KDAG	**Bornova**	**0.55**	**65**	*i* P	**Pb**	**07 16 29.5**	**-1.1**
KDAG				*i* S	**Sg**	**07 16 39.4**	**+1.4**
PRK	**Paraskevi**	**1.11**	**345**	*e*PN	**Pn**	**07 16 39.9**	**-0.2**
PRK				*e*SN	**Sn**	**07 16 56.3**	**+1.5**
AYDN	**Tasoluk**	**1.11**	**117**	*i* P	**Pn**	**07 16 40.2**	**+0.1**
AYDN				*i* S	**Sb**	**07 16 55.3**	**+1.0**
AKS	**Akhisar**	**1.16**	**52**	PN	**Pn**	**07 16 40.9**	**0.0**
AKS	**Akhisar**	**1.16**	**52**	Pn	**Pn**	**07 16 40.9**	**0.0**
BODT	**Bodrum**	**1.23**	**154**	*e*PN	**Pn**	**07 16 41.5**	**-0.3**
BODT	**Bodrum**	**1.23**	**154**	Pn	**Pn**	**07 16 41.8**	**0.0**
BODT	**Bodrum**	**1.23**	**154**	Pn	**Pn**	**07 16 41.8**	**0.0**
MLSB	**Milas**	**1.26**	**134**	PN	**Pn**	**07 16 42.8**	**+0.6**
MLSB	**Milas**	**1.26**	**134**	Pn	**Pn**	**07 16 42.5**	**+0.3**
MLSB	**Milas**	**1.26**	**134**	Pn	**Pn**	**07 16 42.5**	**+0.3**
BDRM	**Kayabasi**	**1.28**	**150**	*i* P	**Pn**	**07 16 42.1**	**-0.3**
BDRM				*i* S	**Sn**	**07 17 00.4**	**+1.3**
APE	**Apeiranthos**	**1.41**	**219**	*e*PN	**Pn**	**07 16 44.6**	**+0.4**
APE	**Apeiranthos**	**1.41**	**219**	*e*PN	**Pn**	**07 16 42.4**	**-1.8**
DAT	**Datca**	**1.63**	**152**	*e*PN	**Pn**	**07 16 48.8**	**+1.6**
BALB	**Balikesir**	**1.76**	**33**	*e*PN	**Pn**	**07 16 48.6**	**-0.4**
BALB	**Balikesir**	**1.76**	**33**	Pn	**Pn**	**07 16 48.7**	**-0.3**
BALB	**Balikesir**	**1.76**	**33**	Pn	**Pn**	**07 16 48.7**	**-0.4**
DENT	**Denizli**	**1.94**	**102**	Pn	**Pn**	**07 16 51.3**	**-0.3**
DENT	**Denizli**	**1.94**	**102**	Pn	**Pn**	**07 16 51.3**	**-0.3**
ORLT	**Orhaneli**	**2.57**	**43**	Pn	**Pn**	**07 17 01.0**	**+0.8**
ORLT	**Orhaneli**	**2.57**	**43**	Pn	**Pn**	**07 17 01.0**	**+0.9**
RDO	**Rodhopi**	**3.09**	**344**	*e*PN	**Pn**	**07 17 08.1**	**+0.8**

IDC 26 07:39:11.7±4.2, 2370S×17994E, h514km±34km, mb3.8/4, mb1 3.9/5, mb1mx3.5/13, mbtmp4.7/5, Error ellipse: s-maj=45.3km s-min=37.2km az=39.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.71**	**189**	P	P	07 42 19.1	+0.5
	1.3nm,0.3s,baz=329,slow=3.1,SNR=7.2						
URZ				S	S	07 44 51.1	-1.6
	0.2nm,0.3s,baz=12,slow=23,SNR=5.6						
CTA	**Charters Tower**	**31.42**	**270**	P	P	07 44 51.4	+1.1
	20nm,0.4s,baz=95,slow=11,SNR=47						
STKA	**Stephens Creek**	**34.74**	**248**	P	P	07 45 17.8	-0.7
	1.1nm,0.3s,baz=90,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**42.01**	**260**	P	P	07 46 17.9	+0.3
	5.2nm,0.6s,baz=96,slow=7.4,SNR=79						
ASAR				ScP	ScP	07 51 02.2	+0.2
	0.6nm,0.7s,baz=99,slow=5.0,SNR=5.5						
ASPA	**Alice Springs**	**42.02**	**260**	*e*P	P	07 46 17.7	+0.1
WB2	**Warramunga Arr**	**42.35**	**266**	*e*P	P	07 46 19.8	-0.4
WRA	**Warramunga Arr**	**42.36**	**266**	P	P	07 46 19.9	-0.4
	6.0nm,0.3s,baz=94,slow=8.5,SNR=292						
FINES	**FINESS Array B**	**138.24**	**341**	SKPbc	SKPbc	08 00 18.9	-5.1
	1.2nm,0.9s,baz=70,slow=1.6,SNR=5.1						
AKASG	**Malin Array Be**	**144.77**	**327**	PKP	PKPdf	07 57 46.6	-3.2
	0.9nm,0.4s,baz=45,slow=4.2,SNR=7.8						
BRTR	**Keskin Array B**	**147.41**	**307**	PKPbc	PKPbc	07 57 58.9	+1.4
	0.8nm,0.6s,baz=78,slow=3.9,SNR=4.9						

IDC 26 07:39:28.9±2.0, 031N×12716E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=171.4km s-min=25.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**161**	P	P	07 44 17.1	-0.2
	0.3nm,0.4s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.71**	**165**	P	P	07 44 52.5	+0.7
	0.6nm,0.7s,baz=337,slow=9.9,SNR=6.5						
MKAR	**Makanchi Array**	**60.61**	**326**	P	P	07 49 41.5	+0.1
	0.2nm,0.4s,baz=122,slow=7.5,SNR=8.9						

*NEIC **26** 07:46:44.1, 15.12N×9298W, h83km, MD3.9(MEX), After MEX.*

MEX 26 07:46:44.1±0.8, 1512N×9298W, h83km±17km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.41**	**35**	*i* P	Pn	07 47 07.3	-1.1
CCIG				*i* S	Sn	07 47 25.4	-1.4
SCX	**San Cristobal**	**1.64**	**12**	*i* P	Pn	07 47 11.0	-0.3
SCX				*i* S	Sn	07 47 31.5	-0.5
CMIG	**Matias Romero**	**2.68**	**317**	*e*P	Pn	07 47 25.5	+0.3
CMIG				*i* S	Sn	07 47 55.8	-0.9
HUIG	**Huatulco**	**3.08**	**282**	*i* P	Pn	07 47 29.6	-1.0
HUIG				*i* S	Sn	07 48 02.6	-3.8
OXX	**Oaxaca**	**4.09**	**299**	*e*P	Pn	07 47 47.0	+2.7
VHO	**Vista Hermosa**	**4.09**	**299**	*e*P	Pn	07 47 44.4	0.0
VHO				*i* S	Sn	07 48 27.6	-3.4
SCIG		**4.19**	**24**	*i* P	Pn	07 47 44.0	-1.7
SCIG				*i* S	Sn	07 48 29.0	-4.4
TEIG	**Tepich**	**6.78**	**41**	*e*Pn	Pn	07 48 15.5	-5.3
	10nm,0.4s						

*IDC **26** 07:55:12.1±1.9, 634S×1543E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.9/13, mbtmp3.9/5, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/24, Error ellipse: s-maj=59.5km s-min=25.8km az=121.0*
*ISCJB **26** 07:55:29.3±6.2, 61.5S±02×1532E±005, h111km±42km, mb3.6/5, Error ellipse: s-maj=79.8km s-min=30.2km az=6.6*
*NEIC **26** 07:55:32.6±4.4, 6.18S×1530E, h124km±27km, mb4.0/1, Error ellipse: s-maj=58.2km s-min=19.3km az=93.0*

ISC 26 07:55:32.5±5.8, 62S±02×1531E±05, h121km±36km, n9, σ0°14/9, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.71**	**241**	Pn	**Pn**	**07 57 08.4**	**0.0**
	4.0nm,0.3s,baz=46,slow=9.4,SNR=10						
PMG				Sn	**Sn**	**07 58 38.1**	**+15**
	0.8nm,0.3s,baz=13,slow=18,SNR=2.7						
PMG				LR	LR	08 00 11.5	
	comp=Z,174nm,19.2s,baz=229,slow=38						
CTA	**Charters Tower**	**15.35**	**205**	Pn	**Pn**	**07 59 02.6**	**0.0**
	0.2nm,0.3s,baz=25,slow=16,SNR=4.6						
CTA				LR	LR	08 04 06.4	
	comp=Z,148nm,19.0s,baz=54,slow=34						
CTA	**Charters Tower**	**15.35**	**205**	Pn	**Pn**	**07 59 02.6**	**0.0**
CTA				LR	LR	08 04 06.4	
WRAB	**Tennant Creek**	**22.78**	**231**	*e*P	**P**	**08 00 24.8**	**0.0**
	5.5nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**22.80**	**231**	P	**P**	**08 00 25.1**	**+0.2**
	2.1nm,0.6s,mb3.6,baz=54,slow=9.7,SNR=32						
ASAR	**Alice Springs**	**25.37**	**225**	P	**P**	**08 00 48.1**	**-0.2**
	1.7nm,0.7s,mb3.6,baz=61,slow=8.6,SNR=30						
ASAR				PcP	PcP	08 04 14.4	-3.2
	0.3nm,0.7s,baz=64,slow=2.1,SNR=4.7						
SONM	**Songino Array**	**67.64**	**328**	P	**P**	**08 06 16.6**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=135,slow=5.2,SNR=5.9						
MKAR	**Makanchi Array**	**81.55**	**319**	P	**P**	**08 07 36.5**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=97,slow=7.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.00**	**286**	PKPbc	PKPbc	08 15 12.3	+1.2
	0.2nm,0.4s,baz=90,slow=2.0,SNR=2.2						

IDC 26 08:18:48.4±37.0, 005N×6797E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/20, mbtmp3.7/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=1110.0km s-min=42.7km az=75.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.73**	**268**	LR	LR	08 34 44.1	
	comp=Z,92nm,20.3s,baz=94,slow=31						
PSI	**Prapat**	**31.07**	**85**	LR	LR	08 36 06.3	
	comp=Z,151nm,18.4s,baz=210,slow=33						
SONM	**Songino Array**	**58.10**	**30**	P	P	08 28 43.8	+0.2
	2.0nm,1.1s,baz=226,slow=6.4,SNR=8.5						
SONM				LR	LR	08 54 12.6	
	comp=Z,95nm,18.7s,baz=338,slow=37						
WRA	**Warramunga Arr**	**67.87**	**111**	P	P	08 29 49.5	+1.0
	0.6nm,0.7s,baz=290,slow=5.7,SNR=6.7						
ASAR	**Alice Springs**	**68.07**	**116**	P	P	08 29 50.2	+0.4
	0.4nm,0.8s,baz=283,slow=6.1,SNR=4.6						

*NEIC **26** 08:35:24.6, 3722N×13.14W, h0km, MG3.3(MDD), After MDD.*

MDD 26 08:35:23.7±3.1, 3710N×1319W, h0km, mb3.6/4, Error ellipse: s-maj=29.0km s-min=21.3km az=20.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.58**	**81**	*e*Sn	Sn	08 36 59.4	-4.1
PLOU	**Loures**	**3.65**	**60**	*e*Sn	Sn	08 37 02.8	-2.4
MOE	**Montemor**	**4.08**	**68**	*e*Sn	Sn	08 37 11.6	-4.2
PBEJ	**Beja**	**4.33**	**76**	*e*Sn	Sn	08 37 18.2	-3.6
PTOM	**Tomar**	**4.52**	**55**	*e*Pn	Pn	08 36 33.3	0.0
PTOM				*e*Sn	Sn	08 37 24.1	-2.4
PTOM							
	4.0nm,0.1s						
EGRO	**El Granado**	**4.57**	**83**	P	Pn	08 36 32.9	-1.1
	1.7nm,0.5s,SNR=4.0						
EGRO				S	Sn	08 37 22.5	-5.2
	1.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.57**	**83**	P	Pn	08 36 32.8	-1.2
	1.6nm,0.3s,SNR=4.0						
EGRO				S	Sn	08 37 22.5	-5.2
	1.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.15**	**69**	P	Pn	08 36 39.8	-2.2
	0.8nm,0.4s,SNR=7.9						
EBAD				S	Sn	08 37 36.0	-6.1
	2.0nm,0.1s,SNR=11						
EBAD	**Badajoz**	**5.15**	**69**	P	Pn	08 36 39.8	-2.2
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	08 37 36.0	-6.2
	2.0nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**5.23**	**81**	P	Pn	08 36 42.3	-0.8
	1.1nm,0.4s,SNR=7.9						
EMIN				S	Sn	08 37 38.3	-5.7
	1.0nm,0.2s,SNR=6.2						
EMIN	**Mina Concepcio**	**5.23**	**81**	P	Pn	08 36 42.3	-0.7
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	08 37 38.3	-5.7
	1.0nm,0.2s,SNR=6.2						
PCBR	**Castelo Branco**	**5.25**	**57**	*e*Sn	Sn	08 37 41.6	-3.0
ESPR	**Espera**	**5.87**	**90**	S	Sn	08 37 55.6	-4.3
	3.6nm,0.2s,SNR=4.0						
ESPR	**Espera**	**5.87**	**90**	S	Sn	08 37 55.8	-4.1
	3.6nm,0.2s,SNR=4.0						
ELOB	**Lobios**	**6.20**	**38**	P	Pn	08 36 55.0	-1.4
	0.4nm,0.3s,SNR=4.0						
ELOB				S	Sn	08 38 00.8	-7.1
	1.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.20**	**38**	P	Pn	08 36 55.0	-1.4
	0.1nm,0.1s,SNR=4.0						
ELOB				S	Sn	08 38 00.8	-7.1
	1.0nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.24**	**79**	P	Pn	08 36 56.4	-0.6
	0.3nm,0.2s,SNR=4.0						
ECAB				S	Sn	08 38 03.6	-5.5
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.24**	**79**	P	Pn	08 36 56.4	-0.6
	0.3nm,0.2s,SNR=4.0						
ECAB				S	Sn	08 38 03.6	-5.5
	0.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.68**	**28**	P	Pn	08 37 00.8	-2.2
	1.6nm,0.3s,SNR=4.0						
EMAZ				S	Sn	08 38 07.7	-12
	0.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.68**	**28**	P	Pn	08 37 00.8	-2.2
	1.0nm,0.2s,SNR=4.0						
EMAZ				S	Sn	08 38 07.7	-12
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.91**	**79**	S	Sn	08 38 20.1	-5.5
	1.2nm,0.1s,SNR=4.0						

IDC 26 08:39:54.2±3.4, 1935S×17738W, h577km±155km, mb3.2/4, mb1 3.4/5, mb1mx3.2/15, mbtmp4.3/5, Error ellipse: s-maj=137.2km s-min=84.3km az=102.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**46**	P	P	08 41 50.0	+0.9
	5.2nm,0.3s,baz=249,slow=5.5,SNR=8.0						
AFI				S	S	08 43 23.3	0.0
	1.9nm,0.3s,baz=105,slow=20,SNR=2.6						
CTA	**Charters Tower**	**34.20**	**263**	P	P	08 45 53.0	+0.3
	3.2nm,0

MRMT	**Marmara Adasi**	**2.39**	**26**	*e*PN	**Pn**	**08 47 22.8**	**-1.4**
MFT	**Murefte**	**2.46**	**19**	*e*PN	**Pn**	**08 47 24.7**	**-0.5**
GDZ	**Gediz**	**2.63**	**75**	*i* P	**Pb**	**08 47 32.6**	**+0.5**
GDZ				*i* S	**Sb**	**08 48 04.6**	**+0.1**
RDO	**Rodhopi**	**2.73**	**349**	*e*PN	**Pn**	**08 47 29.6**	**+0.7**
ULDT	**Uludag**	**2.82**	**53**	*i* P	**Pb**	**08 47 35.0**	**-0.3**
ULDT				*i* S	**Sb**	**08 48 11.3**	**+1.3**
IZI	**Iznik**	**3.14**	**52**	*e*PN	**Pn**	**08 47 34.0**	**-0.5**
YLV	**Yalova**	**3.22**	**48**	*e*PN	**Pn**	**08 47 35.3**	**-0.3**

NEIC 26 08:47:31.2,5951N×15305W,h10km,ML3.4(AEIC),
ML3.5(PMR),**After AEIC.,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.74**	**54**	*e*Pn	Pn	08 47 59.4	-2.0
SLKM				*e*Sn	Sn	08 48 21.7	-1.9
KDAK	**Kodiak Island**	**1.75**	**172**	P	Pn	08 47 60.0	-1.6
SVW2	**Sparrevohn**	**2.03**	**323**	P	Pn	08 48 04.7	-0.8
FIB	**Fire Island**	**2.19**	**39**	*e*Pn	Pn	08 48 08.4	+0.8
FIB				*e*Sn	Sn	08 48 37.0	+2.3
RC01	**Rabbit Creek A**	**2.29**	**45**	P	Pn	08 48 08.4	-0.5
PMR	**Palmer**	**2.84**	**41**	*e*P	Pn	08 48 17.6	+1.0
PMR				*e*Sn	Sn	08 48 52.5	+1.5
SML	**Sawmill**	**3.27**	**43**	*e*Pn	Pn	08 48 23.4	+0.9
DIV	**Divide**	**3.96**	**63**	*e*Pn	Pn	08 48 30.5	-1.6
DIV				*e*Sn	Sn	08 49 15.9	-2.7
MCK	**McKinley**	**4.67**	**23**	*e*Pn	Pn	08 48 45.0	+3.3

IDC 26 08:51:46.7±6.7,330N×12761E,h0km,mb3.8/3,mb1 3.9/3,
mb1mx3.5/18,mbtmp3.8/3,Error ellipse:
s-maj=145.6km s-min=106.2km az=78.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.02**	**164**	P	P	08 57 03.9	+0.7
	1.5nm,0.5s,baz=344,slow=11,SNR=24						
ASAR	**Alice Springs**	**27.49**	**167**	P	P	08 57 36.0	+1.3
	0.3nm,0.5s,baz=350,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**37.42**	**160**	P	P	08 59 00.2	-1.2
	0.6nm,0.3s,baz=350,slow=7.9,SNR=5.8						

*NEIC **26** 09:00:46.1±3.5,683S×13050E,h49km±40km,mb4.4/1,*
Error ellipse: s-maj=29.2km s-min=24.2km az=194.0
*ISCJB **26** 09:00:48.7±0.8,707S±006×1305E±0.1,h100km,mb3.8/3,*
Error ellipse: s-maj=16.4km s-min=8.0km az=159.4
*IDC **26** 09:00:51.7±14.0,697S×13080E,h117km±150km,mb3.6/3,*
mb1 4.0/5,mb1mx3.8/13,mbtmp4.1/5,ML4.5/2,Error
ellipse: s-maj=95.7km s-min=53.6km az=36.0
ISC 26 09:00:52.0±3.2,72S±01×1306E±01,h118km±34km,n11,
σ1§42/16,mb3.8/3,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.89**	**203**	*e*P	**Pn**	**09 03 38.3**	**+0.7**
	8.2nm,0.3s						
FITZ				*e*S	**Sn**	**09 05 47.6**	**-0.8**
WRAB	**Tennant Creek**	**13.21**	**164**	*e*Pn	**Pn**	**09 03 55.3**	**+0.4**
	15nm,0.5s						
WRAB				*e*Sn	**Sn**	**09 06 17.7**	**-2.7**
WRA	**Warramunga Arr**	**13.21**	**164**	P	**Pn**	**09 03 55.7**	**+0.7**
	2.3nm,0.3s,baz=346,slow=13,SNR=48						
WRA				S	**Sn**	**09 06 19.4**	**-1.2**
	1.6nm,0.3s,baz=342,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	**13.22**	**164**	*e*P	**Pn**	**09 03 55.4**	**+0.3**
WB2				*e*S	**Sn**	**09 06 19.3**	**-1.3**
AS31	**Alice Springs**	**16.71**	**169**	*e*P	**Pn**	**09 04 42.0**	**+3.0**
ASAR	**Alice Springs**	**16.71**	**169**	P	**Pn**	**09 04 42.0**	**+3.0**
	2.4nm,0.3s,baz=347,slow=8.8,SNR=200						
ASAR				S	**S**	**09 07 46.5**	**+1.1**
	0.6nm,0.3s,baz=333,slow=19,SNR=8.5						
ASPA	**Alice Springs**	**16.71**	**169**	*e*P	**Pn**	**09 04 42.0**	**+3.0**
MBWA	**Marble Bar**	**17.42**	**216**	P	**Pn**	**09 04 47.2**	**-0.4**
	61nm,1.7s						
SONM	**Songino Array**	**58.78**	**341**	P	**P**	**09 10 37.1**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=149,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**68.68**	**327**	P	**P**	**09 11 42.6**	**-0.1**
	1.5nm,0.6s,mb4.0,baz=128,slow=7.4,SNR=13						
MKAR				pP	pP	09 12 09.2	-2.7
	0.7nm,0.6s,baz=120,slow=8.2,SNR=5.1						
ILAR	**Eielson Array**	**93.25**	**25**	P	**P**	**09 13 50.5**	**-2.6**
	0.3nm,0.7s,mb3.7,baz=290,slow=3.7,SNR=6.7						

*SZGRF **26** 09:08:22.2,4838N×2937W,h33km,mb4.9,Northern*
Mid-Atlantic Ridge
*IDC **26** 09:08:23.5±0.6,5001N×2901W,h0km,mb4.2/22,*
mb1 4.3/23,mb1mx4.2/30,mbtmp4.2/23,ML3.8/1,MS3.7/13,
Ms1 3.7/13,ms1mx3.6/27,Error ellipse: s-maj=15.8km
s-min=12.7km az=5.0
*BJI **26** 09:08:23.3,5000N×2900W,h10km,mB5.1,mb4.8,Ms4.7,*
Msz4.4
*CSEM **26** 09:08:23.3±0.1,4994N×2891W,h10km,mb4.5/52,Ms3.4,*
Error ellipse: s-maj=3.1km s-min=1.6km az=7.0
*MOS **26** 09:08:23.6±0.8,4994N×2895W,h10km,mb4.6/47,Error*
ellipse: s-maj=10.5km s-min=5.7km az=157.2
*ISCJB **26** 09:08:23.6±0.3,4990N±005×2896W±005,h10km,*
mb4.4/63,MS3.8/17,Error ellipse: s-maj=7.7km
s-min=4.4km az=26.1
*NEIC **26** 09:08:25.3±0.3,4995N×2895W,h10km,mb4.5/43,Error*
ellipse: s-maj=7.5km s-min=3.9km az=187.0
*NAO **26** 09:08:42.0,5102N×2756W,h33km,mb4.5*
ISC 26 09:08:25.3±0.3,4994N±005×2893W±005,h10km,n235,
σ1§03/231,mb4.4/63,MS3.8/17,5C-6D,Northern
Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAL	**Valentia**	**11.96**	**73**	⇓*i*S	**Sn**	**09 13 16.2**	**-13**
VAL	**Valentia**	**11.96**	**73**	*e*P	**Pn**	**09 11 12.2**	**-3.6**
VAL				*i* S	**Sn**	**09 13 16.2**	**-13**
EMAZ	**Mazaricos**	**15.40**	**109**	P	**Pn**	**09 12 00.5**	**-2.2**
	35nm,0.7s,SNR=7.0						
STS	**Santiago**	**15.70**	**109**	P	**Pn**	**09 12 05.0**	**-1.5**
	18nm,0.7s,SNR=7.9						
EZAM	**Zamans**	**16.03**	**111**	P	**Pn**	**09 12 06.8**	**-4.0**
	16nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**16.33**	**106**	P	**Pn**	**09 12 12.1**	**-2.5**
	22nm,0.8s,SNR=6.3						
ESK	**Eskdalemuir**	**16.47**	**61**	*e*P	**Pn**	**09 12 16.1**	**-0.3**
	37nm,1.3s						
ESK	**Eskdalemuir**	**16.47**	**61**	*e*P	**Pn**	**09 12 16.1**	**-0.3**
ESK				pmax	pmax		
	comp=Z,37nm,1.3s						
ESK	**Eskdalemuir**	**16.47**	**61**	*e*P	**Pn**	**09 12 16.1**	**-0.3**
	comp=Z,37nm,1.3s						
EKA	**Eskdalemuir Ar**	**16.50**	**61**	Pn	**Pn**	**09 12 17.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=259,slow=13,SNR=8.1						
ELOB	**Lobios**	**16.58**	**111**	P	**Pn**	**09 12 16.9**	**-0.9**
	comp=Z,6.8nm,0.7s,SNR=4.0						
ROSF	**Rostrenen**	**16.84**	**86**	*e*P	**Pn**	**09 12 20.6**	**-0.6**
	comp=Z,45nm,0.9s						
ROSF	**Rostrenen**	**16.84**	**86**	*e*P	**Pn**	**09 12 20.6**	**-0.6**
	comp=Z,22nm,0.9s						
ROSF	**Rostrenen**	**16.84**	**86**	*e*P	**Pn**	**09 12 20.6**	**-0.6**
ROSF				pmax	pmax		
	comp=Z,22nm,0.9s						
QUIF	**Quistinic**	**17.03**	**87**	*e*P	**Pn**	**09 12 22.4**	**-1.1**
	comp=Z,40nm,0.9s						
QUIF	**Quistinic**	**17.03**	**87**	*e*P	**Pn**	**09 12 22.4**	**-1.1**
	comp=Z,20nm,0.9s						
QUIF	**Quistinic**	**17.03**	**87**	*e*P	**Pn**	**09 12 22.4**	**-1.1**
QUIF				pmax	pmax		
	comp=Z,20nm,0.9s						
SGMF	**Saint Gilles**	**17.33**	**85**	*e*P	**Pn**	**09 12 26.5**	**-0.7**
	comp=Z,58nm,1.2s						
SGMF	**Saint Gilles**	**17.33**	**85**	*e*P	**Pn**	**09 12 26.5**	**-0.7**
	comp=Z,29nm,1.2s						
SGMF	**Saint Gilles**	**17.33**	**85**	*e*P	**Pn**	**09 12 26.5**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,29nm,1.2s						
EARI	**Arriondas**	**17.55**	**103**	P	**Pn**	**09 12 28.3**	**-1.8**
	comp=Z,12nm,0.8s,SNR=5.1						
GRR	**Gorron**	**18.38**	**84**	*e*P	**Pn**	**09 12 40.1**	**-0.2**
FLN	**La Foliniere**	**18.53**	**83**	*e*P	**Pn**	**09 12 41.6**	**-0.5**
FLN				*e*R			
	comp=Z,526nm,21.8s						
LDF	**La Druitiere**	**18.80**	**83**	*e*P	**Pn**	**09 12 45.0**	**-0.4**
	comp=Z,67nm,1.3s						
LDF	**La Druitiere**	**18.80**	**83**	*e*P	**Pn**	**09 12 45.0**	**-0.4**
	comp=Z,34nm,1.3s						
LDF	**La Druitiere**	**18.80**	**83**	*e*P	**Pn**	**09 12 45.0**	**-0.4**
LDF				pmax	pmax		
	comp=Z,34nm,1.3s						
MFF	**Saint Martin d**	**19.39**	**89**	*e*P	**Pn**	**09 12 52.2**	**-0.3**
	comp=Z,63nm,1.0s						
MFF	**Saint Martin d**	**19.39**	**89**	*e*P	**Pn**	**09 12 52.2**	**-0.3**
	comp=Z,32nm,1.0s						
MFF	**Saint Martin d**	**19.39**	**89**	*e*P	**Pn**	**09 12 52.2**	**-0.3**
MFF				pmax	pmax		
	comp=Z,32nm,1.0s						
GUD	**Guadarrama**	**19.68**	**109**	P	**Pn**	**09 12 56.4**	**+0.5**
	comp=Z,8.3nm,0.6s,SNR=4.0						
EALK	**Alkurruntz**	**19.94**	**99**	P	**Pn**	**09 13 01.3**	**+2.3**
	comp=Z,14nm,0.9s,SNR=5.1						
EMIN	**Mina Concepcio**	**20.05**	**119**	P	**P**	**09 13 00.0**	**+1.4**
	comp=Z,12nm,1.1s,SNR=7.9						
SJPF	**Ste Jean**	**20.17**	**99**	*e*P	**P**	**09 13 01.1**	**+1.2**
	comp=Z,48nm,1.4s						
SJPF	**Ste Jean**	**20.17**	**99**	*e*P	**P**	**09 13 01.1**	**+1.2**
	comp=Z,24nm,1.4s						
SJPF	**Ste Jean**	**20.17**	**99**	*e*P	**P**	**09 13 01.1**	**+1.2**
SJPF				pmax	pmax		
	comp=Z,24nm,1.4s						
IUNC	**Unciti**	**20.18**	**100**	P	**P**	**09 13 03.6**	**+3.7**
	comp=Z,16nm,0.7s,SNR=7.9						
SFJD	**Kangerlussuaq**	**20.32**	**335**	LR	LR	09 18 49.0	
	comp=Z,141nm,19.8s,MS3.3,baz=124,slow=31						
ESDC	**Sonseca Array**	**20.38**	**111**	P	**P**	**09 13 02.4**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=305,slow=9.8,SNR=15						
ETSF	**Etsaut**	**20.70**	**99**	*e*P	**P**	**09 13 06.7**	**+1.1**
	comp=Z,59nm,1.3s						
ETSF	**Etsaut**	**20.70**	**99**	*e*P	**P**	**09 13 06.7**	**+1.1**
	comp=Z,30nm,1.3s						
ETSF	**Etsaut**	**20.70**	**99**	*e*P	**P**	**09 13 06.7**	**+1.1**
ETSF				pmax	pmax		
	comp=Z,30nm,1.3s						
SCO	**Scoresbysund**	**20.87**	**7**	*i* P	**P**	**09 13 08.3**	**+0.8**
	comp=Z,7.7nm,0.8s						
SCO	**Scoresbysund**	**20.87**	**7**	*i* P	**P**	**09 13 08.3**	**+0.8**
SCO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RJF	**Les Rejaudoux**	**20.96**	**91**	*e*P	**P**	**09 13 08.7**	**+0.3**
	comp=Z,24nm,0.8s						
RJF				*e*R			
	comp=Z,154nm,18.8s						
RJF	**Les Rejaudoux**	**20.96**	**91**	*e*P	**P**	**09 13 08.7**	**+0.3**
RJF				pmax	pmax		
	comp=Z,12nm,0.8s						
RJF				MLR	MLR		
	comp=Z,150nm,18.8s,MS3.4						
RJF	**Les Rejaudoux**	**20.96**	**91**	*e*P	**P**	**09 13 08.7**	**+0.3**
	comp=Z,12nm,0.8s						
RJF				LR	LR		
	comp=Z,150nm,18.8s,MS3.4						
HYF	**Humbligny**	**20.97**	**85**	*e*P	**P**	**09 13 09.0**	**+0.5**
EADA	**Adamuz**	**20.99**	**115**	P	**P**	**09 13 17.0**	**+8.3**
	comp=Z,0.9nm,0.5s,SNR=7.9						
TCF	**Toulx Ste Croi**	**21.03**	**88**	*e*P	**P**	**09 13 09.6**	**+0.4**
	comp=Z,71nm,0.9s,mb4.7						
TCF	**Toulx Ste Croi**	**21.03**	**88**	*e*P	**P**	**09 13 09.6**	**+0.4**
	comp=Z,36nm,0.9s,mb4.7						
TCF	**Toulx Ste Croi**	**21.03**	**88**	*e*P	**P**	**09 13 09.6**	**+0.4**
TCF				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.7						
UCC	**Uccle**	**21.16**	**75**	P	**P**	**09 13 11.1**	**+0.6**
SNF	**Seneffe**	**21.16**	**76**	P	**P**	**09 13 11.2**	**+0.6**
	comp=Z,10.0nm,0.9s,mb4.2						
SNF				AP		09 13 14.4	
EPF	**Esparros**	**21.21**	**98**	*e*P	**P**	**09 13 11.7**	**+0.6**
BGF	**Bois d'Agland**	**21.34**	**87**	*e*P	**P**	**09 13 12.6**	**+0.1**
	comp=Z,50nm,0.7s,mb4.7						
BGF	**Bois d'Agland**	**21.34**	**87**	*e*P	**P**	**09 13 12.6**	**+0.1**
	comp=Z,25nm,0.7s,mb4.7						
BGF	**Bois d'Agland**	**21.34**	**87**	*e*P	**P**	**09 13 12.6**	**+0.1**
BGF				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.7						
DOU	**Dourbes**	**21.45**	**77**	⇑P	**P**	**09 13 13.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.4						
DOU				AP		09 13 17.3	
CAF	**Calviac**	**21.47**	**92**	*e*P	**P**	**09 13 14.1**	**+0.2**
	comp=Z,38nm,1.1s,mb4.3						
CAF	**Calviac**	**21.47**	**92**	*e*P	**P**	**09 13 14.1**	**+0.2**
	comp=Z,19nm,1.1s,mb4.3						
CAF	**Calviac**	**21.47**	**92**	*e*P	**P**	**09 13 14.1**	**+0.2**
CAF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**21.59**	**86**	*e*P	**P**	**09 13 15.1**	**-0.1**
	comp=Z,47nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**21.59**	**86**	*e*P	**P**	**09 13 15.1**	**-0.1**
	comp=Z,24nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**21.59**	**86**	*e*P	**P**	**09 13 15.1**	**-0.1**
AVF				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
GIVF	**Givet**	**21.59**	**77**	*e*P	**P**	**09 13 14.4**	**-0.8**
	comp=Z,60nm,0.9s,mb4.7						
GIVF	**Givet**	**21.59**	**77**	*e*P	**P**	**09 13 14.4**	**-0.8**
	comp=Z,30nm,0.9s,mb4.7						
GIVF	**Givet**	**21.59**	**77**	*e*P	**P**	**09 13 14.4**	**-0.8**
GIVF				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
SSF	**Saint Saulge**	**21.59**	**85**	*e*P	**P**	**09 13 15.4**	**+0.2**
	comp=Z,41nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**21.59**	**85**	*e*P	**P**	**09 13 15.4**	**+0.2**
	comp=Z,20nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**21.59**	**85**	*e*P	**P**	**09 13 15.4**	**+0.2**
SSF				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
LOR	**Lormes**	**21.75**	**84**	*e*P	**P**	**09 13 16.9**	**0.0**
LOR				*e*R			
	comp=Z,555nm,20.0s						
LOR	**Lormes**	**21.75**	**84**	*e*P	**P**	**09 13 16.9**	**0.0**
LOR				LR	LR		
	comp=Z,560nm,20.0s,MS4.0						
SMF	**Signal de Mont**	**21.95**	**86**	*e*P	**P**	**09 13 17.9**	**-1.2**
	comp=Z,42nm,1.2s,mb4.4						
SMF	**Signal de Mont**	**21.95**	**86**	*e*P	**P**	**09 13 17.9**	**-1.2**
	comp=Z,21nm,1.2s,mb4.4						
SMF	**Signal de Mont**	**21.95**	**86**	*e*P	**P**	**09 13 17.9**	**-1.2**
SMF				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.4						
MEZF	**Maizieres J'vi**	**22.14**	**81**	*e*P	**P**	**09 13 22.4**	**+1.3**
	comp=Z,107nm,1.0s,mb4.9						
MEZF	**Maizieres J'vi**	**22.14**	**81**	*e*P	**P**	**09 13 22.4**	**+1.3**
	comp=Z,53nm,1.0s,mb4.9						
MEM	**Membach**	**22.22**	**75**	P	**P**	**09 13 22.4**	**+0.5**
MEM				AP		09 13 25.1	
	comp=Z,12nm,0.9s						
MEM				XP	sP	09 13 27.7	+1.6
MTLF	**Montolieu**	**22.27**	**95**	*e*P	**P**	**09 13 22.2**	**-0.3**
	comp=Z,30nm,1.0s,mb4.4						
MTLF	**Montolieu**	**22.27**	**95**	*e*P	**P**	**09 13 22.2**	**-0.3**
	comp=Z,15nm,1.0s,mb4.4						
MTLF	**Montolieu**	**22.27**	**95**	*e*P	**P**	**09 13 22.2**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
WLF	**Walferdange**	**22.52**	**77**	P	**P**	**09 13 25.2**	**0.0**
WLF				AP		09 13 28.1	
	comp=Z,6.4nm,1.0s						
LASF	**Ste Croix**	**22.99**	**92**	*e*P	**P**	**09 13 29.3**	**-0.8**
SUMG	**Summit**	**23.11**	**353**	*e*P	**P**	**09 13 32.1**	**+0.7**
	comp=Z,10nm,1.1s,mb4.2						
SUMG	**Summit**	**23.11**	**353**	*e*P	**P**	**09 13 32.1**	**+0.7**
	comp=Z,10nm,1.1s,mb4.2						
HAU	**Haudompre**	**23.11**	**81**	*e*P	**P**	**09 13 30.1**	**-1.3**
HAU				*e*R			
	comp=Z,325nm,18.2s						
HAU	**Haudompre**	**23.11**	**81**	*e*P	**P**	**09 13 30.1**	**-1.3**
HAU				LR	LR		
	comp=Z,320nm,18.3s,MS3.8						
VIVF	**Saint-Julien-l**	**23.18**	**90**	*e*P	**P**	**09 13 31.1**	**-1.0**
CABF	**La Chapelle**	**23.41**	**85**	*e*P	**P**	**09 13 33.4**	**-1.2**
	comp=Z,23nm,1.1s,mb4.2						
CABF	**La Chapelle**	**23.41**	**85**	*e*P	**P**	**09 13 33.4**	**-1.2**
	comp=Z,11nm,1.1s,mb4.2						
CABF	**La Chapelle**	**23.41**	**85**	*e*P	**P**	**09 13 33.4**	**-1.2**
CABF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
HINF	**Hinterlafeld**	**23.49**	**81**	*e*P	**P**	**09 13 34.2**	**-1.2**
	comp=Z,26nm,0.9s,mb4.4						
HINF	**Hinterlafeld**	**23.49**	**81**	*e*P	**P**	**09 13 34.2**	**-1.2**
	comp=Z,13nm,0.9s,mb4.4						
HINF	**Hinterlafeld**	**23.49**	**81**	*e*P	**P**	**09 13 34.2**	**-1.2**
HINF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
CDF	**Champ du Feu**	**23.58**	**80**	*e*P	**P**	**09 13 34.9**	**-1.4**
	comp=Z,15nm,0.9s,mb4.1						
CDF	**Champ du Feu**	**23.58**	**80**	*e*P	**P**	**09 13 34.9**	**-1.4**
	comp=Z,7.6nm,0.9s,mb4.1						
CDF	**Champ du Feu**	**23.58**	**80**	*e*P	**P**	**09 13 34.9**	**-1.4**
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
ORIF	**Oris-en-Rattie**	**23.93**	**89**	*e*P	**P**	**09 13 38.5**	**-1.0**
	comp=Z,37nm,1.1s,mb4.4						
ORIF				*e*R			
	comp=Z,119nm,18.0s						
ORIF	**Oris-en-Rattie**	**23.93**	**89**	*e*P	**P**	**09 13 38.5**	**-1.0**
	comp=Z,19nm,1.1s,mb4.4						
ORIF	**Oris-en-Rattie**	**23.93**	**89**	*e*P	**P**	**09 13 38.5**	**-1.0**
ORIF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
SMRF	**Simiane la Rot**	**24.14**	**91**	*e*P	**P**	**09 13 40.6**	**-0.8**
BFO	**Black Forest**	**24.27**	**79**	*e*P	**P**	**09 13 43.5**	**+0.9**
BFO	**Black Forest**	**24.27**	**79**	*e*P	**P**	**09 13 43.5**	**+0.9**
MBDF	**Montbardon**	**24.59**	**88**	*e*P	**P**	**09 13 44.9**	**-0.6**
NAO01	**NORSAR Array S**	**24.70**	**49**	*e*P	**P**	**09 13 46.2**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.0						
NAO01	**NORSAR Array S**	**24.70**	**49**	*e*P	**P**	**09 13 46.1**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.0						
MDT	**Midelt**	**24.84**	**124**	P	**P**	**09 13 48.4**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.0,baz=331,slow=11,SNR=3.8						
NB2	**NORSAR Subarra**	**24.89**	**48**	P	**P**	**09 13 47.9**	**-0.3**
	comp=Z,18nm,1.0s,mb4.6,baz=262,slow=10						
NOA	**NORSAR Array B**	**24.89**	**48**	P	**P**	**09 13 48.6**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.3,baz=262,slow=9.5,SNR=9.4						
NOA				LR	LR	09 22 16.1	
	comp=Z,161nm,18.3s,MS3.6,baz=275,slow=34						
NOA	**NORSAR Array B**	**24.89**	**48**	P	**P**	**09 13 48.6**	**+0.4**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,161nm,18.3s						
FRF	**La Foret Royal**	**25.02**	**91**	*e*P	**P**	**09 13 48.8**	**-0.7**
LMR	**La Mourre**	**25.04**	**92**	*e*P	**P**	**09 13 48.7**	**-0.9**
SBF	**Sospel**	**25.40**	**90**	*e*P	**P**	**09 13 51.8**	**-1.0**
MOX	**Moxa**	**25.69**	**73**	*e*P	**P**	**09 13 58.0**	**+2.5**
	comp=Z,16nm,1.1s,mb4.5						
MOX	**Moxa**	**25.69**	**73**	*e*P	**P**	**09 13 58.0**	**+2.5**
MOX				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.5						
GRA1	**Grafenberg Arr**	**25.70**	**75**	*e*P	**P**	**09 13 55.3**	**-0.3**
	comp=Z,28nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**25.70**	**75**	*e*P	**P**	**09 13 55.3**	**-0.3**
	comp=Z,28nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**25.70**	**75**	*e*P	**P**	**09 13 55.3**	**-0.3**
GRF				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**25.70**	**75**	*e*P	**P**	**09 13 55.3**	**-0.3**
GRF				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
DAVOX	**Davos**	**25.78**	**82**	P	**P**	**09 13 58.0**	**+1.6**
	comp=Z,6.0nm,0.8s,mb4.2,baz=305,slow=16,SNR=9.7						
DAVOX				LR	LR	09 23 42.4	
	comp=Z,347nm,18.4s,MS3.9,baz=268,slow=36						
HFS	**Hagfors**	**26.01**	**51**	P	**P**	**09 13 59.3**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.0,baz=287,slow=5.7,SNR=3.7						
HFS				LR	LR	09 22 36.8	
	comp=Z,200nm,18.7s,MS3.7,baz=253,slow=33						
HFS	**Hagfors**	**26.01**	**51**	P	**P**	**09 13 59.3**	**+0.9**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS				MLR	MLR		
	comp=Z,200nm,18.7s						
NKC	**Novy Kostel**	**26.31**	**73**	*e*P	**P**	**09 14 04.3**	**+3.2**
CLL	**Collm**	**26.38**	**71**	*i* P	**P**	**09 14 02.8**	**+1.0**
	comp=Z,10.0nm,1.0s,mb4.3						
CLL				*i* x	x	09 14 14.9	
CLL				*e*PPP		09 14 54.0	
CLL	**Collm**	**26.38**	**71**	*i* P	**P**	**09 14 02.8**	**+1.0**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
CLL	**Collm**	**26.38**	**71**	*i* P	**P**	**09 14 02.8**	**+1.0**
	comp=Z,10.0nm,1.0s,mb4.3						
CLL				*i*		09 14 14.9	
BRG	**Berggiesshubel**	**27.06**	**71**	*e*P	**P**	**09 14 08.7**	**+0.8**
	comp=Z,3.1nm,1.1s,mb3.8						
BRG				*e*	pP	09 14 12.1	+1.2
	comp=Z,6.6nm,1.3s						
KHC	**Kasperske Hory**	**27.33**	**75**	*e*P	**P**	**09 14 10.1**	**-0.2**
KHC				AMS	AMS	09 25 10.0	
	comp=Z,400nm,17.0s						
KHC	**Kasperske Hory**	**27.33**	**75**	*e*P	**P**	**09 14 10.1**	**-0.2**
	comp=Z,400nm,17.0s						
GERES	**GERESS Array B**	**27.50**	**76**	P	**P**	**09 14 11.5**	**-0.4**
	comp=Z,3.1nm,0.9s,mb3.8,baz=297,slow=6.7,SNR=14						
GERES				LR	LR	09 24 36.6	
	comp=Z,206nm,18.3s,MS3.7

comp=Z,1.8nm,0.6s,mb4.0
BR131 Keskin Array S 44.32 78 P **P 09 16 36.4 +0.9**
comp=Z,1.8nm,0.6s,mb4.0
BRTR Keskin Array B 44.32 78 P **P 09 16 36.1 +0.7**
comp=Z,2.3nm,0.7s,mb4.0,baz=306,slow=5.4,SNR=13
BRTR Keskin Array B 44.32 78 P **P 09 16 36.2 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 44.43 135 P **P 09 16 35.3 -1.0**
comp=Z,6.4nm,1.0s,mb4.3,baz=335,slow=7.3,SNR=19
FVM French Village 44.65 279 *e*P **P 09 16 38.1 0.0**
comp=Z,9.0nm,0.9s,mb4.6
FVM French Village 44.65 279 *e*P **P 09 16 38.1 0.0**
FVM pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
CCM Cathedral Cave 45.13 279 *e*P **P 09 16 41.0 -0.9**
comp=Z,55nm,1.6s,mb5.1
CCM Cathedral Cave 45.13 279 *e*P **P 09 16 41.0 -0.9**
CCM pmax pmax
comp=Z,55nm,1.6s,mb5.1
CCM Cathedral Cave 45.13 279 *e*P **P 09 16 41.0 -0.9**
comp=Z,55nm,1.6s,mb5.1
YKA Yellowknife Ar 45.69 320 P **P 09 16 45.6 -0.7**
comp=Z,0.9nm,0.8s,mb3.8,baz=63,slow=8.1,SNR=8.7
YKA PcP PcP 09 18 22.4 -1.8
comp=Z,0.8nm,0.9s,baz=57,slow=3.6,SNR=6.3
YKA LR LR 09 35 34.5
comp=Z,78nm,19.2s,MS3.7,baz=90,slow=36
YKA Yellowknife Ar 45.69 320 PcP PcP 09 18 22.4 -1.8
comp=Z,79nm,19.2s
YKA Yellowknife Ar 45.69 320 P **P 09 16 45.6 -0.7**
YKA 09 18 22.4
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA MLR MLR
comp=Z,79nm,19.2s
SOC Sochi 45.95 70 *e*P **P 09 16 49.5 +1.1**
comp=Z,18nm,1.1s,mb4.9
SOC Sochi 45.95 70 *e*P **P 09 16 49.5 +1.1**
SOC *e*S **S 09 23 28.2 -4.9**
SOC pmax pmax
comp=Z,18nm,1.1s,mb4.9
DBIC Dimbokro 47.62 147 P **P 09 17 02.1 +0.6**
comp=Z,2.7nm,0.7s,mb4.4,baz=2.3,slow=6.8,SNR=3.2
DBIC LR LR 09 35 14.8
comp=Z,85nm,19.3s,MS3.7,baz=324,slow=34
ARU Arti 49.43 47 *i*P **P 09 17 16.6 +1.2**
comp=Z,14nm,0.9s,mb5.0
ARU Arti 49.43 47⇑*i*P **P 09 17 16.6 +1.2**
ARU *e* 09 19 08.3
ARU *e*S **S 09 24 21.5 -1.0**
ARU *e*SS SS 09 27 54.0 -0.3
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
INK Inuvik 49.61 332 P **P 09 17 13.7 -3.1**
comp=Z,1.5nm,0.9s,mb4.0,baz=41,slow=7.4,SNR=5.6
INK Inuvik 49.61 332 P **P 09 17 13.7 -3.0**
INK pmax pmax
comp=Z,2.0nm,0.9s
GNI Garni 50.99 71 *e*P **P 09 17 29.2 +1.9**
HRY Holter Researc 52.50 301 *e*P **P 09 17 38.3 -0.2**
HRY Holter Researc 52.50 301 *e*P **P 09 17 38.3 -0.2**
SDV Santo Domingo 53.57 235 P **P 09 17 46.9 +0.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=4.4,slow=15,SNR=3.3
NEW Newport 54.45 305 P **P 09 17 53.0 +0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=48,slow=15,SNR=2.8
NEW Newport 54.45 305 P **P 09 17 53.0 +0.2**
NEW pmax pmax
comp=Z,1.0nm,0.7s
JCT Junction City 55.39 278 P **P 09 17 58.4 -1.2**
comp=Z,5.0nm,1.0s,mb4.5
JCT Junction City 55.39 278 P **P 09 17 58.4 -1.2**
JCT pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ILAR Eielson Array 55.96 333 P **P 09 18 02.6 -1.1**
comp=Z,1.0nm,1.0s,mb3.8,baz=43,slow=6.1,SNR=6.7
ILAR PcP PcP 09 19 00.6 -1.6
comp=Z,0.7nm,1.1s,baz=6.6,slow=2.9,SNR=4.1
ILAR Eielson Array 55.96 333 PcP PcP 09 19 00.6 -1.6
comp=Z,1.0nm,1.1s
ILAR Eielson Array 55.96 333 P **P 09 18 02.7 -1.0**
ILAR 09 19 00.6
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
PV10 Paradox Valley 56.01 291 *e*P **P 09 18 04.8 +0.8**
PV10 Paradox Valley 56.01 291 *e*P **P 09 18 04.8 +0.7**
ZRNK Zerenda 56.38 46 *e*P **P 09 18 06.2 -0.5**
comp=Z,7.0nm,1.1s,mb4.6
ZRNK Zerenda 56.38 46 *e*P **P 09 18 06.2 -0.5**
ZRNK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ZRNK Zerenda 56.38 46 *e*P **P 09 18 06.2 -0.5**
comp=Z,6.9nm,1.1s,mb4.6
BRVK Borovoye 56.90 45 *e*P **P 09 18 10.6 +0.2**
DUG Dugway 57.09 295 *e*P **P 09 18 10.4 -1.3**
comp=Z,5.0nm,0.8s,mb4.6
DUG Dugway 57.09 295 *e*P **P 09 18 10.4 -1.3**
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
DUG Dugway 57.09 295 *e*P **P 09 18 10.4 -1.3**
comp=Z,4.5nm,0.8s,mb4.5
TIXI Tiksi 57.69 8 *e*P **P 09 18 16.7 +0.7**
TNA Tin City 60.58 342 P **P 09 18 36.6 +0.6**
comp=Z,4.5nm,1.1s,mb4.5
TNA Tin City 60.58 342 P **P 09 18 36.6 +0.5**
comp=Z,4.5nm,1.1s,mb4.5
BILL Bilibino 61.79 354 *i*P **P 09 18 44.4 +0.2**
KURK Kurchatov 62.27 43 *e*P **P 09 18 46.9 -0.6**
comp=Z,5.0nm,0.8s,mb4.7
KURK Kurchatov 62.27 43 *e*P **P 09 18 46.9 -0.6**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KURK Kurchatov 62.27 43 *e*P **P 09 18 46.9 -0.6**
comp=Z,4.7nm,0.8s,mb4.7
OTAV Otavalo 65.00 237 *e*P **P 09 19 06.7 +1.2**
comp=Z,6.4nm,1.1s,mb4.6
OTAV Otavalo 65.00 237 *e*P **P 09 19 06.7 +1.2**
comp=Z,6.4nm,1.1s,mb4.6
AAK Ala-Archa 66.15 52 *e*P **P 09 19 13.9 +1.0**
comp=Z,7.0nm,1.2s,mb4.6
AAK Ala-Archa 66.15 52 *e*P **P 09 19 13.9 +1.0**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
AAK Ala-Archa 66.15 52 *e*P **P 09 19 13.9 +1.0**
comp=Z,6.7nm,1.2s,mb4.5
MKAR Makanchi Array 66.81 44 P **P 09 19 15.9 -1.2**
comp=Z,4.5nm,0.8s,mb4.5,baz=299,slow=5.4,SNR=18
MKAR Makanchi Array 66.81 44 P **P 09 19 15.9 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
BDFB Brasilia 67.43 200 P **P 09 19 22.8 +1.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=8.2,slow=12,SNR=2.0
BDFB LR LR 09 43 51.3
comp=Z,75nm,18.5s,MS3.9,baz=126,slow=32
WMQ Urumqi 71.52 43 *e*P **P 09 19 47.0 +0.7**
WMQ XP sP 09 19 54.0 +3.2
WMQ PP PP 09 22 28.0 +3.1
WMQ S S 09 29 04.0 -1.2
WMQ SS SS 09 33 40.0 0.0
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.7
WMQ LR LR
comp=N,85nm,10.0s,MS4.4
WMQ LR LR
comp=E,74nm,10.0s,MS4.4
WMQ LR LR
comp=Z,86nm,10.0s,MS4.3
LPAZ La Paz 74.45 219 P **P 09 20 04.5 +0.8**
comp=Z,1.4nm,0.9s,mb3.9,baz=9.4,slow=7.9,SNR=5.3
LPAZ La Paz 74.45 219 P **P 09 20 04.5 +0.8**
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 75.26 29 P **P 09 20 08.1 -0.3**
comp=Z,1.8nm,0.9s,mb4.0,baz=316,slow=5.1,SNR=9.3
SONM Songino Array 75.26 29 P **P 09 20 08.1 -0.3**
SONM pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 75.44 29 *e*P **P 09 20 09.2 -0.2**
comp=Z,2.0nm,0.9s,mb4.0
ULN Ulaanbaatar 75.44 29 *e*P **P 09 20 09.2 -0.2**
ULN pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ULN Ulaanbaatar 75.44 29 *e*P **P 09 20 09.2 -0.2**
comp=Z,2.3nm,0.9s,mb4.1
GTA Gaotai 80.25 38 *e*P **P 09 20 36.5 +0.3**
GTA AP pP 09 20 42.3 +2.8
GTA XP sP 09 20 45.0 +4.3
GTA PP PP 09 23 40.8 +2.1
GTA PPP 09 25 32.0
GTA S S 09 30 39.0 -2.5
GTA SKS 09 30 47.8
GTA XS sS 09 30 51.5 +4.5
GTA PS 09 31 26.5
GTA AMB AMB
comp=Z,3.0nm,1.5s,mb4.0
GTA AMB AMB
comp=Z,120nm,6.1s
GTA LR LR
comp=N,98nm,17.1s,MS4.5
GTA LR LR
comp=E,177nm,20.5s,MS4.5
GTA LR LR
comp=Z,126nm,12.9s
CN2 Changchun 84.00 18 *e*P **P 09 20 55.0 -0.9**
CD2 Chengdu 89.22 39 *e*P **P 09 21 20.0 -1.4**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,90nm,9.2s
NJ2 Nanjing 93.50 27 *e*P **P 09 21 43.0 +1.7**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.5
KMI Kunming 93.85 43 P **P 09 21 47.3 +4.4**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb5.1
SSE Sheshan 95.07 25 *e*P **P 09 21 46.3 -2.2**
WRA Warramunga Arr 147.24 30 PKPbc PKPbc 09 28 07.2 -1.7
comp=Z,0.8nm,0.8s,baz=337,slow=3.7,SNR=4.8
WRA Warramunga Arr 147.24 30 PKP2 PKPab 09 28 07.2 -3.4
WRA pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 150.54 33 PKPbc PKPbc 09 28 14.8 -2.5
comp=Z,1.2nm,0.9s,baz=332,slow=1.9,SNR=10.0
ASAR Alice Springs 150.54 33 PKIKP PKPdf 09 28 14.8 +2.9
ASAR pmax pmax
comp=Z,1.0nm,0.9s

NAO ***26*** *09:10:49.8,3807N×14203E,h33km,mb3.9*
NIED ***26*** *09:11:00,4050N×14240E,h35km,Mw3.9 Best double couple: M0:6.94000×1014 NP1:φ:13.00000°,δ77.00000°, λ135.00000°. NP2:φ:116.00000°,δ46.00000°,λ18.00000°.*
ISCJB ***26*** *09:11:07.2±0.5,4048N±003×14238E±007,h95km±3km, mb4.1/20, Error ellipse: s-maj=8.7km s-min=5.0km az=35.2*
IDC ***26*** *09:11:07.0±3.0,4038N×14223E,h74km±28km,mb3.7/13, mb1 3.9/15,mb1mx3.7/22,mbtmp4.1/15,MS3.4/3, Ms1 3.4/3,ms1mx3.0/33, Error ellipse: s-maj=23.0km s-min=13.7km az=83.0*
MOS ***26*** *09:11:07.6±0.8,4056N×14227E,h91km,mb4.2/8, Error ellipse: s-maj=12.7km s-min=6.8km az=90.7*
BJI ***26*** *09:11:07.3,4021N×14207E,h93km,mB5.0,mb4.6*
JMA ***26*** *09:11:08.8±0.1,4048N×14240E,h80km±1km,M4.0*
JMA Felt II J1.
NEIC ***26*** *09:11:09.6±0.8,4048N×14230E,h99km±7km,mb4.4/7, Error ellipse: s-maj=10.7km s-min=6.6km az=96.0*
NEIC Recorded [2 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures.

ISC 26 09:11:08.3±0.5,4051N±003×14238E±006,h89km±3km, n61,σ0:80/72,mb4.1/20,1C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.67**	**259**	⇓P	**Pn**	**09 11 24.5**	**+0.1**
JANG				S	**Sn**	**09 11 36.1**	**-0.3**
JTH	**Tanohata**	**0.69**	**215**	⇓P	**Pn**	**09 11 24.4**	**-0.1**
JTH				S	**Sn**	**09 11 36.0**	**-0.7**
JTM	**Tenmabayashi**	**1.03**	**286**	⇓P	**Pn**	**09 11 28.3**	**0.0**
JTM				S	**Sn**	**09 11 42.9**	**-0.4**
JOM	**Ohasama**	**1.33**	**219**	⇓P	**Pn**	**09 11 31.8**	**+0.1**
JOM				S	**Sn**	**09 11 49.1**	**-0.4**
JOT	**Ohata**	**1.33**	**311**	⇓P	**Pn**	**09 11 31.9**	**0.0**
JOT				S	**Sn**	**09 11 49.1**	**-0.6**
JAH	**Hinai**	**1.37**	**257**	⇓P	**Pn**	**09 11 32.7**	**+0.4**
JAH				S	**Sn**	**09 11 51.1**	**+0.7**
JEM	**Erimo**	**1.62**	**21**	P	**Pn**	**09 11 36.3**	**+0.8**
JEM				S	**Sn**	**09 11 57.0**	**+0.9**
JKB	**Kayabe**	**1.71**	**324**	⇑P	**Pn**	**09 11 36.9**	**+0.2**
JKB				S	**Sn**	**09 11 57.9**	**-0.3**
ASAJ	**Asahikawa**	**3.61**	**3**	P	**Pn**	**09 12 02.4**	**+0.4**
	13nm,0.3s,baz=216,slow=12,SNR=109						
ASAJ				S	**Sn**	**09 12 43.1**	**-0.4**
	12nm,0.3s,baz=86,slow=33,SNR=8.6						
ASAJ	**Asahikawa**	**3.61**	**3**	P	**Pn**	**09 12 02.4**	**+0.4**
ASAJ				S	**Sn**	**09 12 43.2**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.37**	**35**	*e*P	**Pn**	**09 12 12.0**	**-0.3**
YUK				*i*S	**Sn**	**09 12 59.5**	**-2.5**
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
YUK				smax			
	comp=N,740nm,0.4s						
YUK				smax			
	comp=E,2μm,0.6s						
MAJO	**Matsushiro**	**5.13**	**221**	*e*P	**Pn**	**09 12 23.7**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**5.13**	**221**	*e*P	**Pn**	**09 12 23.7**	**+1.1**
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**5.13**	**221**	P	**Pn**	**09 12 23.6**	**+1.0**
MAT	**Matsushiro**	**5.13**	**221**	*e*P	**Pn**	**09 12 24.0**	**+1.4**
MAT				pmax	pmax		
	comp=Z,13nm,0.6s						
MJAR	**Matsushiro Arr**	**5.13**	**221**	P	**Pn**	**09 12 23.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=30,slow=12,SNR=13						
YSS	**Yuzh-Sakhalins**	**6.45**	**2**	*e*P	**Pn**	**09 12 42.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.45**	**2**	*e*Pn	**Pn**	**09 12 41.5**	**+0.9**
	comp=Z,12nm,0.6s						
JHJ	**Hachijo jima 2**	**7.66**	**197**	S	**Sn**	**09 14 15.8**	**-6.3**
	comp=Z,24nm,0.3s,baz=52,slow=23,SNR=4.9						
MDJ	**Mudanjiang**	**10.29**	**298**	P	**Pn**	**09 13 32.3**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,17nm,0.8s						
MDJ	**Mudanjiang**	**10.29**	**298**	*e*Pn	**Pn**	**09 13 33.9**	**+1.0**
	comp=Z,17nm,0.9s						
CBIJ	**Chichi jima**	**13.38**	**181**	P	**Pn**	**09 14 11.2**	**-3.2**
	comp=Z,5.6nm,0.3s,baz=280,slow=23,SNR=6.4						
CBIJ				S	**Sn**	**09 16 28.9**	**-12**
	comp=Z,4.6nm,0.3s,baz=261,slow=22,SNR=3.0						
HIA	**Hailar**	**18.22**	**306**	*e*P	**Pn**	**09 15 14.0**	**-1.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**18.22**	**306**	*e*P	**Pn**	**09 15 14.0**	**-1.2**
	comp=Z,2.8nm,0.4s						
BJT	**Baijiatuau**	**19.99**	**277**	*e*P	**Pn**	**09 15 33.0**	**-3.0**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BJT	**Baijiatuau**	**19.99**	**277**	*e*P	**Pn**	**09 15 33.0**	**-3.0**
	comp=Z,6.6nm,0.4s						
YAK	**Yakutsk**	**22.89**	**345**	*e*P	**P**	**09 16 02.9**	**-1.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.5s,mb4.7						
YAK	**Yakutsk**	**22.89**	**345**	*e*P	**P**	**09 16 02.9**	**-1.5**
	comp=Z,22nm,0.5s,mb4.7						
BOD	**Bodaibo**	**25.10**	**323**	*e*P	**P**	**09 16 24.1**	**-0.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**26.20**	**298**	*e*P	**P**	**09 16 35.4**	**+0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**26.20**	**298**	*e*P	**P**	**09 16 35.4**	**+0.8**
	comp=Z,2.8nm,0.7s,mb3.8						
SONM	**Songino Array**	**26.64**	**298**	P	**P**	**09 16 38.9**	**+0.4**
	comp=Z,1.6nm,0.5s,mb3.8,baz=88,slow=8.8,SNR=16						
SONM				LR	LR	09 26 30.3	
	comp=Z,36nm,18.6s,baz=140,slow=35						
GTA	**Gaotai**	**32.42**	**282**	*e*P	**P**	**09 17 30.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**40.23**	**309**	P	**P**	**09 18 35.0**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.6,baz=18,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**43.00**	**299**	P	**P**	**09 18 59.0**	**+0.3**
	comp=Z,2.1nm,0.5s,mb4.1,baz=84,slow=9.6,SNR=34						
KURK	**Kurchatov**	**44.46**	**306**	*e*P	**P**	**09 19 10.5**	**+0.1**
ILAR	**Eielson Array**	**46.18**	**34**	P	**P**	**09 19 25.2**	**+1.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=265,slow=6.2,SNR=13						
ILAR				LR	LR	09 38 25.8	
	comp=Z,58nm,21.1s,baz=177,slow=35						
BRVK	**Borovoye**	**48.90**	**310**	*e*P	**P**	**09 19 45.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**48.90**	**310**	*e*P	**P**	**09 19 45.5**	**+0.4**
	comp=Z,1.4nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**49.58**	**296**	*e*P	**P**	**09 19 49.7**	**-0.5**
ZRNK	**Zerenda**	**49.68**	**310**	*e*P	**P**	**09 19 51.4**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**49.68**	**310**	*e*P	**P**	**09 19 51.4**	**+0.4**
	comp=Z,3.0nm,0.5s,mb4.5						
INK	**Inuvik**	**50.97**	**28**	P	**P**	**09 20 01.9**	**+1.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=253,slow=3.5,SNR=5.0						
INK	**Inuvik**	**50.97**	**28**	P	**P**	**09 20 01.9**	**+1.2**
WRAB	**Tennant Creek**	**60.59**	**189**	P	**P**	**09 21 09.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**60.59**	**189**	P	**P**	**09 21 09.2**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**60.60**	**189**	P	**P**	**09 21 08.9**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=6.0,slow=7.1,SNR=16						
ARCES	**ARCESS Array B**	**61.02**	**339**	P	**P**	**09 21 12.5**	**+0.1**
	comp=Z,6.4nm,1.1s,mb4.6,baz=36,slow=6.3,SNR=4.2						
ARCES	**ARCESS Array B**	**61.02**	**339**	P	**P**	**09 21 12.5**	**+0.1**
ASAR	**Alice Springs**	**64.33**	**189**	P	**P**	**09 21 33.8**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=1.8,slow=7.3,SNR=15						
KAF	**Kangasniemi**	**65.58**	**332**	*e*p	**P**	**09 21 42.4**	**-0.1**
	baz=46,slow=6.2						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**09 21 46.0**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.9,baz=23,slow=11,SNR=9.3						
HFS	**Hagfors**	**71.24**	**336**	P	**P**	**09 22 17.9**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.1,baz=54,slow=7.5,SNR=5.6						
HFS	**Hagfors**	**71.24**	**336**	P	**P**	**09 22 17.9**	**+0.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**71.28**	**337**	P	**P**	**09 22 18.3**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**71.28**	**337**	P	**P**	**09 22 17.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=39,slow=5.9,SNR=3.6						
NOA	**NORSAR Array B**	**71.28**	**337**	P	**P**	**09 22 18.0**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**09 22 23.1**	**+0.6**
	comp=Z,0.5nm,0.3s,mb3.8,baz=43,slow=7.1,SNR=5.5						
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**09 22 23.1**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**72.02**	**181**	P	**P**	**09 22 22.1**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.0,baz=304,slow=7.3,SNR=2.8						
GERES	**GERESS Array B**	**80.16**	**328**	LR	LR	10 05 06.8	
	comp=Z,31nm,19.7s,baz=292,slow=40						

CSEM ***26*** *09:15:21.2±1.4,3847N×3029W,h5km,ML2.7, Error ellipse: s-maj=21.3km s-min=11.0km az=175.0, After PDA*
PDA ***26*** *09:15:21.2±1.4,3847N×3029W,h5km,MD3.6,ML2.7, Error ellipse: s-maj=21.3km s-min=11.0km az=175.0*

SVSA 26 09:15:21.2±1.4,3847N×3029W,h5km,MD3.6,ML2.7, Error ellipse: s-maj=21.3km s-min=11.0km az=175.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.18**	**84**	*e*S	Sg	09 15 53.2	-5.8
PTCA							
	33nm,0.2s						
CALA	**Caldeira**	**1.25**	**84**	*e*P	Pg	09 15 40.3	-4.9
CALA				*e*S	Sg	09 15 54.9	-6.5
PCED	**Cedros**	**1.26**	**82**	*e*P	Pg	09 15 40.3	-5.0
PCED				*e*S	Sg	09 15 54.6	-7.0
PCED							
	44nm,0.3s						
PCED	**Cedros**	**1.26**	**82**	*e*P	Pg	09 15 40.3	-5.0
PCED				*e*S	Sg	09 15 54.6	-7.0
HOR	**Horta**	**1.30**	**87**	*e*S	Sg	09 15 55.7	-7.4
PCND	**Candelaria**	**1.44**	**89**	*e*S	Sb	09 15 59.6	-7.4
PCND							
	13nm,0.2s						
PICO	**Pico**	**1.46**	**88**	*e*P	Pn	09 15 43.7	-4.5
PICO				*e*S	Sn	09 16 00.5	-7.3
PBOI	**Pico dos Bois**	**1.50**	**91**	*e*S	Sn	09 16 00.9	-7.9
PBOI							
	23nm,0.2s						
PPNO	**Prainha do Nor**	**1.59**	**89**	*e*S	Sn	09 16 03.1	-7.8
PPNO							
	60nm,0.4s						
ROSA	**Rosais**	**1.62**	**80**	*e*P	Pn	09 15 45.9	-4.6
ROSA				*e*S	Sn	09 16 04.5	-7.3
PMAN	**Manadas**	**1.73**	**84**	*e*S	Sn	09 16 07.0	-7.5
PMAN							
	83nm,0.4s						
PGRA	**Graciosa**	**1.89**	**72**	*e*S	Sn	09 16 10.3	-8.0
PGRA							
	26nm,0.3s						

IDC 26 09:21:14.3±2.6,062N×9705E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.7/19,mbtmp3.9/5,Error ellipse: s-maj=108.4km s-min=28.8km az=54.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.86**	**121**	P	P	09 29 06.6	+0.5
	0.4nm,0.6s,baz=297,slow=9.7,SNR=5.2						
SONM	**Songino Array**	**47.73**	**9**	P	P	09 29 52.7	-0.2
	0.2nm,0.4s,baz=185,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.77**	**346**	P	P	09 29 53.8	+0.6
	0.7nm,0.5s,baz=162,slow=8.8,SNR=20						
ZAL	**Zalesovo**	**54.10**	**351**	P	P	09 30 40.5	-0.4
	1.8nm,0.4s,baz=316,slow=9.9,SNR=5.3						
FINES	**FINESS Array B**	**80.44**	**333**	P	P	09 33 27.4	-0.5
	2.6nm,1.1s,baz=126,slow=9.7,SNR=3.5						

GUC 26 09:22:31.6±0.7,3835S×7475W,h50km,ML4.2,1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**1.71**	**72**	*e*P	Pn	09 23 01.3	+2.4
AGCH				*i*S	Sn	09 23 22.2	+2.6
AGCH				AMP		09 23 28.6	
	comp=E,4μm,0.4s						
VLCH	**Valdivia**	**1.87**	**142**⇑	*i*P	Pn	09 23 11.7	+11
VLCH				*i*S	Sn	09 23 34.8	+11
VLCH				AMP		09 23 36.5	
	comp=E,16μm,0.2s						
COCH	**Cobquecura**	**2.71**	**36**	*e*P	Pn	09 23 13.9	+1.2
COCH				*i*S	Sn	09 23 44.5	+0.3
COCH				AMP		09 23 50.2	
	comp=E,45nm,0.9s						
CNCO	**Chanco**	**3.15**	**35**	*e*P	Pn	09 23 19.3	+0.6
CNCO				*i*S	Sn	09 23 53.7	-1.4
CNCO				AMP		09 24 00.0	
	comp=N,302nm,0.2s						
PMCH	**Puerto Montt**	**3.45**	**156**	*e*P	Pn	09 23 06.3	-16
PMCH				*i*S	Sn	09 23 45.5	-17
PMCH				AMP		09 23 49.4	
	comp=E,2μm,0.1s						
SFDO	**San Fernando**	**4.79**	**40**	*e*P	Pn	09 23 42.0	+0.9
LNV	**Longovilo**	**5.15**	**33**	*e*P	Pn	09 23 45.7	-0.3
CACH	**El Canelo**	**5.39**	**40**	*e*P	Pn	09 23 50.1	+0.7
CHCH	**Chadas Angostu**	**5.51**	**38**	*e*P	Pn	09 23 51.5	+0.5
TACH	**Talagante**	**5.61**	**35**	*e*P	Pn	09 23 52.7	+0.3
RCDM	**Rinconada Maip**	**5.81**	**35**	*e*P	Pn	09 23 55.4	+0.3
RCDM				*e*S	Sn	09 24 59.5	-0.9
PCH	**Pirque**	**5.83**	**37**⇓	*i*P	Pn	09 23 56.3	+0.8
PCH				*e*S	Sn	09 25 00.1	-0.9
CLCH	**Cerro Calan**	**6.01**	**36**⇓	*i*P	Pn	09 23 58.6	+0.7
CLCH				*i*S	Sn	09 25 05.3	0.0
PEL	**Peldehue**	**6.15**	**34**⇓	*i*P	Pn	09 24 00.8	+1.0
FCH	**Farellones**	**6.18**	**37**	*e*P	Pn	09 24 01.1	+0.8
FCH				*i*S	Sn	09 25 10.2	+0.7
JACH	**Jahuel**	**6.59**	**32**	*e*P	Pn	09 24 06.5	+0.6

OTT 26 09:26:16.9±0.3,7241N×7588W,h18km,MN3.0/2,78km

southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**0.69**	**295**	PG	Pg	09 26 30.1	-0.4
PINU				SG	Sg	09 26 37.6	-2.2
PINU				Trac		09 26 45.5	
	comp=Z,215nm,0.1s						
GIFN	**Gifford Fjord,**	**3.06**	**220**	PN	Pn	09 27 04.1	-0.3
GIFN				PG	Pg	09 27 08.7	-6.9
GIFN				SN	Sn	09 27 39.3	-1.3
GIFN				SG	Sg	09 27 49.1	-6.3
GIFN				Trac		09 27 51.3	
	comp=Z,28nm,0.2s						
TULEG	**Thule**	**4.55**	**21**	PN	Pn	09 27 24.5	-0.4
TULEG				SN	Sn	09 28 14.3	-3.0
TULEG				Trac		09 28 15.8	
	comp=Z,3.4nm,0.1s						
SRLN	**Sarcpa Lake, N**	**4.61**	**216**	PN	Pn	09 27 25.2	-0.5
SRLN				SN	Sn	09 28 16.4	-2.3
SRLN				SG	Sg	09 28 35.9	-9.1
RES	**Resolute Bay**	**5.85**	**302**	PN	Pn	09 27 41.4	-1.3
RES				SN	Sn	09 28 48.3	-1.0
RES				LG		09 29 24.4	
RES				Trac		09 29 32.5	
	comp=Z,4.6nm,0.6s						
YRTN	**Rankin Inlet**	**11.40**	**221**	PN	Pn	09 28 52.4	-6.3
YRTN				SN	Sn	09 30 54.8	-11
YRTN				LG		09 32 03.9	
YRTN				Trac		09 32 05.5	
	comp=Z,4.4nm,0.8s						
YNEN	**Yamba Lake Nor**	**14.48**	**257**	PN		09 32 04.9	
ACKN	**Achilles Lake**	**14.49**	**257**	SN		09 33 36.1	
KUQ	**Kuujjuuaa**	**14.68**	**164**	PN	Pn	09 29 36.9	-6.7
KUQ				SN	Sn	09 32 09.3	-17
KUQ				LG		09 33 38.7	

IDC 26 09:43:34.9±5.1, 4994N×3003W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=117.3km s-min=40.8km az=88.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**28.18**	**75**	P	P	09 49 29.0	-0.1
	0.2nm,0.7s,baz=263,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**32.59**	**48**	P	P	09 50 07.6	-0.5
	2.1nm,0.9s,baz=276,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**44.94**	**134**	P	P	09 51 51.4	-0.1
	0.4nm,0.6s,baz=336,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**67.30**	**44**	P	P	09 54 31.2	-0.2
	0.7nm,0.8s,baz=319,slow=5.3,SNR=7.6						

*MDD **26** 09:54:03.9±1.9, 3700N×1087W, h0km, mbLg2.6/12, Error ellipse: s-maj=16.4km s-min=11.0km az=62.0, PRXIMO*
*INMG **26** 09:54:03.4±1.1, 3691N×1091W, h0km, ML2.2, Error ellipse: s-maj=8.9km s-min=4.7km az=63.0*
*ISCJB **26** 09:54:04.1±1.3, 3721N±005×1079W±008, h10km, Error ellipse: s-maj=10.0km s-min=5.5km az=116.8*
*IGIL **26** 09:54:04.5, 3700N×1080W, h0km, ML2.3*
ISC 26 09:54:05.1±1.3, 3712N±005×1078W±007, h10km, n28, σ1§17/42, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.69**	**75**	*e*Pn	**Pn**	**09 54 34.9**	**+0.2**
PTEO				*e*Sn	**Sn**	**09 54 58.1**	**+1.7**
PTEO							
	11nm,0.3s						
MORF	**Marmelete**	**1.71**	**83**	*e*P	**Pn**	**09 54 34.0**	**-1.0**
MORF				*e*S	**Sn**	**09 54 55.7**	**-1.1**
MORF				*e*S	**Sn**	**09 54 55.7**	**-1.1**
MORF				AML	AML	09 54 59.5	
	comp=N,27nm,0.3s						
MORF	**Marmelete**	**1.71**	**83**	*e*P	**Pn**	**09 54 34.0**	**-0.9**
MORF				*e*S	**Sn**	**09 54 55.7**	**-1.1**
MORF	**Marmelete**	**1.71**	**83**	P	**Pn**	**09 54 34.0**	**-1.0**
MORF				S	**Sn**	**09 54 55.7**	**-1.1**
PLOU	**Loures**	**2.18**	**36**	*e*Sn	**Sn**	**09 55 10.9**	**+2.4**
MOE	**Montemor**	**2.38**	**53**	*e*Sn	**Sn**	**09 55 15.4**	**+2.0**
PBEJ	**Beja**	**2.48**	**68**	*e*Sn	**Sn**	**09 55 17.3**	**+1.3**
EGRO	**El Granado**	**2.66**	**80**	P	**Pn**	**09 54 48.6**	**+0.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**09 55 20.5**	**+0.3**
	comp=N,4.2nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.11**	**36**	*e*Sn	**Sn**	**09 55 34.4**	**+2.9**
PTOM							
	comp=N,5.8nm,0.3s						
PTOM	**Tomar**	**3.11**	**36**	S	**Sn**	**09 55 34.4**	**+2.9**
	comp=N,2.9nm,0.3s						
EMIN	**Mina Concepcio**	**3.33**	**78**	P	**Pn**	**09 54 57.6**	**+0.3**
	comp=N,0.7nm,0.1s,SNR=12						
EMIN				S	**Sn**	**09 55 36.4**	**-0.5**
	comp=N,1.3nm,0.2s						
EBAD	**Badajoz**	**3.39**	**60**	P	**Pn**	**09 54 58.6**	**+0.5**
	comp=N,0.5nm,0.1s,SNR=5.3						
EBAD				S	**Sn**	**09 55 38.9**	**+0.5**
	comp=N,8.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.75**	**43**	*e*Sn	**Sn**	**09 55 48.6**	**+1.3**
ESPR	**Espera**	**3.95**	**92**	P	**Pn**	**09 55 06.2**	**+0.5**
	comp=N,1.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**09 55 50.6**	**-1.5**
	comp=N,11nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.31**	**97**	P	**Pn**	**09 55 11.0**	**+0.3**
	comp=N,0.3nm,0.1s,SNR=4.0						
ECAB	**El Cabril**	**4.36**	**76**	P	**Pn**	**09 55 12.0**	**+0.6**
	comp=N,0.9nm,0.1s,SNR=9.5						
ECAB				S	**Sn**	**09 56 01.7**	**-0.6**
	comp=N,2.7nm,0.3s,SNR=4.8						
PVRL	**Vila Real**	**4.78**	**29**	*e*Sn	**Sn**	**09 56 13.0**	**+0.3**
PVRL							
	comp=N,3.0nm,0.1s						
PVRL	**Vila Real**	**4.78**	**29**	S	**Sn**	**09 56 13.0**	**+0.3**
	comp=N,1.5nm,0.1s						
EADA	**Adamuz**	**5.03**	**76**	S	**Sn**	**09 56 18.0**	**-0.8**
	comp=N,4.1nm,0.2s,SNR=5.9						
PCAB	**Cabril**	**5.05**	**24**	*e*Sn	**Sn**	**09 56 20.1**	**+0.7**
PCAB							
	comp=N,7.1nm,0.3s						
PCAB	**Cabril**	**5.05**	**24**	S	**Sn**	**09 56 20.1**	**+0.7**
	comp=N,3.5nm,0.3s						
ELOB	**Lobios**	**5.19**	**23**	P	**Pn**	**09 55 22.7**	**0.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**09 56 21.7**	**-1.0**
	comp=N,1.8nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.27**	**17**	P	**Pn**	**09 55 24.4**	**+0.4**
	SNR=7.9						
EZAM				S	**Sn**	**09 56 22.7**	**-2.1**
	comp=N,1.8nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.62**	**32**	*e*Sn	**Sn**	**09 56 33.1**	**-0.4**
ESDC	**Sonseca Array**	**5.93**	**62**	P	**Pn**	**09 55 33.7**	**+0.7**
	comp=N,0.3nm,0.2s,baz=248,slow=13,SNR=4.4						
ESDC				S	**Sn**	**09 56 38.2**	**-2.8**
	comp=N,0.6nm,0.4s,baz=247,slow=24,SNR=3.6						
EMAZ	**Mazaricos**	**5.98**	**13**	S	**Sn**	**09 56 39.8**	**-2.6**
	comp=N,3.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.17**	**81**	S	**Sn**	**09 56 45.0**	**-1.8**
	comp=N,0.6nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**6.79**	**23**	P	**Pn**	**09 55 44.6**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**09 57 01.0**	**-1.2**
	comp=N,0.6nm,0.1s,SNR=4.0						

NEIC 26 09:56:23.3, 6332N×15110W, h14km, ML3.3(AEIC), ML3.8(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.24**	**19**	P	Pg	09 56 29.2	+0.6
KTH				S	Sg	09 56 33.1	+0.9
TRF	**Thorofare Moun**	**0.39**	**70**	P	Pg	09 56 31.3	+0.1
TRF				S	Sg	09 56 37.1	+0.7
MCK	**McKinley**	**1.05**	**66**	P	Pb	09 56 42.9	-0.4
MCK				S	Sb	09 56 57.6	+0.7
GHO	**Glory Hole Cre**	**1.86**	**146**	P	Pn	09 56 54.6	0.0
PMR	**Palmer**	**1.96**	**151**	P	Pn	09 56 56.2	+0.1
PMR				S	Sn	09 57 21.1	+0.6
SML	**Sawmill**	**1.99**	**139**	P	Pn	09 56 56.2	-0.3
COLA	**College**	**2.11**	**41**	P	Pn	09 56 58.0	-0.1
FIB	**Fire Island**	**2.21**	**168**	*e*Pn	Pn	09 57 01.5	+2.1
FIB				*e*Sn	Sn	09 57 28.5	+1.9
TT01	**Tatalina**	**2.27**	**262**	P	Pn	09 56 59.8	-0.5
KNK	**Knik Glacier**	**2.28**	**146**	P	Pn	09 57 01.5	+1.1
RC01	**Rabbit Creek A**	**2.33**	**163**	P	Pn	09 57 02.4	+1.2
IL1	**Eielson Array**	**2.36**	**50**	P	Pn	09 57 01.3	-0.2
SLKM	**Skilak Lake**	**2.86**	**171**	P	Pn	09 57 08.9	+0.5
SVW2	**Sparrevohn**	**3.06**	**225**	P	Pn	09 57 11.0	-0.2
DOT	**Dot Lake**	**3.18**	**81**	P	Pn	09 57 13.9	+1.1
DIV	**Divide**	**3.33**	**129**	P	Pn	09 57 15.3	+0.4
MENT	**Mentasta**	**3.38**	**93**	*e*P	Pn	09 57 18.3	+2.8
COLD	**Coldfoot**	**3.94**	**5**	P	Pn	09 57 24.6	+1.3
BM3	**Burnt Mountain**	**4.93**	**31**	P	Pn	09 57 37.0	+0.1
DAWY	**Dawson**	**5.26**	**77**	P	Pn	09 57 42.0	+0.5
TNA	**Tin City**	**7.61**	**295**	P	Pn	09 58 13.9	+0.3
INK	**Inuvik**	**8.76**	**48**	Pn	Pn	09 58 33.0	+3.6
	3.6nm,0.8s						

*ISCJB **26** 10:23:37.4±0.4, 4936N±002×688E±004, h0km, Error ellipse: s-maj=3.4km s-min=2.8km az=45.1*
*CSEM **26** 10:23:39.4±0.1, 4937N×693E, h1km, ML2.6/8, Error ellipse: s-maj=2.5km s-min=1.7km az=108.0*
*NEIC **26** 10:23:39.3, 4938N×690E, h1km, ML2.7(LDG), After LDG.*
*LDG **26** 10:23:39.3±0.1, 4938N×690E, h1km, Md2.4/1, Ml2.7/8, Error ellipse: s-maj=2.0km s-min=1.6km az=116.0, Suspected Mining induced.*
*BGR **26** 10:23:39.5±1.8, 4934N×690E, h1km, ML2.0/2, Error ellipse: s-maj=26.7km s-min=7.8km az=92.0*
*BNS **26** 10:23:40.5±1.9, 5043N×858E, h1km, ML1.5*
ISC 26 10:23:38.3±0.3, 4937N±002×690E±003, h0km, n34, σ1§05/62, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.89**	**18**	*e*Pg	**Pg**	**10 23 56.5**	**+1.2**
BGG				*e*Sg	**Sg**	**10 24 07.6**	**+0.9**
	13nm,0.5s						
CDF	**Champ du Feu**	**0.99**	**165**	*e*Pn	**Pn**	**10 23 58.6**	**-0.8**
CDF				*e*Sg	**Sg**	**10 24 10.8**	**+0.8**
	8.3nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**165**	*e*Pn	**Pn**	**10 23 58.6**	**-0.8**
CDF				*e*Sg	**Sg**	**10 24 10.8**	**+0.8**
	4.2nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**165**	*e*Pg	**Pg**	**10 23 57.5**	**+0.3**
CDF				*e*Pn	**Pn**	**10 23 58.6**	**-0.8**
CDF				*e*Sg	**Sg**	**10 24 10.8**	**+0.8**
RFYF	**Reffroy**	**1.20**	**232**	*e*Pg	**Pg**	**10 24 02.4**	**+1.2**
	baz=47						
RFYF				*e*Sg	**Sg**	**10 24 18.2**	**+1.5**
	16nm,0.2s						
RFYF	**Reffroy**	**1.20**	**232**	*e*Pg	**Pg**	**10 24 02.4**	**+1.2**
RFYF				*e*Sg	**Sg**	**10 24 18.2**	**+1.5**
	8.1nm,0.2s						
STB	**Steinbach**	**1.23**	**358**	*e*Pg	**Pg**	**10 24 02.4**	**+0.5**
TNS	**Taunus Mts**	**1.32**	**49**	*e*Pg	**Pg**	**10 24 04.0**	**+0.5**
	SNR=4.0						
TNS				*e*Sg	**Sg**	**10 24 21.9**	**+1.2**
KLL	**Kalltalsperre**	**1.34**	**344**	*e*Pg	**Pg**	**10 24 04.0**	**+0.1**
BFO	**Black Forest**	**1.40**	**137**	*e*Pg	**Pg**	**10 24 05.0**	**-0.2**
	SNR=8.5						
BFO				*e*Sg	**Sg**	**10 24 23.3**	**0.0**
BFO	**Black Forest**	**1.40**	**137**	*e*Pn	**Pn**	**10 24 04.9**	**-0.2**
BFO				*e*Sn	**Sn**	**10 24 24.5**	**+0.2**
BFO	**Black Forest**	**1.40**	**137**	*e*Pn	**Pn**	**10 24 05.0**	**-0.1**
BFO				*e*Sn	**Sn**	**10 24 24.5**	**+0.2**
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**10 24 06.4**	**+1.0**
HAU				*e*Sg	**Sg**	**10 24 24.9**	**+1.3**
	17nm,0.2s						
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**10 24 06.4**	**+1.0**
HAU				*e*Sg	**Sg**	**10 24 24.9**	**+1.3**
	8.5nm,0.2s						
MEZF	**Maizieres J'vi**	**1.50**	**235**	*e*Pn	**Pn**	**10 24 06.4**	**0.0**
	baz=58						
MEZF	**Maizieres J'vi**	**1.50**	**235**	*e*Pg	**Pg**	**10 24 09.1**	**+2.1**
	baz=48						
MEZF				*e*Sg	**Sg**	**10 24 28.0**	**+1.6**
	11nm,0.3s						
MEZF	**Maizieres J'vi**	**1.50**	**235**	*e*Pg	**Pg**	**10 24 09.1**	**+2.1**
MEZF				*e*Sg	**Sg**	**10 24 28.0**	**+1.6**
	5.4nm,0.3s						
MEZF	**Maizieres J'vi**	**1.50**	**235**	*e*Pn	**Pn**	**10 24 06.4**	**0.0**
MEZF				*e*Pg	**Pg**	**10 24 09.1**	**+2.1**
MEZF				*e*Sg	**Sg**	**10 24 28.0**	**+1.6**
GIVF	**Givet**	**1.54**	**299**	*e*Pg	**Pg**	**10 24 08.0**	**+0.2**
GIVF				*e*Sg	**Sg**	**10 24 27.2**	**-0.5**
	8.1nm,0.3s						
GIVF	**Givet**	**1.54**	**299**	*e*Pg	**Pg**	**10 24 08.0**	**+0.2**
GIVF				*e*Sg	**Sg**	**10 24 27.2**	**-0.5**
	4.1nm,0.3s						
GIVF	**Givet**	**1.54**	**299**	*e*Pn	**Pn**	**10 24 04.8**	**-2.2**
GIVF				*e*Pg	**Pg**	**10 24 08.0**	**+0.2**
GIVF				*e*Sg	**Sg**	**10 24 27.2**	**-0.5**
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg	**Pg**	**10 24 08.2**	**+0.1**
HINF				*e*Sg	**Sg**	**10 24 28.7**	**+0.5**
	10nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg	**Pg**	**10 24 08.2**	**+0.1**
HINF				*e*Sg	**Sg**	**10 24 28.7**	**+0.5**
	5.2nm,0.2s						
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Pg	**Pg**	**10 24 10.4**	**-0.4**
SFTF				*e*Sg	**Sg**	**10 24 33.1**	**+0.3**
	12nm,0.3s						
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Pg	**Pg**	**10 24 10.4**	**-0.4**
SFTF				*e*Sg	**Sg**	**10 24 33.1**	**+0.3**
	5.8nm,0.3s						
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Pn	**Pn**	**10 24 08.6**	**-0.5**
SFTF				*e*Pg	**Pg**	**10 24 10.4**	**-0.4**
SFTF				*e*Sg	**Sg**	**10 24 33.1**	**+0.3**
CABF	**La Chapelle**	**2.81**	**192**	*e*Pn	**Pn**	**10 24 23.8**	**-0.7**
LOR	**Lormes**	**2.92**	**225**	*e*Pn	**Pn**	**10 24 24.6**	**-1.4**
	baz=48						
LOR				*e*Sn	**Sn**	**10 24 59.9**	**-1.9**
SSF	**Saint Saulge**	**3.24**	**226**	*e*Pn	**Pn**	**10 24 28.8**	**-1.5**
SMF	**Signal de Mont**	**3.41**	**218**	*e*Pn	**Pn**	**10 24 31.4**	**-1.3**
AVF	**Avril sur Loir**	**3.51**	**224**	*e*Pn	**Pn**	**10 24 32.2**	**-1.9**
BGF	**Bois d'Agland**	**3.92**	**226**	*e*Pn	**Pn**	**10 24 38.6**	**-1.1**
KHC	**Kasperske Hory**	**4.38**	**91**	*e*P	**Sg**	**10 25 57.0**	**-2.0**
GEC2	**GERESS Array S**	**4.50**	**94**	*e*Pn	**Pn**	**10 24 48.1**	**+0.4**
	SNR=8.8						

*IDC **26** 10:29:19.2±0.5, 042N×126.13E, h0km, mb4.6/19, mb1 4.7/19, mb1mx4.6/24, mbtmp4.6/19, MS3.9/6, Ms1 3.9/6, ms1mx3.4/26, Error ellipse: s-maj=22.3km s-min=9.2km az=69.0*
*MOS **26** 10:29:24.4±0.9, 046N×126.12E, h48km, mb4.8/23, MS4.0/4, Error ellipse: s-maj=16.0km s-min=7.6km az=110.9*
*ISCJB **26** 10:29:28.4±1.4, 041N±005×126.11E±007, h86km±13km, mb4.6/49, Error ellipse: s-maj=12.5km s-min=7.3km az=128.2*
*BJI **26** 10:29:29.2, 023N×126.13E, h101km, mB5.0, mb4.8*
*NEIC **26** 10:29:30.6±1.7, 044N×12626E, h94km±16km, mb4.7/13, Error ellipse: s-maj=13.4km s-min=6.2km az=60.0*
*CSEM **26** 10:29:41.8, 003N×12562E, h230km, mb5.6*
ISC 26 10:29:29.7±1.2, 044N±004×12615E±007, h80km±11km, h105km±3.1km: pP-P, n112, σ1§17/120, mb4.6/49, 1C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.37**	**300**	*e*Pn	**Pn**	**10 32 13.1**	**+4.0**
KSM	**Kuching**	**15.87**	**274**	*e*P	**Pn**	**10 33 10.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**18.44**	**182**	*e*P	**Pn**	**10 33 37.9**	**-1.8**
	8.8nm,0.6s						
WRAB	**Tennant Creek**	**21.79**	**159**	*e*P	**P**	**10 34 14.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,102nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**21.79**	**159**	*e*P	**P**	**10 34 13.9**	**-1.1**
	comp=Z,102nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**10 34 14.1**	**-0.9**
	comp=Z,43nm,0.8s,mb4.8,baz=338,slow=11,SNR=59						
WRA				S	**S**	**10 38 14.0**	**+2.6**
	comp=Z,6.9nm,1.0s,baz=340,slow=17,SNR=8.9						
WRA	**Warramunga Arr**	**21.79**	**159**	P	**P**	**10 34 14.1**	**-1.0**
WRA				S	**S**	**10 38 14.0**	**+2.6**
WRA				pmax	pmax		
	comp=Z,43nm,0.8s						
WRA				smax			
	comp=E,7.0nm,1.0s						
WB2	**Warramunga Arr**	**21.80**	**159**	*e*P	**P**	**10 34 13.7**	**-1.4**
WB2				*e*S	**S**	**10 38 12.5**	**+1.0**
MBWA	**Marble Bar**	**22.37**	**196**	*e*P	**P**	**10 34 20.9**	**-0.2**
QIZ	**Qiongzhong**	**24.43**	**320**	*e*P	**P**	**10 34 38.8**	**-2.0**
QIZ				*e*S	**S**	**10 38 49.0**	**-6.0**
QIZ				XS	sS	10 39 28.0	+1.4
QIZ				AMB	AMB		
	comp=Z,131nm,6.4s						
AS31	**Alice Springs**	**25.12**	**163**	*e*P	**P**	**10 34 47.5**	**+0.4**
AS31				*e*S	**S**	**10 39 07.7**	**+1.7**
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**10 34 47.5**	**+0.4**
	comp=Z,12nm,0.4s,mb4.7,baz=346,slow=12,SNR=209						
ASAR				PcP	PcP	10 38 21.2	+1.9
	comp=Z,1.7nm,0.7s,baz=344,slow=1.7,SNR=7.1						
ASAR				S	**S**	**10 39 12.9**	**+6.9**
	comp=Z,0.9nm,0.8s,baz=344,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**25.12**	**163**	P	**P**	**10 34 47.5**	**+0.4**
ASAR						10 38 21.2	
ASAR				S	**S**	**10 39 12.9**	**+6.8**
ASAR				pmax	pmax		
	comp=Z,12nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				smax			
	comp=E,1.0nm,0.8s						
ASPA	**Alice Springs**	**25.12**	**163**	*e*P	**P**	**10 34 47.5**	**+0.4**
ASPA				*e*S	**S**	**10 39 07.7**	**+1.7**
PSI	**Prapat**	**27.31**	**275**	P	**P**	**10 35 05.6**	**-1.2**
	comp=E,13nm,1.0s,mb4.4,baz=90,slow=3.7,SNR=8.7						
PSI	**Prapat**	**27.31**	**275**	P	**P**	**10 35 05.6**	**-1.2**
PSI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
PSI	**Prapat**	**27.31**	**275**	P	**P**	**10 35 05.6**	**-1.2**
CTA	**Charters Tower**	**28.36**	**137**	P	**P**	**10 35 16.4**	**+0.3**
	comp=Z,5.2nm,1.0s,mb4.0,baz=288,slow=10,SNR=3.8						
CTA	**Charters Tower**	**28.36**	**137**	P	**P**	**10 35 16.5**	**+0.3**
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SSE	**Sheshan**	**30.84**	**352**	*e*P	**P**	**10 35 39.8**	**+1.6**
SSE				AP	pP	10 36 05.0	+8.3
SSE				XP	sP	10 36 17.0	+11
SSE				PCP	PcP	10 38 33.5	+0.2
SSE				S	**S**	**10 40 36.3**	**+0.2**
SSE				XS	sS	10 41 19.8	+12
SSE				SCS	ScS	10 46 01.5	-4.2
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,417nm,3.8s						
SSE				LR	LR		
	comp=N,118nm,27.2s						
SSE				LR	LR		
	comp=E,24nm,27.1s						
SSE				LR	LR		
	comp=Z,148nm,25.4s						
NJ2	**Nanjing**	**32.18**	**348**	*e*P	**P**	**10 35 51.5**	**+1.6**
NJ2				AP	pP	10 36 16.3	+7.7
NJ2				PP	PP	10 37 02.8	-1.1
NJ2				S	**S**	**10 40 55.0**	**-2.0**
NJ2				XS	sS	10 41 36.0	+6.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,350nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,19.5s						
NJ2				LR	LR		
	comp=E,760nm,21.0s						
NJ2				LR	LR		
	comp=Z,500nm,24.0s						
KMI	**Kunming**	**33.37**	**319**	P	**P**	**10 36 04.0**	**+3.7**
KMI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.5						
ENH	**Enshi**	**33.63**	**333**	P	**P**	**10 36 01.6**	**-0.9**
	comp=Z,4.1nm,0.5s,mb4.5						
HNR	**Honiara**	**35.05**	**107**	P	**P**	**10 36 14.8**	**-0.1**
	comp=Z,26nm,0.6s,mb5.3,baz=100,slow=4.2,SNR=4.3						
HNR	**Honiara**	**35.05**	**107**	P	**P**	**10 36 14.8**	**0.0**
HNR				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
HNR	**Honiara**	**35.05**	**107**	P	**P**	**10 36 13.2**	**-1.7**
STKA	**Stephens Creek**	**35.32**	**157**	*jj*P	**P**	**10 36 15.8**	**-1.3**
	comp=Z,12nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.32**	**157**	P	**P**	**10 36 15.7**	**-1.4**
	comp=Z,16nm,0.8s,mb4.9,baz=330,slow=8.6,SNR=33						
CD2	**Chengdu**	**37.00**	**327**	*e*P	**P**	**10 36 33.0**	**+1.5**
CD2				AP	pP	10 36 58.3	+7.9
CD2				PP	PP	10 38 03.5	+6.4
CD2				SS	SS	10 44 48.5	-5.7
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,70nm,9.2s						
CD2				LR	LR		
	comp=E,170nm,16.8s						
CD2				LR	LR		
	comp=Z,140nm,19.2s						
MJAR	**Matsushiro Arr**	**37.62**	**16**	P	**P**	**10 36 35.4**	**-1.3**
	comp=Z,3.3nm,0.5s,mb4.5,baz=185,slow=9.6,SNR=16						
MJAR				LR	LR	10 50 38.5	
	comp=Z,128nm,20.6s,baz=205,slow=34						
LZH	**Lanzhou**	**41.07**	**332**	*e*P	**P**	**10 37 07.0**	**+1.6**
LZH				AP	pP	10 37 32.5	+7.9
LZH				XP	sP	10 37 45.5	+12
LZH				PP	PP	10 38 47.0	+5.5
LZH				*e*S	**S**	**10 43 12.8**	**+0.6**
LZH				XS	sS	10 43 57.0	+12
LZH				*e*SS	SS	10 46 15.0	-2.3
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,4.6s						
HHC	**Hu-ho-hao-te**	**42.34**	**344**	*e*P	**P**	**10 37 17.8**	**+2.0**
HHC				AP	pP	10 37 41.0	+6.0
HHC				XP	sP	10 37 52.8	+8.7
HHC				PP	PP	10 39 00.0	+4.8
HHC				SCP	ScP	10 42 52.0	+0.6
HHC				S	**S**	**10 43 30.0**	**-0.9**
HHC				XS	sS	10 44 08.0	+4.1
HHC				SS	SS	10 46 34.3	-8.0
HHC				SCS	ScS	10 47 08.8	-0.9
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.8						

comp=E,142nm,18.6s
GTA LR LR
ASAJ Asahikawa 45.89 17 P **P 10 37 45.0 +0.9**
comp=Z,5.4nm,0.5s,mb4.5,baz=205,slow=28,SNR=14
ASAJ Asahikawa 45.89 17 P **P 10 37 45.0 +0.9**
ASAJ pmax pmax
comp=Z,5.0nm,0.5s
JIRN Jiri 46.88 309 *e*P **P 10 37 51.5 -0.4**
comp=Z,10nm,0.5s,mb4.8
GUN Gumba 47.25 309 *e*P **P 10 37 52.8 -1.9**
comp=Z,14nm,0.5s,mb4.9
KKN Kakani 47.66 308 *e*P **P 10 37 58.0 +0.1**
DMN Daman 47.71 308 *e*P **P 10 37 59.9 +1.6**
comp=Z,3.4nm,0.4s,mb4.6
GKN Gorkha 48.26 308 *e*P **P 10 38 00.9 -1.7**
HABR Khabarovsk 48.46 8 *e*P **P 10 38 03.9 -0.2**
HABR *e*S **S 10 44 59.7 +0.7**
HIA Hailar 48.95 354 *e*P **P 10 38 06.9 -0.9**
HYB Hyderabad 49.75 293 *i*P **P 10 38 15.0 +1.1**
HYB Hyderabad 49.75 293 *e*P **P 10 38 15.0 +1.1**
ULN Ulaanbaatar 50.06 343 *e*P **P 10 38 16.2 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ULN Ulaanbaatar 50.06 343 *e*P **P 10 38 16.2 -0.1**
comp=Z,3.3nm,0.5s,mb4.5
SONM Songino Array 50.22 343 P **P 10 38 17.3 -0.2**
comp=Z,2.6nm,0.6s,mb4.3,baz=155,slow=9.1,SNR=20
SONM PcP PcP 10 39 35.9 +0.3
comp=Z,0.8nm,0.7s,baz=164,slow=5.7,SNR=4.0
SONM LR LR 11 02 12.1
comp=Z,90nm,18.4s,baz=164,slow=39
SONM Songino Array 50.22 343 P **P 10 38 17.3 -0.2**
SONM 10 39 35.9
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,90nm,18.4s
CIT Chita 52.48 350 *e*P **P 10 38 36.0 +1.7**
ZAK Zakamensk 53.43 342 *e*P **P 10 38 40.6 -0.8**
WMQ Urumqi 55.10 327 *e*P **P 10 38 54.0 +0.5**
WMQ AP pP 10 39 18.0 +4.5
WMQ XP sP 10 39 29.0 +6.5
WMQ PP PP 10 41 00.0 +2.6
WMQ S **S 10 46 28.0 -2.1**
WMQ SCS ScS 10 48 30.0 -5.1
WMQ SS SS 10 50 13.0 -1.9
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,74nm,5.0s
WMQ LR LR
comp=N,95nm,13.0s
WMQ LR LR
comp=E,114nm,13.0s
WMQ LR LR
comp=Z,126nm,12.0s
BOD Bodaibo 58.02 352 *e*P **P 10 39 13.6 -0.6**
BOD pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
MKAR Makanchi Array 59.93 327 P **P 10 39 27.0 -0.5**
comp=Z,4.1nm,0.6s,mb4.7,baz=121,slow=7.7,SNR=61
MKAR PcP PcP 10 40 14.0 +1.0
comp=Z,2.5nm,0.6s,baz=122,slow=3.7,SNR=3.0
MKAR Makanchi Array 59.93 327 P **P 10 39 27.0 -0.4**
MKAR 10 40 14.0
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 59.93 327 P **P 10 39 27.0 -0.5**
MKAR PcP PcP 10 40 13.9 +1.0
YAK Yakutsk 61.49 2 *i*P **P 10 39 38.0 0.0**
MA2 Magadan 62.01 14 *e*P **P 10 39 43.1 +1.6**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MA2 Magadan 62.01 14 *e*P **P 10 39 42.4 +0.9**
comp=Z,7.3nm,0.8s,mb4.8
AAK Ala-Archa 62.41 319 *e*P **P 10 39 45.3 +1.1**
AAK pmax pmax
comp=Z,13nm,1.6s,mb4.7
AAK Ala-Archa 62.41 319 *e*P **P 10 39 45.3 +1.0**
comp=Z,13nm,1.6s,mb4.7
ZAL Zalesovo 63.25 334 P **P 10 39 49.9 +0.2**
comp=Z,1.9nm,0.3s,mb4.5,baz=39,slow=3.3,SNR=4.4
ZAL Zalesovo 63.25 334 P **P 10 39 49.9 +0.1**
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL Zalesovo 63.25 334 P **P 10 39 49.9 +0.2**
KURK Kurchatov 64.20 329 *e*P **P 10 39 55.3 -0.7**
KURK pmax pmax
comp=Z,16nm,0.8s,mb4.9
KURK Kurchatov 64.20 329 *e*P **P 10 39 55.3 -0.7**
comp=Z,16nm,0.8s,mb4.9
NVS Novosibirsk 64.54 334 *e*P **P 10 39 59.4 +1.2**
SEY Seymchan 65.34 13 ⇓*i*P **P 10 40 04.4 +1.0**
BRVK Borovoye 69.83 328 *e*P **P 10 40 31.4 -0.3**
BRVK Borovoye 69.83 328 *e*P **P 10 40 29.9 -1.8**
comp=Z,5.0nm,0.9s,mb4.3
ZRNK Zerenda 70.46 327 *e*P **P 10 40 35.1 -0.4**
ZRNK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ZRNK Zerenda 70.46 327 *e*P **P 10 40 35.0 -0.5**
comp=Z,6.7nm,0.7s,mb4.6
TIXI Tiksi 71.11 1 *e*P **P 10 40 39.7 +0.2**
BILL Bilibino 72.86 15 P **P 10 40 51.8 +1.9**
BILL 10 41 06.0
BILL Bilibino 72.86 15 P **P 10 40 47.9 -2.1**
comp=Z,1.8nm,0.4s,mb4.2
AKTK Aktyubinsk 75.87 322 P **P 10 41 08.0 +0.6**
AKTK LR LR 11 16 48.3
AKTO Aktyubinsk 75.87 322 P **P 10 41 08.0 +0.6**
comp=Z,7.0nm,0.6s,mb4.6,baz=109,slow=8.0,SNR=21
AKTO LR LR 11 16 48.3
comp=Z,73nm,21.8s,baz=0.0,slow=38
AKTO Aktyubinsk 75.87 322 P **P 10 41 08.0 +0.6**
AKTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
AKTO MLR MLR
comp=Z,73nm,21.8s
ARU Arti 77.39 328⇑*i*P **P 10 41 15.4 -0.6**
ARU *e* 10 41 24.2
ARU *e* pP 10 41 36.8 -0.3
ARU *e* 10 44 11.2
ARU *e*S S 10 50 59.0 -1.1
ARU *e*SS SS 10 56 00.0 -0.1
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
RDF Al-Radifah 79.80 299 *e*P **P 10 41 28.6 -0.6**
RDF AMb AMB 10 41 32.0
comp=Z,31nm,1.1s,mb5.0
MIB Mutribah 80.06 300 *e*P **P 10 41 30.8 +0.1**
MIB AMb AMB 10 41 34.9
comp=Z,24nm,0.7s,mb5.2
NAY Al-Naaiem 80.10 299 *e*P **P 10 41 30.2 -0.6**
NAY AMb AMB 10 41 32.2
comp=Z,12nm,0.7s,mb4.8
VNDA Vanda 80.26 173 LR LR 11 16 14.3
comp=Z,76nm,18.0s,baz=337,slow=35
PPT Papeete 84.68 108 *e*LR LR 11 09 48.0
comp=Z,66nm,26.2s
KDAK Kodiak Island 84.96 32 P **P 10 41 56.5 +0.4**
comp=Z,6.5nm,0.6s,mb4.7,baz=116,slow=21,SNR=5.1
KIV Kislovodsk 84.97 314 *e*P **P 10 41 50.4 -5.8**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIV MLR MLR
comp=Z,82nm,16.0s
TBI Tubuai 85.02 113 *e*LR LR 11 09 57.5
comp=Z,82nm,29.8s
ILAR Eielson Array 88.30 25 P **P 10 42 10.8 -1.6**
comp=Z,0.5nm,0.4s,mb3.9,baz=257,slow=4.3,SNR=30
ILAR Eielson Array 88.30 25 P **P 10 42 10.8 -1.6**
ILAR pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 88.90 269 P **P 10 42 17.8 +2.6**
comp=Z,1.9nm,0.7s,mb4.2,baz=42,slow=11,SNR=4.1
KMBO Kilima Mbogo 88.90 269 P **P 10 42 17.8 +2.6**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 88.90 269 P **P 10 42 17.8 +2.6**
SYO Syowa Base 89.17 201⇓*e*X 10 42 21.8
SYO Syowa Base 89.17 201⇓*e*sP sP 10 42 56.5 +10
OBN Obninsk 89.40 325 P **P 10 42 15.0 -2.5**
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.1
QSPA South Pole Qui 90.37 180 *e*P **P 10 42 23.6 +1.6**
comp=Z,7.7nm,0.7s,mb4.9
BRTR Keskin Array B 91.65 310 P **P 10 42 28.2 +0.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=124,slow=7.5,SNR=6.8
BRTR Keskin Array B 91.65 310 P **P 10 42 28.2 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 93.31 340 P **P 10 42 34.4 -1.3**
comp=Z,2.5nm,0.7s,mb4.7,baz=69,slow=4.0,SNR=6.6
ARCES ARCESS Array B 93.31 340 P **P 10 42 34.4 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 93.42 21 P **P 10 42 35.5 -0.6**
comp=Z,3.4nm,1.1s,mb4.6,baz=244,slow=6.6,SNR=7.9
INK Inuvik 93.42 21 P **P 10 42 35.5 -0.6**
INK pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 94.43 332 P **P 10 42 39.9 -0.9**
comp=Z,0.8nm,0.8s,mb4.1,baz=262,slow=1.3,SNR=3.6
FINES LR LR 11 25 49.8
comp=Z,63nm,18.2s,baz=324,slow=36
FINES FINESS Array B 94.43 332 P **P 10 42 39.9 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES MLR MLR
comp=Z,63nm,18.2s
FINES FINESS Array B 94.43 332 P **P 10 42 39.9 -0.9**
FINES LR LR 11 25 49.8
BOSA Boshof 99.77 241 LR LR 11 19 37.1
comp=Z,100nm,20.6s,baz=261,slow=30
CLL Collm 103.93 324 *e*PP PP 10 47 42.0 +0.7
CLL *e*pPP 10 48 02.0
TORD Torodi Ar. Bea 123.32 286 PKP PKPdf 10 48 19.1 +1.8
comp=Z,1.8nm,0.7s,baz=76,slow=1.6,SNR=12
TORD PKKPbc PKKPbc 10 58 09.7 +2.7
comp=Z,1.0nm,0.8s,baz=282,slow=3.7,SNR=6.5

MAN 26 11:02:24.6, 1620N×11968E, h24km, mb2.5, ML4.0, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.29**	**51**	*e*P	Pb	11 02 32.7	+1.3
BOLP				*e*S	Sb	11 02 40.5	+4.5
SCZP	**Santa Cruz**	**0.47**	**152**	*e*P	Pb	11 02 35.1	+0.8
SCZP				*e*S	Sb	11 02 45.2	+4.2
BCPH	**Baguio City Da**	**0.89**	**78**⇓	*e*P	Pb	11 02 41.8	+0.5
BCPH				*e*S	Sb	11 02 57.0	+4.3
ABRA	**Dolores**	**1.75**	**34**	*e*P	Pn	11 02 53.5	0.0
APYP	**Conner**	**2.23**	**42**	*e*P	Pn	11 03 01.0	+0.9
LUBP	**Lubang**	**2.51**	**167**	*e*P	Pn	11 03 12.4	+8.5

*ISCJB **26** 11:07:27.8±0.3, 4259N±002×1303E±003, h20km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=3.3*
*CSEM **26** 11:07:27.0±0.1, 4262N×1307E, h12km, ML3.2/6, Error ellipse: s-maj=1.5km s-min=1.1km az=82.0*
*ROM **26** 11:07:27.8±0.1, 4260N×1307E, h11km±1km, Md3.0/14, Ml2.9/19, Error ellipse: s-maj=2.3km s-min=2.0km az=177.0*
*NEIC **26** 11:07:27.8, 4260N×1307E, h11km, ML2.8(LDG), ML2.9(ROM), After ROM.*
*LDG **26** 11:07:29.0±0.2, 4262N×13.11E, h10km, Ml2.8/6, Error ellipse: s-maj=6.8km s-min=4.3km az=75.0*
ISC 26 11:07:28.0±0.3, 4259N±002×1303E±003, h11km±2km, n53, σ0§94/77, 8C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.01**	**33**	Pg	**Pg**	**11 07 30.2**	**+0.2**
LNSS				Sg	**Sg**	**11 07 31.8**	**+0.5**
	10μm,0.3s						
NRCA	**Norcia**	**0.25**	**14**⇑	*i*Pg	**Pg**	**11 07 32.7**	**-0.4**
CAMP	**Campotosto**	**0.28**	**101**⇓	*i*Pg	**Pg**	**11 07 33.7**	**-0.1**
CAMP				Sg	**Sg**	**11 07 38.1**	**+0.4**
	822nm,0.4s						
FIAM	**Fiamignano**	**0.33**	**169**⇑	*e*Pg	**Pg**	**11 07 34.8**	**+0.2**
FIAM				Sg	**Sg**	**11 07 40.2**	**+1.1**
	2μm,0.3s						
MNS	**Montasola**	**0.33**	**231**⇑	*e*Pg	**Pg**	**11 07 35.0**	**+0.4**
MNS				Sg	**Sg**	**11 07 40.6**	**+1.5**
	698nm,0.2s						
AQU	**L'Aquila**	**0.36**	**131**⇓	*i*Pg	**Pg**	**11 07 35.3**	**+0.1**
FAGN	**Fagnano**	**0.52**	**128**⇓	*e*Pg	**Pg**	**11 07 37.8**	**-0.4**
	2μm,0.5s						
MTCE	**Montecelio**	**0.61**	**201**⇑	*e*Pg	**Pg**	**11 07 39.4**	**-0.4**
	292nm,0.5s						
PTQR	**Pietraquaria**	**0.63**	**154**	Pg	**Pg**	**11 07 39.9**	**-0.4**
	75nm,0.2s						
CERT	**Cerreto**	**0.64**	**183**⇑	*e*Pg	**Pg**	**11 07 39.9**	**-0.6**
	439nm,0.6s						
MURB	**Monte Urbino**	**0.77**	**331**⇓	*e*Pg	**Pg**	**11 07 42.3**	**-0.5**
MURB				Sg	**Sg**	**11 07 53.8**	**+1.0**
	4μm,0.4s						
CING	**Cingoli**	**0.79**	**9**⇑	*e*Pg	**Pg**	**11 07 42.1**	**-1.2**
CING				Sg	**Sg**	**11 07 54.5**	**+0.9**
	460nm,0.6s						
GUAR	**Guarcino**	**0.82**	**165**	Pg	**Pg**	**11 07 44.8**	**+0.9**
	318nm,0.5s						
MA9	**Marino**	**0.87**	**199**	Pg	**Pg**	**11 07 46.1**	**+1.4**
	223nm,0.3s						
INTR	**Introdacqua**	**0.87**	**132**	Pg	**Pg**	**11 07 42.8**	**-2.0**
	514nm,0.8s						
ARV	**Arcevia**	**0.91**	**356**⇑	*i*Pg	**Pg**	**11 07 44.3**	**-1.2**
ARV				Sg	**Sg**	**11 07 57.8**	**+0.5**
ARVD	**Arcevia**	**0.91**	**356**⇑	*i*Pg	**Pg**	**11 07 44.3**	**-1.2**
ARVD				Sg	**Sg**	**11 07 57.7**	**+0.4**
	488nm,0.6s						
LAV9	**Lanuvio**	**0.95**	**195**	Pg	**Pg**	**11 07 47.3**	**+1.1**
	371nm,0.3s						
PIEI	**Pieia**	**1.01**	**339**	Pg	**Pg**	**11 07 46.2**	**-1.2**
PIEI				Sg	**Sg**	**11 08 01.3**	**+0.7**
	156nm,0.5s						
AOI	**Ancona**	**1.04**	**23**	Pg	**Pg**	**11 07 46.9**	**-1.2**
	159nm,0.3s						
GIUL	**Giuliano Di Ro**	**1.05**	**171**	Pg	**Pg**	**11 07 47.1**	**-1.0**
	209nm,0.7s						
BADI	**Badiali**	**1.08**	**328**	Pg	**Pg**	**11 07 48.0**	**-0.8**
	313nm,0.5s						
ARCI	**Arcidosso**	**1.18**	**283**	Pg	**Pg**	**11 07 50.2**	**-0.4**
	35nm,0.5s						
CII	**Carovilli**	**1.28**	**132**	Pg	**Pg**	**11 07 51.3**	**-1.4**
	63nm,0.6s						
CRE	**Caprese Michel**	**1.30**	**323**	Pg	**Pg**	**11 07 51.2**	**-1.7**
	142nm,0.5s						
MIDA	**Miranda**	**1.31**	**136**	Pn	**Pn**	**11 07 52.1**	**-0.1**
PESA	**Pesaro**	**1.35**	**354**	Pn	**Pn**	**11 07 52.7**	**-0.1**
CSNT	**Castellina Chi**	**1.55**	**305**	Pn	**Pn**	**11 07 55.5**	**+0.1**
	30nm,0.5s						
GRFL	**Gerfalco**	**1.61**	**291**	Pn	**Pn**	**11 07 56.3**	**+0.1**
	7.0nm,0.2s						
NVLJ	**Novalja**	**2.38**	**34**	*i* Pn	**Pn**	**11 08 07.0**	**+0.2**
NVLJ				*i* Sn	**Sn**	**11 08 35.5**	**-0.5**
PGF	**Pioggiola**	**2.98**	**271**	*e*Pn	**Pn**	**11 08 15.5**	**+0.4**
PGF				*e*Sn	**Sn**	**11 08 49.1**	**-1.7**
	2.2nm,0.3s						
PGF	**Pioggiola**	**2.98**	**271**	*e*Pn	**Pn**	**11 08 15.5**	**+0.4**
PGF				*e*Sn	**Sn**	**11 08 49.1**	**-1.7**
	1.1nm,0.3s						
KNDS	**Knezji Dol**	**3.09**	**18**	*e*Pn	**Pn**	**11 08 22.7**	**+6.1**
KNDS				*e*Sn	**Sn**	**11 08 54.2**	**+0.7**
KNDS							
	comp=Z,8.0nm,0.3s						
VOJS	**Vojsko**	**3.49**	**10**	*i* Pn	**Pn**	**11 08 22.4**	**+0.2**
VOY	**Vojsko**	**3.49**	**10**	*e*Pn	**Pn**	**11 08 22.4**	**+0.2**
VOY				*e*Sn	**Sn**	**11 09 02.8**	**-0.7**
CADS	**Cadrg**	**3.67**	**8**	*i* Pn	**Pn**	**11 08 24.5**	**-0.1**
GORS	**Gorjuse**	**3.79**	**10**	*e*Pn	**Pn**	**11 08 26.3**	**+0.1**
OBKA	**Obir**	**4.06**	**15**⇓	*i*Pn	**Pn**	**11 08 30.7**	**+0.7**
OBKA				⇓*i*Sn	**Sn**	**11 09 18.1**	**+0.6**
SBF	**Sospel**	**4.28**	**289**	*e*Pn	**Pn**	**11 08 33.0**	**0.0**
SBF				*e*Sn	**Sn**	**11 09 20.8**	**-2.1**
	comp=Z,1.9nm,0.2s						
SBF	**Sospel**	**4.28**	**289**	*e*Pn	**Pn**	**11 08 33.0**	**0.0**
SBF				*e*Sn	**Sn**	**11 09 20.8**	**-2.1**
	comp=Z,0.9nm,0.2s						
FRF	**La Foret Royal**	**4.78**	**284**	*e*Pn	**Pn**	**11 08 39.6**	**-0.2**
SQTA	**Sankt Quirin**	**4.80**	**345**⇓	*i*Pn	**Pn**	**11 08 42.2**	**+2.0**
SQTA				⇓*i*Sn	**Sn**	**11 09 38.2**	**+2.4**
LMR	**La Mourre**	**4.84**	**281**	*e*Pn	**Pn**	**11 08 39.9**	**-0.8**
LMR				*e*Sn	**Sn**	**11 09 34.0**	**-2.8**
	comp=Z,1.6nm,0.4s						
LMR	**La Mourre**	**4.84**	**281**	*e*Pn	**Pn**	**11 08 39.9**	**-0.8**
LMR				*e*Sn	**Sn**	**11 09 34.0**	**-2.8**
	comp=Z,0.8nm,0.4s						
MBDF	**Montbardon**	**5.02**	**297**	*e*Pn	**Pn**	**11 08 44.0**	**+0.9**
MOA	**Molln**	**5.33**	**9**⇓	*i*Pn	**Pn**	**11 08 48.0**	**+0.7**
MOA				⇓*i*Sn	**Sn**	**11 09 49.0**	**+0.3**
MOA	**Molln**	**5.33**	**9**	Pn	**Pn**	**11 08 48.0**	**+0.6**
SMRF	**Simiane la Rot**	**5.62**	**287**	*e*Pn	**Pn**	**11 08 52.5**	**+1.2**
ORIF	**Oris-en-Rattie**	**5.68**	**297**	*e*Pn	**Pn**	**11 08 54.4**	**+2.2**
CABF	**La Chapelle**	**6.38**	**311**	*e*Pn	**Pn**	**11 09 02.7**	**+0.9**
HINF	**Hinteralfeld**	**6.80**	**322**	*e*Pn	**Pn**	**11 09 07.4**	**-0.3**
HINF				*e*Sn	**Sn**	**11 10 19.7**	**-5.4**
	comp=Z,1.0nm,0.3s						
CDF	**Champ du Feu**	**7.08**	**327**	*e*Pn	**Pn**	**11 09 10.8**	**-0.7**
CDF				*e*Sn	**Sn**	**11 10 26.5**	**-5.5**
	comp=Z,1.3nm,0.3s						
HAU	**Haudompre**	**7.17**	**321**	*e*Pn	**Pn**	**11 09 13.0**	**+0.3**
HAU				*e*Sn	**Sn**	**11 10 28.6**	**-5.6**
	comp=Z,3.9nm,0.4s						

MAN 26 11:26:08.9, 1023N×12650E, h22km, mb2.5, ML4.0, MS5.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.52**	**215**	*e*P	Pn	11 26 34.0	-0.8
BUTP				*e*S	Sn	11 26 54.6	+0.7
MSLP	**Maasin**	**1.62**	**267**	*e*P	Pn	11 26 36.7	+0.6
MSLP				*e*S	Sn	11 26 57.0	+0.8
BESP	**Borongan**	**1.71**	**323**	*e*P	Pn	11 26 43.2	+5.8
BESP				*e*S	Sn	11 27 08.2	+10
BUKP	**Musuan**	**2.73**	**211**	*e*P	Pn	11 26 53.5	+2.1
CNP	**Catarman**	**2.89**	**322**	*e*P	Pn	11 26 54.3	+0.7
CNP				*e*S	Sn	11 27 32.1	+4.4

*ISCJB **26** 11:27:15.7±0.7, 657S±007×300E±0.1, h10km, mb3.9/6, MS3.1/2, Error ellipse: s-maj=20.2km s-min=8.4km az=35.7*
*IDC **26** 11:27:19.6±1.1, 6.14S×2968E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML4.2/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/22, Error ellipse: s-maj=41.8km s-min=21.3km az=97.0*
*NEIC **26** 11:27:19.7±0.6, 639S×3006E, h10km, mb3.9/3, Error ellipse: s-maj=26.8km s-min=9.6km az=108.0*
ISC 26 11:27:18.6±0.6, 650S±007×299E±01, h10km, n17, σ1§11/22, mb3.9/6, MS3.1/2, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**8.88**	**191**	Pn	**Pn**	**11 29 30.9**	**+3.8**
	2.5nm,0.3s,baz=7.8,slow=13,SNR=16						
LSZ				Sn	**Sn**	**11 31 06.7**	**-0.5**
	5.4nm,0.3s,baz=104,slow=22,SNR=8.4						
LSZ				Lg		11 31 58.7	
	3.4nm,0.3s,baz=96,slow=18,SNR=5.4						
LSZ				LR	LR	11 33 12.1	
	comp=Z,134nm,19.9s,baz=187,slow=38						
LSZ	**Lusaka**	**8.88**	**191**	*e*Pn	**Pn**	**11 29 31.0**	**+4.0**
	12nm,0.4s						
LSZ				*e*Sn	**Sn**	**11 31 06.5**	**-0.6**
LSZ				Lg		11 31 58.7	
LSZ				LR	LR	11 33 12.1	
KMBO	**Kilima Mbogo**	**9.07**	**54**	Pn	**Pn**	**11 29 27.9**	**-1.7**
	2.4nm,0.3s,baz=230,slow=22,SNR=21						
KMBO				Sn	**Sn**	**11 31 02.6**	**-9.2**
	4.0nm,0.3s,baz=237,slow=23,SNR=4.0						
KMBO				Lg		11 32 00.7	
	14nm,0.3s,baz=190,slow=18,SNR=4.4						
KMBO				LR	LR	11 33 03.6	
	comp=Z,84nm,20.6s,baz=96,slow=38						
KMBO	**Kilima Mbogo**	**9.07**	**54**	Pn	**Pn**	**11 29 27.9**	**-1.7**
KMBO				Sn	**Sn**	**11 31 02.6**	**-9.2**
KMBO				Lg		11 32 00.7	
KMBO				LR	LR	11 33 03.6	
TSUM	**Tsumeb**	**17.40**	**222**	Pn	**Pn**	**11 31 20.4**	**-1.1**
	0.6nm,0.3s,baz=24,slow=12,SNR=18						
TSUM				Sn	**Sn**	**11 34 21.6**	**-14**
	0.6nm,0.3s,baz=291,slow=18,SNR=4.6						
TSUM				Lg		11 36 33.2	
	0.1nm,0.3s,baz=192,slow=13,SNR=3.1						
TSUM				LR	LR	11 38 32.0	
	comp=Z,64nm,19.6s,baz=150,slow=38						
TSUM	**Tsumeb**	**17.40**	**222**	*e*P	**Pn**	**11 31 20.2**	**-1.3**
	4.8nm,0.5s						
TSUM				Sn	**Sn**	**11 34 21.6**	**-14**
TSUM				Lg		11 36 33.2	
TSUM				LR	LR	11 38 31.9	
LBTB	**Lobatse**	**18.87**	**192**	P	**Pn**	**11 31 44.3**	**+4.8**
	0.7nm,0.3s,baz=18,slow=13,SNR=8.9						
LBTB				Lg		11 37 11.6	
	0.2nm,0.3s,baz=288,slow=22,SNR=2.2						
LBTB				LR	LR	11 39 10.9	
	comp=Z,86nm,19.3s,baz=215,slow=37						
LBTB	**Lobatse**	**18.87**	**192**	*e*P	**Pn**	**11 31 41.7**	**+2.2**
	3.2nm,0.4s						
LBTB				Lg		11 37 11.6	
LBTB				LR	LR	11 39 10.9	
BOSA	**Boshof**	**22.43**	**191**	P	**P**	**11 32 24.6**	**+7.1**
	3.7nm,0.8s,mb3.9,baz=14,slow=8.9,SNR=5.1						
BOSA				LR	LR	11 41 19.4	
	comp=Z,75nm,20.5s,MS3.1,baz=237,slow=37						
BOSA	**Boshof**	**22.43**	**191**	*e*P	**P**	**11 32 19.3**	**+1.8**
	4.7nm,0.8s,mb4.0						
BOSA				LR	LR	11 41 19.4	
SUR	**Sutherland**	**27.11**	**197**	LR	LR	11 42 59.0	
	comp=Z,58nm,19.0s,MS3.2,baz=121,slow=34						
TORD	**Torodi Ar. Bea**	**34.14**	**305**	P	**P**	**11 34 03.1**	**-0.6**
	1.7nm,0.7s,mb4.1,baz=116,slow=8.4,SNR=12						
BRTR	**Keskin Array B**	**46.12**	**4**	P	**P**	**11 35 44.2**	**+1.2**
	1.6nm,0.8s,mb4.0,baz=182,slow=9.4,SNR=8.6						
GERES	**GERESS Array B**	**56.90**	**347**	P	**P**	**11 37 03.7**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=96,slow=5.5,SNR=4.8						
KHC	**Kasperske Hory**	**57.20**	**347**	*e*P	**P**	**11 37 05.5**	**-0.3**
FINES	**FINESS Array B**	**67.80**	**358**	P	**P**	**11 38 16.6**	**0.0**
	3.7nm,1.2s,mb4.3,baz=183,slow=3.8,SNR=5.1						
MKAR	**Makanchi Array**	**70.43**	**35**	P	**P**	**11 38 34.3**	**+1.2**
	0.3nm,0.6s,mb3.4,baz=245,slow=5.4,SNR=6.6						

*IDC **26** 11:35:27.5±1.7, 088N×9730E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML3.0/1, Error ellipse: s-maj=52.4km s-min=20.3km az=60.0*
*ISCJB **26** 11:35:30.7±1.3, 09N±01×974E±02, h33km, mb4.0/6, Error ellipse: s-maj=26.4km s-min=15.5km az=154.1*
*NEIC **26** 11:35:32.1±0.9, 092N×9735E, h30km, mb4.2/1, Error ellipse: s-maj=19.0km s-min=11.1km az=76.0*
ISC 26 11:35:33.4±1.3, 10N±01×974E±02, h35km, n8, σ0§34/8, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.36**	**40**	Pn	**Pn**	**11 36 09.1**	**-0.5**
	3.2nm,0.3s,baz=211,slow=7.7,SNR=14						
KULM	**Kulim**	**5.36**	**37**	*e*P	**Pn**	**11 36 51.4**	**+0.5**
WRA	**Warramunga Arr**	**41.74**	**122**	P	**P**	**11 43 18.8**	**-0.3**
	0.6nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**41.75**	**122**	*e*P	**P**	**11 43 19.5**	**+0.4**
	4.9nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**43.10**	**127**	P	**P**	**11 43 30.0**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=297,slow=7.5,SNR=11						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**11 44 03.7**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=189,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**	**11 44 05.2**	**+0.2**
	1.8nm,0.5s,mb4.2,baz=162,slow=8.9,SNR=23						
ZAL	**Zalesovo**	**53.80**	**351**	P	**P**	**11 44 52.0**	**-0.4**
	3.2nm,0.4s,mb4.6,baz=313,slow=4.9,SNR=14						

MAN 26 11:37:26.6, 1379N×12049E, h97km, mb1.7, ML3.5, MS0.7, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.24**	**256**	*e*P	Pn	11 37 42.0	+1.4
LUBP				*e*S	Sn	11 37 53.4	+2.5
PGP	**Puerto Galera

NEIC ***26*** *11:56:18.9±5.5, 1789S×17845W, h631km±58km, mb4.1/4, Error ellipse: s-maj=38.3km s-min=21.7km az=87.0*
ISCJB ***26*** *11:56:20.2±2.8, 179S±02×1786W±02, h665km±38km, mb3.9/9, Error ellipse: s-maj=32.8km s-min=22.3km az=121.4*
IDC ***26*** *11:56:21.4±2.7, 1787S×17864W, h653km±30km, mb3.3/6, mb1 3.5/6, mb1mx3.3/14, mbtmp4.4/6, Error ellipse: s-maj=43.9km s-min=15.3km az=149.0*
ISC 26 11:56:21.0±2.7, 179S±02×1785W±02, h661km±35km, n17, σ0°68/16, mb3.9/9, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.41**	**260**	*e*P	**P**	**12 02 08.0**	**-0.3**
	3.1nm,0.6s,mb4.0						
CTAO	**Charters Tower**	**33.41**	**260**	*e*P	**P**	**12 02 08.3**	**0.0**
	3.1nm,0.7s,mb4.0						
PMG	**Port Moresby**	**34.41**	**280**	P	**P**	**12 02 17.5**	**+0.9**
	9.7nm,0.7s,mb4.4,baz=73,slow=5.4,SNR=3.9						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**12 02 49.2**	**-1.5**
	1.6nm,0.5s,mb3.8,baz=125,slow=20,SNR=3.9						
WB2	**Warramunga Arr**	**44.59**	**260**	*e*P	**P**	**12 03 37.0**	**-0.3**
WRAB	**Tennant Creek**	**44.59**	**260**	*e*P	**P**	**12 03 37.1**	**-0.3**
	4.9nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**12 03 37.3**	**-0.1**
	3.1nm,0.5s,mb3.9,baz=94,slow=7.4,SNR=142						
WRA				PcP	PcP	12 05 06.3	+1.2
	0.5nm,0.4s,baz=93,slow=3.4,SNR=5.2						
WRA				S	**S**	**12 09 26.2**	**-1.5**
	0.6nm,0.9s,baz=103,slow=13,SNR=3.4						
AS31	**Alice Springs**	**44.76**	**254**	⇓*i*P	**P**	**12 03 38.8**	**+0.2**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**12 03 38.9**	**+0.3**
	12nm,0.6s,mb4.5,baz=86,slow=8.7,SNR=287						
ASAR				PcP	PcP	12 05 07.0	+1.3
	1.1nm,0.5s,baz=103,slow=3.8,SNR=8.1						
ASAR				S	**S**	**12 09 31.1**	**+1.2**
	1.1nm,0.9s,baz=88,slow=15,SNR=7.2						
ASPA	**Alice Springs**	**44.76**	**254**	⇓*i*P	**P**	**12 03 38.8**	**+0.2**
MBWA	**Marble Bar**	**58.04**	**256**	*e*P	**P**	**12 05 13.9**	**+0.4**
	7.1nm,1.1s,mb3.7						
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**12 06 16.3**	**+0.4**
	0.5nm,0.4s,mb3.2,baz=32,slow=1.9,SNR=4.8						
QSPA	**South Pole Qui**	**72.18**	**180**	*e*P	**P**	**12 06 42.0**	**+0.6**
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**12 07 52.2**	**-0.8**
	0.6nm,1.0s,mb3.2,baz=221,slow=4.7,SNR=10						
MKAR	**Makanchi Array**	**109.08**	**314**	PKiKP	PKiKP	12 13 37.5	-0.1
	0.2nm,0.5s,baz=106,slow=1.4,SNR=6.8						
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	PKPdf	12 14 46.5	+2.0
	1.3nm,0.8s,baz=114,slow=2.9,SNR=5.5						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	PKPbc	12 14 54.4	+1.4
	1.1nm,0.6s,baz=26,slow=3.0,SNR=13						

TEH ***26*** *12:23:08.9, 2801N×5523E, h13km, ML4.3*
OMAN ***26*** *12:23:38.6±1.9, 3169N×5455E, h81km±27km, Error ellipse: s-maj=37.1km s-min=19.9km az=82.0*
NAO ***26*** *12:24:01.1, 2595N×5817E, h33km, mb4.8*
THR ***26*** *12:24:24.6±1.0, 2824N×5525E, h14km±8km, ML4.5*
ISCJB ***26*** *12:24:25.9±0.3, 2806N±002×5524E±002, h47km±3km, mb4.6/87, MS3.8/21, Error ellipse: s-maj=4.1km s-min=3.0km az=60.8*
CSEM ***26*** *12:24:25.1±0.0, 2799N×5523E, h42km, mb4.6/69, ML5.0/1, Ms3.5, Error ellipse: s-maj=1.6km s-min=1.3km az=15.0*
IDC ***26*** *12:24:25.4±3.2, 2809N×5529E, h25km±20km, mb4.3/22, mb1 4.4/23, mb1mx4.4/26, mbtmp4.4/23, ML1.9/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/25, Error ellipse: s-maj=14.4km s-min=13.5km az=145.0*
BJI ***26*** *12:24:28.8, 28.10N×5530E, h56km, mB5.1, mb4.8, Ms4.6, Msz4.1*
NEIC ***26*** *12:24:28.9±0.6, 28.13N×5526E, h56km±4km, mb4.7/37, Error ellipse: s-maj=6.1km s-min=3.4km az=187.0*
MOS ***26*** *12:24:29.2±0.9, 2820N×5530E, h73km, mb4.8/50, Error ellipse: s-maj=7.3km s-min=3.9km az=123.4*
SZGRF ***26*** *12:24:31.7, 2849N×5433E, h33km, mb4.6, Southern Iran*
ISC 26 12:24:28.2±0.3, 2808N±002×5524E±002, h52km±3km, h52km±4.1km: pP-P, n346, σ0°92/358, mb4.6/87, MS3.8/21, 22C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.07**	**129**	*e*PG	**Pn**	**12 24 46.6**	**-0.2**
BNDS				*e*SG	**Sn**	**12 25 02.3**	**+1.7**
BNDS				AML	AML	12 25 10.3	
	comp=N,15μm,0.7s						
GHIR	**Ghir-Karzin**	**2.00**	**276**	*e*Pg	**Pn**	**12 25 00.4**	**+0.9**
GHIR				*e*SG	**Sn**	**12 25 27.8**	**+4.4**
GHIR				AML	AML	12 25 41.6	
	comp=E,2μm,0.6s						
GHIR	**Ghir-Karzin**	**2.00**	**276**	*e*Pg	**Pn**	**12 25 00.4**	**+0.9**
	SNR=90						
GHIR				*e*Sg	**Sn**	**12 25 27.8**	**+4.5**
	comp=E,2μm,0.6s,SNR=90						
KRBR	**Kerman**	**2.32**	**35**	*e*Pg	**Pn**	**12 25 03.7**	**-0.2**
KRBR				*e*SG	**Sn**	**12 25 33.6**	**+2.4**
KRBR				AML	AML	12 25 40.8	
	comp=N,4μm,0.6s						
KRBR				AML	AML	12 25 42.7	
	comp=E,4μm,0.5s						
KRBR	**Kerman**	**2.32**	**35**	*e*Pg	**Pn**	**12 25 03.7**	**-0.1**
	SNR=90						
KRBR				*e*Sg	**Sn**	**12 25 33.6**	**+2.5**
	comp=E,4μm,0.5s,SNR=90						
BANOM	**Banah**	**2.35**	**156**	P	**Pn**	**12 25 04.0**	**-0.3**
	SNR=27						
IMOK	**Mook**	**2.42**	**294**	*e*Pn	**Pn**	**12 25 06.4**	**+1.1**
IPAR	**Pars**	**2.60**	**313**	*e*Pn	**Pn**	**12 25 08.1**	**+0.3**
IPAR				*e*Lg		12 25 48.6	
IPAR	**Pars**	**2.60**	**313**	Pn	**Pn**	**12 25 08.0**	**+0.2**
IPAR				Lg		12 25 48.6	
IMEH	**Mehriz**	**3.34**	**351**	*e*Pn	**Pn**	**12 25 18.3**	**+0.4**
ASHO	**Ashiyiah**	**3.46**	**168**	P	**Pn**	**12 25 20.3**	**+0.8**
	SNR=37						
IBAF	**Bafgh**	**3.51**	**5**	*e*Pn	**Pn**	**12 25 20.0**	**-0.2**
IBAF	**Bafgh**	**3.51**	**5**	Pn	**Pn**	**12 25 19.9**	**-0.3**
ISAD	**Sadrabad**	**4.05**	**341**	*e*Lg		12 26 34.7	
ICHK	**Chekchek**	**4.21**	**350**	*e*Pn	**Pn**	**12 25 30.8**	**+1.0**
ICHK	**Chekchek**	**4.21**	**350**	Pn	**Pn**	**12 25 30.7**	**+0.9**
HOQ	**Hoqain**	**4.85**	**157**	⇑P	**Pn**	**12 25 37.1**	**-1.5**
	SNR=9.6						
ARQ	**Araqi**	**4.86**	**166**	⇑P	**Pn**	**12 25 40.0**	**+1.3**
	SNR=8.3						
ZHSF	**Zahedan**	**5.09**	**71**	*e*PN	**Pn**	**12 25 42.0**	**+0.1**
NASN	**Na'in**	**5.15**	**337**	*e*PN	**Pn**	**12 25 42.5**	**-0.3**
BIDO	**Bidbid**	**5.23**	**150**	⇓P	**Pn**	**12 25 43.0**	**-0.8**
	SNR=18						
IZEF	**Zefreh**	**5.42**	**333**	*e*Pn	**Pn**	**12 25 45.5**	**-0.9**
BSY	**Bisya**	**5.60**	**161**	P	**Pn**	**12 25 49.5**	**+0.6**
	SNR=18						
BSYO	**Bisya**	**5.62**	**161**	P	**Pn**	**12 25 49.5**	**+0.3**
	SNR=18						
IKLH	**Kalahroud**	**6.10**	**330**	*e*Pn	**Pn**	**12 25 57.0**	**+1.3**
JMDO	**Jabal Madar**	**6.25**	**155**	⇑P	**Pn**	**12 25 57.8**	**+0.1**
WBK	**Wadi Bani Khal**	**6.41**	**147**	⇑P	**Pn**	**12 25 59.1**	**-0.8**
KBD	**Kabd**	**6.72**	**281**	*e*P	**Pn**	**12 26 03.0**	**-1.3**
KBD				AML	AML	12 27 23.0	
	comp=Z,278nm,0.4s						
KBD	**Kabd**	**6.72**	**281**	*e*P	**Pn**	**12 26 03.0**	**-1.2**
KBD				*e*S	**Sn**	**12 27 18.1**	**-1.3**
UMR	**Umm Al-Rimmam**	**6.76**	**284**	*e*P	**Pn**	**12 26 03.8**	**-1.0**
UMR				AML	AML	12 27 25.7	
	comp=Z,84nm,0.5s						
SHGR	**Shooshtar-Gavs**	**6.87**	**307**	*e*Pn	**Pn**	**12 26 05.9**	**-0.4**
NAY	**Al-Naaiem**	**7.12**	**281**	*e*P	**Pn**	**12 26 08.8**	**-1.0**
NAY				AML	AML	12 27 29.9	
	comp=Z,18nm,0.4s						
NAY	**Al-Naaiem**	**7.12**	**281**	*e*P	**Pn**	**12 26 08.8**	**-0.9**
NAY				*e*S	**Sn**	**12 27 28.9**	**-0.4**
MIB	**Mutribah**	**7.13**	**286**	*e*P	**Pn**	**12 26 08.7**	**-1.2**
MIB				AML	AML	12 27 30.4	
	comp=Z,46nm,0.6s						
IANJ	**Anjiloo**	**7.45**	**352**	*e*Pn	**Pn**	**12 26 14.1**	**-0.1**
IQOM	**Qom**	**7.62**	**333**	*e*Pn	**Pn**	**12 26 17.3**	**+0.7**
IFIR	**Firoozkooh**	**7.83**	**345**	*e*Pn	**Pn**	**12 26 19.4**	**0.0**
ASAO	**Ashtian**	**7.84**	**327**	*e*Pn	**Pn**	**12 26 19.3**	**-0.3**
ISHM	**Shahmirzad**	**7.88**	**348**	*e*Pn	**Pn**	**12 26 20.7**	**+0.6**
ISHM	**Shahmirzad**	**7.88**	**348**	Pn	**Pn**	**12 26 20.6**	**+0.5**
DAMV	**Damavand**	**8.03**	**341**	*e*Pn	**Pn**	**12 26 21.7**	**-0.4**
IKIA	**Kiasar**	**8.21**	**351**	*e*Pn	**Pn**	**12 26 25.0**	**+0.4**
IGLO	**Galoogah**	**8.34**	**350**	*e*Pn	**Pn**	**12 26 29.0**	**+2.6**
CHTH	**Charan**	**8.55**	**337**	*e*PN	**Pn**	**12 26 29.2**	**-0.1**
IPAY	**Payeh**	**8.93**	**20**	*e*Pn	**Pn**	**12 26 34.5**	**0.0**
IPAY	**Payeh**	**8.93**	**20**	Pn	**Pn**	**12 26 34.4**	**-0.1**
IKOM	**Komasi**	**8.98**	**314**	*e*Pn	**Pn**	**12 26 34.3**	**-0.9**
IMYA	**Miamay**	**9.21**	**25**	*e*Pn	**Pn**	**12 26 38.7**	**+0.4**
ISFR	**Esferayen**	**9.24**	**14**	*e*Pn	**Pn**	**12 26 38.4**	**-0.3**
ISFR	**Esferayen**	**9.24**	**14**	Pn	**Pn**	**12 26 38.3**	**-0.4**
SHAO	**Shalim**	**10.02**	**178**	⇑P	**Pn**	**12 26 48.5**	**-0.8**
IDHR	**Dehrash**	**10.04**	**313**	*e*Pn	**Pn**	**12 26 48.9**	**-0.7**
IDHR	**Dehrash**	**10.04**	**313**	Pn	**Pn**	**12 26 48.8**	**-0.8**
WHFO	**Wadi Hawf**	**10.20**	**188**	P	**Pn**	**12 26 50.5**	**-1.4**
	SNR=26						
RBK	**Rabkut**	**10.57**	**185**	P	**Pn**	**12 26 55.2**	**-1.7**
	SNR=13						
ABTO	**Aybut**	**10.82**	**190**	P	**Pn**	**12 26 58.6**	**-1.8**
	SNR=28						
BHJ	**Bhuj**	**13.86**	**107**	*e*P	**Pn**	**12 27 39.9**	**-1.9**
BHJ				AMb	AMB	12 27 54.7	
	comp=Z,108nm,1.4s						
GNI	**Garni**	**14.84**	**327**	Pn	**Pn**	**12 27 56.9**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=96,slow=2.8,SNR=10						
GNI				LR	LR	12 33 36.4	
	comp=Z,113nm,21.6s,baz=339,slow=37						
GNI	**Garni**	**14.84**	**327**	*e*P	**Pn**	**12 27 56.8**	**+2.1**
	comp=Z,93nm,1.4s						
GNI	**Garni**	**14.84**	**327**	*e*P	**Pn**	**12 27 56.8**	**+2.1**
GNI				pmax	pmax		
	comp=Z,93nm,1.4s						
GNI	**Garni**	**14.84**	**327**	*e*Pn	**Pn**	**12 27 56.8**	**+2.0**
	comp=Z,93nm,1.4s						
GNI				*e*pPn		12 28 02.0	
DHBB	**Dhamar BB**	**16.80**	**219**	*i* P	**Pn**	**12 28 15.3**	**-4.4**
DHBB				AMb	AMB	12 28 16.9	
	comp=Z,54nm,1.4s						
LBOS		**16.92**	**215**	*i* P	**Pn**	**12 28 16.9**	**-4.4**
ZEI	**Tsey**	**17.30**	**331**	*i* P	**Pn**	**12 28 26.3**	**+0.3**
AJM	**Ajmer**	**17.32**	**91**	*ex*	x	12 28 06.2	
MALT	**Malatya**	**17.36**	**310**	*e*P	**Pn**	**12 28 26.5**	**-0.2**
	comp=Z,17nm,1.1s						
MALT	**Malatya**	**17.36**	**310**	*e*P	**Pn**	**12 28 26.5**	**-0.2**
MALT				pmax	pmax		
	comp=Z,17nm,1.1s						
MALT	**Malatya**	**17.36**	**310**	*e*Pn	**Pn**	**12 28 26.5**	**-0.2**
	comp=Z,17nm,1.1s						
BHL	**Bhannes**	**17.76**	**294**	*e*P	**Pn**	**12 28 32.3**	**+0.7**
EIL	**Elat**	**17.84**	**280**	*e*Pn	**Pn**	**12 28 32.5**	**-0.1**
	comp=Z,623nm,1.2s						
EIL	**Elat**	**17.84**	**280**	*e*Pn	**Pn**	**12 28 32.5**	**-0.1**
	comp=Z,623nm,1.2s						
TRBA	**At Turbah**	**18.05**	**217**	*i* P	**Pn**	**12 28 30.1**	**-5.1**
KHET	**Khetri**	**18.15**	**85**	*e*P	**Pn**	**12 28 33.5**	**-3.0**
KUDL	**Kundal**	**18.75**	**85**	*ex*	x	12 28 38.5	
KIV	**Kislovodsk**	**18.78**	**331**	*i* P	**Pn**	**12 28 44.5**	**+0.5**
	comp=Z,33nm,1.1s						
KIV	**Kislovodsk**	**18.78**	**331**	*c i* P	**Pn**	**12 28 44.5**	**+0.5**
KIV				*e*S	**S**	**12 32 12.6**	**-1.4**
KIV				pmax	pmax		
	comp=Z,33nm,1.1s						
KIV				MLR	MLR		
	comp=Z,47nm,11.0s						
KIV	**Kislovodsk**	**18.78**	**331**	*e*P	**Pn**	**12 28 45.1**	**+1.1**
	comp=Z,60nm,1.2s						
KIV				*e*pPn		12 28 51.9	
SONA	**Sohna**	**19.26**	**84**	*e*P	**Pn**	**12 28 46.1**	**-3.7**
AYAN	**Aya Nagar**	**19.28**	**84**	*e*P	**Pn**	**12 28 47.5**	**-2.5**
AYAN				AMb	AMB	12 28 54.1	
	comp=Z,35nm,1.1s						
SMLA	**Simla**	**19.30**	**76**	*e*P	**Pn**	**12 28 48.4**	**-1.9**
SMLA				AMb	AMB	12 29 15.3	
	comp=Z,36nm,1.0s						
NDI	**New Delhi**	**19.35**	**83**	*e*P	**Pn**	**12 28 47.0**	**-3.8**
NDI				*e*P		12 28 50.1	
NDI				AMb	AMB	12 28 54.0	
	comp=Z,28nm,1.3s						
SOC	**Sochi**	**19.89**	**325**	*e*P	**Pn**	**12 28 56.2**	**-1.0**
	comp=Z,62nm,1.4s						
SOC	**Sochi**	**19.89**	**325**	*e*P	**Pn**	**12 28 56.2**	**-1.0**
SOC				*e*		12 32 39.3	
SOC				pmax	pmax		
	comp=Z,62nm,1.4s						
SOC				smax			
	comp=E,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,320nm,15.0s						
KLP	**Kalpa**	**20.25**	**75**	*e*P	**P**	**12 28 59.2**	**0.0**
KLP				AMb	AMB	12 29 09.7	
	comp=Z,26nm,0.8s						
KAD	**Karad**	**20.47**	**118**	*e*P	**P**	**12 29 02.0**	**+0.5**
BHPL	**Bhopal**	**20.56**	**99**	*e*P	**P**	**12 29 02.8**	**+0.3**
KSH	**Kashi**	**20.61**	**51**	*e*P	**P**	**12 29 10.0**	**+7.0**
KSH				*e*AP		12 29 19.0	
KSH				*e*XP	sP	12 29 23.3	+2.0
KSH				*e*PCP	PcP	12 33 15.3	+3.3
KSH				LR	LR		
	comp=N,590nm,8.4s						
KSH				LR	LR		
	comp=E,390nm,6.5s						
EKS2	**Erkin-Say**	**20.91**	**41**	P	**P**	**12 29 06.7**	**+0.4**
	SNR=42						
BRTR	**Keskin Array B**	**21.30**	**309**	P	**P**	**12 29 11.4**	**+0.9**
	comp=E,14nm,1.0s,mb4.3,baz=130,slow=13,SNR=30						
BRTR	**Keskin Array B**	**21.30**	**309**	P	**P**	**12 29 11.4**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,14nm,1.0s						
BR131	**Keskin Array S**	**21.31**	**309**	*e*P	**P**	**12 29 11.3**	**+0.8**
	comp=Z,8.7nm,0.7s,mb4.2						
BR131	**Keskin Array S**	**21.31**	**309**	*e*P	**P**	**12 29 11.3**	**+0.8**
	comp=Z,8.7nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**21.32**	**42**	*e*P	**P**	**12 29 09.9**	**-0.7**
	comp=Z,39nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**21.32**	**42**	*e*P	**P**	**12 29 09.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**21.32**	**42**	*e*P	**P**	**12 29 09.9**	**-0.7**
	comp=Z,39nm,0.9s,mb4.7						
KZA	**Kyzart**	**21.45**	**44**	P	**P**	**12 29 13.7**	**+1.6**
	SNR=48						
FRU	**Bishkek**	**21.51**	**42**	*e*P	**P**	**12 29 13.5**	**+0.8**
	comp=Z,57nm,2.2s,mb4.6						
FRU	**Bishkek**	**21.51**	**42**	*e*P	**P**	**12 29 13.5**	**+0.8**
FRU				pmax	pmax		
	comp=Z,57nm,2.2s,mb4.6						
KBK	**Karagaybulak**	**21.60**	**43**	P	**P**	**12 29 14.2**	**+0.5**
	SNR=25						
CHMS	**Chumysh**	**21.69**	**42**	P	**P**	**12 29 15.2**	**+0.6**
	SNR=12						
USP	**Ospenovka**	**21.71**	**41**	P	**P**	**12 29 17.1**	**+2.4**
	SNR=16						
ANN	**Anapa**	**21.91**	**324**	*e*P	**P**	**12 29 16.9**	**-0.1**
	comp=Z,53nm,1.0s,mb4.9						
ANN	**Anapa**	**21.91**	**324**	*e*P	**P**	**12 29 16.9**	**-0.1**
ANN				*e*S	**S**	**12 33 14.9**	**-1.2**
ANN				pmax	pmax		
	comp=Z,53nm,1.0s,mb4.9						
ANN				MLR	MLR		
	comp=Z,142nm,8.0s						
ANTO	**Ankara**	**21.95**	**308**	*e*P	**P**	**12 29 18.0**	**+0.6**
	comp=Z,50nm,1.2s,mb4.8						
ANTO	**Ankara**	**21.95**	**308**	*e*P	**P**	**12 29 18.0**	**+0.6**
ANTO				pmax	pmax		
	comp=Z,50nm,1.2s,mb4.8						
ANTO	**Ankara**	**21.95**	**308**	*e*P	**P**	**12 29 18.0**	**+0.6**
	comp=Z,50nm,1.2s,mb4.8						
TKM2	**Tokmak 2**	**22.14**	**43**	P	**P**	**12 29 18.9**	**-0.5**
	SNR=14						
ULHL	**Ulahol**	**22.16**	**45**	P	**P**	**12 29 19.9**	**+0.3**
	SNR=5.6						
AKTK	**Aktyubinsk**	**22.43**	**5**	P	**P**	**12 29 21.9**	**-0.5**
	comp=Z,116nm,18.7s						
AKTK	**Aktyubinsk**	**22.43**	**5**	P	**P**	**12 29 21.9**	**-0.6**
AKTK				LR	LR	12 40 12.2	
AKTO	**Aktyubinsk**	**22.43**	**5**	P	**P**	**12 29 21.9**	**-0.6**
	comp=Z,12nm,0.7s,mb4.4,baz=186,slow=11,SNR=27						
AKTO				LR	LR	12 40 12.2	
	comp=Z,116nm,18.7s,MS3.3,baz=0.0,slow=42						
AKTO	**Aktyubinsk**	**22.43**	**5**	P	**P**	**12 29 21.9**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.4						
AKTO				MLR	MLR		
	comp=Z,116nm,18.7s,MS3.3						
SIM	**Simferopol'**	**23.80**	**321**	*e*P	**P**	**12 29 37.1**	**+1.0**
	comp=Z,32nm,1.3s,mb4.6						
SIM	**Simferopol'**	**23.80**	**321**	⇓*e*P	**P**	**12 29 37.1**	**+1.0**
SIM				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.6						
HYB	**Hyderabad**	**23.93**	**111**	*i* P	**P**	**12 29 39.0**	**+1.7**
HYB	**Hyderabad**	**23.93**	**111**	*e*P	**P**	**12 29 39.0**	**+1.7**
KOLN	**Koldanda**	**25.04**	**84**	*e*P	**P**	**12 29 49.3**	**+1.9**
VRHR	**Novokhopersk**	**25.19**	**340**	*e*P	**P**	**12 29 49.2**	**+0.4**
	comp=Z,110nm,1.1s,mb5.3						
VRHR	**Novokhopersk**	**25.19**	**340**	*e*P	**P**	**12 29 49.2**	**+0.4**
VRHR				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.3						
VRHR				pmax	pmax		
	comp=N,110nm,1.1s						
VRHR				pmax	pmax		
	comp=E,40nm,1.0s						
GKN	**Gorkha**	**25.92**	**83**	*e*P	**P**	**12 29 55.7**	**+0.3**
	comp=E,55nm,1.0s,mb5.0						
VRSR	**Storozhevoye**	**26.09**	**337**	*e*P	**P**	**12 29 57.0**	**+0.1**
	comp=E,10.0nm,1.0s,mb4.3						
VRSR	**Storozhevoye**	**26.09**	**337**	*e*P	**P**	**12 29 57.0**	**+0.1**
VRSR				*e**PP	pP	12 30 18.4	+8.4
VRSR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,5.0nm,1.1s						
DMN	**Daman**	**26.39**	**84**	*e*P	**P**	**12 30 00.1**	**+0.5**
KKN	**Kakani**	**26.51**	**83**	*e*P	**P**	**12 30 01.2**	**+0.4**
	comp=E,30nm,0.8s,mb4.9						
KKN	**Kakani**	**26.51**	**83**	*e*P	**P**	**12 30 01.2**	**+0.4**
KKN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
PKI	**Pulchoki**	**26.66**	**84**	*e*P	**P**	**12 30 02.2**	**+0.1**
	comp=Z,30nm,0.8s,mb4.9						
PKI	**Pulchoki**	**26.66**	**84**	*e*P	**P**	**12 30 02.2**	**+0.1**
PKI				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**26.86**	**19**	*e*P	**P**	**12 30 02.6**	**-1.3**
	comp=Z,8.0nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**26.86**	**19**	*e*P	**P**	**12 30 02.6**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**26.86**	**19**	*e*P	**P**	**12 30 02.6**	**-1.3**
	comp=Z,7.8nm,1.0s,mb4.2						
TIRR	**Tirgusor**	**26.94**	**314**	⇑P	**P**	**12 30 05.0**	**+0.4**
TIRR	**Tirgusor**	**26.94**	**314**	⇑P	**P**	**12 30 05.0**	**+0.4**
GUN	**Gumba**	**27.02**	**83**	*e*P	**P**	**12 30 06.0**	**+0.6**
	comp=Z,42nm,0.8s,mb5.0						
BRVK	**Borovoye**	**27.33**	**20**	*e*P	**P**	**12 30 06.1**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**27.33**	**20**	*e*P	**P**	**12 30 06.1**	**-2.0**
	comp=Z,4.7nm,0.9s,mb4.0						
JIRN	**Jiri**	**27.33**	**84**	*e*P	**P**	**12 30 08.3**	**+0.2**
BVAR	**Borovoye Array**	**27.33**	**20**	P	**P**	**12 30 07.7**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.1,baz=201,slow=7.8,SNR=13						
BVAR				ScP	ScP	12 37 05.9	+3.5
	comp=Z,1.3nm,1.0s,baz=128,slow=2.4,SNR=3.5						
BVAR	**Borovoye Array**	**27.33**	**20**	P	**P**	**12 30 07.7**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR				pmax	pmax		
	comp=E,1.0nm,1.0s						
HARR	**Harsova**	**27.35**	**315**	⇓P	**P**	**12 30 08.0**	**-0.3**
CFR	**Carcaliu**	**27.46**	**316**	⇑P	**P**	**12 30 08.6**	**-0.7**
CFR	**Carcaliu**	**27.46**	**316**	⇑P	**P**	**12 30 08.7**	**-0.6**
MKAR	**Makanchi Array**	**28.25**	**41**	P	**P**	**12 30 16.3**	**0.0**
	comp=E,5.5nm,0.8s,mb4.2,baz=224,slow=8.5,SNR=17						
MKAR				ScP	ScP	12 37 08.4	+3.2
	comp=E,0.9nm,0.9s,baz=252,slow=2.4,SNR=4.8						
MKAR	**Makanchi Array**	**28.25**	**41**	P	**P**	**12 30 16.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR				pmax	pmax		
	comp=E,1.0nm,0.9s						
ARU	**Arti**	**28.43**	**4**	*e*P	**P**	**12 30 15.8**	**-2.1**
ARU				*e*		12 33 24.4	
ARU				*e*S	**S**	**12 34 55.2**	**-6.3**
VRI	**Vrincioaia**	**28.66**	**316**	⇑P	**P**	**12 30 24.7**	**+4.7**
VRI	**Vrincioaia**	**28.66**	**316**	⇑P	**P**	**12 30 24.7**	**+4.7**
KURK	**Kurchatov**	**28.71**	**32**	*e*P	**P**	**12 30 20.1**	**-0.3**
KURK	**Kurchatov**	**28.71**	**32**	*e*P	**P**	**12 30 20.1**	**-0.4**
MLR	**Muntele Rosu**	**28.97**	**315**	P	**P**	**12 30 25.2**	**+2.5**
	comp=E,9.1nm,0.7s,mb4.6,baz=249,slow=22,SNR=12						
MLR	**Muntele Rosu**	**28.97**	**315**	P	**P**	**12 30 25.8**	**+3.1**
MLR	**Muntele Rosu**	**28.97**	**315**	⇑P	**P**	**12 30 25.8**	**+3.1**
VOIR		**29.51**	**314**	⇓P	**P**	**12 30 29.1**	**+1.6**
VOIR		**29.51**	**314

VRAC Vranov 36.32 316 *eP* **P 12 31 27.1 +0.2**
DPC Dobruska-Polom 36.87 318 *eP* **P 12 31 31.3 -0.3**
UPC Upice 37.12 318 *eP* **P 12 31 33.6 -0.1**
PRU Pruhonice 37.81 317 *eP* **P 12 31 39.7 +0.2**
GEC2 GERESS Array S 37.96 315 *eP* **P 12 31 40.5 -0.3**
GERES GERESS Array B 37.96 315 P **P 12 31 40.8 0.0**
comp=E,1.8nm,0.7s,mb3.9,baz=110,slow=12,SNR=13
GERES PcP PcP 12 33 55.1 -0.6
comp=E,1.1nm,0.9s,baz=113,slow=1.7,SNR=4.3
GERES LR LR 12 50 36.2
comp=E,48nm,19.2s,MS3.3,baz=110,slow=41
GERES GERESS Array B 37.96 315 PcP PcP 12 33 55.1 -0.6
comp=E,48nm,19.2s
GERES GERESS Array B 37.96 315 P **P 12 31 40.8 0.0**
GERES 12 33 55.1
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,48nm,19.2s
KHC Kasperske Hory 38.13 315 *eP* **P 12 31 41.7 -0.5**
KHC *ep*P pP 12 31 58.0 +2.4
GTA Gaotai 38.40 61 P **P 12 31 45.5 +1.0**
GTA AP pP 12 31 56.3 -1.7
GTA PP PP 12 33 18.3 +5.3
GTA PCP PcP 12 33 56.3 -0.8
GTA S **S 12 37 37.0 +1.3**
GTA XS sS 12 37 57.5 -0.9
GTA SS SS 12 40 18.5 -7.7
GTA AMB AMB
comp=Z,16nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,92nm,6.9s
GTA LR LR
comp=N,187nm,19.4s,MS4.0
GTA LR LR
comp=E,141nm,18.2s,MS4.0
GTA LR LR
comp=Z,176nm,16.7s,MS4.0
BRG Berggiesshubel 38.48 318 *eP* **P 12 31 44.8 -0.3**
BRG Berggiesshubel 38.48 318 *eP* **P 12 31 44.5 -0.6**
comp=Z,5.8nm,1.2s,mb4.2
BRG Berggiesshubel 38.48 318 *eP* **P 12 31 44.5 -0.6**
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
WET Wettzell 38.57 315 *eP* **P 12 31 45.2 -0.7**
comp=Z,9.0nm,1.4s,mb4.3
FINES FINESS Array B 38.61 338 P **P 12 31 46.3 +0.1**
comp=Z,3.3nm,0.5s,mb4.3,baz=142,slow=10,SNR=32
FINES LR LR 12 50 53.6
comp=Z,94nm,19.5s,MS3.6,baz=49,slow=41
FINES FINESS Array B 38.61 338 P **P 12 31 46.3 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES MLR MLR
comp=Z,94nm,19.5s
WTTA Wattenberg 38.87 312⇑ *iP* **P 12 31 48.1 -0.3**
comp=Z,4.3nm,0.6s,mb4.4
KAF Kangasniemi 39.03 339 *ep* **P 12 31 51.6 +1.9**
SQTA Sankt Quirin 39.14 311⇑ *iP* **P 12 31 50.0 -0.7**
comp=Z,2.7nm,0.7s,mb4.1
NKC Novy Kostel 39.17 316 *eP* **P 12 31 51.0 +0.1**
ROTZ Rotzenmuhle 39.17 316 *eP* **P 12 31 51.2 +0.3**
comp=Z,15nm,1.2s,mb4.6
CLL Collm 39.18 318 *eP* **P 12 31 51.3 +0.3**
CLL Collm 39.18 318 *eP* **P 12 31 52.0 +1.0**
MOTA Moosalm 39.24 312⇓ *iP* **P 12 31 50.8 -0.7**
comp=Z,7.5nm,1.1s,mb4.3
GRA1 Grafenberg Arr 39.76 315 *eP* **P 12 31 55.8 -0.1**
comp=Z,46nm,1.4s,mb5.0
GRF Grafenberg Arr 39.76 315 *eP* **P 12 31 55.8 -0.1**
comp=Z,46nm,1.4s,mb5.0
GRF Grafenberg Arr 39.76 315 *eP* **P 12 31 55.8 -0.1**
GRF pmax pmax
comp=Z,46nm,1.4s,mb5.0
MOX Moxa 39.80 317 *eP* **P 12 31 56.5 +0.3**
PGF Pioggiola 39.91 304 *eP* **P 12 31 57.3 +0.2**
comp=Z,21nm,0.9s,mb4.5
PGF Pioggiola 39.91 304 *eP* **P 12 31 57.3 +0.2**
comp=Z,10nm,0.9s,mb4.5
PGF Pioggiola 39.91 304 *eP* **P 12 31 57.3 +0.2**
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
DAVA Damuels 40.04 311⇑ *iP* **P 12 31 57.7 -0.4**
comp=Z,16nm,0.6s,mb4.9
UBBA Unterbreizbach 40.83 316 *eP* **P 12 32 05.0 +0.3**
comp=Z,17nm,1.5s,mb4.5
CLZ Clausthal 40.91 318 *eP* **P 12 32 06.0 +0.7**
comp=Z,18nm,1.3s,mb4.5
SBF Sospel 41.19 306 *eP* **P 12 32 07.6 0.0**
LZH Lanzhou 41.59 66 *eP* **P 12 32 11.0 0.0**
LZH AP pP 12 32 23.3 -1.3
LZH XP sP 12 32 28.5 -2.1
LZH PP PP 12 33 50.5 +2.7
LZH *eS* **S 12 38 22.5 -0.9**
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,69nm,4.2s
LZH LR LR
comp=N,325nm,14.6s
LZH LR LR
comp=Z,523nm,15.3s,MS4.5
BSEG Bad Segeberg 41.62 321 *eP* **P 12 32 12.0 +0.8**
TNS Taunus Mts 41.63 315 *eP* **P 12 32 12.0 +0.7**
comp=Z,38nm,2.0s,mb4.7
APA Apatity 41.66 348 *i* P **P 12 32 11.3 -0.2**
comp=Z,47nm,1.2s,mb5.0
APA Apatity 41.66 348⇑ *iP* **P 12 32 11.3 -0.2**
APA pmax pmax
comp=Z,47nm,1.2s,mb5.0
FRF La Foret Royal 41.72 305 *eP* **P 12 32 12.3 +0.3**
MBDF Montbardon 41.76 307 *eP* **P 12 32 12.5 +0.2**
comp=Z,9.8nm,0.7s,mb4.3
MBDF Montbardon 41.76 307 *eP* **P 12 32 12.5 +0.2**
comp=Z,4.9nm,0.7s,mb4.3
MBDF Montbardon 41.76 307 *eP* **P 12 32 12.5 +0.2**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
LPG La Plagne 41.86 308 *eP* **P 12 32 13.2 0.0**
comp=Z,17nm,0.8s,mb4.4
LPG La Plagne 41.86 308 *eP* **P 12 32 13.2 0.0**
comp=Z,8.3nm,0.8s,mb4.4
LPG La Plagne 41.86 308 *eP* **P 12 32 13.2 0.0**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
LPL La Plagne 41.88 308 *eP* **P 12 32 13.4 +0.1**
comp=Z,7.9nm,0.6s,mb4.2
LPL La Plagne 41.88 308 *eP* **P 12 32 13.4 +0.1**
comp=Z,4.0nm,0.6s,mb4.2
LPL La Plagne 41.88 308 *eP* **P 12 32 13.4 +0.1**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
CDF Champ du Feu 41.98 312 *eP* **P 12 32 14.2 +0.1**
CD2 Chengdu 42.06 74 *eP* **P 12 32 14.0 -0.8**
CD2 AP pP 12 32 26.3 -2.1
CD2 XP sP 12 32 31.8 -2.6
CD2 S **S 12 38 29.0 -1.4**
CD2 SS SS 12 41 31.0 -8.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,80nm,9.5s
CD2 LR LR
comp=E,80nm,8.4s
CD2 LR LR
comp=Z,90nm,13.2s,MS3.8
HINF Hinteralfeld 42.15 311 *eP* **P 12 32 15.7 +0.2**
KMI Kunming 42.37 83 P **P 12 32 20.0 +2.7**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.3
KMI LR LR
comp=Z,36nm,20.9s,MS3.2
ORIF Oris-en-Rattie 42.41 307 *eP* **P 12 32 17.7 +0.1**
comp=Z,15nm,1.1s,mb4.2
ORIF *eR*
comp=Z,120nm,20.2s
ORIF Oris-en-Rattie 42.41 307 *eP* **P 12 32 17.7 +0.1**
comp=Z,7.5nm,1.1s,mb4.2
ORIF Oris-en-Rattie 42.41 307 *eP* **P 12 32 17.7 +0.1**
ORIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
ZAK Zakamensk 42.45 45 *eP* **P 12 32 17.6 -0.3**
comp=Z,6.0nm,1.8s,mb3.9
ZAK Zakamensk 42.45 45 *eP* **P 12 32 17.6 -0.3**

ZAK pmax pmax
comp=Z,8.0nm,1.7s,mb4.1
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb3.9
CABF La Chapelle 42.47 309 *eP* **P 12 32 18.1 0.0**
comp=Z,58nm,1.4s,mb4.7
CABF La Chapelle 42.47 309 *eP* **P 12 32 18.1 0.0**
comp=Z,29nm,1.4s,mb4.7
CABF La Chapelle 42.47 309 *eP* **P 12 32 18.1 0.0**
CABF pmax pmax
comp=Z,29nm,1.4s,mb4.7
HAU Haudompre 42.52 312 *eP* **P 12 32 18.5 0.0**
comp=Z,5.3nm,0.7s,mb4.1
HAU *eR*
comp=Z,76nm,19.8s
HAU Haudompre 42.52 312 *eP* **P 12 32 18.5 0.0**
HAU pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
HAU MLR MLR
comp=Z,80nm,19.8s,MS3.6
HAU Haudompre 42.52 312 *eP* **P 12 32 18.5 0.0**
comp=Z,2.7nm,0.7s,mb4.1
HAU LR LR
comp=Z,80nm,19.8s,MS3.6
SMRF Simiane la Rot 42.53 306 *eP* **P 12 32 18.9 +0.3**
BUG Bochum--Univer 42.66 317 *eP* **P 12 32 20.4 +0.8**
MEM Membach 43.24 315 P **P 12 32 25.4 +1.1**
VIVF Saint-Julien-I 43.26 307 *eP* **P 12 32 24.6 +0.2**
comp=Z,89nm,1.8s,mb4.9
VIVF Saint-Julien-I 43.26 307 *eP* **P 12 32 24.6 +0.2**
comp=Z,45nm,1.8s,mb4.9
VIVF Saint-Julien-I 43.26 307 *eP* **P 12 32 24.6 +0.2**
VIVF pmax pmax
comp=Z,45nm,1.8s,mb4.9
MEZF Maizieres J'vi 43.45 312 *eP* **P 12 32 26.3 +0.2**
GIVF Givet 43.88 314 *eP* **P 12 32 29.8 +0.3**
SONM Songino Array 43.99 49 P **P 12 32 30.6 +0.2**
comp=Z,4.1nm,1.0s,mb4.1,baz=258,slow=5.8,SNR=23
SONM LR LR 12 51 45.7
comp=Z,136nm,19.8s,MS3.9,baz=288,slow=37
SONM Songino Array 43.99 49 P **P 12 32 30.6 +0.2**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,136nm,19.8s
SMF Signal de Mont 44.01 309 *eP* **P 12 32 29.6 -0.9**
comp=Z,45nm,1.2s,mb4.8
SMF Signal de Mont 44.01 309 *eP* **P 12 32 29.6 -0.9**
comp=Z,22nm,1.2s,mb4.8
SMF Signal de Mont 44.01 309 *eP* **P 12 32 29.6 -0.9**
SMF pmax pmax
comp=Z,22nm,1.2s,mb4.8
DOU Dourbes 44.02 314 P **P 12 32 31.2 +0.6**
DOU AP pP 12 32 48.1 +3.8
LOR Lormes 44.07 310 *eP* **P 12 32 30.3 -0.7**
comp=Z,26nm,1.2s,mb4.5
LOR *eR*
comp=Z,92nm,19.5s
LOR Lormes 44.07 310 *eP* **P 12 32 30.3 -0.7**
LOR pmax pmax
comp=Z,13nm,1.2s,mb4.5
LOR MLR MLR
comp=Z,90nm,19.5s,MS3.7
LOR Lormes 44.07 310 *eP* **P 12 32 30.3 -0.7**
comp=Z,13nm,1.2s,mb4.5
LOR LR LR
comp=Z,90nm,19.5s,MS3.7
NB2 NORSAR Subarra 44.09 331 P **P 12 32 30.3 -0.9**
comp=Z,13nm,0.8s,mb4.7,baz=116,slow=7.9
NOA NORSAR Array B 44.09 331 P **P 12 32 30.4 -0.8**
comp=Z,11nm,0.9s,mb4.6,baz=115,slow=7.6,SNR=24
NOA NORSAR Array B 44.09 331 P **P 12 32 30.4 -0.8**
NOA pmax pmax
comp=Z,11nm,0.9s
NAO01 NORSAR Array S 44.14 331 *eP* **P 12 32 30.6 -1.0**
comp=Z,23nm,1.0s,mb4.9
NAO01 NORSAR Array S 44.14 331 *eP* **P 12 32 30.6 -0.9**
comp=Z,23nm,1.0s,mb4.9
KONO Kongsberg 44.19 329 *eP* **P 12 32 31.1 -0.8**
KONO Kongsberg 44.19 329 *eP* **P 12 32 31.1 -0.9**
SSF Saint Saulge 44.29 310 *eP* **P 12 32 31.9 -0.9**
comp=Z,46nm,1.3s,mb4.7
SSF Saint Saulge 44.29 310 *eP* **P 12 32 31.9 -0.9**
comp=Z,23nm,1.3s,mb4.7
SSF Saint Saulge 44.29 310 *eP* **P 12 32 31.9 -0.9**
SSF pmax pmax
comp=Z,23nm,1.3s,mb4.8
SNF Seneffe 44.30 315⇓ *P* **P 12 32 34.0 +1.2**
ULN Ulaanbaatar 44.44 49 *eP* **P 12 32 33.8 -0.1**
comp=Z,7.2nm,1.1s,mb4.3
ULN Ulaanbaatar 44.44 49 *eP* **P 12 32 33.9 0.0**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
ULN Ulaanbaatar 44.44 49 *eP* **P 12 32 33.9 -0.1**
comp=Z,7.2nm,1.1s,mb4.3
BGF Bois d'Agland 44.69 309 *eP* **P 12 32 35.4 -0.5**
ARCES ARCESS Array B 44.91 346 P **P 12 32 38.6 +0.9**
comp=Z,4.6nm,0.8s,mb4.3,baz=100,slow=5.0,SNR=4.5
ARCES ARCESS Array B 44.91 346 P **P 12 32 38.6 +0.9**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
MTLF Montolieu 44.93 304 *eP* **P 12 32 38.1 +0.2**
TCF Toulx Ste Croi 45.10 309 *eP* **P 12 32 39.4 +0.2**
CAF Calviac 45.11 307 *eP* **P 12 32 39.3 0.0**
comp=Z,72nm,1.5s,mb5.0
CAF Calviac 45.11 307 *eP* **P 12 32 39.3 0.0**
comp=Z,36nm,1.5s,mb5.0
CAF Calviac 45.11 307 *eP* **P 12 32 39.3 0.0**
CAF pmax pmax
comp=Z,36nm,1.5s,mb5.0
RJF Les Rejaudoux 45.52 307 *eP* **P 12 32 42.9 +0.4**
XAN Xi'an 45.94 69 P **P 12 32 45.8 0.0**
XAN AMB AMB
comp=Z,18nm,0.9s,mb5.0
EPF Esparros 46.30 304 *eP* **P 12 32 49.1 +0.4**
LDF La Druitiere 46.88 312 *eP* **P 12 32 52.6 -0.6**
ETSF Etsaut 46.96 304 *eP* **P 12 32 54.2 +0.4**
HHC Hu-ho-hao-te 47.41 59 *eP* **P 12 32 56.8 -0.5**
HHC AP pP 12 33 13.5 +2.3
HHC PP PP 12 34 46.8 -2.1
HHC SCP ScP 12 38 17.3 +0.4
HHC S **S 12 39 46.5 -1.3**
HHC SCS ScS 12 42 43.8 -2.8
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,126nm,4.5s
HHC LR LR
comp=N,170nm,26.2s,MS4.0
HHC LR LR
comp=E,142nm,23.8s,MS4.0
HHC LR LR
comp=Z,123nm,21.4s,MS3.8
SJPF Ste Jean 47.44 304 *eP* **P 12 32 58.1 +0.5**
comp=Z,31nm,1.1s,mb4.8
SJPF Ste Jean 47.44 304 *eP* **P 12 32 58.1 +0.5**
comp=Z,15nm,1.1s,mb4.8
SJPF Ste Jean 47.44 304 *eP* **P 12 32 58.1 +0.5**
SJPF pmax pmax
comp=Z,15nm,1.1s,mb4.8
PSI Prapat 48.63 113 P **P 12 33 08.1 +1.3**
comp=Z,1.3nm,0.3s,mb4.4,baz=318,slow=18,SNR=2.8
PSI Prapat 48.63 113 P **P 12 33 08.1 +1.4**
PSI pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ROSF Rostrenen 48.95 311 *eP* **P 12 33 09.3 +0.1**
CIT Chita 49.08 44 *eP* **P 12 33 06.4 -3.9**
ESDC Sonseca Array 49.69 300 P **P 12 33 15.1 +0.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=84,slow=6.6,SNR=4.5
BOD Bodaibo 50.15 37 *eP* **P 12 33 17.1 -1.3**
comp=Z,25nm,1.2s,mb5.1
BOD Bodaibo 50.15 37 *eP* **P 12 33 17.1 -1.3**
BOD pmax pmax
comp=Z,25nm,1.2s,mb5.1
TORD Torodi Ar. Bea 51.88 265 P **P 12 33 32.0 +0.6**
comp=Z,14nm,0.7s,mb5.0,baz=62,slow=7.2,SNR=68
NJ2 Nanjing 54.50 69 *eP* **P 12 33 51.8 +1.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
SSE Sheshan 56.66 70 *eP* **P 12 34 04.0 -2.1**
SSE AMB AMB
comp=Z,35nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,278nm,4.0s
SSE LR LR
comp=Z,37nm,18.2s,MS3.5

CN2 Changchun 57.34 54 *eP* **P 12 34 11.0 +0.1**
CN2 *e*AP pP 12 34 23.8 -1.3
CN2 *e*S **S 12 42 01.5 -2.1**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
YAK Yakutsk 58.35 32 *eP* **P 12 34 16.8 -1.2**
YAK Yakutsk 58.35 32 *eP* **P 12 34 16.8 -1.3**
TIXI Tiksi 58.47 21 *eP* **P 12 34 16.6 -2.2**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TIXI MLR MLR
comp=Z,102nm,15.0s,MS4.1
TSUM Tsumeb 59.47 222 LR LR 13 01 47.7
comp=Z,93nm,18.1s,MS4.0,baz=327,slow=38
TSUM Tsumeb 59.47 222 *eP* **P 12 34 27.6 +1.9**
comp=Z,4.4nm,1.1s,mb4.4
TSUM Tsumeb 59.47 222 *eP* **P 12 34 27.6 +1.8**
comp=Z,4.4nm,1.1s,mb4.4
LBTB Lobatse 60.01 211 LR LR 12 59 51.9
comp=Z,74nm,19.6s,MS3.8,baz=221,slow=35
DBIC Dimbokro 60.55 261 P **P 12 34 34.1 +0.9**
comp=Z,7.7nm,0.8s,mb4.9,baz=33,slow=7.9,SNR=21
DBIC Dimbokro 60.55 261 *eP* **P 12 34 33.8 +0.6**
comp=Z,15nm,1.1s,mb5.0
DBIC Dimbokro 60.55 261 P **P 12 34 34.1 +0.9**
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC Dimbokro 60.55 261 *eP* **P 12 34 33.8 +0.7**
comp=Z,15nm,1.1s,mb5.0
HABR Khabarovsk 63.03 47 *eP* **P 12 34 49.5 -0.3**
BOSA Boshof 63.27 209 P **P 12 34 51.8 +0.4**
comp=Z,1.8nm,0.5s,mb4.4,baz=53,slow=4.6,SNR=8.7
BOSA LR LR 13 01 58.7
comp=Z,60nm,18.1s,MS3.8,baz=286,slow=36
BOSA Boshof 63.27 209 *eP* **P 12 34 51.6 +0.2**
BOSA Boshof 63.27 209 *eP* **P 12 34 51.6 +0.2**
SUMG Summit 64.58 341 *eP* **P 12 34 59.9 -0.1**
comp=Z,16nm,1.1s,mb5.0
SUMG *ep*P pP 12 35 11.9 -2.5
SUMG Summit 64.58 341 *eP* **P 12 34 59.9 -0.1**
comp=Z,16nm,1.1s,mb5.0
SUMG *ep*P pP 12 35 11.9 -2.4
SEY Seymchan 68.53 29 *eP* **P 12 35 25.8 +0.6**
SEY *e*ScS ScS 12 45 20.2 -0.5
SEY Seymchan 68.53 29 *eP* **P 12 35 25.8 +0.6**
SEY *e* 12 45 20.2
SEY pmax pmax
comp=E,5.0nm,0.7s
SEY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MA2 Magadan 68.92 33 *eP* **P 12 35 26.7 -0.9**
comp=Z,7.3nm,0.9s,mb4.6
MA2 Magadan 68.92 33 *eP* **P 12 35 27.0 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MA2 Magadan 68.92 33 *eP* **P 12 35 26.7 -1.0**
comp=Z,7.3nm,0.9s,mb4.6
BILL Bilibino 71.67 22 *eP* **P 12 35 44.6 +0.2**
comp=Z,9.0nm,1.2s,mb4.6
BILL Bilibino 71.67 22 *eP* **P 12 35 44.6 +0.2**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BILL Bilibino 71.67 22 *eP* **P 12 35 44.6 +0.1**
comp=Z,9.5nm,1.2s,mb4.6
TNA Tin City 80.93 17 *eP* **P 12 36 36.8 -0.2**
comp=Z,7.0nm,1.2s,mb4.5
TNA Tin City 80.93 17 *eP* **P 12 36 36.8 -0.2**
comp=Z,7.0nm,1.2s,mb4.5
FITZ Fitzroy Crossi 82.11 115 *eP* **P 12 36 44.3 +1.1**
comp=Z,7.9nm,0.9s,mb4.6
ILAR Eielson Array 85.86 9 P **P 12 37 01.9 -0.3**
comp=Z,2.2nm,0.9s,mb4.4,baz=333,slow=3.6,SNR=24
ILAR Eielson Array 85.86 9 P **P 12 37 02.0 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
MCK McKinley 86.53 11 *eP* **P 12 37 05.3 -0.3**
comp=Z,11nm,1.1s,mb5.0
MCK McKinley 86.53 11 *eP* **P 12 37 05.3 -0.3**
MCK pmax pmax
comp=Z,11nm,1.1s,mb5.0
MCK McKinley 86.53 11 *eP* **P 12 37 05.3 -0.2**
comp=Z,11nm,1.1s,mb5.0
DAWY Dawson 87.45 6 *eP* **P 12 37 10.3 +0.3**
YKW3 Yellowknife Ar 89.31 355 *eP* **P 12 37 16.4 -2.5**
YKW3 Yellowknife Ar 89.31 355 *eP* **P 12 37 16.4 -2.5**
YKA Yellowknife Ar 89.38 355 P **P 12 37 19.8 +0.6**
comp=Z,5.2nm,1.1s,mb4.8,baz=6.6,slow=5.1,SNR=44
YKA LR LR 13 23 31.1
comp=Z,54nm,18.5s,MS4.0,baz=75,slow=40
WRA Warramunga Arr 90.09 113 P **P 12 37 23.2 +0.7**
comp=Z,1.9nm,0.9s,mb4.4,baz=313,slow=4.0,SNR=16
WRA Warramunga Arr 90.09 113 P **P 12 37 23.2 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WB2 Warramunga Arr 90.10 113 *eP* **P 12 37 22.6 +0.1**
ASAR Alice Springs 91.58 116 P **P 12 37 30.1 +0.6**
comp=Z,1.7nm,0.9s,mb4.4,baz=299,slow=4.5,SNR=12
ASAR Alice Springs 91.58 116 P **P 12 37 30.1 +0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.9s

NIED ***26*** *12:36:00,3430N×13720E,h340km,Mw4.1 Best double couple: M0 1.59000×10^15 NP1:φ0=160.00000°,δ65.00000°, λ122.00000°. NP2:φ0=285.00000°,δ40.00000°,λ42.00000°.*
MOS ***26*** *12:36:52.2±0.8,34.18N×137.15E,h335km,mb4.1/1,Error ellipse: s-maj=29.0km s-min=11.1km az=81.5*
ISCJB ***26*** *12:36:53.0±0.3,3428N±004×13720E±005,h341km±2km, mb3.5/12,Error ellipse: s-maj=7.6km s-min=5.8km az=116.0*
NEIC ***26*** *12:36:53.6±0.5,34.19N×137.11E,h330km±5km,mb4.1/4, Error ellipse: s-maj=10.2km s-min=8.0km az=110.0*
IDC ***26*** *12:36:53.5±0.7,3422N×137.11E,h328km±7km,mb3.1/10, mb1 3.4/13,mb1mx3.2/22,mbtmp3.8/13,Error ellipse: s-maj=19.6km s-min=9.4km az=79.0*
JMA ***26*** *12:36:53.5±0.2,3432N×137.15E,h342km±2km,M3.8*
ISC 26 12:36:54.0±0.3,3429N±005×13719E±005,h334km±2km, n46,σ0=84/67,mb3.5/12,8C-2D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.34**	**354**	⇑P	**Pn**	**12 37 37.0**	**+0.9**
JAA				S	**S**	**12 38 10.4**	**+0.6**
JIE	**Ise**	**0.41**	**285**	⇑P	**Pn**	**12 37 36.8**	**+0.6**
JIE				S	**S**	**12 38 10.3**	**+0.3**
TK01	**Tokai 1**	**0.62**	**147**	P	**Pn**	**12 37 37.8**	**+1.1**
JWY	**Kouya**	**1.32**	**267**	P	**Pn**	**12 37 40.1**	**+0.6**
JWZ	**Kozaga**	**1.44**	**239**	⇑P	**Pn**	**12 37 39.9**	**-0.2**
JWZ				*e*S	**S**	**12 38 16.6**	**-0.5**
JGM	**Miyama**	**1.46**	**345**	⇑P	**Pn**	**12 37 41.0**	**+0.8**
JGM				*e*S	**S**	**12 38 17.5**	**+0.2**
JYN	**Shimob**	**1.64**	**42**	P	**Pn**	**12 37 42.0**	**+0.7**
JWT	**Wachi**	**1.77**	**304**	⇑P	**Pn**	**12 37 42.4**	**+0.2**
JWT				*e*S	**S**	**12 38 20.3**	**-0.5**
JOD2	**Odawara 2**	**1.84**	**58**	P	**Pn**	**12 37 43.0**	**+0.4**
JOD2				*e*S	**S**	**12 38 22.4**	**+0.8**
JIM2	**Oshima 3**	**1.90**	**76**	P	**Pn**	**12 37 43.5**	**+0.5**
JKG	**Kaga**	**2.10**	**341**	⇑P	**Pn**	**12 37 44.9**	**+0.4**
JKG				*e*S	**S**	**12 38 25.1**	**+0.1**
JRY	**Ryogami san**	**2.22**	**39**	⇓P	**Pn**	**12 37 46.1**	**+0.7**
JRY				*e*S	**S**	**12 38 27.7**	**+1.0**
JAI	**Aioi**	**2.33**	**258**	⇑P	**Pn**	**12 37 46.4**	**+0.1**
JAI				*e*S	**S**	**12 38 27.2**	**-1.0**
MAJO	**Matsushiro**	**2.40**	**20**	*e*P	**Pn**	**12 37 47.0**	**+0.2**
MAJO				*e*S	**S**	**12 38 27.5**	**-1.7**
MAT	**Matsushiro**	**2.40**	**20**	P	**Pn**	**12 37 47.0**	**+0.2**
MAT				S	**S**	**12 38 28.6**	**-0.6**
MAT	**Matsushiro**	**2.40**	**20**	P	**Pn**	**12 37 47.2**	**+0.4**
MAT				*e*S	**S**	**12 38 28.8**	**-0.4**
MAT	**Matsushiro**	**2.40**	**20**	*e*P	**Pn**	**12 37 47.0**	**+0.2**
MAT				*e*S	**S**	**12 38 29.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.40**	**20**	P	**Pn**	**12 37 47.3**	**+0.4**
MJAR	9.7nm,0.3s,baz=193,slow=9.3,SNR=268			S	**S**	**12 38 28.8**	**-0.4**
MJAR	**Matsushiro Arr**	**2.40**	**20**	P	**Pn**	**12 37 47.3**	**+0.4**
MJAR	2.3nm,0.3s,baz=200,slow=16,SNR=15			S	**S**	**12 38 28.8**	**-0.4**
JHJ	**Hachijo jima 2**	**2.46**	**118**	P	**Pn**	**12 37 48.1**	**+0.8**
JHJ	11nm,0.3s,baz=330,slow=20,SNR=2.8			S	**S**	**12 38 30.5**	**+0.4**

13nm,0.3s,baz=90,slow=20,SNR=2.9
JAG Ashikaga 2.82 40 ⇓P Pn 12 37 49.6 -0.9
JAG S **S** 12 38 33.6 -2.2
BSO1 Boso 1 3.15 82 P **Pn 12 37 51.8 -1.7**
BSO1 *e*S **S** 12 38 39.2 -2.1
JHS Saijyo 3.43 283 ⇑P **Pn 12 37 56.7 +0.5**
JHS *e*S **S 12 38 45.9 -0.4**
KS15 Wonju Array Si 8.18 295 P **Pn 12 38 49.6 -0.4**
CBIJ Chichi jima 8.36 148 S **S 12 40 16.9 -12**
7.7nm,0.3s,baz=201,slow=22,SNR=4.9
ASAJ Asahikawa 10.67 22 P **Pn 12 39 18.9 -1.0**
1.6nm,0.3s,baz=218,slow=24,SNR=15
ASAJ S **S 12 41 14.3 -5.4**
0.7nm,0.3s,baz=293,slow=27,SNR=4.2
ASAJ Asahikawa 10.67 22 P **Pn 12 39 18.9 -1.0**
ASAJ S **S 12 41 14.4 -5.3**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
YSS Yuzh-Sakhalins 13.33 17 *e*P **Pn 12 39 52.0 +0.3**
YSS Yuzh-Sakhalins 13.33 17 *e*P **Pn 12 39 51.2 -0.5**
comp=Z,21nm,0.6s
ENH Enshi 23.73 268 P **P 12 41 35.1 -1.8**
comp=Z,4.8nm,0.4s,mb4.1
SONM Songino Array 26.67 310 P **P 12 42 04.9 +1.7**
comp=Z,0.6nm,0.8s,mb2.9,baz=123,slow=8.9,SNR=4.3
SONM pP 12 43 07.0
comp=Z,0.7nm,1.1s,baz=125,slow=7.4,SNR=3.9
MKAR Makanchi Array 42.73 304 P **P 12 44 19.1 -0.1**
comp=Z,0.1nm,0.4s,baz=89,slow=11,SNR=4.7
MCK McKinley 52.81 32 *e*P **P 12 45 36.8 +1.0**
ILAR Eielson Array 53.63 31 P **P 12 45 42.3 +0.5**
comp=Z,0.7nm,0.9s,mb3.0,baz=282,slow=6.0,SNR=8.9
WRAB Tennant Creek 53.99 183 *e*P **P 12 45 43.6 -0.7**
WRAB pmax pmax
comp=Z,2.0nm,0.3s,mb3.9
WRAB Tennant Creek 53.99 183 *e*P **P 12 45 43.6 -0.7**
comp=Z,2.2nm,0.3s,mb4.0
WB2 Warramunga Arr 54.00 183 *e*P **P 12 45 43.5 -0.9**
WRA Warramunga Arr 54.00 183 P **P 12 45 43.6 -0.8**
comp=Z,1.1nm,0.3s,mb3.6,baz=0.0,slow=7.5,SNR=50
MBWA Marble Bar 57.59 199 *e*P **P 12 46 10.2 +0.6**
ASAR Alice Springs 57.72 184 P **P 12 46 09.8 -0.8**
comp=Z,0.3nm,0.3s,mb3.1,baz=2.0,slow=7.2,SNR=19
INK Inuvik 58.37 26 *e*P **P 12 46 15.6 +0.6**
comp=Z,1.2nm,0.7s,mb3.3
ARCES ARCESS Array B 65.33 339 P **P 12 47 01.0 -0.1**
comp=Z,6.9nm,1.0s,mb4.3,baz=73,slow=9.5,SNR=3.3
YKA Yellowknife Ar 67.88 28 P **P 12 47 17.4 +0.4**
comp=Z,1.1nm,0.9s,mb3.6,baz=293,slow=5.9,SNR=9.1
FINES FINESS Array B 69.61 331 P **P 12 47 27.1 -0.5**
comp=Z,0.8nm,0.7s,mb3.5,baz=41,slow=6.3,SNR=7.5
NVAR Mina Array Bea 79.39 51 P **P 12 48 24.9 +1.5**
comp=Z,0.3nm,0.4s,mb3.4,baz=269,slow=7.5,SNR=4.2
GERES GERESS Array B 83.16 326 P **P 12 48 42.7 -0.4**
comp=Z,0.3nm,0.7s,mb3.2,baz=26,slow=3.4,SNR=3.6

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*ISCJB **26** 13:04:14.2±1.2,3125N±004×7382E±009,h10km,Error ellipse: s-maj=11.0km s-min=5.0km az=37.5*
*NDI **26** 13:04:14.5±4.5,3142N×7352E,h26km±52km,ML3.2*
ISC 26 13:04:15.1±0.9,3127N±003×7382E±006,h10km,n16, σ1§46/30,2C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PONG	**Pong**	**1.94**	**69**	*e*P	**Pn**	**13 04 47.0**	**-1.1**
PONG				*e*x	**Sn**	**13 05 11.0**	**-1.6**
THN	**Thein Dam**	**1.99**	**54**	*e*P	**Pn**	**13 04 47.8**	**-0.9**
THN				*e*S	**Sn**	**13 05 13.5**	**-0.2**
DLH	**Dalhousie**	**2.22**	**55**	*e*P	**Pn**	**13 04 52.0**	**0.0**
DLH				*e*S	**Sn**	**13 05 20.0**	**+0.5**
BHK	**Bhakra**	**2.23**	**86**	*e*x	**Sn**	**13 05 24.9**	**+5.3**
SDNR	**Sundarnagar**	**2.71**	**84**	*e*P	**Pn**	**13 04 59.5**	**+0.9**
SDNR				*e*S	**Sn**	**13 05 31.5**	**+0.1**
SMLA	**Simla**	**2.87**	**92**	*e*P	**Pn**	**13 05 03.9**	**+3.0**
SMLA				*e*P		13 05 04.6	
SMLA				*e*S	**Sn**	**13 05 37.4**	**+1.9**
SMLA				AML	AML	13 05 43.9	
comp=N,283nm,0.2s							
SMLA				AML	AML	13 05 45.4	
comp=E,259nm,0.6s							
KHET	**Khetri**	**3.63**	**151**	*e*P	**Pn**	**13 05 14.0**	**+2.8**
KHET				AML	AML	13 05 53.5	
comp=N,16nm,0.1s							
KHET				*e*S	**Sn**	**13 05 53.6**	**-0.5**
KHET				AML	AML	13 06 09.1	
comp=E,40nm,0.1s							
DDI	**Dehra Dun**	**3.77**	**103**	*e*P	**Pg**	**13 05 24.9**	**-2.4**
DDI				*e*S	**Sg**	**13 06 12.2**	**-3.9**
KLP	**Kalpa**	**3.80**	**85**	*e*P	**Pn**	**13 05 16.2**	**+2.5**
KLP				*e*S	**Sn**	**13 05 58.4**	**+0.1**
KLP				*e*S	**Sn**	**13 05 59.1**	**+0.7**
KLP				AML	AML	13 06 14.3	
comp=N,164nm,0.6s							
KLP				AML	AML	13 06 16.1	
comp=E,226nm,0.5s							
KUDL	**Kundal**	**3.89**	**143**	*e*P	**Pn**	**13 05 16.8**	**+1.9**
KUDL				*e*P		13 05 17.8	
KUDL				*e*S	**Sn**	**13 06 00.6**	**+0.1**
KUDL				AML	AML	13 06 24.7	
comp=E,76nm,0.8s							
NDI	**New Delhi**	**3.92**	**130**	*e*x	**Pg**	**13 05 28.0**	**-2.1**
NDI				*e*x	**Sg**	**13 06 19.0**	**-1.9**
AYAN	**Aya Nagar**	**4.00**	**133**	*e*P	**Pn**	**13 05 19.5**	**+3.1**
SONA	**Sohna**	**4.14**	**136**	*e*P	**Pn**	**13 05 19.3**	**+1.0**
SONA				*e*S	**Sn**	**13 06 07.6**	**+0.8**
SONA				AML	AML	13 06 21.4	
comp=E,49nm,0.1s							
SONA				AML	AML	13 06 21.6	
comp=N,25nm,0.3s							
AJM	**Ajmer**	**4.83**	**171**	*e*P	**Pn**	**13 05 28.2**	**+0.4**
AJM				*e*S	**Sn**	**13 06 21.9**	**-1.9**
AJM				AML	AML	13 06 22.7	
comp=N,39nm,0.1s							
AJM				AML	AML	13 06 22.7	
comp=E,50nm,0.1s							
BHPL	**Bhopal**	**8.62**	**157**	*e*S	**Sn**	**13 07 51.2**	**-5.9**
BHPL				AML	AML	13 07 52.6	
comp=N,6.7nm,0.1s							
BHPL				AML	AML	13 07 53.0	
comp=E,8.3nm,0.3s							
KK31	**Karatay Array**	**12.10**	**348**	⇑P	**Pn**	**13 07 05.8**	**-1.7**
comp=E,0.6nm,0.4s,baz=172,slow=13,SNR=15							
KK31				⇑S	**Sn**	**13 09 15.2**	**-7.2**
comp=E,0.5nm,0.4s,baz=174,slow=22,SNR=5.5							

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*LDG **26** 13:04:57.6±0.0,4299N×005E,h10km,Md1.7/2,Error ellipse: s-maj=1.7km s-min=1.0km az=156.0*
*STR **26** 13:04:57.8±0.1,4298N×005E,h5km±1km,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 26 13:04:58.4±0.3,4297N×005E,h0km,mbLg0.5/3,Error ellipse: s-maj=2.9km s-min=2.0km az=113.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**15**	Pg	Pg	13 04 59.8	-0.1
LABF				Sg	Sg	13 05 01.4	+0.5
LABF	**Labassere**	**0.08**	**15**	Pg	Pg	13 04 59.9	0.0
LABF				Lg		13 05 01.4	
VIEF	**Viey**	**0.09**	**191**	Pg	Pg	13 05 00.4	+0.2
VIEF				Sg	Sg	13 05 02.2	+0.8
VIEF	**Viey**	**0.09**	**191**	Pg	Pg	13 05 00.4	+0.2
VIEF				Lg		13 05 02.2	
EPF	**Esparros**	**0.22**	**75**	*e*Pg	Pg	13 05 02.1	-0.6
EPF				*e*Sg	Sg	13 05 05.6	0.0
3.5nm,0.2s							
EPF	**Esparros**	**0.22**	**75**	Pg	Pg	13 05 02.1	-0.6
EPF				Lg		13 05 05.6	
1.8nm,0.2s							
EBIE	**Bielsa**	**0.30**	**166**	Pg	Pg	13 05 03.8	-0.3
1.5nm,0.4s,SNR=15							
EBIE				Lg		13 05 08.0	
17nm,1.3s,SNR=5.0							
ETSF	**Etsaut**	**0.45**	**261**	*e*Pg	Pg	13 05 06.6	-0.5
ETSF				*e*Sg	Sg	13 05 12.5	-0.4
2.5nm,0.2s							
ETSF	**Etsaut**	**0.45**	**261**	Pg	Pg	13 05 06.6	-0.5
ETSF				Lg		13 05 12.5	
1.2nm,0.2s							

JMA 26 13:05:44.8±0.4,4395N×14831E,h11km,M3.6,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.95**	**253**	P	Pn	13 06 18.7	+0.8
JRA	**Rausu**	**2.30**	**271**	P	Pn	13 06 23.7	+1.0

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*MOS **26** 13:12:17.8±3.0,5700N×11760E,h8km,mb4.0/1,Error ellipse: s-maj=61.8km s-min=30.1km az=152.9*
BYKL 26 13:12:18.6±0.3,5678N×11757E,h4km±4km,2C-1D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.40**	**72**	⇑*i*Pg	Pg	13 12 25.9	-0.4
CRS				*e*Sg	Sg	13 12 31.7	+0.1
CRS				Pmax			
193nm,0.2s							
CRS				Smax			
963nm,0.4s							
NLYR	**Nelyaty**	**1.07**	**255**	⇑*i*Pg	Pg	13 12 37.0	-2.1
NLYR				*e*Pb	Pb	13 12 39.6	-0.1
NLYR				*e*		13 12 40.8	
NLYR				*e*		13 12 42.7	
NLYR				*e*Sg	Sg	13 12 51.3	-1.7
NLYR				*e*		13 12 56.5	
NLYR				max			
202nm,0.3s							
NLYR				max			
697nm,0.7s							
BOD	**Bodaibo**	**2.20**	**300**	⇓*i*Pn	Pn	13 12 55.9	0.0
BOD				*e*Pg	Pg	13 12 57.6	-3.1
BOD				*e*Sn	Sn	13 13 23.4	-0.1
BOD				*e*Sg	Sg	13 13 26.5	-2.7
BOD				Pmax			
48nm,0.2s							
BOD				Smax			
265nm,0.4s							
BOD	**Bodaibo**	**2.20**	**300**	*e*PN	Pn	13 12 55.2	-0.7
BOD				*e*		13 13 22.8	
BOD				pmax	pmax		
comp=Z,47nm,0.2s							
BOD				smax			
comp=N,268nm,0.3s							
SVKR	**Severomuysk**	**2.32**	**255**	*e*Pg	Pg	13 12 59.8	-3.3
SVKR				*e*Sg	Sg	13 13 29.8	-3.5
SVKR				Pmax			
comp=N,145nm,0.3s							
SVKR				Smax			
comp=N,326nm,0.6s							
SVKR	**Severomuysk**	**2.32**	**255**	*e*PN	Pn	13 13 02.1	+4.5
SVKR				*e*		13 13 29.4	
SVKR				pmax	pmax		
comp=Z,146nm,0.2s							
SVKR				smax			
comp=N,340nm,0.7s							
UKT	**Uakit**	**2.56**	**241**	*e*Pn	Pn	13 13 00.8	0.0
UKT				*e*		13 13 02.6	
UKT				*e*Pg	Pg	13 13 04.0	-3.6
UKT				*e*Sg	Sg	13 13 37.5	-3.3
UKT				Pmax			
comp=N,24nm,0.4s							
UKT				Smax			
comp=N,120nm,0.7s							
UKT	**Uakit**	**2.56**	**241**	*e*PN	Pn	13 13 03.8	+3.0
UKT				*e*		13 13 39.3	
UKT				pmax	pmax		
comp=Z,24nm,0.7s							
UKT				smax			
comp=N,120nm,0.4s							
TUP	**Tupik**	**2.72**	**149**	*e*Pn	Pn	13 13 02.7	-0.4
TUP				*e*Pg	Pg	13 13 06.8	-3.9
TUP				*e*PgPg		13 13 11.0	
TUP				*e*Sg	Sg	13 13 42.7	-3.3
TUP				*e*		13 13 53.7	
TUP				Pmax			
comp=N,29nm,0.3s							
TUP				max			
comp=N,134nm,0.9s							
YOA	**Uoyan**	**3.31**	**261**	*e*Sg	Sg	13 14 00.8	-4.1
YOA				Smax			
comp=N,354nm,0.4s							
YOA	**Uoyan**	**3.31**	**261**	*e*PN	Pn	13 13 19.2	+8.1
YOA				*i*		13 14 03.2	
YOA				pmax	pmax		
comp=Z,88nm,0.4s							
YOA				smax			
comp=N,391nm,0.6s							
KMO	**Kumora**	**3.66**	**258**	*e*Pn	Pn	13 13 16.7	+0.8
KMO				*e*Pg	Pg	13 13 23.4	-5.3
KMO				*e*Sg	Sg	13 14 11.4	-4.7
KMO				Pmax			
comp=N,19nm,0.5s							
KMO				Smax			
comp=N,97nm,1.0s							
KMO	**Kumora**	**3.66**	**258**	*e*PN	Pn	13 13 22.8	+6.9
KMO				*e*S	Sn	13 13 57.6	-1.9
KMO				*e*		13 14 10.8	
KMO				pmax	pmax		
comp=Z,19nm,0.5s							
KMO				smax			
comp=E,100nm,1.1s							
YLYR	**Ulyunkhan**	**4.09**	**245**	*e*Pn	Pn	13 13 21.5	-0.3
YLYR				*e*		13 13 23.6	
YLYR				*e*Pg	Pg	13 13 31.4	-5.5
YLYR				*e*Sn	Sn	13 14 08.7	-1.4
YLYR				*e*Sg	Sg	13 14 24.7	-5.2
YLYR				Pmax			
comp=E,5.0nm,0.2s							
YLYR				Smax			
comp=E,39nm,1.1s							
NIZ	**Nizh Angarsk**	**4.59**	**261**	*e*Pn	Pn	13 13 29.6	+0.9
NIZ				*e*Pg	Pg	13 13 40.9	-5.6
NIZ				*e*Sg	Sg	13 14 40.2	-5.7
NIZ				Pmax			
comp=E,10.0nm,0.7s							
NIZ				Smax			
comp=E,42nm,0.9s							
NIZ	**Nizh Angarsk**	**4.59**	**261**	*e*PN	Pn	13 13 28.4	-0.3
NIZ				*e*		13 13 41.0	
NIZ				*e*S	Sn	13 14 21.6	-0.8
NIZ				*e*		13 14 41.0	
NIZ				pmax	pmax		
comp=Z,15nm,0.7s							
NIZ				smax			
comp=E,56nm,0.9s							
CIT	**Chita**	**5.31**	**208**	*e*Pg	Pg	13 13 54.0	-6.4
CIT				*e*Sg	Sg	13 15 03.1	-6.2
CIT				Pmax			
comp=E,5.0nm,0.3s							
CIT				Smax			
comp=E,42nm,0.5s							
SYVR	**Suvo**	**5.34**	**237**	*e*Pn	Pn	13 13 39.4	+0.3
SYVR				*e*Pg	Pg	13 13 54.5	-6.5
SYVR				*e*Sg	Sg	13 15 04.6	-5.6
SYVR				Pmax			
comp=E,4.0nm,0.5s							
SYVR				Smax			
comp=E,40nm,1.1s							
OGRR	**Ongureny**	**6.52**	**245**	*e*Pn	Pn	13 13 56.7	+1.5
OGRR				*e*		13 14 18.6	
OGRR				*e*Sg	Sg	13 15 40.6	-7.2
OGRR				Smax			
comp=E,6.0nm,0.4s							
TRG	**Tyrgan**	**7.64**	**243**	*e*Sg	Sg	13 16 15.6	-8.1
TRG				Smax			
comp=E,5.0nm,0.4s							
KPC	**Khapcheranga**	**7.74**	**206**	*e*	Pn	13 14 10.2	-1.8
KPC				*e*		13 14 19.6	
KPC				*e*		13 14 41.2	
KPC				*e*Sg	Sg	13 16 19.0	-8.1
KPC				Smax			
comp=E,13nm,0.6s							

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*IDC **26** 13:27:16.1±2.6,9.15S×10784E,h0km,mb3.6/5,mb1 3.8/5, mb1mx3.7/17,mbtmp3.6/5,Error ellipse: s-maj=113.4km s-min=22.6km az=53.0*
*ISCJB **26** 13:27:19.0±2.3,9.1S±05×1079E±06,h33km,mb3.6/7, Error ellipse: s-maj=106.1km s-min=16.2km az=100.1*
*NEIC **26** 13:27:21.1±1.6,9.23S×10779E,h35km,mb3.9/2,Error ellipse: s-maj=78.7km s-min=11.7km az=50.0*

ISC 26 13:27:21.1±2.3,93S±05×1077E±06,h35km,n7,σ0§13/7, mb3.6/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.81**	**115**	P	**P**	**13 33 07.0**	**0.0**
1.3nm,0.7s,mb3.6,baz=288,slow=12,SNR=15							
WRAB	**Tennant Creek**	**27.82**	**115**	*e*P	**P**	**13 33 06.9**	**-0.1**
1.5nm,0.5s,mb3.9							
ASAR	**Alice Springs**	**28.83**	**123**	P	**P**	**13 33 16.1**	**+0.1**
0.2nm,0.5s,mb3.1,baz=299,slow=8.7,SNR=4.5							
STKA	**Stephens Creek**	**38.62**	**131**	P	**P**	**13 34 40.9**	**0.0**
1.3nm,0.7s,mb3.8,baz=306,slow=12,SNR=4.0							
SONM	**Songino Array**	**56.84**	**359**	P	**P**	**13 37 02.2**	**+0.1**
0.2nm,0.6s,mb3.3,baz=186,slow=5.9,SNR=1.5							
MKAR	**Makanchi Array**	**60.23**	**340**	P	**P**	**13 37 25.5**	**-0.3**
0.4nm,0.6s,mb3.6,baz=144,slow=8.1,SNR=5.8							
BRVK	**Borovoye**	**69.77**	**337**	P	**P**	**13 38 27.9**	**+0.2**
0.5nm,0.4s,mb3.8							

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*BJI **26** 13:39:48.7,937S×10624E,h34km,mB5.4,mb5.2,Ms5.2, Msz4.9*
*IDC **26** 13:39:50.8±0.4,864S×10598E,h0km,mb4.7/26, mb1 4.7/26,mb1mx4.7/28,mbtmp4.7/26,MS4.4/12, Ms1 4.4/12,ms1mx4.1/29,Error ellipse: s-maj=13.0km s-min=12.4km az=59.0*
*MOS **26** 13:39:54.7±0.9,861S×10595E,h35km,mb5.4/35,Error ellipse: s-maj=11.5km s-min=6.8km az=113.5*
*ISCJB **26** 13:39:54.0±0.2,866S±004×10599E±004,h32km, mb5.2/101,MS4.7/19,Error ellipse: s-maj=6.4km s-min=4.9km az=108.1*
*NEIC **26** 13:39:56.2±0.2,867S×10598E,mb5.2/38,Error ellipse: s-maj=6.4km s-min=4.6km az=53.0*
*HRVD **26** 13:39:56.2±0.7,9.19S×10571E,h12km,MW4.9/51, Centroid moment Tensor Solution. LP body waves: s34,c43;Mantle waves: s51,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.03±.13; $M_{\theta\theta}$-1.28±.07; $M_{\phi\phi}$0.24±.15; $M_{r\theta}$2.31±.24; $M_{\theta\phi}$0.91±.08; $M_{\phi r}$-1.40±.36; Best double couple: $M_0$3.03100×10^{16} NP1:ϕ_s281.00000°,δ14.00000°,λ70.00000°. NP2: ϕ_s122.00000°,δ77.00000°,λ95.00000°. Principal axes: T 2.7070, Plg58.0000°, Azm38.0000°; N 0.6410, Plg5.0000°, Azm301.0000°; P -3.3560, Plg32.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 13:39:56.4±0.2,867S±004×10599E±004,h34km, h34km±1.5km:pP-P,n214,σ0§99/200,mb5.2/101,MS4.7/19, 7C-7D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**6.02**	**326**	P	**Pn**	**13 41 20.2**	**-2.8**
775nm,0.9s							
COCO	**West Island**	**9.66**	**248**	Pn	**Pn**	**13 42 08.3**	**-4.7**
5μm,0.9s,SNR=16							
COCO	**West Island**	**9.66**	**248**	*e*P	**Pn**	**13 42 08.0**	**-5.0**
1μm,1.2s							
COCO				*e*S	**Sn**	**13 43 56.0**	**-4.2**
KGM	**Kluang**	**10.94**	**346**	P	**Pn**	**13 42 29.9**	**-0.7**
PSI	**Prapat**	**13.40**	**328**	Pn	**Pn**	**13 42 55.4**	**-8.7**
0.8nm,0.3s,baz=154,slow=18,SNR=6.3							
PSI				LR	LR	13 49 21.9	
comp=Z,1μm,20.2s,baz=140,slow=43							
IPM	**Ipoh**	**13.97**	**339**	P	**Pn**	**13 43 08.8**	**-3.0**
KULM	**Kulim**	**14.86**	**339**	*e*P	**Pn**	**13 43 18.6**	**-5.3**
PCI	**Palu**	**15.80**	**62**	P	**Pn**	**13 43 37.2**	**+1.0**
200nm,2.1s							
KKM	**Kota Kinabalu**	**17.82**	**35**	P	**Pn**	**13 44 02.3**	**+0.7**
KKM	**Kota Kinabalu**	**17.82**	**35**	*e*P	**Pn**	**13 44 01.8**	**+0.2**
MBWA	**Marble Bar**	**18.16**	**135**	*e*P	**Pn**	**13 44 03.0**	**-2.8**
104nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.27**	**118**	*e*P	**P**	**13 44 40.5**	**+0.8**
80nm,0.9s,mb5.0							
NNT	**Nongplab**	**22.02**	**344**	P	**P**	**13 44 48.5**	**+0.8**
NST	**Nakhon Sawan**	**24.87**	**346**	P	**P**	**13 45 16.0**	**+0.2**
67nm,0.5s,mb5.4							
KKTK	**Khon Kaen**	**25.04**	**353**	P	**P**	**13 45 18.6**	**+1.3**
370nm,0.6s,mb6.1							
KLBR	**Kellerberrin**	**25.30**	**156**	*e*P	**P**	**13 45 18.7**	**-1.0**
35nm,1.0s,mb4.8							
NWAO	**Narrogin (SRO)**	**26.28**	**158**	P	**P**	**13 45 26.9**	**-1.7**
15nm,1.1s,mb4.5,baz=317,slow=10.0,SNR=4.0							
NWAO				LR	LR	13 55 14.2	
comp=Z,797nm,18.6s,MS4.3,baz=338,slow=35							
NWAO	**Narrogin (SRO)**	**26.28**	**158**	P	**P**	**13 45 26.9**	**-1.7**
NWAO				LR	LR	13 55 14.2	
TGY	**Tagaytay City**	**27.05**	**33**	P	**P**	**13 45 36.3**	**+0.8**
86nm,0.5s,baz=175,slow=8.9,SNR=5.7							
QIZ	**Qiongzhong**	**27.78**	**8**	P	**P**	**13 45 41.0**	**-1.1**
QIZ				S	**S**	**13 50 22.5**	**-0.1**
QIZ				AMB	AMB		
comp=Z,246nm,9.2s							
QIZ				LR	LR		
comp=N,2μm,13.8s,MS4.9							
QIZ				LR	LR		
comp=E,905nm,16.5s,MS4.9							
QIZ				LR	LR		
comp=Z,3μm,14.9s,MS5.0							
WRA	**Warramunga Arr**	**29.61**	**115**	P	**P**	**13 45 59.0**	**+0.7**
comp=Z,7.9nm,1.0s,mb4.4,baz=289,slow=11,SNR=21							
WRAB	**Tennant Creek**	**29.62**	**115**	*e*P	**P**	**13 45 59.2**	**+0.8**
WRAB				*e*	pP	13 46 08.5	+0.3
WRAB				pmax	pmax		
comp=Z,33nm,1.1s,mb5.0							
WRAB	**Tennant Creek**	**29.62**	**115**	*e*P	**P**	**13 45 59.1**	**+0.8**
comp=Z,33nm,1.1s,mb5.0							
WRAB				*e*	pP	13 46 08.5	+0.3
WB2	**Warramunga Arr**	**29.62**	**115**	*e*P	**P**	**13 45 59.0**	**+0.6**
ASPA	**Alice Springs**	**30.58**	**122**	*e*P	**P**	**13 46 10.9**	**+4.0**
ASAR	**Alice Springs**	**30.59**	**122**	P	**P**	**13 46 07.3**	**+0.4**
comp=Z,6.0nm,1.1s,mb4.3,baz=298,slow=8.2,SNR=24							
AS31	**Alice Springs**	**30.59**	**122**	*e*P	**P**	**13 46 10.9**	**+4.0**
KMI	**Kunming**	**33.74**	**355**	P	**P**	**13 46 36.5**	**+1.9**
KMI				AP	pP	13 46 43.3	-1.2
KMI				XP	sP	13 46 45.8	-2.8
KMI				PPP		13 48 03.3	
KMI				S	**S**	**13 51 58.8**	**+3.1**
KMI				SS	SS	13 54 13.5	-8.6
KMI				AMB	AMB		
comp=Z,18nm,1.0s,mb5.0							
KMI				AMB	AMB		
comp=Z,191nm,5.5s							
KMI				LR	LR		
comp=N,3μm,12.8s,MS5.3							
KMI				LR	LR		
comp=E,2μm,12.8s,MS5.3							
KMI				LR	LR		
comp=Z,4μm,11.5s,MS5.3							
VIS	**Vishakhapatnam**	**34.48**	**320**	*e*P	**P**	**13 46 41.5**	**+0.4**
VIS				AMb	AMB	13 46 48.0	
comp=Z,26nm,1.0s,mb5.1							
GYA	**Guiyang**	**34.92**	**1**	P	**P**	**13 46 44.8**	**0.0**
GYA				AMB	AMB		
comp=Z,20nm,0.7s,mb5.2							
GYA				AMB	AMB		
comp=Z,320nm,5.6s							
SHL	**Shillong**	**36.70**	**338**	*e*P	**P**	**13 47 01.5**	**+1.5**
SHL				*e*S	**S**	**13 52 42.0**	**+0.8**
HYB	**Hyderabad**	**37.51**	**314**	⇓*i*P	**P**	**13 47 07.0**	**0.0**
HYB				*e*S	**S**	**13 52 53.0**	**-0.6**
HYB	**Hyderabad**	**37.51**	**314**	⇓*e*P	**P**	**13 47 07.0**	**0.0**
BOK	**Bokaro**	**37.78**	**329**	*e*P	**P**	**13 47 11.0**	**+1.8**
BOK				AMb	AMB	13 47 11.8	
comp=Z,87nm,1.1s,mb5.4							
ENH	**Enshi**	**38.86**	**5**	*e*P	**P**	**13 47 17.5**	**-0.9**
comp=Z,36nm,1.2s,mb5.0							
CD2	**Chengdu**	**39.41**	**357**	P	**P**	**13 47 23.0**	**+0.1**
CD2				S	**S**	**13 53 24.8**	**+2.6**
CD2				AMB	AMB		
comp=Z,20nm,1.1s,mb4.8							
CD2				LR	LR		
comp=N,1μm,12.6s							
CD2				LR	LR		
comp=Z,750nm,15.0s,MS4.7							
WHN	**Wuhan**	**39.80**	**11**	P	**P**	**13 47 27.5**	**+1.3**
WHN				AP	pP	13 47 36.5	+0.3
STKA	**Stephens Creek**	**40.30**	**130**	P	**P**	**13 47 29.1**	**-1.3**
comp=Z,9.8nm,0.7s,mb4.6,baz=301,slow=6.2,SNR=12							
STKA				LR	LR	14 03 03.0	
comp=Z,491nm,18.3s,MS4.4,baz=38,slow=34							
STKA	**Stephens Creek**	**40.30**	**130**	*e*P	**P**	**13 47 28.6**	**-1.7**

CTA Charters Tower 40.51 111 *e*P **P 13 47 33.2 +1.2**
comp=Z,16nm,1.1s,mb4.6
CTA Charters Tower 40.51 111 P **P 13 47 32.2 +0.2**
comp=Z,20nm,1.0s,mb4.7,baz=280,slow=10,SNR=7.8
CTA Charters Tower 40.51 111 *e*P **P 13 47 33.2 +1.2**
CTA pmax pmax
comp=Z,17nm,1.1s
CTAO Charters Tower 40.51 111 *e*P **P 13 47 32.0 0.0**
CTAO pmax pmax
comp=Z,35nm,1.2s,mb4.9
CTAO Charters Tower 40.51 111 *e*P **P 13 47 32.0 0.0**
comp=Z,35nm,1.2s,mb4.9
PMG Port Moresby 40.65 94 P **P 13 47 34.2 +1.1**
comp=Z,8.9nm,0.8s,mb4.5,baz=270,slow=6.9,SNR=3.2
KAD Karad 40.68 309 *e*P **P 13 47 34.4 +1.0**
KAD AMb AMB 13 47 43.3
comp=Z,47nm,1.1s,mb5.0
LSA Lhasa 40.74 340 P **P 13 47 35.3 +1.4**
LSA PP PP 13 49 09.3 +1.2
LSA S **S 13 53 41.0 -1.0**
LSA SS SS 13 56 45.5 +2.1
LSA AMB AMB
comp=Z,80nm,1.2s,mb5.2
LSA LR LR
comp=N,380nm,17.1s,MS4.6
LSA LR LR
comp=E,650nm,17.1s,MS4.6
LSA LR LR
comp=Z,690nm,19.0s,MS4.5
LSA Lhasa 40.74 340 *e*P **P 13 47 35.5 +1.6**
LSA pmax pmax
comp=Z,84nm,0.9s,mb5.4
LSA Lhasa 40.74 340 *e*P **P 13 47 35.5 +1.6**
comp=Z,84nm,0.9s,mb5.4
JIRN Jiri 40.89 333 *e*P **P 13 47 36.6 +1.4**
comp=Z,370nm,0.8s,mb6.1
PKI Pulchoki 41.17 332 *e*P **P 13 47 38.3 +0.8**
comp=Z,91nm,1.0s,mb5.4
PKI Pulchoki 41.17 332 *e*P **P 13 47 38.3 +0.8**
PKI pmax pmax
comp=Z,46nm,1.0s,mb5.1
ALBI Allahabad 41.17 326 *e*P **P 13 47 36.0 -1.5**
GUN Gumba 41.24 333 *e*P **P 13 47 39.5 +1.4**
comp=Z,252nm,0.7s,mb5.9
DMN Daman 41.35 331 *e*P **P 13 47 39.7 +0.8**
comp=Z,218nm,0.9s,mb5.8
JOW Kunigami 41.39 31 P **P 13 47 39.0 -0.3**
comp=Z,78nm,0.9s,mb5.3,baz=253,slow=7.8,SNR=5.8
KKN Kakani 41.42 332 *e*P **P 13 47 40.4 +0.9**
comp=Z,234nm,0.9s,mb5.8
KKN Kakani 41.42 332 *e*P **P 13 47 40.4 +0.9**
KKN pmax pmax
comp=Z,117nm,0.9s,mb5.5
POO Poona 41.67 311 *e*P **P 13 47 42.0 +0.4**
POO Poona 41.67 311 *e*P **P 13 47 40.8 -0.8**
POO AMb AMB 13 48 19.6
comp=Z,40nm,0.9s,mb5.0
GKN Gorkha 41.90 331 *e*P **P 13 47 44.2 +0.7**
comp=Z,282nm,1.1s,mb5.8
SSE Sheshan 42.14 20 *e*P **P 13 47 44.8 -0.6**
SSE AMB AMB
comp=Z,75nm,1.2s,mb5.2
SSE AMB AMB
comp=Z,349nm,6.1s
KOLN Koldanda 42.21 330 *e*P **P 13 47 46.0 0.0**
comp=Z,172nm,0.8s,mb5.7
BHPL Bhopal 42.27 319 *e*P **P 13 47 46.6 +0.1**
BHPL AMb AMB 13 47 52.2
comp=Z,29nm,0.7s,mb5.0
NJ2 Nanjing 42.32 16 *e*P **P 13 47 47.5 +0.7**
NJ2 PP PP 13 49 29.0 +3.8
NJ2 S **S 13 54 06.0 +0.5**
NJ2 AMB AMB
comp=Z,90nm,1.1s,mb5.3
NJ2 AMB AMB
comp=Z,410nm,6.0s
NJ2 LR LR
comp=N,1µm,29.8s,MS4.8
NJ2 LR LR
comp=E,930nm,24.8s,MS4.8
NJ2 LR LR
comp=Z,380nm,22.2s,MS4.2
XAN Xi'an 42.56 4 P **P 13 47 48.8 -0.1**
XAN S **S 13 54 06.5 -2.6**
XAN AMB AMB
comp=Z,35nm,1.1s,mb5.0
XAN LR LR
comp=N,1µm,14.1s
XAN LR LR
comp=Z,2µm,14.1s,MS5.1
LZH Lanzhou 44.56 358 *e*P **P 13 48 06.3 +1.4**
LZH AP pP 13 48 16.0 +0.9
LZH XP sP 13 48 21.8 +2.6
LZH PP PP 13 49 50.0 +0.8
LZH S **S 13 54 35.3 -3.0**
LZH AMB AMB
comp=Z,100nm,1.1s,mb5.6
LZH AMB AMB
comp=Z,470nm,4.8s
LZH LR LR
comp=N,2µm,12.4s
LZH LR LR
comp=Z,3µm,13.6s,MS5.3
LGTI Lohaghat 45.29 328 *e*P **P 13 48 11.5 +0.7**
PTH Pithoragarh 45.39 328 *e*P **P 13 48 11.9 +0.4**
PTH *e*x x 13 50 21.0
TIA Tai'an 45.85 13 P **P 13 48 15.0 -0.2**
AJM Ajmer 46.34 320 *e*P **P 13 48 19.1 +0.1**
AJM AMb AMB 13 48 25.0
comp=Z,18nm,0.8s,mb5.1
DDI Dehra Dun 47.15 326 *e*P **P 13 48 25.7 +0.3**
BHJ Bhuj 47.65 312 *e*P **P 13 48 27.5 -1.7**
BHJ AMb AMB 13 48 31.2
comp=Z,51nm,1.2s,mb5.4
JNU Nakatsue 47.84 28 P **P 13 48 30.4 -0.2**
comp=Z,37nm,1.1s,mb5.3,baz=139,slow=9.9,SNR=3.8
GTA Gaotai 48.18 354 *e*P **P 13 48 34.5 +1.2**
GTA AP pP 13 48 47.0 +3.4
GTA PCP PcP 13 50 01.0 +0.7
GTA PP PP 13 50 26.0 +0.2
GTA PCS PcS 13 53 57.3 +1.2
GTA S **S 13 55 29.3 -0.8**
GTA AMB AMB
comp=Z,60nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,378nm,5.3s
GTA LR LR
comp=N,875nm,14.4s,MS5.0
GTA LR LR
comp=E,804nm,12.9s,MS5.0
GTA LR LR
comp=Z,920nm,15.6s,MS4.9
SDNR Sundarnagar 48.65 326 *e*P **P 13 48 36.7 -0.3**
BTO Baotou 49.17 4 *e*P **P 13 48 41.5 +0.6**
BTO AMB AMB
comp=Z,48nm,1.3s,mb5.4
BJT Baijiatuau 49.35 10 *e*P **P 13 48 42.7 +0.4**
BJT *e* pP 13 48 51.8 -0.8
BJT pmax pmax
comp=Z,50nm,1.0s
BJT Baijiatuau 49.35 10 *e*P **P 13 48 42.7 +0.4**
comp=Z,50nm,1.0s,mb5.5
BJT *e* pP 13 48 51.8 -0.8
CBIJ Chichi jima 49.95 43 P **P 13 48 44.8 -2.1**
comp=Z,144nm,0.9s,mb6.0,baz=252,slow=19,SNR=3.1
THN Thein Dam 50.05 326 *e*P **P 13 48 46.5 -1.2**
KS15 Wonju Array Si 50.24 23 *e*P **P 13 48 49.5 +0.4**
SNY Shenyang 52.78 16 ⇑P **P 13 49 07.0 -1.1**
MJAR Matsushiro Arr 54.20 32 P **P 13 49 16.5 -2.0**
comp=Z,13nm,1.1s,mb4.8,baz=211,slow=7.4,SNR=13
MJAR LR LR 14 13 12.5
comp=Z,189nm,19.5s,MS4.2,baz=205,slow=37
WMQ Urumqi 54.82 344 P **P 13 49 23.8 +0.8**
WMQ AP pP 13 49 37.0 +3.6
WMQ XP sP 13 49 42.0 +4.6
WMQ PP PP 13 51 28.0 +2.1
WMQ S **S 13 56 57.0 -4.6**
WMQ SCS ScS 13 59 05.0 -4.6
WMQ AMB AMB
comp=Z,87nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,213nm,4.0s
WMQ LR LR
comp=N,278nm,12.0s,MS4.8
WMQ LR LR
comp=E,328nm,11.0s,MS4.8
WMQ LR LR
comp=Z,256nm,9.0s
CN2 Changchun 55.13 17 *e*P **P 13 49 24.3 -0.9**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
KSH Kashi 55.44 332 *e*P **P 13 49 29.0 +1.5**
KSH *e*PCP PcP 13 50 20.5 -6.9
KSH *e*PP PP 13 51 35.3 +3.8
KSH *e*PPP 13 52 51.0
KSH *e*SCP ScP 13 54 18.5 -5.1
KSH *e*PCS PcS 13 54 26.0 -1.5
KSH S **S 13 57 04.0 -5.9**
KSH *e*SCS ScS 13 59 07.0 -7.0
KSH AMB AMB
comp=Z,240nm,3.9s
KSH LR LR
comp=N,260nm,7.2s
KSH LR LR
comp=E,530nm,8.0s
SONM Songino Array 56.26 0 P **P 13 49 34.4 +1.0**
comp=E,9.1nm,0.9s,mb4.8,baz=171,slow=6.9,SNR=19
SONM PP PP 13 51 38.0 -0.8
comp=E,1.1nm,0.8s,baz=160,slow=8.9,SNR=1.7
SONM LR LR 14 16 47.9
comp=E,371nm,20.4s,MS4.5,baz=345,slow=39
SONM Songino Array 56.26 0 P **P 13 49 34.4 +1.1**
SONM 13 51 38.0
ULN Ulaanbaatar 56.29 1 *e*P **P 13 49 34.3 +0.7**
ULN pmax pmax
comp=Z,23nm,1.0s,mb5.2
ULN Ulaanbaatar 56.29 1 *e*P **P 13 49 34.3 +0.7**
comp=Z,23nm,1.0s,mb5.2
MDJ Mudanjiang 57.16 20 P **P 13 49 39.0 -0.8**
MDJ AMB AMB
comp=Z,21nm,0.7s,mb5.3
MDJ AMB AMB
comp=Z,199nm,3.6s
MDJ LR LR
comp=N,144nm,25.9s,MS4.0
MDJ LR LR
comp=E,66nm,24.6s,MS4.0
MDJ LR LR
comp=Z,101nm,19.4s
MDJ Mudanjiang 57.16 20 *e*P **P 13 49 38.2 -1.6**
comp=Z,35nm,1.3s,mb5.2
OPO Ambohidratompo 57.78 254 P **P 13 49 45.2 +1.1**
comp=Z,8.8nm,0.9s,mb4.8,baz=76,slow=4.0,SNR=8.6
OPO PP PP 13 51 52.4 +0.1
comp=Z,7.6nm,1.1s,baz=76,slow=6.0,SNR=3.1
KZA Kyzart 57.81 333 P **P 13 49 44.8 +0.4**
SNR=14
TKM2 Tokmak 2 58.34 334 P **P 13 49 48.1 0.0**
SNR=11
KBK Karagaybulak 58.41 333 P **P 13 49 49.4 +0.9**
SNR=9.1
AML Almayashu 58.56 332 P **P 13 49 49.7 +0.1**
SNR=6.9
AAK Ala-Archa 58.59 333 P **P 13 49 49.1 -0.7**
comp=Z,28nm,1.1s,mb5.2,SNR=5.1
AAK Ala-Archa 58.59 333 *e*P **P 13 49 48.4 -1.4**
AAK pmax pmax
comp=Z,18nm,1.4s,mb4.9
AAK Ala-Archa 58.59 333 *e*P **P 13 49 48.4 -1.4**
comp=Z,18nm,1.4s,mb4.9
FRU Bishkek 58.70 333 *e*P **P 13 49 50.5 0.0**
FRU *i* 13 50 05.5
ZAK Zakamensk 58.85 358 *e*P **P 13 49 51.7 +0.1**
ZAK pmax pmax
comp=Z,28nm,1.9s,mb5.0
HIA Hailar 58.94 10 *e*P **P 13 49 51.2 -1.0**
HIA *e**PP pP 13 50 02.0 -0.6
HIA pmax pmax
comp=Z,29nm,0.9s
HIA Hailar 58.94 10 *e*P **P 13 49 51.2 -1.0**
comp=Z,29nm,0.9s,mb5.3
HIA *e*pP pP 13 50 02.0 -0.7
EKS2 Erkin-Say 58.94 333 P **P 13 49 52.6 +0.4**
SNR=6.4
MKAR Makanchi Array 59.12 341 P **P 13 49 53.4 -0.1**
comp=Z,19nm,0.7s,mb5.2,baz=143,slow=7.7,SNR=212
MKAR PP PP 13 52 02.2 -2.0
comp=Z,4.4nm,0.6s,baz=153,slow=8.6,SNR=8.0
MOY Mondy 60.25 356 *e*P **P 13 50 02.3 +1.1**
MOY pmax pmax
comp=Z,83nm,2.6s,mb5.3
IRK Irkutsk 60.69 359 *e*P **P 13 50 01.8 -2.4**
IRK pmax pmax
comp=Z,81nm,2.9s,mb5.3
CIT Chita 60.80 5 *e*P **P 13 50 05.5 +0.5**
CIT *e* 13 52 26.0
CIT *e* 13 58 15.6
CIT pmax pmax
comp=Z,122nm,2.8s,mb5.5
KLR Kul'dur 61.92 19 *e*P **P 13 50 08.8 -3.8**
KLR pmax pmax
comp=E,160nm,2.8s
KLR pmax pmax
comp=Z,350nm,2.8s,mb6.0
HABR Khabarovsk 62.40 21 *i*P **P 13 50 15.3 -0.4**
KURK Kurchatov 63.73 341 P **P 13 50 24.6 0.0**
comp=Z,231nm,0.9s,mb6.2,SNR=36
KURK Kurchatov 63.73 341 *e*P **P 13 50 24.4 -0.2**
KURK *e**PP pP 13 50 36.0 +0.9
KURK pmax pmax
comp=Z,63nm,1.1s,mb5.6
KURK Kurchatov 63.73 341 *e*P **P 13 50 24.4 -0.2**
comp=Z,63nm,1.1s,mb5.6
KURK *e*pP pP 13 50 36.0 +0.9
YSS Yuzh-Sakhalins 64.31 27⇓*e*P **P 13 50 29.5 +1.1**
YSS *e* pP 13 50 38.0 -0.9
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
ABKT Ailbek 64.36 319 P **P 13 50 29.0 +0.3**
comp=Z,103nm,1.0s,mb5.8,SNR=5.2
ZAL Zalesovo 64.89 346 P **P 13 50 31.7 -0.6**
comp=Z,8.8nm,0.7s,mb4.9,baz=338,slow=1.2,SNR=31
ZAL LR LR 14 22 33.0
comp=Z,769nm,18.4s,MS4.9,baz=317,slow=40
ZAL Zalesovo 64.89 346 P **P 13 50 31.7 -0.6**
ZAL LR LR 14 22 33.0
KRAR Krasnoyarsk 65.36 352 *i*P **P 13 50 34.9 -0.4**
NVS Novosibirsk 66.09 346⇓*i*P **P 13 50 38.0 -2.0**
NVS *e* 13 51 13.3
NVS *i*S S 13 59 23.6 -2.3
NVS *e*PS 13 59 43.2
NVS pmax pmax
comp=Z,32nm,1.3s,mb5.2
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,12nm,1.3s
NVS smax
comp=N,38nm,2.3s
NVS smax
comp=E,32nm,2.6s
BOD Bodaibo 66.58 5⇓*i*P **P 13 50 42.7 -0.4**
BOD pmax pmax
comp=Z,48nm,1.2s,mb5.4
CLNS Chul'man 67.11 11 *e*P **P 13 50 46.4 -0.1**
CLNS pmax pmax
comp=N,26nm,1.2s
CLNS pmax pmax
comp=E,20nm,1.2s
CLNS pmax pmax
comp=Z,61nm,1.2s,mb5.5
KBD Kabd 67.56 306 *e*P **P 13 50 49.1 -0.2**
KBD AMb AMB 13 50 52.3
comp=Z,170nm,1.4s,mb5.9
RDF Al-Radifah 67.57 306 *e*P **P 13 50 49.0 -0.4**
RDF AMb AMB 13 50 52.2
comp=Z,64nm,1.3s,mb5.5
UMR Umm Al-Rimmam 67.70 307 *e*P **P 13 50 50.2 0.0**
UMR AMb AMB 13 50 52.5
comp=Z,55nm,0.9s,mb5.6
NAY Al-Naaiem 67.95 306 *e*P **P 13 50 51.3 -0.5**
NAY AMb AMB 13 50 56.4
comp=Z,26nm,1.0s,mb5.2
MIB Mutribah 68.10 307 *e*P **P 13 50 52.2 -0.5**
MIB AMb AMB 13 50 55.6
comp=Z,46nm,1.1s,mb5.4
BVAR Borovoye Array 68.52 338 P **P 13 50 55.1 -0.3**
comp=Z,8.5nm,0.7s,mb4.8,baz=143,slow=8.8,SNR=72
BRVK Borovoye 68.58 338 P **P 13 50 55.1 -0.6**
comp=Z,68nm,0.8s,mb5.6,SNR=11
BRVK Borovoye 68.58 338 *e*P **P 13 50 55.1 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.7
BRVK Borovoye 68.58 338 *e*P **P 13 50 55.1 -0.6**
comp=Z,11nm,1.0s,mb4.7
KMBO Kilima Mbogo 68.82 272 P **P 13 50 57.0 -0.2**
comp=Z,0.9nm,0.2s,mb4.3,baz=56,slow=11,SNR=3.8
KMBO Kilima Mbogo 68.82 272 P **P 13 50 57.0 -0.2**
ZRNK Zerenda 68.98 337 *e*P **P 13 50 57.5 -0.7**
ZRNK pmax pmax
comp=Z,20nm,1.0s,mb5.0
ZRNK Zerenda 68.98 337 *e*P **P 13 50 57.5 -0.8**
comp=Z,20nm,1.0s,mb5.0
YAK Yakutsk 72.85 11*c i*P **P 13 51 20.8 -0.9**
YAK pmax pmax
comp=Z,65nm,1.0s,mb5.5
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
YAK Yakutsk 72.85 11 *e*P **P 13 51 20.6 -1.1**
comp=Z,184nm,1.3s,mb5.8
SYO Syowa Base 73.60 200⇓*e*pP pP 13 51 36.1 -0.7
SYO Syowa Base 73.60 200⇓*e*sP sP 13 51 41.8 +1.0
GNI Garni 74.43 316 *i*P **P 13 51 29.9 -1.1**
VNDA Vanda 74.52 169 P **P 13 51 32.4 +0.9**
comp=Z,4.4nm,0.8s,mb4.5,baz=316,slow=3.3,SNR=4.4
VNDA LR LR 14 18 24.3
comp=Z,143nm,20.1s,MS4.3,baz=332,slow=31
VNDA Vanda 74.52 169 P **P 13 51 32.4 +0.9**
VNDA LR LR 14 18 24.3
ARU Arti 75.70 335⇑*i*P **P 13 51 37.2 -1.1**
ARU *e* 13 51 54.5
ARU *e*S S 14 01 11.6 -5.8
ARU *e*SS SS 14 06 03.0 -6.2
ARU pmax pmax
comp=Z,17nm,1.1s,mb4.9
ARU Arti 75.70 335 *e*P **P 13 51 37.9 -0.3**
comp=Z,17nm,0.9s,mb5.0
PET Petropavlovsk 75.94 30 *e*P **P 13 51 39.6 -0.1**
PET *e* 13 51 55.4
PET pmax pmax
comp=Z,51nm,1.5s,mb5.2
PET Petropavlovsk 75.94 30 *e*P **P 13 51 39.0 -0.6**
comp=Z,65nm,1.3s,mb5.4
LSZ Lusaka 76.07 256 P **P 13 51 41.3 +0.9**
comp=Z,6.7nm,0.8s,mb4.7,baz=75,slow=5.3,SNR=12
LSZ Lusaka 76.07 256 *e*P **P 13 51 41.0 +0.6**
LSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LSZ Lusaka 76.07 256 *e*P **P 13 51 41.0 +0.6**
comp=Z,8.7nm,0.9s,mb4.7
ZEI Tsey 76.15 318 *e*P **P 13 51 41.2 +0.4**
ZEI pmax pmax
comp=Z,23nm,1.3s,mb5.0
MA2 Magadan 76.80 22*c e*P **P 13 51 44.7 +0.1**
MA2 *e*S S 14 01 25.3 -4.2
MA2 pmax pmax
comp=N,7.0nm,1.0s
MA2 pmax pmax
comp=Z,200nm,1.0s,mb6.0
MA2 Magadan 76.80 22 *e*P **P 13 51 43.9 -0.7**
comp=Z,33nm,0.9s,mb5.3
KIV Kislovodsk 77.46 319 *e*P **P 13 51 48.1 -0.1**
KIV *e* pP 13 51 58.8 -0.2
KIV *e*PPP 13 56 30.6
KIV *e*S S 14 01 31.9 -4.7
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV Kislovodsk 77.46 319 *e*P **P 13 51 48.4 +0.2**
comp=Z,12nm,0.8s,mb4.9
GOF Gofitskoye 77.70 320 *e*P **P 13 51 49.0 -0.6**
GOF pmax pmax
comp=Z,36nm,1.3s,mb5.1
LBTB Lobatse 77.72 246 P **P 13 51 50.3 +0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=128,slow=6.3,SNR=6.5
BOSA Boshof 77.80 243 P **P 13 51 50.9 +0.8**
comp=Z,4.3nm,0.9s,mb4.4,baz=98,slow=8.1,SNR=6.2
BOSA Boshof 77.80 243 *e*P **P 13 51 50.7 +0.5**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOSA Boshof 77.80 243 *e*P **P 13 51 50.7 +0.6**
comp=Z,4.4nm,0.8s,mb4.4
EIL Elat 78.12 303 *e*P **P 13 51 52.5 +0.5**
comp=Z,385nm,1.1s,mb6.2
MALT Malatya 78.21 312 P **P 13 51 52.7 +0.3**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 78.21 312 P **P 13 51 52.7 +0.3**
comp=Z,7.3nm,1.1s,mb4.5
SOC Sochi 79.27 317 *e*P **P 13 51 56.0 -2.2**
SOC *e* pP 13 52 05.3 -3.7
SOC *e*S S 14 01 49.9 -6.2
SOC pmax pmax
comp=Z,20nm,1.2s,mb4.9
SEY Seymchan 79.70 20 *e*P **P 13 52 01.2 +0.6**
SEY *e* 13 55 04.8
SEY *e*S S 14 02 04.2 +3.6
SEY *e*PS 14 02 59.7
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,19nm,0.8s,mb5.1
SEY pmax pmax
comp=E,15nm,1.2s
SEY smax
comp=N,100nm,17.1s
SEY smax
comp=E,71nm,15.9s
CSS Prodhromos 80.99 307 *e*P **P 13 52 08.6 +1.1**
comp=E,38nm,1.0s,mb5.3
VRHR Novokhopersk 81.17 325 *e*P **P 13 52 08.1 -0.4**
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
QSPA South Pole Qui 81.33 180 *e*P **P 13 52 09.1 -0.2**
comp=E,12nm,0.7s,mb4.9
SUR Sutherland 81.37 239 P **P 13 52 11.3 +1.8**
comp=E,10nm,0.9s,mb4.8,baz=113,slow=5.4,SNR=6.5
SUR Sutherland 81.37 239 *e*P **P 13 52 10.9 +1.3**
comp=E,26nm,1.3s,mb5.0
TIXI Tiksi 81.58 7 *e*P **P 13 52 05.0 -5.6**
TIXI pmax pmax
comp=Z,20nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,340nm,18.0s,MS4.8
BR131 Keskin Array S 82.19 312 *e*P **P 13 52 13.9 0.0**
comp=Z,5.1nm,0.7s,mb4.6
BRTR Keskin Array B 82.19 312 P **P 13 52 13.7 -0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=140,slow=6.3,SNR=36
VRSR Storozhevoye 82.61 324 *e*P **P 13 52 15.6 -0.5**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.6s
SIM Simferopol' 83.51 317 P **P 13 52 21.9 +1.2**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.3
MOS Moscow 85.26 328 *e*P **P 13 52 27.8 -1.8**
MOS *e* 13 52 46.1
OBN Obninsk 85.58 327⇑*e*P **P 13 52 31.2 0.0**
OBN *e* pP 13 52 41.0 -1.0
OBN *e* 14 03 03.3
OBN pmax pmax
comp=Z,45nm,1.1s,mb5.6
OBN Obninsk 85.58 327 *e*P **P 13 52 31.0 -0.1**
comp=Z,16nm,0.4s,mb5.6
TSUM Tsumeb 85.70 251 P **P 13 52 32.8 +1.0**
comp=Z,2.4nm,0.8s,mb4.5,baz=99,slow=5.8,SNR=6.6
TSUM Tsumeb 85.70 251 *e*P **P 13 52 31.6 -0.2**
comp=Z,4.0nm,0.9s,mb4.7
KLMR Klimovskoe 86.41 333 *e*P **P 13 52 35.0 -0.3**
KLMR pmax pmax
comp=Z,50nm,1.2s,mb5.6
BILL Bilibino 87.39 19*c i*P **P 13 52 39.5 -0.5**
BILL *e* pP 13 52 49.3 -1.6
BILL 14 03 17.0
BILL pmax pmax
comp=Z,18µm,1.6s
BILL Bilibino 87.39 19 *e*P **P 13 52 39.0 -1.0**

comp=Z,14nm,1.3s,mb5.0
AKASG Malin Array Be 88.38 322 P **P 13 52 43.0 -1.7**
comp=Z,2.5nm,0.7s,mb4.6,baz=92,slow=4.6,SNR=15
KOLS Kolonicke sedl 92.36 319 *eP* **P 13 53 03.9 +0.6**
FINES FINESS Array B 92.76 332 P **P 13 53 03.4 -1.8**
comp=Z,1.8nm,1.0s,mb4.5,baz=29,slow=4.4,SNR=4.7
FINES LR LR 14 41 11.8
comp=Z,147nm,18.2s,MS4.5,baz=141,slow=40
STHS Stebnicka Huta 93.11 319 *eP* **P 13 53 07.0 +0.2**
ARCES ARCESS Array B 94.75 340 P **P 13 53 13.7 -0.6**
comp=Z,6.7nm,1.0s,mb5.0,baz=66,slow=5.3,SNR=4.7
ARCES LR LR 14 41 52.9
comp=Z,188nm,18.1s,MS4.6,baz=281,slow=39
GERES GERESS Array B 97.96 318 P **P 13 53 27.8 -1.1**
comp=Z,0.4nm,0.8s,baz=327,slow=6.2,SNR=2.9
GERES PP PP 13 57 31.1 +3.4
comp=Z,0.4nm,0.7s,baz=69,slow=4.4,SNR=3.9
DOU Dourbes 103.91 319 ⇑P Pdif 13 53 56.4 +1.0
ILAR Eielson Array 105.07 25 PP PP 13 58 21.5 +0.2
comp=Z,1.0nm,1.0s,baz=306,slow=7.7,SNR=3.7
YKA Yellowknife Ar 118.76 20 PKP PKPdf 13 58 40.9 0.0
comp=Z,0.7nm,0.8s,baz=311,slow=2.8,SNR=7.4
YKA PP PP 13 59 57.8 -1.6
comp=Z,0.5nm,1.0s,baz=316,slow=7.1,SNR=3.5
YKA Yellowknife Ar 118.76 20 PKP PKPdf 13 58 40.9 0.0
YKA PP PP 13 59 57.8 -1.6
NVAR Mina Array Bea 130.43 46 PKP PKPdf 13 59 04.2 +0.9
comp=Z,0.9nm,0.9s,baz=316,slow=1.4,SNR=5.4
NVAR SKPbc SKPbc 14 02 27.5 +3.5
comp=Z,2.1nm,1.0s,baz=269,slow=2.0,SNR=6.7
PLCA Paso Flores 130.74 183 SKPbc SKPbc 14 02 30.9 +5.7
comp=Z,1.7nm,0.7s,baz=218,slow=5.3,SNR=3.6
ELK Elko 131.48 42 PKP PKPdf 13 59 07.0 +1.8
comp=Z,1.3nm,0.9s,baz=262,slow=5.0,SNR=3.2
ULM Lac du Bonnet 134.74 20 PKP PKPdf 13 59 12.7 +1.3
comp=Z,0.9nm,0.3s,baz=333,slow=4.0,SNR=2.9
BDFB Brasilia 144.70 227 PKP PKPdf 13 59 32.1 +2.7
comp=Z,7.6nm,0.8s,baz=130,slow=2.6,SNR=12
NCB Newcomb 144.83 0 *e*PKPdf PKPdf 13 59 29.3 -0.4
LTX Lajitas 145.41 50 *e*PKIKP PKPdf 13 59 31.7 +1.0
WMOK Wichita Mounta 145.52 38 *e*PKIKP PKPdf 13 59 31.8 +0.9
BLO Bloomington 147.62 18 *e*PKP2 PKPab 13 59 36.6 -2.8
MIAR Mount Ida 148.60 32 *e*PKP2 PKPab 13 59 41.0 -2.3
UALR University of 149.05 30 *e*PKPbc PKPbc 13 59 42.0 +1.1
UTMT University of 149.31 24 *e*PKPbc PKPbc 13 59 42.6 +1.1
WVT Waverly 149.90 23 *e*PKP2 PKPbc 13 59 44.1 +1.1
HKT Hockley 150.57 41 PKIKP PKPbc 13 59 45.9 +1.3
OXF Oxford 150.65 27 *e*PKIKP PKPbc 13 59 45.6 +0.8
PLAL Pickwick Lake 150.81 24 *e*PKPbc PKPbc 13 59 45.4 +0.3
TZTN Tazewell 150.93 16 *e*PKPbc PKPbc 13 59 46.4 +0.9
CPCT Cooper Cave 151.66 18 *e*PKPbc PKPbc 13 59 48.0 +0.8
SIV San Ignacio 152.35 208 PKPbc PKPbc 13 59 49.8 +1.1
comp=Z,3.4nm,0.9s,baz=161,slow=3.2,SNR=12
SIV PKPab PKPab 13 59 59.3 +0.5
comp=Z,6.0nm,0.9s,baz=155,slow=4.1,SNR=9.8
LPAZ La Paz 154.53 193 PKPbc PKPbc 13 59 53.5 0.0
comp=Z,0.6nm,0.7s,baz=27,slow=5.6,SNR=3.1
LPAZ PKPab PKPab 14 00 08.2 +0.1
comp=Z,1.1nm,0.8s,baz=40,slow=1.6,SNR=5.2
LPAZ La Paz 154.53 193 PKPbc PKPbc 13 59 53.5 0.0
LPAZ PKPab PKPab 14 00 08.2 +0.1

IDC 26 13:48:54.1±2.8, 2205N×14333E, h258^{km}±24^{km}, mb3.1/4, mb1 3.2/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=110.2km s-min=21.7km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.13**	**348**	P	Pn	13 50 12.7	+1.0
	6.0nm,0.3s,baz=288,slow=19,SNR=4.9						
CBIJ				S	S	13 51 13.4	-0.1
	2.9nm,0.3s,baz=270,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**42.65**	**193**	P	P	13 56 25.4	0.0
	0.4nm,0.9s,baz=12,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**54.56**	**312**	P	P	13 57 55.1	-0.7
	0.2nm,0.5s,baz=90,slow=9.5,SNR=1.8						
BVAR	**Borovoye Array**	**62.49**	**319**	P	P	13 58 51.0	+0.7
	0.9nm,0.3s,baz=99,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**82.92**	**335**	P	P	14 00 49.3	-0.8
	0.7nm,0.7s,baz=65,slow=4.9,SNR=6.7						

*NIED **26** 13:51:00, 2580N×14100E, h5^{km}, Mw4.5 Best double couple: M₀5.93000×10^{15} NP1:φ$_s$227.00000°, δ73.00000°, λ93.00000°. NP2:φ$_s$36.00000°, δ17.00000°, λ80.00000°.*
*JMA **26** 13:51:23.8±0.2, 2583N×14097E, h0^{km}, M4.3*
*IDC **26** 13:51:25.4±0.5, 2566N×14266E, h0^{km}, mb4.2/21, mb1 4.4/23, mb1mx4.3/26, mbtmp4.2/23, ML3.6/2, Error ellipse: s-maj=18.2km s-min=12.6km az=84.0*
*ISCJB **26** 13:51:26.5±3.0, 2568N±006×1429E±01, h23^{km}±21^{km}, mb4.4/34, Error ellipse: s-maj=16.4km s-min=9.3km az=167.0*
*BJI **26** 13:51:28.0, 2554N×14270E, h30^{km}, mb4.6, Ms4.1, Msz3.8*
*NEIC **26** 13:51:29.3±3.6, 2567N×14273E, h25^{km}±25^{km}, mb4.7/12, MW4.4(NIED), Error ellipse: s-maj=11.5km s-min=7.4km az=85.0*
*NAO **26** 13:51:34.6, 2614N×14130E, h33^{km}, mb4.3*

ISC 26 13:51:29.0±2.9, 2571N±005×1429E±01, h27^{km}±20^{km}, n59, σ0°96/61, mb4.4/34, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.14**	**323**	P	**Pn**	**13 51 49.6**	**+0.4**
JHHJ				*e*S	**Sn**	**13 52 07.4**	**+3.4**
CBIJ	**Chichi jima**	**1.54**	**334**	P	**Pn**	**13 51 54.5**	**-0.1**
CBIJ				*e*S	**Sn**	**13 52 17.0**	**+3.3**
CBIJ	**Chichi jima**	**1.54**	**334**	Pn	**Pn**	**13 51 55.4**	**+0.7**
	589nm,0.3s,baz=160,slow=2.0,SNR=189						
CBIJ				Sn	**Sn**	**13 52 17.9**	**+4.2**
	284nm,0.3s,baz=276,slow=23,SNR=11						
JHU	**Hanno**	**10.58**	**344**	P	**Pn**	**13 53 59.2**	**+0.3**
JHU				*e*S	**Sn**	**13 55 51.8**	**-4.7**
JYT	**Yasato**	**10.74**	**348**	*e*S	**Sn**	**13 55 55.4**	**-5.0**
JAG	**Ashikaga**	**11.09**	**345**	P	**Pn**	**13 54 03.1**	**-2.7**
JAG				*e*S	**Sn**	**13 56 04.1**	**-4.7**
MJAR	**Matsushiro Arr**	**11.53**	**341**	Pn	**Pn**	**13 54 11.2**	**-0.5**
	0.3nm,0.3s,baz=170,slow=16,SNR=4.1						
MAJO	**Matsushiro**	**11.53**	**341**	*e*Pn	**Pn**	**13 54 13.0**	**+1.2**
JMK	**Ichinoseki**	**13.28**	**354**	*e*S	**Sn**	**13 56 50.2**	**-12**
ASAJ	**Asahikawa**	**18.36**	**359**	P	**Pn**	**13 55 41.8**	**+0.1**
	0.4nm,0.3s,baz=156,slow=18,SNR=3.7						
BJT	**Baijiatuau**	**26.50**	**309**	*e*P	**P**	**13 57 03.8**	**-0.3**
	6.6nm,0.4s,mb4.5						
CD2	**Chengdu**	**34.76**	**288**	P	**P**	**13 58 16.3**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
ULN	**Ulaanbaatar**	**35.79**	**318**	*e*P	**P**	**13 58 24.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.2						
SONM	**Songino Array**	**36.18**	**317**	P	**P**	**13 58 27.8**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=131,slow=7.9,SNR=14						
GTA	**Gaotai**	**38.47**	**302**	*e*P	**P**	**13 58 49.8**	**+1.2**
GTA				AP	pP	13 58 58.5	+1.9
GTA				XP	sP	13 59 02.8	+3.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
CTA	**Charters Tower**	**45.64**	**176**	P	**P**	**13 59 47.4**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=25,slow=16,SNR=3.5						
WRAB	**Tennant Creek**	**46.13**	**191**	*e*P	**P**	**13 59 51.2**	**+0.2**
	comp=Z,17nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**46.14**	**191**	⇑*i*P	**P**	**13 59 51.4**	**+0.3**
WRA	**Warramunga Arr**	**46.14**	**191**	P	**P**	**13 59 51.6**	**+0.5**
	comp=Z,2.9nm,0.4s,mb4.6,baz=9.1,slow=8.5,SNR=55						
FITZ	**Fitzroy Crossi**	**46.69**	**203**	*e*P	**P**	**13 59 56.1**	**+0.7**
	comp=Z,7.3nm,0.8s,mb4.7						
PSI	**Prapat**	**48.02**	**249**	P	**P**	**14 00 06.3**	**+0.6**
	comp=Z,5.2nm,0.5s,mb4.8,baz=85,slow=5.2,SNR=6.3						
AS31	**Alice Springs**	**49.86**	**191**	*e*P	**P**	**14 00 18.8**	**-1.0**
ASAR	**Alice Springs**	**49.86**	**191**	P	**P**	**14 00 19.8**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=0.3,slow=4.4,SNR=21						
ASPA	**Alice Springs**	**49.86**	**191**	*e*P	**P**	**14 00 18.8**	**-1.0**
JIRN	**Jiri**	**50.36**	**286**	*e*P	**P**	**14 00 25.3**	**+1.7**
GUN	**Gumba**	**50.58**	**286**	*e*P	**P**	**14 00 26.7**	**+1.4**
	comp=Z,18nm,0.8s,mb5.1						
ZAL	**Zalesovo**	**50.99**	**320**	P	**P**	**14 00 27.3**	**-1.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=0.2,slow=12,SNR=4.3						
ZAL				PcP	PcP	14 01 44.1	-0.2
	comp=Z,1.3nm,0.6s,baz=331,slow=6.1,SNR=5.4						
ZAL	**Zalesovo**	**50.99**	**320**	P	**P**	**14 00 27.3**	**-1.1**
ZAL				PcP	PcP	14 01 44.1	-0.2
KKN	**Kakani**	**51.12**	**286**	*e*P	**P**	**14 00 30.4**	**+1.0**
DMN	**Daman**	**51.31**	**286**	*e*P	**P**	**14 00 31.8**	**+1.0**
	comp=Z,10nm,0.8s,mb4.8						
GKN	**Gorkha**	**51.64**	**286**	*e*P	**P**	**14 00 33.7**	**+0.5**
MKAR	**Makanchi Array**	**51.88**	**310**	P	**P**	**14 00 35.0**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=88,slow=9.5,SNR=19						
MKAR				PcP	PcP	14 01 47.5	-0.1
	comp=Z,0.9nm,0.7s,baz=87,slow=5.9,SNR=3.6						
KURK	**Kurchatov**	**54.44**	**315**	*e*P	**P**	**14 00 53.5**	**-0.4**
	comp=Z,5.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**57.28**	**181**	P	**P**	**14 01 12.8**	**-1.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=354,slow=9.4,SNR=6.9						
STKA	**Stephens Creek**	**57.28**	**181**	P	**P**	**14 01 12.8**	**-1.5**
AAK	**Ala-Archa**	**57.60**	**306**	*e*P	**P**	**14 01 15.1**	**-1.4**
	comp=Z,1.3nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**58.60**	**28**	P	**P**	**14 01 23.9**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=257,slow=5.8,SNR=20						
BVAR	**Borovoye Array**	**59.52**	**318**	P	**P**	**14 01 29.8**	**0.0**
	comp=Z,5.6nm,0.4s,mb5.0,baz=91,slow=6.8,SNR=62						
BRVK	**Borovoye**	**59.58**	**318**	*e*P	**P**	**14 01 30.2**	**-0.1**
	comp=Z,5.3nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**60.36**	**318**	*e*P	**P**	**14 01 35.0**	**-0.7**
	comp=Z,4.6nm,0.8s,mb4.6						
INK	**Inuvik**	**64.00**	**24**	P	**P**	**14 02 00.9**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=250,slow=5.4,SNR=12						
INK	**Inuvik**	**64.00**	**24**	*e*P	**P**	**14 02 00.6**	**+0.5**
	comp=Z,8.7nm,1.4s,mb4.6						
AKTK	**Aktyubinsk**	**67.50**	**316**	P	**P**	**14 02 22.1**	**-0.5**
AKTO	**Aktyubinsk**	**67.50**	**316**	P	**P**	**14 02 22.1**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.4,baz=75,slow=6.2,SNR=13						
YKA	**Yellowknife Ar**	**73.03**	**28**	P	**P**	**14 02 56.4**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=295,slow=6.4,SNR=5.4						
ARCES	**ARCESS Array B**	**75.06**	**341**	P	**P**	**14 03 09.4**	**+1.1**
	comp=Z,4.9nm,1.0s,mb4.4,baz=67,slow=7.1,SNR=9.2						
YBH	**Yreka Blue Hor**	**76.41**	**50**	P	**P**	**14 03 20.2**	**+4.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=286,slow=4.0,SNR=4.3						
NEW	**Newport**	**77.47**	**42**	P	**P**	**14 03 25.5**	**+3.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=300,slow=4.1,SNR=4.0						
KAF	**Kangasniemi**	**79.01**	**335**	*ep*	**P**	**14 03 29.6**	**-0.9**
	comp=Z,3.1nm,0.4s,mb4.6,baz=54,slow=5.1						
FINES	**FINESS Array B**	**79.48**	**334**	P	**P**	**14 03 33.1**	**0.0**
	comp=Z,4.5nm,0.4s,mb4.7,baz=68,slow=5.5,SNR=76						
NVAR	**Mina Array Bea**	**80.84**	**52**	P	**P**	**14 03 43.2**	**+2.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=264,slow=8.7,SNR=4.7						
NVAR	**Mina Array Bea**	**80.84**	**52**	P	**P**	**14 03 43.2**	**+2.8**
AKASG	**Malin Array Be**	**84.13**	**324**	P	**P**	**14 03 56.8**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.2,baz=53,slow=4.7,SNR=5.6						
NB2	**NORSAR Subarra**	**85.14**	**339**	P	**P**	**14 04 02.3**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.4,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**85.14**	**339**	P	**P**	**14 04 02.3**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.4,baz=46,slow=5.0,SNR=5.6						
BRTR	**Keskin Array B**	**87.44**	**313**	P	**P**	**14 04 13.8**	**-0.2**
	comp=Z,0.6nm,0.6s,mb4.0,baz=100,slow=2.8,SNR=3.6						
PLCA	**Paso Flores**	**148.45**	**127**	PKPbc	PKPbc	14 11 14.5	+1.4
	comp=Z,1.1nm,0.7s,baz=199,slow=3.5,SNR=3.6						
PLCA	**Paso Flores**	**148.45**	**127**	PKPbc	PKPbc	14 11 14.5	+1.4
LPAZ	**La Paz**	**149.58**	**78**	PKPbc	PKPbc	14 11 19.1	+3.1
	comp=Z,1.8nm,0.8s,baz=14,slow=5.2,SNR=6.5						
LPAZ				PKPab	PKPab	14 11 24.2	+3.3
	comp=Z,2.5nm,1.0s,baz=72,slow=1.9,SNR=6.5						

*ISCJB **26** 13:51:58.9±0.8, 2162S±007×3321E±009, h10^{km}, mb4.0/6, Error ellipse: s-maj=14.3km s-min=6.2km az=78.4*
*IDC **26** 13:52:02.6±1.1, 2119S×3313E, h0^{km}, mb4.0/6, mb1 4.3/11, mb1mx4.0/26, mbtmp4.3/11, ML4.4/4, MS3.0/3, Ms1 3.0/3, ms1mx2.8/20, Error ellipse: s-maj=29.6km s-min=24.3km az=130.0*
*PRE **26** 13:52:02.8±1.6, 2148S×3315E, h5^{km}, ML4.8*
*NEIC **26** 13:52:03.3±0.7, 2123S×3320E, h10^{km}, mb4.5/1, Error ellipse: s-maj=17.4km s-min=12.2km az=153.0*

ISC 26 13:52:01.3±0.8, 2155S±007×3321E±008, h10^{km}, n26, σ1°21/36, mb4.0/6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.06**	**255**	*e*P	Px	13 45 41.4	
MSNA				*e*S	Sx	13 46 17.6	
MSNA				AML	AML	13 46 33.0	
	comp=Z,982nm,0.2s						
SLR	**Silverton**	**6.14**	**226**	*e*P	**Pn**	**13 53 36.1**	**+4.1**
SLR				*e*S	**Sn**	**13 54 42.5**	**+0.2**
SLR				AML	AML	13 55 26.9	
	comp=Z,366nm,0.6s						
LBTB	**Lobatse**	**7.80**	**242**	*e*P	**Pn**	**13 53 58.4**	**+3.6**
LBTB				*e*S	**Sn**	**13 55 21.5**	**-1.7**
LBTB				AML	AML	13 56 15.6	
	comp=Z,121nm,0.6s						
LBTB	**Lobatse**	**7.80**	**242**	Pn	**Pn**	**13 54 00.1**	**+5.2**
	comp=Z,2.5nm,0.3s,baz=66,slow=13,SNR=35						
LBTB				Sn	**Sn**	**13 55 24.8**	**+1.7**
	comp=Z,7.8nm,0.3s,baz=132,slow=22,SNR=3.7						
LBTB				Lg		13 56 09.9	
	comp=Z,25nm,0.3s,baz=157,slow=20,SNR=9.8						
LBTB				LR	LR	13 57 31.0	
	comp=Z,47nm,21.5s,baz=94,slow=42						
LBTB	**Lobatse**	**7.80**	**242**	*e*Pn	**Pn**	**13 53 59.7**	**+4.9**
	comp=Z,37nm,0.6s						
LBTB				*e*Sn	**Sn**	**13 55 26.9**	**+3.8**
LSZ	**Lusaka**	**7.85**	**322**	Pn	**Pn**	**13 53 53.9**	**-1.7**
	comp=Z,10nm,0.3s,baz=153,slow=14,SNR=41						
LSZ				Sn	**Sn**	**13 55 15.2**	**-9.3**
	comp=Z,17nm,0.3s,baz=89,slow=17,SNR=11						
LSZ				Lg		13 55 57.6	
	comp=Z,31nm,0.3s,baz=51,slow=20,SNR=5.9						
LSZ				LR	LR	13 57 03.0	
	comp=Z,151nm,19.2s,baz=150,slow=40						
LSZ	**Lusaka**	**7.85**	**322**	*e*Pn	**Pn**	**13 53 53.7**	**-1.8**
LSZ				*ep*Pn		13 53 56.2	
LSZ				*e*Sn	**Sn**	**13 55 15.1**	**-9.4**
LSZ				*e*Sg		13 55 55.2	
SEK	**Senekal**	**8.43**	**216**	*e*S	**Sn**	**13 55 38.0**	**-0.7**
SEK				AML	AML	13 55 54.6	
	comp=Z,44nm,0.4s						
BOSA	**Boshof**	**10.06**	**224**	*e*P	**Pn**	**13 54 28.9**	**+3.1**
BOSA				*e*S	**Sn**	**13 56 17.8**	**-1.0**
BOSA				AML	AML	13 57 26.7	
	comp=Z,47nm,0.7s						
BOSA	**Boshof**	**10.06**	**224**	Pn	**Pn**	**13 54 30.3**	**+4.4**
	comp=Z,2.5nm,0.3s,baz=55,slow=13,SNR=27						
BOSA				Sn	**Sn**	**13 56 20.1**	**+1.3**
	comp=Z,5.4nm,0.3s,baz=301,slow=17,SNR=4.5						
BOSA				Lg		13 57 24.9	
	comp=Z,4.3nm,0.3s,baz=297,slow=17,SNR=7.2						
BOSA				LR	LR	13 58 43.0	
	comp=Z,140nm,19.9s,baz=237,slow=39						
BOSA	**Boshof**	**10.06**	**224**	*e*Pn	**Pn**	**13 54 29.7**	**+3.8**
	comp=Z,6.3nm,0.6s						
OPO	**Ambohidratompo**	**13.47**	**80**	Pn	**Pn**	**13 55 11.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=233,slow=13,SNR=5.0						
OPO				Sn	**Sn**	**13 57 31.3**	**-11**
	comp=Z,2.4nm,0.3s,baz=151,slow=17,SNR=7.5						
TSUM	**Tsumeb**	**14.84**	**276**	Pn	**Pn**	**13 55 30.7**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=97,slow=13,SNR=18						
TSUM				Sn	**Sn**	**13 58 08.3**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=24,slow=22,SNR=5.9						
TSUM				Lg		13 59 43.9	
	comp=Z,1.5nm,0.3s,baz=196,slow=14,SNR=4.4						
TSUM	**Tsumeb**	**14.84**	**276**	*e*Pn	**Pn**	**13 55 30.5**	**-0.6**
SUR	**Sutherland**	**15.42**	**223**	*e*P	**Pn**	**13 55 43.0**	**+4.1**
SUR				*e*S	**Sn**	**13 58 24.9**	**-4.9**
SUR	**Sutherland**	**15.42**	**223**	Pn	**Pn**	**13 55 43.2**	**+4.2**
	comp=Z,2.0nm,0.3s,baz=64,slow=12,SNR=19						
SUR				Sn	**Sn**	**13 58 29.2**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=174,slow=3.3,SNR=6.6						
SUR				Lg		14 00 10.9	
	comp=Z,0.5nm,0.3s,baz=310,slow=20,SNR=3.8						
SUR	**Sutherland**	**15.42**	**223**	*e*Pn	**Pn**	**13 55 44.5**	**+5.6**
	comp=Z,24nm,0.8s						
SUR				Sn	**Sn**	**13 58 27.5**	**-2.4**
SUR				*e*Sg		14 00 05.8	
KMBO	**Kilima Mbogo**	**20.68**	**12**	P	**P**	**13 56 36.8**	**-4.6**
	comp=Z,0.5nm,0.2s,baz=45,slow=19,SNR=2.1						
TORD	**Torodi Ar. Bea**	**46.33**	**315**	P	**P**	**14 00 28.2**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.2,baz=126,slow=7.3,SNR=15						
DBIC	**Dimbokro**	**46.69**	**303**	P	**P**	**14 00 30.9**	**+0.7**
	comp=Z,1.5nm,0.4s,mb4.2,baz=121,slow=8.7,SNR=5.8						
GERES	**GERESS Array B**	**72.21**	**347**	P	**P**	**14 03 27.2**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=134,slow=5.8,SNR=4.2						
BDFB	**Brasilia**	**76.42**	**258**	P	**P**	**14 03 55.6**	**+4.6**
	comp=Z,2.3nm,0.5s,mb4.4,baz=77,slow=5.0,SNR=4.6						
BVAR	**Borovoye Array**	**80.97**	**22**	P	**P**	**14 04 16.3**	**+0.2**
	comp=Z,1.2nm,0.9s,mb3.8,baz=241,slow=4.5,SNR=4.2						
ASAR	**Alice Springs**	**90.72**	**116**	P	**P**	**14 05 08.8**	**+4.4**
	comp=Z,0.3nm,0.9s,mb3.6,baz=244,slow=4.0,SNR=2.9						
YKA	**Yellowknife Ar**	**133.57**	**340**	PKP	PKPdf	14 11 19.8	+1.8
	comp=Z,0.2nm,0.6s,baz=27,slow=1.8,SNR=3.5						
NVAR	**Mina Array Bea**	**150.31**	**311**	PKPbc	PKPbc	14 11 56.8	+4.0
	comp=Z,0.4nm,0.6s,baz=92,slow=3.8,SNR=5.1						

IDC 26 14:02:10.4±2.1, 439N×12635E, h0^{km}, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=163.4km s-min=27.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.42**	**162**	P	P	14 07 39.7	+0.1
	0.3nm,0.4s,baz=342,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.84**	**166**	P	P	14 08 11.0	+0.6
	0.3nm,1.0s,baz=342,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**56.80**	**325**	P	P	14 11 56.5	+0.1
	0.2nm,0.5s,baz=128,slow=8.2,SNR=4.7						

*ISCJB **26** 14:18:41.2±5.5, 256S±02×1786W±06, h465^{km}±47^{km}, mb4.0/5, Error ellipse: s-maj=92.5km s-min=18.9km az=151.0*
*IDC **26** 14:18:46.4±10.0, 2589S×17907W, h477^{km}±56^{km}, mb3.5/4, mb1 3.6/6, mb1mx3.5/14, mbtmp4.4/6, Error ellipse: s-maj=161.2km s-min=38.0km az=70.0*

ISC 26 14:18:46.0±5.1, 258S±02×1791W±06, h467^{km}±31^{km}, n10, σ0°70/11, mb4.0/5, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.80**	**194**	P	**P**	**14 21 33.0**	**-0.2**
	1.1nm,0.3s,baz=271,slow=17,SNR=9.7						
URZ				S	**S**	**14 23 51.6**	**+0.4**
	1.4nm,0.3s,baz=98,slow=23,SNR=14						
DZM	**Mont Dzumac**	**13.78**	**283**	P	**P**	**14 21 43.8**	**+0.1**
	0.9nm,0.3s,baz=113,slow=18,SNR=9.8						
CTA	**Charters Tower**	**32.39**	**273**	*e*P	**P**	**14 24 36.3**	**+0.5**
	2.6nm,0.3s,mb4.1						
CTA	**Charters Tower**	**32.39**	**273**	P	**P**	**14 24 36.6**	**+0.8**
	3.3nm,0.3s,mb4.2,baz=110,slow=13,SNR=14						
STKA	**Stephens Creek**	**34.85**	**251**	P	**P**	**14 24 54.8**	**-1.8**
	1.9nm,0.5s,mb3.8,baz=85,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**42.60**	**262**	*e*P	**P**	**14 25 59.9**	**+0.1**
	3.1nm,0.5s,mb4.0,baz=89,slow=7.5,SNR=137						
ASPA	**Alice Springs**	**42.60**	**262**	*e*P	**P**	**14 25 59.8**	**+0.1**
WB2	**Warramunga Arr**	**43.15**	**268**	⇑*i*P	**P**	**14 26 03.9**	**-0.2**
WRA	**Warramunga Arr**	**43.16**	**268**	P	**P**	**14 26 03.9**	**-0.3**
	2.8nm,0.4s,mb4.1,baz=103,slow=7.7,SNR=148						
FITZ	**Fitzroy Crossi**	**51.56**	**267**	*e*P	**P**	**14 27 08.6**	**+1.0**
	4.7nm,0.8s,mb3.9						

*PRE **26** 14:35:41.9±1.4, 2150S×3351E, h5^{km}, ML4.8*
*IDC **26** 14:35:43.8±1.1, 2137S×3326E, h0^{km}, mb3.6/5, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML4.3/5, MS2.8/1, Ms1 2.7/1, ms1mx2.6/19, Error ellipse: s-maj=27.5km s-min=22.0km az=146.0*
*NEIC **26** 14:35:45.0±0.6, 2136S×3323E, h10^{km}, Error ellipse: s-maj=14.2km s-min=10.1km az=144.0*

ISC 26 14:35:45.4±0.7, 2135S±007×3315E±008, h10^{km}, n22, σ1°42/38, mb3.5/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.25**	**225**	*e*P	**Pn**	**14 37 17.6**	**+0.1**
SLR				*e*S	**Sn**	**14 38 28.4**	**-0.6**
SLR				AML	AML	14 39 11.1	
	comp=Z,311nm,0.7s						
LSZ	**Lusaka**	**7.66**	**321**	Pn	**Pn**	**14 37 36.9**	**-0.1**
	comp=Z,7.6nm,0.3s,baz=145,slow=16,SNR=55						
LSZ				Sn	**Sn**	**14 38 57.2**	**-6.6**
	comp=Z,21nm,0.3s,baz=226,slow=19,SNR=9.6						
LSZ

NP1:$\phi_0$319.00000°,δ17.00000°,λ113.00000°. NP2: $\phi_0$115.00000°,δ75.00000°,λ83.00000°. Principal axes: T 1.4550, Plg60.0000°, Azm16.0000°; N 0.0180, Plg6.0000°, Azm117.0000°; P -1.4730, Plg29.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **26** 14:42:59.6±3.0, 8.66S×106.04E, h4km±18km, mb5.4/45, MS5.2/108 Error ellipse: s-maj=7.2km s-min=4.6km az=57.0*

*ISCJB **26** 14:43:01.1±0.2, 8.69S±0.03×106.05E±0.03, h26km, mb5.3/107, MS5.3/132, Error ellipse: s-maj=5.0km s-min=4.2km az=101.7*

*MOS **26** 14:43:02.7±1.1, 8.56S×106.11E, h33km, mb5.7/42, MS5.1/30, Error ellipse: s-maj=10.3km s-min=6.1km az=112.3*

ISC 26 14:43:03.4±0.2, 8.70S±0.03×106.03E±0.03, h28km, h28km±1.5km: pP-P, n359, σ0.98/270, mb5.3/107, MS5.3/132, 11C-21D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**6.07**	**326**	P	**Pn**	**14 44 27.8**	**-3.5**
	974nm,0.9s						
COCO	**West Island**	**9.69**	**248**	Pn	**Pn**	**14 45 16.7**	**-4.2**
	8μm,1.2s,SNR=35						
COCO	**West Island**	**9.69**	**248**	⇓*e*P	**Pn**	**14 45 16.4**	**-4.5**
	2μm,1.1s						
COCO				*e*S	**Sn**	**14 46 57.6**	**-11**
KSM	**Kuching**	**10.97**	**23**	P	**Pn**	**14 45 38.6**	**+0.1**
KGM	**Kluang**	**10.99**	**346**	P	**Pn**	**14 45 37.9**	**-0.9**
PSI	**Prapat**	**13.45**	**328**	Pn	**Pn**	**14 46 04.7**	**-7.7**
	0.3nm,0.3s,baz=164,slow=14,SNR=4.3						
PSI				LR	LR	14 52 31.3	
	comp=Z,8μm,20.2s,baz=140,slow=43						
IPM	**Ipoh**	**14.02**	**339**	P	**Pn**	**14 46 16.7**	**-3.4**
KULM	**Kulim**	**14.90**	**339**	*e*P	**Pn**	**14 46 27.2**	**-4.9**
PCI	**Palu**	**15.78**	**61**	P	**Pn**	**14 46 44.4**	**+0.8**
	434nm,2.1s						
KKM	**Kota Kinabalu**	**17.82**	**35**	P	**Pn**	**14 47 09.6**	**+0.2**
KKM	**Kota Kinabalu**	**17.82**	**35**	*e*P	**Pn**	**14 47 09.5**	**+0.1**
MBWA	**Marble Bar**	**18.11**	**135**	*e*P	**Pn**	**14 47 11.1**	**-1.8**
	43nm,1.0s						
MBWA				*e*S	**Sn**	**14 50 14.9**	**-19**
BATP	**Bataraza**	**20.97**	**34**	*e*P	**P**	**14 47 45.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.22**	**118**	*e*P	**P**	**14 47 48.0**	**+1.0**
	92nm,0.9s,mb5.1						
FITZ				*i* S	**S**	**14 51 41.5**	**+0.1**
NNT	**Nongplab**	**22.06**	**343**	P	**P**	**14 47 57.0**	**+1.0**
ENPP	**El Nido**	**23.85**	**34**	*e*P	**P**	**14 48 14.2**	**-0.2**
PAGZ	**Pagadian**	**23.86**	**47**	*e*P	**P**	**14 48 16.1**	**+1.7**
CUYO	**Cuyo Island**	**24.49**	**38**	*e*P	**P**	**14 48 20.7**	**+0.5**
NST	**Nakhon Sawan**	**24.91**	**346**	P	**P**	**14 48 21.0**	**-3.0**
	50nm,0.5s,mb5.3						
BUSP	**Coron**	**24.93**	**35**	*e*P	**P**	**14 48 24.8**	**+0.6**
MUN	**Mundaring**	**25.01**	**159**	*e*P	**P**	**14 48 25.0**	**0.0**
MUN				*e*S	**S**	**14 52 51.9**	**+4.7**
KKTK	**Khon Kaen**	**25.08**	**353**	P	**P**	**14 48 24.4**	**-1.2**
	309nm,1.0s,mb5.8						
BUKP	**Musuan**	**25.12**	**50**	*e*P	**P**	**14 48 27.1**	**+1.2**
KLBR	**Kellerberrin**	**25.25**	**156**	*e*P	**P**	**14 48 26.7**	**-0.4**
	154nm,1.4s,mb5.3						
GUIM	**Jordan**	**25.30**	**41**	*e*P	**P**	**14 48 29.1**	**+1.5**
TBP	**Tagbilaran**	**25.48**	**45**	*e*P	**P**	**14 48 29.4**	**+0.2**
	159μm,0.8s						
LLP	**Lapu-Lapu**	**26.00**	**44**	*e*P	**P**	**14 48 32.2**	**-1.7**
NWAO	**Narrogin (SRO)**	**26.24**	**158**	P	**P**	**14 48 36.0**	**0.0**
	27nm,1.0s,mb4.7,baz=310,slow=12,SNR=9.0						
NWAO				S	**S**	**14 53 04.9**	**-1.7**
	5.2nm,0.9s,baz=321,slow=23,SNR=1.9						
NWAO				LR	LR	14 58 23.2	
	comp=Z,4μm,19.1s,MS5.0,baz=332,slow=35						
NWAO	**Narrogin (SRO)**	**26.24**	**158**	*e*P	**P**	**14 48 36.0**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,58nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,3μm,19.0s						
NWAO	**Narrogin (SRO)**	**26.24**	**158**	*e*P	**P**	**14 48 36.0**	**-0.1**
	comp=Z,58nm,1.4s,mb4.9						
NWAO				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
BUTP	**Butuan**	**26.25**	**49**	*e*P	**P**	**14 48 37.5**	**+1.4**
OTRP	**Odiongan**	**26.28**	**37**	*e*P	**P**	**14 48 37.3**	**+0.9**
LUBP	**Lubang**	**26.38**	**32**	*e*P	**P**	**14 48 37.1**	**-0.2**
MSLP	**Maasin**	**26.49**	**45**	*e*P	**P**	**14 48 38.7**	**+0.4**
OCLP	**Ormoc**	**26.96**	**44**	*e*P	**P**	**14 48 43.1**	**+0.5**
BOAC	**Boac**	**27.04**	**36**	*e*P	**P**	**14 48 41.9**	**-1.4**
TGY	**Tagaytay City**	**27.06**	**33**	P	**P**	**14 48 40.9**	**-2.6**
	comp=Z,77nm,0.3s,baz=147,slow=12,SNR=4.0						
QIZ	**Qiongzhong**	**27.81**	**8**	P	**P**	**14 48 49.8**	**-0.4**
QIZ				S	**S**	**14 53 33.0**	**+1.6**
QIZ				AMB	AMB		
	comp=Z,1μm,14.8s						
QIZ				LR	LR		
	comp=N,10μm,14.3s						
QIZ				LR	LR		
	comp=Z,13μm,14.9s,MS5.6						
QIZ	**Qiongzhong**	**27.81**	**8**	PFAKE		14 49 00.0	+10
QIZ				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
SCZP	**Santa Cruz**	**27.94**	**30**	*e*P	**P**	**14 48 51.4**	**+0.1**
POLP	**Polilio Island**	**28.12**	**34**	*e*P	**P**	**14 48 52.7**	**-0.3**
BOLP	**Bolinao**	**28.46**	**29**	*e*P	**P**	**14 49 04.7**	**+8.7**
WRA	**Warramunga Arr**	**29.56**	**115**	P	**P**	**14 49 06.3**	**+0.5**
	comp=Z,15nm,1.0s,mb4.7,baz=289,slow=12,SNR=23						
WRAB	**Tennant Creek**	**29.57**	**115**	P	**P**	**14 49 07.9**	**+2.1**
	comp=Z,137nm,1.4s,mb5.5,SNR=8.1						
WRAB	**Tennant Creek**	**29.57**	**115**	*e*P	**P**	**14 49 06.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,113nm,1.4s,mb5.4						
WRAB				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.2						
WRAB	**Tennant Creek**	**29.57**	**115**	*e*P	**P**	**14 49 06.0**	**+0.1**
	comp=Z,113nm,1.4s,mb5.4						
WRAB				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
WB2	**Warramunga Arr**	**29.57**	**115**	*e*P	**P**	**14 49 06.1**	**+0.2**
PALK	**Pallekele**	**29.82**	**301**	PFAKE		14 49 20.0	+12
PALK				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
ABRA	**Dolores**	**29.93**	**29**	*e*P	**P**	**14 49 09.9**	**+0.9**
APYP	**Conner**	**30.37**	**30**	*e*P	**P**	**14 49 13.6**	**+0.7**
ASPA	**Alice Springs**	**30.53**	**122**	*e*P	**P**	**14 49 14.4**	**+0.1**
AS31	**Alice Springs**	**30.54**	**122**	*e*P	**P**	**14 49 14.4**	**0.0**
ASAR	**Alice Springs**	**30.54**	**122**	P	**P**	**14 49 14.9**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.3,baz=296,slow=7.7,SNR=31						
HKC	**Hong Kong**	**31.83**	**14**	P	**P**	**14 49 26.0**	**+0.2**
HKC				S	**S**	**14 54 44.0**	**+9.5**
GZH	**Guangzhou**	**32.40**	**13**	P	**P**	**14 49 37.0**	**+6.3**
GZH				S	**S**	**14 54 56.5**	**+13**
GZH				LR	LR		
	comp=N,2μm,17.9s,MS5.2						
GZH				LR	LR		
	comp=E,4μm,14.8s,MS5.2						
GZH				LR	LR		
	comp=Z,8μm,15.1s,MS5.5						
KMI	**Kunming**	**33.77**	**355**	P	**P**	**14 49 44.0**	**+1.2**
KMI				AP	pP	14 49 53.5	+2.5
KMI				PPP		14 51 11.0	
KMI				S	**S**	**14 55 06.5**	**+1.8**
KMI				XS	sS	14 55 17.5	-0.8
KMI				AMB	AMB		
	comp=Z,21nm,2.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,725nm,6.7s						
KMI				LR	LR		
	comp=N,14μm,11.9s,MS5.9						
KMI				LR	LR		
	comp=E,9μm,15.1s,MS5.9						
KMI				LR	LR		
	comp=Z,18μm,13.5s,MS6.0						
VIS	**Vishakhapatnam**	**34.53**	**320**	*e*P	**P**	**14 49 49.0**	**-0.3**
VIS				*e*P		14 49 51.3	
VIS				*ex*	x	14 55 13.0	
GYA	**Guiyang**	**34.96**	**1**	P	**P**	**14 49 53.3**	**+0.3**
GYA				PP	PP	14 51 11.3	-1.2
GYA				PCP	PcP	14 52 26.8	+1.7
GYA				S	**S**	**14 55 25.5**	**+2.5**
GYA				SCP	ScP	14 56 11.3	+2.7
GYA				SCS	ScS	15 00 13.5	+1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,800nm,7.1s						
GYA				LR	LR		
	comp=E,5μm,15.3s						
GYA				LR	LR		
	comp=Z,4μm,12.9s,MS5.3						
AGT	**Agartala**	**35.46**	**336**	*i* x	x	14 50 04.0	
AGT				*i* x	x	14 50 37.0	
QZH	**Quanzhou**	**35.61**	**20**	⇑*i*P	**P**	**14 49 58.5**	**-0.2**
QZH				PP	PP	14 51 22.0	+2.2
QZH				S	**S**	**14 55 38.3**	**+5.2**
QZH				LR	LR		
	comp=N,6μm,12.6s,MS5.8						
QZH				LR	LR		
	comp=E,8μm,14.7s,MS5.8						
QZH				LR	LR		
	comp=Z,8μm,12.8s,MS5.7						
TATO	**Taipei**	**36.71**	**24**	PFAKE		14 50 20.0	+12
TATO				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
SHL	**Shillong**	**36.74**	**338**	*e*P	**P**	**14 50 08.5**	**+0.2**
SHL				*e*P		14 50 09.0	
SHL				*ex*	x	14 55 44.0	
HYB	**Hyderabad**	**37.56**	**314**	*i* P	**P**	**14 50 16.0**	**+0.7**
HYB				*e*S	**S**	**14 56 09.0**	**+6.2**
HYB	**Hyderabad**	**37.56**	**314**	*e*P	**P**	**14 50 16.0**	**+0.7**
HYB				*e*S	**S**	**14 56 04.0**	**+1.2**
MNGI	**Mangalore**	**37.73**	**304**	*e*P	**P**	**14 50 18.6**	**+1.9**
MNGI				*e*S	**S**	**14 56 08.7**	**+3.3**
BOK	**Bokaro**	**37.83**	**329**	*e*P	**P**	**14 50 17.0**	**-0.5**
ENH	**Enshi**	**38.89**	**5**	*e*P	**P**	**14 50 25.6**	**-0.9**
	comp=Z,37nm,1.1s,mb5.0						
ENH				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
CD2	**Chengdu**	**39.45**	**357**	P	**P**	**14 50 31.5**	**+0.4**
CD2				XP	sP	14 50 36.5	-6.3
CD2				PP	PP	14 52 07.0	+5.2
CD2				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,580nm,5.2s						
CD2				LR	LR		
	comp=N,5μm,13.2s						
CD2				LR	LR		
	comp=Z,3μm,18.0s,MS5.2						
WHN	**Wuhan**	**39.83**	**11**	P	**P**	**14 50 34.0**	**-0.3**
WHN				S	**S**	**14 56 49.0**	**+12**
WHN				LR	LR		
	comp=Z,10μm,13.3s,MS5.8						
STKA	**Stephens Creek**	**40.25**	**130**	P	**P**	**14 50 36.2**	**-1.6**
	comp=Z,16nm,0.8s,mb4.8,baz=306,slow=9.8,SNR=13						
STKA	**Stephens Creek**	**40.25**	**130**	*e*P	**P**	**14 50 36.4**	**-1.4**
CTA	**Charters Tower**	**40.46**	**111**	*e*P	**P**	**14 50 41.9**	**+2.4**
	comp=Z,33nm,1.0s,mb5.0						
CTA				*i* S	**S**	**14 56 50.8**	**+4.4**
CTA	**Charters Tower**	**40.46**	**111**	P	**P**	**14 50 39.7**	**+0.2**
	comp=Z,28nm,1.0s,mb4.9,baz=278,slow=8.5,SNR=10						
CTA	**Charters Tower**	**40.46**	**111**	*e*P	**P**	**14 50 41.9**	**+2.4**
CTA				*i* S	**S**	**14 56 50.8**	**+4.4**
CTA				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	**Charters Tower**	**40.46**	**111**	*e*P	**P**	**14 50 41.8**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.2						
CTAO	**Charters Tower**	**40.46**	**111**	*e*P	**P**	**14 50 41.8**	**+2.3**
	comp=Z,88nm,1.3s,mb5.3						
CTAO				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
PMG	**Port Moresby**	**40.60**	**94**	P	**P**	**14 50 38.9**	**-1.8**
	comp=Z,49nm,1.2s,mb5.0,baz=298,slow=6.1,SNR=7.4						
PMG	**Port Moresby**	**40.60**	**94**	*e*P	**P**	**14 50 40.9**	**+0.2**
PMG				pmax	pmax		
	comp=Z,221nm,1.7s						
PMG				MLR	MLR		
	comp=Z,2μm,21.0s						
PMG	**Port Moresby**	**40.60**	**94**	*e*P	**P**	**14 50 40.9**	**+0.2**
	comp=Z,221nm,1.7s,mb5.5						
PMG				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
LSA	**Lhasa**	**40.78**	**340**	P	**P**	**14 50 43.3**	**+1.1**
LSA				S	**S**	**14 56 51.3**	**+0.1**
LSA				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.3						
LSA				AMB	AMB		
	comp=Z,860nm,8.7s						
LSA				LR	LR		
	comp=N,2μm,17.2s,MS5.3						
LSA				LR	LR		
	comp=E,3μm,18.5s,MS5.3						
LSA				LR	LR		
	comp=Z,3μm,18.5s,MS5.2						
LSA	**Lhasa**	**40.78**	**340**	*e*P	**P**	**14 50 42.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,282nm,1.4s,mb5.7						
LSA				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
LSA	**Lhasa**	**40.78**	**340**	*e*P	**P**	**14 50 42.7**	**+0.6**
	comp=Z,282nm,1.4s,mb5.7						
LSA				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
JIRN	**Jiri**	**40.94**	**333**	*e*P	**P**	**14 50 44.1**	**+0.7**
	comp=Z,242nm,0.8s,mb5.9						
PKI	**Pulchoki**	**41.22**	**332**	*e*P	**P**	**14 50 46.2**	**+0.4**
ALBI	**Allahabad**	**41.22**	**326**	*e*P	**P**	**14 50 45.5**	**-0.3**
GUN	**Gumba**	**41.29**	**332**	*e*P	**P**	**14 50 47.0**	**+0.6**
	comp=Z,354nm,0.8s,mb6.0						
DMN	**Daman**	**41.40**	**331**	*e*P	**P**	**14 50 47.6**	**+0.4**
	comp=Z,234nm,1.1s,mb5.7						
JOW	**Kunigami**	**41.40**	**31**	P	**P**	**14 50 46.2**	**-1.0**
	comp=Z,130nm,1.0s,mb5.5,baz=209,slow=6.3,SNR=8.1						
JOW				LR	LR	15 07 35.6	
	comp=Z,973nm,20.6s,MS4.7,baz=347,slow=36						
KKN	**Kakani**	**41.47**	**332**	*e*P	**P**	**14 50 48.1**	**+0.3**
	comp=Z,420nm,1.2s,mb5.9						
KKN	**Kakani**	**41.47**	**332**	*e*P	**P**	**14 50 48.1**	**+0.3**
KKN				pmax	pmax		
	comp=Z,210nm,1.2s,mb5.6						
POO	**Poona**	**41.72**	**311**	⇓*i*P	**P**	**14 50 50.0**	**+0.1**
	comp=Z,68nm,1.2s,mb5.2						
POO				*e*PPP		14 53 02.5	
POO				*e*S	**S**	**14 57 12.0**	**+6.9**
POO				*ex*	x	15 00 14.0	
POO				*ex*	x	15 00 37.5	
POO				*e*SCS	ScS	15 00 52.0	+0.9
POO				*ex*	x	15 02 41.0	
GKN	**Gorkha**	**41.95**	**331**	*e*P	**P**	**14 50 52.0**	**+0.2**
	comp=Z,611nm,1.4s,mb6.0						
SSE	**Sheshan**	**42.16**	**20**	⇑P	**P**	**14 50 54.5**	**+1.1**
SSE				AP	pP	14 50 57.8	-4.0
SSE				XP	sP	14 50 59.0	-6.2
SSE				PP	PP	14 52 32.0	+0.8
SSE				PCP	PcP	14 52 49.3	+1.8
SSE				S	**S**	**14 57 14.5**	**+3.0**
SSE				XS	sS	14 57 19.8	-5.5
SSE				SCS	ScS	15 00 58.8	+5.1
SSE				AMB	AMB		
	comp=Z,144nm,1.4s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,9.1s						
SSE				LR	LR		
	comp=N,2μm,13.8s,MS5.3						
SSE				LR	LR		
	comp=E,689nm,13.7s,MS5.3						
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.3						
KOLN	**Koldanda**	**42.26**	**330**	*e*P	**P**	**14 50 55.1**	**+0.8**
	comp=Z,119nm,0.7s,mb5.6						
BHPL	**Bhopal**	**42.32**	**319**	*e*P	**P**	**14 50 54.8**	**-0.1**
BHPL				AMb	AMB	14 51 01.5	
	comp=Z,32nm,0.5s,mb5.2						
NJ2	**Nanjing**	**42.34**	**16**	*e*P	**P**	**14 50 56.0**	**+1.1**
NJ2				AP	pP	14 51 00.5	-2.8
NJ2				XP	sP	14 51 03.0	-3.6
NJ2				PP	PP	14 52 37.5	+4.3
NJ2				S	**S**	**14 57 19.0**	**+4.8**
NJ2				XS	sS	14 57 26.0	-2.0
NJ2				AMB	AMB		
	comp=Z,190nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,860nm,9.9s						
NJ2				LR	LR		
	comp=N,12μm,19.1s,MS6.0						
NJ2				LR	LR		
	comp=E,11μm,16.4s,MS6.0						
NJ2				LR	LR		
	comp=Z,11μm,22.4s						
XAN	**Xi'an**	**42.59**	**4**	P	**P**	**14 50 56.5**	**-0.5**
XAN				AP	pP	14 51 05.5	+0.1
XAN				XP	sP	14 51 10.3	+1.6
XAN				S	**S**	**14 57 17.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.2						
XAN				AMB	AMB		
	comp=Z,861nm,8.3s						
XAN				LR	LR		
	comp=N,6μm,13.9s,MS5.7						
XAN				LR	LR		
	comp=E,3μm,13.9s,MS5.7						
XAN				LR	LR		
	comp=Z,8μm,12.9s,MS5.8						
LZH	**Lanzhou**	**44.60**	**357**	⇓P	**P**	**14 51 14.5**	**+1.4**
LZH				AP	pP	14 51 23.8	+2.3
LZH				XP	sP	14 51 27.0	+2.1
LZH				PP	PP	14 53 01.0	+3.6
LZH				S	**S**	**14 57 48.0**	**+0.7**
LZH				XS	sS	14 58 06.0	+4.9
LZH				*e*SS	SS	15 01 05.0	-2.6
LZH				AMB	AMB		
	comp=Z,300nm,1.4s,mb5.9						
LZH				AMB	AMB		
	comp=Z,2μm,6.6s						
LZH				LR	LR		
	comp=N,12μm,15.2s						
LZH				LR	LR		
	comp=Z,19μm,16.0s,MS6.1						
AGRA	**Agra**	**44.91**	**324**	*e*P	**P**	**14 51 15.3**	**-0.4**
LGTI	**Lohaghat**	**45.34**	**328**	*e*P	**P**	**14 51 20.0**	**+0.9**
PTH	**Pithoragarh**	**45.44**	**328**	*e*P	**P**	**14 51 20.0**	**+0.2**
PTH				*ex*	x	14 57 46.0	
TIA	**Tai'an**	**45.88**	**13**	⇓P	**P**	**14 51 23.3**	**0.0**
TIA				*e*S	**S**	**14 58 13.5**	**+7.7**
TIA				AMB	AMB		
	comp=Z,111nm,1.2s,mb5.7						
TIA				LR	LR		
	comp=N,4μm,14.0s,MS5.6						
TIA				LR	LR		
	comp=E,1μm,14.0s,MS5.6						
SONA	**Sohna**	**46.18**	**324**	*e*P	**P**	**14 51 25.1**	**-0.5**
SONA				AMb	AMB	14 51 30.0	
	comp=Z,106nm,1.3s,mb5.6						
AYAN	**Aya Nagar**	**46.33**	**324**	*e*P	**P**	**14 51 26.4**	**-0.5**
AYAN				AMb	AMB	14 51 39.1	
	comp=Z,122nm,1.7s,mb5.6						
AJM	**Ajmer**	**46.39**	**320**	*i* P	**P**	**14 51 26.0**	**-1.3**
NDI	**New Delhi**	**46.42**	**324**	*e*P	**P**	**14 51 28.0**	**+0.4**
NDI				*ex*	x	14 58 10.0	
KUDL	**Kundal**	**46.45**	**323**	*e*P	**P**	**14 51 27.0**	**-0.8**
KUDL				AMb	AMB	14 51 42.5	
	comp=Z,192nm,1.4s,mb5.8						
TIY	**Taiyuan**	**46.56**	**7**	*e*P	**P**	**14 51 28.0**	**-0.7**
TIY				S	**S**	**14 58 22.0**	**+6.4**
TIY				LR	LR		
	comp=N,5μm,14.0s						
KHET	**Khetri**	**46.81**	**322**	*e*P	**P**	**14 51 30.3**	**-0.3**
KHET				AMb	AMB	14 51 36.3	
	comp=Z,71nm,0.8s,mb5.7						
KHET				*ex*	x	14 58 16.4	
DDI	**Dehra Dun**	**47.20**	**326**	*e*P	**P**	**14 51 31.0**	**-2.7**
DDI				*ex*	x	14 58 36.2	
JNU	**Nakatsue**	**47.85**	**28**	P	**P**	**14 51 36.5**	**-2.3**
	comp=Z,39nm,1.0s,mb5.4,baz=221,slow=6.4,SNR=4.6						
KLP	**Kalpa**	**48.04**	**328**	*e*P	**P**	**14 51 40.0**	**-0.2**
KLP				AMb	AMB	14 51 52.9	
	comp=Z,61nm,1.4s,mb5.4						
GTA	**Gaotai**	**48.22**	**354**	⇑*i*P	**P**	**14 51 42.0**	**+0.5**
GTA				AP	pP	14 51 46.0	-4.0
GTA				XP	sP	14 51 48.5	-4.8
GTA				PCP	PcP	14 53 10.0	+1.6
GTA				PP	PP	14 53 34.0	0.0
GTA				SCP	ScP	14 57 03.5	+2.4
GTA				S	**S**	**14 58 40.3**	**+1.2**
GTA				SCS	ScS	15 01 32.3	-0.3
GTA				AMB	AMB		
	comp=Z,109nm,1.6s,mb5.6						
GTA				LR	LR		
	comp=N,5μm,14.1s,MS5.7						
GTA				LR	LR		
	comp=E,4μm,15.6s,MS5.7						
GTA				LR	LR		
	comp=Z,4μm,17.9s,MS5.4						
SDNR	**Sundarnagar**	**48.70**	**326**	*ex*	x	14 51 29.3	
SDNR				*ex*	x	14 58 44.5	
BTO	**Baotou**	**49.20**	**4**	*e*P	**P**	**14 51 49.0**	**-0.1**
BTO				AMB	AMB		
	comp=Z,108nm,1.5s,mb5.7						
BJT	**Baijiatuau**	**49.38**	**10**	*e*P	**P**	**14 51 50.4**	**0.0**
BJT				*e*	pP	14 52 00.1	+1.2
BJT				pmax	pmax		
	comp=Z,150nm,1.2s						
BJT				MLR	MLR		
	comp=Z,1μm,20.0s						
BJT	**Baijiatuau**	**49.38**	**10**	*e*P	**P**	**14 51 50.4**	**0.0**
	comp=Z,150nm,1.2s,mb5.9						
BJT				*e*	pP	14 52 00.1	+1.2
BJT				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**49.57**	**6**	*e*P	**P**	**14 51 52.3**	**+0.4**
HHC				XP	sP	14 51 58.5	-5.2
HHC				PCP	PcP	14 53 14.8	+1.5
HHC				PP	PP	14 53 47.5	+1.2
HHC				PCS	PcS	14 57 09.5	-0.5
HHC				S	**S**	**14 58 58.3**	**+0.1**
HHC				SCS	ScS	15 01 40.0	-1.7
HHC				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.5						
HHC				AMB	AMB		
	comp=Z,1μm,8.6s						
HHC				LR	LR		
	comp=N,5μm,15.5s,MS5.7						
HHC				LR	LR		
	comp=E,3μm,14.3s,MS5.7						
HHC				LR	LR		
	comp=Z,4μm,13.1s,MS5.6						
TAU	**Tasmania Unive**	**49.63**	**140**	PFAKE		14 52 00.0	+7.6
TAU				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KS15	**Wonju Array Si**	**50.26**	**23**	*e*P	**P**	**14 51 57.2**	**+0.1**
HNR	**Honiara**	**53.20**	**95**	P	**P**	**14 52 19.8**	**+0.7**
	comp=Z,58nm,0.7s,mb5.6,baz=256,slow=4.3,SNR=3.7						
HNR	**Honiara**	**53.20**	**95**	P	**P**	**14 52 19.9**	**+0.7**
HNR				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
MAJO	**Matsushiro**	**54.21**	**32**	PFAKE		14 52 40.0	+13
MAJO				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
MAT	**Matsushiro**	**54.21**	**32**	P	**P**	**14 52 23.8**	**-2.7**
MAT	**Matsushiro**	**54.21**	**32**	*e*P	**P**	**14 52 24.0**	**-2.5**
MAT				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**54.21**	**32**	*e*P	**P**	**14 52 24.0**	**-2.5**
	comp=Z,22nm,1.5s,mb4.9						
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
MJAR	**Matsushiro Ar

comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.5
CN2 LR LR
comp=E,2μm,14.0s,MS5.5
CN2 LR LR
comp=Z,2μm,14.0s,MS5.4
KSH Kashi 55.48 332⇑ *i*P **P 14 52 35.5 -0.2**
KSH *e*AP pP 14 52 42.0 -2.3
KSH *e*XP sP 14 52 45.3 -2.3
KSH *e*PCP PcP 14 53 36.0 +0.4
KSH *e*PP PP 14 54 44.0 +4.2
KSH *e*SCP ScP 14 57 33.0 +0.5
KSH *e*PCS PcS 14 57 35.5 -0.2
KSH *e*S **S 15 00 16.5 -2.6**
KSH XS sS 15 00 30.0 -3.2
KSH *e*PS 15 00 35.0
KSH *e*SCS ScS 15 02 23.3 +0.3
KSH *e*SS SS 15 04 08.0 +4.0
KSH AMB AMB
comp=Z,350nm,3.5s
KSH LR LR
comp=N,2μm,14.6s,MS5.4
KSH LR LR
comp=E,1μm,13.7s,MS5.4
SONM Songino Array 56.29 0 P **P 14 52 42.3 +0.8**
comp=E,7.3nm,0.8s,mb4.7,baz=184,slow=4.7,SNR=67
SONM LR LR 15 20 06.7
comp=E,2μm,19.4s,MS5.2,baz=181,slow=40
ULN Ulaanbaatar 56.33 1 *e*P **P 14 52 41.4 -0.4**
ULN pmax pmax
comp=Z,33nm,1.0s,mb5.3
ULN MLR MLR
comp=Z,2μm,20.0s,MS5.2
ULN Ulaanbaatar 56.33 1 *e*P **P 14 52 41.4 -0.3**
comp=Z,33nm,1.0s,mb5.3
ULN LR LR
comp=Z,2μm,20.0s,MS5.2
VLA Vladivostok 56.70 22 *i* P **P 14 52 43.1 -1.3**
VLA *e*S **S 15 00 27.0 -8.2**
VLA pmax pmax
comp=Z,71nm,1.2s,mb5.6
MDJ Mudanjiang 57.18 20 P **P 14 52 46.8 -1.0**
MDJ PP PP 14 54 57.5 +2.6
MDJ S **S 15 00 43.3 +1.7**
MDJ SS SS 15 04 38.5 +7.8
MDJ AMB AMB
comp=Z,33nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,693nm,4.6s
MDJ LR LR
comp=N,908nm,17.5s,MS5.0
MDJ LR LR
comp=E,562nm,21.4s,MS5.0
MDJ LR LR
comp=Z,859nm,15.6s
MDJ Mudanjiang 57.18 20 *e*P **P 14 52 46.9 -1.0**
comp=Z,36nm,1.0s,mb5.3
MDJ LR LR
comp=Z,945nm,20.0s,MS4.9
CASY Casey 57.57 178 PFAKE 14 53 00.0 +9.4
CASY LR LR
comp=Z,1μm,19.0s,MS5.0
OPO Ambohidratompo 57.81 254 P **P 14 52 53.5 +1.3**
comp=Z,11nm,1.0s,mb4.8,baz=62,slow=5.4,SNR=8.5
AAK Ala-Archa 58.64 333 P **P 14 52 57.1 -1.0**
comp=Z,54nm,1.6s,mb5.3,SNR=7.5
AAK Ala-Archa 58.64 333 *e*P **P 14 52 56.6 -1.5**
AAK pmax pmax
comp=Z,32nm,1.4s,mb5.2
AAK MLR MLR
comp=Z,1μm,19.0s,MS5.0
AAK Ala-Archa 58.64 333 *e*P **P 14 52 56.6 -1.5**
comp=Z,32nm,1.4s,mb5.2
AAK LR LR
comp=Z,1μm,19.0s,MS5.0
FRU Bishkek 58.75 333 *e*P **P 14 52 59.5 +0.7**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.4
ZAK Zakamensk 58.89 358⇑ *i*P **P 14 53 00.5 +0.7**
ZAK pmax pmax
comp=Z,67nm,1.9s,mb5.3
HIA Hailar 58.96 10 *e*P **P 14 52 59.9 -0.4**
HIA pmax pmax
comp=Z,50nm,1.1s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 58.96 10 *e*P **P 14 52 59.9 -0.4**
comp=Z,50nm,1.1s,mb5.5
HIA LR LR
comp=Z,2μm,20.0s,MS5.3
MKAR Makanchi Array 59.17 341 P **P 14 53 01.3 -0.4**
comp=Z,15nm,0.6s,mb5.2,baz=152,slow=8.3,SNR=184
MOY Mondy 60.28 356 *e*P **P 14 53 10.2 +0.8**
MOY pmax pmax
comp=Z,203nm,2.6s,mb5.7
IRK Irkutsk 60.72 359 *e*P **P 14 53 12.0 -0.4**
IRK pmax pmax
comp=Z,160nm,2.9s,mb5.6
CIT Chita 60.83 5 *e*P **P 14 53 13.0 -0.1**
CIT pmax pmax
comp=Z,210nm,2.1s,mb5.9
KLR Kul'dur 61.94 19 *e*P **P 14 53 17.0 -3.7**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,85nm,1.6s,mb5.6
ASAJ Asahikawa 62.12 29 P **P 14 53 21.5 -0.3**
comp=Z,23nm,1.2s,mb5.2,baz=260,slow=12,SNR=3.6
HABR Khabarovsk 62.41 21 *i* P **P 14 53 22.8 -1.0**
HABR pmax pmax
comp=Z,177nm,3.8s
HABR MLR MLR
comp=Z,2μm,14.0s,MS5.3
KURK Kurchatov 63.77 341 P **P 14 53 32.5 -0.4**
comp=Z,316nm,1.4s,mb6.2,SNR=39
KURK Kurchatov 63.77 341 *e*P **P 14 53 32.1 -0.8**
KURK pmax pmax
comp=Z,83nm,1.1s,mb5.7
KURK MLR MLR
comp=Z,2μm,20.0s,MS5.3
KURK Kurchatov 63.77 341 *e*P **P 14 53 32.1 -0.7**
comp=Z,83nm,1.1s,mb5.7
KURK LR LR
comp=Z,2μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 64.32 27⇓ *i*P **P 14 53 37.5 +1.1**
YSS *e* pP 14 53 46.0 +0.9
YSS pmax pmax
comp=Z,110nm,1.0s,mb5.8
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
YSS Yuzh-Sakhalins 64.32 27 *e*P **P 14 53 34.9 -1.5**
comp=Z,130nm,1.2s,mb5.8
ZAL Zalesovo 64.94 346 P **P 14 53 39.8 -0.7**
comp=Z,13nm,0.3s,mb5.4,baz=316,slow=2.5,SNR=31
ZAL LR LR 15 25 40.4
comp=Z,5μm,18.1s,MS5.7,baz=317,slow=40
KRAR Krasnoyarsk 65.40 352 *i* P **P 14 53 44.5 +1.0**
NVS Novosibirsk 66.14 346 *i* P **P 14 53 45.9 -2.3**
NVS *e* pP 14 53 53.5 -3.4
NVS *e*S S 15 02 31.6 -3.4
NVS *e* 15 03 37.6
NVS pmax pmax
comp=N,86nm,1.8s
NVS pmax pmax
comp=E,41nm,1.8s
NVS pmax pmax
comp=Z,98nm,1.8s,mb5.5
NVS pmax pmax
comp=N,44nm,2.7s
NVS pmax pmax
comp=Z,53nm,2.7s,mb5.1
NVS pmax pmax
comp=E,12nm,1.7s
NVS smax
comp=N,42nm,2.4s
NVS smax
comp=E,65nm,2.7s
BOD Bodaibo 66.61 5 *e*P **P 14 53 49.9 -1.3**
BOD pmax pmax
comp=Z,81nm,1.4s,mb5.6
CLNS Chul'man 67.13 11 *e*P **P 14 53 53.0 -1.6**
CLNS *e**PP pP 14 54 00.2 -3.1
CLNS *e* 14 54 22.1
CLNS *e* 14 56 19.7
CLNS *e*S S 15 02 42.7 -4.3
CLNS *e* 15 03 25.1
CLNS *e*SS SS 15 07 10.9 +4.6
CLNS pmax pmax
comp=Z,84nm,1.2s,mb5.7
CLNS pmax pmax
comp=N,44nm,1.3s
CLNS pmax pmax
comp=E,33nm,1.1s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax
comp=N,300nm,11.8s
CLNS smax
comp=Z,400nm,11.3s
CLNS smax
comp=E,300nm,12.2s
KBD Kabd 67.61 306 *e*P **P 14 53 56.9 -0.6**
KBD AMb AMB 14 54 03.5
comp=Z,183nm,1.4s,mb5.9
RDF Al-Radifah 67.62 306 *e*P **P 14 53 57.0 -0.6**
RDF AMb AMB 14 54 04.0
comp=Z,92nm,1.0s,mb5.8
UMR Umm Al-Rimmam 67.75 307 *e*P **P 14 53 57.8 -0.7**
UMR AMb AMB 14 54 01.6
comp=Z,65nm,0.5s,mb5.9
NAY Al-Naaiem 68.00 306 *e*P **P 14 53 58.8 -1.2**
NAY AMb AMB 14 54 06.1
comp=Z,24nm,1.0s,mb5.2
MIB Mutribah 68.15 307 *e*P **P 14 54 00.5 -0.5**
MIB AMb AMB 14 54 07.5
comp=Z,58nm,1.1s,mb5.5
SNZO South Karori 68.30 131 PFAKE 14 54 10.0 +8.1
SNZO LR LR
comp=Z,2μm,20.0s,MS5.3
BVAR Borovoye Array 68.56 338 P **P 14 54 03.1 -0.4**
comp=Z,3.7nm,0.5s,mb4.6,baz=143,slow=6.8,SNR=39
BRVK Borovoye 68.63 338 P **P 14 54 03.3 -0.7**
comp=Z,144nm,1.5s,mb5.7,SNR=16
BRVK Borovoye 68.63 338 *e*P **P 14 54 03.3 -0.7**
BRVK pmax pmax
comp=Z,22nm,1.1s,mb5.0
BRVK MLR MLR
comp=Z,556nm,20.0s,MS4.8
BRVK Borovoye 68.63 338 *e*P **P 14 54 03.3 -0.7**
comp=Z,22nm,1.1s,mb5.0
BRVK LR LR
comp=Z,556nm,20.0s,MS4.8
KMBO Kilima Mbogo 68.86 272 P **P 14 54 05.8 +0.4**
comp=Z,4.9nm,1.0s,mb4.4,baz=49,slow=6.6,SNR=7.4
KMBO LR LR 15 18 16.1
comp=Z,792nm,20.5s,MS4.9,baz=96,slow=31
KMBO Kilima Mbogo 68.86 272 *e*P **P 14 54 06.9 +1.5**
KMBO pmax pmax
comp=Z,13nm,1.4s
KMBO MLR MLR
comp=Z,637nm,22.0s
KMBO Kilima Mbogo 68.86 272 *e*P **P 14 54 06.8 +1.5**
comp=Z,12nm,1.4s,mb4.7
KMBO LR LR
comp=Z,637nm,22.0s,MS4.8
ZRNK Zerenda 69.03 337 *e*P **P 14 54 05.4 -1.1**
ZRNK pmax pmax
comp=Z,27nm,1.0s,mb5.1
ZRNK Zerenda 69.03 337 *e*P **P 14 54 05.4 -1.1**
comp=Z,27nm,1.0s,mb5.1
BHD Baghdad 71.87 309 *ex* x 14 54 24.0
BHD *ex* x 15 03 34.0
YAK Yakutsk 72.88 11 *e*P **P 14 54 28.3 -1.5**
YAK *e**PP pP 14 54 37.3 -1.4
YAK *e* 14 54 43.2
YAK *e* 14 57 08.6
YAK *e*S S 15 03 50.9 -3.5
YAK *e* 15 04 34.5
YAK *e*SS SS 15 08 33.7 -1.1
YAK pmax pmax
comp=Z,96nm,1.1s,mb5.6
YAK pmax pmax
comp=N,52nm,1.3s
YAK pmax pmax
comp=E,35nm,1.6s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
YAK smax
comp=E,8.0nm,1.5s
YAK Yakutsk 72.88 11 *e*P **P 14 54 27.9 -2.0**
comp=E,196nm,1.0s,mb6.0
SYO Syowa Base 73.58 200⇑ *e*pP pP 14 54 37.3 -5.5
SYO Syowa Base 73.58 200⇓ *e*PcP PcP 14 54 51.0 +1.2
MAK Makhachkala 73.93 319 *d*P **P 14 54 35.4 -0.6**
MAK *i* 14 54 52.7
MAK *i* 14 57 19.6
MAK *i* PPP 14 59 12.5
MAK *i* S S 15 04 00.4 -5.8
MAK *i* 15 04 40.2
MAK pmax pmax
comp=Z,132nm,1.5s,mb5.6
MSL Mosul 74.05 312 *ex* x 14 54 36.0
MSL *ex* x 15 04 03.0
VNDA Vanda 74.48 169 P **P 14 54 38.2 -1.0**
comp=Z,15nm,1.1s,mb4.8,baz=342,slow=3.2,SNR=3.0
VNDA LR LR 15 21 56.6
comp=Z,590nm,19.0s,MS4.9,baz=324,slow=31
VNDA Vanda 74.48 169 *e*P **P 14 54 38.1 -1.1**
VNDA LR LR
comp=Z,482nm,22.0s,MS4.8
GNI Garni 74.48 316 *e*P **P 14 54 38.3 -1.0**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI MLR MLR
comp=Z,558nm,21.0s
GNI Garni 74.48 316 *e*P **P 14 54 38.3 -1.0**
comp=Z,9.1nm,0.9s,mb4.7
GNI LR LR
comp=Z,558nm,21.0s,MS4.8
MTA Mtatsminda 75.13 317 P **P 14 54 43.2 +0.2**
MTA S S 15 04 18.5 -1.1
SBA Scott Base 75.56 169 PFAKE 14 55 00.0 +15
SBA LR LR
comp=Z,711nm,19.0s,MS5.0
ARU Arti 75.74 335 P **P 14 54 46.9 +0.4**
comp=Z,174nm,1.2s,mb5.9,SNR=6.6
ARU Arti 75.74 335⇑ *i*P **P 14 54 46.8 +0.3**
ARU *e* 14 54 58.2
ARU *e* 14 57 36.4
ARU *e*PPP 14 59 24.3
ARU *e*S S 15 04 26.4 -0.1
ARU *e* 15 04 57.1
ARU pmax pmax
comp=Z,40nm,1.3s,mb5.2
ARU MLR MLR
comp=Z,1μm,22.0s,MS5.2
ARU MLR MLR
comp=N,900nm,18.0s,MS5.3
ARU MLR MLR
comp=E,1μm,19.0s,MS5.3
ARU Arti 75.74 335 *e*P **P 14 54 46.0 -0.5**
comp=E,54nm,1.2s,mb5.4
ARU LR LR
comp=Z,2μm,21.0s,MS5.3
PET Petropavlovsk 75.95 30⇑ *i*P **P 14 54 47.5 -0.2**
PET *e*S S 15 04 26.9 -1.9
PET *e*PS 15 05 05.9
PET *e*SS SS 15 09 23.8 +2.3
PET pmax pmax
comp=Z,87nm,1.4s,mb5.5
PET pmax pmax
comp=Z,800nm,6.0s
PET pmax pmax
comp=Z,600nm,13.3s
PET smax
comp=E,700nm,12.3s
PET MLR MLR
comp=Z,500nm,11.0s,MS5.1
PET MLR MLR
comp=Z,600nm,17.0s
PET Petropavlovsk 75.95 30 *e*P **P 14 54 47.3 -0.4**
comp=Z,112nm,1.3s,mb5.6
PET LR LR
comp=Z,845nm,19.0s,MS5.1
LSZ Lusaka 76.10 256 *e*P **P 14 54 49.2 +0.7**
LSZ pmax pmax
comp=Z,63nm,1.8s,mb5.2
LSZ MLR MLR
comp=Z,2μm,19.0s,MS5.4
LSZ Lusaka 76.10 256 *e*P **P 14 54 49.2 +0.6**
comp=Z,63nm,1.8s,mb5.2
LSZ LR LR
comp=Z,2μm,19.0s,MS5.4
ZEI Tsey 76.20 318 *e*P **P 14 54 49.5 +0.4**
ZEI *e**PP pP 14 54 59.8 +1.8
ZEI pmax pmax
comp=Z,15nm,1.4s,mb4.7
MA2 Magadan 76.82 22 *c e*P **P 14 54 52.3 -0.3**
MA2 *e* 14 55 07.9
MA2 *e* 14 57 45.7
MA2 *e*PPP 14 59 36.6
MA2 *e*S S 15 04 36.3 -2.0
MA2 *e*PS 15 05 20.2
MA2 *e*SS SS 15 09 33.5 -1.1
MA2 pmax pmax
comp=Z,50nm,1.4s,mb5.2
MA2 pmax pmax
comp=N,30nm,1.3s
MA2 pmax pmax
comp=E,10.0nm,1.4s
MA2 MLR MLR
comp=Z,1μm,22.0s,MS5.1
MA2 Magadan 76.82 22 *e*P **P 14 54 52.0 -0.6**
comp=Z,91nm,1.4s,mb5.5
MA2 LR LR
comp=Z,699nm,20.0s,MS5.0
KIV Kislovodsk 77.51 319 *e*P **P 14 54 56.5 0.0**
KIV *e* 14 55 07.9
KIV *e* 14 57 51.9
KIV *e*S S 15 04 44.4 -1.3
KIV *e*SS SS 15 09 44.1 -0.9
KIV pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV Kislovodsk 77.51 319 *e*P **P 14 54 56.7 +0.3**
comp=Z,35nm,1.3s,mb5.1
KIV LR LR
comp=Z,537nm,22.0s,MS4.8
LBTB Lobatse 77.74 246 *e*P **P 14 54 58.5 +0.7**
LBTB pmax pmax
comp=Z,18nm,1.3s,mb4.8
LBTB MLR MLR
comp=Z,910nm,20.0s,MS5.1
LBTB Lobatse 77.74 246 *e*P **P 14 54 58.5 +0.7**
comp=Z,18nm,1.3s,mb4.8
LBTB LR LR
comp=Z,910nm,20.0s,MS5.1
BOSA Boshof 77.82 243 P **P 14 54 59.0 +0.8**
comp=Z,4.7nm,0.8s,mb4.5,baz=86,slow=5.4,SNR=9.2
BOSA LR LR 15 27 09.2
comp=Z,691nm,18.4s,MS5.0,baz=93,slow=34
BOSA Boshof 77.82 243 *e*P **P 14 54 58.6 +0.4**
BOSA pmax pmax
comp=Z,36nm,1.5s,mb5.1
BOSA MLR MLR
comp=Z,840nm,20.0s,MS5.1
BOSA Boshof 77.82 243 *e*P **P 14 54 58.6 +0.4**
comp=Z,36nm,1.5s,mb5.1
BOSA LR LR
comp=Z,840nm,20.0s,MS5.1
EIL Elat 78.17 303 *e*P **P 14 55 00.2 0.0**
comp=Z,2μm,1.8s
MALT Malatya 78.26 312⇑ P **P 14 54 59.1 -1.6**
MALT Malatya 78.26 312 *e*P **P 14 55 01.0 +0.3**
comp=Z,30nm,1.4s,mb5.0
SOC Sochi 79.32 317 *e*P **P 14 55 11.0 +4.5**
SOC *e*S S 15 05 02.5 -2.7
SOC *e* 15 05 46.0
SOC pmax pmax
comp=Z,35nm,1.6s,mb5.0
SEY Seymchan 79.72 20 *e*P **P 14 55 08.5 -0.2**
SEY pP 14 55 17.0 -0.6
SEY 14 58 12.2
SEY *e*PPP 15 00 03.5
SEY *e*S S 15 05 09.4 0.0
SEY PS 15 06 01.6
SEY pmax pmax
comp=Z,30nm,1.1s,mb5.1
SEY pmax pmax
comp=E,20nm,1.2s
SEY smax
comp=N,610nm,17.3s
SEY smax
comp=E,550nm,17.3s
CSS Prodhromos 81.04 307 *e*P **P 14 55 16.1 +0.3**
comp=E,53nm,1.2s,mb5.3
QSPA South Pole Qui 81.30 180 *e*P **P 14 55 17.2 +0.1**
comp=E,13nm,0.9s,mb4.9
ANN Anapa 81.30 318 *e*P **P 14 55 18.7 +1.6**
ANN *e*S S 15 05 26.5 +0.5
ANN pmax pmax
comp=Z,83nm,1.3s,mb5.5
SUR Sutherland 81.38 239 *e*P **P 14 55 19.3 +1.8**
comp=Z,113nm,1.7s,mb5.5
SUR LR LR
comp=Z,2μm,20.0s,MS5.4
TIXI Tiksi 81.60 7 *e*P **P 14 55 12.4 -6.4**
TIXI *e* 15 05 37.6
TIXI *e*SS SS 15 10 38.2 -8.2
TIXI pmax pmax
comp=Z,38nm,1.1s,mb5.2
TIXI pmax pmax
comp=Z,154nm,9.5s
TIXI pmax pmax
comp=N,132nm,11.6s
TIXI pmax pmax
comp=E,101nm,28.9s
TIXI Tiksi 81.60 7 PFAKE 14 55 30.0 +11
TIXI LR LR
comp=Z,1μm,21.0s,MS5.2
BR131 Keskin Array S 82.24 312 *e*P **P 14 55 21.8 -0.4**
comp=Z,8.7nm,0.7s,mb4.8
BR131 LR LR
comp=Z,654nm,20.0s,MS5.0
BRTR Keskin Array B 82.24 312 P **P 14 55 21.9 -0.3**
comp=Z,4.7nm,0.7s,mb4.5,baz=139,slow=6.9,SNR=29
VRSR Storozhevoye 82.67 324 *e*P **P 14 55 23.4 -0.9**
VRSR *e**PP pP 14 55 31.0 -2.2
VRSR pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
VRSR pmax pmax
comp=N,3.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VRSR MLR MLR
comp=Z,80nm,23.0s
VRSR MLR MLR
comp=N,80nm,21.0s
VRSR MLR MLR
comp=E,370nm,67.0s
VOR Voronezh 82.87 325 *e*P **P 14 55 25.0 -0.4**
VOR *e**PP pP 14 55 34.0 -0.3
VOR pmax pmax
comp=Z,180nm,2.0s,mb5.8
ANTO Ankara 82.91 312 *e*P **P 14 55 26.0 +0.4**
ANTO pmax pmax
comp=Z,37nm,1.4s,mb5.2
ANTO MLR MLR
comp=Z,731nm,20.0s,MS5.0
ANTO Ankara 82.91 312 *e*P **P 14 55 26.0 +0.5**
comp=Z,37nm,1.4s,mb5.2
ANTO LR LR
comp=Z,731nm,20.0s,MS5.0
SIM Simferopol' 83.56 317 *e*P **P 14 55 29.5 +0.5**
SIM *e*S S 15 05 49.8 +0.7
SIM pmax pmax
comp=Z,510nm,17.2s
MOS Moscow 85.31 328 *e*P **P 14 55 36.9 -0.9**
MOS *e*S 15 06 05.3
MOS pmax pmax
comp=Z,61nm,0.7s,mb5.8
MOS smax
comp=N,3μm,5.0s
OBN Obninsk 85.63 327κ *i*P **P 14 55 39.8 +0.4**
OBN *e* pP 14 55 49.8 +1.4
OBN *e* 14 55 54.8
OBN 14 58 58.0
OBN *i* 15 06 06.5
OBN *e*SS SS 15 11 53.1 +7.2
OBN pmax pmax
comp=Z,87nm,1.5s,mb5.8
OBN Obninsk 85.63 327 *e*P **P 14 55 40.2 +0.8**

comp=Z,154nm,1.5s,mb6.0
OBN LR LR
comp=Z,1μm,19.0s,MS5.3
TSUM Tsumeb 85.73 251 *e*P **P 14 55 40.9 +1.0**
comp=Z,25nm,1.8s,mb5.1
TSUM LR LR
comp=Z,1μm,19.0s,MS5.3
KLMR Klimovskoe 86.46 333 *d i*P **P 14 55 43.7 +0.2**
KLMR *e*S 15 06 03.3
KLMR pmax pmax
comp=Z,120nm,1.5s,mb5.9
KLMR pmax pmax
comp=Z,460nm,8.1s
KLMR smax
comp=N,40nm,4.0s
KLMR smax
comp=E,1μm,4.1s
TIRR Tirgusor 87.31 316 ⇓P **P 14 55 58.6 +11**
TIRR Tirgusor 87.31 316 ⇓P **P 14 55 58.6 +11**
BILL Biiibino 87.40 19 *ce*P **P 14 55 47.4 -0.7**
BILL *e* pP 14 55 56.2 -0.9
BILL 14 59 13.0
BILL *i* 15 06 11.7
BILL SS SS 15 12 16.0 +4.0
BILL pmax pmax
comp=Z,38nm,1.8s,mb5.3
BILL Biiibino 87.40 19 *e*P **P 14 55 46.5 -1.5**
comp=Z,23nm,1.3s,mb5.2
BILL LR LR
comp=Z,906nm,21.0s,MS5.2
CFR Carcaliu 87.69 316 ⇑P **P 14 55 50.3 +0.8**
CFR Carcaliu 87.69 316 ⇑P **P 14 55 50.3 +0.9**
KIS Kishinev 87.70 318 *e*P **P 14 55 56.0 +6.5**
KIS *e* 15 06 30.0
HARR Harsova 87.70 316 ⇓P **P 14 55 48.8 -0.7**
AKASG Malin Array Be 88.43 322 P **P 14 55 52.1 -0.9**
comp=Z,1.8nm,0.7s,mb4.4,baz=90,slow=4.9,SNR=17
AKASG PP PP 14 59 20.0 -0.9
comp=Z,2.6nm,0.8s,baz=95,slow=6.0,SNR=5.1
VRI Vrincioaia 88.81 317 ⇓P **P 14 55 57.2 +2.4**
VRI Vrincioaia 88.81 317 ⇓P **P 14 55 57.2 +2.4**
MLR Muntele Rosu 89.26 316 ⇓P **P 14 55 57.9 +1.0**
BURAR Bucovina Array 90.22 318 ⇓P **P 14 56 03.2 +1.8**
BURAR Bucovina Array 90.22 318 ⇓P **P 14 56 03.2 +1.8**
VTS Vitosha 90.58 313 ⇓P **P 14 56 03.6 +0.5**
RAR Rarotonga 90.77 111 PFAKE 14 56 20.0 +16
RAR LR LR
comp=Z,1.0nm,22.0s
LVZ Lovozero 91.13 339 PFAKE 14 56 20.0 +14
LVZ LR LR
comp=Z,1μm,20.0s,MS5.4
BZS Buzias 92.27 316 ⇓P **P 14 56 10.7 -0.2**
BZS Buzias 92.27 316 ⇓P **P 14 56 10.7 -0.2**
KOLS Kolonicke sedl 92.42 319 *e*P **P 14 56 14.1 +2.6**
KOLS *e* pP 14 56 23.9 +3.3
FINES FINESS Array B 92.81 332 P **P 14 56 13.1 -0.3**
comp=Z,1.5nm,0.7s,mb4.5,baz=119,slow=6.3,SNR=10
FINES LR LR 15 43 54.9
comp=Z,712nm,18.4s,MS5.2,baz=110,slow=39
STHS Stebnicka Huta 93.16 319 *e* **P 14 56 17.9 +2.9**
STHS *e* pP 14 56 27.2 +3.2
KECS Kecovo 93.50 318 *e*P **P 14 56 16.0 -0.6**
KECS *e* 14 56 28.3
ARCES ARCESS Array B 94.79 340 P **P 14 56 21.9 -0.6**
comp=Z,6.8nm,0.8s,mb5.1,baz=104,slow=5.1,SNR=6.7
ARCES LR LR 15 43 54.4
comp=Z,964nm,18.5s,MS5.3,baz=106,slow=39
UNV Unalaska Valle 95.46 36 PFAKE 14 56 40.0 +14
UNV LR LR
comp=Z,2μm,19.0s,MS5.6
TNA Tin City 96.22 25 PFAKE 14 56 40.0 +11
TNA LR LR
comp=Z,371nm,22.0s,MS4.8
GERES GERESS Array B 98.01 318 P **P 14 56 36.7 -0.4**
comp=Z,0.2nm,0.6s,baz=95,slow=12,SNR=3.1
GERES PP PP 15 00 35.6 -0.5
comp=Z,0.9nm,0.8s,baz=102,slow=4.4,SNR=3.7
CLL Collm 98.62 321 *e*SKSac SKSac 15 07 15.0 -0.9
CLL *e*Sdif 15 08 06.0
CLL *ex* x 15 09 55.0
CLL *e*SS SS 15 14 52.0 -0.6
CLL *e*SSS 15 18 42.0
KONO Kongsberg 100.70 329 PFAKE 14 57 00.0 +11
KONO LR LR
comp=Z,1μm,19.0s,MS5.4
PPT Papeete 100.91 110 *e*S Sdif 15 08 27.6 +1.2
comp=Z,555nm,23.5s
PPT *e*SS SS 15 15 25.8 +1.1
comp=Z,720nm,26.5s
PPT *e*LQ 15 25 21.5
comp=Z,361nm,25.2s
PPT *e*LR LR 15 29 51.8
comp=Z,887nm,22.2s
FIB Fire Island 104.23 29 PFAKE 14 57 20.0 +15
FIB LR LR
comp=Z,775nm,19.0s,MS5.3
MCK McKinley 104.40 26 PFAKE 14 57 20.0 +14
MCK LR LR
comp=Z,534nm,19.0s,MS5.1
PMR Palmer 104.66 29 PFAKE 14 57 20.0 +13
PMR LR LR
comp=Z,612nm,19.0s,MS5.2
COLA College 104.66 25 PFAKE 14 57 20.0 +13
COLA LR LR
comp=Z,624nm,20.0s,MS5.2
ILAR Eielson Array 105.09 25 PP PP 15 01 31.3 +1.9
comp=Z,1.4nm,1.1s,baz=292,slow=7.5,SNR=4.7
DIV Divide 106.34 29 PFAKE 15 01 40.0 +15
DIV LR LR
comp=Z,2μm,19.0s,MS5.7
PMSA Palmer Station 106.35 184 PFAKE 15 01 40.0 +15
PMSA LR LR
comp=Z,1μm,19.0s,MS5.5
ESK Eskdalemuir 108.03 325 PFAKE 15 01 40.0 +11
ESK LR LR
comp=Z,730nm,19.0s,MS5.3
HOPE Hope Point 109.77 202 PFAKE 15 01 40.0 +8.2
HOPE LR LR
comp=Z,690nm,20.0s,MS5.2
DBIC Dimbokro 111.56 274 PFAKE 15 01 50.0 +15
DBIC LR LR
comp=Z,391nm,20.0s,MS5.0
RKT Rikitea 112.49 119 *e*SS SS 15 18 07.0 +5.0
comp=Z,295nm,31.5s
RKT *e*LR LR 15 35 13.5
SIT Sitka 112.63 31 PFAKE 15 01 50.0 +13
SIT LR LR
comp=Z,621nm,21.0s,MS5.2
PTCN Pitcairn Islan 115.87 123 PFAKE 15 02 00.0 +17
PTCN LR LR
comp=Z,1μm,19.0s,MS5.5
EFI East Falkland 118.32 191 PFAKE 15 02 00.0 +12
EFI LR LR
comp=Z,813nm,22.0s,MS5.3
ASCN Ascension 118.35 256 PFAKE 15 02 00.0 +12
ASCN LR LR
comp=Z,823nm,21.0s,MS5.3
YKA Yellowknife Ar 118.78 20 PKP PKPdf 15 01 48.6 -0.4
comp=Z,0.9nm,0.8s,baz=320,slow=2.2,SNR=9.6
YKA PP PP 15 02 56.6 -11
comp=Z,2.2nm,1.2s,baz=318,slow=5.8,SNR=5.5
OCWA Octopus Mounta 122.54 38 PFAKE 15 02 10.0 +14
OCWA LR LR
comp=Z,493nm,19.0s,MS5.2
COR Corvallis 124.44 41 PFAKE 15 02 10.0 +10
COR LR LR
comp=Z,146nm,20.0s,MS4.6
EDM Edmonton 125.42 28 *e*PKIKP PKPdf 15 02 01.8 0.0
HUMO Hull Mountain 125.48 43 PFAKE 15 02 10.0 +8.1
HUMO LR LR
comp=Z,356nm,19.0s,MS5.1
HAWA Hanford 125.99 38 PFAKE 15 02 10.0 +7.2
HAWA LR LR
comp=Z,38nm,19.0s
YBH Yreka Blue Hor 125.99 44 PFAKE 15 02 20.0 +17
YBH LR LR
comp=Z,467nm,20.0s,MS5.2
NEW Newport 126.42 35 PFAKE 15 02 20.0 +16
NEW LR LR
comp=Z,757nm,19.0s,MS5.4
WDC Whiskeytown Da 126.56 45 PFAKE 15 02 20.0 +16
WDC LR LR
comp=Z,407nm,21.0s,MS5.1
MOD Modoc 127.56 43 PFAKE 15 02 20.0 +14
MOD LR LR
comp=Z,510nm,19.0s,MS5.2
BMO Blue Mountains 128.11 38 PFAKE 15 02 20.0 +13
BMO LR LR
comp=Z,397nm,21.0s,MS5.1
WVOR Wild Horse Val 128.43 42 PFAKE 15 02 20.0 +12
WVOR LR LR
comp=Z,544nm,22.0s,MS5.2
FFC Flin Flon 128.96 21 PFAKE 15 02 20.0 +11
FFC LR LR
comp=Z,511nm,20.0s,MS5.2
MSO Missoula 129.01 35 PFAKE 15 02 20.0 +11
MSO LR LR
comp=Z,452nm,20.0s,MS5.2
CMB Columbia Colle 129.08 47 PFAKE 15 02 20.0 +11
CMB LR LR
comp=Z,412nm,21.0s,MS5.1
CHMT Chamberlain Mo 129.35 34 *e*PKPdf PKPdf 15 02 11.1 +1.8
NVAR Mina Array Bea 130.43 46 PKP PKPdf 15 02 13.3 +2.0
comp=Z,1.2nm,0.9s,baz=218,slow=0.6,SNR=7.9
NVAR SKPbc SKPbc 15 05 36.6 +4.0
comp=Z,4.5nm,1.1s,baz=274,slow=1.9,SNR=9.2
NVAR Mina Array Bea 130.43 46 PKP PKPdf 15 02 13.3 +2.0
NVAR SKPbc SKPbc 15 05 36.6 +4.0
EGMT Eagleton 130.53 31 PFAKE 15 02 20.0 +8.5
EGMT LR LR
comp=Z,294nm,19.0s,MS5.0
MNV Mina 130.53 46 PFAKE 15 02 20.0 +8.5
MNV LR LR
comp=Z,508nm,22.0s,MS5.2
PLCA Paso Flores 130.71 183 PFAKE 15 02 20.0 +8.2
PLCA LR LR
comp=Z,625nm,19.0s,MS5.3
BOZ Bozeman (W) 131.01 35 PFAKE 15 02 20.0 +7.6
BOZ LR LR
comp=Z,642nm,19.0s,MS5.3
ISA Isabella 131.41 50 PFAKE 15 02 30.0 +17
ISA LR LR
comp=Z,89nm,21.0s,MS4.4
ELK Elko 131.48 42 PFAKE 15 02 30.0 +17
ELK LR LR
comp=Z,502nm,20.0s,MS5.2
YMR Madison River 131.97 35 *e*PKPdf PKPdf 15 02 17.2 +3.0
YMR *e*SKP 15 05 41.0
YMR LR LR
comp=Z,1μm,21.0s,MS5.6
TRQA Tornquist 132.15 193 PFAKE 15 02 30.0 +15
TRQA LR LR
comp=Z,567nm,19.0s,MS5.3
LKWY Lake 132.35 35 PFAKE 15 02 30.0 +15
LKWY LR LR
comp=Z,975nm,19.0s,MS5.5
AHID Auburn Hatcher 133.01 37 PFAKE 15 02 30.0 +14
AHID LR LR
comp=Z,473nm,21.0s,MS5.2
DUG Dugway 133.35 41 PKIKP PKPdf 15 02 17.9 +1.1
DUG MLR MLR
comp=Z,365nm,19.0s,MS5.1
HWUT Hardware Ranch 133.38 39 PFAKE 15 02 30.0 +13
HWUT LR LR
comp=Z,703nm,21.0s,MS5.3
PFO Pinyon Flat Ob 133.73 51 PFAKE 15 02 30.0 +12
PFO LR LR
comp=Z,491nm,21.0s,MS5.2
BW06 Boulder Array 133.93 37 PFAKE 15 02 30.0 +12
BW06 LR LR
comp=Z,618nm,20.0s,MS5.3
NEN Nelson 134.11 48 *e*PKPdf PKPdf 15 02 20.4 +2.1
MPU Maple Canyon 134.21 41 PFAKE 15 02 30.0 +12
MPU LR LR
comp=Z,1μm,21.0s,MS5.6
ULM Lac du Bonnet 134.76 20 PKP PKPdf 15 02 20.9 +1.4
comp=Z,4.7nm,1.2s,baz=328,slow=8.0,SNR=3.7
RSSD Black Hills 136.10 31 PFAKE 15 02 30.0 +8.0
RSSD LR LR
comp=Z,905nm,19.0s,MS5.5
WUAZ Wupatki 136.69 46 PFAKE 15 02 40.0 +17
WUAZ LR LR
comp=Z,557nm,21.0s,MS5.3
PV10 Paradox Valley 136.80 41 *e*PKPdf PKPdf 15 02 22.5 -0.8
PV01 Paradox Valley 137.24 41 PKPdf PKPdf 15 02 24.8 +0.8
ISCO Idaho Springs 138.09 37 PFAKE 15 02 40.0 +14
ISCO LR LR
comp=Z,808nm,20.0s,MS5.5
EYMN Ely 138.17 18 PFAKE 15 02 40.0 +14
EYMN LR LR
comp=Z,862nm,19.0s,MS5.5
TUC Tucson 138.61 50 PFAKE 15 02 40.0 +13
TUC LR LR
comp=Z,343nm,20.0s,MS5.1
RCBR Riachuelo 139.39 250 PFAKE 15 02 40.0 +12
RCBR LR LR
comp=Z,762nm,21.0s,MS5.4
SDCO Great Sand Dun 139.43 40 PKPdf PKPdf 15 02 30.4 +2.3
SDCO LR LR
comp=Z,739nm,21.0s,MS5.4
ANMO Albuquerque 140.42 44 PFAKE 15 02 40.0 +10
ANMO LR LR
comp=Z,556nm,20.0s,MS5.3
CBKS Cedar Bluff 142.13 34 PFAKE 15 02 50.0 +17
CBKS LR LR
comp=Z,703nm,19.0s,MS5.4
MNTX Cornudas Mount 142.92 47 *e*PKPpre 15 02 33.1
MNTX LR LR
comp=Z,621nm,20.0s,MS5.4
GDL2 Guadalupe Moun 143.39 46 *e*PKPdf PKPdf 15 02 35.1 -0.1
CLNB Carlsbad 143.70 46 *e*PKPdf PKPdf 15 02 35.8 0.0
LBNH Lisbon 144.56 357 PFAKE 15 02 50.0 +13
LBNH LR LR
comp=Z,2μm,19.0s,MS5.8
BDFB Brasilia 144.70 227 PKP PKPdf 15 02 38.1 +0.7
comp=Z,7.1nm,1.0s,baz=109,slow=3.8,SNR=6.4
MIV Mineville/With 144.76 359 PKPdf PKPdf 15 02 36.8 -0.8
NCB Newcomb 144.87 0 *e*PKPdf PKPdf 15 02 37.8 0.0
LTX Lajitas 145.40 50 *e*PKIKP PKPdf 15 02 40.9 +2.2
LTX MLR MLR
comp=Z,742nm,19.0s,MS5.5
WMOK Wichita Mounta 145.52 38 *e*PKIKP PKPdf 15 02 39.6 +0.7
WMOK MLR MLR
comp=Z,779nm,22.0s,MS5.4
ERPA Erie 146.30 8 PFAKE 15 02 50.0 +10
ERPA LR LR
comp=Z,899nm,19.0s,MS5.6
WES Weston 146.37 356 PFAKE 15 02 50.0 +10
WES LR LR
comp=Z,1μm,21.0s,MS5.6
FVM French Village 147.28 24 *e*PKP2 PKPab 15 02 44.2 -1.8
JCT Junction City 147.57 45 *e*PKP2 PKPab 15 02 43.4 -3.8
JCT MLR MLR
comp=Z,1μm,19.0s,MS5.7
ACSO Alum Creek Sta 147.59 13 *e*PKPbc PKPbc 15 02 45.0 0.0
BLO Bloomington 147.64 18 *e*PKP2 PKPab 15 02 46.2 -1.3
WCI Wyandotte Cave 148.57 19 *e*PKP2 PKPab 15 02 48.5 -2.7
MIAR Mount Ida 148.61 32 *e*PKP2 PKPab 15 02 49.2 -2.1
MIAR MLR MLR
comp=Z,908nm,21.0s,MS5.5
MCWV Mont Chateau 148.73 9 *e*PKPbc PKPbc 15 02 48.1 0.0
MVL Millersville 148.76 4 *e*PKPbc PKPbc 15 02 48.9 +0.8
UALR University of 149.06 30 *e*PKPbc PKPbc 15 02 49.8 +0.9
GNAR Gosnell 149.17 26 *e*PKPbc PKPbc 15 02 51.3 +2.1
HBAR Harrisburg 149.23 27 *e*PKPbc PKPbc 15 02 51.5 +2.1
WVT Waverly 149.92 23 *e*PKP2 PKPab 15 02 51.9 -4.8
NATX Nacogdoches 150.06 37 *e*PKPbc PKPbc 15 02 53.8 +2.4
NATX LR LR
comp=Z,346nm,19.0s,MS5.2
CBN Corbin 150.47 5 PFAKE 15 03 00.0 +13
CBN LR LR
comp=Z,2μm,22.0s,MS5.8
HKT Hockley 150.57 41 *e*PKIKP PKPdf 15 02 54.7 +7.5
HKT MLR MLR
comp=Z,293nm,21.0s,MS5.1
OXF Oxford 150.66 27 *e*PKIKP PKPdf 15 02 53.7 +6.4
OXF MLR MLR
comp=Z,451nm,19.0s,MS5.3
PLAL Pickwick Lake 150.82 24 *e*PKPbc PKPbc 15 02 53.6 +0.4
PLAL LR LR
comp=Z,644nm,20.0s,MS5.4
TZTN Tazewell 150.95 16 *e*PKPbc PKPbc 15 02 54.5 +1.0
CPCT Cooper Cave 151.68 18 *e*PKPbc PKPbc 15 02 56.8 +1.6
LPAZ La Paz 154.51 193 PFAKE 15 03 10.0 +17
LPAZ LR LR
comp=Z,421nm,19.0s,MS5.3
NNA Nana 159.25 172 PFAKE 15 03 10.0 +11
NNA LR LR
comp=Z,415nm,19.0s,MS5.3
PAYG Puerto Ayora 161.26 119 PFAKE 15 03 10.0 +8.7
PAYG LR LR
comp=Z,529nm,19.0s
TEIG Tepich 162.04 49 PFAKE 15 03 10.0 +7.9
TEIG LR LR
comp=Z,75nm,19.0s
SJG San Juan 167.95 322 PFAKE 15 03 20.0 +13
SJG LR LR
comp=Z,520nm,22.0s
JTS JuntasAbangare 169.05 81 PFAKE 15 03 20.0 +12
JTS LR LR
comp=Z,499nm,19.0s
OTAV Otavalo 170.48 152 *e*PKPdf PKPdf 15 03 10.2 +1.5
OTAV LR LR
comp=Z,365nm,20.0s
SDV Santo Domingo 176.70 273 PFAKE 15 03 20.0 +9.0
SDV LR LR
comp=Z,743nm,19.0s

IGQ 26 15:09:55.8, 107N×7738W, h15km±5km, Mb4.2, Ms4.0, 4C-4D, Error ellipse: s-maj=5.5km s-min=4.1km az=26.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAV3	**Lava3-Reventad**	**1.19**	**192**	⇑P	Pn	15 10 18.9	+1.1
ANGU	**Angureal**	**1.20**	**212**	P	Pn	15 10 17.9	-0.1
ANGU				S	Sb	15 10 35.5	+2.1
COTA	**Cotacachi**	**1.20**	**233**	⇓P	Pn	15 10 19.6	+1.5
CAYR	**Refugio Cayamb**	**1.22**	**211**	P	Pn	15 10 19.2	+0.9
CAYR				S	Sb	15 10 36.9	+2.8
YANA	**Yana**	**1.68**	**225**	⇑P	Pn	15 10 27.1	+2.5
PINO	**Pino**	**1.73**	**225**	⇑P	Pn	15 10 28.4	+3.0
GGP	**Refugio Guagua**	**1.73**	**225**	⇑P	Pn	15 10 28.4	+3.0
TERV	**Terraza Guagua**	**1.74**	**225**	P	Pn	15 10 29.2	+3.8
JUA2	**San Juan 2**	**1.77**	**224**	⇓P	Pn	15 10 28.9	+3.1
VC1	**Cotopaxi 1**	**1.98**	**211**	⇓P	Pn	15 10 34.1	+5.3
TAMB	**Tambo**	**2.01**	**209**	⇓P	Pn	15 10 34.6	+5.4
PISA	**Pisayambo**	**2.34**	**205**	P	Pn	15 10 39.9	+6.2
QIL1	**Quilotoa**	**2.46**	**219**	P	Pn	15 10 43.2	+7.9

IDC 26 15:18:04.1±4.2, 2239N×14345E, h133km±37km, mb3.1/3, mb1 3.3/4, mb1mx3.0/17, mbtmp3.7/4, Error ellipse: s-maj=77.8km s-min=23.8km az=95.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.83**	**346**	P	Pn	15 19 15.2	+0.4
	3.2nm,0.3s,baz=270,slow=20,SNR=4.9						
CBIJ				S	Sn	15 20 10.6	+0.6
	7.6nm,0.3s,baz=108,slow=19,SNR=5.5						
WRA	**Warramunga Arr**	**43.00**	**193**	P	P	15 25 50.3	+0.1
	0.8nm,1.2s,baz=11,slow=9.0,SNR=5.5						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	P	15 29 34.6	-0.4
	0.1nm,0.4s,baz=292,slow=5.8,SNR=4.2						
FINES	**FINESS Array B**	**82.67**	**335**	P	P	15 30 12.7	0.0
	0.8nm,0.9s,baz=62,slow=6.5,SNR=5.2						

ISCJB ***26*** *15:30:41.5±0.1, 47.18N±001×1087E±001, h12km, Error ellipse: s-maj=1.6km s-min=1.1km az=40.7*
ZUR ***26*** *15:30:42.7, 47.15N×1089E, h10km, ML3.2/18*
VIE ***26*** *15:30:42.2±0.3, 47.15N×1092E, h12km±5km, mb2.4/3, ML3.6/6, Error ellipse: s-maj=3.1km s-min=1.3km az=172.0 1 km WNW of Umhausen felt 4 EMS98 at Umhausen / TYROL*
LDG ***26*** *15:30:43.4±0.1, 4729N×1096E, h10km, Ml3.4/20, Error ellipse: s-maj=3.1km s-min=1.9km az=18.0*
PRU ***26*** *15:30:43.1, 4726N×1093E, h0km*
BGR ***26*** *15:30:43.3±0.3, 4722N×1087E, h10km, ML3.3/14, Error ellipse: s-maj=4.4km s-min=3.3km az=37.0*
NEIC ***26*** *15:30:43.2±0.3, 4722N×1095E, h10km, ML2.8(ROM), ML3.0(STR), ML3.2(SZGRF), ML3.4(LDG), ML3.6(VIE), Error ellipse: s-maj=4.8km s-min=3.4km az=201.0*
NEIC Felt [V] in the Umhausen area.
CSEM ***26*** *15:30:43.1±0.0, 4714N×1094E, h12km, ML3.5/25, Error ellipse: s-maj=0.9km s-min=0.6km az=21.0*
LEDBW ***26*** *15:30:44.9±2.1, 4729N×1093E, h10km, ML3.2, Error ellipse: s-maj=54.0km s-min=26.0km az=129.0*
ROM ***26*** *15:30:44.7±0.6, 4709N×1090E, h10km, Md3.1/8, Ml2.8/7, Error ellipse: s-maj=7.5km s-min=3.7km az=163.0*
STR ***26*** *15:30:47.7±0.3, 4721N×1058E, h10km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 15:30:42.5±0.2, 47227N±0010×1089E±001, h5km±1km, n241, σ1°24/425, 38C-43D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**0.19**	**51**	*e*Pg	**Pg**	**15 30 47.8**	**+1.6**
	comp=Z,320nm,0.1s,SNR=4715						
MOTA				⇑Sg	**Sg**	**15 30 50.6**	**+1.9**
	comp=Z,1μm,0.2s						
MOTA	**Moosalm**	**0.19**	**51**	⇓*e*Pg	**Pg**	**15 30 47.7**	**+1.5**
	312nm,0.1s,SNR=4715						
MOTA				⇑*i*Sg	**Sg**	**15 30 50.6**	**+1.9**
	1μm,0.2s						
MOTA	**Moosalm**	**0.19**	**51**	*e*Pg	**Pg**	**15 30 47.7**	**+1.5**
SQTA	**Sankt Quirin**	**0.22**	**92**	⇓Sg	**Sg**	**15 30 50.7**	**+1.1**
	comp=Z,3μm,0.2s						
SQTA	**Sankt Quirin**	**0.22**	**92**	*e*Pg	**Pg**	**15 30 47.7**	**+0.9**
	813nm,0.1s,SNR=6779						
SQTA				⇓*i*Sg	**Sg**	**15 30 50.7**	**+1.1**
	3μm,0.2s						
SQTA	**Sankt Quirin**	**0.22**	**92**	*e*Pg	**Pg**	**15 30 47.7**	**+0.9**
OBER	**Oberstdorf**	**0.44**	**294**	⇑*i*Pg	**Pg**	**15 30 51.9**	**+0.8**
OBER				*i* Sg	**Sg**	**15 30 59.6**	**+2.8**
WATA	**Walderalm**	**0.48**	**77**	⇑*e*Pg	**Pg**	**15 30 52.1**	**+0.4**
	comp=Z,28nm,0.1s,SNR=76						
WATA	**Walderalm**	**0.48**	**77**	⇑Sg	**Sg**	**15 30 59.3**	**+1.2**
	comp=Z,322nm,0.1s						
WATA	**Walderalm**	**0.48**	**77**	⇓*e*Pg	**Pg**	**15 30 52.0**	**+0.2**
	28nm,0.1s,SNR=76						
WATA				⇑*i*Sg	**Sg**	**15 30 59.3**	**+1.2**
	322nm,0.1s						
WATA	**Walderalm**	**0.48**	**77**	*e*Pg	**Pg**	**15 30 52.1**	**+0.4**
WATA	**Walderalm**	**0.48**	**77**	Pg	**Pg**	**15 30 52.1**	**+0.3**
WATA				Sg	**Sg**	**15 30 59.3**	**+1.3**
	322nm,0.1s						
WTTA	**Wattenberg**	**0.51**	**86**	⇓Sg	**Sg**	**15 30 59.7**	**+0.7**
	comp=E,287nm,0.2s						
WTTA	**Wattenberg**	**0.51**	**86**	*e*Pg	**Pg**	**15 30 52.7**	**+0.4**
	80nm,0.2s,SNR=184						
WTTA				⇓*i*Sg	**Sg**	**15 30 59.7**	**+0.7**
	287nm,0.2s						
WTTA	**Wattenberg**	**0.51**	**86**	*e*Pg	**Pg**	**15 30 52.7**	**+0.4**
WTTA				*e*Sg	**Sg**	**15 31 00.5**	**+1.5**
SCE	**Schlegeis**	**0.59**	**108**	⇓*i*Pg	**Pg**	**15 30 53.7**	**-0.2**
SCE				*i* Sg	**Sg**	**15 31 01.6**	**0.0**
DAVA	**Damuels**	**0.69**	**275**	⇑*e*Pg	**Pg**	**15 30 56.0**	**+0.2**
	comp=Z,176nm,0.2s,SNR=109						
DAVA	**Damuels**	**0.69**	**275**	⇑Sg	**Sg**	**15 31 05.8**	**+1.1**
	comp=E,375nm,0.2s						
DAVA	**Damuels**	**0.69**	**275**	⇓*e*Pg	**Pg**	**15 30 55.9**	**+0.2**
	46nm,0.2s,SNR=109						
DAVA				⇑*i*Sg	**Sg**	**15 31 05.8**	**+1.1**
	375nm,0.2s						
DAVA	**Damuels**	**0.69**	**275**	*e*Pg	**Pg**	**15 30 56.0**	**+0.2**
DAVA	**Damuels**	**0.69**	**275**	Pg	**Pg**	**15 30 56.0**	**+0.2**
DAVA				Sg	**Sg**	**15 31 05.8**	**+1.1**
	375nm,0.2s						
UBR	**Uberruh**	**0.70**	**311**	⇓*e*P*	**Pb**	**15 30 57.6**	**+0.5**
FUORN	**Ofenpass**	**0.74**	**215**	⇑*i*Pg	**Pg**	**15 30 52.7**	**-4.1**
	692nm,0.7s						
FUORN				*e*Sg	**Sg**	**15 31 00.7**	**-5.7**
	692nm,0.7s						
APPI	**Appiano**	**0.78**	**163**	⇓*e*Pg	**Pg**	**15 30 57.3**	**-0.3**
APPI				Sg	**Sg**	**15 31 07.1**	**-0.7**
	383nm,0.4s						
BRES	**Bressanone**	**0.78**	**132**	⇓*i*Pg	**Pg**	**15 30 57.6**	**0.0**
BRES				Sg	**Sg**	**15 31 07.3**	**-0.5**
	480nm,0.3s						
DAVOX	**Davos**	**0.82**	**237**	⇑*i*Pg	**Pg**	**15 30 55.8**	**-2.5**
	1μm,0.5s						
BRMO	**Bormio**	**0.83**	**205**	⇑*e*Pg	**Pg**	**15 30 57.6**	**-0.9**
BRMO				Sg	**Sg**	**15 31 08.1**	**-1.1**
	218nm,0.6s						
LIENZ	**Alp Oberkamor**	**0.95**	**275**	⇑*i*Pg	**Pg**	**15 31 06.8**	**+6.0**
	2μm,0.3s						
FUR	**Furstenfeldbru**	**0.97**	**15**	*e*Pg	**Pg**	**15 31 03.1**	**+1.9**
FUR	**Furstenfeldbru**	**0.97**	**15**	*e*Pg	**Pg**	**15 31 03.2**	**+2.0**

BERNI	Berninapass	1.01	216	⇑iPg	Pg	15 30 56.3	-5.6
	348nm,0.2s						
PLONS	Plons	1.04	261	⇑iPg	Pg	15 30 58.1	-4.5
	2µm,0.5s						
AFL	Alpe Faloria	1.13	128	⇓iPg	Pg	15 31 06.8	+2.7
VDL	Val di Lei	1.22	233	⇑iPg	Pg	15 31 00.6	-5.4
	361nm,0.4s						
FAU	Forcella Aurin	1.25	143	⇓iPg	Pg	15 31 05.7	-0.8
CTI	Castel Tesino	1.29	156	⇓ePg	Pg	15 31 06.3	-1.0
CTI				Sg	Sg	15 31 22.8	-1.2
	334nm,0.3s						
WEIN	Weingarten	1.33	284	⇓iPn	Pn	15 31 02.7	-5.0
	663nm,0.3s						
LLS	Linth-Limmern	1.34	254	ePg	Pg	15 31 01.7	-6.5
	509nm,0.3s						
WILA	Wila	1.36	279	⇓iPn	Pn	15 31 05.8	-2.4
	3µm,0.4s						
CSO	Casso	1.37	134	⇓ePg	Pg	15 31 07.9	-0.9
CSO				eSg	Sg	15 31 26.4	-0.2
SISB	Singen-Sch Ber	1.38	290	⇓iPn	Pn	15 31 09.4	+0.9
RJOB	Jochberg	1.39	68	ePg	Pg	15 31 09.9	+0.7
CSMI	Casera Mimoias	1.41	120	iPg	Pg	15 31 08.8	-0.7
CSMI				iSg	Sg	15 31 28.2	+0.5
HDH	Heidenheim	1.43	342	⇓iPn	Pn	15 31 09.5	+0.3
HDH				Sg	Sg	15 31 31.0	+2.4
STEIN	Stein am Rhein	1.44	289	⇓iPn	Pn	15 31 08.8	-0.5
	257nm,0.6s						
FVI	Forni Avoltri	1.44	115	Pg	Pg	15 31 09.1	-1.1
FVI				Sg	Sg	15 31 28.2	-0.7
	195nm,0.5s						
GUT	Gutenstein	1.47	306	⇓eP	Pn	15 31 10.1	+0.5
GUT				Sg	Sg	15 31 32.0	+2.4
GUT	Gutenstein	1.47	306	P	Pn	15 31 10.1	+0.4
GUT				Sg	Sg	15 31 32.0	+2.4
CGRP	Cima Grappa	1.49	155	⇓ePg	Pg	15 31 10.0	-1.1
CGRP				eSg	Sg	15 31 29.9	-0.4
BGLD	Berchtesgaden	1.50	73	⇑iPg	Pg	15 31 11.5	+0.2
NORI	Noerdlinger Ri	1.50	353	⇑iPn	Pn	15 31 10.4	+0.2
NORI				iSn	Sn	15 31 30.7	+0.5
TRULL	Truellikon	1.56	287	⇓iPn	Pn	15 31 09.2	-1.7
	350nm,0.3s						
MUO	Muotathal	1.56	261	ePn	Pn	15 31 08.7	-2.2
	2µm,0.7s						
ZUR	Zurich	1.58	276	⇓iPn	Pn	15 31 11.7	+0.5
	3µm,0.2s						
ZOU	Zoufplan	1.58	114	⇑ePg	Pg	15 31 11.7	-1.1
ZOU				eSg	Sg	15 31 33.5	+0.3
ZOU	Zoufplan	1.58	114	ePg	Pg	15 31 11.7	-1.1
ZOU				eSg	Sg	15 31 33.5	+0.2
MLNI	Malnisio	1.60	132	⇓ePg	Pg	15 31 12.6	-0.6
CAE	Caneva	1.62	138	⇑iPg	Pg	15 31 13.4	-0.2
CAE				iSg	Sg	15 31 34.5	-0.2
MTLO	Montello	1.64	149	⇑ePg	Pg	15 31 13.3	-0.7
MDI	Monti di Nese	1.66	210	Pg	Pg	15 31 13.7	-0.7
	99nm,0.6s						
SPAK	Spaichingen	1.67	302	Pn	Pn	15 31 13.2	+0.8
SPAK	Spaichingen	1.67	302	Pg	Pg	15 31 15.5	+1.0
SPAK				Sg	Sg	15 31 38.5	+2.4
KBA	Koelnbreinsper	1.68	94	ePg	Pg	15 31 13.7	-1.1
	comp=Z,39nm,0.1s,SNR=80						
KBA	Koelnbreinsper	1.68	94	⇓Sg	Sg	15 31 36.3	-0.3
	comp=E,117nm,0.3s						
KBA	Koelnbreinsper	1.68	94	⇓ePg	Pg	15 31 13.6	-1.2
	0.1nm,0.1s,SNR=80						
KBA				⇓iSg	Sg	15 31 36.3	-0.3
	117nm,0.3s						
KBA	Koelnbreinsper	1.68	94	ePg	Pg	15 31 13.7	-1.1
KBA	Koelnbreinsper	1.68	94	Pg	Pg	15 31 13.7	-1.1
KBA				Sg	Sg	15 31 36.3	-0.3
	117nm,0.3s						
PLRO	Paularo	1.69	113	⇑ePg	Pg	15 31 13.6	-1.3
PLRO				eSg	Sg	15 31 36.7	-0.2
SLE	Schleitheim	1.71	289	⇓iPn	Pn	15 31 12.4	-0.6
	754nm,0.5s						
FUSIO	Fusio	1.71	244	eP*	Pb	15 31 12.4	-2.1
	571nm,0.3s						
BNALP	Bannalp	1.72	259	⇓iPn	Pn	15 31 12.4	-0.8
	1µm,0.4s						
MPRI	Monte Prat	1.75	124	⇑ePg	Pg	15 31 15.1	-0.9
MPRI				eSg	Sg	15 31 40.0	+1.3
BOO	Bordano	1.77	120	⇑ePg	Pg	15 31 15.8	-0.7
BOO				eSg	Sg	15 31 39.7	+0.3
MUGIO	Muggio	1.82	225	⇓iPn	Pn	15 31 12.5	-2.1
	187nm,0.5s						
BUA	Buia	1.84	122	⇓ePg	Pg	15 31 17.2	-0.5
BUA				eSg	Sg	15 31 42.1	+0.5
BUA	Buia	1.84	122	ePg	Pg	15 31 17.2	-0.6
BUA				eSg	Sg	15 31 42.1	+0.5
GMNA	Gemona	1.88	120	Pg	Pg	15 31 16.7	-1.8
	101nm,0.2s						
PTCC	Patocco-Chiusa	1.88	115	⇑ePg	Pg	15 31 17.1	-1.5
	116nm,0.6s						
BAD	Bernadia	1.90	121	⇑ePn	Pn	15 31 17.7	+2.1
BAD				eSn	Sn	15 31 43.4	+3.5
SULZ	Sulz-Cheisache	1.91	280	⇓iPn	Pn	15 31 14.3	-1.4
	2µm,0.5s						
STU	Stuttgart	1.92	324	eSn	Sn	15 31 39.4	-1.0
STU				eSg	Sg	15 31 44.8	+0.6
STU	Stuttgart	1.92	324	eP	Pn	15 31 16.3	+0.4
STU				Sn	Sn	15 31 39.4	-1.0
STU				Sg	Sg	15 31 44.8	+0.6
STU	Stuttgart	1.92	324	eP	Pn	15 31 16.3	+0.4
HASLI	Hasliberg	1.93	257	ePn	Pn	15 31 13.6	-2.5
	589nm,0.5s						
LBG	Lerchenberg	2.01	316	⇓iPn	Pn	15 31 17.8	+0.6
LBG				Sn	Sn	15 31 41.3	-1.5
COLI	Coloredo	2.03	122	⇓ePn	Pn	15 31 20.4	+2.9
COLI				eSn	Sn	15 31 48.1	+4.8
BFO	Black Forest	2.05	304	ePn	Pn	15 31 18.2	+0.5
	SNR=100						
BFO				Sn	Sn	15 31 42.8	-0.8
BFO	Black Forest	2.05	304	⇓eP	Pn	15 31 18.1	+0.5
BFO	Black Forest	2.05	304	Pn	Pn	15 31 18.2	+0.5
	SNR=100						
BFO				Sn	Sn	15 31 42.8	-0.8
BFO				eS	Sn	15 31 45.2	+1.6
BFO	Black Forest	2.05	304	eP	Pn	15 31 18.2	+0.5
BFO				eS	Sn	15 31 45.2	+1.6
ROBS	Robic	2.05	118	ePn	Pn	15 31 20.4	+2.6
ROBS				eSn	Sn	15 31 49.1	+5.4
FELD	Feldberg	2.06	289	Pn	Pn	15 31 18.3	+0.5
FELD	Feldberg	2.06	289	Pg	Pg	15 31 22.8	+0.8
FELD				Sn	Sn	15 31 43.1	-0.8
FELD				Sg	Sg	15 31 49.3	+0.6
FELD	Feldberg	2.06	289	Pn	Pn	15 31 18.3	+0.5
FELD				Pg	Pg	15 31 22.8	+0.8
FELD				Sn	Sn	15 31 43.1	-0.8
FELD				Sg	Sg	15 31 49.3	+0.6
KIZ	Kirchzarten	2.14	291	⇓ePn	Pn	15 31 19.2	+0.3
DRE	Drenchia	2.17	118	⇑iPn	Pn	15 31 21.5	+2.2
DRE				iSn	Sn	15 31 51.8	+5.2
BALST	Balsthal	2.18	274	⇓iPn	Pn	15 31 14.6	-4.8
	620nm,0.3s						
CADS	Cadrg	2.20	116	ePn	Pn	15 31 22.2	+2.4
CADS				eSn	Sn	15 31 50.6	+3.2
CADS							
	comp=Z,20nm,0.2s						
SIND	Sindeldorf	2.29	338	⇓ePn	Pn	15 31 20.9	-0.1
SIND				Sn	Sn	15 31 47.4	-2.2
SIND	Sindeldorf	2.29	338	⇓eP	Pn	15 31 20.9	-0.1
SIND				S	Sn	15 31 47.4	-2.2
WIMIS	Wimmis	2.31	257	⇑iPn	Pn	15 31 15.2	-6.0
	comp=Z,214nm,0.5s						
BBS	Basel-Blauen	2.31	277	Pn	Pn	15 31 21.9	+0.6
BBS	Basel-Blauen	2.31	277	Pg	Pg	15 31 27.1	+0.3
BBS	Basel-Blauen	2.31	277	Pn	Pn	15 31 22.0	+0.7
BBS				Pg	Pg	15 31 27.1	+0.3
WET	Wettzell	2.33	34	ePn	Pn	15 31 21.8	+0.2
	SNR=116						
WET				eSn	Sn	15 31 50.4	-0.3
WET	Wettzell	2.33	34	ePn	Pn	15 31 21.9	+0.3
WET				eSn	Sn	15 31 50.7	0.0
MOA	Molln	2.37	74	⇑ePn	Pn	15 31 22.9	+0.8
	SNR=49						
MOA				⇓Pg	Pg	15 31 28.1	+0.2
	comp=Z,7.6nm,0.1s						
MOA	Molln	2.37	74	⇑Sg	Sg	15 32 00.2	+1.5
	comp=Z,59nm,0.2s						
MOA	Molln	2.37	74	⇑ePn	Pn	15 31 22.9	+0.8
	SNR=49						
MOA				⇓iPg	Pg	15 31 28.1	+0.2
	comp=Z,7.6nm,0.1s						
MOA				⇑iSg	Sg	15 32 00.2	+1.5
	comp=Z,59nm,0.2s						
MOA	Molln	2.37	74	ePn	Pn	15 31 22.9	+0.8
	SNR=33						
MOA	Molln	2.37	74	Pg	Pg	15 31 28.1	+0.1
	comp=Z,7.6nm,0.1s						
MOA				Sg	Sg	15 32 00.2	+1.5
	comp=Z,59nm,0.2s						
VOJS	Vojsko	2.38	119	iPn	Pn	15 31 24.6	+2.3
VOJS				eSn	Sn	15 31 55.3	+3.4
LKBD	Leukerbad	2.39	251	ePn	Pn	15 31 16.3	-6.1
	comp=Z,259nm,0.6s						
LIBD	Limburg	2.41	294	Pn	Pn	15 31 23.9	+1.3
LIBD				Pg	Pg	15 31 29.3	+0.7
LIBD				Sg	Sg	15 32 02.0	+2.2
GRF	Grafenberg Arr	2.48	5	ePn	Pn	15 31 22.9	-0.6
	SNR=5.7						
GRF				eSn	Sn	15 31 53.7	-0.5
GRF				eSg	Sg	15 32 03.0	+0.9
GEC2	GERESS Array S	2.49	48	ePn	Pn	15 31 24.3	+0.6
	SNR=47						
GEC2				eSg	Sg	15 32 02.2	-0.3
BOURR	Bourrignon	2.50	275	ePn	Pn	15 31 17.6	-6.2
OBKA	Obir	2.61	105	ePn	Pn	15 31 27.9	+2.5
	SNR=15						
SENIN	Lac Senin	2.61	252	ePn	Pn	15 31 19.9	-5.5
MOF	Molkenrain	2.62	285	Pg	Pg	15 31 32.9	+0.2
MOF				Sg	Sg	15 32 07.2	+0.5
MOF	Molkenrain	2.62	285	Pn	Pn	15 31 26.4	+0.8
MOF	Molkenrain	2.62	285	Pg	Pg	15 31 32.9	+0.2
MOF				Sg	Sg	15 32 07.2	+0.5
MOF	Molkenrain	2.62	285	Pn	Pn	15 31 26.3	+0.8
MOF				Pg	Pg	15 31 32.9	+0.2
MOF				Sg	Sg	15 32 07.2	+0.5
KHC	Kasperske Hory	2.62	42	ePN	Pn	15 31 25.9	+0.4
KHC				ePG	Pg	15 31 30.1	-2.6
KHC				eSN	Sn	15 31 58.7	+1.0
KHC				eSG	Sg	15 32 06.1	-0.6
	comp=Z,57nm,0.3s						
KHC	Kasperske Hory	2.62	42	ePg	Pg	15 31 30.1	-2.6
KHC				eSn	Sn	15 31 58.7	+1.0
KHC				eSg	Sg	15 32 06.1	-0.6
	comp=Z,57nm,0.3s						
WLS	Welschbruch	2.66	298	Pg	Pg	15 31 34.1	+0.6
WLS				Sg	Sg	15 32 09.6	+1.6
WLS	Welschbruch	2.66	298	P	Pn	15 31 27.6	+1.5
WLS	Welschbruch	2.66	298	Pg	Pg	15 31 34.1	+0.6
WLS				Sg	Sg	15 32 09.6	+1.6
WLS	Welschbruch	2.66	298	Pn	Pn	15 31 27.4	+1.3
WLS				Pg	Pg	15 31 34.1	+0.6
WLS				Sg	Sg	15 32 09.6	+1.6
SWS	Schriesheim	2.69	328	⇓ePn	Pn	15 31 26.9	+0.4
SWS				Sg	Sg	15 31 56.9	-12
ECH	Echery	2.71	293	Pg	Pg	15 31 34.3	-0.1
ECH				Sg	Sg	15 32 10.4	+1.0
ECH	Echery	2.71	293	P	Pn	15 31 27.1	+0.4
ECH	Echery	2.71	293	Pg	Pg	15 31 34.3	-0.1
ECH				Sg	Sg	15 32 10.4	+1.0
ECH	Echery	2.71	293	Pn	Pn	15 31 27.2	+0.5
ECH				Pg	Pg	15 31 34.3	-0.1
ECH				Sg	Sg	15 32 10.4	+1.0
CDF	Champ du Feu	2.71	297	ePg	Pg	15 31 34.4	0.0
CDF				eSg	Sg	15 32 09.1	-0.4
	comp=Z,48nm,0.4s						
CDF	Champ du Feu	2.71	297	ePg	Pg	15 31 34.4	0.0
CDF				eSg	Sg	15 32 09.1	-0.4
	comp=Z,24nm,0.4s						
CDF	Champ du Feu	2.71	297	ePn	Pn	15 31 26.8	+0.1
CDF				ePg	Pg	15 31 34.4	0.0
CDF				eSg	Sg	15 32 09.1	-0.4
LANF	Langenberg	2.71	311	Pg	Pg	15 31 35.3	+0.8
LANF				Sn	Sn	15 31 58.2	-1.8
LANF				Sg	Sg	15 32 11.6	+2.0
LANF	Langenberg	2.71	311	P	Pn	15 31 27.8	+1.1
LANF	Langenberg	2.71	311	Pg	Pg	15 31 35.3	+0.8
LANF				Sn	Sn	15 31 58.2	-1.8
LANF				Sg	Sg	15 32 11.6	+2.0
LANF	Langenberg	2.71	311	Pn	Pn	15 31 27.7	+0.9
LANF				Pg	Pg	15 31 35.3	+0.8
LANF				Sn	Sn	15 31 58.2	-1.8
LANF				Sg	Sg	15 32 11.6	+2.0
TOD	Tromm	2.76	331	Pn	Pn	15 31 27.4	+0.1
LOMF	Lomont	2.77	274	Pg	Pg	15 31 35.4	-0.2
LOMF				Sg	Sg	15 32 11.3	-0.1
LOMF	Lomont	2.77	274	Pg	Pg	15 31 35.4	-0.2
LOMF				Sg	Sg	15 32 11.3	-0.1
LOMF	Lomont	2.77	274	Pn	Pn	15 31 28.4	+0.9
LOMF				Pg	Pg	15 31 35.4	-0.2
LOMF				Sg	Sg	15 32 11.3	-0.1
HINF	Hinteralfeld	2.80	284	ePn	Pn	15 31 27.7	-0.3
HINF				eSn	Sn	15 31 59.0	-3.1
HINF				eSg	Sg	15 32 12.7	+0.3
	comp=Z,57nm,0.3s						
HINF	Hinteralfeld	2.80	284	ePn	Pn	15 31 27.7	-0.3
HINF				eSn	Sn	15 31 59.0	-3.1
HINF				eSg	Sg	15 32 12.7	+0.3
	comp=Z,28nm,0.3s						
AIGLE	Aigle	2.84	253	ePn	Pn	15 31 22.6	-6.0
CEY	Cerknica	2.86	120	ePn	Pn	15 31 31.0	+2.2
CEY				eSn	Sn	15 32 06.7	+3.0
CEY							
	comp=Z,36nm,0.4s						
CEY	Cerknica	2.86	120	ePn	Pn	15 31 31.0	+2.2
CEY				eSn	Sn	15 32 06.7	+3.0
MANZ	Manzenberg	2.88	16	⇑iPn	Pn	15 31 28.5	-0.6
EMV	Vieux Emosson	2.98	248	⇑iPn	Pn	15 31 24.2	-6.3
OG01	Vacheresse	3.03	254	Pg	Pg	15 31 40.6	+0.1
OG01				Sg	Sg	15 32 19.9	+0.2
OG01	Vacheresse	3.03	254	Pg	Pg	15 31 40.6	+0.1
OG01				Sg	Sg	15 32 19.9	+0.2
OG01	Vacheresse	3.03	254	Pn	Pn	15 31 32.6	+1.5
OG01				Pg	Pg	15 31 40.6	+0.1
OG01				Sg	Sg	15 32 19.9	+0.2
BRANT	Les Verrieres	3.03	266	⇑iPn	Pn	15 31 24.4	-6.8
ARSA	Arzberg	3.16	88	⇑iPn	Pn	15 31 34.9	+2.0
	comp=Z,0.2nm,0.1s						
ARSA				⇑iSg	Sg	15 32 21.3	-2.7
	comp=Z,19nm,0.6s						
ARSA	Arzberg	3.16	88	ePn	Pn	15 31 34.4	+1.5
	SNR=13						
HAU	Haudompre	3.17	286	eP	Pn	15 31 34.6	+1.5
HAU				eSn	Sn	15 32 07.6	-3.7
HAU				eSg	Sg	15 32 23.9	-0.4
	comp=Z,84nm,0.3s						
HAU	Haudompre	3.17	286	eP	Pn	15 31 34.6	+1.5
HAU				eSn	Sn	15 32 07.6	-3.7
HAU				eSg	Sg	15 32 23.9	-0.4
	comp=Z,42nm,0.3s						
NKC	Novy Kostel	3.18	18	ePN	Pn	15 31 32.4	-0.8
NKC				eSN	Sn	15 32 10.1	-1.4
NKC				eSG	Sg	15 32 23.2	-1.5
	comp=Z,32nm,0.4s						
LPG	La Plagne	3.35	240	eP	Pn	15 31 38.2	+2.7
LPG				eSg	Sg	15 32 30.4	+0.4
	comp=Z,24nm,0.5s						
LPG	La Plagne	3.35	240	eP	Pn	15 31 38.2	+2.7
LPG				eSg	Sg	15 32 30.4	+0.4
	comp=Z,12nm,0.5s						
CABF	La Chapelle	3.35	261	ePg	Pg	15 31 46.4	-0.3
CABF				eSg	Sg	15 32 29.2	-0.9
	comp=Z,63nm,0.7s						
CABF	La Chapelle	3.35	261	ePg	Pg	15 31 46.4	-0.3
CABF				eSg	Sg	15 32 29.2	-0.9
	comp=Z,32nm,0.7s						
CABF	La Chapelle	3.35	261	ePn	Pn	15 31 36.3	+0.8
CABF				ePg	Pg	15 31 46.4	-0.3
CABF				eSg	Sg	15 32 29.2	-0.9
LPL	La Plagne	3.35	241	eP	Pn	15 31 38.5	+3.0
LPL				eSg	Sg	15 32 30.5	+0.4
	comp=Z,17nm,0.4s						
LPL	La Plagne	3.35	241	eP	Pn	15 31 38.5	+3.0
LPL				eSg	Sg	15 32 30.5	+0.4
	comp=Z,8.7nm,0.4s						
TANN	Tannenbergstha	3.35	17	ePn	Pn	15 31 34.8	-0.8
	SNR=6.8						
TANN				eSn	Sn	15 32 15.2	-0.7
TANN				eSg	Sg	15 32 30.2	-0.1
WERD	Werda	3.36	16	ePn	Pn	15 31 35.0	-0.6
	SNR=5.5						
WERD				eSg	Sg	15 32 30.2	-0.2
TNS	Taunus Mts	3.41	333	ePn	Pn	15 31 37.3	+1.0
	SNR=16						
MOX	Moxa	3.45	8	ePn	Pn	15 31 35.8	-1.2
	SNR=4.2						
MOX				eSn	Sn	15 32 17.0	-1.3
MOX				eSg	Sg	15 32 33.3	-0.2
MOX	Moxa	3.45	8	ePn	Pn	15 31 35.7	-1.3
MOX				eSn	Sn	15 32 16.9	-1.4
MOX	Moxa	3.45	8	ePN	Pn	15 31 35.7	-1.3
MOX				eSN	Sn	15 32 16.9	-1.4
MOX				eSG	Sg	15 32 33.4	-0.1
THEF	They Montfort	3.46	289	Pg	Pg	15 31 48.4	-0.4
THEF				Sg	Sg	15 32 33.5	-0.1
THEF	They Montfort	3.46	289	⇑iPn	Pn	15 31 38.5	+1.5
THEF	They Montfort	3.46	289	⇑iP	Pn	15 31 38.5	+1.5
THEF	They Montfort	3.46	289	Pn	Pn	15 31 38.2	+1.2
THEF				Pg	Pg	15 31 48.4	-0.4
THEF				Sg	Sg	15 32 33.5	-0.1
ABH	Alteburg	3.46	321	Pn	Pn	15 31 38.7	+1.6
ABH	Alteburg	3.46	321	Pn	Pn	15 31 38.4	+1.3
RUP	Ruppelstein	3.55	316	Pn	Pn	15 31 40.5	+2.2
RUP				Pg	Pg	15 31 51.3	+0.7
PRU	Pruhonice	3.67	40	eSG	Sg	15 32 38.8	-1.8
	comp=Z,22nm,0.7s						
CSNT	Castellina Chi	3.77	176	Pg	Pg	15 31 43.3	-11
	comp=Z,11nm,0.3s						
MBDF	Montbardon	3.81	230	ePn	Pn	15 31 42.8	+1.0
MBDF				eSn	Sn	15 32 23.9	-3.1
	comp=Z,8.7nm,0.5s						
MBDF	Montbardon	3.81	230	ePn	Pn	15 31 42.8	+1.0
MBDF				eSn	Sn	15 32 23.9	-3.1
	comp=Z,4.3nm,0.5s						
NVLJ	Novalja	3.85	132	iPn	Pn	15 31 44.1	+1.6
NVLJ				iSn	Sn	15 32 29.9	+1.8
NVLJ	Novalja	3.85	132	iPn	Pn	15 31 44.0	+1.6
PIEI	Pieia	3.87	162	Pg	Pg	15 31 44.2	-12
	comp=Z,5.0nm,0.4s						
RFYF	Reffroy	3.90	293	ePn	Pn	15 31 44.1	+1.0
	baz=116						
RFYF				eSg	Sg	15 32 46.5	-1.3
	comp=Z,30nm,0.3s						
RFYF	Reffroy	3.90	293	ePn	Pn	15 31 44.1	+1.0
RFYF				eSg	Sg	15 32 46.5	-1.3
	comp=Z,15nm,0.3s						
NEUB	Neuenburg	4.03	8	eSg	Sg	15 32 51.1	-0.8
SFTF	Sexfontaines	4.07	286	ePn	Pn	15 31 46.1	+0.7
	baz=105						
SFTF				eSg	Sg	15 32 52.3	-0.9
	comp=Z,21nm,0.3s						
SFTF	Sexfontaines	4.07	286	ePn	Pn	15 31 46.1	+0.7
SFTF				eSg	Sg	15 32 52.3	-0.9
	comp=Z,11nm,0.3s						
MEZF	Maizieres J'vi	4.13	290	ePn	Pn	15 31 47.5	+1.2
	baz=106						
MEZF				eSg	Sg	15 32 54.1	-1.1
	comp=Z,28nm,0.5s						
MEZF	Maizieres J'vi	4.13	290	ePn	Pn	15 31 47.5	+1.2
MEZF				eSg	Sg	15 32 54.1	-1.1
	comp=Z,14nm,0.5s						
SBF	Sospel	4.15	217	eP	Pn	15 31 48.9	+2.4
SBF				eSn	Sn	15 32 32.0	-3.4
	comp=Z,31nm,0.7s						
SBF	Sospel	4.15	217	eP	Pn	15 31 48.9	+2.4
SBF				eSn	Sn	15 32 32.0	-3.4
	comp=Z,15nm,0.7s						
BRG	Berggiesshubel	4.17	28	ePn	Pn	15 31 46.7	-0.1
	SNR=3.2						
BRG				eSn	Sn	15 32 34.9	-1.0
BRG	Berggiesshubel	4.17	28	PN	Pn	15 31 46.5	-0.3
BRG				PG	Pg	15 32 01.8	-0.5
BRG				SN	Sn	15 32 34.0	-1.9
BRG				SG	Sg	15 32 56.0	-0.3
	comp=Z,7.9nm,0.5s						
BRG	Berggiesshubel	4.17	28	Pg	Pg	15 32 01.8	-0.5
ORIF	Oris-en-Rattie	4.18	238	ePn	Pn	15 31 48.8	+1.8
ORIF	Oris-en-Rattie	4.18	238	ePn	Pn	15 31 45.1	-1.9
ORIF				eP		15 31 48.8	
ZST	Bratislava	4.31	75	eSG	Sg	15 33 00.3	-0.5
CLL	Collm	4.31	18	ePn	Pn	15 31 48.0	-0.8
CLL				eSn	Sn	15 32 37.1	-2.4
CLL				eSg	Sg	15 32 59.0	-2.0
CLL	Collm	4.31	18	ePn	Pn	15 31 48.0	-0.8
CLL				iSn	Sn	15 32 37.9	-1.6
CLL				eSg	Sg	15 32 59.0	-2.0
	comp=Z,17nm,0.8s						
CLL	Collm	4.31	18	ePn	Pn	15 31 48.0	-0.8
CLL				iSn	Sn	15 32 37.9	-1.6
GTTG	Gvttingen	4.36	352	e(Sn)	Sn	15 32 37.9	-2.9
CLZ	Clausthal	4.63	356	ePn	Pn	15 31 52.3	-0.9
	SNR=2.3						
CLZ				eSn	Sn	15 32 44.2	-3.1
CLZ	Clausthal	4.63	356	ePn	Pn	15 31 52.9	-0.3
CLZ				eSn	Sn	15 32 44.2	-3.1
UPC	Upice	4.71	44	eSG	Sg	15 33 12.4	-1.5
FRF	La Foret Royal	4.73	221	ePn	Pn	15 31 56.0	+1.5
FRF				eSn	Sn	15 32 46.0	-3.8
	comp=Z,5.7nm,0.3s						
FRF	La Foret Royal	4.73	221	ePn	Pn	15 31 56.0	+1.5
FRF				eSn	Sn	15 32 46.0	-3.8
	comp=Z,2.8nm,0.3s						
DPC	Dobruska-Polom	4.76	47	eSG	Sg	15 33 12.4	-3.0
	comp=Z,23nm,0.6s						
LOR	Lormes	4.79	273	ePn	Pn	15 31 56.1	+0.8
	baz=95						
LOR	Lormes	4.79	273	ePg	Pg	15 32 12.5	-1.8
LOR				eSn	Sn	15 32 47.1	-4.1
LOR				eSg	Sg	15 33 13.9	-2.4
	comp=Z,13nm,0.3s						
LOR	Lormes	4.79	273	ePg	Pg

*ISCJB **26** 15:36:27.0±2.2, 54S±01×1480E±0.1, h106km±19km, mb4.2/5, Error ellipse: s-maj=30.7km s-min=12.8km az=89.8*
*IDC **26** 15:36:32.3±2.5, 578S×14825E, h146km±20km, mb3.6/3, mb1 3.9/6, mb1mx3.7/15, mbtmp4.3/6, Error ellipse: s-maj=57.7km s-min=15.4km az=123.0*
*NEIC **26** 15:36:32.5±2.3, 570S×14822E, h149km±20km, mb4.7/1, Error ellipse: s-maj=28.7km s-min=11.8km az=153.0*

ISC 26 15:36:32.7±1.9, 57S±02×1482E±01, h145km±15km, n13, σ0§90/18, mb4.2/5, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.79**	**196**	P	**Pn**	**15 37 30.5**	**+0.5**
	44nm,0.3s,baz=18,slow=6.4,SNR=349						
PMG				S	**Sn**	**15 38 13.4**	**-1.1**
	16nm,0.3s,baz=94,slow=9.4,SNR=5.6						
PMG	**Port Moresby**	**3.79**	**196**	*e*Pn	**Pn**	**15 37 30.0**	**0.0**
PMG				S	**Sn**	**15 38 13.4**	**-1.1**
PMG				*e*S	**Sn**	**15 38 14.1**	**-0.4**
HNR	**Honiara**	**12.20**	**108**	*e*Pn	**Pn**	**15 39 22.2**	**+0.7**
HNR				*e*		15 39 32.5	
CTA	**Charters Tower**	**14.39**	**187**	P	**Pn**	**15 39 49.5**	**-0.1**
	0.1nm,0.3s,baz=352,slow=15,SNR=2.7						
CTAO	**Charters Tower**	**14.39**	**187**	*e*P	**Pn**	**15 39 55.2**	**+5.6**
WRAB	**Tennant Creek**	**19.51**	**222**	*e*P	**P**	**15 40 49.3**	**+0.7**
	32nm,0.6s						
WB2	**Warrramunga Arr**	**19.52**	**222** ⇑	*i*P	**P**	**15 40 49.4**	**+0.8**
WRA	**Warrramunga Arr**	**19.52**	**222**	P	**P**	**15 40 49.3**	**+0.5**
	1.7nm,0.3s,baz=49,slow=12,SNR=178						
WRA				S	**S**	**15 44 20.2**	**-1.2**
	0.1nm,0.3s,baz=40,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**22.53**	**216**	P	**P**	**15 41 21.6**	**+1.2**
	13nm,0.5s,mb4.7,baz=50,slow=8.9,SNR=744						
ASAR				S	**S**	**15 45 18.0**	**+1.6**
	1.4nm,0.9s,baz=43,slow=22,SNR=6.3						
FITZ	**Fitzroy Crossi**	**25.23**	**239** ⇑	*i*P	**P**	**15 41 45.1**	**+0.1**
	16nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**26.73**	**193**	P	**P**	**15 41 57.4**	**-1.1**
	0.8nm,0.3s,mb3.8,baz=360,slow=12,SNR=3.7						
MBWA	**Marble Bar**	**31.57**	**238**	*e*P	**P**	**15 42 41.0**	**-0.3**
	4.6nm,0.4s,mb4.6						
ILAR	**Eielson Array**	**84.77**	**23**	P	**P**	**15 48 48.9**	**-1.6**
	0.2nm,0.6s,mb3.1,baz=243,slow=5.5,SNR=5.5						

MAN 26 15:37:48.1, 1799N×12077E, h17km, mb2.7, ML4.2, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.34**	**189**	*e*P	Pg	15 37 55.7	+0.3
ABRA				*e*S	Sg	15 38 01.9	+1.7
PIP	**Pasuquin**	**0.36**	**337** ⇑	*i*P	Pg	15 37 56.5	+0.8
APYP	**Conner**	**0.47**	**106**	*e*P	Pg	15 37 58.4	+0.8
APYP				*e*S	Sg	15 38 06.4	+2.5
SGCP	**Mt. Cagua**	**1.24**	**78**	*e*P	Pn	15 38 10.2	-0.4
SGCP				*e*S	Sb	15 38 27.5	+0.8
BOLP	**Bolinao**	**1.80**	**207**	*e*P	Pn	15 38 18.7	+0.3

IDC 26 15:47:58.5±4.1, 865S×10593E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=167.7km s-min=25.4km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warrramunga Arr**	**29.67**	**115**	P	P	15 54 06.3	+0.4
	0.1nm,0.4s,baz=287,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**30.65**	**122**	P	P	15 54 14.8	+0.3
	0.1nm,0.6s,baz=294,slow=8.0,SNR=6.6						
SONM	**Songino Array**	**56.24**	**0**	P	P	15 57 41.3	+0.9
	0.3nm,0.4s,baz=183,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**59.09**	**341**	P	P	15 57 60.0	-0.6
	0.3nm,0.4s,baz=153,slow=8.7,SNR=5.6						

*NIED **26** 15:52:00, 2260N×12150E, h8km, Mw4.3 Best double couple: M0=2.93000×10^15 NP1:φ=240.00000°, δ=67.00000°, λ=-92.00000°. NP2:φ=66.00000°, δ=23.00000°, λ=-85.00000°.*
*IDC **26** 15:52:50.6±0.9, 2256N×12142E, h0km, mb3.6/11, mb1 3.9/11, mb1mx3.8/20, mbtmp3.7/11, Error ellipse: s-maj=36.2km s-min=18.7km az=68.0*
*ISCJB **26** 15:52:55.7±0.8, 2260N±005×12145E±004, h49km±8km, mb3.5/11, Error ellipse: s-maj=8.5km s-min=6.4km az=151.5*
*NEIC **26** 15:52:56.1±1.5, 2259N×12154E, h39km±13km, mb4.0/1, Error ellipse: s-maj=27.9km s-min=11.6km az=67.0*
*JMA **26** 15:52:56.9±0.2, 2260N×12153E, h57km, M4.1*
*BJI **26** 15:52:57.2, 2267N×12085E, h5km, mb4.4, ML4.0*

ISC 26 15:52:57.1±0.8, 2263N±005×12142E±004, h44km±8km, n27, σ0§82/39, mb3.5/11, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.55**	**6**	*e*Pn	**Pn**	**15 53 20.6**	**-1.6**
NACB				*e*Sn	**Sn**	**15 53 39.8**	**-1.2**
YHNB	**Yeheng**	**2.03**	**359**	*e*Pn	**Pn**	**15 53 28.9**	**+0.1**
YHNB				Sn	**Sn**	**15 53 54.3**	**+1.3**
YOJ	**Yonaguni jima**	**2.34**	**38**	P	**Pn**	**15 53 33.4**	**+0.4**
YOJ				*e*S	**Sn**	**15 54 00.3**	**-0.2**
TATO	**Taipei**	**2.34**	**2**	*e*Pn	**Pn**	**15 53 33.6**	**+0.6**
HATJ	**Hateruma jima**	**2.61**	**57**	P	**Pn**	**15 53 36.8**	**0.0**
HATJ				*e*S	**Sn**	**15 54 06.5**	**-0.8**
IRIF	**Iriomote-Funau**	**2.72**	**51**	P	**Pn**	**15 53 38.5**	**+0.3**
IRIF				*e*S	**Sn**	**15 54 10.6**	**+0.7**
JKRS	**Kuro-shima**	**2.87**	**56**	P	**Pn**	**15 53 40.6**	**+0.3**
JKRS				*e*S	**Sn**	**15 54 13.3**	**-0.2**
JIJ	**Ishigaki jima**	**3.04**	**55**	P	**Pn**	**15 53 42.5**	**-0.1**
JIJ				S	**Sn**	**15 54 16.5**	**-1.3**
QZH	**Quanzhou**	**3.47**	**312**	P	**Pn**	**15 53 47.5**	**-1.0**
QZH				S	**Sn**	**15 54 23.0**	**-5.3**
QZH				Smax			
	comp=N,1μm,1.0s						
QZH				Smax			
	comp=E,910nm,0.9s						
JTJ	**Tarama**	**3.62**	**56**	P	**Pn**	**15 53 50.8**	**+0.2**
JTJ				S	**Sn**	**15 54 32.2**	**+0.2**
JMJ	**Miyako jima 2**	**4.16**	**58**	P	**Pn**	**15 53 58.5**	**+0.4**
JMJ				*e*S	**Sn**	**15 54 45.3**	**-0.2**
JOGS	**Gusukube**	**4.22**	**59**	P	**Pn**	**15 53 59.5**	**+0.6**
JOGS				*e*S	**Sn**	**15 54 47.6**	**+0.6**
APYP	**Conner**	**4.74**	**182**	*e*P	**Pn**	**15 54 06.7**	**+0.6**
GZH	**Guangzhou**	**7.46**	**275**	P	**Pn**	**15 54 39.8**	**-3.6**
GZH				S	**Sn**	**15 55 57.5**	**-9.2**
GZH				Smax			
	comp=N,56nm,1.1s						
GZH				Smax			
	comp=E,48nm,0.9s						
GYA	**Guiyang**	**13.96**	**289**	P	**Pn**	**15 56 13.5**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**20.09**	**43**	P	**P**	**15 57 28.3**	**+1.4**
	comp=Z,3.4nm,0.9s,baz=229,slow=10,SNR=5.3						
SONM	**Songino Array**	**27.88**	**338**	P	**P**	**15 58 42.3**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.4,baz=159,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**39.61**	**317**	P	**P**	**16 00 25.5**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=112,slow=9.3,SNR=8.8						
ZAL	**Zalesovo**	**41.67**	**328**	P	**P**	**16 00 40.8**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.6,baz=18,slow=7.0,SNR=7.7						
WRA	**Warrramunga Arr**	**44.15**	**162**	P	**P**	**16 01 00.0**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=343,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**47.59**	**164**	P	**P**	**16 01 28.1**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=342,slow=6.9,SNR=16						
BRVK	**Borovoye**	**49.09**	**322**	P	**P**	**16 01 40.2**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**70.49**	**27**	P	**P**	**16 04 06.1**	**-1.0**
	comp=Z,0.1nm,0.8s,mb2.8,baz=269,slow=5.6,SNR=3.2						
FINES	**FINESS Array B**	**72.89**	**330**	P	**P**	**16 04 21.2**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=46,slow=8.2,SNR=6.1						
NOA	**NORSAR Array B**	**79.70**	**332**	P	**P**	**16 05 00.0**	**-0.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=56,slow=8.6,SNR=2.9						
GERES	**GERESS Array B**	**84.18**	**321**	P	**P**	**16 05 24.4**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.7,baz=27,slow=3.3,SNR=3.8						
YKA	**Yellowknife Ar**	**84.31**	**23**	P	**P**	**16 05 24.5**	**+0.2**
	comp=Z,0.1nm,0.3s,mb3.4,baz=311,slow=4.2,SNR=3.7						

*IDC **26** 16:08:03.0±1.2, 875S×10604E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, Error ellipse: s-maj=51.6km s-min=17.8km az=52.0*

*ISCJB **26** 16:08:05.8±0.6, 88S±01×1060E±0.1, h31km, mb4.4/25, Error ellipse: s-maj=21.3km s-min=8.1km az=100.7*
*BJI **26** 16:08:05.0, 919S×10636E, h45km, mB5.3, mb4.7*
*NEIC **26** 16:08:06.8±0.5, 895S×10582E, mb4.6/12, Error ellipse: s-maj=14.6km s-min=8.5km az=45.0*

ISC 26 16:08:08.2±0.7, 88S±01×1060E±01, h33km, h33km±.9km: pP-P, n34, σ0§99/33, mb4.4/25, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**9.63**	**249**	*e*P	**Pn**	**16 10 18.2**	**-6.2**
KKM	**Kota Kinabalu**	**17.93**	**35**	*e*P	**Pn**	**16 12 15.2**	**+0.4**
MBWA	**Marble Bar**	**18.04**	**134**	*e*P	**Pn**	**16 12 15.0**	**-1.2**
MBWA				*e*S	**Sn**	**16 15 18.4**	**-18**
FITZ	**Fitzroy Crossi**	**21.18**	**118**	*e*P	**P**	**16 12 52.4**	**+1.8**
	15nm,0.7s,mb4.4						
WRA	**Warrramunga Arr**	**29.53**	**115**	P	**P**	**16 14 09.8**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=286,slow=11,SNR=5.6						
WRA				PcP	PcP	16 17 15.8	+1.6
	0.4nm,0.7s,baz=308,slow=2.5,SNR=3.4						
WRAB	**Tennant Creek**	**29.53**	**115**	*e*P	**P**	**16 14 12.4**	**+2.8**
ASAR	**Alice Springs**	**30.49**	**122**	P	**P**	**16 14 18.8**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=302,slow=9.1,SNR=10						
ASAR				PcP	PcP	16 17 17.9	+1.3
	0.2nm,0.7s,baz=312,slow=2.6,SNR=3.0						
SHL	**Shillong**	**36.84**	**338**	*ex*	x	16 15 14.0	
ENH	**Enshi**	**39.01**	**5**	*e*P	**P**	**16 15 29.4**	**-2.1**
	4.2nm,0.6s,mb4.3						
CD2	**Chengdu**	**39.56**	**357**	*e*P	**P**	**16 15 37.5**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**40.19**	**130**	P	**P**	**16 15 40.1**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.0,baz=357,slow=6.3,SNR=5.6						
LSA	**Lhasa**	**40.88**	**340**	P	**P**	**16 15 48.5**	**+1.5**
LSA	**Lhasa**	**40.88**	**340**	*e*P	**P**	**16 15 47.0**	**0.0**
	comp=Z,10nm,0.6s,mb4.6						
LSA				*e*	pP	16 15 57.1	+0.3
JIRN	**Jiri**	**41.03**	**333**	*e*P	**P**	**16 15 49.3**	**+1.1**
	comp=Z,42nm,0.7s,mb5.2						
GUN	**Gumba**	**41.38**	**333**	*e*P	**P**	**16 15 52.1**	**+0.9**
	comp=Z,35nm,0.6s,mb5.2						
DMN	**Daman**	**41.49**	**331**	*e*P	**P**	**16 15 52.4**	**+0.4**
	comp=Z,20nm,0.7s,mb4.8						
KKN	**Kakani**	**41.56**	**332**	*e*P	**P**	**16 15 52.9**	**+0.3**
	comp=Z,21nm,0.8s,mb4.8						
GKN	**Gorkha**	**42.04**	**331**	*e*P	**P**	**16 15 57.1**	**+0.6**
	comp=Z,19nm,0.8s,mb4.8						
KOLN	**Koldanda**	**42.35**	**330**	*e*P	**P**	**16 15 59.1**	**0.0**
XAN	**Xi'an**	**42.71**	**4**	P	**P**	**16 16 01.5**	**-0.5**
XAN				AP	pP	16 16 11.0	-0.7
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
LZH	**Lanzhou**	**44.71**	**357**	*e*P	**P**	**16 16 18.5**	**+0.5**
LZH				AP	pP	16 16 27.5	-0.3
LZH				XP	sP	16 16 31.0	-0.8
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
GTA	**Gaotai**	**48.33**	**354**	*e*P	**P**	**16 16 47.3**	**+0.9**
GTA				AP	pP	16 16 57.0	+0.7
GTA				XP	sP	16 17 02.0	+1.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
MJAR	**Matsushiro Arr**	**54.32**	**32**	P	**P**	**16 17 29.6**	**-1.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=207,slow=7.5,SNR=5.1						
CN2	**Changchun**	**55.26**	**17**	*e*P	**P**	**16 17 37.3**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
SONM	**Songino Array**	**56.40**	**0**	P	**P**	**16 17 46.6**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=171,slow=7.7,SNR=20						
ULN	**Ulaanbaatar**	**56.44**	**1**	*e*P	**P**	**16 17 47.1**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**59.27**	**341**	P	**P**	**16 18 06.1**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=150,slow=8.1,SNR=16						
KURK	**Kurchatov**	**63.88**	**341**	*e*P	**P**	**16 18 37.1**	**-0.4**
	comp=Z,5.8nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**65.04**	**346**	P	**P**	**16 18 44.5**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.4,baz=284,slow=0.1,SNR=6.3						
BRVK	**Borovoye**	**68.73**	**338**	*e*P	**P**	**16 19 07.3**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**69.13**	**337**	*e*P	**P**	**16 19 10.3**	**-0.8**
	comp=Z,2.6nm,0.9s,mb4.2						
YAK	**Yakutsk**	**72.99**	**11**	*e*P	**P**	**16 19 33.4**	**-1.1**
YAK				*e*	pP	16 19 42.3	-2.4
BRTR	**Keskin Array B**	**82.31**	**312**	P	**P**	**16 20 26.0**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=135,slow=6.5,SNR=10.0						
JCT	**Junction City**	**147.66**	**45**	*e*PKPab	PKPab	16 27 51.2	-0.3
JCT				*e*		16 28 01.0	

PLV 26 16:12:38.3±0.5, 2222N×10401E, h10km±433km, MD3.5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCVN	**Lai Chau**	**0.81**	**257**	*e*PG	Pg	16 12 53.9	0.0
LCVN				*e*SG	Sg	16 13 04.5	+0.1
HBVN	**Hoa-Binh**	**1.87**	**138**	*e*PG	Pg	16 13 13.6	-0.6
HBVN				*e*SG	Sg	16 13 37.8	-0.6
LAVN	**Lang Chanh**	**2.36**	**150**	*e*PN		16 17 13.0	
LAVN				*e*PG		16 17 15.3	
LAVN				*e*SG		16 17 43.4	

*IDC **26** 16:21:33.6±1.6, 023N×9766E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, ML2.9/1, Error ellipse: s-maj=57.0km s-min=18.7km az=59.0*
*ISCJB **26** 16:21:36.7±1.0, 03N±01×977E±02, h33km, mb4.0/8, Error ellipse: s-maj=24.9km s-min=13.5km az=138.8*
*NEIC **26** 16:21:38.1±0.7, 026N×9771E, h30km, mb4.1/2, Error ellipse: s-maj=17.5km s-min=9.3km az=68.0*

ISC 26 16:21:39.3±1.0, 03N±01×978E±02, h35km, n12, σ0§41/12, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.72**	**26**	Pn	**Pn**	**16 22 19.9**	**-0.5**
	2.2nm,0.3s,baz=194,slow=5.3,SNR=10						
PSI	**Prapat**	**2.72**	**26**	Pn	**Pn**	**16 22 19.9**	**-0.5**
KULM	**Kulim**	**5.71**	**30**	*e*P	**Pn**	**16 23 02.0**	**+0.4**
WRA	**Warrramunga Arr**	**41.11**	**121**	P	**P**	**16 29 19.3**	**-0.6**
	0.7nm,0.5s,mb3.6,baz=303,slow=8.9,SNR=20						
WRAB	**Tennant Creek**	**41.12**	**121**	*e*P	**P**	**16 29 20.0**	**+0.1**
ASAR	**Alice Springs**	**42.44**	**127**	P	**P**	**16 29 31.0**	**+0.4**
	0.7nm,0.6s,mb3.5,baz=297,slow=7.9,SNR=31						
SONM	**Songino Array**	**47.91**	**8**	P	**P**	**16 30 14.9**	**+0.8**
	1.5nm,0.7s,mb4.1,baz=192,slow=8.4,SNR=13						
ULN	**Ulaanbaatar**	**48.03**	**8**	*e*P	**P**	**16 30 14.6**	**-0.4**
	2.3nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**48.21**	**346**	P	**P**	**16 30 16.6**	**+0.2**
	1.8nm,0.8s,mb4.2,baz=153,slow=7.9,SNR=17						
KURK	**Kurchatov**	**52.77**	**345**	*e*P	**P**	**16 30 50.8**	**0.0**
	1.9nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**54.49**	**351**	P	**P**	**16 31 03.2**	**-0.2**
	1.9nm,0.5s,mb4.3,baz=294,slow=6.3,SNR=9.6						
BVAR	**Borovoye Array**	**57.24**	**341**	P	**P**	**16 31 23.0**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=148,slow=8.7,SNR=8.6						

IDC 26 16:24:25.0±7.0, 3125S×17663W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.6/11, mbtmp3.3/2, Error ellipse: s-maj=307.1km s-min=56.8km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.24**	**267**	P	P	16 32 36.8	+0.7
	0.1nm,0.3s,baz=104,slow=7.0,SNR=5.9						
WRA	**Warrramunga Arr**	**45.31**	**272**	P	P	16 32 44.1	-0.5
	0.6nm,0.9s,baz=114,slow=6.6,SNR=7.1						
FINES	**FINESS Array B**	**146.34**	**340**	PKPbc	PKPbc	16 44 06.5	-1.2
	1.9nm,1.0s,baz=46,slow=4.0,SNR=7.6						

IDC 26 16:41:55.5±26.0, 2630S×7029E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=857.0km s-min=39.2km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**57.20**	**102**	P	P	16 51 44.5	+0.2
	0.3nm,0.7s,baz=254,slow=6.9,SNR=7.1						
WRA	**Warrramunga Arr**	**58.74**	**98**	P	P	16 51 56.0	+0.8
	0.4nm,0.8s,baz=253,slow=8.4,SNR=3.3						
MKAR	**Makanchi Array**	**73.56**	**9**	P	P	16 53 30.2	-0.2
	0.3nm,0.6s,baz=188,slow=5.9,SNR=4.6						
SONM	**Songino Array**	**80.62**	**24**	P	P	16 54 10.1	0.0
	0.1nm,0.4s,baz=224,slow=4.0,SNR=4.5						

JMA 26 16:42:55.5±0.1, 3791N×14472E, h50km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.66**	**297**	P	Pn	16 43 37.3	+1.4
OFUJ				S	Sn	16 44 08.2	+1.2
JIO	**Ouri**	**2.71**	**283**	P	Pn	16 43 37.9	+1.3
JIO				*e*S	Sn	16 44 09.4	+1.3
MIYJ	**Miyakonagasawa**	**2.81**	**307**	P	Pn	16 43 39.2	+1.2
MIYJ				*e*S	Sn	16 44 11.8	+1.2
JMK	**Ichinoseki**	**2.94**	**292**	P	Pn	16 43 41.5	+1.8
JMK				*e*S	Sn	16 44 15.6	+1.9
JRY	**Ryogami san**	**5.03**	**250**	P	Pn	16 44 09.6	+1.3
JRY				*e*S	Sn	16 45 04.7	-0.4

HLW 26 16:48:31.8, 1982N×3154E, h26km, Mb3.9, 1C-3D, Sudan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AADN	**Adndan**	**2.29**	**360**	⇓P	Pn	16 49 06.8	-1.0
HKFR	**Khafra**	**2.76**	**355**	P	Pn	16 49 13.3	-1.0
HKFR				S	Sn	16 49 43.8	-3.1
HMSM	**Jabal Masmas**	**3.06**	**6**	⇓P	Pn	16 49 17.5	-1.0
ASHG	**Umm Shaghir**	**3.43**	**2**	⇓P	Pn	16 49 23.2	-0.3
AAHD	**Abu Hadid**	**4.07**	**16** ⇑	*e*P	Pn	16 49 31.6	-0.6

*ISCJB **26** 16:55:00.7±3.9, 55S±02×1516E±0.2, h74km±32km, mb3.8/9, Error ellipse: s-maj=45.0km s-min=20.6km az=52.2*
*NEIC **26** 16:55:02.2±2.8, 551S×15161E, h75km±23km, mb4.4/2, Error ellipse: s-maj=30.9km s-min=15.8km az=113.0*
*IDC **26** 16:55:03.4±5.0, 550S×15161E, h86km±43km, mb3.7/6, mb1 4.0/7, mb1mx3.9/13, mbtmp4.1/7, MS3.1/2, Ms1 3.1/2, ms1mx2.7/18, Error ellipse: s-maj=41.6km s-min=23.8km az=105.0*

ISC 26 16:55:02.0±3.4, 54S±02×1516E±03, h70km±28km, n16, σ0§63/16, mb3.8/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**228**	P	**Pn**	**16 56 26.3**	**-0.5**
	11nm,0.3s,baz=40,slow=10,SNR=60						
PMG				S	**Sn**	**16 57 36.4**	**+3.5**
	4.2nm,0.3s,baz=152,slow=20,SNR=6.4						
PMG				LR	LR	16 58 51.8	
	comp=Z,140nm,21.4s,baz=212,slow=39						
PMG	**Port Moresby**	**5.90**	**228**	*e*Pn	**Pn**	**16 56 26.4**	**-0.4**
PMG				S	**Sn**	**16 57 36.5**	**+3.5**
PMG				LR	LR	16 58 51.8	
WRAB	**Tennant Creek**	**22.11**	**228**	*e*P	**P**	**16 59 51.1**	**-0.3**
	8.9nm,0.6s,mb4.3						
WB2	**Warrramunga Arr**	**22.11**	**228**	*e*P	**P**	**16 59 51.0**	**-0.5**
WRA	**Warrramunga Arr**	**22.12**	**228**	P	**P**	**16 59 51.3**	**-0.3**
	7.1nm,0.6s,mb4.2,baz=53,slow=10,SNR=51						
AS31	**Alice Springs**	**24.87**	**221**	*e*P	**P**	**17 00 17.9**	**-0.1**
ASAR	**Alice Springs**	**24.87**	**221**	P	**P**	**17 00 17.9**	**-0.1**
	16nm,0.7s,mb4.5,baz=58,slow=8.8,SNR=148						
ASPA	**Alice Springs**	**24.87**	**221**	*e*P	**P**	**17 00 17.9**	**-0.1**
STKA	**Stephens Creek**	**27.91**	**198**	P	**P**	**17 00 45.6**	**+0.1**
	1.7nm,0.7s,mb3.7,baz=81,slow=12,SNR=3.0						
STKA				LR	LR	17 12 00.0	
	comp=Z,68nm,21.3s,baz=26,slow=36						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	*e*P	**P**	**17 00 48.9**	**+0.1**
	6.3nm,0.5s,mb4.4						
SONM	**Songino Array**	**66.23**	**329**	P	**P**	**17 05 41.7**	**-0.8**
	0.4nm,0.7s,mb3.4,baz=147,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**17 07 04.5**	**+0.7**
	0.1nm,0.6s,mb2.8,baz=92,slow=6.2,SNR=3.2						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**17 07 20.7**	**+0.1**
	0.6nm,0.6s,mb3.6,baz=246,slow=5.4,SNR=15						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**17 08 24.6**	**+0.7**
	0.1nm,0.3s,mb3.7,baz=275,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.34**	**287**	PKPbc	PKPbc	17 14 42.9	+0.1
	1.1nm,0.3s,baz=90,slow=2.2,SNR=31						
BDFB	**Brasilia**	**151.44**	**137**	PKPbc	PKPbc	17 14 46.6	-1.2
	1.1nm,0.6s,baz=181,slow=7.0,SNR=3.1						

*ATH **26** 17:01:45.7, 4086N×2012E, h5km, MD3.3/4*
*TIR **26** 17:01:49.2, 4067N×2028E, h8km*
*NEIC **26** 17:01:50.4, 4069N×2035E, h0km, MD2.9(PDG), MD3.3(ATH), ML2.7(THE), After THE.*
*ISCJB **26** 17:01:50.5±0.3, 4067N±002×2036E±003, h10km, Error ellipse: s-maj=2.9km s-min=2.1km az=130.4*
*THE **26** 17:01:50.4, 4069N×2035E, h10km, ML3.0*
*SKO **26** 17:01:50.8, 4066N×2030E, h9km, M2.1, ML2.6*
*PDG **26** 17:01:50.5±0.2, 4069N×2032E, h11km*
*CSEM **26** 17:01:50.5±0.1, 4074N×2034E, h2km, ML2.6, Error ellipse: s-maj=2.6km s-min=1.6km az=49

STIP				*e*Sg	**Sg**	**17 02 47.0**	**+0.4**
STIP				*e*Lg		17 02 47.2	
	comp=E,17nm,0.6s						
STIP				*e*Lg		17 02 47.6	
	comp=N,17nm,0.4s						
STIP	**Stip**	**1.72**	**52**	*i* Pn	**Pn**	**17 02 22.1**	**+0.9**
STIP				*e*Sg	**Sg**	**17 02 46.9**	**+0.4**
VAY	**Valandovo**	**1.79**	**68**	*e*Pn	**Pn**	**17 02 22.3**	**0.0**
VAY				*e*Sg	**Sg**	**17 02 46.5**	**-2.4**
VAY				*e*Lg		17 02 50.0	
	comp=N,69nm,1.0s						
VAY				*e*Lg		17 02 50.0	
	comp=E,32nm,0.7s						
VAY	**Valandovo**	**1.79**	**68**	*e*Pn	**Pn**	**17 02 22.2**	**0.0**
TTG	**Podgorica**	**1.95**	**335⇑**	*i*Pn	**Pn**	**17 02 24.1**	**-0.4**
TTG				*e*Sn	**Sn**	**17 02 50.8**	**+1.8**
PVY	**Plav**	**1.96**	**351⇓**	*i*Pn	**Pn**	**17 02 25.0**	**+0.5**
PVY				*e*Sn	**Sn**	**17 02 51.2**	**+2.1**
BUM	**Brajici-Budva**	**1.98**	**327⇑**	*i*Pn	**Pn**	**17 02 23.5**	**-1.2**
BUM				*e*Sn	**Sn**	**17 02 51.1**	**+1.6**
KNT	**Kendrikon**	**1.98**	**75**	*e*Pn	**Pn**	**17 02 24.3**	**-0.5**
	comp=E,3.5nm,0.2s						
EVR	**Evrytania**	**2.06**	**147**	*e*PN	**Pn**	**17 02 26.5**	**+0.6**
AGG	**Agios Georgios**	**2.23**	**137**	*e*Pn	**Pn**	**17 02 28.7**	**+0.5**
AGG				*e*Sn	**Sn**	**17 02 58.0**	**+2.2**
IVA	**Berane**	**2.24**	**351⇑**	*i*Pn	**Pn**	**17 02 28.6**	**+0.3**
IVA				*e*Sn	**Sn**	**17 02 57.7**	**+1.7**
IVA	**Berane**	**2.24**	**351⇑**	*i*Pn	**Pn**	**17 02 28.6**	**+0.3**
IVA				*e*Sn	**Sn**	**17 02 57.7**	**+1.7**
HCY	**Herceg Novi**	**2.27**	**323⇓**	*i*Pn	**Pn**	**17 02 28.6**	**-0.1**
HCY				*e*Sn	**Sn**	**17 02 57.6**	**+0.8**
HCY	**Herceg Novi**	**2.27**	**323⇓**	*i*Pn	**Pn**	**17 02 28.6**	**-0.2**
HCY				*e*Sn	**Sn**	**17 02 57.6**	**+0.8**
SOH	**Sokhos**	**2.28**	**85**	*e*Pn	**Pn**	**17 02 28.8**	**0.0**
KKB	**Krupnik**	**2.38**	**59**	*i* P	**Pn**	**17 02 29.0**	**-1.2**
NKY	**Niksic**	**2.38**	**335⇑**	*i*Pn	**Pn**	**17 02 30.0**	**-0.3**
NKY				*e*Sn	**Sn**	**17 03 00.3**	**+0.7**
VLS	**Valsamata**	**2.48**	**176**	*e*PN	**Pn**	**17 02 34.0**	**+2.3**
SRS	**Serrai**	**2.49**	**78**	*e*Pn	**Pn**	**17 02 31.9**	**+0.1**
XOR	**Xorichti**	**2.53**	**120**	*e*Pn	**Pn**	**17 02 32.8**	**+0.5**
BRY	**Bratogost**	**2.62**	**329⇑**	*i*Pn	**Pn**	**17 02 33.7**	**+0.1**
BRY				*e*Sn	**Sn**	**17 03 05.7**	**+0.2**
MMB	**Musomiste**	**2.71**	**69**	*i* P	**Pn**	**17 02 35.0**	**+0.3**
UPM	**Unac-Piva**	**2.76**	**337⇑**	*i*Pn	**Pn**	**17 02 35.9**	**+0.3**
UPM				*e*Sn	**Sn**	**17 03 09.5**	**+0.5**
UPM	**Unac-Piva**	**2.76**	**337⇑**	*i*Pn	**Pn**	**17 02 35.8**	**+0.2**
UPM				*e*Sn	**Sn**	**17 03 09.5**	**+0.5**
PLE	**Pljevlja**	**2.77**	**345⇓**	*i*Pn	**Pn**	**17 02 35.5**	**-0.1**
PLE				*e*Sn	**Sn**	**17 03 09.8**	**+0.8**
VTS	**Vitosha**	**2.88**	**47**	*i* P	**Pn**	**17 02 38.0**	**+0.9**
VTS	**Vitosha**	**2.88**	**47**	*e*Pn	**Pn**	**17 02 36.5**	**-0.5**
VTS	**Vitosha**	**2.88**	**47**	*e*Pn	**Pn**	**17 02 36.5**	**-0.6**
VTS	**Vitosha**	**2.88**	**47**	*i* P	**Pn**	**17 02 38.0**	**+0.9**
STON	**Ston**	**2.98**	**319**	*i* Pn	**Pn**	**17 02 36.3**	**-2.2**
STON				*i* Sn	**Sn**	**17 03 11.1**	**-3.1**
STON	**Ston**	**2.98**	**319**	*i* Pn	**Pn**	**17 02 36.2**	**-2.3**
STON				*i* Sn	**Sn**	**17 03 11.1**	**-3.1**
RZN	**Rozhen**	**3.44**	**71**	*i* P	**Pn**	**17 02 47.0**	**+2.1**
DIVS	**Divcibare**	**3.45**	**356**	*i* Pn	**Pn**	**17 02 46.3**	**+1.3**
DIVS				Sn	**Sn**	**17 03 26.5**	**+0.7**

JMA 26 17:23:46.0±0.3, 3791N×14473E, h50km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.72**	**283**	P	Pn	17 24 28.7	+1.5
JIO				*e*S	Sn	17 25 00.3	+1.5
MIYJ	**Miyakonagasawa**	**2.82**	**307**	P	Pn	17 24 29.1	+0.6
JMK	**Ichinoseki**	**2.95**	**292**	P	Pn	17 24 32.0	+1.7
JRY	**Ryogami san**	**5.04**	**250**	P	Pn	17 25 00.5	+1.6
JRY				*e*S	Sn	17 25 54.9	-0.9

IDC 26 17:38:59.8±10.0, 3406S×7879E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/14, mbtmp3.5/2, Error ellipse: s-maj=597.6km s-min=56.3km az=20.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.86**	**93**	P	P	17 47 47.4	+0.3
	0.2nm,0.8s,baz=238,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**50.89**	**89**	P	P	17 48 02.6	+0.1
	0.6nm,1.0s,baz=243,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**150.31**	**13**	PKPbc	PKPbc	17 58 51.8	-1.1
	0.2nm,0.4s,baz=329,slow=2.9,SNR=6.0						

CASC 26 17:43:19.1±2.0, 1132N×8586W, h163km±8km, MD3.5, 13C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.33**	**75⇑**	*e*P	Pn	17 43 42.9	+1.7
CONN	**Concepcion**	**0.33**	**43⇑**	*e*P	Pn	17 43 41.8	+0.6
APON	**Apoyo**	**0.63**	**341⇓**	*e*P	Pn	17 43 43.0	+0.5
RIN3	**Volcan Rincon**	**0.71**	**138⇑**	*e*P	Pn	17 43 43.4	+0.4
TICN	**Ticuantepe**	**0.80**	**333⇑**	*e*P	Pn	17 43 44.0	+0.4
WILN	**Americas 2**	**0.90**	**339⇓**	*e*P	Pn	17 43 44.6	+0.4
WILN				*e*S	Sn	17 44 04.2	+0.7
MGAN	**Managua**	**0.91**	**335⇑**	*e*P	Pn	17 43 44.5	+0.2
MGAN				*e*S	Sn	17 44 04.2	+0.5
XAVN	**Gruta Xavier**	**0.94**	**331⇑**	*e*P	Pn	17 43 44.7	+0.1
APYN	**Apoyeque**	**1.03**	**332⇓**	*e*P	Pn	17 43 45.8	+0.5
COPN	**Copaltepe**	**1.11**	**320⇑**	*e*P	Pn	17 43 45.6	-0.4
VCR	**Vista de Mar**	**1.21**	**169⇑**	*i*P	Pn	17 43 47.5	+0.7
VCR				⇑*i*P		17 43 47.5	
VCR				*e*S	Sn	17 44 07.7	-0.3
VCR				*e*S	Sn	17 44 08.6	+0.5
MOMJ	**Momotombo**	**1.27**	**328⇑**	*e*P	Pn	17 43 47.0	-0.4
MIRN	**Miramar**	**1.39**	**323**	*e*P	Pn	17 43 48.4	-0.1
TEL3	**Telica 3**	**1.57**	**322⇓**	*e*P	Pn	17 43 50.2	-0.2
CAO	**Cobano**	**1.77**	**155⇓**	*e*P	Pn	17 43 52.9	+0.4
CAO				*e*S	Sn	17 44 17.9	-0.3
CRIN	**San Cristobal**	**1.80**	**320⇑**	*e*P	Pn	17 43 52.2	-0.5
EPA	**Esparza**	**1.81**	**137**	*e*S	Sn	17 44 18.9	0.0
CGA2	**Cerro Gallo 2**	**1.89**	**133**	*e*P	Pn	17 43 54.7	+1.0
CGA2				*e*S	Sn	17 44 22.4	+2.1
PRS1	**Puriscal**	**2.02**	**131**	*e*P	Pn	17 43 57.2	+2.0
LAJ	**Bijagual**	**2.24**	**130**	*e*P	Pn	17 43 56.2	-1.5
LCR2	**La Lucha 2**	**2.41**	**130⇑**	*e*P	Pn	17 44 00.5	+0.8
LCR2				*e*S	Sn	17 44 31.4	+0.4
URSC	**Urasca**	**2.52**	**126**	*e*P	Pn	17 44 03.4	+2.3
BUS	**Buena Vista**	**2.71**	**130⇑**	*e*P	Pn	17 44 04.8	+1.4
BUS				*e*S	Sn	17 44 40.3	+2.7

*ISCJB **26** 18:07:55.7±0.6, 227S±0.1×1290W±0.10, h10km, mb3.8/13, MS3.9/10, Error ellipse: s-maj=21.6km s-min=11.6km az=147.5*
*IDC **26** 18:07:55.7±0.8, 2275S×1291W, h0km, mb3.9/12, mb1 3.9/12, mb1mx3.9/21, mbtmp3.9/12, MS3.9/10, Ms1 3.9/10, ms1mx3.8/22, Error ellipse: s-maj=30.1km s-min=16.0km az=166.0*
*NEIC **26** 18:07:57.5±0.5, 2283S×1291W, h10km, mb4.2/2, Error ellipse: s-maj=17.9km s-min=9.1km az=167.0*

ISC 26 18:07:57.8±0.6, 227S±01×1290W±010, h10km, n22, σ0877/17, mb3.8/13, MS3.9/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**28.65**	**89**	P	P	**18 13 54.1**	**-0.5**
	2.3nm,1.0s,mb3.9,baz=229,slow=8.9,SNR=4.9						
TSUM				LR	LR	18 22 50.6	
	comp=Z,332nm,21.8s,MS3.9,baz=172,slow=31						
TSUM	**Tsumeb**	**28.65**	**89**	*e*P	P	**18 13 54.9**	**+0.3**
	2.7nm,1.0s,mb3.9						
TSUM				LR	LR	18 22 50.6	
DBIC	**Dimbokro**	**30.26**	**16**	P	P	**18 14 09.6**	**+0.8**
	1.3nm,0.6s,mb3.8,baz=197,slow=9.9,SNR=3.4						
DBIC				LR	LR	18 23 04.5	
	comp=Z,138nm,19.9s,MS3.6,baz=176,slow=30						
DBIC	**Dimbokro**	**30.26**	**16**	*e*P	P	**18 14 09.9**	**+1.1**
DBIC				LR	LR	18 23 04.5	
SUR	**Sutherland**	**31.28**	**115**	LR	LR	18 24 10.0	
	comp=Z,124nm,20.3s,MS3.6,baz=166,slow=31						
BDFB	**Brasilia**	**33.85**	**276**	P	P	**18 14 40.0**	**-0.3**
	1.5nm,0.5s,mb4.2,baz=131,slow=10,SNR=4.4						
BDFB				LR	LR	18 25 36.8	
	comp=Z,280nm,21.5s,MS4.0,baz=109,slow=31						
BOSA	**Boshof**	**34.78**	**108**	P	P	**18 14 47.9**	**-0.6**
	1.5nm,0.7s,mb4.1,baz=312,slow=6.6,SNR=3.2						
BOSA				LR	LR	18 26 17.8	
	comp=Z,181nm,20.1s,MS3.8,baz=93,slow=32						
TORD	**Torodi Ar. Bea**	**38.41**	**23**	P	P	**18 15 17.6**	**-1.8**
	4.6nm,0.9s,mb4.2,baz=203,slow=6.6,SNR=18						
LSZ	**Lusaka**	**39.45**	**87**	P	P	**18 15 28.7**	**+0.6**
	1.4nm,0.6s,mb3.9,baz=238,slow=6.9,SNR=6.2						
LSZ	**Lusaka**	**39.45**	**87**	P	P	**18 15 28.7**	**+0.6**
TRQA	**Tornquist**	**44.51**	**238**	P	P	**18 16 09.9**	**+0.5**
	6.3nm,1.0s,mb4.4						
SIV	**San Ignacio**	**45.79**	**269**	P	P	**18 16 20.2**	**+0.6**
	1.2nm,0.7s,mb3.9,baz=134,slow=8.1,SNR=7.6						
CFAA	**Coronel Fontan**	**49.59**	**247**	P	P	**18 16 48.4**	**-0.7**
	0.1nm,0.6s,mb3.1,baz=66,slow=6.1,SNR=6.0						
PLCA	**Paso Flores**	**51.31**	**235**	LR	LR	18 35 20.2	
	comp=Z,150nm,18.2s,MS4.1,baz=4.4,slow=32						
LPAZ	**La Paz**	**52.22**	**267**	P	P	**18 17 08.8**	**-0.1**
	0.9nm,0.7s,mb3.8,baz=112,slow=3.9,SNR=6.2						
LPAZ				LR	LR	18 39 44.5	
	comp=Z,106nm,18.4s,MS3.9,baz=300,slow=37						
LPAZ	**La Paz**	**52.22**	**267**	P	P	**18 17 08.8**	**-0.1**
LPAZ				LR	LR	18 39 44.5	
KMBO	**Kilima Mbogo**	**53.20**	**73**	LR	LR	18 37 05.9	
	comp=Z,163nm,20.9s,MS4.1,baz=276,slow=33						
ROSC	**El Rosal**	**65.95**	**287**	LR	LR	18 46 48.8	
	comp=Z,110nm,18.9s,MS4.1,baz=190,slow=35						
GERES	**GERESS Array B**	**75.11**	**18**	P	P	**18 19 39.9**	**-0.1**
	0.4nm,0.7s,mb3.4,baz=188,slow=8.1,SNR=4.1						
BRTR	**Keskin Array B**	**75.80**	**35**	P	P	**18 19 45.2**	**+1.2**
	0.5nm,0.8s,mb3.5,baz=197,slow=3.9,SNR=5.7						
VNDA	**Vanda**	**79.93**	**179**	LR	LR	18 50 40.9	
	comp=Z,90nm,20.4s,MS4.1,baz=186,slow=32						
AKASG	**Malin Array Be**	**82.01**	**26**	P	P	**18 20 17.6**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=221,slow=6.1,SNR=5.4						

IDC 26 18:20:08.4±13.0, 537S×12901E, h250km±156km, mb2.8/1, mb1 2.9/3, mb1mx2.7/14, mbtmp3.4/3, Error ellipse: s-maj=91.3km s-min=51.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.38**	**161**	P	Pn	18 23 32.8	-0.4
	0.2nm,0.3s,baz=342,slow=12,SNR=27						
WRA				S	S	18 26 25.0	+3.2
	0.0nm,0.3s,baz=330,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**18.79**	**166**	P	P	18 24 09.4	-0.1
	0.1nm,0.3s,baz=344,slow=11,SNR=17						
MKAR	**Makanchi Array**	**66.33**	**327**	P	P	18 30 30.5	+0.2
	0.1nm,0.4s,baz=124,slow=8.2,SNR=5.9						

*ISCJB **26** 18:27:09.6±0.3, 4938N±002×685E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.1km az=25.2*
*BGR **26** 18:27:10.5±1.2, 4937N×678E, h1km, ML2.2/2, Error ellipse: s-maj=20.0km s-min=8.9km az=92.0*
*NEIC **26** 18:27:11.1, 4937N×689E, h1km, ML2.6(STR), ML3.2(LDG), After STR.*
*LDG **26** 18:27:11.6±0.1, 4938N×690E, h1km, Md3.3/1, Ml3.2/8, Error ellipse: s-maj=1.9km s-min=1.5km az=111.0, Suspected Mining induced.*
*BNS **26** 18:27:11.2±2.1, 5031N×869E, h1km, ML2.0*
*STR **26** 18:27:11.1±0.3, 4937N×689E, h1km±1km, ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **26** 18:27:11.5±0.1, 4939N×693E, h1km, ML3.1/8, Error ellipse: s-maj=1.6km s-min=1.1km az=94.0*

ISC 26 18:27:10.5±0.3, 4938N±002×686E±003, h0km, n46, σ0896/85, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.35**	**23**	Pg	**Pg**	**18 27 17.9**	**+0.7**
ABH	**Alteburg**	**0.67**	**42**	Pg	**Pg**	**18 27 23.5**	**0.0**
LANF	**Langenberg**	**0.74**	**122**	Pg	**Pg**	**18 27 24.8**	**+0.1**
BGG	**Burgeitz**	**0.88**	**21**	*e*Pg	**Pg**	**18 27 28.0**	**+0.5**
BGG				*e*Sg	**Sg**	**18 27 39.9**	**+1.0**
	46nm,0.5s						
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pn	**Pn**	**18 27 30.7**	**-1.2**
CDF				*e*Sg	**Sg**	**18 27 42.8**	**-0.1**
	33nm,0.3s						
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pn	**Pn**	**18 27 30.7**	**-1.2**
CDF				*e*Sg	**Sg**	**18 27 42.8**	**-0.1**
	16nm,0.3s						
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pg	**Pg**	**18 27 29.9**	**0.0**
CDF				*e*Pn	**Pn**	**18 27 30.7**	**-1.2**
CDF				*e*Sg	**Sg**	**18 27 42.8**	**-0.1**
WLS	**Welschbruch**	**1.02**	**161**	Pg	**Pg**	**18 27 30.3**	**+0.2**
WLS				Sg	**Sg**	**18 27 44.3**	**+0.9**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**18 27 34.4**	**+1.2**
	baz=51						
RFYF				*e*Sg	**Sg**	**18 27 50.3**	**+1.8**
	64nm,0.3s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**18 27 34.4**	**+1.2**
RFYF				*e*Sg	**Sg**	**18 27 50.3**	**+1.8**
	32nm,0.3s						
ECH	**Echery**	**1.18**	**170**	Pg	**Pg**	**18 27 33.8**	**+0.6**
ECH				Sg	**Sg**	**18 27 48.8**	**+0.2**
STB	**Steinbach**	**1.22**	**360**	*e*Pg	**Pg**	**18 27 34.6**	**+0.8**
THEF	**They Montfort**	**1.29**	**207**	Pg	**Pg**	**18 27 35.2**	**-0.1**
THEF				Sg	**Sg**	**18 27 52.5**	**+0.5**
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**18 27 34.2**	**-1.1**
TOD				Sg	**Sg**	**18 27 52.3**	**+0.3**
KLL	**Kalltalsperre**	**1.31**	**345**	*e*Pg	**Pg**	**18 27 35.8**	**+0.1**
LIBD	**Limburg**	**1.33**	**158**	Pg	**Pg**	**18 27 36.6**	**+0.6**
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pn	**Pn**	**18 27 35.5**	**-0.9**
	SNR=6.9						
TNS				*e*Sg	**Sg**	**18 27 54.3**	**+0.9**
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pn	**Pn**	**18 27 35.5**	**-0.9**
TNS				*e*Sg	**Sg**	**18 27 54.3**	**+1.0**
HAU	**Haudompre**	**1.42**	**194**	*e*Pg	**Pg**	**18 27 38.7**	**+1.0**
HAU				*e*Sg	**Sg**	**18 27 56.9**	**+0.8**
	38nm,0.2s						
HAU	**Haudompre**	**1.42**	**194**	*e*Pg	**Pg**	**18 27 38.7**	**+1.0**
HAU				*e*Sg	**Sg**	**18 27 56.9**	**+0.8**
	19nm,0.2s						
HAU	**Haudompre**	**1.42**	**194**	*e*Pn	**Pn**	**18 27 37.3**	**-0.2**
HAU				*e*Pg	**Pg**	**18 27 38.7**	**+1.0**
HAU				*e*Sg	**Sg**	**18 27 56.9**	**+0.8**
BFO	**Black Forest**	**1.43**	**137**	*e*Pn	**Pn**	**18 27 37.0**	**-0.8**
	SNR=7.1						
BFO				*e*Sg	**Sg**	**18 27 56.6**	**0.0**
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pn	**Pn**	**18 27 38.7**	**+0.3**
	baz=53						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pg	**Pg**	**18 27 41.2**	**+2.3**
	baz=51						
MEZF				*e*Sg	**Sg**	**18 28 00.1**	**+2.0**
	21nm,0.3s						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pg	**Pg**	**18 27 41.2**	**+2.3**
MEZF				*e*Sg	**Sg**	**18 28 00.1**	**+2.0**
	10nm,0.3s						
MEZF	**Maizieres J'vi**	**1.48**	**234**	*e*Pn	**Pn**	**18 27 38.7**	**+0.3**
MEZF				*e*Pg	**Pg**	**18 27 41.2**	**+2.3**
MEZF				*e*Sg	**Sg**	**18 28 00.1**	**+2.0**
GIVF	**Givet**	**1.50**	**299**	*e*Pg	**Pg**	**18 27 40.3**	**+1.0**
GIVF				*e*Sg	**Sg**	**18 27 59.5**	**+0.7**
	43nm,0.3s						
GIVF	**Givet**	**1.50**	**299**	*e*Pg	**Pg**	**18 27 40.3**	**+1.0**
GIVF				*e*Sg	**Sg**	**18 27 59.5**	**+0.7**
	22nm,0.3s						
GIVF	**Givet**	**1.50**	**299**	*e*Pn	**Pn**	**18 27 37.2**	**-1.5**
GIVF				*e*Pg	**Pg**	**18 27 40.3**	**+1.0**
GIVF				*e*Sg	**Sg**	**18 27 59.5**	**+0.7**
HGN	**Heimansgroeve**	**1.51**	**337**	*e*Pn	**Pn**	**18 27 38.3**	**-0.5**
	3.4nm,0.2s						
HGN				*e*Pg	**Pg**	**18 27 39.3**	**-0.1**
	5.2nm,0.2s						
HGN				*e*Sg	**Sg**	**18 27 58.7**	**-0.3**
HGN	**Heimansgroeve**	**1.51**	**337**	*e*Pg	**Pg**	**18 27 39.3**	**-0.1**
	5.2nm,0.2s						
HGN				*e*Sg	**Sg**	**18 27 58.7**	**-0.3**
MOF	**Molkenrain**	**1.54**	**173**	Pg	**Pg**	**18 27 40.3**	**+0.2**
MOF				Sg	**Sg**	**18 28 00.6**	**+0.5**
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**18 27 40.3**	**-0.2**
HINF				*e*Sg	**Sg**	**18 28 00.9**	**+0.1**
	82nm,0.2s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**18 27 40.3**	**-0.2**
HINF				*e*Sg	**Sg**	**18 28 00.9**	**+0.1**
	41nm,0.2s						
SFTF	**Sexfontaines**	**1.68**	**226**	*e*Pg	**Pg**	**18 27 42.6**	**-0.2**
SFTF				*e*Sg	**Sg**	**18 28 05.8**	**+1.2**
	22nm,0.3s						
SFTF	**Sexfontaines**	**1.68**	**226**	*e*Pg	**Pg**	**18 27 42.6**	**-0.2**
SFTF				*e*Sg	**Sg**	**18 28 05.8**	**+1.2**
	11nm,0.3s						
SFTF	**Sexfontaines**	**1.68**	**226**	*e*Pn	**Pn**	**18 27 40.5**	**-0.7**
SFTF				*e*Pg	**Pg**	**18 27 42.6**	**-0.2**
SFTF				*e*Sg	**Sg**	**18 28 05.8**	**+1.2**
CABF	**La Chapelle**	**2.82**	**191**	*e*Pn	**Pn**	**18 27 56.3**	**-0.5**
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	**18 27 56.8**	**-1.3**
	baz=50						
LOR				*e*Sn	**Sn**	**18 28 32.0**	**-1.7**
SSF	**Saint Saulge**	**3.23**	**225**	*e*Pn	**Pn**	**18 28 00.9**	**-1.5**
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**18 28 03.6**	**-1.3**
AVF	**Avril sur Loir**	**3.50**	**223**	*e*Pn	**Pn**	**18 28 04.4**	**-1.7**
AVF				*e*Sn	**Sn**	**18 28 46.3**	**-1.9**
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Pn	**Pn**	**18 28 10.8**	**-0.9**
BGF				*e*Sn	**Sn**	**18 28 55.5**	**-2.7**
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**18 28 20.7**	**+0.3**
	SNR=14						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**18 28 20.7**	**+0.4**
FLN	**La Foliniere**	**4.86**	**265**	*e*Pn	**Pn**	**18 28 24.8**	**-0.1**
	baz=88						

*ISCJB **26** 18:29:58.5±0.7, 3642N±005×632W±003, h77km±5km, Error ellipse: s-maj=8.2km s-min=3.5km az=36.2*
*NEIC **26** 18:29:58.7, 3626N×640W, h70km, MG3.2(MDD), After MDD.*
*SFS **26** 18:29:58.0, 3626N×639W, h70km, ML3.2*
*MDD **26** 18:29:59.4±0.8, 3628N×636W, h62km±6km, mb3.5/14, Error ellipse: s-maj=8.9km s-min=4.3km az=17.0, PRXIMO*
*CSEM **26** 18:29:59.1±0.2, 3641N×630W, h52km±1km, ML3.2, Error ellipse: s-maj=3.4km s-min=1.6km az=20.0*
*INMG **26** 18:30:00.3±0.8, 3632N×637W, h26km±4km, ML2.1, Error ellipse: s-maj=3.0km s-min=2.4km az=21.0*

ISC 26 18:29:59.6±0.7, 3641N±005×633W±003, h68km±6km, n67, σ0883/117, 11C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNIL	**Conil**	**0.23**	**100**	P	**Pn**	**18 30 09.1**	**-1.0**
CNIL				S	**Sn**	**18 30 16.3**	**-1.4**
CNIL	**Conil**	**0.23**	**100**	*e*P	**Pn**	**18 30 09.1**	**-1.0**
CNIL				*e*S	**Sn**	**18 30 16.3**	**-1.4**
GIBL	**Gibalbin**	**0.51**	**35**	⇑P	**Pn**	**18 30 13.1**	**+0.8**
GIBL				S	**Sn**	**18 30 22.0**	**+0.4**
GIBL	**Gibalbin**	**0.51**	**35**	*i* P	**Pn**	**18 30 13.1**	**+0.8**
GIBL				*e*S	**Sn**	**18 30 22.0**	**+0.4**
ESPR	**Espera**	**0.60**	**40**	⇓P	**Pn**	**18 30 13.2**	**0.0**
	8.4nm,0.1s,SNR=18						
ESPR				S	**Sn**	**18 30 24.0**	**+0.8**
	16nm,0.2s,SNR=10						
ESPR	**Espera**	**0.60**	**40**	P	**Pn**	**18 30 13.1**	**-0.1**
ESPR				S	**Sn**	**18 30 24.0**	**+0.8**
	16nm,0.2s,SNR=10						
ESPR	**Espera**	**0.60**	**40**	P	**Pn**	**18 30 13.1**	**-0.1**
ESPR				S	**Sn**	**18 30 24.0**	**+0.8**
EJIF	**Jimena Fronter**	**0.70**	**86**	P	**Pn**	**18 30 13.9**	**-0.4**
	1.4nm,0.2s,SNR=6.3						
EJIF				S	**Sn**	**18 30 23.7**	**-1.4**
	5.4nm,0.3s,SNR=11						
EJIF	**Jimena Fronter**	**0.70**	**86**	P	**Pn**	**18 30 13.9**	**-0.4**
EJIF				S	**Sn**	**18 30 27.2**	**+2.1**
LIJA	**Lijar**	**0.90**	**56**	⇓P	**Pn**	**18 30 17.2**	**+0.6**
LIJA				S	**Sn**	**18 30 30.5**	**+1.2**
LIJA	**Lijar**	**0.90**	**56**	*i* P	**Pn**	**18 30 17.2**	**+0.5**
LIJA				*i* S	**Sn**	**18 30 30.5**	**+1.2**
ERIP	**Rio Piedras**	**1.22**	**323**	⇓P	**Pn**	**18 30 20.7**	**0.0**
	7.2nm,0.1s,SNR=18						
ERIP				S	**Sn**	**18 30 36.7**	**+0.2**
	42nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.27**	**82**	P	**Pn**	**18 30 20.0**	**-1.4**
	0.4nm,0.1s,SNR=6.5						
EMIJ				S	**Sn**	**18 30 37.1**	**-0.6**
	5.2nm,0.2s,SNR=8.4						
EMIJ	**Mijas**	**1.27**	**82**	P	**Pn**	**18 30 20.0**	**-1.4**
EMIJ				S	**Sn**	**18 30 35.6**	**-2.1**
EMIN	**Mina Concepcio**	**1.38**	**349**	P	**Pn**	**18 30 23.3**	**+0.4**
	0.1nm,0.0s,SNR=8.6						
EMIN				S	**Sn**	**18 30 40.7**	**+0.2**
	2.8nm,0.0s,SNR=25						
EMIN	**Mina

EQES Quesada 2.96 61 P Pn 18 30 44.5 +0.4
EQES S Sn 18 31 18.0 -0.4
EQES Quesada 2.96 61 P Pn 18 30 44.5 +0.4
EQES S Sn 18 31 17.9 -0.5
PCBR Castelo Branco 3.54 346 *e*Pn **Pn 18 30 53.4 +1.2**
PCBR *e*Sn **Sn 18 31 32.0 -0.8**
PCBR
3.4nm,0.1s
PCBR Castelo Branco 3.54 346 *e*Pn **Pn 18 30 53.4 +1.2**
PCBR *e*Sn **Sn 18 31 32.0 -0.8**
3.4nm,0.1s
PTOM Tomar 3.60 333 *e*Pn **Pn 18 30 54.1 +1.2**
PTOM *e*Sn **Sn 18 31 33.5 -0.7**
PTOM
3.9nm,0.1s
ESDC Sonseca Array 3.76 29 P Pn 18 30 56.0 +0.9
0.7nm,0.2s,baz=211,slow=12,SNR=4.7
ESDC S **Sn 18 31 37.8 -0.3**
0.7nm,0.1s,baz=212,slow=24,SNR=3.9
ESDC Sonseca Array 3.76 29 P Pn 18 30 56.0 +0.9
0.7nm,0.2s,SNR=4.7
ESDC S **Sn 18 31 38.5 +0.4**
ESDC Sonseca Array 3.76 29 P Pn 18 30 56.2 +1.1
ESDC S **Sn 18 31 38.5 +0.4**
ETOB Tobarra 4.41 58 ⇑P **Pn 18 31 03.5 -0.5**
ETOB S **Sn 18 31 51.5 -2.6**
3.1nm,0.1s
ETOB Tobarra 4.41 58 ⇑P **Pn 18 31 03.5 -0.5**
5.1nm,0.1s,SNR=18
ETOB S **Sn 18 31 51.5 -2.5**
3.1nm,0.1s
ETOB Tobarra 4.41 58 ⇑P **Pn 18 31 03.5 -0.5**
ETOB S **Sn 18 31 51.7 -2.4**
PVRL Vila Real 4.98 348 *e*Sn **Sn 18 32 07.3 -0.7**
PVRL
4.1nm,0.1s
PVRL Vila Real 4.98 348 S **Sn 18 32 07.3 -0.7**
2.0nm,0.1s
ECHE Chera 5.29 52 P **Pn 18 31 15.6 -0.5**
0.4nm,0.2s,SNR=4.0
EBEN Beniarda 5.37 63 P **Pn 18 31 16.1 -0.9**
0.3nm,0.1s,SNR=5.0
EBEN Beniarda 5.37 63 P **Pn 18 31 16.3 -0.8**
EBEN Beniarda 5.37 63 P **Sn 18 31 16.3 -0.8**
ECAL Calabor 5.54 357 S **Sn 18 32 19.9 -1.7**
0.7nm,0.2s,SNR=7.9
ELOB Lobios 5.62 347 S **Sn 18 32 21.6 -2.0**
1.3nm,0.1s,SNR=4.0
EMOS Mosqueruela 6.06 48 P **Pn 18 31 27.4 +0.8**
0.4nm,0.1s,SNR=7.9
EMOS Mosqueruela 6.06 48 P **Pn 18 31 27.5 +0.9**
EMOS Mosqueruela 6.06 48 P **Pn 18 31 27.5 +0.9**
ESAC San Caprasio 7.00 39 P **Pn 18 31 39.2 -0.2**
1.8nm,0.1s,SNR=4.0
ESAC San Caprasio 7.00 39 P **Pn 18 31 39.2 -0.2**
1.8nm,0.1s,SNR=4.0

NAO ***26*** *18:36:08.4, 1945S×17571E, h33km, mb4.3*
SZGRF ***26*** *18:36:08.1, 2238S×17867W, h33km, South of Fiji Islands*
ISCJB ***26*** *18:37:10.1±1.5, 2239S±009×17949E±009, h584km±20km, mb4.3/19, Error ellipse: s-maj=14.6km s-min=11.4km az=98.8*
NEIC ***26*** *18:37:10.7±1.1, 2215S×17949E, h578km±12km, mb4.6/11, Error ellipse: s-maj=20.1km s-min=7.9km az=150.0*
IDC ***26*** *18:37:13.1±1.8, 2237S×17938E, h604km±18km, mb3.7/9, mb1 3.8/10, mb1mx3.7/17, mbtmp4.8/10, Error ellipse: s-maj=34.7km s-min=12.9km az=155.0*
ISC 26 18:37:14.0±1.7, 222S±02×193E±01, h611km±20km, n81, σ0°63/36, mb4.3/19, 15C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.80**	**47**	P	**P**	**18 39 43.4**	**-7.3**
	4.1nm,0.3s,baz=234,slow=8.7,SNR=5.5						
AFI	**Afiamalu**	**11.80**	**47**	*e*P	**P**	**18 39 44.6**	**-6.2**
DZM	**Mont Dzumac**	**11.96**	**268**	P	**P**	**18 39 51.5**	**-0.8**
	2.6nm,0.3s,baz=83,slow=19,SNR=23						
DZM	**Mont Dzumac**	**11.96**	**268**	*e*P	**P**	**18 39 51.6**	**-0.7**
URZ	**Urewera**	**16.11**	**186**	P	**P**	**18 40 25.0**	**-6.9**
	1.9nm,0.3s,baz=347,slow=1.5,SNR=11						
URZ				S	**S**	**18 43 06.3**	**-6.7**
	1.0nm,0.3s,baz=47,slow=23,SNR=11						
ARMA	**Armidale**	**26.10**	**246**	⇑*i*P	**P**	**18 42 02.7**	**+1.4**
CNB	**Canberra Magne**	**29.22**	**237**	*e*P	**P**	**18 42 29.2**	**+0.8**
	25nm,0.6s,mb5.0						
CTA	**Charters Tower**	**30.90**	**268**	⇑*i*P	**P**	**18 42 43.8**	**+1.1**
	21nm,0.6s,mb5.0						
CTA	**Charters Tower**	**30.90**	**268**	P	**P**	**18 42 43.6**	**+0.9**
	27nm,0.5s,mb5.1,baz=96,slow=11,SNR=50						
CTAO	**Charters Tower**	**30.90**	**268**	*e*P	**P**	**18 42 43.8**	**+1.0**
	23nm,0.5s,mb5.1						
TOO	**Toolangi**	**32.89**	**235**	*e*P	**P**	**18 42 59.5**	**-0.1**
	15nm,0.7s,mb4.7						
PMG	**Port Moresby**	**33.39**	**287**	P	**P**	**18 43 04.2**	**+0.4**
	10nm,0.6s,mb4.6,baz=104,slow=8.3,SNR=6.5						
PMG	**Port Moresby**	**33.39**	**287**	*e*P	**P**	**18 43 02.3**	**-1.5**
STKA	**Stephens Creek**	**34.82**	**246**	P	**P**	**18 43 14.4**	**-1.3**
	19nm,0.5s,mb5.0,baz=92,slow=9.9,SNR=101						
AS31	**Alice Springs**	**41.74**	**259**	⇑*i*P	**P**	**18 44 11.7**	**+0.3**
ASAR	**Alice Springs**	**41.74**	**259**	P	**P**	**18 44 11.8**	**+0.4**
	28nm,0.8s,mb4.9,baz=92,slow=8.9,SNR=464						
ASAR				S	**S**	**18 49 46.1**	**+0.4**
	1.5nm,0.8s,baz=97,slow=16,SNR=9.8						
ASPA	**Alice Springs**	**41.74**	**259**	⇑*i*P	**P**	**18 44 11.7**	**+0.3**
WB2	**Warramunga Arr**	**41.93**	**264**	⇑*i*P	**P**	**18 44 12.7**	**-0.2**
WRAB	**Tennant Creek**	**41.93**	**265**	*e*P	**P**	**18 44 12.6**	**-0.3**
	10nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**41.94**	**264**	P	**P**	**18 44 12.8**	**-0.2**
	8.2nm,0.3s,mb4.8,baz=94,slow=7.9,SNR=401						
WRA				ScP	ScP	18 48 51.2	+4.6
	0.7nm,0.6s,baz=96,slow=3.7,SNR=5.1						
WRA				S	**S**	**18 49 47.5**	**-1.2**
	0.9nm,0.8s,baz=98,slow=14,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.37**	**264**	*e*P	**P**	**18 45 17.1**	**+0.6**
	10nm,0.5s,mb4.5						
MBWA	**Marble Bar**	**55.08**	**259**	*e*P	**P**	**18 45 49.9**	**0.0**
	14nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**55.10**	**246**	*e*P	**P**	**18 45 49.5**	**-0.5**
	13nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**55.40**	**245**	P	**P**	**18 45 51.6**	**-0.5**
	1.7nm,0.3s,mb3.8,baz=2.3,slow=14,SNR=7.7						
MUN	**Mundaring**	**56.36**	**246**	*e*P	**P**	**18 45 58.7**	**0.0**
QSPA	**South Pole Qui**	**67.87**	**180**	*e*P	**P**	**18 47 12.4**	**-0.5**
	3.4nm,0.8s,mb3.8						
MJAR	**Matsushiro Arr**	**70.16**	**326**	P	**P**	**18 47 26.8**	**+0.2**
	2.4nm,0.7s,mb3.8,baz=151,slow=6.2,SNR=6.2						
NVAR	**Mina Array Bea**	**83.97**	**44**	P	**P**	**18 48 41.2**	**0.0**
	0.6nm,0.5s,mb3.4,baz=202,slow=7.0,SNR=4.6						
ELK	**Elko**	**87.22**	**44**	P	**P**	**18 48 56.1**	**-0.6**
	0.3nm,0.3s,mb3.5,baz=203,slow=7.1,SNR=5.1						
HAWA	**Hanford**	**87.79**	**37**	*e*P	**P**	**18 48 59.5**	**+0.1**
	0.4nm,0.9s,mb3.1						
TMUT	**Trail Mountain**	**89.12**	**47**	*e*P	**P**	**18 49 06.3**	**+0.7**
SRU	**San Rafael**	**89.49**	**47**	*e*P	**P**	**18 49 07.6**	**+0.3**
	1.9nm,0.8s,mb4.0						
BW06	**Boulder Array**	**91.90**	**44**	*e*P	**P**	**18 49 17.9**	**-0.5**
	0.7nm,0.7s,mb3.8						
MKAR	**Makanchi Array**	**110.56**	**313**	PKiKP	PKiKP	18 54 36.6	-1.6
	0.2nm,0.4s,baz=175,slow=1.2,SNR=6.4						
ARCES	**ARCESS Array B**	**130.12**	**348**	PKP	PKPdf	18 55 14.6	-1.1
	12nm,1.1s,baz=82,slow=2.7,SNR=6.4						
ARCES	**ARCESS Array B**	**130.12**	**348**	PKP	PKPdf	18 55 14.6	-1.1
FINES	**FINESS Array B**	**136.66**	**342**	PKhKP		18 55 15.0	
	1.0nm,0.8s,baz=354,slow=3.8,SNR=3.7						
FINES				PKP	PKPdf	18 55 26.7	-1.2
	1.1nm,0.8s,baz=127,slow=1.2,SNR=7.1						
FINES				SKPbc	SKPbc	18 58 05.3	+1.3
	0.9nm,0.6s,baz=70,slow=2.2,SNR=6.2						
NB2	**NORSAR Subarra**	**140.32**	**351**	PKPd	PKPdf	18 55 27.3	-7.3
	comp=Z,0.6nm,0.5s,baz=22,slow=1.8						
NOA	**NORSAR Array B**	**140.32**	**351**	PKhKP		18 55 27.4	
	comp=Z,0.6nm,0.5s,baz=17,slow=4.5,SNR=3.3						
HFS	**Hagfors**	**140.78**	**349**	PKhKP		18 55 28.6	
	comp=Z,2.9nm,0.5s,baz=60,slow=3.6,SNR=26						
AKASG	**Malin Array Be**	**143.22**	**328**	PKhKP		18 55 36.9	
	comp=Z,9.4nm,0.6s,baz=44,slow=4.1,SNR=53						
BRTR	**Keskin Array B**	**146.06**	**309**	PKPbc	PKPbc	18 55 46.6	-0.2
	comp=Z,1.1nm,0.7s,baz=143,slow=4.8,SNR=8.8						
EKA	**Eskdalemuir Ar**	**146.87**	**3**	PKPbc	PKPbc	18 55 47.6	-1.3
	comp=Z,3.1nm,0.7s,baz=348,slow=2.3,SNR=9.4						
CFR	**Carcaliu**	**147.15**	**321**	⇑P	PKPdf	18 55 49.8	+3.4
CFR	**Carcaliu**	**147.15**	**321**	⇑P	PKPdf	18 55 49.8	+3.4
BURAR	**Bucovina Array**	**147.23**	**327**	⇑P	PKPdf	18 55 51.4	+4.9
BSEG	**Bad Segeberg**	**147.25**	**348**	*e*PKPbc	PKPbc	18 55 49.6	-0.3
HARR	**Harsova**	**147.54**	**321**	⇑P	PKPdf	18 55 51.3	+4.3
HARR	**Harsova**	**147.54**	**321**	⇑P	PKPdf	18 55 51.4	+4.3
KOLS	**Kolonicke sedl**	**147.71**	**331**	*e*PKP	PKPdf	18 55 51.8	+4.5
STHS	**Stebnicka Huta**	**147.79**	**333**	*e*PKP	PKPdf	18 55 51.8	+4.4
CRVS	**Cervenica-Dubn**	**148.09**	**332**	*e*PKP	PKPdf	18 55 53.1	+5.2
MLR	**Muntele Rosu**	**148.21**	**323**	⇑P	PKPdf	18 55 52.4	+4.3
MLR	**Muntele Rosu**	**148.21**	**323**	⇑P	PKPdf	18 55 52.4	+4.3
KECS	**Kecovo**	**148.83**	**332**	*e*PKP	PKPdf	18 55 54.4	+5.3
KECS				*e*		18 56 00.9	
UPC	**Upice**	**148.88**	**339**	*e*PKPbc	PKPbc	18 55 54.3	+0.3
DPC	**Dobruska-Polom**	**148.91**	**339**	*e*PKPbc	PKPbc	18 55 54.5	+0.4
CLL	**Collm**	**149.07**	**343**	*e*PKPbc	PKPbc	18 55 54.2	-0.2
CLL	**Collm**	**149.07**	**343**	⇓*i*PKPbc	PKPbc	18 55 54.2	-0.2
	comp=Z,12nm,0.6s						
CLL				⇑*i*PKPab	PKPab	18 56 01.2	-0.1
	comp=Z,7.0nm,0.7s						
BRG	**Berggiesshubel**	**149.20**	**342**	*e*PKPbc	PKPbc	18 55 54.9	+0.1
BRG	**Berggiesshubel**	**149.20**	**342**	*i* P	PKPdf	18 55 54.9	+5.2
	comp=Z,5.9nm,0.9s						
BRG	**Berggiesshubel**	**149.20**	**342**	*i* P	PKPdf	18 55 54.9	+5.2
CLZ	**Clausthal**	**149.21**	**347**	*e*PKPbc	PKPbc	18 55 54.9	+0.1
IBBN	**Ibbenburen**	**149.26**	**350**	*e*PKPbc	PKPbc	18 55 54.7	-0.2
PRU	**Pruhonice**	**149.80**	**340**	*e*PKPbc	PKPbc	18 55 56.2	0.0
TANN	**Tannenbergstha**	**150.02**	**343**	*e*PKPbc	PKPbc	18 55 56.7	0.0
MOX	**Moxa**	**150.03**	**344**	*e*PKPbc	PKPbc	18 55 56.9	+0.2
BUG	**Bochum--Univer**	**150.18**	**350**	*e*PKPbc	PKPbc	18 55 56.8	-0.3
NKC	**Novy Kostel**	**150.19**	**343**	*e*PKPbc	PKPbc	18 55 57.3	+0.2
NKC				*e*PKPab	PKPab	18 56 06.4	+0.4
UBBA	**Unterbreizbach**	**150.25**	**346**	*e*PKPbc	PKPbc	18 55 57.0	-0.2
BZS	**Buzias**	**150.41**	**327**	⇑P	PKPdf	18 55 57.6	+6.0
BZS	**Buzias**	**150.41**	**327**	⇑P	PKPdf	18 55 57.6	+6.0
ROTZ	**Rotzenmuhle**	**150.68**	**343**	*e*PKPbc	PKPbc	18 55 58.3	+0.1
KHC	**Kasperske Hory**	**150.85**	**341**	*e*PKPbc	PKPbc	18 55 58.6	0.0
KHC				*e*PKPab	PKPab	18 56 09.4	+0.6
GRF	**Grafenberg Arr**	**151.01**	**344**	*e*PKPbc	PKPbc	18 55 59.0	0.0
GEC2	**GERESS Array S**	**151.07**	**340**	*e*PKPbc	PKPbc	18 55 59.4	+0.3
GEC2	**GERESS Array S**	**151.07**	**340**	*e*PKPbc	PKPbc	18 55 59.4	+0.3
GERES	**GERESS Array B**	**151.07**	**340**	PKPbc	PKPbc	18 55 58.9	-0.2
	comp=Z,1.4nm,0.6s,baz=15,slow=2.0,SNR=14						
TNS	**Taunus Mts**	**151.14**	**348**	*e*PKPbc	PKPbc	18 55 59.0	-0.3
TNS	**Taunus Mts**	**151.14**	**348**	*e*PKPbc	PKPbc	18 55 59.0	-0.3
DAVOX	**Davos**	**154.04**	**343**	PKPab	PKPab	18 56 23.0	+0.6
	baz=351,slow=13						

IDC ***26*** *19:16:49.3±7.1, 2409N×9535E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/21, mbtmp3.4/3, Error ellipse: s-maj=704.8km s-min=25.1km az=59.0*
ISCJB ***26*** *19:16:57.5±1.2, 235N±04×942E±04, h100km, mb3.5/3, Error ellipse: s-maj=82.0km s-min=11.8km az=90.0*
ISC 26 19:16:59.7±1.2, 236N±04×942E±04, h100km, n4, σ1°21/5, mb3.5/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.89**	**313**	*e*P	**Pn**	**19 17 45.5**	**+1.6**
SHL				*e*S	**Sn**	**19 18 17.0**	**-1.0**
MKAR	**Makanchi Array**	**25.04**	**340**	P	**P**	**19 22 14.4**	**0.0**
	0.5nm,0.4s,mb3.3,baz=151,slow=9.9,SNR=23						
WRA	**Warramunga Arr**	**58.34**	**135**	P	**P**	**19 26 43.7**	**-0.5**
	0.2nm,0.3s,mb3.6,baz=319,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**60.77**	**138**	P	**P**	**19 27 00.9**	**0.0**
	0.2nm,0.3s,mb3.6,baz=319,slow=6.6,SNR=14						

BJI ***26*** *19:27:20.7, 762S×12564E, h525km, mB5.0, mb5.8*
NAO ***26*** *19:27:23.9, 700S×12500E, h500km, mb5.0*
MOS ***26*** *19:27:26.0±0.9, 690S×12510E, h516km, mb5.5/42, Error ellipse: s-maj=9.5km s-min=5.4km az=110.9*
NEIC ***26*** *19:27:27.2±0.1, 699S×12512E, mb5.5/60, Error ellipse: s-maj=4.7km s-min=3.0km az=63.0*
HRVD ***26*** *19:27:27.2±0.3, 691S×12538E, h540km±2km, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s61,c93; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.39±.04; Mθθ0.06±.04; Mφφ0.33±.06; Mrθ-0.90±.05; Mrφ0.53±.06; Mθφ-0.14±.05; Best double couple: Mo1.11600×10^17 NP1:φs184.00000°, δ30.00000°, λ-157.00000°. NP2:φs73.00000°, δ78.00000°, λ-62.00000°. Principal axes: T 1.0990, Plg28.0000°, Azm141.0000°; N 0.0330, Plg28.0000°, Azm247.0000°; P -1.1320, Plg49.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s.*
ISCJB ***26*** *19:27:28.4±0.4, 701S±002×12516E±004, h553km±5km, mb5.5/133 Error ellipse: s-maj=5.7km s-min=3.4km az=146.3*
IDC ***26*** *19:27:29.1±0.7, 701S×12513E, h545km±7km, mb4.9/34, mb1 4.8/36, mb1mx4.8/37, mbtmp5.7/36, Error ellipse: s-maj=8.7km s-min=5.6km az=65.0*
ISC 26 19:27:28.6±0.4, 703S±002×12521E±004, h540km±5km, h528km±4.0km: pP-P, n526, σ0°95/336, mb5.5/131, 42C-55D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**8.11**	**318**	P	**P**	**19 29 27.9**	**+0.9**
	6μm,1.2s						
FITZ	**Fitzroy Crossi**	**11.01**	**178**	⇓*i*P	**P**	**19 29 56.5**	**-0.2**
	229nm,0.6s						
FITZ				*e*S	**S**	**19 31 55.9**	**-2.7**
FITZ				*e*SCS	ScS	19 41 17.8	-1.5
KCP	**Kidapawan**	**13.95**	**360**	⇓*e*P	**P**	**19 30 34.0**	**+6.7**
CTBH	**Cotabato--PC H**	**14.19**	**356**	*e*P	**P**	**19 30 30.1**	**+0.4**
CTBH				*i* S	**S**	**19 32 57.6**	**-1.4**
BUKP	**Musuan**	**14.81**	**359**	*e*P	**P**	**19 30 36.4**	**+0.2**
PAGZ	**Pagadian**	**14.89**	**353**	*e*P	**P**	**19 30 37.7**	**+0.7**
IPIL	**Ipil**	**14.96**	**350**	*e*P	**P**	**19 30 38.4**	**+0.7**
MBWA	**Marble Bar**	**15.01**	**200**	⇓*i*P	**P**	**19 30 36.9**	**-1.2**
	112nm,0.7s						
MBWA				*e*S	**S**	**19 33 11.9**	**-2.4**
MBWA				*e*ScP	ScP	19 37 50.3	0.0
BIPH	**Bislig**	**15.16**	**4**	⇓*i*P	**P**	**19 30 39.4**	**-0.4**
CGP	**Cagayan de Oro**	**15.39**	**358**	⇓*e*P	**P**	**19 30 44.6**	**+2.4**
WRAB	**Tennant Creek**	**15.59**	**146**	P	**P**	**19 30 43.0**	**-1.2**
	3μm,0.8s						
WRAB	**Tennant Creek**	**15.59**	**146**	⇑*i*P	**P**	**19 30 43.4**	**-0.8**
WRAB				*e*S	**S**	**19 33 26.7**	**+1.6**
WRAB				pmax	pmax		
	comp=Z,641nm,0.9s						
WRAB	**Tennant Creek**	**15.59**	**146**	⇑*i*P	**P**	**19 30 43.4**	**-0.8**
	comp=Z,641nm,0.9s						
WRAB				*e*S	**S**	**19 33 26.7**	**+1.6**
WRA	**Warramunga Arr**	**15.60**	**146**	P	**P**	**19 30 43.4**	**-0.8**
	comp=Z,27nm,0.3s,baz=324,slow=11,SNR=832						
WRA				S	**S**	**19 33 24.5**	**-0.6**
	baz=320,slow=18,SNR=8.2						
WRA				ScP	ScP	19 37 51.1	-0.3
	comp=Z,1.0nm,0.3s,baz=322,slow=1.8,SNR=7.0						
WRA	**Warramunga Arr**	**15.60**	**146**	P	**P**	**19 30 43.4**	**-0.8**
WRA				S	**S**	**19 33 24.5**	**-0.6**
WB2	**Warramunga Arr**	**15.60**	**146**	⇑*i*P	**P**	**19 30 43.5**	**-0.8**
WB2				*e*S	**S**	**19 33 24.0**	**-1.2**
WB2				*e*SCP	ScP	19 37 50.5	-1.0
WB2				*e*SCS	ScS	19 41 27.2	-3.1
DCPH	**Dipolog City**	**15.62**	**353**	*e*P	**P**	**19 30 46.4**	**+1.9**
KKM	**Kota Kinabalu**	**15.79**	**325**	P	**P**	**19 30 45.2**	**-1.0**
KKM	**Kota Kinabalu**	**15.79**	**325**	*e*P	**P**	**19 30 45.0**	**-1.2**
KKM				*e*S	**S**	**19 33 24.0**	**-4.3**
BUTP	**Butuan**	**15.90**	**2**	*e*P	**P**	**19 30 47.7**	**+0.3**
MSLP	**Maasin**	**17.06**	**359**	*e*P	**P**	**19 30 58.8**	**+0.6**
KSM	**Kuching**	**17.10**	**299**	⇑*i*P	**P**	**19 30 58.0**	**-0.6**
LLP	**Lapu-Lapu**	**17.28**	**356**	⇓*e*P	**P**	**19 31 00.7**	**+0.4**
	comp=Z,887μm,1.3s						
LLP				*e*S	**S**	**19 33 52.8**	**-0.1**
BATP	**Bataraza**	**17.37**	**335**	*e*P	**P**	**19 31 02.2**	**+1.1**
GUIM	**Jordan**	**17.74**	**352**	*e*P	**P**	**19 31 03.5**	**-0.9**
OCLP	**Ormoc**	**17.98**	**358**	*e*P	**P**	**19 31 07.2**	**+0.6**
CUYO	**Cuyo Island**	**18.25**	**347**	*e*P	**P**	**19 31 09.9**	**+0.7**
BESP	**Borongan**	**18.51**	**1**	*e*P	**P**	**19 31 12.3**	**+0.8**
ASPA	**Alice Springs**	**18.53**	**154**	⇑*i*P	**P**	**19 31 12.4**	**+0.7**
ASPA				*e*SCP	ScP	19 37 57.6	+0.1
ASPA				*i* SCS	ScS	19 41 35.5	-3.6
AS31	**Alice Springs**	**18.53**	**154**	⇑*i*P	**P**	**19 31 12.4**	**+0.7**
AS31				*e*ScP	ScP	19 37 57.6	+0.1
AS31				*i* ScS	ScS	19 41 35.5	-3.6
ASAR	**Alice Springs**	**18.53**	**154**	P	**P**	**19 31 12.2**	**+0.6**
	comp=Z,74nm,0.3s,baz=345,slow=14,SNR=5091						
ASAR				ScP	ScP	19 37 57.4	-0.2
	comp=Z,4.2nm,0.3s,baz=335,slow=2.3,SNR=20						
ASAR				ScS	ScS	19 41 30.4	-8.7
	comp=Z,0.1nm,0.3s,baz=342,slow=5.7,SNR=4.6						
ASAR				P3KPbc		20 05 14.6	
	comp=Z,0.1nm,0.3s,baz=143,slow=3.3,SNR=4.8						
ASAR	**Alice Springs**	**18.53**	**154**	P	**P**	**19 31 12.2**	**+0.6**
ASAR				ScP	ScP	19 37 57.4	-0.2
ASAR				ScS	ScS	19 41 30.4	-8.7
RCP	**Roxas**	**18.63**	**352**	⇑*e*P	**P**	**19 31 12.1**	**-0.6**
ENPP	**El Nido**	**19.01**	**342**	*e*P	**P**	**19 31 17.0**	**+1.0**
CNP	**Catarman**	**19.42**	**358**	*e*P	**P**	**19 31 19.9**	**+0.1**
OTRP	**Odiongan**	**19.53**	**351**	*e*P	**P**	**19 31 21.8**	**+1.0**
BUSP	**Coron**	**19.56**	**345**	*e*P	**P**	**19 31 21.9**	**+0.8**
AUQP	**San Andres**	**20.38**	**353**	*e*P	**P**	**19 31 30.3**	**+1.8**
PVCP	**Virac**	**20.52**	**357**	*e*P	**P**	**19 31 28.9**	**-0.9**
BOAC	**Boac**	**20.63**	**351**	*e*P	**P**	**19 31 30.1**	**-0.6**
GQP	**Guinayangan**	**20.98**	**352**	⇑*i*P	**P**	**19 31 34.1**	**+0.1**
LUBP	**Lubang**	**21.21**	**347**	*e*P	**P**	**19 31 35.6**	**-0.4**
TGY	**Tagaytay City**	**21.42**	**349**	P	**P**	**19 31 38.1**	**+0.2**
	comp=Z,411nm,0.5s,baz=282,slow=2.0,SNR=19						
TGY				ScP	ScP	19 38 04.9	+0.4
	comp=Z,82nm,0.4s,baz=146,slow=17,SNR=4.0						
PMG	**Port Moresby**	**21.86**	**98**	P	**P**	**19 31 42.6**	**+0.8**
	comp=Z,20nm,0.4s,mb5.1,baz=300,slow=3.3,SNR=30						
PMG				ScP	ScP	19 38 07.5	+2.0
	comp=Z,50nm,0.8s,baz=4.7,slow=2.1,SNR=11						
PMG	**Port Moresby**	**21.86**	**98**	⇑*e*P	**P**	**19 31 42.2**	**+0.4**
PMG				pmax	pmax		
	comp=Z,96nm,1.0s						
PMG	**Port Moresby**	**21.86**	**98**	⇑*e*P	**P**	**19 31 42.2**	**+0.4**
	comp=Z,96nm,1.0s,mb5.4						
PMG				*e*ScP	ScP	19 38 06.9	+1.3
POLP	**Polilio Island**	**21.86**	**351**	*e*P	**P**	**19 31 41.3**	**-0.6**
KSI	**Kapahiang**	**22.76**	**277**	P	**P**	**19 31 54.1**	**+4.2**
	comp=Z,59nm,0.8s,mb5.3						
SCZP	**Santa Cruz**	**23.26**	**347**	*e*P	**P**	**19 31 52.8**	**-1.6**
KGM	**Kluang**	**23.62**	**292**	P	**P**	**19 31 59.2**	**+1.7**
BCPH	**Baguio City Da**	**23.71**	**349**	⇑*i*P	**P**	**19 31 57.3**	**-1.1**
	comp=Z,108μm,1.0s						
BOLP	**Bolinao**	**23.85**	**347**	*e*P	**P**	**19 31 58.2**	**-1.4**
CTA	**Charters Tower**	**24.19**	**125**	*e*P	**P**	**19 32 02.4**	**-0.2**
	comp=Z,99nm,0.9s,mb5.4						
CTA				*i* SCP	ScP	19 38 12.1	+0.3
CTA	**Charters Tower**	**24.19**	**125**	P	**P**	**19 32 02.6**	**0.0**
	comp=Z,135nm,0.9s,mb5.6,baz=304,slow=11,SNR=81						
CTA				ScP	ScP	19 38 12.3	+0.5
	comp=Z,61nm,0.9s,baz=272,slow=4.1,SNR=14						
CTA	**Charters Tower**	**24.19**	**125**	*e*P	**P**	**19 32 02.4**	**-0.2**
CTA				pmax	pmax		
	comp=Z,99nm,0.9s						
CTAO	**Charters Tower**	**24.19**	**125**	⇑*e*P	**P**	**19 32 02.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,125nm,0.8s,mb5.6						
CTAO	**Charters Tower**	**24.19**	**125**	⇑*e*P	**P**	**19 32 02.9**	**+0.3**
	comp=Z,125nm,0.8s,mb5.6						
CTAO				*e*ScP	ScP	19 38 12.1	+0.2
CVP	**Callao Caves**	**24.80**	**352**	*e*P	**P**	**19 32 07.0**	**-1.0**
	comp=Z,35μm,1.0s						
ABRA	**Dolores**	**24.92**	**350**	*e*P	**P**	**19 32 07.3**	**-1.8**
APYP	**Conner**	**25.05**	**351**	*e*P	**P**	**19 32 08.3**	**-1.8**
SGCP	**Mt. Cagua**	**25.31**	**353**	*e*P	**P**	**19 32 10.8**	**-1.7**
KLBR	**Kellerberrin**	**25.40**	**195**	⇑*i*P	**P**	**19 32 12.7**	**-0.6**
	comp=Z,43nm,0.4s,mb5.4						
KLBR				*e*S	**S**	**19 35 58.6**	**-3.4**
KLBR				*i* SCP	ScP	19 38 14.8	-0.5
MUN	**Mundaring**	**26.20**	**198**	⇑*i*P	**P**	**19 32 19.9**	**-0.4**
IPM	**Ipoh**	**26.71**	**295**	P	**P**	**19 32 25.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**26.81**	**195**	P	**P**	**19 32 25.4**	**-0.2**
	comp=Z,75nm,0.4s,mb5.7,baz=22,slow=8.1,SNR=191						
NWAO				ScP	ScP	19 38 19.1	-0.3
	comp=Z,70nm,0.9s,baz=28,slow=4.0,SNR=12						
NWAO	**Narrogin (SRO)**	**26.81**	**

comp=Z,224nm,1.0s,mb5.7
SSE AMB AMB
comp=Z,58nm,3.5s
KMI Kunming 38.73 326 P P 19 34 08.0 +1.5
KMI AP pP 19 35 45.0 +4.2
KMI PP PP 19 35 53.0 +0.8
KMI PCP PcP 19 36 06.0 +1.7
KMI SCP ScP 19 39 03.0 +1.9
KMI S **S 19 39 26.0 +1.1**
KMI XS sS 19 42 18.8 +0.8
KMI SS SS 19 42 40.8 -4.5
KMI AMB AMB
comp=Z,129nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,311nm,3.1s
WHN Wuhan 38.79 345⇑ *i*P P 19 34 07.5 +0.6
WHN PCP PcP 19 36 05.0 +0.6
WHN AMB AMB
comp=Z,340nm,0.9s,mb5.9
NJ2 Nanjing 39.34 351 *e*P P 19 34 11.3 -0.1
NJ2 S **S 19 39 33.0 -0.8**
NJ2 XS sS 19 42 25.0 -2.4
NJ2 AMB AMB
comp=Z,340nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,760nm,5.2s
ENH Enshi 40.04 339 *e*P P 19 34 16.6 -0.5
comp=Z,412nm,0.7s,mb6.1
JNU Nakatsue 40.30 7 P P 19 34 19.4 +0.3
comp=Z,114nm,0.8s,mb5.5,baz=198,slow=6.0,SNR=33
TAU Tasmania Unive 40.70 155 P P 19 34 24.3 +2.0
comp=Z,665nm,1.1s,mb6.1,SNR=7.9
TAU Tasmania Unive 40.70 155 *e*P P 19 34 24.1 +1.8
TAU pmax pmax
comp=Z,123nm,1.1s,mb5.3
TAU Tasmania Unive 40.70 155 *e*P P 19 34 24.1 +1.8
comp=Z,123nm,1.1s,mb5.3
NOUC Port Laguerre 42.34 115 *e*P P 19 34 36.0 +0.8
DZM Mont Dzumac 42.46 115 P P 19 34 37.5 +1.3
comp=Z,56nm,0.8s,mb5.1,baz=276,slow=6.2,SNR=31
DZM Mont Dzumac 42.46 115 *e*P P 19 34 37.3 +1.1
CD2 Chengdu 42.96 333 P P 19 34 40.0 -0.1
CD2 PP PP 19 36 33.8 +1.9
CD2 AMB AMB
comp=Z,330nm,0.6s,mb6.0
XAN Xi'an 43.66 340 P P 19 34 44.8 -0.8
XAN AMB AMB
comp=Z,498nm,0.7s,mb6.2
TIA Tai'an 43.68 351 ⇓P P 19 34 45.0 -0.7
TIA AMB AMB
comp=Z,95nm,0.8s,mb5.4
KS15 Wonju Array Si 44.31 3 *e*P P 19 34 51.4 +0.8
KS15 *e*PcP PcP 19 36 23.9 +0.9
MAJO Matsushiro 45.03 15⇓ *e*P P 19 34 55.7 -0.4
MAJO pmax pmax
comp=Z,166nm,0.8s,mb5.6
MAJO Matsushiro 45.03 15⇓ *e*P P 19 34 55.7 -0.4
comp=Z,166nm,0.8s,mb5.6
MAT Matsushiro 45.03 15 P P 19 34 55.8 -0.3
MAT Matsushiro 45.03 15 *e*P P 19 34 56.0 -0.1
MAT pmax pmax
comp=Z,126nm,0.8s,mb5.5
MAT Matsushiro 45.03 15 *e*P P 19 34 56.0 -0.1
comp=Z,126nm,0.8s,mb5.5
MJAR Matsushiro Arr 45.03 15 P P 19 34 55.8 -0.3
comp=Z,154nm,0.7s,mb5.6,baz=190,slow=9.0,SNR=409
MJAR PcP PcP 19 36 26.1 +0.6
comp=Z,17nm,0.8s,baz=188,slow=3.7,SNR=5.5
MJAR ScP ScP 19 39 26.6 +0.1
comp=Z,6.9nm,0.8s,baz=180,slow=5.5,SNR=6.3
MJAR Matsushiro Arr 45.03 15 P P 19 34 55.8 -0.3
MJAR 19 36 26.1
DL2 Dalian 45.83 356 P P 19 35 02.0 -0.2
DL2 *e*S **S 19 41 08.0 +1.4**
DL2 AMB AMB
comp=Z,160nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,320nm,3.9s
PALK Pallekele 46.61 287 *e*P P 19 35 07.7 -0.4
comp=Z,31nm,1.4s,mb4.6
PALK *e*PcP PcP 19 36 32.2 +1.1
PALK *e*ScP ScP 19 39 34.6 +1.6
LZH Lanzhou 47.36 336 ⇓P P 19 35 15.0 +1.3
LZH PCP PcP 19 36 35.5 +1.7
LZH AP pP 19 36 56.3 +2.8
LZH PP PP 19 37 14.0 +2.2
LZH SCP ScP 19 39 37.5 +1.3
LZH S **S 19 41 26.0 -1.9**
LZH SCS ScS 19 44 10.0 +1.4
LZH XS sS 19 44 25.0 -3.4
LZH AMB AMB
comp=Z,750nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,2μm,4.5s
VIS Vishakhapatnam 48.12 301 *e*P P 19 35 19.2 -0.2
VIS AMb AMB 19 35 20.5
comp=Z,43nm,0.7s,mb5.1
SNY Shenyang 48.65 358 ⇓P P 19 35 23.0 -0.4
SNY AMB AMB
comp=Z,340nm,0.7s,mb6.0
LSA Lhasa 49.04 320 P P 19 35 27.8 +1.5
LSA AMB AMB
comp=Z,420nm,0.7s,mb6.1
BOK Bokaro 49.11 310 *e*P P 19 35 26.9 +0.1
BOK AMb AMB 19 35 27.7
comp=Z,36nm,0.5s,mb5.2
HHC Hu-ho-hao-te 49.27 346 *e*P P 19 35 28.0 0.0
HHC AP pP 19 37 07.5 -1.4
HHC PP PP 19 37 30.0 +0.9
HHC XP sP 19 38 07.0 -1.3
HHC PCS PcS 19 40 38.0 -0.3
HHC S **S 19 41 53.0 -1.1**
HHC AMB AMB
comp=Z,99nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,194nm,3.9s
BTO Baotou 49.42 345 *e*P P 19 35 27.5 -1.6
BTO AMB AMB
comp=Z,40nm,0.5s,mb5.2
VLA Vladivostok 50.28 6*c* *i*P P 19 35 35.4 0.0
VLA pmax pmax
comp=Z,276nm,1.1s,mb5.6
VLA MLR MLR
comp=Z,1μm,19.6s
TRD Trivandrum 50.51 287 *e*P P 19 35 37.4 +0.3
TRD AMb AMB 19 35 50.3
comp=Z,49nm,1.5s,mb4.6
CN2 Changchun 50.60 0 *e*P P 19 35 37.3 -0.4
CN2 *e*AP pP 19 37 16.0 -3.4
CN2 *e*S **S 19 42 13.8 +1.7**
CN2 AMB AMB
comp=Z,90nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
JIRN Jiri 51.11 314 *e*P P 19 35 42.1 +0.7
comp=Z,534nm,0.7s,mb6.0
GUN Gumba 51.48 314 *e*P P 19 35 44.8 +0.7
comp=Z,681nm,0.4s,mb6.3
MDJ Mudanjiang 51.56 4 P P 19 35 45.5 +0.8
MDJ AP pP 19 37 23.5 -3.5
MDJ PP PP 19 37 51.0 +1.5
MDJ XP sP 19 38 21.5 -4.5
MDJ S **S 19 42 29.0 +3.9**
MDJ XS sS 19 45 32.3 +3.0
MDJ SS SS 19 46 17.0 +6.2
MDJ AMB AMB
comp=Z,495nm,0.8s,mb5.9
MDJ AMB AMB
comp=Z,374nm,3.2s
PKI Pulchoki 51.61 314 *e*P P 19 35 45.4 +0.3
comp=Z,452nm,0.5s,mb6.1
PKI Pulchoki 51.61 314 *e*P P 19 35 45.4 +0.3
PKI pmax pmax
comp=Z,226nm,0.5s,mb5.8
KKN Kakani 51.83 314 *e*P P 19 35 47.1 +0.5
comp=Z,332nm,0.5s,mb6.0
KKN Kakani 51.83 314 *e*P P 19 35 47.1 +0.5
KKN pmax pmax
comp=Z,166nm,0.5s,mb5.6
GTA Gaotai 51.85 335⇑ *i*P P 19 35 47.5 +0.7
GTA PCP PcP 19 36 51.8 +1.4
GTA AP pP 19 37 31.5 +2.3
GTA PP PP 19 37 55.0 +2.9
GTA XP sP 19 38 30.0 +1.9
GTA PPP 19 39 20.5
GTA SCP ScP 19 39 56.3 +0.8
GTA PCS PcS 19 40 48.0 -1.5
GTA S **S 19 42 28.3 -0.6**
GTA SCS ScS 19 44 38.5 -1.1
GTA XS sS 19 45 33.8 +0.5
GTA SS SS 19 46 18.3 +3.0
GTA AMB AMB
comp=Z,194nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,256nm,6.5s
DMN Daman 51.85 313 *e*P P 19 35 47.3 +0.5
comp=Z,773nm,1.0s,mb6.0
HYB Hyderabad 52.10 298⇓ *i*P P 19 35 48.0 -0.6
comp=Z,115nm,0.8s,mb5.3
HYB *e*S **S 19 42 32.0 -0.2**
HYB Hyderabad 52.10 298⇓ *e*P P 19 35 48.0 -0.6
HYB pmax pmax
comp=Z,115nm,0.8s,mb5.3
HYB Hyderabad 52.10 298⇓ *e*P P 19 35 48.0 -0.6
comp=Z,115nm,0.8s,mb5.3
GKN Gorkha 52.42 313 *e*P P 19 35 51.3 +0.4
comp=Z,677nm,0.4s,mb6.3
KOLN Koldanda 53.04 313 *e*P P 19 35 55.8 +0.5
comp=Z,952nm,0.8s,mb6.2
ALBI Allahabad 53.05 309 *e*P P 19 35 54.0 -1.4
ASAJ Asahikawa 53.28 16 P P 19 35 58.0 +0.9
comp=Z,176nm,0.8s,mb5.4,baz=222,slow=10,SNR=48
RPZ Rata Peaks 54.19 140 P P 19 36 04.3 +0.8
comp=Z,425nm,0.8s,mb5.8,baz=263,slow=2.7,SNR=226
BHPL Bhopal 55.54 304 *e*P P 19 36 11.8 -1.1
BHPL AMb AMB 19 36 12.9
comp=Z,76nm,0.6s,mb5.1
SNZO South Karori 55.55 136 *e*P P 19 36 12.9 0.0
comp=Z,107nm,1.0s,mb5.0
KAD Karad 55.91 296 *e*P P 19 36 14.8 -0.7
KAD AMb AMB 19 36 16.0
comp=Z,41nm,0.5s,mb5.0
HABR Khabarovsk 55.94 8⇓ *i*P P 19 36 16.6 +0.9
HABR pmax pmax
comp=Z,359nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 55.97 14⇓ *i*P P 19 36 16.9 +1.1
YSS pmax pmax
comp=Z,220nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 55.97 14 *e*P P 19 36 16.1 +0.3
comp=Z,120nm,0.6s,mb5.3
URZ Urewera 56.14 132 P P 19 36 17.0 0.0
comp=Z,73nm,0.5s,mb5.2,baz=261,slow=4.2,SNR=77
HIA Hailar 56.27 356 *e*P P 19 36 18.4 +0.5
HIA *e* 19 37 08.0
HIA pmax pmax
comp=Z,152nm,0.9s
HIA Hailar 56.27 356 *e*P P 19 36 18.4 +0.6
comp=Z,152nm,0.9s,mb5.2
HIA *e*PcP PcP 19 37 08.0 +0.5
HIA *e*ScP ScP 19 40 14.9 0.0
KLR Kul'dur 56.32 5 *e*P P 19 36 15.2 -3.0
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.0
PTH Pithoragarh 56.50 312 *e*P P 19 36 19.0 -0.5
PTH *ex* x 19 43 26.0
POO Poona 56.66 297⇓ *i*x x 19 36 13.0
comp=Z,67nm,0.9s
ULN Ulaanbaatar 56.97 346 *i* P P 19 36 23.3 +0.6
ULN Ulaanbaatar 56.97 346 *i* Pr 19 36 23.3
SONM Songino Array 57.10 345 P P 19 36 24.1 +0.5
comp=Z,84nm,0.7s,mb5.1,baz=161,slow=8.7,SNR=610
SONM PcP PcP 19 37 11.3 +0.4
comp=Z,18nm,0.7s,baz=166,slow=4.2,SNR=6.0
SONM pP pP 19 38 07.9 -1.0
comp=Z,11nm,0.8s,baz=156,slow=8.7,SNR=3.7
SONM ScP ScP 19 40 19.1 +0.5
comp=Z,7.3nm,0.9s,baz=160,slow=4.7,SNR=5.1
SONM S **S 19 43 37.2 -0.3**
comp=Z,0.5nm,0.9s,baz=64,slow=9.9,SNR=2.9
SONM PKPPKP 20 05 49.9
comp=Z,0.4nm,0.8s,baz=318,slow=4.1,SNR=4.2
SONM P4KPbc 20 13 30.0
comp=Z,1.0nm,0.7s,baz=162,slow=4.0,SNR=8.3
SONM Songino Array 57.10 345 P P 19 36 24.1 +0.5
SONM 19 37 11.3
SONM *PP pP 19 38 07.9 -1.0
SONM S **S 19 43 37.2 -0.4**
SONM Songino Array 57.10 345 P P 19 36 24.1 +0.5
SONM PcP PcP 19 37 11.3 +0.4
SONM pP pP 19 38 07.9 -1.0
SONM ScP ScP 19 40 19.1 +0.5
SONM S **S 19 43 37.2 -0.3**
SONM P'P' 20 05 49.9
AJM Ajmer 59.26 306 *i* P P 19 36 37.0 -1.2
AJM *e*P 19 36 37.5
AJM AMb AMB 19 36 38.4
comp=Z,97nm,0.5s,mb5.3
SMLA Simla 59.57 312 *e*P P 19 36 39.0 -1.2
SMLA *ex* x 19 44 06.0
CIT Chita 59.66 352⇓ *i*P P 19 36 41.8 +0.9
CIT *e* 19 37 21.7
CIT *e* pP 19 38 26.0 -1.5
CIT *e* 19 40 30.4
CIT pmax pmax
comp=Z,197nm,1.5s,mb5.2
ZAK Zakamensk 60.26 344⇑ *e*P P 19 36 43.9 -0.9
ZAK *e* 19 37 22.8
ZAK *e* pP 19 38 29.5 -2.3
ZAK pmax pmax
comp=Z,65nm,1.3s
ZAK pmax pmax
comp=Z,22nm,1.4s
ZAK pmax pmax
comp=Z,20nm,1.6s
WMQ Urumqi 60.92 330⇓ *i*P P 19 36 49.5 +0.3
WMQ AP pP 19 38 38.0 +1.5
WMQ XP sP 19 39 34.0 0.0
WMQ SCS ScS 19 45 44.0 -2.1
WMQ AMB AMB
comp=Z,225nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,115nm,7.0s
IRK Irkutsk 61.70 346 *e*P P 19 36 53.7 -0.6
IRK pmax pmax
comp=Z,146nm,2.0s,mb5.1
MOY Mondy 62.05 343 *e*P P 19 36 57.4 +0.8
MOY pmax pmax
comp=Z,120nm,1.8s,mb5.0
CLNS Chul'man 63.65 360 *e*P P 19 37 05.9 -1.0
CLNS pmax pmax
comp=N,42nm,0.9s
CLNS pmax pmax
comp=Z,83nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,23nm,0.8s
NIL Nilore 63.69 313 P P 19 37 07.9 +0.8
comp=E,408nm,0.5s,mb6.1,SNR=26
KSH Kashi 64.89 320⇑ *i*P P 19 37 16.0 +1.2
KSH *e*PCP PcP 19 37 44.3 +1.7
KSH *e*AP pP 19 39 08.0 +4.1
KSH *e*PP PP 19 39 52.0 +5.4
KSH *e*SCP 19 40 55.3
KSH *e*PPP 19 41 35.3
KSH *e*PCS 19 41 48.0
KSH *e*S **S 19 45 09.3 -4.7**
KSH *e*SS SS 19 49 48.0 +9.1
KSH AMB AMB
comp=Z,260nm,1.8s,mb5.4
BOD Bodaibo 65.27 353 *e*P P 19 37 17.0 -0.1
BOD pmax pmax
comp=Z,184nm,0.8s,mb5.6
MKAR Makanchi Array 65.73 329 P P 19 37 19.9 0.0
comp=Z,167nm,0.7s,mb5.7,baz=125,slow=7.4,SNR=1442
MKAR pP pP 19 39 08.9 -0.6
comp=Z,5.0nm,0.7s,baz=155,slow=7.9,SNR=2.3
MKAR S S 19 45 22.9 -0.9
comp=Z,4.0nm,0.9s,baz=138,slow=13,SNR=8.5
MKAR P4KPbc 20 14 08.7
comp=Z,1.3nm,0.7s,baz=129,slow=4.7,SNR=16
MKAR Makanchi Array 65.73 329 P P 19 37 19.9 0.0
MKAR pP pP 19 39 08.9 -0.6
MKAR S S 19 45 22.9 -0.9
PET Petropavlovsk 66.21 21⇓ *i*P P 19 37 23.8 +0.8
PET *e*S S 19 45 34.6 +5.0
PET pmax pmax
comp=Z,224nm,0.8s,mb5.8
PET MLR MLR
comp=Z,200nm,10.0s
PET Petropavlovsk 66.21 21 *e*P P 19 37 23.6 +0.5
comp=Z,233nm,1.0s,mb5.7
ULHL Ulahol 66.27 322 P P 19 37 24.2 +0.8
SNR=8.2
KZA Kyzart 66.78 322 P P 19 37 27.9 +1.4
SNR=88
TKM2 Tokmak 2 67.05 323 P P 19 37 28.8 +0.7
SNR=33
KBK Karagaybulak 67.29 322 P P 19 37 30.6 +0.9
SNR=50
UCH Uchtor 67.32 321 P P 19 37 31.0 +1.2
SNR=53
AAK Ala-Archa 67.56 322 P P 19 37 32.2 +1.0
SNR=150
AAK Ala-Archa 67.56 322 P P 19 37 31.9 +0.6
comp=Z,946nm,0.5s,mb6.6
AAK Ala-Archa 67.56 322⇓ *i*P P 19 37 31.1 -0.2
AAK pmax pmax
comp=Z,92nm,0.6s,mb5.5
AAK Ala-Archa 67.56 322⇓ *i*P P 19 37 31.1 -0.2
comp=Z,92nm,0.6s,mb5.5
FRU Bishkek 67.59 322⇓ *i*P P 19 37 32.5 +1.0
FRU pmax pmax
comp=Z,76nm,1.8s,mb4.9
CHMS Chumysh 67.61 322 P P 19 37 31.7 +0.1
SNR=23
AML Almayashu 67.78 321 P P 19 37 33.8 +1.2
SNR=9.3
USP Ospenovka 67.91 322 P P 19 37 33.6 +0.2
SNR=69
EKS2 Erkin-Say 68.02 322 P P 19 37 35.0 +1.0
SNR=86
YAK Yakutsk 68.95 2⇓ *i*P P 19 37 39.5 -0.2
YAK *e**PP pP 19 39 26.7 -4.0
YAK pmax pmax
comp=Z,593nm,0.6s,mb6.3
YAK Yakutsk 68.95 2⇓ *i*P P 19 37 39.5 -0.2
comp=Z,593nm,0.6s,mb6.3
YAK *e*pP pP 19 39 26.7 -4.0
MA2 Magadan 69.45 14 *d i*P P 19 37 43.4 +0.7
MA2 pmax pmax
comp=Z,100nm,0.7s,mb5.5
MA2 pmax pmax
comp=E,20nm,1.0s
MA2 pmax pmax
comp=N,40nm,0.8s
MA2 Magadan 69.45 14⇓ *i*P P 19 37 43.2 +0.5
comp=N,210nm,0.8s,mb5.7
ZAL Zalesovo 69.59 336 P P 19 37 42.7 -0.9
comp=N,208nm,0.4s,mb6.0,baz=348,slow=4.4,SNR=679
ZAL S S 19 46 04.9 -3.9
comp=N,3.8nm,1.0s,baz=104,slow=21,SNR=18
ZAL Zalesovo 69.59 336 P P 19 37 42.7 -0.9
ZAL S S 19 46 04.9 -3.9
KURK Kurchatov 70.14 331 P P 19 37 46.5 -0.3
comp=N,2μm,0.8s
KURK Kurchatov 70.14 331⇓ *e*P P 19 37 46.7 -0.1
KURK pmax pmax
comp=Z,285nm,0.8s,mb5.8
KURK Kurchatov 70.14 331⇓ *e*P P 19 37 46.6 -0.2
comp=Z,285nm,0.8s,mb5.8
KK31 Karatay Array 70.29 321 *i* P P 19 37 47.2 -0.5
NVS Novosibirsk 70.87 336⇓ *i*P P 19 37 49.3 -1.9
NVS *e* 19 38 03.7
NVS *e**PP pP 19 39 38.8 -4.2
NVS *i* S S 19 46 14.6 -8.8
NVS *e* 19 46 55.2
NVS pmax pmax
comp=Z,225nm,1.0s,mb5.7
NVS pmax pmax
comp=N,135nm,1.2s
NVS pmax pmax
comp=E,135nm,1.2s
NVS smax
comp=N,43nm,1.8s
NVS smax
comp=E,60nm,1.9s
WBK Wadi Bani Khal 71.15 297 P P 19 37 53.1 +0.3
SNR=6.8
JMDO Jabal Madar 71.85 296 P P 19 37 57.1 +0.3
SNR=14
BIDO Bidbid 72.15 297 P P 19 37 59.0 +0.4
SNR=17
FX1 Attu Island--F 72.18 28 P P 19 38 00.2 +1.4
comp=E,282nm,0.8s,mb5.8,baz=322,slow=1.6,SNR=52
FX1 Attu Island--F 72.18 28 *e*P P 19 37 59.8 +1.1
SMY Shemya 72.53 29 *e*P P 19 38 01.7 +0.9
SMY pmax pmax
comp=Z,208nm,0.5s,mb5.8
SMY Shemya 72.53 29 *e*P P 19 38 01.7 +0.9
comp=Z,208nm,0.5s,mb5.8
BSY Bisya 72.76 296 P P 19 38 02.6 +0.5
SNR=7.2
SEY Seymchan 72.80 13 *i* P P 19 38 03.0 +0.7
SEY pmax pmax
comp=N,16nm,0.7s
SEY pmax pmax
comp=Z,50nm,0.7s,mb5.0
SEY Seymchan 72.80 13⇑ *i*P P 19 38 02.2 -0.1
HOQ Hoqain 72.88 297 P P 19 38 03.8 +0.9
SNR=12
SHAO Shalim 73.02 291 ⇑P P 19 38 03.8 +0.2
SNR=21
VNDA Vanda 73.02 172 P P 19 38 03.2 -0.4
comp=Z,19nm,0.6s,mb4.7,baz=315,slow=7.4,SNR=52
VNDA Vanda 73.02 172 *e*P P 19 38 03.3 -0.3
VNDA pmax pmax
comp=Z,16nm,0.6s
VNDA Vanda 73.02 172 *e*P P 19 38 03.3 -0.4
comp=Z,16nm,0.6s,mb4.6
MAW Mawson 73.20 201 P P 19 38 04.8 +0.2
comp=Z,18nm,0.8s,mb4.5,baz=69,slow=8.6,SNR=6.2
ARQ Araqi 73.52 297 P P 19 38 06.9 +0.5
SNR=8.1
RBK Rabkut 74.22 290 ⇓P P 19 38 10.7 +0.3
SNR=7.2
ASHO Ashiyiah 74.28 298 P P 19 38 11.4 +0.6
SNR=7.9
BANOM Banah 74.41 299 P P 19 38 12.0 +0.5
SNR=28
WHFO Wadi Hawf 74.71 291 P P 19 38 13.2 0.0
SNR=12
ABTO Aybut 75.03 290 ⇑P P 19 38 15.2 +0.3
BVAR Borovoye Array 75.61 329 P P 19 38 18.1 -0.1
comp=Z,98nm,0.6s,mb5.4,baz=124,slow=7.8,SNR=584
BVAR S S 19 47 12.8 -2.8
comp=Z,0.2nm,0.4s,baz=313,slow=9.5,SNR=2.6
BRVK Borovoye 75.68 329 P P 19 38 18.5 -0.1
comp=Z,1μm,1.1s,mb6.3
BRVK Borovoye 75.68 329⇓ *i*P P 19 38 18.4 -0.2
BRVK pmax pmax
comp=Z,89nm,0.8s,mb5.2
BRVK Borovoye 75.68 329⇓ *i*P P 19 38 18.4 -0.2
comp=Z,89nm,0.8s,mb5.2
ZRNK Zerenda 76.28 329 *e*P P 19 38 21.4 -0.5
ZRNK pmax pmax
comp=Z,198nm,0.8s,mb5.6
ZRNK Zerenda 76.28 329 *e*P P 19 38 21.4 -0.5
comp=Z,198nm,0.8s,mb5.6
OPO Ambohidratompo 76.47 253 P P 19 38 24.2 +1.3
comp=Z,5.6nm,0.6s,baz=76,slow=4.2,SNR=17
ABKT Ailbek 76.64 312 P P 19 38 24.3 +0.4
comp=Z,821nm,1.0s,mb6.1,SNR=68
ADK Adak 76.73 33 *e*P P 19 38 25.0 +0.6
ADK pmax pmax
comp=Z,76nm,0.8s,mb5.2
ADK Adak 76.73 33 *e*P P 19 38 25.0 +0.6
comp=Z,76nm,0.8s,mb5.2
TIXI Tiksi 78.56 1 *i* P P 19 38 33.0 -1.3
TIXI Tiksi 78.56 1 *i* Pr 19 38 33.0
BILL Bilibino 80.28 15κ *i*P P 19 38 43.0 -0.3
BILL *e* 19 42 01.1
BILL *e* 19 48 07.3
BILL pmax pmax
comp=Z,53nm,1.7s,mb4.6
BILL Bilibino 80.28 15⇓ *e*P P 19 38 42.5 -0.8
comp=Z,17nm,0.5s,mb4.6
AKTK Aktyubinsk 81.22 323 P P 19 38 48.1 -0.1
AKTK S S 19 48 11.8 -2.2
AKTO Aktyubinsk 81.22 323 P P 19 38 48.1 -0.1
comp=Z,114nm,0.6s,mb5.5,baz=108,slow=7.4,SNR=294
AKTO S S 19 48 11.8 -2.2
comp=Z,3.5nm,0.9s,baz=298,slow=22,SNR=19
SYO Syowa Base 81.90 201⇑ *e*P P 19 38 50.8 -0.9
SYO Syowa Base 81.90 201⇑ *i*PcP PcP 19 38 51.6 -4.0
SYO Syowa Base 81.90 201⇑ *e*pP pP 19 40 49.5 +1.7

SYO Syowa Base 81.90 201⇑ePP PP 19 42 09.1 +0.2
LBOS 82.00 285⇓eP P 19 38 54.3 +2.1
QRN Al-Qurain 82.32 300 eP P 19 38 53.8 0.0
QRN AMb AMB 19 38 54.6
comp=Z,125nm,0.6s,mb5.5
KBD Kabd 82.61 301 eP P 19 38 54.8 -0.5
KBD AMb AMB 19 38 56.0
comp=Z,104nm,0.6s,mb5.5
UMR Umm Al-Rimmam 82.67 301 eP P 19 38 55.5 0.0
UMR AMb AMB 19 38 57.2
comp=Z,135nm,0.7s,mb5.6
RDF Al-Radifah 82.68 300 eP P 19 38 55.5 -0.1
RDF AMb AMB 19 38 57.2
comp=Z,134nm,0.7s,mb5.6
DHBB Dhamar BB 82.94 286⇓eP P 19 38 59.4 +2.5
QSPA South Pole Qui 82.94 180 eP P 19 38 57.2 +0.3
comp=Z,26nm,0.8s,mb4.8
NAY Al-Naaiem 83.01 301 eP P 19 38 57.2 -0.1
NAY AMb AMB 19 38 58.3
comp=Z,107nm,0.7s,mb5.5
MIB Mutribah 83.04 301 eP P 19 38 57.4 0.0
MIB AMb AMB 19 38 59.1
comp=Z,178nm,0.9s,mb5.6
UNV Unalaska Valle 83.14 34 eP P 19 38 57.6 -0.3
comp=Z,134nm,0.6s,mb5.7
ARU Arti 83.25 329 P P 19 38 57.7 -0.8
comp=Z,647nm,0.5s,mb6.4,SNR=38
ARU Arti 83.25 329⇓iP P 19 38 57.6 -0.9
ARU e 19 42 17.3
ARU ePPP 19 44 13.0
ARU eS S 19 48 29.3 -4.9
ARU eSS SS 19 54 12.5 -2.2
ARU pmax pmax
comp=Z,161nm,1.6s,mb5.3
ARU Arti 83.25 329⇓eP P 19 38 57.6 -0.8
comp=Z,87nm,0.8s,mb5.3
AKUT Akutan 83.64 34 eP P 19 39 00.6 +0.2
comp=Z,358nm,1.0s,mb5.8
ATD Arta Tunnel 83.96 282 P P 19 39 02.6 +0.6
comp=Z,16nm,0.7s,mb4.7,baz=90,slow=6.1,SNR=6.3
SOKR Solikamsk 85.34 332⇑iP P 19 39 07.8 -0.9
SOKR pmax pmax
comp=Z,120nm,0.9s,mb5.4
SDPT Sand Point 86.94 33 eP P 19 39 15.8 -0.5
comp=Z,300nm,0.6s,mb6.1
TNA Tin City 87.04 23⇓eP P 19 39 15.9 -0.9
comp=Z,17nm,0.9s,mb4.7
GNI Garni 87.25 311 P P 19 39 18.6 +0.9
comp=Z,5.6nm,0.7s,baz=41,slow=9.3,SNR=7.1
GNI Garni 87.25 311 eP P 19 39 18.3 +0.5
GNI pmax pmax
comp=Z,19nm,0.9s
GNI Garni 87.25 311 eP P 19 39 18.3 +0.5
comp=Z,19nm,0.9s,mb4.7
SAMG Sameba 87.51 312 P P 19 39 18.9 -0.1
MTA Mtatsminda 87.52 312 P P 19 39 19.7 +0.6
DUS Dusheti 87.67 313 P P 19 39 20.6 +0.8
MSL Mosul 87.80 307 ex x 19 41 16.5
MSL ex x 19 49 15.5
KMBO Kilima Mbogo 87.83 269 P P 19 39 21.1 +0.6
comp=Z,5.3nm,0.6s,mb4.4,baz=65,slow=6.7,SNR=17
KMBO Kilima Mbogo 87.83 269 eP P 19 39 22.0 +1.5
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 87.83 269 eP P 19 39 22.0 +1.5
comp=Z,2.7nm,0.8s
ZEI Tsey 88.39 313 eP P 19 39 23.8 +0.7
ZEI i 19 42 57.5
ZEI pmax pmax
comp=Z,36nm,0.7s,mb5.2
AKH Akhalkalaki 88.43 312 P P 19 39 24.0 +0.7
ONI Oni 88.67 313 P P 19 39 25.0 +0.6
GOF Gofitskoye 89.43 315⇓iP P 19 39 27.0 -0.9
GOF pmax pmax
comp=Z,37nm,1.3s,mb5.0
KIV Kislovodsk 89.47 314 P P 19 39 28.1 0.0
comp=Z,102nm,1.1s,mb5.6,SNR=5.3
KIV Kislovodsk 89.47 314 eP P 19 39 28.1 0.0
KIV pmax pmax
comp=Z,17nm,0.9s,mb4.9
KIV Kislovodsk 89.47 314 eP P 19 39 28.1 0.0
comp=Z,17nm,0.9s,mb4.9
CHVG Ch'k'valeri 89.69 313 P P 19 39 28.7 -0.5
SVW2 Sparrevohn 90.92 29 eP P 19 39 34.8 0.0
KDAK Kodiak Island 91.76 32 P P 19 39 38.5 -0.2
comp=Z,26nm,0.8s,mb5.3,baz=282,slow=3.0,SNR=11
KDAK Kodiak Island 91.76 32 P P 19 39 38.5 -0.2
MALT Malatya 91.79 308 ⇑P P 19 39 39.6 +0.8
MALT Malatya 91.79 308 eP P 19 39 38.2 -0.7
comp=Z,30nm,1.4s,mb5.1
VRSR Storozhevoye 92.93 321 diP P 19 39 42.3 -1.8
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,7.0nm,0.7s
VOR Voronezh 93.00 322 eP P 19 39 43.0 -1.4
VOR pmax pmax
comp=Z,70nm,1.0s,mb5.7
SLKM Skilak Lake 93.40 30 eP P 19 39 44.9 -1.3
FIB Fire Island 93.51 29 eP P 19 39 45.9 -0.8
FIB pmax pmax
comp=Z,20nm,0.6s,mb5.4
FIB Fire Island 93.51 29 eP P 19 39 45.9 -0.8
comp=Z,20nm,0.6s,mb5.4
EIL Elat 93.65 299 eP P 19 39 46.9 -0.5
comp=Z,109nm,0.9s,mb6.0
KLMR Klimovskoe 93.99 331 diP P 19 39 46.4 -2.5
KLMR pmax pmax
comp=Z,60nm,1.4s,mb5.5
PMR Palmer 94.07 29 eP P 19 39 47.9 -1.4
PMR pmax pmax
comp=Z,22nm,0.5s,mb5.5
PMR Palmer 94.07 29 eP P 19 39 47.9 -1.4
comp=Z,22nm,0.5s,mb5.5
MOS Moscow 94.39 325 eP P 19 39 47.7 -3.0
MOS e 19 43 46.3
MOS pmax pmax
comp=Z,67nm,0.8s,mb5.8
MCK McKinley 94.42 26 eP P 19 39 49.2 -1.6
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MCK McKinley 94.42 26 eP P 19 39 49.2 -1.7
comp=Z,7.0nm,0.8s,mb4.8
SML Sawmill 94.47 28 eP P 19 39 50.0 -1.1
SNAA Sanae 94.48 194 P P 19 39 51.5 +0.4
comp=Z,1.9nm,0.5s,mb4.5,baz=164,slow=23,SNR=14
LSZ Lusaka 94.89 254 eP P 19 39 53.2 +0.2
LSZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
LSZ Lusaka 94.89 254 eP P 19 39 53.2 +0.2
comp=Z,6.5nm,1.2s,mb4.6
OBN Obninsk 94.93 325κ iP P 19 39 51.8 -1.4
OBN 19 43 56.0
OBN e 19 49 35.7
OBN pmax pmax
comp=Z,63nm,1.3s,mb5.6
OBN Obninsk 94.93 325 eP P 19 39 51.8 -1.4
comp=Z,33nm,0.8s,mb5.5
COLA College 95.02 25 eP P 19 39 51.6 -1.9
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
COLA College 95.02 25 eP P 19 39 51.6 -2.0
comp=Z,7.1nm,0.7s,mb4.9
BOSA Boshof 95.33 240 P P 19 39 55.5 +0.6
comp=Z,3.5nm,0.6s,mb4.7,baz=124,slow=2.9,SNR=14
BOSA PKKP PKKPbc 19 56 46.4 +1.7
comp=Z,1.7nm,0.6s,baz=64,slow=4.2,SNR=6.0
ILAR Eielson Array 95.42 25 P P 19 39 53.1 -2.2
comp=Z,11nm,0.8s,mb5.0,baz=259,slow=4.5,SNR=120
ILAR PP PP 19 43 47.0 -8.1
comp=Z,5.3nm,0.9s,baz=270,slow=6.2,SNR=10
DIV Divide 95.63 29 eP P 19 39 54.8 -1.5
comp=Z,51nm,0.7s,mb5.9
BR131 Keskin Array S 95.64 309 eP P 19 39 55.2 -1.2
comp=Z,9.7nm,0.8s,mb5.1
BRTR Keskin Array B 95.64 309 P P 19 39 55.4 -1.0
comp=Z,10nm,0.8s,mb5.1,baz=128,slow=5.4,SNR=65
BRTR PP PP 19 43 45.9 -11
comp=Z,1.3nm,0.8s,baz=100,slow=7.7,SNR=3.8
SIM Simferopol' 95.68 314⇓eP P 19 39 55.5 -1.1
SIM pmax pmax
comp=Z,12nm,0.7s,mb5.2
VNA2 Neumayer--Watz 96.08 194⇓iP P 19 39 58.8 +0.4
VNA2 e 19 40 11.3

VNA3 Neumayer Olymp 96.40 193⇓iP P 19 40 00.0 +0.2
MENT Mentasta 96.70 27 eP P 19 40 00.8 -0.3
DAWY Dawson 98.65 26 eP Pdif 19 40 09.6 -0.2
AKASG Malin Array Be 99.19 320 P Pdif 19 40 10.4 -1.8
comp=Z,8.0nm,0.6s,baz=82,slow=4.1,SNR=50
AKASG PP PP 19 44 21.1 -2.4
comp=Z,2.8nm,0.8s,baz=79,slow=6.5,SNR=7.9
KEV Kevo 99.40 340 ep Pdif 19 40 11.6 -1.5
TIRR Tirgusor 99.73 314 ⇑P Pdif 19 40 13.6 -1.0
TIRR Tirgusor 99.73 314 ⇑P Pdif 19 40 13.6 -1.1
CFR Carcaliu 99.93 315 ⇑P Pdif 19 40 14.4 -1.1
CFR Carcaliu 99.93 315 ⇑P Pdif 19 40 14.4 -1.1
ARCES ARCESS Array B 99.94 339 P Pdif 19 40 13.9 -1.6
comp=Z,5.7nm,0.6s,baz=83,slow=4.6,SNR=31
ARCES PKIKP PKiKP 19 44 39.7 -0.4
comp=Z,3.7nm,0.8s,baz=113,slow=0.9,SNR=14
HARR Harsova 100.07 314 ⇑P Pdif 19 40 15.4 -0.7
KAF Kangasniemi 100.34 332 ep Pdif 19 40 14.7 -2.6
comp=Z,1.7nm,0.4s,baz=70,slow=4.3
KAF Kangasniemi 100.34 332 eP Pdif 19 40 14.7 -2.6
KAF pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 100.51 331 P Pdif 19 40 16.2 -1.8
comp=Z,1.1nm,0.4s,baz=72,slow=6.2,SNR=14
FINES PP PP 19 44 29.3 -4.1
comp=Z,2.8nm,0.8s,baz=81,slow=8.6,SNR=3.2
FINES PKiKP PKiKP 19 44 40.9 -0.3
comp=Z,3.6nm,0.6s,baz=101,slow=3.1,SNR=11
FINES FINESS Array B 100.51 331 P Pdif 19 40 16.2 -1.8
FINES PP PP 19 44 29.3 -4.0
INK Inuvik 100.67 22 P Pdif 19 40 18.0 -0.8
comp=Z,3.9nm,0.5s,baz=290,slow=3.8,SNR=49
INK PP PP 19 44 30.5 -4.1
comp=Z,3.9nm,1.0s,baz=296,slow=5.4,SNR=3.4
INK PKiKP PKiKP 19 44 40.9 -0.6
comp=Z,1.2nm,0.4s,baz=292,slow=1.5,SNR=6.5
INK Inuvik 100.67 22 eP Pdif 19 40 17.7 -1.1
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 100.67 22 ePdif Pdif 19 40 17.7 -1.0
comp=Z,8.6nm,0.9s
VRI Vrincioaia 100.91 315 ⇓P Pdif 19 40 19.5 -0.4
VRI Vrincioaia 100.91 315 ⇓P Pdif 19 40 19.5 -0.4
MLR Muntele Rosu 101.47 315 PP PP 19 44 35.6 -4.9
comp=Z,6.4nm,0.9s,baz=153,slow=6.8,SNR=3.6
MLR PKiKP PKiKP 19 44 43.2 +0.3
comp=Z,8.2nm,0.8s,baz=95,slow=11,SNR=5.9
BURAR Bucovina Array 101.89 317 ⇑P Pdif 19 40 24.5 +0.3
BURAR Bucovina Array 101.89 317 ⇑P Pdif 19 40 24.6 +0.3
KOLS Kolonicke sedl 103.77 319 ePN Pdif 19 40 29.7 -2.9
STHS Stebnicka Huta 104.39 319 ePKP PKiKP 19 44 49.4 +1.2
STHS Stebnicka Huta 104.39 319 ePN Pdif 19 40 34.0 -1.3
HFS Hagfors 106.71 331 Pdiff Pdif 19 40 43.9 -1.7
comp=Z,1.8nm,0.4s,baz=96,slow=4.5,SNR=23
MORC Moravsky Berou 106.73 320 ⇑P Pdif 19 40 40.7 -5.0
VRAC Vranov 107.42 319 PP PP 19 45 19.6 -4.3
comp=Z,2.4nm,0.9s,baz=90,slow=12,SNR=2.8
NB2 NORSAR Subarra107.62 332 Pdif Pdif 19 40 47.3 -2.4
comp=Z,6.5nm,1.1s,baz=72,slow=4.4
NOA NORSAR Array B 107.62 332 Pdiff Pdif 19 40 47.7 -2.0
comp=Z,2.2nm,0.8s,baz=72,slow=4.5,SNR=5.2
NOA PKiKP PKiKP 19 44 53.4 -0.8
comp=Z,4.2nm,0.8s,baz=261,slow=3.2,SNR=8.6
NOA PP PP 19 45 25.9 +0.5
comp=Z,1.4nm,0.7s,baz=123,slow=3.5,SNR=3.5
NOA NORSAR Array B 107.62 332 Pdif Pdif 19 40 47.7 -2.0
NOA PKPdf PKiKP 19 44 53.4 -0.8
NOA PP PP 19 45 25.9 +0.5
DAG Danmarks Havn 107.64 352⇑iP PKiKP 19 44 53.4 -0.9
comp=Z,2.5nm,0.4s
DAG Danmarks Havn 107.64 352⇓iP Pdif 19 40 49.1 -0.7
DAG pmax pmax
comp=Z,4.0nm,0.5s
DAG Danmarks Havn 107.64 352⇓iP Pdif 19 40 49.1 -0.7
comp=Z,4.2nm,0.5s
DAG ⇑eP 19 44 53.4
RES Resolute Bay 108.61 10 eP Pdif 19 40 54.1 0.0
RES pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 108.61 10 ePdif Pdif 19 40 54.1 +0.1
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 108.80 321 ePKPdf PKiKP 19 44 56.7 +0.3
BRG Berggiesshubel 108.80 321 eP PKiKP 19 44 56.5 +0.1
comp=Z,6.2nm,0.8s
BRG e 19 45 29.6
comp=Z,18nm,2.0s
BRG e 19 45 37.4
comp=Z,13nm,1.5s
CLL Collm 109.28 322 ePKPdf PKiKP 19 44 57.0 -0.3
CLL Collm 109.28 322 i PKiKP PKiKP 19 44 57.0 -0.3
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 109.37 319 ePKPdf PKiKP 19 44 57.4 -0.1
GERES GERESS Array B 109.37 319 PKiKP PKiKP 19 44 57.8 +0.3
comp=Z,2.8nm,0.6s,baz=67,slow=1.7,SNR=18
GERES PP PP 19 45 32.5 -5.5
comp=Z,1.3nm,0.8s,baz=79,slow=6.1,SNR=3.7
GERES SKP 19 47 41.2
comp=Z,0.8nm,0.6s,baz=90,slow=1.3,SNR=4.7
GERES PKKP PKKPbc 19 56 19.7 +16
comp=Z,0.7nm,0.8s,baz=318,slow=1.8,SNR=4.0
YKW3 Yellowknife Ar 109.81 25 ePKiKP PKiKP 19 44 57.5 -0.9
TANN Tannenbergstha 109.82 321 ePKPdf PKiKP 19 44 58.4 0.0
WET Wettzell 109.84 320 ePKPdf PKiKP 19 44 58.3 -0.1
YKA Yellowknife Ar 109.85 25 PKiKP PKiKP 19 44 57.9 -0.5
comp=Z,3.1nm,0.5s,baz=306,slow=1.7,SNR=44
YKA PP PP 19 45 37.6 -3.7
comp=Z,1.3nm,0.8s,baz=294,slow=6.9,SNR=4.7
YKA SKP 19 47 41.5
comp=Z,0.9nm,0.6s,baz=298,slow=1.7,SNR=5.7
YKA SKKPbc 19 58 52.7
comp=Z,0.7nm,0.9s,baz=101,slow=3.4,SNR=5.9
YKA Yellowknife Ar 109.85 25 PKPdf PKiKP 19 44 57.9 -0.5
YKA PP PP 19 45 37.6 -3.7
YKA SKP 19 47 41.5
YKA SKKPbc 19 58 52.7
BSEG Bad Segeberg 110.19 325 ePKPdf PKiKP 19 44 59.6 +0.5
MOX Moxa 110.29 322 e(PKP) 19 45 46.6
comp=Z,12nm,1.3s
CLZ Clausthal 110.73 323 ePKPdf PKiKP 19 45 00.5 +0.4
GRA1 Grafenberg Arr 110.76 321 ePKP PKiKP 19 45 00.3 +0.1
GRF Grafenberg Arr 110.76 321 ePKPdf PKiKP 19 45 00.3 +0.1
FUR Furstenfeldbru 111.09 319 ePKPdf PKiKP 19 45 00.7 -0.1
YBH Yreka Blue Hor 111.10 48 PKiKP PKiKP 19 45 01.4 +0.6
comp=Z,2.3nm,0.6s,baz=180,slow=3.0,SNR=4.8
YBH PP PP 19 45 49.8 -0.4
comp=Z,6.2nm,1.0s,baz=240,slow=1.6,SNR=3.2
UBBA Unterbreizbach 111.23 322 ePKPdf PKiKP 19 45 00.8 -0.2
IBBN Ibbenburen 112.14 324 ePKPdf PKiKP 19 45 02.3 -0.5
DAVOX Davos 112.34 318 PKiKP PKiKP 19 45 03.4 +0.2
baz=180,slow=3.0
TNS Taunus Mts 112.35 322 ePKPdf PKiKP 19 45 03.3 +0.1
BFO Black Forest 112.96 320 ePKPdf PKiKP 19 45 03.9 -0.4
NEW Newport 113.49 40 PKiKP PKiKP 19 45 05.7 +0.4
comp=Z,3.8nm,0.6s,baz=240,slow=0.6,SNR=11
NEW PP PP 19 46 03.9 -3.0
comp=Z,4.5nm,1.0s,baz=285,slow=6.9,SNR=4.9
NEW Newport 113.49 40 PKPdf PKiKP 19 45 05.7 +0.4
NEW PP PP 19 46 03.9 -3.0
CDF Champ du Feu 113.61 320 ePKIKP PKiKP 19 45 04.9 -0.7
PGF Pioggiola 113.94 313 ePKIKP PKiKP 19 45 06.0 -0.2
comp=Z,9.3nm,0.5s
HINF Hinteralfeld 114.05 319 ePKIKP PKiKP 19 45 05.6 -0.8
comp=Z,15nm,0.6s
EDM Edmonton 114.11 34 ePKIKP PKiKP 19 45 06.7 +0.1
BMO Blue Mountains 114.29 44 ePKIKP PKiKP 19 45 07.0 +0.1
HAU Haudompre 114.32 320 ePKIKP PKiKP 19 45 07.5 +0.6
comp=Z,19nm,0.9s
GIVF Givet 114.60 322 ePKIKP PKPdf 19 45 07.3 -0.2
SBF Sospel 114.74 315 ePKIKP PKPdf 19 45 07.4 -0.4
comp=Z,22nm,0.7s
DOU Dourbes 114.74 322 PKP PKPdf 19 45 08.1 +0.3
LPG La Plagne 114.78 317 ePKIKP PKPdf 19 45 08.0 +0.2
comp=Z,18nm,0.7s
LPL La Plagne 114.78 317 ePKIKP PKPdf 19 45 07.9 +0.1
comp=Z,21nm,0.6s
SNF Seneffe 114.79 323 PKP PKPdf 19 45 08.0 +0.1
CABF La Chapelle 114.90 318 ePKIKP PKPdf 19 45 08.0 -0.1
comp=Z,29nm,0.6s
MBDF Montbardon 114.97 316 ePKIKP PKPdf 19 45 08.1 -0.1
comp=Z,12nm,0.7s
MEZF Maizieres J'vi 114.99 321 ePKIKP PKPdf 19 45 08.1 -0.1
comp=Z,7.1nm,0.6s
NVAR Mina Array Bea 115.03 51 PKP PKPdf 19 45 10.2 +1.8
comp=Z,2.3nm,0.6s,baz=229,slow=0.5,SNR=11
NVAR PP PP 19 46 13.4 -4.3

comp=Z,2.1nm,0.8s,baz=261,slow=5.5,SNR=4.5
FRF La Foret Royal 115.37 315 ePKIKP PKPdf 19 45 08.7 -0.3
comp=Z,12nm,0.7s
LMR La Mourre 115.53 315 ePKIKP PKPdf 19 45 08.9 -0.4
comp=Z,6.2nm,0.6s
ORIF Oris-en-Rattie 115.53 317 ePKIKP PKPdf 19 45 09.1 -0.2
comp=Z,14nm,0.6s
ORIF Oris-en-Rattie 115.53 317 ePKPdf PKPdf 19 45 09.1 -0.2
SMRF Simiane la Rot 116.01 316 ePKIKP PKPdf 19 45 10.3 +0.1
LOR Lormes 116.15 320 ePKIKP PKPdf 19 45 10.1 -0.4
comp=Z,15nm,0.7s
SMF Signal de Mont 116.36 319 ePKIKP PKPdf 19 45 10.3 -0.6
VIVF Saint-Julien-l 116.37 317 ePKIKP PKPdf 19 45 10.6 -0.3
CHMT Chamberlain Mo 116.39 41 ePKiKP PKiKP 19 45 11.1 +0.2
SSF Saint Saulge 116.45 319 ePKIKP PKPdf 19 45 10.8 -0.2
comp=Z,32nm,0.8s
AVF Avril sur Loir 116.64 319 ePKIKP PKPdf 19 45 10.7 -0.7
ELK Elko 116.81 48 ePKIKP PKPdf 19 45 13.0 +1.3
EKA Eskdalemuir Ar 116.86 330 PKP PKPdf 19 45 11.6 -0.3
comp=Z,3.1nm,0.5s,baz=41,slow=3.5,SNR=30
EKA PP PP 19 46 30.4 +0.1
comp=Z,2.5nm,0.9s,baz=74,slow=5.2,SNR=3.1
BGF Bois d'Agland 117.04 319 ePKIKP PKPdf 19 45 12.3 +0.1
comp=Z,60nm,0.6s
LASF Ste Croix 117.16 316 ePKIKP PKPdf 19 45 12.3 -0.1
PFO Pinyon Flat Ob 117.40 56 ePKIKP PKPdf 19 45 14.8 +1.9
TCF Toulx Ste Croi 117.55 319 ePKIKP PKPdf 19 45 13.1 -0.1
comp=Z,8.3nm,0.5s
CAF Calviac 118.11 318 ePKIKP PKPdf 19 45 14.4 +0.2
comp=Z,31nm,0.9s
LDF La Druitiere 118.17 322 ePKIKP PKPdf 19 45 14.0 -0.3
comp=Z,40nm,1.0s
EGMT Eagleton 118.21 39 ePKPdf PKPdf 19 45 14.9 +0.5
FLN La Foliniere 118.32 322 ePKIKP PKPdf 19 45 14.3 -0.3
HVU Hansel Valley 118.32 46 ePKIKP PKPdf 19 45 15.9 +1.3
RJF Les Rejaudoux 118.34 318 ePKIKP PKPdf 19 45 14.7 0.0
MTLF Montolieu 118.52 316 ePKIKP PKPdf 19 45 14.7 -0.3
comp=Z,20nm,0.8s
GRR Gorron 118.70 322 ePKIKP PKPdf 19 45 15.1 -0.3
comp=Z,13nm,0.5s
DUG Dugway 118.75 48 ePKIKP PKPdf 19 45 16.9 +1.4
MFF Saint Martin d 118.95 320 ePKIKP PKPdf 19 45 15.5 -0.4
comp=Z,40nm,0.7s
GCMT Greycliff 119.11 41 ePKPdf PKPdf 19 45 17.1 +0.9
ETOS Mallorca 119.17 312 PKP PKPdf 19 45 17.2 +0.9
REDW Red Top Meadow 119.17 44 ePKPdf PKPdf 19 45 17.5 +1.2
SNOW Snow King Moun 119.21 44 ePKPdf PKPdf 19 45 18.1 +1.7
HWUT Hardware Ranch 119.23 46 ePKPdf PKPdf 19 45 17.4 +1.1
LOHW Long Hollow 119.26 44 ePKPdf PKPdf 19 45 17.3 +0.9
FFC Flin Flon 119.37 29 ePKIKP PKPdf 19 45 16.5 -0.2
EMIR Miracle 119.46 314 PKP PKPdf 19 45 17.1 +0.3
MPU Maple Canyon 119.66 48 ePKPdf PKPdf 19 45 18.6 +1.4
MSU Marysvale 119.68 50 ePKIKP PKPdf 19 45 19.3 +2.0
SGMF Saint Gilles 119.78 322 ePKIKP PKPdf 19 45 16.9 -0.6
EPF Esparros 119.92 316 ePKIKP PKPdf 19 45 17.5 -0.2
comp=Z,9.7nm,0.6s
EPOB Poblet 119.95 314 PKP PKPdf 19 45 18.2 +0.4
SFJD Kangerlussuaq 120.06 358 PKP PKPdf 19 45 16.9 -1.1
comp=Z,18nm,0.7s,baz=81,slow=1.4,SNR=16
SFJD SKP 19 48 00.8
comp=Z,11nm,0.7s,baz=53,slow=2.0,SNR=5.9
SFJD Kangerlussuaq 120.06 358 ePKPdf PKPdf 19 45 16.9 -1.1
EBIE Bielsa 120.17 316 PKP PKPdf 19 45 18.6 +0.4
ROSF Rostrenen 120.18 323 ePKIKP PKPdf 19 45 17.9 -0.3
EGRA Graus 120.22 315 PKP PKPdf 19 45 17.9 -0.3
FCC Fort Churchill 120.28 22 ePKIKP PKPdf 19 45 17.5 -0.9
QUIF Quistinic 120.30 322 ePKIKP PKPdf 19 45 18.1 -0.3
comp=Z,10nm,0.5s
ETSF Etsaut 120.58 316 ePKIKP PKPdf 19 45 18.9 -0.1
comp=Z,17nm,0.6s
ERTA Horta de San J 120.61 314 PKP PKPdf 19 45 18.8 -0.2
SRU San Rafael 120.75 48 ePKIKP PKPdf 19 45 20.3 +1.0
ESAC San Caprasio 120.93 315 PKP PKPdf 19 45 19.7 +0.1
LAO LASA Array 120.95 39 ePKPdf PKPdf 19 45 20.9 +1.2
SJPF Ste Jean 120.96 317 ePKIKP PKPdf 19 45 19.3 -0.4
comp=Z,23nm,0.7s
WUAZ Wupatki 121.09 53 ePKPdf PKPdf 19 45 21.6 +1.7
EALK Alkurruntz 121.12 317 PKP PKPdf 19 45 21.8 +1.8
ELIZ Elizondo 121.15 317 PKIKP PKPdf 19 45 20.7 +0.6
DGMT Dagmar 121.38 36 ePKPdf PKPdf 19 45 20.7 +0.2
EMOS Mosqueruela 121.39 313 PKP PKPdf 19 45 22.2 +1.7
EBEN Beniarda 121.73 311 PKP PKPdf 19 45 21.4 +0.2
ECHE Chera 122.00 313 PKIKP PKPdf 19 45 22.9 +1.2
PV10 Paradox Valley 122.08 49 ePKPdf PKPdf 19 45 23.7 +1.8
ELAN Lanestosa 122.41 317 PKP PKPdf 19 45 23.6 +1.1
PV01 Paradox Valley 122.50 49 ePKPdf PKPdf 19 45 24.3 +1.6
ETOB Tobarra 122.73 312 PKP PKPdf 19 45 23.9 +0.8
SMCO Snowmass 123.34 47 ePKPdf PKPdf 19 45 26.2 +2.0
EVIA Vianos 123.44 312 PKIKP PKPdf 19 45 25.8 +1.3
RSSD Black Hills 123.44 41 ePKIKP PKPdf 19 45 24.8 +0.3
ENIJ Nijar 123.77 310 PKIKP PKPdf 19 45 25.6 +0.5
GUD Guadarrama 123.91 315 PKIKP PKPdf 19 45 26.8 +1.4
ESDC Sonseca Array 124.14 314 PKP PKPdf 19 45 26.4 +0.6
comp=Z,3.0nm,0.6s,baz=9.2,slow=3.6,SNR=8.7
ESDC Sonseca Array 124.14 314 PKP PKPdf 19 45 26.4 +0.6
EQES Quesada 124.14 311 PKP PKPdf 19 45 26.6 +0.8
TORD Torodi Ar. Bea 124.15 281 PKP PKPdf 19 45 26.4 +0.5
comp=Z,21nm,0.7s,baz=71,slow=2.0,SNR=104
TORD PP PP 19 47 22.4 +3.1
comp=Z,1.6nm,0.8s,baz=63,slow=4.8,SNR=3.3
TORD SKP 19 48 09.2
comp=Z,3.8nm,1.0s,baz=89,slow=2.4,SNR=3.6
EBER Berja 124.31 310 PKP PKPdf 19 45 27.5 +1.3
EBAN Banos Encina 124.55 312 PKIKP PKPdf 19 45 27.1 +0.5
ECOG Cogollos-Vega 124.69 311 PKIKP PKPdf 19 45 26.9 0.0
EPON Pontenova 124.83 319 PKP PKPdf 19 45 27.3 +0.1
SDCO Great Sand Dun 124.92 48 ePKPdf PKPdf 19 45 29.2 +1.9
ERON Agron 124.96 311 PKP PKPdf 19 45 27.7 +0.3
ULM Lac du Bonnet 125.00 31 PKP PKPdf 19 45 27.2 -0.3
comp=Z,13nm,0.5s,baz=302,slow=2.2,SNR=35
ULM SKPbc 19 47 54.9
comp=Z,3.4nm,0.6s,baz=322,slow=5.8,SNR=3.7
ANMO Albuquerque 125.11 52 ePKIKP PKPdf 19 45 29.5 +1.8
ELUQ Luque 125.12 311 PKIKP PKPdf 19 45 28.4 +0.7
EADA Adamuz 125.13 312 PKP PKPdf 19 45 28.1 +0.3
ELOJ Sierra Loja 125.18 311 PKIKP PKPdf 19 45 27.5 -0.3
BNM Barren Site 125.22 53 ePKPdf PKPdf 19 45 29.6 +1.8
ERUA La Rua 125.24 318 PKIKP PKPdf 19 45 27.7 -0.2
EMIJ Mijas 125.84 310 PKP PKPdf 19 45 28.1 -1.0
STS Santiago 125.95 319 PKIKP PKPdf 19 45 30.3 +1.0
ELOB Lobios 126.09 318 PKP PKPdf 19 45 30.6 +1.0
MTE Manteigas 126.38 316 ePKPdf PKPdf 19 45 31.6 +1.5
EJIF Jimena Fronter 126.41 311 PKIKP PKPdf 19 45 30.9 +0.7
ESPR Espera 126.55 311 PKP PKPdf 19 45 31.8 +1.4
PCBR Castelo Branco 126.56 315 ePKPdf PKPdf 19 45 31.6 +1.2
EMIN Mina Concepcio 126.82 313 PKP PKPdf 19 45 32.7 +1.8
MNTX Cornudas Mount 126.93 55 ePKPdf PKPdf 19 45 32.5 +1.4
MDT Midelt 126.93 306 PKP PKPdf 19 45 32.6 +1.4
comp=Z,4.8nm,0.5s,baz=60,slow=2.2,SNR=8.0
EYMN Ely 128.69 31 ePKPdf PKPdf 19 45 35.1 +0.6
PLCA Paso Flores 130.31 164 eSKPbc SKPbc 19 48 11.3 +0.7
comp=Z,42nm,1.1s,baz=198,slow=4.7,SNR=26
PLCA Paso Flores 130.31 164 eSKPbc SKPbc 19 48 10.9 +0.4
DBIC Dimbokro 130.44 273 PKP PKPdf 19 45 38.9 +1.1
comp=Z,12nm,0.5s,baz=62,slow=2.4,SNR=39
DBIC SKPbc SKPbc 19 48 12.2 +1.2
comp=Z,50nm,0.7s,baz=85,slow=3.8,SNR=58
DBIC Dimbokro 130.44 273 ePKPdf PKPdf 19 45 38.8 +1.0
DBIC eSKPbc SKPbc 19 48 12.1 +1.1
KSU1 Kansas State U 130.70 43 eSKPbc SKPbc 19 48 12.6 +0.6
WMOK Wichita Mounta 131.08 49 ePKIKP PKPdf 19 45 40.3 +1.3
WMOK e 19 48 14.6
JCT Junction City 131.85 55 eSKPbc SKPbc 19 48 17.4 +1.3
TRQA Tornquist 134.65 172 eSKPbc SKPbc 19 48 25.4 +0.1
MIAR Mount Ida 135.02 47 ePKIKP PKPdf 19 45 47.7 +1.3
FVM French Village 135.40 41 ePKIKP PKPdf 19 45 48.9 +1.8
CFTV Fuerteventura 136.08 304 PKP PKPdf 19 45 49.2 +0.8
BLO Bloomington 137.12 37 ePKIKP PKPdf 19 45 50.5 +0.2
WCI Wyandotte Cave 137.86 38 ePKHKP 19 45 41.0
OXF Oxford 138.00 45 ePKHKP 19 45 42.9
WVT Waverly 138.16 41 ePKHKP 19 45 42.5
PLAL Pickwick Lake 138.66 43 ePKPpre 19 45 43.8
PLAL ePKPdf PKPdf 19 45 54.9 +1.7
PLAL eSKP 19 48 36.0
NCB Newcomb 139.47 22 ePKPpre 19 45 46.2
CFAA Coronel Fontan 139.49 162 PKhKP 19 45 46.8
baz=148,slow=3.4
CFAA PKP PKPdf 19 45 53.9 -0.7
comp=Z,0.2nm,0.4s,baz=220,slow=4.6
CFAA SKPbc SKPbc 19 48 39.2 -0.1
comp=Z,4.8nm,0.8s,baz=237,slow=3.5,SNR=40
CFAA Coronel Fontan 139.49 162 PKP PKPdf 19 45 46.8 -7.8
CFAA PKP PKPdf 19 45 53.9 -0.7

CFAA					SKPbc	SKPbc	19 48 39.2	-0.1
MIV	**Mineville/With**	**139.62**	**21**		eSKPbc	SKPbc	19 48 39.6	-0.1
MCWV	**Mont Chateau**	**140.49**	**31**		ePKPpre		19 45 50.0	
MCWV					eSKP		19 48 41.8	
LRAL	**Lakeview Retre**	**140.49**	**45**		ePKPpre		19 45 50.7	
LRAL					eSKP		19 48 42.1	
FWV	**Forest Hill**	**141.49**	**34**		ePKPpre		19 45 52.7	
MVL	**Millersville**	**141.91**	**27**		ePKPpre		19 45 54.7	
PAL	**Palisades**	**142.12**	**24**		ePKHKP		19 45 56.0	
CBN	**Corbin**	**142.84**	**30**		ePKPpre		19 45 58.4	
JSC	**Jenkinsville**	**143.51**	**38**		ePKIKP	PKPdf	19 46 01.3	-0.5
NHSC	**New Hope**	**144.97**	**39**		ePKP	PKPdf	19 46 06.0	+1.7
TEIG	**Tepich**	**145.01**	**65**		ePKPbc	PKPbc	19 46 06.7	+1.6
CPUP	**Villa Florida**	**146.74**	**176**		ePKIKP	PKPdf	19 46 10.8	+3.5
SOR	**Soroa**	**148.65**	**57**		eP	PKPdf	19 46 16.2	+5.7
JTS	**JuntasAbangare**	**150.02**	**82**		ePKIKP	PKPdf	19 46 19.8	+7.2
LPAZ	**La Paz**	**153.33**	**150**		PKP	PKPdf	19 46 19.5	+2.0
	comp=Z,1.6nm,0.9s,baz=318,slow=3.5,SNR=5.6							
LPAZ					PKPbc	PKPbc	19 46 24.8	-0.8
	comp=Z,0.5nm,0.5s,baz=180,slow=5.1,SNR=4.0							
LPAZ					PKPab	PKPab	19 46 43.2	+2.8
	comp=Z,14nm,0.7s,baz=197,slow=3.0,SNR=42							
LPAZ	**La Paz**	**153.33**	**150**		PKPdf	PKPdf	19 46 19.8	+2.3
LPAZ					ePKPab	PKPab	19 46 42.8	+2.4
SIV	**San Ignacio**	**156.29**	**165**		PKP	PKPdf	19 46 23.4	+1.9
	comp=Z,2.4nm,0.8s,baz=178,slow=1.3,SNR=11							
SIV					PKPab	PKPab	19 46 55.0	+1.8
	comp=Z,12nm,0.6s,baz=204,slow=4.7,SNR=37							
SIV					SKP		19 48 58.4	
	comp=Z,3.3nm,0.7s,baz=233,slow=2.6,SNR=6.0							
BDFB	**Brasilia**	**156.49**	**197**		PKP	PKPdf	19 46 23.1	+1.4
	comp=Z,2.5nm,0.8s,baz=76,slow=4.2,SNR=3.5							
BDFB					PKPab	PKPab	19 46 54.0	0.0
	comp=Z,3.4nm,0.5s,baz=170,slow=6.1,SNR=6.0							
ROSC	**El Rosal**	**160.45**	**95**		PKP	PKPdf	19 46 28.5	+2.1
	comp=Z,2.3nm,0.4s,baz=344,slow=9.4,SNR=4.5							
SDV	**Santo Domingo**	**164.21**	**82**		PKP	PKPdf	19 46 31.2	+1.1
	comp=Z,6.8nm,0.8s,baz=315,slow=4.3							
SDV					PKPab	PKPab	19 47 30.3	+2.5
	comp=Z,7.0nm,0.7s,baz=308,slow=7.7,SNR=5.9							
SDV	**Santo Domingo**	**164.21**	**82**		ePKPdf	PKPdf	19 46 30.9	+0.8
SDV					ePKPab	PKPab	19 47 30.0	+2.2
SJG	**San Juan**	**164.39**	**44**		PKPab	PKPab	19 47 29.9	+1.3
	comp=Z,38nm,0.7s,baz=36,slow=3.8,SNR=7.0							

*NEIC **26** 19:31:25.4, 3738N×1391W, h0km, MN2.9(MDD), After MDD.*
*MDD **26** 19:31:26.2±3.0, 3735N×1385W, h0km, mb4.0/7, mbLg2.9/9, Error ellipse: s-maj=26.4km s-min=22.1km az=55.0, PRXIMO*
*INMG **26** 19:31:26.0±0.8, 3684N×1428W, h10km, ML2.5, Error ellipse: s-maj=8.0km s-min=7.0km az=130.0*
*CSEM **26** 19:31:28.4±0.8, 3760N×1342W, h10km, ML2.5, Error ellipse: s-maj=13.6km s-min=9.7km az=74.0*
*ISCJB **26** 19:31:29.1±1.6, 3760N±007×1344W±0.10, h10km, Error ellipse: s-maj=12.2km s-min=9.1km az=114.5*

ISC 26 19:31:30.5±1.6, 3758N±006×1350W±010, h10km, n36, σ1§11/59, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**3.67**	**68**	ePn	**Pn**	**19 32 28.4**	**+1.2**
PTEO	**Sao Teotonio**	**3.80**	**89**	eSn	**Sn**	**19 33 14.0**	**+0.2**
PTEO							
	11nm,0.7s						
PTEO	**Sao Teotonio**	**3.80**	**89**	eS	**Sn**	**19 33 14.0**	**+0.2**
	11nm,0.7s						
MOE	**Montemor**	**4.17**	**75**	ePn	**Pn**	**19 32 35.2**	**+1.0**
MOE				eSn	**Sn**	**19 33 25.6**	**+2.5**
PTOM	**Tomar**	**4.48**	**61**	ePn	**Pn**	**19 32 40.2**	**+1.8**
PTOM				eSn	**Sn**	**19 33 36.8**	**+6.2**
PTOM							
	4.3nm,0.2s						
PTOM	**Tomar**	**4.48**	**61**	eP	**Pn**	**19 32 40.2**	**+1.8**
PTOM				eS	**Sn**	**19 33 36.8**	**+6.2**
	4.3nm,0.2s						
PBEJ	**Beja**	**4.49**	**83**	eSn	**Sn**	**19 33 32.7**	**+1.9**
PBEJ							
	7.8nm,0.4s						
PBEJ	**Beja**	**4.49**	**83**	eS	**Sn**	**19 33 32.7**	**+1.9**
	7.8nm,0.4s						
EGRO	**El Granado**	**4.78**	**89**	P	**Pn**	**19 32 41.9**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**19 33 38.0**	**-0.1**
	2.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.78**	**89**	P	**Pn**	**19 32 41.8**	**-0.8**
	0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**19 33 38.0**	**-0.1**
	2.2nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**5.23**	**63**	eSn	**Sn**	**19 33 53.7**	**+4.7**
EBAD	**Badajoz**	**5.25**	**75**	P	**Pn**	**19 32 49.4**	**+0.4**
	0.9nm,0.1s,SNR=11						
EBAD				S	**Sn**	**19 33 49.6**	**+0.1**
	6.6nm,0.2s,SNR=5.9						
EBAD	**Badajoz**	**5.25**	**75**	P	**Pn**	**19 32 49.7**	**+0.7**
EBAD				S	**Sn**	**19 33 49.6**	**+0.1**
	6.6nm,0.2s,SNR=5.9						
EBAD	**Badajoz**	**5.25**	**75**	P	**Pn**	**19 32 49.7**	**+0.7**
EBAD				S	**Sn**	**19 33 49.5**	**0.0**
EMIN	**Mina Concepcio**	**5.42**	**86**	P	**Pn**	**19 32 50.2**	**-1.2**
	0.7nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**19 33 53.4**	**-0.5**
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**86**	P	**Pn**	**19 32 50.2**	**-1.2**
	0.7nm,0.1s,SNR=7.2						
EMIN				S	**Sn**	**19 33 53.4**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**86**	P	**Pn**	**19 32 50.2**	**-1.2**
EMIN				S	**Sn**	**19 33 52.8**	**-1.0**
PVRL	**Vila Real**	**5.80**	**49**	eSn	**Sn**	**19 34 08.3**	**+5.0**
ELOB	**Lobios**	**6.00**	**43**	P	**Pn**	**19 32 59.5**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**19 34 08.6**	**+0.6**
	2.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.00**	**43**	P	**Pn**	**19 32 59.8**	**+0.6**
ELOB				S	**Sn**	**19 34 08.5**	**+0.6**
ELOB	**Lobios**	**6.00**	**43**	P	**Pn**	**19 32 59.8**	**+0.6**
ELOB				S	**Sn**	**19 34 08.5**	**+0.5**
ESPR	**Espera**	**6.14**	**94**	P	**Pn**	**19 32 59.9**	**-1.3**
	0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**19 34 10.4**	**-1.2**
	1.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.14**	**94**	P	**Pn**	**19 32 59.9**	**-1.4**
	0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**19 34 10.4**	**-1.2**
	1.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.14**	**94**	P	**Pn**	**19 32 59.8**	**-1.5**
ESPR				S	**Sn**	**19 34 10.4**	**-1.2**
EMAZ	**Mazaricos**	**6.38**	**31**	S	**Sn**	**19 34 16.3**	**-1.2**
	4.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.38**	**31**	S	**Sn**	**19 34 16.3**	**-1.2**
	4.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.79**	**48**	S	**Sn**	**19 34 27.8**	**+0.2**
	0.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.79**	**48**	S	**Sn**	**19 34 27.8**	**+0.2**
	SNR=7.9						
EADA	**Adamuz**	**7.09**	**83**	P	**Pn**	**19 33 13.8**	**-0.4**
	0.6nm,0.2s,SNR=5.6						
EADA				S	**Sn**	**19 34 34.4**	**-0.4**
	2.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.09**	**83**	P	**Pn**	**19 33 13.9**	**-0.3**
EADA				S	**Sn**	**19 34 33.9**	**-0.9**
EADA	**Adamuz**	**7.09**	**83**	P	**Pn**	**19 33 13.9**	**-0.3**
EADA				S	**Sn**	**19 34 33.9**	**-0.9**
EPON	**Pontenova**	**7.51**	**38**	S	**Sn**	**19 34 43.8**	**-1.5**
	0.4nm,0.1s,SNR=4.2						
EPON	**Pontenova**	**7.51**	**38**	S	**Sn**	**19 34 43.8**	**-1.5**
	0.4nm,0.1s,SNR=4.2						
ESDC	**Sonseca Array**	**7.76**	**71**	P	**Pn**	**19 33 23.5**	**+0.1**
	1.3nm,0.1s,baz=256,slow=13,SNR=13						
ESDC				S	**Sn**	**19 34 48.6**	**-2.7**
	baz=257,slow=23,SNR=4.0						
ESDC	**Sonseca Array**	**7.76**	**71**	P	**Pn**	**19 33 23.5**	**+0.1**
	1.3nm,0.1s,SNR=13						
ESDC				S	**Sn**	**19 34 48.6**	**-2.7**
	SNR=4.0						
ESDC	**Sonseca Array**	**7.76**	**71**	P	**Pn**	**19 33 23.6**	**+0.2**
ESDC				S	**Sn**	**19 34 52.0**	**+0.7**

*PRU **26** 19:38:43.8, 4207N×1987E, h0km*
*NAO **26** 19:38:44.9, 4124N×17.11E, h33km, mb3.6*
*VIE **26** 19:38:47.0±1.8, 4231N×2027E, h10km, mb3.2/5, Ms3.5/4, Error ellipse: s-maj=18.4km s-min=9.6km az=81.0 106 km WNW of Skopje*
*SKO **26** 19:38:46.5, 4246N×1979E, h0km, M2.7, ML3.2*
*ISCJB **26** 19:38:47.4±0.2, 4239N±001×1987E±002, h10km, Error ellipse: s-maj=2.2km s-min=1.4km az=91.2*
*PDG **26** 19:38:47.7±1.0, 4238N×1984E, h10km±1km*
*CSEM **26** 19:38:47.4±0.1, 4239N×1986E, h0km, ML3.8/2, Ms3.5, Error ellipse: s-maj=1.3km s-min=1.1km az=59.0*
*NEIC **26** 19:38:47.7, 4238N×1984E, h10km, ML3.2(THE), ML3.5(PDG), After PDG.*
*LDG **26** 19:38:47.9±0.1, 4237N×1988E, h10km, Ml3.6/4, Error ellipse: s-maj=3.5km s-min=1.9km az=31.0*
*TIR **26** 19:38:47.3, 4235N×1986E, h5km*
*THE **26** 19:38:49.5, 4241N×1985E, h17km, ML3.4*

ISC 26 19:38:48.7±0.2, 4237N±001×1986E±002, h10km, n153, σ1§44/216, 22C-28D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.15**	**90**	*i* Pg	**Pg**	**19 38 50.3**	**-1.7**
BCI				*i* Sg	**Sg**	**19 38 53.6**	**-0.7**
PVY	**Plav**	**0.24**	**20**	⇑*i*Pg	**Pg**	**19 38 51.8**	**-1.7**
PVY				eSg	**Sg**	**19 38 55.7**	**-1.2**
PUK	**Puka**	**0.33**	**176**	*i* Pg	**Pg**	**19 38 53.9**	**-1.2**
PUK				*i* Sg	**Sg**	**19 38 59.5**	**0.0**
TTG	**Podgorica**	**0.45**	**278**	⇑*i*Pg	**Pg**	**19 38 54.8**	**-2.7**
TTG				eSg	**Sg**	**19 39 02.1**	**-1.3**
IVA	**Berane**	**0.50**	**3**	⇑*i*Pg	**Pg**	**19 38 57.0**	**-1.5**
IVA				eSg	**Sg**	**19 39 04.6**	**-0.5**
ULC	**Ulcinj**	**0.61**	**229**	⇓*i*Pg	**Pg**	**19 38 58.5**	**-2.0**
ULC				eSg	**Sg**	**19 39 08.1**	**-0.4**
BUM	**Brajici-Budva**	**0.72**	**265**	⇓*i*Pg	**Pg**	**19 38 59.7**	**-2.8**
BUM				eSg	**Sg**	**19 39 11.4**	**-0.5**
NKY	**Niksic**	**0.78**	**305**	⇓*i*Pg	**Pg**	**19 39 00.7**	**-3.0**
NKY				eSg	**Sg**	**19 39 13.2**	**-0.7**
NKY	**Niksic**	**0.78**	**305**	⇓*i*Pg	**Pg**	**19 39 00.7**	**-3.0**
NKY				eSg	**Sg**	**19 39 13.1**	**-0.8**
QSH	**Qafa e Shtames**	**0.85**	**178**	*i* Pg	**Pg**	**19 39 04.4**	**-0.6**
QSH				*i* Sg	**Sg**	**19 39 19.0**	**+3.0**
HCY	**Herceg Novi**	**1.01**	**275**	⇓*i*Pg	**Pg**	**19 39 05.4**	**-2.8**
HCY				eSg	**Sg**	**19 39 21.6**	**+0.3**
HCY	**Herceg Novi**	**1.01**	**275**	⇓*i*Pg	**Pg**	**19 39 05.4**	**-2.8**
HCY				eSg	**Sg**	**19 39 21.6**	**+0.2**
TIR	**Tirane**	**1.02**	**180**	ePg	**Pg**	**19 39 07.3**	**-1.0**
TIR				eSg	**Sg**	**19 39 23.6**	**+2.1**
TIR	**Tirane**	**1.02**	**180**	ePg	**Pg**	**19 39 07.3**	**-1.0**
TIR				eSg	**Sg**	**19 39 23.6**	**+2.1**
PLE	**Pljevlja**	**1.02**	**340**	⇑*i*Pg	**Pg**	**19 39 06.1**	**-2.2**
PLE				eSg	**Sg**	**19 39 21.8**	**+0.2**
UPM	**Unac-Piva**	**1.09**	**320**	⇓*i*Pg	**Pg**	**19 39 07.8**	**-1.8**
UPM				eSg	**Sg**	**19 39 24.2**	**+0.4**
BRY	**Bratogost**	**1.11**	**299**	⇓*i*Pg	**Pg**	**19 39 06.3**	**-3.7**
BRY				eSg	**Sg**	**19 39 24.7**	**+0.2**
SAMO	**Samokov**	**1.17**	**125**	*i* Pg	**Pg**	**19 39 08.0**	**-3.1**
SAMO				*i*		19 39 10.1	
SAMO				*i* Sg	**Sg**	**19 39 26.3**	**+0.1**
SKO	**Skopje**	**1.24**	**108**	ePg	**Pg**	**19 39 10.9**	**-1.4**
SKO				eSg	**Sg**	**19 39 30.3**	**+1.9**
SKO	**Skopje**	**1.24**	**108**	*i* Pg	**Pg**	**19 39 10.4**	**-2.0**
SKO				*i* Sg	**Sg**	**19 39 28.6**	**+0.2**
SKO				eLg		19 39 30.7	
	comp=E,862nm,0.9s						
SKO				eLg		19 39 32.1	
	comp=N,598nm,0.5s						
SKO	**Skopje**	**1.24**	**108**	*i* Pg	**Pg**	**19 39 10.4**	**-2.0**
SKO				*i* Sg	**Sg**	**19 39 28.6**	**+0.2**
BELI	**Belica**	**1.25**	**123**	⇑*i*Pg	**Pg**	**19 39 09.5**	**-3.3**
BELI				*i*		19 39 11.8	
BELI				*i* Sg	**Sg**	**19 39 33.7**	**+4.6**
OHR	**Ohrid**	**1.44**	**151**	ePg	**Pg**	**19 39 14.8**	**-1.5**
OHR				eSg	**Sg**	**19 39 33.5**	**-1.4**
OHR	**Ohrid**	**1.44**	**151**	ePg	**Pg**	**19 39 14.3**	**-1.9**
OHR				*i* Sg	**Sg**	**19 39 35.6**	**+0.7**
OHR	**Ohrid**	**1.44**	**151**	ePg	**Pg**	**19 39 14.3**	**-1.9**
OHR				eSg	**Sg**	**19 39 33.5**	**-1.4**
BBLS	**Bajina Basta -**	**1.54**	**348**	ePn	**Pn**	**19 39 19.1**	**+3.0**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**19 39 16.9**	**-1.1**
STON				*i* Sn	**Sn**	**19 39 42.9**	**+3.3**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**19 39 16.9**	**-1.1**
STON				*i* Sn	**Sn**	**19 39 42.8**	**+3.3**
DIVS	**Divcibare**	**1.73**	**3**	*i* Pn	**Pn**	**19 39 18.3**	**-0.5**
DIVS				Sg	**Sg**	**19 39 42.7**	**-1.7**
DIVS	**Divcibare**	**1.73**	**3**	ePb	**Pb**	**19 39 18.1**	**-2.4**
DIVS				eSb	**Sb**	**19 39 39.3**	**-3.1**
BIA	**Bitola**	**1.73**	**140**	ePb	**Pb**	**19 39 19.0**	**-1.6**
BIA				eSb	**Sb**	**19 39 41.5**	**-1.0**
BIA	**Bitola**	**1.73**	**140**	ePg	**Pg**	**19 39 19.4**	**-2.5**
BIA				*i* Sg	**Sg**	**19 39 45.0**	**+0.6**
BIA				eLg		19 39 45.9	
	comp=E,140nm,0.6s						
BIA				eLg		19 39 47.5	
	comp=N,141nm,0.6s						
BIA	**Bitola**	**1.73**	**140**	ePg	**Pg**	**19 39 19.4**	**-2.5**
BIA				*i* Sg	**Sg**	**19 39 45.0**	**+0.6**
STIP	**Stip**	**1.86**	**110**	*i* Pg	**Pg**	**19 39 20.1**	**-4.2**
STIP				*i* Sg	**Sg**	**19 39 48.9**	**+0.5**
STIP				eLg		19 39 49.8	
	comp=N,128nm,0.8s						
STIP				eLg		19 39 50.4	
	comp=E,89nm,0.7s						
STIP	**Stip**	**1.86**	**110**	*i* Pg	**Pg**	**19 39 20.1**	**-4.2**
STIP				*i* Sg	**Sg**	**19 39 48.8**	**+0.5**
FNA	**Florina**	**1.95**	**144**	ePn	**Pn**	**19 39 22.1**	**+0.4**
	comp=E,7.0nm,0.3s						
FNA				eSn	**Sn**	**19 39 47.5**	**+1.2**
BOLS	**Boljevac**	**2.12**	**46**	⇑*i*Pn	**Pn**	**19 39 27.2**	**+3.1**
BOLS				Sn	**Sn**	**19 39 54.3**	**+3.8**
SVIS	**Svilajnac**	**2.17**	**27**	⇑*i*Pn	**Pn**	**19 39 27.5**	**+2.7**
SVIS				Sn	**Sn**	**19 39 54.3**	**+2.6**
VAY	**Valandovo**	**2.28**	**116**	ePg	**Pg**	**19 39 29.0**	**-3.3**
VAY				eSg	**Sg**	**19 40 01.0**	**-0.8**
VAY				eLg		19 40 03.8	
	comp=E,96nm,0.5s						
VAY				eLg		19 40 03.8	
	comp=N,120nm,0.7s						
VAY	**Valandovo**	**2.28**	**116**	ePn	**Pn**	**19 39 26.3**	**0.0**
VAY	**Valandovo**	**2.28**	**116**	ePg	**Pg**	**19 39 28.9**	**-3.4**
VAY				eSg	**Sg**	**19 40 00.9**	**-0.9**
GRG	**Griva**	**2.37**	**126**	ePn	**Pn**	**19 39 28.0**	**+0.5**
GRG				eSn	**Sn**	**19 39 57.5**	**+0.9**
GRG	**Griva**	**2.37**	**126**	ePn	**Pn**	**19 39 28.0**	**+0.5**
GRG				eSn	**Sn**	**19 39 57.5**	**+0.9**
PE1	**Pezze di Greco**	**2.41**	**230**	ePn	**Pn**	**19 39 27.3**	**-0.8**
LCI	**Lecce**	**2.42**	**214**	Pn	**Pn**	**19 39 27.9**	**-0.4**
KKB	**Krupnik**	**2.45**	**101**	*i* P	**Pn**	**19 39 29.5**	**+0.9**
VTS	**Vitosha**	**2.48**	**84**	ePn	**Pn**	**19 39 29.1**	**0.0**
VTS	**Vitosha**	**2.48**	**84**	*i* P	**Pn**	**19 39 29.0**	**-0.1**
VTS				⇓P		19 39 34.6	
BRT	**Bari-Castellan**	**2.49**	**234**	Pn	**Pn**	**19 39 29.1**	**-0.1**
KZN	**Kozani**	**2.51**	**144**	eP	**Pn**	**19 39 31.9**	**+2.4**
BAI	**Bari**	**2.56**	**242**	ePn	**Pn**	**19 39 29.4**	**-0.8**
KNT	**Kendrikon**	**2.57**	**117**	ePn	**Pn**	**19 39 30.2**	**-0.1**
	comp=N,2.5nm,0.9s						
KNT				eSn	**Sn**	**19 40 01.5**	**-0.1**
KNT	**Kendrikon**	**2.57**	**117**	ePn	**Pn**	**19 39 30.2**	**-0.1**
	comp=N,2.5nm,0.9s						
KNT				eSn	**Sn**	**19 40 01.5**	**-0.1**
KEK	**Kerkira**	**2.65**	**181**	eP	**Pn**	**19 39 33.0**	**+1.5**
MEV	**Metsovon**	**2.78**	**158**	ePn	**Pn**	**19 39 33.4**	**+0.2**
JAN	**Janina**	**2.81**	**164**	eP	**Pn**	**19 39 37.0**	**+3.4**
SG1	**Sgolgore (BA)**	**2.83**	**238**	ePn	**Pn**	**19 39 33.9**	**-0.1**
IGT	**Igoumenitsa**	**2.85**	**173**	ePn	**Pn**	**19 39 35.0**	**+0.7**
CDT	**Castel del Mon**	**2.98**	**246**	ePn	**Pn**	**19 39 35.3**	**-0.6**
MMB	**Musomiste**	**2.98**	**104**	*i* P	**Pn**	**19 39 36.0**	**0.0**
FGMS	**Monte Sant'Ang**	**2.99**	**259**	Pn	**Pn**	**19 39 35.6**	**-0.5**
MS1	**Monte Sant'Ang**	**3.00**	**259**	ePn	**Pn**	**19 39 35.4**	**-0.8**
LIT	**Litokhoron**	**3.01**	**138**	ePn	**Pn**	**19 39 36.4**	**+0.1**
SRS	**Serrai**	**3.06**	**113**	ePn	**Pn**	**19 39 37.4**	**+0.4**
NVR	**Nevrokopi**	**3.15**	**107**	eP	**Pn**	**19 39 38.8**	**+0.4**
PLG	**Polygyros**	**3.35**	**125**	eP	**Pn**	**19 39 41.9**	**+0.8**
FG4	**Candela**	**3.48**	**251**	Pn	**Pn**	**19 39 44.8**	**+2.0**
BZS	**Buzias**	**3.48**	**21**	⇓P	**Pn**	**19 39 42.8**	**-0.1**
BZS	**Buzias**	**3.48**	**21**	⇓P	**Pn**	**19 39 42.8**	**-0.1**
FG2	**Serracapriola**	**3.55**	**262**	Pn	**Pn**	**19 39 43.5**	**-0.2**
FG5	**Orsara di Pugl**	**3.60**	**254**	Pn	**Pn**	**19 39 45.7**	**+1.2**
MRLC	**Muro Lucano**	**3.66**	**245**	Pn	**Pn**	**19 39 46.9**	**+1.6**
RZN	**Rozhen**	**3.68**	**99**	*i* P	**Pn**	**19 39 46.5**	**+1.0**
OUR	**Ouranopolis**	**3.71**	**122**	ePn	**Pn**	**19 39 46.2**	**+0.3**
RHK3	**Tenkes**	**3.71**	**342**	eP	**Pn**	**19 39 44.3**	**-1.6**
EVR	**Evrytania**	**3.75**	**156**	eP	**Pn**	**19 39 50.2**	**+3.6**
PAIG	**Paliouri**	**3.77**	**129**	ePn	**Pn**	**19 39 47.2**	**+0.3**
AGG	**Agios Georgios**	**3.83**	**150**	ePn	**Pn**	**19 39 47.9**	**+0.2**
PKSM	**Moragy**	**3.94**	**348**	⇓eP	**Pn**	**19 39 48.1**	**-1.1**
PKSM				S	**Sn**	**19 40 35.1**	**-0.4**
RHK1	**Bakonya**	**3.94**	**342**	⇑eP	**Pn**	**19 39 43.4**	**-5.8**
RHK1				eS	**Sn**	**19 40 31.5**	**-4.0**
CII	**Carovilli**	**4.19**	**263**	Pn	**Pn**	**19 39 53.7**	**+1.1**
MIDA	**Miranda**	**4.24**	**262**	Pn	**Pn**	**19 39 53.6**	**+0.3**
NVLJ	**Novalja**	**4.25**	**303**	*i* Pn	**Pn**	**19 39 54.4**	**+1.1**
NVLJ				*i* Sn	**Sn**	**19 40 46.3**	**+3.4**
RDO	**Rodhopi**	**4.42**	**104**	eP	**Pn**	**19 39 56.4**	**+0.7**
INTR	**Introdacqua**	**4.44**	**267**	Pn	**Pn**	**19 39 55.8**	**-0.3**
BOJS	**Bojanci**	**4.57**	**315**	ePn	**Pn**	**19 40 00.5**	**+2.7**
BOJS				eSn	**Sn**	**19 40 56.8**	**+5.7**
BOJS							
	comp=Z,85nm,0.9s						
PKS8	**Sarbogard**	**4.59**	**350**	⇓eP	**Pn**	**19 39 57.0**	**-1.1**
CRES	**Cresnjev**	**4.69**	**319**	ePn	**Pn**	**19 40 01.8**	**+2.3**
GOLS	**Golise**	**4.75**	**322**	ePn	**Pn**	**19 40 02.5**	**+2.2**
AQU	**L'Aquila**	**4.79**	**272**	Pn	**Pn**	**19 40 02.8**	**+2.0**
PTQR	**Pietraquaria**	**4.81**	**268**	Pn	**Pn**	**19 40 02.6**	**+1.4**
VOIR		**4.84**	**49**	⇑P	**Pn**	**19 40 04.9**	**+3.3**
VOIR		**4.84**	**49**	⇑P	**Pn**	**19 40 04.9**	**+3.3**
ALN	**Alexandroupoli**	**4.86**	**106**	ePn	**Pn**	**19 40 02.3**	**+0.5**
CING	**Cingoli**	**5.00**	**284**	Pn	**Pn**	**19 40 04.6**	**+0.8**
FIAM	**Fiamignano**	**5.00**	**271**	Pn	**Pn**	**19 40 04.8**	**+1.0**
NRCA	**Norcia**	**5.00**	**278**	Pn	**Pn**	**19 40 04.0**	**+0.2**
PKSG		**5.13**	**349**	⇓eP	**Pn**	**19 40 05.1**	**-0.4**
CERT	**Cerreto**	**5.13**	**268**	Pn	**Pn**	**19 40 04.2**	**-1.4**
	comp=Z,33nm,0.8s						
ARV	**Arcevia**	**5.21**	**285**	Pn	**Pn**	**19 40 06.8**	**+0.2**
	comp=Z,7.5nm,0.3s						
MNS	**Montasola**	**5.32**	**273**	Pn	**Pn**	**19 40 09.0**	**+0.9**
	comp=Z,8.8nm,0.6s						
MLR	**Muntele Rosu**	**5.39**	**53**	⇑P	**Pn**	**19 40 12.8**	**+3.8**
MLR	**Muntele Rosu**	**5.39**	**53**	⇑P	**Pn**	**19 40 12.8**	**+3.7**
MURB	**Monte Urbino**	**5.47**	**282**	Pn	**Pn**	**19 40 11.3**	**+1.1**
	comp=Z,48nm,0.3s						
SRO2	**Moca**	**5.49**	**350**	ePN	**Pn**	**19 40 10.3**	**-0.2**
PIEI	**Pieia**	**5.50**	**285**	Pn	**Pn**	**19 40 10.1**	**-0.6**
	comp=Z,19nm,1.4s						
OBKA	**Obir**	**5.62**	**319**	⇓Sn	**Sn**	**19 41 26.3**	**+9.4**
OBKA	**Obir**	**5.62**	**319**	⇓*i*Pn	**Pn**	**19 40 14.1**	**+1.8**
OBKA				⇓*i*Sn	**Sn**	**19 41 26.3**	**+9.4**
VOY	**Vojsko**	**5.64**	**313**	ePn	**Pn**	**19 40 14.8**	**+2.3**
VOY				eSn	**Sn**	**19 41 20.2**	**+2.8**
ARSA	**Arzberg**	**5.78**	**329**	⇑Sn	**Sn**	**19 41 23.5**	**+2.8**
ARSA	**Arzberg**	**5.78**	**329**	⇑*i*Pn	**Pn**	**19 40 14.3**	**0.0**
	SNR=12						
ARSA				⇑*i*Sn	**Sn**	**19 41 23.5**	**+2.8**
ARSA	**Arzberg**	**5.78**	**329**	Pn	**Pn**	**19 40 14.3**	**-0.1**
	SNR=12						
KECS	**Kecovo**	**6.13**	**4**	ePN	**Pn**	**19 40 19.2**	**-0.1**
KECS				*e*		19 40 27.4	
ZST	**Bratislava**	**6.14**	**342**	*e*	**Sn**	**19 41 29.6**	**-0.2**
PTCC	**Patocco-Chiusa**	**6.17**	**313**	Pn	**Pn**	**19 40 20.9**	**+1.1**
KBA	**Koelnbreinsper**	**6.61**	**318**	⇓Sn

FSR *i* S Sn 19 49 51.2 +0.9
FSR AMP 19 49 53.6
comp=E,836nm,0.2s
RCDM Rinconada Maip 0.81 186 *e*P Pn 19 49 38.0 +0.1
RCDM *i* S Sn 19 49 50.9 +0.5
RCDM AMP 19 49 51.8
comp=E,4μm,0.1s
IHA Instituto Hidr 0.86 246 *i* P Pn 19 49 38.6 +0.2
ANTU Antumapu 0.89 176 *i* P Pn 19 49 39.2 +0.4
ANTU *i* S Sn 19 49 52.8 +0.9
ANTU AMP 19 49 54.1
comp=E,1μm,0.3s
PCH Pirque 0.95 170⇑*i*P Pn 19 49 39.9 +0.4
PCH *i* S Sn 19 49 54.6 +1.4
TACH Talagante 0.99 191⇑*i*P Pn 19 49 40.2 +0.3
TACH *i* S Sn 19 49 54.6 +0.6
SJCH San Jose de Ma 1.00 163 *e*P Pn 19 49 40.3 +0.2
SJCH *i* S Sn 19 49 55.4 +1.1
SJCH AMP 19 49 57.3
comp=N,853nm,0.5s
LCCH Las Cruces 1.07 222 *e*P Pn 19 49 41.5 +0.6
ILCH Illapel 1.12 339 *i* P Pn 19 49 42.4 +0.8
ILCH *i* S Sn 19 49 57.9 +1.1
ILCH AMP 19 50 05.1
comp=N,2μm,0.5s
LMEL Las Melosas 1.23 160 *e*P Pn 19 49 44.4 +1.4
LMEL *i* S Sn 19 50 01.5 +2.1
CHCH Chadas Angostu 1.25 178⇑*i*P Pn 19 49 43.6 +0.4
CHCH *i* S Sn 19 50 00.6 +0.9
LNV Longovilo 1.40 205 *i* P Pn 19 49 45.2 +0.2
CACH El Canelo 1.43 176 *i* P Pn 19 49 46.6 +1.1
CACH *i* S Sn 19 50 06.2 +2.3
CMCH Combarbala 1.53 350 *e*P Pn 19 49 46.9 +0.2
CMCH *i* S Sn 19 50 07.0 +1.0
CMCH AMP 19 50 20.1
comp=E,794nm,0.6s
CICH Cipreses 1.65 172 *e*P Pn 19 49 49.8 +1.5
CICH *i* S Sn 19 50 11.1 +2.2
SFDO San Fernando 1.94 187⇑*i*P Pn 19 49 52.8 +0.6
SFDO *i* S Sn 19 50 17.1 +1.2

TIR ***26*** *19:57:51.2, 4237N×1984E, h22km*
SKO ***26*** *19:57:51.1, 4251N×1953E, h0km*
CSEM ***26*** *19:57:53.6±0.4, 4237N×1988E, h5km, ML2.5, Error ellipse: s-maj=3.6km s-min=2.6km az=18.0*
ISCJB ***26*** *19:57:53.6±0.4, 4238N±002×1984E±003, h5km, Error ellipse: s-maj=3.6km s-min=2.6km az=37.6*
PDG ***26*** *19:57:54.3±0.4, 4239N×1981E, h10km±1km*
NEIC ***26*** *19:57:54.3, 4239N×1981E, h10km, ML2.5(PDG), After PDG.*

ISC 26 19:57:54.3±0.4, 4239N±003×1985E±003, h4km±7km, n19, σ1§06/38, 5C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.17**	**97**	*i* Pg	**Pg**	**19 57 56.5**	**-1.1**
BCI				*i* Sg	**Sg**	**19 57 59.9**	**+0.1**
PVY	**Plav**	**0.23**	**24**	⇓*i*Pg	**Pg**	**19 57 57.7**	**-1.1**
PVY				*e*Sg	**Sg**	**19 58 02.5**	**+0.8**
TTG	**Podgorica**	**0.44**	**276**	⇑*i*Pg	**Pg**	**19 58 00.8**	**-1.9**
TTG				*e*Sg	**Sg**	**19 58 07.8**	**-0.6**
IVA	**Berane**	**0.48**	**4**	⇓*i*Pg	**Pg**	**19 58 03.2**	**-0.5**
IVA				*e*Sg	**Sg**	**19 58 10.3**	**+0.4**
ULC	**Ulcinj**	**0.61**	**227**	⇓*i*Pg	**Pg**	**19 58 05.5**	**-0.6**
ULC				*e*Sg	**Sg**	**19 58 15.6**	**+1.5**
BUM	**Brajici-Budva**	**0.71**	**263**	⇑*i*Pg	**Pg**	**19 58 06.6**	**-1.4**
BUM				*e*Sg	**Sg**	**19 58 17.4**	**+0.3**
NKY	**Niksic**	**0.76**	**304**	⇓*i*Pg	**Pg**	**19 58 07.0**	**-1.9**
NKY				*e*Sg	**Sg**	**19 58 19.5**	**+0.8**
PLE	**Pljevlja**	**1.00**	**341**	⇑*i*Pg	**Pg**	**19 58 13.0**	**-0.5**
PLE				*e*Sg	**Sg**	**19 58 27.5**	**+1.1**
HCY	**Herceg Novi**	**1.00**	**274**	⇑*i*Pg	**Pg**	**19 58 11.9**	**-1.6**
HCY				*e*Sg	**Sg**	**19 58 28.1**	**+1.6**
UPM	**Unac-Piva**	**1.07**	**320**	⇑*i*Pg	**Pg**	**19 58 14.0**	**-0.8**
UPM				*e*Sg	**Sg**	**19 58 29.6**	**+1.0**
BRY	**Bratogost**	**1.09**	**298**	⇓*i*Pg	**Pg**	**19 58 14.5**	**-0.8**
BRY				*e*Sg	**Sg**	**19 58 31.0**	**+1.7**
SKO	**Skopje**	**1.25**	**109**	*e*Pn	**Pn**	**19 58 18.8**	**+0.2**
SKO				*e*Sn	**Sg**	**19 58 39.3**	**+4.6**
SKO	**Skopje**	**1.25**	**109**	*e*Pn	**Pn**	**19 58 18.8**	**+0.2**
SKO				*e*Sn	**Sg**	**19 58 39.2**	**+4.5**
STON	**Ston**	**1.66**	**288**	*i* Pn	**Pn**	**19 58 23.2**	**-1.0**
STON				*i* Sn	**Sg**	**19 58 49.1**	**+1.5**
STON	**Ston**	**1.66**	**288**	*i* Pn	**Pn**	**19 58 23.2**	**-1.0**
STON				*i* Sn	**Sg**	**19 58 49.0**	**+1.4**
BIA	**Bitola**	**1.76**	**141**	*e*Pn	**Pn**	**19 58 25.2**	**-0.3**
BIA				*e*Sn	**Sg**	**19 58 52.1**	**+1.2**
BIA	**Bitola**	**1.76**	**141**	*e*Pn	**Pn**	**19 58 25.2**	**-0.4**
BIA				*e*Sn	**Sg**	**19 58 52.0**	**+1.1**
STIP	**Stip**	**1.88**	**111**	*e*Pn	**Pn**	**19 58 28.1**	**+0.9**
STIP				*e*Sn	**Sg**	**19 58 55.6**	**+1.0**
STIP	**Stip**	**1.88**	**111**	*e*Pn	**Pn**	**19 58 28.0**	**+0.8**
STIP				*e*Sn	**Sg**	**19 58 55.5**	**+0.9**

NAO ***26*** *20:03:17.2, 2620S×17939E, h470km, mb4.3*
SZGRF ***26*** *20:03:23.2, 2469S×19776W, h33km, South of Fiji Islands*
MOS ***26*** *20:04:22.8±3.2, 2317S×17998W, h502km, mb4.9/7, Error ellipse: s-maj=12.5km s-min=11.1km az=166.0*
NEIC ***26*** *20:04:24.2±0.7, 2332S×19777W, h546km±8km, mb5.0/23, Error ellipse: s-maj=10.4km s-min=6.6km az=157.0*
ISCJB ***26*** *20:04:24.1±0.7, 2356S±004×19778W±006, h557km±9km, mb4.8/41, Error ellipse: s-maj=8.6km s-min=6.1km az=42.9*
HRVD ***26*** *20:04:24.2±1.2, 2341S×17964W, h571km±9km, MW5.2/25, Centroid moment Tensor Solution. LP body waves: s25,c27; Half duration: 0 Moment tensor: Scale 1016 Nm; Mrr=1.19±.64; Mθθ5.03±1.21; Mφφ-3.84±1.08; Mrθ1.00±1.21; Mθφ-2.13±1.04; Mφr-5.91±.83; Best double couple: M07.61200×1016 NP1:φ67.00000°, δ44.00000°, λ-168.00000°. NP2:φ328.00000°, δ82.00000°, λ-47.00000°. Principal axes: T 6.5710, Plg24.0000°, Azm26.0000°; N 2.0820, Plg43.0000°, Azm140.0000°; P -8.6530, Plg38.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s.*
IDC ***26*** *20:04:24.8±0.9, 2333S×17980W, h550km±9km, mb4.2/15, mb1 4.3/18, mb1mx4.2/20, mbtmp5.1/18 Error ellipse: s-maj=11.7km s-min=10.5km az=147.0*
BJI ***26*** *20:04:24.2, 2330S×17980W, h546km, mB5.4, mb4.8*

ISC 26 20:04:24.0±0.7, 2351S±005×17973W±006, h543km±8km, n227, σ1§18/114, mb4.8/41, 12C-21D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.95**	**164**	P	**P**	**20 06 03.5**	**+1.8**
	344nm,0.3s,baz=96,slow=16,SNR=6.3						
RAO				S	**S**	**20 07 20.2**	**-1.5**
	245nm,0.3s,baz=101,slow=22,SNR=3.6						
AFI	**Afiamalu**	**12.16**	**40**	P	**P**	**20 07 00.1**	**-4.0**
	16nm,0.3s,baz=42,slow=7.4,SNR=19						
AFI				S	**S**	**20 09 07.2**	**-8.6**
	2.1nm,0.3s,baz=17,slow=19,SNR=3.0						
AFI	**Afiamalu**	**12.16**	**40**	*e*P	**P**	**20 07 00.4**	**-3.7**
AFI				*e*S	**S**	**20 09 07.5**	**-8.4**
AFI				pmax	pmax		
	comp=Z,96nm,0.6s						
AFI	**Afiamalu**	**12.16**	**40**	*e*P	**P**	**20 07 00.4**	**-3.6**
	comp=Z,96nm,0.6s						
AFI				*e*S	**S**	**20 09 07.5**	**-8.3**
DZM	**Mont Dzumac**	**12.83**	**274**	P	**P**	**20 07 12.7**	**+1.7**
	comp=Z,1.9nm,0.3s,baz=85,slow=18,SNR=21						
PUZ	**Puketiti**	**14.62**	**186**	SN	**S**	**20 09 57.0**	**-5.3**
URZ	**Urewera**	**14.95**	**190**	P	**P**	**20 07 30.8**	**-2.1**
	comp=Z,6.0nm,0.3s,baz=338,slow=1.5,SNR=21						
URZ				S	**S**	**20 10 03.3**	**-5.2**
	comp=Z,2.8nm,0.3s,baz=195,slow=23,SNR=14						
URZ	**Urewera**	**14.95**	**190**	PN	**P**	**20 07 30.6**	**-2.3**
URZ				SN	**S**	**20 10 03.2**	**-5.3**
MWZ	**Matawai**	**14.96**	**188**	PN	**P**	**20 07 31.5**	**-1.6**
MWZ				SN	**S**	**20 10 03.4**	**-5.4**
HIZ	**Hauiti**	**15.65**	**196**	PN	**P**	**20 07 41.3**	**+1.2**
BKZ	**Black Stump Fm**	**15.94**	**191**	PN	**P**	**20 07 40.9**	**-2.1**
MRZ	**Mangatainoka R**	**17.55**	**192**	PN	**P**	**20 07 54.5**	**-3.4**
MRZ				SN	**S**	**20 10 48.2**	**-4.2**
SNZO	**South Karori**	**18.35**	**193**	*e*P	**P**	**20 08 05.6**	**+0.3**
	comp=Z,60nm,0.6s						
TCW	**Tory Channel**	**18.35**	**194**	PN	**P**	**20 08 05.8**	**+0.5**
QRZ	**Quartz Range**	**18.45**	**199**	PN	**P**	**20 08 07.9**	**+1.7**
NNZ	**Nelson**	**18.58**	**196**	PN	**P**	**20 08 07.6**	**+0.2**
RAR	**Rarotonga**	**18.60**	**87**	P	**P**	**20 08 07.4**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=245,slow=20,SNR=5.6						
BSWZ	**Blackbirch Sta**	**18.92**	**195**	SN	**S**	**20 11 17.3**	**+2.7**
DSZ	**Denniston Nort**	**19.51**	**199**	PN	**P**	**20 08 16.8**	**+0.9**
KHZ	**Kahutara**	**19.67**	**195**	PN	**P**	**20 08 17.1**	**-0.1**
KHZ				SN	**S**	**20 11 23.0**	**-3.6**
LTZ	**Lake Taylor**	**20.33**	**197**	PN	**P**	**20 08 22.8**	**-0.5**
WVZ	**Waitaha Valley**	**21.05**	**200**	PN	**P**	**20 08 29.4**	**-0.4**
RPZ	**Rata Peaks**	**21.54**	**198**	P	**P**	**20 08 37.4**	**+3.3**
	comp=Z,103nm,0.6s,mb5.6,baz=341,slow=1.7,SNR=57						
RPZ				S	**S**	**20 11 55.3**	**-0.9**
	comp=Z,7.6nm,0.8s,baz=14,slow=4.2,SNR=2.5						
RPZ	**Rata Peaks**	**21.54**	**198**	PN	**P**	**20 08 33.1**	**-1.0**
FOZ	**Fox Glacier**	**21.82**	**201**	PN	**P**	**20 08 35.4**	**-1.3**
ARMA	**Armidale**	**26.39**	**249**⇓*i*P		**P**	**20 09 19.1**	**+1.9**
TBI	**Tubuai**	**27.75**	**96**	*e*P	**P**	**20 09 30.7**	**+1.5**
	comp=Z,114nm,1.4s,mb5.3						
PPT	**Papeete**	**28.82**	**84**	P	**P**	**20 09 39.6**	**+1.1**
	comp=Z,17nm,0.4s,mb5.0,baz=164,slow=20,SNR=6.9						
CNB	**Canberra Magne**	**29.26**	**239**	*e*P	**P**	**20 09 44.1**	**+1.8**
	comp=Z,62nm,0.8s,mb5.3						
CNB				*e*S	**S**	**20 13 58.0**	**+0.9**
CTA	**Charters Tower**	**31.72**	**270**⇓*i*P		**P**	**20 10 04.2**	**+0.8**
	comp=Z,58nm,0.3s,mb5.6						
CTA	**Charters Tower**	**31.72**	**270**	P	**P**	**20 10 04.3**	**+0.9**
	comp=Z,77nm,0.4s,mb5.6,baz=96,slow=11,SNR=208						
CTA	**Charters Tower**	**31.72**	**270**⇓*i*P		**P**	**20 10 04.2**	**+0.8**
CTA				pmax	pmax		
	comp=Z,58nm,0.3s						
CTAO	**Charters Tower**	**31.72**	**270**	*e*P	**P**	**20 10 04.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,150nm,0.8s,mb5.6						
CTAO	**Charters Tower**	**31.72**	**270**	*e*P	**P**	**20 10 04.2**	**+0.8**
	comp=Z,150nm,0.8s,mb5.6						
TOO	**Toolangi**	**32.87**	**237**	*e*P	**P**	**20 10 14.4**	**+1.3**
	comp=Z,34nm,0.7s,mb5.0						
TOO				*e*S	**S**	**20 14 53.2**	**+0.8**
TOO	**Toolangi**	**32.87**	**237**	*e*P	**P**	**20 10 14.4**	**+1.3**
TOO				*e*S	**S**	**20 14 53.2**	**+0.8**
TOO				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.0						
PMG	**Port Moresby**	**34.60**	**288**	P	**P**	**20 10 27.8**	**+0.1**
	comp=Z,133nm,0.8s,mb5.5,baz=98,slow=5.8,SNR=35						
PMG	**Port Moresby**	**34.60**	**288**	*e*P	**P**	**20 10 27.7**	**0.0**
PMG				pmax	pmax		
	comp=Z,190nm,1.0s						
PMG	**Port Moresby**	**34.60**	**288**	*e*P	**P**	**20 10 27.7**	**0.0**
	comp=Z,190nm,1.0s,mb5.6						
STKA	**Stephens Creek**	**35.09**	**248**	P	**P**	**20 10 30.8**	**-1.0**
	comp=Z,47nm,0.8s,mb5.1,baz=89,slow=9.0,SNR=90						
STKA				PcP	PcP	20 12 46.8	-1.3
	comp=Z,5.6nm,0.6s,baz=62,slow=2.7,SNR=3.0						
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**20 11 30.7**	**+0.3**
	comp=Z,117nm,0.9s,mb5.4,baz=93,slow=8.2,SNR=475						
ASAR				PcP	PcP	20 13 11.3	+0.1
	comp=Z,4.8nm,0.7s,baz=104,slow=3.8,SNR=4.9						
ASAR				ScP	ScP	20 16 11.2	+1.0
	comp=Z,5.7nm,0.9s,baz=116,slow=4.2,SNR=12						
ASAR				S	**S**	**20 17 07.2**	**-5.1**
	comp=Z,2.5nm,0.7s,baz=97,slow=16,SNR=8.3						
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**20 11 30.7**	**+0.3**
ASAR				pP	pP	20 13 11.3	+3.9
ASAR				S	**S**	**20 17 07.2**	**-5.1**
WB2	**Warramunga Arr**	**42.67**	**266**⇓*i*P		**P**	**20 11 32.5**	**-0.5**
WB2				*e*ScP	ScP	20 16 13.4	+1.8
WB2				*e*S	**S**	**20 17 12.1**	**-4.9**
WRAB	**Tennant Creek**	**42.67**	**266**	P	**P**	**20 11 32.0**	**-1.0**
	comp=Z,633nm,1.2s,mb6.0,SNR=43						
WRAB	**Tennant Creek**	**42.67**	**266**	*e*P	**P**	**20 11 32.7**	**-0.3**
WRAB				*e*	pP	20 13 13.0	+2.8
WRAB				pmax	pmax		
	comp=Z,172nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**42.67**	**266**	*e*P	**P**	**20 11 32.7**	**-0.3**
	comp=Z,172nm,0.9s,mb5.6						
WRAB				*e*	pP	20 13 13.0	+2.8
FITZ	**Fitzroy Crossi**	**51.10**	**265**⇓*i*P		**P**	**20 12 36.7**	**+0.2**
	comp=Z,124nm,0.9s,mb5.2						
VNDA	**Vanda**	**54.79**	**185**	P	**P**	**20 13 04.8**	**+2.1**
	comp=Z,2.8nm,0.7s,mb3.6,baz=18,slow=7.6,SNR=13						
VNDA				PcP	PcP	20 13 56.6	-0.2
	comp=Z,3.3nm,0.6s,baz=6.8,slow=6.2,SNR=5.6						
VNDA	**Vanda**	**54.79**	**185**	P	**P**	**20 13 04.8**	**+2.1**
VNDA				PcP	PcP	20 13 56.6	-0.2
KLBR	**Kellerberrin**	**55.37**	**247**⇓*i*P		**P**	**20 13 06.6**	**-0.2**
	comp=Z,114nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**55.62**	**245**	P	**P**	**20 13 08.5**	**0.0**
	comp=Z,26nm,0.8s,mb4.5,baz=115,slow=5.5,SNR=17						
NWAO	**Narrogin (SRO)**	**55.62**	**245**	*e*P	**P**	**20 13 08.5**	**0.0**
NWAO				pmax	pmax		
	comp=Z,35nm,1.0s						
NWAO	**Narrogin (SRO)**	**55.62**	**245**	*e*P	**P**	**20 13 08.5**	**-0.1**
	comp=Z,35nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**55.68**	**260**	*e*P	**P**	**20 13 08.5**	**-0.4**
	comp=Z,114nm,1.0s,mb5.1						
MBWA				*e*PcP	PcP	20 13 58.0	-2.3
MUN	**Mundaring**	**56.61**	**246**⇓*i*P		**P**	**20 13 15.5**	**+0.1**
QSPA	**South Pole Qui**	**66.57**	**180**	*e*P	**P**	**20 14 21.7**	**+1.3**
	comp=Z,10nm,0.5s,mb4.6						
MJAR	**Matsushiro Arr**	**71.71**	**325**	P	**P**	**20 14 50.4**	**-0.8**
	comp=Z,9.0nm,0.8s,mb4.2,baz=162,slow=6.3,SNR=12						
KSM	**Kuching**	**72.28**	**280**	*e*P	**P**	**20 14 54.3**	**-0.2**
KSM				*e*PP	PP	20 17 47.5	+2.7
ASAJ	**Asahikawa**	**75.63**	**333**	P	**P**	**20 15 14.4**	**+1.0**
	comp=Z,19nm,0.7s,mb4.6,baz=72,slow=6.9,SNR=5.9						
FX1	**Attu Island--F**	**76.32**	**356**	P	**P**	**20 15 15.8**	**-1.4**
	comp=Z,21nm,0.7s,mb4.7,baz=119,slow=5.1,SNR=5.1						
YSS	**Yuzh-Sakhalins**	**77.89**	**335**	*i* P	**P**	**20 15 25.1**	**-0.7**
SSE	**Sheshan**	**78.42**	**311**	*e*P	**P**	**20 15 25.3**	**-3.3**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,221nm,3.5s						
NJ2	**Nanjing**	**80.59**	**311**	*e*P	**P**	**20 15 38.8**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**82.08**	**326**	P	**P**	**20 15 47.5**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,110nm,3.8s						
MDJ	**Mudanjiang**	**82.08**	**326**	*e*P	**P**	**20 15 48.2**	**+0.5**
	comp=Z,26nm,1.2s,mb4.5						
HABR	**Khabarovsk**	**82.28**	**332**	*i* P	**P**	**20 15 48.3**	**-0.4**
HABR				pmax	pmax		
	comp=Z,77nm,1.7s,mb4.9						
ISA	**Isabella**	**82.58**	**46**	*e*P	**P**	**20 15 50.9**	**+0.7**
ISA				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.4						
ISA	**Isabella**	**82.58**	**46**	*e*P	**P**	**20 15 50.9**	**+0.7**
	comp=Z,19nm,1.6s,mb4.4						
CMB	**Columbia Colle**	**82.75**	**43**	*e*P	**P**	**20 15 51.7**	**+0.6**
CMB				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
CMB	**Columbia Colle**	**82.75**	**43**	*e*P	**P**	**20 15 51.7**	**+0.7**
	comp=Z,15nm,1.2s,mb4.4						
PSI	**Prapat**	**83.18**	**276**	P	**P**	**20 15 52.7**	**-0.5**
	comp=Z,14nm,0.8s,mb4.5,baz=142,slow=2.2,SNR=14						
SYO	**Syowa Base**	**83.45**	**193**⇑*e*P		**P**	**20 15 53.6**	**-0.9**
CN2	**Changchun**	**83.72**	**323**	*e*P	**P**	**20 15 55.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
NVAR	**Mina Array Bea**	**84.30**	**44**	P	**P**	**20 15 59.6**	**+0.8**
	comp=Z,3.9nm,0.9s,mb3.9,baz=199,slow=6.3,SNR=14						
LDFC	**Landfair**	**84.51**	**48**	*e*P	**P**	**20 16 01.1**	**+1.3**
VNA3	**Neumayer Olymp**	**85.25**	**177**⇓*i*P		**P**	**20 16 02.2**	**-1.2**
VNA3				*e*		20 16 03.8	
VNA2	**Neumayer--Watz**	**85.67**	**177**⇓*i*P		**P**	**20 16 04.0**	**-1.4**
	baz=194,slow=3.5						
VNA2				*e*		20 16 06.2	
VNA2				*e*		20 16 12.6	
TUC	**Tucson**	**86.09**	**52**	*e*P	**P**	**20 16 08.9**	**+1.5**
TUC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.5						
TUC	**Tucson**	**86.09**	**52**	*e*P	**P**	**20 16 08.9**	**+1.5**
	comp=Z,13nm,1.1s,mb4.5						
MA2	**Magadan**	**86.26**	**345***c i*P		**P**	**20 16 07.1**	**-1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
MA2	**Magadan**	**86.26**	**345**	*e*P	**P**	**20 16 06.6**	**-1.6**
	comp=Z,17nm,0.8s,mb4.7						
ENH	**Enshi**	**86.42**	**305**	*e*P	**P**	**20 16 09.5**	**+0.5**
	comp=Z,34nm,0.8s,mb5.0						
BJT	**Baijiatuau**	**86.91**	**316**	*e*P	**P**	**20 16 11.2**	**-0.1**
BJT				pmax	pmax		
	comp=Z,15nm,0.9s						
BJT	**Baijiatuau**	**86.91**	**316**	*e*P	**P**	**20 16 11.2**	**-0.1**
	comp=Z,15nm,0.9s,mb4.6						
XAN	**Xi'an**	**88.69**	**308**	P	**P**	**20 16 19.8**	**+0.2**
XAN				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.1						
SEY	**Seymchan**	**88.94**	**348**	*i* P	**P**	**20 16 19.6**	**-1.2**
TNA	**Tin City**	**89.25**	**5**	*e*P	**P**	**20 16 21.1**	**-1.1**
	comp=Z,7.8nm,1.3s,mb4.4						
KMI	**Kunming**	**89.30**	**298**	P	**P**	**20 16 23.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.8						
TMUT	**Trail Mountain**	**89.39**	**46**	*e*P	**P**	**20 16 24.2**	**+1.4**
SRU	**San Rafael**	**89.75**	**47**	*e*P	**P**	**20 16 25.1**	**+0.6**
SRU				*e*		20 20 09.2	
SRU				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
SRU	**San Rafael**	**89.75**	**47**	*e*P	**P**	**20 16 25.1**	**+0.5**
	comp=Z,16nm,1.0s,mb4.8						
SRU				*e*PP	PP	20 20 09.2	+2.6
CD2	**Chengdu**	**91.07**	**303**	P	**P**	**20 16 32.5**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**91.59**	**13**	P	**P**	**20 16 31.0**	**-2.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=224,slow=5.9,SNR=15						
BILL	**Bilibino**	**91.86**	**355**	*e*P	**P**	**20 16 33.3**	**-0.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**91.86**	**355**	*e*P	**P**	**20 16 33.3**	**-1.0**
	comp=Z,5.1nm,0.9s,mb4.5						
LZH	**Lanzhou**	**93.33**	**308**	*e*P	**P**	**20 16 41.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,92nm,4.2s						
YAK	**Yakutsk**	**94.30**	**339**	*i* P	**P**	**20 16 43.9**	**-1.5**
SONM	**Songino Array**	**96.97**	**319**	P	**P**	**20 16 56.3**	**-1.1**
	comp=Z,0.4nm,0.4s,mb4.0,baz=119,slow=4.7,SNR=4.4						
SONM				PP	PP	20 20 52.2	-10
	comp=Z,0.2nm,0.3s,baz=104,slow=4.8,SNR=3.0						
YKA	**Yellowknife Ar**	**99.91**	**25**	PP	PP	20 21 19.9	-4.1
	comp=Z,0.5nm,0.9s,baz=239,slow=7.2,SNR=4.8						
ZAL	**Zalesovo**	**111.81**	**321**	PKiKP	PKiKP	20 21 55.4	-1.9
	comp=Z,1.0nm,0.4s,baz=329,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**112.07**	**313**	Pdiff	Pdif	20 18 01.9	-2.6
	comp=Z,0.2nm,0.3s,baz=121,slow=6.9,SNR=6.2						
MKAR				PKiKP	PKiKP	20 21 56.1	-1.6
	comp=Z,1.9nm,0.6s,baz=178,slow=0.4,SNR=32						
MKAR				PP	PP	20 22 44.5	-7.7
	comp=Z,0.6nm,0.9s,baz=98,slow=8.9,SNR=2.6						
MKAR				SKP		20 24 40.3	
	comp=Z,1.0nm,0.8s,baz=88,slow=1.5,SNR=5.6						
MKAR	**Makanchi Array**	**112.07**	**313**	P	Pdif	20 18 02.0	-2.6
MKAR						20 21 56.1	
MKAR						20 24 40.3	
KURK	**Kurchatov**	**115.09**	**317**	*e*PKPdf	PKPdf	20 22 01.7	-1.8
KURK				*e*PP	PP	20 23 03.1	-10
ZRNK	**Zerenda**	**121.15**	**319**	*e*PKIKP	PKPdf	20 22 13.5	-1.6
BOSA	**Boshof**	**122.86**	**206**	PKP	PKPdf	20 22 19.0	+0.6
	comp=Z,1.0nm,0.6s,baz=102,slow=2.7,SNR=5.7						
ARU	**Arti**	**126.71**	**324**	*i* PKIKP	PKPdf	20 22 23.6	-2.2
ARU				*e*		20 24 27.9	
ARCES	**ARCESS Array B**	**131.56**	**348**	PKhKP		20 22 24.8	
	comp=Z,2.5nm,0.8s,baz=298,slow=2.6,SNR=4.3						
ARCES				PKP	PKPdf	20 22 32.8	-2.2
	comp=Z,5.5nm,0.5s,baz=21,slow=1.3,SNR=24						
KMBO	**Kilima Mbogo**	**136.50**	**241**	PKP	PKPdf	20 22 45.1	+0.9
	comp=Z,1.3nm,0.6s,baz=57,slow=5.1,SNR=3.8						
KMBO				SKPbc	SKPbc	20 25 26.3	+0.5
	comp=Z,5.4nm,1.0s,baz=40,slow=3.0,SNR=8.6						
KMBO	**Kilima Mbogo**	**136.50**	**241**	*e*PKPdf	PKPdf	20 22 46.2	+2.0
FINES	**FINESS Array B**	**138.16**	**342**	PKHKP		20 22 34.8	
	comp=Z,1.0nm,0.4s,baz=72,slow=4.1,SNR=7.4						
FINES				PKP	PKPdf	20 22 46.5	-0.7
	comp=Z,1.6nm,0.6s,baz=79,slow=4.0,SNR=12						
FINES				SKPbc	SKPbc	20 25 28.6	-2.0
	comp=Z,3.0nm,0.7s,baz=37,slow=4.8,SNR=8.4						
FINES	**FINESS Array B**	**138.16**	**342**	PKHKP		20 22 34.8	
FINES						20 22 46.6	
OBN	**Obninsk**	**138.56**	**329**	PKIKP	PKPdf	20 22 49.0	+1.0
NB2	**NORSAR Subarra**	**141.73**	**351**	PKPa		20 22 47.7	
	comp=Z,4.0nm,0.6s,baz=18,slow=3.6						
NOA	**NORSAR Array B**	**141.73**	**351**	PKhKP		20 22 47.9	
	comp=Z,5.4nm

KSP			*i*		20 23 12.8		
KSP	**Ksiaz**	**150.01 340**	*e*PKPdf	PKPdf	20 23 06.4	-1.2	
KSP			*i* PKPdf	PKPdf	20 23 12.8	+5.2	
KSP			*e*pPKP	pPKPdf	20 25 24.9	+10	
OKC	**Ostrava-Krasne**	**150.22 336**	⇑*e*PKPB		20 23 10.6		
OKC			*e*PKPAB	PKPab	20 23 19.6	-2.7	
KECS	**Kecovo**	**150.37 332**	*e*PKP	PKPdf	20 23 13.4	+5.2	
KECS			*e*		20 23 22.4		
UPC	**Upice**	**150.39 339**	⇑*e*PKPB	PKPbc	20 23 13.7	-0.4	
UPC			*e*PKPAB	PKPab	20 23 22.9	-0.1	
DPC	**Dobruska-Polom**	**150.43 339**	⇑*e*PKPB		20 23 14.0		
DPC			*e*PKPAB	PKPab	20 23 23.2	0.0	
MORC	**Moravsky Berou**	**150.49 337**	*e*PKIKP	PKPbc	20 23 13.6	-0.8	
MORC			*e*		20 23 23.0		
CLL	**Collm**	**150.55 344**	*e*PKPdf	PKPdf	20 23 07.5	-1.0	
CLL			⇓*i*PKPbc	PKPbc	20 23 13.6	-0.9	
	comp=Z,44nm,0.8s						
CLL			*e*PKPab	PKPab	20 23 22.7	-1.0	
CLL			*e*pPKPbc	pPKPbc	20 25 26.8	+6.0	
CLL	**Collm**	**150.55 344**	*e*PKPdf	PKPdf	20 23 08.0	-0.5	
CLL			⇓*i*PKPbc	PKPbc	20 23 13.6	-0.9	
	comp=Z,45nm,0.8s						
CLL			⇑*i*PKPab	PKPab	20 23 22.7	-1.0	
	comp=Z,19nm,0.9s						
CLL			*e*pPKPbc	pPKPbc	20 25 27.0	+6.2	
CLL	**Collm**	**150.55 344**	*e*PKIKP	PKPdf	20 23 08.0	-0.5	
CLL			*i*		20 23 13.6		
CLL			*i*		20 23 22.7		
CLZ	**Clausthal**	**150.66 347**	*e*PKPbc	PKPbc	20 23 14.1	-0.7	
IBBN	**Ibbenburen**	**150.68 351**	*e*PKPbc	PKPbc	20 23 13.8	-1.0	
IBBN			*e*PKPab	PKPab	20 23 23.3	-0.9	
BRG	**Berggiesshubel**	**150.69 342**	*e*PKPbc	PKPbc	20 23 14.3	-0.5	
BRG	**Berggiesshubel**	**150.69 342**	*e*PKP	PKPdf	20 23 08.1	-0.6	
	comp=Z,2.4nm,1.0s						
BRG			*i*		20 23 14.3		
	comp=Z,15nm,0.6s						
BRG			*e*		20 25 27.7		
	comp=Z,6.3nm,0.8s						
BRG	**Berggiesshubel**	**150.69 342**	*e*PKIKP	PKPdf	20 23 08.1	-0.6	
BRG			*i*		20 23 14.3		
PSZ	**Piszkesteto**	**151.06 332**	*e*PKIKP	PKPbc	20 23 14.8	-0.9	
VRAC	**Vranov**	**151.22 338**	PKPbc	PKPbc	20 23 15.4	-0.6	
	comp=Z,2.4nm,0.6s,baz=205,slow=4.2,SNR=5.0						
VRAC			PKPab	PKPab	20 23 26.4	-0.2	
	comp=Z,12nm,0.8s,baz=35,slow=4.2,SNR=16						
PRU	**Pruhonice**	**151.31 341**	⇑*e*PKPB		20 23 15.6		
PRU			*e*PKPAB	PKPab	20 23 26.4	-0.5	
MOX	**Moxa**	**151.51 345**	*e*PKPbc	PKPbc	20 23 16.2	-0.5	
MOX			*e*PKPab	PKPab	20 23 26.9	-0.8	
MOX	**Moxa**	**151.51 345**	*e*P	PKPbc	20 23 15.7	-1.0	
	comp=Z,16nm,1.3s						
MOX			*e*		20 23 26.8		
TANN	**Tannenbergstha**	**151.51 344**	*e*PKPbc	PKPbc	20 23 16.4	-0.3	
BUG	**Bochum--Univer**	**151.60 351**	*e*PKPbc	PKPbc	20 23 16.0	-0.9	
NKC	**Novy Kostel**	**151.68 343**	⇑*e*PKPB		20 23 16.7		
NKC			*e*PKPAB	PKPab	20 23 27.9	-0.5	
UBBA	**Unterbreizbach**	**151.71 347**	*e*PKPbc	PKPbc	20 23 16.2	-0.9	
SRO	**Srobarova**	**151.80 334**	*e*PKP	PKPab	20 23 28.5	-0.5	
BZS	**Buzias**	**151.96 327**	⇓P	PKPbc	20 23 16.8	-0.9	
BZS	**Buzias**	**151.96 327**	⇓P	PKPbc	20 23 16.8	-0.9	
ZST	**Bratislava**	**151.96 336**	*e*PKP	PKPab	20 23 29.4	-0.3	
ROTZ	**Rotzenmuhle**	**152.17 343**	*e*PKPbc	PKPbc	20 23 17.6	-0.5	
KHC	**Kasperske Hory**	**152.36 341**	⇑*e*PKPB		20 23 17.8		
KHC			*e*PKPAB	PKPab	20 23 31.2	-0.1	
GRF	**Grafenberg Arr**	**152.49 345**	*e*PKPbc	PKPbc	20 23 18.0	-0.8	
GRF			*e*PKPab	PKPab	20 23 31.7	-0.2	
WET	**Wettzell**	**152.55 342**	*e*PKPab	PKPab	20 23 31.7	-0.4	
GEC2	**GERESS Array S**	**152.57 341**	*e*PKPbc	PKPbc	20 23 18.2	-0.8	
GERES	**GERESS Array B**	**152.57 341**	PKPbc	PKPbc	20 23 18.1	-0.9	
	comp=Z,2.3nm,0.6s,baz=45,slow=2.1,SNR=17						
GERES			PKPab	PKPab	20 23 31.6	-0.7	
	comp=Z,1.1nm,0.6s,baz=36,slow=3.5,SNR=6.9						
GERES			pPKPbc	pPKPbc	20 25 31.1	+5.5	
	comp=Z,0.6nm,0.9s,baz=28,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**152.57 341**	PKIKP	PKPbc	20 23 18.1	-0.9	
GERES					20 23 31.6		
TNS	**Taunus Mts**	**152.58 349**	*e*PKPbc	PKPbc	20 23 18.5	-0.5	
TNS			*e*PKPab	PKPab	20 23 31.3	-1.0	
VTS	**Vitosha**	**153.09 321**	⇓PKIKP	PKPbc	20 23 19.6	-0.5	
STU	**Stuttgart**	**153.82 347**	*e*PKPdf	PKPdf	20 23 12.6	-0.7	
STU			*e*PKPab	PKPab	20 23 36.4	-1.2	
FUR	**Furstenfeldbru**	**153.88 343**	*e*PKPdf	PKPdf	20 23 12.8	-0.5	
FUR			*e*PKPbc	PKPbc	20 23 21.0	-0.8	
FUR			*e*PKPab	PKPab	20 23 37.3	-0.5	
VAY	**Valandovo**	**154.24 319**	*e*PKP	PKPdf	20 23 12.5	-1.3	
VAY			*e*PKP	PKPab	20 23 38.5	-0.9	
STIP	**Stip**	**154.24 320**	*e*PKP	PKPdf	20 23 13.2	-0.6	
STIP			*e*PKP	PKPab	20 23 38.4	-1.0	
SKO	**Skopje**	**154.50 321**	*e*PKP	PKPdf	20 23 13.7	-0.5	
SKO			*e*PKP	PKPab	20 23 41.1	+0.6	
CDF	**Champ du Feu**	**154.53 349**	*e*PKP2	PKPab	20 23 38.8	-1.8	
	comp=Z,12nm,0.8s						
HAU	**Haudompre**	**155.08 350**	*e*PKP2	PKPab	20 23 42.2	-0.8	
	comp=Z,14nm,0.7s						
HINF	**Hinteralfeld**	**155.18 349**	*e*PKP2	PKPab	20 23 41.4	-2.0	
	comp=Z,12nm,0.9s						
OHR	**Ohrid**	**155.42 320**	*e*PKP	PKPdf	20 23 13.6	-1.9	
OHR			*e*PKP	PKPab	20 23 43.5	-0.9	
DAVOX	**Davos**	**155.53 344**	PKP	PKPdf	20 23 14.4	-1.2	
DAVOX			PKPab	PKPab	20 23 44.5	-0.4	
DAVOX	**Davos**	**155.53 344**	PKP	PKPdf	20 23 14.4	-1.2	
DAVOX			PKPab	PKPab	20 23 44.5	-0.4	
LOR	**Lormes**	**156.12 354**	*e*PKP2	PKPab	20 23 45.5	-2.0	
	comp=Z,9.1nm,0.8s						
SSF	**Saint Saulge**	**156.36 354**	*e*PKP2	PKPab	20 23 46.8	-1.7	
	comp=Z,18nm,0.8s						
CABF	**La Chapelle**	**156.48 350**	*e*PKP2	PKPab	20 23 46.4	-2.6	
	comp=Z,42nm,1.3s						
AVF	**Avril sur Loir**	**156.64 355**	*e*PKP2	PKPab	20 23 48.5	-1.2	
	comp=Z,9.2nm,0.8s						
SMF	**Signal de Mont**	**156.74 354**	*e*PKP2	PKPab	20 23 48.4	-1.7	
	comp=Z,46nm,1.1s						
LPL	**La Plagne**	**157.43 348**	*e*PKP2	PKPab	20 23 51.7	-1.4	
LPG	**La Plagne**	**157.44 348**	*e*PKP2	PKPab	20 23 51.6	-1.6	
	comp=Z,7.8nm,0.7s						
ORIF	**Oris-en-Rattie**	**158.16 349**	*e*PKP2	PKPab	20 23 55.1	-1.2	
	comp=Z,16nm,0.8s						
MBDF	**Montbardon**	**158.18 347**	*e*PKP2	PKPab	20 23 54.9	-1.5	
SBF	**Sospel**	**158.86 346**	*e*PKP2	PKPab	20 23 57.4	-2.0	
	comp=Z,54nm,1.0s						
SMRF	**Simiane la Rot**	**159.12 349**	*e*PKP2	PKPab	20 23 58.8	-1.7	
FRF	**La Foret Royal**	**159.32 347**	*e*PKP2	PKPab	20 23 59.4	-2.0	
LMR	**La Mourre**	**159.57 347**	*e*PKP2	PKPab	20 24 00.9	-1.6	
PGF	**Pioggiola**	**159.67 341**	*e*PKP2	PKPab	20 24 00.9	-2.0	
	comp=Z,35nm,1.2s						
DBIC	**Dimbokro**	**162.55 163**	PKP	PKPdf	20 23 23.3	-0.3	
	comp=Z,4.3nm,0.9s,baz=257,slow=4.7,SNR=5.9						
DBIC			PKPab	PKPab	20 24 16.6	+1.1	
	comp=Z,1.1nm,0.8s,baz=243,slow=4.5,SNR=3.8						
ESDC	**Sonseca Array**	**163.49 12**	PKPab	PKPab	20 24 18.9	-0.8	
	comp=Z,0.3nm,0.5s,baz=329,slow=9.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**169.60 188**	PKP	PKPdf	20 23 28.8	-0.3	
	comp=Z,3.5nm,1.0s,baz=352,slow=0.9,SNR=13						
TORD			PKPab	PKPab	20 24 47.2	+0.5	
	comp=Z,2.4nm,0.6s,baz=175,slow=4.3,SNR=14						
TORD			pPKPab	pPKPab	20 26 54.1	+7.0	
	comp=Z,1.3nm,0.9s,baz=196,slow=3.8,SNR=4.5						
TORD			PP	PP	20 28 30.7	-6.9	
	comp=Z,0.5nm,0.9s,baz=177,slow=3.6,SNR=2.5						

NIED ***26*** *20:10:00, 36.70N×14.130E, h26km, Mw3.4 Best double couple: M0=1.57000×10^14 NP1:φs=157.00000°, δ81.00000°, λ-104.00000°. NP2:φs=35.00000°, δ17.00000°, λ-33.00000°.*

JMA 26 20:10:22.2±0.1, 3673N×14129E, h45km±2km, M3.5, 5C-1D Broadband fault plane solution: P waves. NP1: φs155.00000°, δ12.00000°, λ-81.00000°. NP2: φs326.00000°, δ78.00000°, λ-92.00000°. Principal axes: T Plg33.0000°, Azm58.0000°; N Plg2.0000°, Azm327.0000°; P Plg57.0000°, Azm234.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54 313**		P	Pn	20 10 33.4	-0.3
ONAJ				*e*S	Sn	20 10 41.5	-0.3
JHO	**Hitachi**	**0.59 259**		⇑P	Pn	20 10 34.1	-0.2
JFK	**Kawauchi**	**0.72 333**		⇓P	Pn	20 10 35.6	-0.4
JYT	**Yasato**	**1.02 241**		⇑P	Pn	20 10 40.2	+0.2
JYT				*e*S	Sn	20 10 53.0	-0.1
JFT	**Otama**	**1.09 316**		⇑P	Pn	20 10 42.2	+1.1
JFT				S	Sn	20 10 56.3	+1.2
JSB	**Shiboa**	**1.12 283**		⇑P	Pn	20 10 42.8	+1.3
JSB				*e*S	Sn	20 10 58.1	+2.3
JMM	**Marumori**	**1.20 341**		P	Pn	20 10 42.4	-0.1
JMM				*e*S	Sn	20 10 57.6	-0.1
JFY	**Yanaizu**	**1.44 299**		P	Pn	20 10 47.5	+1.7
JFY				S	Sn	20 11 05.2	+1.8
JAG	**Ashikaga**	**1.51 259**		⇑P	Pn	20 10 47.7	+0.9
MAT	**Matsushiro**	**2.49 267**		P	Pn	20 11 02.6	+2.4
MAT				S	Sn	20 11 32.7	+3.4

IDC ***26*** *20:25:07.3±1.0, 864S×13056E, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.3/12, mbtmp4.3/6, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/19 Error ellipse: s-maj=68.6km s-min=19.7km az=63.0*

ISCJB ***26*** *20:25:08.8±0.4, 891S±003×13067E±007, h33km, mb4.6/22, MS4.1/2, Error ellipse: s-maj=10.7km s-min=4.3km az=164.3*

BJI ***26*** *20:25:10.2, 880S×13070E, h35km, mB5.3, mb4.9, Ms4.9, Msz4.3*

NEIC ***26*** *20:25:11.3±0.5, 876S×13073E, h35km, mb4.5/10, Error ellipse: s-maj=17.6km s-min=7.1km az=81.0*

ISC 26 20:25:11.4±2.7, 886S±004×13067E±008, h33km±19km, n38, σ1§11/42, mb4.6/22, MS4.1/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.40 208**		*e*P	**Pn**	**20 27 39.3**	**+1.1**
	78nm,1.3s						
FITZ				*e*S	**Sn**	**20 29 33.4**	**-0.2**
WRAB	**Tennant Creek**	**11.57 162**		*e*Pn	**Pn**	**20 27 54.8**	**+0.6**
	19nm,0.6s						
WRAB				*e*Sn	**Sn**	**20 30 02.6**	**+0.5**
WB2	**Warramunga Arr**	**11.57 162**		*e*P	**Pn**	**20 27 53.9**	**-0.3**
WB2				*e*S	**Sn**	**20 30 01.0**	**-1.3**
ASAR	**Alice Springs**	**15.04 169**		Pn	**Pn**	**20 28 40.5**	**-1.0**
	1.1nm,0.3s,baz=346,slow=10,SNR=60						
ASAR				Sn	**Sn**	**20 31 26.7**	**-0.2**
	0.6nm,0.3s,baz=348,slow=26,SNR=5.9						
ASAR				Lg		20 33 05.0	
	baz=356,slow=32,SNR=4.1						
MBWA	**Marble Bar**	**16.15 220**		*e*Pn	**Pn**	**20 28 56.3**	**+0.5**
MBWA				*e*Sn	**Sn**	**20 31 51.1**	**-2.6**
CTA	**Charters Tower**	**18.75 128**		P	**Pn**	**20 29 32.0**	**+4.0**
	0.2nm,0.3s,baz=336,slow=9.1,SNR=5.5						
CTA				LR	LR	20 37 28.6	
	comp=Z,185nm,20.0s,baz=146,slow=39						
STKA	**Stephens Creek**	**25.05 158**		P	**P**	**20 30 34.2**	**+1.7**
	8.5nm,0.8s,mb4.3,baz=332,slow=6.8,SNR=13						
STKA				LR	LR	20 40 52.3	
	comp=Z,174nm,18.1s,MS3.6,baz=23,slow=37						
KLBR	**Kellerberrin**	**25.61 206**		*e*P	**P**	**20 30 41.0**	**+3.4**
	13nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**26.98 206**		*e*P	**P**	**20 30 53.9**	**+3.9**
SSE	**Sheshan**	**40.76 347**		*e*P	**P**	**20 32 49.3**	**+0.1**
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,318nm,5.0s						
NJ2	**Nanjing**	**42.22 345**		*e*P	**P**	**20 33 01.0**	**-0.2**
NJ2				AP	pP	20 33 10.8	-0.1
NJ2				XP	sP	20 33 15.0	+0.2
NJ2				PP	PP	20 34 42.3	+3.0
NJ2				S	**S**	**20 39 20.0**	**+0.6**
NJ2				XS	sS	20 39 35.0	-0.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,160nm,3.9s						
NJ2				LR	LR		
	comp=N,650nm,16.6s,MS4.8						
NJ2				LR	LR		
	comp=E,730nm,18.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,420nm,22.1s,MS4.3						
ENH	**Enshi**	**43.91 333**		P	**P**	**20 33 13.2**	**-1.7**
MJAR	**Matsushiro Arr**	**45.71 8**		P	**P**	**20 33 27.2**	**-2.1**
	comp=Z,21nm,0.8s,mb4.1,baz=195,slow=8.4,SNR=4.1						
XAN	**Xi'an**	**47.40 335**		P	**P**	**20 33 39.8**	**-2.7**
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
LZH	**Lanzhou**	**51.35 332**		*e*P	**P**	**20 34 12.0**	**-0.6**
LZH				XP	sP	20 34 24.0	-2.3
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LSA	**Lhasa**	**54.00 317**		*e*P	**P**	**20 34 32.5**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2						
GTA	**Gaotai**	**55.91 331**		*e*P	**P**	**20 34 46.0**	**-0.1**
GTA				AP	pP	20 34 53.5	-2.5
GTA				XP	sP	20 34 57.8	-2.0
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GUN	**Gumba**	**56.68 312**		*e*P	**P**	**20 34 51.2**	**-0.3**
	comp=Z,8.9nm,0.6s,mb5.0						
PKI	**Pulchoki**	**56.84 311**		*e*P	**P**	**20 34 52.4**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.9						
KKN	**Kakani**	**57.05 311**		*e*P	**P**	**20 34 53.4**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.6						
GKN	**Gorkha**	**57.65 311**		*e*P	**P**	**20 34 57.6**	**-0.8**
	comp=Z,5.6nm,0.4s,mb4.9						
ULN	**Ulaanbaatar**	**60.23 342**		*e*P	**P**	**20 35 16.1**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.6						
SONM	**Songino Array**	**60.41 341**		P	**P**	**20 35 17.4**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=159,slow=6.9,SNR=15						
WMQ	**Urumqi**	**65.31 327**		P	**P**	**20 35 50.5**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**70.14 327**		P	**P**	**20 36 20.6**	**+0.1**
	comp=Z,7.2nm,0.6s,mb4.8,baz=119,slow=7.8,SNR=90						
KZA	**Kyzart**	**71.62 320**		P	**P**	**20 36 31.4**	**+1.9**
	SNR=8.4						
UCH	**Uchtor**	**72.17 320**		P	**P**	**20 36 34.9**	**+2.1**
	SNR=6.5						
AAK	**Ala-Archa**	**72.38 320**		P	**P**	**20 36 35.8**	**+1.7**
	SNR=5.4						
AAK	**Ala-Archa**	**72.38 320**		*e*P	**P**	**20 36 34.3**	**+0.2**
	comp=Z,5.7nm,1.1s,mb4.4						
AML	**Almayashu**	**72.64 319**		P	**P**	**20 36 37.5**	**+1.8**
	SNR=8.1						
USP	**Ospenovka**	**72.70 321**		P	**P**	**20 36 36.9**	**+0.9**
	SNR=5.6						
EKS2	**Erkin-Say**	**72.86 320**		P	**P**	**20 36 38.6**	**+1.7**
	SNR=7.7						
ZAL	**Zalesovo**	**73.54 334**		P	**P**	**20 36 40.0**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=346,slow=7.1,SNR=10						
KURK	**Kurchatov**	**74.44 329**		*e*P	**P**	**20 36 45.3**	**-1.0**
	comp=Z,5.8nm,0.9s,mb4.5						
BRVK	**Borovoye**	**80.06 328**		*e*P	**P**	**20 37 17.6**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**80.68 327**		*e*P	**P**	**20 37 20.6**	**-0.4**
	comp=Z,8.4nm,1.3s,mb4.5						
LPAZ	**La Paz**	**148.84 143**		PKPbc	PKPbc	20 45 00.2	+4.7
	comp=Z,0.7nm,0.5s,baz=216,slow=5.5,SNR=3.9						
LPAZ	**La Paz**	**148.84 143**		PKPbc	PKPbc	20 45 00.2	+4.7

ISCJB ***26*** *21:13:19.1±2.8, 3061S±008×1775W±05, h33km, mb4.6/4, Error ellipse: s-maj=56.1km s-min=9.2km az=14.5*

NEIC ***26*** *21:13:19.3±4.1, 3046S×17753W, h18km±24km, mb4.7/2, Error ellipse: s-maj=21.2km s-min=10.2km az=102.0*

IDC ***26*** *21:13:23.4±4.8, 3030S×17780W, h36km±34km, mb4.3/2, mb1 4.4/3, mb1mx4.1/11, mbtmp4.5/3, ML4.1/1, Error ellipse: s-maj=44.6km s-min=22.7km az=119.0*

ISC 26 21:13:20.3±3.1, 3053S±008×1773W±05, h35km, n23, σ0§61/18, mb4.6/4, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.38 338**		P	**Pn**	**21 13 41.9**	**-1.1**
	375nm,0.3s,baz=76,slow=21,SNR=10.0						
RAO				Sn	**Sn**	**21 13 54.6**	**-5.4**
	2μm,0.3s,baz=307,slow=20,SNR=20						
MWZ	**Matawai**	**8.87 207**		PN	**Pn**	**21 15 25.7**	**-0.2**
URZ	**Urewera**	**8.97 209**		Pn	**Pn**	**21 15 26.9**	**-0.4**
	0.6nm,0.3s,baz=185,slow=4.7,SNR=12						
URZ				Sn	**Sn**	**21 17 06.9**	**-0.3**
	2.7nm,0.3s,baz=188,slow=15,SNR=8.8						
URZ	**Urewera**	**8.97 209**		PN	**Pn**	**21 15 26.6**	**-0.8**
URZ				SN	**Sn**	**21 17 05.9**	**-1.3**
MRZ	**Mangatainoka R**	**11.64 208**		SN	**Sn**	**21 18 05.1**	**-7.4**
MQZ	**McQueen's Vall**	**15.37 208**		SN	**Sn**	**21 19 30.4**	**-13**
RPZ	**Rata Peaks**	**16.07 212**		Pn	**Pn**	**21 17 04.6**	**+1.0**
	0.6nm,0.3s,baz=39,slow=6.5,SNR=3.7						
RPZ				Sn	**Sn**	**21 19 46.2**	**-14**
	0.3nm,0.3s,baz=45,slow=20,SNR=3.4						
STKA	**Stephens Creek**	**35.02 257**		P	**P**	**21 20 09.8**	**+0.4**
	11nm,0.7s,mb4.9,baz=92,slow=9.2,SNR=25						
AS31	**Alice Springs**	**43.69 267**		*e*P	**P**	**21 21 22.3**	**+0.6**
ASAR	**Alice Springs**	**43.69 267**		P	**P**	**21 21 21.8**	**0.0**
	1.3nm,0.4s,mb4.0,baz=104,slow=7.4,SNR=21						
ASPA	**Alice Springs**	**43.69 267**		*e*P	**P**	**21 21 22.3**	**+0.6**
WB2	**Warramunga Arr**	**44.68 272**		⇓*i*P	**P**	**21 21 29.5**	**-0.1**
WRAB	**Tennant Creek**	**44.68 272**		*e*P	**P**	**21 21 29.6**	**-0.1**
	8.9nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.94 270**		*e*P	**P**	**21 22 33.3**	**+0.2**
	4.6nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**59.58 180**		*e*P	pP	21 23 32.9	+1.8
AKTK	**Aktyubinsk**	**134.62 312**		PKP	PKPdf	21 32 36.8	+1.9
AKTO	**Aktyubinsk**	**134.62 312**		PKP	PKPdf	21 32 36.8	+1.9
	0.9nm,0.6s,baz=72,slow=3.2,SNR=2.9						
KAF	**Kangasniemi**	**144.87 341**		*e*pkp	PKPdf	21 32 52.5	-1.0
	baz=40,slow=3.3						
FINES	**FINESS Array B**	**145.47 340**		PKPbc	PKPbc	21 32 55.2	+0.6
	5.4nm,0.4s,baz=57,slow=4.3,SNR=118						
NOA	**NORSAR Array B**	**148.97 352**		PKPbc	PKPbc	21 33 05.8	+1.4
	1.8nm,0.8s,baz=16,slow=4.5,SNR=3.5						
AKASG	**Malin Array Be**	**151.76 323**		PKPbc	PKPbc	21 33 12.1	+1.0
	5.4nm,0.6s,baz=49,slow=2.6,SNR=17						
BRTR	**Keskin Array B**	**153.18 298**		PKPbc	PKPbc	21 33 15.5	+1.2
	0.8nm,0.8s,baz=148,slow=5.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**162.68 177**		PKPab	PKPab	21 34 11.6	+4.5
	0.6nm,0.9s,baz=187,slow=2.6,SNR=5.2						

ISCJB ***26*** *21:26:48.8±2.0, 69S±01×15236E±007, h52km±19km, mb4.2/11, MS3.6/4, Error ellipse: s-maj=20.8km s-min=11.0km az=159.2*

IDC ***26*** *21:26:49.5±4.5, 687S×15241E, h45km±43km, mb3.9/8, mb1 4.1/9, mb1mx4.0/15, mbtmp4.2/9, ML3.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/24, Error ellipse: s-maj=29.7km s-min=23.8km az=49.0*

NEIC ***26*** *21:26:50.7±1.3, 690S×15232E, h54km±13km, mb4.5/4, Error ellipse: s-maj=13.3km s-min=8.6km az=164.0*

ISC 26 21:26:51.1±1.7, 69S±01×15235E±007, h58km±16km, n21, σ0§73/18, mb4.2/11, MS3.6/4, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.72 244**		P	**Pn**	**21 28 12.1**	**-1.4**
	11nm,0.3s,baz=58,slow=6.4,SNR=23						
PMG				S	**Sn**	**21 29 18.6**	**+0.9**
	6.9nm,0.3s,baz=33,slow=14,SNR=5.6						
PMG				LR	LR	21 30 34.7	
	comp=Z,745nm,18.4s,baz=346,slow=39						
HNR	**Honiara**	**7.93 109**		LR	LR	21 31 18.0	
	comp=Z,148nm,18.6s,baz=353,slow=34						
HNR	**Honiara**	**7.93 109**		Pn	**Pn**	**21 28 44.2**	**+0.5**
CTA	**Charters Tower**	**14.40 204**		LR	LR	21 34 52.2	
	comp=Z,173nm,18.8s,baz=22,slow=33						
DZM	**Mont Dzumac**	**20.32 139**		P	**P**	**21 31 22.3**	**-0.1**
	8.8nm,0.8s,baz=325,slow=16,SNR=3.3						
DZM				LR	LR	21 38 24.7	
	comp=Z,387nm,18.5s,MS3.8,baz=205,slow=34						
WRAB	**Tennant Creek**	**21.76 232**		*e*P	**P**	**21 31 37.7**	**-0.1**
	24nm,0.9s,mb4.6						
WRAB				*e*		21 31 48.4	
WB2	**Warramunga Arr**	**21.77 232**		⇓*i*P	**P**	**21 31 37.6**	**-0.3**
ASAR	**Alice Springs**	**24.34 225**		P	**P**	**21 32 04.4**	**+0.9**
	7.8nm,0.7s,mb4.3,baz=54,slow=9.2,SNR=55						
STKA	**Stephens Creek**	**26.82 201**		P	**P**	**21 32 25.1**	**-0.8**
	2.7nm,0.8s,mb3.8,baz=20,slow=13,SNR=6.4						
STKA				LR	LR	21 41 18.6	
	comp=Z,87nm,21.2s,MS3.3,baz=1.6,slow=32						
FITZ	**Fitzroy Crossi**	**28.32 244**		*e*P	**P**	**21 32 39.6**	**+0.3**
	15nm,0.6s,mb4.8						
AFI	**Afiamalu**	**35.93 104**		LR	LR	21 45 35.1	
	comp=Z,64nm,19.3s,MS3.4,baz=77,slow=31						
URZ	**Urewera**	**36.45 148**		LR	LR	21 46 12.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARI	**Arriondas**	**1.54**	**71**	Pg	Pg	21 29 46.2	-0.5
	1.0nm,0.2s,SNR=15						
EARI				Lg		21 30 06.4	
	6.1nm,0.2s,SNR=5.0						
PVRL	**Vila Real**	**1.58**	**194**	*e*Pg	Pg	21 29 46.6	-0.7
PVRL				*e*Sn	Sn	21 30 06.0	+0.6
PVRL							
	11nm,0.2s						
ELAN	**Lanestosa**	**2.80**	**80**	Pg	Pg	21 30 07.7	-2.9
	0.8nm,0.4s,SNR=7.9						
ELAN				Lg		21 30 45.0	
	1.3nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.97**	**184**	*e*Sg	Sg	21 30 51.0	-1.5
ESDC	**Sonseca Array**	**3.97**	**141**	Lg		21 31 21.9	
	0.7nm,0.3s,baz=316,slow=29,SNR=4.5						
EBAD	**Badajoz**	**4.05**	**178**	Lg		21 31 24.0	
	1.2nm,0.2s,SNR=7.9						

SZGRF ***26*** *21:32:45.1, 554N×9591E, h33km, mb5.1, Northern Sumatera, Indonesia*
ISCJB ***26*** *21:32:47.6±0.2, 552N±003×9466E±002, h31km, mb5.2/141, MS4.4/41, Error ellipse: s-maj=5.0km s-min=3.4km az=22.0*
BJI ***26*** *21:32:48.1, 525N×9461E, h49km, mB5.3, mb5.3, Ms4.8, Msz4.5*
NEIC ***26*** *21:32:49.3±0.2, 561N×9469E, h30km, mb5.2/57, Error ellipse: s-maj=6.0km s-min=4.0km az=211.0*
NEIC Felt [III] at Banda Aceh.
HRVD ***26*** *21:32:49.3±0.3, 527N×9459E, h54km±1km, MW5.2/87, Centroid moment Tensor Solution. LP body waves: s73,c113;Mantle waves: s87,c149; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr5.23±.22; Mθθ-2.08±.16; Mφφ-3.15±.18; Mrθ2.67±.12; Mrφ3.63±.14; Mθφ-1.94±.15; Best double couple: M=6.64700×1016 NP1:φs328.00000°, δ31.00000°, λ105.00000°. NP2: φs131.00000°, δ60.00000°, λ81.00000°. Principal axes: T 6.1700, Plg73.0000°, Azm19.0000°; N 0.9550, Plg8.0000°, Azm136.0000°; P -7.1250, Plg15.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *21:32:50.0±0.8, 565N×9477E, h51km, mb5.5/52 Error ellipse: s-maj=9.4km s-min=4.4km az=121.9*
IDC ***26*** *21:32:53.0±1.5, 549N×9475E, h67km±13km, mb4.7/32, mb1 4.7/33, mb1mx4.7/34, mbtmp5.0/33, MS4.3/24, Ms1 4.3/24, ms1mx4.2/31, Error ellipse: s-maj=15.0km s-min=8.0km az=44.0*
NAO ***26*** *21:33:20.4, 1034N×9123E, h33km, mb4.9*
ISC 26 21:32:50.0±0.2, 555N±003×9464E±002, h33km, **h33**km±.9km**:pP-P,n399,σ1900/386, mb5.2**/141**, MS4.4**/41**, 45C-14D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**21 34 06.5**	**+2.8**
	29nm,0.3s,baz=303,slow=11,SNR=85						
PSI				S	**Sn**	**21 35 03.2**	**+2.2**
	29nm,0.3s,baz=219,slow=20,SNR=7.7						
PSI				LR	LR	21 36 20.1	
	comp=Z,3μm,20.6s,baz=285,slow=41						
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**21 34 06.5**	**+2.9**
PSI				S	**Sn**	**21 35 03.2**	**+2.2**
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**21 34 06.5**	**+2.8**
PSI				S	**Sn**	**21 35 03.2**	**+2.2**
PSI				LR	LR	21 36 20.1	
KULM	**Kulim**	**5.99**	**92**	⇓*e*P	**Pn**	**21 34 18.1**	**+1.9**
KULM				*e*S	**Sn**	**21 35 22.4**	**-1.2**
PBA	**Port Blair**	**6.35**	**343**	*e*P	Px	21 34 36.3	
PBA				*e*S	Sx	21 35 49.3	
IPM	**Ipoh**	**6.45**	**99**	P	**Pn**	**21 34 24.3**	**+1.7**
NNT	**Nongplab**	**8.61**	**35**	P	**Pn**	**21 34 57.5**	**+5.3**
KGM	**Kluang**	**9.34**	**112**	P	**Pn**	**21 35 02.8**	**+0.6**
NST	**Nakhon Sawan**	**11.41**	**28**	P	**Pn**	**21 35 33.0**	**+2.4**
	67nm,0.8s						
KKTK	**Khon Kaen**	**13.38**	**36**	P	**Pn**	**21 36 02.0**	**+4.4**
	926nm,0.8s						
PALK	**Pallekele**	**13.96**	**278**	Pn	**Pn**	**21 36 08.9**	**+3.5**
	263nm,0.8s,SNR=25						
PALK	**Pallekele**	**13.96**	**278**	⇓*e*P	**Pn**	**21 36 07.6**	**+2.2**
	46nm,0.8s						
KSM	**Kuching**	**16.15**	**104**	*e*P	**Pn**	**21 36 38.0**	**+3.6**
VIS	**Vishakhapatnam**	**16.39**	**318**	*e*P	**Pn**	**21 36 38.7**	**+1.2**
VIS				*e*P		21 36 39.1	
VIS				AMb	AMB	21 36 44.6	
	comp=Z,94nm,0.6s						
VIS				*ex*	x	21 39 25.4	
TRD	**Trivandrum**	**17.79**	**281**	*e*P	**Pn**	**21 36 57.6**	**+2.6**
HYB	**Hyderabad**	**19.67**	**308**	*i* P	**Pn**	**21 37 18.0**	**+0.4**
	comp=Z,50nm,1.0s						
HYB				*e*pP	pP	21 37 33.0	+8.1
HYB				*e*S	**Sn**	**21 41 06.0**	**+8.5**
HYB	**Hyderabad**	**19.67**	**308**	*e*P	**Pn**	**21 37 18.0**	**+0.4**
HYB				*e*S	**Sn**	**21 41 01.0**	**+3.5**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**19.67**	**308**	*e*P	**Pn**	**21 37 18.0**	**+0.4**
	comp=Z,50nm,1.0s						
HYB				*e*		21 37 33.0	
HYB				*e*S	**Sn**	**21 41 01.0**	**+3.5**
QIZ	**Qiongzhong**	**19.97**	**47**	P	**Pn**	**21 37 22.3**	**+1.0**
QIZ				XP	sP	21 37 35.3	+2.8
QIZ				S	**Sn**	**21 40 57.0**	**-7.9**
QIZ				AMB	AMB		
	comp=Z,53nm,1.1s						
QIZ				LR	LR		
	comp=N,1μm,15.7s						
QIZ				LR	LR		
	comp=E,1μm,15.7s						
QIZ				LR	LR		
	comp=Z,2μm,18.1s						
QIZ	**Qiongzhong**	**19.97**	**47**	*e*P	**Pn**	**21 37 22.5**	**+1.3**
	comp=Z,152nm,1.7s						
QIZ				*e*		21 37 32.8	
BOK	**Bokaro**	**20.00**	**336**	*i* P	**P**	**21 37 20.3**	**+0.6**
BOK				*e*P		21 37 20.5	
BOK				AMb	AMB	21 37 26.0	
	comp=Z,321nm,1.1s						
BOK				*i* x	x	21 40 57.3	
SHL	**Shillong**	**20.07**	**353**	*e*P	**P**	**21 37 20.8**	**+0.3**
SHL				*e*S	**S**	**21 41 05.3**	**+1.0**
BLSP	**Bilaspur**	**20.45**	**325**	*e*P	**P**	**21 37 27.0**	**+2.5**
MNGI	**Mangalore**	**20.88**	**292**	*ex*	**P**	**21 37 35.8**	**+6.5**
MNGI				*ex*	**S**	**21 41 14.0**	**-6.3**
KMI	**Kunming**	**20.95**	**21**	P	**P**	**21 37 33.3**	**+3.3**
KMI				AP		21 37 44.0	
KMI				XP	sP	21 37 49.5	+6.4
KMI				PP		21 37 57.0	
KMI				PPP		21 38 08.3	
KMI				S	**S**	**21 41 21.3**	**-0.3**
KMI				XS	sS	21 41 36.3	+0.5
KMI				SS		21 41 53.3	
KMI				SSS		21 42 08.8	
KMI				AMB	AMB		
	comp=Z,96nm,1.1s						
KMI				AMB	AMB		
	comp=Z,302nm,3.1s						
KMI				LR	LR		
	comp=N,572nm,21.2s,MS4.2						
KMI				LR	LR		
	comp=E,834nm,19.4s,MS4.2						
KMI				LR	LR		
	comp=Z,1μm,23.0s,MS4.2						
KKM	**Kota Kinabalu**	**21.47**	**88**	P	**P**	**21 37 27.1**	**-8.5**
NGP	**Nagpur**	**21.66**	**317**	*e*P	**P**	**21 37 38.4**	**+0.8**
NGP				*ex*	x	21 37 46.8	
	comp=Z,152nm,1.8s						
NGP				*ex*	x	21 41 42.1	
KAD	**Karad**	**23.18**	**302**	*e*P	**P**	**21 37 55.4**	**+1.7**
ALBI	**Allahabad**	**23.18**	**329**	*e*P	**P**	**21 37 52.5**	**-1.3**
BATP	**Bataraza**	**23.20**	**81**	*e*P	**P**	**21 37 55.1**	**+1.2**
BATP	**Bataraza**	**23.20**	**81**	*e*P	**P**	**21 37 55.1**	**+1.2**
JIRN	**Jiri**	**23.41**	**341**	*e*P	**P**	**21 37 55.1**	**-1.1**
PKI	**Pulchoki**	**23.59**	**339**	*e*P	**P**	**21 37 57.2**	**-0.7**
	comp=Z,46nm,0.6s,mb5.1						
PKI	**Pulchoki**	**23.59**	**339**	*e*P	**P**	**21 37 57.2**	**-0.7**
PKI				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.8						
DMN	**Daman**	**23.74**	**339**	*e*P	**P**	**21 37 59.1**	**-0.1**
	comp=Z,110nm,0.8s,mb5.4						
GUN	**Gumba**	**23.74**	**340**	*e*P	**P**	**21 37 58.2**	**-1.0**
	comp=Z,160nm,0.6s,mb5.6						
GYA	**Guiyang**	**23.75**	**28**	⇑*i*P	**P**	**21 38 00.0**	**+0.7**
GYA				AP		21 38 09.8	
GYA				XP	sP	21 38 13.3	+0.4
GYA				PP		21 38 36.5	
GYA				PPP		21 38 48.0	
GYA				S	**S**	**21 42 16.0**	**+3.8**
GYA				XS	sS	21 42 31.5	+3.6
GYA				SCP	ScP	21 45 13.8	-4.3
GYA				AMB	AMB		
	comp=Z,180nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,290nm,3.9s						
GYA				LR	LR		
	comp=E,1μm,16.2s						
GYA				LR	LR		
	comp=Z,1μm,17.4s,MS4.5						
KKN	**Kakani**	**23.84**	**339**	*e*P	**P**	**21 37 59.2**	**-0.9**
	comp=Z,128nm,0.9s,mb5.3						
KKN	**Kakani**	**23.84**	**339**	*e*P	**P**	**21 37 59.2**	**-0.9**
KKN				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.0						
POO	**Poona**	**24.04**	**304**	*e*P	**P**	**21 38 02.0**	**0.0**
POO				*i* x	x	21 38 42.5	
POO				*i* PCP	PcP	21 41 32.0	-11
POO				*i* x	x	21 42 30.0	
POO				*i* x	x	21 43 19.0	
POO				*i* x	x	21 43 35.0	
POO				*i* SSS		21 43 52.0	
POO				*i* x	x	21 44 34.5	
POO				*e*PCS	PcS	21 45 12.0	-11
POO				*e*SCS	ScS	21 49 02.0	-4.0
BHPL	**Bhopal**	**24.18**	**318**	*e*P	**P**	**21 38 05.0**	**+1.7**
BHPL				AMb	AMB	21 38 08.1	
	comp=Z,98nm,1.3s,mb5.1						
LSA	**Lhasa**	**24.24**	**353**	P	**P**	**21 38 04.3**	**+0.5**
LSA				AP		21 38 12.5	
LSA				S	**S**	**21 42 20.8**	**+0.6**
LSA				XS	sS	21 42 41.3	+5.3
LSA				LR	LR		
	comp=N,390nm,30.9s,MS4.0						
LSA				LR	LR		
	comp=E,550nm,26.3s,MS4.0						
LSA				LR	LR		
	comp=Z,810nm,29.6s,MS4.0						
LSA	**Lhasa**	**24.24**	**353**	*e*P	**P**	**21 38 03.2**	**-0.6**
LSA				*e*		21 41 45.3	
LSA				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.2						
LSA	**Lhasa**	**24.24**	**353**	*e*P	**P**	**21 38 03.2**	**-0.6**
	comp=Z,66nm,0.6s,mb5.2						
LSA				*e*PcP	PcP	21 41 45.3	+1.8
GKN	**Gorkha**	**24.27**	**338**	*e*P	**P**	**21 38 04.0**	**0.0**
	comp=Z,60nm,0.3s,mb5.5						
KOLN	**Koldanda**	**24.46**	**336**	*e*P	**P**	**21 38 06.7**	**+0.9**
	comp=Z,246nm,0.9s,mb5.6						
ENPP	**El Nido**	**25.14**	**75**	*e*P	**P**	**21 38 15.6**	**+3.7**
CD2	**Chengdu**	**26.64**	**18**	⇑*i*P	**P**	**21 38 25.5**	**0.0**
CD2				S	**S**	**21 42 53.0**	**-5.3**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
CD2				AMB	AMB		
	comp=Z,220nm,5.5s						
CD2				LR	LR		
	comp=N,470nm,9.6s						
CD2				LR	LR		
	comp=Z,410nm,10.8s,MS4.2						
LGTI	**Lohaghat**	**27.39**	**332**	*e*P	**P**	**21 38 33.5**	**+1.2**
PTH	**Pithoragarh**	**27.49**	**332**	*e*P	**P**	**21 38 34.0**	**+0.9**
PTH				*ex*	x	21 43 27.0	
IPIL	**Ipil**	**27.82**	**84**	*e*P	**P**	**21 38 36.6**	**+0.5**
OTRP	**Ódiongan**	**27.86**	**74**	*e*P	**P**	**21 38 37.4**	**+1.0**
OTRP	**Odiongan**	**27.86**	**74**	*e*P	**P**	**21 38 37.2**	**+0.8**
ABRA	**Dolores**	**28.17**	**63**	*e*P	pP	21 38 54.7	+5.8
AJM	**Ajmer**	**28.24**	**320**	*i* P	**P**	**21 38 41.0**	**+1.1**
AJM				*e*P		21 38 41.5	
ENH	**Enshi**	**28.29**	**28**	*e*P	**P**	**21 38 38.7**	**-1.6**
	comp=Z,34nm,0.6s,mb5.2						
ENH				*e*	pP	21 38 46.9	-3.0
NDI	**New Delhi**	**28.32**	**326**	*ex*	**P**	**21 38 41.0**	**+0.4**
PAGZ	**Pagadian**	**28.63**	**84**	*e*P	**P**	**21 38 44.4**	**+1.1**
APYP	**Conner**	**28.72**	**63**	*e*P	**P**	**21 38 45.4**	**+1.2**
DDI	**Dehra Dun**	**29.18**	**330**	*e*P	**P**	**21 38 49.7**	**+1.5**
DDI				*ex*	x	21 44 48.8	
QZH	**Quanzhou**	**29.99**	**47**	*e*P	**P**	**21 38 56.5**	**+1.1**
QZH				S	**S**	**21 43 56.0**	**+5.0**
QZH				LR	LR		
	comp=Z,3μm,26.1s,MS4.8						
OCLP	**Ormoc**	**30.14**	**78**	*e*P	**P**	**21 38 58.0**	**+1.3**
XAN	**Xi'an**	**31.29**	**23**	P	**P**	**21 39 06.3**	**-0.6**
XAN				AP	pP	21 39 17.0	+0.5
XAN				AMB	AMB		
	comp=Z,109nm,0.8s,mb5.7						
XAN				LR	LR		
	comp=N,673nm,18.6s,MS4.4						
XAN				LR	LR		
	comp=E,524nm,19.5s,MS4.4						
XAN				LR	LR		
	comp=Z,987nm,18.6s,MS4.5						
LZH	**Lanzhou**	**31.54**	**14**	*e*P	**P**	**21 39 09.5**	**+0.4**
LZH				XP	sP	21 39 23.8	+1.0
LZH				PP	PP	21 40 20.0	-0.6
LZH				PPP		21 40 39.0	
LZH				*e*S	**S**	**21 44 24.0**	**+8.6**
LZH				XS	sS	21 44 40.0	+8.7
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,270nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,15.2s						
LZH				LR	LR		
	comp=Z,3μm,16.0s,MS5.0						
GTA	**Gaotai**	**34.03**	**7**	*e*P	**P**	**21 39 31.0**	**+0.2**
GTA				AP	pP	21 39 40.5	0.0
GTA				PP	PP	21 40 45.8	-2.4
GTA				PCP	PcP	21 42 08.3	+0.2
GTA				S	**S**	**21 44 53.3**	**-0.7**
GTA				SCP	ScP	21 45 48.3	-2.1
GTA				PCS	PcS	21 45 53.8	-0.4
GTA				SS	SS	21 47 01.0	-21
GTA				SCS	ScS	21 49 49.0	-3.4
GTA				AMB	AMB		
	comp=Z,77nm,0.8s,mb5.7						
GTA				AMB	AMB		
	comp=Z,210nm,6.1s						
GTA				LR	LR		
	comp=N,353nm,23.2s						
GTA				LR	LR		
	comp=E,342nm,16.7s						
GTA				LR	LR		
	comp=Z,568nm,24.3s,MS4.2						
NIL	**Nilore**	**34.30**	**327**	P	**P**	**21 39 33.4**	**+0.2**
	comp=Z,65nm,0.5s,mb5.8,SNR=5.4						
NJ2	**Nanjing**	**34.75**	**38**	*e*P	**P**	**21 39 38.0**	**+0.9**
NJ2				AP	pP	21 39 47.8	+1.0
NJ2				XP	sP	21 39 51.8	+1.0
NJ2				PP	PP	21 40 53.0	-3.1
NJ2				S	**S**	**21 45 06.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,240nm,10.7s						
NJ2				LR	LR		
	comp=N,2μm,14.6s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,13.1s,MS5.1						
NJ2				LR	LR		
	comp=Z,950nm,14.9s,MS4.7						
SSE	**Sheshan**	**35.58**	**41**	*e*P	**P**	**21 39 43.5**	**-0.8**
SSE				PP	PP	21 41 05.0	-0.4
SSE				PCP	PcP	21 42 14.5	+1.9
SSE				S	**S**	**21 45 16.3**	**-1.7**
SSE				SCS	ScS	21 49 58.8	-2.0
SSE				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,276nm,4.9s						
SSE				LR	LR		
	comp=N,239nm,21.7s,MS4.2						
SSE				LR	LR		
	comp=E,459nm,21.7s,MS4.2						
SSE				LR	LR		
	comp=Z,570nm,22.2s,MS4.3						
TIA	**Tai'an**	**36.84**	**31**	⇓P	**P**	**21 39 55.8**	**+0.8**
BTO	**Baotou**	**37.53**	**19**	*e*P	**P**	**21 40 00.3**	**-0.6**
KSH	**Kashi**	**37.78**	**336**	*e*P	**P**	**21 40 04.0**	**+1.0**
KSH				*e*AP	pP	21 40 14.0	+1.3
KSH				*e*XP	sP	21 40 18.3	+1.5
KSH				*e*PP	PP	21 41 35.0	+5.5
KSH				*e*PPP		21 41 57.0	
KSH				*e*PCP	PcP	21 42 20.0	+0.7
KSH				*e*S	**S**	**21 45 51.5**	**0.0**
KSH				*e*SCP	ScP	21 46 04.0	-0.2
KSH				*e*PCS	PcS	21 46 08.3	+0.3
KSH				*e*XS	sS	21 46 10.3	+2.7
KSH				*e*SS	SS	21 48 33.0	-5.0
KSH				*e*SCS	ScS	21 50 12.0	-1.0
KSH				AMB	AMB		
	comp=Z,160nm,2.5s,mb5.3						
KSH				LR	LR		
	comp=N,250nm,5.0s						
KSH				LR	LR		
	comp=E,370nm,6.2s						
HHC	**Hu-ho-hao-te**	**38.28**	**21**	*e*P	**P**	**21 40 08.0**	**+0.9**
HHC				PP	PP	21 41 40.8	+5.8
HHC				PCP	PcP	21 42 20.0	-0.8
HHC				S	**S**	**21 46 00.0**	**+1.0**
HHC				PCS	PcS	21 46 07.0	-2.9
HHC				XS	sS	21 46 19.0	+3.9
HHC				SS	SS	21 48 44.0	-3.6
HHC				SCS	ScS	21 50 14.5	-1.4
HHC				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,197nm,5.3s						
HHC				LR	LR		
	comp=N,826nm,21.4s,MS4.7						
HHC				LR	LR		
	comp=E,709nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,769nm,25.0s,MS4.4						
JOW	**Kunigami**	**38.40**	**53**	LR	LR	21 55 17.3	
	comp=Z,726nm,20.6s,MS4.5,baz=157,slow=35						
FITZ	**Fitzroy Crossi**	**38.57**	**128**	*e*P	**P**	**21 40 08.1**	**-1.5**
	comp=Z,21nm,0.7s,mb5.0						
WMQ	**Urumqi**	**38.60**	**352**	⇓*i*P	**P**	**21 40 10.5**	**+0.6**
WMQ				AP	pP	21 40 20.0	+0.3
WMQ				XP	sP	21 40 24.0	+0.3
WMQ				PP	PP	21 41 43.0	+4.5
WMQ				S	**S**	**21 46 04.0**	**+0.1**
WMQ				SS	SS	21 48 46.0	-8.5
WMQ				AMB	AMB		
	comp=Z,78nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,254nm,4.0s						
WMQ				LR	LR		
	comp=N,299nm,13.0s,MS4.6						
WMQ				LR	LR		
	comp=E,567nm,15.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,426nm,14.0s,MS4.4						
BJT	**Baijiatuau**	**39.41**	**26**	*e*P	**P**	**21 40 18.1**	**+1.5**
BJT				pmax	pmax		
	comp=Z,194nm,1.3s						
BJT	**Baijiatuau**	**39.41**	**26**	*e*P	**P**	**21 40 18.1**	**+1.5**
	comp=Z,194nm,1.3s,mb5.7						
ULHL	**Ulahol**	**40.03**	**339**	P	**P**	**21 40 23.3**	**+1.5**
	SNR=17						
KZA	**Kyzart**	**40.26**	**338**	P	**P**	**21 40 25.6**	**+1.9**
	SNR=11						
UCH	**Uchtor**	**40.67**	**337**	P	**P**	**21 40 29.1**	**+2.0**
	SNR=8.0						
TKM2	**Tokmak 2**	**40.85**	**339**	P	**P**	**21 40 30.1**	**+1.5**
	SNR=31						
KBK	**Karagaybulak**	**40.87**	**338**	P	**P**	**21 40 30.4**	**+1.7**
	SNR=216						
AML	**Almayashu**	**40.91**	**336**	P	**P**	**21 40 30.9**	**+1.8**
	SNR=13						
AAK	**Ala-Archa**	**41.02**	**337**	P	**P**	**21 40 31.7**	**+1.7**
	SNR=81						
AAK	**Ala-Archa**	**41.02**	**337**	P	**P**	**21 40 30.1**	**+0.1**
	comp=Z,466nm,0.7s,mb6.2,SNR=59						
AAK	**Ala-Archa**	**41.02**	**337**	*e*P	**P**	**21 40 30.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**41.02**	**337**	*e*P	**P**	**21 40 30.5**	**+0.5**
	comp=Z,55nm,0.8s,mb5.2						
FRU	**Bishkek**	**41.15**	**337**	⇑*i*P	**P**	**21 40 32.8**	**+1.8**
FRU				*i*	pP	21 40 44.0	+3.2
FRU				pmax	pmax		
	comp=Z,234nm,2.0s,mb5.5						
DL2	**Dalian**	**41.22**	**32**	P	**P**	**21 40 33.0**	**+1.4**
DL2				*e*S	**S**	**21 46 44.8**	**+1.8**
DL2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,260nm,3.7s						
DL2				LR	LR		
	comp=N,510nm,18.4s,MS4.5						
DL2				LR	LR		
	comp=E,340nm,16.6s,MS4.5						
DL2				LR	LR		
	comp=Z,450nm,16.9s,MS4.4						
CHMS	**Chumysh**	**41.23**	**338**	P	**P**	**21 40 32.6**	**+0.8**
	SNR=32						
EKS2	**Erkin-Say**	**41.33**	**337**	P	**P**	**21 40 33.8**	**+1.4**
	SNR=92						
USP	**Ospenovka**	**41.56**	**338**	P	**P**	**21 40 35.2**	**+0.8**
	SNR=145						
MKAR	**Makanchi Array**	**42.45**	**347**	P	**P**	**21 40 41.8**	**+0.2**
	comp=Z,34nm,0.7s,mb5.1,baz=166,slow=8.1,SNR=228						
SONM	**Songino Array**	**43.31**	**12**	P	**P**	**21 40 48.6**	**0.0**
	comp=Z,33nm,0.8s,mb5.1,baz=191,slow=8.0,SNR=187						
SONM				PcP	PcP	21 42 37.2	0.0
	comp=Z,5.8nm,0.6s,baz=201,slow=3.7,SNR=10						
SONM				ScP	ScP	21 46 23.0	-2.9
	comp=Z,1.4nm,0.8s,baz=185,slow=3.4,SNR=4.1						
SONM				LR	LR	22 01 01.2	
	comp=Z,458nm,19.0s,MS4.4,baz=196,slow=39						
SONM	**Songino Array**	**43.31**	**12**	P	**P**	**21 40 48.6**	**-0.1**
SONM				PcP	PcP	21 42 37.2	
JNU	**Nakatsue**	**43.45**	**46**	P	**P**	**21 40 50.5**	**+0.7**
	comp=Z,28nm,0.8s,mb5.0,baz=224,slow=5.2,SNR=5.1						
ULN	**Ulaanbaatar**	**43.48**	**12**	*e*P	**P**	**21 40 49.6**	**-0.4**
ULN				*e*		21 42 36.3	
ULN				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.0						
ULN	**Ulaanbaatar**	**43.48**	**12**	*e*P	**P**	**21 40 49.6**	**-0.4**
	comp=Z,24nm,0.7s,mb5.0						
ULN				*e*PcP	PcP	21 42 36.3	-1.3
NWAO	**Narrogin (SRO)**	**43.87**	**152**	LR	LR	21 58 59.6	
	comp=Z,181nm,18.9s,MS4.0,baz=136,slow=36						
SNY	**Shenyang**	**44.36**	**31**	⇑P	**P**	**21 40 57.5**	**+0.4**
SNY				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
SNY				LR	LR		
	comp=N,740nm,19.5s						
SNY				LR	LR		
	comp=Z,780nm,18.3s,MS4.7						
ZAK	**Zakamensk**	**45.26**	**8**	⇑*i*P	**P**	**21 41 04.0**	**-0.3**
ZAK				*e*		21 42 42.0	
ZAK				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.4						
ABKT	**Ailbek**	**46.26**	**319**	P	**P**	**21 41 13.3**	**+1.1**
	comp=Z,268nm,0.7s,mb6.3,SNR=20						
MOY	**Mondy**	**46.27**	**5**	*e*P	**P**	**21 41 11.4**	**-0.8**
WRAB	**Tennant Creek**	**46.54**	**124**	P	**P**	**21 41 13.0**	**-1.3**
	comp=Z,290nm,0.9s,mb6.2,SNR=11						
WRAB	**Tennant Creek**	**46.54**	**124**	*e*P	**P**	**21 41 13.8**	**-0.5**
WB2	**Warramunga Arr**	**46.54**	**124**	*e*P	**P**	**21 41 13.6**	**-0.8**
CN2	**Changchun**	**46.74**	**31**	⇑P	**P**	**21 41 16.0**	**+0.1**
CN2				*e*AP	pP	21 41 25.0	-0.8
CN2				*e*S	**S**	**21 48 02.5**	**-1.0**
CN2				AMB	AMB		
	comp=Z,50

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KURK Kurchatov      46.97 346 eP      P      21 41 17.9 +0.2
KURK                          pmax   pmax
     comp=Z,111nm,0.7s,mb5.9
KURK Kurchatov      46.97 346 eP      P      21 41 17.9 +0.2
     comp=Z,111nm,0.7s,mb5.9
IRK  Irkutsk        47.22   8 eP      P      21 41 17.8 -1.8
IRK                           pmax   pmax
     comp=Z,62nm,1.8s,mb5.2
ASAR Alice Springs  48.07 129 P         P      21 41 25.6 -0.6
     comp=Z,18nm,0.7s,mb5.2,baz=305,slow=7.4,SNR=61
ASAR                          S      S      21 48 17.2 -5.1
     comp=Z,4.5nm,1.1s,baz=298,slow=14,SNR=12
HIA  Hailar         48.46  22 eP      P      21 41 29.2 -0.1
HIA                           pmax   pmax
     comp=Z,68nm,1.2s
HIA  Hailar         48.46  22 eP      P      21 41 29.2 -0.1
     comp=Z,68nm,1.2s,mb5.6
HIA                           epP    pP     21 41 37.8 -1.5
CIT  Chita          48.89  15 eP      P      21 41 32.4 -0.2
CIT                           e              21 41 51.4
CIT                           e              21 42 54.2
CIT                           pmax   pmax
     comp=Z,80nm,1.4s,mb5.6
ZAL  Zalesovo       48.90 352 P         P      21 41 32.7 +0.1
     comp=Z,33nm,0.5s,mb5.6,baz=305,slow=5.7,SNR=136
ZAL                           S      S      21 48 32.9 -1.3
     comp=Z,0.8nm,0.6s,baz=67,slow=23,SNR=6.1
ZAL                           LR     LR     22 05 13.5
     comp=Z,116nm,19.0s,MS3.9,baz=289,slow=40
ZAL  Zalesovo       48.90 352 P         P      21 41 32.7 +0.1
ZAL                           S      S      21 48 32.9 -1.2
ZAL  Zalesovo       48.90 352 P         P      21 41 32.7 +0.1
ZAL                           S      S      21 48 32.9 -1.3
ZAL                           LR     LR     22 05 13.5
MDJ  Mudanjiang     49.46  33 P         P      21 41 37.8 +0.9
MDJ                           AP     pP     21 41 46.5 -0.4
MDJ                           PP     PP     21 43 31.5 +0.3
MDJ                           S      S      21 48 42.5 +0.5
MDJ                           XS     sS     21 49 00.5 +2.0
MDJ                           AMB    AMB
     comp=Z,41nm,0.8s,mb5.5
MDJ                           AMB    AMB
     comp=Z,412nm,3.4s
MDJ                           LR     LR
     comp=E,394nm,20.0s
MDJ                           LR     LR
     comp=Z,387nm,22.2s,MS4.3
MDJ  Mudanjiang     49.46  33 eP      P      21 41 37.7 +0.8
     comp=Z,36nm,0.9s,mb5.4
NVS  Novosibirsk    50.00 351⇑iP      P      21 41 39.6 -1.4
NVS                           e      pP     21 41 51.1 +0.1
NVS                           iS     S      21 48 45.3 -4.2
NVS                           eSS    SS     21 52 16.1 -6.5
NVS                           pmax   pmax
     comp=Z,73nm,1.1s,mb5.6
NVS                           pmax   pmax
     comp=N,46nm,1.3s
NVS                           pmax   pmax
     comp=E,29nm,1.2s
NVS                           smax
     comp=N,38nm,1.0s
NVS                           smax
     comp=E,55nm,1.8s
CBIJ Chichi jima    50.02  59 LR      LR     22 01 01.3
     comp=E,174nm,19.1s,MS4.1,baz=220,slow=34
JHJ  Hachijo jima 2 50.10  51 LR      LR     22 05 38.5
     comp=E,264nm,18.6s,MS4.3,baz=208,slow=39
KBD  Kabd           50.15 304 eP      P      21 41 43.1 +1.0
KBD                           AMb    AMB    21 41 44.3
     comp=Z,146nm,0.8s,mb6.1
RDF  Al-Radifah     50.19 303 eP      P      21 41 43.5 +1.1
RDF                           AMb    AMB    21 41 44.6
     comp=Z,68nm,0.8s,mb5.7
UMR  Umm Al-Rimmam  50.25 304 eP      P      21 41 43.6 +0.7
UMR                           AMb    AMB    21 41 44.8
     comp=Z,55nm,0.7s,mb5.7
MJAR Matsushiro Arr 50.37  46 P         P      21 41 44.3 +0.5
     comp=Z,5.9nm,0.8s,mb4.7,baz=248,slow=8.9,SNR=14
MJAR                          PcP    PcP    21 43 01.9 -0.1
     comp=Z,7.8nm,1.0s,baz=241,slow=3.1,SNR=6.7
MJAR                          LR     LR     22 02 35.8
     comp=Z,407nm,21.5s,MS4.4,baz=245,slow=35
MJAR Matsushiro Arr 50.37  46 P         P      21 41 44.3 +0.5
MJAR                                         21 43 01.9
NAY  Al-Naaiem      50.54 304 eP      P      21 41 45.9 +0.7
NAY                           AMb    AMB    21 41 47.1
     comp=Z,47nm,0.8s,mb5.5
MIB  Mutribah       50.64 304 eP      P      21 41 46.2 +0.3
MIB                           AMb    AMB    21 41 48.5
     comp=Z,104nm,1.0s,mb5.7
BVAR Borovoye Array 51.33 341 P         P      21 41 51.0 -0.1
     comp=Z,37nm,0.7s,mb5.4,baz=145,slow=9.3,SNR=193
BVAR                          S      S      21 49 06.9 -1.1
     comp=Z,2.7nm,1.0s,baz=154,slow=21,SNR=8.7
BRVK Borovoye       51.40 341 P         P      21 41 51.7 +0.2
     comp=Z,453nm,0.8s,SNR=57
BRVK Borovoye       51.40 341 eP      P      21 41 51.5  0.0
BRVK                          pmax   pmax
     comp=Z,35nm,0.8s,mb5.3
BRVK Borovoye       51.40 341 eP      P      21 41 51.5 -0.1
     comp=Z,35nm,0.8s,mb5.3
ATD  Arta Tunnel    51.51 280 LR      LR     22 00 57.2
     comp=Z,131nm,19.1s,MS4.0,baz=97,slow=33
ZRNK Zerenda        51.72 341 eP      P      21 41 53.7 -0.3
ZRNK                          pmax   pmax
     comp=Z,65nm,0.9s,mb5.6
ZRNK Zerenda        51.72 341 eP      P      21 41 53.7 -0.2
     comp=Z,65nm,0.9s,mb5.6
KLR  Kul'dur        53.63  29 eP      P      21 42 02.8 -5.3
KLR                           pmax   pmax
     comp=E,33nm,1.4s
KLR                           pmax   pmax
     comp=Z,67nm,1.4s,mb5.4
AKTK Aktyubinsk     54.22 332 P         P      21 42 12.2 -0.2
AKTO Aktyubinsk     54.22 332 P         P      21 42 12.2 -0.2
     comp=Z,19nm,0.7s,mb5.2,baz=125,slow=8.0,SNR=68
BOD  Bodaibo        54.28  13 eP      P      21 42 11.4 -1.5
BOD                           pmax   pmax
     comp=Z,42nm,1.0s,mb5.3
PMG  Port Moresby   54.40 106 P         P      21 42 13.2 -0.6
     comp=Z,16nm,0.5s,mb5.2,baz=296,slow=1.0,SNR=6.0
GNI  Garni          56.41 315 P         P      21 42 28.2  0.0
     comp=Z,16nm,1.0s,mb5.0,baz=218,slow=0.7,SNR=11
CTA  Charters Tower 56.76 118 eP      P      21 42 29.8 -0.9
     comp=Z,16nm,1.1s,mb5.0
CTA  Charters Tower 56.76 118 P         P      21 42 30.2 -0.5
     comp=Z,4.2nm,0.8s,mb4.5,baz=325,slow=9.5,SNR=4.1
CTA                           LR     LR     22 07 16.6
     comp=Z,226nm,21.8s,MS4.2,baz=89,slow=36
CTA  Charters Tower 56.76 118 eP      P      21 42 29.8 -0.9
CTA                           pmax   pmax
     comp=Z,16nm,1.1s
CTAO Charters Tower 56.76 118 eP      P      21 42 30.5 -0.2
CTAO                          epP    pP     21 42 38.8 -2.0
ASAJ Asahikawa      56.85  40 LR      LR     22 08 12.1
     comp=Z,330nm,21.1s,MS4.4,baz=352,slow=37
MTA  Mtatsminda     57.02 317 P         P      21 42 32.1 -0.4
KMBO Kilima Mbogo   57.70 265 P         P      21 42 39.6 +2.3
     comp=Z,2.3nm,0.8s,mb4.2,baz=47,slow=12,SNR=5.5
KMBO                          LR     LR     22 03 11.0
     comp=Z,471nm,21.5s,MS4.6,baz=99,slow=32
ZEI  Tsey           58.07 318 eP      P      21 42 39.7 -0.2
ZEI                           e              21 42 58.8
ZEI                           pmax   pmax
     comp=Z,20nm,0.7s,mb5.3
STKA Stephens Creek 58.16 133 P         P      21 42 37.7 -2.8
     comp=Z,8.3nm,0.7s,mb4.9,baz=294,slow=6.3,SNR=10
STKA                          LR     LR     22 11 16.9
     comp=Z,244nm,18.3s,MS4.3,baz=222,slow=40
ARU  Arti           58.21 337 P         P      21 42 40.0 -0.9
     comp=Z,255nm,0.9s,mb6.2,SNR=17
ARU  Arti           58.21 337⇑iP      P      21 42 40.2 -0.7
ARU                           e              21 43 27.6
ARU                           eS     S      21 50 40.5 +0.2
ARU                           eSS    SS     21 54 33.3 +1.1
ARU                           pmax   pmax
     comp=Z,39nm,1.0s,mb5.4
ARU  Arti           58.21 337 eP      P      21 42 40.5 -0.4
     comp=Z,41nm,1.0s,mb5.4
ARU                           epP    pP     21 42 51.9 +0.8
ONI  Oni            58.30 317 P         P      21 42 41.8 +0.3
YSS  Yuzh-Sakhalins 58.31  37 iP      P      21 42 40.8 -0.8
KIV  Kislovodsk     59.37 319 P         P      21 42 48.9  0.0
     comp=Z,235nm,0.9s,mb6.2,SNR=16
KIV  Kislovodsk     59.37 319 eP      P      21 42 48.6 -0.3
KIV                           pmax   pmax
     comp=Z,55nm,1.2s,mb5.5
KIV  Kislovodsk     59.37 319 eP      P      21 42 48.6 -0.3
     comp=Z,55nm,1.2s,mb5.5
GOF  Gofitskoye     59.61 320⇑iP      P      21 42 49.0 -1.6
GOF                           pmax   pmax
     comp=Z,40nm,1.7s,mb5.2
MALT Malatya        60.35 311⇑P         P      21 42 56.1 +0.5
MALT Malatya        60.35 311 eP      P      21 42 56.0 +0.3
     comp=Z,13nm,1.1s,mb4.9
GZT  Gaziantep      60.72 310 iP      P      21 42 58.3 +0.2
EIL  Elat           61.02 301 eP      P      21 43 01.0 +0.8
     comp=Z,325nm,1.1s
SOKR Solikamsk      61.13 339⇑iP      P      21 43 01.2 +0.2
SOKR                          e              21 43 15.1
SOKR                          pmax   pmax
     comp=Z,30nm,0.8s,mb5.5
SOC  Sochi          61.20 317 eP      P      21 42 58.0 -3.5
SOC                           e              21 45 19.7
SOC                           eS     S      21 51 18.5 -0.4
SOC                           pmax   pmax
     comp=Z,34nm,1.1s,mb5.4
BHL  Bhannes        61.32 306 eP      P      21 43 03.9 +1.6
YAK  Yakutsk        62.03  18 eP      P      21 43 05.4 -1.6
YAK                           pmax   pmax
     comp=Z,23nm,0.6s,mb5.5
YAK  Yakutsk        62.03  18 eP      P      21 43 05.4 -1.6
     comp=Z,23nm,0.6s,mb5.5
ANN  Anapa          63.17 318 eP      P      21 43 19.5 +4.8
ANN                           eS     S      21 51 52.5 +8.8
ANN                           pmax   pmax
     comp=Z,65nm,1.7s,mb5.5
CSS  Prodhromos     63.43 306 eP      P      21 43 15.7 -0.7
     comp=Z,123nm,1.5s,mb5.8
CSS                           epP    pP     21 43 27.6 +0.9
BRTR Keskin Array B 64.32 312 P         P      21 43 21.6 -0.6
     comp=Z,11nm,0.7s,mb5.0,baz=128,slow=7.5,SNR=86
BR131 Keskin Array S 64.32 312 eP      P      21 43 21.6 -0.7
     comp=Z,7.9nm,0.7s,mb4.8
BR131                         epP    pP     21 43 31.8 -0.7
VRSR Storozhevoye   64.55 325c iP      P      21 43 21.8 -1.9
VRSR                          e              21 45 46.2
VRSR                          pmax   pmax
     comp=Z,6.0nm,0.8s,mb4.7
VRSR                          pmax   pmax
     comp=N,3.0nm,1.0s
VRSR                          pmax   pmax
     comp=E,6.0nm,0.9s
VOR  Voronezh       64.76 326 eP      P      21 43 24.0 -1.1
VOR                           pmax   pmax
     comp=Z,100nm,1.7s,mb5.6
VOR                           pmax   pmax
     comp=E,50nm,1.6s
ANTO Ankara         64.99 312 eP      P      21 43 26.1 -0.5
ANTO                          pmax   pmax
     comp=Z,34nm,1.3s,mb5.2
ANTO Ankara         64.99 312 eP      P      21 43 26.1 -0.5
     comp=Z,34nm,1.3s,mb5.2
SIM  Simferopol'    65.45 317 eP      P      21 43 29.2 -0.4
SIM                           pmax   pmax
     comp=Z,32nm,0.9s,mb5.3
SGKT Sivrigoynuk    65.71 312 iP      P      21 43 31.5 +0.2
ESKT Eskisehir      66.36 311 iP      P      21 43 35.4  0.0
TKTP Tekketepe      66.45 309 iP      P      21 43 36.0  0.0
HENT Hendek         66.62 312 iP      P      21 43 36.3 -0.8
HNR  Honiara        66.75 103 P         P      21 43 37.4 -0.6
HNR                           pmax   pmax
     comp=Z,38nm,0.5s,mb5.7
HNR  Honiara        66.75 103 P         P      21 43 37.4 -0.6
     comp=Z,38nm,0.5s,mb5.7
MOS  Moscow         67.31 329⇑iP      P      21 43 40.5 -1.0
MOS                           i              21 43 57.7
MOS                           i              21 44 07.1
MOS                           pmax   pmax
     comp=Z,73nm,0.9s,mb5.7
OBN  Obninsk        67.60 328 P         P      21 43 42.0 -1.3
     comp=Z,264nm,0.9s,mb6.3,SNR=5.7
OBN  Obninsk        67.60 328oeP      P      21 43 42.1 -1.2
OBN                           e              21 44 02.5
OBN                           e              21 44 08.8
OBN                           S      S      21 52 35.0 -2.9
OBN                           pmax   pmax
     comp=Z,149nm,2.2s,mb5.6
OBN                           MLR    MLR
     comp=Z,100nm,18.0s,MS4.1
OBN  Obninsk        67.60 328 eP      P      21 43 42.1 -1.2
     comp=Z,99nm,1.3s,mb5.7
OBN                           epP    pP     21 43 50.7 -3.0
MA2  Magadan        68.59  27 eP      P      21 43 48.5 -1.0
MA2                           pmax   pmax
     comp=Z,20nm,0.7s,mb5.2
MA2  Magadan        68.59  27 eP      P      21 43 48.5 -1.0
     comp=Z,20nm,0.7s,mb5.2
KLMR Klimovskoe     68.75 334 eP      P      21 43 48.9 -1.6
KLMR                          pmax   pmax
     comp=Z,40nm,1.4s,mb5.2
KDAG Bornova        68.88 309 iP      P      21 43 51.7 +0.3
LSZ  Lusaka         68.99 251 eP      P      21 43 53.8 +1.8
LSZ                           e*PP   pP     21 44 03.7 +1.3
LSZ                           pmax   pmax
     comp=Z,23nm,1.3s,mb5.0
LSZ  Lusaka         68.99 251 eP      P      21 43 53.8 +1.8
     comp=Z,23nm,1.3s,mb5.0
LSZ                           epP    pP     21 44 03.7 +1.4
TIRR Tirgusor       69.24 316 ⇓P      P      21 43 52.8 -0.8
TIRR Tirgusor       69.24 316 ⇓P      P      21 43 52.8 -0.8
TIXI Tiksi          69.40  11⇑iP      P      21 43 52.6 -1.9
KIS  Kishinev       69.57 318 eP      P      21 43 54.0 -1.6
CFR  Carcaliu       69.60 316 ⇑P      P      21 43 55.4 -0.4
CFR  Carcaliu       69.60 316 ⇑P      P      21 43 55.4 -0.4
HARR Harsova        69.63 316 ⇓P      P      21 43 55.7 -0.3
HARR Harsova        69.63 316 ⇓P      P      21 43 55.7 -0.2
PET  Petropavlovsk  70.12  35 iP      P      21 43 57.6 -1.4
AKASG Malin Array Be 70.28 322 P         P      21 43 58.4 -1.6
     comp=Z,12nm,0.6s,mb5.0,baz=94,slow=5.2,SNR=65
IDI  Anoyia         70.30 305 P         P      21 44 00.9 +0.8
     comp=Z,32nm,0.6s,mb5.4,baz=77,slow=7.6,SNR=28
VRI  Vrincioaia     70.72 317 ⇓P      P      21 44 03.0 +0.4
VRI  Vrincioaia     70.72 317 P         P      21 44 03.1 +0.5
VRI  Vrincioaia     70.72 317 ⇓P      P      21 44 03.0 +0.3
SEY  Seymchan       70.82  24 iP      P      21 44 01.9 -1.4
MLR  Muntele Rosu   71.17 316 P         P      21 44 05.6 +0.2
     comp=Z,22nm,0.7s,mb5.2,baz=92,slow=1.3,SNR=73
MLR  Muntele Rosu   71.17 316 ⇑P      P      21 44 05.8 +0.4
MLR  Muntele Rosu   71.17 316 ⇑P      P      21 44 05.8 +0.4
RZN  Rozhen         71.36 312 eP      P      21 44 06.0 -0.6
MTUR Matau          71.73 316 P         P      21 44 08.7 -0.1
VOIR                71.78 316 ⇑P      P      21 44 08.5 -0.6
VOIR                71.78 316 ⇑P      P      21 44 08.5 -0.6
MMB  Musomiste      72.08 312 eP      P      21 44 10.0 -0.9
BURAR Bucovina Array 72.09 318 ⇑P      P      21 44 11.2 +0.2
BURAR Bucovina Array 72.09 318 ⇑P      P      21 44 11.2 +0.3
PUL  Pulkovo        72.47 331 iP      P      21 44 12.6 -0.6
KKB  Krupnik        72.60 312 eP      P      21 44 13.0 -1.0
VTS  Vitosha        72.61 313 eP      P      21 44 13.0 -1.0
VTS  Vitosha        72.61 313 P         P      21 44 13.8 -0.2
VAY  Valandovo      72.90 311 eP      P      21 44 13.9 -1.9
     comp=Z,22nm,0.8s,mb5.1
STIP Stip           73.24 312 eP      P      21 44 15.8 -2.0
     comp=Z,2.7nm,0.6s,mb4.3
LBTB Lobatse        73.59 242 eP      P      21 44 21.1 +1.3
LBTB                          pmax   pmax
     comp=Z,18nm,0.8s,mb5.0
LBTB Lobatse        73.59 242 eP      P      21 44 21.1 +1.3
     comp=Z,18nm,0.8s,mb5.1
BIA  Bitola         73.80 311 eP      P      21 44 19.2 -1.8
     comp=Z,4.4nm,0.6s,mb4.5
SKO  Skopje         73.83 312 eP      P      21 44 19.4 -1.8
     comp=Z,25nm,1.1s,mb5.1
KWP  Kalwaria       74.11 320 eP      P      21 44 22.8 -0.1
KWP                           e*PP   pP     21 44 34.1 +0.8
KWP                           pmax   pmax
     comp=Z,142nm,1.5s,mb5.7
KWP  Kalwaria       74.11 320 eP      P      21 44 22.8 -0.1
     comp=Z,142nm,1.5s,mb5.7
KWP                           epP    pP     21 44 34.1 +0.8
APA  Apatity        74.18 340⇑iP      P      21 44 22.6 -0.7
APA                           i              21 44 42.0
APA                           pmax   pmax
     comp=Z,39nm,1.0s,mb5.3
BZS  Buzias         74.19 316 ⇑P      P      21 44 23.0 -0.3
BZS  Buzias         74.19 316 ⇑P      P      21 44 23.0 -0.4
OHR  Ohrid          74.20 311 eP      P      21 44 21.3 -2.1
KOLS Kolonicke sedl 74.27 319 eP      P      21 44 24.0 +0.2
SUW  Suwalki        74.67 325 eP      P      21 44 25.0 -1.1
SUW                           e              21 44 42.2
SUW                           pmax   pmax
     comp=Z,99nm,1.1s,mb5.7
SUW  Suwalki        74.67 325 eP      P      21 44 25.0 -1.1
     comp=Z,99nm,1.1s,mb5.7
SUW                           e              21 44 42.2
BOSA Boshof         74.79 239 P         P      21 44 27.6 +0.7
     comp=Z,8.0nm,1.0s,mb4.6,baz=84,slow=5.5,SNR=7.0
BOSA                          LR     LR     22 11 25.0
     comp=Z,344nm,21.9s,MS4.6,baz=44,slow=31
CRVS Cervenica-Dubn 74.80 319 eP      P      21 44 27.0 +0.2
FINES FINESS Array B 74.98 332 P         P      21 44 26.9 -1.1
     comp=Z,4.7nm,0.5s,mb4.7,baz=102,slow=5.9,SNR=58
STHS Stebnicka Huta 75.02 320 eP      P      21 44 28.3 +0.2
KAF  Kangasniemi    75.07 333 ep      P      21 44 26.7 -1.7
     comp=Z,17nm,0.9s,mb5.0,baz=104,slow=5.4
KAF  Kangasniemi    75.07 333 eP      P      21 44 26.7 -1.7
KAF                           pmax   pmax
     comp=Z,17nm,0.9s,mb5.0
KECS Kecovo         75.37 319 iP      P      21 44 30.1 -0.1
NIE  Niedzica       75.62 320 eP      P      21 44 32.0 +0.4
PSZ  Piszkesteto    75.69 318⇑iP      P      21 44 31.9 -0.1
PSZ  Piszkesteto    75.69 318 P         P      21 44 32.1 +0.1
OJC  Ojcow          76.06 320 ePc     P      21 44 33.9
PKSM Moragy         76.33 316 P         P      21 44 35.3 -0.3
PKSM Moragy         76.33 316⇑iP      P      21 44 35.1 -0.5
PKS8 Sarbogard      76.38 317⇑iP      P      21 44 35.6 -0.3
SRO  Srobarova      76.73 318 eP      P      21 44 38.7 +0.8
OKC  Ostrava-Krasne 77.07 320 eP      P      21 44 37.8 -2.0
OKC                           epP    pP     21 44 48.1 -2.2
OKC                           esP    sP     21 44 54.5 +0.3
KEV  Kevo           77.18 341 ep      P      21 44 39.0 -1.4
MORC Moravsky Berou 77.45 320 eP      P      21 44 42.0  0.0
MORC                          pmax   pmax
     comp=Z,71nm,1.5s,mb5.4
MORC Moravsky Berou 77.45 320 eP      P      21 44 42.0  0.0
     comp=Z,71nm,1.5s,mb5.4
ZST  Bratislava     77.58 318 eP      P      21 44 43.1 +0.4
ARCES ARCESS Array B 77.61 340 P         P      21 44 42.1 -0.7
     comp=Z,19nm,0.7s,mb5.2,baz=95,slow=6.0,SNR=66
ARCES                         LR     LR     22 22 09.6
     comp=Z,255nm,20.4s,MS4.5,baz=292,slow=38
ARE0 ARCESS Array S 77.61 340 eP      P      21 44 42.1 -0.7
VRAC Vranov         78.02 319 P         P      21 44 45.1  0.0
     comp=Z,4.6nm,0.6s,mb4.6,baz=142,slow=4.2,SNR=6.0
VRAC                          LR     LR     22 21 25.5
     comp=Z,136nm,18.4s,MS4.3,baz=102,slow=37
BILL Bilibino       78.05  21ceP      P      21 44 43.8 -1.5
BILL                          e              21 44 50.6
BILL                          pmax   pmax
     comp=Z,32nm,2.2s,mb4.9
BILL                          MLR    MLR
     comp=Z,600nm,18.0s,MS5.0
BILL Bilibino       78.05  21 eP      P      21 44 44.0 -1.2
     comp=Z,6.1nm,0.8s,mb4.6
DPC  Dobruska-Polom 78.29 320 eP      P      21 44 47.0 +0.4
DPC                           ex     x      21 45 03.1
KSP  Ksiaz          78.36 321⇑eP      P      21 44 47.2 +0.2
KSP                           e*PP   pP     21 44 54.5 -3.0
UPC  Upice          78.51 320 eP      P      21 44 48.4 +0.6
UPC                           ex     x      21 45 05.2
ARSA Arzberg        78.56 317⇑iP      P      21 44 48.4 +0.3
     comp=Z,38nm,1.4s,mb5.1,SNR=13
BOJS Bojanci        78.63 315 eP      P      21 44 47.9 -0.5
PERS Pernice        78.79 316 iP      P      21 44 49.7 +0.3
VAE  Valguarnera    78.90 307 P         P      21 44 52.0 +2.0
     comp=Z,18nm,0.9s,mb5.0,baz=22,slow=5.4,SNR=4.2
LJU  Ljubljana      79.17 316 eP      P      21 44 51.6 +0.1
OBKA Obir           79.18 316 iP      P      21 44 51.9 +0.4
     comp=Z,22nm,0.9s,mb5.1,SNR=10
PRU  Pruhonice      79.41 320 eP      P      21 44 52.9 +0.2
PRU                           epP    pP     21 45 01.9 -1.4
PRU                           ex     x      21 45 11.6
SUR  Sutherland     79.44 236 eP      P      21 44 54.8 +1.9
     comp=Z,59nm,1.3s,mb5.4
MOA  Molln          79.45 318 iP      P      21 44 52.6 -0.3
     comp=Z,15nm,1.5s,mb4.7,SNR=11
VOY  Vojsko         79.61 316 eP      P      21 44 53.6 -0.2
VOY                           e              21 45 06.8
TSUM Tsumeb         79.67 249 eP      P      21 44 56.0 +1.8
     comp=Z,4.4nm,0.8s,mb4.4
TSUM                          epP    pP     21 45 04.8 +0.1
PTQR Pietraquaria   79.80 312 P         P      21 44 54.7 -0.2
AQU  L'Aquila       79.81 312 P         P      21 44 55.3 +0.4
AQU                           pmax   pmax
     comp=Z,4.0nm,0.1s,mb5.3
AQU  L'Aquila       79.81 312 P         P      21 44 55.3 +0.4
     comp=Z,3.6nm,0.1s,mb5.3
BRG  Berggiesshubel 79.85 321 eP      P      21 44 55.0 -0.1
     comp=Z,36nm,1.8s,mb5.0
BRG  Berggiesshubel 79.85 321 ePKP    P      21 44 55.2 +0.1
     comp=Z,9.7nm,1.0s,mb4.7
BRG                           e              21 45 11.7
     comp=Z,14nm,1.7s
BRG  Berggiesshubel 79.85 321 eP      P      21 44 55.2 +0.1
BRG                           e              21 45 11.7
BRG                           pmax   pmax
     comp=Z,10.0nm,1.0s,mb4.7
GEC2 GERESS Array S 79.88 318 eP      P      21 44 55.7 +0.4
     comp=Z,33nm,1.0s,mb5.2
GEC2 GERESS Array S 79.88 318 eP      P      21 44 55.7 +0.4
GEC2                          pmax   pmax
     comp=Z,33nm,1.0s,mb5.2
GERES GERESS Array B 79.88 318 P         P      21 44 55.5 +0.2
     comp=Z,16nm,0.7s,mb5.1,baz=97,slow=5.3,SNR=183
GERES                         LR     LR     22 24 34.5
     comp=Z,102nm,18.4s,MS4.2,baz=282,slow=39
ROBS Robic          79.88 316 eP      P      21 44 54.9 -0.4
KHC  Kasperske Hory 79.98 319 eP      P      21 44 55.9 +0.1
KHC                           epP    pP     21 45 04.5 -1.9
KHC                           ex     x      21 45 16.0
KHC                           ex     x      21 45 21.5
KHC  Kasperske Hory 79.98 319 eP      P      21 44 55.9 +0.1
KHC                           e*PP   pP     21 45 04.5 -1.9
KHC                           e              21 45 16.0
PTCC Patocco-Chiusa 80.00 316 P         P      21 44 55.5 -0.4
KBA  Koelnbreinsper 80.03 317⇑iP      P      21 44 55.7 -0.5
     comp=Z,12nm,0.8s,mb4.9,SNR=7.1
NRCA Norcia         80.04 312 P         P      21 44 56.3 +0.1
RUE  Ruedersdorf    80.05 322 eP      P      21 44 55.9 -0.3
     comp=Z,16nm,0.7s,mb5.1
GMNA Gemona         80.07 316 P         P      21 44 56.1 -0.3
ARV  Arcevia        80.19 313 P         P      21 44 57.4 +0.4
ARV                           pmax   pmax
     comp=Z,13nm,1.1s,mb4.8
ARV  Arcevia        80.19 313 P         P      21 44 57.4 +0.4
     comp=Z,13nm,1.1s,mb4.8
WET  Wettzell       80.44 319 eP      P      21 44 58.4 +0.1
     comp=Z,12nm,1.0s,mb4.8
WET  Wettzell       80.44 319 eP      P      21 44 58.4 +0.1
WET                           pmax   pmax
     comp=Z,12nm,1.0s,mb4.8
CLL  Collm          80.46 321 eP      P      21 44 57.9 -0.6
     comp=Z,17nm,1.5s,mb4.8
CLL  Collm          80.46 321⇑iP      P      21 44 57.6 -0.9
     comp=Z,28nm,1.5s,mb5.0
CLL                           ix     x      21 45 16.7
CLL  Collm          80.46 321⇑iP      P      21 44 57.6 -0.9
CLL                           i              21 45 16.7
CLL                           pmax   pmax
     comp=Z,28nm,1.5s,mb5.0
PIEI Pieia          80.48 313 P         P      21 44 58.9 +0.3
     comp=Z,95nm,4.1s
HFS  Hagfors        80.70 330 P         P      21 44 59.1 -0.6
     comp=Z,3.5nm,0.5s,mb4.5,baz=105,slow=3.4,SNR=19
HFS                           LR     LR     22 26 08.7
     comp=Z,130nm,19.4s,MS4.3,baz=77,slow=40
TANN Tannenbergstha 80.76 320 eP      P      21 44 59.9 -0.2
NKC  Novy Kostel    80.77 320 eP      P      21 45 00.2 +0.1
NKC                           ex     x      21 45 21.2
ROTZ Rotzenmuhle    80.90 319 eP      P      21 45 01.2 +0.4
CRE  Caprese Michel 80.91 313 P         P      21 45 00.5 -0.3
CTI  Castel Tesino  81.17 316 P         P      21 45 02.6 +0.4
WTTA Wattenberg     81.20 317⇓iP      P      21 45 01.7 -0.7
     comp=Z,24nm,0.8s,mb5.2,SNR=9.6
WATA Walderalm      81.25 317⇑iP      P      21 45 01.7 -0.9
     comp=Z,68nm,1.9s,mb5.2
MOX  Moxa           81.31 320 eP      P      21 45 02.8 -0.2
     comp=Z,23nm,1.7s,mb4.8
MOX  Moxa           81.31 320 eP      P      21 45 02.7 -0.3
     comp=Z,19nm,1.6s,mb4.8
MOX  Moxa           81.31 320 eP      P      21 45 02.7 -0.3
MOX                           pmax   pmax
     comp=Z,19nm,1.6s,mb4.8
FUR  Furstenfeldbru 81.47 318 eP      P      21 45 03.9 +0.1
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comp=Z,77nm,2.0s,mb5.3
FUR Furstenfeldbru 81.47 318 *e*P **P 21 45 03.9 +0.1**
FUR pmax pmax
comp=Z,77nm,2.0s,mb5.3
SQTA Sankt Quirin 81.49 317⇑ *i*P **P 21 45 03.3 -0.6**
comp=Z,8.4nm,0.8s,mb4.7,SNR=12
GRA1 Grafenberg Arr 81.54 319 *e*P **P 21 45 04.1 -0.1**
comp=Z,28nm,1.2s,mb5.1
GRF Grafenberg Arr 81.54 319 *e*P **P 21 45 04.1 -0.1**
comp=Z,28nm,1.2s,mb5.1
GRF Grafenberg Arr 81.54 319 *e*P **P 21 45 04.1 -0.1**
GRF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GRF Grafenberg Arr 81.54 319 *e*P **P 21 45 04.1 -0.1**
GRF pmax pmax
comp=Z,28nm,1.2s,mb5.1
MOTA Moosalm 81.57 317⇑ *i*P **P 21 45 03.6 -0.7**
comp=Z,21nm,1.1s,mb5.0,SNR=14
NB2 NORSAR Subarra 81.99 331 P **P 21 45 05.0 -1.5**
comp=Z,15nm,1.2s,mb4.8,baz=94,slow=5.9
NOA NORSAR Array B 81.99 331 P **P 21 45 05.1 -1.4**
comp=Z,5.9nm,1.0s,mb4.5,baz=94,slow=5.6,SNR=7.9
NOA LR LR 22 27 20.0
comp=Z,107nm,18.3s,MS4.2,baz=95,slow=40
NOA NORSAR Array B 81.99 331 P **P 21 45 05.1 -1.4**
NOA LR LR 22 27 20.0
BRMO Bormio 82.06 316 P **P 21 45 07.2 +0.3**
CLZ Clausthal 82.12 321 *e*P **P 21 45 07.2 -0.1**
comp=Z,18nm,1.4s,mb4.8
CLZ Clausthal 82.12 321 *e*P **P 21 45 07.2 -0.1**
CLZ pmax pmax
comp=Z,18nm,1.4s,mb4.8
BSEG Bad Segeberg 82.20 324 *e*P **P 21 45 07.5 -0.2**
comp=Z,22nm,1.4s,mb4.9
DAVA Damuels 82.40 317⇑ *i*P **P 21 45 08.5 -0.2**
comp=Z,36nm,1.4s,mb5.1
DAVOX Davos 82.40 316 P **P 21 45 09.1 +0.4**
comp=Z,21nm,0.6s,mb5.2,baz=118,slow=5.7,SNR=51
DAVOX Davos 82.40 316 P **P 21 45 09.1 +0.4**
KONO Kongsberg 82.73 329 *i*P **P 21 45 08.9 -1.6**
STU Stuttgart 82.86 318 *e*P **P 21 45 11.2 +0.1**
TNS Taunus Mts 83.33 320 *e*P **P 21 45 13.5 -0.1**
comp=Z,14nm,1.3s,mb4.8
TNS Taunus Mts 83.33 320 *e*P **P 21 45 13.5 -0.1**
TNS pmax pmax
comp=Z,14nm,1.3s,mb4.8
SYO Syowa Base 83.35 197⇑ *e*P **P 21 45 14.1 +0.5**
SYO Syowa Base 83.35 197⇑ *e*PcP PcP 21 45 17.3 -0.7
BFO Black Forest 83.44 318 *e*P **P 21 45 13.5 -0.6**
comp=Z,28nm,2.0s,mb5.0
BFO Black Forest 83.44 318 *e*P **P 21 45 13.5 -0.6**
BFO *e*pP pP 21 45 23.3 -1.4
IBBN Ibbenburen 83.74 322 *e*P **P 21 45 14.9 -0.7**
BUG Bochum--Univer 84.06 321 *e*P **P 21 45 16.9 -0.4**
RPZ Rata Peaks 84.07 135 LR LR 22 19 35.6
comp=Z,221nm,21.3s,MS4.5,baz=179,slow=33
LPG La Plagne 84.60 315⇑ *i*P **P 21 45 20.2 +0.2**
comp=Z,34nm,0.8s,mb5.2
LPG La Plagne 84.60 315⇑ *i*P **P 21 45 20.2 +0.2**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.2
LPG La Plagne 84.60 315⇑ *i*P **P 21 45 20.2 +0.2**
comp=Z,17nm,0.8s,mb5.2
BNI Bardonecchia 84.67 315 *e*P **P 21 45 19.8 -0.6**
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.2
BNI Bardonecchia 84.67 315 *e*P **P 21 45 19.8 -0.5**
comp=Z,18nm,0.9s,mb5.2
WLF Walferdange 84.83 319 ⇓ *i*P **P 21 45 21.2 +0.1**
comp=Z,6.5nm,1.3s,mb4.6
MEM Membach 84.88 320 P **P 21 45 21.0 -0.4**
comp=Z,4.8nm,0.7s,mb4.7
SNF Seneffe 85.99 320 P **P 21 45 26.3 -0.7**
URZ Urewera 87.51 129 P **P 21 45 32.9 -1.5**
comp=Z,7.7nm,0.8s,mb5.0,baz=166,slow=8.3,SNR=3.6
TNA Tin City 88.06 24 *e*P **P 21 45 35.7 -1.3**
comp=Z,3.5nm,0.6s,mb4.8
TNA pP pP 21 45 46.4 -1.3
JMIC Jan Mayen 89.05 341 LR LR 22 29 39.1
comp=Z,186nm,19.2s,MS4.5,baz=84,slow=38
DAG Danmarks Havn 89.83 348 ⇓ *i*P **P 21 45 43.7 -1.6**
comp=Z,7.7nm,0.5s,mb5.3
DAG Danmarks Havn 89.83 348 ⇓ *i*P **P 21 45 43.7 -1.6**
DAG pmax pmax
comp=Z,8.0nm,0.5s,mb5.3
EKA Eskdalemuir Ar 89.90 326 P **P 21 45 45.2 -0.4**
comp=Z,3.2nm,0.8s,mb4.7,baz=92,slow=5.8,SNR=7.1
VNDA Vanda 90.57 168 LR LR 22 22 16.6
comp=Z,172nm,19.8s,MS4.5,baz=296,slow=33
ALE Alert 91.44 357 P **P 21 45 52.0 -0.8**
comp=Z,118nm,0.6s,SNR=8.9
TORD Torodi Ar. Bea 91.61 283 P **P 21 45 54.5 +0.9**
comp=Z,5.4nm,1.0s,mb4.8,baz=82,slow=4.2,SNR=20
TORD PP PP 21 49 33.9 +1.8
comp=Z,0.8nm,0.9s,baz=78,slow=4.7,SNR=3.3
TORD PKKPbc PKKPbc 22 03 13.4 +0.6
comp=Z,0.3nm,0.5s,baz=307,slow=2.6,SNR=10
ESDC Sonseca Array 93.09 310 P **P 21 46 01.0 +0.6**
comp=Z,2.4nm,0.6s,mb4.8,baz=59,slow=4.2,SNR=13
SCO Scoresbysund 93.39 342 *i*P **P 21 46 02.0 +0.2**
comp=Z,10nm,1.0s,mb5.2
SCO Scoresbysund 93.39 342 *i*P **P 21 46 02.0 +0.2**
SCO pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
ILAR Eielson Array 96.69 22 P **P 21 46 14.8 -2.1**
comp=Z,1.2nm,0.6s,mb4.5,baz=295,slow=3.8,SNR=28
ILAR PP PP 21 49 58.9 -13
comp=Z,0.4nm,0.8s,baz=290,slow=5.6,SNR=4.5
ILAR LR LR 22 36 29.2
comp=Z,125nm,18.8s,MS4.4,baz=85,slow=40
DBIC Dimbokro 98.75 278 P **P 21 46 27.9 +1.7**
comp=Z,3.4nm,1.1s,mb4.8,baz=71,slow=13,SNR=3.0
DBIC LR LR 22 26 50.5
comp=Z,189nm,20.4s,MS4.6,baz=62,slow=33
RES Resolute Bay 99.68 3 *e*P Pdif 21 46 30.0 -0.3
RES pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
RES Resolute Bay 99.68 3 *e*Pdif Pdif 21 46 29.9 -0.4
comp=Z,6.8nm,0.8s
YKA Yellowknife Ar 108.55 14 Pdiff Pdif 21 47 12.5 +2.8
comp=Z,0.1nm,0.5s,baz=326,slow=4.5,SNR=3.4
YKA PKiKP PKiKP 21 51 13.4 -1.8
comp=Z,0.2nm,0.5s,baz=316,slow=2.0,SNR=17
YKA PP PP 21 51 34.9 -5.7
comp=Z,1.2nm,0.8s,baz=336,slow=7.9,SNR=9.8
YKA PKKP PKKPbc 22 02 37.6 +13
comp=Z,0.2nm,0.6s,baz=143,slow=4.0,SNR=5.4
YKA Yellowknife Ar 108.55 14 P Pdif 21 47 12.5 +2.8
YKA 21 51 34.9
YKA Yellowknife Ar 108.55 14 Pdif Pdif 21 47 12.5 +2.8
YKA PKPdf PKiKP 21 51 13.4 -1.8
YKA PP PP 21 51 34.9 -5.7
YKA PKKP PKKPbc 22 02 37.6 +13
TBI Tubuai 115.94 113 *e*LR LR 22 26 31.0
comp=Z,152nm,33.5s
PPT Papeete 116.22 107 *e*LR LR 22 26 38.7
comp=Z,83nm,23.2s
MSO Missoula 122.02 23 *e*PKPdf PKPdf 21 51 39.9 -1.0
MSO *e*pPKPdf pPKPdf 21 51 50.7 -1.2
EGMT Eagleton 122.50 19 *e*PKPdf PKPdf 21 51 41.6 -0.3
EGMT *e*pPKPdf pPKPdf 21 51 52.1 -0.7
ULM Lac du Bonnet 123.68 8 PKP PKPdf 21 51 42.9 -1.3
comp=Z,9.1nm,0.7s,baz=360,slow=2.6,SNR=23
DLMT Dillon 123.76 23 *e*PKPdf PKPdf 21 51 44.4 +0.1
DLMT *e*pPKPdf pPKPdf 21 51 54.9 -0.4
MCMT McKenzie Canyo 124.11 23 *e*PKPdf PKPdf 21 51 45.3 +0.3
LAO LASA Array 124.79 17 *e*PKPdf PKPdf 21 51 47.0 +0.7
NVAR Mina Array Bea 126.62 32 PKP PKPdf 21 51 50.6 +0.8
comp=Z,2.7nm,0.7s,baz=28,slow=0.3,SNR=12
MTUM Tungsten Hills 127.27 33 *e*PKPdf PKPdf 21 51 52.7 +1.7
DUG Dugway 127.94 27 *e*PKIKP PKPdf 21 51 53.0 +0.7
RKT Rikitea 129.14 115 *e*LR LR 22 32 38.1
comp=Z,119nm,32.0s
TMUT Trail Mountain 129.38 26 *e*PKPdf PKPdf 21 51 55.8 +0.8
MSU Marysvale 129.59 27 *e*PKPdf PKPdf 21 51 57.8 +2.3
MSU *e*pPKPdf pPKPdf 21 52 05.1 -1.3
NEN Nelson 130.53 32 *e*PKPdf PKPdf 21 51 59.2 +1.9
MNTX Cornudas Mount 138.32 26 *e*PKPdf PKPdf 21 52 11.9 +0.1
JCT Junction City 141.59 20 *e*PKHKP 21 52 11.5
BDFB Brasilia 142.01 252 PKP PKPdf 21 52 19.8 +1.3
comp=Z,1.9nm,0.6s,baz=14,slow=2.0,SNR=3.3
PLCA Paso Flores 142.54 199 PKhKP 21 52 15.1
comp=Z,2.6nm,1.0s,baz=128,slow=5.3,SNR=2.8
CPUP Villa Florida 146.19 229 *e*PKP2 PKPab 21 52 26.7 -0.9
LZG Guadaloupe-1 148.23 313 *e*P PKPdf 21 52 33.1 +4.0
TBG Guadaloupe-3 148.32 313 *e*P PKPdf 21 52 33.3 +3.9
BBL Barber's Block 148.40 312 *e*P PKPdf 21 52 33.4 +4.0
MTP Monte Pirata 149.44 321 *e*PKPbc PKPbc 21 52 36.0 +0.4
CFAA Coronel Fontan 149.52 210 PKPbc PKPbc 21 52 35.5 -0.3
comp=Z,1.0nm,0.6s,baz=163,slow=2.3,SNR=21
CPD Cerro la Pandu 149.71 321 *e*PKP2 PKPab 21 52 36.6 -5.3
SDV Santo Domingo 159.48 314 PKP PKPdf 21 52 45.6 +0.5
comp=Z,3.6nm,0.8s,baz=125,slow=9.2,SNR=4.0
LPAZ La Paz 160.02 236 *e*PKIKP PKPdf 21 52 46.7 +1.0
ROSC El Rosal 164.90 313 PKP PKPdf 21 52 51.7 +1.2
comp=Z,3.1nm,0.6s,baz=95,slow=13,SNR=4.7

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*ISCJB **26** 21:34:03.6±0.9, 587N±008×126.13E±008, h133km±15km, mb4.5/8, Error ellipse: s-maj=15.0km s-min=12.4km az=83.2*
*MAN **26** 21:34:04.6, 593N×12609E, h124km, mb4.2, ML5.1, MS3.9*
*NEIC **26** 21:34:18.2±1.2, 561N×12627E, h250km, mb4.7/4, Error ellipse: s-maj=23.3km s-min=21.2km az=205.0*
*IDC **26** 21:34:28.2±23.0, 548N×12647E, h350km±220km, mb4.1/5, mb1 4.1/5, mb1mx3.6/19, mbtmp4.7/5, Error ellipse: s-maj=100.2km s-min=33.8km az=147.0*
ISC 26 21:34:05.2±0.9, 591N±009×12611E±009, h132km±15km, n29, σ0°60/32, mb4.5/8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.49**	**317**⇑	*e*P	**Pn**	**21 34 40.0**	**+6.7**
KCP				*i* S	**Sn**	**21 35 02.8**	**+8.1**
BUKP	**Musuan**	**2.21**	**332**	*e*P	**Pn**	**21 34 41.9**	**+0.1**
CTBH	**Cotabato--PC H**	**2.26**	**305**	⇓ *i*P	**Pn**	**21 34 42.0**	**-0.5**
CTBH				*i* S	**Sn**	**21 35 10.7**	**-0.4**
BIPH	**Bislig**	**2.27**	**6**⇑	*i*P	**Pn**	**21 34 41.1**	**-1.4**
BIPH				*i* S	**Sn**	**21 35 11.3**	**0.0**
CGP	**Cagayan de Oro**	**2.89**	**331**⇑	*i*P	**Pn**	**21 34 51.2**	**+0.8**
CGP				*i* S	**Sn**	**21 35 24.7**	**-0.6**
BUTP	**Butuan**	**3.08**	**351**	*e*P	**Pn**	**21 34 53.6**	**+0.7**
PAGZ	**Pagadian**	**3.32**	**306**	*e*P	**Pn**	**21 34 55.9**	**-0.2**
SCPH	**Surigao**	**3.90**	**351**	*e*P	**Pn**	**21 35 04.2**	**+0.7**
SCPH				*e*S	**Sn**	**21 35 49.3**	**+0.5**
IPIL	**Ipil**	**3.98**	**298**	*e*P	**Pn**	**21 35 04.5**	**-0.1**
MSLP	**Maasin**	**4.38**	**344**	*e*P	**Pn**	**21 35 09.8**	**-0.1**
OCLP	**Ormoc**	**5.32**	**344**	*e*P	**Pn**	**21 35 33.5**	**+11**
GUIM	**Jordan**	**5.84**	**324**	*e*P	**Pn**	**21 35 30.4**	**+0.9**
CUYO	**Cuyo Island**	**7.03**	**315**	*e*P	**Pn**	**21 35 40.8**	**-4.8**
ENPP	**El Nido**	**8.45**	**309**	*e*P	**Pn**	**21 36 04.3**	**-0.3**
LUBP	**Lubang**	**9.68**	**324**	*e*P	**Pn**	**21 36 21.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.86**	**181**	*e*P	**P**	**21 39 06.5**	**+0.2**
	10nm,0.4s,mb4.7						
PMG	**Port Moresby**	**25.91**	**126**	P	**P**	**21 39 25.2**	**+0.3**
	13nm,0.6s,mb4.8,baz=315,slow=1.4,SNR=6.0						
WRAB	**Tennant Creek**	**26.93**	**163**	*e*P	**P**	**21 39 34.1**	**+0.1**
	13nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**26.94**	**163**	*e*P	**P**	**21 39 33.7**	**-0.4**
MBWA	**Marble Bar**	**27.62**	**193**	*e*P	**P**	**21 39 40.1**	**0.0**
	5.7nm,0.5s,mb4.6						
AS31	**Alice Springs**	**30.36**	**166**	*e*P	**P**	**21 40 04.7**	**+0.3**
ASPA	**Alice Springs**	**30.36**	**166**	*e*P	**P**	**21 40 04.7**	**+0.3**
ASAR	**Alice Springs**	**30.36**	**166**	P	**P**	**21 40 04.8**	**+0.4**
	7.0nm,0.5s,mb4.7,baz=339,slow=6.9,SNR=102						
NWAO	**Narrogin (SRO)**	**39.53**	**192**	P	**P**	**21 41 23.5**	**+0.5**
	20nm,0.4s,mb5.1,baz=22,slow=7.9,SNR=28						
NWAO	**Narrogin (SRO)**	**39.53**	**192**	*e*P	**P**	**21 41 23.6**	**+0.6**
	30nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**40.37**	**159**	P	**P**	**21 41 28.6**	**-1.3**
	5.9nm,0.7s,mb4.3,baz=337,slow=7.9,SNR=15						
YKA	**Yellowknife Ar**	**97.78**	**24**	P	**P**	**21 47 24.1**	**-1.2**
	0.2nm,0.8s,mb3.6,baz=303,slow=4.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**121.64**	**289**	PKP	PKPdf	21 52 42.4	-0.8
	1.5nm,0.7s,baz=64,slow=1.6,SNR=18						
DBIC	**Dimbokro**	**129.50**	**284**	PKP	PKPdf	21 52 58.8	+0.6
	1.8nm,1.0s,baz=338,slow=5.4,SNR=3.8						

IDC 26 21:38:10.0±2.0, 1836S×6933W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=38.6km s-min=22.8km az=131.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.36**	**29**	Pn	Pn	21 38 50.6	+0.7
	7.2nm,0.3s,baz=235,slow=11,SNR=25						
LPAZ				Lg		21 39 25.5	
	5.1nm,0.3s,baz=86,slow=20,SNR=4.6						
SIV	**San Ignacio**	**8.23**	**75**	Pn	Pn	21 40 12.0	+1.4
	0.1nm,0.3s,baz=329,slow=21,SNR=4.0						
SIV				Lg		21 42 29.3	
	0.1nm,0.3s,baz=342,slow=20,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.70**	**71**	P	P	21 50 03.7	+0.8
	1.6nm,1.0s,baz=262,slow=4.3,SNR=3.7						
YKA	**Yellowknife Ar**	**88.11**	**341**	P	P	21 51 01.7	-0.7
	0.3nm,0.7s,baz=129,slow=4.9,SNR=5.4						

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*IDC **26** 21:45:29.1±1.2, 118N×9697E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, MS3.4/1, Ms1 3.4/1, ms1mx2.5/27, Error ellipse: s-maj=38.6km s-min=19.3km az=53.0*
*ISCJB **26** 21:45:30.5±0.6, 120N±008×9702E±008, h21km, mb4.4/20, MS4.4/1, Error ellipse: s-maj=13.3km s-min=9.7km az=99.3*
*BJI **26** 21:45:30.1, 084N×9704E, h41km, mB5.3, mb4.8, Ms4.7, Msz4.5*
*NEIC **26** 21:45:32.6±0.4, 121N×9703E, mb4.4/7, Error ellipse: s-maj=9.8km s-min=6.9km az=54.0*
ISC 26 21:45:32.9±0.6, 123N±008×9706E±008, h21km, (h25km±2.6km: pP-P), n28, σ0°68/29, mb4.4/20, MS4.4/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.43**	**50**	Pn	**Pn**	**21 46 11.1**	**-0.2**
	5.5nm,0.3s,baz=241,slow=5.0,SNR=102						
PSI				LR	LR	21 47 01.1	
	comp=Z,794nm,21.0s,baz=289,slow=37						
KULM	**Kulim**	**5.40**	**42**	*e*Pn	**Pn**	**21 46 52.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.70**	**75**	*e*P	**Pn**	**21 50 01.8**	**-0.5**
HYB	**Hyderabad**	**24.29**	**313**	*i*P	**P**	**21 50 48.0**	**-0.6**
HYB				*e*S	**S**	**21 55 11.0**	**+4.6**
KMI	**Kunming**	**24.38**	**13**	P	**P**	**21 50 50.3**	**+0.8**
KMI				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.6						
KMI				LR	LR		
	comp=N,861nm,14.8s,MS4.4						
KMI				LR	LR		
	comp=E,481nm,14.5s,MS4.4						
KMI				LR	LR		
	comp=Z,808nm,13.8s,MS4.4						
SHL	**Shillong**	**24.71**	**349**⇑	*i*P	**P**	**21 50 53.0**	**+0.6**
LSA	**Lhasa**	**28.87**	**349**	*e*P	**P**	**21 51 31.0**	**+1.1**
	comp=Z,6.6nm,0.8s,mb4.4						
CD2	**Chengdu**	**30.20**	**11**	*e*P	**P**	**21 51 43.8**	**+2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ENH	**Enshi**	**31.21**	**21**	*e*P	**P**	**21 51 49.8**	**-0.7**
	comp=Z,19nm,0.8s,mb5.0						
ENH				*e*pP	pP	21 51 56.3	-0.7
XAN	**Xi'an**	**34.48**	**18**	P	**P**	**21 52 18.5**	**-0.7**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.25**	**10**	*e*P	**P**	**21 52 25.0**	**-0.8**
LZH				AP	pP	21 52 34.3	+1.9
LZH				XP	sP	21 52 38.5	+3.5
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.0						
GTA	**Gaotai**	**38.09**	**3**	*e*P	**P**	**21 52 49.8**	**-0.2**
GTA				XP	sP	21 53 02.0	+2.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
NWAO	**Narrogin (SRO)**	**38.94**	**153**	*e*P	**P**	**21 52 57.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**42.17**	**122**	*e*P	**P**	**21 53 24.2**	**+0.4**
	comp=Z,2.7nm,0.6s,mb4.0						
BJT	**Baijiatuau**	**42.35**	**22**	*e*P	**P**	**21 53 25.8**	**+0.5**
	comp=Z,11nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**21 53 35.8**	**+0.9**
	comp=Z,1.2nm,0.8s,mb3.7,baz=299,slow=6.9,SNR=9.2						
SONM	**Songino Array**	**47.13**	**9**	P	**P**	**21 54 03.6**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.5,baz=189,slow=9.1,SNR=30						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**21 54 03.2**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=158,slow=8.0,SNR=25						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**21 54 03.2**	**-0.6**
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**	**21 54 38.7**	**+0.2**
	comp=Z,9.1nm,1.2s,mb4.6						
KURK				*e*pP	pP	21 54 45.7	+0.5
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**21 54 50.8**	**-0.6**
	comp=Z,4.4nm,1.0s,mb4.4,baz=297,slow=9.0,SNR=5.0						
ZAL	**Zalesovo**	**53.50**	**351**	P	**P**	**21 54 51.4**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=296,slow=5.7,SNR=20						
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**21 55 10.8**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=142,slow=8.4,SNR=19						
BRVK	**Borovoye**	**56.24**	**341**	*e*P	**P**	**21 55 11.3**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.1						
ZRNK	**Zerenda**	**56.58**	**340**	*e*P	**P**	**21 55 13.5**	**-0.3**
ZRNK				*e*pP	pP	21 55 19.2	-1.4
AKTK	**Aktyubinsk**	**59.14**	**332**	P	**P**	**21 55 31.3**	**-0.5**
AKTO	**Aktyubinsk**	**59.14**	**332**	P	**P**	**21 55 31.3**	**-0.5**
	comp=Z,0.7nm,0.3s,mb4.2,baz=116,slow=8.9,SNR=5.5						
BRTR	**Keskin Array B**	**68.99**	**312**	P	**P**	**21 56 37.5**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=109,slow=7.8,SNR=2.6						

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*ISCJB **26** 21:51:00.5±0.4, 253N±0.1×12408E±007, h120km±9km, mb3.8/10, Error ellipse: s-maj=19.0km s-min=4.9km az=119.9*
*NIED **26** 21:51:00, 2520N×124.10E, h92km, Mw4.9 Best double couple: M0:2.8000×10^16 NP1:φ:158.00000°, δ:52.00000°, λ:-60.00000°. NP2:φ:295.00000°, δ:47.00000°, λ:-123.00000°.*
*IDC **26** 21:51:02.8±5.1, 2555N×124.12E, h113km±35km, mb3.6/10, mb1 3.7/11, mb1mx3.6/21, mbtmp4.0/11, Error ellipse: s-maj=75.4km s-min=25.1km az=5.0*
*JMA **26** 21:51:02.6±0.2, 2516N×12407E, h113km±3km, M4.0*
ISC 26 21:51:01.6±0.4, 252N±01×12408E±007, h117km±9km, n25, σ0°88/37, mb3.8/10, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.82**	**136**	P	**Pn**	**21 51 22.0**	**+0.4**
JTJ				*e*S	**Sn**	**21 51 36.3**	**-0.4**
JIJ	**Ishigaki jima**	**0.87**	**176**	P	**Pn**	**21 51 21.8**	**-0.3**
JIJ				S	**Sn**	**21 51 36.7**	**-0.8**
IRIF	**Iriomote-Funau**	**0.95**	**200**	P	**Pn**	**21 51 22.7**	**-0.1**
IRIF				*e*S	**Sn**	**21 51 38.2**	**-0.7**
JKRS	**Kuro-shima**	**1.00**	**184**	P	**Pn**	**21 51 23.4**	**+0.1**
JKRS				*e*S	**Sn**	**21 51 39.6**	**-0.1**
JMJ	**Miyako jima 2**	**1.18**	**111**	P	**Pn**	**21 51 26.0**	**+0.9**
JMJ				S	**Sn**	**21 51 43.1**	**+0.1**
HATJ	**Hateruma jima**	**1.20**	**192**	P	**Pn**	**21 51 25.5**	**+0.1**
HATJ				*e*S	**Sn**	**21 51 42.9**	**-0.6**
YOJ	**Yonaguni jima**	**1.24**	**232**	P	**Pn**	**21 51 26.4**	**+0.6**
YOJ				*e*S	**Sn**	**21 51 44.4**	**+0.2**
JOGS	**Gusukube**	**1.29**	**111**	P	**Pn**	**21 51 27.5**	**+1.1**
JOGS				S	**Sn**	**21 51 46.3**	**+1.1**
JKE	**Kume jima 2**	**2.67**	**65**	P	**Pn**	**21 51 44.5**	**+1.1**
JKE				*e*S	**Sn**	**21 52 17.2**	**+1.6**
JAGN	**Aguni-jima**	**3.15**	**64**	P	**Pn**	**21 51 51.5**	**+1.8**
JAGN				*e*S	**Sn**	**21 52 26.8**	**0.0**
JIH	**Iheya**	**3.92**	**62**	P	**Pn**	**21 52 00.7**	**+0.7**
JIH				*e*S	**Sn**	**21 52 43.8**	**-1.5**
JOW	**Kunigami**	**4.09**	**66**	P	**Pn**	**21 52 02.3**	**0.0**
	30nm,0.3s,baz=228,slow=9.2,SNR=39						
JOW				S	**Sn**	**21 52 47.2**	**-2.1**
	24nm,0.3s,baz=128,slow=26,SNR=6.4						
JTK	**Tokunoshima**	**5.05**	**59**	P	**Pn**	**21 52 14.3**	**-0.8**
JAM	**Amami Oshima**	**5.86**	**56**	P	**Pn**	**21 52 25.1**	**-1.0**
JMZ	**Minamidaito 2**	**6.47**	**83**	P	**Pn**	**21 52 32.0**	**-2.4**
SONM	**Songino Array**	**26.54**	**333**	P	**P**	**21 56 27.9**	**-0.3**
	0.5nm,0.5s,mb3.3,baz=162,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**39.47**	**314**	P	**P**	**21 58 20.8**	**+0.5**
	0.8nm,0.3s,mb4.0,baz=99,slow=8.9,SNR=33						
ZAL	**Zalesovo**	**40.85**	**325**	P	**P**	**21 58 30.8**	**-1.0**
	2.1nm,0.6s,mb4.1,baz=2.3,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**48.56**	**320**	P	**P**	**21 59 32.9**	**0.0**
	0.7nm,0.3s,mb4.1,baz=100,slow=8.8,SNR=11						
AKTO	**Aktyubinsk**	**55.88**	**315**	P	**P**	**22 00 27.1**	**+0.1**
	0.5nm,0.3s,mb4.0,baz=110,slow=16,SNR=4.4						
FINES	**FINESS Array B**	**71.87**	**330**	P	**P**	**22 02 11.2**	**-0.5**
	1.7nm,0.9s,mb3.9,baz=55,slow=5.7,SNR=7.7						
AKASG	**Malin Array Be**	**73.83**	**319**	P	**P**	**22 02 22.6**	**-0.8**
	0.2nm,0.2s,mb3.4,baz=56,slow=4.7,SNR=4.9						
BRTR	**Keskin Array B**	**74.66**	**307**	P	**P**	**22 02 29.4**	**+1.2**
	2.5nm,0.9s,mb3.9,baz=101,slow=6.5,SNR=15						
YKA	**Yellowknife Ar**	**80.97**	**24**	P	**P**	**22 03 03.4**	**+0.3**
	1.8nm,1.0s,mb3.9,baz=309,slow=5.0,SNR=15						
GERES	**GERESS Array B**	**83.69**	**321**	P	**P**	**22 03 18.1**	**+0.9**
	0.6nm,0.8s,mb3.5,baz=64,slow=3.1,SNR=4.4						

PRE 26 22:31:17.4±1.0, 2118S×3384E, h5km, ML4.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.73**	**251**	*e*P		22 25 14.6	
MSNA				*e*S		22 25 58.5	
MSNA				AML	AML	22 26 04.6	
	comp=Z,149nm,0.8s						
SLR	**Silverton**	**6.82**	**227**	*e*S	Sn	22 34 24.9	+8.7
SLR				AML	AML	22 35 03.5	
	comp=Z,50nm,0.6s						
KSR	**Koster**	**7.88**	**233**	*e*P	Pn	22 33 14.3	+1.6
LBTB	**Lobatse**	**8.49**	**242**	*e*P	Pn	22 33 22.5	+1.5
LBTB				*e*S	Sn	22 34 52.9	-4.3
LBTB				AML	AML	22 36 00.6	
	comp=Z,26nm,0.6s						
BOSA	**Boshof**	**10.74**	**225**	*e*P	Pn	22 33 53.4	+1.6
BOSA				*e*S	Sn	22 35 47.3	-5.1
BOSA				AML	AML	22 37 09.3	
	comp=Z,8.8nm,0.6s						

MAN 26 22:31:33.4, 847N×12309E, h31km, MS7.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.28**	**67**	*i*P	Pb	22 31 42.3	+1.5
DCPH				*i* S	Sb	22 31 48.2	+2.5
**

1.0nm,0.7s,mb3.7,baz=148,slow=7.8,SNR=5.0
ANMO Albuquerque 69.13 326 P P 23 13 32.7 +0.1
TORD Torodi Ar. Bea 75.95 69 P P 23 14 11.9 -0.9
1.4nm,0.4s,mb4.0,baz=258,slow=6.1,SNR=22
MKAR Makanchi Array 145.71 39 PKPbc PKPbc 23 22 03.1 -0.3
0.9nm,0.7s,baz=320,slow=3.1,SNR=12

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*ISCJB **26** 23:18:20.0±0.9, 3555N±003×141.19E±009, h33km, mb3.3/4, MS3.7/1, Error ellipse: s-maj=10.7km s-min=5.0km az=2.1*
*NEIC **26** 23:18:21.2, 3556N×14104E, h37km, MG3.0(JMA), After JMA.*
*JMA **26** 23:18:21.2±0.1, 3556N×14104E, h37km±1km, M3.0*
*IDC **26** 23:18:22.1±3.3, 3536N×14107E, h44km±35km, mb3.2/4, mb1 3.3/6, mb1mx3.2/19, mbtmp3.4/6, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.1/11, Error ellipse: s-maj=39.2km s-min=21.8km az=86.0*
ISC 26 23:18:21.3±0.8, 3553N±003×14111E±009, h35km, n20, σ0.96/26, mb3.3/4, MS3.7/1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.27**	**310**	P	**Pn**	**23 18 28.2**	**-0.7**
CHOJ				*e*S	**Sn**	**23 18 33.0**	**-1.0**
BSO2	**Boso 2**	**0.83**	**201**	*e*S	**Sn**	**23 18 46.9**	**-0.5**
BSO4	**Boso 4**	**0.83**	**230**	P	**Pn**	**23 18 36.1**	**-0.4**
BSO4				*e*S	**Sn**	**23 18 48.5**	**+1.0**
BSO3	**Boso 3**	**0.88**	**214**	P	**Pn**	**23 18 36.7**	**-0.4**
BSO3				*e*S	**Sn**	**23 18 49.4**	**+0.8**
BSO1	**Boso 1**	**0.88**	**187**	P	**Pn**	**23 18 36.9**	**-0.2**
BSO1				S	**Sn**	**23 18 49.6**	**+0.9**
JYT	**Yasato**	**1.02**	**313**	P	**Pn**	**23 18 38.2**	**-0.9**
JHO	**Hitachi**	**1.17**	**338**	P	**Pn**	**23 18 40.4**	**-0.7**
JIM2	**Oshima 3**	**1.60**	**240**	P	**Pn**	**23 18 47.0**	**0.0**
JAG	**Ashikaga**	**1.62**	**304**	P	**Pn**	**23 18 47.4**	**+0.1**
JOD2	**Odawara 2**	**1.68**	**262**	P	**Pn**	**23 18 48.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.56**	**294**	P	**Pn**	**23 19 01.3**	**+1.0**
	4.1nm,0.3s,baz=101,slow=8.5,SNR=24						
MAJO	**Matsushiro**	**2.56**	**294**	*e*Pn	**Pn**	**23 19 01.7**	**+1.4**
MAT	**Matsushiro**	**2.56**	**294**	P	**Pn**	**23 19 01.6**	**+1.3**
MAT				S	**Sn**	**23 19 28.4**	**-1.9**
MAT	**Matsushiro**	**2.56**	**294**	*e*P	**Pn**	**23 19 02.0**	**+1.7**
MAT				*e*S	**Sn**	**23 19 44.0**	**+14**
JHJ	**Hachijo jima 2**	**2.64**	**205**	P	**Pn**	**23 18 59.6**	**-1.8**
	13nm,0.3s,baz=102,slow=17,SNR=2.7						
JHJ				S	**Sn**	**23 19 29.1**	**-3.1**
	22nm,0.3s,baz=84,slow=18,SNR=3.3						
SONM	**Songino Array**	**28.45**	**306**	P	**P**	**23 24 13.9**	**+1.1**
	0.1nm,0.4s,mb2.8,baz=115,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**44.73**	**303**	P	**P**	**23 26 31.0**	**0.0**
	0.3nm,0.6s,mb3.3,baz=81,slow=8.7,SNR=3.7						
KDAK	**Kodiak Island**	**48.39**	**41**	LR	LR	23 45 43.0	
	comp=Z,82nm,18.9s,MS3.7,baz=93,slow=34						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**23 27 19.7**	**+0.8**
	0.6nm,0.9s,mb3.5,baz=266,slow=5.9,SNR=4.8						
FINES	**FINESS Array B**	**70.03**	**332**	P	**P**	**23 29 29.4**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=46,slow=8.0,SNR=4.3						

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*SFS **26** 23:22:56.0, 3686N×491W, h18km, ML2.3*
*CSEM **26** 23:22:56.1±0.1, 3693N×490W, h2km, ML3.2/7, Error ellipse: s-maj=1.7km s-min=1.1km az=164.0*
*INMG **26** 23:22:56.8±1.6, 3689N×492W, h10km, ML2.5, Error ellipse: s-maj=4.1km s-min=2.6km az=143.0*
MDD 26 23:22:56.4±0.2, 3684N×490W, h20km±3km, mbLg2.5/23, 2C-3D, Error ellipse: s-maj=3.0km s-min=1.8km az=176.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.30**	**160**	⇓Pg	Pg	23 23 02.4	-0.6
	49nm,0.3s,SNR=18						
EMIJ				Lg		23 23 08.0	
	1μm,0.5s						
LIJA	**Lijar**	**0.41**	**279**	⇑Pg	Pg	23 23 03.1	-1.8
LIJA				Lg		23 23 11.2	
LIJA	**Lijar**	**0.41**	**279**	*i* P	Pb	23 23 03.2	-1.8
REAL	**Reales**	**0.44**	**215**	Pg	Pg	23 23 05.4	0.0
REAL				Lg		23 23 14.9	
REAL	**Reales**	**0.44**	**215**	*e*P	Pb	23 23 05.4	0.0
REAL				*e*S	Sg	23 23 14.9	+3.4
EJIF	**Jimena Fronter**	**0.60**	**230**	⇓Pg	Pg	23 23 08.1	-0.4
	17nm,0.4s,SNR=18						
EJIF				Lg		23 23 17.1	
	89nm,0.5s						
ELOJ	**Sierra Loja**	**0.67**	**63**	Pg	Pg	23 23 08.9	-0.8
	9.4nm,0.3s,SNR=8.8						
ELOJ				Lg		23 23 18.8	
	131nm,0.4s,SNR=19						
ESPR	**Espera**	**0.77**	**272**	⇓Pg	Pg	23 23 10.9	-0.7
	12nm,0.3s,SNR=18						
ESPR				Lg		23 23 22.2	
	124nm,0.4s,SNR=4.0						
ESPR	**Espera**	**0.77**	**272**	Pg	Pg	23 23 10.9	-0.6
	12nm,0.3s,SNR=18						
MOMI	**Momias**	**0.84**	**232**	Pg	Pg	23 23 14.9	+2.1
MOMI				Lg		23 23 29.7	
MOMI	**Momias**	**0.84**	**232**	*e*P	Pb	23 23 14.9	+2.7
MOMI				*e*S	Sb	23 23 29.7	+6.7
GIBL	**Gibalbin**	**0.86**	**269**	⇑Pg	Pg	23 23 13.0	-0.2
GIBL				Lg		23 23 26.7	
GIBL	**Gibalbin**	**0.86**	**269**	*i* P	Pb	23 23 13.0	+0.4
GIBL				*e*S	Sb	23 23 26.7	+3.0
ELUQ	**Luque**	**0.88**	**35**	Pg	Pg	23 23 11.2	-2.3
	13nm,0.2s,SNR=30						
ELUQ				Lg		23 23 24.3	
	63nm,0.2s,SNR=4.0						
ERON	**Agron**	**0.89**	**78**	Pg	Pg	23 23 13.1	-0.8
	9.6nm,0.3s,SNR=8.0						
ERON				Lg		23 23 25.5	
	84nm,0.7s						
CNIL	**Conil**	**1.04**	**243**	Lg		23 23 43.0	
SCRT	**Cerro San Cris**	**1.04**	**259**	*e*P	Pb	23 23 17.6	+1.8
SCRT				*e*S	Sb	23 23 33.3	+4.2
EGUA	**Guajares**	**1.07**	**90**	Pg	Pg	23 23 16.1	-1.2
	1.7nm,0.2s,SNR=7.9						
EGUA				Lg		23 23 30.6	
	10nm,0.4s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.15**	**68**	Pg	Pg	23 23 18.3	-0.4
	4.2nm,0.2s,SNR=17						
ECOG				Lg		23 23 34.2	
	25nm,0.2s,SNR=9.2						
EQUE	**Quentar**	**1.22**	**72**	Pg	Pg	23 23 19.1	-1.0
	24nm,0.3s,SNR=40						
EQUE				Lg		23 23 38.3	
	45nm,0.3s,SNR=6.4						
EADA	**Adamuz**	**1.35**	**11**	Pn	Pn	23 23 18.2	-1.9
	38nm,0.4s,SNR=51						
EADA				Sn	Sn	23 23 35.1	-2.2
	64nm,0.2s,SNR=13						
EADA	**Adamuz**	**1.35**	**11**	Pg	Pg	23 23 18.2	-4.3
	38nm,0.4s,SNR=51						
EBAN	**Banos Encina**	**1.59**	**34**	Pn	Pn	23 23 22.0	-1.4
	38nm,0.4s,SNR=21						
EBAN				Sn	Sn	23 23 42.3	-1.0
	103nm,0.3s,SNR=20						
EBAN	**Banos Encina**	**1.59**	**34**	Pn	Pn	23 23 22.0	-1.4
	38nm,0.4s,SNR=21						
EBAN				Sn	Sn	23 23 43.1	-0.2
	103nm,0.3s,SNR=20						
EBER	**Berja**	**1.61**	**87**	Pg	Pg	23 23 25.6	-1.9
	22nm,0.3s,SNR=30						
EBER				Lg		23 23 50.3	
	171nm,0.7s						
EBER	**Berja**	**1.61**	**87**	Pg	Pg	23 23 27.1	-0.4
	22nm,0.3s,SNR=30						
EMIN	**Mina Concepcio**	**1.69**	**304**	Pn	Pn	23 23 22.5	-2.3
	9.9nm,0.5s,SNR=28						
EMIN				Pg	Pg	23 23 25.3	-3.7
	4.9nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	23 23 45.4	-0.4
	13nm,0.3s						
EMIN	**Mina Concepcio**	**1.69**	**304**	Pn	Pn	23 23 22.5	-2.3
	9.9nm,0.5s,SNR=28						
EMIN	**Mina Concepcio**	**1.69**	**304**	Pg	Pg	23 23 25.3	-3.6
	4.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.74**	**56**	Pn	Pn	23 23 25.3	-0.2
	1.4nm,0.3s,SNR=4.0						
EQES				Pg	Pg	23 23 27.3	-2.7
	13nm,0.3s,SNR=17						
EQES				Lg		23 23 51.8	
	82nm,0.4s						
EQES	**Quesada**	**1.74**	**56**	Pn	Pn	23 23 25.3	-0.2
	1.4nm,0.3s,SNR=4.0						
EQES	**Quesada**	**1.74**	**56**	Pg	Pg	23 23 27.3	-2.7
	13nm,0.3s,SNR=17						
EHUE	**Huescar**	**2.08**	**62**	Pg	Pg	23 23 32.2	-4.1
	4.6nm,0.3s,SNR=5.6						
EHUE				Lg		23 24 01.4	
	10nm,0.2s,SNR=5.0						
ENIJ	**Nijar**	**2.16**	**86**	Pn	Pn	23 23 29.8	-1.4
	2.8nm,0.4s,SNR=4.0						
ENIJ				Lg		23 24 03.5	
	5.3nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.16**	**86**	Pn	Pn	23 23 29.8	-1.5
	2.8nm,0.4s,SNR=4.0						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	23 23 29.4	-2.1
	5.0nm,0.3s,SNR=5.9						
EGRO				Sn	Sn	23 23 56.2	-1.6
	23nm,0.6s,SNR=5.8						
EGRO				Lg		23 24 02.4	
	15nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	23 23 29.4	-2.1
	5.0nm,0.3s,SNR=5.9						
EGRO				Sn	Sn	23 23 56.2	-1.6
	23nm,0.6s,SNR=5.8						
EBAD	**Badajoz**	**2.54**	**319**	Pn	Pn	23 23 34.0	-2.5
	2.0nm,0.2s,SNR=13						
EBAD				Sn	Sn	23 24 03.8	-3.0
	13nm,0.5s,SNR=6.0						
EBAD				Lg		23 24 11.5	
	20nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**2.54**	**319**	Pn	Pn	23 23 34.0	-2.5
	2.0nm,0.2s,SNR=13						
EVIA	**Vianos**	**2.61**	**46**	Lg		23 24 17.0	
	27nm,0.4s,SNR=7.9						
PBEJ	**Beja**	**2.64**	**297**	*e*Pn	Pn	23 23 37.4	-0.5
PBEJ				*e*Sg	Sg	23 24 19.0	-2.3
PBEJ							
	12nm,0.5s						
PBEJ	**Beja**	**2.64**	**297**	*e*Pn	Pn	23 23 37.4	-0.5
PBEJ				*e*Sg	Sg	23 24 19.0	-2.3
	12nm,0.5s						
ESDC	**Sonseca Array**	**2.92**	**14**	Pn	Pn	23 23 40.8	-0.9
	0.6nm,0.2s,baz=196,slow=12,SNR=9.8						
ESDC				Pg	Pg	23 23 48.1	-4.3
	0.6nm,0.3s,baz=198,slow=17,SNR=20						
ESDC				Lg		23 24 23.8	
	4.6nm,0.2s,baz=198,slow=27,SNR=7.9						
ESDC	**Sonseca Array**	**2.92**	**14**	Pn	Pn	23 23 40.8	-0.9
	0.6nm,0.2s,SNR=9.8						
ESDC	**Sonseca Array**	**2.92**	**14**	Pg	Pg	23 23 48.1	-4.3
	0.6nm,0.3s,SNR=20						
EMUR	**La Murta**	**3.08**	**70**	Pn	Pn	23 23 44.6	+0.7
	0.6nm,0.8s,SNR=7.9						
EMUR				Pg	Pg	23 23 51.5	-4.0
	2.3nm,0.5s,SNR=7.9						
EMUR				Lg		23 24 31.5	
	27nm,0.7s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**70**	Pn	Pn	23 23 44.3	+0.4
	0.6nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**70**	Pg	Pg	23 23 51.5	-4.0
	2.3nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Sn	Sn	23 24 20.7	-0.8
PTEO				*e*Sg	Sg	23 24 35.8	-1.3
PTEO							
	13nm,0.5s						
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Sn	Sn	23 24 20.7	-0.8
PTEO				*e*Sg	Sg	23 24 35.8	-1.3
	13nm,0.5s						
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 23 45.5	-0.1
	0.6nm,0.2s,SNR=7.9						
ETOB				Pg	Pg	23 23 53.8	-4.1
	7.0nm,0.7s,SNR=4.8						
ETOB				Lg		23 24 36.4	
	11nm,0.4s,SNR=7.1						
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 23 45.5	-0.2
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.21**	**55**	Pg	Pg	23 23 55.6	-2.3
	7.0nm,0.7s,SNR=4.8						
MOE	**Montemor**	**3.21**	**303**	*e*Sg	Sg	23 24 37.3	-2.3
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	23 23 50.1	-1.2
PCBR				*e*Sg	Sg	23 24 48.9	-3.6
PCBR							
	12nm,0.6s						
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	23 23 50.1	-1.2
PCBR				*e*Sg	Sg	23 24 48.9	-3.6
	12nm,0.6s						
GUD	**Guadarrama**	**3.84**	**9**	Pg	Pg	23 24 04.2	-5.8
	0.7nm,0.1s,SNR=4.0						
GUD				Sn	Sn	23 24 35.8	-3.0
	5.3nm,1.1s,SNR=7.9						
GUD				Lg		23 24 53.7	
	6.8nm,0.4s,SNR=5.3						
GUD	**Guadarrama**	**3.84**	**9**	Pg	Pg	23 24 05.0	-5.0
	0.7nm,0.1s,SNR=4.0						
GUD				Sn	Sn	23 24 35.8	-3.1
	5.3nm,1.1s,SNR=7.9						
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	23 23 54.2	-1.2
PTOM				*e*Sn	Sn	23 24 38.0	-2.7
PTOM				*e*Sg	Sg	23 24 56.6	-5.5
PTOM							
	12nm,0.4s						
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	23 23 54.2	-1.2
PTOM				*e*Sn	Sn	23 24 38.0	-2.7
PTOM				*e*Sg	Sg	23 24 56.6	-5.5
	12nm,0.4s						
MTE	**Manteigas**	**4.11**	**331**	*e*Sg	Sg	23 25 05.0	-3.4
MTE							
	22nm,0.3s						
MTE	**Manteigas**	**4.11**	**331**	Lg		23 25 05.0	
	11nm,0.3s						
ECHE	**Chera**	**4.14**	**47**	Pg	Pg	23 24 10.8	-4.9
	4.8nm,1.2s,SNR=7.9						
ECHE				Lg		23 25 04.9	
	3.6nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.94**	**43**	Pg	Pn	23 24 28.8	+19
	0.4nm,0.3s,SNR=7.9						
EMOS				Lg		23 25 30.6	
	4.0nm,0.6s,SNR=7.9						
PVRL	**Vila Real**	**4.94**	**335**	*e*Sg	Sn	23 25 30.5	+25
PBRG	**Braganca**	**5.16**	**344**	*e*Pn	Pn	23 24 11.2	-1.3
PBRG				*e*Sg	Sn	23 25 36.5	+25
PBRG							
	5.1nm,0.6s						
ECAL	**Calabor**	**5.29**	**345**	Pn	Pn	23 24 12.6	-1.6
	0.5nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	23 25 09.9	-4.7
	1.4nm,0.3s,SNR=7.9						
ECAL				Lg		23 25 36.5	
	23nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.58**	**335**	Sn	Sn	23 25 15.5	-6.4
	0.7nm,0.3s,SNR=7.9						
ELOB				Lg		23 25 48.9	
	0.2nm,0.2s,SNR=7.9						

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*IGIL **26** 23:30:16.6, 3690N×490W, h10km, ML2.2*
*NEIC **26** 23:30:17.4, 3690N×495W, h10km, MN3.2(MDD), After MDD.*
NEIC Felt [III] at Canete la Real and Cuevas del Becerro; [II] at Burgo and Malaga, Spain.
*SFS **26** 23:30:17.0, 3690N×495W, h10km, ML3.2*
*CSEM **26** 23:30:17.5±0.1, 3698N×497W, h5km, ML3.6/9, Error ellipse: s-maj=1.7km s-min=1.1km az=175.0*
*INMG **26** 23:30:17.7±1.6, 3688N×487W, h11km±6km, ML3.2, Error ellipse: s-maj=3.0km s-min=2.4km az=130.0*
MDD 26 23:30:17.6±0.2, 3687N×494W, h16km±3km, mbLg3.1/29, 14C-5D, Error ellipse: s-maj=2.7km s-min=1.8km az=167.0, PRXIMO II-III CAETE LA REAL CUEVAS DEL BECERRO II TEBA I EL BURGO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.33**	**157**	⇑Pg	Pg	23 30 23.8	-0.7
	SNR=18						
EMIJ				Lg		23 30 29.0	
	2μm,0.2s,SNR=5.0						
EMIJ	**Mijas**	**0.33**	**157**	⇑Pg	Pg	23 30 23.9	-0.7
EMIJ				Lg		23 30 30.0	
LIJA	**Lijar**	**0.38**	**276**	⇑Pg	Pg	23 30 24.4	-1.0
LIJA	**Lijar**	**0.38**	**276**	*i* P	Pg	23 30 24.4	-1.0
REAL	**Reales**	**0.44**	**210**	⇓Pg	Pg	23 30 26.6	0.0
REAL	**Reales**	**0.44**	**210**	*i* P	Pg	23 30 26.6	+0.1
MAL	**Malaga**	**0.44**	**108**	*i* P	Pg	23 30 24.2	-2.4
MAL				*i* S	Sg	23 30 31.4	-1.2
EJIF	**Jimena Fronter**	**0.60**	**226**	⇑Pg	Pg	23 30 29.2	-0.2
	215nm,0.4s,SNR=18						
EJIF				Lg		23 30 38.1	
	310nm,0.4s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.60**	**226**	⇑Pg	Pg	23 30 29.2	-0.2
EJIF				Lg		23 30 38.4	
ELOJ	**Sierra Loja**	**0.69**	**66**	⇑Pg	Pg	23 30 30.1	-1.0
	30nm,0.3s,SNR=18						
ELOJ				Lg		23 30 39.8	
	638nm,0.6s,SNR=5.0						
ELOJ	**Sierra Loja**	**0.69**	**66**	⇑Pg	Pg	23 30 30.1	-1.0
ELOJ				Lg		23 30 41.4	
ESPR	**Espera**	**0.74**	**270**	⇓Pg	Pg	23 30 31.1	-0.9
	70nm,0.4s,SNR=18						
ESPR				Lg		23 30 43.1	
	369nm,0.3s,SNR=8.3						
ESPR	**Espera**	**0.74**	**270**	Pg	Pg	23 30 31.7	-0.4
	70nm,0.4s,SNR=18						
ESPR	**Espera**	**0.74**	**270**	⇓Pg	Pg	23 30 31.7	-0.3
ESPR				Lg		23 30 47.0	
GIBL	**Gibalbin**	**0.83**	**268**	⇑Pg	Pg	23 30 34.4	+0.6
GIBL				Lg		23 30 50.4	
GIBL	**Gibalbin**	**0.83**	**268**	*i* P	Pb	23 30 34.3	+0.7
GIBL				*e*S	Sb	23 30 50.4	+5.9
MOMI	**Momias**	**0.83**	**230**	⇑Pg	Pg	23 30 35.9	+2.1
MOMI				Lg		23 30 51.1	
MOMI	**Momias**	**0.83**	**230**	*i* P	Pb	23 30 35.9	+2.3
MOMI				*e*S	Sb	23 30 51.1	+6.6
ELUQ	**Luque**	**0.87**	**37**	⇑Pg	Pg	23 30 32.3	-2.3
	65nm,0.2s,SNR=18						
ELUQ				Lg		23 30 46.3	
	208nm,0.4s,SNR=11						
ELUQ	**Luque**	**0.87**	**37**	⇑Pg	Pg	23 30 32.3	-2.3
ELUQ				Lg		23 30 46.1	
ERON	**Agron**	**0.92**	**80**	⇓Pg	Pg	23 30 34.5	-1.0
	17nm,0.2s,SNR=18						
ERON				Lg		23 30 47.4	
	364nm,0.6s,SNR=5.0						
ERON	**Agron**	**0.92**	**80**	⇓Pg	Pg	23 30 34.5	-1.0
ERON				Lg		23 30 49.5	
SCRT	**Cerro San Cris**	**1.02**	**257**	⇑Pg	Pg	23 30 38.6	+1.2
SCRT				Lg		23 30 57.8	
SCRT	**Cerro San Cris**	**1.02**	**257**	*i* P	Pb	23 30 38.6	+1.7
CNIL	**Conil**	**1.03**	**241**	Pg	Pg	23 30 39.9	+2.4
CNIL				Lg		23 31 03.6	
CNIL	**Conil**	**1.03**	**241**	*e*P	Pb	23 30 39.9	+2.9
SFS	**San Fernando**	**1.10**	**249**	Pg	Pg	23 30 40.3	+1.4
SFS	**San Fernando**	**1.10**	**249**	*e*P	Pb	23 30 40.3	+2.1
EGUA	**Guajares**	**1.10**	**91**	Pg	Pg	23 30 38.1	-0.8
	6.9nm,0.3s,SNR=7.9						
EGUA				Lg		23 30 53.3	
	24nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.17**	**69**	Pg	Pg	23 30 39.6	-0.6
	76nm,0.5s,SNR=79						
ECOG				Lg		23 30 55.9	
	388nm,0.7s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.17**	**69**	Pg	Pg	23 30 39.6	-0.6
ECOG				Lg		23 30 58.3	
EQUE	**Quentar**	**1.24**	**74**	Pg	Pg	23 30 40.7	-0.9
	50nm,0.3s,SNR=198						
EQUE				Lg		23 30 59.5	
	208nm,0.3s,SNR=9.0						
EADA	**Adamuz**	**1.33**	**12**	⇑Pg	Pg	23 30 40.0	-3.2
	81nm,0.4s,SNR=18						
EADA				Lg		23 30 56.5	
	200nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**1.33**	**12**	Pg	Pg	23 30 39.5	-3.7
	81nm,0.4s,SNR=18						
EADA	**Adamuz**	**1.33**	**12**	⇑Pg	Pg	23 30 39.5	-3.7
EADA				Lg		23 30 57.0	
EBAN	**Banos Encina**	**1.58**	**35**	Pn	Pn	23 30 43.5	-1.5
	5.8nm,0.2s,SNR=108						
EBAN				Pg	Pg	23 30 45.1	-3.0
	70nm,0.2s,SNR=7.9						
EBAN				Lg		23 31 04.3	
	206nm,0.4s,SNR=5.0						
EBAN	**Banos Encina**	**1.58**	**35**	Pg	Pg	23 30 45.1	-3.0
	70nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.64**	**88**	Pn	Pn	23 30 45.7	-0.1
	3.0nm,0.2s,SNR=24						
EBER				Pg	Pg	23 30 48.2	-1.0
	85nm,0.3s,SNR=10						
EBER				Lg		23 31 08.7	
	763nm,1.1s,SNR=4.6						
EBER	**Berja**	**1.64**	**88**	Pn	Pn	23 30 46.2	+0.5
EBER	**Berja**	**1.64**	**88**	Pg	Pg	23 30 49.6	+0.4
	85nm,0.3s,SNR=10						
EBER	**Berja**	**1.64**	**88**	Pn	Pn	23 30 46.2	+0.5
EBER				Pg	Pg	23 30 49.6	+0.4
EBER				Lg		23 31 12.2	
EMIN	**Mina Concepcio**	**1.65**	**303**	Pn	Pn	23 30 44.0	-1.9
	5.8nm,0.2s,SNR=63						
EMIN				Pg	Pg	23 30 46.4	-3.0
	48nm,0.4s,SNR=7.9						
EMIN				Lg		23 31 07.1	
	138nm,0.5s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.65**	**303**	Pn	Pn	23 30 44.0	-1.9
	5.8nm,0.2s,SNR=63						
EMIN	**Mina Concepcio**	**1.65**	**303**	Pg	Pg	23 30 46.4	-3.0
	48nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.65**	**303**	Pn	Pn	23 30 44.0	-1.9
EMIN				Pg	Pg	23 30 46.6	-2.8
EMIN				Lg		23 31 07.1	
EQES	**Quesada**	**1.75**	**57**	Pn	Pn	23 30 46.8	-0.6
	3.0nm,0.3s,SNR=70						
EQES				Pg	Pg	23 30 49.2	-2.2
	80nm,0.4s,SNR=7.9						
EQES				Lg		23 31 13.2	
	316nm,0.4s,SNR=5.0						
EQES	**Quesada**	**1.75**	**57**	Pn	Pn	23 30 46.8	-0.5
	3.0nm,0.3s,SNR=70						
EQES	**Quesada**	**1.75**	**57**	Pg	Pg	23 30 49.2	-2.1
	80nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.75**	**57**	Pn	Pn	23 30 46.8	-0.6
EQES				Pg	Pg	23 30 49.2	-2.2
EQES				Lg		23 31 13.2	
ERIP	**Rio Piedras**	**1.92**	**286**	Pn	Pn	23 30 47.9	-1.7
	5.4nm,0.2s,SNR=7.9						
ERIP				Pg	Pg	23 30 51.8	-2.7
	28nm,0.2s,SNR=7.9						
ERIP		

ENIJ	**Nijar**	**2.19**	**86**	Pg	Pg	23 30 59.3	-0.3
	26nm,0.4s,SNR=9.9						
ENIJ	**Nijar**	**2.19**	**86**	Pn	Pn	23 30 53.7	+0.4
ENIJ				Pg	Pg	23 30 59.9	+0.2
ENIJ				Lg		23 31 29.3	
EBAD	**Badajoz**	**2.50**	**319**	Pn	Pn	23 30 55.5	-2.1
	4.1nm,0.1s,SNR=55						
EBAD				Sn	Sn	23 31 23.7	-4.0
	14nm,0.2s,SNR=4.0						
EBAD				Lg		23 31 34.2	
	114nm,0.6s,SNR=4.0						
EBAD	**Badajoz**	**2.50**	**319**	Pn	Pn	23 30 55.5	-2.1
	4.1nm,0.1s,SNR=55						
EBAD				Sn	Sn	23 31 23.7	-4.0
	14nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.50**	**319**	Pn	Pn	23 30 55.5	-2.1
EBAD				Sn	Sn	23 31 23.7	-4.0
EBAD				Lg		23 31 36.6	
PBEJ	**Beja**	**2.60**	**297**	*e*Pn	Pn	23 30 57.4	-1.6
PBEJ				*e*Sg	Sg	23 31 40.9	-0.4
PBEJ							
	58nm,0.6s						
PBEJ	**Beja**	**2.60**	**297**	*e*Pn	Pn	23 30 57.4	-1.6
PBEJ				*e*Sg	Sg	23 31 40.9	-0.4
	58nm,0.6s						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 31 02.2	-0.9
	3.1nm,0.2s,baz=196,slow=12,SNR=31						
ESDC				Pg	Pg	23 31 09.2	-4.1
	9.0nm,0.3s,baz=197,slow=17,SNR=9.2						
ESDC				Lg		23 31 45.7	
	53nm,0.5s,baz=198,slow=28,SNR=15						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 31 02.2	-0.9
	3.1nm,0.2s,SNR=31						
ESDC	**Sonseca Array**	**2.90**	**15**	Pg	Pg	23 31 09.2	-4.1
	9.0nm,0.3s,SNR=9.2						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 31 02.2	-0.9
ESDC				Pg	Pg	23 31 10.1	-3.2
ESDC				Lg		23 31 45.3	
ESLA	**Sonseca Array**	**2.90**	**15**	*e*Pn	Pn	23 31 02.6	-0.5
ESLA	**Sonseca Array**	**2.90**	**15**	*e*Pg	Pg	23 31 10.9	-2.4
ESLA	**Sonseca Array**	**2.90**	**15**	*e*Pn	Pn	23 31 02.6	-0.5
ESLA				*e*Pg	Pg	23 31 10.9	-2.4
ESLA				*e*Sg	Sg	23 31 48.4	-2.6
MORF	**Marmelete**	**3.00**	**279**	*e*P	Pn	23 31 02.8	-1.6
MORF				*e*S	Sn	23 31 36.5	-3.6
MORF				*e*S	Sn	23 31 36.6	-3.5
MORF				AML	AML	23 31 41.2	
	comp=N,7.6nm,0.2s						
MORF	**Marmelete**	**3.00**	**279**	*e*P	Pn	23 31 02.8	-1.7
MORF				*e*S	Sn	23 31 36.5	-3.6
MORF	**Marmelete**	**3.00**	**279**	Pn	Pn	23 31 02.8	-1.6
MORF				Sn	Sn	23 31 36.5	-3.6
PTEO	**Sao Teotonio**	**3.10**	**284**	*e*Pn	Pn	23 31 05.7	-0.1
PTEO				*e*Sn	Sn	23 31 42.2	-0.3
PTEO				*e*Sg	Sg	23 31 57.3	+0.1
PTEO							
	comp=N,51nm,0.6s						
PTEO	**Sao Teotonio**	**3.10**	**284**	*e*Pn	Pn	23 31 05.7	-0.1
PTEO				*e*Sn	Sn	23 31 42.2	-0.3
PTEO				*e*Sg	Sg	23 31 57.3	+0.1
	comp=N,51nm,0.6s						
EMUR	**La Murta**	**3.10**	**71**	Pn	Pn	23 31 05.2	-0.6
	comp=N,3.1nm,0.4s,SNR=7.1						
EMUR				Pg	Pg	23 31 15.2	-1.8
	comp=N,5.3nm,0.3s,SNR=9.7						
EMUR				Lg		23 31 51.8	
	comp=N,107nm,0.8s,SNR=4.0						
EMUR	**La Murta**	**3.10**	**71**	Pn	Pn	23 31 05.2	-0.6
	comp=N,3.1nm,0.4s,SNR=7.1						
EMUR	**La Murta**	**3.10**	**71**	Pg	Pg	23 31 15.2	-1.9
	comp=N,5.3nm,0.3s,SNR=9.7						
EMUR	**La Murta**	**3.10**	**71**	Pn	Pn	23 31 05.2	-0.6
EMUR				Pg	Pg	23 31 15.2	-1.8
EMUR				Lg		23 31 57.0	
MOE	**Montemor**	**3.17**	**302**	*e*Sn	Sn	23 31 42.2	-2.1
MOE				*e*Sg	Sg	23 31 56.7	-2.8
ETOB	**Tobarra**	**3.22**	**56**	Pn	Pn	23 31 06.3	-1.2
	comp=N,0.6nm,0.1s,SNR=11						
ETOB				Pg	Pg	23 31 15.1	-4.2
	comp=N,19nm,0.4s,SNR=15						
ETOB				Sn	Sn	23 31 43.6	-1.8
	comp=N,4.9nm,0.3s,SNR=7.9						
ETOB				Lg		23 31 57.3	
	comp=N,94nm,0.6s,SNR=4.7						
ETOB	**Tobarra**	**3.22**	**56**	Pn	Pn	23 31 06.3	-1.1
	comp=N,0.6nm,0.1s,SNR=11						
ETOB	**Tobarra**	**3.22**	**56**	Pg	Pg	23 31 16.8	-2.5
	comp=N,19nm,0.4s,SNR=15						
ETOB	**Tobarra**	**3.22**	**56**	Pn	Pn	23 31 06.3	-1.2
ETOB				Pg	Pg	23 31 16.8	-2.5
ETOB				Lg		23 31 58.2	
PCBR	**Castelo Branco**	**3.58**	**327**	*e*Pn	Pn	23 31 11.6	-0.8
PCBR				*e*Sn	Sn	23 31 51.5	-2.8
PCBR				*e*Sg	Sg	23 32 08.2	-4.3
PCBR							
	comp=N,44nm,0.8s						
PCBR	**Castelo Branco**	**3.58**	**327**	*e*Pn	Pn	23 31 11.6	-0.8
PCBR				*e*Sn	Sn	23 31 51.5	-2.8
PCBR				*e*Sg	Sg	23 32 08.2	-4.3
	comp=N,44nm,0.8s						
GUD	**Guadarrama**	**3.82**	**9**	Pn	Pn	23 31 14.5	-1.1
	comp=N,2.6nm,0.3s,SNR=8.6						
GUD				Lg		23 32 15.4	
	comp=N,32nm,0.4s,SNR=5.0						
GUD	**Guadarrama**	**3.82**	**9**	Pn	Pn	23 31 14.5	-1.2
	comp=N,2.6nm,0.3s,SNR=8.6						
PTOM	**Tomar**	**3.88**	**316**	*e*Pn	Pn	23 31 15.5	-1.0
PTOM				*e*Sn	Sn	23 31 58.4	-3.2
PTOM				*e*Sg	Sg	23 32 17.6	-4.5
PTOM							
	comp=N,43nm,0.7s						
PTOM	**Tomar**	**3.88**	**316**	*e*Pn	Pn	23 31 15.5	-1.0
PTOM				*e*Sn	Sn	23 31 58.4	-3.2
PTOM				*e*Sg	Sg	23 32 17.6	-4.5
	comp=N,43nm,0.7s						
MTE	**Manteigas**	**4.08**	**331**	*e*Pn	Pn	23 31 18.5	-0.7
MTE				*e*Sn	Sn	23 32 03.0	-3.5
MTE				*e*Sg	Sg	23 32 23.4	-5.1
MTE							
	comp=N,93nm,0.4s						
MTE	**Manteigas**	**4.08**	**331**	*e*Pn	Pn	23 31 18.5	-0.7
MTE				*e*Sn	Sn	23 32 03.0	-3.5
MTE				*e*Sg	Sg	23 32 23.4	-5.1
	comp=N,93nm,0.4s						
ECHE	**Chera**	**4.14**	**48**	Pn	Pn	23 31 19.2	-1.0
	comp=N,0.4nm,0.1s,SNR=7.9						
ECHE				Pg	Pg	23 31 30.7	-6.2
	comp=N,4.2nm,0.4s,SNR=4.0						
ECHE				Lg		23 32 25.9	
	comp=N,18nm,0.6s,SNR=4.7						
ECHE	**Chera**	**4.14**	**48**	Pg	Pg	23 31 33.0	-3.9
	comp=N,4.2nm,0.4s,SNR=4.0						
ECHE	**Chera**	**4.14**	**48**	Pn	Pn	23 31 19.2	-1.0
ECHE				Pg	Pg	23 31 34.0	-3.0
ECHE				Lg		23 32 28.2	
EBEN	**Beniarda**	**4.16**	**62**	Pn	Pn	23 31 20.0	-0.4
	comp=N,0.8nm,0.1s,SNR=4.0						
EBEN				Pg	Pg	23 31 31.7	-5.5
	comp=N,4.2nm,0.3s,SNR=7.9						
EBEN				Lg		23 32 25.0	
	comp=N,8.8nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.16**	**62**	Pn	Pn	23 31 20.0	-0.3
	SNR=4.0						
EBEN	**Beniarda**	**4.16**	**62**	Pg	Pg	23 31 34.1	-3.2
	comp=N,4.2nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.16**	**62**	Pn	Pn	23 31 20.0	-0.4
EBEN				Pg	Pg	23 31 35.5	-1.7
PVRL	**Vila Real**	**4.90**	**335**	*e*Pn	Pn	23 31 29.5	-1.1
PVRL				*e*Sn	Sn	23 32 22.8	-4.2
PVRL							
	comp=N,25nm,0.6s						
EMOS	**Mosqueruela**	**4.94**	**44**	Pn	Pn	23 31 30.6	-0.5
	comp=N,1.1nm,0.3s,SNR=7.9						
EMOS				Pg	Pg	23 31 43.5	-8.7
	comp=N,11nm,0.5s,SNR=6.5						
EMOS				Sn	Sn	23 32 24.7	-3.1
	comp=N,5.6nm,0.7s,SNR=4.0						
EMOS				Lg		23 32 48.7	
	comp=N,9.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.94**	**44**	Pn	Pn	23 31 30.6	-0.5
	SNR=7.9						
EMOS	**Mosqueruela**	**4.94**	**44**	Pg	Pg	23 31 47.7	-4.5
	comp=N,11nm,0.5s,SNR=6.5						
EMOS				Sn	Sn	23 32 25.8	-2.1
	SNR=4.0						
EMOS	**Mosqueruela**	**4.94**	**44**	Pn	Pn	23 31 30.6	-0.5
EMOS				Pg	Pg	23 31 48.6	-3.6
EMOS				Lg		23 32 54.6	
PBRG	**Braganca**	**5.12**	**345**	*e*Pn	Pn	23 31 32.3	-1.3
PBRG				*e*Sn	Sn	23 32 27.0	-5.4
PBRG				*e*Sg	Sg	23 32 55.0	-7.1
PBRG							
	comp=N,23nm,0.5s						
PBRG	**Braganca**	**5.12**	**345**	Pn	Pn	23 31 32.3	-1.3
PBRG				Sn	Sn	23 32 27.0	-5.4
PBRG				Lg		23 32 55.0	
	comp=N,12nm,0.5s						
ECAL	**Calabor**	**5.25**	**345**	Pn	Pn	23 31 34.1	-1.4
	comp=N,4.3nm,0.4s,SNR=7.1						
ECAL				Sn	Sn	23 32 31.6	-4.0
	comp=N,2.8nm,0.3s,SNR=5.0						
ECAL				Lg		23 32 58.7	
	comp=N,82nm,0.6s,SNR=6.1						
ECAL	**Calabor**	**5.25**	**345**	Pn	Pn	23 31 34.1	-1.3
	comp=N,4.3nm,0.4s,SNR=7.1						
ECAL				Sn	Sn	23 32 31.6	-4.0
	comp=N,2.8nm,0.3s,SNR=5.0						
ELOB	**Lobios**	**5.55**	**335**	Pn	Pn	23 31 37.3	-2.1
	comp=N,19nm,1.2s,SNR=5.0						
ELOB				Sn	Sn	23 32 36.9	-6.0
	comp=N,1.4nm,0.2s,SNR=7.9						
ELOB				Lg		23 33 06.3	
	comp=N,40nm,0.9s,SNR=5.0						
ELOB	**Lobios**	**5.55**	**335**	Pn	Pn	23 31 37.8	-1.7
ELOB				Sn	Sn	23 32 37.5	-5.4
ELOB	**Lobios**	**5.55**	**335**	Pn	Pn	23 31 37.8	-1.6
ELOB				Sn	Sn	23 32 37.5	-5.3
ELOB				Lg		23 33 09.8	
ERUA	**La Rua**	**5.77**	**344**	Sn	Sn	23 32 42.1	-6.4
	comp=N,1.4nm,0.2s,SNR=7.9						
ERUA				Lg		23 33 18.2	
	comp=N,20nm,0.5s,SNR=6.8						
ERTA	**Horta de San J**	**5.79**	**44**	Pn	Pn	23 31 41.3	-1.5
	comp=N,2.1nm,0.4s,SNR=4.0						
ERTA				Pg	Pg	23 32 03.1	-5.4
	comp=N,0.8nm,0.2s,SNR=7.9						
ERTA				Lg		23 33 15.0	
	comp=N,35nm,0.8s,SNR=4.0						
ERTA	**Horta de San J**	**5.79**	**44**	Pn	Pn	23 31 41.3	-1.5
	SNR=4.0						
ERTA	**Horta de San J**	**5.79**	**44**	Pg	Pg	23 32 03.1	-5.4
	SNR=7.9						
ERTA	**Horta de San J**	**5.79**	**44**	Pn	Pn	23 31 45.7	+2.9
ERTA				Pg	Pg	23 32 04.1	-4.4
ERTA				Lg		23 33 16.9	
ESAC	**San Caprasio**	**5.96**	**34**	Lg		23 33 24.3	
	comp=N,34nm,0.6s,SNR=4.0						
EARI	**Arriondas**	**6.43**	**358**	Pn	Pn	23 31 50.7	-0.9
	comp=N,2.7nm,0.5s,SNR=4.0						
EARI				Lg		23 33 33.0	
	comp=N,7.9nm,0.6s,SNR=5.0						
EARI	**Arriondas**	**6.43**	**358**	Pn	Pn	23 31 50.7	-0.9
	SNR=4.0						
EPOB	**Poblet**	**6.47**	**44**	Pn	Pn	23 31 51.9	-0.3
	comp=N,1.2nm,0.4s,SNR=4.0						
EPOB				Lg		23 33 36.8	
	comp=N,1.0nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**6.47**	**44**	Pn	Pn	23 31 51.9	-0.3
	SNR=4.0						
EPON	**Pontenova**	**6.67**	**346**	Pn	Pn	23 31 52.8	-2.1
	comp=N,3.2nm,0.5s,SNR=7.9						
EPON				Lg		23 33 46.5	
	comp=N,12nm,0.7s,SNR=4.0						
EPON	**Pontenova**	**6.67**	**346**	Pn	Pn	23 31 52.8	-2.1
EGRA	**Graus**	**6.69**	**36**	Pn	Pn	23 31 53.6	-1.6
	comp=N,3.5nm,0.6s,SNR=4.0						
EGRA				Lg		23 33 52.8	
	comp=N,7.4nm,0.7s,SNR=4.0						
EGRA	**Graus**	**6.69**	**36**	Pn	Pn	23 31 55.9	+0.7
EGRA	**Graus**	**6.69**	**36**	Pn	Pn	23 31 55.9	+0.8
EGRA				Lg		23 33 54.0	
EALK	**Alkurruntz**	**6.87**	**21**	Pn	Pn	23 31 56.6	-1.0
	comp=N,14nm,0.8s,SNR=5.0						
EALK				Lg		23 33 56.7	
	comp=N,17nm,0.5s,SNR=4.0						
EALK	**Alkurruntz**	**6.87**	**21**	Pn	Pn	23 31 56.6	-1.0
EALK				Lg		23 33 58.6	
EBIE	**Bielsa**	**7.00**	**32**	Pn	Pn	23 31 58.7	-0.7
	comp=N,4.9nm,0.5s,SNR=11						
EBIE				Lg		23 34 01.2	
	comp=N,2.3nm,0.4s,SNR=4.0						
EBIE	**Bielsa**	**7.00**	**32**	Pn	Pn	23 31 58.7	-0.7
EBIE				Lg		23 34 01.8	

BJI 26 23:33:48.4, 4002N×12328E, h21km, ML3.7, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.69**	**230**	PG	Pn	23 34 16.8	+0.1
DL2				SG	Sn	23 34 37.8	0.0
DL2				Smax			
	comp=N,590nm,0.5s						
DL2				Smax			
	comp=E,430nm,0.5s						
SNY	**Shenyang**	**1.82**	**7**	⇓PG	Pn	23 34 19.0	+0.5
SNY				SG	Sn	23 34 41.5	+0.6
SNY				Smax			
	comp=N,1μm,0.3s						
SNY				Smax			
	comp=E,750nm,0.9s						
CN2	**Changchun**	**4.11**	**22**	*e*PG	Pn	23 35 02.0	+12
CN2				*e*SG	Sn	23 35 54.0	+17
CN2				Smax			
	comp=N,100nm,0.8s						
CN2				Smax			
	comp=E,100nm,0.8s						
MDJ	**Mudanjiang**	**6.55**	**43**	PG	Pn	23 35 40.5	+17
MDJ				SG	Sn	23 37 13.0	+35
MDJ				Smax			
	comp=N,86nm,0.8s						
MDJ				Smax			
	comp=E,48nm,0.5s						

*SFS **26** 23:35:01.0, 3684N×494W, h19km, ML2.5*
*CSEM **26** 23:35:01.0±0.1, 3700N×495W, h5km, ML3.2/7, Error ellipse: s-maj=2.4km s-min=1.3km az=175.0*
*NEIC **26** 23:35:01.1, 3684N×494W, h20km, MN2.5(MDD), After MDD.*
*INMG **26** 23:35:01.3±1.6, 3688N×489W, h0km, ML2.6, Error ellipse: s-maj=4.5km s-min=2.8km az=122.0*

MDD 26 23:35:01.0±0.2, 3685N×491W, h20km±2km, mbLg2.5/16, 5C-2D, Error ellipse: s-maj=2.9km s-min=1.9km az=5.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.30**	**159**	Pg	Pb	23 35 07.2	-0.5
	18nm,0.1s,SNR=57						
EMIJ				Lg		23 35 11.6	
	408nm,0.3s,SNR=5.0						
EMIJ	**Mijas**	**0.30**	**159**	Pg	Pb	23 35 07.2	-0.5
	18nm,0.1s,SNR=57						
EMIJ				Lg		23 35 12.1	
EMIJ	**Mijas**	**0.30**	**159**	Pg	Pb	23 35 07.2	-0.5
EMIJ				Lg		23 35 12.1	
LIJA	**Lijar**	**0.40**	**278**	⇑Pg	Pb	23 35 07.8	-1.6
LIJA				Lg		23 35 16.6	
LIJA	**Lijar**	**0.40**	**278**	*i* P	Pb	23 35 07.8	-1.6
LIJA				*e*S	Sb	23 35 16.6	+1.4
REAL	**Reales**	**0.44**	**214**	Pg	Pb	23 35 08.9	-1.2
REAL				Lg		23 35 20.0	
REAL	**Reales**	**0.44**	**214**	*e*P	Pb	23 35 08.9	-1.1
REAL				*e*S	Sb	23 35 20.0	+3.9
EJIF	**Jimena Fronter**	**0.60**	**229**	⇓Pg	Pb	23 35 12.8	0.0
	25nm,0.4s,SNR=18						
EJIF				Lg		23 35 21.9	
	24nm,0.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.60**	**229**	Pg	Pb	23 35 12.8	0.0
	25nm,0.4s,SNR=18						
EJIF				Lg		23 35 19.5	
EJIF	**Jimena Fronter**	**0.60**	**229**	⇓Pg	Pb	23 35 12.8	0.0
EJIF				Lg		23 35 19.5	
ELOJ	**Sierra Loja**	**0.67**	**63**	Pg	Pb	23 35 14.1	0.0
	5.2nm,0.1s,SNR=4.0						
ELOJ				Lg		23 35 23.3	
	116nm,0.6s,SNR=7.1						
ELOJ	**Sierra Loja**	**0.67**	**63**	Pg	Pb	23 35 14.1	0.0
ELOJ				Lg		23 35 24.5	
ESPR	**Espera**	**0.76**	**272**	⇑Pg	Pb	23 35 15.3	-0.2
	14nm,0.2s,SNR=18						
ESPR				Lg		23 35 23.6	
	64nm,0.2s,SNR=4.0						
ESPR	**Espera**	**0.76**	**272**	Pg	Pb	23 35 15.3	-0.3
	14nm,0.2s,SNR=18						
ESPR	**Espera**	**0.76**	**272**	⇑Pg	Pb	23 35 15.3	-0.3
ESPR				Lg		23 35 28.9	
MOMI	**Momias**	**0.83**	**232**	Pg	Pb	23 35 19.9	+3.1
MOMI	**Momias**	**0.83**	**232**	*e*P	Pb	23 35 19.9	+3.1
GIBL	**Gibalbin**	**0.85**	**269**	Pg	Pb	23 35 18.0	+0.9
GIBL				Lg		23 35 34.7	
GIBL	**Gibalbin**	**0.85**	**269**	*e*P	Pb	23 35 18.0	+0.9
GIBL				*e*S	Sb	23 35 34.7	+6.6
ELUQ	**Luque**	**0.88**	**35**	Pg	Pb	23 35 15.9	-1.6
	20nm,0.3s,SNR=47						
ELUQ				Lg		23 35 27.8	
	64nm,0.2s,SNR=5.0						
ERON	**Agron**	**0.90**	**79**	Pg	Pb	23 35 17.8	0.0
	12nm,0.2s,SNR=8.9						
ERON				Lg		23 35 32.2	
	21nm,0.3s,SNR=4.0						
ERON	**Agron**	**0.90**	**79**	Pg	Pb	23 35 19.1	+1.2
ERON				Lg		23 35 32.2	
SCRT	**Cerro San Cris**	**1.04**	**259**	Pg	Pb	23 35 22.3	+2.0
SCRT	**Cerro San Cris**	**1.04**	**259**	*e*P	Pb	23 35 22.3	+2.0
EGUA	**Guajares**	**1.07**	**90**	Pg	Pn	23 35 21.0	+0.1
	2.1nm,0.2s,SNR=7.9						
EGUA				Lg		23 35 35.7	
	1.9nm,0.1s,SNR=4.0						
EGUA	**Guajares**	**1.07**	**90**	Pg	Pn	23 35 21.8	+0.9
	2.1nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.07**	**90**	Pg	Pn	23 35 21.8	+0.9
EGUA				Lg		23 35 36.7	
ECOG	**Cogollos-Vega**	**1.15**	**68**	Pg	Pn	23 35 23.2	+1.3
	13nm,0.2s,SNR=37						
ECOG				Lg		23 35 37.2	
	22nm,0.2s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.15**	**68**	Pg	Pn	23 35 23.2	+1.3
ECOG				Lg		23 35 41.4	
EQUE	**Quentar**	**1.23**	**73**	Pg	Pn	23 35 23.8	+0.9
	7.9nm,0.2s,SNR=51						
EQUE				Lg		23 35 38.6	
	42nm,0.3s,SNR=7.2						
EADA	**Adamuz**	**1.34**	**11**	⇑Pn	Pn	23 35 22.7	-1.8
	13nm,0.1s,SNR=18						
EADA				Sn	Sn	23 35 39.8	-2.0
	59nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**1.34**	**11**	Pg	Pn	23 35 22.7	-1.9
	13nm,0.1s,SNR=18						
EADA	**Adamuz**	**1.34**	**11**	⇑Pg	Pn	23 35 22.7	-1.9
EADA				Lg		23 35 40.5	
EBAN	**Banos Encina**	**1.59**	**34**	Pn	Pn	23 35 26.7	-1.2
	5.9nm,0.1s,SNR=36						
EBAN				Sn	Sn	23 35 47.3	-0.5
	130nm,0.3s,SNR=26						
EBAN	**Banos Encina**	**1.59**	**34**	Pg	Pn	23 35 28.3	+0.4
EBAN				Sn	Sn	23 35 47.3	-0.5
	130nm,0.3s,SNR=26						
EBAN	**Banos Encina**	**1.59**	**34**	Pn	Pn	23 35 26.7	-1.2
EBAN				Pg	Pn	23 35 28.3	+0.3
EBAN				Lg		23 35 47.3	
EBER	**Berja**	**1.62**	**88**	Pn	Pn	23 35 28.4	+0.1
	0.3nm,0.2s,SNR=4.0						
EBER				Pg	Pn	23 35 31.2	+2.9
	17nm,0.3s,SNR=30						
EBER				Lg		23 35 53.7	
	38nm,0.5s,SNR=4.0						
EBER	**Berja**	**1.62**	**88**	Pn	Pn	23 35 29.2	+0.9
	SNR=4.0						
EBER	**Berja**	**1.62**	**88**	Pg	Pn	23 35 31.9	+3.6
	17nm,0.3s,SNR=30						
EBER	**Berja**	**1.62**	**88**	Pn	Pn	23 35 29.2	+0.9
EBER				Pg	Pn	23 35 31.9	+3.6
EBER				Lg		23 35 54.4	
EMIN	**Mina Concepcio**	**1.68**	**304**	Pn	Pn	23 35 27.1	-2.1
	0.7nm,0.1s,SNR=37						
EMIN				Pg	Pn	23 35 29.6	+0.4
	12nm,0.2s,SNR=7.9						
EMIN				Lg		23 35 50.3	
	23nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.68**	**304**	Pn	Pn	23 35 27.1	-2.1
	0.7nm,0.1s,SNR=37						
EMIN	**Mina Concepcio**	**1.68**	**304**	Pg	Pn	23 35 29.6	+0.4
	12nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.68**	**304**	Pn	Pn	23 35 27.1	-2.1
EMIN				Pg	Pn	23 35 30.1	+0.9
EMIN				Lg		23 35 50.3	
EQES	**Quesada**	**1.75**	**56**	Pn	Pn	23 35 29.2	-0.9
	0.5nm,0.2s,SNR=7.9						
EQES				Pg	Pn	23 35 32.3	+2.2
	6.9nm,0.1s,SNR=21						
EQES				Lg		23 35 54.9	
	68nm,0.3s,SNR=5.0						
EQES	**Quesada**	**1.75**	**56**	Pn	Pn	23 35 29.2	-0.9
	SNR=7.9						
EQES	**Quesada**	**1.75**	**56**	Pg	Pn	23 35 32.3	+2.2
	6.9nm,0.1s,SNR=21						
EQES	**Quesada**	**1.75**	**56**	Pn	Pn	23 35 29.2	-0.9
EQES				Pg	Pn	23 35 32.3	+2.2
EQES				Lg		23 35 56.0	
ERIP	**Rio Piedras**	**1.95**	**286**	Pn	Pn	23 35 31.3	-1.6
	1.6nm,0.1s,SNR=7.9						
ERIP				Pg	Pn	23 35 35.0	+2.1
	4.3nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	23 35 55.2	-1.6
	5.5nm,0.1s,SNR=7.9						
ERIP				Lg		23 35 59.4	
	13nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.95**	**286**	Pg	Pn	23 35 35.0	+2.1
	4.3nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	23 35 55.2	-1.6
	5.5nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.08**	**62**	Pn	Pn	23 35 34.4	-0.3
	5.2nm,0.3s,SNR=4.0						
EHUE				Sn	Sn	23 36 02.0	+2.0
	2.5nm,0.2s,SNR=7.9						
EHUE				Lg		23 36 07.1	
	19nm,0.3s,SNR=10						
EHUE	**Huescar**	**2.08**	**62**	Pn	Pn	23 35 34.4	-0.3
	5.2nm,0.3s,SNR=4.0						
EHUE				Sn	Sn	23 36 02.0	+2.0
	2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**2.92**	**14**	Pn	Pn	23 35 45.5	-0.7
	2.2nm,0.2s,baz=197,slow=12,SNR=16						
ESDC				Pg	Pn	23 35 52.6	+6.4
	1.3nm,0.2s,baz=198,slow=17,SNR=23						
ESDC				Lg		23 36 28.1	
	3.3nm,0.2s,baz=199,slow=29,SNR=8.3						
ESDC	**Sonseca Array**	**2.92**	**14**	Pn	Pn	23 35 45.5	-0.7
	2.2nm,0.2s,SNR=16						
ESDC	**Sonseca Array**	**2.92**	**14**	Pg	Pn	23 35 52.6	+6.4
	1.3nm,0.2s,SNR=23						
ESDC	**Sonseca Array**	**2.92**	**14**	Pn	Pn	23 35 45.5	-0.7
ESDC				Pg	Pn	23 35 52.6	+6.4
ESDC				Lg		23 36 28.7	
EMUR	**La Murta**	**3.08**	**70**	Pn	Pn	23 35 46.5	-2.0
	1.1nm,0.4s,SNR=4.0						
EMUR				Pg	Pn	23 35 55.7	+7.2
	7.4nm,0.7s,SNR=5.8						
EMUR				Lg		23 36 35.8	
	5.1nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**70**	Pn	Pn	23 35 49.3	+0.8
	SNR=4.0						
EMUR	**La Murta**	**3.08**	**70**	Pg	Pn	23 35 57.0	+8.5
	7.4nm,0.7s,SNR=5.8						
EMUR	**La Murta**	**3.08**	**70**	Pn	Pn	23 35 49.3	+0.8
EMUR				Pg	Pn	23 35 57.9	+9.4
EMUR				Lg		23 36 39.6	
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Pn	Pn	23 35 48.2	-0.9
PTEO				*e*Sn	Sn	23 36 25.0	-0.9
PTEO							
	17nm,0.6s						
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Pn	Pn	23 35 48.2	-0.9
PTEO				*e*Sn	Sn	23 36 25.0	-0.9
	17nm,0.6s						
MOE	**Montemor**	**3.20**	**302**	*e*Sn	Sn	23 36 24.9	-2.8
MOE				*e*Sg	Sn	23 36 42.2	+14
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 35 49.8	-0.5
	1.1nm,0.1s						
ETOB				Pg	Pn	23 35 59.6	+9.4
	4.9nm,0.6s,SNR=4.6						
ETOB				Sn	Sn	23 36 26.5	-1.3
	1.4nm,0.2s,SNR=4.0						
ETOB				Lg		23 36 41.2	
	8.3nm,0.2s,SNR=7.7						
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 35 49.8	-0.4
	1.1nm,0.1s						
ETOB	**Tobarra**	**3.21**	**55**	Pg	Pn	23 35 59.6	+9.4
	4.9nm,0.6s,SNR=4.6						
ETOB				Sn	Sn	23 36 26.5	-1.4
	1.4nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	23 35 54.6	-1.1
PCBR				*e*Sn	Sn	23 36 32.9	-4.8
PCBR				*e*Sg	Sn	23 36 55.5	+18
PCBR							
	12nm,0.6s						
PCBR	**Castelo Branco**	**3.61**	**327**	Pn	Pn	23 35 54.6	-1.1
PCBR				Sn	Sn	23 36 32.9	-4.8
PCBR				Lg		23 36 55.5	
	5.9nm,0.6s						
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	23 35 54.6	-1.1
PCBR				*e*Sn	Sn	23 36 32.9	-4.8
GUD	**Guadarrama**	**3.83**	**9**	Pn	Pn	23 35 57.8	-1.1
	1.4nm,0.2s,SNR=7.9						
GUD				Pg	Pn	23 36 07.2	+8.4
	0.5nm,0.2s,SNR=7.9						
GUD				Lg		23 36 58.3	
	7.8nm,0.3s,SNR=4.0						
GUD	**Guadarrama**	**3.83**	**9**	Pg	Pn	23 36 09.7	+11
GUD	**Guadarrama**	**3.83**	**9**	Pn	Pn	23 35 57.8	-1.1
GUD				Pg	Pn	23 36 09.7	+11
GUD				Lg		23 36 58.1	
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	23 35 58.8	-1.0
PTOM				*e*Sn	Sn	23 36 41.5	-3.6
PTOM				*e*Sg	Sn	23 37 01.8	+17
PTOM							
	16nm,0.8s						
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	23 35 58.8	-1.0
PTOM				*e*Sn	Sn	23 36 41.5	-3.6
PTOM				*e*Sg	Sn	23 37 01.8	+17
	16nm,0.8s						
MTE	**Manteigas**	**4.10**	**331**	*e*Sn	Sn	23 36 46.5	-3.4
MTE							
	19nm,0.6s						
MTE	**Manteigas**	**4.10**	**331**	Sn	Sn	23 36 46.5	-3.4
	9.5nm,0.6s						
ECHE	**Chera**	**4.14**	**47**	Pn	Pn	23 36 02.1	-0.9
	1.4nm,0.6s,SNR=4.0						
ECHE				Pg	Pn	23 36 14.2	+11
	3.3nm,0.7s,SNR=4.0						
ECHE				Lg		23 37 06.9	
	1.5nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.14**	**47**	Pn	Pn	23 36 04.4	+1.4
	1.4nm,0.6s,SNR=4.0						
PVRL	**Vila Real**	**4.93**	**335**	*e*Pn	Pn	23 36 13.0	-0.9
PVRL				*e*Sn	Sn	23 37 04.9	-5.5
PVRL							
	5.5nm,0.4s						
EMOS	**Mosqueruela**	**4.94**	**43**	Sn	Sn	23 37 06.0	-4.4
	0.4nm,0.2s,SNR=4.0						
EMOS				Lg		23 37 31.9	
	1.3nm,0.4s,SNR=4.0						
PBRG	**Braganca**	**5.15**	**345**	*e*Sg	Sn	23 37 43.7	+28
PBRG							
	6.2nm,0.7s						
PBRG	**Braganca**	**5.15**	**345**	Lg		23 37 43.7	
	3.1nm,0.7s						
ECAL	**Calabor**	**5.28**	**345**	Pn	Pn	23 36 16.8	-1.9
	1.0nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	23 37 12.9	-6.1
	0.4nm,0.2s,SNR=7.9						
ECAL				Lg		23 37 40.5	
	7.4nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.28**	**345**	Pn	Pn	23 36 17.3	-1.4
ECAL				Sn	Sn	23 37 14.1	-4.8
ECAL	**Calabor**	**5.28**	**345**	Pn	Pn	23 36 17.3	-1.4
ECAL				Sn	Sn	23 37 14.1	-4.8
ECAL				Lg		23 37 41.5	
ELOB	**Lobios**	**5.58**	**335**	Pn	Pn	23 36 20.8	-1.9
	0.7nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	23 37 20.2	-6.1
	0.7nm,0.2s,SNR=7.9						
ELOB				Lg		23 37 52.8	
	1.0nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**5.96**	**34**	Lg		23 38 07.8	
	15nm,0.5s,SNR=4.0						

NIED ***26*** *23:42:00, 26.20N×124.40E, h200km, Mw4.4 Best double couple: M0:4.65000×10^15 NP1:φ1=343.00000°, δ1=85.00000°, λ1=26.00000°. NP2:φ2=250.00000°, δ2=64.00000°, λ2=175.00000°.*
ISCJB ***26*** *23:42:02.8±0.2, 26.33N±0.02×124.43E±0.03, h177km, mb4.2/30, Error ellipse: s-maj=3.8km s-min=2.9km az=105.5*
IDC ***26*** *23:42:04.7±0.8, 26.18N×124.70E, h203km±6km, mb3.6/17, mb1 3.7/19, mb1mx3.6/28, mbtmp4.2/19, Error ellipse: s-maj=11.4km s-min=10.2km az=46.0*
NEIC ***26*** *23:42:05.2±0.5, 26.08N×124.55E, h204km±5km, mb4.4/10, Error ellipse: s-maj=7.7km s-min=6.6km az=109.0*
BJI ***26*** *23:42:05.3, 25.98N×124.51E, h224km, mB4.8, mb4.5*
JMA ***26*** *23:42:05.0±0.3, 26.24N×124.40E, h177km, M4.9*
ISC 26 23:42:04.0±0.2, 2628N±002×12447E±003, h177km, (h205km±2.1km:pP-P), n84, σ1=37/105, mb4.2/30, 1C, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.63**	**153**	P	**Pn**	**23 42 38.6**	**+1.6**
JMJ				S	**Sn**	**23 43 03.3**	**+0.9**
JTJ	**Tarama**	**1.64**	**173**	P	**Pn**	**23 42 38.3**	**+1.3**
JTJ				S	**Sn**	**23 43 02.5**	**-0.1**
JOGS	**Gusukube**	**1.73**	**151**	P	**Pn**	**23 42 39.8**	**+1.9**
JOGS				S	**Sn**	**23 43 05.3**	**+1.1**
JIJ	**Ishigaki jima**	**1.93**	**189**	P	**Pn**	**23 42 40.1**	**+0.1**
JIJ				S	**Sn**	**23 43 06.3**	**-1.6**
IRIF	**Iriomote-Funau**	**2.05**	**199**	P	**Pn**	**23 42 41.6**	**+0.3**
IRIF				*e*S	**Sn**	**23 43 10.2**	**0.0**
JKRS	**Kuro-shima**	**2.07**	**192**	P	**Pn**	**23 42 42.0**	**+0.4**
JKRS				S	**Sn**	**23 43 09.6**	**-1.1**
JKE	**Kume jima 2**	**2.08**	**88**	P	**Pn**	**23 42 43.7**	**+2.0**
JKE				S	**Sn**	**23 43 13.4**	**+2.6**
YOJ	**Yonaguni jima**	**2.24**	**217**	P	**Pn**	**23 42 44.5**	**+1.0**
YOJ				*e*S	**Sn**	**23 43 14.6**	**+0.6**
HATJ	**Hateruma jima**	**2.29**	**195**	P	**Pn**	**23 42 44.3**	**+0.2**
HATJ				S	**Sn**	**23 43 14.0**	**-1.1**
JAGN	**Aguni-jima**	**2.50**	**82**	P	**Pn**	**23 42 48.3**	**+1.8**
JAGN				S	**Sn**	**23 43 20.5**	**+1.0**
NAH1	**Naha**	**2.89**	**91**	P	**Pn**	**23 42 52.8**	**+1.7**
NAH1				S	**Sn**	**23 43 27.8**	**0.0**
JJT2	**Tamagusuku 2**	**2.95**	**92**	P	**Pn**	**23 42 53.7**	**+1.9**
JJT2				S	**Sn**	**23 43 29.9**	**+0.9**
TATO	**Taipei**	**2.99**	**245**	*e*Pn	**Pn**	**23 42 55.5**	**+3.2**
TATO				*e*S	**Sn**	**23 43 33.7**	**+3.8**
JIH	**Iheya**	**3.22**	**76**	P	**Pn**	**23 42 56.6**	**+1.5**
JIH				*e*S	**Sn**	**23 43 35.1**	**+0.1**
YHNB	**Yeheng**	**3.22**	**241**	*e*Pn	**Pn**	**23 42 57.7**	**+2.5**
YHNB				*e*S	**Sn**	**23 43 38.5**	**+3.5**
NACB	**Ninganchiao**	**3.34**	**232**	*e*Pn	**Pn**	**23 42 56.7**	**0.0**
NACB				*e*S	**Sn**	**23 43 38.3**	**+0.6**
JOW	**Kunigami**	**3.45**	**80**	P	**Pn**	**23 42 59.0**	**+1.0**
JOW				*e*S	**Sn**	**23 43 38.7**	**-1.4**
JOW	**Kunigami**	**3.45**	**80**	P	**Pn**	**23 42 59.2**	**+1.2**
	134nm,0.3s,baz=129,slow=21,SNR=182						
JOW				S	**Sn**	**23 43 38.5**	**-1.6**
	1μm,0.3s,baz=110,slow=26,SNR=58						
JTK	**Tokunoshima**	**4.27**	**68**	P	**Pn**	**23 43 08.7**	**+0.3**
JTK				*e*S	**Sn**	**23 43 57.6**	**-1.2**
JAM	**Amami Oshima**	**5.04**	**64**	P	**Pn**	**23 43 18.1**	**-0.2**
JAM				*e*S	**Sn**	**23 44 13.0**	**-3.6**
JZK	**Kikaishima**	**5.30**	**66**	*e*S	**Sn**	**23 44 20.9**	**-1.8**
JMZ	**Minamidaito 2**	**6.09**	**93**	P	**Pn**	**23 43 31.5**	**-0.5**
JMZ				*e*S	**Sn**	**23 44 35.4**	**-5.9**
SGCP	**Mt. Cagua**	**8.30**	**196**	*e*P	**Sn**	**23 45 30.1**	**-4.0**
JNU	**Nakatsue**	**8.81**	**38**	P	**Pn**	**23 44 11.8**	**+4.0**
	3.8nm,0.3s,baz=215,slow=6.7,SNR=7.1						
CVP	**Callao Caves**	**8.88**	**197**	*e*P	**Pn**	**23 44 10.0**	**+1.2**
APYP	**Conner**	**8.89**	**200**	*e*P	**Pn**	**23 44 08.7**	**-0.3**
ABRA	**Dolores**	**9.27**	**203**	*e*P	**Pn**	**23 44 14.2**	**+0.4**
SCZP	**Santa Cruz**	**11.28**	**203**	*e*P	**Pn**	**23 44 39.5**	**-0.6**
KS15	**Wonju Array Si**	**11.50**	**14**	Pn	**Pn**	**23 44 46.8**	**+3.8**
POLP	**Polilio Island**	**11.73**	**192**	*e*P	**Pn**	**23 44 52.9**	**+6.9**
TGY	**Tagaytay City**	**12.56**	**196**	P	**Pn**	**23 45 01.4**	**+4.8**
	112nm,0.3s,baz=118,slow=5.2,SNR=20						
PVCP	**Virac**	**12.62**	**181**	*e*P	**Pn**	**23 44 59.5**	**+2.2**
BOAC	**Boac**	**12.99**	**191**	*e*P	**Pn**	**23 44 55.6**	**-6.4**
LUBP	**Lubang**	**13.09**	**198**	*e*P	**Pn**	**23 45 01.2**	**-2.1**
ENH	**Enshi**	**13.79**	**290**	*e*Pn	**Pn**	**23 45 14.9**	**+2.8**
	11nm,0.6s						
OTRP	**Odiongan**	**14.03**	**190**	*e*P	**Pn**	**23 45 15.0**	**-0.1**
BUSP	**Coron**	**14.76**	**197**	*e*P	**Pn**	**23 45 23.6**	**-0.5**
OCLP	**Ormoc**	**15.14**	**179**	*e*P	**Pn**	**23 45 30.8**	**+1.9**
XAN	**Xi'an**	**15.51**	**304**	P	**Pn**	**23 45 35.0**	**+1.7**
XAN				AMB	AMB		
	comp=Z,15nm,1.1s						
MJAR	**Matsushiro Arr**	**15.55**	**46**	P	**Pn**	**23 45 34.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=231,slow=9.6,SNR=10						
CUYO	**Cuyo Island**	**15.69**	**193**	*e*P	**Pn**	**23 45 35.3**	**-0.2**
ENPP	**El Nido**	**15.73**	**199**	*e*P	**Pn**	**23 45 34.3**	**-1.7**
CN2	**Changchun**	**17.50**	**2**	*e*P	**Pn**	**23 45 59.0**	**+1.7**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
BUKP	**Musuan**	**18.30**	**178**	*e*P	**P**	**23 46 04.6**	**+0.1**
PAGZ	**Pagadian**	**18.36**	**183**	*e*P	**P**	**23 46 03.1**	**-2.0**
CD2	**Chengdu**	**18.76**	**289**	P	**P**	**23 46 11.0**	**+1.5**
CD2				AMB	AMB		
	comp=Z,50nm,0.5s						
LZH	**Lanzhou**	**20.14**	**304**	*e*P	**P**	**23 46 28.0**	**+3.6**
LZH				AMB	AMB		
	comp=Z,30nm,1.6s						
ASAJ	**Asahikawa**	**23.07**	**35**	P	**P**	**23 46 51.9**	**-2.0**
	comp=Z,5.7nm,0.5s,mb4.3,baz=246,slow=30,SNR=6.1						
GTA	**Gaotai**	**24.42**	**309**	*e*P	**P**	**23 47 06.5**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**25.53**	**332**	*e*P	**P**	**23 47 17.2**	**+1.0**
	comp=Z,3.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**25.79**	**331**	P	**P**	**23 47 18.8**	**+0.4**
	comp=Z,1.5nm,0.5s,mb3.9,baz=150,slow=9.7,SNR=17						
SONM				ScP	ScP	23 54 01.4	-4.6
	comp=Z,0.2nm,0.4s,baz=169,slow=2.9,SNR=2.1						
LSA	**Lhasa**	**29.57**	**284**	*e*P	**P**	**23 47 53.8**	**+1.7**
LSA	**Lhasa**	**29.57**	**284**	*e*P	**P**	**23 47 54.1**	**+2.0**
	comp=Z,3.9nm,0.6s,mb4.3						
PSI	**Prapat**	**33.85**	**231**	P	**P**	**23 48 28.8**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.4,baz=356,slow=2.0,SNR=6.8						
GUN	**Gumba**	**34.30**	**282**	*e*P	**P**	**23 48 34.0**	**+0.6**
	comp=Z,10nm,0.4s,mb4.9						
PKI	**Pulchoki**	**34.76**	**281**	*e*P	**P**	**23 48 36.9**	**-0.4**
	comp=Z,12nm,0.4s,mb4.9						
KKN	**Kakani**	**34.84**	**282**	*e*P	**P**	**23 48 38.1**	**0.0**
	comp=Z,17nm,0.5s,mb5.0						
DMN	**Daman**	**35.02**	**281**	*e*P	**P**	**23 48 39.4**	**-0.2**
GKN	**Gorkha**	**35.38**	**282**	*e*P	**P**	**23 48 42.6**	**-0.1**
	comp=Z,13nm,0.3s,mb5.0						
MKAR	**Makanchi Array**	**39.01**	**313**	P	**P**	**23 49 13.0**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.0,baz=100,slow=10,SNR=86						
MKAR				pP	pP	23 49 56.7	+5.7
	comp=Z,1.4nm,0.6s,baz=97,slow=9.5,SNR=2.6						
MKAR				ScP	ScP	23 54 47.9	-3.3
	comp=Z,0.8nm,0.9s,baz=96,slow=4.7,SNR=5.2						
MKAR	**Makanchi Array**	**39.01**	**313**	P	**P**	**23 49 13.0**	**-0.2**
MKAR				pP	pP	23 49 56.7	+5.7
MKAR				ScP	ScP	23 54 47.9	-3.3
ZAL	**Zalesovo**	**40.21**	**324**	P	**P**	**23 49 22.0**	**-1.1**
	comp=Z,2.8nm,0.5s,mb4.2,baz=354,slow=8.4,SNR=13						
ZAL				ScP	ScP	23 54 51.9	-4.0
	comp=Z,0.8nm,0.8s,baz=137,slow=23,SNR=5.7						
KURK	**Kurchatov**	**42.49**	**318**	*e*P	**P**	**23 49 40.9**	**-0.7**
	comp=Z,1.9nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**44.12**	**178**	⇑ *i*P	**P**	**23 49 52.2**	**-2.5**
	comp=Z,17nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**46.93**	**167**	*e*P	**P**	**23 50 14.4**	**-2.4**
MBWA	**Marble Bar**	**47.38**	**186**	*e*P	**P**	**23 50 17.4**	**-2.8**
	comp=Z,12nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**48.01**	**319**	P	**P**	**23 50 24.3**	**-0.7**
	comp=Z,0.6nm,0.3s,mb3.8,baz=104,slow=8.6,SNR=10						
BVAR				PcP	PcP	23 51 48.4	-1.9
	comp=Z,0.7nm,0.5s,baz=111,slow=3.1,SNR=4.8						
BVAR				ScP	ScP	23 55 23.9	-3.8
	comp=Z,0.5nm,0.7s,baz=117,slow=5.2,SNR=4.2						
BRVK	**Bovoye**	**48.08**	**319**	*e*P	**P**	**23 50 25.0**	**-0.5**
ZRNK	**Zerenda**	**48.81**	**319**	*e*P	**P**	**23 50 30.4**	**-0.8**
	comp=Z,2.4nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**50.48**	**169**	P	**P**	**23 50 42.1**	**-1.7**
	comp=Z,3.9nm,0.5s,mb4.3,baz=353,slow=8.3,SNR=44						
ARU	**Arti**	**55.27**	**322**	*e*P	**P**	**23 51 18.0**	**-0.9**
	comp=Z,4.2nm,0.9s,mb4.2						
AKTK	**Aktyubinsk**	**55.40**	**315**	P	**P**	**23 51 20.9**	**+1.2**
AKTO	**Aktyubinsk**	**55.40**	**315**	P	**P**	**23 51 20.9**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=119,slow=9.9,SNR=5.2						
KLBR	**Kellerrin**	**57.90**	**187**	*e*P	**P**	**23 51 35.1**	**-2.3**
	comp=Z,32nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.27**	**187**	P	**P**	**23 51 44.6**	**-2.3**
	comp=Z,6.0nm,0.6s,mb4.6,baz=20,slow=7.8,SNR=3.8						
STKA	**Stephens Creek**	**60.09**	**163**	P	**P**	**23 51 48.0**	**-4.5**
	comp=Z,1.7nm,0.6s,mb4.1,baz=297,slow=6.7,SNR=5.0						
STKA	**Stephens Creek**	**60.09**	**163**	P	**P**	**23 51 48.0**	**-4.5**
KDAK	**Kodiak Island**	**64.48**	**36**	P	**P**	**23 52 19.4**	**-2.2**
	comp=Z,7.3nm,1.0s,mb4.5,baz=314,slow=23,SNR=3.2						
ILAR	**Eielson Array**	**65.99**	**28**	P	**P**	**23 52 28.8**	**-2.5**
	comp=Z,0.4nm,1.0s,mb3.2,baz=257,slow=5.2,SNR=6.1						
ILAR				pP	pP	23 53 16.9	+4.0
	comp=Z,0.3nm,0.6s,baz=281,slow=6.1,SNR=2.8						
INK	**Inuvik**	**70.17**	**23**	P	**P**	**23 52 55.2**	**-2.1**
	comp=Z,0.6nm,0.8s,mb3.4,baz=224,slow=7.5,SNR=4.8						
FINES	**FINESS Array B**	**71.15**	**330**	P	**P**	**23 53 01.9**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=43,slow=6.5,SNR=13						
HFS	**Hagfors**	**77.19**	**331**	P	**P**	**23 53 35.5**	**-2.6**
	comp=Z,1.9nm,0.8s,mb3.8,baz=103,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**77.76**	**333**	P	**P**	**23 53 39.6**	**-1.8**
	comp=Z,0.8nm,0.8s,mb3.4,baz=30,slow=20,SNR=3.0						
YKA	**Yellowknife Ar**	**79.88**	**24**	P	**P**	**23 53 51.3**	**-1.6**
	comp=Z,0.2nm,0.5s,mb3.0,baz=302,slow=5.5,SNR=6.0						
YKA				pP	pP	23 54 39.7	+3.6
	comp=Z,0.8nm,0.9s,baz=309,slow=5.4,SNR=3.2						

SFS ***26*** *23:44:05.0, 36.90N×4.94W, h19km, ML2.5*
CSEM ***26*** *23:44:05.5±0.1, 36.97N×4.98W, h5km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=1.0km az=5.0*
NEIC ***26*** *23:44:05.4, 36.90N×4.94W, h7km, MN2.6(MDD), After MDD.*
INMG ***26*** *23:44:05.9±1.5, 36.90N×4.92W, h0km, ML2.7, Error ellipse: s-maj=3.5km s-min=2.4km az=130.0*
MDD 26 23:44:05.7±0.2, 3687N×493W, h16km±4km, mbLg2.7/23, 3D, Error ellipse: s-maj=3.0km s-min=1.9km az=161.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.33**	**158**	Pg	Pg	23 44 11.7	-0.7
	SNR=210						
EMIJ				Lg		23 44 17.0	
	1μm,0.4s,SNR=5.1						
EMIJ	**Mijas**	**0.33**	**158**	Pg	Pg	23 44 11.7	-0.8
	27nm,0.2s,SNR=210						
EMIJ				Lg		23 44 17.0	
	1μm,0.4s,SNR=5.1						
EMIJ	**Mijas**	**0.33**	**158**	Pg	Pg	23 44 11.7	-0.7
EMIJ				Lg		23 44 17.2	
LIJA	**Lijar**	**0.39**	**276**	Pg	Pg	23 44 12.6	-1.0
LIJA				Lg		23 44 20.9	
LIJA	**Lijar**	**0.39**	**276**	*i* P	Pg	23 44 12.6	-0.9
LIJA				*e*S	Sg	23 44 20.9	+2.0
REAL	**Reales**	**0.44**	**211**	⇓Pg	Pg	23 44 14.8	+0.2
REAL				Lg		23 44 24.3	
REAL	**Reales**	**0.44**	**211**	*i* P	Pg	23 44 14.8	+0.2
REAL				*e*S	Sg	23 44 24.3	+3.7
EJIF	**Jimena Fronter**	**0.60**	**227**	⇓Pg	Pg	23 44 17.6	+0.1
	29nm,0.4s,SNR=18						
EJIF				Lg		23 44 26.1	
	140nm,0.6s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.60**	**227**	⇓Pg	Pg	23 44 17.6	+0.1
EJIF				Lg		23 44 26.0	
ELOJ	**Sierra Loja**	**0.68**	**65**	Pg	Pg	23 44 17.8	-1.1
	14nm,0.3s,SNR=14						
ELOJ				Lg		23 44 27.9	
	210nm,0.6s,SNR=23						
ELOJ	**Sierra Loja**	**0.68**	**65**	Pg	Pg	23 44 17.8	-1.1
ELOJ				Lg		23 44 27.3	
ESPR	**Espera**	**0.75**	**270**	Pg	Pg	23 44 19.8	-0.5
	30nm,0.4s,SNR=43						
ESPR				Lg		23 44 29.8	
	377nm,0.6s,SNR=4.0						
ESPR	**Espera**	**0.75**	**270**	Pg	Pg	23 44 19.8	-0.4
	30nm,0.4s,SNR=43						
ESPR	**Espera**	**0.75**	**270**	Pg	Pg	23 44 20.1	-0.1
MOMI	**Momias**	**0.83**	**230**	Pg	Pg	23 44 24.6	+2.8
MOMI				Lg		23 44 43.6	
MOMI	**Momias**	**0.83**	**230**	*e*P	Pb	23 44 24.6	+2.9
GIBL	**Gibalbin**	**0.84**	**268**	Pg	Pg	23 44 22.3	+0.4
GIBL				Lg		23 44 38.1	
GIBL	**Gibalbin**	**0.84**	**268**	*e*P	Pb	23 44 22.3	+0.5
GIBL				*e*S	Sb	23 44 38.1	+5.3
ELUQ	**Luque**	**0.87**	**37**	Pg	Pg	23 44 20.7	-1.9
	36nm,0.2s,SNR=52						
ELUQ				Lg		23 44 32.6	
	96nm,0.2s,SNR=13						
ELUQ	**Luque**	**0.87**	**37**	Pg	Pg	23 44 20.7	-1.9
ELUQ				Lg		23 44 33.0	
ERON	**Agron**	**0.91**	**80**	Pg	Pg	23 44 22.4	-0.9
	17nm,0.3s,SNR=11						
ERON				Lg		23 44 35.2	
	47nm,0.3s,SNR=7.9						
ERON	**Agron**	**0.91**	**80**	Pg	Pg	23 44 22.4	-0.9
ERON				Lg		23 44 35.2	
SCRT	**Cerro San Cris**	**1.03**	**257**	Pg	Pg	23 44 26.4	+0.8
SCRT				Lg		23 44 45.9	
SCRT	**Cerro San Cris**	**1.03**	**257**	*e*P	Pb	23 44 26.4	+1.3
SCRT				*e*S	Sb	23 44 45.9	+7.6
CNIL	**Conil**	**1.03**	**242**	Pg	Pg	23 44 29.8	+4.2
CNIL	**Conil**	**1.03**	**242**	*e*P	Pb	23 44 29.8	+4.6
EGUA	**Guajares**	**1.09**	**91**	Pg	Pg	23 44 26.4	-0.4
	2.3nm,0.1s,SNR=4.0						
EGUA				Lg		23 44 41.0	
	15nm,0.5s,SNR=7.9						
EGUA	**Guajares**	**1.09**	**91**	Pg	Pg	23 44 25.7	-1.1
EGUA				Lg		23 44 41.0	
ECOG	**Cogollos-Vega**	**1.16**	**69**	Pg	Pg	23 44 27.5	-0.6
	22nm,0.2s,SNR=50						
ECOG				Lg		23 44 43.3	
	61nm,0.2s						
ECOG	**Cogollos-Vega**	**1.16**	**69**	Pg	Pg	23 44 28.0	-0.1
	22nm,0.2s,SNR=50						
ECOG	**Cogollos-Vega**	**1.16**	**69**	Pg	Pg	23 44 28.0	-0.1
ECOG				Lg		23 44 43.8	
EQUE	**Quentar**	**1.24**	**74**	Pg	Pg	23 44 28.2	-1.3
	63nm,0.4s,SNR=80						
EQUE			

EBAD				Pg	Pg	23 44 49.6	-4.2
	5.1nm,0.3s,SNR=4.0						
EBAD				Sn	Sn	23 45 13.0	-3.0
	18nm,0.4s,SNR=5.0						
EBAD				Lg		23 45 21.6	
	29nm,0.3s,SNR=5.2						
EBAD	**Badajoz**	**2.51**	**319**	Pn	Pn	23 44 43.5	-2.2
EBAD	**Badajoz**	**2.51**	**319**	Pg	Pg	23 44 49.6	-4.2
	5.1nm,0.3s,SNR=4.0						
EBAD				Sn	Sn	23 45 13.0	-3.0
	18nm,0.4s,SNR=5.0						
EBAD	**Badajoz**	**2.51**	**319**	Pn	Pn	23 44 43.5	-2.3
EBAD				Sn	Sn	23 45 13.0	-3.0
PBEJ	**Beja**	**2.61**	**297**	*e*Pn	Pn	23 44 46.8	-0.3
PBEJ							
	17nm,0.4s						
PBEJ	**Beja**	**2.61**	**297**	*e*Pn	Pn	23 44 46.8	-0.3
	17nm,0.4s						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 44 50.3	-0.8
	1.1nm,0.3s,baz=196,slow=12,SNR=25						
ESDC				Pg	Pg	23 44 57.3	-4.0
	3.6nm,0.3s,baz=198,slow=17,SNR=30						
ESDC				Sn	Sn	23 45 22.9	-2.8
	8.1nm,0.5s,baz=195,slow=24,SNR=8.0						
ESDC				Lg		23 45 33.9	
	18nm,0.3s,baz=197,slow=27,SNR=7.9						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 44 50.3	-0.9
	1.1nm,0.3s,SNR=25						
ESDC	**Sonseca Array**	**2.90**	**15**	Pg	Pg	23 44 57.3	-4.0
	3.6nm,0.3s,SNR=30						
ESDC				Sn	Sn	23 45 22.9	-2.8
	8.1nm,0.5s,SNR=8.0						
ESDC	**Sonseca Array**	**2.90**	**15**	Pn	Pn	23 44 50.3	-0.8
ESDC				Pg	Pg	23 44 57.3	-4.0
ESDC				Sn	Sn	23 45 24.7	-1.0
ESDC				Lg		23 45 33.9	
EMUR	**La Murta**	**3.09**	**71**	Pn	Pn	23 44 53.6	-0.2
	6.7nm,0.4s,SNR=4.7						
EMUR				Pg	Pg	23 45 01.6	-3.4
	0.7nm,0.2s,SNR=7.9						
EMUR				Lg		23 45 40.7	
	16nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**71**	Pn	Pn	23 44 54.6	+0.8
	6.7nm,0.4s,SNR=4.7						
EMUR	**La Murta**	**3.09**	**71**	Pg	Pg	23 45 02.2	-2.7
	0.7nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.09**	**71**	Pn	Pn	23 44 55.4	+1.7
EMUR				Pg	Pg	23 45 02.2	-2.8
EMUR				Lg		23 45 44.1	
PTEO	**Sao Teotonio**	**3.11**	**284**	*e*Sg	Sg	23 45 45.2	-0.3
PTEO							
	20nm,0.4s						
PTEO	**Sao Teotonio**	**3.11**	**284**	*e*Sg	Sg	23 45 45.2	-0.3
	20nm,0.4s						
MOE	**Montemor**	**3.18**	**302**	*e*Sn	Sn	23 45 29.9	-2.6
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 44 55.2	-0.2
	3.3nm,0.5s,SNR=5.6						
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 44 55.2	-0.2
	3.3nm,0.5s,SNR=5.6						
ETOB	**Tobarra**	**3.21**	**55**	Pg	Pg	23 45 03.8	-3.4
	SNR=7.9						
ETOB	**Tobarra**	**3.21**	**55**	Pn	Pn	23 44 56.4	+1.0
ETOB				Pg	Pg	23 45 03.8	-3.4
ETOB				Lg		23 45 46.4	
PCBR	**Castelo Branco**	**3.58**	**327**	*e*Pn	Pn	23 44 59.5	-1.0
PCBR				*e*Sn	Sn	23 45 37.9	-4.6
PCBR				*e*Sg	Sg	23 45 59.4	-1.3
PCBR							
	16nm,0.6s						
PCBR	**Castelo Branco**	**3.58**	**327**	Pn	Pn	23 44 59.5	-1.0
PCBR				Sn	Sn	23 45 37.9	-4.6
PCBR				Lg		23 45 59.4	
	7.8nm,0.6s						
PCBR	**Castelo Branco**	**3.58**	**327**	*e*Pn	Pn	23 44 59.5	-1.0
PCBR				*e*Sn	Sn	23 45 37.9	-4.6
GUD	**Guadarrama**	**3.82**	**9**	Pn	Pn	23 45 02.6	-1.1
	2.0nm,0.3s,SNR=5.1						
GUD				Pg	Pg	23 45 13.9	-4.9
	1.2nm,0.2s,SNR=7.9						
GUD				Lg		23 46 02.8	
	11nm,0.3s,SNR=7.6						
GUD	**Guadarrama**	**3.82**	**9**	Pg	Pg	23 45 14.8	-4.0
	1.2nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.82**	**9**	Pn	Pn	23 45 02.6	-1.1
GUD				Pg	Pg	23 45 14.8	-4.0
GUD				Lg		23 46 01.9	
PTOM	**Tomar**	**3.88**	**316**	*e*Pn	Pn	23 45 02.4	-2.2
PTOM				*e*Sn	Sn	23 45 47.3	-2.6
PTOM				*e*Sg	Sg	23 46 05.3	-5.0
PTOM							
	22nm,0.7s						
PTOM	**Tomar**	**3.88**	**316**	*e*Pn	Pn	23 45 02.4	-2.2
PTOM				*e*Sn	Sn	23 45 47.3	-2.6
PTOM				*e*Sg	Sg	23 46 05.3	-5.0
	22nm,0.7s						
PLOU	**Loures**	**3.90**	**302**	*e*Sn	Sn	23 45 46.0	-4.4
PLOU							
	18nm,0.4s						
PLOU	**Loures**	**3.90**	**302**	*e*Sn	Sn	23 45 46.0	-4.4
	18nm,0.4s						
MTE	**Manteigas**	**4.08**	**331**	*e*Sn	Sn	23 45 51.1	-3.6
MTE				*e*Sg	Sg	23 46 11.4	-5.3
MTE							
	27nm,0.4s						
MTE	**Manteigas**	**4.08**	**331**	*e*Sn	Sn	23 45 51.1	-3.6
MTE				*e*Sg	Sg	23 46 11.4	-5.3
	27nm,0.4s						
ECHE	**Chera**	**4.14**	**48**	Pg	Pg	23 45 18.6	-6.3
	3.2nm,0.4s,SNR=7.9						
ECHE				Lg		23 46 11.5	
	6.0nm,0.5s,SNR=7.9						
ECHE	**Chera**	**4.14**	**48**	Pn	Pn	23 45 08.1	0.0
ECHE	**Chera**	**4.14**	**48**	Pg	Pg	23 45 20.9	-4.0
ECHE	**Chera**	**4.14**	**48**	Pn	Pn	23 45 08.1	0.0
ECHE				Pg	Pg	23 45 20.9	-4.0
ECHE				Lg		23 46 14.7	
PVRL	**Vila Real**	**4.91**	**335**	*e*Sn	Sn	23 46 11.5	-3.7
PVRL				*e*Sg	Sg	23 46 38.9	-4.3
PVRL							
	6.6nm,0.6s						
EMOS	**Mosqueruela**	**4.94**	**44**	Pg	Pg	23 45 32.6	-7.6
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	23 46 12.6	-3.2
	1.6nm,0.4s,SNR=7.9						
EMOS				Lg		23 46 37.1	
	7.3nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**4.94**	**44**	Pg	Pg	23 45 34.4	-5.8
	SNR=7.9						
PBRG	**Braganca**	**5.13**	**345**	*e*Pn	Pn	23 45 19.2	-2.5
PBRG				*e*Sg	Sg	23 46 45.9	-4.4
PBRG							
	7.6nm,0.5s						
ECAL	**Calabor**	**5.26**	**345**	Pn	Pn	23 45 22.5	-1.0
	0.9nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	23 46 18.7	-5.1
	1.1nm,0.9s,SNR=7.9						
ECAL				Lg		23 46 46.3	
	25nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**5.26**	**345**	Pn	Pn	23 45 21.8	-1.7
ECAL				Sn	Sn	23 46 20.0	-3.8
ECAL	**Calabor**	**5.26**	**345**	Pn	Pn	23 45 21.8	-1.7
ECAL				Sn	Sn	23 46 20.0	-3.8
ECAL				Lg		23 46 47.1	
PCAB	**Cabril**	**5.40**	**335**	*e*Sg	Sg	23 46 53.5	-5.5
ELOB	**Lobios**	**5.55**	**335**	Sn	Sn	23 46 24.6	-6.4
	2.0nm,0.3s,SNR=7.9						
ELOB				Lg		23 46 55.8	
	3.2nm,0.3s,SNR=5.4						
ERTA	**Horta de San J**	**5.79**	**44**	Lg		23 47 02.3	
	3.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**5.95**	**34**	Lg		23 47 10.6	
	18nm,0.4s,SNR=7.9						

*ISCJB **26** 23:55:43.7±0.6, 3912N×003×2424E×004, h21km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=76.9*
*CSEM **26** 23:55:43.8±0.1, 3908N×2424E, h20km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.7km az=112.0*
*NEIC **26** 23:55:43.5, 39.13N×2422E, h33km, MD3.0(SOF), ML2.9(THE), ML3.3(ATH), After ATH.*
*ATH **26** 23:55:43.4, 39.12N×2423E, h34km±2km, MD3.6/10, ML3.3*
*THE **26** 23:55:44.4, 39.17N×2423E, h10km, ML3.1*
*SOF **26** 23:55:46.0, 3943N×2436E, h7km, MD3.0*

*SKO **26** 23:55:47.0, 3937N×2405E, h0km*
ISC 26 23:55:43.6±0.6, 3913N±003×2421E±004, h16km±3km, n45, σ0s99/58, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.26**	**279**	*e*Pg	**Pg**	**23 55 49.3**	**-0.1**
AOS				*e*Sg	**Sg**	**23 55 54.0**	**+0.6**
NEO	**Neokhori**	**0.79**	**283**	⇑*i*PN	**Pn**	**23 55 59.9**	**-0.2**
NEO				*e*SN	**Sn**	**23 56 10.7**	**-0.8**
XOR	**Xorichti**	**0.83**	**287**	*e*Pg	**Pg**	**23 56 00.0**	**+0.2**
	comp=Z,25nm,0.2s						
XOR				*e*Sg	**Sg**	**23 56 11.8**	**+1.1**
PAIG	**Paliouri**	**0.90**	**333**	*e*Pg	**Pg**	**23 56 01.3**	**+0.2**
PAIG				*e*Sg	**Sg**	**23 56 13.7**	**+0.7**
MPAR	**Parnis Oros**	**1.04**	**201**	⇓*i*PN	**Pn**	**23 56 03.0**	**-0.6**
LOS	**Limnos**	**1.05**	**40**	*e*Pg	**Pg**	**23 56 03.5**	**-0.4**
LOS				*e*Sg	**Sg**	**23 56 17.9**	**+0.3**
LKR	**Lokris**	**1.06**	**244**	*e*PN	**Pn**	**23 56 03.3**	**-0.5**
LKR				*e*SN	**Sn**	**23 56 17.8**	**-0.4**
LIA	**Limnos Island**	**1.07**	**44**	*e*PN	**Pn**	**23 56 03.4**	**-0.6**
LIA				*e*SN	**Sn**	**23 56 18.2**	**-0.3**
PTL	**Penteli**	**1.11**	**194**	*e*PN	**Pn**	**23 56 03.8**	**-0.7**
OUR	**Ouranopolis**	**1.22**	**352**	*e*Pg	**Pg**	**23 56 06.0**	**-1.1**
	comp=Z,15nm,0.2s						
OUR				*e*Sg	**Sg**	**23 56 22.1**	**-1.0**
ATH	**Athens Observa**	**1.22**	**199**	*e*PN	**Pn**	**23 56 05.9**	**-0.1**
ATH				*e*SN	**Sn**	**23 56 21.6**	**-0.5**
PLG	**Polygyros**	**1.38**	**335**	*e*PN	**Pn**	**23 56 08.2**	**+0.1**
AGG	**Agios Georgios**	**1.47**	**266**	*e*Pg	**Pg**	**23 56 10.0**	**-1.9**
	comp=Z,5.5nm,0.5s						
AGG				*e*Sg	**Sg**	**23 56 30.6**	**-0.5**
NAIG	**Nisos Aigina**	**1.48**	**203**	*e*PN	**Pn**	**23 56 10.7**	**+1.1**
NAIG	**Nisos Aigina**	**1.48**	**203**	*e*Pn	**Pn**	**23 56 10.9**	**+1.3**
PRK	**Paraskevi**	**1.60**	**85**	*e*PN	**Pn**	**23 56 11.5**	**+0.3**
PRK	**Paraskevi**	**1.60**	**85**	*e*Pn	**Pn**	**23 56 13.1**	**+1.9**
LIT	**Litokhoron**	**1.65**	**307**	*e*Pb	**Pb**	**23 56 12.0**	**-1.6**
THE	**Thessaloniki**	**1.78**	**328**	*e*Pb	**Pb**	**23 56 14.3**	**-1.6**
SOH	**Sokhos**	**1.82**	**339**	*e*Pb	**Pb**	**23 56 14.9**	**-1.5**
EVR	**Evrytania**	**1.89**	**264**	*e*PB	**Pb**	**23 56 16.6**	**-1.1**
SRS	**Serrai**	**2.04**	**347**	*e*Pn	**Pn**	**23 56 17.6**	**+0.3**
NVR	**Nevrokopi**	**2.24**	**353**	*e*PN	**Pn**	**23 56 20.5**	**+0.6**
NVR				*e*SN	**Sn**	**23 56 46.4**	**-0.8**
RDO	**Rodhopi**	**2.26**	**26**	*e*PN	**Pn**	**23 56 20.0**	**-0.2**
ALN	**Alexandroupoli**	**2.26**	**38**	*e*Pn	**Pn**	**23 56 20.1**	**-0.2**
ALN	**Alexandroupoli**	**2.26**	**38**	*e*Pn	**Pn**	**23 56 20.0**	**-0.3**
KNT	**Kendrikon**	**2.27**	**334**	*e*Pn	**Pn**	**23 56 21.3**	**+0.9**
	comp=Z,3.7nm,0.5s						
GRG	**Griva**	**2.30**	**323**	*e*Pn	**Pn**	**23 56 21.9**	**+1.1**
APE	**Apeiranthos**	**2.30**	**153**	*e*PN	**Pn**	**23 56 20.3**	**-0.6**
MEV	**Metsovon**	**2.40**	**287**	*e*Pn	**Pn**	**23 56 23.6**	**+1.3**
MMB	**Musomiste**	**2.49**	**352**	*i* P	**Pn**	**23 56 23.5**	**+0.1**
VAY	**Valandovo**	**2.53**	**331**	*e*Pn	**Pn**	**23 56 24.8**	**+0.9**
VAY	**Valandovo**	**2.53**	**331**	*e*Pn	**Pn**	**23 56 26.4**	**+2.4**
VAY	**Valandovo**	**2.53**	**331**	*e*Pn	**Pn**	**23 56 26.3**	**+2.4**
RZN	**Rozhen**	**2.58**	**8**	*i* P	**Pn**	**23 56 25.5**	**+0.7**
RZN				*i* S	**Sn**	**23 56 55.0**	**-0.8**
KDZ	**Kurdzhali**	**2.68**	**20**	*i* P	**Pn**	**23 56 26.0**	**-0.1**
FNA	**Florina**	**2.74**	**308**	*e*Pn	**Pn**	**23 56 27.4**	**+0.5**
KKB	**Krupnik**	**2.87**	**343**	*i* P	**Pn**	**23 56 29.5**	**+0.9**
KKB				*i* S	**Sn**	**23 57 00.5**	**-2.3**
BIA	**Bitola**	**2.91**	**311**	*e*Pn	**Pn**	**23 56 32.3**	**+3.0**
BIA	**Bitola**	**2.91**	**311**	*e*Pn	**Pn**	**23 56 32.2**	**+2.9**
STIP	**Stip**	**2.99**	**330**	*e*Pn	**Pn**	**23 56 32.8**	**+2.4**
IGT	**Igoumenitsa**	**3.04**	**279**	*e*Pn	**Pn**	**23 56 32.7**	**+1.7**
VTS	**Vitosha**	**3.54**	**348**	*i* P	**Pn**	**23 56 39.5**	**+1.6**
VTS	**Vitosha**	**3.54**	**348**	*e*Pn	**Pn**	**23 56 38.8**	**+0.9**
JMB	**Yambol**	**3.79**	**28**	*e*Pn	**Pn**	**23 56 41.5**	**+0.2**

*PRE **26** 23:58:39.2±1.3, 2058S×3293E, h5km, ML4.6*
*ISCJB **26** 23:58:48.9±0.6, 2148S±007×3311E±008, h10km, mb3.6/6, Error ellipse: s-maj=13.2km s-min=6.8km az=95.9*
*IDC **26** 23:58:49.7±1.1, 2138S×3323E, h0km, mb3.7/6, mb1 4.2/12, mb1mx3.9/28, mbtmp4.1/12, ML4.5/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=26.3km s-min=19.7km az=149.0*
*NEIC **26** 23:58:51.3±0.5, 2133S×3320E, h10km, mb4.2/2, Error ellipse: s-maj=11.8km s-min=8.0km az=152.0*
ISC 26 23:58:50.9±0.6, 2149S±007×3314E±007, h10km, n20, σ1s38/29, mb3.6/6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.02**	**253**	*e*P	Px	23 52 27.2	
MSNA				*e*S	Sx	23 53 04.8	
MSNA				AML	AML	23 53 19.1	
	comp=Z,936nm,0.3s						
SLR	**Silverton**	**6.14**	**226**	*e*P	**Pn**	**00 00 18.4**	**-3.2**
SLR				*e*S	**Sn**	**00 01 32.0**	**0.0**
SLR				AML	AML	00 02 24.2	
	comp=Z,175nm,0.5s						
KSR	**Koster**	**7.18**	**232**	*e*P	**Pn**	**00 00 32.6**	**-3.4**
LSZ	**Lusaka**	**7.76**	**322**	Pn	**Pn**	**00 00 43.2**	**-0.8**
	comp=Z,10nm,0.3s,baz=143,slow=16,SNR=59						
LSZ				Sn	**Sn**	**00 02 02.5**	**-9.4**
	comp=Z,11nm,0.3s,baz=227,slow=18,SNR=9.2						
LSZ				Lg		00 02 47.3	
	comp=Z,38nm,0.3s,baz=50,slow=22,SNR=19						
LBTB	**Lobatse**	**7.77**	**242**	Pn	**Pn**	**00 00 47.5**	**+3.5**
	comp=Z,9.4nm,0.3s,baz=65,slow=13,SNR=60						
LBTB				Sn	**Sn**	**00 02 12.4**	**+0.3**
	comp=Z,8.1nm,0.3s,baz=69,slow=14,SNR=3.4						
LBTB				Lg		00 02 55.1	
	comp=Z,10nm,0.3s,baz=324,slow=22,SNR=4.7						
LBTB				LR	LR	00 04 07.3	
	comp=Z,106nm,21.6s,baz=228,slow=40						
BOSA	**Boshof**	**10.07**	**224**	Pn	**Pn**	**00 01 17.8**	**+2.2**
	comp=Z,2.9nm,0.3s,baz=46,slow=12,SNR=46						
BOSA				Sn	**Sn**	**00 03 05.2**	**-3.4**
	comp=Z,1.9nm,0.3s,baz=119,slow=6.5,SNR=3.3						
BOSA				Lg		00 04 11.8	
	comp=Z,2.1nm,0.3s,baz=140,slow=14,SNR=5.4						
BOSA				LR	LR	00 05 30.2	
	comp=Z,153nm,19.2s,baz=183,slow=39						
BOSA	**Boshof**	**10.07**	**224**	Pn	**Pn**	**00 01 17.8**	**+2.2**
BOSA				Sn	**Sn**	**00 03 05.2**	**-3.4**
BOSA				Lg		00 04 11.8	
BOSA				LR	LR	00 05 30.2	
OPO	**Ambohidratompo**	**13.52**	**80**	Pn	**Pn**	**00 02 02.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=273,slow=14,SNR=6.4						
OPO				Sn	**Sn**	**00 04 20.2**	**-13**
	comp=Z,4.1nm,0.3s,baz=146,slow=23,SNR=12						
TSUM	**Tsumeb**	**14.77**	**276**	Pn	**Pn**	**00 02 19.2**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=85,slow=12,SNR=61						
TSUM				Sn	**Sn**	**00 04 58.6**	**-4.9**
	comp=Z,0.8nm,0.3s,baz=320,slow=22,SNR=3.3						
TSUM				Lg		00 06 34.3	
	comp=Z,1.0nm,0.3s,baz=62,slow=22,SNR=3.1						
TSUM	**Tsumeb**	**14.77**	**276**	*e*Pn	**Pn**	**00 02 20.2**	**+0.4**
	comp=Z,8.4nm,0.6s						
TSUM				Sn	**Sn**	**00 04 58.6**	**-4.9**
TSUM				Lg		00 06 34.3	
SUR	**Sutherland**	**15.43**	**223**	Pn	**Pn**	**00 02 29.5**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=54,slow=12,SNR=24						
SUR				Sn	**Sn**	**00 05 13.9**	**-5.7**
	comp=Z,0.9nm,0.3s,baz=337,slow=21,SNR=4.3						
SUR				Lg		00 06 55.8	
	comp=Z,0.7nm,0.3s,baz=333,slow=16,SNR=3.7						
SUR	**Sutherland**	**15.43**	**223**	*e*Pn	**Pn**	**00 02 31.1**	**+2.5**
	comp=Z,13nm,0.6s						
SUR				Sn	**Sn**	**00 05 13.9**	**-5.7**
SUR				Lg		00 06 55.8	
CER	**Ceres**	**17.04**	**223**	*e*P	**Pn**	**00 02 49.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**46.24**	**315**	P	**P**	**00 07 17.1**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=124,slow=6.7,SNR=11						
DBIC	**Dimbokro**	**46.60**	**303**	P	**P**	**00 07 20.1**	**+0.9**
	comp=Z,1.4nm,0.9s,mb3.9,baz=64,slow=5.5,SNR=7.2						
DBIC	**Dimbokro**	**46.60**	**303**	*e*P	**P**	**00 07 19.8**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.9						
GERES	**GERESS Array B**	**72.13**	**347**	P	**P**	**00 10 16.2**	**+0.5**
	comp=Z,0.1nm,0.5s,mb3.0,baz=152,slow=4.4,SNR=4.1						
BVAR	**Borovoye Array**	**80.93**	**22**	P	**P**	**00 11 04.9**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=224,slow=4.1,SNR=4.8						
MKAR	**Makanchi Array**	**81.14**	**32**	P	**P**	**00 11 05.3**	**-1.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=199,slow=4.4,SNR=4.2						
ASAR	**Alice Springs**	**90.81**	**116**	P	**P**	**00 11 55.9**	**+1.4**
	comp=Z,0.8nm,0.8s,mb4.1,baz=246,slow=4.6,SNR=5.8						

*NEIC **27** 00:01:54.9±0.5, 6.18N×12621E, h35km, mb4.5/7, Error ellipse: s-maj=27.0km s-min=6.3km az=70.0*
*IDC **27** 00:02:03.5±9.0, 607N×126.19E, h117km±81km, mb3.9/7, mb1 4.0/7, mb1mx3.7/21, mbtmp4.3/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/26, Error ellipse: s-maj=75.3km s-min=17.3km az=67.0*
*ISCJB **27** 00:02:06.5±0.9, 608N±008×1262E±02, h167km±7km, mb4.2/14, Error ellipse: s-maj=33.3km s-min=9.2km az=141.8*
ISC 27 00:02:08.1±0.8, 610N±008×1262E±02, h162km±7km, n26, σ0s84/28, mb4.2/14, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.44**	**309**	⇓*e*P	**Pn**	**00 02 41.7**	**+3.7**
KCP				*i* S	**Sn**	**00 03 02.8**	**+1.8**
BUKP	**Musuan**	**2.11**	**327**	*e*P	**Pn**	**00 02 44.1**	**-1.1**
BUKP				*e*S	**Sn**	**00 03 13.1**	**-0.8**
CGP	**Cagayan de Oro**	**2.79**	**327**	⇓*e*P	**Pn**	**00 02 52.2**	**-1.1**
CGP				*i* S	**Sn**	**00 03 26.8**	**-1.5**
BUTP	**Butuan**	**2.92**	**348**	*e*P	**Pn**	**00 02 55.7**	**+0.9**
BUTP				*e*S	**Sn**	**00 03 35.6**	**+4.5**
FITZ	**Fitzroy Crossi**	**24.05**	**181**	*e*P	**P**	**00 07 07.7**	**-0.4**
	7.6nm,0.3s,mb4.7						
PMG	**Port Moresby**	**25.93**	**126**	LR	LR	00 17 45.1	
	comp=Z,40nm,18.4s,baz=288,slow=36						
WRAB	**Tennant Creek**	**27.07**	**163**	*e*P	**P**	**00 07 35.7**	**+0.3**
	3.6nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**27.08**	**163**	P	**P**	**00 07 34.7**	**-0.8**
	1.4nm,0.5s,mb3.9,baz=342,slow=10,SNR=6.3						
WB2	**Warramunga Arr**	**27.08**	**163**	*e*P	**P**	**00 07 35.4**	**-0.1**
MBWA	**Marble Bar**	**27.82**	**193**	*e*P	**P**	**00 07 42.6**	**+0.6**
	2.3nm,0.6s,mb4.1						
AS31	**Alice Springs**	**30.52**	**166**	*e*P	**P**	**00 08 06.2**	**+0.3**
ASAR	**Alice Springs**	**30.52**	**166**	P	**P**	**00 08 06.3**	**+0.4**
	2.8nm,0.5s,mb4.2,baz=344,slow=7.3,SNR=57						
ASAR				PcP	PcP	00 11 02.4	+1.6
	0.5nm,0.5s,baz=343,slow=2.5,SNR=5.9						
ASPA	**Alice Springs**	**30.52**	**166**	*e*P	**P**	**00 08 06.2**	**+0.3**
KLBR	**Kellerberrin**	**38.34**	**192**	⇑*i*P	**P**	**00 09 12.3**	**-0.7**
	4.6nm,0.3s,mb4.6						
MUN	**Mundaring**	**39.05**	**194**	*e*P	**P**	**00 09 18.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**39.73**	**192**	P	**P**	**00 09 24.4**	**-0.3**
	6.3nm,0.5s,mb4.5,baz=30,slow=6.5,SNR=9.9						
STKA	**Stephens Creek**	**40.51**	**160**	P	**P**	**00 09 30.5**	**-0.5**
	5.7nm,0.5s,mb4.5,baz=332,slow=8.1,SNR=20						
STKA	**Stephens Creek**	**40.51**	**160**	P	**P**	**00 09 30.5**	**-0.5**
LSA	**Lhasa**	**40.52**	**310**	P	**P**	**00 09 31.5**	**+0.4**
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**00 11 25.1**	**+0.3**
	0.9nm,0.4s,mb3.9,baz=115,slow=7.7,SNR=29						
KURK	**Kurchatov**	**59.49**	**327**	*e*P	**P**	**00 11 53.9**	**0.0**
	2.3nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**65.07**	**327**	P	**P**	**00 12 31.6**	**+0.5**
	0.6nm,0.3s,mb3.9,baz=79,slow=4.3,SNR=9.2						
BRVK	**Borovoye**	**65.15**	**327**	*e*P	**P**	**00 12 31.4**	**-0.2**
	1.1nm,0.4s,mb4.0						
ZRNK	**Zerenda**	**65.81**	**326**	*e*P	**P**	**00 12 35.5**	**-0.3**
	1.9nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**89.52**	**332**	P	**P**	**00 14 47.8**	**+0.9**
	0.3nm,0.4s,mb3.5,baz=73,slow=6.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**121.68**	**289**	PKP	PKPdf	00 20 43.8	+1.3
	0.6nm,0.5s,baz=63,slow=1.6,SNR=16						

SKHL 27 00:19:55.6±0.2, 5424N×12601E, h7km±1km, mb3.7/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.59**	**71**	⇓*i*Pg	Pg	00 20 06.6	-0.5
KROS				AMB	AMB	00 20 07.6	
	20nm,0.4s						
KROS				AMB	AMB	00 20 07.6	
	28nm,0.4s						
KROS				AMB	AMB	00 20 07.6	
	37nm,0.4s						
KROS				pPg		00 20 08.5	
KROS				*i* Sg	Sg	00 20 14.3	-0.5
KROS				A		00 20 16.1	
	160nm,0.4s						
KROS				A		00 20 16.1	
	120nm,0.4s						
ZEA	**Zeya**	**0.89**	**124**	*e*Pg	Pg	00 20 12.3	-0.4
ZEA				AMB	AMB	00 20 12.4	
	42nm,0.2s						
ZEA				AMB	AMB	00 20 12.4	
	58nm,0.2s						
ZEA				pPg		00 20 14.1	
ZEA				sPg		00 20 15.8	
ZEA				*e*Sg	Sg	00 20 24.3	+0.1
ZEA				A		00 20 24.9	
	53nm,0.2s						
ZEA				A		00 20 24.9

LARF				Lg			00 27 15.8	
EPF	**Esparros**	**0.57**	**99**	*e*Pg	**Pg**		**00 27 12.8**	**+0.3**
EPF				*e*Sg	**Sg**		**00 27 20.4**	**+0.2**
	12nm,0.3s							
EPF	**Esparros**	**0.57**	**99**	*e*Pg	**Pg**		**00 27 12.8**	**+0.3**
EPF				*e*Sg	**Sg**		**00 27 20.4**	**+0.2**
	5.8nm,0.3s							
SJPF	**Ste Jean**	**0.58**	**270**	*e*Pg	**Pg**		**00 27 13.0**	**+0.4**
SJPF				*e*Sg	**Sg**		**00 27 20.5**	**+0.2**
	6.9nm,0.3s							
SJPF	**Ste Jean**	**0.58**	**270**	*e*Pg	**Pg**		**00 27 13.0**	**+0.4**
SJPF				*e*Sg	**Sg**		**00 27 20.5**	**+0.2**
	3.5nm,0.3s							
EBIE	**Bielsa**	**0.61**	**135**	Pg	**Pg**		**00 27 13.0**	**-0.1**
	1.0nm,0.1s,SNR=19							
EBIE				Lg			00 27 21.1	
	9.5nm,0.2s							
EBIE	**Bielsa**	**0.61**	**135**	Pg	**Pg**		**00 27 13.0**	**-0.1**
	1.0nm,0.1s,SNR=19							
IPRE	**Itoiz**	**0.74**	**246**	Lg			00 27 26.6	
	1.7nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**0.79**	**278**	Pg	**Pg**		**00 27 16.5**	**-0.1**
	0.5nm,0.1s,SNR=7.2							
EALK				Lg			00 27 26.6	
	4.1nm,0.2s							
ELIZ	**Elizondo**	**0.80**	**274**	Pg	**Pg**		**00 27 16.9**	**+0.1**
	SNR=7.9							
ELIZ				Lg			00 27 28.4	
	1.2nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.83**	**258**	Pg	**Pg**		**00 27 17.5**	**+0.1**
	0.3nm,0.1s,SNR=4.0							
IUSE				Lg			00 27 28.7	
	2.1nm,0.2s,SNR=7.9							
EGRA	**Graus**	**1.08**	**149**	Pg	**Pg**		**00 27 22.9**	**+0.9**
	0.1nm,0.1s,SNR=7.2							
EGRA				Lg			00 27 37.1	
	1.6nm,0.2s,SNR=6.2							
ESAC	**San Caprasio**	**1.40**	**181**	Pg	**Pg**		**00 27 28.2**	**+0.1**
	4.9nm,0.2s,SNR=6.7							
ESAC				Lg			00 27 46.6	
	38nm,0.3s,SNR=14							
ESAC	**San Caprasio**	**1.40**	**181**	Pg	**Pg**		**00 27 28.2**	**+0.1**
	4.9nm,0.2s,SNR=6.7							
EMIR	**Miracle**	**1.88**	**129**	Pg	**Pg**		**00 27 36.9**	**-0.5**
	1.4nm,0.1s,SNR=7.9							
EMIR				Lg			00 28 02.4	
	2.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**1.88**	**129**	Pg	**Pg**		**00 27 36.9**	**-0.5**
	1.4nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.95**	**83**	*e*Pn	**Pn**		**00 27 33.9**	**0.0**
MTLF	**Montolieu**	**1.95**	**83**	*e*Pg	**Pg**		**00 27 38.6**	**-0.1**
MTLF				*e*Sg	**Sg**		**00 28 03.4**	**-0.6**
	3.0nm,0.2s							
MTLF	**Montolieu**	**1.95**	**83**	Pn	**Pn**		**00 27 33.9**	**0.0**
MTLF				Pg	**Pg**		**00 27 38.6**	**-0.1**
MTLF				Lg			00 28 03.4	
	1.5nm,0.2s							
MTLF	**Montolieu**	**1.95**	**83**	*e*Pg	**Pg**		**00 27 38.6**	**-0.1**
MTLF				*e*Sg	**Sg**		**00 28 03.4**	**-0.6**
	1.5nm,0.2s							
EPOB	**Poblet**	**2.09**	**147**	Pg	**Pg**		**00 27 40.5**	**-0.9**
	0.1nm,0.0s,SNR=7.9							
EPOB				Lg			00 28 07.3	
	2.5nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.09**	**147**	Pg	**Pg**		**00 27 40.5**	**-0.9**
	0.1nm,0.0s,SNR=7.9							
ERTA	**Horta de San J**	**2.23**	**165**	Pg	**Pg**		**00 27 43.2**	**-0.9**
	0.3nm,0.2s,SNR=7.9							
ERTA				Lg			00 28 11.5	
	3.3nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**2.23**	**165**	Pg	**Pg**		**00 27 43.2**	**-0.9**
	0.3nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.54**	**104**	Lg			00 28 22.4	
	0.5nm,0.1s,SNR=4.0							
CAF	**Calviac**	**2.55**	**44**	*e*Pn	**Pn**		**00 27 42.7**	**+0.5**
CAF	**Calviac**	**2.55**	**44**	*e*Pg	**Pg**		**00 27 50.0**	**-0.2**
CAF				*e*Sn	**Sn**		**00 28 13.1**	**+0.1**
CAF				*e*Sg	**Sg**		**00 28 22.7**	**-0.6**
	2.7nm,0.3s							
CAF	**Calviac**	**2.55**	**44**	Pn	**Pn**		**00 27 42.7**	**+0.5**
CAF				Pg	**Pg**		**00 27 50.0**	**-0.2**
CAF				Sn	**Sn**		**00 28 13.1**	**+0.1**
CAF				Lg			00 28 22.7	
	1.4nm,0.3s							
CAF	**Calviac**	**2.55**	**44**	*e*Pg	**Pg**		**00 27 50.0**	**-0.2**
CAF				*e*Sn	**Sn**		**00 28 13.1**	**+0.1**
CAF				*e*Sg	**Sg**		**00 28 22.7**	**-0.6**
	1.4nm,0.3s							
RJF	**Les Rejaudoux**	**2.60**	**32**	*e*Pg	**Pg**		**00 27 50.7**	**-0.3**
RJF				*e*Sn	**Sn**		**00 28 14.1**	**0.0**
RJF				*e*Sg	**Sg**		**00 28 24.6**	**-0.1**
	2.7nm,0.2s							
RJF	**Les Rejaudoux**	**2.60**	**32**	*e*Pg	**Pg**		**00 27 50.7**	**-0.3**
RJF				*e*Sn	**Sn**		**00 28 14.1**	**0.0**
RJF				*e*Sg	**Sg**		**00 28 24.6**	**-0.1**
	1.4nm,0.2s							
EMOS	**Mosqueruela**	**2.75**	**181**	Lg			00 28 26.0	
	1.3nm,0.2s,SNR=7.9							
ECHE	**Chera**	**3.55**	**187**	Lg			00 28 48.0	
	1.8nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.68**	**202**	Lg			00 27 16.2	
	4.3nm,0.4s,SNR=7.9							

*IDC **27** 00:29:49.2±1.2, 175N×12569E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=83.1km s-min=22.7km az=70.0*
*ISCJB **27** 00:29:52.5±0.7, 17N±02×1254E±05, h33km, mb3.8/7, Error ellipse: s-maj=70.3km s-min=12.8km az=134.4*
*NEIC **27** 00:29:54.4±0.6, 169N×12568E, h35km, mb4.1/2, Error ellipse: s-maj=63.4km s-min=11.2km az=67.0*

ISC 27 00:29:54.5±0.7, 17N±02×1257E±04, h35km, n10, σ0=82/10, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.13**	**159**	*e*P	**P**	**00 34 58.0**	**+0.5**
	3.6nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**23.13**	**159**	P	**P**	**00 34 57.2**	**-0.4**
	1.6nm,0.4s,mb3.9,baz=338,slow=11,SNR=8.3						
WB2	**Warramunga Arr**	**23.14**	**159**	*e*P	**P**	**00 34 57.3**	**-0.3**
ASAR	**Alice Springs**	**26.46**	**163**	P	**P**	**00 35 28.9**	**+0.7**
	0.9nm,0.4s,mb3.7,baz=344,slow=8.4,SNR=27						
STKA	**Stephens Creek**	**36.65**	**157**	P	**P**	**00 36 55.5**	**-2.2**
	0.9nm,0.5s,mb3.9,baz=334,slow=11,SNR=4.3						
TAU	**Tasmania Unive**	**48.51**	**159**	*e*P	**P**	**00 38 35.2**	**+1.3**
MKAR	**Makanchi Array**	**58.64**	**326**	P	**P**	**00 39 47.9**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=121,slow=7.2,SNR=9.7						
KURK	**Kurchatov**	**62.90**	**328**	*e*P	**P**	**00 40 17.1**	**0.0**
	0.5nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**69.16**	**327**	*e*P	**P**	**00 40 57.3**	**0.0**
ILAR	**Eielson Array**	**87.33**	**25**	P	**P**	**00 42 37.9**	**+0.2**
	0.2nm,0.7s,mb3.4,baz=250,slow=4.5,SNR=4.6						

IDC 27 01:02:25.3±1.6, 724S×3743E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/21, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=75.6km s-min=21.7km az=102.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**6.07**	**358**	Pn	Pn	01 03 57.8	+1.5
	1.3nm,0.3s,baz=181,slow=17,SNR=22						
KMBO				Sn	Sn	01 05 04.2	-2.3
	4.6nm,0.3s,baz=97,slow=20,SNR=5.8						
KMBO				Lg		01 05 37.2	
	11nm,0.3s,baz=71,slow=22,SNR=8.7						
BOSA	**Boshof**	**24.17**	**207**	P	P	01 07 43.5	+0.4
	2.0nm,1.0s,baz=35,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**66.91**	**32**	P	P	01 13 19.4	+0.1
	0.2nm,0.7s,baz=235,slow=5.1,SNR=3.0						

*ISCJB **27** 01:05:18.8±0.8, 3887N±002×929W±006, h21km±3km, Error ellipse: s-maj=8.1km s-min=3.8km az=167.6*
*MDD **27** 01:05:18.3±0.8, 3884N×940W, h5km±4km, mbLg2.3/8, Error ellipse: s-maj=6.2km s-min=3.4km az=91.0, PRXIMO MDD EMS: II-III SINTRA.*
*INMG **27** 01:05:18.9±1.1, 3885N×938W, h0km, ML2.3, Error ellipse: s-maj=4.1km s-min=1.8km az=85.0*
*IGIL **27** 01:05:19.0, 3885N×938W, h2km, ML2.4*

ISC 27 01:05:18.9±0.8, 3886N±002×930W±006, h14km±2km, n29, σ0=95/57, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.12**	**78**	*i* Pg	**Pg**	**01 05 21.8**	**-0.4**
PLOU				*e*Sg	**Sg**	**01 05 24.7**	**+0.1**
PLOU							
	414nm,0.2s						
LIS	**Lisbon**	**0.18**	**141**	*e*P	**Pg**	**01 05 22.9**	**-0.3**
LIS				*e*S	**Sg**	**01 05 25.5**	**-0.6**
LIS				*e*S	**Sg**	**01 05 25.5**	**-0.6**
LIS				AML	AML	01 05 27.4	
	comp=N,1μm,0.5s						
LIS	**Lisbon**	**0.18**	**141**	*e*P	**Pg**	**01 05 22.9**	**-0.3**
LIS				*e*S	**Sg**	**01 05 25.5**	**-0.7**
ALMR	**Almeirim**	**0.63**	**62**	*e*P	**Pg**	**01 05 31.6**	**+0.3**
ALMR				*e*S	**Sg**	**01 05 41.1**	**+1.4**
ALMR				*e*S	**Sg**	**01 05 41.1**	**+1.4**
ALMR				AML	AML	01 05 44.5	
	comp=N,132nm,0.2s						
ALMR	**Almeirim**	**0.63**	**62**	*e*P	**Pg**	**01 05 31.6**	**+0.3**
ALMR				*e*S	**Sg**	**01 05 41.1**	**+1.4**
MOE	**Montemor**	**0.81**	**114**	*e*P	**Pg**	**01 05 35.0**	**+0.3**
MOE				*e*S	**Sg**	**01 05 46.6**	**+1.2**
PTOM	**Tomar**	**1.02**	**42**	*e*P	**Pb**	**01 05 38.7**	**+0.3**
PTOM				*e*S	**Sb**	**01 05 53.4**	**+1.7**
PTOM							
	comp=N,92nm,0.2s						
PTEO	**Sao Teotonio**	**1.39**	**161**	*e*P	**Pn**	**01 05 43.9**	**0.0**
PTEO				*e*S	**Sn**	**01 06 03.2**	**+1.2**
PTEO							
	comp=N,49nm,0.6s						
PBEJ	**Beja**	**1.40**	**126**	*e*P	**Pn**	**01 05 43.9**	**-0.1**
PBEJ				*e*S	**Sn**	**01 06 04.5**	**+2.3**
PBEJ							
	comp=N,10.0nm,0.1s						
MORF	**Marmelete**	**1.63**	**162**	*e*P	**Pn**	**01 05 47.3**	**+0.1**
MORF				*e*S	**Sn**	**01 06 06.9**	**-1.1**
MORF				*e*S	**Sn**	**01 06 06.9**	**-1.1**
MORF				AML	AML	01 06 12.5	
	comp=E,22nm,0.1s						
MORF	**Marmelete**	**1.63**	**162**	*e*P	**Pn**	**01 05 47.3**	**+0.1**
MORF				*e*S	**Sn**	**01 06 06.9**	**-1.2**
PCBR	**Castelo Branco**	**1.72**	**55**	*e*Pn	**Pn**	**01 05 50.5**	**+2.1**
PCBR				*e*Sn	**Sn**	**01 06 12.8**	**+2.7**
PCBR							
	comp=E,14nm,0.1s						
EBAD	**Badajoz**	**1.79**	**93**	Pn	**Pn**	**01 05 48.9**	**-0.5**
	comp=E,0.9nm,0.1s,SNR=34						
EBAD				Pg	**Pg**	**01 05 51.5**	**-1.7**
	comp=E,3.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**01 06 11.4**	**-0.5**
	comp=E,2.8nm,0.1s,SNR=4.0						
EBAD				Lg		01 06 15.5	
	comp=E,91nm,0.2s,SNR=20						
EGRO	**El Granado**	**1.95**	**132**	Pn	**Pn**	**01 05 51.7**	**+0.2**
	comp=E,0.9nm,0.1s,SNR=8.6						
EGRO				Sn	**Sn**	**01 06 15.2**	**-0.6**
	comp=E,3.2nm,0.1s,SNR=4.0						
EGRO				Lg		01 06 22.5	
	comp=E,5.8nm,0.2s,SNR=5.3						
MTE	**Manteigas**	**2.05**	**41**	*e*Pg	**Pg**	**01 05 57.1**	**-1.1**
MTE				*e*Sg	**Sg**	**01 06 23.6**	**-1.2**
MTE							
	comp=E,16nm,0.5s						
EMIN	**Mina Concepcio**	**2.33**	**117**	Pn	**Pn**	**01 05 57.0**	**+0.1**
	comp=E,1.2nm,0.1s,SNR=19						
EMIN				Sn	**Sn**	**01 06 25.8**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=6.1						
EMIN				Lg		01 06 32.7	
	comp=E,3.8nm,0.1s,SNR=8.5						
PVRL	**Vila Real**	**2.70**	**26**	*e*Pn	**Pn**	**01 06 02.5**	**+0.6**
PVRL				*e*Sn	**Sn**	**01 06 35.0**	**+0.6**
ELOB	**Lobios**	**3.15**	**17**	Pn	**Pn**	**01 06 08.0**	**0.0**
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**01 06 44.6**	**-0.8**
	comp=E,1.0nm,0.1s,SNR=7.9						
ELOB				Lg		01 06 57.6	
	comp=E,6.9nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**3.32**	**8**	Sn	**Sn**	**01 06 48.3**	**-1.3**
	SNR=4.0						
EZAM				Lg		01 07 03.2	
	comp=E,2.5nm,0.3s,SNR=4.0						
ESPR	**Espera**	**3.37**	**125**	Pn	**Pn**	**01 06 12.0**	**+0.9**
	comp=E,0.9nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**01 06 50.5**	**-0.4**
	comp=E,5.3nm,0.2s,SNR=7.9						
ESPR				Lg		01 07 08.4	
	comp=E,7.5nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**3.53**	**33**	*e*Pn	**Pn**	**01 06 13.3**	**0.0**
PBRG				*e*Sn	**Sn**	**01 06 54.9**	**0.0**
ECAL	**Calabor**	**3.65**	**32**	Pn	**Pn**	**01 06 14.9**	**0.0**
	comp=E,0.9nm,0.1s,SNR=8.7						
ECAL				Sn	**Sn**	**01 06 57.8**	**+0.1**
	comp=E,0.8nm,0.1s,SNR=7.9						
ECAL				Lg		01 07 13.2	
	comp=E,5.1nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**3.77**	**99**	Pn	**Pn**	**01 06 16.9**	**+0.3**
	comp=E,2.9nm,0.8s,SNR=5.5						
EADA				Sn	**Sn**	**01 06 59.6**	**-1.0**
	comp=E,0.7nm,0.1s,SNR=5.0						
EADA				Lg		01 07 19.0	
	comp=E,2.7nm,0.2s,SNR=4.7						
STS	**Santiago**	**4.06**	**8**	Sn	**Sn**	**01 07 04.2**	**-3.7**
	comp=E,1.4nm,0.6s,SNR=4.0						
STS				Lg		01 07 25.7	
	comp=E,1.2nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**4.22**	**77**	Pn	**Pn**	**01 06 23.1**	**+0.3**
	comp=E,1.5nm,0.1s,baz=261,slow=13,SNR=15						
ESDC				Sn	**Sn**	**01 07 11.2**	**-0.7**
	comp=E,0.2nm,0.1s,baz=263,slow=24,SNR=3.9						
ESDC				Lg		01 07 30.6	
	comp=E,4.2nm,0.6s,baz=258,slow=28,SNR=4.3						
EMIJ	**Mijas**	**4.26**	**121**	Pn	**Pn**	**01 06 24.4**	**+1.1**
	comp=E,0.6nm,0.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**01 07 12.4**	**-0.4**
	comp=E,2.3nm,0.4s,SNR=7.9						
EMIJ				Lg		01 07 36.3	
	comp=E,3.9nm,0.5s,SNR=7.9						
EBAN	**Banos Encina**	**4.38**	**97**	Pn	**Pn**	**01 06 25.0**	**0.0**
	comp=E,0.6nm,0.2s,SNR=4.0						
EBAN				Sn	**Sn**	**01 07 14.1**	**-1.7**
	comp=E,1.2nm,0.2s,SNR=7.9						
EBAN				Lg		01 07 37.3	
	comp=E,1.8nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**4.75**	**19**	Lg		01 07 50.3	
	comp=E,1.0nm,0.3s,SNR=4.0						
EQES	**Quesada**	**5.01**	**100**	Sn	**Sn**	**01 07 29.6**	**-1.7**
	SNR=4.0						
EQES				Lg		01 07 58.1	
	comp=E,0.4nm,0.2s,SNR=4.0						

*HLW **27** 01:08:01.3, 3826N×2754E, h33km, Mb3.1*
*ATH **27** 01:08:05.7, 3786N×2739E, h18km±6km, MD3.5/6*
*CSEM **27** 01:08:05.7±0.1, 3776N×2731E, h25km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.4km az=99.0*
*NEIC **27** 01:08:05.0, 3780N×2729E, h17km, MD3.5(ATH), MD3.5(ISK), After ISK.*
*ISK **27** 01:08:05.2, 3781N×2731E, h16km, MD3.5, ML3.6*
*ISCJB **27** 01:08:06.3±0.4, 3778N±002×2737E±004, h20km±4km, mb3.8/1, Error ellipse: s-maj=4.7km s-min=3.3km az=178.2*
*IDC **27** 01:08:10.6±3.5, 3742N×2779E, h35km±35km, mb3.5/1, mb1 3.6/5, mb1mx3.3/22, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=37.7km s-min=16.3km az=122.0*

ISC 27 01:08:06.1±0.4, 3779N±002×2739E±003, h10km±3km, n65, σ1=93/82, mb3.8/1, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.41**	**108**	*i* P	**Pg**	**01 08 14.0**	**-0.1**
AYDN				*i* S	**Sg**	**01 08 19.3**	**-0.2**
SMG	**Samos**	**0.45**	**260**	⇑*i* PB	**Pg**	**01 08 15.4**	**+0.6**
MLSB	**Milas**	**0.58**	**148**	PG	**Pg**	**01 08 17.6**	**+0.3**
IZM	**Izmir**	**0.61**	**350**	PG	**Pg**	**01 08 17.1**	**-0.9**
KDAG	**Bornova**	**0.62**	**351**	*i* P	**Pg**	**01 08 17.3**	**-0.7**
KDAG				*i* S	**Sg**	**01 08 25.1**	**-1.0**
BLCB	**Balcova**	**0.66**	**335**	PG	**Pg**	**01 08 17.9**	**-0.8**
BDRM	**Kayabasi**	**0.73**	**177**	*i* P	**Pg**	**01 08 20.4**	**+0.3**
BDRM				*i* S	**Sg**	**01 08 31.0**	**+1.4**
BODT	**Bodrum**	**0.73**	**185**	PG	**Pg**	**01 08 20.0**	**-0.2**
BODT				SG	**Sg**	**01 08 31.5**	**+1.8**
URLA	**Izmir**	**0.85**	**312**	*i* P	**Pg**	**01 08 22.5**	**+0.1**
URLA				*i* S	**Sg**	**01 08 40.3**	**+6.9**
DAT	**Datca**	**1.07**	**172**	*e*PN	**Pn**	**01 08 26.4**	**-0.8**
AKS	**Akhisar**	**1.14**	**17**	PN	**Pn**	**01 08 26.4**	**-1.7**
MANT	**Manisa**	**1.15**	**52**	*i* P	**Pb**	**01 08 26.5**	**-1.6**
MANT				*i* S	**Sg**	**01 08 48.3**	**+5.1**
DENT	**Denizli**	**1.30**	**91**	*e*PN	**Pn**	**01 08 30.0**	**-0.3**
DNZL	**Cakiroluk**	**1.31**	**94**	*i* P	**Pn**	**01 08 30.2**	**-0.3**
DNZL				*i* S	**Sg**	**01 08 58.9**	**+11**
DNZL	**Cakiroluk**	**1.31**	**94**	*i* P	**Pn**	**01 08 30.2**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.42**	**135**	*e*PN	**Pn**	**01 08 32.0**	**0.0**
AYVA	**Ayvalik**	**1.61**	**340**	*i* P	**Pn**	**01 08 36.7**	**+2.1**
AYVA				*i* S	**Sg**	**01 09 07.6**	**+10**
APE	**Apeiranthos**	**1.65**	**245**	*e*PN	**Pn**	**01 08 32.7**	**-2.4**
APE	**Apeiranthos**	**1.65**	**245**	*e*PN	**Pn**	**01 08 35.9**	**+0.8**
ARG	**Arkhangelos**	**1.68**	**159**	*e*PB	**Pb**	**01 08 35.8**	**-1.3**
ARG				*e*SN	**Sn**	**01 09 01.2**	**+4.1**
PRK	**Paraskevi**	**1.70**	**329**	*e*PN	**Pn**	**01 08 35.5**	**-0.3**
PRK				*e*SN	**Sn**	**01 08 58.0**	**+0.4**
KHL	**Karahalli**	**1.76**	**72**	*e*PN	**Pn**	**01 08 36.4**	**-0.3**
FETY	**Fethiye**	**1.78**	**130**	*e*PN	**Pn**	**01 08 37.4**	**+0.5**
GOLH	**Golhisar**	**1.81**	**107**	*i* P	**Pn**	**01 08 38.4**	**+1.0**
BALB	**Balikesir**	**1.89**	**12**	*e*PN	**Pn**	**01 08 37.8**	**-0.6**
DST	**Dursunbey**	**2.05**	**28**	*e*PN	**Pn**	**01 08 39.7**	**-1.0**
EZN	**Ezine**	**2.20**	**338**	*e*PN	**Pn**	**01 08 42.1**	**-0.5**
KARP	**Karpathos**	**2.25**	**185**	*e*PN	**Pn**	**01 08 46.0**	**+2.7**
ELL	**Elmali**	**2.26**	**117**	*e*PN	**Pn**	**01 08 44.0**	**+0.5**
TKTP	**Tekketepe**	**2.33**	**83**	*i* P	**Pn**	**01 08 44.2**	**-0.3**
TKTP				*i* S	**Sg**	**01 09 25.1**	**+4.2**
ALT	**Altintas**	**2.48**	**59**	*e*PN	**Pn**	**01 08 47.6**	**+1.1**
ORLT	**Orhaneli**	**2.54**	**27**	*e*PN	**Pn**	**01 08 47.5**	**+0.1**
EDC	**Edincik**	**2.58**	**8**	*e*PN	**Pn**	**01 08 47.6**	**-0.3**
BNT	**Bandirma**	**2.59**	**9**	*e*PN	**Pn**	**01 08 47.7**	**-0.4**
ULDT	**Uludag**	**2.71**	**30**	*i* P	**Pb**	**01 08 54.7**	**0.0**
ULDT				*i* S	**Sg**	**01 09 29.8**	**-3.5**
MRMT	**Marmara Adasi**	**2.81**	**3**	*e*PN	**Pn**	**01 08 51.2**	**+0.1**
MFT	**Murefte**	**2.99**	**358**	*e*PN	**Pn**	**01 08 53.5**	**-0.1**
IZI	**Iznik**	**3.01**	**32**	*e*PN	**Pn**	**01 08 54.6**	**+0.7**
YLV	**Yalova**	**3.17**	**28**	*e*PN	**Pn**	**01 08 57.2**	**+1.2**
BORA	**Eskisehir**	**3.17**	**48**	*i* P	**Pb**	**01 09 04.2**	**+1.6**
BORA				*i* S	**Sg**	**01 09 46.8**	**-1.1**
IDI	**Anoyia**	**3.21**	**220**	Pn	**Pn**	**01 08 57.4**	**+0.9**
	0.2nm,0.3s,baz=59,slow=13,SNR=3.1						
IDI				Sn	**Sn**	**01 09 35.0**	**+0.1**
	1.2nm,0.3s,baz=95,slow=17,SNR=2.9						
IDI				Lg		01 09 54.2	
	1.5nm,0.3s,baz=139,slow=22,SNR=2.7						
ESKT	**Eskisehir**	**3.21**	**56**	*e*PN	**Pn**	**01 08 57.9**	**+1.3**
GPA	**Golpazari**	**3.37**	**41**	*e*PN	**Pn**	**01 09 00.1**	**+1.3**
HRT	**Hereke**	**3.50**	**30**	*e*PN	**Pn**	**01 09 02.1**	**+1.5**
ISK	**Istanbul-Kandi**	**3.52**	**21**	*e*PN	**Pn**	**01 09 01.2**	**+0.4**
RDO	**Rodhopi**	**3.65**	**337**	*e*PN	**Pn**	**01 09 02.8**	**+0.2**
KIZT	**Kizilcal**	**3.69**	**71**	*e*PN	**Pn**	**01 09 03.6**	**+0.4**
KONT	**Konya--Tatoy**	**3.93**	**86**	*e*PN	**Pn**	**01 09 07.7**	**+1.2**
HENT	**Hendek**	**4.07**	**41**	*i* P	**Pb**	**01 09 20.1**	**+2.2**
HENT				*i* S	**Sg**	**01 10 17.1**	**+0.4**
BR131	**Keskin Array S**	**5.25**	**66**	*e*Pn	**Pn**	**01 09 25.7**	**+1.1**
	1.8nm,0.3s						
BR131	**Keskin Array S**	**5.25**	**66**	*e*Pn	**Pn**	**01 09 25.7**	**+1.1**
	1.8nm,0.3s						
BRTR	**Keskin Array B**	**5.25**	**66**	Pn	**Pn**	**01 09 25.8**	**+1.1**
	0.9nm,0.3s,baz=246,slow=14,SNR=26						
HMAT	**Matruh**	**6.69**	**182**	‖*e*P	**Pn**	**01 09 44.4**	**0.0**
MLR	**Muntele Rosu**	**7.77**	**352**	Pn	**Pn**	**01 10 09.5**	**+10**
	0.1nm,0.3s,baz=133,slow=19,SNR=3.7						
AMAG	**Maghara**	**8.60**	**144**	⇑*e*P	**Pn**	**01 10 08.7**	**-1.9**
SWA1		**8.62**	**190**	‖*e*P	**Pn**	**01 10 11.1**	**+0.2**
SWA1				S	**Sn**	**01 11 46.2**	**-2.0**
SWA2		**8.68**	**191**	⇑*e*P	**Pn**	**01 10 11.6**	**0.0**
SUZ		**9.13**	**149**	P	**Pn**	**01 10 16.2**	**-1.6**
HNKL	**Nakhl**	**9.56**	**143**	‖P	**Pn**	**01 10 22.0**	**-1.8**
HNKL				S	**Sn**	**01 12 04.8**	**-6.5**
HFRF	**Wahat Farafira**	**10.64**	**176**	P	**Pn**	**01 10 38.1**	**-0.5**
HKAT	**Jabal Katrina**	**10.77**	**147**	P	**Pn**	**01 10 39.1**	**-1.2**
TR2		**10.77**	**149**	P	**Pn**	**01 10 39.2**	**-1.2**
TR1		**11.20**	**149**	‖P	**Pn**	**01 10 44.8**	**-1.5**
GERES	**GERESS Array B**	**14.85**	**322**	Pn	**Pn**	**01 11 44.4**	**+8.3**
	0.1nm,0.3s,baz=132,slow=11,SNR=8.0						
TORD	**Torodi Ar. Bea**	**33.56**	**230**	P	**P**	**01 14 46.8**	**+0.7**
	0.6nm,0.5s,mb3.8,baz=37,slow=8.8,SNR=19						

*NEIC **27** 01:08:54.2, 1580N×9694W, h19km, MD3.6(MEX), After MEX.*

MEX 27 01:08:54.2±0.3, 1580N×9694W, h19km±133km, MD3.6, Near coast of Oaxaca

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

CBYP	**Canovanas**	**3.10 112**⇑	*e*P	Pn	02 09 32.3	-0.1
CBYP			*e*S	Sn	02 10 07.9	-0.3
CPD	**Cerro la Pandu**	**3.15 116**⇑	*e*P	Pn	02 09 33.0	0.0
CPD			*e*S	Sn	02 10 09.0	-0.4
HUMP	**Col San Antoni**	**3.16 114**⇑	*e*P	Pn	02 09 33.0	-0.1
HUMP			*e*S	Sn	02 10 09.4	-0.2
MTP	**Monte Pirata**	**3.44 113**⇑	*e*P	Pn	02 09 36.2	-0.7
MTP			*e*S	Sn	02 10 15.9	-0.5

*NEIC **27** 02:10:51.1, 1586N×9727W, h16km, MD3.6(MEX), After MEX.*

MEX 27 02:10:50.4±0.6, 1581N×9725W, h16km±21km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.02 304**		*i* P	Pb	02 11 06.3	-3.4
PNIG				*i* S	Sb	02 11 18.3	-4.6
VHO	**Vista Hermosa**	**1.35**	**21**	*i* P	Pn	02 11 11.4	-3.1
VHO				*i* S	Sn	02 11 26.9	-5.2
OXX	**Oaxaca**	**1.36**	**22**	*i* P	Pn	02 11 10.5	-4.2
OXX				*i* S	Sn	02 11 27.0	-5.3
UTMO	**Huajuapan**	**2.08 345**		*i* P	Pn	02 11 21.5	-3.0
UTMO				*i* S	Sn	02 11 46.2	-3.9
ACX	**Acapulco**	**2.77 293**		*e*P	Pn	02 11 31.0	-3.1
MEIG	**Mezcala**	**3.09 313**		*e*P	Pn	02 11 36.3	-2.3
MEIG				*i* S	Sn	02 12 11.6	-3.6

GUC 27 02:32:21.7±0.5, 3576S×6965W, h217km±12km, MD3.1, ML3.5, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**1.59 315**⇑		*i* P	Pn	02 32 58.5	+0.8
SFDO				*i* S	S	02 33 26.1	+0.3
CACH	**El Canelo**	**1.81 334**		*i* P	Pn	02 33 00.4	+0.7
CACH				*i* S	S	02 33 29.8	+0.5
CHCH	**Chadas Angostu**	**2.00 335**		*e*P	Pn	02 33 02.2	+0.7
CHCH				*i* S	S	02 33 33.0	+0.5
PCH	**Pirque**	**2.25 341**⇓		*i* P	Pn	02 33 04.7	+0.7
PCH				*i* S	S	02 33 38.2	+1.2
TACH	**Talagante**	**2.35 333**		*e*P	Pn	02 33 05.8	+0.8
TACH				*i* S	S	02 33 39.6	+0.6
RCDM	**Rinconada Maip**	**2.45 337**		*e*P	Pn	02 33 07.1	+1.0
RCDM				*i* S	S	02 33 41.4	+0.4
RCDM				AMP		02 33 44.4	
	comp=E,110nm,0.1s						
JACH	**Jahuel**	**3.16 345**		*i* P	Pn	02 33 15.6	+1.5
JACH				*i* S	S	02 33 55.9	+0.6

MAN 27 02:51:26.3, 1719N×12140E, h28km, mb2.0, ML3.7, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.65**	**38**	*e*P	Pb	02 51 38.5	-0.6
CVP				*i* S	Sb	02 51 48.5	+0.6
APYP	**Conner**	**0.69 347**		*e*P	Pb	02 51 40.3	+0.5
ABRA	**Dolores**	**0.80 305**		*e*P	Pb	02 51 41.5	-0.1

*PRE **27** 03:00:18.9±1.4, 2106S×3335E, h5km, ML4.4*
*ISCJB **27** 03:00:27.1±1.1, 2160S±008×330E±01, h10km, mb3.8/4, MS3.2/2, Error ellipse: s-maj=18.1km s-min=8.0km az=66.2*
*IDC **27** 03:00:27.7±1.3, 2157S×3329E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/21, mbtmp3.9/5, MS3.2/3, Ms1 3.2/3, ms1mx3.0/24, Error ellipse: s-maj=37.8km s-min=27.1km az=125.0*
*NEIC **27** 03:00:29.5±1.0, 2146S×3320E, h10km, Error ellipse: s-maj=19.6km s-min=15.6km az=126.0*

ISC 27 03:00:29.5±1.0, 2158S±008×331E±01, h10km, n16, σ1§41/17, mb3.8/4, MS3.2/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.95 254**		*e*P	Px	02 54 02.9	
MSNA				*e*S	Sx	02 54 42.0	
MSNA				AML	AML	02 54 58.2	
	comp=Z,233nm,0.7s						
SLR	**Silverton**	**6.05 226**		*e*S	**Sn**	**03 03 09.1**	**+0.9**
SLR				AML	AML	03 04 05.8	
	comp=Z,98nm,0.7s						
KSR	**Koster**	**7.09 232**		*e*P	**Pn**	**03 02 10.6**	**-2.7**
LBTB	**Lobatse**	**7.69 242**		*e*P	**Pn**	**03 02 19.7**	**-1.8**
LBTB				*e*S	**Sn**	**03 03 47.0**	**-1.6**
LBTB				AML	AML	03 04 40.5	
	comp=Z,31nm,0.7s						
LBTB	**Lobatse**	**7.69 242**		*e*Pn	**Pn**	**03 02 24.7**	**+3.2**
	comp=Z,6.5nm,0.6s						
LBTB				*e*Sn	**Sn**	**03 03 52.1**	**+3.5**
LBTB				*e*		03 04 31.2	
LSZ	**Lusaka**	**7.80 323**		*e*Pn	**Pn**	**03 02 22.1**	**-1.0**
	comp=Z,20nm,0.5s						
LSZ				*e*Sn	**Sn**	**03 03 45.0**	**-6.5**
BOSA	**Boshof**	**9.97 224**		*e*P	**Pn**	**03 02 51.9**	**-0.9**
BOSA				*e*S	**Sn**	**03 04 43.8**	**-0.9**
BOSA				AML	AML	03 06 10.5	
	comp=Z,25nm,0.8s						
BOSA	**Boshof**	**9.97 224**		Pn	**Pn**	**03 02 54.6**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=59,slow=14,SNR=18						
BOSA				Sn	**Sn**	**03 04 45.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=351,slow=14,SNR=6.4						
BOSA				Lg		03 05 47.6	
	comp=Z,1.1nm,0.3s,baz=128,slow=17,SNR=7.2						
BOSA				LR	LR	03 07 00.1	
	comp=Z,104nm,19.4s,baz=147,slow=39						
TSUM	**Tsumeb**	**14.73 276**		*e*Pn	**Pn**	**03 03 58.6**	**+0.7**
	comp=Z,2.6nm,0.6s						
TSUM				*e*		03 08 16.4	
KMBO	**Kilima Mbogo**	**20.73**	**12**	LR	LR	03 13 00.9	
	comp=Z,61nm,18.5s,MS3.0,baz=57,slow=36						
TORD	**Torodi Ar. Bea**	**46.27 315**		P	**P**	**03 08 54.9**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=125,slow=5.7,SNR=8.9						
BRTR	**Keskin Array B**	**60.98**	**0**	P	**P**	**03 10 43.9**	**+0.9**
	comp=Z,0.3nm,0.8s,mb3.5,baz=208,slow=4.9,SNR=3.6						
NWAO	**Narrogin (SRO)**	**73.88 119**		LR	LR	03 39 20.3	
	comp=Z,19nm,18.7s,MS3.4,baz=1.4,slow=32						
BDFB	**Brasilia**	**76.31 258**		P	**P**	**03 12 21.4**	**+2.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=100,slow=5.0,SNR=3.7						
ASAR	**Alice Springs**	**90.81 116**		P	**P**	**03 13 32.1**	**-0.9**
	comp=Z,0.8nm,0.8s,mb4.1,baz=236,slow=3.5,SNR=6.5						
NVAR	**Mina Array Bea**	**150.24 311**		PKPbc	PKPbc	03 20 21.4	+0.7
	comp=Z,0.4nm,0.6s,baz=99,slow=2.8,SNR=3.5						

*IDC **27** 03:00:33.2±2.2, 2444N×12709E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=187.7km s-min=23.6km az=67.0*
*ISCJB **27** 03:00:36.2±1.5, 2584S×1270E±02, h33km, mb4.1/6, Error ellipse: s-maj=40.7km s-min=18.8km az=114.5*
*NEIC **27** 03:00:37.5±1.1, 2444N×12710E, h30km, mb4.1/1, Error ellipse: s-maj=31.0km s-min=13.4km az=57.0*

ISC 27 03:00:38.4±1.5, 2584S×1271E±03, h35km, n8, σ0§22/8, mb4.1/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.35 163**		*e*P	**P**	**03 05 43.9**	**+0.3**
	2.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**23.35 163**		P	**P**	**03 05 43.8**	**+0.1**
	1.0nm,0.4s,mb3.6,baz=342,slow=11,SNR=5.1						
WB2	**Warramunga Arr**	**23.36 163**		*e*P	**P**	**03 05 43.3**	**-0.5**
MBWA	**Marble Bar**	**24.55 197**		P	**P**	**03 05 54.6**	**-0.1**
	60nm,1.8s,mb4.8						
ASAR	**Alice Springs**	**26.78 166**		P	**P**	**03 06 15.2**	**+0.2**
	0.6nm,0.5s,mb3.4,baz=344,slow=8.0,SNR=12						
COCO	**West Island**	**33.42 244**		P	**P**	**03 07 13.7**	**0.0**
	7.8nm,0.5s,mb4.9						
MKAR	**Makanchi Array**	**58.82 326**		P	**P**	**03 10 33.2**	**0.0**
	0.9nm,0.5s,mb4.1,baz=122,slow=8.3,SNR=23						
MKAR	**Makanchi Array**	**58.82 326**		P	**P**	**03 10 33.2**	**0.0**

IDC 27 03:08:25.0±3.8, 3123N×8909E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/20, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=102.2km s-min=42.9km az=139.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.41 343**		Pn	Pn	03 12 13.6	-3.1
	0.2nm,0.3s,baz=148,slow=9.3,SNR=8.4						
SONM	**Songino Array**	**21.21**	**34**	P	P	03 13 12.4	+0.1
	0.5nm,0.3s,baz=215,slow=10.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**81.11 280**		P	P	03 20 42.7	+0.6
	0.1nm,0.5s,baz=47,slow=6.8,SNR=4.1						

*IDC **27** 03:17:43.9±2.0, 9075×1300E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.6/12, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=134.8km s-min=31.7km az=67.0*
*NEIC **27** 03:17:47.7±1.2, 8835×1308E, h35km, mb4.2/3, Error ellipse: s-maj=26.9km s-min=13.8km az=67.0*
*ISCJB **27** 03:17:50.1±2.7, 9045±009×1307E±01, h81km±29km, mb4.0/3, Error ellipse: s-maj=18.7km s-min=13.4km az=109.8*

ISC 27 03:17:51.5±2.1, 9085±01×1308E±01, h76km±23km, n11, σ0§66/14, mb4.0/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32 208**		*e*P	**Pn**	**03 20 16.4**	**-0.2**
	4.5nm,0.3s						
FITZ				*e*S	**Sn**	**03 22 10.4**	**-0.2**
WRAB	**Tennant Creek**	**11.41 163**		*e*Pn	**Pn**	**03 20 31.1**	**-0.4**
	13nm,1.1s						
WRAB				*e*Sn	**Sn**	**03 22 38.2**	**+1.2**
WRA	**Warramunga Arr**	**11.42 163**		Pn	**Pn**	**03 20 30.6**	**-0.9**
	0.3nm,0.3s,baz=342,slow=12,SNR=3.6						
WRA				Sn	**Sn**	**03 22 37.4**	**+0.1**
	0.4nm,0.3s,baz=348,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	**11.42 163**		*e*P	**Pn**	**03 20 32.3**	**+0.7**
ASAR	**Alice Springs**	**14.89 169**		Pn	**Pn**	**03 21 17.7**	**-0.1**
	0.2nm,0.3s,baz=338,slow=9.0,SNR=10						
MBWA	**Marble Bar**	**16.09 220**		Pn	**Pn**	**03 21 33.1**	**+0.1**
	13nm,1.1s						
STKA	**Stephens Creek**	**24.89 158**		*e*P	**P**	**03 23 05.5**	**-1.6**
NWAO	**Narrogin (SRO)**	**26.89 206**		*e*P	**P**	**03 23 25.5**	**+0.3**
	5.7nm,0.9s,mb4.1						
QIZ	**Qiongzhong**	**34.66 324**		P	**P**	**03 24 34.0**	**+0.4**
	1.4nm,0.3s,mb4.3						
MKAR	**Makanchi Array**	**70.30 327**		P	**P**	**03 28 57.2**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=119,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**70.30 327**		P	**P**	**03 28 57.2**	**+0.4**

*ISCJB **27** 03:20:52.0±1.3, 3707N±009×708E±01, h100km, Error ellipse: s-maj=15.9km s-min=10.7km az=111.1*
*NNC **27** 03:20:55.4±1.0, 3705N×7006E, h64km±54km, mb3.5, mpv4.0, Error ellipse: s-maj=36.3km s-min=8.9km az=94.0*

ISC 27 03:20:53.1±1.3, 3705N±009×708E±01, h100km, n10, σ1§17/12, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.56**	**23**	P	**Pn**	**03 22 13.5**	**+0.2**
	SNR=41						
UCH	**Uchtor**	**5.93**	**28**	P	**Pn**	**03 22 17.8**	**-0.6**
	SNR=13						
KK31	**Karatay Array**	**6.05 358**		⇓P	**Pn**	**03 22 22.3**	**+2.3**
	4.2nm,0.3s,baz=176,slow=11,SNR=113						
KK31				⇑S	**Sn**	**03 23 30.9**	**+3.2**
	1.6nm,0.3s,baz=179,slow=23,SNR=9.4						
EKS2	**Erkin-Say**	**6.07**	**22**	P	**Pn**	**03 22 20.6**	**+0.4**
	SNR=11						
KZA	**Kyzart**	**6.11**	**33**	P	**Pn**	**03 22 19.5**	**-1.2**
	SNR=7.0						
AAK	**Ala-Archa**	**6.28**	**26**	P	**Pn**	**03 22 22.8**	**-0.2**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.94**	**31**	P	**Pn**	**03 22 31.6**	**-0.6**
	SNR=9.5						
AB31	**Akbulak array**	**14.51 331**		⇓P	**Pn**	**03 24 14.0**	**+0.6**
	0.5nm,0.6s,baz=153,slow=12,SNR=8.8						
AB31				⇓S	**Sn**	**03 26 50.4**	**-2.8**
	0.5nm,0.6s,baz=149,slow=23,SNR=2.6						
AKTO	**Aktyubinsk**	**16.20 330**		⇓P	**Pn**	**03 24 34.0**	**-0.7**
	3.0nm,2.8s						
VIS	**Vishakhapatnam**	**22.22 147**		*e*P	**P**	**03 25 41.7**	**+0.4**

JMA 27 03:28:22.2±0.2, 2824N×13177E, h55km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**1.92 276**		P	Pn	03 28 53.7	+1.3
JAM				S	Sn	03 29 16.4	+1.0
JNN	**Nakanoshima**	**2.30 314**		P	Pn	03 28 58.4	+0.7
JMZ	**Minamidaito 2**	**2.46 192**		P	Pn	03 29 00.7	+0.8
JMZ				*e*S	Sn	03 29 28.8	+0.1
JTN	**Tanegashima 3**	**2.50 344**		*e*S	Sn	03 29 30.2	+0.4
JTK	**Tokunoshima**	**2.53 260**		P	Pn	03 29 01.8	+0.9
JTK				*e*S	Sn	03 29 30.4	-0.1
JTSR	**Tashiro 2**	**3.01 346**		P	Pn	03 29 09.7	+2.3
JTSR				S	Sn	03 29 41.9	-0.3
JOW	**Kunigami**	**3.41 246**		P	Pn	03 29 13.5	+0.7
JIH	**Iheya**	**3.58 251**		*e*S	Sn	03 29 55.6	-0.6
JTZ	**Takazaki**	**3.70 351**		P	Pn	03 29 18.5	+1.7
JTZ				*e*S	Sn	03 29 59.2	+0.1

*ISCJB **27** 03:41:19.8±3.8, 4534N±008×9622E±006, h30km±28km, mb4.1/15, MS3.8/3, Error ellipse: s-maj=14.1km s-min=8.9km az=36.0*
*NEIC **27** 03:41:21.5±0.5, 4494N×9616E, h30km, mb4.2/6, Error ellipse: s-maj=15.2km s-min=8.8km az=213.0*
*BJI **27** 03:41:21.3, 4464N×9697E, h25km, mb4.0*
*IDC **27** 03:41:22.3±4.6, 4404N×9602E, h42km±42km, mb3.8/9, mb1 4.0/10, mb1mx3.8/21, mbtmp4.0/10, ML4.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.5/24, Error ellipse: s-maj=43.9km s-min=16.7km az=55.0*

ISC 27 03:41:21.7±3.6, 4564N±008×9621E±006, h27km±27km, h36km±2.2km: pP-P, n26, σ1§26/27, mb4.1/15, MS3.8/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23 123**		P	**Pn**	**03 42 12.5**	**+1.9**
	18nm,0.3s,baz=308,slow=12,SNR=76						
PSI				S	**Sn**	**03 43 02.9**	**+15**
	84nm,0.3s,baz=180,slow=8.1,SNR=15						
PSI				LR	LR	03 43 13.9	
	comp=Z,298nm,18.5s,baz=284,slow=33						
KULM	**Kulim**	**4.48**	**81**	*e*Pn	**Pn**	**03 42 26.4**	**-1.4**
KULM				*e*Sn	**Sn**	**03 43 17.8**	**-1.3**
PALK	**Pallekele**	**15.66 281**		*e*Pn	**Pn**	**03 44 59.8**	**-0.6**
	19nm,1.1s						
SHL	**Shillong**	**21.29 349**		*e*P	**P**	**03 46 04.0**	**-2.1**
HYB	**Hyderabad**	**21.50 308**		*i* P	**P**	**03 46 08.5**	**+0.1**
HYB	**Hyderabad**	**21.50 308**		*e*P	**P**	**03 46 08.5**	**+0.1**
LSA	**Lhasa**	**25.45 350**		*e*P	**P**	**03 46 48.5**	**+1.2**
	7.2nm,0.7s,mb4.3						
DAV	**Davao City (W)**	**29.32**	**84**	P	**P**	**03 47 24.4**	**+2.4**
	0.1nm,0.5s						
XAN	**Xi'an**	**31.62**	**20**	P	**P**	**03 47 44.0**	**+1.7**
GTA	**Gaotai**	**34.84**	**5**	*e*P	**P**	**03 48 11.0**	**+0.6**
GTA				AP	pP	03 48 19.3	+0.9
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**43.76 346**		P	**P**	**03 49 23.9**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.4,baz=163,slow=8.5,SNR=7.9						
SONM	**Songino Array**	**43.99**	**10**	P	**P**	**03 49 27.0**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=192,slow=8.9,SNR=5.3						
SONM				LR	LR	04 10 22.8	
	comp=Z,100nm,18.6s,MS3.8,baz=39,slow=39						
WRA	**Warramunga Arr**	**44.69 124**		P	**P**	**03 49 32.0**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=10						
WRAB	**Tennant Creek**	**44.70 124**		*e*P	**P**	**03 49 32.5**	**+0.2**
	comp=Z,10nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**46.24 129**		P	**P**	**03 49 44.5**	**+0.1**
	comp=Z,5.2nm,0.9s,mb4.5,baz=303,slow=7.5,SNR=25						
KURK	**Kurchatov**	**48.31 345**		P	**P**	**03 50 00.0**	**-0.6**
	comp=Z,0.8nm,0.5s,mb4.0						
KURK				*e*pP	pP	03 50 09.7	+0.8
MJAR	**Matsushiro Arr**	**49.95**	**45**	P	**P**	**03 50 14.2**	**+1.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=244,slow=8.3,SNR=4.1						
BVAR	**Borovoye Array**	**52.77 341**		P	**P**	**03 50 34.0**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=146,slow=8.2,SNR=4.3						
ZRNK	**Zerenda**	**53.17 340**		*e*P	**P**	**03 50 38.7**	**+1.4**
	comp=Z,0.5nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**56.35 133**		P	**P**	**03 50 58.7**	**-1.6**
	comp=Z,3.6nm,0.8s,mb4.5,baz=298,slow=9.0,SNR=7.7						
STKA				LR	LR	04 19 35.5	
	comp=Z,75nm,18.1s,MS3.8,baz=204,slow=41						
STKA	**Stephens Creek**	**56.35 133**		*e*P	**P**	**03 50 58.0**	**-2.3**
STKA				*e*pP	pP	03 51 09.2	+0.4
STKA				LR	LR	04 19 35.5	
KMBO	**Kilima Mbogo**	**59.17 266**		LR	LR	04 11 03.4	
	comp=Z,92nm,22.0s,MS3.9,baz=93,slow=30						
BRTR	**Keskin Array B**	**66.14 312**		P	**P**	**03 52 04.8**	**-1.8**
	comp=Z,0.8nm,0.8s,mb3.8,baz=128,slow=7.4,SNR=6.5						
LBTB	**Lobatse**	**74.51 243**		P	**P**	**03 52 59.1**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.1						
MAW	**Mawson**	**75.75 193**		P	**P**	**03 53 02.0**	**-2.9**
	comp=Z,25nm,0.8s						
MAW				*e*pP	pP	03 53 14.1	+0.5
GERES	**GERESS Array B**	**81.65 319**		P	**P**	**03 53 37.5**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=111,slow=6.0,SNR=5.5						

*CSEM **27** 03:45:08.5±0.5, 3675N×749W, h35km, ML1.7, Error ellipse: s-maj=10.8km s-min=4.8km az=26.0*
*INMG **27** 03:45:08.7±0.9, 3658N×762W, h31km±8km, ML1.7, Error ellipse: s-maj=6.4km s-min=3.2km az=27.0*

MDD 27 03:45:07.4±1.5, 3659N×761W, h22km±20km, mbLg2.1/10, 1D, Error ellipse: s-maj=21.4km s-min=6.6km az=21.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.95**	**6**	⇓P	Pb	03 45 24.6	-0.6
	SNR=18						
EGRO				S	Sb	03 45 36.8	-0.6
	12nm,0.1s,SNR=7.2						
EGRO	**El Granado**	**0.95**	**6**	P	Pb	03 45 24.6	-0.6
	5.6nm,0.1s,SNR=18						
EGRO				S	Sb	03 45 36.8	-0.6
	12nm,0.1s,SNR=7.2						
PTEO	**Sao Teotonio**	**1.31 317**		*e*P	Pn	03 45 29.3	-1.1
PTEO				*e*S	Sn	03 45 44.8	-2.4
EMIN	**Mina Concepcio**	**1.40**	**32**	P	Pn	03 45 30.3	-1.2
	1.1nm,0.1s,SNR=16						
EMIN				S	Sn	03 45 47.4	-1.8
	1.8nm,0.1s						
EMIN	**Mina Concepcio**	**1.40**	**32**	P	Pn	03 45 30.3	-1.2
	1.1nm,0.1s,SNR=16						
EMIN				S	Sn	03 45 47.4	-1.8
	1.8nm,0.1s						
ESPR	**Espera**	**1.43**	**78**	P	Pn	03 45 31.2	-0.8
	0.5nm,0.1s,SNR=4.7						
ESPR				S	Sn	03 45 48.7	-1.5
	10nm,0.3s						
ESPR	**Espera**	**1.43**	**78**	P	Pn	03 45 31.2	-0.8
	0.5nm,0.1s,SNR=4.7						
ESPR				S	Sn	03 45 48.7	-1.5
	10nm,0.3s						
PBEJ	**Beja**	**1.45 352**		*e*P	Pn	03 45 31.3	-1.0
PBEJ				*e*S	Sn	03 45 48.7	-2.0
PBEJ							
	4.3nm,0.1s						
PBEJ	**Beja**	**1.45 352**		*e*P	Pn	03 45 31.3	-1.0
PBEJ				*e*S	Sn	03 45 48.7	-2.0
	4.3nm,0.1s						
MOE	**Montemor**	**2.02 343**		*e*S	Sn	03 46 03.4	-1.3
EBAD	**Badajoz**	**2.22**	**12**	P	Pn	03 45 41.7	-1.1
	0.9nm,0.1s,SNR=15						
EBAD				S	Sn	03 46 08.4	-1.1
	1.1nm,0.1s,SNR=4.7						
EBAD	**Badajoz**	**2.22**	**12**	P	Pn	03 45 41.7	-1.1
	0.9nm,0.1s,SNR=15						
PLOU	**Loures**	**2.60 332**		*e*S	Sn	03 46 17.1	-1.9
EADA	**Adamuz**	**2.88**	**56**	P	Pn	03 45 51.5	-0.5
	0.2nm,0.0s,SNR=8.1						
EADA				S	Sn	03 46 22.9	-3.1
	0.8nm,0.1s						
EADA	**Adamuz**	**2.88**	**56**	P	Pn	03 45 51.5	-0.5
	0.2nm,0.0s,SNR=8.1						
EADA				S	Sn	03 46 22.9	-3.1
	0.8nm,0.1s						
PTOM	**Tomar**	**3.09 348**		*e*P	Pn	03 45 54.2	-0.7
PTOM				*e*S	Sn	03 46 29.1	-2.1
PTOM							
	2.7nm,0.1s						
PTOM	**Tomar**	**3.09 348**		*e*P	Pn	03 45 54.2	-0.7
PTOM				*e*S	Sn	03 46 29.1	-2.1
	2.7nm,0.1s						
PCBR	**Castelo Branco**	**3.25**	**2**	*e*P	Pn	03 45 56.1	-0.9
PCBR				*e*S	Sn	03 46 32.4	-2.6
EBAN	**Banos Encina**	**3.43**	**61**	P	Pn	03 45 58.3	-1.2
	0.8nm,0.1s,SNR=7.9						
EBAN				S	Sn	03 46 35.2	-4.2
	1.0nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.81**	**1**	*e*P	Pn	03 46 03.6	-1.1
MTE				*e*S	Sn	03 46 45.6	-3.2
EQES	**Quesada**	**3.82**	**70**	P	Pn	03 46 03.7	-1.1
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	03 46 46.7	-2.4
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.82**	**70**	P	Pn	03 46 03.7	-1.1
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	03 46 46.9	-2.1
	1.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.21**	**42**	P	Pn	03 46 09.3	-0.9
	2.9nm,0.1s,baz=226,slow=13,SNR=8.9						
ESDC				S	Sn	03 46 54.2	-4.5
	0.7nm,0.2s,baz=226,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.21**	**42**	P	Pn	03 46 09.3	-1.0
	2.9nm,0.1s,SNR=8.9						
ESDC				S	Sn	03 46 54.2	-4.6
	0.7nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.68 359**		*e*P	Pn	03 46 15.5	-1.2
ETOB	**Tobarra**	**5.23**	**65**	P	Pn	03 46 23.9	-0.3
	0.4nm,0.2s,SNR=7.9						
ETOB				S	Sn	03 47 19.8	-4.1
	1.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.23**	**65**	P	Pn	03 46 23.9	-0.3
	0.4nm,0.2s,SNR=7.9						
ETOB				S	Sn	03 47 19.8	-4.0
	1.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.29 356**		P	Pn	03 46 23.5	-1.5
	1.3nm,0.2s,SNR=7.9						
ELOB				S	Sn	03 47 21.6	-3.6
	1.0nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.29 356**		P

LDFC	Landfair	21.03	337	eP	P	03 59 11.7	+1.5
MIAR	Mount Ida	21.25	27	eP	P	03 59 12.2	-0.4
11nm,1.1s,mb4.1							
NEN	Nelson	21.44	338	eP	P	03 59 15.7	+1.0
PV10	Paradox Valley	22.60	352	eP	P	03 59 25.4	-1.6
OXF	Oxford	23.29	35	eP	P	03 59 34.0	-0.2
54nm,1.1s,mb4.9							
NVAR	Mina Array Bea	25.20	335	P	P	03 59 52.6	+0.7
1.9nm,1.1s,mb3.5,baz=163,slow=5.6,SNR=4.9							
OTAV	Otavalo	30.64	118	eP	P	04 00 44.0	+3.6
5.7nm,1.3s,mb4.2							
ROSC	El Rosal	32.22	107	LR	LR	04 13 09.7	
comp=Z,82nm,18.2s,MS3.5,baz=7.6,slow=35							
NEW	Newport	33.70	346	P	P	04 01 08.7	+1.4
2.3nm,0.8s,mb4.2,baz=172,slow=5.5,SNR=4.8							
SJG	San Juan	37.32	81	P	P	04 01 39.3	+0.9
31nm,1.4s,mb5.0							
NNA	Nana	39.44	133	P	P	04 01 52.6	-3.7
29nm,1.4s,mb4.8							
FCC	Fort Churchill	43.53	8	eP	P	04 02 26.9	-2.8
2.5nm,0.8s,mb4.0							
YKA	Yellowknife Ar	46.97	354	P	P	04 02 55.4	-1.5
0.7nm,0.7s,mb3.7,baz=166,slow=7.4,SNR=14							
YKA				LR	LR	04 21 39.4	
comp=Z,156nm,20.1s,MS4.0,baz=120,slow=35							
YKA	Yellowknife Ar	46.97	354	P	P	04 02 55.4	-1.6
YKA				LR	LR	04 21 39.4	
SAML	Samuel	48.37	118	eP	P	04 03 07.5	-0.4
3.9nm,1.0s,mb4.4							
LPAZ	La Paz	48.59	130	P	P	04 03 11.2	+1.6
1.1nm,0.8s,mb3.9,baz=254,slow=7.4,SNR=3.8							
LPAZ				LR	LR	04 21 21.4	
comp=Z,151nm,19.2s,MS4.0,baz=126,slow=33							
LPAZ	La Paz	48.59	130	eP	P	04 03 10.8	+1.3
LPAZ				e		04 03 27.4	
LPAZ				LR	LR	04 21 21.4	
ILAR	Eielson Array	56.33	340	P	P	04 04 05.6	-1.3
1.7nm,0.8s,mb4.1,baz=149,slow=6.2,SNR=12							
BDFB	Brasilia	64.56	116	P	P	04 05 04.6	+1.5
2.5nm,0.8s,mb4.3,baz=282,slow=7.7,SNR=3.9							
BDFB				LR	LR	04 32 24.1	
comp=Z,136nm,18.4s,MS4.2,baz=159,slow=35							
PMSA	Palmer Station	86.34	164	eP	P	04 07 05.7	-2.2
15nm,0.6s,mb5.4							
HFS	Hagfors	89.77	26	LR	LR	04 49 52.6	
comp=Z,148nm,18.5s,MS4.5,baz=71,slow=37							
FINES	FINESS Array B	93.75	21	LR	LR	04 48 09.2	
comp=Z,124nm,18.1s,MS4.4,baz=349,slow=34							
SNAA	Sanae	108.90	161	PKPdf	PKiKP	04 12 54.3	-0.9
WRA	Warramunga Arr	123.49	256	PKP	PKPdf	04 13 22.5	-0.6
1.3nm,0.7s,baz=83,slow=2.2,SNR=12							
ASAR	Alice Springs	124.22	252	PKP	PKPdf	04 13 24.4	-0.1
0.5nm,0.6s,baz=90,slow=1.6,SNR=6.3							

*ISCJB **27** 03:57:27.3±0.9, 1091N±005×6241W±004, h99km±8km, Error ellipse: s-maj=8.2km s-min=5.6km az=137.9*
*FUNV **27** 03:57:27.1, 1104N×6229W, h95km, MW3.0*
*TRN **27** 03:57:28.8, 1090N×6238W, h89km, MD3.2*

ISC 27 03:57:28.1±0.9, 1092N±005×6241W±004, h94km±9km, n13, σ0991/24, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.32	146	eP	Pn	03 57 41.9	-0.2
GUIV				eS	Sn	03 57 51.9	-0.6
ITEV	Isla Los Testi	0.84	301	eP	Pn	03 57 45.3	-1.0
ITEV				i S	Sn	03 57 59.0	-0.9
CRUV	Carupano	0.85	254	⇓i P	Pn	03 57 46.8	+0.4
CRUV				eS	Sn	03 58 00.9	+0.7
GUNV	Guanoco	0.92	215	eP	Pn	03 57 47.9	+0.8
GUNV				eS	Sn	03 58 03.0	+1.5
TRN	Trinidad (W)	1.02	105	⇑eP	Pn	03 57 48.6	+0.3
TRN				eS	Sn	03 58 01.6	-1.8
TBH	Brigand Hill	1.38	108	eP	Pn	03 57 53.0	+0.5
TBH				eS	Sn	03 58 12.4	+1.3
GRW	Mount Saint Ca	1.43	30	eP	Pn	03 57 54.9	+1.7
GRSS	Sisters	1.58	29	eP	Pn	03 57 55.1	+0.1
GRSS				eS	Sn	03 58 16.0	+0.6
TPR	Prospect	1.62	80	eP	Pn	03 57 55.7	+0.2
TPR				eS	Sn	03 58 15.0	-1.4
BOT	Bacolet	1.67	81	eP	Pn	03 57 56.1	-0.1
BOT				eS	Sn	03 58 17.4	-0.2
GRCU	Cariacou	1.80	31	eP	Pn	03 57 58.2	+0.3
GRCU				eS	Sn	03 58 20.7	+0.1
GURV	El Guri	3.21	192	eP	Pn	03 58 16.0	-0.5
BAUV	El Baul	5.89	251	eP	Pn	03 58 51.5	-1.3
BAUV				eS	Sn	03 59 54.9	-4.0

*CNRM **27** 04:09:39.4, 3491N×4.14W, h3km, MD3.4*
*NEIC **27** 04:09:40.4, 3481N×387W, h16km, MG3.6(MDD), After MDD.*
*INMG **27** 04:09:40.7±1.3, 3495N×391W, h0km, ML2.5, Error ellipse: s-maj=6.6km s-min=5.2km az=167.0*
*SFS **27** 04:09:40.0, 3481N×387W, h16km, ML3.5*
*ISCJB **27** 04:09:41.2±0.6, 3504N±004×405W±003, h15km±8km, Error ellipse: s-maj=7.1km s-min=4.2km az=139.5*
*CSEM **27** 04:09:41.5±0.2, 3505N×388W, h10km, MD3.4, Error ellipse: s-maj=4.9km s-min=3.9km az=59.0*
*MDD **27** 04:09:42.1±0.7, 3502N×401W, h0km, mb3.6/16, Error ellipse: s-maj=7.7km s-min=3.0km az=30.0, PRXIMO*
*IGIL **27** 04:09:45.6, 3530N×4.10W, h0km, ML2.4*

ISC 27 04:09:42.3±0.6, 3504N±003×397W±003, h15km±4km, n73, σ1937/130, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.19	8	i P	Pg	04 09 46.5	-0.3
TOU	Touzarine	0.20	113	P	Pg	04 09 46.0	-0.9
TOU				S	Sg	04 09 49.0	-1.1
TOU	Touzarine	0.20	113	i P	Pg	04 09 46.0	-0.9
EMEL	Melilla	0.87	72	P	Pb	04 09 56.2	-2.9
137nm,0.1s,SNR=4.0							
EMEL				S	Sb	04 10 10.4	-0.1
307nm,0.1s,SNR=4.0							
EMLI	Melilla	0.88	72	P	Pb	04 09 56.2	-3.0
137nm,0.1s,SNR=4.0							
EMLI				S	Sb	04 10 10.4	-0.3
307nm,0.1s,SNR=4.0							
MELI	Melilla	0.89	73	P	Pb	04 09 59.7	+0.3
MELI				S	Sb	04 10 11.9	+0.8
MELI	Melilla	0.89	73	eP	Pb	04 09 59.7	+0.3
MELI				eS	Sb	04 10 11.9	+0.9
ZAI	Zaio	1.01	94	i P	Pb	04 10 01.0	-0.5
ZAI				i S	Sb	04 10 16.0	+1.5
TAF	Taforalt	1.30	99	P	Pn	04 10 02.0	-3.9
TAF				S	Sb	04 10 20.0	-2.9
EMIJ	Mijas	1.66	337	P	Pn	04 10 09.3	-1.4
1.5nm,0.1s,SNR=18							
EMIJ				S	Sn	04 10 28.8	-2.9
30nm,0.3s,SNR=4.8							
IFR	Ifrane	1.79	213	P	Pn	04 10 14.0	+1.3
IFR				S	Sn	04 10 36.0	+0.8
EGUA	Guajares	1.82	10	S	Sn	04 10 35.6	-0.2
1.9nm,0.3s,SNR=7.9							
EGUA	Guajares	1.82	10	P	Pn	04 10 12.8	-0.3
EGUA				S	Sn	04 10 35.7	-0.1
EGUA	Guajares	1.82	10	P	Pn	04 10 12.8	-0.3
EGUA				S	Sn	04 10 35.7	-0.1
EJIF	Jimena Fronter	1.86	320	P	Pn	04 10 14.2	+0.6
1.4nm,0.2s,SNR=8.6							
EJIF				S	Sn	04 10 38.3	+1.5
9.5nm,0.5s							
ERON	Agron	1.98	4	P	Pn	04 10 16.6	+1.3
3.7nm,0.2s,SNR=4.0							
ERON				S	Sn	04 10 41.9	+2.2
8.9nm,0.4s,SNR=7.9							
EBER	Berja	2.05	25	P	Pn	04 10 15.8	-0.4
2.4nm,0.2s,SNR=7.9							
EBER				S	Sn	04 10 40.0	-1.5
24nm,0.4s,SNR=4.7							
EBER	Berja	2.05	25	P	Pn	04 10 15.8	-0.4
2.4nm,0.2s,SNR=7.9							
EBER				S	Sn	04 10 40.0	-1.5
24nm,0.4s,SNR=4.7							
ELOJ	Sierra Loja	2.11	356	P	Pn	04 10 17.1	+0.1
3.5nm,0.2s,SNR=7.9							
ELOJ				S	Sn	04 10 45.1	+2.1
5.6nm,0.3s,SNR=5.1							
EQUE	Quentar	2.20	11	P	Pn	04 10 18.9	+0.6
2.4nm,0.2s,SNR=7.9							
EQUE				S	Sn	04 10 45.5	+0.2
2.1nm,0.2s,SNR=4.0							
ECOG	Cogollos-Vega	2.26	8	P	Pn	04 10 20.4	+1.3
4.2nm,0.3s,SNR=6.6							
ECOG				S	Sn	04 10 47.1	+0.5
5.0nm,0.3s							
ESPR	Espera	2.38	321	P	Pn	04 10 21.1	+0.4
1.1nm,0.2s,SNR=6.3							
ESPR				S	Sn	04 10 50.9	+1.2
13nm,0.4s,SNR=4.0							
ESPR	Espera	2.38	321	P	Pn	04 10 21.1	+0.4
1.1nm,0.2s,SNR=6.3							
ESPR				S	Sn	04 10 50.9	+1.3
13nm,0.4s,SNR=4.0							
ENIJ	Nijar	2.40	36	P	Pn	04 10 22.5	+1.5
2.3nm,0.3s,SNR=7.9							
ENIJ				S	Sn	04 10 49.6	-0.5
6.6nm,0.3s,SNR=7.9							
ENIJ	Nijar	2.40	36	P	Pn	04 10 19.3	-1.7
2.3nm,0.3s,SNR=7.9							
ENIJ				S	Sn	04 10 48.2	-2.0
6.6nm,0.3s,SNR=7.9							
ENIJ	Nijar	2.40	36	P	Pn	04 10 19.3	-1.8
ENIJ				S	Sn	04 10 48.2	-2.0
ELUQ	Luque	2.53	355	P	Pn	04 10 24.1	+1.4
6.1nm,0.2s,SNR=4.0							
ELUQ				S	Sn	04 10 54.6	+1.4
5.4nm,0.2s,SNR=7.9							
ELUQ	Luque	2.53	355	P	Pn	04 10 24.1	+1.3
6.1nm,0.2s,SNR=4.0							
ELUQ				S	Sn	04 10 56.2	+2.9
5.4nm,0.2s,SNR=7.9							
ELUQ	Luque	2.53	355	P	Pn	04 10 24.1	+1.4
ELUQ				S	Sn	04 10 56.2	+3.0
EQES	Quesada	2.85	15	P	Pn	04 10 28.9	+1.6
2.3nm,0.2s,SNR=7.9							
EQES				S	Sn	04 11 02.1	+0.9
11nm,0.3s,SNR=5.4							
EQES	Quesada	2.85	15	P	Pn	04 10 28.9	+1.7
2.3nm,0.2s,SNR=7.9							
EQES				S	Sn	04 11 02.1	+0.8
11nm,0.3s,SNR=5.4							
KIB	El Ksiba	3.00	216	P	Pn	04 10 23.0	-6.2
KIB				S	Sn	04 10 57.0	-7.9
EBAN	Banos Encina	3.12	3	P	Pn	04 10 32.2	+1.3
1.0nm,0.1s,SNR=4.0							
EBAN				S	Sn	04 11 07.5	-0.4
5.4nm,0.4s,SNR=4.0							
EADA	Adamuz	3.16	351	P	Pn	04 10 32.4	+1.0
1.2nm,0.2s,SNR=7.9							
EADA				S	Sn	04 11 10.1	+1.2
12nm,0.3s,SNR=12							
EADA	Adamuz	3.16	351	P	Pn	04 10 32.4	+0.9
1.2nm,0.2s,SNR=7.9							
EADA				S	Sn	04 11 10.1	+1.2
12nm,0.3s,SNR=12							
AVE	Averroes	3.34	240	P	Pn	04 10 32.0	-1.9
EMIN	Mina Concepcio	3.49	322	P	Pn	04 10 35.1	-0.8
2.0nm,0.1s,SNR=7.9							
EMIN				S	Sn	04 11 14.3	-2.6
1.3nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	3.49	322	P	Pn	04 10 35.1	-0.9
2.0nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	3.49	322	P	Pn	04 10 35.1	-0.8
EMIN				S	Sn	04 11 14.3	-2.6
EMUR	La Murta	3.56	37	P	Pn	04 10 39.1	+2.2
SNR=7.9							
EMUR				S	Sn	04 11 16.9	-1.8
3.2nm,0.3s,SNR=7.9							
EMUR	La Murta	3.56	37	S	Sn	04 11 16.9	-1.9
3.2nm,0.3s,SNR=7.9							
EGRO	El Granado	3.77	312	P	Pn	04 10 39.2	-0.7
0.3nm,0.2s,SNR=7.9							
EGRO				S	Sn	04 11 21.5	-2.5
4.2nm,0.2s,SNR=4.8							
EGRO	El Granado	3.77	312	P	Pn	04 10 39.2	-0.7
0.3nm,0.2s,SNR=7.9							
EGRO	El Granado	3.77	312	P	Pn	04 10 39.2	-0.7
EGRO				S	Sn	04 11 21.1	-2.9
ETOB	Tobarra	4.09	28	P	Pn	04 10 46.7	+2.5
0.9nm,0.2s,SNR=5.3							
ETOB				S	Sn	04 11 31.4	-0.4
1.9nm,0.3s							
ETOB	Tobarra	4.09	28	P	Pn	04 10 46.7	+2.4
0.9nm,0.2s,SNR=5.3							
ETOB				S	Sn	04 11 31.4	-0.4
1.9nm,0.3s							
PBEJ	Beja	4.33	315	ePn	Pn	04 10 48.4	+0.9
PBEJ				eSn	Sn	04 11 34.9	-2.7
MORF	Marmelete	4.41	302	eP	Pn	04 10 48.6	0.0
MORF				eS	Sn	04 11 35.2	-4.5
MORF				eS	Sn	04 11 35.2	-4.5
MORF				AML	AML	04 11 42.2	
comp=N,8.4nm,0.3s							
MORF	Marmelete	4.41	302	eP	Pn	04 10 48.6	0.0
MORF				eS	Sn	04 11 35.2	-4.5
EBAD	Badajoz	4.44	328	P	Pn	04 10 48.5	-0.5
comp=N,3.6nm,0.2s,SNR=7.9							
EBAD				S	Sn	04 11 38.0	-2.4
comp=N,7.1nm,0.2s,SNR=4.5							
EBAD	Badajoz	4.44	328	P	Pn	04 10 48.5	-0.5
comp=N,3.6nm,0.2s,SNR=7.9							
PTEO	Sao Teotonio	4.58	304	ePn	Pn	04 10 52.1	+1.1
PTEO				eSn	Sn	04 11 42.3	-1.6
PTEO							
comp=N,5.9nm,0.6s							
PTEO	Sao Teotonio	4.58	304	ePn	Pn	04 10 52.1	+1.1
PTEO				eSn	Sn	04 11 42.3	-1.6
ESDC	Sonseca Array	4.63	0	P	Pn	04 10 52.4	+0.7
comp=N,1.1nm,0.1s,baz=180,slow=12,SNR=10							
ESDC				S	Sn	04 11 44.8	-0.3
baz=179,slow=23,SNR=7.9							
ESDC	Sonseca Array	4.63	0	P	Pn	04 10 52.4	+0.8
comp=N,1.1nm,0.1s,SNR=10							
ESDC				S	Sn	04 11 44.8	-0.3
ESLA	Sonseca Array	4.63	0	ePn	Pn	04 10 52.8	+1.2
ESLA	Sonseca Array	4.63	0	ePn	Pn	04 10 52.8	+1.2
ESLA				eSn	Sn	04 11 46.6	+1.5
MOE	Montemor	4.94	316	eSn	Sn	04 11 51.5	-1.3
ECHE	Chera	5.14	27	S	Sn	04 11 55.0	-2.6
comp=N,1.1nm,0.2s,SNR=4.0							
PCBR	Castelo Branco	5.54	331	ePn	Pn	04 11 04.6	+0.4
PCBR				eSn	Sn	04 12 03.5	-4.2
PCBR	Castelo Branco	5.54	331	eSn	Sn	04 12 03.5	-4.2
PTOM	Tomar	5.78	324	ePn	Pn	04 11 08.3	+0.9
MTE	Manteigas	6.05	333	ePn	Pn	04 11 11.5	+0.3
MTE				eSn	Sn	04 12 17.9	-2.3
MTE							
comp=N,4.8nm,0.6s							
MTE	Manteigas	6.05	333	ePn	Pn	04 11 11.3	+0.1
comp=N,5.2nm,0.7s							
MTE	Manteigas	6.05	333	ePn	Pn	04 11 11.3	0.0
comp=N,5.2nm,0.7s							
MTE				eSn	Sn	04 12 18.6	-1.6
PVRL	Vila Real	6.89	336	ePn	Pn	04 11 23.3	+0.6
PVRL				eSn	Sn	04 12 37.2	-3.6
PVRL							
comp=N,4.7nm,0.3s							
PBRG	Braganca	7.09	343	ePn	Pn	04 11 26.4	+0.9
ECAL	Calabor	7.22	343	P	Pn	04 11 28.0	+0.7
comp=N,1.2nm,0.2s,SNR=5.7							
ECAL				S	Sn	04 12 46.1	-3.0
comp=N,2.8nm,0.3s							
ECAL	Calabor	7.22	343	P	Pn	04 11 28.0	+0.7
ECAL	Calabor	7.22	343	P	Pn	04 11 28.0	+0.7
ECAL				S	Sn	04 12 46.6	-2.4
PCAB	Cabril	7.38	336	ePn	Pn	04 11 30.1	+0.6
PCAB				eSn	Sn	04 12 49.0	-3.9
ELOB	Lobios	7.53	336	P	Pn	04 11 32.3	+0.8
comp=N,0.3nm,0.2s,SNR=4.0							
ELOB				S	Sn	04 12 53.0	-3.7
comp=N,4.7nm,0.3s,SNR=7.9							
ELOB	Lobios	7.53	336	P	Pn	04 11 32.3	+0.8

*NEIC **27** 04:29:11.3, 3578S×17956E, h33km, ML4.0(WEL), After WEL.*

WEL 27 04:29:10.3±0.4, 3606S×17983W, h33km, ML3.9/4, Error ellipse: s-maj=8.2km s-min=6.6km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.12	224	PN	Pn	04 29 42.7	-0.7
MXZ				SN	Sn	04 30 07.4	-1.2
MXZ	Matakaoa Point	2.12	224	P	Pn	04 29 43.2	-0.2
MXZ				S	Sn	04 30 07.5	-1.1
PUZ	Puketiti	2.53	217	PN	Pn	04 29 49.1	+0.1
PUZ	Puketiti	2.53	217	P	Pn	04 29 49.2	+0.2
MWZ	Matawai	3.10	222	PN	Pn	04 29 56.5	-0.4
MWZ				SN	Sn	04 30 30.6	-2.1
MWZ	Matawai	3.10	222	eP	Pn	04 29 56.6	-0.3
MWZ				S	Sn	04 30 32.0	-0.8
URZ	Urewera	3.29	227	PN	Pn	04 29 58.7	-0.7
URZ	Urewera	3.29	227	eP	Pn	04 29 59.1	-0.3
KNZ	Kokohu	3.56	213	ePN	Pn	04 30 02.4	-0.8
TCW	Tory Channel	6.91	220	SN	Sn	04 32 00.8	-5.9
MQZ	McQueen's Vall	9.57	215	SN	Sn	04 33 00.7	-11

IDC 27 04:31:45.1±3.5, 610S×12957E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, ML4.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.1/10, Error ellipse: s-maj=313.9km s-min=32.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.52	162	Pn	Pn	04 35 10.5	-1.4
0.7nm,0.3s,baz=340,slow=14,SNR=8.9							
WRA				Sn	Sn	04 37 36.8	-17
0.2nm,0.3s,baz=352,slow=23,SNR=5.7							
ASAR	Alice Springs	17.96	167	P	Pn	04 35 57.4	+1.2
0.5nm,0.3s,baz=345,slow=9.8,SNR=16							
JNU	Nakatsue	39.02	2	LR	LR	04 53 56.0	
comp=Z,368nm,21.0s,baz=360,slow=34							
MKAR	Makanchi Array	67.24	327	P	P	04 42 41.4	+0.2
0.2nm,0.4s,baz=116,slow=7.8,SNR=4.4							

*NAO **27** 04:33:51.4, 3678N×1577E, h33km, mb3.6*
*MOS **27** 04:34:00.0±0.8, 3821N×1513E, h10km, mb4.4/8, Error ellipse: s-maj=5.2km s-min=3.7km az=57.6*
*ROM **27** 04:34:01.8±0.2, 3816N×1520E, h9km±2km, Md3.8/8, Ml4.1/22, Error ellipse: s-maj=1.6km s-min=1.5km az=171.0*
*CSEM **27** 04:34:01.3, 3812N×1524E, h10km, ML4.5*
*NEIC **27** 04:34:01.8, 3816N×1520E, h9km, mb4.4/4, ML4.1(ROM), ML4.6(THE), After ROM.*
*LDG **27** 04:34:01.5±0.2, 3811N×1526E, h10km, Ml3.5/4, Error ellipse: s-maj=5.4km s-min=4.8km az=7.0*
*ISCJB **27** 04:34:02.1±0.2, 3819N±001×1523E±002, h26km±2km, mb4.0/21, Error ellipse: s-maj=2.4km s-min=2.3km az=105.5*
*PDG **27** 04:34:02.8±0.8, 3814N×1532E, h23km±1km*
*IDC **27** 04:34:04.3±1.7, 3821N×1509E, h31km±15km, mb3.8/12, mb1 3.9/17, mb1mx3.8/26, mbtmp3.9/17, ML3.9/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/40, Error ellipse: s-maj=19.4km s-min=12.2km az=110.0*
*THE **27** 04:34:06.0, 3823N×1541E, h23km, ML4.4*

ISC 27 04:34:02.4±0.2, 3814N±001×1519E±002, h16km±1km, n207, σ1920/254, mb4.0/21, 36C-9D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPNC	Port Mandanici	0.13	88		Pg	04 34 05.7	-0.5
MMME	Mongiuffi-Meli	0.21	165	⇑i Pg	Pg	04 34 06.7	-0.6
MMME				Sg	Sg	04 34 09.8	-0.9
ATN	Antennamare	0.22	85	⇓i Pg	Pg	04 34 07.3	-0.2
MSRU	Castanea	0.28	64	⇑eP Pg	Pg	04 34 08.4	-0.1
MSRU				Sg	Sg	04 34 13.5	+0.9
185μm,0.3s							
VPL	Vulcano Piano	0.28	326	⇑i Pg	Pg	04 34 08.5	0.0
VPL				Sg	Sg	04 34 13.2	+0.5
98μm,0.5s							
MSI	Messina ING	0.30	78	⇑i Pg	Pg	04 34 08.5	-0.2
IVLT	Vulcano Lentia	0.32	324		Pg	04 34 08.9	-0.1
EPOL	Con Chiusa Pol	0.32	209		Pg	04 34 09.3	+0.2
LLI	Lipari	0.36	328	⇑i Pg	Pg	04 34 09.8	0.0
LLI				Sg	Sg	04 34 15.5	+0.8
123μm,0.6s							
MRCB	Reggio Calabri	0.41	87		Pg	04 34 09.5	-1.2
EPZF	Pizzo Felice	0.41	219		Pg	04 34 10.8	+0.1
MTTG	Motta San Giov	0.42	109	⇑i Pg	Pg	04 34 10.7	-0.3
SCLL	Scilla	0.43	74	⇑i Pg	Pg	04 34 10.7	-0.4
MNO	Monte Soro	0.44	242	⇓i Pg	Pg	04 34 11.0	-0.3
ECZM	Case Zampini	0.47	209		Pg	04 34 12.5	+0.8
ESLN	Serra La Nave	0.48	201	Pg	Pg	04 34 12.6	+0.7
11μm,0.6s							
ESCV	Scorciavacca	0.49	216		Pg	04 34 13.0	+0.7
SLNA	Salina	0.50	327	⇑i Pg	Pg	04 34 12.4	0.0
IFIL	Filicudi I Eol	0.64	311	⇑eP Pg	Pg	04 34 14.3	-0.7
IFIL				Sg	Sg	04 34 24.3	+0.7
124μm,0.7s							
SOI	Samo	0.69	95	⇑i Pg	Pg	04 34 15.0	-0.9
HAGA	Augusta	0.85	182		Pb	04 34 18.0	-0.8
AGST	Augusta-Monte	0.88	178	⇑i Pg	Pg	04 34 18.7	-0.8
AGST				Sg	Sg	04 34 32.4	+1.2
VAE	Valguarnera	0.90	223	Pg	Pg	04 34 22.0	+2.1
60nm,0.3s,baz=191,slow=2.0,SNR=123							
VAE				LR	LR	04 34 34.6	
comp=Z,3μm,20.7s,baz=99,slow=32							
VAE	Valguarnera	0.90	223	Pg	Pg	04 34 22.0	+2.1
VAE				LR	LR	04 34 34.6	
CSLB	Castelbuono	0.91	257	⇑i Pg	Pg	04 34 18.6	-1.5
GIB	Gibilmanna	0.93	261	⇑eP Pg	Pg	04 34 18.9	-1.5
GIB				Sg	Sg	04 34 32.2	-0.4
13μm,0.5s							
SSY	Sortino	0.99	185	⇑eP Pg	Pg	04 34 20.3	-1.3
SSY				Sg	Sg	04 34 35.2	+0.7
HVZN	Vizzini	1.03	201	⇑eP Pg	Pg	04 34 21.3	-1.0
8μm,0.6s							
PLAC	Placanica	1.03	72	Pg	Pg	04 34 21.2	-1.2
3μm,0.6s							
RAFF	Raffo Rosso	1.13	216	Pg	Pg	04 34 23.5	-0.6
HAVL	Avola	1.18	182	⇑eP Pg	Pg	04 34 23.5	-1.7
HAVL				Sg	Sg	04 34 40.9	+0.3
7μm,0.5s							
GRI	Girifalco	1.18	55	Pg	Pg	04 34 23.1	-2.1
11μm,1.1s							
HMDC	Modica	1.22	195	⇑eP Pg	Pg	04 34 24.1	-1.9
HMDC				Sg	Sg	04 34 41.7	-0.3
4μm,0.5s							
MCT	Mte Cammarata	1.33	248	⇑eP Pg	Pg	04 34 28.8	+0.8
MPG	Monte Pellegri	1.44	271	Pg	Pn	04 34 26.5	-1.2
197nm,0.1s							
FAVR	Favara	1.49	235	⇑eP Pg	Pg

MS1	Monte Sant'Ang	3.61	9	*e*Pn		Pn	04 34 58.0 +0.5
FGMS	Monte Sant'Ang	3.61	9	Pg		Pn	04 34 57.5 -0.1
	134nm,0.6s						
CII	Carovilli	3.64	350	Pg		Pn	04 34 58.7 +0.7
	105nm,0.8s						
FRES	Fresagrandinar	3.85	354	Pg		Pn	04 35 03.2 +2.4
	440nm,1.4s						
KEK	Kerkira	3.92	65	*e*P		Pn	04 35 02.4 +0.5
IGT	Igoumenitsa	4.25	69	*e*Pn		Pn	04 35 06.8 +0.4
IGT				*e*Sn		Sn	04 35 55.0 -0.6
VLS	Valsamata	4.26	88	*e*P		Pn	04 35 06.5 0.0
AQU	L'Aquila	4.42	343	Pg		Pn	04 35 11.2 +2.5
AQU	L'Aquila	4.42	343	*e*Pn		Pn	04 35 09.3 +0.6
AQU	L'Aquila	4.42	343	*e*Pn		Pn	04 35 09.3 +0.6
AQU				Pg		Pn	04 35 11.2 +2.5
JAN	Janina	4.67	69	*e*P		Pn	04 35 13.5 +1.3
CGL	Cagliari Serpe	4.76	287	Pg		Pn	04 35 11.4 -2.0
TIR	Tirane	4.82	47	*e*Pn		Pn	04 35 14.0 -0.2
TIR				*e*Sn		Sn	04 36 08.7 -1.0
DGI	Dorgali Grotta	4.85	298	Pg		Pn	04 35 12.1 -2.5
ULC	Ulcinj	4.93	38	⇑*i*Pn		Pn	04 35 16.5 +0.8
ULC				*e*Sn		Sn	04 36 11.2 -1.2
NRCA	Norcia	4.95	342	Pg		Pn	04 35 18.4 +2.5
	17nm,0.8s						
MEV	Metsovon	4.99	69	*e*Pn		Pn	04 35 18.7 +2.2
MEV				*e*Sn		Sn	04 36 14.3 +0.5
HCY	Herceg Novi	4.99	29	⇑*i*Pn		Pn	04 35 16.4 -0.2
HCY				*e*Sn		Sn	04 36 12.8 -1.1
BUM	Brajici-Budva	5.03	33	⇑*i*Pn		Pn	04 35 17.2 +0.1
BUM				*e*Sn		Sn	04 36 13.9 -1.0
STON	Ston	5.10	21	*i*Pn		Pn	04 35 16.7 -1.3
STON				*i*Sn		Sn	04 36 13.5 -3.0
EVR	Evrytania	5.25	79	*e*P		Pn	04 35 23.2 +3.1
OHR	Ohrid	5.25	54	*e*Pn		Pn	04 35 17.6 -2.5
TTG	Podgorica	5.30	35	⇑*i*Pn		Pn	04 35 20.5 -0.2
TTG				*e*Sn		Sn	04 36 20.3 -1.1
BRY	Bratogost	5.40	27	⇑*i*Pn		Pn	04 35 22.0 -0.1
BRY				*e*Sn		Sn	04 36 22.5 -1.4
ITM	Ithomi	5.43	98	*e*P		Pn	04 35 23.9 +1.3
CING	Cingoli	5.44	345	Pg		Pn	04 35 25.5 +2.8
FNA	Florina	5.47	59	*e*Pn		Pn	04 35 24.0 +0.9
FNA				*e*Sn		Sn	04 36 26.1 +0.4
NKY	Niksic	5.50	31	⇓*i*Pn		Pn	04 35 23.2 -0.3
NKY				*e*Sn		Sn	04 36 24.6 -1.7
BIA	Bitola	5.54	57	*e*Pn		Pn	04 35 26.4 +2.3
BIA				*e*Sn		Sn	04 36 24.8 -2.8
BIA	Bitola	5.54	57	*e*Pn		Pn	04 35 26.0 +1.9
KZN	Kozani	5.55	65	*e*P		Pn	04 35 26.8 +2.6
BCI	Bajram Curri	5.63	40	*i*Sg		Sb	04 36 49.8 +2.3
AGG	Agios Georgios	5.67	79	*e*Pn		Pn	04 35 28.4 +2.5
AGG				*e*Sn		Sn	04 36 29.4 -1.1
PVY	Plav	5.76	38	⇓*i*Pn		Pn	04 35 27.4 +0.3
PVY				*e*Sn		Sn	04 36 31.1 -1.7
UPM	Unac-Piva	5.79	28	*e*Pn		Pn	04 35 28.6 +1.0
UPM				*e*Sn		Sn	04 36 31.8 -1.9
IVA	Berane	5.93	36	⇓*i*Pn		Pn	04 35 30.4 +0.9
IVA				*e*Sn		Sn	04 36 35.6 -1.5
LIT	Litokhoron	6.01	69	*e*Pn		Pn	04 35 31.2 +0.7
LIT				*e*Sn		Sn	04 36 38.3 -0.6
PLE	Pljevlja	6.09	30	⇑*i*Pn		Pn	04 35 32.1 +0.5
PLE				*e*Sn		Sn	04 36 38.8 -2.1
LKR	Lokris	6.16	83	*e*P		Pn	04 35 34.5 +1.9
GRG	Griva	6.25	61	*e*Pn		Pn	04 35 35.5 +1.8
GRG	Griva	6.25	61	*e*Pn		Pn	04 35 35.5 +1.7
VLI	Veliai	6.33	101	*e*P		Pn	04 35 37.5 +2.6
NEO	Neokhori	6.39	77	*e*P		Pn	04 35 37.5 +1.7
STIP	Stip	6.45	54	*e*Pn		Pn	04 35 37.3 +0.8
PGF	Pioggiola	6.46	315	*e*Pn		Pn	04 35 36.8 +0.1
PGF				*e*Sn		Sn	04 36 45.5 -4.5
	14nm,0.6s						
VAY	Valandovo	6.52	59	*e*Pn		Pn	04 35 37.5 0.0
KNT	Kendrikon	6.67	61	*e*Pn		Pn	04 35 39.5 -0.1
KNT				*e*Sn		Sn	04 36 53.7 -1.6
PLG	Polygyros	6.79	68	*e*P		Pn	04 35 41.1 -0.1
PAIG	Paliouri	6.85	72	*e*Pn		Pn	04 35 43.4 +1.3
PAIG				*e*Sn		Sn	04 36 55.0 -4.6
SOH	Sokhos	6.86	64	*e*Pn		Pn	04 35 42.7 +0.4
SOH				*e*Sn		Sn	04 37 00.7 +0.8
AOS	Alonnisos	6.88	79	*e*Pn		Pn	04 35 44.1 +1.6
AOS				*e*Sn		Sn	04 37 00.1 -0.3
DIVS	Divcibare	6.97	30	*i*Pn		Pn	04 35 44.0 +0.3
DIVS	Divcibare	6.97	30	*e*Pn		Pn	04 35 43.9 +0.2
DIVS				*e*Sn		Sn	04 36 59.8 -2.8
KKB	Krupnik	7.11	56	P		Pn	04 35 47.0 +1.3
SRS	Serrai	7.14	63	*e*Pn		Pn	04 35 47.1 +1.1
SRS				*e*Sn		Sn	04 37 05.9 -0.8
OUR	Ouranopolis	7.17	69	*e*Pn		Pn	04 35 47.3 +0.8
OUR				*e*Sn		Sn	04 37 06.6 -0.9
BOJS	Bojanci	7.36	0	*e*Pn		Pn	04 35 50.9 +1.9
BOJS				*e*Sn		Sn	04 37 11.6 -0.5
KNDS	Knezji Dol	7.41	356	*e*Pn		Pn	04 35 51.0 +1.3
KNDS				*e*Sn		Sn	04 37 13.4 +0.1
MMB	Musomiste	7.42	60	P		Pn	04 35 51.0 +1.1
KARN	Karanos	7.52	109	*e*Pn		Pn	04 35 52.8 +1.5
KARN				*e*Sn		Sn	04 37 15.1 -1.1
SBF	Sospel	8.18	317	*e*Pn		Pn	04 35 59.3 -1.1
SBF				*e*Sn		Sn	04 37 26.5 -6.0
	5.2nm,0.3s						
ROBS	Robic	8.19	352	*e*Pn		Pn	04 36 00.5 0.0
ROBS				*e*Sn		Sn	04 37 33.0 +0.3
APE	Apeiranthos	8.28	94	P		Pn	04 36 03.6 +1.9
APE	Apeiranthos	8.28	94	⇓P		Pn	04 36 03.6 +1.8
IDI	Anoyia	8.30	107	Pn		Pn	04 36 02.2 +0.3
	2.0nm,0.3s,baz=288,slow=12,SNR=11						
IDI				Sn		Sn	04 37 31.2 -4.1
	11nm,0.3s,baz=31,slow=20,SNR=19						
OBKA	Obir	8.38	357	⇓*i*Pn		Pn	04 36 04.0 +0.9
OBKA				⇑*i*Sn		Sn	04 37 39.4 +2.2
LMR	La Mourre	8.38	311	*e*Pn		Pn	04 36 01.3 -1.8
LMR				*e*Sn		Sn	04 37 31.1 -6.2
	1.0nm,0.2s						
FRF	La Foret Royal	8.43	313	*e*Pn		Pn	04 36 02.5 -1.3
FRF				*e*Sn		Sn	04 37 32.3 -6.3
	2.1nm,0.4s						
BZS	Buzias	8.87	31	P		Pn	04 36 09.3 -0.5
BZS	Buzias	8.87	31	⇑P		Pn	04 36 09.3 -0.6
KBA	Koelnbreinsper	9.03	352	⇑Sn		Sn	04 37 56.5 +3.1
KBA				⇓			04 37 59.3
KBA	Koelnbreinsper	9.03	352	⇑*i*Pn		Pn	04 36 13.9 +1.8
KBA				⇑*i*Sn		Sn	04 37 56.9 +3.1
MBDF	Montbardon	9.12	319	*e*Pn		Pn	04 36 14.9 +1.7
SMRF	Simiane la Rot	9.31	312	*e*Pn		Pn	04 36 16.0 +0.2
BNI	Bardonecchia	9.39	320	*e*Pn		Pn	04 36 19.1 +2.2
	22nm,1.1s						
BNI	Bardonecchia	9.39	320	*e*P		Pn	04 36 19.1 +2.2
BNI				pmax	pmax		
	comp=Z,22nm,1.1s						
BNI	Bardonecchia	9.39	320	*e*Pn		Pn	04 36 19.1 +2.2
	comp=Z,22nm,1.1s						
DAVOX	Davos	9.48	337	Pn		Pn	04 36 21.5 +3.3
	comp=Z,0.2nm,0.3s,baz=165,slow=14,SNR=7.1						
DAVOX				LR		LR	04 40 12.8
	comp=Z,301nm,21.1s,baz=145,slow=39						
LPG	La Plagne	9.67	322	*e*Pn		Pn	04 36 20.0 -0.8
LPL	La Plagne	9.70	322	*e*Pn		Pn	04 36 20.6 -0.5
ORIF	Oris-en-Rattie	9.72	317	*e*Pn		Pn	04 36 22.6 +1.2
MOA	Molln	9.73	356	⇑*i*Pn		Pn	04 36 22.8 +1.3
VOIR		10.36	42	P		Pn	04 36 32.6 +2.4
LASF	Ste Croix	10.40	308	*e*Pn		Pn	04 36 27.7 -3.0
GERES	GERESS Array B	10.75	355	Pn		Pn	04 36 35.0 -0.6
	comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=8.3						
GERES				Sn		Sn	04 38 30.6 -5.0
	comp=Z,0.1nm,0.3s,baz=161,slow=25,SNR=2.8						
GERES				LR		LR	04 40 44.5
	comp=Z,113nm,18.6s,baz=339,slow=38						
GERES	GERESS Array B	10.75	355	P		Pn	04 36 35.0 -0.6
GERES							04 38 30.6
CABF	La Chapelle	10.81	324	*e*P		Pn	04 36 39.9 +3.6
MLR	Muntele Rosu	10.87	44	Pn		Pn	04 36 39.5 +2.2
	comp=Z,0.6nm,0.3s,baz=243,slow=9.0,SNR=4.4						
MLR	Muntele Rosu	10.87	44	P		Pn	04 36 39.5 +2.3
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	10.87	44	⇑P		Pn	04 36 39.0 +1.8
KHC	Kasperske Hory	11.05	354	*e*P		Pn	04 36 39.0 -0.6
KHC				x		x	04 36 51.0
MTLF	Montolieu	11.12	302	*e*Pn		Pn	04 36 37.2 -3.4
BURAR	Bucovina Array	11.98	35	⇑P		Pn	04 37 00.1 +7.7
MOX	Moxa	12.76	350	*e*(P)		Pn	04 37 03.3 +0.3
	comp=Z,16nm,1.4s						
MOX							
	comp=Z,200nm,21.0s						
BRG	Berggiesshubel	12.76	356	*e*(P)		Pn	04 37 10.5 +7.5
	comp=Z,9.3nm,1.7s						
BRG				*e*			04 37 17.4
	comp=Z,22nm,1.9s						
BRG							
	comp=N,139nm,19.0s						
BRG							
	comp=E,270nm,18.5s						
BRG							
	comp=Z,234nm,20.8s						
BRG	Berggiesshubel	12.76	356	P		Pn	04 37 10.5 +7.5
	comp=Z,9.3nm,1.7s						
BRG				*e*			04 37 17.4
BR131	Keskin Array S	14.45	78	Pn		Pn	04 37 24.7 -1.5
	comp=Z,1.9nm,0.9s						
BRTR	Keskin Array B	14.45	78	Pn		Pn	04 37 27.1 +0.9
	comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=3.6						
CSS	Prodhromos	14.93	97	Pn		Pn	04 37 33.7 +1.1
	comp=Z,9.8nm,0.8s						
CSS	Prodhromos	14.93	97	Pn		Pn	04 37 33.7 +1.1
	comp=Z,9.8nm,0.8s						
AKASG	Malin Array Be	16.03	34	Pn		Pn	04 37 46.6 -0.4
	comp=Z,1.0nm,0.3s,baz=228,slow=11,SNR=13						
QUIF	Quistinic	16.56	312	*e*P		Pn	04 37 56.3 +2.5
MDT	Midelt	16.97	258	LR		LR	04 44 14.2
	comp=Z,128nm,19.8s,baz=158,slow=36						
EIL	Elat	18.43	111	*e*P		Pn	04 38 14.8 -2.3
	comp=Z,932nm,1.5s						
EKA	Eskdalemuir Ar	21.19	330	P		P	04 38 47.1 +0.1
	comp=Z,3.3nm,0.8s,mb3.7,baz=146,slow=12,SNR=7.1						
VRSR	Storozhevoye	21.38	45	*e*P		P	04 38 48.4 -0.7
	comp=Z,2.0nm,0.8s,mb3.5						
VRSR	Storozhevoye	21.38	45	*e*P		P	04 38 48.4 -0.7
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.6s						
KIV	Kislovodsk	21.48	66	*e*P		P	04 38 56.2 +6.0
KIV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.2						
HFS	Hagfors	22.03	358	P		P	04 38 54.9 -1.1
	comp=Z,7.2nm,0.8s,mb4.2,baz=178,slow=10,SNR=9.9						
GNI	Garni	22.97	76	*e*P		P	04 39 05.0 -1.0
	comp=Z,15nm,1.2s,mb4.3						
GNI	Garni	22.97	76	*e*P		P	04 39 05.0 -1.0
GNI				pmax	pmax		
	comp=Z,15nm,1.2s						
GNI	Garni	22.97	76	*e*Pn		P	04 39 05.0 -1.0
	comp=Z,15nm,1.2s,mb4.3						
NB2	NORSAR Subarra	23.06	355	P		P	04 39 06.3 -0.6
	comp=Z,1.4nm,0.7s,mb3.5,baz=171,slow=10						
NOA	NORSAR Array B	23.06	355	P		P	04 39 06.0 -0.9
	comp=Z,4.8nm,1.0s,mb3.9,baz=171,slow=10,SNR=5.9						
FINES	FINESS Array B	24.30	13	P		P	04 39 17.6 -1.2
	comp=Z,3.1nm,0.6s,mb3.9,baz=181,slow=9.0,SNR=13						
FINES	FINESS Array B	24.30	13	P		P	04 39 17.6 -1.3
KAF	Kangasniemi	24.96	12	*e*p		P	04 39 23.1 -1.9
TORD	Torodi Ar. Bea	27.64	209	P		P	04 39 49.8 +0.6
	comp=Z,2.1nm,1.1s,mb3.7,baz=25,slow=5.0,SNR=7.3						
ARCES	ARCESS Array B	31.94	7	P		P	04 40 25.9 -1.4
	comp=Z,2.9nm,1.0s,mb4.1,baz=182,slow=8.1,SNR=4.2						
AKTK	Aktyubinsk	32.58	54	P		P	04 40 32.8 -0.1
	comp=Z,3.0nm,0.6s,mb4.4						
AKTO	Aktyubinsk	32.58	54	P		P	04 40 32.8 -0.1
	comp=Z,2.6nm,0.6s,mb4.3,baz=276,slow=11,SNR=7.6						
AKTO	Aktyubinsk	32.58	54	P		P	04 40 32.8 -0.1
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
AB31	Akbulak array	33.75	56	*i*P		P	04 40 43.0 -0.1
	comp=Z,2.0nm,0.8s,mb4.1						
AB31	Akbulak array	33.75	56	*i*P		P	04 40 43.0 -0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	Zerenda	39.53	50	*e*P		P	04 41 32.1 -0.2
	comp=Z,3.3nm,0.9s,mb4.1						
ZRNK	Zerenda	39.53	50	*e*P		P	04 41 32.1 -0.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ZRNK	Zerenda	39.53	50	*e*P		P	04 41 32.1 -0.2
	comp=Z,3.3nm,0.9s,mb4.1						
ZRNK				*e*PP	PP		04 42 58.6 -4.5
BVAR	Borovoye Array	40.36	50	P		P	04 41 39.3 +0.1
	comp=Z,2.0nm,0.7s,mb4.0,baz=251,slow=4.5,SNR=11						
KKAR	Karatay Array	41.64	65	*i*P		P	04 41 50.2 +0.4
	comp=Z,4.0nm,1.0s,mb4.0						
KKAR	Karatay Array	41.64	65	*i*P		P	04 41 50.2 +0.4
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
AAK	Ala-Archa	44.60	65	*e*P		P	04 42 13.1 -0.6
	comp=Z,2.8nm,0.6s,mb4.3						
AAK	Ala-Archa	44.60	65	*e*P		P	04 42 13.1 -0.6
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
AAK	Ala-Archa	44.60	65	*e*P		P	04 42 13.1 -0.6
	comp=Z,2.9nm,0.6s,mb4.3						
KURK	Kurchatov	45.66	53	*e*P		P	04 42 22.0 -0.1
	comp=Z,6.4nm,1.2s,mb4.4						
KURK	Kurchatov	45.66	53	*e*P		P	04 42 22.0 -0.1
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
KURK	Kurchatov	45.66	53	*e*P		P	04 42 22.0 -0.1
	comp=Z,6.4nm,1.2s,mb4.4						
MKAR	Makanchi Array	48.88	57	P		P	04 42 46.8 -0.4
	comp=Z,1.0nm,0.3s,mb4.3,baz=284,slow=6.3,SNR=33						
MKAR	Makanchi Array	48.88	57	P		P	04 42 46.8 -0.4
MKAR	Makanchi Array	48.88	57	P		P	04 42 46.8 -0.4
SONM	Songino Array	63.69	49	P		P	04 44 32.3 -0.5
	comp=Z,0.9nm,0.9s,mb3.8,baz=292,slow=7.8,SNR=5.3						
BOSA	Boshof	67.07	170	P		P	04 44 55.8 +1.0
	comp=Z,2.6nm,0.7s,mb4.4,baz=259,slow=21,SNR=2.3						
YKA	Yellowknife Ar	71.92	338	P		P	04 45 23.1 -1.6
	comp=Z,0.2nm,0.6s,mb3.2,baz=43,slow=5.7,SNR=4.5						
MAT	Matsushiro	88.94	42	P		P	04 46 56.2 +0.2
MAT				S			04 47 26.0
MAT	Matsushiro	88.94	42	P		P	04 46 56.0 0.0
MAT				*e*S			04 47 26.0
WRA	Warramunga Arr	124.74	89	PKP		PKPdf	04 53 00.5 -0.7
	comp=Z,0.4nm,0.8s,baz=313,slow=1.5,SNR=4.6						
ASAR	Alice Springs	126.36	93	PKP		PKPdf	04 53 04.2 -0.1
	comp=Z,0.4nm,0.5s,baz=332,slow=2.7,SNR=5.9						

*ISCJB **27** 04:44:20.4±0.4, 4440N±002×677E±004, h12km±4km, Error ellipse: s-maj=5.6km s-min=3.0km az=126.2*
*LDG **27** 04:44:21.5±0.1, 4441N×677E, h3km, Md2.3/1, Ml2.0/5, Error ellipse: s-maj=1.3km s-min=0.7km az=66.0*
*STR **27** 04:44:21.4±0.5, 4439N×678E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 27 04:44:21.1±0.4, 4440N±002×677E±004, h13km±4km, n15, σ0°48/29, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.08	21	Pg	Pg	04 44 23.8	0.0
SURF				Sg	Sg	04 44 25.4	-0.4
MBDF	Montbardon	0.32	0	*e*Pg	Pg	04 44 27.9	+0.2
MBDF				*e*Sg	Sg	04 44 32.2	+0.1
	15nm,0.2s						
MVIF	Mont Vial	0.58	151	Pg	Pg	04 44 32.3	-0.1
MVIF				Sg	Sg	04 44 39.0	-1.0
AUTN	L'Aution	0.62	131	Pg	Pg	04 44 33.7	+0.4
AUTN				Sg	Sg	04 44 41.7	+0.2
SAOF	Saorge	0.70	126	Pg	Pg	04 44 34.9	+0.2
SAOF				Sg	Sg	04 44 43.8	-0.1
SBF	Sospel	0.72	138	*e*Pg	Pg	04 44 35.4	+0.3
SBF				*e*Sg	Sg	04 44 44.8	+0.2
	12nm,0.3s						
ORIF	Oris-en-Rattie	0.82	309	*e*Pg	Pg	04 44 37.0	+0.1
ORIF				*e*Sg	Sg	04 44 47.8	+0.2
	3.8nm,0.2s						
FRF	La Foret Royal	0.85	186	*e*Pg	Pg	04 44 37.7	+0.2
FRF				*e*Sg	Sg	04 44 48.9	+0.3
	8.0nm,0.2s						
SMRF	Simiane la Rot	0.96	244	*e*Pn	Pn	04 44 41.0	+0.7
SMRF				*e*Sn	Sn	04 44 54.5	+0.6
	5.3nm,0.3s						
LMR	La Mourre	1.09	190	*e*Pn	Pn	04 44 41.7	-0.3
LMR	La Mourre	1.09	190	*e*Pg	Pg	04 44 42.7	+0.7
LMR				*e*Sg	Sg	04 44 56.2	0.0
	11nm,0.2s						
LPG	La Plagne	1.09	359	*e*Pg	Pg	04 44 42.2	0.0
LPG				*e*Sg	Sg	04 44 56.6	+0.2
	2.3nm,0.2s						
LPL	La Plagne	1.11	359	*e*Pg	Pg	04 44 42.6	+0.1
LPL				*e*Sg	Sg	04 44 57.2	+0.2
	2.0nm,0.3s						
VIVF	Saint-Julien-l	1.56	288	*e*Pg	Pg	04 44 50.6	-0.5
VIVF				*e*Sg	Sg	04 45 10.1	-1.4
	2.4nm,0.3s						
PGF	Pioggiola	2.46	138	*e*Pn	Pn	04 45 00.9	-0.1
PGF				*e*Sn	Sn	04 45 29.8	-1.2

*NIED **27** 04:47:00, 3350N×13260E, h41km, Mw3.7 Best double couple: M0:3.40000×10^14 NP1:φ=240.00000°, δ77.00000°, λ-85.00000°. NP2:φ=40.00000°, δ14.00000°, λ-110.00000°.*

JMA 27 04:47:04.3, 3349N×13258E, h41km, M3.6, 3C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	Nagahama	0.11	308	⇓P	Pn	04 47 11.0	-0.1
JNA				S	Sn	04 47 15.6	-0.2
UWA2	Uwa jima 2	0.28	172	⇑P	Pn	04 47 12.1	-0.3
UWA2				S	Sn	04 47 17.8	-0.2
JKU	Kubokawa	0.44	114	⇑P	Pn	04 47 14.2	-0.1
JKU				S	Sn	04 47 21.5	+0.1
JET	Tanbara	0.49	53	⇓P	Pn	04 47 14.7	-0.2
JET				S	Sn	04 47 22.3	0.0
JHM	Kurahashi	0.65	356	⇓P	Pn	04 47 17.1	0.0
JHM				S	Sn	04 47 26.5	+0.3
JTO	Tosashimizu	0.66	163	⇑P	Pn	04 47 17.1	0.0
JTO				*e*S	Sn	04 47 26.8	+0.5

MEX 27 04:55:27.7±1.2, 1434N×9238W, h22km±66km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.95	7	*i*P	Pn	04 55 56.7	-2.8
CCIG				*i*S	Sn	04 56 19.5	-3.7
SCX	San Cristobal	2.40	354	*e*P	Pn	04 56 05.0	-0.6
SCX				*i*S	Sn	04 56 32.0	-2.3
CMIG	Matias Romero	3.65	319	*e*P	Pn	04 56 19.9	-3.0
CMIG				*i*S	Sn	04 57 01.1	-4.1

BJI 27 04:56:27.3, 4455N×12393E, h14km, ML3.5, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	Changchun	1.32	124	*e*PG	Pg	04 56 48.0	-4.8
CN2				*e*SG	Sg	04 57 03.0	-7.0
CN2				Smax			
	comp=N,100nm,0.6s						
CN2				Smax			
	comp=E,100nm,0.6s						
SNY	Shenyang	2.73	186	⇑PG	Pg	04 57 16.0	-3.7
SNY				SG	Sg	04 57 53.0	-2.1
SNY				Smax			
	comp=N,70nm,0.9s						
SNY				Smax			
	comp=E,80nm,0.9s						
MDJ	Mudanjiang	4.05	87	PG	Pg	04 57 34.5	-10
MDJ				SG	Sg	04 58 24.3	-13
MDJ				Smax			
	comp=N,43nm,1.1s						
MDJ				Smax			
	comp=E,49nm,0.8s						

IDC 27 04:59:45.0±2.8, 265N×12870E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=209.3km s-min=26.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.12	166	P	P	05 04 51.0	-1.6
	0.2nm,0.4s,baz=342,slow=9.2,SNR=5.6						
ASAR	Alice Springs	26.64	169	P	P	05 05 25.0	-0.3
	0.5nm,0.4s,baz=346,slow=12,SNR=9.2						
MKAR	Makanchi Array	59.56	325	P	P	05 09 52.2	+2.0
	0.2nm,0.3s,baz=125,slow=8.2,SNR=4.3						

*IDC **27** 04:59:57.1±2.8, 1600N×10553W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.8/5, ML3.1/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/22, Error ellipse: s-maj=125.1km s-min=27.3km az=60.0*
*ISCJB **27** 05:00:01.0±1.0, 159N±0.1×1053W±02, h33km, mb4.2/9, MS4.0/10, Error ellipse: s-maj=25.0km s-min=9.3km az=118.5*
*NEIC **27** 05:00:02.8±0.8, 1593N×10529W, h35km, mb4.3/11, Error ellipse: s-maj=20.3km s-min=8.6km az=63.0*

ISC 27 05:00:03.6±1.0, 160N±01×1053W±02, h35km, n38, σ1°24/24, mb4.2/9, MS4.0/10, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTX	Lajitas	13.38	6	*e*Pn	Pn	05 03 11.6	+0.7
	16nm,1.2s						
JCT	Junction City	15.29	18	*e*Pn	Pn	05 03 37.2	+0.6
	50nm,1.3s						
MNTX	Cornudas Mount	15.66	360	*e*Pn	Pn	05 03 44.8	+3.2
	9.

GERES	GERESS Array B	95.88	36	P		P	05 13 27.3	+0.7
	0.3nm,0.7s,mb3.9,baz=284,slow=4.0,SNR=4.1							
GERES				LR		LR	05 58 33.0	
	comp=Z,88nm,18.4s,MS4.3,baz=101,slow=37							
MAW	Mawson	127.83	174	PKPdf		PKPdf	05 19 04.6	-0.8
LBTB	Lobatse	133.30	109	*e*PKPdf		PKPdf	05 19 15.8	0.0
LBTB				*e*PP		PP	05 21 44.6	+1.5

CASC 27 05:11:59.1±1.9, 1319N×9001W, h63km±86km, MD3.5, 4C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.75	30⇑	*e*P		Pn		05 12 14.4	+0.3
SBLS				*e*S		Sn		05 12 26.4	+1.3
SNJE	San Jose	0.78	30	*e*P		Pn		05 12 15.2	+0.7
RTR	El Retiro	0.79	26	*e*P		Pn		05 12 15.0	+0.4
RTR				*e*S		Sn		05 12 28.0	+2.0
BOQS	Boqueron	0.89	52⇓	*e*P		Pn		05 12 16.7	+0.9
BOQS				*e*S		Sn		05 12 29.8	+1.6
SNET	Serv Nac Est T	0.90	56	*e*P		Pn		05 12 16.1	+0.1
SNET				*e*S		Sn		05 12 30.1	+1.6
LFRS	El Faro	1.02	65⇑	*e*P		Pn		05 12 17.6	+0.2
LFRS				*e*S		Sn		05 12 31.4	+0.3
LFU	La Fuente	1.03	57⇑	*e*P		Pn		05 12 18.7	+1.0
LFU				*e*S		Sn		05 12 31.9	+0.5
IXG	Ixpaco	1.08	336	*e*P		Pn		05 12 18.3	0.0
LBRS	Las Brisas	1.08	59⇓	*e*P		Pn		05 12 19.0	+0.6
LBRS				*e*S		Sn		05 12 33.8	+1.2
LCBS	La Ceiba	1.10	65⇑	*e*P		Pn		05 12 18.9	+0.3
LCBS				*e*S		Sn		05 12 33.7	+0.6
SNVI	San Vicente	1.21	69	*e*P		Pn		05 12 20.5	+0.5
SNVI				*e*S		Sn		05 12 37.1	+1.5
MTO2	Montecristo 2	1.36	27⇓	*e*P		Pn		05 12 24.6	+2.6
MTO2				*e*S		Sn		05 12 43.2	+4.1

*ISCJB **27** 05:15:37.9±1.7, 0.1N±03×131E±, h33km, mb4.1/7, MS3.4/1, Error ellipse: s-maj=156.9km s-min=11.2km az=144.2*
*IDC **27** 05:15:37.3±1.8, 032S×129.28E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/15, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=157.7km s-min=21.8km az=71.0*
*NEIC **27** 05:15:40.4±1.4, 0.11N×130.87E, h35km, mb4.1/4, Error ellipse: s-maj=133.0km s-min=9.4km az=72.0*
ISC 27 05:15:40.3±1.6, 02N±03×1311E±10, h35km, n12, σ0°83/14, mb4.1/7, MS3.4/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	20.28	171	*e*P			P	05 20 13.2	+0.5
	5.4nm,0.8s								
WRAB				*e*S			S	05 24 00.8	+2.5
WRA	Warramunga Arr	20.29	171	P			P	05 20 12.1	-0.8
	0.9nm,0.5s,baz=348,slow=12,SNR=16								
WRA				S			S	05 23 45.3	-13
	0.6nm,0.9s,baz=346,slow=24,SNR=5.4								
WRA	Warramunga Arr	20.29	171	P			P	05 20 12.1	-0.8
WRA				S			S	05 23 45.3	-13
WB2	Warramunga Arr	20.29	171	*e*P			P	05 20 12.8	-0.1
ASAR	Alice Springs	23.90	174	P			P	05 20 50.9	+0.2
	4.3nm,0.6s,mb4.0,baz=350,slow=9.4,SNR=42								
CTA	Charters Tower	25.04	145	LR			LR	05 32 35.8	
	comp=Z,110nm,18.9s,MS3.4,baz=231,slow=40								
STKA	Stephens Creek	33.43	164	P			P	05 22 14.9	-0.7
	1.7nm,0.6s,mb4.1,baz=326,slow=11,SNR=4.9								
SONM	Songino Array	52.06	339	P			P	05 24 47.6	+1.1
	0.3nm,0.3s,mb3.7,baz=152,slow=6.5,SNR=2.9								
MKAR	Makanchi Array	62.93	324	P			P	05 26 01.6	-1.4
	1.2nm,0.6s,mb4.2,baz=117,slow=8.9,SNR=13								
KURK	Kurchatov	67.05	327	*e*P			P	05 26 30.2	+0.4
	2.6nm,0.8s,mb4.3								
BRVK	Borovoye	72.71	326	*e*P			P	05 27 05.3	+0.7
	1.3nm,0.8s,mb3.9								
ZRNK	Zerenda	73.38	326	*e*P			P	05 27 08.1	-0.5
	2.4nm,0.8s,mb4.2								

MAN 27 05:22:01.6, 1268N×12313E, h24km, mb3.6, ML4.7, MS1.6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.78	326	*e*P			Pb	05 22 16.2	-0.2
AUQP				*e*S			Sb	05 22 30.9	+4.4
OTRP	Odiongan	1.12	254	*e*P			Pn	05 22 21.6	-0.1
RCP	Roxas	1.17	199⇑	*e*P			Pn	05 22 22.3	-0.2
PVCP	Virac	1.35	48	*e*P			Pn	05 22 24.5	-0.4
GQP	Guinayangan	1.39	332⇑	*i*P			Pn	05 22 25.8	+0.5
GQP				*i*S			Sn	05 22 43.5	+0.6
BOAC	Boac	1.47	302	*e*P			Pn	05 22 25.4	-1.1
BOAC				*e*S			Sn	05 22 45.9	+0.9
CNP	Catarman	1.51	96	*e*P			Pn	05 22 27.1	0.0
LQP	Lukban	2.10	313⇓	*e*P			Pn	05 22 37.6	+2.4
GUIM	Jordan	2.11	195	*e*P			Pn	05 22 38.4	+3.1
POLP	Polilio Island	2.34	331	*e*P			Pn	05 22 35.9	-2.6
PLP	Palo	2.36	130	*e*P			Pn	05 22 40.0	+1.3
PLP				*e*S			Sn	05 23 13.9	+7.0
LLP	Lapu-Lapu	2.49	161	*e*P			Pn	05 22 41.4	+0.8
LLP				*e*S			Sn	05 23 11.0	+0.9
BUSP	Coron	2.94	257	*e*P			Pn	05 22 47.6	+0.9
LUBP	Lubang	2.99	291	*e*P			Pn	05 22 51.1	+3.6
MSLP	Maasin	3.05	146	*e*P			Pn	05 22 49.5	+1.3

*IDC **27** 05:24:51.5±0.8, 1314N×126.04E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=65.3km s-min=18.3km az=72.0*
*ISCJB **27** 05:24:55.3±1.8, 1307N±006×1258E±01, h36km±17km, mb3.8/9, Error ellipse: s-maj=17.3km s-min=9.4km az=139.8*
*NEIC **27** 05:24:56.9±0.6, 1313N×126.00E, h35km, mb4.1/1, Error ellipse: s-maj=52.4km s-min=11.9km az=72.0*
*MAN **27** 05:25:10.0, 1207N×124.86E, h1km, mb4.4, ML3.3, MS3.7*
ISC 27 05:24:57.1±1.7, 1305N±006×1258E±01, h36km±17km, n19, σ0°87/20, mb3.8/9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.72	289	*e*P			Sn	05 25 40.4	-4.9
PLP	Palo	2.05	204	*e*P			Pn	05 25 27.6	-1.4
PLP				*e*S			Sn	05 25 47.9	-5.4
OCLP	Ormoc	2.31	211	*e*P			Pn	05 25 41.6	+8.9
RCP	Roxas	3.36	244⇓	*e*P			Pn	05 25 47.0	0.0
RCP				*e*S			Sn	05 26 26.0	+0.4
GUIM	Jordan	3.98	233	*e*P			Pn	05 25 55.3	-0.3
POLP	Polilio Island	4.13	294	*e*P			Sn	05 26 44.4	-0.3
CVP	Callao Caves	6.03	321	*e*P			Pn	05 26 24.0	+0.2
	22μm,0.5s								
APYP	Conner	6.52	318	*e*P			Pn	05 26 31.5	+1.1
WRAB	Tennant Creek	33.83	166	P			P	05 31 37.1	+1.3
	1.7nm,0.7s,mb4.1								
WRA	Warramunga Arr	33.83	166	P			P	05 31 37.2	+1.3
	0.3nm,0.5s,mb3.5,baz=342,slow=9.1,SNR=4.6								
ASAR	Alice Springs	37.33	168	P			P	05 32 06.7	+0.8
	0.3nm,0.4s,mb3.5,baz=350,slow=6.9,SNR=5.5								
SONM	Songino Array	38.29	339	P			P	05 32 13.2	-0.8
	0.5nm,0.6s,mb3.4,baz=148,slow=8.7,SNR=4.0								
STKA	Stephens Creek	47.15	162	P			P	05 33 24.2	-1.6
	3.0nm,1.1s,mb4.1,baz=0.0,slow=8.1,SNR=4.0								
STKA	Stephens Creek	47.15	162	*e*P			P	05 33 24.4	-1.5
MKAR	Makanchi Array	49.58	322	P			P	05 33 45.5	+0.9
	2.2nm,0.7s,mb4.3,baz=113,slow=8.6,SNR=26								
ILAR	Eielson Array	77.15	26	P			P	05 36 46.4	-0.6
	0.2nm,0.6s,mb3.2,baz=234,slow=5.5,SNR=4.5								
ARCES	ARCESS Array B	81.46	340	P			P	05 37 10.2	-0.2
	3.5nm,0.8s,mb4.3,baz=81,slow=8.7,SNR=5.2								
FINES	FINESS Array B	83.26	332	P			P	05 37 19.2	-0.7
	1.4nm,0.9s,mb4.0,baz=79,slow=8.6,SNR=3.3								
TORD	Torodi Ar. Bea	118.82	293	PKP			PKPdf	05 43 42.3	+0.8
	0.4nm,1.0s,baz=63,slow=8.2,SNR=2.7								

*ISCJB **27** 05:29:54.0±0.9, 147N±02×552E±02, h10km, mb3.8/7, MS3.6/6, Error ellipse: s-maj=30.1km s-min=20.4km az=37.9*
*IDC **27** 05:29:54.2±1.2, 1470N×5526E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, MS3.7/6, Ms1 3.7/6, ms1mx3.5/18, Error ellipse: s-maj=38.2km s-min=25.3km az=111.0*
*NEIC **27** 05:29:55.7±0.8, 1471N×5525E, h10km, Error ellipse: s-maj=25.6km s-min=17.4km az=109.0*
ISC 27 05:29:56.1±0.9, 148N±02×552E±02, h10km, n12, σ0°58/7, mb3.8/7, MS3.6/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	23.77	230	LR		LR		05 44 07.7	
	comp=Z,89nm,18.3s,MS3.3,baz=86,slow=36								
GNI	Garni	26.90	342	LR		LR		05 48 35.6	
	comp=Z,129nm,18.0s,MS3.5,baz=160,slow=42								
MKAR	Makanchi Array	39.12	30	P			P	05 37 23.8	+0.2
	0.5nm,0.5s,mb3.5,baz=210,slow=8.7,SNR=12								
LSZ	Lusaka	40.06	223	LR		LR		05 53 29.1	
	comp=Z,98nm,19.3s,MS3.7,baz=176,slow=35								
AKASG	Malin Array Be	41.55	335	P			P	05 37 44.0	+0.3
	0.2nm,0.3s,mb3.2,baz=140,slow=7.9,SNR=4.0								
PSI	Prapat	44.70	101	LR		LR		05 53 25.0	
	comp=Z,39nm,18.1s,MS3.4,baz=310,slow=32								
ZAL	Zalesovo	45.44	24	P			P	05 38 15.2	+0.1
	0.8nm,0.3s,mb4.0,baz=343,slow=20,SNR=3.4								
LBTB	Lobatse	48.96	216	P			P	05 38 43.0	+0.5
	3.8nm,0.9s,mb4.4,baz=68,slow=10,SNR=5.4								
FINES	FINESS Array B	51.09	343	P			P	05 38 57.8	-1.0
	1.2nm,0.8s,mb3.9,baz=126,slow=9.8,SNR=3.4								
SONM	Songino Array	53.44	41	P			P	05 39 16.9	+0.7
	1.4nm,0.8s,mb3.9,baz=259,slow=6.8,SNR=6.2								
SONM				LR		LR		06 05 03.3	
	comp=Z,94nm,19.5s,MS3.9,baz=12,slow=40								
MAW	Mawson	82.33	177	LR		LR		06 11 06.5	
	comp=Z,99nm,21.9s,MS4.1,baz=68,slow=30								
ASAR	Alice Springs	85.82	116	P			P	05 42 35.0	-0.8
	0.2nm,0.3s,mb3.8,baz=316,slow=3.5,SNR=4.8								

*PRE **27** 05:40:07.4±1.3, 2153S×3362E, h5km, ML4.7*
*ISCJB **27** 05:40:11.0±2.4, 2140S±007×3309E±007, h13km±17km, mb4.0/3, Error ellipse: s-maj=13.3km s-min=8.5km az=97.5*
*IDC **27** 05:40:12.7±1.5, 2116S×3325E, h0km, mb3.8/2, mb1 4.2/7, mb1mx3.8/26, mbtmp4.2/7, ML4.2/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/21, Error ellipse: s-maj=30.5km s-min=27.7km az=172.0*
*NEIC **27** 05:40:13.9±0.9, 2117S×3318E, h10km, mb4.0/2, Error ellipse: s-maj=19.6km s-min=12.8km az=150.0*
ISC 27 05:40:12.2±3.0, 2140S±007×3309E±006, h3km±20km, n18, σ1°17/31, mb4.0/3, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLR	Silverton	6.17	225	*e*P			Pn	05 41 43.5	-0.5
SLR				*e*S			Sn	05 42 54.7	-0.3
SLR				AML			AML	05 43 40.0	
	comp=Z,147nm,0.5s								
KSR	Koster	7.20	231	*e*P			Pn	05 41 59.0	+0.8
LSZ	Lusaka	7.67	322	Pn			Pn	05 42 03.1	-1.5
	comp=Z,4.1nm,0.3s,baz=153,slow=14,SNR=46								
LSZ				Sn			Sn	05 43 21.5	-10
	comp=Z,8.1nm,0.3s,baz=256,slow=17,SNR=6.1								
LSZ				Lg				05 44 07.0	
	comp=Z,26nm,0.3s,baz=218,slow=16,SNR=18								
LSZ	Lusaka	7.67	322	Pn			Pn	05 42 03.1	-1.5
LSZ				Sn			Sn	05 43 21.5	-10
LSZ				Lg				05 44 07.0	
LBTB	Lobatse	7.77	241	*e*P			Pn	05 42 08.1	+2.0
LBTB				*e*S			Sn	05 43 35.0	+0.5
LBTB				AML			AML	05 44 31.5	
	comp=Z,69nm,0.8s								
LBTB	Lobatse	7.77	241	Pn			Pn	05 42 11.8	+5.8
	comp=Z,3.6nm,0.3s,baz=66,slow=13,SNR=59								
LBTB				Sn			Sn	05 43 35.8	+1.3
	comp=Z,2.7nm,0.3s,baz=66,slow=12,SNR=2.1								
LBTB				Lg				05 44 19.4	
	comp=Z,10nm,0.3s,baz=344,slow=22,SNR=7.1								
LBTB				LR			LR	05 45 12.6	
	comp=Z,46nm,18.8s,baz=280,slow=37								
LBTB	Lobatse	7.77	241	Pn			Pn	05 42 11.8	+5.8
LBTB				Sn			Sn	05 43 35.8	+1.3
LBTB				Lg				05 44 19.4	
LBTB				LR			LR	05 45 12.6	
BOSA	Boshof	10.09	223	*e*P			Pn	05 42 37.5	-0.5
BOSA				*e*S			Sn	05 44 27.5	-4.2
BOSA				AML			AML	05 45 54.5	
	comp=Z,36nm,0.7s								
BOSA	Boshof	10.09	223	Pn			Pn	05 42 42.2	+4.3
	comp=Z,2.2nm,0.3s,baz=48,slow=13,SNR=31								
BOSA				Sn			Sn	05 44 29.9	-1.8
	comp=Z,1.7nm,0.3s,baz=348,slow=14,SNR=5.3								
BOSA				Lg				05 45 32.8	
	comp=Z,3.0nm,0.3s,baz=320,slow=22,SNR=3.0								
OPO	Ambohidratompo	13.55	80	Pn			Pn	05 43 23.9	-1.4
	comp=Z,0.6nm,0.3s,baz=245,slow=14,SNR=4.2								
OPO				Sn			Sn	05 45 40.3	-16
	comp=Z,2.3nm,0.3s,baz=310,slow=20,SNR=7.1								
TSUM	Tsumeb	14.71	276	Pn			Pn	05 43 41.0	0.0
	comp=Z,1.0nm,0.3s,baz=108,slow=10,SNR=27								
TSUM				Sn			Sn	05 46 23.6	-0.9
	comp=Z,0.6nm,0.3s,baz=119,slow=16,SNR=3.1								
TSUM				Lg				05 48 00.9	
	comp=Z,0.9nm,0.3s,baz=180,slow=6.9,SNR=4.9								
TSUM				LR			LR	05 49 40.7	
	comp=Z,60nm,18.7s,baz=324,slow=38								
TSUM	Tsumeb	14.71	276	Pn			Pn	05 43 41.0	0.0
TSUM				Sn			Sn	05 46 23.6	-0.9
TSUM				Lg				05 48 00.9	
TSUM				LR			LR	05 49 40.7	
SUR	Sutherland	15.46	222	*e*P			Pn	05 43 52.3	+1.3
SUR				*e*S			Sn	05 46 36.9	-5.8
SUR	Sutherland	15.46	222	Pn			Pn	05 43 55.4	+4.3
	comp=Z,1.1nm,0.3s,baz=52,slow=15,SNR=13								
SUR				Sn			Sn	05 46 42.0	-0.7
	comp=Z,1.0nm,0.3s,baz=341,slow=21,SNR=5.5								
SUR				Lg				05 48 28.2	
	comp=Z,1.0nm,0.3s,baz=104,slow=15,SNR=3.2								
KMBO	Kilima Mbogo	20.56	12	*e*P			P	05 44 53.5	+1.7
	comp=Z,0.4nm,0.3s								
TORD	Torodi Ar. Bea	46.14	315	P			P	05 48 39.0	+1.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=126,slow=6.4,SNR=12								
PALK	Pallekele	54.72	64	P			P	05 49 41.4	-1.3
	comp=Z,3.4nm,0.5s,mb4.6								
ASAR	Alice Springs	90.89	116	P			P	05 53 18.7	+1.6
	comp=Z,0.2nm,0.7s,mb3.6,baz=236,slow=4.2,SNR=4.3								

*ISCJB **27** 05:45:04.3±1.6, 2123S±01×6801W±008, h154km±15km, mb3.9/4, Error ellipse: s-maj=20.2km s-min=11.9km az=31.7*
*NEIC **27** 05:45:04.4±1.7, 2122S×6808W, h144km±14km, mb3.8/4, Error ellipse: s-maj=25.6km s-min=11.8km az=212.0*
*IDC **27** 05:45:09.7±6.1, 2077S×6796W, h178km±40km, mb3.8/3, mb1 3.8/6, mb1mx3.5/16, mbtmp4.2/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/15, Error ellipse: s-maj=67.7km s-min=22.2km az=22.0*
ISC 27 05:45:05.0±1.6, 212S±01×6803W±008, h144km±14km, n13, σ1°21/14, mb3.9/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.87	359	P			Pn	05 46 18.1	+1.6
	1.7nm,0.3s,baz=178,slow=6.5,SNR=47								
LPAZ	La Paz	4.87	359	*e*Pn			Pn	05 46 17.5	+0.9
ARE	Arequipa	5.73	325	*e*P			Pn	05 46 26.0	-2.0
ARE				*e*S			Sn	05 47 22.0	-11
SIV	San Ignacio	8.38	53	P			Pn	05 47 02.9	-0.5
	2.1nm,0.3s,baz=243,slow=12,SNR=72								
SIV				S			Sn	05 48 35.7	-0.7
	0.3nm,0.3s,baz=148,slow=18,SNR=4.5								
CPUP	Villa Florida	11.05	120	*e*P			Pn	05 47 38.7	-0.3
	5.9nm,0.6s								
NNA	Nana	12.45	316	*e*Pn			Pn	05 47 58.6	+1.5
	6.6nm,1.0s								
SAML	Samuel	13.03	22	Pn			Pn	05 48 05.8	+1.1
	0.4nm,0.5s								
BDFB	Brasilia	19.77	77	P			P	05 49 24.9	+1.1
	1.3nm,0.3s,baz=254,slow=11,SNR=25								
OTAV	Otavalo	23.60	333	*e*Pn			P	05 50 03.4	+0.8
	1.4nm,0.7s,mb3.6								
SDV	Santo Domingo	29.99	355	P			P	05 50 58.5	-1.4
	1.0nm,0.4s,mb3.9,baz=242,slow=22,SNR=6.9								
TORD	Torodi Ar. Bea	76.48	70	P			P	05 56 39.6	+0.8
	1.1nm,0.5s,mb3.7,baz=257,slow=5.5,SNR=29								
YKA	Yellowknife Ar	91.17	340	P			P	05 57 51.6	-1.9
	2.1nm,0.6s,mb4.4,baz=134,slow=4.4,SNR=46								
MKAR	Makanchi Array	144.90	36	PKP			PKPdf	06 04 24.1	-0.7
	1.4nm,0.8s,baz=328,slow=4.3,SNR=16								

IDC 27 06:23:08.0±10.0, 1682N×14618E, h113km±95km, mb3.6/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.9/7, MS3.3/2, Ms1 3.3/2, ms1mx2.7/18, 1C, Error ellipse: s-maj=35.5km s-min=17.4km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	29.43	151	LR		LR		06 40 51.3	
	comp=Z,50nm,18.0s,baz=355,slow=36								
WRA	Warramunga Arr	38.34	198	P			P	06 30 17.6	-0.1
	1.5nm,0.6s,baz=20,slow=8.1,SNR=20								
ASAR	Alice Springs	41.99	197	P			P	06 30 48.0	+0.2
	0.5nm,0.5s,baz=14,slow=13,SNR=10								
ASAR				PcP			PcP	06 32 42.5	+1.6
	0.4nm,0.5s,baz=43,slow=2.0,SNR=6.1								
SONM	Songino Array	44.89	322	P			P	06 31 11.9	+0.8
	1.7nm,0.6s,baz=135,slow=7.4,SNR=11								
SONM				LR			LR	06 51 19.9	
	comp=Z,29nm,18.7s,baz=352,slow=38								
MKAR	Makanchi Array	60.09	315	P			P	06 33 03.3	+0.1
	0.5nm,0.5s,baz=89,slow=7.6,SNR=8.8								
MKAR				PcP			PcP	06 33 47.0	-0.9
	0.8nm,0.9s,baz=77,slow=7.7,SNR=4.8								
ILAR	Eielson Array	65.13	26	P			P	06 33 37.5	+0.8
	1.3nm,0.6s,baz=252,slow=5.7,SNR=0.1								
YKA	Yellowknife Ar	79.43	28	P			P	06 35 00.3	-1.3
	0.6nm,0.7s,baz=288,slow=5.4,SNR=7.6								
ARCES	ARCESS Array B	84.41	342	P			P	06 35 26.5	-1.2
	1.6nm,0.8s,baz=26,slow=3.1,SNR=3.6								
DAG	Danmarks Havn	86.16	357⇑	*i*P			P	06 35 35.7	-0.7
	3.7nm,0.8s								
DBIC	Dimbokro	143.05	307	PKhKP				06 42 26.0	
	2.2nm,0.8s,baz=2.4,slow=5.5,SNR=6.1								
LPAZ	La Paz	147.13	94	PKPbc			PKPbc	06 42 39.0	+1.2
	0.8nm,0.7s,baz=3.2,slow=5.3,SNR=5.5								

*ATH **27** 06:35:30.9, 4164N×2502E, h10km, MD3.1/3*
*ISCJB **27** 06:35:31.1±0.4, 4152N±002×2502E±002, h2km, Error ellipse: s-maj=3.2km s-min=2.6km az=18.7*
*CSEM **27** 06:35:31.5±0.1, 4155N×2502E, h2km, MD2.5, Error ellipse: s-maj=1.4km s-min=1.1km az=175.0*
*NEIC **27** 06:35:31.4, 4148N×2497E, h2km, MD2.5(SOF), MD3.1(ATH), After SOF.*
*THE **27** 06:35:34.2, 4146N×2507E, h15km, ML2.6*
ISC 27 06:35:31.9±0.4, 4152N±002×2501E±003, h2km±6km, n20, σ0°98/38, 1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RZN	Rozhen	0.27	308	Pg			Pg	06 35 37.0	-0.1
RZN				Sg			Sg	06 35 40.9	+0.2
KDZ	Kurdzhali	0.33	67	Pg			Pg	06 35 38.0	-0.3
KDZ				Sg			Sg	06 35 42.0	-0.6
RDO	Rodhopi	0.55	133⇓	*i*PB			Pg	06 35 42.9	+0.5
RDO				*e*SB			Sg	06 35 51.8	+2.3
PLD	Plovdiv	0.63	339	Pg			Pg	06 35 44.9	+1.0
PLD				Sg			Sg	06 35 53.0	+1.0
NVR	Nevrokopi	0.88	259	*e*PB			Pb	06 35 48.2	-1.6
NVR				*e*SB			Sb	06 36 01.0	-1.0
MMB	Musomiste	0.96	275	Pg			Pg	06 35 49.5	-0.8
MMB				Sg			Sg	06 36 02.5	-0.3
ALN	Alexandroupoli	1.00	128	*e*Pg			Pg	06 35 51.6	+0.5
ALN				*e*Sg			Sg	06 36 04.8	+0.8
SRS	Serrai	1.14	250	*e*Pg			Pg	06 35 54.1	+0.4
SRS				*e*Sg			Sg	06 36 10.6	+2.1
PGB	Panagyurishte	1.20	329	*e*Pg			Pg	06 35 55.0	+0.1
PGB				Sg			Sg	06 36 09.8	-0.8
OUR	Ouranopolis	1.42	214	*e*Pg			Pg	06 35 58.2	-0.9
OUR				*e*Sg			Sg	06 36 17.7	+0.3
SOH	Sokhos	1.43	241	*e*Pg			Pg	06 35 58.4	-0.9
SOH				*e*Sg			Sg	06 36 18.0	+0.2
KKB	Krupnik	1.48	284	P			Pn	06 35 59.5	0.0
KKB				S			Sb	06 36 18.0	-1.4
JMB	Yambol	1.51	51	*e*Pg			Pg	06 35 59.5	-1.3
JMB				*e*Sg			Sg	06 36 20.0	-0.3
LOS	Limnos	1.59	178	*e*Pg			Pg	06 36 00.8	-1.4
LOS				*e*Sg			Sg	06 36 19.6	-3.2
LOS	Limnos	1.59	178	*e*Pg			Pg	06 36 00.8	-1.5
LOS				*e*Sg			Sg	06 36 19.6	-3.2
KNT	Kendrikon	1.63	258	*e*Pb			Pb	06 36 02.0	-0.6
KNT				*e*Sb			Sb	06 36 24.4	+0.8
PLG	Polygyros	1.65	226	*e*PN			Pn	06 36 02.8	+1.0
VTS	Vitosha	1.71	309	*e*Pb			Pb	06 36 04.0	-0.1
VTS				*e*Sb			Sb	06 36 27.1	+1.0
VTS	Vitosha	1.71	309	P			Pb	06 36 04.0	-0.1
VTS				Sg			Sg	06 36 27.8	+0.9
GRG	Griva	2.04	255	*e*Pn			Pn	06 36 08.6	+1.3

ARCES	ARCESS Array B	87.59	15	LR	LR	08 00 21.7			
	comp=Z,130nm,18.9s,baz=192,slow=35								
FINES	FINESS Array B	93.36	21	LR	LR	08 09 40.8			
	comp=Z,83nm,18.4s,baz=341,slow=39								
GERES	GERESS Array B	95.51	36	LR	LR	08 09 49.6			
	comp=Z,75nm,18.1s,baz=106,slow=38								
WRA	Warramunga Arr	123.58	257	PKP	PKPdf	07 28 14.7	+0.3		
	0.5nm,0.7s,baz=80,slow=2.0,SNR=6.2								
ASAR	Alice Springs	124.33	252	PKP	PKPdf	07 28 16.2	+0.4		
	0.5nm,0.9s,baz=111,slow=0.6,SNR=4.5								

*NEIC **27** 07:15:24.6, 3848S×17588E, h166km, MG4.0(WEL), After WEL.*

WEL 27 07:15:25.4±0.3, 3851S×17592E, h158km±2km, ML3.8/13, 2C, Error ellipse: s-maj=2.1km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	0.62	200	*e*PN	Pn	07 15 48.0	-0.1
WTVZ	West Tongariro	0.66	203	PN	Pn	07 15 48.5	+0.1
WTVZ	West Tongariro	0.66	203	P	Pn	07 15 48.5	+0.1
TWVZ	Taurewa	0.68	214	PN	Pn	07 15 48.6	+0.1
OTVZ	Oturere	0.68	197	PN	Pn	07 15 49.0	+0.5
OTVZ				SN	Sn	07 16 06.5	+0.2
NGZ	Ngauruhoe	0.71	200	PN	Pn	07 15 49.0	+0.3
NGZ	Ngauruhoe	0.71	200	P	Pn	07 15 49.1	+0.4
WPVZ	Whakapapa	0.75	203	PN	Pn	07 15 49.2	+0.3
WPVZ	Whakapapa	0.75	203	P	Pn	07 15 49.3	+0.3
TUVZ	Tukino	0.79	195	PN	Pn	07 15 49.5	+0.3
TUVZ	Tukino	0.79	195	P	Pn	07 15 49.5	+0.3
BKZ	Black Stump Fm	0.79	146	⇑PN	Pn	07 15 49.5	+0.3
BKZ				SN	Sn	07 16 06.7	-0.8
BKZ	Black Stump Fm	0.79	146	P	Pn	07 15 49.6	+0.3
FWVZ	Far West T-bar	0.80	201	PN	Pn	07 15 49.6	+0.4
HIZ	Hauiti	0.83	269	PN	Pn	07 15 49.4	-0.2
HIZ				SN	Sn	07 16 07.7	-0.3
HIZ	Hauiti	0.83	269	P	Pn	07 15 49.4	-0.1
HIZ				S	Sn	07 16 07.8	-0.2
TRVZ	Turoa	0.84	200	PN	Pn	07 15 49.8	+0.2
WNVZ	Wahianoa	0.85	197	PN	Pn	07 15 50.0	+0.3
WNVZ	Wahianoa	0.85	197	P	Pn	07 15 50.0	+0.3
PKVZ	Pokaka	0.90	210	PN	Pn	07 15 50.0	0.0
PKVZ				SN	Sn	07 16 09.3	+0.4
MOVZ	Moawhango	0.91	188	⇑PN	Pn	07 15 49.9	-0.1
MOVZ	Moawhango	0.91	188	P	Pn	07 15 50.0	-0.1
MTVZ	Mangateitei	0.94	202	PN	Pn	07 15 50.0	-0.4
URZ	Urewera	0.97	75	PN	Pn	07 15 50.3	-0.3
URZ	Urewera	0.97	75	*e*P	Pn	07 15 50.4	-0.2
MWZ	Matawai	1.28	83	PN	Pn	07 15 53.3	+0.1
MWZ	Matawai	1.28	83	P	Pn	07 15 53.5	+0.2
WAZ	Wanganui	1.44	210	PN	Pn	07 15 54.5	-0.4
WAZ	Wanganui	1.44	210	*e*P	Pn	07 15 54.7	-0.2
KNZ	Kokohu	1.46	111	PN	Pn	07 15 55.6	+0.5
KNZ	Kokohu	1.46	111	*e*P	Pn	07 15 55.7	+0.6
TSZ	Takapari Road	1.55	179	PN	Pn	07 15 55.8	-0.2
TSZ	Takapari Road	1.55	179	P	Pn	07 15 55.8	-0.2
PXZ	Pawanui	1.69	155	PN	Pn	07 15 57.5	+0.1
MXZ	Matakaoa Point	2.11	64	PN	Pn	07 16 02.3	+0.1
MXZ	Matakaoa Point	2.11	64	*e*P	Pn	07 16 02.3	+0.1
MRZ	Mangatainoka R	2.17	187	PN	Pn	07 16 01.4	-1.4
MRZ	Mangatainoka R	2.17	187	P	Pn	07 16 01.6	-1.2
KIW	Kapiti Island	2.48	198	PN	Pn	07 16 04.8	-1.7
KIW	Kapiti Island	2.48	198	P	Pn	07 16 04.8	-1.7
MTW	Mount Morrison	2.67	187	PN	Pn	07 16 06.7	-2.1
MTW	Mount Morrison	2.67	187	P	Pn	07 16 06.8	-2.0
CAW	Cannon Point	2.68	194	PN	Pn	07 16 07.0	-1.9
CAW	Cannon Point	2.68	194	P	Pn	07 16 07.1	-1.9
DUWZ	D'Urville Isla	2.76	213	PN	Pn	07 16 07.8	-2.2
MRW	Makara Radio	2.87	199	PN	Pn	07 16 09.0	-2.4
MRW	Makara Radio	2.87	199	P	Pn	07 16 09.2	-2.2
TRWZ	Traveller	2.89	183	PN	Pn	07 16 09.6	-2.0
PAWZ	Paruwai Farm	2.89	187	PN	Pn	07 16 09.4	-2.2
PAWZ	Paruwai Farm	2.89	187	P	Pn	07 16 09.6	-2.0
MSWZ	Moikau Station	2.95	190	PN	Pn	07 16 09.9	-2.4
MSWZ	Moikau Station	2.95	190	P	Pn	07 16 10.0	-2.3
SNZO	South Karori	2.95	198	PN	Pn	07 16 09.8	-2.5
SNZO	South Karori	2.95	198	P	Pn	07 16 09.9	-2.4
TCW	Tory Channel	2.98	205	PN	Pn	07 16 10.4	-2.3
TCW	Tory Channel	2.98	205	P	Pn	07 16 10.4	-2.3
TUWZ	Tuamarina	3.29	207	PN	Pn	07 16 13.8	-2.9
NNZ	Nelson	3.34	215	PN	Pn	07 16 14.4	-2.8
NNZ	Nelson	3.34	215	*e*P	Pn	07 16 14.5	-2.7
QRZ	Quartz Range	3.49	227	PN	Pn	07 16 16.0	-3.2
QRZ	Quartz Range	3.49	227	*e*P	Pn	07 16 16.0	-3.2
THZ	Tophouse	3.99	214	PN	Pn	07 16 22.1	-3.5
THZ	Tophouse	3.99	214	*e*P	Pn	07 16 22.5	-3.1
KHZ	Kahutara	4.30	204	PN	Pn	07 16 26.7	-3.0
KHZ	Kahutara	4.30	204	*e*P	Pn	07 16 26.8	-2.9
DSZ	Denniston Nort	4.52	223	SN	Sn	07 17 18.5	-6.3
MQZ	McQueen's Vall	5.75	204	SN	Sn	07 17 44.1	-10
WVZ	Waitaha Valley	6.02	219	SN	Sn	07 17 50.9	-10

*ISCJB **27** 07:49:37.4±0.9, 267S±02×1155W±01, h10km, mb4.2/13, MS3.8/7, Error ellipse: s-maj=24.8km s-min=12.0km az=39.8*

*IDC **27** 07:49:38.3±2.9, 2661S×11546W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.0/8, MS3.8/8, Ms1 3.8/8, ms1mx3.7/13, Error ellipse: s-maj=99.1km s-min=25.7km az=47.0*

*NEIC **27** 07:49:40.5±1.1, 2653S×11530W, h10km, mb4.5/5, Error ellipse: s-maj=31.8km s-min=10.3km az=218.0*

ISC 27 07:49:39.2±0.9, 267S±02×1156W±01, h10km, n24, σ0$89/17, mb4.2/13, MS3.8/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	5.57	96	LR	LR	07 52 43.1	
	comp=Z,951nm,18.9s,baz=223,slow=34						
RPN	Rapa Nui	5.57	96	*e*P	Pn	07 51 00.2	-1.9
	78nm,0.9s						
RKT	Rikitea	17.97	277	*e*P	Pn	07 53 48.4	-0.7
RKT				*e*LR	LR	07 57 43.1	
	341nm,26.8s						
TBI	Tubuai	30.85	269	*e*LR	LR	08 03 40.0	
	197nm,30.5s						
PPT	Papeete	32.71	279	*e*LR	LR	08 04 31.4	
	468nm,26.5s						
PLCA	Paso Flores	39.53	122	P	P	07 57 11.3	+1.1
	2.6nm,0.9s,mb4.0,baz=228,slow=11,SNR=3.9						
PLCA				LR	LR	08 07 48.5	
	comp=Z,37nm,20.0s,MS3.2,baz=180,slow=28						
PLCA	Paso Flores	39.53	122	P	P	07 57 11.3	+1.1
PLCA				LR	LR	08 07 48.5	
OTAV	Otavalo	44.65	59	*e*P	P	07 57 52.4	+0.5
	5.1nm,1.3s,mb4.2						
LPAZ	La Paz	45.11	87	P	P	07 57 57.0	+1.4
	1.1nm,0.7s,mb3.8,baz=238,slow=5.0,SNR=5.1						
LPAZ				LR	LR	08 12 41.8	
	comp=Z,51nm,18.3s,MS3.5,baz=272,slow=31						
ROSC	El Rosal	50.75	58	LR	LR	08 15 20.2	
	comp=Z,76nm,18.2s,MS3.8,baz=145,slow=30						
SDV	Santo Domingo	56.14	57	*e*P	P	07 59 17.9	-1.0
	3.2nm,0.8s,mb4.4						
JCT	Junction City	58.84	16	*e*P	P	07 59 37.8	-0.1
	8.9nm,1.0s,mb4.8						
ANMO	Albuquerque	61.94	8	P	P	07 59 58.8	-0.3
	0.8nm,0.8s,mb3.9,baz=227,slow=6.9,SNR=3.7						
VNDA	Vanda	62.51	194	LR	LR	08 21 46.0	
	comp=Z,96nm,18.1s,MS4.0,baz=256,slow=31						
BDFB	Brasília	63.32	95	P	P	08 00 08.4	+0.1
	2.9nm,0.9s,mb4.4,baz=216,slow=7.3,SNR=4.5						
BDFB				LR	LR	08 21 57.1	
	comp=Z,74nm,19.2s,MS3.9,baz=266,slow=31						
CMB	Columbia Colle	64.57	356	*e*P	P	08 00 17.5	+1.0
	11nm,1.4s,mb4.7						
NVAR	Mina Array Bea	64.86	358	P	P	08 00 19.9	+1.5
	1.4nm,0.8s,mb4.1,baz=171,slow=10,SNR=4.8						
PV10	Paradox Valley	65.04	6	*e*P	P	08 00 19.5	-0.1
HLID	Hailey	69.94	1	*e*P	P	08 00 51.0	+0.4
	2.6nm,0.9s,mb4.2						
ULM	Lac du Bonnet	78.59	13	P	P	08 01 40.4	-0.7
	0.9nm,0.7s,mb3.8,baz=178,slow=6.6,SNR=3.2						
MAW	Mawson	85.96	179	LR	LR	08 34 58.8	
	comp=Z,97nm,19.9s,MS4.2,baz=247,slow=32						
STKA	Stephens Creek	86.22	236	LR	LR	08 32 44.3	
	comp=Z,72nm,18.9s,MS4.1,baz=204,slow=30						
YKA	Yellowknife Ar	88.90	0	P	P	08 02 32.9	-0.9
	0.9nm,0.7s,mb4.2,baz=175,slow=4.8,SNR=19						
ILAR	Eielson Array	94.39	347	P	P	08 02 59.0	-0.3
	0.7nm,1.0s,mb4.0,baz=235,slow=2.4,SNR=4.0						

*BJI **27** 08:02:11.9, 2680N×5580E, h14km, mB4.9, mb4.5, Ms4.4, Msz4.1*

*IDC **27** 08:02:11.4±0.9, 2691N×5562E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, MS3.3/5, Ms1 3.3/5, ms1mx3.1/30, Error ellipse: s-maj=22.7km s-min=17.5km az=143.0*

*CSEM **27** 08:02:11.7±0.1, 2666N×5567E, h25km, mb4.0/15, Error ellipse: s-maj=3.4km s-min=2.2km az=169.0*

*NEIC **27** 08:02:11.9, 2676N×5580E, h14km, mb4.2/6, ML4.2(THR), MN4.1(TEH), After THR.*

*ISCJB **27** 08:02:11.9±0.3, 2690N±003×5565E±004, h10km, mb4.1/27, MS3.5/6, Error ellipse: s-maj=5.3km s-min=3.5km az=103.9*

*NAO **27** 08:02:12.9, 2702N×5663E, h33km, mb4.1*

*THR **27** 08:02:12.2±0.7, 2679N×5579E, h15km, ML4.2*

*MOS **27** 08:02:14.5±1.2, 2683N×5563E, h33km, mb4.2/18, Error ellipse: s-maj=15.7km s-min=8.3km az=103.2*

*TEH **27** 08:02:16.0, 2683N×5571E, h18km, Mn4.2*

*OMAN **27** 08:02:16.5, 2698N×5592E, h37km, Error ellipse: s-maj=275.8km s-min=10.7km az=344.0*

ISC 27 08:02:13.7±0.3, 2690N±003×5570E±004, h10km, n135, σ1$24/145, mb4.1/27, MS3.5/6, 3C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.65	40	*e*PG	Pg	08 02 25.5	-0.8
BNDS				AML	AML	08 02 47.1	
	comp=N,10μm,0.3s						
BNDS				AML	AML	08 02 48.1	
	comp=E,12μm,0.5s						
BNDS	Bandar-Abbas	0.65	40	Pg	Pg	08 02 25.0	-1.3
BANOM	Banah	1.11	151	⇑P	Pb	08 02 34.8	-0.2
	SNR=1879						
ASHO	Ashiyiah	2.23	172	P	Pn	08 02 51.9	+1.2
	SNR=169						
GHIR	Ghir-Karzin	2.78	300	*e*PN	Pn	08 02 59.9	+1.7
GHIR				*e*SG	Sg	08 03 42.9	0.0
GHIR				AML	AML	08 03 57.6	
	comp=E,660nm,0.6s						
GHIR				AML	AML	08 04 10.4	
	comp=N,478nm,0.6s						
GHIR	Ghir-Karzin	2.78	300	Pn	Pn	08 02 59.0	+0.8
GHIR				Sg	Sg	08 03 43.0	0.0
KRBR	Kerman	3.21	17	*e*PN	Pn	08 03 06.1	+1.9
KRBR				AML	AML	08 03 52.2	
	comp=E,637nm,0.5s						
KRBR				AML	AML	08 03 56.4	
	comp=N,637nm,0.6s						
KRBR	Kerman	3.21	17	Pn	Pn	08 03 06.0	+1.8
IMOK	Mook	3.40	310	*e*Pn	Pn	08 03 08.1	+1.3
IMOK	Mook	3.40	310	*e*Pn	Pn	08 03 08.5	+1.7
IMOK	Mook	3.40	310	Pn	Pn	08 03 08.0	+1.2
ARQ	Araqi	3.62	168	⇓P	Pn	08 03 10.4	+0.5
	SNR=16						
IPAR	Pars	3.75	322	*e*Pn	Pn	08 03 13.6	+2.0
IPAR	Pars	3.75	322	*e*Pn	Pn	08 03 13.6	+2.0
IPAR	Pars	3.75	322	*e*Pn	Pn	08 03 12.9	+1.3
IPAR	Pars	3.75	322	Pn	Pn	08 03 13.5	+1.9
BIDO	Bidbid	4.02	146	P	Pn	08 03 15.3	0.0
	SNR=9.8						
BSY	Bisya	4.35	161	⇓P	Pn	08 03 20.7	+0.8
	SNR=14						
SMDO	Samad	4.38	150	⇓P	Pn	08 03 20.6	+0.4
	SNR=14						
IMEH	Mehriz	4.58	348	*e*Pn	Pn	08 03 24.9	+1.9
IMEH	Mehriz	4.58	348	*e*Pn	Pn	08 03 25.1	+2.1
IMEH	Mehriz	4.58	348	*e*Pn	Pn	08 03 25.1	+2.1
IBAF	Bafgh	4.68	359	*e*Pn	Pn	08 03 26.0	+1.7
IBAF	Bafgh	4.68	359	*e*Pn	Pn	08 03 25.7	+1.4
IBAF	Bafgh	4.68	359	Pn	Pn	08 03 25.9	+1.6
JMDO	Jabal Madar	5.01	154	⇑P	Pn	08 03 29.8	+0.9
	SNR=8.8						
WBK	Wadi Bani Khal	5.20	144	P	Pn	08 03 31.4	-0.1
	SNR=10						
ZHSF	Zahedan	5.23	58	*e*PN	Pn	08 03 32.1	+0.2
ZHSF	Zahedan	5.23	58	Pn	Pn	08 03 32.0	+0.1
ISAD	Sadrabad	5.30	341	*e*Pn	Pn	08 03 34.5	+1.6
ISAD	Sadrabad	5.30	341	*e*Pn	Pn	08 03 34.5	+1.6
ICHK	Chekchek	5.45	348	*e*Pn	Pn	08 03 36.7	+1.8
ICHK				*e*Sn	Sn	08 04 37.5	-0.1
ICHK	Chekchek	5.45	348	*e*Pn	Pn	08 03 36.7	+1.8
ICHK	Chekchek	5.45	348	Pn	Pn	08 03 36.6	+1.7
ICHK				*e*Sn	Sn	08 04 37.5	-0.1
IGAR	Garneh	6.14	331	*e*Sn	Sn	08 04 58.2	+3.5
NASN	Na'in	6.39	338	*e*PN	Pn	08 03 49.9	+1.9
NASN	Na'in	6.39	338	*e*Pn	Pn	08 03 49.8	+1.8
	SNR=52						
IZEF	Zefreh	6.66	335	*e*Pn	Pn	08 03 52.4	+0.9
IZEF	Zefreh	6.66	335	*e*Pn	Pn	08 03 52.1	+0.6
IZEF	Zefreh	6.66	335	Pn	Pn	08 03 52.3	+0.8
IPIR	Pirpir	7.12	325	*e*Pn	Px	08 02 05.1	
IPIR				*e*Pn	Pn	08 03 58.0	+0.1
IPIR				*e*Sn	Sn	08 05 16.3	-2.6
IPIR	Pirpir	7.12	325	*e*Pn	Pn	08 03 57.7	-0.2
IPIR				Sn	Sn	08 05 16.2	-2.7
IPIR	Pirpir	7.12	325	Pn	Pn	08 03 58.0	+0.1
IPIR				Sn	Sn	08 05 16.2	-2.7
QRN	Al-Qurain	7.13	287	*e*P	Pn	08 03 57.0	-1.1
QRN				AML	AML	08 05 18.4	
	comp=Z,77nm,0.4s						
IKLH	Kalahroud	7.33	332	*e*Pn	Pn	08 04 00.9	+0.1
IKLH				*e*Sn	Sn	08 05 21.7	-2.3
IKLH	Kalahroud	7.33	332	*e*Pn	Pn	08 03 59.6	-1.2
IKLH				*e*Sn	Sn	08 05 21.7	-2.3
IKLH	Kalahroud	7.33	332	Pn	Pn	08 04 00.9	+0.1
IKLH				Sn	Sn	08 05 21.7	-2.3
KBD	Kabd	7.43	290	*e*P	Pn	08 04 02.1	-0.1
KBD				AML	AML	08 05 24.5	
	comp=Z,77nm,0.3s						
RDF	Al-Radifah	7.49	288	*e*P	Pn	08 04 02.6	-0.4
RDF				AML	AML	08 05 23.7	
	comp=Z,29nm,0.4s						
UMR	Umm Al-Rimmam	7.52	292	*e*P	Pn	08 04 03.3	-0.2
UMR				AML	AML	08 05 28.2	
	comp=Z,22nm,0.2s						
UMR	Umm Al-Rimmam	7.52	292	*e*P	Pn	08 04 03.4	-0.1
NAY	Al-Naaiem	7.83	289	*e*P	Pn	08 04 07.8	+0.1
NAY				AML	AML	08 05 32.8	
	comp=Z,9.9nm,0.5s						
MIB	Mutribah	7.92	293	*e*P	Pn	08 04 09.0	+0.1
MIB				AML	AML	08 05 33.5	
	comp=Z,33nm,0.5s						
IQOM	Qom	8.86	334	*e*Pn	Pn	08 04 21.9	+0.1
IQOM				*e*Sn	Sn	08 05 58.5	-3.2
IFIR	Firoozkooh	9.07	345	*e*Pn	Pn	08 04 25.7	+1.0
DAMV	Damavand	9.27	341	*e*PN	Pn	08 04 29.6	+2.2
DAMV	Damavand	9.27	341	Pn	Pn	08 04 29.0	+1.6
CHTH	Charan	9.79	338	*e*PN	Pn	08 04 37.1	+2.5
IRAZ	Razeghan	9.81	331	*e*Pn	Pn	08 04 36.4	+1.5
IRAZ				*e*Sn	Sn	08 06 20.9	-4.2
IDHR	Dehrash	11.16	316	*e*Pn	Pn	08 04 52.0	-1.3
GNI	Garni	16.05	328	Pn	Pn	08 06 04.6	+5.2
	comp=Z,1.0nm,0.3s,baz=16,slow=5.1,SNR=5.4						
GNI	Garni	16.05	328	*ep*P	pP	08 06 08.9	+3.2
GNI	Garni	16.05	328	*e*P	Pn	08 06 02.8	+3.4
GNI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GNI	Garni	16.05	328	*e*P	Pn	08 06 02.8	+3.4
	comp=Z,9.0nm,0.6s						
GNI				*ep*P	pP	08 06 08.9	+3.2
MALT	Malatya	18.44	312	*e*P	Pn	08 06 29.6	+0.2
	comp=Z,14nm,0.9s						
MALT	Malatya	18.44	312	*e*P	Pn	08 06 29.7	+0.3
MALT				pmax	pmax		
	comp=Z,14nm,0.9s						
MALT	Malatya	18.44	312	*e*P	Pn	08 06 29.6	+0.3
	comp=Z,14nm,0.9s						
EIL	Elat	18.48	283	*e*P	Pn	08 06 29.9	0.0
	comp=Z,255nm,0.9s						
EIL	Elat	18.48	283	*e*P	Pn	08 06 29.9	0.0
	comp=Z,255nm,0.9s						
ZEI	Tsey	18.53	332	*e*P	Pn	08 06 32.4	+1.9
	comp=Z,21nm,1.1s						
ZEI	Tsey	18.53	332	*e*P	Pn	08 06 32.4	+1.9
ZEI				pmax	pmax		
	comp=Z,21nm,1.1s						
ATD	Arta Tunnel	19.49	221	LR	LR	08 14 40.4	
	comp=Z,117nm,18.7s,baz=87,slow=38						
KIV	Kislovodsk	20.01	332	*e*P	P	08 06 47.3	+0.8
	comp=Z,45nm,0.9s						
KIV	Kislovodsk	20.01	332	⇓*e*P	P	08 06 48.8	+2.3
KIV				pmax	pmax		
	comp=Z,55nm,1.3s						
KIV	Kislovodsk	20.01	332	*e*P	P	08 06 47.4	+0.8
	comp=Z,45nm,0.9s						
GOF	Gofitskoye	20.77	334	*e*P	P	08 06 54.7	-0.1
	comp=Z,42nm,0.6s						
GOF	Gofitskoye	20.77	334	*e*P	P	08 06 54.7	-0.1
GOF				pmax	pmax		
	comp=Z,42nm,0.6s						
AAK	Ala-Archa	21.94	40	*e*P	P	08 07 07.7	+0.3
	comp=Z,4.0nm,0.8s,mb3.9						
AAK	Ala-Archa	21.94	40	*e*P	P	08 07 07.7	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AAK	Ala-Archa	21.94	40	*e*P	P	08 07 07.7	+0.3
	comp=Z,4.4nm,0.8s,mb3.9						
BR131	Keskin Array S	22.37	310	*e*P	P	08 07 11.3	-0.6
	comp=Z,5.9nm,0.6s,mb4.2						
BR131	Keskin Array S	22.37	310	*e*P	P	08 07 11.3	-0.7
	comp=Z,5.9nm,0.6s,mb4.2						
BRTR	Keskin Array B	22.37	310	P	P	08 07 12.0	+0.1
	comp=Z,2.9nm,0.5s,mb4.0,baz=122,slow=14,SNR=14						
BRTR	Keskin Array B	22.37	310	P	P	08 07 12.0	+0.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ANTO	Ankara	23.01	310	*e*P	P	08 07 23.6	+4.8
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
ANTO	Ankara	23.01	310	*e*P	P	08 07 23.6	+4.9
	comp=Z,6.0nm,0.6s,mb4.2						
AKTK	Aktyubinsk	23.57	4	P	P	08 07 23.9	-0.7
	comp=Z,39nm,19.4s						
AKTK	Aktyubinsk	23.57	4	P	P	08 07 23.9	-0.7
AKTK				LR	LR	08 18 04.1	
AKTO	Aktyubinsk	23.57	4	P	P	08 07 23.9	-0.6
	comp=Z,1.5nm,0.4s,mb3.7,baz=180,slow=9.9,SNR=9.1						
AKTO				LR	LR	08 18 04.1	
	comp=Z,39nm,19.4s,MS2.9,baz=0.0,slow=40						
AKTO	Aktyubinsk	23.57	4	P	P	08 07 23.9	-0.7
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,39nm,19.4s,MS2.9						
IDI	Anoyia	27.59	295	LR	LR	08 21 49.4	
	comp=Z,27nm,19.0s,MS2.8,baz=50,slow=43						
BVAR	Borovoye Array	28.30	19	P	P	08 08 06.3	-1.1
	comp=Z,1.9nm,0.7s,mb3.8,baz=207,slow=15,SNR=6.9						
BVAR	Borovoye Array	28.30	19	P	P	08 08 06.3	-1.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	28.88	40	P	P	08 08 12.1	-0.4
	comp=Z,0.6nm,0.6s,mb3.5,baz=224,slow=7.6,SNR=11						
MKAR	Makanchi Array	28.88	40	P	P	08 08 12.1	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	Arti	29.58	3	⇓*i*P	P	08 08 21.6	+2.8
ARU				*e*		08 09 27.8	
ARU				*e*SS	SS	08 15 14.1	-5.2
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
WMQ	Urumqi	30.83	48	*e*P	P	08 08 30.5	+0.7
WMQ				XP	sP	08 08 44.0	+10
WMQ				PP	PP	08 09 33.0	-6.3
WMQ				S	S	08 13 32.5	-0.8
WMQ				SS	SS	08 15 17.5	-27
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,45nm,3.0s						
WMQ				LR	LR		
	comp=N,154nm,9.0s						
WMQ				LR	LR		
	comp=E,85nm,9.0s						
WMQ				LR	LR		
	comp=Z,68nm,9.0s						
AKASG	Malin Array Be	31.17	327	P	P	08 08 31.4	-1.4
	comp=Z,1.0nm,0.5s,mb3.9,baz=135,slow=8.4,SNR=9.3						
AKASG	Malin Array Be	31.17	327	*i* P	P	08 08 32.7	-0.1
	comp=Z,1.0nm,0.5s,mb3.9						
AKASG	Malin Array Be	31.17	327	*i* P	P	08 08 32.7	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	Obninsk	31.45	339	*e*P	P	08 08 28.1	-7.2
OBN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ZAL	Zalesovo	34.48	31	P	P	08 09 00.2	-1.5
	comp=Z,2.5nm,0.4s,mb4.5,baz=224,slow=3.2,SNR=6.8						
ZAL	Zalesovo	34.48	31	*i* P	P	08 09 00.8	-1.0
	comp=Z,3.0nm,0.4s,mb4.6						
ZAL	Zalesovo	34.48	31	*i* P	P	08 09 00.8	-1.0
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GERES	GERESS Array B	39.08	315	P	P	08 09 39.8	-1.2
	comp=Z,0.8nm,0.5s,mb3.8,baz=103,slow=7.4,SNR=11						
GERES	GERESS Array B	39.08	315	P	P	08 09 39.8	-1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KHC	Kasperske Hory	39.25	316	*e*P	P	08 09 41.0	-1

DBIC pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 62.45 210 P P 08 12 36.2 -0.8
comp=Z,1.2nm,0.6s,mb4.2,baz=85,slow=7.5,SNR=4.3
BOSA Boshof 62.45 210 P **P 08 12 36.3 -0.8**
BOSA pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
BILL Bilibino 72.61 22 *e*P **P 08 13 36.4 -4.9**
BILL pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
INK Inuvik 84.84 3 P **P 08 14 46.8 -1.7**
comp=Z,0.4nm,0.6s,mb3.7,baz=358,slow=4.3,SNR=3.7
ILAR Eielson Array 86.95 9 P **P 08 14 57.8 -1.2**
comp=Z,0.3nm,0.6s,mb3.7,baz=326,slow=4.8,SNR=5.7
ASAR Alice Springs 90.70 116 P **P 08 15 17.4 +0.6**
comp=Z,0.3nm,0.6s,mb3.8,baz=297,slow=4.5,SNR=4.4
SYO Syowa Base 96.35 186⇓*e*pP pP 08 15 50.1 +4.0

PRE 27 08:44:47.3±1.8, 2201S×3421E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.89**	**264**	*e*P		08 38 31.9	
MSNA				*e*S		08 39 16.7	
MSNA				AML	AML	08 39 25.6	
	comp=Z,299nm,0.9s						
SLR	**Silverton**	**6.57**	**234**	*e*S	Sn	08 47 38.0	-1.8
SLR				AML	AML	08 48 21.2	
	comp=Z,57nm,0.6s						
LBTB	**Lobatse**	**8.45**	**248**	*e*P	Pn	08 46 52.4	+2.1
LBTB				*e*S	Sn	08 48 21.5	-4.5
LBTB				AML	AML	08 49 13.5	
	comp=Z,31nm,0.6s						
BOSA	**Boshof**	**10.43**	**229**	*e*P	Pn	08 47 18.2	+0.8
BOSA				*e*S	Sn	08 49 09.6	-5.0
BOSA				AML	AML	08 50 28.4	
	comp=Z,21nm,0.6s						

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*NAO **27** 08:55:51.6, 25.14N×57.47E, h33km, mb3.7*
*BJI **27** 08:56:21.6, 2820N×5400E, h14km, mB4.7, mb4.4, Ms4.3, Msz4.0*
*NEIC **27** 08:56:21.6, 2823N×5403E, h14km, mb4.4/13, MS3.8/1, ML4.2(THR), MN4.2(TEH), After THR.*
*IDC **27** 08:56:21.6±0.9, 2830N×5396E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.2/24, mbtmp4.1/18, MS3.8/15, Ms1 3.8/15, ms1mx3.7/21, Error ellipse: s-maj=21.9km s-min=16.8km az=143.0*
*TEH **27** 08:56:21.9, 2803N×5399E, h8km, Mn4.2*
*THR **27** 08:56:21.6±0.7, 2824N×5402E, h15km±6km, ML4.2*
*ISCJB **27** 08:56:23.2±0.8, 2825N±003×5391E±003, h23km±6km, mb4.3/42, MS3.9/21, Error ellipse: s-maj=5.3km s-min=3.4km az=103.8*
*CSEM **27** 08:56:23.4±0.2, 2830N×5396E, h26km±1km, mb4.4/29, Ms3.8, Error ellipse: s-maj=1.9km s-min=1.4km az=46.0*
*MOS **27** 08:56:27.9±0.9, 2831N×5386E, h60km, mb4.4/27, Error ellipse: s-maj=11.5km s-min=6.0km az=118.8*
*OMAN **27** 08:56:30.3±4.8, 2815N×5427E, h93km±29km, Error ellipse: s-maj=50.9km s-min=19.0km az=146.0*
ISC 27 08:56:26.3±1.0, **2827N**±003×**5391E**±003, **h32**km±8km, **n187**, σ1$01/196, **mb4.3**/42, **MS3.9**/21, **5C-1D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.81**	**272**	*e*PG	**Pn**	**08 56 39.0**	**-2.5**
GHIR				AML	AML	08 57 10.1	
	comp=E,5μm,0.6s						
GHIR				AML	AML	08 57 11.1	
	comp=N,5μm,0.5s						
IMOK	**Mook**	**1.31**	**307**	*e*Pg	**Pn**	**08 56 49.1**	**+0.8**
IPAR	**Pars**	**1.74**	**335**	*e*Pn	**Pn**	**08 56 55.5**	**+1.2**
IPAR	**Pars**	**1.74**	**335**	Pn	**Pn**	**08 56 55.4**	**+1.1**
SHI	**Shiraz**	**1.84**	**319**	*e*Pn	**Pn**	**08 56 57.1**	**+1.5**
SHI				*e*Sn	**Sn**	**08 57 27.3**	**+10**
SHI	**Shiraz**	**1.84**	**319**	Pn	**Pn**	**08 56 57.0**	**+1.4**
SHI				Sn	**Sn**	**08 57 27.3**	**+10**
BNDS	**Bandar-Abbas**	**2.18**	**113**	*e*PG	**Pn**	**08 56 59.3**	**-1.0**
BNDS				AML	AML	08 57 52.4	
	comp=N,2μm,0.7s						
BNDS				AML	AML	08 57 54.4	
	comp=E,2μm,0.6s						
BNDS	**Bandar-Abbas**	**2.18**	**113**	Pg	**Pn**	**08 56 59.0**	**-1.3**
KRBR	**Kerman**	**3.03**	**55**	*e*PN	**Pn**	**08 57 10.8**	**-1.1**
KRBR				*e*SG	**Sn**	**08 57 54.3**	**+7.2**
KRBR				AML	AML	08 58 05.0	
	comp=N,879nm,0.6s						
KRBR				AML	AML	08 58 06.7	
	comp=E,644nm,0.6s						
KRBR	**Kerman**	**3.03**	**55**	*e*Pn	**Pn**	**08 57 10.8**	**-1.1**
	SNR=52						
KRBR				Sg	**Sn**	**08 57 54.0**	**+7.0**
KRBR	**Kerman**	**3.03**	**55**	Pn	**Pn**	**08 57 10.0**	**-1.9**
KRBR				Sg	**Sn**	**08 57 54.0**	**+7.0**
BANOM	**Banah**	**3.16**	**137**	P	**Pn**	**08 57 14.3**	**+0.5**
	SNR=57						
IMEH	**Mehriz**	**3.17**	**11**	*e*Pn	**Pn**	**08 57 14.9**	**+0.9**
IMEH	**Mehriz**	**3.17**	**11**	*e*Pn	**Pn**	**08 57 14.7**	**+0.7**
IMEH	**Mehriz**	**3.17**	**11**	Pn	**Pn**	**08 57 14.8**	**+0.8**
IBAF	**Bafgh**	**3.61**	**23**	*e*Pn	**Pn**	**08 57 20.3**	**+0.3**
IBAF	**Bafgh**	**3.61**	**23**	Pn	**Pn**	**08 57 20.2**	**+0.2**
ISAD	**Sadrabad**	**3.64**	**357**	*e*Sn	**Sn**	**08 58 05.6**	**+3.4**
ISAD	**Sadrabad**	**3.64**	**357**	*e*Pn	**Pn**	**08 57 21.2**	**+0.8**
ICHK	**Chekchek**	**3.99**	**6**	*e*Pn	**Pn**	**08 57 25.7**	**+0.5**
ICHK	**Chekchek**	**3.99**	**6**	*e*Pn	**Pn**	**08 57 25.5**	**+0.3**
ICHK	**Chekchek**	**3.99**	**6**	Pn	**Pn**	**08 57 25.6**	**+0.4**
ASHO	**Ashiyiah**	**4.05**	**151**	P	**Pn**	**08 57 26.9**	**+0.9**
	SNR=131						
ASHO				P		08 57 27.0	
	SNR=55						
ASHO				⇑S	**Sn**	**08 58 12.9**	**+0.5**
IGAR	**Garneh**	**4.23**	**340**	*e*Sn	**Sn**	**08 58 24.4**	**+7.6**
NASN	**Na'in**	**4.62**	**348**	*e*PN	**Pn**	**08 57 33.9**	**+0.1**
NASN	**Na'in**	**4.62**	**348**	Pn	**Pn**	**08 57 33.0**	**-0.8**
IZEF	**Zefreh**	**4.81**	**344**	*e*Pn	**Pn**	**08 57 36.2**	**-0.3**
IZEF	**Zefreh**	**4.81**	**344**	Pn	**Pn**	**08 57 36.1**	**-0.4**
IPIR	**Pirpir**	**5.12**	**330**	*e*Pn	**Pn**	**08 57 40.1**	**-0.6**
IPIR				*e*Sn	**Sn**	**08 58 40.3**	**+1.7**
IPIR	**Pirpir**	**5.12**	**330**	Pn	**Pn**	**08 57 40.0**	**-0.7**
IPIR				Sn	**Sn**	**08 58 40.2**	**+1.6**
QRN	**Al-Qurain**	**5.29**	**277**	*e*P	**Pn**	**08 57 43.6**	**+0.6**
QRN				AML	AML	08 58 46.2	
	comp=Z,94nm,0.3s						
IKLH	**Kalahroud**	**5.42**	**339**	*e*Pn	**Pn**	**08 57 45.2**	**+0.4**
IKLH				*e*Sn	**Sn**	**08 58 47.1**	**+1.0**
ARQ	**Araqi**	**5.44**	**154**	P	**Pn**	**08 57 46.0**	**+0.8**
	SNR=14						
ARQ				⇑S	**Sn**	**08 58 41.7**	**-5.0**
KBD	**Kabd**	**5.53**	**281**	*e*P	**Pn**	**08 57 46.6**	**+0.3**
KBD				AML	AML	08 58 52.6	
	comp=Z,266nm,0.4s						
UMR	**Umm Al-Rimmam**	**5.58**	**285**	*e*P	**Pn**	**08 57 47.5**	**+0.5**
UMR				AML	AML	08 58 53.0	
	comp=Z,69nm,0.6s						
RDF	**Al-Radifah**	**5.63**	**278**	*e*P	**Pn**	**08 57 48.1**	**+0.4**
RDF				AML	AML	08 58 54.3	
	comp=Z,53nm,0.3s						
NAY	**Al-Naaiem**	**5.93**	**281**	*e*P	**Pn**	**08 57 52.4**	**+0.6**
NAY				AML	AML	08 59 04.7	
	comp=Z,70nm,0.6s						
MIB	**Mutribah**	**5.95**	**286**	*e*P	**Pn**	**08 57 52.4**	**+0.3**
MIB				AML	AML	08 59 02.5	
	comp=Z,82nm,0.8s						
BIDO	**Bidbid**	**6.06**	**140**	⇑P	**Pn**	**08 57 53.6**	**0.0**
	SNR=12						
ZHSF	**Zahedan**	**6.17**	**76**	*e*PN	**Pn**	**08 57 53.2**	**-1.8**
BSY	**Bisya**	**6.25**	**151**	P	**Pn**	**08 57 56.7**	**+0.5**
	SNR=15						
BSYO	**Bisya**	**6.28**	**151**	P	**Pn**	**08 57 56.7**	**+0.1**
	SNR=15						
SMDO	**Samad**	**6.39**	**143**	P	**Pn**	**08 57 58.5**	**+0.4**
	SNR=46						
IVRN	**Varamin**	**6.96**	**345**	*e*Pn	**Pn**	**08 58 05.6**	**-0.4**
JMDO	**Jabal Madar**	**6.99**	**146**	P	**Pn**	**08 58 07.3**	**+0.9**
	SNR=9.4						
IQOM	**Qom**	**6.99**	**340**	*e*Pn	**Pn**	**08 58 04.9**	**-1.5**
IQOM	**Qom**	**6.99**	**340**	*e*Pn	**Pn**	**08 58 05.8**	**-0.6**
ASAO	**Ashtian**	**7.09**	**333**	*e*PN	**Pn**	**08 58 08.0**	**+0.3**
IANJ	**Anjiloo**	**7.18**	**0**	*e*Pn	**Pn**	**08 58 09.0**	**0.0**
IANJ	**Anjiloo**	**7.18**	**0**	Pn	**Pn**	**08 58 08.9**	**-0.1**
WBK	**Wadi Bani Khal**	**7.25**	**140**	P	**Pn**	**08 58 09.5**	**-0.5**
	SNR=8.3						
IFIR	**Firoozkooh**	**7.42**	**353**	*e*Pn	**Pn**	**08 58 11.5**	**-0.8**
DAMV	**Damavand**	**7.53**	**348**	*e*PN	**Pn**	**08 58 13.9**	**+0.2**
IAFJ	**Afjeh**	**7.79**	**347**	*e*Pn	**Pn**	**08 58 17.7**	**+0.3**
IAFJ	**Afjeh**	**7.79**	**347**	*e*Pn	**Pn**	**08 58 16.9**	**-0.5**
IRAZ	**Razeghan**	**7.88**	**336**	*e*Pn	**Pn**	**08 58 18.3**	**-0.3**
IMHD	**Mahdasht**	**7.89**	**340**	*e*Pn	**Pn**	**08 58 17.9**	**-0.9**
CHTH	**Charan**	**7.98**	**344**	*e*PN	**Pn**	**08 58 20.1**	**+0.1**
CHTH	**Charan**	**7.98**	**344**	*e*Pn	**Pn**	**08 58 20.0**	**+0.1**
	SNR=52						
IDHR	**Dehrash**	**9.07**	**317**	*e*Sn	**Sn**	**09 00 13.5**	**-2.5**
IDHR	**Dehrash**	**9.07**	**317**	*e*Pn	**Pn**	**08 58 32.8**	**-2.2**
BHD	**Baghdad**	**9.59**	**304**	*e*x	x	08 59 23.0	
BHD				*e*x	x	09 02 16.0	
GNI	**Garni**	**14.06**	**330**	Pn	**Pn**	**08 59 50.5**	**+7.3**
	comp=Z,0.4nm,0.3s,baz=51,slow=10,SNR=2.1						
GNI	**Garni**	**14.06**	**330**	*e*P	**Pn**	**08 59 45.8**	**+2.6**
	comp=Z,6.0nm,0.8s						
GNI	**Garni**	**14.06**	**330**	*e*P	**Pn**	**08 59 45.8**	**+2.6**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI	**Garni**	**14.06**	**330**	*e*Pn	**Pn**	**08 59 45.8**	**+2.7**
	comp=Z,5.7nm,0.8s						
BDHA	**Al Bayda'**	**16.20**	**210**	*e*P	**Pn**	**09 00 08.6**	**-2.8**
MALT	**Malatya**	**16.35**	**312**	*e*P	**Pn**	**09 00 13.5**	**+0.2**
	comp=Z,8.0nm,0.4s						
MALT	**Malatya**	**16.35**	**312**	*e*P	**Pn**	**09 00 13.5**	**+0.2**
MALT				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MALT	**Malatya**	**16.35**	**312**	*e*Pn	**Pn**	**09 00 13.4**	**+0.1**
	comp=Z,8.0nm,0.4s						
LBOS		**16.43**	**211**	*e*P	**Pn**	**09 00 11.7**	**-2.7**
ZEI	**Tsey**	**16.59**	**333**	*i* P	**Pn**	**09 00 20.3**	**+3.9**
EIL	**Elat**	**16.65**	**279**	*e*P	**Pn**	**09 00 17.6**	**+0.4**
	comp=Z,210nm,1.0s						
EIL	**Elat**	**16.65**	**279**	*e*P	**Pn**	**09 00 17.6**	**+0.4**
	comp=Z,210nm,1.0s						
KIV	**Kislovodsk**	**18.07**	**333**	*e*P	**Pn**	**09 00 36.9**	**+2.2**
	comp=Z,19nm,1.2s						
KIV	**Kislovodsk**	**18.07**	**333**	*e*P	**Pn**	**09 00 36.9**	**+2.2**
KIV				*e*S	**Sn**	**09 03 56.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,19nm,1.2s						
KIV				MLR	MLR		
	comp=Z,171nm,13.0s						
SOC	**Sochi**	**19.08**	**327**	*e*P	**Pn**	**09 00 51.9**	**+4.9**
SOC				*e*S	**Sn**	**09 04 17.0**	**-2.8**
SOC				pmax	pmax		
	comp=Z,38nm,1.1s						
SOC				MLR	MLR		
	comp=Z,193nm,13.0s						
ATD	**Arta Tunnel**	**19.61**	**214**	LR	LR	09 08 52.2	
	comp=Z,216nm,19.7s,baz=38,slow=38						
BR131	**Keskin Array S**	**20.28**	**310**	*e*P	**P**	**09 00 59.3**	**+0.2**
	comp=Z,1.8nm,0.4s						
BRTR	**Keskin Array B**	**20.28**	**310**	P	**P**	**09 00 60.0**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=132,slow=12,SNR=12						
BRTR	**Keskin Array B**	**20.28**	**310**	P	**P**	**09 01 00.0**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SMLA	**Simla**	**20.40**	**76**	*e*P	**P**	**09 00 59.5**	**-1.0**
SMLA				AMb	AMB	09 01 04.3	
	comp=Z,17nm,1.6s						
POO	**Poona**	**20.68**	**114**	*e*P	**P**	**09 01 05.0**	**+1.5**
ANTO	**Ankara**	**20.92**	**309**	*e*P	**P**	**09 01 07.2**	**+1.1**
	comp=Z,10.0nm,0.7s						
ANTO	**Ankara**	**20.92**	**309**	*e*P	**P**	**09 01 07.2**	**+1.1**
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ANTO	**Ankara**	**20.92**	**309**	*e*P	**P**	**09 01 07.2**	**+1.1**
	comp=Z,9.7nm,0.7s						
KAD	**Karad**	**21.61**	**116**	*e*P	**P**	**09 01 13.9**	**+0.4**
KAD				AMb	AMB	09 01 16.2	
	comp=Z,16nm,1.1s,mb4.4						
BHPL	**Bhopal**	**21.75**	**98**	*e*P	**P**	**09 01 14.6**	**-0.4**
BHPL				AMb	AMB	09 01 17.9	
	comp=Z,30nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**21.98**	**44**	*e*P	**P**	**09 01 19.6**	**+2.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**21.98**	**44**	*e*P	**P**	**09 01 19.6**	**+2.1**
	comp=Z,4.4nm,0.8s,mb3.9						
AKTK	**Aktyubinsk**	**22.36**	**7**	P	**P**	**09 01 20.5**	**-1.0**
	comp=Z,98nm,18.6s						
AKTK	**Aktyubinsk**	**22.36**	**7**	P	**P**	**09 01 20.5**	**-1.0**
AKTK				LR	LR	09 11 53.6	
AKTO	**Aktyubinsk**	**22.36**	**7**	P	**P**	**09 01 20.5**	**-1.0**
	comp=Z,4.4nm,0.6s,mb4.1,baz=208,slow=12,SNR=21						
AKTO				LR	LR	09 11 53.6	
	comp=Z,98nm,18.6s,MS3.3,baz=0.0,slow=42						
AKTO	**Aktyubinsk**	**22.36**	**7**	P	**P**	**09 01 20.5**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
AKTO				MLR	MLR		
	comp=Z,98nm,18.6s,MS3.3						
VRSR	**Storozhevoye**	**25.47**	**338**	*e*P	**P**	**09 01 50.7**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.0						
VRSR	**Storozhevoye**	**25.47**	**338**	*e*P	**P**	**09 01 50.7**	**-0.6**
VRSR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.6s						
IDI	**Anoyia**	**25.58**	**293**	P	**P**	**09 01 52.7**	**+0.3**
	comp=E,8.2nm,0.7s,mb4.4,baz=52,slow=6.2,SNR=4.0						
BVAR	**Borovoye Array**	**27.58**	**22**	P	**P**	**09 02 09.7**	**-0.7**
	comp=E,3.4nm,0.7s,mb4.1,baz=201,slow=7.8,SNR=18						
BVAR				PcP	PcP	09 05 29.5	+1.9
	comp=E,0.5nm,0.4s,baz=210,slow=3.6,SNR=5.0						
BVAR	**Borovoye Array**	**27.58**	**22**	P	**P**	**09 02 09.7**	**-0.7**
BVAR						09 05 29.5	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	**Muntele Rosu**	**28.01**	**315**	LR	LR	09 15 18.3	
	comp=Z,371nm,20.3s,MS4.0,baz=311,slow=41						
MKAR	**Makanchi Array**	**28.90**	**43**	P	**P**	**09 02 21.6**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=230,slow=8.9,SNR=11						
MKAR				LR	LR	09 15 25.7	
	comp=Z,118nm,18.2s,MS3.5,baz=266,slow=40						
MKAR	**Makanchi Array**	**28.90**	**43**	P	**P**	**09 02 21.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,118nm,18.2s						
AKASG	**Malin Array Be**	**29.16**	**327**	P	**P**	**09 02 23.5**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.5,baz=134,slow=8.5,SNR=6.0						
AKASG	**Malin Array Be**	**29.16**	**327**	P	**P**	**09 02 23.5**	**-1.0**
KURK	**Kurchatov**	**29.19**	**33**⇓	*e*P	**P**	**09 02 27.2**	**+2.5**
OBN	**Obninsk**	**29.62**	**340**	*e*P	**P**	**09 02 28.9**	**+0.4**
	comp=Z,8.0nm,0.4s,mb4.8						
OBN	**Obninsk**	**29.62**	**340**⇑	*e*P	**P**	**09 02 28.9**	**+0.4**
OBN				*e*S	**S**	**09 07 09.0**	**-13**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS3.7						
WMQ	**Urumqi**	**31.16**	**51**	*e*P	**P**	**09 02 43.0**	**+0.8**
WMQ				PP	PP	09 03 46.0	-6.8
WMQ				S	**S**	**09 07 49.0**	**+3.0**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,41nm,3.0s						
WMQ				LR	LR		
	comp=N,124nm,8.0s						
WMQ				LR	LR		
	comp=E,78nm,8.0s						
WMQ				LR	LR		
	comp=Z,56nm,8.0s						
KMBO	**Kilima Mbogo**	**33.31**	**211**	LR	LR	09 17 39.0	
	comp=Z,85nm,19.8s,MS3.5,baz=70,slow=38						
ZAL	**Zasovo**	**34.16**	**33**	P	**P**	**09 03 10.1**	**+1.7**
	comp=Z,4.8nm,0.5s,mb4.7,baz=217,slow=5.3,SNR=6.4						
ZAL				LR	LR	09 19 28.4	
	comp=Z,183nm,20.1s,MS3.8,baz=240,slow=41						
ZAL	**Zalesovo**	**34.16**	**33**	P	**P**	**09 03 10.1**	**+1.7**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,183nm,20.1s						
ZAL	**Zalesovo**	**34.16**	**33**	P	**P**	**09 03 10.1**	**+1.7**
ZAL				LR	LR	09 19 28.4	
GERES	**GERESS Array B**	**36.99**	**315**	P	**P**	**09 03 34.3**	**+1.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=105,slow=8.4,SNR=5.1						
GERES				LR	LR	09 20 37.6	
	comp=Z,66nm,18.3s,MS3.5,baz=307,slow=39						
GERES	**GERESS Array B**	**36.99**	**315**	P	**P**	**09 03 34.3**	**+1.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES				MLR	MLR		
	comp=Z,66nm,18.3s						
JOF	**Joensuu**	**37.67**	**343**	*e*p	**P**	**09 03 38.2**	**-0.2**
FINES	**FINESS Array B**	**38.01**	**339**	P	**P**	**09 03 40.8**	**-0.5**
	comp=Z,4.6nm,0.7s,mb4.3,baz=142,slow=8.0,SNR=20						
FINES	**FINESS Array B**	**38.01**	**339**	P	**P**	**09 03 40.8**	**-0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KAF	**Kangasniemi**	**38.44**	**339**	*e*p	**P**	**09 03 43.9**	**-1.0**
PGF	**Pioggiola**	**38.83**	**304**	*e*P	**P**	**09 03 48.2**	**0.0**
GTA	**Gaotai**	**39.34**	**61**	*e*P	**P**	**09 03 52.0**	**-0.5**
GTA				AP	pP	09 03 58.5	-3.4
GTA				XP	sP	09 04 01.8	-4.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
SBF	**Sospel**	**40.12**	**306**	*e*P	**P**	**09 03 58.9**	**-0.1**
FRF	**La Foret Royal**	**40.65**	**305**	*e*P	**P**	**09 04 03.0**	**-0.4**
MBDF	**Montbardon**	**40.70**	**307**	*e*P	**P**	**09 04 03.5**	**-0.3**
	comp=Z,9.0nm,0.5s,mb4.3						
MBDF	**Montbardon**	**40.70**	**307**	*e*P	**P**	**09 04 03.5**	**-0.3**
	comp=Z,4.5nm,0.5s,mb4.3						
MBDF	**Montbardon**	**40.70**	**307**	*e*P	**P**	**09 04 03.5**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
LPG	**La Plagne**	**40.82**	**308**	*e*P	**P**	**09 04 05.1**	**+0.3**
	comp=Z,15nm,0.6s,mb4.5						
LPG	**La Plagne**	**40.82**	**308**	*e*P	**P**	**09 04 05.1**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.5						
LPG	**La Plagne**	**40.82**	**308**	*e*P	**P**	**09 04 05.1**	**+0.3**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
LPL	**La Plagne**	**40.84**	**308**	*e*P	**P**	**09 04 05.5**	**+0.6**
HINF	**Hinteralfeld**	**41.15**	**311**	*e*P	**P**	**09 04 07.4**	**0.0**
CABF	**La Chapelle**	**41.45**	**309**	*e*P	**P**	**09 04 09.4**	**-0.5**
	comp=Z,7.1nm,0.5s,mb4.2						
CABF	**La Chapelle**	**41.45**	**309**	*e*P	**P**	**09 04 09.4**	**-0.5**
	comp=Z,3.5nm,0.5s,mb4.2						
CABF	**La Chapelle**	**41.45**	**309**	*e*P	**P**	**09 04 09.4**	**-0.5**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
VIVF	**Saint-Julien-l**	**42.20**	**307**	*e*P	**P**	**09 04 15.2**	**-0.9**
	comp=Z,7.9nm,0.6s,mb4.2						
VIVF	**Saint-Julien-l**	**42.20**	**307**	*e*P	**P**	**09 04 15.2**	**-0.9**
	comp=Z,4.0nm,0.6s,mb4.2						
VIVF	**Saint-Julien-l**	**42.20**	**307**	*e*P	**P**	**09 04 15.2**	**-0.9**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**42.98**	**309**	*e*P	**P**	**09 04 21.7**	**-0.7**
	comp=Z,8.3nm,0.4s,mb4.5						
SMF	**Signal de Mont**	**42.98**	**309**	*e*P	**P**	**09 04 21.7**	**-0.7**
	comp=Z,4.2nm,0.4s,mb4.5						
SSF	**Saint Saulge**	**43.27**	**310**	*e*P	**P**	**09 04 24.8**	**+0.1**
NB2	**NORSAR Subarra**	**43.36**	**331**	P	**P**	**09 04 23.9**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=118,slow=7.9						
NOA	**NORSAR Array B**	**43.36**	**331**	P	**P**	**09 04 23.9**	**-1.6**
	comp=Z,1.3nm,0.7s,mb3.8,baz=120,slow=8.1,SNR=5.6						
NOA				LR	LR	09 24 05.4	
	comp=Z,89nm,19.9s,MS3.7,baz=30,slow=38						
NOA	**NORSAR Array B**	**43.36**	**331**	P	**P**	**09 04 23.9**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,89nm,19.9s						
MTLF	**Montolieu**	**43.85**	**304**	*e*P	**P**	**09 04 29.3**	**-0.1**
TCF	**Toulx Ste Croi**	**44.07**	**309**	*e*P	**P**	**09 04 30.7**	**-0.4**
	comp=Z,5.7nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**44.07**	**309**	*e*P	**P**	**09 04 30.7**	**-0.4**
	comp=Z,2.8nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**44.07**	**309**	*e*P	**P**	**09 04 30.7**	**-0.4**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**44.45**	**346**	P	**P**	**09 04 33.6**	**-0.6**
	comp=Z,0.7nm,0.3s,mb3.9,baz=141,slow=7.8,SNR=8.6						
ARCES				LR	LR	09 24 51.2	
	comp=Z,185nm,18.1s,MS4.0,baz=14,slow=38						
ARCES	**ARCESS Array B**	**44.45**	**346**	P	**P**	**09 04 33.7**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,185nm,18.1s						
RJF	**Les Rejaudoux**	**44.47**	**307**	*e*P	**P**	**09 04 34.7**	**+0.3**
	comp=Z,10nm,0.5s,mb4.5						
RJF				*e*R			
	comp=Z,221nm,17.8s						
RJF	**Les Rejaudoux**	**44.47**	**307**	*e*P	**P**	**09 04 34.7**	**+0.3**
RJF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
RJF				MLR	MLR		
	comp=Z,220nm,17.8s,MS4.1						
RJF	**Les Rejaudoux**	**44.47**	**307**	*e*P	**P**	**09 04 34.7**	**+0.3**
	comp=Z,5.1nm,0.5s,mb4.5						
RJ

SSE AMB AMB
comp=Z,22nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,144nm,5.3s
TIXI Tiksi 58.71 21 *e*P **P 09 06 20.1 -0.7**
comp=Z,100nm,12.0s
TIXI Tiksi 58.71 21⇑ *e*P **P 09 06 20.1 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TIXI MLR MLR
comp=Z,100nm,12.0s,MS4.2
DBIC Dimbokro 59.42 261 P **P 09 06 26.8 +1.1**
comp=Z,2.6nm,0.6s,mb4.4,baz=33,slow=10.0,SNR=8.1
DBIC LR LR 09 33 10.9
comp=Z,114nm,18.4s,MS4.0,baz=132,slow=37
DBIC Dimbokro 59.42 261 P **P 09 06 26.8 +1.1**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC MLR MLR
comp=Z,114nm,18.5s
BOSA Boshof 62.86 208 P **P 09 06 50.0 +0.9**
comp=Z,1.3nm,0.6s,mb4.2,baz=318,slow=10,SNR=4.0
BOSA LR LR 09 33 25.8
comp=Z,88nm,19.7s,MS3.9,baz=172,slow=35
VLA Vladivostok 62.92 54 *e*P **P 09 06 40.6 -8.8**
VLA pmax pmax
comp=Z,76nm,1.4s,mb5.6
MJAR Matsushiro Arr 69.53 59 LR LR 09 38 47.3
comp=Z,124nm,19.5s,MS4.2,baz=285,slow=37
BILL Bilibino 71.93 21 *e*P **P 09 07 45.8 -0.6**
comp=Z,100nm,17.0s
BILL Bilibino 71.93 21 *e*P **P 09 07 45.8 -0.6**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
INK Inuvik 83.56 3 P **P 09 08 50.4 -0.8**
comp=Z,0.6nm,0.4s,mb4.1,baz=26,slow=5.8,SNR=9.1
INK Inuvik 83.56 3 P **P 09 08 50.4 -0.8**
INK pmax pmax
comp=Z,1.0nm,0.4s
ILAR Eielson Array 85.86 9 P **P 09 09 02.4 -0.3**
comp=Z,0.7nm,0.8s,mb3.9,baz=320,slow=4.1,SNR=4.6
ILAR Eielson Array 85.86 9 P **P 09 09 02.4 -0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 89.09 355 P **P 09 09 18.5 +0.2**
comp=Z,1.3nm,0.8s,mb4.3,baz=5.0,slow=5.0,SNR=33
YKA LR LR 09 51 59.1
comp=Z,70nm,19.8s,MS4.1,baz=5.0,slow=38
YKA Yellowknife Ar 89.09 355 P **P 09 09 18.5 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,70nm,19.8s
ASAR Alice Springs 92.72 115 P **P 09 09 34.9 -0.3**
comp=Z,0.7nm,0.7s,mb4.2,baz=305,slow=3.9,SNR=4.6
ASAR Alice Springs 92.72 115 P **P 09 09 34.9 -0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s

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*ISCJB **27** 09:09:39.9±0.3, 4253N±002×220E±003, h8km, Error ellipse: s-maj=3.2km s-min=2.5km az=114.1*
*MDD **27** 09:09:41.5±0.3, 4246N×223E, h8km±3km, mbLg2.1/17, Error ellipse: s-maj=1.9km s-min=1.3km az=165.0, PRXIMO*
*CSEM **27** 09:09:41.6±0.1, 4246N×223E, h10km, ML2.7/3, Error ellipse: s-maj=2.4km s-min=1.6km az=162.0*
*STR **27** 09:09:41.0±0.2, 4245N×221E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **27** 09:09:41.4, 4246N×2.18E, h5km, ML2.5(LDG), ML2.7(STR), After STR.*
*LDG **27** 09:09:41.3±0.1, 4246N×222E, h5km, Md2.3/1, Ml2.5/9, Error ellipse: s-maj=1.1km s-min=0.9km az=122.0*
ISC 27 09:09:40.6±0.4, 4247N±002×222E±003, h15km±3km, n54, σ0§57/84, 3C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.17**	**245**	Pg	**Pg**	**09 09 44.9**	**+0.2**
VALF				Sg	**Sg**	**09 09 47.1**	**-0.5**
VALF	**Valcebollere**	**0.17**	**245**	Pg	**Pg**	**09 09 45.0**	**+0.2**
VALF				Lg		09 09 47.4	
CLLI	**Llivia**	**0.18**	**272**	Pg	**Pg**	**09 09 45.2**	**+0.2**
CLLI				Lg		09 09 48.0	
	65nm,0.1s						
CBRU	**Bruguera**	**0.19**	**190**	Pg	**Pg**	**09 09 45.1**	**0.0**
CBRU				Lg		09 09 47.8	
	124nm,0.1s						
CARF	**Carcanieres**	**0.26**	**340**	Pg	**Pg**	**09 09 47.0**	**+0.9**
CARF				Sg	**Sg**	**09 09 50.8**	**+0.9**
CARF	**Carcanieres**	**0.26**	**340**	Pg	**Pg**	**09 09 47.1**	**+0.9**
CARF				Lg		09 09 50.9	
FILF	**Fillols**	**0.26**	**71**	Pg	**Pg**	**09 09 45.2**	**-1.1**
FILF				Lg		09 09 47.8	
SJAF	**Saint Jean de**	**0.49**	**88**	Pg	**Pg**	**09 09 50.5**	**+0.2**
SJAF				Sg	**Sg**	**09 09 56.9**	**+0.1**
SJAF	**Saint Jean de**	**0.49**	**88**	Pg	**Pg**	**09 09 50.5**	**+0.3**
SJAF				Lg		09 09 56.9	
EJON	**La Jonquera**	**0.49**	**93**	⇑Pg	**Pg**	**09 09 50.8**	**+0.4**
	3.0nm,0.1s,SNR=18						
EJON				Lg		09 09 57.0	
	16nm,0.1s,SNR=14						
EJON	**La Jonquera**	**0.49**	**93**	Pg	**Pg**	**09 09 50.8**	**+0.4**
	3.0nm,0.1s,SNR=18						
LRDF	**Laroque-de-Fa**	**0.52**	**26**	Pg	**Pg**	**09 09 51.5**	**+0.6**
LRDF				Sg	**Sg**	**09 09 59.4**	**+1.6**
LRDF	**Laroque-de-Fa**	**0.52**	**26**	Pg	**Pg**	**09 09 51.5**	**+0.6**
LRDF				Lg		09 09 59.2	
CORG	**Organya**	**0.71**	**250**	Pg	**Pg**	**09 09 54.3**	**-0.2**
CFON	**Fontmartina**	**0.73**	**167**	Pg	**Pg**	**09 09 54.8**	**0.0**
CFON				Lg		09 10 04.1	
	24nm,0.1s						
EMIR	**Miracle**	**0.76**	**223**	⇑Pg	**Pg**	**09 09 55.7**	**+0.3**
	11nm,0.1s,SNR=18						
EMIR				Lg		09 10 06.2	
	20nm,0.1s,SNR=7.6						
EMIR	**Miracle**	**0.76**	**223**	Pg	**Pg**	**09 09 55.7**	**+0.3**
	11nm,0.1s,SNR=18						
CSOR	**Sort**	**0.81**	**263**	Pg	**Pg**	**09 09 56.4**	**0.0**
CSOR				Lg		09 10 08.2	
	14nm,0.2s						
SALF	**Salau**	**0.81**	**291**	Pg	**Pg**	**09 09 56.6**	**+0.2**
SALF				Sg	**Sg**	**09 10 07.2**	**0.0**
SALF	**Salau**	**0.81**	**291**	Pg	**Pg**	**09 09 56.6**	**+0.2**
SALF				Lg		09 10 07.1	
MTLF	**Montolieu**	**0.87**	**360**	*e*Pg	**Pg**	**09 09 58.1**	**+0.7**
MTLF				*e*Sg	**Sg**	**09 10 09.2**	**+0.4**
	16nm,0.2s						
MTLF	**Montolieu**	**0.87**	**360**	*e*Pg	**Pg**	**09 09 58.1**	**+0.7**
MTLF				*e*Sg	**Sg**	**09 10 09.2**	**+0.4**
	8.1nm,0.2s						
CAVN	**Les Avellanes**	**1.24**	**242**	Pg	**Pg**	**09 10 04.8**	**+0.2**
EPOB	**Poblet**	**1.41**	**218**	⇑Pg	**Pg**	**09 10 07.3**	**-0.4**
	4.5nm,0.1s,SNR=18						
EPOB				Lg		09 10 25.5	
	26nm,0.2s,SNR=14						
EPOB	**Poblet**	**1.41**	**218**	Pg	**Pg**	**09 10 07.3**	**-0.4**
	4.5nm,0.1s,SNR=18						
CGAR	**Garraf**	**1.43**	**215**	Lg		09 10 19.3	
	4.6nm,0.1s						
EGRA	**Graus**	**1.44**	**260**	Pg	**Pg**	**09 10 08.7**	**+0.4**
	2.0nm,0.2s,SNR=13						
EGRA				Lg		09 10 28.5	
	9.4nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.50**	**293**	*e*Pg	**Pg**	**09 10 09.0**	**-0.3**
EPF				*e*Sg	**Sg**	**09 10 28.9**	**+0.1**
	11nm,0.3s						
EPF	**Esparros**	**1.50**	**293**	Pn	**Pn**	**09 10 07.3**	**+0.4**
EPF				Pg	**Pg**	**09 10 09.0**	**-0.3**
EPF				Lg		09 10 28.9	
	5.6nm,0.3s						
EPF	**Esparros**	**1.50**	**293**	*e*Pg	**Pg**	**09 10 09.0**	**-0.3**
EPF				*e*Sg	**Sg**	**09 10 28.9**	**+0.1**
	5.6nm,0.3s						
EPF	**Esparros**	**1.50**	**293**	*e*Pn	**Pn**	**09 10 07.3**	**+0.4**
EPF				*e*Pg	**Pg**	**09 10 09.0**	**-0.3**
EPF				*e*Sg	**Sg**	**09 10 28.9**	**+0.1**
EBIE	**Bielsa**	**1.55**	**279**	Pg	**Pg**	**09 10 11.0**	**+0.5**
	3.3nm,0.2s,SNR=25						
EBIE				Lg		09 10 32.1	
	6.0nm,0.1s,SNR=18						
EBIE	**Bielsa**	**1.55**	**279**	Pg	**Pg**	**09 10 11.0**	**+0.6**
	3.3nm,0.2s,SNR=25						
LASF	**Ste Croix**	**2.00**	**36**	*e*Pg	**Pg**	**09 10 18.3**	**-0.6**
LASF				*e*Sn	**Sn**	**09 10 38.3**	**-0.3**
LASF				*e*Sg	**Sg**	**09 10 44.7**	**-0.2**
	4.2nm,0.2s						
LASF	**Ste Croix**	**2.00**	**36**	Pn	**Pn**	**09 10 14.0**	**+0.2**
LASF				Pg	**Pg**	**09 10 18.3**	**-0.6**
LASF				Sn	**Sn**	**09 10 38.3**	**-0.3**
LASF				Lg		09 10 44.7	
	2.1nm,0.2s						
LASF	**Ste Croix**	**2.00**	**36**	*e*Pn	**Pn**	**09 10 14.0**	**+0.2**
LASF				*e*Sn	**Sn**	**09 10 38.3**	**-0.3**
LASF	**Ste Croix**	**2.00**	**36**	*e*Pn	**Pn**	**09 10 14.0**	**+0.2**
LASF				*e*Pg	**Pg**	**09 10 18.3**	**-0.6**
LASF				*e*Sn	**Sn**	**09 10 38.3**	**-0.3**
LASF				*e*Sg	**Sg**	**09 10 44.7**	**-0.2**
ERTA	**Horta de San J**	**2.07**	**224**	Pg	**Pg**	**09 10 19.6**	**-0.8**
	0.9nm,0.1s,SNR=9.2						
ERTA				Lg		09 10 45.6	
	4.4nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**2.10**	**283**	*e*Pg	**Pg**	**09 10 20.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**09 10 47.9**	**-0.1**
	17nm,0.4s						
ETSF	**Etsaut**	**2.10**	**283**	Pn	**Pn**	**09 10 15.7**	**+0.5**
ETSF				Pg	**Pg**	**09 10 20.6**	**-0.2**
ETSF				Lg		09 10 47.9	
	8.6nm,0.4s						
ETSF	**Etsaut**	**2.10**	**283**	*e*Pg	**Pg**	**09 10 20.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**09 10 47.9**	**-0.1**
	8.6nm,0.4s						
ETSF	**Etsaut**	**2.10**	**283**	*e*Pn	**Pn**	**09 10 15.7**	**+0.5**
ETSF				*e*Pg	**Pg**	**09 10 20.6**	**-0.2**
ETSF				*e*Sg	**Sg**	**09 10 47.9**	**-0.1**
ESAC	**San Caprasio**	**2.14**	**250**	Pg	**Pg**	**09 10 21.3**	**-0.3**
	3.5nm,0.1s,SNR=7.9						
ESAC				Lg		09 10 48.6	
	16nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.45**	**357**	*e*Pn	**Pn**	**09 10 20.5**	**+0.4**
CAF				*e*Sg	**Sg**	**09 10 58.9**	**-0.6**
	10.0nm,0.3s						
CAF	**Calviac**	**2.45**	**357**	Pn	**Pn**	**09 10 20.5**	**+0.4**
CAF				Lg		09 10 58.9	
	0.0nm,0.3s						
SJPF	**Ste Jean**	**2.62**	**285**	*e*Sg	**Sg**	**09 11 04.0**	**-0.7**
	3.4nm,0.3s						
SJPF	**Ste Jean**	**2.62**	**285**	Lg		09 11 04.0	
	1.7nm,0.3s						
LFF	**La Frestale**	**2.69**	**337**	*e*Pn	**Pn**	**09 10 23.6**	**+0.2**
LFF				*e*Sg	**Sg**	**09 11 06.3**	**-0.7**
	7.5nm,0.4s						
LFF	**La Frestale**	**2.69**	**337**	Pn	**Pn**	**09 10 23.6**	**+0.2**
LFF				Lg		09 11 06.3	
	3.8nm,0.4s						
RJF	**Les Rejaudoux**	**2.88**	**350**	*e*Pn	**Pn**	**09 10 26.0**	**+0.1**
RJF				*e*Sg	**Sg**	**09 11 12.0**	**-1.0**
	2.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.88**	**350**	Pn	**Pn**	**09 10 26.0**	**+0.1**
RJF				Lg		09 11 12.0	
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.97**	**36**	*e*Pg	**Pg**	**09 10 36.7**	**-0.9**
VIVF				*e*Sg	**Sg**	**09 11 14.7**	**-1.4**
	3.5nm,0.3s						
VIVF	**Saint-Julien-l**	**2.97**	**36**	Pn	**Pn**	**09 10 27.7**	**+0.5**
VIVF				Pg	**Pg**	**09 10 36.7**	**-0.9**
VIVF				Lg		09 11 14.7	
	1.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.97**	**36**	*e*Pn	**Pn**	**09 10 27.7**	**+0.5**
VIVF				*e*Pg	**Pg**	**09 10 36.7**	**-0.9**
VIVF				*e*Sg	**Sg**	**09 11 14.7**	**-1.4**

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*NIED **27** 09:10:00, 2670N×127.70E, h47km, Mw4.2 Best double couple: M0=2.37000×10^15 NP1:φs=54.00000°, δ86.00000°, λ55.00000°. NP2:φs=319.00000°, δ35.00000°, λ174.00000°.*
*MOS **27** 09:10:54.1±0.8, 2669N×127.73E, h43km, mb4.7/25, Error ellipse: s-maj=17.4km s-min=7.7km az=118.3*
*BJI **27** 09:10:54.6, 2691N×128.15E, h68km, mB4.7, mb4.2, Ms4.1, Msz3.8*
*ISCJB **27** 09:10:55.8±0.3, 2668N±004×12774E±004, h58km±2km, mb4.5/36, MS4.0/6, Error ellipse: s-maj=7.2km s-min=3.6km az=98.6*
*IDC **27** 09:10:55.8±1.4, 2669N×12782E, h43km±14km, mb4.1/17, mb1 4.3/17, mb1mx4.2/21, mbtmp4.4/17, MS4.0/4, Ms1 4.0/4, ms1mx3.2/24, Error ellipse: s-maj=23.6km s-min=14.2km az=68.0*
*NEIC **27** 09:10:56.4±1.1, 2667N×12769E, h47km±11km, mb4.6/7, MW4.2(NIED), Error ellipse: s-maj=11.0km s-min=7.5km az=55.0*
NEIC Recorded [2 JMA] on Okinawa and [1 JMA] on Kume-jima.
*JMA **27** 09:10:56.5±0.2, 2668N×12775E, h53km±2km, M4.1*
JMA Felt II J1.
*NAO **27** 09:11:07.1, 3004N×12944E, h33km, mb4.3*
ISC 27 09:10:56.9±0.3, 2668N±003×12776E±003, h51km±3km, n97, σ0§86/109, mb4.5/36, MS4.0/6, 2C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.40**	**28**	P	**Pn**	**09 11 07.0**	**-0.1**
JIH				S	**Sn**	**09 11 14.3**	**-0.1**
JAGN	**Aguni-jima**	**0.47**	**259**	P	**Pn**	**09 11 07.5**	**-0.3**
JAGN				S	**Sn**	**09 11 15.5**	**-0.2**
NAH1	**Naha**	**0.48**	**187**	P	**Pn**	**09 11 07.5**	**-0.5**
NAH1				S	**Sn**	**09 11 15.5**	**-0.5**
JOW	**Kunigami**	**0.49**	**72**	P	**Pn**	**09 11 07.7**	**-0.4**
JOW				S	**Sn**	**09 11 15.4**	**-0.7**
JOW	**Kunigami**	**0.49**	**72**	P	**Pn**	**09 11 07.8**	**-0.3**
	668nm,0.3s,baz=199,slow=12,SNR=288						
JOW				S	**Sn**	**09 11 15.6**	**-0.5**
	5μm,0.3s,baz=118,slow=24,SNR=148						
JJT2	**Tamagusuku 2**	**0.54**	**181**	P	**Pn**	**09 11 08.6**	**-0.1**
JJT2				S	**Sn**	**09 11 17.6**	**+0.4**
JKE	**Kume jima 2**	**0.94**	**248**	P	**Pn**	**09 11 13.2**	**-0.6**
JKE				S	**Sn**	**09 11 25.3**	**-0.9**
JTK	**Tokunoshima**	**1.53**	**44**	P	**Pn**	**09 11 21.9**	**+0.1**
JTK				S	**Sn**	**09 11 41.7**	**+1.2**
JAM	**Amami Oshima**	**2.38**	**43**	P	**Pn**	**09 11 34.4**	**+1.0**
JAM				S	**Sn**	**09 12 02.0**	**+0.6**
JZK	**Kikaishima**	**2.55**	**50**	P	**Pn**	**09 11 36.7**	**+0.9**
JZK				*e*S	**Sn**	**09 12 06.3**	**+0.7**
JOGS	**Gusukube**	**2.86**	**228**	*e*S	**Sn**	**09 12 14.1**	**+1.0**
JMZ	**Minamidaito 2**	**3.23**	**105**	P	**Pn**	**09 11 42.5**	**-2.5**
JMZ				*e*S	**Sn**	**09 12 17.3**	**-4.9**
JTJ	**Tarama**	**3.42**	**234**	P	**Pn**	**09 11 48.1**	**+0.4**
JTJ				*e*S	**Sn**	**09 12 26.9**	**-0.1**
JIJ	**Ishigaki jima**	**4.00**	**236**	P	**Pn**	**09 11 54.7**	**-0.9**
JIJ				*e*S	**Sn**	**09 12 41.6**	**+0.5**
JKRS	**Kuro-shima**	**4.17**	**235**	*e*S	**Sn**	**09 12 47.6**	**+2.2**
NJ2	**Nanjing**	**9.43**	**307**	*e*P	**Pn**	**09 13 09.3**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,380nm,5.8s						
NJ2				LR	LR		
	comp=N,490nm,8.2s						
NJ2				LR	LR		
	comp=E,740nm,6.2s						
NJ2				LR	LR		
	comp=Z,300nm,7.6s						
MJAR	**Matsushiro Arr**	**13.25**	**40**	P	**Pn**	**09 14 13.0**	**+11**
	comp=Z,0.3nm,0.3s,baz=230,slow=9.8,SNR=16						
XAN	**Xi'an**	**17.82**	**299**	P	**Pn**	**09 15 03.3**	**+2.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.6s						
GTA	**Gaotai**	**26.52**	**306**	*e*P	**P**	**09 16 27.3**	**-2.3**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**26.65**	**328**	*e*P	**P**	**09 16 31.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**26.65**	**328**	*e*P	**P**	**09 16 31.5**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.0						
SONM	**Songino Array**	**26.94**	**327**	P	**P**	**09 16 33.9**	**+0.5**
	comp=Z,3.9nm,0.5s,mb4.2,baz=140,slow=10,SNR=27						
SONM	**Songino Array**	**26.94**	**327**	P	**P**	**09 16 33.9**	**+0.5**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PET	**Petropavlovsk**	**34.94**	**33**	*i* P	**P**	**09 17 43.2**	**-0.6**
PET				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2						
YAK	**Yakutsk**	**35.37**	**2**	*i* P	**P**	**09 17 46.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
WAKE	**Wake Island**	**36.45**	**93**	*e*P	**P**	**09 17 59.8**	**+3.1**
	comp=Z,288nm,0.6s						
JIRN	**Jiri**	**36.87**	**281**	*e*P	**P**	**09 18 01.1**	**+0.8**
GUN	**Gumba**	**37.10**	**282**	*e*P	**P**	**09 18 03.4**	**+1.1**
	comp=Z,16nm,0.4s,mb5.2						
PKI	**Pulchoki**	**37.57**	**281**	*e*P	**P**	**09 18 06.4**	**+0.2**
	comp=Z,21nm,0.5s,mb5.1						
PKI	**Pulchoki**	**37.57**	**281**	*e*P	**P**	**09 18 06.4**	**+0.2**
PKI				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.8						
KKN	**Kakani**	**37.65**	**282**	*e*P	**P**	**09 18 07.1**	**+0.2**
	comp=Z,17nm,0.4s,mb5.1						
DMN	**Daman**	**37.83**	**281**	*e*P	**P**	**09 18 08.7**	**+0.3**
GKN	**Gorkha**	**38.18**	**282**	*e*P	**P**	**09 18 11.7**	**+0.4**
	comp=Z,20nm,0.5s,mb5.1						
KOLN	**Koldanda**	**39.12**	**282**	*e*P	**P**	**09 18 19.2**	**0.0**
SEY	**Seymchan**	**39.72**	**17**	*i* P	**P**	**09 18 25.0**	**+0.8**
MKAR	**Makanchi Array**	**40.92**	**312**	P	**P**	**09 18 34.4**	**+0.2**
	comp=Z,9.9nm,0.8s,mb4.5,baz=89,slow=9.9,SNR=10						
MKAR	**Makanchi Array**	**40.92**	**312**	P	**P**	**09 18 34.4**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZAL	**Zalesovo**	**41.64**	**323**	P	**P**	**09 18 40.0**	**0.0**
	comp=Z,4.6nm,0.5s,mb4.4,baz=17,slow=11,SNR=5.1						
ZAL				LR	LR	09 38 21.5	
	comp=Z,93nm,19.7s,MS3.7,baz=148,slow=40						
ZAL	**Zalesovo**	**41.64**	**323**	P	**P**	**09 18 40.0**	**0.0**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,93nm,19.7s						
KURK	**Kurchatov**	**44.20**	**316**	*d i* P	**P**	**09 19 00.4**	**-0.4**
TIXI	**Tiksi**	**45.01**	**0⇑**	*e*P	**P**	**09 19 06.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
AAK	**Ala-Archa**	**45.86**	**305⇑**	*e*P	**P**	**09 19 13.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**45.86**	**305**	*e*P	**P**	**09 19 13.2**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**46.78**	**171**	P	**P**	**09 19 21.3**	**+0.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=353,slow=9.1,SNR=46						
WRA	**Warramunga Arr**	**46.78**	**171**	P	**P**	**09 19 21.3**	**+0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WB2	**Warramunga Arr**	**46.79**	**171**	*e*P	**P**	**09 19 21.0**	**-0.2**
BILL	**Bilibino**	**47.38**	**19**	*i* P	**P**	**09 19 25.8**	**0.0**
BILL				*i*	pP	09 19 35.8	-3.8
BILL				*e*		09 20 56.3	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BILL	**Bilibino**	**47.38**	**19**	*e*P	**P**	**09 19 24.9**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.3						
KK31	**Karatay Array**	**48.80**	**305**	*i* P	**P**	**09 19 37.5**	**+0.7**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KKAR	**Karatay Array**	**48.80**	**305**	*i* P	**P**	**09 19 37.5**	**+0.7**
BVA0	**Borovoye Array**	**49.66**	**318**	*i* P	**P**	**09 19 43.0**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**49.66**	**318**	P	**P**	**09 19 43.6**	**+0.2**
	comp=Z,4.2nm,0.5s,mb4.7,baz=91,slow=7.4,SNR=10						
BVAR	**Borovoye Array**	**49.66**	**318**	P	**P**	**09 19 43.6**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRVK	**Borovoye**	**49.72**	**318**	*e*P	**P**	**09 19 42.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BRVK	**Borovoye**	**49.72**	**318**	*e*P	**P**	**09 19 42.2**	**-1.6**
	comp=Z,10nm,0.8s,mb4.9						
AS31	**Alice Springs**	**50.40**	**173**	*e*P	**P**	**09 19 49.7**	**+0.7**
ASAR	**Alice Springs**	**50.40**	**173**	P	**P**	**09 19 49.6**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=1.9,slow=13,SNR=42						
ASAR	**Alice Springs**	**50.40**	**173**	P	**P**	**09 19 49.7**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASPA	**Alice Springs**	**50.41**	**173**	*e*P	**P**	**09 19 49.7**	**+0.7**
ZRNK	**Zerenda**	**50.47**	**318**	*e*P	**P**	**09 19 47.8**	**-1.7**
AB31	**Akbulak array**	**56.03**	**313**	*i* P	**P**	**09 20 30.2**	**-0.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
AKTK	**Aktyubinsk**	**57.21**	**314**	P	**P**	**09 20 38.3**	**-0.4**
AKTO	**Aktyubinsk**	**57.21**	**314**	P	**P**	**09 20 38.3**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=81,slow=14,SNR=9.8						
AKTO	**Aktyubinsk**	**57.21**	**314**	P	**P**	**09 20 38.3**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**59.71**	**166**	P	**P**	**09 20 54.2**	**-1.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=13,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**59.71**	**166**	P	**P**	**09 20 54.2**	**-1.9**
ILAR	**Eielson Array**	**64.24**	**28**	P	**P**	**09 21 25.9**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.9,baz=261,slow=4.3,SNR=23						
ILAR	**Eielson Array**	**64.24**	**28**	P	**P**	**09 21 26.0**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZEI	**Tsey**	**68.12**	**308**	*e*P	**P**	**09 21 51.2**	**-0.2**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**68.62**	**309**	*e*P	**P**	**09 21 55.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,36nm,16.0s,MS3.7						
OBN	**Obninsk**	**69.21**	**322**	*i* P	**P**	**09 21 57.6**	**-0.6**
OBN				*e*		09 22 22.7	
OBN				*e*S	S	09 31 05.6	+5.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**69.43**	**338**	P	**P**	**09 21 58.9**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=62,slow=6.5,SNR=6.9						
ARCES	**ARCESS Array B**	**69.43**	**338**	P	**P**	**09 21 58.9**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**69.44**	**331**	*ep*	**P**	**09 21 59.1**	**-0.5**
KAF	**Kangasniemi**	**71.90**	**331**	*ep*	**P**	**09 22 12.7**	**-1.9**
	comp=Z,4.9nm,0.8s,mb4.5,baz=66,slow=5.7						
KAF	**Kangasniemi**	**71.90**	**331**	*e*P	**P**	**09 22 12.7**	**-1.9**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
**F

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	84.58	323	P	P	09 23 24.2	-0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,135nm,18.6s						
GERES	GERESS Array B	84.58	323	P	P	09 23 24.2	-0.4
GERES				LR	LR	10 03 22.7	
PPT	Papeete	91.44	109	LR	LR	09 59 52.7	
	comp=Z,82nm,19.3s,MS4.2,baz=249,slow=32						

*CSEM **27** 09:11:58.9±0.1, 38.12N×15.17E, h12km, MD2.9/15, Error ellipse: s-maj=1.7km s-min=1.4km az=53.0*
*NEIC **27** 09:11:59.0, 38.14N×15.17E, h7km, ML3.5(ROM), After ROM.*

ROM 27 09:11:59.0±0.1, 3814N×1517E, h7km±1km, Md2.9/15, Ml3.5/9, 9C-2D, Error ellipse: s-maj=1.4km s-min=1.3km az=96.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	Mongiuffi-Meli	0.22	162⇑	iPg	Pg	09 12 04.2	+0.8
MMME				Sg	Sg	09 12 07.5	+1.2
	5μm,0.6s						
ATN	Antennamare	0.23	86⇑	iPg	Pg	09 12 04.8	+1.1
VPL	Vulcano Piano	0.28	328⇑	iPg	Pg	09 12 05.6	+1.1
VPL				Sg	Sg	09 12 10.0	+1.8
	9μm,0.4s						
MSRU	Castanea	0.29	66⇑	ePg	Pg	09 12 05.8	+1.0
MSRU				Sg	Sg	09 12 10.7	+2.0
	8μm,0.3s						
MSI	Messina ING	0.31	78⇑	iPg	Pg	09 12 06.0	+0.9
	1μm,0.3s						
LLI	Lipari	0.35	330⇑	ePg	Pg	09 12 06.9	+1.1
LLI				Sg	Sg	09 12 13.4	+3.0
	12μm,0.7s						
MNO	Monte Soro	0.43	241⇓	iPg	Pg	09 12 08.2	+0.9
MTTG	Motta San Giov	0.44	109⇑	iPg	Pg	09 12 08.2	+0.7
	671nm,0.4s						
IFIL	Filicudi I Eol	0.63	312⇑	ePg	Pg	09 12 11.5	+0.3
IFIL				Sg	Sg	09 12 21.2	+1.7
	9μm,0.5s						
AGST	Augusta-Monte	0.89	177	Pg	Pg	09 12 15.7	-0.3
AGST				Sg	Sg	09 12 29.6	+2.1
	138nm,0.2s						
CSLB	Castelbuono	0.90	257	Pg	Pg	09 12 15.7	-0.6
GIB	Gibilmanna	0.92	261⇓	ePg	Pg	09 12 16.3	-0.3
GIB				Sg	Sg	09 12 28.9	+0.4
	822nm,0.4s						
HVZN	Vizzini	1.03	201	Pn	Pn	09 12 19.3	-0.5
PLAC	Placanica	1.04	73⇑	ePg	Pg	09 12 18.8	-0.3
	181nm,0.5s						
HAVL	Avola	1.18	182	Pn	Pn	09 12 21.3	-0.6
HAVL				Sn	Sn	09 12 38.2	0.0
	716nm,0.6s						
GRI	Girifalco	1.19	55	Pn	Pn	09 12 20.9	-1.2
	442nm,0.6s						
HMDC	Modica	1.22	195	Pn	Pn	09 12 21.9	-0.6
TIP	Timpagrande	1.62	50	ePn	Pn	09 12 27.0	-0.9
TIP	Timpagrande	1.62	50	ePn	Pn	09 12 27.0	-0.9
CRJA	Costa Raja	1.74	259	Pn	Pn	09 12 31.9	+2.3
	205nm,0.8s						

*CSEM **27** 09:15:02.1±0.1, 38.12N×15.16E, h15km, MD2.3/8, Error ellipse: s-maj=2.0km s-min=1.3km az=11.0*
*NEIC **27** 09:15:02.5, 38.12N×15.18E, h10km, ML2.7(ROM), After ROM.*

ROM 27 09:15:02.5±0.1, 3812N×1518E, h10km, Md2.3/8, Ml2.7/6, 4C-1D, Error ellipse: s-maj=1.8km s-min=1.3km az=22.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	Mongiuffi-Meli	0.20	162⇑	iPg	Pg	09 15 07.5	+0.8
MMME				Sg	Sg	09 15 10.8	+1.2
	902nm,0.4s						
ATN	Antennamare	0.23	81⇓	iPg	Pg	09 15 08.0	+0.7
ATN				Sg	Sg	09 15 12.0	+1.5
MSRU	Castanea	0.30	62⇑	ePg	Pg	09 15 09.1	+0.6
MSRU				Sg	Sg	09 15 13.8	+1.3
	544nm,0.3s						
VPL	Vulcano Piano	0.30	329⇑	ePg	Pg	09 15 08.8	+0.3
VPL				Sg	Sg	09 15 13.4	+0.9
	976nm,0.4s						
LLI	Lipari	0.37	331	Pg	Pg	09 15 11.3	+1.5
	1μm,0.8s						
MTTG	Motta San Giov	0.43	106⇑	iPg	Pg	09 15 11.4	+0.5
	72nm,0.4s						
IFIL	Filicudi I Eol	0.65	313	Pg	Pg	09 15 14.9	-0.2
	893nm,0.2s						
CSLB	Castelbuono	0.90	258	Pg	Pg	09 15 19.4	-0.5
GIB	Gibilmanna	0.92	262	Pg	Pg	09 15 19.9	-0.3
	181nm,1.0s						

IDC 27 09:24:30.3±6.2, 468S×15288E, h91km±49km, mb3.5/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.9/6, MS3.2/4, Ms1 3.2/4, ms1mx3.1/13, Error ellipse: s-maj=69.6km s-min=30.3km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.37	230	P	Pn	09 26 15.2	+0.1
	4.7nm,0.3s,baz=36,slow=12,SNR=12						
PMG				S	Sn	09 27 37.5	+0.4
	2.7nm,0.3s,baz=140,slow=14,SNR=7.0						
HNR	Honiara	8.45	124	LR	LR	09 29 26.5	
	comp=Z,146nm,19.2s,baz=357,slow=35						
CTA	Charters Tower	16.62	202	LR	LR	09 33 31.7	
	comp=Z,105nm,18.2s,baz=49,slow=33						
DZM	Mont Dzumac	21.72	144	LR	LR	09 35 16.1	
	comp=Z,59nm,21.1s,baz=205,slow=30						
WRA	Warramunga Arr	23.59	228	P	P	09 29 33.0	+0.4
	3.3nm,0.4s,baz=51,slow=9.9,SNR=10						
ASAR	Alice Springs	26.29	222	P	P	09 29 58.5	+1.3
	1.1nm,0.5s,baz=58,slow=8.6,SNR=2.8						
STKA	Stephens Creek	29.05	200	LR	LR	09 43 03.5	
	comp=Z,51nm,18.5s,baz=24,slow=38						
SONM	Songino Array	66.26	328	P	P	09 35 09.5	+0.8
	0.4nm,0.4s,baz=148,slow=7.5,SNR=5.4						
MKAR	Makanchi Array	80.29	319	P	P	09 36 31.1	0.0
	0.4nm,0.5s,baz=98,slow=6.6,SNR=7.2						
ILAR	Eielson Array	82.02	22	P	P	09 36 40.0	-0.2
	0.4nm,1.0s,baz=265,slow=5.4,SNR=3.3						
TORD	Torodi Ar. Bea	150.34	288	PKPbc	PKPbc	09 44 11.2	+0.3
	0.5nm,0.4s,baz=73,slow=1.9,SNR=8.1						

IDC 27 09:45:04.7±31.0, 5968S×2294W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.5/14, mbtmp3.6/1, Error ellipse: s-maj=2154.0km s-min=76.4km az=136.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	75.25	25	P	P	09 56 49.0	-0.3
	0.2nm,0.3s,baz=198,slow=5.7,SNR=5.2						
YKA	Yellowknife Ar	140.36	313	PKP	PKPdf	10 04 34.1	-1.5
	0.2nm,0.5s,baz=130,slow=2.2,SNR=4.4						
ILAR	Eielson Array	154.16	305	PKPbc	PKPbc	10 05 04.8	-1.7
	1.2nm,0.8s,baz=140,slow=4.8,SNR=22						

*ISCJB **27** 09:46:49.8±0.5, 4261N±002×4342E±004, h8km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=115.5*
*MOS **27** 09:46:49.3±1.0, 4257N×4346E, h8km, mb3.7/1, Error ellipse: s-maj=19.6km s-min=8.8km az=77.6*

ISC 27 09:46:50.1±0.5, 4258N±002×4343E±003, h6km±4km, n17, σ0°75/32, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.02	79	P	Pg	09 46 51.6	+0.2
ONI				S	Sg	09 46 53.2	+1.0
DIGR	Digorskoe uzhe	0.34	19	iPg	Pg	09 46 56.6	-0.2
DIGR				iSg	Sg	09 47 01.9	+0.6
ZEI	Tsey	0.40	61	iPg	Pg	09 46 57.6	-0.3
	152nm,0.2s						
ZEI				eSg	Sg	09 47 03.3	+0.2
	475nm,0.1s						
ZEI	Tsey	0.40	61	iPG	Pg	09 46 57.6	-0.3
ZEI				e		09 47 03.3	
ZEI				pmax	pmax		
	comp=Z,152nm,0.2s						
ZEI				smax			
	comp=N,475nm,0.1s						
LACR	Lac	0.69	68	iPg	Pg	09 47 02.4	-1.0
LACR				iSg	Sg	09 47 11.9	-0.4
KORR	Kora	0.69	43	iPg	Pg	09 47 02.7	-0.8
KORR				iSg	Sg	09 47 12.5	0.0
LSNR	Lesken	0.75	22	iPg	Pg	09 47 03.9	-0.7
LSNR				iSg	Sg	09 47 14.6	+0.2
ARNR	Ardon	0.88	45	iPG	Pg	09 47 06.3	-0.7
ARNR				iS	Sg	09 47 18.1	-0.3
CHVG	Ch'k'valeri	1.00	279	P	Pg	09 47 09.1	-0.2
CHVG				S	Sg	09 47 23.0	+0.7
DUS	Dusheti	1.06	117	P	Pg	09 47 11.0	+0.5
DUS				S	Sg	09 47 24.6	+0.3
AKH	Akhalkalaki	1.17	178	P	Pg	09 47 10.8	-1.7
AKH				S	Sg	09 47 27.7	0.0
KUBR	Kubataba	1.22	359	ePg	Pg	09 47 14.5	+0.9
KUBR				iSg	Sg	09 47 31.9	+2.4
SHAR	Shatzhatmas	1.29	335	ePg	Pg	09 47 14.4	-0.5
SHAR				iSg	Sg	09 47 31.7	0.0
MTA	Mtatsminda	1.34	130	P	Pn	09 47 15.6	+0.2
MTA				S	Sb	09 47 32.6	-0.6
KIV	Kislovodsk	1.48	339	ePg	Pg	09 47 17.8	-0.7
KIV				iSg	Sg	09 47 37.4	-0.3
PYA	Pyatigorsk	1.48	350	iSg	Sg	09 47 37.2	-0.5
DGRG	David-gareji	1.84	127	P	Pn	09 47 23.2	+1.0
DGRG				S	Sn	09 47 46.9	+1.3

IDC 27 09:58:52.0±5.8, 1878N×14803E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=222.5km s-min=22.0km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.76	200	P	P	10 06 34.6	-0.1
	0.4nm,0.7s,baz=23,slow=8.5,SNR=10						
ASAR	Alice Springs	44.38	199	P	P	10 07 04.7	+0.5
	0.3nm,0.7s,baz=20,slow=8.3,SNR=6.0						
SONM	Songino Array	44.47	320	P	P	10 07 05.1	+0.2
	1.2nm,0.7s,baz=137,slow=6.5,SNR=8.5						
ZAL	Zalesovo	59.31	322	P	P	10 08 55.3	-0.2
	1.2nm,0.5s,baz=70,slow=2.2,SNR=5.6						
MKAR	Makanchi Array	60.00	314	P	P	10 09 00.4	+0.1
	0.5nm,0.5s,baz=91,slow=7.6,SNR=13						
AKTO	Aktyubinsk	75.77	319	P	P	10 10 39.9	+0.3
	0.9nm,0.6s,baz=92,slow=9.6,SNR=6.1						

*NAO **27** 10:21:27.4, 1498N×7644W, h33km, mb4.2*
*ISCJB **27** 10:21:57.3±0.3, 1932N±006×7024W±003, h36km, mb4.0/20, MS3.7/4, Error ellipse: s-maj=8.5km s-min=2.6km az=34.5*
*IDC **27** 10:21:58.3±0.6, 1921N×7018W, h35km±4km, mb3.7/16, mb1 3.9/17, mb1mx3.8/22, mbtmp3.9/17, ML4.3/1, MS3.4/7, Ms1 3.5/7, ms1mx3.3/18, Error ellipse: s-maj=16.9km s-min=12.5km az=55.0*
*NEIC **27** 10:21:59.3±0.4, 1933N×7023W, mb4.2/8, MD4.5(RSPR), Error ellipse: s-maj=10.2km s-min=5.7km az=207.0*
*RSPR **27** 10:21:59.9, 2008N×6968W, h146km±13km, MD4.5/15, MD4.5/15*

ISC 27 10:21:59.5±0.3, 1938N±006×7021W±003, h38km, h38km±.9km: pP-P, n75, σ1°31/96, mb4.0/20, MS3.7/4, 16C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	3.07	107	eS	Sn	10 23 22.6	+1.7
AGPR	Aguadilla, PR	3.07	107⇑	ePP	Pn	10 22 46.6	+1.1
AGPR				eS	Sn	10 23 22.6	+1.7
MPR	Mayaguez	3.13	111	eS	Sn	10 23 25.8	+3.4
LSP	Las Mesas	3.19	111	eS	Sn	10 23 26.7	+2.8
LSP	Las Mesas	3.19	111⇑	ePP	Pn	10 22 49.4	+2.3
LSP				eS	Sn	10 23 26.7	+2.8
CRPR	Cabo Rojo, PR	3.24	114	eS	Sn	10 23 28.6	+3.5
CRPR	Cabo Rojo, PR	3.24	114⇑	ePP	Pn	10 22 49.6	+1.8
CRPR				eS	Sn	10 23 28.6	+3.5
MGP	Maguayo	3.25	114⇓	ePP	Pn	10 22 49.1	+1.1
MGP				eS	Sn	10 23 29.6	+4.2
LRS	Lares	3.36	108⇑	ePP	Pn	10 22 50.1	+0.7
LRS				eS	Sn	10 23 28.1	-0.1
AOPR	Arecibo Observ	3.43	107	eS	Sn	10 23 30.8	+1.0
AOPR	Arecibo Observ	3.43	107⇑	ePP	Pn	10 22 50.7	+0.3
AOPR				eS	Sn	10 23 30.8	+1.0
OBIP	Obispado Ponce	3.66	111	eS	Sn	10 23 36.8	+1.2
OBIP	Obispado Ponce	3.66	111⇑	ePP	Pn	10 22 54.6	+1.0
OBIP				eS	Sn	10 23 36.8	+1.2
ICM	Isla Caja Muer	3.79	112	eS	Sn	10 23 41.2	+2.4
ICM	Isla Caja Muer	3.79	112⇑	ePP	Pn	10 22 56.9	+1.5
ICM				eS	Sn	10 23 41.2	+2.4
MASC	Masc	3.87	282	ePP	Pn	10 22 56.6	+0.1
	baz=108						
MASC				eS	Sn	10 23 42.7	+2.0
	comp=N,11nm,0.7s						
MASC				e			
	comp=E,3.8nm,0.3s						
SJG	San Juan	4.04	107⇑	ePP	Pn	10 22 58.6	-0.3
SJG	San Juan	4.04	107	eS	Sn	10 23 42.7	-2.3
SJG	San Juan	4.04	107	Pn	Pn	10 22 58.7	-0.1
	comp=E,45nm,0.3s,baz=313,slow=8.5,SNR=41						
SJG				Sn	Sn	10 23 42.1	-2.9
	comp=E,76nm,0.3s,baz=324,slow=20,SNR=4.1						
SJG				LR	LR	10 23 46.2	
	comp=E,112nm,20.7s,baz=296,slow=27						
SJG				Lg		10 23 51.1	
	comp=E,142nm,0.3s,baz=336,slow=22,SNR=13						
SJG	San Juan	4.04	107⇑	ePP	Pn	10 22 58.6	-0.3
SJG				eS	Sn	10 23 42.7	-2.3
CBYP	Canovanas	4.26	104	eS	Sn	10 23 48.2	-2.2
CBYP	Canovanas	4.26	104⇑	ePP	Pn	10 23 00.8	-1.1
CBYP				eS	Sn	10 23 48.2	-2.2
CPD	Cerro la Pandu	4.28	107	eS	Sn	10 23 50.6	-0.1
CPD	Cerro la Pandu	4.28	107⇑	ePP	Pn	10 23 02.2	+0.1
CPD				eS	Sn	10 23 50.6	-0.1
HUMP	Col San Antoni	4.31	106	eS	Sn	10 23 49.5	-1.9
HUMP	Col San Antoni	4.31	106⇑	ePP	Pn	10 23 01.6	-0.9
HUMP				eS	Sn	10 23 49.5	-1.9
MTP	Monte Pirata	4.59	105	eS	Sn	10 23 57.4	-1.0
MTP	Monte Pirata	4.59	105⇑	ePP	Pn	10 23 05.2	-1.1
MTP				eS	Sn	10 23 57.4	-1.0
MOAC	Moa	4.65	287	ePP	Pn	10 23 06.5	-0.7
MOAC				eS	Sn	10 23 59.6	-0.2
	comp=N,13nm,0.4s						
MOAC				e			
	comp=E,16nm,0.7s						
STVI	Saint Thomas	5.07	101	eS	Sn	10 24 07.4	-2.8
STVI	Saint Thomas	5.07	101⇑	ePP	Pn	10 23 11.4	-1.5
STVI				eS	Sn	10 24 07.4	-2.8
RCC	Rio Carpintero	5.21	278	ePP	Pn	10 23 11.8	-3.1
RCC				eS	Sn	10 24 12.9	-0.8
	comp=N,143nm,0.7s						
RCC				e			
	comp=E,195nm,0.7s						
TBVI	Tortola	5.39	99	eS	Sn	10 24 13.9	-4.2
TBVI	Tortola	5.39	99⇑	ePP	Pn	10 23 16.1	-1.2
TBVI				eS	Sn	10 24 13.9	-4.2
CDVI	St. Croix	5.41	107	eS	Sn	10 24 17.4	-1.2
CDVI	St. Croix	5.41	107⇑	ePP	Pn	10 23 16.8	-0.9
CDVI				eS	Sn	10 24 17.4	-1.2
HLGC	Holguin	5.70	286	ePP	Pn	10 23 20.9	-0.7
HLGC				eS	Sn	10 24 19.3	-6.5
	comp=N,6.8nm,0.3s						
HLGC				e			
	comp=E,7.0nm,0.3s						
LMGC	Las Mercedes	6.44	277	ePP	Pn	10 23 31.1	-0.7
LMGC				eS	Sn	10 24 40.4	-3.6
	comp=N,47nm,0.7s						
LMGC				e			
	comp=E,26nm,0.6s						
SEG	Port Louis	8.80	108	eP	Pn	10 24 04.5	+0.4
SDV	Santo Domingo	10.44	182	Pn	Pn	10 24 25.6	-1.0
	comp=E,2.4nm,0.3s,baz=21,slow=8.3,SNR=20						
SDV				Sn	Sn	10 26 13.0	-9.2
	comp=E,1.3nm,0.3s,baz=246,slow=18,SNR=3.8						
SDV				LR	LR	10 28 37.0	
	comp=E,242nm,21.3s,baz=32,slow=39						
SDV	Santo Domingo	10.44	182	ePn	Pn	10 24 26.4	-0.2
SDV				eSn	Sn	10 26 12.5	-10
ROSC	El Rosal	14.98	196	Pn	Pn	10 25 28.7	+0.2
	comp=E,2.3nm,0.3s,baz=68,slow=12,SNR=4.4						
ROSC				LR	LR	10 31 50.4	
	comp=E,42nm,18.1s,baz=168,slow=40						
JTS	JuntasAbangare	16.86	240	Pn	Pn	10 25 54.5	+1.9
	comp=E,0.6nm,0.3s,baz=306,slow=21,SNR=3.9						
JTS	JuntasAbangare	16.86	240	ePP	Pn	10 25 56.3	+3.7
	comp=E,15nm,0.9s						
OTAV	Otavalo	20.67	204⇓	ePP	P	10 26 36.6	+0.6
	comp=E,55nm,1.2s						
TZTN	Tazewell	20.73	328	ePP	P	10 26 40.6	+3.9
WVT	Waverly	22.78	321	ePP	P	10 27 00.2	+1.6
	comp=E,12nm,1.0s,mb4.3						
SAML	Samuel	28.99	166	ePP	P	10 27 51.4	-4.1
	comp=E,3.9nm,0.6s,mb4.3						
WMOK	Wichita Mounta	29.56	307	ePP	P	10 28 00.5	0.0
	comp=E,1.7nm,0.5s,mb4.0						
LPAZ	La Paz	35.50	177	P	P	10 28 52.1	-0.4
	comp=E,0.9nm,0.5s,mb4.0,baz=9.0,slow=5.8,SNR=9.0						
LPAZ				LR	LR	10 43 18.5	
	comp=E,63nm,19.9s,MS3.4,baz=299,slow=36						
LPAZ	La Paz	35.50	177	ePP	P	10 28 52.8	+0.3
	comp=E,1.0nm,0.6s,mb3.9						
ANMO	Albuquerque	35.56	303	P	P	10 28 54.6	+1.5
	comp=E,1.2nm,0.8s,mb3.9,baz=112,slow=7.2,SNR=5.7						
SIV	San Ignacio	36.28	165	P	P	10 28 55.8	-3.3
	comp=E,0.7nm,0.4s,mb3.9,baz=334,slow=8.4,SNR=6.2						
BDFB	Brasilia	41.08	146	P	P	10 29 36.9	-2.5
	comp=E,1.3nm,0.4s,mb3.9,baz=326,slow=11,SNR=2.7						
FCC	Fort Churchill	43.00	342	ePP	P	10 29 54.3	-0.8
	comp=E,2.3nm,0.6s,mb4.1						
FCC				epP	pP	10 30 05.2	-0.8
FCC				esP	sP	10 30 09.6	-0.9
MCMT	McKenzie Canyo	43.46	316	ePP	P	10 30 02.3	+3.5
NVAR	Mina Array Bea	45.62	305	P	P	10 30 17.6	+1.5
	comp=E,2.2nm,1.0s,mb4.1,baz=99,slow=8.1,SNR=6.0						
NEW	Newport	47.45	319	P	P	10 30 30.9	+0.5
	comp=E,1.6nm,0.7s,mb4.0,baz=100,slow=7.7,SNR=4.5						
NEW	Newport	47.45	319	ePP	P	10 30 30.5	+0.1
	comp=E,2.7nm,0.9s,mb4.2						
CFAA	Coronel Fontan	50.73	178	P	P	10 30 55.0	-0.4
	comp=E,0.1nm,0.3s,mb3.2,baz=326,slow=6.6,SNR=3.6						
YKA	Yellowknife Ar	52.75	336	P	P	10 31 10.3	-0.3
	comp=E,1.1nm,0.8s,mb3.8,baz=117,slow=7.1,SNR=17						
YKA				LR	LR	10 52 51.8	
	comp=E,88nm,18.8s,MS3.8,baz=105,slow=35						
DBIC	Dimbokro	64.59	92	P	P	10 32 31.3	-1.6
	comp=E,0.6nm,0.6s,mb3.8,baz=230,slow=10,SNR=3.6						
ILAR	Eielson Array	66.97	333	P	P	10 32 47.6	-0.6
	comp=E,0.7nm,0.8s,mb3.8,baz=89,slow=5.5,SNR=16						
ILAR				pP	pP	10 32 58.3	-1.4
	comp=E,1.5nm,1.0s,baz=92,slow=4.8,SNR=6.5						
ILAR				LR	LR	11 03 01.7	
	comp=E,61nm,21.5s,MS3.8,baz=1.3,slow=37						
TORD	Torodi Ar. Bea	68.89	83	P	P	10 32 59.6	-0.7
	comp=E,1.7nm,0.8s,mb4.0,baz=298,slow=6.8,SNR=11						
TORD				pP	pP	10 33 10.7	-1.0
	comp=E,1.2nm,0.6s,baz=290,slow=6.9,SNR=6.0						
NB2	NORSAR Subarra	69.11	31	P	P	10 33 10.3	+8.7
	comp=Z,2.1nm,0.8s,mb4.1,baz=275,slow=5.9						
NOA	NORSAR Array B	69.11	31	P	P	10 33 02.1	+0.5
	comp=Z,0.7nm,0.8s,mb3.6,baz=114,slow=20,SNR=2.2						
NOA				pP	pP	10 33 12.4	-0.7
	comp=Z,2.0nm,0.8s,baz=274,slow=6.5,SNR=5.9						
GERES	GERESS Array B	71.71	44	P	P	10 33 17.9	+0.3
	comp=Z,0.2nm,0.3s,mb3.5,baz=291,slow=11,SNR=2.4						
GERES				pP	pP	10 33 29.1	0.0
	comp=Z,1.6nm,1.0s,baz=264,slow=3.6,SNR=3.8						
GERES				LR	LR	10 59 47.9	
	comp=Z,70nm,18.9s,MS4.0,baz=282,slow=32						
ARCES	ARCESS Array B	74.00	21	P	P	10 33 31.0	-0.1
	comp=Z,5.5nm,1.0s,mb4.4,baz=290,slow=3.5,SNR=5.3						
ARCES				pP	pP	10 33 42.2	-0.5
	comp=Z,2.2nm,0.6s,baz=286,slow=4.8,SNR=2.2						
ARCES	ARCESS Array B	74.00	21	P	P	10 33 31.0	-0.1
ARCES				pP	pP	10 33 42.2	-0.5
FINES	FINESS Array B	76.14	29	P	P	10 33 43.7	+0.2
	comp=Z,2.3nm,1.0s,mb4.1,baz=274,slow=5.5,SNR=3.3						
FINES				pP	pP	10 33 55.4	+0.4
	comp=Z,1.6nm,0.6s,baz=298,slow=4.1,SNR=3.6						
FINES	FINESS Array B	76.14	29	P	P	10 33 43.7	+0.2
FINES				pP	pP	10 33 55.4	+0.4
BRTR	Keskin Array B	87.95	49	P	P	10 34 46.4	+1.0
	comp=Z,0.4nm,0.5s,mb3.9,baz=290,slow=3.0,SNR=2.8						
BRTR				pP	pP	10 34 57.1	0.0
	comp=Z,1.8nm,0.8s,baz=269,slow=3.4,SNR=6.5						
STKA	Stephens Creek	148.86	240	PKPbc	PKPbc	10 41 39.4	-3.7
	comp=Z,2.5nm,0.9s,baz=152,slow=7.2,SNR=3.8						
WRA	Warramunga Arr	156.88	264	PKP	PKPdf	10 41 49.9	-0.9
	comp=Z,1.5nm,0.9s,baz=62,slow=1.3,SNR=8.9						
WRA				pPKP	pPKPdf	10 41 59.8	-3.2
	comp=Z,0.4nm,0.5s,baz=87,slow=3.2,SNR=3.2						
WRA				PKPab	PKPab	10 42 20.2	-0.5
	comp=Z,0.7nm,0.7s,baz=87,slow=3.8,SNR=5.7						
ASAR	Alice Springs	157.18	255	PKP	PKPdf	10 41 49.5	-1.7
	comp=Z,0.7nm,0.8s,baz=56,slow=1.4,SNR=7.1						
ASAR				pPKP	pPKPdf	10 42 00.2	-3.1
	comp=Z,0.6nm,0.6s,baz=103,slow=2.3,SNR=4.4						
ASAR				PKPab	PKPab	10 42 21.1	-0.9
	comp=Z,1.3nm,0.9s,baz=109,slow=4.3,SNR=6.4						

CASC 27 11:08:36.0±2.0, 1083N×8692W, h16km±8km, MD3.6, 5C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	1.15	66⇑	ePP	Pn	11 08 56.9	-0.4
SSNN				eS	Sb	11 09 12.5	+0.4
APON	Apoyo	1.37	38⇓	ePP	Pn	11 08 59.8	-0.6
TICN	Ticuantepe	1.38	29	ePP	Pn	11 09 00.4	-0.1
TICN				eS	Sn	11 09 18.6	+0.2
COPN	Copaltepe	1.38	13⇓	ePP	Pn	11 08 59.9	-0.7
COPN				eS	Sn	11 09 19.5	+0.9
XAVN	Gruta Xavier	1.44	24⇓	ePP	Pn	11 09 00.6	-0.7
XAVN				eS	Sn	11 09 20.6	+0.7
MGAN	Managua	1.47	27⇓	ePP	Pn	11 09 01.1	-0.6
MGAN				eS	Sn	11 09 22.4	+1.8

*NEIC **27** 11:58:40.0±0.8,3458N×7329E,h10km,mb3.8/1,Error ellipse: s-maj=22.5km s-min=10.7km az=67.0*
*NDI **27** 11:58:46.2±5.2,3459N×7319E,h10km,ML3.7, mb3.8(NEIC)*
*NNC **27** 11:58:48.5±3.1,3516N×7289E,h20km±39km,mb3.5, mpv4.0,Error ellipse: s-maj=52.4km s-min=36.1km az=50.0*

ISC 27 11:58:40.3±0.6,**3459N**±005×**7289E**±009,**h10**km,**n34**, σ**1**§**25**/41,**mb3.7**/6,**5C-1D**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.20**	**132**	*eP*	**Pn**	**11 59 31.0**	**+0.4**
THN				*eSB*	**Sb**	**12 00 16.0**	**-0.1**
DLH	**Dalhousie**	**3.29**	**128**	*eP*	**Pn**	**11 59 38.0**	**+6.2**
DLH				*eSG*	**Sg**	**12 00 28.0**	**+2.2**
BHK	**Bhakra**	**4.34**	**136**	*ex*	**Sn**	**12 00 45.5**	**+8.6**
SDNR	**Sundarnagar**	**4.61**	**131**	*eP*	**Pn**	**11 59 54.2**	**+4.2**
SDNR				*eSB*	**Sb**	**12 01 00.5**	**+3.7**
SMLA	**Simla**	**4.99**	**133**	*eP*	**Pn**	**11 59 55.2**	**0.0**
SMLA				*eSB*	**Sb**	**12 01 11.4**	**+3.7**
KLP	**Kalpa**	**5.44**	**123**	*eP*	**Pn**	**12 00 05.7**	**+4.3**
KLP				*eS*	**Sn**	**12 01 03.4**	**-0.6**
KLP				AML	AML	12 01 38.8	
	comp=E,116nm,0.8s						
KLP				AML	AML	12 01 40.6	
	comp=N,146nm,0.6s						
DDI	**Dehra Dun**	**6.10**	**133**	*ex*	**Pn**	**12 00 10.3**	**-0.1**
NDI	**New Delhi**	**6.95**	**147**	*ex*	**Pn**	**12 00 30.0**	**+7.9**
KUDL	**Kundal**	**7.13**	**153**	*eS*	**Sn**	**12 01 43.7**	**-1.9**
SONA	**Sohna**	**7.27**	**149**	*eS*	**Sn**	**12 01 47.2**	**-1.9**
KK31	**Karatay Array**	**8.70**	**348**	⇓Pn	**Pn**	**12 00 48.3**	**+2.2**
	comp=N,2.1nm,0.2s,baz=151,slow=11,SNR=82						
KK31				⇑Sn	**Sn**	**12 02 23.0**	**-1.2**
	comp=N,2.1nm,0.5s,baz=147,slow=24,SNR=6.6						
KKAR	**Karatay Array**	**8.70**	**348**	P	**Pn**	**12 00 48.2**	**+2.1**
KKAR				S	**Sn**	**12 02 23.9**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR				smax			
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**14.11**	**27**	⇑P	**Pn**	**12 02 00.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=209,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**14.11**	**27**	Pn	**Pn**	**12 01 58.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=15,SNR=4.7						
AB31	**Akbulak array**	**17.50**	**331**	⇑P	**Pn**	**12 02 43.7**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=159,slow=11,SNR=11						
AB31	**Akbulak array**	**17.50**	**331**	P	**Pn**	**12 02 44.1**	**-0.2**
VOSK	**Vostochnaya**	**18.18**	**356**	P	**Pn**	**12 02 53.3**	**+0.6**
	comp=Z,7.2nm,2.0s						
BVA0	**Borovoye Array**	**18.51**	**355**	P	**Pn**	**12 02 56.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=158,slow=9.8,SNR=15						
BVA0	**Borovoye Array**	**18.51**	**355**	*i* P	**Pn**	**12 02 56.8**	**0.0**
BVAR	**Borovoye Array**	**18.51**	**355**	P	**Pn**	**12 02 57.2**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=162,slow=10,SNR=20						
ZRNK	**Zerenda**	**18.56**	**353**	⇑P	**Pn**	**12 02 57.5**	**+0.1**
	comp=Z,2.6nm,0.6s						
ZRNK	**Zerenda**	**18.56**	**353**	*eP*	**Pn**	**12 02 57.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZRNK	**Zerenda**	**18.56**	**353**	*eP*	**Pn**	**12 02 57.5**	**+0.1**
	comp=Z,3.8nm,0.6s						
AKTK	**Aktyubinsk**	**19.20**	**330**	P	**Pn**	**12 03 05.8**	**+0.7**
AKTO	**Aktyubinsk**	**19.20**	**330**	⇑P	**Pn**	**12 03 05.3**	**+0.2**
	comp=Z,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**19.20**	**330**	P	**Pn**	**12 03 05.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=133,slow=11,SNR=28						
AKTO	**Aktyubinsk**	**19.20**	**330**	P	**Pn**	**12 03 05.8**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**21.08**	**20**	P	**P**	**12 03 22.6**	**-2.1**
	comp=Z,2.4nm,0.4s,mb3.9,baz=262,slow=5.7,SNR=9.5						
ARCES	**ARCESS Array B**	**43.49**	**338**	P	**P**	**12 06 44.3**	**+0.6**
	comp=Z,1.9nm,0.9s,mb3.8,baz=115,slow=8.1,SNR=7.7						
KSM	**Kuching**	**47.98**	**125**	*eP*	**P**	**12 07 15.9**	**-3.3**
TORD	**Torodi Ar. Bea**	**67.24**	**271**	P	**P**	**12 09 36.0**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=45,slow=5.6,SNR=5.5						
WRA	**Warramunga Arr**	**79.67**	**123**	P	**P**	**12 10 47.2**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=324,slow=5.3,SNR=10						
ASAR	**Alice Springs**	**81.90**	**126**	P	**P**	**12 10 59.1**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=306,slow=5.1,SNR=5.9						
YKA	**Yellowknife Ar**	**83.07**	**3**	P	**P**	**12 11 05.0**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.4,baz=346,slow=5.6,SNR=6.5						

IDC 27 12:20:59.1±5.9,**3054S**×**17816W**,**h62**km±42km,**mb3.4**/3, **mb1 3.6**/3,**mb1mx3.6**/11,**mbtmp3.7**/3,**Error ellipse: s-maj=80.8km s-min=33.8km az=131.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.30**	**10**	P	Pn	12 21 20.9	-0.3
	55nm,0.3s,baz=69,slow=23,SNR=2.4						
RAO				S	Sn	12 21 37.6	0.0
	155nm,0.3s,baz=230,slow=23,SNR=3.7						
PAE	**Paea**	**28.98**	**70**	*e*T		12 26 57.2	
	16nm,0.4s						
PPT	**Papeete**	**29.03**	**70**	*e*T		12 27 01.6	
	4.0nm,0.3s						
TVO	**Taravao**	**29.18**	**71**	*e*T		12 26 58.7	
	13nm,0.4s						
STKA	**Stephens Creek**	**34.31**	**257**	P	P	12 27 39.7	+0.1
	3.2nm,0.9s,baz=128,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**42.96**	**267**	P	P	12 28 52.5	+0.5
	0.4nm,0.8s,baz=106,slow=7.2,SNR=7.5						
WRA	**Warramunga Arr**	**43.96**	**272**	P	P	12 28 60.0	-0.1
	0.6nm,0.6s,baz=111,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**145.22**	**340**	PKPbc	PKPbc	12 40 28.0	-1.5
	0.8nm,0.5s,baz=64,slow=4.4,SNR=5.9						

*ISCJB **27** 12:35:40.6±1.1,2982N×004×3633E×006,h0km,Error ellipse: s-maj=7.4km s-min=6.5km az=13.8*
*HLW **27** 12:35:40.7,2965N×3665E,h13km,Mb2.9*
*CSEM **27** 12:35:42.1±0.6,2973N×3623E,h1km,ML2.6,Error ellipse: s-maj=11.2km s-min=9.3km az=98.0,Mining explosion.*
*GII **27** 12:36:26.0±0.8,2988N×3622E,h0km,ML2.6/3*

ISC 27 12:35:40.7±1.1,**2981N**±005×**3638E**±006,**h0**km,**n15**, σ**0**§**96**/26,**2C-3D**,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.16**	**266**	Pg	**Pg**	**12 36 02.4**	**-0.5**
AQBJ				Sg	**Sg**	**12 36 18.6**	**+0.8**
HRFI	**Mount Harif**	**1.18**	**281**	Pg	**Pg**	**12 36 02.3**	**-1.1**
HRFI				Sg	**Sg**	**12 36 18.8**	**+0.1**
EIL	**Elat**	**1.25**	**264**	Pg	**Pg**	**12 36 04.3**	**-0.3**
EIL				Sg	**Sg**	**12 36 20.2**	**-0.5**
MBH	**Mount Berech**	**1.27**	**269**	Pg	**Pg**	**12 36 04.5**	**-0.5**
MBH				Sg	**Sg**	**12 36 21.0**	**-0.5**
ZFRI	**Zfri**	**1.27**	**306**	Pg	**Pg**	**12 36 04.3**	**-0.8**
ZFRI				Sg	**Sg**	**12 36 20.5**	**-1.1**
HBST	**Basata**	**1.55**	**248**	⇑P	**Pn**	**12 36 10.2**	**+0.6**
MZDA	**Masada**	**1.73**	**330**	Pn	**Pn**	**12 36 11.9**	**-0.1**
MZDA				Sn	**Sn**	**12 36 34.1**	**-0.6**
MZDA	**Masada**	**1.73**	**330**	Pn	**Pn**	**12 36 11.9**	**-0.1**
MZDA				Sn	**Sn**	**12 36 34.1**	**-0.7**
HDHB	**Dhahab**	**1.88**	**235**	⇓P	**Pn**	**12 36 13.1**	**-1.0**
HDHB				S	**Sn**	**12 36 37.9**	**-0.6**
KZIT	**Kziot**	**2.03**	**303**	Pn	**Pn**	**12 36 16.4**	**+0.2**
KZIT				Sn	**Sn**	**12 36 41.8**	**-0.3**
HNKL	**Nakhl**	**2.08**	**274**	⇓P	**Pn**	**12 36 18.1**	**+1.2**
HNKL				S	**Sn**	**12 36 44.8**	**+1.3**
HKAT	**Jabal Katrina**	**2.45**	**239**	⇓P	**Pn**	**12 36 20.9**	**-0.9**
TR2		**2.72**	**239**	P	**Pn**	**12 36 25.1**	**-0.6**
AMAG	**Maghara**	**2.86**	**288**	⇑P	**Pn**	**12 36 29.5**	**+1.9**
AMAG				S	**Sn**	**12 37 04.9**	**+2.2**
SUZ		**3.08**	**271**	P	**Pn**	**12 36 32.6**	**+2.0**

MAN 27 12:38:25.8,1271N×**12316E**,**h13**km,**mb1.7,ML3.5,MS1.4, 2C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.77**	**322**	*e*P	Pg	12 38 40.3	-0.4
OTRP	**Odiongan**	**1.16**	**253**	*e*P	Pb	12 38 46.8	-1.0
RCP	**Roxas**	**1.21**	**200**	⇑*e*P	Pn	12 38 46.7	-1.8
PVCP	**Virac**	**1.31**	**48**	*e*P	Pn	12 38 49.0	-0.8
GQP	**Guinayangan**	**1.37**	**330**	⇑*i*P	Pn	12 38 49.6	-1.1
GQP				*i* S	Sn	12 39 09.1	+0.4
BOAC	**Boac**	**1.48**	**300**	*e*P	Pn	12 38 49.5	-2.7
BOAC				*e*S	Sn	12 39 11.7	+0.3
CNP	**Catarman**	**1.48**	**98**	*e*P	Pn	12 38 51.4	-0.8
GUIM	**Jordan**	**2.15**	**195**	*e*P	Pn	12 39 02.1	+0.8
POLP	**Polillo Island**	**2.33**	**330**	*e*P	Pn	12 39 04.6	+0.8

*MOS **27** 12:49:50.5±1.2,2726N×9678E,h33km,mb4.0/7,Error ellipse: s-maj=24.4km s-min=12.8km az=109.6*
*ISCJB **27** 12:49:54.7±1.4,2725N±006×9664E±007,h73km±13km, mb4.0/16,Error ellipse: s-maj=10.7km s-min=8.0km az=96.8*
*BJI **27** 12:49:54.5,2734N×9679E,h67km,mB4.9,mb4.3,ML3.9, Ms4.0,Msz3.9*
*NEIC **27** 12:49:55.6±0.5,2744N×9679E,mb4.1/3,Error ellipse: s-maj=16.2km s-min=10.0km az=51.0*
*IDC **27** 12:49:56.5±0.9,2744N×9687E,h68km±7km,mb3.7/9, mb1 3.9/9,mb1mx3.7/20,mbtmp4.0/9,MS3.2/1,Ms1 3.2/1, ms1mx2.5/28,Error ellipse: s-maj=32.5km s-min=14.8km az=63.0*

ISC 27 12:49:56.5±1.1,**2729N**±006×**9657E**±007,**h73**km±11km, **h70**km±.9km:**pP-P**,**n44**,σ1§**10**/45,**mb4.0**/16,**1C-2D**, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.34**	**298**	P	**Pn**	**12 51 13.8**	**+0.1**
LSA	**Lhasa**	**5.34**	**298**	*e*P	**Pn**	**12 51 12.4**	**-1.3**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**5.34**	**298**	*e*P	**Pn**	**12 51 12.4**	**-1.2**
	comp=Z,12nm,0.6s						
KMI	**Kunming**	**5.94**	**110**	P	**Pn**	**12 51 21.0**	**-0.9**
KMI				S	**Sn**	**12 52 30.0**	**+1.4**
KMI				AMB	AMB		
	comp=Z,34nm,1.0s						
KMI				LR	LR		
	comp=N,968nm,8.0s						
KMI				LR	LR		
	comp=E,697nm,8.5s						
KMI				LR	LR		
	comp=Z,668nm,8.9s						
CD2	**Chengdu**	**7.25**	**58**	*e*P	**Pn**	**12 51 40.0**	**+0.3**
CD2				S	**Sn**	**12 53 01.0**	**+0.6**
CD2				Smax			
	comp=N,20nm,1.4s						
CD2				Smax			
	comp=E,10.0nm,1.4s						
CD2				LR	LR		
	comp=E,420nm,9.6s						
CD2				LR	LR		
	comp=Z,180nm,8.4s						
LZH	**Lanzhou**	**10.73**	**33**	*e*P	**Pn**	**12 52 22.5**	**-4.7**
LZH				AP		12 52 27.5	
LZH				*e*S	**Sn**	**12 54 26.0**	**+0.4**
LZH				XS		12 54 32.0	
LZH				*e*SS		12 54 40.0	
LZH				LG		12 55 43.3	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s						
LZH				AMB	AMB		
	comp=Z,92nm,4.2s						
LZH				LR	LR		
	comp=N,570nm,9.0s						
LZH				LR	LR		
	comp=Z,730nm,10.5s						
ENH	**Enshi**	**11.71**	**72**	*e*P	**Pn**	**12 52 34.7**	**-5.9**
	comp=Z,9.6nm,0.7s						
GTA	**Gaotai**	**12.38**	**12**	*e*P	**Pn**	**12 52 53.8**	**+4.0**
GTA				AP		12 52 59.5	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s						
XAN	**Xi'an**	**12.57**	**55**	P	**Pn**	**12 52 51.5**	**-0.8**
XAN				AP		12 53 01.0	
WMQ	**Urumqi**	**17.99**	**339**	P	**Pn**	**12 54 03.0**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**21.90**	**18**	P	**P**	**12 54 41.1**	**-2.4**
	comp=Z,1.4nm,0.6s,mb3.5,baz=202,slow=10,SNR=8.5						
SONM				LR	LR	13 04 00.3	
	comp=Z,61nm,18.9s,baz=121,slow=39						
SONM	**Songino Array**	**21.90**	**18**	P	**P**	**12 54 41.1**	**-2.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,61nm,18.9s						
ULN	**Ulaanbaatar**	**22.11**	**19**	*e*P	**P**	**12 54 43.7**	**-2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
ULN	**Ulaanbaatar**	**22.11**	**19**	*e*P	**P**	**12 54 43.7**	**-2.1**
	comp=Z,2.6nm,0.7s,mb3.7						
MKAR	**Makanchi Array**	**22.49**	**334**	P	**P**	**12 54 49.0**	**-0.8**
	comp=Z,1.8nm,0.8s,mb3.5,baz=139,slow=11,SNR=13						
MKAR	**Makanchi Array**	**22.49**	**334**	P	**P**	**12 54 49.0**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAK	**Zakamensk**	**23.62**	**11**	*e*P	**P**	**12 55 01.3**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.7						
KURK	**Kurchatov**	**27.09**	**335**	⇑*e*P	**P**	**12 55 35.6**	**+3.3**
KURK	**Kurchatov**	**27.09**	**335**	P	**P**	**12 55 29.3**	**-3.1**
	comp=Z,5.3nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**28.00**	**345**	P	**P**	**12 55 44.8**	**+4.3**
	comp=Z,0.6nm,0.5s,mb3.4,baz=359,slow=11,SNR=3.0						
ZAL	**Zalesovo**	**28.00**	**345**	P	**P**	**12 55 44.8**	**+4.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**37.28**	**319**	P	**P**	**12 57 02.2**	**+0.9**
AKTO	**Aktyubinsk**	**37.28**	**319**	P	**P**	**12 57 02.2**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=106,slow=14,SNR=5.1						
AKTO	**Aktyubinsk**	**37.28**	**319**	P	**P**	**12 57 02.2**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.20**	**145**	*e*P	**P**	**12 59 06.6**	**-0.6**
	comp=Z,13nm,1.8s,mb4.7						
WRAB	**Tennant Creek**	**59.52**	**138**	*e*P	**P**	**12 59 52.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**59.52**	**138**	*e*P	**P**	**12 59 52.1**	**0.0**
	comp=Z,15nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**59.52**	**138**	P	**P**	**12 59 52.1**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.9,baz=329,slow=7.5,SNR=141						
WRA				pP	pP	13 00 10.0	-0.9
	comp=Z,2.8nm,0.5s,baz=327,slow=7.3,SNR=5.8						
WRA	**Warramunga Arr**	**59.52**	**138**	P	**P**	**12 59 52.1**	**-0.1**
WRA				*PP	pP	13 00 10.0	-0.9
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WB2	**Warramunga Arr**	**59.53**	**138**	*e*P	**P**	**12 59 52.2**	**0.0**
ASPA	**Alice Springs**	**62.17**	**141**	⇓*i*P	**P**	**13 00 10.5**	**+0.3**
AS31	**Alice Springs**	**62.17**	**141**	⇓*i*P	**P**	**13 00 10.5**	**+0.3**
ASAR	**Alice Springs**	**62.17**	**141**	P	**P**	**13 00 10.4**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=326,slow=6.6,SNR=63						
ASAR				pP	pP	13 00 28.8	-0.3
	comp=Z,0.9nm,0.5s,baz=325,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**62.17**	**141**	P	**P**	**13 00 10.4**	**+0.2**
ASAR				*PP	pP	13 00 28.8	-0.2
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**64.31**	**327**	P	**P**	**13 00 25.1**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.8,baz=79,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**64.31**	**327**	P	**P**	**13 00 25.2**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**72.81**	**141**	P	**P**	**13 01 15.3**	**-1.9**
	comp=Z,1.0nm,0.5s,mb3.9,baz=324,slow=6.7,SNR=5.6						
ILAR	**Eielson Array**	**76.02**	**23**	P	**P**	**13 01 35.0**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.5,baz=303,slow=4.7,SNR=11						
ILAR				pP	pP	13 01 53.5	-1.8
	comp=Z,0.3nm,0.7s,baz=288,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**76.02**	**23**	P	**P**	**13 01 35.1**	**-0.7**
ILAR				*PP	pP	13 01 53.5	-1.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**87.11**	**14**	P	**P**	**13 02 33.9**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.2,baz=317,slow=4.3,SNR=3.3						
YKA	**Yellowknife Ar**	**87.11**	**14**	P	**P**	**13 02 33.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**88.32**	**284**	P	**P**	**13 02 42.2**	**+2.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=70,slow=3.9,SNR=8.5						
BDFB	**Brasilia**	**145.18**	**282**	PKPbc	PKPbc	13 09 26.8	+1.4
	comp=Z,2.8nm,0.8s,baz=80,slow=6.1,SNR=3.5						
BDFB	**Brasilia**	**145.18**	**282**	PKIKP	PKPdf	13 09 26.8	+1.2
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*ISCJB **27** 12:57:50.9±1.2,6090N±007×293E±0.1,h0km,Error ellipse: s-maj=12.0km s-min=5.4km az=105.5*
*BER **27** 12:57:54.7±2.7,6092N×2908E,h0km,ML2.1(NAO), Suspected explosion*
*HEL **27** 12:57:54.8±0.3,6096N×2913E,h0km,ML1.6, ML2.1(NAO),Explosion*
*NAO **27** 12:57:54.5±2.0,6097N×2912E,ML2.1*
*IDC **27** 12:57:58.2±3.1,6097N×2881E,h11km±13km,mb1 3.2/3, mb1mx2.9/18,mbtmp3.2/3,ML2.9/3,Error ellipse: s-maj=18.3km s-min=12.3km az=132.0*

ISC 27 12:57:53.8±1.1,**6096N**±007×**291E**±01,**h0**km,**n20**, σ0§**84**/26,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.86**	**241**	*e*P	**Pg**	**12 58 10.8**	**+0.4**
VJF				*e*S	**Sg**	**12 58 22.7**	**+1.2**
FIA0	**FINESS Array S**	**1.54**	**290**	*e*P	**Pn**	**12 58 21.7**	**-0.7**
FIA0				*e*S	**Sn**	**12 58 43.1**	**0.0**
FIA0	**FINESS Array S**	**1.54**	**290**	Pn	**Pn**	**12 58 21.7**	**-0.7**
	baz=113,slow=16						
FIA0				Lg		12 58 43.5	
	baz=103,slow=37						
FIA0				Rg		12 58 50.5	
	baz=122,slow=37						
FINES	**FINESS Array B**	**1.54**	**290**	Pg	**Pg**	**12 58 21.8**	**-1.4**
	3.8nm,0.3s,baz=109,slow=16,SNR=96						
FINES				Pn	**Pn**	**12 58 23.0**	**+0.6**
	3.8nm,0.3s,baz=110,slow=15,SNR=94						
FINES				Lg		12 58 43.1	
	8.9nm,0.3s,baz=105,slow=31,SNR=52						
FINES				Sn	**Sn**	**12 58 45.4**	**+2.3**
	8.9nm,0.3s,baz=110,slow=28,SNR=50						
FINES				Rg		12 58 50.8	
	9.0nm,0.7s,baz=102,slow=26,SNR=25						
PVF	**Pernaja**	**1.64**	**257**	*e*P	**Pn**	**12 58 22.9**	**-0.9**
PVF				*e*S	**Sn**	**12 58 44.7**	**-0.9**
KAF	**Kangasniemi**	**1.77**	**312**	*e*P	**Pn**	**12 58 26.2**	**+0.6**
KAF				*e*S	**Sn**	**12 58 49.2**	**+0.5**
JOF	**Joensuu**	**2.23**	**27**	*e*P	**Pn**	**12 58 33.0**	**+1.0**
JOF				*e*S	**Sn**	**12 59 00.8**	**+0.6**
JOF				MSG		12 59 04.2	
	comp=Z,2.7nm,0.1s						
SUF	**Sumiainen**	**2.25**	**323**	MSG		12 59 05.7	
	comp=Z,3.2nm,0.1s						
KEF	**Keuruu**	**2.35**	**303**	MSG		12 59 10.0	
	comp=Z,2.2nm,0.1s						
APA0	**Apatity Array**	**6.89**	**13**	Pn	**Pn**	**12 59 35.2**	**-0.7**
	baz=186,slow=16						
APA0	**Apatity Array**	**6.89**	**13**	*e*P	**Pn**	**12 59 35.2**	**-0.7**
HFS	**Hagfors**	**7.63**	**271**	Pn	**Pn**	**12 59 46.4**	**+0.2**
	baz=79,slow=12						
HFS	**Hagfors**	**7.63**	**271**	*e*P	**Pn**	**12 59 46.4**	**+0.2**
HFS	**Hagfors**	**7.63**	**271**	Pn	**Pn**	**12 59 46.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=6.2						
HFS				Lg		13 01 52.0	
	comp=Z,0.4nm,0.3s,baz=79,slow=31,SNR=3.7						
NB2	**NORSAR Subarra**	**8.68**	**278**	Pn	**Pn**	**13 00 00.1**	**-0.5**
	baz=85,slow=14						
NB2	**NORSAR Subarra**	**8.68**	**278**	*e*P	**Pn**	**13 00 00.1**	**-0.5**
NOA	**NORSAR Array B**	**8.68**	**278**	Pn	**Pn**	**13 00 00.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=82,slow=12,SNR=2.7						
ARA0	**ARCESS Array S**	**8.74**	**352**	Pn	**Pn**	**13 00 00.7**	**-0.7**
	baz=167,slow=12						
ARA0	**ARCESS Array S**	**8.74**	**352**	*e*P	**Pn**	**13 00 00.7**	**-0.7**
ARCES	**ARCESS Array B**	**8.74**	**352**	Pn	**Pn**	**13 00 01.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=12						
ARCES				Sn	**Sn**	**13 01 36.2**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=166,slow=24,SNR=2.5						

*NAO **27** 13:30:25.0±3.9,6058N×2868E,ML2.3*
*BER **27** 13:30:29.0±2.0,6080N×2878E,h0km,ML2.3(NAO), Suspected explosion*

HEL 27 13:30:27.4±0.0,**6097N**×**2905E**,**h0**km,**ML1.2, ML2.3**(NAO),**Explosion**,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.85**	**240**	*e*P	Pg	13 30 43.4	-0.3
VJF				*e*S	Sg	13 30 53.4	-1.4
FIA0	**FINESS Array S**	**1.52**	**290**	*e*P	Pn	13 30 54.4	-1.4
FIA0				*e*S	Sg	13 31 13.9	-2.1
FIA0	**FINESS Array S**	**1.52**	**290**	Pn	Pn	13 30 54.4	-1.4
	baz=123,slow=16						
FIA0				Lg		13 31 14.9	
	baz=107,slow=28						
FIA0				Rg		13 31 22.5	
	baz=116,slow=37						
PVF	**Pernaja**	**1.62**	**256**	*e*P	Pn	13 30 56.1	-1.1
PVF				*e*S	Sn	13 31 17.1	-1.7
KAF	**Kangasniemi**	**1.74**	**312**	*e*P	Pn	13 30 58.2	-0.7
KAF				*e*S	Sn	13 31 20.6	-1.2
JOF	**Joensuu**	**2.23**	**28**	*e*P	Pn	13 31 05.5	-0.1
JOF				*e*S	Sn	13 31 33.3	-0.5
JOF				MSG		13 31 38.1	
	comp=Z,0.6nm,0.1s						
SUF	**Sumiainen**	**2.23**	**323**	MSG		13 31 40.1	
	comp=Z,1.1nm,0.1s						
KEF	**Keuruu**	**2.33**	**303**	MSG		13 31 41.0	
	comp=Z,0.7nm,

SNGE	**Sanandaj**	**2.39**	**275**	*e*PG	**Pg**	**13 32 01.5**	**-6.1**
SNGE				AML	AML	13 32 38.3	
	comp=N,207nm,0.6s						
ISHM	**Shahmirzad**	**2.63**	**70**	*e*Pn	**Pn**	**13 32 05.3**	**+1.0**
IZEF	**Zefreh**	**2.67**	**139**	*e*Pn	**Pn**	**13 32 04.7**	**-0.1**
NASN	**Na'in**	**3.01**	**134**	*e*PN	**Pn**	**13 32 09.8**	**+0.3**
IANJ	**Anjiloo**	**3.05**	**79**	*e*Pn	**Pn**	**13 32 10.0**	**0.0**
IKIA	**Kiasar**	**3.07**	**65**	*e*Pn	**Pn**	**13 32 11.9**	**+1.6**
IGHG	**Ghaleghazi**	**3.10**	**260**	*e*Pn	**Pn**	**13 32 11.9**	**+1.2**
IGAR	**Garneh**	**3.14**	**148**	*e*Pn	**Pn**	**13 32 09.4**	**-1.9**
IDHR	**Dehrash**	**3.19**	**267**	*e*Pn	**Pn**	**13 32 13.4**	**+1.5**
IBST	**Bostanabad**	**3.87**	**316**	*e*Pn	**Pn**	**13 32 20.8**	**-0.5**
ISAD	**Sadrabad**	**4.17**	**135**	*e*Pn	**Pn**	**13 32 27.0**	**+1.6**
ICHK	**Chekchek**	**4.39**	**127**	*e*Pn	**Pn**	**13 32 28.6**	**+0.2**
IMEH	**Mehriz**	**5.09**	**133**	*e*Pn	**Pn**	**13 32 38.3**	**+0.2**
IMRD	**Marand**	**5.24**	**317**	*e*Pn	**Pn**	**13 32 39.1**	**-1.1**
IBAF	**Bafgh**	**5.57**	**125**	*e*Pn	**Pn**	**13 32 45.3**	**+0.7**
IPAR	**Pars**	**5.61**	**154**	*e*Pn	**Pn**	**13 32 44.9**	**-0.3**

NAO ***27*** *13:35:52.7, 48.48N×176.03W, h33km, mb3.9*
ISCJB ***27*** *13:36:12.1±0.3, 51.38N±006×177.75W±004, h51km, mb4.6/56, MS4.0/19, Error ellipse: s-maj=9.1km s-min=3.4km az=169.0*
MOS ***27*** *13:36:13.3±1.0, 51.56N×177.77W, h56km, mb5.1/14, Error ellipse: s-maj=12.2km s-min=8.9km az=64.6*
BJI ***27*** *13:36:13.0, 51.81N×177.91W, h49km, mB5.3, mb4.8, Ms4.7, Msz4.2*
IDC ***27*** *13:36:14.5±2.3, 51.45N×177.78W, h59km±19km, mb4.0/22, mb1 4.1/23, mb1mx4.1/27, mbtmp4.2/23, ML3.6/1, MS3.8/10, Ms1 3.8/10, ms1mx3.5/29, Error ellipse: s-maj=18.2km s-min=10.6km az=179.0*
HRVD ***27*** *13:36:15.2±0.9, 51.38N×177.87W, h53km±2km, MW4.7/28, Centroid moment Tensor Solution. LP body waves: s28,c30;Mantle waves: s17,c18; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.33±.14; Mθθ-0.45±.20; Mφφ-0.88±.17; Mrθ0.03±.11; Mrφ0.16±.21; Mθφ0.29±.08; Best double couple: M0 1.6900×10^16 NP1:φs159.00000°, δ39.00000°, λ84.00000°. NP2: φs346.00000°, δ52.00000°, λ95.00000°. Principal axes: T 1.3680, Plg82.0000°, Azm282.0000°; N -0.3990, Plg4.0000°, Azm164.0000°; P -0.9710, Plg7.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *13:36:15.2±0.9, 51.49N×177.70W, h62km±7km, mb4.9/25, ML4.4(AEIC) Error ellipse: s-maj=11.0km s-min=4.9km az=184.0*

ISC 27 13:36:14.3±0.3, 51.49N±007×177.72W±004, h53km, h53km±3.6km: pP-P, n142, σ1§10/149, mb4.6/56, MS4.0/19,
Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.76**	**58**	P	**Pn**	**13 36 28.7**	**-0.1**
ADK				S	**Sn**	**13 36 41.1**	**+1.6**
ATKA	**Atka Island**	**2.30**	**71**	P	**Pn**	**13 36 49.2**	**-0.5**
ATKA				S	**Sn**	**13 37 17.1**	**+0.3**
FX1	**Attu Island--F**	**5.78**	**288**	P	**Pn**	**13 37 38.9**	**+1.5**
	5.1nm,0.3s,baz=237,slow=21,SNR=38						
FX1				S	**Sn**	**13 38 44.4**	**+2.1**
	4.7nm,0.3s,baz=274,slow=19,SNR=2.9						
FX1	**Attu Island--F**	**5.78**	**288**	P	**Pn**	**13 37 38.9**	**+1.5**
FX1				S	**Sn**	**13 38 44.4**	**+2.1**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FX1	**Attu Island--F**	**5.78**	**288**	P	**Pn**	**13 37 40.1**	**+2.8**
UNV	**Unalaska Valle**	**7.22**	**67**	P	**Pn**	**13 37 59.5**	**+2.3**
TNA	**Tin City**	**14.98**	**16**	P	**Pn**	**13 39 47.2**	**+4.6**
KDAK	**Kodiak Island**	**15.80**	**57**	P	**Pn**	**13 39 50.5**	**-2.7**
	comp=Z,1.6nm,0.3s,baz=225,slow=6.9,SNR=35						
KDAK				S	**S**	**13 42 47.5**	**-12**
	comp=Z,0.4nm,0.3s,baz=233,slow=20,SNR=7.7						
SLKM	**Skilak Lake**	**17.71**	**49**	*e*P	**Pn**	**13 40 17.6**	**+0.6**
BILL	**Bilibino**	**18.34**	**341**	*i* P	**Pn**	**13 40 28.4**	**+3.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,200nm,23.0s						
BILL	**Bilibino**	**18.34**	**341**	*e*P	**Pn**	**13 40 27.0**	**+2.3**
	comp=Z,4.1nm,0.6s						
PMR	**Palmer**	**18.57**	**46**	*e*P	**Pn**	**13 40 28.4**	**+1.0**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PMR	**Palmer**	**18.57**	**46**	*e*P	**Pn**	**13 40 28.2**	**+0.8**
	comp=Z,9.4nm,1.1s						
MCK	**McKinley**	**19.48**	**40**	*e*P	**Pn**	**13 40 36.1**	**-2.3**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**19.48**	**40**	*e*P	**Pn**	**13 40 36.1**	**-2.3**
	comp=Z,4.6nm,0.7s						
SEY	**Seymchan**	**19.62**	**317**	*i* P	**Pn**	**13 40 43.6**	**+3.6**
DIV	**Divide**	**19.97**	**49**	P	**Pn**	**13 40 41.2**	**-3.0**
	comp=Z,28nm,0.6s						
COLA	**College**	**20.41**	**38**	*i* P	**P**	**13 40 48.9**	**+2.1**
ILAR	**Eielson Array**	**20.73**	**38**	P	**P**	**13 40 49.0**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=238,slow=8.7,SNR=36						
ILAR				PcP	PcP	13 44 56.3	-1.8
	comp=Z,0.3nm,0.4s,baz=275,slow=2.9,SNR=5.2						
ILAR				ScP	ScP	13 48 29.9	-0.3
	comp=Z,0.2nm,0.4s,baz=280,slow=3.6,SNR=6.1						
ILAR				LR	LR	13 49 03.3	
	comp=Z,157nm,21.8s,MS3.3,baz=109,slow=37						
ILAR	**Eielson Array**	**20.73**	**38**	P	**P**	**13 40 49.0**	**-1.3**
ILAR						13 44 56.3	
DAWY	**Dawson**	**23.56**	**43**	*e*P	**P**	**13 41 18.9**	**-1.0**
INK	**Inuvik**	**26.98**	**35**	P	**P**	**13 41 49.9**	**-1.1**
	comp=Z,1.5nm,0.4s,mb3.9,baz=244,slow=8.4,SNR=47						
INK				PcP	PcP	13 45 10.3	-1.2
	comp=Z,1.5nm,0.5s,baz=308,slow=3.2,SNR=12						
INK				LR	LR	13 53 55.9	
	comp=Z,189nm,18.8s,MS3.7,baz=126,slow=39						
INK	**Inuvik**	**26.98**	**35**	*e*P	**P**	**13 41 50.1**	**-0.8**
INK	**Inuvik**	**26.98**	**35**	*e*P	**P**	**13 41 49.9**	**-1.0**
	comp=Z,2.9nm,1.0s,mb3.8						
TIXI	**Tiksi**	**30.87**	**330**	*e*P	**P**	**13 42 15.8**	**-10**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,170nm,17.0s,MS3.8						
KLR	**Kul'dur**	**31.80**	**286**	*e*P	**P**	**13 42 30.2**	**-3.4**
YKA	**Yellowknife Ar**	**34.66**	**47**	P	**P**	**13 42 57.4**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=284,slow=7.8,SNR=24						
YKA				PcP	PcP	13 45 31.4	-0.3
	comp=Z,0.8nm,0.4s,baz=286,slow=2.9,SNR=14						
YKA				LR	LR	13 57 00.7	
	comp=Z,139nm,20.8s,MS3.7,baz=295,slow=36						
YKA	**Yellowknife Ar**	**34.66**	**47**	P	**P**	**13 42 57.4**	**-1.2**
YKA						13 45 31.4	
YKA	**Yellowknife Ar**	**34.66**	**47**	P	**P**	**13 42 57.4**	**-1.2**
YKA				PcP	PcP	13 45 31.4	-0.3
YKA				LR	LR	13 57 00.7	
MDJ	**Mudanjiang**	**35.22**	**280**	P	**P**	**13 43 03.3**	**-0.1**
MDJ				AP	pP	13 43 16.3	-0.7
MDJ				XP	sP	13 43 22.5	-0.8
MDJ				PP	PP	13 44 23.3	-0.7
MDJ				PCP	PcP	13 45 33.8	+0.4
MDJ				S	**S**	**13 48 33.0**	**-0.1**
MDJ				XS	sS	13 48 55.5	-0.6
MDJ				SCP	ScP	13 49 15.0	+0.5
MDJ				PCS	PcS	13 49 20.8	+0.5
MDJ				AMB	AMB		
	comp=Z,164nm,3.8s						
MDJ				LR	LR		
	comp=Z,86nm,29.4s,MS3.3						
CN2	**Changchun**	**38.19**	**281**	*e*P	**P**	**13 43 27.0**	**-1.6**
YBH	**Yreka Blue Hor**	**38.20**	**83**	P	**P**	**13 43 30.1**	**+1.4**
	comp=Z,6.4nm,0.9s,mb4.3,baz=347,slow=5.3,SNR=11						
YBH				LR	LR	13 55 01.1	
	comp=Z,164nm,20.4s,MS3.8,baz=269,slow=30						
NEW	**Newport**	**38.21**	**70**	P	**P**	**13 43 29.4**	**+0.5**
	comp=Z,9.8nm,0.7s,mb4.7,baz=298,slow=8.0,SNR=17						
NEW	**Newport**	**38.21**	**70**	*e*P	**P**	**13 43 29.1**	**+0.3**
NEW				*e**SP	sP	13 43 47.4	-1.4
NEW				pmax	pmax		
	comp=Z,29nm,1.2s						
NEW	**Newport**	**38.21**	**70**	*e*P	**P**	**13 43 29.1**	**+0.2**
	comp=Z,30nm,1.2s,mb4.9						
NEW				*es*P	sP	13 43 47.4	-1.4
MOD	**Modoc**	**39.59**	**81**	*e*P	**P**	**13 43 41.2**	**+0.8**
	comp=Z,22nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**40.32**	**79**	P	**P**	**13 43 47.2**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
WVOR	**Wild Horse Val**	**40.32**	**79**	*e*P	**P**	**13 43 47.0**	**+0.6**
	comp=Z,25nm,0.9s,mb4.9						
CHMT	**Chamberlain Mo**	**41.16**	**70**	*e*P	**P**	**13 43 52.9**	**-0.4**
CHMT				*ep*P	pP	13 44 06.4	-0.8
CHMT				*es*P	sP	13 44 11.3	-2.1
MCMT	**McKenzie Canyo**	**42.50**	**72**	*e*P	**P**	**13 44 04.3**	**0.0**
EGMT	**Eagleton**	**42.62**	**67**	*e*P	**P**	**13 44 04.5**	**-0.7**
	comp=Z,14nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**42.87**	**84**	P	**P**	**13 44 08.2**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.2,baz=299,slow=6.2,SNR=15						
NVAR				LR	LR	14 00 12.7	
	comp=Z,67nm,18.0s,MS3.6,baz=270,slow=34						
QLMT	**Earthquake Lak**	**43.34**	**72**	*e*P	**P**	**13 44 11.1**	**0.0**
ELK	**Elko**	**43.37**	**79**	*e*P	**P**	**13 44 11.9**	**+0.6**
ELK				pmax	pmax		
	comp=Z,13nm,0.8s						
ELK	**Elko**	**43.37**	**79**	*e*P	**P**	**13 44 11.9**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7						
HVU	**Hansel Valley**	**44.27**	**76**	P	**P**	**13 44 19.3**	**+0.8**
HVU				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
HVU	**Hansel Valley**	**44.27**	**76**	*e*P	**P**	**13 44 19.1**	**+0.6**
	comp=Z,15nm,1.0s,mb4.7						
DUG	**Dugway**	**45.19**	**78**	P	**P**	**13 44 26.4**	**+0.6**
DUG				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.0						
DUG	**Dugway**	**45.19**	**78**	*e*P	**P**	**13 44 26.3**	**+0.5**
	comp=Z,24nm,1.0s,mb5.0						
LAO	**LASA Array**	**45.36**	**67**	*e*P	**P**	**13 44 27.5**	**+0.3**
	comp=Z,41nm,1.2s,mb5.1						
DAU	**Daniels Canyon**	**46.01**	**77**	P	**P**	**13 44 33.8**	**+1.5**
DAU	**Daniels Canyon**	**46.01**	**77**	*e*P	**P**	**13 44 33.4**	**+1.1**
MPU	**Maple Canyon**	**46.02**	**77**	*e*P	**P**	**13 44 32.8**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
MSU	**Marysvale**	**46.60**	**79**	P	**P**	**13 44 38.0**	**+1.0**
MSU	**Marysvale**	**46.60**	**79**	*e*P	**P**	**13 44 37.7**	**+0.7**
TMUT	**Trail Mountain**	**46.71**	**78**	*e*P	**P**	**13 44 38.5**	**+0.6**
NEN	**Nelson**	**46.77**	**84**	*e*P	**P**	**13 44 38.3**	**0.0**
LDFC	**Landfair**	**46.97**	**85**	*e*P	**P**	**13 44 38.7**	**-1.2**
SONM	**Songino Array**	**47.20**	**297**	P	**P**	**13 44 41.9**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=57,slow=7.2,SNR=22						
SONM				PcP	PcP	13 46 12.2	-0.2
	comp=Z,0.5nm,0.4s,baz=106,slow=1.9,SNR=6.2						
SONM				LR	LR	14 04 31.6	
	comp=Z,179nm,18.2s,MS4.1,baz=36,slow=36						
SONM	**Songino Array**	**47.20**	**297**	P	**P**	**13 44 41.9**	**+0.3**
SONM						13 46 12.2	
SRU	**San Rafael**	**47.25**	**78**	P	**P**	**13 44 42.4**	**+0.4**
SRU				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
SRU	**San Rafael**	**47.25**	**78**	*e*P	**P**	**13 44 42.3**	**+0.2**
	comp=Z,15nm,0.6s,mb5.1						
ZAK	**Zakamensk**	**47.47**	**301**	*e*P	**P**	**13 44 43.7**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
HHC	**Hu-ho-hao-te**	**48.31**	**286**	*e*P	**P**	**13 44 48.5**	**-1.7**
HHC				AP	pP	13 45 04.3	-0.1
HHC				XP	sP	13 45 11.3	+0.8
HHC				PP	PP	13 46 40.5	-2.5
HHC				S	**S**	**13 51 41.5**	**-4.8**
HHC				XS	sS	13 52 07.5	-2.6
HHC				SCS	ScS	13 54 34.0	-4.3
HHC				SS	SS	13 55 04.8	-11
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,388nm,6.5s						
HHC				LR	LR		
	comp=N,440nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=E,397nm,20.2s,MS4.6						
HHC				LR	LR		
	comp=Z,241nm,22.6s,MS4.1						
PV10	**Paradox Valley**	**48.61**	**77**	*e*P	**P**	**13 44 53.1**	**+0.5**
SSE	**Sheshan**	**48.67**	**270**	*e*P	**P**	**13 44 50.3**	**-2.7**
SSE				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.5						
SSE				AMB	AMB		
	comp=Z,160nm,4.0s						
WUAZ	**Wupatki**	**49.01**	**82**	*e*P	**P**	**13 44 55.7**	**+0.1**
	comp=Z,20nm,1.1s,mb5.1						
PV01	**Paradox Valley**	**49.05**	**77**	*e*P	**P**	**13 44 56.0**	**+0.1**
ULM	**Lac du Bonnet**	**49.06**	**57**	P	**P**	**13 44 54.5**	**-1.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=309,slow=6.8,SNR=3.7						
SMCO	**Snowmass**	**49.36**	**75**	*e*P	**P**	**13 44 58.4**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.6						
BTO	**Baotou**	**49.38**	**287**	*e*P	**P**	**13 44 59.3**	**+0.9**
BTO				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
NJ2	**Nanjing**	**49.48**	**273**	*e*P	**P**	**13 45 01.5**	**+2.3**
NJ2				AP	pP	13 45 16.5	+3.1
NJ2				PCP	PcP	13 46 22.5	+1.9
NJ2				S	**S**	**13 52 03.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,600nm,4.9s						
NJ2				LR	LR		
	comp=N,1μm,29.7s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,26.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,360nm,25.6s,MS4.3						
SDCO	**Great Sand Dun**	**51.16**	**76**	*e*P	**P**	**13 45 12.3**	**+0.4**
	comp=Z,22nm,1.2s,mb5.0						
ANMO	**Albuquerque**	**52.41**	**79**	P	**P**	**13 45 21.6**	**+0.4**
	comp=Z,5.1nm,1.0s,mb4.4,baz=317,slow=7.1,SNR=9.9						
LENM	**Lemitar**	**52.61**	**80**	*e*P	**P**	**13 45 23.1**	**+0.4**
LENM				*e*		13 45 27.1	
LPM	**Los Pinos Moun**	**52.73**	**80**	*e*P	**P**	**13 45 24.2**	**+0.6**
BNM	**Barren Site**	**52.84**	**80**	*e*P	**P**	**13 45 25.0**	**+0.6**
ZAL	**Zalesovo**	**54.46**	**314**	PcP	PcP	13 46 37.7	-1.5
	comp=Z,1.2nm,0.4s,baz=62,slow=2.4,SNR=5.2						
ZAL				LR	LR	14 10 06.7	
	comp=Z,69nm,19.3s,MS3.7,baz=269,slow=37						
MNTX	**Cornudas Mount**	**55.27**	**81**	*e*P	**P**	**13 45 41.6**	**-0.4**
	comp=Z,16nm,1.0s,mb5.0						
MNTX				*e*	pP	13 45 51.2	-5.2
LZH	**Lanzhou**	**56.00**	**287**	*e*P	**P**	**13 45 48.0**	**+0.7**
LZH				AP	pP	13 46 04.0	+2.3
LZH				XP	sP	13 46 11.0	+3.2
LZH				PP	PP	13 47 55.0	+2.5
LZH				*es*S	**S**	**13 53 28.8**	**-2.9**
LZH				XS	sS	13 53 56.0	+0.1
LZH				*es*SS	SS	13 57 15.0	-3.2
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,109nm,4.8s						
LZH				LR	LR		
	comp=N,356nm,14.6s						
LZH				LR	LR		
	comp=Z,542nm,15.4s,MS4.8						
GTA	**Gaotai**	**56.15**	**292**	*e*P	**P**	**13 45 48.8**	**+0.4**
GTA				AP	pP	13 45 59.3	-3.5
GTA				XP	sP	13 46 04.3	-4.6
GTA				PP	PP	13 47 55.8	+1.9
GTA				PPP		13 49 14.5	
GTA				S	**S**	**13 53 35.3**	**+1.6**
GTA				XS	sS	13 53 56.0	-1.9
GTA				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,133nm,4.6s						
GTA				LR	LR		
	comp=N,163nm,12.0s,MS4.4						
GTA				LR	LR		
	comp=E,160nm,15.4s,MS4.4						
GTA				LR	LR		
	comp=Z,134nm,15.4s,MS4.1						
LTX	**Lajitas**	**57.97**	**82**	P	**P**	**13 46 01.4**	**+0.1**
LTX				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
LTX	**Lajitas**	**57.97**	**82**	*e*P	**P**	**13 46 00.7**	**-0.6**
	comp=Z,10.0nm,1.1s,mb4.8						
ARCES	**ARCESS Array B**	**58.09**	**351**	P	**P**	**13 46 00.5**	**-1.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=26,slow=7.4,SNR=18						
ARCES				PcP	PcP	13 46 52.1	-1.2
	comp=Z,5.4nm,1.0s,baz=18,slow=3.9,SNR=3.8						
ARCES	**ARCESS Array B**	**58.09**	**351**	P	**P**	**13 46 00.5**	**-1.7**
ARCES				PcP	PcP	13 46 52.1	-1.2
CD2	**Chengdu**	**59.61**	**282**	*e*P	**P**	**13 46 13.3**	**+0.6**
CD2				AP	pP	13 46 29.3	+2.1
CD2				XP	sP	13 46 36.3	+3.1
CD2				PP	PP	13 48 27.0	+2.4
CD2				S	**S**	**13 54 16.5**	**-2.4**
CD2				XS	sS	13 54 44.0	+0.7
CD2				SS	SS	13 58 13.5	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2				LR	LR		
	comp=N,160nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,14.4s,MS4.0						
WMQ	**Urumqi**	**59.84**	**303**	*e*P	**P**	**13 46 16.0**	**+1.7**
WMQ				PP	PP	13 48 31.0	+4.3
WMQ				S	**S**	**13 54 23.0**	**+1.1**
WMQ				SCS	ScS	13 55 57.0	-3.1
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,105nm,5.0s						
WMQ				LR	LR		
	comp=N,56nm,10.0s,MS4.2						
WMQ				LR	LR		
	comp=E,78nm,12.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,95nm,10.0s,MS4.2						
MIAR	**Mount Ida**	**60.45**	**71**	P	**P**	**13 46 18.1**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
MIAR	**Mount Ida**	**60.45**	**71**	*e*P	**P**	**13 46 17.8**	**-0.6**
	comp=Z,24nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	**60.49**	**309**	P	**P**	**13 46 16.9**	**-1.8**
	comp=Z,0.3nm,0.3s,mb3.8,baz=45,slow=6.9,SNR=18						
MKAR	**Makanchi Array**	**60.49**	**309**	*i* P	**P**	**13 46 17.7**	**-1.0**
GYA	**Guiyang**	**60.98**	**277**	P	**P**	**13 46 28.3**	**+6.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**61.24**	**320**	P	**P**	**13 46 22.9**	**-0.8**
	comp=Z,2.2nm,0.4s,mb4.6,baz=53,slow=7.5,SNR=26						
BVAR				PcP	PcP	13 47 05.0	-1.0
	comp=Z,1.2nm,0.5s,baz=44,slow=3.2,SNR=6.0						
ZRNK	**Zerenda**	**61.84**	**321**	P	**P**	**13 46 27.1**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**61.84**	**321**	*e*P	**P**	**13 46 26.5**	**-1.3**
	comp=Z,2.0nm,0.6s,mb4.4						
OXF	**Oxford**	**62.91**	**68**	P	**P**	**13 46 34.8**	**-0.2**
OXF				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.6						
OXF	**Oxford**	**62.91**	**68**	*e*P	**P**	**13 46 34.1**	**-0.9**
	comp=Z,49nm,1.0s,mb5.6						
PLAL	**Pickwick Lake**	**63.35**	**67**	*e*P	**P**	**13 46 36.8**	**-1.0**
	comp=Z,15nm,0.9s,mb5.1						
KMI	**Kunming**	**64.38**	**279**	P	**P**	**13 46 45.0**	**+0.4**
KMI				AP	pP	13 46 57.8	-1.5
KMI				S	**S**	**13 55 14.5**	**-4.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.0						
KMI				LR	LR		
	comp=Z,44nm,26.2s,MS3.5						
CPCT	**Cooper Cave**	**65.03**	**64**	*e*P	**P**	**13 46 48.1**	**-0.8**
FWV	**Forest Hill**	**65.53**	**60**	*e*P	**P**	**13 46 51.2**	**-0.9**
FINES	**FINESS Array B**	**65.82**	**348**	P	**P**	**13 46 52.4**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=21,slow=8.2,SNR=8.6						
FINES	**FINESS Array B**	**65.82**	**348**	*i* P	**P**	**13 46 53.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.59**	**355**	P	**P**	**13 47 04.8**	**-0.5**
	comp=Z,0.7nm,0.5s,mb4.0,baz=5.1,slow=6.2						
NOA	**NORSAR Array B**	**67.59**	**355**	P	**P**	**13 47 05.1**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.1,baz=337,slow=3.4,SNR=4.1						
NOA				LR	LR	14 15 02.8	
	comp=Z,64nm,19.1s,MS3.9,baz=190,slow=34						
JSC	**Jenkinsville**	**67.71**	**63**	P	**P**	**13 47 06.0**	**0.0**
JSC	**Jenkinsville**	**67.71**	**63**	*e*P	**P**	**13 47 05.7**	**-0.3**
AKTK	**Aktyubinsk**	**67.98**	**325**	P	**P**	**13 47 07.3**	**-0.4**
AKTO	**Aktyubinsk**	**67.98**	**325**	P	**P**	**13 47 07.3**	**-0.4**
	comp=Z,5.4nm,0.4s,mb4.9,baz=58,slow=7.1,SNR=37						
AKTO	**Aktyubinsk**	**67.98**	**325**	P	**P**	**13 47 07.3**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
LSA	**Lhasa**	**68.04**	**290**	P	**P**	**13 47 10.0**	**+1.9**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
LSA	**Lhasa**	**68.04**	**290**	*e*P	**P**	**13 47 10.0**	**+1.9**
LSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
LSA	**Lhasa**	**68.04**	**290**	*e*P	**P**	**13 47 10.0**	**+1.9**
	comp=Z,22nm,1.0s,mb5.1						
AB31	**Akbulak array**	**68.25**	**323**	*e*P	**P**	**13 47 08.9**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
OBN	**Obninsk**	**70.00**	**340**	P	**P**	**13 47 19.6**	**-0.6**
OBN				*e*		13 49 54.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
SHL	**Shillong**	**70.67**	**287**	*e*P	**P**	**13 47 24.0**	**-0.3**
GUN	**Gumba**	**72.44**	**293**	*e*P	**P**	**13 47 36.1**	**+1.1**
	comp=Z,88nm,0.3s						
JIRN	**Jiri**	**72.45**	**292**	*e*P	**P**	**13 47 36.2**	**+1.2**
KKN	**Kakani**	**72.87**	**293

Error ellipse: s-maj=59.7km s-min=16.6km az=69.0

ISC 27 14:29:27.8±0.8,3220N±010×1384E±02,h368km±7km,n22,σ0§88/28,mb3.1/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.53**	**53**	P	**Pn**	**14 30 18.9**	**+1.1**
JIE	**Ise**	**2.58**	**328**	P	**Pn**	**14 30 25.1**	**+0.1**
JWZ	**Kozaga**	**2.59**	**302**	P	**Pn**	**14 30 23.7**	**-1.3**
JKN2	**Miekihoku**	**2.68**	**320**	P	**Pn**	**14 30 25.1**	**-0.6**
JOD2	**Odawara 2**	**3.12**	**11**	P	**Pn**	**14 30 30.2**	**+0.8**
JAO	**Obara**	**3.19**	**344**	P	**Pn**	**14 30 31.1**	**+1.0**
BSO1	**Boso 1**	**3.29**	**41**	P	**Pn**	**14 30 31.0**	**0.0**
JHU	**Hanno**	**3.72**	**12**	P	**Pn**	**14 30 35.3**	**+0.2**
JHU				S	**S**	**14 31 27.8**	**-1.6**
JRY	**Ryogami san**	**3.83**	**7**	P	**Pn**	**14 30 37.1**	**+1.0**
JYT	**Yasato**	**4.30**	**20**	P	**Pn**	**14 30 39.6**	**-1.2**
JYT				S	**S**	**14 31 36.1**	**-3.8**
JAG	**Ashikaga**	**4.31**	**12**	P	**Pn**	**14 30 40.4**	**-0.5**
JAG				S	**S**	**14 31 37.1**	**-3.0**
MJAR	**Matsushiro Arr**	**4.33**	**358**	P	**Pn**	**14 30 41.6**	**+0.5**
	1.5nm,0.3s,baz=172,slow=11,SNR=20						
MJAR				S	**S**	**14 31 41.5**	**+1.0**
	0.6nm,0.3s,baz=123,slow=16,SNR=4.0						
MAJO	**Matsushiro**	**4.33**	**358**	*e*P	**Pn**	**14 30 41.5**	**+0.3**
MAT	**Matsushiro**	**4.33**	**358**	P	**Pn**	**14 30 41.6**	**+0.4**
MAT				*e*S	**S**	**14 31 49.2**	**+8.7**
MAT	**Matsushiro**	**4.33**	**358**	*e*P	**Pn**	**14 30 42.0**	**+0.8**
MAT				*e*S	**S**	**14 31 41.0**	**+0.5**
HIA	**Hailar**	**22.03**	**326**	*e*P	**P**	**14 33 53.7**	**+0.8**
SONM	**Songino Array**	**28.78**	**312**	P	**P**	**14 34 53.4**	**+0.4**
	0.7nm,0.7s,mb3.0,baz=114,slow=7.7,SNR=6.8						
MKAR	**Makanchi Array**	**44.72**	**306**	P	**P**	**14 37 05.4**	**-0.4**
	0.8nm,0.6s,mb3.0,baz=90,slow=9.7,SNR=9.6						
KURK	**Kurchatov**	**47.08**	**311**	*e*P	**P**	**14 37 23.2**	**-0.8**
	0.6nm,0.5s,mb3.1						
WRA	**Warramunga Arr**	**51.99**	**185**	P	**P**	**14 38 00.1**	**-0.5**
	0.1nm,0.4s,mb2.5,baz=1.1,slow=7.5,SNR=6.7						
BVAR	**Borovoye Array**	**52.07**	**315**	P	**P**	**14 38 00.8**	**-0.4**
	0.4nm,0.3s,mb3.2,baz=100,slow=7.7,SNR=5.3						
FINES	**FINESS Array B**	**71.90**	**332**	P	**P**	**14 40 12.3**	**+0.5**
	0.7nm,0.5s,mb3.7,baz=72,slow=6.2,SNR=8.4						

JMA 27 14:54:28.9±0.3,3173N×14097E,h0km,M3.9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.69**	**325**	P	Pn	14 55 00.0	+0.4
JHJ2				*e*S	Sn	14 55 22.6	+0.6
BSO1	**Boso 1**	**2.92**	**0**	P	Pn	14 55 17.0	+0.5
BSO3	**Boso 3**	**3.09**	**353**	P	Pn	14 55 19.8	+0.9
JOD2	**Odawara 2**	**3.86**	**336**	P	Pn	14 55 31.8	+2.3
JHU	**Hanno**	**4.34**	**342**	P	Pn	14 55 38.4	+2.2
JRY	**Ryogami san**	**4.61**	**339**	P	Pn	14 55 42.7	+2.9
JAG	**Ashikaga**	**4.85**	**345**	P	Pn	14 55 45.3	+2.2

MAN 27 14:56:14.2,936N×12552E,h10km,mb2.9,ML4.3,MS2.0,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.40**	**166**	*e*P	Pg	14 56 22.6	+0.6
BUTP				*e*S	Sg	14 56 30.2	+2.9
SCPH	**Surigao**	**0.42**	**355**	*e*P	Pg	14 56 22.8	+0.2
SCPH				*e*S	Sg	14 56 29.7	+1.5
MSLP	**Maasin**	**1.01**	**320**	*e*P	Pg	14 56 33.2	-0.5
MSLP				*e*S	Sg	14 56 48.5	+1.6
CGP	**Cagayan de Oro**	**1.21**	**223**↓	*e*P	Pn	14 56 35.6	-1.6
CGP				*i* S	Sb	14 56 53.6	+0.6
BUKP	**Musuan**	**1.54**	**197**	*e*P	Pn	14 56 42.5	+0.8
PLP	**Palo**	**1.88**	**343**	*e*P	Pn	14 56 46.2	-0.1
PLP				*e*S	Sn	14 57 06.9	-3.1

IDC 27 15:01:59.8±49.0,1621S×16701E,h552km±347km,mb3.2/3,mb1 3.4/4,mb1mx3.1/13,mbtmp4.2/4,Error ellipse: s-maj=1090.0km s-min=76.3km az=69.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.86**	**185**	P	P	15 03 37.3	+0.2
	1.0nm,0.3s,baz=53,slow=20,SNR=9.1						
STKA	**Stephens Creek**	**27.86**	**231**	P	P	15 07 05.0	-0.4
	2.8nm,0.3s,baz=65,slow=10,SNR=38						
WRA	**Warramunga Arr**	**31.25**	**258**	P	P	15 07 34.7	0.0
	0.9nm,0.5s,baz=87,slow=8.9,SNR=31						
ASAR	**Alice Springs**	**31.94**	**251**	P	P	15 07 41.2	+0.7
	2.2nm,0.4s,baz=76,slow=9.9,SNR=111						

IDC 27 15:16:55.2±1.8,893S×13058E,h0km,mb3.9/1,mb1 3.8/3,mb1mx3.6/12,mbtmp3.7/3,ML3.5/2,Error ellipse: s-maj=95.2km s-min=24.7km az=70.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.53**	**162**	Pn	Pn	15 19 42.8	+1.7
	0.3nm,0.3s,baz=345,slow=13,SNR=32						
WRA				Sn	Sn	15 21 49.9	-0.8
	0.4nm,0.3s,baz=342,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**14.99**	**168**	Pn	Pn	15 20 28.8	+0.4
	0.2nm,0.3s,baz=352,slow=14,SNR=20						
ASAR				Sn	Sn	15 23 14.0	-1.2
	0.1nm,0.3s,baz=336,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**70.15**	**327**	P	P	15 28 09.6	+0.1
	0.9nm,0.6s,baz=116,slow=7.9,SNR=17						

*ISCJB **27** 15:23:19.5±1.2,144S±04×1705E±04,h622km±40km,mb4.1/6,Error ellipse: s-maj=82.9km s-min=17.3km az=102.8*
*NEIC **27** 15:23:19.8±1.1,1439S×17059E,h607km±26km,mb4.3/2,Error ellipse: s-maj=66.8km s-min=15.2km az=143.0*
*IDC **27** 15:23:21.7±2.1,1456S×17043E,h623km±26km,mb3.2/4,mb1 3.4/5,mb1mx3.1/13,mbtmp4.3/5,Error ellipse: s-maj=57.9km s-min=21.3km az=148.0*

ISC 27 15:23:20.2±1.1,145S±04×1707E±04,h622km±36km,n10,σ1§13/11,mb4.1/6,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.55**	**207**	P	**P**	**15 25 26.2**	**+0.8**
	2.0nm,0.3s,baz=78,slow=18,SNR=17						
FUNA	**Funafuti**	**10.25**	**56**	P	**P**	**15 25 40.4**	**-1.4**
CTAO	**Charters Tower**	**23.94**	**253**	*e*P	**P**	**15 27 49.3**	**+1.3**
	4.2nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**31.69**	**232**	P	**P**	**15 28 53.7**	**-1.3**
	5.8nm,0.3s,mb4.6,baz=63,slow=8.3,SNR=52						
STKA	**Stephens Creek**	**31.69**	**232**	*e*P	**P**	**15 28 53.7**	**-1.3**
WRAB	**Tennant Creek**	**35.05**	**256**	*e*P	**P**	**15 29 23.1**	**-0.1**
	4.3nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**35.06**	**256**	P	**P**	**15 29 23.3**	**0.0**
	2.2nm,0.5s,mb4.1,baz=84,slow=7.5,SNR=69						
WRA				S	**S**	**15 34 10.1**	**-3.1**
	0.2nm,0.7s,baz=91,slow=17,SNR=3.3						
ASAR	**Alice Springs**	**35.83**	**250**	P	**P**	**15 29 30.1**	**+0.5**
	4.5nm,0.3s,mb4.4,baz=76,slow=9.9,SNR=214						
ASAR				S	**S**	**15 34 22.9**	**-1.7**
	0.4nm,0.8s,baz=76,slow=15,SNR=3.4						
ASAR				ScP	ScP	15 34 29.4	+2.4
	0.9nm,0.8s,baz=95,slow=3.9,SNR=9.7						
ILAR	**Eielson Array**	**85.30**	**17**	P	**P**	**15 34 54.2**	**+1.4**
	0.5nm,1.0s,mb3.1,baz=234,slow=4.3,SNR=4.5						
ARCES	**ARCESS Array B**	**120.80**	**346**	PKP	PKPdf	15 41 03.3	+0.4
	5.7nm,1.0s,baz=104,slow=1.1,SNR=6.7						

IDC 27 15:33:40.9±1.9,893S×13063E,h0km,mb4.1/1,mb1 4.0/3,mb1mx3.7/12,mbtmp3.8/3,ML3.4/2,MS3.6/2,Ms1 3.5/2,ms1mx2.8/20,Error ellipse: s-maj=97.4km s-min=24.7km az=70.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.52**	**162**	Pn	Pn	15 36 28.1	+1.5
	0.2nm,0.3s,baz=345,slow=13,SNR=17						
WRA				Sn	Sn	15 38 34.6	-1.3
	0.3nm,0.3s,baz=342,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**14.98**	**168**	Pn	Pn	15 37 14.9	+1.0
	0.2nm,0.3s,baz=346,slow=10,SNR=15						
ASAR				Sn	Sn	15 39 59.4	-1.2
	0.1nm,0.3s,baz=341,slow=27,SNR=3.4						
STKA	**Stephens Creek**	**25.00**	**157**	LR	LR	15 49 33.5	
	comp=Z,38nm,19.6s,baz=206,slow=38						
MKAR	**Makanchi Array**	**70.17**	**327**	P	P	15 44 55.5	+0.1
	1.2nm,0.6s,baz=124,slow=7.9,SNR=23						
BOSA	**Boshof**	**99.02**	**239**	LR	LR	16 22 02.8	
	comp=Z,90nm,20.4s,baz=27,slow=29						

CASC 27 16:01:53.0±2.3,1312N×8753W,h4km±7km,MD3.5,ML3.5,8C-6D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.34**	**297**↑	*e*P	Pg	16 02 00.9	+1.4
CNCH				*e*S	Sg	16 02 06.1	+2.3
CRIN	**San Cristobal**	**0.63**	**132**↓	*e*P	Pg	16 02 05.3	+0.3
CRIN				*e*S	Sg	16 02 17.6	+4.5
BLLM	**Bellamira**	**0.76**	**295**↑	*e*P	Pg	16 02 08.7	+1.0
BLLM				*e*S	Sg	16 02 19.2	+1.6
VSM	**San Miguel**	**0.79**	**293**↓	*e*P	Pg	16 02 09.4	+1.3
TELN	**Telica**	**0.85**	**127**↑	*e*P	Pg	16 02 08.6	-0.7
TELN				*e*S	Sg	16 02 23.6	+3.2
TEL3	**Telica 3**	**0.86**	**129**↓	*e*P	Pg	16 02 08.7	-0.8
TEL3				*e*S	Sg	16 02 23.0	+2.4
CAHU	**Cacacuatique**	**0.93**	**314**	*e*P	Pg	16 02 11.0	+0.2
LEON	**Leon**	**0.94**	**139**↓	*e*P	Pg	16 02 09.8	-1.1
LEON				*e*S	Sg	16 02 23.8	+0.7
CNGN	**Cerro Negro**	**1.02**	**127**↑	*e*P	Pg	16 02 11.5	-1.0
CNGN				*e*S	Sg	16 02 28.7	+3.0
MIRN	**Miramar**	**1.04**	**130**↑	*e*P	Pg	16 02 11.8	-1.2
MIRN				*e*S	Sg	16 02 28.7	+2.1
MOMJ	**Momotombo**	**1.20**	**126**↑	*e*P	Pg	16 02 15.1	-0.9
MOMJ				*e*S	Sg	16 02 33.0	+1.6
COPN	**Copaltepe**	**1.31**	**136**↑	*e*P	Pg	16 02 15.8	-2.3
COPN				*e*S	Sg	16 02 35.0	0.0
SNVI	**San Vicente**	**1.37**	**291**	*e*P	Pn	16 02 18.6	-0.3
SNVI				*e*S	Sg	16 02 37.5	+0.5
APYN	**Apoyeque**	**1.45**	**127**	*e*P	Pn	16 02 18.6	-1.4
APYN				*e*S	Sb	16 02 38.7	-0.6
LCBS	**La Ceiba**	**1.51**	**291**↓	*e*P	Pn	16 02 21.3	+0.4
LCBS				*e*S	Sn	16 02 40.4	-0.6
WILN	**Americas 2**	**1.62**	**126**	*e*S	Sn	16 02 43.3	-0.4
TICN	**Ticuantepe**	**1.66**	**130**↑	*e*P	Pn	16 02 22.3	-0.7
TICN				*e*S	Sn	16 02 44.1	-0.7
BOQS	**Boqueron**	**1.81**	**290**↓	*e*P	Pn	16 02 26.7	+1.7
BOQS				*e*S	Sn	16 02 49.3	+0.9

IDC 27 16:10:14.0±61.0,2287S×17763W,h0km,mb3.8/3,mb1 4.0/3,mb1mx3.8/11,mbtmp3.8/3,Error ellipse: s-maj=1109.0km s-min=166.6km az=86.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.13**	**247**	P	P	16 17 26.2	0.0
	1.2nm,0.8s,baz=84,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**44.36**	**259**	P	P	16 18 26.4	+0.5
	0.5nm,0.4s,baz=95,slow=7.5,SNR=34						
WRA	**Warramunga Arr**	**44.66**	**264**	P	P	16 18 28.6	+0.2
	0.8nm,0.3s,baz=102,slow=8.3,SNR=69						

IDC 27 16:13:03.3±1.9,123N×12778E,h0km,mb3.6/3,mb1 3.9/3,mb1mx3.6/15,mbtmp3.7/3,Error ellipse: s-maj=134.4km s-min=24.4km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**163**	P	P	16 17 58.6	-0.5
	2.0nm,0.8s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.45**	**167**	P	P	16 18 33.8	+0.9
	1.2nm,0.9s,baz=347,slow=12,SNR=12						
MKAR	**Makanchi Array**	**60.20**	**326**	P	P	16 23 13.1	+0.1
	0.7nm,0.7s,baz=126,slow=8.3,SNR=8.9						

IDC 27 16:43:04.2±3.2,299S×13671E,h0km,mb3.9/3,mb1 4.0/3,mb1mx3.7/10,mbtmp3.9/3,Error ellipse: s-maj=183.2km s-min=27.2km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.01**	**188**	P	Pn	16 46 59.0	-4.4
	0.3nm,0.3s,baz=9.1,slow=13,SNR=26						
WRA				S	Sn	16 49 55.7	-17
	0.4nm,0.3s,baz=7.9,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**20.74**	**187**	P	P	16 47 46.5	+0.2
	12nm,0.9s,baz=9.2,slow=11,SNR=96						
ASAR				S	S	16 51 25.3	-13
	2.9nm,1.1s,baz=7.8,slow=28,SNR=5.3						
STKA	**Stephens Creek**	**29.10**	**171**	P	P	16 49 06.7	+0.2
	1.1nm,0.8s,baz=338,slow=5.4,SNR=2.8						
MKAR	**Makanchi Array**	**68.80**	**323**	P	P	16 54 10.3	+0.2
	0.5nm,0.6s,baz=106,slow=7.7,SNR=7.0						

*CRAAG **27** 16:44:00.6,3680N×325E,Ml3.2*
*ISCJB **27** 16:44:01.5±0.7,37.10N±003×3.10E±005,h10km,Error ellipse: s-maj=6.3km s-min=4.6km az=166.3*
*CSEM **27** 16:44:03.7±0.3,3697N×303E,h10km,ML3.0/10,Error ellipse: s-maj=8.2km s-min=4.0km az=101.0*
*MDD **27** 16:44:04.3±1.6,3703N×300E,h0km,mb3.8/9,Error ellipse: s-maj=17.9km s-min=9.1km az=102.0,PRXIMO*
*NEIC **27** 16:44:05.9,37.16N×298E,h0km,MG3.7(MDD),After MDD.*

ISC 27 16:44:01.9±0.6,3705N±003×315E±005,h10km,n32,σ1§48/51,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.27**	**201**	P	**Pg**	**16 44 05.6**	**-1.7**
ABMS	**Boumerdes**	**0.40**	**139**	P	**Pg**	**16 44 06.0**	**-3.7**
EMHD	**Djebel Mahouad**	**0.86**	**191**	P	**Pg**	**16 44 14.9**	**-3.6**
EBNR	**Beni Rached**	**1.51**	**240**	P	**Pn**	**16 44 29.0**	**0.0**
ECHA	**Ech Chlef**	**1.70**	**239**	P	**Pn**	**16 44 32.0**	**+0.5**
ECHF	**Ech Chlef**	**1.71**	**239**	P	**Pn**	**16 44 32.0**	**+0.3**
EANR	**`Ain N'Sour**	**1.99**	**237**	P	**Pn**	**16 44 36.0**	**+0.5**
DFRA	**Djebel Bou Aff**	**2.24**	**102**	P	**Pn**	**16 45 05.0**	**-1.8**
EIBI	**Ibiza**	**2.44**	**325**	P	**Pn**	**16 44 43.5**	**+1.8**
	20nm,0.3s,SNR=8.2						
EIBI				S	**Sn**	**16 45 11.8**	**+0.3**
	21nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.44**	**325**	Pn	**Pn**	**16 44 43.5**	**+1.8**
	20nm,0.3s,SNR=8.2						
EIBI				Sn	**Sn**	**16 45 10.8**	**-0.7**
	21nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.44**	**325**	Pn	**Pn**	**16 44 43.5**	**+1.8**
EIBI				Sn	**Sn**	**16 45 10.8**	**-0.8**
ETOS	**Mallorca**	**2.73**	**354**	P	**Pn**	**16 44 47.1**	**+1.4**
	14nm,0.3s,SNR=7.7						
ETOS				S	**Sn**	**16 45 17.6**	**-1.1**
	2.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.73**	**354**	Pn	**Pn**	**16 44 47.1**	**+1.4**
	14nm,0.3s,SNR=7.7						
ETOS				Sn	**Sn**	**16 45 17.6**	**-1.1**
	2.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.14**	**303**	P	**Pn**	**16 44 52.3**	**+0.9**
	1.6nm,0.1s,SNR=7.2						
EBEN				S	**Sn**	**16 45 26.8**	**-2.2**
	2.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.14**	**303**	Pn	**Pn**	**16 44 52.3**	**+0.9**
	1.6nm,0.1s,SNR=7.2						
EBEN				Sn	**Sn**	**16 45 26.8**	**-2.2**
	2.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.58**	**284**	S	**Sn**	**16 45 38.5**	**-1.4**
	4.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.58**	**284**	Sn	**Sn**	**16 45 38.5**	**-1.4**
	4.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.05**	**295**	P	**Pn**	**16 45 06.0**	**+2.1**
	3.4nm,0.4s,SNR=8.0						
ETOB				S	**Sn**	**16 45 49.7**	**-1.6**
	2.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.05**	**295**	Pn	**Pn**	**16 45 06.0**	**+2.1**
	3.4nm,0.4s,SNR=8.0						
ETOB				Sn	**Sn**	**16 45 49.7**	**-1.6**
	2.8nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.12**	**309**	P	**Pn**	**16 45 06.9**	**+2.1**
	3.2nm,0.2s,SNR=9.5						
ECHE				S	**Sn**	**16 45 51.6**	**-1.4**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.36**	**320**	P	**Pn**	**16 45 10.0**	**+1.9**
	1.8nm,0.2s,SNR=6.7						
EMOS				S	Sn	16 45 58.7	-0.2
	3.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.36**	**320**	Pn	**Pn**	**16 45 10.0**	**+1.9**
	1.8nm,0.2s,SNR=6.7						
EMOS				Sn	**Sn**	**16 45 58.7**	**-0.2**
	3.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.48**	**331**	S	**Sn**	**16 46 00.6**	**-1.2**
	2.5nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**4.48**	**331**	Sn	**Sn**	**16 46 00.6**	**-1.3**
	2.5nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**4.59**	**340**	P	**Pn**	**16 45 13.6**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**16 46 03.6**	**-1.0**
	2.0nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**4.59**	**340**	Pn	**Pn**	**16 45 13.6**	**+2.3**
	1.1nm,0.3s,SNR=7.9						
EPOB				Sn	**Sn**	**16 46 03.6**	**-1.0**
	2.0nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.01**	**280**	P	**Pn**	**16 45 18.8**	**+1.7**
	2.8nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**16 46 15.4**	**+0.3**
	8.1nm,0.3s,SNR=6.7						
EQES	**Quesada**	**5.01**	**280**	Pn	**Pn**	**16 45 18.8**	**+1.7**
	2.8nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.02**	**346**	P	**Pn**	**16 45 20.5**	**+3.3**
	28nm,0.3s,SNR=13						
EMIR				S	**Sn**	**16 46 15.3**	**+0.1**
	7.8nm,0.2s,SNR=4.0						
EMIR	**Miracle**	**5.02**	**346**	Pn	**Pn**	**16 45 20.5**	**+3.3**
	28nm,0.3s,SNR=13						
EMIR				Sn	**Sn**	**16 46 15.3**	**+0.1**
	7.8nm,0.2s,SNR=4.0						
EBIE	**Bielsa**	**6.09**	**339**	P	**Pn**	**16 45 35.2**	**+3.3**
	0.2nm,0.3s,SNR=7.9						
EBIE				S	**Sn**	**16 46 40.2**	**-1.3**
	0.3nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**6.09**	**339**	Pn	**Pn**	**16 45 35.2**	**+3.3**
EBIE				Sn	**Sn**	**16 46 40.2**	**-1.4**

*ISCJB **27** 16:47:03.2±0.4,5151N±002×16.13E±003,h0km,Error ellipse: s-maj=3.3km s-min=2.0km az=43.4*
*IPEC **27** 16:47:04.2±0.3,5159N×1621E,h0km,ML2.7/4,Error ellipse: s-maj=3.2km s-min=1.6km az=70.0*
*CSEM **27** 16:47:05.8±0.1,5153N×1612E,h1km,ML3.6/8,Error ellipse: s-maj=2.1km s-min=1.2km az=25.0*
*IDC **27** 16:47:05.8±0.8,5152N×1604E,h0km,mb1 3.4/7,mb1mx3.2/22,mbtmp3.3/7,ML3.2/6,Error ellipse: s-maj=11.2km s-min=7.0km az=15.0*
*BGR **27** 16:47:06.5±0.8,5158N×1601E,h1km,ML3.1,Error ellipse: s-maj=14.5km s-min=5.6km az=169.0*
*NEIC **27** 16:47:06.4±0.7,5148N×1594E,h5km,ML2.6(BRG),ML3.1(SZGRF),Error ellipse: s-maj=9.3km s-min=7.5km az=78.0*
*PRU **27** 16:47:06.3,5150N×1608E,h0km,- Felt In Harrachov*
*WAR **27** 16:47:06.2,5153N×1610E,ML2.8,Mining Induced*
*VIE **27** 16:47:07.7±0.5,5132N×1618E,h0km,mb2.6/6,ML3.1/6,Error ellipse: s-maj=3.2km s-min=2.6km az=2.0 63 km WNW of Breslau Suspected Mining induced.*

ISC 27 16:47:04.3±0.3,5157N±002×1612E±002,h0km,n68,σ0§98/128,8C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**171**	*i* Pgd	**Pg**	**16 47 19.0**	**+0.5**
KSP				e		16 47 26.6	
KSP				*e*Sg	**Sg**	**16 47 28.3**	**+0.2**
KSP	**Ksiaz**	**0.74**	**171**	↓*i* Pg	**Pg**	**16 47 19.0**	**+0.5**
KSP				*e*Sg	**Sg**	**16 47 27.6**	**-0.5**
KSP	**Ksiaz**	**0.74**	**171**	↓*i* Pg	**Pg**	**16 47 19.0**	**+0.5**
KSP				*e*Sg	**Sg**	**16 47 26.6**	**-1.5**
KSP				*e*		16 47 28.3	
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pg**	**16 47 25.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**16 47 27.8**	**-0.1**
DPC				*e*SG	**Sg**	**16 47 43.0**	**-0.9**
	76nm,0.4s						
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*Pg	**Pg**	**16 47 27.7**	**-0.2**
DPC				*e*Sg	**Sg**	**16 47 43.2**	**-0.7**
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**16 47 31.6**	**-0.2**
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pg	**Pg**	**16 47 31.3**	**-0.5**
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pg	**Pg**	**16 47 34.0**	**+0.2**
BRG				*e*Sg	**Sg**	**16 47 54.5**	**+0.8**
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pn**	**16 47 32.3**	**-0.7**
BRG				PG	**Pg**	**16 47 34.0**	**+0.3**
BRG				SG	**Sg**	**16 47 54.2**	**+0.6**
	88nm,0.4s						
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**16 47 34.8**	**-0.5**
RUE				*e*Sg	**Sg**	**16 48 00.9**	**+1.7**
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**16 47 34.9**	**-0.5**
RUE				*e*Sg	**Sg**	**16 48 00.9**	**+1.8**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*Pg	**Pg**	**16 47 45.0**	**+5.5**
GKP				*e*Sn	**Sn**	**16 48 07.4**	**+6.4**
FBE	**Freiberg**	**1.85**	**250**	*e*Pg	**Pg**	**16 47 39.5**	**-0.4**
FBE				*e*Sg	**Sg**	**16 48 04.4**	**+0.4**
PRU	**Pruhonice**	**1.88**	**213**	*e*PN	**Pn**	**16 47 37.4**	**-0.2**
PRU				*e*PG	**Pg**	**16 47 39.2**	**-1.1**
PRU				*e*SG	**Sg**	**16 48 03.6**	**-1.0**
	64nm,0.3s						
PRU	**Pruhonice**	**1.88**	**213**	*e*Sg	**Sg**	**16 48 03.6**	**-1.0**
	64nm,0.3s						
CLL	**Collm**	**1.97**	**263**	*e*Pn	**Pn**	**16 47 38.3**	**-0.6**
CLL				*i* Pg	**Pg**	**16 47 41.5**	**-0.5**
CLL				*e*Sg	**Sg**	**16 48 08.1**	**+0.5**
CLL	**Collm**	**1.97**	**263**	*i* Pn	**P

MOX				*e*PG	**Pg**	**16 48 01.1**	**-0.5**
MOX				*e*SG	**Sg**	**16 48 41.2**	**+0.9**
MOX	**Moxa**	**2.99**	**254**	*e*Pn	**Pn**	**16 47 52.8**	**-0.1**
MOX				*e*Pg	**Pg**	**16 48 01.1**	**-0.5**
MOX				*e*Sg	**Sg**	**16 48 41.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**16 47 54.6**	**+0.5**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**16 47 55.9**	**+0.8**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**16 47 55.9**	**+0.9**
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**16 47 55.3**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=31,slow=12,SNR=76						
GERES				Sn	**Sn**	**16 48 34.0**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=20,slow=28,SNR=6.0						
GERES				Lg		16 48 41.8	
	comp=Z,5.4nm,0.3s,baz=40,slow=26,SNR=7.2						
SMOL	**Smolenice**	**3.18**	**164**	*e*PN	**Pn**	**16 47 57.3**	**+1.8**
SMOL				*e*PG	**Pg**	**16 48 05.4**	**+0.2**
SMOL				*e*SG	**Sg**	**16 48 47.2**	**+0.8**
SMOL	**Smolenice**	**3.18**	**164**	*e*Pg	**Pg**	**16 48 05.4**	**+0.2**
SMOL				*e*Sg	**Sg**	**16 48 47.2**	**+0.8**
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**16 47 55.9**	**+0.1**
WET	**Wettzell**	**3.20**	**222**	Pn	**Pn**	**16 47 55.9**	**+0.1**
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**16 47 55.9**	**+0.1**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pg**	**16 48 10.1**	**-0.1**
NIE				*e*S	**Sg**	**16 48 55.3**	**+0.5**
ZST	**Bratislava**	**3.44**	**169**	*e*SG	**Sg**	**16 48 54.9**	**0.0**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**16 48 01.8**	**+0.2**
BSD				*i* S	**Sn**	**16 48 41.1**	**-4.0**
BSD				*i*		16 48 43.5	
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Pg	**Pg**	**16 48 13.4**	**-0.8**
GRF				*e*Sg	**Sg**	**16 49 00.5**	**-0.8**
MOA	**Molln**	**3.92**	**199**	⇑Sg	**Sg**	**16 49 10.1**	**-0.1**
	comp=Z,24nm,0.5s						
MOA	**Molln**	**3.92**	**199**	*i* Pn	**Pn**	**16 48 06.2**	**+0.5**
	SNR=20						
MOA				⇑*i*Sg	**Sg**	**16 49 10.1**	**-0.1**
	comp=Z,24nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**16 48 06.5**	**+0.7**
STHS				*e*PG	**Pg**	**16 48 20.1**	**+0.6**
STHS				*e*SG	**Sg**	**16 49 11.4**	**+1.1**
KECS	**Kecovo**	**4.18**	**136**	*e*PG	**Pg**	**16 48 25.0**	**+0.5**
KECS				*e*SG	**Sg**	**16 49 19.3**	**+0.6**
ARSA	**Arzberg**	**4.34**	**185**	⇑Sg	**Sg**	**16 49 23.2**	**-0.7**
	comp=Z,22nm,0.6s						
ARSA	**Arzberg**	**4.34**	**185**	⇑*i*Pn	**Pn**	**16 48 11.1**	**-0.4**
ARSA				⇑*i*Sg	**Sg**	**16 49 23.2**	**-0.7**
	comp=Z,22nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*PN	**Pn**	**16 48 15.0**	**+3.4**
CRVS				*e*PG	**Pg**	**16 48 28.3**	**+0.6**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*Pg	**Pg**	**16 48 28.3**	**+0.6**
KBA	**Koelnbreinsper**	**4.85**	**203**	⇑Sg	**Sg**	**16 49 41.1**	**+1.0**
	comp=Z,11nm,0.5s						
KBA	**Koelnbreinsper**	**4.85**	**203**	⇑*i*Pn	**Pn**	**16 48 19.5**	**+1.0**
KBA				⇑*i*Sg	**Sg**	**16 49 41.1**	**+1.0**
	comp=Z,11nm,0.5s						
VISS	**Visnje**	**5.84**	**189**	*e*Pn	**Pn**	**16 48 32.9**	**+0.8**
BOJS	**Bojanci**	**6.10**	**186**	*e*Pn	**Pn**	**16 48 37.1**	**+1.3**
DAVOX	**Davos**	**6.30**	**223**	Pn	**Pn**	**16 48 40.8**	**+2.3**
DAVOX				Lg		16 50 24.0	
	comp=Z,0.3nm,0.3s,baz=264,slow=22,SNR=2.6						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**16 49 04.2**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=280,slow=12,SNR=8.3						
AKASG				Sn	**Sn**	**16 50 35.0**	**-5.2**
	comp=Z,0.8nm,0.3s,baz=67,slow=22,SNR=4.4						
AKASG				Lg		16 51 32.1	
	comp=Z,0.2nm,0.3s,baz=330,slow=23,SNR=2.7						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**16 49 04.2**	**-1.6**
AKASG				Sn	**Sn**	**16 50 35.0**	**-5.2**
AKASG				Lg		16 51 32.1	
HFS	**Hagfors**	**8.69**	**352**	Pn	**Pn**	**16 49 10.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=16,SNR=5.3						
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**16 49 45.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=5.7						
FINES				Sn	**Sn**	**16 51 45.2**	**-8.9**
	comp=Z,0.2nm,0.3s,baz=212,slow=20,SNR=4.2						
KAF	**Kangasniemi**	**11.93**	**24**	*e*p	**Pn**	**16 49 53.2**	**-2.4**
ARCES	**ARCESS Array B**	**18.56**	**10**	Pn	**Pn**	**16 51 19.3**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=6.0						

ISCJB ***27*** *17:05:09.8±0.4,289N±006×9402E±004,h27km,mb4.5/55, MS4.0/8,Error ellipse: s-maj=8.7km s-min=5.5km az=36.4*
MOS ***27*** *17:05:10.9±0.8,300N×9404E,h33km,mb4.7/32,Error ellipse: s-maj=12.7km s-min=6.6km az=113.4*
BJI ***27*** *17:05:10.1,3.18N×94.07E,h11km,mB5.1,mb4.7,Ms4.7, Msz4.4*
NEIC ***27*** *17:05:11.8±0.3,292N×93.97E,mb4.6/13,Error ellipse: s-maj=9.3km s-min=5.3km az=214.0*
IDC ***27*** *17:05:12.0±0.5,295N×9399E,h27km±2km,mb4.2/19, mb1 4.3/20,mb1mx4.3/26,mbtmp4.4/20,ML3.7/1,MS3.6/4, Ms1 3.6/4,ms1mx3.1/24,Error ellipse: s-maj=21.0km s-min=10.6km az=44.0*
NAO ***27*** *17:05:20.5,403N×9267E,h33km,mb4.2*
ISC 27 17:05:12.3±0.4,292N±006×9403E±004,h28km, h28km±.5km:pP-P,n126,σ1°02/132,mb4.5/55,MS4.0/8, 4C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.89**	**91**	Pn	**Pn**	**17 06 24.8**	**+0.9**
	3.1nm,0.3s,baz=291,slow=12,SNR=19						
PSI				Sn	**Sn**	**17 07 18.9**	**-0.6**
	7.7nm,0.3s,baz=354,slow=23,SNR=5.3						
PSI				LR	LR	17 08 34.2	
	comp=Z,308nm,20.0s,baz=268,slow=41						
PSI	**Prapat**	**4.89**	**91**	P	**Pn**	**17 06 24.8**	**+0.9**
PSI						17 07 19.0	
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PSI				smax			
	comp=E,8.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,308nm,20.0s						
KULM	**Kulim**	**7.01**	**70**	*e*P	**Pn**	**17 06 53.2**	**+0.2**
KSM	**Kuching**	**16.33**	**95**	*e*P	**Pn**	**17 09 04.5**	**+5.0**
HYB	**Hyderabad**	**20.93**	**315**	*i* P	**P**	**17 09 53.0**	**+0.3**
HYB	**Hyderabad**	**20.93**	**315**	*e*P	**P**	**17 09 53.0**	**+0.3**
BOK	**Bokaro**	**22.19**	**340**	⇑*i*P	**P**	**17 10 06.4**	**+0.2**
BOK				*i* S		17 10 14.4	
KKM	**Kota Kinabalu**	**22.33**	**81**	P	**P**	**17 10 09.3**	**+1.6**
SHL	**Shillong**	**22.61**	**355**	*e*P	**P**	**17 10 09.0**	**-1.6**
KMI	**Kunming**	**23.61**	**20**	P	**P**	**17 10 22.8**	**+1.8**
KMI				AP		17 10 31.3	
KMI				XP	sP	17 10 34.0	+1.4
KMI				S	**S**	**17 14 33.0**	**-0.4**
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,92nm,4.1s						
KMI				LR	LR		
	comp=N,315nm,12.9s,MS4.2						
KMI				LR	LR		
	comp=E,340nm,10.4s,MS4.2						
KMI				LR	LR		
	comp=Z,272nm,10.7s,MS4.0						
JIRN	**Jiri**	**25.71**	**344**	*e*P	**P**	**17 10 40.6**	**+0.5**
PKI	**Pulchoki**	**25.86**	**342**	*e*P	**P**	**17 10 41.9**	**+0.5**
DMN	**Daman**	**25.99**	**342**	*e*P	**P**	**17 10 42.1**	**-0.5**
GUN	**Gumba**	**26.04**	**343**	*e*P	**P**	**17 10 43.4**	**+0.4**
KKN	**Kakani**	**26.10**	**342**	*e*P	**P**	**17 10 43.7**	**+0.1**
	comp=Z,23nm,1.1s,mb4.6						
KKN	**Kakani**	**26.10**	**342**	*e*P	**P**	**17 10 43.7**	**+0.1**
KKN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
GYA	**Guiyang**	**26.36**	**26**	P	**P**	**17 10 46.3**	**+0.4**
GYA				AP	pP	17 10 52.5	-1.7
GYA				XP	sP	17 10 56.8	-0.9
GYA				PP		17 11 29.5	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,80nm,3.0s						
GYA				LR	LR		
	comp=E,570nm,16.8s						
GYA				LR	LR		
	comp=E,640nm,15.8s						
GKN	**Gorkha**	**26.50**	**341**	*e*P	**P**	**17 10 47.2**	**0.0**
	comp=E,29nm,0.9s,mb4.8						
KOLN	**Koldanda**	**26.64**	**339**	*e*P	**P**	**17 10 48.9**	**+0.4**
LSA	**Lhasa**	**26.77**	**354**	P	**P**	**17 10 51.5**	**+1.8**
LSA	**Lhasa**	**26.77**	**354**	*e*P	**P**	**17 10 51.2**	**+1.5**
LSA				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
LSA	**Lhasa**	**26.77**	**354**	*e*P	**P**	**17 10 51.2**	**+1.5**
	comp=Z,28nm,1.0s,mb4.8						
CD2	**Chengdu**	**29.32**	**17**	*e*P	**P**	**17 11 11.8**	**-0.6**
CD2				PP	PP	17 12 08.3	-10
CD2				S	**S**	**17 16 04.0**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=E,250nm,10.8s						
DAV	**Davao City (W)**	**31.69**	**81**	*e*P	**P**	**17 11 31.1**	**-2.3**
	comp=E,0.2nm,0.4s						
XAN	**Xi'an**	**33.93**	**22**	P	**P**	**17 11 51.0**	**-2.0**
XAN				AP	pP	17 11 59.5	-1.8
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
LZH	**Lanzhou**	**34.23**	**14**	*e*P	**P**	**17 11 58.3**	**+2.8**
LZH				AP	pP	17 12 05.5	+1.6
LZH				XP	sP	17 12 09.0	+1.7
LZH				PP	PP	17 13 14.3	+1.1
LZH				*e*S	**S**	**17 17 24.0**	**+3.6**
LZH				XS	sS	17 17 36.0	+1.7
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,71nm,4.8s						
LZH				LR	LR		
	comp=N,556nm,14.6s						
LZH				LR	LR		
	comp=Z,725nm,15.3s,MS4.5						
GTA	**Gaotai**	**36.70**	**8**	*e*P	**P**	**17 12 16.8**	**+0.1**
GTA				AP	pP	17 12 25.0	-0.2
GTA				XP	sP	17 12 29.5	+0.9
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
NJ2	**Nanjing**	**37.21**	**36**	*e*P	**P**	**17 12 22.5**	**+1.4**
NJ2				AP	pP	17 12 29.5	0.0
NJ2				XP	sP	17 12 32.5	-0.4
NJ2				S	**S**	**17 18 10.0**	**+3.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,200nm,6.2s						
NJ2				LR	LR		
	comp=N,4μm,37.3s						
NJ2				LR	LR		
	comp=E,2μm,29.8s						
NJ2				LR	LR		
	comp=Z,500nm,28.7s						
SSE	**Sheshan**	**37.97**	**40**	*e*P	**P**	**17 12 29.0**	**+1.5**
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,234nm,4.8s						
HHC	**Hu-ho-hao-te**	**40.94**	**20**	*e*P	**P**	**17 12 53.8**	**+1.5**
HHC				AP	pP	17 13 03.3	+2.5
HHC				PP	PP	17 14 32.5	+5.6
HHC				PCS	PcS	17 18 44.0	+0.8
HHC				S	**S**	**17 19 02.0**	**-0.3**
HHC				SCS	ScS	17 22 53.5	-1.6
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,213nm,6.3s						
HHC				LR	LR		
	comp=N,578nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=E,444nm,22.6s,MS4.5						
HHC				LR	LR		
	comp=Z,322nm,21.4s,MS4.2						
WMQ	**Urumqi**	**41.11**	**353**	*e*P	**P**	**17 12 54.0**	**+0.3**
WMQ				XP	sP	17 13 05.0	-0.6
WMQ				PP	PP	17 14 33.0	+4.2
WMQ				S	**S**	**17 19 06.0**	**+1.2**
WMQ				SS	SS	17 22 05.0	-2.9
WMQ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,46nm,4.0s						
WMQ				LR	LR		
	comp=N,38nm,8.0s						
WMQ				LR	LR		
	comp=E,45nm,8.0s						
WMQ				LR	LR		
	comp=Z,36nm,8.0s						
ULHL	**Ulahol**	**42.26**	**340**	P	**P**	**17 13 03.9**	**+0.7**
	SNR=5.7						
UCH	**Uchtor**	**42.85**	**339**	P	**P**	**17 13 08.4**	**+0.5**
	SNR=11						
KBK	**Karagaybulak**	**43.07**	**339**	P	**P**	**17 13 10.9**	**+1.2**
	SNR=5.6						
AML	**Almayashu**	**43.08**	**338**	P	**P**	**17 13 10.5**	**+0.8**
	SNR=15						
AAK	**Ala-Archa**	**43.22**	**339**	⇑*e*P	**P**	**17 13 10.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.2						
AAK	**Ala-Archa**	**43.22**	**339**	*e*P	**P**	**17 13 09.4**	**-1.4**
	comp=Z,3.8nm,1.2s,mb4.0						
EKS2	**Erkin-Say**	**43.50**	**338**	P	**P**	**17 13 14.3**	**+1.1**
	SNR=6.3						
USP	**Ospenovka**	**43.77**	**339**	P	**P**	**17 13 15.7**	**+0.4**
	SNR=7.6						
MK31	**Makanchi Array**	**44.88**	**349**	*i* P	**P**	**17 13 24.2**	**0.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**44.88**	**349**	P	**P**	**17 13 24.4**	**+0.2**
	comp=Z,7.2nm,0.7s,mb4.6,baz=165,slow=8.4,SNR=73						
MKAR				pP	pP	17 13 32.8	+0.1
	comp=Z,3.8nm,0.4s,baz=161,slow=7.7,SNR=17						
MKAR	**Makanchi Array**	**44.88**	**349**	P	**P**	**17 13 24.4**	**+0.2**
MKAR				*PP	pP	17 13 32.8	+0.1
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KK31	**Karatay Array**	**45.15**	**336**	*i* P	**P**	**17 13 26.1**	**-0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KKAR	**Karatay Array**	**45.15**	**336**	*i* P	**P**	**17 13 26.1**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**45.63**	**122**	P	**P**	**17 13 30.7**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.7,baz=299,slow=8.8,SNR=44						
WRA				pP	pP	17 13 39.0	+0.3
	comp=Z,7.4nm,0.9s,baz=300,slow=9.0,SNR=14						
WRA				PcP	PcP	17 15 08.9	+0.8
	comp=Z,0.3nm,0.3s,baz=310,slow=3.0,SNR=8.9						
WRA	**Warramunga Arr**	**45.63**	**122**	P	**P**	**17 13 30.7**	**+0.6**
WRA				*PP	pP	17 13 39.0	+0.3
WRA						17 15 08.9	
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRAB	**Tennant Creek**	**45.64**	**122**	*e*P	**P**	**17 13 30.7**	**+0.5**
WRAB				*e*PP	pP	17 13 39.1	+0.3
WRAB				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**45.64**	**122**	*e*P	**P**	**17 13 30.7**	**+0.5**
	comp=Z,32nm,1.2s,mb5.1						
WRAB				*e*pP	pP	17 13 39.1	+0.4
SONM	**Songino Array**	**46.00**	**12**	P	**P**	**17 13 33.0**	**0.0**
	comp=Z,6.3nm,0.9s,mb4.6,baz=190,slow=8.6,SNR=52						
SONM				pP	pP	17 13 41.3	-0.3
	comp=Z,7.6nm,0.8s,baz=190,slow=8.8,SNR=21						
SONM				PcP	PcP	17 15 10.0	+0.7
	comp=Z,0.8nm,0.8s,baz=188,slow=1.1,SNR=2.4						
SONM				LR	LR	17 34 54.7	
	comp=Z,64nm,18.9s,MS3.6,baz=202,slow=39						
SONM	**Songino Array**	**46.00**	**12**	P	**P**	**17 13 33.0**	**0.0**
SONM				*PP	pP	17 13 41.3	-0.3
SONM						17 15 10.0	
SONM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,64nm,18.9s						
ULN	**Ulaanbaatar**	**46.16**	**12**	‖*e*P	**P**	**17 13 34.5**	**+0.2**
ASAR	**Alice Springs**	**46.96**	**126**	P	**P**	**17 13 41.5**	**+0.9**
	comp=Z,3.7nm,0.3s,mb4.7,baz=295,slow=7.3,SNR=242						
ASAR				pP	pP	17 13 49.5	+0.4
	comp=Z,4.9nm,0.8s,baz=297,slow=7.6,SNR=13						
ASAR				PcP	PcP	17 15 13.9	+1.1
	comp=Z,1.4nm,0.8s,baz=302,slow=2.9,SNR=5.5						
ASAR	**Alice Springs**	**46.96**	**126**	P	**P**	**17 13 41.5**	**+0.9**
ASAR				*PP	pP	17 13 49.6	+0.4
ASAR						17 15 13.9	
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	**Zakamensk**	**47.93**	**8**	*e*P	**P**	**17 13 48.2**	**0.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
CN2	**Changchun**	**49.30**	**30**	*e*P	**P**	**17 14 02.3**	**+3.6**
KURK	**Kurchatov**	**49.37**	**347**	*e*P	**P**	**17 13 59.0**	**-0.2**
KURK				*e*PP	pP	17 14 07.3	-0.5
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KURK	**Kurchatov**	**49.37**	**347**	*e*P	**P**	**17 13 59.0**	**-0.2**
	comp=Z,9.5nm,1.0s,mb4.8						
KURK				*e*pP	pP	17 14 07.3	-0.5
HIA	**Hailar**	**51.12**	**21**	*e*P	**P**	**17 14 12.5**	**+0.1**
HIA				*e*PP	pP	17 14 21.1	0.0
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	**Hailar**	**51.12**	**21**	*e*P	**P**	**17 14 12.5**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.8						
HIA				*e*pP	pP	17 14 21.1	0.0
RDF	**Al-Radifah**	**51.15**	**305**	*e*P	**P**	**17 14 13.4**	**+0.8**
RDF				AMb	AMB	17 14 15.3	
	comp=Z,28nm,1.1s,mb5.1						
UMR	**Umm Al-Rimmam**	**51.25**	**306**	*e*P	**P**	**17 14 14.0**	**+0.5**
UMR				AMb	AMB	17 14 15.5	
	comp=Z,28nm,0.9s,mb5.2						
ZAL	**Zalesovo**	**51.41**	**353**	P	**P**	**17 14 14.4**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=289,slow=7.1,SNR=23						
ZAL				pP	pP	17 14 22.9	-0.4
	comp=Z,2.7nm,0.5s,baz=304,slow=6.4,SNR=6.1						
ZAL	**Zalesovo**	**51.41**	**353**	P	**P**	**17 14 14.5**	**-0.1**
ZAL				*PP	pP	17 14 23.0	-0.3
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NAY	**Al-Naaiem**	**51.52**	**306**	*e*P	**P**	**17 14 16.2**	**+0.7**
NAY				AMb	AMB	17 14 17.9	
	comp=Z,16nm,1.2s,mb4.8						
MIB	**Mutribah**	**51.65**	**306**	*e*P	**P**	**17 14 17.6**	**+1.2**
MIB				AMb	AMB	17 14 19.2	
	comp=Z,56nm,1.0s,mb5.5						
MDJ	**Mudanjiang**	**52.00**	**32**	P	**P**	**17 14 20.8**	**+1.8**
MDJ				AP	pP	17 14 27.0	-0.7
MDJ				XP	sP	17 14 29.8	-1.3
MDJ				PCP	PcP	17 15 31.8	+0.7
MDJ				PP	PP	17 16 19.3	+2.1
MDJ				SCP	ScP	17 19 27.5	+1.5
MDJ				PCS	PcS	17 19 30.0	+0.7
MDJ				S	**S**	**17 21 45.8**	**+5.2**
MDJ				SCS	ScS	17 24 09.5	+2.4
MDJ				LR	LR		
	comp=Z,62nm,21.7s,MS3.6						
NVS	**Novosibirsk**	**52.50**	**352**	*e*P	**P**	**17 14 21.0**	**-1.7**
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
MJAR	**Matsushiro Arr**	**52.64**	**45**	LR	LR	17 38 23.9	
	comp=E,112nm,20.3s,MS3.9,baz=270,slow=38						
BRVK	**Borovoye**	**53.69**	**342**	*e*P	**P**	**17 14 30.8**	**-0.7**
BRVK				*e*PP	pP	17 14 39.7	-0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**53.69**	**342**	*e*P	**P**	**17 14 30.8**	**-0.7**
	comp=Z,2.8nm,1.0s,mb4.2						
BRVK				*e*pP	pP	17 14 39.7	-0.5
ZRNK	**Zerenda**	**53.99**	**342**	*e*P	**P**	**17 14 32.6**	**-1.1**
ZRNK				*e*PP	pP	17 14 41.3	-1.1
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**53.99**	**342**	*e*P	**P**	**17 14 32.6**	**-1.2**
	comp=Z,5.9nm,1.1s,mb4.4						
ZRNK				*e*pP	pP	17 14 41.3	-1.1
KLR	**Kul'dur**	**56.21**	**29**	*e*P	**P**	**17 14 48.0**	**-1.8**
AKTK	**Aktyubinsk**	**56.25**	**333**	P	**P**	**17 14 48.7**	**-1.3**
AKTO	**Aktyubinsk**	**56.25**	**333**	P	**P**	**17 14 48.7**	**-1.3**
	comp=Z,0.6nm,0.4s,mb4.0,baz=145,slow=8.1,SNR=4.1						
AKTO	**Aktyubinsk**	**56.25**	**333**	P	**P**	**17 14 48.7**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**56.86**	**131**	P	**P**	**17 14 53.2**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.6,baz=306,slow=7.6,SNR=7.5						
STKA	**Stephens Creek**	**56.86**	**131**	*e*P	**P**	**17 14 52.9**	**-1.5**
STKA				*e*pP	pP	17 15 01.2	-1.9
KMBO	**Kilima Mbogo**	**56.90**	**267**	P	**P**	**17 14 55.2**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=44,slow=9.8,SNR=5.1						
KMBO				LR	LR	17 33 40.8	
	comp=Z,40nm,19.9s,MS3.5,baz=98,slow=30						
KMBO	**Kilima Mbogo**	**56.90**	**267**	P	**P**	**17 14 55.3**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO				MLR	MLR		
	comp=Z,40nm,19.9s						
BOD	**Bodaibo**	**56.97**	**13**	*e*P	**P**	**17 14 53.3**	**-1.8**
BOD				*e*	pP	17 15 01.7	-2.2
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
HABR	**Khabarovsk**	**57.37**	**31**	*e*P	**P**	**17 14 56.7**	**-1.3**
GNI	**Garni**	**57.87**	**317**	*i* P	**P**	**17 15 01.9**	**+0.4**
GNI				pmax	pmax		
	comp=Z,16nm,1.8s						
GNI				MLR	MLR		
	comp=Z,100nm,22.0s						
ZEI	**Tsey**	**59.62**	**319**	*i* P	**P**	**17 15 13.5**	**-0.2**
ZEI				*i* *PP	pP	17 15 21.8	-0.7
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.

comp=Z,1.8nm,0.8s,mb4.1,baz=92,slow=5.1,SNR=7.3
AKASG pP pP 17 16 40.3 -1.9
comp=Z,1.7nm,0.7s,baz=98,slow=4.5,SNR=4.0
AKASG Malin Array Be 71.97 323 P **P 17 16 31.8 -1.4**
AKASG *PP pP 17 16 40.3 -1.9
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 72.08 11 *eP* **P 17 16 30.2 -3.7**
TIXI *e* 17 16 40.6
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.8
MLR Muntele Rosu 72.65 317 P **P 17 16 37.7 +0.4**
comp=Z,2.5nm,0.3s,mb4.5,baz=125,slow=6.6,SNR=6.9
MLR pP pP 17 16 46.5 +0.2
comp=Z,4.0nm,0.7s,baz=170,slow=8.5,SNR=3.0
MLR Muntele Rosu 72.65 317 P **P 17 16 37.7 +0.4**
MLR *PP pP 17 16 46.5 +0.3
MLR pmax pmax
comp=Z,3.0nm,0.4s
MLR pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 75.25 335 *ep* **P 17 16 51.2 -1.3**
KOLS Kolonicke sedl 75.86 320 *eP* **P 17 16 55.8 -0.2**
KOLS *e*PP PP 17 19 43.9 -2.4
STHS Stebnicka Huta 76.62 320 *eP* **P 17 17 01.2 +0.9**
STHS *e* 17 19 38.8
KECS Kecovo 76.93 319 *e* **P 17 16 57.8 -4.3**
FINES FINESS Array B 77.02 333 P **P 17 17 01.4 -1.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=97,slow=6.5,SNR=10
FINES pP pP 17 17 10.1 -1.5
comp=Z,1.8nm,0.7s,baz=104,slow=6.1,SNR=3.6
FINES FINESS Array B 77.02 333 P **P 17 17 01.4 -1.2**
FINES *PP pP 17 17 10.1 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 77.02 333 P **P 17 17 01.4 -1.2**
FINES pP pP 17 17 10.1 -1.5
KAF Kangasniemi 77.13 333 *ep* **P 17 17 00.3 -2.9**
ARCES ARCESS Array B 79.86 341 P **P 17 17 17.5 -0.8**
comp=Z,4.6nm,0.9s,mb4.4,baz=82,slow=5.1,SNR=5.8
ARCES ARCESS Array B 79.86 341 P **P 17 17 17.5 -0.7**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
SYO Syowa Base 80.67 197⇑*eP* **P 17 17 22.6 0.0**
SYO ⇑*ep*P pP 17 17 29.8 -1.9
BILL Bilibino 80.71 21 *eP* **P 17 17 21.2 -1.6**
BILL *e* 17 17 31.8
BILL *e* 17 20 21.6
BILL *e*S S 17 27 25.8 -2.7
BILL pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
GERES GERESS Array B 81.44 319 P **P 17 17 26.9 +0.2**
comp=Z,3.0nm,0.7s,mb4.3,baz=101,slow=5.6,SNR=26
GERES pP pP 17 17 35.2 -0.5
comp=Z,4.4nm,0.8s,baz=97,slow=5.6,SNR=16
GERES GERESS Array B 81.44 319 P **P 17 17 26.9 +0.2**
GERES *PP pP 17 17 35.2 -0.6
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 82.66 330 P **P 17 17 32.4 -0.7**
comp=Z,1.5nm,0.7s,mb4.2,baz=130,slow=4.3,SNR=3.4
HFS Hagfors 82.66 330 P **P 17 17 32.4 -0.7**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 82.66 330 P **P 17 17 32.4 -0.7**
DAVOX Davos 83.87 317 P **P 17 17 39.8 +0.5**
comp=Z,5.8nm,0.6s,mb4.9,baz=101,slow=6.1,SNR=7.3
NB2 NORSAR Subarra 83.97 331 P **P 17 17 38.7 -1.1**
comp=Z,2.5nm,1.0s,mb4.3,baz=96,slow=5.3
NOA NORSAR Array B 83.97 331 P **P 17 17 38.5 -1.3**
comp=Z,1.4nm,1.0s,mb4.0,baz=95,slow=5.4,SNR=3.3
NOA pP pP 17 17 47.7 -1.3
comp=Z,2.8nm,0.9s,baz=96,slow=5.3,SNR=5.4
NOA NORSAR Array B 83.97 331 P **P 17 17 38.5 -1.3**
NOA *PP pP 17 17 47.7 -1.2
NOA pmax pmax
comp=Z,1.0nm,1.0s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 83.97 331 P **P 17 17 38.5 -1.3**
NOA pP pP 17 17 47.7 -1.3
TORD Torodi Ar. Bea 91.61 283 P **P 17 18 17.9 +1.2**
comp=Z,0.8nm,1.0s,mb4.0,baz=77,slow=6.4,SNR=4.4
TORD pP pP 17 18 26.6 +0.8
comp=Z,1.0nm,1.0s,baz=45,slow=2.6,SNR=4.4
LPAZ La Paz 157.99 232 PKPab PKPab 17 25 42.4 +2.7
comp=Z,1.0nm,0.7s,baz=89,slow=5.5,SNR=4.9
LPAZ pPKPab pPKPab 17 25 51.2 +2.3
comp=Z,1.2nm,0.7s,baz=119,slow=9.2,SNR=4.1

NNC 27 17:18:26.1±3.1,3774N×7105E,h117km±100km,mb2.9, mpv3.6,2C-2D,Error ellipse: s-maj=109.1km s-min=27.7km az=78.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.37**	**356**	Pn	Pn	17 19 45.1	+1.1
	3.9nm,0.5s,baz=162,slow=12,SNR=92						
KK31				⇓Sn	Sn	17 20 47.6	+3.0
	1.6nm,0.2s,baz=168,slow=21,SNR=16						
AB31	**Akbulak array**	**14.03**	**329**	⇑Pn	Pn	17 21 39.8	+0.2
	0.6nm,0.5s,baz=0.5,slow=25,SNR=18						
AB31				⇓Sn	Sn	17 24 13.7	-0.7
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**15.74**	**328**	⇑Pn	Pn	17 22 00.9	-0.2
	0.2nm,0.4s						

*IDC **27** 17:20:36.7±1.8,246N×9584E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.7/21,mbtmp3.8/7,ML2.9/1,Error ellipse: s-maj=60.1km s-min=19.7km az=52.0*
*ISCJB **27** 17:20:40.2±1.1,25N±01×959E±0.1,h33km,mb4.1/11, Error ellipse: s-maj=24.6km s-min=11.3km az=68.8*
*NEIC **27** 17:20:41.6±0.7,246N×9594E,h30km,mb4.3/5,Error ellipse: s-maj=17.4km s-min=7.8km az=215.0*
ISC 27 17:20:42.9±1.1,25N±02×960E±01,h35km,n14,σ0§63/14, mb4.1/11,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.96**	**84**	Pn	Pn	17 21 27.5	+0.2
	1.5nm,0.3s,baz=263,slow=4.7,SNR=9.3						
KULM	**Kulim**	**5.42**	**59**⇑*eP*		Pn	17 22 01.2	+0.1
JIRN	**Jiri**	**26.72**	**340**	*eP*	P	17 26 19.7	+0.8
	18nm,0.7s,mb4.7						
GUN	**Gumba**	**27.06**	**340**	*eP*	P	17 26 22.5	+0.6
KKN	**Kakani**	**27.16**	**339**	*eP*	P	17 26 23.0	+0.2
	14nm,0.9s,mb4.5						
LSA	**Lhasa**	**27.44**	**351**	*eP*	P	17 26 25.8	+0.5
	5.8nm,1.1s,mb4.0						
GKN	**Gorkha**	**27.59**	**338**	*eP*	P	17 26 26.9	+0.3
	15nm,0.9s,mb4.6						
KOLN	**Koldanda**	**27.78**	**336**	*eP*	P	17 26 29.1	+0.7
	8.7nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**43.75**	**122**	P	P	17 28 44.5	-0.3
	1.1nm,0.9s,mb3.6,baz=299,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**45.14**	**127**	P	P	17 28 56.4	+0.4
	0.5nm,0.8s,mb3.4,baz=300,slow=7.6,SNR=6.5						
MKAR	**Makanchi Array**	**45.71**	**347**	P	P	17 28 59.7	-0.7
	1.6nm,0.7s,mb4.1,baz=161,slow=7.8,SNR=24						
SONM	**Songino Array**	**46.05**	**10**	P	P	17 29 02.4	-0.8
	1.8nm,0.8s,mb4.1,baz=189,slow=8.9,SNR=13						
ZAL	**Zalesovo**	**52.09**	**352**	P	P	17 29 48.6	-0.7
	1.1nm,0.5s,mb4.1,baz=320,slow=4.5,SNR=6.5						
BVAR	**Borovoye Array**	**54.64**	**341**	P	P	17 30 06.7	-1.4
	1.0nm,0.8s,mb3.9,baz=145,slow=10,SNR=5.2						

*ISCJB **27** 17:29:01.8±0.7,3512N×009×894E±02,h10km,mb3.4/6, Error ellipse: s-maj=18.7km s-min=11.6km az=145.9*
*IDC **27** 17:29:02.3±1.1,3519N×8940E,h0km,mb3.5/5,mb1 3.6/7, mb1mx3.5/21,mbtmp3.4/7,ML3.1/2,Error ellipse: s-maj=42.4km s-min=22.5km az=58.0*
*NEIC **27** 17:29:03.1±0.8,3513N×8930E,h10km,mb3.2/3,Error ellipse: s-maj=20.5km s-min=10.7km az=68.0*
ISC 27 17:29:03.5±0.7,3517N±008×893E±02,h10km,n11, σ1§08/11,mb3.4/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.66**	**164**	Pn	Pn	17 30 25.9	-1.7
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**12.77**	**338**	Pn	Pn	17 32 03.2	-1.9
	0.1nm,0.3s,baz=152,slow=13,SNR=5.1						
KURK	**Kurchatov**	**17.38**	**337**	*eP*	Pn	17 33 05.2	-0.9
	1.6nm,0.9s						
SONM	**Songino Array**	**17.93**	**40**	P	Pn	17 33 13.5	+0.7
	0.1nm,0.3s,baz=218,slow=11,SNR=3.4						
ULN	**Ulaanbaatar**	**18.30**	**41**	*eP*	Pn	17 33 17.2	-0.2
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**22.33**	**329**	P	P	17 34 01.3	+0.1
	0.4nm,0.6s,mb3.1,baz=144,slow=10.0,SNR=3.7						
BRVK	**Borovoye**	**22.40**	**329**	P	P	17 34 03.4	+1.4
	0.8nm,0.6s,mb3.3						
WRA	**Warramunga Arr**	**69.47**	**135**	P	P	17 40 12.3	+0.3
	0.5nm,0.8s,mb3.5,baz=327,slow=6.2,SNR=8.9						
ASAR	**Alice Springs**	**72.16**	**137**	P	P	17 40 29.4	+1.0
	0.4nm,0.8s,mb3.4,baz=332,slow=6.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**80.66**	**279**	P	P	17 41 18.1	+1.5
	0.5nm,0.6s,mb3.6,baz=45,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**80.78**	**11**	P	P	17 41 16.7	-0.5
	0.2nm,0.5s,mb3.3,baz=334,slow=5.6,SNR=6.4						

PRE 27 18:03:47.6±1.4,2220S×3363E,h5km,ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.35**	**267**	*eP*		17 57 23.1	
MSNA				*e*S		17 58 02.6	
MSNA				AML	AML	17 58 19.8	
	comp=Z,396nm,0.6s						
SLR	**Silverton**	**6.03**	**233**	*e*S	Sn	18 06 25.5	-1.3
SLR				AML	AML	18 07 12.7	
	comp=Z,131nm,0.4s						
LBTB	**Lobatse**	**7.88**	**248**	*eP*	Pn	18 05 43.9	+1.0
LBTB				*e*S	Sn	18 07 08.9	-3.6
LBTB				AML	AML	18 08 04.9	
	comp=Z,55nm,0.5s						
BOSA	**Boshof**	**9.90**	**228**	*eP*	Pn	18 06 12.6	+2.0
BOSA				*e*S	Sn	18 07 56.8	-5.4
BOSA				AML	AML	18 09 26.6	
	comp=Z,28nm,0.8s						

*BJI **27** 18:04:24.3,622N×9344E,h32km,mb4.3*
*IDC **27** 18:04:25.7±0.9,676N×9287E,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.8/23,mbtmp3.8/12,ML3.8/1,Error ellipse: s-maj=49.3km s-min=15.8km az=51.0*
*NEIC **27** 18:04:28.8±4.5,676N×9293E,h21km±31km,mb4.1/3, Error ellipse: s-maj=33.4km s-min=7.0km az=54.0*
*ISCJB **27** 18:04:29.3±2.9,68N±01×930E±02,h39km±26km, mb3.9/15,Error ellipse: s-maj=38.9km s-min=11.8km az=110.1*
ISC 27 18:04:31.9±2.3,69N±01×930E±02,h42km±21km,n23, σ0§72/23,mb3.9/15,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.12**	**124**	Pn	Pn	18 06 13.2	-0.2
	1.5nm,0.3s,baz=342,slow=14,SNR=4.0						
PKI	**Pulchoki**	**21.84**	**342**	*eP*	P	18 09 20.8	+0.1
DMN	**Daman**	**21.98**	**341**	*eP*	P	18 09 22.5	+0.4
GUN	**Gumba**	**22.02**	**343**	*eP*	P	18 09 20.8	-1.8
KKN	**Kakani**	**22.09**	**341**	*eP*	P	18 09 22.2	-1.1
GKN	**Gorkha**	**22.50**	**340**	*eP*	P	18 09 27.9	+0.3
KOLN	**Koldanda**	**22.65**	**338**	*eP*	P	18 09 31.3	+2.0
LSA	**Lhasa**	**22.80**	**356**	*eP*	P	18 09 32.1	+1.2
	1.9nm,0.5s,mb3.8						
XAN	**Xi'an**	**30.80**	**26**	P	P	18 10 42.5	-1.0
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**40.86**	**349**	P	P	18 12 09.7	+0.1
	comp=Z,0.3nm,0.5s,mb3.2,baz=167,slow=8.1,SNR=8.9						
MKAR				PcP	PcP	18 14 11.0	+1.2
	comp=Z,0.3nm,0.5s,baz=171,slow=3.5,SNR=4.3						
SONM	**Songino Array**	**42.41**	**13**	P	P	18 12 22.6	+0.3
	comp=Z,0.3nm,0.5s,mb3.2,baz=192,slow=8.6,SNR=3.8						
SONM				PcP	PcP	18 14 16.3	+1.4
	comp=Z,0.7nm,0.6s,baz=189,slow=3.3,SNR=5.0						
ZAL	**Zalesovo**	**47.42**	**353**	P	P	18 13 02.6	+0.5
	comp=Z,1.1nm,0.3s,mb4.2,baz=322,slow=3.2,SNR=6.0						
WRA	**Warramunga Arr**	**48.59**	**124**	P	P	18 13 11.5	+0.3
	comp=Z,1.1nm,0.6s,mb4.1,baz=304,slow=8.6,SNR=33						
WRAB	**Tennant Creek**	**48.59**	**124**	*eP*	P	18 13 11.0	-0.2
	comp=Z,3.6nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**49.61**	**342**	P	P	18 13 18.9	-0.1
	comp=Z,0.9nm,0.9s,mb3.8,baz=134,slow=8.5,SNR=4.2						
ZRNK	**Zerenda**	**49.98**	**341**	*eP*	P	18 13 22.0	+0.2
	comp=Z,1.5nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**50.12**	**129**	P	P	18 13 23.4	+0.5
	comp=Z,0.5nm,0.7s,mb3.7,baz=303,slow=7.8,SNR=16						
ASAR				PcP	PcP	18 14 43.6	+1.8
	comp=Z,0.7nm,0.6s,baz=304,slow=3.3,SNR=5.9						
AKTK	**Aktyubinsk**	**52.33**	**332**	P	P	18 13 39.1	-0.3
AKTK				PcP	PcP	18 14 50.5	+0.4
AKTO	**Aktyubinsk**	**52.33**	**332**	P	P	18 13 39.1	-0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=104,slow=9.8,SNR=3.7						
AKTO				PcP	PcP	18 14 50.5	+0.4
	comp=Z,0.8nm,0.5s,baz=150,slow=8.2,SNR=3.6						
BRTR	**Keskin Array B**	**62.27**	**311**	P	P	18 14 49.5	0.0
	comp=Z,0.8nm,0.7s,mb4.0,baz=111,slow=6.3,SNR=6.6						
FINES	**FINESS Array B**	**73.10**	**332**	P	P	18 15 57.1	-0.7
	comp=Z,0.8nm,0.6s,mb3.9,baz=99,slow=6.0,SNR=5.0						
ARCES	**ARCESS Array B**	**75.86**	**340**	P	P	18 16 13.6	-0.2
	comp=Z,2.2nm,0.9s,mb4.1,baz=82,slow=4.3,SNR=5.3						
GERES	**GERESS Array B**	**77.85**	**318**	P	P	18 16 25.0	-0.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=107,slow=4.6,SNR=8.6						

*IDC **27** 18:15:53.1±1.3,146N×9650E,h0km,mb3.8/8,mb1 3.9/9, mb1mx3.7/22,mbtmp3.7/9,ML2.7/1,MS3.1/1,Ms1 3.1/1, ms1mx2.6/18,Error ellipse: s-maj=43.3km s-min=19.3km az=49.0*
*ISCJB **27** 18:15:56.1±0.9,15N±01×965E±0.1,h33km,mb3.8/9,Error ellipse: s-maj=24.8km s-min=13.7km az=85.9*
*NEIC **27** 18:15:57.6±0.7,145N×9653E,h30km,mb4.0/1,Error ellipse: s-maj=21.0km s-min=11.5km az=224.0*
ISC 27 18:15:58.8±0.9,15N±01×966E±01,h35km,n11,σ0§55/11, mb3.8/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**62**	Pn	Pn	18 16 39.6	+0.5
	1.2nm,0.3s,baz=281,slow=13,SNR=12						
PSI				LR	LR	18 17 57.9	
	comp=Z,290nm,18.4s,baz=340,slow=46						
WRA	**Warramunga Arr**	**42.73**	**122**	P	P	18 23 51.9	-0.6
	0.5nm,0.6s,mb3.4,baz=301,slow=9.2,SNR=5.6						
WRAB	**Tennant Creek**	**42.74**	**122**	*eP*	P	18 23 52.3	-0.2
	2.0nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**44.09**	**127**	P	P	18 24 03.8	+0.4
	0.4nm,0.6s,mb3.3,baz=298,slow=8.1,SNR=8.9						
MKAR	**Makanchi Array**	**46.78**	**347**	P	P	18 24 24.8	+0.1
	1.9nm,0.8s,mb4.1,baz=160,slow=7.7,SNR=20						
SONM	**Songino Array**	**46.91**	**9**	P	P	18 24 25.0	-0.7
	0.9nm,0.8s,mb3.8,baz=190,slow=7.8,SNR=8.0						
ZAL	**Zalesovo**	**53.13**	**351**	P	P	18 25 13.2	+0.2
	3.0nm,0.7s,mb4.3,baz=305,slow=4.6,SNR=20						
BVAR	**Borovoye Array**	**55.74**	**341**	P	P	18 25 31.3	-0.6
	1.1nm,0.7s,mb4.0,baz=140,slow=9.4,SNR=9.9						
AKTK	**Aktyubinsk**	**58.66**	**332**	P	P	18 25 52.3	-0.1
AKTO	**Aktyubinsk**	**58.66**	**332**	P	P	18 25 52.3	-0.2
	0.3nm,0.3s,mb3.8,baz=156,slow=10.0,SNR=3.5						
GERES	**GERESS Array B**	**84.16**	**319**	P	P	18 28 27.6	+1.3
	0.5nm,0.9s,mb3.7,baz=203,slow=13,SNR=4.1						

IDC 27 18:27:55.4±2.1,329N×12809E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.7/4,Error ellipse: s-maj=151.1km s-min=26.4km az=67.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**165**	P	P	18 33 11.4	+0.7
	1.3nm,0.4s,baz=345,slow=10,SNR=37						
ASAR	**Alice Springs**	**27.39**	**168**	P	P	18 33 42.8	+0.4
	0.5nm,0.3s,baz=341,slow=11,SNR=41						
STKA	**Stephens Creek**	**37.26**	**161**	P	P	18 35 08.0	-0.8
	1.4nm,0.7s,baz=0.0,slow=7.1,SNR=5.6						
MKAR	**Makanchi Array**	**58.69**	**325**	P	P	18 37 55.2	+0.5
	0.1nm,0.5s,baz=111,slow=7.5,SNR=3.2						

*IDC **27** 18:39:24.1±6.7,3647N×7121E,h160km±60km,mb3.0/2, mb1 3.3/6,mb1mx3.0/23,mbtmp3.8/6,Error ellipse: s-maj=44.2km s-min=34.5km az=153.0*
*MOS **27** 18:39:25.8±0.7,3662N×7129E,h179km,mb3.6/1,Error ellipse: s-maj=22.0km s-min=9.8km az=93.6*
*NEIC **27** 18:39:25.8±2.8,3663N×7126E,h151km±29km,mb4.4/9, Error ellipse: s-maj=37.3km s-min=8.8km az=63.0*
*ISCJB **27** 18:39:27.2±0.8,3669N±004×713E±0.1,h201km±11km, mb3.2/2,Error ellipse: s-maj=14.0km s-min=4.9km az=136.0*
*NNC **27** 18:39:35.7±3.2,3727N×7117E,h192km±19km,mb2.8, mpv3.9,Error ellipse: s-maj=34.9km s-min=21.8km az=176.0*
ISC 27 18:39:28.3±0.8,3669N±004×714E±01,h193km±10km,n42, σ0§92/51,mb3.2/2,6C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.57**	**139**	*eP*	Pn	18 40 49.0	-0.8
THN				*e*S	Sn	18 41 52.5	-1.6
DLH	**Dalhousie**	**5.62**	**136**	*eP*	Pn	18 40 53.0	+2.5
DLH				*e*S	Sn	18 41 57.0	+1.7
AML	**Almayashu**	**5.72**	**18**	P	Pn	18 40 52.1	+0.3
	SNR=42						
UCH	**Uchtor**	**6.04**	**23**	P	Pn	18 40 56.4	+0.5
	SNR=14						
EKS2	**Erkin-Say**	**6.24**	**17**	P	Pn	18 40 59.2	+0.6
	SNR=11						
AAK	**Ala-Archa**	**6.41**	**21**	P	Pn	18 41 01.2	+0.5
	SNR=22						
AAK	**Ala-Archa**	**6.41**	**21**	*e*PN	Pn	18 41 00.0	-0.7
AAK				pmax	pmax		
	comp=Z,23nm,0.5s						
AAK	**Ala-Archa**	**6.41**	**21**	*eP*	Pn	18 40 60.0	-0.7
	comp=Z,24nm,0.5s						
AAK				*e*S	Sn	18 42 11.9	-1.8
KK31	**Karatay Array**	**6.43**	**354**	⇓P	Pn	18 41 00.8	-0.2
	comp=Z,4.6nm,0.3s,baz=173,slow=13,SNR=52						
KK31				⇑S	Sn	18 42 09.1	-5.3
	comp=Z,6.4nm,0.3s,baz=182,slow=23,SNR=36						
KKAR	**Karatay Array**	**6.43**	**354**	PN	Pn	18 41 00.8	-0.3
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KBK	**Karagaybulak**	**6.57**	**24**	P	Pn	18 41 03.7	+1.0
	SNR=8.4						
ULHL	**Ulahol**	**6.71**	**33**	P	Pn	18 41 05.1	+0.5
	SNR=8.0						
CHMS	**Chumysh**	**6.81**	**21**	P	Pn	18 41 06.1	0.0
	SNR=5.2						
TKM2	**Tokmak 2**	**7.02**	**26**	P	Pn	18 41 09.7	+1.0
	SNR=9.6						
TKM2	**Tokmak 2**	**7.02**	**26**	⇓P	Pn	18 41 09.7	+1.0
	comp=Z,5.2nm,0.6s						
TKM2				⇑S	Sn	18 42 27.4	-0.9
	comp=Z,8.9nm,0.8s						
MK31	**Makanchi Array**	**12.96**	**36**	⇑P	Pn	18 42 26.3	+0.8
	comp=Z,0.9nm,0.6s,baz=168,slow=6.8,SNR=18						
MKAR	**Makanchi Array**	**12.96**	**36**	P	Pn	18 42 24.9	-0.6
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=11						
KOLN	**Koldanda**	**13.65**	**127**	*eP*	Pn	18 42 32.2	-1.8
	comp=Z,7.7nm,0.4s						
GKN	**Gorkha**	**14.17**	**124**	*eP*	Pn	18 42 40.3	-0.2
	comp=Z,12nm,0.3s						
KKN	**Kakani**	**14.74**	**123**	*eP*	Pn	18 42 47.0	-0.5
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**14.74**	**123**	*eP*	Pn	18 42 47.0	-0.5
KKN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DMN	**Daman**	**14.74**	**124**	*eP*	Pn	18 42 48.3	+0.8
	comp=Z,14nm,0.4s						
KURK	**Kurchatov**	**14.96**	**18**	P	Pn	18 42 49.7	-0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**14.96**	**18**	P	Pn	18 42 49.7	-0.5
	comp=Z,1.0nm,0.7s						
PKI	**Pulchoki**	**14.97**	**123**	*eP*	Pn	18 42 49.3	-1.0
	comp=Z,14nm,0.4s						
PKI	**Pulchoki**	**14.97**	**123**	*eP*	Pn	18 42 49.3	-1.0
PKI				pmax	pmax		
	comp=Z,7.0nm,0.4s						
AB31	**Akbulak array**	**15.06**	**330**	⇑P	Pn	18 42 50.3	-1.1
	comp=Z,0.5nm,0.3s,baz=143,slow=12,SNR=46						
AB31				⇑S	S	18 45 29.8	-8.9
	comp=Z,1.3nm,0.6s,baz=148,slow=23,SNR=5.6						
AB31	**Akbulak array**	**15.06**	**330**	*i P*	Pn	18 42 50.2	-1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GUN	**Gumba**	**15.07**	**121**	*eP*	Pn	18 42 52.2	+0.7
	comp=Z,8.2nm,0.3s						
JIRN	**Jiri**	**15.44**	**121**	*eP*	Pn	18 42 55.7	-0.4
	comp=Z,39nm,0.4s						
ZRNK	**Zerenda**	**16.34**	**355**	*eP*	Pn	18 43 07.5	+0.6
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**16.34**	**355**	*eP*	Pn	18 43 07.5	+0.6
	comp=Z,0.5nm,0.4s						
BVAR	**Borovoye Array**	**16.34**	**358**	P	Pn	18 43 06.9	0.0
	comp=Z,0.2nm,0.3s,baz=160,slow=10,SNR=5.4						
AKTK	**Aktyubinsk**	**16.76**	**329**	P	Pn	18 43 12.3	+0.4
AKTK				S	S	18 46 16.1	+0.2
AKTO	**Aktyubinsk**	**16.76**	**329**	⇑P	Pn	18 43 12.2	+0.2
	comp=Z,1.2nm,1.1s						
AKTO	**Aktyubinsk**	**16.76**	**329**	P	Pn	18 43 12.3	+0.4
	comp=Z,1.3nm,0.3s,baz=135,slow=10,SNR=21						
AKTO				S	S	18 46 16.1	+0.2
	comp=Z,0.1nm,0.3s,baz=167,slow=17,SNR=4.6						
AKTO	**Aktyubinsk**	**16.76**	**329**	P	Pn	18 43 12.3	+0.4
AKTO				S	S	18 46 16.1	+0.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**17.96**	**107**	*eP*	Pn	18 43 29.7	+3.6
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**17.96**	**107**	*eP*	Pn	18 43 29.7	+3.7
	comp=Z,1.4nm,0.6s						
ZAL	**Zalesovo**	**19.60**	**24**	P	P	18 43 42.2	+0.4
	comp=Z,1.1nm,0.3s,baz=263,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P	P	18 49 52.5	-1.5
	comp=Z,0.3nm,0.4s,mb3.3,baz=55,slow=5.5,SNR=5.0						
YKA	**Yellowknife Ar**	**81.04**	**3**	P	P	18 51 22.4	+0.8
	comp=Z,0.3nm,0.5s,mb3.1,baz=348,slow=5.3,SNR=6.6						

IDC 27 18:41:37.1±1.6,599S×13177E,h0km,mb3.9/3,mb1 3.9/5, mb1mx3.8/11,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=169.1km s-min=21.8km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.09**	**170**	Pn	Pn	18 44 59.3

NNA	**Nana**	**2.00**	**324**	*e*P	**Pn**	**19 01 51.2**	**-0.9**
NNA				*e*S	**Sn**	**19 02 18.1**	**+0.4**
ARE	**Arequipa**	**4.90**	**126**	*e*P	**Pn**	**19 02 31.0**	**+0.8**
ARE				*e*S	**Sn**	**19 03 25.0**	**-0.9**
LPAZ	**La Paz**	**7.72**	**111**	Pn	**Pn**	**19 03 09.2**	**+0.9**
	1.3nm,0.3s,baz=302,slow=9.7,SNR=38						
SAML	**Samuel**	**13.06**	**71**	*e*P	**Pn**	**19 04 19.1**	**-0.3**
	3.8nm,0.8s						
TRQA	**Tornquist**	**27.20**	**156**	P	**P**	**19 06 51.1**	**+0.2**
PLCA	**Paso Flores**	**27.38**	**172**	P	**P**	**19 06 52.2**	**-0.2**
	1.0nm,0.5s,mb3.6,baz=9.8,slow=7.5,SNR=3.7						
PLCA	**Paso Flores**	**27.38**	**172**	P	**P**	**19 06 52.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.09**	**74**	P	PcP	19 13 25.6	-0.7
	0.7nm,0.7s,baz=243,slow=6.3,SNR=5.1						
WRA	**Warramunga Arr**	**135.49**	**222**	PKP	PKPdf	19 20 28.8	+4.5
	0.2nm,0.9s,baz=140,slow=2.0,SNR=4.5						

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*IDC **27** 19:06:15.0±1.9,3115×13156E,h0km,mb4.2/4,mb1 4.4/4, mb1mx4.1/12,mbtmp4.3/4,Error ellipse: s-maj=191.2km s-min=22.3km az=72.0*
*NEIC **27** 19:06:16.8±0.9,3315×13092E,h10km,mb4.5/5,Error ellipse: s-maj=47.3km s-min=9.1km az=66.0*
*ISCJB **27** 19:06:18.0±1.0,34S±01×1309E±03,h33km,mb4.4/7, Error ellipse: s-maj=52.0km s-min=9.0km az=135.8*
ISC 27 19:06:19.9±1.1,37S±01×1308E±03,h35km,n16,σ1§07/18, mb4.4/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.53**	**168**	*e*P	**Pn**	**19 10 12.1**	**+3.1**
	11nm,0.7s						
WRA	**Warramunga Arr**	**16.54**	**168**	Pn	**Pn**	**19 10 08.6**	**-0.5**
	0.4nm,0.3s,baz=354,slow=13,SNR=32						
WRA				Sn	**Sn**	**19 13 10.0**	**-1.6**
	0.5nm,0.3s,baz=339,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**20.11**	**172**	P	**P**	**19 10 56.4**	**+5.8**
	24nm,0.5s,baz=351,slow=10,SNR=656						
ASAR				S	**S**	**19 14 34.5**	**0.0**
	0.7nm,0.6s,baz=0.4,slow=26,SNR=3.8						
STKA	**Stephens Creek**	**29.84**	**161**	P	**P**	**19 12 26.1**	**+2.3**
	2.3nm,0.6s,mb4.1,baz=356,slow=7.7,SNR=4.8						
LSA	**Lhasa**	**50.42**	**314**	*e*P	**P**	**19 15 14.8**	**+0.9**
JIRN	**Jiri**	**53.08**	**309**	*e*P	**P**	**19 15 33.9**	**+0.2**
GUN	**Gumba**	**53.44**	**309**	*e*P	**P**	**19 15 36.6**	**+0.2**
KKN	**Kakani**	**53.85**	**308**	*e*P	**P**	**19 15 39.3**	**-0.1**
	7.3nm,0.8s,mb4.7						
DMN	**Daman**	**53.90**	**308**	*e*P	**P**	**19 15 39.9**	**+0.1**
GKN	**Gorkha**	**54.45**	**308**	*e*P	**P**	**19 15 43.6**	**-0.2**
	7.5nm,0.7s,mb4.8						
KOLN	**Koldanda**	**55.16**	**308**	*e*P	**P**	**19 15 49.3**	**+0.4**
	12nm,0.7s,mb5.0						
SONM	**Songino Array**	**55.57**	**340**	P	**P**	**19 15 51.0**	**-0.8**
	1.1nm,0.9s,mb3.9,baz=166,slow=7.0,SNR=5.9						
MKAR	**Makanchi Array**	**65.92**	**326**	P	**P**	**19 17 02.4**	**+0.1**
	1.2nm,0.5s,mb4.2,baz=116,slow=8.2,SNR=23						
KURK	**Kurchatov**	**70.13**	**328**	P	**P**	**19 17 26.3**	**-2.4**
	3.2nm,0.8s,mb4.3						
BRVK	**Borovoye**	**75.78**	**327**	*e*P	**P**	**19 18 02.2**	**0.0**
ZRNK	**Zerenda**	**76.42**	**327**	*e*P	**P**	**19 18 05.5**	**-0.4**

WEL 27 19:17:35.1±0.3,3984S×17679E,h45km±3km,ML2.9/8, 2C-1D,Error ellipse: s-maj=2.5km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.20**	**164**	⇑PN	Pn	19 17 42.7	-0.1
PXZ				SN	Sn	19 17 48.8	+0.4
TSZ	**Takapari Road**	**0.67**	**251**	⇓PN	Pn	19 17 47.9	-0.5
TSZ				SN	Sn	19 17 57.3	-0.5
BKZ	**Black Stump Fm**	**0.71**	**341**	⇑PN	Pn	19 17 48.6	-0.2
BKZ				SN	Sn	19 17 58.2	-0.5
MOVZ	**Moawhango**	**0.91**	**298**	PN	Pn	19 17 51.6	+0.1
MOVZ				SN	Sn	19 18 02.9	-0.5
BFZ	**Birch Farm**	**0.94**	**206**	PN	Pn	19 17 51.6	-0.3
BFZ				SN	Sn	19 18 04.6	+0.5
MTVZ	**Mangateitei**	**1.11**	**294**	PN	Pn	19 17 54.8	+0.6
MRZ	**Mangatainoka R**	**1.24**	**228**	PN	Pn	19 17 55.6	-0.3
MRZ				SN	Sn	19 18 10.8	-0.6
URZ	**Urewera**	**1.60**	**9**	PN	Pn	19 18 00.2	-0.7
MWZ	**Matawai**	**1.61**	**21**	PN	Pn	19 18 00.4	-0.7
MTW	**Mount Morrison**	**1.64**	**216**	*e*PN	Pn	19 18 00.1	-1.4
MTW				SN	Sn	19 18 20.1	-1.3
TCW	**Tory Channel**	**2.35**	**234**	SN	Sn	19 18 37.1	-1.9
MQZ	**McQueen's Vall**	**4.95**	**217**	SN	Sn	19 19 36.3	-6.6

IDC 27 19:18:00.3±9.6,2882S×17889E,h378km±308km,mb3.4/3, mb1 3.6/4,mb1mx3.5/10,mbtmp4.3/4,Error ellipse: s-maj=353.8km s-min=85.6km az=106.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.53**	**188**	P	Pn	19 20 13.0	+0.3
	5.3nm,0.3s,baz=11,slow=4.2,SNR=23						
URZ				S	S	19 22 00.1	-1.3
	2.3nm,0.3s,baz=10.0,slow=22,SNR=11						
STKA	**Stephens Creek**	**32.23**	**255**	P	P	19 23 54.8	-0.1
	1.6nm,0.3s,baz=99,slow=10,SNR=17						
ASAR	**Alice Springs**	**40.49**	**267**	P	P	19 25 04.3	+0.4
	0.7nm,0.4s,baz=99,slow=6.8,SNR=16						
WRA	**Warramunga Arr**	**41.33**	**272**	P	P	19 25 10.8	0.0
	1.5nm,0.4s,baz=108,slow=7.7,SNR=108						

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*IDC **27** 19:26:53.0±1.3,886S×13032E,h0km,mb3.9/4,mb1 4.0/6, mb1mx3.9/12,mbtmp3.9/6,ML3.8/2,Error ellipse: s-maj=216.2km s-min=21.4km az=68.0*
*NEIC **27** 19:26:54.4±0.8,897S×13008E,h10km,mb4.1/1,Error ellipse: s-maj=121.0km s-min=9.1km az=69.0*
*ISCJB **27** 19:26:55.2±0.9,89S±02×1306E±07,h33km,mb3.9/5, Error ellipse: s-maj=101.5km s-min=7.8km az=143.9*
ISC 27 19:26:57.9±0.8,90S±02×1302E±06,h35km,n9,σ0§68/12, mb3.9/5,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**11.60**	**160**	*e*P	**Pn**	**19 29 40.2**	**-0.8**
WRAB				*e*Sn	**Sn**	**19 31 44.5**	**-4.7**
WRA	**Warramunga Arr**	**11.61**	**160**	Pn	**Pn**	**19 29 41.0**	**-0.1**
	0.6nm,0.3s,baz=343,slow=13,SNR=28						
WRA				Sn	**Sn**	**19 31 49.1**	**-0.3**
	0.9nm,0.3s,baz=333,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**15.03**	**167**	Pn	**Pn**	**19 30 27.7**	**+0.1**
	0.5nm,0.3s,baz=329,slow=9.3,SNR=23						
ASAR				Sn	**Sn**	**19 33 13.1**	**+0.2**
	0.2nm,0.3s,baz=335,slow=17,SNR=5.9						
STKA	**Stephens Creek**	**25.12**	**157**	P	**P**	**19 32 20.4**	**+1.0**
	1.7nm,0.8s,mb3.6,baz=313,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**25.12**	**157**	*e*P	**P**	**19 32 20.9**	**+1.5**
SONM	**Songino Array**	**60.37**	**342**	P	**P**	**19 37 03.9**	**+0.4**
	0.5nm,0.9s,mb3.6,baz=153,slow=6.2,SNR=5.7						
MKAR	**Makanchi Array**	**69.99**	**327**	P	**P**	**19 38 06.7**	**+0.8**
	1.6nm,0.5s,mb4.2,baz=121,slow=7.9,SNR=32						
ZAL	**Zalesovo**	**73.44**	**334**	P	**P**	**19 38 25.4**	**-1.2**
	0.6nm,0.3s,mb4.0,baz=329,slow=14,SNR=3.2						
KURK	**Kurchatov**	**74.31**	**329**	*e*P	**P**	**19 38 31.3**	**-0.3**
	1.9nm,0.9s,mb4.0						

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*NEIC **27** 19:39:03.0,1546N×9332W,h90km,MD4.4(MEX),After MEX.*
MEX 27 19:39:02.9±1.0,1546N×9331W,h95km±40km,MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.39**	**54**	*i* P	Pn	19 39 27.9	+0.3
CCIG				*i* S	Sn	19 39 44.8	-1.4
SCX	**San Cristobal**	**1.43**	**27**	*i* P	Pn	19 39 26.0	-1.9
SCX				*i* S	Sn	19 39 46.0	-0.9
CMIG	**Matias Romero**	**2.22**	**317**	*i* P	Pn	19 39 36.8	-1.3
CMIG				*i* S	Sn	19 40 03.9	-1.2
OXX	**Oaxaca**	**3.66**	**297**	*e*P	Pn	19 39 57.0	-0.3
OXX				*i* S	Sn	19 40 39.0	-0.4
TEIG	**Tepich**	**6.74**	**45**	*i* P	Pn	19 40 37.7	-1.5
TEIG				*i* S	Sn	19 41 52.3	-2.2
TEIG	**Tepich**	**6.74**	**45**	*i* P	Pn	19 40 38.1	-1.1
TEIG				*i* S	Sn	19 41 52.3	-2.2

IDC 27 19:42:07.5±2.1,915S×12996E,h0km,mb3.4/1,mb1 3.4/3, mb1mx3.3/12,mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=120.0km s-min=31.7km az=67.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.53**	**159**	Pn	Pn	19 44 53.8	+0.5
	0.1nm,0.3s,baz=341,slow=13,SNR=12						
WRA				Sn	Sn	19 46 57.1	-5.7
	0.1nm,0.3s,baz=177,slow=38,SNR=3.5						
ASAR	**Alice Springs**	**14.92**	**166**	Pn	Pn	19 45 39.4	-0.2
	0.1nm,0.3s,baz=346,slow=14,SNR=7.8						
MKAR	**Makanchi Array**	**70.00**	**327**	P	P	19 53 21.1	+0.2
	0.3nm,0.5s,baz=119,slow=7.9,SNR=5.9						

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*ISCJB **27** 19:58:32.3±1.1,3592N±009×1409E±01,h54km±9km, mb3.5/2,Error ellipse: s-maj=21.2km s-min=8.7km az=109.1*
*JMA **27** 19:58:33.4±0.1,3589N×14081E,h39km±1km,M3.0*
*IDC **27** 19:58:35.4±9.9,3578N×14072E,h66km±61km,mb3.2/2, mb1 3.3/3,mb1mx3.0/19,mbtmp3.4/3,Error ellipse: s-maj=149.1km s-min=33.5km az=66.0*
ISC 27 19:58:32.9±1.1,3592N±009×1409E±01,h44km±10km,n11, σ0§68/13,mb3.5/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.22**	**186**	P	**Pn**	**19 58 40.3**	**-0.5**
JYT	**Yasato**	**0.64**	**299**	P	**Pn**	**19 58 45.2**	**-0.4**
JYT				S	**Sn**	**19 58 53.8**	**-1.0**
JHO	**Hitachi**	**0.73**	**340**	P	**Pn**	**19 58 47.3**	**+0.4**
BSO4	**Boso 4**	**1.03**	**206**	P	**Pn**	**19 58 51.7**	**+0.8**
BSO3	**Boso 3**	**1.16**	**196**	P	**Pn**	**19 58 52.5**	**-0.2**
JAG	**Ashikaga**	**1.26**	**294**	P	**Pn**	**19 58 53.9**	**-0.2**
BSO1	**Boso 1**	**1.27**	**177**	P	**Pn**	**19 58 54.4**	**+0.2**
MJAR	**Matsushiro Arr**	**2.25**	**287**	P	**Pn**	**19 59 08.8**	**+1.2**
	6.3nm,0.3s,baz=91,slow=12,SNR=43						
MAT	**Matsushiro**	**2.25**	**287**	P	**Pn**	**19 59 08.6**	**+0.9**
MAT				*e*S	**Sn**	**19 59 34.0**	**-0.2**
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**20 06 39.0**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=89,slow=10.0,SNR=6.9						
WRA	**Warramunga Arr**	**55.90**	**187**	P	**P**	**20 08 05.0**	**-1.2**
	0.2nm,0.3s,mb3.6,baz=0.9,slow=7.6,SNR=7.9						

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*CSEM **27** 20:02:06.6±0.3,4181N×1590E,h30km,ML3.7/3,Error ellipse: s-maj=7.1km s-min=3.5km az=17.0*
*ISCJB **27** 20:02:07.1±0.8,4183N±005×1592E±004,h25km±4km, Error ellipse: s-maj=8.5km s-min=4.5km az=30.6*
*NEIC **27** 20:02:07.1,4177N×1593E,h24km,ML2.7(ROM),After ROM.*
*ROM **27** 20:02:07.1±0.2,4177N×1593E,h24km±2km,Md2.7/12, Ml2.7/4,Error ellipse: s-maj=4.2km s-min=3.2km az=139.0*
ISC 27 20:02:07.2±0.8,4183N±005×1591E±004,h23km±4km,n19, σ0§87/33,3C-4D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FGMS	**Monte Sant'Ang**	**0.12**	**165**	⇓*i*Pg	**Pb**	**20 02 11.9**	**+0.1**
FGMS				Sg	**Sb**	**20 02 15.1**	**+0.3**
MS1	**Monte Sant'Ang**	**0.12**	**169**	*e*Pg	**Pb**	**20 02 11.8**	**0.0**
MS1				*e*Sg	**Sb**	**20 02 14.9**	**+0.1**
FG2	**Serracapriola**	**0.56**	**268**	⇓*i*Pg	**Pb**	**20 02 18.4**	**0.0**
FG2				Sg	**Sb**	**20 02 25.9**	**-0.1**
	379nm,0.2s						
FG5	**Orsara di Pugl**	**0.73**	**222**	⇑*i*Pg	**Pb**	**20 02 21.0**	**-0.2**
FG5				Sg	**Sb**	**20 02 29.8**	**-0.9**
	66nm,0.2s						
FG4	**Candela**	**0.75**	**203**	⇓*i*Pg	**Pb**	**20 02 21.1**	**-0.6**
FG4				Sg	**Sb**	**20 02 30.7**	**-0.8**
	309nm,0.2s						
CIGN	**Sant'Elia a Pi**	**0.77**	**257**	Pg	**Pb**	**20 02 22.1**	**+0.1**
CDT	**Castel del Mon**	**0.79**	**160**	*e*Pg	**Pb**	**20 02 21.3**	**-1.0**
CDT				*e*Sg	**Sb**	**20 02 32.8**	**+0.2**
BAI	**Bari**	**1.02**	**134**	*e*Pg	**Pb**	**20 02 25.6**	**-0.7**
BAI				*e*Sg	**Sb**	**20 02 40.1**	**+0.8**
AMUR	**Altamura**	**1.06**	**150**	⇓*e*Pg	**Pn**	**20 02 25.3**	**-1.4**
	39nm,0.4s						
MRLC	**Muro Lucano**	**1.11**	**197**	Pg	**Pn**	**20 02 27.3**	**-0.2**
MRLC				Sg	**Sb**	**20 02 42.6**	**+0.7**
SG1	**Sgolgore (BA)**	**1.14**	**149**	*e*Pg	**Pn**	**20 02 26.6**	**-1.2**
SG1				*e*Sg	**Sb**	**20 02 43.5**	**+0.8**
CSSN	**Cassano Irpino**	**1.17**	**215**	Pg	**Pn**	**20 02 27.1**	**-1.2**
CSSN				Sg	**Sb**	**20 02 45.2**	**+1.6**
	24nm,0.3s						
MCRV	**Calabrutti - M**	**1.18**	**208**	Pg	**Pn**	**20 02 27.2**	**-1.2**
MCRV				Sg	**Sb**	**20 02 43.8**	**-0.1**
	142nm,0.2s						
CII	**Carovilli**	**1.21**	**266**	Pg	**Pn**	**20 02 29.6**	**+0.9**
CII				Sg	**Sn**	**20 02 45.9**	**+1.6**
NOCI	**Noci**	**1.35**	**140**	⇑*e*Pg	**Pn**	**20 02 29.6**	**-1.1**
	182nm,0.2s						
BRT	**Bari-Castellan**	**1.36**	**134**	Pg	**Pn**	**20 02 30.5**	**-0.3**
	65nm,0.2s						
MOCO	**Biccari - m.te**	**1.39**	**251**	⇑*i*Pg	**Pn**	**20 02 21.0**	**-10**
MOCO				Sg	**Sn**	**20 02 30.4**	**-19**
CRAC	**Craco**	**1.51**	**165**	Pg	**Pn**	**20 02 33.8**	**+0.9**
	168nm,0.8s						
PE1	**Pezze di Greco**	**1.53**	**131**	*e*Pg	**Pn**	**20 02 34.8**	**+1.6**
PE1				*e*Sg	**Sn**	**20 02 53.5**	**+1.2**

IDC 27 20:07:57.1±1.2,922S×15820E,h0km,mb3.5/5,mb1 3.7/5, mb1mx3.7/12,mbtmp3.5/5,Error ellipse: s-maj=31.4km s-min=20.1km az=171.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.73**	**97**	Pn	Pn	20 08 28.9	+0.4
	29nm,0.3s,baz=249,slow=5.0,SNR=8.2						
HNR				Sn	Sn	20 08 51.1	-0.2
	30nm,0.3s,baz=274,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**25.40**	**243**	P	P	20 13 26.1	-0.1
	1.2nm,0.8s,baz=68,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**27.31**	**212**	P	P	20 13 42.6	-0.8
	1.6nm,0.7s,baz=52,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**27.31**	**235**	P	P	20 13 45.3	+1.8
	0.6nm,1.0s,baz=61,slow=11,SNR=5.1						
SONM	**Songino Array**	**72.93**	**326**	P	P	20 19 27.9	-0.3
	0.3nm,0.8s,baz=117,slow=5.0,SNR=2.7						
MKAR	**Makanchi Array**	**87.17**	**318**	P	P	20 20 46.1	+0.9
	0.2nm,0.8s,baz=116,slow=6.6,SNR=3.5						

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*CSEM **27** 20:20:13.2±1.1,3914N×2858W,h5km,ML2.6,Error ellipse: s-maj=7.8km s-min=3.6km az=134.0,After PDA*
*PDA **27** 20:20:13.2±1.1,3914N×2858W,h5km,MD3.2,ML2.6, Error ellipse: s-maj=7.8km s-min=3.6km az=134.0*
SVSA 27 20:20:13.2±1.1,3914N×2858W,h5km,MD3.2,ML2.6, Error ellipse: s-maj=7.8km s-min=3.6km az=134.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.34**	**248**	*e*S	Sg	20 20 25.2	+1.1
PLUZ							
	96nm,0.2s						
STGR	**Santa Cruz**	**0.45**	**98**	*e*S	Sg	20 20 26.0	-1.8
STGR							
	75nm,0.3s						
PGRA	**Graciosa**	**0.48**	**104**	*e*P	Pg	20 20 21.7	-0.7
PGRA				*e*S	Sg	20 20 27.7	-0.9
PGRA							
	197nm,0.2s						
PGRA	**Graciosa**	**0.48**	**104**	*e*P	Pg	20 20 21.7	-0.7
PGRA				*e*S	Sg	20 20 27.7	-0.9
ROSA	**Rosais**	**0.50**	**148**	*e*S	Sg	20 20 28.0	-1.3
PCED	**Cedros**	**0.52**	**191**	*e*P	Pg	20 20 21.7	-1.6
PCED				*e*S	Sg	20 20 29.4	-0.7
PCED							
	145nm,0.1s						
PCED	**Cedros**	**0.52**	**191**	*e*P	Pg	20 20 21.7	-1.6
PCED				*e*S	Sg	20 20 29.4	-0.7
CALA	**Caldeira**	**0.57**	**190**	*i* P	Pg	20 20 23.0	-1.2
CALA				*e*S	Sg	20 20 30.4	-1.2
CALA	**Caldeira**	**0.57**	**190**	*e*S	Sg	20 20 30.4	-1.2
HOR	**Horta**	**0.62**	**184**	*e*S	Sg	20 20 31.3	-1.8
PICO	**Pico**	**0.65**	**170**	*e*P	Pg	20 20 24.5	-1.2
PICO				*e*S	Sg	20 20 32.6	-1.6

IDC 27 20:55:32.0±2.0,900S×13012E,h0km,mb3.6/1,mb1 3.5/3, mb1mx3.4/12,mbtmp3.4/3,ML3.2/2,Error ellipse: s-maj=123.2km s-min=31.5km az=67.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.62**	**160**	Pn	Pn	20 58 19.3	+0.2
	0.2nm,0.3s,baz=342,slow=13,SNR=10						
ASAR	**Alice Springs**	**15.03**	**166**	Pn	Pn	20 59 05.9	+0.3
	0.1nm,0.3s,baz=349,slow=15,SNR=6.1						
MKAR	**Makanchi Array**	**69.95**	**327**	P	P	21 06 45.3	+0.2
	0.4nm,0.6s,baz=117,slow=8.1,SNR=8.2						

IDC 27 20:57:26.0±1.2,903S×13006E,h0km,mb3.7/3,mb1 3.8/5, mb1mx3.7/12,mbtmp3.7/5,ML3.6/2,Error ellipse: s-maj=85.9km s-min=19.7km az=68.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.61**	**160**	Pn	Pn	21 00 11.8	-1.1
	0.3nm,0.3s,baz=342,slow=13,SNR=8.8						
WRA				Sn	Sn	21 02 24.0	+0.8
	0.5nm,0.3s,baz=334,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**15.01**	**166**	Pn	Pn	21 00 59.8	+0.4
	0.4nm,0.3s,baz=331,slow=9.3,SNR=12						
ASAR				Sn	Sn	21 03 49.5	+3.2
	0.1nm,0.3s,baz=348,slow=29,SNR=4.3						
STKA	**Stephens Creek**	**25.13**	**156**	P	P	21 02 53.2	+0.6
	0.7nm,0.5s,baz=0.0,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**60.38**	**342**	P	P	21 07 36.2	-0.8
	0.3nm,0.5s,baz=160,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**69.95**	**327**	P	P	21 08 39.9	+0.7
	0.9nm,0.5s,baz=120,slow=7.9,SNR=19						

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*CSEM **27** 21:00:59.8±0.1,3805N×2197E,h8km,ML3.4,Error ellipse: s-maj=2.4km s-min=2.2km az=86.0*
*NEIC **27** 21:00:59.6,3805N×2193E,h28km,ML3.4(ATH), ML3.6(THE),After ATH.*
*SKO **27** 21:01:01.4,38.10N×2279E,h0km*
ATH 27 21:00:59.6,3805N×2193E,h28km±1km,MD3.6/8,ML3.4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.37**	**271**	*e*PB	Pb	21 01 07.8	0.0
RLS				*e*SB	Sb	21 01 14.5	+1.1
ITM	**Ithomi**	**0.87**	**180**	*e*PN	Pn	21 01 16.4	+0.5
ITM				*e*SN	Sb	21 01 29.2	+1.9
EVR	**Evrytania**	**0.87**	**354**	*e*PN	Pn	21 01 17.0	+1.0
AGG	**Agios Georgios**	**1.02**	**18**	*e*P	Pn	21 01 19.0	+1.0
AGG	**Agios Georgios**	**1.02**	**18**	P	Pn	21 01 19.0	+1.0
AGG				S	Sn	21 01 38.0	+6.6
AGG	**Agios Georgios**	**1.02**	**18**	P	Pn	21 01 19.0	+1.0
AGG				S	Sn	21 01 38.0	+6.6
LKR	**Lokris**	**1.03**	**54**	*e*PB	Pn	21 01 18.7	+0.5
VLS	**Valsamata**	**1.06**	**277**	*e*PN	Pn	21 01 20.1	+1.5
NAIG	**Nisos Aigina**	**1.27**	**103**	*e*PN	Pn	21 01 23.5	+2.1
ATH	**Athens Observa**	**1.41**	**93**	*e*PN	Pn	21 01 25.2	+1.8
ATH				*e*SN	Sn	21 01 43.5	+2.4
MPAR	**Parnis Oros**	**1.43**	**85**	*e*PB	Pb	21 01 25.0	-0.5
KVR	**Kavouri**	**1.47**	**98**	*e*PN	Pn	21 01 26.0	+1.8
PTL	**Penteli**	**1.53**	**89**	*e*PN	Pn	21 01 26.8	+1.8
VLI	**Veliai**	**1.55**	**149**	*e*PN	Pn	21 01 27.3	+2.0
VLI				*e*SN	Sn	21 01 48.2	+3.7
NEO	**Neokhori**	**1.61**	**38**	*e*PN	Pn	21 01 28.3	+2.1
XOR	**Xorichti**	**1.64**	**37**	*e*P	Pn	21 01 29.4	+2.8
MEV	**Metsovon**	**1.82**	**343**	*e*P	Pn	21 01 38.5	+10
MEV	**Metsovon**	**1.82**	**343**	P	Pn	21 01 38.5	+10
MEV				S	Sn	21 02 05.6	+15
MEV	**Metsovon**	**1.82**	**343**	P	Pn	21 01 38.5	+10
MEV				S	Sn	21 02 05.5	+14
AOS	**Alonnisos**	**1.89**	**53**	*e*P	Pn	21 01 34.5	+4.5
IGT	**Igoumenitsa**	**1.94**	**320**	*e*P	Pn	21 01 42.8	+12
IGT	**Igoumenitsa**	**1.94**	**320**	P	Pn	21 01 42.8	+12
IGT				S	Sn	21 02 11.2	+17
IGT	**Igoumenitsa**	**1.94**	**320**	P	Pn	21 01 42.8	+12
IGT				S	Sn	21 02 11.2	+17
LIT	**Litokhoron**	**2.09**	**12**	*e*P	Pn	21 01 40.0	+7.2
LIT	**Litokhoron**	**2.09**	**12**	P	Pn	21 01 40.0	+7.2
LIT				S	Sn	21 02 08.5	+11
LIT	**Litokhoron**	**2.09**	**12**	P	Pn	21 01 40.0	+7.2
LIT				S	Sn	21 02 08.5	+11
PAIG	**Paliouri**	**2.32**	**35**	*e*P	Pn	21 01 40.9	+5.0
PAIG	**Paliouri**	**2.32**	**35**	P	Pn	21 01 40.8	+4.9
PAIG				S	Sn	21 02 09.5	+6.1
PAIG	**Paliouri**	**2.32**	**35**	P	Pn	21 01 40.9	+5.0
PAIG				S	Sn	21 02 09.5	+6.1
THE	**Thessaloniki**	**2.70**	**17**	*e*P	Pn	21 01 47.2	+6.1
FNA	**Florina**	**2.76**	**351**	*e*P	Pn	21 01 50.0	+8.0
FNA	**Florina**	**2.76**	**351**	P	Pn	21 01 50.0	+8.0
FNA				S	Sn	21 02 26.3	+12
FNA	**Florina**	**2.76**	**351**	P	Pn	21 01 50.0	+8.0
FNA				S	Sn	21 02 26.3	+12
GRG	**Griva**	**2.93**	**7**	*e*P	Pn	21 01 51.8	+7.5
SOH	**Sokhos**	**2.98**	**21**	*e*P	Pn	21 01 51.6	+6.6
BIA	**Bitola**	**3.00**	**351**	*e*Pn	Pn	21 01 52.2	+6.9
BIA	**Bitola**	**3.00**	**351**	*e*Pn	Pn	21 01 52.1	+6.8
APE	**Apeiranthos**	**3.02**	**108**	*e*P	Pn	21 01 47.8	+2.2
APE	**Apeiranthos**	**3.02**	**108**	P	Pn	21 01 47.8	+2.2
APE				S

1.5nm,0.3s,baz=294,slow=14,SNR=14
WRA Warramunga Arr 23.98 233 P P 21 34 37.1 +0.5
0.9nm,0.7s,baz=61,slow=9.5,SNR=11
WRA PcP PcP 21 38 17.2 +1.0
0.2nm,0.4s,baz=53,slow=2.6,SNR=4.7
ASAR Alice Springs 26.44 227 P P 21 34 58.6 -0.3
1.0nm,0.6s,baz=60,slow=8.6,SNR=12
ASAR PcP PcP 21 38 23.1 +1.3
0.3nm,0.6s,baz=58,slow=2.4,SNR=4.2
STKA Stephens Creek 28.33 204 P P 21 35 12.8 -2.9
1.3nm,0.6s,baz=27,slow=11,SNR=3.8
SONM Songino Array 68.42 327 P P 21 40 22.6 0.0
0.2nm,0.4s,baz=137,slow=3.9,SNR=5.2
TORD Torodi Ar. Bea 152.42 287 PKPbc PKPbc 21 49 16.3 +0.3
0.4nm,0.7s,baz=90,slow=1.9,SNR=5.9
TORD PKPab PKPab 21 49 27.6 +1.1
0.4nm,0.6s,baz=67,slow=4.0,SNR=6.7

*CSEM **27** 21:34:23.3±0.3,5157N×1626E,h1km,ML2.9/8,Error ellipse: s-maj=4.0km s-min=2.0km az=30.0*
*ISCJB **27** 21:34:25.0±0.7,5142N±004×1606E±003,h0km,Error ellipse: s-maj=5.3km s-min=2.7km az=25.2*
*NEIC **27** 21:34:24.5±3.1,5154N×1644E,h5km,MG2.5(WAR), Error ellipse: s-maj=40.2km s-min=14.6km az=220.0*
*PRU **27** 21:34:25.9,5146N×1618E,h0km*
*IPEC **27** 21:34:25.2±0.3,5152N×1626E,h0km,ML2.1/3,Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*WAR **27** 21:34:26.6,5147N×1611E,ML2.5,Mining Induced*
*VIE **27** 21:34:28.6±0.9,5129N×1620E,h0km,mb1.9/2,ML2.5/3, Error ellipse: s-maj=6.3km s-min=5.3km az=81.0 60 km WNW of Breslau Suspected Mining induced.*

ISC 27 21:34:26.0±0.7,5145N±004×1610E±004,h0km,n28, σ1§02/54,**1C-2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**21 34 38.3**	**+0.4**
KSP				*e*Sg	**Sg**	**21 34 46.9**	**+1.0**
KSP	**Ksiaz**	**0.62**	**168**	*i* Pgd		21 34 38.3	
KSP				*e*Sg	**Sg**	**21 34 46.8**	**+0.9**
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**21 34 38.0**	**+0.1**
KSP				*e*Sg	**Sg**	**21 34 46.8**	**+0.9**
KSP	**Ksiaz**	**0.62**	**168**	⇓*i*Pg	**Pg**	**21 34 38.3**	**+0.4**
KSP				*e*Sg	**Sg**	**21 34 46.8**	**+0.9**
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**21 34 44.4**	**+0.3**
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	**Pg**	**21 34 47.0**	**-0.3**
DPC				*e*SG	**Sg**	**21 35 02.0**	**+0.4**
	27nm,0.7s						
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*Sg	**Sg**	**21 35 01.8**	**+0.2**
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	**Pg**	**21 34 51.8**	**+0.2**
PVCC	**Panska Ves**	**1.33**	**227**	*e*Pg	**Pg**	**21 34 51.6**	**0.0**
PVCC				*e*Sg	**Sg**	**21 35 11.0**	**+2.1**
BRG	**Berggiesshubel**	**1.47**	**248**	Pg	**Pg**	**21 34 53.8**	**-0.4**
BRG				Sg	**Sg**	**21 35 14.1**	**+0.8**
BRG	**Berggiesshubel**	**1.47**	**248**	Pg	**Pg**	**21 34 53.9**	**-0.4**
BRG				Sg	**Sg**	**21 35 14.1**	**+0.7**
BRG	**Berggiesshubel**	**1.47**	**248**	PG	**Pg**	**21 34 53.9**	**-0.4**
BRG				SG	**Sg**	**21 35 14.1**	**+0.7**
	15nm,0.4s						
PRU	**Pruhonice**	**1.76**	**215**	*e*PN	**Pn**	**21 34 57.7**	**-0.1**
PRU				*e*PG	**Pg**	**21 34 59.0**	**-0.8**
PRU				*e*SG	**Sg**	**21 35 23.4**	**+0.7**
	7.9nm,0.5s						
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**21 34 57.5**	**-2.3**
MORC				*e*S	**Sn**	**21 35 23.1**	**-1.4**
MORC				*e*Sg	**Sg**	**21 35 25.7**	**-1.7**
	10.0nm,0.3s						
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**21 34 57.5**	**-2.3**
MORC				*e*S	**Sn**	**21 35 23.1**	**-1.4**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pg**	**21 35 02.0**	**-1.2**
CLL				*i* x	x	21 35 05.2	
CLL				*i* Sg	**Sg**	**21 35 28.2**	**-0.2**
	comp=Z,9.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pn**	**21 35 02.7**	**+0.6**
OKC				*e*SG	**Sn**	**21 35 29.0**	**+0.4**
	comp=Z,17nm,0.7s						
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**21 35 03.4**	**+0.1**
VRAC				*e*Sg	**Sg**	**21 35 34.6**	**-1.0**
	comp=Z,14nm,0.5s						
KRUC	**Moravsky**	**2.40**	**175**	*e*Pn	**Pn**	**21 35 06.9**	**+0.4**
KRUC				*e*Sg	**Sg**	**21 35 42.5**	**-0.5**
	comp=Z,6.5nm,0.3s						
NKC	**Novy Kostel**	**2.61**	**244**	*e*PN	**Pn**	**21 35 09.6**	**+0.2**
NKC				*e*PG	**Pg**	**21 35 15.4**	**-0.7**
NKC				*e*SG	**Sg**	**21 35 50.4**	**+0.4**
	comp=Z,12nm,0.3s						
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**21 35 16.8**	**0.0**
OJC				*e*Sg	**Sg**	**21 35 52.6**	**+1.4**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**21 35 12.5**	**+0.1**
KHC				*e*PG	**Pg**	**21 35 18.4**	**-1.8**
KHC				*e*SN	**Sn**	**21 35 46.0**	**-1.1**
KHC				*e*SG	**Sg**	**21 35 56.6**	**-0.2**
	comp=Z,5.6nm,0.5s						
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**21 35 21.8**	**-0.5**
MOX				*e*Sg	**Sg**	**21 36 01.3**	**+0.8**
MOX	**Moxa**	**2.94**	**256**	*e*PG	**Pg**	**21 35 21.8**	**-0.5**
MOX				*e*SG	**Sg**	**21 36 01.3**	**+0.8**
ZST	**Bratislava**	**3.32**	**168**	*e*SG	**Sg**	**21 36 11.8**	**-0.9**
MOA	**Molln**	**3.79**	**199**	⇓*i*Pn	**Pn**	**21 35 26.6**	**+1.0**
MOA				⇑*i*Sg	**Sg**	**21 36 30.6**	**+2.7**
	comp=Z,5.9nm,0.5s						
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*	**Pg**	**21 35 42.6**	**+2.4**
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*SG	**Sg**	**21 36 34.2**	**+3.9**

*ISCJB **27** 21:55:43.5±0.6,4169N±004×2556E±005,h10km,Error ellipse: s-maj=5.9km s-min=4.6km az=101.4*
*CSEM **27** 21:55:43.7±0.2,4179N×2557E,h2km,MD3.2,Error ellipse: s-maj=6.7km s-min=5.4km az=146.0*
*THE **27** 21:55:45.4,4169N×2564E,h14km,ML2.8*
*ATH **27** 21:55:46.8,4148N×2525E,h9km±1km,MD3.2/3*

ISC 27 21:55:44.0±0.6,4169N±004×2552E±005,h10km,n8, σ1§21/15,**1C,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.54**	**179**	⇑*i*PB	**Pg**	**21 55 54.4**	**-0.2**
RDO				*e*SB	**Sg**	**21 56 00.1**	**-1.6**
ALN	**Alexandroupoli**	**0.89**	**153**	*e*Pg	**Pg**	**21 56 01.3**	**+0.3**
ALN				*e*Sg	**Sg**	**21 56 14.5**	**+1.9**
JMB	**Yambol**	**1.11**	**45**	*e*Pg	**Pg**	**21 56 04.8**	**-0.5**
JMB				*e*Sg	**Sg**	**21 56 19.5**	**-0.2**
NVR	**Nevrokopi**	**1.29**	**255**	*e*PB	**Pb**	**21 56 06.8**	**-1.6**
NVR				*e*SB	**Sb**	**21 56 21.2**	**-3.8**
SRS	**Serrai**	**1.56**	**249**	*e*Pb	**Pb**	**21 56 12.1**	**-0.8**
SRS				*e*Sb	**Sb**	**21 56 34.1**	**+1.4**
SOH	**Sokhos**	**1.85**	**243**	*e*Pb	**Pb**	**21 56 17.5**	**-0.4**
SOH				*e*Sb	**Sb**	**21 56 42.2**	**+1.1**
VTS	**Vitosha**	**1.94**	**298**	*e*Pn	**Pn**	**21 56 19.1**	**+2.0**
PLG	**Polygyros**	**2.05**	**231**	*e*PG	**Pn**	**21 56 19.3**	**+0.8**
PLG				*e*SN	**Sn**	**21 56 42.6**	**-1.5**

*NNC **27** 22:25:22.8±0.9,4298N×7273E,h11km±7km,mb3.4, mpv2.8,Error ellipse: s-maj=36.6km s-min=2.9km az=3.0*
*KNET **27** 22:25:22.3±0.7,4293N×7288E,h29km±24km,ml1.9,Error ellipse: s-maj=7.0km s-min=3.6km az=126.0*
*ISCJB **27** 22:25:23.5±0.7,4290N±008×7280E±005,h29km,Error ellipse: s-maj=11.5km s-min=5.3km az=15.9*

ISC 27 22:25:24.0±0.7,4289N±008×7281E±005,h29km,n9, σ0§96/16,**6C-8D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.75**	**107**	⇓P	**Pb**	**22 25 36.1**	**-2.4**
	7.0nm,0.1s,SNR=36						
EKS2				⇓S	**Sb**	**22 25 47.7**	**-0.6**
	17nm,0.1s						
AML	**Almayashu**	**1.00**	**139**	⇓P	**Pn**	**22 25 41.3**	**-0.8**
	2.8nm,0.2s,SNR=8.7						
AML				⇑S	**Sn**	**22 25 55.3**	**+0.2**
	12nm,0.3s						
AAK	**Ala-Archa**	**1.27**	**101**	⇓P	**Pn**	**22 25 45.6**	**-0.1**
	12nm,0.1s,SNR=35						
AAK				⇓S	**Sn**	**22 26 03.1**	**+1.4**
	8.4nm,0.2s						
USP	**Ospenovka**	**1.29**	**72**	⇑P	**Pn**	**22 25 44.9**	**-1.3**
	4.7nm,0.1s,SNR=16						
USP				⇓S	**Sn**	**22 26 01.9**	**-0.5**
	23nm,0.2s						
UCH	**Uchtor**	**1.42**	**117**	⇑P	**Pn**	**22 25 48.5**	**+0.7**
	3.2nm,0.2s,SNR=14						
CHMS	**Chumysh**	**1.43**	**85**	⇓P	**Pn**	**22 25 47.6**	**-0.4**
	9.9nm,0.2s,SNR=12						
CHMS				⇑S	**Sn**	**22 26 06.4**	**+0.6**
	11nm,0.1s						
KBK	**Karagaybulak**	**1.59**	**98**	P	**Pn**	**22 25 51.2**	**+1.0**
	7.8nm,0.1s,SNR=21						
KK31	**Karatay Array**	**1.70**	**278**	⇑P	**Pn**	**22 25 51.4**	**-0.3**
	3.1nm,0.3s,baz=95,slow=17,SNR=136						
KK31				S	**Sn**	**22 26 12.9**	**+0.4**
	9.9nm,0.5s,baz=92,slow=30,SNR=12						
TKM2	**Tokmak 2**	**2.05**	**88**	⇑P	**Pn**	**22 25 58.0**	**+1.5**
	3.2nm,0.3s						
TKM2				⇓S	**Sn**	**22 26 25.5**	**+4.4**
	13nm,0.3s						

*CSEM **27** 22:36:36.1±1.1,3864N×2863W,h16km±9km,ML2.1,Error ellipse: s-maj=6.9km s-min=4.8km az=71.0,After PDA*
*PDA **27** 22:36:36.1±1.1,3864N×2863W,h16km±9km,MD2.7, ML2.1,Error ellipse: s-maj=6.9km s-min=4.8km az=71.0*

SVSA 27 22:36:36.1±1.1,3864N×2863W,h16km±9km,MD2.7, ML2.1,Error ellipse: s-maj=6.9km s-min=4.8km az=71.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.05**	**259**	*e*P	Pg	22 36 38.7	-0.4
PCED				*e*S	Sg	22 36 40.6	-0.6
PCED							
	145nm,0.1s						
PCED	**Cedros**	**0.05**	**259**	*e*P	Pg	22 36 38.7	-0.4
PCED				*e*S	Sg	22 36 40.6	-0.6
CALA	**Caldeira**	**0.08**	**223**	*i* P	Pg	22 36 39.4	+0.1
CALA				*e*S	Sg	22 36 41.6	+0.1
CALA	**Caldeira**	**0.08**	**223**	*e*S	Sg	22 36 41.6	+0.1
HOR	**Horta**	**0.11**	**178**	*i* P	Pg	22 36 38.9	-0.8
HOR				*e*S	Sg	22 36 41.3	-0.8
HOR	**Horta**	**0.11**	**178**	*e*S	Sg	22 36 41.3	-0.8
PICO	**Pico**	**0.21**	**130**	*e*P	Pg	22 36 40.3	-0.8
PICO				*e*S	Sg	22 36 43.6	-0.9
PCND	**Candelaria**	**0.22**	**142**	*e*S	Sg	22 36 44.0	-0.6
PCND							
	84nm,0.2s						
ROSA	**Rosais**	**0.32**	**75**	*e*P	Pg	22 36 42.1	-0.7
ROSA				*e*S	Sg	22 36 45.8	-1.6
PPNO	**Prainha do Nor**	**0.34**	**120**	*e*P	Pg	22 36 42.1	-1.0
PPNO				*e*S	Sg	22 36 46.9	-1.0
PPNO							
	110nm,0.3s						
PPNO	**Prainha do Nor**	**0.34**	**120**	*e*P	Pg	22 36 42.1	-1.0
PPNO				*e*S	Sg	22 36 46.9	-1.0
PMAN	**Manadas**	**0.43**	**91**	*e*P	Pg	22 36 43.0	-1.8
PMAN				*e*S	Sg	22 36 48.9	-1.7
PMAN							
	39nm,0.1s						
PMAN	**Manadas**	**0.43**	**91**	*e*P	Pg	22 36 43.0	-1.8
PMAN				*e*S	Sg	22 36 48.9	-1.7

*ISCJB **27** 22:48:28.6±0.4,3946N±002×2125E±002,h10km±2km, mb3.7/10,Error ellipse: s-maj=2.8km s-min=2.1km az=43.7*
*NEIC **27** 22:48:28.6,3952N×2124E,h19km,MD3.2(SOF), MD3.5(PDG),ML3.7(THE),ML3.9(ATH),After ATH.*
*ATH **27** 22:48:28.5,3951N×2127E,h15km±1km,MD3.7/11,ML3.9*
*SOF **27** 22:48:29.1,3949N×2142E,h10km,MD3.2*
*THE **27** 22:48:29.4,3944N×2125E,h6km,ML3.7*
*PDG **27** 22:48:29.2±0.7,3945N×2127E,h11km±1km*
*CSEM **27** 22:48:30.3±0.1,3956N×2129E,h15km,ML3.9,Error ellipse: s-maj=1.6km s-min=1.3km az=19.0*
*SKO **27** 22:48:31.1,3950N×2151E,h12km,M2.8,ML3.4*
*IDC **27** 22:48:33.8±1.2,3954N×2114E,h47km±17km,mb3.5/10, mb1 3.7/16,mb1mx3.6/26,mbtmp3.7/16,ML3.4/5,Error ellipse: s-maj=13.9km s-min=11.5km az=39.0*
*NAO **27** 22:49:09.5,4274N×1989E,h33km,mb3.4*

ISC 27 22:48:29.4±0.4,3946N±002×2127E±002,h6km±2km,n126, σ1§24/181,**mb3.7/10,11C-20D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.33**	**355**	*e*Pg	**Pg**	**22 48 35.7**	**-0.1**
MEV				*e*Sg	**Sg**	**22 48 41.6**	**+1.5**
JAN	**Janina**	**0.38**	**302**	⇑*i*PB	**Pg**	**22 48 35.3**	**-1.4**
JAN				*e*SB	**Sg**	**22 48 40.4**	**-1.2**
EVR	**Evrytania**	**0.69**	**142**	*e*PN	**Pg**	**22 48 42.3**	**-0.4**
IGT	**Igoumenitsa**	**0.72**	**276**	*e*Pg	**Pg**	**22 48 41.8**	**-1.5**
IGT				*e*Sg	**Sg**	**22 48 53.3**	**+0.5**
LSK	**Leskovik**	**0.86**	**324**	*e*Pg	**Pg**	**22 48 46.6**	**+0.7**
LSK				*i* Sg	**Sg**	**22 48 59.3**	**+2.2**
KZN	**Kozani**	**0.93**	**25**	*e*PN	**Pg**	**22 48 45.6**	**-1.7**
KZN				*e*SN	**Sg**	**22 48 58.5**	**-0.9**
AGG	**Agios Georgios**	**0.94**	**118**	*e*Pg	**Pg**	**22 48 47.6**	**+0.2**
AGG				*e*Sg	**Sg**	**22 49 01.3**	**+1.8**
SRN	**Sarande**	**1.06**	**294**	*e*Pg	**Pg**	**22 48 48.7**	**-1.1**
LIT	**Litokhoron**	**1.14**	**55**	*e*Pg	**Pg**	**22 48 50.5**	**-0.8**
LIT				*e*Sg	**Sg**	**22 49 08.5**	**+2.4**
LIT	**Litokhoron**	**1.14**	**55**	*e*Pg	**Pg**	**22 48 50.5**	**-0.8**
LIT				*e*Sg	**Sg**	**22 49 08.5**	**+2.4**
KEK	**Kerkira**	**1.16**	**283**	*e*PN	**Pn**	**22 48 50.5**	**-1.7**
KEK				*e*SN	**Sn**	**22 49 06.3**	**-2.1**
TPE	**Tepelena**	**1.28**	**311**	*e*Pn	**Pn**	**22 48 55.4**	**+1.6**
FNA	**Florina**	**1.32**	**4**	*e*Pg	**Pg**	**22 48 53.7**	**-1.1**
FNA				*e*Sg	**Sg**	**22 49 13.4**	**+1.4**
VLS	**Valsamata**	**1.39**	**203**	*e*PN	**Pn**	**22 48 55.1**	**-0.2**
VLS				*e*SN	**Sn**	**22 49 15.7**	**+1.7**
RLS	**Riolos of Patr**	**1.41**	**174**	*e*PN	**Pn**	**22 48 56.8**	**+1.2**
XOR	**Xorichti**	**1.50**	**93**	*e*Pg	**Pg**	**22 48 56.4**	**-1.7**
XOR				*e*Sg	**Sg**	**22 49 17.2**	**-0.3**
XOR	**Xorichti**	**1.50**	**93**	*e*Pg	**Pg**	**22 48 56.4**	**-1.7**
XOR				*e*Sg	**Sg**	**22 49 17.2**	**-0.3**
NEO	**Neokhori**	**1.52**	**95**	*e*PN	**Pn**	**22 48 57.2**	**0.0**
BIA	**Bitola**	**1.56**	**2**	*e*Pn	**Pn**	**22 48 57.6**	**0.0**
BIA				*e*Sg	**Sg**	**22 49 20.0**	**+0.5**
BIA				*e*Lg		22 49 21.4	
	comp=E,412nm,0.6s						
BIA				*e*Lg		22 49 21.4	
	comp=N,368nm,0.5s						
BIA	**Bitola**	**1.56**	**2**	*e*Pn	**Pn**	**22 48 57.6**	**-0.1**
BIA				*e*Sg	**Sg**	**22 49 19.9**	**+0.4**
LKR	**Lokris**	**1.57**	**120**	*e*PN	**Pn**	**22 48 58.5**	**+0.6**
OHR	**Ohrid**	**1.69**	**348**	*i* Pn	**Pn**	**22 49 00.0**	**+0.6**
OHR				*e*Sg	**Sg**	**22 49 24.8**	**+1.2**
OHR				*e*Lg		22 49 27.9	
	comp=E,702nm,0.5s						
OHR	**Ohrid**	**1.69**	**348**	*i* Pn	**Pn**	**22 49 00.0**	**+0.5**
OHR				*e*Sg	**Sg**	**22 49 24.8**	**+1.1**
GRG	**Griva**	**1.73**	**30**	*e*Pb	**Pb**	**22 48 59.4**	**-2.2**
GRG				*e*Sb	**Sb**	**22 49 23.9**	**+0.3**
THE	**Thessaloniki**	**1.75**	**48**	*e*Pb	**Pb**	**22 48 59.2**	**-2.8**
PLG	**Polygyros**	**1.91**	**61**	*e*PB	**Pb**	**22 49 01.4**	**-3.3**
PAIG	**Paliouri**	**1.92**	**75**	*e*Pb	**Pb**	**22 49 01.3**	**-3.6**
PAIG				*e*Sb	**Sb**	**22 49 27.4**	**-1.7**
AOS	**Alonnisos**	**2.05**	**97**	*e*Pn	**Pn**	**22 49 04.3**	**-0.1**
AOS				*e*Sn	**Sn**	**22 49 30.5**	**+0.2**
SOH	**Sokhos**	**2.10**	**49**	*e*Pn	**Pn**	**22 49 04.8**	**-0.3**
SOH				*e*Sn	**Sn**	**22 49 32.5**	**+0.9**
SOH	**Sokhos**	**2.10**	**49**	*e*Pn	**Pn**	**22 49 04.8**	**-0.3**
VAY	**Valandovo**	**2.11**	**28**	⇑*i*Pn	**Pn**	**22 49 04.3**	**-1.0**
VAY				*e*Sg	**Sg**	**22 49 33.8**	**-3.4**
VAY				*e*Lg		22 49 37.1	
	comp=E,79nm,0.5s						
VAY				*e*Lg		22 49 37.6	
	comp=N,268nm,0.7s						
TIR	**Tirane**	**2.17**	**331**	*e*Pn	**Pn**	**22 49 08.3**	**+2.2**
QSH	**Qafa e Shtames**	**2.31**	**334**	*i* Pn	**Pn**	**22 49 10.0**	**+2.0**
MPAR	**Parnis Oros**	**2.33**	**123**	*e*PN	**Pn**	**22 49 09.0**	**+0.7**
ATH	**Athens Observa**	**2.43**	**127**	*e*PN	**Pn**	**22 49 10.5**	**+0.9**
SRS	**Serrai**	**2.43**	**46**	*e*Pn	**Pn**	**22 49 08.5**	**-1.2**
SRS				*e*Sn	**Sn**	**22 49 39.8**	**+0.1**
NAIG	**Nisos Aigina**	**2.43**	**134**	*e*PB	**Pn**	**22 49 10.0**	**+0.3**
PTL	**Penteli**	**2.47**	**124**	*e*PB	**Pn**	**22 49 11.0**	**+0.7**
SKO	**Skopje**	**2.51**	**3**	*e*Pn	**Pn**	**22 49 11.1**	**+0.3**
SKO				*e*Sn	**Sn**	**22 49 41.4**	**-0.4**
SKO				*e*Lg		22 49 41.7	
	comp=E,125nm,0.6s						
SKO				*e*Lg		22 49 42.4	
	comp=N,102nm,0.4s						
SKO	**Skopje**	**2.51**	**3**	*e*Pn	**Pn**	**22 49 11.0**	**+0.2**
SKO				*e*Sn	**Sn**	**22 49 41.3**	**-0.5**
KVR	**Kavouri**	**2.55**	**129**	*e*PN	**Pn**	**22 49 12.0**	**+0.7**
LCI	**Lecce**	**2.58**	**291**	*e*Pn	**Pn**	**22 49 11.3**	**-0.4**
NVR	**Nevrokopi**	**2.74**	**46**	*e*Pn	**Pn**	**22 49 13.6**	**-0.3**
KKB	**Krupnik**	**2.77**	**29**	*i* P	**Pn**	**22 49 14.0**	**-0.4**
KKB				S	**Sn**	**22 49 48.0**	**-0.2**
PUK	**Puka**	**2.78**	**338**	*i* Pn	**Pn**	**22 49 16.9**	**+2.4**
MMB	**Musomiste**	**2.84**	**41**	*i* P	**Pn**	**22 49 14.5**	**-0.8**
MMB				S	**Sn**	**22 49 48.0**	**-1.7**
ULC	**Ulcinj**	**2.93**	**329**	⇓*i*Pn	**Pn**	**22 49 17.4**	**+0.8**
ULC				*e*Sn	**Sn**	**22 49 53.5**	**+1.4**
LOS	**Limnos**	**2.98**	**80**	*e*Pn	**Pn**	**22 49 16.5**	**-0.8**
VLI	**Veliai**	**3.04**	**154**	*e*PN	**Pn**	**22 49 19.3**	**+1.2**
LIA	**Limnos Island**	**3.05**	**81**	*e*PN	**Pn**	**22 49 18.6**	**+0.3**
PE1	**Pezze di Greco**	**3.24**	**296**	*e*Pn	**Pn**	**22 49 19.4**	**-1.4**
PVY	**Plav**	**3.28**	**343**	⇑*i*Pn	**Pn**	**22 49 22.9**	**+1.5**
PVY				*e*Sn	**Sn**	**22 50 02.4**	**+1.7**
TTG	**Podgorica**	**3.33**	**334**	⇓*i*Pn	**Pn**	**22 49 23.5**	**+1.4**
TTG				*e*Sn	**Sn**	**22 50 03.0**	**+1.0**
BUM	**Brajici-Budva**	**3.36**	**328**	⇓*i*Pn	**Pn**	**22 49 23.1**	**+0.7**
BUM				*e*Sn	**Sn**	**22 50 03.7**	**+1.1**
BRT	**Bari-Castellan**	**3.42**	**296**	Pn	**Pn**	**22 49 23.0**	**-0.3**
RZN	**Rozhen**	**3.44**	**49**	P	**Pn**	**22 49 23.5**	**-0.1**
RZN				S	**Sn**	**22 50 04.5**	**-0.2**
VTS	**Vitosha**	**3.46**	**25**	*e*Pn	**Pn**	**22 49 24.4**	**+0.6**
VTS	**Vitosha**	**3.46**	**25**	P	**Pn**	**22 49 24.0**	**+0.2**
VTS	**Vitosha**	**3.46**	**25**	*e*Pn	**Pn**	**22 49 24.4**	**+0.6**
TIP	**Timpagrande**	**3.51**	**267**	*e*Pn	**Pn**	**22 49 23.9**	**-0.6**
TIP				*e*Sn	**Sn**	**22 50 03.2**	**-3.1**
TIP	**Timpagrande**	**3.51**	**267**	*e*Pn	**Pn**	**22 49 23.9**	**-0.6**
TIP				*e*Sn	**Sn**	**22 50 03.2**	**-3.1**
IVA	**Berane**	**3.56**	**344**	⇓*i*Pn	**Pn**	**22 49 26.4**	**+1.2**
IVA				*e*Sn	**Sn**	**22 50 09.1**	**+1.5**
HCY	**Herceg Novi**	**3.65**	**326**	⇓*i*Pn	**Pn**	**22 49 26.6**	**+0.2**
HCY				*e*Sn	**Sn**	**22 50 10.9**	**+1.1**
RDO	**Rodhopi**	**3.67**	**61**	*e*PN	**Pn**	**22 49 27.0**	**+0.2**
BAI	**Bari**	**3.74**	**298**	*e*Pn	**Pn**	**22 49 26.8**	**-0.8**
NKY	**Niksic**	**3.76**	**334**	⇓*i*Pn	**Pn**	**22 49 29.3**	**+1.3**
NKY				*e*Sn	**Sn**	**22 50 13.7**	**+1.2**
ORI	**Oriolo Calabro**	**3.76**	**281**	Pn	**Pn**	**22 49 27.6**	**-0.4**
SG1	**Sgolgore (BA)**	**3.77**	**293**	*e*Pn	**Pn**	**22 49 27.3**	**-0.9**
GRI	**Girifalco**	**3.82**	**262**	Pn	**Pn**	**22 49 28.3**	**-0.5**
KDZ	**Kurdzhali**	**3.84**	**54**	P	**Pn**	**22 49 28.0**	**-1.1**
KDZ				*e*S	**Sn**	**22 50 11.0**	**-3.6**
ALN	**Alexandroupoli**	**3.93**	**67**	*e*Pn	**Pn**	**22 49 29.7**	**-0.7**
ALN				*e*Sn	**Sn**	**22 50 17.7**	**+0.9**
BRY	**Bratogost**	**4.00**	**330**	⇓*i*Pn	**Pn**	**22 49 32.3**	**+1.0**
BRY				*e*Sn	**Sn**	**22 50 19.6**	**+1.0**
PLE	**Pljevlja**	**4.11**	**341**	⇓*i*Pn	**Pn**	**22 49 34.4**	**+1.6**
PLE				*e*Sn	**Sn**	**22 50 22.3**	**+1.0**
APE	**Apeiranthos**	**4.12**	**124**	⇓P	**Pn**	**22 49 34.2**	**+1.3**
APE	**Apeiranthos**	**4.12**	**124**	⇓P	**Pn**	**22 49 34.2**	**+1.3**
UPM	**Unac-Piva**	**4.14**	**335**	⇓*i*Pn	**Pn**	**22 49 34.5**	**+1.4**
UPM				*e*Sn	**Sn**	**22 50 22.9**	**+1.1**
STON	**Ston**	**4.34**	**323**	*i* Pn	**Pn**	**22 49 35.1**	**-0.9**
STON				*i* Sn	**Sn**	**22 50 23.3**	**-3.6**
GRUS	**Gruza**	**4.44**	**355**	*e*Pn	**Pn**	**22 49 37.9**	**+0.5**
GRUS	**Gruza**	**4.44**	**355**	Pn	**Pn**	**22 49 37.8**	**+0.4**
MGR	**Morigerati**	**4.45**	**281**	Pn	**Pn**	**22 49 39.3**	**+1.8**
FGMS	**Monte Sant'Ang**	**4.63**	**301**	Pn	**Pn**	**22 49 38.9**	**-1.0**
MS1	**Monte Sant'Ang**	**4.63**	**301**	*e*Pn	**Pn**	**22 49 39.3**	**-0.7**
DIVS	**Divcibare**	**4.73**	**349**	*i* Pn	**Pn**	**22 49 42.9**	**+1.5**
FG5	**Orsara di Pugl**	**4.93**	**294**	Pn	**Pn**	**22 49 44.8**	**+0.8**
JMB	**Yambol**	**5.02**	**52**	*e*Pn	**Pn**	**22 49 45.5**	**+0.2**
JMB				*e*Sn	**Sn**	**22 50 41.6**	**-2.1**
IDI	**Anoyia**	**5.07**	**144**	P	**Pn**	**22 49 49.0**	**+3.0**
	comp=N,0.5nm,0.3s,baz=294,slow=12,SNR=8.4						
IDI				S	**Sn**	**22 50 48.3**	**+3.6**
	comp=N,0.7nm,0.3s,baz=288,slow=21,SNR=3.4						
VAE	**Valguarnera**	**5.73**	**252**	P	**Pn**	**22 49 56.4**	**+1.4**
	comp=N,0.6nm,0.3s,baz=54,slow=20,SNR=2.4						
VAE				S	**Sn**	**22 51 00.7**	**-0.4**
	comp=N,1.4nm,0.3s,baz=106,slow=11,SNR=2.9						
CII	**Carovilli**	**5.76**	**295**	Pn	**Pn**	**

KSH Smax
comp=N,90nm,0.6s
KSH Smax
comp=E,90nm,0.6s
THN Thein Dam 6.31 125 *e*P **Pn 23 07 43.0 +1.2**
THN *e*S **Sn 23 08 53.0 +0.4**
DLH Dalhousie 6.41 123 *e*S **Sn 23 08 56.0 +0.9**
AML Almayashu 6.74 27 P **Pn 23 07 47.9 +0.2**
SNR=57
PONG Pong 6.76 127 *e*S **Sn 23 09 04.0 +0.4**
KK31 Karatay Array 6.94 6 P **Pn 23 07 49.8 -0.6**
comp=E,7.3nm,0.3s,baz=195,slow=15,SNR=651
KK31 ⇑S **Sn 23 09 03.0 -5.0**
comp=E,14nm,0.5s,baz=197,slow=27,SNR=9.4
UCH Uchtor 7.14 31 P **Pn 23 07 53.6 +0.5**
SNR=45
EKS2 Erkin-Say 7.23 25 P **Pn 23 07 54.5 +0.2**
SNR=10
KZA Kyzart 7.35 35 P **Pn 23 07 56.2 +0.4**
SNR=16
AAK Ala-Archa 7.47 29 P **Pn 23 07 58.0 +0.5**
SNR=28
AAK Ala-Archa 7.47 29 *e*PN **Pn 23 07 56.7 -0.9**
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 7.47 29 *e*Pn **Pn 23 07 56.7 -0.8**
comp=Z,11nm,0.6s
AAK *e*Sn **Sn 23 09 20.0 -0.8**
KBK Karagaybulak 7.68 31 P **Pn 23 08 01.3 +1.0**
SNR=16
SDNR Sundarnagar 7.72 125 *ex* x 23 08 01.5
SDNR *e*S **Sn 23 09 24.1 -2.6**
CHMS Chumysh 7.88 29 P **Pn 23 08 03.1 0.0**
SNR=19
ULHL Ulahol 7.95 38 P **Pn 23 08 04.2 +0.2**
SNR=6.0
USP Ospenovka 8.02 27 P **Pn 23 08 04.3 -0.6**
SNR=14
SMLA Simla 8.09 126 *ex* x 23 08 06.0
SMLA *e*S **Sn 23 09 32.6 -3.0**
TKM2 Tokmak 2 8.17 33 P **Pn 23 08 07.3 +0.4**
SNR=11
TKM2 Tokmak 2 8.17 33 ⇑P **Pn 23 08 07.2 +0.3**
comp=Z,7.6nm,0.6s
TKM2 ⇑S **Sn 23 09 36.3 -1.3**
comp=Z,9.5nm,1.1s
NDI New Delhi 9.88 137 *ex* x 23 08 18.0
NDI *e*S **Sn 23 10 11.0 -7.8**
MK31 Makanchi Array 14.23 38 ⇑P **Pn 23 09 27.0 +0.5**
comp=Z,1.9nm,0.7s,baz=217,slow=6.7,SNR=34
MKAR Makanchi Array 14.23 38 P **Pn 23 09 25.2 -1.4**
comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=22
MKAR Makanchi Array 14.23 38 *i*P **Pn 23 09 27.2 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 14.23 38 P **Pn 23 09 25.2 -1.4**
KOLN Koldanda 14.55 121 *e*P **Pn 23 09 28.9 -1.7**
comp=Z,14nm,0.5s
AB31 Akbulak array 14.84 335 P **Pn 23 09 33.4 -0.9**
comp=Z,1.0nm,0.4s,baz=164,slow=11,SNR=25
AB31 ⇑S **Sn 23 12 06.3 -12**
comp=Z,2.2nm,0.4s,baz=169,slow=22,SNR=8.1
GKN Gorkha 15.13 118 *e*P **Pn 23 09 37.0 -1.0**
comp=Z,37nm,0.7s
GKN *e*S **S 23 12 14.5 -18**
DMN Daman 15.70 119 *e*P **Pn 23 09 45.4 +0.4**
KKN Kakani 15.72 118 *e*P **Pn 23 09 45.5 +0.3**
comp=Z,35nm,0.8s
KKN *e*S **S 23 12 27.1 -18**
KKN Kakani 15.72 118 *e*P **Pn 23 09 45.5 +0.3**
KKN *e*S **S 23 12 27.1 -18**
KKN pmax pmax
comp=Z,18nm,0.8s
KURK Kurchatov 15.91 21 ⇑P **Pn 23 09 49.3 +1.7**
comp=Z,2.9nm,0.7s
KURK Kurchatov 15.91 21 *e*P **Pn 23 09 49.4 +1.8**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 15.91 21 *e*Pn **Pn 23 09 49.4 +1.7**
comp=Z,7.0nm,0.8s
PKI Pulchoki 15.94 118 *e*P **Pn 23 09 47.8 -0.1**
comp=Z,7.2nm,0.3s
PKI Pulchoki 15.94 118 *e*P **Pn 23 09 47.8 -0.1**
PKI pmax pmax
comp=Z,4.0nm,0.3s
GUN Gumba 16.08 116 *e*P **Pn 23 09 50.4 +0.7**
comp=Z,25nm,0.6s
JIRN Jiri 16.45 116 *e*P **Pn 23 09 55.1 +0.9**
comp=Z,24nm,0.4s
JIRN *e*S **S 23 12 45.6 -12**
AKTK Aktyubinsk 16.51 333 P **Pn 23 09 55.3 +0.3**
AKTK S **S 23 12 47.7 -11**
AKTO Aktyubinsk 16.51 333 ⇑P **Pn 23 09 55.3 +0.3**
comp=Z,1.2nm,1.4s
AKTO ⇑S **S 23 12 47.3 -12**
comp=Z,0.8nm,0.8s
AKTO Aktyubinsk 16.51 333 P **Pn 23 09 55.3 +0.3**
comp=Z,0.8nm,0.3s,baz=127,slow=6.6,SNR=14
AKTO S **S 23 12 47.7 -11**
comp=Z,0.5nm,0.3s,baz=359,slow=23,SNR=11
AKTO Aktyubinsk 16.51 333 P **Pn 23 09 55.3 +0.4**
AKTO S **S 23 12 47.7 -11**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
VOSK Vostochnaya 16.56 3 ⇑P **Pn 23 09 53.8 -1.8**
comp=Z,3.3nm,0.9s
ZRNK Zerenda 16.77 359 ⇑P **Pn 23 09 56.9 -1.1**
comp=Z,2.4nm,0.7s
ZRNK ⇑S **S 23 12 52.1 -13**
comp=Z,2.4nm,0.6s
ZRNK Zerenda 16.77 359 *e*P **Pn 23 09 57.1 -0.9**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s
ZRNK Zerenda 16.77 359 *e*Pn **Pn 23 09 57.1 -0.9**
comp=Z,3.6nm,0.6s
BVAR Borovoye Array 16.84 2 P **Pn 23 09 57.6 -1.4**
comp=Z,1.8nm,0.3s,baz=164,slow=9.9,SNR=46
BRVK Borovoye 16.88 1 *e*P **Pn 23 09 58.5 -0.9**
BRVK *e* 23 13 03.1
BRVK pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 16.88 1 *e*Pn **Pn 23 09 58.5 -0.9**
comp=Z,2.3nm,0.4s
BRVK *e*Sn **Sn 23 13 03.1 -4.4**
LSA Lhasa 19.20 104 P **P 23 10 31.8 +7.1**
LSA pmax pmax
comp=Z,2.0nm,0.7s
LSA Lhasa 19.20 104 P **P 23 10 31.8 +7.1**
comp=Z,2.5nm,0.7s
GNI Garni 19.91 289 P **P 23 10 35.9 +3.6**
comp=Z,0.6nm,0.3s,baz=60,slow=2.4,SNR=7.6
ZAL Zalesovo 20.67 26 P **P 23 10 41.9 +1.4**
comp=Z,12nm,0.5s,baz=251,slow=7.9,SNR=50
NVS Novosibirsk 20.89 23 *e*P **P 23 10 43.0 +0.1**
NVS *e*S **S 23 14 27.6 -0.7**
NVS pmax pmax
comp=Z,12nm,1.1s
NVS pmax pmax
comp=N,13nm,1.3s
NVS smax
comp=N,94nm,3.3s
ARU Arti 21.58 343 *e*P **P 23 10 53.2 +3.1**
ARU *e* 23 11 16.2
ARU *e*S **S 23 14 44.5 +3.1**
BRTR Keskin Array B 28.44 288 P **P 23 11 53.2 -0.1**
comp=N,0.1nm,0.3s,mb3.0,baz=0.0,slow=12,SNR=3.0
SONM Songino Array 29.45 55 P **P 23 12 03.8 +1.5**
comp=N,0.2nm,0.5s,mb3.1,baz=265,slow=8.9,SNR=3.6
AKASG Malin Array Be 32.26 310 P **P 23 12 27.4 +0.4**
comp=N,0.2nm,0.3s,mb3.4,baz=86,slow=6.8,SNR=5.5
FINES FINESS Array B 37.11 327 P **P 23 13 09.4 +0.7**
comp=N,1.5nm,0.7s,mb3.7,baz=114,slow=4.8,SNR=5.2
ARCES ARCESS Array B 41.00 338 P **P 23 13 41.6 +0.6**
comp=N,6.5nm,1.1s,mb4.2,baz=115,slow=8.2,SNR=5.1
NOA NORSAR Array B 43.94 323 P **P 23 14 04.6 -0.2**
comp=N,1.0nm,0.7s,mb3.5,baz=98,slow=8.0,SNR=3.5
TORD Torodi Ar. Bea 64.56 268 P **P 23 16 32.7 -1.3**
comp=N,0.6nm,0.6s,mb3.6,baz=48,slow=6.1,SNR=9.4
YKA Yellowknife Ar 81.60 2 P **P 23 18 14.8 +0.6**
comp=N,0.1nm,0.5s,mb2.7,baz=354,slow=5.6,SNR=3.4
WRAB Tennant Creek 82.81 121 P **P 23 18 19.2 -1.3**
WRAB pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
WRAB Tennant Creek 82.81 121 P **P 23 18 19.2 -1.3**
comp=Z,3.0nm,0.8s,mb4.1
ASAR Alice Springs 85.02 124 P **P 23 18 31.0 -0.7**
comp=Z,0.3nm,0.4s,mb3.3,baz=320,slow=5.0,SNR=4.3

RSPR 27 23:06:41.4,1745N×6830W,h118km±8km**,MD3.6/3, MD3.6/3,1C-2D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.26**	**64**	*e*S	Sn	23 07 24.4	-0.2
CRPR	**Cabo Rojo, PR**	**1.26**	**64**	⇓*e*P	Pn	23 07 06.0	0.0
AOPR	**Arecibo Observ**	**1.72**	**59**	⇓*e*P	Pn	23 07 10.2	-1.1
AOPR	**Arecibo Observ**	**1.72**	**59**	*e*S	Sn	23 07 34.6	+0.4
MTP	**Monte Pirata**	**2.69**	**76**	⇑*e*P	Pn	23 07 24.0	+0.5
MTP	**Monte Pirata**	**2.69**	**76**	*e*S	Sn	23 07 56.2	+0.3

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*IDC **27** 23:11:20.8±1.8,2892N×13079E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.4/20,mbtmp3.5/5,ML3.3/2,Error ellipse: s-maj=47.6km s-min=22.4km az=128.0*
*ISCJB **27** 23:11:24.8±1.0,2892N±005×13082E±0.10,h42km±12km, mb3.2/3,Error ellipse: s-maj=15.5km s-min=4.6km az=51.2*
*JMA **27** 23:11:25.1±0.1,2893N×13076E,h67km,M3.4*
ISC 27 23:11:25.5±2.3,2892N±005×**13079E**±009,**h32**km±20km, **n15**,σ0**s47**/23,**mb3.2**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.94**	**231**	P	**Pn**	**23 11 42.9**	**+0.5**
JAM	**Amami Oshima**	**1.16**	**245**	P	**Pn**	**23 11 45.0**	**-0.5**
JAM				*e*S	**Sn**	**23 11 59.9**	**-0.3**
JNN	**Nakanoshima**	**1.22**	**319**	P	**Pn**	**23 11 46.2**	**-0.1**
JNN				*e*S	**Sn**	**23 12 02.1**	**+0.3**
JKC	**Kuchinoerabu**	**1.63**	**341**	*e*S	**Sn**	**23 12 11.3**	**-0.4**
JTN	**Tanegashima 3**	**1.74**	**5**	P	**Pn**	**23 11 53.2**	**-0.3**
JTN				S	**Sn**	**23 12 14.5**	**0.0**
JTK	**Tokunoshima**	**1.98**	**236**	P	**Pn**	**23 11 57.0**	**+0.3**
JTK				S	**Sn**	**23 12 21.6**	**+1.2**
JTSR	**Tashiro 2**	**2.25**	**3**	*e*S	**Sn**	**23 12 26.9**	**-0.1**
JNAR	**Kushima--Naru**	**2.63**	**9**	P	**Pn**	**23 12 06.4**	**+0.6**
JNAR				*e*S	**Sn**	**23 12 37.1**	**+0.5**
JTZ	**Takazaki**	**2.99**	**5**	P	**Pn**	**23 12 11.2**	**+0.6**
JTZ				*e*S	**Sn**	**23 12 45.0**	**-0.3**
JOW	**Kunigami**	**3.05**	**228**	P	**Pn**	**23 12 10.9**	**-0.5**
JOW	**Kunigami**	**3.05**	**228**	Pn	**Pn**	**23 12 10.7**	**-0.8**
	13nm,0.3s,baz=108,slow=22,SNR=25						
JOW				Sn	**Sn**	**23 12 46.3**	**-0.5**
	6.0nm,0.3s,baz=183,slow=28,SNR=8.6						
JNU	**Nakatsue**	**4.19**	**1**	Pn	**Pn**	**23 12 26.8**	**-0.4**
	1.0nm,0.3s,baz=265,slow=16,SNR=3.3						
JNU				Sn	**Sn**	**23 13 15.1**	**0.0**
	2.2nm,0.3s,baz=198,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**41.53**	**309**	P	**P**	**23 19 09.7**	**-0.1**
	0.2nm,0.8s,mb2.8,baz=96,slow=7.7,SNR=2.4						
ILAR	**Eielson Array**	**61.00**	**29**	P	**P**	**23 21 35.2**	**-0.5**
	0.2nm,0.7s,mb3.4,baz=269,slow=6.4,SNR=4.4						
YKA	**Yellowknife Ar**	**75.13**	**26**	P	**P**	**23 23 04.8**	**+0.4**
	0.6nm,0.8s,mb3.5,baz=301,slow=5.5,SNR=6.2						

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*LDG **27** 23:22:17.5±0.1,4304N×033W,h2km,Md1.8/2,Ml1.5/2, Error ellipse: s-maj=2.7km s-min=1.5km az=166.0*
*STR **27** 23:22:17.5±0.1,4305N×037W,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 27 23:22:17.9±0.3,**4305N**×**033W**,**h0**km,**mbLg0.9**/5,**Error ellipse: s-maj=3.7km s-min=1.6km az=20.0,PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**290**	Pg	Pg	23 22 18.7	-0.1
REYF				Sg	Sg	23 22 19.7	+0.3
REYF	**Montagne du Re**	**0.05**	**290**	Pg	Pg	23 22 18.8	0.0
REYF				Lg		23 22 19.7	
ETSF	**Etsaut**	**0.23**	**228**	*e*Pg	Pg	23 22 21.9	-0.3
ETSF				*e*Sg	Sg	23 22 25.0	-0.2
	32nm,0.4s						
ETSF	**Etsaut**	**0.23**	**228**	Pg	Pg	23 22 21.9	-0.3
ETSF				Lg		23 22 25.0	
	16nm,0.4s						
ATE	**Arette**	**0.27**	**277**	Pg	Pg	23 22 22.6	-0.5
ATE				Sg	Sg	23 22 26.3	-0.3
ATE	**Arette**	**0.27**	**277**	Pg	Pg	23 22 22.4	-0.7
ATE				Lg		23 22 26.3	
EPF	**Esparros**	**0.49**	**92**	*e*Pg	Pg	23 22 26.9	-0.4
EPF				*e*Sg	Sg	23 22 33.4	-0.2
	4.3nm,0.2s						
EPF	**Esparros**	**0.49**	**92**	Pg	Pg	23 22 26.9	-0.4
EPF				Lg		23 22 33.4	
	2.2nm,0.2s						
EBIE	**Bielsa**	**0.51**	**136**	Pg	Pg	23 22 27.2	-0.3
	0.8nm,0.1s,SNR=9.5						
EBIE				Lg		23 22 34.1	
	1.0nm,0.1s,SNR=15						
SJPF	**Ste Jean**	**0.66**	**276**	*e*Pg	Pg	23 22 30.5	0.0
SJPF				*e*Sg	Sg	23 22 38.8	-0.2
	1.6nm,0.2s						
SJPF	**Ste Jean**	**0.66**	**276**	Pg	Pg	23 22 30.5	0.0
SJPF				Lg		23 22 38.8	
	0.8nm,0.2s						
EALK	**Alkurruntz**	**0.88**	**281**	Pg	Pg	23 22 34.6	-0.1
	0.1nm,0.1s,SNR=4.0						
EALK				Lg		23 22 45.9	
	1.5nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.89**	**278**	Pg	Pg	23 22 34.5	-0.3
	0.2nm,0.1s,SNR=4.0						
ELIZ				Lg		23 22 46.4	
	1.4nm,0.2s,SNR=4.0						
EGRA	**Graus**	**0.98**	**151**	Pg	Pg	23 22 36.7	+0.1
	1.1nm,0.3s,SNR=4.0						
EGRA				Lg		23 22 49.0	
	0.7nm,0.2s,SNR=4.0						
LFF	**La Frestale**	**2.04**	**22**	*e*Sg	Sg	23 23 22.1	-1.2
	1.1nm,0.3s						
LFF	**La Frestale**	**2.04**	**22**	Lg		23 23 22.1	
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.61**	**30**	*e*Sg	Sg	23 23 39.8	-2.0
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**30**	Lg		23 23 39.8	
	0.2nm,0.2s						

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*CSEM **27** 23:51:41.3±1.0,3866N×2860W,h7km±7km,ML2.1,Error ellipse: s-maj=5.8km s-min=3.0km az=53.0,After PDA*
*PDA **27** 23:51:41.3±1.0,3866N×2860W,h7km±7km,MD2.6,ML2.1, Error ellipse: s-maj=5.8km s-min=3.0km az=53.0*
SVSA 27 23:51:41.3±1.0,**3866N**×**2860W**,**h7**km±7km,**MD2.6**,**ML2.1**, **Error ellipse: s-maj=5.8km s-min=3.0km az=53.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.09**	**251**	*i*P	Pg	23 51 43.2	-0.2
PCED				*e*S	Sg	23 51 45.3	+0.4
PCED							
	156nm,0.1s						
PCED	**Cedros**	**0.09**	**251**	*i*P	Pg	23 51 43.2	-0.2
PCED				*e*S	Sg	23 51 45.3	+0.4
CALA	**Caldeira**	**0.11**	**228**	*i*P	Pg	23 51 43.9	+0.1
CALA				*e*S	Sg	23 51 45.7	+0.2
CALA	**Caldeira**	**0.11**	**228**	*e*S	Sg	23 51 45.7	+0.2
HOR	**Horta**	**0.13**	**192**	*e*P	Pg	23 51 43.5	-0.7
HOR				*e*S	Sg	23 51 45.9	-0.2
PICO	**Pico**	**0.21**	**140**	*i*P	Pg	23 51 44.9	-0.5
PICO				*e*S	Sg	23 51 48.3	+0.1
PICO	**Pico**	**0.21**	**140**	*e*S	Sg	23 51 48.3	+0.1
PCND	**Candelaria**	**0.21**	**151**	*e*P	Pg	23 51 45.6	0.0
PCND				*e*S	Sg	23 51 48.8	+0.3
PCND							
	126nm,0.2s						
ROSA	**Rosais**	**0.28**	**77**	*e*P	Pg	23 51 46.2	-0.7
ROSA				*e*S	Sg	23 51 50.4	-0.3
PPNO	**Prainha do Nor**	**0.32**	**126**	*e*S	Sg	23 51 51.4	-0.4
PMAN	**Manadas**	**0.40**	**93**	*e*S	Sg	23 51 53.5	-0.7
PMAN							
	66nm,0.2s						

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*ATH **28** 00:00:25.8,3799N×2630E,h38km±7km,MD3.0/3*
*ISCJB **28** 00:00:26.6±1.0,3814N±004×2660E±005,h4km±7km, Error ellipse: s-maj=7.5km s-min=5.5km az=117.6*
*CSEM **28** 00:00:26.6±0.2,3818N×2663E,h8km,MD2.9,Error ellipse: s-maj=4.2km s-min=3.1km az=113.0*
*ISK **28** 00:00:27.0,3821N×2664E,h15km,MD2.9*
ISC 28 00:00:27.5±0.7,**3818N**±003×**2662E**±005,**h9**km±4km,**n16**, σ0**s65**/26,**1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**354**	*i*P	**Pg**	**00 00 31.2**	**-0.2**
URLA				*i*S	**Sg**	**00 00 34.5**	**+0.4**
URLA	**Izmir**	**0.18**	**354**	*i*P	**Pg**	**00 00 31.2**	**-0.2**
BLCB	**Balcova**	**0.39**	**58**	PG	**Pg**	**00 00 34.7**	**-0.5**
BLCB				SG	**Sg**	**00 00 40.0**	**-0.4**
SMG	**Samos**	**0.50**	**160**	⇑*i*PN	**Pg**	**00 00 37.2**	**0.0**
SMG				*e*SN	**Sg**	**00 00 45.3**	**+1.6**
IZM	**Izmir**	**0.55**	**66**	PG	**Pg**	**00 00 38.1**	**-0.1**
IZM				SG	**Sg**	**00 00 45.9**	**+0.4**
KDAG	**Bornova**	**0.56**	**66**	*i*P	**Pg**	**00 00 38.1**	**-0.2**
KDAG				*i*S	**Sg**	**00 00 45.6**	**-0.1**
PRK	**Paraskevi**	**1.10**	**346**	*e*PB	**Pb**	**00 00 48.2**	**-0.5**
PRK				*e*SN	**Sn**	**00 01 05.2**	**+0.8**
AYDN	**Tasoluk**	**1.12**	**117**	*i*P	**Pb**	**00 00 49.1**	**+0.1**
AYDN				*i*S	**Sg**	**00 01 03.2**	**-0.4**
AKS	**Akhisar**	**1.17**	**53**	PN	**Pn**	**00 00 49.1**	**-0.9**
BODT	**Bodrum**	**1.24**	**154**	*e*PN	**Pn**	**00 00 51.2**	**+0.3**
MLSB	**Milas**	**1.27**	**133**	*e*PN	**Pn**	**00 00 51.6**	**+0.2**
BDRM	**Kayabasi**	**1.29**	**149**	*i*P	**Pn**	**00 00 50.9**	**-0.7**
BDRM				*i*S	**Sb**	**00 01 07.8**	**-0.6**
APE	**Apeiranthos**	**1.40**	**218**	*e*PN	**Pn**	**00 00 46.7**	**-6.5**
APE				*e*SN	**Sn**	**00 01 01.5**	**-10**
APE	**Apeiranthos**	**1.40**	**218**	*e*Pn	**Pn**	**00 00 52.4**	**-0.8**
MANT	**Manisa**	**1.56**	**78**	*i*P	**Pn**	**00 00 56.6**	**+1.3**
MANT				*i*S	**Sn**	**00 01 16.4**	**+0.8**
YER	**Yerkesik**	**1.68**	**128**	*e*PN	**Pn**	**00 00 56.2**	**-0.8**

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*IDC **28** 00:27:04.5±2.1,1860S×17579W,h176km±26km,mb4.3/6, mb1 4.3/7,mb1mx3.9/17,mbtmp4.8/7,Error ellipse: s-maj=29.9km s-min=16.1km az=118.0*
*ISCJB **28** 00:27:05.7±2.4,186S±02×1756W±02,h213km±43km, mb4.4/6,Error ellipse: s-maj=33.9km s-min=25.6km az=175.0*
*NEIC **28** 00:27:06.7±1.6,1865S×17565W,h196km±18km,mb4.6/2, Error ellipse: s-maj=24.7km s-min=14.6km az=128.0*
ISC 28 00:27:05.7±1.9,**186S**±01×**1757W**±02,**h186**km±33km,**n16**, σ1**s24**/15,**mb4.6/6**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.98**	**39**	P	**Pn**	**00 28 34.2**	**+1.8**
	18nm,0.3s,baz=179,slow=23,SNR=15						
AFI				S	**Sn**	**00 29 39.6**	**-1.2**
	23nm,0.3s,baz=107,slow=21,SNR=6.7						
AFI	**Afiamalu**	**5.98**	**39**	P	**Pn**	**00 28 34.2**	**+1.8**
AFI				S	**Sn**	**00 29 39.6**	**-1.2**
DZM	**Mont Dzumac**	**17.14**	**255**	P	**Pn**	**00 30 53.9**	**-0.3**
	0.4nm,0.3s,baz=121,slow=20,SNR=4.9						
URZ	**Urewera**	**20.57**	**196**	P	**P**	**00 31 28.6**	**-1.3**
	11nm,0.4s,baz=46,slow=4.3,SNR=18						
RPZ	**Rata Peaks**	**27.41**	**201**	P	**P**	**00 32 34.7**	**+0.8**
	16nm,0.7s,mb4.8,baz=7.6,slow=15,SNR=10						
ARMA	**Armidale**	**31.89**	**242**	*e*P	**P**	**00 33 14.8**	**+1.4**
CTAO	**Charters Tower**	**35.92**	**261**	*e*P	**P**	**00 33 48.0**	**0.0**
	12nm,0.6s,mb4.7						
CTAO				*e*		00 33 57.4	
PMG	**Port Moresby**	**37.16**	**279**	P	**P**	**00 33 59.0**	**+0.5**
	5.5nm,0.5s,mb4.4,baz=81,slow=3.9,SNR=4.2						
PMG	**Port Moresby**	**37.16**	**279**	*e*P	**P**	**00 34 00.1**	**+1.5**
	12nm,0.8s,mb4.6						
TAU	**Tasmania Unive**	**39.51**	**224**	*e*P	**P**	**00 34 19.6**	**+1.4**
STKA	**Stephens Creek**	**40.61**	**243**	P	**P**	**00 34 24.6**	**-2.5**
	2.1nm,0.4s,mb4.1,baz=76,slow=10,SNR=10						
WRA	**Warramunga Arr**	**47.08**	**260**	P	**P**	**00 35 17.7**	**-1.0**
	8.6nm,0.5s,mb4.7,baz=98,slow=6.0,SNR=145						
ASAR	**Alice Springs**	**47.13**	**255**	P	**P**	**00 35 18.2**	**-0.8**
	17nm,0.6s,mb4.8,baz=91,slow=8.4,SNR=155						
ASAR				PcP	PcP	00 36 46.9	-0.8
	1.1nm,0.6s,baz=103,slow=4.5,SNR=4.9						
BR131	**Keskin Array S**	**147.12**	**316**	*e*PKPdf	PKPdf	00 46 25.9	+1.7
BRTR	**Keskin Array B**	**147.12**	**316**	PKPbc	PKPbc	00 46 26.1	-0.5
	0.9nm,0.6s,baz=128,slow=3.8,SNR=7.6						
GERES	**GERESS Array B**	**148.91**	**348**	PKPbc	PKPbc	00 46 31.2	-0.1
	0.6nm,0.7s,baz=13,slow=1.8,SNR=6.1						

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*NAO **28** 00:32:34.8,2459S×17556W,h33km,mb4.1*
*ISCJB **28** 00:32:35.9±0.2,2285S±005×17572W±005,h11km, mb5.2/65,MS4.6/23,Error ellipse: s-maj=7.7km s-min=5.0km az=89.5*
*IDC **28** 00:32:35.1±0.4,2270S×17576W,h0km,mb4.9/18, mb1 5.1/21,mb1mx5.1/23,mbtmp5.0/21,ML4.8/3,MS4.3/17, Ms1 4.3/17,ms1mx4.2/24,Error ellipse: s-maj=17.2km s-min=13.3km az=139.0*
*MOS **28** 00:32:36.8±2.6,2273S×17579W,h10km,mb5.5/20,Error ellipse: s-maj=11.9km s-min=8.2km az=60.4*
*BJI **28** 00:32:36.3,2238S×17557W,h12km,mB5.6,mb5.2,Ms5.4, Msz5.3*
*HRVD **28** 00:32:37.2±0.2,2285S×17525W,h34km±1km,MW5.2/86, Centroid moment Tensor Solution. LP body waves: s66,c97;Mantle waves: s86,c148; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$0.64±.02; $M_{\phi\phi}$-0.48±.02; $M_{r\theta}$-0.15±.02; $M_{\theta\phi}$-0.18±.02; $M_{\phi r}$0.56±.03; Best double couple: $M_0$0.82700×10^{17} NP1:ϕ_s241.00000°,δ50.00000°,λ-166.00000°. NP2: ϕ_s141.00000°,δ79.00000°,λ-41.00000°. Principal axes: T 0.7490, Plg19.0000°, Azm197.0000°; N 0.1560, Plg48.0000°, Azm309.0000°; P -0.9050, Plg36.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 00:32:37.2±0.1,2271S×17579W,h10km,mb5.4/37, MS4.8/1 Error ellipse: s-maj=8.6km s-min=4.7km az=137.0*
*SZGRF **28** 00:32:40.0,2258S×17485W,h33km,Tonga Islands region*
ISC 28 00:32:37.6±0.2,**2282S**±004×**17570W**±005,**h12**km, **h12**km±1.6km:**pP-P**,**n299**,σ0**s87**/158,**mb5.2**/65,**MS4.6**/23, **25C-17D**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.71**	**197**	Pn	**Pn**	**00 34 17.5**	**+1.5**
	220nm,0.3s,baz=83,slow=12,SNR=9.5						
RAO				Sn	**Sn**	**00 35 31.3**	**-1.1**
	207nm,0.3s,baz=70,slow=23,SNR=14						
AFI	**Afiamalu**	**9.61**	**23**	Pn	**Pn**	**00 34 52.3**	**-3.4**
	24nm,0.3s,baz=229,slow=4.2,SNR=26						
AFI	**Afiamalu**	**9.61**	**23**	Pn	**Pn**	**00 34 52.3**	**-3.4**
RAR	**Rarotonga**	**14.85**	**87**	Pn	**Pn**	**00 36 01.2**	**-6.2**
	29nm,0.3s,baz=247,slow=8.9,SNR=19						
RAR				Sn	Sn	00 38 29.2	-23
	8.0nm,0.3s,baz=42,slow=15,SNR=4.4						
RAR				LR	LR	00 40 39.4	
	comp=Z,1μm,21.2s,baz=286,slow=32						
BKM	**Butte a Klehm**	**15.91**	**286**	*i*P	**Pn**	**00 36 29.6**	**+8.2**
DZM	**Mont Dzumac**	**16.53**	**269**	Pn	**Pn**	**00 36 36.9**	**+7.6**
	0.9nm,0.3s,baz=79,slow=17,SNR=9.0						
DZM				LR	LR	00 40 35.5	
	comp=Z,198nm,20.2s,baz=30,slow=29						
DZM	**Mont Dzumac**	**16.53**	**269**	*e*P	**Pn**	**00 36 37.0**	**+7.7**
URZ	**Urewera**	**16.59**	**200**	Pn	**Pn**	**00 36 31.4**	**+1.5**
	6.1nm,0.3s,baz=35,slow=5.0,SNR=16						
URZ				Sn	**Sn**	**00 39 22.4**	**-12**
	3.6nm,0.3s,baz=340,slow=20,SNR=7.6						
NOUC	**Port Laguerre**	**16.66**	**269**	*e*P	**Pn**	**00 36 40.6**	**+10**
RPZ	**Rata Peaks**	**23.55**	**205**	P	**P**	**00 37 47.8**	**-0.1**
	25nm,0.7s,mb4.8,baz=302,slow=3.9,SNR=13						
RPZ				S	**S**	**00 41 48.5**	**-13**
	23nm,0.9s,baz=298,slow=18,SNR=2.7						
RPZ				LR	LR	00 46 39.3	
	comp=Z,2μ

comp=Z,1µm,21.9s,MS4.4,baz=264,slow=30
TVO Taravao 25.28 83 *e*P **P 00 38 02.3 -1.5**
468nm,1.3s,mb5.8
PMOR Pomariorio Ree 27.39 78 *e*P **P 00 38 21.8 -1.0**
135nm,1.4s,mb5.3
CNB Canberra Magne 32.81 240 *e*P **P 00 39 12.1 +1.3**
23nm,1.0s,mb5.1
CTAO Charters Tower 35.46 267 *e*P **P 00 39 34.6 +0.8**
CTAO pmax pmax
comp=Z,41nm,0.8s,mb5.4
CTAO Charters Tower 35.46 267 *e*P **P 00 39 34.6 +0.8**
comp=Z,40nm,0.8s,mb5.4
TOO Toolangi 36.36 237 *e*P **P 00 39 40.0 -1.5**
comp=Z,13nm,1.0s,mb4.8
TOO Toolangi 36.36 237 *e*P **P 00 39 40.0 -1.5**
TOO pmax pmax
comp=Z,13nm,1.0s,mb4.8
RKT Rikitea 37.41 99 *e*P **P 00 39 49.4 -1.0**
comp=Z,78nm,1.1s,mb5.4
PMG Port Moresby 37.97 284 P **P 00 39 55.3 +0.1**
comp=Z,30nm,0.9s,mb5.0,baz=119,slow=5.7,SNR=5.6
PMG Port Moresby 37.97 284 *e*P **P 00 39 54.8 -0.4**
PMG pmax pmax
comp=Z,100nm,1.1s
PMG Port Moresby 37.97 284 *e*P **P 00 39 54.8 -0.4**
comp=Z,100nm,1.1s,mb5.5
STKA Stephens Creek 38.79 247 P **P 00 40 00.3 -1.7**
comp=Z,6.6nm,0.7s,mb4.5,baz=96,slow=10.0,SNR=13
STKA PcP PcP 00 42 11.2 -2.1
comp=Z,2.8nm,0.6s,baz=58,slow=3.6,SNR=3.3
STKA LR LR 00 54 59.1
comp=Z,818nm,18.5s,MS4.6,baz=74,slow=35
STKA Stephens Creek 38.79 247 *e*P **P 00 40 00.3 -1.8**
ASAR Alice Springs 46.12 259 P **P 00 41 01.1 -0.6**
comp=Z,11nm,0.8s,mb4.9,baz=94,slow=7.9,SNR=40
ASAR ScP ScP 00 46 30.5 -0.2
comp=Z,2.0nm,0.9s,baz=104,slow=3.9,SNR=4.8
ASAR S **S 00 47 38.4 -8.9**
comp=Z,1.6nm,0.9s,baz=102,slow=12,SNR=6.1
WRAB Tennant Creek 46.44 264 P **P 00 41 03.0 -1.2**
comp=Z,121nm,0.7s,mb5.9,SNR=8.2
WRAB Tennant Creek 46.44 264 *i* P **P 00 41 03.0 -1.2**
WRA Warramunga Arr 46.44 264 P **P 00 41 03.6 -0.7**
comp=Z,6.9nm,0.6s,mb4.8,baz=101,slow=8.2,SNR=41
WRA S **S 00 47 42.9 -9.0**
comp=Z,2.8nm,1.0s,baz=100,slow=16,SNR=5.6
VNDA Vanda 55.82 186 P **P 00 42 15.7 +1.0**
comp=Z,7.2nm,0.9s,mb4.7,baz=358,slow=6.6,SNR=8.9
VNDA LR LR 01 02 04.8
comp=Z,141nm,21.5s,MS4.0,baz=39,slow=32
VNDA Vanda 55.82 186 *e*P **P 00 42 16.5 +1.8**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 55.82 186 *e*P **P 00 42 16.5 +1.9**
comp=Z,9.4nm,0.9s,mb4.8
VNDA *e*pP pP 00 42 26.0 +7.5
KLBR Kellerberrin 59.05 246 *e*P **P 00 42 36.7 -0.8**
comp=Z,58nm,1.6s,mb5.4
MUN Mundaring 60.28 245 *e*P **P 00 42 45.4 -0.6**
MORW Morawa 60.96 248 *e*P **P 00 42 50.1 -0.5**
comp=Z,15nm,0.9s,mb5.1
QSPA South Pole Qui 67.27 180⇑*i*P **P 00 43 33.7 +1.7**
comp=Z,46nm,1.1s,mb5.4
JOW Kunigami 73.29 309 LR LR 01 11 01.2
comp=Z,122nm,20.0s,MS4.2,baz=338,slow=32
MJAR Matsushiro Arr 73.34 323 P **P 00 44 08.4 -0.8**
comp=Z,1.2nm,0.5s,mb4.1,baz=157,slow=7.2,SNR=2.9
MJAR LR LR 01 11 40.2
comp=Z,190nm,20.3s,MS4.4,baz=135,slow=32
PMSA Palmer Station 78.32 156 *e*P **P 00 44 34.2 -3.4**
comp=Z,70nm,0.6s,mb5.8
BAR Barrett 78.85 47 *e*P **P 00 44 40.2 -0.3**
YSS Yuzh-Sakhalins 78.92 332 *e*P **P 00 44 43.3 +2.4**
YSS *e* 00 44 52.0
YSS Yuzh-Sakhalins 78.92 332⇓*i*P **P 00 44 42.5 +1.6**
PFO Pinyon Flat Ob 79.55 47 P **P 00 44 44.3 -0.1**
comp=Z,152nm,0.9s,mb5.9,SNR=7.2
PFO Pinyon Flat Ob 79.55 47 *e*P **P 00 44 44.6 +0.2**
PFO pmax pmax
comp=Z,37nm,1.3s,mb5.2
PFO Pinyon Flat Ob 79.55 47 *e*P **P 00 44 44.6 +0.2**
comp=Z,37nm,1.3s,mb5.2
CMB Columbia Colle 79.74 41 *e*P **P 00 44 45.7 +0.3**
CMB pmax pmax
comp=Z,33nm,1.1s,mb5.2
CMB Columbia Colle 79.74 41 *e*P **P 00 44 45.7 +0.3**
comp=Z,33nm,1.1s,mb5.2
WDC Whiskeytown Da 80.12 38 *e*P **P 00 44 47.7 +0.2**
WDC pmax pmax
comp=Z,50nm,1.2s,mb5.3
WDC Whiskeytown Da 80.12 38 *e*P **P 00 44 47.7 +0.2**
comp=Z,50nm,1.2s,mb5.3
MTUM Tungsten Hills 80.44 43 *e*P **P 00 44 49.9 +0.7**
MTUM *e*PcP PcP 00 44 56.2 +0.1
YBH Yreka Blue Hor 80.79 37 P **P 00 44 51.7 +0.7**
comp=Z,21nm,0.7s,mb5.2,baz=189,slow=1.3,SNR=52
YBH Yreka Blue Hor 80.79 37 *e*P **P 00 44 51.8 +0.8**
YBH pmax pmax
comp=Z,11nm,0.6s
YBH Yreka Blue Hor 80.79 37 *e*P **P 00 44 51.8 +0.7**
comp=Z,11nm,0.6s,mb5.0
SSE Sheshan 80.81 309 P **P 00 44 50.8 -0.4**
SSE AP pP 00 44 54.0 -1.1
SSE S S 00 55 00.0 +0.9
SSE XS sS 00 55 05.8 +0.2
SSE AMB AMB
comp=Z,20nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,252nm,4.0s
SSE LR LR
comp=N,133nm,20.0s,MS4.4
SSE LR LR
comp=E,125nm,20.0s,MS4.4
HUMO Hull Mountain 81.23 36 *e*P **P 00 44 54.0 +0.6**
comp=E,37nm,1.1s,mb5.2
NVAR Mina Array Bea 81.26 42 P **P 00 44 53.9 +0.3**
comp=E,15nm,0.8s,mb5.0,baz=208,slow=6.9,SNR=37
NVAR LR LR 01 16 50.1
comp=E,150nm,18.7s,MS4.4,baz=170,slow=33
LDFC Landfair 81.31 46 P **P 00 44 54.8 +0.9**
MNV Mina 81.36 42 *e*P **P 00 44 54.2 +0.1**
MNV pmax pmax
comp=Z,31nm,1.1s,mb5.2
MNV Mina 81.36 42 *e*P **P 00 44 54.2 +0.1**
comp=Z,31nm,1.1s,mb5.2
NEN Nelson 81.82 46 *e*P **P 00 44 56.8 +0.3**
MPOR Mary's Peak 82.19 35 P **P 00 44 59.4 +0.9**
HBO Huckleberry Mo 82.41 36 P **P 00 45 00.2 +0.6**
TUC Tucson 82.75 51 *e*P **P 00 45 02.2 +0.8**
TUC pmax pmax
comp=Z,24nm,0.9s,mb5.2
TUC Tucson 82.75 51 *e*P **P 00 45 02.2 +0.8**
comp=Z,24nm,0.9s,mb5.2
SFJM Santa Fe 82.89 64 *i* P **P 00 45 02.0 -0.1**
NJ2 Nanjing 83.00 309 *e*P **P 00 45 02.3 -0.4**
NJ2 AP pP 00 45 12.0 +5.3
NJ2 XP sP 00 45 16.5 +8.4
NJ2 PP PP 00 48 15.0 +1.7
NJ2 SKS 00 55 16.0
NJ2 S S 00 55 18.0 -3.7
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,1µm,8.2s
NJ2 LR LR
comp=N,530nm,19.1s,MS5.0
NJ2 LR LR
comp=E,240nm,15.3s,MS5.0
NJ2 LR LR
comp=Z,3µm,19.6s,MS5.7
SSOR Sweet Springs 83.00 35 P **P 00 45 03.1 +0.4**
BMN Battle Mountai 83.15 41 *e*P **P 00 45 03.6 +0.1**
BMN pmax pmax
comp=Z,47nm,1.3s,mb5.4
BMN Battle Mountai 83.15 41 *e*P **P 00 45 03.6 +0.1**
comp=Z,47nm,1.3s,mb5.4
WVOR Wild Horse Val 83.55 39 *e*P **P 00 45 05.6 0.0**
WVOR pmax pmax
comp=Z,44nm,1.0s,mb5.5
WVOR Wild Horse Val 83.55 39 *e*P **P 00 45 05.6 0.0**
comp=Z,44nm,1.0s,mb5.5
MDJ Mudanjiang 83.64 324 P **P 00 45 05.8 -0.2**
MDJ AP pP 00 45 09.0 -1.0
MDJ XP sP 00 45 10.3 -1.1
MDJ S S 00 55 33.5 +5.4
MDJ SS SS 01 00 56.8 +2.2
MDJ AMB AMB
comp=Z,7.0nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,413nm,5.6s
MDJ LR LR
comp=Z,171nm,22.3s,MS4.4
VFP Flag Point 83.84 35 P **P 00 45 07.4 +0.3**
ARUT Antelope Range 83.97 45 *e*P **P 00 45 08.4 +0.7**
WUAZ Wupatki 84.08 48 *e*P **P 00 45 08.9 +0.7**
comp=Z,70nm,1.3s,mb5.6
ZAIG Zacatecas 84.33 63 *i* P **P 00 45 10.3 +0.7**
ELK Elko 84.55 42 *e*P **P 00 45 10.6 0.0**
ELK pmax pmax
comp=Z,28nm,1.0s
ELK Elko 84.55 42 *e*P **P 00 45 10.6 -0.1**
comp=Z,28nm,1.0s,mb5.3
SYO Syowa Base 84.94 192⇓*e*PP PP 00 48 27.5 -1.7
SYO Syowa Base 84.94 192⇓*e*P **P 00 45 12.2 -0.4**
SYO *e* 00 48 27.5
MSU Marysvale 85.20 45 *e*P **P 00 45 14.9 +1.0**
CN2 Changchun 85.43 322 *e*P **P 00 45 16.0 +0.9**
CN2 *e*XP sP 00 45 23.0 +2.5
CN2 *e*S 00 55 45.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,300nm,18.0s,MS4.8
CN2 LR LR
comp=Z,500nm,19.0s,MS4.9
SLKM Skilak Lake 85.58 12 *e*P **P 00 45 14.9 -0.9**
KLR Kul'dur 85.61 329 *e*P **P 00 45 14.3 -1.6**
SNAA Sanae 85.64 178 P **P 00 45 15.7 -0.4**
comp=Z,6.8nm,1.0s,mb4.8,baz=237,slow=2.1,SNR=7.8
SNAA Sanae 85.64 178⇓*i*P **P 00 45 16.0 -0.1**
SNAA *e* pP 00 45 18.7 -1.4
SNAA *e* 00 45 23.7
SNAA Sanae 85.64 178 *e*P **P 00 45 16.4 +0.3**
SNAA pmax pmax
comp=Z,26nm,1.1s
SNAA Sanae 85.64 178 *e*P **P 00 45 16.4 +0.3**
comp=Z,26nm,1.1s,mb5.4
VNA3 Neumayer Olymp 85.69 176⇓*i*P **P 00 45 16.1 -0.2**
VNA3 *e* pP 00 45 19.2 -1.1
VNA3 *e* 00 45 24.6
DUG Dugway 85.74 43 *e*P **P 00 45 16.1 -0.5**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
DUG Dugway 85.74 43 *e*P **P 00 45 16.1 -0.5**
comp=Z,6.5nm,1.0s,mb4.8
PLCA Paso Flores 86.13 133 P **P 00 45 19.4 +0.8**
comp=Z,23nm,1.1s,mb5.3,baz=233,slow=5.8,SNR=18
PLCA LR LR 01 13 31.8
comp=Z,159nm,21.1s,MS4.4,baz=107,slow=28
PLCA Paso Flores 86.13 133 *e*P **P 00 45 19.4 +0.9**
PLCA pmax pmax
comp=Z,47nm,1.3s
PLCA Paso Flores 86.13 133 *e*P **P 00 45 19.4 +0.9**
comp=Z,47nm,1.3s,mb5.6
VNA2 Neumayer--Watz 86.16 176⇓*i*P **P 00 45 18.6 -0.1**
VNA2 *e* pP 00 45 21.1 -1.5
VNA2 *e* 00 45 28.1
VNA2 *e* 00 46 01.9
NLW Nelson Butte 86.23 34 P **P 00 45 19.0 0.0**
TMUT Trail Mountain 86.26 45 *e*P **P 00 45 20.0 +0.8**
MNTX Cornudas Mount 86.37 54 *e*P **P 00 45 19.9 +0.2**
comp=Z,42nm,1.1s,mb5.6
LENM Lemitar 86.44 51 *e*P **P 00 45 20.7 +0.7**
LTX Lajitas 86.52 56 *e*P **P 00 45 20.9 +0.5**
LTX pmax pmax
comp=Z,66nm,1.2s,mb5.7
LTX Lajitas 86.52 56 *e*P **P 00 45 20.9 +0.5**
comp=Z,66nm,1.2s,mb5.7
SRU San Rafael 86.61 45 *e*P **P 00 45 21.0 +0.1**
SRU pmax pmax
comp=Z,43nm,1.3s,mb5.5
SRU San Rafael 86.61 45 *e*P **P 00 45 21.0 +0.1**
comp=Z,43nm,1.3s,mb5.5
BNM Barren Site 86.68 51 *e*P **P 00 45 21.8 +0.6**
LPM Los Pinos Moun 86.76 51 *e*P **P 00 45 22.0 +0.4**
PSI Prapat 86.82 274 P **P 00 45 22.1 +0.2**
comp=Z,5.5nm,0.9s,mb4.8,baz=205,slow=11,SNR=5.7
DAU Daniels Canyon 86.85 44 *e*P **P 00 45 22.5 +0.5**
DIV Divide 87.08 14 *e*P **P 00 45 21.4 -1.8**
comp=Z,103nm,1.1s,mb6.0
TCUT Toone Canyon 87.14 43 *e*P **P 00 45 23.6 +0.1**
PV10 Paradox Valley 87.19 46 *e*P **P 00 45 23.6 -0.1**
PV10 PcP PcP 00 45 26.7 +0.9
ANMO Albuquerque 87.20 50 P **P 00 45 24.0 +0.3**
comp=Z,21nm,1.1s,mb5.3,baz=221,slow=5.7,SNR=25
ANMO Albuquerque 87.20 50 *e*P **P 00 45 24.1 +0.3**
ANMO pmax pmax
comp=Z,38nm,1.3s
ANMO Albuquerque 87.20 50 *e*P **P 00 45 24.1 +0.3**
comp=Z,38nm,1.3s,mb5.5
GDL2 Guadalupe Moun 87.37 54 *e*P **P 00 45 25.0 +0.5**
PV01 Paradox Valley 87.38 47 *e*P **P 00 45 24.6 -0.1**
CLNB Carlsbad 87.76 54 P **P 00 45 26.6 +0.1**
NEW Newport 88.02 35 P **P 00 45 26.1 -1.5**
comp=Z,7.7nm,0.8s,mb5.0,baz=225,slow=2.7,SNR=14
NEW Newport 88.02 35 *e*P **P 00 45 26.9 -0.8**
NEW pmax pmax
comp=Z,14nm,1.3s
NEW Newport 88.02 35 *e*P **P 00 45 26.9 -0.7**
comp=Z,14nm,1.3s,mb5.0
CPRX Cap Rock 88.13 53 P **P 00 45 29.1 +0.8**
MCMT McKenzie Canyo 88.35 39 *e*P **P 00 45 29.1 -0.1**
SMCO Snowmass 88.99 46 *e*P **P 00 45 32.3 0.0**
comp=Z,12nm,1.0s,mb5.2
MOOW Moose Ponds 89.00 41 *e*P **P 00 45 32.1 -0.3**
comp=Z,3.7nm,1.2s,mb4.6
LOHW Long Hollow 89.01 41 *e*P **P 00 45 32.2 -0.2**
comp=Z,3.5nm,0.8s,mb4.7
ENH Enshi 89.10 303 *e*P **P 00 45 33.3 +0.5**
comp=Z,50nm,1.4s,mb5.7
SEY Seymchan 89.12 346⇑*e*P **P 00 45 31.9 -1.0**
SEY Seymchan 89.12 346⇑*e*P **P 00 45 31.0 -1.9**
QLMT Earthquake Lak 89.19 40 *e*P **P 00 45 33.6 +0.4**
CHMT Chamberlain Mo 89.31 37 *e*P **P 00 45 33.0 -0.8**
YMR Madison River 89.37 40 *e*P **P 00 45 34.5 +0.4**
comp=Z,12nm,0.8s,mb5.3
LCCM Lewis and Clar 89.49 39 P **P 00 45 34.6 0.0**
GYA Guiyang 89.64 299 P **P 00 45 39.0 +3.6**
GYA XP sP 00 45 50.3 +10
GYA SKS 00 56 06.0
GYA S 00 56 28.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,130nm,4.3s
GYA LR LR
comp=E,690nm,18.4s
GYA LR LR
comp=Z,970nm,18.6s,MS5.3
HRY Holter Researc 90.00 38 *e*P **P 00 45 36.7 -0.4**
COLA College 90.02 12 *i* P **P 00 45 35.3 -1.8**
COLA College 90.02 12 *i* Pr 00 45 35.3
JCT Junction City 90.03 57 *e*P **P 00 45 37.6 +0.5**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
JCT Junction City 90.03 57 *e*P **P 00 45 37.6 +0.4**
comp=Z,8.5nm,0.8s,mb5.1
ILARIelson Array 90.11 12 LR LR 01 17 08.7
comp=Z,246nm,21.8s,MS4.6,baz=46,slow=30
GCMT Greycliff 90.75 40 P **P 00 45 40.9 +0.4**
DAWY Dawson 91.11 15 *e*P **P 00 45 41.4 -0.8**
BILL Bilibino 91.56 353 *e*P **P 00 45 43.1 -1.2**
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
CFAA Coronel Fontan 92.01 125 P **P 00 45 45.4 -1.0**
comp=Z,1.4nm,1.1s,mb4.2,baz=259,slow=4.1,SNR=9.5
KMI Kunming 92.30 296 P **P 00 45 48.0 +0.3**
KMI AP pP 00 45 51.5 -0.2
KMI PP PP 00 49 27.8 -0.3
KMI SKS 00 56 17.0
KMI S 00 56 46.5
KMI SS SS 01 03 02.8 +1.9
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb5.2
KMI AMB AMB
comp=Z,111nm,3.2s
KMI LR LR
comp=N,316nm,13.5s,MS5.0
KMI LR LR
comp=E,250nm,14.7s,MS5.0
KMI LR LR
comp=Z,306nm,18.6s,MS4.8
HHC Hu-ho-hao-te 92.49 314 *e*P **P 00 45 49.5 +0.9**
HHC AP pP 00 46 00.5 +7.9
HHC PP PP 00 49 33.3 +3.6
HHC S 00 56 47.3
HHC XS sS 00 57 03.5 +4.4
HHC PS PS 00 58 05.8 +1.2
HHC SS SS 01 03 00.0 -3.7
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.4
HHC AMB AMB
comp=Z,428nm,6.2s
HHC LR LR
comp=N,665nm,22.6s,MS5.2
HHC LR LR
comp=E,551nm,22.6s,MS5.2
HHC LR LR
comp=Z,265nm,23.8s,MS4.6
EDM Edmonton 92.90 32 *e*P **P 00 45 49.5 -0.9**
LAO LASA Array 93.26 40 *e*P **P 00 45 52.5 +0.4**
comp=Z,65nm,1.1s,mb6.0
CD2 Chengdu 93.83 302 *e*P **P 00 45 54.8 +0.1**
CD2 AP pP 00 45 59.5 +0.7
CD2 PP PP 00 49 43.0 +2.8
CD2 SKS 00 56 27.5
CD2 S 00 57 01.0
CD2 SS SS 01 03 23.5 +0.7
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.4
CD2 AMB AMB
comp=Z,60nm,9.3s
CD2 LR LR
comp=E,250nm,18.0s
CD2 LR LR
comp=Z,190nm,20.4s,MS4.5
DGMT Dagmar 95.33 39 *e*P **P 00 46 01.6 0.0**
comp=Z,38nm,1.1s,mb5.7
LZH Lanzhou 95.87 307 *e*P **P 00 46 04.0 -0.1**
LZH AP pP 00 46 08.8 +0.7
LZH XP sP 00 46 11.0 +1.5
LZH PP PP 00 49 58.0 +2.0
LZH *e*SKS 00 56 38.3
LZH *e*S 00 57 18.0
LZH XS sS 00 57 26.0 -2.6
LZH *e*SS SS 01 03 51.5 -0.3
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,69nm,4.9s
LZH LR LR
comp=N,452nm,18.6s
LZH LR LR
comp=Z,742nm,19.7s,MS5.2
YKA Yellowknife Ar 97.72 24 P **P 00 46 11.1 -1.4**
comp=Z,2.4nm,0.6s,mb4.9,baz=237,slow=4.5,SNR=65
YKA PP PP 00 50 03.1 -7.2
comp=Z,0.3nm,0.7s,baz=235,slow=7.8,SNR=5.3
YKA LR LR 01 22 46.8
comp=Z,228nm,19.2s,MS4.7,baz=250,slow=31
YKA Yellowknife Ar 97.72 24 P **P 00 46 11.1 -1.4**
YKA PP PP 00 50 03.1 -7.2
YKA LR LR 01 22 46.8
ULN Ulaanbaatar 98.51 318 *i* P **P 00 46 17.2 +1.2**
SONM Songino Array 98.90 318 P **P 00 46 19.0 +1.2**
comp=Z,0.5nm,1.1s,mb3.9,baz=74,slow=7.9,SNR=2.5
SONM LR LR 01 28 28.6
comp=Z,134nm,18.8s,MS4.5,baz=70,slow=34
LPAZ La Paz 99.20 112 P **P 00 46 21.8 +2.7**
comp=Z,1.4nm,0.8s,mb4.5,baz=221,slow=5.2,SNR=4.4
LPAZ LR LR 01 21 46.8
comp=Z,77nm,21.4s,MS4.2,baz=242,slow=30
LPAZ La Paz 99.20 112 *e*P **P 00 46 21.1 +2.0**
GTA Gaotai 100.09 308 *e*P Pdif 00 46 21.3 -1.7
GTA AP 00 46 29.0
GTA XP 00 46 32.8
GTA AMB AMB
comp=Z,3.0nm,1.1s
TIXI Tiksi 101.53 345 *i* P Pdif 00 46 29.1 -0.3
WMQ Urumqi 110.05 310 *e*PDIF Pdif 00 47 07.0 -0.3
WMQ PP PP 00 51 45.0 +2.8
WMQ SKS SKSdf 00 58 18.0 -2.9
WMQ S Sdif 00 59 16.0 -5.0
WMQ PS PS 01 01 07.0 -4.3
WMQ SS SS 01 07 05.0 -2.5
WMQ PP PP
comp=Z,39nm,7.0s
WMQ LR LR
comp=N,127nm,12.0s,MS4.9
WMQ LR LR
comp=E,142nm,12.0s,MS4.9
WMQ LR LR
comp=Z,144nm,12.0s,MS4.8
ZAL Zalesovo 113.64 320 PKiKP PKiKP 00 51 13.6 -2.3
comp=Z,0.9nm,0.6s,baz=35,slow=1.2,SNR=6.6
MKAR Makanchi Array 114.34 312 PKiKP PKiKP 00 51 15.6 -1.6
comp=Z,1.4nm,0.6s,baz=66,slow=0.6,SNR=15
KURK Kurchatov 117.14 317⇑*e*PKIKP PKPdf 00 51 20.8 -1.8
AAK Ala-Archa 119.40 307⇑*e*PKIKP PKPdf 00 51 25.3 -1.6
OPO Ambohidratompo 121.28 229 PKP PKPdf 00 51 31.2 +0.7
comp=Z,1.1nm,0.6s,baz=180,slow=3.0,SNR=3.6
BRVK Borovoye 122.28 319⇑*e*PKIKP PKPdf 00 51 31.1 -1.4
ZRNK Zerenda 123.06 319 *e*PKIKP PKPdf 00 51 32.3 -1.7
DAG Danmarks Havn 124.81 6⇓*i*P PKPdf 00 51 34.3 -3.0
comp=Z,4.1nm,0.7s
DAG Danmarks Havn 124.81 6⇓*e*P PKPdf 00 51 34.3 -3.0
ARU Arti 128.32 325 *i* PKIKP PKPdf 00 51 43.2 -0.8
ARU *e* 00 53 50.4
ARU *e* 00 58 47.0
ARU *e*SS SS 01 10 57.5 -5.7
ARU Arti 128.32 325⇑*e*PKP PKPdf 00 51 43.4 -0.6
AKTK Aktyubinsk 130.21 318 PKP PKPdf 00 51 46.4 -1.3
AKTO Aktyubinsk 130.21 318 PKP PKPdf 00 51 46.4 -1.3
comp=Z,2.4nm,0.6s,baz=65,slow=2.2,SNR=11
ARCES ARCESS Array B 131.56 350 PKP PKPdf 00 51 48.5 -1.7
comp=Z,4.3nm,0.6s,baz=65,slow=1.5,SNR=11
JOF Joensuu 135.98 343 *e*p PKPdf 00 51 53.8 -4.7
comp=Z,6.0nm,0.9s
FINES FINESS Array B 138.58 344 PKhKP 00 51 54.3
comp=Z,1.7nm,0.7s,baz=64,slow=4.4,SNR=5.6
FINES PKP PKPdf 00 52 00.8 -2.5
comp=Z,2.5nm,0.7s,baz=48,slow=2.8,SNR=7.2
FINES FINESS Array B 138.58 344 PKP PKPdf 00 51 54.3 -9.0
FINES PKP PKPdf 00 52 00.8 -2.5
OBN Obninsk 139.80 332 *i* PKIKP PKPdf 00 52 05.9 +0.4
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 139.80 332 *i* PKP PKPdf 00 52 05.0 -0.5
OBN LR LR
comp=Z,200nm,22.0s,MS4.8
NB2 NORSAR Subarra 141.50 355 PKPa 00 52 01.8
comp=Z,4.4nm,1.2s,baz=10,slow=3.2
NOA NORSAR Array B 141.50 355 PKhKP 00 52 00.2
comp=Z,1.3nm,0.8s,baz=3.0,slow=2.4,SNR=4.0
NOA NORSAR Array B 141.50 355 PKP PKPdf 00 52 00.2 -8.4
ZEI Tsey 141.67 311 *e*PKIKP PKPdf 00 52 07.7 -1.2
GNI Garni 141.80 306⇑*e*PKIKP PKPdf 00 52 10.4 +1.3
KIV Kislovodsk 142.10 313⇑*e*PKIKP PKPdf 00 52 09.4 -0.2
ERZM Erzurum 144.36 307 *i* P PKPdf 00 52 12.3 -1.4
BNGL BINGOL 144.80 306 *i* P PKPdf 00 52 14.0 -0.4
SUW Suwalki 145.74 340 *e*PKP PKPdf 00 52 15.3 -0.7
KELT Kelkit 145.82 309 *i* P PKPdf 00 52 15.1 -1.0
AKASG Malin Array Be 146.06 331 PKPbc PKPbc 00 52 15.7 -1.7
comp=Z,8.7nm,0.6s,baz=40,slow=4.0,SNR=52
MUD Monsted U'grnd 146.21 355 *i* P PKPdf 00 52 16.9 +0.1
comp=Z,55nm,1.2s
BSD Bornholm Skovb 146.78 349 *i* P PKPdf 00 52 17.7 -0.1
comp=Z,49nm,1.0s
MALT Malatya 147.03 306 *e*PKP2 PKPab 00 52 20.5 -1.2
SIM Simferopol' 147.14 319⇓*i*PKP2 PKPab 00 52 20.4 -1.8
SIM pmax pmax
comp=Z,39nm,0.7s
DMUB Kingscourt 147.82 12⇓*i*P PKPdf 00 52 21.3 +1.8
GZT Gaziantep 147.97 305 *i* P PKPdf 00 52 21.9 +2.1
GKP Gorka Klasztor 148.04 345 *e*PKP PKPdf 00 52 22.8 +2.9
DCN Croghan 148.27 13⇓*i*P PKPdf 00 52 22.4 +2.2
BOYT Boyabat 148.37 313 *i* P PKPdf 00 52 23.9 +3.4
DLF Lyons Farm 148.47 12⇓*i*P PKPdf 00 52 22.8 +2.2
BSEG Bad Segeberg 148.59 353 *e*PKPbc PKPbc 00 52 23.6 -0.9
KIS Kishinev 148.84 327⇑*i*PKIKP PKPdf 00 52 23.5 +2.3
KIS *e* 00 52 30.0

KIS pmax pmax
comp=Z,70nm,1.4s
RUE Ruedersdorf 149.50 349 *e*PKPbc PKPbc 00 52 26.3 -0.5
KWP Kalwaria 149.56 336 *e*PKP PKPdf 00 52 26.5 +4.2
FKH Fakeheh 149.71 299 *e*P PKPdf 00 52 27.9 +5.3
BR131 Keskin Array S 149.97 311 *e*PKPbc PKPbc 00 52 27.4 -0.5
BRTR Keskin Array B 149.97 311 PKPbc PKPbc 00 52 27.3 -0.6
comp=Z,111nm,0.8s,baz=134,slow=3.8,SNR=38
OJC Ojcow 150.07 340 *e*PKP PKPdf 00 52 21.2 -1.9
BURAR Bucovina Array 150.12 331 ⇑P PKPdf 00 52 28.3 +5.1
STHS Stebnicka Huta 150.28 337 *i* PKP PKPdf 00 52 28.8 +5.3
KOLS Kolonicke sedl 150.30 336 *e*PKP PKPdf 00 52 27.9 +4.4
BHL Bhannes 150.39 299 *e*P PKPdf 00 52 28.9 +5.2
CFR Carcaliu 150.40 325 ⇑PKIKP PKPdf 00 52 28.5 +4.8
IBBN Ibbenburen 150.44 356 *e*PKPbc PKPbc 00 52 28.2 -0.8
ANTO Ankara 150.49 312 *e*PKIKP PKPdf 00 52 29.0 +5.2
KSP Ksiaz 150.50 344 *e*PKP PKPdf 00 52 29.0 +5.2
KSP Ksiaz 150.50 344 *e*PKPdf PKPdf 00 52 28.5 +4.7
KSP *e* 00 52 34.7
NIE Niedzica 150.59 338 *e*PKP PKPdf 00 52 29.4 +5.4
CRVS Cervenica-Dubn 150.63 337 *e*PKP PKPdf 00 52 29.5 +5.5
CRVS *e* 00 52 38.1
CLZ Clausthal 150.65 352 *e*PKPbc PKPbc 00 52 28.9 -0.6
VRI Vrincioaia 150.67 327 ⇓PKIKP PKPdf 00 52 29.0 +4.9
TIRR Tirgusor 150.72 323 *e*PKIKP PKPdf 00 52 28.4 +4.2
CLL Collm 150.77 349 *e*PKPbc PKPbc 00 52 28.9 -0.9
CLL Collm 150.77 349 ⇓*i*PKPbc PKPbc 00 52 28.9 -0.9
comp=Z,46nm,1.0s
CLL *i* PKPab PKPab 00 52 32.8 -4.1
comp=Z,20nm,0.8s
CLL *i* (pPKPab) 00 52 42.3
CLL Collm 150.77 349 ⇓*i*PKIKP PKPdf 00 52 28.9 +4.7
CLL *i* 00 52 32.8
CLL pmax pmax
comp=Z,46nm,1.0s
CLL pmax pmax
comp=Z,20nm,0.8s
MEST Erdemli 150.81 305 *i* P PKPdf 00 52 28.6 +4.3
HARR Harsova 150.83 324 ⇑PKIKP PKPdf 00 52 29.8 +5.5
UPC Upice 150.88 345 ⇑*e*PKPB PKPbc 00 52 29.6 -0.5
UPC *e*x 00 52 45.5
OKC Ostrava-Krasne 150.91 341 ⇑*e*PKPB PKPbc 00 52 27.1 -3.0
OKC *e*pPKP pPKPdf 00 52 34.2 +5.6
DPC Dobruska-Polom 150.95 344 *e*PKPDF PKPdf 00 52 24.7 +0.2
DPC ⇑*e*PKPB 00 52 30.0
BRG Berggiesshubel 151.00 347 *e*PKPbc PKPbc 00 52 29.7 -0.6
BRG Berggiesshubel 151.00 347 *i* PKP PKPdf 00 52 24.1 -0.5
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 151.00 347 ⇓*i* PKPdf 00 52 29.7 +5.1
comp=Z,15nm,0.8s
BRG *i* 00 52 43.3
comp=Z,13nm,0.9s
BRG *e* 00 53 10.1
comp=Z,18nm,1.3s
BRG Berggiesshubel 151.00 347 *i* PKIKP PKPdf 00 52 24.1 -0.5
BRG *i* 00 52 29.7
BRG Berggiesshubel 151.00 347 *i* PKP PKPdf 00 52 24.1 -0.5
BRG *i* 00 52 29.7
BRG *i* 00 52 43.3
BRG *e* 00 53 10.1
MORC Moravsky Berou 151.14 342 *e*PKIKP PKPdf 00 52 29.9 +5.1
PVCC Panska Ves 151.20 346 ⇑*e*PKPB PKPbc 00 52 30.3 -0.5
MLR Muntele Rosu 151.32 327 ⇑PKIKP PKPdf 00 52 29.9 +4.8
KECS Kecovo 151.33 337 *i* PKP PKPdf 00 52 30.8 +5.7
KECS *e* 00 52 38.8
BUG Bochum--Univer 151.33 356 *e*PKPbc PKPbc 00 52 30.0 -1.1
MOX Moxa 151.64 350 *e*PKPbc PKPbc 00 52 31.0 -0.8
MOX Moxa 151.64 350 *e*PKP PKPdf 00 52 31.3 +5.7
comp=Z,22nm,1.3s
PRU Pruhonice 151.71 346 *e*PKPDF PKPdf 00 52 25.6 -0.1
PRU ⇑*e*PKPB 00 52 31.5
PRU *e*pPKP pPKPdf 00 52 44.3 +15
PRU Pruhonice 151.71 346 *e*PKIKP PKPdf 00 52 25.6 -0.1
PRU *e* 00 52 31.5
ERMK Ermenek 151.72 306 *i* P PKPdf 00 52 29.0 +3.3
TANN Tannenbergstha 151.72 349 *e*PKPbc PKPbc 00 52 31.4 -0.6
EIL Elat 151.73 290 *e*PKPbc PKPbc 00 52 32.1 0.0
VOIR 151.80 328 ⇑PKIKP PKPdf 00 52 33.2 +7.4
VRAC Vranov 151.83 343 ⇓PKIKP PKPdf 00 52 30.8 +4.9
NKC Novy Kostel 151.90 349 ⇑*e*PKPB PKPbc 00 52 32.1 -0.3
CSS Prodhromos 151.96 302 *e*PKPbc PKPbc 00 52 32.1 -0.5
PSZ Piszkesteto 152.02 337 ⇑pPKP/F PKPbc 00 52 32.2 -0.5
UCC Uccle 152.07 360 PKPbc PKPbc 00 52 32.2 -0.6
UCC PKPab PKPab 00 52 40.4 -1.9
TREC Trest 152.13 344 *e*PKPDF PKPdf 00 52 26.3 0.0
TREC ⇑*e*PKPB 00 52 32.1
MEM Membach 152.23 358 PKPbc PKPbc 00 52 32.0 -1.1
MEM APKPab 00 52 45.5
SMOL Smolenice 152.31 341 *e*PKP PKPdf 00 52 33.4 +6.8
SMOL *e* 00 52 43.2
SNF Seneffe 152.36 0 XPKPab 00 52 46.1
ROTZ Rotzenmuhle 152.39 349 *e*PKPbc PKPbc 00 52 32.7 -0.8
TNS Taunus Mts 152.45 354 *e*PKPbc PKPbc 00 52 32.8 -0.9
GRF Grafenberg Arr 152.63 350 *e*PKPbc PKPbc 00 52 33.1 -1.0
GRF *e*PKPab PKPab 00 52 43.9 -0.7
SRO Srobarova 152.65 339 *e*PKP PKPdf 00 52 33.5 +6.4
SRO *e* 00 52 44.3
SRO2 Moca 152.67 339 *e*PKP PKPdf 00 52 32.8 +5.7
SRO2 *e* 00 52 44.4
SRO2 Moca 152.67 339 *e*PKIKP PKPdf 00 52 32.8 +5.7
SRO2 *e* 00 52 44.4
SRO2 *e* 00 56 16.6
ZST Bratislava 152.69 341 *e*PKP PKPdf 00 52 33.0 +5.9
ZST *e* 00 52 44.2
KHC Kasperske Hory 152.73 347 *e*PKPDF PKPdf 00 52 26.6 -0.6
KHC ⇑*e*PKPB 00 52 33.6
KHC *e*pPKP pPKPdf 00 52 47.3 +16
GIVF Givet 152.76 359 *e*PKIKP PKPbc 00 52 33.4 -1.0
comp=Z,30nm,0.8s
DOU Dourbes 152.77 360 PKPbc PKPbc 00 52 33.8 -0.6
DOU APKPab 00 52 46.9
GEC2 GERESS Array S 152.97 346 *e*PKPbc PKPbc 00 52 34.0 -0.8
GERES GERESS Array B 152.97 346 PKP PKPdf 00 52 26.4 -1.2
comp=Z,1.2nm,0.9s,baz=90,slow=1.6,SNR=7.1
GERES PKPbc PKPbc 00 52 34.2 -0.6
comp=Z,5.2nm,0.9s,baz=37,slow=1.5,SNR=20
GERES PKPab PKPab 00 52 45.3 -0.8
comp=Z,3.9nm,0.9s,baz=58,slow=3.3,SNR=7.5
TOD Tromm 153.03 354 PKIKP PKPbc 00 52 33.1 -1.8
RUP Ruppelstein 153.08 356 PKIKP PKPbc 00 52 33.6 -1.5
WLF Walferdange 153.16 357 *e*PKPbc PKPbc 00 52 34.7 -0.5
WLF Walferdange 153.16 357 PKPbc PKPbc 00 52 34.8 -0.5
WLF PKPab PKPab 00 52 46.2 -0.7
WLF Walferdange 153.16 357 *e*PKPbc PKPbc 00 52 34.8 -0.4
WLF *e*PKPab PKPab 00 52 45.8 -1.1
BZS Buzias 153.24 332 ⇑PKIKP PKPbc 00 52 34.8 -0.6
STU Stuttgart 153.81 353 *e*PKPbc PKPbc 00 52 35.9 -0.7
ROSF Rostrenen 153.83 12 *e*PKIKP PKPbc 00 52 34.9 -1.8
comp=Z,16nm,0.8s
FLN La Foliniere 153.83 7 *e*PKIKP PKPbc 00 52 35.3 -1.4
comp=Z,64nm,1.1s
SGMF Saint Gilles 154.03 11 *e*PKIKP PKPbc 00 52 35.6 -1.5
comp=Z,14nm,0.8s
LDF La Druitiere 154.03 7 *e*PKIKP PKPbc 00 52 35.7 -1.4
comp=Z,29nm,1.0s
GRR Gorron 154.15 8 *e*PKIKP PKPbc 00 52 36.1 -1.3
comp=Z,22nm,0.7s
QUIF Quistinic 154.25 12 *e*PKIKP PKPbc 00 52 36.1 -1.5
BFO Black Forest 154.34 354 *e*PKIKP PKPdf 00 52 30.5 +1.0
BFO *e* 00 52 36.9
BFO *e* 00 52 51.0
WLS Welschbruch 154.34 355 PKP PKPbc 00 52 36.8 -1.0
CDF Champ du Feu 154.35 355 *e*PKIKP PKPbc 00 52 36.8 -1.0
MEZF Maizieres J'vi 154.36 359 *e*PKIKP PKPbc 00 52 37.1 -0.7
THEF They Montfort 154.61 357 PKP PKPbc 00 52 39.2 +0.8
PERS Pernice 154.68 342 *e*PKPdf PKPbc 00 52 37.8 -0.7
PERS *e*PKPbc PKPab 00 52 50.6 -2.7
HAU Haudompre 154.81 357 *e*PKIKP PKPbc 00 52 38.1 -0.7
HINF Hinteralfeld 154.97 356 *e*PKIKP PKPbc 00 52 37.8 -1.3
BBS Basel-Blauen 155.27 355 PKIKP PKPdf 00 52 34.8 +4.0
ROBS Robic 155.46 344 *e*PKPdf PKPdf 00 52 30.2 -0.9
BOJS Bojanci 155.67 341 *e*PKPdf PKPdf 00 52 30.6 -0.7
BGF Bois d'Agland 156.28 3 *e*PKIKP PKPdf 00 52 40.7 +8.6
AGO Saint Agoulin 156.80 2 PKP PKPab 00 53 01.4 -1.0
PLDF La Plantade 156.89 1 PKP PKPab 00 53 01.9 -0.9
RJF Les Rejaudoux 157.45 5 *e*PKIKP PKPdf 00 52 41.2 +7.6
comp=Z,32nm,1.3s
DBIC Dimbokro 161.68 150 PKP PKPdf 00 52 38.0 -0.5
comp=Z,5.2nm,0.9s,baz=200,slow=3.1,SNR=5.9
DBIC PKPab PKPab 00 53 24.3 +0.7
comp=Z,6.7nm,0.7s,baz=183,slow=7.0,SNR=9.7
TORD Torodi Ar. Bea 170.07 165 PKP PKPdf 00 52 44.1 -1.2
comp=Z,2.6nm,0.9s,baz=110,slow=1.4,SNR=8.2
TORD PP PP 00 57 47.3 -3.2
comp=Z,0.8nm,0.9s,baz=186,slow=1.4,SNR=3.6

IDC 28 00:39:11.6±16.0, 5075N×15119E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=543.7km s-min=37.8km az=57.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.09**	**293**	P	P	00 47 21.1	-0.3
	0.3nm,0.5s,baz=66,slow=6.9,SNR=7.7						
WRA	**Warramunga Arr**	**71.93**	**197**	P	P	00 50 37.3	+0.5
	0.7nm,0.6s,baz=14,slow=6.1,SNR=9.1						
ASAR	**Alice Springs**	**75.65**	**196**	P	P	00 50 57.6	-0.9
	1.7nm,1.0s,baz=4.7,slow=5.7,SNR=7.2						

IDC 28 00:39:55.1±2.5, 1825S×7330W, h0km, mb4.1/3, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=96.8km s-min=34.5km az=1.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.31**	**69**	Pn	Pn	00 41 17.1	+1.4
	1.0nm,0.3s,baz=255,slow=11,SNR=47						
LPAZ				Sn	Sn	00 42 20.6	+3.1
	baz=81,slow=23,SNR=2.1						
SIV	**San Ignacio**	**11.90**	**81**	Pn	Pn	00 42 44.6	-1.4
	0.1nm,0.3s,baz=180,slow=20,SNR=5.3						
DBIC	**Dimbokro**	**71.89**	**76**	P	P	00 51 20.6	+0.6
	1.7nm,0.7s,baz=222,slow=8.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**80.25**	**73**	P	P	00 52 08.5	+0.9
	2.3nm,0.7s,baz=266,slow=4.4,SNR=16						
YKA	**Yellowknife Ar**	**86.80**	**342**	P	P	00 52 40.8	-0.4
	0.1nm,0.2s,baz=128,slow=5.3,SNR=4.5						

PRE ***28*** *00:42:01.0±1.7, 2203S×3389E, h5km, ML5.2*
ISCJB ***28*** *00:42:03.7±0.7, 2180S±0.10×3336E±0.10, h10km, mb3.7/2, Error ellipse: s-maj=18.1km s-min=6.4km az=92.5*
NEIC ***28*** *00:42:04.9±1.0, 2121S×3323E, h10km, mb4.9/1, Error ellipse: s-maj=16.9km s-min=12.3km az=155.0*
IDC ***28*** *00:42:10.1±1.8, 2123S×3260E, h0km, mb3.5/3, mb1 4.3/8, mb1mx4.0/26, mbtmp4.3/8, ML4.0/5, MS3.1/4, Ms1 3.1/4, ms1mx3.0/15, Error ellipse: s-maj=27.8km s-min=18.3km az=119.0*
ISC 28 00:42:06.2±0.7, 2181S±010×334E±01, h10km, n29, σ1°36/39, mb3.7/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.17**	**260**	*e*P	Px	00 35 35.9	
MSNA				*e*S	Sx	00 36 17.5	
MSNA				AML	AML	00 36 26.9	
	comp=Z,1μm,0.3s						
SLR	**Silverton**	**6.10**	**229**	*e*P	**Pn**	**00 43 35.0**	**-1.4**
SLR				*e*S	**Sn**	**00 44 45.8**	**-0.3**
SLR				AML	AML	00 45 33.7	
	comp=Z,553nm,0.6s						
KSR	**Koster**	**7.18**	**235**	*e*P	**Pn**	**00 43 51.7**	**+0.5**
PRYS	**Parys**	**7.50**	**226**	*e*P	**Pn**	**00 43 54.2**	**-1.3**
LBTB	**Lobatse**	**7.84**	**245**	*e*P	**Pn**	**00 44 01.9**	**+1.6**
LBTB				*e*S	**Sn**	**00 45 28.9**	**-0.2**
LBTB				AML	AML	00 46 21.1	
	comp=Z,326nm,0.6s						
LBTB	**Lobatse**	**7.84**	**245**	Pn	**Pn**	**00 44 01.8**	**+1.6**
	comp=Z,11nm,0.3s,baz=66,slow=13,SNR=58						
LBTB				Sn	**Sn**	**00 45 29.2**	**+0.2**
	comp=Z,9.6nm,0.3s,baz=183,slow=19,SNR=4.9						
LBTB				Lg		00 46 05.9	
	comp=Z,12nm,0.3s,baz=330,slow=21,SNR=5.6						
LBTB				LR	LR	00 47 25.1	
	comp=Z,107nm,20.2s,baz=20,slow=42						
LBTB	**Lobatse**	**7.84**	**245**	*e*Pn	**Pn**	**00 44 01.9**	**+1.6**
	comp=Z,0.4nm,0.7s						
LBTB				*e*S	**Sn**	**00 45 31.2**	**+2.2**
LSZ	**Lusaka**	**8.16**	**322**	Pn	**Pn**	**00 43 57.2**	**-7.5**
	comp=Z,8.6nm,0.3s,baz=147,slow=14,SNR=53						
LSZ				Sn	**Sn**	**00 45 20.8**	**-16**
	comp=Z,18nm,0.3s,baz=211,slow=17,SNR=7.6						
LSZ				Lg		00 46 01.3	
	comp=Z,37nm,0.3s,baz=40,slow=17,SNR=14						
LSZ	**Lusaka**	**8.16**	**322**	*e*Pn	**Pn**	**00 43 56.9**	**-7.8**
	comp=Z,67nm,0.4s						
LSZ				*e*S	**Sn**	**00 45 51.9**	**+15**
BOSA	**Boshof**	**10.01**	**226**	*e*P	**Pn**	**00 44 29.9**	**0.0**
BOSA				*e*S	**Sn**	**00 46 16.9**	**-5.3**
BOSA				AML	AML	00 47 34.5	
	comp=Z,84nm,0.8s						
BOSA	**Boshof**	**10.01**	**226**	Pn	**Pn**	**00 44 32.7**	**+2.8**
	comp=Z,1.6nm,0.3s,baz=51,slow=13,SNR=39						
BOSA				Sn	**Sn**	**00 46 21.0**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=338,slow=6.6,SNR=3.8						
BOSA				Lg		00 47 20.6	
	comp=Z,3.0nm,0.3s,baz=153,slow=20,SNR=3.8						
BOSA				LR	LR	00 48 48.3	
	comp=Z,119nm,19.7s,baz=52,slow=40						
BOSA	**Boshof**	**10.01**	**226**	*e*Pn	**Pn**	**00 44 33.0**	**+3.1**
	comp=Z,15nm,0.4s						
BOSA				*e*Sn	**Sn**	**00 46 16.6**	**-5.7**
OPO	**Ambohidratompo**	**13.34**	**78**	Pn	**Pn**	**00 45 15.1**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=253,slow=16,SNR=18						
OPO				Sn	**Sn**	**00 47 35.4**	**-8.5**
	comp=Z,2.8nm,0.3s,baz=164,slow=23,SNR=6.8						
TSUM	**Tsumeb**	**15.04**	**277**	Pn	**Pn**	**00 45 33.9**	**-4.9**
	comp=Z,1.5nm,0.3s,baz=111,slow=13,SNR=32						
TSUM				Sn	**Sn**	**00 48 13.7**	**-12**
	comp=Z,0.9nm,0.3s,baz=17,slow=18,SNR=5.3						
TSUM				Lg		00 49 46.0	
	comp=Z,0.8nm,0.3s,baz=302,slow=15,SNR=2.8						
TSUM				LR	LR	00 51 29.4	
	comp=Z,54nm,20.0s,baz=145,slow=39						
TSUM	**Tsumeb**	**15.04**	**277**	*e*Pn	**Pn**	**00 45 33.1**	**-5.7**
	comp=Z,16nm,0.6s						
TSUM				*e*S	**Sn**	**00 48 12.1**	**-13**
SUR	**Sutherland**	**15.36**	**224**	*e*P	**Pn**	**00 45 43.8**	**+0.8**
SUR				*e*S	**Sn**	**00 48 26.0**	**-7.2**
SUR	**Sutherland**	**15.36**	**224**	Pn	**Pn**	**00 45 46.5**	**+3.5**
	comp=Z,3.6nm,0.3s,baz=52,slow=14,SNR=21						
SUR				Sn	**Sn**	**00 48 38.6**	**+5.5**
	comp=Z,2.0nm,0.3s,baz=344,slow=17,SNR=5.0						
SUR				Lg		00 50 11.1	
	comp=Z,1.8nm,0.3s,baz=155,slow=22,SNR=6.1						
SUR				LR	LR	00 51 49.6	
	comp=Z,111nm,21.7s,baz=19,slow=38						
SUR	**Sutherland**	**15.36**	**224**	*e*Pn	**Pn**	**00 45 46.6**	**+3.7**
	comp=Z,61nm,0.7s						
SUR				*e*S	**Sn**	**00 48 40.9**	**+7.8**
CER	**Ceres**	**16.97**	**224**	*e*P	**Pn**	**00 46 04.5**	**+0.9**
KMBO	**Kilima Mbogo**	**20.90**	**11**	P	**P**	**00 46 50.3**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=210,slow=13,SNR=2.6						
TORD	**Torodi Ar. Bea**	**46.63**	**315**	P	**P**	**00 50 31.8**	**-2.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=130,slow=6.1,SNR=4.4						
DBIC	**Dimbokro**	**46.98**	**303**	P	**P**	**00 50 36.0**	**-1.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=120,slow=8.1,SNR=2.6						
BHD	**Baghdad**	**55.77**	**11**	*e*x	x	00 51 58.0	
MSL	**Mosul**	**58.51**	**9**	*e*x	x	00 52 10.0	
BEST	**Besiri**	**59.84**	**7**	*i* P	**P**	**00 52 13.2**	**+1.4**
ESKT	**Eskisehir**	**61.06**	**358**	*i* P	sP	00 52 32.2	+7.6
ULDT	**Uludag**	**61.76**	**356**	*i* P	**P**	**00 52 31.4**	**+6.5**
ELDT	**Eldivan**	**61.98**	**0**	*i* P	**P**	**00 52 26.1**	**-0.3**
YKA	**Yellowknife Ar**	**133.88**	**340**	PKP	PKPdf	01 01 28.4	+4.9
	comp=Z,0.2nm,0.6s,baz=37,slow=2.0,SNR=4.9						

IDC ***28*** *01:03:30.5±0.8, 222N×96.98E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.3/21, mbtmp4.4/13, MS4.1/1, Ms1 4.1/1, ms1mx3.4/16, Error ellipse: s-maj=34.7km s-min=14.3km az=44.0*
NAO ***28*** *01:03:32.4, 074S×93.36E, h33km, mb4.1*
BJI ***28*** *01:03:32.3, 189N×96.97E, h48km, mB5.1, mb4.9, Ms4.9, Msz4.8*
NEIC ***28*** *01:03:35.4±0.4, 228N×97.07E, h30km, mb4.6/8, Error ellipse: s-maj=11.8km s-min=6.9km az=215.0*
ISCJB ***28*** *01:03:36.5±1.6, 237N±008×97.17E±008, h54km±13km, mb4.5/33, MS4.6/2, Error ellipse: s-maj=16.5km s-min=9.2km az=87.6*
MOS ***28*** *01:03:36.2±0.9, 240N×97.12E, h51km, mb4.7/20, Error ellipse: s-maj=15.2km s-min=8.0km az=115.7*

ISC 28 01:03:38.6±1.4, 239N±008×9719E±008, h54km±12km, h43km±4.0km: pP-P, n80, σ0°82/80, mb4.5/33, MS4.6/2, 4C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.78**	**77**	Pn	**Pn**	**01 04 07.0**	**0.0**
	35nm,0.3s,baz=286,slow=7.1,SNR=202						
PSI				LR	LR	01 05 06.1	
	comp=Z,2μm,21.5s,baz=278,slow=48						
KULM	**Kulim**	**4.50**	**50**	*e*Pn	**Pn**	**01 04 44.3**	**+0.1**
QIZ	**Qiongzhong**	**20.66**	**36**	P	**P**	**01 08 14.8**	**+0.9**
SHL	**Shillong**	**23.61**	**348**	*e*P	**P**	**01 08 42.0**	**-2.7**
HYB	**Hyderabad**	**23.63**	**310**	*i* P	**P**	**01 08 47.0**	**+2.2**
HYB	**Hyderabad**	**23.63**	**310**	*e*P	**P**	**01 08 47.0**	**+2.2**
JIRN	**Jiri**	**27.25**	**338**	*e*P	**P**	**01 09 17.9**	**+0.3**
	9.7nm,0.3s,mb4.8						
PKI	**Pulchoki**	**27.46**	**337**	*e*P	**P**	**01 09 19.8**	**+0.2**
GUN	**Gumba**	**27.59**	**338**	*e*P	**P**	**01 09 20.8**	**+0.1**
	40nm,0.5s,mb5.3						
DMN	**Daman**	**27.62**	**336**	*e*P	**P**	**01 09 20.9**	**-0.1**
KKN	**Kakani**	**27.71**	**337**	*e*P	**P**	**01 09 21.5**	**-0.3**
	8.7nm,0.4s,mb4.7						
LSA	**Lhasa**	**27.77**	**349**	*e*P	**P**	**01 09 21.5**	**-0.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**27.77**	**349**	*e*P	**P**	**01 09 21.5**	**-0.8**
	comp=Z,4.3nm,0.4s,mb4.4						
KOLN	**Koldanda**	**28.39**	**334**	*e*P	**P**	**01 09 28.0**	**+0.1**
ENH	**Enshi**	**30.09**	**22**	P	**P**	**01 09 43.4**	**+0.5**
	comp=Z,3.0nm,0.4s,mb4.4						
WHN	**Wuhan**	**32.38**	**28**	*e*P	**P**	**01 10 03.0**	**0.0**
NJ2	**Nanjing**	**35.87**	**32**	*e*P	**P**	**01 10 33.3**	**0.0**
NJ2				AP	pP	01 10 43.5	-3.6
NJ2				XP	sP	01 10 47.5	-5.9
NJ2				PP	PP	01 11 55.3	-0.3
NJ2				S	**S**	**01 16 08.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,80nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,16.7s,MS5.0						
NJ2				LR	LR		
	comp=E,660nm,16.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,11.5s,MS5.2						
GTA	**Gaotai**	**36.93**	**3**	*e*P	**P**	**01 10 41.5**	**-0.8**
GTA				AP	pP	01 10 52.0	-4.2
GTA				XP	sP	01 10 57.0	-5.5
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**42.67**	**123**	P	**P**	**01 11 29.6**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.2,baz=302,slow=9.1,SNR=17						
WRA	**Warramunga Arr**	**42.67**	**123**	P	**P**	**01 11 29.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**42.68**	**123**	*i* P	**P**	**01 11 30.2**	**+0.1**
ULHL	**Ulahol**	**43.90**	**337**	P	**P**	**01 11 40.6**	**+0.7**
	SNR=5.9						
ASAR	**Alice Springs**	**44.12**	**128**	P	**P**	**01 11 42.0**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=308,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**44.12**	**128**	P	**P**	**01 11 42.0**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
UCH	**Uchtor**	**44.57**	**336**	P	**P**	**01 11 46.5**	**+1.3**
	SNR=7.2						
KBK	**Karagaybulak**	**44.76**	**337**	P	**P**	**01 11 48.3**	**+1.6**
	SNR=6.2						
AML	**Almayashu**	**44.83**	**335**	P	**P**	**01 11 48.5**	**+1.2**
	SNR=6.5						
AAK	**Ala-Archa**	**44.92**	**336**	⇑*e*P	**P**	**01 11 49.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.4						
AAK	**Ala-Archa**	**44.92**	**336**	*e*P	**P**	**01 11 48.9**	**+0.9**
	comp=Z,5.4nm,1.1s,mb4.3						
EKS2	**Erkin-Say**	**45.23**	**336**	P	**P**	**01 11 51.3**	**+0.8**
	SNR=8.2						
USP	**Ospenovka**	**45.45**	**337**	P	**P**	**01 11 52.9**	**+0.7**
	SNR=9.4						
SONM	**Songino Array**	**45.97**	**9**	P	**P**	**01 11 56.0**	**-0.4**
	comp=Z,3.4nm,0.5s,mb4.5,baz=190,slow=8.8,SNR=37						
SONM				PcP	PcP	01 13 33.1	+0.7
	comp=Z,0.9nm,0.3s,baz=200,slow=3.7,SNR=9.1						
SONM	**Songino Array**	**45.97**	**9**	P	**P**	**01 11 56.0**	**-0.3**
SONM						01 13 33.1	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**46.10**	**346**	*i* P	**P**	**01 11 56.8**	**-0.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
MKAR	**Makanchi Array**	**46.10**	**346**	P	**P**	**01 11 56.9**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.8,baz=158,slow=8.9,SNR=140						
MKAR	**Makanchi Array**	**46.10**	**346**	P	**P**	**01 11 56.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ULN	**Ulaanbaatar**	**46.10**	**9**	⇑*e*P	**P**	**01 11 57.4**	**0.0**
KK31	**Karatay Array**	**47.00**	**333**	*i* P	**P**	**01 12 05.0**	**+0.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
KKAR	**Karatay Array**	**47.00**	**333**	*i* P	**P**	**01 12 05.0**	**+0.6**
KURK	**Kurchatov**	**50.65**	**345**	*i* P	**P**	**01 12 32.2**	**-0.2**
KURK	**Kurchatov**	**50.65**	**345**	*e*P	**P**	**01 12 32.1**	**-0.3**
	comp=Z,7.0nm,0.7s,mb4.7						
PMG	**Port Moresby**	**51.14**	**104**	P	**P**	**01 12 36.7**	**+0.7**
	comp=Z,8.6nm,0.7s,mb4.8,baz=235,slow=21,SNR=3.7						
PMG	**Port Moresby**	**51.14**	**104**	⇑*e*P	**P**	**01 12 37.9**	**+1.8**
ZAL	**Zalesovo**	**52.39**	**351**	P	**P**	**01 12 44.9**	**-0.5**
	comp=Z,9.6nm,0.7s,mb4.9,baz=309,slow=6.4,SNR=50						
ZAL				Sn	LR	01 39 35.5	
	comp=Z,179nm,19.5s,MS4.1,baz=17,slow=41						
ZAL	**Zalesovo**	**52.39**	**351**	P	**P**	**01 12 44.9**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,179nm,19.5s						
CTAO	**Charters Tower**	**53.04**	**117**	*e*P	**P**	**01 12 50.8**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,

comp=E,10.0nm,0.8s
BR131 Keskin Array S 68.31 312 *e*P **P 01 14 34.0 -0.2**
BRTR Keskin Array B 68.31 312 P **P 01 14 33.0 -1.1**
comp=E,0.6nm,0.8s,mb3.7,baz=134,slow=7.1,SNR=5.3
BRTR Keskin Array B 68.31 312 P **P 01 14 33.1 -1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 71.61 328 *e*P **P 01 14 54.1 -0.3**
OBN *e* pP 01 15 08.2 -1.2
OBN pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TIXI Tiksi 72.03 10⇓*e*P **P 01 14 55.4 -1.4**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SEY Seymchan 72.68 23⇓*e*P **P 01 15 00.6 -0.1**
AKASG Malin Array Be 74.32 322 P **P 01 15 09.9 -0.4**
comp=Z,3.1nm,0.7s,mb4.4,baz=92,slow=5.1,SNR=14
AKASG Malin Array Be 74.32 322 P **P 01 15 09.9 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 78.95 332 P **P 01 15 36.4 -0.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=105,slow=6.5,SNR=16
FINES FINESS Array B 78.95 332 P **P 01 15 36.4 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
SYO Syowa Base 81.12 198⇑*e*PcP PcP 01 15 52.6 -1.8
SYO Syowa Base 81.12 198⇓*e*pP pP 01 15 56.1 -7.4
ARCES ARCESS Array B 81.42 340 P **P 01 15 49.9 +0.1**
comp=Z,1.9nm,0.4s,mb4.3,baz=95,slow=4.9,SNR=24
ARCES ARCESS Array B 81.42 340 P **P 01 15 49.9 +0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
GERES GERESS Array B 83.92 319 P **P 01 16 03.6 +0.8**
comp=Z,1.1nm,0.8s,mb4.0,baz=116,slow=6.1,SNR=7.8
GERES GERESS Array B 83.92 319 P **P 01 16 03.6 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 85.97 331 P **P 01 16 13.1 0.0**
comp=Z,1.0nm,0.6s,mb4.2,baz=97,slow=5.1
NOA NORSAR Array B 85.97 331 P **P 01 16 13.1 0.0**
comp=Z,2.1nm,0.7s,mb4.5,baz=93,slow=5.1,SNR=5.9
NOA NORSAR Array B 85.97 331 P **P 01 16 13.1 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 85.97 331 P **P 01 16 13.1 0.0**

MEX 28 01:36:39.5±0.5, 1682N×10022W, h5km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.24**	**348**	*i* P	Pg	01 36 43.7	-0.4
CAIG				*i* S	Sg	01 36 47.5	+0.3
ACX	**Acapulco**	**0.29**	**80**	*i* P	Pg	01 36 45.0	-0.2
ACX				*i* S	Sg	01 36 49.0	0.0
MEIG	**Mezcala**	**1.24**	**27**	*i* P	Pg	01 36 59.9	-3.5
MEIG				*i* S	Sg	01 37 15.7	-3.7
PLIG	**Platanillo**	**1.71**	**23**	*i* P	Pn	01 37 06.6	-3.3
PLIG				*i* S	Sn	01 37 26.0	-6.1

IDC 28 01:38:32.1±3.2, 1003S×16184E, h44km±29km, mb3.5/4, mb1 3.9/5, mb1mx3.6/14, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=35.7km s-min=16.4km az=48.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.96**	**288**	P	Pn	01 39 03.1	+0.2
	48nm,0.3s,baz=117,slow=2.6,SNR=13						
HNR				S	Sn	01 39 26.7	+0.4
	271nm,0.3s,baz=79,slow=13,SNR=18						
DZM	**Mont Dzumac**	**12.76**	**160**	P	Pn	01 41 32.8	+2.0
	0.3nm,0.3s,baz=164,slow=19,SNR=4.9						
DZM				S	Sn	01 43 47.1	-4.3
	0.2nm,0.3s,baz=140,slow=23,SNR=2.9						
WRA	**Warramunga Arr**	**28.29**	**246**	P	P	01 44 22.4	+1.0
	0.2nm,0.3s,baz=78,slow=9.0,SNR=5.4						
VNDA	**Vanda**	**67.47**	**180**	P	P	01 49 23.4	+0.1
	2.0nm,0.8s,baz=58,slow=7.1,SNR=3.6						
SONM	**Songino Array**	**75.61**	**325**	P	P	01 50 11.6	-0.8
	0.4nm,0.6s,baz=139,slow=6.1,SNR=3.3						
ILAR	**Eielson Array**	**83.82**	**20**	P	P	01 50 57.1	+0.3
	0.2nm,0.5s,baz=244,slow=4.5,SNR=5.5						

NNC 28 02:03:31.2±1.0, 4600N×8012E, h0km, mb3.7, mpv3.5, 14C-5D, Error ellipse: s-maj=14.5km s-min=7.7km az=145.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.70**	**61**	⇑P	Pn	02 04 02.5	+0.4
	13nm,0.3s,baz=237,slow=14,SNR=1170						
MK31				⇓S	Sn	02 04 23.6	-0.9
	38nm,0.5s,baz=235,slow=29,SNR=8.2						
TKM2	**Tokmak 2**	**4.47**	**228**	⇑Pn	Pn	02 04 42.6	+2.4
	1.7nm,0.7s						
TKM2				⇑Pg	Pg	02 05 00.2	+3.3
	9.4nm,0.8s						
TKM2				⇑Lg		02 05 55.1	
	26nm,0.8s						
KURK	**Kurchatov**	**4.82**	**349**	⇓Pg	Pg	02 05 02.3	-1.4
	2.7nm,0.3s						
KURK				⇑Sn	Sn	02 05 40.2	-1.5
	5.9nm,0.4s						
KURK				⇑Lg		02 06 06.7	
	24nm,0.6s						
KK31	**Karatay Array**	**7.45**	**251**	⇑Pn	Pn	02 05 23.0	+1.8
	0.9nm,0.2s,baz=68,slow=11,SNR=68						
KK31				⇑Sn	Sn	02 06 44.6	-1.8
	0.9nm,0.3s,baz=63,slow=23,SNR=4.2						
KK31				⇑Lg		02 07 19.2	
	15nm,0.7s,baz=65,slow=29,SNR=6.8						
VOSK	**Vostochnaya**	**8.99**	**322**	⇑Pn	Pn	02 05 44.3	+2.0
	1.1nm,0.3s						
VOSK				Sn	Sn	02 07 20.7	-3.5
VOSK				⇑Lg		02 08 15.3	
	16nm,0.9s						
BVA0	**Borovoye Array**	**9.45**	**322**	⇑Pn	Pn	02 05 50.6	+1.9
	0.6nm,1.4s,baz=127,slow=13,SNR=4.5						
BVA0				⇓Sn	Sn	02 07 33.0	-2.7
	0.7nm,0.6s,baz=134,slow=22,SNR=4.1						
BVA0				⇑Lg		02 08 29.5	
	1.2nm,0.6s,baz=118,slow=25,SNR=3.7						
ZRNK	**Zerenda**	**10.03**	**318**	⇑Pn	Pn	02 05 57.6	+1.1
	1.0nm,0.8s						
ZRNK				⇓Sn	Sn	02 07 43.8	-6.0
	1.8nm,0.4s						
ZRNK				⇓Lg		02 08 47.7	
	11nm,0.8s						
AB31	**Akbulak array**	**13.99**	**291**	P	Pn	02 06 49.4	-1.3
	0.8nm,0.4s,baz=104,slow=9.2,SNR=7.7						

*ISCJB **28** 02:20:18.1±0.6, 151S±0.1×6709E±009, h10km, mb4.5/44, MS4.0/4, Error ellipse: s-maj=19.3km s-min=12.2km az=166.9*
*IDC **28** 02:20:18.1±0.8, 1507S×6707E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.2/26, mbtmp4.1/21, ML3.7/1, MS4.0/4, Ms1 4.0/4, ms1mx3.5/30, Error ellipse: s-maj=25.8km s-min=16.5km az=14.0*
*MOS **28** 02:20:18.2±0.5, 1505S×67.12E, h10km, mb5.0/14, Error ellipse: s-maj=18.3km s-min=7.7km az=122.4*
*NEIC **28** 02:20:21.4±0.3, 1513S×6706E, mb4.8/23, Error ellipse: s-maj=10.3km s-min=6.7km az=179.0*

ISC 28 02:20:20.2±10.0, 151S±02.0×6704E±010, h11km±62km, n111, σ0±57/106, mb4.5/44, MS4.0/4, 1C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.32**	**257**	P	**Pn**	**02 24 45.4**	**-1.0**
	0.2nm,0.3s,baz=0.0,slow=6.1,SNR=4.1						
KMBO	**Kilima Mbogo**	**32.51**	**292**	P	**P**	**02 26 51.5**	**+0.5**
	1.7nm,0.8s,mb4.0,baz=38,slow=5.9,SNR=4.6						
KMBO				LR	LR	02 36 53.1	
	comp=Z,125nm,21.5s,MS3.6,baz=273,slow=31						
LSZ	**Lusaka**	**37.47**	**264**	P	**P**	**02 27 34.2**	**+0.5**
	3.5nm,0.8s,mb4.2,baz=116,slow=5.3,SNR=9.5						
LSZ	**Lusaka**	**37.47**	**264**	*e*P	**P**	**02 27 34.7**	**+1.0**
LSZ				*e**PP	pP	02 27 40.9	+3.9
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
LSZ	**Lusaka**	**37.47**	**264**	*e*P	**P**	**02 27 34.7**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.2						
LSZ				*e*pP	pP	02 27 40.9	+3.9
GNI	**Garni**	**58.71**	**340**	P	**P**	**02 30 19.1**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=110,slow=5.7,SNR=4.1						
GNI	**Garni**	**58.71**	**340**	*e*P	**P**	**02 30 19.0**	**+1.1**
GNI				*e*		02 30 25.6	
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GNI	**Garni**	**58.71**	**340**	*e*P	**P**	**02 30 19.0**	**+1.0**
	comp=Z,8.6nm,1.2s,mb4.7						
GNI				*e*		02 30 25.6	
MALT	**Malatya**	**59.48**	**334**	P	**P**	**02 30 24.6**	**+1.3**
MALT				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
MALT	**Malatya**	**59.48**	**334**	P	**P**	**02 30 24.6**	**+1.3**
	comp=Z,1.8nm,1.1s,mb4.0						
BR131	**Keskin Array S**	**62.76**	**331**	*e*P	**P**	**02 30 45.9**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.8						
BRTR	**Keskin Array B**	**62.76**	**331**	P	**P**	**02 30 46.2**	**+0.7**
	comp=Z,1.3nm,0.8s,mb4.1,baz=162,slow=9.6,SNR=10.0						
MKAR	**Makanchi Array**	**63.08**	**12**	P	**P**	**02 30 47.4**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.9,baz=206,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**63.18**	**109**	P	**P**	**02 30 48.2**	**-0.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=271,slow=5.8,SNR=9.5						
WRA	**Warramunga Arr**	**64.00**	**105**	P	**P**	**02 30 54.1**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=268,slow=6.0,SNR=17						
BVAR	**Borovoye Array**	**67.86**	**2**	P	**P**	**02 31 18.2**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=178,slow=8.2,SNR=6.0						
BRVK	**Borovoye**	**67.89**	**2**	*e*P	**P**	**02 31 18.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BRVK	**Borovoye**	**67.89**	**2**	*e*P	**P**	**02 31 18.3**	**-0.5**
	comp=Z,4.9nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**70.38**	**11**	P	**P**	**02 31 32.5**	**-1.7**
	comp=Z,0.6nm,0.4s,mb3.8,baz=51,slow=2.7,SNR=4.2						
ZAL				LR	LR	03 03 42.6	
	comp=Z,113nm,18.5s,MS4.2,baz=167,slow=37						
ZAL	**Zalesovo**	**70.38**	**11**	P	**P**	**02 31 32.5**	**-1.7**
ZAL				LR	LR	03 03 42.6	
TORD	**Torodi Ar. Bea**	**70.48**	**290**	P	**P**	**02 31 36.2**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=149,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**71.79**	**27**	P	**P**	**02 31 43.5**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=219,slow=6.3,SNR=8.6						
SONM				LR	LR	03 01 33.3	
	comp=Z,100nm,20.8s,MS4.1,baz=245,slow=34						
ULN	**Ulaanbaatar**	**72.10**	**27**	*i* P	**P**	**02 31 45.4**	**+0.8**
JOW	**Kunigami**	**72.57**	**55**	LR	LR	02 59 07.4	
	comp=Z,139nm,21.9s,MS4.2,baz=179,slow=32						
AKASG	**Malin Array Be**	**73.38**	**336**	P	**P**	**02 31 51.5**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.5,baz=139,slow=5.3,SNR=28						
OBN	**Obninsk**	**74.51**	**342**	*e*P	**P**	**02 31 58.4**	**-0.4**
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
KECS	**Kecovo**	**75.57**	**330**	*i* P	**P**	**02 32 05.0**	**+0.1**
STHS	**Stebnicka Huta**	**75.86**	**331**	*e*P	**P**	**02 32 06.7**	**+0.1**
STHS				*es*P	sP	02 32 15.2	+3.8
SRO	**Srobarova**	**76.18**	**329**	*e*P	**P**	**02 32 08.4**	**-0.1**
ARSA	**Arzberg**	**77.26**	**327**⇑*i*P		**P**	**02 32 15.4**	**+0.9**
	comp=Z,8.4nm,0.7s,mb4.8						
MORC	**Moravsky Berou**	**77.87**	**330**	*e*P	**P**	**02 32 17.8**	**-0.1**
MORC				*e**PP	pP	02 32 24.7	+3.2
MORC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MORC	**Moravsky Berou**	**77.87**	**330**	*e*P	**P**	**02 32 17.8**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.3						
MORC				*e*pP	pP	02 32 24.7	+3.2
PGF	**Pioggiola**	**78.23**	**320**	*e*P	**P**	**02 32 19.8**	**-0.2**
	comp=Z,206nm,1.6s,mb5.5						
PGF	**Pioggiola**	**78.23**	**320**	*e*P	**P**	**02 32 19.8**	**-0.2**
PGF				pmax	pmax		
	comp=Z,103nm,1.6s,mb5.5						
PGF	**Pioggiola**	**78.23**	**320**	*e*P	**P**	**02 32 19.8**	**-0.2**
	comp=Z,103nm,1.6s,mb5.5						
MOA	**Molln**	**78.30**	**327**⇓*i*P		**P**	**02 32 20.6**	**+0.3**
	comp=Z,7.2nm,0.7s,mb4.7						
DPC	**Dobruska-Polom**	**78.84**	**330**	*e*P	**P**	**02 32 23.8**	**+0.5**
GERES	**GERESS Array B**	**79.21**	**327**	P	**P**	**02 32 24.9**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=123,slow=4.9,SNR=7.4						
KHC	**Kasperske Hory**	**79.45**	**328**	*e*P	**P**	**02 32 26.3**	**-0.4**
PRU	**Pruhonice**	**79.49**	**329**	*e*P	**P**	**02 32 27.7**	**+0.8**
MOTA	**Moosalm**	**79.71**	**325**⇓*i*P		**P**	**02 32 27.6**	**-0.4**
	comp=Z,5.0nm,1.0s,mb4.4						
SBF	**Sospel**	**79.91**	**321**	*e*P	**P**	**02 32 29.5**	**+0.4**
DAVOX	**Davos**	**80.07**	**324**	P	**P**	**02 32 29.5**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=126,slow=15						
FRF	**La Foret Royal**	**80.23**	**320**	*e*P	**P**	**02 32 30.4**	**-0.5**
DAVA	**Damuels**	**80.36**	**325**⇓*i*P		**P**	**02 32 31.7**	**+0.1**
	comp=Z,4.9nm,0.7s,mb4.6						
MBDF	**Montbardon**	**80.77**	**321**	*e*P	**P**	**02 32 33.6**	**-0.2**
	comp=Z,22nm,1.0s,mb4.7						
MBDF	**Montbardon**	**80.77**	**321**	*e*P	**P**	**02 32 33.6**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MBDF	**Montbardon**	**80.77**	**321**	*e*P	**P**	**02 32 33.6**	**-0.2**
	comp=Z,11nm,1.0s,mb4.7						
CLL	**Collm**	**81.08**	**329**	*e*P	**P**	**02 32 36.0**	**+0.6**
SMRF	**Simiane la Rot**	**81.11**	**320**	*e*P	**P**	**02 32 36.1**	**+0.5**
	comp=Z,307nm,1.9s,mb5.6						
SMRF	**Simiane la Rot**	**81.11**	**320**	*e*P	**P**	**02 32 36.1**	**+0.5**
	comp=Z,307nm,1.9s						
LPG	**La Plagne**	**81.19**	**322**	*e*P	**P**	**02 32 36.0**	**0.0**
LPL	**La Plagne**	**81.21**	**322**	*e*P	**P**	**02 32 36.5**	**+0.4**
ORIF	**Oris-en-Rattie**	**81.41**	**321**	*e*P	**P**	**02 32 37.6**	**+0.4**
	comp=Z,14nm,1.0s,mb4.6						
ORIF	**Oris-en-Rattie**	**81.41**	**321**	*e*P	**P**	**02 32 37.6**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**81.41**	**321**	*e*P	**P**	**02 32 37.6**	**+0.4**
	comp=Z,7.2nm,1.0s,mb4.6						
VIVF	**Saint-Julien-l**	**82.11**	**320**	*e*P	**P**	**02 32 41.2**	**+0.3**
CABF	**La Chapelle**	**82.17**	**323**	*e*P	**P**	**02 32 41.1**	**-0.1**
	comp=Z,8.8nm,0.7s,mb4.5						
LASF	**Ste Croix**	**82.23**	**320**	*e*P	**P**	**02 32 41.7**	**+0.2**
HINF	**Hinteralfeld**	**82.36**	**324**	*e*P	**P**	**02 32 42.2**	**0.0**
CDF	**Champ du Feu**	**82.44**	**325**	*e*P	**P**	**02 32 42.2**	**-0.4**
HAU	**Haudompre**	**82.75**	**324**	*e*P	**P**	**02 32 44.3**	**+0.1**
FINES	**FINESS Array B**	**82.87**	**341**	P	**P**	**02 32 44.4**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=112,slow=6.3,SNR=3.4						
MTLF	**Montolieu**	**82.92**	**318**	*e*P	**P**	**02 32 45.1**	**0.0**
SMF	**Signal de Mont**	**83.51**	**322**	*e*P	**P**	**02 32 48.0**	**-0.2**
MEZF	**Maizieres J'vi**	**83.75**	**324**	*e*P	**P**	**02 32 48.7**	**-0.7**
CAF	**Calviac**	**83.77**	**320**	*e*P	**P**	**02 32 49.5**	**0.0**
LOR	**Lormes**	**83.81**	**322**	*e*P	**P**	**02 32 49.5**	**-0.2**
AVF	**Avril sur Loir**	**83.88**	**322**	*e*P	**P**	**02 32 50.2**	**+0.2**
SSF	**Saint Saulge**	**83.92**	**322**	*e*P	**P**	**02 32 50.3**	**0.0**
	comp=Z,16nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**83.92**	**322**	*e*P	**P**	**02 32 50.3**	**0.0**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**83.92**	**322**	*e*P	**P**	**02 32 50.3**	**0.0**
	comp=Z,7.9nm,1.1s,mb4.8						
EPF	**Esparros**	**83.99**	**317**	*e*P	**P**	**02 32 50.9**	**+0.3**
BGF	**Bois d'Agland**	**84.07**	**321**	*e*P	**P**	**02 32 51.1**	**+0.1**
	comp=Z,44nm,1.3s,mb5.1						
BGF	**Bois d'Agland**	**84.07**	**321**	*e*P	**P**	**02 32 51.1**	**+0.1**
BGF				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
BGF	**Bois d'Agland**	**84.07**	**321**	*e*P	**P**	**02 32 51.1**	**+0.1**
	comp=Z,22nm,1.3s,mb5.1						
EQES	**Quesada**	**84.10**	**312**	P	**P**	**02 32 50.9**	**-0.3**
	comp=Z,64nm,1.6s,mb5.5						
ECOG	**Cogollos-Vega**	**84.25**	**311**	P	**P**	**02 32 51.7**	**-0.2**
ECOG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ECOG	**Cogollos-Vega**	**84.25**	**311**	P	**P**	**02 32 51.7**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.5						
RJF	**Les Rejaudoux**	**84.29**	**320**	*e*P	**P**	**02 32 51.9**	**-0.2**
	comp=Z,10nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**84.29**	**320**	*e*P	**P**	**02 32 51.9**	**-0.2**
RJF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
RJF	**Les Rejaudoux**	**84.29**	**320**	*e*P	**P**	**02 32 51.9**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.7						
ERON	**Agron**	**84.32**	**311**	P	**P**	**02 32 53.0**	**+0.7**
	comp=Z,3.7nm,0.4s,mb4.9						
TCF	**Toulx Ste Croi**	**84.33**	**321**	*e*P	**P**	**02 32 52.6**	**+0.3**
MJAR	**Matsushiro Arr**	**84.37**	**50**	P	**P**	**02 32 53.2**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.2,baz=218,slow=4.1,SNR=5.3						
MJAR	**Matsushiro Arr**	**84.37**	**50**	P	**P**	**02 32 53.2**	**+0.7**
ETSF	**Etsaut**	**84.53**	**317**	*e*P	**P**	**02 32 53.2**	**-0.1**
	comp=Z,19nm,0.9s,mb4.9						
ETSF	**Etsaut**	**84.53**	**317**	*e*P	**P**	**02 32 53.2**	**-0.1**
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
ETSF	**Etsaut**	**84.53**	**317**	*e*P	**P**	**02 32 53.2**	**-0.1**
	comp=Z,9.4nm,0.9s,mb4.9						
LFF	**La Frestale**	**84.61**	**319**	*e*P	**P**	**02 32 53.6**	**-0.1**
SJPF	**Ste Jean**	**85.06**	**317**	*e*P	**P**	**02 32 56.1**	**+0.1**
	comp=Z,15nm,0.9s,mb4.8						
SJPF	**Ste Jean**	**85.06**	**317**	*e*P	**P**	**02 32 56.1**	**+0.1**
SJPF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
SJPF	**Ste Jean**	**85.06**	**317**	*e*P	**P**	**02 32 56.1**	**+0.1**
	comp=Z,7.4nm,0.9s,mb4.8						
EADA	**Adamuz**	**85.34**	**311**	P	**P**	**02 32 56.6**	**-0.8**
ESDC	**Sonseca Array**	**85.50**	**313**	P	**P**	**02 32 58.7**	**+0.5**
	comp=Z,3.2nm,0.7s,mb4.6,baz=109,slow=4.1,SNR=12						
ESDC	**Sonseca Array**	**85.50**	**313**	P	**P**	**02 32 58.5**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.7						
ESPR	**Espera**	**85.78**	**310**	P	**P**	**02 32 58.8**	**-0.9**
	comp=Z,4.9nm,0.6s,mb4.9						
MFF	**Saint Martin d**	**85.91**	**320**	*e*P	**P**	**02 33 00.2**	**-0.1**
	comp=Z,31nm,1.2s,mb5.1						
MFF	**Saint Martin d**	**85.91**	**320**	*e*P	**P**	**02 33 00.2**	**-0.1**
MFF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.1						
MFF	**Saint Martin d**	**85.91**	**320**	*e*P	**P**	**02 33 00.2**	**-0.1**
	comp=Z,16nm,1.2s,mb5.1						
HFS	**Hagfors**	**86.27**	**336**	P	**P**	**02 33 01.3**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.6,baz=116,slow=10						
EMIN	**Mina Concepcio**	**86.72**	**310**	P	**P**	**02 33 03.9**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.5						
EBAD	**Badajoz**	**87.33**	**311**	P	**P**	**02 33 07.2**	**0.0**
	comp=Z,5.0nm,0.6s,mb4.9						
NOA	**NORSAR Array B**	**87.79**	**336**	P	**P**	**02 33 07.6**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.9,baz=101,slow=11,SNR=2.7						
SGMF	**Saint Gilles**	**88.11**	**321**	*e*P	**P**	**02 33 10.8**	**-0.1**
ROSF	**Rostrenen**	**88.58**	**321**	*e*P	**P**	**02 33 13.5**	**+0.3**
ARCES	**ARCESS Array B**	**89.28**	**347**	P	**P**	**02 33 16.0**	**-0.5**
	comp=Z,4.0nm,1.0s,mb4.7,baz=97,slow=3.8,SNR=3.7						
ILAR	**Eielson Array**	**125.23**	**17**	PKP	PKPdf	02 39 18.8	-2.2
	comp=Z,0.7nm,0.8s,baz=318,slow=2.9,SNR=5.3						
YKA	**Yellowknife Ar**	**132.61**	**1**	PKP	PKPdf	02 39 33.7	-1.3
	comp=Z,0.3nm,0.6s,baz=343,slow=2.3,SNR=8.8						
YKA	**Yellowknife Ar**	**132.61**	**1**	PKP	PKPdf	02 39 33.7	-1.3
NEW	**Newport**	**146.71**	**5**	PKPbc	PKPbc	02 40 02.4	+0.2
	comp=Z,3.0nm,1.0s,baz=2.8,slow=5.6,SNR=3.7						

*IDC **28** 02:22:24.9±4.5, 3737N×7203E, h102km±42km, mb3.6/10, mb1 3.7/14, mb1mx3.5/24, mbtmp4.0/14, Error ellipse: s-maj=31.6km s-min=19.8km az=117.0*
*ISCJB **28** 02:22:25.8±0.6, 3745N±003×72.17E±007, h141km±8km, mb3.9/18, Error ellipse: s-maj=10.0km s-min=3.4km az=150.1*
*MOS **28** 02:22:28.7±1.6, 3765N×7202E, h155km, mb4.0/9, Error ellipse: s-maj=13.8km s-min=8.0km az=95.0*
*BJI **28** 02:22:28.1, 3752N×72.12E, h158km*
*NEIC **28** 02:22:29.5±0.7, 3765N×7209E, h150km, mb4.0/15, Error ellipse: s-maj=12.9km s-min=10.2km az=140.0*
*NNC **28** 02:22:33.0±2.9, 3803N×7170E, h162km±41km, mb3.5, mpv4.5, Error ellipse: s-maj=29.1km s-min=18.5km az=21.0*

ISC 28 02:22:26.8±0.5, 3744N±003×7217E±008, h135km±8km, n89, σ1±29/105, mb3.9/18, 6C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.63**	**54**	P	**Pn**	**02 23 26.0**	**+4.2**
KSH				S	**Sn**	**02 24 10.5**	**+6.1**
KSH				Smax			
	comp=N,540nm,0.4s						
KSH				Smax			
	comp=E,340nm,0.4s						
AML	**Almayashu**	**4.83**	**14**	P	**Pn**	**02 23 38.3**	**+0.6**
	SNR=271						
UCH	**Uchtor**	**5.11**	**20**	P	**Pn**	**02 23 42.6**	**+1.1**
	SNR=55						
KZA	**Kyzart**	**5.21**	**26**	P	**Pn**	**02 23 43.7**	**+1.0**
	SNR=28						
EKS2	**Erkin-Say**	**5.36**	**13**	P	**Pn**	**02 23 45.5**	**+0.7**
	SNR=76						
AAK	**Ala-Archa**	**5.49**	**18**	P	**Pn**	**02 23 47.8**	**+1.3**
	SNR=78						
AAK	**Ala-Archa**	**5.49**	**18**⇑*e*PN		**Pn**	**02 23 46.7**	**+0.2**
AAK				*e*		02 24 48.8	
AAK				pmax	pmax		
	comp=Z,47nm,0.4s						
AAK	**Ala-Archa**	**5.49**	**18**⇑*e*Pn		**Pn**	**02 23 46.7**	**+0.3**
	comp=Z,47nm,0.4s						
AAK				*e*Sn	**Sn**	**02 24 48.8**	**+0.3**
KBK	**Karagaybulak**	**5.63**	**21**	P	**Pn**	**02 23 49.8**	**+1.4**
	SNR=11						
ULHL	**Ulahol**	**5.73**	**32**	P	**Pn**	**02 23 50.9**	**+1.1**
	SNR=15						
DLH	**Dalhousie**	**5.79**	**146**	*e*P	**Pn**	**02 23 55.0**

comp=Z,6.9nm,1.1s
BVA0 Borovoye Array 15.64 356 P **Pn 02 25 57.5 -2.3**
comp=Z,0.5nm,0.4s,baz=162,slow=12,SNR=42
BVAR Borovoye Array 15.64 356 P **Pn 02 25 58.1 -1.7**
comp=Z,0.6nm,0.3s,baz=161,slow=13,SNR=27
BVAR S **S 02 28 45.9 -13**
comp=Z,0.2nm,0.3s,baz=161,slow=23,SNR=5.8
ZRNK Zerenda 15.67 353 ⇑P **Pn 02 25 57.8 -2.4**
comp=Z,7.4nm,0.8s
ZRNK Zerenda 15.67 353 *e*P **Pn 02 25 58.2 -2.0**
ZRNK *e* 02 28 47.1
ZRNK pmax pmax
comp=Z,10.0nm,0.9s
ZRNK Zerenda 15.67 353 *e*Pn **Pn 02 25 58.1 -2.0**
comp=Z,10nm,0.9s
ZRNK *e*Sn **Sn 02 28 47.1 -7.1**
BRVK Borovoye 15.68 356 *e*P **Pn 02 25 58.6 -1.6**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 15.68 356 *e*Pn **Pn 02 25 58.6 -1.7**
comp=Z,4.2nm,0.6s
AKTK Aktyubinsk 16.48 327 P **Pn 02 26 08.4 -1.6**
AKTK S **S 02 29 02.5 -11**
AKTO Aktyubinsk 16.48 327 P **Pn 02 26 08.4 -1.6**
comp=Z,2.3nm,0.3s,baz=129,slow=14,SNR=39
AKTO S **S 02 29 02.5 -11**
comp=Z,0.3nm,0.3s,baz=12,slow=23,SNR=3.8
AKTO Aktyubinsk 16.48 327 P **Pn 02 26 08.5 -1.6**
AKTO S **S 02 29 02.5 -11**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
LSA Lhasa 17.58 110 P **Pn 02 26 26.8 +3.5**
LSA Lhasa 17.58 110 *e*P **Pn 02 26 27.7 +4.4**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 17.58 110 *e*Pn **Pn 02 26 27.6 +4.3**
comp=Z,8.4nm,0.8s
ZAL Zalesovo 18.66 24 P **P 02 26 35.8 +1.5**
comp=Z,1.2nm,0.3s,baz=254,slow=7.4,SNR=9.9
SHL Shillong 20.51 120 *ex* x 02 27 27.0
SHL *ex* x 02 28 14.0
ARU Arti 21.08 339 *e*P **P 02 27 00.9 +0.6**
ARU Arti 21.08 339 *e*P **P 02 27 00.7 +0.4**
comp=Z,5.9nm,0.8s,mb4.0
GNI Garni 21.52 286 P **P 02 27 08.1 +3.1**
comp=Z,2.1nm,0.5s,mb3.8,baz=97,slow=6.7,SNR=4.5
GNI Garni 21.52 286 *e*P **P 02 27 05.8 +0.8**
GNI pmax pmax
comp=Z,12nm,1.1s
GNI Garni 21.52 286 *e*Pn **P 02 27 05.8 +0.8**
comp=Z,12nm,1.1s,mb4.2
KIV Kislovodsk 23.21 296 P **P 02 27 21.3 -0.4**
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
KIV Kislovodsk 23.21 296 P **P 02 27 21.3 -0.4**
comp=Z,3.1nm,0.5s,mb4.0
MALT Malatya 26.57 282 P **P 02 27 50.1 -2.1**
MALT pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
MALT Malatya 26.57 282 P **P 02 27 50.1 -2.1**
comp=Z,1.7nm,0.9s,mb3.7
BR131 Keskin Array S 30.06 286 *e*P **P 02 28 24.9 +1.8**
comp=Z,0.7nm,0.5s,mb3.6
BRTR Keskin Array B 30.06 286 P **P 02 28 25.2 +2.1**
comp=Z,0.7nm,0.5s,mb3.6,baz=99,slow=7.8,SNR=8.5
CSS Prodhromos 31.30 277 P **P 02 28 34.9 +0.9**
comp=Z,12nm,1.1s,mb4.5
KWP Kalwaria 37.23 305 P **P 02 29 23.0 -2.1**
KWP pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
KWP Kalwaria 37.23 305 P **P 02 29 22.9 -2.2**
comp=Z,1.5nm,0.4s,mb4.0
FINES FINESS Array B 37.24 325 P **P 02 29 26.1 +0.8**
comp=Z,0.7nm,0.7s,mb3.4,baz=111,slow=7.7,SNR=7.3
ARCES ARCESS Array B 40.65 337 P **P 02 29 55.0 +1.4**
comp=Z,1.8nm,0.7s,mb3.8,baz=112,slow=8.3,SNR=8.5
NOA NORSAR Array B 44.21 322 P **P 02 30 22.2 -0.2**
comp=Z,1.0nm,0.7s,mb3.5,baz=312,slow=10,SNR=2.9
KMBO Kilima Mbogo 50.15 228 P **P 02 31 08.8 +0.4**
comp=Z,1.4nm,1.0s,mb3.6,baz=44,slow=15,SNR=5.6
KMBO Kilima Mbogo 50.15 228 *e*P **P 02 31 10.6 +2.2**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 50.15 228 *e*P **P 02 31 10.6 +2.1**
comp=Z,0.9nm,0.5s,mb3.7
BILL Biiibino 57.35 26 *e*P **P 02 31 58.9 -1.9**
BILL pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
BILL Biiibino 57.35 26 *e*P **P 02 31 58.9 -1.9**
comp=Z,2.6nm,0.4s,mb4.4
ESDC Sonseca Array 57.85 298 P **P 02 32 05.9 +1.6**
comp=Z,0.5nm,0.4s,mb3.7,baz=63,slow=6.7,SNR=5.4
TORD Torodi Ar. Bea 66.68 269 P **P 02 33 03.9 +0.8**
comp=Z,1.7nm,0.5s,mb4.1,baz=46,slow=5.4,SNR=57
LSZ Lusaka 66.78 227 P **P 02 33 05.4 +1.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=24,slow=18,SNR=2.5
LSZ Lusaka 66.78 227 P **P 02 33 05.4 +1.7**
INK Inuvik 72.83 10 *e*P **P 02 33 41.3 +0.6**
INK *e* 02 34 37.8
INK pmax pmax
comp=Z,8.0nm,1.5s
INK Inuvik 72.83 10 *e*P **P 02 33 41.3 +0.6**
comp=Z,7.7nm,1.5s,mb4.2
INK *e* 02 34 37.8
DBIC Dimbokro 75.68 267 P **P 02 33 57.0 -0.2**
comp=Z,0.8nm,0.6s,mb3.5,baz=221,slow=23,SNR=3.9
DBIC Dimbokro 75.68 267 *e*P **P 02 33 57.3 +0.1**
DBIC pmax pmax
comp=Z,1.0nm,0.6s
DBIC Dimbokro 75.68 267 *e*P **P 02 33 57.3 +0.1**
comp=Z,0.7nm,0.6s,mb3.5
YKA Yellowknife Ar 80.27 3 P **P 02 34 24.4 +1.9**
comp=Z,0.6nm,0.6s,mb3.4,baz=349,slow=5.5,SNR=14
YKA Yellowknife Ar 80.27 3 P **P 02 34 24.4 +1.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
CTAO Charters Tower 90.08 115 *e*P **P 02 35 12.8 +1.4**

*IDC **28** 02:39:44.7±2.1, 1228S×167.11E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/13, mbtmp3.8/5, MS3.6/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=116.2km s-min=24.8km az=137.0*
*ISCJB **28** 02:39:48.2±1.8, 123S±05×167.1E±05, h33km, mb3.8/6, MS3.5/1, Error ellipse: s-maj=97.6km s-min=20.0km az=97.1*
*NEIC **28** 02:39:50.1±1.6, 1226S×167.10E, h35km, mb3.8/1, Error ellipse: s-maj=87.5km s-min=18.0km az=139.0*
ISC 28 02:39:49.9±1.8, 123S±05×1672E±05, h35km, n7, σ0.9 75/7, mb3.8/6, MS3.5/1, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**21.52**	**246**	*e*P	**P**	**02 44 36.3**	**+0.5**
	1.7nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**30.56**	**226**	P	**P**	**02 46 00.0**	**-0.1**
	0.8nm,0.4s,mb3.9,baz=46,slow=8.8,SNR=4.0						
STKA				LR	LR	02 56 09.8	
	comp=Z,107nm,19.1s,MS3.5,baz=203,slow=32						
WRA	**Warramunga Arr**	**32.40**	**252**	P	**P**	**02 46 15.0**	**-1.3**
	0.2nm,0.3s,mb3.4,baz=85,slow=8.9,SNR=15						
ASAR	**Alice Springs**	**33.52**	**246**	P	**P**	**02 46 27.0**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=70,slow=9.4,SNR=8.7						
ILAR	**Eielson Array**	**84.22**	**18**	P	**P**	**02 52 18.4**	**+0.6**
	0.8nm,0.5s,mb4.1,baz=239,slow=5.9,SNR=26						
YKA	**Yellowknife Ar**	**95.41**	**27**	P	**P**	**02 53 10.2**	**-0.5**
	0.2nm,0.5s,mb3.8,baz=253,slow=4.8,SNR=4.0						
YKA	**Yellowknife Ar**	**95.41**	**27**	P	**P**	**02 53 10.2**	**-0.5**

*BJI **28** 02:45:13.2, 3536S×5350E, h10km, mB5.4, mb5.0, Ms5.2, Msz4.7*
*IDC **28** 02:45:13.9±0.5, 3541S×5426E, h0km, mb4.7/23, mb1 4.8/24, mb1mx4.8/27, mbtmp4.7/24, ML4.6/1, MS4.5/16, Ms1 4.5/16, ms1mx4.4/24, Error ellipse: s-maj=18.1km s-min=12.6km az=23.0*
*ISCJB **28** 02:45:14.4±0.2, 3552S±005×5429E±007, h10km, mb5.0/59, MS4.7/19, Error ellipse: s-maj=7.8km s-min=7.3km az=160.4*
*MOS **28** 02:45:15.0±1.5, 3547S×5423E, h10km, mb5.3/20, Error ellipse: s-maj=14.7km s-min=8.4km az=99.7*
*NEIC **28** 02:45:16.1±0.3, 3544S×5424E, h10km, mb5.2/25, Error ellipse: s-maj=9.5km s-min=8.9km az=56.0*

*HRVD **28** 02:45:16.1±0.2, 3537S×5412E, h12km, MW5.1/77, Centroid moment Tensor Solution. LP body waves: s55,c74; Mantle waves: s77,c133; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.10±.17; $M_{\theta\theta}$3.60±.18; $M_{\phi\phi}$-4.70±.17; $M_{r\theta}$0.96±.47; $M_{\theta\phi}$4.49±.15; $M_{\phi r}$-1.65±.41; Best double couple: $M_0$6.33900×10^{16} NP1:ϕ22.00000°, δ79.00000°, λ-173.00000°. NP2:ϕ291.00000°, δ83.00000°, λ-11.00000°. Principal axes: T 5.5750, Plg3.0000°, Azm337.0000°; N 1.5270, Plg77.0000°, Azm79.0000°; P -7.1020, Plg13.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 02:45:16.0±0.2, 3550S±005×5424E±007, h10km, (h32km±2.1km:pP-P), n172, σ1.9 03/140, mb5.0/59, MS4.7/19, 21C-7D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.98**	**338**	P	**Pn**	**02 49 26.4**	**+0.4**
	2.0nm,0.3s,baz=172,slow=9.5,SNR=28						
BOSA	**Boshof**	**25.45**	**277**	P	**P**	**02 50 43.1**	**-0.9**
	45nm,0.9s,mb5.0,baz=117,slow=11,SNR=32						
BOSA				LR	LR	02 58 52.5	
	comp=Z,1μm,20.5s,MS4.4,baz=113,slow=32						
BOSA	**Boshof**	**25.45**	**277**	*e*P	**P**	**02 50 43.1**	**-0.9**
BOSA				pmax	pmax		
	comp=Z,97nm,1.2s,mb5.2						
BOSA	**Boshof**	**25.45**	**277**	*e*P	**P**	**02 50 43.1**	**-0.9**
	comp=Z,97nm,1.2s,mb5.2						
LBTB	**Lobatse**	**26.77**	**285**	P	**P**	**02 50 54.1**	**-1.8**
	comp=Z,15nm,0.9s,mb4.5,baz=140,slow=7.7,SNR=16						
LBTB				LR	LR	02 59 42.3	
	comp=Z,2μm,19.4s,MS4.7,baz=133,slow=32						
LBTB	**Lobatse**	**26.77**	**285**	*e*P	**P**	**02 50 54.2**	**-1.7**
LBTB				pmax	pmax		
	comp=Z,56nm,1.5s,mb4.9						
LBTB	**Lobatse**	**26.77**	**285**	*e*P	**P**	**02 50 54.1**	**-1.8**
	comp=Z,56nm,1.5s,mb4.9						
SUR	**Sutherland**	**27.84**	**267**	P	**P**	**02 51 05.3**	**-0.2**
	comp=Z,11nm,0.8s,mb4.5,baz=152,slow=6.6,SNR=5.3						
SUR				LR	LR	02 59 55.2	
	comp=Z,2μm,21.0s,MS4.6,baz=118,slow=32						
LSZ	**Lusaka**	**30.81**	**304**	*e*P	**P**	**02 51 31.0**	**-0.9**
LSZ				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6						
LSZ	**Lusaka**	**30.81**	**304**	*e*P	**P**	**02 51 31.0**	**-0.9**
	comp=Z,14nm,1.3s,mb4.6						
SYO	**Syowa Base**	**34.54**	**189**	⇓*es*P	sP	02 52 20.8	+12
SYO	**Syowa Base**	**34.54**	**189**	⇑*e*PP	PP	02 53 26.2	+3.5
SYO	**Syowa Base**	**34.54**	**189**	⇓*e*P	**P**	**02 52 04.6**	**+0.1**
SYO				⇓*es*P	sP	02 52 20.8	+12
SYO				⇑*e*PP	PP	02 53 26.2	+3.5
TSUM	**Tsumeb**	**36.14**	**287**	P	**P**	**02 52 17.4**	**-0.9**
	comp=Z,20nm,0.9s,mb5.1,baz=119,slow=8.1,SNR=40						
TSUM	**Tsumeb**	**36.14**	**287**	*e*P	**P**	**02 52 17.5**	**-0.8**
	comp=Z,24nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**37.67**	**331**	P	**P**	**02 52 32.0**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.0,baz=164,slow=10,SNR=6.6						
KMBO				LR	LR	03 05 39.3	
	comp=Z,734nm,21.4s,MS4.5,baz=124,slow=33						
KMBO	**Kilima Mbogo**	**37.67**	**331**	*e*P	**P**	**02 52 33.0**	**+1.7**
KMBO				*e*PP	pP	02 52 40.0	+5.6
KMBO				pmax	pmax		
	comp=Z,71nm,2.3s						
KMBO	**Kilima Mbogo**	**37.67**	**331**	*e*P	**P**	**02 52 33.0**	**+1.7**
	comp=Z,71nm,2.3s,mb5.0						
KMBO				*e*pP	pP	02 52 40.0	+5.6
CASY	**Casey**	**44.61**	**151**	*e*P	**P**	**02 53 29.0**	**+0.6**
SNAA	**Sanae**	**46.47**	**201**	P	**P**	**02 53 43.3**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=95,slow=7.8,SNR=7.6						
SNAA	**Sanae**	**46.47**	**201**	⇑*i*P	**P**	**02 53 43.4**	**+0.3**
SNAA				*e*	pP	02 53 46.7	+0.4
SNAA				*e*		02 53 50.3	
SNAA				*e*		02 53 53.5	
SNAA				*e*		02 53 57.8	
SNAA				*e*		02 54 08.9	
SNAA				*e*		02 54 19.1	
SNAA				*e*		02 54 46.4	
SNAA				*e*		02 55 16.9	
SNAA	**Sanae**	**46.47**	**201**	*e*P	**P**	**02 53 43.4**	**+0.3**
SNAA				*e*		02 53 56.7	
VNA2	**Neumayer--Watz**	**47.67**	**203**	⇑*i*P	**P**	**02 53 52.1**	**-0.4**
VNA2				*e*	pP	02 53 56.3	+0.7
VNA2				*e*		02 53 59.4	
VNA2				*e*		02 54 01.1	
VNA2				*e*		02 54 06.6	
VNA2				*e*		02 54 18.5	
VNA2				*e*		02 54 27.2	
VNA2				*e*		02 54 54.8	
VNA2				*e*		02 55 27.3	
VNA2				*e*		03 16 33.9	
VNA2				*e*		03 20 18.5	
VNA1	**Neumayer--Stat**	**47.88**	**203**	⇑*i*P	**P**	**02 53 50.5**	**-3.7**
VNA1				*e*		02 53 58.2	
VNA1				*e*		02 54 02.9	
VNA1				*e*		02 54 19.0	
VNA1				*e*		02 54 27.1	
VNA1				*e*		02 54 53.4	
VNA1				*e*		02 55 22.0	
VNA1				*e*		03 20 18.3	
VNA3	**Neumayer Olymp**	**48.46**	**203**	⇑*i*P	**P**	**02 53 58.0**	**-0.6**
VNA3				*e*		02 54 03.4	
VNA3				*e*		02 54 06.9	
VNA3				*e*		02 54 10.3	
VNA3				*e*		02 54 13.7	
VNA3				*e*		02 54 24.4	
VNA3				*e*		02 54 33.9	
VNA3				*e*		02 55 02.7	
VNA3				*e*		02 55 33.5	
VNA3				*e*		03 20 17.7	
PALK	**Pallekele**	**49.31**	**36**	*e*P	**P**	**02 54 06.2**	**+1.0**
	comp=Z,24nm,1.3s,mb5.1						
MUN	**Mundaring**	**50.91**	**105**	*e*P	**P**	**02 54 18.6**	**+1.4**
QSPA	**South Pole Qui**	**54.68**	**180**	⇑*i*P	**P**	**02 54 44.9**	**-0.3**
	comp=Z,30nm,0.9s,mb5.3						
PSI	**Prapat**	**56.53**	**57**	P	**P**	**02 54 58.1**	**-0.4**
	comp=Z,7.3nm,0.9s,mb4.7,baz=181,slow=12,SNR=11						
POO	**Poona**	**56.86**	**22**	*e*P	**P**	**02 54 58.5**	**-2.3**
HYB	**Hyderabad**	**57.46**	**28**	*i*P	**P**	**02 55 05.0**	**0.0**
HYB	**Hyderabad**	**57.46**	**28**	*e*P	**P**	**02 55 05.0**	**0.0**
VNDA	**Vanda**	**59.30**	**166**	P	**P**	**02 55 18.1**	**+0.2**
	comp=Z,15nm,1.0s,mb5.0,baz=253,slow=7.0,SNR=14						
VNDA				LR	LR	03 18 12.3	
	comp=Z,580nm,19.3s,MS4.7,baz=237,slow=33						
KULM	**Kulim**	**59.52**	**57**	*e*P	**P**	**02 55 18.9**	**-0.5**
KSM	**Kuching**	**63.86**	**68**	P	**P**	**02 55 49.0**	**+0.4**
EIL	**Elat**	**67.32**	**342**	*e*P	**P**	**02 56 11.9**	**+0.9**
	comp=Z,265nm,1.2s						
ASAR	**Alice Springs**	**68.59**	**104**	P	**P**	**02 56 19.4**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.7,baz=234,slow=5.8,SNR=58						
KOLN	**Koldanda**	**68.76**	**28**	*e*P	**P**	**02 56 19.3**	**-0.8**
	comp=Z,65nm,1.0s,mb5.5						
DDI	**Dehra Dun**	**69.20**	**22**	*ex*	x	02 56 21.2	
DMN	**Daman**	**69.20**	**29**	*e*P	**P**	**02 56 22.1**	**-0.7**
	comp=Z,53nm,1.0s,mb5.4						
PKI	**Pulchoki**	**69.29**	**29**	*e*P	**P**	**02 56 22.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**69.35**	**304**	P	**P**	**02 56 23.7**	**0.0**
	comp=Z,14nm,1.0s,mb4.8,baz=127,slow=4.8,SNR=38						
GKN	**Gorkha**	**69.37**	**29**	*e*P	**P**	**02 56 22.5**	**-1.4**
	comp=Z,78nm,1.0s,mb5.6						
KKN	**Kakani**	**69.43**	**29**	*e*P	**P**	**02 56 23.2**	**-1.0**
	comp=Z,55nm,1.0s,mb5.4						
KKN	**Kakani**	**69.43**	**29**	*e*P	**P**	**02 56 23.2**	**-1.0**
KKN				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
DBIC	**Dimbokro**	**69.54**	**295**	P	**P**	**02 56 25.4**	**+0.5**
	comp=Z,20nm,1.2s,mb4.9,baz=106,slow=8.5,SNR=11						
DBIC				LR	LR	03 24 21.6	
	comp=Z,299nm,18.1s,MS4.6,baz=115,slow=34						
DBIC	**Dimbokro**	**69.54**	**295**	*e*P	**P**	**02 56 25.2**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,20nm,1.1s						
DBIC	**Dimbokro**	**69.54**	**295**	*e*P	**P**	**02 56 25.2**	**+0.3**
	comp=Z,20nm,1.1s,mb5.0						
JIRN	**Jiri**	**69.69**	**30**	*e*P	**P**	**02 56 25.1**	**-0.7**
GUN	**Gumba**	**69.78**	**30**	*e*P	**P**	**02 56 26.2**	**-0.2**
	comp=Z,204nm,1.3s,mb5.9						
STKA	**Stephens Creek**	**70.37**	**116**	P	**P**	**02 56 28.4**	**-1.6**
	comp=Z,17nm,1.1s,mb4.9,baz=228,slow=4.2,SNR=15						
STKA				LR	LR	03 22 02.4	
	comp=Z,235nm,19.1s,MS4.5,baz=215,slow=31						
STKA	**Stephens Creek**	**70.37**	**116**	*e*P	**P**	**02 56 28.4**	**-1.7**
SHL	**Shillong**	**70.40**	**36**	*e*P	**P**	**02 56 29.5**	**-0.7**
THN	**Thein Dam**	**70.52**	**19**	*e*P	**P**	**02 56 29.0**	**-1.9**
WRA	**Warramunga Arr**	**70.85**	**101**	P	**P**	**02 56 33.4**	**+0.5**
	comp=Z,25nm,1.0s,mb5.1,baz=234,slow=5.3,SNR=102						
WRAB	**Tennant Creek**	**70.86**	**101**	P	**P**	**02 56 33.0**	**0.0**
	comp=Z,205nm,1.3s,mb5.9,SNR=13						
WRAB	**Tennant Creek**	**70.86**	**101**	*d i*P	**P**	**02 56 32.9**	**-0.1**
BHL	**Bhannes**	**71.20**	**344**	*e*P	**P**	**02 56 37.0**	**+1.9**
MSL	**Mosul**	**72.17**	**351**	*ex*	x	02 56 43.0	
CSS	**Prodhromos**	**72.77**	**342**	*e*P	**P**	**02 56 44.0**	**-0.5**
	comp=Z,21nm,1.0s,mb5.0						
CSS				*e*pP	pP	02 56 54.3	+6.5
LSA	**Lhasa**	**73.58**	**33**	P	**P**	**02 56 50.0**	**+0.7**
LSA				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LSA	**Lhasa**	**73.58**	**33**	*e*P	**P**	**02 56 50.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,81nm,1.5s,mb5.4						
LSA	**Lhasa**	**73.58**	**33**	*e*P	**P**	**02 56 50.1**	**+0.8**
	comp=Z,81nm,1.5s,mb5.4						
MALT	**Malatya**	**74.89**	**347**	⇑P	**P**	**02 56 57.2**	**+0.3**
MALT	**Malatya**	**74.89**	**347**	P	**P**	**02 56 57.1**	**+0.2**
KMI	**Kunming**	**75.76**	**44**	P	**P**	**02 57 08.8**	**+6.9**
KMI				PCP	PcP	02 57 19.8	+5.3
KMI				S	S	03 06 47.5	+3.8
KMI				SKS		03 07 10.0	
KMI				SCS	ScS	03 07 16.3	+0.3
KMI				PS		03 07 29.5	
KMI				SS	SS	03 11 42.0	+6.7
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,75nm,3.1s						
KMI				LR	LR		
	comp=N,430nm,25.4s						
KMI				LR	LR		
	comp=E,390nm,17.8s						
KMI				LR	LR		
	comp=Z,537nm,21.2s,MS4.8						
GNI	**Garni**	**75.78**	**353**	*c i*P	**P**	**02 57 03.7**	**+1.7**
GNI				pmax	pmax		
	comp=Z,31nm,1.7s						
GNI	**Garni**	**75.78**	**353**	P	**P**	**02 57 04.3**	**+2.3**
	comp=Z,26nm,1.3s,mb5.0						
BR131	**Keskin Array S**	**77.23**	**344**	P	**P**	**02 57 08.8**	**-1.5**
	comp=Z,4.9nm,0.8s,mb4.5						
BR131				PcP	PcP	02 57 17.6	-3.4
BRTR	**Keskin Array B**	**77.23**	**344**	P	**P**	**02 57 08.9**	**-1.3**
	comp=Z,6.6nm,1.0s,mb4.5,baz=167,slow=7.7,SNR=27						
KSH	**Kashi**	**77.29**	**17**	*e*P	**P**	**02 57 12.0**	**+1.4**
KSH				*e*AP	pP	02 57 22.3	+8.4
KSH				*e*PCP	PcP	02 57 24.3	+3.1
KSH				*e*PP	PP	03 00 07.0	+2.4
KSH				*e*PPP		03 01 55.0	
KSH				*e*S	S	03 06 56.3	-4.3
KSH				*e*SKS		03 07 16.3	
KSH				*e*SCS	ScS	03 07 22.0	-6.4
KSH				LR	LR		
	comp=N,400nm,5.8s						
KSH				LR	LR		
	comp=E,340nm,5.1s						
ANTO	**Ankara**	**77.56**	**343**	*e*P	**P**	**02 57 12.0**	**-0.1**
ANTO				*e*		02 57 24.4	
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ANTO	**Ankara**	**77.56**	**343**	*e*P	**P**	**02 57 12.0**	**-0.1**
	comp=Z,6.7nm,0.9s,mb4.6						
ANTO				*e*PcP	PcP	02 57 24.4	+2.0
ZEI	**Tsey**	**78.47**	**352**	*e*P	**P**	**02 57 17.2**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
GYA	**Guiyang**	**79.05**	**46**	⇑*i*P	**P**	**02 57 20.0**	**-0.3**
GYA				AP	pP	02 57 30.3	+6.7
GYA				XP	sP	02 57 34.5	+10
GYA				PP	PP	03 00 20.5	+1.1
GYA				S	S	03 07 14.3	-5.2
GYA				SKS		03 07 27.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,460nm,18.4s,MS5.1						
GYA				LR	LR		
	comp=E,640nm,18.7s,MS5.1						
GYA				LR	LR		
	comp=Z,590nm,18.9s,MS4.9						
AML	**Almayashu**	**79.28**	**15**	P	**P**	**02 57 22.4**	**+0.8**
	SNR=9.2						
UCH	**Uchtor**	**79.55**	**15**	P	**P**	**02 57 23.0**	**-0.1**
	SNR=13						
KZA	**Kyzart**	**79.56**	**16**	P	**P**	**02 57 23.6**	**+0.4**
	SNR=10						
KIV	**Kislovodsk**	**79.78**	**352**	P	**P**	**02 57 25.6**	**+1.3**
KIV				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**79.78**	**352**	P	**P**	**02 57 25.6**	**+1.4**
	comp=Z,30nm,1.2s,mb5.1						
EKS2	**Erkin-Say**	**79.81**	**15**	P	**P**	**02 57 25.1**	**+0.6**
	SNR=14						
SOC	**Sochi**	**79.81**	**349**	*c i*P	**P**	**02 57 23.4**	**-1.1**
SOC				*e*PP	pP	02 57 31.9	+4.1
SOC				*e*		03 00 32.3	
SOC				*e*PPP		03 02 16.0	
SOC				*e*S	S	03 07 25.2	-2.3
SOC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**79.93**	**15**	P	**P**	**02 57 26.0**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**79.93**	**15**	P	**P**	**02 57 24.2**	**-0.9**
	comp=Z,85nm,1.4s,mb5.5,SNR=13						
AAK	**Ala-Archa**	**79.93**	**15**	P	**P**	**02 57 24.5**	**-0.6**
AAK				*e*		02 57 35.5	
AAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**79.93**	**15**	P	**P**	**02 57 24.5**	**-0.7**
	comp=Z,22nm,1.2s,mb5.0						
AAK				*e*		02 57 35.5	
ULHL	**Ulahol**	**79.95**	**16**	P	**P**	**02 57 25.3**	**+0.1**
	SNR=9.1						
FRU	**Bishkek**	**80.15**	**15**	*e*P	**P**	**02 57 28.0**	**+1.7**
FRU				pmax	pmax		
	comp=Z,170nm,2.7s,mb5.5						
CTAO	**Charters Tower**	**80.19**	**108**	*e*P	**P**	**02 57 27.4**	**+0.9**
CTAO				*e*		02 57 33.6	
CTAO				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
CTAO	**Charters Tower**	**80.19**	**108**	*e*P	**P**	**02 57 27.4**	**+0.9**
	comp=Z,37nm,1.3s,mb5.2						
CTAO				*e*PcP	PcP	02 57 33.6	-0.2
CD2	**Chengdu**	**80.80**	**41**	*e*P	**P**	**02 57 34.0**	**+4.2**
CD2				S	S	03 07 40.3	+2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,7.2s						
CD2				LR	LR		
	comp=E,240nm,18.0s						
CD2				LR	LR		
	comp=Z,210nm,22.8s,MS4.4						
GOF	**Gofitskoye**	**80.82**	**352**	*e*P	**P**	**02 57 29.9**	**0.0**
GOF				pmax	pmax		
	comp

WMQ LR LR
comp=E,127nm,11.0s,MS4.7
WMQ LR LR
comp=Z,115nm,10.0s,MS4.6
VRI Vrincioaia 84.72 341 ⇑P **P 02 57 49.3 -0.8**
VOIR 84.78 340 ⇑P **P 02 57 56.6 +6.1**
LZH Lanzhou 84.88 38 *e*P **P 02 57 51.0 +0.1**
LZH AP pP 02 58 01.5 +7.2
LZH XP sP 02 58 05.0 +10
LZH PP PP 03 01 10.3 +3.0
LZH *e*S 03 08 17.3
LZH XS sS 03 08 34.8 +10
LZH *e*SS SS 03 13 54.8 +3.1
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,78nm,6.2s
LZH LR LR
comp=N,860nm,15.0s
LZH LR LR
comp=Z,980nm,17.4s,MS5.2
KIS Kishinev 85.24 343 *e*P **P 02 57 53.0 +0.2**
KIS *e* 02 58 02.0
GTA Gaotai 85.59 34 *e*P **P 02 57 53.5 -1.0**
GTA AP pP 02 58 02.5 +4.7
GTA XP sP 02 58 06.5 +7.5
GTA PP PP 03 01 14.5 +1.4
GTA PPP 03 03 10.0
GTA SKS 03 08 12.5
GTA S 03 08 21.5
GTA XS sS 03 08 38.0 +6.0
GTA PS 03 09 23.0
GTA AMB AMB
comp=Z,15nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,258nm,5.7s
GTA LR LR
comp=N,207nm,12.2s,MS5.0
GTA LR LR
comp=E,282nm,13.3s,MS5.0
GTA LR LR
comp=Z,220nm,21.3s
MKAR Makanchi Array 85.71 19 P **P 02 57 52.8 -2.4**
comp=Z,2.9nm,1.0s,mb4.5,baz=214,slow=4.1,SNR=15
MKAR Makanchi Array 85.71 19⇑*e*P **P 02 57 54.7 -0.4**
BZS Buzias 85.96 338⇑P **P 02 57 54.7 -1.6**
TRQA Tornquist 85.97 225 P **P 02 57 56.5 +0.1**
comp=Z,12nm,1.1s,mb5.0
XAN Xi'an 86.01 43 P **P 02 57 55.5 -1.1**
XAN AP pP 02 58 07.0 +7.1
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.8
XAN LR LR
comp=N,245nm,20.4s,MS4.7
XAN LR LR
comp=E,260nm,21.6s,MS4.7
XAN LR LR
comp=Z,354nm,19.3s,MS4.8
WHN Wuhan 86.65 49 P **P 02 58 03.5 +3.8**
BURAR Bucovina Array 86.73 341⇓P **P 02 58 03.9 +3.7**
VRSR Storozhevoye 87.35 351 *e*P **P 02 58 03.1 -0.1**
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.9s
MDT Midelt 87.50 314 P **P 02 58 04.3 +0.4**
comp=E,2.1nm,0.8s,mb4.4,baz=87,slow=3.9,SNR=4.8
KURK Kurchatov 88.50 15 P **P 02 58 17.5 +8.9**
PSZ Piszkesteto 88.55 338⇑*e* **P 02 58 07.7 -1.2**
AKASG Malin Array Be 88.62 344 P **P 02 58 07.2 -2.0**
comp=E,6.0nm,0.9s,mb4.9,baz=170,slow=4.6,SNR=23
KOLS Kolonicke sedl 88.75 340 *e*P **P 02 58 10.7 +0.9**
KECS Kecovo 88.87 338 *e*P **P 02 58 09.6 -0.8**
SRO2 Moca 88.88 337 *e*P **P 02 58 12.1 +1.7**
SRO1 Iza 88.93 337 *e*P **P 02 58 12.7 +2.0**
CRVS Cervenica-Dubn 88.95 339 *e*P **P 02 58 12.8 +2.0**
SRO Srobarova 88.95 337 *e*P **P 02 58 12.4 +1.6**
SRO *e* 02 58 30.3
ZRNK Zerenda 89.02 9 P **P 02 58 12.6 +1.5**
ZRNK *e* 02 58 21.9
STHS Stebnicka Huta 89.48 339 *e*P **P 02 58 14.6 +1.4**
STHS *e*sP sP 02 58 20.0 +2.2
NIE Niedzica 89.75 339 *e*P **P 02 58 15.5 +1.0**
NJ2 Nanjing 90.47 50 *e*P **P 02 58 17.0 -0.9**
NJ2 AP pP 02 58 27.5 +6.3
NJ2 XP sP 02 58 31.5 +9.1
NJ2 PP PP 03 01 54.0 +1.7
NJ2 S 03 09 07.0
NJ2 XS sS 03 09 25.0 +6.5
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,670nm,14.7s,MS5.3
NJ2 LR LR
comp=E,560nm,16.0s,MS5.3
BDFB Brasilia 90.69 250 P **P 02 58 20.8 +1.9**
comp=E,4.4nm,1.0s,mb4.8,baz=169,slow=5.3,SNR=6.5
BDFB LR LR 03 30 25.1
comp=E,321nm,20.4s,MS4.8,baz=121,slow=30
GERES GERESS Array B 91.40 335 P **P 02 58 20.7 -1.5**
comp=E,0.1nm,0.3s,baz=11,slow=29,SNR=3.0
OBN Obninsk 91.52 350 *e*P **P 02 58 23.1 +0.4**
OBN *e*S 03 08 53.6
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
ARU Arti 91.64 2⇓*i*P **P 02 58 24.6 +1.3**
ARU *e* 03 02 03.3
ARU *e*PPP 03 04 01.1
ARU *e*S 03 08 54.1
ARU *e*SS SS 03 15 33.4 +3.1
ARU pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
ARU Arti 91.64 2 P **P 02 58 21.8 -1.5**
comp=Z,3.0nm,0.6s,mb4.8
ESDC Sonseca Array 92.05 319 P **P 02 58 25.0 -0.2**
comp=Z,4.6nm,0.9s,mb4.8,baz=138,slow=5.0,SNR=14
HHC Hu-ho-hao-te 92.43 40 *e*P **P 02 58 30.5 +3.5**
HHC SKS 03 08 59.5
HHC S 03 09 30.5
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,382nm,5.5s
HHC LR LR
comp=N,517nm,22.6s,MS5.3
HHC LR LR
comp=E,1μm,22.6s,MS5.3
HHC LR LR
comp=Z,266nm,22.6s,MS4.6
ZAL Zalesovo 92.91 18 P **P 02 58 27.6 -1.6**
comp=Z,0.8nm,0.3s,mb4.6,baz=273,slow=19,SNR=3.7
ZAL LR LR 03 35 02.9
comp=Z,86nm,21.8s,MS4.2,baz=281,slow=32
ZAL Zalesovo 92.91 18 *i*P **P 02 58 29.8 +0.6**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
BRG Berggiesshubel 93.04 336 *e*P **P 02 58 30.7 +0.9**
comp=Z,5.8nm,1.3s,mb4.8
BRG Berggiesshubel 93.04 336 *e*P **P 02 58 30.7 +0.9**
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
SUW Suwalki 93.10 342 P **P 02 58 31.4 +1.3**
CLL Collm 93.72 336 *e*P **P 02 58 33.0 +0.1**
SONM Songino Array 95.16 32 P **P 02 58 39.4 -0.1**
comp=Z,1.0nm,1.1s,mb4.2,baz=242,slow=2.7,SNR=4.3
SONM LR LR 03 36 41.5
comp=Z,204nm,21.4s,MS4.6,baz=204,slow=32
ULN Ulaanbaatar 95.47 33⇑*e*P **P 02 58 40.6 -0.3**
CN2 Changchun 102.03 44 *e*P Pdif 02 59 15.0 +4.7
TIXI Tiksi 118.67 20⇑*i*PKIKP PKPdf 03 04 05.1 +0.9
OTAV Otavalo 123.76 242 *e*P PKPdf 03 04 28.5 +15
SEY Seymchan 124.54 33 *i*PKIKP PKPdf 03 04 14.7 -0.8
BILL Bilibino 130.60 27 *e*PKIKP PKPdf 03 04 34.1 +7.0
BILL pmax pmax
comp=Z,6.0nm,1.5s
TNA Tin City 141.02 26 PKPdf PKPdf 03 04 49.4 +3.0
ACSO Alum Creek Sta 146.15 291 PKPdf PKPdf 03 04 56.8 +1.4
ACSO PKPab PKPab 03 05 03.4 +6.4
INK Inuvik 146.85 5 *e*PKP2 PKPab 03 04 57.1 -2.6
SWET Sewanee 147.67 281 PKPdf PKPdf 03 05 00.4 +2.5
ILAR Eielson Array 148.05 17 PKPbc PKPbc 03 04 59.6 -2.1
comp=Z,5.1nm,0.8s,baz=319,slow=3.2,SNR=50
MCK McKinley 148.38 20 PKP2 PKPab 03 05 06.9 +1.1
WCI Wyandotte Cave 148.47 287 *e*PKIKP PKPdf 03 05 01.1 +1.8
FCC Fort Churchill 148.79 328 PKP2 PKPab 03 05 02.4 -5.1
PLAL Pickwick Lake 149.34 280 PKPdf PKPdf 03 05 02.9 +2.2
WVT Waverly 149.36 282 *e*PKP2 PKPab 03 05 03.7 -6.1
DAWY Dawson 150.22 12 *e*P PKPdf 03 05 06.5 +4.4
DAWY PKPdf PKPdf 03 05 06.6 +4.5
SLKM Skilak Lake 150.44 25 *e*PKIKP PKPdf 03 05 06.8 +4.4
DIV Divide 151.35 20 PKPab PKPab 03 05 16.4 -1.6
EYMN Ely 151.80 307 PKPdf PKPdf 03 05 10.5 +6.0
YKW3 Yellowknife Ar 152.03 349 *e*PKPdf PKPdf 03 05 09.7 +4.9
YKA Yellowknife Ar 152.09 349 PKPbc PKPbc 03 05 08.9 -2.7
comp=Z,1.2nm,0.6s,baz=14,slow=2.0,SNR=15
ULM Lac du Bonnet 153.82 314 PKP PKPdf 03 05 04.9 -2.6
comp=Z,5.1nm,1.2s,baz=338,slow=9.2,SNR=3.1
FFC Flin Flon 154.70 327 PKP2 PKPab 03 05 31.1 -1.0
WMOK Wichita Mounta 157.94 276 PKIKP PKPdf 03 05 13.4 +0.5
YFT Old Faithful 165.50 313 PKPab PKPab 03 06 22.8 +3.8
NEW Newport 165.73 336 PKP2 PKPab 03 06 22.0 +1.9
HWUT Hardware Ranch 167.33 303 *e*PKPdf PKPdf 03 05 22.3 +0.2
MNV Mina 173.25 298 *e*PKIKP PKPdf 03 05 30.9 +5.5

STR ***28*** *02:56:33.9±0.2, 4445N×723E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
GEN ***28*** *02:56:33.8, 4446N×724E, h13km, ML2.0*
CSEM ***28*** *02:56:33.9±0.0, 4442N×729E, h2km, MD2.7/5, Error ellipse: s-maj=1.2km s-min=0.8km az=60.0*
ISCJB ***28*** *02:56:33.3±0.2, 4446N±002×727E±003, h21km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=134.0*
ROM ***28*** *02:56:34.0±0.2, 4445N×731E, h10km, Md2.7/5, Ml2.5/2, Error ellipse: s-maj=5.7km s-min=2.4km az=132.0*
LDG ***28*** *02:56:34.5±0.1, 4442N×725E, h5km, Md2.9/1, Ml2.8/18, Error ellipse: s-maj=2.3km s-min=1.2km az=75.0*
NEIC ***28*** *02:56:34.0, 4445N×731E, h10km, ML2.8(LDG), ML2.4(STR), ML2.5(ROM), After ROM.*
ISC 28 02:56:33.4±0.2, 4445N±001×725E±002, h14km±2km, n65, σ0§87/107, 3C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.05**	**1**	⇓*i*Pg	**Pg**	**02 56 36.7**	**+0.6**
DOI				Sg	**Sg**	**02 56 38.5**	**+0.5**
	7μm,0.1s						
PZZ	**Prazzo**	**0.12**	**296**	P	**Pg**	**02 56 37.0**	**+0.2**
STV2	**Anna di Valdie**	**0.22**	**164**	P	**Pg**	**02 56 38.7**	**+0.5**
STV	**Sta Anna Valdi**	**0.22**	**165**	P	**Pg**	**02 56 38.7**	**+0.5**
ENR	**Entracque**	**0.26**	**151**	P	**Pg**	**02 56 39.4**	**+0.4**
SURF	**Saint Ours**	**0.31**	**275**	Pg	**Pg**	**02 56 39.8**	**0.0**
SURF				Sg	**Sg**	**02 56 44.4**	**+0.2**
MBDF	**Montbardon**	**0.43**	**309**	*e*Pg	**Pg**	**02 56 42.2**	**+0.1**
MBDF				*e*Sg	**Sg**	**02 56 48.0**	**+0.1**
	702nm,0.4s						
ROB	**Roburent**	**0.48**	**109**	P	**Pg**	**02 56 43.1**	**+0.3**
AUTN	**L'Aution**	**0.48**	**164**	Pg	**Pg**	**02 56 43.1**	**+0.2**
AUTN				Sg	**Sg**	**02 56 49.8**	**+0.5**
SAOF	**Saorge**	**0.52**	**154**	Pg	**Pg**	**02 56 43.6**	**0.0**
SAOF				Sg	**Sg**	**02 56 50.3**	**-0.2**
MONE	**Monesi**	**0.52**	**135**	P	**Pg**	**02 56 43.8**	**+0.1**
MVIF	**Mont Vial**	**0.56**	**187**	Pg	**Pg**	**02 56 44.7**	**+0.3**
MVIF				Sg	**Sg**	**02 56 52.3**	**+0.4**
RRL	**Cesana Torines**	**0.57**	**325**	P	**Pg**	**02 56 44.6**	**0.0**
FENE	**Fenestrelle**	**0.59**	**347**	P	**Pg**	**02 56 44.7**	**-0.3**
SBF	**Sospel**	**0.61**	**167**	*e*Pg	**Pg**	**02 56 45.3**	**0.0**
SBF				*e*Sg	**Sg**	**02 56 52.2**	**-1.1**
	74nm,0.2s,SNR=1.0						
RORO		**0.68**	**120**	P	**Pg**	**02 56 46.8**	**+0.1**
NEGI	**Negi**	**0.69**	**151**	P	**Pg**	**02 56 46.8**	**-0.1**
RSP	**Reno Superiore**	**0.70**	**1**	P	**Pg**	**02 56 45.8**	**-1.2**
IMI	**Imperia**	**0.71**	**139**⇑	*i*Pg	**Pg**	**02 56 47.2**	**-0.1**
IMI				Sg	**Sg**	**02 56 56.6**	**-0.1**
	32nm,0.1s						
REVF	**Revere**	**0.72**	**173**	Pg	**Pg**	**02 56 47.9**	**+0.5**
BNI	**Bardonecchia**	**0.72**	**326**	*e*Pg	**Pg**	**02 56 47.5**	**+0.1**
BNI				*e*Sg	**Sg**	**02 56 56.5**	**-0.5**
BNI	**Bardonecchia**	**0.72**	**326**	*e*Pg	**Pg**	**02 56 47.5**	**0.0**
BNI				*e*Sg	**Sg**	**02 56 56.5**	**-0.5**
FIN	**Finale Ligure**	**0.73**	**109**⇑	*i*Pg	**Pg**	**02 56 47.6**	**-0.1**
FIN				Sg	**Sg**	**02 56 57.3**	**0.0**
	36nm,0.2s						
MONC	**Moncucco Torin**	**0.79**	**38**⇑	*e*Pg	**Pg**	**02 56 48.9**	**+0.2**
	48nm,0.4s						
PCP	**Pian Castagno**	**0.93**	**84**	P	**Pb**	**02 56 51.0**	**-0.3**
FRF	**La Foret Royal**	**0.99**	**206**	*e*Pg	**Pg**	**02 56 52.2**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**02 57 04.9**	**-0.6**
	74nm,0.2s,SNR=1.0						
FRF				*e*Sn	**Sn**	**02 57 06.5**	**-0.1**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.08**	**296**	*e*Pg	**Pg**	**02 56 53.7**	**-0.5**
ORIF				*e*Sg	**Sg**	**02 57 07.0**	**-1.3**
	49nm,0.2s						
GDM	**Grand'Maison**	**1.10**	**313**	Pg	**Pg**	**02 56 54.5**	**-0.1**
LPG	**La Plagne**	**1.10**	**342**	*e*Pg	**Pg**	**02 56 54.0**	**-0.6**
LPG				*e*Sg	**Sg**	**02 57 10.0**	**+1.0**
	26nm,0.2s						
TRAV		**1.12**	**18**	P	**Pb**	**02 56 52.4**	**-2.0**
LPL	**La Plagne**	**1.12**	**341**	*e*Pg	**Pg**	**02 56 54.1**	**-1.0**
LPL				*e*Sg	**Sg**	**02 57 10.6**	**+0.9**
	29nm,0.4s						
LMR	**La Mourre**	**1.24**	**206**	*e*Pg	**Pg**	**02 56 56.7**	**-0.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 57 12.4**	**-0.3**
	77nm,0.2s,SNR=1.0						
ORO	**Oropa**	**1.28**	**24**	Pg	**Pg**	**02 56 55.8**	**-2.3**
ORX	**Oropa**	**1.29**	**24**	P	**Pn**	**02 56 54.8**	**-2.1**
SMRF	**Simiane la Rot**	**1.29**	**249**	*e*Pg	**Pg**	**02 56 58.4**	**+0.1**
SMRF				*e*Sg	**Sg**	**02 57 15.0**	**-0.1**
	81nm,0.4s						
GRN	**Grenoble**	**1.33**	**307**	Pg	**Pg**	**02 56 59.3**	**+0.4**
GRN				Sg	**Sg**	**02 57 16.6**	**+0.4**
VIVF	**Saint-Julien-l**	**1.88**	**283**	*e*Pg	**Pg**	**02 57 10.0**	**+0.5**
VIVF				*e*Sn	**Sn**	**02 57 28.7**	**+0.2**
	7.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.88**	**283**	*e*Pg	**Pg**	**02 57 10.0**	**+0.5**
VIVF				*e*Sn	**Sn**	**02 57 28.7**	**+0.2**
VIVF	**Saint-Julien-l**	**1.88**	**283**	*e*Pn	**Pn**	**02 57 06.0**	**+1.0**
VIVF				*e*Pg	**Pg**	**02 57 10.0**	**+0.5**
VIVF				*e*Sn	**Sn**	**02 57 28.7**	**+0.2**
PGF	**Pioggiola**	**2.29**	**146**	*e*Pn	**Pn**	**02 57 09.8**	**-0.9**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**02 57 36.0**	**-2.7**
	6.3nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.31**	**340**	*e*P	**Pn**	**02 57 14.2**	**+3.3**
CABF	**La Chapelle**	**2.31**	**340**	*e*Pg	**Pg**	**02 57 17.6**	**0.0**
CABF				*e*Sn	**Sn**	**02 57 39.6**	**+0.6**
CABF	**La Chapelle**	**2.31**	**340**	*e*P	**Pn**	**02 57 14.2**	**+3.3**
CABF	**La Chapelle**	**2.31**	**340**	*e*Pg	**Pg**	**02 57 17.6**	**0.0**
CABF				*e*Sn	**Sn**	**02 57 39.6**	**+0.6**
CABF	**La Chapelle**	**2.31**	**340**	*e*Pn	**Pn**	**02 57 12.1**	**+1.2**
CABF				*e*Pg	**Pg**	**02 57 17.6**	**0.0**
CABF				*e*Sn	**Sn**	**02 57 39.6**	**+0.6**
LASF	**Ste Croix**	**2.46**	**262**	*e*Pg	**Pg**	**02 57 19.8**	**-0.8**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**02 57 41.8**	**-1.1**
	5.2nm,0.3s						
LASF	**Ste Croix**	**2.46**	**262**	*e*Pg	**Pg**	**02 57 19.8**	**-0.8**
LASF				*e*Sn	**Sn**	**02 57 41.8**	**-1.1**
LASF	**Ste Croix**	**2.46**	**262**	*e*Pn	**Pn**	**02 57 14.3**	**+1.2**
LASF				*e*Pg	**Pg**	**02 57 19.8**	**-0.8**
LASF				*e*Sn	**Sn**	**02 57 41.8**	**-1.1**
SMF	**Signal de Mont**	**3.24**	**314**	*e*Pn	**Pn**	**02 57 24.9**	**+1.1**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**02 58 01.8**	**-0.4**
SMF				*e*Sg	**Sg**	**02 58 16.2**	**-1.4**
	4.1nm,0.3s						
HINF	**Hinteralfeld**	**3.37**	**356**	*e*Pn	**Pn**	**02 57 26.3**	**+0.7**
HINF				*e*Sn	**Sn**	**02 58 04.7**	**-0.7**
	1.7nm,0.3s						
AVF	**Avril sur Loir**	**3.59**	**312**	*e*Pn	**Pn**	**02 57 30.0**	**+1.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**02 58 27.7**	**-1.1**
	1.5nm,0.3s						
HAU	**Haudompre**	**3.61**	**350**	*e*Pn	**Pn**	**02 57 29.9**	**+1.1**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**02 58 10.0**	**-1.1**
	2.8nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.68**	**321**	*e*Pn	**Pn**	**02 57 31.1**	**+1.4**
	baz=142,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 58 12.1**	**-0.8**
	3.0nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.69**	**316**	*e*Pn	**Pn**	**02 57 31.4**	**+1.4**
CAF	**Calviac**	**3.73**	**279**	*e*Pn	**Pn**	**02 57 30.9**	**+0.5**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.74**	**306**	*e*Pn	**Pn**	**02 57 31.9**	**+1.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 58 13.6**	**-0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**02 58 32.0**	**-1.5**
	7.3nm,0.4s						
MTLF	**Montolieu**	**3.80**	**255**	*e*Pn	**Pn**	**02 57 31.8**	**+0.3**
MTLF				*e*Sn	**Sn**	**02 58 14.3**	**-1.6**
	2.5nm,0.2s						
CDF	**Champ du Feu**	**3.96**	**0**	*e*Pn	**Pn**	**02 57 33.9**	**+0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 58 19.0**	**-0.8**
	1.8nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.99**	**299**	*e*Pn	**Pn**	**02 57 35.4**	**+1.3**
SFTF	**Sexfontaines**	**4.05**	**339**	*e*Pn	**Pn**	**02 57 36.1**	**+1.2**
MEZF	**Maizieres J'vi**	**4.32**	**340**	*e*Pn	**Pn**	**02 57 39.0**	**+0.4**
RFYF	**Reffroy**	**4.35**	**344**	*e*Pn	**Pn**	**02 57 39.9**	**+0.9**
MFF	**Saint Martin d**	**5.62**	**295**	*e*Pn	**Pn**	**02 57 58.4**	**+1.9**
GIVF	**Givet**	**5.89**	**345**	*e*Pn	**Pn**	**02 58 00.5**	**+0.4**
LDF	**La Druitiere**	**6.55**	**312**	*e*Pn	**Pn**	**02 58 10.7**	**+1.4**

IDC ***28*** *03:52:36.0±2.0, 829S×12303E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=293.9km s-min=29.6km az=56.0*
NEIC 28 03:52:40.4±1.2, 831S×12308E, h30km, Error ellipse: s-maj=164.0km s-min=16.9km az=55.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.89**	**138**	Pn	Pn	03 56 22.1	+0.3
	0.5nm,0.3s,baz=315,slow=12,SNR=27						
WRA				Sn	Sn	03 59 00.8	-16
	0.2nm,0.3s,baz=313,slow=26,SNR=3.1						
ASAR	**Alice Springs**	**18.46**	**147**	P	Pn	03 56 53.9	0.0
	0.3nm,0.3s,baz=326,slow=12,SNR=28						
STKA	**Stephens Creek**	**29.09**	**146**	P	P	03 58 38.6	+0.3
MKAR	**Makanchi Array**	**65.76**	**331**	P	P	04 03 22.6	+0.1
	0.2nm,0.5s,baz=141,slow=5.5,SNR=6.6						

IDC ***28*** *03:55:42.6±1.2, 0.10N×98.05E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=45.0km s-min=20.5km az=57.0*
ISCJB ***28*** *03:55:46.1±0.9, 0.2N±0.1×98.2E±0.2, h33km, mb3.7/7, Error ellipse: s-maj=24.3km s-min=15.5km az=154.4*
NEIC ***28*** *03:55:47.4±0.7, 0.20N×98.18E, h30km, Error ellipse: s-maj=18.3km s-min=11.8km az=75.0*
ISC 28 03:55:48.5±1.0, 03N±01×982E±02, h35km, n11, σ0§60/10, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.61**	**15**	Pn	**Pn**	**03 56 27.4**	**-0.9**
	15nm,0.3s,baz=325,slow=4.9,SNR=48						
KULM	**Kulim**	**5.54**	**26**	*e*Pn	**Pn**	**03 57 08.8**	**+0.3**
POO	**Poona**	**30.04**	**309**	*ex*	x	04 01 40.5	
WRA	**Warramunga Arr**	**40.67**	**122**	P	**P**	**04 03 25.1**	**-0.3**
	0.2nm,0.5s,mb3.0,baz=302,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**47.91**	**7**	P	**P**	**04 04 24.7**	**+1.4**
	0.8nm,0.5s,mb4.0,baz=189,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**48.39**	**345**	P	**P**	**04 04 27.2**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=155,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**48.39**	**345**	P	**P**	**04 04 27.2**	**+0.2**
STKA	**Stephens Creek**	**51.97**	**132**	P	**P**	**04 04 54.2**	**+0.1**
	1.5nm,0.8s,mb4.0,baz=276,slow=9.2,SNR=2.9						
BVAR	**Borovoye Array**	**57.46**	**340**	P	**P**	**04 05 33.4**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=138,slow=9.7,SNR=4.2						
BRTR	**Keskin Array B**	**70.49**	**312**	P	**P**	**04 06 59.5**	**0.0**
	0.5nm,0.7s,mb3.6,baz=120,slow=8.7,SNR=5.2						
FINES	**FINESS Array B**	**81.29**	**332**	P	**P**	**04 08 00.9**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=94,slow=5.7,SNR=4.2						

PRE ***28*** *03:57:28.6±1.2, 21.18S×3329E, h5km, ML4.9*
ISCJB ***28*** *03:57:33.5±2.7, 21.85S±0.06×3349E±0.08, h26km±23km, mb4.1/4, MS2.8/1, Error ellipse: s-maj=14.4km s-min=7.8km az=70.3*
IDC ***28*** *03:57:34.1±1.5, 21.52S×3349E, h0km, mb4.0/4, mb1 4.2/10, mb1mx3.9/27, mbtmp4.2/10, ML3.8/6, MS3.1/5, Ms1 3.1/5, ms1mx3.0/29, Error ellipse: s-maj=34.7km s-min=24.1km az=132.0*
NEIC ***28*** *03:57:35.2±0.7, 21.52S×3350E, h10km, mb4.6/2, Error ellipse: s-maj=14.5km s-min=9.9km az=147.0*
ISC 28 03:57:34.3±3.1, 21.84S±0.06×3350E±0.09, h11km±22km, n24, σ1§17/38, mb4.1/4, MS2.8/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.26**	**260**	*e*P	Px	03 51 06.1	
MSNA				*e*S	Sx	03 51 44.7	
MSNA				AML	AML	03 52 01.0	
	comp=Z,989nm,0.4s						
SLR	**Silverton**	**6.15**	**230**	*e*P	**Pn**	**03 59 05.2**	**+0.1**
SLR				*e*S	**Sn**	**04 00 16.6**	**+1.2**
SLR				AML	AML	04 01 01.4	
	comp=Z,183nm,0.7s						
KSR	**Koster**	**7.24**	**235**	*e*P	**Pn**	**03 59 20.0**	**-0.1**
LBTB	**Lobatse**	**7.92**	**245**	*e*P	**Pn**	**03 59 28.0**	**-1.2**
LBTB				*e*S	**Sn**	**04 00 53.4**	**-5.4**
LBTB				AML	AML	04 01 50.6	
	comp=Z,141nm,0.7s						
LBTB	**Lobatse**	**7.92**	**245**	Pn	**Pn**	**03 59 33.6**	**+4.3**
	comp=Z,7.3nm,0.3s,baz=60,slow=14,SNR=63						
LBTB				Sn	**Sn**	**04 00 59.3**	**+0.5**
	comp=Z,19nm,0.3s,baz=309,slow=18,SNR=3.5						
LBTB				LR	LR	04 02 34.8	
	comp=Z,124nm,19.5s,baz=232,slow=37						
LBTB	**Lobatse**	**7.92**	**245**	*e*Pn	**Pn**	**03 59 33.2**	**+3.9**
	comp=Z,189nm,0.7s						
LBTB				*e*Sn	**Sn**	**04 00 59.9**	**+1.2**
LBTB				LR	LR	04 02 34.8	
LSZ	**Lusaka**	**8.24**	**321**	Pn	**Pn**	**03 59 33.0**	**-0.7**
	comp=Z,5.2nm,0.3s,baz=152,slow=14,SNR=37						
LSZ				Sn	**Sn**	**04 00 56.9**	**-10**
	comp=Z,4.3nm,0.3s,baz=42,slow=21,SNR=4.5						
LSZ				LR	LR	04 02 58.6	
	comp=Z,100nm,21.9s,baz=132,slow=41						
LSZ	**Lusaka**	**8.24**	**321**	*e*Pn	**Pn**	**03 59 32.0**	**-1.7**
	comp=Z,191nm,0.8s						
LSZ				*e*Sn	**Sn**	**04 01 08.3**	**+1.6**
LSZ				LR	LR	04 02 58.6	
BOSA	**Boshof**	**10.06**	**226**	*e*P	**Pn**	**03 59 59.3**	**+0.7**
BOSA				*e*S	**Sn**	**04 01 49.5**	**-1.8**
BOSA				AML	AML	04 03 12.6	
	comp=Z,57nm,0.6s						
BOSA	**Boshof**	**10.06**	**226**	Pn	**Pn**	**04 00 02.0**	**+3.4**
	comp=Z,1.6nm,0.3s,baz=52,slow=13,SNR=38						
BOSA				Sn	**Sn**	**04 01 50.4**	**-1.0**
	comp=Z,4.4nm,0.3s,baz=116,slow=21,SNR=7.0						
BOSA				LR	LR	04 04 01.3	
	comp=Z,129nm,19.1s,baz=169,slow=38						
BOSA	**Boshof**	**10.06**	**226**	*e*Pn	**Pn**	**04 00 02.0**	**+3.4**
	comp=Z,57nm,0.6s						
BOSA				Sn	**Sn**	**04 01 50.4**	**-1.0**
BOSA				*e*Sn	**Sn**	**04 01 50.6**	**-0.8**
BOSA				*e*		04 02 57.7	
BOSA				LR	LR	04 04 01.4	
OPO	**Ambohidratompo**	**13.26**	**78**	Pn	**Pn**	**04 00 42.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=262,slow=

SUR				Sn	Sn	04 03 59.9	-2.3
CER	Ceres	17.02	225	eP	Pn	04 01 36.1	+4.0
KMBO	Kilima Mbogo	20.91	11	LR	LR	04 10 09.0	
	comp=Z,37nm,18.4s,MS2.8,baz=95,slow=37						
TORD	Torodi Ar. Bea	46.72	315	P	P	04 06 03.2	0.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=127,slow=6.7,SNR=11						
DBIC	Dimbokro	47.07	303	P	P	04 06 05.2	-0.7
	comp=Z,1.6nm,0.6s,mb4.1,baz=129,slow=7.7,SNR=8.0						
BRTR	Keskin Array B	61.24	0	P	P	04 07 49.4	+0.1
	comp=Z,0.5nm,0.5s,mb3.9,baz=178,slow=9.0,SNR=4.5						
BDFB	Brasília	76.63	258	P	P	04 09 28.4	+3.5
	comp=Z,2.5nm,0.5s,mb4.4,baz=130,slow=5.5,SNR=9.3						
YKA	Yellowknife Ar	133.93	340	PKP	PKPdf	04 16 51.6	+0.2
	comp=Z,0.3nm,0.6s,baz=39,slow=2.2,SNR=11						

INET ***28*** *04:01:36.8, 1242N×8774W, h13km, ML4.1*
UCR ***28*** *04:01:39.5, 1006N×8820W, h248km, MD4.6*
SSS ***28*** *04:01:45.6, 1255N×8796W, h47km, MD3.8*
CASC 28 04:01:35.3±2.7, 1267N×8777W, h80km±56km, MD4.0, ML4.1, 12C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.70	87	⇑eP	Pn	04 01 51.7	+0.8
CRIN				eS	Sn	04 02 06.2	+3.6
LEON	Leon	0.89	106	⇑eP	Pn	04 01 52.3	-0.7
BLLM	Bellamira	0.90	329	⇑eP	Pn	04 02 02.1	+9.0
BLLM				eS	Sn	04 02 15.7	+9.3
VSM	San Miguel	0.90	327	eP	Pn	04 02 02.2	+9.0
VSM				eS	Sn	04 02 17.1	+11
TEL3	Telica 3	0.90	96	⇓eP	Pn	04 01 53.3	+0.1
TELN	Telica	0.91	94	⇑eP	Pn	04 01 53.8	+0.4
TELN				eS	Sn	04 02 07.6	+0.8
MIRN	Miramar	1.05	102	⇑eP	Pn	04 01 54.7	-0.3
CNGN	Cerro Negro	1.05	99	⇑eP	Pn	04 01 55.1	+0.1
MOMJ	Momotombo	1.22	102	⇑eP	Pn	04 01 57.2	+0.2
MOMJ				eS	Sn	04 02 13.4	0.0
COPN	Copaltepe	1.25	113	⇑eP	Pn	04 01 56.8	-0.5
COPN				eS	Sn	04 02 14.1	+0.1
SNVI	San Vicente	1.40	312	eP	Pn	04 02 09.0	+10
SNVI				eS	Sn	04 02 26.7	+9.1
APYN	Apoyeque	1.45	107	⇓eP	Pn	04 02 00.3	+0.3
XAVN	Gruta Xavier	1.50	110	eP	Pn	04 02 00.8	+0.2
LCBS	La Ceiba	1.54	310	eP	Pn	04 02 09.9	+8.8
LCBS				eS	Sn	04 02 28.6	+8.1
MGAN	Managua	1.57	109	⇑eP	Pn	04 02 01.7	+0.2
MGAN				eS	Sn	04 02 21.1	-0.3
MGAN				i		04 02 22.3	
	comp=N,3μm,0.7s						
LFRS	El Faro	1.58	307	⇑eP	Pn	04 02 10.5	+8.9
LFRS				eS	Sn	04 02 29.8	+8.3
WILN	Americas 2	1.62	108	eP	Pn	04 02 02.5	+0.4
WILN				eS	Sn	04 02 22.6	0.0
TICN	Ticuantepe	1.63	113	⇓eP	Pn	04 02 02.5	+0.3
LBRS	Las Brisas	1.64	311	⇑eP	Pn	04 02 11.8	+9.5
LBRS				eS	Sn	04 02 33.2	+10
LFU	La Fuente	1.70	309	⇑eP	Pn	04 02 12.6	+9.4
LFU				eS	Sn	04 02 32.0	+7.7
BOQS	Boqueron	1.82	306	⇓eP	Pn	04 02 14.4	+10
BOQS				eS	Sn	04 02 36.6	+9.5
APON	Apoyo	1.82	114	eP	Pn	04 02 05.3	+0.6
CGA2	Cerro Gallo 2	4.17	129	eP	Pn	04 02 39.3	+2.8
CGA2				eS	Sn	04 03 25.6	+1.5
PRS1	Puriscal	4.31	128	eP	Pn	04 02 41.8	+3.3
PRS1				eS	Sn	04 03 29.5	+2.0
LAJ	Bijagual	4.53	128	eP	Pn	04 02 40.1	-1.3
LCR2	La Lucha 2	4.70	128	eP	Pn	04 02 46.5	+2.8
LCR2				eS	Sn	04 03 38.6	+1.6
BUS	Buena Vista	5.00	128	⇓eP	Pn	04 02 50.6	+2.7
BUS				eS	Sn	04 03 46.4	+2.0

IGIL ***28*** *04:21:39.6, 3690N×490W, h2km, ML3.5*
NEIC ***28*** *04:21:40.3, 3691N×495W, h4km, MN2.9(MDD), After MDD.*
CSEM ***28*** *04:21:41.0±0.1, 3697N×496W, h8km, ML3.3/18, Error ellipse: s-maj=1.8km s-min=1.0km az=3.0*
INMG ***28*** *04:21:41.2±1.6, 3694N×495W, h0km, ML2.9, Error ellipse: s-maj=3.0km s-min=2.4km az=167.0*
MDD 28 04:21:40.9±0.2, 3690N×493W, h10km, mbLg2.8/26, 1C-1D, Error ellipse: s-maj=1.8km s-min=1.5km az=72.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.36	159	⇓Pg	Pg	04 21 47.9	-0.2
	67nm,0.2s,SNR=18						
EMIJ				Lg		04 21 52.5	
	2μm,0.4s,SNR=28						
EJIF	Jimena Fronter	0.62	224	⇑Pg	Pg	04 21 53.0	0.0
	110nm,0.4s,SNR=18						
EJIF				Lg		04 22 02.1	
	287nm,0.6s,SNR=14						
ELOJ	Sierra Loja	0.67	68	Pg	Pg	04 21 53.0	-0.9
	41nm,0.3s,SNR=55						
ELOJ				Lg		04 22 02.4	
	358nm,0.5s						
ESPR	Espera	0.74	268	Pg	Pg	04 21 55.0	-0.2
	91nm,0.6s,SNR=71						
ESPR				Lg		04 22 08.7	
	178nm,0.2s,SNR=7.9						
ESPR	Espera	0.74	268	Pg	Pg	04 21 55.0	-0.3
	91nm,0.6s,SNR=71						
ELUQ	Luque	0.84	39	Pg	Pg	04 21 56.0	-1.2
	76nm,0.2s,SNR=7.7						
ELUQ				Lg		04 22 07.5	
	98nm,0.2s,SNR=71						
ELUQ	Luque	0.84	39	Pg	Pg	04 21 56.0	-1.2
ELUQ				Lg		04 22 09.9	
ERON	Agron	0.91	82	Pg	Pg	04 21 57.9	-0.5
	44nm,0.4s,SNR=18						
ERON				Lg		04 22 10.8	
	297nm,0.8s,SNR=27						
EGUA	Guajares	1.10	93	Pg	Pg	04 22 02.0	-0.1
	8.1nm,0.3s,SNR=4.0						
EGUA				Lg		04 22 16.8	
	17nm,0.4s,SNR=7.9						
ECOG	Cogollos-Vega	1.15	71	Pg	Pg	04 22 03.4	+0.3
	55nm,0.2s,SNR=58						
ECOG				Lg		04 22 18.1	
	138nm,0.5s,SNR=7.9						
ECOG	Cogollos-Vega	1.15	71	Pg	Pg	04 22 03.4	+0.3
ECOG				Lg		04 22 20.0	
EQUE	Quentar	1.23	75	Pg	Pg	04 22 04.2	-0.4
	106nm,0.4s,SNR=5.0						
EQUE				Lg		04 22 19.8	
	126nm,0.3s,SNR=5.0						
EADA	Adamuz	1.29	13	Pg	Pg	04 22 03.1	-2.7
	64nm,0.4s,SNR=15						
EADA				Lg		04 22 20.1	
	94nm,0.2s						
EADA	Adamuz	1.29	13	Pg	Pg	04 22 03.1	-2.7
	64nm,0.4s,SNR=15						
EADA	Adamuz	1.29	13	Pg	Pg	04 22 03.1	-2.7
EADA				Lg		04 22 20.1	
EBAN	Banos Encina	1.55	36	Pn	Pn	04 22 07.2	-1.4
	7.8nm,0.1s,SNR=7.9						
EBAN				Pg	Pg	04 22 08.6	-2.1
	88nm,0.4s,SNR=7.9						
EBAN				Sn	Sn	04 22 26.9	-1.8
	154nm,0.3s,SNR=18						
EBAN	Banos Encina	1.55	36	Pg	Pg	04 22 08.6	-2.2
	88nm,0.4s,SNR=7.9						
EBAN				Sn	Sn	04 22 26.9	-1.8
	154nm,0.3s,SNR=18						
EBAN	Banos Encina	1.55	36	Pn	Pn	04 22 07.2	-1.4
EBAN				Sn	Sn	04 22 28.0	-0.8
EMIN	Mina Concepcio	1.63	302	Pn	Pn	04 22 07.7	-1.9
	9.0nm,0.2s,SNR=53						
EMIN				Pg	Pg	04 22 10.1	-2.1
	29nm,0.1s,SNR=7.9						
EMIN				Lg		04 22 30.6	
	48nm,0.2s,SNR=14						
EMIN	Mina Concepcio	1.63	302	Pn	Pn	04 22 07.7	-2.0
	9.0nm,0.2s,SNR=53						
EMIN	Mina Concepcio	1.63	302	Pg	Pg	04 22 10.1	-2.2
	29nm,0.1s,SNR=7.9						
EBER	Berja	1.64	90	Pn	Pn	04 22 09.1	-0.6
	0.7nm,0.2s,SNR=108						
EBER				Pg	Pg	04 22 11.3	-1.1
	61nm,0.3s,SNR=7.9						
EBER				Lg		04 22 34.5	
	154nm,0.5s,SNR=4.7						
EBER	Berja	1.64	90	Pn	Pn	04 22 09.1	-0.6
	0.7nm,0.2s,SNR=108						
EBER	Berja	1.64	90	Pg	Pg	04 22 11.3	-1.1
	61nm,0.3s,SNR=7.9						
EQES	Quesada	1.73	58	Pn	Pn	04 22 10.2	-0.9
	1.9nm,0.1s,SNR=7.0						
EQES				Pg	Pg	04 22 12.5	-1.7
	42nm,0.3s,SNR=7.9						
EQES				Lg		04 22 36.7	
	166nm,0.5s,SNR=7.6						
EQES	Quesada	1.73	58	Pn	Pn	04 22 10.2	-0.8
	1.9nm,0.1s,SNR=7.0						
EQES	Quesada	1.73	58	Pg	Pg	04 22 12.5	-1.7
	42nm,0.3s,SNR=7.9						
ERIP	Rio Piedras	1.91	285	Pn	Pn	04 22 11.5	-2.0
	3.7nm,0.2s,SNR=7.9						
ERIP				Pg	Pg	04 22 15.7	-2.0
	12nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	04 22 33.9	-3.7
	20nm,0.2s,SNR=7.9						
ERIP				Lg		04 22 40.7	
	49nm,0.2s,SNR=7.9						
ERIP	Rio Piedras	1.91	285	Pg	Pg	04 22 15.7	-1.9
	12nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	04 22 33.9	-3.7
	20nm,0.2s,SNR=7.9						
EHUE	Huescar	2.08	63	Pn	Pn	04 22 15.4	-0.4
	4.4nm,0.2s,SNR=16						
EHUE				Pg	Pg	04 22 18.5	-2.2
	7.7nm,0.2s,SNR=10						
EHUE				Lg		04 22 46.3	
	29nm,0.2s						
EHUE	Huescar	2.08	63	Pg	Pg	04 22 18.5	-2.2
	7.7nm,0.2s,SNR=10						
EGRO	El Granado	2.13	288	Pn	Pn	04 22 14.4	-2.1
	6.6nm,0.1s,SNR=55						
EGRO				Pg	Pg	04 22 18.8	-3.0
	8.2nm,0.1s,SNR=12						
EGRO				Sn	Sn	04 22 40.5	-2.5
	12nm,0.2s,SNR=8.7						
EGRO				Lg		04 22 46.5	
	60nm,0.4s,SNR=7.9						
EGRO	El Granado	2.13	288	Pn	Pn	04 22 14.4	-2.1
	6.6nm,0.1s,SNR=55						
EGRO	El Granado	2.13	288	Pg	Pg	04 22 18.8	-3.0
	8.2nm,0.1s,SNR=12						
EGRO				Sn	Sn	04 22 40.5	-2.5
	12nm,0.2s,SNR=8.7						
ENIJ	Nijar	2.19	87	Pn	Pn	04 22 17.4	+0.2
	3.9nm,0.3s,SNR=4.0						
ENIJ				Pg	Pg	04 22 21.5	-1.3
	15nm,0.4s,SNR=6.2						
ENIJ				Lg		04 22 48.9	
	16nm,0.4s,SNR=7.9						
ENIJ	Nijar	2.19	87	Pn	Pn	04 22 17.7	+0.5
	3.9nm,0.3s,SNR=4.0						
ENIJ	Nijar	2.19	87	Pg	Pg	04 22 23.0	+0.2
	15nm,0.4s,SNR=6.2						
ENIJ	Nijar	2.19	87	Pn	Pn	04 22 17.7	+0.4
ENIJ				Pg	Pg	04 22 23.0	+0.1
ENIJ				Lg		04 22 48.9	
EBAD	Badajoz	2.48	319	Pn	Pn	04 22 19.2	-2.1
	3.5nm,0.1s,SNR=84						
EBAD				Pg	Pg	04 22 25.2	-3.2
	5.6nm,0.2s,SNR=15						
EBAD				Sn	Sn	04 22 49.3	-2.2
	20nm,0.2s,SNR=11						
EBAD				Lg		04 22 57.0	
	44nm,0.2s						
EBAD	Badajoz	2.48	319	Pn	Pn	04 22 19.2	-2.1
	3.5nm,0.1s,SNR=84						
EBAD	Badajoz	2.48	319	Pg	Pg	04 22 25.2	-3.2
	5.6nm,0.2s,SNR=15						
EBAD				Sn	Sn	04 22 49.3	-2.2
	20nm,0.2s,SNR=11						
PBEJ	Beja	2.59	297	ePn	Pn	04 22 20.9	-1.9
PBEJ				eSg	Sg	04 23 03.5	-0.6
PBEJ							
	19nm,0.3s						
PBEJ	Beja	2.59	297	ePn	Pn	04 22 20.9	-1.9
PBEJ				eSg	Sg	04 23 03.5	-0.6
	19nm,0.3s						
ESDC	Sonseca Array	2.87	15	Pn	Pn	04 22 26.1	-0.6
	3.7nm,0.1s,baz=196,slow=12,SNR=19						
ESDC				Pg	Pg	04 22 33.5	-2.4
	8.1nm,0.3s,baz=194,slow=16,SNR=20						
ESDC				Sn	Sn	04 22 57.0	-4.2
	3.9nm,0.1s,baz=198,slow=16,SNR=15						
ESDC				Lg		04 23 08.0	
	28nm,0.4s,baz=200,slow=28,SNR=6.6						
ESDC	Sonseca Array	2.87	15	Pn	Pn	04 22 26.1	-0.6
	3.7nm,0.1s,SNR=19						
ESDC	Sonseca Array	2.87	15	Pg	Pg	04 22 33.5	-2.4
	8.1nm,0.3s,SNR=20						
ESDC				Sn	Sn	04 22 57.0	-4.2
	3.9nm,0.1s,SNR=15						
ESLA	Sonseca Array	2.87	15	ePn	Pn	04 22 25.9	-0.8
ESLA	Sonseca Array	2.87	15	ePn	Pn	04 22 25.9	-0.8
ESLA				eSn	Sn	04 23 02.9	+1.7
MORF	Marmelete	3.00	279	eP	Pn	04 22 26.2	-2.2
MORF				eS	Sn	04 23 01.3	-3.1
MORF				eS	Sn	04 23 01.3	-3.1
MORF				AML	AML	04 23 05.7	
	comp=N,271nm,0.2s						
MORF	Marmelete	3.00	279	eP	Pn	04 22 26.2	-2.2
MORF				eS	Sn	04 23 01.3	-3.1
EMUR	La Murta	3.09	71	Pn	Pn	04 22 28.2	-1.4
	comp=N,3.0nm,0.3s,SNR=4.0						
EMUR				Pg	Pg	04 22 38.3	-1.8
	comp=N,6.0nm,0.3s,SNR=8.0						
EMUR				Sn	Sn	04 23 04.8	-1.8
	comp=N,7.0nm,0.5s,SNR=7.9						
EMUR				Lg		04 23 18.2	
	comp=N,35nm,0.5s,SNR=7.9						
EMUR	La Murta	3.09	71	Pn	Pn	04 22 28.2	-1.4
	comp=N,3.0nm,0.3s,SNR=4.0						
EMUR	La Murta	3.09	71	Pg	Pg	04 22 38.3	-1.8
	comp=N,6.0nm,0.3s,SNR=8.0						
EMUR				Sn	Sn	04 23 05.2	-1.4
	comp=N,7.0nm,0.5s,SNR=7.9						
EMUR	La Murta	3.09	71	Pn	Pn	04 22 28.2	-1.4
EMUR				Pg	Pg	04 22 38.3	-1.8
EMUR				Sn	Sn	04 23 05.2	-1.4
EMUR				Lg		04 23 18.2	
PTEO	Sao Teotonio	3.09	283	ePn	Pn	04 22 28.1	-1.6
PTEO				eSn	Sn	04 23 05.9	-0.8
PTEO							
	comp=N,37nm,0.5s						
PTEO	Sao Teotonio	3.09	283	ePn	Pn	04 22 28.1	-1.6
PTEO				eSn	Sn	04 23 05.9	-0.8
	comp=N,37nm,0.5s						
MOE	Montemor	3.16	302	ePn	Pn	04 22 30.9	+0.3
MOE				eSn	Sn	04 23 05.8	-2.5
ETOB	Tobarra	3.20	56	Pn	Pn	04 22 30.1	-1.1
	comp=N,1.6nm,0.2s,SNR=21						
ETOB				Pg	Pg	04 22 40.0	-2.2
	comp=N,7.6nm,0.4s,SNR=9.3						
ETOB				Sn	Sn	04 23 07.4	-1.9
	comp=N,8.6nm,0.3s,SNR=7.9						
ETOB				Lg		04 23 21.4	
	comp=N,34nm,0.3s						
ETOB	Tobarra	3.20	56	Pn	Pn	04 22 30.4	-0.7
ETOB	Tobarra	3.20	56	Pg	Pg	04 22 40.0	-2.2
	comp=N,7.6nm,0.4s,SNR=9.3						
ETOB				Sn	Sn	04 23 07.4	-1.9
	comp=N,8.6nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.20	56	Pn	Pn	04 22 30.4	-0.7
ETOB				Pg	Pg	04 22 38.8	-3.3
ETOB				Sn	Sn	04 23 07.4	-1.9
ETOB				Lg		04 23 21.4	
PCBR	Castelo Branco	3.55	326	ePn	Pn	04 22 35.0	-1.0
PCBR				eSn	Sn	04 23 15.1	-2.9
PCBR				eSg	Sg	04 23 32.0	-2.9
PCBR							
	comp=N,31nm,0.6s						
PCBR	Castelo Branco	3.55	326	ePn	Pn	04 22 35.0	-1.0
PCBR				eSn	Sn	04 23 15.1	-2.9
PCBR				eSg	Sg	04 23 32.0	-2.9
	comp=N,31nm,0.6s						
ALMR	Almeirim	3.65	309	eP	Pn	04 22 36.2	-1.2
ALMR				eS	Sn	04 23 16.2	-4.3
ALMR				eS	Sn	04 23 16.2	-4.2
ALMR				AML	AML	04 23 18.8	
	comp=N,85nm,0.5s						
ALMR	Almeirim	3.65	309	eP	Pn	04 22 36.3	-1.1
ALMR				eS	Sn	04 23 16.2	-4.3
GUD	Guadarrama	3.78	9	Pn	Pn	04 22 38.3	-0.9
	comp=N,2.5nm,0.2s,SNR=11						
GUD				Sn	Sn	04 23 20.1	-3.7
	comp=N,6.1nm,0.4s,SNR=6.7						
GUD				Lg		04 23 36.9	
	comp=N,23nm,0.4s						
GUD	Guadarrama	3.78	9	Pn	Pn	04 22 38.3	-0.9
	comp=N,2.5nm,0.2s,SNR=11						
GUD				Sn	Sn	04 23 20.1	-3.6
	comp=N,6.1nm,0.4s,SNR=6.7						
GUD	Guadarrama	3.78	9	Pn	Pn	04 22 38.4	-0.8
GUD				Lg		04 23 36.9	
PTOM	Tomar	3.85	316	ePn	Pn	04 22 38.2	-2.0
PTOM				eSn	Sn	04 23 22.0	-3.4
PTOM				eSg	Sg	04 23 42.3	-2.3
PTOM							
	comp=N,32nm,0.5s						
PTOM	Tomar	3.85	316	ePn	Pn	04 22 38.2	-2.0
PTOM				eSn	Sn	04 23 22.0	-3.4
PTOM				eSg	Sg	04 23 42.3	-2.3
	comp=N,32nm,0.5s						
PLOU	Loures	3.88	302	ePn	Pn	04 22 39.6	-0.9
PLOU				eSn	Sn	04 23 23.4	-2.7
PLOU							
	comp=N,35nm,0.7s						
PLOU	Loures	3.88	302	ePn	Pn	04 22 39.6	-0.9
PLOU				eSn	Sn	04 23 23.4	-2.7
	comp=N,35nm,0.7s						
MTE	Manteigas	4.05	330	ePn	Pn	04 22 42.1	-0.7
MTE				eSn	Sn	04 23 26.6	-3.6
MTE				eSg	Sg	04 23 46.5	-4.3
MTE							
	comp=N,51nm,0.5s						
MTE	Manteigas	4.05	330	ePn	Pn	04 22 42.1	-0.7
MTE				eSn	Sn	04 23 26.6	-3.6
MTE				eSg	Sg	04 23 46.5	-4.3
	comp=N,51nm,0.5s						
ECHE	Chera	4.12	48	Pn	Pn	04 22 43.0	-0.8
	comp=N,0.6nm,0.2s,SNR=7.9						
ECHE				Pg	Pg	04 22 55.7	-4.0
	comp=N,11nm,0.6s,SNR=6.4						
ECHE				Lg		04 23 51.9	
	comp=N,15nm,0.6s,SNR=7.9						
ECHE	Chera	4.12	48	Pg	Pg	04 22 56.4	-3.4
	comp=N,11nm,0.6s,SNR=6.4						
ECHE	Chera	4.12	48	Pn	Pn	04 22 43.0	-0.8
ECHE				Pg	Pg	04 22 56.4	-3.3
ECHE				Lg		04 23 51.9	
EBEN	Beniarda	4.14	63	Pn	Pn	04 22 43.5	-0.6
	comp=N,0.6nm,0.1s,SNR=4.0						
EBEN				Sn	Sn	04 23 29.4	-3.1
	comp=N,5.5nm,0.5s,SNR=7.9						
EBEN				Lg		04 23 51.0	
	comp=N,2.0nm,0.3s,SNR=7.9						
EBEN	Beniarda	4.14	63	Pn	Pn	04 22 43.5	-0.6
	comp=N,0.6nm,0.1s,SNR=4.0						
EBEN				Sn	Sn	04 23 30.9	-1.6
	comp=N,5.5nm,0.5s,SNR=7.9						
EBEN	Beniarda	4.14	63	Pn	Pn	04 22 43.5	-0.6
EBEN				Sn	Sn	04 23 30.9	-1.7
EBEN				Lg		04 23 51.0	
PVIS	Viseu	4.45	330	ePn	Pn	04 22 47.8	-0.6
PVIS				eSn	Sn	04 23 35.8	-4.5
PVRL	Vila Real	4.87	334	ePn	Pn	04 22 53.6	-0.6
PVRL				eSn	Sn	04 23 47.3	-3.3
PVRL				eSg	Sg	04 24 15.6	-1.8
PVRL							
	comp=N,10nm,0.4s						
PVRL	Vila Real	4.87	334	ePn	Pn	04 22 53.6	-0.6
PVRL				eSn	Sn	04 23 47.3	-3.3
PVRL				eSg	Sg	04 24 15.6	-1.8
	comp=N,10nm,0.4s						
EMOS	Mosqueruela	4.91	44	Pn	Pn	04 22 53.3	-1.4
	comp=N,0.2nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	04 23 10.4	-4.6
	comp=N,2.1nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	04 23 45.9	-5.7
	comp=N,1.3nm,0.3s,SNR=6.2						
EMOS				Lg		04 24 14.8	
	comp=N,13nm,0.6s,SNR=7.9						
EMOS	Mosqueruela	4.91	44	Pn	Pn	04 22 53.3	-1.4
	comp=N,0.2nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.91	44	Pg	Pg	04 23 11.3	-3.7
	comp=N,2.1nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.91	44	Pn	Pn	04 22 53.3	-1.4
EMOS				Pg	Pg	04 23 11.3	-3.8
EMOS				Sn	Sn	04 23 45.9	-5.7
EMOS				Lg		04 24 14.8	
PBRG	Braganca	5.09	345	ePn	Pn	04 22 55.9	-1.3
PBRG				eSn	Sn	04 23 50.9	-5.1
PBRG				eSg	Sg	04 24 19.4	-5.0
PBRG							
	comp=N,15nm,0.4s						
PBRG	Braganca	5.09	345	Pn	Pn	04 22 55.9	-1.3
PBRG				Sn	Sn	04 23 50.9	-5.1
PBRG				Lg		04 24 19.4	
	comp=N,7.7nm,0.4s						
ECAL	Calabor	5.22	345	Pn	Pn	04 22 57.7	-1.3
	comp=N,1.4nm,0.2s,SNR=4.8						
ECAL				Sn	Sn	04 23 54.3	-4.9
	comp=N,6.8nm,0.4s,SNR=5.6						
ECAL				Lg		04 24 21.6	
	comp=N,37nm,0.5s,SNR=5.0						
ECAL	Calabor	5.22	345	Pn	Pn	04 22 57.7	-1.3
	comp=N,1.4nm,0.2s,SNR=4.8						
ECAL				Sn	Sn	04 23 54.9	-4.3
ECAL	Calabor	5.22	345	Sn	Sn	04 23 54.9	-4.3
ECAL				Lg		04 24 21.6	
PCAB	Cabril	5.37	334	ePn	Pn	04 22 59.9	-1.1
PCAB				eSn	Sn	04 23 57.7	-5.1
PCAB				eSg	Sg	04 24 27.6	-5.6
PCAB							
	comp=N,28nm,0.6s						
PCAB	Cabril	5.37	334	Pn	Pn	04 22 59.9	-1.1
PCAB				Sn	Sn	04 23 57.7	-5.1
PCAB				Lg		04 24 27.6	
	comp=N,14nm,0.6s						
ELOB	Lobios	5.52	335	Pn	Pn	04 23 00.6	-2.5
	comp=N,0.8nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	04 23 59.9	-6.6
	comp=N,3.4nm,0.2s,SNR=4.8						
ELOB				Lg		04 24 32.9	
	comp=N,17nm,0.6s,SNR=5.6						
ELOB	Lobios	5.52	335	Pn	Pn	04 23 00.6	-2.5
	comp=N,0.8nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	04 24 00.0	-6.5
	comp=N,3.4nm,0.2s,SNR=4.8						
ELOB	Lobios	5.52	335	Pn	Pn	04 23 00.6	-2.5
ELOB				Sn	Sn	04 24 00.0	-6.5
ELOB				Lg		04 24 32.9	
ERUA	La

ELAN	**Lanestosa**	**6.42**	**10**	Pn	Pn	04 23 14.3	-1.2
	comp=N,0.2nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	04 24 24.3	-4.6
	comp=N,0.5nm,0.2s,SNR=7.9						
ELAN				Lg		04 25 03.8	
	comp=N,5.7nm,0.7s,SNR=7.9						
ELAN	**Lanestosa**	**6.42**	**10**	Pn	Pn	04 23 14.3	-1.2
	comp=N,0.2nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	04 24 24.3	-4.6
	comp=N,0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**6.45**	**45**	Lg		04 25 06.0	
	comp=N,0.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.64**	**346**	Pn	Pn	04 23 16.9	-1.6
	comp=N,0.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	04 24 27.4	-6.7
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				Lg		04 25 10.7	
	comp=N,6.4nm,0.6s,SNR=7.9						
EPON	**Pontenova**	**6.64**	**346**	Pn	Pn	04 23 16.9	-1.5
EPON				Sn	Sn	04 24 27.4	-6.7
EGRA	**Graus**	**6.66**	**36**	Pn	Pn	04 23 17.4	-1.4
	comp=N,1.1nm,0.2s,SNR=7.9						
EGRA				Sn	Sn	04 24 29.8	-4.8
	comp=N,2.1nm,0.5s,SNR=7.9						
EMAZ	**Mazaricos**	**6.79**	**334**	Pn	Pn	04 23 18.8	-1.7
	comp=N,0.4nm,0.1s,SNR=4.0						
EMAZ				Lg		04 25 16.6	
	comp=N,0.3nm,0.3s,SNR=4.0						
EMAZ	**Mazaricos**	**6.79**	**334**	Pn	Pn	04 23 18.8	-1.7
EALK	**Alkurruntz**	**6.83**	**22**	Pn	Pn	04 23 20.5	-0.6
	comp=N,0.5nm,0.1s,SNR=5.5						
EALK				Sn	Sn	04 24 33.8	-5.1
	comp=N,3.8nm,0.3s,SNR=7.9						
EALK				Lg		04 25 17.7	
	comp=N,5.7nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**6.83**	**22**	Pn	Pn	04 23 20.5	-0.6
EALK				Sn	Sn	04 24 35.3	-3.6
EALK	**Alkurruntz**	**6.83**	**22**	Pn	Pn	04 23 20.5	-0.6
EALK				Sn	Sn	04 24 35.4	-3.6
EALK				Lg		04 25 17.7	
EBIE	**Bielsa**	**6.97**	**33**	Pn	Pn	04 23 22.5	-0.5
	comp=N,0.6nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	04 24 36.4	-5.9
	comp=N,1.6nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**6.97**	**33**	Pn	Pn	04 23 22.5	-0.5
EBIE	**Bielsa**	**6.97**	**33**	Pn	Pn	04 23 22.6	-0.5
EBIE				Sn	Sn	04 24 33.9	-8.4

WEL 28 04:24:53.5±0.4, 3612S×17837E, h33km, ML3.5/4, Error ellipse: s-maj=4.5km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.44**	**182**	P*	Pb	04 25 16.7	-3.1
MXZ				S*	Sb	04 25 34.2	-3.6
PUZ	**Puketiti**	**1.95**	**183**	PN	Pn	04 25 24.0	-0.3
PUZ				SN	Sn	04 25 46.8	-0.8
MWZ	**Matawai**	**2.31**	**197**	P*	Pb	04 25 29.3	-5.2
MWZ				S*	Sb	04 25 56.7	-5.9
URZ	**Urewera**	**2.36**	**205**	P*	Pb	04 25 30.0	-5.3
URZ				S*	Sb	04 25 57.2	-6.9

*SFS **28** 04:27:14.0, 3685N×492W, h0km, ML2.2*
*CSEM **28** 04:27:15.0±0.1, 3696N×499W, h5km, ML2.7/6, Error ellipse: s-maj=2.6km s-min=1.4km az=174.0*

MDD 28 04:27:15.0±0.2, 3685N×490W, h20km±2km, mbLg2.2/13, 1D, Error ellipse: s-maj=2.8km s-min=2.0km az=1.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.30**	**161**	Pg	Pb	04 27 21.3	-0.5
	7.0nm,0.1s,SNR=45						
EMIJ				Lg		04 27 26.0	
	188nm,0.5s,SNR=5.0						
LIJA	**Lijar**	**0.41**	**278**	⇓Pg	Pb	04 27 21.5	-2.1
LIJA				Lg		04 27 29.8	
LIJA	**Lijar**	**0.41**	**278**	*i* P	Pb	04 27 21.5	-2.1
LIJA				*e*S	Sb	04 27 29.8	+0.4
REAL	**Reales**	**0.44**	**214**	Pg	Pb	04 27 23.6	-0.6
REAL				Lg		04 27 33.2	
REAL	**Reales**	**0.44**	**214**	*e*P	Pb	04 27 23.6	-0.6
REAL				*e*S	Sb	04 27 33.2	+2.8
EJIF	**Jimena Fronter**	**0.61**	**229**	Pg	Pb	04 27 26.7	-0.3
	4.1nm,0.2s,SNR=22						
EJIF				Lg		04 27 35.1	
	25nm,0.6s,SNR=4.0						
ELOJ	**Sierra Loja**	**0.67**	**64**	Pg	Pb	04 27 26.5	-1.4
	2.6nm,0.2s,SNR=9.4						
ELOJ				Lg		04 27 36.3	
	23nm,0.4s,SNR=5.6						
ESPR	**Espera**	**0.77**	**272**	Pg	Pb	04 27 29.3	-0.4
	9.2nm,0.2s,SNR=27						
ESPR				Lg		04 27 41.0	
	41nm,0.3s,SNR=4.0						
ESPR	**Espera**	**0.77**	**272**	Pg	Pb	04 27 29.3	-0.4
	9.2nm,0.2s,SNR=27						
GIBL	**Gibalbin**	**0.86**	**269**	Pg	Pb	04 27 32.0	+0.8
GIBL				Lg		04 27 46.0	
GIBL	**Gibalbin**	**0.86**	**269**	*e*P	Pb	04 27 32.0	+0.8
GIBL				*e*S	Sb	04 27 46.0	+3.7
ELUQ	**Luque**	**0.87**	**35**	Pg	Pb	04 27 30.0	-1.5
	7.2nm,0.1s,SNR=39						
ELUQ				Lg		04 27 42.0	
	19nm,0.2s,SNR=5.0						
ERON	**Agron**	**0.89**	**79**	Pg	Pb	04 27 32.8	+1.0
	4.2nm,0.2s,SNR=7.4						
ERON				Lg		04 27 43.5	
	12nm,0.4s,SNR=4.0						
ERON	**Agron**	**0.89**	**79**	Pg	Pb	04 27 33.1	+1.3
	4.2nm,0.2s,SNR=7.4						
SCRT	**Cerro San Cris**	**1.05**	**258**	Pg	Pb	04 27 35.3	+0.8
SCRT				Lg		04 27 54.5	
SCRT	**Cerro San Cris**	**1.05**	**258**	*e*P	Pb	04 27 35.3	+0.8
SCRT				*e*S	Sb	04 27 54.5	+6.7
ECOG	**Cogollos-Vega**	**1.15**	**68**	Pg	Pn	04 27 36.3	+0.4
	3.3nm,0.2s,SNR=15						
ECOG				Lg		04 27 51.3	
	12nm,0.2s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.15**	**68**	Pg	Pn	04 27 37.0	+1.1
	3.3nm,0.2s,SNR=15						
EQUE	**Quentar**	**1.22**	**73**	Pg	Pn	04 27 37.8	+0.9
	2.5nm,0.1s,SNR=28						
EQUE				Lg		04 27 55.0	
	13nm,0.2s,SNR=7.7						
EADA	**Adamuz**	**1.34**	**11**	Pn	Pn	04 27 36.6	-1.9
	2.4nm,0.1s,SNR=66						
EADA				Sn	Sn	04 27 54.6	-1.1
	13nm,0.2s,SNR=12						
EADA	**Adamuz**	**1.34**	**11**	Pg	Pn	04 27 36.6	-1.9
	2.4nm,0.1s,SNR=66						
EBAN	**Banos Encina**	**1.58**	**34**	Pn	Pn	04 27 40.8	-1.0
	1.9nm,0.1s,SNR=15						
EBAN				Sn	Sn	04 28 01.4	-0.3
	34nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.61**	**88**	Pg	Pn	04 27 45.1	+2.8
	11nm,0.4s,SNR=4.0						
EBER				Lg		04 28 05.6	
	6.9nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.61**	**88**	Pg	Pn	04 27 45.6	+3.3
	11nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.68**	**303**	Pn	Pn	04 27 41.1	-2.2
	0.7nm,0.1s,SNR=44						
EMIN				Pg	Pn	04 27 43.7	+0.4
	3.6nm,0.1s,SNR=6.2						
EMIN				Sn	Sn	04 28 03.1	-1.1
	8.6nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**1.68**	**303**	Pn	Pn	04 27 41.1	-2.2
	0.7nm,0.1s,SNR=44						
EMIN	**Mina Concepcio**	**1.68**	**303**	Pg	Pn	04 27 43.7	+0.4
	3.6nm,0.1s,SNR=6.2						
EQES	**Quesada**	**1.74**	**56**	Pn	Pn	04 27 44.4	+0.4
	0.3nm,0.1s,SNR=24						
EQES				Pg	Pn	04 27 46.8	+2.8
	2.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	04 28 05.2	-0.4
	SNR=7.9						
EQES				Lg		04 28 09.4	
	30nm,0.4s,SNR=14						
EQES	**Quesada**	**1.74**	**56**	Pn	Pn	04 27 44.6	+0.6
	0.3nm,0.1s,SNR=24						
EQES	**Quesada**	**1.74**	**56**	Pg	Pn	04 27 47.0	+3.0
	2.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	04 28 05.2	-0.4
	SNR=7.9						
EHUE	**Huescar**	**2.07**	**62**	Pn	Pn	04 27 48.0	-0.7
	0.6nm,0.1s,SNR=4.0						
EHUE				Pg	Pn	04 27 51.8	+3.2
	1.3nm,0.1s,SNR=4.0						
EHUE				Lg		04 28 19.7	
	4.8nm,0.2s,SNR=10.0						
EHUE	**Huescar**	**2.07**	**62**	Pg	Pn	04 27 53.7	+5.0
	1.3nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	04 27 48.0	-2.0
	0.5nm,0.1s,SNR=9.1						
EGRO				Sn	Sn	04 28 14.5	-1.8
	1.3nm,0.2s,SNR=5.1						
EGRO				Lg		04 28 20.6	
	5.3nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	04 27 48.0	-2.0
	0.5nm,0.1s,SNR=9.1						
EGRO				Sn	Sn	04 28 14.5	-1.8
	1.3nm,0.2s,SNR=5.1						
EBAD	**Badajoz**	**2.53**	**319**	Pn	Pn	04 27 52.6	-2.3
	1.2nm,0.1s,SNR=16						
EBAD				Pg	Pn	04 27 59.0	+4.1
	0.4nm,0.1s,SNR=6.5						
EBAD				Sn	Sn	04 28 22.4	-2.8
	5.7nm,0.2s,SNR=6.5						
EBAD				Lg		04 28 32.3	
	7.1nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.53**	**319**	Pn	Pn	04 27 52.6	-2.4
	1.2nm,0.1s,SNR=16						
EBAD	**Badajoz**	**2.53**	**319**	Pg	Pn	04 27 59.0	+4.0
	0.4nm,0.1s,SNR=6.5						
EBAD				Sn	Sn	04 28 22.4	-2.8
	5.7nm,0.2s,SNR=6.5						
EVIA	**Vianos**	**2.60**	**46**	Pg	Pn	04 28 01.6	+5.6
	2.2nm,0.1s,SNR=4.0						
EVIA				Lg		04 28 35.9	
	7.6nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**2.91**	**14**	Pn	Pn	04 27 59.0	-1.2
	0.8nm,0.2s,baz=196,slow=12,SNR=7.9						
ESDC				Pg	Pn	04 28 07.4	+7.2
	0.4nm,0.1s,baz=199,slow=17,SNR=4.3						
ESDC				Sn	Sn	04 28 31.4	-3.2
	0.4nm,0.1s,baz=190,slow=24,SNR=4.2						
ESDC				Lg		04 28 42.2	
	2.4nm,0.4s,baz=199,slow=29,SNR=5.1						
ESDC	**Sonseca Array**	**2.91**	**14**	Pn	Pn	04 27 59.0	-1.2
	0.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.91**	**14**	Pg	Pn	04 28 07.4	+7.2
	0.4nm,0.1s,SNR=4.3						
ESDC				Sn	Sn	04 28 31.4	-3.2
	0.4nm,0.1s,SNR=4.2						
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Sn	Sn	04 28 39.3	-0.7
PTEO							
	6.5nm,0.6s						
PTEO	**Sao Teotonio**	**3.13**	**284**	*e*Sn	Sn	04 28 39.3	-0.7
	6.5nm,0.6s						
ETOB	**Tobarra**	**3.20**	**55**	Pn	Pn	04 28 04.7	+0.5
	2.0nm,0.6s,SNR=5.7						
ETOB				Pg	Pn	04 28 13.2	+9.1
	SNR=7.9						
ETOB				Sn	Sn	04 28 39.8	-2.0
	SNR=4.0						
ETOB				Lg		04 28 54.0	
	4.2nm,0.2s,SNR=5.5						
MOE	**Montemor**	**3.21**	**302**	*e*Sn	Sn	04 28 41.3	-0.5
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	04 28 08.7	-1.0
PCBR				*e*Sn	Sn	04 28 47.1	-4.6
PCBR							
	3.2nm,0.6s						
PCBR	**Castelo Branco**	**3.61**	**327**	*e*Pn	Pn	04 28 08.7	-1.0
PCBR				*e*Sn	Sn	04 28 47.1	-4.6
	3.2nm,0.6s						
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	04 28 12.9	-1.0
PTOM				*e*Sn	Sn	04 28 56.9	-2.2
PTOM				*e*Sg	Sn	04 29 16.0	+17
PTOM							
	4.3nm,0.3s						
PTOM	**Tomar**	**3.91**	**316**	*e*Pn	Pn	04 28 12.9	-1.0
PTOM				*e*Sn	Sn	04 28 56.9	-2.2
PTOM				*e*Sg	Sn	04 29 16.0	+17
	4.3nm,0.3s						
MTE	**Manteigas**	**4.10**	**330**	*e*Sn	Sn	04 29 00.2	-3.7
MTE							
	4.7nm,0.7s						
MTE	**Manteigas**	**4.10**	**330**	*e*Sn	Sn	04 29 00.2	-3.7
	4.7nm,0.7s						

*NEIC **28** 04:27:16.9±0.7, 5018N×1842E, h5km, MG2.9(WAR), Error ellipse: s-maj=11.5km s-min=5.7km az=188.0*
*IDC **28** 04:27:17.7±1.8, 4983N×1856E, h0km, mb1 3.2/3, mb1mx3.1/17, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=42.2km s-min=10.8km az=148.0*
*CSEM **28** 04:27:17.7±0.2, 5010N×1836E, h1km, ML3.5/5, Error ellipse: s-maj=4.3km s-min=2.3km az=11.0*
*IPEC **28** 04:27:17.8±0.1, 5007N×1842E, h1km±2km, ML2.5/3, Error ellipse: s-maj=1.4km s-min=0.7km az=167.0*
*PRU **28** 04:27:19.0, 5008N×1833E, h0km*
*VIE **28** 04:27:19.6±0.8, 4986N×1833E, h0km, mb2.4/2, ML3.0/3, Error ellipse: s-maj=4.7km s-min=4.3km az=19.0 7 km*
ENE of Ostrava Suspected Mining induced.
*BGR **28** 04:27:20.1±1.0, 5000N×1820E, h1km, ML3.2, Error ellipse: s-maj=11.1km s-min=7.8km az=39.0*

WAR 28 04:27:17.8, 5006N×1843E, ML2.9, 6C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**280**	*e*Pg	Pg	04 27 21.8	+1.0
RAC				*e*Sg	Sg	04 27 24.8	+2.0
OKC	**Ostrava-Krasne**	**0.29**	**221**	*e*PG	Pg	04 27 21.6	-1.7
OKC				*e*SG	Sg	04 27 26.2	-0.8
	920nm,1.1s						
MORC	**Moravsky Berou**	**0.64**	**245**	*e*Pg	Pg	04 27 30.0	-0.1
MORC				*e*Sg	Sg	04 27 37.7	-0.7
	65nm,0.2s						
MORC	**Moravsky Berou**	**0.64**	**245**	⇓*i*Pg	Pg	04 27 30.0	-0.1
MORC				*e*Sg	Sg	04 27 39.4	+1.1
OJC	**Ojcow**	**0.89**	**79**	*e*Pgd	Pg	04 27 34.7	-0.2
OJC				*e*Sg	Sg	04 27 47.1	+0.6
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	Pg	04 27 34.8	-0.1
OJC				*e*Sg	Sg	04 27 47.1	+0.6
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	Pg	04 27 34.7	-0.2
OJC				*e*Sg	Sg	04 27 47.1	+0.6
LIKS	**Likavka**	**1.10**	**156**	*e*PN	Pn	04 27 39.9	-0.5
LIKS				*e*SN	Sn	04 27 56.7	+0.4
NIE	**Niedzica**	**1.38**	**117**	*e*Pg	Pg	04 27 43.7	-0.5
NIE				*e*Sg	Sg	04 28 02.8	+0.8
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	Pg	04 27 43.4	-1.0
DPC				*e*SG	Sg	04 28 01.8	-0.6
	252nm,0.4s						
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*Pg	Pg	04 27 43.4	-1.0
DPC				*e*Sg	Sg	04 28 01.1	-1.3
VRAC	**Vranov**	**1.41**	**239**	Pg	Pg	04 27 44.1	-0.7
	8.3nm,0.3s,baz=60,slow=14,SNR=78						
VRAC				Lg		04 28 02.7	
	33nm,0.3s,baz=154,slow=15,SNR=30						
VRAC	**Vranov**	**1.41**	**239**	*e*Pg	Pg	04 27 43.9	-0.9
VRAC	**Vranov**	**1.41**	**239**	*e*Pn	Pn	04 27 44.0	-0.7
VRAC				*e*Sg	Sg	04 28 02.0	-1.1
	81nm,0.3s						
VRAC	**Vranov**	**1.41**	**239**	⇑P	Pn	04 27 44.0	-0.7
KSP	**Ksiaz**	**1.58**	**301**	*e*Pg	Pg	04 27 45.9	-2.2
KSP				*e*Sg	Sg	04 28 07.0	-1.6
KSP	**Ksiaz**	**1.58**	**301**	*e*Pg	Pg	04 27 45.9	-2.2
KSP				*e*Sg	Sg	04 28 06.8	-1.8
KRUC	**Moravsky**	**1.66**	**234**	*e*Pn	Pn	04 27 47.9	-0.2
KRUC				*e*Sg	Sg	04 28 09.9	-1.2
	66nm,0.4s						
SMOL	**Smolenice**	**1.68**	**203**	*i* PN	Pn	04 27 47.8	-0.6
SMOL				*e*SN	Sn	04 28 11.6	+1.0
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*PN	Pg	04 27 55.1	+0.3
STHS				*e*SN	Sg	04 28 22.2	+2.3
ZST	**Bratislava**	**2.06**	**206**	*e*PN	Pn	04 27 53.1	-0.5
ZST				*e*SN	Sn	04 28 18.7	-1.2
KECS	**Kecovo**	**2.07**	**139**	*e*PN	Pn	04 27 53.2	-0.6
KECS				*e*PG	Pg	04 27 59.5	+2.0
KECS				*e*SN	Sn	04 28 23.1	+2.8
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*PN	Pg	04 28 00.3	-1.3
CRVS				*e*SN	Sg	04 28 31.6	+0.3
PSZ	**Piszkesteto**	**2.34**	**155**	⇑*i*Pn	Pn	04 27 57.3	-0.3
PSZ	**Piszkesteto**	**2.34**	**155**	*e*Pn	Pn	04 27 57.4	-0.2
PSZ	**Piszkesteto**	**2.34**	**155**	*e*Pn	Pn	04 27 57.4	-0.2
PRU	**Pruhonice**	**2.51**	**270**	*e*PG	Pg	04 28 02.7	-3.2
PRU				*e*SG	Sg	04 28 35.7	-2.8
	45nm,0.8s						
KOLS	**Kolonicke sedl**	**2.74**	**113**	*e*PG	Pg	04 28 10.6	+0.2
KOLS				*e*		04 28 45.7	
KWP	**Kalwaria**	**2.80**	**97**	*e*Pn	Pg	04 28 09.7	-1.7
KWP				*e*Pg	Px	04 28 16.8	
KWP				*e*Sn	Sg	04 28 47.6	-0.1
KWP				*e*Sg	Sx	04 28 55.2	
BRG	**Berggiesshubel**	**2.98**	**288**	*e*Pg	Pg	04 28 12.9	-2.1
BRG				*e*Sg	Sg	04 28 51.5	-2.2
BRG	**Berggiesshubel**	**2.98**	**288**	PG	Pg	04 28 12.6	-2.4
BRG				SG	Sg	04 28 51.8	-2.0
	21nm,0.9s						
KHC	**Kasperske Hory**	**3.29**	**256**	*e*PN	Pn	04 28 09.0	-1.6
KHC				*e*PG	Pg	04 28 17.6	-3.3
KHC				*e*SN	Sn	04 28 48.0	-2.4
KHC				*e*SG	Sg	04 29 00.4	-3.2
	32nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**256**	*e*Pg	Pg	04 28 17.6	-3.3
KHC				*e*Sn	Sn	04 28 48.0	-2.4
KHC				*e*Sg	Sg	04 29 00.4	-3.2
	32nm,0.4s						
GEC2	**GERESS Array S**	**3.32**	**250**	*e*Pg	Pg	04 28 18.6	-2.8
GEC2				*e*Sg	Sg	04 29 00.1	-4.3
GERES	**GERESS Array B**	**3.32**	**250**	Pn	Pn	04 28 09.6	-1.3
	0.2nm,0.3s,baz=60,slow=14,SNR=7.2						
GERES				Pg	Pg	04 28 19.1	-2.3
	1.5nm,0.3s,baz=64,slow=16,SNR=27						
GERES				Lg		04 29 00.6	
	3.0nm,0.3s,baz=61,slow=24,SNR=6.9						
GERES	**GERESS Array B**	**3.32**	**250**	Pg	Pg	04 28 19.1	-2.3
FBE	**Freiberg**	**3.36**	**287**	*e*Sg	Sg	04 29 03.2	-2.5
MOA	**Molln**	**3.52**	**233**	⇑*i*Pn	Pn	04 28 12.8	-0.9
MOA				⇑*i*Sg	Sg	04 29 09.2	-1.8
	12nm,0.4s						
CLL	**Collm**	**3.67**	**292**	*i* Pg	Pg	04 28 28.1	-0.1
CLL				*e*Sg	Sg	04 29 13.5	-2.4
CLL	**Collm**	**3.67**	**292**	*i* Pg	Pg	04 28 28.1	-0.1
CLL				*i* Sg	Sg	04 29 15.3	-0.6
	comp=Z,29nm,1.0s						
WET	**Wettzell**	**3.73**	**258**	*e*Pn	Pn	04 28 15.1	-1.5
TANN	**Tannenbergstha**	**3.85**	**278**	*e*Pn	Pn	04 28 16.7	-1.6
TANN				*e*Pg	Pg	04 28 28.1	-3.5
TANN				*e*Sg	Sg	04 29 17.3	-4.2
TANN	**Tannenbergstha**	**3.85**	**278**	Pg	Pg	04 28 28.1	-3.5
TANN				Sg	Sg	04 29 17.3	-4.2
NKC	**Novy Kostel**	**3.85**	**275**	*e*PG	Pg	04 28 27.9	-3.8
NKC				*e*SG	Sg	04 29 18.7	-3.0
	comp=Z,29nm,0.4s						
ROTZ	**Rotzenmuhle**	**4.04**	**268**	*e*Pg	Pg	04 28 32.2	-2.9
MOX	**Moxa**	**4.41**	**280**	*e*Sg	Sg	04 29 39.0	-0.4
MOX	**Moxa**	**4.41**	**280**	*e*PN	Pg	04 28 40.6	-1.7
MOX				*e*SG	Sg	04 29 39.0	-0.4
GRF	**Grafenberg Arr**	**4.68**	**268**	*e*Sg	Sg	04 29 44.5	-3.6
BZS	**Buzias**	**4.93**	**153**	⇑P	Pn	04 28 33.1	0.0
BZS	**Buzias**	**4.93**	**153**	⇑P	Pn	04 28 33.1	-0.1
BURAR	**Bucovina Array**	**5.10**	**116**	⇓P	Pn	04 28 36.1	+0.6
DAVOX	**Davos**	**6.57**	**243**	Pn	Pn	04 28 56.2	+0.6
	baz=159,slow=17						
DAVOX				Lg		04 30 46.2	
	comp=Z,0.5nm,0.3s,baz=252,slow=19,SNR=4.3						
DAVOX	**Davos**	**6.57**	**243**	Pn	Pn	04 28 56.2	+0.6
DAVOX				Lg		04 30 46.2	
AKASG	**Malin Array Be**	**6.93**	**81**	Pg	Pn	04 29 17.5	+17
	comp=Z,0.4nm,0.3s,baz=270,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**12.19**	**18**	Pn	Pn	04 30 08.9	-3.7
	comp=Z,0.2nm,0.3s,baz=189,slow=13,SNR=6.0						

*NEIC **28** 04:59:20.2±1.1, 2182S×17745W, h500km, mb4.4/1, Error ellipse: s-maj=35.6km s-min=22.7km az=124.0*
*ISCJB **28** 04:59:25.8±1.5, 2205S±02×1777W±03, h564km±34km, mb4.0/5, Error ellipse: s-maj=42.8km s-min=17.5km az=68.5*
*IDC **28** 04:59:27.2±2.4, 2210S×17755W, h578km±27km, mb3.2/4, mb1 3.5/6, mb1mx3.4/14, mbtmp4.3/6, Error ellipse: s-maj=50.1km s-min=18.4km az=142.0*

ISC 28 04:59:26.5±1.5, 2215S±02×1775W±02, h571km±30km, n12, σ0$98/10, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.81**	**35**	P	**P**	**05 01 43.8**	**+1.1**
	2.1nm,0.3s,baz=40,slow=18,SNR=2.8						
AFI				S	**S**	**05 03 27.9**	**-6.7**
	4.0nm,0.3s,baz=227,slow=22,SNR=5.9						
AFI	**Afiamalu**	**9.81**	**35**	*e*P	**P**	**05 01 44.0**	**+1.3**
AFI				*e*S	**S**	**05 03 31.6**	**-3.1**
URZ	**Urewera**	**16.76**	**195**	P	**P**	**05 02 51.5**	**-0.5**
	2.4nm,0.3s,baz=163,slow=2.7,SNR=9.4						
CTAO	**Charters Tower**	**33.79**	**267**	*e*P	**P**	**05 05 20.6**	**-1.3**
	6.3nm,0.5s,mb4.4						
CTAO				*e*		05 05 47.7	
STKA	**Stephens Creek**	**37.51**	**246**	P	**P**	**05 05 53.1**	**+0.5**
	1.4nm,0.6s,mb3.7,baz=270,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**44.59**	**258**	P	**P**	**05 06 49.6**	**+1.0**
	4.4nm,0.6s,mb4.2,baz=96,slow=7.8,SNR=47						
WRA	**Warramunga Arr**	**44.83**	**264**	P	**P**	**05 06 50.1**	**-0.3**
	2.2nm,0.3s,mb4.2,baz=97,slow=7.5,SNR=164						
ILAR	**Eielson Array**	**89.76**	**13**	P	**P**	**05 11 24.7**	**+0.1**
	0.5nm,0.8s,mb3.4,baz=219,slow=5.0,SNR=6.7						
AKASG	**Malin Array Be**	**144.60**	**330**	PKP	PKPdf	05 17

YKA Yellowknife Ar 88.30 22 P **P 05 29 30.9 0.0**
0.3nm,0.8s,mb3.6,baz=314,slow=4.1,SNR=6.9

TRN 28 05:17:16.9, 1397N×6014W, h4km, MD3.5, M2.3(FDF), 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.94**	**308⇓**	*eP*		Pg 05 17 37.9	+3.0
MVM				*eS*		Sg 05 17 52.1	+5.1
BIM	**Bigot**	**1.06**	**301⇑**	*eP*		Pg 05 17 39.8	+2.7
CRM	**Caravelle**	**1.08**	**316**	*eP*		Pg 05 17 40.0	+2.3
CRM				*eS*		Sg 05 17 55.9	+4.2
SSV	**Crater Summit**	**1.21**	**238**	*eP*		Pg 05 17 42.6	+2.5
SSV				*eS*		Sg 05 18 00.2	+4.4
SVV	**Soufriere Volc**	**1.23**	**238**	*eP*		Pg 05 17 43.8	+3.2
SVV				*eS*		Sg 05 18 02.1	+5.5
FDF	**Fort de France**	**1.24**	**308⇑**	*iP*		Pg 05 17 42.4	+1.7
FDF				*i S*		Sg 05 18 00.3	+3.5
SVB	**Belmont**	**1.29**	**237**	*eP*		Pg 05 17 43.9	+2.3
SVB				*eS*		Sg 05 18 01.7	+3.3
FCV	**Fort Charlotte**	**1.35**	**233**	*eP*		Pn 05 17 44.7	+2.2
FCV				*eS*		Sg 05 18 02.4	+2.2
GRCU	**Cariacou**	**1.97**	**221**	*eP*		Pn 05 17 52.6	+1.6
GRCU				*eS*		Sn 05 18 16.9	+0.7
GRIC	**Isle de Caille**	**2.19**	**220**	*eP*		Pn 05 17 56.9	+2.8
GRIC				*eS*		Sn 05 18 24.9	+3.2
GRSS	**Sisters**	**2.20**	**221**	*eP*		Pn 05 17 57.7	+3.5
GRSS				*eS*		Sn 05 18 25.0	+3.1
GRW	**Mount Saint Ca**	**2.33**	**220**	*eP*		Pn 05 17 57.3	+1.2
GRW	**Mount Saint Ca**	**2.33**	**220**	*eP*		Pn 05 17 58.5	+2.4
GRW				*eS*		Sn 05 18 28.4	+3.1
TPR	**Prospect**	**2.84**	**193**	*eP*		Pn 05 17 58.0	-5.1

PRE 28 05:25:31.9±1.9, 2170S×3389E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.65**	**259**	*eP*		05 19 09.0	
MSNA				*eS*		05 19 49.8	
MSNA				AML	AML	05 20 05.3	
	comp=Z,217nm,0.6s						
SLR	**Silverton**	**6.52**	**231**	*eS*	Sn	05 28 20.7	-2.6
SLR				AML	AML	05 29 03.0	
	comp=N,65nm,0.7s						
LBTB	**Lobatse**	**8.30**	**245**	*eP*	Pn	05 27 34.2	+1.3
LBTB				*eS*	Sn	05 29 03.3	-3.9
LBTB				AML	AML	05 30 01.5	
	comp=Z,56nm,0.7s						
BOSA	**Boshof**	**10.42**	**227**	*eP*	Pn	05 28 03.2	+1.3
BOSA				*eS*	Sn	05 29 54.3	-4.7
BOSA				AML	AML	05 31 26.7	
	comp=Z,22nm,0.6s						

NIED ***28*** *05:31:00, 2580N×12890E, h5km, Mw3.8 Best double couple: M0=5.94000×10^14 NP1:φ=228.00000°, δ=69.00000°, λ=-94.00000°. NP2:φ=61.00000°, δ=22.00000°, λ=-79.00000°.*
IDC ***28*** *05:31:17.5±1.0, 2589N×12904E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, Error ellipse: s-maj=48.6km s-min=16.5km az=66.0*
ISCJB ***28*** *05:31:19.0±1.2, 2586N±004×12892E±004, h26km±9km, mb3.6/8, Error ellipse: s-maj=6.7km s-min=5.6km az=175.0*
NEIC ***28*** *05:31:19.7, 2584N×12895E, h48km, MG3.8(JMA), After JMA.*
JMA ***28*** *05:31:19.6±0.2, 2584N×12895E, h48km, M3.8*
ISC 28 05:31:19.8±1.3, 2589N±004×12890E±004, h21km±9km, n22, σ1°9°05/34, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.06**	**284**	P	**Pn**	**05 31 39.4**	**0.0**
JJT2				S	**Sb**	**05 31 53.3**	**+0.4**
JOW	**Kunigami**	**1.09**	**329**	P	**Pn**	**05 31 39.9**	**+0.1**
JOW				S	**Sb**	**05 31 54.1**	**+0.4**
JOW	**Kunigami**	**1.09**	**329**	Pn	**Pn**	**05 31 40.0**	**+0.2**
	438nm,0.3s,baz=139,slow=17,SNR=630						
JOW				Sn	**Sn**	**05 31 52.9**	**-1.3**
	344nm,0.3s,baz=76,slow=24,SNR=15						
NAH1	**Naha**	**1.13**	**286**	P	**Pn**	**05 31 40.1**	**-0.2**
NAH1				S	**Sb**	**05 31 54.7**	**-0.1**
JIH	**Iheya**	**1.41**	**324**	P	**Pn**	**05 31 44.8**	**+0.6**
JIH				S	**Sn**	**05 32 02.3**	**+0.2**
JAGN	**Aguni-jima**	**1.64**	**295**	P	**Pn**	**05 31 47.8**	**+0.5**
JAGN				S	**Sn**	**05 32 08.3**	**+0.5**
JTK	**Tokunoshima**	**1.89**	**2**	P	**Pn**	**05 31 50.8**	**+0.1**
JTK				S	**Sn**	**05 32 12.8**	**-1.1**
JKE	**Kume jima 2**	**1.94**	**283**	P	**Pn**	**05 31 51.1**	**-0.5**
JKE				S	**Sn**	**05 32 13.6**	**-1.7**
JMZ	**Minamidaito 2**	**2.10**	**92**	P	**Pn**	**05 31 52.2**	**-1.5**
JMZ				S	**Sn**	**05 32 16.1**	**-3.0**
JAM	**Amami Oshima**	**2.59**	**14**	P	**Pn**	**05 32 00.8**	**+0.4**
JAM				S	**Sn**	**05 32 30.7**	**-0.5**
JOGS	**Gusukube**	**3.35**	**251**	P	**Pn**	**05 32 10.6**	**-0.3**
JOGS				*eS*	**Sn**	**05 32 48.4**	**-1.7**
JTJ	**Tarama**	**4.00**	**253**	P	**Pn**	**05 32 18.7**	**-1.1**
JTJ				*eS*	**Sn**	**05 33 01.5**	**-4.5**
JIJ	**Ishigaki jima**	**4.57**	**252**	*eS*	**Sn**	**05 33 14.9**	**-5.2**
SONM	**Songino Array**	**28.16**	**327**	P	**P**	**05 37 14.2**	**+3.7**
	0.4nm,0.4s,mb3.4,baz=144,slow=11,SNR=11						
MKAR	**Makanchi Array**	**42.20**	**312**	P	**P**	**05 39 12.5**	**+1.4**
	0.5nm,0.6s,mb3.3,baz=88,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**42.20**	**312**	P	**P**	**05 39 12.5**	**+1.4**
WRA	**Warramunga Arr**	**45.87**	**173**	P	**P**	**05 39 40.9**	**+0.4**
	3.1nm,0.8s,mb4.3,baz=352,slow=8.4,SNR=25						
ASAR	**Alice Springs**	**49.51**	**174**	P	**P**	**05 40 10.2**	**+1.5**
	0.6nm,0.5s,mb3.9,baz=1.3,slow=14,SNR=12						
BVAR	**Borovoye Array**	**50.92**	**318**	P	**P**	**05 40 22.0**	**+2.5**
	0.4nm,0.5s,mb3.6,baz=214,slow=37,SNR=2.6						
FINES	**FINESS Array B**	**73.45**	**331**	P	**P**	**05 42 50.5**	**0.0**
	1.1nm,0.9s,mb3.8,baz=76,slow=8.5,SNR=3.6						
BRTR	**Keskin Array B**	**77.71**	**308**	P	**P**	**05 43 16.8**	**+1.8**
	0.7nm,0.9s,mb3.6,baz=127,slow=3.3,SNR=4.7						
YKA	**Yellowknife Ar**	**78.58**	**25**	P	**P**	**05 43 20.4**	**+0.6**
	0.1nm,0.5s,mb3.0,baz=301,slow=5.1,SNR=6.5						

MOS ***28*** *05:57:33.9±1.1, 648S×12865E, h249km, mb4.7/26, Error ellipse: s-maj=18.0km s-min=7.1km az=106.6*
ISCJB ***28*** *05:57:34.1±1.3, 648S±004×12873E±008, h251km±13km, mb4.6/57, Error ellipse: s-maj=12.7km s-min=6.6km az=148.0*
IDC ***28*** *05:57:36.7±1.6, 653S×12861E, h265km±15km, mb4.3/16, mb1 4.3/19, mb1mx4.3/23, mbtmp4.9/19, Error ellipse: s-maj=16.7km s-min=8.4km az=73.0*
BJI ***28*** *05:57:38.6, 640S×12901E, h304km, mB4.9, mb4.7*
NEIC ***28*** *05:57:40.6±0.3, 642S×12872E, h300km, mb4.4/15, Error ellipse: s-maj=12.9km s-min=8.3km az=65.0*
ISC 28 05:57:37.0±1.4, 652S±005×12879E±008, h265km±14km, n124, σ0°95/117, mb4.5/56, 1C-17D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.39**	**158**	*d iP*	**Pn**	**06 00 48.8**	**-0.4**
WRA	**Warramunga Arr**	**14.39**	**159**	P	**Pn**	**06 00 48.3**	**-0.9**
	6.7nm,0.3s,baz=337,slow=12,SNR=314						
WRA				S	**S**	**06 03 23.9**	**-4.1**
	3.6nm,0.3s,baz=339,slow=21,SNR=7.4						
WRA	**Warramunga Arr**	**14.39**	**159**	P	**Pn**	**06 00 48.3**	**-0.9**
WRA				S	**S**	**06 03 23.9**	**-4.2**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
WRA				smax			
	comp=E,4.0nm,0.3s						
TBP	**Tagbilaran**	**16.84**	**343**	*eP*	**P**	**06 01 15.9**	**0.0**
KKM	**Kota Kinabalu**	**17.70**	**315**	P	**P**	**06 01 20.6**	**-4.7**
ASAR	**Alice Springs**	**17.74**	**164**	P	**P**	**06 01 27.9**	**+2.1**
	comp=E,9.0nm,0.3s,baz=343,slow=11,SNR=963						
ASAR				S	**S**	**06 04 32.6**	**-3.4**
	comp=E,0.3nm,0.3s,baz=347,slow=24,SNR=13						
ASAR				ScP	ScP	06 08 59.6	+0.2
	comp=E,0.9nm,0.3s,baz=356,slow=1.9,SNR=5.1						
ASAR	**Alice Springs**	**17.74**	**164**	P	**P**	**06 01 27.9**	**+2.1**
ASAR				S	**S**	**06 04 32.6**	**-3.3**
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAR				pmax	pmax		
	comp=E,1.0nm,0.3s						
PMG	**Port Moresby**	**18.41**	**100**	P	**P**	**06 01 35.6**	**+2.6**
	comp=E,0.7nm,0.3s,baz=274,slow=13,SNR=3.5						
PMG	**Port Moresby**	**18.41**	**100⇓**	*eP*	**P**	**06 01 39.5**	**+6.5**
PMG	**Port Moresby**	**18.41**	**100**	*eP*	**P**	**06 01 35.5**	**+2.4**
	comp=E,28nm,0.8s						
TGY	**Tagaytay City**	**21.92**	**339**	P	**P**	**06 02 09.8**	**+1.0**
	comp=E,178nm,0.3s,baz=52,slow=19,SNR=3.3						
TGY	**Tagaytay City**	**21.92**	**339**	P	**P**	**06 02 09.8**	**+0.9**
TGY				pmax	pmax		
	comp=Z,178nm,0.3s						
STKA	**Stephens Creek**	**27.92**	**156**	P	**P**	**06 03 03.9**	**+1.0**
	comp=Z,1.8nm,0.4s,mb3.8,baz=337,slow=9.7,SNR=4.7						
KULM	**Kulim**	**30.44**	**292**	P	**P**	**06 03 23.8**	**-1.3**
PSI	**Prapat**	**31.22**	**286**	P	**P**	**06 03 29.3**	**-2.6**
	comp=Z,15nm,0.7s,mb4.7,baz=124,slow=6.9,SNR=12						
PSI	**Prapat**	**31.22**	**286**	P	**P**	**06 03 29.3**	**-2.6**
PSI				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.6						
JOW	**Kunigami**	**33.16**	**359**	P	**P**	**06 03 48.5**	**-0.2**
	comp=Z,74nm,0.7s,mb5.3,baz=194,slow=5.4,SNR=12						
CBIJ	**Chichi jima**	**35.84**	**21**	P	**P**	**06 04 11.1**	**-0.6**
	comp=Z,40nm,0.4s,mb5.3,baz=273,slow=17,SNR=5.6						
WHN	**Wuhan**	**39.37**	**340**	⇑P	**P**	**06 04 41.5**	**+0.5**
WHN				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.9						
JNU	**Nakatsue**	**39.47**	**3**	P	**P**	**06 04 41.4**	**-0.5**
	comp=Z,30nm,0.8s,mb4.8,baz=153,slow=6.0,SNR=9.5						
NJ2	**Nanjing**	**39.51**	**347**	*eP*	**P**	**06 04 42.3**	**+0.1**
NJ2				AP	pP	06 05 41.3	+5.2
NJ2				XP	sP	06 06 13.5	+7.2
NJ2				PP	PP	06 06 23.0	+4.0
NJ2				S	**S**	**06 10 24.0**	**-0.1**
NJ2				PCS	PcS	06 10 32.0	-2.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,1μm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,24.7s						
NJ2				LR	LR		
	comp=E,640nm,26.2s						
NJ2				LR	LR		
	comp=Z,11μm,21.6s						
ENH	**Enshi**	**41.00**	**334**	*eP*	**P**	**06 04 53.8**	**-0.6**
	comp=Z,2.5nm,0.3s,mb3.9						
MJAR	**Matsushiro Arr**	**43.73**	**11**	P	**P**	**06 05 15.0**	**-1.3**
	comp=Z,39nm,0.8s,mb4.7,baz=188,slow=9.3,SNR=68						
MJAR	**Matsushiro Arr**	**43.73**	**11**	P	**P**	**06 05 15.0**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,39nm,0.8s						
MAJO	**Matsushiro**	**43.73**	**11**	*iP*	**P**	**06 05 15.1**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,58nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**43.73**	**11**	*iP*	**P**	**06 05 15.1**	**-1.2**
	comp=Z,58nm,0.8s,mb4.9						
MAT	**Matsushiro**	**43.73**	**11**	P	**P**	**06 05 15.0**	**-1.3**
MAT	**Matsushiro**	**43.73**	**11**	*eP*	**P**	**06 05 15.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,40nm,0.8s,mb4.7						
MAT	**Matsushiro**	**43.73**	**11**	*eP*	**P**	**06 05 15.0**	**-1.3**
	comp=Z,40nm,0.8s,mb4.7						
KS15	**Wonju Array Si**	**43.74**	**359⇓**	*eP*	**P**	**06 05 16.8**	**+0.5**
BJT	**Baijiatuau**	**47.75**	**347**	*eP*	**P**	**06 05 46.9**	**-0.6**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuau**	**47.75**	**347**	*eP*	**P**	**06 05 46.9**	**-0.6**
	comp=Z,25nm,0.8s,mb4.6						
LZH	**Lanzhou**	**48.42**	**333**	*eP*	**P**	**06 05 52.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,128nm,5.2s						
VLA	**Vladivostok**	**49.48**	**3**	*i P*	**P**	**06 06 02.0**	**+1.3**
VLA				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.7						
PALK	**Pallekele**	**49.89**	**285**	*eP*	**P**	**06 06 05.7**	**+1.9**
	comp=Z,12nm,0.8s,mb4.3						
CN2	**Changchun**	**50.17**	**357**	*eP*	**P**	**06 06 05.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**50.90**	**1**	P	**P**	**06 06 11.5**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,136nm,5.8s						
MDJ	**Mudanjiang**	**50.90**	**1⇓**	*eP*	**P**	**06 06 11.2**	**-0.1**
	comp=Z,16nm,0.8s,mb4.4						
LSA	**Lhasa**	**51.02**	**317**	*eP*	**P**	**06 06 13.5**	**+1.3**
LSA	**Lhasa**	**51.02**	**317**	*eP*	**P**	**06 06 12.8**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
LSA	**Lhasa**	**51.02**	**317**	*eP*	**P**	**06 06 12.8**	**+0.6**
	comp=Z,5.7nm,0.6s,mb4.1						
ASAJ	**Asahikawa**	**51.92**	**13**	P	**P**	**06 06 19.1**	**+0.3**
	comp=Z,14nm,0.5s,mb4.6,baz=223,slow=13,SNR=11						
ASAJ	**Asahikawa**	**51.92**	**13**	P	**P**	**06 06 19.2**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.5s						
GTA	**Gaotai**	**52.98**	**332**	*eP*	**P**	**06 06 26.5**	**-0.1**
GTA				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.6						
JIRN	**Jiri**	**53.37**	**312**	*eP*	**P**	**06 06 29.7**	**+0.3**
	comp=Z,12nm,0.3s,mb4.6						
GUN	**Gumba**	**53.73**	**312**	*eP*	**P**	**06 06 32.3**	**+0.3**
	comp=Z,31nm,0.4s,mb5.0						
PKI	**Pulchoki**	**53.90**	**311**	*eP*	**P**	**06 06 33.3**	**+0.1**
	comp=Z,12nm,0.4s,mb4.5						
KKN	**Kakani**	**54.12**	**311**	*eP*	**P**	**06 06 34.3**	**-0.5**
	comp=Z,12nm,0.5s,mb4.5						
DMN	**Daman**	**54.15**	**311**	*eP*	**P**	**06 06 35.0**	**0.0**
	comp=Z,22nm,0.7s,mb4.6						
YSS	**Yuzh-Sakhalins**	**54.66**	**12**	*i P*	**P**	**06 06 40.8**	**+2.1**
GKN	**Gorkha**	**54.71**	**311**	*eP*	**P**	**06 06 39.0**	**0.0**
	comp=Z,26nm,0.3s,mb5.1						
HYB	**Hyderabad**	**55.03**	**296**	*i P*	**P**	**06 06 46.0**	**+4.7**
HYB	**Hyderabad**	**55.03**	**296**	*eP*	**P**	**06 06 46.0**	**+4.7**
HABR	**Khabarovsk**	**55.03**	**5**	*eP*	**P**	**06 06 41.9**	**+0.6**
HABR				*eS*	**S**	**06 14 02.9**	**+0.4**
KOLN	**Koldanda**	**55.37**	**310**	*eP*	**P**	**06 06 43.0**	**-0.7**
	comp=Z,13nm,0.3s,mb4.8						
KLR	**Kul'dur**	**55.58**	**2**	*eP*	**P**	**06 06 42.2**	**-3.0**
KLR				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**57.45**	**343**	*iP*	**P**	**06 06 58.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
ULN	**Ulaanbaatar**	**57.45**	**343**	*iP*	**P**	**06 06 58.7**	**+0.4**
	comp=Z,13nm,0.7s,mb4.5						
SONM	**Songino Array**	**57.61**	**342**	P	**P**	**06 06 59.8**	**+0.3**
	comp=Z,17nm,0.9s,mb4.5,baz=158,slow=6.7,SNR=116						
SONM				ScP	ScP	06 11 23.2	-0.3
	comp=Z,0.9nm,0.8s,baz=154,slow=5.3,SNR=3.9						
SONM	**Songino Array**	**57.61**	**342**	P	**P**	**06 06 59.8**	**+0.3**
SONM				pmax	pmax		
	comp=Z,17nm,0.9s						
SONM				pmax	pmax		
	comp=E,1.0nm,0.9s						
ZAK	**Zakamensk**	**60.83**	**342⇓**	*iP*	**P**	**06 07 21.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.1						
WMQ	**Urumqi**	**62.34**	**328**	P	**P**	**06 07 32.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.1						
MOY	**Mondy**	**62.66**	**341**	*eP*	**P**	**06 07 34.4**	**+0.8**
MKAR	**Makanchi Array**	**67.17**	**327**	P	**P**	**06 08 02.7**	**+0.1**
	comp=Z,17nm,0.5s,mb5.0,baz=116,slow=8.8,SNR=305						
MKAR				S	S	06 16 33.8	-1.3
	comp=Z,0.8nm,1.1s,baz=127,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**67.17**	**327**	P	**P**	**06 08 02.7**	**+0.2**
MKAR				S	S	06 16 33.8	-1.3
MKAR				pmax	pmax		
	comp=Z,17nm,0.5s						
MKAR				smax			
	comp=E,1.0nm,1.1s						
MKAR	**Makanchi Array**	**67.17**	**327**	P	**P**	**06 08 02.7**	**+0.1**
MKAR				S	S	06 16 33.8	-1.3
YAK	**Yakutsk**	**68.35**	**0**	*eP*	**P**	**06 08 09.9**	**0.0**
YAK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
TKM2	**Tokmak 2**	**68.85**	**321**	P	**P**	**06 08 13.8**	**+0.8**
	SNR=8.4						
TKM2	**Tokmak 2**	**68.85**	**321**	P	**P**	**06 08 13.6**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
UCH	**Uchtor**	**69.18**	**320**	P	**P**	**06 08 16.7**	**+1.7**
	SNR=8.2						
AAK	**Ala-Archa**	**69.40**	**320**	P	**P**	**06 08 17.8**	**+1.4**
	SNR=5.6						
AAK	**Ala-Archa**	**69.40**	**320⇓**	*eP*	**P**	**06 08 16.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**69.40**	**320⇓**	*eP*	**P**	**06 08 16.2**	**-0.1**
	comp=Z,7.7nm,1.0s,mb4.4						
AML	**Almayashu**	**69.66**	**319**	P	**P**	**06 08 19.2**	**+1.3**
	SNR=14						
USP	**Ospenovka**	**69.72**	**321**	P	**P**	**06 08 18.9**	**+0.7**
	SNR=13						
EKS2	**Erkin-Say**	**69.87**	**320**	P	**P**	**06 08 20.2**	**+1.0**
	SNR=10						
ZAL	**Zalesovo**	**70.63**	**334**	P	**P**	**06 08 22.7**	**-1.0**
	comp=Z,8.8nm,0.7s,mb4.5,baz=340,slow=5.1,SNR=35						
ZAL	**Zalesovo**	**70.63**	**334**	P	**P**	**06 08 22.7**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	**Kurchatov**	**71.49**	**329⇓**	*iP*	**P**	**06 08 28.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
KURK	**Kurchatov**	**71.49**	**329⇓**	*iP*	**P**	**06 08 28.7**	**-0.2**
	comp=Z,25nm,0.8s,mb4.9						
SEY	**Seymchan**	**71.56**	**11⇓**	*eP*	**P**	**06 08 29.8**	**+0.5**
KKAR	**Karatay Array**	**72.19**	**319**	*i P*	**P**	**06 08 32.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
VNDA	**Vanda**	**73.07**	**173**	P	**P**	**06 08 38.1**	**-0.1**
	comp=Z,2.5nm,0.9s,mb3.9,baz=98,slow=7.1,SNR=3.1						
VNDA	**Vanda**	**73.07**	**173**	P	**P**	**06 08 38.2**	**0.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVA0	**Borovoye Array**	**77.02**	**328**	*i P*	**P**	**06 09 00.1**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
BVAR	**Borovoye Array**	**77.02**	**328**	P	**P**	**06 08 59.7**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.3,baz=129,slow=5.9,SNR=22						
BVAR	**Borovoye Array**	**77.02**	**328**	P	**P**	**06 08 59.7**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**77.09**	**328**	*eP*	**P**	**06 09 00.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**77.09**	**328**	*eP*	**P**	**06 09 00.9**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**77.72**	**328⇓**	*eP*	**P**	**06 09 04.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**77.72**	**328⇓**	*eP*	**P**	**06 09 04.1**	**-0.4**
	comp=Z,9.5nm,0.8s,mb4.6						
ZRNK				*e*		06 10 17.1	
TIXI	**Tiksi**	**78.01**	**0**	*i P*	**P**	**06 09 04.2**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**78.92**	**13**	*i P*	**P**	**06 09 13.3**	**+2.2**
AB31	**Akbulak array**	**81.39**	**322**	*i P*	**P**	**06 09 23.7**	**-0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
AKTK	**Aktyubinsk**	**82.96**	**323**	P	**P**	**06 09 32.0**	**-0.4**
AKTO	**Aktyubinsk**	**82.96**	**323**	P	**P**	**06 09 32.0**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.2,baz=107,slow=3.9,SNR=12						
AKTO	**Aktyubinsk**	**82.96**	**323**	P	**P**	**06 09 32.0**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**83.45**	**180**	*eP*	**P**	**06 09 34.7**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.3						
ARU	**Arti**	**84.67**	**328⇓**	*iP*	**P**	**06 09 40.1**	**-0.9**
ARU				*e*		06 13 00.3	
ARU				*eS*		06 19 33.8	
ARU				*eSS*	SS	06 25 22.4	-1.0
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
QRN	**Al-Qurain**	**85.16**	**300**	*eP*	**P**	**06 09 43.2**	**-0.2**
QRN				AMb	AMB	06 09 44.9	
	comp=Z,31nm,0.6s,mb5.3						
RDF	**Al-Radifah**	**85.50**	**300**	*eP*	**P**	**06 09 45.3**	**+0.2**
RDF				AMb	AMB	06 09 46.3	
	comp=Z,19nm,0.7s,mb5.0						
NAY	**Al-Naaiem**	**85.83**	**300**	*eP*	**P**	**06 09 46.8**	**+0.1**
NAY				AMb	AMB	06 09 48.2	
	comp=Z,18nm,0.7s,mb5.0						
MIB	**Mutribah**	**85.84**	**300**	*eP*	**P**	**06 09 46.4**	**-0.4**
MIB				AMb	AMB	06 09 48.4	
	comp=Z,18nm,0.7s,mb5.0						
KMBO	**Kilima Mbogo**	**91.40**	**269**	P	**P**	**06 10 12.6**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=69,slow=6.6,SNR=5.1						
KMBO	**Kilima Mbogo**	**91.40**	**269**	*eP*	**P**	**06 10 14.4**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**91.40**	**269**	*eP*	**P**	**06 10 14.4**	**+1.5**
	comp=Z,3.1nm,1.0s,mb4.1						
KIV	**Kislovodsk**	**91.68**	**314**	*i P*	**P**	**06 10 09.8**	**-4.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
COLA	**College**	**93.03**	**25**	*i P*	**P**	**06 10 20.3**	**-0.2**
ILAR	**Eielson Array**	**93.43**	**25**	P	**P**	**06 10 20.6**	**-1.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=240,slow=5.2,SNR=27

JKE	**Kume jima 2**	**2.15**	**54**	P	**Pn**	**06 42 22.5**	**+0.2**
JKE				S	**Sn**	**06 42 49.3**	**+1.2**
JAGN	**Aguni-jima**	**2.64**	**54**	*e*S	**Sn**	**06 43 00.4**	**+0.6**
JOW	**Kunigami**	**3.55**	**59**	P	**Pn**	**06 42 40.5**	**-0.8**
	1.9nm,0.3s,baz=221,slow=19,SNR=4.7						
JOW				S	**Sn**	**06 43 19.9**	**-2.2**
	3.1nm,0.3s,baz=116,slow=26,SNR=2.3						
MKAR	**Makanchi Array**	**40.09**	**314**	P	**P**	**06 49 16.8**	**0.0**
	0.4nm,0.5s,mb3.5,baz=103,slow=9.3,SNR=7.5						
WRA	**Warramunga Arr**	**45.67**	**167**	P	**P**	**06 50 01.3**	**-0.6**
	0.7nm,0.6s,mb3.5,baz=350,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**49.22**	**169**	P	**P**	**06 50 30.3**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=352,slow=13,SNR=5.3						
YKA	**Yellowknife Ar**	**80.85**	**24**	P	**P**	**06 53 54.5**	**+0.1**
	0.3nm,0.6s,mb3.3,baz=303,slow=5.4,SNR=7.9						

IDC 28 06:48:34.7±1.1, 836S×13192E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.9/12, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=93.3km s-min=22.5km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.75**	**169**	Pn	Pn	06 51 24.1	+0.6
	0.3nm,0.3s,baz=341,slow=12,SNR=13						
WRA				Sn	Sn	06 53 32.4	-3.1
	0.4nm,0.3s,baz=338,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**15.34**	**173**	Pn	Pn	06 52 11.4	-1.1
	0.2nm,0.3s,baz=348,slow=10,SNR=15						
ASAR				Sn	Sn	06 54 57.3	-5.8
	0.1nm,0.3s,baz=328,slow=16,SNR=4.5						
STKA	**Stephens Creek**	**25.07**	**160**	P	P	06 54 01.4	+0.6
	2.4nm,0.9s,baz=316,slow=14,SNR=3.3						
SONM	**Songino Array**	**60.34**	**340**	P	P	06 58 46.3	+0.9
	0.4nm,0.5s,baz=160,slow=5.6,SNR=5.0						
MKAR	**Makanchi Array**	**70.40**	**326**	P	P	06 59 50.4	-0.1
	1.7nm,0.6s,baz=122,slow=8.1,SNR=31						
ILAR	**Eielson Array**	**93.76**	**25**	P	P	07 01 52.6	-0.8
	0.3nm,0.6s,baz=258,slow=7.1,SNR=4.3						

IDC 28 06:54:58.1±10.0, 1710S×17880W, h460km±96km, mb3.2/5, mb1 3.4/5, mb1mx3.3/13, mbtmp4.0/5, Error ellipse: s-maj=119.6km s-min=34.6km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.70**	**240**	P	P	07 01 40.9	-0.2
	0.4nm,0.3s,baz=351,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**44.42**	**259**	P	P	07 02 26.7	+0.1
	0.5nm,0.3s,baz=90,slow=6.8,SNR=28						
WRA				PcP	PcP	07 04 00.9	+0.2
	0.2nm,0.3s,baz=89,slow=3.8,SNR=7.6						
ASAR	**Alice Springs**	**44.66**	**253**	P	P	07 02 29.1	+0.7
	3.6nm,0.5s,baz=86,slow=8.4,SNR=66						
ILAR	**Eielson Array**	**85.18**	**13**	P	P	07 06 44.0	-0.8
	0.8nm,0.9s,baz=224,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**93.75**	**25**	P	P	07 07 24.5	-0.3
	0.3nm,0.5s,baz=241,slow=4.5,SNR=8.9						
ARCES	**ARCESS Array B**	**125.45**	**350**	PKP	PKPdf	07 13 05.7	-0.3
	3.9nm,0.9s,baz=159,slow=1.0,SNR=7.3						
BRTR	**Keskin Array B**	**143.95**	**315**	PKP	PKPdf	07 13 39.1	-1.2
	1.5nm,0.8s,baz=139,slow=5.9,SNR=7.1						
GERES	**GERESS Array B**	**146.74**	**345**	PKPbc	PKPbc	07 13 47.2	-0.4
	0.5nm,0.6s,baz=14,slow=2.8,SNR=4.7						

IDC 28 06:55:35.8±0.8, 676N×7297W, h168km±10km, mb3.0/1, mb1 3.6/3, mb1mx3.2/19, mbtmp3.9/3, Error ellipse: s-maj=49.5km s-min=7.9km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**216**	P	Pn	06 56 16.6	+1.0
	64nm,0.3s,baz=262,slow=23,SNR=222						
ROSC				S	Sn	06 56 47.7	+1.2
	114nm,0.3s,baz=89,slow=22,SNR=16						
SDV	**Santo Domingo**	**3.14**	**48**	P	Pn	06 56 26.3	+0.8
	33nm,0.3s,baz=246,slow=8.1,SNR=483						
SDV				S	Sn	06 57 04.7	+0.6
	23nm,0.3s,baz=283,slow=18,SNR=20						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	P	07 05 47.0	-0.1
	0.3nm,0.5s,baz=132,slow=6.8,SNR=11						
YKA				pP	pP	07 06 24.2	-2.2
	0.2nm,0.4s,baz=131,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	07 15 04.5	+0.1
	1.2nm,0.6s,baz=119,slow=3.7,SNR=17						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	07 15 08.3	+1.0
	0.9nm,0.4s,baz=109,slow=2.5,SNR=41						

NAO ***28*** *07:30:45.1, 2632N×5862E, h33km, mb5.6*
SZGRF ***28*** *07:30:50.0, 2700N×5803E, h33km, mb5.6, MS5.8, Southern Iran*
BGS ***28*** *07:30:53.5, 2743N×5787E, h18km, mb5.8*
CSEM ***28*** *07:31:00.8±0.0, 2820N×5682E, h18km, mb5.8/99, Ms6.0, Mw6.0, Error ellipse: s-maj=1.6km s-min=1.1km az=11.0*
BJI ***28*** *07:31:00.5, 2829N×5647E, h35km, mB6.0, mb5.5, Ms6.3, Msz6.0*
ISCJB ***28*** *07:31:02.3±0.1, 2811N±002×5683E±001, h29km, mb5.8/338, MS6.1/209, Error ellipse: s-maj=2.2km s-min=1.6km az=23.9*
HRVD ***28*** *07:31:02.7±0.1, 2786N×5687E, h25km, MW6.0/101, Centroid moment Tensor Solution. LP body waves: s100,c229;Mantle waves: s101,c309; Half duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.67±.01; $M_{\theta\theta}$-0.83±.01; $M_{\phi\phi}$0.16±.01; $M_{r\theta}$1.11±.03; $M_{\theta\phi}$0.29±.01; $M_{\phi r}$~0.05±.01; Best double couple: M_o1.36600×10^{18} NP1:ϕ_s302.00000°, δ19.00000°, λ118.00000°. NP2: ϕ_s93.00000°, δ73.00000°, λ81.00000°. Principal axes: T 1.2630, Plg61.0000°, Azm350.0000°; N 0.2070, Plg9.0000°, Azm96.0000°; P -1.4700, Plg27.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***28*** *07:31:02.8±1.5, 2816N×5682E, h20km±9km, mb5.4/41, mb1 5.4/42, mb1mx5.4/42, mbtmp5.5/42, ML2.7/1, MS6.0/21, Ms1 6.0/21, ms1mx5.9/24 Error ellipse: s-maj=9.0km s-min=7.5km az=102.0*
NEIC ***28*** *07:31:02.6±0.2, 2812N×5687E, h18km, mb5.8/148, ME6.0, MS6.2/143, MW6.0, MN5.8(TEH), Error ellipse: s-maj=4.6km s-min=3.0km az=197.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: M_o1.10000×10^{18} NP1:ϕ_s103.00000°, δ82.00000°, λ62.00000°. NP2:ϕ_s358.00000°, δ29.00000°, λ164.00000°. Principal axes: T 1.0800, Plg46.0000°, Azm344.0000°; N -0.0400, Plg28.0000°, Azm107.0000°; P -1.0400, Plg32.0000°, Azm215.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s270.00000°, δ15.00000°, λ90.00000°. NP2:ϕ_s90.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm180.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Six people injured in Kahnuj. Many buildings damaged or destroyed at Faryab. Minor damage to many buildings at Baft and to some buildings in the Jiroft-Orzuieh area. Felt at Kahnuj and Kerman. Felt [III] at Dubai, United Arab Emirates. Also felt at Sharjah and Ra's al Khaymah, United Arab Emirates.
MOS ***28*** *07:31:03.2±1.1, 2819N×5681E, h33km, mb6.0/123, MS6.1/58 Error ellipse: s-maj=4.8km s-min=2.4km az=126.5*
SFS ***28*** *07:31:03.0, 2816N×5683E, h18km, ML6.0*
THR ***28*** *07:31:03.4±0.5, 2818N×5676E, h18km±4km, ML5.8, MS5.9*
IGIL ***28*** *07:31:03.4, 2810N×5690E, h40km, MS5.6*
CRAAG ***28*** *07:31:04.2, 2830N×5691E, Mb5.8*
OMAN ***28*** *07:31:09.3, 2774N×5716E, h35km, Error ellipse: s-maj=35.3km s-min=3.3km az=0.0*
TEH ***28*** *07:31:09.1, 2821N×5646E, h18km, Mn5.7*
ISC 28 07:31:04.4±0.1, 2811N±002×5683E±001, h31km, h31km±1.3km: pP-P, n1574, σ1§24/1569, mb5.8/338,

MS6.1/209, 88C-55D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.91**	**220**	*e*PG	**Pn**	**07 31 21.2**	**+0.1**
BNDS				AML	AML	07 31 42.9	
	comp=E,284μm,0.5s						
BNDS	**Bandar-Abbas**	**0.91**	**220**	*e*Pg	**Pn**	**07 31 21.0**	**-0.1**
KRBR	**Kerman**	**1.87**	**358**	*e*PG	**Pn**	**07 31 36.3**	**+2.0**
KRBR				AML	AML	07 32 10.4	
	comp=E,74μm,0.7s						
KRBR	**Kerman**	**1.87**	**358**	*e*Pg	**Pn**	**07 31 36.0**	**+1.7**
BANOM	**Banah**	**2.22**	**192**	⇓P	**Pn**	**07 31 39.9**	**+0.7**
	SNR=874						
BANOM				⇓S	**Sn**	**07 32 10.9**	**+5.4**
GHIR	**Ghir-Karzin**	**3.40**	**274**	*e*PN	**Pn**	**07 31 56.7**	**+1.4**
GHIR	**Ghir-Karzin**	**3.40**	**274**	*e*Pn	**Pn**	**07 31 56.0**	**+0.8**
ASHO	**Ashiyiah**	**3.48**	**192**	⇓P	**Pn**	**07 31 57.0**	**+0.6**
	SNR=574						
IBAF	**Bafgh**	**3.64**	**343**	*e*Pn	**Pn**	**07 32 00.1**	**+1.5**
IPAR	**Pars**	**3.74**	**298**	*e*Pn	**Pn**	**07 32 01.9**	**+2.0**
IMOK	**Mook**	**3.74**	**285**	*e*Pn	**Pn**	**07 32 00.5**	**+0.6**
ZHSF	**Zahedan**	**3.77**	**66**	*e*PN	**Pn**	**07 32 03.3**	**+2.9**
ZHSF	**Zahedan**	**3.77**	**66**	*e*Pn	**Pn**	**07 32 03.0**	**+2.6**
IMEH	**Mehriz**	**3.80**	**330**	*e*Pn	**Pn**	**07 32 03.1**	**+2.3**
IMEH	**Mehriz**	**3.80**	**330**	Pn	**Pn**	**07 32 03.0**	**+2.2**
SHI	**Shiraz**	**4.08**	**293**	*e*Pn	**Pn**	**07 32 05.6**	**+0.9**
SHI	**Shiraz**	**4.08**	**293**	*e*Pn	**Pn**	**07 32 05.6**	**+0.9**
SHI	**Shiraz**	**4.08**	**293**	Pn	**Pn**	**07 32 05.5**	**+0.8**
HOQ	**Hoqain**	**4.52**	**174**	P	**Pn**	**07 32 09.6**	**-1.2**
	SNR=59						
ICHK	**Chekchek**	**4.63**	**334**	*e*Pn	**Pn**	**07 32 14.0**	**+1.8**
ICHK	**Chekchek**	**4.63**	**334**	Pn	**Pn**	**07 32 13.9**	**+1.7**
ISAD	**Sadrabad**	**4.67**	**325**	*e*Pn	**Pn**	**07 32 14.7**	**+1.9**
ISAD	**Sadrabad**	**4.67**	**325**	Pn	**Pn**	**07 32 14.6**	**+1.8**
BIDO	**Bidbid**	**4.71**	**165**	P	**Pn**	**07 32 11.6**	**-1.7**
	SNR=341						
BIDO				P		07 32 11.7	
	SNR=94						
ARQ	**Araqi**	**4.76**	**183**	P	**Pn**	**07 32 14.4**	**+0.5**
	SNR=373						
SMDO	**Samad**	**5.14**	**167**	P	**Pn**	**07 32 18.4**	**-0.9**
	SNR=594						
BSY	**Bisya**	**5.35**	**176**	P	**Pn**	**07 32 22.3**	**+0.2**
	SNR=910						
BSYO	**Bisya**	**5.36**	**176**	P	**Pn**	**07 32 22.3**	**0.0**
	SNR=910						
IGAR	**Garneh**	**5.75**	**317**	*e*Pn	**Pn**	**07 32 31.1**	**+3.5**
WBK	**Wadi Bani Khal**	**5.80**	**160**	P	**Pn**	**07 32 27.5**	**-0.8**
	SNR=406						
JMDO	**Jabal Madar**	**5.83**	**168**	P	**Pn**	**07 32 28.2**	**-0.4**
	SNR=692						
NASN	**Na'in**	**5.83**	**324**	*e*Pn	**Pn**	**07 32 30.0**	**+1.4**
NASN	**Na'in**	**5.83**	**324**	*e*P	**Pn**	**07 32 30.0**	**+1.4**
IZEF	**Zefreh**	**6.15**	**322**	*e*Pn	**Pn**	**07 32 34.3**	**+1.2**
IZEF	**Zefreh**	**6.15**	**322**	Pn	**Pn**	**07 32 34.2**	**+1.1**
IPIR	**Pirpir**	**6.86**	**313**	*e*Pn	**Pn**	**07 32 44.1**	**+1.2**
IPIR	**Pirpir**	**6.86**	**313**	Pn	**Pn**	**07 32 44.0**	**+1.1**
IKLH	**Kalahroud**	**6.89**	**320**	*e*Pn	**Pn**	**07 32 44.1**	**+0.9**
IKLH	**Kalahroud**	**6.89**	**320**	*e*Pn	**Pn**	**07 32 44.1**	**+0.9**
IKLH	**Kalahroud**	**6.89**	**320**	Pn	**Pn**	**07 32 44.0**	**+0.8**
QAM	**Qamsar**	**7.21**	**324**	*e*Pn	**Pn**	**07 32 51.0**	**+3.4**
IANJ	**Anjiloo**	**7.75**	**342**	*e*Pn	**Pn**	**07 32 56.9**	**+1.9**
ILAS	**Lasjerd**	**7.97**	**337**	*e*Pn	**Pn**	**07 32 59.7**	**+1.7**
ILAS	**Lasjerd**	**7.97**	**337**	Pn	**Pn**	**07 32 59.6**	**+1.6**
KBD	**Kabd**	**8.10**	**280**	*e*P	**Pn**	**07 33 00.1**	**+0.3**
KBD				AML	AML	07 34 31.8	
	comp=Z,3μm,0.4s						
KBD	**Kabd**	**8.10**	**280**	*e*P	**Pn**	**07 32 59.9**	**+0.1**
UMR	**Umm Al-Rimmam**	**8.12**	**282**	*e*P	**Pn**	**07 32 59.8**	**-0.4**
UMR				AML	AML	07 34 36.5	
	comp=Z,2μm,0.4s						
UMR	**Umm Al-Rimmam**	**8.12**	**282**	*e*P	**Pn**	**07 32 59.5**	**-0.7**
IVRN	**Varamin**	**8.13**	**329**	*e*Pn	**Pn**	**07 33 02.5**	**+2.2**
RDF	**Al-Radifah**	**8.21**	**278**	*e*P	**Pn**	**07 33 01.4**	**+0.2**
RDF				AML	AML	07 34 34.2	
	comp=Z,1μm,0.4s						
RDF	**Al-Radifah**	**8.21**	**278**	*e*P	**Pn**	**07 33 01.4**	**+0.1**
ISHM	**Shahmirzad**	**8.24**	**340**	*e*Pn	**Pn**	**07 33 03.5**	**+1.7**
IMOG	**Moghan**	**8.26**	**14**	*e*Pn	**Pn**	**07 33 06.6**	**+4.6**
IMOG	**Moghan**	**8.26**	**14**	Pn	**Pn**	**07 33 06.5**	**+4.5**
IFIR	**Firoozkooh**	**8.27**	**336**	*e*Pn	**Pn**	**07 33 04.3**	**+2.1**
IQOM	**Qom**	**8.32**	**325**	*e*Pn	**Pn**	**07 33 03.7**	**+0.8**
MIB	**Mutribah**	**8.48**	**284**	*e*P	**Pn**	**07 33 04.6**	**-0.6**
MIB				AML	AML	07 34 43.1	
	comp=Z,1μm,0.5s						
MIB	**Mutribah**	**8.48**	**284**	*e*P	**Pn**	**07 33 03.9**	**-1.2**
NAY	**Al-Naaiem**	**8.50**	**280**	*e*P	**Pn**	**07 33 05.4**	**+0.1**
NAY				AML	AML	07 34 40.7	
	comp=Z,950nm,0.6s						
NAY	**Al-Naaiem**	**8.50**	**280**	*e*P	**Pn**	**07 33 05.1**	**-0.2**
IKIA	**Kiasar**	**8.51**	**343**	*e*Pn	**Pn**	**07 33 07.5**	**+2.1**
IPAY	**Payeh**	**8.52**	**12**	*e*Pn	**Pn**	**07 33 10.0**	**+4.4**
IPAY	**Payeh**	**8.52**	**12**	Pn	**Pn**	**07 33 09.9**	**+4.3**
DAMV	**Damavand**	**8.56**	**332**	*e*PN	**Pn**	**07 33 07.9**	**+1.7**
DAMV	**Damavand**	**8.56**	**332**	*e*Pn	**Pn**	**07 33 07.0**	**+0.8**
IGLO	**Galoogah**	**8.65**	**342**	*e*Pn	**Pn**	**07 33 11.5**	**+4.1**
IGLO	**Galoogah**	**8.65**	**342**	*e*Pn	**Pn**	**07 33 11.5**	**+4.1**
ASAO	**Ashtian**	**8.66**	**320**	*e*Pn	**Pn**	**07 33 08.4**	**+0.8**
ASAO	**Ashtian**	**8.66**	**320**	*e*Pn	**Pn**	**07 33 08.0**	**+0.4**
IMYA	**Miamay**	**8.67**	**18**	*e*Pn	**Pn**	**07 33 12.9**	**+5.3**
IAFJ	**Afjeh**	**8.86**	**332**	*e*Pn	**Pn**	**07 33 12.3**	**+2.0**
IAFJ	**Afjeh**	**8.86**	**332**	Pn	**Pn**	**07 33 12.2**	**+1.9**
ISFR	**Esferayen**	**8.97**	**6**	*e*Pn	**Pn**	**07 33 15.9**	**+4.2**
ISFR	**Esferayen**	**8.97**	**6**	Pn	**Pn**	**07 33 15.8**	**+4.1**
CHTH	**Charan**	**9.16**	**330**	*e*PN	**Pn**	**07 33 16.2**	**+1.8**
IMHD	**Mahdasht**	**9.19**	**327**	*e*Pn	**Pn**	**07 33 16.2**	**+1.4**
THKV	**Tehran--Karaj**	**9.28**	**329**	*e*PN	**Pn**	**07 33 17.8**	**+1.8**
THKV				*e*SG	rx	07 35 46.2	
THKV	**Tehran--Karaj**	**9.28**	**329**	*e*Pn	**Pn**	**07 33 17.0**	**+1.0**
THKV				*e*Sg	rx	07 35 46.0	
IEMG	**Emamqoli**	**9.40**	**9**	*e*PN	**Pn**	**07 33 21.4**	**+3.7**
IEMG	**Emamqoli**	**9.40**	**9**	Pn	**Pn**	**07 33 21.3**	**+3.6**
ISHV	**Shirvan**	**9.43**	**4**	*e*Pn	**Pn**	**07 33 22.3**	**+4.2**
ISHV	**Shirvan**	**9.43**	**4**	Pn	**Pn**	**07 33 22.2**	**+4.1**
ABKT	**Ailbek**	**9.86**	**6**	Pn	**Pn**	**07 33 27.5**	**+3.6**
	comp=Z,3μm,0.8s,SNR=84						
VAN	**Vannovskaya**	**9.87**	**6**	*e*P	**Pn**	**07 33 27.3**	**+3.1**
ASH	**Ashkhabad**	**9.90**	**7**	*i* P	**Pn**	**07 33 27.0**	**+2.5**
ASH	**Ashkhabad**	**9.90**	**7**	*e*P	**Pn**	**07 33 27.0**	**+2.5**
IDHR	**Dehrash**	**11.08**	**309**	*e*Pn	**Pn**	**07 33 40.8**	**+0.2**
BHD	**Baghdad**	**11.88**	**299**	*e*x	x	07 33 46.0	
BHD				*i* x	x	07 35 54.0	
BHD				*i* x	x	07 37 29.0	
BHD				*i* x	x	07 38 01.5	
BHD				*i* x	x	07 39 39.0	
BHJ	**Bhuj**	**12.53**	**110⇑**	*e*P	**Pn**	**07 34 05.3**	**+4.8**
BHJ				*e*S	**Sn**	**07 36 25.7**	**+6.7**
BHJ				*e*x	x	07 40 42.4	
BHJ	**Bhuj**	**12.53**	**110**	*e*x	x	07 34 03.0	
BHJ				*e*x	x	07 34 05.3	
BHJ				*e*S	**Sn**	**07 36 08.7**	**-10**
SBDP	**Sheikh Budin**	**12.79**	**68**	P	**Pn**	**07 34 08.4**	**+4.3**
GRMI	**Germi**	**13.02**	**327**	*e*Pn	**Pn**	**07 34 09.0**	**+1.8**
GRMI				AMS	AMS	07 40 04.4	
	comp=Z,81μm,18.5s						
THW	**Thamme Wali**	**13.69**	**66**	P	**Pn**	**07 34 17.3**	**+1.0**
IMRD	**Marand**	**14.07**	**322**	*e*Pn	**Pn**	**07 34 22.6**	**+1.1**
IMRD	**Marand**	**14.07**	**322**	Pn	**Pn**	**07 34 22.5**	**+1.0**
CEP	**Cherat**	**14.13**	**62**	P	**Pn**	**07 34 24.6**	**+2.2**
MSL	**Mosul**	**14.20**	**309**	*e*x	x	07 34 20.0	
MSL				*i* x	x	07 36 57.0	
MSL				*i* x	x	07 39 16.0	
SARP	**Sargodha**	**14.24**	**71**	P	**Pn**	**07 34 23.6**	**-0.3**
NIL	**Nilore**	**15.14**	**65**	Pn	**Pn**	**07 34 38.2**	**+2.2**
	comp=Z,643nm,0.8s,SNR=13						
CHCP	**Chirah Chowk**	**15.15**	**65**	P	**Pn**	**07 34 38.8**	**+2.7**
CLDR	**Caldiran**	**15.37**	**319**	P	**Pn**	**07 34 38.9**	**-0.1**
MUKL	**Al Mukalla**	**15.38**	**210⇑**	*e*P	**Pn**	**07 34 36.9**	**-2.2**
MUKL				AMb	AMB	07 34 38.4	
	comp=Z,2μm,1.4s						
GNI	**Garni**	**15.62**	**323**	Pn	**Pn**	**07 34 45.1**	**+3.0**
	comp=Z,7.0nm,0.3s,baz=138,slow=1.5,SNR=53						
GNI				LR	LR	07 41 28.9	
	comp=Z,102μm,20.7s,baz=122,slow=40						
GNI	**Garni**	**15.62**	**323**	*e*P	**Pn**	**07 34 43.2**	**+1.0**
	comp=Z,1μm,1.1s						
GNI	**Garni**	**15.62**	**323**	*e*P	**Pn**	**07 34 43.2**	**+1.0**
GNI				pmax	pmax		
	comp=Z,1μm,1.1s						
GNI	**Garni**	**15.62**	**323**	*e*Pn	**Pn**	**07 34 43.2**	**+1.0**
	comp=Z,1μm,1.1s						
AJM	**Ajmer**	**15.92**	**92**	*i* P	**Pn**	**07 34 45.0**	**-1.1**
AJM				*e*P		07 34 46.5	
AJM				AMb	AMB	07 35 02.4	
	comp=Z,445nm,1.4s						
AJM				*i* x	x	07 37 37.0	
AJM				*e*x	x	07 37 47.6	
DGRG	**David-gareji**	**16.28**	**328**	P	**Pn**	**07 34 52.3**	**+1.5**
DGRG				S	Sx	07 38 09.8	
DGRG	**David-gareji**	**16.28**	**328**	P	**Pn**	**07 34 52.1**	**+1.4**
DGRG				S	Sx	07 38 03.9	
BTMT	**Batman**	**16.30**	**312**	*e*P	**Pn**	**07 34 48.8**	**-2.2**
MARD	**Mardin**	**16.32**	**308**	*i* P	**Pn**	**07 34 46.4**	**-4.8**
MAK	**Makhachkala**	**16.64**	**335**	*i* P	**Pn**	**07 34 55.4**	**+0.2**
	comp=Z,2μm,1.4s						
MAK	**Makhachkala**	**16.64**	**335**	⇓*i* P	**Pn**	**07 34 55.4**	**+0.2**
MAK				pmax	pmax		
	comp=Z,2μm,1.4s						
TAS	**Tashkent**	**16.68**	**35**	*e*P	**Pn**	**07 34 55.0**	**-0.7**
	comp=Z,12μm,4.0s						
TAS	**Tashkent**	**16.68**	**35**	*e*P	**Pn**	**07 34 55.0**	**-0.7**
TAS				pmax	pmax		
	comp=Z,12μm,4.0s						
SAMG	**Sameba**	**16.74**	**327**	P	**Pn**	**07 34 58.8**	**+2.3**
MTA	**Mtatsminda**	**16.75**	**327**	P	**Pn**	**07 34 56.9**	**+0.3**
MTA				S	Sx	07 38 14.0	
MTA	**Mtatsminda**	**16.75**	**327**	P	**Pn**	**07 34 57.0**	**+0.4**
MTA				S	Sx	07 38 13.6	
TBLG	**Delisi**	**16.80**	**327**	P	**Pn**	**07 34 55.7**	**-1.6**
TBLG				S	rx	07 38 42.2	
KARS	**Kars**	**16.83**	**321**	*e*P	**Pn**	**07 35 02.7**	**+5.0**
THN	**Thein Dam**	**16.87**	**71**	*e*P	**Pn**	**07 34 56.5**	**-1.7**
BNGL	**BINGOL**	**16.94**	**314**	*i* P	**Pn**	**07 34 59.0**	**0.0**
DIY	**Diyarbakir**	**16.99**	**309**	*e*P	**Pn**	**07 34 57.3**	**-2.3**
PONG	**Pong**	**17.00**	**72**	*e*x	x	07 35 02.0	
DUS	**Dusheti**	**17.09**	**328**	P	**Pn**	**07 35 02.7**	**+1.7**
AKH	**Akhalkalaki**	**17.18**	**324**	P	**Pn**	**07 35 05.6**	**+3.5**
AKH				S	sS	07 38 30.6	-3.1
SANA	**San'a**	**17.23**	**225**	*e*P	**Pn**	**07 35 00.1**	**-2.6**
BOM	**Bombay**	**17.27**	**119**	*e*x	x	07 34 48.5	
BOM				*e*P		07 35 03.3	
BOM				*e*x	x	07 38 15.6	
BHK	**Bhakra**	**17.32**	**74**	*e*P	**Pn**	**07 35 10.8**	**+7.0**
BHK				*e*S	**Sn**	**07 38 21.6**	**+6.0**
JHLN	**Al Jahlan**	**17.33**	**300⇑**	*i* P	**Pn**	**07 35 01.0**	**-2.9**
KUDL	**Kundal**	**17.34**	**85**	*e*P	**Pn**	**07 35 04.4**	**+0.3**
KUDL				AMb	AMB	07 35 10.9	
	comp=Z,381nm,1.0s						
EZM	**Erzurum**	**17.38**	**317**	P	**Pn**	**07 35 06.8**	**+2.3**
ZALF	**Zalf**	**17.47**	**291**	⇓*i* P	**Pn**	**07 35 03.4**	**-2.2**
BDHA	**Al Bayda'**	**17.54**	**219⇑**	*e*P	**Pn**	**07 35 04.3**	**-2.1**
BDHA				AMb	AMB	07 35 05.5	
	comp=Z,337nm,1.2s						
BDHA				*i* S	**Sn**	**07 38 18.6**	**-2.2**
DHBB	**Dhamar BB**	**17.75**	**223⇑**	*e*P	**Pn**	**07 35 06.9**	**-2.1**
DHBB				AMb	AMB	07 35 09.6	
	comp=Z,3μm,1.3s						
DHBB				*i* S	**Sn**	**07 38 24.7**	**-1.1**
DHBB	**Dhamar BB**	**17.75**	**223**	*i* S	**Sn**	**07 38 24.7**	**-1.1**
URFA	**Urfa**	**17.75**	**306**	P	**Pn**	**07 35 05.7**	**-3.4**
ROOS	**tl_alroos**	**17.78**	**295**	⇓*i* P	**Pn**	**07 35 08.8**	**-0.6**
LBOS		**17.80**	**220⇑**	*e*P	**Pn**	**07 35 08.1**	**-1.6**
LBOS				AMb	AMB	07 35 11.0	
	comp=Z,3μm,1.6s						
SDNR	**Sundarnagar**	**17.80**	**74**	*e*P	**Pn**	**07 35 09.5**	**-0.2**
SDNR				*e*S	**Sn**	**07 38 27.7**	**+0.5**
ARTV	**Artvin**	**17.87**	**321**	*i* P	**Pn**	**07 35 11.5**	**+0.9**
AYAN	**Aya Nagar**	**17.88**	**84**	*e*P	**Pn**	**07 35 09.7**	**-1.0**
AYAN				AMb	AMB	07 35 23.9	
	comp=Z,977nm,1.3s						
SLMH	**Al Salmeh**	**17.91**	**302**	⇓*i* P	**Pn**	**07 35 09.7**	**-1.4**
RABH	**Abou Rabah**	**17.91**	**296**	⇑*i* P	**Pn**	**07 35 10.2**	**-0.9**
SALA	**Sala**	**17.93**	**290**	⇑*i* P	**Pn**	**07 35 11.4**	**+0.1**
SMLA	**Simla**	**17.94**	**75**	*e*x	x	07 34 59.5	
SMLA				*e*P		07 35 11.4	
SMLA				*e*x	x	07 38 24.1	
ANR	**Andizhan**	**17.95**	**41**	*e*P	**Pn**	**07 35 09.0**	**-2.5**
NDI	**New Delh

comp=Z,2μm,4.9s
KSH LR LR
comp=N,72μm,10.0s
KSH LR LR
comp=E,65μm,12.3s
AML Almayashu 19.60 40 P **Pn 07 35 31.3 -0.2**
SNR=15
AKL Akola 19.79 107 *i* x x 07 34 59.8
AKL *i* x x 07 38 28.8
CEYT Ceyhan 19.83 302 P **Pn 07 35 28.5 -5.7**
KOZT Kozan 19.94 303 P **Pn 07 35 33.0 -2.6**
KRTS Karatas 19.97 300 P **Pn 07 35 36.2 +0.3**
EKS2 Erkin-Say 19.99 39 P **Pn 07 35 35.3 -0.8**
SNR=361
UCH Uchtor 20.13 41 P **P 07 35 36.4 +0.6**
SNR=183
GOA Goa 20.13 125 *e*P **P 07 35 38.0 +2.2**
GOF Gofitskoye 20.17 331 *e*P **P 07 35 37.1 +0.8**
comp=E,1μm,1.3s
GOF Gofitskoye 20.17 331 *e*P **P 07 35 37.1 +0.8**
GOF *i* 07 47 08.3
GOF pmax pmax
comp=Z,1μm,1.3s
AAK Ala-Archa 20.38 40 P **P 07 35 39.0 +0.6**
SNR=255
AAK Ala-Archa 20.38 40 P **P 07 35 38.9 +0.4**
comp=Z,2μm,0.8s
AAK Ala-Archa 20.38 40 *e*P **P 07 35 38.2 -0.3**
comp=Z,94μm,19.0s
AAK Ala-Archa 20.38 40 *e*P **P 07 35 38.2 -0.3**
AAK pmax pmax
comp=Z,291nm,0.8s
AAK MLR MLR
comp=Z,94μm,19.0s,MS6.2
AAK Ala-Archa 20.38 40 *e*P **P 07 35 38.1 -0.3**
comp=Z,291nm,0.8s
AAK LR LR
comp=Z,94μm,19.0s,MS6.2
KARA Karaisali 20.44 302 P **P 07 35 39.2 0.0**
KZA Kyzart 20.47 42 P **P 07 35 40.4 +0.9**
SNR=49
LATR Latur 20.51 114 *e*P **P 07 35 40.7 +0.8**
PTH Pithoragarh 20.54 80 *ex* x 07 35 43.1
PTH *ex* x 07 39 25.5
LGTI Lohaghat 20.57 81 *e*P **P 07 35 41.0 +0.5**
LGTI *ex* x 07 39 21.0
FRU Bishkek 20.57 40 *e*P **P 07 35 42.0 +1.4**
comp=Z,3μm,2.3s
FRU Bishkek 20.57 40αe**P P 07 35 42.0 +1.4**
FRU pmax pmax
comp=Z,21μm,12.0s
FRU pmax pmax
comp=Z,3μm,2.3s
FRU MLR MLR
comp=N,54μm,17.0s,MS6.1
FRU MLR MLR
comp=E,53μm,17.0s,MS6.1
FRU MLR MLR
comp=Z,96μm,17.0s,MS6.2
PHNC Paralimni 20.59 295 P **P 07 35 41.4 +0.7**
KBK Karagaybulak 20.65 41 P **P 07 35 41.8 +0.3**
SNR=62
TOKT Tokat 20.68 311 P **P 07 35 42.5 +0.7**
SOC Sochi 20.70 323 *i* P **P 07 35 41.3 -0.6**
SOC Sochi 20.70 323*c i*P **P 07 35 41.6 -0.3**
SOC *e**PP 07 35 53.8
SOC *e* 07 36 02.9
SOC *e*SS 07 40 08.9
SOC pmax pmax
comp=Z,1μm,2.7s
SOC pmax pmax
comp=Z,1μm,1.3s
SOC MLR MLR
comp=Z,62μm,14.0s,MS6.1
MERS Mersin 20.71 301 P **P 07 35 43.5 +1.4**
CHMS Chumysh 20.75 40 P **P 07 35 44.5 +1.9**
SNR=40
USP Ospenovka 20.79 39 P **P 07 35 42.6 -0.3**
SNR=65
ATD Arta Tunnel 21.06 221 P **P 07 35 47.6 +1.8**
comp=Z,243nm,1.0s,mb5.5,baz=12,slow=6.3,SNR=13
ATD S **S 07 39 39.4 +0.8**
comp=Z,20nm,0.8s,baz=186,slow=20,SNR=1.7
ATD Arta Tunnel 21.06 221 P **P 07 35 47.6 +1.8**
ATD S **S 07 39 39.4 +0.8**
CSS Prodhromos 21.14 295 P **P 07 35 47.8 +1.1**
comp=Z,7.0nm,1.0s
ULHL Ulahol 21.16 43 P **P 07 35 47.6 +0.6**
SNR=396
IKL Isikli 21.17 298 P **P 07 35 47.7 +0.7**
TKM2 Tokmak 2 21.19 41 P **P 07 35 47.7 +0.5**
SNR=114
TKM2 Tokmak 2 21.19 41 *i* P **P 07 35 47.6 +0.4**
AB31 Akbulak array 21.25 6 *e*P **P 07 35 47.6 -0.4**
comp=Z,561nm,0.9s,mb5.9
AB31 Akbulak array 21.25 6 *e*P **P 07 35 47.6 -0.4**
AB31 pmax pmax
comp=Z,561nm,0.9s,mb5.9
MAMC Mammari 21.27 295 P **P 07 35 50.6 +2.5**
NGP Nagpur 21.34 104 *ex* x 07 35 52.3
NGP *e*S **S 07 39 44.2 +0.2**
KVT Kavak 21.39 313 P **P 07 35 43.2 -6.1**
JBP Jabalpur 21.43 98⇓*i*P **P 07 35 52.4 +2.5**
JBP *ex* x 07 39 42.9
SZAC Souni-Zanaja 21.46 294 P **P 07 35 51.9 +1.8**
comp=Z,11nm,0.7s
ALFC Alevga 21.77 295 P **P 07 35 54.1 +0.7**
comp=Z,11nm,0.9s
ERMK Ermenek 21.88 299 *i* P **P 07 35 52.8 -1.9**
PPCY Paphos 21.91 294 P **P 07 35 56.5 +1.5**
AAA Alma-Ata 22.19 42 *i* P **P 07 35 58.3 +0.4**
comp=Z,60μm,12.2s
AAA Alma-Ata 22.19 42 *i* P **P 07 35 58.3 +0.4**
AAA pmax pmax
comp=Z,12μm,3.5s
AAA MLR MLR
comp=Z,60μm,12.2s,MS6.2
KAMT Kaman 22.20 306 P **P 07 35 58.3 +0.2**
AKTK Aktyubinsk 22.32 2 *i* P **P 07 35 59.0 -0.3**
comp=Z,231nm,1.1s,mb5.5
AKTK Aktyubinsk 22.32 2 P **P 07 35 59.0 -0.4**
AKTK S **S 07 40 01.4 -1.8**
AKTK LR LR 07 46 21.3
AKTO Aktyubinsk 22.32 2 P **P 07 35 59.0 -0.4**
comp=Z,786nm,1.2s,mb6.0,baz=176,slow=10,SNR=206
AKTO S **S 07 40 01.4 -1.8**
comp=Z,10nm,0.8s,baz=1.5,slow=20,SNR=1.9
AKTO LR LR 07 46 21.3
comp=Z,130μm,18.4s,MS6.4,baz=0.0,slow=41
AKTO Aktyubinsk 22.32 2 *i* P **P 07 35 59.0 -0.3**
AKTO pmax pmax
comp=Z,231nm,1.1s,mb5.5
BR131 Keskin Array S 22.40 307 *e*P **P 07 36 01.2 +1.0**
BR131 Keskin Array S 22.40 307 *e*P **P 07 36 01.2 +1.0**
comp=Z,368nm,0.8s,mb5.9
BR131 *e* 07 36 12.8
BR131 LR LR
comp=Z,72μm,21.0s,MS6.1
BRTR Keskin Array B 22.40 307 P **P 07 36 00.4 +0.2**
comp=Z,225nm,1.1s,mb5.5,baz=125,slow=13,SNR=82
BRTR S **S 07 40 07.5 +2.7**
comp=Z,4.8nm,0.8s,baz=146,slow=5.3,SNR=2.9
BRTR ScP ScP 07 43 30.5 +1.0
comp=Z,5.6nm,0.9s,baz=152,slow=5.4,SNR=4.1
BRTR Keskin Array B 22.40 307 P **P 07 36 00.4 +0.2**
BRTR S **S 07 40 07.5 +2.8**
BYBT Boyabat 22.42 312 P **P 07 36 00.2 -0.2**
ALBI Allahabad 22.48 91 *e*P **P 07 36 01.0 0.0**
MNGI Mangalore 22.57 128 *ex* x 07 35 56.7
MNGI *ex* x 07 36 06.0
MNGI *ex* x 07 40 14.1
HYB Hyderabad 22.64 113⇓*i*P **P 07 36 02.0 -0.8**
comp=Z,550nm,1.0s,mb5.9
HYB *e*S **S 07 40 09.0 -0.1**
HYB LR LR 07 47 12.0
comp=Z,38nm,16.0s
HYB Hyderabad 22.64 113⇓*e*P **P 07 36 04.0 +1.2**
HYB *e*S **S 07 40 14.0 +4.9**
HYB pmax pmax
comp=Z,550nm,1.0s,mb5.9
HYB Hyderabad 22.64 113⇓*e*P **P 07 36 04.0 +1.2**
comp=Z,550nm,1.0s,mb5.9
HYB *e*S **S 07 40 14.0 +4.9**
KONT Konya--Tatoy 22.68 302 P **P 07 36 05.0 +1.8**
TOS Tosya 22.70 311 P **P 07 36 02.8 -0.6**

ANN Anapa 22.73 322 *i* P **P 07 36 02.4 -1.3**
ANN Anapa 22.73 322⇓*i*P **P 07 36 02.5 -1.2**
ANN *i* *PP 07 36 15.8
ANN *e*S **S 07 40 09.1 -1.5**
ANN pmax pmax
comp=Z,223nm,1.0s,mb5.5
ANN pmax pmax
comp=N,2μm,5.3s
ANN pmax pmax
comp=E,1μm,5.3s
ANN pmax pmax
comp=Z,4μm,5.3s
ANN MLR MLR
comp=N,45μm,17.0s
ANN MLR MLR
comp=Z,25μm,17.0s,MS5.7
CANT Cankiri 22.78 309 P **P 07 36 04.7 +0.4**
ANTO Ankara 23.05 307 P **P 07 36 06.8 -0.3**
ANTO Ankara 23.05 307 *e*P **P 07 36 07.5 +0.4**
ANTO pmax pmax
comp=Z,250nm,0.7s,mb5.8
LOD Lodumlu 23.08 307 *e*P **P 07 36 07.0 -0.4**
KIZT Kizilcal 23.35 304 *e*P **P 07 36 11.0 +0.8**
DESE Dese 23.36 227 *e*P **P 07 36 13.0 +2.7**
DESE *e*S **S 07 40 10.8 -10**
KOLN Koldanda 23.64 84 *e*P **P 07 36 12.3 -0.7**
KOLN *e*S **S 07 40 24.3 -1.1**
SAFT Safranbolu 23.70 310 *e*P **P 07 36 12.3 -1.2**
BCK Bucak 23.89 300 *e*P **P 07 36 18.3 +3.1**
ELL Elmali 24.24 298 *e*P **P 07 36 19.1 +0.6**
ESKT Eskisehir 24.32 305 *e*P **P 07 36 16.8 -2.3**
MDU Mudurnu 24.40 307 *e*P **P 07 36 19.8 -0.1**
GKN Gorkha 24.52 84 *e*P **P 07 36 21.0 0.0**
comp=Z,824nm,1.2s,mb6.1
GOLH Golhisar 24.63 299 *i* P **P 07 36 25.5 +3.5**
SIM Simferopol' 24.69 319 *i* P **P 07 36 21.1 -1.4**
SIM Simferopol' 24.69 319*c i*P **P 07 36 22.3 -0.2**
SIM *e*PPP 07 37 08.0
SIM *i* S **S 07 40 43.9 +1.7**
SIM pmax pmax
comp=Z,546nm,1.4s,mb5.9
SIM pmax pmax
comp=Z,2μm,10.2s
SIM MLR MLR
comp=Z,26μm,18.9s,MS5.8
BORA Eskisehir 24.73 305 *i* P **P 07 36 25.3 +2.4**
FETY Fethiye 24.86 297 *e*P **P 07 36 18.5 -5.6**
KHL Karahalli 24.93 301 *e*P **P 07 36 25.6 +0.8**
GPA Golpazari 24.98 306 *e*P **P 07 36 27.1 +2.0**
DMN Daman 24.98 84 *e*P **P 07 36 25.4 +0.2**
comp=Z,304nm,0.7s,mb6.0
KKN Kakani 25.11 84 *e*P **P 07 36 26.6 +0.2**
comp=Z,570nm,0.6s,mb6.3
KKN Kakani 25.11 84 *e*P **P 07 36 26.6 +0.2**
KKN pmax pmax
comp=Z,285nm,0.6s,mb6.0
DENT Denizli 25.16 300 *e*P **P 07 36 27.3 +0.5**
DALT Dalyan (Mudla) 25.24 297 *e*P **P 07 36 28.2 +0.7**
PKI Pulchoki 25.26 84 *e*P **P 07 36 27.9 +0.2**
comp=Z,421nm,0.6s,mb6.1
PKI Pulchoki 25.26 84 *e*P **P 07 36 27.9 +0.2**
PKI pmax pmax
comp=Z,211nm,0.6s,mb5.8
SLAT Slait 25.44 246 *i* P **P 07 36 29.8 +0.5**
baz=60,slow=11
SLAT *i* P 07 36 30.4
comp=E,3μm,4.8s
SLAT *i* S **S 07 40 54.6 +0.3**
SLAT *i* S **S 07 40 54.8 +0.5**
ARG Arkhangelos 25.54 296 P **P 07 36 33.0 +2.7**
IZI Iznik 25.59 306 *e*P **P 07 36 33.3 +2.5**
YER Yerkesik 25.60 298 *e*P **P 07 36 33.0 +2.2**
HRT Hereke 25.62 307 *e*P **P 07 36 30.6 -0.4**
GUN Gumba 25.62 84 *e*P **P 07 36 31.6 +0.6**
comp=E,652nm,0.7s,mb6.3
VRHR Novokhopersk 25.68 338 *e*P **P 07 36 30.7 -0.8**
VRHR *e*S **S 07 40 55.9 -2.1**
comp=E,1μm,4.2s
VRHR Novokhopersk 25.68 338 *e*P **P 07 36 30.7 -0.8**
VRHR *e*S **S 07 40 55.9 -2.1**
VRHR pmax pmax
comp=N,290nm,0.7s
VRHR pmax pmax
comp=E,460nm,0.7s
VRHR pmax pmax
comp=Z,980nm,0.7s,mb6.5
VRHR smax
comp=N,5μm,10.5s
VRHR smax
comp=Z,1μm,4.2s
VRHR smax
comp=E,4μm,11.6s
YLV Yalova 25.74 306 *e*P **P 07 36 29.4 -2.7**
MRKH Merkhyat 25.78 247 *i* P **P 07 36 35.4 +3.0**
MRKH AMb AMB 07 36 38.1
comp=Z,372nm,1.0s,mb5.9
MRKH *i* S **S 07 41 00.7 +1.1**
MRKH *i* S **S 07 41 00.8 +1.2**
JIRN Jiri 25.93 84 *e*P **P 07 36 34.1 +0.3**
comp=Z,247nm,0.6s,mb5.9
DST Dursunbey 25.97 304 *e*P **P 07 36 33.9 -0.3**
DAT Datca 26.07 297 *e*P **P 07 36 34.4 -0.6**
ISK Istanbul-Kandi 26.14 307 *e*P **P 07 36 33.2 -2.5**
AKS Akhisar 26.37 302 *e*P **P 07 36 38.6 +0.7**
VORD Divnogorie 26.40 335 *e*P **P 07 36 37.3 -0.8**
comp=Z,190nm,0.9s,mb5.6
VORD Divnogorie 26.40 335 *e*P **P 07 36 37.3 -0.8**
VORD pmax pmax
comp=Z,190nm,0.9s,mb5.6
VORD pmax pmax
comp=E,170nm,0.6s
ZRNK Zerenda 26.41 17 *e*P **P 07 36 37.6 -0.6**
comp=E,359nm,1.0s,mb5.9
ZRNK Zerenda 26.41 17 *e*P **P 07 36 37.6 -0.6**
ZRNK pmax pmax
comp=Z,359nm,1.0s,mb5.9
ZRNK Zerenda 26.41 17 *e*P **P 07 36 37.6 -0.5**
comp=Z,359nm,1.0s,mb5.9
VIS Vishakhapatnam 26.45 107 *e*P **P 07 36 39.8 +1.3**
VIS *e*P 07 36 41.9
VIS AMb AMB 07 36 58.1
comp=Z,163nm,0.0s
VIS *e*S **S 07 41 11.0 +0.8**
MDRS Chennai 26.47 120 *ex* x 07 36 12.0
MDRS *ex* x 07 39 58.0
BALB Balikesir 26.53 303 *e*P **P 07 36 37.8 -1.5**
ELBA Catalca 26.61 307 *i* P **P 07 36 37.5 -2.5**
CTT Catalca 26.62 307 *e*P **P 07 36 39.7 -0.3**
VRSR Storozhevoye 26.64 335 *i* P **P 07 36 39.2 -1.0**
comp=Z,90nm,1.0s,mb5.2
VRSR Storozhevoye 26.64 335*c i*P **P 07 36 39.2 -1.0**
VRSR *e**PP pP 07 36 49.0 -0.2
VRSR *e* 07 37 23.5
VRSR *e*S **S 07 41 03.8 -9.5**
VRSR *e*SS 07 42 15.7
VRSR pmax pmax
comp=Z,90nm,1.0s
VRSR pmax pmax
comp=N,150nm,0.8s
VRSR pmax pmax
comp=E,110nm,0.8s
VRSR smax
comp=N,3μm,16.8s
VRSR smax
comp=Z,1μm,14.1s
VRSR smax
comp=E,1μm,17.0s
VRSR MLR MLR
comp=N,2μm,15.0s
VRSR MLR MLR
comp=Z,3μm,15.0s
VRSR MLR MLR
comp=E,2μm,19.0s
IZM Izmir 26.67 300 *e*P **P 07 36 41.9 +1.4**
BNT Bandirma 26.72 305 *e*P **P 07 36 40.9 0.0**
BLCB Balcova 26.84 300 *e*P **P 07 36 37.1 -4.8**
BVA0 Borovoye Array 26.85 18 *i* P **P 07 36 41.5 -0.6**
comp=E,84nm,0.9s,mb5.3
BVA0 Borovoye Array 26.85 18 *i* P **P 07 36 41.5 -0.6**
BVA0 pmax pmax
comp=Z,84nm,0.9s,mb5.3
BVAR Borovoye Array 26.85 18 P **P 07 36 41.5 -0.6**
comp=Z,416nm,0.8s,mb6.0,baz=200,slow=7.7,SNR=334
BVAR S **S 07 41 21.1 +4.6**
comp=Z,4.6nm,0.8s,baz=207,slow=38,SNR=1.9

BRVK Borovoye 26.85 18 P **P 07 36 41.8 -0.3**
comp=Z,2μm,0.9s,mb6.7,SNR=96
BRVK Borovoye 26.85 18 P **P 07 36 40.5 -1.6**
BRVK Borovoye 26.85 18 *e*P **P 07 36 41.7 -0.4**
BRVK pmax pmax
comp=Z,240nm,1.0s,mb5.7
ZKR Zakros 26.92 293 *e*P **P 07 36 45.0 +2.3**
MRMT Marmara Adasi 27.03 305 *e*P **P 07 36 42.5 -1.3**
VOR Voronezh 27.05 336 *e*P **P 07 36 43.5 -0.5**
VOR *e* pP 07 36 53.0 +0.1
VOR pmax pmax
comp=N,1μm,1.2s
VOR pmax pmax
comp=Z,1μm,1.2s,mb6.4
VOR pmax pmax
comp=E,220nm,1.3s
TRD Trivandrum 27.21 132 *ex* x 07 36 50.8
TRD AMb AMB 07 36 57.9
comp=Z,82nm,0.9s,mb5.2
MK31 Makanchi Array 27.31 40 *i* P **P 07 36 46.1 -0.2**
comp=Z,137nm,0.8s,mb5.5
MK31 Makanchi Array 27.31 40 *i* P **P 07 36 46.1 -0.2**
MK31 pmax pmax
comp=Z,137nm,0.8s,mb5.5
MK31 Makanchi Array 27.31 40 *i* P **P 07 36 46.2 -0.1**
MKAR Makanchi Array 27.31 40 P **P 07 36 46.0 -0.3**
comp=Z,84nm,0.9s,mb5.3,baz=226,slow=8.1,SNR=163
MKAR LR LR 07 49 03.5
comp=Z,60μm,18.0s,MS6.2,baz=258,slow=40
MKAR Makanchi Array 27.31 40 *i* P **P 07 36 46.1 -0.2**
MKAR pmax pmax
comp=Z,117nm,0.9s
MKAR Makanchi Array 27.31 40 P **P 07 36 46.0 -0.3**
MKAR LR LR 07 49 03.5
MFT Murefte 27.32 305 *e*P **P 07 36 43.5 -2.8**
LAST Lasithi 27.53 293 *e*P **P 07 36 49.9 +1.7**
SANT Santorini 27.69 295 *e*P **P 07 36 49.9 +0.2**
SANT Santorini 27.69 295 P **P 07 36 51.7 +2.0**
TIRR Tirgusor 27.93 313 *e*P **P 07 36 50.4 -1.4**
TIRR Tirgusor 27.93 313 *e*P **P 07 36 50.4 -1.4**
KURK Kurchatov 27.97 30 P **P 07 36 52.4 +0.3**
comp=Z,1μm,0.9s,mb6.5,SNR=62
KURK Kurchatov 27.97 30 P **P 07 36 51.2 -0.9**
KURK Kurchatov 27.97 30 *e*P **P 07 36 52.1 0.0**
KURK pmax pmax
comp=Z,160nm,0.9s,mb5.7
IDI Anoyia 28.02 293 P **P 07 36 54.0 +1.4**
comp=Z,74nm,0.6s,mb5.5,baz=91,slow=11,SNR=25
IDI S **S 07 41 34.6 -0.4**
comp=Z,17nm,0.9s,baz=4.6,slow=6.6,SNR=1.6
IDI Anoyia 28.02 293 P **P 07 36 53.8 +1.2**
EDRB Edirne 28.04 307 *e*P **P 07 36 49.6 -3.2**
SIVA Sivas 28.06 292 *e*P **P 07 36 56.0 +3.0**
ALN Alexandroupoli 28.24 305 *e*P **P 07 36 57.0 +2.4**
ARU Arti 28.33 2 P **P 07 36 55.2 -0.2**
comp=Z,429nm,1.3s,mb5.9,SNR=10
ARU Arti 28.33 2 P **P 07 36 54.7 -0.7**
ARU Arti 28.33 2 *e*PcP PcP 07 40 06.9 -0.8
ARU *e*S **S 07 41 37.5 -2.4**
ARU Arti 28.33 2⇑*i*P **P 07 36 54.9 -0.5**
ARU *e* 07 37 45.6
ARU *e*PPP 07 38 03.5
ARU *e* 07 40 06.9
ARU *e*S **S 07 41 37.5 -2.4**
ARU *e*SS 07 42 55.5
ARU pmax pmax
comp=Z,89nm,1.0s,mb5.3
ARU MLR MLR
comp=Z,32μm,20.5s,MS5.9
ARU MLR MLR
comp=N,20μm,20.0s,MS5.8
ARU MLR MLR
comp=E,13μm,18.0s,MS5.8
HARR Harsova 28.35 313 P **P 07 36 57.0 +1.5**
HARR Harsova 28.35 313⇓*i*P **P 07 36 57.0 +1.4**
CFR Carcaliu 28.43 315⇑*i*P **P 07 36 56.5 +0.2**
CFR Carcaliu 28.43 315⇑*i*P **P 07 36 56.5 +0.3**
GVD Gavdhos 28.64 292 *e*P **P 07 36 57.9 -0.2**
comp=E,91nm,0.6s,mb5.7
GVD Gavdhos 28.64 292 *e*P **P 07 36 57.9 -0.2**
comp=E,91nm,0.6s,mb5.7
RDO Rodhopi 28.68 305 P **P 07 36 58.6 +0.1**
KIS Kishinev 28.90 318 *i* P **P 07 36 59.0 -1.4**
comp=E,1μm,6.0s
KIS *e*S **S 07 41 50.0 +1.2**
KIS Kishinev 28.90 318α*i*P **P 07 36 59.0 -1.4**
KIS *i* 07 38 00.0
KIS *e* 07 40 04.0
KIS *e*S **S 07 41 50.0 +1.2**
KIS *i* SS SS 07 43 22.0 -30
KIS pmax pmax
comp=Z,1μm,6.0s
KIS pmax pmax
comp=Z,3μm,12.0s
WMQ Urumqi 29.28 49 P **P 07 37 04.5 +0.7**
WMQ PP PP 07 38 01.0 -9.2
WMQ S **S 07 41 52.0 -2.9**
WMQ SS SS 07 43 25.0 -35
WMQ AMB AMB
comp=Z,182nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,2μm,4.0s
WMQ LR LR
comp=N,43μm,12.0s,MS6.5
WMQ LR LR
comp=E,63μm,12.0s,MS6.5
WMQ LR LR
comp=Z,64μm,11.0s,MS6.5
AOS Alonnisos 29.42 301 *e*P **P 07 37 06.3 +1.2**
VRI Vrincioaia 29.63 315⇑P **P 07 37 07.9 +1.0**
VRI Vrincioaia 29.63 315 P **P 07 37 09.8 +2.9**
PECR Pechory 29.63 346 *e*P **P 07 36 06.0 -0.9**
PECR *e*S **S 07 42 01.4 +1.1**
comp=Z,20μm,17.0s
PECR Pechory 29.63 346 *e*P **P 07 37 06.0 -0.9**
PECR *e* 07 38 11.0
PECR *e*S **S 07 42 01.4 +1.1**
PECR pmax pmax
comp=N,1μm,14.0s
PECR pmax pmax
comp=Z,3μm,14.0s
PECR smax
comp=E,4μm,14.0s
PECR smax
comp=N,6μm,11.0s
PECR MLR MLR
comp=E,26μm,15.0s,MS6.0
PECR MLR MLR
comp=Z,33μm,15.0s,MS6.1
PECR MLR MLR
comp=N,20μm,17.0s,MS6.0
PAIG Paliouri 29.73 302 *e*P **P 07 37 04.9 -3.0**
MLR Muntele Rosu 29.96 314 P **P 07 37 10.7 +0.9**
comp=N,60nm,1.1s,mb5.3,baz=10,slow=3.5,SNR=29
MLR S **S 07 42 08.3 +2.8**
comp=N,13nm,1.1s,baz=153,slow=13,SNR=1.7
MLR ScP ScP 07 43 52.9 +1.2
comp=N,19nm,1.0s,baz=65,slow=4.2,SNR=3.6
MLR LR LR 07 51 42.2
comp=N,26μm,20.9s,MS5.8,baz=247,slow=41
MLR Muntele Rosu 29.96 314 P **P 07 37 11.3 +1.5**
MLR Muntele Rosu 29.96 314 P **P 07 37 12.0 +2.2**
XOR Xorichti 29.98 301 *e*P **P 07 37 10.4 +0.4**
XOR Xorichti 29.98 301 P **P 07 37 10.4 +0.4**
LSA Lhasa 30.03 79 P **P 07 37 11.0 +0.6**
LSA XP sP 07 37 24.5 +1.3
LSA S **S 07 42 08.0 +1.5**
LSA XS sS 07 42 26.8 +5.4
LSA LR LR
comp=N,17μm,20.9s,MS5.9
LSA LR LR
comp=E,18μm,18.4s,MS5.9
LSA LR LR
comp=Z,23μm,17.5s,MS5.9
LSA Lhasa 30.03 79 *e*P **P 07 37 11.2 +0.8**
comp=Z,70nm,0.8s,mb5.4
LSA Lhasa 30.03 79 *e*P **P 07 37 11.3 +0.9**
LSA *e* 07 40 14.5
LSA pmax pmax
comp=Z,70nm,0.8s,mb5.4
LSA MLR MLR
comp=Z,24μm,19.0s,MS5.8
LSA Lhasa 30.03 79 *e*P **P 07 37 11.2 +0.8**
comp=Z,70nm,0.8s,mb5.4
LSA *e*PcP PcP 07 40 14.5 +2.5

LSA LR LR
comp=Z,24µm,19.0s,MS5.8
SRS Serrai 30.09 304 *e*P **P 07 37 11.6 +0.6**
SOH Sokhos 30.19 304 *e*P **P 07 37 12.0 +0.1**
MTUR Matau 30.42 313 P **P 07 37 16.2 +2.3**
VOIR 30.51 313 P **P 07 37 15.2 +0.5**
VOIR 30.51 313 ⇓P **P 07 37 15.2 +0.5**
AGG Agios Georgios 30.57 300 *e*P **P 07 37 14.2 -1.1**
KNT Kendrikon 30.61 304 *e*P **P 07 37 15.5 0.0**
PALK Pallekele 30.64 128 P **P 07 37 18.0 +2.1**
comp=Z,247nm,1.1s,mb6.0,SNR=5.4
PALK Pallekele 30.64 128 P **P 07 37 16.6 +0.7**
LIT Litokhoron 30.66 302 *e*P **P 07 37 15.8 -0.3**
OBN Obninsk 30.72 337 P **P 07 37 16.9 +0.4**
comp=Z,4µm,0.5s,SNR=13
OBN Obninsk 30.72 337 *e*P **P 07 37 16.2 -0.3**
comp=Z,2µm,1.4s,mb6.7
OBN Obninsk 30.72 337*c i*P **P 07 37 16.3 -0.2**
OBN *e* 07 38 19.1
OBN *i*S **S 07 42 23.2 +5.9**
OBN *e*SS SS 07 44 01.2 -28
OBN pmax pmax
comp=Z,573nm,1.2s,mb6.3
OBN MLR MLR
comp=Z,23µm,16.0s,MS5.9
OBN Obninsk 30.72 337 *e*P **P 07 37 16.2 -0.3**
comp=Z,2µm,1.4s,mb6.7
OBN LR LR
comp=Z,13µm,20.0s,MS5.6
AKASG Malin Array Be 30.74 325 P **P 07 37 15.4 -1.4**
comp=Z,62nm,0.9s,mb5.4,baz=126,slow=7.8,SNR=96
AKASG PcP PcP 07 40 11.5 -2.3
comp=Z,3.7nm,0.5s,baz=91,slow=2.3,SNR=2.6
AKASG ScP ScP 07 43 54.2 +0.1
comp=Z,20nm,1.0s,baz=93,slow=2.5,SNR=10
AKASG Malin Array Be 30.74 325 PcP PcP 07 40 11.5 -2.3
AKASG Malin Array Be 30.74 325 P **P 07 37 15.4 -1.4**
AKASG PcP PcP 07 40 11.5 -2.3
AKASG ScP ScP 07 43 54.2 +0.1
VTS Vitosha 30.77 307 *e*P **P 07 37 16.9 -0.1**
VTS Vitosha 30.77 307 P **P 07 37 18.5 +1.5**
MOS Moscow 30.88 339 *e*P **P 07 37 16.6 -1.3**
comp=Z,1µm,2.3s,mb6.3
MOS Moscow 30.88 339 *e*P **P 07 37 16.6 -1.3**
MOS *e* 07 37 27.4
MOS *e* 07 38 25.1
MOS *e*SS 07 42 24.9
MOS pmax pmax
comp=Z,243nm,0.9s,mb6.0
MOS pmax pmax
comp=Z,1µm,2.3s,mb6.3
MOS MLR MLR
comp=N,19µm,16.4s
MOS MLR MLR
comp=Z,21µm,16.4s,MS5.9
MOS Moscow 30.88 339 *e*P **P 07 37 18.3 +0.4**
VAY Valandovo 30.89 304 *e*P **P 07 37 18.1 +0.1**
VAY Valandovo 30.89 304 *e*P **P 07 37 17.9 -0.1**
comp=Z,224nm,1.5s,mb5.8
VAY Valandovo 30.89 304 *e*P **P 07 37 17.8 -0.2**
comp=Z,224nm,1.5s,mb5.8
CRAR CRAIOVA 30.92 310 P **P 07 37 20.3 +2.0**
GRG Griva 30.92 304 *e*P **P 07 37 18.1 -0.2**
SHL Shillong 31.32 86⇑*i*P **P 07 37 21.5 -0.3**
SHL *ex* x 07 42 36.5
BURAR Bucovina Array 31.34 317 ⇓P **P 07 37 22.2 +0.2**
BURAR Bucovina Array 31.34 317 ⇓P **P 07 37 22.2 +0.2**
SOKR Solikamsk 31.45 360 *i* P **P 07 37 23.2 +0.2**
comp=Z,57µm,18.0s
SOKR Solikamsk 31.45 360*c i*P **P 07 37 23.2 +0.2**
SOKR pmax pmax
comp=Z,540nm,1.5s,mb6.2
SOKR MLR MLR
comp=Z,57µm,18.0s,MS6.3
MEV Metsovon 31.55 301 *e*P **P 07 37 26.7 +2.9**
FNA Florina 31.64 303 *e*P **P 07 37 25.6 +1.0**
BIA Bitola 31.73 303 *e*P **P 07 37 26.6 +1.2**
BIA Bitola 31.73 303 *e*P **P 07 37 24.5 -0.9**
comp=Z,31nm,0.7s,mb5.2
SKO Skopje 31.87 305 *e*P **P 07 37 26.8 +0.2**
SKO Skopje 31.87 305 *e*P **P 07 37 25.7 -0.9**
comp=Z,296nm,1.2s,mb6.0
BOLS Boljevac 32.01 309⇓*i*P **P 07 37 27.1 -0.8**
BOLS Boljevac 32.01 309 P **P 07 37 27.1 -0.8**
OHR Ohrid 32.14 303 *e*P **P 07 37 28.3 -0.7**
comp=Z,244nm,0.8s,mb6.1
SVIS Svilajnac 32.66 309⇓*i*P **P 07 37 33.8 +0.2**
BZS Buzias 32.82 312 P **P 07 37 35.1 +0.1**
BZS Buzias 32.82 312 P **P 07 37 35.6 +0.6**
NVS Novosibirsk 32.87 28 *i* P **P 07 37 34.3 -1.1**
comp=Z,336nm,2.2s,mb5.9
NVS *e*S **S 07 42 50.3 -0.6**
comp=Z,287nm,2.0s
NVS Novosibirsk 32.87 28⇑*i*P **P 07 37 34.3 -1.1**
NVS *e* 07 38 49.3
NVS *e*S **S 07 42 50.3 -0.6**
NVS pmax pmax
comp=Z,377nm,1.0s,mb6.3
NVS pmax pmax
comp=N,449nm,1.6s
NVS pmax pmax
comp=Z,336nm,2.2s,mb5.9
NVS pmax pmax
comp=N,178nm,1.5s
NVS smax
comp=N,287nm,2.0s
TIR Tirane 32.88 303 *e*P **P 07 37 36.4 +0.9**
TIR Tirane 32.88 303 P **P 07 37 37.3 +1.8**
ZAL Zalesovo 32.94 31 P **P 07 37 35.1 -0.9**
comp=N,168nm,0.8s,mb6.0,baz=241,slow=9.2,SNR=202
ZAL LR LR 07 51 29.1
comp=N,8µm,21.6s,MS5.4,baz=247,slow=37
LVV L'vov 33.07 320 *e*P **P 07 37 38.4 +1.2**
comp=N,4µm,17.0s
LVV L'vov 33.07 320 *e*P **P 07 37 38.4 +1.2**
LVV *e*S **S 07 42 48.2 -5.8**
LVV MLR MLR
comp=Z,4µm,17.0s,MS5.2
PVY Plav 33.08 306⇓*i*P **P 07 37 38.0 +0.8**
IVA Berane 33.20 306⇓*i*P **P 07 37 38.9 +0.7**
BEO Belgrade 33.34 310 *i* P **P 07 37 42.2 +2.6**
DIVS Divcibare 33.45 308⇓*i*P **P 07 37 39.9 -0.6**
ULC Ulcinj 33.46 304⇓*i*P **P 07 37 40.0 -0.6**
UZH Uzhgorod 33.55 317 *e*P **P 07 37 45.0 +3.6**
UZH *e* 07 39 05.0
UZH *e*S **S 07 43 05.0 +3.5**
TTG Podgorica 33.55 305⇓*i*P **P 07 37 40.9 -0.4**
PLE Pljevlja 33.67 307⇓*i*P **P 07 37 44.2 +1.8**
KOLS Kolonicke sedl 33.69 318 *i* P **P 07 37 43.3 +0.7**
KOLS *e* pP 07 37 53.5 +1.8
KOLS Kolonicke sedl 33.69 318 P **P 07 37 43.7 +1.1**
KWP Kalwaria 33.74 319 *e*P **P 07 37 43.4 +0.4**
KWP *e*pP pP 07 37 52.5 +0.4
KWP *e*S **S 07 43 05.6 +1.1**
KWP *e*SS SS 07 45 38.0 +7.2
KWP L 07 55 16.6
comp=Z,26nm,19.6s
KWP Kalwaria 33.74 319 *e*P **P 07 37 43.4 +0.4**
KWP *e*S **S 07 43 05.6 +1.1**
KWP Kalwaria 33.74 319 *e*P **P 07 37 43.4 +0.4**
KWP *e*pP pP 07 37 52.5 +0.4
KWP *e*S **S 07 43 05.6 +1.1**
KWP *e*SS SS 07 45 38.0 +7.2
MNK Minsk 33.76 329⇓*i*P **P 07 37 40.0 -3.2**
MNK *e*S **S 07 43 02.0 -2.8**
MNK pmax pmax
comp=Z,1µm,1.0s,mb6.7
MNK MLR MLR
comp=Z,49µm,18.0s,MS6.3
MNK MLR MLR
comp=E,26µm,16.0s
BUM Brajici-Budva 33.78 305⇓*i*P **P 07 37 43.2 -0.2**
BBLS Bajina Basta - 33.79 308 *e*P **P 07 37 46.6 +3.1**
NKY Niksic 33.83 306⇓*i*P **P 07 37 43.5 -0.3**
UPM Unac-Piva 33.98 306⇓*i*P **P 07 37 45.9 +0.8**
HCY Hercog Novi 34.10 305⇓*i*P **P 07 37 46.3 +0.1**
CRVS Cervenica-Dubn 34.16 317 *e*P **P 07 37 49.6 +2.9**
CRVS *e* pP 07 37 58.5 +2.7
CRVS *e*S **S 07 43 07.8 -3.2**
BRY Bratogost 34.17 306⇓*i*P **P 07 37 46.9 +0.2**
NE53 Naroch' 34.49 329 *e*PcP PcP 07 40 20.1 -4.1
NE53 *e*ScP ScP 07 44 05.1 -2.0
NE53 *e*ScS ScS 07 48 09.1 -0.7

STHS Stebnicka Huta 34.51 318 *e*P **P 07 37 49.6 -0.1**
STHS Stebnicka Huta 34.51 318 P **P 07 37 50.8 +1.1**
KECS Kecovo 34.59 316 *e*P **P 07 37 50.6 +0.2**
KECS *e* 07 37 52.6
KECS *e*sP sP 07 38 00.9 -2.3
KECS Kecovo 34.59 316 P **P 07 37 51.7 +1.3**
KMBO Kilima Mbogo 34.61 216 P **P 07 37 52.0 +1.4**
comp=E,24nm,0.9s,mb5.1,baz=28,slow=10,SNR=35
KMBO LR LR 07 53 06.7
comp=E,21µm,18.2s,MS5.9,baz=39,slow=38
KMBO Kilima Mbogo 34.61 216 P **P 07 37 53.2 +2.6**
comp=E,69nm,1.1s,mb5.5
KMBO Kilima Mbogo 34.61 216 P **P 07 37 53.2 +2.6**
KMBO pmax pmax
comp=Z,69nm,1.1s
KMBO Kilima Mbogo 34.61 216 *e*P **P 07 37 53.6 +3.1**
comp=Z,69nm,1.1s,mb5.5
KMBO LR LR
comp=Z,11µm,20.0s,MS5.6
PKS2 Kecel 34.69 312 *e*P **P 07 37 53.0 +1.8**
PSZ Piszkesteto 34.74 315⇓*i*P **P 07 37 51.8 +0.1**
PSZ Piszkesteto 34.74 315 P **P 07 37 51.9 +0.2**
PSZ pmax pmax
comp=Z,93nm,1.1s,mb5.6
PSZ Piszkesteto 34.74 315 Pn **P 07 37 52.1 +0.4**
STON Ston 34.77 306 *i* P **P 07 37 51.8 -0.2**
STON Ston 34.77 306 *i* P **P 07 37 51.7 -0.2**
IDID Didziasalis 34.77 330 *e*P **P 07 37 51.4 -0.6**
IDID AMb AMB 07 37 55.0
comp=Z,60nm,1.0s,mb5.5
IDID Didziasalis 34.77 330 *e*P **P 07 37 51.4 -0.5**
comp=Z,79nm,0.9s,mb5.7
TIP Timpagrande 34.89 299 P **P 07 37 53.2 +0.3**
PKSM Moragy 34.98 312 P **P 07 37 53.5 -0.2**
PKSM Moragy 34.98 312 P **P 07 37 53.6 -0.1**
IIGN Ignalina 35.02 330 *e*P **P 07 37 53.8 -0.4**
IIGN AMb AMB 07 37 57.3
comp=Z,79nm,0.9s,mb5.7
IIGN Ignalina 35.02 330 *e*P **P 07 37 53.8 -0.3**
comp=Z,48nm,0.9s,mb5.4
NIE Niedzica 35.06 317 *e*P **P 07 37 55.3 +0.8**
NIE *e*sP sP 07 38 14.5 +7.2
BUD Budapest 35.14 314 *e*P **P 07 37 56.2 +1.1**
ISAL Salakas 35.20 330 *e*P **P 07 37 55.3 -0.4**
ISAL AMb AMB 07 37 58.8
comp=Z,48nm,0.9s,mb5.4
IZAR Zarasai 35.26 330 *e*P **P 07 37 56.2 0.0**
IZAR AMb AMB 07 37 59.3
comp=Z,43nm,1.1s,mb5.3
IZAR Zarasai 35.26 330 *e*P **P 07 37 56.2 0.0**
comp=Z,43nm,1.1s,mb5.3,SNR=60
RHK1 Bakonya 35.32 311⇑*e*P **P 07 37 51.4 -5.3**
PKSG 35.51 313 *e*P **P 07 37 57.8 -0.5**
MTTG Motta San Giov 35.62 297 P **P 07 38 01.4 +2.2**
SRO2 Moca 35.63 314 *e*P **P 07 37 59.4 0.0**
SRO2 *e*sP sP 07 38 09.4 -2.9
LIKS Likavka 35.65 316 *e*P **P 07 38 00.2 +0.7**
SUW Suwalki 35.68 326 *e*P **P 07 37 59.3 -0.4**
SUW *e*pP pP 07 38 08.4 -0.5
SUW *e*PP PP 07 39 25.4 +4.4
SUW *e*S **S 07 43 34.9 +0.6**
SUW *e*SS SS 07 46 17.4 +7.2
SUW L 07 57 16.8
comp=Z,12nm,19.6s
SUW Suwalki 35.68 326 *e*P **P 07 37 59.3 -0.4**
SUW *e*S **S 07 43 34.9 +0.6**
SUW Suwalki 35.68 326 *e*P **P 07 37 59.3 -0.4**
SUW *e*pP pP 07 38 08.4 -0.5
SUW *e*PP PP 07 39 25.4 +4.4
SUW *e*S **S 07 43 34.9 +0.6**
SUW *e*SS SS 07 46 17.4 +7.2
OJC Ojcow 35.69 318 *e*Pc **P 07 37 59.6 -0.3**
OJC *e*sP sP 07 38 21.0 +8.2
OJC *e*PP PP 07 39 21.8 +0.6
OJC *e*PcP PcP 07 40 28.2 +0.5
OJC *e*S **S 07 43 33.1 -1.4**
OJC *e*SS SS 07 46 10.1 -0.4
OJC L 07 56 17.6
comp=Z,79nm,15.0s
OJC Ojcow 35.69 318 P **P 07 37 59.1 -0.8**
OJC Ojcow 35.69 318 *e*PcP PcP 07 40 28.2 +0.5
OJC *e*S **S 07 43 33.1 -1.4**
comp=Z,79µm,15.0s
OJC *e*SS SS 07 46 10.1 -0.4
OJC Ojcow 35.69 318⇑*e*P **P 07 37 59.6 -0.3**
OJC *e* 07 39 21.8
OJC *e* 07 40 28.2
OJC *e*S **S 07 43 33.1 -1.4**
OJC MLR MLR
comp=Z,79µm,15.0s,MS6.6
CUC Castrocucco 35.70 300 P **P 07 38 01.0 +1.0**
SRO Srobarova 35.70 314 *e*P **P 07 38 00.4 +0.4**
SRO *e*sP sP 07 38 10.2 -2.6
SRO1 Iza 35.74 314 *e*P **P 07 38 00.4 +0.1**
SRO1 *e* pP 07 38 10.4 +1.0
WAR Warsaw 35.89 322 *e*P **P 07 38 03.9 +2.3**
WAR *e*S **S 07 43 39.9 +2.3**
WAR L 07 53 52.5
comp=Z,21nm,24.6s
FG5 Orsara di Pugl 36.28 302 P **P 07 38 07.6 +2.7**
SISC Sisak 36.30 310 *i* P **P 07 38 06.0 +0.9**
CSSN Cassano Irpino 36.40 302 P **P 07 38 07.0 +1.0**
JAVC Velka Javorina 36.46 315 P **P 07 38 07.1 +0.6**
PUL Pulkovo 36.47 338 *e*P **P 07 38 05.1 -1.4**
PUL *e*S **S 07 43 47.2 +0.9**
comp=Z,443nm,1.1s
PUL Pulkovo 36.47 338 *e*P **P 07 38 05.9 -0.6**
PUL 07 39 27.6
PUL *e*S **S 07 43 47.2 +0.9**
PUL pmax pmax
comp=Z,737nm,0.9s,mb6.6
PUL smax
comp=N,443nm,1.1s
SMOL Smolenice 36.49 315 *e*P **P 07 38 06.4 -0.3**
SMOL *e*sP sP 07 38 16.3 -3.3
OKC Ostrava-Krasne 36.52 317 *e*P **P 07 38 04.4 -2.6**
OKC *e*pP pP 07 38 06.9 -9.2
OKC *e*sP sP 07 38 13.9 -6.0
OKC *e*PP PP 07 39 38.0 +7.6
OKC *e*S **S 07 43 44.3 -2.9**
OKC *e*SS SS 07 46 55.4 +28
OKC AMS AMS 07 57 10.0
comp=N,10µm,19.8s
RAC Raciborz 36.59 318 *e*P **P 07 38 07.2 -0.3**
comp=N,24µm,19.1s
RAC *e*S **S 07 43 47.6 -0.6**
RAC Raciborz 36.59 318 *e*P **P 07 38 07.2 -0.3**
RAC *e*S **S 07 43 47.6 -0.6**
RAC LR LR
comp=Z,24µm,19.1s,MS6.0
ZST Bratislava 36.60 314 *e*P **P 07 38 07.7 +0.1**
ZST *e*sP sP 07 38 16.7 -3.8
ZST *e*PP PP 07 39 41.8 +11
ZST *e* 07 43 38.2
ZST *e*SS SS 07 46 33.0 +4.1
ZST Bratislava 36.60 314 *e*P **P 07 38 07.7 +0.1**
ZST *e* pP 07 38 16.7 0.0
ZST *e*S **S 07 43 38.2 -10**
VAE Valguarnera 36.60 296 P **P 07 38 09.4 +1.7**
comp=Z,191nm,0.9s,mb5.9,baz=85,slow=1.9,SNR=12
PSB1 Pescosannita 36.61 302 P **P 07 38 11.7 +4.0**
KOGS Kog 36.63 311 P **P 07 38 07.7 -0.2**
SOP Sopron 36.78 313⇑*i*P **P 07 38 09.0 -0.2**
SOP Sopron 36.78 313 P **P 07 38 09.4 +0.2**
VSU Vasula 36.83 334 P **P 07 38 08.0 -1.6**
MORC Moravsky Berou 36.86 317 *e*P **P 07 38 08.8 -1.1**
MORC Moravsky Berou 36.86 317 P **P 07 38 09.7 -0.2**
MORC Moravsky Berou 36.86 317 P **P 07 38 09.1 -0.8**
GCIS Gornji Cirnik 36.90 310 *e*P **P 07 38 10.3 +0.1**
CSLB Castelbuono 36.91 297 P **P 07 38 13.0 +2.8**
CII Carovilli 37.05 303 P **P 07 38 14.2 +2.7**
BOJS Bojanci 37.07 309 *e*P **P 07 38 11.7 0.0**
BOJS *i* 07 38 14.2
BOJS *e* pP 07 38 21.8 +1.0
BOJS *e*S **S 07 43 54.5 -1.0**
BOJS *e*SS SS 07 46 33.3 -5.2
BOJS *e* 07 48 11.1
BOJS Bojanci 37.07 309 *e*P **P 07 38 11.6 0.0**
BOJS *e*S **S 07 43 54.5 -1.1**
NVLJ Novalja 37.13 308 *i* P **P 07 38 12.0 -0.1**
GTA Gaotai 37.16 61 *e*P **P 07 38 12.5 +0.1**
GTA AP pP 07 38 16.8 -4.7

GTA PP PP 07 39 40.3 +2.9
GTA PPP 07 40 00.5
GTA PCP PcP 07 40 34.5 +2.4
GTA S **S 07 43 59.3 +2.4**
GTA SCP ScP 07 44 18.3 +1.5
GTA PCS PcS 07 44 20.5 +0.1
GTA SS SS 07 46 26.8 -13
GTA SCS ScS 07 48 23.8 -0.7
GTA AMB AMB
comp=Z,98nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,2µm,8.0s
GTA LR LR
comp=N,22µm,16.0s,MS6.1
GTA LR LR
comp=E,13µm,15.6s,MS6.1
GTA LR LR
comp=Z,18µm,17.5s,MS5.9
VRAC Vranov 37.28 316 P **P 07 38 13.1 -0.3**
comp=Z,135nm,1.0s,mb5.7,baz=94,slow=8.9,SNR=44
VRAC LR LR 07 57 02.4
comp=Z,16µm,21.0s,MS5.8,baz=106,slow=42
VRAC Vranov 37.28 316 P **P 07 38 13.4 0.0**
VRAC Vranov 37.28 316 ⇓P **P 07 38 13.5 +0.1**
KRUC Moravsky 37.32 315 P **P 07 38 12.5 -1.3**
ARSA Arzberg 37.33 312 *i* P **P 07 38 13.8 -0.1**
comp=Z,416nm,1.8s,mb6.0,SNR=30
ARSA Arzberg 37.33 312 Pn **P 07 38 14.1 +0.2**
ARSA Arzberg 37.33 312 P **P 07 38 13.2 -0.7**
ARSA Pn **P 07 38 14.1 +0.2**
PERS Pernice 37.44 311 *e*P **P 07 38 13.8 -0.9**
LJU Ljubljana 37.69 310 *e*P **P 07 38 16.5 -0.4**
LJU *e* 07 38 19.5
LJU *e* pP 07 38 24.0 -2.0
LJU *e*PP PP 07 39 56.1 +13
LJU *e*S **S 07 44 06.0 +1.0**
LJU *e* 07 44 17.5
LJU *e* 07 47 01.5
LJU *e* 07 48 26.8
LJU Ljubljana 37.69 310 *e*P **P 07 38 16.5 -0.4**
LJU *e*S **S 07 44 06.0 +1.0**
LJU *e*ScS ScS 07 48 26.8 -0.7
LJU Ljubljana 37.69 310 *e*P **P 07 38 16.5 -0.4**
LJU *e* pP 07 38 24.0 -2.0
LJU *e*S **S 07 44 06.0 +1.0**
LJU *e* 07 44 17.5
LJU *e* 07 48 26.8
PTQR Pietraquaria 37.76 303 P **P 07 38 19.0 +1.5**
OBKA Obir 37.79 311 *i* P **P 07 38 18.2 +0.5**
comp=Z,503nm,2.3s,mb5.8,SNR=13
OBKA Obir 37.79 311 P **P 07 38 18.2 +0.5**
comp=Z,503nm,2.3s,mb5.8,SNR=13
OBKA Obir 37.79 311 P **P 07 38 18.4 +0.7**
DPC Dobruska-Polom 37.80 317 *e*P **P 07 38 17.0 -0.8**
DPC *e*pP pP 07 38 20.1 -6.9
DPC *e*sP sP 07 38 27.3 -3.5
DPC *e*PP PP 07 39 55.0 +11
DPC *e*S **S 07 44 07.4 +0.7**
DPC *e*SS SS 07 47 11.2 +18
DPC AMS AMS 07 55 40.0
comp=Z,18µm,21.5s
DPC Dobruska-Polom 37.80 317 P **P 07 38 16.6 -1.2**
DPC *e*S **S 07 44 07.4 +0.7**
comp=Z,18µm,21.5s
DPC Dobruska-Polom 37.80 317 *e*P **P 07 38 17.0 -0.8**
DPC *e* pP 07 38 27.3 +0.3
DPC *e*S **S 07 44 07.4 +0.7**
DPC *e*SS SS 07 47 11.2 +18
DPC MLR MLR
comp=Z,18µm,21.5s,MS5.8
AQU L'Aquila 37.80 304 P **P 07 38 19.0 +1.1**
comp=Z,387nm,1.0s,mb6.1
AQU L'Aquila 37.80 304 P **P 07 38 19.3 +1.4**
AQU pmax pmax
comp=Z,400nm,1.0s,mb6.1
AOI Ancona 37.84 306 P **P 07 38 19.1 +0.9**
KRAR Krasnoyarsk 37.92 33 *i* P **P 07 38 19.2 +0.4**
comp=Z,48µm,18.0s
KRAR Krasnoyarsk 37.92 33*c i*P **P 07 38 19.2 +0.4**
KRAR pmax pmax
comp=Z,460nm,1.3s,mb6.0
KRAR MLR MLR
comp=Z,48µm,18.0s,MS6.3
TREC Trest 37.96 315 *e*P **P 07 38 18.8 -0.4**
TREC *e*pP pP 07 38 21.6 -6.7
TREC *e*sP sP 07 38 29.0 -3.1
TREC *e*PP PP 07 39 58.1 +12
TREC *e*S **S 07 44 09.2 +0.1**
TREC *ex* x 07 47 09.4
TREC AMS AMS 07 57 40.0
comp=Z,20µm,17.5s
TREC Trest 37.96 315 *e*P **P 07 38 18.8 -0.4**
TREC *e*S **S 07 44 09.2 +0.1**
comp=Z,20µm,17.5s
TREC Trest 37.96 315 *e*P **P 07 38 18.8 -0.4**
TREC *e* pP 07 38 29.0 +0.7
TREC *e*S **S 07 44 09.2 +0.1**
TREC *e*SS SS 07 47 09.4 +13
TREC MLR MLR
comp=Z,20µm,17.5s,MS6.0
KSP Ksiaz 38.00 318 *e*P **P 07 38 21.3 +1.8**
KSP *e*pP pP 07 38 29.7 +1.1
KSP *e*PP PP 07 39 58.5 +12
KSP *e*S **S 07 44 12.2 +2.6**
KSP L 07 57 15.2
comp=Z,27nm,20.2s
KSP Ksiaz 38.00 318 P **P 07 38 18.7 -0.8**
KSP *e*S **S 07 44 07.0 -2.6**
KSP Ksiaz 38.00 318 *e*P **P 07 38 21.2 +1.7**
KSP *e**PP pP 07 38 28.8 +0.2
KSP *e* 07 39 47.5
KSP *e*S **S 07 44 07.0 -2.6**
KSP *e*SS SS 07 46 52.0 -5.2
KSP MLR MLR
comp=Z,31µm,20.2s,MS6.1
FIAM Fiamignano 38.00 304 P **P 07 38 21.4 +1.9**
UPC Upice 38.04 317 *e*P **P 07 38 19.7 -0.2**
UPC *e*pP pP 07 38 22.2 -6.8
UPC *e*sP sP 07 38 29.4 -3.4
CERT Cerreto 38.06 303 P **P 07 38 20.1 +0.1**
NRCA Norcia 38.08 304 P **P 07 38 21.3 +1.1**
CING Cingoli 38.10 305 P **P 07 38 21.1 +0.7**
VOY Vojsko 38.12 310⇓*e*P **P 07 38 19.9 -0.6**
VOY *e* 07 38 22.4
ARV Arcevia 38.30 306 P **P 07 38 23.5 +1.4**
MOA Molln 38.31 313 *i* P **P 07 38 21.7 -0.5**
comp=Z,423nm,1.7s,mb5.9,SNR=119
MOA Molln 38.31 313 P **P 07 38 20.9 -1.3**
DRE Drenchia 38.32 310⇓*e*P **P 07 38 21.0 -1.2**
DGAR Diego Garcia 38.40 155 PFAKE 07 38 30.0 +7.1
DGAR LR LR
comp=Z,14µm,19.0s,MS5.8
GKP Gorka Klasztor 38.41 322 *e*P **P 07 38 23.2 +0.2**
GKP *e*pP pP 07 38 32.3 +0.1
GKP *e*S **S 07 44 17.5 +1.6**
GKP L 07 58 05.1
comp=Z,29nm,19.6s
GKP Gorka Klasztor 38.41 322 *e*P **P 07 38 23.2 +0.2**
GKP *e*S **S 07 44 17.5 +1.6**
comp=Z,29µm,19.6s
GKP Gorka Klasztor 38.41 322 P **P 07 38 23.3 +0.3**
ROBS Robic 38.42 310 *e*P **P 07 38 21.9 -1.2**
PTCC Patocco-Chiusa 38.56 310 P **P 07 38 24.2 -0.1**
MURB Monte Urbino 38.57 305 P **P 07 38 25.3 +1.0**
JOF Joensuu 38.60 342 *ep* **P 07 38 23.6 -0.9**
comp=Z,203nm,0.9s,mb5.8
PIEI Pieia 38.60 306 P **P 07 38 25.9 +1.3**
GMNA Gemona 38.62 310 P **P 07 38 24.5 -0.2**
KBA Koelnbreinsper 38.73 311⇑*i*P **P 07 38 25.5 -0.2**
comp=Z,377nm,1.6s,mb5.9,SNR=52
KBA Koelnbreinsper 38.73 311 P **P 07 38 25.1 -0.5**
PLRO Paularo 38.74 310⇓*e*P **P 07 38 27.0 +1.3**
PRU Pruhonice 38.76 316 *e*P **P 07 38 25.4 -0.5**
PRU *e*pP pP 07 38 27.8 -7.3
PRU *e*sP sP 07 38 35.6 -3.2
PRU *e*PP PP 07 40 05.3 +10
PRU *e*S **S 07 44 22.4 +1.2**
PRU *e*SS SS 07 47 26.9 +14
PRU AMS AMS 07 57 30.0
comp=Z,19µm,20.0s
PRU Pruhonice 38.76 316 P **P 07 38 24.5 -1.4**
PRU *e*S **S 07 44 22.4 +1.2**
comp=Z,19µm,20.0s

PRU	**Pruhonice**	**38.76 316**	*e*P		**P**	**07 38 25.4 -0.5**
PRU			*e*		pP	07 38 35.6 +0.5
PRU			*e*			07 40 05.3
PRU			*e*S		**S**	**07 44 22.4 +1.2**
PRU			MLR		MLR	
	comp=Z,19μm,20.0s,MS5.9					
MPRI	**Monte Prat**	**38.78 310⇑**	*e*P		**P**	**07 38 25.0 -1.0**
BADI	**Badiali**	**38.81 305**	P		**P**	**07 38 27.6 +1.3**
PRA	**Prague**	**38.85 316**	P		**P**	**07 38 26.0 -0.7**
ZOU	**Zoufplan**	**38.85 310⇓**	*e*P		**P**	**07 38 28.0 +1.3**
MEF	**Metsahovi**	**38.90 335**	P		**P**	**07 38 24.8 -2.2**
PVCC	**Panska Ves**	**38.92 317**	*e*P		**P**	**07 38 27.6 +0.4**
PVCC			*e*pP		pP	07 38 29.4 -7.0
PVCC			*e*sP		sP	07 38 34.4 -5.8
PVCC			AMS		AMS	07 56 10.0
PVCC	**Panska Ves**	**38.92 317**	*e*P		**P**	**07 38 27.6 +0.4**
PVCC			*e*		pP	07 38 34.4 -2.0
PVCC	**Panska Ves**	**38.92 317**	P		**P**	**07 38 28.0 +0.8**
GEC2	**GERESS Array S**	**38.95 314**	*e*P		**P**	**07 38 26.9 -0.6**
	comp=Z,309nm,1.5s,mb5.8					
GEC2	**GERESS Array S**	**38.95 314**	*e*P		**P**	**07 38 26.9 -0.6**
GEC2			pmax		pmax	
	comp=Z,309nm,1.5s,mb5.8					
GERES	**GERESS Array B**	**38.95 314**	P		**P**	**07 38 26.7 -0.8**
	comp=Z,57nm,1.0s,mb5.2,baz=111,slow=7.3,SNR=105					
GERES			PcP		PcP	07 40 37.8 +0.2
	comp=Z,17nm,0.9s,baz=106,slow=8.4,SNR=3.7					
GERES			ScP		ScP	07 44 25.0 +1.4
	comp=Z,2.7nm,0.8s,baz=120,slow=5.8,SNR=4.1					
GERES			LR		LR	07 57 13.5
	comp=Z,14μm,21.1s,MS5.8,baz=113,slow=40					
GERES	**GERESS Array B**	**38.95 314**	PcP		PcP	07 40 37.8 +0.2
GERES			S		**S**	**07 44 25.0 +1.0**
GERES	**GERESS Array B**	**38.95 314**	P		**P**	**07 38 26.7 -0.8**
GERES						07 40 37.8
GERES						07 44 25.0
MLNI	**Malnisio**	**39.01 310⇑**	*e*P		**P**	**07 38 28.0 0.0**
CRE	**Caprese Michel**	**39.03 306**	P		**P**	**07 38 29.3 +1.1**
CSMI	**Casera Mimoias**	**39.06 310⇓**	*e*P		**P**	**07 38 30.0 +1.6**
CAE	**Caneva**	**39.10 309⇓**	*e*P		**P**	**07 38 30.0 +1.2**
KHC	**Kasperske Hory**	**39.11 314**	*e*P		**P**	**07 38 27.9 -0.9**
KHC			*e*pP		pP	07 38 31.2 -6.8
KHC			*e*sP		sP	07 38 38.8 -2.9
KHC			*e*PP		PP	07 40 08.7 +10
KHC			*e*S		**S**	**07 44 26.4 0.0**
KHC			*e*SS		SS	07 47 36.9 +17
KHC			AMS		AMS	07 56 40.0
	comp=Z,14μm,20.3s					
KHC	**Kasperske Hory**	**39.11 314**	P		**P**	**07 38 27.1 -1.7**
KHC			*e*S		**S**	**07 44 26.4 0.0**
	comp=Z,14μm,20.3s					
FINES	**FINESS Array B**	**39.12 337**	P		**P**	**07 38 28.0 -1.0**
	comp=Z,139nm,0.8s,mb5.7,baz=125,slow=9.6,SNR=175					
FINES			ScP		ScP	07 44 25.4 +1.1
	comp=Z,16nm,1.0s,baz=98,slow=8.6,SNR=4.2					
FINES			LR		LR	07 58 28.2
	comp=Z,16μm,20.3s,MS5.8,baz=136,slow=42					
FINES	**FINESS Array B**	**39.12 337**	P		**P**	**07 38 28.0 -1.0**
FINES			S		**S**	**07 44 25.4 -1.3**
BRG	**Berggiesshubel**	**39.41 317**	*i* P		**P**	**07 38 30.5 -0.8**
	comp=Z,15nm,1.0s,mb4.7					
BRG			*i*			07 38 33.5
	comp=Z,69nm,1.2s					
BRG			*i*		pP	07 38 40.2 -0.3
	comp=Z,99nm,1.3s					
BRG			PP		PP	07 40 10.0 +8.0
BRG			S		**S**	**07 44 32.0 +1.1**
BRG			SS		SS	07 47 36.0 +10
BRG						
	comp=N,7μm,19.1s					
BRG						
	comp=E,11μm,21.1s					
BRG						
	comp=Z,12μm,24.9s					
BRG	**Berggiesshubel**	**39.41 317**	*e*P		**P**	**07 38 30.4 -0.9**
	comp=Z,99nm,1.3s,mb5.4					
CSNT	**Castellina Chi**	**39.49 305**	P		**P**	**07 38 33.2 +1.2**
KAF	**Kangasniemi**	**39.52 338**	*e*p		**P**	**07 38 30.7 -1.6**
	comp=Z,89nm,0.8s,mb5.5,baz=133,slow=8.8					
KAF	**Kangasniemi**	**39.52 338**	*e*P		**P**	**07 38 30.7 -1.6**
KAF			pmax		pmax	
	comp=Z,89nm,0.8s,mb5.5					
WET	**Wettzell**	**39.55 314**	*e*P		**P**	**07 38 31.5 -1.0**
	comp=Z,178nm,1.4s,mb5.6					
WET	**Wettzell**	**39.55 314**	P		**P**	**07 38 30.5 -2.0**
WET	**Wettzell**	**39.55 314**	*e*P		**P**	**07 38 31.5 -1.0**
WET			pmax		pmax	
	comp=Z,178nm,1.4s,mb5.6					
CTI	**Castel Tesino**	**39.65 309**	P		**P**	**07 38 33.1 -0.2**
	comp=Z,686nm,1.9s,mb6.1					
CTI	**Castel Tesino**	**39.65 309**	P		**P**	**07 38 33.1 -0.2**
CTI			pmax		pmax	
	comp=Z,686nm,1.9s,mb6.1					
GRFL	**Gerfalco**	**39.68 305**	P		**P**	**07 38 33.1 -0.5**
	comp=Z,37nm,0.8s,mb5.2					
FNVD	**Fontana Vidola**	**39.71 306**	P		**P**	**07 38 35.3 +1.5**
BRES	**Bressanone**	**39.72 310**	P		**P**	**07 38 34.2 +0.3**
WTTA	**Wattenberg**	**39.90 311⇑**	*i*P		**P**	**07 38 34.1 -1.3**
	comp=Z,537nm,1.6s,mb6.0,SNR=71					
WTTA	**Wattenberg**	**39.90 311**	P		**P**	**07 38 33.7 -1.7**
WATA	**Walderalm**	**39.96 311⇑**	*i*P		**P**	**07 38 34.5 -1.4**
	comp=Z,337nm,1.1s,mb6.0,SNR=29					
WATA	**Walderalm**	**39.96 311**	P		**P**	**07 38 35.2 -0.7**
APPI	**Appiano**	**40.02 310**	P		**P**	**07 38 36.3 -0.1**
RUE	**Ruedersdorf**	**40.04 320**	*e*P		**P**	**07 38 36.4 -0.2**
	comp=Z,282nm,1.0s,mb6.0					
RUE	**Ruedersdorf**	**40.04 320**	*e*P		**P**	**07 38 36.4 -0.2**
	comp=Z,282nm,1.0s,mb6.0					
BDI	**Bagni Di Lucca**	**40.07 306**	P		**P**	**07 38 37.8 +1.0**
PII	**Pisa**	**40.07 305**	P		**P**	**07 38 36.1 -0.8**
	comp=Z,27nm,0.4s,mb5.3					
PII	**Pisa**	**40.07 305**	P		**P**	**07 38 36.1 -0.8**
PII			pmax		pmax	
	comp=Z,27nm,0.4s,mb5.3					
CLL	**Collm**	**40.11 318**	*e*P		**P**	**07 38 36.8 -0.3**
	comp=Z,303nm,1.2s,mb5.9					
CLL			*e*sP		sP	07 38 46.4 -3.7
CLL			*e*PP		PP	07 40 14.1 +4.5
CLL			*e*ScP		ScP	07 44 30.8 +2.7
CLL			*e*S		**S**	**07 44 41.8 +0.4**
CLL			*e*SS		SS	07 47 46.6 +7.1
CLL			*e*LR		LR	07 52 12.0
CLL			*e*L			07 57 25.3
	comp=Z,19μm,22.0s					
CLL	**Collm**	**40.11 318**	*e*P		**P**	**07 38 37.0 -0.1**
	comp=Z,36nm,1.1s,mb5.0					
CLL			⇓*i*Pmax			07 38 39.2
	comp=Z,298nm,1.2s					
CLL			*i* sP		sP	07 38 46.8 -3.3
	comp=Z,532nm,1.4s					
CLL			*e*(PP)			07 40 20.0
CLL			*e*PPPP			07 40 42.0
CLL			*e*x		x	07 41 26.0
CLL			*e*ScP		ScP	07 44 30.0 +1.9
CLL			*e*S		**S**	**07 44 42.0 +0.6**
CLL			*e*sS		sS	07 45 02.0 +5.5
CLL			*e*x		x	07 45 31.0
CLL			*e*SS		SS	07 47 50.0 +10
CLL			Lm			07 57 00.0
	comp=N,17μm,18.8s					
CLL			Lm			07 57 00.0
	comp=E,17μm,19.2s					
CLL			Lm			07 57 00.0
	comp=Z,19μm,19.8s					
CLL	**Collm**	**40.11 318**	P		**P**	**07 38 36.1 -1.0**
CLL			*e*S		**S**	**07 44 41.8 +0.4**
CLL	**Collm**	**40.11 318**	*e*P		**P**	**07 38 37.0 -0.1**
CLL			*i* *PP		pP	07 38 46.8 +0.5
CLL			*e*S		**S**	**07 44 42.0 +0.6**
CLL			pmax		pmax	
	comp=Z,298nm,1.2s,mb5.9					
CLL			MLR		MLR	
	comp=Z,19μm,19.8s,MS5.9					
GSCL	**Gusciola**	**40.11 306**	P		**P**	**07 38 38.3 +1.1**
NKC	**Novy Kostel**	**40.12 316**	*e*P		**P**	**07 38 37.2 -0.1**
NKC			*e*pP		pP	07 38 39.6 -6.9
NKC			*e*sP		sP	07 38 46.8 -3.4
NKC			*e*PP		PP	07 40 19.4 +10
NKC			*e*S		**S**	**07 44 41.5 -0.1**
NKC			*e*SS		SS	07 47 54.7 +15
NKC			AMS		AMS	07 58 20.0
	comp=Z,17μm,18.9s					
NKC	**Novy Kostel**	**40.12 316**	P		**P**	**07 38 36.5 -0.8**
NKC			*e*S		**S**	**07 44 41.5 -0.1**
	comp=Z,17μm,18.9s					
NKC	**Novy Kostel**	**40.12 316**	*e*P		**P**	**07 38 37.2 -0.1**
NKC			*e*		pP	07 38 46.8 +0.3
NKC			*e*			07 40 19.4
NKC			*e*S		**S**	**07 44 41.5 -0.1**
NKC			MLR		MLR	
	comp=Z,17μm,18.9s,MS5.9					
ROTZ	**Rotzenmuhle**	**40.14 315**	*e*P		**P**	**07 38 37.0 -0.4**
	comp=Z,192nm,1.1s,mb5.7					
TANN	**Tannenbergstha**	**40.16 316**	*e*P		**P**	**07 38 37.3 -0.3**
	comp=Z,40nm,1.1s,mb5.1					
SQTA	**Sankt Quirin**	**40.18 311⇑**	*i*P		**P**	**07 38 36.1 -1.6**
	comp=Z,125nm,1.1s,mb5.6,SNR=58					
SQTA	**Sankt Quirin**	**40.18 311**	P		**P**	**07 38 37.3 -0.4**
SARO	**Sassorosso**	**40.22 306**	P		**P**	**07 38 38.4 +0.3**
VLC	**Villacollemand**	**40.23 306**	*e*P		**P**	**07 38 39.2 +1.1**
	comp=Z,202nm,1.1s,mb5.8					
MOTA	**Moosalm**	**40.27 311⇓**	*i*P		**P**	**07 38 37.3 -1.2**
	comp=Z,168nm,1.1s,mb5.7,SNR=58					
MOTA	**Moosalm**	**40.27 311**	P		**P**	**07 38 37.5 -1.0**
LZH	**Lanzhou**	**40.30 66**	*e*P		**P**	**07 38 38.5 -0.2**
LZH			AP		pP	07 38 49.0 +1.1
LZH			XP		sP	07 38 55.0 +3.3
LZH			S		**S**	**07 44 35.0 -9.2**
LZH			AMB		AMB	
	comp=Z,480nm,1.4s,mb6.0					
LZH			AMB		AMB	
	comp=Z,2μm,4.2s					
LZH			LR		LR	
	comp=N,25μm,15.1s					
LZH			LR		LR	
	comp=Z,31μm,16.0s,MS6.2					
FUR	**Furstenfeldbru**	**40.34 312**	P		**P**	**07 38 38.8 -0.2**
VALM		**40.35 306**	P		**P**	**07 38 39.5 +0.3**
VINC	**Vinca**	**40.39 306**	P		**P**	**07 38 39.2 -0.3**
MOY	**Mondy**	**40.42 42**	*e*P		**P**	**07 38 40.2 +0.5**
	comp=Z,382nm,2.2s,mb5.7					
MOY	**Mondy**	**40.42 42**	*e*P		**P**	**07 38 40.2 +0.5**
MOY			pmax		pmax	
	comp=Z,382nm,2.2s,mb5.7					
BSD	**Bornholm Skovb**	**40.43 324⇑**	*i*P		**P**	**07 38 37.8 -2.0**
	comp=Z,350nm,0.9s,mb6.1					
BSD			*i*			07 40 17.5
BSD			*i*			07 44 39.4
BSD						
	comp=Z,18μm,19.0s					
BSD	**Bornholm Skovb**	**40.43 324⇑**	*i*P		**P**	**07 38 37.8 -2.0**
	comp=Z,350nm,0.9s,mb6.1					
BSD			*i*			07 40 17.5
BSD			*i*			07 44 39.4
BACM		**40.47 306**	P		**P**	**07 38 40.2 +0.1**
GRAM		**40.50 307**	P		**P**	**07 38 40.9 +0.5**
BRMO	**Bormio**	**40.60 310**	P		**P**	**07 38 41.9 +0.7**
CODM		**40.64 306**	P		**P**	**07 38 41.2 -0.4**
FUORN	**Ofenpass**	**40.70 310⇑**	*i*P		**P**	**07 38 34.6 -7.4**
	comp=Z,994nm,2.5s,mb6.0					
CD2	**Chengdu**	**40.71 74⇑**	*i*P		**P**	**07 38 41.5 -0.6**
CD2			PP		PP	07 40 19.8 +3.6
CD2			SCP		ScP	07 44 25.5 -4.9
CD2			S		**S**	**07 44 47.5 -2.8**
CD2			SS		SS	07 47 46.0 -5.5
CD2			SCS		ScS	07 48 38.5 -6.6
CD2			AMB		AMB	
	comp=Z,50nm,0.9s,mb5.1					
CD2			AMB		AMB	
	comp=Z,1μm,10.8s					
CD2			LR		LR	
	comp=N,14μm,20.2s					
CD2			LR		LR	
	comp=Z,8μm,21.6s,MS5.5					
GRA1	**Grafenberg Arr**	**40.74 315**	*e*P		**P**	**07 38 42.0 -0.4**
	comp=Z,311nm,1.0s,mb5.9					
GRA1			*e*S		**S**	**07 44 48.6 -2.2**
GRF	**Grafenberg Arr**	**40.74 315**	*e*P		**P**	**07 38 42.0 -0.4**
	comp=Z,311nm,1.0s,mb5.9					
GRF			*e*S		**S**	**07 44 48.6 -2.2**
GRF			*e*L			07 57 46.0
	comp=Z,14μm,22.0s					
GRF	**Grafenberg Arr**	**40.74 315**	*e*P		**P**	**07 38 42.0 -0.4**
GRF			*e*S		**S**	**07 44 48.6 -2.2**
GRF			pmax		pmax	
	comp=Z,311nm,1.0s,mb5.9					
GRF			MLR		MLR	
	comp=Z,14μm,22.0s,MS5.8					
GRFO	**Grafenberg**	**40.74 315**	P		**P**	**07 38 42.1 -0.3**
MOX	**Moxa**	**40.75 316**	*e*P		**P**	**07 38 41.9 -0.5**
	comp=Z,99nm,1.3s,mb5.3					
MOX	**Moxa**	**40.75 316**	P		**P**	**07 38 41.6 -0.8**
MOX	**Moxa**	**40.75 316**	*e*P		**P**	**07 38 41.8 -0.6**
	comp=Z,135nm,1.5s,mb5.3					
MOX			*e*		pP	07 38 51.6 0.0
MOX						
	comp=Z,12μm,20.0s					
BERNI	**Berninapass**	**40.83 310⇑**	*i*P		**P**	**07 38 41.9 -1.2**
	comp=Z,403nm,1.1s,mb5.9					
SC2M	**Scurtabr**	**40.87 306**	P		**P**	**07 38 42.8 -0.6**
KMI	**Kunming**	**40.97 83**	P		**P**	**07 38 44.8 +0.5**
KMI			AP		pP	07 38 52.5 -1.0
KMI			XP		sP	07 38 55.0 -2.2
KMI			PP		PP	07 40 22.3 +3.3
KMI			PCP		PcP	07 40 44.5 +0.4
KMI			PPP			07 40 49.5
KMI			PCS		PcS	07 44 34.3 -0.7
KMI			S		**S**	**07 44 54.0 -0.3**
KMI			SS		SS	07 47 50.5 -6.2
KMI			SCS		ScS	07 48 46.8 +0.1
KMI			AMB		AMB	
	comp=Z,90nm,1.0s,mb5.3					
KMI			AMB		AMB	
	comp=Z,2μm,5.9s					
KMI			LR		LR	
	comp=N,7μm,19.9s,MS5.8					
KMI			LR		LR	
	comp=E,10μm,15.9s,MS5.8					
KMI			LR		LR	
	comp=Z,10μm,17.3s,MS5.7					
BOB	**Bobbio (Coli)**	**40.98 307**	P		**P**	**07 38 43.7 -0.6**
DAVOX	**Davos**	**40.99 310**	P		**P**	**07 38 44.2 -0.2**
	comp=Z,99nm,0.5s,mb5.7,baz=106,slow=5.3,SNR=49					
DAVOX			LR		LR	07 58 32.6
	comp=Z,16μm,20.8s,MS5.9,baz=92,slow=40					
DAVOX	**Davos**	**40.99 310⇑**	*i*P		**P**	**07 38 43.0 -1.4**
	comp=Z,310nm,0.8s,mb6.0					
UBR	**Uberruh**	**41.00 311**	P		**P**	**07 38 43.7 -0.8**
RGN	**Rugen**	**41.05 322**	*e*P		**P**	**07 38 44.8 -0.1**
	comp=Z,1μm,1.2s,mb6.3					
RGN	**Rugen**	**41.05 322**	*e*P		**P**	**07 38 44.8 -0.1**
	comp=Z,1μm,1.2s,mb6.3					
RGN			*e*pP		pP	07 38 55.5 +1.4
PGF	**Pioggiola**	**41.06 304**	*e*P		**P**	**07 38 43.6 -1.4**
	comp=Z,206nm,0.9s,mb5.4					
PGF	**Pioggiola**	**41.06 304**	*e*P		**P**	**07 38 43.6 -1.4**
	comp=Z,103nm,0.9s,mb5.5					
PGF	**Pioggiola**	**41.06 304**	*e*P		**P**	**07 38 43.6 -1.4**
PGF			pmax		pmax	
	comp=Z,103nm,0.9s,mb5.5					
DAVA	**Damuels**	**41.08 311**	*i* P		**P**	**07 38 44.1 -1.1**
	comp=Z,607nm,1.8s,mb5.9,SNR=76					
DAVA	**Damuels**	**41.08 311**	P		**P**	**07 38 44.0 -1.2**
VDL	**Val di Lei**	**41.22 310⇑**	*i*P		**P**	**07 38 43.3 -3.0**
	comp=Z,891nm,2.2s,mb6.0					
VDL	**Val di Lei**	**41.22 310**	P		**P**	**07 38 46.0 -0.3**
TUE	**Stuetta**	**41.30 309**	P		**P**	**07 38 46.0 -0.9**
LIENZ	**Alp Oberkamor**	**41.34 311⇑**	*i*P		**P**	**07 38 43.4 -3.9**
	comp=Z,1μm,2.5s,mb6.1					
PLONS	**Plons**	**41.37 310⇑**	*i*P		**P**	**07 38 43.7 -3.9**
	comp=Z,960nm,1.7s,mb6.2					
MUGIO	**Muggio**	**41.42 309⇑**	*i*P		**P**	**07 38 45.0 -3.0**
	comp=Z,296nm,1.3s,mb5.8					
ZAK	**Zakamensk**	**41.44 45**	*e*P		**P**	**07 38 48.1 0.0**
	comp=Z,148nm,1.9s,mb5.3					
ZAK	**Zakamensk**	**41.44 45**	*e*P		**P**	**07 38 48.1 0.0**
ZAK			*e*			07 45 04.4
ZAK			*e*			07 48 44.9
ZAK			pmax		pmax	
	comp=Z,148nm,1.9s,mb5.3					
LLS	**Linth-Limmern**	**41.59 310⇑**	*i*P		**P**	**07 38 45.9 -3.4**
	comp=Z,428nm,0.8s,mb6.1					
LLS	**Linth-Limmern**	**41.59 310**	P		**P**	**07 38 47.7 -1.6**
PCP	**Pian Castagno**	**41.59 306**	P		**P**	**07 38 48.2 -1.1**
SIND	**Sindeldorf**	**41.68 314**	P		**P**	**07 38 49.1 -1.0**
WEIN	**Weingarten**	**41.72 311⇑**	*i*P		**P**	**07 38 46.2 -4.2**
	comp=Z,842nm,1.5s,mb6.2					
GUT	**Gutenstein**	**41.73 312**	P		**P**	**07 38 49.2 -1.3**
WILA	**Wila**	**41.75 311⇑**	*i*P		**P**	**07 38 46.4 -4.3**
	comp=Z,798nm,0.9s,mb6.3					
WILA	**Wila**	**41.75 311⇑**	P		**P**	**07 38 49.8 -0.9**
SISB	**Singen-Sch Ber**	**41.76 311**	P		**P**	**07 38 51.2 +0.4**
FIN	**Finale Ligure**	**41.79 306**	P		**P**	**07 38 49.9 -1.1**
FIN	**Finale Ligure**	**41.79 306**	P		**P**	**07 38 50.7 -0.3**
OUL	**Oulu**	**41.80 341**	P		**P**	**07 38 49.3 -1.8**
STU	**Stuttgart**	**41.82 313**	*e*P		**P**	**07 38 51.3 +0.1**
	comp=Z,84nm,1.1s,mb5.3					
STU	**Stuttgart**	**41.82 313**	*e*P		**P**	**07 38 51.9 +0.7**
STU			pmax		pmax	
	comp=Z,120nm,1.0s,mb5.5					
CLZ	**Clausthal**	**41.83 318**	*e*P		**P**	**07 38 51.1 -0.2**
	comp=Z,246nm,1.0s,mb5.8					
CLZ	**Clausthal**	**41.83 318**	*e*P		**P**	**07 38 51.1 -0.2**
CLZ			pmax		pmax	
	comp=Z,246nm,1.0s,mb5.8					
NST	**Nakhon Sawan**	**41.83 98**	⇑P		**P**	**07 38 53.1 +1.8**
	comp=Z,200nm,0.5s,mb6.0					
MUO	**Muotathal**	**41.86 310⇑**	*i*P		**P**	**07 38 46.4 -5.2**
	comp=Z,1μm,1.7s,mb6.2					
MUO	**Muotathal**	**41.86 310**	⇑P		**P**	**07 38 50.6 -1.0**
RORO		**41.88 306**	P		**P**	**07 38 50.4 -1.4**
APA	**Apatity**	**41.94 347**	*i* P		**P**	**07 38 51.7 -0.5**
	comp=Z,2μm,5.0s					
APA			*i* S		**S**	**07 45 08.0 -0.6**
APA	**Apatity**	**41.94 347**	⇓*i*P		**P**	**07 38 51.7 -0.5**
APA			*i*		pP	07 38 58.6 -2.9
APA			*i*			07 40 33.0
APA			*i* S		**S**	**07 45 08.0 -0.6**
APA			*i* SS		SS	07 48 08.0 -7.9
APA			pmax		pmax	
	comp=Z,250nm,1.0s,mb5.8					
APA			pmax		pmax	
	comp=Z,2μm,5.0s					
APA			pmax		pmax	
	comp=N,5μm,13.0s					
APA			pmax		pmax	
	comp=E,4μm,13.0s					
APA			smax			
	comp=N,3μm,13.0s					
APA			smax			
	comp=E,6μm,13.0s					
APA			MLR		MLR	
	comp=Z,68μm,16.0s,MS6.6					
APA			MLR		MLR	
	comp=N,31μm,16.0s,MS6.5					
APA			MLR		MLR	
	comp=E,40μm,16.0s,MS6.5					
COP	**Copenhagen**	**41.95 324**	*i* P		**P**	**07 38 52.6 +0.3**
	comp=E,244nm,0.9s,mb5.8					
COP			*i*			07 40 31.4
COP			*i* S		**S**	**07 45 06.5 -2.3**
COP			*i*			07 48 31.8
COP						
	comp=Z,7μm,20.0s					
COP	**Copenhagen**	**41.95 324**	P		**P**	**07 38 52.0 -0.3**
COP			*i* S		**S**	**07 45 06.5 -2.3**
SPAK	**Spaichingen**	**41.96 312**	P		**P**	**07 38 54.2 +1.8**
ZUR	**Zurich**	**41.96 311⇑**	*i*P		**P**	**07 38 48.3 -4.1**
	comp=Z,910nm,1.1s,mb6.3					
ZUR	**Zurich**	**41.96 311**	P		**P**	**07 38 51.6 -0.8**
LVZ	**Lovozero**	**41.98 348**	*e*P		**P**	**07 38 50.6 -2.0**
	comp=Z,67nm,1.4s,mb5.1					
LVZ	**Lovozero**	**41.98 348**	*e*P		**P**	**07 38 50.6 -2.0**
LVZ			*e*			07 40 35.3
LVZ			*e*S		**S**	**07 45 05.0 -4.2**
LVZ			*e*SS		SS	07 48 14.0 -2.7
LVZ			pmax		pmax	
	comp=Z,158nm,1.5s,mb5.4					
LVZ			pmax		pmax	
	comp=N,67nm,1.4s					
LVZ			pmax		pmax	
	comp=E,23nm,1.0s					
LVZ			smax			
	comp=Z,650nm,5.0s					
LVZ			smax			
	comp=N,809nm,3.4s					
LVZ			smax			
	comp=E,370nm,3.6s					
LVZ			MLR		MLR	
	comp=Z,24μm,13.0s,MS6.3					
LVZ			MLR		MLR	
	comp=N,16μm,14.0s,MS6.2					
LVZ			MLR		MLR	
	comp=E,13μm,12.0s,MS6.2					
LVZ	**Lovozero**	**41.98 348⇑**	*i*P		**P**	**07 38 51.0 -1.6**
LVZ			LR		LR	
	comp=Z,17μm,19.0s,MS6.0					
BNALP	**Bannalp**	**41.99 310⇑**	*i*P		**P**	**07 38 49.4 -3.2**
	comp=Z,795nm,2.5s,mb5.9					
IMI	**Imperia**	**41.99 305**	P		**P**	**07 38 52.1 -0.5**
IMI	**Imperia**	**41.99 305**	P		**P**	**07 38 52.9 +0.3**
TLY	**Talaya**	**42.00 43**	P		**P**	**07 38 55.4 +2.7**
	comp=Z,168nm,1.3s,mb5.5,SNR=15					
ROB	**Roburent**	**42.04 306**	P		**P**	**07 38 52.1 -0.9**
LBG	**Lerchenberg**	**42.06 313**	P		**P**	**07 38 53.1 -0.1**
SLE	**Schleitheim**	**42.09 311⇑**	*i*P		**P**	**07 38 49.7 -3.7**
	comp=Z,851nm,3.3s					
SLE	**Schleitheim**	**42.09 311**	P		**P**	**07 38 52.1 -1.3**
MONE	**Monesi**	**42.10 306**	P		**P**	**07 38 52.4 -1.1**
ORO	**Oropa**	**42.12 308**	P		**P**	**07 38 52.8 -0.8**
	comp=Z,70nm,0.7s,mb5.4					
ORO	**Oropa**	**42.12 308**	P		**P**	**07 38 52.8 -0.8**
ORO			pmax		pmax	
	comp=Z,70nm,0.7s,mb5.4					
ORX	**Oropa**	**42.12 308**	P		**P**	**07 38 51.6 -2.0**
NEGI	**Negi**	**42.12 305**	P		**P**	**07 38 52.2 -1.5**
HASLI	**Hasliberg**	**42.16 310⇑**	*i*P		**P**	**07 38 50.6 -3.4**
	comp=Z,954nm,2.5s,mb6.0					
ABSA	**Djebel Ababsia**	**42.18 294**	P		**P**	**07 38 59.0 +4.8**
MMK	**Mattmark**	**42.18 309⇑**	*i*P		**P**	**07 38 51.4 -2.8**
	comp=Z,194nm,0.8s,mb5.8					
MMK	**Mattmark**	**42.18 309**	P		**P**	**07 38 52.7 -1.5**
CMAH	**Djebel Manchou**	**42.20 295**	P		**P**	**07 38 59.0 +4.6**
CGMA	**Guelma**	**42.22 294**	P		**P**	**07 39 00.0 +5.5**
SAOF	**Saorge**	**42.24 306**	*e*P		**P**	**07 38 54.7 +0.1**
TOD	**Tromm**	**42.25 314**	*e*P		**P**	**07 38 53.3 -1.4**
TOD	**Tromm**	**42.25 314**	P		**P**	**07 38 56.1 +1.4**
TRAV		**42.26 308**	P		**P**	**07 38 52.2 -2.7**
SWS	**Schriesheim**	**42.29 314**	P		**P**	**07 38 54.9 -0.1**
BFO	**Black Forest**	**42.30 312**	*e*P		**P**	**07 38 54.9 -0.2**
	comp=Z,27nm,0.9s,mb4.9					
BFO	**Black Forest**	**42.30 312**	P		**P**	**07 38 54.8 -0.3**
	comp=Z,244nm,1.0s,mb5.8,SNR=7.3					
BFO	**Black Forest**	**42.30 312**	P		**P**	**07 38 54.2 -0.9**
BFO	**Black Forest**	**42.30 312**	*e*P		**P**	**07 38 54.9 -0.2**
BFO			pmax		pmax	
	comp=Z,27nm,0.9s,mb4.9					
SULZ	**Sulz-C

IRK pmax pmax
comp=Z,322nm,2.4s,mb5.6
BALST Balsthal 42.55 310⇑ iP P 07 38 52.3 -4.9
comp=Z,2μm,2.9s,mb6.2
RSP Reno Superiore 42.57 307 P P 07 38 54.5 -2.8
DIX Grande Dixence 42.57 309⇑ iP P 07 38 52.5 -4.8
comp=Z,666nm,1.9s,mb6.0
DIX Grande Dixence 42.57 309 P P 07 38 56.4 -0.9
TNS Taunus Mts 42.60 315 eP P 07 38 57.4 -0.2
comp=Z,285nm,1.5s,mb5.8
TNS Taunus Mts 42.60 315 eP P 07 38 57.4 -0.2
TNS pmax pmax
comp=Z,285nm,1.5s,mb5.8
PZZ Prazzo 42.61 306 P P 07 38 56.1 -1.6
KTD Kalmit 42.65 313 eP P 07 38 57.8 -0.2
KTD Kalmit 42.65 313 P P 07 38 58.1 +0.1
CAEH 'Ain El Ouahch 42.65 295 P P 07 39 02.0 +4.0
SENIN Lac Senin 42.68 309⇑ iP P 07 38 53.8 -4.5
comp=Z,177nm,0.6s,mb6.0
FENE Fenestrelle 42.69 307 P P 07 38 55.7 -2.6
BBS Basel-Blauen 42.70 311 eP P 07 38 57.3 -1.1
BBS Basel-Blauen 42.70 311 P P 07 38 58.2 -0.2
LIBD Limburg 42.75 312 P P 07 38 59.0 +0.2
LANF Langenberg 42.76 313 eP P 07 38 57.2 -1.7
LANF Langenberg 42.76 313 P P 07 38 58.3 -0.6
CKFL Kef-Lekhel 42.78 294 P P 07 39 04.0 +4.9
SURF Saint Ours 42.81 306 eP P 07 38 59.8 +0.5
SURF Saint Ours 42.81 306 eP P 07 39 00.0 +0.7
NNT Nongplab 42.84 102 P P 07 39 03.9 +4.3
FRF La Foret Royal 42.86 305 eP P 07 38 58.1 -1.6
comp=Z,148nm,1.1s,mb5.3
FRF La Foret Royal 42.86 305 eP P 07 38 58.1 -1.6
FRF pmax pmax
comp=Z,74nm,1.1s,mb5.3
FRF La Foret Royal 42.86 305 eP P 07 38 58.1 -1.6
comp=Z,74nm,1.1s,mb5.3
MBDF Montbardon 42.87 307 eP P 07 38 58.2 -1.6
comp=Z,349nm,0.8s,mb5.8
MBDF Montbardon 42.87 307 eP P 07 38 58.2 -1.6
MBDF pmax pmax
comp=Z,174nm,0.8s,mb5.8
MBDF Montbardon 42.87 307 eP P 07 38 58.2 -1.6
comp=Z,174nm,0.8s,mb5.8
BOURR Bourrignon 42.87 310⇑ iP P 07 38 55.3 -4.5
comp=Z,696nm,1.1s,mb6.3
RRL Cesana Torines 42.88 307 P P 07 38 58.5 -1.3
AIGLE Aigle 42.92 309⇑ iP P 07 38 56.5 -3.7
comp=Z,724nm,2.4s,mb6.0
SONM Songino Array 42.92 49 P P 07 39 00.1 -0.1
comp=Z,22nm,0.9s,mb4.9,baz=260,slow=8.6,SNR=80
SONM LR LR 07 58 54.7
comp=Z,62μm,20.2s,MS6.5,baz=262,slow=39
EMV Vieux Emosson 42.92 309⇑ iP P 07 38 56.4 -3.8
comp=Z,786nm,1.9s,mb6.1
EMV Vieux Emosson 42.92 309 ⇓P P 07 38 59.6 -0.6
LMR La Mourre 42.95 304 eP P 07 38 58.5 -1.9
WLS Welschbruch 42.95 312 eP P 07 38 58.6 -1.9
WLS Welschbruch 42.95 312 P P 07 38 59.8 -0.7
LPG La Plagne 42.96 308 eP P 07 38 59.1 -1.4
comp=Z,474nm,0.8s,mb6.0
LPG La Plagne 42.96 308 eP P 07 38 59.1 -1.4
LPG pmax pmax
comp=Z,237nm,0.8s,mb6.0
LPG La Plagne 42.96 308 eP P 07 38 59.1 -1.4
comp=Z,237nm,0.8s,mb6.0
BNI Bardonecchia 42.96 307 P P 07 38 58.9 -1.6
BNI Bardonecchia 42.96 307 eP P 07 38 59.4 -1.1
BNI pmax pmax
comp=Z,390nm,1.2s,mb6.0
TORNY Torny 42.97 310⇑ iP P 07 38 57.5 -3.1
comp=Z,671nm,1.2s,mb6.2
LPL La Plagne 42.97 308 eP P 07 38 59.2 -1.4
comp=Z,473nm,0.8s,mb6.0
LPL La Plagne 42.97 308 eP P 07 38 59.2 -1.4
LPL pmax pmax
comp=Z,236nm,0.8s,mb6.0
LPL La Plagne 42.97 308 eP P 07 38 59.2 -1.4
comp=Z,236nm,0.8s,mb6.0
CASM Ain Smara 42.98 294 P P 07 39 02.5 +1.9
CDF Champ du Feu 43.01 312 eP P 07 38 58.7 -2.2
comp=Z,108nm,1.0s,mb5.2
CDF Champ du Feu 43.01 312 eP P 07 38 58.7 -2.2
CDF pmax pmax
comp=Z,54nm,1.0s,mb5.2
CDF Champ du Feu 43.01 312 eP P 07 38 58.7 -2.2
comp=Z,54nm,1.0s,mb5.2
MOF Molkenrain 43.01 311 eP P 07 38 59.8 -1.1
MOF Molkenrain 43.01 311 P P 07 39 01.8 +0.9
ECH Echery 43.05 312 eP P 07 39 00.3 -0.9
ECH Echery 43.05 312 P P 07 39 00.5 -0.7
CTEI Djebel Teioual 43.06 294 P P 07 39 03.0 +1.7
RSL Roselend 43.07 308 eP P 07 38 59.6 -1.8
ABH Alteburg 43.10 314 eP P 07 39 00.8 -0.9
ABH Alteburg 43.10 314 P P 07 39 01.7 0.0
LOMF Lomont 43.14 310 eP P 07 39 01.0 -1.0
LOMF Lomont 43.14 310 P P 07 39 01.7 -0.3
HINF Hinteralfeld 43.19 311 eP P 07 39 00.5 -1.9
comp=Z,74nm,0.7s,mb5.2
HINF Hinteralfeld 43.19 311 eP P 07 39 00.5 -1.9
HINF pmax pmax
comp=Z,37nm,0.7s,mb5.2
HINF Hinteralfeld 43.19 311 eP P 07 39 00.5 -1.9
comp=Z,37nm,0.7s,mb5.2
HFS Hagfors 43.25 330 P P 07 39 02.1 -0.8
comp=Z,263nm,1.1s,mb5.9,baz=120,slow=8.8,SNR=75
HFS LR LR 08 00 08.2
comp=Z,28μm,20.9s,MS6.1,baz=122,slow=40
BRANT Les Verrieres 43.32 310⇑ iP P 07 38 58.6 -4.8
comp=Z,2μm,2.4s,mb6.3
ULN Ulaanbaatar 43.36 49 eP P 07 39 03.5 -0.3
comp=Z,53μm,20.0s
ULN Ulaanbaatar 43.36 49 eP P 07 39 03.5 -0.3
ULN esP sP 07 39 19.2 +2.5
ULN LR LR
comp=Z,53μm,20.0s,MS6.4
GDM Grand'Maison 43.37 307 eP P 07 39 05.2 +1.3
RUP Ruppelstein 43.38 314 eP P 07 39 03.6 -0.3
RUP Ruppelstein 43.38 314 P P 07 39 05.9 +2.0
SGF Sodankyl 43.40 344 P P 07 39 03.1 -0.9
GIMEL Gimel 43.41 309⇑ iP P 07 38 59.0 -5.2
comp=Z,1μm,2.3s,mb6.2
DFRA Djebel Bou Aff 43.45 295 P P 07 39 06.0 +1.5
CMER Merouana 43.50 293 P P 07 39 07.5 +2.6
IBBN Ibbenburen 43.51 318 eP P 07 39 04.8 -0.2
ORIF Oris-en-Rattie 43.52 307 eP P 07 39 03.1 -1.9
comp=Z,239nm,0.8s,mb5.7
ORIF eR
comp=Z,16μm,21.0s
ORIF Oris-en-Rattie 43.52 307 eP P 07 39 03.1 -1.9
ORIF pmax pmax
comp=Z,120nm,0.8s,mb5.7
ORIF Oris-en-Rattie 43.52 307 eP P 07 39 03.1 -1.9
comp=Z,120nm,0.8s,mb5.7
CABF La Chapelle 43.54 309 eP P 07 39 04.2 -1.0
comp=Z,307nm,0.7s,mb5.8
CABF La Chapelle 43.54 309 eP P 07 39 04.2 -1.0
CABF pmax pmax
comp=Z,153nm,0.7s,mb5.8
CABF La Chapelle 43.54 309 eP P 07 39 04.2 -1.0
comp=Z,153nm,0.7s,mb5.8
PUYF Puyloubier 43.55 305 eP P 07 39 07.5 +2.3
HAU Haudompre 43.55 311 eP P 07 39 04.3 -1.0
comp=Z,117nm,0.8s,mb5.3
HAU eR
comp=Z,21μm,23.0s
HAU Haudompre 43.55 311 eP P 07 39 04.3 -1.0
HAU pmax pmax
comp=Z,59nm,0.8s,mb5.4
HAU MLR MLR
comp=Z,21μm,23.0s,MS6.0
HAU Haudompre 43.55 311 eP P 07 39 04.3 -1.0
comp=Z,59nm,0.8s,mb5.4
HAU LR LR
comp=Z,21μm,23.0s,MS6.0
BUG Bochum--Univer 43.60 316 eP P 07 39 05.9 +0.2
comp=Z,212nm,1.0s,mb5.8
BUG Bochum--Univer 43.60 316 P P 07 39 05.4 -0.3
GRN Grenoble 43.64 307 eP P 07 39 04.0 -2.0
SMRF Simiane la Rot 43.66 305 eP P 07 39 04.9 -1.3
GELF Grande-Etoile 43.74 304 eP P 07 39 09.7 +2.9
CKHR Kef el Ahmar 43.78 294 P P 07 39 11.0 +3.9
THEF They Montfort 43.83 312 eP P 07 39 06.2 -1.3
THEF They Montfort 43.83 312 P P 07 39 06.8 -0.7
SET Setif 43.86 294 P P 07 39 09.0 +1.2
OCF Saint Nazaire 43.90 306 eP P 07 39 08.9 +0.8
OG26 St.-Nazaire-De 43.90 306 eP P 07 39 08.9 +0.8
OG05 Jujurieux 43.91 308 eP P 07 39 07.6 -0.6
KKTK Khon Kaen 43.92 95 P P 07 39 19.5 +11
comp=Z,1μm,0.5s
MUD Monsted U'grnd 43.94 324 i P P 07 39 09.2 +0.8
comp=Z,173nm,0.8s,mb5.8
MUD i 07 40 51.4
MUD i S S 07 45 41.0 +3.1
MUD i 07 49 08.7
MUD
comp=Z,12μm,20.0s
MUD Monsted U'grnd 43.94 324 i PcP PcP 07 40 51.4 -2.6
MUD Monsted U'grnd 43.94 324 i P **P 07 39 09.2 +0.8**
comp=Z,173nm,0.8s,mb5.8
MUD i 07 40 51.4
MUD i S **S 07 45 41.0 +3.1**
MUD i 07 49 08.7
WLF
PRAF Pradon 43.95 305 eP P 07 39 10.2 +1.7
WLF Walferdange 43.95 314 eP P 07 39 07.8 -0.7
comp=Z,63nm,0.8s,mb5.4
WLF Walferdange 43.95 314 ⇑P P 07 39 08.1 -0.3
WLF Walferdange 43.95 314 P P 07 39 07.6 -0.9
WLF Walferdange 43.95 314 eP P 07 39 08.3 -0.2
WLF pmax pmax
comp=Z,190nm,1.1s,mb5.7
WTSB Winterswijk 44.01 317 eP P 07 39 08.8 -0.1
comp=Z,268nm,1.1s,mb5.9
GYA Guiyang 44.07 80 P P 07 39 08.8 -0.7
GYA AP pP 07 39 15.5 -3.3
GYA XP sP 07 39 19.5 -3.0
GYA PP PP 07 40 53.3 +0.9
GYA S **S 07 45 39.3 -0.6**
GYA SS SS 07 48 46.8 -11
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,2μm,11.1s
GYA LR LR
comp=E,7μm,15.9s
GYA LR LR
comp=Z,8μm,15.6s,MS5.7
MEM Membach 44.21 315 P P 07 39 10.8 +0.2
comp=Z,72nm,0.8s,mb5.5
MEM AP pP 07 39 16.2 -3.7
HGN Heimansgroeve 44.29 315⇑ eP P 07 39 11.3 +0.1
comp=Z,236nm,1.3s,mb5.8
HGN eS **S 07 45 48.0 +5.0**
HGN eSS SS 07 49 08.5 +6.6
VIVF Saint-Julien-l 44.37 307 eP P 07 39 10.0 -1.8
comp=Z,429nm,1.2s,mb5.8
VIVF Saint-Julien-l 44.37 307 eP P 07 39 10.0 -1.8
VIVF pmax pmax
comp=Z,214nm,1.2s,mb5.8
VIVF Saint-Julien-l 44.37 307 eP P 07 39 10.0 -1.8
comp=Z,214nm,1.2s,mb5.8
BEBN Eben Emael 44.45 315 P P 07 39 12.5 0.0
BEBN E 07 39 15.5
BEBN E pP 07 39 23.1 +1.3
MEZF Maizieres J'vi 44.48 312 eP P 07 39 11.8 -0.9
comp=Z,238nm,0.8s,mb5.7
MEZF Maizieres J'vi 44.48 312 eP P 07 39 11.8 -0.9
comp=Z,238nm,0.8s,mb6.0
OSL Oslo 44.50 329 eP P 07 39 12.1 -0.7
OSL AMb AMB 07 39 23.9
comp=Z,382nm,1.3s,mb6.0
OSL Oslo 44.50 329 eP P 07 39 12.1 -0.8
comp=Z,382nm,1.3s,mb6.0,SNR=28
MAHO Mahon 44.56 299 i P **P 07 39 14.5 +1.1**
XAN Xi'an 44.62 69 P P 07 39 12.5 -1.3
XAN AP pP 07 39 21.8 -1.3
XAN PP PP 07 40 54.3 -3.9
XAN S **S 07 45 46.0 -1.8**
XAN AMB AMB
comp=Z,48nm,0.9s,mb5.3
XAN AMB AMB
comp=Z,1μm,11.4s
XAN LR LR
comp=N,17μm,27.2s
XAN LR LR
comp=Z,15μm,21.4s
NB2 NORSAR Subarra 44.76 330 P P 07 39 13.3 -1.6
comp=Z,102nm,0.9s,mb5.7,baz=116,slow=7.9
NOA NORSAR Array B 44.76 330 P P 07 39 13.2 -1.7
comp=Z,105nm,1.0s,mb5.6,baz=116,slow=8.0,SNR=82
NOA ScP ScP 07 44 46.0 -0.7
comp=Z,5.6nm,0.8s,baz=107,slow=4.3,SNR=3.4
NOA LR LR 08 01 03.9
comp=Z,25μm,20.7s,MS6.1,baz=110,slow=40
NAO01 NORSAR Array S 44.81 330 eP P 07 39 14.7 -0.7
comp=Z,97nm,0.9s,mb5.6
NAO01 NORSAR Array S 44.81 330 eP P 07 39 14.7 -0.7
comp=Z,97nm,0.9s,mb5.6
NAO01 LR LR
comp=Z,23μm,19.0s,MS6.1
GIVF Givet 44.87 314 eP P 07 39 14.5 -1.3
comp=Z,499nm,1.0s,mb6.0
GIVF Givet 44.87 314 eP P 07 39 14.5 -1.3
GIVF pmax pmax
comp=Z,250nm,1.0s,mb6.0
GIVF Givet 44.87 314 eP P 07 39 14.5 -1.3
comp=Z,250nm,1.0s,mb6.0
KONO Kongsberg 44.90 328 eP P 07 39 15.9 -0.2
KONO pmax pmax
comp=Z,253nm,1.3s,mb5.9
KONO MLR MLR
comp=Z,19μm,22.0s,MS6.0
KONO Kongsberg 44.90 328 eP P 07 39 15.9 -0.2
comp=Z,253nm,1.3s,mb5.9
KONO LR LR
comp=Z,19μm,22.0s,MS6.0
LASF Ste Croix 44.91 305 eP P 07 39 14.7 -1.4
comp=Z,241nm,0.9s,mb5.7
DOU Dourbes 45.01 314 ⇓P P 07 39 16.7 -0.3
comp=Z,69nm,1.0s,mb5.4
BTO Baotou 45.02 60 eP P 07 39 17.3 +0.2
BTO S **S 07 45 57.3 +3.6**
BTO AMB AMB
comp=Z,84nm,2.2s,mb5.2
KEV Kevo 45.08 346 ep **P 07 39 16.5 -1.0**
KEV Kevo 45.08 346 eP P 07 39 16.8 -0.7
KEV pmax pmax
comp=Z,310nm,1.1s,mb6.0
SMF Signal de Mont 45.09 309 eP P 07 39 16.2 -1.4
comp=Z,816nm,0.9s,mb6.2
SMF Signal de Mont 45.09 309 eP P 07 39 16.2 -1.4
SMF pmax pmax
comp=Z,408nm,0.9s,mb6.3
SMF Signal de Mont 45.09 309 eP P 07 39 16.2 -1.4
comp=Z,408nm,0.9s,mb6.3
COLF Collangettes 45.10 307 eP P 07 39 17.3 -0.4
LOR Lormes 45.13 310 eP P 07 39 16.4 -1.5
comp=Z,352nm,1.0s,mb5.8
LOR eR
comp=Z,23μm,18.5s
LOR Lormes 45.13 310 eP P 07 39 16.4 -1.5
LOR pmax pmax
comp=Z,176nm,1.0s,mb5.8
LOR MLR MLR
comp=Z,23μm,18.5s,MS6.1
LOR Lormes 45.13 310 eP P 07 39 16.4 -1.5
comp=Z,176nm,1.0s,mb5.8
LOR LR LR
comp=Z,23μm,18.5s,MS6.1
PLDF La Plantade 45.18 308 eP P 07 39 17.5 -0.8
ARCES ARCESS Array B 45.24 345 P P 07 39 17.9 -1.0
comp=Z,98nm,0.8s,mb5.7,baz=138,slow=7.5,SNR=72
ARCES PcP PcP 07 40 57.5 -0.9
comp=Z,32nm,0.8s,baz=132,slow=3.6,SNR=4.3
ARCES LR LR 08 02 31.1
comp=Z,14μm,18.8s,MS5.9,baz=131,slow=42
ARCES ARCESS Array B 45.24 345 PcP PcP 07 40 57.5 -0.9
ARCES ARCESS Array B 45.24 345 P **P 07 39 17.9 -0.9**
ARCES 07 40 57.6
ARE0 ARCESS Array S 45.24 345 eP P 07 39 18.2 -0.6
UCC Uccle 45.28 315 ⇑P P 07 39 19.7 +0.6
UCC Uccle 45.28 315 P P 07 39 19.6 +0.5
SNF Seneffe 45.28 314 ⇑P P 07 39 19.7 +0.6
SSF Saint Saulge 45.35 310 eP P 07 39 18.4 -1.3
comp=Z,642nm,0.8s,mb6.2
SSF Saint Saulge 45.35 310 eP P 07 39 18.4 -1.3
SSF pmax pmax
comp=Z,321nm,0.8s,mb6.2
SSF Saint Saulge 45.35 310 eP P 07 39 18.4 -1.3
comp=Z,321nm,0.8s,mb6.2
ABMS Boumerdes 45.35 295 P P 07 39 14.8 -4.9
KTK1 Kautokeino 45.39 344 eP **P 07 39 19.7 -0.3**
KTK1 AMb AMB 07 39 32.4
comp=Z,296nm,1.4s,mb5.9
KTK1 Kautokeino 45.39 344 eP P 07 39 19.7 -0.3
comp=Z,296nm,1.4s,mb5.9,SNR=28
LBL Lubilhac 45.40 307 eP P 07 39 19.6 -0.4
AVF Avril sur Loir 45.43 309 eP P 07 39 18.8 -1.5
comp=Z,492nm,1.1s,mb6.0
AVF Avril sur Loir 45.43 309 eP P 07 39 18.8 -1.5
AVF pmax pmax
comp=Z,246nm,1.1s,mb6.0
AVF Avril sur Loir 45.43 309 eP P 07 39 18.8 -1.5
comp=Z,246nm,1.1s,mb6.0
AGO Saint Agoulin 45.53 308 eP P 07 39 20.8 -0.3
SNART Snartemo 45.57 326 eP P 07 39 20.8 -0.6
SNART AMb AMB 07 39 33.4
comp=Z,196nm,1.4s,mb5.9
EJON La Jonquera 45.57 303 P P 07 39 24.2 +2.8
comp=Z,47nm,1.1s,mb5.3
ETOS Mallorca 45.68 299 P P 07 39 23.3 +1.0
comp=Z,58nm,0.9s,mb5.5,SNR=9.9
ETOS Mallorca 45.68 299 P P 07 39 23.3 +1.0
comp=Z,58nm,0.9s,mb5.5
ENH Enshi 45.68 74 eP P 07 39 22.1 -0.2
comp=Z,125nm,1.0s,mb5.8
ENH eS **S 07 46 03.8 +0.6**
ENH Enshi 45.68 74 eP P 07 39 22.1 -0.2
comp=Z,125nm,1.0s,mb5.8
ENH eS **S 07 46 03.8 +0.6**
ENH LR LR
comp=Z,6μm,21.0s,MS5.5
ABA Alger-Bouzarea 45.71 295 P P 07 39 20.2 -2.3
BGF Bois d'Agland 45.76 309 eP P 07 39 21.6 -1.3
comp=Z,462nm,0.8s,mb6.2
BGF Bois d'Agland 45.76 309 eP P 07 39 21.6 -1.3
BGF pmax pmax
comp=Z,231nm,0.8s,mb6.2
BGF Bois d'Agland 45.76 309 eP P 07 39 21.6 -1.3
comp=Z,231nm,0.8s,mb6.2
FILF Fillols 45.82 303 eP P 07 39 22.9 -0.5
EMHD Djebel Mahouad 45.83 294 P P 07 39 24.8 +1.4
LRDF Laroque-de-Fa 45.84 304 eP P 07 39 25.4 +1.9
FRNF Fournols 45.89 307 eP P 07 39 24.0 +0.1
HYF Humbligny 45.96 310 eP P 07 39 23.8 -0.7
VERF Verneugheol 45.96 308 eP P 07 39 24.1 -0.4
MTLF Montolieu 46.07 304 eP P 07 39 24.6 -0.8
comp=Z,575nm,1.2s,mb6.1
MTLF Montolieu 46.07 304 eP P 07 39 24.6 -0.8
MTLF pmax pmax
comp=Z,287nm,1.2s,mb6.1
MTLF Montolieu 46.07 304 eP P 07 39 24.6 -0.8
comp=Z,287nm,1.2s,mb6.1
NSS Namsos 46.11 335 eP P 07 39 25.0 -0.6
NSS AMb AMB 07 39 36.4
comp=Z,699nm,1.6s,mb6.3
NSS AMS AMS 08 03 31.9
comp=Z,18μm,19.3s,MS6.0
NSS Namsos 46.11 335 eP P 07 39 25.0 -0.6
comp=Z,699nm,1.6s,mb6.3,SNR=27
MOR8 Moi Rana 46.11 338 eP P 07 39 24.2 -1.4
MOR8 AMb AMB 07 39 36.8
comp=Z,448nm,1.6s,mb6.1
MOR8 Moi Rana 46.11 338 eP P 07 39 24.2 -1.4
comp=Z,448nm,1.6s,mb6.1,SNR=27
DOMB Dombas 46.12 331 eP P 07 39 25.7 0.0
CARF Carcanieres 46.15 303 eP P 07 39 29.2 +3.2
TCF Toulx Ste Croi 46.19 308 eP P 07 39 25.2 -1.0
comp=Z,392nm,0.9s,mb6.0
TCF Toulx Ste Croi 46.19 308 eP P 07 39 25.2 -1.0
TCF pmax pmax
comp=Z,196nm,0.9s,mb6.0
TCF Toulx Ste Croi 46.19 308 eP P 07 39 25.2 -1.0
comp=Z,196nm,0.9s,mb6.0
HHC Hu-ho-hao-te 46.19 59 eP P 07 39 27.0 +0.7
HHC PP PP 07 41 14.3 -0.6
HHC PCS PcS 07 44 57.8 +1.5
HHC S **S 07 46 03.3 -7.2**
HHC AMB AMB
comp=Z,78nm,1.1s,mb5.5
HHC LR LR
comp=N,11μm,15.5s,MS6.0
HHC LR LR
comp=E,12μm,20.2s,MS6.0
HHC LR LR
comp=Z,15μm,20.2s,MS5.9
CAF Calviac 46.22 307 eP P 07 39 25.5 -1.0
comp=Z,364nm,0.9s,mb6.0
CAF Calviac 46.22 307 eP P 07 39 25.5 -1.0
CAF pmax pmax
comp=Z,182nm,0.9s,mb6.0
CAF Calviac 46.22 307 eP P 07 39 25.5 -1.0
comp=Z,182nm,0.9s,mb6.0
BLS5 Blasjo 46.31 327 eP P 07 39 30.1 +2.9
BLS5 AMb AMB 07 39 40.5
comp=Z,229nm,1.4s,mb5.9
ODD1 Odda 46.39 328 eP P 07 39 27.0 -0.9
ODD1 AMb AMB 07 39 39.9
comp=Z,303nm,1.2s,mb6.1
ODD1 Odda 46.39 328 eP P 07 39 27.0 -0.9
comp=Z,303nm,1.2s,mb6.1,SNR=27
STAV Stavanger 46.51 326 eP P 07 39 29.1 +0.3
STAV Stavanger 46.51 326 eP P 07 39 29.1 +0.3
SNR=27
EMIR Miracle 46.59 302 P P 07 39 30.7 +1.3
comp=Z,95nm,0.7s,mb5.8,SNR=16
EMIR Miracle 46.59 302 P P 07 39 30.7 +1.2
comp=Z,95nm,0.7s,mb5.8
RJF Les Rejaudoux 46.62 307 eP P 07 39 29.0 -0.7
comp=Z,576nm,1.0s,mb6.2
RJF eR
comp=Z,20μm,22.5s
RJF Les Rejaudoux 46.62 307 eP P 07 39 29.0 -0.7
RJF pmax pmax
comp=Z,288nm,1.0s,mb6.2
RJF MLR MLR
comp=Z,20μm,22.5s,MS6.0
RJF Les Rejaudoux 46.62 307 eP P 07 39 29.0 -0.7
comp=Z,288nm,1.0s,mb6.2
RJF LR LR
comp=Z,20μm,22.5s,MS6.0
STOK Stokkvaagen 46.68 337 eP P 07 39 29.1 -1.0
STOK epP pP 07 39 39.2 -0.3
STOK AMb AMB 07 39 41.5
comp=Z,1μm,1.2s,mb6.8
KMY Karmoy 46.82 326 eP P 07 39 29.7 -1.5
KMY epP pP 07 39 40.8 +0.2
KMY AMb AMB 07 39 42.6
comp=Z,367nm,1.6s,mb6.1
EIBI Ibiza 46.86 298 P P 07 39 33.5 +1.9
comp=Z,73nm,0.8s,mb5.7
EIBI Ibiza 46.86 298 P P 07 39 33.5 +1.9
comp=Z,73nm,0.8s,mb5.7
MLS Moulis 46.90 304 eP P 07 39 31.3 -0.5
TRO Tromso 46.92 343 eP P 07 39 30.5 -1.5
EPOB Poblet 46.94 302 P P 07 39 32.9 +0.7
comp=Z,102nm,0.8s,mb5.8,SNR=20
EPOB Poblet 46.94 302 P P 07 39 32.9 +0.8
comp=Z,102nm,0.8s,mb5.8
EBNR Beni Rached 46.96 295 P P 07 39 34.7 +2.4
MOL Molde 46.98 331 eP P 07 39 35.0 +2.5
TIY Taiyuan 47.06 63 ⇑P P 07 39 30.0 -3.1
TIY S **S 07 46 20.0 -3.0**
TIY LR LR
comp=N,30μm,22.0s
ECHA Ech Chlef 47.11 294 P P 07 39 35.0 +1.5
RUND Rundenannen 47.16 328 eP P 07 39 33.4 -0.4
RUND AMb AMB 07 39 45.9
comp=Z,545nm,1.5s,mb6.3
RUND Rundenannen 47.16 328 eP P 07 39 33.4 -0.5
comp=Z,545nm,1.5s,mb6.3,SNR=27
LFF La Frestale 47.16 307 eP P 07 39 33.1 -0.8
comp=Z,414nm,0.7s,mb6.2
LFF La Frestale 47.16 307 eP P 07 39 33.1 -0.8
LFF pmax pmax
comp=Z,207nm,0.7s,mb6.2
LFF La Frestale 47.16 307 eP P 07 39 33.1 -0.8
comp=Z,207nm,0.7s,mb6.2
BER Bergen 47.16 328 eP P 07 39 33.7 -0.2
BER eP 07 39 36.1
BER AMb AMB 07 39 49.7
comp=Z,300nm,1.3s,mb6.1
BER AMS AMS 08 03 00.0
comp=Z,14μm,21.2s,MS5.9
EGD Espegrend 47.18 328 eP P 07 39 34.5 +0.5
EGD AMb AMB 07 39 45.0
comp=Z,374nm,1.1s,mb6.2

EGD Espegrend 47.18 328 *eP* **P 07 39 34.5 +0.5**
comp=Z,374nm,1.1s,mb6.2,SNR=27
ETRT Tiaret 47.26 293 P **P 07 39 35.8 +1.2**
ASK Askoy 47.26 328 *eP* **P 07 39 32.0 -2.6**
ASK AMb AMB 07 39 46.8
comp=Z,436nm,1.4s,mb6.2
ASK Askoy 47.26 328 *eP* **P 07 39 32.0 -2.7**
comp=Z,436nm,1.4s,mb6.2,SNR=27
OPO Ambohidratompo 47.33 192 P **P 07 39 36.3 +1.1**
comp=Z,5.4nm,0.8s,baz=21,slow=11,SNR=7.7
KULM Kulim 47.34 110 *eP* **P 07 39 39.0 +3.7**
KULM *e*PcP PcP 07 41 07.6 +1.8
EANR 'Ain N'Sour 47.35 294 P **P 07 39 35.2 -0.2**
PSI Prapat 47.35 114 P **P 07 39 37.2 +1.8**
comp=Z,9.1nm,0.6s,mb4.9,baz=306,slow=7.4,SNR=14
PSI Prapat 47.35 114 P **P 07 39 37.2 +1.8**
EBR Ebro Roquetas 47.41 301 *i* P **P 07 39 37.0 +1.2**
EPF Esparros 47.45 304 *eP* **P 07 39 33.9 -2.2**
comp=Z,70nm,1.0s,mb5.2
EPF Esparros 47.45 304 *eP* **P 07 39 33.9 -2.2**
EPF pmax pmax
comp=Z,35nm,1.0s,mb5.2
EPF Esparros 47.45 304 *eP* **P 07 39 33.9 -2.2**
comp=Z,35nm,1.0s,mb5.2
RESF Ens 47.45 304 *eP* **P 07 39 37.9 +1.7**
EGRA Graus 47.48 303 P **P 07 39 38.6 +2.2**
comp=Z,61nm,0.8s,mb5.6,SNR=21
EGRA Graus 47.48 303 P **P 07 39 38.6 +2.2**
comp=Z,61nm,0.8s,mb5.6
LOF Lofoten 47.51 340 *eP* **P 07 39 37.0 +0.4**
LOF *ep*P pP 07 39 46.3 +0.3
LOF AMb AMB 07 39 50.2
comp=Z,427nm,1.2s,mb6.4
LOF Lofoten 47.51 340 *eP* **P 07 39 37.0 +0.4**
SNR=27
ERTA Horta de San J 47.52 301 P **P 07 39 38.0 +1.3**
comp=Z,59nm,0.7s,mb5.7,SNR=14
ERTA Horta de San J 47.52 301 P **P 07 39 38.0 +1.3**
comp=Z,59nm,0.7s,mb5.7
EBIE Bielsa 47.60 303 P **P 07 39 38.6 +1.3**
comp=Z,12nm,0.6s,mb5.1,SNR=15
EBIE Bielsa 47.60 303 P **P 07 39 38.6 +1.3**
comp=Z,12nm,0.6s,mb5.1
LABF Labassere 47.64 304 *eP* **P 07 39 40.2 +2.6**
SUE Sulen 47.66 329 *eP* **P 07 39 39.4 +1.6**
VIEF Viey 47.68 304 *eP* **P 07 39 41.3 +3.4**
MFF Saint Martin d 47.83 309 *eP* **P 07 39 37.5 -1.6**
comp=Z,342nm,1.2s,mb6.0
MFF Saint Martin d 47.83 309 *eP* **P 07 39 37.5 -1.6**
MFF pmax pmax
comp=Z,171nm,1.2s,mb6.0
MFF Saint Martin d 47.83 309 *eP* **P 07 39 37.5 -1.6**
comp=Z,171nm,1.2s,mb6.0
MATF Mathat 47.90 308 *eP* **P 07 39 40.2 +0.5**
LDF La Druitiere 47.91 311 *eP* **P 07 39 37.9 -1.8**
comp=Z,397nm,1.0s,mb6.1
LDF La Druitiere 47.91 311 *eP* **P 07 39 37.9 -1.8**
LDF pmax pmax
comp=Z,198nm,1.0s,mb6.1
LDF La Druitiere 47.91 311 *eP* **P 07 39 37.9 -1.8**
comp=Z,198nm,1.0s,mb6.1
REYF Montagne du Re 47.98 304 *eP* **P 07 39 42.4 +2.1**
ESAC San Caprasio 48.09 302 P **P 07 39 42.8 +1.7**
comp=Z,79nm,0.4s,mb6.1,SNR=12
CIT Chita 48.09 44 *eP* **P 07 39 40.7 -0.4**
comp=Z,426nm,2.2s,mb6.1
CIT Chita 48.09 44 *eP* **P 07 39 40.7 -0.4**
CIT *e* 07 41 38.8
CIT pmax pmax
comp=Z,426nm,2.2s,mb6.1
IPM Ipoh 48.10 111 P **P 07 39 42.7 +1.5**
EBEN Beniarda 48.11 298 P **P 07 39 41.6 +0.4**
comp=Z,68nm,0.8s,mb5.7,SNR=8.0
EBEN Beniarda 48.11 298 P **P 07 39 41.6 +0.3**
comp=Z,68nm,0.8s,mb5.7
ETSF Etsaut 48.11 304 *eP* **P 07 39 39.6 -1.7**
comp=Z,330nm,1.0s,mb6.0
ETSF Etsaut 48.11 304 *eP* **P 07 39 39.6 -1.7**
ETSF pmax pmax
comp=Z,165nm,1.0s,mb6.0
ETSF Etsaut 48.11 304 *eP* **P 07 39 39.6 -1.7**
comp=Z,165nm,1.0s,mb6.0
FLN La Foliniere 48.16 312 *eP* **P 07 39 39.9 -1.7**
comp=Z,477nm,1.0s,mb6.2
FLN *eR*
comp=Z,19μm,22.8s
FLN La Foliniere 48.16 312 *eP* **P 07 39 39.9 -1.7**
FLN pmax pmax
comp=Z,238nm,1.0s,mb6.2
FLN MLR MLR
comp=Z,19μm,22.8s,MS6.0
FLN La Foliniere 48.16 312 *eP* **P 07 39 39.9 -1.7**
comp=Z,238nm,1.0s,mb6.2
FLN LR LR
comp=Z,19μm,22.8s,MS6.0
EMOS Mosqueruela 48.17 300 P **P 07 39 43.5 +1.8**
comp=Z,42nm,0.6s,mb5.6,SNR=15
EMOS Mosqueruela 48.17 300 P **P 07 39 43.5 +1.8**
comp=Z,42nm,0.6s,mb5.7
ATE Arette 48.21 304 *eP* **P 07 39 42.8 +0.8**
LCHF La Chataignera 48.24 309 *eP* **P 07 39 41.8 -0.5**
GRR Gorron 48.39 311 *eP* **P 07 39 41.9 -1.5**
comp=Z,347nm,1.1s,mb6.0
GRR Gorron 48.39 311 *eP* **P 07 39 41.9 -1.5**
GRR pmax pmax
comp=Z,173nm,1.1s,mb6.0
GRR Gorron 48.39 311 *eP* **P 07 39 41.9 -1.5**
comp=Z,173nm,1.1s,mb6.0
LARF Larrau 48.42 304 *eP* **P 07 39 43.2 -0.5**
SJPF Ste Jean 48.59 304 *eP* **P 07 39 44.3 -0.7**
comp=Z,139nm,0.8s,mb5.8
SJPF Ste Jean 48.59 304 *eP* **P 07 39 44.3 -0.7**
SJPF pmax pmax
comp=Z,69nm,0.8s,mb5.7
SJPF Ste Jean 48.59 304 *eP* **P 07 39 44.3 -0.7**
comp=Z,69nm,0.8s,mb5.7
ECHE Chera 48.61 299 P **P 07 39 46.7 +1.6**
comp=Z,19nm,0.6s,mb5.3,SNR=5.6
ECHE Chera 48.61 299 P **P 07 39 46.7 +1.6**
ECHE pmax pmax
comp=Z,19nm,0.6s,mb5.3
ECHE Chera 48.61 299 P **P 07 39 46.7 +1.6**
comp=Z,19nm,0.6s,mb5.3
SKP1 Kophill 48.62 316 *eP* **P 07 39 44.4 -0.8**
SKP1 Kophill 48.62 316 *eP* **P 07 39 44.4 -0.8**
IPRE Itoiz 48.70 304 P **P 07 39 47.0 +1.2**
comp=Z,117nm,1.5s,mb5.7,SNR=7.9
LRYF La Roche-sur-Y 48.79 309 *eP* **P 07 39 45.1 -1.4**
EALK Alkurruntz 48.80 304 P **P 07 39 48.5 +2.0**
comp=Z,26nm,0.6s,mb5.4,SNR=5.8
EALK Alkurruntz 48.80 304 P **P 07 39 48.5 +1.9**
comp=Z,26nm,0.6s,mb5.4
IUNC Unciti 48.81 304 P **P 07 39 47.8 +1.2**
comp=Z,34nm,0.8s,mb5.4,SNR=7.9
ELIZ Elizondo 48.81 304 P **P 07 39 48.4 +1.7**
comp=Z,149nm,1.5s,mb5.8,SNR=7.9
ELIZ Elizondo 48.81 304 P **P 07 39 48.4 +1.7**
ELIZ pmax pmax
comp=Z,149nm,1.5s,mb5.8
ELIZ Elizondo 48.81 304 P **P 07 39 48.4 +1.8**
comp=Z,149nm,1.5s,mb5.8
CART Cartagena 48.83 297 *i* P **P 07 39 46.4 -0.4**
CART Cartagena 48.83 297 *eP* **P 07 39 48.0 +1.2**
comp=Z,58nm,0.8s,mb5.7
IUSE Utxeti 48.84 304 P **P 07 39 48.6 +1.8**
comp=Z,39nm,1.1s,mb5.3,SNR=7.9
EARA Aranguren 48.87 304 P **P 07 39 49.4 +2.3**
comp=Z,43nm,0.6s,mb5.7,SNR=7.1
SIW Isle of Wight 48.88 314 *eP* **P 07 39 46.9 -0.3**
SIW Isle of Wight 48.88 314 *eP* **P 07 39 46.9 -0.3**
EMUR La Murta 48.99 297 P **P 07 39 50.0 +2.0**
comp=Z,52nm,0.9s,mb5.6,SNR=7.4
EMUR La Murta 48.99 297 P **P 07 39 50.0 +1.9**
comp=Z,52nm,0.9s,mb5.6
QIZ Qiongzhong 49.10 89 *eP* **P 07 39 50.8 +1.9**
QIZ XP sP 07 39 58.8 -3.2
QIZ PP PP 07 41 45.5 +2.8
QIZ S **S 07 46 53.0 +1.1**
QIZ SCS ScS 07 49 40.0 +1.3
QIZ AMB AMB
comp=Z,2μm,11.9s
QIZ LR LR
comp=N,3μm,18.6s,MS5.6
QIZ LR LR
comp=E,5μm,19.2s,MS5.6
QIZ LR LR
comp=Z,9μm,18.1s,MS5.8
QIZ Qiongzhong 49.10 89 *eP* **P 07 39 51.6 +2.7**
comp=Z,170nm,1.4s,mb5.9
QIZ LR LR
comp=Z,8μm,19.0s,MS5.7
ETOB Tobarra 49.14 298 P **P 07 39 49.5 +0.3**
comp=Z,59nm,0.8s,mb5.7,SNR=14
ETOB Tobarra 49.14 298 P **P 07 39 49.5 +0.3**
comp=Z,59nm,0.8s,mb5.7
SWN1 Swindon 49.22 315 *eP* **P 07 39 48.7 -1.0**
SWN1 Swindon 49.22 315 *eP* **P 07 39 48.7 -1.0**
KBI1 Birley Grange 49.23 318 *eP* **P 07 39 50.1 +0.2**
KBI1 Birley Grange 49.23 318 *eP* **P 07 39 50.1 +0.2**
JLP Les Platons 49.25 312 *eP* **P 07 39 49.6 -0.5**
JLP Les Platons 49.25 312 *eP* **P 07 39 49.6 -0.5**
BOD Bodaibo 49.30 36 *eP* **P 07 39 48.9 -1.5**
comp=Z,242nm,1.2s,mb6.1
BOD *e*S **S 07 46 53.1 -1.5**
BOD Bodaibo 49.30 36 *eP* **P 07 39 48.9 -1.5**
BOD *e* 07 46 53.1
BOD pmax pmax
comp=Z,242nm,1.2s,mb6.1
JVM Valle D.L. Mar 49.32 312 *eP* **P 07 39 49.2 -1.4**
JVM Valle D.L. Mar 49.32 312 *eP* **P 07 39 49.2 -1.4**
KWE Weaver Farm 49.39 317 *eP* **P 07 39 50.5 -0.6**
KWE Weaver Farm 49.39 317 *eP* **P 07 39 50.5 -0.6**
SWK Warminster 49.47 315 *eP* **P 07 39 51.7 +0.1**
SWK Warminster 49.47 315 *eP* **P 07 39 51.7 +0.1**
SGMF Saint Gilles 49.52 311 *eP* **P 07 39 50.7 -1.3**
comp=Z,173nm,0.7s,mb5.9
SGMF Saint Gilles 49.52 311 *eP* **P 07 39 50.7 -1.3**
SGMF pmax pmax
comp=Z,87nm,0.7s,mb5.9
SGMF Saint Gilles 49.52 311 *eP* **P 07 39 50.7 -1.3**
comp=Z,86nm,0.7s,mb5.9
WHN Wuhan 49.74 72 ⇑P **P 07 39 53.3 -0.5**
WHN PP PP 07 41 54.0 +5.5
WHN S **S 07 47 07.0 +6.2**
WHN AMB AMB
comp=Z,3μm,14.0s
WHN LR LR
comp=Z,18μm,16.6s,MS6.2
BJT Baijiatuau 49.75 60 *eP* **P 07 39 55.3 +1.5**
comp=Z,40μm,19.0s
BJT Baijiatuau 49.75 60 *eP* **P 07 39 55.3 +1.5**
BJT pmax pmax
comp=Z,49nm,0.8s
BJT MLR MLR
comp=Z,40μm,19.0s
BJT Baijiatuau 49.75 60 *eP* **P 07 39 55.3 +1.4**
comp=Z,49nm,0.8s,mb5.6
BJT LR LR
comp=Z,40μm,19.0s,MS6.4
HGH Gray Hill 49.85 315 *eP* **P 07 39 53.9 -0.7**
HGH AMb AMB 07 39 59.6
comp=Z,363nm,1.0s,mb6.3
HGH Gray Hill 49.85 315 *eP* **P 07 39 53.9 -0.7**
HGH AMb AMB 07 39 59.6
comp=Z,363nm,1.0s,mb6.3
ENIJ Nijar 49.86 296 P **P 07 39 54.1 -0.6**
comp=Z,72nm,0.9s,mb5.7,SNR=17
ENIJ Nijar 49.86 296 P **P 07 39 54.1 -0.6**
ENIJ pmax pmax
comp=Z,72nm,0.9s,mb5.7
ENIJ Nijar 49.86 296 P **P 07 39 54.1 -0.6**
comp=Z,72nm,0.9s,mb5.7
EVIA Vianos 49.89 298 P **P 07 39 56.4 +1.5**
comp=Z,322nm,0.4s,mb6.8,SNR=61
QUIF Quistinic 49.92 310 *eP* **P 07 39 53.5 -1.6**
comp=Z,429nm,1.0s,mb6.2
QUIF Quistinic 49.92 310 *eP* **P 07 39 53.5 -1.6**
QUIF pmax pmax
comp=Z,214nm,1.0s,mb6.1
QUIF Quistinic 49.92 310 *eP* **P 07 39 53.5 -1.6**
comp=Z,214nm,1.0s,mb6.1
HLM1 Long Mynd 49.97 316 *eP* **P 07 39 55.1 -0.4**
HLM1 AMb AMB 07 39 59.8
comp=Z,252nm,1.3s,mb6.1
HLM1 Long Mynd 49.97 316 *eP* **P 07 39 55.1 -0.4**
HLM1 AMb AMB 07 39 59.8
comp=Z,252nm,1.3s,mb6.1
ROSF Rostrenen 50.00 311 *eP* **P 07 39 54.2 -1.5**
comp=Z,404nm,1.1s,mb6.0
ROSF Rostrenen 50.00 311 *eP* **P 07 39 54.2 -1.5**
ROSF pmax pmax
comp=Z,202nm,1.1s,mb6.1
ROSF Rostrenen 50.00 311 *eP* **P 07 39 54.2 -1.5**
comp=Z,202nm,1.1s,mb6.1
MCH1 Michaelchurch 50.00 316 P **P 07 39 54.4 -1.3**
MCH1 AMb AMB 07 40 02.0
comp=Z,358nm,1.7s,mb6.1
MCH1 Michaelchurch 50.00 316 *eP* **P 07 39 54.3 -1.4**
MCH1 *eP* 07 39 54.4
MCH1 AMb AMB 07 40 02.0
comp=Z,358nm,1.7s,mb6.1
MCH1 Michaelchurch 50.00 316 *eP* **P 07 39 54.3 -1.4**
MCH1 *eP* 07 39 54.4
MCH1 AMb AMB 07 40 02.0
comp=Z,358nm,1.7s,mb6.1
EHUE Huescar 50.06 297 P **P 07 39 56.6 +0.4**
comp=Z,24nm,0.6s,mb5.4,SNR=32
EHUE Huescar 50.06 297 P **P 07 39 56.6 +0.4**
EHUE pmax pmax
comp=Z,24nm,0.6s,mb5.4
EHUE Huescar 50.06 297 P **P 07 39 56.6 +0.4**
comp=Z,24nm,0.6s,mb5.4
SSP1 Stoney Pound 50.10 316⇑*eP* **P 07 39 55.5 -1.0**
SSP1 Stoney Pound 50.10 316⇑*eP* **P 07 39 55.5 -1.0**
HTR Trewern Hill 50.17 316 *eP* **P 07 39 55.5 -1.5**
HTR AMb AMB 07 40 00.5
comp=Z,187nm,0.7s,mb6.2
HTR Trewern Hill 50.17 316 *eP* **P 07 39 55.5 -1.5**
HTR AMb AMB 07 40 00.5
comp=Z,187nm,0.7s,mb6.2
ELAN Lanestosa 50.20 304 P **P 07 40 00.1 +2.9**
comp=Z,72nm,0.9s,mb5.7
LRW Lerwick 50.21 326 *eP* **P 07 39 56.3 -1.0**
LRW Lerwick 50.21 326 *eP* **P 07 39 56.3 -1.0**
SBD1 Bryn Du 50.23 317 *eP* **P 07 39 56.6 -0.9**
SBD1 AMb AMB 07 40 03.7
comp=Z,347nm,1.4s,mb6.2
SBD1 Bryn Du 50.23 317 *eP* **P 07 39 56.6 -0.9**
SBD1 AMb AMB 07 40 03.7
comp=Z,347nm,1.4s,mb6.2
BJO Bjornoya 50.25 348 *eP* **P 07 39 59.5 +1.9**
BJO AMS AMS 08 05 08.3
comp=Z,17μm,17.3s,MS6.1
BBO1 Bothel 50.41 319 *eP* **P 07 39 58.8 -0.1**
BBO1 AMb AMB 07 40 06.4
comp=Z,83nm,1.2s,mb5.6
BBO1 Bothel 50.41 319 *eP* **P 07 39 58.8 -0.1**
BBO1 AMb AMB 07 40 06.4
comp=Z,83nm,1.2s,mb5.6
EBER Berja 50.41 296 P **P 07 39 59.8 +0.9**
comp=Z,112nm,0.8s,mb5.9,SNR=22
EBER Berja 50.41 296 P **P 07 39 59.8 +0.9**
comp=Z,112nm,0.8s,mb5.9
EBL Broad Law 50.42 321 *eP* **P 07 39 57.7 -1.2**
EBL AMb AMB 07 40 04.2
comp=Z,80nm,0.4s,mb6.1
EBL Broad Law 50.42 321 *eP* **P 07 39 57.7 -1.2**
EBL AMb AMB 07 40 04.2
comp=Z,80nm,0.4s,mb6.1
EKA Eskdalemuir Ar 50.43 320 P **P 07 39 57.6 -1.3**
comp=Z,18nm,0.4s,mb5.4,baz=98,slow=7.5,SNR=53
BHH Howats Hill 50.43 320 *eP* **P 07 39 57.6 -1.4**
BHH Howats Hill 50.43 320 *eP* **P 07 39 57.6 -1.4**
EQES Quesada 50.44 297 P **P 07 39 59.0 0.0**
comp=Z,158nm,0.9s,mb6.0,SNR=9.7
EQES Quesada 50.44 297 P **P 07 39 59.0 0.0**
comp=Z,158nm,0.9s,mb6.0
HEX Exmoor 50.44 314 *eP* **P 07 39 58.6 -0.4**
HEX Exmoor 50.44 314 *eP* **P 07 39 58.6 -0.4**
ESK Eskdalemuir 50.45 320 *eP* **P 07 39 57.5 -1.6**
ESK AMb AMB 07 40 04.7
comp=Z,117nm,1.7s,mb5.7
ESK Eskdalemuir 50.45 320 *eP* **P 07 39 57.5 -1.6**
ESK AMb AMB 07 40 04.7
comp=Z,117nm,1.7s,mb5.7
ESK Eskdalemuir 50.45 320 P **P 07 39 58.5 -0.6**
comp=Z,731nm,0.9s,mb6.7,SNR=12
ESK Eskdalemuir 50.45 320 *eP* **P 07 39 58.2 -0.9**
comp=Z,131nm,1.0s,mb5.9
ESK Eskdalemuir 50.45 320 P **P 07 39 58.7 -0.4**
ESK pmax pmax
comp=Z,130nm,1.0s,mb5.9
ESK Eskdalemuir 50.45 320 *eP* **P 07 39 58.2 -0.9**
comp=Z,131nm,1.0s,mb5.9
ESK LR LR
comp=Z,13μm,21.0s,MS5.9
EDI Edinburgh 50.52 321 *eP* **P 07 39 59.1 -0.5**
EDI Edinburgh 50.52 321 *eP* **P 07 39 59.1 -0.5**
MME1 Meikle Cairn 50.60 323 *eP* **P 07 39 58.9 -1.3**
MME1 Meikle Cairn 50.60 323 *eP* **P 07 39 58.9 -1.3**
EAU Auchinoon 50.65 321 *eP* **P 07 40 00.5 -0.2**
EAU AMb AMB 07 40 07.3
comp=Z,216nm,1.2s,mb6.0
EAU Auchinoon 50.65 321 *eP* **P 07 40 00.5 -0.2**
EAU AMb AMB 07 40 07.3
comp=Z,216nm,1.2s,mb6.0
BWH Wardlaw 50.69 320 *eP* **P 07 40 00.1 -0.9**
BWH Wardlaw 50.69 320 *eP* **P 07 40 00.1 -0.9**
HSA Swansea 50.70 315 *eP* **P 07 39 59.8 -1.2**
HSA Swansea 50.70 315 *eP* **P 07 39 59.8 -1.2**
MELI Melilla 50.70 294 *i* P **P 07 40 02.1 +1.1**
MCD Coleburn Disti 50.79 323 *eP* **P 07 40 00.5 -1.2**
MCD Coleburn Disti 50.79 323 *eP* **P 07 40 00.5 -1.2**
ECOG Cogollos-Vega 50.90 297 P **P 07 40 02.3 -0.2**
comp=Z,17nm,0.4s,mb5.3,SNR=20
WME Myndd Eilian 50.90 317 *eP* **P 07 40 02.2 -0.3**
WME AMb AMB 07 40 06.8
comp=Z,87nm,2.0s,mb5.3
WME Myndd Eilian 50.90 317 *eP* **P 07 40 02.2 -0.3**
WME AMb AMB 07 40 06.8
comp=Z,87nm,2.0s,mb5.3
ESDC Sonseca Array 50.90 300 P **P 07 40 02.2 -0.3**
comp=Z,47nm,1.0s,mb5.4,baz=62,slow=7.8,SNR=16
ESDC Sonseca Array 50.90 300 P **P 07 40 02.6 +0.1**
comp=Z,5.7nm,0.5s,mb4.8,SNR=16
ESDC Sonseca Array 50.90 300 P **P 07 40 02.6 +0.1**
comp=Z,5.7nm,0.4s,mb4.8
ESLA Sonseca Array 50.90 300 *eP* **P 07 40 03.0 +0.5**
comp=Z,22nm,1.0s,mb5.0
ESLA LR LR
comp=Z,60μm,19.0s,MS6.6
YRE Yr Eifl 50.94 317 *eP* **P 07 40 02.6 -0.2**
YRE AMb AMB 07 40 08.8
comp=Z,171nm,1.5s,mb5.8
YRE Yr Eifl 50.94 317 *eP* **P 07 40 02.6 -0.2**
YRE AMb AMB 07 40 08.8
comp=Z,171nm,1.5s,mb5.8
WLF1 Llynfaes 50.95 317 *eP* **P 07 40 02.5 -0.3**
WLF1 AMb AMB 07 40 05.3
comp=Z,141nm,1.2s,mb5.8
WLF1 Llynfaes 50.95 317 *eP* **P 07 40 02.5 -0.3**
WLF1 AMb AMB 07 40 05.3
comp=Z,141nm,1.2s,mb5.8
EBAN Banos Encina 50.95 298 P **P 07 40 03.4 +0.5**
comp=Z,110nm,0.7s,mb5.9,SNR=26
EBAN Banos Encina 50.95 298 P **P 07 40 03.4 +0.5**
EBAN pmax pmax
comp=Z,110nm,0.7s,mb5.9
EBAN Banos Encina 50.95 298 P **P 07 40 03.4 +0.6**
comp=Z,110nm,0.7s,mb5.9
EGUA Guajares 50.96 298 P **P 07 40 01.9 -1.1**
comp=Z,14nm,0.9s,mb4.9,SNR=7.9
EGUA Guajares 50.96 298 P **P 07 40 01.9 -1.1**
EGUA pmax pmax
comp=Z,14nm,0.9s,mb4.9
EGUA Guajares 50.96 298 P **P 07 40 01.9 -1.1**
comp=Z,14nm,0.9s,mb4.9
TIA Tai'an 50.98 65 ⇑P **P 07 40 02.5 -0.6**
TIA AP pP 07 40 10.0 -2.5
TIA S **S 07 47 10.0 -8.0**
TIA AMB AMB
comp=Z,81nm,0.8s,mb5.7
WCB1 Church Bay 51.04 317 *eP* **P 07 40 02.6 -1.0**
WCB1 Church Bay 51.04 317 *eP* **P 07 40 02.6 -1.0**
YRC Rhoscolyn 51.05 317 *eP* **P 07 40 02.8 -0.9**
YRC AMb AMB 07 40 10.5
comp=Z,236nm,1.6s,mb5.9
YRC Rhoscolyn 51.05 317 *eP* **P 07 40 02.8 -0.9**
YRC AMb AMB 07 40 10.5
comp=Z,236nm,1.6s,mb5.9
CSA1 St Austell 51.10 314 *eP* **P 07 40 03.2 -0.8**
CSA1 St Austell 51.10 314 *eP* **P 07 40 03.2 -0.8**
ERON Agron 51.12 296 P **P 07 40 04.1 -0.1**
comp=Z,90nm,0.8s,mb5.8,SNR=26
ERON Agron 51.12 296 P **P 07 40 04.1 -0.1**
comp=Z,90nm,0.8s,mb5.8
WIM Isle of Man 51.18 318 *eP* **P 07 40 03.8 -0.8**
WIM AMb AMB 07 40 11.6
comp=Z,297nm,1.4s,mb6.0
WIM Isle of Man 51.18 318 *eP* **P 07 40 03.8 -0.8**
WIM AMb AMB 07 40 11.6
comp=Z,297nm,1.4s,mb6.0
EAB Aberfoyle 51.19 321 *eP* **P 07 40 03.4 -1.3**
EAB AMb AMB 07 40 07.1
comp=Z,200nm,1.3s,mb5.9
EAB Aberfoyle 51.19 321 *eP* **P 07 40 03.4 -1.3**
EAB AMb AMB 07 40 07.1
comp=Z,200nm,1.3s,mb5.9
PAB San Pablo 51.21 300 P **P 07 40 04.4 -0.4**
GAL1 Galloway 51.26 319 *eP* **P 07 40 04.2 -1.1**
GAL1 Galloway 51.26 319 *eP* **P 07 40 04.2 -1.1**
LSZ Lusaka 51.28 216 P **P 07 40 06.4 +1.0**
comp=Z,26nm,0.9s,mb5.2,baz=36,slow=8.2,SNR=24
LSZ Lusaka 51.28 216 *eP* **P 07 40 06.9 +1.5**
comp=Z,205nm,1.3s,mb5.9
LSZ *ep*P pP 07 40 12.2 -2.6
LSZ Lusaka 51.28 216 *eP* **P 07 40 06.9 +1.5**
LSZ *e**PP pP 07 40 12.2 -2.6
LSZ pmax pmax
comp=Z,205nm,1.3s,mb5.9
LSZ MLR MLR
comp=Z,25μm,19.0s,MS6.3
LSZ Lusaka 51.28 216 *eP* **P 07 40 06.9 +1.5**
comp=Z,205nm,1.3s,mb5.9
LSZ *ep*P pP 07 40 12.2 -2.6
LSZ LR LR
comp=Z,25μm,19.0s,MS6.3
CCA1 Carnmenellis 51.31 313 *eP* **P 07 40 05.6 0.0**
CCA1 Carnmenellis 51.31 313 *eP* **P 07 40 05.6 0.0**
MVH1 Achvaich 51.34 323 *eP* **P 07 40 05.2 -0.6**
MVH1 Achvaich 51.34 323 *eP* **P 07 40 05.2 -0.6**
MDO Dochfour 51.36 323 *eP* **P 07 40 04.2 -1.8**
MDO Dochfour 51.36 323 *eP* **P 07 40 04.2 -1.8**
KGM Kluang 51.38 112 P **P 07 40 07.9 +1.8**
ELOJ Sierra Loja 51.38 297 P **P 07 40 05.6 -0.5**
comp=Z,33nm,0.7s,mb5.4,SNR=22
ELOJ Sierra Loja 51.38 297 P **P 07 40 05.6 -0.5**
ELOJ pmax pmax
comp=Z,33nm,0.7s,mb5.4
ELOJ Sierra Loja 51.38 297 P **P 07 40 05.6 -0.6**
comp=Z,33nm,0.7s,mb5.4
ELUQ Luque 51.41 297 P **P 07 40 06.1 -0.2**
comp=Z,28nm,0.7s,mb5.3,SNR=15
ELUQ Luque 51.41 297 P **P 07 40 06.1 -0.2**
ELUQ pmax pmax
comp=Z,28nm,0.7s,mb5.3
ELUQ Luque 51.41 297 P **P 07 40 06.1 -0.2**
comp=Z,28nm,0.7s,mb5.3
TOU Touzarine 51.41 294 *i* P **P 07 40 09.0 +2.6**
EARI Arriondas 51.49 305 P **P 07 40 09.7 +2.7**
comp=Z,53nm,0.9s,mb5.5
MPAL Palemas 51.52 294 *i* P **P 07 40 08.0 +0.8**
EADA Adamuz 51.56 298 P **P 07 40 07.6 +0.1**
comp=Z,77nm,0.8s,mb5.7,SNR=22
EADA Adamuz 51.56 298 P **P 07 40 07.6 0.0**
comp=Z,77nm,0.8s,mb5.7
GMK Mull of Kintyr 51.81 320 *eP* **P 07 40 08.8 -0.6**
GMK Mull of Kintyr 51.81 320 *eP* **P 07 40 08.8 -0.6**
HIA Hailar 51.86 48 P **P 07 40 09.5 -0.2**
HIA Hailar 51.86 48 *eP* **P 07 40 09.3 -0.4**
comp=Z,48μm,22.0s
HIA Hailar 51.86 48 *eP* **P 07 40 09.3 -0.4**
HIA pmax pmax
comp=Z,76nm,0.8s
HIA MLR MLR
comp=Z,48μm,22.0s
HIA Hailar 51.86 48 *eP* **P 07 40 09.3 -0.4**
comp=Z,76nm,0.8s,mb5.7
HIA LR LR
comp=Z,48μm,22.0s,MS6.5
RSC Scourie 51.91 324 *eP* **P 07 40 08.1 -2.0**
RSC Scourie 51.91 324 *eP* **P 07 40 08.1 -2.0**
GMM Mts of Mourne 51.93 318 *eP* **P 07 40 09.1 -1.2**
GMM Mts of Mourne 51.93 318 *eP* **P 07 40 09.1 -1.2**
REB Eisghbrachaidh 51.94 323 *eP* **P 07 40 08.8 -1.5**
REB Eisghbrachaidh 51.94 323 *eP* **P 07 40 08.8 -1.5**

EMIJ Mijas 51.96 296 P **P 07 40 09.5 -1.0**
comp=Z,107nm,0.8s,mb5.8,SNR=18
EMIJ Mijas 51.96 296 P **P 07 40 09.5 -0.9**
comp=Z,107nm,0.8s,mb5.8
GCL Cushendall 52.10 320 *e*P **P 07 40 09.9 -1.6**
GCL Cushendall 52.10 320 *e*P **P 07 40 09.9 -1.6**
DLF Lyons Farm 52.23 317⇑*i*P **P 07 40 09.9 -2.5**
ECAB El Cabril 52.23 298 P **P 07 40 12.8 +0.3**
comp=Z,108nm,0.6s,mb6.0,SNR=45
ECAB El Cabril 52.23 298 P **P 07 40 12.8 +0.3**
comp=Z,108nm,0.6s,mb6.0
REAL Reales 52.32 296 *e*P **P 07 40 13.0 -0.1**
LIJA Lijar 52.41 296 *e*P **P 07 40 12.0 -1.8**
DMUB Kingscourt 52.48 318 *e*P **P 07 40 11.7 -2.6**
ZFT Errachidia 52.48 290 *i* P **P 07 40 15.0 +0.7**
MDT Midelt 52.53 291 P **P 07 40 14.3 -0.4**
comp=Z,40nm,0.8s,mb5.4,baz=86,slow=8.7,SNR=36
EJIF Jimena Fronter 52.53 296 P **P 07 40 14.3 -0.4**
comp=Z,18nm,0.7s,mb5.1,SNR=8.8
EJIF Jimena Fronter 52.53 296 P **P 07 40 14.3 -0.4**
EJIF pmax pmax
comp=Z,18nm,0.7s,mb5.1
HSP Hornsund 52.65 349 *e*P **P 07 40 14.7 -0.8**
RRH Rhenigidale 52.66 323 *e*P **P 07 40 15.3 -0.4**
RRH Rhenigidale 52.66 323 *e*P **P 07 40 15.3 -0.4**
DCN Croghan 52.67 317⇑*i*P **P 07 40 13.6 -2.2**
ECAL Calabor 52.74 303 P **P 07 40 18.5 +2.3**
comp=Z,58nm,0.9s,mb5.5,SNR=15
ECAL Calabor 52.74 303 P **P 07 40 18.5 +2.2**
comp=Z,58nm,0.9s,mb5.5
PBRG Braganca 52.76 303 *e*P **P 07 40 17.0 +0.6**
ESPR Espera 52.77 297 P **P 07 40 14.2 -2.3**
comp=Z,83nm,1.0s,mb5.6,SNR=23
ESPR Espera 52.77 297 P **P 07 40 14.2 -2.3**
comp=Z,83nm,1.0s,mb5.6
IFR Ifrane 52.80 292 P **P 07 40 17.0 +0.3**
GIBL Gibalbin 52.86 296 *e*P **P 07 40 16.0 -1.2**
EPON Pontenova 52.90 305 P **P 07 40 18.1 +0.7**
comp=Z,77nm,1.0s,mb5.6,SNR=13
EPON Pontenova 52.90 305 P **P 07 40 18.1 +0.7**
comp=Z,77nm,1.0s,mb5.6
ERUA La Rua 52.99 304 P **P 07 40 18.3 +0.2**
comp=Z,22nm,0.6s,mb5.2,SNR=9.9
ERUA La Rua 52.99 304 P **P 07 40 18.3 +0.2**
ERUA pmax pmax
comp=Z,22nm,0.6s,mb5.3
CNIL Conil 53.01 296 *e*P **P 07 40 18.0 -0.3**
SCRT Cerro San Cris 53.06 296 *e*P **P 07 40 18.0 -0.6**
SFS San Fernando 53.12 296 *e*P **P 07 40 19.3 +0.3**
comp=Z,365nm,0.9s,mb6.3
SFS San Fernando 53.12 296 P **P 07 40 20.8 +1.8**
SFS pmax pmax
comp=Z,360nm,1.0s,mb6.3
SFS San Fernando 53.12 296 *e*P **P 07 40 19.3 +0.2**
comp=Z,365nm,0.9s,mb6.3
NJ2 Nanjing 53.17 70 *e*P **P 07 40 18.5 -0.9**
NJ2 AP pP 07 40 28.5 -0.4
NJ2 XP sP 07 40 33.3 +0.7
NJ2 PP PP 07 42 20.0 +0.4
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,4.8s
NJ2 LR LR
comp=N,4μm,13.4s,MS5.6
NJ2 LR LR
comp=E,2μm,17.5s,MS5.6
NJ2 LR LR
comp=Z,16μm,12.0s
EMIN Mina Concepcio 53.26 298 P **P 07 40 19.6 -0.5**
comp=Z,26nm,0.8s,mb5.2,SNR=16
EMIN Mina Concepcio 53.26 298 P **P 07 40 19.6 -0.5**
comp=Z,26nm,0.8s,mb5.2
TORD Torodi Ar. Bea 53.28 266 P **P 07 40 19.1 -1.2**
comp=Z,42nm,0.5s,mb5.6,baz=63,slow=7.5,SNR=100
TORD PKP2bc 08 10 48.6
comp=Z,2.0nm,1.1s,baz=262,slow=3.4,SNR=3.6
EBAD Badajoz 53.37 299 P **P 07 40 21.0 +0.1**
comp=Z,35nm,0.8s,mb5.3,SNR=9.7
EBAD Badajoz 53.37 299 P **P 07 40 21.0 +0.1**
comp=Z,35nm,0.8s,mb5.3
MTE Manteigas 53.54 301 *e*P **P 07 40 22.4 +0.3**
comp=Z,96nm,1.7s,mb5.5
MTE *e*S **S 07 47 57.5 +4.4**
MTE Manteigas 53.54 301 *e*P **P 07 40 24.0 +1.9**
comp=Z,78nm,0.9s,mb5.6
PVRL Vila Real 53.55 302 *e*P **P 07 40 23.1 +0.9**
PCBR Castelo Branco 53.56 300 *e*P **P 07 40 23.2 +0.9**
comp=Z,61nm,1.1s,mb5.4
PCAB Cabril 53.73 303 *e*P **P 07 40 26.0 +2.5**
comp=Z,57nm,1.2s,mb5.4
ELOB Lobios 53.73 303 P **P 07 40 25.2 +1.7**
comp=Z,48nm,0.7s,mb5.5,SNR=11
ELOB Lobios 53.73 303 P **P 07 40 25.2 +1.6**
comp=Z,48nm,0.7s,mb5.5
KIB El Ksiba 53.76 291 *i* P **P 07 40 24.0 +0.3**
PVIS Viseu 53.76 302 *e*P **P 07 40 25.0 +1.3**
comp=Z,56nm,1.0s,mb5.5
EGRO El Granado 53.94 298 P **P 07 40 26.7 +1.7**
comp=Z,14nm,0.7s,mb5.0,SNR=8.0
EGRO El Granado 53.94 298 P **P 07 40 26.7 +1.7**
comp=Z,14nm,0.7s,mb5.0
STS Santiago 53.97 304 P **P 07 40 27.8 +2.5**
comp=Z,76nm,0.9s,mb5.6,SNR=14
STS Santiago 53.97 304 P **P 07 40 27.8 +2.5**
STS pmax pmax
comp=Z,76nm,0.9s,mb5.6
STS Santiago 53.97 304 P **P 07 40 27.8 +2.6**
comp=Z,76nm,0.9s,mb5.6
DL2 Dalian 54.08 61⇑P **P 07 40 25.0 -1.1**
DL2 S **S 07 47 59.8 -0.7**
DL2 SCS ScS 07 50 08.8 -4.3
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
DL2 AMB AMB
comp=Z,880nm,9.8s
DL2 LR LR
comp=N,6μm,17.2s,MS6.0
DL2 LR LR
comp=E,9μm,16.7s,MS6.0
DL2 LR LR
comp=Z,11μm,18.0s,MS6.0
RTC Rabat Centre 54.12 293 *i* P **P 07 40 26.0 -0.4**
PBEJ Beja 54.15 298 *e*P **P 07 40 26.7 +0.1**
comp=Z,41nm,1.1s,mb5.3
TZC Tazercounte 54.22 291 *i* P **P 07 40 28.0 +0.9**
EMAZ Mazaricos 54.27 304 P **P 07 40 30.0 +2.5**
comp=Z,138nm,0.9s,mb5.9,SNR=16
EMAZ Mazaricos 54.27 304 P **P 07 40 30.0 +2.6**
comp=Z,138nm,0.9s,mb5.9
PTOM Tomar 54.31 300 *e*P **P 07 40 28.6 +0.8**
comp=Z,90nm,1.1s,mb5.6
MOE Montemor 54.44 299 *e*P **P 07 40 30.1 +1.4**
VAL Valentia 54.48 316⇓*i*S sS 07 48 21.2 -0.1
VAL Valentia 54.48 316 *e*P **P 07 40 25.1 -3.9**
VAL *i* S sS 07 48 21.2 -0.1
KBS Kingsbay 54.49 350 *e*P **P 07 40 20.4 -8.7**
KBS AMb AMB 07 40 32.9
comp=Z,127nm,1.0s,mb5.8
KBS *e*S **S 07 48 02.4 -3.6**
KBS *e*SS SS 07 51 55.7 +7.0
KBS AMS AMS 08 07 52.2
comp=Z,22μm,18.9s,MS6.2
AVE Averroes 54.72 292 P **P 07 40 31.0 +0.3**
QZH Quanzhou 54.83 78⇑*i*P **P 07 40 31.0 -0.6**
QZH S **S 07 48 04.0 -6.5**
QZH LR LR
comp=N,11μm,16.1s,MS6.2
QZH LR LR
comp=E,12μm,15.3s,MS6.2
QZH LR LR
comp=Z,19μm,15.8s,MS6.3
MORF Marmelete 54.89 298 *e*P **P 07 40 30.2 -1.8**
MORF *e*S **S 07 48 09.7 -1.6**
MORF *e*S **S 07 48 09.8 -1.6**
MORF AMS AMS 08 06 54.2
comp=N,4μm,16.5s
MORF Marmelete 54.89 298 *e*P **P 07 40 30.2 -1.8**
MORF *e*S **S 07 48 09.7 -1.6**
MORF *e*S **S 07 48 09.8 -1.5**
PTEO Sao Teotonio 54.90 298 *e*P **P 07 40 32.7 +0.6**
NRGR Nerungri 54.95 39 *e*P Px 07 40 17.5
NRGR S **S 07 48 05.9 -6.2**
NRGR pmax pmax
comp=Z,3.0nm,0.2s,mb5.0
NRGR smax
comp=E,48nm,1.2s
PLOU Loures 55.00 300 *e*P **P 07 40 34.1 +1.4**
LIS Lisbon 55.02 299 *e*P **P 07 40 31.1 -1.8**
LIS *e*S **S 07 48 10.9 -2.2**
LIS *e*S **S 07 48 11.4 -1.7**
LIS AMS AMS 08 08 13.6
comp=E,6μm,23.9s
LIS Lisbon 55.02 299 *e*P **P 07 40 31.1 -1.8**
LIS *e*S **S 07 48 10.9 -2.2**
LIS *e*S **S 07 48 11.4 -1.7**
LIS Lisbon 55.02 299 *e*P **P 07 40 31.1 -1.8**
LIS *e*S **S 07 48 10.9 -2.2**
CLNS Chul'man 55.05 38 *e*P **P 07 40 31.2 -1.9**
CLNS *e**PP pP 07 40 37.9 -4.7
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,34nm,0.9s,mb5.4
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS MLR MLR
comp=N,3μm,16.0s,MS6.3
CLNS MLR MLR
comp=E,20μm,16.0s,MS6.3
CLNS MLR MLR
comp=Z,26μm,16.0s,MS6.4
SNY Shenyang 55.11 57⇑P **P 07 40 32.5 -1.1**
SNY AP pP 07 40 44.5 +1.5
SNY XP sP 07 40 50.3 +3.6
SNY S **S 07 48 13.3 -1.0**
SNY SCS ScS 07 50 18.8 -1.7
SNY AMB AMB
comp=Z,40nm,2.3s,mb5.0
SNY LR LR
comp=N,18μm,18.6s
SNY LR LR
comp=Z,18μm,16.2s,MS6.2
SSE Sheshan 55.33 70 P **P 07 40 35.3 +0.1**
SSE AP pP 07 40 44.5 -0.2
SSE PCP PcP 07 41 36.0 +0.5
SSE S **S 07 48 17.0 -0.3**
SSE XS sS 07 48 32.5 -0.4
SSE SCS ScS 07 50 22.5 +0.4
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,1μm,8.8s
SSE LR LR
comp=N,8μm,20.6s,MS5.8
SSE LR LR
comp=E,4μm,20.6s,MS5.8
SSE LR LR
comp=Z,6μm,18.3s,MS5.7
JMIC Jan Mayen 55.70 339 *e* **P 07 40 40.0 +2.2**
JMIC AMS AMS 08 07 42.2
comp=Z,17μm,19.0s,MS6.2
COCO West Island 55.72 130 *e*P **P 07 40 39.7 +1.8**
comp=Z,172nm,1.1s,mb6.0
COCO West Island 55.72 130 *e*P **P 07 40 39.7 +1.8**
comp=Z,172nm,1.1s,mb6.0
COCO LR LR
comp=Z,12μm,19.0s,MS6.0
CN2 Changchun 56.19 54⇑P **P 07 40 41.0 -0.3**
CN2 *e*XP sP 07 40 50.3 -4.2
CN2 *e*S **S 07 48 27.0 -1.7**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,14μm,20.0s,MS6.2
CN2 LR LR
comp=E,16μm,20.0s,MS6.2
CN2 LR LR
comp=Z,26μm,19.0s,MS6.3
CIA Chichaoua 56.24 291 *i* P **P 07 40 43.0 +1.4**
TATO Taipei 57.32 77 PFAKE 07 41 00.0 +11
TATO LR LR
comp=Z,6μm,19.0s,MS5.7
YHNB Yeheng 57.32 77 *e*P **P 07 40 52.0 +2.7**
KSM Kuching 57.48 108 *e*P **P 07 40 52.3 +1.8**
KSM Kuching 57.48 108 *e*P **P 07 40 52.3 +1.9**
YAK Yakutsk 57.58 32 *e*P **P 07 40 49.4 -1.8**
comp=Z,109nm,1.2s,mb5.8
YAK *e*ScS ScS 07 50 37.3 -1.0
YAK Yakutsk 57.58 32 *e*P **P 07 40 49.4 -1.8**
YAK *e**PP pP 07 40 57.5 -3.2
YAK *e* 07 41 38.3
YAK *e* 07 43 01.1
YAK *e*PPP 07 44 23.2
YAK *e*S **S 07 48 54.5 +7.4**
YAK *e* 07 50 37.3
YAK *e*SS SS 07 52 37.3 0.0
YAK pmax pmax
comp=Z,109nm,1.2s,mb5.8
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,39nm,1.1s
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=Z,34nm,1.2s,mb5.2
YAK pmax pmax
comp=E,25nm,1.1s
YAK smax
comp=N,19nm,1.3s
YAK smax
comp=E,23nm,1.2s
YAK MLR MLR
comp=Z,40μm,25.0s,MS6.4
YAK MLR MLR
comp=N,4μm,15.0s
YAK MLR MLR
comp=E,27μm,21.0s
YAK Yakutsk 57.58 32 *e*P **P 07 40 50.3 -0.9**
comp=E,196nm,1.0s,mb6.1
YAK LR LR
comp=Z,40μm,21.0s,MS6.5
NACB Ninganchiao 57.67 78 P **P 07 40 52.0 +0.2**
NACB Ninganchiao 57.67 78 P **P 07 40 52.0 +0.2**
TIXI Tiksi 57.94 21 *e*P **P 07 40 46.6 -7.1**
TIXI *e**PP pP 07 41 01.6 -1.6
TIXI *e*S **S 07 48 39.7 -12**
TIXI *e*SS SS 07 52 36.8 -6.1
TIXI pmax pmax
comp=Z,1μm,2.5s,mb6.4
TIXI pmax pmax
comp=N,7.0nm,1.4s
TIXI pmax pmax
comp=Z,134nm,1.4s,mb5.8
TIXI pmax pmax
comp=E,56nm,1.6s
TIXI smax
comp=N,1μm,11.3s
TIXI smax
comp=E,2μm,14.9s
TIXI MLR MLR
comp=E,34μm,16.0s
TIXI MLR MLR
comp=Z,46μm,16.0s,MS6.7
TIXI MLR MLR
comp=N,13μm,23.0s
TIXI Tiksi 57.94 21⇑*i*P **P 07 40 52.1 -1.6**
TIXI LR LR
comp=Z,32μm,19.0s,MS6.5
INCN Inchon 58.23 61 *e*P **P 07 40 56.7 +1.0**
comp=Z,154nm,1.1s,mb5.9
INCN Inchon 58.23 61 *e*P **P 07 40 56.7 +1.0**
comp=Z,154nm,1.1s,mb5.9
INCN LR LR
comp=Z,20μm,19.0s,MS6.2
MDJ Mudanjiang 59.00 53 P **P 07 41 01.0 -0.1**
MDJ PP PP 07 43 11.5 -0.1
MDJ PCS PcS 07 45 52.5 +0.8
MDJ S **S 07 49 05.0 -0.6**
MDJ SS SS 07 53 02.5 +2.9
MDJ AMB AMB
comp=Z,24nm,2.2s,mb4.8
MDJ AMB AMB
comp=Z,1μm,11.8s
MDJ LR LR
comp=N,11μm,19.7s,MS6.0
MDJ LR LR
comp=E,3μm,21.3s,MS6.0
MDJ LR LR
comp=Z,13μm,18.2s,MS6.1
MDJ Mudanjiang 59.00 53 *e*P **P 07 41 01.3 +0.2**
comp=Z,46nm,1.0s,mb5.5
MDJ *e* 07 41 17.5
MDJ LR LR
comp=Z,11μm,21.0s,MS6.0
KS15 Wonju Array Si 59.20 61 *e*P **P 07 41 01.7 -0.8**
KS15 Wonju Array Si 59.20 61 *e*P **P 07 41 01.7 -0.8**
DAG Danmarks Havn 59.53 345*j* *i*P **P 07 41 02.6 -2.2**
comp=Z,47nm,0.8s,mb5.6
DAG pmax pmax
comp=Z,7μm,19.0s
DAG Danmarks Havn 59.53 345⇓*e*P **P 07 41 02.6 -2.2**
DAG pmax pmax
comp=Z,47nm,0.8s,mb5.6
DAG MLR MLR
comp=Z,7μm,19.0s,MS5.8
DAG Danmarks Havn 59.53 345 *e*Pdu **P 07 41 02.6 -2.2**
comp=Z,47nm,0.8s,mb5.6
DAG LR LR
comp=Z,7μm,19.0s,MS5.8
KLR Kul'dur 59.70 47⇓*i*P **P 07 41 01.8 -4.1**
KLR *e* 07 43 14.0
KLR *e*S **S 07 49 11.0 -3.6**
KLR *e* 07 50 47.5
KLR *e*SS SS 07 53 13.0 +2.5
KLR pmax pmax
comp=E,200nm,2.0s
KLR pmax pmax
comp=Z,340nm,2.0s,mb6.0
KLR pmax pmax
comp=E,1μm,13.0s
KLR pmax pmax
comp=Z,4μm,13.0s
KLR smax
comp=N,3μm,13.5s
KLR smax
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,62μm,13.0s,MS6.9
BORG Borgarnes 59.93 331 P **P 07 41 10.9 +3.4**
comp=Z,25nm,0.9s,mb5.2,baz=116,slow=7.8,SNR=3.0
BORG Borgarnes 59.93 331 *e*P **P 07 41 08.6 +1.1**
comp=Z,81nm,1.1s,mb5.7
BORG Borgarnes 59.93 331 *e*P **P 07 41 08.6 +1.1**
comp=Z,81nm,1.1s,mb5.7
BORG LR LR
comp=Z,10μm,19.0s,MS6.0
SCO Scoresbysund 60.06 338 *i* P **P 07 41 08.6 +0.2**
comp=Z,23nm,1.1s,mb5.1
SCO Scoresbysund 60.06 338 *i* P **P 07 41 08.6 +0.2**
SCO pmax pmax
comp=Z,23nm,1.1s,mb5.1
CVP Callao Caves 60.16 85⇑*e*P **P 07 41 11.0 +1.9**
KKM Kota Kinabalu 60.24 100 P **P 07 41 12.6 +3.0**
KKM Kota Kinabalu 60.24 100 *e*P **P 07 41 10.6 +1.0**
KKM Kota Kinabalu 60.24 100 *e*P **P 07 41 10.6 +1.0**
TSUM Tsumeb 60.44 223 P **P 07 41 12.1 +1.1**
comp=Z,32nm,0.8s,mb5.4,baz=16,slow=6.7,SNR=52
TSUM Tsumeb 60.44 223 *e*P **P 07 41 12.1 +1.1**
comp=Z,196nm,1.0s,mb6.1
TSUM *e*pP pP 07 41 16.9 -3.7
TSUM Tsumeb 60.44 223 *e*P **P 07 41 12.1 +1.1**
comp=Z,196nm,1.0s,mb6.1
TSUM *e*pP pP 07 41 16.9 -3.7
TSUM LR LR
comp=Z,16μm,20.0s,MS6.2
LBTB Lobatse 60.77 213 P **P 07 41 13.7 +0.4**
comp=Z,59nm,0.8s,mb5.8,baz=36,slow=6.0,SNR=43
LBTB Lobatse 60.77 213 *e*P **P 07 41 14.0 +0.7**
comp=Z,320nm,0.9s,mb6.5
LBTB *e*pP pP 07 41 19.5 -3.3
LBTB Lobatse 60.77 213 *e*P **P 07 41 14.0 +0.7**
LBTB *e**PP pP 07 41 19.5 -3.3
LBTB pmax pmax
comp=Z,320nm,0.9s,mb6.5
LBTB MLR MLR
comp=Z,13μm,22.0s,MS6.0
LBTB Lobatse 60.77 213 *e*P **P 07 41 14.0 +0.7**
comp=Z,320nm,0.9s,mb6.5
LBTB *e*pP pP 07 41 19.5 -3.3
LBTB LR LR
comp=Z,13μm,22.0s,MS6.0
VLA Vladivostok 60.93 54 *i* P **P 07 41 13.6 -0.7**
comp=Z,86nm,1.1s,mb5.8
VLA *e*S **S 07 49 29.3 -1.0**
VLA Vladivostok 60.93 54*d* *i*P **P 07 41 13.6 -0.7**
VLA *e* pP 07 41 22.2 -1.7
VLA *e*S **S 07 49 29.3 -1.0**
VLA pmax pmax
comp=Z,86nm,1.1s,mb5.8
VLA MLR MLR
comp=Z,18μm,18.6s,MS6.2
VLA Vladivostok 60.93 54 *i* Pr 07 41 13.4
DBIC Dimbokro 61.95 262 P **P 07 41 21.0 -0.2**
comp=Z,17nm,0.8s,mb5.2,baz=45,slow=8.4,SNR=16
DBIC LR LR 08 10 53.6
comp=Z,8μm,18.0s,MS6.0,baz=41,slow=39
DBIC Dimbokro 61.95 262 *e*P **P 07 41 22.2 +1.0**
comp=Z,11μm,20.0s
DBIC Dimbokro 61.95 262 *e*P **P 07 41 22.2 +1.0**
DBIC pmax pmax
comp=Z,131nm,1.0s
DBIC MLR MLR
comp=Z,11μm,20.0s
DBIC Dimbokro 61.95 262 *e*P **P 07 41 22.2 +1.0**
comp=Z,131nm,1.0s,mb6.0
DBIC LR LR
comp=Z,11μm,20.0s,MS6.0
HABR Khabarovsk 61.98 48 *i* P **P 07 41 19.4 -2.0**
comp=Z,109nm,0.8s,mb6.0
HABR Khabarovsk 61.98 48⇑*i*P **P 07 41 19.4 -2.0**
HABR *i* S **S 07 49 40.6 -3.0**
HABR pmax pmax
comp=Z,109nm,0.8s,mb6.0
HABR MLR MLR
comp=Z,22μm,18.0s,MS6.4
TSM Tawau 62.52 100 P **P 07 41 28.1 +3.0**
GUIM Jordan 63.74 92 *e*P **P 07 41 33.8 +0.6**
BOSA Boshof 63.99 211 P **P 07 41 34.5 -0.3**
comp=Z,44nm,0.9s,mb5.5,baz=33,slow=6.1,SNR=35
BOSA LR LR 08 12 20.5
comp=Z,7μm,19.0s,MS5.9,baz=32,slow=39
BOSA Boshof 63.99 211 *e*P **P 07 41 35.2 +0.4**
comp=Z,8μm,20.0s
BOSA Boshof 63.99 211 *e*P **P 07 41 35.2 +0.4**
BOSA pmax pmax
comp=Z,168nm,0.8s,mb6.1
BOSA MLR MLR
comp=Z,8μm,20.0s,MS5.9
BOSA Boshof 63.99 211 *e*P **P 07 41 35.1 +0.4**
comp=Z,168nm,0.8s,mb6.1
BOSA LR LR
comp=Z,8μm,20.0s,MS5.9
IPIL Ipil 64.99 95 *e*P **P 07 41 44.5 +3.2**
SUMG Summit 65.02 341 *e*P **P 07 41 41.3 -0.2**
comp=Z,191nm,0.9s,mb6.1
SUMG Summit 65.02 341 *e*P **P 07 41 41.3 -0.2**
comp=Z,191nm,0.9s,mb6.1
TBP Tagbilaran 65.28 92 *e*P **P 07 41 44.1 +0.9**
PAGZ Pagadian 65.68 94 *e*P **P 07 41 49.0 +3.3**
ALE Alert 65.92 353 P **P 07 41 46.6 -0.7**
comp=Z,654nm,0.9s,mb6.7,SNR=54
MSLP Maasin 65.96 91 *e*P **P 07 41 50.3 +2.7**
BUKP Musuan 67.15 93 *e*P **P 07 41 58.7 +3.5**
MAJO Matsushiro 67.39 60 *e*P **P 07 41 55.5 -1.2**
comp=Z,67nm,0.9s,mb5.7
MAJO Matsushiro 67.39 60 *e*P **P 07 41 55.5 -1.2**
MAJO *e* 07 42 13.1
MAJO pmax pmax
comp=Z,67nm,0.9s,mb5.7
MAJO MLR MLR
comp=Z,7μm,20.0s,MS5.9
MAJO Matsushiro 67.39 60 *e*P **P 07 41 55.5 -1.2**
comp=Z,67nm,0.9s,mb5.7
MAJO *e* 07 42 13.1
MAJO LR LR
comp=Z,7μm,20.0s,MS5.9
MAT Matsushiro 67.39 60 P **P 07 41 55.1 -1.6**
MAT S S 07 50 45.0 -5.3
MAT Matsushiro 67.39 60 *e*P **P 07 41 55.0 -1.7**
MAT *e*S S 07 50 46.0 -4.3
MAT pmax pmax
comp=Z,41nm,1.0s,mb5.4

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MAT                                   MLR   MLR
     comp=Z,7µm,19.0s,MS5.9
MAT  Matsushiro      67.39  60 eP          P     07 41 55.0 -1.7
     comp=Z,41nm,1.0s,mb5.4
MAT                                   eS    S     07 50 46.0 -4.3
MAT                                   LR    LR
     comp=Z,7µm,19.0s,MS5.9
MJAR Matsushiro Arr  67.39  60 P           P     07 41 55.4 -1.3
     comp=Z,20nm,0.9s,mb5.2,baz=286,slow=5.8,SNR=28
MJAR                                  PKP2ab      08 10 26.2
     comp=Z,0.4nm,0.3s,baz=122,slow=20,SNR=4.0
MJAR                                  LR    LR    08 13 56.8
     comp=Z,5µm,19.2s,MS5.8,baz=290,slow=38
YSS  Yuzh-Sakhalins  67.39  48 eP          P     07 41 55.5 -1.2
     comp=Z,149nm,0.7s,mb6.1
YSS                                   i S   S     07 50 48.0 -2.4
YSS  Yuzh-Sakhalins  67.39  48α iP         P     07 41 56.0 -0.7
YSS                                   i *PP pP    07 42 07.0 +0.6
YSS                                   e           07 44 24.0
YSS                                   ePPP        07 46 07.0
YSS                                   i S   S     07 50 48.0 -2.4
YSS                                   ePPS        07 51 24.0
YSS                                   eSS   SS    07 55 12.0 +1.4
YSS                                   pmax  pmax
     comp=E,80nm,1.0s
YSS                                   pmax  pmax
     comp=Z,110nm,1.0s,mb5.8
YSS                                   pmax  pmax
     comp=Z,2µm,8.0s
YSS                                   MLR   MLR
     comp=E,24µm,17.0s
YSS                                   MLR   MLR
     comp=Z,23µm,17.0s,MS6.5
YSS  Yuzh-Sakhalins  67.39  48 eP          P     07 41 55.5 -1.3
     comp=Z,149nm,0.7s,mb6.1
YSS                                   LR    LR
     comp=Z,27µm,20.0s,MS6.5
SEY  Seymchan        67.81  29 eP          P     07 41 58.5 -0.9
SEY  Seymchan        67.81  29 eP          P     07 41 58.8 -0.6
SEY                                           07 44 26.6
SEY                                   ePPP        07 46 11.0
SEY                                   eS    S     07 50 50.4 -5.0
SEY                                           07 51 49.1
SEY                                   SS    SS    07 55 20.2 +3.1
SEY                                   pmax  pmax
     comp=N,60nm,0.8s
SEY                                   pmax  pmax
     comp=Z,200nm,0.8s,mb6.2
SEY                                   pmax  pmax
     comp=E,30nm,0.6s
SEY                                   smax
     comp=N,5µm,24.5s
SEY                                   smax
     comp=E,740nm,13.6s
SEY                                   MLR   MLR
     comp=Z,105µm,17.0s,MS7.1
SEY                                   MLR   MLR
     comp=N,13µm,15.0s,MS7.0
SEY                                   MLR   MLR
     comp=E,71µm,19.0s,MS7.0
MA2  Magadan         68.13  33 eP          P     07 42 00.1 -1.3
     comp=E,101nm,0.9s,mb5.8
MA2  Magadan         68.13  33 eP          P     07 42 00.7 -0.7
MA2                                   pmax  pmax
     comp=Z,116nm,1.0s,mb5.9
MA2                                   MLR   MLR
     comp=Z,19µm,18.0s,MS6.4
MA2  Magadan         68.13  33 eP          P     07 42 00.1 -1.2
     comp=Z,101nm,0.9s,mb5.8
MA2                                   LR    LR
     comp=Z,20µm,20.0s,MS6.3
SUR  Sutherland      69.22 212 P           P     07 42 08.7 +0.6
     comp=Z,89nm,1.1s,mb5.6,baz=30,slow=2.7,SNR=7.8
SUR  Sutherland      69.22 212 eP          P     07 42 10.3 +2.2
     comp=Z,124nm,1.0s,mb5.8
SUR  Sutherland      69.22 212 eP          P     07 42 10.3 +2.2
     comp=Z,124nm,1.0s,mb5.8
SUR                                   LR    LR
     comp=Z,14µm,19.0s,MS6.2
SFJD Kangerlussuaq   70.93 337 P           P     07 42 19.0 +0.3
     comp=Z,9.2nm,0.4s,mb5.0,baz=62,slow=7.8,SNR=6.6
SFJD Kangerlussuaq   70.93 337 i P          P     07 42 18.1 -0.5
     comp=Z,40nm,1.0s,mb5.3
SFJD                                  i           07 51 37.8
SFJD                                  i           07 52 26.5
SFJD
     comp=Z,11µm,18.0s
SFJD Kangerlussuaq   70.93 337 i P          P     07 42 18.1 -0.5
SFJD                                  i           07 51 37.8
SFJD                                  pmax  pmax
     comp=Z,40nm,1.0s,mb5.3
SFJD                                  MLR   MLR
     comp=Z,11µm,18.0s,MS6.2
BILL Bilibino        71.12  22 eP          P     07 42 19.0 -0.8
     comp=Z,168nm,1.3s,mb5.8
BILL Bilibino        71.12  22 ePcP        PcP   07 42 38.2 -1.6
BILL Bilibino        71.12  22c iP         P     07 42 20.2 +0.4
BILL                                  e           07 42 26.5
BILL                                  e           07 42 38.2
BILL                                  e           07 45 00.3
BILL                                  i S   S     07 51 26.9 -7.4
BILL                                  eSS   SS    07 56 07.1 -0.9
BILL                                  pmax  pmax
     comp=Z,214nm,2.5s,mb5.6
BILL                                  MLR   MLR
     comp=Z,35µm,16.0s,MS6.7
BILL Bilibino        71.12  22 eP          P     07 42 19.0 -0.8
     comp=Z,168nm,1.3s,mb5.8
BILL                                  LR    LR
     comp=Z,12µm,19.0s,MS6.2
PET  Petropavlovsk   74.69  38 eP          P     07 42 40.6 -0.3
     comp=Z,700nm,17.3s
PET  Petropavlovsk   74.69  38 eP          P     07 42 40.6 -0.3
PET                                   e           07 45 30.8
PET                                   eS    S     07 52 11.2 -3.7
PET                                   ePS         07 52 44.3
PET                                   eSS   SS    07 56 58.2 -4.3
PET                                   pmax  pmax
     comp=Z,2µm,11.3s
PET                                   pmax  pmax
     comp=Z,77nm,1.4s,mb5.4
PET                                   pmax  pmax
     comp=Z,700nm,17.3s
PET                                   smax
     comp=N,2µm,20.2s
PET                                   MLR   MLR
     comp=Z,17µm,18.0s,MS6.4
PET                                   MLR   MLR
     comp=E,13µm,17.0s,MS6.4
PET                                   MLR   MLR
     comp=Z,16µm,18.0s
PET                                   MLR   MLR
     comp=N,8µm,17.0s,MS6.4
PET                                   MLR   MLR
     comp=E,11µm,19.0s
PET                                   MLR   MLR
     comp=N,8µm,15.0s
PET  Petropavlovsk   74.69  38 PFAKE          07 42 50.0 +9.1
PET                                   LR    LR
     comp=Z,17µm,19.0s,MS6.4
RES  Resolute Bay    75.82 353 eP          P     07 42 46.2 -1.2
     comp=Z,35nm,1.0s,mb5.2
RES  Resolute Bay    75.82 353 eP          P     07 42 46.2 -1.2
RES                                   pmax  pmax
     comp=Z,35nm,1.0s,mb5.2
RES  Resolute Bay    75.82 353 eP          P     07 42 46.2 -1.2
     comp=Z,35nm,1.0s,mb5.2
ASCN Ascension       77.41 254 PFAKE          07 43 10.0 +14
ASCN                                  LR    LR
     comp=Z,5µm,19.0s,MS5.9
TNA  Tin City        80.50  17 eP          P     07 43 12.7 -0.6
     comp=Z,27nm,0.8s,mb5.2
TNA  Tin City        80.50  17 eP          P     07 43 12.7 -0.6
     comp=Z,27nm,0.8s,mb5.2
TNA                                   ePP   PP    07 46 10.8 -6.0
TNA                                   LR    LR
     comp=Z,14µm,20.0s,MS6.3
GUMO Guam            82.02  79 PFAKE          07 43 30.0 +8.6
GUMO                                  LR    LR
     comp=Z,2µm,20.0s,MS5.5
MUN  Mundaring       82.22 132 eS          S     07 53 34.0 -1.6
MUN  Mundaring       82.22 132 eP          P     07 43 23.7 +1.2
MUN                                   eS    S     07 53 34.0 -1.6
FX1  Attu Island--F  82.23  33 eP          P     07 43 21.4 -1.1
FX1  Attu Island--F  82.23  33 eP          P     07 43 21.4 -1.1
SMY  Shemya          82.77  33 PFAKE          07 43 40.0 +15
SMY                                   LR    LR
     comp=Z,16µm,19.0s,MS6.4
KLBR Kellerberrin    82.99 131 eP          P     07 43 27.3 +0.8
     comp=Z,25nm,0.8s,mb5.3
INK  Inuvik          83.57   4 P           P     07 43 28.1 -1.5
     comp=Z,26nm,1.0s,mb5.3,baz=22,slow=7.5,SNR=33
INK  Inuvik          83.57   4 eP          P     07 43 28.4 -1.1
     comp=Z,76nm,1.2s,mb5.7
INK  Inuvik          83.57   4 eP          P     07 43 28.4 -1.1
INK                                   pmax  pmax
     comp=Z,76nm,1.2s
INK  Inuvik          83.57   4 eP          P     07 43 28.4 -1.1
     comp=Z,76nm,1.2s,mb5.7
COLA College         85.35  10 eP          P     07 43 38.8 +0.3
     comp=Z,15µm,20.0s
COLA                                  epP   pP    07 43 44.7 -3.7
COLA College         85.35  10 eP          P     07 43 38.8 +0.3
COLA                                  e*SP  sP    07 43 48.7 -3.3
COLA                                  pmax  pmax
     comp=Z,30nm,0.8s,mb5.5
COLA                                  MLR   MLR
     comp=Z,15µm,20.0s,MS6.4
COLA College         85.35  10 eP          P     07 43 38.8 +0.3
     comp=Z,30nm,0.8s,mb5.5
COLA                                  epP   pP    07 43 44.7 -3.7
COLA                                  esP   sP    07 43 48.7 -3.3
COLA                                  LR    LR
     comp=Z,15µm,20.0s,MS6.4
ILAR Eielson Array   85.60  10 P           P     07 43 38.0 -1.8
     comp=Z,5.7nm,0.8s,mb4.9,baz=328,slow=3.9,SNR=43
ILAR                                  PP    PP    07 46 56.8 -1.9
     comp=Z,4.3nm,0.9s,baz=339,slow=5.3,SNR=5.4
ILAR                                  PKKPbc PKKPbc 08 01 42.4 +0.1
     comp=Z,1.1nm,0.7s,baz=185,slow=2.2,SNR=11
ILAR                                  PKPPKP      08 09 47.6
     comp=Z,0.8nm,1.0s,baz=202,slow=4.6,SNR=4.2
ILAR                                  LR    LR    08 30 19.9
     comp=Z,12µm,18.1s,MS6.3,baz=347,slow=42
ILAR Eielson Array   85.60  10 PP          PP    07 46 56.8 -1.8
ILAR Eielson Array   85.60  10 P           P     07 43 38.0 -1.7
ILAR                                          07 46 56.8
MCK  McKinley        86.23  11 eP          P     07 43 43.5 +0.6
MCK                                   pmax  pmax
     comp=Z,30nm,0.9s,mb5.5
MCK                                   MLR   MLR
     comp=Z,4µm,20.0s,MS5.9
MCK  McKinley        86.23  11 eP          P     07 43 43.5 +0.6
     comp=Z,30nm,0.9s,mb5.5
MCK                                   LR    LR
     comp=Z,4µm,20.0s,MS5.9
DAWY Dawson          87.25   7 eP          P     07 43 48.8 +0.9
DAWY Dawson          87.25   7 eP          P     07 43 48.8 +0.9
SVW2 Sparrevohn      87.29  15 eP          P     07 43 49.5 +1.5
ADK  Adak            87.58  30 PFAKE          07 44 00.0 +11
ADK                                   LR    LR
     comp=Z,8µm,21.0s,MS6.1
SML  Sawmill         88.13  12 eP          P     07 43 53.0 +1.0
SML  Sawmill         88.13  12 eP          P     07 43 53.0 +1.0
PMR  Palmer          88.18  12 eP          P     07 43 52.9 +0.6
     comp=Z,108nm,1.6s,mb5.8
PMR  Palmer          88.18  12 eP          P     07 43 52.9 +0.6
PMR                                   pmax  pmax
     comp=Z,108nm,1.6s,mb5.8
FIB  Fire Island     88.38  13 eP          P     07 43 54.4 +1.2
     comp=Z,5µm,20.0s
FIB  Fire Island     88.38  13 eP          P     07 43 54.4 +1.2
FIB                                   pmax  pmax
     comp=Z,79nm,1.0s,mb5.9
FIB                                   MLR   MLR
     comp=Z,5µm,20.0s,MS5.9
FIB  Fire Island     88.38  13 eP          P     07 43 54.4 +1.2
     comp=Z,79nm,1.0s,mb5.9
FIB                                   LR    LR
     comp=Z,5µm,20.0s,MS5.9
WRA  Warramunga Arr  88.81 113 P           P     07 43 55.9 +0.7
     comp=Z,36nm,0.9s,mb5.7,baz=314,slow=4.1,SNR=157
WRA                                   PKKPbc PKKPbc 08 01 35.6 +1.0
     comp=Z,1.5nm,0.8s,baz=113,slow=2.6,SNR=9.1
WRAB Tennant Creek   88.81 113 P           P     07 43 57.3 +2.0
     comp=Z,389nm,0.7s,mb6.8,SNR=21
WRAB Tennant Creek   88.81 113 i P          P     07 43 55.7 +0.4
WRAB Tennant Creek   88.81 113c iP          P     07 43 55.7 +0.4
WRAB Tennant Creek   88.81 113 PFAKE          07 44 10.0 +15
WRAB                                  LR    LR
     comp=Z,2µm,19.0s,MS5.5
SLKM Skilak Lake     88.97  13 eP          P     07 43 57.2 +1.2
SLKM                                  e*PP  pP    07 44 06.3 +0.3
DIV  Divide          89.20  11 eP          P     07 44 01.9 +4.8
     comp=Z,73nm,1.0s,mb6.0
DIV                                   LR    LR
     comp=Z,26µm,19.0s,MS6.7
YKW3 Yellowknife Ar  89.39 356 eP          P     07 43 57.0 -1.0
YKW3 Yellowknife Ar  89.39 356 eP          P     07 43 57.0 -1.0
YKW3                                  epP   pP    07 44 07.8 -0.2
YKA  Yellowknife Ar  89.46 356 P           P     07 43 57.6 -0.7
     comp=Z,40nm,0.8s,mb5.8,baz=359,slow=4.8,SNR=192
YKA                                   PKKP  PKKPbc 08 01 32.9 0.0
     comp=Z,0.7nm,0.9s,baz=186,slow=2.6,SNR=7.7
YKA                                   PKPPKP      08 09 39.7
     comp=Z,0.4nm,0.9s,baz=138,slow=2.6,SNR=3.7
YKA                                   LR    LR    08 30 23.6
     comp=Z,10µm,18.2s,MS6.3,baz=0.0,slow=40
YKA  Yellowknife Ar  89.46 356 P           P     07 43 57.6 -0.7
YKA                                   PKKP  PKKPbc 08 01 32.9 0.0
YKA                                   P'P'        08 09 39.7
YKA                                   LR    LR    08 30 23.6
FCC  Fort Churchill  90.14 345 eP          P     07 44 00.6 -0.9
     comp=Z,31nm,0.8s,mb5.7
FCC  Fort Churchill  90.14 345 eP          P     07 44 00.6 -0.9
FCC                                   pmax  pmax
     comp=Z,31nm,0.8s,mb5.7
FCC  Fort Churchill  90.14 345 eP          P     07 44 00.6 -0.9
     comp=Z,31nm,0.8s,mb5.7
UNV  Unalaska Valle  90.19  24 PFAKE          07 44 10.0 +8.3
UNV                                   LR    LR
     comp=Z,35µm,19.0s,MS6.8
ASAR Alice Springs   90.34 117 P           P     07 44 02.5 +0.1
     comp=Z,18nm,0.9s,mb5.4,baz=305,slow=4.3,SNR=31
ASAR                                  PKKPbc PKKPbc 08 01 31.8 +1.0
     comp=Z,1.5nm,1.1s,baz=89,slow=3.5,SNR=4.1
KDAK Kodiak Island   90.95  15 P           P     07 44 05.3 +0.1
     comp=Z,40nm,0.8s,mb5.8,baz=8.9,slow=3.9,SNR=11
KDAK Kodiak Island   90.95  15 P           P     07 44 05.3 +0.1
TRIS Tristan da Cun  91.70 228 PFAKE          07 44 20.0 +11
TRIS                                  LR    LR
     comp=Z,9µm,20.0s,MS6.2
LBNH Lisbon          94.11 326 PFAKE          07 44 30.0 +10
LBNH                                  LR    LR
     comp=Z,8µm,21.0s,MS6.2
SIT  Sitka           94.55   7 PFAKE          07 44 30.0 +8.1
SIT                                   LR    LR
     comp=Z,9µm,20.0s,MS6.2
PMG  Port Moresby    94.65  98 eP          P     07 44 24.7 +2.4
PMG                                   pmax  pmax
     comp=Z,43nm,1.2s
PMG                                   MLR   MLR
     comp=Z,1µm,20.0s
PMG  Port Moresby    94.65  98 eP          P     07 44 24.7 +2.4
     comp=Z,43nm,1.2s,mb5.8
PMG                                   LR    LR
     comp=Z,1µm,20.0s,MS5.5
MIV  Mineville/With  95.02 327 eP          P     07 44 23.3 -0.7
MIV  Mineville/With  95.02 327 eP          P     07 44 23.3 -0.8
MIV                                   epP   pP    07 44 34.0 0.0
RCBR Riachuelo       95.11 266 PFAKE          07 44 40.0 +16
RCBR                                  LR    LR
     comp=Z,8µm,20.0s,MS6.2
LONY Lake Ozonia     95.12 327 eP          P     07 44 24.2 -0.3
LONY Lake Ozonia     95.12 327 eP          P     07 44 24.2 -0.2
LONY                                  epP   pP    07 44 34.3 -0.2
WES  Weston          95.14 324 PFAKE          07 44 40.0 +15
WES                                   LR    LR
     comp=Z,4µm,19.0s,MS5.9
HRV  Harvard--Oak R  95.17 324 PFAKE          07 44 40.0 +15
HRV                                   LR    LR
     comp=Z,5µm,19.0s,MS6.0
NCB  Newcomb         95.43 327 eP          P     07 44 25.4 -0.5
     comp=Z,23nm,0.8s,mb5.7
NCB                                   LR    LR
     comp=Z,4µm,19.0s,MS5.9
FFC  Flin Flon       95.51 348 eP          P     07 44 25.6 -0.7
     comp=Z,28nm,1.1s,mb5.6
FFC  Flin Flon       95.51 348 eP          P     07 44 25.6 -0.7
FFC                                   e           07 48 15.1
FFC                                   pmax  pmax
     comp=Z,28nm,1.1s,mb5.6
FFC                                   MLR   MLR
     comp=Z,12µm,20.0s,MS6.4
FFC  Flin Flon       95.51 348 eP          P     07 44 25.6 -0.6
     comp=Z,28nm,1.1s,mb5.6
FFC                                   ePP   PP    07 48 15.1 -2.2
FFC                                   LR    LR
     comp=Z,12µm,20.0s,MS6.4
MAW  Mawson          95.52 178 P           P     07 44 26.1 -0.2
     comp=Z,8.1nm,0.9s,mb5.2,baz=273,slow=17,SNR=2.1
MAW                                   LR    LR    08 24 06.3
     comp=Z,6µm,19.3s,MS6.0,baz=339,slow=33
SADO Sadowa          97.10 330 P           P     07 44 33.0 -0.5
     comp=Z,7.3nm,1.0s,mb5.1,baz=13,slow=8.6,SNR=3.1
SADO Sadowa          97.10 330 P           P     07 44 33.0 -0.5
WAKE Wake Island     97.42  64 PFAKE          07 44 50.0 +15
WAKE                                  LR    LR
     comp=Z,3µm,20.0s,MS5.8
SYO  Syowa Base      97.65 186 eP          P     07 44 41.9 +5.9
SYO  Syowa Base      97.65 186 epP         pP    07 44 46.3 +0.3
BBSR BB Station      98.12 313 PFAKE          07 44 50.0 +12
BBSR                                  LR    LR
     comp=Z,3µm,20.0s,MS5.8
ULM  Lac du Bonnet   98.32 343 P           P     07 44 38.1 -0.9
     comp=Z,2.8nm,0.8s,mb4.8,baz=36,slow=5.3,SNR=6.8
ULM                                   LR    LR    08 34 53.9
     comp=Z,10µm,20.1s,MS6.3,baz=21,slow=39
EDM  Edmonton        98.57 354 eP          P     07 44 39.7 -0.4
EDM  Edmonton        98.57 354 eP          P     07 44 39.7 -0.3
EYMN Ely             99.12 339 PFAKE          07 44 50.0 +7.4
EYMN                                  LR    LR
     comp=Z,10µm,19.0s,MS6.3
ERPA Erie            99.56 329 PFAKE          07 45 00.0 +15
ERPA                                  LR    LR
     comp=Z,6µm,22.0s,MS6.0
STKA Stephens Creek  100.24 121 P          Pdif  07 44 48.1 +0.6
     comp=Z,4.6nm,0.8s,baz=274,slow=6.0,SNR=4.1
STKA Stephens Creek  100.24 121 ePdif      Pdif  07 44 47.5 0.0
AAM  Ann Arbor       101.03 331 PFAKE          07 45 00.0 +8.9
AAM                                   LR    LR
     comp=Z,6µm,22.0s,MS6.0
CBN  Corbin          101.34 325 PFAKE          07 45 00.0 +7.6
CBN                                   LR    LR
     comp=Z,7µm,20.0s,MS6.2
MCWV Mont Chateau    101.43 327 PFAKE          07 45 00.0 +7.2
MCWV                                  LR    LR
     comp=Z,8µm,20.0s,MS6.2
DGMT Dagmar          101.90 347 ePdif      Pdif  07 44 56.5 +1.6
     comp=Z,17nm,1.0s
DGMT                                  LR    LR
     comp=Z,9µm,20.0s,MS6.3
ACSO Alum Creek Sta  102.43 330 PFAKE          07 45 10.0 +13
ACSO                                  LR    LR
     comp=Z,4µm,19.0s,MS6.0
CASY Casey           102.53 160 PFAKE          07 45 10.0 +12
CASY                                  LR    LR
     comp=Z,3µm,19.0s,MS5.8
EGMT Eagleton        103.27 351 PFAKE          07 45 10.0 +9.0
EGMT                                  LR    LR
     comp=Z,8µm,20.0s,MS6.2
MIDW Midway          103.63  47 PFAKE          07 45 10.0 +7.4
MIDW                                  LR    LR
     comp=Z,8µm,21.0s,MS6.2
NEW  Newport         103.79 356 Pdiff      Pdif  07 45 04.1 +0.8
     comp=Z,4.6nm,0.9s,baz=356,slow=6.2,SNR=2.4
NEW  Newport         103.79 356 eP         Pdif  07 45 05.0 +1.7
     comp=Z,15µm,22.0s
NEW  Newport         103.79 356 eP         Pdif  07 45 05.0 +1.7
NEW                                   pmax  pmax
     comp=Z,5.0nm,0.8s
NEW                                   MLR   MLR
     comp=Z,15µm,22.0s
NEW  Newport         103.79 356 ePdif      Pdif  07 45 05.0 +1.7
     comp=Z,5.0nm,0.8s
NEW                                   LR    LR
     comp=Z,15µm,22.0s,MS6.5
LAO  LASA Array      104.00 348 PFAKE          07 45 20.0 +16
LAO                                   LR    LR
     comp=Z,12µm,20.0s,MS6.4
OCWA Octopus Mounta  104.49   1 PFAKE          07 45 20.0 +14
OCWA                                  LR    LR
     comp=Z,11µm,19.0s,MS6.4
MSO  Missoula        104.95 353 PFAKE          07 45 20.0 +12
MSO                                   LR    LR
     comp=Z,6µm,20.0s,MS6.2
WCI  Wyandotte Cave  105.53 331 PFAKE          07 49 40.0 +16
WCI                                   LR    LR
     comp=Z,5µm,21.0s,MS6.0
HAWA Hanford         105.78 357 PFAKE          07 49 40.0 +15
HAWA                                  LR    LR
     comp=Z,993nm,21.0s,MS5.3
BOZ  Bozeman (W)     105.85 352 ePKiKP     PKiKP 07 49 26.1 +1.1
BOZ                                   LR    LR
     comp=Z,8µm,19.0s,MS6.3
HNR  Honiara         105.91  92 PFAKE          07 49 40.0 +15
HNR                                   LR    LR
     comp=Z,2µm,19.0s,MS5.6
RSSD Black Hills     106.02 346 PFAKE          07 49 40.0 +15
RSSD                                  LR    LR
     comp=Z,6µm,20.0s,MS6.1
NHSC New Hope        106.71 323 PFAKE          07 49 40.0 +13
NHSC                                  LR    LR
     comp=Z,4µm,21.0s,MS6.0
YMR  Madison River   106.73 351 PFAKE          07 49 40.0 +13
YMR                                   LR    LR
     comp=Z,7µm,19.0s,MS6.3
LKWY Lake            106.75 351 PFAKE          07 49 40.0 +13
LKWY                                  LR    LR
     comp=Z,16µm,20.0s,MS6.6
BMO  Blue Mountains  107.20 356 PFAKE          07 49 40.0 +13
BMO                                   LR    LR
     comp=Z,9µm,19.0s,MS6.3
COR  Corvallis       107.66   0 PFAKE          07 49 40.0 +12
COR                                   LR    LR
     comp=Z,5µm,21.0s,MS6.1
WVT  Waverly         107.96 331 PFAKE          07 49 40.0 +11
WVT                                   LR    LR
     comp=Z,7µm,21.0s,MS6.2
SJG  San Juan        108.21 303 PFAKE          07 49 40.0 +11
SJG                                   LR    LR
     comp=Z,2µm,22.0s,MS5.7
BW06 Boulder Array   108.37 349 PFAKE          07 49 40.0 +10
BW06                                  LR    LR
     comp=Z,14µm,19.0s,MS6.6
VNA2 Neumayer--Watz  108.44 198 ePKiKP     PKiKP 07 49 35.1 +5.3
     baz=0.7,slow=5.1
VNA2                                  e           07 49 41.8
VNA2                                  e           07 49 58.2
VNA2                                  e           07 50 11.4
VNA2                                  e           07 50 40.8
VNA1 Neumayer--Stat  108.53 199 ePKiKP     PKiKP 07 49 29.1 -0.8
VNA1                                  e           07 49 36.0
AHID Auburn Hatcher  108.61 351 PFAKE          07 49 40.0 +10
AHID                                  LR    LR
     comp=Z,4µm,19.0s,MS6.0
TAU  Tasmania Unive  108.87 129 PFAKE          07 49 40.0 +9.4
TAU                                   LR    LR
     comp=Z,5µm,19.0s,MS6.1
VNA3 Neumayer Olymp  109.24 198 ePKiKP     PKiKP 07 49 38.6 +7.3
VNA3                                  e           07 49 45.4
VNA3                                  e           07 50 15.1
HUMO Hull Mountain   109.64 360 PFAKE          07 49 40.0 +8.0
HUMO                                  LR    LR
     comp=Z,4µm,20.0s,MS6.0
WVOR Wild Horse Val  109.69 356 PFAKE          07 49 40.0 +7.9
WVOR                                  LR    LR
     comp=Z,15µm,22.0s,MS6.5
HWUT Hardware Ranch  109.81 351 PFAKE          07 49 40.0 +7.7
HWUT                                  LR    LR
     comp=Z,9µm,20.0s,MS6.3
CBKS Cedar Bluff     109.92 341 PFAKE          07 49 40.0 +7.5
CBKS                                  LR    LR
     comp=Z,9µm,20.0s,MS6.3
OXF  Oxford          110.01 331 PFAKE          07 49 40.0 +7.3
OXF                                   LR    LR
     comp=Z,6µm,21.0s,MS6.2
LRAL Lakeview Retre  110.17 328 PFAKE          07 49 50.0 +17
LRAL                                  LR    LR
     comp=Z,8µm,21.0s,MS6.3
MOD  Modoc           110.30 358 PFAKE          07 49 50.0 +17
MOD                                   LR    LR
     comp=Z,10µm,22.0s,MS6.3
ISCO Idaho Springs   110.49 346 PFAKE          07 49 50.0 +16
ISCO                                  LR    LR
     comp=Z,10µm,19.0s,MS6.4
YBH  Yreka Blue Hor  110.51 360 PFAKE          07 49 50.0 +16
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YBH LR LR
comp=Z,8μm,22.0s,MS6.2
ELK Elko 111.11 354 PFAKE 07 49 50.0 +15
ELK LR LR
comp=Z,9μm,20.0s,MS6.3
DWPF Disney 111.26 321 PFAKE 07 49 50.0 +15
DWPF LR LR
comp=Z,4μm,21.0s,MS6.0
DUG Dugway 111.37 351 PFAKE 07 49 50.0 +15
DUG LR LR
comp=Z,7μm,21.0s,MS6.2
MPU Maple Canyon 111.38 351 PFAKE 07 49 50.0 +15
MPU LR LR
comp=Z,10μm,19.0s,MS6.4
BMN Battle Mountai 111.59 355 PFAKE 07 49 50.0 +14
BMN LR LR
comp=Z,6μm,19.0s,MS6.2
WDC Whiskeytown Da 111.66 359 PFAKE 07 49 50.0 +14
WDC LR LR
comp=Z,8μm,21.0s,MS6.3
MIAR Mount Ida 111.69 334 PFAKE 07 49 50.0 +14
MIAR LR LR
comp=Z,10μm,21.0s,MS6.4
SDCO Great Sand Dun 112.43 345 PFAKE 07 49 50.0 +13
SDCO LR LR
comp=Z,13μm,21.0s,MS6.5
DRV Dumont d'Urvil 112.83 155 PP PP 07 50 24.0 -2.2
DRV SP SP 07 59 59.0 +1.8
DRV SS SS 08 06 11.0 +4.3
MVU Marysvale 112.95 351 PFAKE 07 49 50.0 +12
MVU LR LR
comp=Z,8μm,19.0s,MS6.3
HOPS Hopland 113.25 360 PFAKE 07 49 50.0 +11
HOPS LR LR
comp=Z,8μm,20.0s,MS6.3
WMOK Wichita Mounta 113.38 338 PFAKE 07 49 50.0 +11
WMOK LR LR
comp=Z,10μm,19.0s,MS6.4
MNV Mina 113.64 356 PFAKE 07 49 50.0 +10
MNV LR LR
comp=Z,8μm,19.0s,MS6.4
CMB Columbia Colle 114.16 358 PFAKE 07 49 50.0 +9.4
CMB LR LR
comp=Z,8μm,21.0s,MS6.3
HOPE Hope Point 114.18 220 PFAKE 07 49 50.0 +9.4
HOPE LR LR
comp=Z,5μm,20.0s,MS6.2
NATX Nacogdoches 114.57 333 PFAKE 07 49 50.0 +8.6
NATX LR LR
comp=Z,8μm,21.0s,MS6.3
ANMO Albuquerque 115.33 345 PKP PKPdf 07 49 43.0 +0.1
comp=Z,0.5nm,0.5s,baz=14,slow=10,SNR=2.9
ANMO Albuquerque 115.33 345 PKP PKPdf 07 49 43.0 +0.1
ANMO LR LR
comp=Z,9μm,19.0s,MS6.4
SAO San Andreas Ge 115.46 358 PFAKE 07 50 00.0 +17
SAO LR LR
comp=Z,8μm,19.0s,MS6.3
WUAZ Wupatki 115.75 349 PFAKE 07 50 00.0 +16
WUAZ LR LR
comp=Z,13μm,21.0s,MS6.5
ISA Isabella 116.42 356 PFAKE 07 50 00.0 +15
ISA LR LR
comp=Z,2μm,19.0s,MS5.7
HKT Hockley 116.64 334 PFAKE 07 50 00.0 +15
HKT LR LR
comp=Z,5μm,20.0s,MS6.2
SDV Santo Domingo 117.33 298 PKP PKPdf 07 49 48.6 +1.9
comp=Z,1.8nm,0.8s,baz=27,slow=4.5,SNR=2.6
SDV Santo Domingo 117.33 298 PKP PKPdf 07 49 48.6 +1.9
SDV LR LR
comp=Z,1μm,20.0s,MS5.5
JCT Junction City 117.62 337 *e*PKIKP PKPdf 07 49 48.2 +1.0
JCT MLR MLR
comp=Z,9μm,19.0s,MS6.4
QSPA South Pole Qui 117.94 180 *e*P PKPdf 07 49 48.2 +0.3
MNTX Cornudas Mount 118.16 343 *e*PKPdf PKPdf 07 49 49.0 +0.7
MNTX LR LR
comp=Z,8μm,21.0s,MS6.3
PFO Pinyon Flat Ob 118.29 354 PFAKE 07 50 00.0 +11
PFO LR LR
comp=Z,6μm,19.0s,MS6.2
TUC Tucson 118.78 348 *e*PKIKP PKPdf 07 49 50.1 +0.6
TUC MLR MLR
comp=Z,8μm,19.0s,MS6.4
LTX Lajitas 119.92 340 PFAKE 07 50 00.0 +8.3
LTX LR LR
comp=Z,10μm,19.0s,MS6.5
KIP Kipapa 120.36 38 PFAKE 07 50 00.0 +7.5
KIP LR LR
comp=Z,4μm,21.0s,MS6.0
VNDA Vanda 120.48 166 PKP PKPdf 07 49 52.8 +0.1
comp=Z,2.3nm,1.0s,baz=15,slow=8.7,SNR=3.7
VNDA PKKPbc PKKPbc 07 59 59.3 +0.8
comp=Z,4.4nm,1.1s,baz=109,slow=4.6,SNR=3.2
VNDA Vanda 120.48 166 PKP PKPdf 07 49 52.8 +0.1
VNDA PKKPbc PKKPbc 07 59 59.3 +0.8
VNDA LR LR
comp=Z,5μm,20.0s,MS6.1
TEIG Tepich 121.29 321 PFAKE 07 50 10.0 +16
TEIG LR LR
comp=Z,484nm,21.0s,MS5.1
SBA Scott Base 121.45 166 PFAKE 07 50 10.0 +15
SBA LR LR
comp=Z,5μm,20.0s,MS6.2
SIV San Ignacio 121.73 268 PKP PKPdf 07 49 55.3 +0.2
comp=Z,1.9nm,0.8s,baz=108,slow=4.2,SNR=7.7
CPUP Villa Florida 122.09 255 *e*PKPdf PKPdf 07 49 54.5 -1.3
CPUP LR LR
comp=Z,640nm,20.0s,MS5.3
FUNA Funafuti 122.47 82 PFAKE 07 50 10.0 +13
FUNA LR LR
comp=Z,3μm,19.0s,MS5.9
ROSC El Rosal 122.68 297 PKP PKPdf 07 49 59.0 +2.1
comp=Z,9.1nm,0.7s,baz=255,slow=4.4,SNR=7.5
ROSC PKKPbc PKKPbc 07 59 52.3 +2.2
comp=Z,3.2nm,0.8s,baz=91,slow=22,SNR=3.2
POHA Pohakuloa 123.05 37 PFAKE 07 50 10.0 +12
POHA LR LR
comp=Z,6μm,20.0s,MS6.2
RPZ Rata Peaks 125.84 125 PKP PKPdf 07 50 04.7 +1.7
comp=Z,17nm,0.9s,baz=163,slow=14,SNR=2.4
EFI East Falkland 126.74 225 PFAKE 07 50 20.0 +15
EFI LR LR
comp=Z,6μm,21.0s,MS6.2
JTS JuntasAbangare 126.86 310 PFAKE 07 50 20.0 +15
JTS LR LR
comp=Z,2μm,21.0s,MS5.8
LPAZ La Paz 128.08 271 PKP PKPdf 07 50 09.3 +2.0
comp=Z,2.3nm,0.9s,baz=74,slow=4.7,SNR=8.6
LPAZ La Paz 128.08 271 *e*PKPdf PKPdf 07 50 09.5 +2.2
LPAZ LR LR
comp=Z,6μm,21.0s,MS6.3
PMSA Palmer Station 128.15 208 PFAKE 07 50 20.0 +13
PMSA LR LR
comp=Z,4μm,21.0s,MS6.1
SNZO South Karori 128.27 122 PFAKE 07 50 20.0 +12
SNZO LR LR
comp=Z,4μm,20.0s,MS6.1
TRQA Tornquist 128.59 242 *e*PKPdf PKPdf 07 50 10.8 +2.5
TRQA LR LR
comp=Z,9μm,20.0s,MS6.5
OTAV Otavalo 128.74 296 *e*PKPdf PKPdf 07 50 10.9 +2.3
OTAV LR LR
comp=Z,2μm,21.0s,MS5.8
URZ Urewera 129.76 118 PKP PKPdf 07 50 11.5 +1.0
comp=Z,15nm,0.9s,baz=41,slow=12,SNR=6.5
ARE Arequipa 131.12 272 *e*PKIKP PKPdf 07 50 17.0 +3.9
RAO Raoul Island 132.33 105 PFAKE 07 50 30.0 +15
RAO LR LR
comp=Z,4μm,20.0s,MS6.2
USHA Ushuaia 132.63 220 PKP PKPdf 07 50 18.8 +2.9
comp=Z,19nm,1.1s,baz=224,slow=8.5,SNR=3.6
CFAA Coronel Fontan 132.65 252 PKP PKPdf 07 50 17.6 +1.7
comp=Z,0.5nm,0.6s,baz=73,slow=2.1,SNR=17
AFI Afiamalu 132.78 83 PFAKE 07 50 30.0 +14
AFI LR LR
comp=Z,1μm,22.0s,MS5.7
NNA Nana 133.91 281 PFAKE 07 50 30.0 +12
NNA LR LR
comp=Z,3μm,19.0s,MS6.0
PLCA Paso Flores 135.41 239 PKP PKPdf 07 50 20.3 -0.8
comp=Z,4.1nm,0.8s,baz=113,slow=3.4,SNR=6.8
PLCA Paso Flores 135.41 239 PKP PKPdf 07 50 20.3 -0.8
PLCA LR LR
comp=Z,6μm,20.0s,MS6.3

PAYG Puerto Ayora 138.35 305 PFAKE 07 50 40.0 +13
PAYG LR LR
comp=Z,3μm,19.0s,MS6.1
PPT Papeete 153.56 72 *e*PKIKP PKPdf 07 50 50.1 -2.0
comp=Z,341nm,26.2s
PPT Papeete 153.56 72 *e*PP PP 07 54 36.8 -9.5
comp=Z,512nm,24.5s
PPT Papeete 153.56 72 PKPbc PKPbc 07 51 01.9 +2.1
comp=Z,69nm,1.0s,baz=58,slow=0.8,SNR=4.8
TAOE Nuku Hiva Isla 155.04 43 *e*PP PP 07 54 45.5 -9.1
comp=Z,2μm,26.4s
TBI Tubuai 155.87 85 *e*PKIKP PKPdf 07 50 53.0 -2.3
comp=Z,164nm,23.2s
TBI Tubuai 155.87 85 *e*PP PP 07 55 13.5 +14
comp=Z,241nm,32.5s
RPN Rapa Nui 167.69 271 PFAKE 07 51 20.0 +13
RPN LR LR
comp=Z,4μm,22.0s
RKT Rikitea 168.25 68 *e*PKIKP PKPdf 07 51 05.6 -2.2
comp=Z,345nm,28.0s
RKT Rikitea 168.25 68 *e*PP PP 07 56 02.1 -3.1
comp=Z,664nm,25.5s
PTCN Pitcairn Islan 173.10 66 PFAKE 07 51 20.0 +10
PTCN LR LR
comp=Z,3μm,19.0s

GUC 28 07:33:15.5±0.6, 3155S×6760W, h20km, MD4.2, ML4.4, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.78**	**245**	*e*P	Pn	07 34 00.4	+1.6
JACH				*i* S	Sn	07 34 33.9	+2.2
FCH	**Farellones**	**2.88**	**231**	⇓*i*P	Pn	07 34 02.2	+1.9
FCH				*i* S	Sn	07 34 37.9	+3.6
FCH				AMP		07 34 39.4	
comp=E,530nm,0.2s							
CMCH	**Combarbala**	**2.93**	**276**	⇑*i*P	Pn	07 34 02.4	+1.5
CMCH				*i* S	Sn	07 34 37.9	+2.4
CMCH				AMP		07 34 45.5	
comp=N,6μm,0.6s							
PEL	**Peldehue**	**3.06**	**238**	*e*P	Pn	07 34 03.7	+1.0
PEL				*i* S	Sn	07 34 40.4	+1.8
PEL				AMP		07 34 46.9	
comp=E,951nm,0.6s							
CLCH	**Cerro Calan**	**3.09**	**233**	*e*P	Pn	07 34 04.5	+1.4
CLCH				*e*S	Sn	07 34 41.9	+2.5
CLCH				AMP		07 34 50.3	
comp=N,847nm,0.4s							
LMEL	**Las Melosas**	**3.17**	**223**	*e*P	Pn	07 34 06.3	+2.1
LMEL				AMP		07 34 50.8	
comp=N,264nm,0.2s							
RCDM	**Rinconada Maip**	**3.33**	**234**	*e*P	Pn	07 34 07.6	+1.2
RCDM				*i* S	Sn	07 34 47.6	+2.4
RCDM				AMP		07 34 52.5	
comp=N,573nm,0.5s							

IDC 28 07:59:36.0±4.4, 1688S×17750W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx3.2/21, Error ellipse: s-maj=188.2km s-min=50.1km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.32**	**182**	LR	LR	08 06 25.8	
comp=Z,562nm,20.5s,baz=182,slow=33							
STKA	**Stephens Creek**	**39.88**	**240**	P	P	08 07 11.9	+0.5
0.7nm,0.4s,baz=104,slow=8.3,SNR=3.9							
WRA	**Warramunga Arr**	**45.68**	**258**	P	P	08 07 58.3	-0.1
0.1nm,0.3s,baz=96,slow=7.7,SNR=7.5							
ASAR	**Alice Springs**	**45.91**	**253**	P	P	08 08 00.9	+0.6
1.4nm,0.4s,baz=89,slow=8.0,SNR=24							
GERES	**GERESS Array B**	**146.84**	**346**	PKPbc	PKPbc	08 19 19.4	-0.7
0.3nm,0.5s,baz=0.0,slow=2.0,SNR=3.7							

*NAO **28** 08:01:37.1, 2361N×5784E, h33km, mb3.0*
*NEIC **28** 08:02:11.6, 2812N×5679E, h28km, mb4.1/13, ML4.0(THR), MN3.8(TEH), After THR.*
*ISCJB **28** 08:02:11.9±0.5, 2799N±004×5675E±005, h59km±6km, mb4.1/27, Error ellipse: s-maj=8.0km s-min=5.5km az=131.3*
*THR **28** 08:02:11.6±0.6, 2812N×5679E, h28km±5km, ML4.0*
*CSEM **28** 08:02:11.6±0.1, 2798N×5677E, h60km, mb4.3/9, Error ellipse: s-maj=4.0km s-min=2.1km az=83.0*
*IDC **28** 08:02:13.0±6.6, 2809N×5676E, h45km±61km, mb3.8/17, mb1 3.9/17, mb1mx3.8/25, mbtmp4.1/17, Error ellipse: s-maj=26.3km s-min=17.1km az=158.0*
*TEH **28** 08:02:15.4, 28.16N×5648E, h18km, Mn3.8*
*OMAN **28** 08:02:16.5, 2775N×5705E, h37km, Error ellipse: s-maj=85.1km s-min=27.8km az=313.0*

ISC 28 08:02:13.3±0.4, 2800N±003×5676E±005, h55km±5km, n78, σ0°90/83, mb4.1/27, 6C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.79**	**221**	*e*PG	**Pn**	**08 02 28.4**	**0.0**
BNDS				*e*SG	**Sn**	**08 02 41.2**	**+1.7**
BNDS				AML	AML	08 02 43.4	
comp=N,4μm,0.4s							
BNDS				AML	AML	08 02 47.8	
comp=E,5μm,0.3s							
BNDS	**Bandar-Abbas**	**0.79**	**221**	*e*Pg	**Pn**	**08 02 28.4**	**0.0**
SNR=100							
BNDS				*e*Sg	**Sn**	**08 02 41.2**	**+1.7**
SNR=100							
BNDS	**Bandar-Abbas**	**0.79**	**221**	*e*Pg	**Pn**	**08 02 28.4**	**0.0**
BNDS				*e*Sg	**Sn**	**08 02 41.2**	**+1.7**
KRBR	**Kerman**	**1.98**	**360**	*e*PG	**Pn**	**08 02 45.2**	**+0.9**
KRBR				AML	AML	08 03 14.8	
comp=N,3μm,0.5s							
KRBR				AML	AML	08 03 15.0	
comp=E,2μm,0.6s							
BANOM	**Banah**	**2.11**	**191**	⇑P	**Pn**	**08 02 47.0**	**+0.9**
SNR=8.3							
BANOM	**Banah**	**2.11**	**191**	P	**Pn**	**08 02 47.0**	**+0.9**
SNR=8.3							
GHIR	**Ghir-Karzin**	**3.35**	**276**	*e*PN	**Pn**	**08 03 04.5**	**+1.5**
GHIR				AML	AML	08 04 27.9	
comp=E,202nm,0.6s							
ASHO	**Ashiyiah**	**3.36**	**191**	⇑P	**Pn**	**08 03 04.3**	**+1.0**
SNR=7.2							
IMOK	**Mook**	**3.71**	**287**	*e*Pn	**Pn**	**08 03 07.3**	**-0.7**
IMOK	**Mook**	**3.71**	**287**	Pn	**Pn**	**08 03 07.2**	**-0.8**
IBAF	**Bafgh**	**3.73**	**344**	Pn	**Pn**	**08 03 08.4**	**+0.1**
IPAR	**Pars**	**3.74**	**300**	*e*Pn	**Pn**	**08 03 08.1**	**-0.3**
IPAR	**Pars**	**3.74**	**300**	Pn	**Pn**	**08 03 08.0**	**-0.4**
IMEH	**Mehriz**	**3.86**	**332**	Pn	**Pn**	**08 03 10.3**	**+0.2**
ZHSF	**Zahedan**	**3.87**	**65**	*e*PN	**Pn**	**08 03 10.7**	**+0.5**
HOQ	**Hoqain**	**4.42**	**173**	⇓P	**Pn**	**08 03 17.7**	**-0.1**
SNR=15							
HOQ				⇓S	**Sn**	**08 04 04.3**	**-3.8**
BIDO	**Bidbid**	**4.62**	**164**	⇓P	**Pn**	**08 03 19.0**	**-1.6**
SNR=15							
ARQ	**Araqi**	**4.65**	**183**	⇓P	**Pn**	**08 03 21.6**	**+0.8**
SMDO	**Samad**	**5.05**	**166**	⇓P	**Pn**	**08 03 25.9**	**-0.5**
SNR=29							
SMDO				⇑S	**Sn**	**08 04 21.1**	**-2.4**
BSY	**Bisya**	**5.25**	**176**	⇑P	**Pn**	**08 03 29.7**	**+0.6**
BSYO	**Bisya**	**5.26**	**175**	P	**Pn**	**08 03 29.7**	**+0.4**
WBK	**Wadi Bani Khal**	**5.72**	**159**	⇑P	**Pn**	**08 03 34.7**	**-1.0**
JMDO	**Jabal Madar**	**5.73**	**167**	⇑P	**Pn**	**08 03 36.0**	**+0.2**
NASN	**Na'in**	**5.88**	**325**	*e*PN	**Pn**	**08 03 38.2**	**+0.5**
QRN	**Al-Qurain**	**7.83**	**278**	*e*P	**Pn**	**08 04 03.1**	**-1.4**
UMR	**Umm Al-Rimmam**	**8.09**	**283**	*e*P	**Pn**	**08 04 06.5**	**-1.5**
UMR	**Umm Al-Rimmam**	**8.09**	**283**	*e*P	**Pn**	**08 04 06.4**	**-1.6**
MIB	**Mutribah**	**8.45**	**285**	*e*P	**Pn**	**08 04 11.6**	**-1.5**
MIB				AML	AML	08 05 46.0	
comp=Z,14nm,0.5s							
NAY	**Al-Naaiem**	**8.46**	**281**	*e*P	**Pn**	**08 04 11.7**	**-1.4**
NAY				AML	AML	08 05 44.3	
comp=Z,5.2nm,0.6s							
NAY	**Al-Naaiem**	**8.46**	**281**	*e*P	**Pn**	**08 04 12.4**	**-0.7**
GNI	**Garni**	**15.67**	**324**	P	**Pn**	**08 05 54.2**	**+3.8**
comp=Z,0.7nm,0.3s,baz=80,slow=6.1,SNR=3.0							
GNI	**Garni**	**15.67**	**324**	*e*P	**Pn**	**08 05 52.2**	**+1.8**
comp=Z,6.4nm,0.9s							
GNI				*e*pP	pP	08 05 59.3	-6.3
MALT	**Malatya**	**18.45**	**309**	*e*P	**Pn**	**08 06 26.1**	**+1.2**
comp=Z,3.8nm,0.8s							
MALT	**Malatya**	**18.45**	**309**	*e*P	**Pn**	**08 06 26.1**	**+1.2**
comp=Z,3.8nm,0.8s							
MALT				*e*pP	pP	08 06 33.0	-3.4
AAK	**Ala-Archa**	**20.50**	**40**	*e*P	**P**	**08 06 46.1**	**-0.5**
comp=Z,2.6nm,0.6s							
AAK	**Ala-Archa**	**20.50**	**40**	*e*P	**P**	**08 06 46.1**	**-0.5**
comp=Z,2.6nm,0.6s							
BR131	**Keskin Array S**	**22.41**	**307**	*e*P	**P**	**08 07 08.6**	**+1.5**
comp=Z,2.2nm,0.6s,mb3.8							
BR131	**Keskin Array S**	**22.41**	**307**	*e*P	**P**	**08 07 08.6**	**+1.5**
comp=Z,2.2nm,0.6s,mb3.8							
BRTR	**Keskin Array B**	**22.41**	**307**	P	**P**	**08 07 07.7**	**+0.5**
comp=Z,2.4nm,0.7s,mb3.8,baz=124,slow=12,SNR=12							
AKTK	**Aktyubinsk**	**22.43**	**2**	P	**P**	**08 07 07.2**	**-0.1**
AKTK	**Aktyubinsk**	**22.43**	**2**	P	**P**	**08 07 07.2**	**-0.1**
AKTO	**Aktyubinsk**	**22.43**	**2**	P	**P**	**08 07 07.2**	**-0.1**
comp=Z,4.5nm,0.7s,mb4.0,baz=166,slow=10,SNR=15							
ZRNK	**Zerenda**	**26.53**	**17**	*e*P	**P**	**08 07 45.6**	**-0.1**
comp=Z,6.1nm,1.3s,mb4.0							
BVAR	**Borovoye Array**	**26.97**	**18**	P	**P**	**08 07 49.4**	**-0.2**
comp=Z,2.5nm,0.7s,mb3.9,baz=202,slow=9.7,SNR=11							
BVAR				PcP	PcP	08 11 10.8	+0.6
comp=Z,0.6nm,0.5s,baz=217,slow=5.2,SNR=4.0							
MKAR	**Makanchi Array**	**27.43**	**40**	P	**P**	**08 07 53.5**	**-0.3**
comp=Z,0.4nm,0.4s,mb3.3,baz=226,slow=9.2,SNR=11							
ZAL	**Zalesovo**	**33.06**	**31**	P	**P**	**08 08 43.0**	**-0.5**
comp=Z,3.5nm,0.5s,mb4.5,baz=225,slow=6.0,SNR=10							
ZAL	**Zalesovo**	**33.06**	**31**	P	**P**	**08 08 43.0**	**-0.5**
MORC	**Moravsky Berou**	**36.90**	**317**	*e*P	**P**	**08 09 16.6**	**+0.1**
comp=Z,1.9nm,0.6s,mb4.1							
JOF	**Joensuu**	**38.68**	**342**	*ep*	**P**	**08 09 31.1**	**-0.5**
comp=Z,1.3nm,0.4s,mb4.0							
GERES	**GERESS Array B**	**38.98**	**314**	P	**P**	**08 09 34.5**	**+0.5**
comp=Z,1.1nm,0.7s,mb3.7,baz=116,slow=6.1,SNR=7.6							
FINES	**FINESS Array B**	**39.20**	**337**	P	**P**	**08 09 36.1**	**+0.2**
comp=Z,4.5nm,0.5s,mb4.4,baz=132,slow=10,SNR=32							
KAF	**Kangasniemi**	**39.60**	**338**	*ep*	**P**	**08 09 35.3**	**-3.9**
comp=Z,1.7nm,0.7s,mb3.9							
DAVOX	**Davos**	**41.01**	**310**	P	**P**	**08 09 51.2**	**+0.3**
comp=Z,3.5nm,0.6s,mb4.2,baz=173,slow=3.4,SNR=5.1							
PGF	**Pioggiola**	**41.07**	**304**	*e*P	**P**	**08 09 49.5**	**-1.9**
comp=Z,65nm,1.2s,mb4.8							
PGF	**Pioggiola**	**41.07**	**304**	*e*P	**P**	**08 09 49.5**	**-1.9**
comp=Z,32nm,1.2s,mb4.8							
MBDF	**Montbardon**	**42.88**	**307**	*e*P	**P**	**08 10 05.6**	**-0.6**
comp=Z,22nm,1.1s,mb4.5							
MBDF	**Montbardon**	**42.88**	**307**	*e*P	**P**	**08 10 05.6**	**-0.6**
comp=Z,11nm,1.1s,mb4.5							
LPG	**La Plagne**	**42.98**	**308**	*e*P	**P**	**08 10 06.4**	**-0.5**
comp=Z,4.9nm,0.5s,mb4.2							
LPG	**La Plagne**	**42.98**	**308**	*e*P	**P**	**08 10 06.4**	**-0.5**
comp=Z,2.5nm,0.5s,mb4.2							
LPL	**La Plagne**	**42.99**	**308**	*e*P	**P**	**08 10 07.1**	**+0.1**
comp=Z,3.1nm,0.3s,mb4.2							
LPL	**La Plagne**	**42.99**	**308**	*e*P	**P**	**08 10 07.1**	**+0.1**
comp=Z,1.5nm,0.3s,mb4.2							
SONM	**Songino Array**	**43.03**	**49**	P	**P**	**08 10 08.0**	**+0.6**
comp=Z,0.4nm,0.6s,mb3.3,baz=270,slow=8.9,SNR=4.0							
HFS	**Hagfors**	**43.31**	**330**	P	**P**	**08 10 09.6**	**-0.1**
comp=Z,1.5nm,0.4s,mb4.1,baz=120,slow=8.8,SNR=13							
NB2	**NORSAR Subarra**	**44.82**	**330**	P	**P**	**08 10 20.9**	**-0.8**
comp=Z,0.2nm,0.6s,mb3.1,baz=114,slow=8.6							
NOA	**NORSAR Array B**	**44.82**	**330**	P	**P**	**08 10 20.9**	**-0.8**
comp=Z,1.1nm,0.7s,mb3.8,baz=116,slow=7.9,SNR=4.1							
ARCES	**ARCESS Array B**	**45.33**	**345**	P	**P**	**08 10 25.5**	**-0.3**
comp=Z,4.3nm,0.8s,mb4.3,baz=140,slow=7.7,SNR=8.9							
SSF	**Saint Saulge**	**45.38**	**310**	*e*P	**P**	**08 10 26.4**	**+0.3**
comp=Z,13nm,0.7s,mb4.5							
SSF	**Saint Saulge**	**45.38**	**310**	*e*P	**P**	**08 10 26.4**	**+0.3**
comp=Z,6.4nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	**45.45**	**309**	*e*P	**P**	**08 10 26.1**	**-0.6**
CAF	**Calviac**	**46.24**	**307**	*e*P	**P**	**08 10 32.9**	**0.0**
RJF	**Les Rejaudoux**	**46.64**	**307**	*e*P	**P**	**08 10 36.5**	**+0.4**
comp=Z,10nm,0.6s,mb4.6							
RJF	**Les Rejaudoux**	**46.64**	**307**	*e*P	**P**	**08 10 36.5**	**+0.4**
comp=Z,5.1nm,0.6s,mb4.6							
MFF	**Saint Martin d**	**47.85**	**309**	*e*P	**P**	**08 10 44.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**53.22**	**266**	P	**P**	**08 11 26.9**	**+0.9**
comp=Z,2.2nm,0.6s,mb4.3,baz=64,slow=7.6,SNR=30							
BOSA	**Boshof**	**63.87**	**211**	P	**P**	**08 12 41.7**	**+1.6**
comp=Z,1.4nm,0.4s,mb4.3,baz=63,slow=6.8,SNR=4.0							
ILAR	**Eielson Array**	**85.71**	**10**	P	**P**	**08 14 46.5**	**+0.3**
comp=Z,0.2nm,0.6s,mb3.5,baz=315,slow=4.6,SNR=5.5							
WRA	**Warramunga Arr**	**88.82**	**113**	P	**P**	**08 15 03.2**	**+2.0**
comp=Z,0.6nm,0.8s,mb4.0,baz=316,slow=4.1,SNR=5.9							
YKA	**Yellowknife Ar**	**89.56**	**356**	P	**P**	**08 15 04.6**	**-0.1**
comp=Z,0.5nm,0.8s,mb3.9,baz=360,slow=5.1,SNR=13							

IDC 28 08:07:44.8±3.6, 2784N×5698E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=76.3km s-min=33.9km az=140.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**22.66**	**308**	P	P	08 12 48.4	+0.8
0.5nm,0.6s,baz=129,slow=13,SNR=2.8							
BVAR	**Borovoye Array**	**27.06**	**18**	P	P	08 13 29.1	+0.3
0.5nm,0.6s,baz=205,slow=6.4,SNR=4.1							
FINES	**FINESS Array B**	**39.42**	**337**	P	P	08 15 15.3	-1.0
1.4nm,0.9s,baz=116,slow=13,SNR=3.1							
TORD	**Torodi Ar. Bea**	**53.40**	**266**	P	P	08 17 06.5	+0.4
0.3nm,0.5s,baz=63,slow=6.1,SNR=2.9							

*IDC **28** 08:26:35.6±2.3, 2795N×5693E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, Error ellipse: s-maj=50.9km s-min=24.7km az=153.0*
*ISCJB **28** 08:26:37.1±1.8, 282N±0.1×570E±02, h10km±10km, mb3.8/10, Error ellipse: s-maj=25.8km s-min=12.7km az=67.9*
*CSEM **28** 08:26:40.6, 2821N×5678E, h15km, ML3.6, After THR*
*THR **28** 08:26:40.6±1.0, 2821N×5678E, h15km±7km, ML3.6*

ISC 28 08:26:38.6±1.7, 2817N±010×570E±02, h10km±10km, n14, σ0°84/14, mb3.8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.05**	**223**	*e*PG	**Pg**	**08 26 58.7**	**0.0**
BNDS				AML	AML	08 27 18.0	
comp=N,1μm,0.2s							
BNDS				AML	AML	08 27 19.0	
comp=E,1μm,0.3s							
KRBR	**Kerman**	**1.81**	**354**	*e*PG	**Pg**	**08 27 12.8**	**-0.5**
KRBR				AML	AML	08 27 43.4	
comp=N,1μm,0.3s							
GHIR	**Ghir-Karzin**	**3.52**	**273**	*e*PN	**Pn**	**08 27 35.0**	**+1.7**
ZHSF	**Zahedan**	**3.63**	**66**	*e*PN	**Pn**	**08 27 40.6**	**+5.8**
AKTO	**Aktyubinsk**	**22.25**	**2**	P	**P**	**08 31 36.5**	**+1.0**
comp=N,1.5nm,0.6s,mb3.6,baz=193,slow=9.9,SNR=6.4							
BRTR	**Keskin Array B**	**22.46**	**307**	P	**P**	**08 31 38.1**	**+0.3**
comp=N,1.3nm,0.8s,mb3.4,baz=118,slow=12,SNR=6.8							
BVAR	**Borovoye Array**	**26.74**	**18**	P	**P**	**08 32 18.3**	**0.0**
comp=N,1.6nm,0.5s,mb3.8,baz=202,slow=9.4,SNR=13							
MKAR	**Makanchi Array**	**27.18**	**40**	P	**P**	**08 32 23.4**	**+1.1**
comp=N,0.5nm,0.7s,mb3.1,baz=228,slow=7.3,SNR=6.8							
ZAL	**Zalesovo**	**32.81**	**31**	P	**P**	**08 33 12.0**	**-0.1**
comp=N,1.8nm,0.3s,mb4.5,baz=253,slow=4.8,SNR=3.6							
JOF	**Joensuu**	**38.57**	**341**	*ep*	**P**	**08 34 01.1**	**-0.5**
comp=N,2.1nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**39.11**	**337**	P	**P**	**08 34 05.5**	**-0.6**
comp=N,1.9nm,0.5s,mb4.1,baz=137,slow=9.6,SNR=13							
ARCES	**ARCESS Array B**	**45.21**	**345**	P	**P**	**08 34 55.9**	**+0.1**
comp=N,2.6nm,0.9s,mb4.1,baz=133,slow=7.9,SNR=4.2							
TORD	**Torodi Ar. Bea**	**53.42**	**266**	P	**P**	**08 35 57.0**	**-1.5**
comp=N,0.6nm,0.5s,mb3.8,baz=64,slow=7.4,SNR=6.9							
**YKA

comp=Z,2.1nm,0.7s,baz=196,slow=8.5,SNR=8.3
MKAR Makanchi Array 27.30 40 P P 08 34 07.0 +0.6
comp=Z,0.2nm,0.4s,baz=229,slow=11,SNR=5.3
MKAR pP pP 08 34 11.9 -0.1
comp=Z,0.4nm,0.5s,baz=221,slow=6.2,SNR=4.4
ZAL Zalesovo 32.93 31 P P 08 34 54.5 -1.7
comp=Z,2.7nm,0.3s,baz=239,slow=4.9,SNR=6.6
FINES FINESS Array B 39.17 337 P P 08 35 48.5 -1.0
comp=Z,1.8nm,0.8s,baz=130,slow=7.2,SNR=5.6
FINES pP pP 08 35 54.3 -1.1
comp=Z,1.2nm,0.5s,baz=144,slow=9.0,SNR=3.0
TORD Torodi Ar. Bea 53.34 266 P P 08 37 40.9 -0.1
comp=Z,0.4nm,0.5s,baz=64,slow=7.6,SNR=5.8
TORD pP pP 08 37 47.7 +0.8
comp=Z,1.1nm,0.5s,baz=63,slow=7.3,SNR=6.2
YKA Yellowknife Ar 89.49 356 P P 08 41 19.4 +0.6
comp=Z,0.1nm,0.6s,baz=7.2,slow=5.7,SNR=3.0

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*IGIL **28** 08:28:39.2, 3660N×790W, h0km, ML2.8*
*NEIC **28** 08:28:40.9, 3665N×783W, h22km, ML3.1(LDG), MN2.6(MDD), After MDD.*
*LDG **28** 08:28:40.2±0.3, 3665N×801W, h10km, Ml3.1/3, Error ellipse: s-maj=5.9km s-min=4.6km az=12.0*
*INMG **28** 08:28:40.1±1.1, 3665N×792W, h11km±3km, ML2.5, Error ellipse: s-maj=3.8km s-min=2.2km az=44.0*
*CSEM **28** 08:28:41.4±0.2, 3675N×761W, h20km, ML3.9/1, Error ellipse: s-maj=5.7km s-min=2.6km az=34.0*
MDD 28 08:28:40.4±1.1, 3661N×790W, h28km±16km, mbLg2.6/27, 2C, Error ellipse: s-maj=12.9km s-min=4.5km az=27.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.92**	**34**	P	Pn	08 28 56.6	-0.9
	20nm,0.1s,SNR=18						
ERIP				S	Sb	08 29 08.1	-1.6
	84nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**0.92**	**320**	*e*P	Pn	08 28 56.0	-1.5
MORF				*e*S	Sb	08 29 07.7	-2.0
MORF				*e*S	Sb	08 29 07.7	-2.0
MORF				AML	AML	08 29 13.9	
	comp=N,208nm,0.2s						
MORF	**Marmelete**	**0.92**	**320**	*e*P	Pn	08 28 56.0	-1.5
MORF				*e*S	Sb	08 29 07.7	-2.0
EGRO	**El Granado**	**0.98**	**20**	⇑P	Pn	08 28 57.5	-0.8
	comp=N,12nm,0.3s,SNR=18						
EGRO				S	Sn	08 29 09.8	-1.6
	comp=N,68nm,0.1s,SNR=29						
EGRO	**El Granado**	**0.98**	**20**	P	Pn	08 28 57.5	-0.9
	comp=N,12nm,0.3s,SNR=18						
EGRO				S	Sn	08 29 09.8	-1.6
	comp=N,68nm,0.1s,SNR=29						
PTEO	**Sao Teotonio**	**1.15**	**325**	*i*P	Pn	08 28 59.4	-1.2
PTEO				*e*S	Sn	08 29 14.1	-1.3
PTEO							
	comp=N,48nm,0.4s						
PTEO	**Sao Teotonio**	**1.15**	**325**	*e*S	Sn	08 29 14.1	-1.3
	comp=N,48nm,0.4s						
PBEJ	**Beja**	**1.42**	**1**	*e*P	Pn	08 29 03.3	-1.0
PBEJ				*e*S	Sn	08 29 20.9	-1.2
PBEJ							
	comp=N,29nm,0.1s						
PBEJ	**Beja**	**1.42**	**1**	*e*P	Pn	08 29 03.3	-1.0
PBEJ				*e*S	Sn	08 29 20.9	-1.2
	comp=N,29nm,0.1s						
EMIN	**Mina Concepcio**	**1.52**	**40**	⇑P	Pn	08 29 04.5	-1.2
	comp=N,1.4nm,0.3s,SNR=18						
EMIN				S	Sn	08 29 22.1	-2.4
	comp=N,8.3nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**1.52**	**40**	P	Pn	08 29 04.5	-1.2
	comp=N,1.4nm,0.3s,SNR=18						
EMIN				S	Sn	08 29 22.1	-2.4
	comp=N,8.3nm,0.1s,SNR=12						
ESPR	**Espera**	**1.66**	**80**	P	Pn	08 29 06.8	-0.9
	comp=N,13nm,0.3s,SNR=36						
ESPR				S	Sn	08 29 25.9	-2.1
	comp=N,80nm,0.2s,SNR=9.3						
ESPR	**Espera**	**1.66**	**80**	P	Pn	08 29 06.8	-0.9
	comp=N,13nm,0.3s,SNR=36						
ESPR				S	Sn	08 29 25.9	-2.2
	comp=N,80nm,0.2s,SNR=9.3						
EVO	**Evora**	**1.93**	**357**	*e*Pn	Pn	08 29 10.1	-1.2
EVO				*e*Sn	Sn	08 29 31.9	-2.7
	comp=N,22nm,0.3s						
MOE	**Montemor**	**1.95**	**350**	*e*Pn	Pn	08 29 11.0	-0.6
MOE				*e*Sn	Sn	08 29 33.5	-1.6
EJIF	**Jimena Fronter**	**1.96**	**94**	P	Pn	08 29 11.1	-0.8
	comp=N,0.8nm,0.2s,SNR=7.9						
EJIF				S	Sn	08 29 29.2	-6.3
	comp=N,1.8nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**2.26**	**18**	P	Pn	08 29 14.9	-1.0
	comp=N,5.6nm,0.3s,SNR=51						
EBAD				S	Sn	08 29 40.0	-2.8
	comp=N,19nm,0.1s,SNR=6.6						
EBAD	**Badajoz**	**2.26**	**18**	P	Pn	08 29 14.9	-1.0
	comp=N,5.6nm,0.3s,SNR=51						
EBAD				S	Sn	08 29 40.0	-2.8
	comp=N,19nm,0.1s,SNR=6.6						
ECAB	**El Cabril**	**2.46**	**53**	P	Pn	08 29 17.5	-1.2
	comp=N,1.3nm,0.4s,SNR=12						
ECAB				S	Sn	08 29 44.3	-3.5
	comp=N,3.3nm,0.1s,SNR=11						
ECAB	**El Cabril**	**2.46**	**53**	P	Pn	08 29 17.5	-1.2
	comp=N,1.3nm,0.4s,SNR=12						
ECAB				S	Sn	08 29 44.3	-3.5
	comp=N,3.3nm,0.1s,SNR=11						
PLOU	**Loures**	**2.48**	**337**	*e*Pn	Pn	08 29 18.3	-0.7
PLOU				*e*Sn	Sn	08 29 46.0	-2.4
PLOU							
	comp=N,21nm,0.1s						
PLOU	**Loures**	**2.48**	**337**	*e*Pn	Pn	08 29 18.3	-0.7
PLOU				*e*Sn	Sn	08 29 46.0	-2.4
	comp=N,21nm,0.1s						
EMIJ	**Mijas**	**2.52**	**90**	P	Pn	08 29 18.8	-0.6
	comp=N,0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sn	08 29 46.8	-2.3
	comp=N,5.3nm,0.2s,SNR=6.0						
PTOM	**Tomar**	**3.04**	**353**	*e*Pn	Pn	08 29 25.5	-1.1
PTOM				*e*Sn	Sn	08 30 00.4	-1.6
PTOM							
	comp=N,24nm,0.2s						
PTOM	**Tomar**	**3.04**	**353**	*e*Pn	Pn	08 29 25.5	-1.1
PTOM				*e*Sn	Sn	08 30 00.4	-1.6
	comp=N,24nm,0.2s						
ELUQ	**Luque**	**3.06**	**71**	P	Pn	08 29 25.6	-1.2
	comp=N,0.9nm,0.2s,SNR=7.9						
ELUQ				S	Sn	08 29 59.7	-2.8
	comp=N,3.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.07**	**58**	P	Pn	08 29 26.3	-0.7
	comp=N,2.4nm,0.2s,SNR=16						
EADA				S	Sn	08 29 58.5	-4.3
	comp=N,5.5nm,0.1s,SNR=10						
EADA	**Adamuz**	**3.07**	**58**	P	Pn	08 29 26.3	-0.7
	comp=N,2.4nm,0.2s,SNR=16						
EADA				S	Sn	08 29 58.5	-4.3
	comp=N,5.5nm,0.1s,SNR=10						
PCBR	**Castelo Branco**	**3.25**	**6**	*e*Pn	Pn	08 29 28.6	-0.9
PCBR				*e*Sn	Sn	08 30 04.9	-2.3
PCBR							
	comp=N,8.3nm,0.2s						
PCBR	**Castelo Branco**	**3.25**	**6**	*e*Sn	Sn	08 30 04.9	-2.3
	comp=N,8.3nm,0.2s						
ECOG	**Cogollos-Vega**	**3.54**	**78**	P	Pn	08 29 32.7	-0.7
	comp=N,0.6nm,0.1s,SNR=4.0						
ECOG				S	Sn	08 30 11.8	-2.5
	comp=N,4.1nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.54**	**78**	P	Pn	08 29 32.7	-0.7
	SNR=4.0						
ECOG				S	Sn	08 30 12.7	-1.6
	comp=N,4.1nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.54**	**78**	P	Pn	08 29 32.7	-0.7
ECOG				S	Sn	08 30 12.7	-1.6
EQUE	**Quentar**	**3.62**	**79**	P	Pn	08 29 34.7	0.0
	comp=N,1.0nm,0.3s,SNR=5.7						
EQUE				S	Sn	08 30 14.1	-2.3
	comp=N,1.9nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.63**	**63**	P	Pn	08 29 33.3	-1.4
	comp=N,0.1nm,0.2s,SNR=7.9						
EBAN				S	Sn	08 30 11.5	-5.1
	comp=N,3.1nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.80**	**4**	*e*Sn	Sn	08 30 17.8	-3.0
MTE							
	comp=N,13nm,0.8s						
MTE	**Manteigas**	**3.80**	**4**	*e*Sn	Sn	08 30 17.8	-3.0
	comp=N,13nm,0.8s						
EBER	**Berja**	**4.03**	**84**	P	Pn	08 29 39.2	-1.0
	comp=N,0.0nm,0.2s,SNR=7.9						
EBER				S	Sn	08 30 24.8	-1.8
	comp=N,2.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.03**	**84**	P	Pn	08 29 40.8	+0.5
	SNR=7.9						
EBER				S	Sn	08 30 25.0	-1.6
	comp=N,2.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.03**	**84**	P	Pn	08 29 40.8	+0.6
EBER				S	Sn	08 30 25.0	-1.6
EQES	**Quesada**	**4.04**	**71**	P	Pn	08 29 39.8	-0.5
	comp=N,1.8nm,0.6s,SNR=10.0						
EQES				S	Sn	08 30 23.6	-3.0
	comp=N,4.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.04**	**71**	P	Pn	08 29 39.8	-0.5
	comp=N,1.8nm,0.6s,SNR=10.0						
EQES				S	Sn	08 30 23.6	-3.0
	comp=N,4.4nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.11**	**0**	*e*Pn	Pn	08 29 40.5	-0.8
PVIS				*e*Sn	Sn	08 30 25.4	-3.0
ESDC	**Sonseca Array**	**4.36**	**44**	P	Pn	08 29 43.9	-0.8
	comp=N,1.0nm,0.3s,baz=229,slow=13,SNR=3.8						
ESDC				S	Sn	08 30 26.9	-7.7
	comp=N,0.7nm,0.2s,baz=224,slow=24,SNR=3.6						
ESDC	**Sonseca Array**	**4.36**	**44**	P	Pn	08 29 43.9	-0.9
	comp=N,1.0nm,0.3s,SNR=3.8						
PVRL	**Vila Real**	**4.67**	**2**	*e*Pn	Pn	08 29 47.7	-1.3
PVRL				*e*Sn	Sn	08 30 38.9	-3.3
PVRL							
	comp=N,8.7nm,0.1s						
GUD	**Guadarrama**	**4.99**	**35**	P	Pn	08 29 52.8	-0.5
	comp=N,2.3nm,0.2s,SNR=5.2						
GUD				S	Sn	08 30 46.3	-3.7
	comp=N,2.2nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.10**	**359**	*e*Pn	Pn	08 29 54.1	-0.8
PCAB				*e*Sn	Sn	08 30 48.5	-4.4
PCAB							
	comp=N,4.7nm,0.2s						
ELOB	**Lobios**	**5.26**	**359**	P	Pn	08 29 56.2	-0.9
	comp=N,9.3nm,1.0s,SNR=14						
ELOB				S	Sn	08 30 53.0	-3.8
	comp=N,4.1nm,0.1s,SNR=9.9						
ELOB	**Lobios**	**5.26**	**359**	P	Pn	08 29 56.2	-0.9
	comp=N,9.3nm,1.0s,SNR=14						
ELOB				S	Sn	08 30 53.0	-3.8
	comp=N,4.1nm,0.1s,SNR=9.9						
PBRG	**Braganca**	**5.27**	**9**	*e*Pn	Pn	08 29 56.1	-1.2
PBRG				*e*Sn	Sn	08 30 52.4	-4.7
PBRG							
	comp=N,3.2nm,0.2s						
ECAL	**Calabor**	**5.41**	**9**	P	Pn	08 29 57.7	-1.4
	comp=N,2.8nm,0.3s,SNR=10						
ECAL				S	Sn	08 30 56.3	-4.1
	comp=N,3.7nm,0.2s,SNR=5.7						
ECAL	**Calabor**	**5.41**	**9**	P	Pn	08 29 57.8	-1.3
ECAL				S	Sn	08 30 56.3	-4.1
	comp=N,3.7nm,0.2s,SNR=5.7						
ETOB	**Tobarra**	**5.44**	**66**	P	Pn	08 29 58.3	-1.3
	SNR=7.9						
ETOB				S	Sn	08 30 56.2	-4.9
	comp=N,1.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.44**	**66**	P	Pn	08 29 58.3	-1.3
	SNR=7.9						
ETOB				S	Sn	08 30 56.2	-5.0
SJPF	**Ste Jean**	**8.28**	**36**	*e*Pn	Pn	08 30 38.5	-0.1
SJPF				*e*Sn	Sn	08 32 06.7	-4.5
	comp=N,1.6nm,0.3s						
SJPF	**Ste Jean**	**8.28**	**36**	P	Pn	08 30 38.5	-0.1
SJPF				S	Sn	08 32 06.7	-4.5
	comp=N,0.8nm,0.3s						
ETSF	**Etsaut**	**8.45**	**40**	*e*Pn	Pn	08 30 40.6	-0.3
ETSF				*e*Sn	Sn	08 32 11.1	-4.3
	comp=N,0.9nm,0.3s						
ETSF	**Etsaut**	**8.45**	**40**	P	Pn	08 30 40.6	-0.3
ETSF				S	Sn	08 32 11.1	-4.3
	comp=N,0.4nm,0.3s						

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*ISCJB **28** 08:29:45.9±0.4, 1374N±006×9042W±005, h93km±4km, mb4.0/9, Error ellipse: s-maj=12.8km s-min=3.4km az=68.3*
*MEX **28** 08:29:46.1±0.3, 1328N×9064W, h76km±27km, MD4.4*
*NEIC **28** 08:29:47.2±0.9, 1370N×9038W, h93km±10km, mb4.6/1, MD4.0(SNET), Error ellipse: s-maj=16.2km s-min=9.4km az=220.0*
NEIC Felt [II] at Juayua, El Salvador.
*CASC **28** 08:29:47.1±2.2, 1369N×9043W, h71km±11km, MD4.3, ML4.7, mb4.6(NEIC)*
*IDC **28** 08:29:50.5±3.1, 1404N×8987W, h112km±27km, mb3.6/8, mb1 3.8/10, mb1mx3.6/20, mbtmp4.1/10, Error ellipse: s-maj=38.6km s-min=13.9km az=53.0*
ISC 28 08:29:47.4±0.4, 1377N±006×9040W±005, h87km±4km, n71, σ1§11/69, mb4.0/9, 15C-14D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.40**	**353**	⇓*e*P	**Pn**	**08 29 59.4**	**-1.7**
IXG				*e*S	**Sn**	**08 30 09.8**	**-1.5**
IXG				AML	AML	08 30 16.4	
	comp=N,158μm,0.4s						
PCG	**Pacaya**	**0.65**	**342**	⇓*e*P	**Pn**	**08 30 03.3**	**+0.1**
PCG				*e*S	**Sn**	**08 30 14.8**	**-0.1**
RTR	**El Retiro**	**0.75**	**80**	⇑*e*P	Px	08 30 14.8	
RTR				*e*S	Sx	08 30 29.4	
SBLS	**San Blas**	**0.76**	**85**	⇓*e*P	Px	08 30 14.7	
SBLS				*e*S	Sx	08 30 27.6	
SNJE	**San Jose**	**0.78**	**83**	⇓*e*P	Px	08 30 15.1	
SNJE				*e*S	Sx	08 30 26.0	
FUG	**Fuego 3**	**0.80**	**328**	⇓*i*P	**Pn**	**08 30 04.2**	**-0.4**
BOQS	**Boqueron**	**1.09**	**92**	⇓*e*P	Px	08 30 18.6	
BOQS				*e*S	Sx	08 30 35.2	
SNET	**Serv Nac Est T**	**1.14**	**94**	⇓*e*P	Px	08 30 07.2	
SNET				*e*S	Sx	08 30 24.2	
MTO2	**Montecristo 2**	**1.19**	**58**	⇑*e*P	Px	08 30 20.3	
MTO2				*e*S	Sx	08 30 38.6	
LFU	**La Fuente**	**1.25**	**91**	⇓*e*P	Px	08 30 20.6	
LFU				*e*S	Sx	08 30 38.1	
LFRS	**El Faro**	**1.31**	**96**	⇑*e*P	Px	08 30 20.9	
LFRS				*e*S	Sx	08 30 39.1	
JAT	**Jato**	**1.31**	**295**	⇑*e*P	**Pn**	**08 30 09.9**	**-0.7**
JAT				*e*S	**Sn**	**08 30 27.4**	**-0.7**
LBRS	**Las Brisas**	**1.32**	**91**	⇑*e*P	Px	08 30 21.6	
LBRS				*e*S	Sx	08 30 39.7	
LCBS	**La Ceiba**	**1.39**	**95**	⇑*e*P	Px	08 30 22.3	
LCBS				*e*S	Sx	08 30 41.7	
SNVI	**San Vicente**	**1.53**	**96**	⇑*e*P	Px	08 30 24.9	
SNVI				*e*S	Sx	08 30 45.0	
VSM	**San Miguel**	**2.10**	**99**	⇓*e*P	Px	08 30 32.5	
VSM				*e*S	Sx	08 30 58.6	
CAHU	**Cacacuatique**	**2.13**	**90**	⇑*e*P	Px	08 30 32.4	
CAHU				*e*S	Sx	08 30 58.5	
BLLM	**Bellamira**	**2.13**	**99**	⇑*e*P	Px	08 30 32.7	
BLLM				*e*S	Sx	08 30 58.3	
CCIG	**Comitan**	**3.00**	**326**	*i*P	**Pn**	**08 30 34.5**	**+1.6**
CCIG				*i*S	**Sn**	**08 31 13.6**	**+5.6**
CCIG	**Comitan**	**3.00**	**326**	*i*P	**Pn**	**08 30 34.5**	**+1.6**
CCIG				*i*S	**Sn**	**08 31 13.0**	**+5.1**
CRIN	**San Cristobal**	**3.44**	**108**	⇑*e*P	**Pn**	**08 30 40.1**	**+1.4**
SCX	**San Cristobal**	**3.65**	**324**	*e*P	**Pn**	**08 30 42.0**	**+0.4**
TEL3	**Telica 3**	**3.67**	**109**	⇑*e*P	**Pn**	**08 30 42.4**	**+0.6**
TEL3				*e*S	**Sn**	**08 31 24.6**	**+0.7**
TELN	**Telica**	**3.67**	**108**	⇓*e*P	**Pn**	**08 30 42.4**	**+0.5**
TELN				*e*S	**Sn**	**08 31 22.1**	**-1.8**
LEON	**Leon**	**3.68**	**111**	⇓*e*P	**Pn**	**08 30 41.8**	**-0.2**
LEON				*e*S	**Sn**	**08 31 22.7**	**-1.5**
CNGN	**Cerro Negro**	**3.82**	**109**	⇑*e*P	**Pn**	**08 30 44.6**	**+0.7**
MIRN	**Miramar**	**3.83**	**110**	⇓*e*P	**Pn**	**08 30 44.2**	**+0.1**
MOMJ	**Momotombo**	**4.00**	**109**	*e*P	**Pn**	**08 30 47.1**	**+0.7**
COPN	**Copaltepe**	**4.04**	**113**	⇑*e*P	**Pn**	**08 30 47.0**	**+0.1**
APYN	**Apoyeque**	**4.24**	**111**	⇑*e*P	**Pn**	**08 30 50.5**	**+1.0**
XAVN	**Gruta Xavier**	**4.29**	**112**	⇓*e*P	**Pn**	**08 30 51.0**	**+0.7**
MGAN	**Managua**	**4.36**	**111**	*e*P	**Pn**	**08 30 51.9**	**+0.7**
WILN	**Americas 2**	**4.41**	**111**	*e*P	**Pn**	**08 30 51.2**	**-0.7**
TICN	**Ticuantepe**	**4.42**	**113**	*e*P	**Pn**	**08 30 52.0**	**0.0**
MASN	**Masaya**	**4.51**	**113**	*e*P	**Pn**	**08 30 52.8**	**-0.5**
APON	**Apoyo**	**4.61**	**113**	*e*P	**Pn**	**08 30 54.0**	**-0.7**
CMIG	**Matias Romero**	**5.44**	**308**	*i*P	**Pn**	**08 31 05.7**	**-0.2**
CMIG				*i*S	**Sn**	**08 32 07.0**	**-0.1**
CMIG	**Matias Romero**	**5.44**	**308**	*i*P	**Pn**	**08 31 05.7**	**-0.2**
CMIG				*i*S	**Sn**	**08 32 08.8**	**+1.7**
VCR	**Vista de Mar**	**5.91**	**127**	*e*P	**Pn**	**08 31 12.7**	**+0.3**
JTS	**JuntasAbangare**	**6.36**	**122**	P	**Pn**	**08 31 17.9**	**-0.5**
	comp=N,10nm,0.3s,baz=303,slow=20,SNR=36						
JTS				S	**Sn**	**08 32 26.1**	**-3.4**
	comp=N,1.9nm,0.3s,baz=336,slow=20,SNR=2.4						
JTS	**JuntasAbangare**	**6.36**	**122**	*e*Pn	**Pn**	**08 31 18.2**	**-0.2**
JTS				*e*Sn	**Sn**	**08 32 23.8**	**-5.7**
CAO	**Cobano**	**6.58**	**127**	*e*P	**Pn**	**08 31 20.9**	**-0.5**
TEIG	**Tepich**	**6.73**	**17**	*e*Pn	**Pn**	**08 31 25.6**	**+2.1**
	comp=N,17nm,0.5s						
EPA	**Esparza**	**6.81**	**123**	*e*P	**Pn**	**08 31 26.1**	**+1.5**
OXX	**Oaxaca**	**6.93**	**299**	*i*P	**Pn**	**08 31 26.0**	**-0.2**
VHO	**Vista Hermosa**	**6.93**	**299**	*i*P	**Pn**	**08 31 24.9**	**-1.3**
VHO				*i*S	**Sn**	**08 32 39.4**	**-4.2**
VHO	**Vista Hermosa**	**6.93**	**299**	*i*P	**Pn**	**08 31 25.8**	**-0.4**
VHO				*i*S	**Sn**	**08 32 43.7**	**+0.2**
PRS1	**Puriscal**	**7.05**	**122**	*e*P	**Pn**	**08 31 29.1**	**+1.2**
LAJ	**Bijagual**	**7.27**	**122**	⇓*e*P	**Pn**	**08 31 28.3**	**-2.6**
LCR2	**La Lucha 2**	**7.44**	**122**	*e*P	**Pn**	**08 31 34.2**	**+1.1**
BUS	**Buena Vista**	**7.74**	**122**	⇑*e*P	**Pn**	**08 31 38.9**	**+1.6**
PPM	**Popocatepetl**	**9.48**	**305**	*i*P	**Pn**	**08 32 04.6**	**+3.5**
MEIG	**Mezcala**	**9.78**	**296**	*i*P	**Pn**	**08 32 06.2**	**+1.1**
MGV	**Manicaragua**	**12.92**	**49**	*e*P	**Pn**	**08 32 57.6**	**+10**
SDV	**Santo Domingo**	**19.98**	**102**	P	**Pn**	**08 34 11.1**	**-4.1**
	comp=N,1.2nm,0.3s,baz=317,slow=11,SNR=16						
SWET	**Sewanee**	**21.73**	**10**	*e*P	**P**	**08 34 32.6**	**+1.2**
WMOK	**Wichita Mounta**	**22.21**	**341**	*e*P	**P**	**08 34 36.7**	**+0.2**
WVT	**Waverly**	**22.38**	**5**	*e*P	**P**	**08 34 38.6**	**+0.2**
WCI	**Wyandotte Cave**	**24.63**	**8**	*e*P	**P**	**08 34 60.0**	**+0.4**
	comp=N,15nm,0.6s,mb4.6						
SADO	**Sadowa**	**32.35**	**15**	P	**P**	**08 36 06.7**	**-1.6**
	comp=N,4.6nm,0.5s,mb4.5,baz=212,slow=12,SNR=8.2						
NVAR	**Mina Array Bea**	**34.83**	**320**	P	**P**	**08 36 32.4**	**+2.6**
	comp=N,0.6nm,0.5s,mb3.7,baz=123,slow=9.8,SNR=3.0						
NVAR				PcP	PcP	08 39 03.4	+2.2
	comp=N,0.4nm,0.2s,baz=121,slow=5.3,SNR=4.2						
NVAR	**Mina Array Bea**	**34.83**	**320**	P	**P**	**08 36 32.4**	**+2.6**
NVAR				PcP	PcP	08 39 03.4	+2.2
ULM	**Lac du Bonnet**	**36.65**	**354**	P	**P**	**08 36 43.6**	**-1.8**
	comp=N,2.2nm,0.4s,mb4.4,baz=170,slow=9.0,SNR=7.6						
SIV	**San Ignacio**	**41.41**	**135**	P	**P**	**08 37 25.1**	**0.0**
	comp=N,1.4nm,0.7s,mb3.9,baz=304,slow=11,SNR=9.8						
BDFB	**Brasilia**	**51.10**	**123**	P	**P**	**08 38 39.9**	**-1.0**
	comp=N,0.8nm,0.4s,mb4.1,baz=281,slow=10,SNR=2.5						
YKA	**Yellowknife Ar**	**51.61**	**346**	P	**P**	**08 38 43.6**	**-1.2**
	comp=N,0.4nm,0.5s,mb3.7,baz=140,slow=7.6,SNR=18						
YKA				pP	pP	08 39 03.7	-2.5
	comp=N,0.8nm,0.8s,baz=145,slow=7.8,SNR=9.4						
YKA				PcP	PcP	08 39 56.4	-1.1
	comp=N,0.2nm,0.4s,baz=151,slow=3.8,SNR=5.7						
YKA	**Yellowknife Ar**	**51.61**	**346**	P	**P**	**08 38 43.6**	**-1.2**
YKA				pP	pP	08 39 03.7	-2.5
YKA				PcP	PcP	08 39 56.4	-1.1
DBIC	**Dimbokro**	**84.13**	**85**	P	**P**	**08 42 07.2**	**-1.6**
	comp=N,0.8nm,0.4s,mb3.9,baz=214,slow=3.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**88.92**	**77**	P	**P**	**08 42 28.8**	**-3.2**
	comp=N,0.2nm,0.4s,mb3.5,baz=276,slow=4.2,SNR=4.7						
WRA	**Warramunga Arr**	**136.84**	**255**	PKP	PKPdf	08 49 00.3	+0.6
	comp=N,0.5nm,0.6s,baz=91,slow=3.0,SNR=7.6						
ASAR	**Alice Springs**	**137.05**	**250**	PKP	PKPdf	08 49 01.6	+1.5
	comp=N,0.2nm,0.6s,baz=97,slow=2.4,SNR=3.5						

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*CSEM **28** 08:38:08.3±0.7, 3908N×2850W, h5km, ML2.2, Error ellipse: s-maj=20.0km s-min=8.9km az=153.0, After PDA*
*PDA **28** 08:38:08.3±1.4, 3908N×2850W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=3.5km az=141.0*
SVSA 28 08:38:08.3±1.4, 3908N×2850W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=3.5km az=141.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.35**	**91**	*e*S	Sg	08 38 19.1	-0.5
PVIA							
	34nm,0.2s						
PLUZ	**Luz**	**0.38**	**261**	*e*S	Sg	08 38 21.3	+0.8
PLUZ							
	46nm,0.2s						
STGR	**Santa Cruz**	**0.39**	**89**	*e*S	Sg	08 38 20.0	-0.8
STGR							
	56nm,0.2s						
PGRA	**Graciosa**	**0.41**	**96**	*e*P	Pg	08 38 15.5	-0.6
PGRA				*e*S	Sg	08 38 21.4	0.0
PGRA							
	148nm,0.3s						
PGRA	**Graciosa**	**0.41**	**96**	*e*P	Pg	08 38 15.5	-0.6
PGRA				*e*S	Sg	08 38 21.4	0.0
ROSA	**Rosais**	**0.41**	**151**	*e*P	Pg	08 38 16.1	-0.1
ROSA				*e*S	Sg	08 38 21.8	+0.3
PAMA	**Santo Amaro**	**0.47**	**148**	*e*S	Sg	08 38 22.5	-0.9
PAMA							
	41nm,0.2s						
PCED	**Cedros**	**0.47**	**200**	*e*S	Sg	08 38 22.6	-1.0
PCED							
	111nm,0.2s			

GHIR **Ghir-Karzin** 3.43 275 *e*PN Pn 08 41 17.5 +2.8
GHIR AML AML 08 42 30.7
comp=E,1µm,0.4s
IBAF **Bafgh** 3.72 343 *e*Pn Pn 08 41 21.0 +2.3
IBAF **Bafgh** 3.72 343 *e*Pn Pn 08 41 21.0 +2.3
ZHSF **Zahedan** 3.78 65 *e*PN Pn 08 41 22.4 +2.8
IMOK **Mook** 3.78 286 *e*Pn Pn 08 41 21.1 +1.5
IPAR **Pars** 3.79 299 *e*Pn Pn 08 41 22.4 +2.7
IPAR **Pars** 3.79 299 *e*Pn Pn 08 41 21.3 +1.6
IPAR **Pars** 3.79 299 *e*Pn Pn 08 41 21.3 +1.6
IPAR **Pars** 3.79 299 Pn Pn 08 41 22.3 +2.6
IMEH **Mehriz** 3.87 330 *e*Pn Pn 08 41 23.4 +2.6
IMEH **Mehriz** 3.87 330 *e*Pn Pn 08 41 23.4 +2.6
HOQ **Hoqain** 4.45 175 ⇑P Pn 08 41 28.2 -0.6
SNR=167
BIDO **Bidbid** 4.64 165 ⇑P Pn 08 41 30.9 -0.4
SNR=106
ARQ **Araqi** 4.69 184 ⇑P Pn 08 41 34.0 +1.9
SNR=55
ICHK **Chekchek** 4.70 334 *e*Pn Pn 08 41 35.0 +2.8
ICHK **Chekchek** 4.70 334 *e*Pn Pn 08 41 35.0 +2.8
ICHK **Chekchek** 4.70 334 Pn Pn 08 41 34.9 +2.7
ISAD **Sadrabad** 4.75 325 *e*Lg 08 42 46.4
ISAD **Sadrabad** 4.75 325 *e*Lg 08 42 46.4
SMDO **Samad** 5.07 167 ⇓P Pn 08 41 37.8 +0.5
SNR=131
BSY **Bisya** 5.28 177 ⇓P Pn 08 41 42.0 +1.9
SNR=62
BSYO **Bisya** 5.29 176 P Pn 08 41 42.0 +1.6
SNR=62
WBK **Wadi Bani Khal** 5.73 160 ⇑P Pn 08 41 46.5 +0.2
SNR=100
NASN **Na'in** 5.90 325 *e*PN Pn 08 41 50.6 +1.9
IZEF **Zefreh** 6.22 322 *e*Pn Pn 08 41 54.4 +1.2
IPIR **Pirpir** 6.93 313 *e*Pn Pn 08 42 03.7 +0.9
IPIR *e*Sn Sn 08 43 12.6 -8.3
IANJ **Anjiloo** 7.82 342 *e*Pn Pn 08 42 17.1 +2.0
QRN **Al-Qurain** 7.91 277 *e*P Pn 08 42 17.1 +0.8
QRN AML AML 08 43 42.8
comp=Z,316nm,0.3s
KBD **Kabd** 8.13 280 *e*P Pn 08 42 19.7 +0.4
KBD AML AML 08 43 50.5
comp=Z,512nm,0.5s
KBD **Kabd** 8.13 280 *e*P Pn 08 42 19.4 0.0
UMR **Umm Al-Rimmam** 8.16 283 *e*P Pn 08 42 19.9 +0.2
UMR AML AML 08 43 49.4
comp=Z,193nm,0.4s
RDF **Al-Radifah** 8.24 278 *e*P Pn 08 42 21.7 +0.9
RDF AML AML 08 43 48.6
comp=Z,108nm,0.4s
RDF **Al-Radifah** 8.24 278 *e*P Pn 08 42 21.1 +0.3
ISHM **Shahmirzad** 8.32 340 *e*Pn Pn 08 42 24.0 +2.1
IMOG **Moghan** 8.32 14 *e*Pn Pn 08 42 26.7 +4.8
MIB **Mutribah** 8.53 284 *e*P Pn 08 42 24.6 -0.1
MIB AML AML 08 43 56.0
comp=Z,179nm,0.6s
MIB **Mutribah** 8.53 284 *e*P Pn 08 42 24.5 -0.2
NAY **Al-Naaiem** 8.54 280 *e*P Pn 08 42 24.8 -0.1
NAY AML AML 08 43 56.8
comp=Z,77nm,0.5s
NAY **Al-Naaiem** 8.54 280 *e*P Pn 08 42 24.4 -0.5
IKIA **Kiasar** 8.58 343 *e*Pn Pn 08 42 27.8 +2.3
IPAY **Payeh** 8.58 12 *e*Pn Pn 08 42 29.8 +4.3
IGLO **Galoogah** 8.73 342 *e*Pn Pn 08 42 31.5 +4.0
IMYA **Miamay** 8.73 18 *e*Pn Pn 08 42 32.3 +4.8
ASAO **Ashtian** 8.73 320 *e*PN Pn 08 42 30.0 +2.4
IKRD **Kardeh** 8.82 9 *e*Pn Pn 08 42 36.2 +7.4
IAFJ **Afjeh** 8.94 332 *e*Pn Pn 08 42 31.7 +1.3
IAFJ **Afjeh** 8.94 332 Pn Pn 08 42 31.6 +1.2
IPRN **Paran-Amol** 9.07 336 *e*Pn Pn 08 42 33.9 +1.7
CHTH **Charan** 9.23 330 *e*PN Pn 08 42 37.1 +2.6
IKOM **Komasi** 10.08 310 *e*Pn Pn 08 42 46.0 0.0
IKOM *e*Sn Sn 08 44 26.9 -11
IKOM **Komasi** 10.08 310 Pn Pn 08 42 45.9 -0.1
IGHG **Ghaleghazi** 10.81 308 *e*Pn Pn 08 42 55.6 -0.5
IDHR **Dehrash** 11.14 309 *e*Pn Pn 08 43 00.0 -0.6
IDHR *e*Sn Sn 08 44 52.2 -12
IDHR **Dehrash** 11.14 309 Pn Pn 08 42 59.9 -0.7
BHD **Baghdad** 11.94 299 *ex* x 08 43 06.0
BHD *ex* x 08 45 12.0
BHD *ex* x 08 47 01.0
BHD *ex* x 08 47 35.0
SBDP **Sheikh Budin** 12.79 67 P Pn 08 43 27.4 +4.2
THW **Thamme Wali** 13.69 66 P Pn 08 43 36.1 +0.7
MSL **Mosul** 14.26 309 *ex* x 08 43 40.0
MUKL **Al Mukalla** 15.33 210 *e*P Pn 08 43 54.9 -2.6
TVAN **Van** 15.35 316 *i*P Pn 08 44 00.4 +2.6
GNI **Garni** 15.69 323 Pn Pn 08 44 05.5 +3.3
comp=Z,1.3nm,0.3s,baz=358,slow=1.9,SNR=22
GNI LR LR 08 50 48.8
comp=Z,1µm,20.7s,baz=326,slow=40
GNI **Garni** 15.69 323 P Pn 08 44 03.7 +1.5
comp=Z,95nm,1.2s
GNI **Garni** 15.69 323 P Pn 08 44 03.7 +1.5
GNI pmax pmax
comp=Z,95nm,1.2s
GNI **Garni** 15.69 323 P Pn 08 44 03.7 +1.5
comp=Z,95nm,1.2s
MARD **Mardin** 16.38 308 *i*P Pn 08 44 14.8 +3.6
MAK **Makhachkala** 16.71 335 *e*P Pn 08 44 16.6 +1.3
KHET **Khetri** 16.73 85 *e*P Pn 08 44 16.9 +1.3
KHET AMb AMB 08 44 24.9
comp=Z,12nm,0.9s
BNGL **BINGOL** 17.01 314 *i*P Pn 08 44 29.8 +11
KUDL **Kundal** 17.33 85 *e*P Pn 08 44 24.6 +1.5
KUDL AMb AMB 08 44 33.6
comp=Z,34nm,0.8s
ERZM **Erzurum** 17.44 317 *i*P Pn 08 44 27.5 +3.0
DHBB **Dhamar BB** 17.71 223 *e*P Pn 08 44 25.4 -2.4
LBOS 17.76 220 *e*P Pn 08 44 26.0 -2.4
LBOS AMb AMB 08 44 27.2
comp=Z,123nm,1.2s
SONA **Sohna** 17.84 85 *e*P Pn 08 44 27.8 -1.6
SONA AMb AMB 08 44 40.3
comp=Z,38nm,0.9s
AYAN **Aya Nagar** 17.87 84 *e*P Pn 08 44 28.9 -0.7
AYAN AMb AMB 08 44 39.6
comp=Z,66nm,1.2s
SMLA **Simla** 17.93 75 *e*P Pn 08 44 30.8 +0.3
SMLA *e*P 08 44 31.1
SMLA *ex* x 08 47 39.2
NDI **New Delhi** 17.93 83 *e*P Pn 08 44 27.7 -2.8
NDI *e*P 08 44 30.5
NDI *ex* x 08 47 35.0
ARTV **Artvin** 17.94 321 *i*P Pn 08 44 32.7 +2.1
ANR **Andizhan** 17.98 41 *e*P Pn 08 44 29.5 -1.7
ZEI **Tsey** 18.07 328 *e*P Pn 08 44 34.7 +2.5
ONI **Oni** 18.14 327 P Pn 08 44 36.0 +3.0
ELZG **Elazig** 18.20 310 *i*P Pn 08 44 34.6 +0.9
POO **Poona** 18.23 118 *e*P Pn 08 44 35.0 +0.8
POO *ex* x 08 45 08.7
MALT **Malatya** 18.49 308 *e*P Pn 08 44 38.1 +0.8
comp=Z,32nm,0.8s
MALT **Malatya** 18.49 308 *e*P Pn 08 44 38.1 +0.8
MALT pmax pmax
comp=Z,32nm,0.8s
MALT **Malatya** 18.49 308 *e*P Pn 08 44 38.1 +0.8
comp=Z,32nm,0.8s
DDI **Dehra Dun** 18.65 78 *e*P Pn 08 44 41.1 +1.8
KK31 **Karatay Array** 18.66 33 *i*P Pn 08 44 39.1 -0.2
comp=Z,27nm,1.1s
KK31 **Karatay Array** 18.66 33 *i*P Pn 08 44 39.1 -0.2
KK31 pmax pmax
comp=Z,27nm,1.1s
KKAR **Karatay Array** 18.66 33 *i*P Pn 08 44 39.1 -0.2
comp=Z,31nm,1.2s
KKAR **Karatay Array** 18.66 33 *i*P Pn 08 44 39.1 -0.2
KKAR pmax pmax
comp=Z,31nm,1.2s
GZT **Gaziantep** 18.68 305 *i*P Pn 08 44 39.9 +0.3
KLP **Kalpa** 18.89 74 *e*P Pn 08 44 42.2 0.0
KLP AMb AMB 08 44 50.9
comp=Z,98nm,0.4s
KELT **Kelkit** 18.89 314 *i*P Pn 08 44 42.0 -0.2
KELT **Kelkit** 18.89 314 *i*P Pn 08 44 42.0 -0.2
KAD **Karad** 19.20 120 *e*P Pn 08 44 44.5 -1.4
EIL **Elat** 19.26 280 *e*P Pn 08 44 46.6 0.0
comp=Z,484nm,0.8s
EIL **Elat** 19.26 280 *e*P Pn 08 44 46.6 0.0
comp=Z,484nm,0.8s
COBT **Iskenderun** 19.34 301 *i*P Pn 08 44 48.8 +1.2
KSH **Kashi** 19.55 49 *e*P Pn 08 44 48.0 -2.0
KSH *e*PP 08 45 05.0
KSH *e*S Sn 08 48 18.8 -10
KSH *e*SS 08 48 48.3
KSH AMB AMB
comp=Z,330nm,9.4s
KSH LR LR
comp=N,1µm,9.0s
KSH LR LR
comp=E,1µm,11.7s
KIV **Kislovodsk** 19.55 328 *e*P Pn 08 44 49.0 -1.1
comp=E,52nm,1.1s
KIV **Kislovodsk** 19.55 328 *e*P Pn 08 44 49.0 -1.1
KIV *e*S Sn 08 48 29.6 +0.8
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,386nm,14.0s
KIV **Kislovodsk** 19.55 328 *e*P Pn 08 44 50.1 +0.1
comp=Z,43nm,0.9s
AML **Almayashu** 19.64 40 P Pn 08 44 50.2 -0.9
SNR=68
GRSN **GIRESUNGRSN** 19.95 315 *i*P Pn 08 44 55.1 +0.2
EKS2 **Erkin-Say** 20.03 39 P P 08 44 54.8 +0.8
SNR=37
UCH **Uchtor** 20.17 41 P P 08 44 56.1 +0.7
SNR=13
GOF **Gofitskoye** 20.25 331 *e*P P 08 44 56.6 +0.3
comp=Z,150nm,0.8s
GOF **Gofitskoye** 20.25 331 *e*P P 08 44 56.6 +0.3
GOF pmax pmax
comp=Z,150nm,0.8s
AAK **Ala-Archa** 20.41 40 P P 08 44 59.4 +1.2
SNR=25
AAK **Ala-Archa** 20.41 40 *e*P P 08 44 58.1 0.0
comp=Z,21nm,0.6s
AAK **Ala-Archa** 20.41 40⇑*e*P P 08 44 58.1 0.0
AAK pmax pmax
comp=Z,21nm,0.6s
AAK **Ala-Archa** 20.41 40⇑*e*P P 08 44 58.1 0.0
comp=Z,20nm,0.6s
KZA **Kyzart** 20.51 42 P P 08 45 00.2 +1.1
SNR=11
LGTI **Lohaghat** 20.55 80 *e*P P 08 45 01.0 +1.3
KBK **Karagaybulak** 20.69 40 P P 08 45 02.3 +1.2
SNR=5.6
SOC **Sochi** 20.77 323 *e*P P 08 45 01.5 -0.5
comp=Z,42nm,0.8s
SOC *e*S S 08 48 48.0 -4.7
SOC **Sochi** 20.77 323 *e*P P 08 45 01.5 -0.5
SOC *e* 08 45 30.4
SOC *e*S S 08 48 48.0 -4.7
SOC *e*SS 08 49 03.7
SOC pmax pmax
comp=Z,42nm,0.8s
SOC MLR MLR
comp=Z,994nm,14.0s,MS4.3
USP **Ospenovka** 20.83 39 P P 08 45 02.4 -0.2
SNR=11
ATD **Arta Tunnel** 21.02 221 P P 08 45 04.7 0.0
comp=Z,32nm,1.1s,mb4.5,baz=5.5,slow=8.5,SNR=3.2
CSS **Prodhromos** 21.19 295 *e*P P 08 45 07.7 +1.2
comp=Z,26nm,0.8s,mb4.6
CSS **Prodhromos** 21.19 295 *e*P P 08 45 07.7 +1.2
comp=Z,26nm,0.8s,mb4.6
ULHL **Ulahol** 21.20 43 P P 08 45 07.9 +1.3
SNR=19
TKM2 **Tokmak 2** 21.23 41 P P 08 45 07.4 +0.5
SNR=12
TKM2 **Tokmak 2** 21.23 41 *i*P P 08 45 07.3 +0.4
comp=Z,22nm,0.9s,mb4.5
TKM2 **Tokmak 2** 21.23 41 *i*P P 08 45 07.3 +0.4
TKM2 pmax pmax
comp=Z,22nm,0.9s,mb4.5
AB31 **Akbulak array** 21.32 6 P P 08 45 08.1 +0.1
comp=Z,12nm,0.5s,mb4.5
AB31 **Akbulak array** 21.32 6 P P 08 45 08.1 +0.1
AB31 pmax pmax
comp=Z,12nm,0.5s,mb4.5
ERMK **Ermenek** 21.93 299 *i*P P 08 45 13.4 -1.1
BOYT **Boyabat** 22.37 312 *i*P P 08 45 19.8 +0.6
AKTK **Aktyubinsk** 22.39 2 P P 08 45 19.1 -0.2
AKTO **Aktyubinsk** 22.39 2 P P 08 45 19.1 -0.2
comp=Z,17nm,0.6s,mb4.6,baz=179,slow=10,SNR=52
BR131 **Keskin Array S** 22.46 307 *e*P P 08 45 20.4 +0.3
comp=Z,22nm,0.8s,mb4.6
BR131 **Keskin Array S** 22.46 307 *e*P P 08 45 20.4 +0.3
comp=Z,22nm,0.8s,mb4.6
BRTR **Keskin Array B** 22.46 307 P P 08 45 20.6 +0.5
comp=Z,18nm,0.7s,mb4.6,baz=119,slow=12,SNR=69
BRTR ScP ScP 08 52 50.0 -0.1
comp=Z,0.5nm,0.4s,baz=145,slow=4.5,SNR=3.8
MNGI **Mangalore** 22.51 128 *ex* x 08 44 29.8
HYB **Hyderabad** 22.59 113 *i*P P 08 45 22.0 +0.5
HYB **Hyderabad** 22.59 113 *e*P P 08 45 22.0 +0.5
ANN **Anapa** 22.80 322 *e*P P 08 45 22.8 -1.0
comp=Z,48nm,1.0s,mb4.9
ANN **Anapa** 22.80 322 *e*P P 08 45 22.8 -1.0
ANN *e*PP 08 45 33.6
ANN *e* 08 45 49.3
ANN *e*S S 08 49 30.9 -0.9
ANN pmax pmax
comp=Z,48nm,1.0s,mb4.9
ANN MLR MLR
comp=Z,963nm,18.0s,MS4.3
ELDT **Eldivan** 22.93 309 *i*P P 08 45 25.8 +0.8
ANTO **Ankara** 23.11 307 *e*P P 08 45 27.7 +0.7
comp=Z,25nm,0.8s,mb4.7
ANTO **Ankara** 23.11 307 *e*P P 08 45 27.7 +0.7
ANTO pmax pmax
comp=Z,25nm,0.8s,mb4.7
KOLN **Koldanda** 23.62 84 *e*P P 08 45 32.8 +0.6
comp=Z,49nm,0.9s,mb4.9
TKTP **Tekketepe** 24.31 301 *i*P P 08 45 39.2 +0.7
ESKT **Eskisehir** 24.38 305 *i*P P 08 45 39.7 +0.7
SEYT **Eskypehyr** 24.38 305 *i*P P 08 45 39.7 +0.6
GKN **Gorkha** 24.51 83 *e*P P 08 45 41.2 +1.0
comp=Z,43nm,0.5s,mb5.2
SIM **Simferopol'** 24.75 319 P P 08 45 43.1 +0.6
comp=Z,33nm,0.6s,mb5.0
SIM **Simferopol'** 24.75 319 P P 08 45 43.1 +0.6
SIM pmax pmax
comp=Z,33nm,0.6s,mb5.0
HENT **Hendek** 24.82 308 *i*P P 08 45 43.5 +0.4
DMN **Daman** 24.97 84 *e*P P 08 45 45.3 +0.9
comp=Z,80nm,0.9s,mb5.3
KKN **Kakani** 25.10 84 *e*P P 08 45 46.2 +0.6
comp=Z,67nm,0.6s,mb5.4
KKN **Kakani** 25.10 84 *e*P P 08 45 46.2 +0.6
KKN pmax pmax
comp=Z,33nm,0.6s,mb5.0
DNZL **Cakiroluk** 25.19 300 *i*P P 08 45 46.8 +0.4
PKI **Pulchoki** 25.24 84 *e*P P 08 45 47.5 +0.6
comp=Z,48nm,0.5s,mb5.3
PKI **Pulchoki** 25.24 84 *e*P P 08 45 47.5 +0.6
PKI pmax pmax
comp=Z,24nm,0.5s,mb5.0
GUN **Gumba** 25.61 83 *e*P P 08 45 51.1 +0.8
comp=Z,71nm,0.5s,mb5.4
VRHR **Novokhopersk** 25.75 338 *e*P P 08 45 51.0 -0.5
comp=Z,20nm,0.6s,mb4.8
VRHR **Novokhopersk** 25.75 338 *e*P P 08 45 51.0 -0.5
VRHR pmax pmax
comp=Z,160nm,0.4s,mb5.9
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.1s
ULDT **Uludag** 25.83 305 *i*P P 08 45 53.2 +0.9
JIRN **Jiri** 25.91 84 *e*P P 08 45 53.8 +0.8
comp=E,46nm,0.5s,mb5.2
BOK **Bokaro** 26.42 93 *e*P P 08 45 59.7 +2.1
ZRNK **Zerenda** 26.47 17 *e*P P 08 45 57.7 -0.4
comp=E,20nm,0.9s,mb4.7
ZRNK **Zerenda** 26.47 17 *e*P P 08 45 57.7 -0.4
ZRNK pmax pmax
comp=Z,20nm,0.9s,mb4.7
ZRNK **Zerenda** 26.47 17 *e*P P 08 45 57.7 -0.4
comp=Z,20nm,0.9s,mb4.7
BTOK **Tokmak** 26.52 304 *i*P P 08 45 59.3 +0.8
VRSR **Storozhevoye** 26.72 335 *e*P P 08 45 59.8 -0.5
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=E,9.0nm,0.8s
VOSK **Vostochnaya** 26.81 19 P P 08 46 00.8 -0.3
comp=E,16nm,0.9s,mb4.5
VOSK **Vostochnaya** 26.81 19 P P 08 46 00.8 -0.3
VOSK pmax pmax
comp=Z,16nm,0.9s,mb4.5
BRVK **Borovoye** 26.91 18 *e*P P 08 46 01.6 -0.4
comp=Z,8.0nm,0.8s,mb4.3
BRVK **Borovoye** 26.91 18 *e*P P 08 46 01.6 -0.4
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
BRVK **Borovoye** 26.91 18 *e*P P 08 46 01.6 -0.4
comp=Z,8.4nm,0.8s,mb4.3
BVA0 **Borovoye Array** 26.91 18 *i*P P 08 46 01.9 -0.1
comp=Z,5.0nm,0.9s,mb4.0
BVA0 **Borovoye Array** 26.91 18 *i*P P 08 46 01.9 -0.1
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
BVAR **Borovoye Array** 26.91 18 P P 08 46 01.9 -0.1
comp=Z,28nm,0.9s,mb4.8,baz=199,slow=8.8,SNR=102
BVAR PcP PcP 08 49 23.1 -0.7
comp=Z,1.2nm,0.5s,baz=172,slow=2.0,SNR=4.2
BVAR **Borovoye Array** 26.91 18 PcP PcP 08 49 23.1 -0.7
VOR **Voronezh** 27.13 336 *e*P P 08 46 03.0 -1.0
VOR pmax pmax
comp=N,100nm,1.2s
VOR pmax pmax
comp=E,150nm,1.2s
VOR pmax pmax
comp=Z,190nm,1.2s,mb5.5
MKAR **Makanchi Array** 27.35 40 P P 08 46 05.5 -0.5
comp=Z,3.3nm,0.4s,mb4.2,baz=227,slow=9.1,SNR=78
MKAR **Makanchi Array** 27.35 40⇑*e*P P 08 46 06.0 0.0
KURK **Kurchatov** 28.02 30⇑*e*P P 08 46 11.9 0.0
comp=Z,11nm,0.9s,mb4.5
KURK **Kurchatov** 28.02 30 P P 08 46 12.2 +0.3
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KURK **Kurchatov** 28.02 30⇑*e*P P 08 46 11.8 -0.1
comp=Z,11nm,0.9s,mb4.5
IDI **Anoyia** 28.07 293 P P 08 46 12.9 +0.5
comp=Z,20nm,0.7s,mb4.8,baz=147,slow=6.3,SNR=4.6
ARU **Arti** 28.40 2 *i*P P 08 46 15.2 -0.2
comp=Z,7.0nm,0.9s,mb4.3
ARU **Arti** 28.40 2 *e*PcP PcP 08 49 24.2 -3.2
ARU *e*S S 08 50 58.4 -2.7
ARU **Arti** 28.40 2⇑*i*P P 08 46 15.2 -0.2
ARU *e* 08 49 24.2
ARU *e*S S 08 50 58.4 -2.7
ARU *e*SS 08 52 20.1
ARU *e* 08 56 51.1
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
WMQ **Urumqi** 29.31 49 *e*P P 08 46 24.0 +0.6
WMQ PP PP 08 47 19.0 -11
WMQ S S 08 51 08.0 -7.3
WMQ AMB AMB
comp=Z,15nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,127nm,3.0s
WMQ LR LR
comp=N,586nm,10.0s,MS4.6
WMQ LR LR
comp=E,532nm,10.0s,MS4.6
WMQ LR LR
comp=Z,668nm,10.0s,MS4.6
LSA **Lhasa** 30.02 79 *e*P P 08 46 33.5 +3.8
MLR **Muntele Rosu** 30.03 314 P P 08 46 31.2 +1.5
comp=Z,7.2nm,0.9s,mb4.4,baz=58,slow=9.4,SNR=6.0
VOIR 30.58 313 ⇑P P 08 46 34.9 +0.2
AKASG **Malin Array Be** 30.81 325 P P 08 46 35.6 -1.1
comp=Z,3.8nm,0.5s,mb4.5,baz=130,slow=8.2,SNR=36
AKASG ScP ScP 08 53 12.4 -2.4
comp=Z,0.2nm,0.2s,baz=94,slow=2.7,SNR=4.5
BURAR **Bucovina Array** 31.41 317 ⇑P P 08 46 42.2 +0.2
SOKR **Solikamsk** 31.53 360 *e*P P 08 46 43.3 +0.3
comp=Z,50nm,1.5s,mb5.1
SOKR **Solikamsk** 31.53 360 *e*P P 08 46 43.3 +0.3
SOKR pmax pmax
comp=Z,50nm,1.5s,mb5.1
BOLS **Boljevac** 32.08 309 ⇓*i*P P 08 46 47.2 -0.6
BZS **Buzias** 32.88 312 ⇑P P 08 46 54.8 -0.1
ZAL **Zalesovo** 32.99 31 P P 08 46 55.2 -0.6
comp=Z,24nm,0.4s,mb5.5,baz=234,slow=7.5,SNR=61
ZAL **Zalesovo** 32.99 31 P P 08 46 55.2 -0.6
KOLS **Kolonicke sedl** 33.76 318 *i*P P 08 47 03.4 +0.9
KOLS *e*pP pP 08 47 09.6 +0.1
KWP **Kalwaria** 33.81 319 *e*P P 08 47 02.7 -0.3
comp=Z,25nm,0.6s,mb5.3
KWP **Kalwaria** 33.81 319 *e*P P 08 47 02.7 -0.3
KWP pmax pmax
comp=Z,25nm,0.6s,mb5.3
KWP **Kalwaria** 33.81 319 *e*P P 08 47 02.7 -0.3
comp=Z,25nm,0.6s,mb5.3
CRVS **Cervenica-Dubn** 34.23 317 *e*P P 08 47 08.0 +1.4
KMBO **Kilima Mbogo** 34.57 216 P P 08 47 10.9 +1.4
comp=Z,1.2nm,0.6s,mb4.0,baz=35,slow=14,SNR=4.3
KMBO **Kilima Mbogo** 34.57 216 P P 08 47 09.6 0.0
comp=Z,6.0nm,1.3s,mb4.4
KMBO **Kilima Mbogo** 34.57 216 P P 08 47 09.6 0.0
KMBO pmax pmax
comp=Z,6.0nm,1.3s
STHS **Stebnicka Huta** 34.57 318 *e*pP pP 08 47 16.4 -0.2
KECS **Kecovo** 34.65 316 *e*P P 08 47 10.5 +0.2
KECS *e*sP sP 08 47 18.2 -2.0
OJC **Ojcow** 35.76 319 *i*Pc 08 47 19.8
OKC **Ostrava-Krasne** 36.59 317 *e*P P 08 47 24.3 -2.6
OKC *e*pP pP 08 47 31.9 -2.1
VSU **Vasula** 36.91 334 *i*P P 08 47 29.4 -0.2
VSU **Vasula** 36.91 334 *e i*P P 08 47 29.4 -0.2
MORC **Moravsky Berou** 36.93 317 *e*P P 08 47 28.8 -1.0
comp=Z,13nm,1.1s,mb4.7
MORC *e*pP pP 08 47 36.4 -0.5
MORC **Moravsky Berou** 36.93 317 *e*P P 08 47 28.8 -1.0
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.7
MORC **Moravsky Berou** 36.93 317 *e*P P 08 47 28.8 -1.1
comp=Z,13nm,1.1s,mb4.7
MORC *e*pP pP 08 47 36.4 -0.5
GTA **Gaotai** 37.17 61 *e*P P 08 47 32.5 +0.6
GTA PP PP 08 49 00.3 +3.5
GTA PCP PcP 08 49 54.0 +2.3
GTA S S 08 53 17.0 -0.2
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GTA AMB AMB
comp=Z,730nm,5.3s
GTA LR LR
comp=N,463nm,13.7s,MS4.6
GTA LR LR
comp=E,604nm,16.3s,MS4.6
GTA LR LR
comp=Z,658nm,14.1s,MS4.6
VRAC **Vranov** 37.35 316 *e*P P 08 47 33.3 -0.1
ARSA **Arzberg** 37.40 312 ⇑*i*P P 08 47 34.0 +0.2
comp=Z,8.8nm,0.8s,mb4.6
DPC **Dobruska-Polom** 37.87 317 *e*P P 08 47 37.5 -0.3
DPC *e*pP pP 08 47 44.2 -0.7
KRAR **Krasnoyarsk** 37.96 32 *e*P P 08 47 39.0 +0.4
comp=Z,61nm,0.6s,mb5.5
KRAR **Krasnoyarsk** 37.96 32 *e*P P 08 47 39.0 +0.4
KRAR pmax pmax
comp=Z,61nm,0.6s,mb5.5
TREC **Trest** 38.03 315 *e*P P 08 47 39.2 +0.1
TREC *e*pP pP 08 47 46.0 -0.2
UPC **Upice** 38.11 317 *e*P P 08 47 39.6 -0.2
UPC *e*pP pP 08 47 47.0 +0.1
MOA **Molln** 38.38 313 ⇑*i*P P 08 47 41.9 -0.2
comp=Z,20nm,0.8s,mb4.9
JOF **Joensuu** 38.67 342 *e*p P 08 47 43.6 -1.0
comp=Z,17nm,0.8s,mb4.8
KBA **Koelnbreinsper** 38.79 311 ⇑*i*P P 08 47 45.5 0.0
comp=Z,12nm,0.9s,mb4.6
KBA **Koelnbreinsper** 38.79 311 P P 08 47 45.5 0.0
comp=Z,12nm,0.9s,mb4.6
GEC2 **GERESS Array S** 39.01 314 *e*P P 08 47 46.6 -0.8
comp=Z,30nm,1.4s,mb4.8
GEC2 **GERESS Array S** 39.01 314 *e*P P 08 47 46.6 -0.8
GEC2 pmax pmax
comp=Z,30nm,1.4s,mb4.8
GERES **GERESS Array B** 39.01 314 P P 08 47 46.8 -0.6
comp=Z,6.1nm,0.7s,mb4.4,baz=108,slow=8.6,SNR=40
KHC **Kasperske Hory** 39.17 315 *e*P P 08 47 48.5 -0.2
KHC *e*pP pP 08 47 55.1 -0.7
KHC *e*sP sP 08 47 57.8 -0.8
FINES **FINESS Array B** 39.20 337 P P 08 47 48.4 -0.6
comp=Z,18nm,0.6s,mb5.0,baz=125,slow=12,SNR=85

BRG Berggiesshubel 39.48 317 *i* P **P 08 47 50.9 -0.4**
comp=Z,6.5nm,1.0s,mb4.3
BRG *e* pP 08 47 57.9 -0.4
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 39.48 317 *e*P **P 08 47 50.8 -0.5**
comp=Z,7.0nm,1.0s,mb4.3
KAF Kangasniemi 39.59 338 *e*p **P 08 47 51.1 -1.2**
comp=Z,6.5nm,0.8s,mb4.4,baz=133,slow=8.5
KAF Kangasniemi 39.59 338 *e*P **P 08 47 51.1 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WET Wettzell 39.62 314 *e*P **P 08 47 51.3 -1.2**
comp=Z,6.0nm,1.0s,mb4.3
WET Wettzell 39.62 314 *e*P **P 08 47 51.3 -1.2**
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
WTTA Wattenberg 39.97 311⇑*i*P **P 08 47 54.8 -0.6**
comp=Z,43nm,1.0s,mb5.1
CLL Collm 40.17 318⇓*i*P **P 08 47 57.2 +0.1**
comp=Z,40nm,1.4s,mb5.0
CLL *i* sP sP 08 48 04.1 -2.9
CLL *e*PPP 08 49 55.0
CLL Collm 40.17 318 *e*P **P 08 47 57.2 +0.1**
comp=Z,24nm,1.4s,mb4.7
CLL Collm 40.17 318⇓*i*P **P 08 47 57.2 +0.1**
CLL pmax pmax
comp=Z,40nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,1μm,17.7s,MS4.8
NKC Novy Kostel 40.19 316 *e*P **P 08 47 57.1 -0.1**
NKC *e*pP pP 08 48 04.0 -0.3
ROTZ Rotzenmuhle 40.21 315 *e*P **P 08 47 57.0 -0.4**
comp=Z,13nm,0.9s,mb4.7
SQTA Sankt Quirin 40.24 311⇓*i*P **P 08 47 56.9 -0.8**
comp=Z,9.7nm,0.8s,mb4.6
LZH Lanzhou 40.30 66 *e*P **P 08 47 57.0 -1.2**
LZH AP pP 08 48 04.5 -0.7
LZH XP sP 08 48 08.0 -0.1
LZH PP PP 08 49 33.5 +2.4
LZH *e*S **S 08 54 01.8 -2.6**
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,68nm,4.2s
LZH LR LR
comp=N,356nm,13.6s
LZH LR LR
comp=Z,642nm,14.6s,MS4.6
MOTA Moosalm 40.34 311⇑*i*P **P 08 47 57.3 -1.1**
comp=Z,17nm,1.0s,mb4.7
MOTA Moosalm 40.34 311 P **P 08 47 57.3 -1.1**
comp=Z,17nm,1.0s,mb4.7
MOY Mondy 40.46 42 *e*P **P 08 47 58.8 -0.6**
BSD Bornholm Skovb 40.50 324 *i* P **P 08 47 58.4 -1.4**
comp=Z,52nm,0.6s,mb5.4
BSD Bornholm Skovb 40.50 324 *e*P **P 08 47 58.4 -1.4**
comp=Z,52nm,0.6s,mb5.4
BSD Bornholm Skovb 40.50 324 *e*P **P 08 47 58.4 -1.4**
BSD pmax pmax
comp=Z,52nm,0.6s,mb5.4
CD2 Chengdu 40.70 74 *e*P **P 08 48 01.8 +0.3**
CD2 PP PP 08 49 39.0 +3.6
CD2 S **S 08 54 10.8 +0.4**
CD2 SS SS 08 57 05.3 -5.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CD2 AMB AMB
comp=Z,50nm,4.8s
CD2 LR LR
comp=E,480nm,16.8s
CD2 LR LR
comp=Z,390nm,15.6s,MS4.4
GRA1 Grafenberg Arr 40.80 315 *e*P **P 08 48 01.9 -0.4**
comp=Z,30nm,0.9s,mb4.9
GRF Grafenberg Arr 40.80 315 *e*P **P 08 48 01.9 -0.4**
comp=Z,30nm,0.9s,mb4.9
GRF Grafenberg Arr 40.80 315 *e*P **P 08 48 01.9 -0.4**
GRF pmax pmax
comp=Z,30nm,0.9s,mb4.9
MOX Moxa 40.82 316 *e*P **P 08 48 02.0 -0.4**
comp=Z,5.0nm,1.1s,mb4.1
KMI Kunming 40.96 83 P **P 08 48 04.3 +0.8**
KMI S **S 08 54 15.3 +1.2**
KMI AMB AMB
comp=Z,21nm,1.1s,mb4.7
KMI LR LR
comp=Z,379nm,20.1s,MS4.2
PGF Pioggiola 41.12 304 *e*P **P 08 48 04.4 -0.5**
comp=Z,138nm,1.4s,mb5.1
PGF Pioggiola 41.12 304 *e*P **P 08 48 04.4 -0.5**
comp=Z,69nm,1.4s,mb5.1
PGF Pioggiola 41.12 304 *e*P **P 08 48 04.4 -0.5**
PGF pmax pmax
comp=Z,69nm,1.4s,mb5.1
DAVA Damuels 41.14 311⇑*i*P **P 08 48 04.3 -0.8**
comp=Z,39nm,0.8s,mb5.1
ZAK Zakamensk 41.47 44 *e*P **P 08 48 07.0 -0.8**
comp=Z,9.0nm,1.7s,mb4.1
ZAK Zakamensk 41.47 44 *e*P **P 08 48 07.0 -0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.1
UBBA Unterbreizbach 41.85 316 *e*P **P 08 48 10.5 -0.4**
CLZ Clausthal 41.90 318 *e*P **P 08 48 11.4 +0.1**
comp=Z,23nm,1.1s,mb4.7
CLZ Clausthal 41.90 318 *e*P **P 08 48 11.4 +0.1**
CLZ pmax pmax
comp=Z,23nm,1.1s,mb4.7
APA Apatity 42.02 347 *i* P **P 08 48 11.8 -0.4**
comp=Z,39nm,1.0s,mb5.0
APA Apatity 42.02 347⇑*i*P **P 08 48 11.8 -0.4**
APA pmax pmax
comp=Z,39nm,1.0s,mb5.0
LVZ Lovozero 42.06 348 *e*P **P 08 48 12.0 -0.6**
comp=Z,7.0nm,1.0s,mb4.2
LVZ Lovozero 42.06 348 *e*P **P 08 48 12.0 -0.6**
LVZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
SBF Sospel 42.37 305⇑*i*P **P 08 48 14.4 -0.8**
comp=Z,89nm,1.0s,mb5.0
SBF Sospel 42.37 305⇑*i*P **P 08 48 14.4 -0.8**
SBF pmax pmax
comp=Z,44nm,1.0s,mb5.0
SBF Sospel 42.37 305⇑*i*P **P 08 48 14.4 -0.8**
comp=Z,44nm,1.0s,mb5.0
BSEG Bad Segeberg 42.56 321 *e*P **P 08 48 16.0 -0.7**
comp=Z,12nm,0.9s,mb4.6
BSEG Bad Segeberg 42.56 321 *e*P **P 08 48 16.0 -0.7**
BSEG pmax pmax
comp=Z,12nm,0.9s,mb4.6
TNS Taunus Mts 42.67 315 *e*P **P 08 48 17.5 -0.1**
comp=Z,13nm,1.0s,mb4.6
TNS Taunus Mts 42.67 315 *e*P **P 08 48 17.5 -0.1**
TNS pmax pmax
comp=Z,13nm,1.0s,mb4.6
FRF La Foret Royal 42.92 305 *e*P **P 08 48 18.3 -1.3**
MBDF Montbardon 42.93 307 *e*P **P 08 48 18.5 -1.1**
comp=Z,18nm,0.7s,mb4.6
MBDF Montbardon 42.93 307 *e*P **P 08 48 18.5 -1.1**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MBDF Montbardon 42.93 307 *e*P **P 08 48 18.5 -1.1**
comp=Z,8.9nm,0.7s,mb4.6
SONM Songino Array 42.95 49 P **P 08 48 19.9 +0.1**
comp=Z,2.9nm,0.7s,mb4.1,baz=260,slow=8.7,SNR=20
LMR La Mourre 43.01 305 *e*P **P 08 48 18.9 -1.4**
LPG La Plagne 43.02 308⇑*i*P **P 08 48 19.7 -0.7**
comp=Z,38nm,0.7s,mb5.0
LPG La Plagne 43.02 308⇑*i*P **P 08 48 19.7 -0.7**
LPG pmax pmax
comp=Z,19nm,0.7s,mb4.9
LPG La Plagne 43.02 308⇑*i*P **P 08 48 19.7 -0.7**
comp=Z,19nm,0.7s,mb4.9
BNI Bardonecchia 43.02 307 *e*P **P 08 48 18.9 -1.5**
comp=Z,12nm,0.6s,mb4.8
BNI Bardonecchia 43.02 307 *e*P **P 08 48 18.9 -1.5**
BNI pmax pmax
comp=Z,12nm,0.6s,mb4.8
BNI Bardonecchia 43.02 307 *e*P **P 08 48 18.9 -1.5**
comp=Z,12nm,0.6s,mb4.8
LPL La Plagne 43.03 308⇑*i*P **P 08 48 19.5 -1.0**
comp=Z,24nm,0.6s,mb4.8
LPL La Plagne 43.03 308⇑*i*P **P 08 48 19.5 -1.0**
LPL pmax pmax
comp=Z,12nm,0.6s,mb4.8
LPL La Plagne 43.03 308⇑*i*P **P 08 48 19.5 -1.0**
comp=Z,12nm,0.6s,mb4.8

CDF Champ du Feu 43.07 312 *e*P **P 08 48 19.2 -1.6**
comp=Z,14nm,0.9s,mb4.4
CDF Champ du Feu 43.07 312 *e*P **P 08 48 19.2 -1.6**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
CDF Champ du Feu 43.07 312 *e*P **P 08 48 19.2 -1.6**
comp=Z,7.2nm,0.9s,mb4.4
ECH Echery 43.12 312 *e*P **P 08 48 20.4 -0.8**
RSL Roselend 43.13 308 *e*P **P 08 48 20.6 -0.7**
HINF Hinteralfeld 43.25 311⇑*i*P **P 08 48 20.9 -1.4**
comp=Z,13nm,0.8s,mb4.4
HINF Hinteralfeld 43.25 311⇑*i*P **P 08 48 20.9 -1.4**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
HINF Hinteralfeld 43.25 311⇑*i*P **P 08 48 20.9 -1.4**
comp=Z,6.4nm,0.8s,mb4.4
ULN Ulaanbaatar 43.39 49 *e*P **P 08 48 23.2 -0.2**
comp=Z,4.9nm,0.6s,mb4.4
ULN Ulaanbaatar 43.39 49⇑*i*P **P 08 48 23.4 0.0**
ULN Ulaanbaatar 43.39 49 *e*P **P 08 48 23.2 -0.2**
comp=Z,4.9nm,0.6s,mb4.4
ORIF Oris-en-Rattie 43.58 307 *e*P **P 08 48 23.6 -1.3**
IBBN Ibbenburen 43.58 318 *e*P **P 08 48 24.8 -0.1**
comp=Z,23nm,1.2s,mb4.8
CABF La Chapelle 43.61 309⇑*i*P **P 08 48 24.6 -0.5**
comp=Z,42nm,0.9s,mb4.9
CABF La Chapelle 43.61 309⇑*i*P **P 08 48 24.6 -0.5**
CABF pmax pmax
comp=Z,21nm,0.9s,mb4.9
CABF La Chapelle 43.61 309⇑*i*P **P 08 48 24.6 -0.5**
comp=Z,21nm,0.9s,mb4.9
HAU Haudompre 43.62 311⇑*i*P **P 08 48 24.8 -0.4**
comp=Z,12nm,0.8s,mb4.4
HAU Haudompre 43.62 311⇑*i*P **P 08 48 24.8 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
HAU Haudompre 43.62 311⇑*i*P **P 08 48 24.8 -0.4**
comp=Z,6.2nm,0.8s,mb4.4
BUG Bochum--Univer 43.67 316 *e*P **P 08 48 25.8 +0.1**
comp=Z,10.0nm,0.8s,mb4.6
WLF Walferdange 44.02 314 P **P 08 48 28.2 -0.3**
WLF AP pP 08 48 35.1 -0.5
WLF Walferdange 44.02 314 *e*P **P 08 48 27.8 -0.6**
MEM Membach 44.28 315 P **P 08 48 31.0 +0.5**
comp=Z,11nm,0.7s,mb4.7
MEM AP pP 08 48 37.1 -0.5
MEM XP sP 08 48 40.6 +0.1
VIVF Saint-Julien-l 44.43 307⇑*i*P **P 08 48 30.4 -1.3**
comp=Z,24nm,1.0s,mb4.6
VIVF Saint-Julien-l 44.43 307⇑*i*P **P 08 48 30.4 -1.3**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.6
VIVF Saint-Julien-l 44.43 307⇑*i*P **P 08 48 30.4 -1.3**
comp=Z,12nm,1.0s,mb4.6
MEZF Maizieres J'vi 44.55 312 *e*P **P 08 48 32.4 -0.3**
XAN Xi'an 44.62 69 P **P 08 48 32.5 -0.8**
XAN AP pP 08 48 39.8 -0.6
XAN AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
NB2 NORSAR Subarra 44.83 330 P **P 08 48 33.4 -1.5**
comp=Z,10nm,0.8s,mb4.7,baz=115,slow=7.9
NOA NORSAR Array B 44.83 330 P **P 08 48 33.4 -1.5**
comp=Z,7.2nm,0.7s,mb4.6,baz=116,slow=7.9,SNR=18
GIVF Givet 44.94 314 *e*P **P 08 48 34.9 -0.9**
comp=Z,57nm,1.0s,mb5.1
GIVF Givet 44.94 314 *e*P **P 08 48 34.9 -0.9**
GIVF pmax pmax
comp=Z,29nm,1.0s,mb5.1
GIVF Givet 44.94 314 *e*P **P 08 48 34.9 -0.9**
comp=Z,28nm,1.0s,mb5.0
LASF Ste Croix 44.97 305 *e*P **P 08 48 35.1 -0.9**
comp=Z,16nm,0.8s,mb4.6
DOU Dourbes 45.08 314 ⇓P **P 08 48 37.4 +0.5**
comp=Z,8.3nm,0.8s,mb4.6
DOU AP pP 08 48 44.0 -0.1
SMF Signal de Mont 45.15 309⇑*i*P **P 08 48 36.7 -0.8**
comp=Z,80nm,1.0s,mb5.2
SMF Signal de Mont 45.15 309⇑*i*P **P 08 48 36.7 -0.8**
SMF pmax pmax
comp=Z,40nm,1.0s,mb5.2
SMF Signal de Mont 45.15 309⇑*i*P **P 08 48 36.7 -0.8**
comp=Z,40nm,1.0s,mb5.2
KEV Kevo 45.16 346 *e*p **P 08 48 35.2 -2.3**
comp=Z,18nm,0.7s,mb5.0
KEV Kevo 45.16 346 *e*P **P 08 48 35.2 -2.3**
KEV pmax pmax
comp=Z,19nm,0.7s,mb5.0
LOR Lormes 45.20 310⇑*i*P **P 08 48 36.8 -1.0**
comp=Z,31nm,0.8s,mb4.9
LOR Lormes 45.20 310⇑*i*P **P 08 48 36.8 -1.0**
LOR pmax pmax
comp=Z,16nm,0.8s,mb4.9
LOR Lormes 45.20 310⇑*i*P **P 08 48 36.8 -1.0**
comp=Z,16nm,0.8s,mb4.9
PLDF La Plantade 45.25 308 *e*P **P 08 48 37.9 -0.3**
ARCES ARCESS Array B 45.32 345 P **P 08 48 37.8 -1.1**
comp=Z,8.2nm,0.8s,mb4.6,baz=132,slow=8.1,SNR=14
SNF Seneffe 45.34 315 P **P 08 48 39.3 +0.2**
comp=Z,7.2nm,0.7s,mb4.6
SSF Saint Saulge 45.42 310⇑*i*P **P 08 48 38.8 -0.8**
comp=Z,59nm,0.8s,mb5.1
SSF Saint Saulge 45.42 310⇑*i*P **P 08 48 38.8 -0.8**
SSF pmax pmax
comp=Z,29nm,0.8s,mb5.2
SSF Saint Saulge 45.42 310⇑*i*P **P 08 48 38.8 -0.8**
comp=Z,29nm,0.8s,mb5.2
LBL Lubilhac 45.46 307 *e*P **P 08 48 40.2 +0.3**
AVF Avril sur Loir 45.50 309⇑*i*P **P 08 48 39.2 -1.0**
comp=Z,23nm,0.8s,mb4.8
AVF Avril sur Loir 45.50 309⇑*i*P **P 08 48 39.2 -1.0**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.7
AVF Avril sur Loir 45.50 309⇑*i*P **P 08 48 39.2 -1.0**
comp=Z,11nm,0.8s,mb4.8
AGO Saint Agoulin 45.59 308 *e*P **P 08 48 40.9 -0.1**
BGF Bois d'Agland 45.83 309⇑*i*P **P 08 48 42.0 -0.8**
comp=Z,33nm,0.7s,mb5.1
BGF Bois d'Agland 45.83 309⇑*i*P **P 08 48 42.0 -0.8**
BGF pmax pmax
comp=Z,16nm,0.7s,mb5.1
BGF Bois d'Agland 45.83 309⇑*i*P **P 08 48 42.0 -0.8**
comp=Z,16nm,0.7s,mb5.1
HYF Humbligny 46.02 310 *e*P **P 08 48 44.3 -0.1**
MTLF Montolieu 46.13 304 *e*P **P 08 48 44.9 -0.4**
comp=Z,40nm,1.3s,mb4.9
MTLF Montolieu 46.13 304 *e*P **P 08 48 44.9 -0.4**
MTLF pmax pmax
comp=Z,20nm,1.3s,mb4.9
MTLF Montolieu 46.13 304 *e*P **P 08 48 44.9 -0.4**
comp=Z,20nm,1.3s,mb4.9
HHC Hu-ho-hao-te 46.21 59 *e*P **P 08 48 46.3 +0.5**
HHC AP pP 08 48 52.0 -1.0
HHC PP PP 08 50 32.0 -2.4
HHC PCS PcS 08 54 16.8 +1.0
HHC S **S 08 55 28.3 -2.6**
HHC SS SS 08 58 46.8 -9.4
HHC AMB AMB
comp=Z,13nm,0.6s,mb5.0
HHC LR LR
comp=N,590nm,21.4s,MS4.8
HHC LR LR
comp=E,828nm,20.2s,MS4.8
HHC LR LR
comp=Z,543nm,22.6s,MS4.4
TCF Toulx Ste Croi 46.25 308⇑*i*P **P 08 48 45.7 -0.4**
comp=Z,44nm,0.9s,mb5.1
TCF Toulx Ste Croi 46.25 308⇑*i*P **P 08 48 45.7 -0.4**
TCF pmax pmax
comp=Z,22nm,0.9s,mb5.1
TCF Toulx Ste Croi 46.25 308⇑*i*P **P 08 48 45.7 -0.4**
comp=Z,22nm,0.9s,mb5.1
CAF Calviac 46.28 307⇑*i*P **P 08 48 46.1 -0.3**
comp=Z,18nm,0.7s,mb4.8
CAF Calviac 46.28 307⇑*i*P **P 08 48 46.1 -0.3**
CAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CAF Calviac 46.28 307⇑*i*P **P 08 48 46.1 -0.3**
comp=Z,8.8nm,0.7s,mb4.8
RJF Les Rejaudoux 46.68 307⇑*i*P **P 08 48 49.5 -0.1**
comp=Z,32nm,0.8s,mb5.0
RJF Les Rejaudoux 46.68 307⇑*i*P **P 08 48 49.5 -0.1**
RJF pmax pmax
comp=Z,16nm,0.8s,mb5.0
RJF Les Rejaudoux 46.68 307⇑*i*P **P 08 48 49.5 -0.1**
comp=Z,16nm,0.8s,mb5.0
LFF La Frestale 47.22 307⇑*i*P **P 08 48 53.6 -0.2**

MFF Saint Martin d 47.89 309 *e*P **P 08 48 57.9 -1.1**
comp=Z,17nm,0.9s,mb4.8
MFF Saint Martin d 47.89 309 *e*P **P 08 48 57.9 -1.1**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MFF Saint Martin d 47.89 309 *e*P **P 08 48 57.9 -1.1**
comp=Z,8.3nm,0.9s,mb4.8
LDF La Druitiere 47.98 311⇑*i*P **P 08 48 58.3 -1.3**
ETSF Etsaut 48.17 304 *e*P **P 08 49 00.1 -1.0**
comp=Z,44nm,1.2s,mb5.1
ETSF Etsaut 48.17 304 *e*P **P 08 49 00.1 -1.0**
ETSF pmax pmax
comp=Z,22nm,1.2s,mb5.1
ETSF Etsaut 48.17 304 *e*P **P 08 49 00.1 -1.0**
comp=Z,22nm,1.2s,mb5.1
FLN La Foliniere 48.23 312 *e*P **P 08 49 00.3 -1.3**
comp=Z,72nm,1.1s,mb5.3
FLN La Foliniere 48.23 312 *e*P **P 08 49 00.3 -1.3**
FLN pmax pmax
comp=Z,36nm,1.0s,mb5.4
FLN La Foliniere 48.23 312 *e*P **P 08 49 00.3 -1.3**
comp=Z,36nm,1.0s,mb5.4
GRR Gorron 48.45 311 *e*P **P 08 49 02.4 -0.9**
comp=Z,38nm,0.9s,mb5.1
GRR Gorron 48.45 311 *e*P **P 08 49 02.4 -0.9**
GRR pmax pmax
comp=Z,19nm,0.9s,mb5.1
GRR Gorron 48.45 311 *e*P **P 08 49 02.4 -0.9**
comp=Z,19nm,0.9s,mb5.1
SJPF Ste Jean 48.65 304 *e*P **P 08 49 04.9 +0.1**
BOD Bodaibo 49.34 36 *e*P **P 08 49 08.3 -1.8**
comp=Z,12nm,0.9s,mb4.9
BOD Bodaibo 49.34 36 *e*P **P 08 49 08.3 -1.8**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.9
SGMF Saint Gilles 49.58 311⇑*i*P **P 08 49 11.0 -0.9**
comp=Z,40nm,0.8s,mb5.2
SGMF Saint Gilles 49.58 311⇑*i*P **P 08 49 11.0 -0.9**
SGMF pmax pmax
comp=Z,20nm,0.8s,mb5.2
SGMF Saint Gilles 49.58 311⇑*i*P **P 08 49 11.0 -0.9**
comp=Z,20nm,0.8s,mb5.2
QUIF Quistinic 49.98 310 *e*P **P 08 49 13.9 -1.1**
comp=Z,120nm,1.2s,mb5.5
QUIF Quistinic 49.98 310 *e*P **P 08 49 13.9 -1.1**
QUIF pmax pmax
comp=Z,60nm,1.2s,mb5.5
QUIF Quistinic 49.98 310 *e*P **P 08 49 13.9 -1.1**
comp=Z,60nm,1.2s,mb5.5
ROSF Rostrenen 50.06 311 *e*P **P 08 49 14.6 -1.0**
ESDC Sonseca Array 50.95 300 P **P 08 49 22.0 -0.3**
comp=Z,0.4nm,0.3s,mb3.8,baz=71,slow=8.1,SNR=4.6
LSZ Lusaka 51.23 216 *e*P **P 08 49 25.8 +1.3**
comp=Z,11nm,1.0s,mb4.7
LSZ Lusaka 51.23 216 *e*P **P 08 49 25.8 +1.3**
LSZ *e**SP sP 08 49 34.4 -0.1
LSZ pmax pmax
comp=Z,11nm,1.0s,mb4.7
LSZ Lusaka 51.23 216 *e*P **P 08 49 25.8 +1.3**
comp=Z,11nm,1.0s,mb4.8
LSZ *es*P sP 08 49 34.4 -0.1
NJ2 Nanjing 53.18 69 *e*P **P 08 49 40.5 +1.6**
NJ2 PP PP 08 51 42.5 +3.6
NJ2 S **S 08 57 05.0 -3.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,402nm,4.2s
NJ2 LR LR
comp=N,1μm,13.4s,MS5.2
NJ2 LR LR
comp=E,1μm,17.5s,MS5.2
NJ2 LR LR
comp=Z,1μm,12.0s
TORD Torodi Ar. Bea 53.30 266 P **P 08 49 39.6 -0.3**
comp=Z,4.5nm,0.3s,mb4.8,baz=62,slow=7.7,SNR=76
PCBR Castelo Branco 53.62 300 *e*P **P 08 49 42.7 +0.5**
PBEJ Beja 54.20 298 *e*P **P 08 49 46.6 +0.2**
EVO Evora 54.23 299 *e*P **P 08 49 47.2 +0.6**
comp=Z,22nm,1.0s,mb4.8
CN2 Changchun 56.21 54 *e*P **P 08 50 00.8 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
YAK Yakutsk 57.63 32 *e*P **P 08 50 08.2 -2.8**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TIXI Tiksi 58.00 21 *e*P **P 08 50 12.0 -1.5**
comp=Z,20nm,1.7s,mb4.9
TIXI Tiksi 58.00 21 *e*P **P 08 50 12.0 -1.5**
TIXI pmax pmax
comp=Z,20nm,1.7s,mb4.9
MDJ Mudanjiang 59.03 53 P **P 08 50 20.8 +0.1**
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,373nm,8.4s
KLR Kul'dur 59.73 47 *e*P **P 08 50 21.8 -3.8**
TSUM Tsumeb 60.41 223 *e*P **P 08 50 31.0 +0.8**
comp=Z,29nm,1.1s,mb5.2
TSUM *e*pP pP 08 50 36.3 -1.2
TSUM Tsumeb 60.41 223 *e*P **P 08 50 31.0 +0.8**
comp=Z,29nm,1.1s,mb5.2
TSUM *e*pP pP 08 50 36.3 -1.2
LBTB Lobatse 60.73 213 *e*P **P 08 50 33.0 +0.6**
comp=Z,24nm,0.6s,mb5.5
LBTB *e*pP pP 08 50 38.2 -1.5
LBTB Lobatse 60.73 213 *e*P **P 08 50 33.0 +0.6**
LBTB pmax pmax
comp=Z,24nm,0.6s,mb5.5
LBTB Lobatse 60.73 213 *e*P **P 08 50 33.0 +0.6**
comp=Z,24nm,0.6s,mb5.5
LBTB *e*pP pP 08 50 38.2 -1.5
LBTB *es*P sP 08 50 40.7 -1.8
DBIC Dimbokro 61.96 262 P **P 08 50 40.4 -0.3**
comp=Z,6.2nm,0.8s,mb4.8,baz=58,slow=5.6,SNR=5.8
DBIC Dimbokro 61.96 262 *e*P **P 08 50 40.5 -0.3**
comp=Z,8.0nm,0.9s,mb4.8
DBIC Dimbokro 61.96 262 *e*P **P 08 50 40.5 -0.3**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 63.95 211 P **P 08 50 54.2 +0.3**
comp=Z,26nm,0.7s,mb5.3,baz=36,slow=6.9,SNR=12
BOSA Boshof 63.95 211 *e*P **P 08 50 53.9 0.0**
comp=Z,39nm,1.0s,mb5.4
BOSA Boshof 63.95 211 *e*P **P 08 50 53.9 0.0**
BOSA pmax pmax
comp=Z,39nm,1.0s,mb5.4
BOSA Boshof 63.95 211 *e*P **P 08 50 53.9 0.0**
comp=Z,39nm,1.0s,mb5.4
BOSA *e*pP pP 08 50 59.2 -2.1
BOSA *es*P sP 08 51 01.7 -2.4
SUMG Summit 65.09 341 *e*P **P 08 51 00.8 -0.7**
comp=Z,10nm,0.8s,mb4.9
MJAR Matsushiro Arr 67.41 60 P **P 08 51 15.1 -1.2**
comp=Z,2.0nm,1.0s,mb4.1,baz=289,slow=12,SNR=4.4
YSS Yuzh-Sakhalins 67.42 48 *e*PcP PcP 08 51 39.9 -3.9
YSS Yuzh-Sakhalins 67.42 48⇑*e*P **P 08 51 15.7 -0.7**
YSS *e* 08 51 39.9
SEY Seymchan 67.86 29 *e*P **P 08 51 18.7 -0.5**
BILL Bilibino 71.17 22 *e*P **P 08 51 39.3 -0.3**
comp=Z,5.0nm,1.3s,mb4.3
BILL Bilibino 71.17 22 *e*P **P 08 51 39.3 -0.3**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
ILAR Eielson Array 85.66 10 P **P 08 52 57.6 -1.9**
comp=Z,0.6nm,0.7s,mb4.0,baz=320,slow=3.1,SNR=9.1
WRA Warramunga Arr 88.75 113 P **P 08 53 15.3 +0.8**
comp=Z,2.4nm,0.8s,mb4.6,baz=317,slow=4.0,SNR=11
YKA Yellowknife Ar 89.53 356 P **P 08 53 17.6 -0.5**
comp=Z,1.2nm,0.7s,mb4.3,baz=3.0,slow=5.1,SNR=30
YKA Yellowknife Ar 89.53 356 P **P 08 53 17.6 -0.5**
ASAR Alice Springs 90.28 117 P **P 08 53 22.1 +0.4**
comp=Z,1.2nm,0.7s,mb4.4,baz=307,slow=5.0,SNR=18

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*ISCJB **28** 08:44:00.3±0.4, 3707N±003×499W±002, h9km±3km, Error ellipse: s-maj=5.1km s-min=3.1km az=0.6*
*MDD **28** 08:44:01.8±0.2, 3692N×494W, h11km, mbLg2.4/21, Error ellipse: s-maj=2.5km s-min=2.2km az=13.0, PRXIMO*
*INMG **28** 08:44:01.8±1.1, 3693N×497W, h10km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.8km az=173.0*
ISC 28 08:44:01.1±0.4,**3700N**±003×**495W**±002,**h15**km±3km,**n38,**
σ0§96/54,**2C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**256**	⇑Pg	**Pg**	**08 44 09.3**	**+0.6**
LIJA				Lg		08 44 17.1	
EMIJ	**Mijas**	**0.46**	**162**	⇑Pg	**Pg**	**08 44 08.7**	**-1.5**
	36nm,0.3s,SNR=18						
EMIJ				Lg		08 44 15.1	
	105nm,0.2s,SNR=5.4						
REAL	**Reales**	**0.55**	**202**	Pg	**Pg**	**08 44 10.5**	**-1.5**
REAL				Lg		08 44 22.5	
ELOJ	**Sierra Loja**	**0.66**	**77**	Pg	**Pg**	**08 44 14.4**	**+0.5**
	7.2nm,0.2s,SNR=12						
ELOJ				Lg		08 44 25.4	
	28nm,0.4s,SNR=11						
EJIF	**Jimena Fronter**	**0.69**	**217**	Pg	**Pg**	**08 44 13.9**	**-0.6**
	28nm,0.3s,SNR=8.6						
EJIF				Lg		08 44 24.7	
	24nm,0.4s,SNR=9.3						
ESPR	**Espera**	**0.74**	**260**	Pg	**Pg**	**08 44 16.4**	**+0.9**
	16nm,0.3s,SNR=26						
ESPR				Lg		08 44 25.5	
	90nm,0.3s,SNR=6.3						
ELUQ	**Luque**	**0.78**	**44**	Pg	**Pg**	**08 44 17.2**	**+0.9**
	40nm,0.3s,SNR=10						
ELUQ				Lg		08 44 28.5	
	34nm,0.2s,SNR=11						
GIBL	**Gibalbin**	**0.83**	**259**	Pg	**Pg**	**08 44 19.0**	**+1.7**
GIBL				Lg		08 44 32.4	
ERON	**Agron**	**0.92**	**88**	Pg	**Pg**	**08 44 21.0**	**+2.1**
	8.5nm,0.3s,SNR=6.2						
ERON				Lg		08 44 33.2	
	11nm,0.2s,SNR=9.7						
SCRT	**Cerro San Cris**	**1.05**	**250**	Pg	**Pg**	**08 44 22.9**	**+1.6**
ECAB	**El Cabril**	**1.14**	**341**	Pg	**Pg**	**08 44 23.0**	**0.0**
	27nm,0.4s,SNR=142						
ECAB				Lg		08 44 39.0	
	42nm,0.3s,SNR=19						
ECOG	**Cogollos-Vega**	**1.14**	**75**	Pg	**Pg**	**08 44 23.3**	**+0.2**
	6.6nm,0.2s,SNR=6.5						
ECOG				Lg		08 44 38.7	
	13nm,0.2s,SNR=7.8						
EADA	**Adamuz**	**1.20**	**14**	Pg	**Pg**	**08 44 24.1**	**-0.3**
	13nm,0.3s,SNR=101						
EADA				Lg		08 44 41.3	
	22nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.23**	**80**	Pg	**Pg**	**08 44 25.2**	**+0.4**
	8.9nm,0.3s,SNR=10						
EQUE				Lg		08 44 43.4	
	27nm,0.3s,SNR=6.0						
EBAN	**Banos Encina**	**1.49**	**38**	Pn	**Pn**	**08 44 28.0**	**+0.7**
	9.6nm,0.3s,SNR=6.2						
EBAN				Sn	**Sn**	**08 44 47.0**	**+0.6**
	72nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.57**	**300**	Pn	**Pn**	**08 44 28.2**	**-0.2**
	3.7nm,0.3s,SNR=12						
EMIN				Pg	**Pg**	**08 44 30.9**	**-0.4**
	6.2nm,0.1s,SNR=7.9						
EMIN				Lg		08 44 50.9	
	9.8nm,0.2s,SNR=6.1						
EBER	**Berja**	**1.65**	**93**	Pg	**Pg**	**08 44 32.2**	**-0.7**
	6.9nm,0.4s,SNR=13						
EBER				Lg		08 44 52.3	
	29nm,0.5s,SNR=4.6						
EQES	**Quesada**	**1.70**	**61**	Pn	**Pn**	**08 44 31.3**	**+1.1**
	9.9nm,0.4s,SNR=13						
EQES				Pg	**Pg**	**08 44 33.4**	**-0.3**
	5.8nm,0.3s,SNR=5.0						
EQES				Lg		08 44 56.3	
	43nm,0.4s,SNR=7.9						
ERIP	**Rio Piedras**	**1.88**	**282**	Pn	**Pn**	**08 44 32.3**	**-0.4**
	3.9nm,0.3s,SNR=7.9						
ERIP				Sn	**Sn**	**08 44 55.5**	**-0.5**
	5.1nm,0.2s,SNR=7.9						
ERIP				Lg		08 45 00.9	
	10nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.05**	**66**	Pn	**Pn**	**08 44 36.3**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EHUE				Pg	**Pg**	**08 44 40.0**	**-0.4**
	2.1nm,0.2s,SNR=7.4						
EHUE				Lg		08 45 07.7	
	8.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.09**	**286**	Pn	**Pn**	**08 44 35.2**	**-0.3**
	3.1nm,0.3s,SNR=14						
EGRO				Pg	**Pg**	**08 44 40.1**	**-1.1**
	2.7nm,0.3s,SNR=7.8						
EGRO				Sn	**Sn**	**08 45 01.8**	**+0.6**
	7.9nm,0.4s,SNR=8.0						
EGRO				Lg		08 45 07.5	
	10nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.40**	**318**	Pn	**Pn**	**08 44 39.7**	**0.0**
	2.5nm,0.4s,SNR=6.8						
EBAD				Sn	**Sn**	**08 45 08.4**	**-0.4**
	7.2nm,0.2s,SNR=5.6						
EBAD				Lg		08 45 17.9	
	18nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**2.54**	**295**	*e*Sg	**Sg**	**08 45 23.6**	**+1.0**
PBEJ							
	4.8nm,0.3s						
PBEJ	**Beja**	**2.54**	**295**	Lg		08 45 23.6	
	2.4nm,0.3s						
EVIA	**Vianos**	**2.54**	**49**	Pg	**Pg**	**08 44 48.1**	**-1.7**
	13nm,0.4s,SNR=4.7						
EVIA				Lg		08 45 24.6	
	12nm,0.4s,SNR=17						
ESDC	**Sonseca Array**	**2.78**	**16**	Lg		08 45 30.8	
	7.8nm,0.4s,baz=198,slow=29,SNR=219						
PTEO	**Sao Teotonio**	**3.06**	**281**	*e*Pn	**Pn**	**08 44 48.6**	**-0.3**
PTEO				*e*Sn	**Sn**	**08 45 24.6**	**-0.6**
PTEO				*e*Sg	**Sg**	**08 45 38.0**	**-1.4**
PTEO							
	13nm,0.4s						
PTEO	**Sao Teotonio**	**3.06**	**281**	Pn	**Pn**	**08 44 48.6**	**-0.3**
PTEO				Sn	**Sn**	**08 45 24.6**	**-0.6**
PTEO				Lg		08 45 38.0	
	6.3nm,0.4s						
MOE	**Montemor**	**3.09**	**300**	*e*Sn	**Sn**	**08 45 26.4**	**+0.3**
MOE				*e*Sg	**Sg**	**08 45 40.8**	**+0.3**
ETOB	**Tobarra**	**3.16**	**58**	Pn	**Pn**	**08 44 50.9**	**+0.7**
	0.9nm,0.2s,SNR=7.9						
ETOB				Pg	**Pg**	**08 44 58.5**	**-3.1**
	2.1nm,0.2s,SNR=4.0						
ETOB				Sn	**Sn**	**08 45 25.9**	**-1.7**
	6.9nm,0.4s,SNR=4.6						
ETOB				Lg		08 45 42.8	
	9.6nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.46**	**326**	*e*Pn	**Pn**	**08 44 55.8**	**+1.4**
PCBR				*e*Sn	**Sn**	**08 45 35.8**	**+0.6**
PCBR				*e*Sg	**Sg**	**08 45 52.3**	**0.0**
PCBR							
	4.6nm,0.4s						
PCBR	**Castelo Branco**	**3.46**	**326**	Pn	**Pn**	**08 44 55.8**	**+1.4**
PCBR				Sn	**Sn**	**08 45 35.8**	**+0.6**
PCBR				Lg		08 45 52.3	
	2.3nm,0.4s						
GUD	**Guadarrama**	**3.69**	**9**	Pn	**Pn**	**08 44 58.3**	**+0.7**
	1.3nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**08 45 40.1**	**-0.7**
	2.0nm,0.4s,SNR=7.9						
GUD				Lg		08 45 58.8	
	2.5nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**3.96**	**330**	*e*Sn	**Sn**	**08 45 48.2**	**+0.9**
MTE				*e*Sg	**Sg**	**08 46 07.6**	**-0.5**
MTE							
	10nm,0.4s						
EBEN	**Beniarda**	**4.11**	**64**	Lg		08 46 11.3	
	2.9nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.86**	**45**	Lg		08 46 35.8	
	1.0nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**5.13**	**345**	Sn	**Sn**	**08 46 14.3**	**-1.9**
	7.4nm,0.7s,SNR=4.0						
ELOB	**Lobios**	**5.42**	**335**	Pn	**Pn**	**08 45 21.2**	**-0.3**
	1.8nm,0.7s,SNR=4.0						
ELOB				Sn	**Sn**	**08 46 19.4**	**-4.1**
	1.9nm,0.5s,SNR=4.0						
ELOB				Lg		08 46 53.7	
	12nm,0.9s,SNR=7.9						

GUC 28 08:55:59.5±0.7, 3101S×7161W, h64km±13km, MD3.5, ML3.1, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.55**	**108**	⇑*i*P	Pn	08 56 12.9	+0.6
CMCH				*i*S	Sn	08 56 22.7	+1.2
CMCH				AMP		08 56 24.1	
	comp=N,3μm,0.5s						

ILCH	**Illapel**	**0.73**	**149**	*e*P	Pn	08 56 14.5	+0.2
ILCH				*i*S	Sn	08 56 26.0	+0.8
ILCH				AMP		08 56 35.1	
	comp=N,608nm,0.5s						
LSCH	**La Serena**	**1.14**	**16**	⇑*i*P	Pn	08 56 19.8	+0.4
LSCH				*i*S	Sn	08 56 34.8	+0.4
LSCH				AMP		08 56 39.0	
	comp=E,386nm,0.3s						
JACH	**Jahuel**	**1.88**	**153**	*i*P	Pn	08 56 30.4	+1.0
RCDM	**Rinconada Maip**	**2.57**	**165**	*e*P	Pn	08 56 39.6	+0.9
RCDM				*i*S	Sn	08 57 09.1	+0.4
RCDM				AMP		08 57 14.2	
	comp=E,212nm,0.1s						
FCH	**Farellones**	**2.57**	**155**	*e*P	Pn	08 56 40.1	+1.4
FCH				*i*S	Sn	08 57 10.6	+1.7
FCH				AMP		08 57 16.0	
	comp=E,54nm,0.2s						
TACH	**Talagante**	**2.70**	**168**	*e*P	Pn	08 56 40.9	+0.4
CHCH	**Chadas Angostu**	**3.03**	**165**	*i*P	Pn	08 56 45.8	+0.8
CHCH				*i*S	Sn	08 57 20.4	+0.3

*IDC **28** 08:59:59.9±2.9, 5229N×3582E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.6/4, Error ellipse: s-maj=42.7km s-min=13.5km az=129.0*
*ISCJB **28** 09:00:04.6±2.7, 528N±02×347E±04, h10km, mb3.6/1, Error ellipse: s-maj=39.7km s-min=8.6km az=64.7*

ISC 28 09:00:03.6±2.9, 526N±02×352E±04, h10km, n7, σ0°90/9, mb3.6/1, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.17**	**245**	Pn	**Pn**	**09 01 07.1**	**-0.1**
	1.0nm,0.3s,baz=53,slow=11,SNR=2.3						
AKASG				Pg	**Pb**	**09 01 17.3**	**+0.3**
	2.5nm,0.3s,baz=58,slow=16,SNR=10						
AKASG				Sn	**Sn**	**09 01 55.8**	**-0.1**
	2.2nm,0.3s,baz=62,slow=22,SNR=3.2						
AKASG				Lg		09 02 09.3	
	3.7nm,0.3s,baz=63,slow=29,SNR=5.1						
FINES	**FINESS Array B**	**10.14**	**334**	Pn	**Pn**	**09 02 28.2**	**-1.1**
	0.3nm,0.3s,baz=138,slow=15,SNR=9.2						
JOF	**Joensuu**	**10.55**	**350**	*e*p	**Pn**	**09 02 34.3**	**-0.5**
	2.4nm,0.8s						
KAF	**Kangasniemi**	**10.66**	**337**	*e*p	**Pn**	**09 02 38.2**	**+1.9**
	3.1nm,0.8s						
NOA	**NORSAR Array B**	**15.52**	**312**	Pn	**Pn**	**09 03 38.5**	**-4.0**
	0.1nm,0.3s,baz=114,slow=10,SNR=2.6						
ARCES	**ARCESS Array B**	**17.58**	**349**	P	**Pn**	**09 04 09.1**	**+0.5**
	0.5nm,0.3s,baz=163,slow=10,SNR=16						
YKA	**Yellowknife Ar**	**62.80**	**345**	P	**P**	**09 10 29.0**	**-0.3**
	0.2nm,0.4s,mb3.6,baz=13,slow=6.7,SNR=10						

IDC 28 09:12:30.8±4.0, 2791N×5700E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/23, mbtmp3.5/5, Error ellipse: s-maj=80.6km s-min=32.7km az=138.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**22.51**	**2**	P	P	09 17 32.3	+0.3
	0.4nm,0.4s,baz=160,slow=12,SNR=2.8						
BRTR	**Keskin Array B**	**22.64**	**307**	P	P	09 17 34.3	+0.9
	0.3nm,0.4s,baz=128,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**26.99**	**18**	P	P	09 18 14.5	+0.2
	0.7nm,0.6s,baz=206,slow=9.9,SNR=5.6						
FINES	**FINESS Array B**	**39.37**	**337**	P	P	09 20 00.7	-1.3
	1.1nm,0.6s,baz=138,slow=8.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**53.42**	**266**	P	P	09 21 52.9	+0.4
	0.7nm,0.6s,baz=61,slow=7.0,SNR=4.2						

*IDC **28** 09:13:43.7±1.5, 3239N×8954E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML2.3/1, Error ellipse: s-maj=60.6km s-min=20.7km az=66.0*
*ISCJB **28** 09:13:47.7±0.7, 3258N±007×898E±0.1, h33km, mb3.5/5, Error ellipse: s-maj=18.0km s-min=8.0km az=51.0*

ISC 28 09:13:49.8±0.7, 3263N±007×898E±01, h35km, n14, σ1°22/14, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.79**	**217**	*e*P	**Pn**	**09 15 14.9**	**+1.9**
JIRN	**Jiri**	**5.84**	**213**	*e*P	**Pn**	**09 15 12.8**	**-1.1**
KKN	**Kakani**	**6.20**	**220**	*e*P	**Pn**	**09 15 19.7**	**+1.0**
	12nm,0.5s						
PKI	**Pulchoki**	**6.30**	**218**	*e*P	**Pn**	**09 15 18.4**	**-1.7**
	12nm,0.3s						
GKN	**Gorkha**	**6.40**	**225**	*e*P	**Pn**	**09 15 24.2**	**+2.7**
	8.5nm,0.3s						
DMN	**Daman**	**6.43**	**220**	*e*P	**Pn**	**09 15 20.9**	**-1.0**
KOLN	**Koldanda**	**7.21**	**229**	*e*P	**Pn**	**09 15 32.6**	**0.0**
	6.6nm,0.4s						
MKAR	**Makanchi Array**	**15.27**	**340**	Pn	**Pn**	**09 17 21.2**	**-1.4**
	0.0nm,0.3s,baz=157,slow=12,SNR=2.9						
SONM	**Songino Array**	**19.73**	**35**	P	**Pn**	**09 18 18.9**	**+1.0**
	1.1nm,0.9s,baz=234,slow=6.4,SNR=2.9						
ZAL	**Zalesovo**	**21.60**	**352**	P	**P**	**09 18 37.9**	**+1.4**
	0.8nm,0.3s,mb3.7,baz=335,slow=19,SNR=3.7						
BVAR	**Borovoye Array**	**24.71**	**331**	P	**P**	**09 19 07.7**	**+0.1**
	1.1nm,0.6s,mb3.5,baz=125,slow=9.3,SNR=6.8						
WRA	**Warramunga Arr**	**67.43**	**134**	P	**P**	**09 24 41.7**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=326,slow=6.7,SNR=5.1						
ASAR	**Alice Springs**	**70.05**	**137**	P	**P**	**09 24 57.6**	**-0.4**
	0.6nm,0.8s,mb3.5,baz=322,slow=5.2,SNR=5.8						
YKA	**Yellowknife Ar**	**83.20**	**11**	P	**P**	**09 26 11.1**	**-1.3**
	0.3nm,0.8s,mb3.4,baz=329,slow=5.3,SNR=6.3						

IDC 28 09:14:09.6±2.9, 2789N×5692E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/23, mbtmp3.5/6, Error ellipse: s-maj=63.6km s-min=30.1km az=139.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**22.54**	**2**	P	P	09 19 10.7	-0.3
	0.8nm,0.6s,baz=185,slow=12,SNR=2.9						
BRTR	**Keskin Array B**	**22.59**	**308**	P	P	09 19 12.2	+0.6
	0.4nm,0.6s,baz=128,slow=15,SNR=2.5						
BVAR	**Borovoye Array**	**27.03**	**18**	P	P	09 19 53.9	+0.4
	0.5nm,0.5s,baz=201,slow=7.7,SNR=3.2						
FINES	**FINESS Array B**	**39.36**	**337**	P	P	09 21 40.1	-0.6
	0.9nm,0.5s,baz=128,slow=10,SNR=9.6						
TORD	**Torodi Ar. Bea**	**53.34**	**266**	P	P	09 23 31.1	+0.4
	0.5nm,0.6s,baz=68,slow=6.8,SNR=4.2						
YKA	**Yellowknife Ar**	**89.68**	**356**	P	P	09 27 09.0	-0.5
	0.1nm,0.6s,baz=1.3,slow=5.6,SNR=3.1						

IDC 28 09:43:09.6±6.4, 2794N×5706E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=123.5km s-min=53.8km az=113.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**22.66**	**307**	P	P	09 48 12.6	+0.2
	1.0nm,0.7s,baz=111,slow=9.9,SNR=5.8						
FINES	**FINESS Array B**	**39.36**	**337**	P	P	09 50 40.3	-0.3
	0.6nm,0.5s,baz=126,slow=7.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**53.47**	**266**	P	P	09 52 31.9	+0.4
	0.5nm,0.6s,baz=67,slow=7.6,SNR=4.9						

*NEIC **28** 09:51:02.7, 3676N×963W, h0km, MN2.5(MDD), After MDD.*
*CSEM **28** 09:51:03.3±0.9, 3669N×940W, h10km, mb2.5, Error ellipse: s-maj=16.1km s-min=13.5km az=14.0*

MDD 28 09:51:02.3±2.2, 3663N×961W, h0km, mbLg2.4/12, Error ellipse: s-maj=18.1km s-min=12.2km az=76.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.15**	**38**	*e*P	Pg	09 51 24.5	+0.1
PTEO				*e*S	Sg	09 51 40.1	+0.8
PTEO							
	9.6nm,0.1s						
EGRO	**El Granado**	**1.92**	**61**	P	Pn	09 51 35.6	-0.6
	3.5nm,0.8s,SNR=5.8						
EGRO				S	Sn	09 51 58.8	-2.4
	12nm,0.1s,SNR=17						
EGRO	**El Granado**	**1.92**	**61**	P	Pn	09 51 35.6	-0.7
	3.5nm,0.8s,SNR=5.8						
EGRO				S	Sn	09 51 58.8	-2.3
	12nm,0.1s,SNR=17						

PBEJ	**Beja**	**1.97**	**44**	*e*Sn	Sn	09 51 59.6	-2.6
PBEJ							
	3.8nm,0.1s						
PBEJ	**Beja**	**1.97**	**44**	*e*Sn	Sn	09 51 59.6	-2.6
	3.8nm,0.1s						
MOE	**Montemor**	**2.13**	**28**	*e*Sn	Sn	09 52 03.9	-2.5
PLOU	**Loures**	**2.28**	**9**	*e*Sn	Sn	09 52 07.0	-2.9
PLOU							
	11nm,0.2s						
PLOU	**Loures**	**2.28**	**9**	*e*Sn	Sn	09 52 07.0	-2.9
	11nm,0.2s						
EMIN	**Mina Concepcio**	**2.60**	**63**	P	Pn	09 51 43.7	-1.9
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 52 14.7	-3.3
	1.9nm,0.1s,SNR=9.6						
EMIN	**Mina Concepcio**	**2.60**	**63**	P	Pn	09 51 43.7	-1.9
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 52 14.7	-3.2
	1.9nm,0.1s,SNR=9.6						
EBAD	**Badajoz**	**2.95**	**43**	P	Pn	09 51 48.1	-2.3
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 52 23.2	-3.3
	4.3nm,0.2s,SNR=5.8						
EBAD	**Badajoz**	**2.95**	**43**	P	Pn	09 51 48.1	-2.3
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 52 23.2	-3.4
	4.3nm,0.2s,SNR=5.8						
ESPR	**Espera**	**3.02**	**84**	P	Pn	09 51 50.4	-1.0
	2.3nm,0.3s,SNR=5.5						
ESPR				S	Sn	09 52 25.2	-3.1
	39nm,0.3s,SNR=6.9						
ESPR	**Espera**	**3.02**	**84**	P	Pn	09 51 50.4	-1.0
	2.3nm,0.3s,SNR=5.5						
ESPR				S	Sn	09 52 25.2	-3.1
	39nm,0.3s,SNR=6.9						
ECAB	**El Cabril**	**3.64**	**65**	P	Pn	09 51 59.1	-0.7
	SNR=7.9						
ECAB				S	Sn	09 52 39.9	-3.5
	2.4nm,0.2s,SNR=5.8						
ECAB	**El Cabril**	**3.64**	**65**	P	Pn	09 51 59.1	-0.7
	SNR=7.9						
ECAB				S	Sn	09 52 39.8	-3.6
	2.4nm,0.2s,SNR=5.8						
EMIJ	**Mijas**	**3.89**	**90**	P	Pn	09 52 01.9	-1.4
	2.7nm,0.5s,SNR=7.9						
EMIJ				S	Sn	09 52 46.2	-3.5
	1.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.89**	**90**	S	Sn	09 52 47.5	-2.2
	1.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.29**	**68**	P	Pn	09 52 07.5	-1.3
	0.4nm,0.2s,SNR=7.9						
EADA				S	Sn	09 52 54.4	-5.1
	3.6nm,0.2s,SNR=5.7						
EADA	**Adamuz**	**4.29**	**68**	P	Pn	09 52 07.5	-1.3
	SNR=7.9						
EADA				S	Sn	09 52 54.4	-5.1
	3.6nm,0.2s,SNR=5.7						
ELUQ	**Luque**	**4.37**	**76**	S	Sn	09 52 57.4	-4.1
	2.1nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**4.40**	**82**	S	Sn	09 53 00.2	-2.1
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.35**	**75**	S	Sn	09 53 22.3	-3.3
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.35**	**75**	S	Sn	09 53 22.3	-3.3
	0.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.36**	**12**	S	Sn	09 53 18.4	-7.6
	0.8nm,0.1s,SNR=7.9						

IDC 28 09:57:34.3±12.0, 143S×1299W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.9/4, ML3.4/1, MS3.7/1, Ms1 3.6/1, ms1mx3.4/21, Error ellipse: s-maj=346.0km s-min=70.1km az=160.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.43**	**45**	Pn	Pn	10 00 18.0	-0.8
	0.2nm,0.3s,baz=204,slow=15,SNR=4.1						
DBIC				Sn	Sn	10 02 16.4	-11
	0.4nm,0.3s,baz=151,slow=19,SNR=2.0						
DBIC				LR	LR	10 03 59.4	
	comp=Z,329nm,18.8s,baz=263,slow=34						
TORD	**Torodi Ar. Bea**	**20.54**	**45**	P	P	10 02 15.2	+0.9
	3.8nm,0.6s,baz=232,slow=11,SNR=28						
GERES	**GERESS Array B**	**55.15**	**21**	P	P	10 07 08.8	+0.3
	0.7nm,0.7s,baz=194,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**69.44**	**19**	P	P	10 08 43.9	-0.4
	0.8nm,0.6s,baz=242,slow=4.1,SNR=4.7						

*IDC **28** 09:58:59.9±3.9, 6453N×3225E, h0km, mb1 3.3/4, mb1mx3.1/20, mbtmp3.3/4, ML2.6/4, Error ellipse: s-maj=56.3km s-min=13.6km az=104.0*
*ISCJB **28** 09:59:02.3±0.8, 6468N±003×307E±0.1, h0km, Error ellipse: s-maj=8.3km s-min=5.0km az=8.8*
*HEL **28** 09:59:03.9±0.1, 6468N×3076E, h0km, ML1.7, Explosion*

ISC 28 09:59:03.2±0.8, 6469N±004×307E±01, h0km, n13, σ0°68/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.44**	**246**	*e*P	**Pn**	**09 59 29.5**	**-1.0**
KJN				*e*S	**Sg**	**09 59 48.6**	**-0.9**
KU4	**Liikasenvaara**	**1.75**	**345**	*e*P	**Pn**	**09 59 35.0**	**+0.2**
KU4				*e*S	**Sn**	**09 59 56.6**	**-1.1**
JOF	**Joensuu**	**1.80**	**171**	*e*P	**Pn**	**09 59 35.4**	**-0.2**
JOF				*e*S	**Sn**	**09 59 59.0**	**-0.1**
OUL	**Oulu**	**2.09**	**283**	*e*P	**Pn**	**09 59 40.5**	**+1.0**
OUL				*e*S	**Sn**	**10 00 07.1**	**+0.9**
OUL				MSG		10 00 09.6	
	comp=Z,4.0nm,0.1s						
SUF	**Sumiainen**	**2.84**	**228**	*e*P	**Pn**	**09 59 50.5**	**+0.8**
SUF				*e*S	**Sn**	**10 00 24.9**	**+0.3**
SUF				MSG		10 00 32.2	
	comp=Z,1.4nm,0.2s						
KAF	**Kangasniemi**	**3.26**	**219**	*e*P	**Pn**	**09 59 56.0**	**+0.4**
KAF				*e*S	**Sn**	**10 00 34.9**	**-0.2**
KAF				MSG		10 00 43.9	
	comp=Z,1.1nm,0.2s						
KEF	**Keuruu**	**3.65**	**229**	*e*P	**Pn**	**10 00 01.7**	**+0.7**
KEF				*e*S	**Sn**	**10 00 44.4**	**-0.2**
KEF				MSG		10 01 00.1	
	comp=Z,1.7nm,0.3s						
FIA0	**FINESS Array S**	**3.88**	**215**	*e*P	**Pn**	**10 00 04.3**	**+0.2**
FIA0				*e*S	**Sn**	**10 00 49.5**	**-0.9**
FIA0				MSG		10 01 06.6	
	comp=Z,1.7nm,0.2s				

WRAB Tennant Creek 16.04 139 *eP* **P 10 13 08.3 +0.1**
22nm,0.5s
WB2 Warramunga Arr 16.05 139⇑ *iP* **P 10 13 08.3 0.0**
ASPA Alice Springs 18.67 148 *eP* **P 10 13 37.5 +0.7**
ASAR Alice Springs 18.67 148 P P 10 13 37.2 +0.4
5.2nm,0.3s,baz=326,slow=11,SNR=128
ASAR S **S 10 16 56.2 +0.8**
0.1nm,0.3s,baz=320,slow=21,SNR=8.1
ASAR ScP ScP 10 21 05.0 +1.9
0.1nm,0.3s,baz=334,slow=2.3,SNR=4.6
PMG Port Moresby 23.60 95 P **P 10 14 25.3 0.0**
13nm,0.6s,mb4.4,baz=261,slow=4.6,SNR=9.6
PMG Port Moresby 23.60 95 *eP* **P 10 14 27.3 +2.0**
NWAO Narrogin (SRO) 25.54 192 P P 10 14 41.8 -1.0
2.3nm,0.4s,mb3.9,baz=27,slow=11,SNR=5.5
STKA Stephens Creek 29.30 147 P P 10 15 15.4 -0.7
4.7nm,0.3s,mb4.3,baz=325,slow=9.1,SNR=8.3
MJAR Matsushiro Arr 46.35 17 P P 10 17 37.9 -0.1
2.0nm,0.4s,mb3.8,baz=188,slow=8.6,SNR=10
MJAR Matsushiro Arr 46.35 17 P P 10 17 37.9 -0.1
LSA Lhasa 48.53 322 *eP* **P 10 17 57.5 +2.9**
3.8nm,0.6s,mb3.9
JIRN Jiri 50.40 316 *eP* **P 10 18 10.0 +1.3**
GUN Gumba 50.77 316 *eP* **P 10 18 12.8 +1.3**
12nm,0.5s,mb4.4
PKI Pulchoki 50.88 315 *eP* **P 10 18 12.6 +0.3**
14nm,0.5s,mb4.5
DMN Daman 51.12 315 *eP* **P 10 18 14.6 +0.6**
6.1nm,0.5s,mb4.2
GKN Gorkha 51.69 315 *eP* **P 10 18 18.6 +0.3**
7.0nm,0.3s,mb4.5
KOLN Koldanda 52.28 314 *eP* **P 10 18 22.2 -0.4**
19nm,0.7s,mb4.5
SONM Songino Array 57.47 347 P **P 10 18 59.1 -0.5**
0.5nm,0.5s,mb3.2,baz=166,slow=9.6,SNR=5.5
MKAR Makanchi Array 65.53 330 P **P 10 19 53.1 -0.2**
2.5nm,0.6s,mb4.2,baz=131,slow=7.1,SNR=29
MKAR PcP PcP 10 20 22.4 -0.4
0.7nm,0.5s,baz=127,slow=4.2,SNR=4.1
AAK Ala-Archa 67.10 323 *eP* **P 10 20 03.0 -0.3**
2.6nm,0.7s,mb4.1
ZAL Zalesovo 69.62 337 P **P 10 20 18.3 -0.6**
1.9nm,0.4s,mb4.2,baz=12,slow=5.3,SNR=5.4
KURK Kurchatov 69.99 332 *eP* **P 10 20 20.9 -0.1**
1.1nm,0.4s,mb3.9
VNDA Vanda 72.44 172 P **P 10 20 35.6 -0.1**
1.8nm,0.8s,mb3.7,baz=334,slow=6.6,SNR=4.3
OPO Ambohidratompo 74.44 253 P **P 10 20 47.1 -0.2**
1.8nm,0.7s,mb3.8,baz=82,slow=7.1,SNR=4.5
ZRNK Zerenda 76.06 330 *eP* **P 10 20 56.6 +0.1**
1.0nm,0.6s,mb3.6
AKTK Aktyubinsk 80.81 324 P **P 10 21 22.3 -0.1**
AKTO Aktyubinsk 80.81 324 P **P 10 21 22.3 -0.1**
1.7nm,0.7s,mb3.9,baz=105,slow=2.7,SNR=5.3
QSPA South Pole Qui 82.09 180 *eP* **P 10 21 28.7 -0.4**
3.9nm,0.5s,mb4.4
ILAR Eielson Array 96.99 26 P **P 10 22 37.8 -1.9**
0.4nm,0.7s,mb3.8,baz=238,slow=5.7,SNR=5.8
TORD Torodi Ar. Bea 122.48 281 PKP PKPdf 10 28 01.9 0.0
0.7nm,0.6s,baz=30,slow=1.9,SNR=6.6
LPAZ La Paz 153.43 155 *e*PKPdf PKPdf 10 28 56.5 -0.7
LPAZ *e*PKPab PKPab 10 29 21.2 +2.9

IDC 28 10:13:54.1±6.7, 2774N×5751E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.4/3, Error ellipse: s-maj=132.4km s-min=53.9km az=114.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**23.10**	**307**	P	P	10 19 01.6	+0.1
	0.8nm,0.7s,baz=108,slow=9.3,SNR=3.9						
FINES	**FINESS Array B**	**39.70**	**337**	P	P	10 21 27.7	-0.3
	0.6nm,0.6s,baz=148,slow=6.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**53.86**	**266**	P	P	10 23 19.2	+0.4
	0.2nm,0.6s,baz=64,slow=7.5,SNR=4.5						

*ISCJB **28** 10:22:33.9±0.6, 2844S±004×705W±03, h101km±11km, mb3.4/1, Error ellipse: s-maj=40.0km s-min=4.9km az=11.1*
*IDC **28** 10:22:35.5±1.3, 2838S×7042W, h89km±8km, mb3.3/1, mb1 3.3/2, mb1mx3.1/13, mbtmp3.5/2, Error ellipse: s-maj=69.9km s-min=41.6km az=117.0*
*GUC **28** 10:22:35.6±1.0, 2843S×7061W, h85km±16km, MD3.7, ML3.7*
ISC 28 10:22:35.0±0.6, 2843S±004×**706W**±02, **h95**km±11km, **n12, σ0963/17, mb3.4/1, 1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.09**	**12**	*i* P	**Pn**	**10 22 56.4**	**+0.3**
CPCH				*i* S	**Sn**	**10 23 12.2**	**+0.3**
CDCH	**Caldera**	**1.36**	**352**	*eP*	**Pn**	**10 23 00.0**	**+0.7**
CDCH				*i* S	**Sn**	**10 23 17.8**	**+0.1**
CDCH				AMP		10 23 23.6	
	comp=N,1μm,0.2s						
LSCH	**La Serena**	**1.58**	**201**	*eP*	**Pn**	**10 23 02.2**	**+0.3**
LSCH				*i* S	**Sn**	**10 23 22.6**	**+0.3**
LSCH				AMP		10 23 24.0	
	comp=E,750nm,0.6s						
CRCH	**Chaqaral**	**2.08**	**360**	*eP*	**Pn**	**10 23 09.1**	**+0.7**
CRCH				*i* S	**Sn**	**10 23 34.0**	**+0.2**
CRCH				AMP		10 23 35.3	
	comp=E,687nm,0.3s						
CMCH	**Combarbala**	**2.76**	**187**	⇓*iP*	**Pn**	**10 23 16.9**	**-0.5**
CMCH				*i* S	**Sn**	**10 23 49.4**	**-0.6**
CMCH				AMP		10 23 57.0	
	comp=E,918nm,0.6s						
CPN1	**Cerro Paranal**	**3.79**	**3**	*eP*	**Pn**	**10 23 30.4**	**-0.9**
CPN1				*i* S	**Sn**	**10 24 13.3**	**-1.5**
FCH	**Farellones**	**4.89**	**177**	*eP*	**Pn**	**10 23 46.7**	**+0.6**
FCH				*i* S	**Sn**	**10 24 41.0**	**-0.5**
CEN1	**Los Morros**	**5.03**	**4**	*eP*	**Pn**	**10 23 43.7**	**-4.4**
LPAZ	**La Paz**	**12.30**	**11**	P	**Pn**	**10 25 26.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=192,slow=9.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**81.15**	**70**	P	**P**	**10 34 40.8**	**+0.8**
	comp=E,0.3nm,0.5s,mb3.4,baz=256,slow=5.8,SNR=5.7						
TORD				pP	pP	10 35 03.7	-1.1
	comp=E,0.3nm,0.8s,baz=230,slow=11,SNR=1.6						
WRA	**Warramunga Arr**	**126.21**	**209**	PKP	PKPdf	10 41 28.0	+1.6
	comp=E,0.9nm,1.2s,baz=152,slow=1.7,SNR=5.8						
WRA				pPKP	pPKPdf	10 41 52.7	+0.1
	comp=E,0.6nm,1.2s,baz=151,slow=1.5,SNR=1.7						
MKAR	**Makanchi Array**	**151.98**	**42**	PKPbc	PKPbc	10 42 20.0	+1.0
	comp=E,0.5nm,0.6s,baz=300,slow=2.0,SNR=6.1						
MKAR				pPKPbc	pPKPbc	10 42 44.7	-0.4
	comp=E,0.5nm,0.7s,baz=320,slow=2.4,SNR=5.3						

*IDC **28** 10:40:10.6±3.0, 2794N×5688E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=66.5km s-min=30.1km az=138.0*
*ISCJB **28** 10:40:13.4±0.9, 2826N±005×5701E±009, h10km, mb3.6/6, Error ellipse: s-maj=11.9km s-min=6.0km az=50.4*
*CSEM **28** 10:40:15.4±0.1, 2806N×5705E, h22km, ML3.6, Error ellipse: s-maj=3.3km s-min=1.9km az=115.0, After NEIC*
*NEIC **28** 10:40:15.4, 2806N×5705E, h22km, ML3.6(THR), MN3.6(TEH), After TEH.*
ISC 28 10:40:14.5±1.0, 2824N±005×**5702E**±009, **h10**km, **n13, σ1§24/16, mb3.6/6, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.12**	**222**	Pg	**Pg**	**10 40 35.0**	**-1.1**
BNDS				Sg	**Sg**	**10 40 52.0**	**+1.3**
KRBR	**Kerman**	**1.75**	**353**	Pg	**Pg**	**10 40 48.0**	**-0.1**
GHIR	**Ghir-Karzin**	**3.56**	**272**	Pn	**Pn**	**10 41 12.0**	**+2.3**
IBAF	**Bafgh**	**3.57**	**340**	Pn	**Pn**	**10 41 11.5**	**+1.6**
IBAF				Sn	**Sn**	**10 41 52.3**	**+0.1**
IPAR	**Pars**	**3.83**	**296**	Pn	**Pn**	**10 41 14.0**	**+0.6**
IPAR				Sn	**Sn**	**10 41 57.4**	**-1.1**
IMOK	**Mook**	**3.87**	**283**	Pn	**Pn**	**10 41 14.1**	**+0.1**
AKTK	**Aktyubinsk**	**22.18**	**2**	P	**P**	**10 45 11.4**	**+0.7**
AKTO	**Aktyubinsk**	**22.18**	**2**	P	**P**	**10 45 11.4**	**+0.7**
	0.6nm,0.5s,mb3.3,baz=190,slow=18,SNR=3.2						
BRTR	**Keskin Array B**	**22.45**	**307**	P	**P**	**10 45 11.9**	**-1.6**
	0.8nm,0.5s,mb3.4,baz=125,slow=12,SNR=5.8						
BVAR	**Borovoye Array**	**26.67**	**18**	P	**P**	**10 45 54.4**	**+0.9**
	1.2nm,0.7s,mb3.5,baz=198,slow=9.3,SNR=7.5						
FINES	**FINESS Array B**	**39.07**	**337**	P	**P**	**10 47 40.9**	**-0.7**
	1.6nm,0.8s,mb3.8,baz=141,slow=9.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**53.46**	**266**	P	**P**	**10 49 32.0**	**-2.8**
	0.5nm,0.4s,mb3.8,baz=64,slow=6.8,SNR=8.6						

YKA Yellowknife Ar 89.34 356 P P 10 53 09.1 -2.0
0.1nm,0.3s,mb3.7,baz=357,slow=4.3,SNR=4.1

IDC 28 10:56:33.0±6.7, 1345S×16696E, h232km±62km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp4.2/5, MS3.9/1, Ms1 3.9/1, ms1mx2.8/20, Error ellipse: s-maj=60.5km s-min=35.2km az=167.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.59**	**183**	P	Pn	10 58 34.0	+0.2
	1.6nm,0.3s,baz=59,slow=17,SNR=19						
STKA	**Stephens Creek**	**29.61**	**228**	P	P	11 02 16.6	-0.1
	4.7nm,0.5s,baz=42,slow=8.6,SNR=21						
WRA	**Warramunga Arr**	**31.87**	**254**	P	P	11 02 36.6	+0.2
	0.8nm,0.5s,baz=84,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**32.87**	**247**	P	P	11 02 45.6	+0.5
	1.4nm,0.4s,baz=76,slow=9.2,SNR=43						
ASAR				PcP	PcP	11 05 24.6	+0.6
	0.5nm,0.6s,baz=87,slow=1.8,SNR=5.7						
CBIJ	**Chichi jima**	**46.93**	**329**	LR	LR	11 21 04.6	
	comp=Z,143nm,21.9s,baz=147,slow=31						
MKAR	**Makanchi Array**	**96.07**	**317**	P	P	11 09 34.4	+0.3
	0.2nm,0.8s,baz=94,slow=5.6,SNR=4.3						
ARCES	**ARCESS Array B**	**118.94**	**345**	PKP	PKPdf	11 14 52.7	-1.2
	3.0nm,1.0s,baz=50,slow=2.2,SNR=7.1						

IDC 28 11:01:05.5±1.4, 974S×15176E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/14, mbtmp3.7/8, ML3.0/3, MS3.4/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=46.2km s-min=22.7km az=119.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55**	**274**	Pn	Pn	11 02 15.9	+0.3
	0.7nm,0.3s,baz=104,slow=17,SNR=3.0						
CTA	**Charters Tower**	**11.59**	**207**	Pn	Pn	11 03 53.7	+1.6
	0.2nm,0.3s,baz=26,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**19.64**	**237**	P	Pn	11 05 36.2	-0.8
	0.1nm,0.3s,baz=61,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**21.97**	**229**	P	P	11 06 00.7	-0.2
	0.5nm,0.8s,baz=26,slow=15,SNR=5.2						
STKA	**Stephens Creek**	**23.96**	**202**	P	P	11 06 20.8	-0.7
	1.7nm,0.8s,baz=12,slow=14,SNR=3.5						
STKA				LR	LR	11 15 12.5	
	comp=Z,99nm,21.2s,baz=26,slow=35						
MKAR	**Makanchi Array**	**83.37**	**320**	P	P	11 13 34.5	+0.1
	0.8nm,0.9s,baz=106,slow=6.5,SNR=6.1						
ZAL	**Zalesovo**	**84.69**	**327**	P	P	11 13 40.8	-0.4
	1.4nm,0.4s,baz=100,slow=4.8,SNR=4.8						
ILAR	**Eielson Array**	**87.09**	**22**	P	P	11 13 52.8	-0.3
	1.0nm,0.8s,baz=249,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**150.48**	**279**	PKPbc	PKPbc	11 21 00.7	+1.7
	1.5nm,0.8s,baz=64,slow=1.7,SNR=7.9						

*CSEM **28** 11:27:34.8±0.1, 3799N×2206E, h2km, MD3.2, Error ellipse: s-maj=5.3km s-min=2.8km az=106.0*
*THE **28** 11:27:38.6, 3803N×2218E, h26km*
ATH 28 11:27:33.7, 3800N×2228E, h39km, **MD3.2/3, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.87**	**199**	*e*PN	Pn	11 27 50.0	+0.6
ITM				*e*SN	Sn	11 28 03.1	+2.3
EVR	**Evrytania**	**0.99**	**338**	*e*PN	Pn	11 27 52.6	+1.6
AGG	**Agios Georgios**	**1.02**	**2**	*e*Pg	Pn	11 27 54.6	+3.1
AGG				*e*Sg	Sn	11 28 09.3	+4.7
VLS	**Valsamata**	**1.34**	**278**	*e*PN	Pn	11 27 58.5	+2.5
VLS				*e*SN	Sn	11 28 15.0	+2.4
XOR	**Xorichti**	**1.54**	**27**	*e*Pg	Pn	11 28 04.4	+5.8
MEV	**Metsovon**	**1.96**	**336**	*e*Pb	Pn	11 28 09.1	+4.6
LIT	**Litokhoron**	**2.10**	**4**	*e*Pn	Pn	11 28 11.0	+4.6
SRS	**Serrai**	**3.27**	**18**	*e*Pn	Pn	11 28 27.6	+5.1
SRS	**Serrai**	**3.27**	**18**	*e*Pn	Pn	11 28 27.5	+5.0

*ISCJB **28** 11:28:08.4±1.5, 195S±01×1679E±04, h33km, mb3.9/4, Error ellipse: s-maj=50.7km s-min=7.2km az=40.0*
*IDC **28** 11:28:12.1±5.4, 2150S×16921E, h120km±28km, mb3.6/5, mb1 3.8/6, mb1mx3.7/13, mbtmp3.9/6, Error ellipse: s-maj=125.9km s-min=33.3km az=153.0*
ISC 28 11:28:09.4±1.6, 195S±01×**1679E**±04, **h35**km, **n7, σ0991/9, mb3.9/4, 1D, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.86**	**9**	⇓*iP*	**Pn**	**11 28 38.3**	**-0.4**
BKM				S	**Sn**	**11 29 00.2**	**-0.7**
DZM	**Mont Dzumac**	**2.91**	**209**	P	**Pn**	**11 28 53.2**	**0.0**
	18nm,0.3s,baz=98,slow=19,SNR=165						
DZM				S	**Sn**	**11 29 26.1**	**-0.8**
	13nm,0.3s,baz=125,slow=23,SNR=12						
CTA	**Charters Tower**	**20.42**	**265**	P	**P**	**11 32 52.7**	**+9.2**
	6.7nm,0.8s,baz=110,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**31.61**	**263**	P	**P**	**11 34 33.8**	**+5.0**
	3.3nm,1.3s,mb4.0,baz=94,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**31.88**	**256**	P	**P**	**11 34 31.2**	**+0.1**
	1.0nm,0.8s,mb3.7,baz=86,slow=8.4,SNR=17						
SONM	**Songino Array**	**86.71**	**324**	P	**P**	**11 40 52.0**	**+2.3**
	0.6nm,0.7s,mb4.0,baz=128,slow=4.4,SNR=3.9						
ILAR	**Eielson Array**	**90.86**	**18**	P	**P**	**11 41 09.2**	**0.0**
	0.6nm,0.8s,mb4.0,baz=239,slow=4.1,SNR=10						

IDC 28 11:30:28.3±2.1, 958S×15167E, h0km, mb4.0/2, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML2.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=79.5km s-min=33.1km az=146.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**272**	Pn	Pn	11 31 37.5	+0.3
	0.8nm,0.3s,baz=76,slow=6.1,SNR=3.5						
CTA	**Charters Tower**	**11.69**	**206**	LR	LR	11 37 09.4	
	comp=Z,104nm,19.8s,baz=249,slow=34						
DZM	**Mont Dzumac**	**18.85**	**133**	LR	LR	11 40 38.5	
	comp=Z,68nm,21.9s,baz=225,slow=32						
WRA	**Warramunga Arr**	**19.66**	**236**	P	Pn	11 34 58.5	-1.5
	0.1nm,0.3s,baz=61,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**83.19**	**320**	P	P	11 42 56.6	+0.2
	0.7nm,1.0s,baz=100,slow=6.3,SNR=7.4						
ILAR	**Eielson Array**	**86.98**	**22**	P	P	11 43 15.0	-0.4
	1.1nm,0.8s,baz=243,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**150.36**	**280**	PKPbc	PKPbc	11 50 22.8	+1.2
	1.7nm,0.8s,baz=61,slow=2.4,SNR=7.7						

IDC 28 11:53:49.1±1.9, 993S×15213E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/13, mbtmp3.4/4, ML2.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/10, Error ellipse: s-maj=75.7km s-min=30.3km az=141.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**276**	Pn	Pn	11 55 04.9	+0.6
	0.8nm,0.3s,baz=69,slow=14,SNR=4.1						
CTA	**Charters Tower**	**11.58**	**209**	LR	LR	12 00 18.5	
	comp=Z,64nm,18.7s,baz=47,slow=34						
WRA	**Warramunga Arr**	**19.84**	**238**	P	Pn	11 58 20.8	-2.2
	0.0nm,0.3s,baz=61,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.11**	**230**	P	P	11 58 46.9	+0.8
	0.6nm,0.8s,baz=62,slow=10.0,SNR=6.1						
ILAR	**Eielson Array**	**87.14**	**22**	P	P	12 06 36.6	-0.3
	0.4nm,0.7s,baz=252,slow=5.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.86**	**279**	PKPbc	PKPbc	12 13 44.5	+1.0
	0.7nm,0.8s,baz=74,slow=2.0,SNR=4.2						

IDC 28 11:54:33.4±2.3, 122N×9695E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=55.7km s-min=29.4km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.52**	**51**	Pn	Pn	11 55 15.7	0.0
	1.3nm,0.3s,baz=294,slow=19,SNR=6.7						
PSI				Pg	Pg	11 55 25.0	+3.2
	1.2nm,0.3s,baz=205,slow=12,SNR=7.0						

WRA Warramunga Arr 42.26 122 P P 12 02 28.7 +0.3
0.5nm,0.9s,baz=303,slow=8.9,SNR=3.6
SONM Songino Array 47.15 9 P P 12 03 07.0 -0.5
0.4nm,0.6s,baz=200,slow=8.5,SNR=2.7
MKAR Makanchi Array 47.16 346 P P 12 03 08.0 +0.4
0.2nm,0.4s,baz=163,slow=9.5,SNR=7.5

*SZGRF **28** 12:16:44.2, 1925S×17950W, h33km, Fiji Islands region*
*NEIC **28** 12:17:50.9±0.6, 1794S×17948W, h610km±6km, mb4.6/27, Error ellipse: s-maj=7.7km s-min=5.4km az=114.0*
*ISCJB **28** 12:17:50.4±0.6, 1802S±004×17942W±006, h620km±8km, mb4.6/44, Error ellipse: s-maj=8.8km s-min=6.0km az=54.8*
*BJI **28** 12:17:50.6, 1771S×17967W, h599km, mB4.6, mb4.3*
*MOS **28** 12:17:50.8±1.3, 1781S×17958W, h611km, mb4.6/21, Error ellipse: s-maj=11.6km s-min=10.3km az=54.0*
*IDC **28** 12:17:51.6±0.9, 1794S×17951W, h616km±10km, mb4.0/17, mb1 4.2/21, mb1mx4.1/24, mbtmp5.0/21, Error ellipse: s-maj=11.7km s-min=10.4km az=147.0*
ISC 28 12:17:51.3±0.6, 1799S±004×**17938W**±006, **h616**km±8km, **h609**km±1.9km: **pP-P, n243,** σ1§11/139, **mb4.6**/44, **12C-16D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.36**	**62**	P	**P**	**12 19 54.5**	**+0.1**
	12nm,0.3s,baz=297,slow=21,SNR=20						
AFI				S	**S**	**12 21 31.5**	**-4.0**
	1.2nm,0.3s,baz=17,slow=19,SNR=1.9						
AFI	**Afiamalu**	**8.36**	**62**	P	**P**	**12 19 54.5**	**0.0**
AFI				S	**S**	**12 21 31.5**	**-4.0**
AFI				pmax	pmax		
	comp=Z,12nm,0.3s						
AFI				smax			
	comp=E,1.0nm,0.3s						
AFI	**Afiamalu**	**8.36**	**62**	*e*Pn	**P**	**12 19 54.0**	**-0.4**
	comp=E,143nm,0.8s						
FUNA	**Funafuti**	**9.51**	**351**	*e*Pn	**P**	**12 20 04.9**	**-0.5**
RAO	**Raoul Island**	**11.29**	**173**	P	**P**	**12 20 23.6**	**+0.6**
	comp=E,64nm,0.3s,baz=78,slow=20,SNR=4.6						
BKM	**Butte a Klehm**	**11.79**	**270**	⇓*iP*	**P**	**12 20 28.7**	**+0.7**
DZM	**Mont Dzumac**	**13.93**	**251**	P	**P**	**12 20 49.1**	**+0.2**
	comp=E,3.5nm,0.3s,baz=71,slow=16,SNR=26						
DZM	**Mont Dzumac**	**13.93**	**251**	*e*P	**P**	**12 20 48.9**	**0.0**
NOUC	**Port Laguerre**	**14.06**	**251**	*e*P	**P**	**12 20 50.1**	**0.0**
OUZ	**Omahuta**	**18.27**	**199**	*e*PN	**P**	**12 21 31.5**	**+3.0**
OUZ	**Omahuta**	**18.27**	**199**	*e*P	**P**	**12 21 31.5**	**+2.9**
RAR	**Rarotonga**	**18.75**	**103**	P	**P**	**12 21 35.7**	**+2.8**
	comp=E,2.1nm,0.3s,baz=250,slow=7.4,SNR=10						
RAR	**Rarotonga**	**18.75**	**103**	P	**P**	**12 21 35.7**	**+2.8**
RAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
URZ	**Urewera**	**20.43**	**188**	P	**P**	**12 21 47.0**	**-1.1**
	comp=Z,6.2nm,0.3s,baz=200,slow=1.0,SNR=22						
HNR	**Honiara**	**21.79**	**290**	*e*P	**P**	**12 22 02.8**	**+2.6**
HNR				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.1						
HNR	**Honiara**	**21.79**	**290**	*e*P	**P**	**12 22 02.8**	**+2.6**
	comp=Z,39nm,0.8s,mb5.1						
SNZO	**South Karori**	**23.79**	**191**	*e*P	**P**	**12 22 17.9**	**-0.1**
	comp=Z,100nm,1.2s,mb5.3						
QRZ	**Quartz Range**	**23.80**	**195**	*e*PN	**P**	**12 22 19.2**	**+1.1**
QRZ	**Quartz Range**	**23.80**	**195**	*e*P	**P**	**12 22 19.2**	**+1.1**
NNZ	**Nelson**	**23.98**	**194**	*e*PN	**P**	**12 22 18.6**	**-1.0**
NNZ	**Nelson**	**23.98**	**194**	*e*P	**P**	**12 22 19.1**	**-0.5**
THZ	**Tophouse**	**24.60**	**194**	PN	**P**	**12 22 24.7**	**-0.4**
THZ				SN	**S**	**12 25 59.7**	**-5.0**
THZ	**Tophouse**	**24.60**	**194**	P	**P**	**12 22 24.7**	**-0.4**
THZ				S	**S**	**12 25 59.7**	**-5.0**
DSZ	**Denniston Nort**	**24.86**	**196**	*e*PN	**P**	**12 22 27.6**	**+0.2**
DSZ	**Denniston Nort**	**24.86**	**196**	*e*P	**P**	**12 22 27.6**	**+0.2**
LTZ	**Lake Taylor**	**25.72**	**194**	PN	**P**	**12 22 34.2**	**-0.8**
LTZ				SN	**S**	**12 26 21.3**	**-0.8**
LTZ	**Lake Taylor**	**25.72**	**194**	P	**P**	**12 22 34.2**	**-0.7**
WVZ	**Waitaha Valley**	**26.38**	**196**	PN	**P**	**12 22 40.0**	**-0.7**
WVZ	**Waitaha Valley**	**26.38**	**196**	P	**P**	**12 22 40.0**	**-0.7**
RPZ	**Rata Peaks**	**26.89**	**195**	P	**P**	**12 22 44.1**	**-1.1**
	comp=Z,26nm,0.6s,mb5.1,baz=24,slow=6.0,SNR=12						
FOZ	**Fox Glacier**	**27.12**	**198**	*e*PN	**P**	**12 22 46.1**	**-1.1**
LBZ	**Lake Benmore**	**27.74**	**196**	PN	**P**	**12 22 50.7**	**-1.9**
JCZ	**Jackson Bay**	**27.86**	**198**	PN	**P**	**12 22 53.9**	**+0.3**
JCZ	**Jackson Bay**	**27.86**	**198**	P	**P**	**12 22 53.9**	**+0.2**
WKZ	**Wanaka**	**28.47**	**197**	*e*PN	**P**	**12 22 58.3**	**-0.7**
WKZ	**Wanaka**	**28.47**	**197**	*e*P	**P**	**12 22 58.3**	**-0.6**
CTA	**Charters Tower**	**32.52**	**261**	⇓*iP*	**P**	**12 23 33.6**	**+0.1**
	comp=Z,45nm,0.8s,mb5.2						
CTA	**Charters Tower**	**32.52**	**261**	P	**P**	**12 23 33.7**	**+0.2**
	comp=Z,53nm,0.7s,mb5.3,baz=87,slow=10,SNR=54						
CTA	**Charters Tower**	**32.52**	**261**	P	**P**	**12 23 33.7**	**+0.2**
CTA				pmax	pmax		
	comp=Z,53nm,0.7s						
CTAO	**Charters Tower**	**32.52**	**261**	*e*P	**P**	**12 23 33.5**	**0.0**
CTAO				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.3						
CTAO	**Charters Tower**	**32.52**	**261**	*e*P	**P**	**12 23 33.5**	**0.0**
	comp=Z,67nm,0.8s,mb5.3						
PMG	**Port Moresby**	**33.56**	**280**	P	**P**	**12 23 43.2**	**+1.0**
	comp=Z,183nm,0.8s,mb5.7,baz=77,slow=5.8,SNR=66						
PMG	**Port Moresby**	**33.56**	**280**	P	**P**	**12 23 43.2**	**+1.0**
PMG				pmax	pmax		
	comp=Z,183nm,0.8s						
PMG	**Port Moresby**	**33.56**	**280**	*e*P	**P**	**12 23 43.1**	**+0.9**
	comp=Z,207nm,0.9s						
TOO	**Toolangi**	**36.40**	**230**	*e*P	**P**	**12 24 07.1**	**+1.4**
	comp=Z,19nm,0.7s,mb4.7						
TOO				*e*S	**S**	**12 29 05.0**	**+0.1**
TOO	**Toolangi**	**36.40**	**230

VNDA Vanda 60.29 185 P **P 12 27 03.7 +1.8**
VNDA pmax pmax
comp=Z,1.0nm,0.4s
MJAR Matsushiro Arr 67.42 324 P **P 12 27 46.5 -0.5**
comp=Z,7.4nm,0.5s,mb4.3,baz=154,slow=5.9,SNR=24
MJAR Matsushiro Arr 67.42 324 P **P 12 27 46.6 -0.4**
MJAR pmax pmax
comp=Z,7.0nm,0.5s
MAJO Matsushiro 67.42 324 *e*P **P 12 27 46.4 -0.6**
MAJO pmax pmax
comp=Z,7.0nm,0.4s,mb4.4
MAJO Matsushiro 67.42 324 *e*P **P 12 27 46.4 -0.6**
comp=Z,7.2nm,0.4s,mb4.5
MAT Matsushiro 67.42 324 P **P 12 27 46.0 -1.0**
MAT Matsushiro 67.42 324 *e*P **P 12 27 46.0 -1.0**
MAT pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
MAT Matsushiro 67.42 324 *e*P **P 12 27 46.0 -1.0**
comp=Z,6.8nm,0.7s,mb4.2
ADK Adak 69.61 2 *e*P **P 12 27 58.9 -1.3**
ADK pmax pmax
comp=Z,32nm,0.6s,mb4.9
ADK Adak 69.61 2 *e*P **P 12 27 58.9 -1.3**
comp=Z,32nm,0.6s,mb4.9
KSM Kuching 71.78 278 *e*P **P 12 28 13.7 +0.8**
QSPA South Pole Qui 72.07 180 *e*P **P 12 28 16.1 +1.5**
comp=Z,8.4nm,0.8s,mb4.3
YSS Yuzh-Sakhalins 73.07 334⇑*e*P **P 12 28 21.7 +1.4**
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 73.07 334 *e*P **P 12 28 20.6 +0.3**
comp=Z,12nm,0.6s,mb4.6
NJ2 Nanjing 77.28 310 *e*P **P 12 28 43.5 -0.1**
NJ2 AP pP 12 30 50.5 -0.1
NJ2 XP sP 12 31 49.5 -3.6
NJ2 PP PP 12 31 51.0 +1.7
NJ2 S S 12 37 47.0 +2.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
NJ2 AMB AMB
comp=Z,1μm,5.2s
HABR Khabarovsk 77.62 331 *e*P **P 12 28 46.0 +0.5**
MDJ Mudanjiang 77.72 325 P **P 12 28 46.8 +0.8**
MDJ AP pP 12 30 53.0 -0.2
MDJ XP sP 12 31 55.0 -0.7
MDJ S S 12 37 51.8 +2.6
MDJ SCS ScS 12 38 10.0 +0.9
MDJ SS SS 12 43 12.5 +5.1
MDJ AMB AMB
comp=Z,14nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,130nm,5.8s
MDJ Mudanjiang 77.72 325 *e*P **P 12 28 46.5 +0.5**
comp=Z,3.7nm,0.6s,mb4.0
CMB Columbia Colle 78.53 44 *e*P **P 12 28 51.4 +1.1**
CMB pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
CMB Columbia Colle 78.53 44 *e*P **P 12 28 51.4 +1.0**
comp=Z,6.8nm,0.7s,mb4.1
KDAK Kodiak Island 78.70 14 P **P 12 28 50.8 -0.4**
comp=Z,16nm,1.0s,mb4.3,baz=82,slow=18,SNR=4.7
YBH Yreka Blue Hor 79.17 40 P **P 12 28 55.4 +1.7**
comp=Z,6.1nm,0.6s,mb4.1,baz=188,slow=3.6,SNR=24
YBH Yreka Blue Hor 79.17 40 P **P 12 28 55.4 +1.7**
YBH pmax pmax
comp=Z,6.0nm,0.6s
CN2 Changchun 79.52 323 *e*P **P 12 28 57.8 +2.3**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
KLR Kul'dur 79.71 330 *e*P **P 12 28 52.3 -4.2**
NVAR Mina Array Bea 80.12 44 P **P 12 29 00.5 +1.8**
comp=Z,1.8nm,0.4s,mb3.8,baz=231,slow=12,SNR=4.3
MA2 Magadan 81.03 345 *d*i*P **P 12 29 02.2 -1.1**
MA2 pmax pmax
comp=Z,23nm,1.5s,mb4.4
MA2 Magadan 81.03 345 *e*P **P 12 29 01.8 -1.6**
comp=Z,9.4nm,0.6s,mb4.4
PMR Palmer 82.90 14 *e*P **P 12 29 11.5 -1.3**
PMR pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
PMR Palmer 82.90 14 *e*P **P 12 29 11.5 -1.3**
comp=Z,8.6nm,0.6s,mb4.5
PSI Prapat 82.97 275 P **P 12 29 13.2 +0.1**
comp=Z,17nm,0.8s,mb4.6,baz=156,slow=10,SNR=8.2
PSI Prapat 82.97 275 P **P 12 29 13.2 +0.1**
PSI pmax pmax
comp=Z,17nm,0.8s,mb4.6
MAW Mawson 83.47 200 P **P 12 29 16.4 +0.8**
comp=Z,11nm,0.7s,mb4.5,baz=113,slow=6.9,SNR=7.8
MAW Mawson 83.47 200 P **P 12 29 16.4 +0.8**
MAW pmax pmax
comp=Z,11nm,0.7s
ENH Enshi 83.55 305 *e*P **P 12 29 16.8 +0.8**
comp=Z,26nm,1.3s,mb4.6
SEY Seymchan 83.65 347⇑*i*P **P 12 29 15.4 -1.1**
TNA Tin City 83.74 5 *e*P **P 12 29 16.2 -0.7**
comp=Z,9.1nm,0.9s,mb4.3
BMO Blue Mountains 84.19 39 *e*P **P 12 29 20.0 +0.8**
comp=Z,1.2nm,0.8s
MCK McKinley 84.82 13 *e*P **P 12 29 21.4 -0.8**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
MCK McKinley 84.82 13 *e*P **P 12 29 21.4 -0.8**
comp=Z,8.1nm,0.9s,mb4.3
XAN Xi'an 85.57 308 P **P 12 29 24.5 -1.3**
XAN AMB AMB
comp=Z,7.0nm,1.3s,mb4.1
COLA College 86.05 13 *c*i*P **P 12 29 26.6 -1.5**
COLA College 86.05 13 *e*P **P 12 29 25.9 -2.2**
comp=Z,8.0nm,0.8s,mb4.4
NEW Newport 86.12 36 *e*P **P 12 29 28.7 +0.3**
NEW pmax pmax
comp=Z,6.0nm,1.2s
NEW Newport 86.12 36 *e*P **P 12 29 28.7 +0.3**
comp=Z,6.1nm,1.2s,mb4.1
ILAR Eielson Array 86.17 13 P **P 12 29 27.0 -1.7**
comp=Z,6.4nm,0.8s,mb4.3,baz=238,slow=6.2,SNR=74
ILAR PP PP 12 32 56.4 -4.7
comp=Z,1.2nm,0.8s,baz=223,slow=7.0,SNR=4.2
ILAR PKKP PKKPbc 12 47 21.4 -1.3
comp=Z,0.2nm,0.7s,baz=332,slow=2.3,SNR=4.8
ILAR Eielson Array 86.17 13 P **P 12 29 27.0 -1.7**
ILAR 12 32 56.4
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
BILL Bilibino 86.42 355⇓*i*P **P 12 29 29.3 -0.5**
BILL pmax pmax
comp=Z,13nm,0.7s,mb4.7
BILL Bilibino 86.42 355 *e*P **P 12 29 29.1 -0.8**
comp=Z,13nm,0.8s,mb4.6
HHC Hu-ho-hao-te 86.67 315 *e*P **P 12 29 33.3 +2.3**
HHC AP pP 12 31 44.5 +2.4
HHC PP PP 12 33 08.8 +3.8
HHC S 12 39 20.0
HHC XS sS 12 43 09.0 -2.4
HHC SS SS 12 45 23.5 +5.3
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.2
DAWY Dawson 87.42 16 *e*P **P 12 29 34.1 -0.4**
CD2 Chengdu 88.33 303 *e*P **P 12 29 41.0 +2.2**
CD2 AP pP 12 31 51.0 +0.5
CD2 XP sP 12 32 50.0 -1.8
CD2 PP PP 12 33 22.5 +4.4
CD2 SKS 12 39 12.3
CD2 S 12 39 35.0
CD2 XS sS 12 43 25.3 -2.7
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
CD2 AMB AMB
comp=Z,60nm,9.3s
LZH Lanzhou 90.21 308 *e*P **P 12 29 49.0 +1.6**
LZH AP pP 12 32 00.5 +0.8
LZH XP sP 12 32 59.0 -1.7
LZH PP PP 12 33 37.5 +4.8
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.8
SNAA Sanae 90.54 179 P **P 12 29 49.0 0.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=219,slow=11
SNAA Sanae 90.54 179⇑*i*P **P 12 29 49.1 +0.1**
SNAA Sanae 90.54 179 P **P 12 29 49.0 0.0**
SNAA pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 90.54 179 *e*P **P 12 29 48.8 -0.2**
comp=Z,4.0nm,0.6s,mb4.5
VNA3 Neumayer Olymp 90.72 177⇑*i*P **P 12 29 49.0 -0.8**
VNA3 *e* 12 31 08.9
VNA2 Neumayer--Watz 91.15 177⇑*i*P **P 12 29 51.9 +0.1**
baz=199,slow=2.6
VNA2 *e* 12 31 15.5
PLCA Paso Flores 91.95 134 P **P 12 29 58.4 +3.0**
comp=Z,1.2nm,1.0s,mb3.9,baz=239,slow=5.9,SNR=4.3
PLCA Paso Flores 91.95 134 P **P 12 29 58.4 +2.9**
PLCA pmax pmax
comp=Z,1.0nm,1.0s
PLCA Paso Flores 91.95 134 P **P 12 29 58.4 +3.0**
INK Inuvik 92.21 15 *e*P **P 12 29 55.1 -1.5**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 92.21 15 *e*P **P 12 29 55.1 -1.5**
comp=Z,3.6nm,0.8s,mb4.5
YKA Yellowknife Ar 94.79 25 P **P 12 30 07.6 -0.8**
comp=Z,0.9nm,0.7s,mb4.0,baz=244,slow=4.5,SNR=14
YKA PP PP 12 34 02.1 -5.8
comp=Z,0.9nm,0.9s,baz=242,slow=7.5,SNR=5.4
YKA PKKP PKKPbc 12 47 01.0 -0.3
comp=Z,0.2nm,0.5s,baz=40,slow=2.1,SNR=5.8
YKA Yellowknife Ar 94.79 25 P **P 12 30 07.6 -0.8**
YKA PP PP 12 34 02.1 -5.8
YKA PKKP PKKPbc 12 47 01.0 -0.3
MKAR Makanchi Array 108.52 314 PKiKP PKiKP 12 35 10.1 -1.0
comp=Z,1.1nm,0.5s,baz=209,slow=0.7,SNR=24
MKAR PP PP 12 35 40.9 -8.2
comp=Z,0.2nm,0.3s,baz=119,slow=7.4,SNR=6.0
MKAR PKKPbc PKKPbc 12 46 23.0 +0.8
comp=Z,0.2nm,0.5s,baz=266,slow=3.0,SNR=5.3
MKAR PKKP PKKPbc 12 46 38.3 +16
comp=Z,0.4nm,0.8s,baz=251,slow=3.7,SNR=3.6
MKAR Makanchi Array 108.52 314 PKPdf PKiKP 12 35 10.1 -1.0
MKAR PP PP 12 35 40.9 -8.2
MKAR PKKPbc PKKPbc 12 46 23.0 +0.8
MKAR PKKP PKKPbc 12 46 38.3 +16
KURK Kurchatov 111.27 318 *d*i*P KiKiP 12 35 15.3 -1.0
BVAR Borovoye Array 116.32 321 PKPdf 12 35 25.1 -0.9
comp=Z,2.0nm,0.4s,baz=107,slow=0.7,SNR=21
BVAR SKP 12 38 03.4
comp=Z,1.2nm,0.9s,baz=113,slow=3.4,SNR=4.5
BVAR Borovoye Array 116.32 321 PKPdf 12 35 25.1 -0.9
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR pmax pmax
comp=E,1.0nm,0.9s
ZRNK Zerenda 117.16 321 *e*PKIKP PKPdf 12 35 26.2 -1.4
OPO Ambohidratompo 121.57 234 PKP PKPdf 12 35 37.6 +1.5
comp=E,2.0nm,0.4s,baz=220,slow=4.4,SNR=9.7
BDFB Brasilia 121.59 122 PKP PKPdf 12 35 37.3 +1.1
comp=E,1.2nm,0.4s,baz=343,slow=4.4,SNR=4.3
BDFB Brasilia 121.59 122 PKIKP PKPdf 12 35 37.3 +1.2
BDFB pmax pmax
comp=Z,1.0nm,0.4s
ARU Arti 122.40 326 *i* PKIKP PKPdf 12 35 37.1 -0.6
ARU *e* 12 37 25.2
ARU Arti 122.40 326 *e*PKPdf PKPdf 12 35 36.6 -1.1
AKTK Aktyubinsk 124.32 319 PKP PKPdf 12 35 40.9 -0.5
AKTO Aktyubinsk 124.32 319 PKP PKPdf 12 35 40.9 -0.5
comp=Z,2.9nm,0.7s,baz=81,slow=3.1
AKTO Aktyubinsk 124.32 319 PKIKP PKPdf 12 35 40.9 -0.5
AKTO pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 126.22 349 PKP PKPdf 12 35 44.0 -1.0
comp=Z,9.6nm,1.1s,baz=87,slow=2.0,SNR=24
ARCES ARCESS Array B 126.22 349 PKIKP PKPdf 12 35 44.0 -1.0
ARCES pmax pmax
comp=Z,10.0nm,1.1s
SUR Sutherland 126.32 201 PKP PKPdf 12 35 45.8 +0.6
comp=Z,6.9nm,0.8s,baz=146,slow=7.3,SNR=3.6
BOSA Boshof 127.91 208 PKP PKPdf 12 35 49.4 +1.1
comp=Z,2.0nm,0.8s,baz=76,slow=4.2,SNR=3.3
BOSA Boshof 127.91 208 PKIKP PKPdf 12 35 49.4 +1.2
BOSA pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 130.35 342 *e*p PKPdf 12 35 51.6 -1.3
comp=Z,3.6nm,0.4s
KAF Kangasniemi 132.39 344 *e*p PKPdf 12 35 52.5 -4.2
comp=Z,2.3nm,0.5s
FINES FINESS Array B 133.00 344 PKP PKPdf 12 35 55.0 -2.9
comp=Z,1.1nm,0.4s,baz=86,slow=2.7,SNR=7.2
FINES PP PP 12 38 27.9 -5.3
comp=Z,3.8nm,0.7s,baz=70,slow=6.3,SNR=11
FINES FINESS Array B 133.00 344 PKIKP PKPdf 12 35 55.0 -2.9
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 133.94 332 *i* PKIKP PKPdf 12 35 58.3 -1.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
VOR Voronezh 134.67 327 PKIKP PKPdf 12 35 59.0 -2.0
VOR pmax pmax
comp=Z,80nm,1.9s
KIV Kislovodsk 136.26 316 *e*PKIKP PKPdf 12 36 00.2 -3.7
KIV pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 136.34 353 PKP PKPdf 12 36 02.3 -1.8
comp=Z,1.4nm,0.9s,baz=14,slow=4.1,SNR=3.9
NOA SKPab 12 38 45.3
comp=Z,3.3nm,0.9s,baz=15,slow=3.1,SNR=4.9
NOA NORSAR Array B 136.34 353 PKIKP PKPdf 12 36 02.3 -1.8
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=E,3.0nm,0.9s
LSZ Lusaka 137.21 221 PKP PKPdf 12 36 07.3 +1.6
comp=E,2.3nm,0.5s,baz=162,slow=2.8,SNR=5.8
LSZ Lusaka 137.21 221 PKIKP PKPdf 12 36 07.3 +1.6
LSZ pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 139.25 246 PKP PKPdf 12 36 11.3 +1.9
comp=Z,2.3nm,0.8s,baz=135,slow=1.4,SNR=4.1
KMBO Kilima Mbogo 139.25 246 PKIKP PKPdf 12 36 11.3 +1.9
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 139.25 246 PKP PKPdf 12 36 11.3 +1.8
AKASG Malin Array Be 140.19 332 PKhKP 12 36 03.8
comp=Z,0.8nm,0.3s,baz=45,slow=4.0,SNR=5.8
AKASG PKP PKPdf 12 36 12.9 +1.8
comp=Z,1.6nm,0.5s,baz=44,slow=2.5,SNR=5.0
AKASG SKPbc SKPbc 12 38 49.2 -1.0
comp=Z,1.8nm,0.6s,baz=42,slow=3.3,SNR=10
AKASG Malin Array Be 140.19 332 PKHKP 12 36 03.8
AKASG 12 36 12.9
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=E,2.0nm,0.6s
CTKT Corum 142.98 315 *i* P PKPdf 12 36 15.0 -1.1
BSEG Bad Segeberg 143.34 350 *e*PKPbc PKPdf 12 36 14.9 -1.8
COBT Iskenderun 143.60 308 *i* P PKPdf 12 36 17.0 -0.2
ELDT Eldivan 143.96 315 *i* P PKPdf 12 36 18.2 +0.4
BR131 Keskin Array S 144.18 314 *e*PKPbc PKPdf 12 36 17.9 -0.3
BRTR Keskin Array B 144.18 314 PKP PKPdf 12 36 18.4 +0.2
comp=E,6.3nm,0.7s,baz=78,slow=2.6,SNR=24
BRTR SKPbc SKPbc 12 38 59.4 -0.5
comp=E,2.0nm,0.8s,baz=116,slow=2.9,SNR=7.0
BRTR Keskin Array B 144.18 314 PKIKP PKPdf 12 36 18.4 +0.2
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR pmax pmax
comp=E,2.0nm,0.8s
OJC Ojcow 144.36 339 *e*PKP PKPdf 12 36 18.6 +0.1
CFR Carcaliu 144.49 326 ||PKIKP PKPdf 12 36 19.3 +0.6
KOLS Kolonicke sedl 144.49 335 *e*PKP PKPdf 12 36 19.2 +0.5
KOLS *e* 12 39 01.5
STHS Stebnicka Huta 144.50 337 *e*PKP PKPdf 12 36 19.2 +0.5
STHS *e* 12 36 20.9
STHS Stebnicka Huta 144.50 337 *e*PKP PKPdf 12 36 19.2 +0.5
STHS *e* 12 36 20.9
STHS *e* 12 39 01.5
SGKT Sivrigoynuk 144.82 316 *i* P PKPdf 12 36 20.5 +1.2
CRVS Cervenica-Dubn 144.84 336 *e* PKPdf 12 36 21.1 +1.8
NIE Niedzica 144.84 338 *e*PKP PKPdf 12 36 20.6 +1.3
KSP Ksiaz 144.92 343 *e*PKP PKPdf 12 36 21.2 +1.8
KSP Ksiaz 144.92 343 *e*PKP PKPdf 12 36 20.7 +1.3
OKC Ostrava-Krasne 145.24 340 *e*PKP PKPdf 12 36 19.2 -0.8
IBBN Ibbenburen 145.29 352 *e*PKPbc PKPbc 12 36 22.0 +0.6
UPC Upice 145.30 343 *e*PKP PKPdf 12 36 21.8 +1.7
CLL Collm 145.33 346 *e*PKPbc PKPbc 12 36 21.3 -0.2
CLL *e*PKPab PKPab 12 36 23.0 0.0
CLL Collm 145.33 346⇓*i*PKPbc PKPbc 12 36 21.6 +0.1
comp=Z,30nm,0.5s
CLL *i* PKPab PKPab 12 36 22.8 -0.2
comp=Z,19nm,0.8s
CLL *i* SKPbc SKPbc 12 39 02.5 -0.1
CLL Collm 145.33 346⇓*i*PKP2 PKPab 12 36 21.6 -1.4
CLL pmax pmax
comp=Z,30nm,0.5s
DPC Dobruska-Polom 145.35 342 *e*PKP PKPdf 12 36 22.0 +1.8
CLZ Clausthal 145.35 349 *e*PKPbc PKPbc 12 36 21.5 0.0
CLZ *e*PKPab PKPab 12 36 23.1 0.0
CLZ Clausthal 145.35 349 *e*PKP2 PKPab 12 36 23.1 0.0
MLR Muntele Rosu 145.41 328 ||PKIKP PKPdf 12 36 21.6 +1.3
MORC Moravsky Berou 145.48 341⇑PKP2 PKPab 12 36 22.4 -1.2
BRG Berggiesshubel 145.51 345 *e*PKPbc PKPbc 12 36 21.8 -0.2
BRG Berggiesshubel 145.51 345 *i* PKP PKPdf 12 36 22.0 +1.5
comp=Z,5.1nm,0.6s
BRG *e*pPKP SKPbc 12 39 03.5 +0.5
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 145.51 345 *i* PKP PKPdf 12 36 22.0 +1.5
BRG *e*pPKP SKPbc 12 39 03.5 +0.5
KECS Kecovo 145.55 336 *e*PKP PKPdf 12 36 22.4 +1.9
VOIR 145.90 329⇓PKP2 PKPab 12 36 23.7 -1.5
PRU Pruhonice 146.17 344 *e*PKPbc PKPbc 12 36 24.3 +0.5
PRU *e*PKPab PKPab 12 36 26.7 +0.4
VRAC Vranov 146.19 341⇑PKP2 PKPab 12 36 26.1 -0.3
BUG Bochum--Univer 146.21 353 *e*PKPbc PKPbc 12 36 24.2 +0.3
PSZ Piszkesteto 146.24 336 *e*PKIKP PKPdf 12 36 23.8 +2.1
MOX Moxa 146.25 347 *e*PKPbc PKPbc 12 36 24.1 0.0
TANN Tannenbergstha 146.28 346 *e*PKPbc PKPbc 12 36 24.3 +0.1
UBBA Unterbreizbach 146.40 349 *e*PKPbc PKPbc 12 36 24.3 -0.2
NKC Novy Kostel 146.46 346 *e*PKPbc PKPbc 12 36 24.7 +0.1
NKC *e*PKPab PKPab 12 36 27.3 -0.2
EIL Elat 146.63 297 *e*PKPbc PKPbc 12 36 25.5 +0.4
ROTZ Rotzenmuhle 146.95 346 *e*PKPbc PKPbc 12 36 26.3 +0.4
MEM Membach 147.17 354 PKPbc PKPbc 12 36 26.6 +0.1
KHC Kasperske Hory 147.21 344 *e*PKPbc PKPbc 12 36 27.2 +0.6
KHC *e*PKPab PKPab 12 36 30.7 +0.2
TNS Taunus Mts 147.23 351 *e*PKPbc PKPbc 12 36 26.9 +0.2
TNS *e*PKPab PKPab 12 36 30.8 +0.2
TNS Taunus Mts 147.23 351 *e*PKP2 PKPab 12 36 30.8 +0.2
GRF Grafenberg Arr 147.24 347 *e*PKPbc PKPbc 12 36 28.1 +1.4
GRF *e*PKPab PKPab 12 36 30.7 +0.1
GRF Grafenberg Arr 147.24 347 *e*PKP2 PKPab 12 36 30.7 +0.1
TKTP Tekketepe 147.25 314 *i* P PKPdf 12 36 26.5 +3.2
BZS Buzias 147.38 332⇑PKP2 PKPbc 12 36 27.0 0.0
GEC2 GERESS Array S 147.44 344 *e*PKPbc PKPbc 12 36 27.4 +0.2
GERES GERESS Array B 147.44 344 PKPbc PKPbc 12 36 27.2 0.0
comp=Z,5.3nm,0.5s,baz=24,slow=2.9,SNR=42
GERES SKP 12 38 55.4
comp=Z,0.9nm,0.9s,baz=336,slow=2.2,SNR=3.9
GERES SKPbc SKPbc 12 39 07.2 0.0
comp=Z,0.9nm,0.7s,baz=80,slow=1.5,SNR=4.1
GERES GERESS Array B 147.44 344 PKP2 PKPab 12 36 27.2 -4.2
GERES pmax pmax
comp=Z,5.0nm,0.5s
GERES pmax pmax
comp=E,1.0nm,0.9s
GERES pmax pmax
comp=E,1.0nm,0.7s
GIVF Givet 147.78 355 *e*PKP1 PKPbc 12 36 27.8 -0.3
comp=E,16nm,0.5s
DOU Dourbes 147.81 355 PKPbc PKPbc 12 36 28.3 +0.2
DOU PKPab PKPab 12 36 32.6 -0.3
WLF Walferdange 148.09 353 *e*PKPbc PKPbc 12 36 29.7 +0.9
WLF Walferdange 148.09 353 PKPbc PKPbc 12 36 29.5 +0.7
VTS Vitosha 148.85 327⇑PKHKP 12 36 31.1
BFO Black Forest 149.09 350 *e*PKPbc PKPbc 12 36 31.5 +0.2
BFO *e*PKPab PKPab 12 36 37.7 -0.6
BFO Black Forest 149.09 350 *e*PKPbc PKPbc 12 36 31.1 -0.2
BFO *e*PKPab PKPab 12 36 37.4 -0.9
KBA Koelnbreinsper 149.15 343⇓*i*PKPbc PKPbc 12 36 31.0 -0.4
comp=E,6.6nm,0.7s
CDF Champ du Feu 149.17 351 *e*PKP1 PKPbc 12 36 31.2 -0.3
comp=E,12nm,0.7s
FLN La Foliniere 149.29 1 *e*PKP1 PKPbc 12 36 31.3 -0.5
comp=E,21nm,0.5s
WATA Walderalm 149.38 345⇓*i*PKPbc PKPbc 12 36 31.8 -0.2
comp=E,5.5nm,1.0s
WTTA Wattenberg 149.43 345⇑*i*PKPbc PKPbc 12 36 32.2 +0.1
comp=E,17nm,0.8s
LDF La Druitiere 149.47 1 *e*PKP1 PKPbc 12 36 31.6 -0.6
comp=E,18nm,0.6s
MOTA Moosalm 149.48 346⇑*i*PKPbc PKPbc 12 36 32.3 +0.1
comp=E,11nm,1.0s
SQTA Sankt Quirin 149.57 346⇓*i*PKiKP PKiKP 12 36 32.5 -0.6
comp=E,7.1nm,0.9s
GRR Gorron 149.65 2 *e*PKP1 PKPbc 12 36 32.3 -0.3
comp=E,10nm,0.5s
HAU Haudompre 149.69 352 *e*PKP1 PKPbc 12 36 33.3 +0.6
HINF Hinteralfeld 149.81 352 *e*PKP1 PKPbc 12 36 32.4 -0.6
comp=E,7.9nm,0.7s
LOR Lormes 150.68 355 *e*PKP1 PKPbc 12 36 34.8 -0.2
comp=E,17nm,0.7s
SSF Saint Saulge 150.91 356 *e*PKP1 PKPbc 12 36 35.4 -0.1
comp=E,12nm,0.6s
CABF La Chapelle 151.10 352 *e*PKP1 PKPbc 12 36 36.3 +0.3
comp=E,9.1nm,0.7s
AVF Avril sur Loir 151.19 356 *e*PKP1 PKPbc 12 36 35.6 -0.6
MFF Saint Martin d 151.46 1 *e*PKP1 PKPbc 12 36 36.2 -0.6
MBDF Montbardon 152.84 350 *e*PKP1 PKPbc 12 36 39.6 -0.2
comp=E,14nm,0.8s
DBIC Dimbokro 167.55 154 PKPab PKPab 12 38 00.5 +2.1
comp=E,6.1nm,0.9s,baz=193,slow=5.8,SNR=6.5
DBIC Dimbokro 167.55 154 PKP2 PKPab 12 38 00.5 +2.1
DBIC pmax pmax
comp=Z,6.0nm,0.9s
TORD Torodi Ar. Bea 175.08 192 PKP PKPdf 12 36 51.4 -0.1
comp=Z,1.6nm,0.8s,baz=348,slow=0.9,SNR=7.7

ISCJB ***28*** *12:45:47.9±0.9, 175S±0.1×17866W±009, h516km±14km, mb4.3/16, Error ellipse: s-maj=18.6km s-min=11.8km az=133.8*
IDC ***28*** *12:45:48.1±1.4, 1752S×17856W, h509km±17km, mb3.6/11, mb1 3.7/13, mb1mx3.6/20, mbtmp4.5/13, Error ellipse: s-maj=19.6km s-min=12.1km az=142.0*
NEIC ***28*** *12:45:48.5±0.8, 1744S×17858W, h515km±10km, mb4.6/8, Error ellipse: s-maj=14.0km s-min=9.1km az=144.0*
ISC 28 12:45:48.8±0.8, 175S±01×17855W±009, h519km±13km,
n33, σ0=71/32, **mb4.3**/16, **3C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
AFI	**Afiamalu**	**7.41**	**63**	P		**P**	**12 47 39.7**	**0.0**	
	5.2nm,0.3s,baz=246,slow=20,SNR=8.2								
AFI				S		**S**	**12 49 10.7**	**+0.1**	
	4.8nm,0.3s,baz=108,slow=23,SNR=4.6								
DZM	**Mont Dzumac**	**14.85**	**250**	P		**P**	**12 48 57.4**	**+0.2**	
	0.3nm,0.3s,baz=30,slow=14,SNR=3.4								
URZ	**Urewera**	**21.07**	**190**	P		**P**	**12 49 54.3**	**-1.7**	
	10nm,0.9s,mb4.4,baz=10,slow=11,SNR=3.1								
RPZ	**Rata Peaks**	**27.61**	**196**	P		**P**	**12 50 54.0**	**-0.2**	
	4.2nm,0.5s,mb4.3,baz=56,slow=3.6,SNR=7.9								
CTA	**Charters Tower**	**33.39**	**260**	P		**P**	**12 51 44.2**	**+0.3**	
	2.6nm,0.7s,mb3.9,baz=61,slow=15,SNR=3.5								
CTA				PcP		PcP	12 54 11.0	+0.7	
	baz=346,slow=4.2								
CTAO	**Charters Tower**	**33.39**	**260**	P		**P**	**12 51 44.1**	**+0.2**	
	2.3nm,0.6s,mb3.9								
PMG	**Port Moresby**	**34.26**	**279**	P		**P**	**12 51 51.6**	**+0.4**	
	11nm,0.8s,mb4.4,baz=150,slow=3.4,SNR=4.0								
PMG	**Port Moresby**	**34.26**	**279**	P		**P**	**12 51 50.5**	**-0.7**	
	14nm,1.0s,mb4.4								
TOO	**Toolangi**	**37.35**	**230**	*e*P		**P**	**12 52 18.3**	**+1.4**	
	21nm,1.1s,mb4.6								
TAU	**Tasmania Unive**	**38.49**	**221**	*e*P		**P**	**12 52 26.9**	**+0.8**	
	33nm,1.0s,mb4.8								
STKA	**Stephens Creek**	**38.73**	**241**	P		**P**	**12 52 27.1**	**-1.0**	
	13nm,0.7s,mb4.6,baz=90,slow=9.6,SNR=30								
STKA	**Stephens Creek**	**38.73**	**241**	*e*P		**P**	**12 52 26.9**	**-1.2**	
WB2	**Warramunga Arr**	**44.58**	**259**	*e*P		**P**	**12 53 13.8**	**-0.5**	
WRAB	**Tennant Creek**	**44.58**	**259**	*e*P		**P**	**12 53 13.9**	**-0.5**	
	6.7nm,0.7s,mb4.3								
WRA	**Warramunga Arr**	**44.59**	**259**	P		**P**	**12 53 14.2**	**-0.2**	
	3.0nm,0.6s,mb4.0,baz=97,slow=7.6,SNR=87								
WRA				PcP		PcP	12 54 47.0	+0.8	
	1.7nm,0.7s,baz=86,slow=3.6,SNR=8.0								
WRA				S		**S**	**12 59 06.4**	**-5.7**	
	0.7nm,0.8s,baz=91,slow=15,SNR=6.7								
ASAR	**Alice Springs**	**44.79**	**254**	P		**P**	**12 53 16.2**	**+0.3**	
	29nm,0.6s,mb5.0,baz=89,slow=7.9,SNR=643								
ASAR				PcP		PcP	12 54 47.4	+0.5	

2.2nm,0.6s,baz=98,slow=3.6,SNR=8.0
ASAR S **S** **12 59 11.3 -3.6**
2.0nm,0.8s,baz=89,slow=16,SNR=14
ASPA Alice Springs 44.79 254 *e*P **P** **12 53 16.1 +0.1**
KLBR Kellerberrin 58.91 243 *e*P **P** **12 54 57.2 -0.6**
17nm,0.7s,mb4.4
NWAO Narrogin (SRO) 59.31 242 P **P** **12 55 00.3 -0.1**
3.8nm,0.6s,mb3.8,baz=98,slow=7.1,SNR=3.4
MUN Mundaring 60.21 243 *e*P **P** **12 55 06.8 +0.4**
KSM Kuching 72.50 277 *e*P **P** **12 56 24.0 +1.3**
QSPA South Pole Qui 72.59 180 *e*P **P** **12 56 24.4 +1.2**
17nm,1.0s,mb4.4
MAW Mawson 84.23 200 P **P** **12 57 25.1 -0.4**
7.0nm,0.8s,mb4.2,baz=129,slow=12,SNR=4.2
ILAR Eielson Array 85.48 13 P **P** **12 57 30.9 -0.6**
0.4nm,0.4s,mb3.3,baz=222,slow=5.4,SNR=17
SNAA Sanae 91.05 179⇑*i* **P** **12 57 57.4 -0.2**
SNAA *e* 12 57 59.5
VNA3 Neumayer Olymp 91.19 176⇑*i* **P** **12 57 58.6 +0.3**
VNA3 12 58 00.6
VNA2 Neumayer--Watz 91.63 177⇑*i* **P** **12 58 00.6 +0.3**
baz=213,slow=3.0
VNA2 *e* 12 58 02.8
YKA Yellowknife Ar 93.98 25 P **P** **12 58 10.7 -0.3**
0.4nm,0.7s,mb3.6,baz=243,slow=4.4,SNR=9.0
YKA Yellowknife Ar 93.98 25 P **P** **12 58 10.7 -0.3**
MKAR Makanchi Array 108.73 314 PKiKP PKiKP 13 03 17.6 -1.1
0.2nm,0.5s,baz=358,slow=0.0,SNR=5.8
BRTR Keskin Array B 144.38 315 PKP PKPdf 13 04 26.2 +0.6
1.9nm,0.7s,baz=112,slow=3.6,SNR=9.2
GERES GERESS Array B 147.15 345 PKPbc PKPbc 13 04 33.8 +0.3
3.2nm,0.8s,baz=5.7,slow=2.7,SNR=12
TORD Torodi Ar. Bea 175.71 183 PKP PKPdf 13 04 59.4 +0.4
0.7nm,0.8s,baz=327,slow=0.7,SNR=3.5
TORD PKPab PKPab 13 06 42.1 +1.1
0.2nm,0.4s,baz=180,slow=3.9,SNR=4.1

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*IDC **28** 13:27:18.5±2.4, 2787N×5697E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, Error ellipse: s-maj=52.4km s-min=26.4km az=151.0*
*ISCJB **28** 13:27:19.9±1.5, 2819N±005×57.1E±0.1, h4km±11km, mb3.6/8, Error ellipse: s-maj=17.5km s-min=8.0km az=1.5*
*CSEM **28** 13:27:20.9±0.4, 2819N×5703E, h14km, ML3.4, Error ellipse: s-maj=9.8km s-min=7.9km az=82.0*
*THR **28** 13:27:23.6±0.3, 2822N×5680E, h15km, ML3.4*
*OMAN **28** 13:27:39.8, 2676N×5706E, h0km, Error ellipse: s-maj=1150.0km s-min=88.8km az=4.0*

ISC 28 13:27:21.8±1.5, 2818N±005×570E±01, h8km±10km, n16, σ0§80/16, mb3.6/8, 2C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.06**	**223**	*e*PG	**Pg**	**13 27 42.2**	**0.0**
BNDS				AML	AML	13 28 00.5	
	comp=N,1μm,0.2s						
KRBR	**Kerman**	**1.80**	**354**	*e*PG	**Pg**	**13 27 55.9**	**-0.5**
KRBR				AML	AML	13 28 27.1	
	comp=E,647nm,0.6s						
KRBR				AML	AML	13 28 28.4	
	comp=N,356nm,0.7s						
BANOM	**Banah**	**2.33**	**195**	⇑P	**Pn**	**13 28 00.5**	**0.0**
	SNR=44						
GHIR	**Ghir-Karzin**	**3.53**	**273**	*e*Pn	**Pn**	**13 28 17.7**	**+0.8**
GHIR				AML	AML	13 29 32.2	
	comp=E,41nm,0.1s						
ASHO	**Ashiyiah**	**3.58**	**194**	⇓P	**Pn**	**13 28 18.2**	**+0.5**
	SNR=8.3						
HOQ	**Hoqain**	**4.59**	**176**	⇓P	**Pn**	**13 28 32.0**	**+0.5**
BIDO	**Bidbid**	**4.75**	**167**	⇑P	**Pn**	**13 28 32.9**	**-0.9**
	SNR=11						
SMDO	**Samad**	**5.19**	**169**	⇓P	**Pn**	**13 28 40.0**	**+0.2**
AKTO	**Aktyubinsk**	**22.24**	**2**	P	**P**	**13 32 20.1**	**+1.1**
	comp=E,0.8nm,0.4s,mb3.5,baz=180,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**22.46**	**307**	P	**P**	**13 32 22.3**	**+0.9**
	comp=E,0.8nm,0.7s,mb3.3,baz=132,slow=14,SNR=3.7						
BVAR	**Borovoye Array**	**26.73**	**18**	P	**P**	**13 33 02.4**	**+0.6**
	comp=E,1.3nm,0.7s,mb3.6,baz=189,slow=8.6,SNR=9.9						
MKAR	**Makanchi Array**	**27.16**	**40**	P	**P**	**13 33 06.0**	**+0.3**
	comp=E,0.5nm,0.9s,mb3.1,baz=219,slow=9.2,SNR=3.5						
FINES	**FINESS Array B**	**39.11**	**337**	P	**P**	**13 34 48.8**	**-0.9**
	comp=E,1.3nm,0.5s,mb4.0,baz=130,slow=7.4,SNR=10						
ARCES	**ARCESS Array B**	**45.20**	**345**	P	**P**	**13 35 38.9**	**-0.4**
	comp=E,3.6nm,1.0s,mb4.2,baz=139,slow=7.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**53.43**	**266**	P	**P**	**13 36 39.9**	**-2.3**
	comp=E,0.5nm,0.6s,mb3.6,baz=67,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**89.39**	**356**	P	**P**	**13 40 18.5**	**-0.5**
	comp=E,0.2nm,0.8s,mb3.5,baz=359,slow=4.6,SNR=6.5						

MAN 28 13:41:59.6, 610N×12576E, h80km, mb3.4, ML4.6, MS2.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.12**	**324**	⇓*e*P	Pn	13 42 21.0	+0.9
KCP				*i* S	Sn	13 42 37.0	+1.5
BUKP	**Musuan**	**1.90**	**339**	*e*P	Pn	13 42 31.0	+0.9
BUKP				*e*S	Sn	13 42 53.5	+0.1
BIPH	**Bislig**	**2.16**	**16**	⇓*i*P	Pn	13 42 34.9	+1.3
BIPH				*i* S	Sn	13 43 00.5	+1.0
CGP	**Cagayan de Oro**	**2.57**	**336**	⇑*e*P	Pn	13 42 52.2	+13
CGP				*i* S	Sn	13 43 12.6	+3.2
BUTP	**Butuan**	**2.86**	**357**	*e*P	Pn	13 42 42.5	-0.5
PAGZ	**Pagadian**	**2.93**	**307**	*e*P	Pn	13 42 44.7	+0.7

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*ISCJB **28** 14:04:19.8±1.1, 6105N±007×288E±0.1, h0km, Error ellipse: s-maj=13.7km s-min=4.8km az=88.2*
*CSEM **28** 14:04:20.2±0.2, 6093N×2884E, h1km, ML1.7, Error ellipse: s-maj=6.6km s-min=3.6km az=136.0, Mining explosion.*
*BER **28** 14:04:20.5±3.9, 6091N×2898E, h0km, ML2.5(NAO), Suspected explosion*
*NAO **28** 14:04:20.2±2.3, 6099N×2894E, ML2.5*
*HEL **28** 14:04:21.0±0.3, 6095N×2895E, h0km, ML1.7, ML2.5(NAO), Explosion*
*IDC **28** 14:04:21.4±1.8, 6097N×2893E, h0km, mb1 3.6/3, mb1mx3.1/19, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=15.7km s-min=10.1km az=157.0*

ISC 28 14:04:20.4±0.9, 6099N±005×288E±01, h0km, n25, σ0§93/42, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.78**	**235**	*e*P	**Pg**	**14 04 36.0**	**+0.7**
VJF				*e*S	**Sg**	**14 04 45.6**	**+0.2**
VJF	**Virojoki**	**0.78**	**235**	P	**Pg**	**14 04 35.9**	**+0.6**
FIA0	**FINESS Array S**	**1.41**	**290**	*e*P	**Pn**	**14 04 46.8**	**-0.6**
FIA0				*e*S	**Sg**	**14 05 06.6**	**+0.8**
FIA0	**FINESS Array S**	**1.41**	**290**	Pn	**Pn**	**14 04 46.6**	**-0.8**
	baz=113,slow=16						
FIA0				Lg		14 05 07.5	
	baz=107,slow=28						
FIA0				Rg		14 05 14.9	
	baz=117,slow=37						
FIA0	**FINESS Array S**	**1.41**	**290**	P	**Pn**	**14 04 46.7**	**-0.6**
FIA0				S	**Sg**	**14 05 06.6**	**+0.8**
FINES	**FINESS Array B**	**1.41**	**290**	Pg	**Pg**	**14 04 46.6**	**-0.9**
	4.0nm,0.3s,baz=111,slow=16,SNR=83						
FINES				Lg		14 05 07.4	
	4.7nm,0.3s,baz=108,slow=28,SNR=28						
FINES				Rg		14 05 13.8	
	27nm,0.7s,baz=108,slow=27,SNR=42						
PVF	**Pernaja**	**1.53**	**254**	*e*P	**Pn**	**14 04 48.2**	**-0.7**
PVF				*e*S	**Sb**	**14 05 10.0**	**+0.4**
PVF	**Pernaja**	**1.53**	**254**	P	**Pn**	**14 04 48.2**	**-0.8**
PVF				S	**Sb**	**14 05 09.9**	**+0.4**
KAF	**Kangasniemi**	**1.66**	**314**	*e*P	**Pn**	**14 04 51.7**	**+1.0**
KAF				*e*S	**Sn**	**14 05 13.8**	**+1.1**
KAF	**Kangasniemi**	**1.66**	**314**	P	**Pn**	**14 04 51.7**	**+1.0**
KAF				S	**Sn**	**14 05 13.7**	**+1.1**
SUF	**Sumiainen**	**2.15**	**325**	MSG		14 05 32.4	
	comp=Z,2.6nm,0.1s						
JOF	**Joensuu**	**2.26**	**30**	*e*P	**Pn**	**14 05 00.1**	**+1.2**
JOF				*e*S	**Sn**	**14 05 28.2**	**+0.6**
JOF				MSG		14 05 30.2	
	comp=Z,3.0nm,0.1s						
JOF	**Joensuu**	**2.26**	**30**	P	**Pn**	**14 05 00.1**	**+1.1**
JOF				S	**Sn**	**14 05 28.2**	**+0.6**
	comp=Z,3.0nm,0.1s						
MEF	**Metsahovi**	**2.33**	**252**	*e*P	**Pn**	**14 05 00.2**	**+0.3**
MEF				*e*S	**Sn**	**14 05 30.2**	**+1.0**
MEF				MSG		14 05 35.7	
	comp=Z,4.3nm,0.1s						
HFS	**Hagfors**	**7.51**	**270**	Pn	**Pn**	**14 06 10.9**	**-0.3**
	baz=103,slow=12						
HFS				Sn	**Sn**	**14 07 34.7**	**-2.4**
	baz=89,slow=28						
HFS				Lg		14 08 13.5	
	baz=69,slow=28						
HFS	**Hagfors**	**7.51**	**270**	*e*P	**Pn**	**14 06 10.9**	**-0.3**
HFS				*e*S	**Sn**	**14 07 34.7**	**-2.4**
HFS				*e*SG	**Sg**	**14 08 13.5**	**-8.2**
HFS	**Hagfors**	**7.51**	**270**	Pn	**Pn**	**14 06 11.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=74,slow=16,SNR=5.5						
HFS				Sn	**Sn**	**14 07 35.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=26,SNR=3.6						
HFS				Lg		14 08 16.3	
	comp=Z,0.4nm,0.3s,baz=75,slow=31,SNR=5.3						
NB2	**NORSAR Subarra**	**8.56**	**278**	Pn	**Pn**	**14 06 24.6**	**-0.9**
	baz=87,slow=14						
NB2	**NORSAR Subarra**	**8.56**	**278**	*e*P	**Pn**	**14 06 24.6**	**-0.9**
NB2	**NORSAR Subarra**	**8.56**	**278**	Pn	**Pn**	**14 06 24.6**	**-0.9**
	SNR=50						
NOA	**NORSAR Array B**	**8.56**	**278**	Pn	**Pn**	**14 06 25.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=92,slow=12,SNR=2.9						
ARA0	**ARCESS Array S**	**8.69**	**352**	Pn	**Pn**	**14 06 25.9**	**-1.4**
	baz=167,slow=16						
ARA0				Sn	**Sn**	**14 08 01.2**	**-4.8**
	baz=166,slow=28						
ARA0	**ARCESS Array S**	**8.69**	**352**	*e*P	**Pn**	**14 06 25.9**	**-1.4**
ARA0				*e*S	**Sn**	**14 08 01.2**	**-4.8**
ARA0	**ARCESS Array S**	**8.69**	**352**	Pn	**Pn**	**14 06 26.0**	**-1.4**
	SNR=50						
ARA0				Sn	**Sn**	**14 08 01.2**	**-4.9**
	SNR=50						
ARCES	**ARCESS Array B**	**8.69**	**352**	Pn	**Pn**	**14 06 26.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=17						
ARCES				Sn	**Sn**	**14 08 00.6**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=165,slow=19,SNR=2.4						

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*ISCJB **28** 14:26:11.8±1.6, 2819N±008×570E±02, h11km±16km, Error ellipse: s-maj=22.7km s-min=13.6km az=0.8*
*CSEM **28** 14:26:15.9, 2823N×5656E, h15km, ML3.0, After THR*
*THR **28** 14:26:15.9±0.3, 2823N×5656E, h15km, ML3.0*
*OMAN **28** 14:26:31.8±73.0, 2667N×57.14E, h0km, Error ellipse: s-maj=859.5km s-min=105.1km az=177.0*

ISC 28 14:26:13.3±1.7, 2818N±008×569E±02, h9km±16km, n7, σ1§08/7, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.03**	**221**	*e*PG	**Pg**	**14 26 32.9**	**-0.2**
BNDS				AML	AML	14 26 50.6	
	comp=E,356nm,0.3s						
KRBR	**Kerman**	**1.81**	**355**	*e*PG	**Pg**	**14 26 48.2**	**+0.2**
KRBR				AML	AML	14 27 18.0	
	comp=N,289nm,0.6s						
KRBR				AML	AML	14 27 19.1	
	comp=E,235nm,0.4s						
BANOM	**Banah**	**2.31**	**194**	P	**Pn**	**14 26 52.2**	**+0.7**
	SNR=35						
GHIR	**Ghir-Karzin**	**3.49**	**273**	*e*PN	**Pn**	**14 27 07.1**	**-0.5**
GHIR				AML	AML	14 27 57.2	
	comp=E,25nm,0.2s						
ASHO	**Ashiyiah**	**3.57**	**193**	⇓P	**Pn**	**14 27 09.9**	**+1.2**
	SNR=9.3						
BIDO	**Bidbid**	**4.76**	**167**	⇑P	**Pn**	**14 27 23.7**	**-1.4**
SMDO	**Samad**	**5.19**	**169**	⇑P	**Pn**	**14 27 31.1**	**+0.1**

IDC 28 14:36:02.3±13.0, 1509S×16566E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=228.1km s-min=36.1km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.99**	**174**	Pn	Pn	14 37 46.0	+0.1
	1.7nm,0.3s,baz=340,slow=15,SNR=18						
DZM				Sn	Sn	14 39 08.5	+2.4
	0.2nm,0.3s,baz=90,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**27.59**	**229**	P	P	14 41 50.2	-0.9
	1.2nm,0.5s,baz=73,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**30.23**	**256**	P	P	14 42 15.3	+0.7
	0.6nm,1.2s,baz=86,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**31.09**	**249**	P	P	14 42 23.1	+0.9
	0.2nm,0.5s,baz=78,slow=9.4,SNR=12						

MEX 28 14:40:21.5±0.9, 1672N×9959W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.34**	**296**	*i* P	Pg	14 40 27.0	-1.2
ACX				*i* S	Sg	14 40 33.0	+0.3
CAIG	**El Cayaco**	**0.73**	**297**	*i* P	Pg	14 40 34.6	-0.8
CAIG				*i* S	Sg	14 40 45.0	+0.1
MEIG	**Mezcala**	**1.20**	**359**	*i* P	Pg	14 40 41.7	-2.9
MEIG				*i* S	Sg	14 40 55.9	-4.3
PLIG	**Platanillo**	**1.67**	**3**	*e*P	Pn	14 40 48.7	-2.7
PLIG				*i* S	Sn	14 41 08.2	-4.9

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*NEIC **28** 14:42:13.6, 1547N×9630W, h21km, MD3.8(MEX), After MEX.*

MEX 28 14:42:14.2±0.6, 1552N×9629W, h11km±7km, MD3.8, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.31**	**35**	⇓*i*P	Pg	14 42 19.9	-0.5
HUIG				*i* S	Sg	14 42 25.0	+0.4
VHO	**Vista Hermosa**	**1.61**	**345**	*i* P	Pn	14 42 39.3	-3.2
VHO				*i* S	Sn	14 42 58.2	-5.0
OXX	**Oaxaca**	**1.61**	**345**	*e*P	Pn	14 42 39.0	-3.6
OXX				*i* S	Sn	14 42 59.0	-4.4
CMIG	**Matias Romero**	**2.07**	**41**	*e*P	Pn	14 42 45.6	-3.2
CMIG				*i* S	Sn	14 43 10.5	-4.1
UTMO	**Huajuapan**	**2.72**	**328**	*e*P	Pn	14 42 56.0	-1.8
UTMO				*i* S	Sn	14 43 26.0	-4.7
PPM	**Popocatepetl**	**4.18**	**328**	*e*P	Pn	14 43 17.7	-0.2
PPM				*i* S	Sn	14 44 01.3	-5.4
PPM	**Popocatepetl**	**4.18**	**328**	*e*P	Pn	14 43 17.7	-0.2
PPM				*i* S	Sn	14 44 04.2	-2.5

IDC 28 14:49:26.9±2.0, 783S×12736E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=276.1km s-min=31.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.81**	**151**	Pn	Pn	14 52 42.9	-1.0
	0.5nm,0.3s,baz=329,slow=14,SNR=41						
WRA				Sn	Sn	14 55 04.2	-14
	1.4nm,0.3s,baz=334,slow=22,SNR=15						
ASAR	**Alice Springs**	**16.95**	**159**	Pn	Pn	14 53 26.8	+1.4
	0.1nm,0.3s,baz=334,slow=9.2,SNR=13						
ASAR				Sn	Sn	14 56 28.9	-5.5
	0.3nm,0.3s,baz=348,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**67.52**	**328**	P	P	15 00 25.0	+0.2
	0.2nm,0.3s,baz=126,slow=7.3,SNR=10						

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*ISCJB **28** 14:56:10.7±0.7, 5147N±004×16.16E±003, h0km, Error ellipse: s-maj=5.3km s-min=2.7km az=22.5*
*IPEC **28** 14:56:11.2±0.2, 5158N×1624E, h0km, ML1.8/3, Error ellipse: s-maj=1.6km s-min=0.9km az=30.0*
*CSEM **28** 14:56:13.9±0.2, 5146N×1612E, h0km, ML3.0/6, Error ellipse: s-maj=4.0km s-min=2.3km az=18.0*
*PRU **28** 14:56:13.4, 5147N×1614E, h0km*
*VIE **28** 14:56:15.4±0.5, 5124N×1621E, h0km, mb2.2/3, ML2.6/3, Error ellipse: s-maj=3.6km s-min=3.1km az=81.0 58 km WNW of Breslau Suspected Mining induced.*

ISC 28 14:56:12.0±0.7, 5150N±004×1615E±003, h0km, n25, σ0§99/50, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**14 56 25.5**	**+0.7**
KSP				*i* Sg	**Sg**	**14 56 35.0**	**+1.6**
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**14 56 25.5**	**+0.7**
KSP				*e*Sg	**Sg**	**14 56 34.2**	**+0.8**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**14 56 31.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**14 56 34.1**	**-0.1**
DPC				*e*SG	**Sg**	**14 56 49.9**	**+0.7**
	31nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**14 56 34.2**	**0.0**
DPC				*e*Sg	**Sg**	**14 56 49.8**	**+0.6**
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pn	**Pn**	**14 56 39.1**	**+0.4**
PVCC				*e*Sg	**Sg**	**14 56 58.4**	**+1.6**
BRG	**Berggiesshubel**	**1.52**	**247**	*e*Pn	**Pn**	**14 56 41.1**	**+0.6**
BRG				*e*Sg	**Sg**	**14 57 01.6**	**+0.7**
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**14 56 44.0**	**-0.6**
PRU				*e*PG	**Pg**	**14 56 46.0**	**-1.0**
PRU				*e*SG	**Sg**	**14 57 10.8**	**+0.1**
	26nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn	**Pn**	**14 56 45.7**	**-0.5**
MORC				*e*Sg	**Sg**	**14 57 13.5**	**-0.9**
	4.6nm,0.2s						
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**14 56 45.0**	**-1.7**
CLL				*i* Pg	**Pg**	**14 56 48.9**	**-1.0**
CLL				*ex*	x	14 56 52.0	
CLL				*i* Sg	**Sg**	**14 57 15.2**	**-0.4**
	comp=Z,21nm,0.5s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pg**	**14 56 49.3**	**-2.9**
OKC				*e*SG	**Sg**	**14 57 16.1**	**-3.3**
	comp=Z,41nm,1.0s						
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**14 56 50.7**	**+0.7**
VRAC				*e*Sg	**Sg**	**14 57 22.2**	**-0.9**
	comp=Z,6.1nm,0.1s						
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**14 56 54.0**	**+0.8**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pg	**Pg**	**14 56 57.8**	**-1.1**
KRUC				*e*Sg	**Sg**	**14 57 30.1**	**-0.5**
	comp=Z,3.6nm,0.3s						
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**14 57 03.4**	**+0.7**
OJC				*e*Sg	**Sg**	**14 57 38.3**	**+1.2**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**14 56 56.6**	**+0.4**
NKC				*e*PG	**Pg**	**14 57 03.0**	**-0.1**
NKC				*e*SG	**Sg**	**14 57 39.2**	**+1.6**
	comp=Z,34nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pn	**Pn**	**14 56 56.5**	**+0.3**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**14 57 03.0**	**-0.1**
NKC				*e*Sg	**Sg**	**14 57 37.3**	**-0.3**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**14 56 59.9**	**+0.7**
KHC				*e*PG	**Pg**	**14 57 05.4**	**-2.0**
KHC				*e*SN	**Sn**	**14 57 35.4**	**+0.7**
KHC				*e*SG	**Sg**	**14 57 44.6**	**-0.2**
	comp=Z,9.1nm,0.4s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pn	**Pn**	**14 57 00.0**	**+0.8**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pg**	**14 57 09.1**	**-0.1**
MOX				*e*SG	**Sg**	**14 57 48.6**	**+0.7**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**14 57 02.9**	**0.0**
NIE	**Niedzica**	**3.38**	**126**	*e*P	**Pg**	**14 57 15.7**	**-1.1**
NIE				*e*S	**Sg**	**14 57 59.9**	**-0.8**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**14 57 12.2**	**-0.3**
MOA				⇑*i*Sg	**Sg**	**14 58 15.1**	**-0.8**
	comp=Z,11nm,0.7s						
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PG	**Pg**	**14 57 28.2**	**+2.0**
STHS				*e*SG	**Sg**	**14 58 17.6**	**+1.3**

IDC 28 15:35:56.3±2.6, 996S×15217E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/12, mbtmp3.4/4, Error ellipse: s-maj=113.8km s-min=30.6km az=129.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.86**	**238**	P	Pn	15 40 28.7	-1.8
	0.0nm,0.3s,baz=61,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**22.14**	**230**	P	P	15 40 54.1	+0.7
	0.5nm,0.8s,baz=69,slow=9.6,SNR=7.5						
MKAR	**Makanchi Array**	**83.80**	**320**	P	P	15 48 27.1	-0.4
	0.5nm,0.9s,baz=116,slow=5.5,SNR=3.3						
ILAR	**Eielson Array**	**87.14**	**22**	P	P	15 48 44.1	-0.1
	0.4nm,0.8s,baz=241,slow=5.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.91**	**279**	PKPbc	PKPbc	15 55 52.4	+1.5
	1.0nm,0.9s,baz=51,slow=2.4,SNR=4.4						

GUC 28 16:13:52.9±0.6, 3229S×7022W, h110km±3km, MD4.1, ML4.0, 3C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.51**	**219**	⇓*i*P	Pn	16 14 10.3	+0.5
JACH				*i* S	Sn	16 14 23.8	+1.3
PEL	**Peldehue**	**0.94**	**205**	⇓*i*P	Pn	16 14 13.9	+0.4
PEL				*i* S	Sn	16 14 29.6	+0.5
PEL				AMP		16 14 30.9	
	comp=E,10μm,0.2s						
ROCH	**El Roble**	**0.96**	**224**	⇓*i*P	Pn	16 14 14.3	+0.6
ROCH				*i* S	Sn	16 14 30.5	+1.1
ILCH	**Illapel**	**1.04**	**308**	*e*P	Pn	16 14 15.0	+0.5
ILCH				*i* S	Sn	16 14 31.2	+0.5
ILCH				AMP		16 14 32.1	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**1.04**	**183**	⇓*i*P	Pn	16 14 15.3	+0.8
FCH				*i* S	Sn	16 14 32.5	+1.6
FCH				AMP		16 14 36.1	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**1.14**	**194**	*e*P	Pn	16 14 16.0	+0.4
CLCH				*i* S	Sn	16 14 33.6	+0.9
CLCH				AMP		16 14 37.1	
	comp=N,3μm,0.3s						
RCDM	**Rinconada Maip**	**1.30**	**202**	⇑*i*P	Pn	16 14 17.8	+0.5
RCDM				*i* S	Sn	16 14 36.7	+0.8
RCDM				AMP		16 14 37.6	
	comp=E,5μm,0.1s						
ANTU	**Antumapu**	**1.33**	**195**	⇑*i*P	Pn	16 14 18.2	+0.5
ANTU				*i* S	Sn	16 14 37.3	+0.9
ANTU				AMP		16 14 38.2	
	comp=E,4μm,0.5s						
PCH	**Pirque**	**1.35**	**190**	*e*P	Pn	16 14 18.5	+0.5
PCH				*i* S	Sn	16 14 38.2	+1.2
SJCH	**San Jose de Ma**	**1.36**	**185**	*e*P	Pn	16 14 17.6	-0.4
SJCH				*i* S	Sn	16 14 37.9	+0.8
IHA	**Instituto Hidr**	**1.41**	**238**	⇓*i*P	Pn	16 14 18.8	+0.2
TACH	**Talagante**	**1.49**	**204**	⇓*i*P	Pn	16 14 19.9	+0.3
LMEL	**Las Melosas**	**1.56**	**180**	*e*P	Pn	16 14 21.2	+0.8
LMEL				*i* S	Sn	16 14

KNT	**Kendrikon**	**0.79 194**	*e*Pg	**Pg**	**17 00 55.3**	**-0.4**
KNT			*e*Sg	**Sg**	**17 01 06.1**	**0.0**
SRS	**Serrai**	**0.88 158**	*e*Pg	**Pg**	**17 00 57.0**	**-0.4**
SRS			*e*Sg	**Sg**	**17 01 09.3**	**+0.5**
GRG	**Griva**	**1.13 210**	*e*Pg	**Pg**	**17 01 01.7**	**-0.4**
GRG			*e*Sg	**Sg**	**17 01 16.6**	**-0.1**
THE	**Thessaloniki**	**1.31 186**	*e*Pg	**Pg**	**17 01 05.0**	**-0.6**
THE			*e*Sg	**Sg**	**17 01 23.6**	**+1.1**

GUC 28 17:01:37.7±1.9, 2678S×7095W, h25km±19km, MD4.0, ML3.7, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.31**	**160**	⇓*i*P	Pb	17 01 44.7	-0.2
CDCH				*i* S	Sb	17 01 49.9	+0.2
CDCH				AMP		17 01 50.6	
	comp=N,5μm,0.6s						
CRCH	**Chaqaral**	**0.52**	**34**	⇓*i*P	Pb	17 01 48.3	0.0
CRCH				*i* S	Sb	17 01 55.6	+0.1
CRCH				AMP		17 01 56.3	
	comp=N,4μm,0.1s						
CPCH	**Copiapo**	**0.78**	**137**	⇓*i*P	Pb	17 01 52.1	-0.6
CPCH				*i* S	Sb	17 02 03.0	+0.1
CPCH				AMP		17 02 04.5	
	comp=N,23μm,0.1s						
CPN1	**Cerro Paranal**	**2.20**	**13**	*e*P	Pn	17 02 11.5	-1.2
ANCH	**Antofagasta**	**3.12**	**9**	*e*P	Pn	17 02 23.4	-1.9
ANCH				*i* S	Sn	17 02 59.1	-2.7
CEN1	**Los Morros**	**3.44**	**12**	*e*P	Pn	17 02 23.9	-5.8
CEN1				*i* S	Sn	17 03 02.5	-7.2
CEN1				AMP		17 03 18.0	
	comp=E,143nm,0.7s						

ISC 28 17:08:33.7±3.5, 348S±02×1788W±06, h35km, n5, σ0§08/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.65**	**220**	PN	**Pn**	**17 09 27.7**	**0.0**
MXZ				SN	**Sn**	**17 10 09.7**	**+0.1**
MWZ	**Matawai**	**4.64**	**219**	PN	**Pn**	**17 09 41.3**	**+0.1**
MWZ				SN	**Sn**	**17 10 33.8**	**-0.1**
URZ	**Urewera**	**4.81**	**223**	PN	**Pn**	**17 09 43.5**	**-0.1**
ASPA	**Alice Springs**	**42.44**	**272**	*e*P	**P**	**17 16 25.1**	**0.0**
WB2	**Warramunga Arr**	**43.81**	**277**	*e*P	**P**	**17 16 36.1**	**0.0**

IDC 28 17:21:21.2±4.6, 244S×13983E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/12, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=176.6km s-min=29.8km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**197**	P	Pn	17 25 35.6	+0.3
	0.1nm,0.3s,baz=17,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.87**	**195**	P	P	17 26 15.7	+0.2
	0.8nm,0.7s,baz=26,slow=12,SNR=13						
MKAR	**Makanchi Array**	**70.26**	**322**	P	P	17 32 36.5	+0.3
	0.2nm,0.5s,baz=115,slow=8.1,SNR=4.2						

GUC 28 17:28:59.6±1.0, 2671S×7096W, h26km±12km, MD3.9, ML3.2, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.38**	**162**	⇓*i*P	Pb	17 29 08.2	+0.3
CDCH				*i* S	Sb	17 29 13.3	-0.2
CDCH				AMP		17 29 13.8	
	comp=N,3μm,0.3s						
CRCH	**Chaqaral**	**0.47**	**40**	⇓*i*P	Pb	17 29 11.7	+2.2
CRCH				*i* S	Sb	17 29 18.9	+2.8
CRCH				AMP		17 29 19.4	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**0.84**	**140**	*e*P	Pb	17 29 15.3	-0.3
CPCH				*i* S	Sb	17 29 26.5	-0.1
CPN1	**Cerro Paranal**	**2.14**	**14**	*e*P	Pn	17 29 35.5	+1.9
CPN1				*i* S	Sn	17 30 01.3	+2.1
CPN1				AMP		17 30 12.5	
	comp=E,420nm,0.8s						
CEN1	**Los Morros**	**3.38**	**12**	*i* P	Pn	17 29 48.9	-1.7
CEN1				*i* S	Sn	17 30 26.8	-3.0
CEN1				AMP		17 30 41.5	
	comp=E,65nm,0.5s						

*IDC **28** 17:30:32.9±3.0, 2770N×5718E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=66.6km s-min=31.7km az=140.0*
*ISCJB **28** 17:30:36.6±0.5, 2819N±003×5707E±007, h10km, mb3.6/6, Error ellipse: s-maj=8.6km s-min=4.5km az=20.8*
*CSEM **28** 17:30:37.7±0.2, 2813N×5715E, h21km±1km, ML3.4, Error ellipse: s-maj=3.5km s-min=2.4km az=111.0*
*NEIC **28** 17:30:37.7, 2816N×5711E, h17km, ML3.4(THR), After THR.*
*THR **28** 17:30:37.7±0.4, 2816N×5711E, h17km±4km, ML3.4*
*OMAN **28** 17:31:02.9±2.9, 2616N×5705E, h0km, Error ellipse: s-maj=37.6km s-min=4.0km az=13.0*

ISC 28 17:30:38.1±0.5, 2819N±003×5704E±007, h10km, n25, σ1§06/31, mb3.6/6, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.10**	**225**	*e*PG	**Pg**	**17 30 58.8**	**-0.5**
BNDS				*e*SG	**Sg**	**17 31 14.0**	**+0.4**
BNDS				AML	AML	17 31 16.1	
	comp=E,1μm,0.3s						
BNDS				AML	AML	17 31 18.7	
	comp=N,697nm,0.7s						
BNDS	**Bandar-Abbas**	**1.10**	**225**	*e*Pg	**Pg**	**17 30 58.8**	**-0.5**
	SNR=92						
BNDS				*e*Sg	**Sg**	**17 31 14.0**	**+0.4**
	SNR=92						
BNDS	**Bandar-Abbas**	**1.10**	**225**	Pg	**Pg**	**17 30 58.0**	**-1.3**
BNDS				Sg	**Sg**	**17 31 13.0**	**-0.6**
KRBR	**Kerman**	**1.81**	**352**	*e*PG	**Pg**	**17 31 11.5**	**-1.2**
KRBR				*e*SG	**Sg**	**17 31 36.1**	**0.0**
KRBR				AML	AML	17 31 46.3	
	comp=E,280nm,0.4s						
KRBR				AML	AML	17 31 47.0	
	comp=N,472nm,0.4s						
KRBR	**Kerman**	**1.81**	**352**	*e*Pg	**Pg**	**17 31 11.5**	**-1.2**
	SNR=91						
KRBR				Sg	**Sg**	**17 31 36.0**	**-0.2**
KRBR	**Kerman**	**1.81**	**352**	Pg	**Pg**	**17 31 11.0**	**-1.7**
KRBR				Sg	**Sg**	**17 31 36.0**	**-0.2**
BANOM	**Banah**	**2.35**	**197**	P	**Pn**	**17 31 16.6**	**-0.2**
	SNR=84						
ZHSF	**Zahedan**	**3.57**	**66**	*e*PN	**Pn**	**17 31 33.9**	**+0.4**
ZHSF	**Zahedan**	**3.57**	**66**	Pn	**Pn**	**17 31 33.0**	**-0.5**
GHIR	**Ghir-Karzin**	**3.58**	**273**	*e*PN	**Pn**	**17 31 35.5**	**+1.9**
GHIR				AML	AML	17 32 26.8	
	comp=E,57nm,0.6s						
GHIR				AML	AML	17 32 31.7	
	comp=N,30nm,1.1s						
GHIR	**Ghir-Karzin**	**3.58**	**273**	Pn	**Pn**	**17 31 35.0**	**+1.3**
ASHO	**Ashiyiah**	**3.60**	**194**	P	**Pn**	**17 31 34.3**	**+0.4**
	SNR=26						
BIDO	**Bidbid**	**4.75**	**168**	P	**Pn**	**17 31 48.9**	**-0.8**
	SNR=18						
ARQ	**Araqi**	**4.85**	**186**	⇓P	**Pn**	**17 31 51.8**	**+0.6**
SMDO	**Samad**	**5.19**	**170**	⇓P	**Pn**	**17 31 55.8**	**0.0**
WBK	**Wadi Bani Khal**	**5.82**	**162**	P	**Pn**	**17 32 05.1**	**+0.6**
	SNR=6.6						
AKTK	**Aktyubinsk**	**22.23**	**2**	P	**P**	**17 35 36.0**	**+1.1**
AKTK	**Aktyubinsk**	**22.23**	**2**	P	**P**	**17 35 36.0**	**+1.1**
AKTO	**Aktyubinsk**	**22.23**	**2**	P	**P**	**17 35 36.0**	**+1.1**
	comp=N,0.7nm,0.4s,mb3.4,baz=188,slow=12,SNR=3.9						
BRTR	**Keskin Array B**	**22.50**	**307**	P	**P**	**17 35 38.9**	**+1.1**
	comp=N,1.1nm,0.9s,mb3.3,baz=130,slow=12,SNR=5.0						
BRTR	**Keskin Array B**	**22.50**	**307**	P	**P**	**17 35 38.8**	**+1.1**
BVAR	**Borovoye Array**	**26.71**	**18**	P	**P**	**17 36 18.6**	**+1.1**
	comp=N,1.3nm,0.8s,mb3.5,baz=201,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**39.12**	**337**	P	**P**	**17 38 05.0**	**-0.7**
	comp=N,1.2nm,0.6s,mb3.8,baz=135,slow=7.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**53.48**	**266**	P	**P**	**17 39 56.2**	**-2.3**
	comp=N,0.6nm,0.6s,mb3.7,baz=62,slow=7.4,SNR=5.1						
YKA	**Yellowknife Ar**	**89.39**	**356**	P	**P**	**17 43 32.6**	**-2.4**
	comp=N,0.1nm,0.3s,mb3.6,baz=353,slow=4.5,SNR=3.8						

*OMAN **28** 18:05:49.0, 3033N×5008E, h59km, Error ellipse: s-maj=2849.0km s-min=21.2km az=321.0*
*IDC **28** 18:06:07.5±1.4, 2883N×5141E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/25, mbtmp3.9/14, ML2.2/2, Error ellipse: s-maj=33.6km s-min=18.4km az=156.0*
*ISCJB **28** 18:06:07.9±1.0, 2886N±003×5122E±004, h12km±7km, mb3.9/22, Error ellipse: s-maj=6.6km s-min=4.8km az=83.9*
*CSEM **28** 18:06:07.0±0.1, 2882N×5116E, h12km, mb4.1/15, ML4.4/2, Error ellipse: s-maj=2.4km s-min=1.3km az=69.0*
*THR **28** 18:06:07.7±0.9, 2887N×5111E, h14km±10km, ML3.9*
*TEH **28** 18:06:10.5, 2886N×5124E, h12km, Mn4.1*
*NEIC **28** 18:06:10.0, 2886N×5124E, h12km, mb4.0/10, MN4.1(TEH), After TEH.*
*MOS **28** 18:06:13.2±1.1, 2897N×5130E, h45km, mb4.2/16, Error ellipse: s-maj=12.1km s-min=7.7km az=90.2*

ISC 28 18:06:10.2±1.1, 2888N±004×5125E±004, h12km±8km, n112, σ1§00/118, mb3.9/22, 2C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.30**	**82**	*e*Pn	**Pn**	**18 06 34.4**	**+0.3**
SHI	**Shiraz**	**1.34**	**55**	*e*Pn	**Pn**	**18 06 35.3**	**+0.6**
GHIR	**Ghir-Karzin**	**1.64**	**111**	*e*PG	**Pg**	**18 06 39.5**	**-2.3**
GHIR				*e*Sg	**Sg**	**18 07 03.4**	**+0.3**
GHIR				AML	AML	18 07 09.0	
	comp=N,1μm,0.7s						
GHIR				AML	AML	18 07 15.2	
	comp=E,2μm,0.8s						
GHIR	**Ghir-Karzin**	**1.64**	**111**	*e*Pg	**Pg**	**18 06 39.5**	**-2.2**
	SNR=90						
GHIR				*e*Sg	**Sg**	**18 07 03.4**	**+0.4**
	comp=E,2μm,0.8s,SNR=90						
IPAR	**Pars**	**1.84**	**58**	*e*Pn	**Pn**	**18 06 42.0**	**+0.4**
IPAR				*e*Lg		18 07 08.6	
ISAD	**Sadrabad**	**3.68**	**34**	*e*Pn	**Pn**	**18 07 07.4**	**+0.5**
ISAD	**Sadrabad**	**3.68**	**34**	Pn	**Pn**	**18 07 07.3**	**+0.4**
IMEH	**Mehriz**	**3.84**	**49**	*e*Pn	**Pn**	**18 07 09.8**	**+0.7**
IMEH	**Mehriz**	**3.84**	**49**	Pn	**Pn**	**18 07 09.7**	**+0.6**
SHGR	**Shooshtar-Gavs**	**3.84**	**327**	*e*Pn	**Pn**	**18 07 07.7**	**-1.4**
NASN	**Na'in**	**4.13**	**19**	*e*Pn	**Pn**	**18 07 12.8**	**-0.2**
NASN				Sn	**Sn**	**18 08 01.3**	**+0.2**
ICHK	**Chekchek**	**4.32**	**38**	*e*Pn	**Pn**	**18 07 15.7**	**+0.1**
ICHK	**Chekchek**	**4.32**	**38**	Pn	**Pn**	**18 07 15.6**	**0.0**
BNDS	**Bandar-Abbas**	**4.59**	**108**	*e*Pn	**Pn**	**18 07 20.1**	**+0.7**
IBAF	**Bafgh**	**4.61**	**53**	*e*Pn	**Pn**	**18 07 20.0**	**+0.4**
IBAF	**Bafgh**	**4.61**	**53**	Pn	**Pn**	**18 07 19.9**	**+0.3**
KRBR	**Kerman**	**4.93**	**76**	*e*PN	**Pn**	**18 07 25.9**	**+1.8**
KRBR				Sn	**Sn**	**18 08 22.2**	**+1.1**
KRBR				AML	AML	18 08 54.6	
	comp=E,71nm,0.6s						
KRBR				AML	AML	18 08 54.8	
	comp=N,60nm,0.7s						
KRBR	**Kerman**	**4.93**	**76**	*e*Pn	**Pn**	**18 07 25.9**	**+1.8**
	SNR=52						
KRBR				Sn	**Sn**	**18 08 22.2**	**+1.2**
	comp=N,60nm,0.7s,SNR=52						
ASAO	**Ashtian**	**5.74**	**350**	*e*Pn	**Pn**	**18 07 35.8**	**+0.5**
IQOM	**Qom**	**5.94**	**359**	*e*Pn	**Pn**	**18 07 37.9**	**-0.1**
IVRN	**Varamin**	**6.11**	**4**	*e*Pn	**Pn**	**18 07 40.1**	**-0.1**
IVRN	**Varamin**	**6.11**	**4**	Pn	**Pn**	**18 07 40.0**	**-0.2**
IRAZ	**Razeghan**	**6.60**	**351**	*e*Pn	**Pn**	**18 07 55.2**	**+8.3**
ILAS	**Lasjerd**	**6.64**	**12**	*e*Pn	**Pn**	**18 07 46.9**	**-0.6**
DAMV	**Damavand**	**6.75**	**5**	*e*PN	**Pn**	**18 07 48.9**	**-0.3**
DAMV	**Damavand**	**6.75**	**5**	*e*Pn	**Pn**	**18 07 48.8**	**-0.3**
	SNR=52						
IFIR	**Firoozkooh**	**6.86**	**10**	*e*Pn	**Pn**	**18 07 50.1**	**-0.4**
CHTH	**Charan**	**7.00**	**359**	*e*Pn	**Pn**	**18 07 52.5**	**0.0**
CHTH	**Charan**	**7.00**	**359**	*e*Pn	**Pn**	**18 07 52.5**	**0.0**
	SNR=52						
SNGE	**Sanandaj**	**7.02**	**333**	*e*Pn	**Pn**	**18 07 52.0**	**-0.7**
ISHM	**Shahmirzad**	**7.12**	**14**	*e*Pn	**Pn**	**18 07 53.7**	**-0.4**
IDHR	**Dehrash**	**7.12**	**326**	*e*Pn	**Pn**	**18 07 53.9**	**-0.2**
BHD	**Baghdad**	**7.33**	**308**	*ex*	x	18 08 38.0	
BHD				*ex*	x	18 10 37.0	
IPRN	**Paran-Amol**	**7.39**	**6**	*e*Pn	**Pn**	**18 07 57.4**	**-0.4**
IKIA	**Kiasar**	**7.59**	**15**	*e*Pn	**Pn**	**18 08 00.2**	**-0.3**
IKIA	**Kiasar**	**7.59**	**15**	Pn	**Pn**	**18 08 00.1**	**-0.4**
IGLO	**Galoogah**	**7.64**	**14**	*e*Pn	**Pn**	**18 08 04.8**	**+3.5**
IGLO	**Galoogah**	**7.64**	**14**	Pn	**Pn**	**18 08 04.7**	**+3.4**
BSY	**Bisya**	**8.13**	**137**	P	**Pn**	**18 08 08.5**	**+0.5**
	SNR=9.0						
BSYO	**Bisya**	**8.16**	**137**	P	**Pn**	**18 08 08.5**	**0.0**
	SNR=9.0						
SMDO	**Samad**	**8.43**	**132**	P	**Pn**	**18 08 12.3**	**+0.2**
	SNR=11						
WHFO	**Wadi Hawf**	**11.16**	**167**	P	**Pn**	**18 08 48.9**	**-0.6**
	SNR=14						
ABTO	**Aybut**	**11.63**	**170**	⇑P	**Pn**	**18 08 55.2**	**-0.7**
	SNR=9.3						
GNI	**Garni**	**12.45**	**336**	Pn	**Pn**	**18 09 09.1**	**+2.1**
	comp=N,0.2nm,0.3s,baz=325,slow=20,SNR=2.4						
GNI	**Garni**	**12.45**	**336**	*e*P	**Pn**	**18 09 08.8**	**+1.7**
GNI	**Garni**	**12.45**	**336**	*e*Pn	**Pn**	**18 09 08.8**	**+1.7**
MALT	**Malatya**	**14.22**	**315**	*e*P	**Pn**	**18 09 32.1**	**+0.8**
	comp=N,3.0nm,0.7s						
MALT				*e*S	**Sn**	**18 12 07.9**	**-1.1**
MALT	**Malatya**	**14.22**	**315**	*e*P	**Pn**	**18 09 32.1**	**+0.8**
MALT				*e*		18 12 07.9	
MALT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MALT	**Malatya**	**14.22**	**315**	*e*Pn	**Pn**	**18 09 32.1**	**+0.8**
	comp=Z,2.8nm,0.7s						
MALT				*e*Sn	**Sn**	**18 12 07.9**	**-1.1**
ZEI	**Tsey**	**15.07**	**339**	*i* P	**Pn**	**18 09 44.4**	**+1.5**
CSS	**Prodhromos**	**16.37**	**296**	Pn	**Pn**	**18 10 00.8**	**+1.1**
	comp=Z,14nm,0.9s						
KIV	**Kislovodsk**	**16.53**	**338**	*e*P	**Pn**	**18 10 03.3**	**+1.5**
	comp=Z,9.0nm,0.8s						
KIV	**Kislovodsk**	**16.53**	**338**	*e*P	**Pn**	**18 10 03.3**	**+1.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	**Kislovodsk**	**16.53**	**338**	*e*Pn	**Pn**	**18 10 03.3**	**+1.6**
	comp=Z,8.9nm,0.8s						
SOC	**Sochi**	**17.34**	**331**	*e*P	**Pn**	**18 10 12.0**	**0.0**
	comp=Z,20nm,1.3s						
SOC	**Sochi**	**17.34**	**331**	*e*P	**Pn**	**18 10 12.0**	**0.0**
SOC				*e*		18 13 28.8	
SOC				pmax	pmax		
	comp=Z,20nm,1.3s						
BR131	**Keskin Array S**	**18.09**	**311**	*e*Pn	**Pn**	**18 10 22.6**	**+1.3**
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**18.09**	**311**	P	**Pn**	**18 10 21.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=10						
BRTR	**Keskin Array B**	**18.09**	**311**	P	**Pn**	**18 10 21.6**	**+0.3**
AKTK	**Aktyubinsk**	**22.13**	**12**	P	**P**	**18 11 05.2**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.0						
AKTO	**Aktyubinsk**	**22.13**	**12**	P	**P**	**18 11 05.2**	**-0.3**
	comp=Z,3.7nm,0.7s,mb3.9,baz=196,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**22.13**	**12**	P	**P**	**18 11 05.2**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**23.23**	**48**	*e*P	**P**	**18 11 17.2**	**0.0**
	comp=Z,3.7nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**23.23**	**48**	*i* P	**P**	**18 11 18.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**23.23**	**48**	*e*P	**P**	**18 11 17.2**	**0.0**
	comp=Z,3.7nm,0.8s,mb3.9						
MLR	**Muntele Rosu**	**25.94**	**317**	P	**P**	**18 11 44.4**	**+2.1**
	comp=Z,2.6nm,0.8s,mb3.8,baz=38,slow=20,SNR=3.6						
MLR	**Muntele Rosu**	**25.94**	**317**	P	**P**	**18 11 44.4**	**+2.1**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**27.38**	**24**	*e*P	**P**	**18 11 54.1**	**-1.2**
	comp=Z,2.0nm,1.0s,mb3.6						
ZRNK	**Zerenda**	**27.38**	**24**	*e*P	**P**	**18 11 54.1**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
ZRNK	**Zerenda**	**27.38**	**24**	*e*P	**P**	**18 11 54.1**	**-1.3**
	comp=Z,2.3nm,1.0s,mb3.7						
AKASG	**Malin Array Be**	**27.40**	**329**	P	**P**	**18 11 56.5**	**+1.1**
	comp=Z,0.5nm,0.3s,mb3.5,baz=133,slow=9.5,SNR=4.9						
AKASG	**Malin Array Be**	**27.40**	**329**	P	**P**	**18 11 56.5**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**27.93**	**25**	*e*P	**P**	**18 11 58.3**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	**Borovoye**	**27.93**	**25**	*e*P	**P**	**18 11 58.3**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	**Borovoye**	**27.93**	**25**	*e*P	**P**	**18 11 58.3**	**-2.0**
	comp=Z,1.5nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**27.94**	**25**	P	**P**	**18 11 59.9**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=218,slow=7.9,SNR=21						
BVAR	**Borovoye Array**	**27.94**	**25**	P	**P**	**18 11 59.9**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**30.00**	**36**	*e*P	**P**	**18 12 16.8**	**-1.8**
	comp=Z,2.7nm,0.9s,mb4.0						
KURK	**Kurchatov**	**30.00**	**36**	⇑*e*P	**P**	**18 12 18.7**	**+0.1**
KURK	**Kurchatov**	**30.00**	**36**	*e*P	**P**	**18 12 16.8**	**-1.9**
	comp=Z,2.7nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**30.07**	**45**	P	**P**	**18 12 18.5**	**-0.7**
	comp=Z,1.3nm,0.7s,mb3.8,baz=233,slow=7.3,SNR=18						
MKAR	**Makanchi Array**	**30.07**	**45**	P	**P**	**18 12 18.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**30.07**	**45**	P	**P**	**18 12 18.5**	**-0.7**
ZAL	**Zalesovo**	**34.95**	**35**	P	**P**	**18 13 00.4**	**-1.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=222,slow=7.0,SNR=6.5						
ZAL	**Zalesovo**	**34.95**	**35**	P	**P**	**18 13 00.4**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**36.60**	**340**	P	**P**	**18 13 14.3**	**-1.8**
	comp=Z,1.2nm,0.7s,mb3.8,baz=134,slow=8.2,SNR=4.0						
FINES	**FINESS Array B**	**36.60**	**340**	*i* P	**P**	**18 13 17.0**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**46.15**	**50**	P	**P**	**18 14 32.9**	**-1.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=270,slow=8.4,SNR=7.8						
SONM	**Songino Array**	**46.15**	**50**	P	**P**	**18 14 32.9**	**-1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**46.60**	**50**	*e*P	**P**	**18 14 37.0**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**46.60**	**50**	*e*P	**P**	**18 14 37.0**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**46.60**	**50**	*e*P	**P**	**18 14 37.0**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9						
TORD	**Torodi Ar. Bea**	**48.48**	**262**	P	**P**	**18 14 53.0**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=57,slow=7.5,SNR=7.7						
ENH	**Enshi**	**50.18**	**73**	P	**P**	**18 15 06.5**	**+0.9**
ENH	**Enshi**	**50.18**	**73**	P	**P**	**18 15 06.5**	**+0.8**
DBIC	**Dimbokro**	**57.23**	**259**	P	**P**	**18 15 58.2**	**+0.9**
	comp=Z,3.0nm,0.7s,mb4.5,baz=356,slow=4.1,SNR=4.8						
DBIC	**Dimbokro**	**57.23**	**259**	*e*P	**P**	**18 15 57.4**	**+0.1**
	comp=Z,20nm,1.4s,mb5.0						
DBIC	**Dimbokro**	**57.23**	**259**	P	**P**	**18 15 58.2**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	**Dimbokro**	**57.23**	**259**	*e*P	**P**	**18 15 57.4**	**+0.1**
	comp=Z,20nm,1.4s,mb5.0						
TIXI	**Tiksi**	**58.98**	**21**	*e*P	**P**	**18 16 10.5**	**+1.0**
	comp=Z,2.0nm,1.7s,mb3.9						
TIXI	**Tiksi**	**58.98**	**21**	*e*P	**P**	**18 16 10.5**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
YAK	**Yakutsk**	**59.56**	**32**	*e*P	**P**	**18 16 12.3**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**59.56**	**32**	*e*P	**P**	**18 16 12.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
YAK	**Yakutsk**	**59.56**	**32**	P	**P**	**18 16 10.3**	**-3.2**
SEY	**Seymchan**	**69.52**	**29**	*e*P	**P**	**18 17 17.7**	**-1.0**
MAJO	**Matsushiro**	**71.20**	**58**	P	**P**	**18 17 31.1**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**71.20**	**58**	P	**P**	**18 17 31.1**	**+2.2**
	comp=Z,7.2nm,0.9s,mb4.6						
BILL	**Bilibino**	**72.20**	**21**	*i* P	**P**	**18 17 36.0**	**+1.1**
	comp=Z,12nm,2.5s,mb4.4						
BILL	**Bilibino**	**72.20**	**21**	*i* P	**P**	**18 17 36.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
ILAR	**Eielson Array**	**85.59**	**8**	P	**P**	**18 18 47.0**	**-1.3**
	comp=Z,0.3nm,0.7s,mb3.6,baz=321,slow=5.1,SNR=5.2						
YKA	**Yellowknife Ar**	**88.24**	**353**	P	**P**	**18 18 59.6**	**-1.6**
	comp=Z,0.2nm,0.6s,mb3.5,baz=12,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**88.24**	**353**	P	**P**	**18 18 59.6**	**-1.7**

JMA 28 18:52:40.4±0.2, 2425N×12520E, h0km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.54**	**20**	P	Pg	18 52 51.6	+0.8
JOGS				S	Sg	18 52 59.5	+1.7
JMJ	**Miyako jima 2**	**0.57**	**9**	P	Pg	18 52 51.8	+0.5
JMJ				S	Sg	18 53 00.0	+1.3
JTJ

MAW	Mawson	84.83 203	LR	LR	20 02 07.1	
	comp=Z,180nm,18.7s,baz=254,slow=34					
GNI	Garni	106.59 310	Pn	PKiKP	19 32 58.9	-1.0
TORD	Torodi Ar. Bea	149.72 287	PKPbc	PKPbc	19 34 25.2	+0.5
	2.9nm,0.7s,baz=74,slow=2.6,SNR=17					
TORD			pPKPbc	pPKPbc	19 34 46.5	-5.6
	1.5nm,0.9s,baz=52,slow=2.4,SNR=2.4					
BDFB	Brasilia	151.26 137	PKPbc	PKPbc	19 34 29.0	+0.7
	0.7nm,0.4s,baz=172,slow=6.6,SNR=3.5					

*ISCJB **28** 19:16:26.1±5.1, 1941N±009×1456E±02, h150km±47km, mb3.8/15, Error ellipse: s-maj=30.9km s-min=14.8km az=171.8*
*IDC **28** 19:16:27.8±8.1, 1939N×14560E, h152km±75km, mb3.7/11, mb1 3.9/12, mb1mx3.8/20, mbtmp4.1/12, Error ellipse: s-maj=27.4km s-min=14.8km az=87.0*
*NEIC **28** 19:16:29.7±4.4, 1939N×14552E, h170km±41km, mb4.1/4, Error ellipse: s-maj=23.6km s-min=11.5km az=87.0*

ISC 28 19:16:29.0±5.1, 1941N±009×1456E±02, h162km±48km, n20, σ0§81/20, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	18.25	341	P	P	19 20 29.1	-0.9
	0.3nm,0.3s,baz=160,slow=9.4,SNR=4.1						
KS15	Wonju Array Si	23.68	323	P	P	19 21 26.2	+0.5
WRAB	Tennant Creek	40.62	196	eP	P	19 23 53.0	+0.1
	9.7nm,0.6s,mb4.6						
WRA	Warramunga Arr	40.63	196	P	P	19 23 52.7	-0.3
	3.3nm,0.3s,mb4.4,baz=15,slow=8.2,SNR=48						
ULN	Ulaanbaatar	42.13	321	eP	P	19 24 05.4	+0.2
	1.4nm,0.9s,mb3.6						
SONM	Songino Array	42.51	321	P	P	19 24 08.9	+0.6
	0.5nm,0.6s,mb3.3,baz=135,slow=9.9,SNR=10						
YAK	Yakutsk	44.00	349	eP	P	19 24 20.4	+0.2
	7.5nm,0.7s,mb4.4						
ASAR	Alice Springs	44.30	195	P	P	19 24 22.5	-0.1
	0.9nm,0.5s,mb3.7,baz=9.6,slow=6.5,SNR=15						
ZAL	Zalesovo	57.38	322	P	P	19 26 00.7	+0.3
	0.7nm,0.5s,mb3.7,baz=344,slow=13,SNR=4.4						
MKAR	Makanchi Array	57.88	314	P	P	19 26 04.8	+1.0
	0.3nm,0.5s,mb3.4,baz=89,slow=8.4,SNR=7.8						
ILAR	Eielson Array	63.06	26	P	P	19 26 38.2	-0.7
	0.6nm,0.7s,mb3.5,baz=256,slow=4.8,SNR=7.6						
BRVK	Borovoye	65.91	320	eP	P	19 26 57.7	+0.3
	1.1nm,0.8s,mb3.7						
AKTK	Aktyubinsk	73.75	318	P	P	19 27 45.5	+0.3
AKTO	Aktyubinsk	73.75	318	P	P	19 27 45.5	+0.3
	0.5nm,0.4s,mb3.6,baz=46,slow=7.2,SNR=4.3						
YKA	Yellowknife Ar	77.42	28	P	P	19 28 06.4	+0.3
	1.2nm,0.6s,mb3.7,baz=289,slow=5.5,SNR=12						
YKA	Yellowknife Ar	77.42	28	P	P	19 28 06.4	+0.2
ARCES	ARCESS Array B	81.78	342	P	P	19 28 28.5	-1.2
	5.7nm,1.0s,mb4.1,baz=18,slow=5.1,SNR=4.8						
NVAR	Mina Array Bea	82.80	52	P	P	19 28 36.5	+1.5
	1.3nm,0.7s,mb3.8,baz=249,slow=2.3,SNR=5.3						
KIV	Kislovodsk	85.61	315	P	P	19 28 46.4	-2.7
FINES	FINESS Array B	86.19	335	P	P	19 28 50.9	-1.1
	1.1nm,0.8s,mb3.6,baz=51,slow=5.1,SNR=5.5						

*IDC **28** 19:18:27.8±1.5, 1696N×14709E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=49.9km s-min=22.5km az=94.0*
*ISCJB **28** 19:18:30.9±0.9, 1693N±008×1469E±02, h33km, mb4.0/13, Error ellipse: s-maj=23.5km s-min=9.6km az=33.3*
*NEIC **28** 19:18:33.2±2.1, 1691N×14695E, h38km±19km, mb4.3/6, Error ellipse: s-maj=21.9km s-min=13.5km az=97.0*

ISC 28 19:18:32.8±0.9, 1690N±008×1470E±02, h35km, n21, σ0§92/23, mb4.0/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.90	213	Pn	Pn	19 19 29.9	-0.3
	14nm,0.3s,baz=86,slow=16,SNR=5.5						
GUMO				Sn	Sn	19 20 14.0	-0.8
	17nm,0.3s,baz=1.2,slow=22,SNR=3.6						
GUMO	Guam	3.90	213	Pn	Pn	19 19 29.9	-0.3
GUMO				eSn	Sn	19 20 09.7	-5.1
MJAR	Matsushiro Arr	21.07	340	P	P	19 23 13.5	-0.3
	1.8nm,0.7s,mb3.5,baz=170,slow=9.1,SNR=4.2						
MAJO	Matsushiro	21.07	340	eP	P	19 23 14.6	+0.7
	11nm,0.8s,mb4.2						
YHNB	Yeheng	25.17	292	eP	P	19 23 55.5	+0.7
ASAR	Alice Springs	42.31	198	P	P	19 26 24.3	+1.2
	0.4nm,0.9s,mb3.1,baz=18,slow=9.1,SNR=3.6						
SONM	Songino Array	45.34	322	P	P	19 26 48.9	+1.5
	0.6nm,0.5s,mb3.7,baz=137,slow=6.5,SNR=7.8						
YAK	Yakutsk	46.72	349	P	P	19 26 57.6	-0.6
JIRN	Jiri	56.83	292	eP	P	19 28 14.7	+1.0
	6.1nm,0.8s,mb4.7						
KKN	Kakani	57.63	292	eP	P	19 28 19.9	+0.5
GKN	Gorkha	58.19	293	eP	P	19 28 21.6	-1.7
	13nm,1.1s,mb4.9						
KOLN	Koldanda	59.12	293	eP	P	19 28 30.5	+0.8
MKAR	Makanchi Array	60.62	315	P	P	19 28 40.0	-0.1
	0.4nm,0.6s,mb3.7,baz=89,slow=8.6,SNR=5.8						
MKAR	Makanchi Array	60.62	315	P	P	19 28 40.0	-0.1
KURK	Kurchatov	63.45	319	eP	P	19 28 57.8	-1.3
	2.0nm,0.8s,mb4.3						
BVAR	Borovoye Array	68.66	321	P	P	19 29 31.4	-1.2
	1.2nm,0.6s,mb4.0,baz=96,slow=8.0,SNR=4.8						
BRVK	Borovoye	68.73	321	P	P	19 29 31.6	-1.3
	0.9nm,0.8s,mb3.8						
INK	Inuvik	70.52	23	P	P	19 29 44.2	+0.2
	4.3nm,1.0s,mb4.3						
YKA	Yellowknife Ar	78.97	28	P	P	19 30 32.5	-0.4
	0.6nm,0.7s,mb3.6,baz=282,slow=5.6,SNR=3.9						
YKA	Yellowknife Ar	78.97	28	P	P	19 30 32.5	-0.4
ARCES	ARCESS Array B	84.58	342	P	P	19 31 03.5	+1.1
	6.2nm,0.9s,mb4.7,baz=59,slow=11,SNR=3.7						

*OMAN **28** 19:28:54.3±11.0, 2960N×5705E, h0km, Error ellipse: s-maj=128.9km s-min=22.1km az=179.0*
*IDC **28** 19:29:13.4±2.0, 2805N×5679E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, ML0.8/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/27, Error ellipse: s-maj=44.4km s-min=22.6km az=163.0*
*CSEM **28** 19:29:15.7±0.1, 2812N×5698E, h25km, mb4.0/2, Error ellipse: s-maj=2.6km s-min=1.5km az=92.0*
*THR **28** 19:29:16.8±1.0, 2819N×5681E, h18km±8km, ML4.0*
*ISCJB **28** 19:29:18.2±0.5, 2803N±003×5685E±006, h55km±7km, mb3.7/9, MS3.8/3, Error ellipse: s-maj=9.5km s-min=5.5km az=160.9*
*TEH **28** 19:29:20.0, 2810N×5675E, h21km, Mn3.8*
*NEIC **28** 19:29:20.0, 2810N×5675E, h21km, mb3.9/4, MN3.8(TEH), After TEH.*

ISC 28 19:29:19.6±0.5, 2805N±003×5685E±006, h50km±7km, n48, σ0§86/50, mb3.7/9, MS3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.88	223	ePG	Pn	19 29 34.8	-0.9
BNDS				eSG	Sn	19 29 48.7	+1.2
BNDS				AML	AML	19 29 54.6	
	comp=N,4μm,0.4s						
BNDS	Bandar-Abbas	0.88	223	ePg	Pn	19 29 34.8	-0.9
	SNR=93						
BNDS				eSg	Sn	19 29 48.7	+1.2
	SNR=93						
KRBR	Kerman	1.93	358	ePG	Pn	19 29 49.1	-0.8
KRBR				eSG	Sn	19 30 14.3	+1.3
KRBR				AML	AML	19 30 20.4	
	comp=E,2μm,0.5s						
KRBR				AML	AML	19 30 20.5	
	comp=N,1μm,0.3s						
KRBR	Kerman	1.93	358	ePg	Pn	19 29 49.1	-0.8
	SNR=91						
KRBR				eSg	Sn	19 30 14.3	+1.4
	SNR=91						
BANOM	Banah	2.17	193	P	Pn	19 29 52.8	-0.5
	SNR=100						
GHIR	Ghir-Karzin	3.42	275	ePN	Pn	19 30 10.8	+0.5
ASHO	Ashiyiah	3.42	192	P	Pn	19 30 11.1	+0.7
	SNR=8.3						
IBAF	Bafgh	3.70	343	ePn	Pn	19 30 14.4	+0.2
IBAF	Bafgh	3.70	343	Pn	Pn	19 30 14.3	+0.1
IMOK	Mook	3.77	286	ePn	Pn	19 30 15.0	-0.1
IPAR	Pars	3.78	299	ePn	Pn	19 30 15.6	+0.4
IPAR	Pars	3.78	299	Pn	Pn	19 30 15.5	+0.3
ZHSF	Zahedan	3.78	65	ePN	Pn	19 30 16.4	+1.0
IMEH	Mehriz	3.85	330	ePn	Pn	19 30 16.5	+0.2
BIDO	Bidbid	4.66	165	P	Pn	19 30 25.7	-1.6
	SNR=29						
ICHK	Chekchek	4.68	334	ePn	Pn	19 30 28.0	+0.3
ICHK				eSn	Sn	19 31 18.2	-2.5
ICHK	Chekchek	4.68	334	Pn	Pn	19 30 27.9	+0.2
ISAD	Sadrabad	4.73	325	ePn	Pn	19 30 28.7	+0.4
SMDO	Samad	5.09	167	P	Pn	19 30 32.9	-0.3
	SNR=24						
BSY	Bisya	5.29	176	P	Pn	19 30 36.7	+0.6
	SNR=8.6						
BSYO	Bisya	5.31	176	P	Pn	19 30 36.7	+0.5
	SNR=8.6						
WBK	Wadi Bani Khal	5.75	160	P	Pn	19 30 41.2	-1.1
	SNR=9.2						
NASN	Na'in	5.88	325	ePN	Pn	19 30 43.8	-0.3
ASAO	Ashtian	8.72	320	ePN	Pn	19 31 22.8	-0.2
GNI	Garni	15.67	323	Pn	Pn	19 32 56.9	0.0
	comp=N,0.1nm,0.3s,baz=167,slow=19,SNR=1.9						
GNI	Garni	15.67	323	Pn	Pn	19 32 57.0	0.0
KIV	Kislovodsk	19.53	328	eP	Pn	19 33 39.0	-5.5
	comp=N,3.1nm,0.6s						
AAK	Ala-Archa	20.41	40	eP	P	19 33 49.5	-2.9
	comp=N,6.5nm,1.3s						
AKTK	Aktyubinsk	22.37	2	P	P	19 34 13.5	+0.1
AKTO	Aktyubinsk	22.37	2	P	P	19 34 13.5	+0.1
	comp=N,1.1nm,0.7s,mb3.4,baz=179,slow=14,SNR=4.0						
BR131	Keskin Array S	22.44	307	P	P	19 34 13.6	-0.5
	comp=N,5.1nm,0.9s,mb4.0						
BR131	Keskin Array S	22.44	307	P	P	19 34 13.6	-0.6
	comp=N,5.1nm,0.9s,mb4.0						
BRTR	Keskin Array B	22.44	307	P	P	19 34 14.2	+0.1
	comp=N,2.2nm,0.8s,mb3.6,baz=108,slow=12,SNR=12						
BRTR	Keskin Array B	22.44	307	P	P	19 34 14.2	+0.1
ZRNK	Zerenda	26.46	17	eP	P	19 34 52.1	+0.2
	comp=N,2.5nm,0.8s,mb3.8						
ZRNK	Zerenda	26.46	17	eP	P	19 34 52.1	+0.3
	comp=N,2.5nm,0.8s,mb3.8						
BVAR	Borovoye Array	26.90	18	P	P	19 34 55.8	+0.1
	comp=N,1.0nm,0.8s,mb3.4,baz=198,slow=9.3,SNR=6.9						
MKAR	Makanchi Array	27.35	40	P	P	19 34 59.5	-0.3
	comp=N,0.2nm,0.4s,mb3.0,baz=224,slow=10.0,SNR=6.1						
IDI	Anoyia	28.05	293	LR	LR	19 47 02.3	
	comp=N,29nm,19.2s,MS2.9,baz=97,slow=38						
ZAL	Zalesovo	32.98	31	P	P	19 35 49.1	-0.5
	comp=N,1.4nm,0.3s,mb4.3,baz=206,slow=6.5,SNR=4.3						
MORC	Moravsky Berou	36.91	317	P	P	19 36 18.9	-4.6
KHC	Kasperske Hory	39.15	315	ePP	P	19 36 41.5	-0.8
FINES	FINESS Array B	39.18	337	P	P	19 36 42.4	-0.2
	comp=N,5.8nm,1.2s,mb4.2,baz=134,slow=11,SNR=8.1						
SONM	Songino Array	42.95	49	P	P	19 37 15.5	+2.0
	comp=N,0.1nm,0.4s,baz=204,slow=2.8,SNR=2.6						
TORD	Torodi Ar. Bea	53.29	266	P	P	19 38 33.6	+0.2
	comp=N,1.0nm,0.5s,mb4.0,baz=61,slow=6.9,SNR=6.1						
MJAR	Matsushiro Arr	67.41	60	LR	LR	20 13 56.0	
	comp=N,96nm,18.0s,MS4.1,baz=25,slow=40						
JHJ	Hachijo jima 2	69.78	63	LR	LR	20 13 29.0	
	comp=N,210nm,19.6s,MS4.4,baz=342,slow=38						
YKA	Yellowknife Ar	89.52	356	P	P	19 42 12.6	+1.2
	comp=N,0.2nm,0.8s,mb3.5,baz=1.2,slow=5.7,SNR=3.7						

*ISCJB **28** 19:35:17.4±2.1, 363S±01×1796E±02, h104km±16km, mb3.6/2, Error ellipse: s-maj=26.7km s-min=20.6km az=119.4*
*IDC **28** 19:35:18.8±8.0, 3589S×17901E, h54km±73km, mb3.4/2, mb1 3.8/3, mb1mx3.6/11, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=60.2km s-min=52.0km az=164.0*
*NEIC **28** 19:35:18.9, 3610S×17937E, h33km, ML4.2(WEL), After WEL.*
*WEL **28** 19:35:19.8±0.6, 3610S×17929E, h33km, ML4.2/28, Error ellipse: s-maj=5.2km s-min=3.3km az=90.0*

ISC 28 19:35:18.3±1.8, 363S±01×1796E±02, h93km±17km, n41, σ1§14/45, mb3.6/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.62	218	eP*	Pn	19 35 46.7	+1.0
MXZ				S*	Sn	19 36 06.2	-0.4
MXZ	Matakaoa Point	1.62	218	eP	Pn	19 35 46.7	+1.0
MXZ				S	Sn	19 36 06.2	-0.4
WIZ	White Island	2.27	236	P*	Pn	19 35 54.0	-0.2
WIZ				S*	Sn	19 36 20.2	-1.4
WIZ	White Island	2.27	236	P	Pn	19 35 54.0	-0.2
WIZ				S	Sn	19 36 20.2	-1.4
MWZ	Matawai	2.61	218	P*	Pn	19 36 00.3	+1.6
MWZ				S*	Sn	19 36 30.5	+0.9
MWZ	Matawai	2.61	218	P	Pn	19 36 00.3	+1.7
MWZ				S	Sn	19 36 31.1	+1.5
URZ	Urewera	2.78	224	P	Pn	19 36 01.8	+0.9
	50nm,0.3s,baz=33,slow=2.0,SNR=553						
URZ				S	Sn	19 36 34.4	+0.8
	22nm,0.3s,baz=139,slow=18,SNR=5.9						
URZ	Urewera	2.78	224	P*	Pn	19 36 01.7	+0.8
URZ	Urewera	2.78	224	P	Pn	19 36 01.8	+0.9
MYRZ	Mayor Island	2.85	249	P*	Pn	19 36 01.3	-0.5
MARZ	Manawahe	2.87	233	eP*	Pn	19 36 01.7	-0.4
MARZ	Manawahe	2.87	233	eP	Pn	19 36 01.7	-0.4
KNZ	Kokohu	3.11	208	PN	Pn	19 36 06.2	+0.9
KNZ	Kokohu	3.11	208	P	Pn	19 36 06.2	+0.8
TAZ	Tarawera	3.12	231	eP*	Pn	19 36 06.8	+1.3
KUZ	Kuaotunu	3.13	261	ePN	Pn	19 36 04.2	-1.4
KUZ	Kuaotunu	3.13	261	eP	Pn	19 36 04.2	-1.5
PATZ	Paeroa	3.36	231	P*	Pn	19 36 10.0	+1.3
PATZ	Paeroa	3.36	231	P	Pn	19 36 10.0	+1.3
TOZ	Tahuroa Road	3.56	245	P*	Pn	19 36 11.4	0.0
TOZ	Tahuroa Road	3.56	245	P	Pn	19 36 11.4	0.0
BKZ	Black Stump Fm	3.77	219	P*	Pn	19 36 14.5	+0.3
BKZ	Black Stump Fm	3.77	219	eP	Pn	19 36 14.5	+0.3
OTVZ	Oturere	4.22	226	P*	Pn	19 36 20.4	+0.1
WTVZ	West Tongariro	4.23	227	P*	Pn	19 36 20.9	+0.4
WTVZ	West Tongariro	4.23	227	P	Pn	19 36 20.9	+0.4
NGZ	Ngauruhoe	4.26	226	P*	Pn	19 36 21.1	+0.2
NGZ	Ngauruhoe	4.26	226	P	Pn	19 36 20.8	-0.1
TWVZ	Taurewa	4.29	229	P*	Pn	19 36 21.6	+0.3
MOVZ	Moawhango	4.34	223	P	Pn	19 36 21.0	-0.9
HIZ	Hauiti	4.36	238	eP	Pn	19 36 23.5	+1.3
BFZ	Birch Farm	5.10	210	eP	Pn	19 36 30.9	-1.4
MRZ	Mangatainoka R	5.37	214	eP	Pn	19 36 33.5	-2.4
MTW	Mount Morrison	5.81	212	P	Pn	19 36 39.6	-2.3
KIW	Kapiti Island	5.84	217	P	Pn	19 36 39.4	-3.0
CAW	Cannon Point	5.96	215	P	Pn	19 36 41.0	-3.0
ASAR	Alice Springs	41.16	275	P	P	19 42 53.0	-0.3
	0.6nm,0.7s,mb3.5,baz=120,slow=7.8,SNR=12						
WRA	Warramunga Arr	42.69	280	P	P	19 43 06.9	+1.1
	0.5nm,0.4s,mb3.6,baz=119,slow=7.6,SNR=16						
JOF	Joensuu	146.97	334	ep	PKPdf	19 54 51.6	+3.7
	1.4nm,0.4s						
KAF	Kangasniemi	149.25	336	ep	PKPdf	19 54 57.7	+6.0
	1.3nm,0.5s						
FINES	FINESS Array B	149.79	335	PKPbc	PKPbc	19 54 59.8	+2.4
	1.2nm,0.5s,baz=39,slow=5.5,SNR=15						

*ISCJB **28** 19:35:53.7±1.3, 1177N±004×6178W±005, h88km±12km, Error ellipse: s-maj=7.8km s-min=7.1km az=112.3*
*TRN **28** 19:35:53.8, 1181N×6167W, h94km, MD3.1*
*FUNV **28** 19:35:54.3, 1169N×6181W, h10km, MW2.4*

ISC 28 19:35:56.1±0.6, 1167N±003×6180W±004, h24km±9km, n14, σ1§16/27, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	Mount Saint Ca	0.51	16	eP	Pb	19 36 07.6	+1.2
GRW				eS	Sb	19 36 19.4	+6.0
GRHS	Sauteurs	0.57	16	eP	Pb	19 36 07.9	+0.3
GRHS				eS	Sb	19 36 14.6	-0.7
GRIC	Isle de Caille	0.65	19	eP	Pb	19 36 08.7	-0.1
GRIC				eS	Sb	19 36 20.1	+2.7
GRSS	Sisters	0.65	17	eP	Pb	19 36 08.9	0.0
GRSS				eS	Sb	19 36 20.3	+2.7
GRCU	Cariacou	0.87	23	eP	Pb	19 36 10.4	-2.1
GRCU				eS	Sb	19 36 23.0	-0.7
TRN	Trinidad (W)	1.09	159	eP	Pn	19 36 15.7	-0.2
TRN				eS	Sb	19 36 31.7	+1.6
GUIV	Guiria	1.10	202	eP	Pn	19 36 15.2	-0.7
GUIV				eS	Sb	19 36 29.7	-0.6
TPR	Prospect	1.11	115	eP	Pn	19 36 15.5	-0.7
TPR				eS	Sb	19 36 29.5	-1.3
BOT	Bacolet	1.18	115	eP	Pn	19 36 16.2	-0.8
ITEV	Isla Los Testi	1.34	257	eP	Pn	19 36 18.1	-1.2
ITEV				eS	Sn	19 36 37.1	+0.8
TBH	Brigand Hill	1.38	148	eP	Pn	19 36 18.5	-1.4
TBH				eS	Sn	19 36 39.4	+2.0
TPP	Pointe-a-Pierr	1.39	166	eP	Pn	19 36 21.0	+1.0
TPP				eS	Sn	19 36 41.1	+3.6
CRUV	Carupano	1.72	235	eP	Pn	19 36 24.1	-0.4
CRUV				eS	Sn	19 36 45.8	+0.1
GUNV	Guanoco	1.87	217	eP	Pn	19 36 26.1	-0.5
GUNV				eS	Sn	19 36 49.8	+0.4

*ISCJB **28** 19:44:10.3±0.5, 4936N±003×685E±004, h0km, Error ellipse: s-maj=3.8km s-min=3.7km az=31.8*
*CSEM **28** 19:44:12.3±0.2, 4939N×690E, h1km, ML2.2/1, Error ellipse: s-maj=3.2km s-min=2.9km az=140.0*
*NEIC **28** 19:44:12.4, 4940N×690E, h1km, ML2.8(LDG), After LDG.*
*LDG **28** 19:44:12.4±0.1, 4940N×690E, h1km, Md2.7/1, Ml2.8/7, Error ellipse: s-maj=2.4km s-min=2.0km az=121.0, Suspected Mining induced.*
*BGR **28** 19:44:12.9, 4936N×690E, h1km, ML2.2/1*

ISC 28 19:44:11.3±0.5, 4937N±003×685E±004, h0km, n27, σ1§09/50, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.54	303	ePg	Pg	19 44 23.5	+1.7
	SNR=3.7						
WLF	Walferdange	0.54	303	ePg	Pg	19 44 22.8	+1.1
CDF	Champ du Feu	1.00	163	ePn	Pn	19 44 31.7	-0.9
CDF				eSg	Sg	19 44 44.0	+0.6
	12nm,0.2s						
CDF	Champ du Feu	1.00	163	ePn	Pn	19 44 31.7	-0.9
CDF				eSg	Sg	19 44 44.0	+0.6
CDF	Champ du Feu	1.00	163	ePg	Pg	19 44 30.8	+0.3
CDF				ePn	Pn	19 44 31.7	-0.9
CDF				eSg	Sg	19 44 44.0	+0.6
TNS	Taunus Mts	1.34	50	ePg	Pg	19 44 37.4	+0.3
TNS				eSg	Sg	19 44 54.6	+0.1
HAU	Haudompre	1.41	194	ePg	Pg	19 44 39.7	+1.4
HAU				eSg	Sg	19 44 57.9	+1.4
	20nm,0.4s						
HAU	Haudompre	1.41	194	ePg	Pg	19 44 39.7	+1.4
HAU				eSg	Sg	19 44 57.9	+1.4
HAU	Haudompre	1.41	194	ePn	Pn	19 44 38.3	+0.1
HAU				ePg	Pg	19 44 39.7	+1.4
HAU				eSg	Sg	19 44 57.9	+1.4
BFO	Black Forest	1.43	136	ePg	Pg	19 44 39.5	+0.8
	SNR=5.5						
BFO				eSg	Sg	19 44 56.6	-0.6
BFO	Black Forest	1.43	136	ePn	Pn	19 44 38.8	+0.3
BFO	Black Forest	1.43	136	Pg	Pg	19 44 39.5	+0.8
	SNR=5.5						
BFO				eSn	Sn	19 44 54.6	-3.4
BFO				Sg	Sg	19 44 56.6	-0.6
BFO	Black Forest	1.43	136	ePn	Pn	19 44 38.8	+0.3
BFO				eSn	Sn	19 44 54.6	-3.3
MEZF	Maizieres J'vi	1.47	234	ePn	Pn	19 44 39.6	+0.5
	baz=49						
MEZF	Maizieres J'vi	1.47	234	ePg	Pg	19 44 41.7	+2.2
	baz=56						
MEZF				eSg	Sg	19 45 00.9	+2.3
	9.5nm,0.4s						
MEZF	Maizieres J'vi	1.47	234	ePg	Pg	19 44 41.7	+2.2
MEZF				eSg	Sg	19 45 00.9	+2.3
MEZF	Maizieres J'vi	1.47	234	ePn	Pn	19 44 39.6	+0.5
MEZF				ePg	Pg	19 44 41.7	+2.2
MEZF				eSg	Sg	19 45 00.9	+2.3
GIVF	Givet	1.51	300	ePn	Pn	19 44 38.3	-1.3
GIVF				eSg	Sg	19 45 00.5	+0.8
	12nm,0.3s						
HINF	Hinteralfeld	1.55	180	ePg	Pg	19 44 41.3	+0.2
HINF				eSg	Sg	19 45 02.0	+0.7
	25nm,0.2s						
CABF	La Chapelle	2.81	191	ePn	Pn	19 44 57.4	-0.1
LOR	Lormes	2.90	225	ePn	Pn	19 44 57.9	-0.8
	baz=45						
LOR				eSn	Sn	19 45 33.2	-1.1
SSF	Saint Saulge	3.21	225	ePn	Pn	19 45 01.9	-1.2
SMF	Signal de Mont	3.39	218	ePn	Pn	19 45 04.4	-1.1
AVF	Avril sur Loir	3.49	224	ePn	Pn	19 45 05.2	-1.6
AVF				eSn	Sn	19 45 47.2	-1.6
BGF	Bois d'Agland	3.89	225	ePn	Pn	19 45 11.8	-0.6
BGF				eSn	Sn	19 45 56.4	-2.4
BGF				eSg	Sg	19 46 16.4	0.0
	14nm,0.6s						
GEC2	GERESS Array S	4.53	94	ePn	Pn	19 45 21.6	+0.4
	SNR=5.6						
FLN	La Foliniere	4.86	266	ePn	Pn	19 45 25.8	+0.1

*IDC **28** 19:54:40.4±1.0, 3900N×7276E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.7/24, mbtmp3.7/12, ML3.4/4, Error ellipse: s-maj=18.6km s-min=16.5km az=4.0*
*MOS **28** 19:54:40.3±1.6, 3912N×7257E, h10km, mb4.1/3, Error ellipse: s-maj=16.1km s-min=7.7km az=92.3*
*NNC **28** 19:54:46.6±14.0, 3938N×7191E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=118.5km s-min=69.3km az=2.0*
*NEIC **28** 19:54:46.3±0.8, 3923N×7270E, h35km, mb3.7/3, Error ellipse: s-maj=14.2km s-min=12.0km az=195.0*
*BJI **28** 19:54:46.5, 3939N×7261E, h52km, mb3.8, ML3.6*
*ISCJB **28** 19:54:49.3±1.3, 3940N±008×7268E±007, h77km±10km, mb3.7/12, Error ellipse: s-maj=14.4km s-min=6.9km az=55.7*

ISC 28 19:54:50.2±1.3, 3935N±009×7270E±007, h70km±10km, n48, σ1§05/55, mb3.7/12, 5C-2D, Kyrgyzstan

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

BRVK	**Borovoye**	**13.81**	**354**	*e*P	**Pn**	**19 58 10.0**	**+7.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**13.81**	**354**	*e*Pn	**Pn**	**19 58 10.0**	**+7.4**
	comp=Z,2.5nm,0.8s						
ZRNK	**Zerenda**	**13.84**	**351**	*e*Pn	**Pn**	**19 57 59.2**	**-3.7**
ZRNK				*e*Sn	**Sn**	**20 00 27.1**	**-7.9**
AKTK	**Aktyubinsk**	**15.17**	**322**	Pn	**Pn**	**19 58 19.3**	**-0.9**
AKTK				Sn	**Sn**	**20 01 03.2**	**-4.0**
AKTO	**Aktyubinsk**	**15.17**	**322**	⇑P	**Pn**	**19 58 19.6**	**-0.7**
	comp=Z,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**15.17**	**322**	Pn	**Pn**	**19 58 19.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=142,slow=16,SNR=5.4						
AKTO				Sn	**Sn**	**20 01 03.2**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=20,slow=23,SNR=3.8						
ZAL	**Zalesovo**	**16.75**	**25**	Pn	**Pn**	**19 58 39.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=285,slow=12,SNR=6.4						
ARU	**Arti**	**19.47**	**336**	P	**Pn**	**19 59 08.7**	**-4.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**19.47**	**336**	P	**Pn**	**19 59 08.7**	**-4.4**
	comp=Z,2.9nm,0.8s						
GTA	**Gaotai**	**20.94**	**81**	*e*P	**P**	**19 59 28.0**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s						
GNI	**Garni**	**21.48**	**281**	P	**P**	**19 59 33.8**	**+0.9**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GNI	**Garni**	**21.48**	**281**	P	**P**	**19 59 33.8**	**+0.9**
	comp=Z,9.1nm,1.3s,mb4.0						
SONM	**Songino Array**	**25.67**	**60**	P	**P**	**20 00 14.5**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.3,baz=272,slow=9.2,SNR=10						
ULN	**Ulaanbaatar**	**26.11**	**60**	P	**P**	**20 00 17.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
ULN	**Ulaanbaatar**	**26.11**	**60**	P	**P**	**20 00 17.9**	**+0.5**
	comp=Z,1.8nm,1.0s,mb3.5						
FINES	**FINESS Array B**	**35.93**	**323**	P	**P**	**20 01 43.8**	**0.0**
	comp=Z,1.3nm,0.9s,mb3.9,baz=131,slow=5.8,SNR=6.1						
ARCES	**ARCESS Array B**	**39.06**	**336**	P	**P**	**20 02 11.0**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0,baz=112,slow=9.2,SNR=15						
TIXI	**Tiksi**	**42.63**	**23**	*e*P	**P**	**20 02 38.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
NOA	**NORSAR Array B**	**42.96**	**321**	P	**P**	**20 02 42.5**	**+0.3**
	comp=Z,1.6nm,0.9s,mb3.8,baz=92,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.14**	**268**	P	**P**	**20 05 36.9**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=53,slow=5.8,SNR=14						
ILAR	**Eielson Array**	**71.67**	**17**	P	**P**	**20 06 04.4**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.5,baz=287,slow=4.6,SNR=6.6						
YKA	**Yellowknife Ar**	**78.33**	**3**	P	**P**	**20 06 43.7**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.2,baz=350,slow=5.7,SNR=8.0						
YKA	**Yellowknife Ar**	**78.33**	**3**	P	**P**	**20 06 43.7**	**+1.0**
WRA	**Warramunga Arr**	**82.39**	**123**	P	**P**	**20 07 03.4**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=325,slow=4.9,SNR=13						
WRAB	**Tennant Creek**	**82.39**	**123**	*e*P	**P**	**20 07 03.2**	**-1.3**
	comp=Z,15nm,1.4s,mb4.6						

OMAN ***28*** *20:00:22.0±6.2, 3369N×5678E, h30km, Error ellipse: s-maj=69.2km s-min=23.2km az=12.0*
NAO ***28*** *20:01:21.6, 2731N×5960E, h33km, mb4.2*
BJI ***28*** *20:01:32.0, 2830N×5670E, h15km, mB5.0, mb4.6, Ms4.6, Msz4.2*
IDC ***28*** *20:01:32.4±1.0, 2811N×5684E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, MS3.8/2, Ms1 3.8/2, ms1mx3.2/22, Error ellipse: s-maj=23.3km s-min=17.4km az=12.0*
MOS ***28*** *20:01:36.4±0.8, 2825N×5692E, h33km, mb4.5/16, Error ellipse: s-maj=13.1km s-min=7.3km az=98.2*
THR ***28*** *20:01:36.4±0.5, 2825N×5686E, h14km±4km, ML4.2*
CSEM ***28*** *20:01:36.3±0.1, 2818N×5697E, h35km, mb4.2/17, ML5.2/2, Error ellipse: s-maj=1.7km s-min=1.3km az=160.0*
ISCJB ***28*** *20:01:37.7±0.4, 2805N±003×5674E±003, h68km±4km, mb4.4/77, Error ellipse: s-maj=5.3km s-min=4.1km az=110.7*
NEIC ***28*** *20:01:41.0, 2827N×5668E, h15km, mb4.5/44, MN4.1(TEH), After TEH.*
TEH ***28*** *20:01:41.0, 2827N×5668E, h15km, Mn4.1*
ISC 28 20:01:39.3±0.3, 2806N±003×5675E±003, h66km±3km, h25km±7.2km:pP-P,n219,σ1§37/227,mb4.4/77,7C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.83**	**218**	*e*PG		**Pn**	**20 01 55.8**	**+0.3**
BNDS				*e*SG		**Sn**	**20 02 10.6**	**+3.3**
BNDS				AML		AML	20 02 14.2	
	comp=N,6μm,0.5s							
BNDS	**Bandar-Abbas**	**0.83**	**218**	*e*Pg		**Pn**	**20 01 55.8**	**+0.4**
	SNR=90							
BNDS				*e*Sg		**Sn**	**20 02 10.6**	**+3.3**
	comp=N,6μm,0.5s,SNR=90							
KRBR	**Kerman**	**1.92**	**0**	*e*PG		**Pn**	**20 02 08.0**	**-1.8**
KRBR				*e*SG		**Sn**	**20 02 31.3**	**-1.6**
KRBR				AML		AML	20 02 40.2	
	comp=E,2μm,0.4s							
KRBR				AML		AML	20 02 40.5	
	comp=N,3μm,0.4s							
KRBR	**Kerman**	**1.92**	**0**	*e*Pg		**Pn**	**20 02 07.9**	**-1.8**
	SNR=90							
KRBR				*e*Sg		**Sn**	**20 02 31.3**	**-1.6**
	comp=N,3μm,0.4s,SNR=90							
BANOM	**Banah**	**2.16**	**191**	P		**Pn**	**20 02 13.2**	**+0.2**
	SNR=286							
GHIR	**Ghir-Karzin**	**3.33**	**275**	*e*PN		**Pn**	**20 02 31.6**	**+2.7**
ASHO	**Ashiyiah**	**3.41**	**191**	P		**Pn**	**20 02 30.9**	**+0.8**
	SNR=44							
IBAF	**Bafgh**	**3.67**	**344**	*e*Pn		**Pn**	**20 02 33.6**	**+0.1**
IBAF				eLg			20 03 28.6	
IBAF	**Bafgh**	**3.67**	**344**	Pn		**Pn**	**20 02 33.5**	**0.0**
IBAF				Lg			20 03 28.6	
IMOK	**Mook**	**3.68**	**287**	*e*Pn		**Pn**	**20 02 35.1**	**+1.4**
IPAR	**Pars**	**3.70**	**300**	*e*Pn		**Pn**	**20 02 35.3**	**+1.4**
IMEH	**Mehriz**	**3.81**	**331**	*e*Pn		**Pn**	**20 02 36.1**	**+0.7**
ZHSF	**Zahedan**	**3.86**	**65**	*e*PN		**Pn**	**20 02 35.4**	**-0.8**
SHI	**Shiraz**	**4.03**	**294**	*e*Pn		**Pn**	**20 02 39.6**	**+1.1**
ICHK	**Chekchek**	**4.64**	**335**	*e*Pn		**Pn**	**20 02 47.1**	**+0.3**
ICHK				*e*Sn		**Sn**	**20 03 36.1**	**-3.2**
ICHK	**Chekchek**	**4.64**	**335**	Pn		**Pn**	**20 02 47.1**	**+0.3**
ICHK				Sn		**Sn**	**20 03 36.0**	**-3.3**
ISAD	**Sadrabad**	**4.67**	**326**	*e*Pn		**Pn**	**20 02 47.8**	**+0.5**
BIDO	**Bidbid**	**4.68**	**164**	P		**Pn**	**20 02 45.5**	**-2.0**
	SNR=121							
ARQ	**Araqi**	**4.70**	**182**	P		**Pn**	**20 02 48.8**	**+1.1**
	SNR=15							
SMDO	**Samad**	**5.11**	**166**	P		**Pn**	**20 02 52.3**	**-1.0**
	SNR=60							
BSY	**Bisya**	**5.30**	**175**	P		**Pn**	**20 02 56.5**	**+0.6**
	SNR=41							
IGAR	**Garneh**	**5.74**	**318**	*e*Pn		**Pn**	**20 03 04.0**	**+2.2**
WBK	**Wadi Bani Khal**	**5.78**	**159**	P		**Pn**	**20 03 01.4**	**-1.1**
	SNR=32							
WBK				P			20 03 01.4	
	SNR=21							
JMDO	**Jabal Madar**	**5.79**	**167**	P		**Pn**	**20 03 02.6**	**0.0**
	SNR=33							
NASN	**Na'in**	**5.82**	**325**	*e*PN		**Pn**	**20 03 03.5**	**+0.6**
NASN	**Na'in**	**5.82**	**325**	*e*Pn		**Pn**	**20 03 03.5**	**+0.5**
	SNR=52							
IZEF	**Zefreh**	**6.15**	**323**	*e*Pn		**Pn**	**20 03 06.9**	**-0.5**
IPIR	**Pirpir**	**6.84**	**314**	*e*Pn		**Pn**	**20 03 16.2**	**-0.8**
IKLH	**Kalahroud**	**6.88**	**321**	*e*Pn		**Pn**	**20 03 16.9**	**-0.5**
IVRN	**Varamin**	**8.13**	**330**	*e*Pn		**Pn**	**20 03 34.6**	**0.0**
ISHM	**Shahmirzad**	**8.27**	**340**	*e*Pn		**Pn**	**20 03 36.2**	**-0.2**
ISHM	**Shahmirzad**	**8.27**	**340**	Pn		**Pn**	**20 03 36.1**	**-0.3**
IFIR	**Firoozkooh**	**8.29**	**337**	*e*Pn		**Pn**	**20 03 36.6**	**-0.1**
IFIR	**Firoozkooh**	**8.29**	**337**	Pn		**Pn**	**20 03 36.5**	**-0.2**
DAMV	**Damavand**	**8.57**	**333**	*e*PN		**Pn**	**20 03 41.1**	**+0.5**
ASAO	**Ashtian**	**8.65**	**320**	*e*PN		**Pn**	**20 03 42.9**	**+1.1**
IAFJ	**Afjeh**	**8.87**	**332**	*e*Pn		**Pn**	**20 03 44.0**	**-0.7**
CHTH	**Charan**	**9.17**	**330**	*e*PN		**Pn**	**20 03 49.6**	**+0.8**
IRAZ	**Razeghan**	**9.34**	**323**	*e*Pn		**Pn**	**20 04 00.3**	**+9.2**
WHFO	**Wadi Hawf**	**10.45**	**196**	P		**Pn**	**20 04 04.7**	**-1.7**
	SNR=22							
RBK	**Rabkut**	**10.76**	**193**	P		**Pn**	**20 04 08.8**	**-1.6**
	SNR=7.5							
ABTO	**Aybut**	**11.12**	**197**	P		**Pn**	**20 04 13.4**	**-1.9**
	SNR=30							
GNI	**Garni**	**15.61**	**324**	Pn		**Pn**	**20 05 20.2**	**+5.0**
	comp=N,0.7nm,0.3s,baz=91,slow=1.4,SNR=8.0							
GNI	**Garni**	**15.61**	**324**	Pn		**Pn**	**20 05 14.5**	**-0.7**
	comp=N,13nm,0.8s							
GNI	**Garni**	**15.61**	**324**	*i* P		**Pn**	**20 05 18.8**	**+3.6**
GNI				pmax		pmax		
	comp=Z,15nm,1.0s							
GNI	**Garni**	**15.61**	**324**	Pn		**Pn**	**20 05 14.5**	**-0.7**
	comp=Z,13nm,0.8s							
GNI				Pn		**Pn**	**20 05 20.2**	**+5.0**
GNI				*e*			20 05 20.5	
ZEI	**Tsey**	**18.00**	**328**	*i* P		**Pn**	**20 05 45.6**	**+0.7**
MALT	**Malatya**	**18.40**	**308**	*e*P		**Pn**	**20 05 51.0**	**+1.3**
	comp=Z,8.5nm,0.8s							
MALT	**Malatya**	**18.40**	**308**	*e*P		**Pn**	**20 05 51.0**	**+1.2**
	comp=Z,8.5nm,0.8s							
KK31	**Karatay Array**	**18.69**	**33**	*i* P		**Pn**	**20 05 50.4**	**-2.8**
	comp=Z,2.0nm,0.5s							
KK31	**Karatay Array**	**18.69**	**33**	*i* P		**Pn**	**20 05 50.4**	**-2.8**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**18.69**	**33**	*i* P		**Pn**	**20 05 50.4**	**-2.8**
	comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**18.69**	**33**	*i* P		**Pn**	**20 05 50.4**	**-2.8**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
EIL	**Elat**	**19.16**	**280**	*e*Pn		**Pn**	**20 06 00.0**	**+1.2**
	comp=Z,151nm,0.9s							
EIL	**Elat**	**19.16**	**280**	*e*Pn		**Pn**	**20 06 00.0**	**+1.3**
	comp=Z,151nm,0.9s							
KIV	**Kislovodsk**	**19.48**	**328**	*e*Pn		**Pn**	**20 06 02.9**	**+0.4**
	comp=Z,10nm,0.7s							
KIV	**Kislovodsk**	**19.48**	**328**	*e*P		**Pn**	**20 06 03.4**	**+0.9**
	comp=Z,8.0nm,0.6s							
KIV	**Kislovodsk**	**19.48**	**328**	*e*P		**Pn**	**20 06 03.4**	**+0.9**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.6s							
KIV	**Kislovodsk**	**19.48**	**328**	*e*Pn		**Pn**	**20 06 02.9**	**+0.3**
	comp=Z,10nm,0.7s							
GOF	**Gofitskoye**	**20.18**	**331**	*e*P		**P**	**20 06 08.8**	**+0.4**
	comp=Z,30nm,0.8s							
GOF	**Gofitskoye**	**20.18**	**331**	*e*P		**P**	**20 06 08.8**	**+0.4**
GOF				pmax		pmax		
	comp=Z,30nm,0.8s							
AAK	**Ala-Archa**	**20.46**	**40**	*e*P		**P**	**20 06 11.2**	**-0.3**
	comp=Z,5.0nm,0.8s							
AAK	**Ala-Archa**	**20.46**	**40**	*e*P		**P**	**20 06 11.2**	**-0.3**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
AAK	**Ala-Archa**	**20.46**	**40**	*e*P		**P**	**20 06 10.4**	**-1.1**
	comp=Z,2.9nm,0.6s							
SOC	**Sochi**	**20.69**	**323**	*e*P		**P**	**20 06 11.3**	**-2.6**
SOC				*e*			20 06 41.6	
SOC				*e*S		**S**	**20 10 01.6**	**+0.2**
SOC				*e*SS			20 10 26.5	
SOC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SOC				MLR		MLR		
	comp=Z,299nm,21.0s							
CSS	**Prodhromos**	**21.09**	**295**	P		**P**	**20 06 16.2**	**-2.0**
	comp=Z,14nm,0.8s,mb4.4							
AB31	**Akbulak array**	**21.31**	**6**	*e*P		**P**	**20 06 20.8**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.2							
AB31	**Akbulak array**	**21.31**	**6**	*e*P		**P**	**20 06 20.8**	**+0.2**
AB31				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.2							
BR131	**Keskin Array S**	**22.37**	**307**	*e*P		**P**	**20 06 34.1**	**+2.3**
	comp=Z,19nm,0.9s,mb4.4							
BR131	**Keskin Array S**	**22.37**	**307**	*e*P		**P**	**20 06 34.1**	**+2.3**
	comp=Z,19nm,0.9s,mb4.4							
BRTR	**Keskin Array B**	**22.37**	**307**	P		**P**	**20 06 33.9**	**+2.0**
	comp=Z,10nm,0.8s,mb4.2,baz=119,slow=12,SNR=54							
BRTR	**Keskin Array B**	**22.37**	**307**	P		**P**	**20 06 33.8**	**+2.0**
BRTR	**Keskin Array B**	**22.37**	**307**	*i* P		**P**	**20 06 33.9**	**+2.1**
BRTR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AKTK	**Aktyubinsk**	**22.37**	**2**	P		**P**	**20 06 32.2**	**+0.3**
AKTK	**Aktyubinsk**	**22.37**	**2**	P		**P**	**20 06 32.2**	**+0.4**
AKTK				LR		LR	20 16 51.4	
AKTO	**Aktyubinsk**	**22.37**	**2**	P		**P**	**20 06 32.2**	**+0.4**
	comp=Z,7.0nm,0.7s,mb4.1,baz=179,slow=11,SNR=30							
AKTO				LR		LR	20 16 51.4	
	comp=Z,196nm,18.9s,baz=0.0,slow=41							
AKTO	**Aktyubinsk**	**22.37**	**2**	*i* P		**P**	**20 06 32.3**	**+0.4**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.6							
ANN	**Anapa**	**22.73**	**322**	*e*P		**P**	**20 06 28.7**	**-6.9**
ANN				pmax		pmax		
	comp=Z,68nm,2.6s,mb4.5							
ANTO	**Ankara**	**23.02**	**307**	*e*P		**P**	**20 06 40.5**	**+1.8**
	comp=Z,13nm,0.7s,mb4.4							
ANTO				*e*			20 06 47.0	
KOLN	**Koldanda**	**23.72**	**84**	*e*P		**P**	**20 06 45.3**	**+0.1**
GKN	**Gorkha**	**24.60**	**83**	*e*P		**P**	**20 06 52.9**	**-0.4**
	comp=Z,11nm,0.7s,mb4.4							
DMN	**Daman**	**25.07**	**84**	*e*P		**P**	**20 06 58.7**	**+1.2**
	comp=Z,11nm,0.7s,mb4.4							
KKN	**Kakani**	**25.19**	**84**	*e*P		**P**	**20 06 59.3**	**+0.7**
	comp=Z,19nm,0.6s,mb4.7							
GUN	**Gumba**	**25.70**	**83**	*e*P		**P**	**20 07 03.7**	**+0.4**
	comp=Z,19nm,0.6s,mb4.7							
JIRN	**Jiri**	**26.01**	**84**	*e*P		**P**	**20 07 07.3**	**+1.3**
	comp=Z,8.2nm,0.4s,mb4.5							
ZRNK	**Zerenda**	**26.48**	**17**	*i* P		**P**	**20 07 10.5**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**26.48**	**17**	*i* P		**P**	**20 07 10.5**	**+0.2**
ZRNK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**26.48**	**17**	*e*P		**P**	**20 07 10.3**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.0							
VRSR	**Storozhevoye**	**26.66**	**335**	*e*P		**P**	**20 07 12.3**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.0							
VRSR	**Storozhevoye**	**26.66**	**335**	*e*P		**P**	**20 07 12.3**	**+0.5**
VRSR				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.9							
VRSR				pmax		pmax		
	comp=N,5.0nm,0.9s							
VRSR				pmax		pmax		
	comp=E,4.0nm,0.8s							
BVA0	**Borovoye Array**	**26.92**	**18**	*i* P		**P**	**20 07 14.4**	**+0.2**
	comp=E,1.0nm,0.8s,mb3.4							
BVA0	**Borovoye Array**	**26.92**	**18**	*i* P		**P**	**20 07 14.4**	**+0.2**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.4							
BVAR	**Borovoye Array**	**26.92**	**18**	P		**P**	**20 07 14.5**	**+0.3**
	comp=Z,10nm,0.7s,mb4.5,baz=200,slow=7.9,SNR=54							
MK31	**Makanchi Array**	**27.40**	**40**	*i* P		**P**	**20 07 18.5**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.6							
MK31	**Makanchi Array**	**27.40**	**40**	*i* P		**P**	**20 07 18.5**	**0.0**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.6							
MKAR	**Makanchi Array**	**27.40**	**40**	P		**P**	**20 07 18.5**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.5,baz=223,slow=7.7,SNR=14							
MKAR	**Makanchi Array**	**27.40**	**40**	*i* P		**P**	**20 07 18.5**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.6							
MKAR	**Makanchi Array**	**27.40**	**40**	*i* P		**P**	**20 07 18.5**	**0.0**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**27.40**	**40**	P		**P**	**20 07 18.5**	**0.0**
IDI	**Anoyia**	**27.97**	**293**	P		**P**	**20 07 26.2**	**+2.6**
	comp=Z,8.7nm,0.8s,mb4.3,baz=85,slow=19,SNR=3.8							
KURK	**Kurchatov**	**28.05**	**30**	*e*P		**P**	**20 07 24.3**	**0.0**
	comp=Z,2.8nm,0.7s,mb3.9							
WMQ	**Urumqi**	**29.37**	**49**	P		**P**	**20 07 36.0**	**-0.1**
WMQ				S		**S**	**20 12 27.0**	**+2.0**
WMQ				AMB		AMB		
	comp=Z,12nm,0.8s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,110nm,3.0s							
WMQ				LR		LR		
	comp=N,126nm,10.0s							
WMQ				LR		LR		
	comp=E,84nm,10.0s							
WMQ				LR		LR		
	comp=Z,138nm,10.0s							
LSA	**Lhasa**	**30.11**	**79**	P		**P**	**20 07 51.5**	**+8.9**
	comp=Z,2.4nm,0.9s,mb3.8							
VOIR		**30.49**	**313**	⇓P		**P**	**20 07 48.8**	**+2.8**
OBN	**Obninsk**	**30.73**	**337**	*e*P		**P**	**20 07 49.1**	**+1.0**
	comp=Z,19nm,0.9s,mb4.8							
OBN	**Obninsk**	**30.73**	**337**	*e*P		**P**	**20 07 48.4**	**+0.3**
OBN				*e*			20 07 57.1	
OBN				*e*			20 08 50.1	
OBN				pmax		pmax		
	comp=Z,13nm,0.6s,mb4.8							
OBN	**Obninsk**	**30.73**	**337**	*e*P		**P**	**20 07 49.1**	**+1.0**
	comp=Z,19nm,0.9s,mb4.8							
AKASG	**Malin Array Be**	**30.74**	**325**	P		**P**	**20 07 48.4**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.2,baz=130,slow=8.2,SNR=18							
AKASG	**Malin Array Be**	**30.74**	**325**	*i* P		**P**	**20 07 48.5**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.1							
AKASG	**Malin Array Be**	**30.74**	**325**	*i* P		**P**	**20 07 48.5**	**+0.4**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BURAR	**Bucovina Array**	**31.33**	**317**	⇑P		**P**	**20 07 55.6**	**+2.3**
KOLS	**Kolonicke sedl**	**33.67**	**318**	*e*		**P**	**20 08 16.4**	**+2.5**
KOLS				*e*			20 08 22.0	
KECS	**Kecovo**	**34.57**	**316**	*e*		**P**	**20 08 22.9**	**+1.3**
TIP	**Timpagrande**	**34.84**	**299**	P		**P**	**20 08 26.4**	**+2.4**
OJC	**Ojcow**	**35.68**	**319**	*e*P		**P**	**20 08 32.6**	**+1.5**
MORC	**Moravsky Berou**	**36.85**	**317**	*e*P		**P**	**20 08 42.2**	**+1.1**
	comp=Z,7.8nm,0.9s,mb4.6							
MORC				*e*			20 08 50.8	
GTA	**Gaotai**	**37.25**	**61**	*e*P		**P**	**20 08 45.0**	**+0.5**
GTA				S		**S**	**20 14 30.3**	**+3.4**
GTA				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.2							
GTA				AMB		AMB		
	comp=Z,41nm,3.8s							
GTA				LR		LR		
	comp=N,180nm,10.7s							
GTA				LR		LR		
	comp=E,137nm,10.7s							
GTA				LR		LR		
	comp=Z,137nm,9.9s							
DPC	**Dobruska-Polom**	**37.79**	**317**	*e*P		**P**	**20 08 50.5**	**+1.4**
UPC	**Upice**	**38.03**	**317**	*e*pP		pP	20 09 02.7	-4.6
JOF	**Joensuu**	**38.62**	**342**	*e*p		**P**	**20 08 57.4**	**+1.3**
	comp=Z,2.1nm,0.4s,mb4.3							
JOF	**Joensuu**	**38.62**	**342**	*e*P		**P**	**20 08 57.4**	**+1.3**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
KBA	**Koelnbreinsper**	**38.70**	**311**	⇑*i*P		**P**	**20 09 09.0**	**+12**
	comp=Z,14nm,1.4s,mb4.6							
PRU	**Pruhonice**	**38.74**	**316**	*e*P		**P**	**20 09 04.0**	**+6.9**
GERES	**GERESS Array B**	**38.93**	**314**	P		**P**	**20 09 00.1**	**+1.5**
	comp=Z,1.8nm,0.7s,mb4.0,baz=114,slow=8.1,SNR=16							
KHC	**Kasperske Hory**	**39.09**	**315**	*e*P		**P**	**20 09 01.7**	**+1.7**
KHC				*e*pP		pP	20 09 07.0	-9.2
KHC				*e*sP		sP	20 09 09.5	-14
KHC				x		x	20 09 20.0	
KHC	**Kasperske Hory**	**39.09**	**315**	*e*P		**P**	**20 09 01.7**	**+1.7**
KHC				*e*			20 09 09.5	
KHC				*e*		pP	20 09 20.0	+3.8
FINES	**FINESS Array B**	**39.14**	**337**	P		**P**	**20 09 01.3**	**+0.9**
	comp=Z,7.4nm,0.6s,mb4.7,baz=130,slow=9.8,SNR=56							
FINES	**FINESS Array B**	**39.14**	**337**	*i* P		**P**	**20 09 01.2**	**+0.8**
FINES				pmax		pmax		
	comp=Z,7.0nm,0.6s							
FINES	**FINESS Array B**	**39.14**	**337**	P		**P**	**20 09 01.3**	**+0.9**
BRG	**Berggiesshubel**	**39.39**	**317**	*e*P		**P**	**20 09 03.9**	**+1.3**
	comp=Z,1.5nm,1.1s,mb3.7							
BRG				*e*			20 09 12.4	
	comp=Z,2.2nm,0.9s							
BRG				*e*			20 16 23.2	
	comp=Z,0.9nm,0.6s							
BRG	**Berggiesshubel**	**39.39**	**317**	*e*P		**P**	**20 09 03.8**	**+1.3**
BRG				*e*			20 09 12.4	
BRG				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb3.9							
BRG				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
BRG				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.8							
KAF	**Kangasniemi**	**39.54**	**338**	*e*p		**P**	**20 09 00.4**	**-3.3**
	comp=Z,2.1nm,0.6s,mb4.1							
KAF	**Kangasniemi**	**39.54**	**338**	*e*P		**P**	**20 09 00.4**	**-3.3**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
WTTA	**Wattenberg**	**39.88**	**311**	⇑*i*P		**P**	**20 09 07.9**	**+1.4**
	comp=Z,17nm,1.0s,mb4.8							
CLL	**Collm**	**40.09**	**318**	⇓*i*P		**P**	**20 09 10.2**	**+1.9**
	comp=Z,18nm,1.4s,mb4.7							
CLL				*i* pP		pP	20 09 18.5	-6.1
CLL	**Collm**	**40.09**	**318**	⇓*i*P		**P**	**20 09 10.2**	**+1.9**
CLL				*i* *PP		pP	20 09 18.5	-6.1
CLL				pmax

comp=Z,3.4nm,0.7s,mb4.2
BGF Bois d'Agland 45.74 309 *e*P **P 20 09 52.4 -1.5**
comp=Z,24nm,0.9s,mb4.6
BGF Bois d'Agland 45.74 309 *e*P **P 20 09 52.4 -1.5**
comp=Z,12nm,0.9s,mb4.6
MTLF Montolieu 46.04 304 *e*P **P 20 09 55.4 -0.9**
TCF Toulx Ste Croi 46.16 308 *e*P **P 20 09 55.9 -1.3**
comp=Z,9.2nm,0.7s,mb4.3
TCF Toulx Ste Croi 46.16 308 *e*P **P 20 09 55.9 -1.3**
comp=Z,4.6nm,0.7s,mb4.3
CAF Calviac 46.19 307 *e*P **P 20 09 56.3 -1.2**
comp=Z,9.2nm,0.8s,mb4.2
CAF Calviac 46.19 307 *e*P **P 20 09 56.3 -1.2**
comp=Z,4.6nm,0.8s,mb4.3
HHC Hu-ho-hao-te 46.28 59 P **P 20 09 57.3 -0.9**
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb4.8
HHC LR LR
comp=N,209nm,20.2s
HHC LR LR
comp=E,271nm,20.2s
HHC LR LR
comp=Z,216nm,19.0s
RJF Les Rejaudoux 46.59 307 *e*P **P 20 09 59.7 -1.0**
comp=Z,66nm,1.5s,mb4.8
RJF Les Rejaudoux 46.59 307 *e*P **P 20 09 59.7 -1.0**
comp=Z,33nm,1.5s,mb4.8
LFF La Frestale 47.13 307 *e*P **P 20 10 03.9 -1.0**
comp=Z,47nm,1.2s,mb4.8
LFF La Frestale 47.13 307 *e*P **P 20 10 03.9 -1.0**
comp=Z,23nm,1.2s,mb4.8
EPF Esparros 47.41 304 *e*P **P 20 10 04.5 -2.5**
comp=Z,48nm,1.5s,mb4.7
EPF Esparros 47.41 304 *e*P **P 20 10 04.5 -2.5**
comp=Z,24nm,1.5s,mb4.7
MFF Saint Martin d 47.80 309 *e*P **P 20 10 08.3 -1.7**
LDF La Druitiere 47.89 311 *e*P **P 20 10 09.2 -1.5**
comp=Z,46nm,1.1s,mb4.9
LDF La Druitiere 47.89 311 *e*P **P 20 10 09.2 -1.5**
comp=Z,23nm,1.1s,mb4.9
ETSF Etsaut 48.08 304 *e*P **P 20 10 10.7 -1.5**
comp=Z,22nm,1.2s,mb4.6
ETSF Etsaut 48.08 304 *e*P **P 20 10 10.7 -1.5**
comp=Z,11nm,1.2s,mb4.6
FLN La Foliniere 48.14 312 *e*P **P 20 10 11.1 -1.5**
comp=Z,201nm,1.6s,mb5.4
FLN La Foliniere 48.14 312 *e*P **P 20 10 11.1 -1.5**
comp=Z,101nm,1.6s,mb5.4
SJPF Ste Jean 48.56 304 *e*P **P 20 10 15.0 -0.9**
comp=Z,15nm,0.9s,mb4.6
SJPF Ste Jean 48.56 304 *e*P **P 20 10 15.0 -0.9**
comp=Z,7.5nm,0.9s,mb4.6
BOD Bodaibo 49.38 36 *e*P **P 20 10 21.3 -0.9**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
SGMF Saint Gilles 49.49 311 *e*P **P 20 10 22.1 -0.9**
QUIF Quistinic 49.89 310 *e*P **P 20 10 24.2 -1.9**
ROSF Rostrenen 49.97 311 *e*P **P 20 10 25.8 -0.9**
comp=Z,162nm,1.5s,mb5.4
ROSF Rostrenen 49.97 311 *e*P **P 20 10 25.8 -0.9**
comp=Z,81nm,1.5s,mb5.4
TORD Torodi Ar. Bea 53.21 266 P **P 20 10 53.1 +2.3**
comp=Z,3.8nm,0.7s,mb4.6,baz=61,slow=7.5,SNR=31
NJ2 Nanjing 53.26 69 *e*P **P 20 10 53.0 +1.8**
NJ2 AP pP 20 11 03.0 -5.2
NJ2 XP sP 20 11 07.0 -8.6
NJ2 PP PP 20 12 56.0 +4.2
NJ2 XS sS 20 18 36.0 -10
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,6.2s
NJ2 LR LR
comp=N,630nm,16.1s
NJ2 LR LR
comp=E,440nm,17.3s
NJ2 LR LR
comp=Z,1μm,17.6s
CN2 Changchun 56.28 54 *e*P **P 20 11 14.3 +1.3**
TIXI Tiksi 58.01 21 *e*P **P 20 11 25.5 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOSA Boshof 63.91 211 LR LR 20 41 20.4
comp=Z,94nm,18.3s,baz=258,slow=37
YSS Yuzh-Sakhalins 67.48 48 *e*P **P 20 12 30.1 +1.9**
YSS pmax pmax
comp=Z,37nm,1.7s,mb4.9
SEY Seymchan 67.89 29⇑ *e*P **P 20 12 31.7 +0.9**
ILAR Eielson Array 85.66 10 P **P 20 14 11.7 +0.9**
comp=Z,0.3nm,0.8s,mb3.3,baz=302,slow=5.2,SNR=3.9
WRA Warramunga Arr 88.85 113 P **P 20 14 28.9 +2.8**
comp=Z,2.0nm,0.8s,mb4.2,baz=318,slow=3.8,SNR=13
WRAB Tennant Creek 88.86 113 *e*P **P 20 14 28.5 +2.3**
comp=Z,8.0nm,0.9s,mb4.8
YKA Yellowknife Ar 89.50 356 P **P 20 14 30.6 +1.4**
comp=Z,1.2nm,0.7s,mb4.1,baz=2.0,slow=5.2,SNR=30
YKA Yellowknife Ar 89.50 356 *i*P **P 20 14 31.0 +1.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 90.38 117 P **P 20 14 35.8 +2.5**
comp=Z,0.4nm,0.5s,mb3.8,baz=305,slow=4.9,SNR=11

*KRSC **28** 20:06:33.7±0.2,5436N×16204E,h4km±3km,ML4.4*
*ISCJB **28** 20:06:36.6±0.5,5432N×10202×16222E±005,h51km±6km, mb3.9/13,Error ellipse: s-maj=5.6km s-min=3.1km az=59.9*
*IDC **28** 20:06:36.9±4.6,5446N×16192E,h33km±38km,mb3.6/10, mb1 3.9/12,mb1mx3.7/22,mbtmp3.9/12,ML3.9/2,Error ellipse: s-maj=19.9km s-min=15.5km az=172.0*
*MOS **28** 20:06:37.0±0.9,5435N×16205E,h50km,mb4.4/4,Error ellipse: s-maj=16.6km s-min=8.7km az=81.7*
*NEIC **28** 20:06:38.9±1.3,5435N×16195E,h56km±13km,mb4.3/2, Error ellipse: s-maj=15.2km s-min=12.2km az=141.0*
ISC 28 20:06:38.1±0.4,5434N±002×16217E±005,h54km±5km, n60,σ1°08/89,mb3.9/13,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.51**	**310**	*e*P		**Pn**		**20 07 00.7**	**-2.0**
SPN	**Mys Shipunski**	**1.78**	**227**	*e*S		**Sn**		**20 07 28.7**	**+0.8**
ZLN	**Zelenaya**	**1.86**	**336**	*e*P		**Pn**		**20 07 06.7**	**-0.8**
ZLN				*e*S		**Sn**		**20 07 30.4**	**+0.6**
KBTR	**Krutoberegovo**	**1.91**	**11**	P		**Pn**		**20 07 08.1**	**-0.1**
KBTR				S		**Sn**		**20 07 32.8**	**+1.7**
KBTR	**Krutoberegovo**	**1.91**	**11**	*i*P		**Pn**		**20 07 08.1**	**-0.1**
KBTR				*e*S		**Sn**		**20 07 33.3**	**+2.2**
CIRR	**Tsirk**	**1.96**	**336**	*e*P		**Pn**		**20 07 08.2**	**-0.7**
CIRR				*e*S		**Sn**		**20 07 33.7**	**+1.4**
KPT	**Kopyto**	**1.98**	**326**	*e*P		**Pn**		**20 07 08.1**	**-1.0**
NLC	**Nalytchevo**	**2.04**	**236**	P		**Pn**		**20 07 08.2**	**-1.8**
NLC				S		**Sn**		**20 07 33.7**	**-0.7**
NLC	**Nalytchevo**	**2.04**	**236**	*e*P		**Pn**		**20 07 08.6**	**-1.4**
NLC				*e*S		**Sn**		**20 07 34.4**	**0.0**
KLY	**Klyuchi**	**2.16**	**337**	P		**Pn**		**20 07 10.0**	**-1.6**
KLY				S		**Sn**		**20 07 36.0**	**-1.3**
KLY	**Klyuchi**	**2.16**	**337**	*e*P		**Pn**		**20 07 10.0**	**-1.6**
KLY				*e*S		**Sn**		**20 07 36.6**	**-0.7**
KOZR	**Kozyr**	**2.17**	**324**	PN		**Pn**		**20 07 11.0**	**-0.7**
KOZR				S		**Sn**		**20 07 38.3**	**+0.9**
KOZ	**Kozyrevsk**	**2.17**	**324**	*e*P		**Pn**		**20 07 11.0**	**-0.8**
KOZ				*e*S		**Sn**		**20 07 38.3**	**+0.8**
SMAR	**Somma**	**2.27**	**243**	*e*P		**Pn**		**20 07 12.4**	**-0.7**
SMAR				*e*S		**Sn**		**20 07 40.4**	**+0.5**
SMKR	**Semkarok**	**2.29**	**350**	*e*P		**Pn**		**20 07 13.1**	**-0.2**
UGLR	**Uglovaya**	**2.29**	**242**	*e*P		**Pn**		**20 07 12.8**	**-0.5**
UGLR				*e*S		**Sn**		**20 07 41.2**	**+0.9**
AVH	**Avacha**	**2.30**	**244**	*e*P		**Pn**		**20 07 13.2**	**-0.4**
AVH				*e*S		**Sn**		**20 07 42.0**	**+1.3**
BDR	**Baidarnaya**	**2.30**	**347**	*e*P		**Pn**		**20 07 13.1**	**-0.5**
BDR				*e*S		**Sn**		**20 07 42.0**	**+1.3**
KOK	**Koryaka**	**2.34**	**245**	*e*P		**Pn**		**20 07 13.1**	**-1.0**
KOK				*e*S		**Sn**		**20 07 41.9**	**+0.2**
BKI	**Bering**	**2.37**	**67**	*i*S		**Sn**		**20 07 42.9**	**+0.6**
BKI				Smax					
	370nm,0.6s								
SRKR	**Sorokina**	**2.39**	**347**	*e*P		**Pn**		**20 07 14.4**	**-0.4**
SRKR				*e*S		**Sn**		**20 07 43.9**	**+1.0**
SRDR	**Sredinnyy**	**2.43**	**326**	*i*P		**Pn**		**20 07 14.1**	**-1.2**
SRDR				*e*S		**Sn**		**20 07 43.8**	**0.0**
PET	**Petropavlovsk**	**2.47**	**239**	P		**Pn**		**20 07 14.4**	**-1.5**
PET				S		**Sn**		**20 07 44.0**	**-0.8**
PET	**Petropavlovsk**	**2.47**	**239**	*e*P		**Pn**		**20 07 15.4**	**-0.5**
PET				*e*S		**Sn**		**20 07 45.8**	**+1.0**
PET	**Petropavlovsk**	**2.47**	**239**	*e*PN		**Pn**		**20 07 15.7**	**-0.2**
PET				*e*S		**Sn**		**20 07 43.4**	**-1.4**
PET				pmax	pmax				
	comp=Z,189nm,0.4s								
PET				smax					
	comp=N,637nm,0.8s								
PET				smax					
	comp=E,480nm,0.5s								
PET	**Petropavlovsk**	**2.47**	**239**	*e*Pn		**Pn**		**20 07 14.8**	**-1.1**
PET				*e*Sn		**Sn**		**20 07 42.0**	**-2.8**
ESO	**Esso**	**2.55**	**310**	*e*P		**Pn**		**20 07 15.2**	**-1.8**
ESO				Smax					
	comp=E,230nm,0.8s								
GNL	**Ganaly**	**2.58**	**257**	*i*P		**Pn**		**20 07 17.0**	**-0.3**
GNL				*i*S		**Sn**		**20 07 48.7**	**+1.3**
KRMR	**Karymshinskiy**	**2.84**	**240**	*e*P		**Pn**		**20 07 20.6**	**-0.4**
KRMR				*e*S		**Sn**		**20 07 54.9**	**+0.9**
RUS	**Russkaya**	**2.91**	**230**	P		**Pn**		**20 07 21.5**	**-0.3**
RUS				S		**Sn**		**20 07 56.4**	**+0.9**
RUS	**Russkaya**	**2.91**	**230**	*e*P		**Pn**		**20 07 21.5**	**-0.3**
RUS				*e*S		**Sn**		**20 07 56.3**	**+0.8**
GRL	**Gorelyy**	**3.03**	**236**	*e*P		**Pn**		**20 07 22.9**	**-0.7**
GRL				*e*S		**Sn**		**20 07 59.1**	**+0.5**
APC	**Apacha**	**3.30**	**247**	*i*P		**Pn**		**20 07 27.6**	**+0.3**
APC				*i*S		**Sn**		**20 08 06.8**	**+1.5**
MIPR	**Malaya Ipel'ka**	**3.85**	**240**	P		**Pn**		**20 07 34.7**	**0.0**
FX1	**Attu Island--F**	**6.70**	**98**	Pn		**Pn**		**20 08 15.0**	**+1.2**
	comp=E,13nm,0.3s,baz=222,slow=4.1,SNR=67								
FX1				Sn		**Sn**		**20 09 28.0**	**-0.8**
	comp=E,4.9nm,0.3s,baz=232,slow=21,SNR=2.7								
FX1	**Attu Island--F**	**6.70**	**98**	PN		**Pn**		**20 08 15.0**	**+1.2**
FX1				pmax	pmax				
	comp=Z,13nm,0.3s								
FX1	**Attu Island--F**	**6.70**	**98**	*e*Pn		**Pn**		**20 08 14.8**	**+0.9**
FX1				*e*Sn		**Sn**		**20 09 27.7**	**-1.1**
MA2	**Magadan**	**8.14**	**315**	*e*PN		**Pn**		**20 08 34.9**	**+1.3**
MA2				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MA2	**Magadan**	**8.14**	**315**	*e*Pn		**Pn**		**20 08 34.9**	**+1.3**
	comp=Z,5.8nm,0.6s								
BILL	**Bilibino**	**13.89**	**6**	P		**Pn**		**20 09 53.3**	**+1.3**
BILL	**Bilibino**	**13.89**	**6**	P		**Pn**		**20 09 53.3**	**+1.3**
ASAJ	**Asahikawa**	**16.32**	**239**	Pn		**Pn**		**20 10 23.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=49,slow=9.3,SNR=4.7								
HABR	**Khabarovsk**	**17.84**	**262**	*e*P		**Pn**		**20 10 36.6**	**-5.8**
HABR				MLR	MLR				
	comp=Z,200nm,6.6s								
MAJO	**Matsushiro**	**24.29**	**233**	*e*P		**P**		**20 11 49.2**	**-1.1**
MAJO				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.2								
MAJO	**Matsushiro**	**24.29**	**233**	*e*P		**P**		**20 11 49.2**	**-1.0**
	comp=Z,6.8nm,0.7s,mb4.2								
MJAR	**Matsushiro Arr**	**24.29**	**233**	P		**P**		**20 11 51.0**	**+0.7**
	comp=Z,2.4nm,0.7s,mb3.7,baz=20,slow=10,SNR=6.9								
ILAR	**Eielson Array**	**27.06**	**47**	P		**P**		**20 12 16.9**	**+1.5**
	comp=Z,0.8nm,1.0s,mb3.2,baz=270,slow=9.0,SNR=3.9								
YKA	**Yellowknife Ar**	**41.41**	**44**	P		**P**		**20 14 21.2**	**+2.1**
	comp=Z,0.3nm,0.7s,mb3.0,baz=300,slow=8.0,SNR=4.7								
YKA	**Yellowknife Ar**	**41.41**	**44**	P		**P**		**20 14 21.2**	**+2.1**
YKA	**Yellowknife Ar**	**41.41**	**44**	P		**P**		**20 14 21.2**	**+2.1**
KURK	**Kurchatov**	**48.12**	**302**	*e*P		**P**		**20 15 09.5**	**-3.0**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.2								
KURK	**Kurchatov**	**48.12**	**302**	*e*P		**P**		**20 15 09.5**	**-3.0**
	comp=Z,1.5nm,0.4s,mb4.4								
MKAR	**Makanchi Array**	**48.73**	**296**	P		**P**		**20 15 14.9**	**-2.3**
	comp=Z,0.3nm,0.4s,mb3.6,baz=32,slow=6.8,SNR=3.8								
BVAR	**Borovoye Array**	**50.58**	**309**	P		**P**		**20 15 29.3**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=58,slow=6.3,SNR=4.2								
ARCES	**ARCESS Array B**	**52.48**	**342**	P		**P**		**20 15 45.5**	**0.0**
	comp=Z,7.3nm,1.1s,mb4.5,baz=35,slow=10.0,SNR=3.4								
FINES	**FINESS Array B**	**59.46**	**337**	P		**P**		**20 16 34.1**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=30,slow=9.2,SNR=7.7								
KIV	**Kislovodsk**	**69.36**	**318**	*e*P		**P**		**20 17 40.5**	**+0.5**
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
GERES	**GERESS Array B**	**73.81**	**339**	P		**P**		**20 18 06.7**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=40,slow=7.0,SNR=6.1								
WRA	**Warramunga Arr**	**77.74**	**207**	P		**P**		**20 18 30.7**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=23,slow=6.1,SNR=6.9								
ASAR	**Alice Springs**	**81.41**	**206**	P		**P**		**20 18 51.1**	**+2.0**
	comp=Z,0.8nm,0.9s,mb3.7,baz=23,slow=5.1,SNR=5.2								

*NAO **28** 20:07:53.9,2495N×6545E,h33km,mb4.0*
*ISCJB **28** 20:08:21.8±0.7,2794N±005×6292E±004,h42km±8km, mb4.4/60,Error ellipse: s-maj=9.4km s-min=4.8km az=134.5*
*IDC **28** 20:08:25.8±7.7,2801N×6284E,h57km±69km,mb3.9/17, mb1 4.1/17,mb1mx4.0/24,mbtmp4.2/17,MS2.9/1, Ms1 2.9/1,ms1mx2.7/22,Error ellipse: s-maj=22.7km s-min=16.4km az=167.0*
*CSEM **28** 20:08:25.0±0.4,2823N×6267E,h50km±3km,mb4.4/14, Error ellipse: s-maj=8.2km s-min=4.5km az=179.0*
*BJI **28** 20:08:27.8,2843N×6289E,h55km,mB5.0,mb4.3*
*NEIC **28** 20:08:28.6±2.5,2809N×6284E,h82km±21km,mb4.7/37, Error ellipse: s-maj=11.4km s-min=5.4km az=183.0*
ISC 28 20:08:24.5±0.5,2797N±005×6292E±004,h48km±7km, n152,σ0°84/145,mb4.4/60,4C-5D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BANOM	**Banah**	**6.25**	**252**	P		**Pn**		**20 09 54.2**	**+0.1**
	SNR=143								
WBK	**Wadi Bani Khal**	**6.43**	**215**	P		**Pn**		**20 09 53.9**	**-2.6**
	SNR=26								
SMDO	**Samad**	**6.58**	**223**	P		**Pn**		**20 09 59.1**	**+0.5**
	SNR=11								
ASHO	**Ashiyiah**	**6.97**	**244**	P		**Pn**		**20 10 03.4**	**-0.6**
	SNR=94								
JMDO	**Jabal Madar**	**7.08**	**219**	P		**Pn**		**20 10 04.6**	**-0.9**
	SNR=26								
BSY	**Bisya**	**7.34**	**226**	P		**Pn**		**20 10 09.7**	**+0.7**
	SNR=17								
DRP	**Derazinda**	**7.36**	**58**	P		**Pn**		**20 10 11.3**	**+2.0**
ARQ	**Araqi**	**7.39**	**233**	P		**Pn**		**20 10 11.9**	**+2.1**
	SNR=26								
BHJ	**Bhuj**	**7.68**	**126**	*e*P		**Pn**		**20 10 13.4**	**-0.4**
BHJ				*ex*		x		20 11 31.9	
SBDP	**Sheikh Budin**	**8.08**	**56**	P		**Pn**		**20 10 20.4**	**+1.3**
THW	**Thamme Wali**	**9.01**	**56**	⇑P		**Pn**		**20 10 32.3**	**+0.4**
THW				S		**Sn**		**20 12 06.0**	**-5.9**
SARP	**Sargodha**	**9.33**	**63**	P		**Pn**		**20 10 35.5**	**-0.8**
CEP	**Cherat**	**9.67**	**51**	P		**Pn**		**20 10 41.8**	**+0.8**
CEP				S		**Sn**		**20 12 24.0**	**-4.2**
AJM	**Ajmer**	**10.54**	**95**	*i x*		x		20 10 52.0	
AJM				*ex*		x		20 10 52.1	
AJM				AMb		AMB		20 10 53.4	
	comp=Z,27nm,0.5s								
AJM				*ex*		x		20 12 38.0	
AJM				*i*S		**Sn**		**20 12 44.0**	**-5.5**
CHCP	**Chirah Chowk**	**10.54**	**55**	P		**Pn**		**20 10 52.7**	**-0.2**
KHET	**Khetri**	**11.39**	**86**	*ex*		x		20 11 03.4	
KHET				*ex*		x		20 12 56.2	
THN	**Thein Dam**	**11.93**	**65**	*ex*		x		20 13 20.0	
PONG	**Pong**	**11.97**	**68**	*e*P		**Pn**		**20 11 13.0**	**+0.6**
PONG				*ex*		x		20 13 21.0	
KUDL	**Kundal**	**11.99**	**86**	*e*P		**Pn**		**20 11 11.1**	**-1.5**
KUDL				*ex*		x		20 13 08.4	
SONA	**Sohna**	**12.51**	**85**	*ex*		x		20 11 18.1	
SONA				AMb		AMB		20 11 19.5	
	comp=Z,25nm,0.9s								
SONA				*ex*		x		20 13 22.0	
AYAN	**Aya Nagar**	**12.54**	**84**	*e*P		**Pn**		**20 11 19.6**	**-0.6**
AYAN				AMb		AMB		20 11 20.3	
	comp=Z,22nm,0.4s								
NDI	**New Delhi**	**12.62**	**83**	*ex*		x		20 11 19.0	
NDI				*ex*		x		20 11 20.4	
NDI				*e*S		**Sn**		**20 13 29.0**	**-11**
SDNR	**Sundarnagar**	**12.71**	**71**	*e*P		**Pn**		**20 11 22.7**	**+0.3**
SDNR				*ex*		x		20 13 34.9	
SMLA	**Simla**	**12.79**	**72**	*e*P		**Pn**		**20 11 22.4**	**-1.2**
SMLA				*e*P				20 11 23.3	
SMLA				*e*S		**Sn**		**20 13 33.4**	**-11**
SMLA				AML		AML		20 13 42.6	
	comp=E,107nm,0.6s								
SMLA				AML		AML		20 13 43.1	
	comp=N,123nm,0.3s								
DDI	**Dehra Dun**	**13.44**	**76**	*e*P		**Pn**		**20 11 32.3**	**-0.1**
POO	**Poona**	**13.75**	**131**	*ex*		x		20 14 36.0	
KLP	**Kalpa**	**13.78**	**71**	*e*P		**Pn**		**20 11 36.5**	**-0.6**
KLP				AMb		AMB		20 11 38.6	
	comp=Z,53nm,0.7s								
KLP				*ex*		x		20 13 51.8	
BHPL	**Bhopal**	**13.91**	**107**	*e*P		**Pn**		**20 11 38.1**	**-0.7**
BHPL				AMb		AMB		20 11 40.2	
	comp=Z,15nm,0.5s								
BHPL				*ex*		x		20 13 58.0	
LGTI	**Lohaghat**	**15.28**	**80**	*ex*		x		20 11 54.0	
AAK	**Ala-Archa**	**17.39**	**30**	*e*Pn		**Pn**		**20 12 23.9**	**+0.4**
	comp=Z,4.1nm,0.9s								
AAK	**Ala-Archa**	**17.39**	**30**	*e*Pn		**Pn**		**20 12 23.9**	**+0.4**
	comp=Z,4.1nm,0.9s								
HYB	**Hyderabad**	**17.82**	**123**	*i*P		pP		20 12 43.0	+2.7
HYB	**Hyderabad**	**17.82**	**123**	*e*P		pP		20 12 43.0	+2.7
GNI	**Garni**	**19.30**	**314**	P		**Pn**		**20 12 49.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=4.2,SNR=3.2								
GNI	**Garni**	**19.30**	**314**	*e*Pn		**Pn**		**20 12 48.1**	**+1.3**
	comp=Z,3.0nm,0.8s								
AKTK	**Aktyubinsk**	**22.74**	**352**	P		**P**		**20 13 21.7**	**-0.6**
AKTK	**Aktyubinsk**	**22.74**	**352**	P		**P**		**20 13 21.7**	**-0.7**
AKTO	**Aktyubinsk**	**22.74**	**352**	P		**P**		**20 13 21.7**	**-0.7**
	comp=Z,8.8nm,0.7s,mb4.3,baz=148,slow=12,SNR=34								
KIV	**Kislovodsk**	**22.77**	**320**	*e*P		**P**		**20 13 24.0**	**+1.3**
	comp=Z,2.9nm,0.6s,mb3.9								
MKAR	**Makanchi Array**	**24.17**	**34**	P		**P**		**20 13 37.6**	**+1.5**
	comp=Z,1.0nm,0.5s,mb3.5,baz=212,slow=8.9,SNR=18								
LSA	**Lhasa**	**24.77**	**79**	*e*P		**P**		**20 13 46.3**	**+4.7**
	comp=Z,7.6nm,0.9s,mb4.2								
LSA	**Lhasa**	**24.77**	**79**	*e*P		**P**		**20 13 46.3**	**+4.7**
	comp=Z,7.6nm,0.9s,mb4.2								
ATD	**Arta Tunnel**	**24.93**	**233**	LR		LR		20 24 45.2	
	comp=Z,28nm,21.7s,baz=122,slow=39								
ZRNK	**Zerenda**	**25.36**	**9**	*e*P		**P**		**20 13 46.4**	**-0.5**
ZRNK	**Zerenda**	**25.36**	**9**	*e*P		**P**		**20 13 46.4**	**-0.6**
	comp=Z,2.1nm,0.5s,mb3.9								
ZRNK				*e*				20 14 04.6	
ZRNK				*e*				20 14 22.0	
BVAR	**Borovoye Array**	**25.63**	**10**	P		**P**		**20 13 49.3**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.1,baz=184,slow=12,SNR=33								
KURK	**Kurchatov**	**25.65**	**23**	*e*P		**P**		**20 13 49.1**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.6								
KURK	**Kurchatov**	**25.65**	**23**	*e*P		**P**		**20 13 49.1**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.6								
BRVK	**Borovoye**	**25.65**	**10**	*e*P		**P**		**20 13 48.6**	**-1.0**
	comp=Z,3.2nm,0.5s,mb4.1								
BRVK	**Borovoye**	**25.65**	**10**	*e*P		**P**		**20 13 48.6**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.1								
SHL	**Shillong**	**25.95**	**89**	*ex*		x		20 14 09.0	
MLR	**Muntele Rosu**	**34.04**	**311**	P		**P**		**20 15 04.5**	**+0.6**
	comp=Z,6.4nm,0.9s,mb4.5,baz=94,slow=18,SNR=3.1								
AKASG	**Malin Array Be**	**34.10**	**321**	P		**P**		**20 15 03.8**	**-0.6**
	comp=Z,1.4nm,0.3s,mb4.3,baz=121,slow=8.1,SNR=8.0								
AKASG				PcP		PcP		20 17 40.9	0.0
	comp=Z,0.9nm,0.6s,baz=94,slow=2.5,SNR=4.2								
AKASG	**Malin Array Be**	**34.10**	**321**	PcP		PcP		20 17 40.9	0.0
BURAR	**Bucovina Array**	**35.21**	**314**	⇓P		**P**		**20 15 14.9**	**+0.9**
BZS	**Buzias**	**36.99**	**310**	⇓P		**P**		**20 15 30.1**	**+0.9**
PSZ	**Piszkesteto**	**38.72**	**313**	P		**P**		**20 15 41.1**	**-2.7**
	comp=Z,4.0nm,0.8s,mb4.2								
PSZ	**Piszkesteto**	**38.72**	**313**	P		**P**		**20 15 41.1**	**-2.7**
	comp=Z,4.0nm,0.8s,mb4.2								
SONM	**Songino Array**	**38.99**	**47**	P		**P**		**20 15 48.7**	**+2.6**
	comp=Z,0.4nm,0.6s,mb3.3,baz=248,slow=8.5,SNR=6.6								
ULN	**Ulaanbaatar**	**39.43**	**48**	P		**P**		**20 15 52.4**	**+2.7**
ULN	**Ulaanbaatar**	**39.43**	**48**	P		**P**		**20 15 52.4**	**+2.7**
	comp=Z,1.2nm,0.7s,mb3.7								
ULN				*e*		pP		20 16 06.7	+4.1
TIP	**Timpagrande**	**39.67**	**299**	*e*P		**P**		**20 15 52.4**	**+0.7**
TIP	**Timpagrande**	**39.67**	**299**	*e*P		**P**		**20 15 52.4**	**+0.6**
ENH	**Enshi**	**40.53**	**75**	P		**P**		**20 16 02.1**	**+3.3**
	comp=Z,7.5nm,1.1s,mb4.2								
ENH	**Enshi**	**40.53**	**75**	P		**P**		**20 16 02.1**	**+3.2**
	comp=Z,7.5nm,1.1s,mb4.2								
JOF	**Joensuu**	**40.57**	**338**	*ep*		**P**		**20 15 58.2**	**-1.0**
	comp=Z,2.1nm,0.5s,mb4.0								
MORC	**Moravsky Berou**	**40.71**	**315**	*e*P		**P**		**20 15 59.9**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.1								
MORC	**Moravsky Berou**	**40.71**	**315**	*e*P		**P**		**20 15 59.9**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.1								
ARSA	**Arzberg**	**41.46**	**311⇑**	*i*P		**P**		**20 16 07.5**	**+1.0**
	comp=Z,11nm,1.1s,mb4.4								
FINES	**FINESS Array B**	**41.47**	**334**	P		**P**		**20 16 05.9**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.0,baz=128,slow=9.0,SNR=21								
KAF	**Kangasniemi**	**41.79**	**335**	*ep*		**P**		**20 16 08.7**	**-0.5**
	comp=Z,1.5nm,0.5s,mb3.9,baz=126,slow=8.3								
AQU	**L'Aquila**	**42.37**	**303**	P		**

comp=Z,9.5nm,0.6s,mb4.6
MTLF Montolieu 50.59 305 *e*P **P 20 17 18.4 +0.1**
comp=Z,4.8nm,0.6s,mb4.6
CAF Calviac 50.62 307 *e*P **P 20 17 18.8 +0.2**
comp=Z,12nm,0.8s,mb4.6
CAF Calviac 50.62 307 *e*P **P 20 17 18.8 +0.2**
comp=Z,5.8nm,0.8s,mb4.6
RJF Les Rejaudoux 51.00 307 *e*P **P 20 17 21.7 +0.3**
comp=Z,17nm,0.8s,mb4.8
RJF Les Rejaudoux 51.00 307 *e*P **P 20 17 21.7 +0.3**
comp=Z,8.6nm,0.8s,mb4.7
LFF La Frestale 51.56 307 *e*P **P 20 17 26.0 +0.3**
comp=Z,46nm,0.8s,mb5.2
LFF La Frestale 51.56 307 *e*P **P 20 17 26.0 +0.3**
comp=Z,23nm,0.8s,mb5.2
EPF Esparros 51.98 304 *e*P **P 20 17 29.0 +0.2**
LDF La Druitiere 52.04 311 *e*P **P 20 17 28.2 -1.0**
comp=Z,11nm,0.6s,mb4.7
LDF La Druitiere 52.04 311 *e*P **P 20 17 28.2 -1.0**
comp=Z,5.4nm,0.6s,mb4.7
MFF Saint Martin d 52.11 309 *e*P **P 20 17 29.1 -0.6**
comp=Z,7.6nm,0.6s,mb4.5
MFF Saint Martin d 52.11 309 *e*P **P 20 17 29.1 -0.6**
comp=Z,3.8nm,0.6s,mb4.5
FLN La Foliniere 52.27 312 *e*P **P 20 17 30.5 -0.4**
comp=Z,14nm,0.6s,mb4.8
FLN La Foliniere 52.27 312 *e*P **P 20 17 30.5 -0.4**
comp=Z,7.2nm,0.6s,mb4.8
GRR Gorron 52.53 311 *e*P **P 20 17 33.0 +0.2**
ETSF Etsaut 52.65 304 *e*P **P 20 17 34.0 +0.3**
comp=Z,19nm,0.9s,mb4.7
ETSF Etsaut 52.65 304 *e*P **P 20 17 34.0 +0.3**
comp=Z,9.7nm,0.9s,mb4.7
SJPF Ste Jean 53.12 305 *e*P **P 20 17 37.5 +0.3**
comp=Z,18nm,0.9s,mb4.7
SJPF Ste Jean 53.12 305 *e*P **P 20 17 37.5 +0.3**
comp=Z,9.1nm,0.9s,mb4.7
SGMF Saint Gilles 53.67 311 *e*P **P 20 17 41.0 -0.2**
QUIF Quistinic 54.10 311 *e*P **P 20 17 43.8 -0.5**
comp=Z,30nm,0.8s,mb5.0
QUIF Quistinic 54.10 311 *e*P **P 20 17 43.8 -0.5**
comp=Z,15nm,0.8s,mb5.0
ROSF Rostrenen 54.14 311 *e*P **P 20 17 44.3 -0.4**
comp=Z,21nm,0.7s,mb4.9
ROSF Rostrenen 54.14 311 *e*P **P 20 17 44.3 -0.4**
comp=Z,10nm,0.7s,mb4.9
ESLA Sonseca Array 55.62 301 P **P 20 17 55.2 -0.1**
comp=Z,1.9nm,1.1s,mb4.0
ESLA Sonseca Array 55.62 301 P **P 20 17 55.2 -0.1**
comp=Z,1.9nm,1.1s,mb4.0
TORD Torodi Ar. Bea 58.66 269 P **P 20 18 17.1 +0.3**
comp=Z,5.6nm,0.5s,mb4.9,baz=56,slow=6.8,SNR=78
BOSA Boshof 66.84 216 P **P 20 19 12.2 +0.9**
comp=Z,3.0nm,0.7s,mb4.4,baz=44,slow=7.6,SNR=7.4
DBIC Dimbokro 67.29 265 P **P 20 19 15.1 +1.0**
comp=Z,1.3nm,0.4s,mb4.3,baz=69,slow=7.7,SNR=10
DBIC Dimbokro 67.29 265 *e*P **P 20 19 14.8 +0.7**
comp=Z,7.2nm,1.1s,mb4.6
DBIC Dimbokro 67.29 265 *e*P **P 20 19 14.8 +0.7**
comp=Z,7.2nm,1.1s,mb4.6
WRA Warramunga Arr 83.86 116 P **P 20 20 49.4 +0.5**
comp=Z,0.8nm,0.4s,mb4.2,baz=320,slow=4.6,SNR=19
WRAB Tennant Creek 83.86 116 *e*P **P 20 20 48.9 0.0**
comp=Z,13nm,0.9s,mb5.0
WRAB *e* pP 20 21 04.3 +1.2
ILAR Eielson Array 84.68 12 P **P 20 20 52.5 -0.6**
comp=Z,1.3nm,0.6s,mb4.3,baz=318,slow=4.8,SNR=32
ASAR Alice Springs 85.53 120 P **P 20 20 57.8 +0.4**
comp=Z,0.5nm,0.5s,mb4.0,baz=307,slow=5.0,SNR=12
YKA Yellowknife Ar 89.83 359 P **P 20 21 18.0 +0.1**
comp=Z,0.9nm,0.7s,mb4.2,baz=352,slow=4.9,SNR=25

MAN 28 20:27:26.5,1374N×12092E,h1km,mb1.9,ML3.7,MS3.5, 2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.24**	**173**	⇓*e*P	Pg	20 27 30.5	-0.5
PGP				*e*S	Sg	20 27 33.1	-1.0
TGY	**Tagaytay City**	**0.36**	**2**	⇓*e*P	Pg	20 27 37.5	+4.2
LBPH	**Los Banos**	**0.48**	**31**	*e*P	Pg	20 27 49.6	+14
PAZ	**Puerto Azul**	**0.54**	**334**	*e*P	Pg	20 27 56.8	+20
LUBP	**Lubang**	**0.66**	**270**	*e*P	Pg	20 27 38.9	-0.2
ARP	**Angono**	**0.82**	**16**	*e*P	Pg	20 27 36.3	-6.0
NBP	**Mount Natib**	**1.11**	**334**	*e*P	Pg	20 27 40.3	-7.5
POLP	**Polilio Island**	**1.39**	**45**	*e*P	Pn	20 27 53.1	+0.1
POLP				*e*S	Sg	20 28 12.5	+1.3
AUQP	**San Andres**	**1.75**	**103**	*e*P	Pn	20 27 58.7	+0.8
BUSP	**Coron**	**1.86**	**202**	*e*P	Pn	20 27 60.0	+0.4

NIED ***28*** *21:19:00,4180N×14050E,h130km,Mw4.1 Best double couple: M0 1.50000×10^15 NP1:φ1=176.00000°,δ90.00000°, λ71.00000°. NP2:φ2=86.00000°,δ19.00000°,λ180.00000°.*
NAO ***28*** *21:19:21.0,4109N×14033E,h33km,mb3.8*
ISCJB ***28*** *21:19:36.2±0.2,4186N±003×14043E±004,h141km±2km, mb4.2/47,Error ellipse: s-maj=5.7km s-min=4.3km az=68.2*
JMA ***28*** *21:19:37.9±0.1,4184N×14046E,h132km±1km,M3.7*
MOS ***28*** *21:19:37.1±1.0,4193N×14031E,h147km,mb4.3/15,Error ellipse: s-maj=9.7km s-min=6.5km az=102.0*
IDC ***28*** *21:19:37.3±1.2,4188N×14036E,h135km±10km,mb3.8/17, mb1 3.9/19,mb1mx3.9/23,mbtmp4.2/19,Error ellipse: s-maj=14.8km s-min=10.9km az=126.0*
NEIC ***28*** *21:19:38.6±0.6,4189N×14032E,h147km±6km,mb4.5/19, MW4.1(NIED),Error ellipse: s-maj=6.7km s-min=5.3km az=138.0*
BJI ***28*** *21:19:38.1,4209N×14055E,h173km,mB4.8,mb4.5*
SKHL ***28*** *21:19:39.5±0.3,4192N×14090E,h150km±13km,mb5.3/1, msh5.8/1*
ISC 28 21:19:37.3±0.2,4186N±003×14045E±004,h138km±2km, n121,σ0§89/144,mb4.2/47,6C-14D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	**Yakumo 2**	**0.26**	**347**	⇑P	**Pn**	**21 19 56.3**	**0.0**
JYM2				*e*S	**Sn**	**21 20 10.5**	**-0.1**
JSR	**Shiriuchi**	**0.33**	**184**	⇑P	**Pn**	**21 19 56.4**	**-0.1**
JSR				S	**Sn**	**21 20 10.3**	**-0.8**
JKB	**Kayabe**	**0.44**	**86**	⇓P	**Pn**	**21 19 56.9**	**-0.1**
JKB				*e*S	**Sn**	**21 20 11.3**	**-0.5**
JOT	**Ohata**	**0.66**	**137**	⇓P	**Pn**	**21 19 58.1**	**-0.1**
JOT				*e*S	**Sn**	**21 20 13.5**	**-0.6**
JNB	**Noboribetsu**	**0.75**	**36**	⇓P	**Pn**	**21 19 58.8**	**-0.1**
JNB				*e*S	**Sn**	**21 20 14.6**	**-0.6**
JOSM	**Okushiri--Mats**	**0.76**	**287**	⇑P	**Pn**	**21 19 58.9**	**0.0**
JOSM				*e*S	**Sn**	**21 20 14.7**	**-0.7**
JSH	**Shimam**	**0.84**	**339**	⇑P	**Pn**	**21 20 00.0**	**+0.5**
JSH				*e*S	**Sn**	**21 20 16.6**	**+0.2**
JTM	**Tenmabayashi**	**1.17**	**156**	⇓P	**Pn**	**21 20 02.6**	**+0.1**
JTM				*e*S	**Sn**	**21 20 21.3**	**-0.4**
JEW	**Eniwo**	**1.23**	**37**	⇓P	**Pn**	**21 20 04.0**	**+0.9**
JEW				*e*S	**Sn**	**21 20 24.0**	**+1.2**
JIW	**Iwasaki**	**1.31**	**195**	⇑P	**Pn**	**21 20 04.3**	**+0.4**
JIW				*e*S	**Sn**	**21 20 24.1**	**-0.1**
JSK	**Shakotan**	**1.49**	**1**	P	**Pn**	**21 20 06.7**	**+0.8**
JSK				*e*S	**Sn**	**21 20 29.1**	**+1.4**
JANG	**Nango**	**1.69**	**151**	⇓P	**Pn**	**21 20 07.2**	**-0.9**
JANG				*e*S	**Sn**	**21 20 30.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**1.77**	**76**	⇓P	**Pn**	**21 20 08.8**	**-0.2**
JNBK				*e*S	**Sn**	**21 20 33.2**	**0.0**
JFR	**Furan**	**2.05**	**50**	⇓P	**Pn**	**21 20 11.9**	**-0.4**
JFR				*e*S	**Sn**	**21 20 39.0**	**-0.2**
JHR	**Hokuryu**	**2.10**	**26**	P	**Pn**	**21 20 14.6**	**+1.7**
ASAJ	**Asahikawa**	**2.75**	**34**	P	**Pn**	**21 20 21.9**	**+1.0**
	37nm,0.3s,baz=228,slow=11,SNR=387						
ASAJ				S	**Sn**	**21 20 55.0**	**+0.3**
	9.8nm,0.3s,baz=309,slow=28,SNR=15						
ASAJ	**Asahikawa**	**2.75**	**34**	P	**Pn**	**21 20 22.0**	**+1.0**
ASAJ				S	**Sn**	**21 20 55.0**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,37nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.53**	**60**	*e*P	**Pn**	**21 20 44.5**	**+0.3**
YUK				*i* S	**Sn**	**21 21 33.5**	**-2.7**
YUK				A		21 21 35.0	
	comp=Z,2μm,0.8s						
YUK				A		21 21 40.0	
	comp=Z,950nm,0.5s						
YUK				A		21 21 40.0	
	comp=Z,570nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.35**	**17**	⇑*i*P	**Pn**	**21 20 57.0**	**+1.8**
YSS				AMB	AMB	21 20 57.2	
	comp=Z,50nm,0.3s						
YSS				AMB	AMB	21 20 57.2	
	comp=Z,70nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.35**	**17**	*e*Pn	**Pn**	**21 20 55.9**	**+0.7**
MAJO	**Matsushiro**	**5.59**	**199**	*e*P	**Pn**	**21 20 59.7**	**+1.3**
MAT	**Matsushiro**	**5.59**	**199**	*e*P	**Pn**	**21 21 00.0**	**+1.6**
MAT				S	**Sn**	**21 22 10.0**	**+8.4**
MJAR	**Matsushiro Arr**	**5.59**	**199**	P	**Pn**	**21 21 00.2**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=13,slow=12,SNR=9.9						
MJAR	**Matsushiro Arr**	**5.59**	**199**	P	**Pn**	**21 21 00.2**	**+1.8**
HABR	**Khabarovsk**	**7.63**	**332**	*e*P	**Pn**	**21 21 23.6**	**-2.2**
HABR				*e*S	**Sn**	**21 22 43.1**	**-7.6**
HABR				pmax	pmax		
	comp=Z,30nm,1.6s						
MDJ	**Mudanjiang**	**8.39**	**293**	P	**Pn**	**21 21 37.5**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,49nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,73nm,6.6s						
MDJ	**Mudanjiang**	**8.39**	**293**	*e*Pn	**Pn**	**21 21 37.1**	**+1.1**
	comp=Z,37nm,0.8s						
KS15	**Wonju Array Si**	**10.64**	**250**	*e*Pn	**Pn**	**21 21 59.4**	**-6.6**
CN2	**Changchun**	**11.19**	**285**	*e*P	**Pn**	**21 22 13.3**	**+0.1**
HIA	**Hailar**	**16.25**	**304**	*e*P	**Pn**	**21 23 15.8**	**-1.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**16.25**	**304**	*e*P	**Pn**	**21 23 15.8**	**-1.8**
	comp=Z,5.7nm,0.8s						
BJT	**Baijiatuau**	**18.43**	**272**	*e*P	**P**	**21 23 40.9**	**-1.1**
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**18.43**	**272**	*e*P	**P**	**21 23 40.9**	**-1.1**
	comp=Z,14nm,0.8s						
NJ2	**Nanjing**	**19.80**	**247**	*e*P	**P**	**21 24 02.5**	**+5.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s						
YAK	**Yakutsk**	**21.21**	**346**	⇓*i*P	**P**	**21 24 08.6**	**-3.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.2						
HHC	**Hu-ho-hao-te**	**21.67**	**277**	*e*P	**P**	**21 24 16.5**	**-0.3**
HHC				AP		21 24 43.8	
HHC				PP		21 24 48.3	
HHC				S	**S**	**21 28 01.8**	**-6.4**
HHC				XS	sS	21 28 44.5	-6.4
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,117nm,5.2s						
HHC				LR	LR		
	comp=N,170nm,6.7s						
HHC				LR	LR		
	comp=E,212nm,6.5s						
HHC				LR	LR		
	comp=Z,106nm,5.7s						
SEY	**Seymchan**	**22.25**	**14**	*e*P	**P**	**21 24 21.0**	**-2.0**
BOD	**Bodaibo**	**23.14**	**323**	*e*P	**P**	**21 24 28.6**	**-2.7**
BOD				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
WHN	**Wuhan**	**23.80**	**250**	⇓P	**P**	**21 24 37.5**	**+0.1**
ULN	**Ulaanbaatar**	**24.29**	**296**	⇓*e*P	**P**	**21 24 40.6**	**-1.2**
ULN	**Ulaanbaatar**	**24.29**	**296**	*e*P	**P**	**21 24 40.5**	**-1.3**
	comp=Z,7.8nm,0.6s,mb4.4						
SONM	**Songino Array**	**24.73**	**296**	P	**P**	**21 24 44.8**	**-1.0**
	comp=Z,1.9nm,0.5s,mb3.9,baz=99,slow=8.8,SNR=23						
SONM				ScP	ScP	21 31 44.0	-0.9
	comp=Z,0.3nm,0.5s,baz=89,slow=1.6,SNR=4.3						
ZAK	**Zakamensk**	**26.90**	**301**	*e*P	**P**	**21 25 03.9**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
ENH	**Enshi**	**27.43**	**255**	*e*P	**P**	**21 25 07.3**	**-2.7**
	comp=Z,7.5nm,0.7s,mb4.4						
MOY	**Mondy**	**28.43**	**304**	*e*P	**P**	**21 25 18.1**	**-0.9**
LZH	**Lanzhou**	**28.88**	**271**	*e*P	**P**	**21 25 23.0**	**+0.1**
LZH				PP	PP	21 26 21.0	-10
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.7						
GTA	**Gaotai**	**30.73**	**279**	*e*P	**P**	**21 25 40.0**	**+0.7**
GTA				PP	PP	21 26 48.0	-3.3
GTA				S	**S**	**21 30 32.5**	**+0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,96nm,5.3s						
GTA				LR	LR		
	comp=N,160nm,11.0s						
GTA				LR	LR		
	comp=E,158nm,14.4s						
GTA				LR	LR		
	comp=Z,141nm,11.8s						
CD2	**Chengdu**	**31.28**	**262**	*e*P	**P**	**21 25 45.3**	**+1.2**
CD2				S	**S**	**21 30 39.0**	**-1.5**
CD2				SS	SS	21 32 35.0	-25
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
TNA	**Tin City**	**37.11**	**33**	*e*P	**P**	**21 26 34.0**	**-0.3**
	comp=Z,6.5nm,1.4s,mb4.1						
WMQ	**Urumqi**	**38.19**	**291**	P	**P**	**21 26 44.0**	**+0.6**
WMQ				AP	pP	21 27 15.0	+1.3
WMQ				PP	PP	21 28 18.0	+4.5
WMQ				S	**S**	**21 32 26.0**	**-0.5**
WMQ				SS	SS	21 35 11.0	-9.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,101nm,4.0s						
WMQ				LR	LR		
	comp=N,54nm,9.0s						
WMQ				LR	LR		
	comp=E,57nm,9.0s						
WMQ				LR	LR		
	comp=Z,59nm,9.0s						
MK31	**Makanchi Array**	**41.08**	**297**	*i* P	**P**	**21 27 07.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**41.08**	**297**	P	**P**	**21 27 07.2**	**-0.1**
	comp=Z,12nm,0.6s,mb4.7,baz=84,slow=9.6,SNR=119						
MKAR				ScP	ScP	21 32 40.6	-0.5
	comp=Z,0.4nm,0.6s,baz=68,slow=4.1,SNR=4.7						
MKAR	**Makanchi Array**	**41.08**	**297**	P	**P**	**21 27 07.2**	**-0.1**
MKAR				ScP	ScP	21 32 40.6	-0.5
LSA	**Lhasa**	**41.27**	**269**	*e*P	**P**	**21 27 10.5**	**+1.6**
LSA	**Lhasa**	**41.27**	**269**	*e*P	**P**	**21 27 10.4**	**+1.5**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**41.27**	**269**	*e*P	**P**	**21 27 10.4**	**+1.5**
	comp=Z,7.8nm,1.0s,mb4.3						
KURK	**Kurchatov**	**42.49**	**304**	*d i*P	**P**	**21 27 18.4**	**-0.4**
KURK	**Kurchatov**	**42.49**	**304**	*e*P	**P**	**21 27 18.2**	**-0.5**
	comp=Z,17nm,0.7s,mb4.8						
SHL	**Shillong**	**42.96**	**264**	*e*P	**P**	**21 27 22.5**	**-0.1**
KDAK	**Kodiak Island**	**44.12**	**45**	P	**P**	**21 27 32.1**	**+0.3**
	comp=Z,8.1nm,0.8s,mb4.4,baz=293,slow=13,SNR=3.2						
MCK	**McKinley**	**45.11**	**36**	*e*P	**P**	**21 27 40.6**	**+0.9**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
MCK	**McKinley**	**45.11**	**36**	*e*P	**P**	**21 27 40.6**	**+0.9**
	comp=Z,3.8nm,0.8s,mb4.1						
COLA	**College**	**45.47**	**35**	*e*P	**P**	**21 27 43.5**	**+1.0**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
COLA	**College**	**45.47**	**35**	*e*P	**P**	**21 27 43.5**	**+1.0**
	comp=Z,6.4nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**45.89**	**35**	P	**P**	**21 27 46.3**	**+0.5**
	comp=Z,5.5nm,0.9s,mb4.2,baz=274,slow=6.4,SNR=38						
JIRN	**Jiri**	**46.05**	**270**	*e*P	**P**	**21 27 47.5**	**+0.4**
	comp=Z,12nm,0.2s,mb5.1						
GUN	**Gumba**	**46.15**	**271**	*e*P	**P**	**21 27 48.5**	**+0.7**
	comp=Z,80nm,0.6s						
ULHL	**Ulahol**	**46.63**	**293**	P	**P**	**21 27 52.2**	**+0.6**
	SNR=6.8						
KKN	**Kakani**	**46.66**	**271**	*e*P	**P**	**21 27 52.2**	**+0.4**
PKI	**Pulchoki**	**46.68**	**270**	*e*P	**P**	**21 27 52.1**	**+0.1**
TKM2	**Tokmak 2**	**46.82**	**294**	P	**P**	**21 27 54.2**	**+1.1**
	SNR=35						
TKM2	**Tokmak 2**	**46.82**	**294**	*i* P	**P**	**21 27 54.0**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,14nm,0.4s,mb4.9						
BVA0	**Borovoye Array**	**46.87**	**309**	*i* P	**P**	**21 27 53.5**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
BVAR	**Borovoye Array**	**46.87**	**309**	P	**P**	**21 27 53.5**	**0.0**
	comp=Z,2.9nm,0.3s,mb4.3,baz=79,slow=9.9,SNR=62						
DMN	**Daman**	**46.89**	**271**	*e*P	**P**	**21 27 54.1**	**+0.5**
BRVK	**Borovoye**	**46.92**	**309**	*e*P	**P**	**21 27 53.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
BRVK	**Borovoye**	**46.92**	**309**	*e*P	**P**	**21 27 53.5**	**-0.3**
	comp=Z,5.5nm,0.9s,mb4.2						
GKN	**Gorkha**	**47.03**	**271**	*e*P	**P**	**21 27 54.7**	**0.0**
	comp=Z,26nm,0.5s,mb5.1						
KBK	**Karagaybulak**	**47.36**	**294**	P	**P**	**21 27 58.1**	**+0.8**
	SNR=6.9						
KZA	**Kyzart**	**47.38**	**293**	P	**P**	**21 27 59.3**	**+1.9**
	SNR=8.5						
USP	**Ospenovka**	**47.44**	**295**	P	**P**	**21 27 58.2**	**+0.4**
	SNR=5.9						
AAK	**Ala-Archa**	**47.68**	**294**	P	**P**	**21 28 00.1**	**+0.4**
	SNR=9.8						
AAK	**Ala-Archa**	**47.68**	**294**	*d i*P	**P**	**21 27 59.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**47.68**	**294**	*e*P	**P**	**21 27 58.7**	**-1.1**
	comp=Z,4.7nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**47.69**	**309**	*i* P	**P**	**21 28 00.0**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**47.69**	**309**	*e*P	**P**	**21 27 59.1**	**-0.7**
	comp=Z,6.2nm,0.5s,mb4.5						
KOLN	**Koldanda**	**47.92**	**272**	*e*P	**P**	**21 28 02.2**	**+0.6**
	comp=Z,43nm,0.9s,mb5.1						
EKS2	**Erkin-Say**	**48.16**	**295**	P	**P**	**21 28 03.9**	**+0.4**
	SNR=18						
AML	**Almayashu**	**48.42**	**294**	P	**P**	**21 28 06.2**	**+0.7**
	SNR=14						
KK31	**Karatay Array**	**50.18**	**296**	*i* P	**P**	**21 28 18.6**	**-0.2**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
KKAR	**Karatay Array**	**50.18**	**296**	*e*P	**P**	**21 28 18.6**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
INK	**Inuvik**	**50.48**	**29**	P	**P**	**21 28 21.8**	**+0.8**
	comp=Z,7.0nm,0.6s,mb4.5,baz=304,slow=7.3,SNR=19						
INK	**Inuvik**	**50.48**	**29**	P	**P**	**21 28 21.8**	**+0.8**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
INK	**Inuvik**	**50.48**	**29**	*e*P	**P**	**21 28 21.3**	**+0.3**
	comp=Z,13nm,0.9s,mb4.6						
PMG	**Port Moresby**	**51.38**	**172**	*i* P	**P**	**21 28 34.8**	**+7.0**
ARU	**Arti**	**52.31**	**316**	*e*P	**P**	**21 28 33.6**	**-1.1**
ARU				*e*		21 29 10.8	
ARU	**Arti**	**52.31**	**316**	*e*P	**P**	**21 28 33.6**	**-1.1**
ARU				*e*		21 29 10.8	
AB31	**Akbulak array**	**54.34**	**307**	*i* P	**P**	**21 28 49.3**	**-0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
AKTK	**Aktyubinsk**	**54.97**	**309**	P	**P**	**21 28 53.3**	**-0.7**
AKTO	**Aktyubinsk**	**54.97**	**309**	P	**P**	**21 28 53.3**	**-0.7**
	comp=Z,0.9nm,0.3s,mb3.9,baz=52,slow=13,SNR=7.1						
AKTO	**Aktyubinsk**	**54.97**	**309**	P	**P**	**21 28 53.3**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
RES	**Resolute Bay**	**58.13**	**15**	*e*P	**P**	**21 29 15.6**	**-0.7**
RES				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
RES	**Resolute Bay**	**58.13**	**15**	*e*P	**P**	**21 29 15.6**	**-0.8**
	comp=Z,4.7nm,1.2s,mb4.2						
YKA	**Yellowknife Ar**	**60.04**	**31**	P	**P**	**21 29 29.7**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=299,slow=6.7,SNR=26						
JOF	**Joensuu**	**61.38**	**330**	*e*p	**P**	**21 29 37.9**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**61.75**	**187**	P	**P**	**21 29 40.8**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=5.1,slow=7.2,SNR=21						
FINES	**FINESS Array B**	**64.22**	**331**	P	**P**	**21 29 56.4**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=43,slow=8.4,SNR=17						
FINES	**FINESS Array B**	**64.22**	**331**	*i* P	**P**	**21 29 57.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**65.47**	**187**	P	**P**	**21 30 05.6**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=5.2,slow=6.8,SNR=7.1						
GOF	**Gofitskoye**	**66.38**	**310**	*e*P	**P**	**21 30 10.3**	**-1.0**
KIV	**Kislovodsk**	**67.23**	**309**	⇓*i*P	**P**	**21 30 18.2**	**+1.5**
KIV				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
KIV	**Kislovodsk**	**67.23**	**309**	*e*P	**P**	**21 30 17.7**	**+1.0**
	comp=Z,14nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**69.46**	**336**	P	**P**	**21 30 29.8**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**69.46**	**336**	P	**P**	**21 30 30.0**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=40,slow=6.3,SNR=4.1						
NOA	**NORSAR Array B**	**69.46**	**336**	P	**P**	**21 30 30.0**	**-0.6**
AKASG	**Malin Array Be**	**70.06**	**321**	P	**P**	**21 30 33.7**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=45,slow=6.0,SNR=6.0						
AKASG	**Malin Array Be**	**70.06**	**321**	*i* P	**P**	**21 30 34.7**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**72.72**	**54**	P	**P**	**21 30 51.2**	**+1.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=285,slow=6.2,SNR=4.6						
BRTR	**Keskin Array B**	**75.13**	**310**	P	**P**	**21 31 04.8**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.3,baz=47,slow=5.4,SNR=3.7						
ULM	**Lac du Bonnet**	**75.89**	**33**	P	**P**	**21 31 08.0**	**-0.6**
	comp=Z,1.2nm,0.3s,mb4.0,baz=351,slow=3.1,SNR=5.0						
GERES	**GERESS Array B**	**78.24**	**327**	P	**P**	**21 31 21.5**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=52,slow=6.9,SNR=4.1						

OMAN ***28*** *21:39:02.4±4.0,3236N×5685E,h37km±49km,Error ellipse: s-maj=43.6km s-min=41.9km az=46.0*
IDC ***28*** *21:39:53.0±1.9,2804N×5687E,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.9/22,mbtmp3.

SNR=9.1
JMDO **Jabal Madar** 5.93 169 P Pn 21 41 26.3 +2.5
SNR=8.5
WHFO **Wadi Hawf** 10.64 196 P Pn 21 42 27.4 -1.1
SNR=9.9
ABTO **Aybut** 11.31 198 P Pn 21 42 36.4 -1.2
SNR=12
GNI **Garni** 15.56 323 Pn Pn 21 43 42.1 +6.9
comp=E,0.4nm,0.3s,baz=32,slow=5.2,SNR=5.7
GNI **Garni** 15.56 323 *e*P Pn 21 43 41.6 +6.3
comp=E,4.8nm,0.8s
MALT **Malatya** 18.40 308 *e*P Pn 21 44 12.3 +1.3
comp=E,5.2nm,1.0s
MALT **Malatya** 18.40 308 *e*P Pn 21 44 12.3 +1.3
comp=E,5.2nm,1.0s
EIL **Elat** 19.25 280 *e*P Pn 21 44 19.7 -1.7
comp=E,63nm,0.9s
EIL **Elat** 19.25 280 *e*P Pn 21 44 19.7 -1.7
comp=E,63nm,0.9s
KIV **Kislovodsk** 19.40 328 *e*P Pn 21 44 21.8 -1.4
comp=E,5.4nm,0.7s
KIV **Kislovodsk** 19.40 328 *e*P Pn 21 44 21.8 -1.4
comp=E,5.4nm,0.7s
AAK **Ala-Archa** 20.26 40 *e*P P 21 44 32.0 +0.7
comp=E,2.2nm,0.9s
AAK **Ala-Archa** 20.26 40 *e*P P 21 44 32.0 +0.7
comp=E,2.2nm,0.9s
AKTK **Aktyubinsk** 22.20 2 P P 21 44 53.3 +1.0
AKTK **Aktyubinsk** 22.20 2 P P 21 44 53.3 +1.1
AKTO **Aktyubinsk** 22.20 2 P P 21 44 53.3 +1.1
comp=E,2.1nm,0.5s,mb3.8,baz=182,slow=11,SNR=12
BR131 **Keskin Array S** 22.37 307 *e*P P 21 44 55.2 +1.2
comp=E,7.5nm,1.0s,mb4.1
BRTR **Keskin Array B** 22.37 307 P P 21 44 54.4 +0.3
comp=E,3.8nm,0.8s,mb3.9,baz=116,slow=12,SNR=22
BRTR **Keskin Array B** 22.37 307 P P 21 44 54.3 +0.3
ZRNK **Zerenda** 26.29 17 *e*P P 21 45 30.5 -0.9
comp=E,2.8nm,0.9s,mb3.8
ZRNK **Zerenda** 26.29 17 *e*P P 21 45 30.5 -0.9
comp=E,2.8nm,0.9s,mb3.8
BRVK **Borovoye** 26.72 18 P P 21 45 32.9 -2.4
comp=E,4.2nm,0.9s,mb4.0
BVAR **Borovoye Array** 26.72 18 P P 21 45 35.7 +0.4
comp=E,3.8nm,0.7s,mb4.0,baz=195,slow=8.9,SNR=24
MKAR **Makanchi Array** 27.19 40 P P 21 45 39.9 +0.4
comp=E,0.1nm,0.3s,baz=228,slow=7.3,SNR=5.0
MKAR **Makanchi Array** 27.19 40 P P 21 45 39.9 +0.4
SANT **Santorini** 27.69 295 P P 21 45 41.0 -3.0
comp=E,47nm,0.7s,mb5.2
KURK **Kurchatov** 27.84 30 *e*P P 21 45 45.7 +0.4
comp=E,1.1nm,0.6s,mb3.7
KURK **Kurchatov** 27.84 30 *e*P P 21 45 45.7 +0.4
comp=E,1.1nm,0.6s,mb3.7
GVD **Gavdhos** 28.64 292 P P 21 45 53.3 +0.9
comp=E,122nm,1.1s
GVD **Gavdhos** 28.64 292 P P 21 45 53.3 +0.9
comp=E,122nm,1.1s
AKASG **Malin Array Be** 30.68 325 P P 21 46 10.0 -0.5
comp=E,0.4nm,0.4s,mb3.6,baz=129,slow=8.1,SNR=4.5
KWP **Kalwaria** 33.69 319 *e*P P 21 46 36.7 -0.2
comp=E,7.2nm,0.8s,mb4.7
KWP **Kalwaria** 33.69 319 *e*P P 21 46 36.7 -0.2
comp=E,7.2nm,0.8s,mb4.7
MORC **Moravsky Berou** 36.82 317 *e*P P 21 47 03.2 -0.6
comp=E,4.4nm,1.0s,mb4.2
MORC **Moravsky Berou** 36.82 317 *e*P P 21 47 03.2 -0.6
comp=E,4.4nm,1.0s,mb4.2
JOF **Joensuu** 38.51 341 *e*p P 21 47 18.2 +0.1
comp=E,2.1nm,0.6s,mb4.0
GERES **GERESS Array B** 38.91 314 P P 21 47 21.0 -0.5
comp=E,0.5nm,0.6s,mb3.4,baz=120,slow=7.9,SNR=5.5
FINES **FINESS Array B** 39.04 337 P P 21 47 22.4 -0.1
comp=E,2.8nm,0.6s,mb4.2,baz=136,slow=9.2,SNR=26
KHC **Kasperske Hory** 39.06 314 *e*P P 21 47 22.5 -0.3
SONM **Songino Array** 42.81 49 P P 21 47 53.2 -0.4
comp=E,0.4nm,0.8s,mb3.2,baz=264,slow=7.0,SNR=2.8
NOA **NORSAR Array B** 44.68 330 P P 21 48 07.8 -0.9
comp=E,1.7nm,0.9s,mb3.9,baz=119,slow=7.3,SNR=2.9
ARCES **ARCESS Array B** 45.15 345 P P 21 48 12.0 -0.4
comp=E,10nm,1.1s,mb4.6,baz=137,slow=8.0,SNR=4.6
TORD **Torodi Ar. Bea** 53.34 266 P P 21 49 14.3 -0.8
comp=E,1.7nm,0.5s,mb4.2,baz=63,slow=7.1,SNR=27
YKA **Yellowknife Ar** 89.35 356 P P 21 52 51.9 -0.4
comp=E,0.4nm,0.6s,mb3.9,baz=2.5,slow=4.8,SNR=12
YKA **Yellowknife Ar** 89.35 356 P P 21 52 51.9 -0.4

IDC ***28*** *22:23:42.2±12.0, 4426N×14841E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=322.4km s-min=32.2km az=166.0*
ISCJB ***28*** *22:24:12.1±1.2, 445N±0.1×1468E±02, h213km±9km, mb3.2/4, Error ellipse: s-maj=20.4km s-min=16.7km az=124.1*
JMA ***28*** *22:24:14.1±0.5, 4471N×14684E, h175km, M3.2*
ISC 28 22:24:13.1±1.2, 445N±01×1468E±02, h208km±9km, n17, σ1§08/22, mb3.2/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	Rausu	1.32	246	P	Pn	22 24 45.3	-0.6
NEM2	Nemuro 2	1.35	214	P	Pn	22 24 46.1	-0.1
NEM2				*e*S	Sn	22 25 10.6	-1.4
JNK	Nakash	1.75	239	P	Pn	22 24 50.2	+0.5
JAK	Akkeshi	2.13	226	P	Pn	22 24 54.3	+0.8
JAK				*e*S	Sn	22 25 25.3	+0.3
JTKR	Abashiri--Toko	2.13	257	P	Pn	22 24 53.4	-0.1
JTKR				*e*S	Sn	22 25 24.4	-0.7
JAR	Ashorobuto	2.49	242	P	Pn	22 24 59.3	+2.0
JMP	Maruseppu	2.51	260	P	Pn	22 24 57.5	0.0
JKK2	Kamakawa 2	2.97	259	P	Pn	22 25 03.5	+0.7
JKK2				*e*S	Sn	22 25 43.3	+1.6
JSE	Soyaes	3.03	280	P	Pn	22 25 02.4	-1.1
JCH	Churui	3.12	234	P	Pn	22 25 06.0	+1.5
JWK2	Keihoku	3.57	285	P	Pn	22 25 09.7	-0.2
JNBK	Urakawa-nobuka	3.68	234	P	Pn	22 25 11.9	+0.7
JNBK				*e*S	Sn	22 25 54.8	-2.0
JKB	Kayabe	4.95	240	*e*S	Sn	22 26 24.4	-0.9
SONM	Songino Array	27.95	291	P	P	22 29 45.0	+0.8
	0.2nm,0.4s,mb3.1,baz=79,slow=8.5,SNR=3.9						
ILAR	Eielson Array	41.05	37	P	P	22 31 22.6	-14
	0.4nm,0.9s,mb2.8,baz=260,slow=9.1,SNR=2.7						
MKAR	Makanchi Array	44.02	297	P	P	22 32 00.0	0.0
	0.4nm,0.6s,mb3.0,baz=71,slow=8.5,SNR=7.2						
FINES	FINESS Array B	64.10	333	P	P	22 34 22.5	-2.5
	2.6nm,1.1s,mb3.8,baz=35,slow=7.0,SNR=5.7						

ATH ***28*** *22:26:16.8, 3973N×2083E, h46km, MD2.9/3*
ISCJB ***28*** *22:26:19.8±0.5, 3982N±003×2068E±003, h10km, Error ellipse: s-maj=4.7km s-min=3.4km az=136.3*
CSEM ***28*** *22:26:20.0±0.1, 3982N×2064E, h2km, ML2.4, Error ellipse: s-maj=3.5km s-min=2.2km az=168.0*
THE ***28*** *22:26:20.8, 3980N×2066E, h7km, ML2.4*
ISC 28 22:26:20.2±0.5, 3982N±003×2067E±003, h10km, n14, σ1§21/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.22	139	*e*P	Pg	22 26 25.0	+0.2
JAN				*e*S	Sg	22 26 29.3	+1.5
IGT	Igoumenitsa	0.39	222	*e*Pg	Pg	22 26 27.2	-0.6
IGT				*e*Sg	Sg	22 26 34.2	+1.3
MEV	Metsovon	0.44	95	*e*Pg	Pg	22 26 29.0	+0.2
MEV				*e*Sg	Sg	22 26 36.1	+1.6
SRN	Sarande	0.52	277	*i* Pg	Pg	22 26 29.4	-0.8
SRN				*i* Sg	Sg	22 26 38.9	+1.9
KEK	Kerkira	0.68	261	*e*P	Pg	22 26 32.5	-0.8
KZN	Kozani	0.98	60	*e*P	Pg	22 26 34.5	-4.5
FNA	Florina	1.10	29	*e*Pg	Pg	22 26 40.5	-1.0
FNA				*e*Sg	Sg	22 26 58.8	+3.0
BIA	Bitola	1.30	23	*e*Pn	Pn	22 26 42.9	-1.5
BIA				*e*Sn	Sn	22 27 01.3	-0.5
BIA	Bitola	1.30	23	*e*Pn	Pn	22 26 42.8	-1.6
BIA				*e*Sn	Sn	22 27 01.3	-0.5
LIT	Litokhoron	1.43	78	*e*Pg	Pg	22 26 46.8	-0.9
LIT				*e*Sg	Sg	22 27 06.5	+0.2
LIT	Litokhoron	1.43	78	*e*Pg	Pg	22 26 46.8	-0.9
LIT				*e*Sg	Sg	22 27 06.4	+0.2
AGG	Agios Georgios	1.52	121	*e*Pg	Pg	22 26 46.9	-2.4
AGG				*e*Sg	Sg	22 27 07.8	-1.2
GRG	Griva	1.75	49	*e*Pb	Pb	22 26 51.0	-1.3
GRG				*e*Sb	Sb	22 27 15.4	+1.1
KNT	Kendrikon	2.17	51	*e*Pn	Pn	22 26 56.7	+0.4
KNT				*e*Sn	Sn	22 27 24.1	+0.9

NEIC ***28*** *22:32:07.5, 3625S×178.17E, h148km, MG3.9(WEL), After WEL.*
WEL 28 22:32:07.5±0.8, 3631S×17825E, h156km±8km, ML3.9/10, Error ellipse: s-maj=14.9km s-min=10.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.25	178	PN	Pn	22 32 35.1	+0.1
MXZ				SN	Sn	22 32 55.7	-0.3
MXZ	Matakaoa Point	1.25	178	P	Pn	22 32 35.1	+0.1
MXZ				S	Sn	22 32 55.5	-0.6
PUZ	Puketiti	1.76	180	PN	Pn	22 32 40.6	+0.4
PUZ				SN	Sn	22 33 05.4	+0.1
PUZ	Puketiti	1.76	180	*e*P	Pn	22 32 40.6	+0.4
PUZ				S	Sn	22 33 05.4	0.0
MWZ	Matawai	2.10	196	PN	Pn	22 32 44.8	+0.7
MWZ				SN	Sn	22 33 13.4	+1.1
MWZ	Matawai	2.10	196	*e*P	Pn	22 32 44.8	+0.7
URZ	Urewera	2.15	205	PN	Pn	22 32 44.6	0.0
URZ	Urewera	2.15	205	*e*P	Pn	22 32 44.6	0.0
KNZ	Kokohu	2.74	189	PN	Pn	22 32 51.6	-0.2
KNZ	Kokohu	2.74	189	*e*P	Pn	22 32 51.6	-0.2
BKZ	Black Stump Fm	3.17	206	PN	Pn	22 32 57.4	+0.2
BKZ	Black Stump Fm	3.17	206	P	Pn	22 32 57.4	+0.2
MOVZ	Moawhango	3.67	212	P	Pn	22 33 02.8	-0.8
TSZ	Takapari Road	4.16	205	P	Pn	22 33 08.5	-1.3
BFZ	Birch Farm	4.64	199	P	Pn	22 33 14.2	-2.0
MRZ	Mangatainoka R	4.82	205	*e*P	Pn	22 33 16.1	-2.5
KIW	Kapiti Island	5.24	209	P	Pn	22 33 21.7	-2.4
MTW	Mount Morrison	5.30	203	P	Pn	22 33 21.6	-3.2
CAW	Cannon Point	5.40	207	P	Pn	22 33 22.8	-3.4
TCW	Tory Channel	5.80	211	P	Pn	22 33 28.3	-3.2

CASC 28 22:33:53.4±2.1, 1175N×8650W, h104km±6km, MD3.9, ML3.5, 13C-20D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	Ticuantepe	0.39	44	⇓*e*P	Pn	22 34 09.1	+0.2
XAVN	Gruta Xavier	0.43	241	⇓*e*P	Pn	22 34 09.2	+0.1
XAVN				*e*S	Sn	22 34 22.2	+1.2
COPN	Copaltepe	0.43	349	⇓*e*P	Pn	22 34 09.1	-0.1
COPN				*e*S	Sn	22 34 21.7	+0.7
APON	Apoyo	0.46	69	⇓*e*P	Pn	22 34 09.4	+0.1
APON				*e*S	Sn	22 34 22.8	+1.5
MGAN	Managua	0.47	33	*e*S	Sn	22 34 21.8	+0.4
MGAN				*i*		22 34 35.1	
	comp=N,2μm,0.8s						
APYN	Apoyeque	0.50	17	⇓*e*P	Pn	22 34 10.2	+0.6
WILN	Americas 2	0.51	37	⇓*e*P	Pn	22 34 09.6	-0.1
WILN				*e*S	Sn	22 34 21.7	-0.2
MOMJ	Momotombo	0.65	357	⇑*e*P	Pn	22 34 10.5	-0.3
MOMJ				*e*S	Sn	22 34 24.2	+0.4
MOMJ				*i*		22 34 25.6	
	comp=Z,648nm,0.3s						
MIRN	Miramar	0.71	343	⇓*e*P	Pn	22 34 11.2	-0.1
MIRN				*e*S	Sn	22 34 25.4	+0.6
LEON	Leon	0.76	330	⇑*e*P	Pn	22 34 11.5	-0.2
CNGN	Cerro Negro	0.77	346	⇑*e*P	Pn	22 34 11.6	-0.2
CNGN				*e*S	Sn	22 34 25.8	+0.2
SSNN	San Juan del S	0.79	126	⇓*i*P	Pn	22 34 12.6	+0.6
SSNN				*e*S	Sn	22 34 27.1	+1.1
CONN	Concepcion	0.88	102	⇓*e*P	Pn	22 34 13.1	+0.2
CONN				*e*S	Sn	22 34 28.4	+0.8
TEL3	Telica 3	0.88	338	⇑*e*P	Pn	22 34 13.0	+0.1
TELN	Telica	0.91	339	⇑*e*P	Pn	22 34 13.0	-0.1
TELN				*e*S	Sn	22 34 30.3	+2.3
MADN	Villa Maderas	1.01	110	⇓*i*P	Pn	22 34 14.5	+0.3
CRIN	San Cristobal	1.08	331	⇑*e*P	Pn	22 34 14.9	-0.1
CRIN				*e*S	Sn	22 34 32.3	+0.9
RIN3	Volcan Rincon	1.46	131	*e*P	Pn	22 34 19.8	+0.5
RIN3				*e*S	Sn	22 34 40.2	+1.2
VCR	Vista de Mar	1.83	152	⇓*i*P	Pn	22 34 24.9	+0.9
VCR				*e*S	Sn	22 34 46.6	-0.6
VACR	Volcan Arenal	2.20	125	*e*P	Pn	22 34 29.4	+0.7
BLLM	Bellamira	2.38	315	*e*P	Pn	22 34 48.1	+17
BLLM				*e*S	Sn	22 35 18.5	+18
VSM	San Miguel	2.40	314	⇓*e*P	Pn	22 34 48.9	+18
VSM				*e*S	Sn	22 35 20.0	+20
CAO	Cobano	2.46	146	⇑*e*P	Pn	22 34 32.7	+0.6
CAO				*e*S	Sn	22 35 00.4	-1.3
EPA	Esparza	2.57	133	⇑*e*P	Pn	22 34 33.8	+0.3
CGA2	Cerro Gallo 2	2.64	131	⇓*e*P	Pn	22 34 35.2	+0.7
CGA2				*e*S	Sn	22 35 06.6	+0.5
POA2	Poas 2	2.71	125	*e*P	Pn	22 34 35.9	+0.5
VPS2	Volcan Poas 2	2.71	125	*e*P	Pn	22 34 37.5	+2.1
PRS1	Puriscal	2.78	129	⇓*e*P	Pn	22 34 37.6	+1.3
PRS1				*e*S	Sn	22 35 11.8	+2.5
SNVI	San Vicente	2.93	309	⇓*e*P	Pn	22 34 55.6	+17
SNVI				*e*S	Sn	22 35 29.8	+17
LAJ	Bijagual	3.00	128	⇓*i*P	Pn	22 34 37.6	-1.6
LAJ				*e*S	Sn	22 35 10.6	-3.9
LCBS	La Ceiba	3.07	308	⇓*e*P	Pn	22 34 57.1	+17
LCBS				*e*S	Sn	22 35 34.3	+18
OCM	Ochomogo	3.11	126	⇓*e*P	Pn	22 34 41.2	+0.6
LFRS	El Faro	3.11	307	⇑*e*P	Pn	22 34 57.7	+17
LFRS				*e*S	Sn	22 35 36.5	+19
LCR2	La Lucha 2	3.17	129	*e*P	Pn	22 34 42.4	+1.0
LCR2				*e*S	Sn	22 35 20.2	+1.7
VTU	Volcan Turrial	3.20	122	⇓*e*P	Pn	22 34 42.3	+0.4
URSC	Urasca	3.29	125	⇓*e*P	Pn	22 34 44.2	+1.2
BOQS	Boqueron	3.35	306	⇑*e*P	Pn	22 35 01.7	+18
BOQS				*e*S	Sn	22 35 40.0	+17
BUS	Buena Vista	3.47	129	⇑*e*P	Pn	22 34 46.6	+1.1
BUS				*e*S	Sn	22 35 28.8	+3.0
SBLS	San Blas	3.68	305	⇑*e*P	Pn	22 35 05.9	+18
SBLS				*e*S	Sn	22 35 49.4	+19
SNJE	San Jose	3.69	305	⇓*e*P	Pn	22 35 06.0	+18
SNJE				*e*S	Sn	22 35 50.1	+19

NAO ***28*** *22:58:11.5, 2766N×5539E, h33km, mb4.0*
OMAN ***28*** *22:58:12.8±5.5, 2899N×5362E, h134km±27km, Error ellipse: s-maj=62.1km s-min=18.9km az=161.0*
BJI ***28*** *22:58:16.7, 2833N×5332E, h34km, mB5.2, mb4.7, Ms4.5, Msz4.1*
IDC ***28*** *22:58:17.6±0.8, 2830N×5403E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, ML0.9/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/27, Error ellipse: s-maj=19.4km s-min=16.1km az=156.0*
CSEM ***28*** *22:58:18.9±0.1, 2828N×5389E, h20km, mb4.4/40, ML4.9/2, Error ellipse: s-maj=2.0km s-min=1.5km az=38.0*
THR ***28*** *22:58:18.7±0.8, 2822N×5398E, h14km±6km, ML4.3*
ISCJB ***28*** *22:58:19.2±0.8, 2827N±002×5395E±003, h21km±6km, mb4.5/70, MS4.0/15, Error ellipse: s-maj=4.8km s-min=3.3km az=87.7*
MOS ***28*** *22:58:21.9±0.9, 2831N×5394E, h40km, mb4.6/35, Error ellipse: s-maj=9.0km s-min=4.6km az=120.5*
NEIC ***28*** *22:58:22.8, 2821N×5394E, h34km, mb4.4/31, ML4.5(TEH), After TEH.*
TEH ***28*** *22:58:22.8, 2821N×5394E, h34km, Mn4.5*
ISC 28 22:58:21.8±0.8, 2830N±002×5394E±003, h25km±6km, n276, σ0§99/289, mb4.5/70, MS4.0/15, 9C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.84	269	*e*PG	Pb	22 58 35.3	-2.4
GHIR				AML	AML	22 59 00.9	
	comp=E,9μm,0.5s						
IMOK	Mook	1.31	305	*e*Pn	Pn	22 58 45.2	+0.7
IMOK	Mook	1.31	305	Pn	Pn	22 58 45.1	+0.6
IPAR	Pars	1.73	333	*e*Pn	Pn	22 58 51.7	+1.5
IPAR	Pars	1.73	333	Pn	Pn	22 58 51.6	+1.4
SHI	Shiraz	1.83	317	*e*Pn	Pn	22 58 52.7	+1.0
SHI				*e*Lg		22 59 25.2	
BNDS	Bandar-Abbas	2.17	114	*e*PN	Pn	22 58 55.7	-0.6
BNDS				*e*SG	Sn	22 59 25.0	+2.6
BNDS				AML	AML	22 59 48.3	
	comp=E,2μm,0.9s						
BNDS	Bandar-Abbas	2.17	114	*e*Pn	Pn	22 58 55.7	-0.6
	SNR=52						
BNDS				*e*Sg	Sn	22 59 25.0	+2.6
	comp=E,2μm,0.9s,SNR=90						
KRBR	Kerman	2.98	55	*e*PN	Pn	22 59 08.6	+1.1
KRBR				*e*SG	Sn	22 59 52.6	+10
KRBR				AML	AML	22 59 58.4	
	comp=E,1μm,0.6s						
KRBR	Kerman	2.98	55	*e*Pn	Pn	22 59 08.6	+1.1
	SNR=52						
KRBR				*e*Sg	Sn	22 59 52.6	+10
	comp=E,1μm,0.6s,SNR=90						
IMEH	Mehriz	3.14	11	*e*Pn	Pn	22 59 10.7	+1.1
IMEH				*e*Sn	Sn	22 59 46.1	-0.2
IMEH	Mehriz	3.14	11	Pn	Pn	22 59 10.6	+1.0
IMEH				Sn	Sn	22 59 46.1	-0.2
BANOM	Banah	3.16	138	P	Pn	22 59 11.1	+1.1
	SNR=10						
IBAF	Bafgh	3.57	23	*e*Pn	Pn	22 59 16.1	+0.5
ISAD	Sadrabad	3.61	357	*e*Pn	Pn	22 59 17.1	+0.9
ISAD	Sadrabad	3.61	357	Pn	Pn	22 59 17.0	+0.8
ICHK	Chekchek	3.96	6	*e*Pn	Pn	22 59 21.5	+0.6
ASHO	Ashiyiah	4.07	152	P	Pn	22 59 23.4	+0.9
	SNR=63						
NASN	Na'in	4.59	348	*e*PN	Pn	22 59 30.7	+1.0
ARQ	Araqi	5.46	154	P	Pn	22 59 42.4	+0.9
	SNR=48						
SHGR	Shooshtar-Gavs	5.85	312	*e*P	Pn	22 59 48.2	+1.3
BIDO	Bidbid	6.07	141	P	Pn	22 59 49.7	-0.2
	SNR=19						
ZHSF	Zahedan	6.13	76	*e*PN	Pn	22 59 51.1	+0.3
BSY	Bisya	6.26	151	P	Pn	22 59 53.2	+0.6
	SNR=38						
BSYO	Bisya	6.29	151	P	Pn	22 59 53.2	+0.2
	SNR=38						
SMDO	Samad	6.40	144	P	Pn	22 59 55.5	+1.1
	SNR=96						
IVRN	Varamin	6.94	345	*e*Pn	Pn	23 00 01.7	-0.2
IVRN				*e*Sn	Sn	23 01 15.4	-4.6
IVRN	Varamin	6.94	345	Pn	Pn	23 00 01.6	-0.3
IVRN				Sn	Sn	23 01 15.4	-4.6
IQOM	Qom	6.97	340	*e*Pn	Pn	23 00 02.1	-0.2
JMDO	Jabal Madar	7.00	147	P	Pn	23 00 03.7	+1.0
	SNR=9.0						
ILAS	Lasjerd	7.11	354	*e*Pn	Pn	23 00 05.0	+0.7
ILAS	Lasjerd	7.11	354	Pn	Pn	23 00 04.9	+0.6
WBK	Wadi Bani Khal	7.26	140	P	Pn	23 00 05.8	-0.4
	SNR=26						
IFIR	Firoozkooh	7.39	352	*e*Pn	Pn	23 00 08.4	+0.3
IFIR	Firoozkooh	7.39	352	Pn	Pn	23 00 08.3	+0.2
ISHM	Shahmirzad	7.51	356	*e*Pn	Pn	23 00 10.0	+0.3
IRAZ	Razeghan	7.86	335	*e*Pn	Pn	23 00 14.0	-0.6
IRAZ				*e*Sn	Sn	23 01 38.0	-4.8
IRAZ	Razeghan	7.86	335	Pn	Pn	23 00 13.9	-0.7
IRAZ				Sn	Sn	23 01 38.0	-4.8
IMHD	Mahdasht	7.87	340	*e*Pn	Pn	23 00 14.1	-0.6
WHFO	Wadi Hawf	10.33	181	P	Pn	23 00 48.3	-0.1
	SNR=105						
SHAO	Shalim	10.34	171	P	Pn	23 00 47.1	-1.4
	SNR=11						
RBK	Rabkut	10.74	179	P	Pn	23 00 53.1	-1.0
	SNR=45						
ABTO	Aybut	10.91	183	P	Pn	23 00 54.4	-1.9
	SNR=22						
GNI	Garni	14.05	330	Pn	Pn	23 01 40.2	+1.1
	comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=6.1						
GNI				LR	LR	23 07 57.8	
	comp=E,250nm,18.6s,baz=139,slow=41						
GNI	Garni	14.05	330	P	Pn	23 01 40.2	+1.0
	comp=E,250nm,18.6s						
GNI	Garni	14.05	330	P	Pn	23 01 40.2	+1.0
GNI				MLR	MLR		
	comp=Z,250nm,18.6s						
GNI	Garni	14.05	330	*e*Pn	Pn	23 01 39.9	+0.7
	comp=Z,26nm,1.0s						
MARD	Mardin	14.25	312	*i* P	Pn	23 01 36.6	-5.3
BEST	Besiri	14.28	315	*i* P	Pn	23 01 43.5	+1.1
ERZM	Erzurum	15.55	321	*i* P	Pn	23 01 59.8	+0.4
MALT	Malatya	16.35	312	*e*P	Pn	23 02 09.2	-0.4
	comp=Z,15nm,1.0s						
MALT	Malatya	16.35	312	*e*P	Pn	23 02 09.2	-0.4
MALT				pmax	pmax		
	comp=Z,15nm,1.0s						
MALT	Malatya	16.35	312	*e*P	Pn	23 02 09.2	-0.4
	comp=Z,15nm,1.0s						
GZT	Gaziantep	16.45	307	*i* P	Pn	23 02 08.8	-2.0
LBOS		16.47	211	⇑*e*P	Pn	23 02 07.9	-3.3
ZEI	Tsey	16.57	333	*e*P	Pn	23 02 16.5	+4.0
EIL	Elat	16.68	279	*e*P	Pn	23 02 14.1	+0.4
	comp=Z,447nm,1.1s						
EIL	Elat	16.68	279	*e*P	Pn	23 02 14.1	+0.4
	comp=Z,447nm,1.1s						
KIV	Kislovodsk	18.05	333	*e*P	Pn	23 02 30.0	-0.8
	comp=Z,23nm,1.0s						
KIV	Kislovodsk	18.05	333	*e*P	Pn	23 02 30.9	+0.1
KIV				*e*S	Sn	23 05 50.7	-0.7
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV				MLR	MLR		
	comp=Z,121nm,13.0s						
KIV	Kislovodsk	18.05	333	*e*P	Pn	23 02 30.0	-0.8
	comp=Z,23nm,1.0s						
GOF	Gofitskoye	18.85	335	*e*P	Pn	23 02 39.7	-0.8
	comp=Z,20nm,1.0s						
GOF	Gofitskoye	18.85	335	*e*P	Pn	23 02 39.7	-0.8
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
SOC	Sochi	19.07	327	*e*P	Pn	23 02 40.9	-2.3
	comp=Z,63nm,1.8s						
SOC	Sochi	19.07	327	*e*P	Pn	23 02 40.9	-2.3
SOC				pmax	pmax		
	comp=Z,63nm,1.8s						
KHET	Khetri	19.28	85	*e*P	Pn	23 02 42.7	-3.0
KHET				AMb	AMB	23 02 46.1	
	comp=Z,8.8nm,0.7s						
ATD	Arta Tunnel	19.65	214	P	Pn	23 02 56.6	+6.5
	comp=Z,0.2nm,0.3s,baz=311,slow=11,SNR=3.8						
ATD				LR	LR	23 10 59.7	
	comp=Z,259nm,21.3s,baz=22,slow=39						
KUDL	Kundal	19.87	85	*e*P	Pn	23 02 50.0	-2.8
KUDL				AMb	AMB	23 02 53.5	
	comp=Z,12nm,1.4s						
BR131	Keskin Array S	20.28	309	*e*P	P	23 02 55.8	+0.3
	comp=Z,6.9nm,0.7s						
BR131	Keskin Array S	20.28

comp=Z,103nm,18.5s
AKTK Aktyubinsk 22.33 7 P **P 23 03 17.2 -0.3**
AKTK LR LR 23 14 01.5
AKTO Aktyubinsk 22.33 7 P **P 23 03 17.2 -0.3**
comp=Z,12nm,0.6s,mb4.5,baz=192,slow=12,SNR=38
AKTO LR LR 23 14 01.5
comp=Z,103nm,18.5s,MS3.3,baz=0.0,slow=42
AKTO Aktyubinsk 22.33 7 P **P 23 03 17.2 -0.3**
AKTO pmax pmax
comp=Z,12nm,0.6s,mb4.5
AKTO MLR MLR
comp=Z,103nm,18.5s,MS3.3
VRHR Novokhopersk 24.60 341 *e*P **P 23 03 39.8 -0.1**
comp=Z,30nm,0.6s,mb5.0
VRHR Novokhopersk 24.60 341 *e*P **P 23 03 39.8 -0.1**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
HYB Hyderabad 25.08 110 *i* P **P 23 03 44.0 -0.3**
HYB *e*S **S 23 08 12.0 +4.6**
HYB Hyderabad 25.08 110 *e*P **P 23 03 44.0 -0.3**
VRSR Storozhevoye 25.45 338 *e*P **P 23 03 46.7 -1.0**
comp=E,10.0nm,0.9s,mb4.3
VRSR Storozhevoye 25.45 338 *e*P **P 23 03 46.7 -1.0**
VRSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,6.0nm,1.0s
IDI Anoyia 25.60 293 P **P 23 03 50.2 +1.2**
comp=E,16nm,1.0s,mb4.5,baz=76,slow=20,SNR=6.3
VOR Voronezh 25.89 339 *e*P **P 23 03 53.0 +1.4**
comp=E,120nm,1.0s,mb5.4
VOR Voronezh 25.89 339 *e*P **P 23 03 53.0 +1.4**
VOR pmax pmax
comp=Z,120nm,1.0s,mb5.4
VOR pmax pmax
comp=E,50nm,1.1s
KOLN Koldanda 26.16 84 *e*P **P 23 03 53.5 -0.6**
comp=E,26nm,1.1s,mb4.7
GKN Gorkha 27.04 83 *e*P **P 23 04 00.8 -1.2**
ZRNK Zerenda 27.04 20 *e*P **P 23 04 02.4 +0.4**
comp=E,3.0nm,0.8s,mb3.9
ZRNK Zerenda 27.04 20 *e*P **P 23 04 02.4 +0.4**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
ZRNK Zerenda 27.04 20 *e*P **P 23 04 02.4 +0.3**
comp=Z,2.6nm,0.8s,mb3.8
BRVK Borovoye 27.53 22 P **P 23 04 06.9 +0.4**
comp=Z,2.0nm,0.7s,mb3.9
BRVK Borovoye 27.53 22 P **P 23 04 06.9 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BRVK Borovoye 27.53 22 P **P 23 04 06.9 +0.4**
comp=Z,2.5nm,0.7s,mb4.0
BVAR Borovoye Array 27.54 22 P **P 23 04 06.6 +0.1**
comp=Z,4.3nm,0.9s,mb4.1,baz=193,slow=5.8,SNR=14
BVAR Borovoye Array 27.54 22 P **P 23 04 06.6 +0.1**
BVAR pmax pmax
comp=Z,4.0nm,0.9s
KKN Kakani 27.63 84 *e*P **P 23 04 05.7 -1.6**
comp=Z,13nm,0.8s,mb4.6
KKN Kakani 27.63 84 *e*P **P 23 04 05.7 -1.6**
KKN pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
PKI Pulchoki 27.77 84 *e*P **P 23 04 07.0 -1.6**
MLR Muntele Rosu 28.01 315 P **P 23 04 10.9 +0.2**
comp=Z,4.4nm,0.8s,mb4.1,baz=135,slow=12,SNR=4.3
MLR LR LR 23 17 14.5
comp=Z,371nm,21.2s,MS4.0,baz=311,slow=40
MLR Muntele Rosu 28.01 315 P **P 23 04 11.2 +0.5**
MLR Muntele Rosu 28.01 315 ⇓P **P 23 04 11.2 +0.5**
GUN Gumba 28.14 83 *e*P **P 23 04 10.6 -1.2**
comp=Z,22nm,0.9s,mb4.8
JIRN Jiri 28.45 84 *e*P **P 23 04 13.6 -1.0**
comp=Z,12nm,0.9s,mb4.5
VOIR 28.54 315 P **P 23 04 16.2 +0.8**
VOIR 28.54 315 ⇑P **P 23 04 16.2 +0.7**
MKAR Makanchi Array 28.86 43 P **P 23 04 17.1 -1.2**
comp=Z,1.3nm,0.6s,mb3.8,baz=234,slow=10,SNR=22
MKAR PcP PcP 23 07 25.8 -1.6
comp=Z,0.3nm,0.5s,baz=251,slow=1.5,SNR=4.5
MKAR Makanchi Array 28.86 43 P **P 23 04 17.0 -1.2**
MKAR Makanchi Array 28.86 43 PcP PcP 23 07 25.8 -1.5
MKAR Makanchi Array 28.86 43 P **P 23 04 17.1 -1.1**
MKAR 23 07 25.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 28.86 43 P **P 23 04 17.1 -1.2**
MKAR PcP PcP 23 07 25.8 -1.6
BOK Bokaro 29.00 92 *e*P **P 23 04 20.1 +0.5**
BOK AMb AMB 23 04 20.4
comp=Z,7.6nm,1.2s,mb4.3
KURK Kurchatov 29.14 33 *e*P **P 23 04 20.7 -0.1**
comp=Z,3.5nm,0.9s,mb4.1
KURK Kurchatov 29.14 33 ⇑*e*P **P 23 04 22.6 +1.8**
KURK Kurchatov 29.14 33 *e*P **P 23 04 20.7 -0.1**
comp=Z,3.5nm,0.9s,mb4.1
AKASG Malin Array Be 29.15 327 *i* P **P 23 04 19.6 -1.3**
comp=Z,3.4nm,0.8s,mb4.1,baz=136,slow=8.4,SNR=7.6
AKASG Malin Array Be 29.15 327 *i* P **P 23 04 21.8 +0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 29.49 319 ⇓P **P 23 04 28.4 +4.6**
OBN Obninsk 29.60 340 *e*P **P 23 04 24.9 +0.1**
comp=Z,29nm,1.2s,mb4.9
OBN Obninsk 29.60 340 *e*P **P 23 04 24.9 +0.1**
OBN *e* 23 04 40.6
OBN *e* 23 07 31.3
OBN pmax pmax
comp=Z,29nm,1.2s,mb4.9
BZS Buzias 30.80 313 ⇑P **P 23 04 31.4 -4.1**
WMQ Urumqi 31.12 51 P **P 23 04 38.0 -0.3**
WMQ PP PP 23 05 40.0 -8.7
WMQ S **S 23 09 42.0 -0.5**
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,157nm,4.0s
WMQ LR LR
comp=N,1μm,12.0s,MS4.7
WMQ LR LR
comp=E,259nm,12.0s,MS4.7
WMQ LR LR
comp=Z,268nm,11.0s,MS4.2
TIP Timpagrande 32.56 299 *e*P **P 23 04 52.3 +1.3**
TIP Timpagrande 32.56 299 *e*P **P 23 04 52.3 +1.3**
PSZ Piszkesteto 32.81 316 *e*P **P 23 04 53.8 +0.6**
comp=Z,1.0nm,0.6s,mb3.9
PSZ Piszkesteto 32.81 316 *e*P **P 23 04 53.8 +0.6**
PSZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
PSZ Piszkesteto 32.81 316 *e*P **P 23 04 53.8 +0.7**
comp=Z,1.0nm,0.6s,mb3.9
KLMR Klimovskoe 33.98 347 *e*P **P 23 05 02.4 -0.9**
comp=Z,20nm,1.5s,mb4.8
KLMR Klimovskoe 33.98 347 *e*P **P 23 05 02.4 -0.9**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.8
MORC Moravsky Berou 34.99 318 *e*P **P 23 05 13.1 +1.0**
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 34.99 318 *e*P **P 23 05 13.1 +1.0**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 34.99 318 *e*P **P 23 05 13.1 +1.0**
comp=Z,2.9nm,0.8s,mb4.3
VRAC Vranov 35.38 317 P **P 23 05 15.5 +0.1**
VRAC Vranov 35.38 317 ⇓P **P 23 05 15.5 +0.1**
VSU Vasula 35.57 336 *e*P **P 23 05 18.2 +1.1**
DPC Dobruska-Polom 35.95 318 *e*P **P 23 05 24.7 +4.4**
DPC *ex* x 23 05 35.9
KBA Koelnbreinsper 36.69 312 ⇑*i*P **P 23 05 26.9 +0.2**
comp=Z,10nm,0.9s,mb4.7
PRU Pruhonice 36.87 317 *e*P **P 23 05 32.0 +3.9**
GERES GERESS Array B 36.99 315 P **P 23 05 28.7 -0.5**
comp=Z,1.0nm,0.6s,mb3.8,baz=100,slow=8.8,SNR=7.7
GERES PcP PcP 23 07 49.6 -0.3
comp=Z,0.5nm,0.6s,baz=144,slow=3.0,SNR=5.2
GERES GERESS Array B 36.99 315 PcP PcP 23 07 49.6 -0.3
comp=Z,1.0nm,0.6s
GERES GERESS Array B 36.99 315 P **P 23 05 28.7 -0.5**
GERES 23 07 49.6
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 37.16 315 *e*P **P 23 05 32.1 +1.4**
KHC *ex* x 23 05 49.7
JOF Joensuu 37.65 343 *e*p **P 23 05 32.1 -2.6**
comp=Z,5.6nm,0.8s,mb4.3
WTTA Wattenberg 37.86 312 ⇓*i*P **P 23 05 36.3 -0.2**
comp=Z,12nm,0.9s,mb4.6
FINES FINESS Array B 37.99 339 P **P 23 05 37.0 -0.6**
comp=Z,3.9nm,0.5s,mb4.4,baz=136,slow=10,SNR=33
FINES LR LR 23 21 37.4
comp=Z,129nm,18.4s,MS3.8,baz=351,slow=37
FINES FINESS Array B 37.99 339 P **P 23 05 37.0 -0.6**
FINES FINESS Array B 37.99 339 P **P 23 05 37.1 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES MLR MLR
comp=Z,129nm,18.4s
SQTA Sankt Quirin 38.13 311 ⇑*i*P **P 23 05 37.1 -1.8**
comp=Z,4.9nm,1.0s,mb4.2
CLL Collm 38.26 318 *e*P **P 23 05 41.0 +1.1**
CLL *ex* x 23 05 58.0
KAF Kangasniemi 38.42 339 *e*p **P 23 05 40.8 -0.4**
comp=Z,5.0nm,0.9s,mb4.2
KAF Kangasniemi 38.42 339 *e*P **P 23 05 40.8 -0.4**
KAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
DAVA Damuels 39.03 311 ⇑*i*P **P 23 05 45.8 -0.6**
comp=Z,13nm,0.7s,mb4.8
GTA Gaotai 39.30 61 *e*P **P 23 05 49.0 +0.3**
GTA AP pP 23 05 56.0 -0.1
GTA XP sP 23 05 59.8 +0.7
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
FRF La Foret Royal 40.66 305 *e*P **P 23 06 00.4 +0.5**
MBDF Montbardon 40.71 307 *e*P **P 23 06 00.2 -0.1**
comp=Z,15nm,0.7s,mb4.4
MBDF Montbardon 40.71 307 *e*P **P 23 06 00.2 -0.1**
comp=Z,8.0nm,0.7s,mb4.5
MBDF Montbardon 40.71 307 *e*P **P 23 06 00.2 -0.1**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
BNI Bardonecchia 40.81 307 *e*P **P 23 06 00.8 -0.4**
comp=Z,12nm,1.0s,mb4.5
BNI Bardonecchia 40.81 307 *e*P **P 23 06 00.8 -0.4**
BNI pmax pmax
comp=Z,12nm,1.0s,mb4.5
BNI Bardonecchia 40.81 307 *e*P **P 23 06 00.8 -0.4**
comp=Z,12nm,1.0s,mb4.5
LPG La Plagne 40.83 308 *e*P **P 23 06 01.2 -0.1**
LPL La Plagne 40.84 308 *e*P **P 23 06 01.3 -0.1**
comp=Z,30nm,1.0s,mb4.6
LPL La Plagne 40.84 308 *e*P **P 23 06 01.3 -0.1**
LPL pmax pmax
comp=Z,15nm,1.0s,mb4.6
LPL La Plagne 40.84 308 *e*P **P 23 06 01.3 -0.1**
comp=Z,15nm,1.0s,mb4.6
CDF Champ du Feu 40.99 312 *e*P **P 23 06 01.4 -1.2**
APA Apatity 41.20 348 *e*P **P 23 06 04.0 -0.4**
comp=Z,16nm,1.0s,mb4.6
APA Apatity 41.20 348 ⇑*e*P **P 23 06 04.0 -0.4**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.6
ORIF Oris-en-Rattie 41.36 307 *e*P **P 23 06 05.4 -0.3**
CABF La Chapelle 41.45 309 *e*P **P 23 06 06.4 0.0**
HAU Haudompre 41.52 312 *e*P **P 23 06 06.5 -0.5**
MOY Mondy 42.00 43 *e*P **P 23 06 11.0 0.0**
VIVF Saint-Julien-l 42.20 307 *e*P **P 23 06 12.1 -0.5**
MEZF Maizieres J'vi 42.46 312 *e*P **P 23 06 14.3 -0.4**
LZH Lanzhou 42.56 66 *e*P **P 23 06 15.5 0.0**
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.7
LASF Ste Croix 42.72 305 *e*P **P 23 06 17.0 +0.2**
comp=Z,39nm,1.2s,mb4.7
SMF Signal de Mont 42.99 309 *e*P **P 23 06 18.5 -0.5**
comp=Z,19nm,0.9s,mb4.5
SMF Signal de Mont 42.99 309 *e*P **P 23 06 18.5 -0.5**
SMF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SMF Signal de Mont 42.99 309 *e*P **P 23 06 18.5 -0.5**
comp=Z,9.5nm,0.9s,mb4.5
LOR Lormes 43.06 310 *e*P **P 23 06 18.3 -1.2**
ZAK Zakamensk 43.10 45 *e*P **P 23 06 11.5 -8.4**
CD2 Chengdu 43.11 74 *e*P **P 23 06 20.5 +0.6**
CD2 AP pP 23 06 25.0 -2.4
CD2 S **S 23 12 45.3 +0.7**
CD2 SS SS 23 15 50.8 -6.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=N,250nm,10.8s
CD2 LR LR
comp=Z,90nm,10.8s,MS3.9
SSF Saint Saulge 43.27 310 *e*P **P 23 06 20.5 -0.7**
comp=Z,19nm,1.0s,mb4.5
SSF Saint Saulge 43.27 310 *e*P **P 23 06 20.5 -0.7**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SSF Saint Saulge 43.27 310 *e*P **P 23 06 20.5 -0.7**
comp=Z,9.4nm,1.0s,mb4.5
AVF Avril sur Loir 43.34 309 *e*P **P 23 06 20.9 -0.9**
NB2 NORSAR Subarra 43.34 331 P **P 23 06 19.4 -2.5**
comp=Z,1.8nm,0.8s,mb3.9,baz=118,slow=8.6
NOA NORSAR Array B 43.34 331 P **P 23 06 20.1 -1.7**
comp=Z,2.2nm,0.7s,mb4.0,baz=120,slow=8.0,SNR=5.2
NOA LR LR 23 26 12.6
comp=Z,115nm,19.5s,MS3.8,baz=295,slow=39
NOA NORSAR Array B 43.34 331 P **P 23 06 20.1 -1.8**
NOA NORSAR Array B 43.34 331 P **P 23 06 20.2 -1.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,115nm,19.5s
NAO01 NORSAR Array S 43.39 331 *e*P **P 23 06 22.3 +0.1**
comp=Z,3.0nm,0.6s,mb4.2
NAO01 NORSAR Array S 43.39 331 *e*P **P 23 06 22.3 +0.1**
comp=Z,3.0nm,0.6s,mb4.2
BGF Bois d'Agland 43.66 309 *e*P **P 23 06 23.8 -0.6**
MTLF Montolieu 43.86 304 *e*P **P 23 06 26.7 +0.7**
CAF Calviac 44.06 307 *e*P **P 23 06 27.6 0.0**
TCF Toulx Ste Croi 44.07 308 *e*P **P 23 06 26.9 -0.8**
ARCES ARCESS Array B 44.42 346 P **P 23 06 30.1 -0.5**
comp=Z,5.2nm,0.9s,mb4.3,baz=150,slow=8.0,SNR=11
ARCES LR LR 23 30 51.8
comp=Z,153nm,18.4s,MS4.0,baz=16,slow=44
ARCES ARCESS Array B 44.42 346 P **P 23 06 30.1 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,153nm,18.4s
SONM Songino Array 44.72 49 P **P 23 06 32.4 -0.5**
comp=Z,1.0nm,0.8s,mb3.7,baz=266,slow=7.9,SNR=9.3
SONM LR LR 23 25 52.5
comp=Z,225nm,18.6s,MS4.1,baz=259,slow=37
SONM Songino Array 44.72 49 P **P 23 06 32.4 -0.5**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,225nm,18.6s
LFF La Frestale 45.00 306 *e*P **P 23 06 35.2 +0.1**
comp=Z,18nm,0.6s,mb4.8
LFF La Frestale 45.00 306 *e*P **P 23 06 35.2 +0.1**
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
LFF La Frestale 45.00 306 *e*P **P 23 06 35.2 +0.1**
comp=Z,9.1nm,0.6s,mb4.8
ULN Ulaanbaatar 45.17 49 *e*P **P 23 06 35.8 -0.6**
comp=Z,2.0nm,0.6s,mb4.1
ULN Ulaanbaatar 45.17 49 *e*P **P 23 06 35.8 -0.6**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ULN Ulaanbaatar 45.17 49 *e*P **P 23 06 35.8 -0.7**
comp=Z,1.6nm,0.6s,mb4.0
EPF Esparros 45.22 304 *e*P **P 23 06 36.1 -0.8**
LDF La Druitiere 45.87 312 *e*P **P 23 06 40.4 -1.6**
ETSF Etsaut 45.88 304 *e*P **P 23 06 41.7 -0.4**
SJPF Ste Jean 46.37 304 *e*P **P 23 06 46.2 +0.2**
comp=Z,15nm,0.6s,mb4.8
SJPF Ste Jean 46.37 304 *e*P **P 23 06 46.2 +0.2**
SJPF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SJPF Ste Jean 46.37 304 *e*P **P 23 06 46.2 +0.2**
comp=Z,7.7nm,0.6s,mb4.8
HHC Hu-ho-hao-te 48.28 59 *e*P **P 23 07 01.3 +0.5**
HHC PP PP 23 08 53.3 -0.1
HHC PCS PcS 23 12 23.8 +0.4
HHC S **S 23 13 59.0 -0.2**
HHC SCS ScS 23 16 51.5 -0.7
HHC SS SS 23 17 23.3 -5.4
HHC AMB AMB
comp=Z,6.0nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,146nm,4.8s
HHC LR LR
comp=N,223nm,19.0s,MS4.3
HHC LR LR
comp=E,200nm,21.4s,MS4.3
HHC LR LR
comp=Z,210nm,19.6s,MS4.1
ESDC Sonseca Array 48.59 299 P **P 23 07 04.8 +1.6**
comp=Z,1.2nm,0.3s,mb4.3,baz=87,slow=7.8,SNR=3.6
LSZ Lusaka 49.98 213 P **P 23 07 15.6 +1.8**
LSZ Lusaka 49.98 213 P **P 23 07 15.6 +1.8**
BOD Bodaibo 50.66 37 *e*P **P 23 07 15.4 -3.6**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
TORD Torodi Ar. Bea 50.76 264 P **P 23 07 19.8 0.0**
comp=Z,5.5nm,0.5s,mb4.7,baz=60,slow=8.0,SNR=49
WHN Wuhan 52.11 72 *e*P **P 23 07 28.8 -1.1**
SSE Sheshan 57.66 69 P **P 23 08 10.3 +0.3**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,409nm,4.7s
SSE LR LR
comp=N,11nm,20.0s,MS3.9
SSE LR LR
comp=E,84nm,20.0s,MS3.9
SSE LR LR
comp=Z,67nm,22.5s,MS3.7
TIXI Tiksi 58.67 21 *e*P **P 23 08 18.6 +1.5**
comp=Z,7.0nm,1.7s,mb4.4
TIXI Tiksi 58.67 21 *e*P **P 23 08 18.6 +1.5**
TIXI pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
TSUM Tsumeb 58.87 221 *e*P **P 23 08 20.1 +1.6**
comp=Z,2.6nm,0.9s,mb4.3
TSUM Tsumeb 58.87 221 *e*P **P 23 08 20.1 +1.6**
comp=Z,2.6nm,0.9s,mb4.3
DBIC Dimbokro 59.45 261 P **P 23 08 22.5 0.0**
comp=Z,4.4nm,0.9s,mb4.5,baz=27,slow=5.8,SNR=6.8
DBIC LR LR 23 36 06.6
comp=Z,129nm,18.7s,MS4.1,baz=142,slow=38
DBIC Dimbokro 59.45 261 P **P 23 08 22.5 0.0**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC MLR MLR
comp=Z,129nm,18.7s
DBIC Dimbokro 59.45 261 *e*P **P 23 08 22.5 0.0**
comp=Z,9.4nm,1.1s,mb4.7
LBTB Lobatse 59.61 210 *e*P **P 23 08 24.8 +1.2**
comp=Z,9.0nm,1.1s,mb4.7
LBTB Lobatse 59.61 210 *e*P **P 23 08 24.8 +1.2**
LBTB pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
LBTB Lobatse 59.61 210 *e*P **P 23 08 24.8 +1.2**
comp=Z,8.9nm,1.1s,mb4.7
MDJ Mudanjiang 60.91 52 P **P 23 08 32.8 +0.3**
MDJ PCS PcS 23 13 18.8 +0.3
MDJ S **S 23 16 50.0 +1.0**
MDJ SS SS 23 20 49.5 +1.2
MDJ AMB AMB
comp=Z,174nm,5.2s
MDJ LR LR
comp=N,183nm,22.2s,MS4.2
MDJ LR LR
comp=E,68nm,21.6s,MS4.2
MDJ LR LR
comp=Z,131nm,18.9s,MS4.1
BOSA Boshof 62.90 208 P **P 23 08 47.2 +1.3**
comp=Z,2.5nm,0.7s,mb4.4,baz=0.7,slow=3.8,SNR=4.0
BOSA LR LR 23 34 56.5
comp=Z,152nm,18.9s,MS4.2,baz=5.3,slow=35
BOSA Boshof 62.90 208 P **P 23 08 47.3 +1.4**
comp=Z,13nm,1.3s,mb4.9
BOSA Boshof 62.90 208 P **P 23 08 47.3 +1.4**
BOSA pmax pmax
comp=Z,13nm,1.3s,mb4.9
BOSA Boshof 62.90 208 P **P 23 08 47.3 +1.4**
comp=Z,13nm,1.3s,mb4.9
SUMG Summit 63.99 340 *e*P **P 23 08 53.7 +0.7**
comp=Z,11nm,1.0s,mb4.8
SUMG Summit 63.99 340 *e*P **P 23 08 53.7 +0.7**
comp=Z,11nm,1.0s,mb4.8
SEY Seymchan 68.89 29 *e*P **P 23 09 25.3 +0.9**
MA2 Magadan 69.36 33 *e*P **P 23 09 29.0 +1.7**
MA2 Magadan 69.36 33 P **P 23 09 30.5 +3.2**
MA2 pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MA2 Magadan 69.36 33 *e*P **P 23 09 29.0 +1.7**
BILL Bilibino 71.89 21 P **P 23 09 42.1 -0.6**
BILL Bilibino 71.89 21 *e*P **P 23 09 46.7 +4.0**
BILL pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
JHJ Hachijo jima 2 71.94 62 LR LR 23 45 41.6
comp=Z,270nm,18.9s,MS4.5,baz=82,slow=40
INK Inuvik 83.53 3 *e*P **P 23 10 47.4 -0.2**
comp=Z,1.0nm,0.7s,mb4.0
INK Inuvik 83.53 3 *e*P **P 23 10 47.4 -0.2**
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 83.53 3 *e*P **P 23 10 47.4 -0.2**
comp=Z,1.0nm,0.7s,mb4.0
ILAR Eielson Array 85.83 9 P **P 23 10 58.1 -1.0**
comp=Z,1.4nm,0.7s,mb4.3,baz=311,slow=3.4,SNR=12
ILAR Eielson Array 85.83 9 P **P 23 10 58.2 -1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
DAWY Dawson 87.35 6 *e*P **P 23 11 08.0 +1.3**
DAWY Dawson 87.35 6 *e*P **P 23 11 08.0 +1.3**
YKW3 Yellowknife Ar 89.00 355 *e*P **P 23 11 13.1 -1.4**
YKW3 Yellowknife Ar 89.00 355 *e*P **P 23 11 13.1 -1.4**
YKA Yellowknife Ar 89.06 355 P **P 23 11 14.8 +0.1**
comp=Z,1.4nm,0.7s,mb4.4,baz=5.6,slow=5.1,SNR=24
WRAB Tennant Creek 91.24 112 *e*P **P 23 11 24.5 -0.4**
comp=Z,9.0nm,1.0s,mb5.0
WRAB Tennant Creek 91.24 112 *e*P **P 23 11 24.5 -0.4**
WRAB pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
WRAB Tennant Creek 91.24 112 *e*P **P 23 11 24.4 -0.5**
comp=Z,9.0nm,1.0s,mb5.0
ASAR Alice Springs 92.71 115 P **P 23 11 31.2 -0.5**
comp=Z,1.6nm,0.8s,mb4.5,baz=308,slow=4.6,SNR=13
ASAR Alice Springs 92.71 115 P **P 23 11 31.2 -0.5**
ASAR Alice Springs 92.71 115 P **P 23 11 31.3 -0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.8s

*CSEM **28** 23:14:50.4±0.3,37.10N×24.46W,h5km,ML2.6,Error ellipse: s-maj=7.2km s-min=3.0km az=89.0,After PDA*
*PDA **28** 23:14:50.4±0.9,37.10N×24.46W,h5km,MD2.9,ML2.6, Error ellipse: s-maj=6.1km s-min=3.6km az=86.0*
SVSA 28 23:14:50.4±0.9,37.10N×24.46W,h5km,MD2.9,ML2.6, Error ellipse: s-maj=6.1km s-min=3.6km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.50**	**259**	*e*P	Pg	23 14 58.6	-1.4
PSMN				*e*S	Sg	23 15 05.8	-0.7
MIRA	**Miradouro**	**0.94**	**316**	*e*P	Pg	23 15 04.8	-3.7
MIRA				*e*S	Sg	23 15 16.6	-4.2
FRA1	**Furnas**	**0.96**	**312**	*e*P	Pg	23 15 05.8	-3.0
FRA1				*e*S	Sg	23 15 17.1	-4.2
PCNG	**Congro**	**1.00**	**312**	*e*P	Pg	23 15 06.5	-3.1
PCNG				*e*S	Sg	23 15 18.0	-4.6
PCNG							
	46nm,0.3s						
PFAD	**Fenais da Ajud**	**1.01**	**317**	*e*P	Pg	23 15 06.2	-3.5
PFAD				*e*S	Sg	23 15 18.4	-4.4
VIF	**Vila Franca**	**1.01**	**310**	*e*P	Pg	23 15 06.8	-3.0
VIF				*e*S	Sg	23 15 18.4	-4.6
VIF							
	41nm,0.3s						
PRCH	**Ribeira Ch**	**1.03**	**308**	*e*P	Pg	23 15 07.2	-2.9
PRCH				*e*S	Sg	23 15 18.6	-4.8

PRCH
145nm,0.3s
MESC Monte Escuro 1.05 311 *eP* Pg 23 15 07.4 -3.1
MESC *eS* Sg 23 15 19.3 -4.8
LFA Lagoa do Fogo 1.06 310 *eP* Pg 23 15 06.8 -3.9
PMAT Coroa da Mata 1.08 312 *eS* Sg 23 15 20.1 -4.9
PMAT
2.7nm,0.3s
PVER Pico Vermelho 1.09 310 *eS* Sg 23 15 20.3 -5.2
PVER
40nm,0.2s
CML Cha da Macela 1.09 308 *eP* Pg 23 15 07.1 -4.3
CML *eS* Sg 23 15 20.4 -5.2
PDA Ponta Delgada 1.16 304 *eS* Sg 23 15 22.7 -4.9
FAC Faja de Cima 1.16 305 *eP* Pg 23 15 08.4 -4.3

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*ISCJB **28** 23:35:20.9±1.0, 4250S×009×840W±02, h10km, mb4.2/10, MS3.6/3, Error ellipse: s-maj=19.0km s-min=12.8km az=145.7*
*IDC **28** 23:35:21.2±1.8, 4261S×8384W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.1/14, mbtmp4.0/8, ML3.3/2, MS3.7/6, Ms1 3.7/6, ms1mx3.5/15, Error ellipse: s-maj=50.0km s-min=26.0km az=98.0*
*NEIC **28** 23:35:22.8±0.8, 4253S×8398W, h10km, mb4.4/6, Error ellipse: s-maj=16.5km s-min=11.5km az=73.0*
ISC 28 23:35:22.7±1.0, **4256S**±009×**840W**±02, **h10**km, **n21**, σ0§**99**/18, **mb4.2**/10, **MS3.6**/3, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**10.23**	**84**	Pn	**Pn**	**23 37 49.3**	**-0.3**
	0.1nm,0.3s,baz=233,slow=10,SNR=3.8						
PLCA				LR	LR	23 40 58.4	
	comp=Z,612nm,19.4s,baz=248,slow=33						
USHA	**Ushuaia**	**15.97**	**146**	Pn	**Pn**	**23 39 08.7**	**+1.4**
	0.6nm,0.3s,baz=328,slow=19,SNR=3.4						
USHA				LR	LR	23 44 17.2	
	comp=Z,246nm,19.8s,baz=216,slow=34						
CFAA	**Coronel Fontan**	**16.64**	**54**	Pn	**Pn**	**23 39 15.4**	**-0.5**
	0.1nm,0.3s,baz=244,slow=11,SNR=3.2						
TRQA	**Tornquist**	**17.38**	**82**	*eP*	**P**	**23 39 26.1**	**+0.9**
	5.0nm,0.8s						
LPAZ	**La Paz**	**29.50**	**32**	P	**P**	**23 41 28.4**	**+1.4**
	2.2nm,0.8s,mb3.9,baz=128,slow=7.6,SNR=7.1						
LPAZ				LR	LR	23 51 08.8	
	comp=Z,55nm,19.8s,MS3.2,baz=287,slow=32						
LPAZ	**La Paz**	**29.50**	**32**	*eP*	**P**	**23 41 28.6**	**+1.6**
	3.5nm,1.0s,mb4.0						
LPAZ				LR	LR	23 51 08.8	
NNA	**Nana**	**31.09**	**14**	*eP*	**P**	**23 41 40.4**	**-0.6**
	6.6nm,0.9s,mb4.5						
SIV	**San Ignacio**	**32.97**	**44**	P	**P**	**23 41 57.2**	**-0.4**
	1.4nm,0.9s,mb3.9,baz=214,slow=8.6,SNR=5.4						
BDFB	**Brasilia**	**40.84**	**60**	P	**P**	**23 43 03.0**	**-1.5**
	2.9nm,0.9s,mb3.9,baz=207,slow=9.2,SNR=5.2						
OTAV	**Otavalo**	**42.89**	**8**	*eP*	**P**	**23 43 25.1**	**+3.8**
	11nm,1.2s,mb4.5						
SNAA	**Sanae**	**47.54**	**155**	P	**P**	**23 43 56.5**	**-1.6**
	1.0nm,0.9s,mb3.9,baz=199,slow=6.6,SNR=3.7						
SNAA				LR	LR	23 58 40.7	
	comp=Z,60nm,21.8s,MS3.5,baz=28,slow=30						
ROSC	**El Rosal**	**48.00**	**13**	P	pP	23 44 06.0	+1.1
	4.4nm,0.6s,baz=240,slow=17,SNR=4.0						
JTS	**JuntasAbangare**	**52.59**	**359**	*eP*	**P**	**23 44 37.6**	**+1.0**
	17nm,1.2s,mb4.8						
SDV	**Santo Domingo**	**52.63**	**17**	P	**P**	**23 44 37.1**	**+0.3**
	3.1nm,0.7s,mb4.3,baz=216,slow=8.7,SNR=5.2						
SDV	**Santo Domingo**	**52.63**	**17**	*eP*	**P**	**23 44 37.7**	**+0.9**
	3.1nm,0.7s,mb4.3						
TEIG	**Tepich**	**62.59**	**355**	*eP*	**P**	**23 45 46.4**	**-0.5**
BOSA	**Boshof**	**83.87**	**123**	P	**P**	**23 47 52.9**	**+0.3**
	2.1nm,0.8s,mb4.3,baz=236,slow=3.6,SNR=2.8						
BOSA				LR	LR	00 20 33.8	
	comp=Z,83nm,19.8s,MS4.1,baz=219,slow=32						
BOSA	**Boshof**	**83.87**	**123**	P	**P**	**23 47 52.9**	**+0.3**
BOSA				LR	LR	00 20 33.8	
DBIC	**Dimbokro**	**86.53**	**78**	P	pP	23 48 10.6	+1.3
	3.8nm,0.9s,baz=204,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**95.64**	**77**	P	**P**	**23 48 47.9**	**-0.6**
	0.5nm,1.0s,mb3.9,baz=228,slow=2.8,SNR=2.6						
GERES	**GERESS Array B**	**124.84**	**53**	PKP	PKPdf	23 54 22.6	-0.2
	0.8nm,0.8s,baz=183,slow=2.7,SNR=6.6						

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*NEIC **28** 23:41:34.9±1.2, 4817N×15444E, h35km, mb4.3/3, Error ellipse: s-maj=29.5km s-min=13.5km az=143.0*
*ISCJB **28** 23:41:35.3±1.2, 4824N±01×1546E±01, h59km±12km, mb3.9/13, MS3.4/1, Error ellipse: s-maj=22.6km s-min=7.5km az=104.1*
*MOS **28** 23:41:35.4±1.1, 4803N×15466E, h70km, mb4.5/3, Error ellipse: s-maj=18.0km s-min=13.3km az=46.3*
*IDC **28** 23:41:38.0±3.2, 4858N×15436E, h43km±39km, mb3.5/10, mb1 3.8/11, mb1mx3.7/19, mbtmp3.8/11, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/26, Error ellipse: s-maj=70.2km s-min=17.8km az=166.0*
ISC 28 23:41:37.5±1.0, **481N**±01×**1547E**±01, **h69**km±10km, **n26**, σ1§**14**/28, **mb3.8**/13, **1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.49**	**241**	⇓*i*PN	**Pn**	**23 42 55.4**	**-1.4**
KUR				*e*S	**Sn**	**23 44 00.1**	**+1.5**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,250nm,0.8s						
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
KUR				smax			
	comp=N,260nm,0.8s						
KUR				smax			
	comp=E,150nm,0.8s						
PET	**Petropavlovsk**	**5.53**	**26**	*e*PN	**Pn**	**23 43 03.0**	**+5.8**
PET				*e*S	**Sn**	**23 43 59.6**	**+0.2**
PET				pmax	pmax		
	comp=Z,39nm,0.8s						
PET				smax			
	comp=E,191nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.14**	**266**	*e*Pn	**Pn**	**23 43 34.1**	**+1.1**
	comp=E,31nm,0.7s						
ASAJ	**Asahikawa**	**9.28**	**249**	P	**Pn**	**23 43 49.0**	**+0.4**
	comp=E,1.3nm,0.3s,baz=92,slow=15,SNR=10						
ASAJ				LR	LR	23 47 17.4	
	comp=E,142nm,20.4s,baz=15,slow=37						
ASAJ	**Asahikawa**	**9.28**	**249**	PN	**Pn**	**23 43 49.0**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,142nm,20.4s						
FX1	**Attu Island--F**	**12.70**	**61**	P	**Pn**	**23 44 33.8**	**-1.3**
	comp=Z,3.5nm,0.3s,baz=129,slow=2.8,SNR=12						
FX1	**Attu Island--F**	**12.70**	**61**	PN	**Pn**	**23 44 33.8**	**-1.3**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**16.75**	**232**	P	**Pn**	**23 45 25.2**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=14,SNR=4.0						
SONM	**Songino Array**	**31.89**	**288**	P	**P**	**23 47 57.4**	**+1.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=83,slow=12,SNR=2.8						
SONM				LR	LR	00 00 17.7	
	comp=Z,83nm,20.7s,baz=34,slow=36						
ILAR	**Eielson Array**	**34.82**	**40**	P	**P**	**23 48 22.0**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.5,baz=249,slow=6.5,SNR=6.6						
INK	**Inuvik**	**39.93**	**33**	P	**P**	**23 49 06.2**	**+1.3**
	comp=Z,0.8nm,0.5s,mb3.8,baz=277,slow=2.6,SNR=4.8						
INK	**Inuvik**	**39.93**	**33**	P	**P**	**23 49 06.2**	**+1.3**
MKAR	**Makanchi Array**	**47.25**	**297**	P	**P**	**23 50 03.6**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.4,baz=66,slow=7.2,SNR=14						
KURK	**Kurchatov**	**47.49**	**303**	*eP*	**P**	**23 50 04.7**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**47.49**	**303**	*eP*	**P**	**23 50 04.7**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**49.20**	**38**	P	**P**	**23 50 19.7**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=294,slow=7.1,SNR=4.1						
YKA	**Yellowknife Ar**	**49.20**	**38**	P	**P**	**23 50 19.7**	**+1.0**
BRVK	**Borovoye**	**50.84**	**309**	*eP*	**P**	**23 50 30.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**50.84**	**309**	*eP*	**P**	**23 50 30.1**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**51.56**	**310**	*eP*	**P**	**23 50 35.5**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**51.56**	**310**	*eP*	**P**	**23 50 35.5**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**23 51 45.9**	**+3.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=297,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**23 51 57.3**	**-1.4**
	comp=Z,3.1nm,1.0s,mb4.2,baz=41,slow=7.4,SNR=7.3						
NOA	**NORSAR Array B**	**67.26**	**342**	P	**P**	**23 52 24.6**	**-0.1**
	comp=Z,1.6nm,0.9s,mb3.8,baz=26,slow=3.0,SNR=2.4						
GERES	**GERESS Array B**	**77.67**	**335**	P	**P**	**23 53 26.9**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=35,slow=4.9,SNR=7.4						
BRTR	**Keskin Array B**	**78.10**	**318**	P	**P**	**23 53 28.9**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=32,slow=2.3,SNR=6.8						

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*NIED **28** 23:44:00, 4440N×14730E, h50km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φ=67.00000°, δ=75.00000°, λ=128.00000°. NP2:φ=175.00000°, δ=41.00000°, λ=23.00000°.*
*ISCJB **28** 23:44:50.0±0.6, 4455N±009×14732E±008, h159km±6km, mb4.1/26, Error ellipse: s-maj=15.3km s-min=9.1km az=150.0*
*MOS **28** 23:44:50.2±1.1, 4536N×14702E, h119km, mb4.6/5, Error ellipse: s-maj=14.9km s-min=9.4km az=107.0*
*JMA **28** 23:44:52.3±0.4, 4445N×14732E, h142km±5km, M4.5*
JMA Felt I J1.
*IDC **28** 23:44:53.1±1.8, 4498N×147.14E, h152km±17km, mb3.8/13, mb1 4.0/15, mb1mx3.9/21, mbtmp4.3/15, Error ellipse: s-maj=39.1km s-min=12.8km az=168.0*
*NEIC **28** 23:44:57.5±1.4, 4542N×14708E, h172km±11km, mb4.1/8, Error ellipse: s-maj=14.2km s-min=9.1km az=164.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*NAO **28** 23:45:04.2, 4858N×14509E, h33km, mb4.2*
ISC 28 23:44:50.9±0.6, **4453N**±009×**14733E**±008, **h155**km±6km, **n66**, σ1§**11**/75, **mb4.1**/26, **2C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.80**	**29**	⇓*i*PN	**Pn**	**23 45 10.0**	**-4.6**
KUR				pmax	pmax		
	comp=N,330nm,0.4s						
KUR				pmax	pmax		
	comp=E,180nm,0.4s						
KUR				pmax	pmax		
	comp=Z,730nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.16**	**245**	⇓*i*PN	**Pn**	**23 45 17.1**	**-0.5**
YUK				*i* S	**Sn**	**23 45 37.0**	**-1.0**
YUK				pmax	pmax		
	comp=N,570nm,0.3s						
YUK				pmax	pmax		
	comp=E,760nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax			
	comp=N,7μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				smax			
	comp=N,12μm,0.8s						
YUK				smax			
	comp=E,10μm,0.8s						
NEM2	**Nemuro 2**	**1.63**	**225**	P	**Pn**	**23 45 21.9**	**-0.3**
NEM2				*e*S	**Sn**	**23 45 44.4**	**-1.9**
JRA	**Rausu**	**1.69**	**250**	P	**Pn**	**23 45 23.1**	**+0.2**
JRA				*e*S	**Sn**	**23 45 47.0**	**-0.4**
JNK	**Nakash**	**2.10**	**244**	P	**Pn**	**23 45 28.2**	**+0.7**
JAK	**Akkeshi**	**2.45**	**232**	P	**Pn**	**23 45 31.7**	**+0.1**
JAK				*e*S	**Sn**	**23 46 01.9**	**-1.1**
JTKR	**Abashiri--Toko**	**2.52**	**258**	P	**Pn**	**23 45 33.0**	**+0.5**
JTKR				*e*S	**Sn**	**23 46 04.3**	**-0.3**
JAR	**Ashorobuto**	**2.85**	**246**	P	**Pn**	**23 45 38.1**	**+1.5**
JMP	**Maruseppu**	**2.90**	**261**	P	**Pn**	**23 45 37.7**	**+0.5**
JOB	**Onbets**	**3.01**	**238**	P	**Pn**	**23 45 39.6**	**+1.0**
JKK2	**Kamakawa 2**	**3.36**	**260**	P	**Pn**	**23 45 44.1**	**+1.1**
JSE	**Soyaes**	**3.41**	**279**	P	**Pn**	**23 45 43.9**	**+0.3**
ASAJ	**Asahikawa**	**3.42**	**265**	P	**Pn**	**23 45 45.1**	**+1.3**
	comp=E,11nm,0.3s,baz=90,slow=13,SNR=30						
ASAJ				S	**Sn**	**23 46 25.0**	**+0.2**
	comp=E,2.0nm,0.3s,baz=78,slow=31,SNR=3.1						
ASAJ	**Asahikawa**	**3.42**	**265**	PN	**Pn**	**23 45 45.1**	**+1.3**
ASAJ				S	**Sn**	**23 46 25.0**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
JCH	**Churui**	**3.46**	**238**	P	**Pn**	**23 45 44.7**	**+0.4**
JCH				*e*S	**Sn**	**23 46 24.0**	**-1.7**
JWK2	**Keihoku**	**3.94**	**283**	P	**Pn**	**23 45 51.9**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.01**	**309**	⇑*i*PN	**Pn**	**23 45 51.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.01**	**309**	*e*Pn	**Pn**	**23 45 50.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**4.02**	**238**	P	**Pn**	**23 45 51.3**	**-0.2**
JNBK				*e*S	**Sn**	**23 46 35.6**	**-3.1**
JHR	**Hokuryu**	**4.11**	**261**	P	**Pn**	**23 45 54.7**	**+2.0**
JEW	**Eniwo**	**4.59**	**250**	*e*S	**Sn**	**23 46 52.6**	**+0.7**
FX1	**Attu Island--F**	**18.91**	**55**	P	**P**	**23 49 01.4**	**+1.9**
	comp=Z,1.6nm,0.3s,baz=47,slow=22,SNR=3.6						
FX1	**Attu Island--F**	**18.91**	**55**	P	**P**	**23 49 01.4**	**+1.9**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**20.33**	**336**	*eP*	**P**	**23 49 09.1**	**-5.8**
BOD	**Bodaibo**	**24.46**	**315**	*eP*	**P**	**23 49 51.0**	**-4.3**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
BILL	**Bilibino**	**25.57**	**16**	*eP*	**P**	**23 49 56.7**	**-8.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
ULN	**Ulaanbaatar**	**27.85**	**291**	*eP*	**P**	**23 50 26.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
ULN	**Ulaanbaatar**	**27.85**	**291**	*eP*	**P**	**23 50 26.4**	**+0.6**
	comp=Z,0.7nm,0.3s,mb3.9						
SONM	**Songino Array**	**28.30**	**291**	P	**P**	**23 50 30.6**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.6,baz=83,slow=8.5,SNR=12						
TNA	**Tin City**	**32.13**	**33**	*eP*	**P**	**23 51 03.3**	**-0.2**
	comp=Z,6.6nm,0.8s,mb4.4						
COLA	**College**	**40.37**	**37**	*eP*	**P**	**23 52 14.3**	**+0.9**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
COLA	**College**	**40.37**	**37**	*eP*	**P**	**23 52 14.3**	**+0.9**
	comp=Z,14nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**40.78**	**37**	P	**P**	**23 52 16.6**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.3,baz=278,slow=8.5,SNR=75						
MKAR	**Makanchi Array**	**44.34**	**297**	P	**P**	**23 52 46.1**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=77,slow=8.1,SNR=24						
MKAR				PcP	PcP	23 54 28.0	+1.2
	comp=Z,0.7nm,0.5s,baz=69,slow=4.0,SNR=7.6						
KURK	**Kurchatov**	**45.20**	**303**	*eP*	**P**	**23 52 51.7**	**-0.6**
INK	**Inuvik**	**45.66**	**31**	P	**P**	**23 52 55.9**	**0.0**
	comp=Z,5.0nm,0.3s,mb4.5,baz=294,slow=6.3,SNR=56						
INK	**Inuvik**	**45.66**	**31**	P	**P**	**23 52 55.9**	**0.0**
INK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
INK	**Inuvik**	**45.66**	**31**	*eP*	**P**	**23 52 55.6**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.2						
BRVK	**Borovoye**	**49.16**	**309**	*eP*	**P**	**23 53 22.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	**Borovoye**	**49.16**	**309**	*eP*	**P**	**23 53 22.2**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.5						
ZRNK	**Zerenda**	**49.91**	**309**	*eP*	**P**	**23 53 27.6**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**49.91**	**309**	*eP*	**P**	**23 53 27.6**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.7						
ARU	**Arti**	**53.86**	**317**	⇓*i*P	**P**	**23 53 55.8**	**-2.0**
ARU				*e*		23 55 55.2	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**55.08**	**34**	P	**P**	**23 54 06.8**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.1,baz=302,slow=7.1,SNR=18						
ARCES	**ARCESS Array B**	**58.56**	**339**	P	**P**	**23 54 29.1**	**-1.9**
	comp=Z,0.9nm,0.3s,mb4.0,baz=47,slow=7.4,SNR=30						
JOF	**Joensuu**	**61.46**	**332**	*ep*	**P**	**23 54 48.4**	**-2.4**
	comp=Z,0.8nm,0.3s,mb4.0						
KAF	**Kangasniemi**	**63.67**	**333**	*ep*	**P**	**23 55 03.2**	**-2.3**
	comp=Z,1.7nm,0.5s,mb4.1,baz=42,slow=6.3						
KAF	**Kangasniemi**	**63.67**	**333**	*eP*	**P**	**23 55 03.2**	**-2.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**64.24**	**333**	P	**P**	**23 55 07.3**	**-1.9**
	comp=Z,5.6nm,0.6s,mb4.6,baz=41,slow=7.5,SNR=38						
NVAR	**Mina Array Bea**	**67.06**	**58**	P	**P**	**23 55 28.8**	**+1.5**
	comp=Z,1.1nm,0.7s,mb3.8,baz=297,slow=6.3,SNR=5.2						
NB2	**NORSAR Subarra**	**68.92**	**339**	P	**P**	**23 55 37.7**	**-1.2**
	comp=Z,1.9nm,0.7s,mb3.9,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**68.92**	**339**	P	**P**	**23 55 37.8**	**-1.1**
	comp=Z,2.1nm,0.8s,mb3.9,baz=31,slow=6.3,SNR=5.3						
KIV	**Kislovodsk**	**69.34**	**312**	*c iP*	**P**	**23 55 43.5**	**+2.0**
KIV				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**69.34**	**312**	*eP*	**P**	**23 55 42.8**	**+1.4**
	comp=Z,14nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**70.07**	**207**	P	**P**	**23 55 55.7**	**+10**
ULM	**Lac du Bonnet**	**70.80**	**37**	P	**P**	**23 55 50.0**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.0,baz=321,slow=8.3,SNR=3.8						
AKASG	**Malin Array Be**	**71.03**	**324**	P	**P**	**23 55 51.3**	**-0.5**
	comp=Z,2.7nm,0.5s,mb4.3,baz=37,slow=6.0,SNR=17						
ANN	**Anapa**	**71.49**	**315**	*eP*	**P**	**23 55 54.7**	**+0.2**
ANN				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.0						
OJC	**Ojcow**	**75.18**	**328**	*eP*	**P**	**23 56 16.6**	**+0.4**
NIE	**Niedzica**	**75.63**	**327**	*eP*	**P**	**23 56 19.7**	**+1.0**
STKA	**Stephens Creek**	**76.22**	**185**	P	**P**	**23 56 31.5**	**+9.4**
CLL	**Collm**	**76.68**	**333**	⇓*i*P	**P**	**23 56 24.5**	**-0.1**
	comp=Z,13nm,0.7s,mb4.7						
CLL	**Collm**	**76.68**	**333**	⇓*i*P	**P**	**23 56 24.5**	**-0.1**
CLL				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
BRTR	**Keskin Array B**	**77.10**	**314**	P	**P**	**23 56 28.4**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=40,slow=4.7,SNR=4.1						
KHC	**Kasperske Hory**	**78.34**	**331**	*eP*	**P**	**23 56 33.3**	**-0.5**
GERES	**GERESS Array B**	**78.54**	**331**	P	**P**	**23 56 35.2**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.0,baz=38,slow=5.5,SNR=23						

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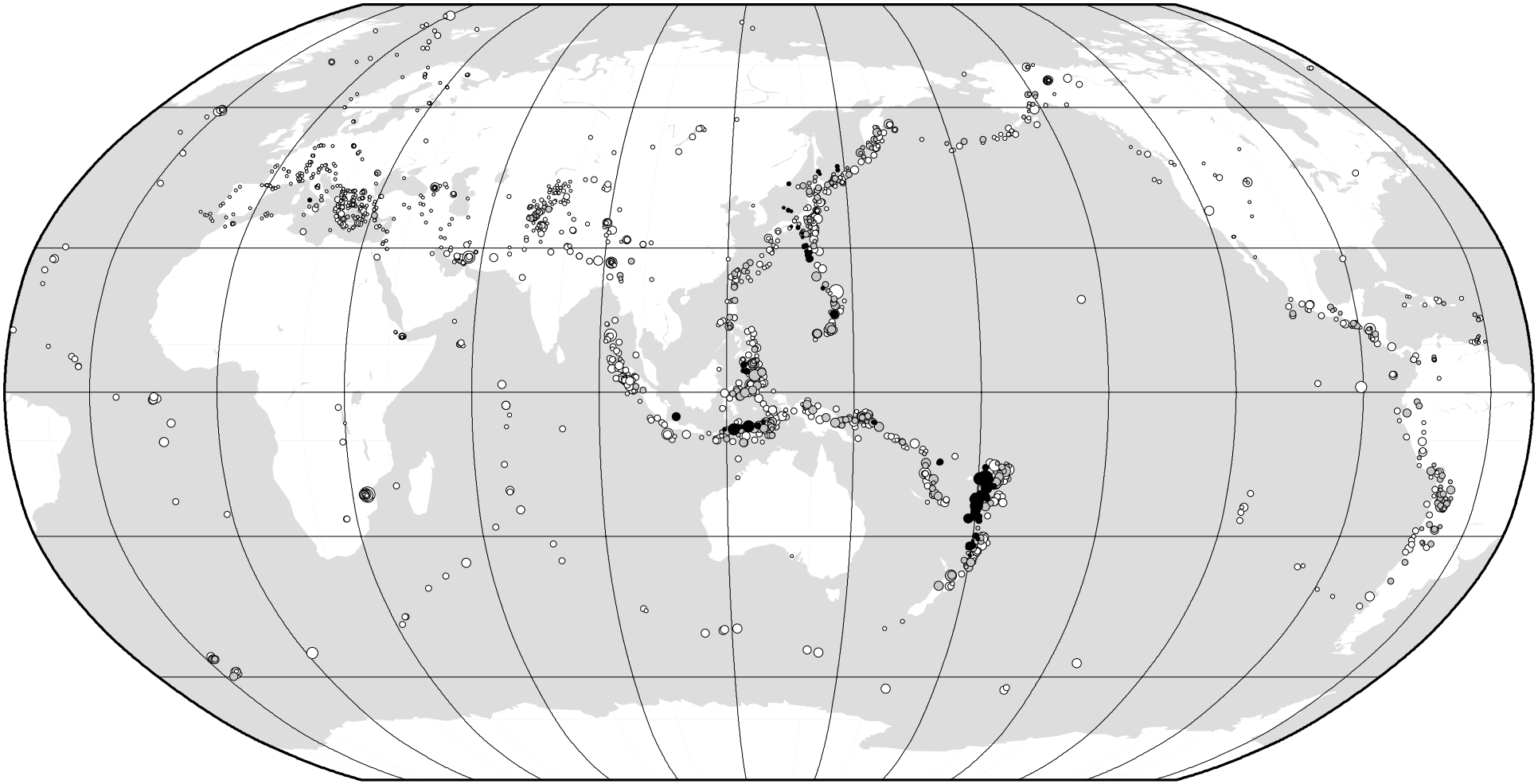
*IDC **28** 23:51:54.3±2.3, 1715S×139.12E, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/12, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=89.1km s-min=18.3km az=88.0*
*ISCJB **28** 23:51:57.6±1.4, 18S±01×139.1E±03, h33km, mb3.9/5, Error ellipse: s-maj=44.4km s-min=13.2km az=162.6*
*NEIC **28** 23:51:59.6±1.0, 1745S×13907E, h35km, mb4.0/4, Error ellipse: s-maj=36.6km s-min=9.6km az=80.0*
ISC 28 23:51:59.7±1.5, **17S**±01×**1391E**±03, **h35**km, **n8**, σ0§**49**/10, **mb3.9**/5, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.66**	**194**	*eP*	**Pn**	**23 56 14.8**	**-0.3**
	18nm,0.8s						
WRA	**Warramunga Arr**	**18.68**	**194**	P	**Pn**	**23 56 14.8**	**-0.5**
	0.9nm,0.3s,baz=17,slow=12,SNR=26						
WRA				S	**S**	**23 59 34.3**	**-11**
	0.1nm,0.3s,baz=14,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**22.36**	**193**	P	**P**	**23 56 55.6**	**+1.1**
	3.9nm,0.6s,mb4.0,baz=24,slow=9.8,SNR=36						
ASAR				S	**S**	**00 01 02.6**	**+4.0**
	0.9nm,0.9s,baz=11,slow=24,SNR=4.2						
KKM	**Kota Kinabalu**	**24.12**	**289**	*eP*	**P**	**23 57 12.0**	**-0.1**
STKA	**Stephens Creek**	**30.07**	**176**	P	**P**	**23 58 05.2**	**-0.3**
	1.4nm,0.6s,mb3.9,baz=349,slow=11,SNR=4.1						
KURK	**Kurchatov**	**73.15**	**325**	*eP*	**P**	**00 03 26.8**	**+0.2**
	0.5nm,0.4s,mb3.8						
BRVK	**Borovoye**	**78.82**	**325**	*eP*	**P**	**00 03 59.1**	**+0.2**
	0.9nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**79.52**	**325**	*eP*	**P**	**00 04 02.5**	**-0.3**
	1.2nm,0.8s,mb3.9						

ISC Computed Locations for February 2006



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2040 Events